| cases | doc_1 | doc_2 | decision | id |
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| | **authors**: Xumin Gu<br>**title**: Well-posedness of axially symmetric incompressible ideal magnetohydrodynamic equations with vacuum under the Rayleigh-Taylor sign condition<br>**publication_date**: 2017-12-06 00:00:00<br>**source**: SupportedSources.INTERNET_ARCHIVE<br>**journal**: <br>**volume**: <br>**doi**: <br>**urls**: https://web.archive.org/web/20200908033439/https://arxiv.org/pdf/1712.02152v1.pdf<br>**id**: id-9113432169461577660<br>**abstract**: We consider a free boundary problem for the axially symmetric incompressible ideal magnetohydrodynamic equations that describes the motion of the plasma in vacuum. Both the plasma magnetic field and vacuum magnetic field are tangent along the plasma-vacuum interface. Moreover, the vacuum magnetic field is composed in a non-simply connected domain and hence is non-trivial. Under the Rayleigh-Taylor sign condition on the free surface, we prove the local well-posedness of the problem in Sobolev spaces. Furthermore, we also prove the local well-posdeness under a more general "stability" assumption for the initial data, which provided that the Rayleigh-Taylor sign condition is satisfied at all those points of the initial interface where the non-collinearity condition fails.<br>**versions**: | **authors**: Xumin Gu<br>**title**: Well-posedness of axially symmetric incompressible ideal magnetohydrodynamic equations with vacuum under the non-collinearity condition<br>**publication_date**: 2017-11-23 10:42:58+00:00<br>**source**: SupportedSources.ARXIV<br>**journal**: None<br>**volume**: <br>**doi**: <br>**urls**: http://arxiv.org/pdf/1711.09757v1; http://arxiv.org/abs/1711.09757v1; http://arxiv.org/pdf/1711.09757v1<br>**id**: id-4316584226019069776<br>**abstract**: We consider a free boundary problem for the axially symmetric incompressible ideal magnetohydrodynamic equations that describes the motion of the plasma in vacuum. Both the plasma magnetic field and vacuum magnetic field are tangent along the plasma-vacuum interface. Moreover, the vacuum magnetic field is composed in a non-simply connected domain and hence is non-trivial. Under the non-collinearity condition on the free surface, we prove the local well-posedness of the problem in Sobolev spaces.<br>**versions**: | NOT DUPLICATES | 1235 |