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High Order Solution of the Incompressible Navier-Stokes Equations in Immersed Domains[1] JEAN-CHRISTOPHE NAVE, McGill University, ALEXANDRE MARQUES, RUBEN ROSALES, MIT — The Correction Function Method (CFM) is a general framework that can be used to devise highly accurate discretizations for diffusion dominated phenomena in the presence of immersed interfaces or boundaries. In previous work, the authors presented the CFM for the solution of the Poisson equation. In this talk, we discuss the application of the CFM to time-dependent problems, with emphasis on the incompressible Navier-Stokes equations. Fourth-order accurate results are presented.

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