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NOMENCLATURE

$\mathbf{v}$	Fluid velocity
C_f	Heat capacity of fluid
C_{pt}	Heat capacity of particles
C_s	Heat capacity of solid
C_f', $C_{pt}{}'$	Heat capacity analogous to solute
p	Pressure
N	Suspended particles number density
K	Thermal diffusivity
K′	Solute diffusivity
K_T	Thermal conductivity
k_1	Medium permeability
t	Time coordinate
T	Temperature
$\mathbf{g}$	Acceleration due to gravity
$\mathbf{H}$	Magnetic field
ρ	Fluid density
ρ_s	Density of solid
ρ_0	Reference density
υ	Kinematic viscosity
η	Particle radius
μ_e	Magnetic permeability
δp	Perturbation in pressure
δρ	Perturbation in density
ε	Medium porosity
β	Temperature gradient
θ	Perturbation at temperature T
α	Thermal coefficients of expansion
υ'	Kinematic viscoelasticity
α'	Solvent coefficients of expansion
β'	Solute gradient