

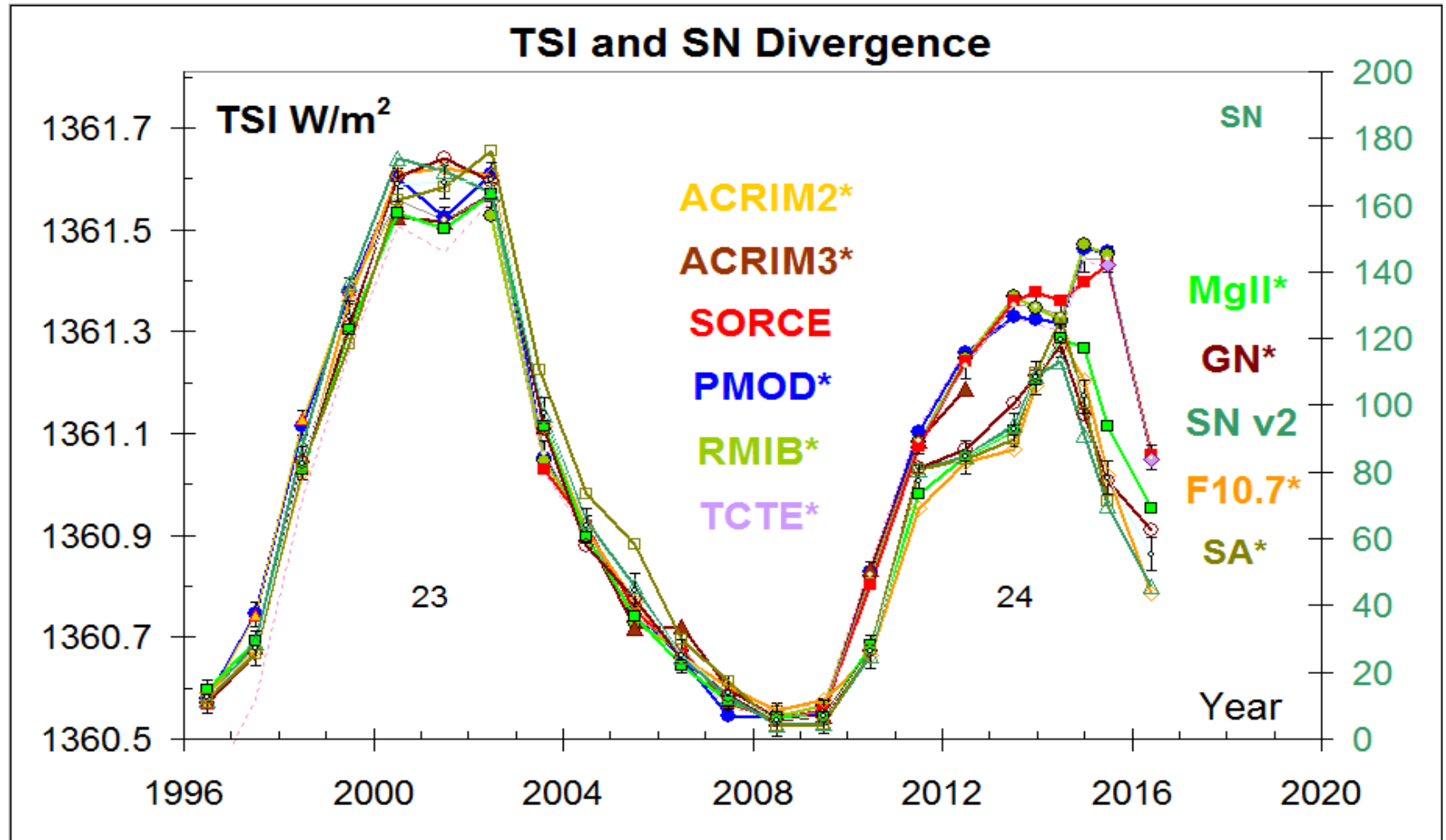


# RMIB TSI Record is Correct Since 1992, and SORCE/TIM is Not

Leif Svalgaard  
Stanford University

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# TSI Records Scaled to SORCE/TIM



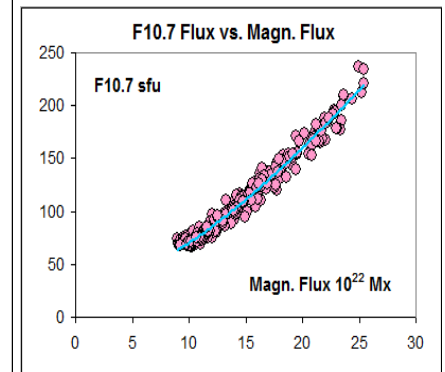
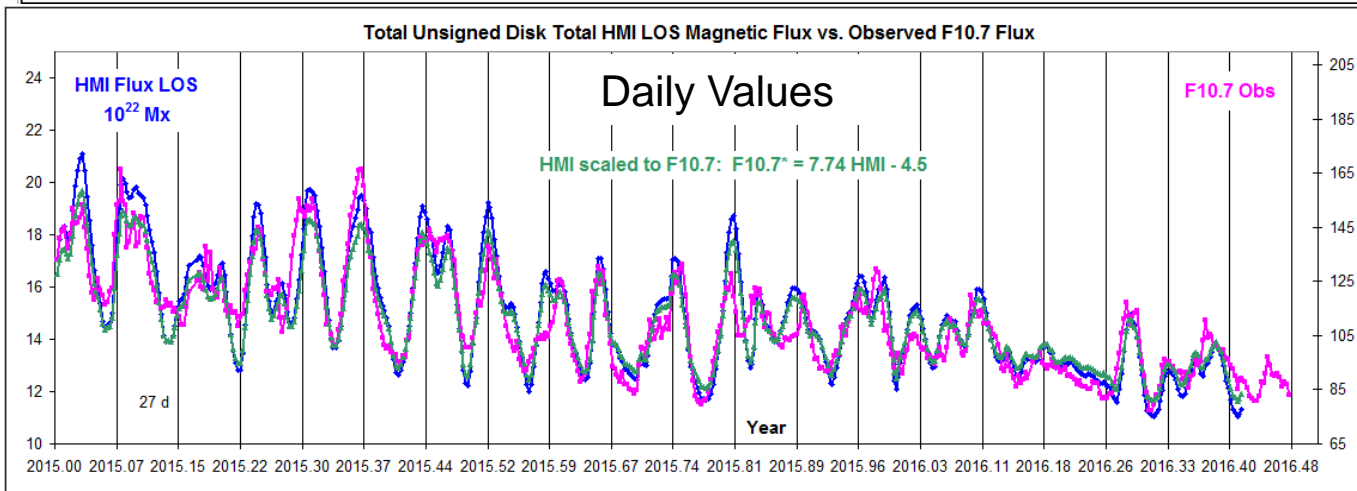
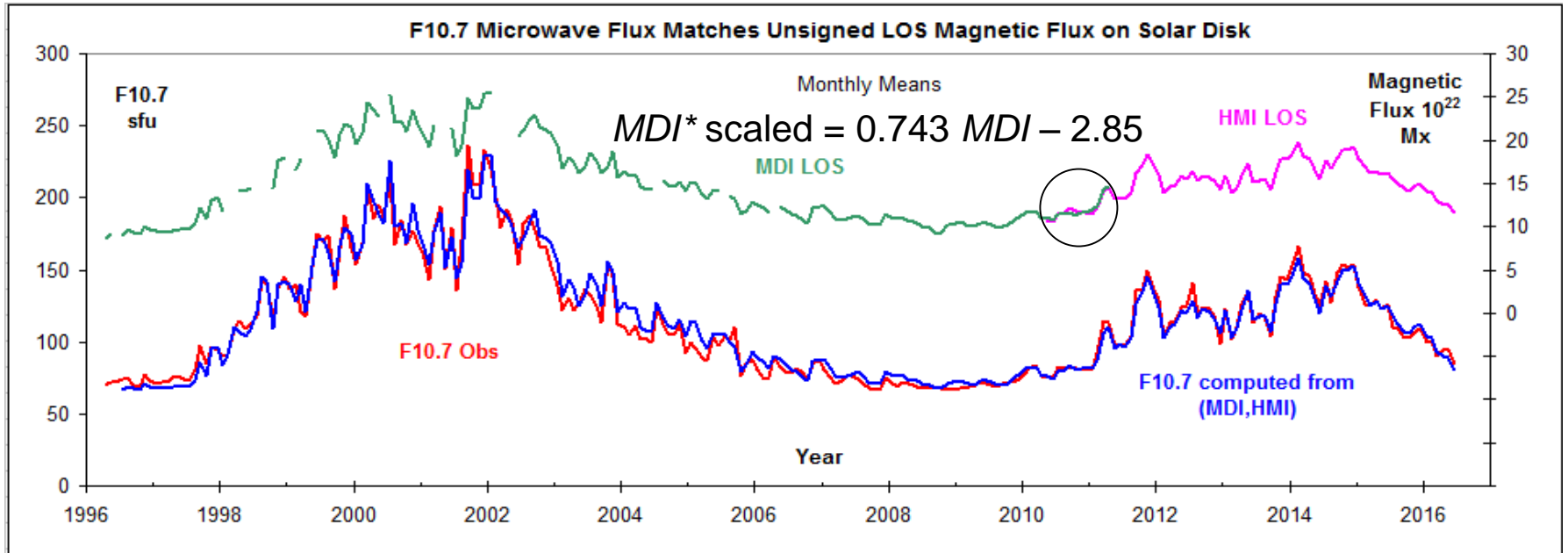
Solar Indices scaled to match TSI during Cycle 23 show a **divergence** for Cycle 24. Is this instrumental (for SORCE) or a solar effect [SC24 being a new 'regime'?] 2

# TSI Variations are Caused by Variations of the Sun's Magnetic Field

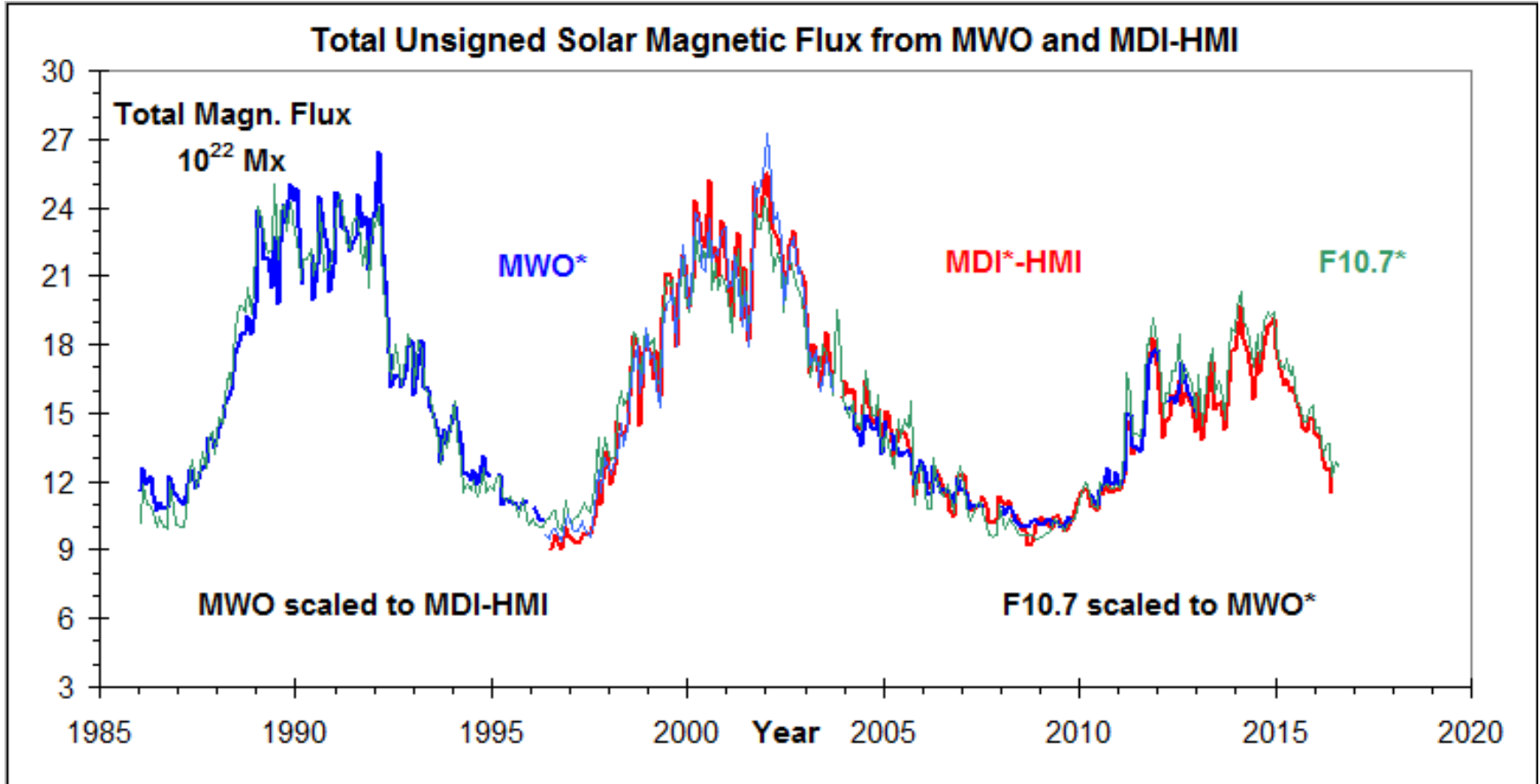
“Reconstructions of solar irradiance into the past are of considerable interest for studies of solar influence on climate. Models based on the assumption that irradiance changes are caused by the evolution of the photospheric magnetic field have been the most successful in reproducing the measured irradiance variations” (Dasi Espuig et al., EGU2013-13750-2).

The above statement is almost axiomatic.

# Magnetic Flux from MDI and HMI Match the F10.7 Microwave Flux

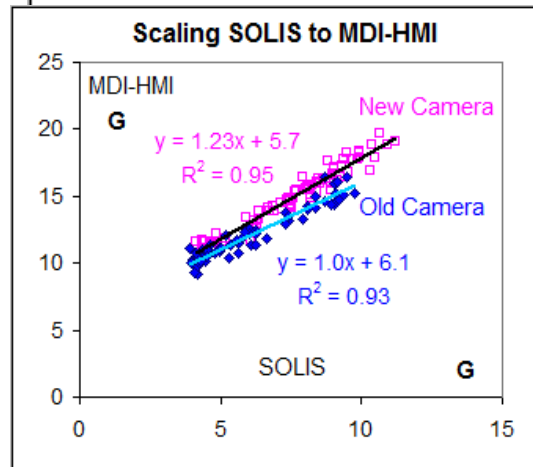
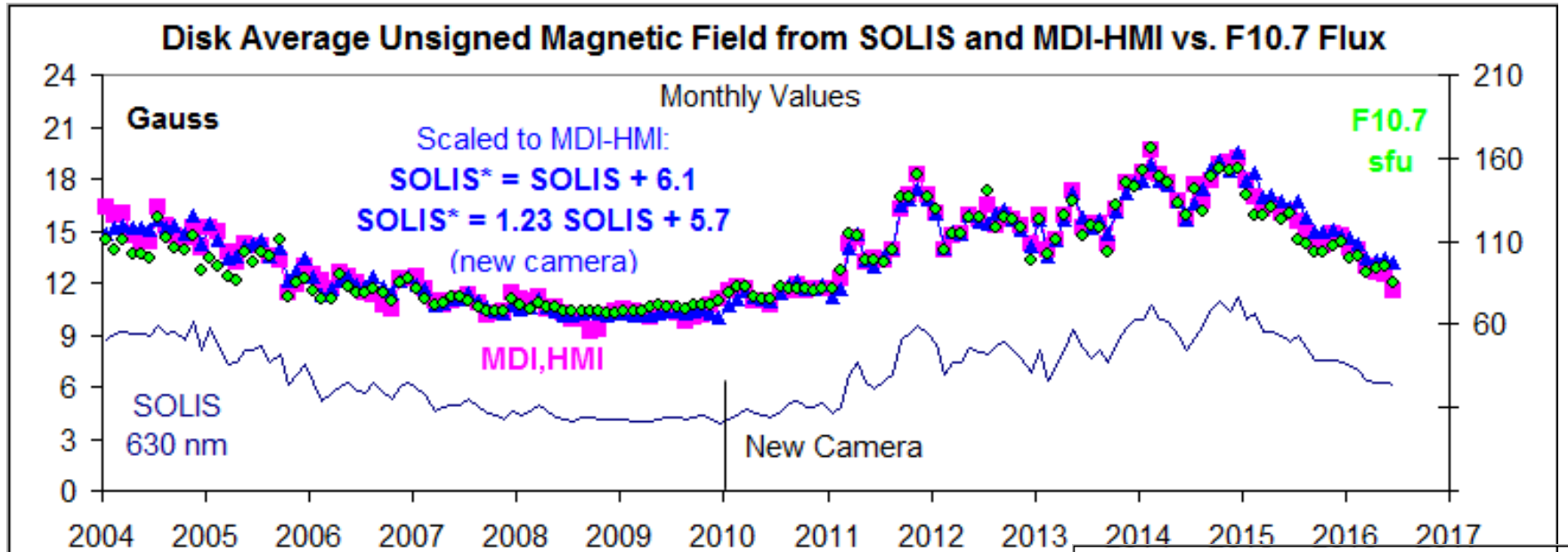


# Magnetic Flux from MWO Tracks MDI-HMI and the F10.7 Flux



MWO magnetic flux from digital magnetograms can be put on the MDI-HMI scale and, just as MDI-HMI, tracks the F10.7 flux very well.

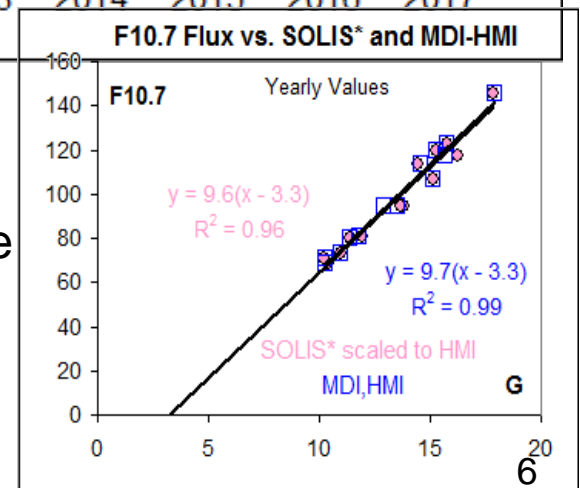
# Magnetic Field from SOLIS also Match F10.7 and MDI-HMI Nicely, but



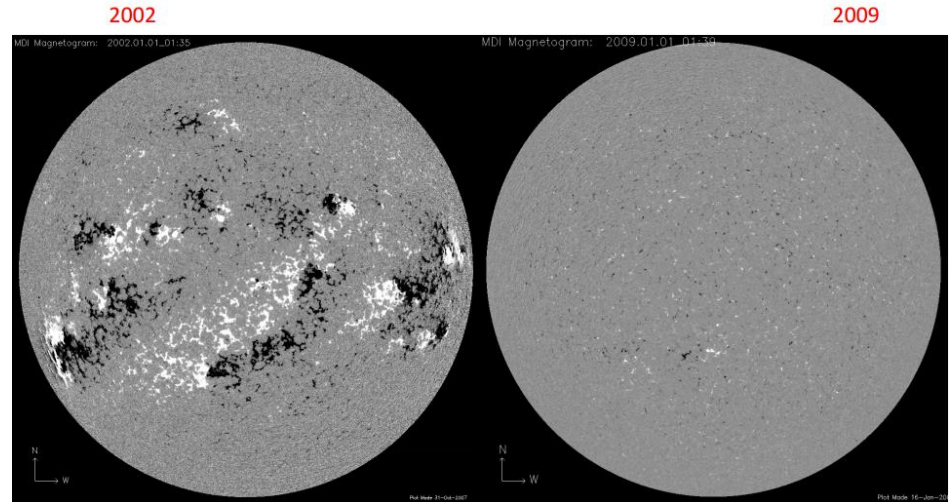
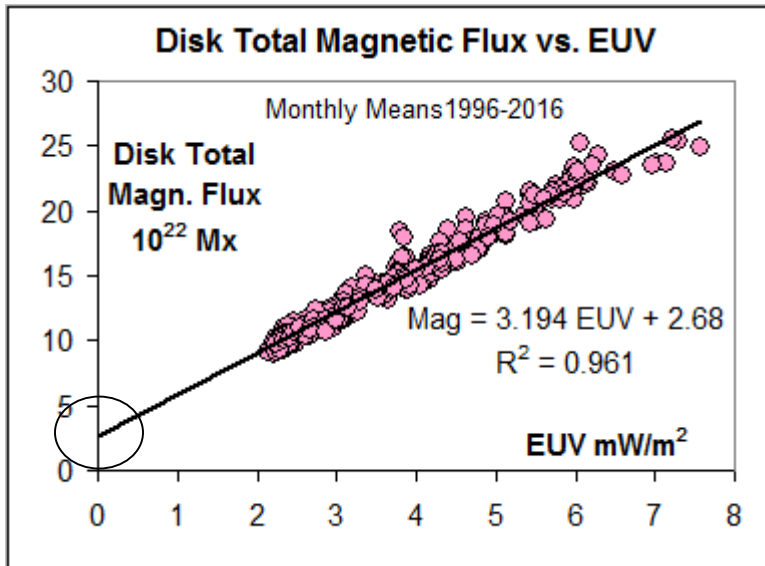
the upgrade to a new camera meant a change of calibration.

The bane of the irresistible urge to 'improve' the instrument.

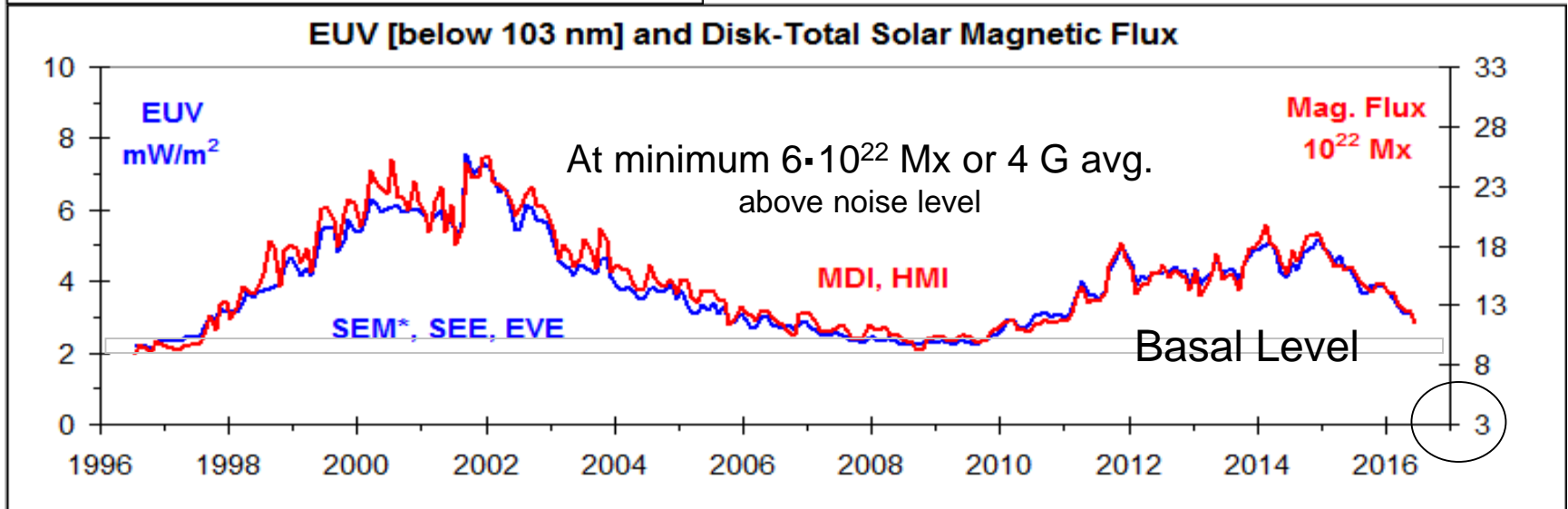
**Must Have Enough Overlap!**



# EUV Follows Total Unsigned Magnetic Flux



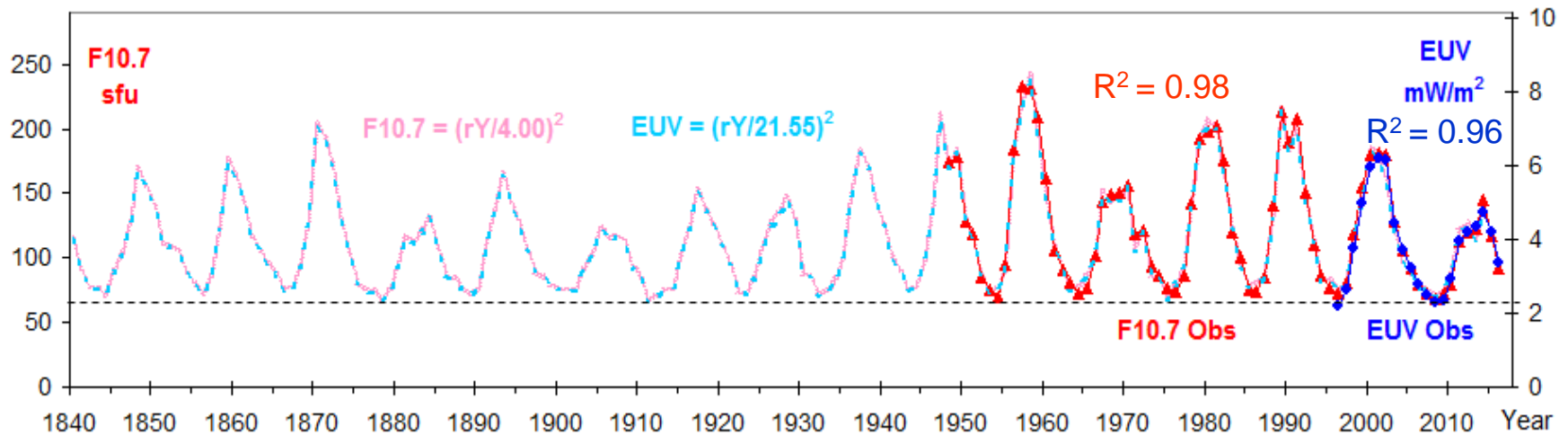
Offset interpreted as Noise Level  $\approx 3 \cdot 10^{22}$  Mx



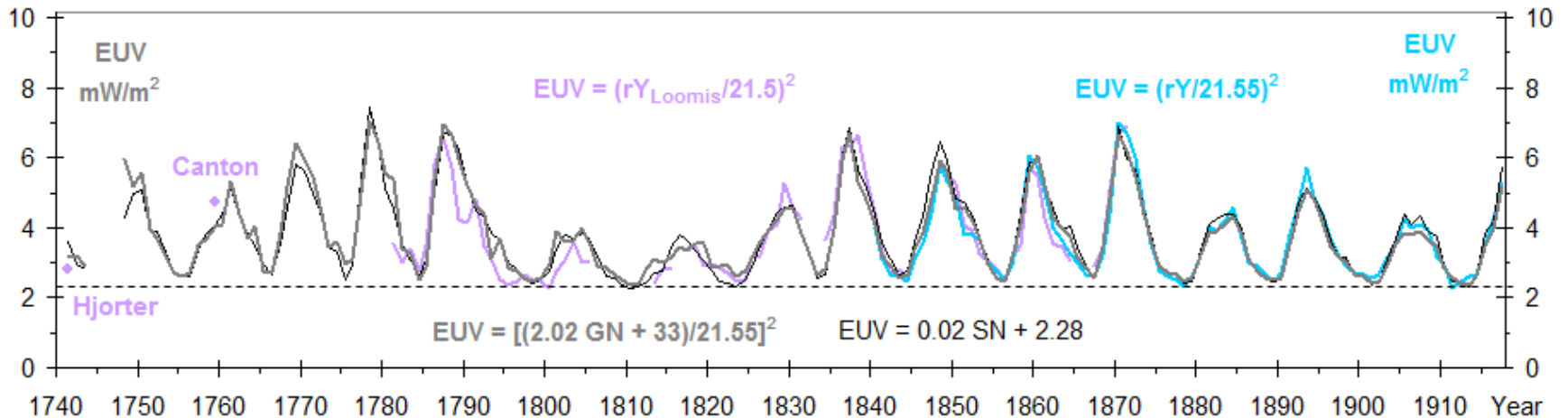
There is a constant 'basal' level at solar minima. We see this at every minimum. <sup>7</sup>

# Reconstructions of EUV and F10.7

Reconstruction of F10.7 Flux and EUV < 103 nm Flux



Reconstruction of EUV < 103 nm Flux



Note the constant basal level at every solar minimum since the 1740s