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X-ray absorption spectroscopy using short pulse laser isochoric heated targets[1] SOPHIA CHEN, R. SHEPHERD, Lawrence Livermore National Laboratory, P. AUDEBERT, Laboratoire d'Utilisation de Lasers Intenses (LULI), Palaiseau, France, P. RENAUDIN, B. LOUPIAS, CEA/DIF, Bruyere Le Chatel, France, L. LECHERBOURG, University of Toronto, Canada, B. WILSON, C. IGLESIAS, Lawrence Livermore National Laboratory, R. MAJORIBANKS, University of Toronto, Canada, H. CHEN, P. BEIERSDORFER, Lawrence Livermore National Laboratory — We present a series of experiments to help quantify the effects of density on bounds states in plasmas. The experiments are performed by x-ray backlighting aero-gel targets heated with an ultrashort pulse laser. The density and temperature is determined by assuming an isothermal expansion and using frequency domain interferometry measure the time-dependent position of the critical surface. Additional temperature verification is made using the target emissivity. The aero-gel target density is systematically increased and absorption spectra is used to monitor the effect of the increased density on the bound states. Preliminary experimental results will be presented.

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Sophia Chen
Lawrence Livermore National Laboratory

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