



Contribution ID: 229

Type: **Invited/Solicited talk in mini-symposium**

## Future Science with a Growing CHIME/FRB Sample

*Monday, 11 December 2023 14:05 (25 minutes)*

The radio transient phenomenon of fast radio bursts (FRBs), extragalactic flashes of radio emission occurring on  $\sim$ millisecond timescales, continues to defy a definitive explanation. Ongoing monitoring campaigns from dedicated radio transient surveys have provided a rich catalog that have spurred a wide variety of analysis of the FRB population as a whole as well as specific sources displaying repeat bursts. The FRB survey operating on the Canadian Hydrogen Intensity Mapping Experiment (CHIME/FRB) has been a key contributor to this growing sample, detecting FRBs at a rate of  $\sim$ few per day and poised to expand the current published FRB sample into the thousands. In this talk, I briefly review the recent science highlights from the first CHIME/FRB catalog and look to what a future sample of several thousand FRBs may tell us about these mysterious sources. In particular, I will focus on a special subsample of CHIME detected FRBs with corresponding voltage (base-band) data that enables significant improvements on localization and fluence measurement capabilities and additional science relating to microstructure and polarization.

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**Session Classification:** Neutron Stars