Structure Refinement of CePtSi and Hydrogenation Behavior of CePdGe,
CePtSi and CePtGe

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The intermetallic cerium compounds CePdGe, CePtSi, and
CePtGe were synthesized from the elements by arc-melting
and subsequent annealing. The structure of CePtSi was re-
fining from single crystal X-ray diffraction data: LaPtSi-type
(ordered \(\alpha\)-ThSi\(_2\) version), \(I4_1md\), \(a = 419.6(1)\) and \(c =
1450.0(5)\) pm, \(wR^2 = 0.0490, 362 F^2\) values and 16 variables.
The Pt–Si distances within the three-dimensional [PtSi] net-
work are 242 pm, indicating strong Pt–Si interactions. Hy-
drogenation of the three compounds at 623 K and 4 MPa \(H_2\)
gave no indication for hydride formation.

Key words: Cerium Intermetallics, Hydrogenation