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Some Aspects of Shock-Induced Radiation of Transparent Media and Its Transformation with Pressure. MICHAEL GOGULYA, MICHAEL BRAZHNIKOV, ICP RAS — Radiation of shocked compressed water, glycerol, and sulphur and its transformation with pressure has been studied. It was shown that radiation of shocked water loaded through different metal barriers (Al, Mg, and Cu) depended both on shock pressure (varied from 10.0 to 39.5 GPa) and the nature of the metal. It was proposed that radiation histories measured in transparent or semitransparent materials could be explained in terms of "contact" radiation caused by the processes nearby barrier–transparent media interface and "volume" radiation emitted by a layer of shocked material. For verification of the hypothesis for glycerol loaded through Al barriers, there are given the data on radiation history transformation with pressure varied in the range $18.9 \div 45.2$ GPa. For glycerol, only "contact" radiation was recorded at low pressures, at which glycerol assumed to be transparent. While two-peak radiation caused both by "contact" and "volume" luminosity was observed in pressure range $29 \div 31$ GPa assumed to be a transition field between transparent and opaque shocked glycerol. At the highest pressure at which glycerol is opaque, the first peak and the second rise in radiation merge together. For a comparison, there are given the data on radiation of shocked optical glass and sodium salt, and liquid sulphur, which has been studied in the pressure range $23.7 \div 55.0$ GPa.

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