An imaging spectrometer to probe pondermotive-gradient field-ionization

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To test the proposed spectrometer design, a simulation was developed to create an intensity-dependent population of Rydberg ions with a finite target temperature. This population was used as an input to the ion-optics simulation program. The simulated results indicate that the design provides sufficient resolution to indicate if the surviving Rydberg ions arise predominantly from the region of the focus with a relatively low pondermotive gradient.

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