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QUANTUM-INSPIRED LANDING FINS FOR PRECISION LANDINGS OF ROCKETS

Abstract

The current study proposes a novel approach to enhance the precision landing capability of rockets. In particular, we aim to develop quantum-inspired landing fins, which are expected to achieve better performance compared to traditional landing fins. The proposed landing fins leverage quantum principles to facilitate the landing process and improve the accuracy of the landing.The design of the proposed landing fins involves incorporating quantum computing concepts and techniques to create an efficient and effective control system. The quantum-inspired control system is expected to be highly robust and adaptable to the dynamic nature of the landing process. Specifically, the system can take into account multiple factors, such as altitude, velocity, and wind speed, to adjust the fins' angle of attack and ensure a precise and safe landing.To validate the feasibility and performance of the proposed quantum-inspired landing fins, extensive numerical simulations and experimental tests will be conducted. The simulations will model various landing scenarios and test the fins' response and adaptability under different conditions. The experimental tests will involve launching prototype rockets equipped with the proposed fins and monitoring their landing accuracy and stability.Overall, the proposed quantum-inspired landing fins have the potential to revolutionize the precision landing of rockets, opening new opportunities for space exploration and transportation. The study's outcomes will contribute to advancing the knowledge and technology in the field of space engineering and inspire further innovation and research in this area.