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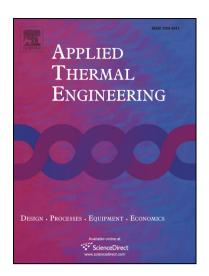
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### ACCEPTED MANUSCRIPT

# Performance comparison of jet pumps with round and sharp edge of small opening under oscillatory flow

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Abstract: Owing to the capability to induce a time-averaged pressure drop in oscillatory flow, a jet pump has been used to suppress the Gedeon streaming in a looped thermoacoustic engine. The suppression capacity originates from the asymmetric pressure drop through the jet pump, and could be enhanced by rounding the edge of the jet pump in traditional view. This paper systematically probes the rounding effect on a jet pump and compares the performance of jet pumps with round and with sharp edge on small opening. The performance dependences on the taper angle and the cross-sectional area ratios, including the big-to-small opening area ratio of the jet pump and the small opening-to-pipe cross sectional area ratio, are analyzed and compared for the two types of jet pump. The results reveal a reversed and higher time-averaged pressure drop in the shape edge jet pump in contrast to that in the rounded jet pump. However, the round edge of the small opening can improve

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