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Magmas at extreme condition TOYOHITO NISHIKAWA, Osaka University, YUHEI UMEDA, Hiroshima University, NORIMASA OZAKI, Osaka University, TOSHIMORI SEKINE, TOMOKO SATO, Hiroshima University, B. ALBERTAZZI, A. BENUZZI-MOUNAIX, R. BOLIS, M. GUARUAGLINI, M. KOEING, Laboratorire pour lUtilisation des Lasers Intenses, K. MIYANISHI, Osaka University, A. RAVASIO, Laboratorire pour lUtilisation des Lasers Intenses, Y. SAKAWA, T. SANO, RYOUSUKE KODAMA, Osaka University — The system MgO-SiO_2 is one of the most important systems for understanding the formation process and dynamics of Earth-type planets as well as impact phenomena. Minerals in this system display various phase transformations, melt, and vaporize as a function of pressure and temperature. These phase changes depend on the stability of phases. We carried out laser shock experiments on enstatite at ILE, Osaka University. In these experiments, shock velocity was measured by VISAR and other shock states calculated by the impedance matching technique. The Hugoniot was measured around 300GPa and these data showed a continuous change. Even under decay shock compression, the states continuously changed. From the above, the liquid phase of enstatite is considered to be stable. We also discuss the optimum sample structure, based on the hydro simulation results.

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