

GLASS TRANSITION AND DISORDER IN POLYMERIC MATERIALS HOW TO CHARACTERIZE WHAT HAPPENS AT THE GLASS TRANSITION ?

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ABSTRACT

It is common to find in the literature a value of the glass transition temperature for a given polymer or more generally for a glass without any other informations regarding how the measurements were done. Nevertheless, as the glass transition is not a thermodynamic (no a first or a second order transition) transition, it appears that the method brings into play to get the vitreous domain, the thermal history of the glass (age, temperature) but also the way by which T_g is observed and measured will change its apparent temperature domain.

In this short course we will have a look at the glass transition phenomenon, and will analyze how the glass transition can give informations concerning ageing, thermal history and also informations about the molecular mobility engaged during the relaxation phenomena.

Many examples will be proposed in such a way that the way to determine a correct value of T_g will be clarified.