



**Theoretical and Physical Chemistry Institute
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LECTURE

“Glassy states of active and charged ring polymers”

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Seminar room, ground floor, NHRF

Glassy states of active and charged ring polymers

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Abstract

In this talk, I will discuss recent developments for concentrated solutions of ring polymers and the possibilities of steering their mechanical properties and their micro- vs. macrophase separation behavior. One such system is a melt of active ring polymers, in which a fraction of the monomers is at a higher temperature than the rest. We will show how this activity can lead to entanglement-supported mechanical arrest and active/passive micropase separation regions [1,2]. A second one concerns charged minirings, in which the type of counterions determines phase separation vs. the creation of cluster glasses [3].

References

- [1]J. Smrek, I. Chubak, C. N. Likos, K. Kremer, *Nat. Commun.*, **11**, 26 (2020)
- [2]I. Chubak, C. N. Likos, K. Kremer, J. Smrek, *Phys. Rev. Research*, **2**, 043249 (2020)
- [3]R. Staño, J. Smrek, C. N. Likos, *ACS Nano*, **17**, 21369-21382 (2023)