

1105-35-24

Kazuo Yamazaki*, 401 Mathematical Sciences Building, Dept. of Math., Oklahoma State University, Stillwater, OK 74078. *Component reduction for regularity criteria of the three-dimensional magnetohydrodynamics systems.*

We review recent results on the Prodi-Serrin type regularity criteria of the Navier-Stokes equations, magnetohydrodynamics system and other partial differential equations related to fluids. In particular, we discuss component reduction results of such criteria. Our discussion may include micro-polar and magneto-micropolar fluid systems, surface quasi-geostrophic equations and incompressible porous media equation governed by Darcy's law. If time permits, we shall discuss global regularity issues of these equations as well. (Received July 25, 2014)