



Satellites galiléens de Jupiter : phénomènes et configurations pour 1982

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SATELLITES GALILÉENS DE
JUPITER

PHÉNOMÈNES ET CONFIGURATIONS

POUR 1982



Supplément à la CONNAISSANCE DES TEMPS

BUREAU DES LONGITUDES

SATELLITES GALILEENS DE JUPITER

Phénomènes et configurations pour 1982

Supplément à la Connaissance des Temps

Bureau des Longitudes

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AVERTISSEMENT

Depuis 1980, la *Connaissance des Temps* est présentée d'une façon nouvelle qui fait appel aux développements en polynômes de Tchébychev des coordonnées des astres du système solaire. Ce procédé se montre particulièrement efficace pour les coordonnées différentielles des satellites galiléens de Jupiter puisque, pour l'année, 26 pages de coefficient suffisent pour obtenir les coordonnées de l'un quelconque de ces satellites avec une précision de 0,01" (0,02" pour Ganymède). Pour permettre, en revanche, de préserver à la nouvelle *Connaissance des Temps* le caractère de publication peu volumineuse et peu coûteuse qu'autorise la nouvelle présentation, on n'y donne plus ni la liste des phénomènes ni les schémas des configurations des satellites galiléens qui figurent d'ailleurs dans l'*Annuaire du Bureau des Longitudes*.

Cependant certains utilisateurs souhaitent disposer d'une précision supérieure à celle qu'entraînent les dimensions et la présentation de l'*Annuaire du Bureau des Longitudes*. Le présent supplément permet de satisfaire à ces besoins puisqu'il donne à la seconde près les différents instants de chaque phénomène alors que l'*Annuaire* donne à la minute près l'instant du milieu de chaque phénomène. Par ailleurs les schémas des configurations ont été améliorés et permettent en particulier d'avoir la déclinaison des satellites au dessus du plan équatorial si bien qu'on peut espérer obtenir la position d'un satellite par rapport au disque de Jupiter avec une précision d'environ 10" de degrés grâce à la grande précision du tracé.

A tous ces renseignements annuels on a joint des données générales sur les satellites galiléens et sur leurs orbites, des explications sur le contenu de l'ouvrage, en particulier sur les hypothèses faites dans les calculs, et sur l'utilisation des données.

B. MORANDO

Correspondant du Bureau des Longitudes
Directeur du Service des Calculs

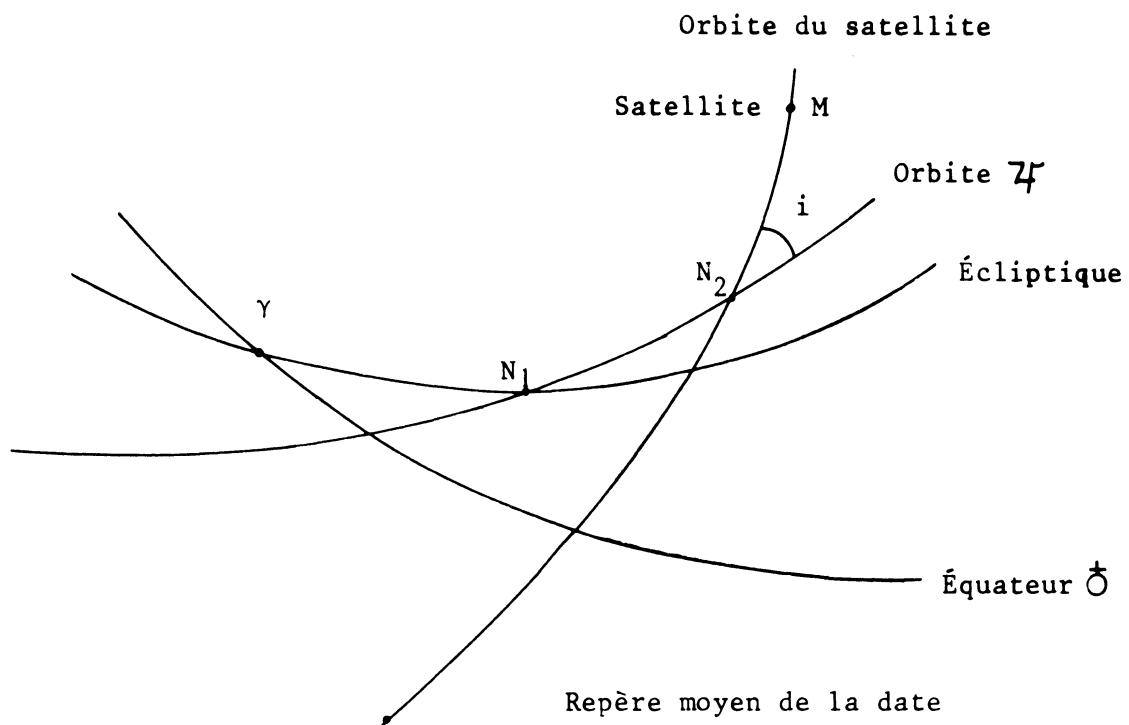
Supplément à la Connaissance des Temps pour 1982

Rédaction et calculs: J.-E. ARLOT, Y. JANOT, W. THUILLOT, D.T. VU.

GENERALITES SUR LES SATELLITES GALILEENS

| | J1 IO | J2 EUROPE | J3 GANYMEDE | J4 CALLISTO |
|--|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| Masses (10^{-5} m^3) Sampson (1921) De Sitter (1931) Pionnier 11 (1976) | 4,50 3,81 4,68 | 2,54 2,48 2,52 | 7,99 8,17 7,80 | 4,50 5,09 5,66 |
| Rayons (en km) Danjon (1954) Dollfus (1961) Pionnier 11 (1976) | 1650 1775 1840 | 1400 1550 1552 | 2450 2800 2650 | 2300 2525 2420 |
| Magnitudes visuelles à l'opposition de Jupiter d'après Harris (1961) | 4,8 | 5,2 | 4,5 | 5,5 |
| Albédos U: 3530 Å géométriques B: 4480 Å V: 5540 Å d'après R: 6900 Å Harris I: 8200 Å (1961) | 0,19 0,56 0,92 1,12 1,15 | 0,47 0,67 0,83 0,93 0,95 | 0,29 0,41 0,49 0,56 0,57 | 0,14 0,21 0,26 0,30 0,31 |
| Albédo de Bond (visuel) | 0,54 | 0,49 | 0,29 | 0,15 |
| Demi-grand axe (1) en U.A : en rayons de Jupiter: en kilomètres : | 0,002820 5,87 421810 | 0,004486 9,34 671140 | 0,007155 14,91 1070500 | 0,012586 26,22 1882900 |
| Plus grande elongation à l'opposition de Jupiter (1) en minutes et secondes d'arc : | 2° 17" | 3° 40" | 5° 48" | 10° 13" |
| Période synodique en jours (1) : | 1,7698604883 | 3,5540941742 | 7,1663872292 | 16,7535523007 |
| Inclinaison sur l'équateur de Jupiter (1) en minutes et secondes d'arc : | 0° 07" | 1° 02" | 5° 13" | 25° 45" |
| Excentricité : | 0,001 | 0,000 | 0,002 | 0,008 |

(1) : d'après Sampson (1921)



Du fait de la complexité du mouvement des satellites galiléens aucun renseignement n'est donné ici sur les noeuds, et les périodes. En effet excentricités et inclinaisons sont faibles (voir tableau précédent) et tous ces éléments sont soumis à de trop 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 :

$$\gamma N_1 N_2 = 316^\circ,051 + 0,00003559 T \quad \text{et} \quad i = 3^\circ,10350$$

| | $\gamma N_1 + N_1 N_2 + N_2 M$ | Période sidérale |
|----------|---|-------------------|
| IO | $142^\circ,59987 + 203^\circ,488992435 T$ | $1,7691374639^j$ |
| EUROPE | $99^\circ,55081 + 101^\circ,374761672 T$ | $3,5511797420^j$ |
| GANYMEDE | $168^\circ,02628 + 50^\circ,317646290 T$ | $7,1545476894^j$ |
| CALLISTO | $234^\circ,40790 + 21^\circ,571109630 T$ | $16,6889884746^j$ |

La théorie du mouvement des satellites galiléens utilisée pour le calcul des positions , et des prédictions des phénomènes est la théorie de Sampson (1) programmée au Bureau des Longitudes et corrigée d' erreurs mineures internes . Les constantes utilisées dans cette théorie , sont celles déterminées par Sampson grâce à des observations de phénomènes (éclipses) de la fin du 19^e siècle(2) C'est à l' ancienneté de ces observations qu' il faut attribuer une part de l' écart que l' on constatera entre les dates des prédictions et des observations , dont la valeur peut atteindre plusieurs minutes de temps. Les recherches sont en cours au Bureau des Longitudes , afin de réduire cet écart dont on commence à connaître les causes . Des études sont effectuées , aussi bien pour améliorer la théorie que l' observation de ces corps .

(1) R. A. Sampson : Theory of the Four Great Satellites of Jupiter
(1921)

(2) Harvard Annals (1908)

&&&&

EXPLICATION ET USAGE

L'échelle de temps :

Le temps utilisé est le temps uniforme de la Mécanique qui a été utilisé par Sampson pour sa théorie . On ne connaît pas de relation entre le temps universel diffusé par le BIH et ce temps . On peut cependant indiquer qu' il est plus proche du temps des éphémérides (T.E.) que du temps universel (U.T₂.). Connaissant TE - UT₂ à une date donnée , la date en T.U. d'un phénomène ou d' une position indiqué à t sera plus proche de t - (TE - UT₂) que de t dans l' échelle U.T₂. .

Donnons ici la différence TE - UT₂ prévue :

pour 1978,5 : 50 secondes
pour 1979,5 : 50 secondes

Les phénomènes :

Les hypothèses utilisées pour le calcul des époques des phénomènes sont les suivantes :

- Jupiter est un ellipsoïde dont l' aplatissement a pour valeur 1/15 et dont le rayon équatorial est 71420 kilomètres .
- Les satellites sont des sphères de rayons :
1840 Km pour Io , 1552 Km pour Europe , 2650 Km pour Ganymède ,
2420 Km pour Callisto. (d'après Pionnier 11)
- Le Soleil est une sphère de rayon 695980 Km
- Les dates sont données pour tout observatoire terrestre puisqu' on peut négliger l' effet de parallaxe dont la grandeur est plus faible que la précision des prédictions .
- L' effet de phase sur les satellites est négligé , mais pris en compte pour la planète .

Les pages paires fournissent les dates des phénomènes que présentent ces satellites :

- Les débuts et fins des passages des satellites devant la planète:
PA.D.INT et PA.D.EXT
PA.F.INT et PA.F.EXT
- Les débuts et fins de leurs occultations (anciennement appelées immersions et emmersion) :
OC.D.INT et OC.D.EXT
OC.F.INT et OC.F.EXT

– Les débuts et fins des passages de leur ombre sur Jupiter :

OM.D.INT et OM.D.EXT
OM.F.INT et OM.F.EXT

– Les débuts et fins des éclipses des satellites par Jupiter :

EC.D.INT , EC.D.EXT et EC.D.PEN
EC.F.INT , EC.F.EXT et EC.F.PEN

Les notations utilisées sont les suivantes:

.D et .F : désignent le début et la fin .

.INT et .EXT: désignent les contacts intérieurs et extérieurs des satellites avec le cône d' ombre pour les éclipses et les passages des ombres sur Jupiter ,désignent les mêmes contacts avec le cône de visibilité pour les occultations et les passages devant la planète .

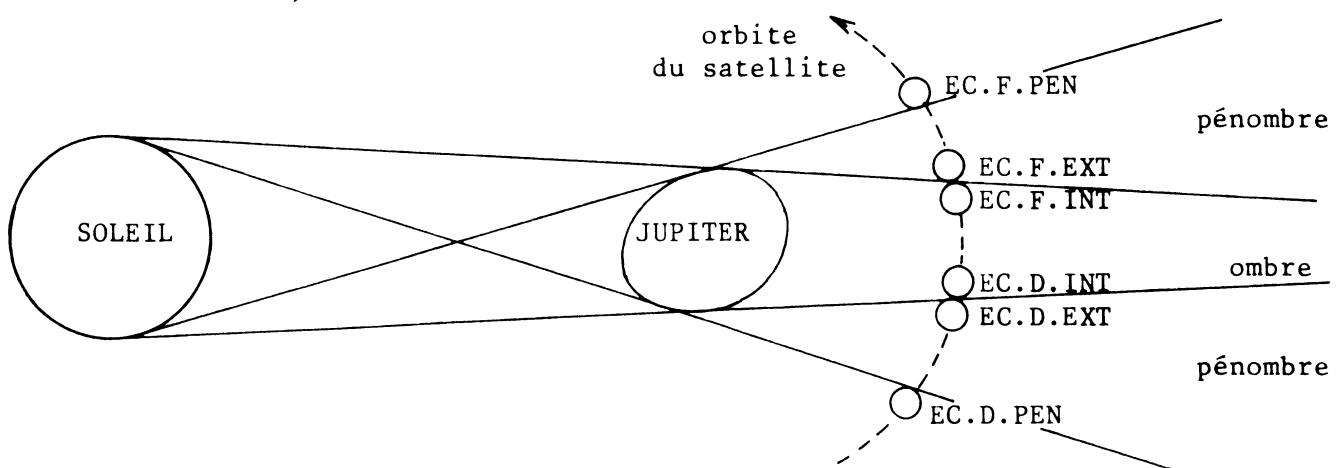
.PEN : désigne , uniquement pour les éclipses , le contact extérieur des satellites avec le cône de pénombre .

Par exemple : (voir dessin) Le déroulement d'un début d'éclipse se fait ainsi :

EC.D.PEN : Contact extérieur du satellite avec le cône de pénombre (début de l'assombrissement)

EC.D.EXT : Contact extérieur avec le cône d'ombre.

EC.D.INT : Contact intérieur avec le cône d'ombre(assombrissement total).



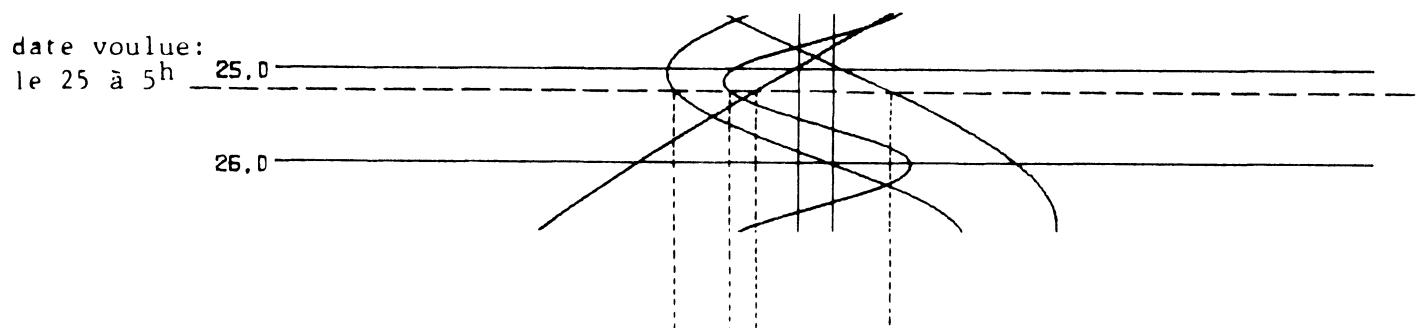
On observera que les éclipses se produisent à l'ouest ou à l'est de la planète, suivant que l'on est avant ou après l' opposition , c'est-à-dire suivant que Jupiter passe au méridien avant minuit . En général pour le premier et le deuxième satellite , on ne peut, avant l'opposition , observer que le début des éclipses et ensuite la fin des occultations . Après l'opposition on ne peut observer que le début des occultations et ensuite la fin des éclipses . Il est possible , d'autre part , que, en raison de l'inclinaison de l'équateur de Jupiter sur l'écliptique et de l' éloignement du satellite 4 (Callisto) par rapport à la planète, aucun phénomène de ce satellite ne se produise .

Les configurations :

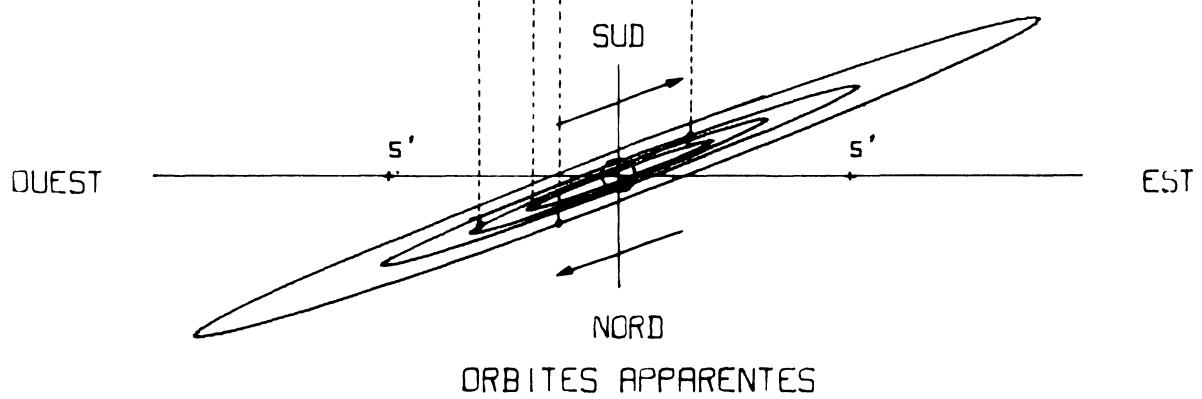
Les configurations permettent d'identifier les satellites lors de leur observation, et également de déterminer leur position en coordonnées tangentielle équatoriale relatives à Jupiter avec la précision suivante (pour une lecture des courbes à 0,5 millimètre près) :

satellite 1 : de 5" à 20" selon la vitesse apparente
satellite 2 : de 5" à 10" selon la vitesse apparente
satellite 3 : 5"
satellite 4 : 5"

L'exemple suivant montre comment déterminer les positions des satellites:



Dans le sens OUEST-EST, les satellites passent au-delà de Jupiter

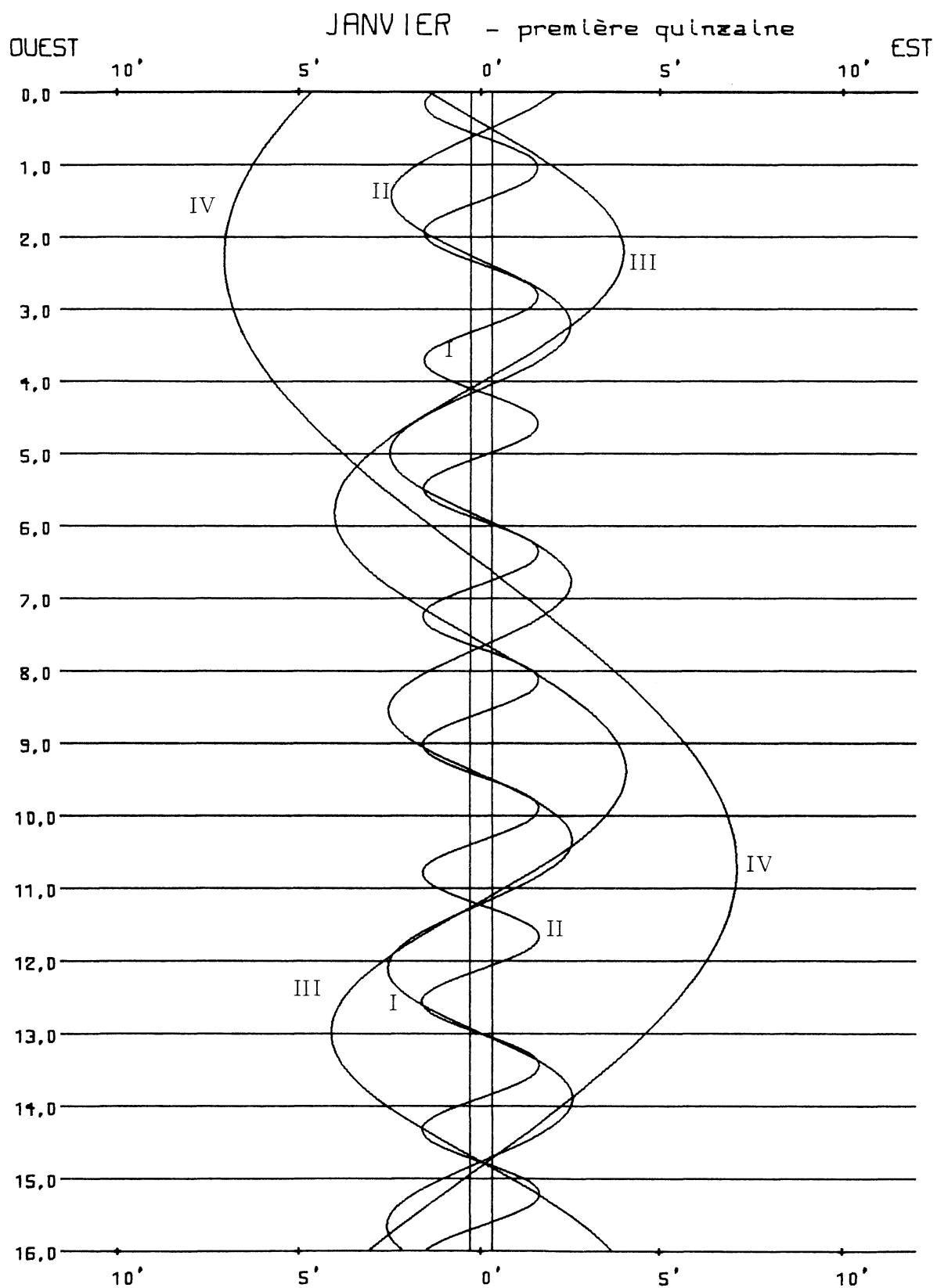


On reporte en abscisse sur l'axe ouest-est les distances $\Delta\alpha \cos\delta$ mesurées pour une date voulue, sur les courbes. L'ordonnée est donnée par les orbites apparentes. L'indétermination avant/arrière est levée grâce au sens de rotation des satellites.

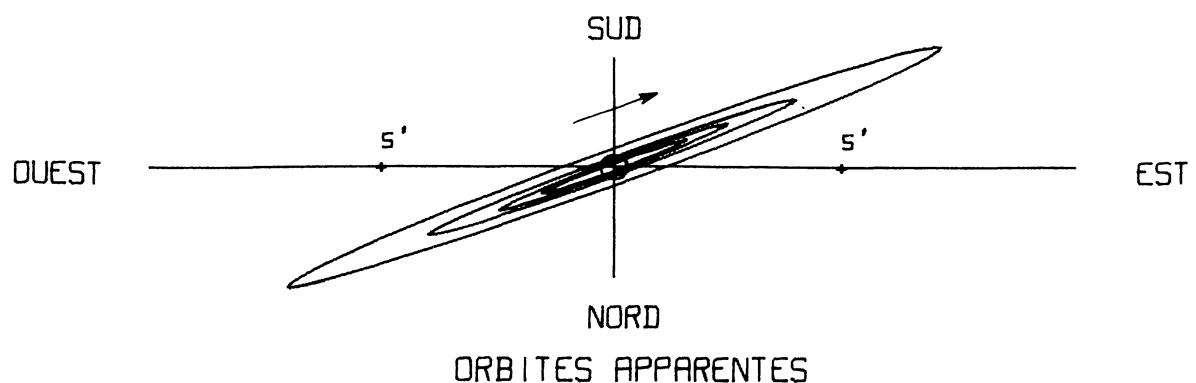
EPHEMERIDES

| PHENOMENES | | | | | | MOIS : JANVIER - PREMIERE QUINZAINE - | | | | | | | | | | | | | |
|------------|----|----|----|-----|----------|---------------------------------------|----|----|-----|----------|----------|----------|----------|----|-----|----------|----------|----------|----------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | | |
| 0 | 4 | 22 | 35 | III | EC.D.FEN | 1 | 7 | 17 | I | OM.F.EXT | | 1 | 47 | 54 | II | OM.D.EXT | | | |
| | 4 | 26 | 46 | III | EC.D.EXT | 2 | 10 | 46 | I | PA.F.INT | | 1 | 52 | 2 | II | OM.D.INT | | | |
| | 4 | 39 | 18 | III | EC.D.INT | 2 | 14 | 16 | I | PA.F.EXT | | 3 | 12 | 9 | III | PA.D.EXT | | | |
| | 6 | 47 | 22 | III | EC.F.INT | 17 | 40 | 47 | II | EC.D.PEN | | 3 | 26 | 8 | III | PA.D.INT | | | |
| | 6 | 59 | 54 | III | EC.F.EXT | 17 | 42 | 26 | II | EC.D.EXT | | 3 | 33 | 25 | I | EC.D.PEN | | | |
| | 7 | 4 | 5 | III | EC.F.PEN | 17 | 46 | 40 | II | EC.D.INT | | 3 | 34 | 9 | I | EC.D.EXT | | | |
| | 8 | 55 | 21 | III | OC.D.EXT | 20 | 8 | 47 | I | EC.D.PEN | | 3 | 37 | 36 | I | EC.D.INT | | | |
| | 9 | 6 | 38 | III | OC.D.INT | 20 | 9 | 31 | I | EC.D.EXT | | 4 | 8 | 11 | II | PA.D.EXT | | | |
| | 9 | 58 | 29 | II | OM.D.EXT | 20 | 12 | 58 | I | EC.D.INT | | 4 | 12 | 28 | II | PA.D.INT | | | |
| | 10 | 2 | 36 | II | OM.D.INT | 22 | 30 | 57 | II | OC.F.INT | | 4 | 16 | 57 | II | OM.F.INT | | | |
| | 11 | 10 | 32 | III | CC.F.INT | 22 | 35 | 20 | II | OC.F.EXT | | 4 | 21 | 5 | II | OM.F.EXT | | | |
| | 11 | 23 | 49 | III | OC.F.EXT | 23 | 27 | 2 | I | DC.F.INT | | 5 | 20 | 23 | III | PA.F.INT | | | |
| | 12 | 9 | 41 | II | PA.D.EXT | 23 | 30 | 31 | I | DC.F.EXT | | 5 | 34 | 14 | III | PA.F.EXT | | | |
| | 12 | 13 | 56 | II | PA.D.INT | | | | | | | 6 | 31 | 43 | II | PA.F.INT | | | |
| | 12 | 28 | ? | II | OM.F.INT | 6 | 17 | 21 | 37 | I | OM.D.EXT | | 6 | 35 | 59 | II | PA.F.EXT | | |
| | 12 | 32 | 15 | II | OM.F.EXT | | | | I | OM.D.INT | | 6 | 53 | 33 | I | OC.F.INT | | | |
| | 12 | 44 | 8 | I | EC.D.PEN | 18 | 30 | 35 | I | PA.D.EXT | | 6 | 57 | 2 | I | OC.F.EXT | | | |
| | 12 | 44 | 51 | I | EC.D.INT | 18 | 34 | 6 | I | PA.D.INT | | | | | | | | | |
| | 12 | 48 | 18 | I | EC.D.INT | 19 | 32 | 14 | I | OM.F.INT | 12 | 0 | 46 | 43 | I | OM.D.EXT | | | |
| | 14 | 34 | 44 | II | PA.F.INT | 19 | 35 | 43 | I | OM.F.EXT | | 0 | 50 | 12 | I | OM.D.INT | | | |
| | 14 | 38 | 58 | II | PA.F.EXT | 20 | 39 | 55 | I | PA.F.INT | | 1 | 57 | 41 | I | PA.D.EXT | | | |
| | 16 | 0 | 4 | I | OC.F.INT | 20 | 43 | 25 | I | PA.F.EXT | | 2 | 1 | 12 | I | PA.D.INT | | | |
| | 16 | 3 | 32 | I | CC.F.EXT | | | | | | | 2 | 57 | 15 | I | OM.F.INT | | | |
| 1 | 9 | 56 | 23 | I | OM.D.EXT | 7 | 8 | 19 | 45 | III | EC.D.PEN | | 3 | 0 | 44 | I | OM.F.EXT | | |
| | 9 | 59 | 52 | I | OM.D.INT | | | | 8 | 23 | 57 | III | EC.D.EXT | | 4 | 6 | 47 | I | PA.F.INT |
| | 11 | 2 | 57 | I | PA.D.EXT | 8 | 36 | 33 | III | EC.D.INT | | 4 | 10 | 18 | I | PA.F.EXT | | | |
| | 11 | 6 | 27 | I | PA.D.INT | 10 | 43 | 50 | III | EC.F.INT | | 20 | 16 | 30 | II | EC.D.PEN | | | |
| | 12 | 7 | 6 | I | CM.F.INT | 10 | 56 | 26 | III | EC.F.EXT | | 20 | 18 | 10 | II | EC.D.EXT | | | |
| | 12 | 10 | 35 | I | CM.F.EXT | 11 | 0 | 38 | III | EC.F.PEN | | 20 | 22 | 25 | II | EC.D.INT | | | |
| | 13 | 12 | 30 | I | PA.F.INT | 12 | 31 | 27 | II | OM.D.EXT | | 22 | 1 | 38 | I | EC.D.PEN | | | |
| | 13 | 16 | 0 | I | PA.F.EXT | 12 | 35 | 34 | II | OM.D.INT | | 22 | 2 | 21 | I | EC.D.EXT | | | |
| | | | | | | 13 | 6 | 36 | III | DC.D.EXT | | 22 | 5 | 49 | I | EC.D.INT | | | |
| 2 | 4 | 22 | 29 | II | EC.D.PEN | 13 | 14 | 37 | 0 | I | EC.D.PEN | 13 | 1 | 11 | 26 | II | OC.F.INT | | |
| | 4 | 24 | 8 | II | EC.D.EXT | | | | 14 | 37 | 44 | I | EC.D.EXT | | 1 | 15 | 50 | II | OC.F.EXT |
| | 4 | 28 | 22 | II | EC.D.INT | 14 | 41 | 11 | I | EC.D.INT | | 1 | 22 | 18 | I | OC.F.INT | | | |
| | 7 | 12 | 20 | I | EC.D.PEN | 14 | 49 | 4 | II | PA.D.EXT | | 1 | 25 | 47 | I | OC.F.EXT | | | |
| | 7 | 13 | 4 | I | EC.D.INT | 14 | 53 | 21 | II | PA.D.INT | | 19 | 15 | 10 | I | OM.D.EXT | | | |
| | 7 | 16 | 31 | I | EC.D.INT | 15 | 0 | 42 | II | OM.F.INT | | 19 | 18 | 39 | I | OM.D.INT | | | |
| | 9 | 9 | 39 | II | OC.F.INT | 15 | 4 | 50 | I | OM.F.EXT | | 20 | 26 | 41 | I | PA.D.EXT | | | |
| | 9 | 14 | 1 | II | OC.F.EXT | 15 | 18 | 37 | III | OC.F.INT | | 20 | 30 | 12 | I | PA.D.INT | | | |
| | 10 | 29 | 5 | I | OC.F.INT | 15 | 32 | 13 | III | OC.F.EXT | | 21 | 25 | 40 | I | OM.F.INT | | | |
| | 10 | 32 | 34 | I | OC.F.EXT | 17 | 13 | 6 | II | PA.F.INT | | 21 | 29 | 9 | I | OM.F.EXT | | | |
| | | | | | | 17 | 17 | 22 | II | PA.F.EXT | | 22 | 35 | 43 | I | PA.F.INT | | | |
| 3 | 4 | 24 | 50 | I | OM.D.EXT | 22 | 17 | 55 | I | OC.F.INT | | 22 | 39 | 14 | I | PA.F.EXT | | | |
| | 4 | 28 | 19 | I | OM.D.INT | | | | 17 | 59 | 24 | I | OC.F.EXT | | | | | | |
| | 5 | 32 | 15 | I | PA.D.EXT | 8 | * | 11 | 49 | 58 | I | OM.D.EXT | 14 | 12 | 16 | 44 | III | EC.D.PEN | |
| | 5 | 35 | 46 | I | PA.D.INT | | | | 11 | 53 | 27 | I | OM.D.INT | | 12 | 20 | 57 | III | EC.D.EXT |
| | 6 | 35 | 31 | I | OM.F.INT | 12 | 59 | 39 | I | PA.D.EXT | | 14 | 40 | 8 | III | EC.F.INT | | | |
| | 7 | 41 | 43 | I | PA.F.INT | 13 | 3 | 10 | I | PA.D.INT | | 14 | 52 | 48 | III | EC.F.EXT | | | |
| | 7 | 45 | 13 | I | PA.F.EXT | 14 | 0 | 33 | I | OM.F.INT | | 14 | 57 | 1 | III | EC.F.PEN | | | |
| | 18 | 22 | 6 | III | OM.D.EXT | 14 | 4 | 2 | I | OM.F.EXT | | 15 | 4 | 17 | II | OM.D.EXT | | | |
| | 18 | 34 | 27 | III | OM.D.INT | 15 | 8 | 54 | I | PA.F.INT | | 15 | 8 | 25 | II | OM.D.INT | | | |
| | 20 | 47 | 25 | III | OM.F.INT | 15 | 12 | 24 | I | PA.F.EXT | | 16 | 29 | 50 | I | EC.D.PEN | | | |
| | 20 | 59 | 38 | III | CM.F.EXT | | | | | | | 16 | 30 | 33 | I | EC.D.EXT | | | |
| | 23 | 1 | 13 | III | PA.D.EXT | 9 | 6 | 58 | 11 | II | EC.D.PEN | | 16 | 34 | 1 | I | EC.D.INT | | |
| | 23 | 14 | 50 | III | PA.D.INT | | | | 6 | 59 | 50 | II | EC.D.EXT | | 17 | 14 | 30 | III | OC.D.EXT |
| | 23 | 14 | 59 | II | OM.D.EXT | 7 | 4 | 5 | II | EC.D.INT | | 17 | 26 | 51 | II | PA.D.EXT | | | |
| | 23 | 19 | 7 | II | OM.D.INT | 9 | 5 | 12 | I | EC.D.PEN | | 17 | 28 | 26 | III | OC.D.INT | | | |
| | | | | | | 9 | 5 | 55 | I | EC.D.EXT | | 17 | 31 | 9 | II | PA.D.EXT | | | |
| 4 | 1 | 12 | 47 | III | PA.F.INT | 9 | 9 | 23 | I | EC.D.INT | | 17 | 33 | 11 | II | OM.F.INT | | | |
| | 1 | 26 | 17 | III | PA.F.EXT | 11 | 50 | 56 | II | OC.F.INT | | 17 | 37 | 19 | II | OM.F.EXT | | | |
| | 1 | 29 | 34 | II | PA.D.EXT | 11 | 55 | 19 | II | OC.F.EXT | | 19 | 23 | 19 | III | OC.F.INT | | | |
| | 1 | 33 | 50 | II | PA.D.INT | 12 | 24 | 45 | I | OC.F.INT | | 19 | 37 | 16 | III | OC.F.EXT | | | |
| | 1 | 40 | 34 | I | EC.D.PEN | 12 | 28 | 14 | I | OC.F.EXT | | 19 | 49 | 55 | II | PA.F.INT | | | |
| | 1 | 41 | 18 | I | EC.D.INT | | | | | | | 19 | 50 | 59 | I | OC.F.INT | | | |
| | 1 | 44 | 26 | II | OM.F.INT | 9 | 9 | 23 | I | EC.D.INT | | 19 | 54 | 12 | II | PA.F.EXT | | | |
| | 1 | 44 | 45 | I | EC.D.INT | 6 | 21 | 53 | I | OM.D.INT | | 19 | 54 | 28 | I | OC.F.EXT | | | |
| | 1 | 48 | 33 | II | OM.F.EXT | 7 | 28 | 45 | I | PA.D.EXT | | | | | | | | | |
| | 3 | 54 | 6 | II | PA.F.INT | 7 | 32 | 16 | I | PA.D.INT | 15 | 13 | 43 | 30 | I | OM.D.EXT | | | |
| | 3 | 58 | 21 | II | PA.F.EXT | 8 | 28 | 58 | I | OM.F.INT | | 13 | 46 | 59 | I | OM.D.INT | | | |
| | 4 | 58 | 5 | I | OC.F.INT | 8 | 32 | 27 | I | OM.F.EXT | | 14 | 55 | 32 | I | PA.D.EXT | | | |
| | 5 | 1 | 34 | I | OC.F.EXT | 9 | 37 | 56 | I | PA.F.INT | | 14 | 59 | 3 | I | PA.D.INT | | | |
| | 22 | 53 | 10 | I | OM.D.EXT | 9 | 41 | 26 | I | PA.F.EXT | | 15 | 53 | 58 | I | OM.F.INT | | | |
| | 22 | 56 | 39 | I | OM.D.INT | 22 | 20 | 21 | III | OM.D.EXT | | 15 | 57 | 27 | I | OM.F.EXT | | | |
| | | | | | | 22 | 32 | 46 | III | OM.D.INT | | 17 | 4 | 30 | I | PA.F.INT | | | |
| 5 | 0 | 1 | 23 | I | PA.D.EXT | | | | | | | 17 | 8 | 0 | I | PA.F.EXT | | | |
| | 0 | 4 | 53 | I | PA.D.INT | 11 | 0 | 44 | 52 | III | OM.F.INT | | | | | | | | |
| | 1 | 3 | 49 | I | CM.F.INT | | | | 0 | 57 | 9 | III | OM.F.EXT | | | | | | |

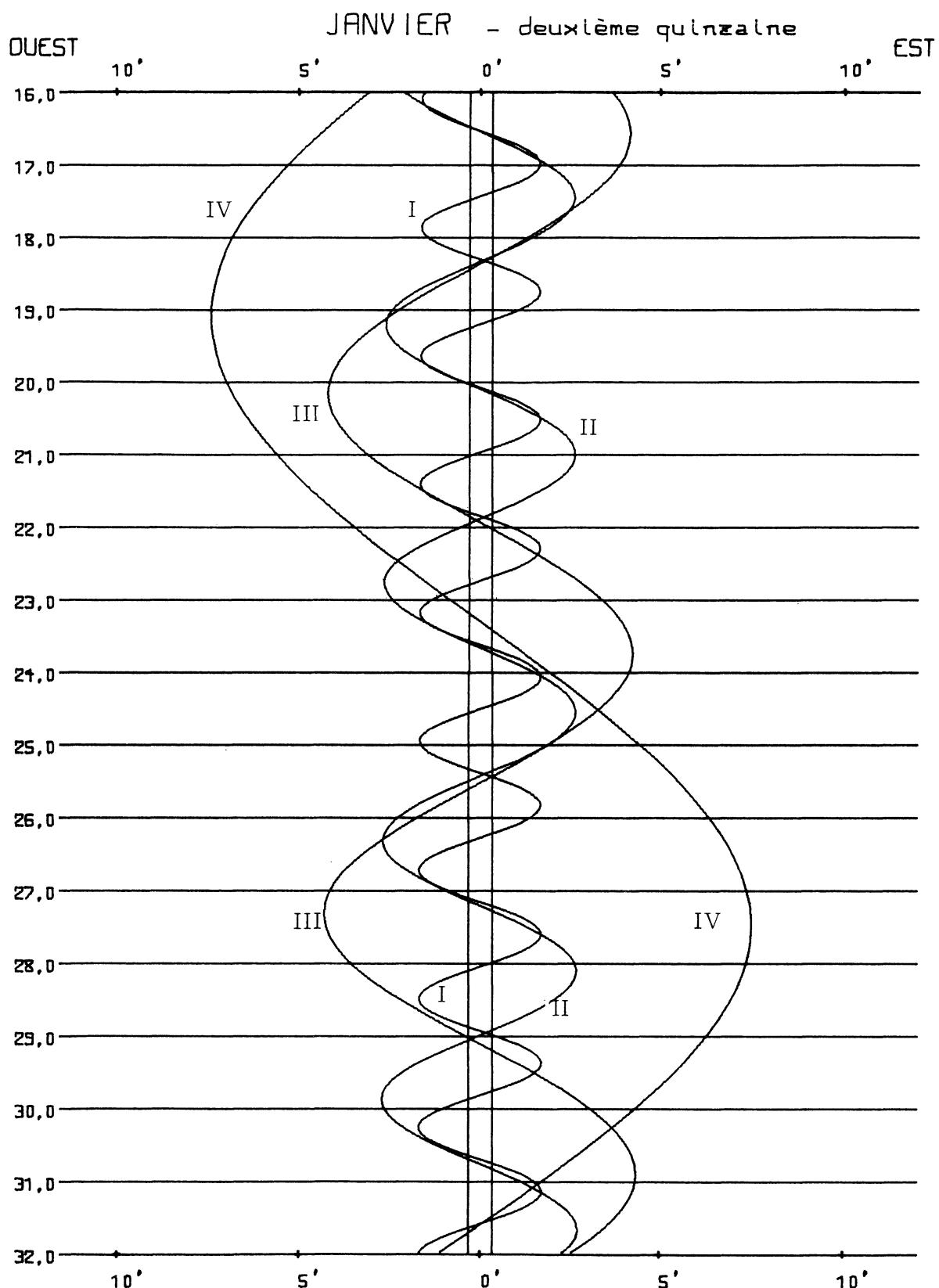
1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



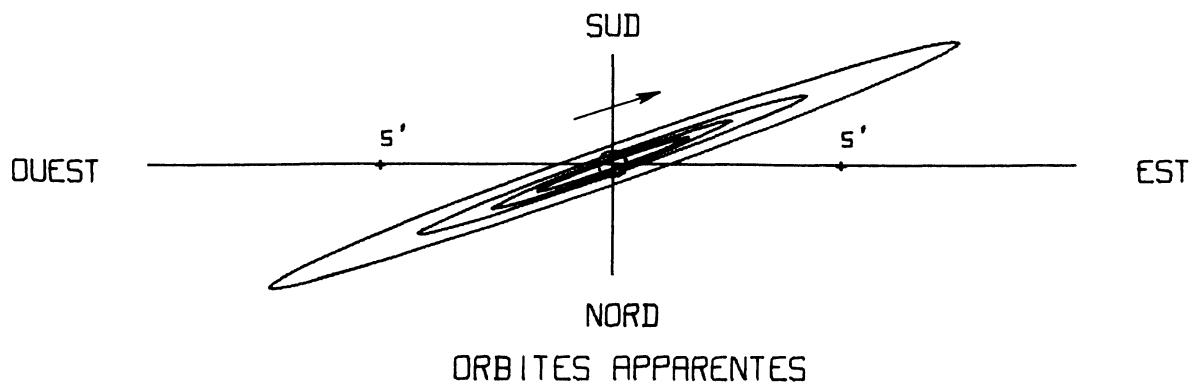
Dans le sens OUEST-EST, les satellites passent au-delà de Jupiter



1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.

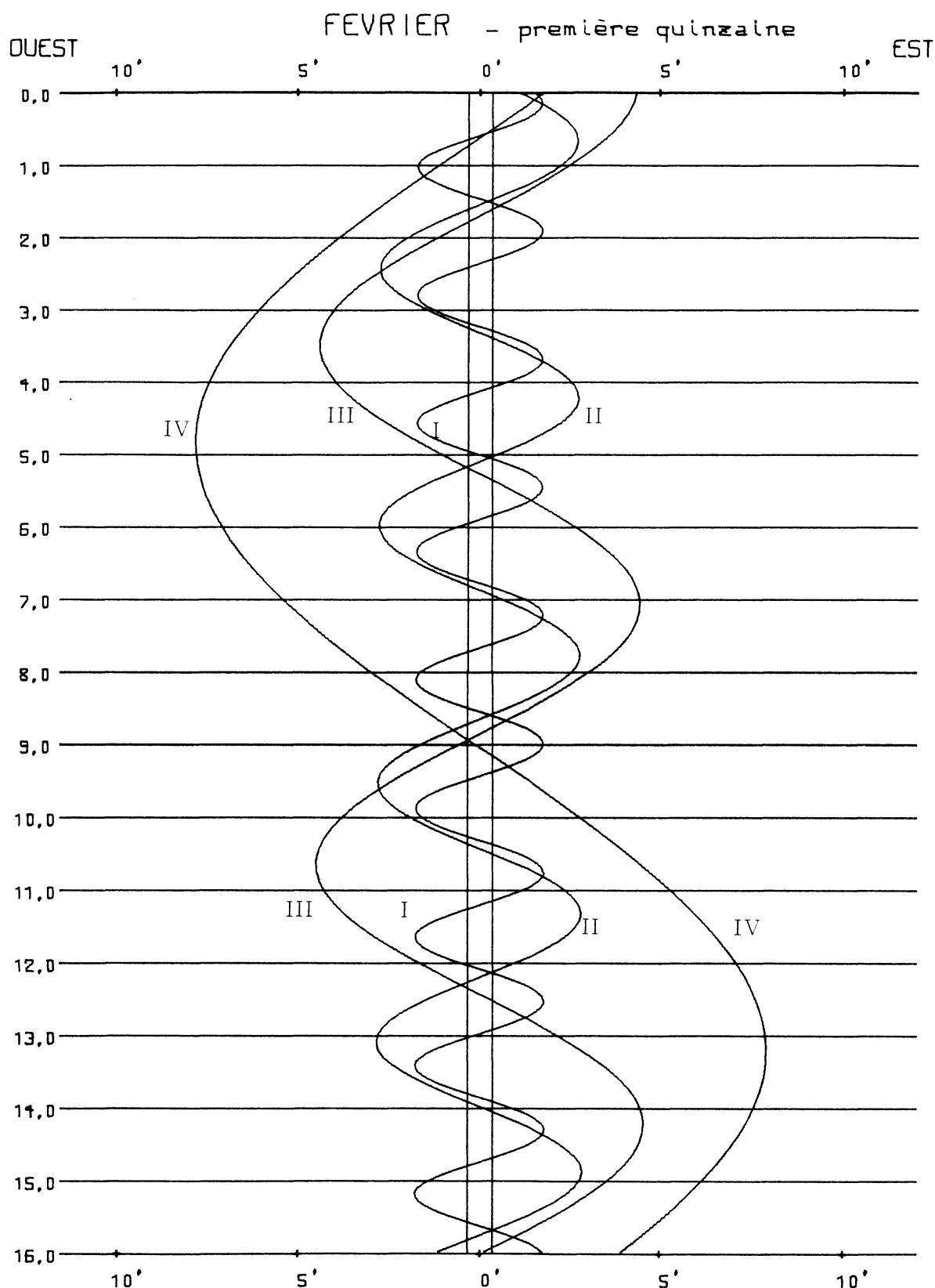


Dans le sens OUEST-EST, les satellites passent au-delà de Jupiter

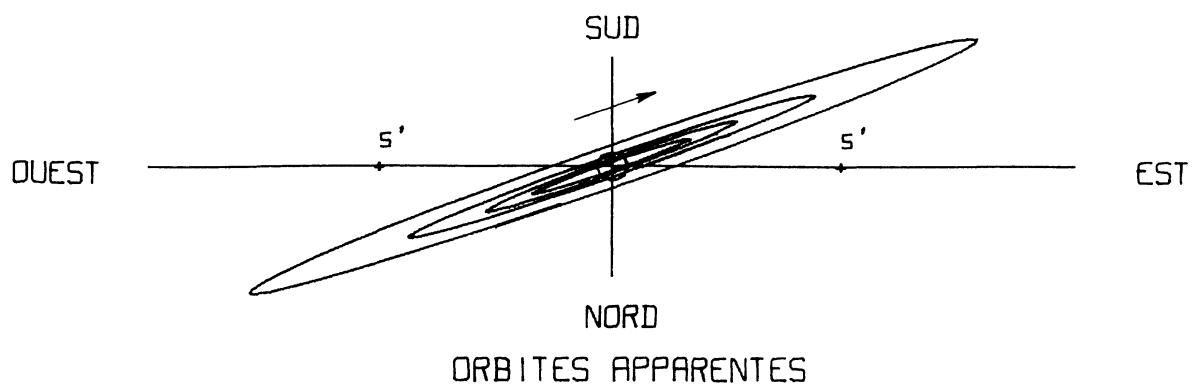


1982 - SATELLITES DE JUPITER -

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



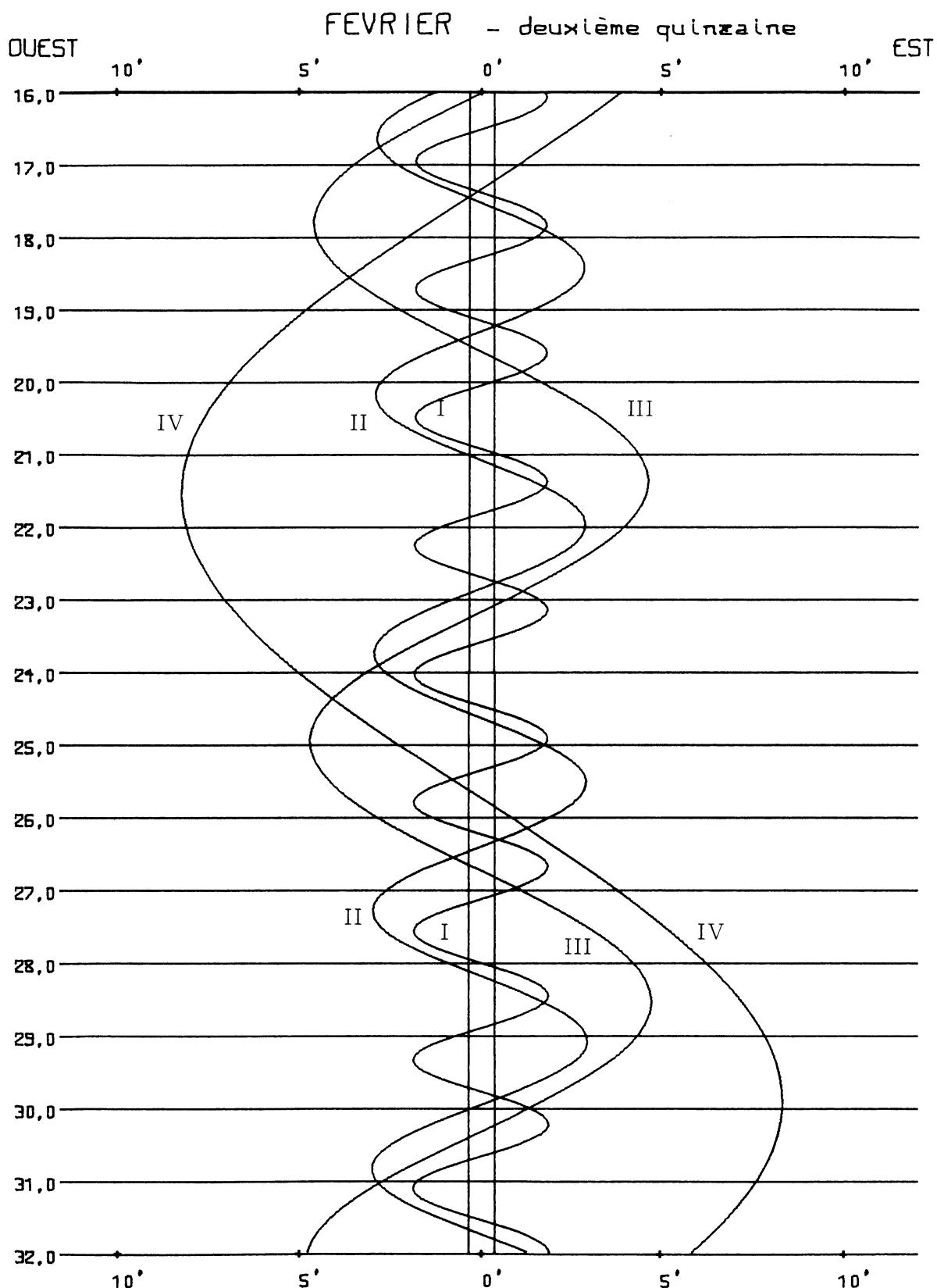
Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter



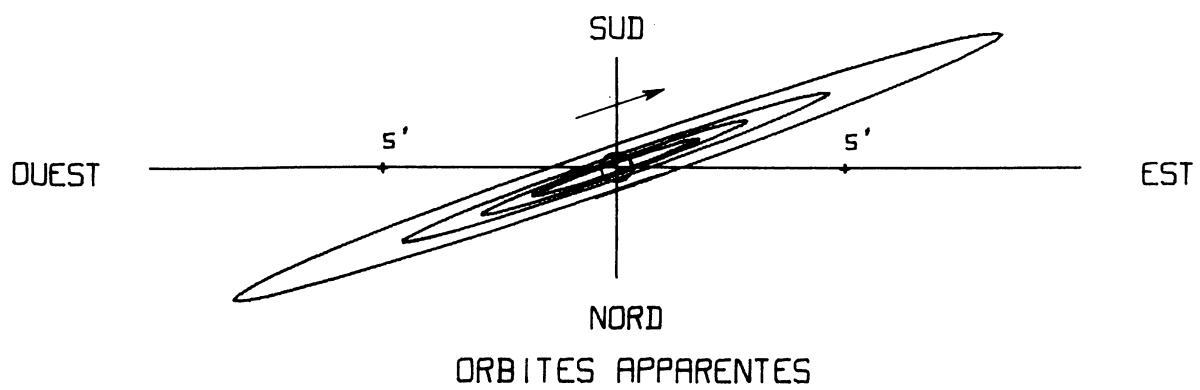
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | | MOIS : FEVRIER - DEUXIEME QUINZAINE - | | | | | | | | | | | | |
|------------|----|----|-----|----------|----------|---------------------------------------|----|----|----------|----------|----------|------|----|----|----------|----------|----------|--|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | |
| 16 | 0 | 59 | 46 | III | PA.F.INT | 2 | 32 | 7 | I | PA.F.EXT | | | | | | | | |
| | 1 | 15 | 34 | III | PA.F.EXT | 20 | 21 | 59 | I | EC.D.PEN | 25 | 6 | 35 | 51 | I | OM.D.EXT | | |
| 10 | 14 | 2 | I | OM.D.EXT | 20 | 22 | 43 | I | EC.D.EXT | | 6 | 39 | 21 | I | OM.D.INT | | | |
| 10 | 17 | 31 | I | OM.D.INT | 20 | 26 | 11 | I | EC.D.INT | | 7 | 43 | 5 | I | PA.D.EXT | | | |
| 11 | 25 | 14 | I | PA.D.EXT | 22 | 32 | 40 | II | EC.D.PEN | | 7 | 46 | 38 | I | PA.D.INT | | | |
| 11 | 28 | 47 | I | PA.D.INT | 22 | 34 | 21 | II | EC.D.EXT | | 8 | 46 | 9 | I | OM.F.INT | | | |
| 12 | 24 | 17 | I | OM.F.INT | 22 | 38 | 39 | II | EC.D.INT | | 8 | 49 | 38 | I | OM.F.EXT | | | |
| 12 | 27 | 47 | I | OM.F.EXT | 23 | 39 | 52 | I | OC.F.INT | | 9 | 51 | 2 | I | PA.F.INT | | | |
| 13 | 33 | 18 | I | PA.F.INT | 23 | 43 | 23 | I | OC.F.EXT | | 9 | 54 | 34 | I | PA.F.EXT | | | |
| 13 | 36 | 50 | I | PA.F.EXT | | | | | | | | | | | | | | |
| | | | | | | 21 | 3 | 19 | 30 | II | OC.F.INT | 26 | 3 | 46 | 39 | I | EC.D.PEN | |
| 17 | 7 | 25 | 35 | I | EC.D.PEN | | 3 | 24 | 3 | II | OC.F.EXT | | 3 | 47 | 23 | I | EC.D.EXT | |
| | 7 | 26 | 19 | I | EC.D.EXT | | 17 | 39 | 10 | I | OM.D.EXT | | 3 | 50 | 50 | I | EC.D.INT | |
| 7 | 29 | 47 | I | EC.D.INT | | 17 | 42 | 39 | I | OM.D.INT | | 6 | 20 | 24 | II | OM.D.EXT | | |
| 9 | 15 | 15 | II | EC.D.PEN | | 18 | 48 | 11 | I | PA.D.EXT | | 6 | 24 | 35 | II | OM.D.INT | | |
| 9 | 16 | 56 | II | EC.D.EXT | | 18 | 51 | 44 | I | PA.D.INT | | 7 | 1 | 43 | I | OC.F.INT | | |
| 9 | 21 | 14 | II | EC.D.INT | | 19 | 49 | 26 | I | OM.F.INT | | 7 | 5 | 14 | I | OC.F.EXT | | |
| 10 | 44 | 59 | I | OC.F.INT | | 19 | 52 | 56 | I | OM.F.EXT | | 8 | 33 | 44 | II | PA.D.EXT | | |
| 10 | 48 | 30 | I | OC.F.EXT | | 20 | 56 | 11 | I | PA.F.INT | | 8 | 38 | 11 | II | PA.D.INT | | |
| 14 | 5 | 27 | II | OC.F.INT | | 20 | 59 | 43 | I | PA.F.EXT | | 8 | 42 | 2 | II | OM.F.INT | | |
| 14 | 9 | 59 | II | CC.F.EXT | | | | | | | | | | | 8 | 52 | 13 | |
| | | | | | | 22 | 14 | 50 | 12 | I | EC.D.PEN | | 10 | 52 | 40 | II | PA.F.INT | |
| 18 | 4 | 42 | 26 | I | OM.D.EXT | | 14 | 50 | 56 | I | EC.D.EXT | | 10 | 57 | 6 | II | PA.F.EXT | |
| | 4 | 45 | 56 | I | OM.D.INT | | 14 | 54 | 24 | I | EC.D.INT | | 12 | 0 | 24 | III | EC.D.PEN | |
| 5 | 52 | 59 | I | PA.D.EXT | | 17 | 4 | 0 | II | OM.D.EXT | | 12 | 4 | 43 | III | EC.D.EXT | | |
| 5 | 56 | 32 | I | PA.D.INT | | 17 | 8 | 11 | II | OM.D.INT | | 12 | 17 | 48 | III | EC.D.INT | | |
| 6 | 52 | 42 | I | OM.F.INT | | 18 | 7 | 13 | I | OC.F.INT | | 14 | 19 | 52 | III | EC.F.INT | | |
| 6 | 56 | 11 | I | OM.F.EXT | | 18 | 10 | 44 | I | OC.F.EXT | | 14 | 32 | 57 | III | EC.F.EXT | | |
| 8 | 1 | 1 | I | PA.F.INT | | 19 | 20 | 59 | II | PA.D.EXT | | 14 | 37 | 16 | III | EC.F.PEN | | |
| 8 | 4 | 33 | I | PA.F.EXT | | 19 | 25 | 25 | II | PA.D.INT | | 16 | 40 | 56 | III | DC.D.EXT | | |
| | | | | | | 19 | 31 | 41 | II | CM.F.INT | | 16 | 57 | 10 | III | OC.D.INT | | |
| 19 | 1 | 53 | 47 | I | EC.D.PEN | | 19 | 35 | 51 | II | OM.F.EXT | | 18 | 31 | 51 | III | OC.F.INT | |
| | 1 | 54 | 31 | I | EC.D.EXT | | 21 | 40 | 7 | II | PA.F.INT | | 18 | 48 | 5 | III | OC.F.EXT | |
| 1 | 57 | 56 | I | EC.D.INT | | 21 | 44 | 32 | II | PA.F.EXT | | | | | | | | |
| 3 | 47 | 41 | II | OM.D.EXT | | 22 | 6 | 7 | III | OM.D.EXT | 27 | 1 | 4 | 10 | I | OM.D.EXT | | |
| 3 | 51 | 52 | II | OM.D.INT | | 22 | 18 | 55 | III | OM.D.INT | | 1 | 7 | 40 | I | OM.D.INT | | |
| 5 | 12 | 27 | I | CC.F.INT | | | | | | | | 2 | 10 | 23 | I | PA.D.EXT | | |
| 5 | 15 | 56 | I | OC.F.EXT | 23 | 0 | 26 | 48 | III | OM.F.INT | | 2 | 13 | 56 | I | PA.D.INT | | |
| 6 | 7 | 45 | II | PA.D.EXT | | 0 | 39 | 26 | III | OM.F.EXT | | 3 | 14 | 29 | I | OM.F.INT | | |
| 6 | 12 | 11 | II | PA.D.INT | | 2 | 53 | 18 | III | PA.D.EXT | | 3 | 17 | 58 | I | OM.F.EXT | | |
| 6 | 15 | 25 | II | OM.F.INT | | 3 | 9 | 41 | III | PA.D.INT | | 4 | 18 | 19 | I | PA.F.INT | | |
| 6 | 19 | 36 | II | CM.F.EXT | | 4 | 42 | 54 | III | PA.F.INT | | 4 | 21 | 52 | I | PA.F.EXT | | |
| 8 | 3 | 15 | III | EC.D.PEN | | 4 | 59 | 8 | III | PA.F.EXT | | 22 | 14 | 52 | I | EC.D.PEN | | |
| 8 | 7 | 34 | III | EC.D.EXT | | 12 | 7 | 27 | I | OM.D.EXT | | 22 | 15 | 36 | I | EC.D.EXT | | |
| 8 | 20 | 35 | III | EC.D.INT | | 12 | 10 | 56 | I | OM.D.INT | | 22 | 19 | 4 | I | EC.D.INT | | |
| 8 | 27 | 8 | II | PA.F.INT | | 13 | 15 | 37 | I | PA.D.EXT | | | | | | | | |
| 8 | 31 | 33 | II | PA.F.EXT | | 13 | 19 | 9 | I | PA.D.INT | 28 | 1 | 8 | 24 | II | EC.C.PEN | | |
| 10 | 23 | 21 | III | EC.F.INT | | 14 | 17 | 44 | I | OM.F.INT | | 1 | 10 | 5 | II | EC.D.EXT | | |
| 10 | 36 | 21 | III | EC.F.EXT | | 14 | 21 | 13 | I | OM.F.EXT | | 1 | 14 | 24 | II | EC.D.INT | | |
| 10 | 40 | 40 | III | EC.F.PEN | | 15 | 23 | 35 | I | PA.F.INT | | 1 | 28 | 53 | I | OC.F.INT | | |
| 12 | 57 | 50 | III | OC.D.EXT | | 15 | 27 | 7 | I | PA.F.EXT | | 1 | 32 | 24 | I | OC.F.EXT | | |
| 13 | 12 | 42 | III | OC.D.INT | | | | | | | | 5 | 46 | 42 | II | OC.F.INT | | |
| 14 | 51 | 18 | III | OC.F.INT | 24 | 9 | 18 | 26 | I | EC.D.PEN | | 5 | 51 | 17 | II | OC.F.EXT | | |
| 15 | 7 | 10 | III | OC.F.EXT | | 9 | 19 | 10 | I | EC.D.EXT | | 19 | 32 | 35 | I | OM.D.EXT | | |
| 23 | 10 | 45 | I | OM.D.EXT | | 9 | 22 | 38 | I | EC.D.INT | | 19 | 36 | 5 | I | OM.D.INT | | |
| 23 | 14 | 14 | I | OM.D.INT | | 11 | 50 | 59 | II | EC.D.PEN | | 20 | 37 | 44 | I | PA.D.EXT | | |
| | | | | | | 11 | 52 | 40 | II | EC.D.EXT | | 20 | 41 | 17 | I | PA.D.INT | | |
| 20 | 0 | 20 | 34 | I | PA.D.EXT | | 11 | 56 | 58 | II | EC.D.INT | | 21 | 42 | 55 | I | OM.F.INT | |
| | 0 | 24 | 7 | I | PA.D.INT | | 12 | 34 | 31 | I | OC.F.INT | | 21 | 46 | 24 | I | OM.F.EXT | |
| 1 | 21 | 1 | I | OM.F.INT | | 12 | 38 | 2 | I | OC.F.EXT | | 22 | 45 | 39 | I | PA.F.INT | | |
| 1 | 24 | 30 | I | CM.F.EXT | | 16 | 33 | 47 | II | OC.F.INT | | 22 | 49 | 12 | I | PA.F.EXT | | |
| 2 | 26 | 35 | I | PA.F.INT | | 16 | 38 | 21 | II | OC.F.EXT | | | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



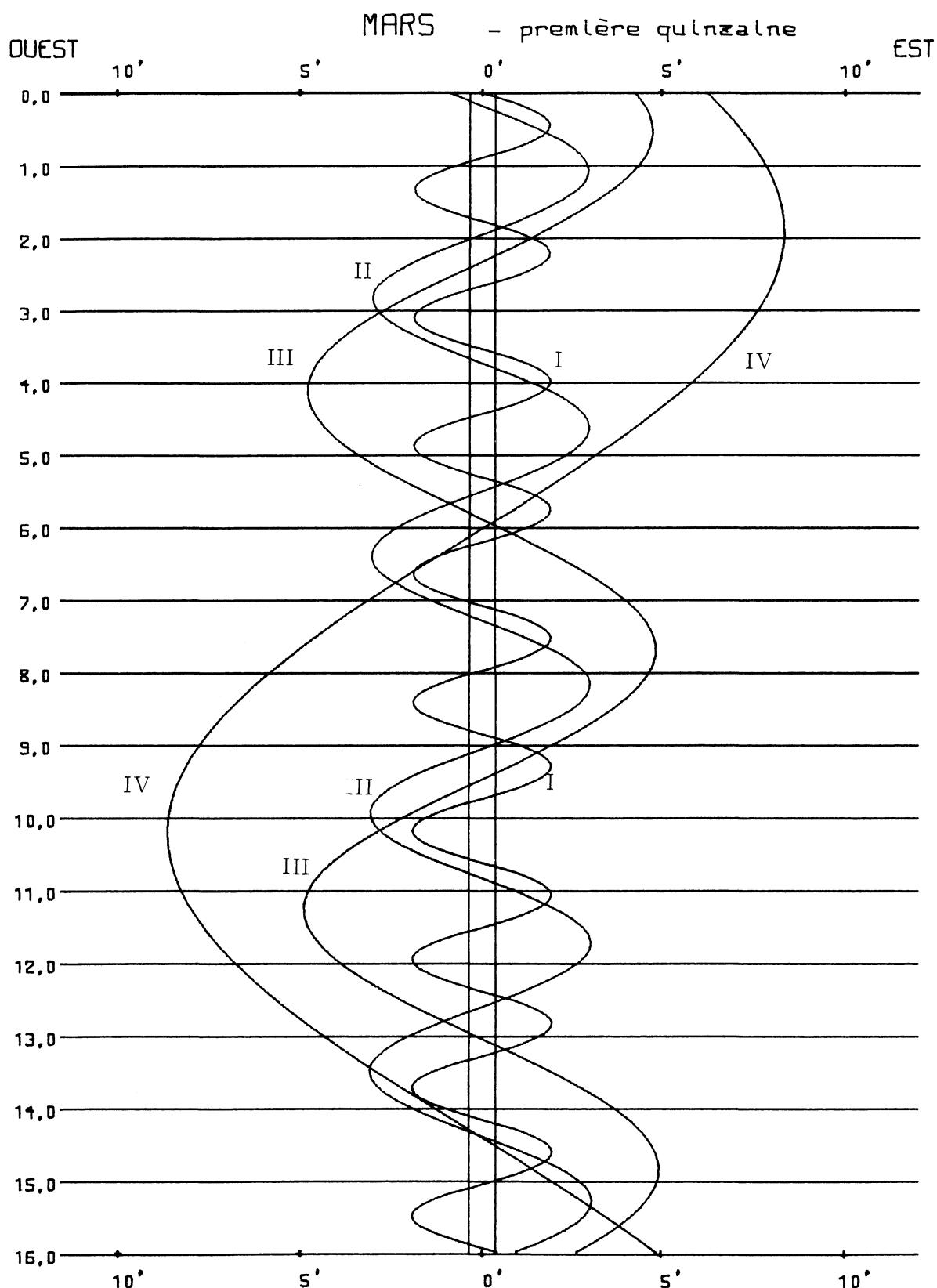
Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter



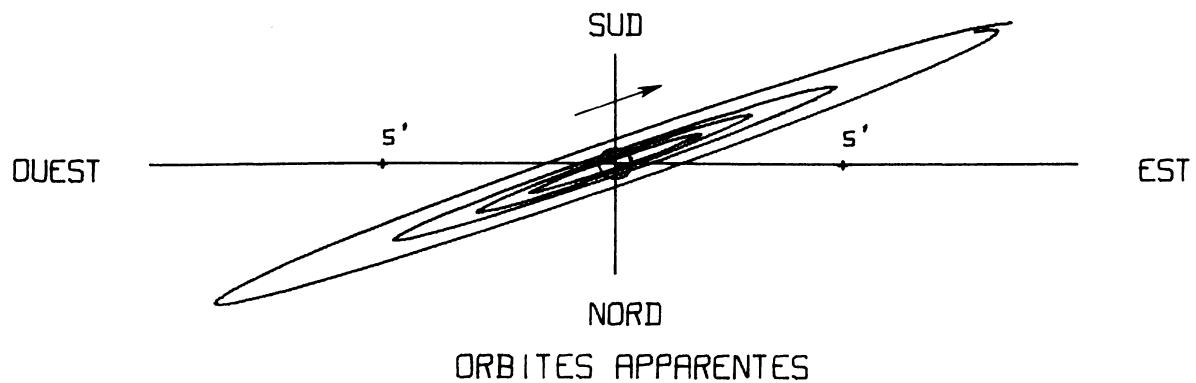
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | MOIS : | | | MARS - PREMIERE QUINZAINE - | | | | | | | | | | |
|------------|----|----|----|-----|----------|------|----|-----------------------------|-----|----------|----------|------|----|----|----|----------|----------|----------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | |
| 1 | 16 | 43 | 6 | I | EC.D.PEN | 20 | 35 | 46 | III | OC.D.INT | | 21 | 23 | 45 | II | OC.F.INT | | |
| | 43 | 50 | | I | EC.D.EXT | 22 | 7 | 55 | III | OC.F.INT | | 21 | 28 | 20 | II | OC.F.EXT | | |
| | 47 | 17 | | I | EC.D.INT | 22 | 24 | 29 | III | OC.F.EXT | | 11 | 10 | 22 | 45 | I | OM.D.EXT | |
| | 36 | 46 | | II | CM.D.EXT | 6 | 2 | 57 | 36 | I | OM.D.EXT | | 10 | 26 | 15 | I | OM.D.INT | |
| | 40 | 57 | | II | CM.D.INT | | 3 | 1 | 6 | I | OM.D.INT | | 11 | 20 | 1 | I | PA.D.EXT | |
| | 55 | 58 | | I | OC.F.INT | | 3 | 59 | 7 | I | PA.D.EXT | | 11 | 23 | 34 | I | PA.D.INT | |
| | 59 | 29 | | I | OC.F.EXT | | 4 | 2 | 40 | I | PA.D.INT | | 12 | 33 | 10 | I | OM.F.INT | |
| | 45 | 53 | | II | PA.D.EXT | | 5 | 7 | 58 | I | OM.F.INT | | 12 | 36 | 40 | I | OM.F.EXT | |
| | 50 | 21 | | II | PA.D.INT | | 5 | 11 | 28 | I | OM.F.EXT | | 13 | 27 | 54 | I | PA.F.INT | |
| | 4 | 22 | | II | OM.F.INT | | 6 | 7 | 1 | I | PA.F.INT | | 13 | 31 | 26 | I | PA.F.EXT | |
| | 8 | 33 | | II | OM.F.EXT | | 6 | 10 | 33 | I | PA.F.EXT | | | | | | | |
| 2 | 0 | 4 | 39 | II | PA.F.INT | 7 | 0 | 7 | 49 | I | EC.D.PEN | 12 | 7 | 32 | 35 | I | EC.D.PEN | |
| | 9 | 5 | | II | PA.F.EXT | | 0 | 8 | 33 | I | EC.D.EXT | | 7 | 33 | 19 | I | EC.D.EXT | |
| | 4 | 11 | | III | OM.D.EXT | | 0 | 12 | 1 | I | EC.D.INT | | 7 | 36 | 47 | I | EC.D.INT | |
| | 17 | 3 | | III | OM.D.INT | | 3 | 16 | 52 | I | OC.F.INT | | 10 | 37 | 13 | I | OC.F.INT | |
| | 24 | 22 | | III | CM.F.INT | | 3 | 20 | 23 | I | OC.F.EXT | | 10 | 40 | 45 | I | OC.F.EXT | |
| | 37 | 4 | | III | OM.F.EXT | | 3 | 44 | 10 | II | EC.D.PEN | | 11 | 26 | 5 | II | OM.D.EXT | |
| | 35 | 4 | | III | PA.D.EXT | | 3 | 45 | 51 | II | EC.D.EXT | | 11 | 30 | 17 | II | OM.D.INT | |
| | 51 | 51 | | III | PA.D.INT | | 3 | 50 | 10 | II | EC.D.INT | | 13 | 19 | 15 | II | PA.D.EXT | |
| | 22 | 15 | | III | PA.F.INT | | 8 | 11 | 42 | II | OC.F.INT | | 13 | 23 | 44 | II | PA.D.INT | |
| | 38 | 53 | | III | PA.F.EXT | | 8 | 16 | 17 | II | OC.F.EXT | | 13 | 53 | 38 | II | OM.F.INT | |
| | 0 | 53 | | I | OM.D.EXT | | 21 | 26 | 2 | I | OM.D.EXT | | 13 | 57 | 50 | II | OM.F.EXT | |
| | 4 | 22 | | I | OM.D.INT | | 21 | 29 | 32 | I | OM.D.INT | | 15 | 37 | 41 | II | PA.F.INT | |
| | 4 | 53 | | I | PA.D.EXT | | 22 | 26 | 12 | I | PA.D.EXT | | 15 | 42 | 9 | II | PA.F.EXT | |
| | 8 | 26 | | I | PA.D.INT | | 22 | 29 | 45 | I | PA.D.INT | | 19 | 54 | 33 | III | EC.D.PEN | |
| | 11 | 13 | | I | OM.F.INT | | 23 | 36 | 25 | I | OM.F.INT | | 20 | 12 | 6 | III | EC.D.INT | |
| | 14 | 42 | | I | OM.F.EXT | | 23 | 39 | 55 | I | OM.F.EXT | | 22 | 12 | 49 | III | EC.F.INT | |
| | 12 | 47 | | I | PA.F.INT | | | | | | | | 22 | 26 | 1 | III | EC.F.EXT | |
| | 16 | 20 | | I | PA.F.EXT | 8 | 0 | 34 | 5 | I | PA.F.INT | | 22 | 30 | 23 | III | EC.F.PEN | |
| 3 | 11 | 11 | 21 | I | EC.D.PEN | | 0 | 37 | 38 | I | PA.F.EXT | | 23 | 52 | 56 | III | OC.D.EXT | |
| | 12 | 5 | | I | EC.D.EXT | | 12 | 36 | 4 | I | EC.D.PEN | 13 | 0 | 9 | 46 | III | OC.D.INT | |
| | 15 | 33 | | I | EC.D.INT | | 18 | 36 | 48 | I | EC.D.EXT | | 1 | 39 | 52 | III | OC.F.INT | |
| | 23 | 1 | | I | OC.F.INT | | 18 | 40 | 16 | I | EC.D.INT | | 1 | 56 | 42 | III | OC.F.EXT | |
| | 26 | 32 | | I | OC.F.EXT | | 21 | 43 | 42 | I | OC.F.INT | | 4 | 51 | 5 | I | OM.D.EXT | |
| | 26 | 42 | | II | EC.D.PEN | | 21 | 47 | 13 | I | OC.F.EXT | | 4 | 54 | 35 | I | OM.D.INT | |
| | 28 | 23 | | II | EC.D.EXT | | 22 | 9 | 36 | II | OM.D.INT | | 5 | 46 | 48 | I | PA.D.EXT | |
| | 32 | 42 | | II | EC.D.INT | | 22 | 13 | 48 | II | OM.D.INT | | 5 | 50 | 21 | I | PA.D.INT | |
| | 59 | 51 | | II | OC.F.INT | | | | | | | | 7 | 1 | 31 | I | OM.F.INT | |
| | 4 | 26 | | II | OC.F.EXT | 9 | 0 | 8 | 38 | II | PA.D.EXT | | 7 | 5 | 1 | I | OM.F.EXT | |
| | | | | | | | 0 | 13 | 6 | II | PA.D.INT | | 7 | 54 | 41 | I | PA.F.INT | |
| | | | | | | | 0 | 37 | 9 | II | OM.F.INT | | 7 | 58 | 14 | I | PA.F.EXT | |
| 4 | 2 | 29 | 17 | I | OM.D.EXT | | | | | | | 14 | 2 | 0 | 51 | I | EC.D.PEN | |
| | 32 | 47 | | I | OM.D.INT | | 0 | 41 | 21 | II | OM.F.EXT | | 2 | 1 | 35 | I | EC.D.EXT | |
| | 32 | 5 | | I | PA.D.EXT | | 2 | 27 | 8 | II | PA.F.INT | | 2 | 5 | 3 | I | EC.D.INT | |
| | 35 | 38 | | I | PA.D.INT | | 2 | 31 | 36 | II | PA.F.EXT | | 5 | 3 | 53 | I | OC.F.INT | |
| | 39 | 38 | | I | OM.F.INT | | 6 | 1 | 55 | III | OM.D.EXT | | 5 | 7 | 25 | I | OC.F.EXT | |
| | 43 | 8 | | I | OM.F.EXT | | 6 | 14 | 51 | III | OM.D.INT | | 6 | 19 | 54 | II | EC.D.PEN | |
| | 39 | 58 | | I | PA.F.INT | | 8 | 21 | 39 | III | OM.F.INT | | 6 | 21 | 35 | II | EC.D.EXT | |
| | 43 | 31 | | I | PA.F.EXT | | 8 | 34 | 24 | III | OM.F.EXT | | 6 | 25 | 54 | II | OC.F.INT | |
| | | | | | | | 10 | 11 | 41 | III | PA.D.EXT | | 10 | 34 | 32 | II | OC.F.EXT | |
| | | | | | | | 10 | 28 | 48 | III | PA.D.INT | | 10 | 39 | 7 | II | OC.D.EXT | |
| | 5 | 39 | 34 | I | EC.D.PEN | | 11 | 56 | 53 | III | PA.F.INT | | 12 | 19 | 32 | II | OC.F.INT | |
| | 40 | 18 | | I | EC.D.EXT | | 12 | 13 | 51 | III | PA.F.EXT | | 12 | 21 | 35 | I | EC.D.PEN | |
| | 43 | 46 | | I | EC.D.INT | | 15 | 54 | 20 | I | OM.D.EXT | | 12 | 29 | 59 | I | OM.F.INT | |
| | 49 | 58 | | I | OC.F.INT | | 15 | 57 | 50 | I | OM.D.INT | | 13 | 33 | 29 | I | OM.F.EXT | |
| | 53 | 11 | | II | OM.D.EXT | | 16 | 53 | 5 | I | PA.D.EXT | | 13 | 21 | 31 | I | PA.F.EXT | |
| | 53 | 29 | | I | OC.F.EXT | | 16 | 56 | 38 | I | PA.D.INT | | 14 | 13 | 37 | I | PA.F.EXT | |
| | 57 | 23 | | II | OM.D.INT | | 18 | 4 | 44 | I | OM.F.INT | | 14 | 0 | 13 | 37 | I | PA.D.EXT |
| | 57 | 32 | | II | PA.D.EXT | | 18 | 8 | 14 | I | OM.F.EXT | | 15 | 0 | 17 | 10 | I | PA.D.INT |
| | 2 | 0 | | II | PA.D.INT | | 19 | 0 | 58 | I | PA.F.INT | | 15 | 29 | 59 | I | OM.F.INT | |
| | 20 | 46 | | II | OM.F.INT | | 19 | 4 | 31 | I | PA.F.EXT | | 16 | 33 | 29 | I | OM.F.EXT | |
| | 24 | 57 | | II | OM.F.EXT | | | | | | | | 17 | 25 | 4 | I | PA.F.EXT | |
| | 16 | 9 | | II | PA.F.INT | | | | | | | | 17 | 4 | 8 | II | EC.D.PEN | |
| | 20 | 36 | | II | PA.F.EXT | 10 | 13 | 4 | 21 | I | EC.D.PEN | | 17 | 8 | 27 | II | EC.D.INT | |
| | 57 | 27 | | III | EC.D.PEN | | 13 | 5 | 5 | I | EC.D.EXT | | 17 | 2 | 27 | II | EC.D.PEN | |
| | 1 | 48 | | III | EC.D.EXT | | 13 | 8 | 33 | I | EC.D.INT | | 17 | 4 | 8 | II | EC.D.EXT | |
| | 14 | 56 | | III | EC.D.INT | | 16 | 10 | 31 | I | OC.F.INT | | 17 | 2 | 27 | II | EC.D.INT | |
| | 16 | 19 | | III | EC.F.INT | | 16 | 14 | 2 | I | OC.F.EXT | | 17 | 4 | 8 | II | EC.D.INT | |
| | 29 | 28 | | III | EC.F.EXT | | 17 | 2 | 27 | II | EC.D.PEN | | 17 | 8 | 27 | I | OC.F.EXT | |
| | 32 | 46 | | III | EC.F.PEN | | 17 | 4 | 8 | II | EC.D.EXT | | 17 | 8 | 27 | I | OC.F.EXT | |
| | 19 | 12 | | III | OC.D.EXT | | 17 | 8 | 27 | II | EC.D.INT | | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



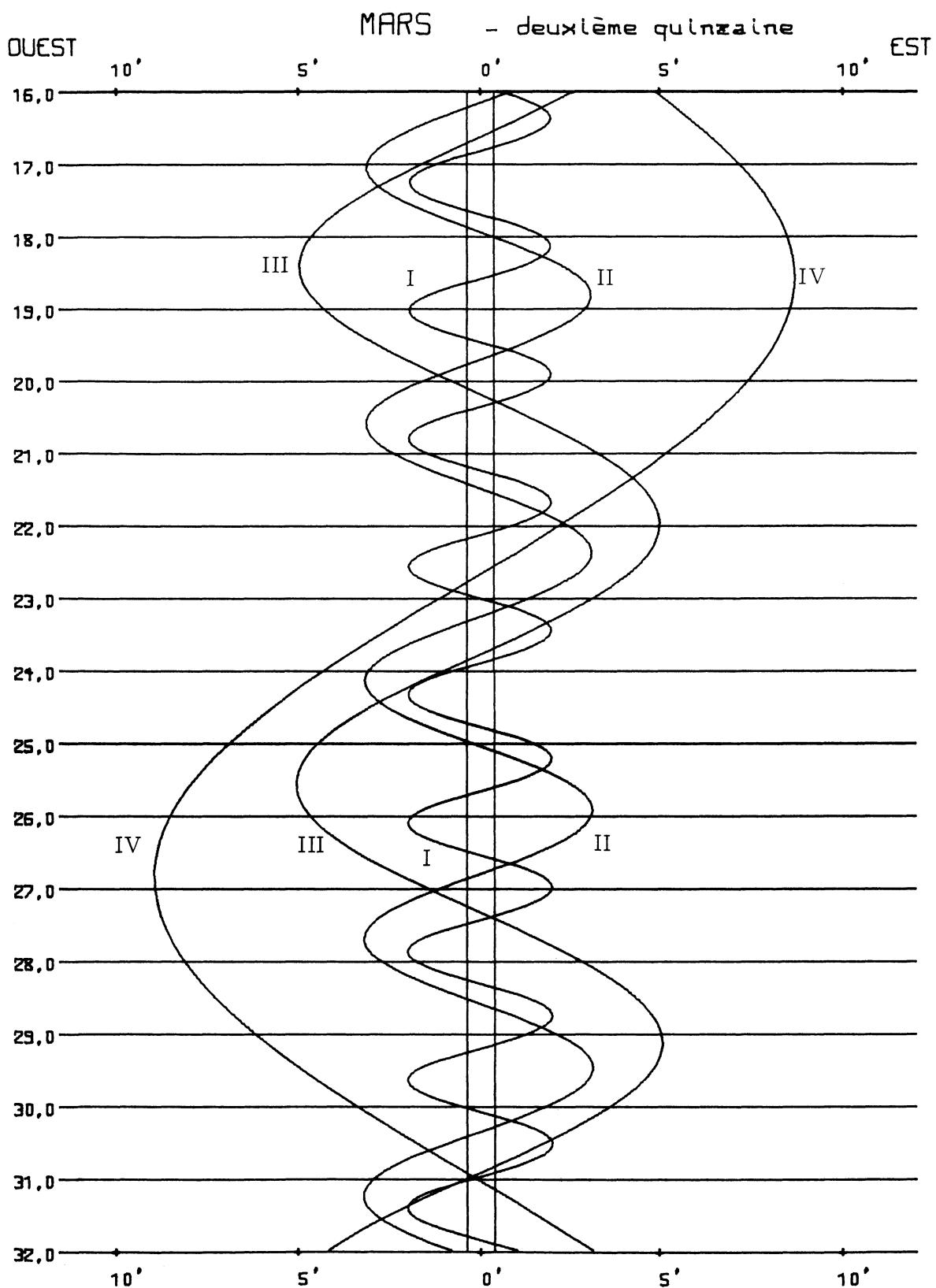
Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter



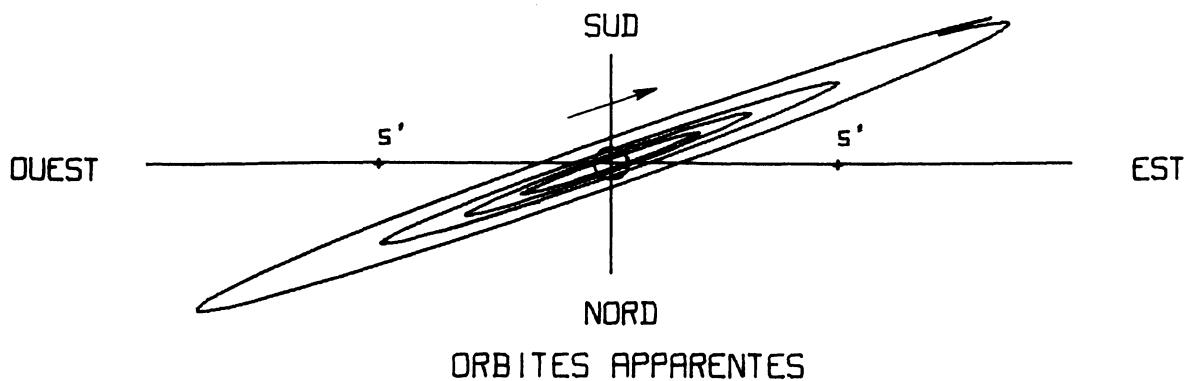
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | MOIS : | | | | MARS - DEUXIEME QUINZAINE - | | | | | | | | | |
|------------|----|----|-----|----------|----------|----|----|-----------------------------|----------|----------|----------|----|----|----------|----------|----------|----------|
| JOUR | H | M | S | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | | |
| 16 | 0 | 42 | 36 | II | OM.D.EXT | 3 | 54 | 44 | I | EC.D.EXT | 19 | 4 | 9 | II | OM.F.EXT | | |
| | 0 | 46 | 49 | II | OM.D.INT | 3 | 58 | 12 | I | EC.D.INT | 20 | 15 | 23 | II | PA.F.INT | | |
| 2 | 29 | 22 | II | PA.D.EXT | 6 | 50 | 0 | I | OC.F.INT | 20 | 19 | 52 | II | PA.F.EXT | | | |
| 2 | 33 | 51 | II | PA.D.INT | 6 | 53 | 31 | I | OC.F.EXT | | | | | | | | |
| 3 | 10 | 8 | II | OM.F.INT | 8 | 55 | 37 | II | EC.D.PEN | 27 | 3 | 49 | 56 | III | EC.D.PEN | | |
| 3 | 14 | 21 | II | OM.F.EXT | 8 | 57 | 18 | II | EC.D.EXT | | 3 | 54 | 20 | III | EC.D.EXT | | |
| 4 | 47 | 46 | II | PA.F.INT | 9 | 1 | 38 | II | EC.D.INT | | 4 | 7 | 40 | III | EC.D.INT | | |
| 4 | 52 | 14 | II | PA.F.EXT | 12 | 55 | 21 | II | OC.F.INT | | 6 | 7 | 2 | III | EC.F.INT | | |
| 10 | 0 | 5 | III | OM.D.EXT | 12 | 59 | 56 | II | OC.F.EXT | | 6 | 20 | 23 | III | EC.F.EXT | | |
| 10 | 13 | 6 | III | OM.D.INT | | | | | | | 6 | 24 | 47 | III | EC.F.PEN | | |
| 12 | 19 | 25 | III | OM.F.INT | 22 | 1 | 13 | 5 | I | OM.D.EXT | | 6 | 48 | 22 | III | OC.D.EXT | |
| 12 | 32 | 13 | III | CM.F.EXT | | 1 | 16 | 35 | I | OM.D.INT | | 7 | 5 | 29 | III | OC.D.INT | |
| 13 | 44 | 5 | III | PA.D.EXT | | 2 | 0 | 4 | I | PA.D.EXT | | 8 | 33 | 28 | III | OC.F.INT | |
| 14 | 1 | 26 | III | PA.D.INT | | 2 | 3 | 37 | I | PA.D.INT | | 8 | 38 | 14 | I | OM.D.EXT | |
| 15 | 27 | 50 | III | PA.F.INT | | 3 | 23 | 37 | I | OM.F.INT | | 8 | 41 | 44 | I | OM.D.INT | |
| 15 | 45 | 4 | III | PA.F.EXT | | 3 | 27 | 6 | I | OM.F.EXT | | 8 | 50 | 35 | III | OC.F.EXT | |
| 17 | 47 | 51 | I | OM.D.EXT | | 4 | 8 | 0 | I | PA.F.INT | | 9 | 19 | 15 | I | PA.D.EXT | |
| 17 | 51 | 20 | I | OM.D.INT | | 4 | 11 | 33 | I | PA.F.EXT | | 9 | 22 | 48 | I | PA.D.INT | |
| 18 | 40 | 15 | I | PA.D.EXT | 22 | 22 | 17 | I | EC.D.PEN | | 10 | 48 | 49 | I | OM.F.INT | | |
| 18 | 43 | 48 | I | PA.D.INT | 22 | 23 | 1 | I | EC.D.EXT | | 10 | 52 | 19 | I | OM.F.EXT | | |
| 19 | 58 | 19 | I | OM.F.INT | 22 | 26 | 30 | I | EC.D.INT | | 11 | 27 | 15 | I | PA.F.INT | | |
| 20 | 1 | 49 | I | OM.F.EXT | | | | | | | 11 | 30 | 48 | I | PA.F.EXT | | |
| 20 | 48 | 9 | I | PA.F.INT | 23 | 1 | 16 | 23 | I | OC.F.INT | | | | | | | |
| 20 | 51 | 42 | I | PA.F.EXT | | 1 | 19 | 54 | I | OC.F.EXT | 28 | 5 | 47 | 15 | I | EC.D.PEN | |
| | | | | | | 3 | 15 | 44 | II | OM.D.EXT | | 5 | 47 | 59 | I | EC.D.EXT | |
| 17 | 14 | 57 | 26 | I | EC.D.PEN | | 3 | 19 | 58 | II | OM.D.INT | | 5 | 51 | 27 | I | EC.D.INT |
| 14 | 58 | 10 | I | EC.D.EXT | | 4 | 48 | 9 | II | PA.D.EXT | | 8 | 35 | 18 | I | OC.F.INT | |
| 15 | 1 | 38 | I | EC.D.INT | | 4 | 52 | 39 | II | PA.D.INT | | 8 | 38 | 50 | I | OC.F.EXT | |
| 17 | 57 | 4 | I | OC.F.INT | | 5 | 43 | 17 | II | OM.F.INT | | 11 | 31 | 21 | II | EC.D.PEN | |
| 18 | 0 | 36 | I | OC.F.EXT | | 5 | 47 | 30 | II | OM.F.EXT | | 11 | 33 | 2 | II | EC.D.EXT | |
| 19 | 38 | 5 | II | EC.D.PEN | | 7 | 6 | 35 | II | PA.F.INT | | 11 | 37 | 22 | II | EC.D.INT | |
| 19 | 39 | 50 | II | EC.D.EXT | | 7 | 11 | 4 | II | PA.F.EXT | | 15 | 14 | 22 | II | OC.F.INT | |
| 19 | 44 | 10 | II | EC.D.INT | 13 | 57 | 41 | III | OM.D.EXT | | 15 | 18 | 57 | II | OC.F.EXT | | |
| 23 | 45 | 32 | II | OC.F.INT | 14 | 10 | 45 | III | OM.D.INT | | | | | | | | |
| 23 | 50 | 7 | II | OC.F.EXT | 16 | 16 | 37 | III | OM.F.INT | 29 | 3 | 6 | 43 | I | OM.D.EXT | | |
| | | | | | 16 | 29 | 27 | III | OM.F.EXT | | 3 | 10 | 13 | I | OM.D.INT | | |
| 18 | 12 | 16 | 17 | I | OM.D.EXT | 17 | 11 | 32 | III | PA.D.EXT | | 3 | 45 | 38 | I | PA.D.EXT | |
| 12 | 19 | 46 | I | OM.D.INT | 17 | 29 | 1 | III | PA.D.INT | | 3 | 49 | 11 | I | PA.D.INT | | |
| 13 | 6 | 56 | I | PA.D.EXT | 18 | 54 | 27 | III | PA.F.INT | | 5 | 17 | 19 | I | OM.F.INT | | |
| 13 | 10 | 29 | I | PA.D.INT | 19 | 11 | 52 | III | PA.F.EXT | | 5 | 20 | 48 | I | OM.F.EXT | | |
| 14 | 26 | 46 | I | OM.F.INT | 19 | 41 | 25 | I | OM.D.EXT | | 5 | 53 | 39 | I | PA.F.INT | | |
| 14 | 30 | 16 | I | OM.F.EXT | 19 | 44 | 55 | I | OM.D.INT | | 5 | 57 | 12 | I | PA.F.EXT | | |
| 15 | 14 | 51 | I | PA.F.INT | 20 | 26 | 28 | I | PA.D.EXT | | | | | | | | |
| 15 | 18 | 24 | I | PA.F.EXT | 20 | 30 | 1 | I | PA.D.INT | 30 | 0 | 15 | 34 | I | EC.D.PEN | | |
| | | | | | 21 | 51 | 58 | I | OM.F.INT | | 0 | 16 | 18 | I | EC.D.EXT | | |
| 19 | 9 | 25 | 42 | I | EC.D.PEN | 21 | 55 | 27 | I | OM.F.EXT | | 0 | 19 | 47 | I | EC.D.INT | |
| 9 | 26 | 26 | I | EC.D.EXT | 22 | 34 | 25 | I | PA.F.INT | | 3 | 1 | 30 | I | OC.F.INT | | |
| 9 | 29 | 54 | I | EC.D.INT | 22 | 37 | 58 | I | PA.F.EXT | | 3 | 5 | 2 | I | OC.F.EXT | | |
| 12 | 23 | 33 | I | OC.F.INT | | | | | | | 5 | 49 | 7 | II | OM.D.EXT | | |
| 12 | 27 | 4 | I | OC.F.EXT | 24 | 16 | 50 | 37 | I | EC.D.PEN | | 5 | 53 | 21 | II | OM.D.INT | |
| 13 | 59 | 9 | II | OM.D.EXT | | 16 | 51 | 22 | I | EC.D.EXT | | 7 | 5 | 14 | II | PA.D.EXT | |
| 14 | 3 | 22 | II | OM.D.INT | | 16 | 54 | 50 | I | EC.D.INT | | 7 | 9 | 44 | II | PA.D.INT | |
| 15 | 38 | 59 | II | PA.D.EXT | | 19 | 42 | 46 | I | OC.F.INT | | 8 | 16 | 38 | II | OM.F.INT | |
| 15 | 43 | 29 | II | PA.D.INT | | 19 | 46 | 17 | I | OC.F.EXT | | 8 | 20 | 52 | II | OM.F.EXT | |
| 16 | 26 | 41 | II | OM.F.INT | | 22 | 13 | 53 | II | EC.D.PEN | | 9 | 23 | 51 | II | PA.F.INT | |
| 16 | 30 | 54 | II | OM.F.EXT | | 22 | 15 | 34 | II | EC.D.EXT | | 9 | 28 | 21 | II | PA.F.EXT | |
| 17 | 57 | 23 | II | PA.F.INT | | 22 | 19 | 54 | II | EC.D.INT | | 17 | 55 | 14 | III | OM.D.EXT | |
| 18 | 1 | 52 | II | PA.F.EXT | | | | | | | 18 | 8 | 22 | III | OM.D.INT | | |
| 23 | 51 | 52 | III | EC.D.PEN | 25 | 2 | 5 | 25 | II | OC.F.INT | | 20 | 13 | 47 | III | OM.F.EXT | |
| 23 | 56 | 14 | III | EC.D.EXT | | 2 | 10 | 0 | II | OC.F.EXT | | 20 | 26 | 40 | III | OM.F.EXT | |
| | | | | | 14 | 9 | 52 | I | OM.D.EXT | | 20 | 34 | 56 | III | PA.D.EXT | | |
| 20 | 0 | 9 | 31 | III | EC.D.INT | 14 | 13 | 22 | I | OM.D.INT | | 20 | 52 | 27 | III | PA.D.INT | |
| 2 | 9 | 33 | III | EC.F.INT | 14 | 52 | 56 | I | PA.D.EXT | | 21 | 35 | 5 | I | OM.D.EXT | | |
| 2 | 22 | 49 | III | EC.F.EXT | 14 | 56 | 29 | I | PA.D.INT | | 21 | 38 | 35 | I | OM.D.INT | | |
| 2 | 27 | 12 | III | EC.F.PEN | 16 | 20 | 26 | I | OM.F.INT | | 22 | 11 | 51 | I | PA.D.EXT | | |
| 3 | 22 | 23 | III | OC.D.EXT | 16 | 23 | 55 | I | OM.F.EXT | | 22 | 15 | 24 | I | PA.D.INT | | |
| 3 | 39 | 24 | III | OC.D.INT | 17 | 0 | 54 | I | PA.F.INT | | 22 | 17 | 45 | III | PA.F.INT | | |
| 5 | 8 | 4 | III | OC.F.INT | 17 | 4 | 27 | I | PA.F.EXT | | 22 | 35 | 12 | III | PA.F.EXT | | |
| 5 | 25 | 6 | III | OC.F.EXT | | | | | | | 23 | 45 | 41 | I | OM.F.INT | | |
| 6 | 44 | 38 | I | OM.D.EXT | 26 | 11 | 18 | 55 | I | EC.D.PEN | | 23 | 49 | 11 | I | OM.F.EXT | |
| 6 | 48 | 7 | I | OM.D.INT | | 11 | 19 | 39 | I | EC.D.EXT | | | | | | | |
| 7 | 33 | 28 | I | PA.D.EXT | | 11 | 23 | 8 | I | EC.D.INT | 31 | 0 | 19 | 53 | I | PA.F.INT | |
| 7 | 37 | 2 | I | PA.D.INT | | 14 | 9 | 2 | I | OC.F.INT | | 0 | 23 | 26 | I | PA.F.EXT | |
| 8 | 55 | 6 | I | OM.F.INT | | 14 | 12 | 34 | I | OC.F.EXT | | 18 | 43 | 57 | I | EC.D.PEN | |
| 8 | 58 | 38 | I | OM.F.EXT | | 16 | 32 | 24 | II | OM.D.EXT | | 18 | 44 | 41 | I | EC.D.EXT | |
| 9 | 41 | 24 | I | PA.F.INT | | 16 | 36 | 38 | II | CM.D.INT | | 18 | 48 | 9 | I | EC.D.INT | |
| 9 | 44 | 57 | I | PA.F.EXT | | 17 | 56 | 53 | II | PA.D.EXT | | 21 | 27 | 43 | I | OC.F.INT | |
| | | | | | | 18 | 1 | 23 | II | PA.D.INT | | 21 | 31 | 15 | I | OC.F.EXT | |
| 21 | 3 | 53 | 59 | I | EC.D.PEN | | 18 | 59 | 56 | II | OM.F.INT | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



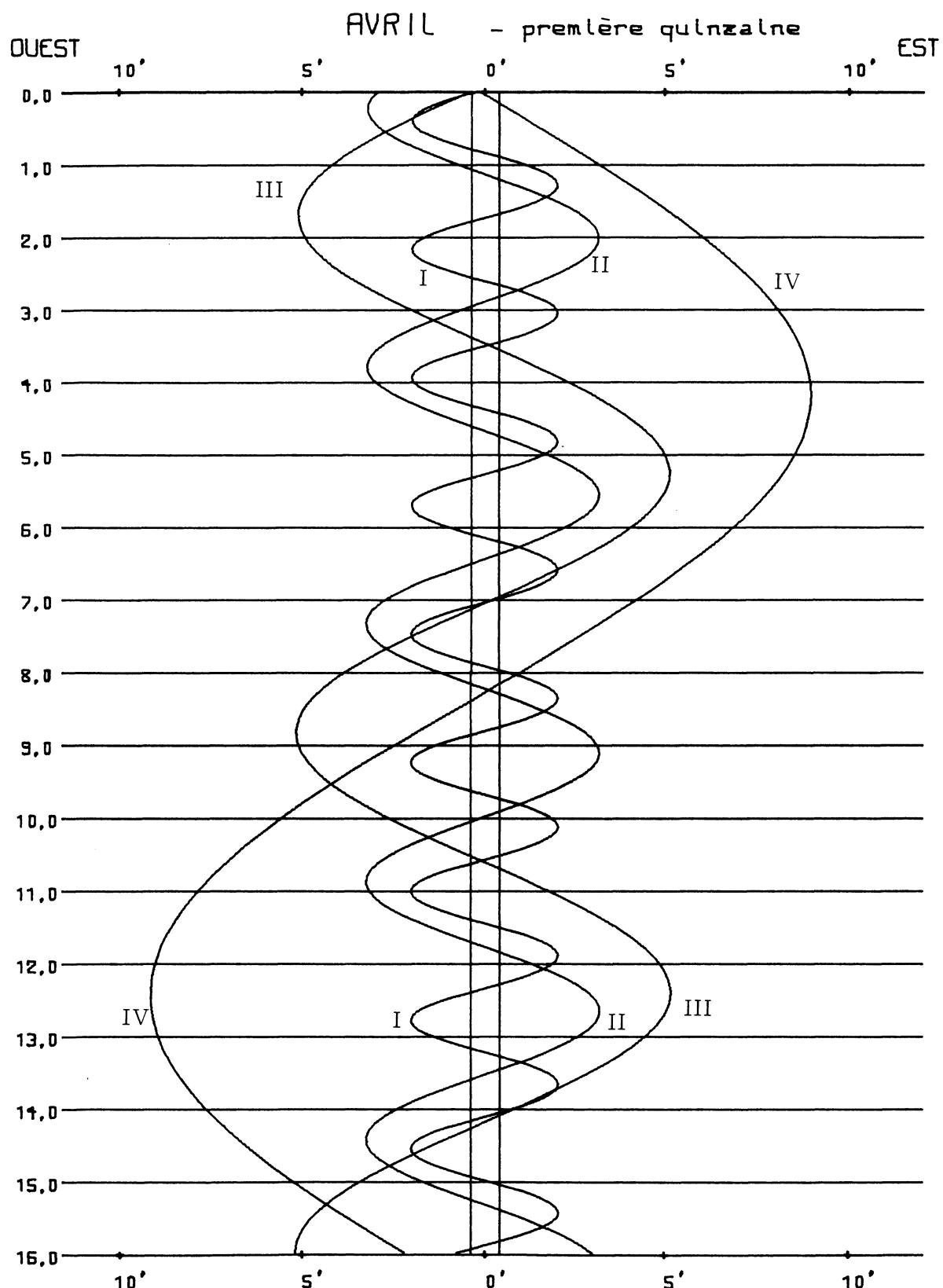
Dans le sens OUEST-EST, les satellites passent au-delà de Jupiter



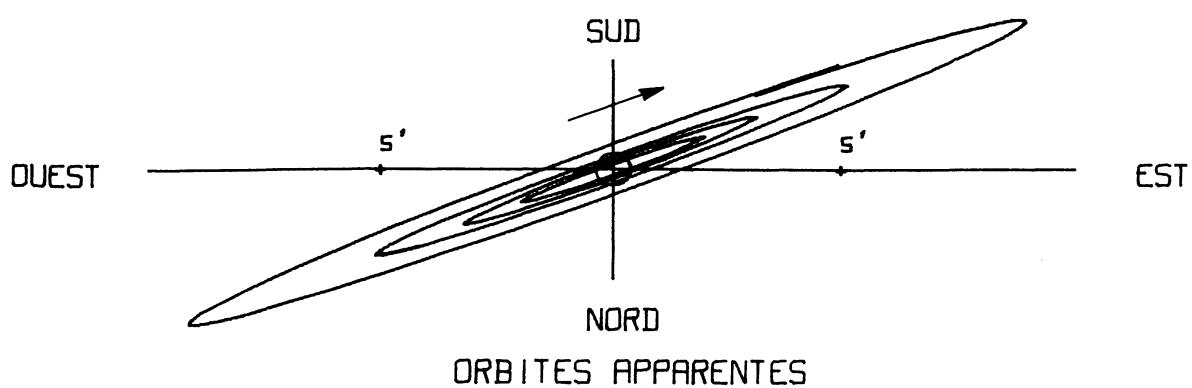
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | | MOIS : | | | AVRIL - PREMIERE QUINZAINE - | | | | | | | | |
|------------|----|----|----|-----|----------|--------|----|----|------------------------------|----------|----------|------|----|----|----|----------|----------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 1 | 0 | 49 | 34 | II | EC.D.PEN | 8 | 22 | 44 | II | OM.D.EXT | 11 | 9 | 34 | 10 | I | EC.D.PEN | |
| | 0 | 51 | 15 | II | EC.D.EXT | 8 | 26 | 59 | II | OM.D.INT | | 9 | 34 | 54 | I | EC.D.EXT | |
| | 0 | 55 | 35 | II | EC.D.INT | 9 | 20 | 56 | II | PA.D.EXT | | 9 | 38 | 23 | I | EC.D.INT | |
| | 4 | 23 | 35 | II | CC.F.INT | 9 | 25 | 25 | II | PA.D.INT | | 12 | 4 | 7 | I | OC.F.INT | |
| | 4 | 28 | 10 | II | OC.F.EXT | 10 | 50 | 15 | II | OM.F.INT | | 12 | 7 | 39 | I | OC.F.EXT | |
| | 16 | 3 | 33 | I | OM.D.EXT | 10 | 54 | 29 | II | OM.F.EXT | | 16 | 42 | 49 | II | EC.D.PEN | |
| | 16 | 7 | 3 | I | OM.D.INT | 11 | 39 | 51 | II | PA.F.INT | | 16 | 44 | 30 | II | EC.D.EXT | |
| | 16 | 38 | 7 | I | PA.D.EXT | 11 | 44 | 21 | II | PA.F.EXT | | 16 | 48 | 50 | II | EC.D.INT | |
| | 16 | 41 | 40 | I | PA.D.INT | 21 | 52 | 53 | III | OM.D.EXT | | 19 | 46 | 12 | II | OC.F.INT | |
| | 18 | 14 | 10 | I | OM.F.INT | 22 | 6 | 6 | III | OM.D.INT | | 19 | 52 | 46 | II | OC.F.EXT | |
| | 18 | 17 | 40 | I | OM.F.EXT | 23 | 28 | 51 | I | OM.D.EXT | | | | | | | |
| | 18 | 46 | 11 | I | PA.F.INT | 23 | 32 | 21 | I | OM.D.INT | | | | | | | |
| | 18 | 49 | 44 | I | PA.F.EXT | 23 | 55 | 6 | III | PA.D.EXT | 12 | 6 | 54 | 19 | I | OM.D.EXT | |
| | | | | | | 23 | 56 | 33 | I | PA.D.EXT | | 6 | 57 | 48 | I | OM.D.INT | |
| 2 | 13 | 12 | 16 | I | EC.D.PEN | | | | | | | 7 | 14 | 49 | I | PA.D.EXT | |
| | 13 | 13 | 0 | I | EC.D.EXT | 7 | 0 | 0 | 6 | I | PA.D.INT | | 7 | 18 | 21 | I | PA.D.INT |
| | 13 | 16 | 29 | I | EC.D.INT | | 0 | 11 | 2 | III | OM.F.INT | | 9 | 4 | 58 | I | OM.F.INT |
| | 15 | 53 | 50 | I | OC.F.INT | | 0 | 12 | 31 | III | PA.D.INT | | 9 | 8 | 28 | I | OM.F.EXT |
| | 15 | 57 | 22 | I | OC.F.EXT | | 0 | 23 | 59 | III | OM.F.EXT | | 9 | 23 | 1 | I | PA.F.INT |
| | 19 | 5 | 54 | II | OM.D.EXT | | 1 | 38 | 30 | III | PA.F.INT | | 9 | 26 | 34 | I | PA.F.EXT |
| | 19 | 10 | 9 | II | OM.D.INT | | 1 | 39 | 30 | I | OM.F.INT | | | | | | |
| | 20 | 13 | 14 | II | PA.D.EXT | | 1 | 42 | 59 | I | OM.F.EXT | 13 | 4 | 2 | 33 | I | EC.D.PEN |
| | 20 | 17 | 44 | II | PA.D.INT | | 1 | 55 | 52 | III | PA.F.EXT | | 4 | 3 | 17 | I | EC.D.EXT |
| | 21 | 33 | 25 | II | CM.F.INT | | 2 | 4 | 41 | I | PA.F.INT | | 4 | 6 | 46 | I | EC.D.INT |
| | 21 | 37 | 35 | II | OM.F.EXT | | 2 | 8 | 14 | I | PA.F.EXT | | 6 | 30 | 4 | I | OC.F.INT |
| | 22 | 31 | 59 | II | PA.F.INT | | 20 | 37 | 24 | I | EC.D.PEN | | 6 | 33 | 36 | I | OC.F.EXT |
| | 22 | 36 | 29 | II | PA.F.EXT | | 20 | 38 | 8 | I | EC.D.EXT | | 10 | 56 | 37 | II | OM.D.EXT |
| | | | | | | 20 | 41 | 37 | I | EC.D.INT | | 11 | 0 | 54 | II | OM.D.INT | |
| 3 | 7 | 47 | 46 | III | EC.D.PEN | | 23 | 12 | 6 | I | OC.F.INT | | 11 | 35 | 32 | II | PA.D.EXT |
| | 7 | 52 | 11 | III | EC.D.EXT | | 23 | 15 | 38 | I | OC.F.EXT | | 11 | 40 | 2 | II | PA.D.INT |
| | 8 | 5 | 35 | III | EC.D.INT | 8 | 3 | 25 | 16 | II | EC.D.PEN | | 13 | 24 | 5 | II | OM.F.INT |
| | 10 | 4 | 19 | III | EC.F.INT | | 3 | 26 | 57 | II | EC.D.EXT | | 13 | 28 | 20 | II | OM.F.EXT |
| | 10 | 10 | 22 | III | OC.D.EXT | | 3 | 31 | 17 | II | EC.D.INT | | 13 | 54 | 55 | II | PA.F.INT |
| | 10 | 17 | 43 | III | EC.F.EXT | | 6 | 40 | 26 | II | OC.F.INT | | 13 | 59 | 25 | II | PA.F.EXT |
| | 10 | 22 | 8 | III | EC.F.PEN | | 6 | 45 | 0 | II | OC.F.EXT | 14 | 1 | 22 | 44 | I | OM.D.EXT |
| | 10 | 27 | 27 | III | CC.D.INT | | 17 | 57 | 21 | I | OM.D.EXT | | 1 | 26 | 14 | I | OM.D.INT |
| | 10 | 31 | 57 | I | OM.D.EXT | | 18 | 0 | 50 | I | OM.D.INT | | 1 | 40 | 46 | I | PA.D.EXT |
| | 10 | 35 | 27 | I | OM.D.INT | | 18 | 22 | 41 | I | PA.D.EXT | | 1 | 44 | 19 | I | PA.D.INT |
| | 11 | 4 | 17 | I | PA.D.EXT | | 18 | 26 | 14 | I | PA.D.INT | | 1 | 50 | 48 | III | OM.D.INT |
| | 11 | 7 | 50 | I | PA.D.INT | | 20 | 8 | 0 | I | OM.F.INT | | 2 | 4 | 5 | III | OM.D.INT |
| | 11 | 55 | 37 | III | OC.F.INT | | 20 | 11 | 30 | I | OM.F.EXT | | 3 | 12 | 48 | III | PA.D.EXT |
| | 12 | 12 | 42 | III | OC.F.EXT | | 20 | 30 | 50 | I | PA.F.INT | | 3 | 29 | 59 | III | PA.D.INT |
| | 12 | 42 | 35 | I | OM.F.INT | | 20 | 34 | 23 | I | PA.F.EXT | | 3 | 33 | 24 | I | OM.F.INT |
| | 12 | 12 | 22 | I | PA.F.INT | 9 | 15 | 5 | 46 | I | EC.D.PEN | | 3 | 36 | 53 | I | OM.F.EXT |
| | 13 | 15 | 54 | I | PA.F.EXT | | 15 | 6 | 30 | I | EC.D.EXT | | 3 | 49 | 0 | I | PA.F.INT |
| 4 | 7 | 40 | 38 | I | EC.D.PEN | | 15 | 9 | 59 | I | EC.D.INT | | 4 | 8 | 33 | III | OM.F.INT |
| | 7 | 41 | 22 | I | EC.D.EXT | | 17 | 38 | 6 | I | OC.F.INT | | 4 | 21 | 33 | III | OM.F.EXT |
| | 7 | 44 | 51 | I | EC.D.INT | | 17 | 41 | 38 | I | OC.F.EXT | | 4 | 57 | 32 | III | PA.F.INT |
| | 10 | 19 | 57 | I | OC.F.INT | | 21 | 39 | 38 | II | OM.D.EXT | | 5 | 14 | 43 | III | PA.F.EXT |
| | 10 | 23 | 29 | I | OC.F.EXT | | 21 | 43 | 54 | II | OM.D.INT | | 22 | 31 | 0 | I | EC.D.PEN |
| | 14 | 7 | 4 | II | EC.D.PEN | | 22 | 28 | 20 | II | PA.D.EXT | | 22 | 31 | 44 | I | EC.D.EXT |
| | 14 | 8 | 45 | II | EC.D.EXT | | 22 | 32 | 49 | II | PA.D.INT | | 22 | 35 | 13 | I | EC.D.INT |
| | 14 | 13 | 6 | II | EC.D.INT | | | | | | | | | | | | |
| | 17 | 31 | 51 | II | OC.F.INT | 10 | 0 | 7 | 7 | II | OM.F.INT | 15 | 0 | 56 | 5 | I | OC.F.INT |
| | 17 | 36 | 25 | II | OC.F.EXT | | 0 | 11 | 22 | II | OM.F.EXT | | 0 | 59 | 37 | I | OC.F.EXT |
| | | | | | | | 0 | 47 | 27 | II | PA.F.INT | | 6 | 0 | 57 | II | EC.D.PEN |
| 5 | 5 | 0 | 27 | I | CM.D.EXT | | 0 | 51 | 57 | II | PA.F.EXT | | 6 | 2 | 38 | II | EC.D.EXT |
| | 5 | 3 | 57 | I | OM.D.INT | | 11 | 46 | 8 | III | EC.D.PEN | | 6 | 6 | 59 | II | EC.D.INT |
| | 5 | 30 | 30 | I | PA.D.EXT | | 11 | 50 | 33 | III | EC.D.EXT | | 8 | 56 | 18 | II | OC.F.INT |
| | 5 | 34 | 3 | I | PA.D.INT | | 12 | 4 | 1 | III | EC.D.INT | | 9 | 0 | 51 | II | OC.F.EXT |
| | 7 | 11 | 6 | I | OM.F.INT | | 12 | 25 | 46 | I | OM.D.EXT | | 19 | 51 | 16 | I | OM.D.EXT |
| | 7 | 14 | 36 | I | OM.F.EXT | | 12 | 29 | 16 | I | OM.D.INT | | 19 | 54 | 45 | I | OM.D.INT |
| | 7 | 38 | 36 | I | PA.F.INT | | 12 | 48 | 43 | I | PA.D.EXT | | 20 | 6 | 48 | I | PA.D.EXT |
| | 7 | 42 | 9 | I | PA.F.EXT | | 12 | 52 | 16 | I | PA.D.INT | | 20 | 10 | 21 | I | PA.D.INT |
| | | | | | | | 14 | 36 | 26 | I | OM.F.INT | | 22 | 1 | 55 | I | OM.F.INT |
| 6 | 2 | 8 | 59 | I | EC.D.PEN | | 14 | 39 | 56 | I | OM.F.EXT | | 22 | 5 | 25 | I | OM.F.EXT |
| | 2 | 9 | 43 | I | EC.D.EXT | | 14 | 56 | 54 | I | PA.F.INT | | 22 | 15 | 4 | I | PA.F.INT |
| | 2 | 13 | 12 | I | EC.D.INT | | 15 | 0 | 26 | I | PA.F.EXT | | 22 | 18 | 37 | I | PA.F.EXT |
| | 4 | 46 | C | I | OC.F.INT | | 15 | 16 | 0 | III | OC.F.INT | | | | | | |
| | 4 | 49 | 32 | I | OC.F.EXT | | 15 | 32 | 56 | III | OC.F.EXT | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.

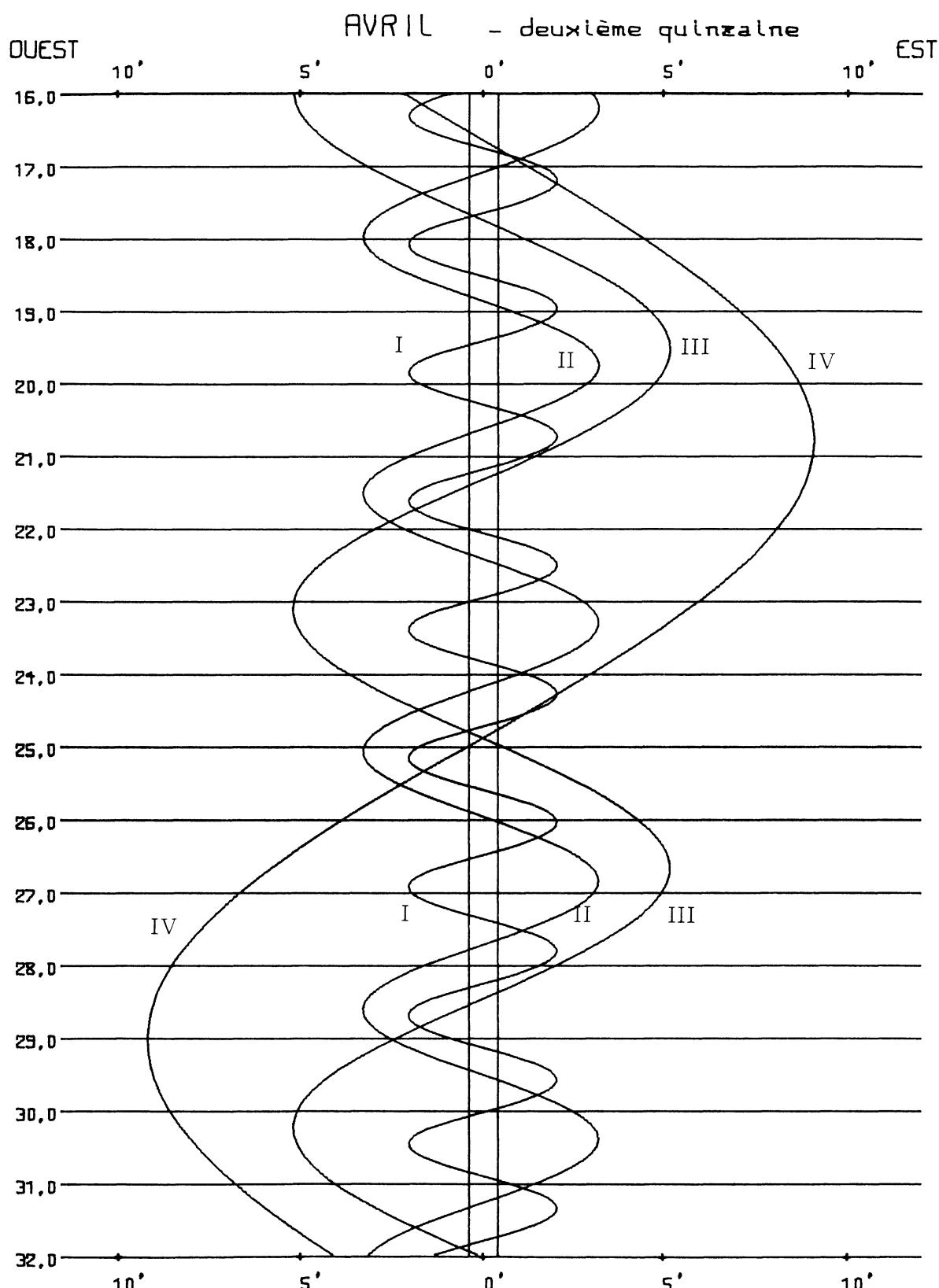


Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter

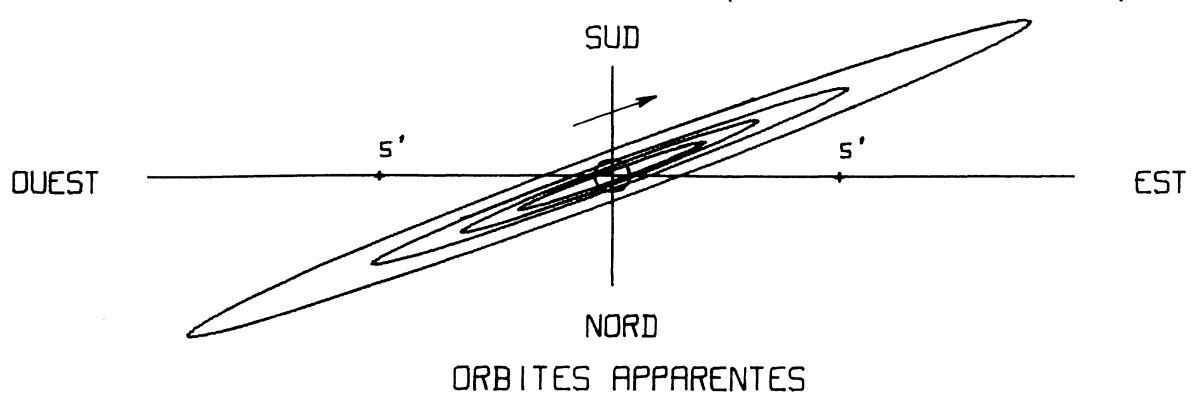


1982 - SATELLITES DE JUPITER -

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



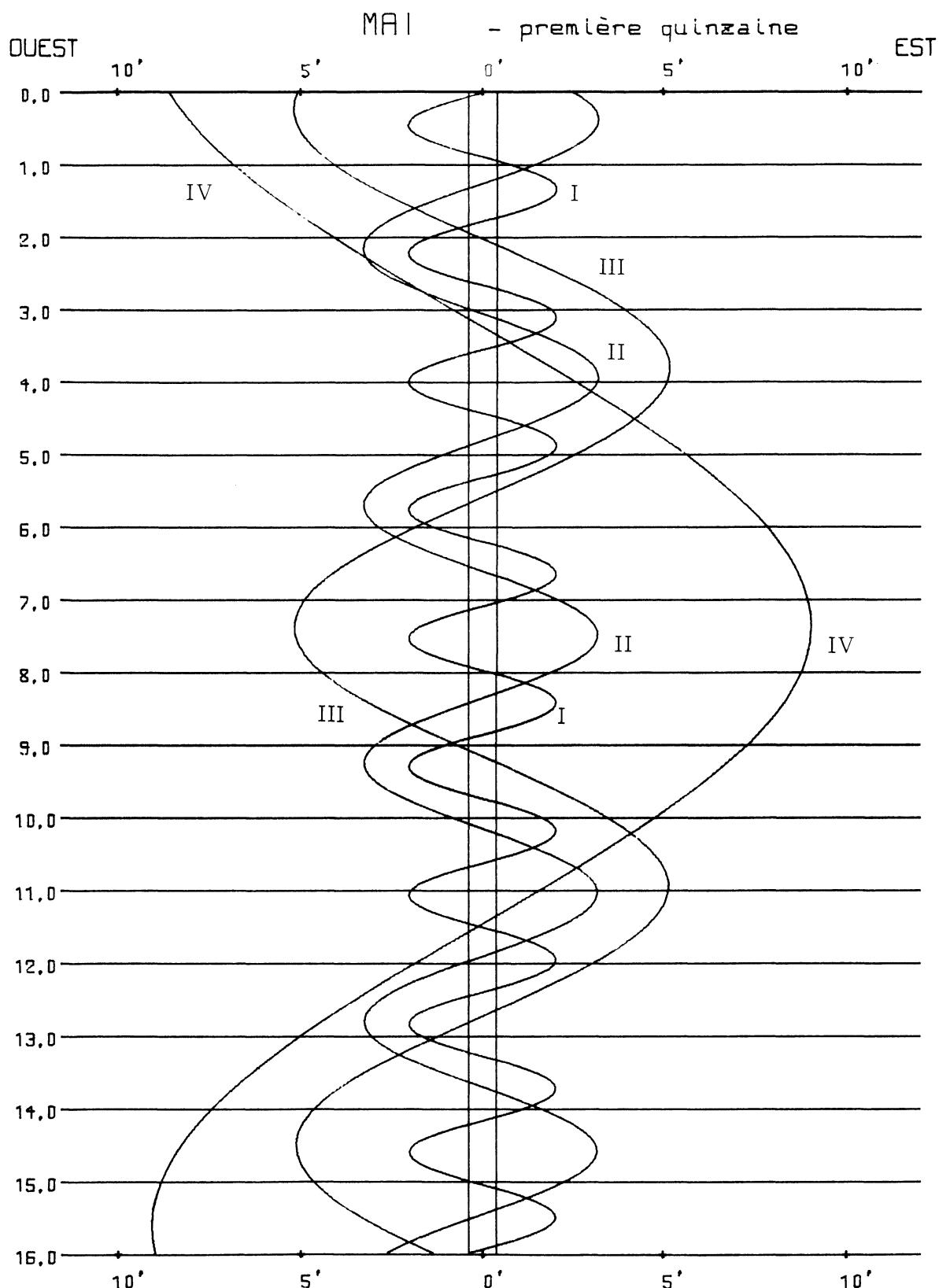
Dans le sens OUEST-EST, les satellites passent au-delà de Jupiter



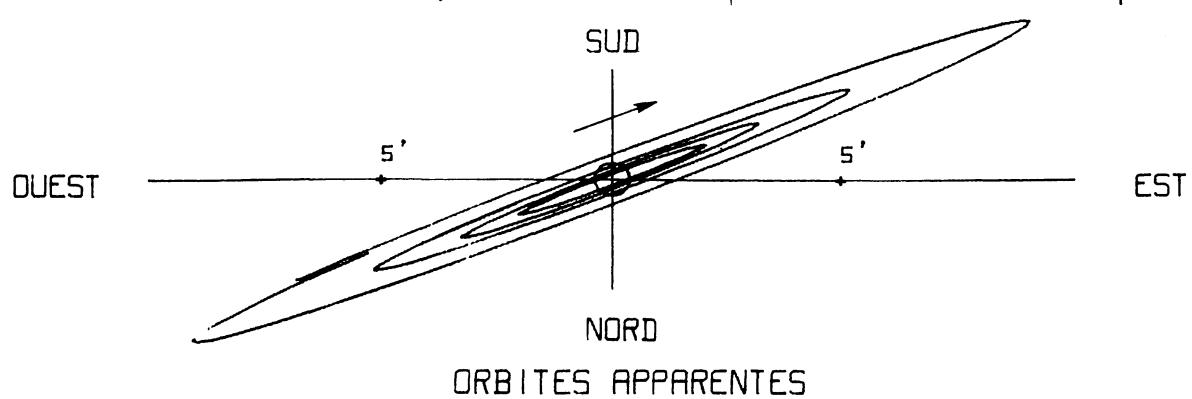
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | | MOIS : | | | MAI - PREMIERE QUINZAINE - | | | | | | | | | |
|------------|----|----|----|-----|----------|--------|----|----|----------------------------|----------|----------|------|----|----|-----|----------|----------|----------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | |
| 1 | 5 | 10 | 7 | II | PA.D.EXT | 16 | 1 | 6 | III | OM.F.INT | | 11 | 11 | 17 | 18 | I | OC.D.EXT | |
| 5 | 14 | 34 | | II | PA.D.INT | 16 | 14 | 32 | III | OM.F.EXT | | 11 | 20 | 49 | | I | OC.D.INT | |
| 5 | 22 | 1 | | II | OM.D.EXT | 6 | 3 | 59 | 10 | I | OC.D.EXT | 13 | 48 | 19 | | I | EC.F.INT | |
| 5 | 26 | 18 | | II | OM.D.INT | | 4 | 2 | 41 | I | OC.D.INT | 13 | 51 | 49 | | I | EC.F.EXT | |
| 7 | 31 | 6 | | II | PA.F.INT | | 6 | 22 | 42 | I | EC.F.INT | 13 | 52 | 33 | | I | EC.F.PEN | |
| 7 | 35 | 33 | | II | PA.F.EXT | | 6 | 26 | 12 | I | EC.F.EXT | 20 | 32 | 4 | | II | PA.D.EXT | |
| 7 | 49 | 8 | | II | OM.F.INT | | 6 | 26 | 56 | I | EC.F.PEN | 20 | 36 | 29 | | II | PA.D.INT | |
| 7 | 53 | 26 | | II | OM.F.EXT | | 13 | 20 | 17 | II | OC.D.EXT | 21 | 14 | 39 | | II | OM.D.EXT | |
| 18 | 0 | 29 | | I | PA.D.EXT | 13 | 24 | 45 | II | OC.D.INT | 21 | 18 | 57 | | II | OM.D.INT | | |
| 18 | 4 | 1 | | I | PA.D.INT | 16 | 14 | 9 | II | EC.F.INT | 22 | 54 | 14 | | II | PA.F.INT | | |
| 18 | 7 | 46 | | I | OM.D.EXT | 16 | 18 | 30 | II | EC.F.EXT | 22 | 58 | 39 | | II | PA.F.EXT | | |
| 18 | 11 | 15 | | I | OM.D.INT | 16 | 20 | 11 | II | EC.F.PEN | 23 | 41 | 27 | | II | OM.F.INT | | |
| 20 | 9 | 1 | | I | PA.F.INT | 7 | 1 | 18 | 39 | I | PA.D.EXT | 23 | 45 | 46 | | II | OM.F.EXT | |
| 20 | 12 | 33 | | I | PA.F.EXT | | 1 | 22 | 10 | I | PA.D.INT | 8 | 37 | 0 | | I | PA.D.EXT | |
| 20 | 18 | 17 | | I | OM.F.INT | | 1 | 33 | 31 | I | OM.D.EXT | 8 | 40 | 31 | | I | PA.D.INT | |
| 20 | 21 | 46 | | I | OM.F.EXT | | 1 | 37 | 1 | I | OM.D.INT | 9 | 59 | 16 | | I | OM.D.EXT | |
| 23 | 16 | 52 | | III | OC.D.EXT | | 3 | 27 | 15 | I | PA.F.INT | 10 | 45 | 40 | | I | PA.F.INT | |
| 23 | 32 | 44 | | III | CC.D.INT | | 3 | 30 | 47 | I | PA.F.EXT | 10 | 49 | 11 | | I | PA.F.EXT | |
| 2 | 1 | 54 | 20 | III | EC.F.INT | 3 | 43 | 56 | I | OM.F.INT | 11 | 9 | 34 | | I | OM.F.INT | | |
| 2 | 7 | 57 | | III | EC.F.EXT | 3 | 47 | 26 | I | OM.F.EXT | 11 | 13 | 3 | | I | OM.F.EXT | | |
| 2 | 12 | 26 | | III | EC.F.PEN | 22 | 25 | 10 | I | OC.D.EXT | 16 | 17 | 15 | | III | PA.D.EXT | | |
| 15 | 7 | 10 | | I | OC.D.EXT | 22 | 28 | 41 | I | OC.D.INT | 16 | 32 | 41 | | III | PA.D.INT | | |
| 15 | 10 | 42 | | I | OC.D.INT | 8 | 0 | 51 | 13 | I | EC.F.INT | 17 | 43 | 29 | | III | OM.D.EXT | |
| 17 | 25 | 38 | | I | EC.F.INT | | 0 | 54 | 43 | I | EC.F.EXT | 17 | 56 | 40 | | III | OM.D.INT | |
| 17 | 29 | 7 | | I | EC.F.EXT | | 0 | 55 | 27 | I | EC.F.PEN | 18 | 13 | 13 | | III | PA.F.INT | |
| 17 | 29 | 52 | | I | EC.F.PEN | | 21 | 24 | 28 | II | PA.D.EXT | 18 | 26 | 40 | | III | PA.F.EXT | |
| 3 | 0 | 12 | 38 | II | CC.D.EXT | | 7 | 28 | 53 | II | PA.D.INT | 19 | 59 | 1 | | III | OM.F.INT | |
| 0 | 17 | 7 | | II | OC.D.INT | | 7 | 56 | 58 | II | OM.D.EXT | 20 | 12 | 29 | | III | OM.F.EXT | |
| 2 | 56 | 18 | | II | EC.F.INT | 8 | 1 | 16 | II | OM.D.INT | 13 | 5 | 43 | 28 | I | OC.D.EXT | | |
| 3 | 0 | 39 | | II | EC.F.EXT | 9 | 46 | 13 | II | PA.F.INT | | 5 | 46 | 59 | | I | OC.D.INT | |
| 3 | 2 | 20 | | II | EC.F.PEN | 9 | 50 | 39 | II | PA.F.EXT | | 8 | 16 | 57 | | I | EC.F.INT | |
| 12 | 26 | 34 | | I | PA.D.EXT | 10 | 23 | 52 | II | OM.F.INT | | 8 | 20 | 26 | | I | EC.F.EXT | |
| 12 | 30 | 6 | | I | PA.D.INT | 10 | 28 | 11 | II | OM.F.EXT | | 8 | 21 | 11 | | I | EC.F.PEN | |
| 12 | 36 | 24 | | I | OM.D.EXT | 19 | 44 | 42 | I | PA.D.EXT | | 15 | 35 | 43 | | II | OC.D.EXT | |
| 12 | 39 | 53 | | I | OM.D.INT | 19 | 48 | 14 | I | PA.D.INT | 14 | 15 | 40 | 9 | II | OC.D.INT | | |
| 14 | 35 | 7 | | I | PA.F.INT | 20 | 2 | 4 | I | OM.D.EXT | | 18 | 49 | 29 | | II | EC.F.INT | |
| 14 | 38 | 39 | | I | PA.F.EXT | 20 | 5 | 34 | I | OM.D.INT | | 18 | 52 | 50 | | II | EC.F.EXT | |
| 14 | 46 | 52 | | I | OM.F.INT | 21 | 53 | 20 | I | PA.F.INT | | 18 | 55 | 31 | | I | EC.F.PEN | |
| 14 | 50 | 22 | | I | OM.F.EXT | 21 | 56 | 51 | I | PA.F.EXT | | 2 | 27 | 53 | | I | OM.D.EXT | |
| 4 | 9 | 33 | 7 | I | OC.D.EXT | 22 | 12 | 27 | I | OM.F.INT | | 3 | 3 | 13 | | I | PA.D.EXT | |
| 9 | 36 | 38 | | I | OC.D.INT | 22 | 15 | 57 | I | OM.F.EXT | 9 | 3 | 6 | 44 | I | PA.D.INT | | |
| 11 | 54 | 7 | | I | EC.F.INT | 2 | 32 | 44 | III | OC.D.EXT | 3 | 11 | 55 | | I | PA.F.INT | | |
| 11 | 57 | 37 | | I | EC.F.EXT | 2 | 48 | 10 | III | OC.D.INT | 5 | 15 | 26 | | I | PA.F.EXT | | |
| 11 | 58 | 21 | | I | EC.F.PEN | 5 | 52 | 6 | III | EC.F.INT | 5 | 38 | 9 | | I | OM.F.INT | | |
| 18 | 17 | 17 | | II | PA.D.EXT | 6 | 5 | 47 | III | EC.F.EXT | 5 | 41 | 38 | | I | OM.F.EXT | | |
| 18 | 21 | 44 | | II | PA.D.INT | 6 | 10 | 17 | III | EC.F.PEN | 15 | 0 | 9 | 37 | I | OC.D.EXT | | |
| 18 | 39 | 33 | | II | OM.D.EXT | 16 | 51 | 14 | I | OC.D.EXT | 15 | 0 | 13 | 8 | I | OC.D.INT | | |
| 18 | 43 | 50 | | II | OM.D.INT | 16 | 54 | 45 | I | OC.D.INT | | 2 | 45 | 30 | | I | EC.F.INT | |
| 20 | 38 | 40 | | II | PA.F.INT | 19 | 19 | 48 | I | EC.F.INT | | 2 | 49 | 0 | | I | EC.F.EXT | |
| 20 | 43 | 6 | | II | PA.F.EXT | 19 | 23 | 17 | I | EC.F.EXT | | 2 | 49 | 44 | | I | EC.F.PEN | |
| 21 | 6 | 35 | | II | OM.F.INT | 19 | 24 | 2 | I | EC.F.PEN | | 21 | 59 | 57 | | I | OM.D.INT | |
| 21 | 10 | 53 | | II | OM.F.EXT | 10 | 2 | 27 | 41 | II | OC.D.EXT | 21 | 29 | 25 | | I | PA.D.EXT | |
| 6 | 52 | 33 | | I | PA.D.EXT | | 2 | 32 | 8 | II | OC.D.INT | 9 | 44 | 9 | | II | PA.D.INT | |
| 6 | 56 | 5 | | I | PA.D.INT | | 5 | 31 | 38 | II | EC.F.INT | 10 | 32 | 10 | | II | OM.D.EXT | |
| 7 | 4 | 55 | | I | OM.D.EXT | | 5 | 35 | 59 | II | EC.F.EXT | 10 | 36 | 28 | | II | OM.D.INT | |
| 7 | 8 | 24 | | I | OM.D.INT | | 5 | 37 | 40 | II | EC.F.PEN | 12 | 2 | 19 | | II | PA.F.INT | |
| 9 | 1 | 8 | | I | PA.F.INT | | 14 | 10 | 53 | I | PA.D.EXT | 15 | 12 | 6 | 43 | II | PA.F.EXT | |
| 9 | 4 | 40 | | I | PA.F.EXT | | 14 | 14 | 25 | I | PA.D.INT | | 12 | 58 | 50 | | II | OM.F.INT |
| 9 | 15 | 22 | | I | OM.F.INT | | 14 | 30 | 43 | I | OM.D.EXT | | 13 | 3 | 10 | | II | OM.F.EXT |
| 9 | 18 | 52 | | I | OM.F.EXT | | 14 | 34 | 12 | I | OM.D.INT | | 21 | 29 | 25 | | I | PA.D.EXT |
| 13 | 0 | 42 | | III | PA.D.EXT | | 16 | 19 | 32 | I | PA.F.INT | | 21 | 32 | 56 | | I | PA.D.INT |
| 13 | 16 | 39 | | III | PA.D.INT | | 16 | 23 | 4 | I | PA.F.EXT | | 21 | 56 | 28 | | I | OM.D.EXT |
| 13 | 45 | 3 | | III | OM.D.EXT | 16 | 41 | 3 | I | OM.F.INT | 21 | 59 | 57 | | I | OM.D.INT | | |
| 13 | 58 | 11 | | III | OM.D.INT | 16 | 44 | 33 | I | OM.F.EXT | 23 | 38 | 8 | | I | PA.F.INT | | |
| 14 | 53 | 16 | | III | PA.F.INT | 15 | 9 | 12 | III | PA.F.EXT | | 23 | 41 | 40 | | I | PA.F.EXT | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



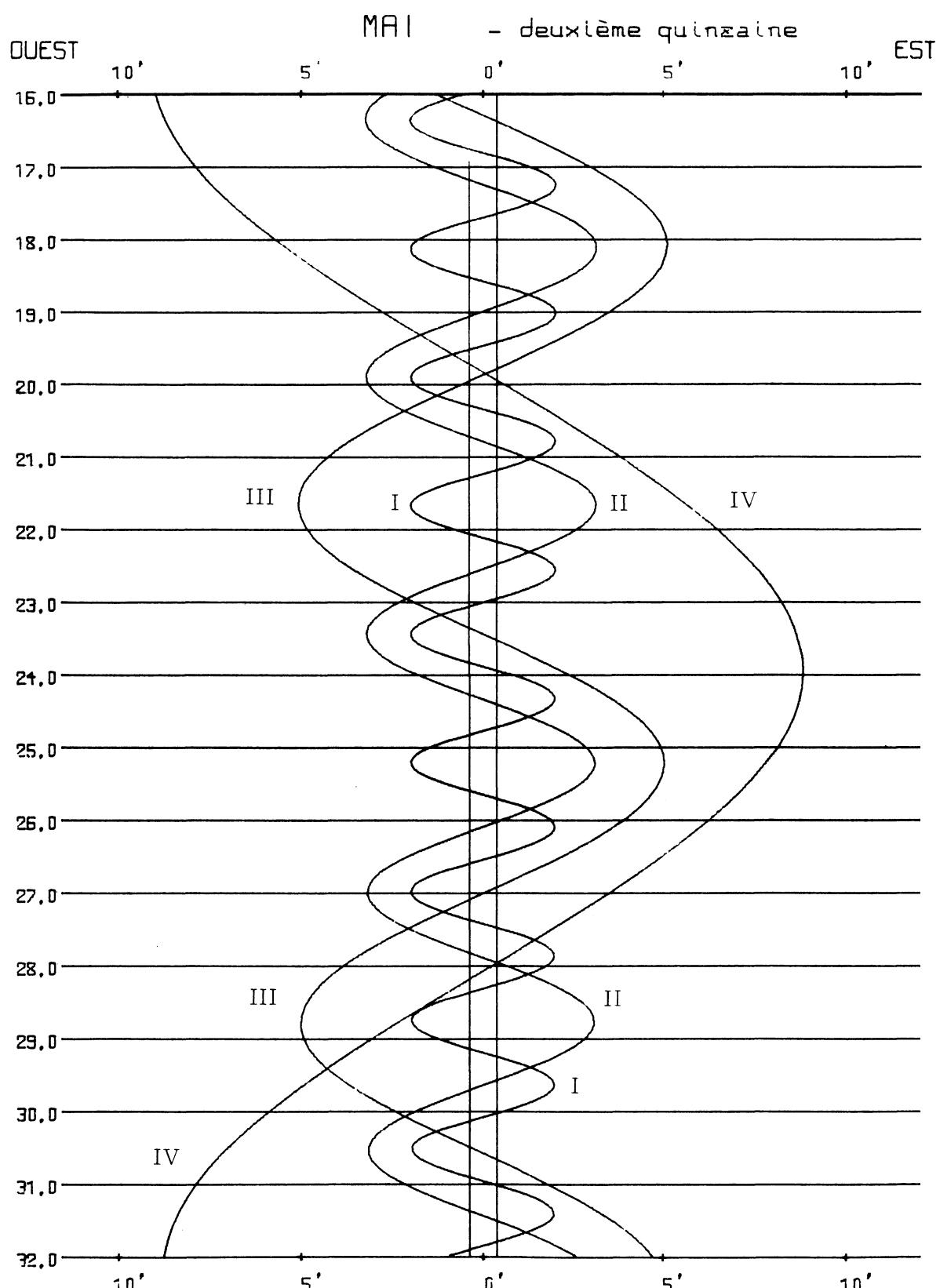
Dans le sens OUEST-EST, les satellites passent au-delà de Jupiter



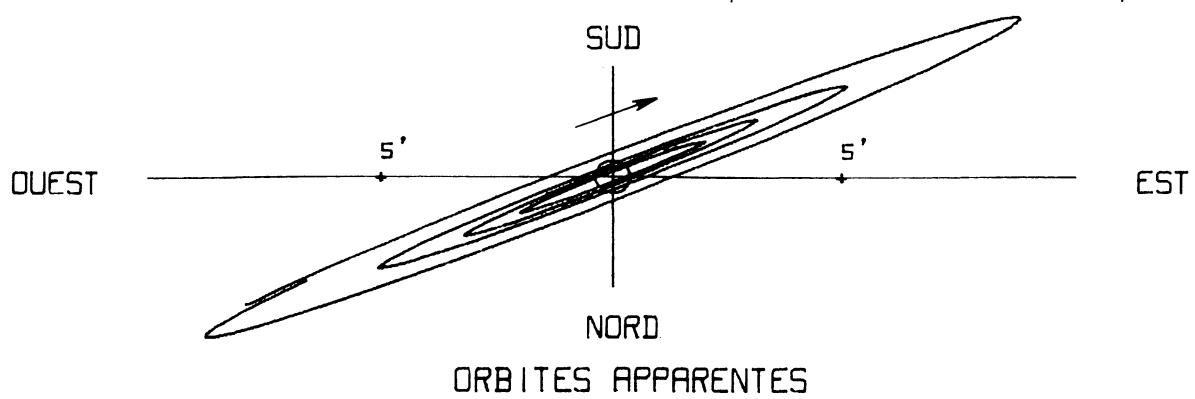
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | | MOIS : | | | MAI - DEUXIEME QUINZAINES - | | | | | | | | |
|------------|----|----|-----|----------|----------|--------|----|----|-----------------------------|----------|----------|------|----|-----|----------|----------|----------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 16 | 0 | 6 | 40 | I | OM.F.INT | 22 | 1 | 54 | 44 | I | OC.D.EXT | 1 | 14 | 39 | III | PA.F.EXT | |
| | 0 | 10 | 10 | I | OM.F.EXT | | 1 | 58 | 15 | I | OC.D.INT | 1 | 40 | 24 | III | OM.D.EXT | |
| 5 | 50 | 50 | III | OC.D.EXT | | 4 | 39 | 56 | I | EC.F.INT | 1 | 53 | 39 | III | OM.D.INT | | |
| 6 | 5 | 49 | III | CC.D.INT | | 4 | 43 | 25 | I | EC.F.EXT | 3 | 54 | 53 | III | OM.F.INT | | |
| 9 | 50 | 41 | III | EC.F.INT | | 4 | 44 | 10 | I | EC.F.PEN | 4 | 8 | 25 | III | OM.F.EXT | | |
| 10 | 4 | 26 | III | EC.F.EXT | | 11 | 56 | 25 | II | PA.D.EXT | 9 | 14 | 9 | I | OC.D.EXT | | |
| 10 | 8 | 56 | III | EC.F.PEN | | 12 | 0 | 48 | II | PA.D.INT | 9 | 17 | 39 | I | OC.D.INT | | |
| 16 | 35 | 51 | I | OC.D.EXT | | 13 | 7 | 41 | II | OM.D.EXT | 12 | 5 | 53 | I | EC.F.INT | | |
| 18 | 39 | 21 | I | OC.D.INT | | 13 | 12 | 0 | II | OM.D.INT | 12 | 9 | 23 | I | EC.F.EXT | | |
| 21 | 14 | 7 | I | EC.F.INT | | 14 | 19 | 47 | II | PA.F.INT | 12 | 10 | 7 | I | EC.F.PEN | | |
| 21 | 17 | 37 | I | EC.F.EXT | | 14 | 24 | 10 | II | PA.F.EXT | 20 | 10 | 2 | II | OC.D.EXT | | |
| 21 | 18 | 21 | I | EC.F.PEN | | 15 | 34 | 4 | II | OM.F.INT | 20 | 14 | 24 | II | OC.D.INT | | |
| | | | | | | 15 | 38 | 25 | II | OM.F.EXT | 23 | 59 | 59 | II | EC.F.INT | | |
| 17 | 4 | 43 | 36 | II | OC.D.EXT | 23 | 14 | 50 | I | PA.D.EXT | 28 | 0 | 4 | 20 | II | EC.F.EXT | |
| | 4 | 48 | 1 | II | OC.D.INT | 23 | 18 | 21 | I | PA.D.INT | | 0 | 6 | 1 | II | EC.F.PEN | |
| 8 | 6 | 58 | II | EC.F.INT | | 23 | 50 | 56 | I | OM.D.EXT | | 6 | 34 | 28 | I | PA.D.EXT | |
| 8 | 11 | 19 | II | EC.F.EXT | | 23 | 54 | 25 | I | OM.D.INT | | 6 | 37 | 58 | I | PA.D.INT | |
| 15 | 55 | 46 | I | PA.D.EXT | 23 | 1 | 23 | 38 | I | PA.F.INT | | 7 | 16 | 52 | I | OM.D.EXT | |
| 15 | 59 | 17 | I | PA.D.INT | | 1 | 27 | 8 | I | PA.F.EXT | | 7 | 20 | 21 | I | OM.D.INT | |
| 16 | 25 | 8 | I | OM.D.EXT | | 2 | 0 | 57 | I | OM.F.INT | | 8 | 43 | 18 | I | PA.F.INT | |
| 16 | 28 | 37 | I | OM.D.INT | | 2 | 4 | 27 | I | OM.F.EXT | | 8 | 46 | 49 | I | PA.F.EXT | |
| 18 | 4 | 30 | I | PA.F.INT | | 9 | 11 | 1 | III | OC.D.EXT | | 9 | 26 | 44 | I | OM.F.INT | |
| 18 | 8 | 1 | I | PA.F.EXT | | 9 | 25 | 33 | III | OC.D.INT | | 9 | 30 | 13 | I | OM.F.EXT | |
| 18 | 35 | 17 | I | OM.F.INT | | 11 | 14 | 6 | III | OC.F.INT | | | | | | | |
| 18 | 38 | 47 | I | OM.F.EXT | | 11 | 28 | 38 | III | OC.F.EXT | 29 | 3 | 40 | 42 | I | OC.D.EXT | |
| | | | | | | 11 | 35 | 55 | III | EC.D.PEN | | 3 | 44 | 12 | I | OC.D.INT | |
| 18 | 13 | 2 | 4 | I | OC.D.EXT | 11 | 40 | 27 | III | EC.D.EXT | | 6 | 34 | 30 | I | EC.F.INT | |
| 13 | 5 | 34 | I | OC.D.INT | | 11 | 54 | 14 | III | EC.D.INT | | 6 | 38 | 0 | I | EC.F.EXT | |
| 15 | 42 | 40 | I | EC.F.INT | | 13 | 49 | 3 | III | EC.F.INT | | 6 | 38 | 45 | I | EC.F.PEN | |
| 15 | 46 | 10 | I | EC.F.EXT | | 14 | 2 | 51 | III | EC.F.EXT | | 14 | 14 | 46 | II | PA.D.EXT | |
| 15 | 46 | 55 | I | EC.F.PEN | | 14 | 7 | 22 | III | EC.F.PEN | | 14 | 19 | 7 | II | PA.D.INT | |
| 22 | 48 | 0 | II | PA.D.EXT | | 20 | 21 | 10 | I | CC.D.EXT | | 15 | 43 | 26 | II | OM.D.EXT | |
| 22 | 52 | 23 | II | PA.D.INT | | 20 | 24 | 40 | I | OC.D.INT | | 15 | 47 | 46 | II | OM.D.INT | |
| 23 | 50 | 1 | II | OM.D.EXT | | 23 | 8 | 35 | I | EC.F.INT | | 16 | 38 | 55 | II | PA.F.INT | |
| 23 | 54 | 20 | II | OM.D.INT | | 23 | 12 | 5 | I | EC.F.EXT | | 16 | 43 | 17 | II | PA.F.EXT | |
| | | | | | | 23 | 12 | 49 | I | EC.F.PEN | | 18 | 9 | 32 | II | OM.F.INT | |
| 19 | 1 | 10 | 59 | II | PA.F.INT | 24 | 7 | 0 | 44 | II | OC.D.EXT | 29 | 18 | 13 | 53 | II | OM.F.EXT |
| | 1 | 15 | 23 | II | PA.F.EXT | | 7 | 5 | 7 | II | OC.D.INT | | | | | | |
| 2 | 16 | 34 | II | OM.F.INT | | 10 | 42 | 14 | II | EC.F.INT | 30 | 1 | 1 | 5 | I | PA.D.EXT | |
| 2 | 20 | 54 | II | OM.F.EXT | | 10 | 46 | 36 | II | EC.F.EXT | | 1 | 4 | 35 | I | PA.D.INT | |
| 10 | 22 | 2 | I | PA.D.EXT | | 10 | 48 | 17 | II | EC.F.PEN | | 1 | 45 | 29 | I | OM.D.EXT | |
| 10 | 25 | 33 | I | PA.D.INT | | 17 | 41 | 22 | I | PA.D.EXT | | 1 | 48 | 58 | I | OM.D.INT | |
| 10 | 53 | 42 | I | OM.D.EXT | | 17 | 44 | 52 | I | PA.D.INT | | 3 | 9 | 56 | I | PA.F.INT | |
| 10 | 57 | 11 | I | OM.D.INT | | 18 | 19 | 37 | I | OM.D.EXT | | 3 | 13 | 26 | I | PA.F.EXT | |
| 12 | 30 | 48 | I | PA.F.INT | | 18 | 23 | 6 | I | OM.D.INT | | 3 | 55 | 17 | I | OM.F.INT | |
| 12 | 34 | 19 | I | PA.F.EXT | | 19 | 50 | 10 | I | PA.F.INT | | 3 | 58 | 47 | I | OM.F.EXT | |
| 13 | 3 | 49 | I | OM.F.INT | | 19 | 53 | 41 | I | PA.F.EXT | | 12 | 34 | 49 | III | OC.D.EXT | |
| 13 | 7 | 19 | I | OM.F.EXT | | 20 | 29 | 35 | I | OM.F.INT | | 12 | 48 | 56 | III | OC.D.INT | |
| 19 | 35 | 45 | III | PA.D.EXT | | 20 | 33 | 5 | I | OM.F.EXT | | 14 | 41 | 27 | III | OC.F.INT | |
| 19 | 50 | 40 | III | PA.D.INT | | | | | | | | 14 | 55 | 34 | III | OC.F.EXT | |
| 21 | 35 | 17 | III | PA.F.INT | | | | | | | | 15 | 35 | 13 | III | EC.D.PEN | |
| 21 | 41 | 53 | III | OM.D.EXT | 25 | 14 | 47 | 35 | I | OC.D.EXT | | 15 | 39 | 45 | III | EC.D.EXT | |
| 21 | 50 | 14 | III | PA.F.EXT | | 14 | 51 | 5 | I | OC.D.INT | | 15 | 53 | 36 | III | EC.D.INT | |
| 21 | 55 | 6 | III | OM.D.INT | | 17 | 37 | 10 | I | EC.F.INT | | 17 | 47 | 56 | III | EC.F.INT | |
| 23 | 56 | 54 | III | OM.F.INT | | 17 | 40 | 40 | I | EC.F.EXT | | 18 | 1 | 47 | III | EC.F.EXT | |
| | | | | | | 17 | 41 | 25 | I | EC.F.PEN | | 18 | 6 | 19 | III | EC.F.PEN | |
| 20 | 0 | 10 | 24 | III | OM.F.EXT | 26 | 1 | 5 | 29 | II | PA.D.EXT | 22 | 7 | 22 | I | OC.D.EXT | |
| | 7 | 28 | 25 | I | OC.D.EXT | | 1 | 9 | 51 | II | PA.D.INT | 22 | 10 | 52 | I | OC.D.INT | |
| 10 | 11 | 20 | I | EC.F.INT | | 2 | 25 | 41 | II | OM.D.EXT | 31 | 1 | 3 | 12 | I | EC.F.INT | |
| 10 | 14 | 50 | I | EC.F.EXT | | 2 | 30 | 1 | II | OM.D.INT | | 1 | 6 | 42 | I | EC.F.EXT | |
| 10 | 15 | 35 | I | EC.F.PEN | | 3 | 29 | 16 | II | PA.F.INT | | 1 | 7 | 26 | I | EC.F.PEN | |
| 17 | 52 | 10 | II | OC.D.EXT | | 3 | 33 | 38 | II | PA.F.EXT | | 9 | 19 | 29 | II | OC.D.EXT | |
| 17 | 56 | 34 | II | OC.D.INT | | 4 | 51 | 57 | II | OM.F.INT | | 9 | 23 | 50 | II | OC.D.INT | |
| 21 | 24 | 44 | II | EC.F.INT | | 4 | 56 | 17 | II | OM.F.EXT | | 13 | 17 | 31 | II | EC.F.INT | |
| 21 | 29 | 6 | II | EC.F.EXT | | 12 | 7 | 51 | I | PA.D.EXT | | 13 | 21 | 52 | II | EC.F.EXT | |
| 21 | 30 | 47 | II | EC.F.PEN | | 12 | 11 | 22 | I | PA.D.INT | | 13 | 23 | 33 | II | EC.F.PEN | |
| | | | | | | 12 | 48 | 12 | I | OM.D.EXT | | 19 | 27 | 51 | I | PA.D.EXT | |
| 21 | 4 | 48 | 27 | I | PA.D.EXT | 12 | 51 | 42 | I | OM.D.INT | | 19 | 31 | 21 | I | PA.D.INT | |
| | 4 | 51 | 57 | I | PA.D.INT | 14 | 16 | 41 | I | PA.F.INT | | 20 | 14 | 11 | I | OM.D.EXT | |
| 5 | 22 | 21 | I | OM.D.EXT | | 14 | 20 | 11 | I | PA.F.EXT | | 20 | 17 | 40 | I | OM.D.INT | |
| 5 | 25 | 50 | I | OM.D.INT | | 14 | 58 | 7 | I | OM.F.INT | | 21 | 36 | 43 | I | PA.F.INT | |
| 6 | 57 | 13 | I | PA.F.INT | | 15 | 1 | 37 | I | OM.F.EXT | | 21 | 40 | 13 | I | PA.F.EXT | |
| 7 | 0 | 44 | I | PA.F.EXT | | 22 | 57 | 5 | III | PA.D.EXT | | 22 | 23 | 56 | I | OM.F.INT | |
| 7 | 32 | 25 | I | OM.F.INT | | 23 | 11 | 33 | III | PA.D.INT | | 22 | 27 | 25 | I | OM.F.EXT | |
| 7 | 35 | 54 | I | OM.F.EXT | | | | | | | | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



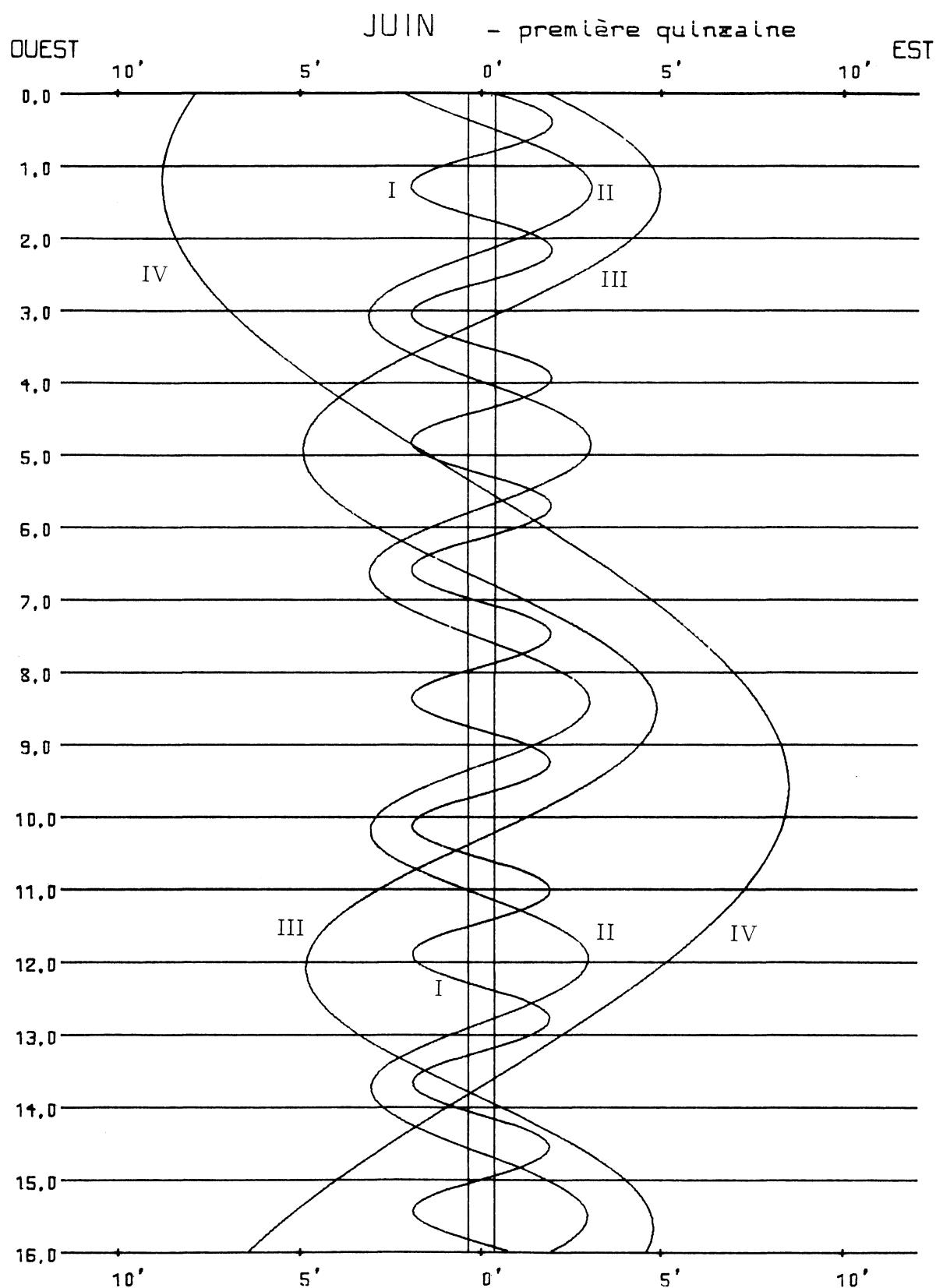
Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter



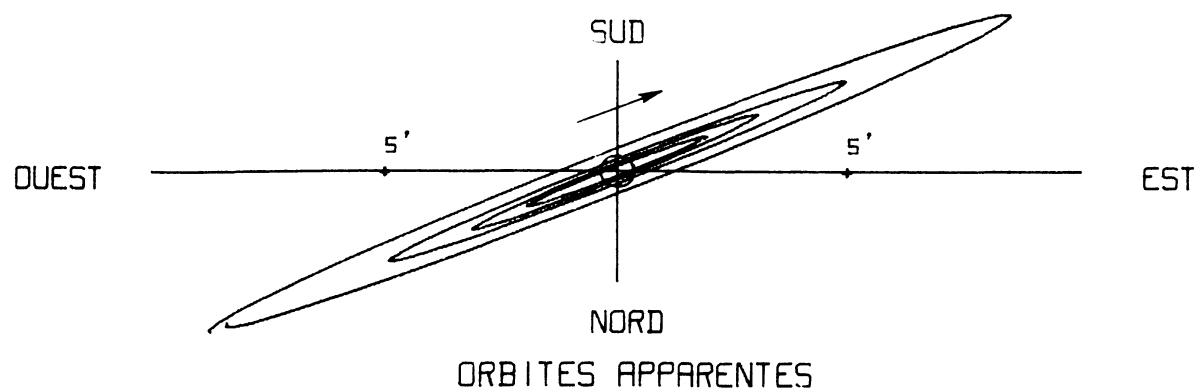
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | MOIS : | | | | | JUIN - PREMIERE QUINZAINE - | | | | | | | |
|------------|----|----|----|-----|----------|------|----|----|-----|-----------------------------|----------|------|----|----|-----|----------|----------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 1 | 16 | 34 | 1 | I | OC.D.EXT | 5 | 49 | 41 | I | OM.F.INT | | 5 | 10 | 19 | II | EC.F.INT | |
| | 16 | 37 | 32 | I | OC.D.INT | 5 | 53 | 10 | I | OM.F.EXT | | 5 | 14 | 41 | II | EC.F.EXT | |
| | 19 | 31 | 49 | I | EC.F.INT | 16 | 1 | 46 | III | OC.D.EXT | | 5 | 16 | 22 | II | EC.F.PEN | |
| | 19 | 35 | 19 | I | EC.F.EXT | 16 | 15 | 30 | III | OC.D.INT | | 10 | 9 | 25 | I | PA.D.EXT | |
| | 19 | 36 | 3 | I | EC.F.PEN | 18 | 11 | 49 | III | OC.F.INT | | 10 | 12 | 54 | I | PA.D.INT | |
| | | | | | | 18 | 25 | 33 | III | OC.F.EXT | | 11 | 6 | 6 | I | OM.D.EXT | |
| 2 | 3 | 24 | 49 | II | PA.D.EXT | 19 | 33 | 59 | III | EC.D.PEN | | 11 | 9 | 35 | I | OM.D.INT | |
| | 3 | 29 | 9 | II | PA.D.INT | 19 | 38 | 32 | III | EC.D.EXT | | 12 | 18 | 20 | I | PA.F.INT | |
| | 5 | 1 | 36 | II | OM.D.EXT | 19 | 52 | 25 | III | EC.D.INT | | 12 | 21 | 49 | I | PA.F.EXT | |
| | 5 | 5 | 56 | II | OM.D.INT | 21 | 46 | 19 | III | EC.F.INT | | 13 | 15 | 32 | I | OM.F.INT | |
| | 5 | 49 | 22 | II | PA.F.INT | 22 | 0 | 12 | III | EC.F.EXT | | 13 | 19 | 2 | I | OM.F.EXT | |
| | 5 | 53 | 43 | II | PA.F.EXT | 22 | 4 | 45 | III | EC.F.PEN | | | | | | | |
| | 7 | 27 | 33 | II | OM.F.INT | 23 | 54 | 34 | I | DC.D.EXT | 12 | 7 | 15 | 39 | I | OC.D.EXT | |
| | 7 | 31 | 55 | II | OM.F.EXT | 23 | 58 | 4 | I | DC.D.INT | | 7 | 19 | 9 | I | OC.D.INT | |
| | 13 | 54 | 35 | I | PA.D.EXT | | | | | | | 10 | 24 | 2 | I | EC.F.INT | |
| | 13 | 58 | 4 | I | PA.D.INT | 7 | 2 | 57 | 56 | I | EC.F.INT | 10 | 27 | 32 | I | EC.F.EXT | |
| | 14 | 42 | 47 | I | OM.D.EXT | 3 | 1 | 26 | I | EC.F.EXT | | 10 | 28 | 16 | I | EC.F.PEN | |
| | 14 | 46 | 16 | I | OM.D.INT | 3 | 2 | 11 | I | EC.F.PEN | | 18 | 57 | 35 | II | PA.D.EXT | |
| | 16 | 3 | 27 | I | PA.F.INT | 11 | 40 | 0 | II | OC.D.EXT | | 19 | 1 | 53 | II | PA.D.INT | |
| | 16 | 6 | 57 | I | PA.F.EXT | 11 | 44 | 19 | II | OC.D.INT | | 20 | 55 | 43 | II | OM.D.EXT | |
| | 16 | 52 | 29 | I | OM.F.INT | 15 | 52 | 42 | II | EC.F.INT | | 21 | 0 | 4 | II | OM.D.INT | |
| | 16 | 55 | 59 | I | OM.F.EXT | 15 | 57 | 4 | II | EC.F.EXT | | 21 | 23 | 11 | II | PA.F.INT | |
| | | | | | | 15 | 58 | 45 | II | EC.F.PEN | | 21 | 27 | 31 | II | PA.F.EXT | |
| 3 | 2 | 22 | 5 | III | PA.D.EXT | 21 | 15 | 19 | I | PA.D.EXT | | 23 | 21 | 13 | II | OM.F.INT | |
| | 2 | 36 | 7 | III | PA.C.INT | 21 | 18 | 48 | I | PA.D.INT | | 23 | 25 | 35 | II | OM.F.EXT | |
| | 4 | 28 | 34 | III | PA.F.INT | 22 | 8 | 48 | I | OM.D.EXT | | | | | | | |
| | 4 | 42 | 39 | III | PA.F.EXT | 22 | 12 | 17 | I | OM.D.INT | 13 | 4 | 36 | 32 | I | PA.D.EXT | |
| | 5 | 39 | 8 | III | OM.D.EXT | 23 | 24 | 13 | I | PA.F.INT | | 4 | 40 | 1 | I | PA.D.INT | |
| | 5 | 52 | 26 | III | OM.D.INT | 23 | 27 | 42 | I | PA.F.EXT | | 5 | 34 | 45 | I | OM.D.EXT | |
| | 7 | 53 | 6 | III | CM.F.INT | | | | | | | 5 | 38 | 14 | I | OM.D.INT | |
| | 8 | 6 | 39 | III | OM.F.EXT | 8 | 0 | 18 | 20 | I | OM.F.INT | | 6 | 45 | 28 | I | PA.F.INT |
| | 11 | 0 | 51 | I | OC.D.EXT | | 0 | 21 | 49 | I | OM.F.EXT | | 6 | 48 | 57 | I | PA.F.EXT |
| | 11 | 4 | 21 | I | CC.D.INT | | 18 | 21 | 29 | I | OC.D.EXT | | 7 | 44 | 8 | I | OM.F.INT |
| | 14 | 0 | 33 | I | EC.F.INT | | 18 | 24 | 59 | I | OC.D.INT | | 7 | 47 | 37 | I | OM.F.EXT |
| | 14 | 4 | 3 | I | EC.F.EXT | | 21 | 26 | 35 | I | EC.F.INT | | 19 | 32 | 43 | III | OC.D.EXT |
| | 14 | 4 | 48 | I | EC.F.PEN | | 21 | 30 | 5 | I | EC.F.EXT | | 19 | 46 | 7 | III | OC.D.INT |
| | 22 | 29 | 37 | II | OC.D.EXT | | 21 | 30 | 49 | I | EC.F.PEN | | 21 | 46 | 0 | III | OC.F.INT |
| | 22 | 33 | 57 | II | CC.D.INT | | | | | | | | 21 | 59 | 24 | III | OC.F.EXT |
| | | | | | | 9 | 5 | 46 | 16 | II | PA.D.EXT | | 23 | 32 | 43 | III | EC.D.PEN |
| 4 | 2 | 35 | 11 | II | EC.F.INT | 5 | 51 | 35 | II | PA.D.INT | | 23 | 37 | 16 | III | EC.D.INT | |
| | 2 | 39 | 33 | II | EC.F.EXT | 7 | 37 | 48 | II | OM.D.EXT | | 23 | 51 | 12 | III | EC.D.INT | |
| | 2 | 41 | 13 | II | EC.F.PEN | 7 | 42 | 9 | II | OM.D.INT | | | | | | | |
| | 8 | 21 | 26 | I | PA.D.EXT | 8 | 11 | 32 | II | PA.F.INT | 14 | 1 | 42 | 52 | I | OC.D.EXT | |
| | 8 | 24 | 56 | I | PA.D.INT | 8 | 15 | 52 | II | PA.F.EXT | | 1 | 44 | 40 | III | EC.F.INT | |
| | 9 | 11 | 27 | I | OM.D.EXT | 10 | 3 | 27 | II | OM.F.INT | | 1 | 46 | 21 | I | OC.D.INT | |
| | 9 | 14 | 57 | I | OM.D.INT | 10 | 7 | 49 | II | OM.F.EXT | | 1 | 58 | 36 | III | EC.F.EXT | |
| | 10 | 30 | 19 | I | PA.F.INT | 15 | 42 | 18 | I | PA.D.EXT | | 2 | 3 | 9 | III | EC.F.PEN | |
| | 10 | 33 | 49 | I | PA.F.EXT | 15 | 45 | 47 | I | PA.D.INT | | 4 | 52 | 47 | I | EC.F.INT | |
| | 11 | 21 | 6 | I | OM.F.INT | 16 | 37 | 25 | I | OM.D.EXT | | 4 | 56 | 17 | I | EC.F.EXT | |
| | 11 | 24 | 36 | I | CM.F.EXT | 16 | 40 | 54 | I | OM.D.INT | | 4 | 57 | 2 | I | EC.F.PEN | |
| | | | | | | 17 | 51 | 13 | I | PA.F.INT | | 14 | 2 | 31 | II | OC.D.EXT | |
| 5 | 5 | 27 | 39 | I | OC.D.EXT | 17 | 54 | 42 | I | PA.F.EXT | | 14 | 6 | 48 | II | OC.D.INT | |
| | 5 | 31 | 9 | I | OC.D.INT | 18 | 46 | 55 | I | OM.F.INT | | 18 | 27 | 51 | II | EC.F.INT | |
| | 8 | 29 | 12 | I | EC.F.INT | 18 | 50 | 24 | I | OM.F.EXT | | 19 | 32 | 13 | II | EC.F.EXT | |
| | 8 | 32 | 42 | I | EC.F.EXT | | | | | | | 18 | 33 | 54 | II | EC.F.PEN | |
| | 8 | 33 | 27 | I | EC.F.PEN | 10 | 5 | 51 | 41 | III | PA.D.EXT | | 23 | 3 | 49 | I | PA.D.EXT |
| | 16 | 35 | 6 | II | PA.D.EXT | 6 | 5 | 19 | III | PA.D.INT | | 23 | 7 | 18 | I | PA.D.INT | |
| | 16 | 39 | 26 | II | PA.D.INT | 8 | 1 | 23 | III | PA.F.INT | | | | | | | |
| | 18 | 19 | 27 | II | OM.D.EXT | 8 | 15 | 6 | III | PA.F.EXT | 15 | 0 | 3 | 27 | I | OM.D.EXT | |
| | 18 | 23 | 48 | II | OM.D.INT | 9 | 38 | 35 | III | OM.D.EXT | | 0 | 6 | 57 | I | OM.D.INT | |
| | 19 | 0 | 0 | II | PA.F.INT | 9 | 51 | 55 | III | OM.D.INT | | 1 | 12 | 45 | I | PA.F.INT | |
| | 19 | 4 | 20 | II | PA.F.EXT | 11 | 52 | 3 | III | OM.F.INT | | 1 | 16 | 14 | I | PA.F.EXT | |
| | 20 | 45 | 15 | II | OM.F.INT | 12 | 5 | 37 | III | OM.F.EXT | | 2 | 12 | 47 | I | OM.F.INT | |
| | 20 | 49 | 37 | II | OM.F.EXT | 12 | 48 | 35 | I | OC.D.EXT | | 2 | 16 | 17 | I | OM.F.EXT | |
| | | | | | | 12 | 52 | 5 | I | OC.D.INT | | 20 | 10 | 3 | I | OC.D.EXT | |
| 6 | 2 | 48 | 18 | I | PA.D.EXT | 15 | 55 | 21 | I | EC.F.INT | | 20 | 13 | 33 | I | OC.D.INT | |
| | 2 | 51 | 48 | I | PA.D.INT | 15 | 58 | 51 | I | EC.F.EXT | | 23 | 21 | 27 | I | EC.F.INT | |
| | 3 | 40 | 5 | I | OM.D.EXT | 15 | 59 | 36 | I | EC.F.PEN | | 23 | 24 | 57 | I | EC.F.EXT | |
| | 3 | 43 | 34 | I | OM.D.INT | | 0 | 55 | 24 | II | OC.D.INT | | 23 | 25 | 42 | I | EC.F.PEN |
| | 4 | 57 | 12 | I | PA.F.INT | 11 | 0 | 51 | 6 | II | OC.D.EXT | | | | | | |
| | 5 | 0 | 41 | I | PA.F.EXT | | 0 | 55 | 24 | II | OC.D.INT | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.

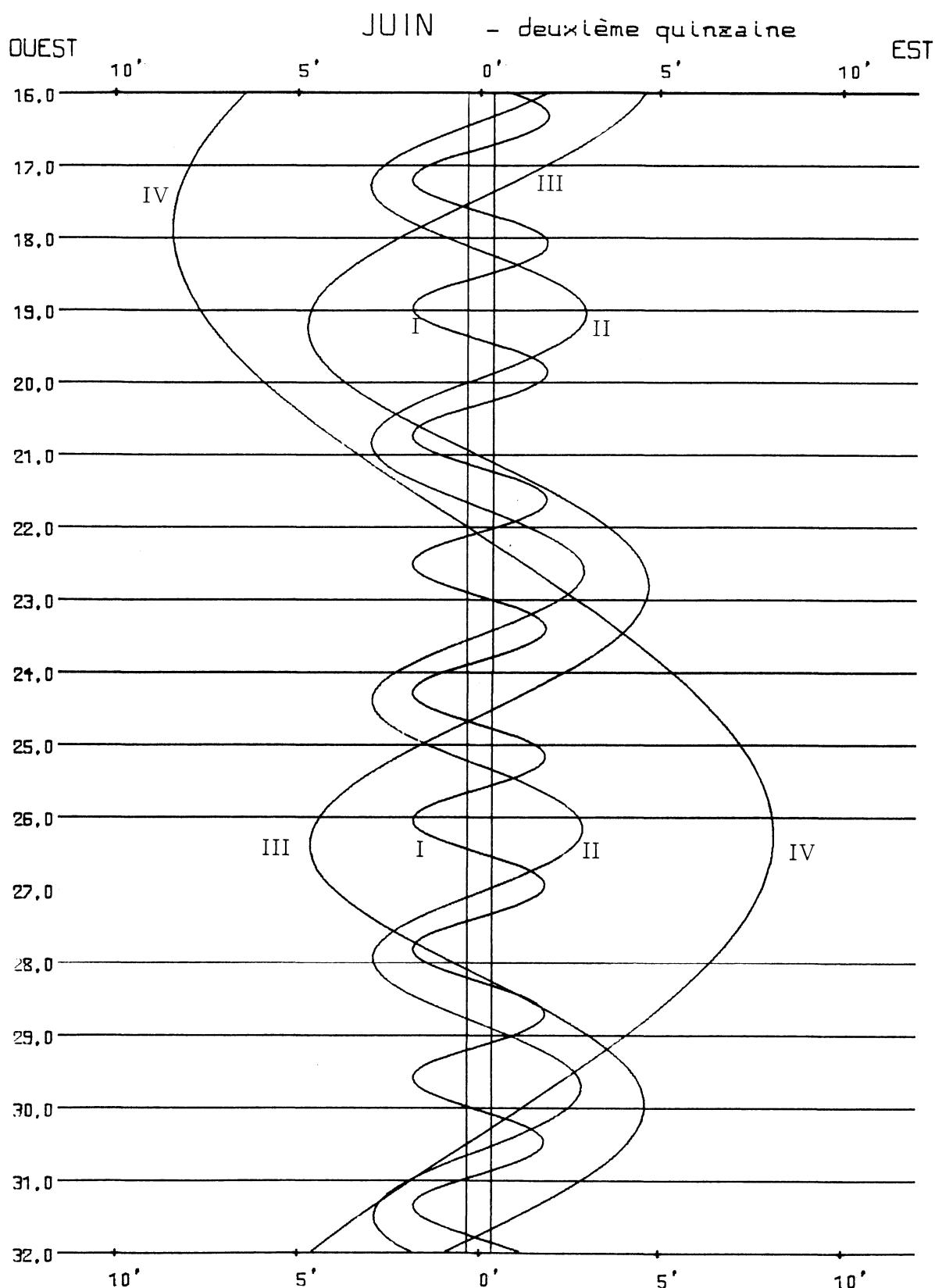


Dans le sens OUEST-EST, les satellites passent au-delà de Jupiter

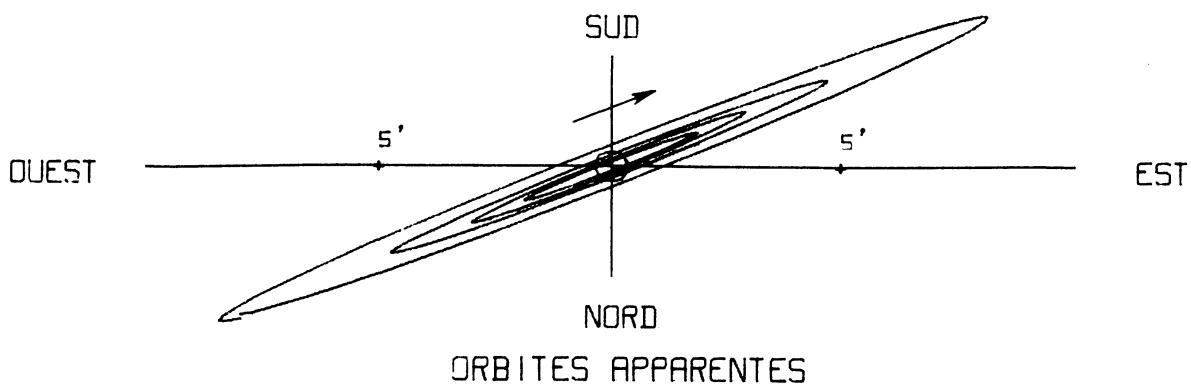


1982 - SATELLITES DE JUPITER -

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



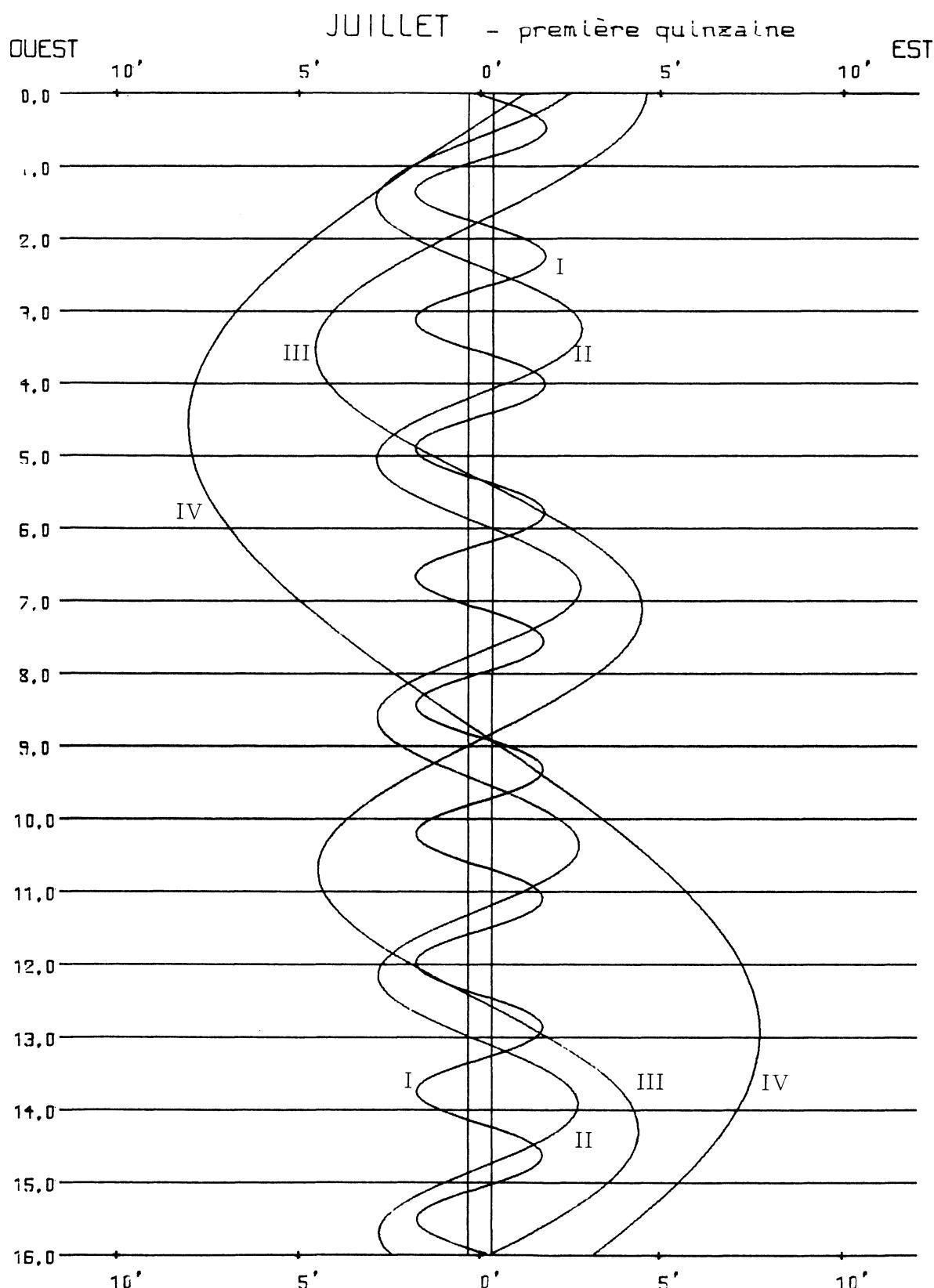
Dans le sens OUEST-EST, les satellites passent au-delà de Jupiter



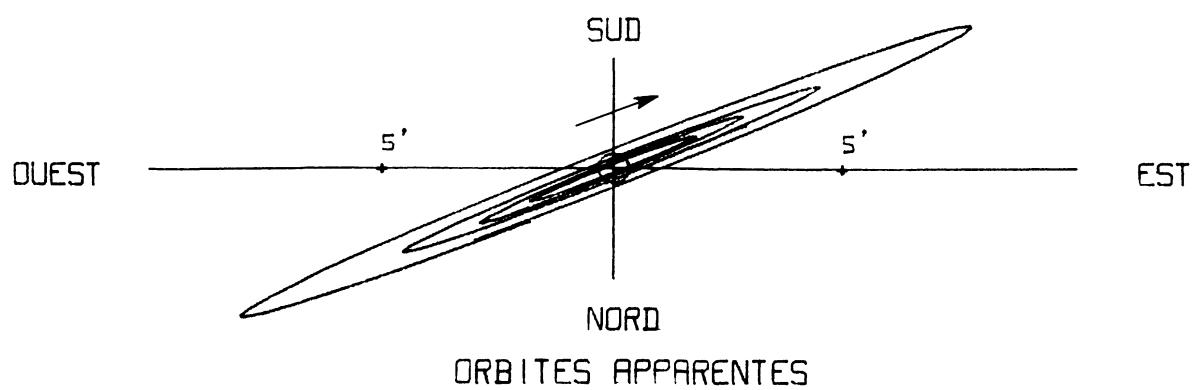
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | | MOIS : | | | | | | JUILLET - PREMIERE QUINZAINE - | | | | | |
|------------|----|----|-----|----------|----------|--------|----|----|----------|----------|----------|--------------------------------|----|-----|----------|----------|----------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 1 | 0 | 30 | 29 | I | OM.F.INT | 6 | 2 | 12 | 54 | II | EC.F.INT | 7 | 18 | 37 | II | PA.F.INT | |
| | 0 | 33 | 58 | I | OM.F.EXT | | 2 | 17 | 16 | II | EC.F.EXT | | 7 | 22 | 53 | II | PA.F.EXT |
| 16 | 46 | 6 | III | PA.D.EXT | | 2 | 18 | 57 | II | EC.F.PEN | | 7 | 22 | 54 | II | OM.D.EXT | |
| 16 | 58 | 50 | III | PA.D.INT | | 4 | 35 | 45 | I | PA.D.EXT | | 7 | 27 | 18 | II | OM.D.INT | |
| 18 | 18 | 35 | I | OC.D.EXT | | 4 | 39 | 13 | I | PA.D.INT | | 9 | 47 | 22 | II | OM.F.INT | |
| 18 | 22 | 4 | I | OC.D.INT | | 5 | 47 | 37 | I | OM.D.EXT | | 9 | 51 | 47 | II | OM.F.EXT | |
| 19 | 3 | 54 | III | PA.F.INT | | 5 | 51 | 6 | I | OM.D.INT | | 12 | 0 | 11 | I | PA.D.EXT | |
| 19 | 16 | 46 | III | PA.F.EXT | | 6 | 44 | 48 | I | PA.F.INT | | 12 | 3 | 38 | I | PA.D.INT | |
| 21 | 36 | 5 | III | OM.D.EXT | | 6 | 48 | 16 | I | PA.F.EXT | | 13 | 13 | 39 | I | OM.D.EXT | |
| 21 | 40 | 20 | I | EC.F.INT | | 7 | 56 | 27 | I | OM.F.INT | | 13 | 17 | 8 | I | OM.D.INT | |
| 21 | 43 | 50 | I | EC.F.EXT | | 7 | 59 | 56 | I | OM.F.EXT | | 14 | 9 | 15 | I | PA.F.INT | |
| 21 | 44 | 35 | I | EC.F.PEN | | | | | | | | 14 | 12 | 43 | I | PA.F.EXT | |
| 21 | 49 | 30 | III | OM.D.INT | 7 | 1 | 42 | 37 | I | OC.D.EXT | | 15 | 22 | 24 | I | OM.F.INT | |
| 23 | 48 | 15 | III | OM.F.INT | | 1 | 46 | 6 | I | OC.D.INT | | 15 | 25 | 53 | I | OM.F.EXT | |
| | | | | | 5 | 6 | 37 | I | EC.F.INT | | | | | | | | |
| 2 | 0 | 1 | 52 | III | OM.F.EXT | 5 | 10 | 8 | I | EC.F.EXT | 12 | 9 | 7 | 25 | I | OC.D.EXT | |
| 8 | 8 | 2 | II | OC.D.EXT | | 5 | 10 | 53 | I | EC.F.PEN | | 9 | 10 | 54 | I | OC.D.INT | |
| 8 | 12 | 16 | II | OC.D.INT | | 15 | 34 | 54 | II | PA.D.EXT | | 10 | 22 | 51 | III | OC.D.EXT | |
| 12 | 55 | 27 | II | EC.F.INT | | 15 | 39 | 10 | II | PA.D.INT | | 10 | 35 | 20 | III | OC.D.INT | |
| 12 | 59 | 49 | II | EC.F.EXT | | 18 | 2 | 29 | II | PA.F.INT | | 12 | 33 | 4 | I | EC.F.INT | |
| 13 | 1 | 25 | II | EC.F.PEN | | 18 | 4 | 40 | II | OM.D.EXT | | 12 | 36 | 35 | I | EC.F.EXT | |
| 15 | 39 | 45 | I | PA.D.EXT | | 18 | 6 | 46 | II | PA.F.EXT | | 12 | 37 | 20 | I | EC.F.PEN | |
| 15 | 43 | 13 | I | PA.D.INT | | 18 | 9 | 4 | II | OM.D.INT | | 12 | 45 | 59 | III | OC.F.INT | |
| 16 | 50 | 14 | I | OM.D.EXT | | 20 | 29 | 15 | II | OM.F.INT | | 12 | 58 | 28 | III | OC.F.EXT | |
| 16 | 53 | 43 | I | CM.D.INT | | 20 | 33 | 40 | II | OM.F.EXT | | 15 | 29 | 46 | III | EC.D.PEN | |
| 17 | 48 | 46 | I | PA.F.INT | | 23 | 3 | 49 | I | PA.D.EXT | | 15 | 34 | 23 | III | EC.D.EXT | |
| 17 | 52 | 15 | I | PA.F.EXT | | 23 | 7 | 17 | I | PA.D.INT | | 15 | 48 | 29 | III | EC.D.INT | |
| 18 | 59 | 8 | I | OM.F.INT | | | | | | | | 17 | 40 | 22 | III | EC.F.INT | |
| 19 | 2 | 37 | I | OM.F.EXT | 8 | 0 | 16 | 17 | I | OM.D.EXT | | 17 | 54 | 29 | III | EC.F.EXT | |
| | | | | | 0 | 19 | 46 | I | OM.D.INT | | 17 | 59 | 5 | III | EC.F.PEN | | |
| 3 | 12 | 46 | 30 | I | OC.D.EXT | 1 | 12 | 53 | I | PA.F.INT | 13 | 2 | 21 | 48 | II | OC.F.INT | |
| 12 | 49 | 55 | I | OC.D.INT | | 1 | 16 | 21 | I | PA.F.EXT | | 2 | 24 | 9 | II | EC.D.PEN | |
| 16 | 9 | 4 | I | EC.F.INT | | 2 | 25 | 6 | I | OM.F.INT | | 2 | 25 | 50 | II | EC.D.EXT | |
| 16 | 12 | 35 | I | EC.F.EXT | | 2 | 28 | 35 | I | OM.F.EXT | | 2 | 26 | 1 | II | OC.F.EXT | |
| 16 | 13 | 20 | I | EC.F.PEN | | 20 | 10 | 52 | I | OC.D.EXT | | 2 | 30 | 12 | II | EC.D.INT | |
| | | | | | 20 | 14 | 20 | I | OC.D.INT | | 4 | 47 | 45 | II | EC.F.INT | | |
| 4 | 2 | 18 | 59 | II | PA.D.EXT | 20 | 32 | 55 | III | PA.D.EXT | | 4 | 52 | 7 | II | EC.F.EXT | |
| 2 | 23 | 15 | II | PA.D.INT | | 20 | 45 | 27 | III | PA.D.INT | | 4 | 53 | 48 | II | EC.F.PEN | |
| 4 | 45 | 49 | II | OM.D.EXT | | 22 | 52 | 49 | III | PA.F.INT | | 6 | 28 | 30 | I | PA.D.EXT | |
| 4 | 46 | 20 | II | PA.F.INT | | 23 | 5 | 28 | III | PA.F.EXT | | 6 | 31 | 57 | I | PA.D.INT | |
| 4 | 50 | 12 | II | OM.D.INT | | 23 | 35 | 28 | I | EC.F.INT | | 7 | 42 | 22 | I | OM.D.EXT | |
| 4 | 50 | 36 | II | PA.F.EXT | | 23 | 38 | 59 | I | EC.F.EXT | | | | | I | OM.F.INT | |
| 7 | 10 | 30 | II | OM.F.INT | | 23 | 39 | 44 | I | EC.F.PEN | | | | | I | OM.F.EXT | |
| | | | | | | | | | | | | | | | | | |
| 10 | 7 | 41 | I | PA.D.EXT | 9 | 1 | 34 | 52 | III | OM.D.EXT | | 7 | 45 | 51 | I | OM.D.INT | |
| 10 | 11 | 9 | I | PA.D.INT | | 1 | 48 | 19 | III | OM.D.INT | | 8 | 37 | 35 | I | PA.F.INT | |
| 11 | 18 | 54 | I | OM.D.EXT | | 3 | 46 | 42 | III | OM.F.INT | | 8 | 41 | 3 | I | PA.F.EXT | |
| 11 | 22 | 23 | I | OM.D.INT | | 4 | 0 | 20 | III | OM.F.EXT | | 9 | 51 | 5 | I | OM.F.INT | |
| 12 | 16 | 43 | I | PA.F.INT | | 10 | 37 | 52 | II | OC.D.EXT | | 9 | 54 | 34 | I | OM.F.EXT | |
| 12 | 20 | 11 | I | PA.F.EXT | | 10 | 42 | 5 | II | OC.D.INT | | | | | I | OC.D.EXT | |
| 13 | 27 | 46 | I | OM.F.INT | | 13 | 5 | 58 | II | OC.F.INT | 14 | 3 | 35 | 44 | I | OC.D.EXT | |
| 13 | 31 | 15 | I | OM.F.EXT | | 13 | 6 | 37 | II | EC.D.PEN | | 3 | 39 | 13 | I | OC.D.INT | |
| | | | | | 13 | 8 | 18 | II | EC.D.EXT | | 7 | 1 | 48 | I | EC.F.INT | | |
| 5 | 6 | 33 | 23 | III | OC.D.EXT | 13 | 10 | 11 | II | OC.F.EXT | | 7 | 5 | 19 | I | EC.F.EXT | |
| 6 | 46 | 3 | III | OC.D.INT | | 13 | 12 | 40 | II | EC.D.INT | | 7 | 6 | 4 | I | EC.F.PEN | |
| 7 | 14 | 35 | I | OC.D.EXT | | 15 | 30 | 20 | II | EC.F.EXT | | 18 | 7 | 53 | II | PA.D.EXT | |
| 7 | 18 | 4 | I | OC.D.INT | | 15 | 34 | 42 | II | EC.F.EXT | | 18 | 12 | 8 | II | PA.D.INT | |
| 8 | 54 | 32 | III | OC.F.INT | | 15 | 36 | 23 | II | EC.F.PEN | | 20 | 35 | 53 | II | PA.F.INT | |
| 9 | 7 | 11 | III | OC.F.EXT | | 17 | 31 | 59 | I | PA.D.EXT | | 20 | 40 | 9 | II | PA.F.EXT | |
| 10 | 37 | 54 | I | EC.F.INT | | 17 | 35 | 27 | I | PA.D.INT | | 20 | 41 | 51 | II | OM.D.EXT | |
| 10 | 41 | 24 | I | EC.F.EXT | | 18 | 44 | 59 | I | OM.D.EXT | | 20 | 46 | 15 | II | OM.D.INT | |
| 10 | 42 | 9 | I | EC.F.PEN | | 18 | 48 | 28 | I | OM.D.INT | | 23 | 6 | 14 | II | OM.F.INT | |
| 11 | 30 | 22 | III | EC.D.PEN | | 19 | 41 | 3 | I | PA.F.INT | | 23 | 10 | 39 | II | OM.F.EXT | |
| 11 | 34 | 57 | III | EC.D.EXT | | 19 | 44 | 31 | I | PA.F.EXT | | | | | I | OM.F.EXT | |
| 11 | 49 | 2 | III | EC.D.INT | | 20 | 53 | 45 | I | OM.F.INT | 15 | 0 | 56 | 49 | I | PA.D.EXT | |
| 13 | 41 | 15 | III | EC.F.INT | | 20 | 57 | 14 | I | OM.F.EXT | | 1 | 0 | 16 | I | PA.D.INT | |
| 13 | 55 | 20 | III | EC.F.EXT | | | | | | | | 2 | 11 | 2 | I | OM.D.EXT | |
| 13 | 59 | 56 | III | EC.F.PEN | 10 | 14 | 39 | 4 | I | OC.D.EXT | | 2 | 14 | 31 | I | CM.D.INT | |
| 21 | 22 | 39 | II | OC.D.EXT | | 14 | 42 | 33 | I | OC.D.INT | | 3 | 5 | 55 | I | PA.F.INT | |
| 21 | 26 | 53 | II | OC.D.INT | | 18 | 4 | 14 | I | EC.F.INT | | 3 | 9 | 23 | I | PA.F.EXT | |
| 23 | 50 | 35 | II | OC.F.INT | | 18 | 7 | 44 | I | EC.F.EXT | | 4 | 19 | 44 | I | OM.F.INT | |
| 23 | 50 | 45 | II | EC.D.EXT | | 18 | 8 | 29 | I | EC.F.PEN | | 4 | 23 | 13 | I | OM.F.EXT | |
| 23 | 54 | 48 | II | EC.F.EXT | | | | | | | | 22 | 4 | 14 | I | OC.D.EXT | |
| 23 | 55 | 7 | II | EC.D.INT | 11 | 4 | 50 | 50 | II | PA.D.EXT | | 22 | 7 | 43 | I | OC.D.INT | |
| | | | | | 4 | 55 | 5 | II | PA.D.INT | | | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



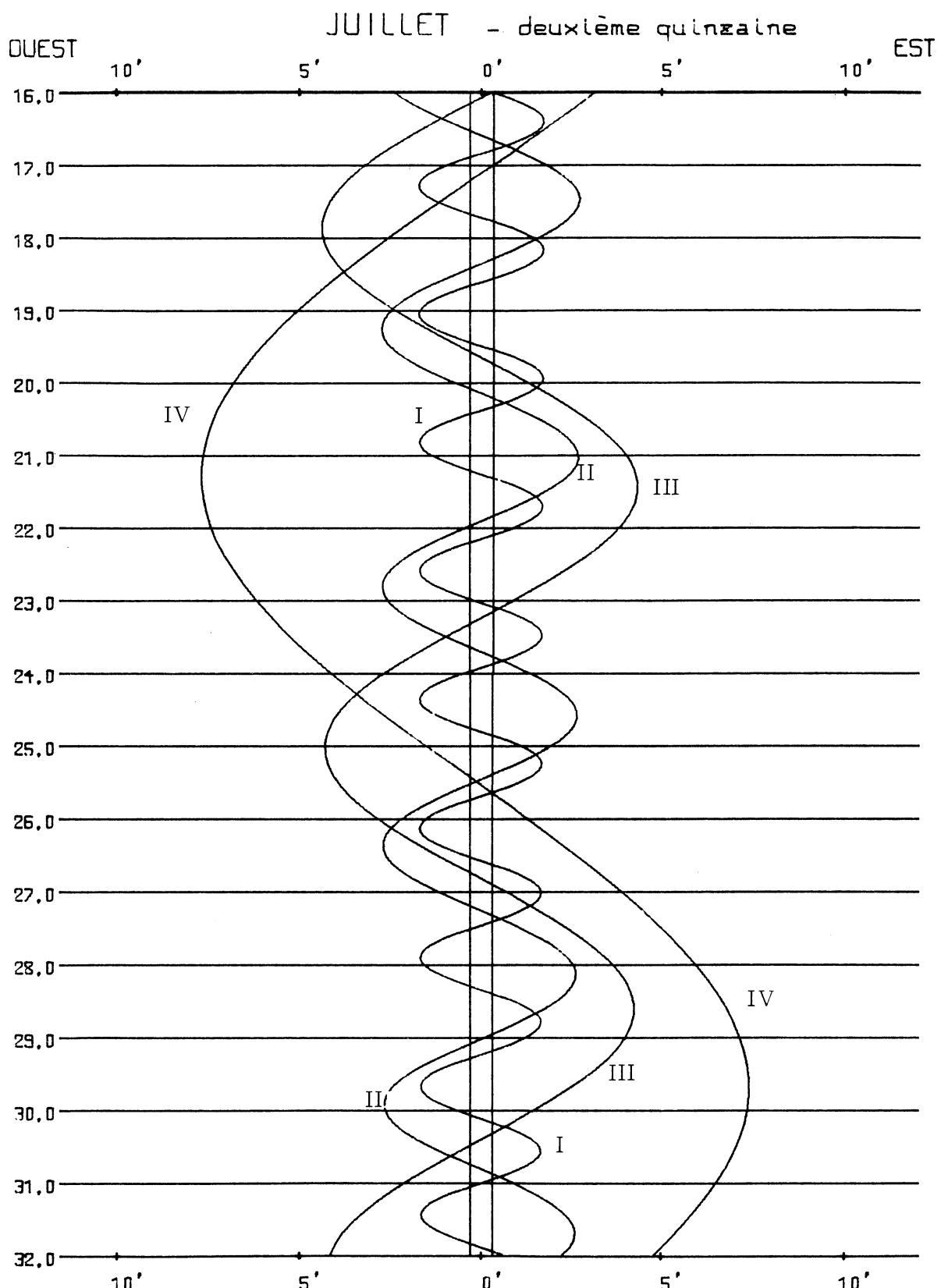
Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter



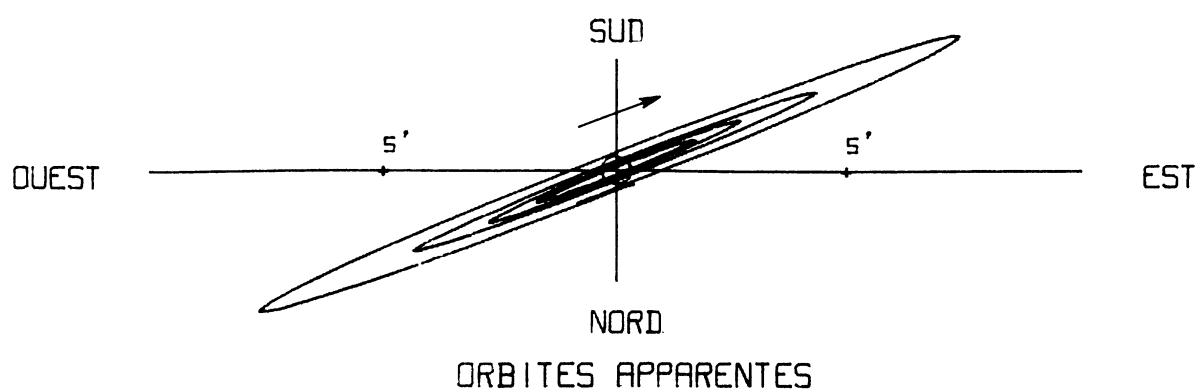
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | MOIS : | | JUILLET - DEUXIEME QUINZAINE - | | | | | | | | | | | |
|------------|----|----|-----|----------|----------|--------------------------------|----|----|-----|----------|----------|------|----|-----|----------|----------|------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 16 | 0 | 24 | 4 | III | PA.D.EXT | 21 | 5 | 29 | 54 | I | OC.D.EXT | 20 | 53 | 17 | III | OC.F.EXT | |
| | 0 | 36 | 26 | III | PA.D.INT | | 5 | 33 | 23 | I | OC.D.INT | 23 | 28 | 45 | III | EC.D.PEN | |
| 1 | 30 | 40 | I | EC.F.INT | | 8 | 57 | 2 | I | EC.F.INT | 23 | 33 | 23 | III | EC.D.EXT | | |
| 1 | 34 | 11 | I | EC.F.EXT | | 9 | 0 | 33 | I | EC.F.EXT | 23 | 47 | 33 | III | EC.D.INT | | |
| 1 | 34 | 56 | I | EC.F.PEN | | 9 | 1 | 18 | I | EC.F.PEN | 27 | 1 | 38 | 51 | III | EC.F.INT | |
| 2 | 45 | 45 | III | PA.F.INT | | 20 | 43 | 3 | II | PA.D.EXT | 1 | 53 | 1 | III | EC.F.EXT | | |
| 2 | 58 | 14 | III | PA.F.EXT | | 20 | 47 | 18 | II | PA.D.INT | 1 | 57 | 38 | III | EC.F.PEN | | |
| 5 | 33 | 44 | III | OM.D.EXT | | 23 | 11 | 24 | II | PA.F.INT | 5 | 1 | 6 | II | OC.D.EXT | | |
| 5 | 47 | 13 | III | OM.F.INT | | 23 | 15 | 39 | II | PA.F.EXT | 5 | 5 | 17 | II | OC.D.INT | | |
| 7 | 45 | 14 | III | OM.F.INT | | 23 | 19 | 8 | II | OM.D.EXT | 7 | 29 | 50 | II | OC.F.INT | | |
| 7 | 58 | 54 | III | OM.F.EXT | | 23 | 23 | 34 | II | OM.D.INT | 7 | 34 | 1 | II | OC.F.EXT | | |
| 13 | 9 | 43 | II | OC.D.EXT | | 23 | 23 | 34 | II | OM.D.INT | 7 | 34 | 6 | II | EC.D.PEN | | |
| 13 | 13 | 55 | II | OC.D.INT | | 22 | 1 | 43 | 21 | II | OM.F.INT | 7 | 35 | 46 | II | EC.D.EXT | |
| 15 | 38 | 8 | II | OC.F.INT | | 1 | 47 | 47 | II | OM.F.EXT | 7 | 40 | 9 | II | EC.D.INT | | |
| 15 | 41 | 40 | II | EC.D.PEN | | 2 | 50 | 46 | I | PA.D.EXT | 9 | 57 | 16 | II | EC.F.INT | | |
| 15 | 42 | 20 | II | OC.F.EXT | | 2 | 54 | 13 | I | PA.D.INT | 10 | 1 | 39 | II | EC.F.EXT | | |
| 15 | 43 | 20 | II | EC.D.EXT | | 4 | 5 | 46 | I | OM.D.EXT | 10 | 3 | 19 | II | EC.F.PEN | | |
| 15 | 47 | 42 | II | EC.D.INT | | 4 | 9 | 15 | I | OM.D.INT | 10 | 16 | 51 | I | PA.D.EXT | | |
| 18 | 5 | 9 | II | EC.F.INT | | 4 | 59 | 56 | I | PA.F.INT | 10 | 20 | 18 | I | PA.D.INT | | |
| 18 | 9 | 31 | II | EC.F.EXT | | 5 | 3 | 23 | I | PA.F.EXT | 11 | 31 | 49 | I | OM.D.EXT | | |
| 18 | 11 | 12 | II | EC.F.PEN | | 6 | 14 | 24 | I | OM.F.INT | 11 | 35 | 18 | I | OM.D.INT | | |
| 19 | 25 | 13 | I | PA.D.EXT | | 6 | 17 | 53 | I | OM.F.EXT | 12 | 26 | 3 | I | PA.F.INT | | |
| 19 | 28 | 41 | I | PA.D.INT | | 23 | 58 | 40 | I | OC.D.EXT | 12 | 29 | 30 | I | PA.F.EXT | | |
| 20 | 39 | 43 | I | OM.D.EXT | | | | | | | 13 | 40 | 25 | I | OM.F.INT | | |
| 20 | 43 | 12 | I | OM.D.INT | | | | | | | 13 | 43 | 54 | I | OM.F.EXT | | |
| 21 | 34 | 20 | I | PA.F.INT | | 23 | 0 | 2 | 9 | I | OC.D.INT | | | | | | |
| 21 | 37 | 48 | I | PA.F.EXT | | 3 | 25 | 54 | I | EC.F.INT | 28 | 7 | 25 | 5 | I | OC.D.EXT | |
| 22 | 48 | 24 | I | OM.F.INT | | 3 | 29 | 25 | I | EC.F.EXT | 7 | 28 | 34 | I | OC.D.INT | | |
| 22 | 51 | 53 | I | OM.F.EXT | | 3 | 30 | 10 | I | EC.F.PEN | 10 | 52 | 17 | I | EC.F.INT | | |
| | | | | | | 4 | 19 | 34 | III | PA.D.EXT | 10 | 55 | 48 | I | EC.F.EXT | | |
| 17 | 16 | 32 | 43 | I | OC.C.EXT | 4 | 31 | 49 | III | PA.D.INT | 10 | 56 | 33 | I | EC.F.PEN | | |
| 16 | 36 | 12 | I | OC.D.INT | | 6 | 42 | 45 | III | PA.F.INT | 23 | 20 | 21 | II | PA.D.EXT | | |
| 19 | 59 | 26 | I | EC.F.INT | | 6 | 55 | 7 | III | PA.F.EXT | 23 | 24 | 36 | II | PA.D.INT | | |
| 20 | 2 | 57 | I | EC.F.EXT | | 9 | 32 | 43 | III | OM.D.EXT | | | | | | | |
| 20 | 3 | 42 | I | EC.F.PEN | | 9 | 46 | 13 | III | OM.D.INT | | | | | | | |
| 18 | 7 | 24 | 52 | II | PA.D.EXT | 11 | 43 | 57 | III | OM.F.INT | 29 | 1 | 48 | 58 | II | PA.F.INT | |
| 7 | 29 | 7 | II | PA.D.INT | | 11 | 57 | 38 | III | OM.F.EXT | 1 | 53 | 14 | II | PA.F.EXT | | |
| 9 | 53 | 2 | II | PA.F.INT | | 15 | 43 | 31 | II | OC.D.EXT | 1 | 56 | 35 | II | OM.D.EXT | | |
| 9 | 57 | 18 | II | PA.F.EXT | | 15 | 47 | 42 | II | OC.D.INT | 2 | 1 | 1 | II | OM.D.INT | | |
| 10 | 0 | 6 | II | OM.D.EXT | | 18 | 12 | 9 | II | OC.F.INT | 4 | 20 | 39 | II | OM.F.INT | | |
| 10 | 4 | 31 | II | OM.D.INT | | 18 | 16 | 20 | II | OC.F.EXT | 4 | 25 | 5 | II | OM.F.EXT | | |
| 12 | 24 | 24 | II | OM.F.INT | | 18 | 16 | 38 | II | EC.D.PEN | 4 | 45 | 38 | I | PA.D.EXT | | |
| 12 | 28 | 49 | II | OM.F.EXT | | 18 | 18 | 18 | II | EC.D.EXT | 4 | 49 | 5 | I | PA.D.INT | | |
| 13 | 53 | 40 | I | PA.D.EXT | | 18 | 22 | 40 | II | EC.D.INT | 6 | 0 | 29 | I | OM.D.EXT | | |
| 13 | 57 | 7 | I | PA.D.INT | | 20 | 39 | 54 | II | EC.F.INT | 6 | 3 | 58 | I | OM.D.INT | | |
| 15 | 8 | 23 | I | OM.D.EXT | | 20 | 44 | 17 | II | EC.F.EXT | 6 | 54 | 51 | I | PA.F.INT | | |
| 15 | 11 | 52 | I | OM.D.INT | | 20 | 45 | 57 | II | EC.F.PEN | 6 | 58 | 19 | I | PA.F.EXT | | |
| 16 | 2 | 47 | I | PA.F.INT | | 21 | 19 | 24 | I | PA.D.EXT | 8 | 9 | 5 | I | OM.F.INT | | |
| 16 | 6 | 15 | I | PA.F.EXT | | 21 | 22 | 51 | I | PA.D.INT | 8 | 12 | 34 | I | OM.F.EXT | | |
| 17 | 17 | 3 | I | OM.F.INT | | 22 | 37 | 56 | I | OM.D.INT | 30 | 1 | 54 | 6 | I | OC.D.EXT | |
| 17 | 20 | 32 | I | OM.F.EXT | | 23 | 28 | 35 | I | PA.F.INT | 1 | 57 | 34 | I | OC.D.INT | | |
| | | | | | | 23 | 32 | 2 | I | PA.F.EXT | 5 | 21 | 9 | I | EC.F.INT | | |
| 19 | 11 | 1 | 20 | I | OC.D.EXT | | | | | | 5 | 24 | 40 | I | EC.F.EXT | | |
| 11 | 4 | 45 | I | OC.D.INT | | 24 | 0 | 43 | 4 | I | OM.F.INT | 5 | 25 | 25 | I | EC.F.PEN | |
| 14 | 17 | 7 | III | OC.D.EXT | | 0 | 46 | 33 | I | OM.F.EXT | 8 | 19 | 43 | III | PA.D.EXT | | |
| 14 | 28 | 17 | I | EC.F.INT | | 18 | 27 | 24 | I | OC.D.EXT | 8 | 31 | 52 | III | PA.D.INT | | |
| 14 | 29 | 27 | III | OC.D.INT | | 18 | 30 | 53 | I | OC.D.INT | 10 | 44 | 7 | III | PA.F.INT | | |
| 14 | 31 | 48 | I | EC.F.EXT | | 21 | 54 | 40 | I | EC.F.INT | 10 | 56 | 23 | III | PA.F.EXT | | |
| 14 | 32 | 33 | I | EC.F.PEN | | 21 | 58 | 11 | I | EC.F.EXT | 13 | 32 | 20 | III | OM.D.EXT | | |
| 16 | 41 | 55 | III | OC.F.INT | | 21 | 58 | 56 | I | EC.F.PEN | 13 | 45 | 52 | III | OM.D.INT | | |
| 16 | 54 | 15 | III | OC.F.EXT | | 15 | 1 | 34 | II | OM.F.INT | 15 | 43 | 20 | III | OM.F.INT | | |
| 19 | 29 | 34 | III | EC.D.PEN | | 25 | 10 | 1 | 5 | II | PA.D.EXT | 15 | 57 | 3 | III | OM.F.EXT | |
| 19 | 34 | 11 | III | EC.D.EXT | | 10 | 5 | 20 | II | PA.D.INT | 18 | 19 | 6 | II | OC.D.EXT | | |
| 19 | 48 | 19 | III | EC.D.INT | | 12 | 29 | 34 | II | PA.F.INT | 18 | 23 | 17 | II | OC.D.INT | | |
| 21 | 39 | 54 | III | EC.F.INT | | 12 | 33 | 50 | II | PA.F.EXT | 20 | 47 | 53 | II | OC.F.INT | | |
| 21 | 54 | 3 | III | EC.F.EXT | | 12 | 37 | 26 | II | OM.D.EXT | 20 | 51 | 29 | II | EC.D.PEN | | |
| 21 | 58 | 40 | III | EC.F.PEN | | 12 | 41 | 52 | II | OM.D.INT | 20 | 52 | 4 | II | OC.F.EXT | | |
| | | | | | | 15 | 1 | 34 | II | OM.F.INT | 20 | 53 | 10 | II | EC.D.EXT | | |
| 20 | 2 | 26 | 24 | II | OC.D.EXT | | | | | | 20 | 57 | 32 | II | EC.D.INT | | |
| 2 | 30 | 35 | II | OC.D.INT | | 15 | 48 | 4 | I | PA.D.EXT | 23 | 14 | 29 | I | PA.D.EXT | | |
| 4 | 54 | 56 | II | OC.F.INT | | 15 | 51 | 31 | I | PA.D.INT | 23 | 14 | 34 | II | EC.F.INT | | |
| 4 | 59 | 2 | II | OC.F.EXT | | 17 | 3 | 7 | I | OM.D.EXT | 23 | 17 | 56 | I | PA.D.INT | | |
| 4 | 59 | 11 | II | EC.D.PEN | | 17 | 6 | 36 | I | OM.D.INT | 23 | 18 | 56 | II | EC.F.EXT | | |
| 5 | 0 | 52 | II | EC.D.EXT | | 17 | 57 | 16 | I | PA.F.INT | 23 | 20 | 37 | II | EC.F.PEN | | |
| 5 | 5 | 14 | II | EC.D.INT | | 18 | 0 | 43 | I | PA.F.EXT | | | | | | | |
| 7 | 22 | 34 | II | EC.F.INT | | 19 | 11 | 44 | I | OM.F.INT | 31 | 0 | 29 | 10 | I | OM.D.EXT | |
| 7 | 26 | 56 | II | EC.F.EXT | | 19 | 15 | 12 | I | OM.F.EXT | 0 | 32 | 39 | I | OM.D.INT | | |
| 7 | 28 | 37 | II | EC.F.PEN | | | | | | | 1 | 23 | 43 | I | PA.F.INT | | |
| 8 | 22 | 13 | I | PA.D.EXT | | 26 | 12 | 56 | 16 | I | OC.D.EXT | 1 | 27 | 10 | I | PA.F.EXT | |
| 8 | 25 | 40 | I | PA.D.INT | | 12 | 59 | 45 | I | OC.D.INT | 2 | 37 | 45 | I | OM.F.INT | | |
| 9 | 37 | 6 | I | OM.D.EXT | | 16 | 23 | 32 | I | EC.F.INT | 2 | 41 | 14 | I | OM.F.EXT | | |
| 9 | 40 | 35 | I | OM.D.INT | | 16 | 27 | 3 | I | EC.F.EXT | 20 | 23 | 3 | I | OC.D.EXT | | |
| 10 | 31 | 21 | I | PA.F.INT | | 16 | 27 | 48 | I | EC.F.PEN | 20 | 26 | 32 | I | OC.D.INT | | |
| 10 | 34 | 42 | I | PA.F.EXT | | 18 | 14 | 55 | III | OC.D.EXT | 23 | 49 | 56 | I | EC.F.INT | | |
| 11 | 45 | 45 | I | OM.F.INT | | 18 | 27 | 8 | III | OC.D.INT | 23 | 53 | 27 | I | EC.F.EXT | | |
| 11 | 49 | 13 | I | OM.F.EXT | | 20 | 41 | 3 | III | OC.F.INT | 23 | 54 | 12 | I | EC.F.PEN | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



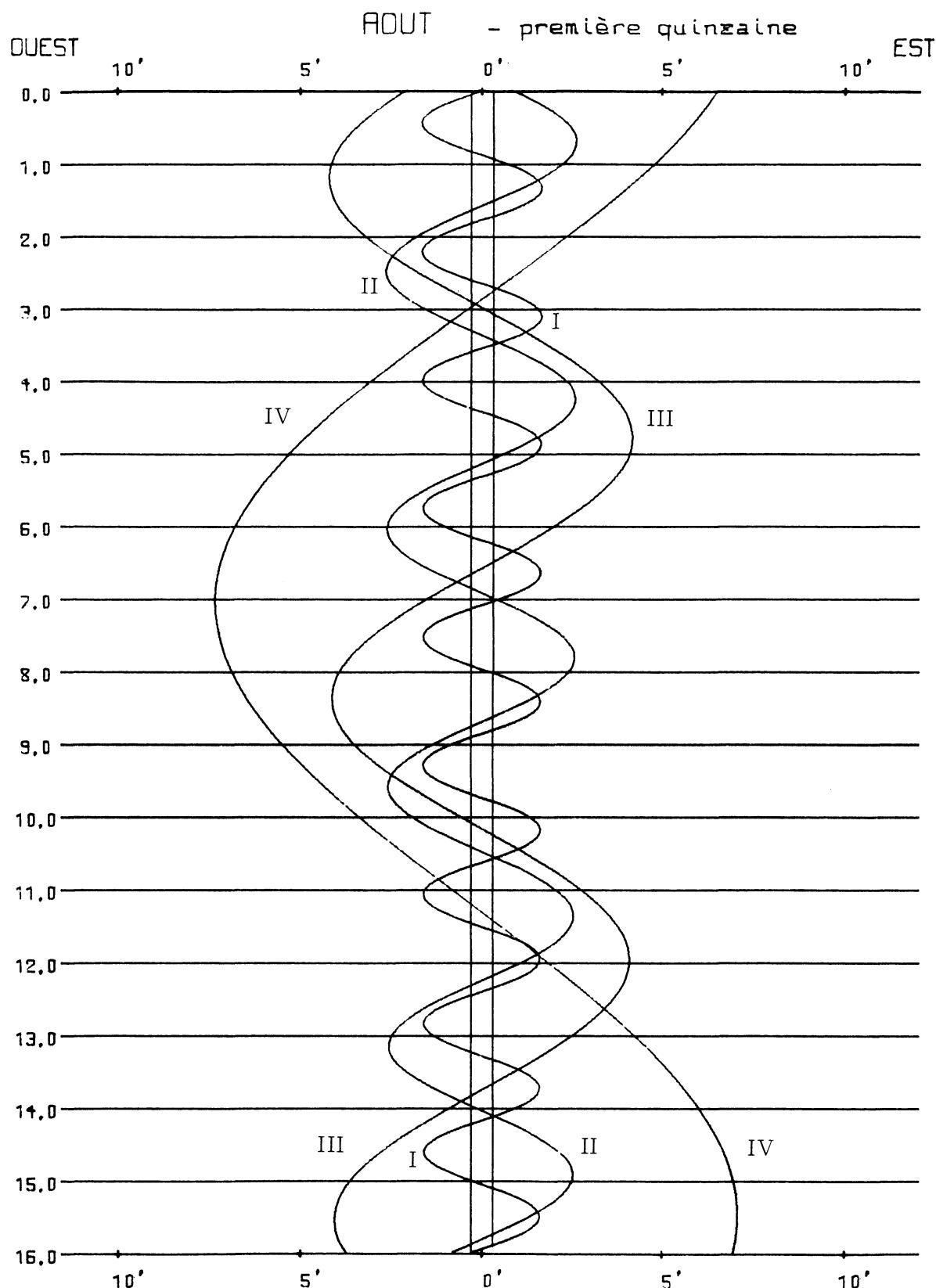
Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter



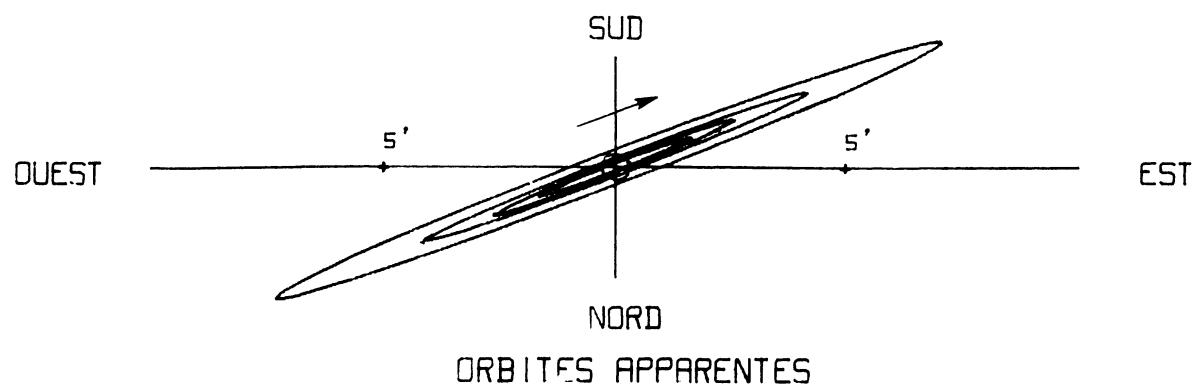
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | MOIS : | | | AOUT - PREMIERE QUINZAINE - | | | | | | | | | | | | |
|------------|----|----|----|--------|----------|------|-----------------------------|----|----|-----|----------|------|----|----|----|-----|----------|----------|----|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | | |
| 1 | 12 | 39 | 20 | II | PA.D.EXT | 7 | 19 | 56 | | I | EC.F.EXT | 15 | 12 | 32 | | II | EC.F.PEN | | |
| | 12 | 43 | 35 | II | PA.D.INT | 7 | 20 | 41 | | I | EC.F.PEN | 15 | 21 | 10 | | I | OM.D.EXT | | |
| | 15 | 8 | 4 | II | PA.F.INT | 12 | 23 | 14 | | III | PA.D.EXT | 15 | 24 | 39 | | I | OM.D.INT | | |
| | 15 | 12 | 20 | II | PA.F.EXT | 12 | 35 | 20 | | III | PA.D.INT | 16 | 17 | 58 | | I | PA.F.INT | | |
| | 15 | 14 | 53 | II | OM.D.EXT | 14 | 48 | 36 | | III | PA.F.INT | 16 | 21 | 25 | | I | PA.F.EXT | | |
| | 15 | 19 | 19 | II | OM.D.INT | 15 | 0 | 47 | | III | PA.F.EXT | 17 | 29 | 47 | | I | OM.F.INT | | |
| | 17 | 38 | 53 | II | OM.F.INT | 17 | 31 | 30 | | III | OM.D.EXT | 17 | 33 | 16 | | I | OM.F.EXT | | |
| | 17 | 43 | 20 | II | OM.F.EXT | 17 | 45 | 3 | | III | OM.D.INT | | | | | | | | |
| | 17 | 43 | 22 | I | PA.D.EXT | 19 | 42 | 19 | | III | OM.F.INT | 11 | 11 | 18 | 10 | I | OC.D.EXT | | |
| | 17 | 46 | 48 | I | PA.D.INT | 19 | 56 | 4 | | III | OM.F.EXT | 11 | 21 | 39 | | I | OC.D.INT | | |
| | 18 | 57 | 49 | I | OM.D.EXT | 20 | 56 | 24 | | II | OC.D.EXT | 14 | 42 | 48 | | I | EC.F.INT | | |
| | 19 | 1 | 18 | I | OM.D.INT | 21 | 0 | 35 | | II | OC.D.INT | 14 | 46 | 19 | | I | EC.F.EXT | | |
| | 19 | 52 | 37 | I | PA.F.INT | 23 | 25 | 15 | | II | OC.F.INT | 14 | 47 | 4 | | I | EC.F.PEN | | |
| | 19 | 56 | 4 | I | PA.F.EXT | 23 | 26 | 18 | | II | EC.D.PEN | | | | | | | | |
| | 21 | 6 | 25 | I | OM.F.INT | 23 | 27 | 58 | | II | EC.D.EXT | 12 | 4 | 40 | 38 | II | PA.D.EXT | | |
| | 21 | 9 | 53 | I | OM.F.EXT | 23 | 29 | 25 | | II | OC.F.EXT | | | | | II | PA.D.INT | | |
| | | | | | | 23 | 32 | 21 | | II | EC.D.INT | | | | | II | PA.F.INT | | |
| 2 | 14 | 52 | 9 | I | OC.D.EXT | | | | | | | | | | | 7 | 11 | 39 | |
| | 14 | 55 | 38 | I | OC.D.INT | 7 | 1 | 10 | 22 | I | PA.D.EXT | 7 | 13 | 53 | | II | OM.D.EXT | | |
| | 18 | 18 | 48 | I | EC.F.INT | | | | | I | PA.D.INT | | | | | II | PA.F.EXT | | |
| | 18 | 22 | 19 | I | EC.F.EXT | | | | | II | EC.F.INT | 7 | 16 | 6 | | II | OM.D.INT | | |
| | 18 | 23 | 4 | I | EC.F.PEN | | | | | II | EC.F.EXT | 8 | 37 | 47 | | I | PA.D.EXT | | |
| | 22 | 16 | 30 | III | OC.D.EXT | | | | | II | EC.F.PEN | 8 | 41 | 14 | | I | PA.D.INT | | |
| | 22 | 28 | 39 | III | OC.D.INT | | | | | II | OM.D.EXT | 9 | 35 | 30 | | I | OM.F.INT | | |
| | | | | | | | | | | 2 | 23 | 50 | | | | | II | OM.F.EXT | |
| 3 | 0 | 43 | 41 | III | OC.F.INT | | | | | I | OM.D.INT | | | | | 9 | 49 | 50 | |
| | 0 | 55 | 50 | III | OC.F.EXT | | | | | I | PA.F.INT | 9 | 53 | 19 | | I | OM.D.INT | | |
| | 3 | 27 | 49 | III | EC.D.PEN | | | | | I | PA.F.EXT | 10 | 47 | 10 | | I | PA.F.INT | | |
| | 3 | 32 | 26 | III | EC.D.EXT | | | | | I | OM.F.INT | 10 | 50 | 37 | | I | PA.F.EXT | | |
| | 3 | 46 | 38 | III | EC.D.INT | | | | | I | OM.F.EXT | 11 | 58 | 27 | | I | OM.F.INT | | |
| | 5 | 37 | 41 | III | EC.F.INT | | | | | I | OC.D.EXT | 12 | 1 | 56 | | I | OM.F.EXT | | |
| | 5 | 51 | 52 | III | EC.F.EXT | | | | | I | OC.D.INT | | | | | 13 | 5 | 47 | 36 |
| | 5 | 56 | 30 | III | EC.F.PEN | 8 | 1 | 45 | 12 | I | EC.F.INT | 5 | 51 | 5 | | I | OC.D.INT | | |
| | 7 | 37 | 34 | II | OC.D.EXT | | | | | I | EC.F.EXT | 9 | 11 | 41 | | I | EC.F.INT | | |
| | 7 | 41 | 45 | II | OC.D.INT | | | | | I | EC.F.PEN | 9 | 15 | 12 | | I | EC.F.EXT | | |
| | 10 | 6 | 23 | II | OC.F.INT | | | | | II | PA.D.EXT | 9 | 15 | 57 | | I | EC.F.PEN | | |
| | 10 | 8 | 56 | II | EC.D.PEN | | | | | II | PA.D.INT | 16 | 30 | 39 | | III | PA.D.EXT | | |
| | 10 | 10 | 34 | II | OC.F.EXT | | | | | II | PA.F.INT | 16 | 42 | 41 | | III | PA.D.INT | | |
| | 10 | 10 | 36 | II | EC.D.EXT | | | | | II | OM.D.EXT | 18 | 56 | 43 | | III | PA.F.INT | | |
| | 10 | 14 | 58 | II | EC.D.INT | | | | | II | PA.F.EXT | 19 | 8 | 51 | | III | PA.F.EXT | | |
| | 12 | 12 | 20 | I | PA.D.EXT | | | | | II | OM.D.INT | 21 | 30 | 57 | | III | OM.D.EXT | | |
| | 12 | 15 | 47 | I | PA.D.INT | | | | | I | PA.D.EXT | 21 | 44 | 31 | | III | OM.D.INT | | |
| | 12 | 31 | 55 | I | EC.F.INT | | | | | I | PA.D.INT | 23 | 35 | 13 | | II | OC.D.EXT | | |
| | 12 | 36 | 17 | I | EC.F.EXT | | | | | I | OM.F.INT | 23 | 39 | 23 | | II | OC.D.INT | | |
| | 12 | 37 | 58 | I | EC.F.PEN | | | | | I | OM.F.EXT | 23 | 41 | 39 | | III | OM.F.INT | | |
| | 13 | 26 | 31 | I | OM.D.EXT | | | | | I | OM.D.EXT | 23 | 55 | 25 | | III | OM.F.EXT | | |
| | 13 | 30 | 0 | I | OM.D.INT | | | | | I | OM.D.INT | | | | | | | | |
| | 14 | 21 | 37 | I | PA.F.INT | | | | | I | PA.F.INT | 14 | 3 | 7 | 1 | I | PA.D.EXT | | |
| | 14 | 25 | 4 | I | PA.F.EXT | | | | | I | PA.F.EXT | 3 | 10 | 28 | | I | PA.D.INT | | |
| | 15 | 35 | 6 | I | OM.F.INT | | | | | I | OM.F.INT | 4 | 18 | 29 | | I | OM.D.EXT | | |
| | 15 | 38 | 35 | I | OM.F.EXT | | | | | I | OM.F.EXT | 4 | 21 | 58 | | I | OM.D.INT | | |
| | | | | | | | | | | | | 4 | 23 | 43 | | II | EC.F.INT | | |
| 4 | 9 | 21 | 12 | I | OC.D.EXT | 9 | 16 | 48 | 55 | I | OC.D.EXT | 4 | 28 | 6 | | II | EC.F.EXT | | |
| | 9 | 24 | 41 | I | OC.D.INT | | 16 | 52 | 24 | I | OC.D.INT | 4 | 29 | 46 | | II | EC.F.PEN | | |
| | 12 | 47 | 33 | I | EC.F.INT | | 20 | 14 | 4 | I | EC.F.INT | 5 | 16 | 25 | | I | PA.F.INT | | |
| | 12 | 51 | 4 | I | EC.F.EXT | | 20 | 17 | 35 | I | EC.F.EXT | 5 | 19 | 52 | | I | PA.F.EXT | | |
| | 12 | 51 | 49 | I | EC.F.PEN | | 20 | 18 | 20 | I | EC.F.PEN | 6 | 27 | 7 | | I | OM.F.INT | | |
| | | | | | | | | | | | | 6 | 30 | 36 | | I | OM.F.EXT | | |
| 5 | 1 | 59 | 34 | II | PA.D.EXT | 10 | 2 | 21 | 41 | III | OC.D.EXT | | | | | | | | |
| | 2 | 3 | 49 | II | PA.D.INT | | 2 | 33 | 46 | III | OC.D.INT | 15 | 0 | 16 | 59 | I | OC.D.EXT | | |
| | 4 | 28 | 25 | II | PA.F.INT | | 4 | 49 | 38 | III | OC.F.INT | | 0 | 20 | 27 | I | OC.D.INT | | |
| | 4 | 32 | 41 | II | PA.F.EXT | | 5 | 1 | 43 | III | OC.F.EXT | | 3 | 40 | 27 | I | EC.F.INT | | |
| | 4 | 34 | 4 | II | OM.D.EXT | | 7 | 26 | 55 | III | EC.D.PEN | | 3 | 43 | 58 | I | EC.F.EXT | | |
| | 4 | 38 | 31 | II | OM.D.INT | | 7 | 31 | 33 | III | EC.D.EXT | | 3 | 44 | 43 | I | EC.F.PEN | | |
| | 6 | 41 | 20 | I | PA.D.EXT | | 7 | 45 | 47 | III | EC.D.INT | | 18 | 1 | 22 | II | PA.D.EXT | | |
| | 6 | 44 | 46 | I | PA.D.INT | | 9 | 36 | 33 | III | EC.F.INT | | 18 | 5 | 37 | II | PA.D.INT | | |
| | 6 | 58 | 1 | II | OM.F.INT | | 9 | 50 | 47 | III | EC.F.EXT | | 20 | 29 | 59 | II | OM.D.EXT | | |
| | 7 | 2 | 28 | II | OM.F.EXT | | 9 | 55 | 25 | III | EC.F.PEN | | 20 | 30 | 24 | II | PA.F.INT | | |
| | 7 | 55 | 11 | I | OM.D.EXT | | 10 | 15 | 39 | II | OC.D.EXT | | 20 | 34 | 27 | II | OM.D.INT | | |
| | 7 | 58 | 39 | I | OM.D.INT | | 10 | 19 | 49 | II | OC.D.INT | | 20 | 34 | 40 | II | PA.F.EXT | | |
| | 8 | 50 | 38 | I | PA.F.INT | | 12 | 44 | 29 | II | OC.F.INT | | 21 | 36 | 16 | I | PA.D.EXT | | |
| | 8 | 54 | 5 | I | PA.F.EXT | | 12 | 45 | 21 | II | EC.D.EXT | | 21 | 39 | 43 | I | PA.D.INT | | |
| | 10 | 3 | 47 | I | OM.F.INT | | 12 | 48 | 39 | II | OC.F.EXT | | 22 | 47 | 7 | I | OM.D.EXT | | |
| | 10 | 7 | 15 | I | OM.F.EXT | | 12 | 49 | 43 | II | EC.D.INT | | 22 | 50 | 36 | I | OM.D.INT | | |
| | | | | | | | 14 | 8 | 37 | I | PA.D.EXT | | 22 | 53 | 48 | II | OM.F.EXT | | |
| 6 | 3 | 50 | 26 | I | OC.D.EXT | | 14 | 12 | 3 | I | PA.D.INT | | 22 | 58 | 16 | II | OM.F.EXT | | |
| | 3 | 53 | 54 | I | OC.D.INT | | 15 | 6 | 28 | II | EC.F.INT | | 23 | 45 | 42 | I | PA.F.INT | | |
| | 7 | 16 | 25 | I | EC.F.INT | | 15 | 10 | 51 | II | EC.F.EXT | | 23 | 49 | 9 | I | PA.F.EXT | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



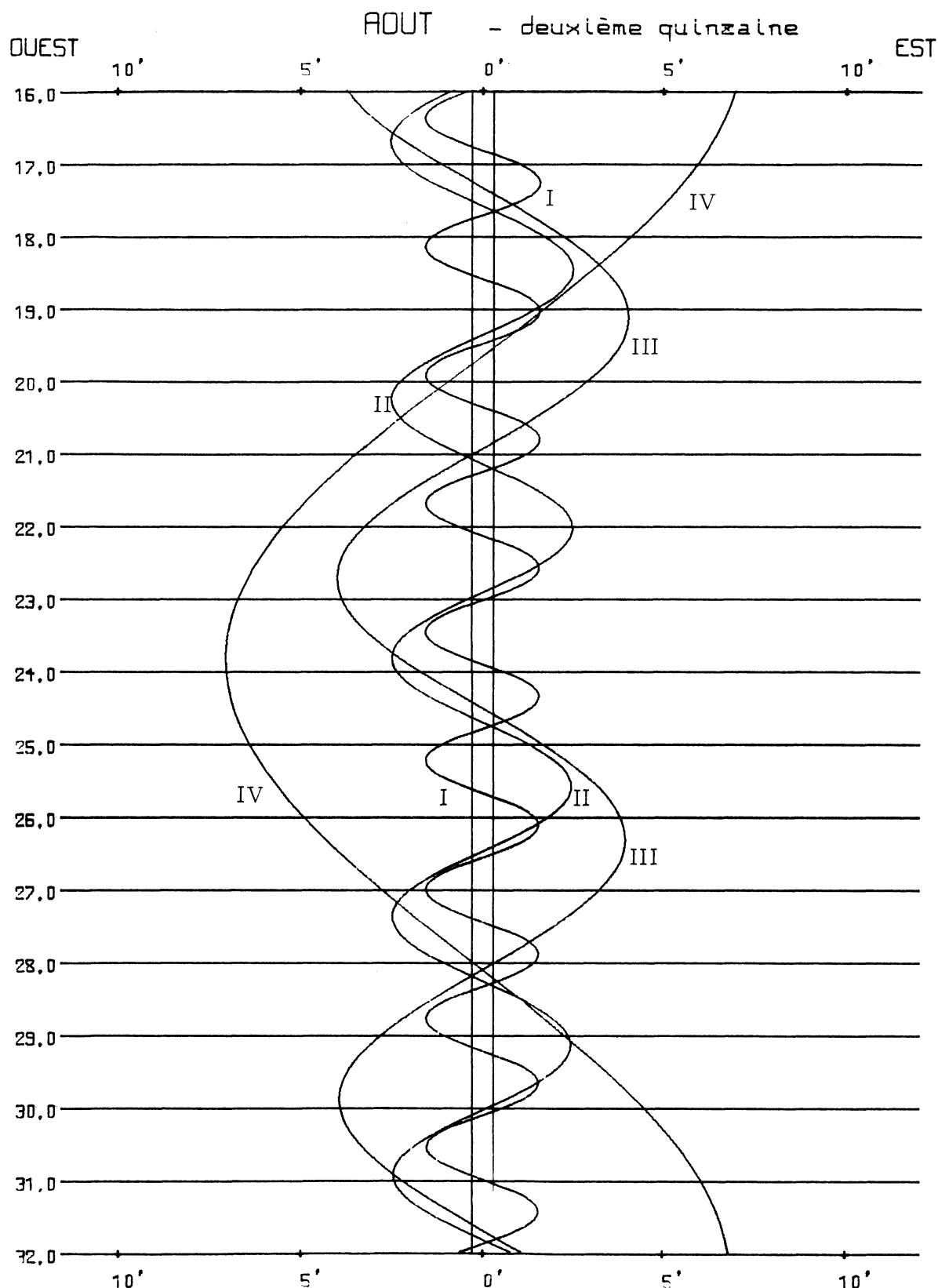
Dans le sens OUEST-EST, les satellites passent au-delà de Jupiter



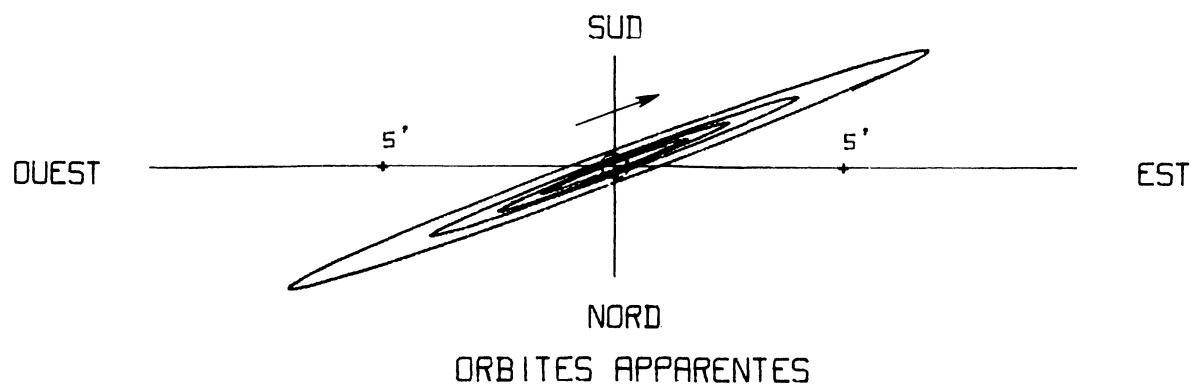
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | MOIS : | | | AOUT - DEUXIEME QUINZAINE - | | | | | | | | | |
|------------|----|----|-----|----------|----------|------|----|-----------------------------|-----|----------|----------|------|----|----|----------|----------|------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 16 | 0 | 55 | 46 | I | CM.F.INT | 7 | 17 | 17 | I | PA.F.EXT | 27 | 9 | 44 | 12 | I | OC.D.EXT | |
| | 0 | 59 | 15 | I | OM.F.EXT | 8 | 21 | 47 | I | OM.F.INT | | 9 | 47 | 40 | I | OC.D.INT | |
| 18 | 46 | 30 | I | OC.D.EXT | | 8 | 25 | 15 | I | OM.F.EXT | | 13 | 2 | 8 | I | EC.F.INT | |
| 18 | 49 | 56 | I | OC.D.INT | | | | | | | | 13 | 5 | 39 | I | EC.F.EXT | |
| 22 | 9 | 19 | I | EC.F.INT | 22 | 2 | 15 | 7 | I | OC.D.EXT | | 13 | 6 | 24 | I | EC.F.PEN | |
| 22 | 12 | 50 | I | EC.F.EXT | | 2 | 18 | 35 | I | OC.D.INT | | | | | | | |
| 22 | 13 | 35 | I | EC.F.PEN | | 5 | 35 | 41 | I | EC.F.INT | 28 | 0 | 53 | 22 | III | PA.D.EXT | |
| | | | | | | 5 | 39 | 12 | I | EC.F.EXT | | 1 | 5 | 23 | III | PA.D.INT | |
| 17 | 6 | 30 | 24 | III | OC.D.EXT | | 5 | 39 | 57 | I | EC.F.PEN | 3 | 20 | 13 | III | PA.F.INT | |
| | 6 | 42 | 27 | III | OC.D.INT | 20 | 44 | 51 | II | PA.D.EXT | | 3 | 32 | 19 | III | PA.F.INT | |
| 8 | 58 | 51 | III | OC.F.INT | | 20 | 49 | 7 | II | PA.D.INT | | 4 | 57 | 4 | II | OC.C.EXT | |
| 9 | 10 | 54 | III | OC.F.EXT | | 23 | 7 | 35 | II | OM.D.EXT | | 5 | 1 | 14 | II | OC.D.INT | |
| 11 | 26 | 8 | III | EC.D.PEN | | 23 | 12 | 3 | II | DM.D.INT | | 5 | 28 | 23 | III | OM.D.EXT | |
| 11 | 30 | 47 | III | EC.D.EXT | | 23 | 13 | 56 | II | PA.F.INT | | 5 | 41 | 59 | III | OM.D.INT | |
| 11 | 45 | 2 | III | EC.D.INT | | 23 | 18 | 13 | II | PA.F.EXT | | 7 | 2 | 18 | I | PA.D.EXT | |
| 12 | 55 | 12 | II | OC.D.EXT | | 23 | 33 | 46 | I | PA.D.EXT | | 7 | 5 | 45 | I | PA.D.INT | |
| 12 | 59 | 22 | II | OC.D.INT | | 23 | 37 | 12 | I | PA.D.INT | | 7 | 38 | 56 | III | OM.F.INT | |
| 13 | 35 | 35 | III | EC.F.INT | | | | | | | | 7 | 52 | 45 | III | OM.F.EXT | |
| 13 | 49 | 50 | III | EC.F.EXT | 23 | 0 | 41 | 43 | I | OM.D.EXT | | 8 | 7 | 38 | I | OM.D.INT | |
| 13 | 54 | 29 | III | EC.F.PEN | | 0 | 45 | 12 | I | OM.D.INT | | 8 | 11 | 7 | I | OM.D.INT | |
| 16 | 5 | 36 | I | PA.D.EXT | | 1 | 31 | 20 | II | OM.F.INT | | 9 | 11 | 54 | I | PA.F.INT | |
| 16 | 9 | 3 | I | PA.D.INT | | 1 | 35 | 48 | II | OM.F.EXT | | 9 | 15 | 21 | I | PA.F.EXT | |
| 17 | 15 | 48 | I | OM.D.EXT | | 1 | 43 | 17 | I | PA.F.INT | | 9 | 32 | 36 | II | EC.F.INT | |
| 17 | 19 | 16 | I | OM.D.INT | | 1 | 46 | 44 | I | PA.F.EXT | | 9 | 36 | 59 | II | EC.F.EXT | |
| 17 | 40 | 57 | II | EC.F.INT | | 2 | 50 | 25 | I | OM.F.INT | | 9 | 38 | 39 | II | EC.F.PEN | |
| 17 | 45 | 20 | II | EC.F.EXT | | 2 | 53 | 54 | I | OM.F.EXT | | 10 | 16 | 25 | I | OM.F.INT | |
| 17 | 47 | 1 | II | EC.F.PEN | | 20 | 44 | 48 | I | DC.D.EXT | | 10 | 19 | 53 | I | OM.F.EXT | |
| 18 | 15 | 3 | I | PA.F.INT | | 20 | 48 | 17 | I | DC.D.INT | | | | | | | |
| 18 | 18 | 30 | I | PA.F.EXT | | | | | | | 29 | 4 | 13 | 55 | I | OC.D.EXT | |
| 19 | 24 | 27 | I | OM.F.INT | 24 | 0 | 4 | 33 | I | EC.F.INT | | 4 | 17 | 24 | I | OC.D.INT | |
| 19 | 27 | 56 | I | OM.F.EXT | | 0 | 8 | 4 | I | EC.F.EXT | | 7 | 30 | 53 | I | EC.F.INT | |
| | | | | | | 0 | 8 | 49 | I | EC.F.PEN | | 7 | 34 | 24 | I | EC.F.EXT | |
| 18 | 13 | 15 | 56 | I | OC.D.EXT | 10 | 42 | 53 | III | OC.D.EXT | | 7 | 35 | 10 | I | EC.F.PEN | |
| 13 | 19 | 25 | I | OC.D.INT | | 10 | 54 | 55 | III | DC.D.INT | 23 | 29 | 50 | II | PA.D.EXT | | |
| 16 | 38 | 3 | I | EC.F.INT | | 13 | 11 | 36 | III | OC.F.INT | 23 | 24 | 6 | II | PA.D.INT | | |
| 16 | 41 | 34 | I | EC.F.EXT | | 13 | 23 | 39 | III | OC.F.EXT | | | | | | | |
| 16 | 42 | 19 | I | EC.F.PEN | | 15 | 26 | 0 | III | EC.D.PEN | 30 | 1 | 31 | 52 | I | PA.D.EXT | |
| | | | | | | 15 | 30 | 39 | III | EC.D.EXT | | 1 | 35 | 19 | I | PA.D.INT | |
| 19 | 7 | 23 | 21 | II | PA.D.EXT | 15 | 36 | 9 | II | OC.D.EXT | | 1 | 45 | 12 | II | OM.D.EXT | |
| 7 | 27 | 37 | II | PA.D.INT | | 15 | 40 | 19 | II | OC.D.INT | | 1 | 49 | 40 | II | OM.D.INT | |
| 9 | 49 | 14 | II | OM.D.EXT | | 15 | 44 | 56 | III | EC.D.INT | | 1 | 58 | 54 | II | PA.F.INT | |
| 9 | 52 | 25 | II | PA.F.INT | | 17 | 35 | 16 | III | EC.F.INT | | 2 | 3 | 11 | II | PA.F.EXT | |
| 9 | 53 | 42 | II | OM.D.INT | | 17 | 49 | 33 | III | EC.F.EXT | | 2 | 36 | 15 | I | OM.D.EXT | |
| 9 | 56 | 42 | II | PA.F.EXT | | 17 | 54 | 12 | III | EC.F.PEN | | 2 | 39 | 44 | I | OM.D.INT | |
| 10 | 34 | 57 | I | PA.D.EXT | | 18 | 3 | 15 | I | PA.D.EXT | | 3 | 41 | 29 | I | PA.F.INT | |
| 10 | 38 | 24 | I | PA.D.INT | | 18 | 6 | 42 | I | PA.D.INT | | 3 | 44 | 56 | I | PA.F.EXT | |
| 11 | 44 | 27 | I | OM.D.EXT | | 19 | 10 | 22 | I | OM.D.EXT | | 4 | 8 | 54 | II | OM.F.INT | |
| 11 | 47 | 56 | I | OM.D.INT | | 19 | 13 | 51 | I | OM.D.INT | | 4 | 13 | 22 | II | OM.F.EXT | |
| 12 | 13 | 1 | II | OM.F.INT | | 20 | 12 | 48 | I | PA.F.INT | | 4 | 45 | 3 | I | OM.F.INT | |
| 12 | 17 | 29 | II | OM.F.EXT | | 20 | 15 | 25 | II | EC.F.EXT | | 4 | 48 | 32 | I | OM.F.EXT | |
| 12 | 44 | 26 | I | PA.F.INT | | 20 | 16 | 15 | I | PA.F.EXT | | 22 | 43 | 46 | I | OC.D.EXT | |
| 12 | 47 | 53 | I | PA.F.EXT | | 20 | 19 | 48 | II | EC.F.EXT | | 22 | 47 | 15 | I | OC.D.INT | |
| 13 | 53 | 7 | I | OM.F.INT | | 20 | 21 | 28 | II | EC.F.PEN | | | | | | | |
| 13 | 56 | 36 | I | OM.F.EXT | | 21 | 19 | 6 | I | OM.F.INT | 31 | 1 | 59 | 44 | I | EC.F.INT | |
| | | | | | | 21 | 22 | 35 | I | OM.F.EXT | | 2 | 3 | 16 | I | EC.F.EXT | |
| 20 | 7 | 45 | 33 | I | OC.D.EXT | | | | | | | 2 | 4 | 1 | I | EC.F.PEN | |
| | 7 | 49 | 2 | I | OC.D.INT | 25 | 15 | 14 | 25 | I | DC.D.EXT | 14 | 57 | 50 | III | OC.D.EXT | |
| 11 | 6 | 55 | I | EC.F.INT | | 15 | 17 | 53 | I | DC.D.INT | | 15 | 9 | 53 | III | OC.D.INT | |
| 11 | 10 | 26 | I | EC.F.EXT | | 16 | 33 | 17 | I | EC.F.INT | | 17 | 26 | 37 | III | OC.F.INT | |
| 11 | 11 | 12 | I | EC.F.PEN | | 16 | 36 | 48 | I | EC.F.EXT | | 17 | 38 | 39 | III | OC.F.EXT | |
| 20 | 40 | 36 | III | PA.D.EXT | | 16 | 37 | 33 | I | EC.F.PEN | | 18 | 18 | 19 | II | OC.D.EXT | |
| 20 | 52 | 37 | III | PA.D.INT | | | | | | | | 18 | 22 | 29 | II | OC.D.INT | |
| 23 | 7 | 10 | III | PA.F.INT | 26 | 10 | 7 | 36 | II | PA.D.EXT | | 19 | 25 | 24 | III | EC.D.PEN | |
| 23 | 19 | 16 | III | PA.F.EXT | | 10 | 11 | 52 | II | PA.D.INT | | 19 | 30 | 4 | III | EC.D.EXT | |
| | | | | | | 12 | 26 | 51 | II | OM.D.EXT | | 19 | 44 | 22 | III | EC.D.INT | |
| 21 | 1 | 29 | 45 | III | OM.D.EXT | 12 | 31 | 19 | II | OM.D.INT | | 20 | 1 | 30 | I | PA.D.EXT | |
| 1 | 43 | 20 | III | OM.D.INT | | 12 | 32 | 46 | I | PA.D.EXT | | 20 | 4 | 57 | I | PA.D.INT | |
| 2 | 15 | 30 | II | OC.D.EXT | | 12 | 36 | 13 | I | PA.D.INT | | 21 | 4 | 54 | I | OM.D.EXT | |
| 2 | 19 | 40 | II | OC.D.INT | | 12 | 36 | 42 | II | PA.F.INT | | 21 | 8 | 23 | I | OM.D.INT | |
| 3 | 40 | 22 | III | OM.F.INT | | 12 | 40 | 59 | II | PA.F.EXT | | 21 | 34 | 31 | III | EC.F.INT | |
| 3 | 54 | 9 | III | OM.F.EXT | | 13 | 39 | 1 | I | OM.D.EXT | | 21 | 48 | 49 | III | EC.F.EXT | |
| 5 | 4 | 21 | I | PA.D.EXT | | 13 | 42 | 30 | I | OM.D.EXT | | 21 | 53 | 29 | III | EC.F.PEN | |
| 5 | 7 | 47 | I | PA.D.INT | | 14 | 42 | 20 | I | PA.F.INT | | 22 | 11 | 9 | I | PA.F.EXT | |
| 6 | 13 | 5 | I | OM.D.EXT | | 14 | 45 | 47 | I | PA.F.EXT | | 22 | 14 | 35 | I | PA.F.EXT | |
| 6 | 16 | 34 | I | OM.D.INT | | 14 | 50 | 34 | II | OM.F.INT | | 22 | 49 | 46 | II | EC.F.INT | |
| 6 | 58 | 11 | II | EC.F.INT | | 14 | 55 | 2 | II | OM.F.EXT | | 22 | 54 | 10 | II | EC.F.EXT | |
| 7 | 2 | 34 | II | EC.F.EXT | | 15 | 47 | 46 | I | OM.F.INT | | 22 | 55 | 50 | II | EC.F.PEN | |
| 7 | 4 | 15 | II | EC.F.PEN | | 15 | 51 | 15 | I | OM.F.EXT | | 23 | 13 | 43 | I | OM.F.INT | |
| 7 | 13 | 51 | I | PA.F.INT | | | | | | | | 23 | 17 | 12 | I | OM.F.EXT | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



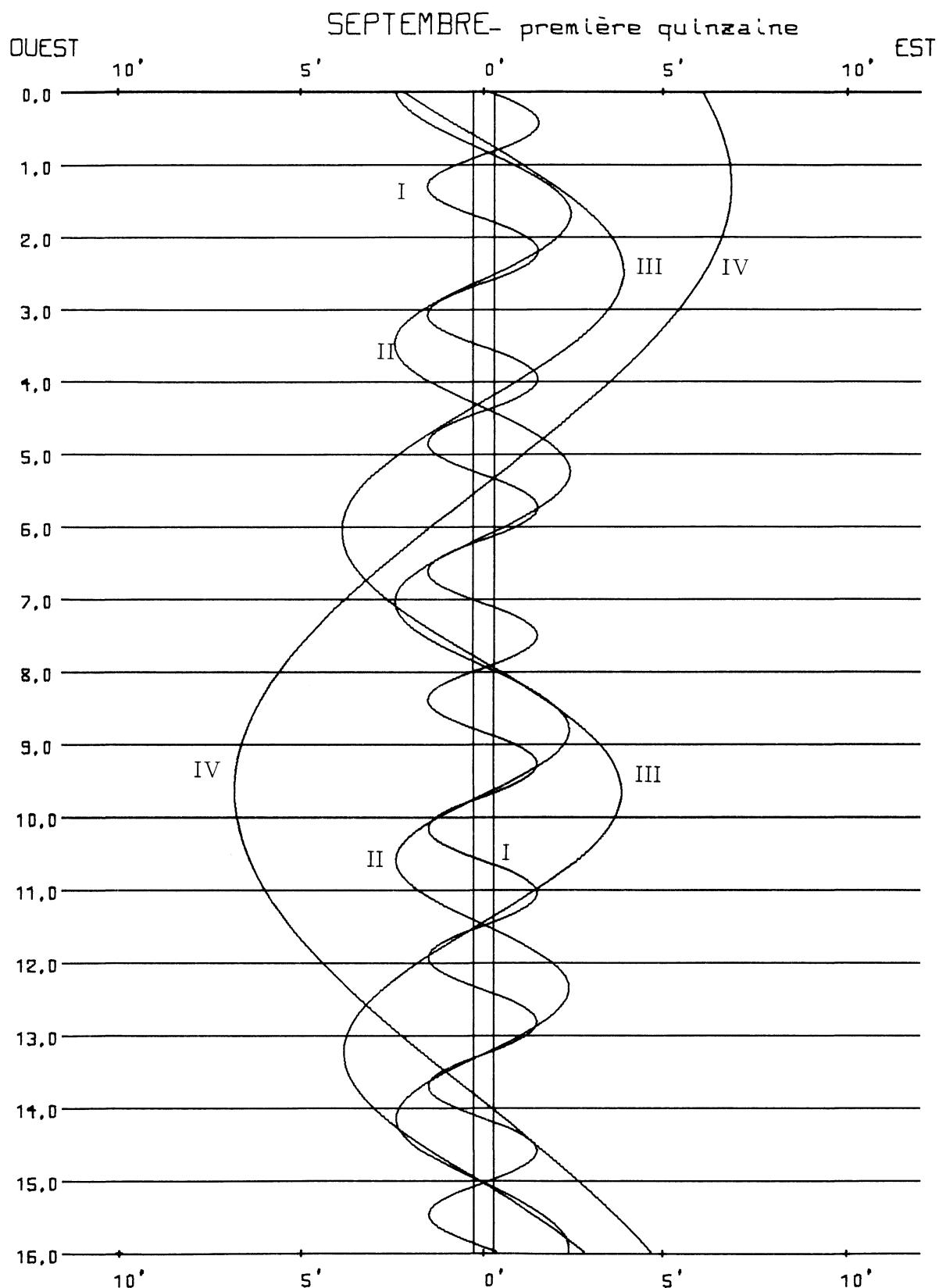
Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter



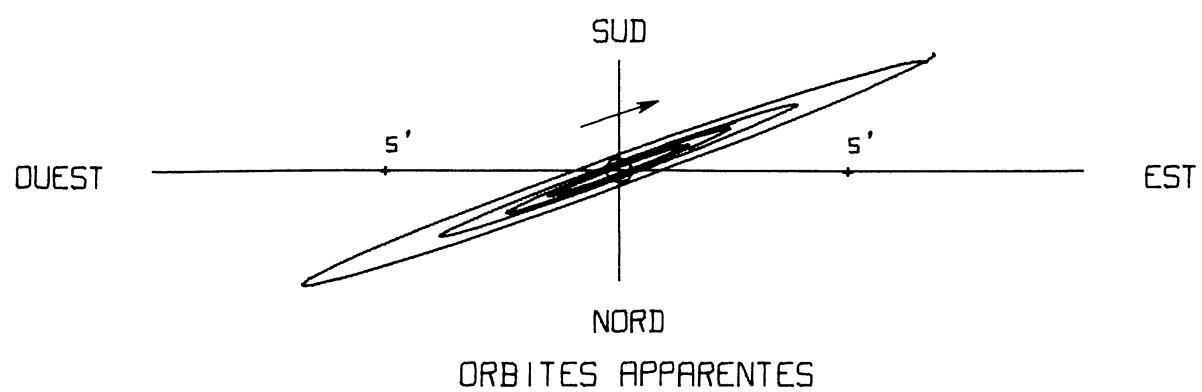
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | | MOIS : SEPTEMBRE - PREMIERE QUINZAINE - | | | | | | | | | | | |
|------------|----|----|----|-----|-----------|---|----|----|----|-----|-----------|-----------|----|----|-----|-----------|-----------|
| JCUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 1 | 17 | 13 | 32 | I | CC.D.EXT | 7 | 6 | 43 | 7 | I | OM.F.EXT | 12 | 0 | 4 | I | OM.D.INT | |
| | 17 | 17 | 0 | I | OC.D.INT | | 6 | 46 | 25 | II | OM.F.INT | 12 | 5 | 39 | III | PA.F.EXT | |
| | 20 | 28 | 26 | I | EC.F.INT | | 6 | 50 | 55 | II | OM.F.EXT | 13 | 9 | 37 | I | PA.F.INT | |
| | 20 | 31 | 59 | I | EC.F.EXIT | | | | | | | 13 | 13 | 4 | I | PA.F.EXIT | |
| | 20 | 32 | 44 | I | EC.F.PEN | | 0 | 43 | 18 | I | OC.D.EXT | 13 | 25 | 47 | III | OM.D.EXT | |
| | | | | | | | 0 | 46 | 47 | I | OC.D.INT | 13 | 39 | 25 | III | OM.D.INT | |
| | | | | | | | | | | | | 14 | 5 | 33 | I | OM.F.INT | |
| 2 | 12 | 53 | 15 | II | PA.D.EXT | 12 | 3 | 54 | 53 | I | EC.F.INT | 14 | 9 | 2 | I | OM.F.EXIT | |
| | 12 | 57 | 32 | II | PA.D.INT | | 3 | 58 | 25 | I | EC.F.EXIT | 14 | 41 | 16 | II | EC.F.INT | |
| | 14 | 31 | 9 | I | PA.D.EXIT | | 3 | 59 | 10 | I | EC.F.PEN | 14 | 45 | 39 | II | EC.F.EXIT | |
| | 14 | 34 | 36 | I | PA.D.INT | | 19 | 15 | 43 | III | OC.D.EXT | 14 | 47 | 21 | II | EC.F.PEN | |
| | 15 | 4 | 28 | II | OM.D.EXT | | 19 | 27 | 46 | III | OC.D.INT | 15 | 36 | 16 | III | OM.F.INT | |
| | 15 | 8 | 56 | II | OM.D.INT | | 21 | 1 | 37 | II | OC.D.EXT | 15 | 50 | 9 | III | OM.F.EXIT | |
| | 15 | 22 | 18 | II | PA.F.INT | | 21 | 5 | 48 | II | OC.D.INT | | | | | | |
| | 15 | 26 | 35 | II | PA.F.EXIT | | 21 | 44 | 22 | III | OC.F.INT | | | | | | |
| | 15 | 33 | 32 | I | OM.D.EXIT | | 21 | 56 | 25 | III | OC.F.EXIT | 12 | 8 | 13 | 14 | I | OC.D.EXIT |
| | 15 | 37 | 1 | I | CM.D.INT | | 22 | 0 | 16 | I | PA.D.EXIT | | | | | I | OC.D.INT |
| | 16 | 40 | 49 | I | PA.F.INT | | 22 | 3 | 43 | I | PA.D.INT | 11 | 21 | 9 | I | EC.F.INT | |
| | 16 | 44 | 16 | I | PA.F.EXIT | | 22 | 59 | 22 | I | OM.D.EXIT | 11 | 24 | 40 | I | EC.F.EXIT | |
| | 17 | 28 | 8 | II | OM.F.INT | | 23 | 2 | 51 | I | OM.D.INT | 11 | 25 | 26 | I | EC.F.PEN | |
| | 17 | 32 | 37 | II | OM.F.EXIT | | 23 | 25 | 5 | III | EC.D.PEN | | | | | | |
| | 17 | 42 | 22 | I | CM.F.INT | | 23 | 29 | 45 | III | EC.D.EXIT | 13 | 5 | 3 | 27 | II | PA.D.EXIT |
| | 17 | 45 | 51 | I | OM.F.EXIT | | 23 | 44 | 3 | III | EC.D.INT | | | | | II | PA.D.INT |
| | | | | | | | | | | | | 5 | 7 | 45 | I | PA.D.EXIT | |
| 3 | 11 | 43 | 27 | I | DC.D.EXIT | 8 | 0 | 10 | 0 | I | PA.F.INT | 5 | 33 | 5 | I | PA.D.INT | |
| | 11 | 46 | 56 | I | DC.D.INT | | 0 | 13 | 27 | I | PA.F.EXIT | 6 | 25 | 10 | I | OM.D.EXIT | |
| | 14 | 57 | 18 | I | EC.F.INT | | 1 | 8 | 17 | I | OM.F.INT | 6 | 28 | 39 | I | OM.D.INT | |
| | 15 | 0 | 49 | I | EC.F.EXIT | | 1 | 11 | 46 | I | OM.F.EXIT | 7 | 0 | 18 | II | OM.D.EXIT | |
| | 15 | 1 | 35 | I | EC.F.PEN | | 1 | 24 | 7 | II | EC.F.INT | 7 | 4 | 47 | II | OM.D.INT | |
| 4 | 5 | 8 | 46 | III | PA.D.EXIT | 9 | 1 | 30 | 11 | II | EC.F.PEN | 7 | 36 | 37 | II | PA.F.EXIT | |
| | 5 | 20 | 47 | III | PA.D.INT | | 1 | 34 | 5 | III | EC.F.INT | 7 | 39 | 27 | I | PA.F.INT | |
| | 7 | 35 | 42 | III | PA.F.INT | | 1 | 48 | 23 | III | EC.F.EXIT | 7 | 42 | 54 | I | PA.F.EXIT | |
| | 7 | 39 | 48 | II | OC.D.EXIT | | 1 | 53 | 3 | III | EC.F.PEN | 8 | 34 | 11 | I | OM.F.INT | |
| | 7 | 43 | 59 | II | OC.D.INT | | 19 | 13 | 12 | I | OC.D.EXIT | 8 | 37 | 40 | I | OM.F.EXIT | |
| | 7 | 47 | 48 | III | PA.F.EXIT | | 19 | 16 | 41 | I | OC.D.INT | 9 | 23 | 55 | II | OM.F.INT | |
| | 9 | 0 | 49 | I | PA.D.EXIT | | 22 | 23 | 36 | I | EC.F.INT | 9 | 28 | 24 | II | OM.F.EXIT | |
| | 9 | 4 | 16 | I | PA.D.INT | | 22 | 27 | 7 | I | EC.F.EXIT | | | | | | |
| | 9 | 27 | 3 | III | OM.D.EXIT | | 22 | 27 | 52 | I | EC.F.PEN | 14 | 2 | 43 | 21 | I | OC.D.EXIT |
| | 9 | 40 | 40 | III | OM.D.INT | | | | | | | 2 | 46 | 50 | I | OC.D.INT | |
| | 10 | 2 | 8 | I | OM.D.EXIT | | 9 | 15 | 40 | 5 | II | PA.D.EXIT | 5 | 49 | 59 | I | EC.F.INT |
| | 10 | 5 | 37 | I | OM.D.INT | | 15 | 44 | 23 | II | PA.D.INT | 5 | 53 | 30 | I | EC.F.EXIT | |
| | 11 | 10 | 31 | I | PA.F.INT | | 16 | 30 | 2 | I | PA.D.EXIT | 5 | 54 | 15 | I | EC.F.PEN | |
| | 11 | 13 | 57 | I | PA.F.EXIT | | 16 | 33 | 29 | I | PA.D.INT | 23 | 35 | 12 | III | OC.D.EXIT | |
| | 11 | 37 | 33 | III | OM.F.INT | | 17 | 27 | 59 | I | OM.D.EXIT | 23 | 45 | 54 | II | OC.D.EXIT | |
| | 11 | 51 | 24 | III | OM.F.EXIT | | 17 | 31 | 28 | I | OM.D.INT | 23 | 47 | 18 | III | OC.D.INT | |
| | 12 | 6 | 57 | II | EC.F.INT | | 17 | 42 | 1 | II | OM.D.EXIT | 23 | 50 | 5 | II | OC.D.INT | |
| | 12 | 11 | 0 | I | OM.F.INT | | 17 | 46 | 29 | II | OM.D.INT | 23 | 59 | 30 | I | PA.D.EXIT | |
| | 12 | 11 | 20 | II | EC.F.EXIT | | 18 | 9 | 1 | II | PA.F.INT | | | | | | |
| | 12 | 13 | 1 | II | EC.F.PEN | | 18 | 13 | 19 | II | PA.F.EXIT | 15 | 0 | 2 | 57 | I | PA.D.INT |
| | 12 | 14 | 29 | I | CM.F.EXIT | | 18 | 39 | 48 | I | PA.F.INT | 0 | 53 | 47 | I | OM.D.EXIT | |
| | | | | | | | 18 | 43 | 15 | I | PA.F.EXIT | 0 | 57 | 16 | I | OM.D.INT | |
| 5 | 6 | 13 | 19 | I | DC.D.EXIT | 10 | 19 | 36 | 56 | I | OM.F.INT | 2 | 3 | 33 | III | OC.F.INT | |
| | 6 | 16 | 48 | I | DC.D.INT | | 19 | 40 | 25 | I | OM.F.EXIT | 2 | 9 | 20 | I | PA.F.INT | |
| | 9 | 26 | 3 | I | EC.F.INT | | 20 | 5 | 38 | II | OM.F.INT | 2 | 12 | 47 | I | PA.F.EXIT | |
| | 9 | 29 | 34 | I | EC.F.EXIT | | 20 | 10 | 8 | II | OM.F.EXIT | 2 | 15 | 38 | III | OC.F.EXIT | |
| | 9 | 30 | 19 | I | EC.F.PEN | | | | | | | 3 | 2 | 49 | I | OM.F.INT | |
| 6 | 2 | 16 | 4 | II | PA.D.EXIT | 11 | 1 | 13 | 43 | 16 | I | OC.D.EXIT | 3 | 6 | 18 | I | OM.F.EXIT |
| | 2 | 20 | 21 | II | PA.D.INT | | 13 | 46 | 44 | I | OC.D.INT | 3 | 24 | 5 | III | EC.D.PEN | |
| | 3 | 30 | 31 | I | PA.D.EXIT | | 16 | 52 | 26 | I | EC.F.INT | 3 | 28 | 45 | III | EC.D.EXIT | |
| | 3 | 33 | 57 | I | PA.D.INT | | 16 | 55 | 57 | I | EC.F.EXIT | 3 | 43 | 4 | III | EC.D.INT | |
| | 4 | 22 | 46 | II | OM.D.EXIT | | 16 | 56 | 42 | I | EC.F.PEN | 3 | 58 | 24 | II | EC.F.INT | |
| | 4 | 27 | 15 | II | OM.D.INT | | | | | | | 4 | 2 | 47 | II | EC.F.EXIT | |
| | 4 | 30 | 45 | I | OM.D.EXIT | | 9 | 38 | 44 | III | PA.D.INT | 4 | 4 | 28 | II | EC.F.PEN | |
| | 4 | 34 | 13 | I | OM.D.INT | | 10 | 23 | 37 | II | OC.D.EXIT | 5 | 32 | 59 | III | EC.F.INT | |
| | 4 | 45 | 3 | II | PA.F.INT | | 10 | 27 | 48 | II | OC.D.INT | 5 | 47 | 18 | III | EC.F.EXIT | |
| | 4 | 49 | 21 | II | PA.F.EXIT | | 10 | 59 | 50 | I | PA.D.EXIT | 5 | 51 | 58 | III | EC.F.PEN | |
| | 5 | 40 | 14 | I | PA.F.INT | | 11 | 3 | 16 | I | PA.D.INT | 21 | 13 | 22 | I | OC.D.EXIT | |
| | 5 | 43 | 41 | I | PA.F.EXIT | | 11 | 53 | 31 | III | PA.F.INT | 21 | 16 | 50 | I | OC.D.INT | |
| | 6 | 39 | 38 | I | OM.F.INT | | 11 | 56 | 35 | I | OM.D.EXIT | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



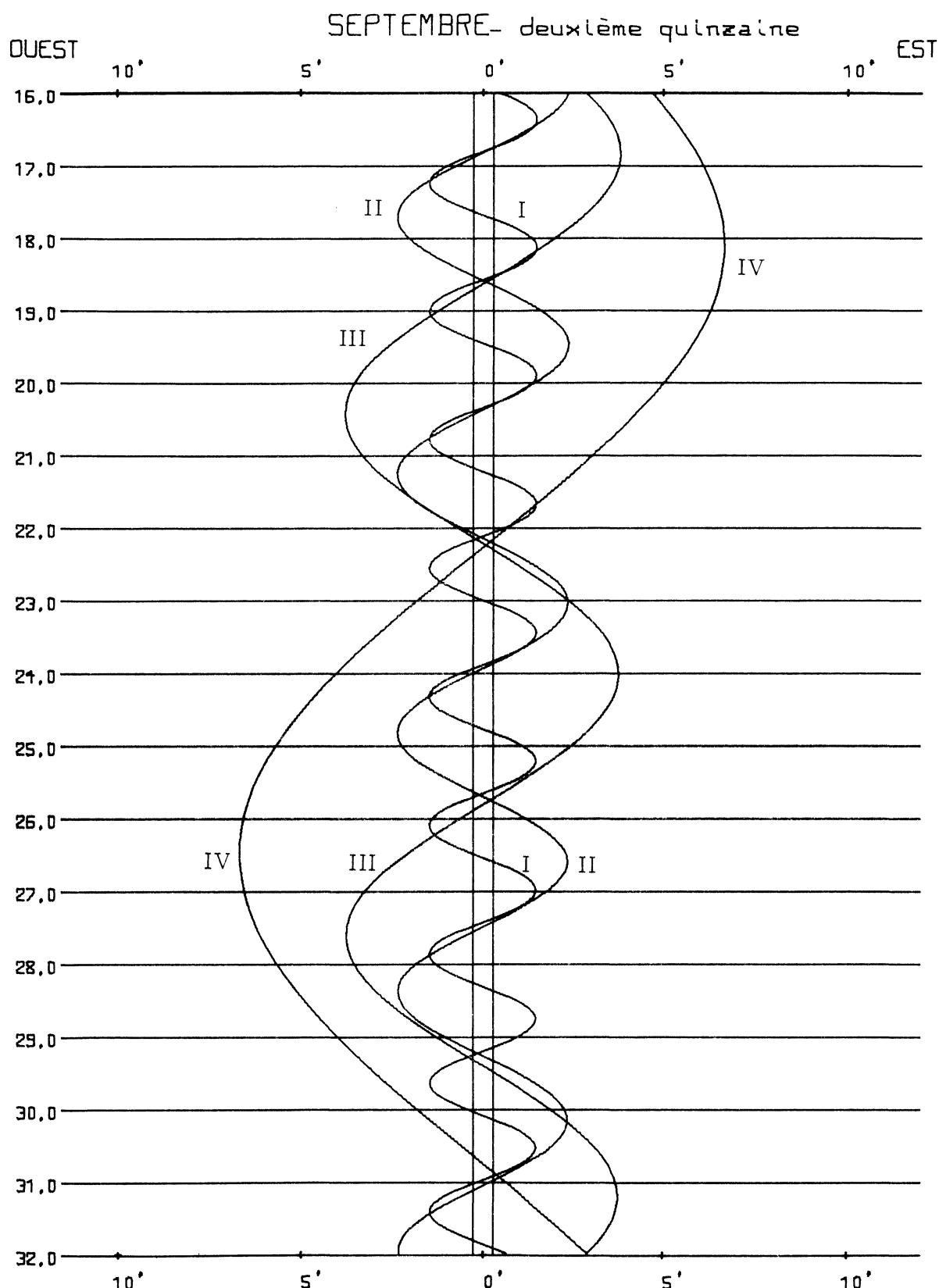
Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter



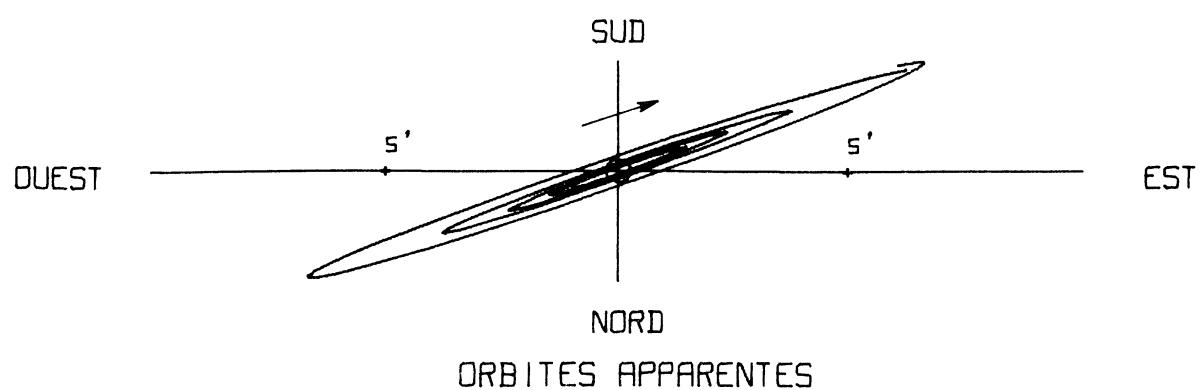
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | MOIS : SEPTEMBRE - DEUXIEME QUINZAINE - | | | | | | | | | | | | |
|------------|----|----|-----|----------|---|------|----|----|-----|----------|----------|------|----|-----|----------|----------|----------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 16 | 0 | 18 | 40 | I | EC.F.INT | 21 | 4 | 43 | 50 | I | OC.D.EXT | 19 | 54 | 12 | II | EC.F.EXT | |
| | 0 | 22 | 12 | I | EC.F.EXT | | 4 | 47 | 19 | I | OC.D.INT | 19 | 55 | 53 | II | EC.F.PEN | |
| | 0 | 22 | 57 | I | EC.F.PEN | | 7 | 45 | 1 | I | EC.F.INT | 20 | 35 | 44 | III | PA.F.INT | |
| 18 | 28 | 2 | II | PA.D.EXT | | 7 | 48 | 32 | I | EC.F.EXT | 20 | 47 | 57 | III | PA.F.EXT | | |
| 18 | 29 | 23 | I | PA.D.EXT | | 7 | 49 | 17 | I | EC.F.PEN | 21 | 23 | 56 | III | OM.D.EXT | | |
| 18 | 32 | 20 | II | PA.D.INT | | | | | | | 21 | 37 | 35 | III | OM.D.INT | | |
| 18 | 32 | 50 | I | PA.D.INT | 22 | 1 | 59 | 9 | I | PA.D.EXT | 23 | 34 | 26 | III | OM.F.INT | | |
| 19 | 22 | 24 | I | OM.D.EXT | | 2 | 2 | 36 | I | PA.D.INT | 23 | 48 | 22 | III | OM.F.EXT | | |
| 19 | 25 | 52 | I | OM.D.INT | | 2 | 31 | 6 | II | OC.D.EXT | | | | | | | |
| 20 | 19 | 32 | II | OM.D.EXT | | 2 | 35 | 18 | II | OC.D.INT | 26 | 12 | 14 | 23 | I | OC.D.EXT | |
| 20 | 24 | 1 | II | OM.D.INT | | 2 | 48 | 8 | I | OM.D.EXT | | 12 | 17 | 52 | I | OC.D.INT | |
| 20 | 39 | 15 | I | PA.F.INT | | 2 | 51 | 37 | I | OM.D.INT | | 15 | 11 | 10 | I | EC.F.INT | |
| 20 | 42 | 42 | I | PA.F.EXT | | 3 | 56 | 33 | III | OC.D.EXT | | 15 | 14 | 41 | I | EC.F.EXT | |
| 20 | 56 | 47 | II | PA.F.INT | | 4 | 8 | 40 | III | OC.D.INT | | 15 | 15 | 26 | I | EC.F.PEN | |
| 21 | 1 | 6 | II | PA.F.EXT | | 4 | 9 | 5 | I | PA.F.INT | | | | | | | |
| 21 | 31 | 27 | I | CM.F.INT | | 4 | 12 | 32 | I | PA.F.EXT | 27 | 9 | 29 | 7 | I | PA.D.EXT | |
| 21 | 34 | 56 | I | OM.F.EXT | | 4 | 57 | 17 | I | OM.F.INT | | 9 | 32 | 34 | I | PA.D.INT | |
| 22 | 43 | 7 | II | OM.F.INT | | 5 | 0 | 46 | I | OM.F.EXT | | 10 | 12 | 51 | I | OM.D.EXT | |
| 22 | 47 | 37 | II | OM.F.EXT | | 6 | 24 | 26 | III | OC.F.INT | | 10 | 17 | 20 | I | OM.D.INT | |
| | | | | | | 6 | 32 | 39 | II | EC.F.INT | | 10 | 41 | 6 | II | PA.D.EXT | |
| 17 | 15 | 43 | 32 | I | OC.D.EXT | | 6 | 36 | 33 | III | OC.F.EXT | | 10 | 45 | 25 | II | PA.D.INT |
| 15 | 47 | 1 | I | OC.D.INT | | 6 | 37 | 3 | II | EC.F.EXT | | 11 | 39 | 7 | I | PA.F.INT | |
| 18 | 47 | 29 | I | EC.F.INT | | 6 | 38 | 44 | II | EC.F.PEN | | 11 | 42 | 34 | I | PA.F.EXT | |
| 18 | 51 | 0 | I | EC.F.EXT | | 7 | 22 | 52 | III | EC.D.PEN | | 12 | 15 | 8 | II | OM.D.EXT | |
| 18 | 51 | 45 | I | EC.F.PEN | | 7 | 27 | 32 | III | EC.D.EXT | | 12 | 19 | 37 | II | OM.D.INT | |
| | | | | | | 7 | 41 | 52 | III | EC.D.INT | | 12 | 23 | 6 | I | OM.F.INT | |
| 18 | 12 | 59 | 17 | I | PA.D.EXT | | 9 | 31 | 41 | III | EC.F.INT | | 12 | 26 | 35 | I | OM.F.EXT |
| 13 | 2 | 42 | I | PA.D.INT | | 9 | 46 | 1 | III | EC.F.EXT | | 13 | 9 | 28 | II | PA.F.INT | |
| 13 | 8 | 23 | II | OC.D.EXT | | 9 | 50 | 41 | III | EC.F.PEN | | 13 | 13 | 48 | II | PA.F.EXT | |
| 13 | 12 | 34 | II | OC.D.INT | | 23 | 13 | 57 | I | OC.D.EXT | | 14 | 38 | 39 | II | OM.F.INT | |
| 13 | 47 | 21 | III | PA.D.EXT | | 23 | 17 | 26 | I | OC.D.INT | | 14 | 43 | 10 | II | OM.F.EXT | |
| | | | | | | | | | | | | | | | | | |
| 13 | 50 | 56 | I | OM.D.EXT | | | | | | | | | | | | | |
| 13 | 54 | 27 | I | OM.D.INT | 23 | 2 | 13 | 41 | I | EC.F.INT | 28 | 6 | 44 | 41 | I | OC.D.EXT | |
| 13 | 59 | 26 | III | PA.D.INT | | 2 | 17 | 12 | I | EC.F.EXT | | 6 | 48 | 10 | I | OC.D.INT | |
| 15 | 9 | 10 | I | PA.F.INT | | 2 | 17 | 57 | I | EC.F.PEN | | 9 | 39 | 58 | I | EC.F.INT | |
| 15 | 12 | 37 | I | PA.F.EXT | | 20 | 29 | 8 | I | PA.D.EXT | | 9 | 43 | 29 | I | EC.F.EXT | |
| 16 | 0 | 4 | I | OM.F.INT | | 20 | 32 | 35 | I | PA.D.INT | | 9 | 44 | 14 | I | EC.F.PEN | |
| 16 | 3 | 33 | I | OM.F.EXT | | 21 | 16 | 44 | I | OM.D.EXT | | | | | | | |
| 16 | 13 | 56 | III | PA.F.INT | | 21 | 16 | 52 | II | PA.D.EXT | 29 | 3 | 59 | 9 | I | PA.D.EXT | |
| 16 | 26 | 8 | III | PA.F.EXT | | 21 | 20 | 13 | I | OM.D.INT | | 4 | 2 | 36 | I | PA.D.INT | |
| 17 | 15 | 32 | II | EC.F.INT | | 21 | 21 | 11 | II | PA.D.INT | | 4 | 42 | 26 | I | OM.D.EXT | |
| 17 | 19 | 56 | II | EC.F.EXT | | 22 | 39 | 5 | I | PA.F.INT | | 4 | 45 | 55 | I | OM.D.INT | |
| 17 | 21 | 37 | II | EC.F.PEN | | 22 | 42 | 32 | I | PA.F.EXT | | 5 | 17 | 6 | II | OC.D.EXT | |
| 17 | 25 | 7 | III | CM.D.EXT | | 22 | 56 | 56 | II | OM.D.EXT | | 5 | 21 | 18 | II | OC.D.INT | |
| 17 | 38 | 46 | III | CM.D.INT | | 23 | 1 | 26 | II | OM.D.INT | | 6 | 9 | 10 | I | PA.F.INT | |
| 19 | 35 | 36 | III | OM.F.INT | | 23 | 25 | 55 | I | OM.F.INT | | 6 | 12 | 37 | I | PA.F.EXT | |
| 19 | 49 | 31 | III | OM.F.EXT | | 23 | 29 | 24 | I | OM.F.EXT | | 6 | 51 | 42 | I | OM.F.INT | |
| | | | | | | 23 | 45 | 23 | II | PA.F.INT | | 6 | 55 | 11 | I | OM.F.EXT | |
| 19 | 10 | 13 | 37 | I | OC.D.EXT | | 23 | 49 | 42 | II | PA.F.EXT | | 8 | 19 | 37 | III | OC.D.EXT |
| 10 | 17 | 6 | I | OC.D.INT | | | | | | | | 8 | 31 | 48 | III | OC.D.INT | |
| 13 | 16 | 12 | I | EC.F.INT | 24 | 1 | 20 | 29 | II | OM.F.INT | | 9 | 6 | 53 | II | EC.F.INT | |
| 13 | 19 | 43 | I | EC.F.EXT | | 1 | 24 | 59 | II | OM.F.EXT | | 9 | 11 | 17 | II | EC.F.EXT | |
| 13 | 20 | 26 | I | EC.F.PEN | | 17 | 44 | 12 | I | OC.D.EXT | | 9 | 12 | 58 | II | EC.F.PEN | |
| | | | | | | 17 | 47 | 41 | I | OC.D.INT | | 10 | 46 | 54 | III | OC.F.INT | |
| 20 | 7 | 29 | 12 | I | PA.D.EXT | | 20 | 42 | 29 | I | EC.F.INT | | 10 | 59 | 5 | III | OC.F.EXT |
| 7 | 32 | 38 | I | PA.D.INT | | 20 | 46 | 0 | I | EC.F.EXT | | 11 | 21 | 39 | III | EC.D.PEN | |
| 7 | 51 | 52 | II | PA.D.EXT | | 20 | 46 | 45 | I | EC.F.PEN | | 11 | 26 | 20 | III | EC.D.EXT | |
| 7 | 56 | 10 | II | PA.D.INT | | | | | | | | 11 | 40 | 40 | III | EC.D.INT | |
| 8 | 19 | 33 | I | OM.D.EXT | 25 | 14 | 59 | 7 | I | PA.D.EXT | | 13 | 30 | 24 | III | EC.F.INT | |
| 8 | 23 | 2 | I | OM.D.INT | | 15 | 2 | 34 | I | PA.D.INT | | 13 | 44 | 45 | III | EC.F.EXT | |
| 9 | 37 | 46 | II | CM.D.EXT | | 15 | 45 | 18 | I | CM.D.EXT | | 13 | 49 | 25 | III | EC.F.PEN | |
| 9 | 39 | 6 | I | PA.F.INT | | 15 | 48 | 47 | I | OM.D.INT | | | | | | | |
| 9 | 42 | 15 | II | OM.D.INT | | 15 | 54 | 1 | II | OC.D.EXT | 30 | 1 | 14 | 53 | I | OC.D.EXT | |
| 9 | 42 | 33 | I | PA.F.EXT | | 15 | 58 | 14 | II | OC.D.INT | | 1 | 18 | 21 | I | OC.D.INT | |
| 10 | 20 | 30 | II | PA.F.INT | | 17 | 9 | 5 | I | PA.F.INT | | 4 | 8 | 37 | I | EC.F.INT | |
| 10 | 24 | 49 | II | PA.F.EXT | | 17 | 12 | 32 | I | PA.F.EXT | | 4 | 12 | 8 | I | EC.F.EXT | |
| 10 | 28 | 40 | I | OM.F.INT | | 17 | 54 | 30 | I | OM.F.INT | | 4 | 12 | 53 | I | EC.F.PEN | |
| 10 | 32 | 9 | I | OM.F.EXT | | 17 | 57 | 59 | I | OM.F.EXT | | 22 | 29 | 13 | I | PA.D.EXT | |
| 12 | 1 | 20 | II | OM.F.INT | | 18 | 9 | 30 | III | PA.D.EXT | | 22 | 32 | 40 | I | PA.D.INT | |
| 12 | 5 | 51 | II | OM.F.EXT | | 18 | 21 | 41 | III | PA.D.INT | | 23 | 11 | 1 | I | OM.D.EXT | |
| | | | | | | 19 | 49 | 48 | II | EC.F.INT | | 23 | 14 | 30 | I | OM.D.INT | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



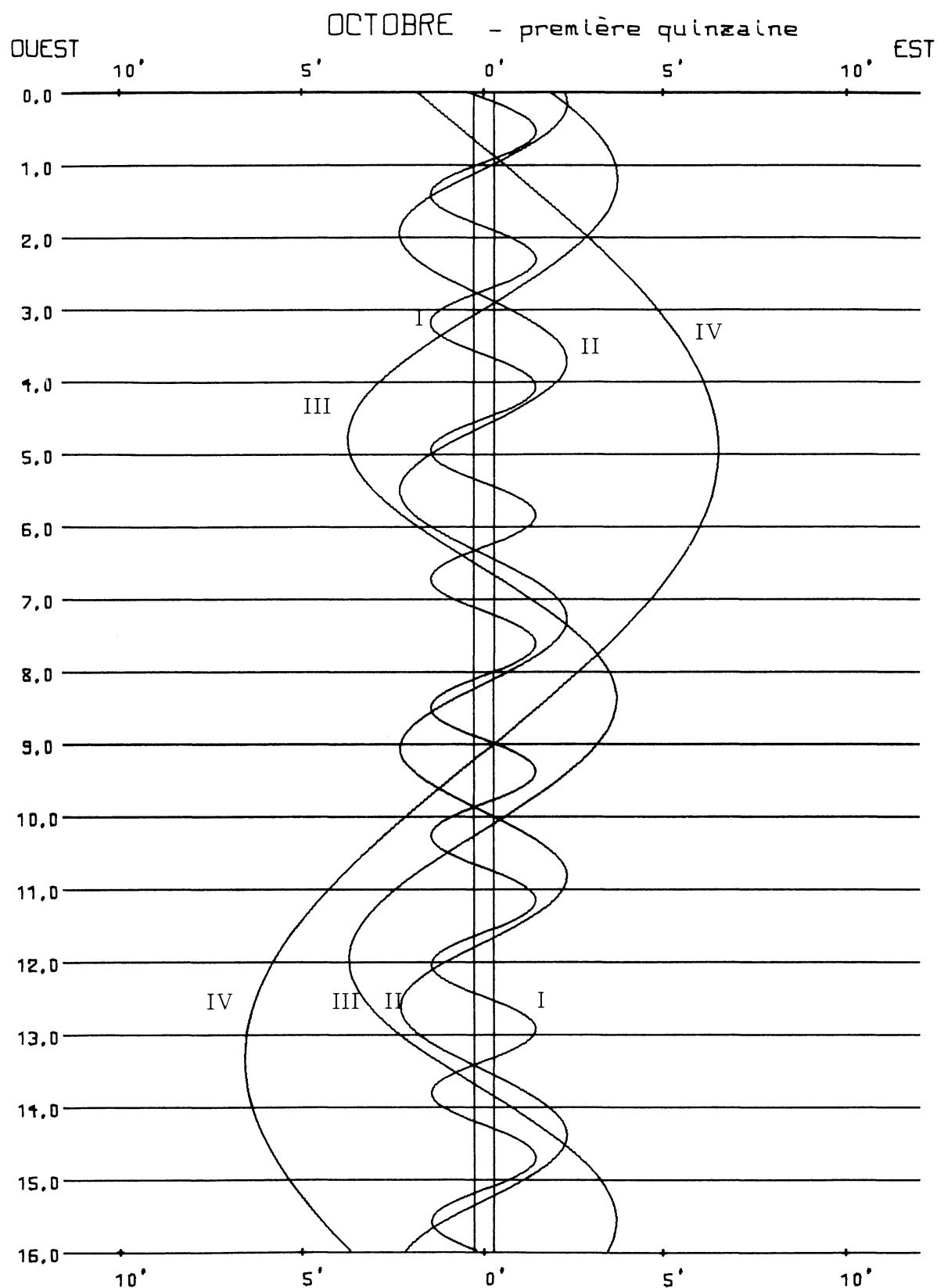
Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter



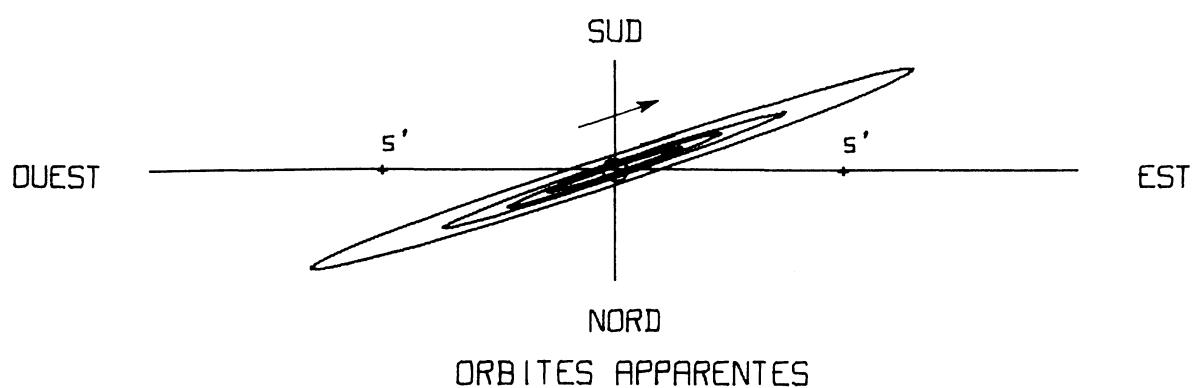
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | MOIS : | | | | OCTOBRE - PREMIERE QUINZAINE - | | | | | | | | | |
|------------|----|----|----|--------|----------|------|----|--------------------------------|-----|----------|----------|------|----|----|-----|----------|----------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 1 | 0 | 6 | 28 | II | PA.D.EXT | 6 | 40 | 8 | I | OM.D.INT | | 16 | 20 | 15 | I | OC.D.INT | |
| | 0 | 10 | 48 | II | PA.D.INT | 8 | 3 | 46 | II | OC.D.EXT | | 19 | 0 | 51 | I | EC.F.INT | |
| | 0 | 39 | 16 | I | PA.F.INT | 8 | 8 | 0 | II | OC.D.INT | | 19 | 4 | 22 | I | EC.F.EXT | |
| | 0 | 42 | 43 | I | PA.F.EXT | 8 | 9 | 33 | I | PA.F.INT | | 19 | 5 | 8 | I | EC.F.PEN | |
| | 1 | 20 | 19 | I | OM.F.INT | 8 | 13 | 0 | I | PA.F.EXT | | | | | | | |
| | 1 | 23 | 48 | I | OM.F.EXT | 8 | 46 | 2 | I | OM.F.INT | 11 | 13 | 29 | 51 | I | PA.D.EXT | |
| | 1 | 34 | 15 | II | OM.D.EXT | 8 | 49 | 32 | I | OM.F.EXT | | 13 | 33 | 18 | I | PA.D.INT | |
| | 1 | 38 | 44 | II | OM.D.INT | 11 | 41 | 5 | II | EC.F.INT | | 14 | 2 | 17 | I | OM.D.EXT | |
| | 2 | 34 | 41 | II | PA.F.INT | 11 | 45 | 30 | II | EC.F.EXT | | 14 | 5 | 46 | I | OM.D.INT | |
| | 2 | 39 | 1 | II | PA.F.EXT | 11 | 47 | 11 | II | EC.F.PEN | | 15 | 40 | 0 | I | PA.F.INT | |
| | 3 | 57 | 44 | II | OM.F.INT | 12 | 44 | 17 | III | OC.D.EXT | | 15 | 43 | 27 | I | PA.F.EXT | |
| | 4 | 2 | 14 | II | OM.F.EXT | 12 | 56 | 32 | III | OC.D.INT | | 16 | 11 | 45 | I | OM.F.INT | |
| | 19 | 45 | 13 | I | OC.D.EXT | 15 | 10 | 52 | III | OC.F.INT | | 16 | 15 | 14 | I | OM.F.EXT | |
| | 19 | 48 | 41 | I | OC.D.INT | 15 | 20 | 29 | III | EC.D.PEN | | 16 | 21 | 32 | II | PA.D.EXT | |
| | 22 | 37 | 23 | I | EC.F.INT | 15 | 23 | 7 | III | OC.F.EXT | | 16 | 25 | 53 | II | PA.D.INT | |
| | 22 | 40 | 54 | I | EC.F.EXT | 15 | 25 | 10 | III | EC.D.EXT | | 17 | 29 | 31 | II | OM.D.EXT | |
| | 22 | 41 | 39 | I | EC.F.PEN | 15 | 39 | 31 | III | EC.D.INT | | 17 | 34 | 1 | II | OM.D.INT | |
| | | | | | | 17 | 29 | 11 | III | EC.F.INT | | 18 | 49 | 13 | II | PA.F.INT | |
| 2 | 16 | 59 | 17 | I | PA.D.EXT | 17 | 43 | 32 | III | EC.F.EXT | | 18 | 53 | 34 | II | PA.F.EXT | |
| | 17 | 2 | 44 | I | PA.D.INT | 17 | 48 | 13 | III | EC.F.PEN | | 19 | 52 | 55 | II | OM.F.INT | |
| | 17 | 39 | 33 | I | OM.D.EXT | | | | | | | 19 | 57 | 27 | II | OM.F.EXT | |
| | 17 | 43 | 2 | I | OM.D.INT | 7 | 3 | 16 | 5 | I | OC.D.EXT | | | | | | |
| | 18 | 40 | 22 | II | OC.D.EXT | 3 | 19 | 34 | I | OC.D.INT | 12 | 10 | 47 | 12 | I | DC.D.EXT | |
| | 18 | 44 | 35 | II | OC.D.INT | 6 | 3 | 28 | I | EC.F.INT | | 10 | 50 | 41 | I | DC.D.INT | |
| | 19 | 9 | 20 | I | PA.F.INT | 6 | 6 | 59 | I | EC.F.EXT | | 13 | 29 | 36 | I | EC.F.INT | |
| | 19 | 12 | 47 | I | PA.F.EXT | 6 | 7 | 44 | I | EC.F.PEN | | 13 | 33 | 7 | I | EC.F.EXT | |
| | 19 | 48 | 53 | I | OM.F.INT | | | | | | | 13 | 33 | 53 | I | EC.F.PEN | |
| | 19 | 52 | 22 | I | OM.F.EXT | 8 | 0 | 29 | 36 | I | PA.D.EXT | | | | | | |
| | 22 | 24 | 1 | II | EC.F.INT | 0 | 33 | 3 | I | PA.D.INT | 13 | 8 | 0 | 1 | I | PA.D.EXT | |
| | 22 | 28 | 25 | II | EC.F.EXT | 1 | 5 | 14 | I | OM.D.EXT | | 8 | 3 | 28 | I | PA.D.INT | |
| | 22 | 30 | 7 | II | EC.F.PEN | 1 | 8 | 42 | I | OM.D.INT | | 8 | 30 | 49 | I | OM.D.EXT | |
| | 22 | 33 | 36 | III | PA.D.EXT | 2 | 39 | 43 | I | PA.F.INT | | 8 | 34 | 18 | I | OM.D.INT | |
| | 22 | 45 | 51 | III | PA.D.INT | 2 | 43 | 10 | I | PA.F.EXT | | 10 | 10 | 11 | I | PA.F.INT | |
| | | | | | | 2 | 56 | 41 | II | PA.D.EXT | | 10 | 13 | 38 | I | PA.F.EXT | |
| 3 | 0 | 59 | 21 | III | PA.F.INT | 3 | 1 | 2 | II | PA.D.INT | | 10 | 40 | 19 | I | OM.F.INT | |
| | 1 | 11 | 37 | III | PA.F.EXT | 3 | 14 | 38 | I | OM.F.INT | | 10 | 43 | 48 | I | OM.F.EXT | |
| | 1 | 22 | 58 | III | OM.D.EXT | 3 | 18 | 7 | I | OM.F.EXT | | 10 | 51 | 5 | II | OC.D.EXT | |
| | 1 | 36 | 37 | III | OM.D.INT | 4 | 11 | 25 | II | OM.D.EXT | | 10 | 55 | 20 | II | OC.D.INT | |
| | 3 | 33 | 32 | III | OM.F.INT | 4 | 15 | 55 | II | OM.D.INT | | 14 | 15 | 19 | II | EC.F.INT | |
| | 3 | 47 | 29 | III | OM.F.EXT | 5 | 24 | 33 | II | PA.F.INT | | 14 | 19 | 44 | II | EC.F.EXT | |
| | 14 | 15 | 27 | I | OC.D.EXT | 5 | 28 | 54 | II | PA.F.EXT | | 14 | 21 | 26 | II | EC.F.PEN | |
| | 14 | 18 | 56 | I | OC.D.INT | 6 | 34 | 51 | II | OM.F.INT | | 17 | 10 | 50 | III | DC.D.EXT | |
| | 17 | 6 | 3 | I | EC.F.INT | 6 | 39 | 22 | II | OM.F.EXT | | 17 | 23 | 10 | III | DC.D.INT | |
| | 17 | 9 | 34 | I | EC.F.EXT | 21 | 46 | 28 | I | OC.D.EXT | | 21 | 28 | 34 | III | EC.F.INT | |
| | 17 | 10 | 20 | I | EC.F.PEN | 21 | 49 | 57 | I | OC.D.INT | | 21 | 42 | 55 | III | EC.F.EXT | |
| | | | | | | 21 | 47 | 36 | III | EC.F.PEN | | | | | | | |
| 4 | 11 | 29 | 21 | I | PA.D.EXT | 9 | 0 | 32 | 12 | I | EC.F.INT | | | | | | |
| | 11 | 32 | 48 | I | PA.D.INT | 0 | 35 | 43 | I | EC.F.EXT | 14 | 5 | 17 | 30 | I | DC.D.EXT | |
| | 12 | 8 | 6 | I | OM.D.EXT | 0 | 36 | 29 | I | EC.F.PEN | | 5 | 20 | 59 | I | DC.D.INT | |
| | 12 | 11 | 35 | I | OM.D.INT | 18 | 59 | 43 | I | PA.D.EXT | | 7 | 58 | 13 | I | EC.F.INT | |
| | 13 | 31 | 3 | II | PA.D.EXT | 19 | 3 | 10 | I | PA.D.INT | | 8 | 1 | 44 | I | EC.F.EXT | |
| | 13 | 35 | 24 | II | PA.D.INT | 19 | 33 | 45 | I | OM.D.EXT | | 8 | 2 | 29 | I | EC.F.PEN | |
| | 13 | 39 | 26 | I | PA.F.INT | 19 | 37 | 14 | I | OM.D.INT | | | | | | | |
| | 13 | 42 | 53 | I | PA.F.EXT | 21 | 9 | 51 | I | PA.F.INT | 15 | 2 | 30 | 13 | I | PA.D.EXT | |
| | 14 | 17 | 28 | I | OM.F.INT | 21 | 13 | 18 | I | PA.F.EXT | | 2 | 33 | 40 | I | PA.D.INT | |
| | 14 | 20 | 57 | I | OM.F.EXT | 21 | 27 | 23 | II | OC.D.EXT | | 2 | 59 | 22 | I | OM.D.EXT | |
| | 14 | 52 | 25 | II | OM.D.EXT | 21 | 31 | 37 | II | OC.D.INT | | 3 | 2 | 51 | I | OM.D.INT | |
| | 14 | 56 | 54 | II | OM.D.INT | 21 | 43 | 11 | I | OM.F.INT | | 4 | 40 | 23 | I | PA.F.INT | |
| | 15 | 59 | 7 | II | PA.F.EXT | 21 | 46 | 41 | I | OM.F.EXT | | 4 | 43 | 50 | I | PA.F.EXT | |
| | 16 | 3 | 27 | II | PA.F.EXT | | | | | | | 5 | 8 | 54 | I | OM.F.INT | |
| | 17 | 15 | 53 | II | OM.F.INT | 10 | 0 | 58 | 14 | II | EC.F.INT | | 5 | 12 | 23 | I | OM.F.EXT |
| | 17 | 20 | 24 | II | OM.F.EXT | 1 | 2 | 39 | II | EC.F.EXT | | 5 | 47 | 22 | II | PA.D.EXT | |
| | | | | | | 1 | 4 | 21 | II | EC.F.PEN | | 5 | 51 | 43 | II | PA.D.INT | |
| 5 | 8 | 45 | 50 | I | OC.D.EXT | 2 | 58 | 27 | III | PA.D.EXT | | 6 | 48 | 26 | II | OM.D.EXT | |
| | 8 | 49 | 19 | I | OC.D.INT | 3 | 10 | 46 | III | PA.D.INT | | 6 | 52 | 56 | II | OM.D.INT | |
| | 11 | 34 | 50 | I | EC.F.INT | 5 | 21 | 20 | III | OM.D.EXT | | 8 | 14 | 49 | II | PA.F.INT | |
| | 11 | 38 | 21 | I | EC.F.EXT | 5 | 23 | 33 | III | PA.F.INT | | 8 | 19 | 11 | II | PA.F.EXT | |
| | 11 | 39 | 6 | I | EC.F.PEN | 5 | 34 | 59 | III | OM.D.INT | | 9 | 11 | 47 | II | OM.F.INT | |
| | | | | | | 5 | 35 | 54 | III | PA.F.EXT | | 9 | 16 | 18 | II | OM.F.EXT | |
| 6 | 5 | 59 | 28 | I | PA.D.EXT | 7 | 31 | 57 | III | OM.F.INT | | 23 | 47 | 56 | I | OC.D.EXT | |
| | 6 | 2 | 55 | I | PA.D.INT | 7 | 45 | 55 | III | OM.F.EXT | | 23 | 51 | 25 | I | OC.D.INT | |
| | 6 | 36 | 39 | I | OM.D.EXT | 16 | 16 | 47 | I | OC.D.EXT | | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



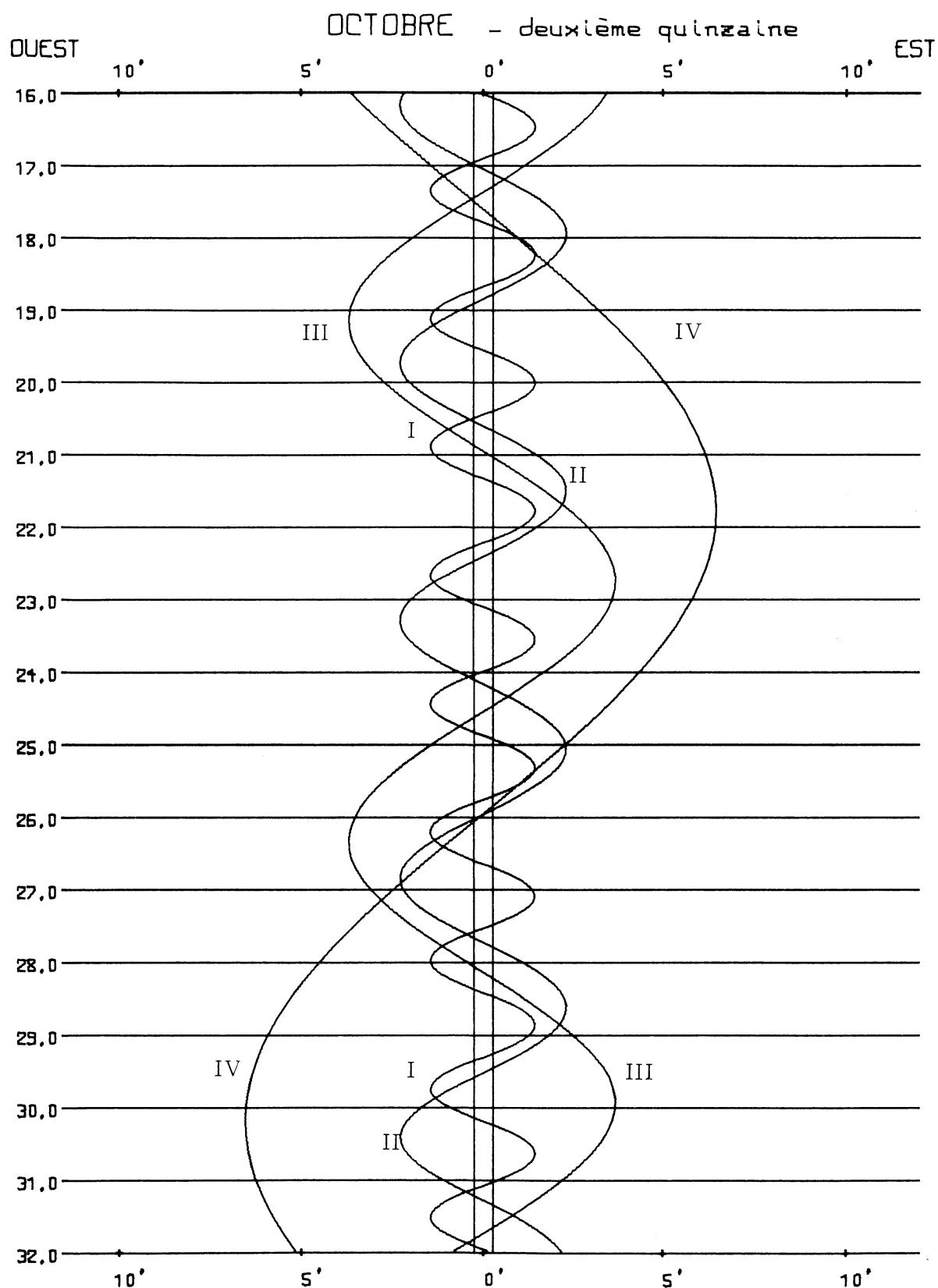
Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter



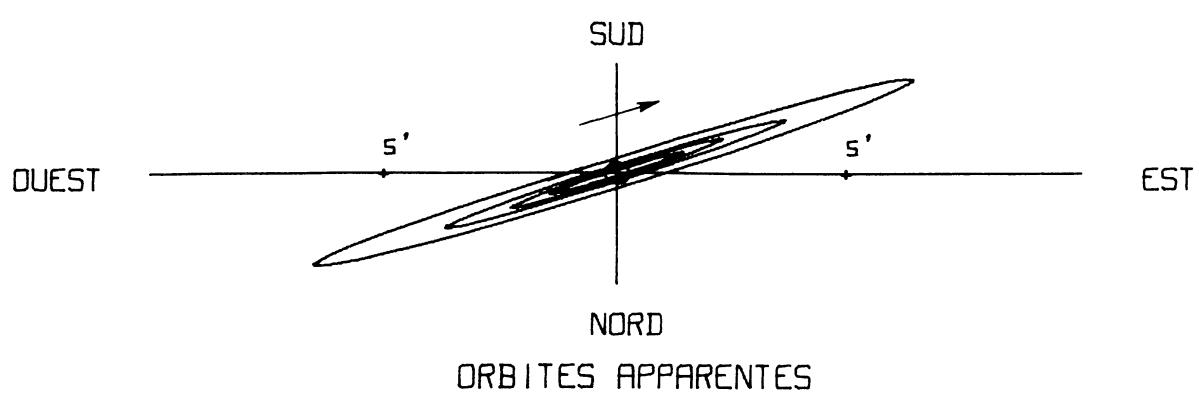
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | MOIS : | | OCTOBRE - CEUXIEME QUINZAINE - | | | | | | | | | | |
|------------|----|----|----|-----|-----------|-----------|--------------------------------|----|----|-----------|-----------|------|----|----|-----------|-----------|-----------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 16 | 2 | 26 | 56 | I | EC.F.INT | 9 | 52 | 52 | I | EC.F.INT | 17 | 23 | 7 | I | EC.F.PEN | | |
| | 2 | 30 | 27 | I | EC.F.EXT | 9 | 56 | 23 | I | EC.F.EXT | | | | I | PA.D.EXIT | | |
| | 2 | 31 | 12 | I | EC.F.PEN | 9 | 57 | 8 | I | EC.F.PEN | 27 | 12 | 1 | 41 | I | PA.D.INT | |
| | 21 | 0 | 23 | I | PA.D.EXIT | | | | | | | 12 | 5 | 9 | I | PA.D.INT | |
| | 21 | 3 | 50 | I | PA.D.INT | 22 | 4 | 31 | I | PA.D.EXIT | | 12 | 18 | 57 | I | OM.D.EXIT | |
| | 21 | 27 | 53 | I | OM.D.EXIT | | 4 | 34 | 28 | I | PA.D.INT | | 12 | 22 | 26 | I | OM.D.INT |
| | 21 | 31 | 22 | I | OM.D.INT | | 4 | 53 | 27 | I | OM.D.EXIT | | 14 | 11 | 56 | I | PA.F.INT |
| | 23 | 10 | 34 | I | PA.F.INT | | 4 | 56 | 56 | I | OM.D.INT | | 14 | 15 | 24 | I | PA.F.EXIT |
| | 23 | 14 | 1 | I | PA.F.EXIT | | 6 | 41 | 15 | I | PA.F.INT | | 14 | 28 | 38 | I | OM.F.INT |
| | 23 | 37 | 26 | I | OM.F.INT | | 6 | 44 | 42 | I | PA.F.EXIT | | 14 | 32 | 7 | I | OM.F.EXIT |
| | 23 | 40 | 55 | I | OM.F.EXIT | | 7 | 3 | 5 | I | OM.F.INT | | 16 | 27 | 9 | II | OC.D.EXIT |
| | | | | | | | 7 | 6 | 34 | I | OM.F.EXIT | | 16 | 31 | 25 | II | OC.D.INT |
| 17 | 0 | 14 | 57 | II | OC.D.EXIT | | 8 | 38 | 25 | II | PA.D.EXIT | | 19 | 23 | 47 | II | EC.F.INT |
| | 0 | 19 | 12 | II | OC.D.INT | | 8 | 42 | 47 | II | PA.D.INT | | 19 | 28 | 12 | II | EC.F.EXIT |
| | 3 | 32 | 26 | II | EC.F.INT | | 9 | 25 | 19 | II | OM.D.EXIT | | 19 | 29 | 55 | II | EC.F.PEN |
| | 3 | 36 | 52 | II | EC.F.EXIT | | 9 | 29 | 48 | II | OM.D.INT | | | | | | |
| | 3 | 38 | 34 | II | EC.F.PEN | 23 | 11 | 5 | 25 | II | PA.F.INT | 28 | 2 | 6 | 7 | III | OC.D.EXIT |
| | 7 | 24 | 18 | III | PA.D.EXIT | | 11 | 9 | 48 | II | PA.F.EXIT | | 2 | 18 | 36 | III | OC.D.INT |
| | 7 | 36 | 42 | III | PA.D.INT | | 11 | 48 | 35 | II | OM.F.INT | | 5 | 26 | 31 | III | EC.F.INT |
| | 9 | 19 | 31 | III | OM.D.EXIT | | 11 | 53 | 6 | II | OM.F.EXIT | | 5 | 40 | 52 | III | EC.F.EXIT |
| | 9 | 33 | 10 | III | OM.D.INT | | | | | | | | 5 | 45 | 33 | III | EC.F.PEN |
| | 9 | 48 | 42 | III | PA.F.INT | 23 | 1 | 49 | 31 | I | OC.D.EXIT | | 9 | 20 | 43 | I | OC.D.EXIT |
| | 10 | 1 | 7 | III | PA.F.EXIT | | 1 | 53 | 0 | I | OC.D.INT | | 9 | 24 | 12 | I | OC.D.INT |
| | 11 | 30 | 12 | III | OM.F.INT | | 4 | 21 | 34 | I | EC.F.INT | | 11 | 47 | 25 | I | EC.F.INT |
| | 11 | 44 | 11 | III | OM.F.EXIT | | 4 | 25 | 4 | I | EC.F.EXIT | | 11 | 50 | 56 | I | EC.F.EXIT |
| | 18 | 18 | 16 | I | OC.D.EXIT | | 4 | 25 | 50 | I | EC.F.PEN | | 11 | 51 | 41 | I | EC.F.PEN |
| | 18 | 21 | 45 | I | OC.D.INT | 23 | 1 | 13 | I | PA.D.EXIT | | | | | | | |
| | 20 | 55 | 34 | I | EC.F.INT | | 23 | 4 | 41 | I | PA.D.INT | 29 | 6 | 31 | 57 | I | PA.D.EXIT |
| | 20 | 59 | 4 | I | EC.F.EXIT | | 23 | 21 | 57 | I | OM.D.EXIT | | 6 | 35 | 25 | I | PA.D.INT |
| | 20 | 59 | 50 | I | EC.F.PEN | | 23 | 25 | 26 | I | OM.D.INT | | 6 | 47 | 28 | I | OM.D.EXIT |
| | | | | | | | | | | | | | 6 | 50 | 57 | I | OM.D.INT |
| 18 | 15 | 30 | 34 | I | PA.D.EXIT | 24 | 1 | 11 | 28 | I | PA.F.INT | | 8 | 42 | 13 | I | PA.F.INT |
| | 15 | 34 | 2 | I | PA.D.INT | | 1 | 14 | 55 | I | PA.F.EXIT | | 8 | 45 | 41 | I | PA.F.EXIT |
| | 15 | 56 | 24 | I | OM.D.EXIT | | 1 | 31 | 35 | I | OM.F.INT | | 8 | 57 | 11 | I | OM.F.INT |
| | 15 | 59 | 53 | I | OM.D.INT | | 1 | 35 | 5 | I | OM.F.EXIT | | 9 | 0 | 40 | I | OM.F.EXIT |
| | 17 | 40 | 47 | I | PA.F.INT | | 3 | 2 | 59 | II | OC.D.EXIT | | 11 | 29 | 38 | II | PA.D.EXIT |
| | 17 | 44 | 14 | I | PA.F.EXIT | | 3 | 7 | 15 | II | OC.D.INT | | 11 | 34 | 0 | II | PA.D.INT |
| | 18 | 5 | 59 | I | OM.F.INT | | 6 | 6 | 39 | II | EC.F.INT | | 12 | 1 | 59 | II | OM.D.EXIT |
| | 18 | 9 | 28 | I | OM.F.EXIT | | 6 | 11 | 5 | II | EC.F.EXIT | | 12 | 6 | 28 | II | OM.D.INT |
| | 19 | 12 | 27 | II | PA.D.EXIT | | 6 | 12 | 47 | II | EC.F.PEN | | 13 | 56 | 8 | II | PA.F.INT |
| | 19 | 16 | 49 | II | PA.D.INT | | 11 | 51 | 8 | III | PA.D.EXIT | | 14 | 0 | 31 | II | PA.F.EXIT |
| | 20 | 6 | 30 | II | OM.D.EXIT | | 12 | 3 | 38 | III | PA.D.INT | | 14 | 25 | 8 | II | OM.F.INT |
| | 20 | 10 | 59 | II | OM.D.INT | | 13 | 17 | 44 | III | OM.D.EXIT | | 14 | 29 | 40 | II | OM.F.EXIT |
| | 21 | 39 | 42 | II | PA.F.INT | | 13 | 31 | 24 | III | OM.D.INT | | | | | | |
| | 21 | 44 | 4 | II | PA.F.EXIT | | 14 | 14 | 43 | III | PA.F.INT | 30 | 3 | 51 | 11 | I | OC.D.EXIT |
| | 22 | 29 | 49 | II | OM.F.INT | | 14 | 27 | 14 | III | PA.F.EXIT | | 3 | 54 | 40 | I | OC.D.INT |
| | 22 | 34 | 20 | II | OM.F.EXIT | | 15 | 28 | 29 | III | OM.F.INT | | 6 | 16 | 5 | I | EC.F.INT |
| | | | | | | | 15 | 42 | 29 | III | OM.F.EXIT | | 6 | 19 | 36 | I | EC.F.EXIT |
| | 19 | 12 | 48 | 44 | I | OC.D.EXIT | 20 | 19 | 53 | I | OC.D.EXIT | | 6 | 20 | 21 | I | EC.F.PEN |
| | 12 | 52 | 13 | I | OC.D.INT | | 20 | 23 | 22 | I | OC.D.INT | | | | | | |
| | 15 | 24 | 17 | I | EC.F.INT | | 22 | 50 | 10 | I | EC.F.INT | 31 | 1 | 2 | 11 | I | PA.D.EXIT |
| | 15 | 27 | 48 | I | EC.F.EXIT | | 22 | 53 | 40 | I | EC.F.EXIT | | 1 | 5 | 39 | I | PA.D.INT |
| | 15 | 28 | 33 | I | EC.F.PEN | | 22 | 54 | 26 | I | EC.F.PEN | | 1 | 15 | 57 | I | OM.D.EXIT |
| | | | | | | | | | | | | | 1 | 19 | 26 | I | OM.D.INT |
| 20 | 10 | 0 | 47 | I | PA.D.EXIT | 25 | 17 | 31 | 27 | I | PA.D.EXIT | | 3 | 12 | 27 | I | PA.F.INT |
| | 10 | 4 | 14 | I | PA.D.INT | | 17 | 34 | 55 | I | PA.D.INT | | 3 | 15 | 55 | I | PA.F.EXIT |
| | 10 | 24 | 55 | I | OM.D.EXIT | | 17 | 50 | 27 | I | OM.D.EXIT | | 3 | 25 | 40 | I | OM.F.INT |
| | 10 | 28 | 24 | I | OM.D.INT | | 17 | 53 | 56 | I | OM.D.INT | | 3 | 29 | 10 | I | OM.F.EXIT |
| | 12 | 10 | 59 | I | PA.F.INT | | 19 | 41 | 42 | I | PA.F.INT | | 5 | 51 | 24 | II | OC.D.EXIT |
| | 12 | 14 | 27 | I | PA.F.EXIT | | 19 | 45 | 9 | I | PA.F.EXIT | | 5 | 55 | 41 | II | OC.D.INT |
| | 12 | 34 | 31 | I | OM.F.INT | | 20 | 0 | 7 | I | OM.F.INT | | 8 | 40 | 54 | II | EC.F.INT |
| | 12 | 38 | 0 | I | OM.F.EXIT | | 20 | 3 | 37 | I | OM.F.EXIT | | 8 | 45 | 20 | II | EC.F.EXIT |
| | 13 | 38 | 54 | II | OC.D.EXIT | | 22 | 3 | 36 | II | PA.D.EXIT | | 8 | 47 | 3 | II | EC.F.PEN |
| | 13 | 43 | 9 | II | OC.D.INT | | 22 | 7 | 59 | II | PA.D.INT | | 16 | 18 | 46 | III | PA.D.EXIT |
| | 16 | 49 | 32 | II | EC.F.INT | | 22 | 43 | 16 | II | OM.D.EXIT | | 16 | 31 | 22 | III | PA.D.INT |
| | 16 | 53 | 57 | II | EC.F.EXIT | | 22 | 47 | 46 | II | OM.D.INT | | 17 | 16 | 1 | III | OM.D.EXIT |
| | 16 | 55 | 39 | I | EC.F.PEN | | | | | | | | 17 | 29 | 40 | III | OM.D.INT |
| | 21 | 37 | 58 | III | OC.D.EXIT | 26 | 0 | 30 | 23 | II | PA.F.INT | | 18 | 41 | 28 | III | PA.F.INT |
| | 21 | 50 | 22 | III | OC.D.INT | | 0 | 34 | 46 | II | PA.F.EXIT | | 18 | 54 | 4 | III | PA.F.EXIT |
| | | | | | | | 1 | 6 | 30 | II | OM.F.INT | | 19 | 26 | 49 | III | OM.F.INT |
| 21 | 1 | 27 | 26 | III | EC.F.INT | | 1 | 11 | 2 | II | OM.F.EXIT | | 19 | 40 | 49 | III | OM.F.EXIT |
| | 1 | 41 | 47 | III | EC.F.EXIT | | 14 | 50 | 22 | I | OC.D.EXIT | | 22 | 21 | 33 | I | OC.D.EXIT |
| | 1 | 46 | 28 | III | EC.F.PEN | | 14 | 53 | 51 | I | OC.D.INT | | 22 | 25 | 2 | I | OC.D.INT |
| | 7 | 19 | 4 | I | OC.D.EXIT | | 17 | 18 | 51 | I | EC.F.INT | | | | | | |
| | 7 | 22 | 33 | I | OC.D.INT | | 17 | 22 | 22 | I | EC.F.EXIT | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



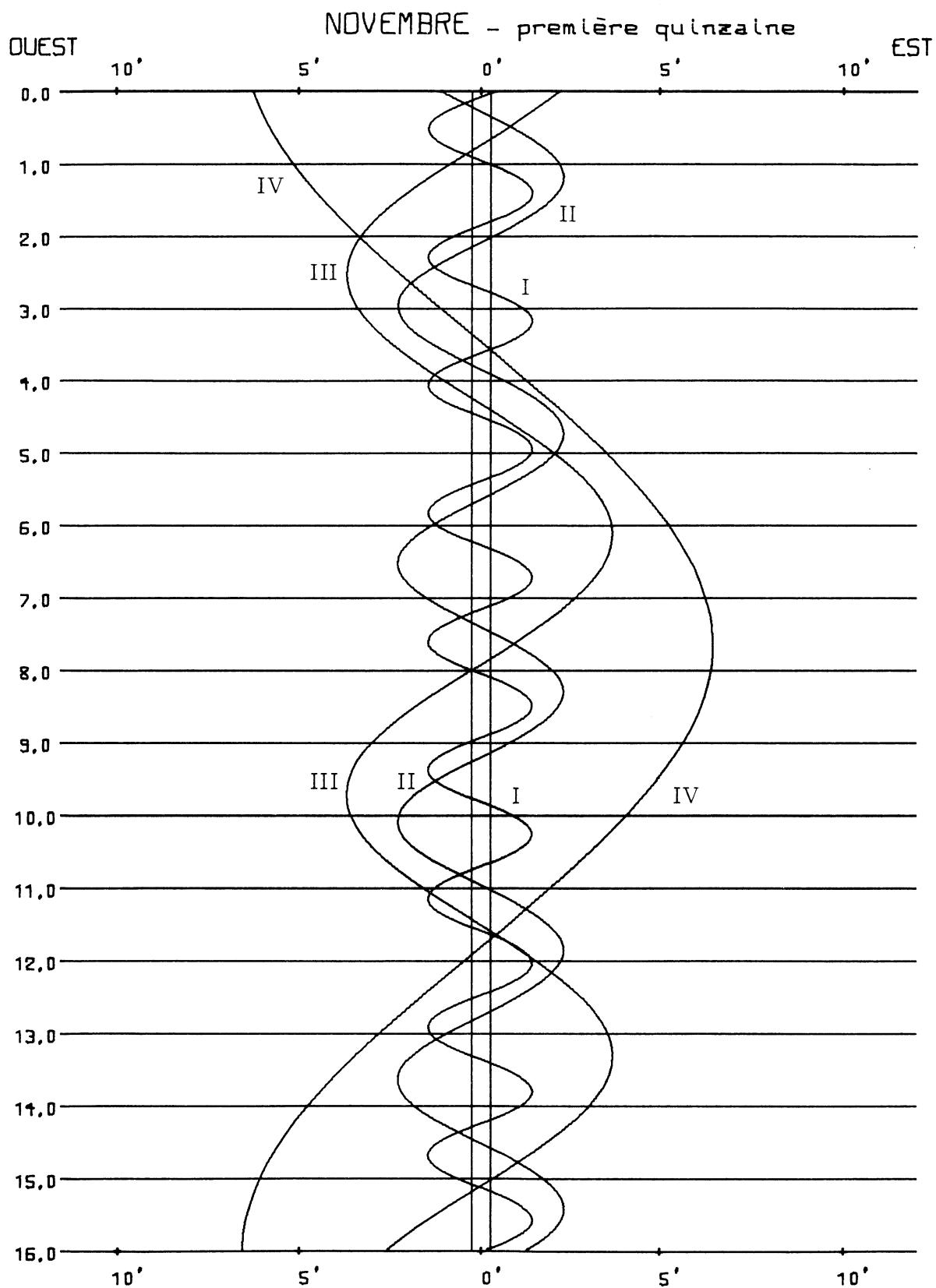
Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter



1982 - SATELLITES DE JUPITER -

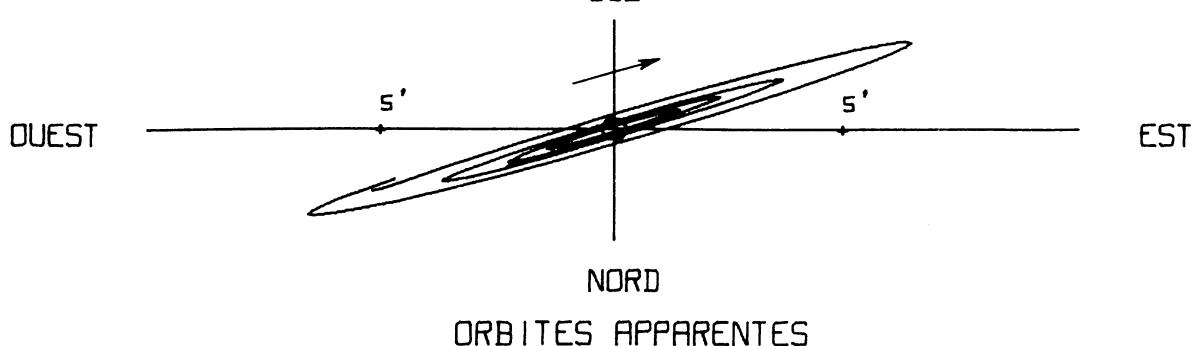
| PHENOMENES | | | | | MOIS : | | NOVEMBRE - PREMIERE QUINZAINE - | | | | | | | | | | |
|------------|----|----|-----|----------|----------|------|---------------------------------|----|-----|----------|----------|------|----|----|-----|----------|----------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 1 | 0 | 44 | 39 | I | EC.F.INT | 6 | 5 | 52 | 50 | I | OC.D.EXT | 0 | 36 | 45 | II | EC.F.EXT | |
| | 0 | 48 | 10 | I | EC.F.EXT | | 5 | 56 | 20 | I | OC.D.INT | | 0 | 38 | 28 | II | EC.F.PEN |
| | 0 | 48 | 55 | I | EC.F.PEN | | 8 | 10 | 29 | I | EC.F.INT | | 11 | 2 | 11 | III | OC.D.EXT |
| 19 | 32 | 26 | I | PA.D.EXT | | 8 | 14 | 0 | I | EC.F.EXT | | 11 | 14 | 51 | III | OC.D.INT | |
| 19 | 35 | 54 | I | PA.D.INT | | 8 | 14 | 45 | I | EC.F.PEN | | 13 | 23 | 6 | III | EC.F.INT | |
| 19 | 44 | 26 | I | OM.D.EXT | | | | | | | | 13 | 24 | 1 | I | OC.D.EXT | |
| 19 | 47 | 55 | I | OM.D.INT | 7 | 3 | 3 | 14 | I | PA.D.EXT | | 13 | 27 | 30 | I | OC.D.INT | |
| 21 | 42 | 43 | I | PA.F.INT | | 3 | 6 | 41 | I | PA.D.INT | | 13 | 37 | 25 | III | EC.F.EXT | |
| 21 | 46 | 11 | I | PA.F.EXT | | 3 | 9 | 53 | I | OM.D.EXT | | 13 | 42 | 5 | III | EC.F.PEN | |
| 21 | 54 | 11 | I | DM.F.INT | | 3 | 13 | 22 | I | OM.D.INT | | 15 | 36 | 11 | I | EC.F.INT | |
| 21 | 57 | 41 | I | OM.F.EXT | | 5 | 13 | 31 | I | PA.F.INT | | 15 | 39 | 42 | I | EC.F.EXT | |
| | | | | | | | 5 | 16 | 58 | I | PA.F.EXT | | 15 | 40 | 27 | I | EC.F.PEN |
| 2 | 0 | 54 | 53 | II | PA.D.EXT | | 5 | 19 | 41 | I | OM.F.INT | | | | | | |
| | 0 | 59 | 18 | II | PA.D.INT | | 5 | 23 | 10 | I | OM.F.EXT | 12 | 10 | 34 | 3 | I | PA.D.EXT |
| 1 | 19 | 52 | II | OM.D.EXT | | 8 | 40 | 4 | II | OC.D.EXT | | 10 | 35 | 19 | I | OM.D.EXT | |
| 1 | 24 | 22 | II | OM.D.INT | | 8 | 44 | 22 | II | OC.D.INT | | 10 | 37 | 31 | I | PA.D.INT | |
| 3 | 21 | 8 | II | PA.F.INT | | 11 | 15 | 9 | II | EC.F.INT | | 10 | 38 | 48 | I | OM.D.INT | |
| 3 | 25 | 32 | II | PA.F.EXT | | 11 | 19 | 36 | II | EC.F.EXT | | 12 | 44 | 20 | I | PA.F.INT | |
| 3 | 42 | 59 | II | OM.F.INT | | 11 | 21 | 19 | II | EC.F.PEN | | 12 | 45 | 9 | I | OM.F.INT | |
| 3 | 47 | 30 | II | OM.F.EXT | | 20 | 47 | 30 | III | PA.D.EXT | | 12 | 47 | 48 | I | PA.F.EXT | |
| 16 | 52 | 2 | I | DC.D.EXT | | 21 | 0 | 12 | III | PA.D.INT | | 12 | 48 | 39 | I | OM.F.EXT | |
| 16 | 55 | 31 | I | OC.D.INT | | 21 | 14 | 53 | III | OM.D.EXT | | 17 | 12 | 5 | II | PA.D.EXT | |
| 19 | 13 | 19 | I | EC.F.INT | | 21 | 28 | 32 | III | OM.D.INT | | 17 | 14 | 43 | II | OM.D.EXT | |
| 19 | 16 | 50 | I | EC.F.EXT | | 23 | 9 | 14 | III | PA.F.INT | | 17 | 16 | 29 | II | PA.D.INT | |
| 19 | 17 | 35 | I | EC.F.PEN | | 23 | 21 | 56 | III | PA.F.EXT | | 17 | 19 | 13 | II | OM.D.INT | |
| | | | | | | 23 | 25 | 45 | III | OM.F.INT | | 19 | 37 | 29 | II | PA.F.INT | |
| 3 | 14 | 2 | 41 | I | PA.D.EXT | | 23 | 39 | 45 | III | OM.F.EXT | | 19 | 37 | 37 | II | OM.F.INT |
| 14 | 6 | 9 | I | PA.D.INT | | | | | | | | 19 | 41 | 54 | II | PA.F.EXT | |
| 14 | 12 | 55 | I | OM.D.EXT | 6 | 0 | 23 | 13 | I | OC.D.EXT | | | | | II | OM.F.EXT | |
| 14 | 16 | 24 | I | OM.D.INT | | 0 | 26 | 42 | I | OC.D.INT | | | | | | | |
| 16 | 12 | 58 | I | PA.F.INT | | 2 | 39 | 2 | I | FC.F.INT | 13 | 7 | 54 | 27 | I | OC.D.EXT | |
| 16 | 16 | 26 | I | PA.F.EXT | | 2 | 42 | 33 | I | EC.F.EXT | | 7 | 57 | 56 | I | OC.D.INT | |
| 16 | 22 | 40 | I | OM.F.INT | | 2 | 43 | 18 | I | EC.F.PEN | | 10 | 5 | 24 | I | OC.F.INT | |
| 16 | 26 | 10 | I | OM.F.EXT | | 21 | 33 | 30 | I | PA.D.EXT | | 10 | 8 | 53 | I | OC.F.EXT | |
| 19 | 15 | 42 | II | OC.D.EXT | | 21 | 36 | 58 | I | PA.D.INT | | 10 | 9 | 3 | I | EC.F.PEN | |
| 19 | 20 | 0 | II | OC.D.INT | | 21 | 38 | 22 | I | OM.D.EXT | | | | | | | |
| 21 | 58 | 2 | II | EC.F.INT | | 21 | 41 | 51 | I | OM.D.INT | 14 | 5 | 4 | 0 | I | OM.D.EXT | |
| 22 | 2 | 28 | II | EC.F.EXT | | 23 | 43 | 47 | I | PA.F.INT | | 5 | 4 | 18 | I | PA.D.EXT | |
| 22 | 4 | 10 | II | EC.F.PEN | | 23 | 47 | 15 | I | PA.F.EXT | | 5 | 7 | 30 | I | OM.D.INT | |
| | | | | | | 23 | 48 | 10 | I | OM.F.INT | | 5 | 7 | 46 | I | PA.D.INT | |
| 4 | 6 | 34 | 6 | III | OC.D.EXT | | 23 | 51 | 40 | I | OM.F.EXT | | 7 | 13 | 52 | I | OM.F.INT |
| 6 | 46 | 40 | III | OC.D.INT | | | | | | | | 7 | 14 | 34 | I | PA.F.INT | |
| 9 | 24 | 55 | III | EC.F.INT | 9 | 3 | 46 | 10 | II | PA.D.EXT | | 7 | 17 | 21 | I | OM.F.EXT | |
| 9 | 39 | 15 | III | EC.F.EXT | | 3 | 50 | 34 | II | PA.D.INT | | 7 | 18 | 2 | I | PA.F.EXT | |
| 9 | 43 | 56 | III | EC.F.PEN | | 3 | 56 | 16 | II | OM.D.EXT | | 11 | 27 | 48 | II | EC.D.PEN | |
| 11 | 22 | 23 | I | OC.D.EXT | | 4 | 0 | 46 | II | OM.D.INT | | 11 | 29 | 31 | II | EC.D.EXT | |
| 11 | 25 | 52 | I | CC.D.INT | | 6 | 11 | 52 | II | PA.F.INT | | 11 | 33 | 57 | II | EC.D.INT | |
| 13 | 41 | 51 | I | EC.F.INT | | 6 | 16 | 17 | II | PA.F.EXT | | 13 | 53 | 55 | II | OC.F.INT | |
| 13 | 45 | 22 | I | EC.F.EXT | | 6 | 19 | 16 | II | OM.F.INT | | 13 | 58 | 15 | II | OC.F.EXT | |
| 13 | 46 | 7 | I | EC.F.PEN | | 6 | 23 | 47 | II | OM.F.EXT | | | | | | | |
| | | | | | | 18 | 53 | 41 | I | OC.D.EXT | 15 | 1 | 15 | 9 | III | OM.D.EXT | |
| 5 | 8 | 32 | 59 | I | PA.D.EXT | | 18 | 57 | 10 | I | OC.D.INT | | 1 | 15 | 58 | III | PA.D.EXT |
| 8 | 36 | 27 | I | PA.D.INT | | 21 | 7 | 40 | I | EC.F.INT | | 1 | 28 | 46 | III | PA.D.INT | |
| 8 | 41 | 26 | I | OM.D.EXT | | 21 | 11 | 11 | I | EC.F.EXT | | 1 | 29 | 9 | III | OM.D.INT | |
| 8 | 44 | 55 | I | OM.D.INT | | 21 | 11 | 56 | I | EC.F.PEN | | 2 | 23 | 17 | I | EC.D.PEN | |
| 10 | 43 | 16 | I | PA.F.INT | | | | | | | | 2 | 24 | 2 | I | EC.D.EXT | |
| 10 | 46 | 44 | I | PA.F.EXT | 10 | 16 | 3 | 45 | I | PA.D.EXT | | 2 | 27 | 33 | I | EC.D.INT | |
| 10 | 51 | 12 | I | OM.F.INT | | 16 | 6 | 49 | I | OM.D.EXT | | 3 | 26 | 27 | III | OM.F.INT | |
| 10 | 54 | 42 | I | OM.F.EXT | | 16 | 7 | 13 | I | PA.D.INT | | 3 | 36 | 43 | III | PA.F.INT | |
| 14 | 20 | 55 | II | PA.D.EXT | | 16 | 10 | 18 | I | OM.D.INT | | 3 | 40 | 6 | III | OM.F.EXT | |
| 14 | 25 | 18 | II | PA.D.INT | | 18 | 14 | 2 | I | PA.F.INT | | 3 | 49 | 30 | III | PA.F.EXT | |
| 14 | 38 | 28 | II | OM.D.EXT | | 18 | 16 | 38 | I | OM.F.INT | | 4 | 35 | 43 | I | OC.F.INT | |
| 14 | 42 | 58 | II | OM.D.INT | | 18 | 17 | 30 | I | PA.F.EXT | | 4 | 37 | 34 | I | EC.F.PEN | |
| 16 | 46 | 53 | II | PA.F.INT | | 18 | 20 | 8 | I | OM.F.EXT | | 4 | 39 | 12 | I | OC.F.EXT | |
| 16 | 51 | 17 | II | PA.F.EXT | | 22 | 4 | 30 | II | OC.D.EXT | | 23 | 32 | 28 | I | OM.D.EXT | |
| 17 | 1 | 31 | II | OM.F.INT | | 22 | 8 | 49 | II | OC.D.INT | | 23 | 34 | 34 | I | PA.D.EXT | |
| 17 | 6 | 2 | II | OM.F.EXT | | | | | | | | 23 | 35 | 58 | I | OM.D.INT | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



Dans le sens OUEST-EST, les satellites passent au-delà de Jupiter

SUD

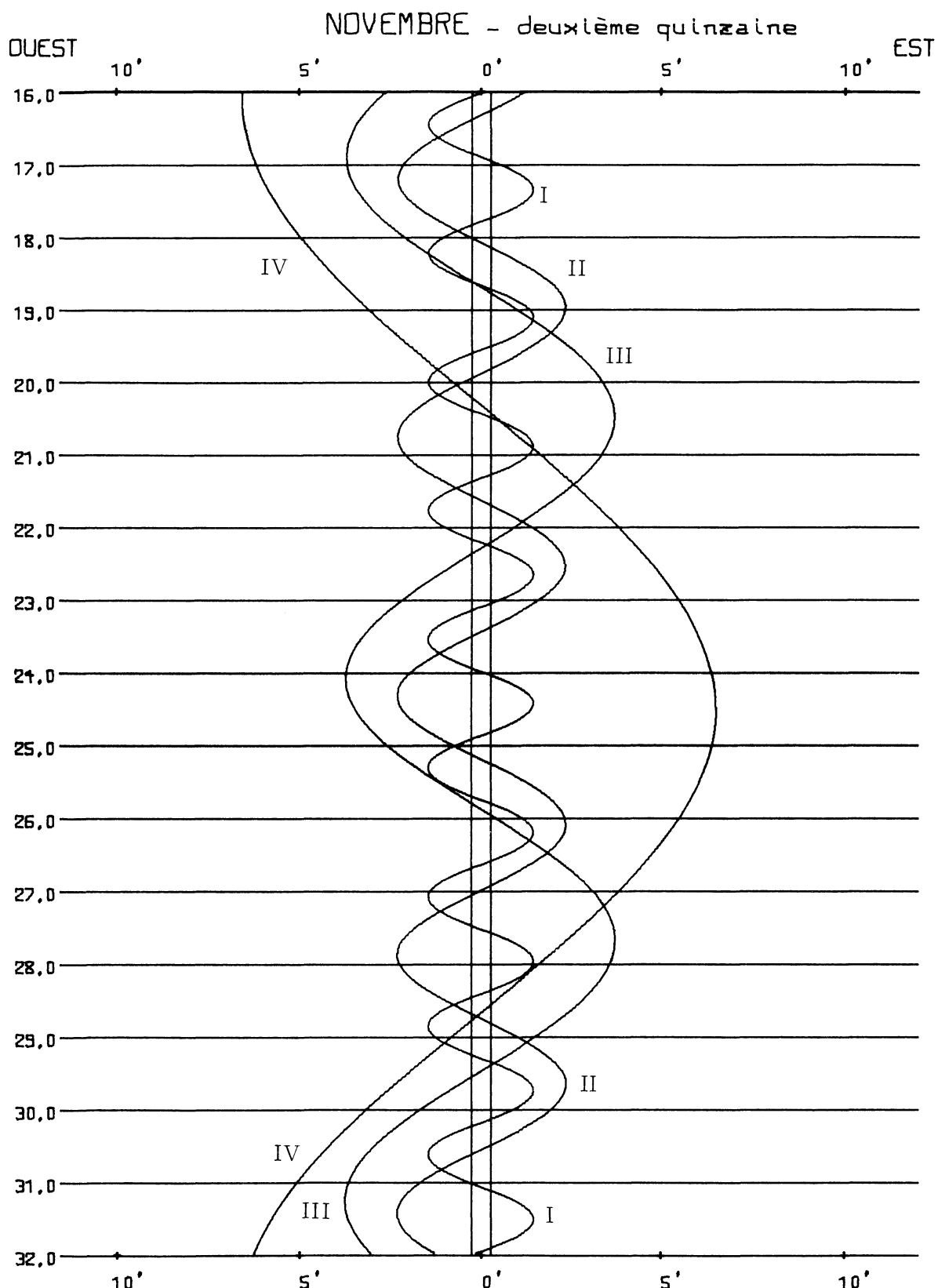


ORBITES APPARENTES

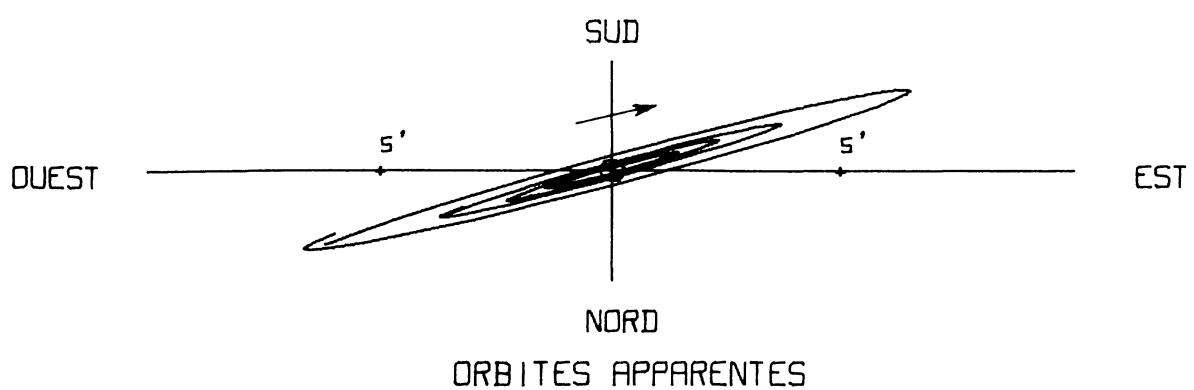
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | MOIS : | | | NOVEMBRE - DEUXIEME QUINZAINE - | | | | | | | | | |
|------------|----|----|----|-----|----------|------|----|---------------------------------|-----|----------|----------|------|----|----|-----|----------|----------|
| JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 16 | 1 | 42 | 21 | I | OM.F.INT | 7 | 8 | 48 | I | PA.D.INT | | 22 | 31 | 25 | III | OC.F.EXT | |
| | 1 | 44 | 51 | I | PA.F.INT | 9 | 7 | 43 | I | OM.F.INT | | | | | I | OM.D.EXT | |
| | 1 | 45 | 50 | I | OM.F.EXT | 9 | 11 | 13 | I | OM.F.EXT | 26 | 14 | 23 | 11 | I | OM.D.INT | |
| | 1 | 48 | 19 | I | PA.F.EXT | 9 | 15 | 35 | I | PA.F.INT | | 14 | 26 | 41 | I | PA.D.EXT | |
| | 6 | 33 | 9 | II | OM.D.EXT | 9 | 19 | 3 | I | PA.F.EXT | | 14 | 36 | 4 | I | PA.D.INT | |
| | 6 | 37 | 17 | II | PA.D.EXT | 14 | 2 | 8 | II | EC.D.PEN | | 14 | 39 | 32 | I | PA.D.INT | |
| | 6 | 37 | 39 | II | OM.D.INT | 14 | 3 | 51 | II | EC.D.EXT | | 16 | 33 | 6 | I | OM.F.INT | |
| | 6 | 41 | 41 | II | PA.D.INT | 14 | 8 | 18 | II | EC.D.INT | | 16 | 36 | 36 | I | OM.F.EXT | |
| | 8 | 56 | 1 | II | OM.F.INT | 16 | 42 | 29 | II | OC.F.INT | | 16 | 46 | 17 | I | PA.F.INT | |
| | 9 | 0 | 31 | II | OM.F.EXT | 16 | 46 | 50 | II | OC.F.EXT | | 16 | 49 | 46 | I | PA.F.EXT | |
| | 9 | 2 | 25 | II | PA.F.INT | | | | | | | 22 | 27 | 18 | II | OM.D.EXT | |
| | 9 | 6 | 49 | II | PA.F.EXT | 22 | 4 | 17 | 27 | I | EC.D.PEN | | 22 | 31 | 48 | II | OM.D.INT |
| | 20 | 51 | 54 | I | EC.D.PEN | 4 | 18 | 13 | I | EC.D.EXT | | 22 | 53 | 39 | II | PA.D.EXT | |
| | 20 | 52 | 30 | I | EC.D.EXT | 4 | 21 | 43 | I | EC.D.INT | | 22 | 58 | 4 | II | PA.D.INT | |
| | 20 | 56 | 10 | I | EC.D.INT | 5 | 13 | 40 | III | OM.D.EXT | | | | | | | |
| | 23 | 6 | 8 | I | OC.F.INT | 5 | 27 | 38 | III | OM.D.INT | 27 | 0 | 49 | 54 | II | OM.F.INT | |
| | 23 | 6 | 11 | I | EC.F.PEN | 5 | 44 | 39 | III | PA.D.EXT | | 0 | 54 | 24 | II | OM.F.EXT | |
| | 23 | 9 | 37 | I | DC.F.EXT | 5 | 57 | 32 | III | PA.D.INT | | 1 | 17 | 50 | II | PA.F.INT | |
| | | | | | | 6 | 37 | 4 | I | OC.F.INT | | 1 | 22 | 16 | II | PA.F.EXT | |
| 17 | 18 | 0 | 54 | I | OM.D.EXT | 6 | 40 | 33 | I | OC.F.EXT | | 11 | 43 | 3 | I | EC.D.PEN | |
| | 18 | 4 | 24 | I | OM.D.INT | 7 | 25 | 4 | III | OM.F.INT | | 11 | 43 | 48 | I | EC.D.EXT | |
| | 18 | 4 | 48 | I | PA.D.EXT | 7 | 38 | 42 | III | OM.F.EXT | | 11 | 47 | 18 | I | EC.D.INT | |
| | 18 | 8 | 16 | I | PA.D.INT | 8 | 4 | 21 | III | PA.F.INT | | 14 | 8 | 0 | I | OC.F.INT | |
| | 20 | 10 | 47 | I | OM.F.INT | 8 | 17 | 15 | III | PA.F.EXT | | 14 | 11 | 29 | I | OC.F.EXT | |
| | 20 | 14 | 16 | I | OM.F.EXT | | | | | | | | | | | | |
| | 20 | 15 | 4 | I | PA.F.INT | 23 | 1 | 26 | 17 | I | OM.D.EXT | 28 | 8 | 51 | 36 | I | OM.D.EXT |
| | 20 | 18 | 32 | I | PA.F.EXT | | 1 | 29 | 47 | I | OM.D.INT | | 8 | 55 | 6 | I | OM.D.INT |
| | | | | | | 1 | 35 | 35 | I | PA.D.EXT | | 9 | 6 | 15 | I | PA.D.EXT | |
| 18 | 0 | 44 | 58 | II | EC.D.PEN | 1 | 39 | 3 | I | PA.D.INT | | 9 | 9 | 44 | I | PA.D.INT | |
| | 0 | 46 | 41 | II | EC.D.EXT | 3 | 36 | 12 | I | OM.F.INT | | 11 | 1 | 32 | I | OM.F.INT | |
| | 0 | 51 | 8 | II | EC.D.INT | 3 | 39 | 41 | I | OM.F.EXT | | 11 | 5 | 1 | I | OM.F.EXT | |
| | 3 | 18 | 13 | II | OC.F.INT | 3 | 45 | 50 | I | PA.F.INT | | 11 | 16 | 28 | I | PA.F.INT | |
| | 3 | 22 | 34 | II | OC.F.EXT | 3 | 49 | 18 | I | PA.F.EXT | | 11 | 19 | 57 | I | PA.F.EXT | |
| | 15 | 12 | 20 | III | EC.D.PEN | 9 | 9 | 8 | II | OM.D.EXT | | 16 | 36 | 31 | II | EC.D.PEN | |
| | 15 | 17 | 1 | III | EC.D.EXT | 9 | 13 | 39 | II | OM.D.INT | | 16 | 38 | 15 | II | EC.D.EXT | |
| | 15 | 20 | 23 | I | EC.D.PEN | 9 | 28 | 8 | II | PA.D.EXT | | 16 | 42 | 42 | II | EC.D.INT | |
| | 15 | 21 | 8 | I | EC.D.EXT | 9 | 32 | 33 | II | PA.D.INT | | 19 | 31 | 3 | II | OC.F.INT | |
| | 15 | 24 | 39 | I | EC.D.INT | 11 | 31 | 51 | II | OM.F.INT | | 19 | 35 | 26 | II | OC.F.EXT | |
| | 15 | 31 | 19 | III | EC.D.INT | 11 | 36 | 20 | II | OM.F.EXT | | | | | | | |
| | 17 | 36 | 25 | I | OC.F.INT | 11 | 52 | 40 | II | PA.F.INT | 29 | 6 | 11 | 31 | I | EC.D.PEN | |
| | 17 | 39 | 54 | I | OC.F.EXT | 11 | 57 | 5 | II | PA.F.EXT | | 6 | 12 | 16 | I | EC.D.EXT | |
| | 17 | 51 | 28 | III | OC.F.INT | 22 | 46 | 3 | I | EC.D.PEN | | 6 | 15 | 47 | I | EC.D.INT | |
| | 18 | 4 | 13 | III | OC.F.EXT | 22 | 46 | 48 | I | EC.D.EXT | | 8 | 38 | 14 | I | OC.F.INT | |
| | | | | | | 22 | 50 | 18 | I | EC.D.INT | | 8 | 41 | 43 | I | OC.F.EXT | |
| 19 | 12 | 29 | 24 | I | OM.D.EXT | | | | | | | 9 | 11 | 32 | III | OM.D.EXT | |
| | 12 | 32 | 53 | I | OM.D.INT | 24 | 1 | 7 | 26 | I | OC.F.INT | | 9 | 25 | 29 | III | OM.D.INT |
| | 12 | 35 | 6 | I | PA.D.EXT | | 1 | 10 | 55 | I | OC.F.EXT | | 10 | 12 | 24 | III | PA.D.EXT |
| | 12 | 38 | 34 | I | PA.D.INT | | 19 | 54 | 42 | I | OM.D.EXT | | 10 | 25 | 23 | III | PA.D.INT |
| | 14 | 39 | 17 | I | OM.F.INT | | 19 | 58 | 12 | I | OM.D.INT | | 11 | 23 | 2 | III | OM.F.INT |
| | 14 | 42 | 46 | I | OM.F.EXT | | 20 | 5 | 47 | I | PA.D.EXT | | 11 | 36 | 39 | III | OM.F.EXT |
| | 14 | 45 | 22 | I | PA.F.INT | | 20 | 9 | 16 | I | PA.D.INT | | 12 | 31 | 3 | III | PA.F.INT |
| | 14 | 48 | 50 | I | PA.F.EXT | | 22 | 4 | 37 | I | OM.F.INT | | 12 | 44 | 2 | III | PA.F.EXT |
| | 19 | 51 | 28 | II | OM.D.EXT | | 22 | 8 | 6 | I | OM.F.EXT | | | | | | |
| | 19 | 55 | 58 | II | OM.D.INT | | 22 | 16 | 2 | I | PA.F.INT | 30 | 3 | 20 | 3 | I | OM.D.EXT |
| | 20 | 3 | 3 | II | PA.D.EXT | | 22 | 19 | 30 | I | PA.F.EXT | | 3 | 23 | 33 | I | OM.D.INT |
| | 20 | 7 | 28 | II | PA.D.INT | | | | | | | 3 | 36 | 29 | I | PA.D.EXT | |
| | 22 | 14 | 14 | II | OM.F.INT | 25 | 3 | 19 | 21 | II | EC.D.PEN | | 3 | 39 | 57 | I | PA.D.INT |
| | 22 | 18 | 44 | II | OM.F.EXT | | 3 | 21 | 4 | II | EC.D.EXT | | 5 | 29 | 59 | I | OM.F.INT |
| | 22 | 27 | 52 | II | PA.F.INT | | 3 | 25 | 31 | II | EC.D.INT | | 5 | 33 | 28 | I | OM.F.EXT |
| | 22 | 32 | 17 | II | PA.F.EXT | | 6 | 6 | 49 | II | OC.F.INT | | 5 | 46 | 41 | I | PA.F.INT |
| | | | | | | | 6 | 11 | 11 | II | OC.F.EXT | | 5 | 50 | 10 | I | PA.F.EXT |
| 20 | 9 | 48 | 58 | I | EC.D.PEN | | 17 | 14 | 30 | I | EC.D.PEN | | 11 | 44 | 53 | II | OM.D.EXT |
| | 9 | 49 | 43 | I | EC.D.EXT | | 17 | 15 | 15 | I | EC.D.EXT | | 11 | 49 | 23 | II | OM.D.INT |
| | 9 | 53 | 13 | I | EC.D.INT | | 17 | 18 | 46 | I | EC.D.INT | | 12 | 18 | 31 | II | PA.D.EXT |
| | 12 | 6 | 47 | I | OC.F.INT | | 19 | 10 | 26 | III | EC.D.PEN | | 12 | 22 | 57 | II | PA.D.INT |
| | 12 | 10 | 16 | I | OC.F.EXT | | 19 | 15 | 6 | III | EC.D.EXT | | 14 | 7 | 25 | II | OM.F.INT |
| | | | | | | | 19 | 29 | 24 | III | EC.D.INT | | 14 | 11 | 54 | II | OM.F.EXT |
| 21 | 6 | 57 | 49 | I | OM.D.EXT | | 19 | 37 | 41 | I | OC.F.INT | | 14 | 42 | 25 | II | PA.F.INT |
| | 7 | 1 | 19 | I | OM.D.INT | | 19 | 41 | 10 | I | OC.F.EXT | | 14 | 46 | 51 | II | PA.F.EXT |
| | 7 | 5 | 20 | I | PA.D.EXT | | 22 | 18 | 33 | III | OC.F.INT | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



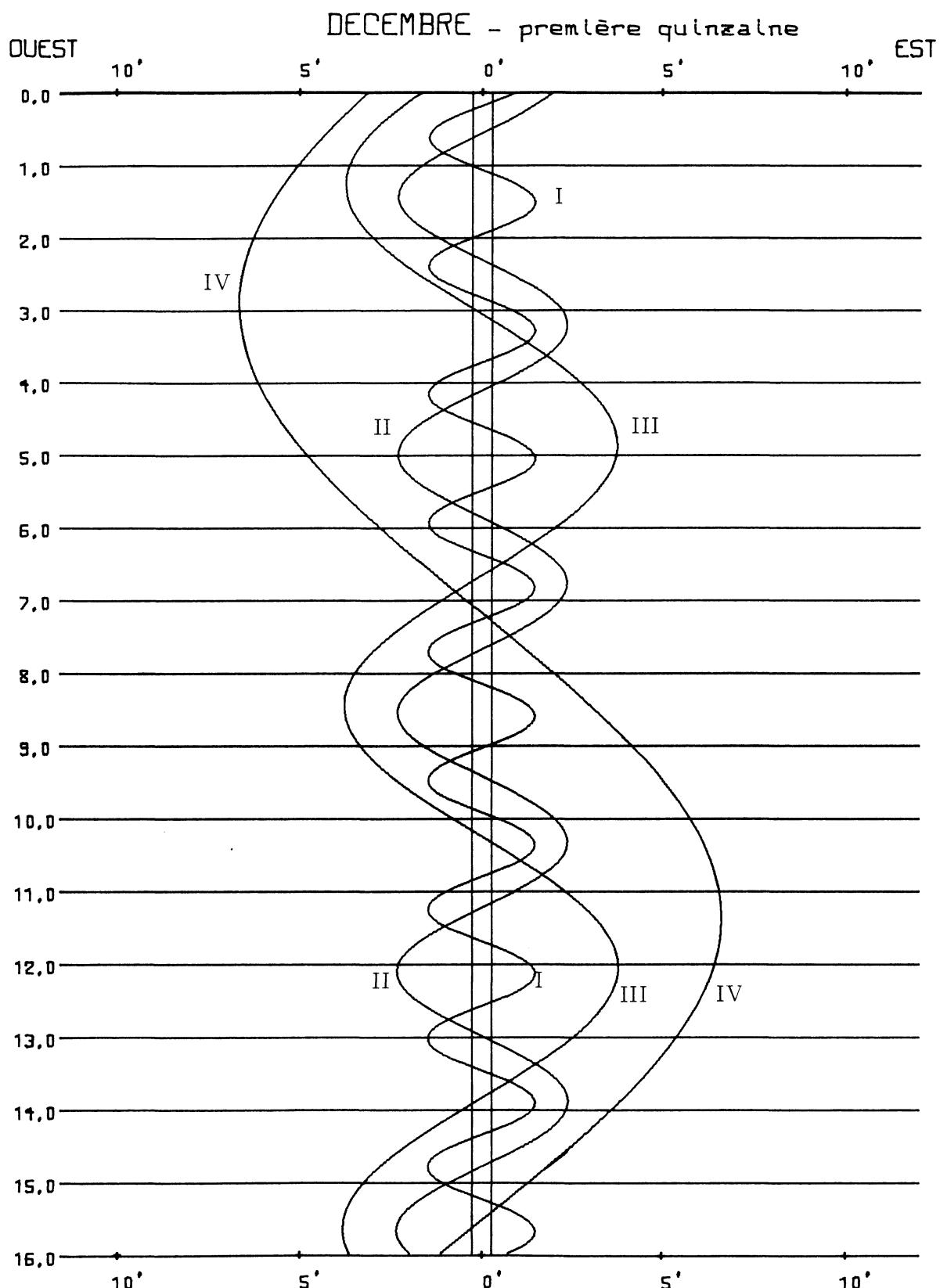
Dans le sens OUEST-EST, les satellites passent au-delà de Jupiter



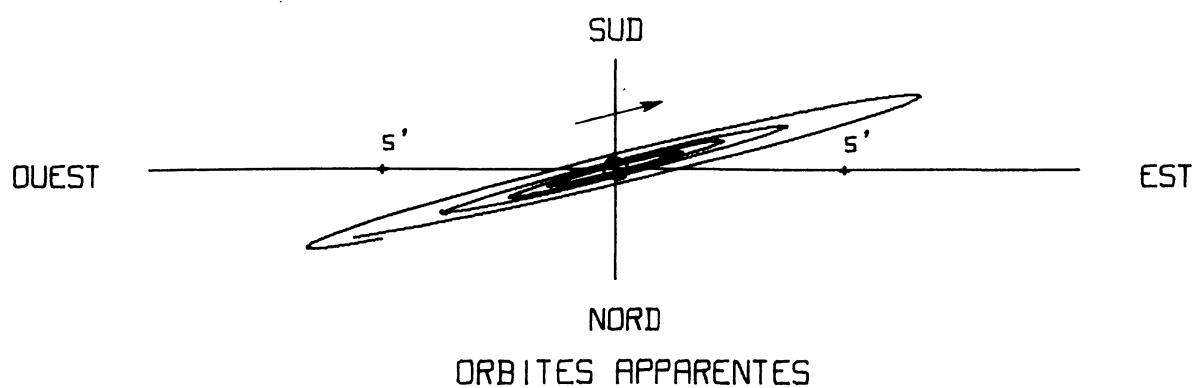
1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | MOIS : DECEMBRE - PREMIERE QUINZAINE - | | | | | | | | | | | | |
|------------|----------|--------------|----|----------|--|------|----------|--------------|---|-----|------|------|---|---|---|-----|------|
| JCUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE |
| 1 | 0 40 5 | I EC.D.PEN | 6 | 8 5 28 | I EC.D.PEN | 20 | 47 37 | I PA.F.INT | | | | | | | | | |
| | 0 40 50 | I EC.D.EXT | | 8 6 13 | I EC.D.EXT | 20 | 51 6 | I PA.F.EXT | | | | | | | | | |
| | 0 44 20 | I EC.D.INT | | 8 9 43 | I EC.D.INT | | | | | | | | | | | | |
| 3 | 8 33 | I OC.F.INT | 10 | 39 8 | I OC.F.INT | 11 | 3 38 20 | II OM.D.EXT | | | | | | | | | |
| 3 | 12 2 | I OC.F.EXT | 10 | 42 38 | I OC.F.EXT | | 3 42 50 | II OM.D.INT | | | | | | | | | |
| 21 | 48 28 | I OM.D.EXT | 13 | 9 14 | III OM.D.EXT | | 4 33 13 | II PA.D.EXT | | | | | | | | | |
| 21 | 51 57 | I OM.D.INT | 13 | 23 9 | III OM.D.INT | | 4 37 40 | II PA.D.INT | | | | | | | | | |
| 22 | 6 39 | I PA.D.EXT | 14 | 39 29 | III PA.D.EXT | | 6 0 33 | II OM.F.INT | | | | | | | | | |
| 22 | 10 7 | I PA.D.INT | 14 | 52 34 | III PA.D.INT | | 6 5 2 | II OM.F.EXT | | | | | | | | | |
| 23 | 58 23 | I OM.F.INT | 15 | 20 49 | III OM.F.INT | | 6 56 10 | II PA.F.INT | | | | | | | | | |
| | | | 15 | 34 26 | III OM.F.EXT | | 7 0 36 | II PA.F.EXT | | | | | | | | | |
| 2 | 0 1 53 | I OM.F.EXT | 16 | 57 4 | III PA.F.INT | 15 | 30 53 | I EC.D.PEN | | | | | | | | | |
| | 0 16 50 | I PA.F.INT | 17 | 10 9 | III PA.F.EXT | | 15 31 38 | I EC.D.EXT | | | | | | | | | |
| | 0 20 19 | I PA.F.EXT | | | | | 15 35 8 | I EC.D.INT | | | | | | | | | |
| 5 | 53 46 | II EC.D.PEN | 7 | 5 13 48 | I OM.D.EXT | 18 | 9 40 | I OC.F.INT | | | | | | | | | |
| 5 | 55 32 | II EC.D.EXT | | 5 17 17 | I OM.D.INT | 18 | 13 9 | I OC.F.EXT | | | | | | | | | |
| 6 | 0 0 | II EC.D.INT | | 5 37 12 | I PA.D.EXT | | | | | | | | | | | | |
| 8 | 55 23 | II OC.F.INT | | 5 40 41 | I PA.D.INT | 12 | 12 39 3 | I OM.D.EXT | | | | | | | | | |
| 8 | 59 46 | II OC.F.EXT | | 7 23 43 | I OM.F.INT | | 12 42 33 | I OM.D.INT | | | | | | | | | |
| 19 | 8 30 | I EC.D.PEN | | 7 27 13 | I OM.F.EXT | | 13 7 36 | I PA.D.EXT | | | | | | | | | |
| 19 | 9 16 | I EC.D.EXT | | 7 47 21 | I PA.F.INT | | 13 11 5 | I PA.D.INT | | | | | | | | | |
| 19 | 12 46 | I EC.D.INT | | 7 50 50 | I PA.F.EXT | | 14 48 59 | I OM.F.INT | | | | | | | | | |
| 21 | 38 43 | I OC.F.INT | 14 | 20 26 | II OM.D.EXT | | 14 52 28 | I OM.F.EXT | | | | | | | | | |
| 21 | 42 13 | I OC.F.EXT | | 14 24 56 | II OM.D.INT | | 15 17 41 | I PA.F.INT | | | | | | | | | |
| 23 | 9 6 | III EC.D.PEN | 15 | 8 21 | II PA.D.EXT | | 15 21 10 | I PA.F.EXT | | | | | | | | | |
| 23 | 13 47 | III EC.D.EXT | | 15 12 47 | II PA.D.INT | | 21 45 27 | II EC.D.PEN | | | | | | | | | |
| 23 | 28 3 | III EC.D.INT | | 16 42 46 | II OM.F.INT | | 21 47 11 | II EC.D.EXT | | | | | | | | | |
| | | | | 16 47 15 | II OM.F.EXT | | 21 51 39 | II EC.D.INT | | | | | | | | | |
| 3 | 2 45 51 | III OC.F.INT | 17 | 31 38 | II PA.F.INT | | | | | | | | | | | | |
| | 2 58 48 | III OC.F.EXT | 17 | 36 4 | II PA.F.EXT | 13 | 1 7 44 | II OC.F.INT | | | | | | | | | |
| 16 | 16 56 | I OM.D.EXT | | | | | 1 12 9 | II OC.F.EXT | | | | | | | | | |
| 16 | 20 26 | I OM.D.INT | 8 | 2 33 59 | I EC.D.PEN | | 9 55 17 | I EC.D.PEN | | | | | | | | | |
| 16 | 36 53 | I PA.D.EXT | | 2 34 44 | I EC.D.EXT | | 10 0 2 | I EC.D.EXT | | | | | | | | | |
| 16 | 40 21 | I PA.D.INT | | 2 38 15 | I EC.D.INT | | 10 3 32 | I EC.D.INT | | | | | | | | | |
| 18 | 26 52 | I OM.F.INT | | 5 9 23 | I OC.F.INT | | 12 39 45 | I OC.F.INT | | | | | | | | | |
| 18 | 30 22 | I OM.F.EXT | | 5 12 52 | I OC.F.EXT | | 12 43 14 | I OC.F.EXT | | | | | | | | | |
| 18 | 47 3 | I PA.F.INT | 23 | 42 11 | I OM.D.EXT | | 17 7 2 | III OM.D.EXT | | | | | | | | | |
| 18 | 50 32 | I PA.F.EXT | | 23 45 41 | I OM.D.INT | | 17 20 56 | III OM.D.INT | | | | | | | | | |
| | | | | | | | 19 5 58 | III PA.D.EXT | | | | | | | | | |
| 4 | 1 2 55 | II OM.D.EXT | 9 | 0 7 19 | I PA.D.EXT | 14 | 7 7 30 | I OM.D.EXT | | | | | | | | | |
| 1 | 7 25 | II OM.D.INT | | 0 10 48 | I PA.D.INT | 19 | 18 42 | III OM.F.INT | | | | | | | | | |
| 1 | 43 43 | II PA.D.EXT | | 1 52 7 | I OM.F.INT | 19 | 19 9 | III PA.D.INT | | | | | | | | | |
| 1 | 48 9 | II PA.D.INT | | 1 55 36 | I OM.F.EXT | | 19 32 17 | III OM.F.EXT | | | | | | | | | |
| 3 | 25 20 | II OM.F.INT | | 2 17 27 | I PA.F.INT | | 21 22 28 | III PA.F.INT | | | | | | | | | |
| 3 | 29 45 | II OM.F.EXT | | 2 20 56 | I PA.F.EXT | | 21 35 38 | III PA.F.EXT | | | | | | | | | |
| 4 | 7 18 | II PA.F.INT | | 8 28 17 | II EC.D.PEN | | | | | | | | | | | | |
| 4 | 11 44 | II PA.F.EXT | | 8 30 1 | II EC.D.EXT | | 7 10 59 | I OM.D.INT | | | | | | | | | |
| 13 | 37 1 | I EC.D.PEN | | 8 34 29 | II EC.D.INT | | 7 37 43 | I PA.D.EXT | | | | | | | | | |
| 13 | 37 46 | I EC.D.EXT | 11 | 43 46 | II OC.F.INT | | 7 41 12 | I PA.D.INT | | | | | | | | | |
| 13 | 41 17 | I EC.D.INT | | 11 48 10 | II OC.F.EXT | | 9 17 25 | I OM.F.INT | | | | | | | | | |
| 16 | 8 58 | I OC.F.INT | 21 | 2 24 | I EC.D.PEN | | 9 20 54 | I OM.F.EXT | | | | | | | | | |
| 16 | 12 27 | I OC.F.EXT | | 21 3 9 | I EC.D.EXT | | 9 47 48 | I PA.F.INT | | | | | | | | | |
| | | | | 21 6 39 | I EC.D.INT | | 9 51 17 | I PA.F.EXT | | | | | | | | | |
| 5 | 10 45 21 | I OM.D.EXT | 23 | 39 30 | I OC.F.INT | | 16 55 44 | II OM.D.EXT | | | | | | | | | |
| 10 | 48 51 | I OM.D.INT | | 23 42 59 | I OC.F.EXT | | 17 0 14 | II OM.D.INT | | | | | | | | | |
| 11 | 7 2 | I PA.D.EXT | | | | | 17 57 30 | II PA.D.EXT | | | | | | | | | |
| 11 | 10 30 | I PA.D.INT | 10 | 3 7 11 | III EC.D.PEN | | 18 1 57 | II PA.D.EXT | | | | | | | | | |
| 12 | 55 17 | I OM.F.INT | | 3 11 51 | III EC.D.EXT | | 19 17 52 | II OM.F.INT | | | | | | | | | |
| 12 | 58 46 | I OM.F.EXT | | 3 26 6 | III EC.D.INT | | 19 22 21 | II OM.F.EXT | | | | | | | | | |
| 13 | 17 11 | I PA.F.INT | | 7 11 58 | III OC.F.INT | | 20 20 9 | II PA.F.INT | | | | | | | | | |
| 13 | 20 40 | I PA.F.EXT | | 7 25 1 | III OC.F.EXT | | 20 24 36 | II PA.F.EXT | | | | | | | | | |
| 19 | 10 58 | II EC.D.PEN | 18 | 10 40 | I OM.D.EXT | | | | | | | | | | | | |
| 19 | 12 41 | II EC.D.EXT | | 18 14 9 | I OM.D.INT | 15 | 4 27 47 | I EC.D.PEN | | | | | | | | | |
| 19 | 17 9 | II EC.D.INT | | 18 37 30 | I PA.D.EXT | | 4 28 32 | I EC.D.EXT | | | | | | | | | |
| 22 | 19 30 | II OC.F.INT | | 18 40 59 | I PA.D.INT | | 4 32 2 | I EC.D.INT | | | | | | | | | |
| 22 | 23 54 | II OC.F.EXT | | 20 20 35 | I OM.F.INT | | 7 9 54 | I OC.F.INT | | | | | | | | | |
| | | | | 20 24 5 | I OM.F.EXT | | 7 13 23 | I OC.F.EXT | | | | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



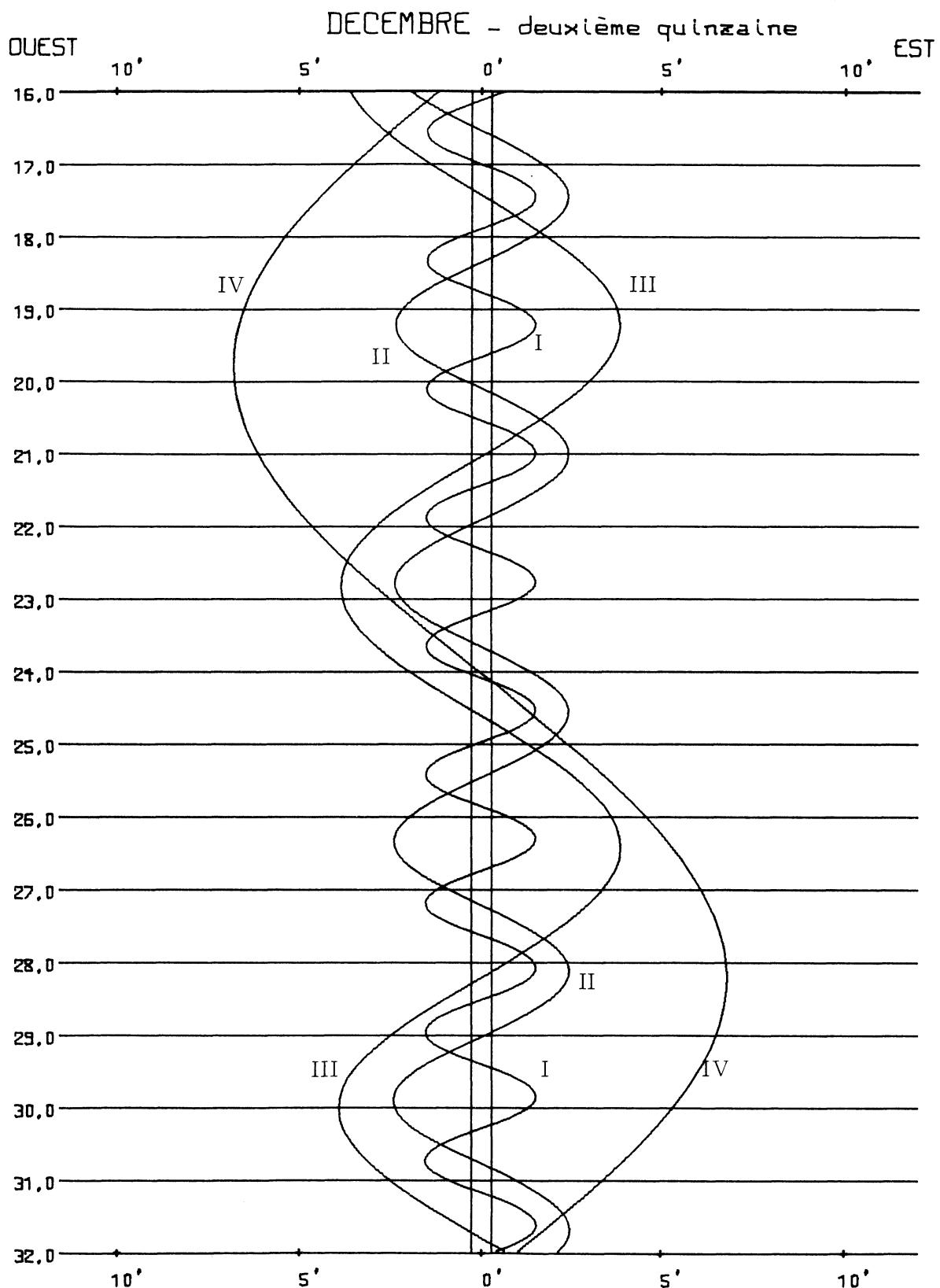
Dans le sens OUEST-EST, les satellites passent au-delà de Jupiter



1982 - SATELLITES DE JUPITER -

| PHENOMENES | | | | | MOIS : | | | DECEMBRE | | | - DEUXIEME QUINZAINE - | | | | | | | |
|------------|----|----|-----|----------|----------|------|----|----------|----------|----------|------------------------|------|----|----------|----------|----------|----------|--|
| JCUR | H | M | S | SAT | TYPE | JOUR | H | M | S | SAT | TYPE | JCUR | H | M | S | SAT | TYPE | |
| 16 | 1 | 35 | 53 | I | OM.D.EXT | 11 | 47 | 57 | I | PA.F.INT | 13 | 50 | 50 | I | EC.D.INT | | | |
| | 1 | 39 | 22 | I | OM.D.INT | 11 | 51 | 26 | I | PA.F.EXT | 16 | 39 | 49 | I | OC.F.INT | | | |
| 2 | 7 | 46 | I | PA.D.EXT | 19 | 30 | 49 | II | OM.D.EXT | 16 | 43 | 18 | I | OC.F.EXT | | | | |
| 2 | 11 | 15 | I | PA.D.INT | 19 | 35 | 18 | II | OM.D.INT | | | | | | | | | |
| 3 | 45 | 47 | I | OM.F.INT | 20 | 45 | 50 | II | PA.D.EXT | 28 | 1 | 3 | 23 | III | OM.D.EXT | | | |
| 3 | 49 | 17 | I | OM.F.EXT | 20 | 50 | 17 | II | PA.D.INT | | 1 | 17 | 14 | III | OM.D.INT | | | |
| 4 | 17 | 49 | I | PA.F.INT | 21 | 52 | 44 | II | OM.F.INT | | 3 | 15 | 13 | III | OM.F.INT | | | |
| 4 | 21 | 18 | I | PA.F.EXT | 21 | 57 | 12 | II | OM.F.EXT | | 3 | 28 | 47 | III | OM.F.EXT | | | |
| 11 | 2 | 51 | II | EC.D.PEN | 23 | 7 | 51 | II | PA.F.INT | | 3 | 56 | 24 | III | PA.D.EXT | | | |
| 11 | 4 | 35 | II | EC.D.EXT | 23 | 12 | 19 | II | PA.F.EXT | | 4 | 9 | 48 | III | PA.D.INT | | | |
| 11 | 9 | 4 | II | EC.D.INT | | | | | | | 6 | 10 | 44 | III | PA.F.INT | | | |
| 14 | 31 | 53 | II | OC.F.INT | 22 | 6 | 21 | 28 | I | EC.D.PEN | | 6 | 24 | 5 | III | PA.F.EXT | | |
| 14 | 36 | 19 | II | OC.F.EXT | | 6 | 22 | 13 | I | EC.D.EXT | | 10 | 54 | 48 | I | OM.D.INT | | |
| 22 | 56 | 10 | I | EC.D.PEN | | 6 | 25 | 43 | I | EC.D.INT | | 10 | 58 | 18 | I | OM.D.INT | | |
| 22 | 56 | 55 | I | EC.D.EXT | | 9 | 10 | 3 | I | OC.F.INT | | 11 | 37 | 51 | I | PA.D.EXT | | |
| 23 | 0 | 25 | I | EC.D.INT | | 9 | 13 | 32 | I | OC.F.EXT | | 11 | 41 | 20 | I | PA.D.INT | | |
| | | | | | | | | | | | 13 | 4 | 40 | I | OM.F.INT | | | |
| 17 | 1 | 39 | 56 | I | OC.F.INT | 23 | 3 | 29 | 32 | I | OM.D.EXT | | 13 | 8 | 9 | I | OM.F.EXT | |
| | 1 | 43 | 25 | I | OC.F.EXT | | 3 | 33 | 2 | I | OM.D.INT | | 13 | 47 | 44 | I | PA.F.INT | |
| 7 | 5 | 26 | III | EC.D.PEN | | 4 | 7 | 55 | I | PA.D.EXT | | 13 | 51 | 13 | I | PA.F.EXT | | |
| 7 | 10 | 6 | III | EC.D.EXT | | 4 | 11 | 24 | I | PA.D.INT | | 22 | 5 | 42 | II | OM.D.EXT | | |
| 7 | 24 | 19 | III | EC.D.INT | | 5 | 39 | 25 | I | OM.F.INT | | 22 | 10 | 11 | II | OM.D.INT | | |
| 9 | 15 | 2 | III | EC.F.INT | | 5 | 42 | 54 | I | OM.F.EXT | | 23 | 33 | 16 | II | PA.D.EXT | | |
| 9 | 20 | 15 | III | OC.D.EXT | | 6 | 17 | 53 | I | PA.F.INT | | 23 | 37 | 44 | II | PA.D.INT | | |
| 9 | 29 | 15 | III | EC.F.EXT | | 6 | 21 | 22 | I | PA.F.EXT | | | | | | | | |
| 9 | 33 | 22 | III | OC.D.INT | | 13 | 37 | 28 | II | EC.D.PEN | 29 | 0 | 27 | 23 | II | OM.F.INT | | |
| 11 | 37 | 23 | III | OC.F.INT | | 13 | 39 | 12 | II | EC.D.EXT | | 0 | 31 | 51 | II | OM.F.EXT | | |
| 11 | 50 | 31 | III | OC.F.EXT | | 13 | 43 | 42 | II | EC.D.INT | | 1 | 54 | 40 | II | PA.F.INT | | |
| 20 | 4 | 20 | I | OM.D.EXT | | 17 | 19 | 35 | II | OC.F.INT | | 1 | 59 | 7 | II | PA.F.EXT | | |
| 20 | 7 | 50 | I | OM.D.INT | | 17 | 24 | 3 | II | OC.F.EXT | | 8 | 15 | 2 | I | EC.D.PEN | | |
| 20 | 37 | 53 | I | PA.D.EXT | | 3 | 43 | 28 | I | OC.F.EXT | | 8 | 15 | 47 | I | EC.D.EXT | | |
| 20 | 41 | 22 | I | PA.D.INT | 24 | 0 | 49 | 49 | I | EC.D.PEN | | 8 | 19 | 16 | I | EC.D.INT | | |
| 22 | 14 | 15 | I | OM.F.INT | | 0 | 50 | 34 | I | FC.D.EXT | | 11 | 9 | 45 | I | OC.F.INT | | |
| 22 | 17 | 44 | I | OM.F.EXT | | 0 | 54 | 4 | I | EC.D.INT | | 11 | 13 | 14 | I | OC.F.EXT | | |
| 22 | 47 | 55 | I | PA.F.INT | | 3 | 39 | 59 | I | OC.F.INT | | | | | | | | |
| 22 | 51 | 24 | I | PA.F.EXT | | | | | I | OC.F.EXT | 30 | 5 | 23 | 9 | I | OM.D.EXT | | |
| | | | | | | 11 | 3 | 0 | III | EC.D.PEN | | 5 | 26 | 39 | I | OM.D.INT | | |
| 18 | 6 | 13 | 30 | II | OM.D.EXT | 11 | 7 | 38 | III | EC.D.EXT | | 6 | 7 | 43 | I | PA.D.EXT | | |
| 6 | 17 | 59 | II | OM.D.INT | | 11 | 21 | 49 | III | EC.D.INT | | 6 | 11 | 12 | I | PA.D.INT | | |
| 7 | 21 | 56 | II | PA.D.EXT | | 13 | 12 | 49 | III | EC.F.INT | | 7 | 33 | 0 | I | OM.F.INT | | |
| 7 | 26 | 23 | II | PA.D.INT | | 13 | 27 | 0 | III | EC.F.EXT | | 7 | 36 | 30 | I | OM.F.EXT | | |
| 8 | 35 | 30 | II | OM.F.INT | | 13 | 31 | 39 | III | EC.F.PEN | | 8 | 17 | 34 | I | PA.F.INT | | |
| 8 | 39 | 58 | II | OM.F.EXT | | 13 | 44 | 47 | III | OC.D.EXT | | 8 | 21 | 3 | I | PA.F.EXT | | |
| 9 | 44 | 15 | II | PA.F.INT | | 13 | 58 | 0 | III | OC.D.INT | | 16 | 12 | 9 | II | EC.D.PEN | | |
| 9 | 48 | 42 | II | PA.F.EXT | | 16 | 0 | 59 | III | OC.F.INT | | 16 | 13 | 54 | II | EC.D.EXT | | |
| 17 | 24 | 37 | I | EC.D.PEN | | 16 | 14 | 12 | III | OC.F.EXT | | 16 | 18 | 24 | II | EC.D.INT | | |
| 17 | 25 | 22 | I | EC.D.EXT | | 21 | 58 | 0 | I | OM.D.EXT | | 20 | 6 | 46 | II | OC.F.INT | | |
| 17 | 28 | 52 | I | EC.D.INT | | 22 | 1 | 29 | I | OM.D.INT | | 20 | 11 | 14 | II | OC.F.EXT | | |
| 20 | 10 | 0 | I | OC.F.INT | | 22 | 37 | 57 | I | PA.D.EXT | | | | | | | | |
| 20 | 13 | 29 | I | OC.F.EXT | | 22 | 41 | 26 | I | PA.D.INT | 31 | 2 | 43 | 22 | I | EC.D.PEN | | |
| | | | | | | | | | | | | 2 | 44 | 7 | I | EC.D.EXT | | |
| 19 | 14 | 32 | 44 | I | OM.D.EXT | 25 | 0 | 7 | 52 | I | OM.F.INT | | 2 | 47 | 36 | I | EC.D.INT | |
| 14 | 36 | 13 | I | OM.D.INT | | 0 | 11 | 22 | I | OM.F.EXT | | 5 | 39 | 34 | I | OC.F.INT | | |
| 15 | 7 | 54 | I | PA.D.EXT | | 0 | 47 | 54 | I | PA.F.INT | | 5 | 43 | 3 | I | OC.F.EXT | | |
| 15 | 11 | 23 | I | PA.D.INT | | 0 | 51 | 23 | I | PA.F.EXT | | 15 | 0 | 19 | III | EC.D.PEN | | |
| 16 | 42 | 38 | I | OM.F.INT | | 8 | 48 | 27 | II | OM.D.EXT | | 15 | 4 | 57 | III | EC.D.EXT | | |
| 16 | 46 | 7 | I | OM.F.EXT | | 8 | 52 | 56 | II | OM.D.INT | | 15 | 19 | 6 | III | EC.D.INT | | |
| 17 | 17 | 55 | I | PA.F.INT | | 10 | 9 | 49 | II | PA.D.EXT | | 17 | 10 | 24 | III | EC.F.INT | | |
| 17 | 21 | 24 | I | PA.F.EXT | | 10 | 14 | 16 | II | PA.D.INT | | 17 | 24 | 33 | III | EC.F.EXT | | |
| | | | | | | 11 | 10 | 14 | II | OM.F.INT | | 17 | 29 | 11 | III | EC.F.PEN | | |
| 20 | 0 | 20 | 2 | II | EC.D.PEN | 11 | 14 | 43 | II | OM.F.EXT | | 18 | 7 | 42 | III | OC.D.EXT | | |
| 0 | 21 | 46 | II | EC.D.EXT | | 12 | 31 | 30 | II | PA.F.INT | | 18 | 21 | 0 | III | OC.D.INT | | |
| 0 | 26 | 15 | II | EC.D.INT | | 12 | 35 | 58 | II | PA.F.EXT | | 20 | 22 | 59 | III | OC.F.INT | | |
| 3 | 55 | 39 | II | CC.F.INT | | 19 | 18 | 14 | I | EC.D.PEN | | 20 | 36 | 18 | III | OC.F.EXT | | |
| 4 | 0 | 5 | II | OC.F.EXT | | 19 | 18 | 59 | I | EC.D.EXT | | 23 | 51 | 37 | I | OM.D.EXT | | |
| 11 | 53 | 0 | I | EC.D.PEN | | 19 | 22 | 29 | I | EC.D.INT | | 23 | 55 | 6 | I | OM.D.INT | | |
| 11 | 53 | 45 | I | EC.D.EXT | | 22 | 9 | 56 | I | OC.F.INT | | | | | | | | |
| 11 | 57 | 15 | I | EC.D.INT | | 22 | 13 | 25 | I | OC.F.EXT | 32 | 0 | 37 | 39 | I | PA.D.EXT | | |
| 14 | 40 | 0 | I | OC.F.INT | | | | | | | | 0 | 41 | 8 | I | PA.D.INT | | |
| 14 | 43 | 29 | I | OC.F.EXT | 26 | 16 | 26 | 22 | I | OM.D.EXT | | 2 | 1 | 27 | I | OM.F.INT | | |
| 21 | 4 | 54 | III | OM.D.EXT | | 16 | 29 | 52 | I | OM.D.INT | | 2 | 4 | 57 | I | OM.F.EXT | | |
| 21 | 18 | 46 | III | OM.D.INT | | 17 | 7 | 53 | I | PA.D.EXT | | 2 | 47 | 29 | I | PA.F.INT | | |
| 23 | 16 | 39 | III | OM.F.INT | | 17 | 11 | 22 | I | PA.D.INT | | 2 | 50 | 58 | I | PA.F.EXT | | |
| 23 | 30 | 14 | III | OM.F.EXT | | 18 | 36 | 14 | I | OM.F.INT | | 11 | 23 | 10 | II | OM.D.EXT | | |
| 23 | 31 | 31 | III | PA.D.EXT | | 18 | 39 | 44 | I | OM.F.EXT | | 11 | 27 | 39 | II | OM.D.INT | | |
| 23 | 44 | 48 | III | PA.D.INT | | 19 | 17 | 48 | I | PA.F.INT | | 12 | 56 | 41 | II | PA.D.EXT | | |
| | | | | | | 19 | 21 | 17 | I | PA.F.EXT | | 13 | 1 | 8 | II | PA.D.INT | | |
| 21 | 1 | 46 | 56 | III | PA.F.INT | 27 | 2 | 54 | 39 | II | EC.D.PEN | | 13 | 44 | 44 | II | OM.F.INT | |
| 2 | 0 | 11 | III | PA.F.EXT | | 2 | 56 | 24 | II | EC.D.EXT | | 13 | 49 | 12 | II | OM.F.EXT | | |
| 9 | 1 | 10 | I | OM.D.EXT | | 3 | 0 | 53 | II | EC.D.INT | | 15 | 17 | 46 | II | PA.F.INT | | |
| 9 | 4 | 39 | I | OM.D.INT | | 6 | 43 | 4 | II | OC.F.INT | | 15 | 22 | 13 | II | PA.F.EXT | | |
| 9 | 37 | 57 | I | PA.D.EXT | | 6 | 47 | 32 | II | OC.F.EXT | | 21 | 11 | 45 | I | EC.D.PEN | | |
| 9 | 41 | 26 | I | PA.D.INT | | 6 | 47 | 32 | II | OC.F.EXT | | 21 | 12 | 30 | I | EC.D.EXT | | |
| 11 | 11 | 3 | I | OM.F.INT | | 13 | 46 | 36 | I | EC.D.PEN | | 21 | 16 | 0 | I | EC.D.INT | | |
| 11 | 14 | 33 | I | OM.F.EXT | | 13 | 47 | 21 | I | EC.D.EXT | | | | | | | | |

1982.-CONFIGURATIONS DES SATELLITES GALILEENS DE JUPITER.



Dans le sens OUEST-EST , les satellites passent au-delà de Jupiter

