

Abstract Submitted
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Theoretical evaluation of the force acting on the flapping wing in two-dimensional fluid¹ MAKOTO IIMA, RIES, Hokkaido University — An exact analytical formula for the averaged force acting on a two-dimensional oscillating body situated in a uniform flow is obtained on the basis of the incompressible Navier-Stokes equations and the general force formula obtained by Isao Imai in 1974. It is revealed that the averaged force is determined only by the asymptotic behaviour of the time-averaged flow if the flow is time-periodic. The formula is applied to study the animal's hovering flight.

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