

Abstract Submitted
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Synthesis of Core-Shell BiFeO₃/ZnO nanostructures GENEVIEVE WHITE, SUNGMU KANG, ANDREW BUECHELE, IAN PEGG, JOHN PHILIP, The Vitreous State Laboratory, The Catholic University of America — We will discuss the synthesis of core-shell BiFeO₃/ZnO nanoparticles, layer-by-layer using a combination solvothermal/hydrothermal synthetic method. The goal of this research was to synthesize novel magnetoelectric/semiconducting core-shell nanoparticles for building multifunctional devices. Furthermore, we will discuss (1) development of the combination synthetic method; (2) the effects of reactant concentration, pH, or time on the morphology of the particles; (3) the incorporation of dopants such as Mn into the ZnO shell; and (4) magnetic properties of the core-shell nanoparticles.

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