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P. Sundar* (sundar@math.lsu.edu), Department of Mathematics, Lockett Hall, Louisiana State University, Baton Rouge, LA 70803. *Stochastic Navier-Stokes equations driven by fractional Brownian motions.*

The two-dimensional stochastic Navier-Stokes equation with a fractional Brownian noise term is considered. The existence and uniqueness of solutions of the stochastic equation is proved. Fractional Brownian motions (fBms) are not semimartingales. Hence, suitable space-time stochastic integrals with respect to fBms are constructed in this study. Further properties of the solution will be discussed. (Received February 09, 2009)