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有界域轴向流动中棒束流致振动和稳定性研究

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摘要 基于Chen有界域静止流体中棒束流致振动数学模型,给出了棒束稳定分析的数值方法。作为应用研究,分析了有界域轴向流动中棒束(4根)流致振动的特性及稳定性,给出了不同条件下轴向及横向的振型

关键词 [棒束](#) [有界轴向流动](#) [流致振动](#) [稳定性](#)

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Study on the Stability of Rod Bundle Vibrating in Bounded Axial Flow

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Abstract The mathematic models and the stability analysis method are established for analyzing flow induced vibration of rod bundles in bounded axial flow. As applications, the vibration characteristics and stability of a 4 rod system are studied. With the flow velocity incremental, the system experiences divergence instability and flutter instability. The existence of the axial flow induces the coupling of the movement of the rods. This coupling makes the very complicated vibration modes.

Key words [rod bundle](#) [bounded axial flow](#) [flow induced vibration](#) [stability](#)

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