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**Characterization of a Continuous Supersonic Beam of Tungsten Atoms** JEONGWON LEE, JINHAI CHEN, AARON LEANHARDT, University of Michigan — Laser induced fluorescence spectroscopy is used to characterize the flux and velocity distribution of a continuous supersonic beam of ground state tungsten atoms. Tungsten atoms are seeded into a supersonic noble gas jet either by evaporation from a resistively heated filament or through sputtering from a dc electric discharge. This beam serves as the precursor to a continuous supersonic beam of ground state tungsten carbide molecules through the reaction $W+CH_4 \rightarrow WC+2H_2$. Tungsten carbide (WC) has a $X^3\Delta_1$ ground state, which is ideal for a search for the permanent electric dipole moment (EDM) of the electron [1].

[1] J. Lee, E.R. Meyer, R. Paudel, J.L. Bohn, and A.E. Leanhardt, J. Mod. Opt. 56, 2005 (2009).

Jeongwon Lee
University of Michigan

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