Abstract Submitted
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Echo Particle Image Velocimetry Measurements of Liquified Biomass[1] NICHOLAS DEMARCHI, CHRISTOPHER WHITE, University of New Hampshire — Echo particle image velocimetry (EPIV) is used to acquire planar fields of velocity in pipe flow of liquefied biomass. The biomass studied is pre-treated (i.e., acid washed) corn stover and it is liquefied by enzymatic hydrolysis. The liquefaction process is carried out for various biomass mass loadings (1.5%-15%). For each biomass loading, the fluid's microstructure and rheology are studied and EPIV measurements are acquired. The aim is to demonstrate the usefulness of EPIV to acquire planar fields of velocity in optically opaque flows and to evaluate the effect of particle size, distribution, and mass loading of the dispersed solid phase on the EPIV measurements.

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