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Thermodynamic properties of hercynite ($FeAl_2O_4$) based on adiabatic calorimetry at low temperatures

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ABSTRACT

The low-temperature heat capacity of hercynite ($FeAl_2O_4$) was measured between 3 and 400 K, and thermochemical functions were derived from the results. The measured heat-capacity curve shows a small lambda-shaped anomaly peaking at around 13 K. From our data, we suggest a standard entropy for hercynite at 298.15 K of 113.9 ± 0.2 J/(mol·K), which is some 7.6 J/(mol·K) higher than reported previously by a calorimetric study that missed the entropy contributions of the low-temperature anomaly.