Three-body physics in strongly correlated spinor condensates[1]
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— We investigate bosonic spinor condensates in the largely unexplored strongly
correlated regime where few-body aspects can play a central role in the properties
and dynamics of the system through manifestations of Efimov physics. We have
solved the three-body problem using the hyperspherical adiabatic representation,
uncovering the multiple, co-existing families of Efimov states and the three-body
scattering observables. The presence of these states can lead to non-trivial spin
dynamics dominated by three-body correlations as well as the possibility of ultralong
lived three-body bound states. The three-body contribution to the mean-field theory
is constructed from the scattering observables, and its influence on the various phases
of the spinor condensate is considered.

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