

Radio Observatorio de
JICAMARCA
Radio Observatory

LISN activities at Jicamarca 2009-2010

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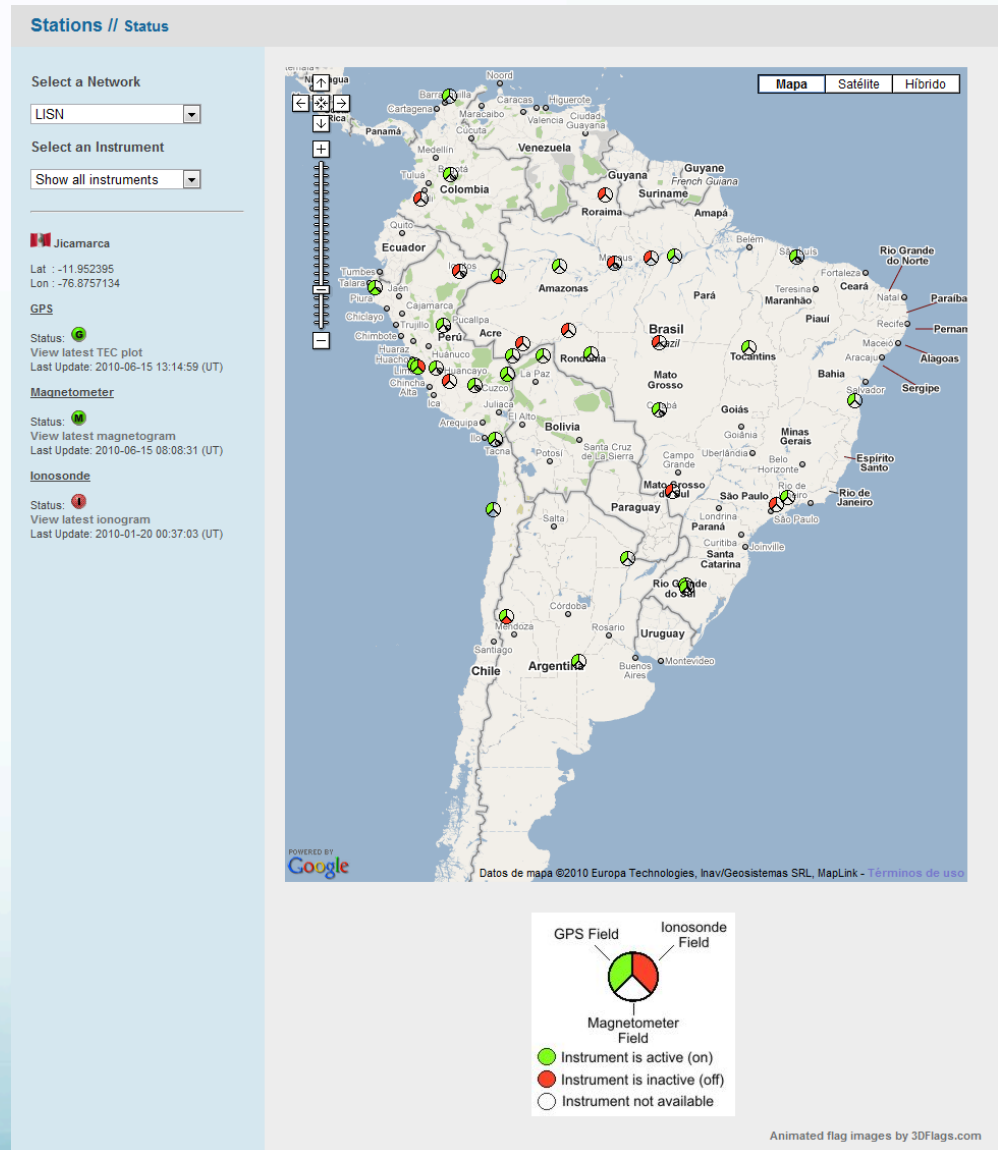
CEDAR 2010, Boulder, June 22 2010

Outline

- LISN Engineering
 - Operations
 - Data Processing (and quality)
 - Databases and data access
 - GPS
 - Ionosonde
 - Magnetometer
- Ionosonde Nighttime E region experiments

LISN Engineering: Operations (1)

- Real time results of TEC, ionograms and magnetograms.
- Setup of two new GPS stations at Bolivia.



LISN Engineering: Operations (2)

Data // GPS

Login

Username

Password

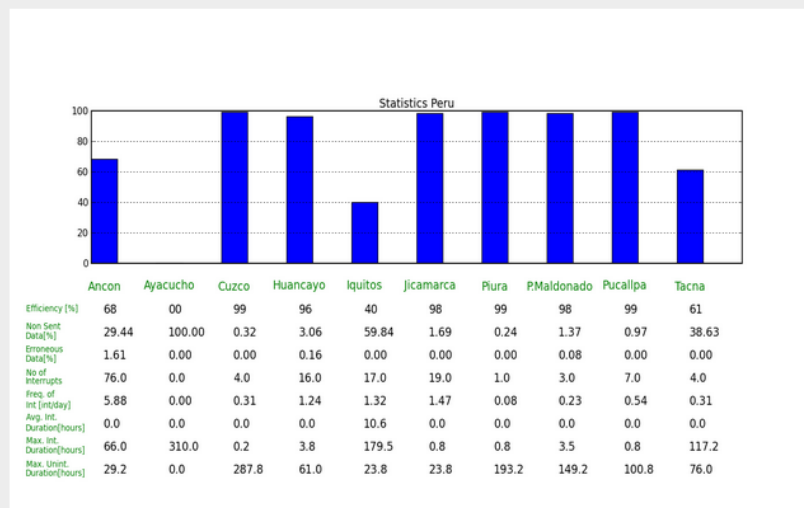
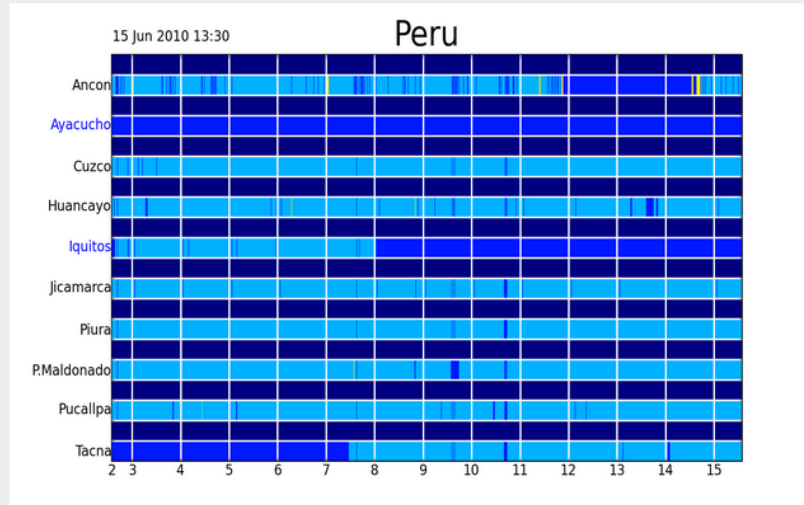
You can only browse the GPS database,
to download files you need an account.

Look for Station

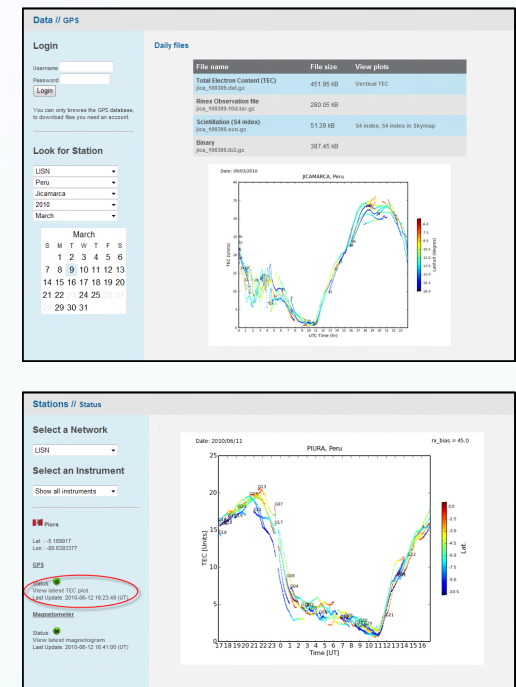
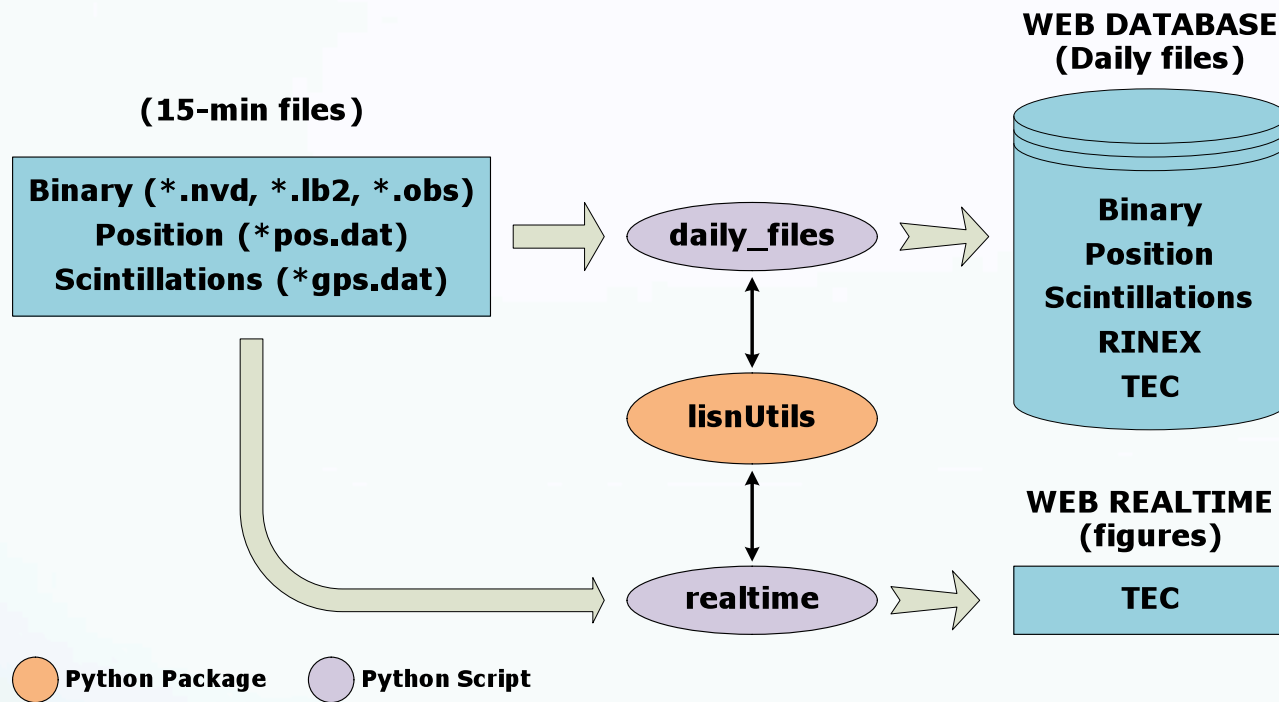
LISN

Peru

Select Station



LISN Engineering: GPS data processing



“lisnUtils” main modules

gpsProcess.py

Decimation, concatenation and RINEX conversion of binary files (Novatel, Leica and Ashtech receivers).

Rinex.py

RINEX files parser including TEC calculation.

plotter.py

Functions to plot different type of gps data

LISN Engineering: Databases

- Online displays for all instruments (GPS, Magnetometers and ionosondes)
- Web and ftp access for users of data products.
- TEC data (2008) of up to 120 stations from LISN, SIRGAS, SAP and IGS networks.

LISN Engineering: GPS Database

<http://200.60.148.173/lisn/gps>

- Daily and monthly files
 - TEC
 - Rinex
 - Scintillation
 - Position
 - Binary
- On-line plots
 - Scintillation
 - TEC
 - TEC map (soon)

Data // GPS

Login

Username

Password

You can only browse the GPS database, to download files you need an account.

Look for Station

LISN

Peru

Piura

2010

March

March

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Daily files

File name	File size	View plots
Total Electron Content (TEC) piur_100304.dat.gz	545.96 kB	Vertical TEC
Rinex Observation file piur_100304.10d.tar.gz	342.08 kB	
Scintillation (S4 index) piur_100304.scn.gz	81.24 kB	S4 index, S4 index in Skymap
Position piur_100304.pos.gz	388 Bytes	Receiver Position
Binary piur_100304.nvd.gz	2.00 MB	

Date: 04/03/2010

PIURA, Peru

TEC (Units)

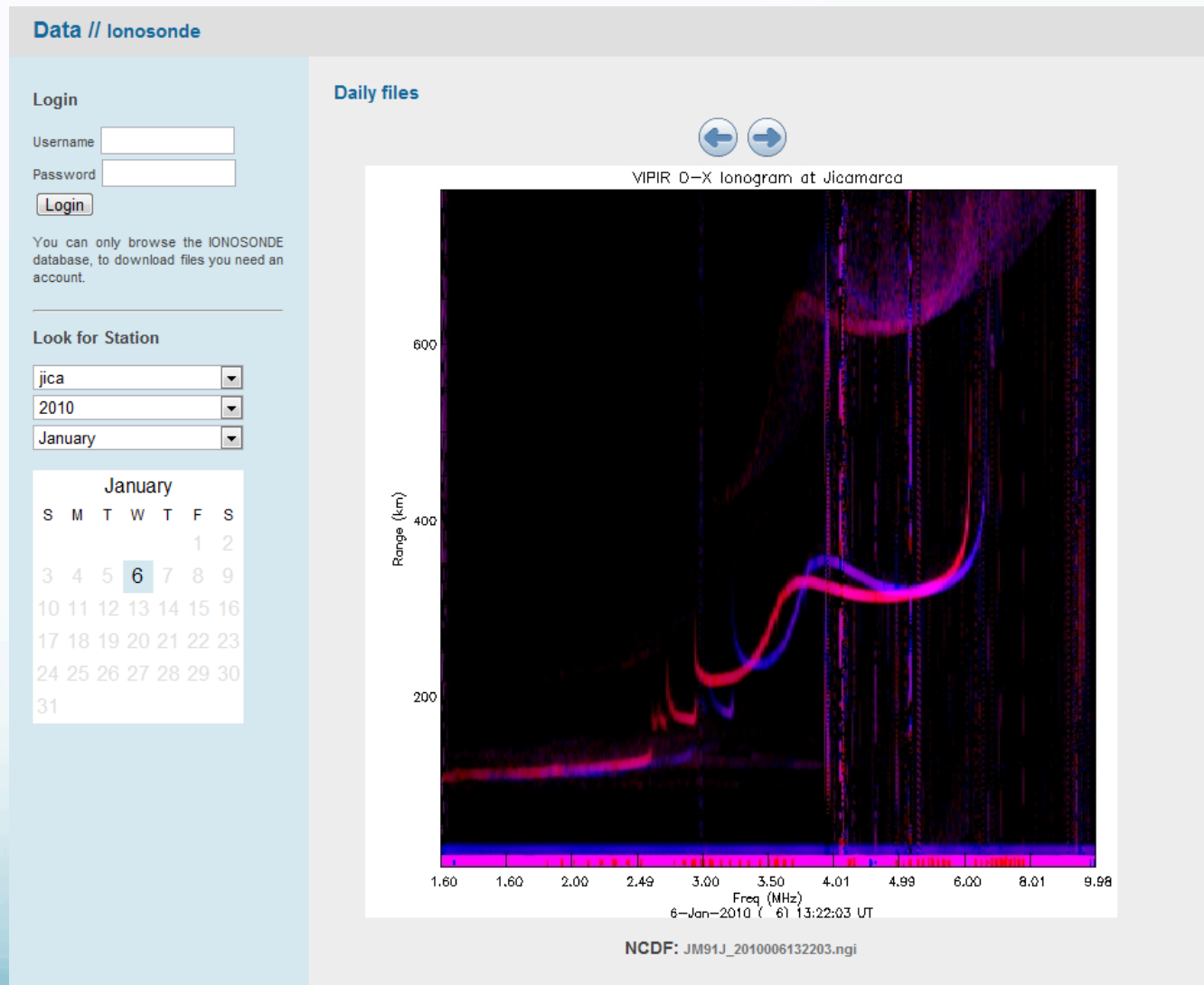
UTC Time (hr)

Latitude (degrees)

LISN Engineering: VIPIR Database

<http://200.60.148.173/lisn/ionosonde>

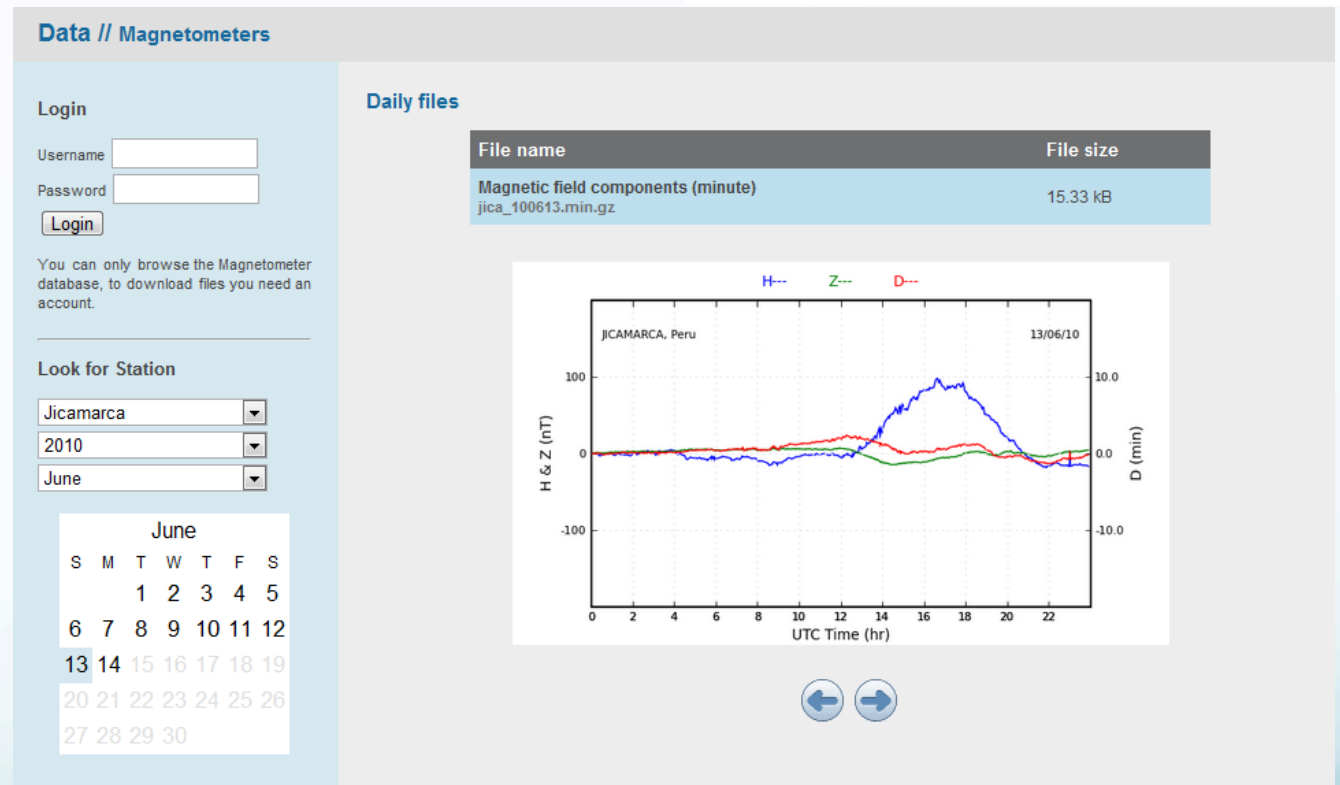
- Daily files
 - NCDF
 - IDL SAVE files
- On-line plots
 - Power ionograms (O and X modes)



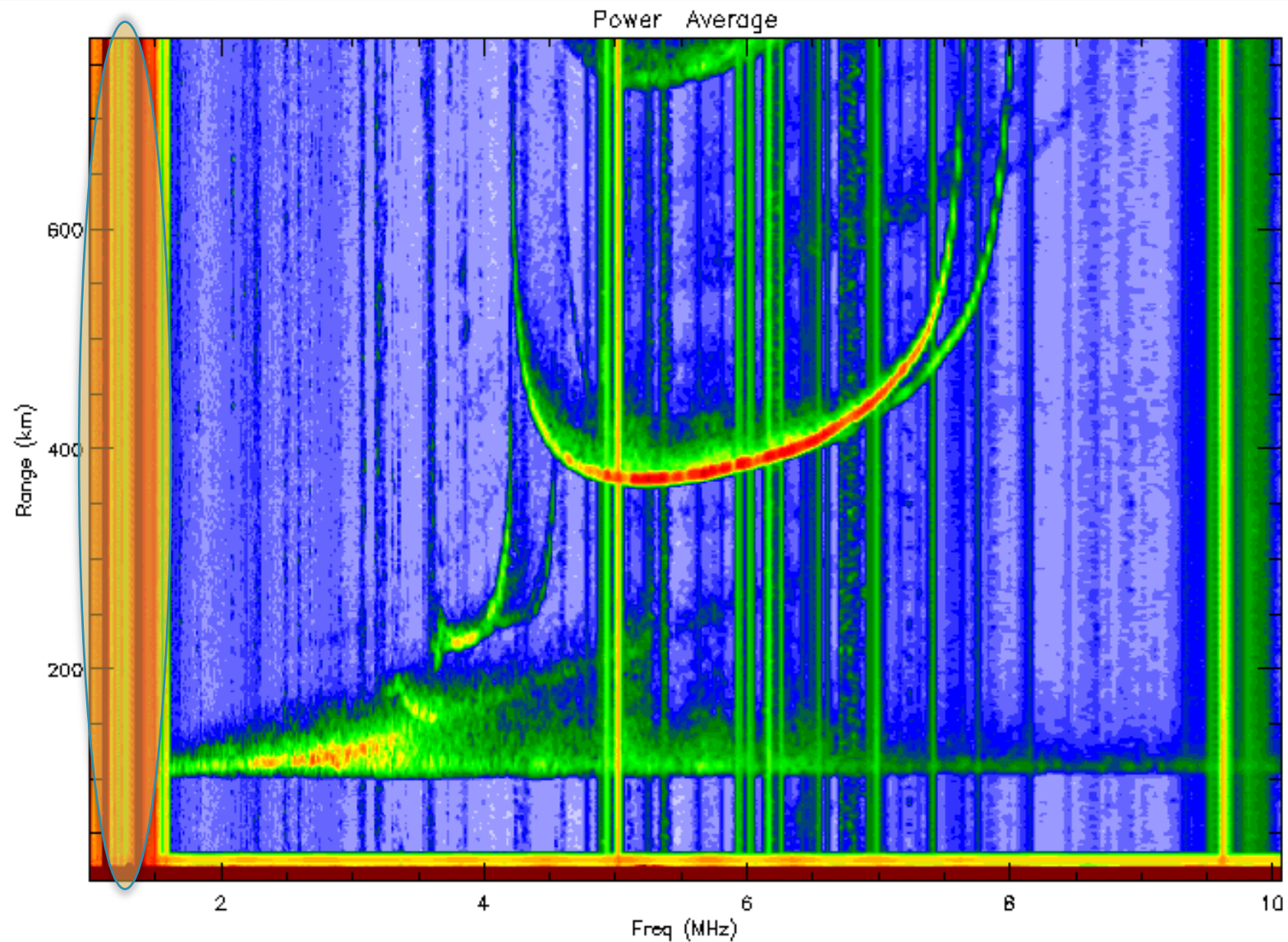
LISN Engineering: Magnetometer Database

<http://200.60.148.173/lisn/mag>

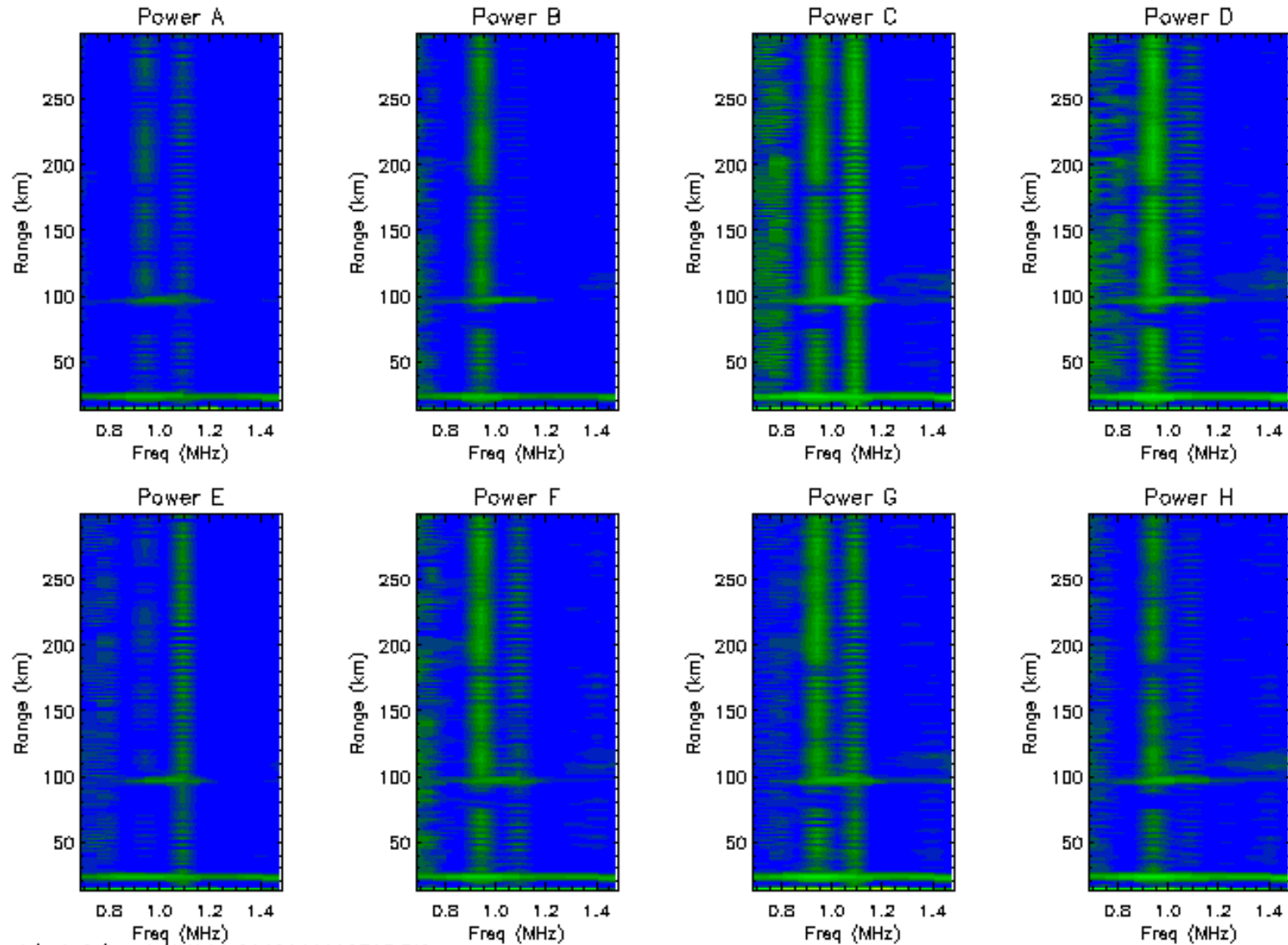
- Daily files
 - Minute
 - Second
- On-line plots
 - Magnetic field components



VIPIR: Nighttime E region Densities

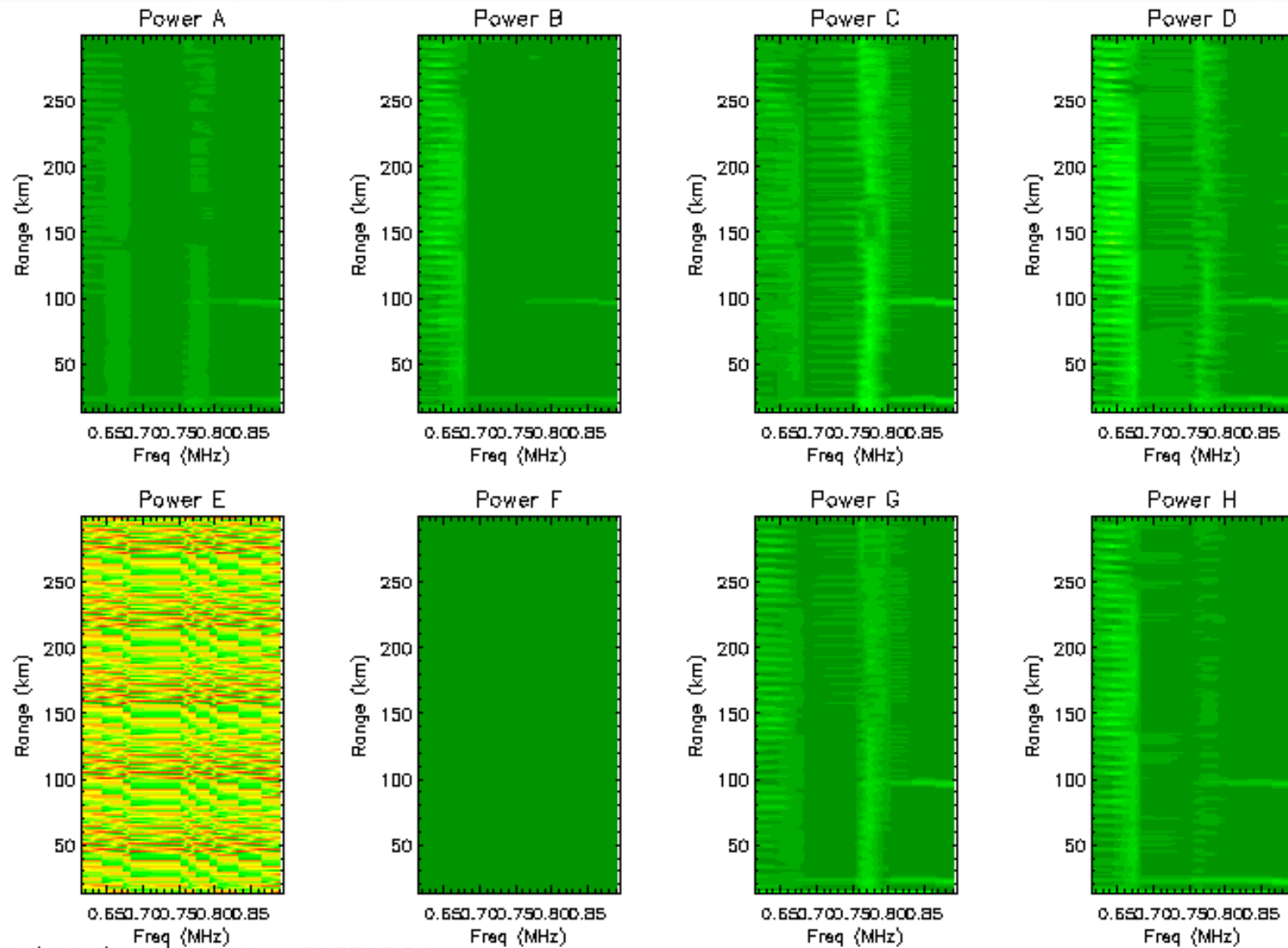


VIPIR E: 16 Freq. (May 26, 2010)



/mnt/sata2/irac4/JM91J_2010146000303.RIQ

VIPIR E: 16 Freq. (June 2, 2010)



/mnt/sata2/iroc4/JM91J_2010159033803.RIQ