Abstract Submitted
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Direct and indirect annihilation channels in positron-atom scattering[1] SERGEY YAKOVLEV, St-Petersburg State University, VLADIMIR ROUDNEV, University of Kentucky, VITALY GRADUSOV, St-Petersburg State University, MICHAEL CAVAGNERO, University of Kentucky — We study positron-atom scattering on the base of Faddeev-Merkuriev equations in configuration space. Decomposition of the wave function into components corresponding to different asymptotic channels provides a way to separate the direct annihilation channel from the annihilation through positronium formation. The first, short time scale process corresponds to direct collisions between the positron and the atomic shell. The second process has a time scale of the positronium half-life. The result is illustrated with positron-Hydrogen scattering calculations at low energies.

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