

عنوان مقاله:

.A Proposed Solution for the Settling Velocity of Coplanar Aggregates of Identical Spheres in Creeping Motion

محل انتشار:

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خلاصه مقاله:

This paper derives a solution for the settling velocity of isolated coplanar aggregates of n identical spherical particles in creeping motion based on the Wall Shear-Pressure Gradient-Expansion model (WPE) previously derived by the author. The solution is reached by developing geometry-equilibrium mathematical constructs to decide on the dimensions of the free ambient expansions surrounding the aggregates to compute the entire velocity profile. A rational to decide on the orientation and stability of rotation is also proposed. The results compare well with the outcome of available theory and some relevant data sets.

کلمات کلیدی:

Doublet, Triplet, Settling velocity, Expansion, Spherical aggregates, Wall shear, non spherical particles, Pressure gradient

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