23 Febbraio 2010, Ore 15.00, aula E. Majorana,
Dipartimento di Fisica, Università di
Messina, Ctr. Papardo 31, S. Agata, Messina

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Titolo del Seminario: "**Plasma heating and confinement from fusion devices to ion sources**"

Abstract

Plasma physics is a field of growing interest in modern science. It finds several applications in astrophysics, nuclear fusion, in many fields of technology as well as environmental physics and telecommunications. Several techniques for laboratory plasma ignition and sustaining exist, according to the required temperatures and densities. Hot and dense plasmas are needed for nuclear fusion devices and for the ion sources of particle accelerators. We will talk about heating techniques in fusion reactors like Tokamaks or Stellarators, paying a particular attention to the magnetic confinement, that is mandatory to ensure large enough densities. The application of plasma theory to ion sources will be also discussed; a detailed description of the ECRIS – Electron Cyclotron Resonance Ion Sources (operating at INFN-LNS of Catania), based on plasma generation by means of electromagnetic waves, will be finally given.