

1116-VB-2717 **Nathan Pennington***, nathanpennington@creighton.edu. *Low regularity local and global solutions of the generalized Magneto-Hydrodynamics equations.*

In this paper, we prove the existence of a unique global solution to the incompressible MHD- α system with fractional diffusion. Letting γ_1 and γ_2 be the regularity of the diffusion terms, we obtain global existence when γ_1 and γ_2 satisfy $\gamma_1, \gamma_2 > 1$, $\gamma_1 \geq n/3$, and $\gamma_1 + \gamma_2 \geq n$ in \mathbb{R}^n for $n \geq 3$. (Received September 22, 2015)