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Numerical study of the bond order in 2D Hubbard model¹ SHUXIANG YANG, ZHAOXIN XU, Louisiana State University, SUBIR SACHDEV, Harvard University, MARK JARRELL, Louisiana State University — We study the bond order for 2D repulsive Hubbard model using the dynamical cluster approximation. The z-component of the spin operator product and the so-called bond-order-wave operator are used to detect the divergence of the bond susceptibility. Different bond ordering patterns, such as the column state and staggered state, are analyzed and compared in the pseudo-gap region and their relations to the quantum criticality are explored.

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