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Long wavelength behavior of the static structure factor in jammed packings JAIME BOHORQUEZ-BALLEN, LEONARDO SILBERT, Southern Illinois University Carbondale — There are several features associated with the jamming transition in monodisperse sphere packings. One recently reported property is the anomalous long wavelength behavior of the static structure factor, $S(k)$. An unusual linear dependence with the wavenumber k, becomes increasingly pronounced on approach to the jamming transition. However, it remains unclear how polydispersity and force model affect this behavior. Here, we study the structure factor of jammed disordered bidisperse sphere packings using computer simulations, especially its behavior in the long wavelength regime ($k \to 0$). We evaluated the structure factor using an appropiate formalism for polydisperse systems and extract information on the susceptibility in the low-k limit.

Jaime Bohorquez-Ballen
Southern Illinois University Carbondale

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