

Large time behavior of solutions to generalized MHD equations and fractional Cahn-Hilliard equation.

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Abstract: We consider the long time behavior of solutions for generalized MHD equations and fractional Cahn-Hilliard equation in \mathbb{R}^3 . By using L^p - L^q estimate and the properties of generalized heat kernel, the L^p -norm ($1 \leq p \leq \infty$) algebraic decay rate of solutions and higher-order derivative of solutions are established provided that the L^1 -norm of the initial data is sufficiently small.