



Evaluation of our prognosis of ST-phenomena made according to the solar inertial motion (SIM) and expected further development

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During several latest years, a behavior of the Sun is slightly unusual (hibernation stage?). Our prediction of cycle 24 height and of geomagnetic index aa (Charvátová, 2011) was confirmed in two basic points: the cycle 24 height is around 100 W (predicted value according to a close similarity between the SIMs in the years 1840-1905 and 1980-2045 was 140(100) W). (Other predictions for cycle 24 were between 40 W and 185 W.) As concerns aa-index of geomagnetic activity, predicted great depression below 10 nT appeared, but before the predicted year. Although the continuation of our SIMs prediction shows lower future sunspot cycles 25(65 W), 26 (80 W), 27 (60 W), the values are much higher than during the Maunder minimum. These cycles could be longer, up to 12 years. A future course of geomagnetic index aa could follow its course after 1880. In aa-index and also in sunspot numbers, the cycle of 1.6 years, dominant period in the SIM due to the inner planets (synodic period of Venus and Earth), is permanently seen, including in distances between two peaks of sunspot cycles. We can use this for prediction of higher values of these both phenomena – it can occur in the years 2016.42, 2018.02, 2019.62. During the interval 1840-1905 also higher volcanic activity occurred – up to force of Krakatoa (1883, DVI=400). Since 1980, several great volcanic events appeared again (e.g. Mt. Pinatubo (1991), DVI=350). Survey and comparison of volcanic indices DVI and AI in the two corresponding mentioned intervals will be also presented.