ICRC2015

ICRC
The Astroparticle Physics Conference
34th International Cosmic Ray Conference
July 30 - August 6, 2015
The Hague, The Netherlands

Contribution ID: **132** Type: **Poster contribution**

On Non-Universality of Solar-Terrestrial Connections

Thursday, 30 July 2015 15:30 (1 hour)

The discussion on the principal possibility of a causal chain from solar activity –Space Weather to the earth climate and up to agriculture response continues over 200 years (Herschel,1801). We show that the root of the critics of this possibility lies in the conception (accepted default) of the universality of the solar-terrestrial connection (STC). This default paradigm of universality of STC leads to natural expectation that the effect, if it exists in really, must be observed in any historical period and in any geographical region. We show that this approach is not correct because of the solar-terrestrial connections are generated by different elements of solar activity with different agents of solar magnetic dynamo that have different and non-stable phase patterns, changed in phase and amplitude. We illustrate it by demonstration instability of STC manifestation in parameters of the Earth magnetic activity, cosmic rays and global atmospheric circulation. We show that the realization of the long causal chain "solar activity/space weather" - "earth weather" - "crops" -"market reaction" may have a place only in specific historical periods and in specific zones where and when the three necessary conditions hold. We show that the critical arguments used for rejecting a principal possibility of the causal connection "solar activity" –"Earth agriculture response" are based on neglecting of non-universality of STC and using for analysis selected periods and location when and where at least one from three necessary conditions does not performed.

Registration number following "ICRC2015-I/"

0144

Primary author: PUSTILNIK, Lev (Israel Cosmic Ray Center, and Tel Aviv University)

Presenter: PUSTILNIK, Lev (Israel Cosmic Ray Center, and Tel Aviv University)

Session Classification: Poster 1 SH

Track Classification: SH-TH