

Electronic Band Structures for Ge-based Skutterudites RPt_4Ge_{12} (R =Sr, Ba, La)K. Takegahara¹ and H. Harima²¹Graduate School of Science and Technology, Hirosaki University, Hirosaki, 036-8561²Department of Physics, Kobe University, Nada, 657-8501

Recently the Ge-based filled skutterdites RPt_4Ge_{12} (R = Sr, Ba, La, Ce, Pr, Nd, Eu, Th) have been reported [1-5]. We have carried out FLAPW band structure calculations for R = Sr, Ba and La. Calculated results are shown in Fig. 1. Note that there are 4 electrons/F.U. fewer occupied electrons in $LaPt_4Ge_{12}$ than those in $LaOs_4As_{12}$.

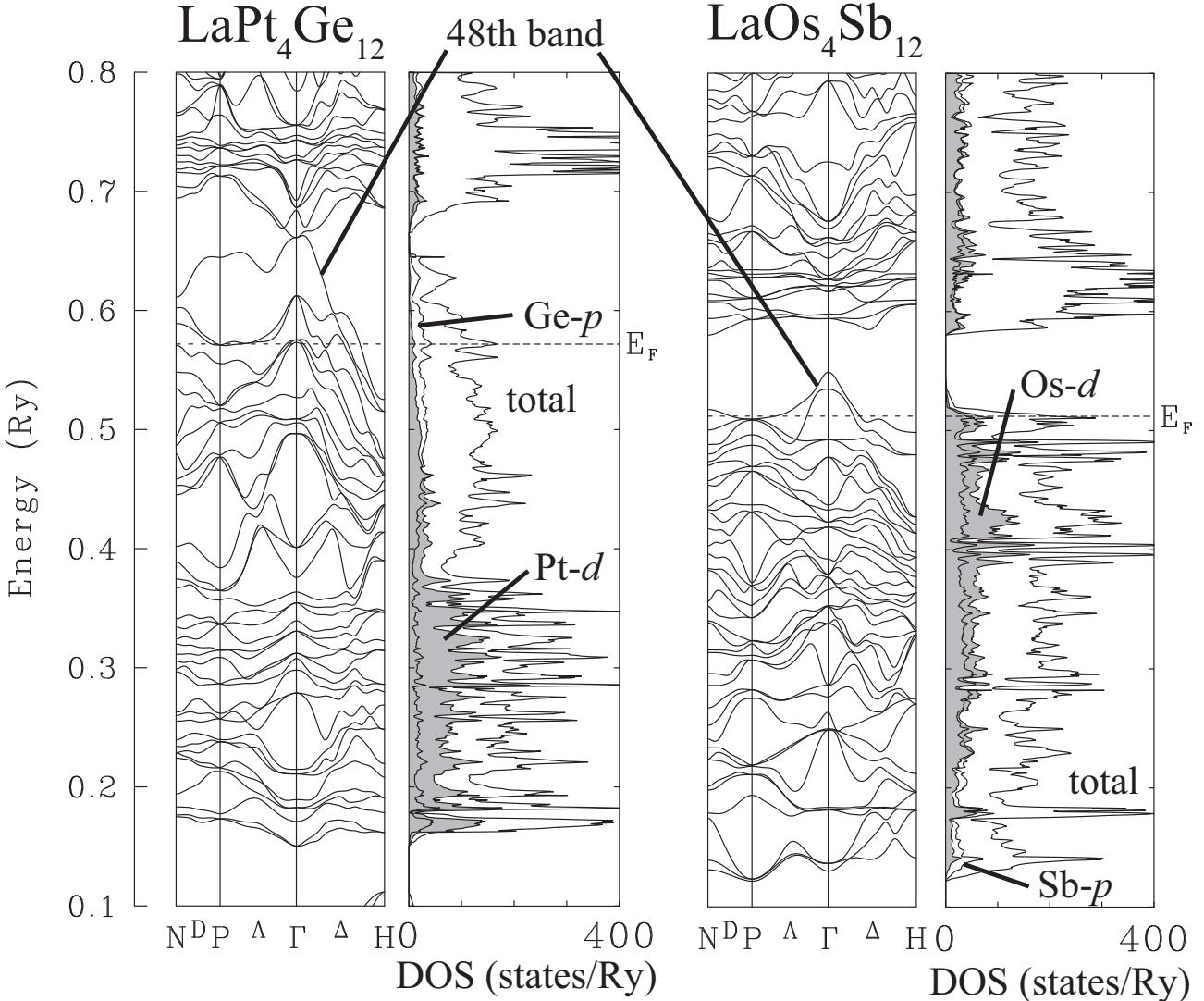


Figure 1: The FLAPW energy band structures and the densities of states for $LaPt_4Ge_{12}$ (a = 8.6235 Å) and $LaOs_4Sb_{12}$ (a = 9.30807 Å).

- [1] E. Bauer *et al.*, Phys. Rev. Lett. 99 (2007) 217001. A. Grytsiv *et al.*, J. Phys. Soc. Jpn. 77 (2008) Suppl. A, 121. R. T. Khan *et al.*, J. Phys. Soc. Jpn. 77 (2008) Suppl. A, 350. [2] R. Gumeniuk *et al.*, Phys. Rev. Lett. 100 (2008) 017002. [3] D. Kaczorowski and V. H. Tran, Phys. Rev. B77 (2008) 180504. [4] 小山岳秀他(兵庫県立大グループ), 超伝導が拓く物性科学の最前線(2007.12.7~9, 首都大東京) P23. [5] 戸田雅敏他(徳島大グループ), 日本物理学会第63回年次大会(2008.3.22~26, 近畿大学) 23pPSA-16.