

MAREES TERRESTRES

BULLETINS D'INFORMATIONS

N° 38

1 novembre 1964

Association Internationale de Géodésie

Commission Permanente des Marées Terrestres.

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Observatoire Royal de Belgique

3, Avenue Circulaire

Bruxelles, 18

Nouvelles.

Meeting restreint à Prague

Un meeting restreint s'est tenu à Prague le 9 octobre 1964 en marge du Symposium sur la Figure de la Terre.

Il réunissait MM. Lecolazet, Bonatz, Melchior, Picha, Skalsky et Venedikov qui ont discuté le problème de la sensibilité des appareils de mesure.

MM. Lecolazet et Melchior ont visité le 8 octobre la station de Pribram (Brézové Hory) qui est la plus profonde du monde (- 1300 mètres).

Voyage du Directeur du Centre International en Allemagne.

Le Directeur du Centre International, Prof. Melchior, a visité en septembre 1964, les Instituts de Potsdam et de Freiberg Sachsen ainsi que la station de Berggrieshübel en R.D. d'Allemagne. Il a visité également l'Institut für Angewandte Geodäsie à Frankfurt am Main et la firme Askania en R.F. d'Allemagne.

Une nouvelle station en Bulgarie

La station de Botev située à 50 km au Nord de Sofia est entrée en activité.

Elle a été équipée par le Dr. Venedikov d'une paire de pendules horizontaux en quartz, type Verbaander - Melchior.

Elle est située à une profondeur de 80 mètres.

PROFESSOR DR. EIICHI NISHIMURA

Professor Eiichi Nishimura passed away suddenly in Kyoto on the early morning of March 19, 1964 at the age of 57. After only a few days of sickness he died without suffering and he has gone to a better world. This is not only a sad event, deplored by all who knew him even slightly, it also represents a great and permanent loss to science.

Professor Eiichi Nishimura was born at Kyoto, Japan, in 1907. He grew up as only son of rich parents. After graduation from high school, he entered the Geophysical Institute of Kyoto University, where learned various geophysical techniques and the spirit of observations under the expert guidance of Professor Toshi Shida, who is well known by Shida's number. Shortly after completing the graduate course at Kyoto University, Nishimura took a position at the Aso Volcanological Observatory, in an out-of-the way place, just established by Professor Shida. At Aso all of Nishimura's time was occupied with studying and with the observation of both volcanic tremors and earth tides with various instruments. He reasoned that it is necessary to select a station as far away as possible from the sea in order to obtain an accurate value of the diminishing factor. In the summer of 1941, he travelled to Barim in the northwestern part of Manchuria, where he made his famous observations of earth tides with tiltmeters. In 1942, he received his doctorate, with the thesis "On Earth Tides". In 1951, he was appointed as a professor of Geophysics in the Geophysical Institute of Kyoto University.

He participated in the Second International Symposium on Earth Tides that was held at Munich in 1958. This was his first travel outside Japan. He also travelled to the United States, Canada and South America during the period February to May 1962. On his way home to Japan by way of Europe, he stopped at Leipzig, where he attended the First International Symposium on Recent Crustal Movement.

After returning to Japan, he made plans for the simultaneous observation of many geophysical phenomena in cooperation with several South American countries. In May 1963 he entered to the hospital for an operation on his liver. After three months in the hospital, he had recovered his health. He continued both academic and official business. It is to be feared that this uninterrupted work fatigued him. He was unable to resist a sudden attack of peritonitis a few days before his death.

Professor Nishimura was always working in vigorous and effective research. His interesting ranged over the whole field of geophysics. He always remained a geophysicist in the general sense, retaining the capacity to contribute original work in any of its branches. He wrote about one hundred and fifty papers in various fields of geophysics during his life. Among them, the most important was the paper written under the title "On Earth Tides". In this paper, which was written originally in Japanese, he collected the valuable results of his observations. Shortly after, he wrote a summary of this paper under the same title in English, which was published in the Transactions of the American Geophysical Unions in 1950. Not only this paper but also his other papers were of high quality.

If he had been spared, we might have looked forward to many more years of equally valuable contributions from his desk.

To carry out a complete and precise observation of earth crustal movements, including both periodic and non-periodic changes, was one of his aims. Because of his lifelong habit of prompt action, he established many Observatories in the western part of Japan. In those observatories observations are being continued at the present time. He conducted many programs and carried far the greater share of the actual work. None of these large undertakings would have been possible without Nishimura's unfailing energy.

Recently, Professor Nishimura had shown keen interest in the field of earthquake prediction. He had planned to open the Earthquake Prediction Conference in cooperation with American seismologists. His long-cherished desire was fulfilled and the Conference was held on March of this year in both Tokyo and Kyoto. Although he had eagerly desired to participate in the Conference, he could not go to Tokyo. Persons who joined the Conference moved from Tokyo to Kyoto on March 18. Professor Nishimura passed away early in the morning of the day the Conference was to be held in Kyoto.

He was honored by membership and official position in many scientific organisations : he was the former director of the Disaster Prevention Research Institute of Kyoto University : he was the director of the Aso Volcanological Observatory of Kyoto University, where he spent his younger researching days : he was the director of the Abuyama Seismological Observatory and he was the director of the Kamigamo Observatory, where the Asiatic Centre of Earth Tides has been established since 1958.

He was not only a great scholar but also an excellent sportsman. In high school, he was the champion of the javelin throw. His record, as a Japanese student, was not surpassed for more than thirty years. He liked baseball. He was the president of the Sport Association of Kyoto University.

Everyone who knew Professor Nishimura loved and respected him. He is survived by his devoted wife, three sons and two daughters. There are many grandchildren, for whom Professor Nishimura often expressed his love.

It is most painful for me thus to report the sudden loss of one whom he will always remember as a dear teacher. Professor Nishimura lives on in his work and in the hearts of all who knew him eternally.

Nakagawa

Fifth International Symposium on Earth Tides.
Brussels, June 1, 1964.

CATALOGUE DES DONNEES D'OBSERVATIONS DE MAREES TERRESTRES FIGURANT AU
1 OCTOBRE 1964 DANS LA BIBLIOTHEQUE DU CENTRE INTERNATIONAL DES
MAREES TERRESTRES

Le catalogue est établi sur cartes perforées

Le dessin de carte est le suivant :

- 1) Numéro de la station.
- 2) Sigle et numéro de l'instrument utilisé
- 3) Nom de la station.
- 4) Année des observations.
- 5) Premier intervalle de l'année couvert par les observations
par exemple 1507 1209 signifie que l'on possède des mesures depuis le 15 juillet jusqu'au 12 septembre.
- 6) Deuxième intervalle de l'année couvert par les observations
- 7) Troisième intervalle de l'année couvert par les observations
- 8) Quatrième intervalle de l'année couvert par les observations
- 9) Cinquième intervalle de l'année couvert par les observations.

Si les observations couvrent plus de cinq intervalles discontinus, il y aura une seconde carte pour l'année en cause.

Il y a au minimum une carte par année.

Exemple :

0320 ASK 110 BOROWIEC 1962 3003 3005 3008 3009 0410 0212

signifie que l'on possède pour la station 0320 : Borowiec des mesures faites avec le gravimètre Askania 110 du 30 mars au 30 mai 1962

du 30 août au 30 septembre 1962

du 4 octobre au 2 décembre 1962.

Pour la classification des stations et les sigles instrumentaux voir BIM N° 27, page 609.

101 LCR	BIDSTON 1	1958	1507	1209				
101 LCR	BIDSTON 2	1958	1507	1209				
100 FR 54	UNST	1954	1406	1407				
103 LCR	WINSFORD 1	1958	0107	1308				
103 LCR	WINSFORD 2	1958	0107	1308				
122 NAL138	STRASBOURG	1957	0108	2911				
122 NAL138	STRASBOURG	1958	1601	3112				
122 NAL138	STRASBOURG	1959	0101	3112				
122 NAL138	STRASBOURG	1960	0101	0805				
122 NAL167	STRASBOURG	1957	0111	3112				
122 NAL167	STRASBOURG	1958	0101	2201				
144 ASK160	UCCLE	1960	0204	0605	1005	3112		
144 ASK160	UCCLE	1961	0101	2202	1803	3112		
144 ASK160	UCCLE	1962	0101	0505				
145 ASK145	UCCLE	1958	0107	3112				
145 ASK145	UCCLE	1959	0101	C103	0505	3112		
145 ASK145	UCCLE	1960	0101	1602	2402	2808	1009	3112
145 ASK145	UCCLE	1961	0101	0303	1504	0906		
145 ASK145	UCCLE	1962	1504	1006	1008	0910	1411	2712
145 ASK145	UCCLE	1963	1301	1402	1503	0605	1106	1011
145 ASK145	UCCLE	1964	0101	0702	2002	0703	1003	2505
146 ASK 98	VEDRIN	1958	1810	3112				
146 ASK 98	VEDRIN	1959	0101	1301	2701	3103		
147 ASK175	BATTICE	1963	1204	0410				
149 ASK143	DOURBES	1964	1208	1909				
159 ASK160	LUXEMBOURG	1963	1504	2608	0109	0411	2311	3112
159 ASK160	LUXEMBOURG	1964	0101	2307				
165	BERCHTESGADEN	1957	2010	2211				
176 ASK137	POTSDAM	1959	0301	17C3	2203	2312		
176 ASK137	POTSDAM	1960	1503	2204	2804	3110		
176 ASK137	POTSDAM	1961	2405	1407	1908	0210	0112	3112
176 ASK137	POTSDAM	1962	0101	2401	0503	2310		
176 ASK162	POTSDAM	1963	1801	1802				
169 ASK127	POTSDAM	1963	1801	1802				
170 ASK127	FREIBERG	1963	3006	0108				
171 ASK127	BAD SALZUNGEN	1963	0808	2809				
173 ASK116	BONN	1964	2903	3004				
172 ASK127	KIESELBACH	1963	1510	2511				
182 ASK 97	GENOVA	1959	2503	1007	1507	2712		
182 ASK 97	GENOVA	1960	1410	2612				
182 ASK 97	GENOVA	1961	0101	3003	0104	3112		
182 ASK 97	GENOVA	1962	0101	2603	0604	3112		
182 ASK 97	GENOVA	1963	0101	0201				
185 ASK108	COSTOZZA	1962	0709	0810	1210	0812		
187 ASK108	TRIESTE	1959	3006	3112				
187 ASK108	TRIESTE	1960	0101	1701	2302	1007		
188 LCR	TRIESTE 1	1958	1905	2506				
188 LCR	TRIESTE 2	1958	1905	2506				
189 ASK141	RFSIMA	1959	2205	3112				
189 ASK141	RESINA	1960	0101	3105	0107	0511	3112	3112
189 ASK141	RESINA	1961	0101	2704				
194 ASK120	PALERMO	1963	2806	2609				
240 ASK168	STOCKHOLM	1962	0103	1505				
240 ASK168	STOCKHOLM	1963	0804	1605	0706	2306	2706	3110
320 ASK110	BOROWIEC	1960	2103	2104				
320 ASK110	BOROWIEC	1962	3003	3005	3008	3009	0410	0212
320 ASK110	BOROWIEC	1963	1101	0803				
340 HE 66	TIHANY	1957	3006	0208	2909	0111	3112	3112
340 HE 66	TIHANY	1958	3003	0205	2906	0108	3009	0111
340 HF 66	TIHANY	1959	0101	1202	0104	0105	0107	0208
340 HE 66	TIHANY	1960	0101	0202	0104	0305	0110	0211
340 HE 40	TIHANY	1958	0101	0102				

360	ASK121	SOFIA	1961	0903	0704				
400	ASK124	POULKOV	1958	3103	2705	3105	2007		
400	ASK135	POULKOV	1958	0905	1307	1709	1810		
401	ASK124	KRASNAYAPAKHRA	1957	2412	3112				
401	ASK124	KRASNAYAPAKHRA	1958	0101	2301				
401	ASK126	KRASNAYAPAKHRA	1958	2005	1906				
401	ASK134	KRASNAYAPAKHRA	1958	2005	1906	2306	0108		
401	ASK135	KRASNAYAPAKHRA	1959	0501	0402				
462	ASK126	ALMA ATA	1958	1911	1912				
463	ASK134	ALMA ATA	1958	1710	1611	1911	1912		
463	ASK134	ALMA ATA	1959	1004	1005				
502	LCR	LWIRO 1	1958	0603	0704				
502	LCR	LWIRO 2	1958	0603	0704				
503	LCR	BUNIA 1	1958	0103	0404				
601	ASK119	TEHERAN	1958	0901	0803	0309	0210		
601	ASK119	TEHERAN	1962	0101	0212				
601	ASK119	TEHERAN	1963	0701	3011				
602	LCR	NEW DELHI 1	1958	1301	1402				
602	LCR	NEW DELHI 2	1958	1301	2202				
604	LCR	SAIGON 1	1957	2311	3112				
604	LCR	SAIGON 1	1958	0101	0101				
604	LCR	SAIGON 2	1957	2311	3112				
604	LCR	SAIGON 2	1958	0101	0101				
700	ASK111	NAZE	1958	0104	0305				
701	ASK111	ASO	1959	1904	2105				
702	ASK111	TOTTORI	1959	0802	1203				
703	ASK111	SHIONOMISAKI	1958	1901	2002				
704	ASK111	KYOTO	1957	2906	3107				
704	ASK111	KYOTO	1958	1206	1407				
704	ASK111	KYOTO	1959	0908	3112				
704	ASK111	KYOTO	1960	0101	1608				
705	ASK111	MATSUSHIRO	1957	2806	2709				
706	ASK111	OMAEZAKI	1957	0910	1011				
707	ASK111	KANOZAN	1958	0105	2707	3108	0110	3110	0212
707	ASK105	KANOZAN	1958	0111	3112				
708	ASK105	CHIBA	1957	0107	3112				
708	ASK105	CHIBA	1958	0101	3103				
709	ASK111	MIZUSAWA	1958	1609	1810				
710	ASK111	NEKURO	1958	0208	0309				
781	LCR	WAKE 1	1957	2707	0409				
781	LCR	WAKE 2	1957	2707	0509				
780	LCR	BAGUIO	1957	1408	3110				
782	LCR	HONOLULU 1	1956	1410	2211				
782	LCR	HONOLULU 2	1956	1410	2211				
800	HE 30	OTTAWA	1957	0108	2209	2210	1811		
800	HE 30	OTTAWA	1958	0301	0102	2705	0208	0608	3009
801	NA 85	RESOLUTE	1957	0811	3112				
801	NA 85	RESOLUTE	1958	0101	1901				
802	NA 85	MEANOOK	1957	2704	2505				
802	NA 85	MEANOOK	1958	2008	2310	0911	3112		
802	NA 85	MEANOOK	1959	0101	0401				
821	LCR	GLENDORA 1	1957	2805	0707				
821	LCR	GLENDORA 2	1957	2805	0707				
822	LCR 1	AUSTIN	1960	1901	2902	3105	1409		
822	LCR 1	AUSTIN	1961	2802	0304	2706	3107		
822	LCR 1	AUSTIN	1962	2006	2407				
823	LCR	BERMUDA 1	1957	2910	1712				
823	LCR	BERMUDA 2	1957	2910	1712				

2102	TS	2	WINSFORD	1950	3043	3105	0206	3009	0710	0412
2102	TS	2	WINSFORD	1951	0502	1809	0410	0311	0812	3112
2102	TS	2	WINSFORD	1952	0101	0801				
2140	VM	1	SCLAIGNEAUX	1	1960	3003	1205	1805	1606	2906 2209 2809 3112
2140	VM	1	SCLAIGNEAUX	1	1961	0101	2811	0712	3112	
2140	VM	1	SCLAIGNEAUX	1	1962	0101	0802			
2140	VM	31	SCLAIGNEAUX	1	1962	0802	1203	3103	1505	1512 3112
2140	VM	31	SCLAIGNEAUX	1	1963	0101	1702	2102	0406	2211 3112
2140	VM	31	SCLAIGNEAUX	1	1964	0101	0601	2401	0103	
2141	VM	10	SCLAIGNEAUX	2	1961	2009	2911			
2141	VM	10	SCLAIGNEAUX	2	1962	1707	1511			
2141	VM	56	SCLAIGNEAUX	2	1963	1603	0406			
2141	VM	56	SCLAIGNEAUX	2	1964	2401	2503			
2141	VM	4	SCLAIGNEAUX	2	1964	2405	2207			
2142	VM	12	WARMIFONTAINE		1961	2708	1510			
2142	VM	12	WARMIFONTAINE		1962	2603	0905			
2142	VM	11	WARMIFONTAINE		1961	0902	1303	2303	0305	0606 1007 1609 1610 3110 3112
2142	VM	11	WARMIFONTAINE		1962	0101	0701	2403	0307	
2143	VM	9	WARMIFONTAINE		1962	2808	0110	0112	3112	
2143	VM	9	WARMIFONTAINE		1963	0101	0904			
2148	LG	CANNE			1963	1506	2507			
2148	LG	CANNE			1964	0301	0704			
2149	VM	8	DOURBES	1	1963	2501	1504	1804	3112	
2149	VM	8	DOURBES	1	1964	0101	2401	2802	0210	
2150	VM	28	DOURBES	2	1962	0412	3112			
2150	VM	28	DOURBES	2	1963	0101	1108	1408	1111	1311 3112
2150	VM	28	DOURBES	2	1964	0101	2403			
2151	VM	55	SCLAIGNEAUX	3	1963	1909	3112			
2151	VM	55	SCLAIGNEAUX	3	1964	0101	2101	2401	2904	0606 3007
2163	T	S1	TIEFENORT	2	1958	0509	1411			
2163	T	S1	TIEFENORT	2	1959	0301	2102	1605	2511	
2163	T	S1	TIEFENORT	2	1960	0806	1508	2308	3112	
2163	T	S1	TIEFENORT	2	1961	0101	0603			
2163	T	S1	TIEFENORT	2	1962	2911	3112			
2163	T	S1	TIEFENORT	2	1963	0101	2901	2202	0508	
2164	LT	L1	TIEFENORT	1	1958	0509	0810	1110	1011	
2164	LT	L1	TIEFENORT	1	1959	1104	1205	1605	3107	0408 3009 0110 2511
2164	LT	L1	TIEFENORT	1	1960	0806	1508			
2164	LT	L1	TIEFENORT	1	1961	1701	0703	1104	1605	2305 1007 1507 2409 1110 3112
2164	LT	L1	TIEFENORT	1	1962	0101	2501			
2165			BERCHTFSGADEN		1958	2802	0305	1405	1809	
2165			BERCHTFSGADEN		1959	2901	0103	0404	0106	0207 0210
2165			BERCHTFSGADEN		1960	3004	3105	0206	3112	
2166	L0	TIEFENORT	3		1958	0509	0610			
2167			BERGGIESHUBEL		1959	2202	2603	2903	0805	
2167			BERGGIESHUBEL		1962	0501	0703			
2182	VM	5	GENOVA		1960	2212	3112			
2182	VM	5	GENOVA		1961	0101	1902	2502	3103	
2182	VM	5	GENOVA		1962	0203	1710			
2185	VM	16	COSTOZZA		1962	0107	1409	1609	3112	
2185	VM	16	COSTOZZA		1963	0101	1001	1901	2802	1909 3112
2185	VM	16	COSTOZZA		1964	0101	3101			
2191	VM	32	NICOLOSI		1962	1411	2412			
2191	VM	32	NICOLOSI		1963	1106	2207	2207	1609	2709 1312 1712 3112
2191	VM	32	NICOLOSI		1964	0101	1101	1301	2606	
2192	VM	3	BARI		1961	2712	3112			
2192	VM	3	BARI		1962	0101	1702	2004	3105	2107 1908 2408 2809
2192	VM	3	BARI		1964	0204	1805			
2193	VM	37	BARI	2	1964	0404	2107	2307	3107	
2200	VM	44	GRAZ		1963	2805	3006			
2241	VM	38	DANNEMORA		1963	1212	3112			
2241	VM	38	DANNEMORA		1964	0101	2803	0605	0109	
2			HEIDELBERG		1901	0907	1510			
2458	OS4558		KONDARA		1959	0107	3107	0109	3009	
2463	OS	66	ALMA ATA		1959	0111	1912			

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3148	BASECLES	1962 0805 2408
3152	TURNHOUT	1955 1712 3112
3152	TURNHOUT	1956 0101 0203
3177	SONTRA	1954 1606 1107
3850	CARLSBAD	1938 1203 1204
3851	IOWA	1939 1403 1004
4180	MONTEPONI	1957 2312 3112
4180	MONTEPONI	1958 0101 2701 0302 0404 0904 2104 2804 3112
4180	MONTEPONI	1959 0101 2901 0302 2302 0503 3006
4180	MONTEPONI	1963 1012 3112
4180	MONTEPONI	1964 0101 2902
4824	FRANKLIN 1	1961 2309 2210
4824	FRANKLIN 2	1961 0310 0211
4167	BERGGIESHUBEL	1960 2802 0104 0405 1306
5167	BERGGIESHUBEL	1960 2802 0104 0405 1306
5180	MONTEPONI	1957 2312 3112
5180	MONTEPONI	1958 0101 0404 0904 2104 0505 3112
5180	MONTEPONI	1959 0101 2901 0302 2906
5180	MONTEPONI	1963 1112 3112
5180	MONTEPONI	1964 0101 2902

LE NOUVEAU SYSTEME DES CONSTANTES ASTRONOMIQUES

par

Paul Melchior

A l'Assemblée Générale tenue à Hambourg en août 1964, l'Union Astronomique Internationale a décidé d'adopter un nouveau système de constantes.

Les constantes intéressant les recherches théoriques et expérimentales sur les marées terrestres sont les suivantes :

Rayon équatorial de la Terre	6.378.160 mètres
Aplatissement de la Terre	1/298,25
Rapport de la masse de la Lune à celle de la Terre	1/81,30
Rapport de la masse du Soleil à celle de la Terre	332.958
Parallaxe solaire	8"79405
Parallaxe de la Lune	3422"451

Ceci donnera pour la constante de Doodson :

$$G = 26275 \text{ cm}^2 \text{ sec}^{-2}$$

soit une augmentation de 0,263 % par rapport à la valeur 26206 adoptée jusqu'ici.

De même le rapport

$$\frac{S \sin^3 \pi_{\odot}}{M \sin^3 \pi_{\odot}} = 0,45926$$

soit 0,247 % de moins que la valeur de Doodson. Les amplitudes des ondes solaires devraient être diminuées dans cette proportion.

Nous proposons que ces corrections soient introduites dans tous les calculs portant sur les observations qui seront faites à partir du 1 janvier 1965. D'une manière plus précise on pourrait convenir que tout intervalle à analyser qui porterait au moins partiellement sur l'année 1965 serait traité avec les nouvelles constantes.

Ceci permettra d'appliquer systématiquement et sans confusion possible de petites corrections nécessaires pour rendre les anciennes analyses comparables aux nouvelles.

- [1] W FRICKE, D BROUWER, J KOVALEVSKY, A A MIKHAILOV, G A WILKINS
Report to the executive Committee of the Working Group on the system of Astronomical Constants
(U.A.I. Draft Reports Hamburg 1964, pp XLIV - LIV)
- [2] N.N. PARIISKY

Some Remarks concerning the calculation of Theoretical amplitudes of Tidal gravity Variations
(BIM 23 - pp. 466 - 479 - 1961)

ERRATUM

Erratum à l'article de G. Jobert : "Sur les filtres numériques utilisés dans l'analyse harmonique"
BIM n° 37 pp. 1260 - 1273.

- 1ère ligne 6ème colonne : - 31 791 (au lieu de - 3 179)
- 9ème ligne 3ème colonne : 0 (au lieu de - 1 445)
- 12ème ligne 5ème colonne: + 1 268 (au lieu de - 1 268).