

Abstract Submitted
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A phase-separation perspective on dynamic heterogeneities in glass-forming liquids CHIARA CAMMAROTA, IPhT CEA Saclay France, ANDREA CAVAGNA, IRENE GIARDINA, SMC ISC CNR-INFN Roma, GIACOMO GRADENIGO, SMC CNR-INFN, and Sapienza University Rome, TOMAS GRIGERA, INFN, and Universidad Nacional de La Plata, and CCT, La Plata, GIORGIO PARISI, SMC CNR-INFN, and Sapienza University Rome, PAOLO VERROCCHIO, Universita di Trento, Trento, and INFN CNR-SOFT, Roma — We study dynamic heterogeneities in a model glass-former whose overlap with a reference configuration is constrained to a fixed value. The system phase-separates into regions of small and large overlap, so that dynamical correlations remain strong even for asymptotic times. We calculate an appropriate thermodynamic potential and find evidence of a Maxwell's construction consistent with a spinodal decomposition of two phases. Our results suggest that dynamic heterogeneities are the expression of an ephemeral phase-separating regime ruled by a finite surface tension.

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