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High speed two color VLIF DIEGO TAPIA SILVA, COLE COOPER, University of California, Merced, TRACY MANDEL, University of New Hampshire, SHILPA KHATRI, DUSTIN KLECKNER, University of California, Merced — A novel two-color volumetric laser induced fluorescence (VLIF) imaging system for fluid dynamics is presented. The lasing scanning system allows for a flexible trade-off between speed and resolution with a throughput of over 15 gigavoxels per second (e.g. at 512 x 512 x 512 we can record at up to 133 volumes per second). The portable scanning and imaging system is capable of both one-color and two-color VLIF on demand. Single shot (3D) measurements are demonstrated to illustrate the vast range of capabilities of the VLIF imaging system. Example data from our scanning VLIF technique, paired with a scanning particle tracking velocimetry (SPTV) technique, is presented for characterization of the flow past a sphere for a range of Reynolds number.

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