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Prediction of Wolf Sunspot Numbers for the Next Millennium

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A prediction of sunspot numbers for the next 1000 years was obtained using a sum of sine waves derived from spectral analysis of the reconstruction time series of sunspot number Rz for the period 1000-2006. The time series was decomposed in frequency levels using the wavelet transform, and an iterative regression model (ARIST) was used to identify the amplitude and phase of the main periodicities. The 1000-year prediction sunspot number reproduces almost minimums and maximum in solar activity in future. The next minimum of solar activity is predicted to occur around 2056-2152 (equivalent the Dalton Minimum) and 2423-2530 (equivalent the Maunder Minimum). The next maximum of solar activity is predicted to initial in 2742. The average sunspot number activity in each anomalous period was used in linear equations to obtain estimates of the solar radio flux F10.7, solar wind velocity, and the southward component of the interplanetary magnetic field.

Feedback/Corrections? (/feedback/correctabstract?bibcode=2008cosp...37.2613R)