

## Microwave absorption in $\text{Gd}_5\text{Si}_2\text{Ge}_2$ compound

P. Aleshkevych

Institute of Physics, Polish Academy of Sciences  
al. Lotnikow 32/46, 02-668 Warsaw, Poland

The alternative method of calculation the magnetic entropy change  $\Delta S(H, T)$  by using the microwave technique is presented. This method is based on correlation between magnetization and dependent of magnetic field the nonresonant microwave absorption in the vicinity of the first-order magnetic transition. It was found that in the narrow temperature range of around Curie temperature ( $T_C = 268\text{K}$ ), the temperature derivatives of both magnetization and inverse of microwave absorption are proportional to each other. The  $\Delta S(H, T)$  was calculated as a function of temperature at different magnetic field and was compared to the magnetic entropy change calculated from magnetic data. This work was financially supported by European Fund for Regional Development (Contract No. UDA-POIG.01.03.01-00-058/08/00).

9.7 cm

13.4 cm

### Subject category :

3. Magnetic Structure and Dynamics

### Presentation mode :

poster

### Corresponding author :

P. Aleshkevych

### Address for correspondence :

Al. Lotnikow 32/46, IFPAN ON3  
02-668 Warsaw, Poland

### Email address :

pavloa@ifpan.edu.pl