Some Packings Are More Equal Than Others

LEO SILBERT, Southern Illinois University — Computer simulations of packings of frictionless and frictional monodisperse spheres are discussed in the context of the jamming transition. Power-law scalings in several quantities characterising the packings are identified with distance from the jamming transition point, over several orders of magnitude in the particle friction coefficient. It is also noted that the ‘critical’ values of the coordination number and packing fraction scale with the friction coefficient. How friction modifies the structural and dynamical properties of the packings are also discussed.