

Abstract Submitted  
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**On the effect of Molecular weight and Frequency dependence of Tg on the interpretation of Dynamic viscosity data**<sup>1</sup> J.P. IBAR, Un. de Pau URM256, Pau 64013, A. ALLAL UNIV. DE PAU 64013 COLLABORATION — In this work, we re-plot dynamic data for a series of monodispersed Polystyrene melts, and their blends, obtained at constant temperature and variable frequency  $\omega$ , to enable a new analysis at constant (T-Tg) instead, where Tg is made a function of Mn and  $\omega$ . Tg ( $\omega$ ) is determined by DMA, from the shift of the max of E'' with  $\omega$ . Tg increases rapidly with  $\omega$  and levels off at higher  $\omega$ . The Mn dependence of Tg varies in a similar way, quickly plateaus off at approximately M=2 Me, consistent with a free volume interpretation. It is shown that correction for the Tg dependence on Mn and  $\omega$  does play an important role in the determination of the scaling parameters exponents, such as the molecular weight dependence exponent for M < 2 Me data, or the low frequency tail representative of the terminal behavior for blends of monodispersed samples. The paper concludes that a true separation of the variables to determine the independent effect of structural (local) and molecular weight (scaling) factors, can only be done at constant (T-Tg). The incidence of Tg( $\omega$ , M) on the superposition at low  $\omega$ , is also reviewed.

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