
Unveiling a critical point in glasses through high order non-linear measurements

Samuel Albert^{*1}, Thomas Bauer², Marion Michl², Giulio Biroli³, Jean-Philippe Bouchaud⁴, Alois Loidl², Peter Lunkenheimer², Roland Tourbot¹, Cécile Wiertel-Gasquet¹, and François Ladieu¹

¹Service de physique de l'état condensé (SPEC - CNRS / UMR 3680) – CEA, CNRS : UMR3680 – SPEC - CNRS / UMR 3680, CEA/Saclay, Orme des Merisiers, F-91191 GIF SUR YVETTE CEDEX, France

²University of Augsburg, Germany – Germany

³IPhT CEA Saclay – France

⁴Capital Fund Management – Capital Fund Management – France

Abstract

Although structural glasses are everyday materials playing an increasing role in modern technological applications [1], the glass transition in itself remains a conundrum. Over the two past decades several experimental breakthroughs have deepened our understanding of glasses. Among them, the developpement of third order non-linear response measurements [3,4,5,6,7] have been instrumental in putting forward new ways of measuring a significantly non-trivial thermodynamic response.

This talk will be devoted to showing how fifth order non-linear responses allows us to infer very strong experimental indications of the existence of a thermodynamic critical point in several archetypical glass formers [2]. Time permitting, various kinds of experimental non-linear responses will be compared [3,4,5,6,7] with these results, aiming at giving a unified physical picture of the non-linear response in dielectric glass formers.

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^{*}Speaker

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