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UNSTEADY TRANSPORT OF BACTERIA AND VIRUS IN GROUNDWATER

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Abstract

The problem of transport of a viscous incompressible fluid with uniform distribution of contaminants between parallel plates is discussed using differential geometry techniques. Initially, the fluid and contaminants are described by two parameters f and τ, the mass concentration parameter f is a measure of the concentration of the contaminants (virus and bacteria) and interaction parameter τ is the measure of the rate at which the velocity of contaminants adjust to changes in the fluid velocity and depends upon the size of the individual limiting cases for $\tau \ll 1$ and $\tau \gg 1$, which corresponds to the cases of virus and bacteria velocities respectively. The model has been developed to predict bacterial transport and the changes in the velocity at different time are shown graphically.

Key Words : *Virus, Bacteria, Stoke's resistance and Permeability parameter.*

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