

TRANSPORT PHENOMENA & FLUID MECHANICS

油气两相流空隙率测量

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摘要 A new method for the voidage measurement of gas-oil two-phase flow was proposed. The voidage measurement was implemented by the identification of flow pattern and a flow pattern specific voidage measurement model. The flow pattern identification was achieved by combining the fuzzy pattern recognition technique and the crude cross-sectional image reconstructed by the simple back projection algorithm. The genetic algorithm and the partial least square method were applied to develop the voidage measurement models. Experimental results show that the proposed method is effective. It can overcome the influence of flow pattern on the voidage measurement, and also has the advantages of simplicity and speediness.

关键词 [voidage](#) [two-phase flow](#) [genetic algorithm](#) [tomography](#) [partial least square method](#)

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Voidage measurement of gas-oil two-phase flow

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Key words [voidage](#); [two-phase flow](#); [genetic algorithm](#); [tomography](#); [partial least square method](#)

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