Geophysical Research Abstracts, Vol. 8, 08206, 2006
SRef-ID:


# Cross wavelet and wavelet coherence analysis of solar activity indicators

**M. Wik** and H. Lundstedt

Swedish Institute of Space Physics, Lund, Sweden
(magnus@lund.irf.se / Phone: +46462862125)

Solar activity is usually described by different indices such as the sunspot number and group sunspot number. In this study we examine the relationship between some of the often used solar activity indices. The data we use are the Mount Wilson sunspot index, Mount Wilson plage index, sunspot number, group sunspot number, total solar irradiance and solar radio flux at 10.7 cm.

To find the relationship between two time series in time-frequency space we use the cross wavelet transform and wavelet coherence. The purpose of this study is to examine the processes behind the variability of the solar activity indicators. We do this by comparing the wavelet transforms and examine the cross wavelet power and the wavelet coherence.