

采用分段湍流模式研究绕水翼的空化流动(PDF)

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摘要: 结合空化流动特点, 建立了一个包含空间尺度信息的分段湍流模式。计算中, 应用基于质量传输空化模型, 分别采用三种湍流模型计算了绕Clark-y型水翼云状空化流动, 得到了随时间变化的空泡形态以及升、阻力等流场和动力特性。通过与实验结果的对比, 表明这三种湍流模型均能捕捉云状空化区域的空泡形态和空泡脱落的非定常细节。分段湍流模式能够更好地调整流场内的湍流黏性, 更精确地预测空穴长度和空穴尾部水汽分布, 与实验结果吻合较好

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