Eine neue Modifikation von Lanthanmonogermanid – lT-LaGe

A New Modification of Lanthanummonogermanide – lT-LaGe

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Single crystals of the low temperature modification of LaGe are obtained as a byproduct in the reaction of La metal, $LaBr_3$ and Ge powder at 1000 °C as silver colored, moisture sensitive needles. lT-LaGe crystallizes in space group *Cmcm* with $a = 4.5590(10)$, $b = 13.766(2)$, $c = 6.745(2)$ Å. The Ge atoms form *cis-trans-cis-trans*-chains with $d_{Ge-Ge} = 2.621(1)$ and 2.799(1) Å in contrast to Ge zigzag chains found in the high temperature modification of LaGe crystallizing in the FeB structure type. In both structures the Ge atoms are surrounded by trigonal prisms of lanthanum atoms with $CN = 6 + 1$ but different connection of the prisms.

Key words: Lanthanum, Germanium, Ge chains, Crystal Structure