



# X-RAY ASTRONOMY 2019

*Current Challenges and New Frontiers in the Next Decade*

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## Relativistic Reflection Signatures Detected from the Galactic Microquasar GRS 1758-258

*Friday, 13 September 2019 15:54 (2 minutes)*

GRS 1758-258 is a persistent X-ray source, located in the Galactic center, and considered to be an accreting stellar mass black hole on the basis of its hard X-ray emission and similarities to Cygnus X-1. The additional detection of relativistic jets from GRS 1758-258 is of great interest given the potential to test theoretical accretion in/outflow models. However, prior observations of GRS 1758-258 have revealed a simple power-law dominated hard X-ray spectrum. Herein, we present the results of a new 50 ks observation with NuSTAR. The source is detected across the broad NuSTAR bandpass and reveals, for the first time, the characteristic features of relativistic reflection from the inner accretion disk at a source luminosity of  $\sim 1\%$  Eddington. Modeling the spectra with the relativistic reflection code *relxill*, we find the black hole to be rapidly rotating, with  $a^* > 0.8$ .

### Topic

Compact and diffuse sources in galaxies and in the Galactic Center

### Affiliation

University of Michigan

**Primary author:** REYNOLDS, Mark T. (University of Michigan)

**Co-authors:** MILLER, Jon M. (University of Michigan); CACKETT, Edward M. (Wayne State University)

**Presenter:** REYNOLDS, Mark T. (University of Michigan)

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