Electronic Supplementary Material (ESI) for Soft Matter.

Supplementary information

SI 1 Effect of box size and box shape

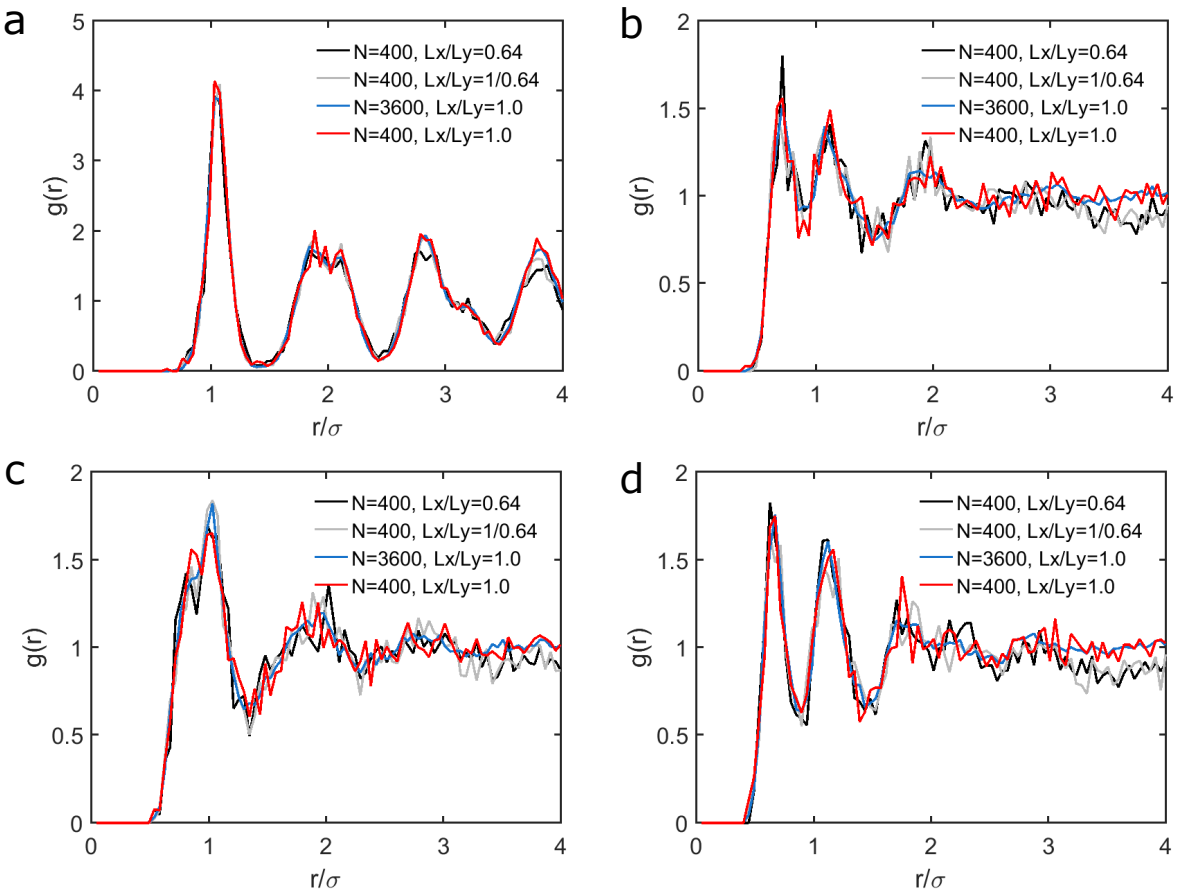

Figure SI 1.1: Comparison of pair correlation functions of patterns formed by two-dimensional Yukawa stars with $f = 12$ at $\eta = 0.8$ (a), $\eta = 1.0$ (b), $\eta = 1.2$ (c) and $\eta = 1.4$ (d) obtained by simulations with different box sizes or box shapes. Patterns in a rectangular box shape are obtained by starting from a structure equilibrated in a square box, decreasing the box length in one direction by a factor 0.8 and increasing the box length in the other direction by a factor 1/0.8 and subsequently letting the structure equilibrate again.

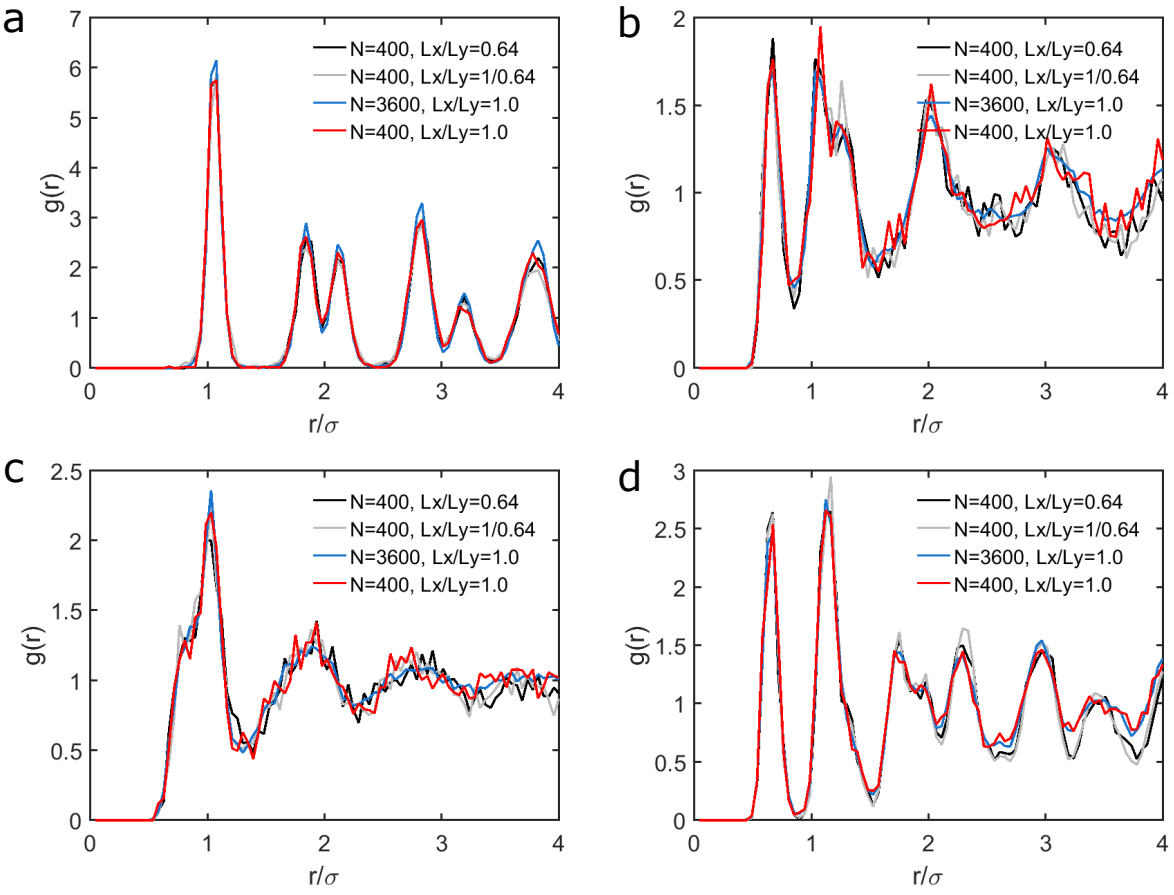

Figure SI 1.2: Comparison of pair correlation functions of patterns formed by two-dimensional Yukawa stars with $f = 16$ at $\eta = 0.8$ (a), $\eta = 1.0$ (b), $\eta = 1.2$ (c) and $\eta = 1.4$ (d) obtained by simulations with different box sizes or box shapes. Patterns in a rectangular box shape are obtained by starting from a structure equilibrated in a square box, decreasing the box length in one direction by a factor 0.8 and increasing the box length in the other direction by a factor 1/0.8 and subsequently letting the structure equilibrate again.

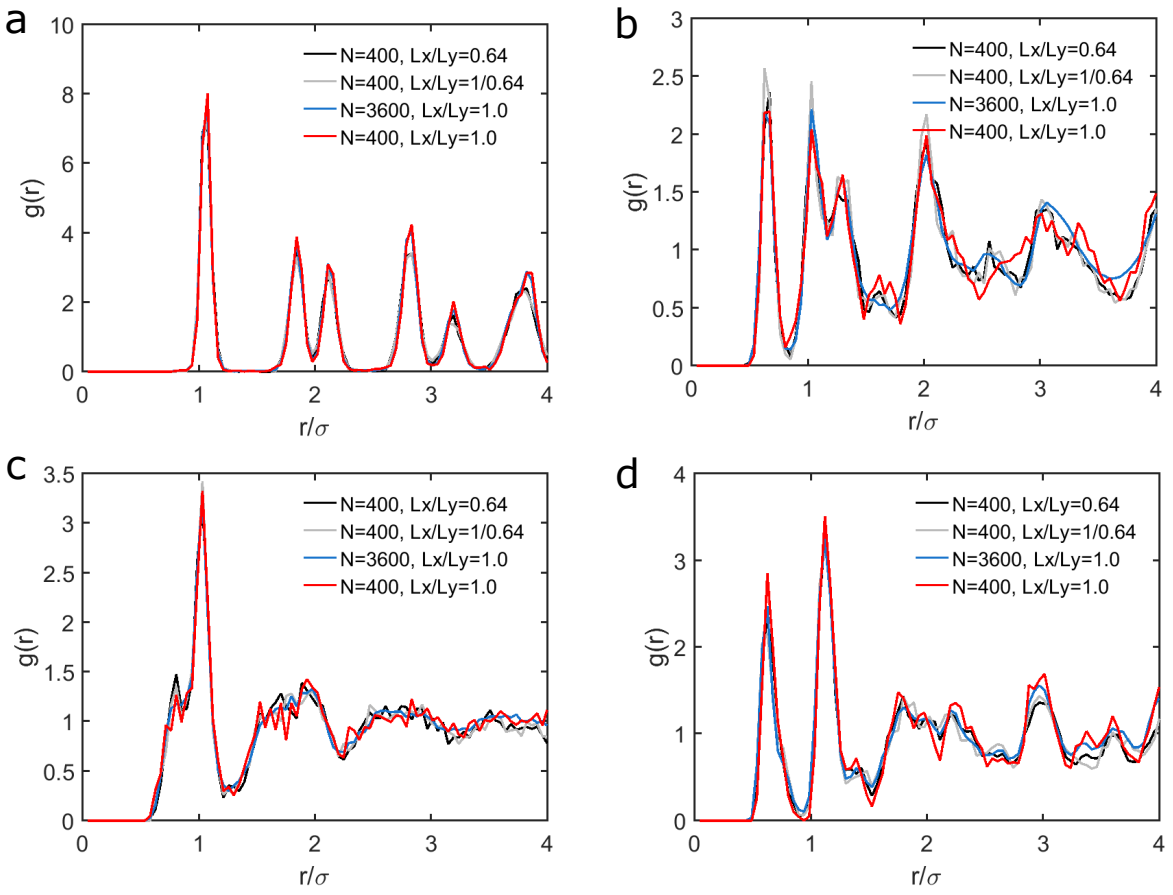

Figure SI 1.3: Comparison of pair correlation functions of patterns formed by two-dimensional Yukawa stars with $f = 20$ at $\eta = 0.8$ (a), $\eta = 1.0$ (b), $\eta = 1.2$ (c) and $\eta = 1.4$ (d) obtained by simulations with different box sizes or box shapes. Patterns in a rectangular box shape are obtained by starting from a structure equilibrated in a square box, decreasing the box length in one direction by a factor 0.8 and increasing the box length in the other direction by a factor 1/0.8 and subsequently letting the structure equilibrate again.

SI 2 Pair correlation functions around the onset of star overlap

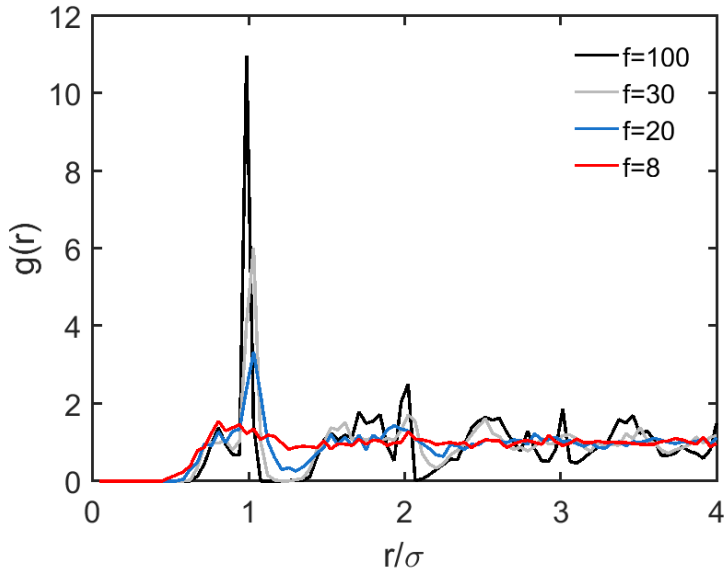

Figure SI 2.1: Comparison of pair correlation functions of patterns formed by two-dimensional Yukawa stars at an area fraction of $\eta = 1.0$ for different arm numbers.