

Bubble clouds generated by single and multi-plunging jets

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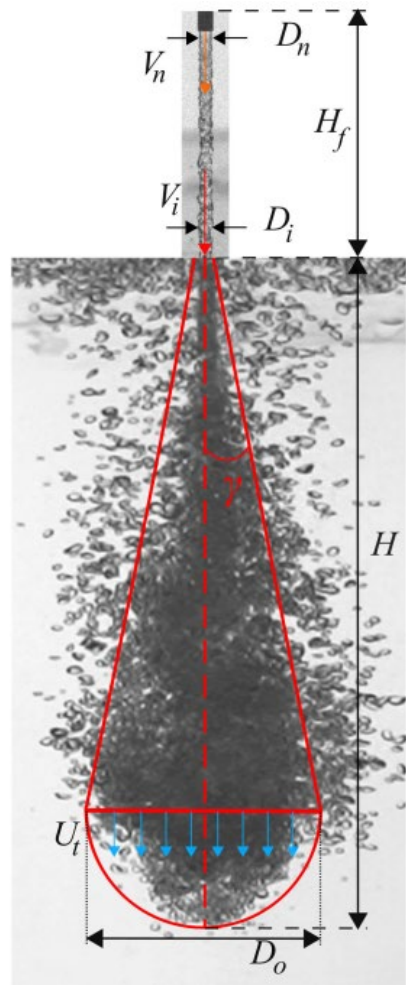
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Conservation of momentum flux :

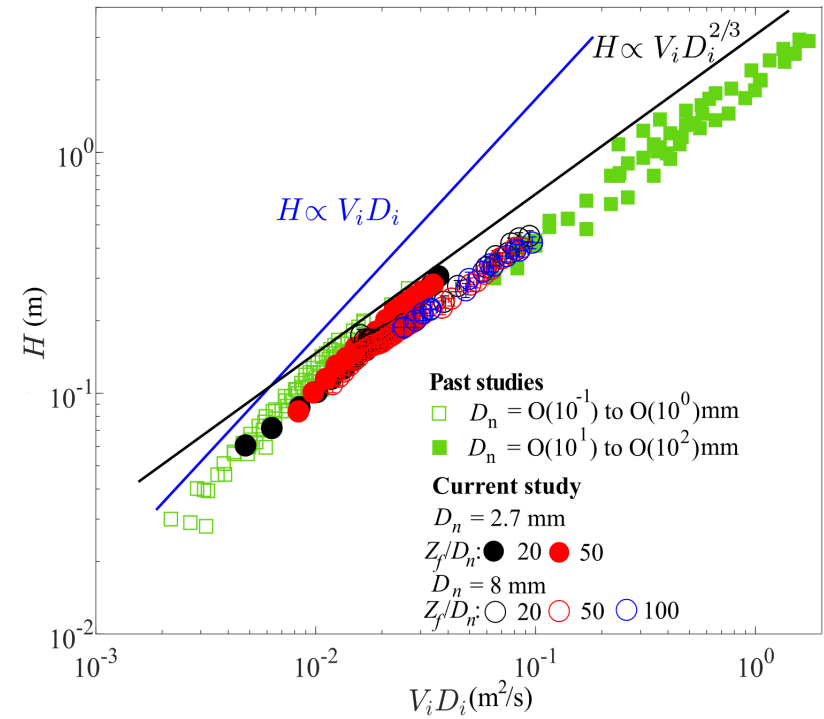
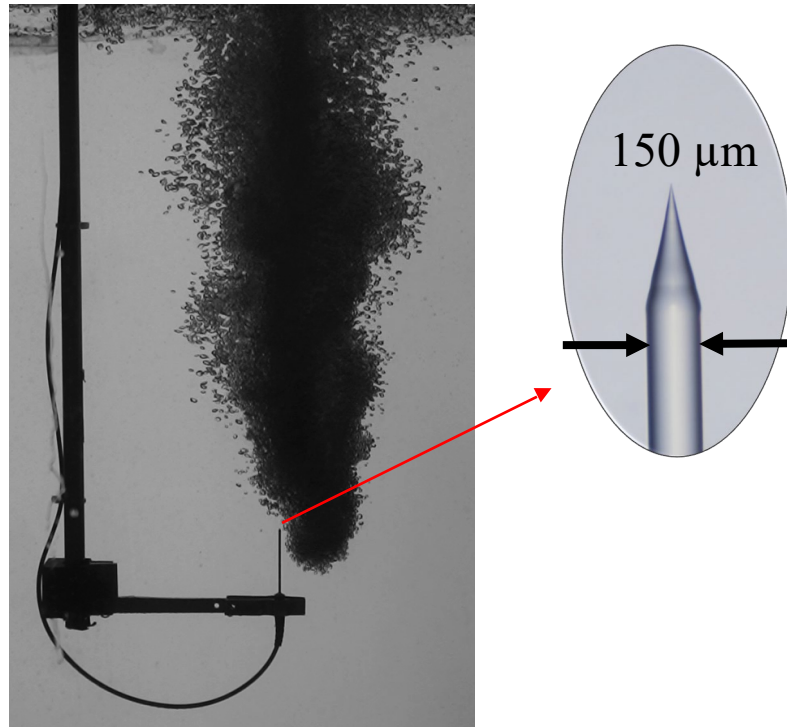
$$\rho_i V_i^2 \frac{\pi}{4} D_i^2 = \rho_i U_t^2 \frac{\pi}{4} D_{out}^2 + F_B$$

Micro-jets: Inertia dominated clouds

$$H \propto V_i D_i$$

Big-jets and cascades : Buoyancy dominated

$$H \propto (V_i D_i)^{2/3}$$



Multi-injector

