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Dynamical orientation effects in atomic ionization by impact of protons and positrons[1] DANIEL FREGENAL, Centro Atómico Bariloche and Instituto Balseiro, CONICET, Argentina, RAÚL BARRACHINA, Centro Atómico Bariloche, Instituto Balseiro, CONICET Argentina, GUILLERMO BERNARDI, Centro Atómico Bariloche, CONICET Argentina, SERGIO SUÁREZ, JUAN FIOL, Centro Atómico Bariloche and Instituto Balseiro, CONICET, Argentina — Recent results in ionization collisions with positrons and protons showed that just above the two-body threshold, for electron velocities close to the final projectile's velocity, the electron-projectile continuum dipole is narrowly oriented along the direction of motion of its centre-of-mass, with the negative charge pointing towards the residual target. Although a forward-backward asymmetry in the vicinity of the two-body threshold has been studied many year ago in ion impact ionization collisions, that was by far a much milder effect that left no fingerprint on the cusp position. Our results show that the phenomena is present for ionization by impact of both protons and positrons. In this communication, through measurements on H^+ + He and calculations we analyze in detail this effect that can be linked to a dynamical alignment of the two-body subsystem in the continuum.

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