

PuMa-II - Recent Observations

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ABSTRACT: The PuMa-II is the next generation pulsar machine that was recently installed at the Westerbork Synthesis Radio Telescope (WSRT). The fully digital instrument is characterized by its flexibility. Coherent dedispersion of pulsar signals is a standard mode of operation in this instrument. Combined with wide bandwidth (160 MHz acquired as 8X20MHz instantaneous bands), and a high time resolution (25 ns), PuMa-II is amongst the best pulsar instruments in the world. The instrument is built around a high performance LINUX cluster, and two special purpose interface boards. Recent observations of several pulsars shows the usefulness of the instrument in comparison with its predecessor, PuMa-I. Timing of millisecond pulsars and giant pulse work will greatly benefit from PuMa-II. We illustrate this with preliminary observations of B1937+21 and Crab pulsar. A first look at the data shows an excellent quality. The instrument now takes part in the Pulsar Timing program, and the will be used extensively for most WSRT pulsar observations in future. The instrument is now reaching maturity as a full data production backend in WSRT, with the final components of software falling in place.