

Title: A Study about the Taboo of Rotation Timing for the Flapping Wing Flight

Speaker : An-Bang Wang, Professor, Institute of Applied Mechanics, National Taiwan University

Date: November 23, 2004, 6:00-7:00PM

Place: MEB134

Abstract:

Influence of rotation timing for flapping wing flight on the flying lift has been experimentally investigated in this study. Since the insects cannot extend and shrink their wings like birds, the rotation timing of wings becomes the major influential factor to affect the flying lift of the flapping wing flight.

The results reveal that rotation timing has significant influence on the flying lift. The averaged flying lift increases for high rotation wing velocity. Based on the comparisons of flying lift, too late A-rotation (connecting from wing downward motion to upward one) is the most serious taboo for the motion design of the micro air vehicles with flapping wings. Too late B-rotation (connection from upward motion to downward one) should also be avoided.

