

Proposal Abstract:

Swift J0243.6+6124 is a Galactic Be X-ray binary, where the central compact object is an X-ray pulsar ($P_0=9.86\text{s}$) with a short-lived accretion disk. However, no radio pulses have been detected yet. X-ray observations and timing analysis suggested magnetar as a likely nature for the X-ray pulsar. We propose to search radio pulses from the system. If radio pulses are detected, the system will be another radio pulsar-Be star binary, providing an invaluable opportunity to study the link between normal and recycled pulsars. Furthermore, the search effort might determine if the system is a magnetar and potentially reveal the connection between magnetars and fast radio bursts.