# Article information:

Design and Experimental Evaluation of a Discrete‐time ASPR‐based Adaptive Output Feedback Control System Using FRIT - Guan - 2019 - Asian Journal of Control - Wiley Online Library  
<https://onlinelibrary.wiley.com/doi/full/10.1002/asjc.1743>

# Article summary:

1. Adaptive output feedback control systems based on ASPR-ness have been studied for their high robustness against uncertainties and disturbances.

2. A discrete-time ASPR-based adaptive output feedback control system can be designed using an appropriate PFC, which ensures asymptotic stability.

3. The proposed scheme simplifies the process of obtaining the feedforward input by only considering an integral action, and the FRIT approach is used to determine the control parameter.

# 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 “Design and Experimental Evaluation of a Discrete‐time ASPR‐based Adaptive Output Feedback Control System Using FRIT” by Guan (2019) provides a detailed overview of the design and implementation of a discrete-time ASPR-based adaptive output feedback control system using FRIT. The article is well written and provides a comprehensive overview of the topic, including its background, theory, and practical applications. The author has provided sufficient evidence to support his claims, such as citing relevant literature in order to back up his arguments. Furthermore, he has also discussed potential risks associated with this type of system, such as introducing steady state errors between the output of the augmented system and the original system.

However, there are some areas where more information could be provided in order to make the article more comprehensive. For example, while the author has discussed how FRIT can be used to optimize controller parameters with one-shot experimental data without requiring prior knowledge about the system model or order, he does not provide any details on how this is done or what specific techniques are used in order to achieve this goal. Additionally, while he mentions that neural networks or GPC can be used to obtain adaptive predictive control outputs for compensating steady state errors, he does not provide any further details on these methods or how they can be applied in practice.

In conclusion, overall this article provides a thorough overview of discrete-time ASPR-based adaptive output feedback control systems using FRIT and is generally reliable and trustworthy in its content. However, it could benefit from providing more detail on certain topics in order to make it even more comprehensive.

# Topics for further research:

* Neural Network Adaptive Control
* Model-Free Adaptive Control
* Generalized Predictive Control
* One-Shot Experimental Data Optimization
* Steady State Error Compensation
* FRIT Optimization Techniques

# Report location:

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