Stenull and Lubensky Reply:

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Stenull and Lubensky Reply: Our original simulations for the randomized rational approximates to a fivefold Penrose tiling were carried out on samples that are of order of the typical sizes treated in numerical studies of jammed systems with $\epsilon = 10^{-2}$, ϵ being the magnitude of the maximum random deviation of the x and y-components of the site coordinates. It did not occur to us to look either at larger systems or at larger random displacements, the latter because we wanted to avoid phantom bond crossings. We were, therefore, somewhat surprised to see the comment by Moukarzel and Naumis (MN) providing evidence that the bulk modulus eventually turns around and tends to zero with increasing sample N_S size and/or amplitude ϵ of random displacements. We carried out further simulations to provide either further support for MN's results or evidence that they might be wrong. These simulations were done for $\epsilon = 10^{-4}, 10^{-3}, 10^{-2}, 0.1, 0.5$ and for rational approximates ranging from 1/1 to 55/34. Our new results agree qualitatively with MN's in that the bulk modulus we calculate first rises with N_S and/or ϵ and then eventually falls off as these variables become large. Our data collapses well on a single curve when B is plotted as a function of $\epsilon^2 N_S$, see Fig. 1. It does not collapse so well when B is plotted as a function of $\epsilon^2 N_S^{3/2}$ as MN's does. We do not have an explanation for this discrepancy.

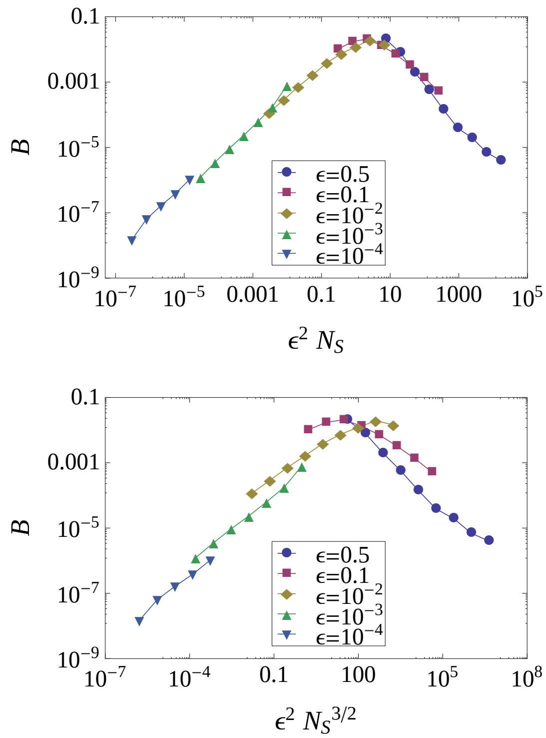

FIG. 1. (color online) Average bulk modulus as a function of sample size N_S and disorder amplitude ϵ for rational approximates ranging from 1/1 to 55/34 when plotted versus $\epsilon^2 N_S$ (top) and $\epsilon^2 N_S^{3/2}$ (bottom).

Though these new results invalidate our conclusion that the randomized Penrose tilings and jamming systems share common behavior for all sample sizes, including ones with $N_S \to \infty$, we stand by our assertion that randomized Penrose tilings are useful model systems for jammed matter for the range of parameters we considered.

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