INVESTIGATION & SIMULATION OF BIRD FLIGHT KINEMATICS & DYNAMICS

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Abstract

Birds use a simple technique to get airborne. However, mankind is still not capable of using this simple technique successfully in any applications. In this project, it has been investigated about bird flight kinematics with respect to the different flying patterns of birds, with the intension of developing a mechanism for human applications which uses such kinematics. Motions of bird wing skeleton were examined and analysed using computer software. Virtual simulations of wing patterns were also done. In addition, an innovative simulation method has been developed to acquire flapping motion by manipulation of aerodynamic forces exerted, which has minimised the number of prime movers on board.