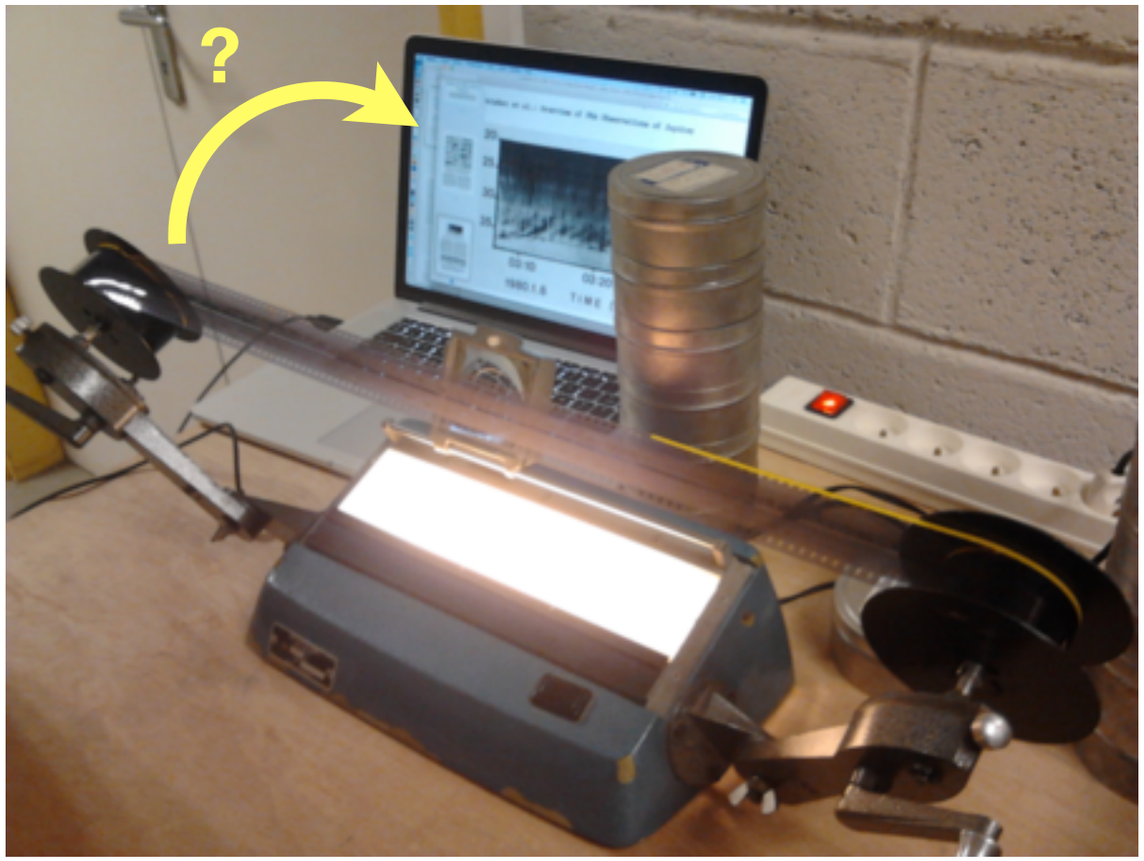
How to use the digitized version of Nançay Decametric archives ?

https://archives-decametriques.obspm.fr



L. Debisschop, L. Lamy, B. Cecconi, L. Denis & the NDA team
LESIA, Observatoire de Paris/PSL, USN

Meudon, 25 Jun. 2020

Data collections

<u>Data nomenclature :</u>

The data are organized within :

- directories corresponding to data collections
  Ex : RDN_S
- sub-directories corresponding to individual 35-mm rolls
  Ex : FR751142302_RDN_S_0416_1982

Within each sub-directory, the data are provided as individual TIF files/scans of the roll.

Ex : FR751142302_RDN_S_0416_1982_0243

The above colored text portions refer to :

FR751142302 : ID of the library of the Observatory of Paris
RDN (or IDN, Arecibo) : French acronym or name of radiotelescopes
S (or R, RN, M, SAO, TEST) : French acronym of receivers
0416 : Roll number within a data collection
1982 : Starting year
0243 : View number within a roll

Data collections

<u>I- Nançay Decameter Array (NDA/RDN)</u>

A- Spectro (S) receiver
B- Routine (R) receiver
C- Routine New (RN) receiver
D- Spectro Acousto-Optique (SAO) receiver

→ Exhaustive collection of daily observing sheets

<u>II- Nançay Decameter Interferometer (NDI/IDN)</u>

A- Spectro (S) receiver
B- Multi-channel (M) receiver

→ Few observing sheets

<u>III- Arecibo observing campaign</u>

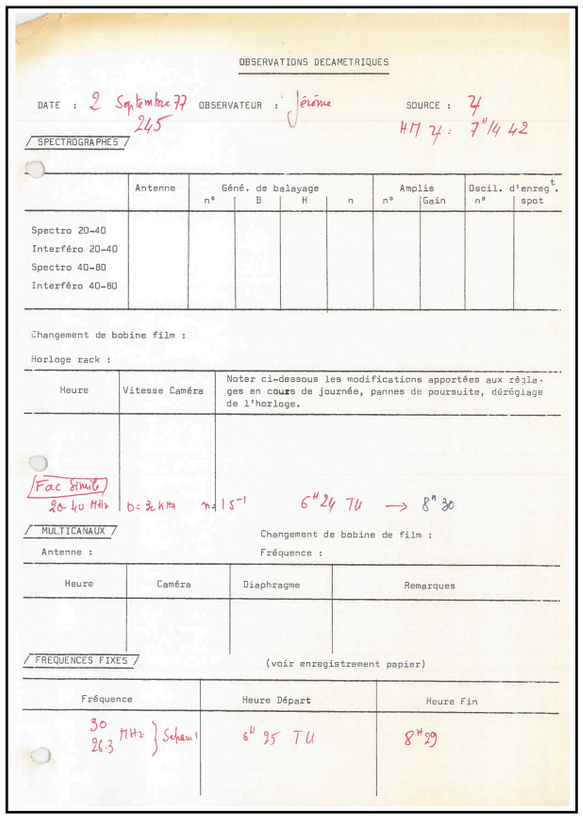
→ Dataset described in (Boischot et al., 1970)

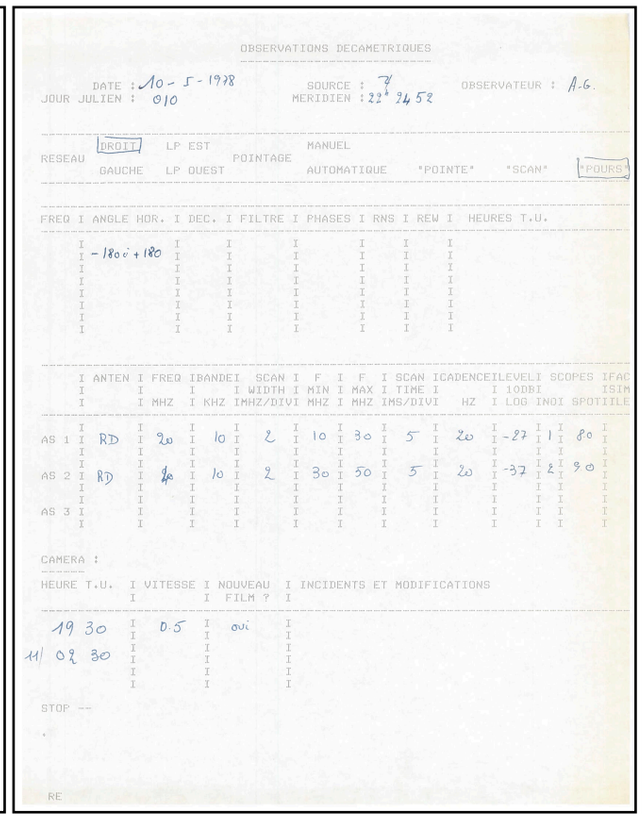
Data collections

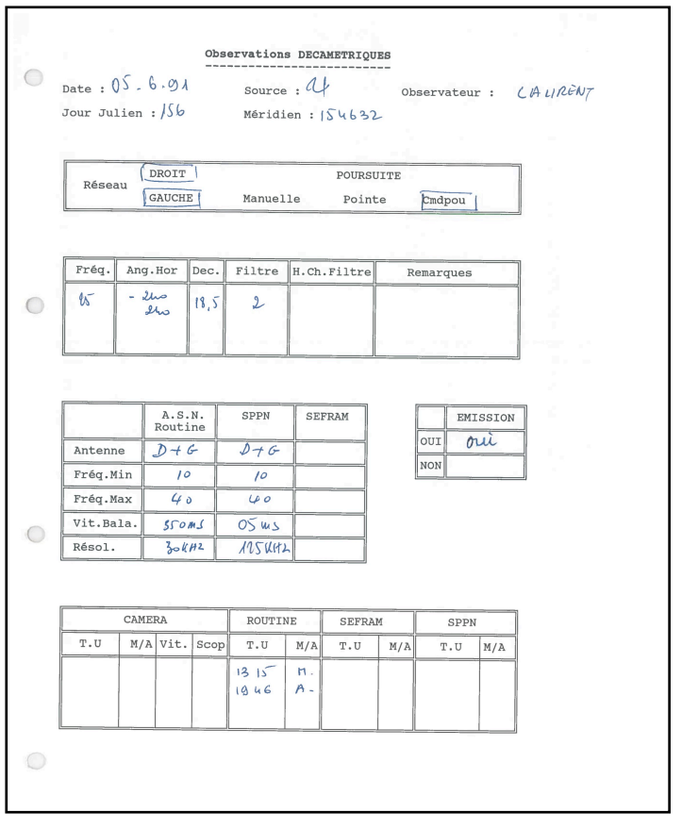
I- Nançay Decameter Array (NDA/RDN)

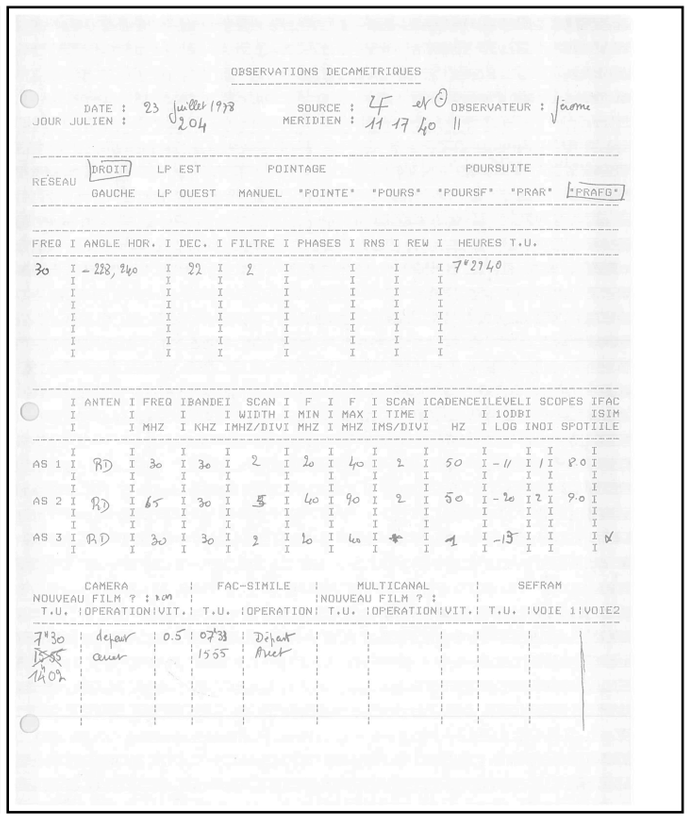
A- Spectro (S) receiver
B- Routine (R) receiver
C- Routine New (RN) receiver

→ Exhaustive collection of daily observing sheets





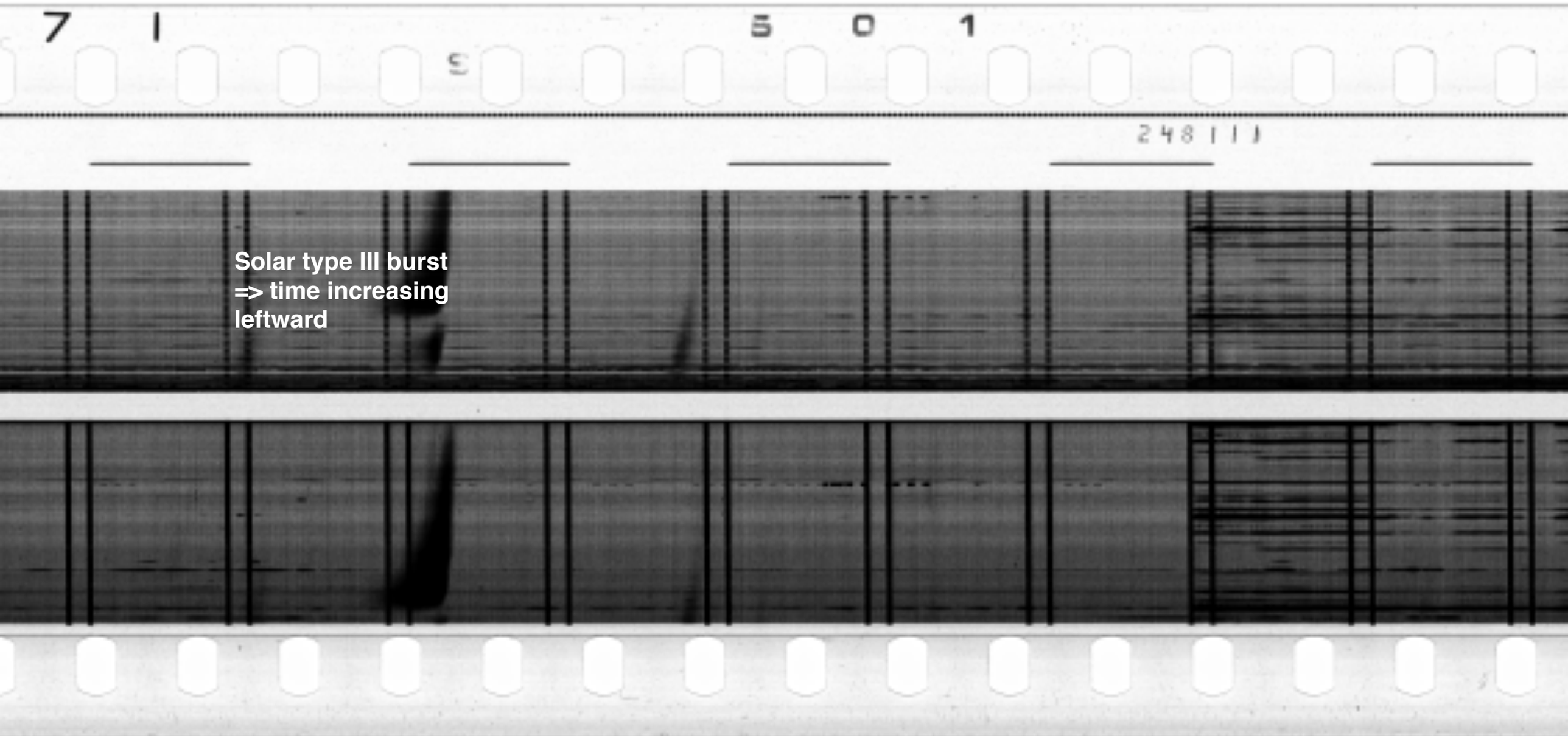




Various templates (in french but self-explanatory) used from 1977 to 1998
=> target, observing parameters, array configuration etc.

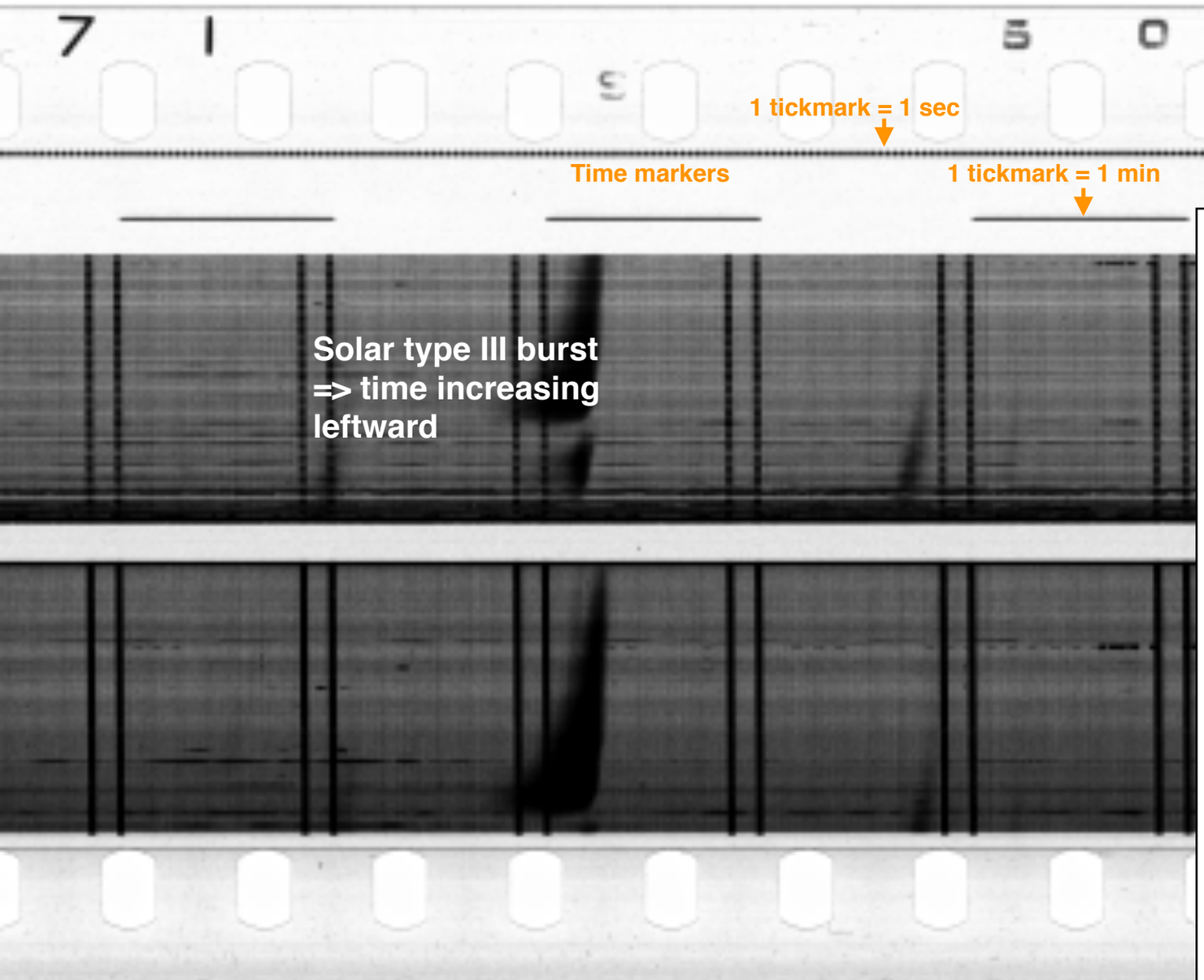
I-A Using RDN_S data

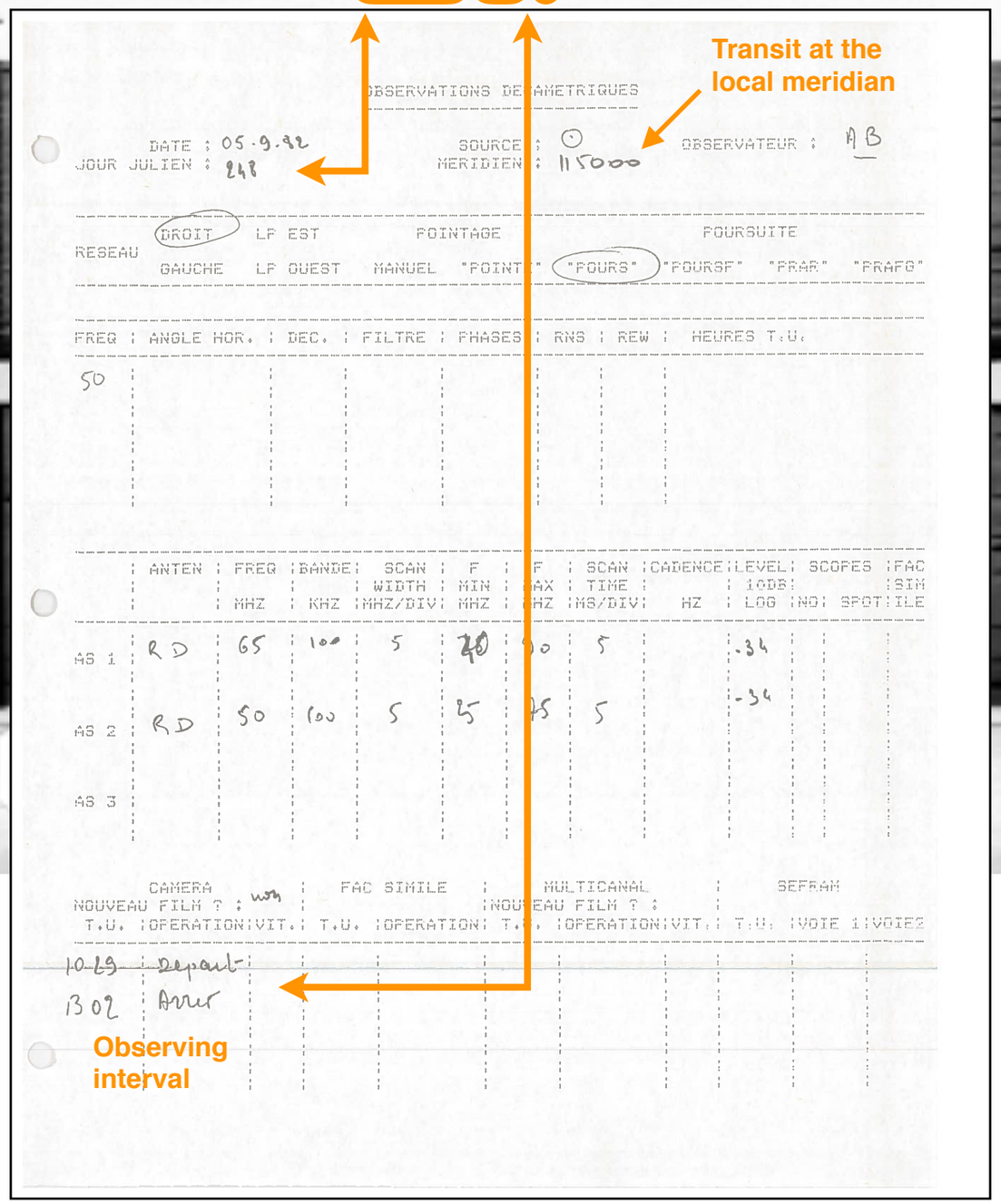
Example of data file : FR751142302_RDN_S_0416_1982_0243.TIF



I-A Using RDN_S data

Example of data file : FR751142302_RDN_S_0416_1982_0243.TIF

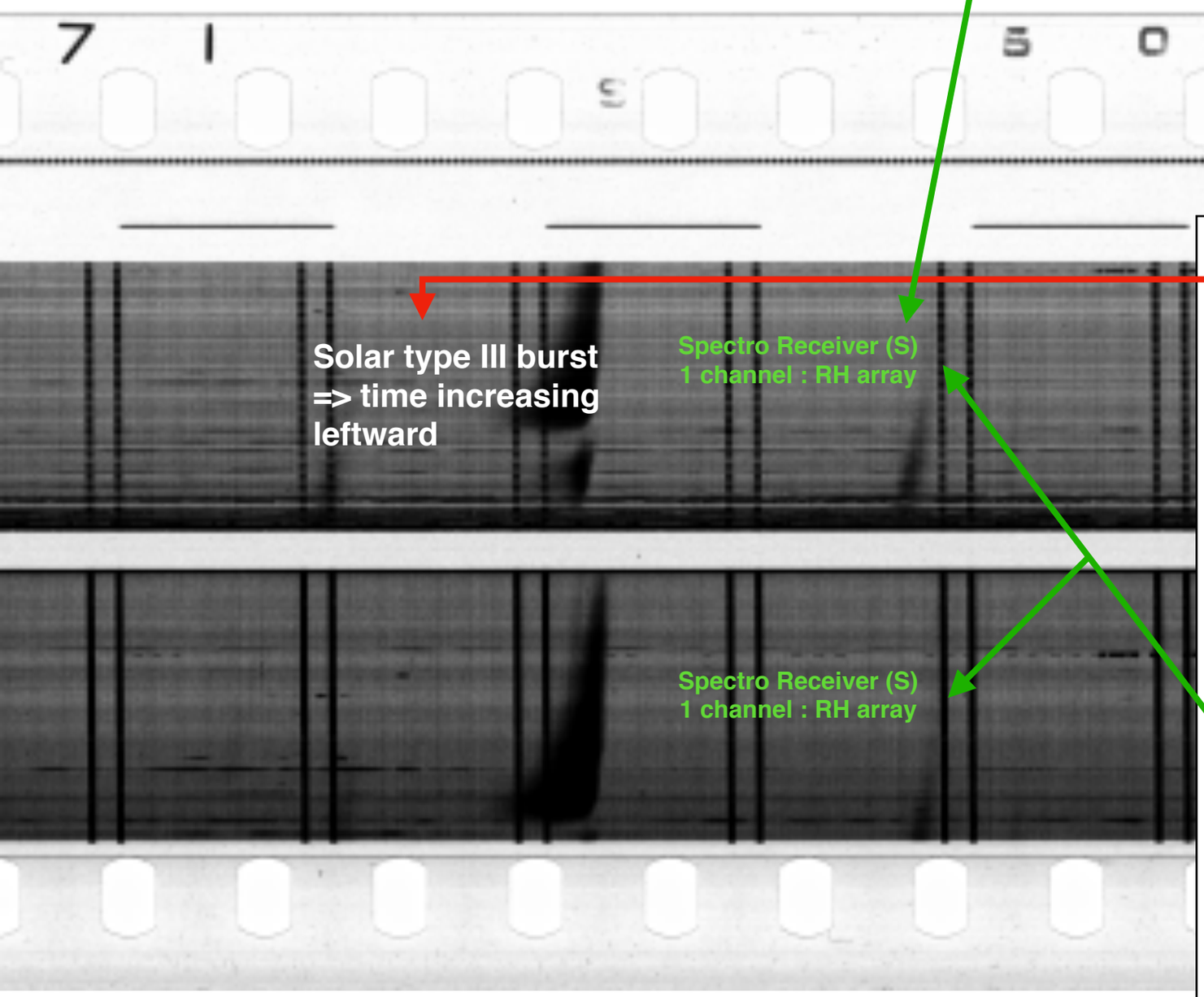


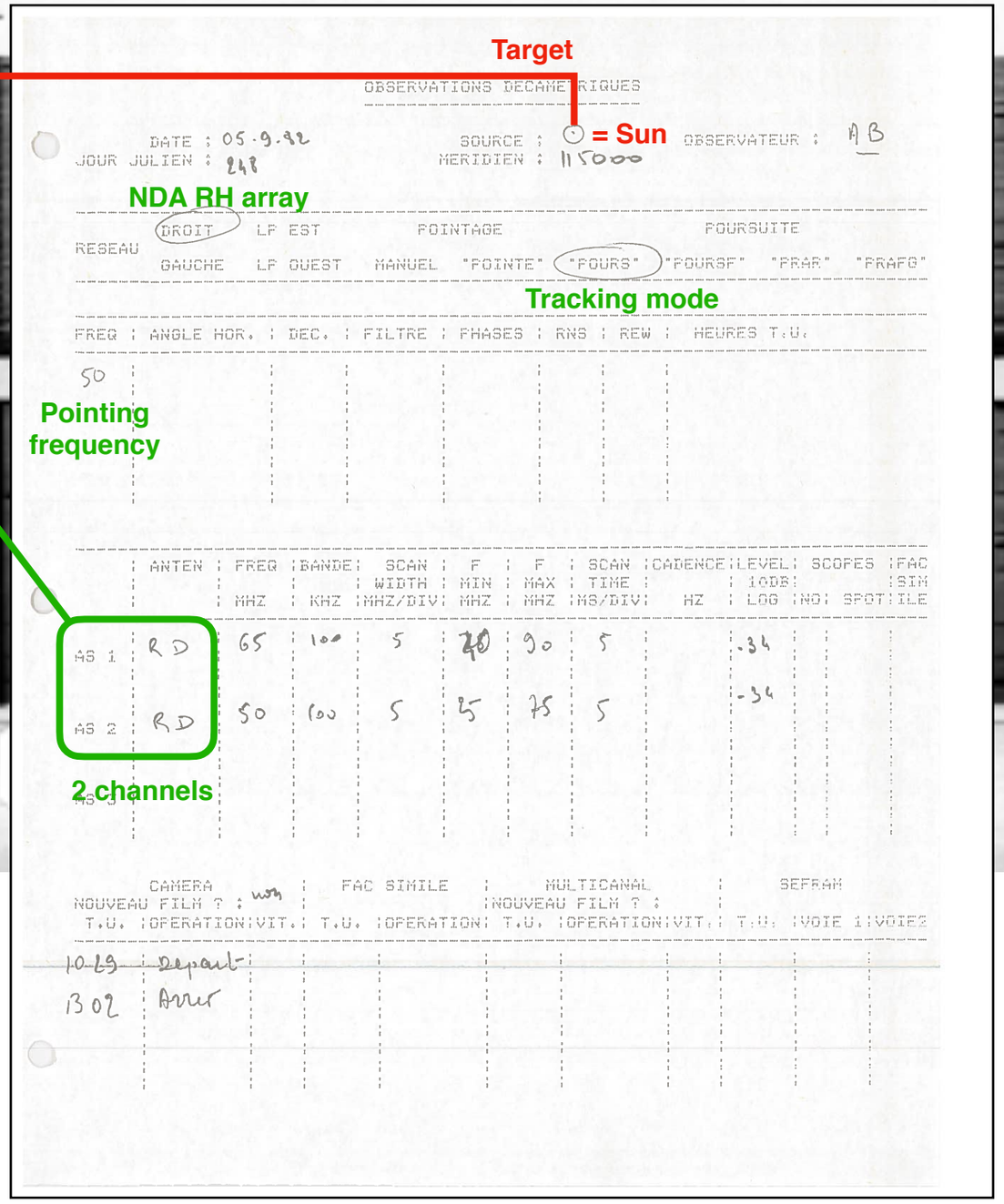


Observing sheet :
1982_09_05_SUN.pdf

I-A Using RDN_S data

Example of data file : FR751142302_RDN_S_0416_1982_0243.TIF

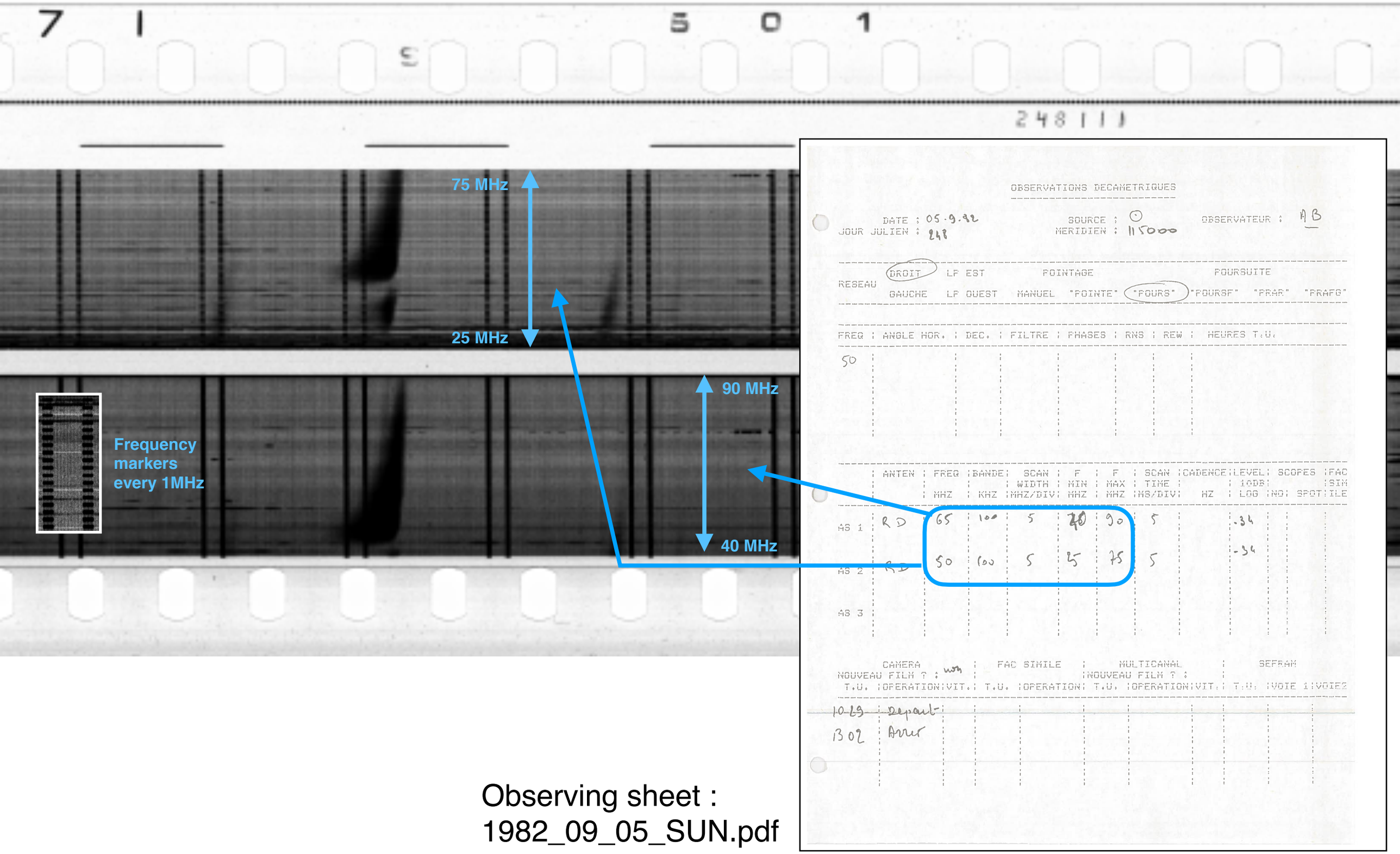




Observing sheet :
1982-09-05_SUN.pdf

I-A Using RDN_S data

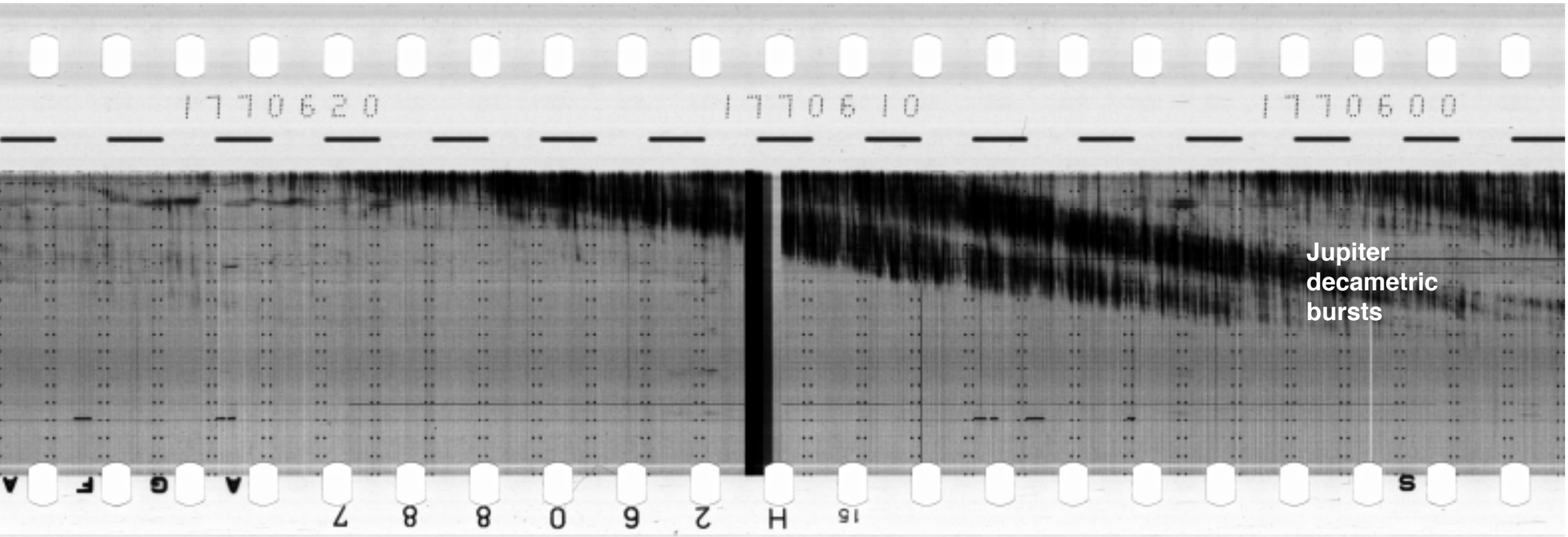
Example of data file : FR751142302_RDN_S_0416_1982_0243.TIF



Observing sheet :
1982_09_05_SUN.pdf

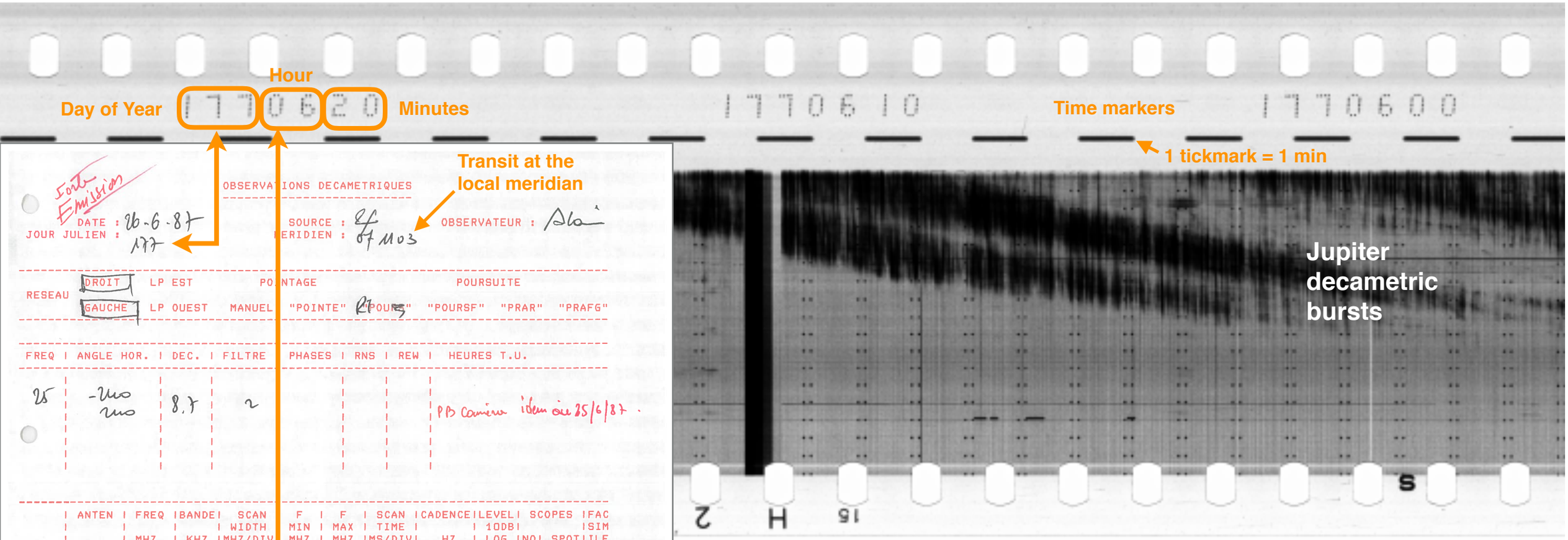
I-B Using RDN_R data

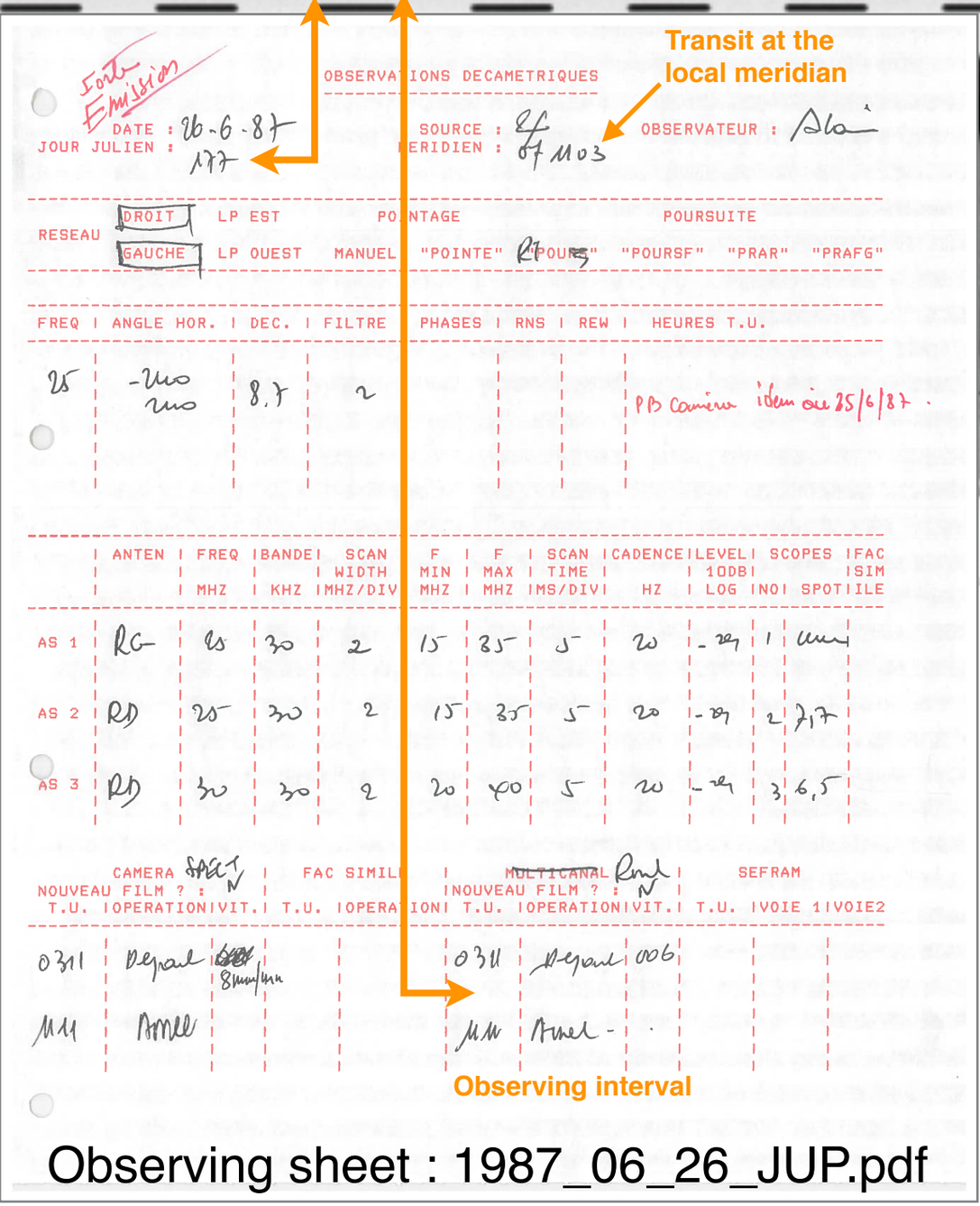
Example of data file : FR751142302_RDN_R_0130_1987_0274.TIF



I-B Using RDN_R data

Example of data file : FR751142302_RDN_R_0130_1987_0274.TIF

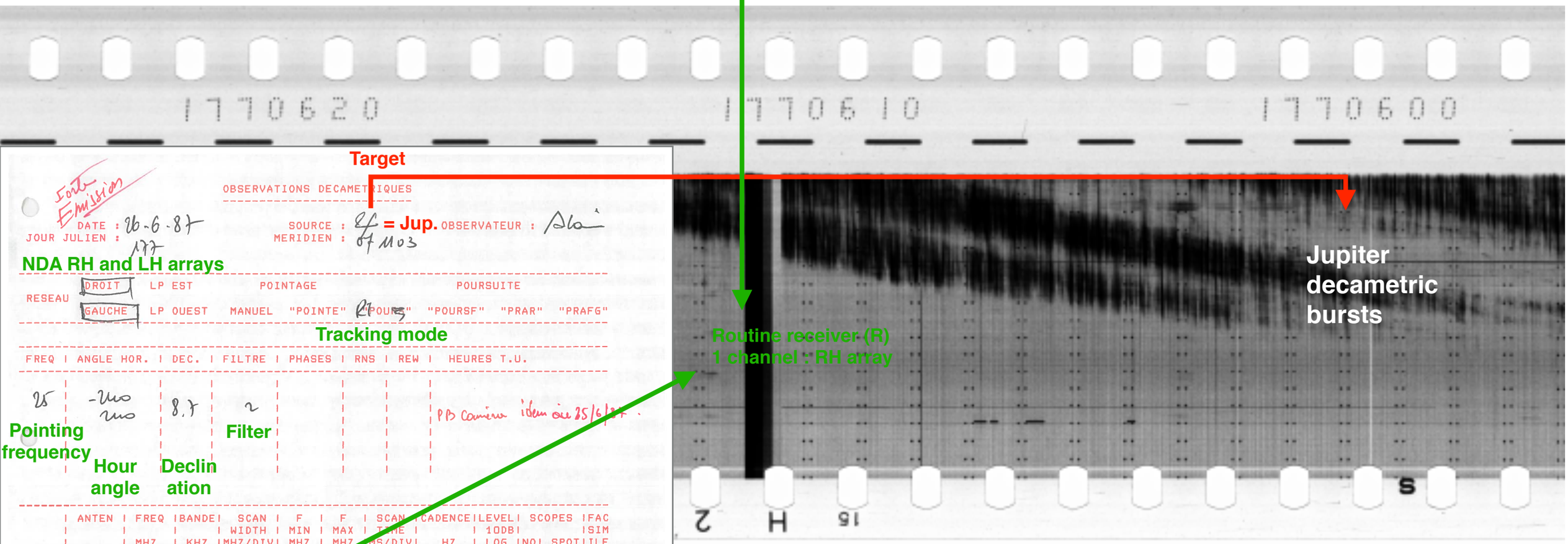


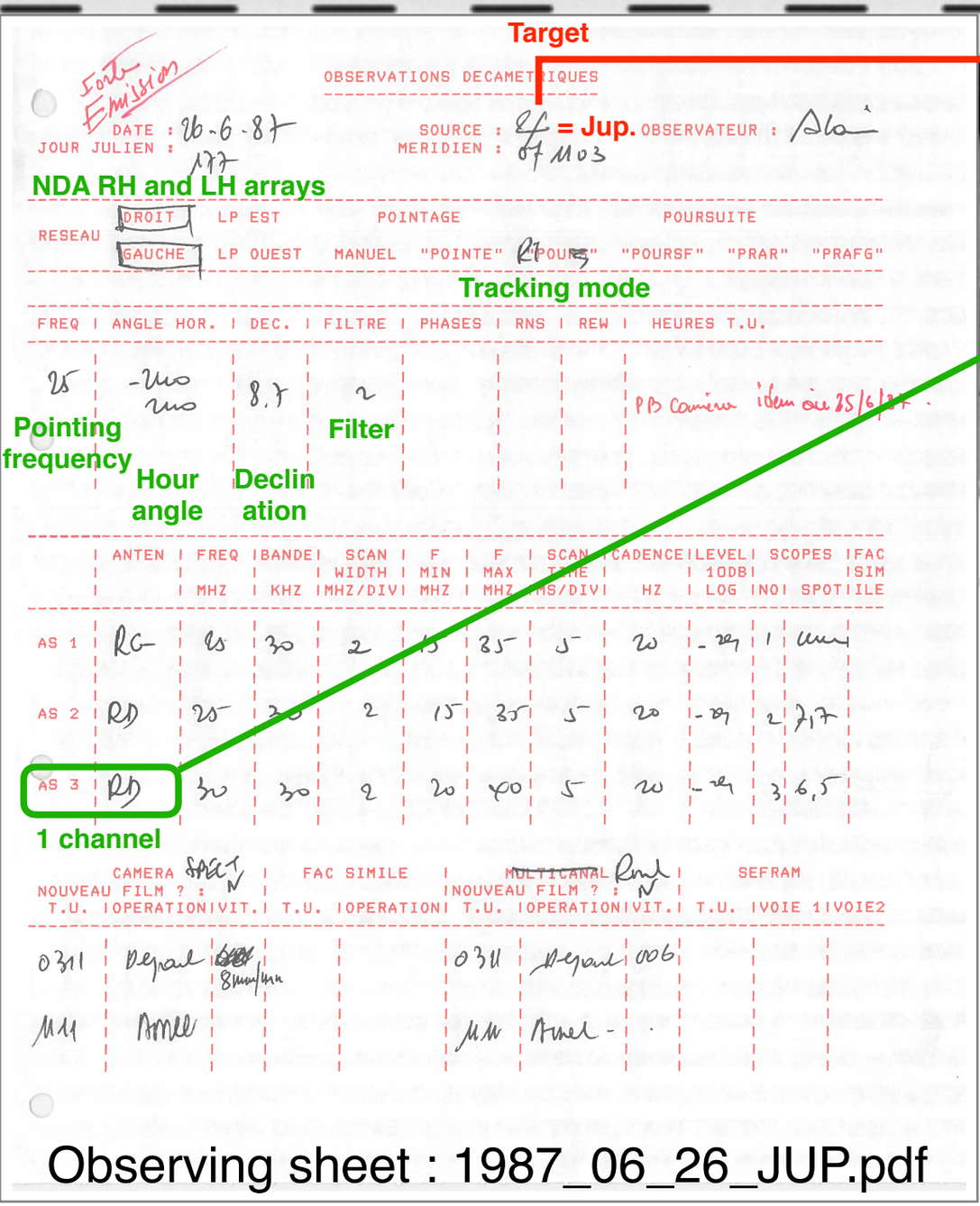


Observing sheet : 1987_06_26_JUP.pdf

I-B Using RDN_R data

Example of data file : FR751142302_RDN_R_0130_1987_0274.TIF

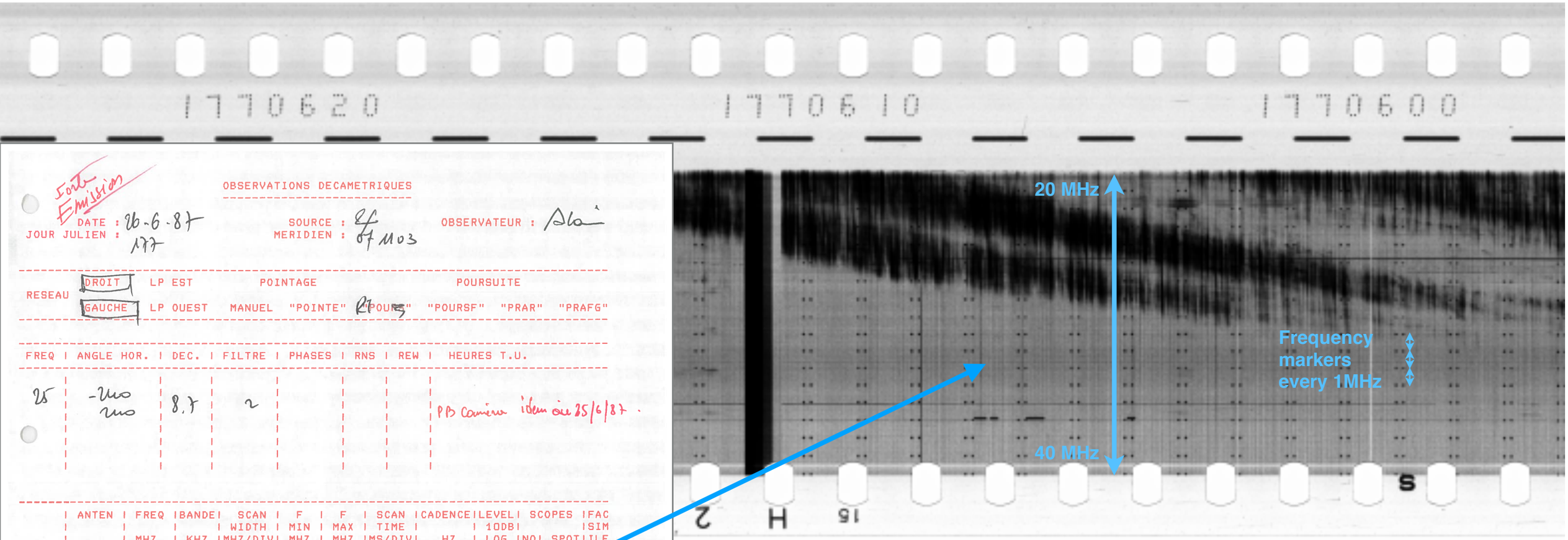


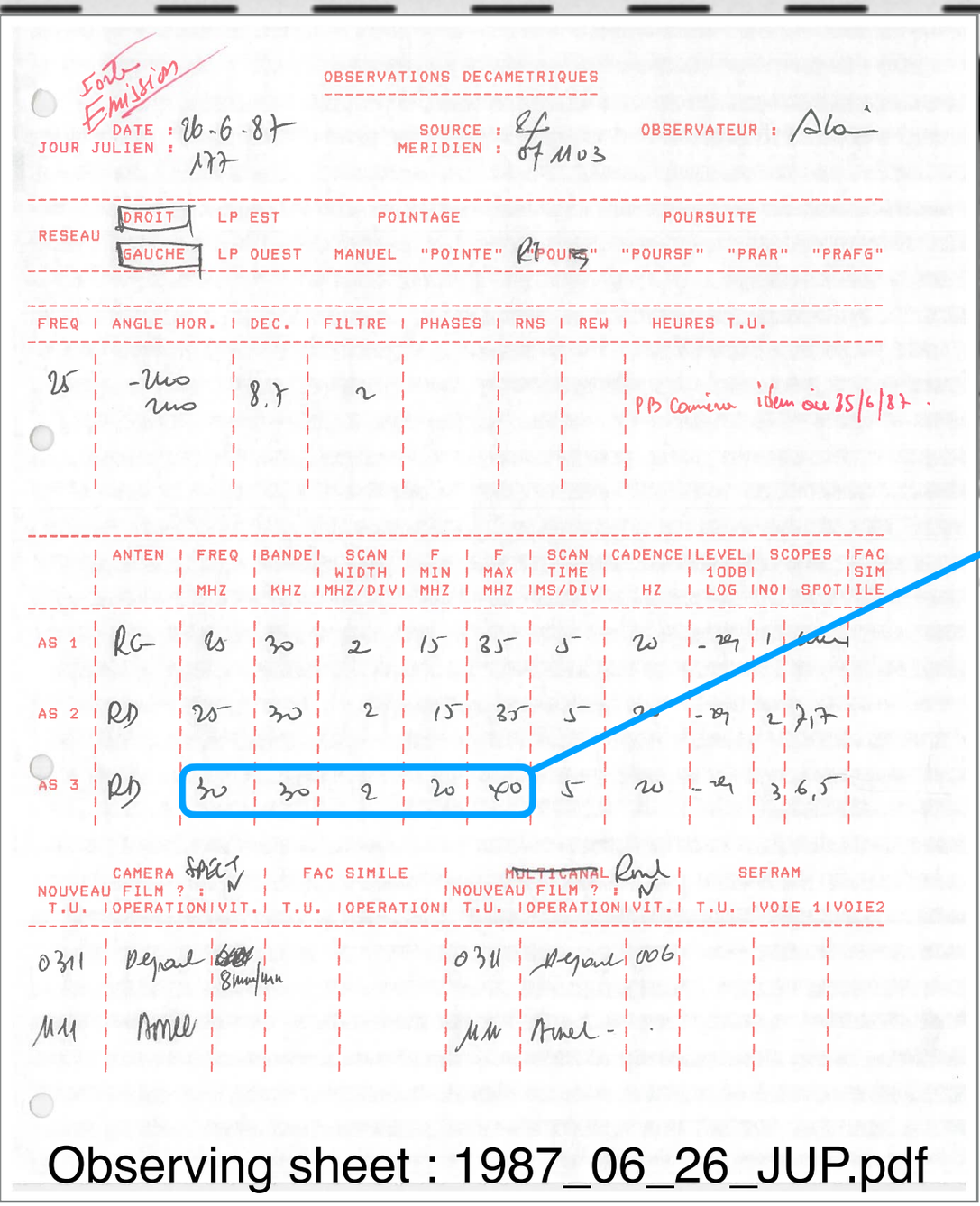


Observing sheet : 1987_06_26_JUP.pdf

I-B Using RDN_R data

Example of data file : FR751142302_RDN_R_0130_1987_0274.TIF





OBSERVATIONS DECAMETRIQUES

DATE : 26-6-87 JOUR JULIEN : 177 SOURCE : Ef MERIDIEN : 07 H 03 OBSERVATEUR : Alain

RESEAU DROIT LP EST GAUCHE LP OUEST POINTAGE MANUEL "POINTE" POURS" POURSUITE "POURSF" "PRAR" "PRAFG"

FREQ	ANGLE HOR.	DEC.	FILTRE	PHASES	RNS	REW	HEURES T.U.
25	-2mo 2mo	8,7	2				PB Caméra idem au 25/6/87

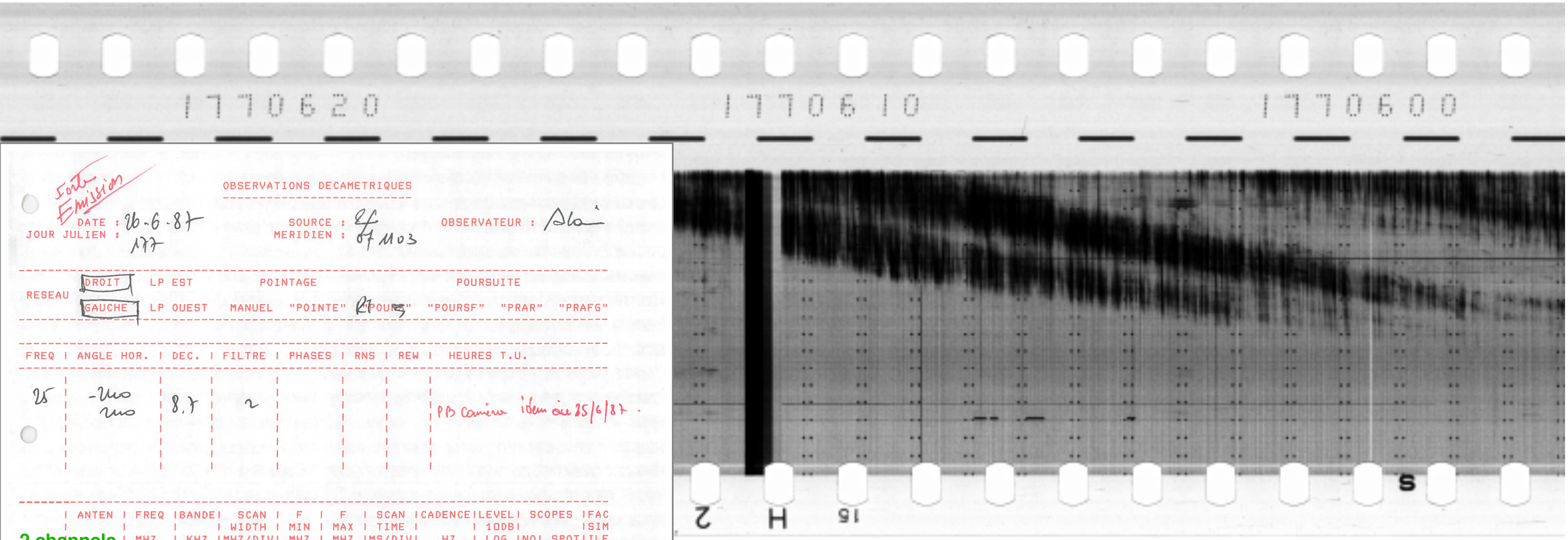
	ANTEN	FREQ MHZ	BANDE KHZ	SCAN WIDTH MHZ/DIV	F MIN MHZ	F MAX MHZ	SCAN TIME MS/DIV	CADENCE HZ	LEVEL 10DB LOG	SCOPES NO	SCOPES SPOT	FAC SIMILE
AS 1	RG	25	30	2	15	35	5	20	-29	1	[illegible]	
AS 2	RD	25	30	2	15	35	5	20	-29	2	7,7	
AS 3	RD	30	30	2	20	40	5	20	-29	3	6,5	

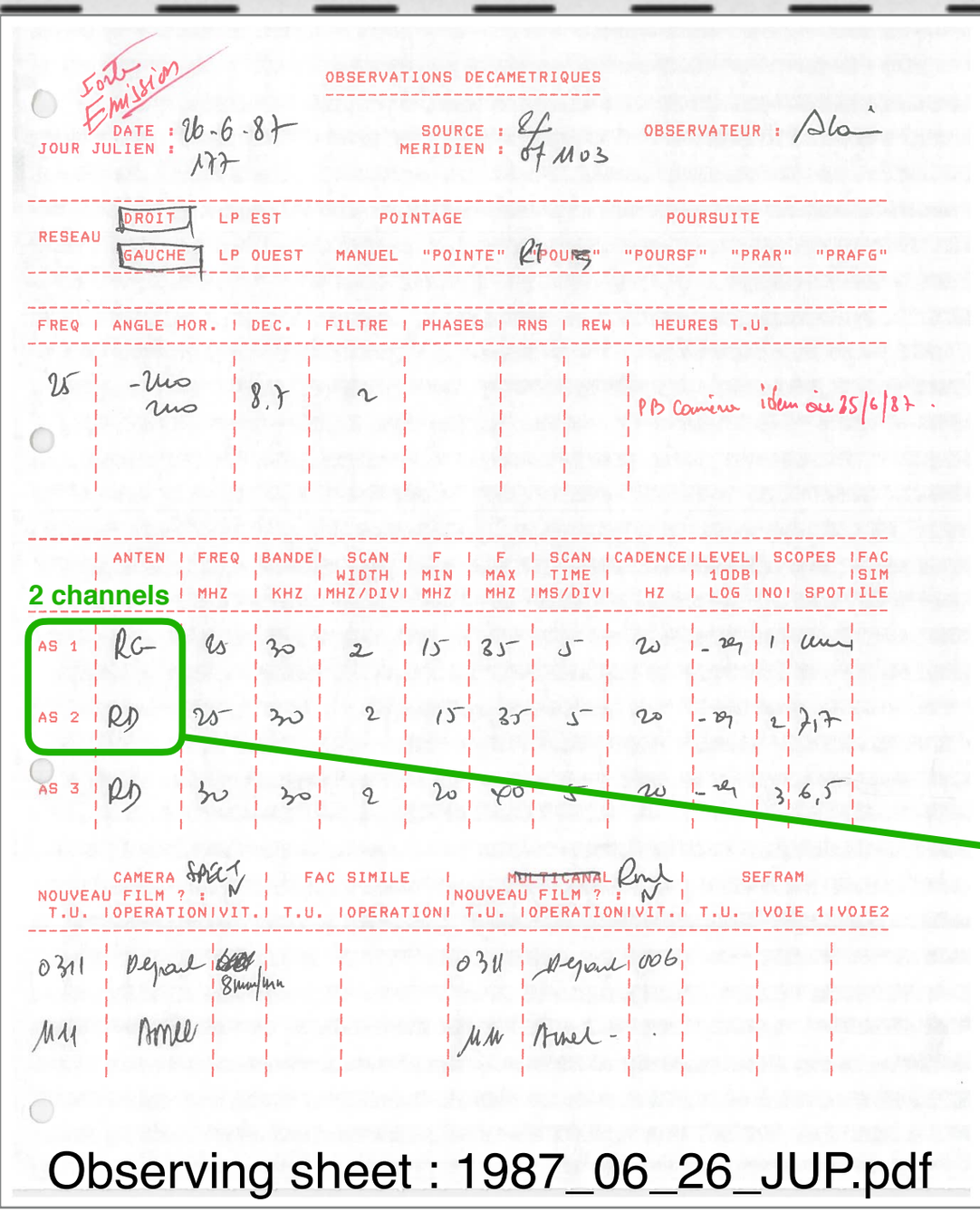
CAMERA ~~SPECT~~ NOUVEAU FILM ? : N T.U.	OPERATION	VIT.	FAC SIMILE T.U.	OPERATION	~~MULTICANAL~~ Rmt NOUVEAU FILM ? : N T.U.	OPERATION	VIT.	SEFRAM T.U.	VOIE 1	VOIE2
0311	Depaul	~~[illegible]~~ 8mm/mn			0311	Depaul	006			
1111	Amel				1111	Amel -				

Observing sheet : 1987_06_26_JUP.pdf

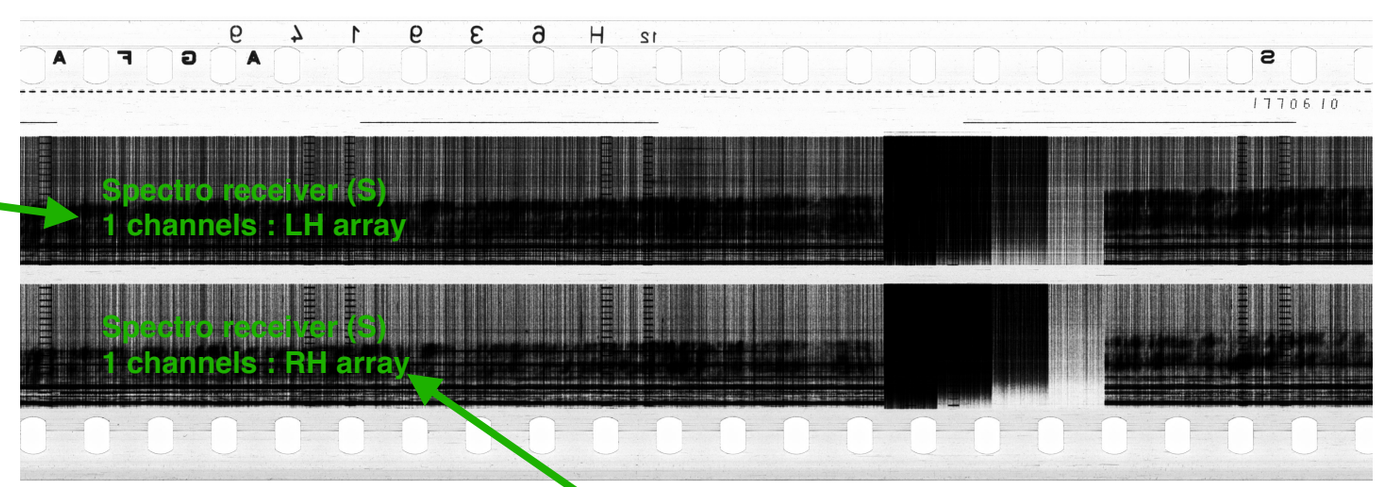
I-B Using RDN_R data

Example of data file : FR751142302_RDN_R_0130_1987_0274.TIF





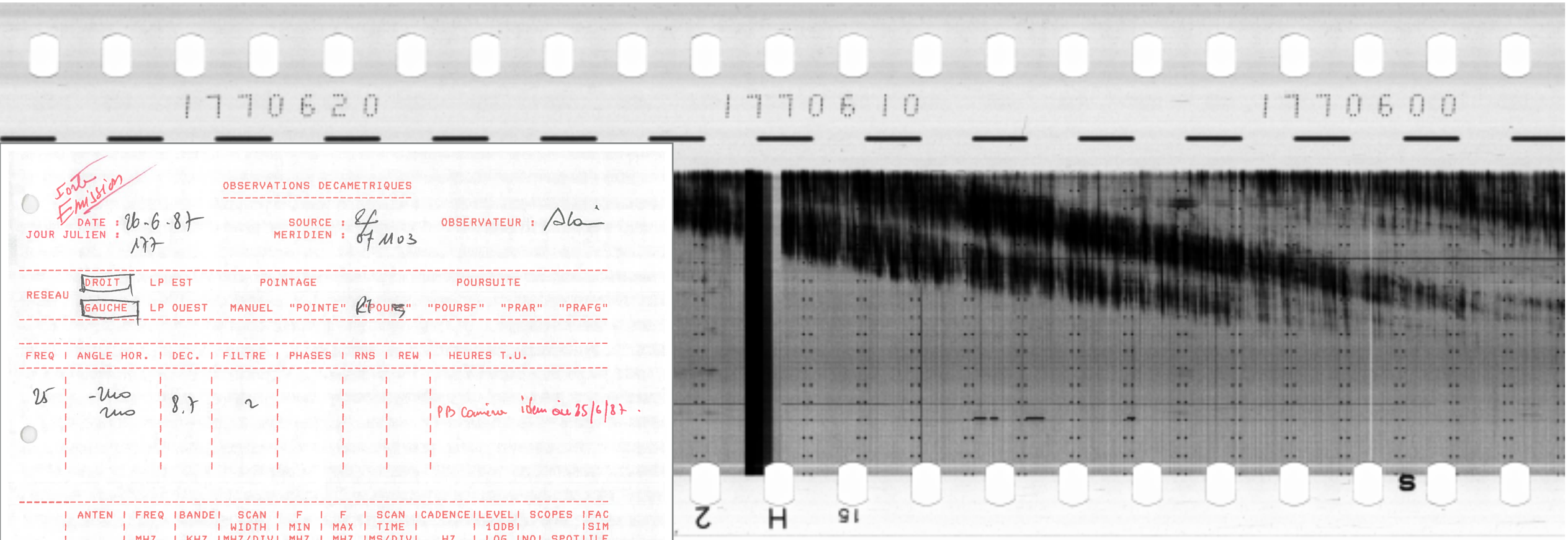
Observing sheet : 1987_06_26_JUP.pdf

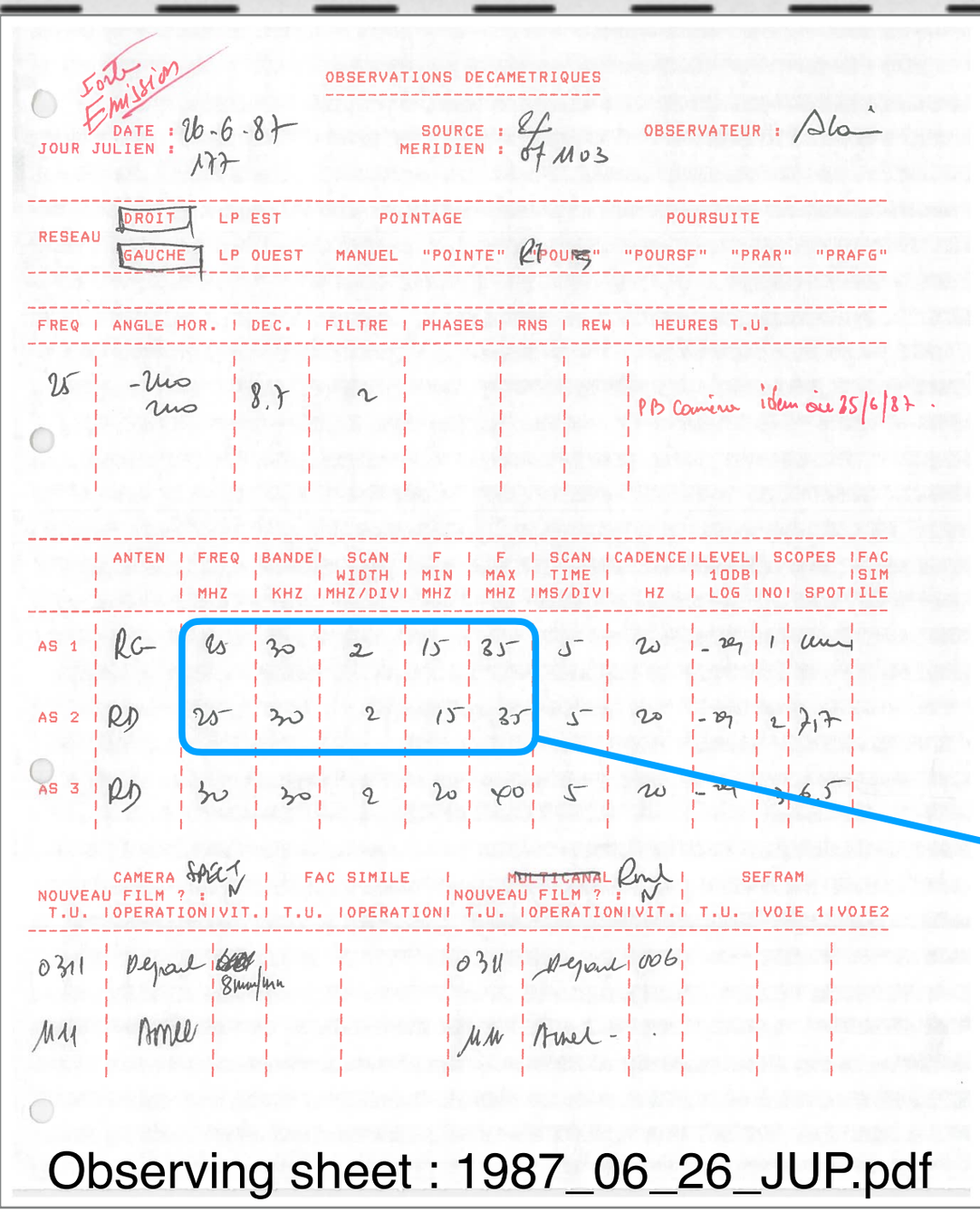


Parallel observation with the S receiver :
FR751142302_RDN_S_0594_1987_0312.TIF

I-B Using RDN_R data

Example of data file : FR751142302_RDN_R_0130_1987_0274.TIF





Forte Emission

OBSERVATIONS DECAMETRIQUES

DATE : 26-6-87 JOUR JULIEN : 177 SOURCE : Ef MERIDIEN : 07 H 03 OBSERVATEUR : Alain

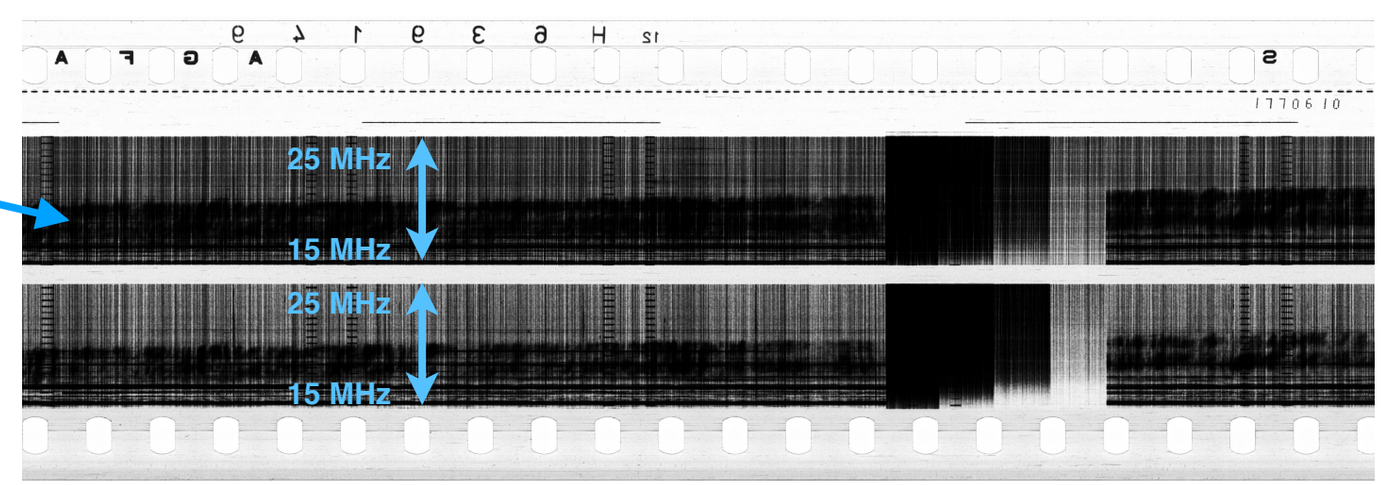
RESEAU DROIT LP EST POINTAGE POURSUITE
GAUCHE LP OUEST MANUEL "POINTE" "POURS" "POURSF" "PRAR" "PRAFG"

FREQ	ANGLE HOR.	DEC.	FILTRE	PHASES	RNS	REW	HEURES T.U.
25	-2mo 2mo	8.7	2				PB Caméra idem ciel 25/6/87

	ANTEN	FREQ MHZ	BANDE KHZ	SCAN WIDTH MHZ/DIV	F MIN MHZ	F MAX MHZ	SCAN TIME MS/DIV	CADENCE HZ	LEVEL 10DB LOG	SCOPES NO	SCOPES SPOT	FAC SIMILE
AS 1	RG	25	30	2	15	35	5	20	-29	1	mm	
AS 2	RD	25	30	2	15	35	5	20	-29	2	7,7	
AS 3	RD	30	30	2	20	40	5	20	-29	3	6,5	

CAMERA NOUVEAU FILM ? :			FAC SIMILE		MULTICANAL NOUVEAU FILM ? :			SEFRAM		
T.U.	OPERATION	VIT.	T.U.	OPERATION	T.U.	OPERATION	VIT.	T.U.	VOIE 1	VOIE2
0311	Depaul	8mm/mn			0311	Depaul	006			
1111	Amel				1111	Amel				

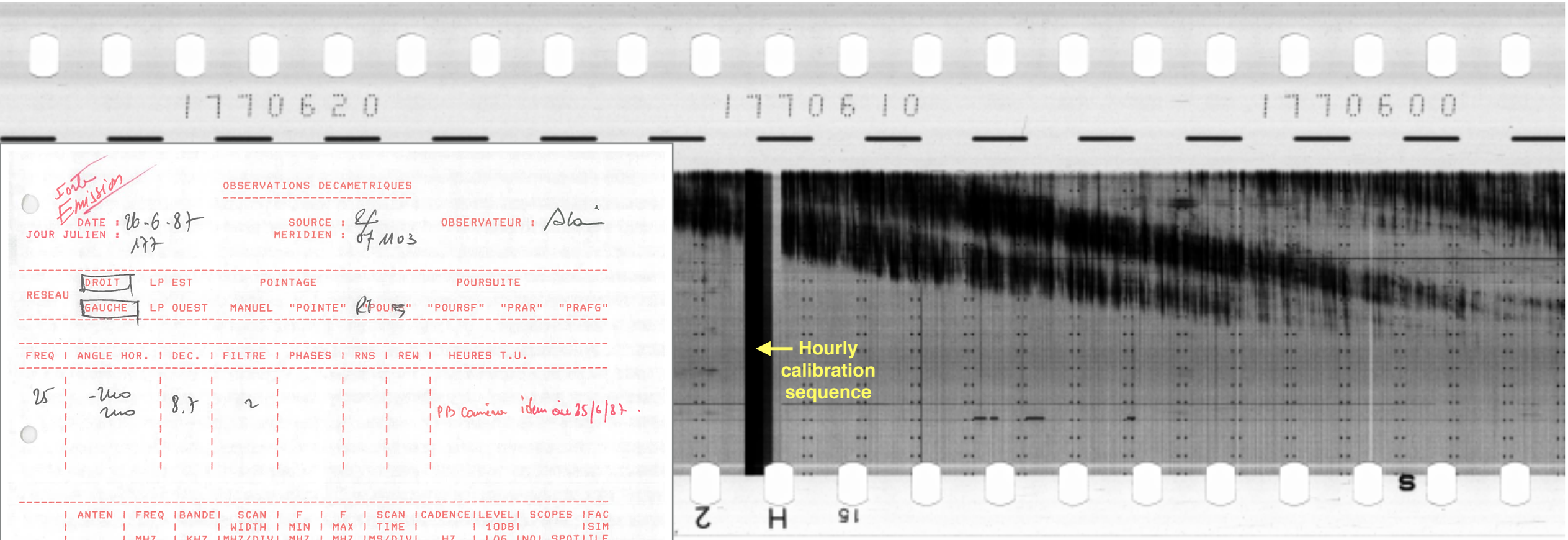
Observing sheet : 1987_06_26_JUP.pdf

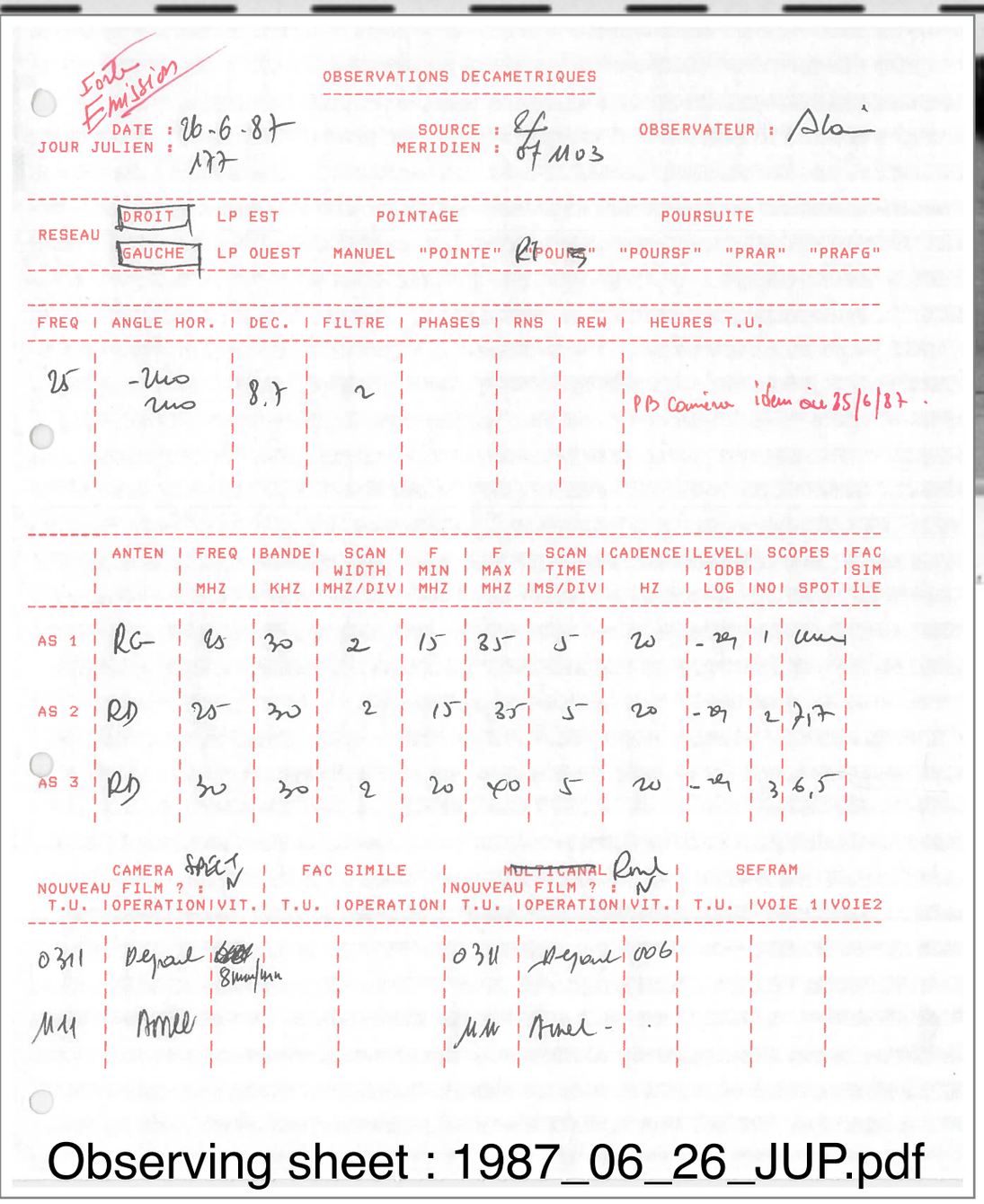


Same observation but using a different receiver : FR751142302_RDN_S_0594_1987_0312.TIF

I-B Using RDN_R data

Example of data file : FR751142302_RDN_R_0130_1987_0274.TIF





OBSERVATIONS DECAMETRIQUES

DATE : 26-6-87 JOUR JULIEN : 177 SOURCE : Ef MERIDIEN : 07 H 03 OBSERVATEUR : Alain

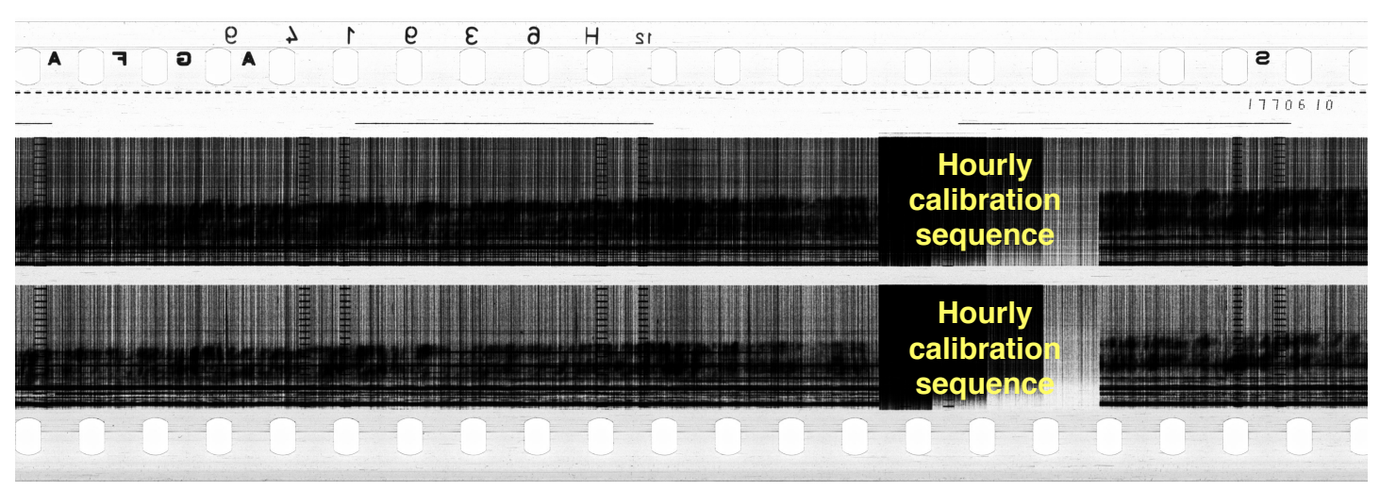
RESEAU DROIT LP EST POINTAGE POURSUITE
GAUCHE LP OUEST MANUEL "POINTE" "POURS" "POURSF" "PRAR" "PRAFG"

FREQ	ANGLE HOR.	DEC.	FILTRE	PHASES	RNS	REW	HEURES T.U.
25	-2mo 2mo	8,7	2				PB Caméra idem au 25/6/87

	ANTEN	FREQ MHZ	BANDE KHZ	SCAN WIDTH MHZ/DIV	F MIN MHZ	F MAX MHZ	SCAN TIME MS/DIV	CADENCE HZ	LEVEL 10DB LOG	SCOPES NO	SCOPES SPOT	FAC SIMILE
AS 1	RG	25	30	2	15	35	5	20	-29	1	mm	
AS 2	RD	25	30	2	15	35	5	20	-29	2	7,7	
AS 3	RD	30	30	2	20	40	5	20	-29	3	6,5	

CAMERA ~~SPECT~~ NOUVEAU FILM ? : N T.U.	OPERATION	VIT.	FAC SIMILE T.U.	OPERATION	~~MULTICANAL~~ Rmk NOUVEAU FILM ? : N T.U.	OPERATION	VIT.	SEFRAM T.U.	VOIE 1	VOIE2
0311	Depaul	~~[illegible]~~ 8mm/mn			0311	Depaul	006			
MM	Amel				MM	Amel -				

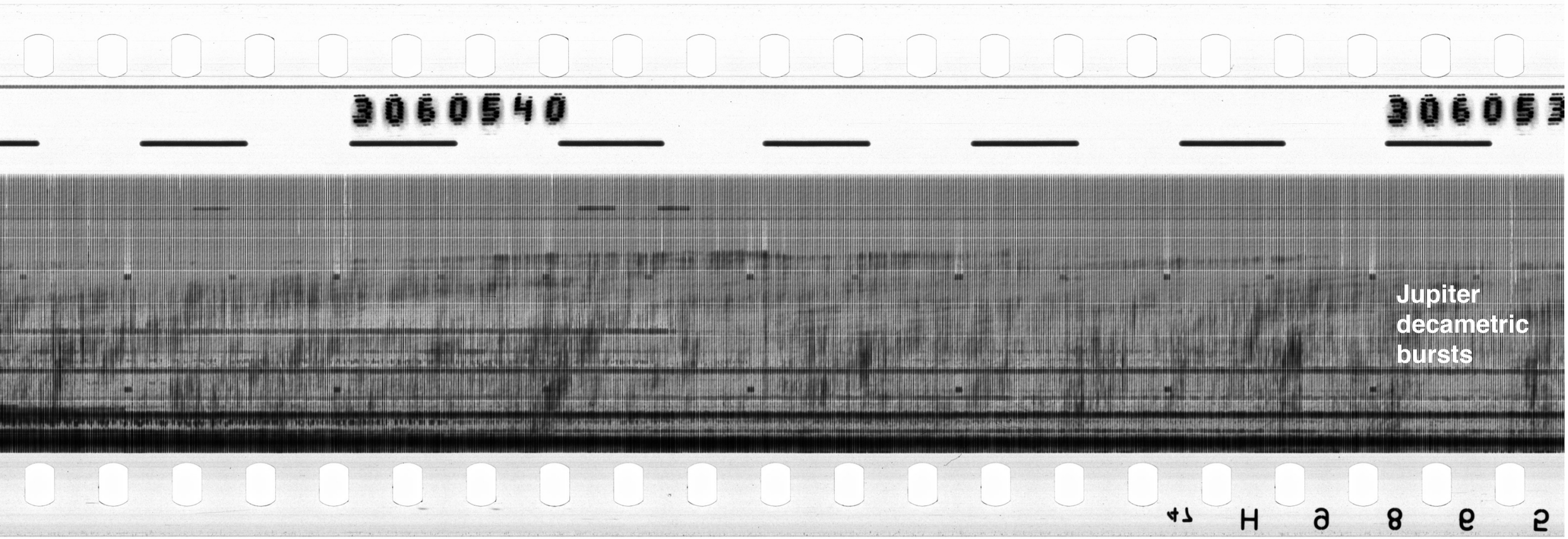
Observing sheet : 1987_06_26_JUP.pdf



Same observation but using a different receiver : FR751142302_RDN_S_0594_1987_0312.TIF

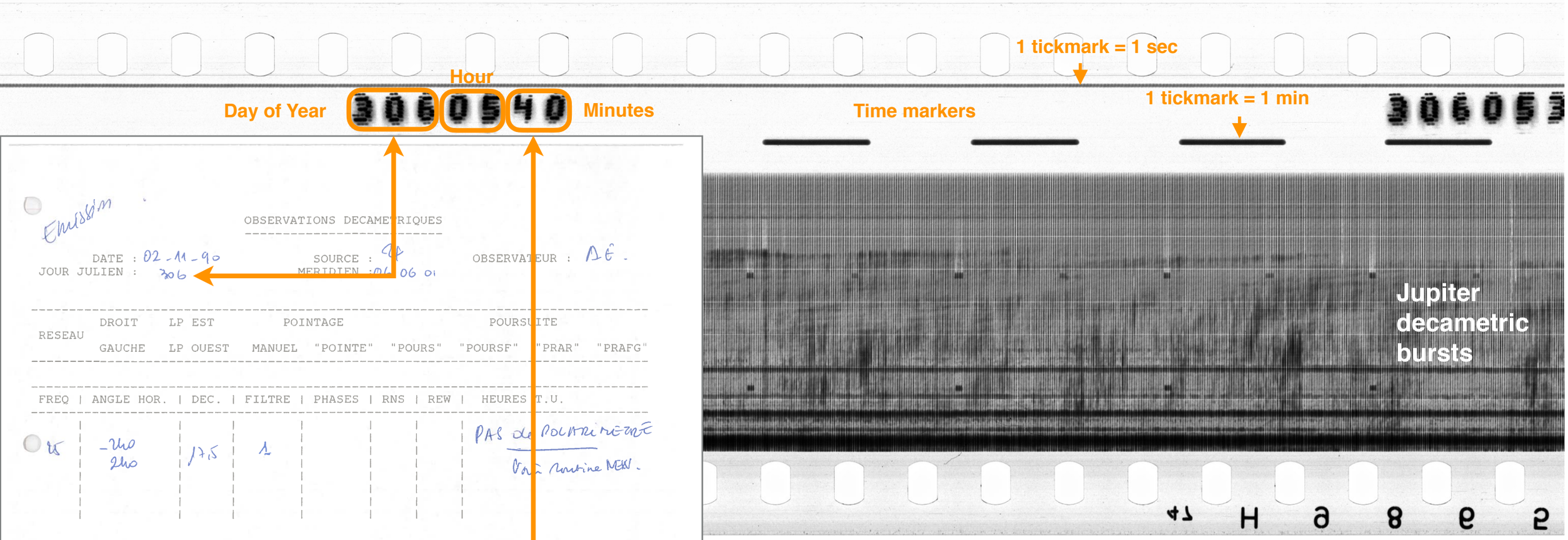
I-C Using RDN_RN data

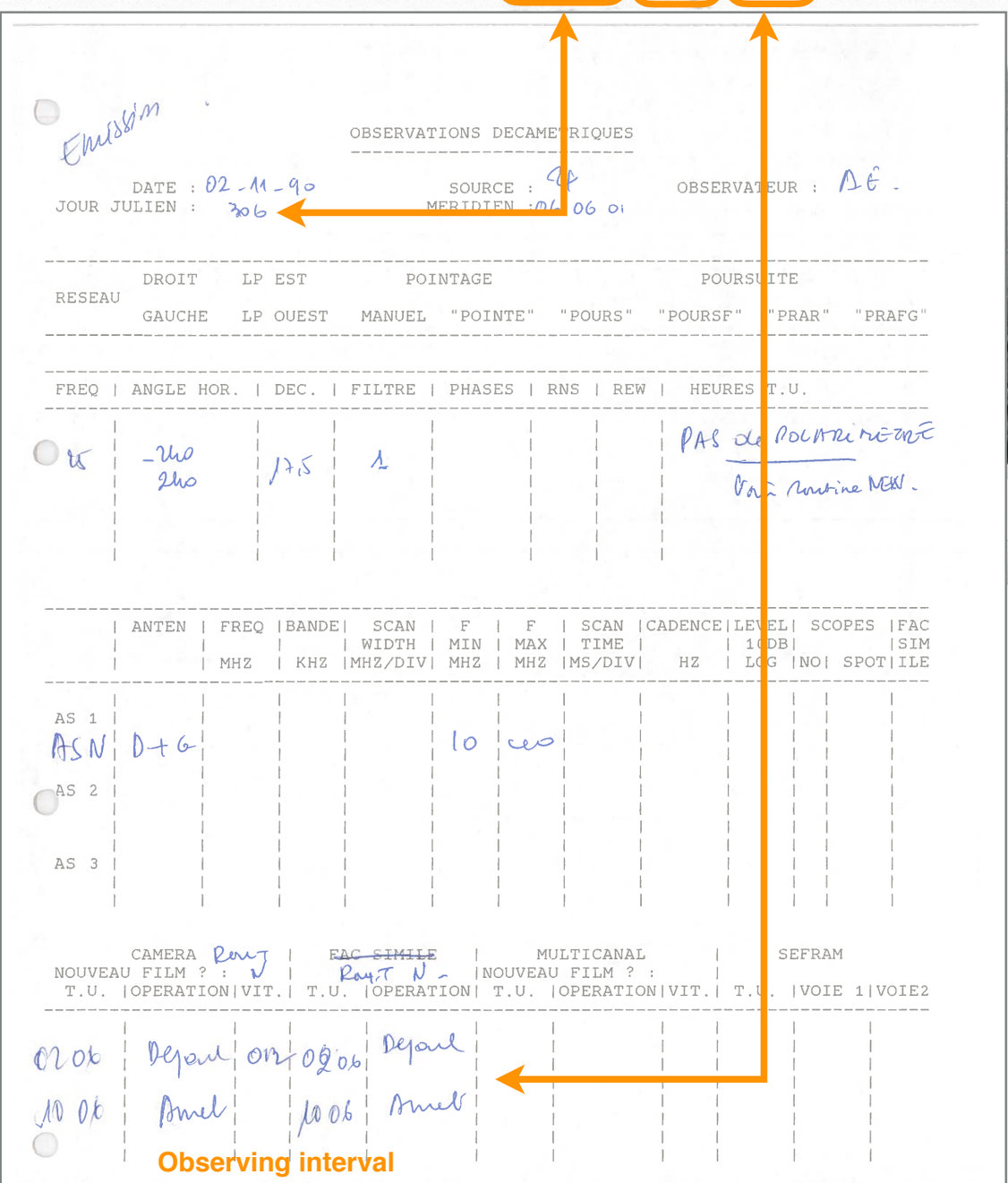
Example of data file : FR751142302_RDN_RN_0004_1990_0218.TIF



I-C Using RDN_RN data

Example of data file : FR751142302_RDN_RN_0004_1990_0218.TIF

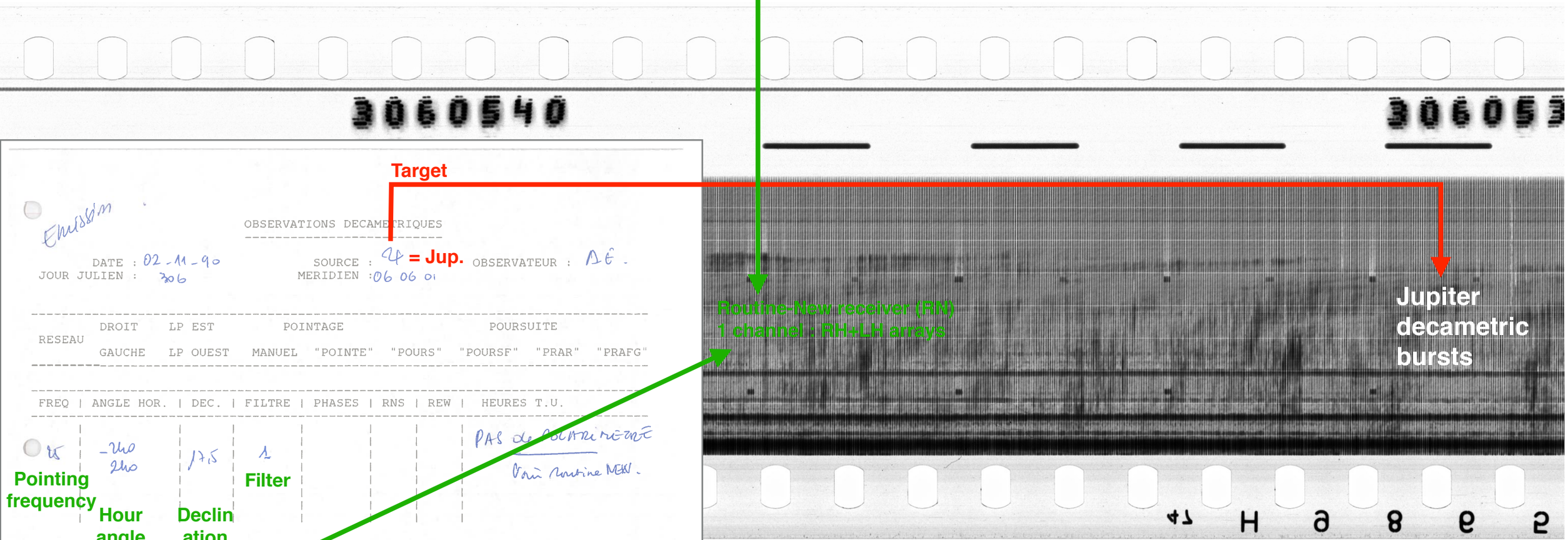


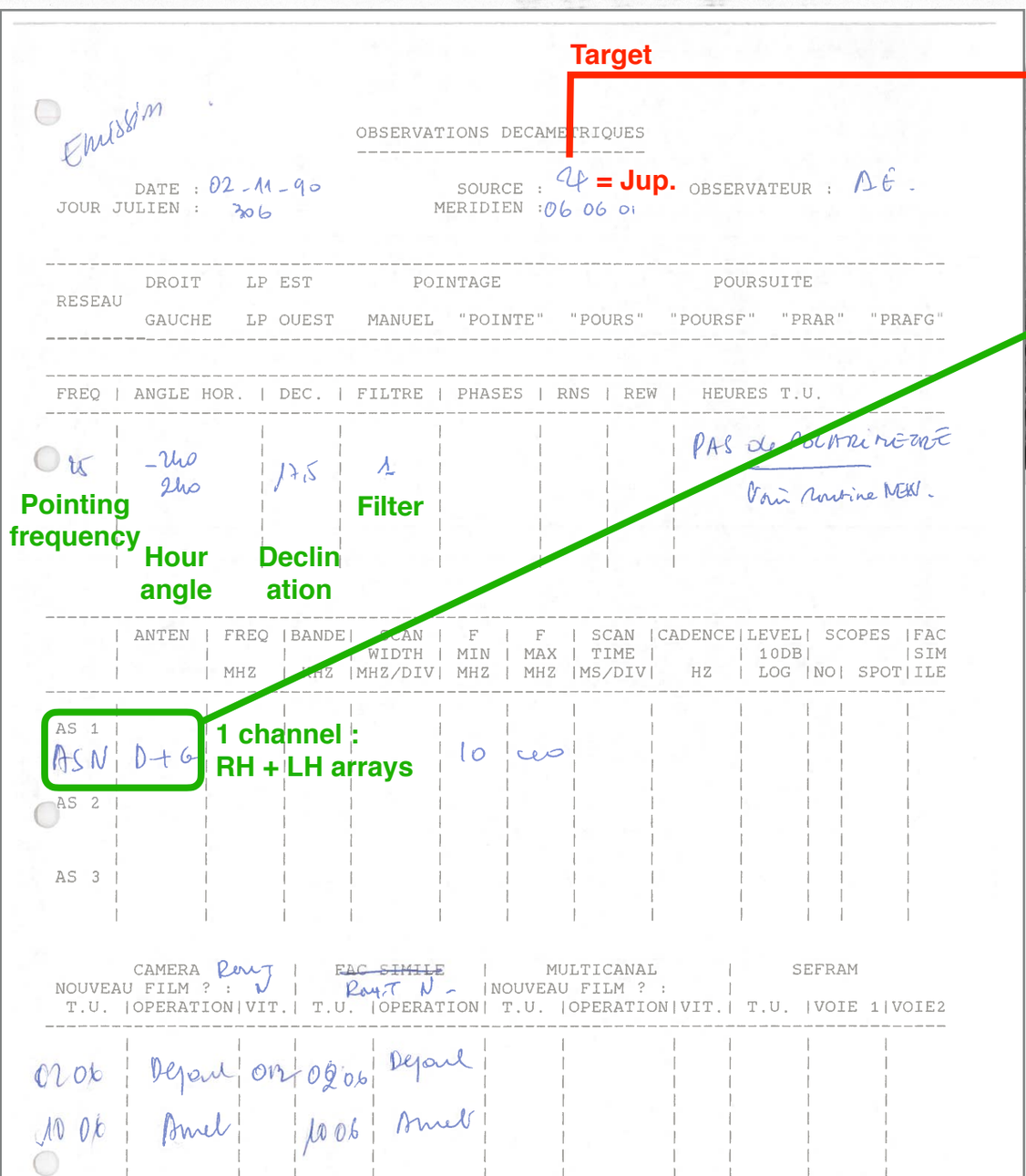


Observing sheet : 1990-11-02_JUP.pdf

I-C Using RDN_RN data

Example of data file : FR751142302_RDN_RN_0004_1990_0218.TIF





OBSERVATIONS DECAMETRIQUES

DATE : 02-11-90 SOURCE : ♃ = Jup. OBSERVATEUR : AE.
JOUR JULIEN : 306 MERIDIEN : 06 06 01

RESEAU	DROIT / GAUCHE	LP EST / LP OUEST	POINTAGE MANUEL	POINTAGE "POINTE"	POURSUITE "POURS"	POURSUITE "POURSF"	POURSUITE "PRAR"	POURSUITE "PRAFG"

FREQ	ANGLE HOR.	DEC.	FILTRE	PHASES	RNS	REW	HEURES T.U.
25	-2h0 2h0	17.5	1				PAS de CALIBRE MEXE Voir routine MEXI.

Pointing frequency — Hour angle — Declination — Filter

	ANTEN	FREQ MHZ	BANDE MHZ	SCAN WIDTH MHZ/DIV	F MIN MHZ	F MAX MHZ	SCAN TIME MS/DIV	CADENCE HZ	LEVEL 10DB LOG	SCOPES NO	SCOPES SPOT	FAC SIMILE
AS 1	ASN	D+G			10	100						
AS 2												
AS 3												

1 channel : RH + LH arrays

CAMERA Ray J — ~~FAC SIMILE~~ Ray T N — MULTICANAL — SEFRAM

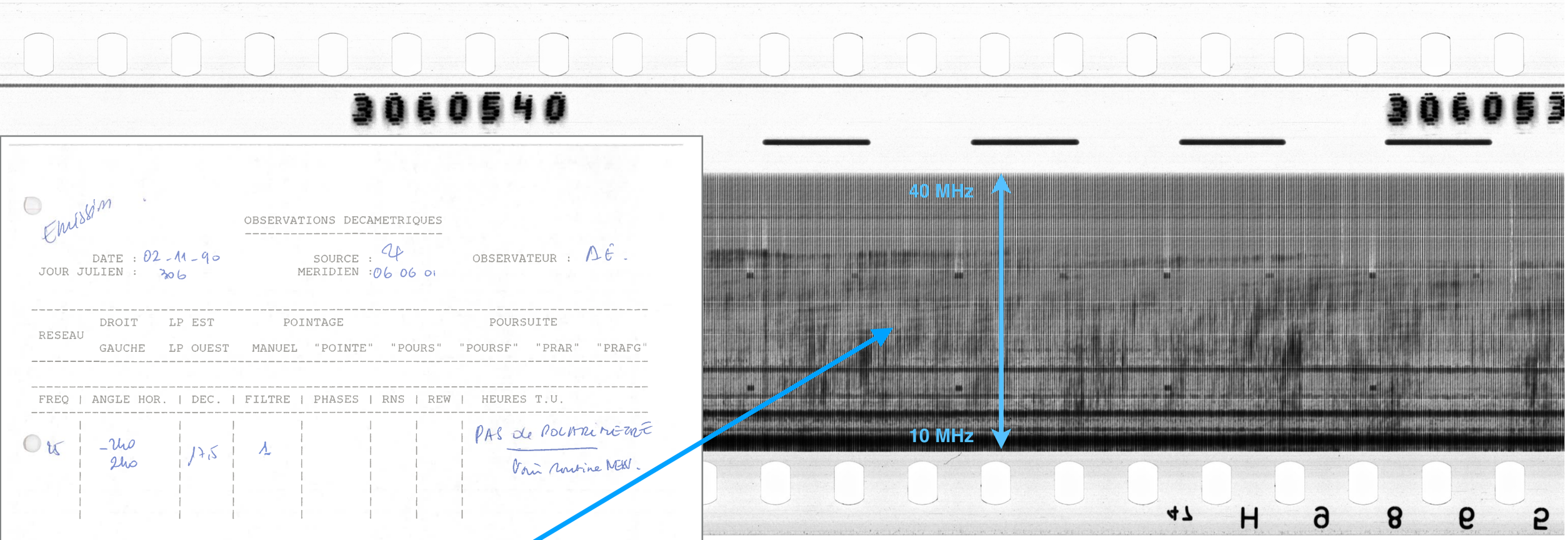
NOUVEAU FILM ? : N — NOUVEAU FILM ? :

T.U.	OPERATION	VIT.	T.U.	OPERATION	T.U.	OPERATION	VIT.	T.U.	VOIE 1	VOIE2
02 06	Dejeul	02	02 06	Dejeul						
10 06	Amel		10 06	Amel						

Observing sheet : 1990-11-02_JUP.pdf

I-C Using RDN_RN data

Example of data file : FR751142302_RDN_RN_0004_1990_0218.TIF



Emission

OBSERVATIONS DECAMETRIQUES

DATE : 02-11-90 SOURCE : 4 OBSERVATEUR : DE.
JOUR JULIEN : 306 MERIDIEN : 06 06 01

RESEAU	DROIT / GAUCHE	LP EST / LP OUEST	POINTAGE MANUEL	POINTAGE "POINTE"	POURSUITE "POURS"	POURSUITE "POURSF"	POURSUITE "PRAR"	POURSUITE "PRAFG"

FREQ	ANGLE HOR.	DEC.	FILTRE	PHASES	RNS	REW	HEURES T.U.
25	-2h0 2h0	17,5	1				PAS de POLARIMETRE Voir routine MEX.

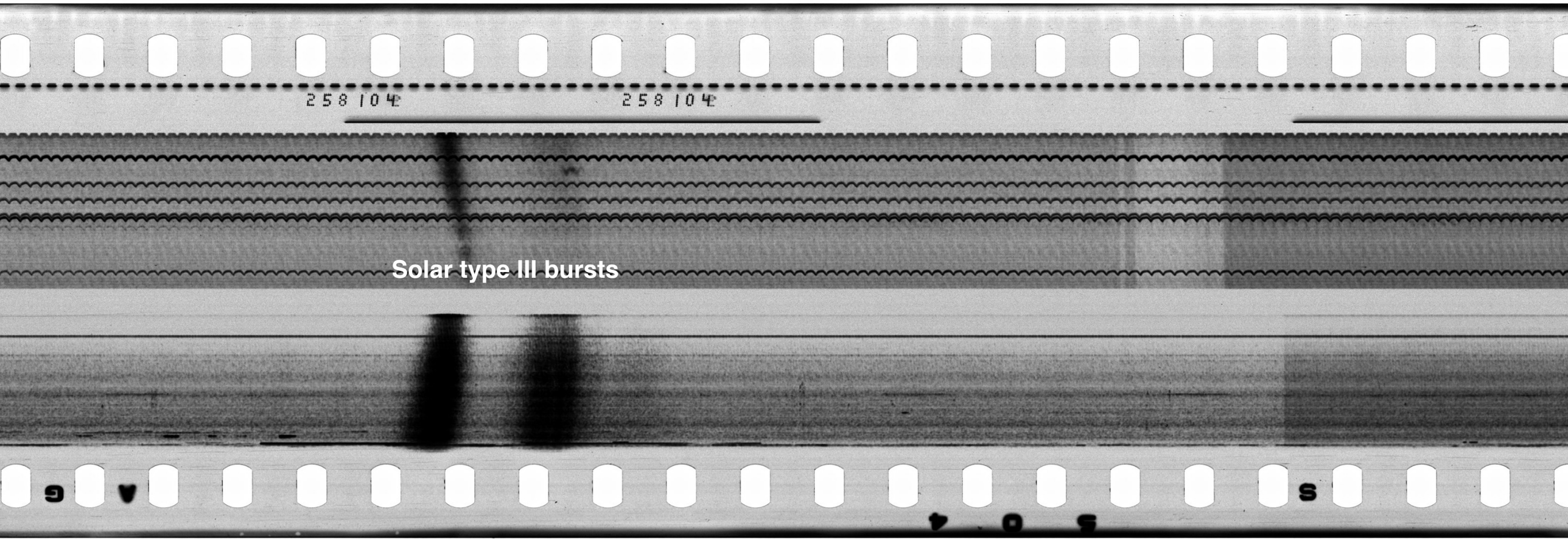
	ANTEN	FREQ MHZ	BANDE KHZ	SCAN WIDTH MHZ/DIV	F MIN MHZ	F MAX MHZ	SCAN TIME MS/DIV	CADENCE HZ	LEVEL 10DB LOG	SCOPES NO	SCOPES SPOT	FAC SIMILE
AS 1												
ASN	D+G				10	100						
AS 2												
AS 3												

CAMERA Rouj NOUVEAU FILM ? : N T.U.	OPERATION	VIT.	~~FAC SIMILE~~ Rouj N - T.U.	OPERATION	MULTICANAL NOUVEAU FILM ? : T.U.	OPERATION	VIT.	SEFRAM T.U.	VOIE 1	VOIE2
02 06	Depaul	02	02 06	Depaul						
10 06	Amel		10 06	Amel						

Observing sheet : 1990-11-02_JUP.pdf

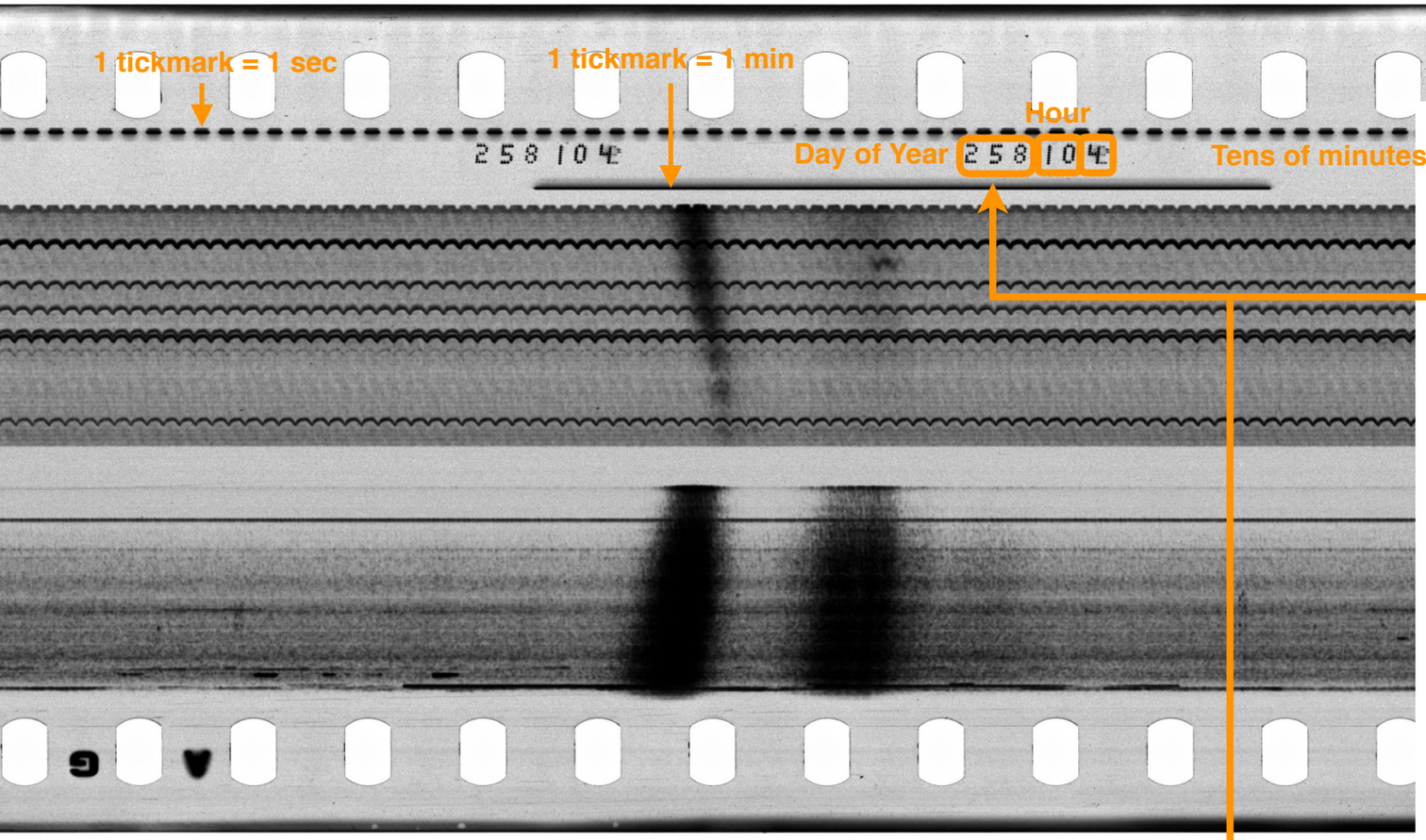
II- Using IDN_S data

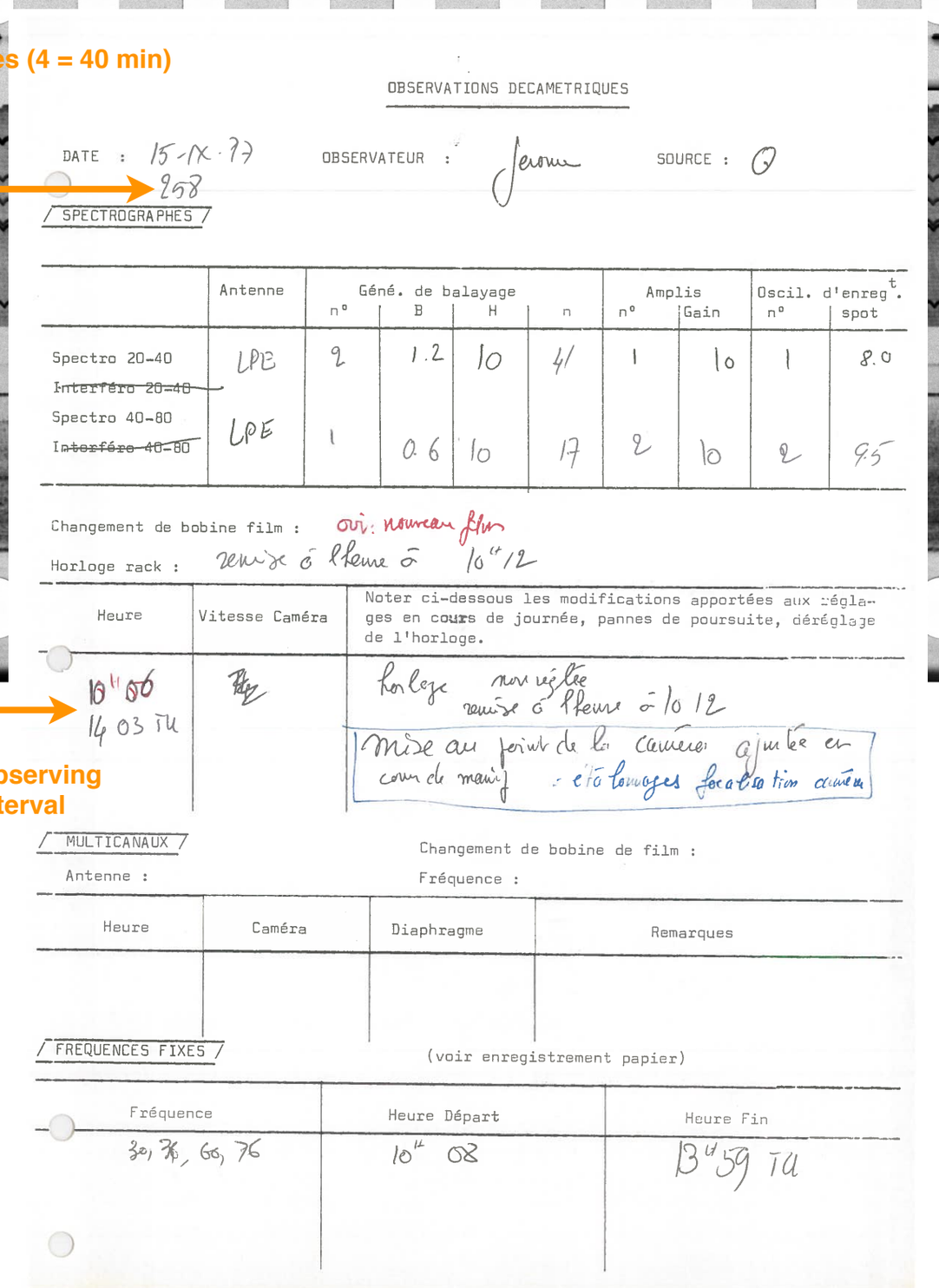
Example of data file : FR751142302_IDN_S_0420_1977_0028.TIF



II- Using IDN_S data

Example of data file : FR751142302_IDN_S_0420_1977_0028.TIF





OBSERVATIONS DECAMETRIQUES

DATE : 15-IX-77 258 OBSERVATEUR : Jerome SOURCE : ☉

/ SPECTROGRAPHES /

	Antenne	Géné. de balayage n°	B	H	n	Amplis n°	Gain	Oscil. d'enreg^{t}. n°	spot
Spectro 20-40 ~~Interféro 20-40~~	LPE	2	1.2	10	41	1	10	1	8.0
Spectro 40-80 ~~Interféro 40-80~~	LPE	1	0.6	10	17	2	10	2	9.5

Changement de bobine film : oui : nouveau film

Horloge rack : remise à l'heure à 10h12

Heure	Vitesse Caméra	Noter ci-dessous les modifications apportées aux réglages en cours de journée, pannes de poursuite, déréglage de l'horloge.
10h06 14 03 TU		horloge non réglée remise à l'heure à 10 12 Mise au point de la caméra ajustée en cours de manip. - etc homogeneisation caméra

Observing interval

/ MULTICANAUX /

Antenne :

Changement de bobine de film :

Fréquence :

Heure	Caméra	Diaphragme	Remarques

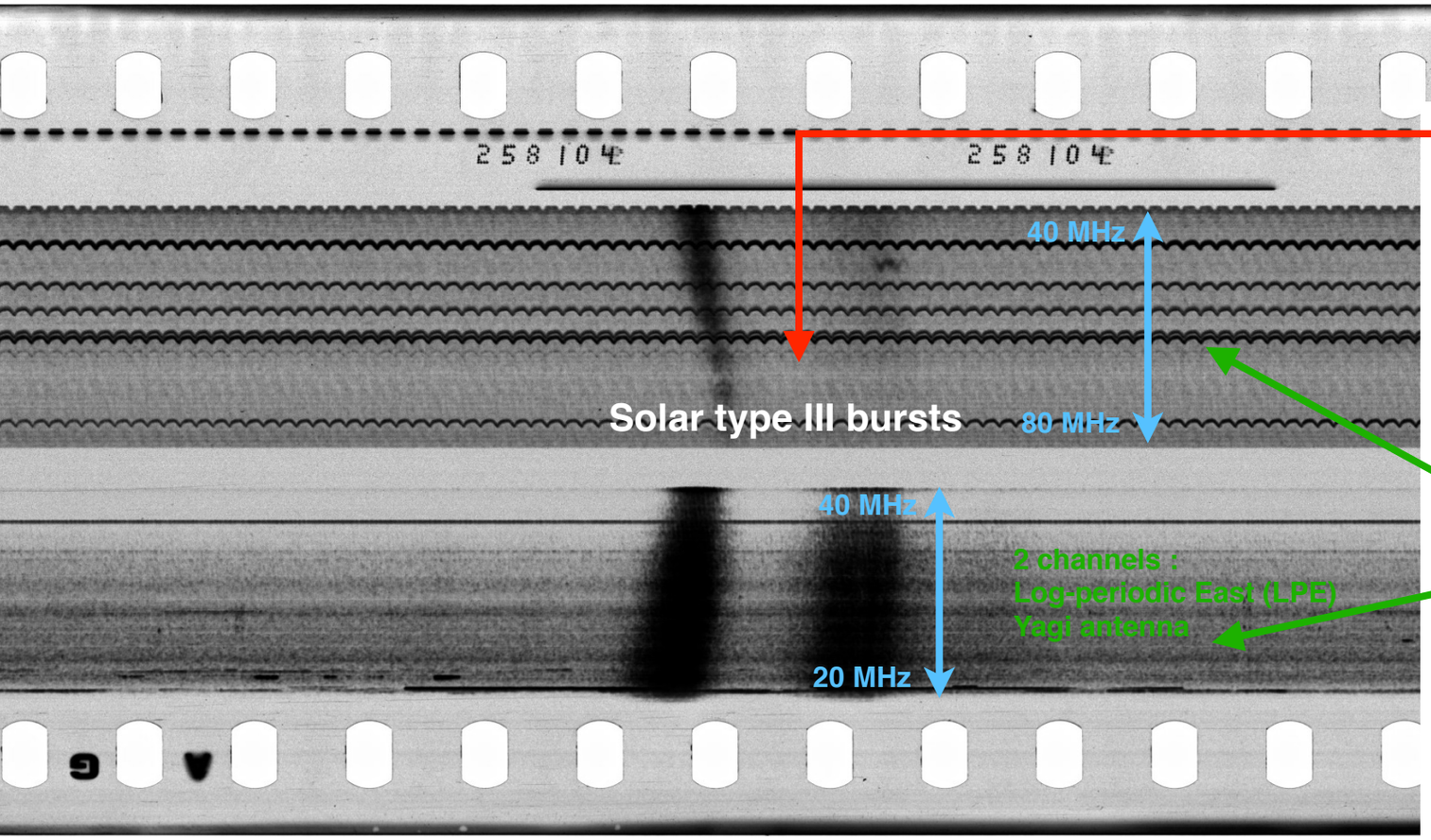
/ FREQUENCES FIXES /

(voir enregistrement papier)

Fréquence	Heure Départ	Heure Fin
30, 38, 60, 76	10h 08	13h59 TU

II- Using IDN_S data

Example of data file : FR751142302_IDN_S_0420_1977_0028.TIF



Target

OBSERVATIONS DECAMETRIQUES

DATE : 15-IX-77 258 OBSERVATEUR : Jerome SOURCE : ☉ = Sun

/ SPECTROGRAPHES /

	Antenne	Géné. de balayage n°	B	H	n	Amplis n°	Gain	Oscil. d'enreg^{t}. n°	spot
Spectro 20-40	LPE	2	1.2	10	41	1	10	1	8.0
~~Interféro 20-40~~									
Spectro 40-80	LPE	1	0.6	10	17	2	10	2	9.5
~~Interféro 40-80~~									

Changement de bobine film : oui : nouveau film

Horloge rack : remise à l'heure à 10h12

Heure	Vitesse Caméra	Noter ci-dessous les modifications apportées aux réglages en cours de journée, pannes de poursuite, déréglage de l'horloge.
10h06 14 03 TU		horloge non réglée remise à l'heure à 10 12
		Mise au point de la caméra ajustée en cours de manip - étalonnages focalisation caméra

/ MULTICANAUX /

Antenne :

Changement de bobine de film :

Fréquence :

Heure	Caméra	Diaphragme	Remarques

/ FREQUENCES FIXES /

(voir enregistrement papier)

Fréquence	Heure Départ	Heure Fin
30, 38, 60, 76	10h 08	13h59 TU