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Computation of Sturmian States for $\text{H}_2^+$-like Ions in a Scaled Coordinate Representation.\textsuperscript{1} V.M. CHUPRYNA, University of Tennessee, Knoxville, A.N. SAVELIEV, Ioffe Institute, St-Petersburg, Russia, S. YU. OVCHIN-NIKOV, 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.


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