

**HEP@VUB meeting: 12:00 -
13:00**

Report of Contributions

Contribution ID: 1

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UHE neutrino Astronomy

Thursday, 26 November 2020 12:00 (30 minutes)

Neutrinos have attracted much attention lately, with 2 Nobel Prizes in 2012, 2015, and the first detection of very high energy neutrinos with IceCube in 2013. Ultrahigh energy (UHE) neutrinos, with energies $\sim 10^{18}$ eV, remain uncharted territory: they have not been detected yet, and their sources remain a mystery. Their existence is guaranteed however, as they are bound to be produced by the interaction of ultrahigh energy cosmic rays with the cosmic backgrounds, on their way from their source to the Earth. We will review the processes that produce these cosmogenic UHE neutrinos, but also the astrophysical UHE neutrinos via interactions inside the sources. We will discuss whether their flux predictions are compatible with the beginning of UHE neutrino astronomy with the upcoming detectors.

Presenter: KOTERA, Kumiko