

Heat Transport of Electron-Doped Cobaltates

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(Received: 2005-11-11; Revised:)

Abstract: Within the t-J model, the heat transport of electron-doped cobaltates is studied based on the fermion-spin theory. It is shown that the temperature-dependent thermal conductivity is characterized by the low-temperature peak located at a finite temperature. The thermal conductivity increases monotonously with increasing temperature at low-temperatures $T < 0.1J$, and then decreases with increasing temperature for higher temperatures $T > 0.1J$, in qualitative agreement with experimental result observed from Na_xCoO_2 .

PACS: 74.25.Fy, 74.62.Dh, 72.15.Eb

Key words: heat transport, electron-doped cobaltates, fermion-spin theory

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