

Abstract Submitted  
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**Influence of Externally-applied Magnetic Fields on initial Ultracold Plasma Expansion Rates**<sup>1</sup> WEI-TING CHEN, TRUMAN WILSON, JACOB ROBERTS, Colorado State University — Ultracold plasma expansion is influenced by the application of external magnetic fields even at the relatively small field magnitude of 0.1 mT. We present recent measurements of the short-time acceleration in ultracold plasma expansion under the influence of such applied magnetic fields. The observation of this acceleration has implications for electron diffusion rates in the ultracold plasmas, and has implications for efficient loading of ultracold plasmas into trap potentials.

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