# Article information:

Sci-Hub | Semi-active phase control of tuned mass dampers for translational and torsional vibration mitigation of structures. Structural Control and Health Monitoring, 25(9), e2191 | 10.1002/stc.2191
<https://sci-hub.ru/10.1002/stc.2191>

# Article summary:

1. This article discusses the use of semi-active phase control of tuned mass dampers (TMDs) for vibration mitigation of structures in both translational and torsional directions.

2. The authors propose a new method to control the TMDs, which is based on the phase difference between the structure and TMD responses.

3. The proposed method was tested on a two-story frame structure with two TMDs, and results showed that it can effectively reduce the vibration amplitudes in both translational and torsional directions.

# 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 is generally reliable and trustworthy, as it provides detailed information about the proposed method and its effectiveness in reducing vibrations in both translational and torsional directions. The authors provide evidence for their claims by testing their proposed method on a two-story frame structure with two TMDs, which shows that it can effectively reduce the vibration amplitudes in both directions. Furthermore, they discuss potential risks associated with using this method, such as over-damping or under-damping of the system due to incorrect tuning of parameters.

However, there are some points that could be improved upon. For example, while the authors discuss potential risks associated with using this method, they do not provide any suggestions for how to mitigate these risks or how to ensure that parameters are correctly tuned. Additionally, while they discuss potential applications of this method in engineering practice, they do not provide any examples or case studies to illustrate how this method has been used successfully in real-world scenarios. Finally, while they discuss potential limitations of their proposed method (such as its reliance on accurate measurements), they do not explore any possible counterarguments or alternative solutions that could address these limitations.

# Topics for further research:

* Mitigating risks associated with TMD tuning
* Examples of TMD vibration reduction in engineering practice
* Alternative solutions for accurate TMD measurements
* Case studies of successful TMD vibration reduction
* Strategies for avoiding over-damping or under-damping of TMDs
* Counterarguments to potential limitations of TMD vibration reduction

# Report location:

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