



Université Blaise Pascal

UNIVERSITÉ BLAISE PASCAL
U.F.R de Recherche Scientifique et Technique



CYCLE DE CONFÉRENCES DE CHIMIE

Avec le concours de : *Manufacture Française des Pneumatiques MICHELIN*
Centre de Développement Préclinique, Schering-Plough
Fédération de Chimie (FR 2404)
Section Auvergne de la Société Française de Chimie
U.F.R.S.T. / Master de Chimie / Département de Chimie

Mardi 1^{er} Décembre 2009 à 17h (Hors cycle)

Amphi de Chimie Paul REMI - (Site des Cézeaux)

Pr. Enrico Cavalli

*Dipartimento di Chimica Generale ed Inorganica, Chimica Analitica e Chimica
Fisica, Università di Parma*

Oxides containing transition metal ions: crystal growth and optical spectroscopy at the Parma University

The Luminescent Materials Laboratory of the General Chemistry Department of the Parma University is active since long time in the field of the optical spectroscopy of oxide crystals activated with transition metal ions. In this presentation the investigations carried out in the last twenty years will be briefly revisited in order to highlight the aspects of major interest, in the author's opinion, and to individuate perspectives for future work. In the first part of the talk a short description of the Ligand Field approach will be provided as a tool for the interpretation of the experimental results. The 'flux growth' method used for the synthesis of the investigated crystals will then be described, as well as the procedure for the spectroscopic measurements. Then the results will be presented and discussed, by focusing the main attention on the Ni²⁺ and Cr³⁺ doped crystals, i. e. the more investigated materials. Other significant cases will then be dealt with in the light of possible developments of this research activity.

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