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A remark on regularity criterion for the 3D Hall-MHD equations based on the vorticity. (English) Zbl 1411.35232

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Summary: In this paper we investigate the regularity criterion for the local-in-time classical solution to the three-dimensional (3D) incompressible Hall-magnetohydrodynamic equations (Hall-MHD). It is proved that the control of the vorticity alone can ensure the smoothness of the solution.

MSC:

35Q35 PDEs in connection with fluid mechanics
35B65 Smoothness and regularity of solutions to PDEs
76W05 Magnetohydrodynamics and electrohydrodynamics

Keywords:

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