

拍撲式微飛行器之設計、製作與測試

The research of micro aerial vehicles (MAVs) is a new field of low-Reynolds- number flow, which attracts much attention in the advanced aeronautical area. The flapping wing, proved by many natural flyers, is the most appropriate way of flying objects which sizes are less than 6 inches. However, there is still plenty of room for studying on the unsteady aerodynamic characteristics of flapping wings. The flapping wing, which is light weighted and high strengthened, is originally composed of the titanium-alloy frame and the parylene skin. Such an integration of fabrication needs the help of MEMS processing. Additionally, the flapping test after the wing fabrication and the corresponding signal analysis from the smart wing skin will conclude this project and set the bases for the wind-tunnel verification/correction in the very near future.