

the phase transformation as  $\pm 5\%$ .

In order to determine the heat of the phase transformation in cerium the latter was first melted in vacuum in a quartz tube and then machined to fit the cylindrical container exactly. The thermocouple was fixed tightly in a hole drilled in the center of the sample. The experiments were made with one differential thermocouple, the junctions of which were placed in the mercury and cerium samples. The weight of mercury was 2.00 g in all the ~~experiments~~ experiments and that of the cerium 1.15 g.

A typical thermogram is illustrated in Fig. 2. The first jump in temperature (on the left) corresponds to the phase transformation of cerium and the second (on the right) to the solidification of mercury.

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Table 1

Results of Determining the Heat of the Phase Transformation in Cerium

Key

- 1) ~~Series~~ No. of the series
  - 2) Pressure at the onset of the phase transformation,  $\text{kg/cm}^2$
  - 3) Areas of the differential records of the thermograms,  $\text{mm}^2$
  - 4) Heat of phase transformation of cerium, cal/g-atom
  - 5) Average
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The results of three series of experiments are shown in ~~the~~ Table 1. In the last column of the table we give the heat

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