A MODEL FOR SHORT EXTRAGALACTIC RADIO BURSTS

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Bursts of millisecond duration were recently discovered in the 1 GHz band. There is a strong evidence that they come from ~ 1 Gpc distances, which implies extraordinary high brightness temperature. I propose that we observe synchrotron maser emission from a relativistic, magnetized shock. I show that at the onset of the magnetar flare, a strongly magnetized pulse is formed, which propagates away through the relativistic magnetar wind until it reaches the nebula inflated by the wind in the surrounding gas. There a shock wave is formed, which produces a radio burst. I show that the basic parameters of the observed bursts (duration, luminosity, frequency band) could be reproduced within the scope of the proposed model.