

Abstract Submitted  
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**Study of the properties of bubbly non Newtonian liquids** R. VELEZ, R. ZENIT, Universidad Nacional Autonoma de Mexico — It has been reported that the rise velocity of a swarm of bubbles in shear-thinning fluids is mainly influenced by the reduction in local viscosity and the population of bubbles, i.e., gas hold up. On the other hand, while many authors have studied the elastic effects in the abrupt change of velocity and shape in single bubbles, little has been done in bubble columns. By using a high-speed camera and digital image analysis we measured the rise velocity of bubbles in inelastic and elastic shear-thinning fluids in a bubble column. Great care was taken to produce nearly mono-dispersed bubble swarms. Preliminary results show that the convex-to-concave shape can also be observed in bubble swarms. This change of shape, which is associated with the so-called single bubble velocity discontinuity, has a significant influence in the general behavior of the bubbly flow (cluster formation, pseudo-turbulence, etc).

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