

two parallel anvils of tungsten carbide, the lateral tightness coming only from the friction of the pyrophyllite ring. Obviously the pressures generated in this cell are neither ideally homogeneous nor hydrostatic. This is reflected by the broad transitions to the superconducting state observed with this cell. The advantage of this type of cell is the high pressure (≥ 150 kbar) attainable, whereas the piston-cylinder arrangement with tongs produces a maximum pressure between 50 and 60 kbar.

Samples and Procedures

The Zr samples were cut from a crystal bar of purity better than 99.9% (Koch-Light Labs.) and rolled at room temperature to 20 μm thickness. For comparison, measurements on zone refined material (Marz grade 99.97%, Materials Research Corporation) have been performed*.

Temperatures in all experiments were monitored by carbon resistors, which were mounted as close to the pressure cell as possible.

The transitions of the samples to the superconducting state were detected by electrical resistance measurement.

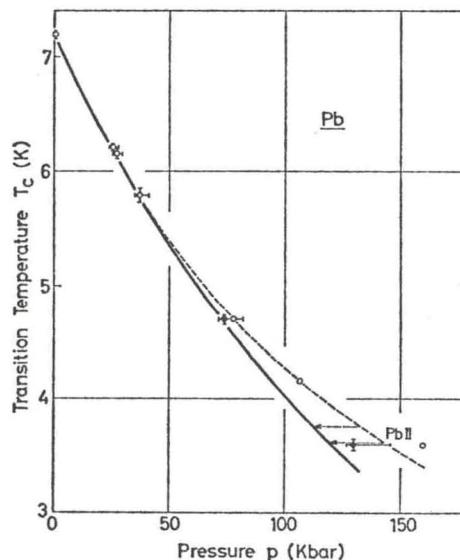


Fig. 2. $T_c(p)$ dependence of lead, taking into account a recent correction of the high pressure scale¹² (full line). This is not believed to represent a final recalibration of the data of Ref.¹¹ (dotted line), but to show the trend of calibration change

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