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Title:	Chimera States in Star Networks
Authors:	Meena, C. (/jspui/browse?type=author&value=Meena%2C+C.) Sinha, Sudeshna (/jspui/browse?type=author&value=Sinha%2C+Sudeshna)
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Abstract:	We consider star networks of chaotic oscillators, with all end-nodes connected only to the central hub node, under diffusive coupling, conjugate coupling and mean-field diffusive coupling. We observe the existence of chimeras in the end-nodes, which are identical in terms of the coupling environment and dynamical equations. Namely, the symmetry of the end-nodes is broken and coexisting groups with different synchronization features and attractor geometries emerge. Surprisingly, such chimera states are very wide-spread in this network topology, and large parameter regimes of moderate coupling strengths evolve to chimera states from generic random initial conditions. Further, we verify the robustness of these chimera states in analog circuit experiments. Thus it is evident that star networks provide a promising class of coupled systems, in natural or engineered contexts, where chimeras are prevalent.
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