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Thermo-magnetic effect of cobalt oxides WATARU KOSHIBAE, Sendai National College of Technology, SADAMICHI MAEKAWA, IMR, Tohoku University, CREST-JST — The cobalt oxide, Na_xCoO_2, shows not only a large thermoelectric response but also an anomalous high-temperature Hall effect: The Hall coefficient increases linearly as a function of temperature and the magnitude comes to no fewer than 8 times as large as the expected Drude value. On the electron system with the large thermopower and the large Hall coefficient, an interesting behavior is expected in the response to a magnetic field upon a temperature gradient. We have studied the electronic state of the cobalt oxide and found that the electronic structure reflects the nature of the kagomé lattice hidden in the CoO_2 layer. We will show the importance of the hidden kagomé lattice structure in the emergence of the anomalous Hall effect and the close relationship between the Hall and Nernst coefficients.

Wataru Koshibae
Sendai National College of Technology

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