



Upcoming next Deep minimum Global Earth Temperature

Harald Yndestad

Norwegian University of Science and Tech, Informatics, Faculty of Engineering and Natural Science, Aalesund, Norway
(harald.yndestad@ntnu.no)

Minimum solar periods have been associated with less irradiation from the Sun and cold climate periods on Earth. An identification of a three grand Maunder type periods and two Dalton type periods in a period thousand years, indicates that sooner or later there will be a colder climate on Earth from a new Maunder- or Dalton- type period. The cause of these minimum periods, are not well understood. If the solar variability has deterministic periods, we can estimate better a new Maunder grand minimum. A random solar variability can only explain the past.

This investigation is based on a wavelet spectrum data series analysis of solar-lunar oscillations, Total Solar irradiation (TSI) from 1700 and 1000 A.D, global Earth temperatures from 1750, Greenland temperatures from 2000 B.C and oceanographic data series from 1900. The result show that the global temperature variability has a major influence from a solar-lunar spectrum from approximately 11 to 4000 years, which have time-variant phase-relations. A deterministic model, based on the solar-lunar spectrum, computes an upcoming next Maunder (1640-1720) type deep minimum global temperature before 2100 A.D. The solar period phase-relation indicate the deepest minimum in 4000 years.