

A pulsar census of the Local Group

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Abstract. We carried out a search for pulsars in nearby galaxies with the GBT and Arecibo radio telescopes at 820 and 327 MHz, correspondingly. Currently, the Magellanic Clouds are the only galaxies except for Milky Way known to harbor radio pulsars, with a total of 20 pulsars being discovered there to date. Discovery of pulsars in other galaxies can be used to trace the history of massive star formation and would allow to probe the intermediate intergalactic medium. We selected 22 galaxies of the Local Group at high galactic latitudes, $|b| > 26$ deg, with most of them being dwarf spheroidals with old star population. This makes them promising targets to search for giant pulses from recycled millisecond pulsars. Both single-pulse and periodicity searches were performed for trial dispersion measures up to 1000. No extragalactic pulsars are found in half of the selected targets processed so far. I will give the overview of our targetted searches, present potential candidates and discuss the obtained results.
