# Optimum Path of a Flying Object with Exponentially Decaying Density Medium

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In this paper, a differential equation describing the optimum path of a flying object is derived. The density of the fluid is assumed to be exponentially decaying with altitude. The equation is cast in to a dimensionless form and the exact solution is given. This equation is then analyzed by homotopy analysis method (HAM). The results showed in the figures reveal that this method is very effective and convenient.