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A search for rotating radio transients and fast radio bursts in the Parkes high-latitude pulsar survey AKSHAYA RANE, DR. DUNCAN LORIMER, Department of Physics and Astronomy, West Virginia University, DR. SAM BATES, National Radio Astronomy Observatory, NATASHA MCMANN, DR. MAURA MCLAUGHLIN, KAUSTUBH RAJWADE, Department of Physics and Astronomy, West Virginia University — In 2007, WVU researchers found a 5-ms long isolated burst at radio wavelengths that appeared to be of cosmological origin. Since then there have been a growing number of detections (11, so far) of such transient radio bursts (known as Fast Radio Bursts, FRBs), which have generated strong interest in identifying the origin of these bright, non-repeating, highly dispersed pulses. In this talk, I will present results of a search for dispersed radio bursts from the archival Parkes pulsar survey data. We re-detected 20 of the 42 pulsars and one rotating radio transient previously reported. We did not find any FRBs and after comparing with results from various surveys carried out with the Parkes telescope, we found that the lack of FRB detections, and detection rates in other surveys, is consistent with an all-sky FRB event rate of $\mathcal{R} = 4.4^{+5.2}_{-3.1} \times 10^3$ FRBs day^{-1} sky^{-1}, where the uncertainties represent a 99% confidence interval. However, we still require a larger sample of FRBs to further constrain this rate.

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