

Using F10.7 and Other Activity Indices to Examine Continuity of Solar Activity Cycles

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At earlier SORCE Workshops we described the use of comparisons between solar activity indices to detect subtle changes in solar behaviour and differences between solar activity cycles. The main indices used were F10.7 and International Sunspot Number. The principle conclusion drawn from the analysis is that starting in the 1980's, in Cycle 21, there was a small excess of F10.7 over the value expected on the basis of sunspot number. This was interpreted as a higher level of activity in the chromosphere and corona compared with that at the photosphere. This difference grew in Cycles 22 and 23, culminating in a marked excess in a weak Cycle 24. At the time of the last SORCE Workshop, Cycle 24 was still in "full swing". This presentation is a consequence of two factors: firstly we are further into Cycle 24, which has shown a surge in activity, and secondly, the Solar Influences Data Centre (Belgium) has revised and recalibrated the International Sunspot Number record. This revision has strongly affected the study. In this presentation we will discuss the impact of the changes to the sunspot number record and the update of the study to the current point in the cycle.