Packings and assemblies of hard convex polyhedra¹ DAPHNE KLOTSA, Department of Chemical Engineering, University of Michigan, ELIZABETH CHEN, School of Engineering and Applied Sciences, Harvard University, PABLO DAMASCENO, MICHAEL ENGEL, SHARON GLOTZER, Department of Chemical Engineering, University of Michigan — Dense packings of hard polyhedra have been studied for centuries due to their mathematical aesthetic and more recently for their applications in fields such as granular matter, amorphous matter, and biology. The spontaneous organization of hard polyhedra under compression has only recently been addressed, demonstrating a plethora of assembled complex structures. The infinite pressure dense packings and the finite pressure, thermodynamically assembled structures for a given shape, however, are often different. In this talk we investigate connections between those two limits for convex polyhedra. We discuss the possibility of predicting one limit from the other, discuss some general rules, and link with previous works.

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