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## Modeling neutrino emission from Active Galactic Nuclei

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The IceCube Neutrino Observatory is a cubic kilometer detector located at the South Pole that detects high-energy neutrinos by the Cherenkov radiation produced by secondary particles when they interact in the ice. With a decade of data, the IceCube Collaboration has started to identify active galactic nuclei (AGN) as neutrino sources. These had been theorized to be potential sites to accelerate cosmic rays and produce neutrinos. The sources are gamma-ray obscured sources, confirming evidence that they should be based on the diffuse extragalactic neutrino flux. In this talk, we present simple dimensional arguments that cosmic neutrinos are produced in AGN within less than 100 Schwarzschild radii from their central black hole.

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