

Abstract Submitted  
for the SHOCK13 Meeting of  
The American Physical Society

**Electrical resistance of dysprosium and titanium under pressure**

BERTIL SUNDQVIST, Umea University — The electrical resistances of metallic dysprosium and titanium have been measured in the temperature range 80-700 K and under hydrostatic pressure in silicone oil up to 1.2 GPa. For both metals, the measured temperature and pressure dependence of resistance are in good agreement with available literature data near room temperature and atmospheric pressure. For titanium, the temperature dependence of the electrical resistivity can be very well described by standard Bloch-Grüneisen theory if a correction for the density of states is applied, although saturation effects are observed at the highest temperatures. The pressure dependence is practically independent of temperature over the range 300 to 700 K, as expected from simple theory. For dysprosium, the low temperature data show the well known antiferromagnetic-to-paramagnetic transformation near 174 K. The pressure coefficient of resistance at room temperature is somewhat larger than found by Bridgman, probably reflecting a higher purity of the material. The pressure coefficient is observed to decrease with increasing temperature.

Bertil Sundqvist  
Umea University

Date submitted: 21 Feb 2013

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