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**Hierarchy of exact low-dimensional reductions for populations of coupled oscillators**

The seminar will be delivered in English

We consider an ensemble of phase oscillators in the thermodynamic limit, where it is described by a kinetic equation for the phase distribution density. We propose an ansatz for the circular moments of the distribution (Kuramoto-Daido order parameters) that allows for an exact truncation at an arbitrary number of modes. In the simplest case of one mode, the ansatz coincides with that of Ott and Antonsen [Chaos 18, 037113 (2008)]. Dynamics on the extended manifolds facilitate higher dimensional behavior such as chaos, which we demonstrate with a simulation of a Josephson junctions array. The findings are generalized for oscillators with a Cauchy-Lorentzian distribution of natural frequencies.