UNION RADIO - SCIENTIFIQUE INTERNATIONALE

International Scientific Radio Union

URSI

BULLETIN MENSUEL

MONTHLY BULLETIN

DECEMBRE 1939

DECEMBER 1939

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D O C U M E N T S - T R A V A U X

D O C U M E N T S - W O R K S

Les documents suivants ont été reçus au Secrétariat Général pendant le mois de Novembre.

Les Membres des Comités Nationaux désireux d'obtenir ces documents en communication sont priés de s'adresser au Secrétariat Général.

The General Secretary's Office has received the following papers during November.

Members of National Committees wishing to receive these papers in communication, are requested to ask them to the General Secretary's Office.

COMITE NATIONAL AUSTRALIEN

AUSTRALIAN NATIONAL COMMITTEE

A.W.A. Technical Review - Volume 4 - N°2, 1939 -

Contents

A Direct Reading Field-Intensity Meter for Measurements of Radiation from Broadcast Antennas, by W.N. Christiansen.

Abstract: Accurate field intensity measurements are necessary for a determination of the performance of a broadcast transmitter. Principles involved in field intensity measurements are discussed. A description is given of a new lightweight direct reading field intensity meter, suitable for determinations of power radiated from broadcast antennas.

A note on the Reception of Telegraphic Signals, by Geoffrey Builder, Ph.D.

Abstract: It is pointed out that there is no inherent difference between c.w. telegraphy and tone telegraphy. C.w. telegraphy may be the more satisfactory if equipment must be limited in weight, size and cost, and is to be used by skilled operators. However, the use of tone telegraphy generally results in greater simplicity, certainty, and speed of operation, particularly when the operators are relatively unskilled, and may simplify the design of equipment that is also required for telephony.

It is shown that the standard definitions of receiver noise level are sufficient without the addition of a specification based on a comparison of receiver response to a signal carrier with respect to the receiver noise output without the carrier; such a specification is misleading and, if it is to have any meaning, implies distortion in the reception of modulated signals.

Note on the Effect of the Screen By-Pass Capacity on the Response of a Single Stage, by W.G. Baker, D.Sc.Eng. and D.H. Connolly, F.S.T.C.

Abstract : A formula has been derived for the loss of amplification due to insufficient by-passing of a screen dropping resistor, and has been tested experimentally.

U R S I G R A M M E S

U R S I G R A M S

COMITE NATIONAL AMERICAIN

AMERICAN NATIONAL COMMITTEE

PROGRAMME - CODE

Voir Bulletin Mensuel | See Monthly Bulletin

N°10, Oct. 1938, p.6.

M.A.G.

U.S. Coast and Geodetic Survey, Cheltenham, Md.

Date	Ursigrams			
1939				
Oct.				
8	13XXX			
9	23XXX			
10	33XXX			
11	43XXX			
12	53XXX			
13	6593X	0205X		
14	779XX			
15	1795X	0800X		
16	2593X	0000X		
17	3595X	2200X		
18	43XXX			
19	5597X	0400X	1100X	
20	63XXX			
21	73XXX			
22	13XXX			
23	23XXX			
24	33XXX			
25	43XXX			
26	53XXX			
27	63XXX			
28	73XXX			
29	13XXX			
30	23XXX			
31	33XXX			
Nov.			Nov.	
1	43XXX		3	63XXX
2	53XXX		4	73XXX

MAGNETIC CHARACTER FIGURES

PARTICULARLY NOTE

Owing to a blunder in compilation, the American magnetic character figures from September 30 to October 6, published in Science Service Research Aid Announcement n°538, (November Monthly Bulletin, n°23, page 4), should be corrected to read as follows :

Date	0h - 12h	12h - 24h	Date	0h - 12h	12h - 24h
1939 Sept. 30	0.0	0.5	1939 Oct. 3	0.7	1.3
Oct. 1	0.3	0.5	4	1.6	0.7
			5	0.4	0.7
2	0.0	0.5	6	1.1	0.6

Average of data from the magnetic observatories of the U.S. Coast and Geodetic Survey, located at Cheltenham, Md.; Tucson, Arizona; Sitka, Alaska; Honolulu, Hawaii; and San Juan, Puerto Rico; and from the magnetic observatory of the Department of Terrestrial Magnetism located at Huancayo, Peru; and Watheroo, Western Australia.

Note : The Watheroo Observatory has not been able to transmit character figures either by amateur radio or cable from October 8 to October 21, 1939

Date	0h - 12h	12h - 24h	Date	0h - 12h	12h - 24h
1939 Oct. 7	0.1	0.7	1939 Oct. 11	0.3	0.3
8	0.2	0.3	12	0.0	0.0
9	0.8	0.5	13	1.5	1.7
10	0.0	0.1	14	1.7	1.2

Date	0h - 12h	12h - 24h	Date	0h - 12h	12h - 24h
1939 Oct. 15	1.6	0.5	1939 Oct. 26	0.0	0.3
16	0.6	0.8	27	0.0	0.1
17	0.5	0.8	28	0.1	0.1
18	0.5	0.7	29	0.1	0.1
19	0.7	0.2	30	0.1	0.1
20	0.1	0.1	31	0.1	0.1
21	0.3	0.5	Nov.		
22	0.1	0.4	1	0.1	0.1
23	0.4	0.6	2	0.1	0.0
24	0.1	0.1	3	0.1	0.3
25	0.0	0.0			

S.O.L.

U.S. Naval Observatory

Date	Groups	Spots	Area Sq. Degrees
1939 Oct.			
8			
9	7	73	42
10	7	78	35
11	6	114	22
12	7	88	24
13	8	148	34
14	4	78	23
15	6	60	25
16	6	88	31
17	6	117	38
18	6	71	27
19	8	89	58
20	7	95	63
21	8	97	67
22	12	145	68
23	10	79	63
24	9	129	53
25			
26	12	119	51
27	11	78	44
28	10	89	41
29	8	40	40
30			
31			
Nov.			
1	6	83	33
2	8	99	32
3	7	71	33
4	6	62	28

K.H.L.

National Bureau of Standards

for Oct.11.		for Oct.18		for Oct.25.	
3417X	86029	3417X	KHL	3417X	10032
25012	94030	25012	34171	25012	20033
29013	KHL	34017	20030	32013	20035
33013	34171	35519	20033	34515	24035
35019	02033	36025	30032	350XX	24041
36022	02040	39022	30040	35528	26036
39021	08037	43024	32033	36522	26048
46023	08053	62027	32043	54024	30040
54024	14041	94028	38038	86028	34056
66027	18055		40042	KHL	360XX
78029	200XX		420XX	34171	

for Nov.1

3417X	KHL
25012	34171
31012	02030
34014	12032
35024	12036
36023	18034
40025	18043
54025	22036
62026	22063
70027	26041
78028	28044
94028	300XX

JAPANESE URSIGRAMS

From Tokyo Station JAP 11980 KC, received by the RCA San Francisco Station.

S.O.L.

1939

Oct. 14 : 5XXXX 61057 7XXXX 10866 2XXXX 3XXXX 4XXXX

Oct. 20 : 5XXXX 60890 70598 10601 2XXXX 3XXXX 40687
Sunday add 100 to number of spots

Oct. 28 : 50669 60786 70666 1XXXX 20810 3XXXX 4XXXX
Monday add 100 to number of spots

Nov. 4 : 5XXXX 61134 70792 10886 20670 30676 40884
Friday add 100 to number of spots

P.R.O.

Oct. 14 : 5XXXX 63543 7XXXX 1XXXX 2XXXX 3XXXX 4XXXX
Friday NE limb big prominence 84000 km breadth 40000

Oct. 20 : 5XXXX 64142 73121 13122 2XXXX 3XXXX 43141
Wednesday W limb active prominence maximum height 100000 km.

Oct. 28 : 53141 64220 73231 1XXXX 21120 3XXXX 4XXXX

Nov. 4 : 5XXXX 63121 72131 14110 24231 32241 43141

M.A.G.

Oct. 14 : 80511 11101
Oct. 20 : 81205 32222
Oct. 28 : 81920 11201
Nov. 4 : 82611 11111

K.H.L.

Oct. 14 : 71003 26328 30533 397XX
Oct. 20 : 71803 30330 31535 407XX
Oct. 28 : 72503 00330 35538 467XX
Nov. 4 : 73103 00227 30434 396XX

F.A.D.

Oct. 14 : 10150 10305
Oct. 20 : Nil
Oct. 28 : Nil
Nov. 4 : Nil

MANILA URSIGRAMS

M.A.G.

received at Navy Department

For October 1 to 15, 1939 :

Oct. 1 : 159XX 259XX 377XX 477XX 677XX 759XX 159XX
277XX 359XX 455XX 559XX 675XX 775XX 175XX

For October 16 to 31, 1939 :

Oct. 16 : 253XX 359XX 453XX 555XX 659XX 759XX 159XX
273XX 359XX 459XX 559XX 659XX 753XX 159XX
259XX 33XXX

COMBINED MANILA URSIGRAMS

M.A.G. for July, August, September 1939, transmitted by Miguel Selga, Director, Weather Bureau, The Government of the Philippine Islands, Department of Agriculture and Commerce, Weather Bureau, Central Office, Manila.

July	779XX	477XX	73XXX	373XX	679XX	257XX	577XX	157XX
	477XX	759XX	159XX	559XX	13XXX	457XX	759XX	3XXXX
	677XX	257XX	559XX	13XXX	277XX	63XXX	257XX	53XXX
	159XX	4XXXX	775XX	375XX	659XX	259XX	379XX	
Aug.	359XX	759XX	359XX	675XX	259XX	579XX	155XX	477XX
	753XX	33XXX	675XX	259XX	579XX	155XX	477XX	753XX
	33XXX	459XX	13XXX	43XXX	775XX	353XX	653XX	253XX
	553XX	153XX	455XX	53XXX	659XX			
Sept.	659XX	259XX	559XX	157XX	459XX	759XX	377XX	659XX
	259XX	559XX	779XX	359XX	659XX	257XX	559XX	177XX
	477XX	73XXX	377XX	63XXX	175XX	459XX	777XX	359XX
	659XX	259XX	559XX	13XXX	459XX	759XX		

COMITE NATIONAL ITALIEN

ITALIAN NATIONAL COMMITTEE

PROGRAMME - CODE

Voir Bulletin Mensuel . See Monthly Bulletin

N°9, Sept. 1938, p.19.

M.A.G.

Observations de l'Observatoire Magnétique de Gênes

URSIGRAMMES

du 1.11 au 7.11.1939 : 10111 11122

du 8.11 au 14.11.1939: 10810 01233 60407 00480 70488
88480

du 15.11 au 21.11.1939: 11531 11211 10488 88220

du 22.11 au 28.11.1939: 12211 33211 31110 40480 41188
88570

du 29.11 au 5.12.1939: 12912 21203 71116 10040

TRADUCTION

Date	Observations relevées
1939 Nov. 1	Presque calme
2	Presque calme
3	Presque calme
4	Presque calme
5	Presque calme
6	Perturbation de faible étendue
7	Perturbation de faible étendue

1939 Nov.	
8	Presque calme
9	Calme
10	Calme
11	Presque calme
12	Perturbation de faible étendue
13	Agité
14	Agité
15	Agité
16	Presque calme
17	Presque calme
18	Presque calme
19	Perturbation de faible étendue
20	Presque calme
21	Presque calme
22	Presque calme
23	Presque calme
24	Agité
25	Agité
26	Perturbation de faible étendue
27	Presque calme
28	Presque calme
29	Presque calme
30	Perturbation de faible étendue
Dec.	
1	Perturbation de faible étendue
2	Presque calme
3	Perturbation de faible étendue
4	Calme
5	Agité

S.O.L.

Observations de l'Observatoire Royal d'Arcetri-Catania

URSIGRAMMES

du 2.11 au 8.11.1939 :	52XX3	107X5	XXXXX	63XX3	120X5
	X5182	73XX2	X92X5	XXXXX	1XXXX
	22XX3	13310	XXXXX	32XX3	150X6
	XXXXX	42232	X45X6	X5X70	
du 9.11 au 15.11.1939 :	51XX1	X71X5	X5X83	61XX3	X76X5
	XXXXX	72233	X74X4	X6X60	12XXX
	130X7	XXXXX	2XXXX	32XX3	102X5
	XXXXX	42333	123X7	X9X80	

Eruzioni cromosferiche debole intensita presso lembo Est.

du 16.11 au 22.11.1939 :	52XX3	131X6	X7113	63XX3	132X4
	X8114	72XX3	114X5	X9139	13XX3
	188X6	X6X90	22XX2	X68X5	XXXXX
	33XX3	X75X5	XXXXX	42XX3	X69X4
	X6X40				
du 23.11 au 29.11.1939 :	53341	X82X8	X8X72	63343	X85X9
	11115	73XX3	101X9	X5123	13XX3
	X84X6	X7X68	22XX2	X57X6	X8X88
	32XX3	X60X8	XXXXX	4XXXX	
du 30.11 au 6.12.1939 :	5XXXX	62XX3	X70X6	10238	72XX3
	X64X5	10238	12XX3	X7011	X6X98
	2XXXX	X47X3	XXXXX	31XX2	X45X8
	X6X47	4XXXX			

TRADUCTION

ACTIVITE SOLAIRE

Date	Activité générale	Activité d'après les plages faculaires brillantes	Activité d'après les filaments	Variation de l'activité générale
1939 Nov. 2	Moyenne	=	=	Constante
3	Grande	=	=	Constante
4	Grande	=	=	Décroissante
5	=	=	=	=
6	Moyenne	=	=	Constante
7	Moyenne	=	=	Constante
8	Moyenne	Faible	Assez intense	Décroissante
9	Faible	=	=	Croissante
10	Faible	=	=	Constante
11	Moyenne	Faible	Assez intense	Constante
12	Moyenne	=	=	=
13	=	=	=	=
14	Moyenne	=	=	Constante
15	Moyenne	Assez intense	Assez intense	Constante
16	Moyenne	=	=	Constante
17	Grande	=	=	Constante
18	Moyenne	=	=	Constante
19	Grande	=	=	Constante
20	Moyenne	=	=	Décroissante
21	Grande	=	=	Constante

Date Nov.				
22	Moyenne	=	=	Constante
23	Grande	Assez intense	Intense	Croissante
24	Grande	Assez intense	Intense	Constante
25	Grande	=	=	Constante
26	Grande	=	=	Constante
27	Moyenne	=	=	Décroissante
28	Moyenne	=	=	Constante
29	=	=	=	=
30	=	=	=	=
Déc. 1	Moyenne	=	=	Constante
2	Moyenne	=	=	Constante
3	Moyenne	=	=	Constante
4	=	=	=	=
5	Faible	=	=	Décroissante
6	=	=	=	=

TACHES ET PROTUBERANCES

Date	Nombres relatifs de		Nombre de protubérances sur le bord	Superficie totale des protubérances
	taches	plages faculaires visibles sur le disque		
1939 Nov.				
2	107	5	=	=
3	120	5	5	1820
4	92	5	=	=
5	=	=	=	=
6	133	10	=	=
7	150	6	=	=
8	45	6	5	700
9	71	5	5	830
10	76	5	=	=
11	74	4	6	600
12	130	7	=	=
13	=	=	=	=
14	102	5	=	=
15	123	7	9	800
16	131	6	7	1130
17	132	4	8	1140
18	114	5	9	1390
19	188	6	6	900
20	68	5	=	=
21	75	5	=	=
22	69	4	6	400
23	82	8	8	720

1939 Nov.				
24	85	9	11	1150
25	101	9	5	1230
26	84	6	7	680
27	57	6	8	880
28	60	8	=	=
29	=	=	=	=
30	=	=	=	=
Déc.				
1	70	6	10	2380
2	64	5	10	2380
3	70	11	6	980
4	47	3	=	=
5	45	8	6	470
6	=	=	=	=

NOTE

Semaine du 9 au 15.11.1939 : Eruption chromosphérique de faible intensité voisine du bord Est.

K.H.L.

Observations du Centre Radioélectrique Expérimental " G.Marconi "

URSIGRAMMES

du 8.11.1939 : 10811 12112 12212 24224 12312 25325 12412
25425 12512 27527 276XX

du 15.11.1939: 11511 12113 13213 13313 13415 27527 276XX

du 22.11.1939: 12211 13113 24224 24325 25427 27527 286XX

du 29.11.1939: 12911 10112 12215 21221 25325 25425 25525
256XX

du 6.12.1939 : 10611 12112 19121 33233 36336 37437 37537
396XX

TRADUCTION

Fréq.	Hauteurs (Km.)				
Mc/S.	8.11.1939	15.11.1939	22.11.1939	29.11.1939	6.12.1939
2,5	120	120	130	100	120 190
3	120	130	130	120	120 210
3,5	120 240	130	240	120 210	330
4	120 240	130	240	150 210	330
4,5	120 250	130	240	250	360
5	120 250	130	250	250	360
5,5	120 250	130	250	250	370
6	120 250	150	270	250	370
6,5	120 270	270	270	250	370
7	120 270	270	270	250	370
7,5	270	270	280	250	390

F.A.D.

du 5.11.1939 au 6.12.1939 : NIL

COMITE NATIONAL JAPONAIS

JAPANESE NATIONAL COMMITTEE

I.- PROGRAMME - CODE

Le programme et le code des Ursigrammes Japonais ont été publiés dans le " Report of Radio Research in Japan " Vol.VI, n°3, Décembre 1936, p.u.13 et dans le Bulletin Mensuel de l'U.R.S.I. n°10, Oct.1938, Document n°520, p.12

. Program and code of Japanese Ursigrams are published in " Report of Radio Research in Japan ", Vol.VI, n°3, December 1936, p.u. 13 and in URSI Monthly Bulletin, n°10, Oct.1938, Document n°520, p. 12.

Des copies de ce document peuvent être obtenues en s'adressant au Secrétariat Général à Bruxelles.

Copies of this paper are sent on request by the General Secretary's Office in Brussels.

II.- URSIGRAMMES - URSIGRAMS

Date	Sunspot		Prominence				Terrestrial Magnetism	Kennelly-Heaviside Layer Heights			Fade-Outs in Radio Communications GMT
	Groups	Spots	Number		Area		State	Near. hour GMT	Freq.	Ht.	
			E	W	E	W					
1939 June									kc/s	Km.	
1	..	...	..	..	..	..	Rather calm				
2	15	113	3	4	8	4	Rather calm				
3	13	136	7	7	16	8	Rather calm				
4	13	91	..	..	..	..	Rather calm	0300	4,000	150	
									6,000	470	
									8,000	550	
5	10	124	5	7	7	11	Rather calm				
6	9	66	..	..	..	..	Rather calm				
7	..	...	..	..	..	..	Calm				
8	..	...	..	..	..	..	Calm				
9	9	90	..	..	..	..	Calm				
10	10	97	1	4	1	5	Rather calm				
11	..	...	..	..	..	..	Calm	0300	4,000	160	
									6,000	460	
									8,000	500	
									10,000	+	

1939 June										
12	..	...	..	..	..	..	Calm			
13	..	...	..	..	..	..	Rather calm			
14	9	98	5	6	5	12	Slight disturbance			
15	8	135	5	5	5	8	Rather calm			
16	9	112	3	4	8	4	Slight disturbance			
17	9	107	4	4	14	14	Rather calm			
18	8	82	3	4	8	12	Slight disturbance			
19	8	83	3	3	9	33	Rather calm	0300	4,000	+
			(W limb high prominence, height 200000 km.)						6,000	110
									8,000	520
20	9	68	5	7	11	10	Rather calm			
21	5	48	3	6	8	6	Rather calm			
22	..	...	..	..	..	..	Rather calm			
23	7	53	..	..	..	..	Rather calm			
24	9	68	7	5	14	12	Calm			
25	..	...	..	..	..	..	Calm	0300	4,000	+
									6,000	+
									8,000	470
									10,000	640
26	..	...	..	..	..	..	Slight disturbance			
27	..	...	..	..	..	..	Slight disturbance			
28	..	...	..	..	..	..	Rather calm			
29	..	...	..	..	..	..	Rather calm			
30	..	...	..	..	..	..	Calm			
July 1	..	...	..	..	..	..	Calm			
2	11	119	9	8	11	14	Calm			
3	12	73	8	3	4	6	Slight disturbance			
4	13	117	5	5	4	12	Slight disturbance	0300	4,000	+
									6,000	540
									8,000	+
5	..	...	..	..	..	..	Disturbance			
6	8	103	4	7	3	11	Rather calm			
7	9	169	3	8	8	19	Calm			
8	7	189	3	5	14	9	Calm			0055
9	5	220	7	2	12	2	Calm			
	(Meritian passage of large group of spots)									
10	7	212	4	5	14	5	Calm			0223
			(N E limb high eruptive prominence, height 150000 km.)							
11	..	...	..	..	..	..	Slight disturbance			0930

1939 July											
12	99	196	9	3	18	9	Rather calm	0300	4,000	+	
									6,000	450	
									8,000	500	
									10,000	+	
13	7	104	3	4	21	10	Calm				
14	11	97	4	5	1[illegible]	10	Slight disturbance				
15	8	60	4	5	6	8	Rather calm				
16	6	52	7	1	6	1	Slight disturbance				0208
17	5	105	6	4	10	8	Rather calm				0754
18	5	122	4	5	7	7	Rather calm				0408
(Central meridian passage of large groups of spots)											
19	4	172	6	8	7	8	Slight disturbance				
20	6	147	5	5	8	11	Slight disturbance				
21	6	143	3	4	15	7	Slight disturbance				
(Central meridian passage of a large group of spots)											
22	7	121	4	5	6	8	Slight disturbance				
23	..	...	..	..	..	..	Rather calm				
24	7	106	7	5	9	6	Rather calm				
25	6	77	3	8	7	18	Rather calm				
26	5	59	9	5	16	8	Slight disturbance	0300	4,000	+	
									6,000	110	
									8,000	110	
									10,000	100	
									12,000	110	
27	4	64	4	5	9	13	Rather calm				
28	6	50	4	3	7	12	Rather calm				
29	7	44	7	6	1[illegible]	22	Calm				
30	6	36	4	4	1[illegible]	6	Calm				
31	7	32	4	9	24	20	Calm	0300	4,000	100	
(E limb very broad prominence breadth 410000 km.)									6,000	110	
									8,000	420	
									10,000	500	
Aug.											
1	6	58	8	5	22	21	Calm				
(W limb very broad prominence, breadth 300000 km.)											
2	6	66	..	..	..	..	Calm				
3	7	94	4	5	11	21	Calm				
4	..	...	..	..	..	..	Calm				
5	..	...	..	..	..	..	Calm				
6	7	149	..	..	..	..	Calm				

1939 Aug.										
7	6	149	6	5	11	4	Calm	0300	4,000	110
									6,000	110
									8,000	420
									10,000	+
8	12	156	4	6	4	7	Calm			
9	9	167	6	3	8	7	Calm			
10	..	...	..	..	..	..	Slight disturbance			
11	10	150	8	3	38	11	Slight disturbance			
			(E W limb high prominence, height 108000 km. and N E limb broad prominence, breadth 340000 km.)							
12	11	165	4	7	21	5	Storm with sudden commencement			
13	10	155	6	4	22	13	Slight disturbance			
14	11	201	3	7	11	10	Rather calm	0300	4,000	+
									6,000	120
									8,000	400
									10,000	+
15	11	180	3	5	10	8	Rather calm			
16	11	141	6	2	6	2	Slight disturbance			
17	12	118	6	5	21	7	Slight disturbance			
18	11	155	6	8	21	14	Calm			
			(E S limb high prominence, height 110000 km.)							
19	..	...	..	..	..	..	Rather calm			
20	..	...	..	..	..	..	Rather calm			
21	..	...	..	..	..	..	Rather calm	0300	4,000	+
									6,000	120
									8,000	130
									10,000	300
									12,000	+
22	6	107	3	5	3	10	Storm with sudden commencement			
	(Central meridian passage of a large group of spots)									
23	4	92	5	4	2	4	Slight disturbance			
24	6	108	8	5	11	22	Rather calm			
25	7	80	10	3	11	26	Rather calm			
			(W limb high prominence, height 118000 km.)							
26	9	77	9	3	[illegible]	5	Calm			

1939 Aug.											
27	7	77	7	3	12	4	Calm				
28	6	68	6	6	11	12	Calm	0300	4,000	+	
									6,000	420	
									8,000	430	
									10,000	570	
29	6	77	8	8	7	19	Calm				0500
											0913
30	6	72	6	5	9	15	Rather calm				
31	6	105	5	11	11	19	Calm				

.. = No observation + = No echo
