LES MERCREDI 4, 11 ET 18 AVRIL À 10H30

INSP, Campus Boucicaut, Bâtiment 14 , 1er Etage, Salle des poutres

ULTRAFAST SPECTROSCOPY OF PHONONS AND SPIN EXCITATIONS IN SOLIDS

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Professeur invité à l'UPMC, Avril 2007

1. **Introduction: Basic Ideas, Experimental Aspects and Data Analysis**
2. **Raman Mechanisms of Generation and Detection of Coherent Fields**
   - 2.1 Phenomenological Theory: Transparent Media
   - 2.2 Microscopic Theory: Two Raman Tensors [1]
3. **Case Studies**
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4. **Mechanisms for Generation of Low-Frequency Modes**
   - 4.1 Picosecond Ultrasonics (Acoustic Phonons) [6]
   - 4.2 Magnons in Thin Films: Surface Anisotropy [7]
   - 4.3 Folded Phonons and Cavity Modes in Semiconductor Superlattices [8]

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