

# Messengers from Hidden Sources: Corona, Shock, and Turbulence

The recent IceCube measurements have suggested that the diffuse neutrino flux in the 10-100 TeV range is larger than the Waxman-Bahcall limit, and the associated gamma-ray flux apparently violates the gamma-ray background measured by Fermi LAT. The most natural interpretation is that there is a population of neutrino sources that are hidden in GeV-TeV gamma rays. In particular, we show that hot coronae in active galactic nuclei and radiatively inefficient accretion flows, which are magnetized and turbulent, are promising sites of neutrino and gamma-ray production, and the diffuse neutrino and MeV gamma-ray background can be explained without large cosmic-ray loading. This model can also explain the excess neutrino emission from NGC 1068. We also discuss tidal disruption events and blazars, in which particles may be accelerated by shocks, in light of the recent multi-messenger follow-up observations.