NUMERICAL SOLVING OF THE SINE-GORDON EQUATION

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Abstract. *The sine-Gordon equation is a nonlinear partial differential equation, describing a multitude of physical phenomena. In this paper, the (1+1) dimensional sine-Gordon equation is numerically solved, utilising the Crank-Nicolson method and tridiagonal sweep. The results are verified by comparison with analytical solutions. An error estimate is presented.*

Key words: partial differential equation, nonlinearity, sine-Gordon equation, Crank-Nicolson.

Mathematics Subject Classification: 65M06, 65N06.

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