

Abstract Submitted  
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**Influence of the bubbles on the turbulence in the liquid in hydrodynamic cavitation through a venturi** SYLVIE FUZIER, OLIVIER COUTIER DELGOSHA, SÉBASTIEN COUDERT, ANTOINE DAZIN, Laboratoire de Mécanique de Lille, France — The physical description of hydrodynamic cavitation is complex as it includes strongly unsteady, turbulent and phase change phenomena. Because the bubbles in the cavitation area render this zone opaque, nonintrusive experimental observation inside this zone is difficult and little is known about the detailed bubble, flow structure and physics inside. A novel approach using LIF-PIV to investigate the dynamics inside the cavitation area generated through a venturi is presented. The velocity in the liquid and of the bubbles are measured simultaneously and correlated with areas of various bubble structure. The influence of the bubble structure on the turbulence in the liquid is also studied.

Sylvie Fuzier  
Laboratoire de Mécanique de Lille, France

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