

Abstract Submitted  
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**Increasing Diagnostics Resolution in a Monte Carlo Simulation of an ICP-MS<sup>1</sup>** ADAM PAYNE, ANDREW SAMPSON, WILLIAM SOMERS, ROSS SPENCER — An implementation of the Direct Simulation Monte Carlo Method has been used to model the physical behavior of plasma gas in an Inductively Coupled Plasma mass spectrometer as it expands supersonically through a nozzle. As the simulation proceeds, data is taken over prescribed cells and then averaged to determine steady state physical properties such as temperature, density, and velocity. Special attention is given to plasma flow through the nozzle. Results from multiple simulations which show high resolution images of the plasma properties inside the nozzle are presented.

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