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**Velocity correction and refractive index changes for [100] lithium fluoride optical windows under isentropic compression**[1] GUI LIN WANG, Department of Modern Mechanics, USTC, China, 230027, ZHAO HUI ZHANG, LI BING YANG, Insitute of Fluid physics, CAEP, Mianyang, China, 621900, KEY LABORATORY OF PULSED POWER, INSITUTE OF FLUID PHYSICS, CAEP, CHINA COLLABORATION — By means of the new techniques of magnetically driven quasi-isentropic compression based on multi-module pulse power generator PTS developed by us, the dynamic compression of [100] lithium fluoride is researched under ramp wave loading. A pressure of 40–60 GPa over 200–300 ns is realized on LiF samples by load configuration optimizing and current pulse shaping of PTS. Loading strain rates vary from $10^5$ $s^{-1}$ to $10^6$ $s^{-1}$ along the thickness of LiF samples. For experiments, the particle velocities of interface between LiF samples and LiF windows, interface between electrode and LiF window, free-surface of electrode are measured to determine material response by a displacement interferometry technique of Doppler pins system (DPS, Laser wavelength 1550nm). The experimental compression isentropes of researched LiF are obtained using the data processing method of backward integration and Lagrangian analysis for quasi-isentropic compression experiments, which are in agreement with the experimental isentropes measured by T. Ao. Additionally, taken order with apparent velocity(Ua) with windows [100] LiF and half of free-surface of electrode panel velocity(Ut) by a new producer, we obtained velocity correction $1+\Delta v/v_0$ and refractive index changes n-$\rho$ under magnetically driven quasi-isentropic compression to 50 GPa.

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