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Electron temperature dependence on DC applied electric fields in ultracold plasmas[1] WEI-TING CHEN, TRUMAN WILSON, JACOB ROBERTS, Colorado State University — One of the features that make ultracold neutral plasmas interesting to study is the ability to create these plasmas at very low initial electron temperatures as compared to other laboratory plasma systems. In this poster, we report on our measurements of initial electron temperatures as a function of applied DC electric field. Our observations indicate that the application of such a field can raise the initial electron temperature, limiting the temperature range over which experiments can be performed unless care is taken to null the DC electric field strength in the region of space where the plasma is created.

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