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**Mimi Dai\*** ([mimi.dai@colorado.edu](mailto:mimi.dai@colorado.edu)). *Norm inflation for Navier-Stokes equations with fractional Laplacian in Besov Spaces.*

We demonstrate that the solutions to the Cauchy problem for the three dimensional incompressible Navier-Stokes equation with fractional Laplacian  $(-\Delta)^\alpha$  is ill-posed in the largest critical space  $\dot{B}_{\infty,\infty}^{1-2\alpha}$ , for  $\alpha \in (1, 5/4)$ . We construct arbitrarily small initial data in the Besov space which produces arbitrarily large solution after an arbitrarily short time. The intuition is from the construction method introduced by Bourgain and Pavlović for Navier-Stokes equations. (Received September 11, 2012)