



Contribution ID : 80

Type : **Contributed talk**

The CHIME All-Sky Multiday Pulsar Stacking Search (CHAMPSS)

Wednesday, 28 October 2026 13:25 (10)

The Canadian Hydrogen Intensity Mapping Experiment (CHIME) has been an instrumental telescope in shaping our understanding of transient sky by detecting the vast majority of known fast radio bursts (FRBs) using its CHIME/FRB backend. The recently launched CHIME All-Sky Multiday Pulsar Stacking Search (CHAMPSS) uses data from this backend to perform a pulsar periodicity search with unprecedented cadence. In the current configuration we are able to observe about 20% daily of the northern sky which allows us to probe very intermittent sources.

CHAMPSS is not only a pulsar survey with a high cadence, but our daily observations allow us a deep search for faint sources by combining hundreds of observations. We do this by performing power spectra stacking. This approach of doing daily searches combined with searches in our combined power spectra stacks has allowed us to find more than 60 pulsars so far. These new pulsars include binary pulsars, intermittent sources and some of the closest pulsars known to date.

I will explain the unique challenges and opportunities of our survey and outline our survey pipeline, including recent developments that allow us to be more sensitive to binary pulsars.

I will also highlight some of our most exciting pulsar discoveries that we have made so far.

Did you give a contributed talk at CASCA 2026?

No

If you are selected for a poster, would you be interested in giving a short flash talk on your work?

No

What is your career level?

Postdoctoral

Which keyword describes the area of focus of this talk?

Transients

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Session Classification : Transients & Cosmology