

The Continuing Deviation between the Sunspot Number and F10.7 Activity Indices

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The decline of solar activity cycle 23 and the climb to the maximum of cycle 24 were marked by a weakening of sunspot magnetic fields and changes in the relationships between solar activity indices. Photospheric indices indicated lower activity than were indicated by indices describing the level of chromospheric and coronal activity. These diversions were detected through using various indices to construct proxies for F10.7 and then examining the relationship between the observed and proxied values as a function of time. The current work comprises two parts: firstly to bring the previous comparisons up to date, and secondly to examine other indices. One rather surprising thing to emerge is a change in the relationship between sunspot number and sunspot area. In addition, the comparisons between F10.7 and proxies for that index derived from other indices suggests a hint of a return to "normal", at least at the time of writing.