

## **PULSATILE TWO LAYER BLOOD FLOW WITH VOLUME FRACTION OF MICRO-ORGANISMS**

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### **Abstract**

In this paper the pulsatile two layer blood flow with volume fraction of microorganisms. Blood is represented by two-layered fluid model consisting of a central layer of suspended particles with micro-organisms, assumed to be a couple-stress uid, and a peripheral layer of plasma as a Newtonian uid. Analytical expressions for both blood and microorganisms have been formulated for blood taking the volume fraction of the microorganisms into account. A detailed study will be made as regards the couple stress parameter, pulsatile Reynolds number, volume fraction of microorganisms in this investigation. The velocity distribution, the relative apparent viscosity and ux for blood and micro-organisms are calculated as function of couple-stress parameter, pulsatile Reynold's number at di\_erent phase angles. The theoretical results are compared with the results obtained. The velocity is maximum in the core region. The results obtained in this model will be compared with the existing experimental results and theoretical models.

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Key Words : Blood flow, Dusty flow, Laminar flow.