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Tau Airshower Astronomy in space

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Highest energy neutrino in ICECUBE (hundred TeV or PeVs) suggested since five years the birth of a Neutrino Astronomy.

However the possible pollution by atmospheric neutrino signals, in particular prompt charmed ones, might offuscate the ability to discover the main astrophysical UHE neutrino sources. Indeed up to now no AGN or GRB or galactic sharp signal have detected.

A possible guaranteed, extraterrestrial, neutrino signals is made by the relativistic tau neutrino component. Above PeVs energies any astrophysical PeV tau neutrino (made by oscillation and mixing) may interact inside the terrestrial crust, emerge from the Earth and decay upward in air. The consequent upward tau airshower may blaze into top mountain array (as Magic Telescopes) or satellites leading to a Tau Airshower Astronomy in space.

New satellite system and optical array detector for such tau airshowers will be shown: they might disentangle also high altitude hadronic UHE (PeV, EeV) Cosmic Rays.

Summary

The new developed proposals of Tau Airshower (Also called Earth skimming) will be shown.

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