Abstract Submitted
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Comprehensive out-of-plane $(e, 2e)$ measurements and calculations on He autoionizing levels[1] B.N. KIM, C.M. WEAVER, N.L.S. MARTIN, University of Kentucky, B.A. DEHARAK, Illinois Wesleyan University, O. ZATSARINNY, K. BARTSCHAT, Drake University — Out-of-scattering-plane $(e, 2e)$ measurements and calculations are reported for the three singlet helium $2\ell 2\ell'$ autoionizing levels, with 80, 100, 120, 150, and 488 eV incident-electron energies, and scattering angles 60°, 50.8°, 45°, 39.2°, and 20.5°, respectively. The kinematics are the same in all cases: the momentum transfer is $K = 2.1$ a.u., and ejected electrons are detected in a plane that contains the momentum transfer direction and is perpendicular to the scattering plane. The results are presented as $(e, 2e)$ angular distributions energy-integrated over each level. They are compared with fully nonperturbative B-spline R-matrix and hybrid second-order distorted-wave + R-matrix calculations.

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