

1053-35-179

**Jiahong Wu\*** ([jiahong@math.okstate.edu](mailto:jiahong@math.okstate.edu)), Department of Mathematics, 401 Mathematical Sciences, Stillwater, OK 74078. *Global regularity for a class of generalized MHD equations.*

It remains unknown whether or not smooth solutions of the 3D incompressible MHD equations can develop finite-time singularities. One major difficulty is due to the fact that the dissipation is insufficient to control the nonlinearity and the 3D MHD equations are sometimes regarded as “supercritical”. This talk presents a recent global regularity result for the generalized MHD equations with a class of hyperdissipation. This result is inspired by a recent work of Terence Tao on a generalized Navier-Stokes equations, but the result for the MHD equations is not completely parallel to that for the Navier-Stokes equations. Besov space techniques are employed to establish the result for the MHD equations. (Received September 02, 2009)