# Article information:

多吸引子风致振动能量收集系统中的延时反馈控制  
<https://www.hindawi.com/journals/complexity/2019/7973823/>

# Article summary:

1. This article presents a time-delayed feedback control system to improve the performance of multiple attractors wind-induced vibration energy harvesters.

2. The effects of time delay and system parameters on the system are studied systematically.

3. It is demonstrated that implementing time-delayed feedback control is an effective and simple way to increase the energy harvested from vibrations in the presence of noise interference.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article provides a detailed overview of a time-delayed feedback control system for multiple attractors wind-induced vibration energy harvesters, and its potential benefits in terms of increasing energy harvesting performance. The article is well written and provides a comprehensive overview of the topic, including relevant background information, theoretical analysis, and numerical contributions. The authors provide evidence for their claims by citing relevant research studies, which adds to the trustworthiness and reliability of the article.

However, there are some points that could be improved upon in terms of trustworthiness and reliability. For example, while the authors discuss various types of linear vibration energy harvesters, they do not provide any evidence or examples to support their claims about their limited bandwidths or sensitivity to changes in frequency characteristics. Additionally, while they discuss various nonlinear systems such as monostable, bistable, and tristable energy harvesters, they do not provide any evidence or examples to support their claims about these systems’ wider operating bandwidths or less sensitivity to changes in frequency characteristics. Furthermore, while they discuss various control methods such as synchronized switching harvesting on inductor and switching controller for improving energy harvesting performance, they do not provide any evidence or examples to support their claims about these methods’ effectiveness in this regard.

In conclusion, while this article provides a comprehensive overview of a time-delayed feedback control system for multiple attractors wind-induced vibration energy harvesters with relevant background information and theoretical analysis supported by citations from other research studies, it could be improved upon by providing more evidence or examples to support its claims about various types of linear vibration energy harvesters’ limited bandwidths or sensitivity to changes in frequency characteristics; various nonlinear systems such as monostable, bistable, and tristable energy harvesters’ wider operating bandwidths or less sensitivity to changes in frequency characteristics; and various control methods such as synchronized switching harvesting on inductor and switching controller for improving energy harvesting performance.

# Topics for further research:

* Linear vibration energy harvester bandwidth
* Nonlinear vibration energy harvester bandwidth
* Synchronized switching harvesting on inductor
* Switching controller for energy harvesting
* Wind-induced vibration energy harvester performance
* Time-delayed feedback control system for multiple attractors

# Report location:

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