

Abstract Submitted  
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**Effect of Ion Temperature on Spectroscopic Electron Temperature Diagnosis**<sup>1</sup> J.P. APRUZESE<sup>2</sup>, J.L. GIULIANI, J.W. THORNHILL, Naval Research Laboratory, B. JONES, S.B. HANSEN, C.A. JENNINGS, D.J. AMPLEFORD, A.J. HARVEY-THOMPSON, M.E. CUNEO, Sandia National Laboratories — Ratios of lines from different ionization stages are often used to diagnose electron temperature in Z pinches. Populations of the various stages can be influenced by photoexcitation to excited states, from which ionization proceeds very rapidly. The ion temperature affects the line width, opacity, and the photoexcitation rate, therefore the line ratios, and the inferred electron temperature. We discuss a practical example where this effect is important: Ar gas-puff shot Z2382.

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