Thermo-magnetic effect of cobalt oxides WATARU KOSHIBAE, Sendai National College of Technology, SADAMICHI MAEKAWA, IMR, Tohoku University, CREST-JST — The cobalt oxide, Na$_x$CoO$_2$, 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.