Adaptive Backstepping Sliding Mode Fault-Tolerant Control of Quadrotor UAV in the presence of external disturbances, uncertainties, and Simultaneous Actuator and Sensor faults

Dear Reviewer,

We would like to express our sincere gratitude for your valuable and insightful remarks regarding our manuscript. Your detailed suggestions have been instrumental in enhancing the quality and clarity of our work, and we deeply appreciate the time and effort you dedicated to reviewing our paper.

We have carefully addressed each of your comments and hope we have taken full consideration of all your suggestions to meet your expectations. Below, we provide a table summarizing your remarks and the corresponding actions taken by the authors.

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| No. | Reviewer Remark | Response and Action Taken |
| 01 | **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.** | Corrected version: Experimental implementation will be conducted in future works, addressing anticipated challenges including real-time computational constraints and sensor noise, to validate the simulation-based results under realistic flight conditions. |
| 02 | **Both the abstract and the conclusion refer to "comparative simulations," but it's not clear which pre-existing methods were used as a benchmark** | The phrase "comparative simulations" referred to performance evaluation across different operational scenarios (normal conditions, disturbances, actuator faults, and combined faults), not comparisons against existing benchmark methods. We have removed this phrase and replaced it with "simulations across various scenarios" to clarify our evaluation approach. |
| 03 | **Additional credibility could be added with a more transparent explanation of benchmarks or baseline controllers** | This study focuses on validating the proposed integrated approach across multiple fault scenarios without benchmark comparisons. Future research will include comparative analysis against established fault-tolerant control methods to provide transparent baseline evaluations. |
| 04 | **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.** | We have addressed this concern by incorporating discussion of challenging scenarios (extreme environmental conditions, rapid multiple faults) and implementation constraints (computational complexity, sensor noise) within the future work section, framing potential limitations as constructive research directions. |
| 05 | **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 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?** | The abstract has been restructured to systematically address: (1) the critical safety problem of simultaneous actuator-sensor faults in quadrotors, (2) the integrated NUIO-based methodology, (3) quantitative performance results, (4) fault tolerance conclusions, and (5) the novelty of simultaneous fault compensation versus existing separate-treatment approaches. |

We trust that the revised manuscript now aligns with the journal's standards and hope it meets with your approval. Should there be any further points for improvement, we would be happy to address them.

Kind regards,