# 通道中并列旋转圆柱的LB-DF/FD模拟(PDF)

Title: -

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摘要: 通过结合格子Boltzmann方法（LBM）和DF(Direct Forcing)/FD(Fictitious Domain)思想，建立了一种新的LB-DF/FD方法。采用两套网格系统，欧拉网格用于流体，拉格朗日网格用于固体，有效地避免了计算中重新生成网格的步骤，同时在处理流固问题方面优于LBM方法。通过模拟通道中单圆柱旋转的流场，验证了该方法的正确性；并利用该方法模拟了低雷诺数下通道中并列旋转圆柱周围的流场，分析了圆柱距离壁面间距 和雷诺数 对流场结构的影响。研究结果表明：显著影响了流场的结构及圆柱的受力；而对圆柱升力及Stokes单元数目的影响较大。

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