

Abstract Submitted  
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**Extreme Chemistry of Warm Dense Nitrogen** MARIUS MILLOT, UC Berkeley, J. RYAN RYGG, JON H. EGGERT, PETER M. CELLIERS, GILBERT W. COLLINS, LLNL, RAYMOND JEANLOZ, UC Berkeley — Nitrogen is a prototypical molecular system with a uniquely stable triple covalent bond. We conducted laser compression experiments of dense fluid nitrogen and obtained pressure-density-temperature Hugoniot data along with optical reflectivity in the warm dense regime up to 8 Mbar. Our data suggest that Nitrogen transforms to a polymeric conducting fluid around 8000 K and 1 Mbar that progressively dissociates into an atomic dense plasma at higher pressure and temperature.

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