No. of cerium	T, °C	Pressure at beginning of phase transition, kg/cm²		Areas of differential thermogram recording, mm²		Ce / Hg	Heat of transition in cerium cal / g atom
		Ce	Hg	Ce	Hg		
1	13,2	6700	10400	3470	3140	1,11	
		6850	10350	3470	3130	1,11	
		6850	10350	3440	3150	1,09	
		6700	10350	3410	3050	1,12	
				3480	3140	1,11	
					Average	1,11	880
2	17,0	7000	11300	3110	2960	1,05	
		6850	11000	3150	3010	1,04	
		6900	10900	3190	2960	1,08	
				3150	2950	1,07	
					Average	1,06	840
3	18,2	7200	11200	3630	3140	1,16	
		7100	11300	3780	3160	1,19	
		7150	11200	3850	3100	1,15	
		7100	11300	3600	3130	1,15	
					Average	1,16	920

formula

$$Q_{Ce} = \frac{2.00 \cdot 140.13}{1.15 \cdot 0.97} q_{Hg} \cdot K$$

where q_{Hg} is the heat of fusion of 1 g mercury at the temperature of the experiment according to Bridgman (9): K is the ratio of the differential thermogram recording (S cerium: S mercury).

The average value Q_{Ce} from the three experimental series (new weighed portions of the samples and new thermocouples were used for each series) is equal to 880 ± 40 cal/g atom.

Discussion of the Results

The results of the present investigation confirm the opinion concerning the identity of the cerium modification which takes place under high pressures with its low temperature modification. Previously Trombe and Foex (11) studying cerium behavior at low temperatures found its transformation at 109° K with 10% contraction in volume. In this connection the supposition was first made in paper (2) that the cerium modification found

*We consider the cerium transformation completed as the pressure in our experiments rose to 13,000 kg/cm²; at such a pressure a less compact modification is not revealed by means of x-rays [see (2)].

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