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Extragalactic Background Light In The Infrared And The Local Foregrounds

Wednesday 4 September 2024 11:00 (25 minutes)

After briefly reviewing the astrophysical and cosmological relevance of the diffuse extragalactic background light in the infrared and the impossibility to measure it with current instrumentation, I will discuss the possibility to constrain it effectively from measurements of the photon-photon opacity in the direction of local VHE gamma-ray sources.
An important aspect of this project is the assessment of the local foreground radiations, including those inside the galaxy and inside the structure (galaxy cluster) hosting the gamma source, and the local foregrounds in our Milky Way.
Estimates of such local radiations are also essential in the perspective to use VHE observations to test possible deviations from the standard model of interactions, like LIV violations and ALP effects, and also useful to assess the effects in the propagation of high-energy particles.

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