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**A Jamming Phase Diagram for Pressing Polymers** CHAO TENG, Nanjing University, ZEXIN ZHANG, Soochow University, XIAOLIANG WANG, GI XUE, Nanjing University, NANJING UNIVERSITY TEAM, SOOCHOW UNIVERSITY COLLABORATION — Molecular glasses begin to flow when they are heated. Other glassy systems, such as dense foams, emulsions, colloidal suspensions and granular materials, begin to flow when subjected to sufficiently large stresses. The equivalence of these two routes to flow is a basic tenet of jamming, a conceptual means of unifying glassy behavior in a swath of disordered, dynamical arrested systems. However, a full understanding of jamming transition for polymers remains elusive. By controlling the packing densities of polymer glasses, we found that polymer glasses could once flow under cold-pressing at temperatures well below its calorimetric glass transition temperature (Tg). The thermomechanical analysis (TMA) results confirmed that Tg changed with density as well as the applied stress, which is exactly what to be expected within the jamming picture. We propose a jamming phase diagram for polymers based on our laboratory experiments.

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