

## عنوان مقاله:

PERFORMANCE MODEL AND ANALYSIS OF BLOOD FLOW IN SMALL VESSELS WITH MAGNETIC EFFECTS

## محل انتشار:

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## خلاصه مقاله:

In this investigation, a two-fluid model consisting of a core region of suspension of all the erythrocytes (particles) in plasma (fluid) assumed to be a particle-fluid mixture and a peripheral layer of cell-free plasma (Newtonian fluid), has been proposed to represent blood flow in small diameter tubes with magnetic effects. The analytical results obtained in the proposed model for effective viscosity, velocity profiles and flow rate have been evaluated numerically for various values of the parameters. Quantitative comparison depicted that present model represents blood flow at hematocrit ( $\leq 40\%$ ) and in vessels up to  $70\mu\text{m}$  in diameter. Using experimental values of the parameters, the flow rate for normal and diseased blood has been computed and compared with corresponding values obtained from a well known experimentally tested model in the literature. The effects of a magnetic field have been used to control the flow, which may be useful in certain hypertension cases, etc

## کلمات کلیدی:

Blood flow; plasma; erythrocyte; hematocrit; hartmann number; hypertension

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/254768>

