

## 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.

Pau Clusella Cobero

Institute for Complex Systems and Mathematical Biology (University of Aberdeen)  
pau.clusella@abdn.ac.uk

Antonio Politi

Institute for Complex Systems and Mathematical Biology (University of Aberdeen)  
and SUPA  
a.politi@abdn.ac.uk

Michael Rosenblum

Department of Physics and Astronomy (University of Potsdam)  
mros@uni-potsdam.de