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Vlad C Vicol*, Fine Hall 907, Washington Road, Princeton, NJ 08544. *On moments for high Sobolev norms.*

We consider a number of SPDEs arising in fluid dynamics. They have the common feature that moments for weak norms of the solutions, such as the L^2 norm, are fairly direct to obtain, since the nonlinear terms vanish. For estimates in higher order Sobolev norms, the nonlinearity does not vanish, and obtaining moment bounds up to a deterministic time becomes non-trivial. The results presented here cover the 2D stochastic Navier-Stokes equation, the 3D stochastic primitive equations, and a fractionally damped stochastic 2D Euler equation. (Received February 11, 2014)