

Abstract Submitted
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Discovery of Bright Radio Pulses from the Reawakened Radio Magnetar XTE J180-197 WALID MAJID, JPL, Caltech, THOMAS PRINCE, Caltech, JPL, AARON PEARLMAN, Caltech, CHARLES NAUDET, JPL, JONATHON KOCZ, Caltech, SHINJI HORIUCHI, CSIRO — XTE J1810-197 is a transient radio magnetar, discovered in 2003 during a bright X-ray outburst. Radio pulsations were first detected from the magnetar in 2004 and in late 2008 without warning from either its timing or flux density behavior. The magnetar has remained in a quiescent/low-activity X-ray state for the past decad, until December 2018 when radio pulsations were redetected. We report the discovery of bright, persistent individual radio pulses using the Deep Space Network antennas in , Australia. The radio observations were carried out simultaneously at 8 and 32 GHz using the DSN's 34-m diameter dishes, resulting in the detection of bright radio single pulses during almost every rotation. We find that not all of the radio single pulse emission components are emitted over a broadband frequency range, and there is frequency structure in the individual radio pulse components only at lower frequencies. These radio observations support the notion that there is a phenomenological connection between the radio pulses detected from magnetars and fast radio bursts (FRBs).

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