

## **An Implicit High Order Difference Scheme for the Solution of 1D Pennes Bio-Heat Transfer Model**

**Authors :** Swarn Singh, Suruchi Singh

**Abstract :** In this paper, we present a fourth order two level implicit finite difference scheme for 1D Pennes bio-heat equation. Unconditional stability and convergence of the proposed scheme is discussed. Numerical results are obtained to demonstrate the efficiency of the scheme. In this paper we present a fourth order two level implicit finite difference scheme for 1D Pennes bio-heat equation. Unconditional stability and convergence of the proposed scheme is discussed. Numerical results are obtained to demonstrate the efficiency of the scheme.

**Keywords :** convergence, finite difference scheme, Pennes bio-heat equation, stability

**Conference Title :** ICAMNA 2015 : International Conference on Applied Mathematics and Numerical Analysis

**Conference Location :** Montreal, Canada

**Conference Dates :** May 11-12, 2015