9.7 cm

HIGH-FIELD DE HAAS-VAN ALPHEN EFFECT IN $GdIn_3$

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Results of the de Haas-van Alphen effect investigations are reported for the antiferromagnetically ordered compound $GdIn_3$. For the first time data on the dHvA frequencies and their angular dependencies are shown for magnetic field higher than the metamagnetic transition field. The list of detected frequencies and related cyclotron masses is given. Among many Fermi surface branches observed only three correspond to theoretically predicted and experimentally observed branches for the nonmagnetic $LaSn_3$, namely the j, b and d. These branches come from the band 6-hole Fermi surface consisting of three major parts centred at Γ, R and X points.

The metamagnetic transition taking place at 30T influences some branches of Fermi surface, mostly those in the (110) plane and close to the [111] direction. All effective masses found are lower than m_0 and close to those found for the $LaSn_3$.

13.4 cm

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