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**Effects of heat transfer and space porosity on peristaltic flow in a vertical asymmetric channel**

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**Abstract**

This article discusses the effect of heat transfer on the peristaltic flow of a Newtonian fluid through a porous space in a vertical asymmetric channel. Long wavelength approximation is used to linearize the governing equations. The system of the governing nonlinear PDE is solved by using the perturbation method. The solutions are obtained for the velocity and the temperature fields. The flow is investigated in a wave frame of reference moving with velocity of the wave. Numerical calculations are carried out for the pressure rise, frictional forces, and the features of the flow and temperature characteristics are analyzed by plotting graphs and discussed in detail. Copyright © 2009 Wiley Periodicals, Inc.

**Author Keywords**

Asymmetric channel; Heat transfer; Peristaltic flow; Porosity; Pressure rise

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