

# Search for High-energy Neutrino Emission from X-ray Binaries

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- This is a search for high-energy neutrino emission from Galactic X-ray binaries using 7.5 yr IceCube muon track data.
- **Motivation:** X-ray binaries are long-standing source candidates of Galactic cosmic rays and neutrinos, and searching for Galactic neutrino sources is important in identifying the origin of Galactic PeVatrons, the sources of Galactic cosmic rays.
- **Analyses:** We studied the possible correlation between neutrino flaring and X-ray flaring of 102 sources active in hard X-ray with a time-dependent analysis. We also performed a time-integrated analysis on 4 notable sources, and stacked microquasars and TeV X-ray binaries respectively, based on the persistent emission assumption.
- **Results:** We found no significant signals so we set the upper limits and compare the results with neutrino flux predictions. In addition, the detectability on IceCube-Gen2 is studied, showing the potential in the future.