MAGIC

Science of the Cosmos

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Pulsar observations from the Argentine Institute of Radio astronomy

The Argentine Institute of Radio astronomy (IAR) has been conducting a long-term high-cadence pulsar monitoring campaign using its two 30-meter single-dish radio telescopes. This program focuses on studying the rotation behavior, and emission variability of a selected sample of pulsars in the southern sky in the 1.4GHz band. Over the past years, the IAR has contributed to the detection and characterization of glitches, timing noise and emisión properties in different pulsars, providing valuable data for understanding neutron star physics. Besides its own results, the IAR has also contributed with its pulsar ephemeris to the Ligo-Virgo-kagra collaboration to search for gravitational waves originated from neutron stars. We present an overview of the observational setup, data analysis techniques, and key results from this campaign, including recent findings on pulsar glitches and emisión variability. We also present the applications of the ephemeris for the search of gravitational waves thorugh the LVK collaboration.

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