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Abstract:

Magnetar SGR J1935+2154 is the unique source confirmed as the origin of a Fast Radio Burst (FRB). The FRB is associated with a magnetar hard X-ray burst, which are rarely connected with radio emission. SGR J1935+2154 also turned into a radio magnetar several months later, with presenting periodic weak radio pulses. We propose to monitor SGR J1935+2154 with FAST, coordinated with X-ray telescopes (NICER, Swift and Insight/HXMT). This multi-wavelength monitoring campaign is aiming to further investigate the FRB-magnetar connection, in particular, the association between FRBs and X-ray bursts, the trigger and emission mechanism of FRBs and magnetar busts, and the key to turn on/off magnetar radio emission.