ABSTRACT

A new approach to discuss Stokes flow past arbitrary shaped porous bodies

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Abstract : Stokes flows past porous spherical bodies have been previously discussed extensively by many researchers. Many problems of Stokes flow past porous bodies of arbitrary shape have also been been discussed previously by researchers using certain numerical techniques. We now discuss a new approach to find the solution in the case of porous bodies of arbitrary shape that is easy to use when the governing equations in the porous media are either Brinkman equations or Darcy equations and gives a solution in the entire domain, although approximately. The method is illustrated by an example.