Ινστιτούτο Θεωρητικής και Φυσικής Χημείας

Εθνικό Ίδρυμα Ερευνών

Βασ. Κωνσταντίνου 48, Αθήνα

ΔΙΑΛΕΞΗ

"Linear and nonlinear optical analyses of achiral and chiral materials: from theory to experiment"

Professor V. Rodriguez

Laboratoire de Physico-Chimie Moléculaire,
Université Bordeaux I
Bordeaux – France

Δευτέρα 6 Νοεμβρίου 2006, ώρα 12:00

Αίθουσα σεμιναρίων στο ισόγειο του ΕΙΕ

Professor V. Rodriguez

Laboratoire de Physico-Chimie Moléculaire, Université Bordeaux I
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"Linear and nonlinear optical analyses of achiral and chiral materials: from theory to experiment"

An overview will be presented of a new theoretical formalism and experimental procedure to describe second-order nonlinear optical properties of achiral or chiral materials. A general 4(n+1).(n+1) matrix formulation of Maker fringes applicable to anisotropic material containing n layers has been extended to chiral NLO materials, including linear optical rotation (Drude's model) and nonlinear bulk contributions (electric and magnetic dipolar contributions). In the framework of this general model, we will report detailed results of several Maker fringes experiments (transmitted and reflected NLO signals) of chiral single-crystals of quartz, KDP, and of achiral and chiral polymer in thin film forms.