Continuous components of solar activity oscillation spectrum and forecasting of solar activity

Dmitry Sokoloff\textsuperscript{1,2,3}, Peter Frick\textsuperscript{3}, Rodion Stepanov\textsuperscript{3}, and Frank Stefani\textsuperscript{4}

\textsuperscript{1}Moscow State University, Russian Federation (sokoloff.dd@gmail.com)

\textsuperscript{2}IZMIRAN, Russian Federation

\textsuperscript{3}ICMM, Russian Federation

\textsuperscript{4}Helmholtz-Zentrum Dresden-Rossendorf, Germany

Spectrum of solar activity oscillations contains apart from the well-known 11-year activity cycle a continuous component, which includes, in particular, quasy-biennial oscillations as well as long-term oscillations including so-called Gleisberg cycle. We suggest to consider the mid-term solar variability in terms of statistical dynamic of fully turbulent systems, where solid arguments are required to accept an isolated dominant frequency in a continuous (smooth) spectrum. What about the timescales longer than the Schwabe cycle, we consider them as a presence of long-term memory in solar dynamo and discuss statistical test for verification of this interpretation. Sequences for statistical long-term forecast of solar activity are discussed.