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On the need for systematic and interdisciplinary study solar-terrestrial relations

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The physics of solar-terrestrial relations is one of the urgent problems of modern natural science, since these links determine the state and variability of the environment and the activities of mankind. It is not systemic study of the solar-terrestrial connections, which is devoid of objective accounting of all initial (external) factors, without an interdisciplinary explanation of the mechanisms of their impact on the Earth and their characteristic manifestations, inevitably leads to the forced attribution of inexplicable processes and phenomena to "natural anomalies", the preservation of unanswered questions, do not allow to fully penetrate into the essence of solar-terrestrial connections and hinders the forecast of changes in the natural environment. Still widely used statements, correlation and statistical analyzes of ground responses are not accompanied by a proper interpretation of the studied. Analysis of the state of the study of solar-terrestrial relationships has shown that it is still at the search stage, since mechanisms, energy, cyclicity, polar asymmetry, inversion, synchronism of events and processes, instability of the diurnal rotation of the Earth are not explained without taking into account all the initial (external) causes, spasmodic and other features of their manifestations. In the interest of developing a systematic and interdisciplinary study of solar-terrestrial relationships, taking into account all the initial global factors affecting the Earth, it is proposed: in addition to the effects of solar activity and GCR fluxes on the Earth, the role and contribution to the solar-terrestrial connections of the Earth's endogenous activity gravitational influence on our planet from the moon, the sun and other planets in the process of barycentric motion of the solar system in the gravitational field of the galaxy, as well as perturbations of the solar system as overall outside processes and events near and far cosmos. Synchronous events and processes 1997-1998 on the sun and earth testify to an external effect on the solar system, identified with a burst of neutrino radiation and a gravitational wave due to a supernova outburst. Autonomous responses of earth's shells can be the result of trigger effects during the transition of the solar system from the galactic orion arm on the way to the perseus branch.

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