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Anisotropic properties of the Kondo insulator CeRu₄Sn₆

In Kondo insulators the hybridization of conduction electrons with 4f electrons is held responsible for the opening of a narrow energy gap at the Fermi level. Of particular interest is the situation where the hybridization vanishes along a symmetry axis of the crystal to produce nodes in the gap [1,2]. This has been suggested to be the case for CeNiSn [1,2]. The tetragonal compound CeRu₄Sn₆ is a new candidate for such behaviour [3]. The temperature dependent magnetic susceptibility is highly anisotropic and can be interpreted with a plane of hybridization nodes, as opposed to a line of nodes in CeNiSn. Electrical transport and specific heat measurements will be discussed within this model.

- [1] H. Ikeda, K. Miyake, J. Phys. Soc. Jpn. 65, 1769 (1996)
- [2] J. Moreno, P. Coleman, Phys. Rev. Lett. 84, 342 (2000)
- [3] S. Paschen et al., J. Phys.: Conf. Series 200, 012156 (2010)

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