

VIRTUAL EARTH-SUN OBSERVATORY

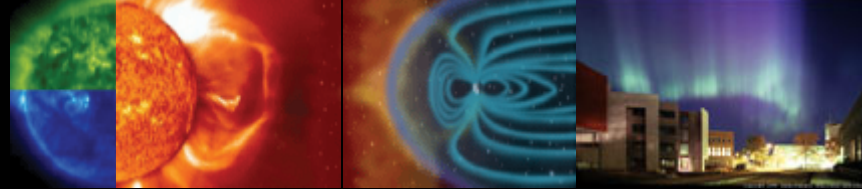
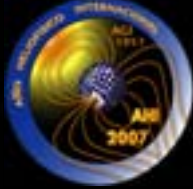


www.veso.unam.mx

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González-Esparza, A. Lara-Sánchez

Instituto de Geofísica

Universidad Nacional Autónoma de México



VIRTUAL EARTH-SUN OBSERVATORY



INTERNATIONAL HELIOPHYSICAL YEAR (United Nations, February 19th, 2007)

VESO (Instituto de Geofísica UNAM):

Virtual Earth Sun Observatory

OBSERVATIONAL

OUTREACH

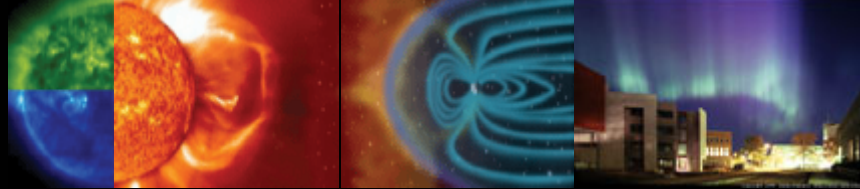
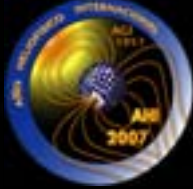
EDUCATION

RIS Solar Radio Interferometer (solar burst at 7.5 GHz)

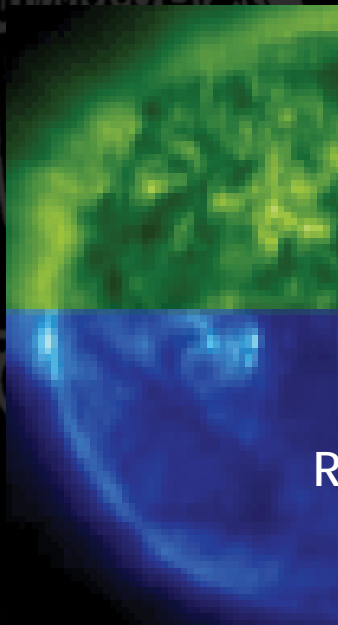
MEXART Mexican Array Radio Telescope (solar wind disturbances / IPS observations at 140 MHz)

RC Cosmic Ray Neutron Monitor

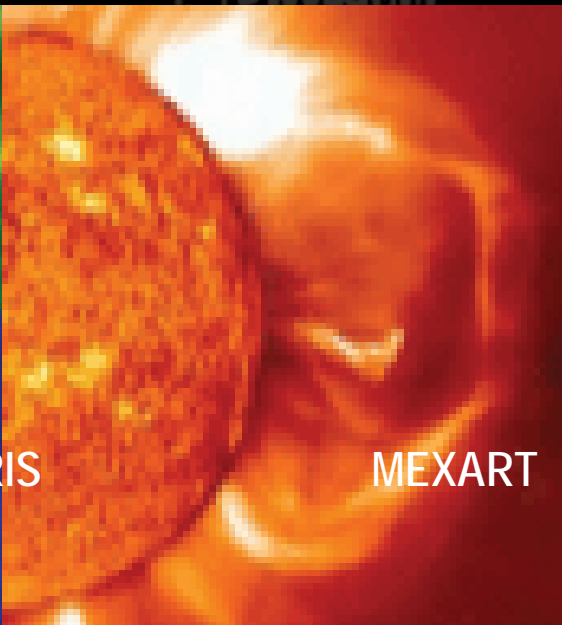
TEO Teoloyucan Geomagnetic Observatory



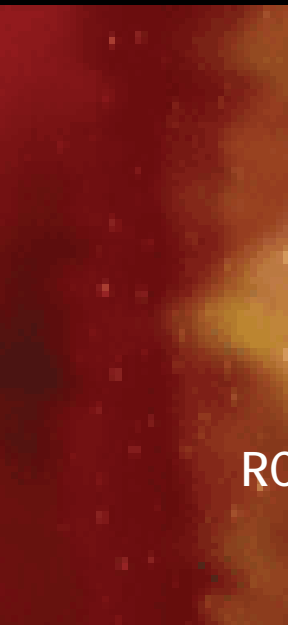
VIRTUAL EARTH-SUN OBSERVATORY



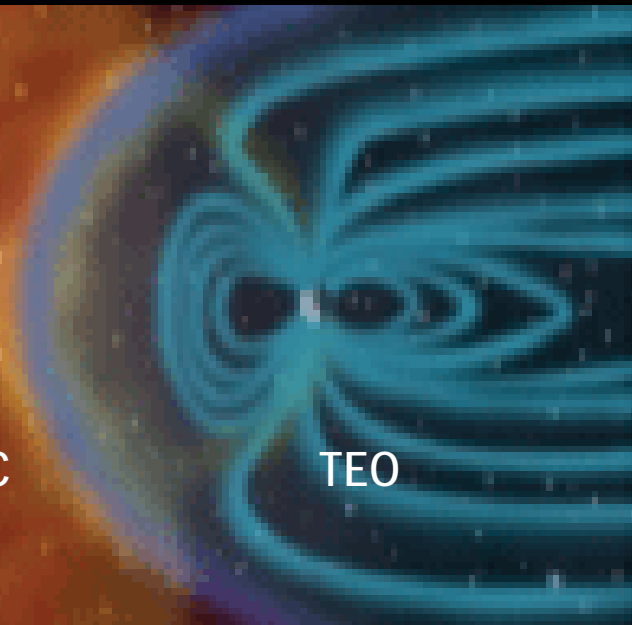
RIS



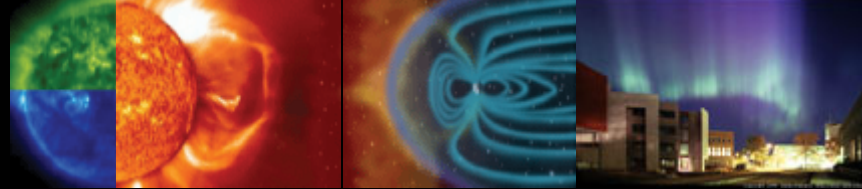
MEXART



RC



TEO



VIRTUAL EARTH-SUN OBSERVATORY



RIS: Solar Radio Interferometer

location: Mexico City

microwave radiation flux of the
lower solar atmosphere (7.5 Ghz)

8 hours of daily operation

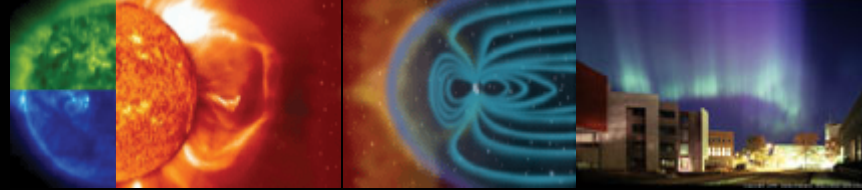
4 channels / 20 samples
per second each

size per channel: 500 Kbytes

VESO data: total flux versus time

platform: Linux





VIRTUAL EARTH-SUN OBSERVATORY



MEXART Mexican Array Radio Telescope

location: Coeneo, Michoacan (19.48 N, 101

electromagnetic flux at 140 MHz

24 hours operation

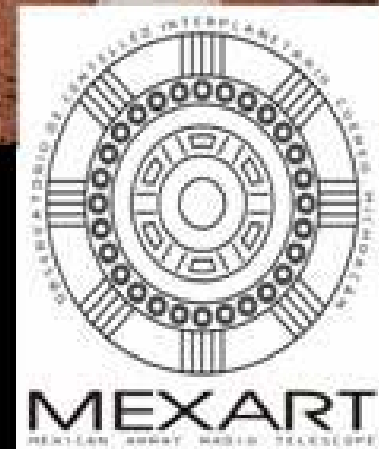
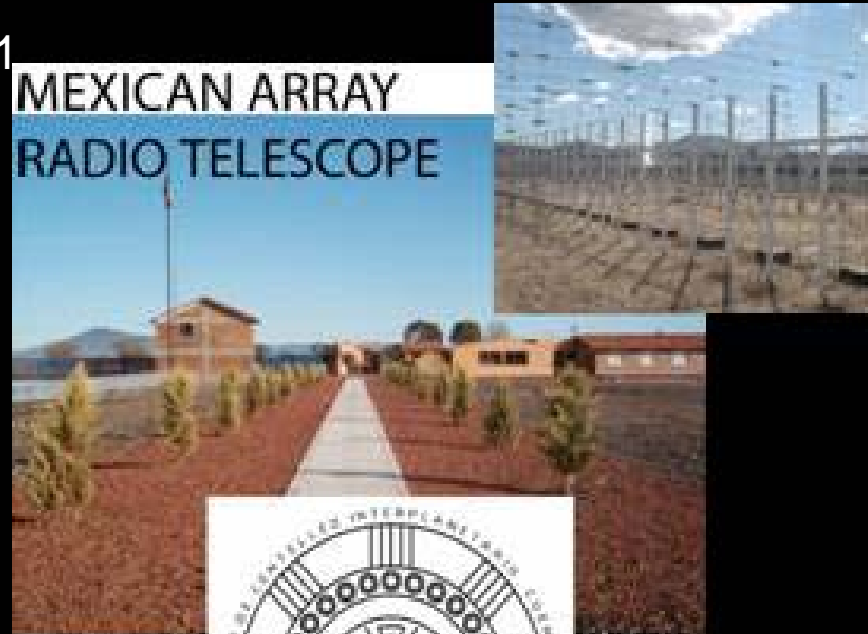
64 channels sampling 100 times
per second

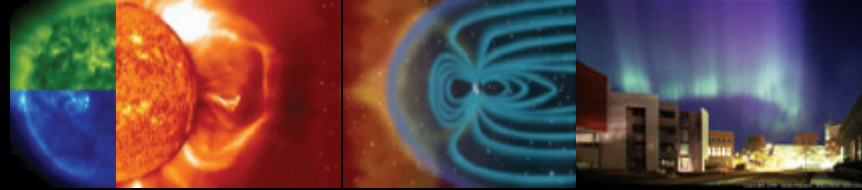
size per channel: 14 Mbytes

VESO data:
radiation flux versus time
g-maps (solar wind density variations)

platform: Linux

MEXICAN ARRAY
RADIO TELESCOPE





VIRTUAL EARTH-SUN OBSERVATORY



RC Cosmic Ray Neutron Monitor
(6NM64) BF₃ counters

Cut-off rigidity= 8.2 GV
sampling:
1 channel 1 sample/5 min

Counts/hour= 700, 000

size per channel: 15 Kbytes

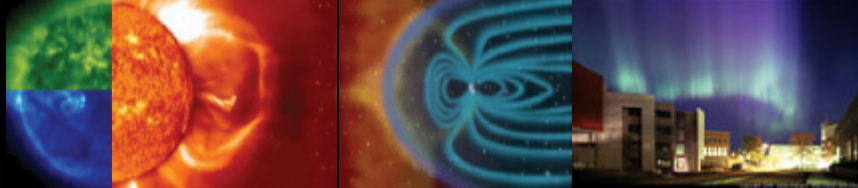
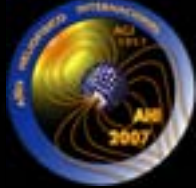
platform: Linux

location: Mexico City (19.19 N, 99.10 W)

<http://www.geofisica.unam.mx/isyp/orc/>



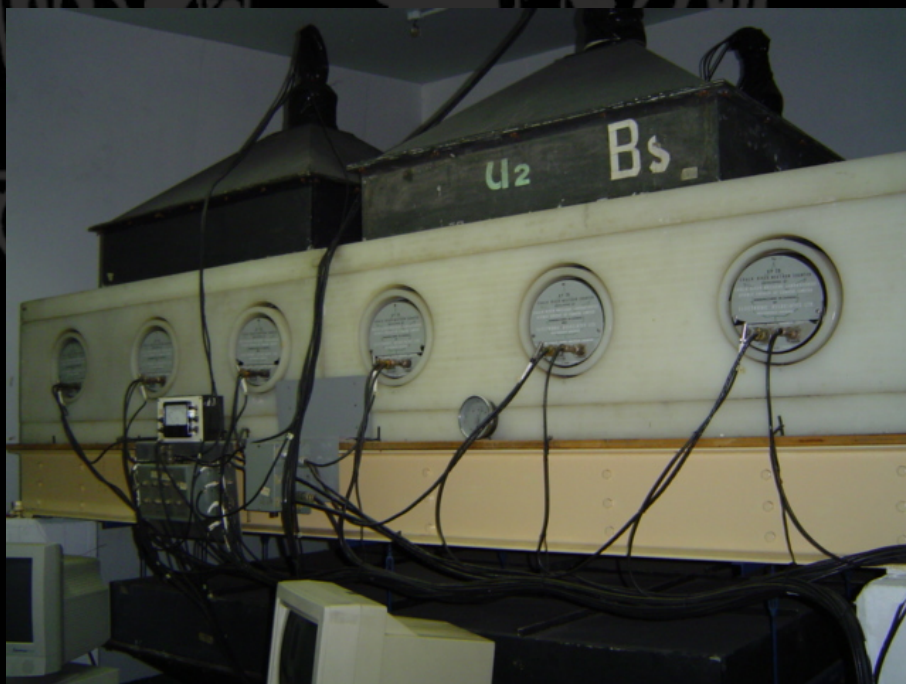
Observatorio de Rayos C3smicos-UNAM

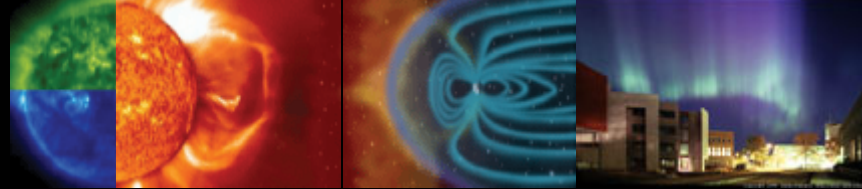


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<http://www.geofisica.unam.mx/isyp/orc/>





VIRTUAL EARTH-SUN OBSERVATORY



TEO Teoloyucan Geomagnetic Observatory

location Teoloyucan, Edo. de México (19.3

data: vector geomagnetic field

operation: 24 hours

sampling 7 channels 12 times
per minute

size per channel: 100 Kbytes

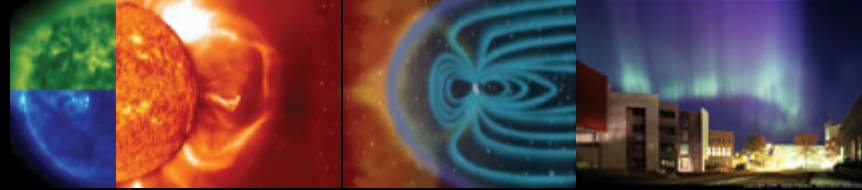
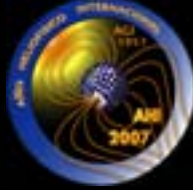
VESO data:
geomagnetic field magnitude
versus time

platform: WinXP/Linux



OBSERVATORIO GEOMAGNÉTICO
DE TEOLOYUCAN EDO. DE MÉXICO

CO-LATITUD: 70.25°	COMPONENTES MEDIDAS:
LONGITUD : 260.81°	DECLINACIÓN, INCLINACIÓN
ELEVACIÓN : 2280 m	E INTENSIDAD TOTAL DE
	CAMPO MAGNÉTICO



VIRTUAL EARTH-SUN OBSERVATORY



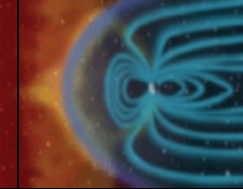
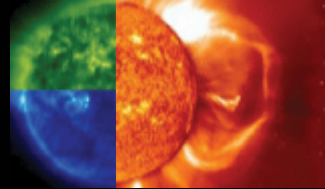
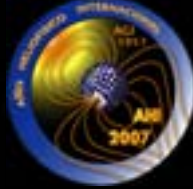
www.veso.unam.mx (132.248.6.46)

Hardware: DELL PowerEdge 1800, Intel Core Duo a 2.0 Ghz, 2Gbytes RAM, 250 Gbytes HD, LAN 1Gbit

OS: Linux Suse 10.1

Data acquisition every 5 minutes:
SQL (RC), scp (RIS, MEXART), ftp (TEO)

Plotting program:
GMT (Global Mapping Tool, U. de Hawaii)

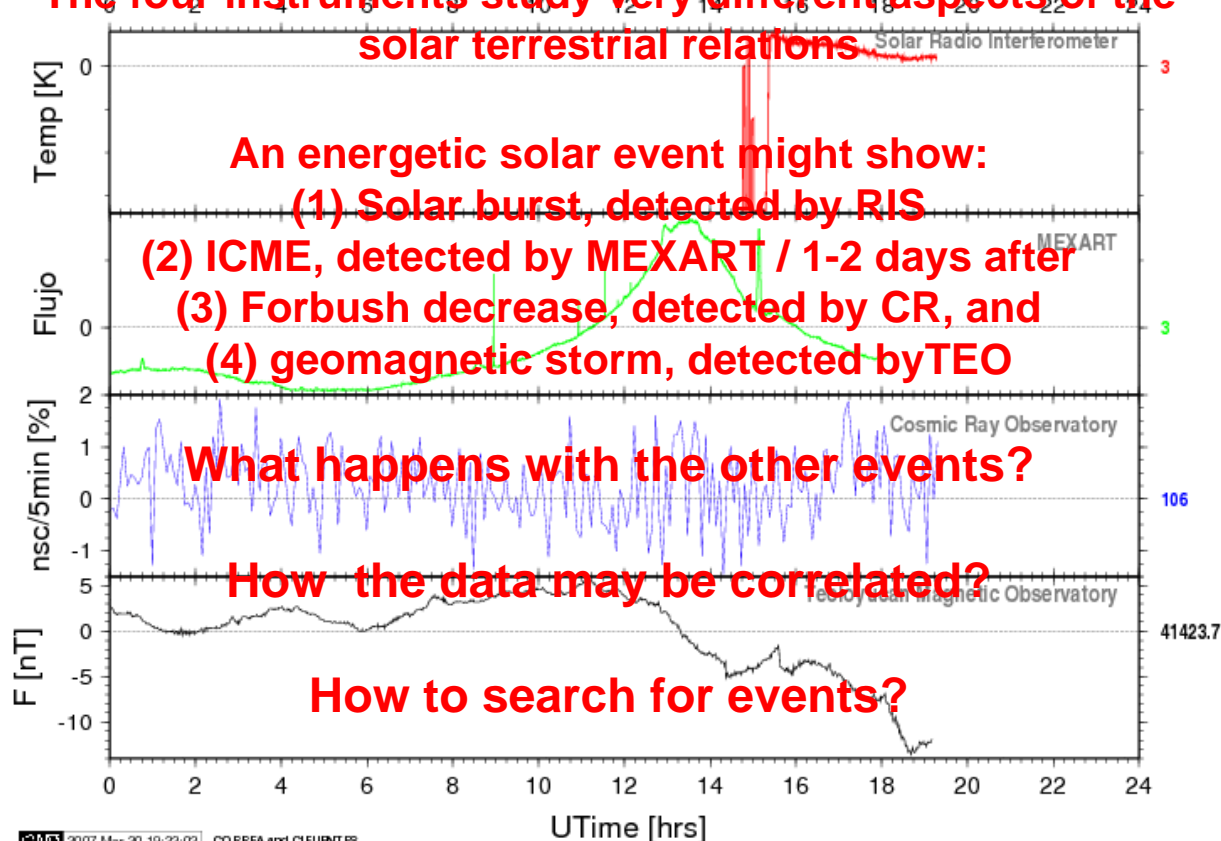


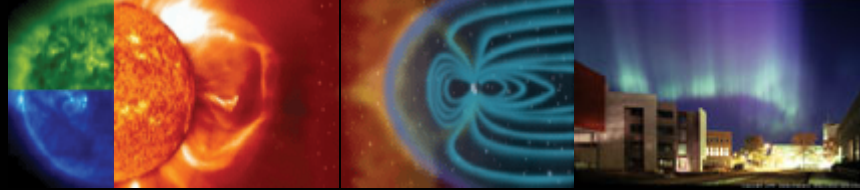
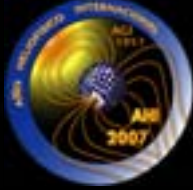
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VESO UNAM Preliminary Data

The four instruments study very different aspects of the solar terrestrial relations





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Work on progress:

- synchronizing the data files
 - define Metada
 - naming of the data files
 - file format (ascii?)
- web interface to select data and plot specific time intervals
 - how to correlate the events?
 - how to serve our data to other VxOs ?
 - IPS network
 - NM network

Thank you