



The Earth climate and life evolution exposed by cosmic radiation and secular variation of geomagnetic field.

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Climate abrupt warming periods occurrence and biologic evolution sharp changes stages, human evolution in particular, alike are shown to be governed by secular variations of geomagnetic field, namely, field reversals and excursions, while the geomagnetic field decreases a lot in its module value relative to standard and consequently in its protective characteristics, making solar protons with energy, less than the geomagnetic cut off energy of galactic cosmic rays (GCR), penetration into the Earth atmosphere possible. The resulting density of proton flow is about two-three orders higher than GCR flow density. The ordinary GCR flow is taken to be a half of the terrestrial radioactive background. Reversals and excursions initiate a strengthening of the latter that is causing a climate abrupt warming and glacier thawing on the one hand, and fauna genetic mutations on the other. Hominid genetic mutations, such as in Gauss-Matuyama reversal (2.3 Myr) conditioned on distinctly new species, Homo erectus, origin. Later pulsing radiation attacks of homo species, occurring during excursions, result in Modern Homo Sapiens emerge. The strongest radiation attacks of homo species were proceeding throughout Yamaica and Blake excursions (230,000 and 130,000 years ago) agreeing with the recent estimates of ages of human ancients: 230 kyr from mtDNK and 100 kyr from Y-chromosome, both having African roots. The facts appear explicable on the context of the fundamentally new model of the geomagnetic field generation, based on the “hot” Earth hypothesis, and the theory of the Earth magnetic poles drift throughout reversals and excursions theory.