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INVESTIGATION OF LOCAL DYNAMICS OF POLYMER CHAINS IN THE BULK BY THE EXCIMER FLUORESCENCE TECHNIQUE

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1. INTRODUCTION

The dynamic behaviour of polymers in solution has been extensively studied by various spectroscopic techniques which are able to probe motions at a molecular level. However, bulk polymer dynamics are not completely understood. Questions concerning the relationship between the nature of polymer segmental motions and the glass-transition phenomenon observed in macroscopic mechanical measurements are of fundamental scientific interest and industrial importance. Luminescence probe techniques have proven successful for detecting transitions in bulk polymeric media. Due to their high sensitivity, they allow studies of relaxation processes in matrices at very low probe concentrations, so the bulk environment is not excessively perturbed by the presence of the chromo-