

Abstract Submitted  
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**Spin-entropy origin and scaling behaviour of thermopower in LaBaCoO system**<sup>1</sup> DEWEI ZHANG, National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University, HUAIHONG GUO, TENG YANG, Institute Of Metal Research, Chinese Academy of Sciences, ZHIHE WANG, National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University, ZHIDONG ZHANG, Institute Of Metal Research, Chinese Academy of Sciences, YOUWEI DU, National Laboratory of Solid State Microstructures and Department of Physics, Nanjing University — We report a detailed investigation of thermopower and magnetic properties for  $\text{La}_{1-x}\text{Ba}_x\text{CoO}_3$ . A large negative magnetothermopower is found to scale with both magnetic field and temperature, indicating that a spin entropy contribution to thermopower. We have formulated a new and general expression to describe the thermopower from spin entropy with spin-interaction considered. Our formula can fit the scaling behavior quite well and provides a satisfactory description to the observed data. The magnetic results further consolidate our claim. This investigation suggests that spin entropy plays a substantial role in the enhanced thermopower in this cobaltite system.

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