

## Magnetic characteristics of mesoporous materials $0.1\text{NiO}-1\text{SiO}_2$ as influenced upon by introduction of trialkoxysilane additives during synthesis

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### Abstract

Mesoporous silicate compositions  $0.1\text{NiO}-1\text{SiO}_2$  were obtained with use of the oxide co-condensation method in the presence of template (cetyltrimethylammonium bromide) and of organo-substituted trialkoxysilanes, namely (2-cyanoethyl)triethoxysilane and tris(trimethylsiloxy)silane, under conditions of hydrothermal synthesis. Magnetic properties of these materials were investigated. The specimens were shown to manifest typical super-paramagnetic behavior with the maximum corresponding to blockage temperature  $T_b = 15$  K. The presence of organo-substituted trialkoxysilanes – as temperature progresses – most efficiently influences values and variations (non-uniformly directed) of the coercive force.