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Vlad C Vicol*, Department of Mathematics, Princeton University, Fine Hall, Washington Road, Princeton, NJ 08544. *On the continuity of solutions to drift-diffusion equations.*

We consider (linear) drift-diffusion equations with divergence-free drift that belongs to a supercritical space. We prove that starting with smooth initial data solutions may become discontinuous in finite time. This is joint work with L. Silvestre and A. Zlatos. (Received September 03, 2012)