

Synchronization of forced quasi-periodic coupled oscillators

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(Submitted on 27 Jun 2011)

The problem of synchronization of coupled self-oscillators by external force is studied. The charts of Lyapunov's exponents in the "frequency - amplitude" parameter plane are obtained within the framework of the phase approximation. We identified the characteristic configurations of the domains of complete synchronization, two- and three-frequency quasi-periodic oscillations and different variants of partial synchronization of oscillators by an external force. The differences between regimes of mode locking and beats of partial oscillators are revealed and discussed. To visualize and analyze the domains of resonant two-frequency tori we construct the charts, in which regions of dynamics with different winding numbers are represented by colors.

Subjects: **Chaotic Dynamics (nlin.CD)**

Cite as: **arXiv:1106.5382 [nlin.CD]**

(or **arXiv:1106.5382v1 [nlin.CD]** for this version)

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