Jet creation at the tip of a submerged plate forced by waves

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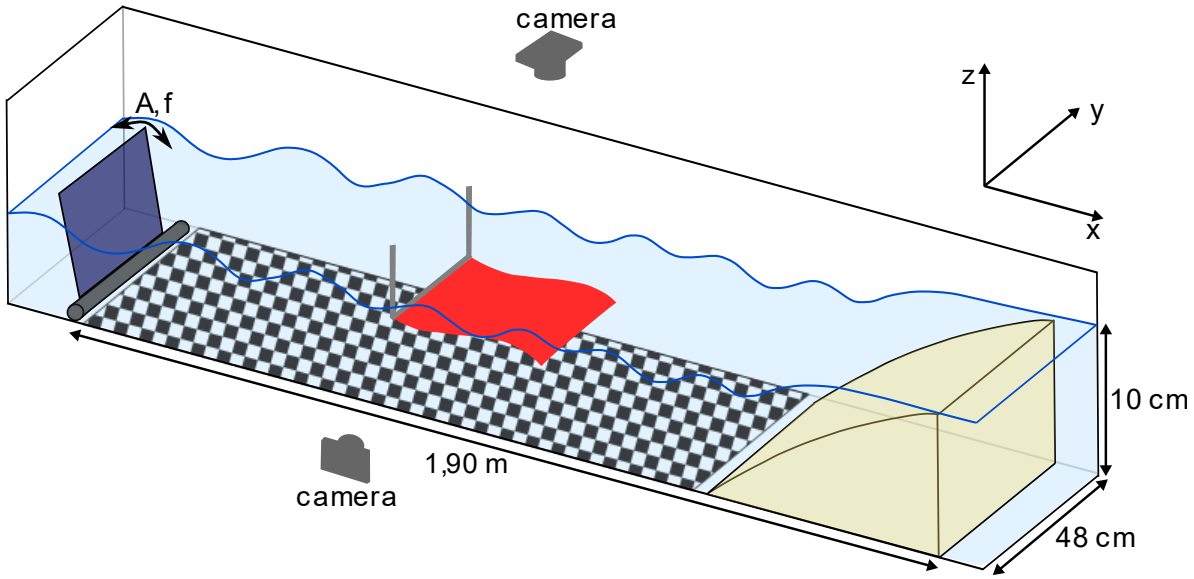
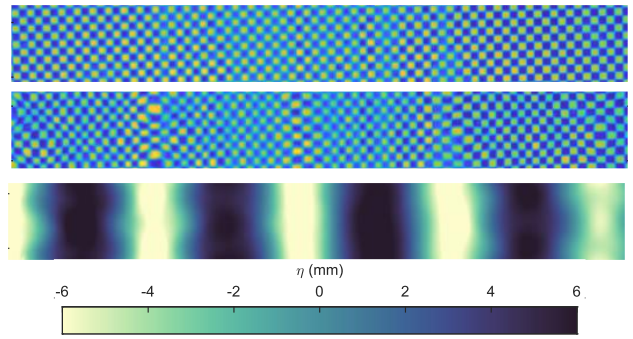
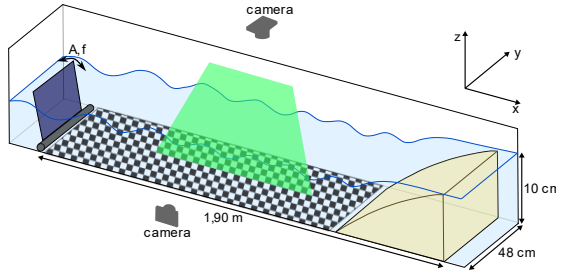


Experimental setup

- Synthetic Schlieren Imaging



- Particle Image Velocimetry (PIV)

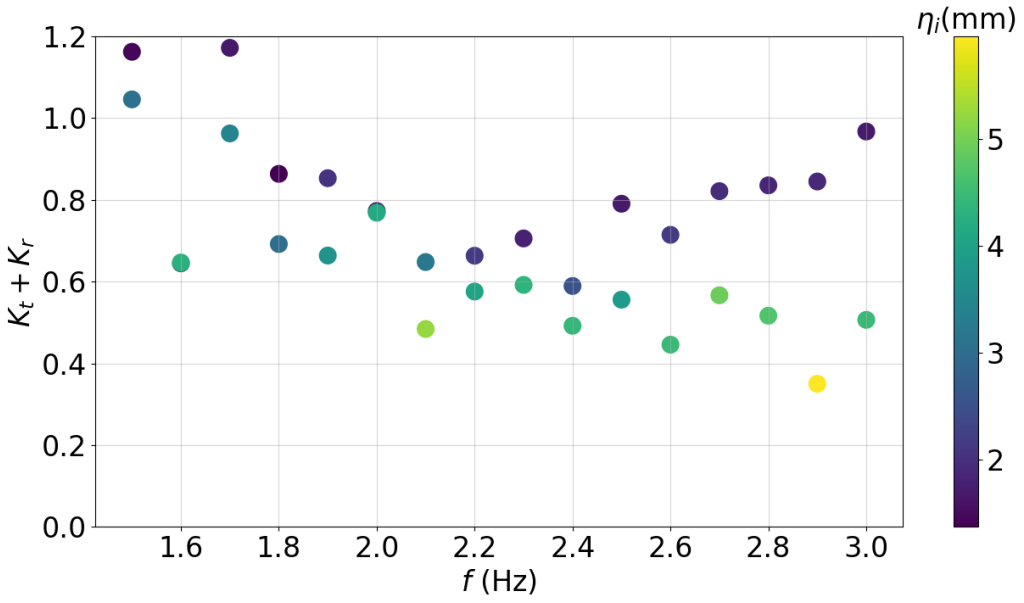


A jet is created at the end of the plate in the frequency range where wave energy dissipation is greatest.

Reflection and transmission coefficients:

$$K_r = \left(\frac{\eta_r}{\eta_i}\right)^2 \quad K_t = \left(\frac{\eta_t}{\eta_i}\right)^2$$

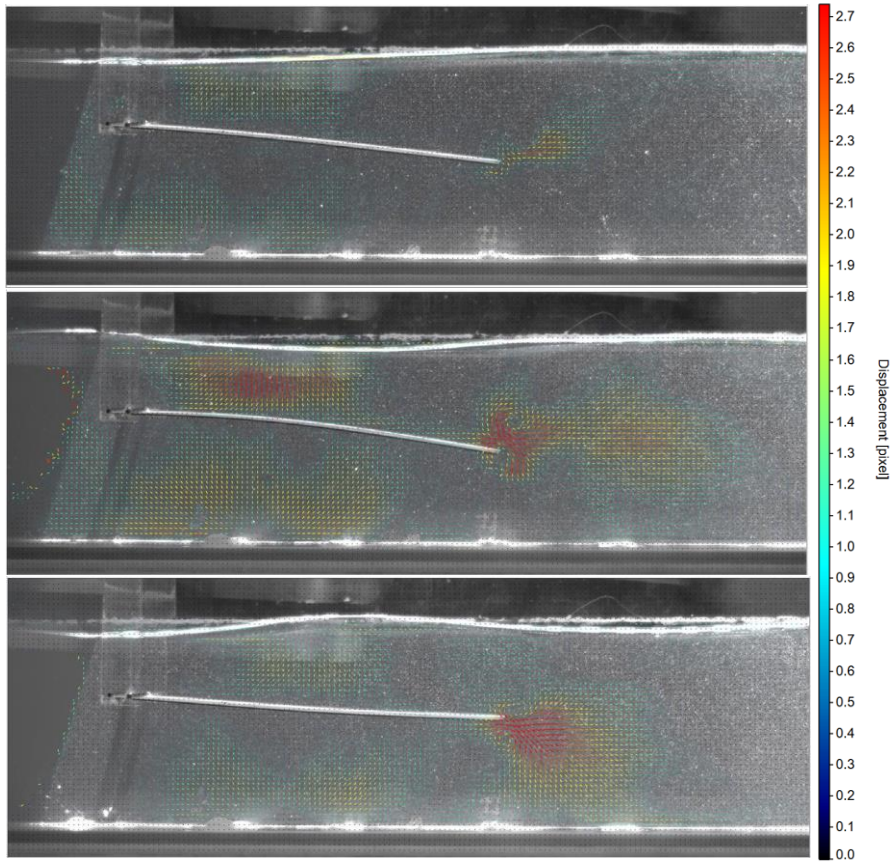
$K_r + K_t \neq 1$ → dissipation of the swell energy.



$f = 1{,}5$ Hz

$f = 2{,}1$ Hz

$f = 2{,}4$ Hz



Mean velocity field over 4 wave periods for $A = 6$ mm amplitude waves.