



Simposio Internacional: Zeoforum: Foro sobre la innovación en zeolitas y materiales porosos ordenados

International Symposium: Zeoforum: Forum on innovation in zeolites and ordered porous materials

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The use of fluoride ion in the synthesis and post-synthesis modification of zeolite **Valentin Valtchev**

The first part of the talk is devoted to the seeded synthesis of zeolites in fluoride medium. The kinetics of crystal growth and physicochemical properties of zeolite Beta and ZSM-5 synthesized with different amounts of seeds will be discussed. Further, the catalytic performance of zeolite Beta synthesized from OH^- - and F^- - containing gels will be presented. Meta-xylene transformation is used as a test reaction. Total m-xylene conversion, p/o-xylene ratio and selectivity to isomerization and side m-xylene transformation reactions will be discussed.

The use of HF and $\text{HF-NH}_4\text{F}$ aqueous solutions in the chemical etching of ZSM-5 and ferrierite crystals will be presented in the second part of the talk. The chemical equilibrium in fluoride-containing solutions that allows non-selective extraction of framework cations will be addressed. Examples of hierarchical zeolite crystals with controlled macroporosity will be given and their physicochemical characteristics will be presented. Catalytic performance of ZSM-5 and ferrierite in methanol conversion and octane cracking, respectively, will be briefly addressed at the end of presentation

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