



## Improve the Mean Square Solution of Second-order Random Differential Equations by Using Homotopy Analysis Method

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### Authors' contributions

This work was carried out in collaboration between all authors. Authors ARK, SAMH, SLK designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript and managed literature searches. Authors ARK, SAMH, SLK managed the analyses of the study and literature searches. All authors read and approved the final manuscript.

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### Original Research Article

## Abstract

The Homotopy analysis method is implemented by Golmankhanehi et al. to find the expectation and variance of the approximate solutions of the second-order random differential equations [1]. In this note, we reused the Homotopy analysis method to solve the same problem and we draw some very important improvements and comments on the paper [1]. The results in this paper are coinciding with the results in [2, 3, 4, 5].

**Keywords:** Homotopy analysis method; random variable; variance of approximate solution; expectation of approximate solution.

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