拍撲式微型飛行系統之研製(I)

The objective of this project is to develop a flapping MAV capable of flight via wireless control. Based on the previous fabricating experience of MAVs, we have a great progress in this year. The first half of the research result, we fabricated a MAV having a successful flight capability of 10-meter range by MEMS process. The aerodynamic forces of this MAV were also obtained by a multi-dimensional load-cell in the facility of the wind tunnel. In the later half year, we re-designed a smoother gear-transmission system, and kept on searching light-weighted materials for the components of the MAV. Finally, integrated all the components including a (we) wireless receiver, tail actuator, and a poly-lithium battery in(a) to the MAV. In the flight testing, the MAV had a successful flight of 40-meter range and of 10-second endurance under wireless control on flapping power and tail attitude simultaneously.