## For a given CA II K-line index there are too few sunspots after 2000



#### The Plage index is MWO's Magnetic Plage Strength Index MPSI:

For each magnetogram taken at the 150-Foot Solar Tower, a Magnetic Plage Strength Index (MPSI) value is calculated. To determine MPSI we sum the absolute values of the magnetic field strengths for all pixels where the absolute value of the magnetic field strength is between 10 and 100 gauss. This number is then divided by the total of number of pixels (regardless of magnetic field strength) in the magnetogram. The MPSI has been scaled by Luca Bertello to match the Ca II K-index. The calibration after 1986 is believed to be good.

The rising phase seems to be slightly higher than the declining, but the overall trend is a decline of sunspot numbers compared to the plage index.

### Same result if using MWO's MPSI directly: The Sunspot Number is dropping



We show the ratio between observed SSN and the linear MWO Plage Index

### For a given F10.7 flux there are too few sunspots after 2000



# Since at least 2000 the magnetic field of spots have steadily decreased



Livingston & Penn Effect