

Method for the Forecasting Solar Radiation in the Systems of Technical Vision

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Corpuscular radiation imposes negative impact both on the solar panels and the electronic components of satellites. Due to the influence of natural factors and the noise in the information signal, an adequate prediction cannot be received. To overcome this problem, the paper proposes based on the neural networks method for forecasting influence of solar radiation. To clear a signal from the solar radiation noise, based on the Hilbert-Huang Transform filter was created. The approach was implemented in the Information Measurement System (IMS) of the intensity of solar radiation. Case study confirms the effectiveness of the IMS: based on the filtered signal, an accurate prediction of the time-series was retrieved.

Keywords: Forecasting method, Solar radiation, Information noise, Neural network, Computational intelligence.