Review of: "Periodic second-order systems and coupled forced Van der Pol oscillators"

Alexei A. Sokolov[1]

1 Institute of Automation and Electrometry

Potential competing interests: No potential competing interests to declare.

This article is relevant because we are surrounded by nonlinear dissipative systems. The movement of such systems can lead to chaos, or it can be periodic, like self-oscillations in a Van der Pol generator. The authors prove a mathematical theorem that the solution for two coupled Van der Pol generators can also be periodic. In this paper, it is valuable that the authors proved this theorem in the most general case.

As one of the reviewers notes, the authors did not refer to the work "Analytical Solutions of Nonlinear System of Fractional Order Van der Pol Equations" (2019). In defense of the authors, one can say that the presented work is not a review and does not imply an analysis of ALL works on this topic.

The consequence of the theorem proved by the authors may be its generalization to an arbitrary number of coupled nonlinear dissipative oscillators, including the case with a continuous set of oscillators. In the latter case, the dimension of "connectivity" will probably be important for the existence of a periodic solution.