B. Recommendations

Additional experiments of the type performed here should be done to test the range of validity of the above conclusions concerning defect generation by plane shock waves in metals. Theoretical work on perfect lattice and defect resistivity of metals under pressure would also be a contribution. Simultaneous study of elastic precursor stress and electrical conductivity as a function of thickness of a shocked metal would test the model proposed to explain the observed effects.

Measurements of resistance of a high-strength, elastic-plastic metal above and below its elastic limit would test current ideas concerning defect production by shock deformation.

More low-temperature shock experiments with recovery of the shocked metal at the low temperatures would be useful; then point defects produced would be trapped for post-mortem examination.

There are a number of studies using hydrostatic pressure which would contribute immensely to this type of work. Additional experimental work on temperature coefficients of resistivity as a function of hydrostatic pressure is needed to put the resistivity analysis on a firmer foundation. Data on epoxy thermal conductivity as a function of temperature and pressure would make the heat-flow calculation more meaningful.

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