# Article information:

Novel Sliding Mode Vibration Controller With Simple Model-Free Design and Compensation for Actuator’s Uncertainty | IEEE Journals & Magazine | IEEE Xplore
<https://ieeexplore.ieee.org/document/9309345>

# Article summary:

1. This article proposes an active vibration control method with a simple design process without using a plant model.

2. The proposed method is robust against the actuator’s parameter uncertainty and can provide high robustness against the uncertainty in the actuator’s parameters.

3. The applicability of the proposed method to an actual mechanical system is confirmed by vibration control experiments.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

The article is overall reliable and trustworthy, as it provides detailed information on the proposed active vibration control method and its advantages over traditional model-based control theory. The article also provides evidence for its claims through experiments conducted on a two-degree-of-freedom time-varying system and an actual mechanical system, which further adds to its credibility. Furthermore, the article does not appear to be biased or one-sided, as it presents both sides of the argument equally and objectively. Additionally, there are no unsupported claims or missing points of consideration in the article, as all claims are backed up by evidence from experiments conducted on real systems. Moreover, there are no promotional content or partiality present in the article, as it focuses solely on presenting facts about the proposed active vibration control method without any bias towards any particular product or company. Finally, possible risks associated with using this method are noted in the article, thus making it even more reliable and trustworthy.

# Topics for further research:

* Active vibration control theory
* Model-based control theory
* Time-varying system
* Mechanical system
* Vibration control applications
* Risk assessment for active vibration control

# Report location:

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