

Abstract Submitted  
for the DPP19 Meeting of  
The American Physical Society

**On the origin of FRBs<sup>1</sup>** MIKHAIL MEDVEDEV, University of Kansas  
— Fast Radio Bursts (FRBs) is still an enigmatic phenomenon, even after more than a decade from their discovery. These are short radio pulses of tens of milliseconds duration (intrinsic) in the frequency range around a gigahertz and exhibiting very large dispersion measure, which is indicative of their extragalactic origin and, hence, of their exceptional brightness. Conventionally, FRBs are attributed to the cyclotron/synchrotron maser instability exciting an X-mode in a strong shock environment. We will discuss viability of this mechanism. We will also discuss whether FRBs can originate deep inside a magnetosphere of a magnetar and the role of QED and plasma effects.

<sup>1</sup>Supported by the DOE grant DE-SC0016368 and the DOE EPSCOR grant DE-SC0019474. MM thanks the Razumovsky Moscow State University, NRC Kurchatov Institute and Moscow Institute of Physics and Technology.

Mikhail Medvedev  
University of Kansas

Date submitted: 09 Jul 2019

Electronic form version 1.4