KEMIJSKI INŠTITUT

Vabilo na Preglov kolokvij / Invitation to the Pregl colloquium

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Velika predavalnica Kemijskega inštituta /
Great Lecture Hall, National Institute of Chemistry;
Hajdrihova 19, Ljubljana

A Novel Concept of Identification of Metal-oxide Powders by Energy-resolved Density of Electron Traps

Energy-resolved distribution of electron traps (ERDT) as well as conduction-band bottom (CBB) in metal oxide particles as a function of energy from valence-band (VB) top has been evaluated by newly developed reversed double-beam photoacoustic spectroscopy (RDB-PAS), in which photoabsorption of electrons in ETs directly excited from VB by irradiation of intense continuous light is measured by photoacoustic spectroscopy (PAS) using modulated LED light at 625 nm. In this study, how to use ERDT/CBB patterns as a finger print for identification of metal oxide (titania, niobia and the others) particles having band gap and ETs by weighted degree of coincidence multiplied by the degrees of coincidence of ERDT patterns, total density of ETs and CBB, and correlation between degree of coincidences of ERDT/CBB patterns and photocatalytic activities are discussed.

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Vljudno vabljeni / Kindly invited