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Global regularity of the two-dimensional incompressible generalized magnetohydrodynamics system. (English) [Zbl 1288.35406](#)

Nonlinear Anal., Theory Methods Appl., Ser. A, Theory Methods 100, 86-96 (2014).

It is shown that the generalized incompressible MHD equations – where the velocity dissipation exponent (of the Navier-Stokes member) is greater than or equal to $\frac{1}{4}$ – admit a globally regular solution. (The word “generalized” here simply means that the authors consider the problem in a broader view where the Navier-Stokes member and the magnetic diffusion exponent may have values that differ from the usual ones in customary MHD).

Reviewer: *Iván Abonyi* (Budapest)

MSC:

- [35Q35](#) PDEs in connection with fluid mechanics
- [35B35](#) Stability in context of PDEs
- [35B65](#) Smoothness and regularity of solutions to PDEs
- [76D03](#) Existence, uniqueness, and regularity theory for incompressible viscous fluids
- [76W05](#) Magnetohydrodynamics and electrohydrodynamics

Cited in **15** Documents

Keywords:

[global regularity](#); [generalized MHD](#); [fractional Laplacian](#)

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