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Electron continua and ECC in strongly perturbing ion-atom collisions SIEGBERT HAGMANN, IKF Univ. Frankfurt and GSI Darmstadt — We have measured doubly differential cross sections(DDCS) $d^2\sigma/dv_e d\Omega_e$ for single and double electron emission for the collision systems $F^{8+,9+}$ and $I^{23+,25+}$ + He via electron recoil coincidences. For the first time the entire relevant phase space $0^0 \leq \theta_e \leq 360^0$ and $0 < v_e/v_{proj} \leq 2$ was covered. We observe that for a large perturbation strength q/v_{proj} the $v_e = v_{proj}$ cusp is originating dominantly from double ionization of the target and not single ionization as is commonly believed. It is to be noted that the projectile centered continuum overwhelmingly prevails over the target centered continuum. We discuss the relevant structures observed in the coincident DDCS.

Siegbert Hagmann
Inst. f. Kernphysik Univ. Frankfurt

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