Volume 15 Number 3 1990 ISSN 0079-6700

PROGRESS IN POLYMER SCIENCE

An International Review Journal

Editor: **O VOGL**
Polytechnic University, New York, USA

Associate Editor: **L S CORLEY**
Shell Development Co., Houston, USA

PERGAMON PRESS Oxford New York
Beijing Frankfurt São Paulo Sydney Tokyo Toronto

Prog. Polym. Sci., Vol. 15, 337–360, 1990
Printed in Great Britain.

0079-6700/90 $0.00 + .50

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

LILIANE BOKOBZA

Laboratoire de Physico-Chimie Structurale et Macromoléculaire, ESPCI, 10 rue Vauquelin, 75231 Paris Cedex 05, France

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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-