Abstract Submitted
for the SHOCK07 Meeting of
The American Physical Society

Time-resolved emission spectroscopy of transparent and nontransparent materials. TAKAMICHI KOBAYASHI, TOSHIMORI SEKINE, National Institute for Materials Science — Time-resolved emission spectroscopy with pulsed excitation has been used to observe spectral changes of shocked transparent single crystals and nontransparent materials. For transparent single crystals, drastic spectral changes near the HEL are observed and Us-Up relations can be determined. As the shock pressure is increased in the plastic region, however, the emission intensity decreases rapidly, probably because plastic deformation develops with pressure. For nontransparent materials, measurements of emission spectra under shock compression appears more difficult than transparent materials. Results on powder materials will be presented.

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Date submitted: 11 Apr 2007 Electronic form version 1.4