

Space- and Time-Crystallization Effects in Multicomponent Superfluids

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Space- and time-crystallization effects in multicomponent superfluids – while having the same physical origin and mathematical description as in the single-component case – are conceptually much more straightforward. Specifically, the values of the temporal and spatial periods are absolute rather than relative, and the broken translation symmetry in space and/or time can be revealed with experiments involving only one equilibrium sample. We discuss two realistic setups – one with cold atoms and another one with bilayer superconductors – for observation of space and time crystallization in two-component counterflow superfluids.