

**Auletta Seminari IPCF
martedì 11 maggio 2004
ore 11.30**

Valerio Rossi Albertini

Istituto di Struttura della Materia-CNR
Area di Ricerca di Roma -Tor Vergata

**Time-Resolved Energy Dispersive Diffraction from X-FEL
spontaneous emission:
a proposal for sub-picosecond pumps & probe structural
investigations**

Abstract

The forthcoming generation of X-ray machines, based on Free Electron Laser (X-FEL) technology, should provide ultra-short pulses that may be used to probe the real time structural evolution of a system activated by an optical laser pump. Unfortunately, the sub-picosecond synchronization of the pump and probe pulses produced by two independent sources is, at present, one of the main obstacles that needs to be overcome. A new approach for carrying out time-resolved diffraction studies of evolving systems, which aims to bypass the synchronization problem, will be discussed.

--