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Thermoelectric Study of Copper Selenide[1] MENGLIANG YAO, Boston College, WEISHU LIU, ZHIFENG REN, University of Houston, CYRIL OPEIL, Boston College — Nanostructuring has been shown to be an effective approach in reducing lattice thermal conductivity and improving the figure of merit of thermoelectric materials. Copper selenide is a layered structure material, which has a low thermal conductivity and p-type Seebeck coefficient at low temperatures. We have evaluated several hot-pressed, nanostructured copper selenide samples with different dopants for their thermoelectric properties. The phenomenon of the charge-density wave observed in the nanocomposite, resistivity, Seebeck, thermal conductivity and carrier mobility will be discussed.

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Mengliang Yao
Boston College

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