FEATURES OF SOLAR ACTIVITY EFFECT ON THE FEDCHENKO ASTRONOMICAL CLOCK READINGS

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Abstract. When carrying out a detailed analysis of the Fedchenko astronomical clock (ACF) readings we revealed deviations in ACF stochastic time as «teeth» decreasing the pendulum swing period. The deviations formally correspond to an increase of the gravitational potential. The phenomena were observed during the passage of the solar X-ray flashes (SXF). By analogy with the technology of the information analysis of electrocardiosignals, changes of which in the main parameters (amplitude, frequency, route and phase relations) are also of a stochastic origin, we carried out the procedure of coding indications of the time during the passage of SXF. In calm heliogeophysical conditions, distribution function of three-term combinations of character encoding (triads) on the general scale of characters looks as Gaussian function. During the passage of steep fronts of SXF similar to «teeth», specific splittings and deformations in codograms of triads were synchronously observed with deviations in the ACF time.

Keywords: solar X-ray flashes, clock of Fedchenko, codograms, electrocardiosignals.