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Developing an ultrasound correlation velocimetry system[1] GERRIT SURUP, CHRISTOPHER WHITE, University of New Hampshire, UNH TEAM — The process of building an ultrasound correlation velocimetry (UCV) system by integrating a commercial medical ultrasound with a PC running commercial PIV software is described and preliminary validation measurements in pipe flow using UCV and optical particle image velocimetry (PIV) are reported. In principles of operation, UCV is similar to the technique of PIV, differing only in the image acquisition process. The benefits of UCV are that it does not require optical access to the flow field and can be used for measuring flows of opaque fluids. While the limitations of UVC are the inherently low frame rates (limited by the imaging capabilities of the commercial ultrasound system) and low spatial resolution, which limits the range of velocities and transient flow behavior that can be measured.

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