

**MAGNETIC PROPERTIES AND ELECTRONIC STRUCTURES
OF Gd₃Cu₄X₄ (X = Ge, Sn)**

A. Szytuła^a, A. Jezierski^b, B. Penc^a, E. Wawrzyńska^a, A. Zygmunt^c

^aM. Smoluchowski Institute of Physics, Jagiellonian University, Reymonta 4,
30-059 Kraków, Poland

^bInstitute of Molecular Physics, Polish Academy of Sciences, Smoluchowskiego 17,
60-179 Poznań, Poland

^cW. Trzebiatowski Institute of Low Temperature and Structure Research, Polish
Academy of Sciences, Okólna 2, 50-442 Wrocław, Poland

Polycrystalline samples of Gd₃Cu₄X₄ (X = Ge, Sn) were investigated by means of magnetometry and XPS. Additionally, calculations of the electronic structures with the TB-LMTO method were performed for both compounds. They were found to be antiferromagnets; the stannide - below 13 K and the germanide - below 11 K. The electronic structures determined from the photoemission spectra agree well with the results of the calculations. Analysis of the core levels indicates presence of the Cu⁺¹ ions in both compounds. Besides, charge transfers from the Cu and Ge atoms, the latter only in Gd₃Cu₄Ge₄, were detected.

13.4 cm

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Corresponding author :

A. Szytuła

Address for correspondence :

M. Smoluchowski Institute of Physics
Jagiellonian University
Reymonta 4
30-059 Kraków
Poland

Email address :

szytula@if.uj.edu.pl

9.7 cm