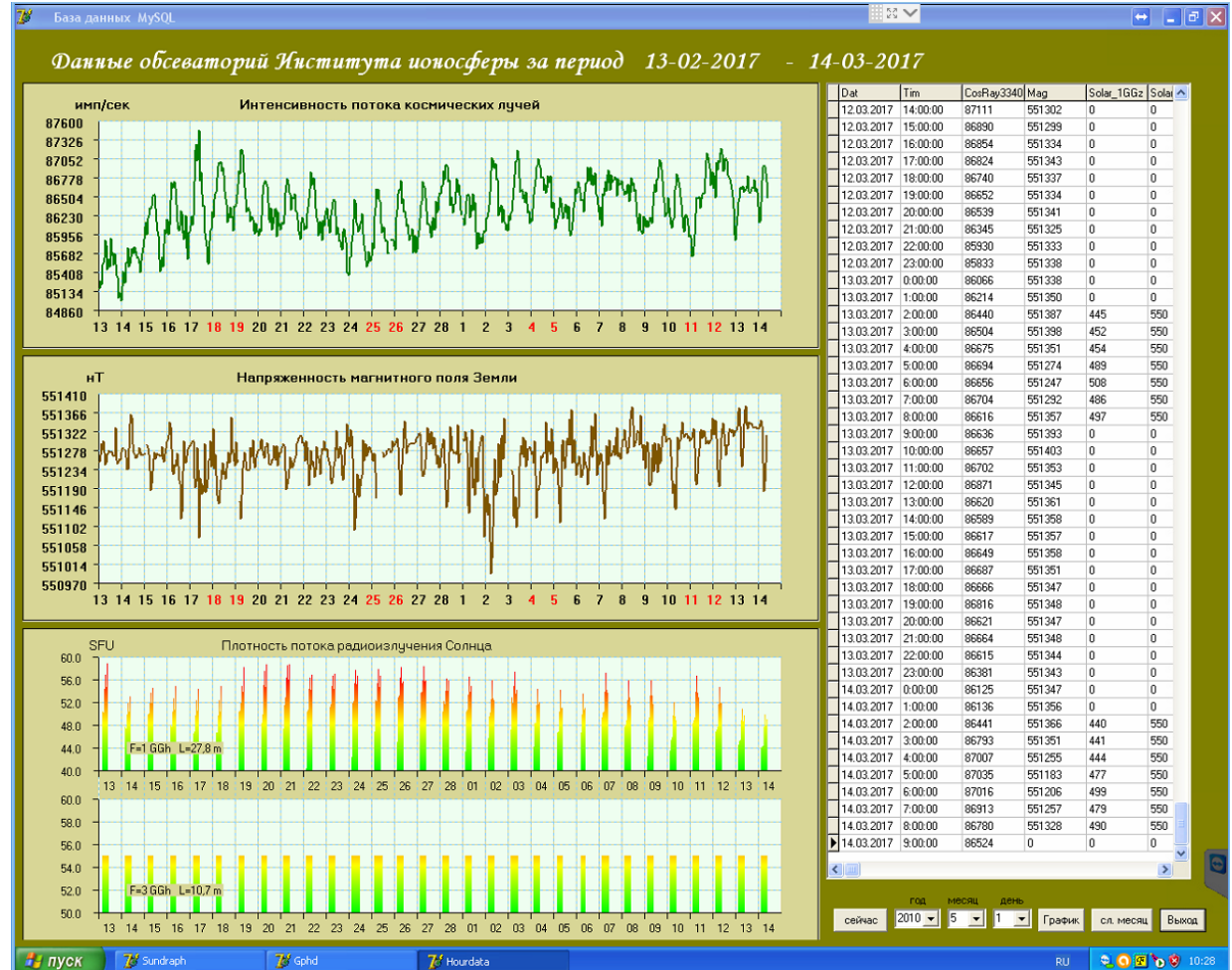
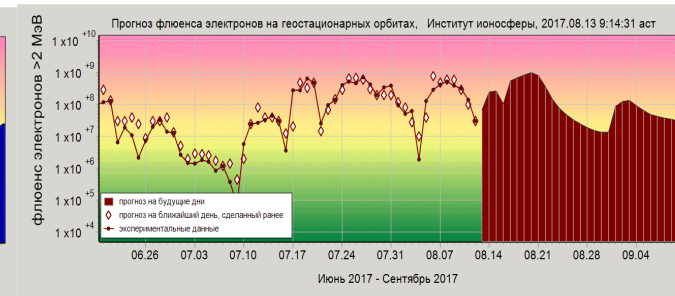
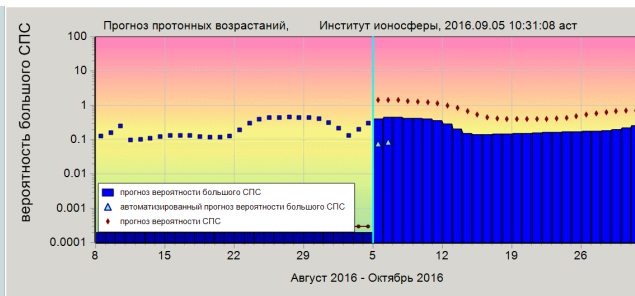
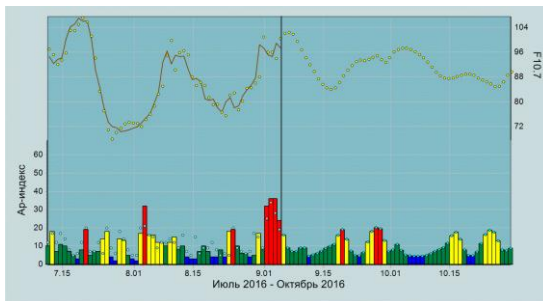


REPORT OF ISWI RELATED ACTIVITIES FOR 2017 IN KAZAKHSTAN



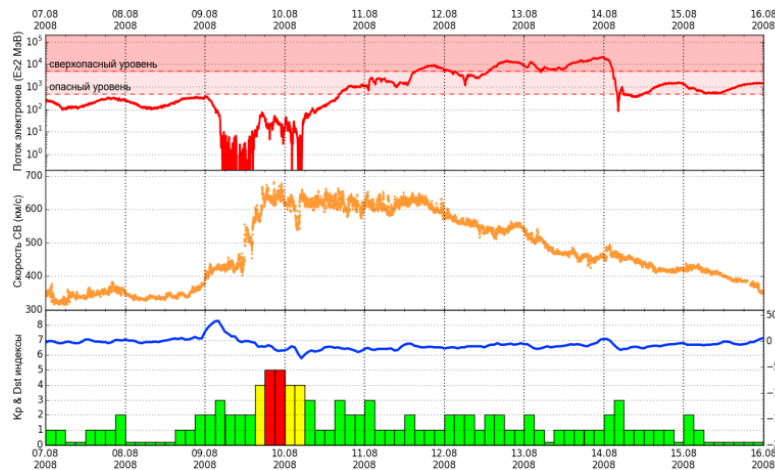
Kazakhstan's multi-level system of key space weather parameter measurements

KAZAKHSTAN SPACE WEATHER PREDICTION CENTER

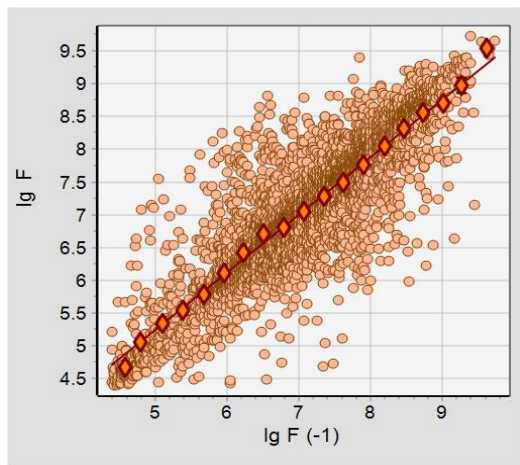


Kazakhstan Space Weather Prediction Center works daily (<http://ionos.kz/?q=en/node/21>). We issue the short-term and long-term forecasts of the magnetic activities (Ap-indexes) and solar activity (F10.7) for 55days, the forecast of probability of a large proton enhancement for 28 days and the forecast of fluence of magnetospheric electrons with energy > 2 MeV at geostationary orbit for 28 days and provide this information to all interested organizations in Kazakhstan.

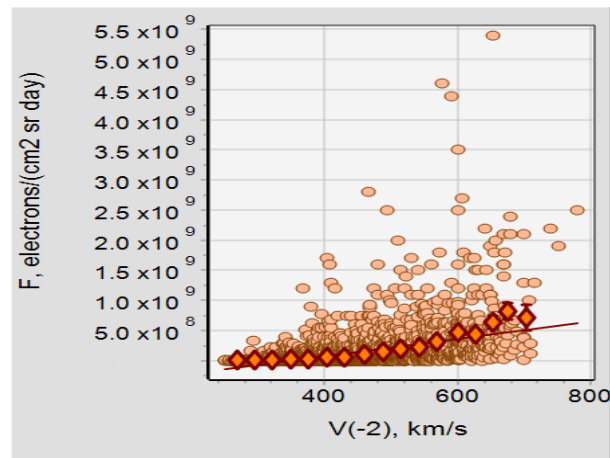
The study of the behavior of high-energy magnetospheric electron fluence at geostationary orbit in 1987-2015 and its connection with the parameters of near space



A typical increase of the electron flux on August 10-15, 2008 after a small magnetic storm and an increase of solar wind speed up to 650 km/s.

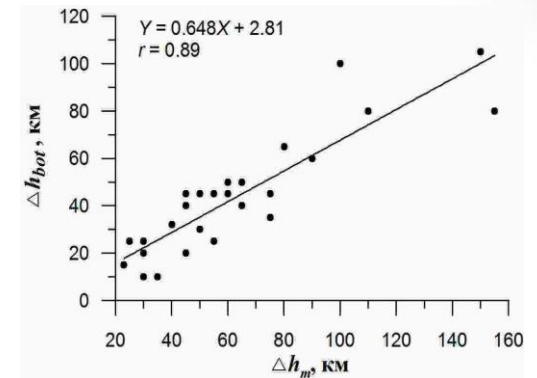
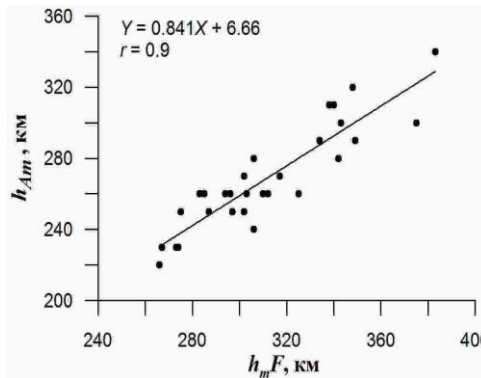
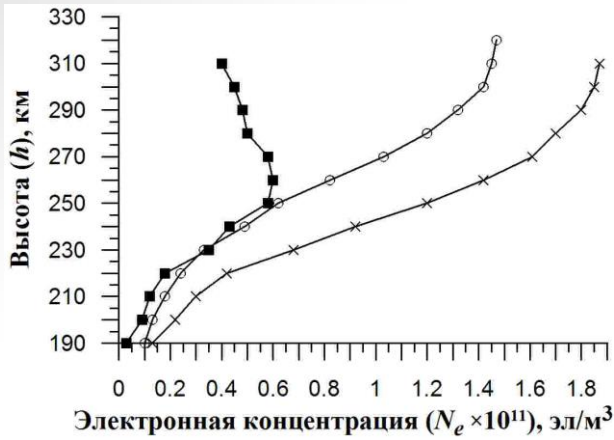


The connection of the daily fluence of the electrons F with the yesterday's fluence $F(-1)$. The number of points is 3970, $r = 0.88$.

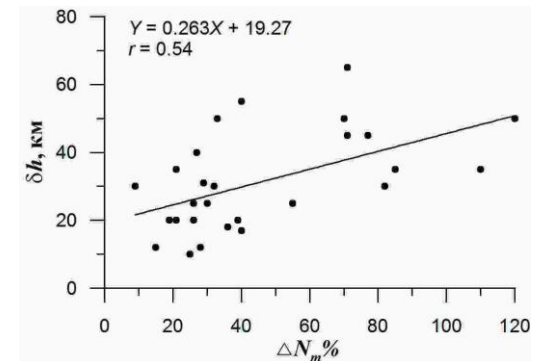
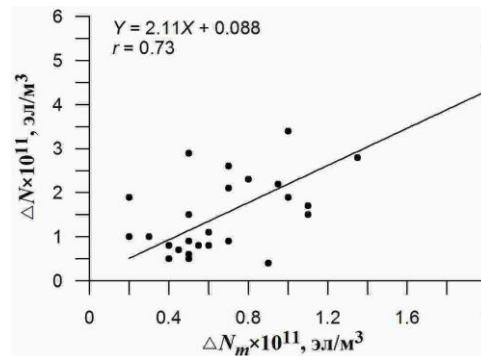
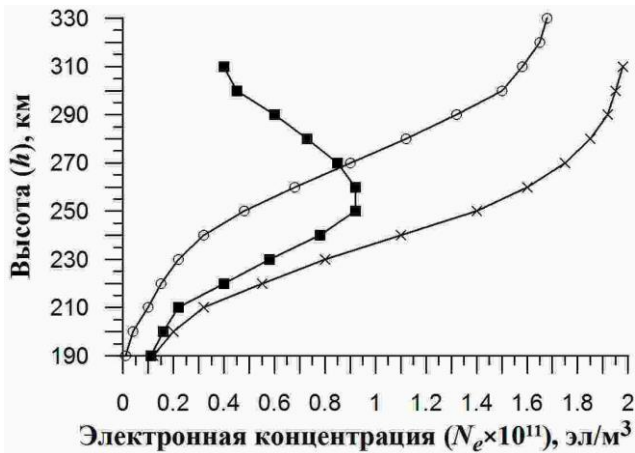


The relation between the electron fluence and the solar wind speed measured 2 days earlier.

BEHAVIOR OF PARAMETERS OF NIGHTTIME ENHANCEMENTS OF ELECTRONIC CONCENTRATION OF IONOSPHERIC F2 LAYER



Scattering diagrams between the heights h_{Am} and $h_m F$ (left panel) and between Δh_{bot} and Δh_m (right panel)



Typical altitude profiles of the enhancements of the electron concentration (■) and $N(h)$ – profiles of the beginning (o) and the end (x) of the enhancements

Diagrams of scattering between the amplitude of the enhancements of the electron concentration at the maximum of the layer ΔN_m and the maximum amplitude of the enhancements ΔN (left panel) and between δh and $\Delta N_m \%$ (right panel)