



Validation of LAIC model within the framework of ISSI project “Multi-instrument space-borne observations and validation of the physical model of the Lithosphere-Atmosphere-Ionosphere-Magnetosphere Coupling”

Sergey Pulinetz (1,3), Dimitar Ouzounov (2,3), and Laic Team (3)

(1) Space Research Institute, RAS, Space Geophysics, Moscow, Russian Federation (pulse@rssi.ru), (2) Center of Excellence for Earth Systems Science & Observations, Chapman University, Orange, USA, (ouzounov@chapman.edu), (3) International Space Science Institute, Bern, Switzerland (pulse1549@gmail.com)

A new international project to study the complex chain of interactions of different layers of atmosphere and near-Earth space plasma in presence of ionization sources and atmosphere loading by aerosol and dust, was initiated with the support of the International Space Science Institute (ISSI) in Bern. The Lithosphere-Atmosphere-Ionosphere Coupling (LAIC) concept initially created to understand the pre-earthquake phenomena in atmosphere and ionosphere, demonstrated its universality and ability to explain other natural phenomena involving atmosphere-ionosphere coupling from below such as tropical cyclones, thunderstorm activity, dust storms, volcano eruptions etc. The project aim, defined within the frame of the ISSI projects, can advance the Multi-instrument space-borne observations for studying the Earth Geospace environment. The currently project development utilizes multi-instrument ground and space-born observations collected all over the world to explore the variety of natural phenomena. First results show, that our planet environment could be regarded as an open complex system where interactions between different layers of atmosphere play important role in its thermodynamics and electro-dynamics. Holistic approach to the geospheres interaction gives the new insight of our near-planet environment.