cases	doc_1		doc_2		decision	id
	authors	• Taoufik, Hmidi	**authors**	• T. Hmidi	DUPLICATES	1074
	title	On the Yudovich solutions for the ideal MHD equations	**title**	On the Yudovich solutions for the ideal MHD equations		
	publication_date	2014-01-01 00:00:00	**publication_date**	2014-12-01 00:00:00		
	source	SupportedSources.CORE	**source**	SupportedSources.SEMANTIC_SCHOLAR		
	journal		**journal**	Nonlinearity		
	volume		**volume**	27		
	doi	None	**doi**	10.1088/0951-7715/27/12/3117		
	urls	• http://arxiv.org/abs/1401.6326	**urls**	• https://www.semanticscholar.org/paper/cdf22ffaf82c65d9553401ba4d9fb3303060362e		
	id	id-6021242166714259555	**id**	id-2191742775126470673		
	abstract	In this paper, we address the problem of weak solutions of Yudovich type for the inviscid MHD equations in two dimensions. The local-in-time existence and uniqueness of these solutions sound to be hard to achieve due to some terms involving Riesz transforms in the vorticity-current formulation. We shall prove that the vortex patches with smooth boundary offer a suitable class of initial data for which the problem can be solved. However this is only done under a geometric constraint by assuming the boundary of the initial vorticity to be frozen in a magnetic field line. We shall also discuss the stationary patches for the incompressible Euler system (E) and the MHD system. For example, we prove that a stationary simply connected patch with rectifiable boundary for the system (E) is necessarily the characteristic function of a disc.Comment: 40 page	**abstract**	In this paper, we address the problem of weak solutions of Yudovich type for the inviscid magnetohydrodynamic (MHD) equations in two dimensions. The local-in-time existence and uniqueness of these solutions sound to be hard to achieve due to some terms involving Riesz transforms in the vorticityâ€“current formulation. We shall prove that the vortex patches with smooth boundary offer a suitable class of initial data for which the problem can be solved. However, this is only done under a geometric constraint by assuming the boundary of the initial vorticity to be frozen in a magnetic field line. We shall also discuss the stationary patches for the incompressible Euler system (E) and the MHD system. For example, we prove that a stationary simply connected patch with rectifiable boundary for the system (E) is necessarily the characteristic function of a disc.		
	versions		**versions**			