Dipendra Regmi* (regmid@farmingdale.edu), Farmingdale State College, Farmingdale, NY 11735. The global regularity of two-and-half dimensional magnetohydrodynamic equations. Preliminary report.

Whether or not classical solutions of the 2D incompressible MHD equations without full dissipation and magnetic diffusion can develop finite-time singularities is an outstanding open problem in fluid dynamics. We study the global regularity of classical solution to two-and-half dimensional MHD with horizontal dissipation and horizontal magnetic diffusion. In this presentation, we will discuss some recent results related to two and half dimensional MHD equations. (Received September 08, 2015)