



Contribution ID: 35

Type: **not specified**

LASER INDUCED FUSION BY INERTIAL CONFINEMENT

Saturday, 2 September 2023 12:55 (20 minutes)

Abstract: Nuclear fusion has been pursued by mankind since the mid-20th century, and ignition has been obtained recently by laser inertial confinement, where 3MJ were liberated by a fuel pellet irradiated by 2MJ of laser light. There is still a long way to go before practical applications, and this lecture will present a simplified view of the inertial confinement fusion physics and the requirements to attain it, the difficulties to be overcome, and the future perspectives for laser fusion.

To be noted: The school attendants will have the possibility to deepen their knowledge on this topic, thanks to the hands-on Lab prepared by Dr. Ricardo Elgul Samad at the Center of Advanced Laser at IPEN-CNEN (see INFIERI2023-Labs Booklett).

Lecturer: Dr. Ricardo E. Samad is a Senior Researcher at the Nuclear and Energy Research Institute (IPEN-CNEN) in São Paulo, Brazil, where he has been working with the development and applications of solid state lasers for more than 30 years. He specialized in high intensity ultrashort laser pulses and their interaction with matter, having published on nonlinear effects, laser material modification and micromachining, harmonic generation and laser induced plasma formation. More recently, his group has started working on laser particle acceleration, studying the generation of electron bunches capable of inducing photonuclear reactions that produce radioisotopes for nuclear medicine (Text informed by the Lecturer).

Presenter: Dr ELGUD SAMAD, Ricardo (Center for Lasers and Applications, IPEN-CNEN, BR)

Session Classification: NEW ENERGIES DAY