Leaf-Shaped Bionic Micro Flying Vehicle

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This project is based on the combination of aircraft airfoil and bionics to design the shape of micro aircraft. On the premise of ensuring the aerodynamic performance, the shape of micro aircraft is designed as a tree leaf. The size of the aircraft is the same as that of the ordinary leaves, with the outer surface coated with leaves. It can either hover or hang in the trees, or simulate the leaves flying in the air. The aircraft also has the characteristics of small size, light weight, high reliability, convenient maintenance and portability. The leaf-shaped bionic micro-aircraft adopts a dual-engine tailless wing-body fusion layout, which has a heart-shaped line profile and a thickness profile with a symmetrical airfoil to ensure the aircraft has certain aerodynamic performance. The attitude control of the aircraft is realized by engine differential and tail rudder surface differential. The aircraft can carry out yaw, roll and pitch movements flexibly, and realize the free switching of vertical take-off, hover, horizontal flight mode, which has the dual flying characteristics of multi rotor and fixed wing aircraft. The aircraft is equipped with cameras and other equipment. When hovering in the air, it can observe and shoot at fixed points in the air, or hang the trees through the hook on the upper end of the fuselage, turn off the motor, and realize long-term static observation and shooting. The aircraft can also fly horizontally and maneuverably to track, observe and shoot the flying targets in the air. The aircraft has a wide range of application prospects in animal and plant observation, military reconnaissance and other fields.

Awards Won: