

## INFLUENCE OF DOPING OF SiO<sub>2</sub>-Cd<sub>2</sub>SiO<sub>4</sub>@CdS COMPOSITE BY CO<sub>2+</sub> AND Ni<sub>2+</sub> IONS ON ITS PHOTOCATALYTIC ACTIVITY

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### **Abstract**

According to the unique method, SiO<sub>2</sub>-Cd<sub>2</sub>SiO<sub>4</sub>@CdS composite was modified by Co<sup>2+</sup> and Ni<sup>2+</sup> ions. Properties, composition and structure of the composite obtained were investigated. Photocatalytic properties of the materials obtained were studied during the decomposition of Nile Blue in aqueous solution under visible light irradiation (> 390 nm). It is shown that the doped samples exhibit better photocatalytic activity than non-doped (an increase in degradation rate of 15%). At the same time the composite shows good resistance to photocorrosion that is distinctive for SiO<sub>2</sub>-Cd<sub>2</sub>SiO<sub>4</sub>@CdS system.

**Keywords:** Nanocomposite, CdS, photocatalysis, photocorrosion

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