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Logarithmically Super-Critical Case in Boussinesq Equations and its Generalization.

This talk will focus on the global regularity problem concerning some generalized Boussinesq systems in the supercritical cases. These include a logarithmically supercritical type in either the velocity form and in the dissipation term. The regularity is achieved by introducing a variation of the Besov space norm. We will show the conservation, which is global in time, of the L^q norm of both the vorticity and θ . The uniqueness of the solutions to these system is given at the end section. (Received September 26, 2012)