

Abstract Submitted
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Strain induced non-linear effects in Dynamic Viscosity measurements¹ J.P. IBAR, IPREM University of Pau, 64013 Cedex — Melt viscosity measurements conducted at increasing ω and strain, in a parallel plate dynamic rheometer, trigger a roaster of non-linear effects which we review, such as variation from the commanded strain, non-linearity between stress and strain, time dependence of the G' and G'' moduli, and appearance of slip. In addition, melt fracture, at the surface or in the bulk has been reported. Both the Torque and the Normal Force are studied. Results from both a constant strain rheometer (RDAII) and a constant stress rheometer (Bohlin SVO are reviewed. We examine the many aspects of non-linearity and explore the origin(s) of these manifestations, whether due to measurement limitations, melt instability, or purely the expression of non-linear viscoelasticity

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