ELECTRONIC AND MAGNETIC PROPERTIES OF $UCoAs_2$ COMPOUND

M. Werwiński[a] and A. Szajek[b]

[a]Faculty of Technical Physics, Poznań University of Technology,
ul. Nieszawska 13a, 60-965 Poznań, Poland

[b]Institute of Molecular Physics, Polish Academy of Sciences,
ul. M. Smoluchowskiego 17, 60-179 Poznań, Poland

9.7 cm

The $UCoAs_2$ compound crystallizes in the tetragonal $HfCuSi_2$ - type structure with space group $P4/nmm$ [1]. The compound orders ferromagnetically at $150K$ with spontaneous magnetic moment of about $1.8\mu_B$. The magnetic behaviour in $UCoAs_2$ exhibits a giant anisotropy in both ordered and paramagnetic region, which was interpreted as being caused predominantly by strong $f-d$ hybridization and pronounced crystal field effect [1]. In this paper we present results of $ab-initio$ band structure calculations based on the Full-Potential Local-Orbital Minimum-Basis Scheme (FPLO) [2].

[1] D. Kaczorowski, H. Noël, M. Potel, J. Alloys Compd. **302** (2000) 1
[2] K. Koepernik and H. Eschrig, Phys. Rev. B **59** (1999) 1743

13.4 cm

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Corresponding author :
A. Szajek

Address for correspondence :
Institute of Molecular Physics, Polish Academy of Sciences,
ul. M. Smoluchowskiego 17, 60-179 Poznań, Poland

Email address :
szajek@ifmpan.poznan.pl