# Fast and slow lengths in amorphous systems

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In recent years, there has been a proliferation of definitions of lengths that characterize amorphous systems. Some of them, such as those related to isostaticity, to dynamic hetereogeneities and to hyperuniformity grow fast, and apparently do not need the existence of a thermodynamic phase trasition. Others, like the point-to-set and the patch-repetition lengths grow very slowly, and their divergence implies a transition to a phase with long range order.