Information

Participants

- Assoc. Prof. Simona DZITAC (idzitac)
- Abderrahim EZZARA (abderrahimezzara)

Messages

Note	From
Dear corresponding author, Please respond to the review below! For author and editor A solid and well-organized fault-tolerant control approach for quadrotor UAVs is presented in this paper. In simulations, the combination of adaptive backstepping sliding mode control and nonlinear observer-based fault estimation shows encouraging outcomes. The work would benefit from real-world validation, more transparent comparisons with current approaches, and a discussion of potential future advancements, even though the methodology is sound. The application of a H∞-based optimization technique and a nonlinear unknown input observer (NUIO) for fault estimation is clearly stated. The study is methodologically sound because of the robustness added by the adaptive backstepping sliding mode control method. Comparative MATLAB simulations are used in the research to substantiate its assertions and show how effective the suggested approach is in different scenarios. The effectiveness of the controller is demonstrated quantitatively by the inclusion of root mean square error (RMSE) measurements for attitude and position tracking. The research is extremely relevant for UAV operations since it addresses fault-tolerant control issues, environmental uncertainties, and wind disturbances, all of which contribute to real-world applications. To increase accessibility for a wider readership, it would be helpful to provide a brief explanation of some technical concepts (such as LMI formulation and H∞ optimization). Even if the simulations are thoroughly explained, actual experimental verification would support the assertions even more. Discussing potential experimental difficulties or upcoming hardware implementation steps would improve the study. Both the abstract and the conclusion refer to "comparative simulations," but it's not clear which pre-existing methods were used as a benchmark. Additional credibility could be added with a more transparent explanation of benchmarks or baseline controllers. The approach's success is the main focus of the conclusions, which do not address its shortcomings or potential avenues for further research. The scientific depth would be enhanced by identifying situations (such as severe wind conditions or computational complexity) where the method might falter. The abstract should be rewritten. It should contain answers to the following questions: What problem was studied and why is it important? What methods were used? What are the	idzitac 2025-02-08 08:50 PM

Note	From
important results? What conclusions can be drawn from the results? What is the novelty of the work and where does it go beyond previous efforts in the literature?	
Subject: Response to Reviewer Comments Dear Reviewer, Thank you for your insightful and constructive feedback on our manuscript. We greatly appreciate your time and effort in reviewing our work. We acknowledge the importance of the points you raised, including the need for clearer explanations of technical concepts, explicit benchmarking of our method, a discussion of limitations, and a more structured abstract. Additionally, we recognize the value of experimental validation and have outlined future steps for real-world implementation. We will incorporate these improvements in our revised version after receiving the final reviewers' reports. Thank you again for your valuable comments, which will help enhance the quality of our work. Best regards,	abderrahimezzara 2025-02-16 10:23 AM
Dear author, Thank you for your response...the paper is still under evaluation by another reviewer...as soon as we receive the second review we will inform you. Best regards, Simona Dzitac	idzitac 2025-06-15 10:42 AM
Dear Prof. Dzitac, Thank you for the update. We appreciate the reviewers' and editorial team's efforts and remain available if any further information is needed. Best regards, Abderrahim Ezzara	abderrahimezzara 2025-06-16 12:41 AM
Hello! Below is the second review! **Reviewer Comments** **For author and editor** The paper addresses a crucial challenge in unmanned aerial vehicle (UAV) operations—robust control in the presence of multiple simultaneous faults (sensor and actuator), external	idzitac 2025-06-16 12:58 PM

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disturbances (like wind), and parametric uncertainties. This is of high relevance as UAV reliability and autonomy become more critical in real-world and safety-sensitive applications. While the simulations are strong, **no hardware-in-the-loop (HIL)** or real-world experiments are provided. This limits the evaluation under real-world sensor noise, latency, and fault dynamics. The observer and controller, especially with LMI solving and multiple sliding surfaces, may impose a **computational burden** on embedded systems. Discussion on runtime or computational cost is lacking. **For editor only** • The paper is **logically structured**, with a clear flow from modeling to observer and controller design, and then to validation. • Figures and tables (e.g., fault profiles, RMSE tables) are well-labeled and effectively support the narrative. Best regards, Simona Dzitac	
Good afternoon! Please respond to the 2 reviews and revise the work accordingly by July 18th! Thank you! Best regards, Simona Dzitac	idzitac 2025-06-16 01:00 PM