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Eigen solutions and entropic system for Hellmann potential in
the presence of the Schr¨odinger equation

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Abstract.

By using the supersymmetric approach, we studied the approximate analytic solutions of the
three-dimensional Schrodinger equation with the Hellmann potential by applying a suitable approximation scheme to the centrifugal term. The solutions of other useful potentials, such as Coulomb potential and Yukawa potential, are obtained by transformation of variables from the Hellmann potential. Finally, we calculated the Tsallis entropy and R´ enyi entropy both in position and momentum spaces under the Hellmann potential using integral method. The effects of these entropies on the angular momentum quantum number are investigated in detail.

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