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Joint ICTP-IAEA Workshop on Physics of Radiation Effect and its Simulation for Non-Metallic Condensed Matter | (smr 2359)

Wednesday 22 August 2012

Organic semiconducting single crystals: model organic semiconductors and novel X-rays detectors - Adriatico Guest House Giambiagi Lecture Hall (11:30-12:30)

Organic semiconducting single crystals (OSSCs) represent both promising building blocks for organic electronics-enabled devices and model systems for understanding charge transport in organic semiconductors. Nonetheless, OSSCs are surprisingly little studied with respect to their potential importance, and to more "en vogue" organic semiconductors, although recent technological developments allowing to fabricate OSSCs-based devices by inkjet printing could catalyze a more general interest for the topic. Solution-grown OSSCs revealed recently interesting technological properties (such as three-dimensional anisotropic mobilities and ability to directly detect X-rays), and the possibility to get unprecedented insights into molecular mechanisms of charge transport via synchrotron-enabled infrared analysis. Therefore, some basic studies over OSSCs properties and features, and on their applications in the field of X-rays detection, with particular regard to their radiation hardness, will be reviewed. These topics will be discussed also in relation with the crystallographic structure of the considered OSSCs.

time	title	presenter
11:30	Organic semiconducting single crystals: model organic semiconductors and novel X-rays detectors	ALESSANDRO FRALEONI