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## **New constraints on the dark matter-neutrino and the dark matter-photon scattering cross-sections (20+10)**

*Thursday 30 March 2023 11:00 (30 minutes)*

The flux of high energy neutrinos and photons produced in active galactic nuclei could get attenuated when they propagate through the dark matter spike around their central black hole. Using measurements of the neutrino and the gamma-ray fluxes from TXS 0506+056 and from NGC 1068 by IceCube and the Fermi-LAT we derive new constraints on the dark matter-neutrino and the dark matter-photon scattering cross sections. Our constraints are orders of magnitude more stringent than those derived from considering the attenuation through the intergalactic medium and the Milky Way dark matter halo. We also briefly discuss the implication for some specific dark matter scenarios.

**Author:** IBARRA, Alejandro

**Presenter:** IBARRA, Alejandro

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