
Editorial

One observes a continuing interest in questions concerning the dynamics in confinement. One reason for this is that many phenomena, although having been investigated for more than a decade, still do not have a unanimous explanation. A prominent example is the question of the reduction of the glass temperature in ultrathin polymer films. But more importantly, at regular intervals, new aspects of dynamics in confinement get discovered, such as the treatment of polymer dynamics in asymmetric blends as a confinement effect, the effect of confinement on the global chain dynamics or the proposal to consider the slowing down of the dynamics near the glass transition as an intrinsic confinement effect, induced by the presence of slow and fast dynamic regions.

Progress in this field is thoroughly discussed and recorded at the workshop series “Dynamics in Confinement” which started in the year 2000 and is held at the Institut Laue-Langevin in Grenoble, France, and has since then always attracted many contributors. This year their number reached an all-time-high with 140 participants. Despite the continuity in the number of attendants, the composition of the audience has been permanently changing, reflecting the shifts of the focal topics in the field of dynamics in confinement. During the first instalments of this workshop there was a strong dominance of questions related to the glass transition, as that of a cooperativity length. Later new themes from biology, water dynamics, and even quantum liquids entered the scene. The upcoming topic of this year’s workshop was clearly the dynamics of polymers. This is not only a revival of interest in still unsolved questions from early experiments on polymer thin films, but it also reflects the increased interest in technological applications of nano-composites and polymer blends. Besides this, theoretical interest has sparked in the question of the dynamics of chain molecules under confinement.

As in the past, a limited amount of original and high-quality material has been selected and refereed to form a representative body of reference in this field in the form of a special issue. The workshop was preceded by a school covering important experimental methods for the investigation of dynamics in confinement. As an outcome of the school four tutorial articles are included in this volume. As a novelty, two discussion sessions were arranged where controversial topical questions were discussed. Some publications in this issue were stimulated by these discussions and reflect the different views on one of these topics.

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providing on short notice a lecture hall enabling us to accommodate the unexpectedly high number of participants. Last but not least our thanks go to the conference secretaries, Alison Mader and Laurence Tellier, whose work was essential for the success of this event.

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