

Biological responses induced by definite type cosmic ray irradiation can be masked via secondary biogenic emission

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Among a vast moiety of external heliogeophysical effects the suggested contribution of cosmic corpuscular flux irradiation in the possible promotion of biological terrestrial responsive physiologo-biochemical reactions is poorly understood. There are theoretical prerequisites and restricted experimental findings that the some cosmic rays acquired sufficient permeability energy are eligible to affect the biological systems, possibly via a number of intermediates. Earlier, in terms of special bio assay on the base of plant objects it was shown that the plant responses were connected to galactic cosmic ray intensity fluctuations (Forbush decreases, GLE events) in March-April, 2001 in the auroral zone (Kashulin et al., 2002). These events were followed by data and diurnal time dependent significant fluctuations in the germination rate of large seed cohorts of herbaceous perennial plant *T. officinale* and a major number of the responses were postponed by a few to up 24 hours. To explain the observed temporal gaps in biological responses, as well as a rather poor direct correlation between geophysical and /or cosmic events being in a number of available experimental data of other researchers the existence of particles flux irradiation induced secondary biological emission is suggested. The alike emission induced in plant objects by some isotopes was profoundly investigated earlier by A.M. Kuzin (1994; 1998) and colleagues. It may be originated from so called polaritones induced in irradiated bio polymers (DNA, proteins) and which can emit the secondary UV quanta of low intensity F. Popp (1989), K. Li (1992). Due to relative stability of the polaritones the observed bio responses may be masked and/or postponed by some hours at least. To further explore the question the analogous experiments were carried out in our lab with Cs¹³⁷, X-rays and other sources in relation to *Taraxacum officinale*, *Raphanus sativum*, *Faseolus* beans. The last results of the study are presented.