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Title:	Evidence for profile changes in PSR J1713+0747 using the uGMRT.
Authors:	Bathula, Adarsh (/jspui/browse?type=author&value=Bathula%2C+Adarsh)
Keywords:	pulsars: general, pulsars: individual: (PSR J1713+0747)
Issue Date:	2021
Publisher:	Oxford Academic
Citation:	Monthly Notices of the Royal Astronomical Society: Letters, 507(1), L57-L61.
Abstract:	PSR J1713+0747 is one of the most precisely timed pulsars in the international pulsar timing array experiment. This pulsar showed an abrupt profile shape change between 2021 April 16, (MJD 59320) and 2021 April 17 (MJD 59321). In this paper, we report the results from multi-frequency observations of this pulsar carried out with the upgraded Giant Metrewave Radio Telescope (uGMRT) before and after the event. We demonstrate the profile change seen in Band 5 (1260 MHz–1460 MHz) and Band 3 (300 MHz–500 MHz). The timing analysis of this pulsar shows a disturbance accompanying this profile change followed by a recovery with a time-scale of $\sim 159$ days. Our data suggest that a model with chromatic index as a free parameter is preferred over models with combinations of achromaticity with DM bump or scattering bump. We determine the frequency dependence to be $\sim \nu^{-1.34}$ .
Description:	Only IISERM authors are available in the record.
URI:	<a href="https://doi.org/10.1093/mnrasl/slab098">https://doi.org/10.1093/mnrasl/slab098</a> ( <a href="https://doi.org/10.1093/mnrasl/slab098">https://doi.org/10.1093/mnrasl/slab098</a> ) <a href="http://hdl.handle.net/123456789/4616">http://hdl.handle.net/123456789/4616</a> ( <a href="http://hdl.handle.net/123456789/4616">http://hdl.handle.net/123456789/4616</a> )
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