

Prof. S. M. Chitre Memorial Lecture



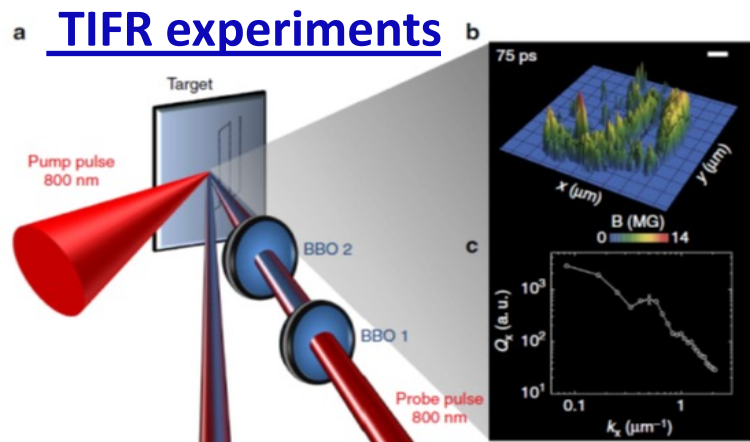
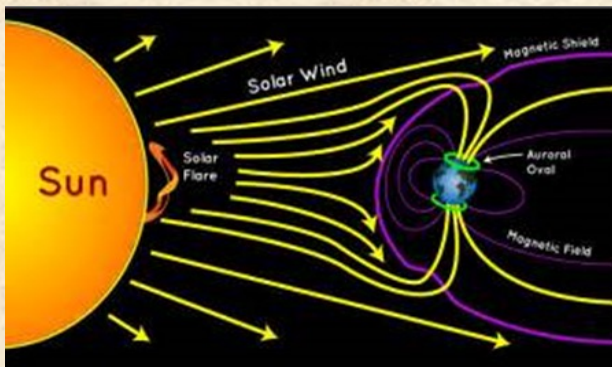
Mimicking Astrophysical Scenarios in Table- Top Experiments

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Abstract : High intensity, ultrashort light pulses are revolutionizing science in exciting ways, as they can excite matter to high temperature at high density. They provide an avenue for doing experiments in the lab that mimic the extreme conditions pervading most of the observable universe! Research in this area is crucial for diverse areas - from astrophysics to accelerator physics and from condensed matter science to biology. This talk will first introduce the subject and then dwell on the production and transport of 'hot' electrons (ranging up to MeV) in the plasma created by the laser. We will see manifestation of these 'hot' electrons through some experiments performed at TIFR- creation of gigantic magnetic fields and their turbulent evolution, ultrafast plasma dynamics, passage of relativistic particles through dense, hot matter and resultant ion acceleration, ultrafast hard x-ray emission *etc.*



Tuesday, January 14, 2025 at 2:30 p.m.

Prof. S. M. Chitre Hall, Prefabs
University of Mumbai, Kalina