

The Seebeck coefficient in low dimensional Ru oxides

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Oxides thermoelectric properties have been investigated in details due to the large Seebeck coefficient S which can be observed in some metallic oxides [1], and the coexistence of these two antagonistic properties is still debated. Among oxides, the Seebeck coefficient of the ruthenates is interesting as spin entropy can play a major role on S [2]. The oxoruthenates family displays a large range of oxidation states from Ru^{3+} to Ru^{7+} passing through mixed valence states [3]. Moreover, ruthenates can present very different electronic and magnetic properties, from the well-know ferromagnetic metal SrRuO_3 or paramagnetic metal CaRuO_3 to superconductivity in Sr_2RuO_4 . To better understand the relative role played by transport and entropy on the Seebeck coefficient, we have decided to investigate different ruthenates with low dimensional structure and different ground-states. We will present here the results obtained in 2D or quasi-1D metallic ruthenates

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