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Measurement technique of high-temperature Hugoniont data of metals TATSUHIRO KATSUYAMA, MASAYUKI TAKEDA, XUN LIU, AKIRA YOSHIASA, TSUTOMU MASHIMO, Kumamoto University — Equations of state of solids have been derived by using the assumed Gruneisen parameters from the Hugoniot data. If the Hugoniot data of the heated sample are measured, the Gruneisen parameter can be directly discussed by using Gruneisen type equation of state. We have measured the Hugoniot data of W, Cu, Au , etc. by using the high-time resolution streak camera system equipped with a powder gun and two-stage light gas gun. In this study, the measurement technique of the Hugoniot data of high-temperature sample using high-frequency heating apparatus was established equipped with a powder gun. We succeeded in the measurement of the Hugoniot data (shock-velocity and particle-velocity) of the high-temperature sample at 500-800 degrees C on some metals. The detailed results and discussion of Gruneisen parameter will be presented.

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