

# Chapter 11

## Solar Physics in the Future

### 11.1 Instrumentation

**Earlier missions, data still used:**

Yohkoh 1991-2001

BATSE etc. onboard Compton 1991-2000

**Closing missions:**

Wind 1994-

SOHO 1995-

TRACE 1998-

**Current missions:**

RHESSI 2002-

Hinode 2006-

STEREO 2007-

SDO 2010-

**Future missions:**

Solar Orbiter (ESA proposed mission finalist, to be launched around 2017)

**Future ground-based solar radio imaging:**

FASR (solar dedicated, USA) 50 MHz – 20 GHz

ALMA 84 – 720 GHz

LWA (Long Wavelength Array, USA) 10 – 90 MHz

LOFAR 30 – 240 MHz

MWA (Murchison Widefield Array, Australia) 80 – 300 MHz

Special need to maintain NoRH, NRH, OVRO, and other existing solar-dedicated facilities

### 11.2 Unsolved problems in solar physics

See Hardi Peter lecture notes at

<http://www.star.uclan.ac.uk/summerschool2010/peter.pdf>

## 11.3 Solar activity

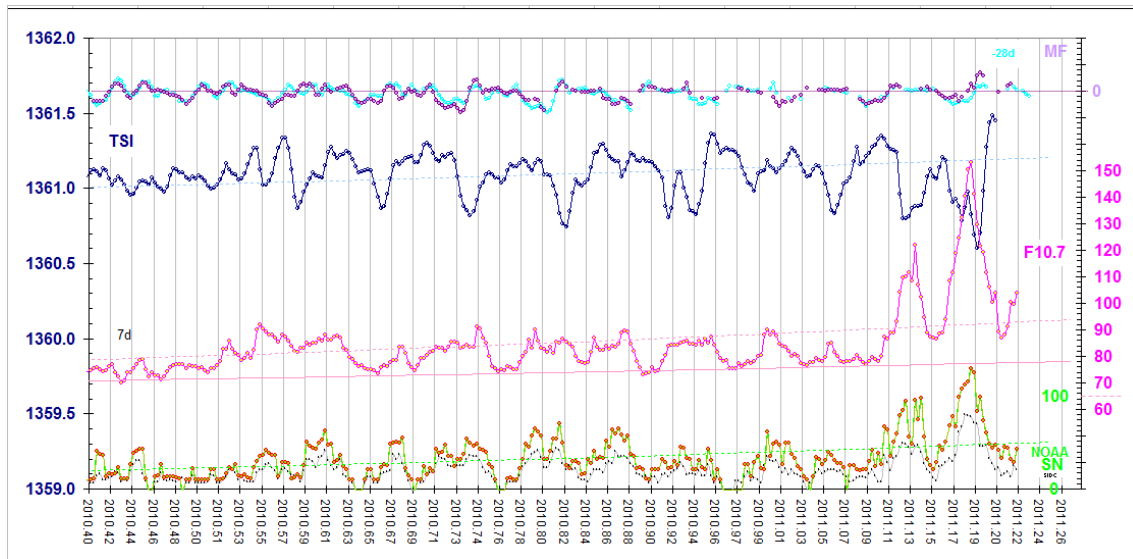


Figure 11.1: TSI = total solar irradiance, SSN = sunspot number, F10.7 daily 10-cm radio flux (from Leif Svalgaard's Research Page)

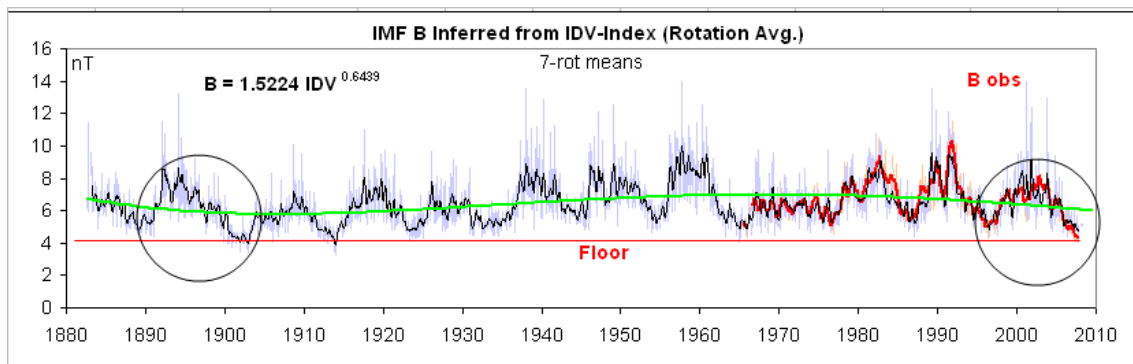


Figure 11.2: RHESSI Science Nugget number 99, see [http://sprg.ssl.berkeley.edu/~tohban/wiki/index.php/RHESSI\\_Science\\_Nuggets](http://sprg.ssl.berkeley.edu/~tohban/wiki/index.php/RHESSI_Science_Nuggets)

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