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Title:	Experimental and theoretical electronic structure of EuRh ₂ As ₂
Authors:	Singh, Yogesh (/jspui/browse?type=author&value=Singh%2C+Yogesh)
Keywords:	Spectroscopy Fermi surfaces Temperature
Issue Date:	2012
Publisher:	American Physical Society
Citation:	Physical Review B - Condensed Matter and Materials Physics, 85(17)
Abstract:	The Fermi surfaces (FS's) and band dispersions of EuRh ₂ As ₂ have been investigated using angle-resolved photoemission spectroscopy. The results in the high-temperature paramagnetic state are in good agreement with the full-potential linearized augmented-plane-wave calculations, especially in the context of the shape of the two-dimensional FS's and band dispersion around the Γ (0,0) and X (π,π) points. Interesting changes in band folding are predicted by the theoretical calculations below the magnetic transition temperature $T_N \approx 47$ K. However, by comparing the FS's measured at 60 and 40 K, we did not observe any signature of this transition at the Fermi energy, indicating a very weak coupling of the electrons to the ordered magnetic moments or strong fluctuations. Furthermore, the FS does not change across the temperature (≈ 25 K) where changes are observed in the Hall coefficient. Notably, the Fermi surface deviates drastically from the usual FS of the superconducting iron-based AFe ₂ As ₂ parent compounds, including the absence of nesting between the Γ and X FS pockets.
Description:	Only IISERM authors are available in the record.
URI:	https://journals.aps.org/prb/abstract/10.1103/PhysRevB.85.174509 (https://journals.aps.org/prb/abstract/10.1103/PhysRevB.85.174509) http://hdl.handle.net/123456789/3492 (http://hdl.handle.net/123456789/3492)
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