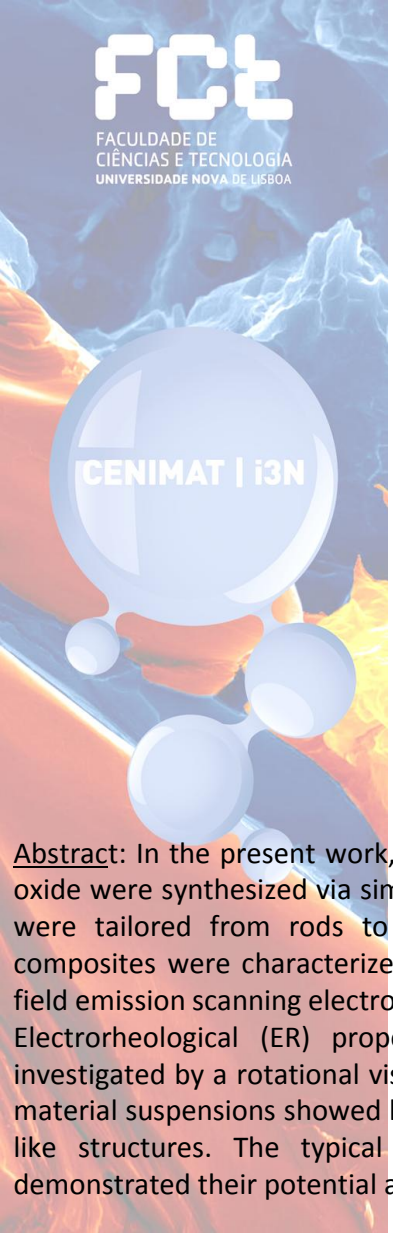

SEMINÁRIO

Data: 13 de Fevereiro de 2014
Hora: 15h15
Local: Anfiteatro Leopoldo Guimarães

"Electrorheological Properties of Polyaniline-Vanadium Oxide Nanostructures Suspended in Silicone Oil"

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Abstract: In the present work, organic/inorganic hybrid nanostructures comprised of polyaniline and vanadium oxide were synthesized via simple hydrothermal technique. The polyaniline/vanadium oxide hybrid morphology were tailored from rods to spheres by controlling the relative concentration of reactants. Synthesized composites were characterized by X-ray diffraction (XRD), Fourier transform infrared spectroscopy (FTIR) and field emission scanning electron microscopy (FESEM) for structural and morphological analysis.

Electrorheological (ER) properties of the as-prepared nanocomposites suspended in silicone oil were investigated by a rotational viscometer under both steady and dynamic shear. The ER activity of the composite material suspensions showed higher ER effects for the product with rod-like structures than that for the sphere-like structures. The typical ER behaviour showed by the polyaniline-vanadium oxide nanocomposites demonstrated their potential application as an ER smart material.