

The Qujing ISR and its preliminary measurements

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The incoherent scatter radar (ISR) is one of the most powerful tool to monitor the ionosphere on the ground. The first ISR in China mainland was constructed at Qujing (25.6°N, 103.8°E) site and in operation since the spring of 2014. This radar was a 500-MHz, pulsed radar with a 29-m parabolic dish and the peak power 2 Megawatt. The maximal duty cycle is about 5% and the pulse width is 20-480 μs. After the introduction about its technical characteristics, we present some observations in different modes including the sporadic E layer, F layer, the irregularity coherent echo and also the structure scanning along the meridian plain. Then some cases about the electron density enhancement after sunset, the ionospheric variations during storm and the irregularity echo evolution are investigated in details. Finally we discuss its application prospects in the observation and research of the low-latitude ionosphere in the south-west of China.