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cases	**authors**	• Lei, Z.	**authors**	• Zhen Lei	DUPLICATES	1065
	title	On axially symmetric incompressible magnetohydrodynamics in three dimensions	**title**	On Axially Symmetric Incompressible Magnetohydrodynamics in Three Dimensions		
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	id	id-2672274262561352122	**id**	id7629074918693105312		
	abstract		**abstract**	The global regularity for the incompressible magnetohydrodynamic equations (MHD) in three dimensions is a long standing open problem of fluid dynamics and PDE theory. The Navier-Stokes equations can be viewed as a special case of MHD with a constant magnetic field, whose global regularity problem is known as a Clay Millennium Prize Problem. In this article, we prove the global regularity of axially symmetric solutions to the ideal MHD in three dimensions for a family of non-trivial magnetic fields. The proofs are based on the special structures of MHD and can of course also applied to the resistive MHD. Our result might indicate that there are richer fantastic research topics in MHD than Navier-Stokes equations.		
	versions		**versions**			