Abstract Submitted
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Computation of Sturmian States for H_2^+-like Ions in a Scaled Coordinate Representation.[1] V.M. CHUPRYNA, University of Tennessee, Knoxville, A.N. SAVELIEV, Ioffe Institute, St-Petersburg, Russia, S. YU. OVCHINNIKOV, University of Tennessee, Knoxville, J.H. MACEK, University of Tennessee, Knoxville/Oak Ridge National Laboratory — Computing Sturmian states is an important step in calculations of cross-sections in atomic physics. The dynamical equations in a scaled representation include the two-center Coulomb potential, an isotropic harmonic oscillator potential, and a rotation operator [1]. We obtain Sturmian states using solutions of a singular 3-D homogeneous Fredholm integral equation of the second kind. Numerical results will be presented.

[1] S.Yu. Ovchinnikov, G.N. Ogurtsov, J.H. Macek, Yu.S. Gordeev, Physics Reports, **389**, 119 (2004)

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