



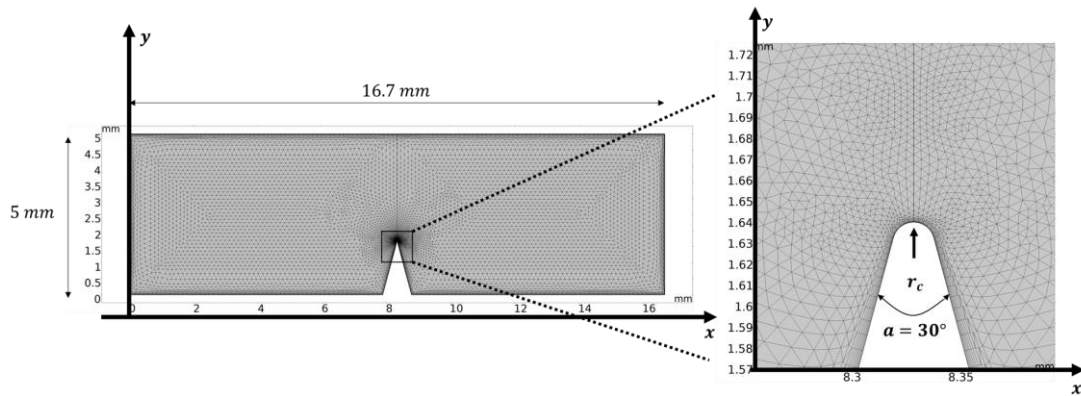
Acoustic Streaming Enhancement in Sharp-edged Microchannels and baroclinic streaming at low frequency

Zhuo Ma ^{a,b}, Xiaofeng Guo ^b, Laurent Royon ^b, Philippe Brunet ^a,

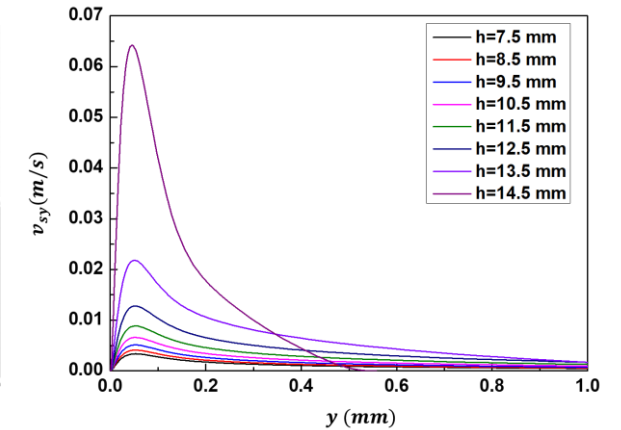
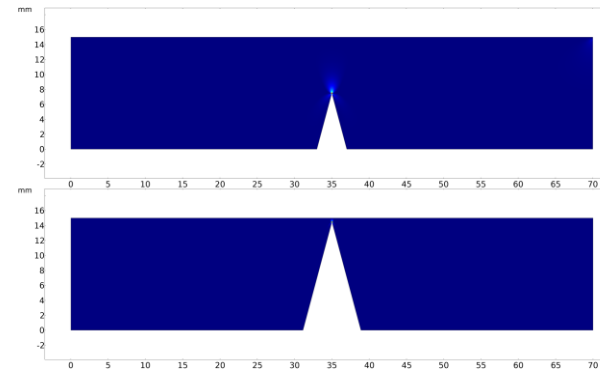


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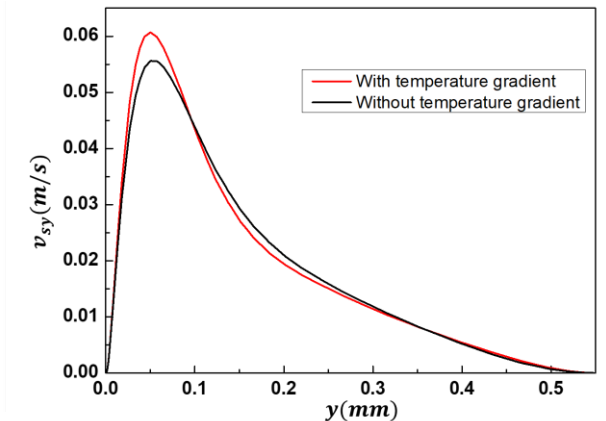
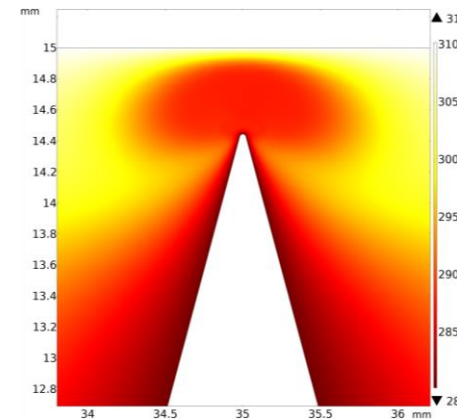
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1. Height of sharp effect



2. Temperature gradient effect



We study the streaming - stationary flow in response to a mechanical periodic forcing - at low frequency ($f = 280\text{Hz}$) around a sharp structure in millimeter-scale channel.



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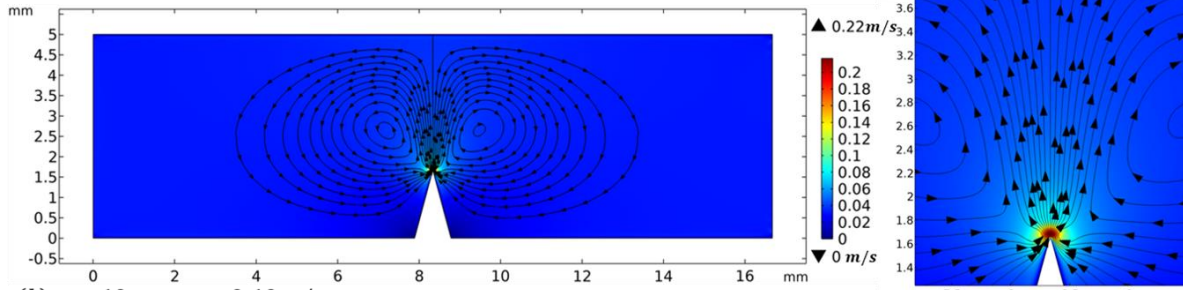


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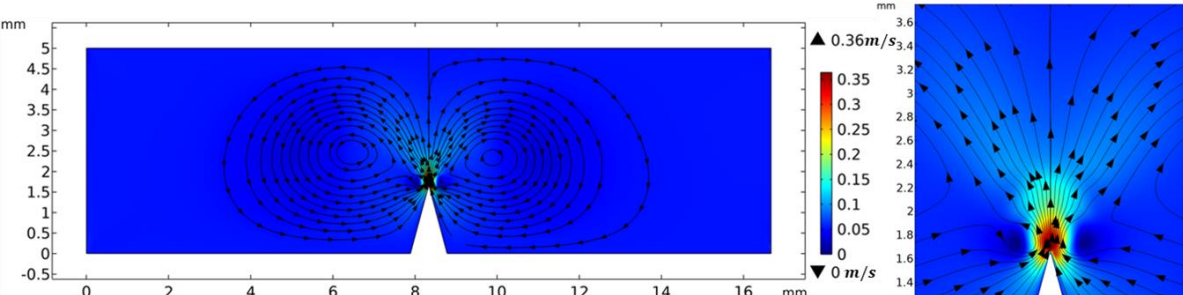
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3.Vibration amplitude (v_a) effect : Numerical results [1] 3.Vibration amplitude (v_a) effect : Experiment results [1]

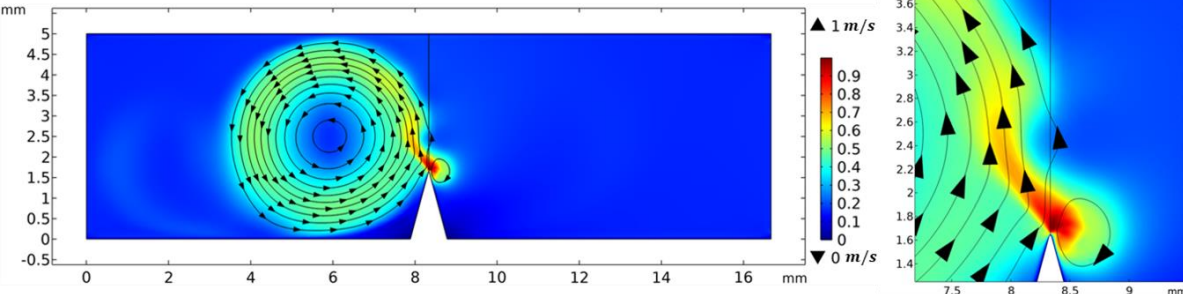
(a) $r_c = 10\mu\text{m}$ $v_a = 0.05\text{ m/s}$



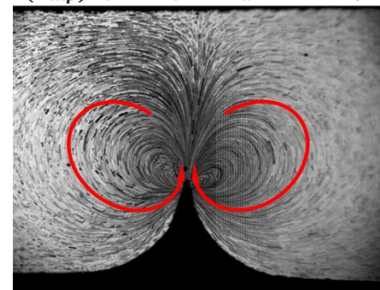
(b) $r_c = 10\mu\text{m}$ $v_a = 0.10\text{ m/s}$



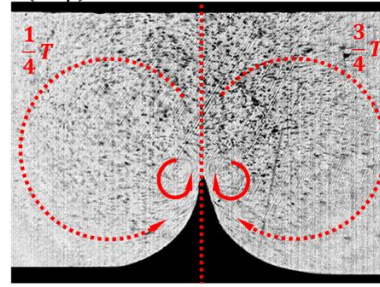
(c) $r_c = 10\mu\text{m}$ $v_a = 0.25\text{ m/s}$



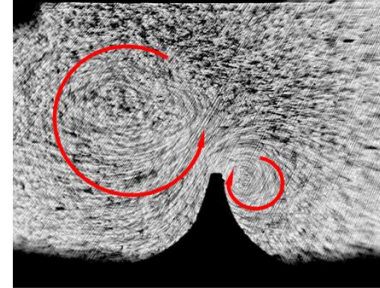
(a_{exp}) $r_c = 10\mu\text{m}$ $v_a = 0.05\text{ m/s}$



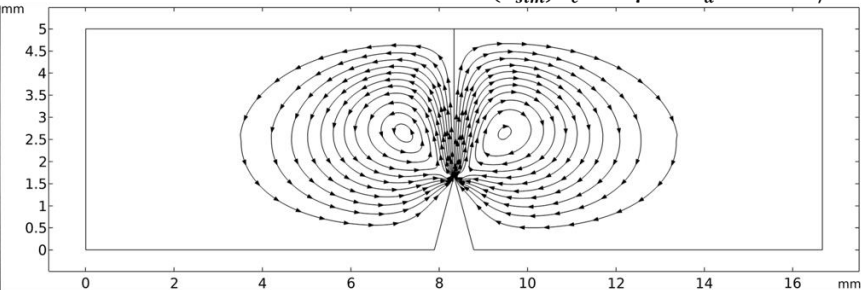
(b_{exp}) $r_c = 10\mu\text{m}$ $v_a = 0.10\text{ m/s}$



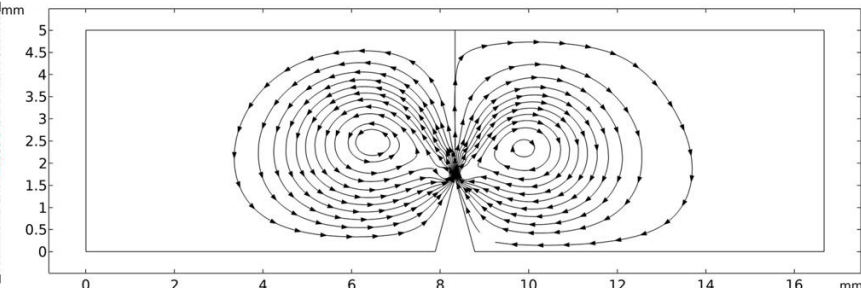
(c_{exp}) $r_c = 10\mu\text{m}$ $v_a = 0.28\text{ m/s}$



(a_{sim}) $r_c = 10\mu\text{m}$ $v_a = 0.05\text{ m/s}$



(b_{sim}) $r_c = 10\mu\text{m}$ $v_a = 0.10\text{ m/s}$



(c_{sim}) $r_c = 10\mu\text{m}$ $v_a = 0.25\text{ m/s}$

