

Solar activity explored with wavelets

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Wavelet methods are today widely used in studies of solar activity. They are especially powerful for analysis of local changes of the signal; transients and the trends in periods. Three different wavelet methods will be applied to solar activity data. Four different indicators of solar magnetic activity will be used: C14 production rate, group sunspot number, solar mean magnetic field and synoptic solar magnetic are used. The choice of indicators is very important. The indicator C14 productions rate shows variability during the Maunder Minimum, which the group sunspot number doesn't. Understanding the processes behind the variability of the C14 production rate becomes therefore very important. Since the solar magnetic activity is defined by the variability of the magnetic field it is important to include as much of the spatial and temporal variation of the observed magnetic field into the used indicator. That kind of indicator will give the best way to decide how the Sun influences the climate.