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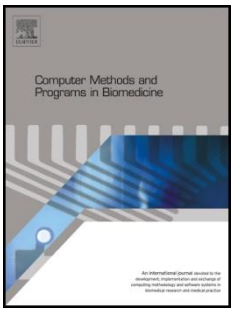

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Author: I.A. Mirza, M. Abdulhameed, D. Vieru, S. Shafie

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Transient electro-magneto-hydrodynamic two-phase blood flow and thermal transport through a capillary vessel

I. A. Mirza[a], M. Abdulhameed[b,*], D. Vieru[c], S. Shafie[d]

[a]*Abdus Salam School of Mathematical Sciences, GC University, Lahore, Pakistan*

[b]*School of Science and Technology The Federal Polytechnic, Bauchi, P.M.B. 0231, Off Dass Road, Bauchi, Nigeria*

[c]*Department of Theoretical Mechanics, Technical University of Iasi, Iasi R-6600, Romania*

[d]*Department of Mathematical Sciences, Faculty of Science, Universiti Teknologi 81310, Skudai, Malaysia*

*Corresponding author. Tel: +2348033524805

Email address: moallahyidi@gmail.com (M. Abdulhameed)

Highlights

• Using electromagnetic field, mathematical modeling is obtained for transient two-phase flow and thermal transport through a capillary vessel.

• The motion of blood and particles are controlled by regulating the electrokinetic and magnetic parameter.

• The thermal transport of blood and particles are controlled by adjusting Joule heating parameter and Eckert number.

• For a case of sinusoidal pressure gradient, the blood has a pulsating motion and the reverse flow is occurring for certain values of the K parameter and of the time t.