

Abstract Submitted
for the MAR09 Meeting of
The American Physical Society

Synthesis of hybrid zeolite materials with TiO₂ nanocrystals using solid-solid method¹ CORINA ORHA, CARMEN LAZAU, CORNELIA RATIU, PAULA SFIRLOAGA, PAULINA VLAZAN, ALEXANDRA IOITESCU, National Institute for Research and Development in Electrochemistry and Condensed Matter, Timisoara, Romania, FLORICA MANEA, Politehnica University from Timisoara, Romania, PAUL BARVINSCHI, West University from Timisoara, Romania, IOAN MUSCUTARIU, Physics Department, Baldwin Wallace College, USA, IOAN GROZESCU, National Institute for Research and Development in Electrochemistry and Condensed Matter, Timisoara, Romania — Zeolite seems to be a promising support for TiO₂ photocatalyst because of its regular pores and good adsorption ability. TiO₂ supported on zeolite integrates the photocatalytic activity of TiO₂ with the adsorption properties of zeolites. The aim of this paper was the syntheses and characterizations of functionalized zeolite materials with undoped, Fe-doped and N-doped TiO₂ nanocrystals. The zeolite hybrid materials impregnation with titanium dioxide was achieved through solid-solid method. TiO₂ doped with metallic (Fe) and non-metallic (N) ions was obtained directly from precursors by sol-gel and hydrothermal methods. The hybrid materials were characterized by XRD, SEM with EDAX, IR and AFM.

¹National Project ZEONANO-SPP, 56/2007

Grozescu Ioan
National Institute for Research and Development in Electrochemistry
and Condensed Matter, Timisoara, Romania

Date submitted: 12 Jan 2009

Electronic form version 1.4