Consiglio Nazionale delle Ricerche
DSFTM
Dipartimento di Scienze Fisiche e Tecnologie della Materia
IFN
Unità di Trento
www.tn.ifn.cnr.it
FONDAZIONE BRUNO KESSLER

C.N.R. - ISTITUTO DI FOTONICA e NANOTECNOLOGIE
CSMFO Lab.

Seminar Announcement

Tuesday, 19th December, 11am.

Sala Grande Palazzina B via alla Cascata 56/C

Organic lanthanides complexes for NIR OLEDs and magnetoresistance investigation

Marco Cremona

Departamento de Física, PUC-Rio, Rua Marques S. Vicente, 225, 22453-900
Rio de Janeiro, RJ Brasile
cremona@fis.puc-rio.br

The complexes of f-elements, particularly near-infrared (NIR) emitters are gaining much attention for their potential applications in optical communications, optoelectronic devices and biomedical diagnostic application. The emission from their complexes can be properly utilised in the form of OLEDs. In our laboratories Nd, Yb and Er complexes based on the various fluorinated/non-fluorinated β-diketones and O-donor neutral ligands were synthesised and fully characterised. OLEDs were fabricated and investigated using these complexes as emitting layers along with other organic layers. Moreover, a family of rare-earth quinolinate based complexes, namely tetrakis 8-hydroxyquinolinate ($M[RE(q)_4]$, with M=countercation), were used as active layers in the investigation of the spin-orbit coupling in organic magnetoresistance (OMAR) effect. Our measurements in these devices discovered a new feature in the OMAR curves evidencing the influence of the spin-orbit coupling mechanism on charge transport. These results and others will be presented and discussed in this talk.

Marco Cremona (Roma 02-03-1963) received the Doctor in Physics degree from “La Sapienza” Roma, Italy,in1989. Until 1994, he worked as a Researcher in the ENEA laboratories (Frascati), Roma, Italy, and in 1995 he moved to PUC-Rio University, Brazil, as Researcher. He is currently Professor of the Physics Department of PUC-Rio, where he is the Head of the LOEM Lab. He is co-author of more than 100 publications in international journals, and he is involved in numerous national and international projects concerning Organic Electronics. His bibliometric parameters are: h-index: 22 [08/12/2017 – Web of Science], ResearcherID: D-3551-2013.