FORECASTING OF SOLAR ACTIVITY BASED ON THE ANALYSIS OF SOLAR RADIO

The theme: Forecasting of solar activity based on the analysis of solar radio

A diploma work contains 93 pages, 40 drawings, 9 tables, 12 sources, 1 application.

ACTUALITY OF THEME: forecasting of solar activity is a very important issue in a modern world, because space weather has a great impact on Earth observation satellites and space stations as well as on different processes on Earth.

The RESEARCH OBJECT is a sample of 144 daily measurements of flux from June 2015 to October 2015.

The PURPOSE of WORK consists in Kalman filter research and its use for predicting solar activity. Besides theoretical research, creation of software that implements this method.

The RESEARCH PURPOSE is the adaptation of Kalman filter to solar activity forecasting.

RESEARCH METHODS: least squares method, operations on matrices, Kalman filter. Software implementation of the method implemented in the environment of MatlabR2015b.

GOT RESULTS: designed algorithm for predicting of solar activity using a Kalman filter. Done comparison withautoregression.

KALMAN FILTER, FORECASTING, SOLAR ACTIVITY, INDEX F10.7, RADIOFLUX.