

## REVIEW SUMMARY OF CUBIC TRIGONOMETRIC AND MODIFIED TRIGONOMETRIC TECHNIQUES FOR SOLVING NONLINEAR PARABOLIC TYPE PDES

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**Abstract.** This work introduces a brief historical review of trigonometric and modified trigonometric cubic B-spline strategies relevant to non-linear parabolic partial differential equations by reading different types of research papers are given within the last six years. The analysis is beneficial in penetrating the literature which prospect the consequence of the significance of TCB and MTCB to resolve various numeral difficulties by differentiating them with various pre-established strategies like cubic B-spline, FEM, exponential cubic B-spline etc are also specified and the outcomes thoroughly verified. The inspection highlighting the present day research strategies and the obstacles that are left concerning stability, exactness and convergence of discussed strategies. Despite numeral simulation by TCB and modified TCB strategies are effectively described in the literature, a comprehensive study specifies that some queries still exist for improvement and we throw some light on the computationally efficient significance of TCB and MTCB strategies.

**Keywords.** Cubic trigonometric, Modified trigonometric, Cubic B-spline, Finite Element Method, Finite difference method.

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## 1 Introduction

Nonlinear parabolic PDEs with both constant and variable coefficients w.r.t. time or space variables are of common occurrence in many branches of phys-