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Correlation between the unabsorbed hard X-rays and neutrinos in radio-loud and radio-quiet AGN

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In our recent paper, we demonstrated that the luminosity ratios of neutrinos and unabsorbed hard X-rays from the blazars TXS 0506+056 and GB6 J1542+6129 are consistent with neutrino production in a γ -ray obscured region near a central supermassive black hole. The X-ray flux appears to arise from reprocessed γ -ray emission with a flux comparable to that of the neutrinos. Similar neutrino-hard X-ray flux ratios are found for four Seyfert galaxies-NGC 1068, NGC 4151, CGCG 420-015, and NGC 3079-suggesting a common neutrino production mechanism that may not require a strong jet. In this contribution, we will present our findings and discuss their implications for future research.

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