

# Structure and Magnetic Properties of CePtZn

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*Z. Naturforsch.* **2007**, 62b, 1581 – 1584; received September 10, 2007

The intermetallic compound CePtZn was synthesized from the elements in a sealed tantalum tube by induction melting and structurally characterized by powder and single crystal X-ray diffractometer data: TiNiSi-type, space group *Pnma*,  $a = 706.89(19)$ ,  $b = 435.08(15)$ ,  $c = 809.71(16)$  pm,  $wR2 = 0.0385$ , 404  $F^2$  values and 20 variables. The platinum and zinc atoms build up a three-dimensional network of condensed distorted  $\text{PtZn}_{4/4}$  tetrahedra with Pt–Zn distances in the range 268 – 273 pm. The cerium atoms fill channels within the [PtZn] network. CePtZn shows Curie-Weiss behavior in the temperature range from 75 to 300 K with  $\mu_{\text{eff}} = 2.47 \mu_{\text{B}}/\text{Ce atom}$  and  $\theta_{\text{P}} = -18.7$  K, indicating trivalent cerium. No magnetic ordering was detected down to 2 K.

*Key words:* Intermetallics, Cerium, Magnetic Properties