On low Mach number limit of steady Euler flows

报告人：王天怡 副教授（武汉理工大学）

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报告摘要：In this talk, we justify the low Mach number limit of the steady irrotational Euler flows for the airfoil problem, which is the first result for the low Mach number limit of the steady Euler flows in an exterior domain. The uniform estimates on the compressibility parameter, which is singular for the flows, ar e established via a variational approach based on the compressible-incompressible difference functions. The limit is on the Holder space and is unique. It is noticeable that, due to the feature of the airfoil problem, the extra force dominates the asymptotic decay rate of the compressible flow to the infinity. And the effect of ex tra force vanishes in the limiting process from compressible flows to the incompressible ones, as the Mach number goes to zero. Also, we will mention the recent further works on the nozzles.

报告人简介：

王天怡，武汉理工大学理学院数学系，副教授。主要研究方向：非线性偏微分方程、流体力学中的数学理论。公开发表 SCI 论文多篇，部分研究结果发表在 Advances in Mathematics，Archive for Rational Mechanics and Analysis，研究结果被 SCI 期刊他引 51 次，专著引用 2 次。主持国家自然科学基金项目 2 项，2019 年被聘为武汉理工大学青年拔尖人才。

欢迎各位老师和同学参加！

西北大学数学学院

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