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Ephémérides des satellites naturels des planètes Jupiter, Saturne, Uranus pour 1985

J.E. Arlot, J. Chapront, Ch. Ruatti, D.T. Vu

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EPHEMERIDES OF THE
NATURAL SATELLITES
OF THE PLANETS ^(°)
FOR 1985

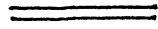


EPHEMERIDES DES
SATELLITES NATURELS
DES PLANETES ^(°)
POUR 1985

(°): Jupiter, Saturne, Uranus.

Supplément à la Connaissance des Temps
Bureau des Longitudes
Novembre 1984

EPHEMERIDES OF THE
NATURAL SATELLITES
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INTRODUCTION

Since 1980, *Connaissance des Temps* is publishing ephemerides of the Sun, the Moon, the planets and the Galilean Satellites of Jupiter in form of tables of Chebyshev polynomials. From 1981, ephemerides of the Eight First Satellites of Saturn have been published under the same form in a *Supplément à la Connaissance des Temps*. These ephemerides have been well received by the users; hence, we now intend to enlarge the publication to other natural satellites of the planets.

This year, we gather under the same title, in this booklet, the ephemerides of the Galilean Satellites of Jupiter, the Eight First Satellites of Saturn and the five Satellites of Uranus. The representation does not use any longer Chebyshev polynomials which require short time intervals with respect to the sidereal period of revolution of the satellite. It appears that a mixed form of representation, involving secular and periodic terms and depending directly on the time, allows a sufficient accuracy and saves the amount of numerical data to be published. Furthermore, the use of these new tables is very easy.

Besides the tables, one will find in the present publication, various data concerning the satellites of Jupiter, Saturn and Uranus.

Depuis 1980, la *Connaissance des Temps* publie les éphémérides du Soleil, de la Lune, des planètes et des satellites galiléens de Jupiter sous forme de coefficients de Tchébycheff. A partir de 1981, des éphémérides des huit premiers satellites de Saturne ont été publiées sous la même forme dans un *Supplément à la Connaissance des Temps*. Ces éphémérides ayant été appréciées par les utilisateurs, notre intention est donc d'étendre ces publications à d'autres satellites naturels du Système Solaire.

Cette année, nous publions dans un même recueil des éphémérides des satellites galiléens de Jupiter, des huit premiers satellites de Saturne et des cinq satellites d'Uranus. La forme adoptée n'est plus celle des coefficients de Tchébycheff. En effet, il est apparu que des fonctions mixtes (termes séculaires et sinusoidaux) dépendant directement du paramètre "temps" permettaient d'atteindre une précision suffisante en diminuant encore le nombre de valeurs numériques à publier et en autorisant une plus grande facilité d'emploi.

On trouvera également dans cet ouvrage des données sur les satellites des planètes Jupiter, Saturne et Uranus.

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Explanations and use
of the tables

The ephemerides provided below represent the differential coordinates of the satellites with respect to the center of mass of the planet:

$$X = \Delta\alpha \cdot \cos\delta \quad \text{and} \quad Y = \Delta\delta$$

where α is the right ascension, δ the declination and $\Delta\alpha$, $\Delta\delta$ the separations between satellite and planet. The reference frame is the mean equator of the date for the Galilean Satellites of Jupiter and the mean equator 1950.0 for the satellites of Saturn and Uranus.

The theories which have been used for the construction of the ephemerides are:

-Galilean Satellites: Sampson's theory (1921) improved by Lieske (1977) and the constants introduced have been determined by Arlot (1982).

-First Eight Satellites of Saturn: theory from Rapaport thesis (1977)

-Satellites of Uranus: theory from Veillet thesis (1983).

If most of the theories have been built with an internal precision better than 0".01 (in a geocentric reference frame) the observations which have been used to fit the constants provide an external precision for the computed positions which is actually not better than 0".05 or even 0".5 for some satellites of Saturn. The accuracy governed by the choice of the mixed functions of the time which have been retained to represent the ephemerides, have been determined in such a way that the difference between the approximation and the source remains always below 0".01.

Our representation with mixed functions of the time, makes use of the quasi-periodic character of the variations for the differential coordinates of the satellites. Detailed explanations about this representation are given in Chapront and Vu (1984). Let us now discuss how practically to compute the positions X and Y of the satellites.

Explications et usage
des tables

Les éphémérides que l'on trouvera dans cette publication donnent des coordonnées différentielles tangentielles des satellites par rapport à la planète:

$$X = \Delta\alpha \cdot \cos\delta \quad \text{et} \quad Y = \Delta\delta$$

où δ est la déclinaison de la planète et $\Delta\alpha$, $\Delta\delta$ la différence en ascension droite et déclinaison entre satellite et planète (repère équatorial moyen de la date pour les satellites galiléens et 1950,0 pour les satellites de Saturne et d'Uranus).

Les théories utilisées pour la fabrication des éphémérides sont:

-pour les satellites galiléens, la théorie de Sampson (1921) améliorée par Lieske (1977) et où ont été introduites les constantes déterminées par Arlot (1982)

-pour les Huit Premiers Satellites de Saturne, la théorie issue du travail de Rapaport (1977)

-pour les satellites d'Uranus, la théorie issue du travail de Veillet (1983).

Si les théories sont, pour la plupart, construites avec une précision bien meilleure que 0".01 géocentrique, les observations utilisées pour l'ajustement des constantes ne permettent d'obtenir en réalité pour les positions calculées qu'une précision de l'ordre de 0".05 ou même 0".5 pour certains satellites de Saturne. La représentation en fonctions mixtes qui est publiée dans le présent ouvrage a été déterminée de façon à ce que l'écart avec la théorie-source soit toujours inférieur à 0".01.

La représentation sous forme de fonctions mixtes utilise le caractère quasi-périodique des variations de positions des satellites naturels des planètes. On trouvera des explications détaillées sur cette représentation dans Chapront et Vu (1984). Voyons maintenant comment, pratiquement, on va calculer les positions X et Y des satellites.

The coefficients listed in the tables are denoted by:

$A_0, A_1, B_0, F_0, B_1, F_1, B_2, F_2, C_0, P_0$.
For each time interval Δt , covering 2 days in the case of Mimas up to 32 days in the case of the larger satellites of Uranus, one finds two sets of coefficients: one for X and the other one for Y. For each coordinate at the time T (julian date) within the time interval $(t_0, t_0 + \Delta t)$, the computed value is provided by the formula:

$$\begin{matrix} X \\ Y \end{matrix} = A_0 + A_1.t + B_0 \sin(Nt+F_0) + B_1.t \sin(Nt+F_1) + B_2.t^2 \sin(Nt+F_2) + C_0 \sin(2Nt+P_0)$$

where $t = T - t_0$. (t_0 is the time in julian date at the beginning of the interval) and N is the frequency associated with the chosen satellite. The N are given at the top of each page of ephemeris. In general N is close to the natural frequency of the satellite itself. Nevertheless, in the case of Hyperion, N is close to the frequency of Titan because of the appearance of a large disturbing term whose frequency is larger than the proper frequency of the satellite

The units of the data are: for A_0, B_0, C_0 the arcsecond; for A_1, B_1 the arcsecond per day and for B_2 the arcsecond per day². For the phases F_0, F_1, F_2, P_0 the unit is the radian. N is expressed in radian per day and t in days from the beginning of the interval.

Important note:

The representation of the ephemerides must be used only in its interval of definition i.e. T must belong to the interval $(t_0, t_0 + \Delta t)$.

Les coefficients donnés dans les tables sont désignés par:

$A_0, A_1, B_0, F_0, B_1, F_1, B_2, F_2, C_0, P_0$.
Pour chaque intervalle de temps variant de 2 jours pour Mimas à 32 jours pour les gros satellites d'Uranus, on trouvera deux jeux de coefficients: l'un pour la coordonnée X, l'autre pour Y. La valeur de la coordonnée à l'instant T (tel que $T - t_0 = t$; t_0 étant le début de l'intervalle) sera:

où N est la fréquence associée au satellite considéré. Cette fréquence, indiquée sur chaque page d'éphéméride, est en général proche de celle du satellite lui-même sauf cependant dans le cas d'Hyperion où l'on prendra une fréquence proche de celle de Titan du fait de l'existence d'un très gros terme perturbateur de fréquence plus grande que celle du satellite lui-même.

Les unités sont la seconde de degré (") pour les coefficients A_0, B_0, C_0 , la seconde de degré par jour pour A_1, B_1 , la seconde de degré par jour² pour B_2 , le radian pour les phases F_0, F_1, F_2, P_0 . N est en radian par jour et le paramètre temps t est compté en jours à partir du début de l'intervalle.

Remarque importante:

L'utilisation de la représentation des éphémérides à l'aide de la formule ci-dessus n'est valable que dans son intervalle de définition: T doit être compris entre t_0 et $t_0 + \Delta t$.

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- Chapront, J., Vu, D.T.: 1984, in press in Astron. Astrophys.
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- Rapaport, M.: 1977, Thèse d'Etat, Université de Bordeaux I
- Sampson, R.A.: 1921, Mem. Roy. Astron. Soc. 63
- Veillet, Ch.: 1983, Thèse d'Etat, Université de Paris VI

Time-scales

The time argument of the ephemerides is TDB (barycentric dynamical time) which can be confounded with TDT (terrestrial dynamical time). TDT is close to the former definition of ET (ephemeris time) the use of which being not any longer recommended by IAU. Practically TDT is obtained by direct measurement of atomic time (TAI). So:

$$\text{TDT} = \text{TAI} + 32.184 \text{ s}$$

The table below allows to convert TDT in the scale UTC (coordinate universal time) in which astronomical events are measured.

Echelles de temps

L'argument "temps" des éphémérides publiées ici est le TDB (temps dynamique barycentrique) que l'on confondra ici avec le TDT (temps dynamique terrestre) proche du TE (temps des éphémérides) dont l'usage n'est plus recommandé par l'UAI. Le TDT est obtenu par mesure directe du temps atomique TAI. On a:

$$\text{TDT} = \text{TAI} + 32,184 \text{ s}$$

Le tableau ci-dessous permet de passer de l'échelle TDT à l'échelle UTC (temps universel coordonné) dans laquelle on mesure les événements astronomiques.

année/year	TDT - UTC
1979.5	50.2 s
1980.5	51.2 s
1981.5	52.2 s
1982.5	53.5 s
1983.5	53 s
1984.5	54 s
1985.5	55 s



Example of calculation:

Let us compute the tangential coordinates of Thetys (third satellite of Saturn) with respect to the planet for 1985, January 5, 23h 30min UTC.

In order to be brought in the time-scale TDB, which is the time variable of the ephemeris, one has to make a correction deduced from the table page 8. The correction equals 55s approximately for 1985. The corresponding date is now January 5, 23h 30min 55s TDB.

The necessary coefficients are listed page 64, they belong to the interval from January 1 to January 16 (the coefficients are valid for all dates in between January 1, 0h to January 16, 24h).

We read for X:

$$A0=0., A1=0., B0=38.4152, B1=0.06208, B2=0.000516, C0=0.0034$$

$$F0=0.941712 F1=0.1418 F2=1.7696 P0=5.0005$$

We then apply the formula:

$$X = A0 + A1.t + B0 \sin(Nt+F0) + B1.t \sin(Nt+F1) + B2.t^2 \sin(Nt+F2) + C0 \sin(2Nt+P0)$$

where $N=3.3280$ radian per day which is the corresponding frequency for Thetys, (cf. page 43). Note that phases $F0, F1, F2$ and $P0$ are in radians. t is the number of days elapsed between January 1, 0h and January 5, 23h 30min 55s. Hence $t=4.979803$ days. We finally get:
 $X = -37.62$ arcseconds.

We correspondingly get for Y:

$$A0=-0.0012, A1=0., B0=15.0795, B1=0.02891, B2=0.000126, C0=0.0013$$

$$F0=2.615048 F1=2.1487 F2=3.7565 P0=0.3986$$

N and t have the same values than in the case of X and we have $Y = +4.99$ arcseconds.

X and Y are evaluated in a tangential frame, Y towards the North and X towards the East.

Let us note that for some satellites (Titan, for example) some coefficients with systematically zero value are not listed.

Exemple de calcul:

Calculons les coordonnées tangentielles de Thétys (3^{ème} satellite de Saturne) par rapport à la planète le 5 janvier 1985 à 23h 30min UTC.

On effectuera tout d'abord une correction (déduite de la table de la page 8) pour se ramener à l'échelle de temps TDB qui est celle de l'éphéméride. Cette correction étant de 55s environ pour 1985, la date à considérer est donc le 5 janvier 1985 à 23h 30min 55s TDB.

Les coefficients nécessaires au calcul seront pris à la page 64 dans l'intervalle du 1 au 16 janvier 1985 (valable pour les dates comprises entre le 1 janvier à 0h et le 16 janvier à 24h).

On a ainsi pour X:

$$A0=0., A1=0., B0=38.4152, B1=0.06208, B2=0.000516, C0=0.0034$$

$$F0=0.941712 F1=0.1418 F2=1.7696 P0=5.0005$$

On forme alors:

avec $N=3,3280$ rad/jour (fréquence associée pour Thétys, cf. page 43). Notez, pour le calcul, que les phases $F0, F1, F2$ et $P0$ sont en radians. t est le nombre de jours écoulés entre le 1 janvier à 0h et le 5 janvier à 23h 30min 55s, soit $t=4,979803$ jours. On obtient finalement $X=-37,62$ secondes de degré.

De même pour Y:

$$A0=-0.0012, A1=0., B0=15.0795, B1=0.02891, B2=0.000126, C0=0.0013$$

$$F0=2.615048 F1=2.1487 F2=3.7565 P0=0.3986$$

N et t ont la même valeur que dans le cas de X et on obtient $Y=+4,99$ secondes de degré.

Le repère tangentiel dans lequel sont donnés X et Y est centré sur la planète Y vers le nord et X vers l'est.

On notera que pour certains satellites (comme Titan par exemple), certains coefficients ne sont pas donnés car ils sont toujours nuls.

SATELLITES DE JUPITER

SATELLITES OF JUPITER

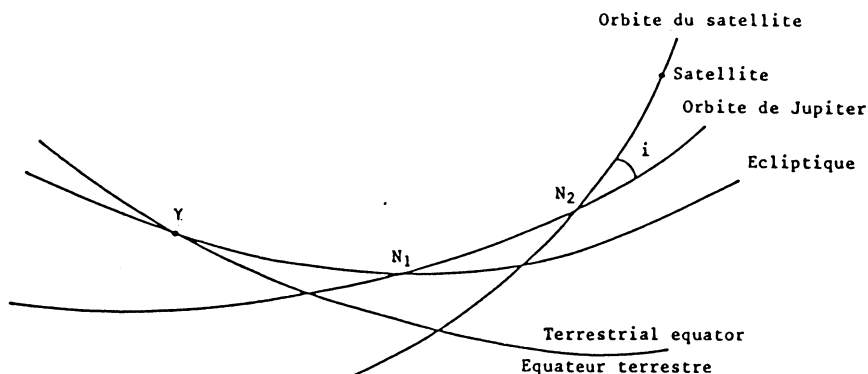
DONNEES SUR LES SATELLITES GALILEENS
DATA ON THE GALILEAN SATELLITES

	IO (J1)	EUROPE (J2)	GANYMEDE (J3)	CALLISTO (J4)
<u>Masses</u> ($10^{-5} m_J$):				
Sampson (1921)	4.50	2.54	7.99	4.50
De Sitter (1931)	3.81	2.48	8.17	5.09
Pioneer 11 (1976)	4.68	2.52	7.80	5.66
<u>Rayons</u> (km):				
Danjon (1954)	1650	1400	2450	2300
Dollfus (1961)	1775	1550	2800	2525
Pioneer 11 (1976)	1840	1552	2650	2420
Voyager (1983)	1816	1563	2638	2410
<u>Magnitudes visuelles à l'opposition de Jupiter:</u> (Harris 1961)				
	4.8	5.2	4.5	5.5
<u>Albedos géométriques</u> (Harris 1961)				
U: 3530 Å	0.19	0.47	0.29	0.14
B: 4480 Å	0.56	0.67	0.41	0.21
V: 5540 Å	0.92	0.83	0.49	0.26
R: 6900 Å	1.12	0.93	0.56	0.30
I: 8200 Å	1.15	0.95	0.57	0.31
<u>Albédo de Bond (visuel)</u>				
	0.54	0.49	0.29	0.15
<u>Demi-grand axe</u> (1)				
en U.A.:	0.002820	0.004486	0.007155	0.012586
en rayons de Jupiter:	5.87	9.34	14.91	26.22
en kilomètres:	421810	671140	1070500	1882900
<u>Plus grande élongation à l'opposition de Jupiter</u> (1):				
en minutes & secondes d'arc:	2' 17"	3' 40"	5' 48"	10' 13"
<u>Période synodique en jours</u> (1): 1.7698604883 3.5540941742 7.1663872292 16.7535523007				
<u>Inclinaison moyenne sur l'équateur de Jupiter</u> (1)				
en minutes & secondes d'arc:	1' 28"	27' 28"	13' 37"	7' 54"
<u>Excentricité</u> :				
	0.001	0.000	0.002	0.008
<u>Partie séculaire du mouvement</u> (1)				
du nœud :	-48.5	-11.9	-2.6	-0.6
du périjove :	57.0	14.6	2.7	0.7
(en degrés par an)				

(1): d'après Sampson (1921)

Theory of the motion of
the Galilean Satellites

Théorie du mouvement
des satellites galiléens



(repère moyen de la date)
(mean frame of the date)

Because of the complexity of the motion of the Galilean Satellites of Jupiter it is difficult to provide precise values for nodes and perijoves. Indeed, eccentricities and inclinations are small (see the preceding table) and all these elements are submitted to large variations.

One gives below the mean longitudes (Sampson, 1921) in the orbital planes, which are identified with Jupiter's equator.

T being the time elapsed from 1900.0 in days, one gets:

Du fait de la complexité du mouvement des satellites galiléens, il est difficile de donner des valeurs précises sur les nœuds et les périjoves. En effet, excentricités et inclinaisons sont faibles (cf. tableau précédent) et tous ces éléments sont soumis à de grandes variations.

On donne ci-après les longitudes moyennes (d'après Sampson, 1921) dans le plan des orbites, ce plan étant confondu avec l'équateur de Jupiter.

Si T est le temps en jours moyens compté à partir de 1900,0 on a:

$$\gamma N_1 N_2 = 316^\circ.051 + 0.00003559 T \quad , \quad i = 3^\circ.10350$$

$$\gamma N_1 + N_1 N_2 + N_2 M$$

Période sidérale (jours)

	$\gamma N_1 + N_1 N_2 + N_2 M$	Période sidérale (jours)
Io	$142^\circ.59987 + 203^\circ.488992435 T$	1.7691374639
Europe	$99^\circ.55081 + 101^\circ.374761672 T$	3.5511797420
Ganymède	$168^\circ.02628 + 50^\circ.317646290 T$	7.1545476894
Callisto	$234^\circ.40790 + 21^\circ.571109630 T$	16.6889884746

DONNEES SUR L'ENSEMBLE DES SATELLITES DE JUPITER

DATA ON THE GALILEAN AND OTHER SATELLITES OF JUPITER

NOM	masse	rayon	période rotation sidérale	albédo géométrique	magnitude visuelle	période orbitale	élongation maximale	1/2 grand axe	excentricité	inclinaison sur l'équateur de Jupiter
	unité + masse de Jupiter	km	jour			jour	(°) (') (")	10 ³ km		degré
I Io	4.68×10^{-5}	1815	(S)	0.61	5.02	1.769137	2 18	422	0.004	0.04
II Europa	2.52×10^{-5}	1569	(S)	0.64	5.29	3.551181	3 40	671	0.009	0.47
III Ganymede	7.80×10^{-5}	2631	(S)	0.42	4.61	7.154552	5 51	1070	0.002	0.21
IV Callisto	5.66×10^{-5}	2400	(S)	0.20	5.65	16.689018	10 18	1883	0.007	0.51
V Amalthea	$38. \times 10^{-10}$	135×83×75	(S)	0.05	14.1	0.498179	59	181	0.003	0.40
VI Himalia	$50. \times 10^{-10}$	93	0.4	0.03	14.84	250.5662	1 02 46	11480	0.15798	27.63 (1)
VII Elara	$4. \times 10^{-10}$	38	0.5	0.03	16.77	259.6528	1 04 10	11737	0.20719	24.77 (1)
VIII Pasiphae	$1. \times 10^{-10}$	25			17.0	735. (R)	2 08 26	23500	0.378	145. (1)
IX Sinope	0.4×10^{-10}	18			18.3	758. (R)	2 09 31	23700	0.275	153. (1)
X Lysithea	0.4×10^{-10}	18			18.4	259.22	1 04 04	11720	0.107	29.02
XI Carme	0.5×10^{-10}	20			18.0	692. (R)	2 03 31	22600	0.20678	164.
XII Ananke	0.2×10^{-10}	15			18.9	631. (R)	1 55 52	21200	0.16870	147.
XIII Leda	0.03×10^{-10}	8			20.	238.72	1 00 39	11094	0.14762	26.07
1979J1	0.1×10^{-10}	12		0.05	18.7	0.297	42	129		
1979J2	$4. \times 10^{-10}$	40		0.05	16.0	0.67455	1 13	221		
1979J3	0.5×10^{-10}	20		0.05	17.5	0.29479	42	128		
NAME	mass	radius	sidereal rotation	geometrical albedo	visual magnitude	orbital period	greatest elongation	semi major axis	eccentricity	inclination on Jupiter's equator
	unit + Jupiter's mass	km	day			day	(°) (') (")	10 ³ km		degree

(S): révolution synchrone
synchronous revolution

(R): révolution rétrograde
retrograde revolution

(1): Les éphémérides des satellites VI,VII,VIII
et IX sont données sous forme de coefficients
de Tchébycheff dans le Supplément à la Connaissance des Temps "Satellites Faibles".

The ephemerides for satellites VI,VII,VIII,
and IX are given with tables of Chebychev
coefficients in the Supplément à la Connaissance
des Temps "Faint Satellites".

EPHEMERIDES DES SATELLITES GALILEENS

EPHEMERIDES OF THE GALILEAN SATELLITES

Coordonnées différentielles tangentielles données dans le repère équatorial
moyen de la date

Differential tangential coordinates given in the mean equatorial frame
of the date.

$$\Delta\alpha \cos\delta = X$$

$$\Delta\delta = Y$$

$$\left. \begin{array}{l} X \\ Y \end{array} \right\} = A_0 + A_1.t + B_0 \sin(Nt+F_0) + B_1.t \sin(Nt+F_1) + B_2.t^2 \sin(Nt+F_2) + C_0 \sin(2Nt+P_0)$$

(cf. pages 6 et 7)

satellite	intervalle		page
	Δt (jours)	N (rad/j)	
Io	4	3.5516	16
Europe	4	1.7693	24
Ganymède	8	0.8782	32
Callisto	8	0.3765	36

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE JUPITER: IO

N=3.5516

		A0	A1	B0 FO	B1 F1	B2 F2	CO PO
JAN. 1 A JAN. 4 (2446066.5)	X:	+0.2764	-0.01128	+ 93.4366 3.233678	+0.39559 1.4880	+0.000683 4.9304	+0.2112 2.8979
	Y:	+0.0402	-0.00172	+ 17.6255 3.105886	+0.15527 2.8280		+0.0405 2.7693
JAN. 5 A JAN. 8 (2446070.5)	X:	+0.2309	-0.00817	+ 93.1788 4.857289	+0.40682 3.1441	+0.004073 0.1190	+0.2107 6.2125
	Y:	+0.0331	-0.00128	+ 18.2246 4.736627	+0.15742 4.4382		+0.0420 6.0950
JAN. 9 A JAN. 12 (2446074.5)	X:	+0.1984	-0.00966	+ 92.9704 0.197509	+0.39914 4.7839	+0.003613 1.3111	+0.2108 3.2340
	Y:	+0.0283	-0.00169	+ 18.8281 0.083665	+0.15989 6.0527		+0.0434 3.1255
JAN. 13 A JAN. 16 (2446078.5)	X:	+0.1535	-0.00598	+ 92.8064 1.820872	+0.38370 0.1587	+0.001201 2.5973	+0.2117 0.2604
	Y:	+0.0203	-0.00100	+ 19.4375 1.713460	+0.16189 1.3862		+0.0452 0.1537
JAN. 17 A JAN. 20 (2446082.5)	X:	+0.1215	-0.00892	+ 92.6956 3.444405	+0.37766 1.8063	+0.001654 3.3336	+0.2105 3.5664
	Y:	+0.0144	-0.00166	+ 20.0517 3.342978	+0.16415 3.0030		+0.0461 3.4610
JAN. 21 A JAN. 24 (2446086.5)	X:	+0.0844	-0.00883	+ 92.6287 5.067928	+0.36126 3.4692	+0.004335 3.7793	+0.2112 0.5879
	Y:	+0.0063	-0.00172	+ 20.6721 4.972328	+0.16629 4.6109		+0.0477 0.5041
JAN. 25 A JAN. 28 (2446090.5)	X:	+0.0479	-0.01101	+ 92.6114 0.408547	+0.36822 5.1403	+0.002352 5.1430	+0.2101 3.9017
	Y:	-0.0003	-0.00251	+ 21.2946 0.318195	+0.16901 6.2285		+0.0495 3.8189
JAN. 29 A FEV. 1 (2446094.5)	X:	+0.0126	-0.01200	+ 92.6524 2.032493	+0.38070 0.5028	+0.001502 3.0478	+0.2106 0.9226
	Y:	-0.0080	-0.00277	+ 21.9244 1.947089	+0.17078 1.5608		+0.0506 0.8374
FEV. 1 A FEV. 4 (2446097.5)	X:	-0.0199	-0.01080	+ 92.7070 0.108712	+0.36285 4.8998	+0.002587 4.8995	+0.2106 3.4082
	Y:	-0.0157	-0.00266	+ 22.3983 0.027004	+0.17215 5.9191		+0.0519 3.3358
FEV. 5 A FEV. 8 (2446101.5)	X:	-0.0557	-0.01162	+ 92.8321 1.732929	+0.37651 0.2691	+0.001372 3.1122	+0.2112 0.4295
	Y:	-0.0242	-0.00290	+ 23.0351 1.655723	+0.17415 1.2536		+0.0531 0.3523
FEV. 9 A FEV. 12 (2446105.5)	X:	-0.0972	-0.01132	+ 93.0067 3.357150	+0.37215 1.9317	+0.001089 5.4920	+0.2116 3.7468
	Y:	-0.0343	-0.00301	+ 23.6778 3.284290	+0.17501 2.8752		+0.0544 3.6766
FEV. 13 A FEV. 16 (2446109.5)	X:	-0.1357	-0.01047	+ 93.2333 4.981675	+0.37857 3.5746	+0.003589 0.0804	+0.2112 0.7717
	Y:	-0.0446	-0.00288	+ 24.3234 4.912910	+0.17671 4.4978		+0.0558 0.7025
FEV. 17 A FEV. 20 (2446113.5)	X:	-0.1793	-0.00805	+ 93.5114 0.323144	+0.37440 5.2187	+0.004725 1.3143	+0.2131 4.0816
	Y:	-0.0564	-0.00235	+ 24.9731 0.258350	+0.17870 6.1239		+0.0574 4.0196

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE JUPITER: IO

N=3.5516

		AO	A1	BO FO	B1 F1	B2 F2	CO PO
FEV. 21 A FEV. 24 (2446117.5)	X:	-0.2144	-0.00807	+ 93.8329 1.947928	+0.35647 0.6240	+0.001261 2.0447	+0.2121 1.1091
	Y:	-0.0667	-0.00243	+ 25.6279 1.886976	+0.17993 1.4707		+0.0586 1.0473
FEV. 25 A FEV. 28 (2446121.5)	X:	-0.2543	-0.00617	+ 94.2123 3.573147	+0.34869 2.2875	+0.002592 2.8694	+0.2131 4.4206
	Y:	-0.0789	-0.00189	+ 26.2870 3.515816	+0.18170 3.0975		+0.0596 4.3624
MAR. 1 A MAR. 4 (2446125.5)	X:	-0.2831	-0.00918	+ 94.6403 5.198691	+0.34565 3.9658	+0.003088 4.0468	+0.2125 1.4487
	Y:	-0.0885	-0.00287	+ 26.9523 5.144854	+0.18293 4.7189		+0.0612 1.4015
MAR. 5 A MAR. 8 (2446129.5)	X:	-0.3188	-0.00791	+ 95.1183 0.541443	+0.35398 5.6479	+0.001561 4.6969	+0.2133 4.7602
	Y:	-0.0994	-0.00263	+ 27.6195 0.490818	+0.18467 0.0669		+0.0628 4.7072
MAR. 9 A MAR. 12 (2446133.5)	X:	-0.3475	-0.01111	+ 95.6640 2.167753	+0.35854 0.9959	+0.001824 2.8246	+0.2132 1.7938
	Y:	-0.1088	-0.00364	+ 28.2940 2.120195	+0.18554 1.6967		+0.0637 1.7467
MAR. 13 A MAR. 16 (2446137.5)	X:	-0.3819	-0.00906	+ 96.2529 3.794388	+0.36459 2.6600	+0.003400 5.1142	+0.2137 5.1046
	Y:	-0.1203	-0.00314	+ 28.9729 3.749773	+0.18571 3.3303		+0.0651 5.0591
MAR. 17 A MAR. 20 (2446141.5)	X:	-0.4175	-0.00817	+ 96.8964 5.421404	+0.36834 4.3216	+0.005467 0.5224	+0.2155 2.1399
	Y:	-0.1321	-0.00293	+ 29.6542 5.379622	+0.18671 4.9694		+0.0663 2.0954
MAR. 21 A MAR. 24 (2446145.5)	X:	-0.4466	-0.00689	+ 97.5965 0.765481	+0.34945 6.0068	+0.002968 1.3249	+0.2154 5.4492
	Y:	-0.1429	-0.00255	+ 30.3411 0.726568	+0.18722 0.3265		+0.0675 5.4135
MAR. 25 A MAR. 28 (2446149.5)	X:	-0.4823	-0.00345	+ 98.3437 2.393286	+0.34211 1.4342	+0.001607 1.4357	+0.2174 2.4807
	Y:	-0.1556	-0.00152	+ 31.0322 2.357073	+0.18724 1.9671		+0.0689 2.4445
MAR. 29 A AVR. 1 (2446153.5)	X:	-0.5017	-0.00606	+ 99.1544 4.021733	+0.34063 3.0984	+0.002778 3.3515	+0.2168 5.7989
	Y:	-0.1641	-0.00228	+ 31.7263 3.988077	+0.18825 3.6028		+0.0696 5.7711
AVR. 1 A AVR. 4 (2446156.5)	X:	-0.5282	-0.00306	+ 99.7931 2.101685	+0.34024 1.2291	+0.001983 1.2509	+0.2188 2.0038
	Y:	-0.1732	-0.00145	+ 32.2501 2.069840	+0.18734 1.6988		+0.0710 1.9710
AVR. 5 A AVR. 8 (2446160.5)	X:	-0.5456	-0.00500	+100.6965 3.731066	+0.34193 2.8959	+0.002470 3.2020	+0.2182 5.3215
	Y:	-0.1811	-0.00199	+ 32.9495 3.701561	+0.18785 3.3394		+0.0715 5.2955

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE JUPITER: IO

N=3.5516

		A0	A1	B0 F0	B1 F1	B2 F2	C0 P0
AVR. 9 A AVR.12 (2446164.5)	X:	-0.5718	-0.00239	+101.6482 5.360937	+0.34461 4.5856	+0.002506 4.5650	+0.2193 2.3510
	Y:	-0.1916	-0.00120	+ 33.6520 5.333703	+0.18776 4.9820		+0.0731 2.3269
AVR.13 A AVR.16 (2446168.5)	X:	-0.5849	-0.00604	+102.6534 0.708221	+0.35547 6.2695	+0.000400 3.4565	+0.2198 5.6791
	Y:	-0.1975	-0.00242	+ 34.3564 0.683078	+0.18672 0.3503		+0.0738 5.6532
AVR.17 A AVR.20 (2446172.5)	X:	-0.6030	-0.00514	+103.7276 2.339400	+0.35935 1.6167	+0.004508 3.5699	+0.2204 2.7124
	Y:	-0.2055	-0.00213	+ 35.0637 2.316220	+0.18501 1.9992		+0.0751 2.6922
AVR.21 A AVR.24 (2446176.5)	X:	-0.6206	-0.00594	+104.8374 3.971098	+0.36468 3.3039	+0.005339 5.4183	+0.2219 6.0383
	Y:	-0.2121	-0.00253	+ 35.7698 3.949843	+0.18269 3.6550		+0.0763 6.0081
AVR.25 A AVR.28 (2446180.5)	X:	-0.6350	-0.00445	+105.9995 5.603366	+0.36084 5.0097	+0.004450 0.6370	+0.2228 3.0726
	Y:	-0.2184	-0.00186	+ 36.4704 5.584036	+0.18196 5.3192		+0.0766 3.0518
AVR.29 A MAI 2 (2446184.5)	X:	-0.6549	-0.00214	+107.2233 0.953122	+0.34438 0.4370	+0.003953 1.2592	+0.2241 0.1136
	Y:	-0.2270	-0.00106	+ 37.1730 0.935643	+0.17866 0.6997		+0.0782 0.0993
MAI 1 A MAI 4 (2446186.5)	X:	-0.6549	-0.00287	+107.8424 1.770157	+0.36478 1.2437	+0.005187 3.1769	+0.2232 1.7729
	Y:	-0.2287	-0.00126	+ 37.5213 1.753411	+0.17770 1.5217		+0.0783 1.7614
MAI 5 A MAI 8 (2446190.5)	X:	-0.6621	-0.00481	+109.1248 3.404280	+0.36467 2.9381	+0.005353 4.8217	+0.2250 5.1041
	Y:	-0.2316	-0.00210	+ 38.2157 3.389213	+0.17375 3.1839		+0.0797 5.0837
MAI 9 A MAI 12 (2446194.5)	X:	-0.6718	-0.00277	+110.4458 5.039105	+0.36429 4.6508	+0.004620 0.1311	+0.2257 2.1429
	Y:	-0.2356	-0.00124	+ 38.8975 5.025592	+0.17122 4.8632		+0.0794 2.1269
MAI 13 A MAI 16 (2446198.5)	X:	-0.6814	-0.00194	+111.8179 0.391553	+0.35459 0.0700	+0.005268 1.2553	+0.2278 5.4686
	Y:	-0.2405	-0.00084	+ 39.5739 0.379543	+0.16664 0.2551		+0.0806 5.4643
MAI 17 A MAI 20 (2446202.5)	X:	-0.6863	+0.00075	+113.2124 2.027969	+0.36126 1.8175	+0.000822 2.1390	+0.2283 2.5161
	Y:	-0.2433	+0.00003	+ 40.2357 2.017415	+0.16169 1.9316		+0.0811 2.5093
MAI 21 A MAI 24 (2446206.5)	X:	-0.6934	+0.00233	+114.6361 3.665322	+0.36885 3.5270	+0.001255 2.0156	+0.2298 5.8412
	Y:	-0.2462	+0.00071	+ 40.8797 3.656055	+0.15701 3.6090		+0.0823 5.8355
MAI 25 A MAI 28 (2446210.5)	X:	-0.6868	+0.00157	+116.0912 5.303523	+0.37023 5.2148	+0.000559 5.4347	+0.2300 2.8928
	Y:	-0.2449	+0.00052	+ 41.5049 5.295433	+0.15157 5.2927		+0.0823 2.8808

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE JUPITER: IO

N=3.5516

	AO	A1	B0 FO	B1 F1	B2 F2	C0 PO
MAI 29 A JUN. 1 (2446214.5)	X: -0.6884	+0.00292	+117.5643 0.659418	+0.37825 0.6009	+0.004421 2.6625	+0.2317 6.2212
	Y: -0.2467	+0.00110	+ 42.1102 0.652291	+0.14319 0.7141		+0.0826 6.2238
JUN. 1 A JUN. 4 (2446217.5)	X: -0.6818	+0.00259	+118.6756 5.030753	+0.37414 5.0598	+0.000297 6.2686	+0.2314 2.4429
	Y: -0.2437	+0.00097	+ 42.5406 5.024498	+0.13971 5.1250		+0.0831 2.4319
JUN. 5 A JUN. 8 (2446221.5)	X: -0.6812	+0.00432	+120.1640 0.388123	+0.37902 0.4570	+0.003846 2.5155	+0.2334 5.7756
	Y: -0.2444	+0.00169	+ 43.0962 0.382697	+0.13026 0.5614		+0.0830 5.7777
JUN. 9 A JUN.12 (2446225.5)	X: -0.6610	-0.00059	+121.6566 2.029608	+0.36875 2.1246	+0.007357 3.6673	+0.2338 2.8339
	Y: -0.2374	-0.00018	+ 43.6117 2.024927	+0.12300 2.2799		+0.0844 2.8348
JUN.13 A JUN.16 (2446229.5)	X: -0.6580	+0.00262	+123.1258 3.671779	+0.36648 3.8497	+0.007092 5.2213	+0.2348 6.1651
	Y: -0.2344	+0.00085	+ 44.0902 3.667813	+0.11427 4.0265		+0.0842 6.1464
JUN.17 A JUN.20 (2446233.5)	X: -0.6405	-0.00073	+124.5660 5.314746	+0.37450 5.5825	+0.006812 0.8791	+0.2369 3.2233
	Y: -0.2275	+0.00000	+ 44.5185 5.311428	+0.10868 5.7901		+0.0838 3.2127
JUN.21 A JUN.24 (2446237.5)	X: -0.6334	+0.00344	+125.9875 0.675349	+0.37053 1.0675	+0.002806 2.3424	+0.2362 0.2765
	Y: -0.2259	+0.00148	+ 44.9042 0.672585	+0.10074 1.2999		+0.0839 0.2803
JUN.25 A JUN.28 (2446241.5)	X: -0.6242	+0.00534	+127.3464 2.319956	+0.38458 2.8231	+0.003687 0.0047	+0.2384 3.6120
	Y: -0.2204	+0.00196	+ 45.2319 2.317749	+0.09306 3.0837		+0.0848 3.6221
JUN.29 A JUL. 2 (2446245.5)	X: -0.6047	+0.00623	+128.6518 3.965498	+0.37635 4.5136	+0.002825 0.9436	+0.2370 0.6731
	Y: -0.2126	+0.00249	+ 45.4996 3.963488	+0.08852 4.9013		+0.0842 0.6689
JUL. 1 A JUL. 4 (2446247.5)	X: -0.5856	+0.00064	+129.2830 4.788509	+0.36239 5.3377	+0.006456 0.5293	+0.2386 2.3493
	Y: -0.2051	+0.00054	+ 45.6114 4.786496	+0.08832 5.8354		+0.0836 2.3393
JUL. 5 A JUL. 8 (2446251.5)	X: -0.5717	+0.00434	+130.4815 0.151692	+0.36163 0.8191	+0.003893 2.3103	+0.2381 5.6898
	Y: -0.2009	+0.00195	+ 45.7893 0.149883	+0.08690 1.4179		+0.0826 5.6955
JUL. 9 A JUL.12 (2446255.5)	X: -0.5557	+0.00586	+131.5855 1.798657	+0.37383 2.5978	+0.004598 5.8574	+0.2406 2.7486
	Y: -0.1928	+0.00218	+ 45.8952 1.797059	+0.08673 3.2606		+0.0832 2.7607
JUL.13 A JUL.16 (2446259.5)	X: -0.5331	+0.00768	+132.5798 3.446399	+0.36314 4.2947	+0.004636 0.6585	+0.2386 6.0945
	Y: -0.1830	+0.00296	+ 45.9321 3.444624	+0.09054 5.1091		+0.0831 6.0919

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE JUPITER: IO

N=3.5516

		A0	A1	B0 F0	B1 F1	B2 F2	C0 P0
JUL.17 A JUL.20 (2446263.5)	X:	-0.5146	+0.01041	+133.4669 5.094565	+0.34529 6.0111	+0.004884 1.6362	+0.2393 3.1515
	Y:	-0.1763	+0.00408	+ 45.8969 5.092609	+0.09549 0.6492		+0.0816 3.1364
JUL.21 A JUL.24 (2446267.5)	X:	-0.4798	+0.00741	+134.2268 0.459819	+0.34065 1.4634	+0.007690 3.4244	+0.2394 0.2240
	Y:	-0.1645	+0.00297	+ 45.7952 0.457541	+0.10600 2.4737		+0.0807 0.2306
JUL.25 A JUL.28 (2446271.5)	X:	-0.4537	+0.00810	+134.8599 2.108684	+0.30848 3.2253	+0.007491 4.4403	+0.2381 3.5674
	Y:	-0.1533	+0.00296	+ 45.6174 2.106026	+0.11324 4.2563		+0.0811 3.5717
JUL.29 A AOU. 1 (2446275.5)	X:	-0.4176	+0.00419	+135.3369 3.757574	+0.29982 5.0103	+0.006136 5.9429	+0.2396 0.6339
	Y:	-0.1383	+0.00163	+ 45.3728 3.754437	+0.12379 6.0117		+0.0797 0.6204
AOU. 1 A AOU. 4 (2446278.5)	X:	-0.4037	+0.00898	+135.5959 1.852782	+0.29259 3.1806	+0.007200 4.3294	+0.2373 3.1417
	Y:	-0.1341	+0.00323	+ 45.1457 1.849302	+0.12910 4.1874		+0.0792 3.1459
AOU. 5 A AOU. 8 (2446282.5)	X:	-0.3646	+0.00511	+135.8060 3.501756	+0.28360 4.9801	+0.006033 5.7432	+0.2384 0.2115
	Y:	-0.1186	+0.00187	+ 44.7907 3.497675	+0.13837 5.9185		+0.0782 0.1965
AOU. 9 A AOU.12 (2446286.5)	X:	-0.3349	+0.00658	+135.8501 5.150480	+0.30106 0.4571	+0.005304 2.0877	+0.2366 3.5556
	Y:	-0.1083	+0.00256	+ 44.3762 5.145880	+0.14558 1.3486		+0.0765 3.5414
AOU.13 A AOU.16 (2446290.5)	X:	-0.3017	+0.00522	+135.7531 0.515963	+0.30614 2.2734	+0.004272 4.5607	+0.2364 0.6192
	Y:	-0.0962	+0.00187	+ 43.9141 0.510691	+0.15187 3.0641		+0.0756 0.6093
AOU.17 A AOU.20 (2446294.5)	X:	-0.2748	+0.01026	+135.4785 2.164340	+0.30793 4.0161	+0.008645 6.2412	+0.2338 3.9642
	Y:	-0.0852	+0.00340	+ 43.4092 2.158424	+0.15578 4.7883		+0.0747 3.9701
AOU.21 A AOU.24 (2446298.5)	X:	-0.2422	+0.01027	+135.0475 3.812367	+0.29393 5.7746	+0.009633 1.3847	+0.2326 1.0279
	Y:	-0.0744	+0.00358	+ 42.8643 3.805617	+0.15727 0.2039		+0.0746 1.0215
AOU.25 A AOU.28 (2446302.5)	X:	-0.2053	+0.01233	+134.4895 5.459861	+0.29138 1.3320	+0.006223 3.1566	+0.2310 4.3804
	Y:	-0.0632	+0.00407	+ 42.2999 5.452317	+0.15932 1.9137		+0.0722 4.3661
AOU.29 A SEP. 1 (2446306.5)	X:	-0.1695	+0.01135	+133.7787 0.823618	+0.27792 3.1548	+0.005529 3.9676	+0.2298 1.4377
	Y:	-0.0508	+0.00367	+ 41.7133 0.815178	+0.15958 3.6096		+0.0713 1.4315
SEP. 1 A SEP. 4 (2446309.5)	X:	-0.1415	+0.01265	+133.1557 5.199808	+0.29607 1.3135	+0.005999 2.9711	+0.2289 3.9492
	Y:	-0.0420	+0.00406	+ 41.2647 5.190884	+0.15740 1.7407		+0.0707 3.9337

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE JUPITER: IO

N=3.5516

	A0	A1	B0 FO	B1 F1	B2 F2	CO PO
SEP. 5 A SEP. 8 (2446313.5)	X: -0.1055	+0.01188	+132.2230 0.562314	+0.29258 3.1285	+0.005012 3.9065	+0.2272 1.0073
	Y: -0.0299	+0.00371	+ 40.6651 0.552530	+0.15553 3.4338		+0.0695 0.9974
SEP. 9 A SEP.12 (2446317.5)	X: -0.0562	+0.00821	+131.1777 2.207210	+0.30234 4.9496	+0.003878 4.6969	+0.2267 4.3611
	Y: -0.0147	+0.00260	+ 40.0662 2.196612	+0.15132 5.1263		+0.0689 4.3467
SEP.13 A SEP.16 (2446321.5)	X: -0.0232	+0.00920	+130.0253 3.851040	+0.32482 0.3739	+0.001837 1.6886	+0.2247 1.4126
	Y: -0.0045	+0.00285	+ 39.4753 3.839846	+0.14546 0.5321		+0.0682 1.4055
SEP.17 A SEP.20 (2446325.5)	X: +0.0238	+0.00449	+128.7772 5.494033	+0.33314 2.0801	+0.004720 3.3869	+0.2248 4.7556
	Y: +0.0098	+0.00132	+ 38.9013 5.482230	+0.13992 2.2196		+0.0681 4.7387
SEP.21 A SEP.24 (2446329.5)	X: +0.0522	+0.00937	+127.4627 0.853021	+0.35160 3.8095	+0.006561 5.5399	+0.2213 1.8163
	Y: +0.0197	+0.00268	+ 38.3462 0.840752	+0.13183 3.9329		+0.0655 1.8018
SEP.25 A SEP.28 (2446333.5)	X: +0.0897	+0.00796	+126.0674 2.494198	+0.35296 5.5132	+0.009659 0.7723	+0.2203 5.1487
	Y: +0.0310	+0.00247	+ 37.8176 2.481449	+0.12469 5.6363		+0.0658 5.1497
SEP.29 A OCT. 2 (2446337.5)	X: +0.1237	+0.01143	+124.6294 4.134523	+0.35704 0.9954	+0.006459 2.1603	+0.2183 2.2124
	Y: +0.0396	+0.00352	+ 37.3167 4.121361	+0.11659 1.0695		+0.0661 2.1946
OCT. 1 A OCT. 4 (2446339.5)	X: +0.1553	+0.00459	+123.9046 4.954212	+0.37189 1.8565	+0.004082 3.2571	+0.2190 3.8775
	Y: +0.0491	+0.00134	+ 37.0813 4.940830	+0.11415 1.9053		+0.0660 3.8621
OCT. 5 A OCT. 8 (2446343.5)	X: +0.1830	+0.00808	+122.4135 0.309860	+0.38399 3.5683	+0.004696 5.1176	+0.2155 0.9296
	Y: +0.0585	+0.00228	+ 36.6274 0.296246	+0.10587 3.6299		+0.0639 0.9057
OCT. 9 A OCT.12 (2446347.5)	X: +0.2193	+0.00679	+120.8902 1.947644	+0.38685 5.2450	+0.008645 0.4035	+0.2148 4.2595
	Y: +0.0700	+0.00206	+ 36.2112 1.933988	+0.10006 5.3681		+0.0640 4.2555
OCT.13 A OCT.16 (2446351.5)	X: +0.2493	+0.01003	+119.3532 3.584600	+0.39011 0.6952	+0.006521 1.8100	+0.2123 1.3176
	Y: +0.0775	+0.00320	+ 35.8261 3.570862	+0.09283 0.8289		+0.0648 1.3072
OCT.17 A OCT.20 (2446355.5)	X: +0.2791	+0.01056	+117.8248 5.220684	+0.41203 2.4387	+0.001052 3.8433	+0.2109 4.6435
	Y: +0.0870	+0.00317	+ 35.4834 5.206902	+0.08904 2.5704		+0.0642 4.6276
OCT.21 A OCT.24 (2446359.5)	X: +0.3166	+0.00964	+116.2844 0.572505	+0.41348 4.1411	+0.001713 3.8472	+0.2100 1.6969
	Y: +0.0987	+0.00302	+ 35.1735 0.558929	+0.08506 4.3246		+0.0636 1.6816

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE JUPITER: IO

N=3.5516

		A0	A1	B0 F0	B1 F1	B2 F2	C0 P0
OCT.25 A OCT.28 (2446363.5)	X:	+0.3465	+0.00881	+114.7632 2.206607	+0.42672 5.8285	+0.001388 3.6413	+0.2084 5.0264
	Y:	+0.1077	+0.00289	+ 34.8992 2.193288	+0.08120 6.0745		+0.0631 5.0148
OCT.29 A NOV. 1 (2446367.5)	X:	+0.3852	+0.00525	+113.2660 3.839768	+0.43738 1.1975	+0.003044 3.8502	+0.2086 2.0689
	Y:	+0.1196	+0.00181	+ 34.6612 3.826953	+0.07938 1.5523		+0.0643 2.0619
NOV. 1 A NOV. 4 (2446370.5)	X:	+0.3979	+0.00802	+112.1441 1.922662	+0.43638 5.6284	+0.001508 3.2570	+0.2064 4.5653
	Y:	+0.1246	+0.00274	+ 34.5050 1.910157	+0.07952 6.0109		+0.0633 4.5521
NOV. 5 A NOV. 8 (2446374.5)	X:	+0.4319	+0.00526	+110.6893 3.554422	+0.44634 1.0029	+0.003304 3.9967	+0.2067 1.6055
	Y:	+0.1353	+0.00191	+ 34.3247 3.542574	+0.07952 1.4865		+0.0645 1.6004
NOV. 9 A NOV.12 (2446378.5)	X:	+0.4547	+0.00470	+109.2536 5.185337	+0.43306 2.6545	+0.002859 3.9893	+0.2046 4.9340
	Y:	+0.1437	+0.00172	+ 34.1779 5.174262	+0.08062 3.2203		+0.0645 4.9172
NOV.13 A NOV.16 (2446382.5)	X:	+0.4828	+0.00249	+107.8576 0.532445	+0.43218 4.3168	+0.004979 5.5912	+0.2046 1.9718
	Y:	+0.1546	+0.00098	+ 34.0583 0.522249	+0.08374 4.9752		+0.0640 1.9657
NOV.17 A NOV.20 (2446386.5)	X:	+0.4964	+0.00519	+106.4990 2.162040	+0.43062 5.9944	+0.004949 0.8162	+0.2024 5.2961
	Y:	+0.1605	+0.00208	+ 33.9724 2.152744	+0.08764 0.4064		+0.0650 5.2953
NOV.21 A NOV.24 (2446390.5)	X:	+0.5179	+0.00363	+105.1839 3.791018	+0.43221 1.4096	+0.002528 1.7338	+0.2021 2.3327
	Y:	+0.1681	+0.00166	+ 33.9119 3.782654	+0.09134 2.1202		+0.0658 2.3193
NOV.25 A NOV.28 (2446394.5)	X:	+0.5286	+0.00713	+103.9290 5.419384	+0.44806 3.0741	+0.001324 5.4823	+0.2009 5.6598
	Y:	+0.1733	+0.00275	+ 33.8811 5.412014	+0.09565 3.8087		+0.0660 5.6480
NOV.29 A DEC. 2 (2446398.5)	X:	+0.5475	+0.00438	+102.7071 0.763908	+0.45133 4.7497	+0.002262 1.8931	+0.2001 2.6916
	Y:	+0.1815	+0.00198	+ 33.8725 0.757653	+0.09975 5.4957		+0.0663 2.6823
DEC. 1 A DEC. 4 (2446400.5)	X:	+0.5565	+0.00298	+102.1123 1.577354	+0.43198 5.5434	+0.004249 0.3489	+0.1997 4.3489
	Y:	+0.1861	+0.00147	+ 33.8760 1.571878	+0.10199 0.0590		+0.0668 4.3512
DEC. 5 A DEC. 8 (2446404.5)	X:	+0.5723	+0.00049	+100.9634 3.204256	+0.43057 0.9387	+0.003208 1.6155	+0.1991 1.3817
	Y:	+0.1927	+0.00081	+ 33.9011 3.199961	+0.10602 1.7376		+0.0679 1.3757
DEC. 9 A DEC.12 (2446408.5)	X:	+0.5735	+0.00466	+ 99.8706 4.830740	+0.44453 2.6171	+0.001147 5.7593	+0.1985 4.7025
	Y:	+0.1952	+0.00216	+ 33.9494 4.827655	+0.11067 3.4032		+0.0680 4.6990

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE JUPITER: IO

N=3.5516

	AO	A1	BO FO	B1 F1	B2 F2	CO PO
DEC. 13 A DEC. 16 (2446412.5)	X: +0.5838	+0.00220	+ 98.8285 0.173444	+0.44801 4.2769	+0.002550 1.3000	+0.1979 1.7344
	Y: +0.2013	+0.00138	+ 34.0176 0.171702	+0.11474 5.0634		+0.0686 1.7306
DEC. 17 A DEC. 20 (2446416.5)	X: +0.5902	+0.00262	+ 97.8338 1.798876	+0.44684 5.9428	+0.003585 3.2379	+0.1989 5.0522
	Y: +0.2054	+0.00161	+ 34.1037 1.798503	+0.11792 0.4410		+0.0694 5.0516
DEC. 21 A DEC. 24 (2446420.5)	X: +0.5938	+0.00056	+ 96.8975 3.423794	+0.43626 1.2919	+0.002220 3.8860	+0.1977 2.0786
	Y: +0.2093	+0.00088	+ 34.2075 3.424975	+0.12162 2.1013		+0.0705 2.0811
DEC. 25 A DEC. 28 (2446424.5)	X: +0.6013	-0.00244	+ 96.0097 5.048344	+0.41713 2.9329	+0.003608 3.8303	+0.1988 5.3926
	Y: +0.2142	-0.00017	+ 34.3301 5.051150	+0.12539 3.7465		+0.0711 5.3929
DEC. 29 A DEC. 32 (2446428.5)	X: +0.5948	-0.00172	+ 95.1757 0.389612	+0.41971 4.5999	+0.002680 5.5924	+0.1972 2.4247
	Y: +0.2155	-0.00003	+ 34.4652 0.393923	+0.13006 5.3998		+0.0715 2.4372

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 2 DE JUPITER: EUROPE

N=1.7693

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
JAN. 1 A JAN. 4 (2446066.5)	X:	-0.5560	-0.16318	+148.5419 0.283820	+0.45370 4.1334	+0.088024 6.2134	+0.6392 0.1184
	Y:	-0.1037	+0.00219	+ 28.4194 0.116733	+0.24676 6.1963		+0.1276 6.2205
JAN. 5 A JAN. 8 (2446070.5)	X:	-1.5251	+0.42424	+148.8265 1.066856	+1.33997 5.6279	+0.171579 3.0473	+0.6436 1.6843
	Y:	-0.0996	+0.00735	+ 29.3927 0.903707	+0.24825 0.6647		+0.1312 1.5576
JAN. 9 A JAN.12 (2446074.5)	X:	+0.2732	-0.43174	+146.9868 1.844449	+0.81513 1.5719	+0.205811 5.9013	+0.6671 3.3229
	Y:	-0.0836	+0.01365	+ 30.3761 1.689027	+0.24253 1.4412		+0.1366 3.1985
JAN.13 A JAN.16 (2446078.5)	X:	-1.6745	+0.57436	+147.9733 2.612350	+1.09169 5.7445	+0.257769 2.5204	+0.6932 4.9904
	Y:	-0.0334	+0.00155	+ 31.3567 2.476062	+0.25821 2.1408		+0.1413 4.8447
JAN.17 A JAN.20 (2446082.5)	X:	-0.3003	+0.02028	+147.5700 3.398013	+0.75654 1.5497	+0.053318 4.2977	+0.6634 0.3406
	Y:	-0.0018	-0.00231	+ 32.3455 3.260533	+0.25899 2.9326		+0.1453 0.1876
JAN.21 A JAN.24 (2446086.5)	X:	+0.6224	-0.41977	+148.0723 4.178957	+1.57477 2.4772	+0.222613 6.0387	+0.6782 1.9990
	Y:	-0.0098	+0.01632	+ 33.3153 4.045213	+0.27485 3.7241		+0.1508 1.8367
JAN.25 A JAN.28 (2446090.5)	X:	-0.9160	+0.43503	+146.4718 4.955460	+0.79333 4.6622	+0.180178 2.7668	+0.6406 3.6193
	Y:	+0.0378	+0.00592	+ 34.3374 4.829169	+0.26908 4.5044		+0.1540 3.4552
JAN.29 A FEV. 1 (2446094.5)	X:	+0.8098	-0.33700	+147.5969 5.726186	+0.70621 2.9483	+0.162241 5.7887	+0.6270 5.2219
	Y:	+0.0724	+0.00818	+ 35.3568 5.613043	+0.27222 5.2722		+0.1580 5.1004
FEV. 1 A FEV. 4 (2446097.5)	X:	-0.7139	+0.44844	+146.5190 4.745403	+0.78170 4.6099	+0.185083 2.6820	+0.6392 3.3276
	Y:	+0.0945	+0.00676	+ 36.1200 4.630309	+0.27480 4.2821		+0.1620 3.1748
FEV. 5 A FEV. 8 (2446101.5)	X:	+0.8313	-0.21899	+147.8699 5.518803	+0.59743 3.1035	+0.112586 5.6728	+0.6370 4.9297
	Y:	+0.1314	+0.00937	+ 37.1518 5.413859	+0.27844 5.0518		+0.1666 4.8189
FEV. 9 A FEV.12 (2446105.5)	X:	+0.0471	+0.19118	+148.0005 0.020103	+0.95327 4.9482	+0.079838 2.3499	+0.6530 0.2363
	Y:	+0.1726	+0.00228	+ 38.1828 6.197307	+0.27851 5.8524		+0.1718 0.1479
FEV.13 A FEV.16 (2446109.5)	X:	+0.2045	+0.23860	+148.4452 0.797818	+0.97733 5.7161	+0.099872 3.1639	+0.6539 1.8734
	Y:	+0.2052	+0.00766	+ 39.2384 0.697535	+0.27888 0.3268		+0.1763 1.7979
FEV.17 A FEV.20 (2446113.5)	X:	+1.9069	-0.60334	+147.3996 1.575227	+1.08012 1.9324	+0.301138 6.0491	+0.6945 3.4698
	Y:	+0.1996	+0.02977	+ 40.3257 1.481090	+0.26748 1.0567		+0.1828 3.4146

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 2 DE JUPITER: EUROPE

N=1.7693

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
FEV.21 A FEV.24 (2446117.5)	X:	-0.1439	+0.50693	+149.7566 2.347836	+0.94907 5.8819	+0.224083 2.6511	+0.7006 5.1613
	Y:	+0.2986	+0.00122	+ 41.3504 2.265005	+0.29062 1.8493		+0.1881 5.0667
FEV.25 A FEV.28 (2446121.5)	X:	+1.5244	-0.20072	+150.0397 3.137172	+1.26069 1.7653	+0.134128 5.1842	+0.6942 0.5321
	Y:	+0.3246	+0.00630	+ 42.4147 3.048698	+0.29861 2.6112		+0.1929 0.4140
MAR. 1 A MAR. 4 (2446125.5)	X:	+1.2191	-0.06345	+150.4223 3.913175	+0.77779 2.7836	+0.057497 0.3187	+0.6794 2.1435
	Y:	+0.3547	+0.01051	+ 43.4787 3.831619	+0.29613 3.4412		+0.1977 2.0417
MAR. 5 A MAR. 8 (2446129.5)	X:	+0.3445	+0.47637	+150.2804 4.692380	+0.88518 4.7432	+0.193167 2.7819	+0.6748 3.8064
	Y:	+0.3993	+0.01198	+ 44.5680 4.615185	+0.29856 4.2157		+0.2026 3.6890
MAR. 9 A MAR.12 (2446133.5)	X:	+2.2432	-0.44276	+152.6342 5.467352	+0.85379 2.9521	+0.205715 5.9927	+0.6602 5.3634
	Y:	+0.4401	+0.00858	+ 45.6578 5.398996	+0.29736 5.0112		+0.2078 5.3023
MAR.13 A MAR.16 (2446137.5)	X:	+0.5444	+0.47471	+153.1168 6.258450	+1.51015 5.2339	+0.204924 2.6407	+0.6904 0.6927
	Y:	+0.5040	-0.00113	+ 46.7516 6.182463	+0.29537 5.8225		+0.2144 0.6584
MAR.17 A MAR.20 (2446141.5)	X:	+2.4118	-0.35908	+153.1713 0.746901	+0.69315 1.3552	+0.201896 5.5596	+0.7328 2.3288
	Y:	+0.4795	+0.02757	+ 47.9079 0.684286	+0.28719 0.2329		+0.2219 2.2903
MAR.21 A MAR.24 (2446145.5)	X:	+2.0375	-0.19116	+154.7421 1.530121	+0.40118 1.4166	+0.115366 0.2046	+0.7280 3.9699
	Y:	+0.5491	+0.01579	+ 48.9955 1.468307	+0.29194 1.0672		+0.2258 3.9226
MAR.25 A MAR.28 (2446149.5)	X:	+0.3446	+0.76237	+157.2959 2.306388	+1.33419 5.8720	+0.347935 2.8411	+0.7729 5.6288
	Y:	+0.6364	-0.01001	+ 50.0885 2.254482	+0.32342 1.8028		+0.2352 5.5634
MAR.29 A AVR. 1 (2446153.5)	X:	+3.0257	-0.54062	+157.6741 3.102284	+1.73380 2.1657	+0.249717 5.7990	+0.7400 1.0122
	Y:	+0.6297	+0.01058	+ 51.2094 3.038211	+0.30535 2.6778		+0.2380 0.9115
AVR. 1 A AVR. 4 (2446156.5)	X:	+0.2466	+0.87124	+159.9510 2.104516	+1.59685 5.7186	+0.396851 2.7406	+0.7940 5.3461
	Y:	+0.7024	-0.01160	+ 52.0535 2.057782	+0.32594 1.6265		+0.2458 5.2821
AVR. 5 A AVR. 8 (2446160.5)	X:	+3.1058	-0.49257	+159.9356 2.900886	+1.65621 2.0723	+0.228042 5.7086	+0.7518 0.7229
	Y:	+0.6939	+0.00833	+ 53.1925 2.842230	+0.30533 2.4949		+0.2483 0.6282

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 2 DE JUPITER: EUROPE

N=1.7693

		A0	A1	B0 F0	B1 F1	B2 F2	C0 PO
AVR. 9 A AVR. 12 (2446164.5)	X:	+1.7777	+0.15565	+161.0911 3.676323	+0.61494 3.4866	+0.066999 1.9052	+0.7492 2.3414
	Y:	+0.7036	+0.01978	+ 54.3079 3.628362	+0.31466 3.3067		+0.2557 2.2704
AVR. 13 A AVR. 16 (2446168.5)	X:	+2.1761	+0.05241	+163.0831 4.460646	+0.39037 3.7575	+0.046205 4.0237	+0.7492 3.9381
	Y:	+0.7547	+0.01005	+ 55.4696 4.414993	+0.30508 4.1032		+0.2607 3.8868
AVR. 17 A AVR. 20 (2446172.5)	X:	+3.0412	-0.39730	+165.4288 5.243501	+0.70258 3.2047	+0.186890 6.1295	+0.7497 5.5662
	Y:	+0.7934	+0.00634	+ 56.6206 5.201846	+0.29999 4.9070		+0.2674 5.5370
AVR. 21 A AVR. 24 (2446176.5)	X:	+0.7329	+0.83277	+166.2278 6.040945	+2.20013 5.4680	+0.371870 2.8780	+0.7954 0.8460
	Y:	+0.8410	-0.00980	+ 57.7643 5.989215	+0.28655 5.7429		+0.2736 0.8646
AVR. 25 A AVR. 28 (2446180.5)	X:	+3.6407	-0.59214	+167.4909 0.528130	+1.09067 1.6884	+0.279139 5.7517	+0.8388 2.5340
	Y:	+0.8157	+0.01731	+ 58.9369 0.494634	+0.28271 0.1933		+0.2834 2.5172
AVR. 29 A MAI 2 (2446184.5)	X:	+1.7741	+0.26334	+171.0777 1.319811	+0.62276 5.5148	+0.173188 1.9171	+0.8551 4.1971
	Y:	+0.8698	+0.00177	+ 60.0335 1.283849	+0.29559 0.9893		+0.2881 4.1531
MAI 1 A MAI 4 (2446186.5)	X:	+3.6865	-0.61338	+172.4961 4.853925	+1.08864 2.7431	+0.279826 5.9332	+0.7856 4.9863
	Y:	+0.8606	+0.01124	+ 60.5890 4.819399	+0.29552 4.6022		+0.2894 4.9753
MAI 5 A MAI 8 (2446190.5)	X:	+0.8626	+0.80752	+172.5232 5.652369	+2.24863 5.3199	+0.369994 2.7137	+0.8538 0.2872
	Y:	+0.9319	-0.02014	+ 61.7330 5.608404	+0.26623 5.4704		+0.2988 0.3047
MAI 9 A MAI 12 (2446194.5)	X:	+3.0497	-0.21069	+175.0551 0.145915	+0.68077 0.8228	+0.129538 5.2280	+0.8703 1.9730
	Y:	+0.8912	+0.00750	+ 62.8482 0.116147	+0.27064 6.2189		+0.3051 1.9618
MAI 13 A MAI 16 (2446198.5)	X:	+3.2834	-0.44060	+177.1249 0.935055	+0.75295 2.1362	+0.240693 0.1489	+0.9069 3.6043
	Y:	+0.8903	+0.01452	+ 63.9538 0.907507	+0.25976 0.6904		+0.3117 3.5880
MAI 17 A MAI 20 (2446202.5)	X:	+1.1808	+0.70461	+181.1658 1.726575	+1.14548 5.8256	+0.326649 2.8016	+0.9223 5.2786
	Y:	+0.9550	-0.01496	+ 64.9686 1.699196	+0.27973 1.5717		+0.3199 5.2319
MAI 21 A MAI 24 (2446206.5)	X:	+4.1839	-0.78072	+181.3513 2.528230	+2.26467 2.1374	+0.347603 5.6910	+0.9013 0.6782
	Y:	+0.9080	+0.00445	+ 66.0137 2.490896	+0.26412 2.4418		+0.3220 0.5969
MAI 25 A MAI 28 (2446210.5)	X:	+1.6261	+0.44725	+183.9384 3.306138	+0.86664 4.5419	+0.193227 2.5829	+0.8765 2.2570
	Y:	+0.9153	+0.00592	+ 67.0376 3.284001	+0.25083 3.3017		+0.3284 2.2212

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 2 DE JUPITER: EUROPE

N=1.7693

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
MAI 29 A JUN. 1 (2446214.5)	X:	+2.8238	-0.10937	+187.0056 4.103759	+0.44206 3.4713	+0.075724 5.2755	+0.9066 3.8870
	Y:	+0.8987	+0.01312	+ 67.9992 4.077642	+0.24680 4.1638		+0.3350 3.8706
JUN. 1 A JUN. 4 (2446217.5)	X:	+1.9590	+0.26349	+188.2178 3.124707	+0.69595 4.0865	+0.119050 2.3756	+0.9118 1.9814
	Y:	+0.9074	+0.00625	+ 68.7123 3.102806	+0.23239 3.2284		+0.3393 1.9483
JUN. 5 A JUN. 8 (2446221.5)	X:	+2.2818	+0.14203	+190.6860 3.920795	+0.55515 4.4623	+0.065384 3.4505	+0.9319 3.6256
	Y:	+0.8886	+0.01079	+ 69.5961 3.897742	+0.22549 4.1053		+0.3448 3.5993
JUN. 9 A JUN.12 (2446225.5)	X:	+3.4153	-0.51638	+194.0780 4.717554	+0.72199 3.2599	+0.232053 0.0134	+0.9413 5.2144
	Y:	+0.9271	-0.01173	+ 70.4758 4.693749	+0.19296 4.9836		+0.3500 5.2294
JUN.13 A JUN.16 (2446229.5)	X:	+0.8106	+0.83449	+194.4427 5.519618	+2.28692 5.5261	+0.383558 2.8095	+0.9974 0.5623
	Y:	+0.9259	-0.02214	+ 71.2381 5.489831	+0.18450 5.9642		+0.3571 0.5891
JUN.17 A JUN.20 (2446233.5)	X:	+4.6146	-1.06047	+197.3580 0.015437	+2.22138 1.8805	+0.492358 5.7437	+1.0728 2.2375
	Y:	+0.8243	+0.01676	+ 71.9859 0.005575	+0.14302 0.2919		+0.3663 2.2320
JUN.21 A JUN.24 (2446237.5)	X:	+1.8448	+0.19913	+200.6956 0.825027	+0.25214 5.8170	+0.137560 1.9277	+1.0372 3.9085
	Y:	+0.8615	-0.00891	+ 72.5348 0.802903	+0.16547 1.3659		+0.3650 3.8757
JUN.25 A JUN.28 (2446241.5)	X:	+1.1651	+0.61322	+203.4105 1.623271	+0.90047 5.9843	+0.327468 3.0166	+1.0729 5.5649
	Y:	+0.8888	-0.04025	+ 73.0212 1.602260	+0.16702 2.1266		+0.3719 5.5205
JUN.29 A JUL. 2 (2446245.5)	X:	+3.4808	-0.62715	+203.5380 2.427053	+1.76521 2.4856	+0.276925 5.9084	+1.0344 0.9335
	Y:	+0.7710	+0.00889	+ 73.5023 2.400591	+0.15728 3.3728		+0.3701 0.8790
JUL. 1 A JUL. 4 (2446247.5)	X:	+3.3304	-0.48161	+205.2635 5.957627	+1.37202 1.3964	+0.257307 5.3259	+1.0967 1.7061
	Y:	+0.7670	+0.00271	+ 73.7363 5.943210	+0.11093 0.6634		+0.3757 1.7033
JUL. 5 A JUL. 8 (2446251.5)	X:	+2.8991	-0.43761	+206.9980 0.477062	+1.07858 2.1274	+0.217379 0.0505	+1.0941 3.3536
	Y:	+0.7447	+0.00087	+ 73.9927 0.459803	+0.12955 1.7108		+0.3764 3.3405
JUL. 9 A JUL.12 (2446255.5)	X:	-0.1038	+1.08286	+211.1944 1.284026	+1.84323 5.5074	+0.527440 2.7749	+1.1340 5.0485
	Y:	+0.8015	-0.04828	+ 74.0811 1.261129	+0.13777 2.4049		+0.3807 4.9969
JUL.13 A JUL.16 (2446259.5)	X:	+3.4855	-0.73229	+209.3348 2.088060	+1.95744 2.3350	+0.320801 5.7434	+1.0664 0.4107
	Y:	+0.6647	+0.00412	+ 74.2112 2.061443	+0.16024 3.6991		+0.3752 0.3501

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 2 DE JUPITER: EUROPE

N=1.7693

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
JUL.17 A JUL.20 (2446263.5)	X:	+1.0328	+0.38463	+211.8867 2.860698	+1.12367 4.6182	+0.161466 2.4929	+1.0567 2.0305
	Y:	+0.6095	+0.01029	+ 74.1492 2.862849	+0.17606 4.6494		+0.3764 2.0046
JUL.21 A JUL.24 (2446267.5)	X:	+2.4520	-0.30007	+213.6542 3.689834	+0.25955 3.1053	+0.137127 5.6723	+1.0817 3.6340
	Y:	+0.6124	-0.00049	+ 73.9958 3.665433	+0.17956 5.6259		+0.3748 3.6317
JUL.25 A JUL.28 (2446271.5)	X:	+2.1128	-0.26787	+214.5232 4.491361	+0.19497 4.6047	+0.131877 0.3299	+1.0872 5.2876
	Y:	+0.5934	-0.01692	+ 73.7407 4.467415	+0.19966 0.3466		+0.3749 5.2933
JUL.29 A AOU. 1 (2446275.5)	X:	-0.1751	+0.93590	+213.4223 5.298567	+2.26034 5.7816	+0.460912 2.9672	+1.1399 0.6122
	Y:	+0.5839	-0.03537	+ 73.3615 5.270000	+0.21723 1.3062		+0.3737 0.6389
AOU. 1 A AOU. 4 (2446278.5)	X:	+2.4010	-0.49898	+216.1550 4.326704	+0.37696 2.4459	+0.216978 6.2425	+1.0860 5.0238
	Y:	+0.5111	-0.01338	+ 72.9782 4.300871	+0.22327 0.3425		+0.3707 5.0312
AOU. 5 A AOU. 8 (2446282.5)	X:	-0.6979	+1.07845	+213.7624 5.133387	+2.51779 5.6762	+0.524134 2.8644	+1.1531 0.3477
	Y:	+0.5205	-0.04066	+ 72.4359 5.103302	+0.24878 1.2867		+0.3701 0.3733
AOU. 9 A AOU.12 (2446286.5)	X:	+2.9823	-0.82873	+216.0731 5.923526	+2.13022 1.9526	+0.374454 5.7398	+1.1637 2.0566
	Y:	+0.3761	+0.00854	+ 71.7413 5.906358	+0.22732 2.1697		+0.3681 2.0350
AOU.13 A AOU.16 (2446290.5)	X:	+0.6001	+0.17325	+216.3688 0.453693	+0.65194 4.0656	+0.185126 1.7260	+1.1493 3.7215
	Y:	+0.3885	-0.01837	+ 70.9667 0.425110	+0.23054 3.0012		+0.3617 3.6774
AOU.17 A AOU.20 (2446294.5)	X:	+0.3520	+0.37860	+215.8160 1.255873	+0.47234 5.2268	+0.201782 3.1240	+1.1261 5.3651
	Y:	+0.3424	-0.01843	+ 70.1353 1.226531	+0.24227 3.7812		+0.3587 5.3165
AOU.21 A AOU.24 (2446298.5)	X:	+2.6892	-0.90074	+213.0389 2.061679	+1.75010 2.4537	+0.397794 5.8185	+1.0974 0.7650
	Y:	+0.2410	+0.00461	+ 69.3050 2.027098	+0.27186 4.6464		+0.3510 0.6917
AOU.25 A AOU.28 (2446302.5)	X:	-0.4404	+0.60630	+213.7720 2.852465	+1.73044 5.2291	+0.263553 2.6998	+1.0508 2.3429
	Y:	+0.2342	-0.00458	+ 68.3864 2.828586	+0.26526 5.5117		+0.3459 2.3112
AOU.29 A SEP. 1 (2446306.5)	X:	+1.6775	-0.51912	+213.2283 3.663433	+0.68294 1.6880	+0.219347 5.8254	+1.0692 3.9695
	Y:	+0.1874	-0.00972	+ 67.4541 3.628755	+0.26850 0.0943		+0.3402 3.9663
SEP. 1 A SEP. 4 (2446309.5)	X:	-0.5487	+0.52870	+211.7886 2.684260	+1.61613 5.1861	+0.230995 2.6148	+1.0414 2.0755
	Y:	+0.1526	-0.00402	+ 66.7213 2.657935	+0.26191 5.4213		+0.3372 2.0442

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 2 DE JUPITER: EUROPE

N=1.7693

	A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
SEP. 5 A SEP. 8 (2446313.5)	X: +1.0327	-0.30660	+210.4553 3.492219	+0.46596 1.0459	+0.129576 5.6685	+1.0557 3.7108
	Y: +0.1103	-0.01013	+ 65.7693 3.457076	+0.26092 0.0068		+0.3313 3.6964
SEP. 9 A SEP.12 (2446317.5)	X: +0.0675	+0.04422	+208.0219 4.289967	+0.42683 5.9255	+0.114028 1.8328	+1.0712 5.3375
	Y: +0.1238	-0.03592	+ 64.8474 4.255961	+0.26906 0.9116		+0.3280 5.3276
SEP.13 A SEP.16 (2446321.5)	X: -0.8536	+0.52351	+205.5986 5.089561	+0.90941 6.1862	+0.262582 3.0528	+1.0671 0.6919
	Y: +0.0225	-0.01219	+ 63.8551 5.053592	+0.24504 1.7118		+0.3203 0.6866
SEP.17 A SEP.20 (2446325.5)	X: +2.3190	-1.18103	+205.2946 5.875338	+2.91515 2.3125	+0.528815 5.8998	+1.1129 2.3647
	Y: -0.0732	+0.01706	+ 62.9402 5.852083	+0.22105 2.7410		+0.3202 2.3294
SEP.21 A SEP.24 (2446329.5)	X: -1.4764	+0.61878	+203.3304 0.405382	+1.36258 4.8047	+0.297415 2.5310	+1.0416 4.0397
	Y: -0.0500	-0.01290	+ 62.0017 0.363687	+0.20494 3.3657		+0.3109 3.9707
SEP.25 A SEP.28 (2446333.5)	X: -0.1546	-0.01523	+200.0660 1.197036	+0.24080 5.1773	+0.111030 4.0657	+1.0157 5.6718
	Y: -0.0738	-0.02486	+ 61.1492 1.159325	+0.18543 4.2537		+0.3073 5.6064
SEP.29 A OCT. 2 (2446337.5)	X: +0.2169	-0.34545	+197.4028 1.991538	+0.38126 3.5411	+0.162295 6.1617	+0.9778 1.0113
	Y: -0.1565	+0.00100	+ 60.3796 1.953522	+0.19393 5.0493		+0.3011 0.9522
OCT. 1 A OCT. 4 (2446339.5)	X: +1.3983	-0.90377	+197.8632 5.521393	+2.49847 2.1774	+0.410550 5.6883	+1.0471 1.8204
	Y: -0.2083	+0.01193	+ 59.9987 5.493797	+0.18083 2.5960		+0.3011 1.7788
OCT. 5 A OCT. 8 (2446343.5)	X: -0.9349	+0.10016	+194.7340 0.041712	+0.85768 3.8357	+0.099971 1.7268	+0.9852 3.4634
	Y: -0.2148	-0.00154	+ 59.2596 0.002796	+0.16681 3.2773		+0.2938 3.4075
OCT. 9 A OCT.12 (2446347.5)	X: -1.9048	+0.60954	+192.9217 0.837298	+1.56312 5.2064	+0.315987 2.9587	+0.9887 5.1219
	Y: -0.1987	-0.03028	+ 58.5483 0.795443	+0.13499 4.1544		+0.2928 5.0516
OCT.13 A OCT.16 (2446351.5)	X: +0.3893	-0.63282	+188.3465 1.625293	+0.75716 2.6119	+0.280470 5.9035	+0.9177 0.4636
	Y: -0.2932	+0.00134	+ 57.9883 1.586876	+0.14939 4.9527		+0.2855 0.3900
OCT.17 A OCT.20 (2446355.5)	X: -2.0702	+0.50662	+187.7493 2.409486	+1.67950 5.4513	+0.230569 2.5891	+0.8828 2.0703
	Y: -0.3158	-0.00991	+ 57.4346 2.378132	+0.13824 5.9063		+0.2813 2.0297
OCT.21 A OCT.24 (2446359.5)	X: -0.0292	-0.52708	+184.9833 3.210640	+1.07145 1.5640	+0.218990 5.8635	+0.9059 3.6508
	Y: -0.3447	-0.00829	+ 56.9333 3.168591	+0.12856 0.5045		+0.2786 3.6431

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 2 DE JUPITER: EUROPE

N=1.7693

		A0	A1	B0 F0	B1 F1	B2 F2	CO PO
OCT.25 A OCT.28 (2446363.5)	X:	-1.3100	+0.00452	+182.1214 3.994079	+0.43023 1.2343	+0.055391 1.5510	+0.8924 5.3090
	Y:	-0.3797	-0.01408	+ 56.5085 3.958034	+0.12906 1.4270		+0.2757 5.2876
OCT.29 A NOV. 1 (2446367.5)	X:	-2.0244	+0.41034	+179.1536 4.781957	+0.51327 0.4305	+0.227829 3.2454	+0.9068 0.6424
	Y:	-0.4068	-0.01753	+ 56.1245 4.747330	+0.13049 2.3912		+0.2722 0.6284
NOV. 1 A NOV. 4 (2446370.5)	X:	-1.0448	-0.21667	+178.2820 3.803620	+0.75027 1.6635	+0.094241 0.1811	+0.8559 5.0157
	Y:	-0.4417	-0.01185	+ 55.8708 3.767274	+0.11936 1.4656		+0.2701 5.0003
NOV. 5 A NOV. 8 (2446374.5)	X:	-2.7037	+0.64882	+174.5513 4.587952	+0.81167 6.0143	+0.321701 3.0047	+0.8854 0.3432
	Y:	-0.4493	-0.02456	+ 55.5999 4.555208	+0.13069 2.3569		+0.2685 0.3369
NOV. 9 A NOV.12 (2446378.5)	X:	-0.1807	-0.70064	+174.5323 5.368772	+2.03695 2.4085	+0.316777 5.8574	+0.8765 2.0255
	Y:	-0.5481	+0.00994	+ 55.3260 5.342570	+0.12438 3.4407		+0.2679 1.9796
NOV.13 A NOV.16 (2446382.5)	X:	-2.7154	+0.46783	+171.5311 6.167116	+1.47336 4.5874	+0.240590 2.3369	+0.8354 3.6893
	Y:	-0.5327	-0.00959	+ 55.1288 6.128563	+0.12177 4.3296		+0.2635 3.6128
NOV.17 A NOV.20 (2446386.5)	X:	-1.7005	+0.02146	+168.9658 0.661695	+0.48958 4.8397	+0.069078 4.0405	+0.7999 5.2885
	Y:	-0.5671	-0.00698	+ 54.9974 0.630856	+0.11744 5.1603		+0.2622 5.2316
NOV.21 A NOV.24 (2446390.5)	X:	-0.8651	-0.49091	+166.1132 1.444554	+0.31949 2.6726	+0.215337 5.9791	+0.7754 0.6577
	Y:	-0.6080	-0.00236	+ 54.9215 1.415925	+0.12710 5.9871		+0.2598 0.5918
NOV.25 A NOV.28 (2446394.5)	X:	-2.8564	+0.51035	+165.8029 2.223866	+1.60675 5.6947	+0.225159 2.8117	+0.7435 2.2165
	Y:	-0.6206	-0.00466	+ 54.8642 2.200856	+0.13345 0.5811		+0.2581 2.1976
NOV.29 A DEC. 2 (2446398.5)	X:	-0.9323	-0.48992	+163.1536 3.016851	+1.21528 1.5943	+0.211092 5.8406	+0.7593 3.8274
	Y:	-0.6568	-0.00089	+ 54.8503 2.984677	+0.13608 1.4353		+0.2573 3.8343
DEC. 1 A DEC. 4 (2446400.5)	X:	-2.7287	+0.42035	+162.3357 0.265023	+1.19131 5.0038	+0.200013 2.9546	+0.7656 4.7123
	Y:	-0.6485	-0.00948	+ 54.8421 0.235018	+0.13786 5.0516		+0.2576 4.6495
DEC. 5 A DEC. 8 (2446404.5)	X:	-0.6694	-0.64622	+159.0424 1.038903	+0.69720 2.4159	+0.281902 5.8063	+0.7196 0.0754
	Y:	-0.6861	-0.00232	+ 54.9053 1.018491	+0.15205 5.8404		+0.2548 0.0057
DEC. 9 A DEC.12 (2446408.5)	X:	-3.0247	+0.50100	+159.5481 1.820295	+1.63665 5.5207	+0.218440 2.6865	+0.7057 1.6131
	Y:	-0.6975	-0.00361	+ 54.9792 1.801603	+0.15796 0.3915		+0.2545 1.6106

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 2 DE JUPITER: EUROPE

N=1.7693

		AO	A1	B0 FO	B1 F1	B2 F2	C0 PO
DEC. 13 A DEC. 16 (2446412.5)	X:	-1.5710	-0.21135	+156.8168 2.606878	+0.83756 0.9935	+0.098706 5.5058	+0.7179 3.2507
	Y:	-0.7245	+0.00052	+ 55.0905 2.583837	+0.16143 1.2092		+0.2544 3.2504
DEC. 17 A DEC. 20 (2446416.5)	X:	-2.1917	+0.02663	+155.1010 3.383308	+0.34016 1.1280	+0.082777 1.5334	+0.7285 4.8691
	Y:	-0.6999	-0.01578	+ 55.2604 3.366628	+0.18413 1.9476		+0.2546 4.8737
DEC. 21 A DEC. 24 (2446420.5)	X:	-2.8593	+0.42555	+153.1375 4.160951	+0.37459 0.1515	+0.197471 2.9797	+0.7251 0.2149
	Y:	-0.7242	-0.01260	+ 55.4213 4.147896	+0.18116 2.7834		+0.2541 0.2157
DEC. 25 A DEC. 28 (2446424.5)	X:	-0.4285	-0.81065	+153.9921 4.939691	+2.30477 2.4083	+0.378805 5.8711	+0.7425 1.9015
	Y:	-0.7943	+0.01892	+ 55.5666 4.930324	+0.21341 3.7049		+0.2562 1.8582
DEC. 29 A DEC. 32 (2446428.5)	X:	-2.9884	+0.44447	+150.7500 5.728480	+1.16535 4.6198	+0.201900 2.5377	+0.6811 3.5318
	Y:	-0.7531	-0.00439	+ 55.8112 5.710258	+0.18919 4.4708		+0.2531 3.4751

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 3 DE JUPITER: GANYMEDE

N=0.8782

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
JAN. 1 A JAN. 8 (2446066.5)	X:	+0.2859	+0.03167	+237.2163 0.380893	+0.97008 5.0355	+0.013711 3.7733	+0.1340 2.9216
	Y:	+0.0465	+0.00472	+ 43.6420 0.248157	+0.39310 6.2481		+0.0281 2.9097
JAN. 9 A JAN.16 (2446074.5)	X:	+0.7184	-0.09676	+235.8572 1.089659	+0.75060 5.6820	+0.026264 6.2365	+0.1576 4.2794
	Y:	+0.0274	+0.01288	+ 46.7363 0.971927	+0.39853 0.6389		+0.0322 4.2617
JAN.17 A JAN.24 (2446082.5)	X:	+0.2656	+0.03985	+235.6285 1.800375	+1.03002 0.1305	+0.011070 3.1070	+0.1829 5.8760
	Y:	+0.0742	+0.00539	+ 49.8222 1.693739	+0.41415 1.3405		+0.0396 5.7597
JAN.25 A FEV. 1 (2446090.5)	X:	+0.6219	-0.06790	+235.1660 2.511216	+0.99518 1.0703	+0.010910 5.8909	+0.1873 1.1753
	Y:	+0.0922	-0.00057	+ 52.9753 2.414536	+0.42865 2.0334		+0.0445 1.0211
FEV. 1 A FEV. 8 (2446097.5)	X:	+0.4478	-0.03952	+235.4508 2.346519	+0.92629 0.9171	+0.006695 0.1808	+0.1792 0.9517
	Y:	+0.0761	+0.00149	+ 55.7870 2.258822	+0.43473 1.8613		+0.0459 0.8215
FEV. 9 A FEV.16 (2446105.5)	X:	+0.2248	+0.00269	+236.3643 3.056725	+0.93983 1.5938	+0.005280 3.5387	+0.1592 2.4490
	Y:	+0.0752	-0.00254	+ 59.0419 2.978220	+0.44534 2.5565		+0.0413 2.3476
FEV.17 A FEV.24 (2446113.5)	X:	-0.2199	+0.11125	+237.3380 3.766702	+0.71301 2.4089	+0.027262 2.9587	+0.1410 3.9747
	Y:	+0.0876	-0.00614	+ 62.3524 3.697479	+0.45386 3.2491		+0.0382 3.7837
FEV.25 A MAR. 4 (2446121.5)	X:	+0.6322	-0.09134	+239.8370 4.480037	+1.03940 2.9974	+0.025596 5.5509	+0.1223 5.2009
	Y:	+0.0681	+0.00010	+ 65.6634 4.416347	+0.46410 3.9800		+0.0378 5.0912
MAR. 1 A MAR. 8 (2446125.5)	X:	+0.4527	-0.06152	+240.2815 1.694725	+0.82552 0.5632	+0.018733 0.3163	+0.1339 5.8151
	Y:	+0.0460	+0.00835	+ 67.3754 1.634455	+0.46222 1.1864		+0.0422 5.8226
MAR. 9 A MAR.16 (2446133.5)	X:	+0.2162	+0.01936	+243.1797 2.408421	+0.92610 1.1745	+0.010190 3.0885	+0.1708 0.9895
	Y:	+0.1003	-0.00302	+ 70.7587 2.354540	+0.47584 1.9119		+0.0506 0.9460
MAR.17 A MAR.24 (2446141.5)	X:	+0.2856	-0.02304	+246.1430 3.123673	+0.94809 2.1064	+0.005245 0.4055	+0.1867 2.6455
	Y:	+0.0675	+0.00125	+ 74.2006 3.074824	+0.47788 2.6525		+0.0559 2.5491
MAR.25 A AVR. 1 (2446149.5)	X:	+0.0784	+0.02784	+249.8882 3.839717	+0.82808 2.8604	+0.012738 3.3048	+0.1700 4.2092
	Y:	+0.0880	-0.00749	+ 77.7295 3.796973	+0.47722 3.3708		+0.0541 4.1208

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 3 DE JUPITER: GANYMEDE

N=0.8782

		A0	A1	B0 FO	B1 F1	B2 F2	CO PO
AVR. 1 A AVR. 8 (2446156.5)	X:	+0.0282	+0.03147	+253.6528 3.682782	+0.82900 2.7274	+0.015030 3.6475	+0.1433 3.9716
	Y:	+0.0524	-0.00313	+ 80.8044 3.644198	+0.47900 3.2405		+0.0493 3.8956
AVR. 9 A AVR.16 (2446164.5)	X:	+0.6570	-0.13010	+258.8843 4.404287	+1.07058 3.3000	+0.037366 5.8552	+0.1145 5.1774
	Y:	+0.0037	+0.01182	+ 84.3069 4.369077	+0.48836 3.9986		+0.0434 5.1989
AVR.17 A AVR.24 (2446172.5)	X:	+0.0426	+0.03898	+263.4735 5.126118	+0.95115 4.4824	+0.004128 3.1910	+0.1426 0.2477
	Y:	+0.0671	+0.00093	+ 87.9127 5.095181	+0.47125 4.7655		+0.0476 0.2385
AVR.25 A MAI 2 (2446180.5)	X:	+0.3750	-0.03749	+269.5169 5.850503	+0.85954 5.1770	+0.015191 0.2328	+0.1680 1.7237
	Y:	+0.0946	-0.00029	+ 91.4817 5.823845	+0.46075 5.5358		+0.0586 1.6359
MAI 1 A MAI 8 (2446186.5)	X:	-0.2274	+0.11545	+273.5902 4.826156	+1.08144 4.5135	+0.024322 2.7069	+0.1973 5.9004
	Y:	+0.1108	-0.00431	+ 94.1489 4.801095	+0.44627 4.5512		+0.0647 5.9364
MAI 9 A MAI 16 (2446194.5)	X:	+0.4673	-0.06907	+280.8927 5.554961	+0.80414 5.0697	+0.021672 6.1894	+0.1908 1.3309
	Y:	+0.0784	+0.00084	+ 97.6078 5.534312	+0.43403 5.3440		+0.0683 1.2511
MAI 17 A MAI 24 (2446202.5)	X:	-0.1365	+0.06641	+287.7906 0.006865	+1.08111 5.8722	+0.022211 2.1911	+0.1598 2.8859
	Y:	+0.1295	-0.01623	+100.9439 6.269830	+0.41278 6.1802		+0.0586 2.7695
MAI 25 A JUN. 1 (2446210.5)	X:	-0.0327	+0.04251	+295.2035 0.742263	+0.94585 0.5058	+0.014301 2.4408	+0.1550 4.2844
	Y:	+0.0945	-0.01167	+104.1610 0.725561	+0.38151 0.7329		+0.0548 4.2129
JUN. 1 A JUN. 8 (2446217.5)	X:	+0.3658	-0.03682	+301.5115 0.603155	+0.94264 0.6680	+0.005011 0.3380	+0.1454 3.7134
	Y:	+0.1262	-0.01300	+106.7682 0.588947	+0.34923 0.7150		+0.0529 3.7068
JUN. 9 A JUN.16 (2446225.5)	X:	+0.5086	-0.05760	+308.9279 1.346683	+1.02793 1.5457	+0.007414 5.8216	+0.1588 5.1253
	Y:	+0.1056	-0.00506	+109.4783 1.333990	+0.30438 1.5975		+0.0594 5.0679
JUN.17 A JUN.24 (2446233.5)	X:	+0.3809	-0.01807	+316.5165 2.092967	+0.97352 2.4140	+0.001607 5.5318	+0.1861 0.3529
	Y:	+0.0691	+0.00815	+111.7745 2.081303	+0.26217 2.6175		+0.0643 0.3055
JUN.25 A JUL. 2 (2446241.5)	X:	+0.3430	+0.00791	+323.7514 2.843236	+0.86240 3.1910	+0.020813 4.5745	+0.2153 1.9287
	Y:	+0.0038	+0.02414	+113.5166 2.831774	+0.24313 3.7151		+0.0698 2.0036

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 3 DE JUPITER: GANYMEDE

N=0.8782

		A0	A1	B0 F0	B1 F1	B2 F2	C0 PO
JUL. 1 A JUL. 8 (2446247.5)	X:	+0.5384	-0.05918	+328.3323 1.837081	+1.04919 2.3670	+0.016848 5.1384	+0.2004 0.0584
	Y:	+0.0385	+0.00932	+114.5204 1.826235	+0.22369 3.0132		+0.0669 6.2224
JUL. 9 A JUL.16 (2446255.5)	X:	-0.1673	+0.10634	+334.6412 2.590930	+0.79326 3.5524	+0.019186 3.3435	+0.1674 1.4873
	Y:	-0.0177	+0.02285	+115.1950 2.581559	+0.24228 4.1703		+0.0552 1.5446
JUL.17 A JUL.24 (2446263.5)	X:	+0.1581	+0.03228	+339.1777 3.349609	+0.89230 4.3213	+0.007278 0.2204	+0.1606 2.9510
	Y:	+0.0139	+0.02523	+115.1546 3.339547	+0.26885 5.2447		+0.0507 2.8939
JUL.25 A AOU. 1 (2446271.5)	X:	+0.0805	+0.08088	+342.5105 4.108685	+0.97122 5.3221	+0.012495 2.3004	+0.1622 4.3099
	Y:	+0.1287	+0.00594	+114.4511 4.098640	+0.31232 6.2805		+0.0492 4.2857
AOU. 1 A AOU. 8 (2446278.5)	X:	+0.3033	+0.03540	+344.4523 3.989164	+0.85243 5.2970	+0.015381 1.1297	+0.2018 3.9487
	Y:	+0.1401	+0.00902	+113.2305 3.978008	+0.34885 0.0412		+0.0588 3.9341
AOU. 9 A AOU.16 (2446286.5)	X:	+0.5144	-0.01627	+345.2588 4.750164	+0.73831 0.0173	+0.020426 1.5274	+0.2142 5.4341
	Y:	+0.2425	-0.01718	+111.3206 4.737448	+0.39644 0.9689		+0.0664 5.5162
AOU.17 A AOU.24 (2446294.5)	X:	+0.5011	-0.00422	+344.2534 5.509785	+0.83315 1.0728	+0.015685 3.2072	+0.2203 0.8123
	Y:	+0.2023	-0.01576	+108.8178 5.496301	+0.41788 1.8282		+0.0647 0.8278
AOU.25 A SEP. 1 (2446302.5)	X:	+0.1549	+0.04017	+341.9736 6.269860	+0.63174 2.3144	+0.018626 2.3759	+0.1794 2.4631
	Y:	+0.1205	-0.00120	+105.9954 6.254269	+0.41100 2.7087		+0.0564 2.3932
SEP. 1 A SEP. 8 (2446309.5)	X:	+0.2044	+0.03392	+338.4469 6.146198	+0.71634 2.2994	+0.013614 2.9136	+0.1556 2.0709
	Y:	+0.0885	+0.00479	+103.3801 6.129746	+0.40447 2.6626		+0.0476 2.0643
SEP. 9 A SEP.16 (2446317.5)	X:	+0.6640	-0.03444	+332.9956 0.616389	+0.80001 3.0011	+0.028618 4.7255	+0.1501 3.1298
	Y:	+0.0855	+0.01275	+100.3681 0.599285	+0.38670 3.5108		+0.0474 3.2503
SEP.17 A SEP.24 (2446325.5)	X:	+0.8351	-0.09817	+326.9244 1.367253	+0.97009 3.9127	+0.041394 6.2459	+0.1906 4.4778
	Y:	+0.0888	+0.02134	+ 97.4609 1.349184	+0.36177 4.3676		+0.0520 4.6384
SEP.25 A OCT. 2 (2446333.5)	X:	+0.4850	+0.04124	+320.5033 2.115670	+0.95789 5.2129	+0.005026 3.9103	+0.2268 6.1700
	Y:	+0.2161	-0.00414	+ 94.6803 2.096150	+0.30559 5.2297		+0.0658 6.1751

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 3 DE JUPITER: GANYMEDE

N=0.8782

	A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
OCT. 1 A OCT. 8 (2446339.5)	X: +0.3969	+0.02929	+315.1201 1.102945	+1.08454 4.2663	+0.011460 1.0541	+0.2298 4.1848
	Y: +0.1449	+0.01125	+ 92.8640 1.082947	+0.28450 4.3226		+0.0599 4.1945
OCT. 9 A OCT.16 (2446347.5)	X: +0.3086	+0.07190	+307.4554 1.844277	+1.09569 5.2126	+0.012329 3.2158	+0.2189 5.7741
	Y: +0.1972	-0.00323	+ 90.6548 1.823815	+0.23672 5.2230		+0.0622 5.7741
OCT.17 A OCT.24 (2446355.5)	X: +0.8161	-0.09570	+299.1490 2.582396	+0.81050 5.9971	+0.029683 0.2924	+0.1622 0.9868
	Y: +0.1943	-0.00773	+ 88.8637 2.561273	+0.20958 6.1809		+0.0549 0.9033
OCT.25 A NOV. 1 (2446363.5)	X: -0.3660	+0.22917	+291.4927 3.312646	+1.25738 0.1821	+0.058250 2.8035	+0.1409 2.1069
	Y: +0.2465	-0.02114	+ 87.4745 3.296080	+0.20697 0.9185		+0.0516 2.1776
NOV. 1 A NOV. 8 (2446370.5)	X: +0.0783	+0.12818	+284.9705 3.167720	+1.17162 0.2840	+0.033636 2.7918	+0.1761 1.7104
	Y: +0.2470	-0.01652	+ 86.4831 3.150491	+0.19459 0.9919		+0.0580 1.7674
NOV. 9 A NOV.16 (2446378.5)	X: +1.1442	-0.12971	+277.9954 3.898604	+1.24284 1.5427	+0.029966 5.9897	+0.2375 3.2271
	Y: +0.1956	+0.00013	+ 85.6437 3.878872	+0.18812 1.9764		+0.0716 3.2554
NOV.17 A NOV.24 (2446386.5)	X: +0.5311	+0.03192	+270.4843 4.621605	+0.97752 2.1229	+0.013137 2.9445	+0.2387 4.8473
	Y: +0.2385	-0.00877	+ 85.2018 4.604831	+0.20294 2.8571		+0.0756 4.7874
NOV.25 A DEC. 2 (2446394.5)	X: +0.7098	-0.02650	+264.1781 5.343437	+1.12702 2.9376	+0.007255 5.9170	+0.2169 0.1165
	Y: +0.1810	+0.00337	+ 84.9821 5.328901	+0.22560 3.7715		+0.0710 0.0730
DEC. 1 A DEC. 8 (2446400.5)	X: +0.1591	+0.11079	+259.0589 4.311837	+0.84211 1.8432	+0.032523 2.9520	+0.2177 4.4552
	Y: +0.2482	-0.01468	+ 85.0458 4.299358	+0.24266 2.7795		+0.0722 4.3473
DEC. 9 A DEC.16 (2446408.5)	X: +0.7671	-0.05634	+254.0122 5.029943	+1.18470 2.7261	+0.015827 5.7896	+0.1828 5.7853
	Y: +0.1638	+0.00387	+ 85.2168 5.019651	+0.26611 3.6433		+0.0644 5.7375
DEC.17 A DEC.24 (2446416.5)	X: +0.1422	+0.11005	+248.4127 5.747539	+1.02953 3.7853	+0.023133 2.6965	+0.2006 0.7396
	Y: +0.2045	-0.00038	+ 85.6477 5.737540	+0.28171 4.4219		+0.0697 0.7846
DEC.25 A DEC.32 (2446424.5)	X: +0.6300	+0.00259	+243.9604 0.176551	+1.00982 4.3275	+0.005596 5.2815	+0.2227 2.2508
	Y: +0.1776	+0.01030	+ 86.2960 0.171578	+0.30922 5.1614		+0.0786 2.2712

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 4 DE JUPITER: CALLISTO

N=0.3765

		AO	A1	BO FO	B1 F1	CO FO
JAN. 1 A JAN. 8 (2446066.5)	X:	- 0.0962	- 0.94573	+417.0071 0.859189	+ 1.49067 4.9654	+1.0557 0.7088
	Y:	+ 0.3094	- 0.26562	+ 77.5148 0.730935	+ 0.49671 0.5412	+ 0.1978 0.5063
JAN. 9 A JAN.16 (2446074.5)	X:	-10.1457	+ 1.42720	+413.7736 3.831664	+ 1.18320 1.4844	+1.6138 0.1367
	Y:	- 2.1050	+ 0.31520	+ 82.6539 3.718752	+ 0.50493 3.6475	+ 0.3381 6.2652
JAN.17 A JAN.24 (2446082.5)	X:	- 8.3975	+ 1.57679	+411.4689 0.563573	+ 2.20580 5.7960	+1.5944 0.2360
	Y:	- 1.8377	+ 0.34691	+ 87.5890 0.466275	+ 0.99187 0.1438	+ 0.3602 0.1104
JAN.25 A FEV. 1 (2446090.5)	X:	+ 6.7606	- 2.46552	+410.1574 3.555512	+ 2.93237 2.6217	+0.7208 5.6547
	Y:	+ 1.3770	- 0.50880	+ 92.8429 3.463871	+ 1.13122 3.0984	+ 0.1871 5.4796
FEV. 1 A FEV. 8 (2446097.5)	X:	+ 4.3008	- 1.84767	+421.2489 6.117163	+ 2.28936 4.0041	+1.2132 4.6265
	Y:	+ 1.2821	- 0.47665	+100.6496 6.037859	+ 0.53199 5.2102	+ 0.3121 4.5334
FEV. 9 A FEV.16 (2446105.5)	X:	+ 2.8388	- 1.47233	+408.9384 2.839106	+ 1.79116 2.0793	+1.3799 4.3913
	Y:	+ 0.8836	- 0.41250	+102.5056 2.767464	+ 1.01134 2.5775	+ 0.3689 4.2578
FEV.17 A FEV.24 (2446113.5)	X:	- 9.8011	+ 1.35543	+411.5412 5.821139	+ 2.05107 5.0319	+1.3941 4.7181
	Y:	- 2.1305	+ 0.27411	+108.8674 5.755253	+ 0.99468 5.4351	+ 0.3767 4.5960
FEV.25 A MAR. 4 (2446121.5)	X:	-11.9528	+ 2.58796	+433.6054 2.504248	+ 3.19383 0.6947	+0.7470 4.5684
	Y:	- 3.4456	+ 0.74329	+119.7278 2.448688	+ 0.88846 1.3319	+ 0.1960 4.4256
MAR. 1 A MAR. 8 (2446125.5)	X:	- 8.8188	+ 1.66775	+422.3113 3.979410	+ 0.93626 1.9520	+1.6143 0.7260
	Y:	- 2.8062	+ 0.56471	+118.9566 3.921891	+ 0.41059 3.6657	+ 0.4768 0.6468
MAR. 9 A MAR.16 (2446133.5)	X:	+11.2968	- 3.44243	+427.1565 0.656684	+ 1.34868 3.7733	+0.6526 1.2995
	Y:	+ 3.5031	- 1.04614	+125.1660 0.608422	+ 0.14617 1.3139	+ 0.1821 1.1567
MAR.17 A MAR.24 (2446141.5)	X:	- 7.5106	+ 0.89529	+431.8885 3.670397	+ 0.93774 2.5753	+1.4038 0.0309
	Y:	- 2.2762	+ 0.27049	+130.7612 3.628544	+ 0.66084 3.3854	+ 0.4292 6.2562
MAR.25 A AVR. 1 (2446149.5)	X:	-10.1219	+ 1.96664	+436.0048 0.406450	+ 2.94143 6.0375	+1.6862 0.0844
	Y:	- 3.0156	+ 0.59076	+136.0354 0.369344	+ 1.29048 6.2782	+ 0.5352 0.0293

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 4 DE JUPITER: CALLISTO

N=0.3765

		A0	A1	B0 FO	B1 F1	C0 FO
AVR. 1 A AVR. 8 (2446156.5)	X:	- 5.9941	+ 0.90115	+449.3486 2.992319	+ 1.50396 1.6843	+1.3776 5.3579
	Y:	- 1.9375	+ 0.27718	+143.6460 2.959993	+ 0.68438 2.3887	+ 0.4414 5.3004
AVR. 9 A AVR. 16 (2446164.5)	X:	-10.7801	+ 2.20075	+444.6965 6.000632	+ 2.66042 5.8170	+1.2801 5.3679
	Y:	- 3.4602	+ 0.73321	+145.5820 5.972237	+ 1.25814 5.9249	+ 0.4234 5.3238
AVR. 17 A AVR. 24 (2446172.5)	X:	+12.0698	- 3.33498	+448.2352 2.716475	+ 3.60824 2.6570	+1.4721 4.1094
	Y:	+ 4.0887	- 1.14322	+149.7898 2.691827	+ 1.56739 2.7160	+ 0.5037 4.0758
AVR. 25 A MAI 2 (2446180.5)	X:	- 5.5465	+ 0.29868	+472.1428 5.696819	+ 2.21224 5.1236	+1.5139 4.5147
	Y:	- 1.7000	+ 0.08567	+160.8908 5.676159	+ 0.97695 5.3327	+ 0.5269 4.4744
MAI 1 A MAI 8 (2446186.5)	X:	+10.3152	- 3.02688	+468.5111 1.637800	+ 2.15523 2.3456	+1.8379 2.8234
	Y:	+ 3.7344	- 1.08370	+161.2991 1.619061	+ 1.00443 2.2482	+ 0.6327 2.7988
MAI 9 A MAI 16 (2446194.5)	X:	- 2.3528	- 0.34647	+493.4439 4.658185	+ 2.10969 4.2164	+1.2578 2.4455
	Y:	- 0.9531	- 0.07944	+171.9571 4.642841	+ 0.88595 4.4037	+ 0.4463 2.4276
MAI 17 A MAI 24 (2446202.5)	X:	- 9.1185	+ 1.54316	+511.6741 1.384620	+ 2.42321 0.6183	+1.0177 1.7439
	Y:	- 2.9178	+ 0.48197	+179.8662 1.371825	+ 0.89124 0.8024	+ 0.3606 1.7204
MAI 25 A JUN. 1 (2446210.5)	X:	-14.2022	+ 3.08663	+511.7096 4.351407	+ 1.90008 5.6486	+1.7503 1.3249
	Y:	- 5.3538	+ 1.16588	+181.0361 4.340265	+ 0.79298 5.6291	+ 0.6274 1.3223
JUN. 1 A JUN. 8 (2446217.5)	X:	-16.1538	+ 3.67061	+530.1639 0.762231	+ 4.24658 0.3785	+2.0720 0.6122
	Y:	- 5.4385	+ 1.26686	+188.0687 0.753724	+ 1.47397 0.4312	+ 0.7386 0.5963
JUN. 9 A JUN. 16 (2446225.5)	X:	+ 9.3103	- 2.92371	+543.0759 3.767118	+ 3.55979 3.4747	+1.0034 0.8561
	Y:	+ 2.9682	- 0.98898	+192.7190 3.759927	+ 1.14828 3.5224	+ 0.3618 0.8763
JUN. 17 A JUN. 24 (2446233.5)	X:	+ 0.2284	- 0.84061	+558.2610 0.464919	+ 1.11201 1.0870	+1.0386 0.1351
	Y:	+ 0.4224	- 0.33375	+197.5362 0.459285	+ 0.33726 1.5838	+ 0.3708 0.1142
JUN. 25 A JUL. 2 (2446241.5)	X:	- 9.5859	+ 1.31808	+569.9555 3.477501	+ 1.50865 4.6735	+1.8541 6.2005
	Y:	- 3.6766	+ 0.49993	+200.4720 3.472943	+ 0.55080 5.1664	+ 0.6455 6.2209

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 4 DE JUPITER: CALLISTO

N=0.3765

		AO	A1	BO FO	B1 F1	CO FO
JUL. 1 A JUL. 8 (2446247.5)	X:	+ 1.3128	- 1.28507	+583.8694 5.755636	+ 0.65404 6.0115	+1.8377 4.2827
	Y:	+ 0.4865	- 0.40832	+203.8155 5.752325	+ 0.13046 1.5529	+ 0.6479 4.2992
JUL. 9 A JUL.16 (2446255.5)	X:	- 1.7221	- 0.56648	+585.2096 2.497419	+ 2.00616 3.4145	+1.5559 4.2626
	Y:	- 0.6951	- 0.20984	+202.0863 2.494168	+ 0.58376 3.9913	+ 0.5250 4.2676
JUL.17 A JUL.24 (2446263.5)	X:	-20.7865	+ 4.47557	+573.5438 5.530103	+ 4.81765 0.1401	+1.0866 4.5863
	Y:	- 7.0376	+ 1.54565	+195.2239 5.526872	+ 1.42796 0.3789	+ 0.3807 4.6150
JUL.25 A AOU. 1 (2446271.5)	X:	+10.5608	- 3.20922	+585.6694 2.274084	+ 3.74053 3.2385	+1.9866 3.4648
	Y:	+ 3.4136	- 1.06723	+196.2438 2.270397	+ 1.04413 3.6198	+ 0.6567 3.4655
AOU. 1 A AOU. 8 (2446278.5)	X:	+10.5027	- 3.09934	+621.4260 4.930976	+ 0.99001 2.6635	+2.4265 2.8217
	Y:	+ 3.5066	- 1.01869	+204.8757 4.927252	+ 0.74168 2.1748	+ 0.7913 2.8410
AOU. 9 A AOU.16 (2446286.5)	X:	+ 1.8864	- 1.74786	+601.2494 1.658189	+ 2.80839 3.4555	+1.6268 2.7373
	Y:	+ 0.4654	- 0.53783	+194.6275 1.653603	+ 1.07206 3.9230	+ 0.5263 2.7426
AOU.17 A AOU.24 (2446294.5)	X:	- 6.9311	+ 0.71906	+601.9753 4.694637	+ 1.94553 0.2416	+1.3825 2.1984
	Y:	- 1.8814	+ 0.16349	+191.2354 4.689867	+ 0.77485 0.8584	+ 0.4283 2.2210
AOU.25 A SEP. 1 (2446302.5)	X:	-19.6743	+ 3.90402	+615.2803 1.466613	+ 1.79006 5.9145	+1.5976 1.3421
	Y:	- 6.3776	+ 1.26918	+191.7862 1.460371	+ 0.81441 5.4603	+ 0.4927 1.3581
SEP. 1 A SEP. 8 (2446309.5)	X:	-24.3975	+ 5.25016	+589.0696 4.047406	+ 5.39486 0.1372	+2.5280 0.6449
	Y:	- 7.0418	+ 1.54106	+180.9622 4.040970	+ 1.81174 0.2980	+ 0.7660 0.6345
SEP. 9 A SEP.16 (2446317.5)	X:	+ 9.2134	- 2.85220	+582.1449 0.806820	+ 3.57815 3.2158	+1.4520 1.1839
	Y:	+ 2.4088	- 0.80122	+176.2229 0.798759	+ 1.20209 3.3959	+ 0.4420 1.2064
SEP.17 A SEP.24 (2446325.5)	X:	- 1.0810	- 0.91455	+574.1833 3.860710	+ 0.84487 0.4375	+1.1670 0.4313
	Y:	+ 0.1313	- 0.33245	+171.8396 3.851725	+ 0.36938 0.7592	+ 0.3479 0.3963
SEP.25 A OCT. 2 (2446333.5)	X:	- 4.5604	+ 0.08614	+564.0374 0.588595	+ 1.67418 3.7384	+1.6186 0.2428
	Y:	- 1.6600	+ 0.05925	+167.6161 0.577944	+ 0.54409 3.8537	+ 0.4725 0.2551

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 4 DE JUPITER: CALLISTO

N=0.3765

		A0	A1	B0 F0	B1 F1	C0 F0
OCT. 1 A OCT. 8 (2446339.5)	X:	+ 4.0459	- 1.96725	+544.9964 2.858186	+ 0.56953 4.9507	+1.5835 4.3706
	Y:	+ 1.3528	- 0.55982	+161.6059 2.846205	+ 0.11223 5.0977	+ 0.4801 4.3668
OCT. 9 A OCT. 16 (2446347.5)	X:	+ 1.5269	- 1.53262	+547.3886 5.855651	+ 2.81305 3.1437	+1.8336 4.4556
	Y:	+ 0.4832	- 0.50334	+162.5893 5.843201	+ 0.78116 3.2511	+ 0.5369 4.4278
OCT. 17 A OCT. 24 (2446355.5)	X:	-19.9839	+ 4.15228	+546.5164 2.570666	+ 4.82137 6.2321	+1.1431 4.9271
	Y:	- 5.9389	+ 1.27515	+163.1747 2.558618	+ 1.30628 0.0411	+ 0.3442 4.9008
OCT. 25 A NOV. 1 (2446363.5)	X:	+ 4.5631	- 1.68581	+521.4567 5.581042	+ 3.11917 2.9194	+1.6283 3.8412
	Y:	+ 1.4271	- 0.54089	+157.1987 5.569035	+ 0.74137 3.0985	+ 0.4894 3.8104
NOV. 1 A NOV. 8 (2446370.5)	X:	+ 0.6564	- 0.75935	+496.7646 1.928615	+ 1.35673 5.4219	+1.5758 2.9281
	Y:	+ 0.0356	- 0.17756	+151.6088 1.917495	+ 0.19400 6.2065	+ 0.4832 2.9071
NOV. 9 A NOV. 16 (2446378.5)	X:	+ 5.7578	- 2.12200	+498.1413 4.936562	+ 3.27587 2.7584	+1.8754 2.9183
	Y:	+ 1.9505	- 0.69029	+154.5059 4.926327	+ 0.87182 3.0993	+ 0.5827 2.8894
NOV. 17 A NOV. 24 (2446386.5)	X:	+ 0.7101	- 1.29577	+472.2820 1.626876	+ 1.93936 4.9103	+1.3413 2.7920
	Y:	+ 0.1490	- 0.39515	+149.3359 1.617870	+ 0.21924 5.1208	+ 0.4276 2.7652
NOV. 25 A DEC. 2 (2446394.5)	X:	-16.4631	+ 3.44952	+451.7750 4.602274	+ 2.08483 0.8741	+1.0879 1.5201
	Y:	- 5.3010	+ 1.12316	+145.9798 4.594151	+ 0.44373 0.2106	+ 0.3635 1.4668
DEC. 1 A DEC. 8 (2446400.5)	X:	+ 7.8989	- 2.77184	+458.6511 0.557488	+ 3.18901 3.8820	+0.6356 0.6602
	Y:	+ 2.6060	- 0.93141	+150.8951 0.551334	+ 0.61780 3.9508	+ 0.2105 0.6042
DEC. 9 A DEC. 16 (2446408.5)	X:	-16.2552	+ 3.31793	+449.8577 3.537650	+ 3.37526 0.5478	+1.9843 0.0437
	Y:	- 5.5567	+ 1.13709	+151.6425 3.533327	+ 0.68119 0.5566	+ 0.6771 0.0235
DEC. 17 A DEC. 24 (2446416.5)	X:	- 0.2285	- 0.21928	+436.3506 0.272487	+ 1.61033 4.2335	+1.1955 0.1246
	Y:	- 0.0565	- 0.09097	+150.8660 0.271369	+ 0.38125 5.2121	+ 0.4205 0.0951
DEC. 25 A DEC. 32 (2446424.5)	X:	+ 3.8220	- 1.36675	+425.3371 3.276156	+ 1.74586 1.7789	+0.8401 5.6858
	Y:	+ 1.3097	- 0.48443	+150.8200 3.277655	+ 0.77779 2.4487	+ 0.3021 5.6482

SATELLITES DE SATURNE

SATELLITES OF SATURN

DONNEES SUR LES SATELLITES DE SATURNE

DATA ON THE SATELLITES OF SATURNE

NOM	masse	rayon	période rotation sidérale	albédo géométrique	magnitude visuelle	période orbitale	élongation maximale	1/2 grand axe	excentricité	inclinaison sur l'équateur de Saturne
	unité → masse de Saturne	km	jour			jour	(')('')	10 ³ km		degré
I Mimas	8.0 × 10 ⁻⁸	196	(S)	0.53	12.9	0.942421	30	185.52	0.0202	1.53
II Enceladus	1.3 × 10 ⁻⁷	250	(S)	0.99	11.7	1.370217	38	238.02	0.0045	0.
III Tethys	1.3 × 10 ⁻⁶	530	(S)	0.88	10.2	1.887802	48	294.66	0.	1.86
IV Dione	1.85 × 10 ⁻⁶	560	(S)	0.65	10.4	2.736914	1 01	377.40	0.0022	0.02
V Rhea	4.4 × 10 ⁻⁶	765	(S)	0.67	9.7	4.517500	1 25	527.04	0.0010	0.35
VI Titan	2.38 × 10 ⁻⁴	2575	(S)	0.21	8.28	15.945420	3 17	1221.83	0.0291	0.33
VII Hyperion	3. × 10 ⁻⁸	205×130×110		0.3	14.19	21.276608	3 59	1481.1	0.104	0.43
VIII Iapetus	3.3 × 10 ⁻⁶	730	(S)	0.5-0.05	11.2	79.330182	9 35	3561.3	0.0282	14.72
IX Phoebe	7. × 10 ⁻¹⁰	110	0.4	0.06	16.45	(R)550.48	34 51	12952.	0.1632	177. (1)
1980S1		110×100×80	(S)	0.4	14.	0.6945	24	151.472	0.007	0.14
1980S3		70× 60×50	(S)	0.4	15.	0.6942	24	151.422	0.009	0.34
1980S6		18× 16×15		0.5	17.	2.7369	1 01	377.40	0.005	0.2
1980S13		17× 14×13		0.6	18.	1.8878	48	294.66		
1980S25		17× 11×11		0.8	18.5	1.8878	48	294.66		
1980S26		55× 45×35		0.6	15.5	0.6285	23	141.700	0.004	0.1
1980S27		70× 50×40		0.6	15.	0.6130	23	139.353		0.
1980S28		20× 10		0.4	18.	0.6019	22	137.670		0.3

NAME	mass	radius	sidereal period	geometrical albedo	visual magnitude	orbital period	greatest elongation	semi major axis	eccentricity	inclination on Saturn's equator
	unit → Saturn's mass	km	day			day	(')('')	10 ³ km		degree

(S): révolution synchrone
synchronous revolution

(R): révolution rétrograde
retrograde revolution

(1): inclinaison par rapport à l'écliptique
Les éphémérides de Phoebé sont données sous
la forme de coefficients de Tchébycheff dans
le Supplément à la Connaissance des Temps
"Satellites Faibles".

inclination with respect to the ecliptic
Phoebe's ephemerides are given with Chebychev's
tables of coefficients in the Supplément à la
Connaissance des Temps "Faint Satellites".

EPHEMERIDES DES HUIT PREMIERS SATELLITES DE SATURNE

EPHEMERIDES OF THE EIGHT FIRST SATELLITES OF SATURN

Coordonnées différentielles tangentielles données dans le repère équatorial moyen 1950,0.

Differential tangential coordinates given in the mean equatorial frame 1950.0.

$$\Delta\alpha \cos\delta = X$$

$$\Delta\delta = Y$$

$$\begin{matrix} X \\ Y \end{matrix} \left. \vphantom{\begin{matrix} X \\ Y \end{matrix}} \right\} = A_0 + A_1.t + B_0 \sin(Nt+F_0) + B_1.t \sin(Nt+F_1) + B_2.t^2 \sin(Nt+F_2) + C_0 \sin(2Nt+P_0)$$

(cf. pages 6 et 7)

satellite	intervalle		page
	Δt (jours)	N (rad/j)	
Mimas	2	6.6670	44
Encelade	16	4.5860	59
Thétys	16	3.3280	61
Dione	16	2.2960	63
Rhêa	16	1.3910	65
Titan	11	0.3940	67
Hypérion	8	0.3940	70
Japet	16	0.0790	74

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE : MIMAS

N=6.667

	AO	A1	BO FO	B1 F1	B2 F2	CO PO
JAN. 1 A JAN. 2 (2446066.5)	X: +0.4898	-0.00880	+24.1749 6.206635	+0.04396 5.5034	+0.002643 2.3793	+0.2435 0.5629
	Y: -0.2315	-0.00271	+ 9.3320 1.610360	+0.01463 0.6413	+0.000252 2.9919	+0.0940 2.2518
JAN. 3 A JAN. 4 (2446068.5)	X: +0.4724	-0.00817	+24.2327 0.688967	+0.03701 0.0460	+0.000913 5.6552	+0.2440 2.0643
	Y: -0.2374	-0.00227	+ 9.3467 2.375460	+0.01532 1.6686	+0.001298 5.8413	+0.0940 3.7495
JAN. 5 A JAN. 6 (2446070.5)	X: +0.4544	-0.00796	+24.2901 1.454488	+0.03487 1.0376	+0.002986 5.9066	+0.2441 3.5613
	Y: -0.2419	-0.00281	+ 9.3659 3.140714	+0.01175 2.1738	+0.001417 2.6542	+0.0943 5.2501
JAN. 7 A JAN. 8 (2446072.5)	X: +0.4390	-0.01010	+24.3534 2.220531	+0.03410 1.3920	+0.004806 2.7864	+0.2450 5.0626
	Y: -0.2468	-0.00250	+ 9.3835 3.905904	+0.01226 3.0500	+0.000532 2.9830	+0.0942 0.4634
JAN. 9 A JAN.10 (2446074.5)	X: +0.4204	-0.00924	+24.4143 2.986377	+0.03536 2.3817	+0.000662 4.5709	+0.2452 0.2766
	Y: -0.2523	-0.00185	+ 9.4015 4.671433	+0.01636 3.6260	+0.001757 5.9539	+0.0947 1.9633
JAN.11 A JAN.12 (2446076.5)	X: +0.4007	-0.00876	+24.4740 3.752488	+0.04273 3.1611	+0.003337 5.9615	+0.2465 1.7777
	Y: -0.2564	-0.00236	+ 9.4200 5.436587	+0.01462 4.6389	+0.000813 2.7735	+0.0947 3.4613
JAN.13 A JAN.14 (2446078.5)	X: +0.3826	-0.01036	+24.5407 4.518507	+0.03509 4.0909	+0.002261 3.0049	+0.2470 3.2774
	Y: -0.2607	-0.00215	+ 9.4391 6.201907	+0.01506 5.3863	+0.000313 3.4866	+0.0951 4.9613
JAN.15 A JAN.16 (2446080.5)	X: +0.3624	-0.00988	+24.6075 5.284783	+0.03595 4.7575	+0.001511 5.5002	+0.2479 4.7789
	Y: -0.2650	-0.00183	+ 9.4596 0.684050	+0.01421 6.0993	+0.000707 0.1949	+0.0953 0.1780
JAN.17 A JAN.18 (2446082.5)	X: +0.3427	-0.01045	+24.6736 6.051105	+0.04027 5.5909	+0.001090 1.3407	+0.2486 6.2798
	Y: -0.2686	-0.00200	+ 9.4800 1.449468	+0.01644 0.5452	+0.000888 2.5238	+0.0955 1.6788
JAN.19 A JAN.20 (2446084.5)	X: +0.3225	-0.01099	+24.7422 0.534372	+0.04392 0.1073	+0.002139 2.6322	+0.2488 1.4985
	Y: -0.2728	-0.00145	+ 9.5002 2.214662	+0.01680 1.5839	+0.001031 5.6726	+0.0957 3.1777
JAN.21 A JAN.22 (2446086.5)	X: +0.2995	-0.00981	+24.8158 1.300644	+0.03914 1.2106	+0.003858 5.8000	+0.2497 2.9976
	Y: -0.2761	-0.00162	+ 9.5229 2.980072	+0.01591 2.2870	+0.000123 1.7650	+0.0957 4.6789
JAN.23 A JAN.24 (2446088.5)	X: +0.2790	-0.01148	+24.8904 2.067429	+0.03763 1.7608	+0.001994 2.7196	+0.2498 4.4999
	Y: -0.2787	-0.00188	+ 9.5477 3.745340	+0.01188 3.1230	+0.001683 2.7745	+0.0960 6.1752
JAN.25 A JAN.26 (2446090.5)	X: +0.2579	-0.01213	+24.9702 2.834216	+0.03099 2.5208	+0.003594 2.9486	+0.2509 5.9974
	Y: -0.2824	-0.00101	+ 9.5705 4.511034	+0.01682 3.6914	+0.001504 5.8704	+0.0962 1.3936

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE: MIMAS

N=6.667

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
JAN.27 A JAN.28 (2446092.5)	X:	+0.2335	-0.01054	+25.0413 3.601159	+0.04499 3.3017	+0.004262 5.8695	+0.2516 1.2172
	Y:	-0.2851	-0.00113	+ 9.5955 5.276557	+0.01562 4.4955	+0.000487 6.2550	+0.0965 2.8897
JAN.29 A JAN.30 (2446094.5)	X:	+0.2110	-0.01186	+25.1209 4.368134	+0.03947 4.1811	+0.000410 2.5256	+0.2527 2.7161
	Y:	-0.2872	-0.00141	+ 9.6189 6.042051	+0.01753 5.4463	+0.001195 2.9077	+0.0968 4.3916
JAN.31 A FEV. 1 (2446096.5)	X:	+0.1878	-0.01230	+25.1998 5.135187	+0.04002 5.0359	+0.001316 3.4134	+0.2537 4.2194
	Y:	-0.2897	-0.00083	+ 9.6453 0.524470	+0.01494 6.1448	+0.000798 6.0932	+0.0971 5.8904
FEV. 2 A FEV. 3 (2446098.5)	X:	+0.1633	-0.01181	+25.2808 5.902447	+0.03804 5.7350	+0.002018 6.2122	+0.2545 5.7213
	Y:	-0.2915	-0.00094	+ 9.6712 1.290183	+0.01665 0.5754	+0.000645 2.0285	+0.0974 1.1085
FEV. 4 A FEV. 5 (2446100.5)	X:	+0.1402	-0.01297	+25.3588 0.386632	+0.04688 0.1984	+0.002995 2.4511	+0.2551 0.9401
	Y:	-0.2934	-0.00069	+ 9.6974 2.055807	+0.01727 1.4520	+0.000206 4.0997	+0.0977 2.6092
FEV. 6 A FEV. 7 (2446102.5)	X:	+0.1141	-0.01201	+25.4436 1.153894	+0.04399 1.2012	+0.001757 5.5845	+0.2560 2.4427
	Y:	-0.2952	-0.00033	+ 9.7235 2.821506	+0.01938 2.3323	+0.001076 5.8092	+0.0977 4.1088
FEV. 8 A FEV. 9 (2446104.5)	X:	+0.0886	-0.01222	+25.5265 1.921361	+0.04709 2.0314	+0.001853 5.8398	+0.2561 3.9433
	Y:	-0.2956	-0.00085	+ 9.7540 3.587183	+0.01377 3.1470	+0.001649 2.6924	+0.0982 5.6088
FEV.10 A FEV.11 (2446106.5)	X:	+0.0652	-0.01408	+25.6185 2.689149	+0.03289 2.7222	+0.005095 2.8277	+0.2576 5.4448
	Y:	-0.2968	-0.00029	+ 9.7822 4.353076	+0.01622 3.8700	+0.000192 5.2913	+0.0981 0.8248
FEV.12 A FEV.13 (2446108.5)	X:	+0.0382	-0.01260	+25.7013 3.456909	+0.04396 3.4970	+0.002132 5.6439	+0.2578 0.6628
	Y:	-0.2980	+0.00022	+ 9.8125 5.119214	+0.01632 4.4062	+0.001734 6.0084	+0.0987 2.3235
FEV.14 A FEV.15 (2446110.5)	X:	+0.0114	-0.01253	+25.7873 4.224924	+0.04450 4.1946	+0.002930 6.0475	+0.2595 2.1640
	Y:	-0.2978	-0.00032	+ 9.8409 5.885093	+0.01829 5.4532	+0.001229 2.7340	+0.0989 3.8241
FEV.16 A FEV.17 (2446112.5)	X:	-0.0137	-0.01400	+25.8751 4.992788	+0.04633 5.2044	+0.002747 2.9086	+0.2601 3.6671
	Y:	-0.2979	+0.00008	+ 9.8713 0.368014	+0.01716 6.1833	+0.000082 3.9784	+0.0994 5.3235
FEV.18 A FEV.19 (2446114.5)	X:	-0.0411	-0.01311	+25.9643 5.760968	+0.04148 5.9105	+0.001715 5.8647	+0.2614 5.1697
	Y:	-0.2978	+0.00038	+ 9.9023 1.134137	+0.01616 0.6903	+0.000616 0.4187	+0.0997 0.5419
FEV.20 A FEV.21 (2446116.5)	X:	-0.0672	-0.01374	+26.0507 0.246040	+0.04626 0.3525	+0.001605 1.8896	+0.2622 0.3896
	Y:	-0.2971	+0.00027	+ 9.9334 1.900403	+0.01713 1.3821	+0.000849 2.7389	+0.1000 2.0434

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE: MIMAS

N=6.667

	AO	A1	BO FO	B1 F1	B2 F2	CO PO
FEV.22 A FEV.23 (2446118.5)	X: -0.0942	-0.01382	+26.1397 1.014365	+0.04761 1.1548	+0.001556 2.8995	+0.2629 1.8938
	Y: -0.2968	+0.00086	+ 9.9632 2.666593	+0.02026 2.3281	+0.001204 5.6319	+0.1003 3.5431
FEV.24 A FEV.25 (2446120.5)	X: -0.1232	-0.01268	+26.2280 1.782578	+0.05505 2.1440	+0.003903 5.7450	+0.2636 3.3944
	Y: -0.2952	+0.00059	+ 9.9965 3.432917	+0.01714 3.1216	+0.000483 2.4845	+0.1005 5.0456
FEV.26 A FEV.27 (2446122.5)	X: -0.1488	-0.01450	+26.3225 2.551269	+0.04238 2.8703	+0.003210 2.7679	+0.2644 4.8990
	Y: -0.2933	+0.00056	+10.0296 4.199190	+0.01608 4.0714	+0.001283 2.7622	+0.1007 0.2597
FEV.28 A MAR. 1 (2446124.5)	X: -0.1758	-0.01427	+26.4149 3.319877	+0.04317 3.7446	+0.001965 3.0680	+0.2651 0.1150
	Y: -0.2924	+0.00150	+10.0628 4.965994	+0.01642 4.4702	+0.001933 5.9453	+0.1012 1.7621
MAR. 2 A MAR. 3 (2446126.5)	X: -0.2053	-0.01266	+26.5010 4.088838	+0.04791 4.2578	+0.005002 5.9653	+0.2665 1.6196
	Y: -0.2901	+0.00119	+10.0959 5.732541	+0.01669 5.4225	+0.000278 1.6833	+0.1014 3.2597
MAR. 4 A MAR. 5 (2446128.5)	X: -0.2318	-0.01420	+26.5922 4.857618	+0.04925 5.2605	+0.001755 2.5810	+0.2672 3.1206
	Y: -0.2873	+0.00109	+10.1276 0.216085	+0.01920 6.2103	+0.001225 2.8724	+0.1020 4.7619
MAR. 6 A MAR. 7 (2446130.5)	X: -0.2593	-0.01398	+26.6811 5.626595	+0.04931 6.0397	+0.000895 3.3138	+0.2687 4.6252
	Y: -0.2849	+0.00176	+10.1620 0.982819	+0.01601 0.7953	+0.000905 6.1499	+0.1023 6.2623
MAR. 8 A MAR. 9 (2446132.5)	X: -0.2872	-0.01338	+26.7711 0.112524	+0.04580 0.5434	+0.001662 0.2174	+0.2695 6.1288
	Y: -0.2815	+0.00160	+10.1953 1.749762	+0.01644 1.4467	+0.000723 2.3814	+0.1027 1.4813
MAR.10 A MAR.11 (2446134.5)	X: -0.3136	-0.01423	+26.8575 0.881784	+0.04882 1.1877	+0.003122 2.6206	+0.2702 1.3498
	Y: -0.2783	+0.00198	+10.2278 2.516663	+0.01838 2.3069	+0.000469 4.9634	+0.1031 2.9827
MAR.12 A MAR.13 (2446136.5)	X: -0.3425	-0.01282	+26.9452 1.650846	+0.05622 2.1696	+0.002869 5.5577	+0.2713 2.8530
	Y: -0.2747	+0.00224	+10.2608 3.283711	+0.01962 3.0962	+0.000892 5.8649	+0.1032 4.4847
MAR.14 A MAR.15 (2446138.5)	X: -0.3694	-0.01331	+27.0328 2.420237	+0.05413 2.9367	+0.000747 5.8025	+0.2714 4.3569
	Y: -0.2698	+0.00180	+10.2962 4.050618	+0.01642 4.1584	+0.001726 2.6474	+0.1036 5.9842
MAR.16 A MAR.17 (2446140.5)	X: -0.3944	-0.01450	+27.1267 3.189681	+0.04546 3.9328	+0.004636 2.8058	+0.2728 5.8580
	Y: -0.2658	+0.00259	+10.3296 4.817987	+0.01650 4.6912	+0.000817 5.9269	+0.1037 1.2032
MAR.18 A MAR.19 (2446142.5)	X: -0.4229	-0.01233	+27.2080 3.959360	+0.04962 4.4336	+0.003886 5.9072	+0.2732 1.0794
	Y: -0.2614	+0.00292	+10.3648 5.585395	+0.01383 5.4044	+0.001388 6.1268	+0.1043 2.7013

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE : MIMAS

N=6.667

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
MAR.20 A MAR.21 (2446144.5)	X:	-0.4494	-0.01261	+27.2939 4.729077	+0.04738 5.2687	+0.001807 0.1241	+0.2746 2.5803
	Y:	-0.2555	+0.00238	+10.3959 0.069596	+0.01891 6.2571	+0.001708 2.7619	+0.1046 4.2043
MAR.22 A MAR.23 (2446146.5)	X:	-0.4742	-0.01354	+27.3752 5.498704	+0.05560 6.1227	+0.003321 2.8466	+0.2756 4.0858
	Y:	-0.2503	+0.00300	+10.4296 0.837105	+0.01609 0.8203	+0.000263 5.5897	+0.1051 5.7039
MAR.24 A MAR.25 (2446148.5)	X:	-0.5007	-0.01211	+27.4592 6.268574	+0.04782 0.6862	+0.001885 6.0114	+0.2767 5.5892
	Y:	-0.2444	+0.00321	+10.4625 1.604679	+0.01563 1.6317	+0.000442 0.4895	+0.1054 0.9239
MAR.26 A MAR.27 (2446150.5)	X:	-0.5249	-0.01263	+27.5373 0.755357	+0.04828 1.3452	+0.002062 2.3048	+0.2774 0.8107
	Y:	-0.2380	+0.00317	+10.4948 2.372397	+0.01518 2.3316	+0.000686 3.0666	+0.1058 2.4262
MAR.28 A MAR.29 (2446152.5)	X:	-0.5500	-0.01199	+27.6156 1.525265	+0.05132 2.1838	+0.000901 3.9277	+0.2782 2.3158
	Y:	-0.2320	+0.00376	+10.5249 3.140157	+0.01897 3.1120	+0.001398 5.7053	+0.1060 3.9276
MAR.30 A MAR.31 (2446154.5)	X:	-0.5753	-0.01084	+27.6890 2.295179	+0.06059 2.9827	+0.003903 5.7734	+0.2784 3.8182
	Y:	-0.2244	+0.00339	+10.5579 3.907872	+0.01619 4.1152	+0.000893 2.4118	+0.1063 5.4305
AVR. 1 A AVR. 2 (2446156.5)	X:	-0.5966	-0.01246	+27.7712 3.065323	+0.04906 3.9862	+0.004055 2.6805	+0.2796 5.3229
	Y:	-0.2170	+0.00360	+10.5888 4.675716	+0.01702 4.9537	+0.000844 2.6300	+0.1064 0.6469
AVR. 3 A AVR. 4 (2446158.5)	X:	-0.6198	-0.01112	+27.8430 3.835478	+0.05174 4.6915	+0.000029 4.7865	+0.2796 0.5414
	Y:	-0.2102	+0.00448	+10.6214 5.443958	+0.01148 5.5016	+0.002045 6.0023	+0.1070 2.1488
AVR. 5 A AVR. 6 (2446160.5)	X:	-0.6435	-0.00954	+27.9131 4.605946	+0.04317 5.3172	+0.004753 6.1053	+0.2812 2.0453
	Y:	-0.2018	+0.00397	+10.6502 6.212000	+0.01540 0.0966	+0.000918 2.5612	+0.1070 3.6492
AVR. 7 A AVR. 8 (2446162.5)	X:	-0.6634	-0.01097	+27.9800 5.376102	+0.05447 6.2102	+0.003427 2.6640	+0.2816 3.5487
	Y:	-0.1932	+0.00407	+10.6787 0.697090	+0.01548 0.8011	+0.001095 2.9987	+0.1077 5.1508
AVR. 9 A AVR. 10 (2446164.5)	X:	-0.6842	-0.00985	+28.0457 6.146489	+0.05012 0.7475	+0.000560 3.7664	+0.2829 5.0529
	Y:	-0.1850	+0.00471	+10.7077 1.465258	+0.01465 1.8309	+0.001054 6.0526	+0.1079 0.3701
AVR. 11 A AVR. 12 (2446166.5)	X:	-0.7040	-0.00912	+28.1092 0.633723	+0.04781 1.5753	+0.001146 0.3917	+0.2835 0.2745
	Y:	-0.1758	+0.00447	+10.7356 2.233679	+0.01257 2.4837	+0.000711 2.6557	+0.1083 1.8728
AVR. 13 A AVR. 14 (2446168.5)	X:	-0.7220	-0.00941	+28.1684 1.404240	+0.04436 2.2677	+0.002575 2.8363	+0.2840 1.7797
	Y:	-0.1669	+0.00491	+10.7611 3.002088	+0.01508 3.2175	+0.000812 5.3905	+0.1085 3.3750

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE: MIMAS

N=6.667

	AO	A1	BO FO	B1 F1	B2 F2	CO PO
AVR. 15 A AVR. 16 (2446170.5)	X: -0.7415	-0.00750	+28.2221 2.174538	+0.05719 3.0595	+0.004068 5.6689	+0.2846 3.2828
	Y: -0.1574	+0.00499	+10.7871 3.770568	+0.01478 4.0346	+0.000624 6.2297	+0.1087 4.8787
AVR. 17 A AVR. 18 (2446172.5)	X: -0.7574	-0.00814	+28.2793 2.945090	+0.05087 3.9532	+0.000720 1.9162	+0.2848 4.7884
	Y: -0.1469	+0.00460	+10.8126 4.538875	+0.01664 5.1432	+0.001803 2.5846	+0.1089 0.0951
AVR. 19 A AVR. 20 (2446174.5)	X: -0.7717	-0.00835	+28.3351 3.715514	+0.05407 4.9227	+0.003891 2.6654	+0.2853 0.0057
	Y: -0.1375	+0.00550	+10.8379 5.307695	+0.01122 5.7576	+0.001272 5.9595	+0.1091 1.5990
AVR. 21 A AVR. 22 (2446176.5)	X: -0.7886	-0.00563	+28.3809 4.486333	+0.04094 5.4863	+0.004827 6.0443	+0.2859 1.5115
	Y: -0.1273	+0.00551	+10.8622 6.076366	+0.01073 0.4212	+0.000750 6.2206	+0.1093 3.0973
AVR. 23 A AVR. 24 (2446178.5)	X: -0.8017	-0.00619	+28.4269 5.256898	+0.04573 0.0865	+0.001033 1.7024	+0.2865 3.0123
	Y: -0.1160	+0.00498	+10.8822 0.562035	+0.01328 0.8658	+0.001958 2.8761	+0.1097 4.6014
AVR. 25 A AVR. 26 (2446180.5)	X: -0.8131	-0.00632	+28.4651 6.027477	+0.04932 0.7978	+0.003471 2.9538	+0.2874 4.5180
	Y: -0.1056	+0.00568	+10.9040 1.330783	+0.01247 1.9774	+0.000752 5.6871	+0.1100 6.1017
AVR. 27 A AVR. 28 (2446182.5)	X: -0.8253	-0.00446	+28.5057 0.514917	+0.04663 1.7826	+0.002239 5.9424	+0.2879 6.0214
	Y: -0.0945	+0.00567	+10.9239 2.099656	+0.01163 2.7653	+0.000330 0.4900	+0.1103 1.3223
AVR. 29 A AVR. 30 (2446184.5)	X: -0.8344	-0.00482	+28.5386 1.285638	+0.03995 2.4867	+0.002062 2.5196	+0.2882 1.2432
	Y: -0.0832	+0.00562	+10.9425 2.868603	+0.01045 3.5237	+0.000445 3.4265	+0.1105 2.8250
MAI 1 A MAI 2 (2446186.5)	X: -0.8440	-0.00346	+28.5672 2.056160	+0.04597 3.2370	+0.001620 5.3050	+0.2887 2.7477
	Y: -0.0722	+0.00607	+10.9587 3.637624	+0.01173 4.0688	+0.001377 5.8542	+0.1105 4.3277
MAI 3 A MAI 4 (2446188.5)	X: -0.8523	-0.00246	+28.5911 2.826747	+0.04790 3.9462	+0.003333 5.9792	+0.2883 4.2514
	Y: -0.0599	+0.00552	+10.9759 4.406405	+0.01385 5.2642	+0.001400 2.4355	+0.1108 5.8300
MAI 5 A MAI 6 (2446190.5)	X: -0.8562	-0.00369	+28.6216 3.597228	+0.05184 5.0751	+0.004955 2.5667	+0.2890 5.7542
	Y: -0.0483	+0.00586	+10.9910 5.175465	+0.01268 6.0093	+0.000421 2.6081	+0.1107 1.0488
MAI 7 A MAI 8 (2446192.5)	X: -0.8623	-0.00142	+28.6390 4.367906	+0.04314 5.7400	+0.001465 6.2030	+0.2884 0.9745
	Y: -0.0372	+0.00648	+11.0079 5.944634	+0.00882 0.9595	+0.001890 5.9562	+0.1111 2.5492
MAI 9 A MAI 10 (2446194.5)	X: -0.8670	-0.00018	+28.6574 5.138632	+0.03574 0.3945	+0.003466 6.1907	+0.2895 2.4759
	Y: -0.0246	+0.00571	+11.0188 0.430605	+0.01022 1.2138	+0.001488 2.8065	+0.1110 4.0519

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE: MIMAS

N=6.667

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
MAI 11 A MAI 12 (2446196.5)	X:	-0.8676	-0.00137	+28.6651 5.909073	+0.04348 0.9528	+0.004531 2.8300	+0.2894 3.9805
	Y:	-0.0124	+0.00591	+11.0307 1.199838	+0.00904 2.1093	+0.000684 3.3695	+0.1114 5.5522
MAI 13 A MAI 14 (2446198.5)	X:	-0.8692	+0.00040	+28.6746 0.396427	+0.04180 1.9365	+0.001086 5.1336	+0.2900 5.4830
	Y:	-0.0007	+0.00634	+11.0409 1.968922	+0.01158 3.0534	+0.001225 6.0506	+0.1115 0.7727
MAI 15 A MAI 16 (2446200.5)	X:	-0.8686	+0.00101	+28.6785 1.166926	+0.03990 2.7779	+0.000976 0.4135	+0.2901 0.7045
	Y:	+0.0117	+0.00592	+11.0506 2.738205	+0.00874 4.0139	+0.000710 2.7287	+0.1118 2.2752
MAI 17 A MAI 18 (2446202.5)	X:	-0.8663	+0.00120	+28.6780 1.937397	+0.03578 3.5931	+0.001446 2.9657	+0.2901 2.2090
	Y:	+0.0235	+0.00628	+11.0571 3.507493	+0.00837 4.4574	+0.000981 5.6054	+0.1118 3.7777
MAI 19 A MAI 20 (2446204.5)	X:	-0.8649	+0.00317	+28.6683 2.707692	+0.03955 4.0970	+0.004499 5.8449	+0.2898 3.7112
	Y:	+0.0359	+0.00606	+11.0641 4.276677	+0.00950 5.4207	+0.000352 1.1179	+0.1119 5.2816
MAI 21 A MAI 22 (2446206.5)	X:	-0.8589	+0.00226	+28.6655 3.477973	+0.04293 5.1892	+0.002577 2.2584	+0.2898 5.2161
	Y:	+0.0486	+0.00568	+11.0687 5.045756	+0.01341 6.2037	+0.001749 2.6452	+0.1117 0.4983
MAI 23 A MAI 24 (2446208.5)	X:	-0.8523	+0.00284	+28.6546 4.248127	+0.04683 5.9763	+0.003221 2.5899	+0.2891 0.4329
	Y:	+0.0599	+0.00647	+11.0756 5.815174	+0.00954 1.2350	+0.001649 5.8435	+0.1119 2.0019
MAI 25 A MAI 26 (2446210.5)	X:	-0.8475	+0.00550	+28.6411 5.018612	+0.03259 0.7791	+0.004881 6.0194	+0.2896 1.9369
	Y:	+0.0720	+0.00606	+11.0788 0.301232	+0.01026 1.8764	+0.000137 6.0574	+0.1117 3.5010
MAI 27 A MAI 28 (2446212.5)	X:	-0.8380	+0.00448	+28.6206 5.788673	+0.03697 1.3522	+0.002177 2.6823	+0.2890 3.4376
	Y:	+0.0847	+0.00551	+11.0796 1.070722	+0.00625 2.4318	+0.001812 2.9754	+0.1121 5.0039
MAI 29 A MAI 30 (2446214.5)	X:	-0.8277	+0.00488	+28.5951 0.275604	+0.03389 2.1231	+0.002703 3.2128	+0.2896 4.9410
	Y:	+0.0960	+0.00612	+11.0807 1.839901	+0.01066 3.3515	+0.001224 5.8441	+0.1120 0.2218
MAI 31 A JUN. 1 (2446216.5)	X:	-0.8177	+0.00661	+28.5703 1.045564	+0.04035 3.0592	+0.002814 5.9883	+0.2893 0.1606
	Y:	+0.1079	+0.00580	+11.0805 2.609241	+0.00945 4.2877	+0.000282 1.1338	+0.1122 1.7247
JUN. 2 A JUN. 3 (2446218.5)	X:	-0.8046	+0.00618	+28.5397 1.815585	+0.03404 4.0125	+0.001851 2.4537	+0.2891 1.6642
	Y:	+0.1195	+0.00567	+11.0789 3.378578	+0.00860 5.1397	+0.000335 3.7508	+0.1122 3.2272
JUN. 4 A JUN. 5 (2446220.5)	X:	-0.7925	+0.00772	+28.5014 2.585348	+0.03221 4.5620	+0.002462 5.7042	+0.2888 3.1667
	Y:	+0.1306	+0.00585	+11.0758 4.147945	+0.00652 5.8284	+0.001061 5.9377	+0.1121 4.7304

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE: MIMAS

N=6.667

		AO	A1	BO FO	B1 F1	B2 F2	CO PO
JUN. 6 A JUN. 7 (2446222.5)	X:	-0.7781	+0.00810	+28.4632 3.355108	+0.03119 5.3953	+0.001922 0.1040	+0.2878 4.6703
	Y:	+0.1426	+0.00513	+11.0717 4.916988	+0.01191 0.1487	+0.001738 2.5658	+0.1121 6.2312
JUN. 8 A JUN. 9 (2446224.5)	X:	-0.7604	+0.00707	+28.4264 4.124534	+0.04593 6.2038	+0.005568 2.5951	+0.2877 6.1700
	Y:	+0.1533	+0.00549	+11.0680 5.686338	+0.01005 1.1853	+0.000232 5.1024	+0.1119 1.4513
JUN.10 A JUN.11 (2446226.5)	X:	-0.7455	+0.00959	+28.3822 4.894296	+0.03494 0.9877	+0.002545 5.9336	+0.2868 1.3905
	Y:	+0.1635	+0.00572	+11.0650 0.172364	+0.01317 2.2557	+0.001704 5.8671	+0.1119 2.9497
JUN.12 A JUN.13 (2446228.5)	X:	-0.7285	+0.01000	+28.3384 5.663809	+0.03908 1.8791	+0.002145 6.0531	+0.2867 2.8888
	Y:	+0.1749	+0.00474	+11.0568 0.941792	+0.00704 2.9016	+0.001768 2.8784	+0.1118 4.4533
JUN.14 A JUN.15 (2446230.5)	X:	-0.7081	+0.00881	+28.2824 0.149996	+0.02935 2.4778	+0.004501 2.9769	+0.2863 4.3925
	Y:	+0.1851	+0.00498	+11.0502 1.711042	+0.00922 3.7570	+0.000304 4.4208	+0.1119 5.9521
JUN.16 A JUN.17 (2446232.5)	X:	-0.6893	+0.01061	+28.2311 0.919249	+0.03814 3.3663	+0.002131 5.6435	+0.2861 5.8926
	Y:	+0.1948	+0.00511	+11.0414 2.480203	+0.01015 4.3655	+0.001170 6.1717	+0.1119 1.1725
JUN.18 A JUN.19 (2446234.5)	X:	-0.6685	+0.01070	+28.1745 1.688447	+0.03751 4.2626	+0.001136 0.7605	+0.2857 1.1125
	Y:	+0.2049	+0.00454	+11.0332 3.249450	+0.01080 5.4553	+0.000824 2.8059	+0.1119 2.6740
JUN.20 A JUN.21 (2446236.5)	X:	-0.6470	+0.01091	+28.1142 2.457513	+0.03594 5.1203	+0.000681 2.9130	+0.2852 2.6148
	Y:	+0.2139	+0.00476	+11.0224 4.018731	+0.00756 6.2802	+0.000961 5.6056	+0.1118 4.1764
JUN.22 A JUN.23 (2446238.5)	X:	-0.6262	+0.01231	+28.0470 3.226467	+0.02647 5.8568	+0.003745 5.9434	+0.2840 4.1158
	Y:	+0.2233	+0.00426	+11.0116 4.787757	+0.00965 0.5384	+0.000584 2.2551	+0.1117 5.6791
JUN.24 A JUN.25 (2446240.5)	X:	-0.6013	+0.01092	+27.9869 3.995111	+0.04026 0.2431	+0.004087 2.4861	+0.2837 5.6177
	Y:	+0.2325	+0.00392	+10.9992 5.556805	+0.00991 1.0876	+0.001358 2.7921	+0.1113 0.8964
JUN.26 A JUN.27 (2446242.5)	X:	-0.5776	+0.01182	+27.9189 4.763783	+0.03756 1.0627	+0.001957 2.7833	+0.2821 0.8341
	Y:	+0.2400	+0.00453	+10.9906 0.042716	+0.01394 2.3601	+0.002007 5.7871	+0.1114 2.3977
JUN.28 A JUN.29 (2446244.5)	X:	-0.5554	+0.01375	+27.8555 5.532566	+0.04600 2.1951	+0.004921 5.9019	+0.2822 2.3342
	Y:	+0.2484	+0.00376	+10.9772 0.811812	+0.01060 3.0525	+0.000360 2.8936	+0.1110 3.8979
JUN.30 A JUL. 1 (2446246.5)	X:	-0.5290	+0.01210	+27.7802 0.017802	+0.03514 2.8661	+0.002906 2.9018	+0.2809 3.8345
	Y:	+0.2566	+0.00327	+10.9644 1.581051	+0.00899 4.1716	+0.001485 2.9856	+0.1112 5.3982

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE: MIMAS

N=6.667

		A0	A1	B0 F0	B1 F1	B2 F2	C0 P0
JUL. 2 A JUL. 3 (2446248.5)	X:	-0.5032	+0.01258	+27.7061 0.786230	+0.03647 3.7440	+0.001548 3.5014	+0.2810 5.3343
	Y:	+0.2633	+0.00376	+10.9501 2.349928	+0.01018 4.4911	+0.001453 5.9792	+0.1110 0.6167
JUL. 4 A JUL. 5 (2446250.5)	X:	-0.4780	+0.01373	+27.6318 1.554400	+0.04079 4.4247	+0.002951 6.1744	+0.2801 0.5524
	Y:	+0.2704	+0.00319	+10.9363 3.118952	+0.01093 5.5110	+0.000399 2.0939	+0.1111 2.1178
JUL. 6 A JUL. 7 (2446252.5)	X:	-0.4508	+0.01297	+27.5552 2.322596	+0.04357 5.3937	+0.001928 2.4170	+0.2796 2.0536
	Y:	+0.2768	+0.00303	+10.9214 3.887943	+0.01029 0.1005	+0.000390 4.0467	+0.1109 3.6198
JUL. 8 A JUL. 9 (2446254.5)	X:	-0.4253	+0.01418	+27.4715 3.090588	+0.03428 6.2317	+0.002501 5.7365	+0.2787 3.5536
	Y:	+0.2827	+0.00298	+10.9060 4.656889	+0.00924 0.9705	+0.000694 5.9211	+0.1107 5.1224
JUL. 10 A JUL. 11 (2446256.5)	X:	-0.3976	+0.01372	+27.3922 3.858418	+0.03778 0.6853	+0.000760 1.3100	+0.2776 5.0557
	Y:	+0.2891	+0.00222	+10.8886 5.425576	+0.00908 1.1750	+0.001738 2.6722	+0.1105 0.3388
JUL. 12 A JUL. 13 (2446258.5)	X:	-0.3684	+0.01275	+27.3107 4.625916	+0.03883 1.1824	+0.005107 2.7099	+0.2765 0.2695
	Y:	+0.2938	+0.00262	+10.8744 6.194438	+0.01145 2.3441	+0.000878 5.5454	+0.1103 1.8418
JUL. 14 A JUL. 15 (2446260.5)	X:	-0.3428	+0.01497	+27.2315 5.393749	+0.04782 2.3195	+0.003864 5.7859	+0.2757 1.7712
	Y:	+0.2982	+0.00252	+10.8593 0.679918	+0.01373 3.0568	+0.001389 5.8555	+0.1100 3.3391
JUL. 16 A JUL. 17 (2446262.5)	X:	-0.3150	+0.01439	+27.1492 6.161202	+0.04735 3.0472	+0.001305 5.8518	+0.2747 3.2671
	Y:	+0.3034	+0.00149	+10.8420 1.448933	+0.00956 4.2997	+0.001914 2.8501	+0.1100 4.8417
JUL. 18 A JUL. 19 (2446264.5)	X:	-0.2853	+0.01309	+27.0595 0.645502	+0.03985 4.0338	+0.003979 2.9974	+0.2744 4.7683
	Y:	+0.3071	+0.00182	+10.8253 2.217571	+0.01037 4.7784	+0.000491 5.6373	+0.1098 0.0566
JUL. 20 A JUL. 21 (2446266.5)	X:	-0.2581	+0.01459	+26.9754 1.412681	+0.04402 4.6242	+0.002656 5.9270	+0.2734 6.2662
	Y:	+0.3103	+0.00174	+10.8072 2.986226	+0.00928 5.4919	+0.000929 0.0123	+0.1098 1.5588
JUL. 22 A JUL. 23 (2446268.5)	X:	-0.2295	+0.01409	+26.8888 2.179845	+0.04683 5.4932	+0.001209 1.2881	+0.2729 1.4837
	Y:	+0.3137	+0.00113	+10.7905 3.754849	+0.01177 0.1051	+0.000929 2.9642	+0.1096 3.0594
JUL. 24 A JUL. 25 (2446270.5)	X:	-0.2014	+0.01409	+26.7997 2.946865	+0.04605 0.0637	+0.000570 3.3898	+0.2720 2.9833
	Y:	+0.3159	+0.00128	+10.7723 4.523525	+0.01002 1.1308	+0.000913 5.5496	+0.1094 4.5612
JUL. 26 A JUL. 27 (2446272.5)	X:	-0.1741	+0.01475	+26.7087 3.713804	+0.04290 0.9928	+0.002641 5.8849	+0.2706 4.4831
	Y:	+0.3185	+0.00066	+10.7532 5.291907	+0.00864 1.5401	+0.000839 2.5094	+0.1093 6.0621

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE : MIMAS

N=6.667

	AO	A1	BO FO	B1 F1	B2 F2	CO PO
JUL.28 A JUL.29 (2446274.5)	X: -0.1439	+0.01303	+26.6220 4.480288	+0.04119 1.4373	+0.004557 2.6379	+0.2701 5.9812
	Y: +0.3203	+0.00047	+10.7345 6.060374	+0.00777 2.3107	+0.000802 2.9846	+0.1088 1.2800
JUL.30 A JUL.31 (2446276.5)	X: -0.1164	+0.01401	+26.5332 5.246974	+0.04396 2.3678	+0.000587 3.9423	+0.2683 1.1973
	Y: +0.3207	+0.00092	+10.7190 0.545451	+0.01390 3.0716	+0.002129 5.8018	+0.1088 2.7786
ADU. 1 A ADU. 2 (2446278.5)	X: -0.0902	+0.01508	+26.4513 6.013541	+0.05654 3.1202	+0.004829 5.8650	+0.2680 2.6932
	Y: +0.3222	-0.00002	+10.6998 1.313962	+0.00988 4.1323	+0.000866 2.7610	+0.1084 4.2799
ADU. 3 A ADU. 4 (2446280.5)	X: -0.0606	+0.01295	+26.3574 0.496803	+0.04587 4.0927	+0.003382 2.8798	+0.2667 4.1928
	Y: +0.3229	-0.00031	+10.6824 2.082398	+0.01147 5.0770	+0.001126 2.9516	+0.1084 5.7773
ADU. 5 A ADU. 6 (2446282.5)	X: -0.0330	+0.01345	+26.2694 1.263141	+0.04914 4.8397	+0.000659 3.7594	+0.2664 5.6890
	Y: +0.3222	+0.00011	+10.6623 2.850581	+0.00799 5.5483	+0.001520 6.0522	+0.1082 0.9960
ADU. 7 A ADU. 8 (2446284.5)	X: -0.0063	+0.01405	+26.1805 2.029235	+0.04706 5.5415	+0.002620 0.0517	+0.2655 0.9056
	Y: +0.3220	-0.00054	+10.6443 3.618819	+0.01078 0.1581	+0.000619 2.5576	+0.1082 2.4952
ADU. 9 A ADU.10 (2446286.5)	X: +0.0213	+0.01303	+26.0929 2.795346	+0.05332 0.0928	+0.001988 2.6101	+0.2648 2.4041
	Y: +0.3210	-0.00064	+10.6254 4.387027	+0.01052 1.0677	+0.000460 4.2977	+0.1080 3.9966
ADU.11 A ADU.12 (2446288.5)	X: +0.0469	+0.01382	+26.0006 3.561355	+0.04976 1.0427	+0.002335 5.5852	+0.2637 3.9022
	Y: +0.3196	-0.00078	+10.6063 5.155128	+0.00986 1.9069	+0.000413 5.9688	+0.1078 5.4981
ADU.13 A ADU.14 (2446290.5)	X: +0.0743	+0.01280	+25.9138 4.327061	+0.04793 1.6998	+0.001210 2.4230	+0.2628 5.4019
	Y: +0.3185	-0.00142	+10.5853 5.923097	+0.00571 2.4755	+0.001521 2.7203	+0.1074 0.7139
ADU.15 A ADU.16 (2446292.5)	X: +0.1016	+0.01200	+25.8242 5.092601	+0.04065 2.4154	+0.003884 2.8061	+0.2613 0.6142
	Y: +0.3156	-0.00095	+10.5687 0.407809	+0.01097 3.1949	+0.001368 5.6718	+0.1073 2.2154
ADU.17 A ADU.18 (2446294.5)	X: +0.1252	+0.01383	+25.7443 5.858339	+0.05763 3.1825	+0.004808 5.7935	+0.2608 2.1130
	Y: +0.3129	-0.00127	+10.5499 1.175640	+0.01032 3.8985	+0.000900 5.9193	+0.1068 3.7127
ADU.19 A ADU.20 (2446296.5)	X: +0.1510	+0.01252	+25.6576 0.340605	+0.05194 4.0022	+0.000335 5.9396	+0.2593 3.6079
	Y: +0.3108	-0.00216	+10.5321 1.943767	+0.01209 5.2272	+0.001969 2.8097	+0.1069 5.2130
ADU.21 A ADU.22 (2446298.5)	X: +0.1773	+0.01130	+25.5702 1.106187	+0.05482 4.9665	+0.003626 2.9315	+0.2593 5.1059
	Y: +0.3070	-0.00167	+10.5126 2.711470	+0.00886 5.7550	+0.000837 5.9054	+0.1065 0.4281

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE: MIMAS

N=6.667

		AO	A1	B0 FO	B1 F1	B2 F2	CO PO
ADU.23 A ADU.24 (2446300.5)	X:	+0.2007	+0.01258	+25.4865 1.871366	+0.04937 5.5989	+0.002775 6.0629	+0.2581 0.3193
	Y:	+0.3031	-0.00187	+10.4932 3.479253	+0.00851 0.3578	+0.000651 0.1270	+0.1066 1.9282
ADU.25 A ADU.26 (2446302.5)	X:	+0.2251	+0.01170	+25.4033 2.636601	+0.05392 0.1204	+0.001123 1.8013	+0.2577 1.8175
	Y:	+0.2992	-0.00240	+10.4751 4.246897	+0.01045 1.0136	+0.000969 3.0970	+0.1064 3.4283
ADU.27 A ADU.28 (2446304.5)	X:	+0.2483	+0.01157	+25.3192 3.401743	+0.05475 0.9672	+0.000849 3.9840	+0.2569 3.3149
	Y:	+0.2944	-0.00222	+10.4563 5.014597	+0.01092 2.0599	+0.000848 5.5711	+0.1062 4.9291
ADU.29 A ADU.30 (2446306.5)	X:	+0.2708	+0.01172	+25.2364 4.166795	+0.05558 1.8241	+0.001888 5.7667	+0.2557 4.8136
	Y:	+0.2902	-0.00280	+10.4358 5.782058	+0.00692 2.8069	+0.000964 2.5469	+0.1060 0.1452
ADU.31 A SEP. 1 (2446308.5)	X:	+0.2953	+0.01000	+25.1543 4.931428	+0.04321 2.4878	+0.004277 2.6940	+0.2550 0.0258
	Y:	+0.2849	-0.00278	+10.4175 0.266347	+0.00780 3.5809	+0.000309 3.5311	+0.1056 1.6465
SEP. 2 A SEP. 3 (2446310.5)	X:	+0.3163	+0.01107	+25.0773 5.696331	+0.05231 3.2741	+0.001438 5.4710	+0.2536 1.5245
	Y:	+0.2787	-0.00243	+10.4003 1.033514	+0.01001 3.8512	+0.002001 5.8382	+0.1054 3.1429
SEP. 4 A SEP. 5 (2446312.5)	X:	+0.3364	+0.01145	+25.0047 0.177803	+0.05612 3.9086	+0.004214 5.8967	+0.2530 3.0175
	Y:	+0.2736	-0.00339	+10.3821 1.801081	+0.01083 5.2291	+0.001328 2.7075	+0.1051 4.6443
SEP. 6 A SEP. 7 (2446314.5)	X:	+0.3593	+0.00920	+24.9237 0.942619	+0.05655 4.9602	+0.003936 2.8169	+0.2522 4.5163
	Y:	+0.2676	-0.00339	+10.3649 2.568365	+0.01162 5.9290	+0.000731 2.9122	+0.1050 6.1398
SEP. 8 A SEP. 9 (2446316.5)	X:	+0.3793	+0.00985	+24.8499 1.707181	+0.05533 5.6543	+0.000259 4.8272	+0.2517 6.0099
	Y:	+0.2606	-0.00297	+10.3447 3.335580	+0.00775 0.6486	+0.001505 6.0857	+0.1049 1.3579
SEP.10 A SEP.11 (2446318.5)	X:	+0.3985	+0.01010	+24.7745 2.471600	+0.05139 0.1528	+0.002184 0.0985	+0.2511 1.2253
	Y:	+0.2542	-0.00362	+10.3275 4.102690	+0.00996 1.1574	+0.000828 2.7693	+0.1047 2.8557
SEP.12 A SEP.13 (2446320.5)	X:	+0.4183	+0.00899	+24.7029 3.236043	+0.05676 0.8971	+0.001962 2.8759	+0.2505 2.7217
	Y:	+0.2471	-0.00358	+10.3095 4.869796	+0.01069 2.0789	+0.000481 4.5284	+0.1046 4.3563
SEP.14 A SEP.15 (2446322.5)	X:	+0.4359	+0.00953	+24.6294 4.000466	+0.05890 1.8096	+0.002268 5.4734	+0.2495 4.2189
	Y:	+0.2399	-0.00371	+10.2910 5.636775	+0.01006 2.9527	+0.000237 0.0730	+0.1044 5.8562
SEP.16 A SEP.17 (2446324.5)	X:	+0.4550	+0.00831	+24.5592 4.764540	+0.05114 2.5353	+0.001606 2.5611	+0.2490 5.7163
	Y:	+0.2329	-0.00414	+10.2716 0.120517	+0.00801 4.0349	+0.001216 2.7299	+0.1040 1.0721

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE: MIMAS

N=6.667

		A0	A1	B0 FO	B1 F1	B2 F2	CO PO
SEP. 18 A SEP. 19 (2446326.5)	X:	+0.4732	+0.00781	+24.4886 5.528635	+0.04726 3.3743	+0.002575 2.8497	+0.2475 0.9285
	Y:	+0.2244	-0.00359	+10.2557 0.887143	+0.00893 4.1559	+0.001648 5.7476	+0.1040 2.5712
SEP. 20 A SEP. 21 (2446328.5)	X:	+0.4878	+0.00930	+24.4300 0.009549	+0.05634 3.9062	+0.005087 5.8367	+0.2474 2.4244
	Y:	+0.2165	-0.00402	+10.2380 1.653907	+0.00857 5.1526	+0.000353 6.2190	+0.1034 4.0693
SEP. 22 A SEP. 23 (2446330.5)	X:	+0.5050	+0.00757	+24.3630 0.773605	+0.05389 4.8444	+0.000852 2.5623	+0.2459 3.9196
	Y:	+0.2091	-0.00464	+10.2229 2.420766	+0.01383 6.0322	+0.001906 2.7773	+0.1035 5.5667
SEP. 24 A SEP. 25 (2446332.5)	X:	+0.5217	+0.00665	+24.3005 1.537778	+0.06108 5.6777	+0.003358 2.8875	+0.2462 5.4147
	Y:	+0.2001	-0.00399	+10.2042 3.187331	+0.00927 0.7187	+0.001152 5.9764	+0.1031 0.7824
SEP. 26 A SEP. 27 (2446334.5)	X:	+0.5355	+0.00784	+24.2381 2.301560	+0.05092 0.1572	+0.002866 6.0797	+0.2452 0.6280
	Y:	+0.1915	-0.00424	+10.1872 3.953934	+0.01040 1.4932	+0.000372 0.3228	+0.1033 2.2800
SEP. 28 A SEP. 29 (2446336.5)	X:	+0.5503	+0.00677	+24.1792 3.065465	+0.05533 0.8963	+0.001054 2.2910	+0.2451 2.1241
	Y:	+0.1830	-0.00461	+10.1708 4.720338	+0.01016 2.1007	+0.000957 3.1925	+0.1030 3.7798
SEP. 30 A OCT. 1 (2446338.5)	X:	+0.5637	+0.00661	+24.1205 3.829329	+0.05756 1.7178	+0.001117 4.2728	+0.2444 3.6207
	Y:	+0.1739	-0.00436	+10.1544 5.486795	+0.01234 3.0065	+0.000783 5.6755	+0.1029 5.2792
OCT. 2 A OCT. 3 (2446340.5)	X:	+0.5765	+0.00651	+24.0639 4.593096	+0.05826 2.5318	+0.001410 5.7587	+0.2437 5.1185
	Y:	+0.1653	-0.00482	+10.1362 6.253103	+0.01030 4.0854	+0.000982 2.5135	+0.1027 0.4943
OCT. 4 A OCT. 5 (2446342.5)	X:	+0.5907	+0.00500	+24.0058 5.356594	+0.04692 3.3999	+0.003757 2.6813	+0.2429 0.3294
	Y:	+0.1559	-0.00458	+10.1207 0.736082	+0.01018 4.6698	+0.000316 5.2306	+0.1024 1.9949
OCT. 6 A OCT. 7 (2446344.5)	X:	+0.6011	+0.00616	+23.9580 6.120293	+0.05338 4.0082	+0.002396 5.7061	+0.2422 1.8276
	Y:	+0.1460	-0.00431	+10.1048 1.502007	+0.00740 5.1761	+0.001696 5.8912	+0.1021 3.4903
OCT. 8 A OCT. 9 (2446346.5)	X:	+0.6114	+0.00604	+23.9106 0.600591	+0.05024 4.6966	+0.003222 5.9520	+0.2415 3.3195
	Y:	+0.1374	-0.00516	+10.0908 2.268305	+0.01375 6.1289	+0.001698 2.6832	+0.1020 4.9905
OCT. 10 A OCT. 11 (2446348.5)	X:	+0.6240	+0.00390	+23.8604 1.364427	+0.06108 5.6587	+0.004443 2.7906	+0.2413 4.8174
	Y:	+0.1279	-0.00486	+10.0757 3.034250	+0.01213 0.6117	+0.000316 2.9069	+0.1017 0.2022
OCT. 12 A OCT. 13 (2446350.5)	X:	+0.6333	+0.00480	+23.8149 2.127899	+0.05437 0.1113	+0.000670 5.7166	+0.2407 0.0271
	Y:	+0.1177	-0.00446	+10.0590 3.800285	+0.01239 1.7231	+0.001426 6.0870	+0.1018 1.7019

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE: MIMAS

N=6.667

	AO	A1	BO FO	B1 F1	B2 F2	CO PO
OCT. 14 A OCT. 15 (2446352.5)	X: +0.6421	+0.00482	+23.7684 2.891380	+0.05245 0.9435	+0.001820 0.0404	+0.2407 1.5247
	Y: +0.1084	-0.00505	+10.0449 4.566049	+0.01107 2.2318	+0.000997 2.8897	+0.1016 3.1989
OCT. 16 A OCT. 17 (2446354.5)	X: +0.6513	+0.00370	+23.7273 3.654873	+0.05466 1.6338	+0.001953 3.0994	+0.2402 3.0203
	Y: +0.0985	-0.00484	+10.0304 5.331860	+0.01282 3.0640	+0.000474 4.8221	+0.1015 4.6984
OCT. 18 A OCT. 19 (2446356.5)	X: +0.6586	+0.00415	+23.6857 4.418411	+0.05940 2.4889	+0.002199 5.4776	+0.2397 4.5174
	Y: +0.0889	-0.00492	+10.0154 6.097562	+0.01296 3.9608	+0.000234 0.8068	+0.1014 6.1968
OCT. 20 A OCT. 21 (2446358.5)	X: +0.6672	+0.00291	+23.6448 5.181657	+0.05077 3.3311	+0.001811 2.4992	+0.2394 6.0133
	Y: +0.0793	-0.00513	+10.0005 0.580036	+0.01352 4.9076	+0.000897 2.7056	+0.1010 1.4128
OCT. 22 A OCT. 23 (2446360.5)	X: +0.6742	+0.00274	+23.6071 5.945036	+0.05091 4.1459	+0.001479 2.8571	+0.2383 1.2265
	Y: +0.0687	-0.00452	+ 9.9875 1.345291	+0.00901 5.4102	+0.001735 5.8035	+0.1010 2.9096
OCT. 24 A OCT. 25 (2446362.5)	X: +0.6784	+0.00395	+23.5795 0.425081	+0.04780 4.6431	+0.004897 5.8722	+0.2384 2.7205
	Y: +0.0592	-0.00500	+ 9.9744 2.110836	+0.01208 6.2788	+0.000304 2.0920	+0.1005 4.4085
OCT. 26 A OCT. 27 (2446364.5)	X: +0.6853	+0.00199	+23.5451 1.188557	+0.05394 5.6057	+0.002038 2.6475	+0.2374 4.2170
	Y: +0.0499	-0.00534	+ 9.9640 2.876261	+0.01482 0.5488	+0.001738 2.7636	+0.1006 5.9033
OCT. 28 A OCT. 29 (2446366.5)	X: +0.6911	+0.00146	+23.5174 1.952041	+0.05840 0.0519	+0.002938 2.8930	+0.2378 5.7101
	Y: +0.0393	-0.00457	+ 9.9494 3.641635	+0.01398 1.7223	+0.001412 5.9761	+0.1003 1.1195
OCT. 30 A OCT. 31 (2446368.5)	X: +0.6941	+0.00261	+23.4863 2.715267	+0.05021 0.9577	+0.003061 6.0390	+0.2373 0.9243
	Y: +0.0295	-0.00486	+ 9.9377 4.406913	+0.01406 2.3669	+0.000136 1.0892	+0.1004 2.6149
NOV. 1 A NOV. 2 (2446370.5)	X: +0.6983	+0.00139	+23.4616 3.478631	+0.05204 1.6318	+0.001162 2.7004	+0.2374 2.4193
	Y: +0.0199	-0.00507	+ 9.9259 5.172016	+0.01274 3.1398	+0.000884 3.2716	+0.1003 4.1144
NOV. 3 A NOV. 4 (2446372.5)	X: +0.7011	+0.00129	+23.4375 4.242007	+0.05452 2.4268	+0.001234 4.4747	+0.2371 3.9164
	Y: +0.0099	-0.00474	+ 9.9148 5.937169	+0.01503 3.8850	+0.000759 5.8639	+0.1002 5.6124
NOV. 5 A NOV. 6 (2446374.5)	X: +0.7036	+0.00109	+23.4151 5.005313	+0.05449 3.2399	+0.001081 5.9482	+0.2369 5.4137
	Y: +0.0006	-0.00508	+ 9.9024 0.419074	+0.01593 4.8924	+0.000949 2.4381	+0.1000 0.8271
NOV. 7 A NOV. 8 (2446376.5)	X: +0.7068	-0.00016	+23.3910 5.768528	+0.04992 4.1983	+0.003251 2.6337	+0.2362 0.6252
	Y: -0.0094	-0.00467	+ 9.8925 1.183884	+0.01340 5.5744	+0.000600 5.6387	+0.0999 2.3263

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE : MIMAS

N=6.667

	AO	A1	BO FO	B1 F1	B2 F2	CO PO
NOV. 9 A NOV. 10 (2446378.5)	X: +0.7065	+0.00106	+23.3792 0.248613	+0.04731 4.7346	+0.003025 5.7921	+0.2362 2.1229
	Y: -0.0195	-0.00449	+ 9.8818 1.948627	+0.01136 0.1696	+0.001266 5.9590	+0.0995 3.8218
NOV. 11 A NOV. 12 (2446380.5)	X: +0.7068	+0.00052	+23.3647 1.011838	+0.04412 5.5413	+0.002035 6.0341	+0.2354 3.6159
	Y: -0.0282	-0.00521	+ 9.8751 2.713580	+0.01596 0.6120	+0.001954 2.6895	+0.0996 5.3201
NOV. 13 A NOV. 14 (2446382.5)	X: +0.7088	-0.00138	+23.3531 1.775471	+0.05782 0.0221	+0.004773 2.7959	+0.2359 5.1129
	Y: -0.0380	-0.00466	+ 9.8656 3.478298	+0.01465 1.5712	+0.000140 5.5377	+0.0993 0.5322
NOV. 15 A NOV. 16 (2446384.5)	X: +0.7072	-0.00021	+23.3417 2.538730	+0.04933 0.8836	+0.001397 5.7908	+0.2353 0.3239
	Y: -0.0479	-0.00432	+ 9.8566 4.243168	+0.01756 2.4642	+0.001311 6.0541	+0.0995 2.0298
NOV. 17 A NOV. 18 (2446386.5)	X: +0.7057	-0.00043	+23.3315 3.302145	+0.05037 1.7047	+0.001503 6.2108	+0.2359 1.8209
	Y: -0.0568	-0.00485	+ 9.8490 5.007677	+0.01398 3.1927	+0.001112 2.9589	+0.0993 3.5269
NOV. 19 A NOV. 20 (2446388.5)	X: +0.7045	-0.00151	+23.3268 4.065540	+0.04819 2.3677	+0.001962 3.2455	+0.2357 3.3172
	Y: -0.0662	-0.00451	+ 9.8420 5.772302	+0.01590 3.9213	+0.000485 5.2332	+0.0994 5.0251
NOV. 21 A NOV. 22 (2446390.5)	X: +0.7015	-0.00107	+23.3223 4.829053	+0.05342 3.1865	+0.002130 5.5839	+0.2357 4.8149
	Y: -0.0752	-0.00454	+ 9.8347 0.253677	+0.01697 4.7810	+0.000355 1.1791	+0.0993 0.2396
NOV. 23 A NOV. 24 (2446392.5)	X: +0.6998	-0.00227	+23.3168 5.592393	+0.04907 4.1328	+0.001997 2.3976	+0.2357 0.0276
	Y: -0.0841	-0.00459	+ 9.8283 1.018168	+0.01782 5.6144	+0.000634 2.6539	+0.0991 1.7387
NOV. 25 A NOV. 26 (2446394.5)	X: +0.6961	-0.00216	+23.3175 0.072696	+0.04880 4.8836	+0.000597 2.8846	+0.2351 1.5257
	Y: -0.0937	-0.00400	+ 9.8223 1.782311	+0.01301 0.2238	+0.001649 5.8372	+0.0991 3.2341
NOV. 27 A NOV. 28 (2446396.5)	X: +0.6903	-0.00125	+23.3244 0.835992	+0.03763 5.5320	+0.004408 5.8951	+0.2353 3.0192
	Y: -0.1020	-0.00452	+ 9.8188 2.546777	+0.01599 0.8013	+0.000813 2.5033	+0.0988 4.7335
NOV. 29 A NOV. 30 (2446398.5)	X: +0.6872	-0.00333	+23.3287 1.599767	+0.05034 0.0535	+0.003172 2.7012	+0.2350 4.5176
	Y: -0.1103	-0.00460	+ 9.8166 3.311022	+0.01519 1.4219	+0.001451 2.7950	+0.0988 6.2268
DEC. 1 A DEC. 2 (2446400.5)	X: +0.6824	-0.00341	+23.3387 2.363415	+0.04899 0.7716	+0.002255 2.9681	+0.2353 6.0105
	Y: -0.1196	-0.00379	+ 9.8117 4.075474	+0.01914 2.4693	+0.001654 5.9406	+0.0988 1.4430
DEC. 3 A DEC. 4 (2446402.5)	X: +0.6752	-0.00236	+23.3437 3.127030	+0.04846 1.7694	+0.003331 5.9843	+0.2355 1.2262
	Y: -0.1278	-0.00416	+ 9.8097 4.839673	+0.01700 3.1889	+0.000237 2.6118	+0.0988 2.9374

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COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE : MIMAS

N=6.667

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
DEC. 5 A DEC. 6 (2446404.5)	X:	+0.6695	-0.00376	+23.3572 3.890728	+0.04478 2.4211	+0.001459 2.9371	+0.2358 2.7214
	Y:	-0.1359	-0.00423	+ 9.8074 5.603813	+0.01631 4.0242	+0.000735 3.3200	+0.0989 4.4367
DEC. 7 A DEC. 8 (2446406.5)	X:	+0.6622	-0.00372	+23.3709 4.654512	+0.04708 3.1961	+0.001235 4.7309	+0.2360 4.2199
	Y:	-0.1442	-0.00386	+ 9.8067 0.084820	+0.01750 4.7055	+0.000785 6.1147	+0.0990 5.9338
DEC. 9 A DEC.10 (2446408.5)	X:	+0.6548	-0.00399	+23.3856 5.418288	+0.04755 4.0302	+0.000927 0.1007	+0.2362 5.7177
	Y:	-0.1518	-0.00412	+ 9.8055 0.849028	+0.01996 5.5952	+0.000939 2.3712	+0.0988 1.1488
DEC.11 A DEC.12 (2446410.5)	X:	+0.6477	-0.00502	+23.3999 6.182118	+0.04962 4.9754	+0.002844 2.5791	+0.2358 0.9313
	Y:	-0.1602	-0.00363	+ 9.8059 1.612921	+0.01651 0.1614	+0.000772 5.7097	+0.0989 2.6467
DEC.13 A DEC.14 (2446412.5)	X:	+0.6373	-0.00377	+23.4254 0.662675	+0.03773 5.6235	+0.003402 5.8222	+0.2363 2.4290
	Y:	-0.1680	-0.00357	+ 9.8067 2.376928	+0.01668 1.0154	+0.000764 6.0273	+0.0986 4.1435
DEC.15 A DEC.16 (2446414.5)	X:	+0.6281	-0.00470	+23.4475 1.426622	+0.04003 0.1826	+0.000712 0.0072	+0.2357 3.9248
	Y:	-0.1747	-0.00416	+ 9.8121 3.140955	+0.01592 1.4335	+0.002063 2.7275	+0.0989 5.6398
DEC.17 A DEC.18 (2446416.5)	X:	+0.6201	-0.00629	+23.4767 2.190886	+0.04682 0.7346	+0.004821 2.8280	+0.2367 5.4214
	Y:	-0.1825	-0.00343	+ 9.8141 3.905018	+0.01810 2.4402	+0.000655 5.7391	+0.0986 0.8537
DEC.19 A DEC.20 (2446418.5)	X:	+0.6084	-0.00489	+23.5009 2.954912	+0.04436 1.7699	+0.002375 5.7972	+0.2364 0.6352
	Y:	-0.1901	-0.00322	+ 9.8185 4.669183	+0.02032 3.1745	+0.001175 6.0169	+0.0990 2.3493
DEC.21 A DEC.22 (2446420.5)	X:	+0.5972	-0.00544	+23.5296 3.719159	+0.04511 2.5249	+0.001123 6.0938	+0.2374 2.1322
	Y:	-0.1967	-0.00371	+ 9.8230 5.433034	+0.01721 4.0924	+0.001183 2.9638	+0.0989 3.8476
DEC.23 A DEC.24 (2446422.5)	X:	+0.5863	-0.00644	+23.5623 4.483368	+0.03988 3.2873	+0.001910 3.3190	+0.2376 3.6308
	Y:	-0.2038	-0.00327	+ 9.8293 6.197065	+0.01807 4.7537	+0.000563 5.7024	+0.0991 5.3448
DEC.25 A DEC.26 (2446424.5)	X:	+0.5736	-0.00595	+23.5961 5.247774	+0.04399 4.0114	+0.002120 5.7821	+0.2380 5.1296
	Y:	-0.2103	-0.00330	+ 9.8358 0.677913	+0.01964 5.5672	+0.000502 1.4087	+0.0992 0.5598
DEC.27 A DEC.28 (2446426.5)	X:	+0.5621	-0.00713	+23.6277 6.012145	+0.04681 4.9922	+0.002274 2.3262	+0.2382 0.3439
	Y:	-0.2168	-0.00324	+ 9.8435 1.441873	+0.01994 0.0987	+0.000465 2.6825	+0.0992 2.0589
DEC.29 A DEC.30 (2446428.5)	X:	+0.5484	-0.00676	+23.6674 0.493415	+0.04250 5.7462	+0.000167 5.2569	+0.2384 1.8440
	Y:	-0.2238	-0.00272	+ 9.8509 2.205660	+0.01822 1.1069	+0.001448 5.8250	+0.0992 3.5545

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 DE SATURNE: MIMAS

N=6.667

	AO	A1	B0 FO	B1 F1	B2 F2	CO PO
DEC.30 A DEC.31 (2446429.5)	X: +0.5405	-0.00608	+23.6891 0.875541	+0.03455 6.1942	+0.003520 5.8194	+0.2388 2.5916
	Y: -0.2267	-0.00290	+ 9.8562 2.587693	+0.01867 1.4140	+0.000509 6.0580	+0.0991 4.3046
DEC.32 A DEC.33 (2446431.5)	X: +0.5270	-0.00721	+23.7298 1.640194	+0.03890 0.6783	+0.000234 1.4657	+0.2383 4.0894
	Y: -0.2320	-0.00342	+ 9.8696 3.351608	+0.01538 1.9289	+0.002047 2.7542	+0.0994 5.8003

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 2 DE SATURNE : ENCELADE

N=4.586

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
JAN. 1 A JAN.16 (2446066.5)	X:	-0.0536	-0.00110	+31.0463 5.706122	+0.06700 4.6858	+0.000422 0.3653	+0.0683 4.7922
	Y:	-0.0794	-0.00001	+12.3145 1.052696	+0.02929 0.4142	+0.000080 2.1655	+0.0272 0.1425
JAN.17 A FEV. 1 (2446082.5)	X:	-0.0703	-0.00101	+31.6821 3.657822	+0.06422 2.8534	+0.000459 4.7480	+0.0698 0.6273
	Y:	-0.0802	+0.00008	+12.7021 5.293120	+0.02875 4.7785	+0.000098 0.5114	+0.0281 2.2656
FEV. 1 A FEV.16 (2446097.5)	X:	-0.0855	-0.00122	+32.4013 3.314172	+0.06225 2.7382	+0.000452 4.6386	+0.0715 6.1534
	Y:	-0.0798	+0.00014	+13.0805 4.953546	+0.02733 4.5608	+0.000126 0.3544	+0.0289 1.5128
FEV.17 A MAR. 4 (2446113.5)	X:	-0.1060	-0.00115	+33.2666 1.279046	+0.06048 0.9491	+0.000485 2.8759	+0.0735 2.0018
	Y:	-0.0780	+0.00014	+13.4810 2.921293	+0.02518 2.6856	+0.000156 4.9559	+0.0298 3.6465
MAR. 1 A MAR.16 (2446125.5)	X:	-0.1192	-0.00146	+33.9534 6.040746	+0.05784 5.8977	+0.000509 1.4533	+0.0750 5.1775
	Y:	-0.0764	+0.00025	+13.7642 1.400937	+0.02316 1.3051	+0.000193 3.7496	+0.0304 0.5375
MAR.17 A AVR. 1 (2446141.5)	X:	-0.1426	-0.00128	+34.8526 4.018414	+0.05514 4.1506	+0.000506 6.0804	+0.0770 1.0385
	Y:	-0.0729	+0.00038	+14.0981 5.661874	+0.01922 5.7965	+0.000231 2.0025	+0.0311 2.6792
AVR. 1 A AVR.16 (2446156.5)	X:	-0.1627	-0.00132	+35.6167 3.699246	+0.05153 4.0946	+0.000551 6.1757	+0.0786 0.3019
	Y:	-0.0679	+0.00050	+14.3389 5.341286	+0.01461 5.7940	+0.000245 1.9162	+0.0316 1.9423
AVR.17 A MAI 2 (2446172.5)	X:	-0.1852	-0.00110	+36.2678 1.688175	+0.04510 2.4008	+0.000605 4.5515	+0.0801 2.4528
	Y:	-0.0602	+0.00052	+14.4891 3.327303	+0.01053 4.3527	+0.000262 0.1692	+0.0319 4.0890
MAI 1 A MAI 16 (2446186.5)	X:	-0.2004	-0.00111	+36.6333 3.072417	+0.03929 4.1446	+0.000647 0.0707	+0.0808 5.1181
	Y:	-0.0527	+0.00061	+14.5150 4.708267	+0.00947 0.2100	+0.000248 1.6849	+0.0319 0.4702
MAI 17 A JUN. 1 (2446202.5)	X:	-0.2178	-0.00063	+36.7732 1.064577	+0.03248 2.6675	+0.000700 4.6378	+0.0810 0.9845
	Y:	-0.0433	+0.00070	+14.4211 2.695773	+0.01294 5.1697	+0.000211 6.2743	+0.0317 2.6137
JUN. 1 A JUN.16 (2446217.5)	X:	-0.2276	-0.00043	+36.6195 0.751027	+0.03175 3.0022	+0.000672 4.6105	+0.0807 0.2450
	Y:	-0.0335	+0.00071	+14.2259 2.377779	+0.01674 5.2141	+0.000183 6.2664	+0.0313 1.8713
JUN.17 A JUL. 2 (2446233.5)	X:	-0.2356	+0.00005	+36.1724 5.019738	+0.03857 1.5706	+0.000653 2.8765	+0.0798 2.3822
	Y:	-0.0226	+0.00061	+13.9368 0.359045	+0.02005 3.4701	+0.000151 4.7513	+0.0307 4.0039

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 2 DE SATURNE: ENCELADE

N=4.586

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
JUL. 1 A JUL. 16 (2446247.5)	X:	-0.2347	-0.00001	+35.5891 0.110340	+0.04771 3.3344	+0.000528 4.3852	+0.0787 5.0319
	Y:	-0.0137	+0.00057	+13.6469 1.729668	+0.02157 5.0286	+0.000170 0.2449	+0.0301 0.3678
JUL. 17 A AOU. 1 (2446263.5)	X:	-0.2338	+0.00036	+34.7733 4.365968	+0.05889 1.5879	+0.000451 2.6421	+0.0770 0.8709
	Y:	-0.0050	+0.00059	+13.3100 5.983321	+0.02215 3.2362	+0.000171 4.8042	+0.0295 2.4891
AOU. 1 A AOU. 16 (2446278.5)	X:	-0.2280	+0.00035	+33.9326 4.028748	+0.06710 1.4563	+0.000376 2.4247	+0.0753 0.1046
	Y:	+0.0029	+0.00053	+13.0193 5.645737	+0.02246 3.1206	+0.000178 4.7354	+0.0290 1.7228
AOU. 17 A SEP. 1 (2446294.5)	X:	-0.2233	+0.00068	+33.0330 1.986151	+0.07473 5.8714	+0.000283 0.6919	+0.0735 2.2117
	Y:	+0.0109	+0.00042	+12.7560 3.604433	+0.02270 1.3279	+0.000167 2.8368	+0.0285 3.8320
SEP. 1 A SEP. 16 (2446309.5)	X:	-0.2153	+0.00065	+32.2354 1.635661	+0.07861 5.6586	+0.000256 0.4999	+0.0720 1.4338
	Y:	+0.0170	+0.00043	+12.5663 3.256754	+0.02354 1.1988	+0.000155 2.6959	+0.0282 3.0562
SEP. 17 A OCT. 2 (2446325.5)	X:	-0.2065	+0.00054	+31.4803 5.863933	+0.08147 3.7415	+0.000211 5.0863	+0.0705 3.5307
	Y:	+0.0242	+0.00030	+12.4287 1.206020	+0.02448 5.6419	+0.000143 0.7260	+0.0280 5.1586
OCT. 1 A OCT. 16 (2446339.5)	X:	-0.1979	+0.00037	+30.9314 0.920480	+0.08262 5.1785	+0.000275 0.4964	+0.0695 6.1485
	Y:	+0.0283	+0.00040	+12.3641 2.550508	+0.02591 0.8812	+0.000096 2.2369	+0.0280 1.4981
OCT. 17 A NOV. 1 (2446355.5)	X:	-0.1926	+0.00061	+30.4391 5.141434	+0.08206 3.2473	+0.000269 4.9292	+0.0687 1.9590
	Y:	+0.0342	+0.00033	+12.3542 0.494273	+0.02725 5.2657	+0.000085 0.3512	+0.0281 3.5976
NOV. 1 A NOV. 16 (2446370.5)	X:	-0.1854	+0.00051	+30.1304 4.777278	+0.08143 3.0045	+0.000293 4.9180	+0.0683 1.1727
	Y:	+0.0389	+0.00037	+12.4033 0.136072	+0.02817 5.0433	+0.000070 6.2655	+0.0283 2.8175
NOV. 17 A DEC. 2 (2446386.5)	X:	-0.1789	+0.00042	+29.9698 2.712816	+0.07918 1.0767	+0.000311 3.0431	+0.0682 3.2675
	Y:	+0.0451	+0.00027	+12.5159 4.361537	+0.02919 3.1118	+0.000063 4.6079	+0.0287 4.9198
DEC. 1 A DEC. 16 (2446400.5)	X:	-0.1719	+0.00023	+29.9719 4.048785	+0.07692 2.5556	+0.000280 4.6661	+0.0685 5.8890
	Y:	+0.0488	+0.00040	+12.6634 5.703265	+0.02922 4.5509	+0.000091 5.9008	+0.0291 1.2644
DEC. 17 A DEC. 32 (2446416.5)	X:	-0.1686	+0.00051	+30.1498 1.987284	+0.07381 0.6507	+0.000328 2.7625	+0.0692 1.7087
	Y:	+0.0546	+0.00036	+12.8829 3.648254	+0.02940 2.6218	+0.000096 4.1519	+0.0297 3.3728

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 3 DE SATURNE : THETYS

N=3.328

		AO	A1	B0 FO	B1 F1	B2 F2	CO PO
JAN. 1 A JAN.16 (2446066.5)	X:	+0.0000	+0.00000	+38.4152 0.941712	+0.06208 0.1418	+0.000516 1.7696	+0.0034 5.0005
	Y:	-0.0012	+0.00000	+15.0795 2.615048	+0.02891 2.1487	+0.000126 3.7565	+0.0013 0.3986
JAN.17 A FEV. 1 (2446082.5)	X:	+0.0000	+0.00000	+39.2010 3.908554	+0.06345 3.3887	+0.000562 4.9476	+0.0035 4.6534
	Y:	-0.0012	+0.00000	+15.5070 5.586063	+0.02910 5.2724	+0.000154 0.7658	+0.0014 0.0281
FEV. 1 A FEV.16 (2446097.5)	X:	+0.0000	+0.00000	+40.0923 3.554008	+0.06605 3.3014	+0.000597 4.8060	+0.0036 3.9425
	Y:	-0.0013	+0.00000	+15.9261 5.234296	+0.02860 5.0869	+0.000184 0.6722	+0.0015 5.6181
FEV.17 A MAR. 4 (2446113.5)	X:	+0.0000	+0.00000	+41.1625 0.250461	+0.07014 0.2784	+0.000634 1.7743	+0.0038 3.6297
	Y:	-0.0014	+0.00000	+16.3713 1.932375	+0.02751 1.9955	+0.000223 3.9475	+0.0015 5.3248
MAR. 1 A MAR.16 (2446125.5)	X:	+0.0000	+0.00000	+42.0080 2.490076	+0.07350 2.7234	+0.000654 4.2432	+0.0041 1.8370
	Y:	-0.0015	+0.00000	+16.6870 4.172249	+0.02623 4.4236	+0.000252 0.1065	+0.0016 3.5313
MAR.17 A AVR. 1 (2446141.5)	X:	+0.0000	+0.00000	+43.1224 5.482708	+0.07772 5.9817	+0.000691 1.3039	+0.0042 1.5435
	Y:	-0.0015	+0.00000	+17.0549 0.880709	+0.02433 1.4389	+0.000292 3.3827	+0.0017 3.1967
AVR. 1 A AVR.16 (2446156.5)	X:	+0.0000	+0.00000	+44.0713 5.152903	+0.08010 5.9003	+0.000725 1.3236	+0.0044 0.8811
	Y:	-0.0016	+0.00000	+17.3132 0.548646	+0.02275 1.4656	+0.000318 3.2990	+0.0018 2.5464
AVR.17 A MAI 2 (2446172.5)	X:	+0.0000	+0.00000	+44.8777 1.874232	+0.08049 2.8937	+0.000779 4.7192	+0.0045 0.6292
	Y:	-0.0016	+0.00000	+17.4619 3.549466	+0.02244 4.9120	+0.000330 0.2908	+0.0017 2.3019
MAI 1 A MAI 16 (2446186.5)	X:	+0.0000	+0.00000	+45.3330 4.506075	+0.07846 5.7799	+0.000818 1.3847	+0.0046 5.8725
	Y:	-0.0016	+0.00000	+17.4656 6.177188	+0.02365 1.6456	+0.000314 3.1615	+0.0018 1.2845
MAI 17 A JUN. 1 (2446202.5)	X:	+0.0000	+0.00000	+45.5072 1.231652	+0.07458 2.8239	+0.000854 4.7321	+0.0046 5.6157
	Y:	-0.0017	+0.00000	+17.3222 2.897398	+0.02625 5.0280	+0.000276 0.2232	+0.0017 0.9849
JUN. 1 A JUN.16 (2446217.5)	X:	+0.0000	+0.00000	+45.3162 0.909340	+0.07050 2.8317	+0.000845 4.6899	+0.0046 4.9684
	Y:	-0.0016	+0.00000	+17.0608 2.569827	+0.02834 4.9823	+0.000235 0.2774	+0.0017 0.3251
JUN.17 A JUL. 2 (2446233.5)	X:	+0.0000	+0.00000	+44.7652 3.912606	+0.06785 6.2104	+0.000804 1.6992	+0.0044 4.6894
	Y:	-0.0016	+0.00000	+16.6856 5.567736	+0.02925 1.9458	+0.000211 3.7755	+0.0016 0.0854

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 3 DE SATURNE: THETYS

N=3.328

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
JUL. 1 A JUL.16 (2446247.5)	X:	+0.0000	+0.00000	+44.0438 0.252377	+0.06734 2.8745	+0.000737 4.5499	+0.0043 3.6534
	Y:	-0.0015	+0.00000	+16.3143 1.903383	+0.02844 4.7614	+0.000209 0.4856	+0.0016 5.2854
JUL.17 A ADU. 1 (2446263.5)	X:	+0.0000	+0.00000	+43.0356 3.243313	+0.06888 6.2070	+0.000649 1.5303	+0.0040 3.3352
	Y:	-0.0014	+0.00000	+15.8862 4.890593	+0.02625 1.6960	+0.000218 3.8081	+0.0015 4.9819
ADU. 1 A ADU.16 (2446278.5)	X:	+0.0000	+0.00000	+41.9988 2.898753	+0.07096 6.1407	+0.000565 1.4255	+0.0038 2.6406
	Y:	-0.0013	+0.00000	+15.5162 4.543674	+0.02356 1.5918	+0.000219 3.6552	+0.0014 4.2784
ADU.17 A SEP. 1 (2446294.5)	X:	+0.0000	+0.00000	+40.8848 5.874983	+0.07317 3.0907	+0.000487 4.6752	+0.0036 2.3100
	Y:	-0.0013	+0.00000	+15.1819 1.235478	+0.02112 4.8725	+0.000211 0.5022	+0.0014 3.9513
SEP. 1 A SEP.16 (2446309.5)	X:	+0.0000	+0.00000	+39.8997 5.517332	+0.07444 2.9431	+0.000431 4.5639	+0.0035 1.5791
	Y:	-0.0012	+0.00000	+14.9396 0.877796	+0.01992 4.8325	+0.000197 0.2423	+0.0013 3.2354
SEP.17 A OCT. 2 (2446325.5)	X:	+0.0000	+0.00000	+38.9663 2.197952	+0.07493 6.1109	+0.000387 1.5280	+0.0033 1.2173
	Y:	-0.0012	+0.00000	+14.7634 3.842619	+0.02013 1.8490	+0.000176 3.3097	+0.0013 2.8682
OCT. 1 A OCT.16 (2446339.5)	X:	+0.0000	+0.00000	+38.2818 4.787327	+0.07446 2.5831	+0.000368 4.3385	+0.0032 0.1197
	Y:	-0.0011	+0.00000	+14.6800 0.150435	+0.02128 4.6927	+0.000159 5.9868	+0.0012 1.7587
OCT.17 A NOV. 1 (2446355.5)	X:	+0.0000	+0.00000	+37.6749 1.460099	+0.07316 5.7250	+0.000360 1.2623	+0.0031 6.0226
	Y:	-0.0011	+0.00000	+14.6633 3.108878	+0.02319 1.6054	+0.000139 2.8039	+0.0012 1.3868
NOV. 1 A NOV.16 (2446370.5)	X:	+0.0000	+0.00000	+37.2931 1.087666	+0.07134 5.5265	+0.000369 1.0905	+0.0031 5.2729
	Y:	-0.0011	+0.00000	+14.7209 2.739185	+0.02504 1.4155	+0.000127 2.5967	+0.0012 0.6468
NOV.17 A DEC. 2 (2446386.5)	X:	+0.0000	+0.00000	+37.0954 4.040577	+0.06902 2.3917	+0.000385 4.2552	+0.0030 4.8936
	Y:	-0.0011	+0.00000	+14.8563 5.695246	+0.02684 4.5391	+0.000118 5.7901	+0.0012 0.2571
DEC. 1 A DEC.16 (2446400.5)	X:	+0.0000	+0.00000	+37.1059 0.341568	+0.06688 5.1560	+0.000413 0.7107	+0.0031 3.7842
	Y:	-0.0011	+0.00000	+15.0347 1.999035	+0.02812 0.9770	+0.000121 2.3214	+0.0012 5.4459
DEC.17 A DEC.32 (2446416.5)	X:	+0.0000	+0.00000	+37.3276 3.296600	+0.06465 2.0548	+0.000445 3.8484	+0.0031 3.3943
	Y:	-0.0011	+0.00000	+15.3033 4.957131	+0.02922 4.0892	+0.000130 5.5575	+0.0013 5.0710

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 4 DE SATURNE : DIONE

N=2.296

	A0	A1	B0 F0	B1 F1	B2 F2	C0 P0
JAN. 1 A JAN.16 (2446066.5)	X: -0.0424	-0.00005	+49.2241 3.009494	+0.10493 1.9951	+0.000582 3.8003	+0.0511 5.7047
	Y: -0.0637	-0.00012	+19.5125 4.640056	+0.04657 3.9955	+0.000128 5.7503	+0.0204 1.0528
JAN.17 A FEV. 1 (2446082.5)	X: -0.0432	-0.00010	+50.2321 2.020111	+0.10223 1.2118	+0.000642 3.0420	+0.0521 3.7277
	Y: -0.0657	-0.00012	+20.1267 3.656156	+0.04599 3.1212	+0.000164 5.1573	+0.0210 5.3679
FEV. 1 A FEV.16 (2446097.5)	X: -0.0450	-0.00016	+51.3756 5.025014	+0.09919 4.4245	+0.000700 6.2669	+0.0533 3.4544
	Y: -0.0675	-0.00010	+20.7247 0.381859	+0.04409 6.2451	+0.000215 2.1565	+0.0215 5.0927
FEV.17 A MAR. 4 (2446113.5)	X: -0.0479	-0.00027	+52.7470 4.048116	+0.09580 3.6898	+0.000762 5.5642	+0.0545 1.4881
	Y: -0.0694	-0.00007	+21.3586 5.690994	+0.04048 5.4214	+0.000272 1.4649	+0.0221 3.1348
MAR. 1 A MAR.16 (2446125.5)	X: -0.0511	-0.00034	+53.8296 0.178731	+0.09274 0.0167	+0.000792 1.9246	+0.0555 0.0214
	Y: -0.0705	-0.00007	+21.8085 1.822715	+0.03663 1.6897	+0.000317 4.0790	+0.0225 1.6641
MAR.17 A AVR. 1 (2446141.5)	X: -0.0569	-0.00040	+55.2569 5.498076	+0.08790 5.6168	+0.000853 1.3026	+0.0570 4.3500
	Y: -0.0716	-0.00003	+22.3374 0.858928	+0.03007 0.9626	+0.000378 3.3601	+0.0229 5.9973
AVR. 1 A AVR.16 (2446156.5)	X: -0.0632	-0.00049	+56.4711 2.244655	+0.08180 2.6540	+0.000893 4.6661	+0.0578 4.0975
	Y: -0.0722	+0.00002	+22.7177 3.887267	+0.02313 4.3310	+0.000414 0.3358	+0.0232 5.7358
AVR.17 A MAI 2 (2446172.5)	X: -0.0710	-0.00053	+57.5021 1.293185	+0.07432 2.0534	+0.000962 4.0985	+0.0588 2.1490
	Y: -0.0719	+0.00008	+22.9552 2.932882	+0.01758 3.9854	+0.000428 5.9054	+0.0234 3.7911
MAI 1 A MAI 16 (2446186.5)	X: -0.0786	-0.00050	+58.0833 2.034646	+0.06714 3.1542	+0.001000 5.1472	+0.0592 3.5948
	Y: -0.0709	+0.00013	+22.9958 3.670849	+0.01779 5.4133	+0.000403 0.5819	+0.0233 5.2248
MAI 17 A JUN. 1 (2446202.5)	X: -0.0866	-0.00046	+58.3041 1.088193	+0.06139 2.6946	+0.001034 4.5423	+0.0594 1.6479
	Y: -0.0690	+0.00017	+22.8464 2.719744	+0.02326 5.0407	+0.000342 6.2218	+0.0232 3.2816
JUN. 1 A JUN.16 (2446217.5)	X: -0.0934	-0.00035	+58.0573 4.126855	+0.06098 6.2356	+0.001014 1.5853	+0.0591 1.3985
	Y: -0.0664	+0.00017	+22.5383 5.753919	+0.02891 2.1205	+0.000276 3.3621	+0.0228 3.0191
JUN.17 A JUL. 2 (2446233.5)	X: -0.0993	-0.00022	+57.3490 3.175768	+0.06736 5.7803	+0.000961 0.9346	+0.0583 5.7281
	Y: -0.0635	+0.00017	+22.0804 4.798496	+0.03284 1.4166	+0.000238 2.9453	+0.0225 1.0683

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 4 DE SATURNE : DIONE

N=2.296

		AO	A1	BO FO	B1 F1	B2 F2	CO PO
JUL. 1 A JUL.16 (2446247.5)	X:	-0.1026	-0.00015	+56.4235 3.909766	+0.07624 0.5841	+0.000880 1.9017	+0.0576 0.8789
	Y:	-0.0609	+0.00017	+21.6211 5.529551	+0.03396 2.3432	+0.000237 4.1127	+0.0220 2.4935
JUL.17 A AOU. 1 (2446263.5)	X:	-0.1052	-0.00003	+55.1302 2.946996	+0.08764 6.2226	+0.000777 1.2155	+0.0564 5.1972
	Y:	-0.0581	+0.00015	+21.0880 4.564742	+0.03323 1.6060	+0.000255 3.4936	+0.0216 0.5342
AOU. 1 A AOU.16 (2446278.5)	X:	-0.1061	+0.00003	+53.8017 5.964611	+0.09712 3.1959	+0.000668 4.4702	+0.0553 4.9248
	Y:	-0.0559	+0.00013	+20.6261 1.298796	+0.03170 4.8628	+0.000262 0.4351	+0.0212 0.2589
AOU.17 A SEP. 1 (2446294.5)	X:	-0.1055	+0.00007	+52.3740 4.987435	+0.10545 2.4302	+0.000581 3.7822	+0.0539 2.9495
	Y:	-0.0539	+0.00010	+20.2089 0.322869	+0.03042 4.1692	+0.000259 5.8754	+0.0210 4.5695
SEP. 1 A SEP.16 (2446309.5)	X:	-0.1044	+0.00012	+51.1109 1.708863	+0.11059 5.6091	+0.000509 0.7053	+0.0529 2.6652
	Y:	-0.0525	+0.00007	+19.9072 3.330133	+0.03038 1.1676	+0.000243 2.6672	+0.0207 4.2878
SEP.17 A OCT. 2 (2446325.5)	X:	-0.1025	+0.00012	+49.9148 0.719178	+0.11468 4.7882	+0.000451 0.0096	+0.0518 0.6798
	Y:	-0.0514	+0.00003	+19.6900 2.344594	+0.03187 0.4536	+0.000216 1.7568	+0.0206 2.3068
OCT. 1 A OCT.16 (2446339.5)	X:	-0.1006	+0.00013	+49.0371 1.419881	+0.11629 5.6262	+0.000423 0.8952	+0.0511 2.0815
	Y:	-0.0510	+0.00001	+19.5896 3.049850	+0.03402 1.3571	+0.000196 2.5219	+0.0206 3.7146
OCT.17 A NOV. 1 (2446355.5)	X:	-0.0985	+0.00012	+48.2585 0.421931	+0.11728 4.7810	+0.000406 0.1793	+0.0504 0.0907
	Y:	-0.0508	-0.00001	+19.5749 2.057850	+0.03698 0.5529	+0.000168 1.6334	+0.0206 1.7291
NOV. 1 A NOV.16 (2446370.5)	X:	-0.0965	+0.00010	+47.7682 3.410976	+0.11660 1.6253	+0.000418 3.3272	+0.0501 6.0783
	Y:	-0.0510	-0.00003	+19.6541 5.052958	+0.03963 3.6895	+0.000156 4.7634	+0.0208 1.4384
NOV.17 A DEC. 2 (2446386.5)	X:	-0.0949	+0.00009	+47.5121 2.409307	+0.11539 0.7776	+0.000425 2.5532	+0.0500 4.0849
	Y:	-0.0516	-0.00005	+19.8326 4.057979	+0.04215 2.8299	+0.000135 3.9660	+0.0210 5.7380
DEC. 1 A DEC.16 (2446400.5)	X:	-0.0936	+0.00004	+47.5233 3.103696	+0.11354 1.6073	+0.000459 3.3996	+0.0500 5.4852
	Y:	-0.0524	-0.00006	+20.0649 4.758224	+0.04389 3.6360	+0.000134 4.9265	+0.0213 0.8589
DEC.17 A DEC.32 (2446416.5)	X:	-0.0930	+0.00001	+47.8033 2.103402	+0.11105 0.7743	+0.000489 2.6127	+0.0505 3.4967
	Y:	-0.0535	-0.00007	+20.4127 3.764397	+0.04518 2.7646	+0.000136 4.2424	+0.0216 5.1609

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 5 DE SATURNE:

RHEA

N=1.391

		AO	A1	BO FO	B1 F1	B2 F2	CO PO
JAN. 1 A JAN.16 (2446066.5)	X:	-0.1242	-0.00019	+68.7504 0.750334	+0.14259 6.0384	+0.000805 1.5292	+0.0445 5.8364
	Y:	+0.0041	-0.00004	+27.0364 2.369157	+0.06408 1.7559	+0.000170 3.4755	+0.0176 1.1752
JAN.17 A FEV. 1 (2446082.5)	X:	-0.1272	-0.00019	+70.1603 4.131575	+0.13979 3.3448	+0.000883 5.1432	+0.0452 0.0523
	Y:	+0.0032	-0.00003	+27.8994 5.755849	+0.06353 5.2474	+0.000223 0.9794	+0.0180 1.6782
FEV. 1 A FEV.16 (2446097.5)	X:	-0.1302	-0.00023	+71.7580 6.128688	+0.13645 5.5512	+0.000976 1.0770	+0.0464 4.0609
	Y:	+0.0027	-0.00003	+28.7377 1.473727	+0.06105 1.0784	+0.000297 3.2576	+0.0186 5.6912
FEV.17 A MAR. 4 (2446113.5)	X:	-0.1339	-0.00021	+73.6739 3.238972	+0.13269 2.9085	+0.001061 4.7640	+0.0476 4.5673
	Y:	+0.0021	+0.00000	+29.6239 4.869986	+0.05621 4.6258	+0.000384 0.6556	+0.0191 6.1994
MAR. 1 A MAR.16 (2446125.5)	X:	-0.1364	-0.00022	+75.1869 1.076578	+0.12903 0.9429	+0.001142 2.8208	+0.0487 0.2478
	Y:	+0.0019	+0.00001	+30.2519 2.708639	+0.05068 2.6041	+0.000450 4.9557	+0.0196 1.8798
MAR.17 A AVR. 1 (2446141.5)	X:	-0.1403	-0.00019	+77.1806 4.483180	+0.12325 4.6387	+0.001226 0.2661	+0.0499 0.7687
	Y:	+0.0021	+0.00002	+30.9882 6.115225	+0.04200 6.2612	+0.000535 2.3226	+0.0200 2.4003
AVR. 1 A AVR.16 (2446156.5)	X:	-0.1428	-0.00016	+78.8753 0.222135	+0.11677 0.6752	+0.001302 2.6168	+0.0511 4.8079
	Y:	+0.0023	+0.00005	+31.5155 1.852692	+0.03294 2.3561	+0.000588 4.5493	+0.0204 0.1530
AVR.17 A MAI 2 (2446172.5)	X:	-0.1456	-0.00007	+80.3152 3.641547	+0.10896 4.4512	+0.001376 0.1176	+0.0525 5.3418
	Y:	+0.0031	+0.00005	+31.8423 5.269113	+0.02676 0.1000	+0.000601 1.9239	+0.0207 0.6858
MAI 1 A MAI 16 (2446186.5)	X:	-0.1465	-0.00002	+81.1266 4.280828	+0.10195 5.4410	+0.001406 1.0581	+0.0531 0.3192
	Y:	+0.0038	+0.00006	+31.8943 5.904834	+0.02810 1.3544	+0.000562 2.7707	+0.0208 1.9427
MAI 17 A JUN. 1 (2446202.5)	X:	-0.1470	+0.00011	+81.4335 1.422747	+0.09724 3.0267	+0.001435 4.8426	+0.0531 0.8714
	Y:	+0.0048	+0.00005	+31.6819 3.042035	+0.03572 5.2904	+0.000468 0.2204	+0.0205 2.4865
JUN. 1 A JUN.16 (2446217.5)	X:	-0.1454	+0.00012	+81.0877 3.455053	+0.09661 5.4958	+0.001395 0.8776	+0.0532 4.9164
	Y:	+0.0057	+0.00005	+31.2492 5.069762	+0.04284 1.3381	+0.000373 2.6435	+0.0204 0.2471
JUN.17 A JUL. 2 (2446233.5)	X:	-0.1435	+0.00023	+80.0980 0.593097	+0.10255 3.0745	+0.001320 4.6185	+0.0522 5.4539
	Y:	+0.0064	+0.00003	+30.6105 2.203419	+0.04734 4.9923	+0.000320 0.3503	+0.0199 0.7784

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 5 DE SATURNE :

RHEA

N=1.391

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
JUL. 1 A JUL.16 (2446247.5)	X:	-0.1406	+0.00023	+78.8042 1.226164	+0.11061 4.0429	+0.001221 5.5027	+0.0513 0.4270
	Y:	+0.0070	+0.00001	+29.9722 2.833494	+0.04777 5.8068	+0.000323 1.4336	+0.0195 2.0329
JUL.17 A AOU. 1 (2446263.5)	X:	-0.1367	+0.00023	+76.9972 4.636265	+0.12121 1.4939	+0.001089 2.9051	+0.0501 0.9603
	Y:	+0.0072	+0.00001	+29.2338 6.241532	+0.04524 3.1490	+0.000355 5.1957	+0.0191 2.5646
AOU. 1 A AOU.16 (2446276.5)	X:	-0.1336	+0.00023	+75.1420 0.365320	+0.13058 3.7593	+0.000970 5.1732	+0.0487 4.9805
	Y:	+0.0074	-0.00001	+28.5967 1.970205	+0.04142 5.3960	+0.000375 1.1064	+0.0186 0.3033
AOU.17 A SEP. 1 (2446294.5)	X:	-0.1298	+0.00019	+73.1477 3.761265	+0.13872 1.1068	+0.000845 2.5473	+0.0471 5.4987
	Y:	+0.0072	-0.00001	+28.0242 5.367424	+0.03798 2.8132	+0.000370 4.6343	+0.0181 0.8217
SEP. 1 A SEP.16 (2446309.5)	X:	-0.1271	+0.00018	+71.3855 5.760570	+0.14427 3.2978	+0.000766 4.7667	+0.0458 3.2244
	Y:	+0.0068	-0.00003	+27.6145 1.086227	+0.03681 5.1259	+0.000355 0.4167	+0.0178 4.8352
SEP.17 A OCT. 2 (2446325.5)	X:	-0.1243	+0.00013	+69.7152 2.860700	+0.14862 0.5872	+0.000683 2.1277	+0.0444 3.7249
	Y:	+0.0062	-0.00004	+27.3236 4.473758	+0.03846 2.5514	+0.000319 3.8759	+0.0175 5.3396
OCT. 1 A OCT.16 (2446339.5)	X:	-0.1224	+0.00010	+68.4901 3.460651	+0.15070 1.3402	+0.000640 2.9063	+0.0434 4.9449
	Y:	+0.0056	-0.00005	+27.1951 5.078315	+0.04162 3.3876	+0.000290 4.5247	+0.0174 0.2814
OCT.17 A NOV. 1 (2446355.5)	X:	-0.1209	+0.00005	+67.4046 0.552127	+0.15213 4.8822	+0.000620 0.2258	+0.0426 5.4358
	Y:	+0.0047	-0.00006	+27.1878 2.175824	+0.04634 0.6942	+0.000255 1.7176	+0.0173 0.7806
NOV. 1 A NOV.16 (2446370.5)	X:	-0.1200	+0.00003	+66.7200 2.535175	+0.15242 0.7361	+0.000604 2.4094	+0.0418 3.1458
	Y:	+0.0037	-0.00006	+27.3104 4.164990	+0.05083 2.8384	+0.000224 3.8163	+0.0173 4.7782
NOV.17 A DEC. 2 (2446386.5)	X:	-0.1196	+0.00000	+66.3654 5.905523	+0.15168 4.2694	+0.000617 5.9742	+0.0414 3.6345
	Y:	+0.0026	-0.00007	+27.5727 1.258921	+0.05516 0.0693	+0.000199 1.1021	+0.0173 5.2742
DEC. 1 A DEC.16 (2446400.5)	X:	-0.1198	-0.00004	+66.3814 0.214984	+0.15052 5.0064	+0.000651 0.4573	+0.0413 4.8453
	Y:	+0.0016	-0.00007	+27.9079 1.857472	+0.05830 0.7743	+0.000190 1.9485	+0.0175 0.2085
DEC.17 A DEC.32 (2446416.5)	X:	-0.1205	-0.00008	+66.7744 3.586071	+0.14843 2.2684	+0.000679 4.0410	+0.0412 5.3343
	Y:	+0.0002	-0.00007	+28.4051 5.235067	+0.06089 4.2731	+0.000187 5.6521	+0.0176 0.7032

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 6 DE SATURNE : TITAN

N=0.394

		AO	A1	BO FO	B1 F1	CO FO
JAN. 1 A JAN. 11 (2446066.5)	X:	- 0.8919	- 1.07310	+154.8770 0.941635	+ 0.71233 2.2119	+2.3418 0.4891
	Y:	+ 0.3160	- 0.04885	+ 62.0999 2.608173	+ 0.16715 2.7236	+0.9274 2.0355
JAN. 12 A JAN. 22 (2446077.5)	X:	- 1.1779	- 1.09918	+167.8280 5.281298	+ 0.86244 2.9388	+2.7786 2.5388
	Y:	- 0.6497	+ 0.11930	+ 64.7494 0.661751	+ 0.20472 5.6644	+1.0512 4.2432
JAN. 23 A FEV. 2 (2446088.5)	X:	- 2.3109	- 0.98155	+162.3530 3.361411	+ 1.17717 2.7617	+1.9757 4.8926
	Y:	- 1.8351	+ 0.33697	+ 62.9580 4.980639	+ 0.41741 5.1553	+0.8682 0.1979
FEV. 1 A FEV. 11 (2446097.5)	X:	- 4.7495	- 0.31459	+164.1003 0.569735	+ 0.46309 1.0430	+2.5063 5.9396
	Y:	+ 2.5502	- 0.43529	+ 63.9161 2.241861	+ 0.48465 2.4573	+1.0865 1.3336
FEV. 12 A FEV. 22 (2446108.5)	X:	- 2.5309	- 0.77430	+174.4466 4.902097	+ 0.51160 2.6255	+2.8447 1.8218
	Y:	+ 1.9507	- 0.34833	+ 68.2923 0.244563	+ 0.20584 2.5334	+1.0867 3.4052
FEV. 23 A MAR. 5 (2446119.5)	X:	- 0.6099	- 1.20991	+169.4669 2.993172	+ 1.32583 2.5440	+2.0709 4.1452
	Y:	+ 0.6300	- 0.13451	+ 69.4631 4.615656	+ 0.23507 3.8374	+0.8651 5.9037
MAR. 1 A MAR. 11 (2446125.5)	X:	- 1.5953	- 1.15017	+180.8219 5.305834	+ 0.74374 2.8241	+3.0209 2.6340
	Y:	- 1.2222	+ 0.21418	+ 71.0190 0.700658	+ 0.21103 5.6937	+1.1743 4.3619
MAR. 12 A MAR. 22 (2446136.5)	X:	- 3.7903	- 0.86096	+175.6834 3.391996	+ 1.01617 3.0744	+2.2110 5.0094
	Y:	- 2.3477	+ 0.43622	+ 68.2543 5.024704	+ 0.48133 5.4578	+0.9490 0.2999
MAR. 23 A AVR. 2 (2446147.5)	X:	- 6.3490	- 0.41161	+179.2384 1.408643	+ 0.57370 2.7000	+2.5675 1.3666
	Y:	- 2.5441	+ 0.49012	+ 73.0539 3.032239	+ 0.39310 5.4114	+0.9535 3.0911
AVR. 1 A AVR. 11 (2446156.5)	X:	- 1.6822	- 1.03645	+189.4956 4.967463	+ 0.64530 2.2580	+3.1528 1.9621
	Y:	+ 1.5880	- 0.28649	+ 73.2808 0.318472	+ 0.26507 2.6411	+1.1659 3.5708
AVR. 12 A AVR. 22 (2446167.5)	X:	- 0.8652	- 1.30284	+182.2861 3.073896	+ 1.19890 2.7529	+2.2117 4.3040
	Y:	+ 0.1073	- 0.02423	+ 73.1243 4.690432	+ 0.11612 4.5615	+0.9373 6.0369
AVR. 23 A MAI 3 (2446178.5)	X:	- 0.9237	- 1.33536	+181.3825 1.063908	+ 1.40635 2.5292	+2.8172 0.7717
	Y:	- 0.9283	+ 0.16084	+ 73.9160 2.724230	+ 0.25432 4.7602	+1.0404 2.3481

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 6 DE SATURNE: TITAN

N=0.394

		AO	A1	BO FO	B1 F1	CO FO
MAI 1 A MAI 11 (2446186.5)	X:	-15.0759	+ 1.32016	+182.5666 4.226219	+ 1.41170 5.7528	+2.7964 0.3778
	Y:	+ 1.8748	- 0.20629	+ 74.1416 5.881497	+ 0.29612 1.8304	+1.1308 2.1098
MAI 12 A MAI 22 (2446197.5)	X:	-12.9097	+ 0.95480	+193.9673 2.315185	+ 0.78102 5.5913	+2.3248 3.1065
	Y:	+ 2.5756	- 0.35059	+ 75.0762 3.989540	+ 0.24989 2.0304	+0.8650 4.6499
MAI 23 A JUN. 2 (2446208.5)	X:	- 9.8477	+ 0.48254	+187.0195 0.402778	+ 0.42009 0.5620	+3.0826 5.4769
	Y:	+ 3.3061	- 0.50712	+ 69.7262 2.038981	+ 0.42209 2.7079	+1.1969 0.9218
JUN. 1 A JUN.11 (2446217.5)	X:	-14.4121	+ 1.06146	+183.6430 3.917400	+ 1.16269 5.6128	+2.7692 6.0312
	Y:	- 0.8061	+ 0.28405	+ 70.6526 5.589769	+ 0.23717 0.2318	+0.9655 1.4195
JUN.12 A JUN.22 (2446228.5)	X:	-15.4030	+ 1.28078	+194.3206 2.001320	+ 1.22667 5.3738	+2.2150 2.4709
	Y:	+ 0.1294	+ 0.12761	+ 71.7961 3.635576	+ 0.27812 0.1333	+0.9359 4.0792
JUN.23 A JUL. 3 (2446239.5)	X:	-14.7436	+ 1.28437	+182.5082 0.114206	+ 0.83903 5.7268	+3.2186 4.8169
	Y:	+ 1.5114	- 0.12612	+ 69.0319 1.711031	+ 0.07121 2.4269	+1.1217 0.1656
JUL. 1 A JUL.11 (2446247.5)	X:	- 1.4634	- 1.17488	+181.0400 3.270491	+ 0.75945 2.4998	+2.1306 4.6375
	Y:	- 0.4398	+ 0.11747	+ 68.2967 4.868066	+ 0.04722 5.5712	+0.8947 0.0030
JUL.12 A JUL.22 (2446258.5)	X:	- 2.6158	- 1.03150	+175.2997 1.264322	+ 0.99919 3.0601	+2.6788 1.0592
	Y:	- 1.5759	+ 0.33299	+ 68.8220 2.884931	+ 0.39677 5.5250	+0.9179 2.6721
JUL.23 A AOU. 2 (2446269.5)	X:	- 5.3402	- 0.53383	+179.7705 5.622666	+ 0.80244 2.8716	+2.8910 3.1994
	Y:	- 2.0413	+ 0.43696	+ 68.9500 0.998993	+ 0.40796 5.3387	+1.1637 4.8758
AOU. 1 A AOU.11 (2446278.5)	X:	- 2.5649	- 0.75601	+172.5757 2.917958	+ 0.55391 1.7853	+2.1004 3.9669
	Y:	+ 2.1841	- 0.34525	+ 67.6900 4.534591	+ 0.34932 2.5418	+0.7710 5.7012
AOU.12 A AOU.22 (2446289.5)	X:	- 0.7930	- 1.13379	+166.1306 0.902349	+ 0.92943 2.7551	+2.5135 0.3740
	Y:	+ 0.9786	- 0.14481	+ 64.2793 2.563814	+ 0.08760 3.5109	+0.9916 1.9146
AOU.23 A SEP. 2 (2446300.5)	X:	- 0.9318	- 1.14006	+174.5787 5.252662	+ 1.29936 2.5795	+2.8510 2.4358
	Y:	- 0.1261	+ 0.04650	+ 65.0658 0.613842	+ 0.19062 4.4600	+1.0271 4.1071

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 6 DE SATURNE: TITAN

N=0.394

		AO	A1	B0 FO	B1 F1	C0 FO
SEP. 1 A SEP. 11 (2446309.5)	X:	- 8.7451	+ 0.45317	+168.0162 2.517061	+ 0.78955 0.0125	+2.0370 3.3965
	Y:	+ 3.0320	- 0.45287	+ 65.8729 4.179730	+ 0.45733 2.3631	+0.7082 4.9713
SEP. 12 A SEP. 22 (2446320.5)	X:	- 5.5393	- 0.12434	+160.8860 0.550444	+ 0.03284 3.6801	+2.4631 5.8208
	Y:	+ 2.7316	- 0.43223	+ 60.7915 2.202903	+ 0.31903 2.4369	+1.0301 1.2188
SEP. 23 A OCT. 3 (2446331.5)	X:	- 3.3562	- 0.52450	+163.9898 4.870902	+ 0.79224 2.3108	+2.5635 1.7040
	Y:	+ 2.2019	- 0.36618	+ 63.3960 0.195771	+ 0.29528 2.9750	+0.9898 3.2563
OCT. 1 A OCT. 11 (2446339.5)	X:	-10.9073	+ 0.61854	+163.0477 1.727343	+ 0.86706 5.4745	+1.9662 1.9083
	Y:	- 1.4711	+ 0.36585	+ 63.3111 3.337849	+ 0.29457 6.1546	+0.8324 3.6310
OCT. 12 A OCT. 22 (2446350.5)	X:	-11.9711	+ 0.86900	+154.7912 6.081287	+ 0.85942 5.1211	+2.6102 4.2464
	Y:	- 0.7263	+ 0.22943	+ 63.6689 1.422353	+ 0.31153 6.1157	+1.0400 5.8063
OCT. 23 A NOV. 2 (2446361.5)	X:	-12.4926	+ 1.01838	+151.2183 4.045447	+ 0.57631 5.7484	+2.2591 0.0213
	Y:	+ 0.1550	+ 0.06855	+ 62.2383 5.720827	+ 0.08968 5.7102	+0.8805 1.7452
NOV. 1 A NOV. 11 (2446370.5)	X:	- 4.2256	- 0.56500	+152.5541 1.305779	+ 0.25336 3.3752	+2.1988 1.1982
	Y:	- 2.0543	+ 0.39015	+ 63.9257 2.936420	+ 0.27458 5.8308	+0.8204 2.8780
NOV. 12 A NOV. 22 (2446381.5)	X:	- 6.3450	- 0.18652	+155.1762 5.638597	+ 0.59464 3.7677	+2.4715 3.3694
	Y:	- 2.2253	+ 0.42628	+ 65.2117 1.036403	+ 0.47914 5.7575	+1.1044 5.0398
NOV. 23 A DEC. 3 (2446392.5)	X:	- 8.4526	+ 0.19488	+151.7916 3.653510	+ 0.18794 3.3303	+2.1147 5.6122
	Y:	- 2.2007	+ 0.43403	+ 61.2648 5.333115	+ 0.40813 5.4541	+0.8229 0.9108
DEC. 1 A DEC. 11 (2446400.5)	X:	- 4.5109	- 0.26863	+152.0186 0.502718	+ 0.14528 0.4829	+2.2783 5.8854
	Y:	+ 2.2488	- 0.41291	+ 61.9202 2.186909	+ 0.38394 2.3080	+1.0349 1.2954
DEC. 12 A DEC. 22 (2446411.5)	X:	- 2.6986	- 0.62259	+158.5763 4.823444	+ 0.71473 2.6412	+2.5224 1.7532
	Y:	+ 1.6947	- 0.34154	+ 65.5857 0.180175	+ 0.18489 3.0359	+1.0278 3.3454
DEC. 23 A DEC. 33 (2446422.5)	X:	- 0.6910	- 1.01778	+152.3595 2.893694	+ 1.15979 2.2063	+1.8446 4.0490
	Y:	+ 0.6862	- 0.18999	+ 66.4216 4.540209	+ 0.32260 3.3661	+0.8032 5.8311

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 7 DE SATURNE: HYPERION

N=0.394

		AO	A1	BO FO	B1 F1	CO FO
JAN. 1 A JAN. 8 (2446066.5)	X:	-11.3636	+ 3.46941	+165.5773 6.141728	+ 8.28388 4.4028	+4.1253 4.5044
	Y:	+16.0400	- 4.58909	+ 57.3385 1.355090	+ 1.96999 5.7295	+1.3441 6.0934
JAN. 9 A JAN.16 (2446074.5)	X:	-37.3345	- 2.57809	+181.1172 2.294158	+14.86424 0.1908	+1.5068 5.4392
	Y:	-24.1244	+ 2.70364	+ 70.1744 3.841122	+ 5.58318 1.6795	+0.7122 0.6314
JAN.17 A JAN.24 (2446082.5)	X:	-95.2581	+11.58768	+131.2870 4.365887	+ 5.85771 2.9867	+3.1662 0.4616
	Y:	- 2.7048	+ 2.36425	+ 57.6711 0.021932	+ 4.19063 4.9359	+0.8904 2.1040
JAN.25 A FEV. 1 (2446090.5)	X:	+17.8195	- 4.19345	+179.1616 0.578917	+ 9.43433 4.8353	+3.5030 0.0751
	Y:	+ 2.5474	- 4.20748	+ 60.3653 2.326784	+ 2.43617 0.5407	+1.5022 1.9321
FEV. 1 A FEV. 8 (2446097.5)	X:	-45.9945	- 0.92633	+182.5452 2.805504	+16.50606 0.8263	+1.8461 0.6101
	Y:	-15.9647	+ 1.28800	+ 71.0664 4.467405	+ 6.34199 2.4983	+0.7098 2.3844
FEV. 9 A FEV.16 (2446105.5)	X:	-74.3750	+11.48921	+141.6768 4.951100	+ 6.19072 3.5748	+3.4338 1.8773
	Y:	+11.9719	- 1.16707	+ 69.0185 0.336042	+ 3.78234 4.9537	+1.5984 3.6691
FEV.17 A FEV.24 (2446113.5)	X:	+38.9528	-13.10175	+171.0755 0.937420	+ 9.02887 4.8227	+2.6547 1.9102
	Y:	-13.3989	- 1.91862	+ 71.9249 2.843370	+ 3.79468 0.8119	+1.1035 3.1986
FEV.25 A MAR. 4 (2446121.5)	X:	-39.4388	- 4.74330	+168.6956 3.712716	+16.53000 2.0597	+1.9890 3.1307
	Y:	-17.9858	+ 2.58174	+ 62.9102 5.284531	+ 5.64986 3.6324	+0.6412 4.9920
MAR. 1 A MAR. 8 (2446125.5)	X:	-97.1795	+13.17397	+140.6228 4.476690	+ 5.37729 3.1108	+3.5971 0.8481
	Y:	+ 2.4108	+ 1.20094	+ 66.9477 0.067723	+ 4.23398 4.8724	+1.2023 2.7356
MAR. 9 A MAR.16 (2446133.5)	X:	+27.5362	- 7.08454	+190.6159 0.667047	+ 9.86495 4.8169	+3.1480 0.5662
	Y:	- 0.2526	- 4.37975	+ 65.4840 2.488895	+ 2.64969 0.6925	+1.5781 2.3633
MAR.17 A MAR.24 (2446141.5)	X:	-38.4905	- 3.86129	+179.2315 3.318387	+16.85072 1.5405	+1.8326 2.1481
	Y:	-15.3002	+ 1.19452	+ 73.2953 4.937153	+ 6.80758 3.1177	+0.7393 3.6884
MAR.25 A AVR. 1 (2446149.5)	X:	-54.3363	+10.54929	+162.4392 5.499173	+ 7.42085 4.0829	+3.9018 3.2056
	Y:	+14.4327	- 2.52754	+ 73.6781 0.779240	+ 3.56299 5.3220	+1.8132 4.8062

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 7 DE SATURNE: HYPERION

N=0.394

		AO	A1	BO FO	B1 F1	CO FO
AVR. 1 A AVR. 8 (2446156.5)	X:	+36.4269	-14.67254	+177.8295 1.127909	+ 9.52377 4.9881	+2.9375 2.4663
	Y:	-22.6094	- 0.01102	+ 82.6889 2.967028	+ 5.02965 0.8050	+0.7777 3.8726
AVR. 9 A AVR.16 (2446164.5)	X:	-46.1667	- 4.32018	+179.5370 3.876359	+17.02153 2.2868	+1.8615 3.7083
	Y:	-21.9996	+ 3.87997	+ 60.6426 5.479251	+ 5.18432 3.9794	+0.7976 5.8064
AVR.17 A AVR.24 (2446172.5)	X:	-15.6520	+ 4.61832	+193.3068 6.066532	+ 9.42344 4.3378	+4.7408 4.4758
	Y:	+16.6596	- 4.84550	+ 69.3794 1.292045	+ 2.48828 5.6346	+1.5744 6.0693
AVR.25 A MAI 2 (2446180.5)	X:	-38.9389	- 2.50239	+213.3581 2.243657	+17.27083 0.1540	+1.6684 5.4617
	Y:	-26.8379	+ 2.74061	+ 82.1195 3.812677	+ 6.45080 1.6635	+0.7639 0.6448
MAI 1 A MAI 8 (2446186.5)	X:	-65.1197	- 0.28914	+179.2570 4.039410	+15.00857 2.5104	+1.5073 4.8607
	Y:	-23.0266	+ 5.09529	+ 56.1455 5.782885	+ 4.77465 4.4776	+1.0217 0.2515
MAI 9 A MAI 16 (2446194.5)	X:	+ 1.3884	+ 0.91759	+205.7217 0.027640	+10.37726 4.4283	+4.7285 5.0225
	Y:	+11.8053	- 4.61441	+ 69.2136 1.623157	+ 2.60389 6.0050	+1.5981 0.4842
MAI 17 A MAI 24 (2446202.5)	X:	-47.4233	- 0.72473	+215.6465 2.529672	+18.53477 0.4867	+1.9873 6.2370
	Y:	-20.7052	+ 1.75523	+ 79.6726 4.161129	+ 6.60534 2.1135	+0.6736 1.5697
MAI 25 A JUN. 1 (2446210.5)	X:	-96.0042	+13.69101	+153.7928 4.660379	+ 5.78832 3.2782	+3.7703 1.2455
	Y:	+ 6.1212	+ 0.31204	+ 72.4172 0.155881	+ 4.18774 4.8505	+1.4410 3.1530
JUN. 1 A JUN. 8 (2446217.5)	X:	+19.8659	- 4.43629	+204.8785 0.571017	+10.53034 4.8080	+3.7811 0.1303
	Y:	+ 3.4812	- 4.56993	+ 66.3305 2.307011	+ 2.53902 0.4844	+1.5793 1.9882
JUN. 9 A JUN.16 (2446225.5)	X:	-39.6617	- 3.29519	+191.5160 3.172154	+17.35984 1.3252	+1.7141 1.6699
	Y:	-14.8043	+ 0.87633	+ 75.3832 4.800486	+ 6.88404 2.9230	+0.7393 3.2552
JUN.17 A JUN.24 (2446233.5)	X:	-61.3667	+10.83739	+165.2644 5.365933	+ 7.47430 3.9092	+3.8752 2.8689
	Y:	+12.7251	- 1.79304	+ 72.4704 0.664778	+ 3.68002 5.2173	+1.7242 4.5092
JUN.25 A JUL. 2 (2446241.5)	X:	+23.4166	-13.11909	+177.4218 1.382427	+ 9.83069 5.3083	+2.6964 2.8705
	Y:	-26.0335	+ 1.33475	+ 82.2060 3.097123	+ 5.49595 0.8669	+0.6150 4.7022

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 7 DE SATURNE: HYPERION

N=0.394

		AO	A1	BO FO	B1 F1	CO FO
JUL. 1 A JUL. 8 (2446247.5)	X:	-35.4828	- 4.99019	+179.9113 3.488288	+16.89699 1.7497	+1.8399 2.5327
	Y:	-16.1927	+ 1.55035	+ 68.4287 5.051800	+ 6.17463 3.2662	+0.5960 4.0513
JUL. 9 A JUL. 16 (2446255.5)	X:	-48.5233	+10.03948	+164.1279 5.672423	+ 7.55090 4.2053	+3.8671 3.5694
	Y:	+14.7335	- 2.83526	+ 68.7485 0.891038	+ 3.14044 5.3606	+1.6428 5.0735
JUL. 17 A JUL. 24 (2446263.5)	X:	- 1.6987	- 8.82749	+181.3991 1.750746	+11.75412 5.8267	+1.8190 3.6135
	Y:	-28.8733	+ 2.58212	+ 79.8707 3.321339	+ 5.87848 1.0667	+0.7234 5.7535
JUL. 25 A AOU. 1 (2446271.5)	X:	-75.7111	+ 3.57430	+161.8293 4.118762	+11.66423 2.5966	+1.7094 5.7429
	Y:	-19.0257	+ 4.74877	+ 51.0151 5.954675	+ 4.27921 4.6867	+0.8994 0.6673
AOU. 1 A AOU. 8 (2446278.5)	X:	- 6.8126	+ 2.88560	+184.3916 6.195753	+ 9.24919 4.3651	+4.2978 4.7508
	Y:	+13.5597	- 4.34103	+ 61.7730 1.436804	+ 2.27933 5.7709	+1.3647 0.1187
AOU. 9 A AOU. 16 (2446286.5)	X:	-36.6440	- 1.74687	+193.7006 2.382395	+16.26567 0.3072	+1.6741 5.8626
	Y:	-21.7723	+ 1.96293	+ 71.5276 3.961266	+ 5.79358 1.8592	+0.6220 1.0677
AOU. 17 A AOU. 24 (2446294.5)	X:	-92.6459	+12.30237	+137.7253 4.468830	+ 5.37226 3.0066	+3.2988 0.8798
	Y:	- 0.0426	+ 1.46840	+ 61.4373 0.042443	+ 3.89149 4.8323	+1.0366 2.7349
AOU. 25 A SEP. 1 (2446302.5)	X:	+26.6204	- 6.07951	+179.6372 0.651549	+ 9.47891 4.7805	+2.7484 0.5608
	Y:	+ 0.6854	- 4.07654	+ 58.9008 2.438880	+ 2.36432 0.5921	+1.3424 2.3398
SEP. 1 A SEP. 8 (2446309.5)	X:	-34.6939	- 2.45493	+171.9587 2.952601	+15.49731 1.0404	+1.5640 1.1149
	Y:	-15.2187	+ 0.85357	+ 67.5582 4.588780	+ 6.13916 2.6703	+0.6651 2.8270
SEP. 9 A SEP. 16 (2446317.5)	X:	-62.8702	+10.36913	+141.3454 5.108716	+ 6.29938 3.6304	+3.2682 2.3998
	Y:	+ 9.5590	- 1.03566	+ 65.0506 0.457814	+ 3.52010 5.0433	+1.4875 4.1072
SEP. 17 A SEP. 24 (2446325.5)	X:	+35.4711	-12.32052	+157.8722 1.080037	+ 8.93103 4.9526	+2.3782 2.4746
	Y:	-18.3881	- 0.48751	+ 70.4690 2.912778	+ 4.32504 0.7601	+0.6324 3.7927
SEP. 25 A OCT. 2 (2446333.5)	X:	-37.5717	- 4.10810	+152.7571 3.806086	+14.42276 2.1997	+1.5017 3.6111
	Y:	-20.8501	+ 3.34351	+ 51.7783 5.373318	+ 4.37903 3.8487	+0.6256 5.7385

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 7 DE SATURNE: HYPERION

N=0.394

		A0	A1	B0 FO	B1 F1	C0 FO
OCT. 1 A OCT. 8 (2446339.5)	X:	-53.0814	+10.12840	+138.1460 5.349589	+ 6.12687 3.8923	+3.2010 3.0150
	Y:	+10.6464	- 1.65506	+ 64.3816 0.653032	+ 3.31190 5.2014	+1.5211 4.6434
OCT. 9 A OCT. 16 (2446347.5)	X:	+22.5740	-10.74026	+153.1084 1.354149	+ 9.30405 5.3242	+2.0518 3.0625
	Y:	-25.2932	+ 1.18716	+ 73.8756 3.070093	+ 5.21370 0.8542	+0.5118 5.0299
OCT. 17 A OCT. 24 (2446355.5)	X:	-48.4168	- 1.46862	+147.4706 3.915276	+12.77262 2.3652	+1.1593 4.5596
	Y:	-22.5759	+ 4.34249	+ 47.0699 5.590742	+ 3.90104 4.2614	+0.8229 0.1264
OCT. 25 A NOV. 1 (2446363.5)	X:	- 2.9907	+ 2.87890	+164.3049 6.153181	+ 8.46820 4.2998	+3.7569 4.8491
	Y:	+11.2978	- 4.16260	+ 59.3543 1.407954	+ 2.32357 5.7152	+1.2868 0.2494
NOV. 1 A NOV. 8 (2446370.5)	X:	-13.5672	- 4.35966	+166.1787 2.000402	+13.19462 6.1826	+1.2701 5.0486
	Y:	-26.7700	+ 2.20753	+ 71.3451 3.566852	+ 5.72427 1.4056	+0.6748 0.3960
NOV. 9 A NOV. 16 (2446378.5)	X:	-80.1316	+ 8.25094	+135.3269 4.104868	+ 6.96180 2.5572	+2.6663 0.2916
	Y:	-12.6546	+ 3.53937	+ 52.5418 6.050363	+ 3.84188 4.7508	+0.8142 1.7398
NOV. 17 A NOV. 24 (2446386.5)	X:	+14.7410	- 0.71279	+166.8812 0.331786	+ 9.05529 4.6408	+3.2063 6.0523
	Y:	+ 4.9166	- 4.48969	+ 57.3990 1.984689	+ 2.18253 0.0609	+1.2836 1.6514
NOV. 25 A DEC. 2 (2446394.5)	X:	-24.0993	- 3.10969	+155.7286 2.832429	+14.31071 0.9574	+1.5067 1.1859
	Y:	-18.4192	+ 0.84785	+ 66.6709 4.489506	+ 6.19029 2.6022	+0.6818 2.8984
DEC. 1 A DEC. 8 (2446400.5)	X:	-81.4003	+10.37057	+132.2058 4.231978	+ 5.61094 2.6481	+3.0942 0.7664
	Y:	- 5.5894	+ 2.11584	+ 59.2830 6.155130	+ 3.84019 4.7115	+1.0222 2.5900
DEC. 9 A DEC. 16 (2446408.5)	X:	+26.5374	- 3.55445	+168.2420 0.451487	+ 9.30303 4.6417	+2.5695 0.3301
	Y:	+ 2.0267	- 4.72270	+ 57.4630 2.199638	+ 2.15692 0.2862	+1.3038 2.2235
DEC. 17 A DEC. 24 (2446416.5)	X:	-20.1483	- 4.36411	+149.5421 3.027690	+14.02401 1.2509	+1.5241 1.8837
	Y:	-19.5788	+ 1.00300	+ 66.1931 4.662381	+ 6.22916 2.8461	+0.6662 3.4579
DEC. 25 A DEC. 32 (2446424.5)	X:	-54.5162	+10.75470	+133.7255 5.129599	+ 5.48887 3.6567	+3.1322 2.8700
	Y:	+ 7.9410	- 1.22131	+ 68.3526 0.520797	+ 3.61270 5.0979	+1.6132 4.5841

1985		COORDONNEES EQUATORIALES DIFFERENTIELLES			
		DU SATELLITE 8 DE SATURNE:		JAPET	N=0.079
		AO	A1	BO FO	CO FO
JAN. 1 A JAN. 16 (2446066.5)	X:	- 4.9085	+ 0.13738	+449.8911 5.642039	+10.5378 2.5100
	Y:	+13.4959	- 0.81034	+162.6662 1.613807	+ 2.3218 4.6561
JAN. 17 A FEV. 1 (2446082.5)	X:	+ 0.4513	- 0.71529	+462.9665 0.590940	+ 8.6610 4.6357
	Y:	+ 6.6924	- 0.66476	+162.3801 2.927072	+ 3.7424 1.2111
FEV. 1 A FEV. 16 (2446097.5)	X:	+ 4.7715	- 3.38391	+436.2160 1.692590	+11.2941 1.3239
	Y:	+ 3.6519	+ 0.19442	+176.2193 4.084903	+ 2.9944 3.0960
FEV. 17 A MAR. 4 (2446113.5)	X:	-22.6046	- 0.54052	+475.1584 3.045608	+ 4.3612 3.0097
	Y:	+12.3349	- 0.20316	+186.9190 5.360812	+ 0.7910 6.1111
MAR. 1 A MAR. 16 (2446125.5)	X:	- 2.3305	- 0.71412	+506.5121 4.026015	+ 6.6576 0.4957
	Y:	+ 8.4358	+ 0.09804	+185.3996 0.032760	+ 1.5185 2.4590
MAR. 17 A AVR. 1 (2446141.5)	X:	- 0.6665	+ 0.59158	+507.8347 5.228586	+ 5.4241 1.9580
	Y:	+ 7.5898	- 0.67988	+192.0245 1.232095	+ 2.2089 4.0063
AVR. 1 A AVR. 16 (2446156.5)	X:	- 3.0231	- 1.39439	+535.2358 0.151512	+ 8.8538 4.4447
	Y:	+ 4.3333	+ 0.00046	+194.6648 2.489707	+ 4.1791 0.6193
AVR. 17 A MAI 2 (2446172.5)	X:	-34.5827	+ 1.60842	+541.6992 1.517922	+15.0353 0.1828
	Y:	+12.9613	- 0.35373	+196.1639 3.823007	+ 6.1522 2.6204
MAI 1 A MAI 16 (2446186.5)	X:	-45.0575	+ 3.35591	+588.3859 2.584634	+ 7.5947 3.1095
	Y:	+25.0201	- 1.30780	+220.4291 4.962879	+ 1.2419 5.1010
MAI 17 A JUN. 1 (2446202.5)	X:	-23.0529	+ 3.38142	+562.6671 3.791220	+16.0058 5.1139
	Y:	+24.6217	- 2.40223	+237.5067 6.117603	+ 7.4255 1.5593
JUN. 1 A JUN. 16 (2446217.5)	X:	-11.2586	- 0.38065	+531.4800 5.100188	+ 3.6663 0.8156
	Y:	+13.5879	- 0.85049	+195.8377 1.050593	+ 2.6359 2.2117
JUN. 17 A JUL. 2 (2446233.5)	X:	-42.3732	+ 1.86031	+501.3232 0.152742	+ 8.9956 4.6569
	Y:	+15.1354	- 0.33363	+189.8213 2.427026	+ 2.8724 0.7412

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

		DU SATELLITE 8 DE SATURNE:		JAPET	N=0.079
		AO	A1	BO FO	CO FO
JUL. 1 A JUL.16 (2446247.5)	X:	-33.8473	+ 2.04559	+522.4722 1.278865	+ 8.1661 6.1893
	Y:	+13.8806	+ 0.04665	+196.5266 3.537920	+ 1.9732 2.3927
JUL.17 A AOU. 1 (2446263.5)	X:	+ 0.8138	- 0.44884	+488.4664 2.497898	+11.8468 2.7353
	Y:	+ 1.2897	+ 0.71608	+180.7580 4.736458	+ 6.2824 5.1756
AOU. 1 A AOU.16 (2446278.5)	X:	- 5.3084	- 0.74668	+479.3532 3.696208	+10.8437 4.7937
	Y:	- 5.5250	+ 1.32124	+162.6947 6.028809	+ 3.9086 0.1328
AOU.17 A SEP. 1 (2446294.5)	X:	-27.8740	- 0.10167	+462.7177 4.952958	+ 6.9132 0.7376
	Y:	- 1.1563	+ 1.63652	+177.3425 1.114437	+ 3.1604 4.2829
SEP. 1 A SEP.16 (2446309.5)	X:	-32.3674	+ 1.30450	+442.7631 6.140569	+ 6.1296 3.2767
	Y:	+ 6.7843	+ 0.74812	+186.2125 2.168804	+ 4.3175 5.1897
SEP.17 A OCT. 2 (2446325.5)	X:	- 7.7758	+ 0.60099	+444.9613 1.089737	+ 3.8175 5.6673
	Y:	- 1.4127	+ 1.09322	+185.2768 3.289290	+ 1.9556 5.1713
OCT. 1 A OCT.16 (2446339.5)	X:	- 7.8179	+ 0.39795	+446.9311 2.161428	+ 4.8588 2.7358
	Y:	+ 1.2415	- 0.11658	+164.1030 4.468320	+ 2.4553 4.5139
OCT.17 A NOV. 1 (2446355.5)	X:	- 4.5468	- 2.24809	+406.1795 3.445751	+ -4.8017 4.3891
	Y:	- 6.4848	+ 1.23275	+144.2729 5.712177	+ 2.5664 6.1389
NOV. 1 A NOV.16 (2446370.5)	X:	-44.1075	+ 1.32799	+406.4405 4.509271	+ 6.2673 0.2084
	Y:	+ 8.8692	+ 0.23194	+159.9058 0.579267	+ 3.2451 2.9065
NOV.17 A DEC. 2 (2446386.5)	X:	-26.6997	+ 1.73805	+402.1454 5.779390	+ 7.2767 2.8542
	Y:	+16.0509	- 0.71354	+152.3390 1.745699	+ 1.9162 4.6552
DEC. 1 A DEC.16 (2446400.5)	X:	- 2.4792	+ 0.19260	+424.5943 0.565021	+ 6.3758 4.5199
	Y:	+13.9069	- 1.23992	+141.3440 2.902819	+ 3.3749 1.4037
DEC.17 A DEC.32 (2446416.5)	X:	+14.0939	- 3.17672	+396.1638 1.710900	+ 9.1753 1.6351
	Y:	+ 2.2423	- 0.18421	+157.6920 4.122536	+ 1.9085 3.3268

SATELLITES D ' URANUS

SATELLITES OF URANUS

DONNEES SUR LES SATELLITES D'URANUS

DATA ON THE SATELLITES OF URANUS

NOM	masse	rayon	période rotation sidérale	albédo géométrique	magnitude visuelle	période orbitale	élongation maximale	1/2 grand axe	excentricité	inclinaison sur l'équateur d'Uranus
	unité → masse d'Uranus	km	jour			jour	(")	10 ³ km		degré
I Ariel	3. ×10 ⁻⁵	664		0.27	14.4	2.52037932	14	190.81	0.0033	0
II Umbriel	0.9×10 ⁻⁵	579		0.09	15.3	4.1441765	20	265.83	0.0011	0
III Titania	5. ×10 ⁻⁵	835		0.19	13.98	8.7058703	33	436.05	0.0018	0
IV Oberon	4. ×10 ⁻⁵	844	(S)	0.15	14.23	13.4632423	44	583.08	0.0006	0
V Miranda	0.2×10 ⁻⁵	150			16.5	1.4134840	10	129.79	< 0.01	0

NAME	mass	radius	sidereal rotation	geometrical albedo	visual magnitude	orbital period	greatest elongation	semi major axis	eccentricity	inclination on Uranus equator
	unit → Uranus' mass	km	day			day	(")	10 ³ km		degree

(S): révolution synchrone
synchronous revolution

EPHEMERIDES DES CINQ SATELLITES D'URANUS

EPHEMERIDES OF THE FIVE SATELLITES OF URANUS

Coordonnées différentielles tangentielles données dans le repère équatorial moyen 1950,0.

Differential tangential coordinates given in the mean equatorial frame 1950.0.

$$\Delta\alpha \cos\delta = X$$

$$\Delta\delta = Y$$

$$\begin{matrix} X \\ Y \end{matrix}) = A_0 + A_1.t + B_0 \sin(Nt+F_0) + B_1.t \sin(Nt+F_1) + B_2.t^2 \sin(Nt+F_2) + C_0 \sin(2Nt+P_0)$$

(cf. pages 6 et 7)

satellite	intervalle		page
	Δt (jours)	N (rad/j)	
Miranda	8	4.4880	80
Ariel	32	2.4930	84
Ombriel	32	1.5162	85
Titania	32	0.7217	86
Obéron	32	0.4667	87

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 5 D'URANUS: MIRANDA

N=4.4880

		A0	A1	B0 F0	B1 F1	B2 F2	C0 P0

JANVIER							

JAN. 1 A JAN. 8 (2446066.5)	X:	+0.0049	+0.00000	+ 8.8946 4.299005	+0.38615 2.7372	+0.008098 0.9986	+0.0116 2.1369
	Y:	-0.0356	+0.00000	+ 8.8104 5.889426	+0.38322 4.3202	+0.007882 2.5895	+0.0123 3.6618

JAN. 9 A JAN.16 (2446074.5)	X:	+0.0049	-0.00001	+ 8.9310 2.160946	+0.38626 0.6035	+0.008205 5.1625	+0.0121 4.0530
	Y:	-0.0354	+0.00000	+ 8.8341 3.750012	+0.38279 2.1884	+0.008108 0.4737	+0.0115 5.7885

JAN.17 A JAN.24 (2446082.5)	X:	+0.0046	-0.00002	+ 8.9737 0.023764	+0.38861 4.7520	+0.008266 3.0139	+0.0126 6.1423
	Y:	-0.0354	-0.00003	+ 8.8677 1.611717	+0.38586 0.0516	+0.008135 4.5879	+0.0109 1.3565

JAN.25 A FEV. 1 (2446090.5)	X:	+0.0044	-0.00001	+ 9.0245 4.170052	+0.38968 2.6143	+0.008170 0.8877	+0.0116 1.8381
	Y:	-0.0361	-0.00002	+ 8.9109 5.756641	+0.38579 4.1941	+0.007905 2.4688	+0.0126 3.4127

FEVRIER							

FEV. 1 A FEV. 8 (2446097.5)	X:	+0.0044	-0.00001	+ 9.0721 3.871369	+0.39040 2.3168	+0.008178 0.6051	+0.0120 1.1889
	Y:	-0.0362	-0.00002	+ 8.9511 5.457122	+0.38728 3.8968	+0.007955 2.1682	+0.0123 2.8651

FEV. 9 A FEV.16 (2446105.5)	X:	+0.0041	-0.00003	+ 9.1286 1.735381	+0.39259 0.1854	+0.008387 4.7535	+0.0129 3.2761
	Y:	-0.0361	+0.00000	+ 8.9994 3.319957	+0.38817 1.7666	+0.008221 0.0485	+0.0109 4.8002

FEV.17 A FEV.24 (2446113.5)	X:	+0.0037	-0.00001	+ 9.1918 5.883166	+0.39581 4.3314	+0.008312 2.6034	+0.0116 5.2839
	Y:	-0.0362	-0.00004	+ 9.0558 1.183859	+0.39208 5.9139	+0.008247 4.1667	+0.0126 0.4738

FEV.25 A MAR. 4 (2446121.5)	X:	+0.0038	-0.00001	+ 9.2577 3.747759	+0.39675 2.1959	+0.008299 0.4925	+0.0126 0.9238
	Y:	-0.0369	-0.00002	+ 9.1183 5.330903	+0.39275 3.7752	+0.008091 2.0500	+0.0122 2.6048

MARS							

MAR. 1 A MAR. 8 (2446125.5)	X:	+0.0037	-0.00001	+ 9.2909 2.680313	+0.39846 1.1283	+0.008316 5.7008	+0.0115 5.1347
	Y:	-0.0368	-0.00001	+ 9.1472 4.262885	+0.39235 2.7123	+0.008323 1.0083	+0.0130 0.4176

MAR. 9 A MAR.16 (2446133.5)	X:	+0.0034	-0.00004	+ 9.3558 0.545768	+0.40249 5.2807	+0.008575 3.5487	+0.0126 0.7467
	Y:	-0.0370	-0.00004	+ 9.2104 2.127888	+0.39613 0.5780	+0.008412 5.1336	+0.0119 2.4927

MAR.17 A MAR.24 (2446141.5)	X:	+0.0028	-0.00001	+ 9.4264 4.694537	+0.40569 3.1414	+0.008427 1.4038	+0.0131 2.8721
	Y:	-0.0376	-0.00003	+ 9.2775 6.276187	+0.39781 4.7224	+0.008249 3.0073	+0.0121 4.3759

MAR.25 A AVR. 1 (2446149.5)	X:	+0.0029	-0.00002	+ 9.4926 2.559847	+0.40659 1.0079	+0.008542 5.5780	+0.0118 4.8349
	Y:	-0.0376	-0.00001	+ 9.3403 4.141554	+0.39922 2.5910	+0.008473 0.8896	+0.0132 0.1881

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 5 D'URANUS: MIRANDA

N=4.4880

	AO	A1	B0 FO	B1 F1	B2 F2	CO PO

AVRIL						

AVR. 1 A AVR. 8 (2446156.5)	X: +0.0027	-0.00003	+ 9.5483 2.263143	+0.40905 0.7119	+0.008691 5.2791	+0.0127 4.1881
	Y: -0.0378	+0.00000	+ 9.3956 3.844933	+0.40141 2.2934	+0.008503 0.5908	+0.0125 5.9209

AVR. 9 A AVR. 16 (2446164.5)	X: +0.0023	-0.00004	+ 9.6084 0.129054	+0.41287 4.8606	+0.008822 3.1266	+0.0136 6.2658
	Y: -0.0379	-0.00004	+ 9.4562 1.711275	+0.40610 0.1576	+0.008561 4.7037	+0.0115 1.5157

AVR. 17 A AVR. 24 (2446172.5)	X: +0.0019	-0.00002	+ 9.6668 4.277901	+0.41501 2.7216	+0.008741 0.9934	+0.0125 1.9971
	Y: -0.0387	-0.00002	+ 9.5156 5.860398	+0.40714 4.3007	+0.008360 2.5829	+0.0134 3.5414

AVR. 25 A MAI 2 (2446180.5)	X: +0.0017	-0.00003	+ 9.7158 2.143300	+0.41653 0.5872	+0.008914 5.1496	+0.0133 3.9338
	Y: -0.0385	+0.00000	+ 9.5637 3.726391	+0.40846 2.1701	+0.008668 0.4617	+0.0122 5.6533

MAI						

MAI 1 A MAI 8 (2446186.5)	X: +0.0016	-0.00002	+ 9.7503 3.683872	+0.41729 2.1229	+0.008782 0.4151	+0.0135 0.7442
	Y: -0.0390	-0.00001	+ 9.6000 5.267773	+0.41138 3.7059	+0.008537 1.9770	+0.0126 2.4119

MAI 9 A MAI 16 (2446194.5)	X: +0.0012	-0.00005	+ 9.7842 1.549141	+0.42000 6.2723	+0.009047 4.5486	+0.0132 2.8674
	Y: -0.0389	+0.00000	+ 9.6359 3.133666	+0.41283 1.5742	+0.008818 6.1304	+0.0123 4.2910

MAI 17 A MAI 24 (2446202.5)	X: +0.0005	-0.00002	+ 9.8134 5.697362	+0.42260 4.1300	+0.008883 2.3905	+0.0121 4.7653
	Y: -0.0389	-0.00002	+ 9.6670 0.999757	+0.41625 5.7190	+0.008821 3.9661	+0.0137 0.0724

MAI 25 A JUN. 1 (2446210.5)	X: +0.0006	-0.00002	+ 9.8306 3.561579	+0.42182 1.9912	+0.008881 0.2778	+0.0139 0.4971
	Y: -0.0394	+0.00000	+ 9.6904 5.148210	+0.41616 3.5789	+0.008710 1.8438	+0.0124 2.1232

JUIN						

JUN. 1 A JUN. 8 (2446217.5)	X: +0.0003	-0.00002	+ 9.8371 3.263469	+0.42263 1.6895	+0.008862 6.2560	+0.0136 6.2411
	Y: -0.0393	+0.00001	+ 9.7001 4.850925	+0.41664 3.2809	+0.008832 1.5489	+0.0125 1.4562

JUN. 9 A JUN. 16 (2446225.5)	X: +0.0000	-0.00006	+ 9.8312 1.127353	+0.42465 5.8377	+0.009143 4.0954	+0.0117 1.9223
	Y: -0.0391	+0.00001	+ 9.7010 2.715658	+0.41771 1.1454	+0.009000 5.6870	+0.0137 3.4724

JUN. 17 A JUN. 24 (2446233.5)	X: -0.0008	-0.00002	+ 9.8211 5.273888	+0.42573 3.6923	+0.008883 1.9340	+0.0133 3.8308
	Y: -0.0391	+0.00000	+ 9.6951 0.579984	+0.41865 5.2873	+0.008900 3.5370	+0.0128 5.5373

JUN. 25 A JUL. 2 (2446241.5)	X: -0.0006	-0.00002	+ 9.7972 3.136177	+0.42299 1.5528	+0.008881 6.1079	+0.0132 5.9767
	Y: -0.0391	+0.00002	+ 9.6782 4.726615	+0.41743 3.1481	+0.008911 1.4119	+0.0128 1.1635

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 5 D'URANUS: MIRANDA

N=4.4880

	A0	A1	B0 FO	B1 F1	B2 F2	C0 PO

JUILLET						

JUL. 1 A JUL. 8 (2446247.5)	X: -0.0013	-0.00002	+ 9.7727 4.674778	+0.42495 3.0897	+0.008953 1.3250	+0.0134 2.7276
	Y: -0.0392	+0.00002	+ 9.6609 6.265579	+0.41724 4.6814	+0.008725 2.9433	+0.0127 4.2254

JUL. 9 A JUL. 16 (2446255.5)	X: -0.0013	-0.00003	+ 9.7325 2.536206	+0.42221 0.9506	+0.008995 5.4884	+0.0122 4.6504
	Y: -0.0387	+0.00004	+ 9.6253 4.127988	+0.41565 2.5453	+0.008919 0.8172	+0.0134 0.0567

JUL. 17 A JUL. 24 (2446263.5)	X: -0.0017	-0.00004	+ 9.6835 0.397602	+0.42218 5.0952	+0.009111 3.3292	+0.0136 0.3527
	Y: -0.0384	+0.00001	+ 9.5839 1.990215	+0.41673 0.4043	+0.008914 4.9273	+0.0116 2.0272

JUL. 25 A AOÛ. 1 (2446271.5)	X: -0.0022	-0.00002	+ 9.6325 4.541488	+0.42050 2.9504	+0.008895 1.1833	+0.0128 2.4387
	Y: -0.0387	+0.00003	+ 9.5378 6.134517	+0.41424 4.5422	+0.008637 2.7974	+0.0130 3.9365

AOÛT						

AOÛ. 1 A AOÛ. 8 (2446278.5)	X: -0.0023	-0.00002	+ 9.5812 4.239830	+0.41788 2.6484	+0.008883 0.8922	+0.0122 1.7836
	Y: -0.0385	+0.00003	+ 9.4905 5.833447	+0.41308 4.2387	+0.008571 2.4886	+0.0134 3.3783

AOÛ. 9 A AOÛ. 16 (2446286.5)	X: -0.0025	-0.00003	+ 9.5180 2.099504	+0.41524 0.5096	+0.008965 5.0403	+0.0133 3.7494
	Y: -0.0378	+0.00006	+ 9.4279 3.693424	+0.41046 2.1028	+0.008800 0.3609	+0.0116 5.4425

AOÛ. 17 A AOÛ. 24 (2446294.5)	X: -0.0030	-0.00002	+ 9.4538 6.242218	+0.41391 4.6507	+0.008875 2.8833	+0.0127 5.8314
	Y: -0.0374	+0.00002	+ 9.3654 1.553350	+0.41081 6.2433	+0.008748 4.4660	+0.0120 0.9934

AOÛ. 25 A SEP. 1 (2446302.5)	X: -0.0031	-0.00001	+ 9.3897 4.101085	+0.41043 2.5077	+0.008722 0.7556	+0.0121 1.4543
	Y: -0.0377	+0.00004	+ 9.3025 5.695305	+0.40704 4.0973	+0.008457 2.3405	+0.0130 3.1086

SEPTEMBRE						

SEP. 1 A SEP. 8 (2446309.5)	X: -0.0032	-0.00001	+ 9.3330 3.798142	+0.40744 2.2043	+0.008627 0.4632	+0.0128 0.8339
	Y: -0.0373	+0.00004	+ 9.2434 5.392358	+0.40517 3.7953	+0.008483 2.0340	+0.0121 2.5210

SEP. 9 A SEP. 16 (2446317.5)	X: -0.0035	-0.00004	+ 9.2668 1.656717	+0.40565 0.0668	+0.008769 4.5966	+0.0125 2.9484
	Y: -0.0367	+0.00005	+ 9.1734 3.250427	+0.40231 1.6584	+0.008663 6.1842	+0.0115 4.3878

SEP. 17 A SEP. 24 (2446325.5)	X: -0.0041	-0.00001	+ 9.2071 5.798343	+0.40401 4.2050	+0.008517 2.4392	+0.0113 4.8473
	Y: -0.0363	+0.00002	+ 9.1081 1.108538	+0.40156 5.7983	+0.008571 4.0166	+0.0129 0.1415

SEP. 25 A OCT. 2 (2446333.5)	X: -0.0039	-0.00001	+ 9.1486 3.656235	+0.39966 2.0642	+0.008428 0.3274	+0.0128 0.5533
	Y: -0.0364	+0.00004	+ 9.0461 5.248991	+0.39761 3.6540	+0.008369 1.8927	+0.0115 2.1968

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 5 D'URANUS: MIRANDA

N=4.4880

	AO	A1	BO FO	B1 F1	B2 F2	CO PO
OCTOBRE						
OCT. 1 A OCT. 8 (2446339.5)	X: -0.0045	+0.00000	+ 9.1082 5.191833	+0.40043 3.5984	+0.008335 1.8246	+0.0127 3.5810
	Y: -0.0360	+0.00003	+ 8.9990 0.500415	+0.39588 5.1914	+0.008424 3.4282	+0.0115 5.2545
OCT. 9 A OCT. 16 (2446347.5)	X: -0.0042	+0.00000	+ 9.0565 3.049603	+0.39595 1.4593	+0.008304 6.0015	+0.0117 5.7010
	Y: -0.0358	+0.00004	+ 8.9409 4.640598	+0.39243 3.0510	+0.008423 1.3039	+0.0122 0.8921
OCT. 17 A OCT. 24 (2446355.5)	X: -0.0045	-0.00004	+ 9.0081 0.908073	+0.39542 5.6066	+0.008483 3.8427	+0.0111 1.2606
	Y: -0.0354	+0.00002	+ 8.8869 2.497823	+0.39110 0.9109	+0.008440 5.4323	+0.0122 2.9833
OCT. 25 A NOV. 1 (2446363.5)	X: -0.0051	+0.00000	+ 8.9714 5.049743	+0.39409 3.4617	+0.008195 1.6905	+0.0127 3.3120
	Y: -0.0354	+0.00002	+ 8.8410 0.354892	+0.38868 5.0498	+0.008226 3.2952	+0.0112 4.9170
NOVEMBRE						
NOV. 1 A NOV. 8 (2446370.5)	X: -0.0052	+0.00000	+ 8.9409 4.746744	+0.39241 3.1617	+0.008210 1.3937	+0.0123 2.7581
	Y: -0.0353	+0.00002	+ 8.8054 0.050629	+0.38653 4.7456	+0.008092 2.9993	+0.0116 4.2523
NOV. 9 A NOV. 16 (2446378.5)	X: -0.0050	-0.00001	+ 8.9119 2.605249	+0.38927 1.0246	+0.008238 5.5637	+0.0111 4.6818
	Y: -0.0349	+0.00003	+ 8.7675 4.190943	+0.38398 2.6091	+0.008234 0.8758	+0.0122 0.0757
NOV. 17 A NOV. 24 (2446386.5)	X: -0.0053	-0.00003	+ 8.8891 0.464592	+0.38930 5.1716	+0.008334 3.4094	+0.0125 0.3757
	Y: -0.0346	+0.00000	+ 8.7390 2.048712	+0.38430 0.4683	+0.008192 4.9915	+0.0106 2.0480
NOV. 25 A DEC. 2 (2446394.5)	X: -0.0057	-0.00001	+ 8.8773 4.607287	+0.38820 3.0296	+0.008128 1.2713	+0.0118 2.4687
	Y: -0.0350	+0.00001	+ 8.7201 6.189474	+0.38188 4.6076	+0.007938 2.8686	+0.0119 3.9538
DECEMBRE						
DEC. 1 A DEC. 8 (2446400.5)	X: -0.0058	-0.00001	+ 8.8702 6.143673	+0.38714 4.5699	+0.008196 2.8182	+0.0115 5.5503
	Y: -0.0344	+0.00000	+ 8.7071 1.441731	+0.38312 6.1478	+0.008100 4.3792	+0.0117 0.7022
DEC. 9 A DEC. 16 (2446408.5)	X: -0.0059	-0.00001	+ 8.8694 4.003726	+0.38534 2.4315	+0.008111 0.7020	+0.0118 1.1651
	Y: -0.0349	+0.00000	+ 8.7016 5.583033	+0.38081 4.0052	+0.007876 2.2624	+0.0119 2.8398
DEC. 17 A DEC. 24 (2446416.5)	X: -0.0061	-0.00003	+ 8.8732 1.864446	+0.38536 0.2977	+0.008255 4.8467	+0.0125 3.2500
	Y: -0.0345	+0.00002	+ 8.6987 3.441746	+0.37992 1.8722	+0.008105 0.1362	+0.0105 4.7560
DEC. 25 A DEC. 32 (2446424.5)	X: -0.0065	-0.00001	+ 8.8872 6.008968	+0.38615 4.4416	+0.008112 2.6983	+0.0112 5.2444
	Y: -0.0343	-0.00001	+ 8.7077 1.301398	+0.38169 6.0157	+0.008049 4.2531	+0.0121 0.4344

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 1 D'URANUS: ARIEL

N=2.4930

		A0	A1	B0 FO	B1 F1	B2 F2	C0 PO
JAN. 1 A FEV. 1 (2446066.5)	X:	+0.0671	+0.00004	+13.1894 3.708734	+0.00633 3.2309	+0.000078 4.1947	+0.0226 2.7424
	Y:	+0.0025	+0.00001	+13.0886 5.287117	+0.00654 4.4948	+0.000088 5.7780	+0.0225 4.3242
FEV. 1 A MAR. 4 (2446097.5)	X:	+0.0685	+0.00005	+13.4295 5.589393	+0.01006 5.5335	+0.000053 0.0399	+0.0232 0.2208
	Y:	+0.0027	+0.00000	+13.3050 0.880861	+0.00975 0.6767	+0.000065 1.7113	+0.0229 1.7973
MAR. 1 A AVR. 1 (2446125.5)	X:	+0.0701	+0.00006	+13.7403 6.279206	+0.01257 0.1148	+0.000028 1.8071	+0.0236 1.5998
	Y:	+0.0024	+0.00000	+13.6058 1.568488	+0.01222 1.6334	+0.000042 3.2093	+0.0235 3.1705
AVR. 1 A MAI 2 (2446156.5)	X:	+0.0720	+0.00006	+14.1194 1.885855	+0.01255 2.1442	+0.000068 4.9152	+0.0241 5.3747
	Y:	+0.0020	-0.00002	+13.9799 3.457904	+0.01254 3.7355	+0.000068 6.2686	+0.0241 0.6649
MAI 1 A JUN. 1 (2446186.5)	X:	+0.0736	+0.00003	+14.4226 1.284716	+0.00885 1.7128	+0.000114 4.5686	+0.0246 4.1534
	Y:	+0.0010	-0.00003	+14.2839 2.858253	+0.00954 3.3829	+0.000108 6.0953	+0.0244 5.7342
JUN. 1 A JUL. 2 (2446217.5)	X:	+0.0745	-0.00001	+14.5638 3.176204	+0.00273 4.4542	+0.000123 0.3348	+0.0246 1.6355
	Y:	-0.0002	-0.00004	+14.4368 4.752551	+0.00437 5.9880	+0.000122 1.9547	+0.0245 3.2157
JUL. 1 A AOU. 1 (2446247.5)	X:	+0.0740	-0.00004	+14.4827 2.571123	+0.00653 5.6561	+0.000089 6.2104	+0.0243 0.3974
	Y:	-0.0015	-0.00003	+14.3773 4.150343	+0.00587 0.7254	+0.000099 1.5892	+0.0243 1.9893
AOU. 1 A SEP. 1 (2446278.5)	X:	+0.0723	-0.00005	+14.2074 4.453851	+0.01165 1.5186	+0.000040 2.3843	+0.0238 4.1496
	Y:	-0.0029	+0.00000	+14.1239 6.035043	+0.01106 3.0577	+0.000055 3.9218	+0.0236 5.7377
SEP. 1 A OCT. 2 (2446309.5)	X:	+0.0705	-0.00005	+13.8374 0.047715	+0.01335 3.5474	+0.000037 5.8312	+0.0233 1.6135
	Y:	-0.0034	-0.00001	+13.7599 1.629301	+0.01355 5.1416	+0.000038 0.7189	+0.0230 3.1949
OCT. 1 A NOV. 1 (2446339.5)	X:	+0.0687	-0.00003	+13.4932 5.711132	+0.01203 3.0837	+0.000063 5.7206	+0.0227 0.3657
	Y:	-0.0036	+0.00000	+13.4035 1.008139	+0.01309 4.7019	+0.000062 0.8534	+0.0225 1.9435
NOV. 1 A DEC. 2 (2446370.5)	X:	+0.0673	-0.00001	+13.2309 1.298936	+0.00876 5.1913	+0.000081 1.5019	+0.0224 4.1080
	Y:	-0.0037	+0.00001	+13.1192 2.876007	+0.01044 0.5465	+0.000085 2.9983	+0.0222 5.6761
DEC. 1 A DEC.32 (2446400.5)	X:	+0.0667	+0.00000	+13.1110 0.678184	+0.00523 5.0906	+0.000088 1.0025	+0.0223 2.8651
	Y:	-0.0035	+0.00001	+12.9818 2.251011	+0.00728 0.4093	+0.000095 2.5472	+0.0221 4.4368

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 2 D'URANUS: UMBRIEL

N=1.5162

		AO	A1	BO FO	B1 F1	B2 F2	CO PO
JAN. 1 A FEV. 1 (2446066.5)	X:	+0.1041	+0.00005	+18.3865 2.811799	+0.00937 2.2361	+0.000104 3.2023	+0.0465 1.6186
	Y:	+0.0889	+0.00007	+18.2716 4.389626	+0.00978 3.5357	+0.000118 4.8023	+0.0459 3.1967
FEV. 1 A MAR. 4 (2446097.5)	X:	+0.1058	+0.00009	+18.7214 5.825274	+0.01421 5.6460	+0.000070 0.2165	+0.0471 1.3676
	Y:	+0.0912	+0.00008	+18.5747 1.116493	+0.01399 0.8025	+0.000086 1.8919	+0.0472 2.9424
MAR. 1 A AVR. 1 (2446125.5)	X:	+0.1084	+0.00011	+19.1550 4.294672	+0.01738 4.2976	+0.000041 6.0797	+0.0486 4.5942
	Y:	+0.0936	+0.00006	+18.9943 5.867067	+0.01711 5.8193	+0.000060 1.2484	+0.0482 6.1608
AVR. 1 A MAI 2 (2446156.5)	X:	+0.1118	+0.00011	+19.6834 1.033398	+0.01713 1.1833	+0.000097 3.9304	+0.0498 4.3475
	Y:	+0.0955	+0.00004	+19.5167 2.605400	+0.01709 2.7802	+0.000097 5.3259	+0.0493 5.9274
MAI 1 A JUN. 1 (2446186.5)	X:	+0.1151	+0.00007	+20.1057 2.541931	+0.01195 2.8805	+0.000160 5.7242	+0.0508 1.0775
	Y:	+0.0966	-0.00001	+19.9413 4.115324	+0.01270 4.5541	+0.000150 0.9610	+0.0499 2.6520
JUN. 1 A JUL. 2 (2446217.5)	X:	+0.1172	+0.00002	+20.3022 5.567555	+0.00374 0.5483	+0.000169 2.6353	+0.0506 0.8317
	Y:	+0.0960	-0.00006	+20.1543 0.860373	+0.00581 2.0832	+0.000165 4.2480	+0.0504 2.4072
JUL. 1 A AOU. 1 (2446247.5)	X:	+0.1177	-0.00004	+20.1887 0.791773	+0.00919 3.7710	+0.000120 4.3732	+0.0498 3.8321
	Y:	+0.0939	-0.00009	+20.0707 2.370410	+0.00844 5.1466	+0.000133 6.0094	+0.0501 5.4089
AOU. 1 A SEP. 1 (2446278.5)	X:	+0.1163	-0.00007	+19.8051 3.811520	+0.01603 0.7775	+0.000053 1.7526	+0.0490 3.5752
	Y:	+0.0909	-0.00009	+19.7163 5.391992	+0.01527 2.3178	+0.000073 3.2530	+0.0483 5.1567
SEP. 1 A OCT. 2 (2446309.5)	X:	+0.1138	-0.00008	+19.2890 0.543171	+0.01805 3.9476	+0.000056 6.2208	+0.0474 3.3103
	Y:	+0.0878	-0.00007	+19.2084 2.123970	+0.01833 5.5423	+0.000057 1.1730	+0.0477 4.8950
OCT. 1 A NOV. 1 (2446339.5)	X:	+0.1111	-0.00007	+18.8094 2.037895	+0.01611 5.6106	+0.000091 1.9233	+0.0464 0.0120
	Y:	+0.0855	-0.00004*	+18.7113 3.617452	+0.01748 0.9467	+0.000091 3.3475	+0.0463 1.5969
NOV. 1 A DEC. 2 (2446370.5)	X:	+0.1087	-0.00003	+18.4441 5.045976	+0.01166 2.6038	+0.000111 5.1300	+0.0459 6.0357
	Y:	+0.0839	+0.00000	+18.3146 0.339501	+0.01381 4.2461	+0.000117 0.3495	+0.0454 1.3234
DEC. 1 A DEC.32 (2446400.5)	X:	+0.1075	+0.00000	+18.2775 0.254636	+0.00732 4.6687	+0.000119 0.4625	+0.0457 2.7390
	Y:	+0.0840	+0.00003	+18.1237 1.827447	+0.00993 6.2656	+0.000128 2.0127	+0.0453 4.3106

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 3 D'URANUS: TITANIA

N=0.7217

		A0	A1	B0 FO	B1 F1	B2 F2	CO PO
JAN. 1 A FEV. 1 (2446066.5)	X:	-0.0779	-0.00004	+30.1057 1.464811	+0.01454 0.9543	+0.000167 1.7752	+0.0335 0.6884
	Y:	+0.0612	+0.00002	+29.8920 3.042256	+0.01521 2.2405	+0.000186 3.3816	+0.0332 2.2640
FEV. 1 A MAR. 4 (2446097.5)	X:	-0.0797	-0.00007	+30.6502 4.982366	+0.02306 4.8157	+0.000113 5.6039	+0.0340 1.4487
	Y:	+0.0620	+0.00003	+30.3876 0.273062	+0.02289 6.2521	+0.000135 1.0180	+0.0337 3.0216
MAR. 1 A AVR. 1 (2446125.5)	X:	-0.0813	-0.00007	+31.3565 0.055466	+0.02847 0.0532	+0.000070 1.8322	+0.0350 4.1690
	Y:	+0.0629	+0.00007	+31.0752 1.627247	+0.02794 1.5720	+0.000103 3.2629	+0.0347 5.7413
AVR. 1 A MAI 2 (2446156.5)	X:	-0.0842	-0.00003	+32.2213 3.580576	+0.02813 3.7315	+0.000162 0.1354	+0.0359 4.9246
	Y:	+0.0650	+0.00005	+31.9294 5.151912	+0.02796 5.3310	+0.000162 1.5268	+0.0355 0.2135
MAI 1 A JUN. 1 (2446186.5)	X:	-0.0851	+0.00000	+32.9146 0.103996	+0.01989 0.4726	+0.000261 3.2108	+0.0364 4.2577
	Y:	+0.0667	+0.00007	+32.6236 1.676779	+0.02116 2.1523	+0.000246 4.7336	+0.0360 5.8323
JUN. 1 A JUL. 2 (2446217.5)	X:	-0.0854	+0.00003	+33.2403 3.634051	+0.00795 4.9602	+0.000272 0.6274	+0.0366 5.0243
	Y:	+0.0687	+0.00002	+32.9721 5.209572	+0.01146 0.2071	+0.000268 2.2443	+0.0363 0.3169
JUL. 1 A AOU. 1 (2446247.5)	X:	-0.0848	+0.00008	+33.0587 0.158275	+0.01583 2.9426	+0.000190 3.6549	+0.0360 4.3385
	Y:	+0.0693	-0.00002	+32.8358 1.736550	+0.01530 4.3103	+0.000212 5.3210	+0.0358 5.9189
AOU. 1 A SEP. 1 (2446278.5)	X:	-0.0820	+0.00007	+32.4321 3.684735	+0.02609 0.4889	+0.000081 1.5792	+0.0353 5.1094
	Y:	+0.0686	-0.00002	+32.2563 5.264926	+0.02498 2.0205	+0.000117 3.0892	+0.0351 0.4067
SEP. 1 A OCT. 2 (2446309.5)	X:	-0.0800	+0.00006	+31.5879 0.923961	+0.02874 4.1696	+0.000094 0.2955	+0.0342 5.8564
	Y:	+0.0676	-0.00007	+31.4267 2.504496	+0.02920 5.7692	+0.000098 1.5702	+0.0340 1.1526
OCT. 1 A NOV. 1 (2446339.5)	X:	-0.0777	+0.00004	+30.8003 3.720905	+0.02483 0.8402	+0.000149 3.5161	+0.0335 5.1714
	Y:	+0.0653	-0.00004	+30.6125 5.300136	+0.02685 2.4854	+0.000151 4.9618	+0.0333 0.4673
NOV. 1 A DEC. 2 (2446370.5)	X:	-0.0765	+0.00001	+30.1988 0.953350	+0.01700 4.6135	+0.000183 0.9324	+0.0330 5.9190
	Y:	+0.0636	-0.00004	+29.9644 2.529598	+0.02030 0.0202	+0.000196 2.4469	+0.0327 1.2090
DEC. 1 A DEC.32 (2446400.5)	X:	-0.0762	-0.00001	+29.9211 3.746249	+0.00944 1.7777	+0.000191 3.8506	+0.0329 5.2285
	Y:	+0.0620	-0.00001	+29.6512 5.318438	+0.01384 3.4233	+0.000208 5.4122	+0.0326 0.5160

1985

COORDONNEES EQUATORIALES DIFFERENTIELLES

DU SATELLITE 4 D'URANUS: OBERON

N=0.4667

		AO	A1	BO FO	B1 F1	B2 F2	CO PO
JAN. 1 A FEV. 1 (2446066.5)	X:	-0.0063	+0.00000	+40.2945 5.030364	+0.02023 4.4623	+0.000221 5.2993	+0.0163 0.7525
	Y:	+0.0481	+0.00000	+40.0151 0.324999	+0.02147 5.7583	+0.000248 0.6517	+0.0161 2.3363
FEV. 1 A MAR. 4 (2446097.5)	X:	-0.0055	-0.00006	+41.0253 0.641718	+0.03141 0.4142	+0.000151 1.2701	+0.0167 4.5507
	Y:	+0.0484	+0.00004	+40.6785 2.215908	+0.03119 1.8625	+0.000175 2.9329	+0.0163 6.1354
MAR. 1 A AVR. 1 (2446125.5)	X:	-0.0057	-0.00005	+41.9748 1.139882	+0.03795 1.0851	+0.000091 2.8334	+0.0168 5.5523
	Y:	+0.0486	+0.00010	+41.5968 2.712039	+0.03784 2.6069	+0.000135 4.4079	+0.0169 0.8550
AVR. 1 A MAI 2 (2446156.5)	X:	-0.0082	+0.00009	+43.1294 3.041730	+0.03756 3.1368	+0.000223 5.8535	+0.0175 3.0687
	Y:	+0.0505	+0.00005	+42.7429 4.613447	+0.03707 4.7417	+0.000215 0.9827	+0.0175 4.6616
MAI 1 A JUN. 1 (2446186.5)	X:	-0.0069	+0.00002	+44.0588 4.480191	+0.02590 4.7913	+0.000346 1.2956	+0.0179 5.9444
	Y:	+0.0530	-0.00003	+43.6705 6.053403	+0.02762 0.1816	+0.000333 2.7971	+0.0175 1.2434
JUN. 1 A JUL. 2 (2446217.5)	X:	-0.0066	+0.00004	+44.4920 0.104150	+0.00929 1.4120	+0.000362 3.3638	+0.0178 3.4668
	Y:	+0.0521	+0.00003	+44.1376 1.680041	+0.01403 2.9282	+0.000360 4.9718	+0.0177 5.0541
JUL. 1 A AOU. 1 (2446247.5)	X:	-0.0066	+0.00006	+44.2442 1.543985	+0.02072 4.3709	+0.000257 4.9899	+0.0177 0.0519
	Y:	+0.0534	-0.00008	+43.9575 3.122599	+0.02025 5.7387	+0.000274 0.4119	+0.0173 1.6367
AOU. 1 A SEP. 1 (2446278.5)	X:	-0.0041	-0.00007	+43.4065 3.448135	+0.03503 0.2590	+0.000109 1.3570	+0.0172 3.8616
	Y:	+0.0517	-0.00004	+43.1801 5.028711	+0.03345 1.7996	+0.000148 2.8310	+0.0168 5.4395
SEP. 1 A OCT. 2 (2446309.5)	X:	-0.0055	+0.00003	+42.2758 5.348607	+0.03855 2.3173	+0.000124 4.7735	+0.0168 1.3807
	Y:	+0.0492	+0.00002	+42.0686 0.646237	+0.03892 3.9082	+0.000132 5.9463	+0.0165 2.9532
OCT. 1 A NOV. 1 (2446339.5)	X:	-0.0056	+0.00003	+41.2225 0.495481	+0.03315 3.8968	+0.000201 0.2621	+0.0163 4.2360
	Y:	+0.0492	-0.00004	+40.9804 2.075080	+0.03606 5.5432	+0.000206 1.7292	+0.0163 5.8055
NOV. 1 A DEC. 2 (2446370.5)	X:	-0.0049	-0.00001	+40.4204 2.389213	+0.02283 6.0597	+0.000246 2.3361	+0.0160 1.7402
	Y:	+0.0480	-0.00002	+40.1114 3.965826	+0.02721 1.4650	+0.000259 3.8509	+0.0160 3.3101
DEC. 1 A DEC.32 (2446400.5)	X:	-0.0055	+0.00000	+40.0516 3.814947	+0.01330 1.8785	+0.000255 3.8876	+0.0160 4.5963
	Y:	+0.0470	+0.00002	+39.6928 5.387514	+0.01920 3.5013	+0.000278 5.4432	+0.0159 6.1681