

Abstract Submitted
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Large Thermoelectric power factor in CrN CAMILO QUINTELA, Applied Physics Department, University of Santiago de Compostela, 15782-Santiago de Compostela, Spain, FRANCISCO RIVADULLA, Physical Chemistry Department, University of Santiago de Compostela, 15782-Santiago de Compostela, Spain, JOSE RIVAS, Applied Physics Department, University of Santiago de Compostela, 15782-Santiago de Compostela, Spain — We report the electrical resistivity and thermoelectric power of stoichiometric and hole-doped chromium nitride (CrN). The results indicate a considerably large power factor, of the order of 1($\mu\text{W}/\text{cmK}^2$) at 400 K, increasing with temperature. Hall effect measurements were used to elucidate the mechanism of electronic transport in this system, in order to optimize its properties. The easy of grow in the form of nanoparticles and thin films, along with a good thermal stability up to 700 K, could make this material interesting for applications at moderate temperatures.

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