

1023-76-1874

Ricardo Cortez* (rcortez@tulane.edu), Mathematics Department, Tulane University, New Orleans, LA 70118. *The Method of Regularized Stokeslets for Biological Flows.*

The method of regularized Stokeslets is a Lagrangian method for computing Stokes flow driven by forces distributed at material points in a fluid. It is based on the superposition of exact solutions of the Stokes equations when forces are given by a smooth approximation of a delta distribution. The velocity field resulting from the regularized force distribution is known as a Regularized Stokeslet. We present the method, discuss its properties and show applications to biological flows. (Received September 27, 2006)