



Contribution ID : 448

Type : **Poster**

## **Effect of Multiple solar parameters on cosmic ray modulation**

### **Abstract content**

The modulation in cosmic ray intensity is observed due to long-term and short-term variation in solar activity. The concept of multi-parametric modulation of CRI may play an important role in the study of long-term modulation of CRI. Keeping in view the said idea/concept, we have tried to investigate the combined effect of a set of two SA parameters in the long-term modulation of CRI. For this study, we have used a new statistical technique called "Running multiple correlation method", based on the "Running cross correlation method". The running multiple correlation functions among different sets of two SA parameters (e.g. sunspot numbers and solar flux, sunspot numbers and coronal index, sunspot numbers and grouped solar flares etc.) and CRI have been correlated separately. The strength of multiple correlation (among two SA parameters and CRI) and cross correlation (between individual SA parameter and CRI) has been found to be almost similar throughout the period of investigation. Furthermore, it is observed that the multiple correlations among various SA parameters and CRI is stronger during ascending and descending phases and it becomes weaker during maxima and minima of the solar cycles, which is in accordance with the linear relationship between SA parameters and CRI. The strange behaviour of cycle 23 (odd cycle) in view of odd-even hypothesis of solar cycles, lead us to speculate the solar cycle 24 (even cycle) might be of exceptional nature.

**If this paper is presented for a collaboration, please specify the collaboration**

### **Summary**

### **Reference**

**Primary author(s) :** Dr. MISHRA, V.K (A.P.S. University, Rewa (M.P.)-486 003, INDIA)

**Co-author(s) :** Mr. MISHRA, B.N. (A.P.S. University, Rewa (M.P.)-486 003, INDIA); Dr. MISHRA, A.P. (A.P.S. University, Rewa (M.P.)-486 003, INDIA); Dr. MEERA, Meera Gupta (A.P.S. University, Rewa (M.P.)-486 003, INDIA)

**Presenter(s) :** Dr. MISHRA, V.K (A.P.S. University, Rewa (M.P.)-486 003, INDIA)

**Session Classification :** Posters 3 + Coffee

**Track Classification :** SH.3.2