



# WANTED

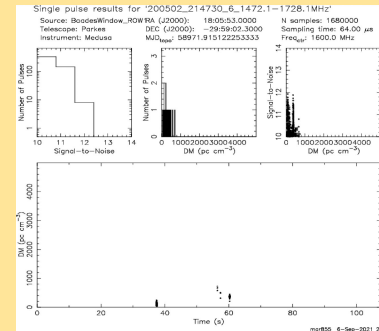
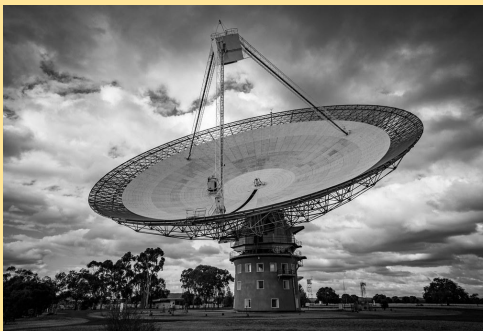
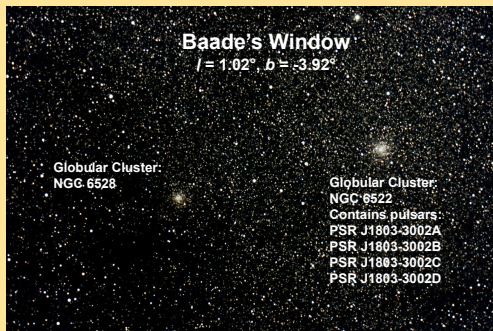
## Baade to the Bone



### ★ “The Baade’s Window Survey” Gang ★

**Parkes UWL’s first commensal survey: multiple spectral lines plus radio transients and pulsars. AT THE SAME TIME!**

The Baade’s Window Survey (BWS) was a high time and frequency resolution survey undertaken using the Ultra-Wideband Receiver (UWL) on the Parkes Radio Telescope. The BWS demonstrates the increased capability for observation and discovery with the current Parkes UWL and the planned Parkes cryogenically-cooled phased-array-feed. Other observatories are planning similar commensal surveys such as The Commensal Radio Astronomy FAST Survey (CRAFTS).



Baade's Window is a relatively small area of sky, ~1 degree square, that contains a number of known astrophysical objects such as globular clusters and pulsars. It also allows extended observation towards the Galactic Centre through a gap in the interstellar medium.

The UWL provides continuous frequency coverage from 704 to 4032 MHz with the ability to concurrently search for pulsars and radio transients, and observe spectral lines at high frequency resolution across the full band. The BWS was conducted over ~180 hours of observation time, with the pulsar/radio transient component of the survey being sampled at 64us and 0.125 MHz frequency channels. The result is ~34TB of 2 bit data.

Processing and searching the 3.3GHz UWL bandwidth presents new challenges. A PRESTO based pipeline is currently searching the BWS survey data for FRBs. We break the UWL bandwidth into 13 x 256 MHz bands then de-disperse the data and search for FRBs and radio transients with a search threshold of 10σ. The next stage will be prepping the data and searching for pulsars.

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