

## **Internal Seminar**

### **Exploring ways for efficient coupling in laser produced plasmas (droplet)**

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Two different methods that have been explored to increase the coupling in laser-droplet (plasma) interaction shall be presented namely ferrofluid and adaptive optic system. Preliminary results obtained using these methods and the setbacks encountered along the way shall be described.

Intensity of the femtosecond laser pulse using a tight focussing lens has been doubled using the feedback from a Shack-Hartman wavefront sensor. As the next step, X-ray energy from the droplet shall be maximized through a non-linear optimization routine through exploration of a multi-dimensional voltage space, without requiring detailed priori knowledge of the complex plasma dynamics in droplets. Furthermore, fundamental physics regarding how different wavefronts interact with the curvature of the droplet and influence the plasma dynamics can be obtained from these experiments.

***Friday, Feb 15<sup>th</sup> 2019***

***2:30 PM (Tea/Coffee at 2:00 PM)***

***Seminar Hall, TIFR-H***