Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

**Structural and Mechanical Properties of (Co/Cu) Co-doped Nano ZnO**[1] OZGUR OZTURK, ELIF ASIKUZUN, Kastamonu University, DOGAN AKCAY, LUTFI ARDA, Bahcesehir University, AHMET TOLGA TASCI, ABDULKADIR SENOL, Kastamonu University, SEVIM SENOL, CABIR TERZIOGLU, Abant Izzet Baysal University — $Zn_{1-x}Co_xO$ (x=0.01, 0.02, 0.03, 0.04, 0.05 and 0.10) and $Zn_{0.95-x}Co_{0.05}Cu_xO$ (x=0.0, 0.01, 0.02, 0.03, 0.04 and 0.05) solutions were prepared by sol-gel synthesis using zinc acetate dihydrate, cobalt acetate tetrahydrate and copper acetate tetrahydrate which were dissolved into solvent and chelating agent. $Zn_{1-x}Co_xO$ and $Zn_{0.95-x}Co_{0.05}Cu_xO$ nanoparticles were annealed at 600°C for 30 min to observe the doping effect on structural and mechanical properties. The particle size, crystal structure, particle morphology and elemental composition were characterized by XRD, SEM and EDS. Vickers microhardness measurements have been done on the sample surfaces using a digital Vickers microhardness tester in the load range of 0.245–2.940 N. In this work, the crystal structure, morphology, and mechanical properties of nanoparticles were presented.

[1]This research has been partially supported by Scientific and Technological Council of Turkey (Project No. 114F259) and partially supported by Kastamonu University Scientific Research Projects Coordination Department under the Grant No. KUBAP-03/2013-41.

Ozgur Ozturk
Kastamonu University

Date submitted: 03 Nov 2014 Electronic form version 1.4