



Contribution ID: 75

Type: **not specified**

Star + black hole = neutrino?

Monday 30 May 2022 16:50 (15 minutes)

The origin of most high-energy neutrinos is unknown. They have thus far been observed in coincidence with time-variable emission from three different types of accreting black holes: a gamma-ray flare from a blazar, an optical transient following a stellar tidal disruption, and an optical outburst from an active galactic nucleus. I propose a unified explanation for the latter two of these sources: accretion flares that reach the Eddington limit. A signature of these events is a luminous infrared reverberation signal from circumnuclear dust. Using this property, we construct a sample of similar sources, revealing a third event coincident with a PeV-scale neutrino. This sample of three accretion flares is correlated with high-energy neutrinos at the 3-sigma level.

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Session Classification: Parallel session