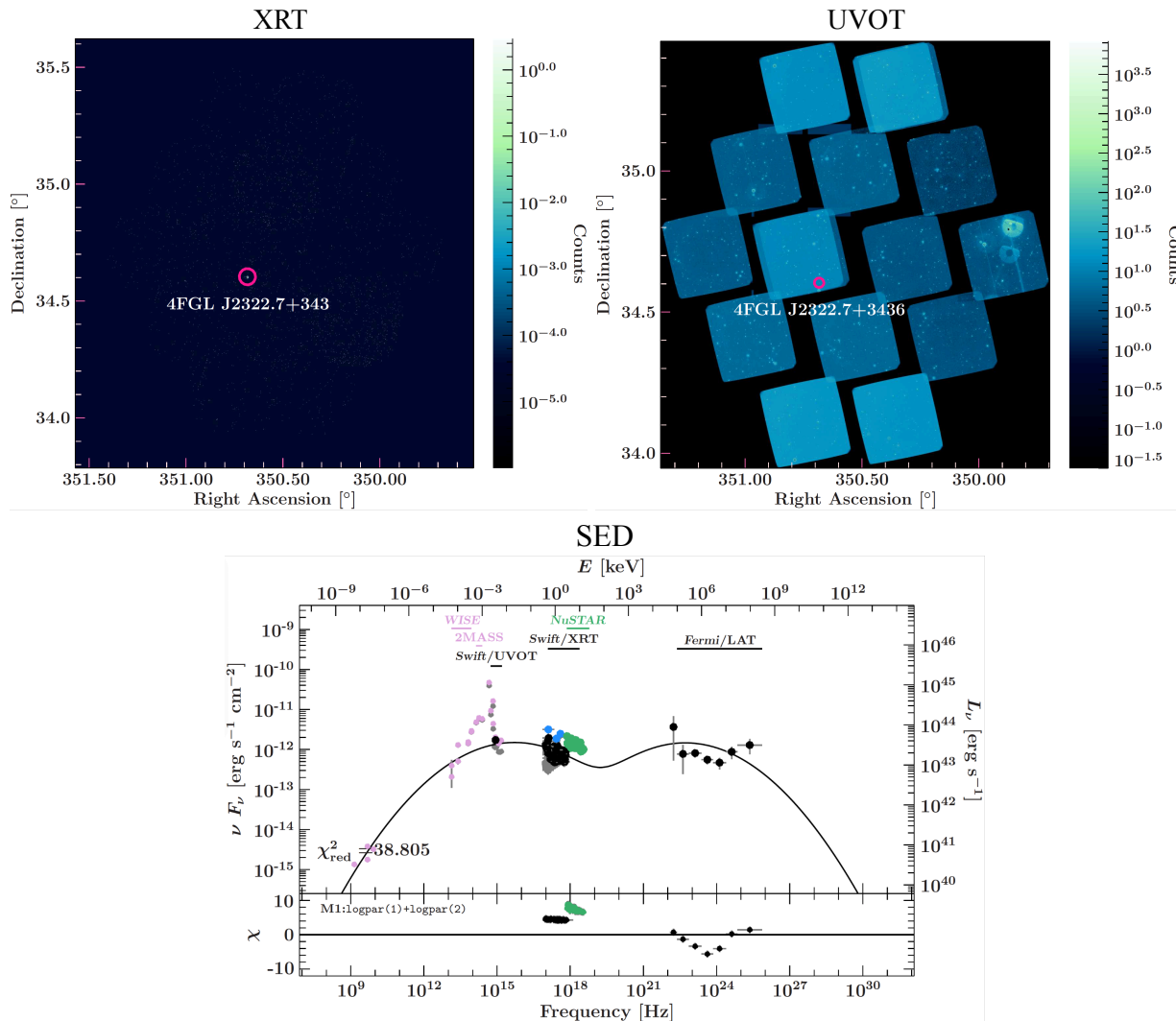


NuSTAR Cycle 7

Ava Biasotti, 2026

This Summer I conducted research regarding a neutrino event with a high probability of being of astrophysical origin detected by the IceCube Neutrino Observatory in Antarctica. Neutrinos are elementary particles, with extremely low mass and no electric charge. Due to their lack of electric charge, they are perfect candidates to help locate and study sources of high energy in the universe. Throughout the summer I compiled information from Ultraviolet/Optical Telescope (“UVOT”) and X-Ray Telescope (“XRT”) data from the Swift Observatory and detected a likely astrophysical source, 4FGL J2322.7+3436. This source is an active galactic nucleus (“AGN”), also known as a supermassive black hole, at the center of a galaxy billions of light years away from us. With this information, I began to compile the data into a spectral energy distribution (“SED”) graph. I found that the SED resulted in abnormal energy detections from the AGN. As of now, I will continue my work as an independent study this fall, and will investigate these abnormalities and continue to adjust my SED computer scripts and graphs.



Faculty Mentor: Fe McBride

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