Chimera states in an ensemble of Stuart-Landau oscillators with nonlinear global coupling

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We discuss the emergence of chimera states in an ensemble of Stuart-Landau oscillators interacting solely via a nonlinear global coupling. The existence of these states is in contradiction to the prevailing opinion that a nonlocal coupling is indispensable. Properties as the distribution of average frequencies and the dependence of the lifetime of the chimera state on the population size are investigated. Comparison with established results on chimera states in systems with spatially nonlocal interactions yield especially differences for the latter: the lifetime seems to be independent of the population size but rather being controlled by the parameters.