ASTROPHYSICS SEMINAR SERIES

Radiation Mechanism of Fast Radio Bursts

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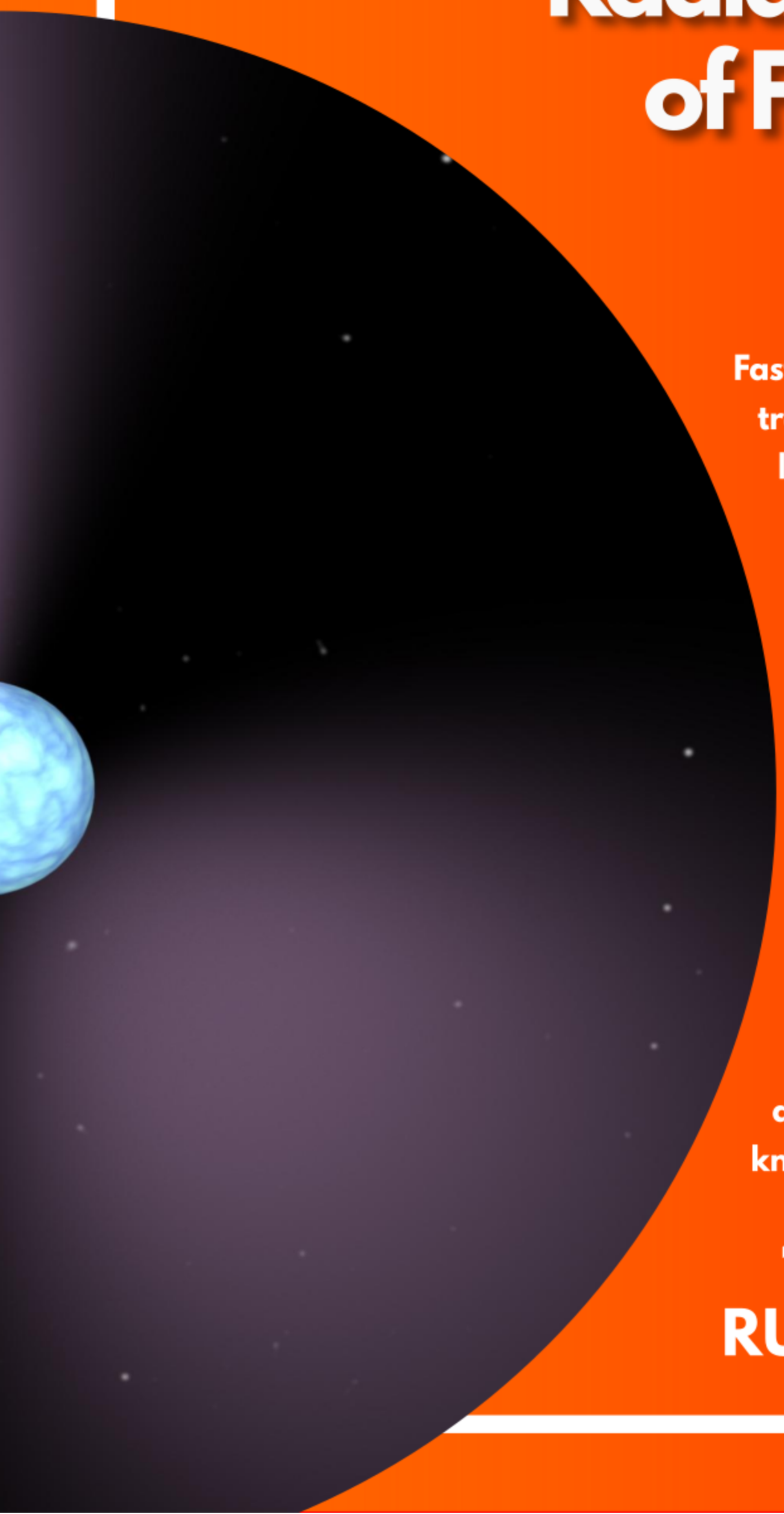

Fast radio bursts (FRBs) are millisecond duration transient events of unknown physical origin. At least a few FRBs are located at distances of several billion light years, and CHIME has established that there are many FRBs that repeat. Using very general arguments I will show that the radio emission is coherent, the magnetic field strength associated with the source of these events is 10^{14} Gauss or more, and the electric field is of order 10^{11} esu. I will describe recent works that magnetic field distortion and reconfiguration is responsible for the strong electric field and the coherent radiation produced in these enigmatic events. I will also address polarization properties of the well known repeater.

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