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An Experimental Review on Microbubble Generation to Be Used in Echo-PIV Method to Determine the Pipe Flow Velocity ALINAGHI SALARI, MOHAMMAD BEHSHAD SHAFII, Sharif University of Technology, SHAPOOR SHIRANI, Tehran Heart Center — Today microbubbles are broadly used as ultrasound contrast agents. Flow Focusing (FF) in microchannels can pave the way for the generation of same size bubbles. Microbubbles can be used as tracers in the Echo Particle Image Velocimetry (Echo-PIV) method to determine the velocity profile in main body vessels such as carotid. In this paper we use a low-cost microchannel fabrication method for preparing microbubble contrast agents by using some surface active agents and a viscosity enhancing material to obtain appropriate microbubbles with desired lifetime and stability for any *in vitro* infusion for velocity measurement. All the five parameters that govern the bubble size extract and some efforts are done to achieve the smallest bubbles by adding suitable surfactant concentrations. By using these microbubbles for the Echo-PIV method, we experimentally determine the velocity field of two flow types, namely steady state and pulsatile pipe flows.

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