

THE PHYSICS COLLOQUIUM

Thursday 23 February 2022, 4:00 p.m.
Nijenborgh 4, Lecture Hall 5115.0317 (Schröderzaal)

Beginning a journey across the Universe: the discovery of extragalactic neutrino factories

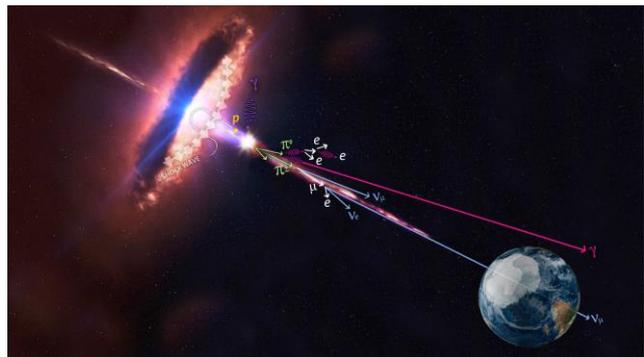
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Identifying the sources of extragalactic neutrinos is one of the foremost challenges in the astrophysics and multi-messenger fields. Amongst the most promising neutrino candidate sources there are blazars, active galactic nuclei hosting a relativistic jet pointed towards us.

In this seminar, I present a study that provides evidence for a spatial correlation between high-energy ($>100\text{TeV}$) IceCube neutrinos and a well-defined, sample of blazars in the southern celestial hemisphere. The probability for the genuineness of such correlation is as low as 2×10^{-6} (~ 4.5 sigma, post-trial), suggesting that it is highly unlikely to arise by chance. The study pushes forward a subset of objects as highly likely extragalactic neutrino sources and, hence, cosmic rays PeVatron accelerators.



Join us for coffee starting 3:30 p.m. Refreshments will be served after the lecture.
For more information contact the host: Manuela Vecchi (m.vecchi@rug.nl)
Website: <http://www.rug.nl/research/vsi/colloquia/>