

PO.08. Self Consistent Partial Synchronization in simple models

We show the existence of stable Self Consistent Partial Synchronization [SCPS] in a biharmonic Kuramoto-Daido model of globally coupled oscillators with identical frequency. The system is analysed both by evolving a large ensemble of oscillators and the corresponding self-consistent Liouville equation for the probability density. The linear stability analysis leads to an exact integral equation that is solved numerically to determine eigenvalues and eigenvectors. As a result, the region where SCPS is fully stable has been determined and shown to agree with the outcome of the microscopic simulations. Clustered states are also investigated.

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