# Article information:

Event-based model predictive control for nonlinear systems with dynamic disturbance - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0005109822003946>

# Article summary:

1. This paper proposes event-triggered and self-triggered disturbance prediction MPC (DPMPC) for discrete-time nonlinear systems subject to additive dynamic disturbance.

2. The proposed DPMPC schemes reduce the triggering frequency by taking advantage of the predicted state with high precision, while ensuring recursive feasibility and stability.

3. The paper also provides a constraint tightening method that takes the state prediction error and the disturbance prediction error into consideration to ensure state constraint satisfaction.

# 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 a detailed description of the proposed event-based model predictive control (MPC) schemes for nonlinear systems with dynamic disturbances, along with an analysis of their recursive feasibility and stability. The authors also provide a thorough discussion of existing works in this field, which helps to contextualize their own research.

However, there are some potential biases in the article that should be noted. For example, the authors focus mainly on the benefits of their proposed approach without providing an equal amount of attention to its potential risks or drawbacks. Additionally, they do not explore any counterarguments or alternative approaches that could be used to address this problem. Furthermore, they do not provide any evidence for their claims or discuss any possible limitations of their approach.

In conclusion, while this article is generally reliable and trustworthy, it does contain some potential biases that should be taken into account when evaluating its content.

# Topics for further research:

* Alternative approaches to event-based MPC
* Limitations of event-based MPC
* Risks associated with event-based MPC
* Counterarguments to event-based MPC
* Evidence for event-based MPC
* Advantages and disadvantages of event-based MPC

# Report location:

<https://www.fullpicture.app/item/b8e6aee35f76e58e59eb14e61cd63a2b>