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On the possibility of registering X-ray flares related to fast radio bursts with the eROSITA telescope

We discuss the possibility of detecting associated X-ray emission from sources of fast radio bursts with the eROSITA telescope onboard the Spektr-RG observatory. It is shown that during the four years of the survey program, about 300 bursts are expected to appear in the field of view of eROSITA. About 1% of them will be detected by ground based radio telescopes. For a total energy release $\sim 10^{46}$ ergs, depending on the spectral characteristics and absorption by the interstellar and intergalactic media, an X-ray flare can be detected from distances from ~ 1 Mpc (thermal spectrum with $kT = 200$ keV and strong absorption) up to ~ 1 Gpc (power-law spectrum with photon index $\Gamma = 2$ and realistic absorption). Thus, eROSITA observations will help to provide important constraints on the parameters of sources of fast radio bursts, or may even allow identification of X-ray transient counterparts, which will help to constrain models for the generation of fast radio bursts.

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