Synthesis of hybrid zeolite materials with TiO2 nanocrystals using solid-solid method\textsuperscript{1} 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, Physiscs 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.

\textsuperscript{1}National Project ZEONANO-SPP, 56/2007