

Abstract Submitted
for the DFD09 Meeting of
The American Physical Society

Experimental study of two opposing round jets HIND ALKANDRY, KOEN STEGEMAN, HIROSHI HIGUCHI, Syracuse University — The interaction between two opposing jets submerged in water is studied using particle image velocimetry. The research under present canonical configuration compliments an ongoing personal ventilation project conducted at Syracuse University. The study is carried out using two 9mm opposed round jets at two different angles separated by 25 diameters, one at zero degrees (directly opposing) and another at ten degrees. The Reynolds number based on the jet diameter is 9200, and a fully developed pipe flow exists at the exit. The mean velocity profile near the impact region shows a clear saddle point for both angles and radial jet emanating from that region. However, the instantaneous velocity field of the radial jet is highly unsteady. Three-dimensional characteristics, in particular at ten degrees, of the flow are examined closely.

Hiroshi Higuchi
Syracuse University

Date submitted: 07 Aug 2009

Electronic form version 1.4