

## **Variational-B-spline iteration method for solution of Lane-Emden equation**

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**Abstract:** In this paper, the variational method based on the linear B-spline functions are presented for the solution of Lane-Emden equation. Some properties of B-spline functions are presented and utilized to solve the Lane-Emden equation numerically. Illustrative examples are included to demonstrate the validity and applicability of the presented technique.

**Keywords:** B-spline function, Lane-Emden equation, operational matrix of derivative, operational matrix of integration.

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