



Contribution ID: 19

Type: **Oral**

Multimessenger Studies of Blazars

Friday, December 9, 2016 2:20 PM (20 minutes)

Active galactic nuclei often show relativistic outflows of matter, called jets. We study their simultaneous radio to gamma-ray spectral energy distributions (SEDs) from the TANAMI sample, with over 80 SEDs for 22 sources. The large amount of monitoring data from the TANAMI project allows us to construct dynamic SEDs, highlighting spectral changes in varying flux states. With the data, we can further address key questions in AGN jet physics like the existence of the blazar sequence and the Fermi blazar's divide, the fundamental plane of black hole masses and the origin of the "big blue bump".

In high flux states the sources do not seem to follow the blazar sequence, suggesting a change in the jet. We find disagreements with the Big Blue Bump originating in thermal emission from the accretion disk. We further observe that the fundamental plane does not work well as an estimator of the black hole mass, or the black hole mass is severely overestimated by SED fitting for some of the sources.

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Session Classification: MWL and Multi-Messenger

Track Classification: HAP Workshop