



SEMINAR

Wednesday, 18.01.2023, 13.00, Kolar's lecture

hall

MODIFICATION OF STRUCTURE AND PHOTOACTIVITY OF TiO₂ NANOTUBES

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Environmental friendly power sources and cost-effective methods for water and air purification are necessity in the modern technologically developed world. Photoactive materials can provide an environmentally friendly alternative to fossil fuels in power production and enable the remediation of changes in the environment. Namely, photoactive materials absorb light, which excites electrons that are responsible for generating electricity or participating in the process of decomposition of pollutants. There are a large number of photoactive materials, among which TiO₂ has attracted particular attention, due to its chemical inertness, resistance to photo and chemical corrosion and non-toxicity. The photoactivity of TiO₂ depends on many factors, such as morphology, crystal structure, and the degree of recombination of charge carriers. The scope of this study was improving the photoactivity of TiO₂ by optimizing nanotube morphology, doping with nitrogen and applying photosensitive components such as vanadium oxide, CdS QDs and monocystal of organic-inorganic hybrid perovskite.

Kindly invited.

