Abstract Submitted
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Dielectronic Satellite Lines of L-shell Mo at LLNL EBIT[1] A. STAFFORD, A.S. SAFRONOVA, V.L. KANTSYREV, U.I. SAFRONOVA, E.E. PETKOV, V.V. SHLYAPTSEVA, University of Nevada, Reno, P. BEIERSDORFER, N. HELL, G.V. BROWN, Lawrence Livermore National Laboratory — Dielectronic recombination, an important atomic process for astrophysical and laboratory plasmas, has been studied in detail for low-Z and recently for W ions. However, there are still many details missing for other materials including molybdenum (Mo). New calculations were done for Ne-like Mo dielectronic recombination transitions using the COWAN code, HULLAC, and the relativistic many-body perturbation theory method. The EBIT-I electron beam ion trap at Lawrence Livermore National Laboratory (LLNL) was used to benchmark the new calculations. EBIT-I was operated to create Ne-like Mo using a ˜3 keV energy beam and then using lower energy beams (0.6 – 1.2 keV) to account for dielectronic recombination. The new theoretical calculations were compared to Na-like Mo satellite spectra collected from LLNL EBIT-I experiments with consideration to polarization sensitivities.

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