

Origin of Cosmic Rays and Thought Travels with CR Particles in Galaxy and in the Universe

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We will show that Solar Energetic Particles (SEP), as well as energetic particles generated in magnetospheres of the Earth, Jupiter, Saturn and other planets, in interplanetary space, and in atmospheres of stars have the same nature as Galactic and Intergalactic CR: they are all runaway particles from the Maxwell-Boltzmann distribution of background plasma where they were generated. Energy of these run-away particles is much higher than average energy of background thermal particles. It is shown in this work that the energy of all these run-away particles have the same general nature: it is always transfer energy from the Macro-objects and Macro-processes directly to Micro World (to charged runaway particles). This transfer energy is formatted in dynamic plasma with frozen in magnetic fields: really magnetic fields 'glues'billions thermal background particles into Macro-objects and Macro-processes. So, thank to frozen in magnetic fields runaway particles can interact not only with thermal background particles (and loose energy), but also directly with Macro-objects and Macro-processes with very high macro-energy (many order higher than energy of run-away particle). Thermodynamically Macro-objects have much bigger "effective temperature"than runaway particles and though the energy always transferred from Macro World to runaway particles of Micro World. We also consider by thought travel together with CR particles of different energy how looked stars, planets, Galaxy and other objects.

It is important to understand what will be radiation hazards during real relativistic travels in future.

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