Maximal duration of classicality in highly degenerate interacting Bosonic systems ELISA TODARELLO, SANKHA CHAKRABARTY, SEISHI ENOMOTO, YAQI HAN, PIERRE SIKIVIE, Univ of Florida - Gainesville — We study sets of oscillators that interact by exchanging quanta. We identify initial states for which the system obeys classical field equations as long as possible. The simulations are paralleled to an analytical treatment of homogeneous condensates with attractive contact interactions and of homogeneous self-gravitating condensates in critical expansion. We argue that inhomogeneous condensates obey classical field equations for shorter times than homogeneous ones.

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