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**Angel Castro, Diego Cordoba** and **Javier Gomez-Serrano\*** (jg27@math.princeton.edu),  
610 Fine Hall, Washington Road, Princeton, NJ 08544. *Uniformly rotating smooth solutions for  
active scalars.*

Motivated by our previous results of global existence for active scalars in the patch setting, we are able to construct the first nontrivial family of global smooth solutions for the surface quasi-geostrophic (SQG) equations. These solutions rotate with uniform angular velocity both in time and space. We will outline the basic ingredients of the proof: bifurcation theory and computer-assisted estimates. Moreover, we will also discuss the case of uniformly rotating smooth solutions to the 2D incompressible Euler equations. Joint work with Angel Castro and Diego Cordoba. (Received February 28, 2017)