

Short Notes

K127

phys. stat. sol. 38, K127 (1970)

Subject classification: 8; 23

Physik-Department der Technischen Hochschule München

Thermal Expansivity and Isothermal Compressibilityof Solid Kr between 4 and 115 °K

By

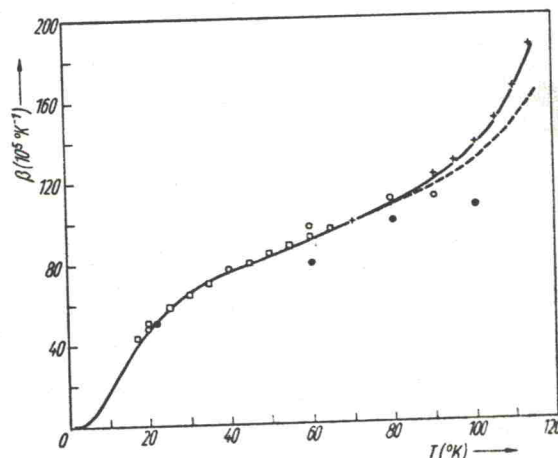
H. J. COUFAL, R. VEITH¹⁾, P. KORPIUN, and E. LÜSCHER

Recent calculations of the thermal expansivity and the isothermal compressibility (1) show that measurements with an accuracy of better than 5% are necessary to test the theoretical predictions. We have interferometrically measured the change of the specimen length as a function of temperature or pressure (2). By this method the thermal expansivity and the isothermal compressibility could be determined with an accuracy of better than 1% in the whole temperature region from 4 to 115 °K.

Crystals were grown in an apparatus constructed by Peter (3) which was similar to that described by Gsänger et al. (4). The krypton gas used had a purity of 99.9995%.²⁾ The specimens had lengths of about 50 mm and diameters of about 10 mm. The three investigated crystals were transparent. Neutron scattering data

Fig. 1. Volume expansion coefficient β of solid krypton.

- L. H. Bolz and E. R. Maurer (not published), see Pollack (11);
- Figgins and Smith (12);
- Manzhelii et al. (6);
- + Gavrilko et al. (7, 8);
- Losee et al. (9);
- this work



1) Now Forschungslaboratorium der Siemens A. G., München, Germany.

2) Fa. Linde.