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*The 2D Euler-Boussinesq equations with a singular velocity.* Preliminary report.

We study the global (in time) regularity problem concerning a system of equations generalizing the two-dimensional incompressible Boussinesq equations. We establish the global existence and uniqueness of solutions to the initial-value problem of this generalized Boussinesq equations when the velocity is “double logarithmically” more singular than the one given by the Biot-Savart law. This global regularity result goes beyond the critical case. This is a joint work with D. KC, L. Tao and J. Wu. (Received September 06, 2014)