

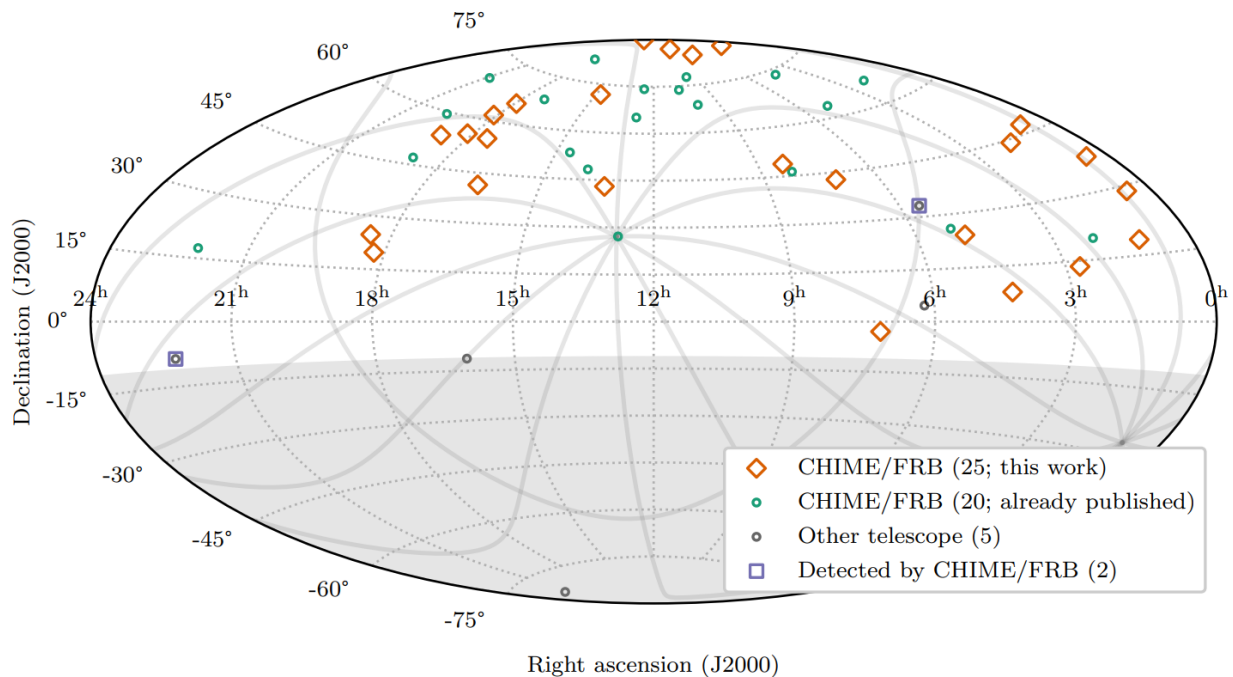
## New repeating sources of FRBs from CHIME/FRB

Ziggy Pleunis (ziggy.pleunis at dunlap.utoronto.ca)

Dunlap Fellow at the Dunlap Institute for Astronomy & Astrophysics, University of Toronto

### Talk summary

The CHIME/FRB project has so far discovered twenty sources of repeating FRBs, which has directly and through targeted follow-up observations led to many advances in our understanding of FRBs. We present an updated sample of repeating sources of FRBs discovered from late 2019 to mid 2021. In order to uniformly search our events for repeating sources, we employed a clustering algorithm on all events in our database. The 25 new repeaters identified this way more than double the number of known repeaters (see Figure), providing new targets to follow up and a much larger sample for comparisons with apparent non-repeaters. I will present the new sources, our repeater detection rate over time and updated population comparisons. Based on these and previous results I will argue that not all FRBs repeat and that there are multiple populations of FRBs.



**Figure:** Sky distribution (Aitoff projection) of repeating sources of FRBs discovered by CHIME/FRB (orange open diamonds and green open circles), discovered by other telescopes (gray open circles) and detected by CHIME/FRB. Declination  $< -11$  degrees is outside of CHIME/FRB's field-of-view and colored gray. The gray solid lines in the background show the plane of the Galaxy ( $b = 0$  degrees) as well as lines of constant Galactic longitude 0 to 360 degrees in steps of 30 degrees.

### *Self-introduction*

Hi, my name is Ziggy Pleunis and I am currently a Dunlap Fellow at the University of Toronto's Dunlap Institute for Astronomy & Astrophysics, where I collaborate mostly with Bryan Gaensler's and Keith Vanderlinde's research groups. I am a member of the CHIME/FRB Collaboration and I have recently been working on identifying and interpreting new repeaters in CHIME/FRB data and commissioning the Outriggers upgrade to the experiment. I have also been working towards a better understanding of the magnetized environments of FRBs and I have been using the LOFAR telescope to detect the lowest-frequency FRBs. Before moving to Toronto I obtained a PhD in 2020 at McGill University under supervision of Vicky Kaspi and a master's in 2016 at the University of Amsterdam under supervision of Jason Hessels. In my free time I like to read, listen to music and cook.