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INTERNATIONAL SCIENTIFIC RADIO UNION

URSI

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AVRIL 1940 APRIL 1940

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 Mars .

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 March.

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°4 - 1939 -

Contents :

Some Circuits for Interstation Muting and Audio A.V.C., by S.J. Watson.

Abstract : In a broadcast receiver in which the audio driver is either a 6L7G or a 6G8G, interstation muting and audio A.V.C. can be achieved without the addition of an extra valve. A reduction of interstation noise of 20 decibels is easily obtained. The 6G8G circuit is of particular interest an account of the simplicity of the circuit and the small number of components involved.

A Refinement of the Half-Convergelcy Correction, by W.G. Baker, D.Sc.Eng.

Abstract : The underlying theory of the half-convergency correction to change from rhumb-line to great-circle bearings is examined, and corrections are developed which give satisfactory results for great distances. The formulae take into account terms involving the cube of the distance.

The Synchronisation of a Simple Relaxation Oscillator, by Geoffrey Builder, Ph.D. and N.F. Roberts, M. Sc.

Abstract : The conditions for synchronisation of a simple gasfilled triode relaxation oscillator by a sinoidal control voltage

were investigated by simple graphical methods and the results were confirmed experimentally.

A General-Purpose Communication Receiver, by A.L. Green and J.B. Rudd.

Abstract : The receiver is a 10-valve superheterodyne set of the general.purpose type, including built-in power supply and monito--ring speaker. The standard frequency coverage, with seven plug-in type coil units, is from 120 kilocycles to 20 megacycles. Other features include beat oscillator, crystal filter, signal-strength meter, and independent output valves for speaker and line output. In order to facilitate the operation of the controls, switches are provided for automatically rendering inoperative controls not re--quired for a specified type of reception.

The Relationship between the Power-Output Stage and the Loudspea--ker, by F. Langford Smith, B. Sc., B.E.

Abstract : A survey of the problems associated with the power-out-put stage with loudspeaker loading shows many factors not general--ly taken into account when each is considered separately. The distortion of each individual harmonic is considered in relation to the permissible limits for varying degrees of fidelity, and particularly in regard to spurious combination tones and cross mo--dulation. Elliptical loading produces harmonic distortion, and the usual graphical treatment of elliptical load lines is shown to be only an approximation. Triodes, also tetrodes and pentodes with and without negative feedback, are compared on various types of loading, and the design of loudspeaker transformers is conside--red in relation to each.

Index -

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				
1940 Feb.					
11	13XXX			1K201	32123
12	23XXX			2K343	23432
13	33XXX			3K222	13123
14	43XXX			4K120	21111
15	53XXX			5K313	32121
16	63XXX			6K131	21321
17	73XXX			7K012	21211
18	13XXX			1K011	00120
19	23XXX			2K000	00112
20	3597X	0100X	0800X	3K443	22243
21	43XXX			4K432	33322
22	53XXX			5K344	22211
23	6593X	2232X		6K332	11134
24	7595X	0100X		7K423	21213
	7593X	2209X			

No Cosmic data Ursigrams received for week beginning Feb.25 and ending March 2, 1940.

1940 March				
3	13XXX		1K221	11123
4	23XXX		2K010	02113
5	33XXX		3K120	10010
6	43XXX		4K001	00122
7	53XXX		5K120	11022
8	6593X	1930X	6K323	10034
9	7595X	0600X	7K663	31121

Two final MAG groups with K as second digit give eight indices for geomagnetic activity for three-hours pe--riods successively during 24 hours ending 24 GMT, 7 p.m. EST, Greenwich of week day indicated by figure before K, usually day preceding issuance. Indices ran--ge from zero very quiet to 9 extremely disturbed. Magnetic storm characterized by 5 or higher. K index described Journal Terrestrial Magnetism Atmospheric Electricity, December 1939.

MAGNETIC CHARACTER FIGURES

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 observatories of the Department of Terrestrial Magnetism located at Watheroo, Western Australia, and Huancayo, Peru.

Each observatory rates the magnetic activity of each half-day with the character-figure 0.0, 0.5, 1.0, 1.5, or 2.0; 2.0 signifying the greatest degree of magnetic disturbance and 0.0 signifying the least degree of or no magnetic disturbance.

Date	0h - 12h.	12h - 24h	Date	0h - 12h	12h - 24h
1940 Feb. 10	0.0	0.2		No cosmic data Ursigrams received for week begin-ning Feb.24 and ending March 1, 1940.	
11	0.0	0.5			
12	0.5	0.7			
13	0.0	0.4	1940 March 2	0.0	0.2
14	0.2	0.0	3	0.0	0.2
15	0.1	0.1	4	0.0	0.1
16	0.0	0.3	5	0.0	0.0
17	0.0	0.1	6	0.0	0.3
18	0.0	0.0	7	0.2	0.2
19	0.0	0.1	8	0.2	0.6
20	0.9	0.6			
21	0.6	0.4			
22	0.4	0.2			
23	0.0	0.3			

S.O.L.

U.S. Naval Observatory

Date	Groups	Spots	Area Sq. Degrees
1940 Feb.			
11	5	45	20
12	5	31	17
13	6	42	19
14	--	--	--
15	6	52	12
16	5	48	24
17	--	--	--
18	--	--	--
19	--	--	--
20	--	--	--
21	8	48	11
22	6	28	16
23	6	32	17
24	5	14	14
No Cosmic data Ursigrams received for week beginning Feb.25 and en--ding March 2, 1940			
March			
3	--	--	--
4	7	72	42
5	--	--	--
6	8	71	34
7	7	16	30
8	7	49	14
9	6	58	13

SUNSPOT NUMBERS

From the Department of Terrestrial Magnetism, Carnegie Institution, Washington.

Provisional Sunspot Numbers for January 1940

dependent alone on observations by W. Brunner at Zurich.

a = Passage of an average sized group through the central meri-dian.

b = Passage of a large group through the central meridian.

c = New formation of a groupe developing into a middle sized or large center of activity : E, on the eastern part of the sun's disc; W, on the western part; M, in the central circle zone.

d = Entrance of a large or average sized center of activity on the east limb.

Date	Number	Date	Number
1940 Jan.		1940 Jan.	
1	E 39[c]	17	..
2	37	18	64
3	42	19	59
4	..[b]	20	M 88[ac]
5	..[b]	21	71[a]
6	55+	22	75 +
7	..	23	52
8	38	24	34
9	M ..[c]	25	..[d]
10	41	26	54 +
11	E 50[c]	27	..
12	29	28	..
13	34	29	..
14	61	30	..
15	E 33[c] +	31	..
16	61[a]		

Mean 20 days 50.9

\+ Observed at Chur

K.H.L.

National Bureau of Standards

For Feb.14.		For Feb. 21.		For Feb.28.
3417x	78030	3417X	78029.	No Cosmic data Ursi--grams re--ceived.
25013	92031	25012	86031	
32015	92036	30013	86036	
32524	96032	32022	98035	
33022	96040	32527	98048	
33523	KHL	33024	KHL	
35019	34171	36022	34171	
36028	00035	40025	00036	
38023	00057	46027	04042	
40025	06045	62027	060XX	
50026	080XX	70027		
62029				

For March 6.

3417X	38022	96037
25012	40024	KHL
32012	46026	34171
34014	48027	00035
35016	62028	00044
35520	78028	02037
36022	86029	08055
36520	96032	100XX

JAPANESE URSIGRAMS

From Tokyo Station JAU 7327.5 Kc., received by the RCA San Francisco Station.

S.O.L.

1940

Feb. 17 : 50647 60673 70764 10564 20456 3XXXX 40657

Feb. 24 : 50686 60661 70673 10457 20646 3XXXX 40547

March 2 : No Cosmic data Ursigrams received

March 9 : 50758 6XXXX 70601 10484 20812 30730 40677
Saturday Monday and Tuesday add 100 to number of spots

P.R.O.

Feb. 17 : 54222 64232 74042 12010 23131 3XXXX 41023

Feb. 24 : 53124 64133 73141 13131 23231 3XXXX 43142
Thursday W Limb big prominence breadth 30000 Km.height 85000 Km.

March 2 : No Cosmic data Ursigrams received.

March 9 : 53021 6XXXX 72121 14121 26120 3XXXX 42220

M.A.G.

Feb. 17 : 80811 11111

Feb. 24 : 81511 00011

March 2 : No Cosmic data Ursigrams received

March 9 : 82911 00010

K.H.L.

Feb. 17 : 71303 25227 29431 42600

Feb. 24 : 72003 XX125 30332 39500

March 2 : No Cosmic data Ursigrams received

March 9 : 70503 99100 32334 38500

F.A.D.

1940
Feb. 17 : Nil

Feb. 24 : Nil

March 2 : No Cosmic data Ursigrams received

March 9 : Nil.

MANILA URSIGRAMS

M.A.G.

received at Navy Department

For February 1 to 14, 1940 :

Feb. 1 : 577XX 153XX 257XX 377XX 479XX 559XX 659XX 759XX
159XX 273XX 359XX 45XXX

For February 15 to 29, 1940 : No Cosmic data Ursigrams received.

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 6 au 12.3.1940 : 10611 33113 31120 00480 41188 88080
71115 15570

du 13 au 19.3.1940 : 11322 12213 71106 00480

du 20 au 26.3.1940 : 12032 33983 11188 88570 31119 00230
41108 00560 51113 40580 61118 71117
30210

du 27.3. au 2.4.1940 : 12722 99923 31113 20480 41188 88480
51188 88560 71116 00480

TRADUCTION

Date	Ursigrammes
1940 Mars 6	Presque calme
7	Presque calme
8	Agité
9	Agité
10	Presque calme

1940 Mars 11	Presque calme
12	Agité
13	Perturbation de faible étendue
14	Perturbation de faible étendue
15	Presque calme
16	Perturbation de faible étendue
17	Perturbation de faible étendue
18	Presque calme
19	Agité
20	Agité
21	Perturbation de faible étendue
22	Agité
23	Agité
24	Forte perturbation avec début vague
25	Perturbation modérée avec début vague
26	Agité
27	Perturbation de faible étendue
28	Perturbation de faible étendue
29	Forte perturbation avec début vague
30	Forte perturbation avec début vague
31	Forte perturbation avec début vague
Avril 1	Perturbation de faible étendue
2	Agité

S.O.L.

Observations de l'Observatoire Royal d'Arcetri-Catania

URSIGRAMMES

du 6 au 12.3.1940 : 53233 145X8 X4X29 62232 X92X6 10X73
72233 X72X7 X8100 12XX2 X82X8 XXXXX
22XX3 100X9 X4X35 32XX3 116X8 X5X81
42XX3 118X5 XXXXX

du 13 au 19.3.1940 : 52XX3 X76X5 XXXXX X62X7 X4X37 72233
X83X5 X9X54 12XX3 X55X6 X4X26 22XX3
X74X4 XXXXX 32XX3 X65X5 XXXXX 42XX3
X95X6 12X64

du 20 au 26.3.1940 : 53XX1 103X8 XXXXX 63XX1 135X8 XXXXX
7XXXX 14XX1 123X5 XXXXX 23XX3 170X6
XXXXX 34XX3 160X3 XXXXX 44XX3 19110
XXXXX Importante G.M. 11° Nord passato
Meridiano Centrale Giorno 26.

du 27.3. au 2.4.1940 : 53XX2 187X5 XXXXX 63XX3 150X2 XXXXX
73332 115X7 X2X20 13343 122X8 20113
23343 115X6 10X85 33343 X7710 20171
42XX2 X86X7 13105

TRADUCTION

ACTIVITE SOLAIRE

Date	Activité générale	Activité d'après les plages faculaires brillantes	Activité d'après les filaments	Variation de l'activité générale
1940 Mars 6	Grande	Peu intense	Assez intense	Constante
7	Moyenne	Peu intense	Assez intense	Constante

1940 Mars				
8	Moyenne	Peu intense	Assez intense	Constante
9	Moyenne	=	=	Décroissante
10	Moyenne	=	=	Constante
11	Moyenne	=	=	Constante
12	Moyenne	=	=	Constante
13	Moyenne	=	=	Constante
14	Moyenne	=	=	Constante
15	Moyenne	Peu intense	Assez intense	Constante
16	Moyenne	=	=	Constante
17	Moyenne	=	=	Constante
18	Moyenne	=	=	Constante
19	Moyenne	=	=	Constante
20	Grande	=	=	Croissante
21	Grande	=	=	Croissante
22	=	=	=	=
23	Très grande	=	=	Croissante
24	Grande	=	=	Constante
25	Très grande	=	=	Constante
26	Très grande	=	=	Constante
27	Grande	=	=	Décroissante
28	Grande	=	=	Constante
29	Grande	Assez intense	Assez intense	Décroissante
30	Grande	Assez intense	Intense	Constante
Avril 1	Grande	Assez intense	Intense	Constante
2	Moyenne	=	=	Décroissante

TACHES ET PROTUBERANCES

Date	Nombres relatifs de		Nombre de protubérances sur le bord	Superficie totale des protubérances
	taches	plages faculaires visibles sur le disque		
1940 Mars 6	145	8	4	290
7	92	6	10	730
8	72	7	8	1000
9	82	8	=	=
10	100	9	4	350
11	116	8	5	810
12	118	5	=	=
13	76	5	=	=
14	62	7	4	370
15	83	5	9	540
16	55	6	4	260
17	74	4	=	=
18	65	5	=	=
19	95	6	12	640
20	103	8	=	=
21	135	8	=	=
22	=	=	=	=
23	123	5	=	=
24	170	6	=	=
25	160	3	=	=

1940 Mars 26	191	10	=	=
27	187	5	=	=
28	150	2	=	=
29	115	7	2	200
30	122	8	20	1130
31	115	6	10	850
Avril 1	77	10	20	1710
2	86	7	13	1050

NOTE

26.3.1940 : Important groupe de taches 11° Nord a passé au méridien central dans la journée du 26.

K.H.L.

Observations du Centre Radioélectrique Expérimental G.Marconi

URSIGRAMMES

du 13.3.1940 : 11311 15115 16226 31335 35435 36538 386XX

du 20.3.1940 : 12011 15115 15226 28330 31434 36536 386XX

du 27.3.1940 : 12711 00100 16221 31331 31431 31533 336XX

du 3.4.1940 : 10311 13113 19223 33335 35435 35535 006XX

TRADUCTION

Fréquence	Hauteurs (Km,)			
Mc/S.	13.3.1940	20.3.1940	27.3.1940	3.4.1940
2,5	150	150	=	130
3	150	150	=	130
3,5	160	150	160	190
4	260	260	210	230
4,5	310	280	310	330
5	350	300	310	350
5,5	350	310	310	350
6	350	340	310	350
6,5	360	360	310	350
7	380	360	330	350
7,5	380	380	330	000

F.A.D.

du 6 au 12.3.1940 : Nil

du 13 au 19.3.1940: Nil

du 20 au 26.3.1940: 71045 10645 12312

du 27.3 au 2.4.1940: 70055 20130

TRADUCTION

Date	Fréquences K H Z	Début T.M.G.	Disparition totale des signaux R.T.	Retour des signaux	Rétablissement des communications normales
1940 Mars 23	16345	10h45m.	peu après	13h 05m.	13h 05 m.
	15450	" "	" "	12h 35m.	" "
	13380	" "	" "	" "	" "
	9750	" "	" "	" "	" "
24	16345	6h45m.	peu après	8h 45m.	8h 45 m.
	15450	" "	" "	" "	" "
	13380	" "	" "	" "	" "
	9750	" "	" "	" "	" "
25	15450	23h12m.	peu après	4h 00m.	5h 15 m.
	13380	" "	" "	" "	" "
	7525	" "	" "	" "	" "
	7500	" "	" "	" "	" "
	4545	" "	" "	" "	" "
30	15450	0h55m.	peu après	6h 50m.	7h 40 m.
	13380	" "	" "	" "	" "
	8942	" "	" "	" "	" "
	7525	" "	" "	" "	" "
	7500	" "	" "	" "	" "
	4545	" "	" "	" "	" "
Avril 1	15450	1h30m.	peu après	4h 30m.	5h 12 m.
	13380	" "	" "	" "	" "
	8942	" "	" "	" "	" "
	7525	" "	" "	" "	" "
	7500	" "	" "	" "	" "
	4545	" "	" "	" "	" "