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Measurements of the Shock Release Of Quartz and Paralyene-N[1] JAMES HAWRELIAK, Washington State Univ, MAX KARASIK, JAECHUL OH, YEFIM AGLITSKIY, Naval Research Laboratory — The shock and release properties of Quartz and hydrocarbons are important to high energy density (HED) research and inertial confinement fusion (ICF) science. The bulk of HED material research studies single shock or multiple shock conditions. The challenge with measuring release properties is unlike shocks which have a single interface from which to measure the properties, the release establishes gradients in the sample. The streaked x-ray imaging capability of the NIKE laser allow the interface between quartz and CH to be measured during the release, giving measurements of the interface velocity and CH density. Here, we present experimental results from the NIKE laser where quartz and parylene-N are shock compressed to high pressure and temperature and the release state is measured through x-ray imaging. The shock state is characterized by shock front velocity measurements using VISAR and the release state is characterized by using side-on streaked x-ray radiography

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