**Numerical Solution of Fractional Bio Heat Equation Using Cubic B Spline**

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Fractional diffusion models have drawn attention to many researchers. These are focused for many studies due to their frequent appearance in various applications in fluid mechanics, viscoelasticity, biology, physics and engineering ect.

Heat transfer in skin tissue is usually expressed in the form of bio heat equation; it involves thermal conduction, convection, perfusion of blood and metabolic heat generation in tissue.

In present study, fractional bio heat equation in skin tissues with sinusoidal heat at skin surface is solved using implicit finite difference and cubic B spline method. Temperature profile and thermal damage are also obtained to study the effect of fractional derivative order.