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A new Computational Algorithm to Nonlinear Model of Heat Conduction in the Human Head

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Abstract : A mathematical modelling of multi-layered human skin and subcutaneous tissues (SST) is discussed. The proposed model is based on singular nonlinear boundary value problem (BVP) and also predicts the solution of heat conduction for the temperature distribution in human forehead. To the best of our knowledge until there is no rigorous Legendre computational method has been addressed for the model. The obtained numerical results are compared with finite difference method (FDM). The numerical results were investigated similar to clinical and computational studies.

Keywords: Mathematical modelling; boundary value problem; Legendre computational method.

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