Electron transfer into the projectile continuum in near-relativistic ion-atom collisions

Siegbert Hagmann, Inst. f. Kernphysik, Univ Frankfurt, GSI-Darmstadt
Muaaffaq Nofal, GSI-Darmstadt, Max Planck Inst-Heidelberg
Thomas Stöhlker, GSI-Darmstadt, Physik. Inst. Univ Heidelberg
Andrej Surzhikov, Physik. Inst. Heidelberg
Stefan Fritzschke, GSI-Darmstadt
Doris Jakubassa-Amundsen, Mathem. Inst. LMU-München
Christophor Kozuharov, GSI-Darmstadt
Robert Moshammer, Joachim Ullrich, Max Planck Inst. f. Kernphysik Heidelberg
Alexander Gumberidse, Uwe Spillmann, Regina Reuschl, Sebastian Hess, Sergiej Trotsenko, Fritz Bosch, Dieter Liesen, GSI-Darmstadt
Reinhard Dörner, Inst. f. Kernphysik Univ. Frankfurt
Hermann Rothard, CIRIL-Ganil, Caen, France

Fast ion-atom collisions permit in experiments on electron transfer into the projectile continuum to study the dynamics of ionisation and radiative and non-radiative capture close to threshold; this is an exceedingly sensitive test of theory. We have studied electron emission in forward direction in 2 systems with different projectile Compton profile, $^{98+}_{U} + N_2$ and $^{47+}_{Sn} + N_2$, using the $^0$ electron spectrometer at the supersonic jet target of the ESR storage ring. We present first results for $90$AMeV $^{98+}_{U}$ und $300$AMeV $^{47+}_{Sn} + N_2$, for which coincidences between cusp electrons with $v_e \approx v_{proj}$ and charge exchanged projectiles were measured.

Siegbert Hagmann
Inst. f. Kernphysik, Univ Frankfurt, GSI-Darmstadt

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