

Mechanics of swimming and flying

Courant Institute of Mathematical Sciences, New York University - satis.farmjournal.com:
Mechanics of Swimming and Flying (Cambridge Studies in Mathematical Biology, Series Number 2): 9780521280716: Childress, Stephen: Books



Description: -

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Navier-Stokes equations.

Fluid dynamics -- Mathematical models.

Animal swimming -- Mathematical models.

Animal flight -- Mathematical models. Mechanics of swimming and flying

-Mechanics of swimming and flying

Notes: Bibliography: p. 153-156.

This edition was published in 1977



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Altmetric

An object that is in equilibrium will always satisfy both translational equilibrium and rotational equilibrium. The swimmer's hands mimic an airplane wing in the way they generate force as they move through the water.

Mechanics of swimming and flying (Book, 1977) [satis.farmjournal.com]

Forces acting on a swimmer moving through the water A swimmer propelling him or herself through the water has four basic types of forces acting on him or her. The amount of inclination is given by the angle of attack.

Altmetric

This book provides a clear and concise summary of the fluid dynamics of the locomotion of living organisms. Resistive-force theory of flagellar propulsion 6. By moving his hand along an optimal path, as shown, and adjusting the orientation of his hand throughout i.

Mechanics of swimming and flying (1981 edition)

Through the use of proper technique the swimmer keeps the angle \hat{i} , as small as possible, since this maximizes the amount of force that is used to propel the swimmer along.

Mechanics of swimming and flying (1981 edition)

The effect of leg kick on sprint front crawl swimming, Journal of Sports Sciences, 2013. CFD is also used for optimization, such as for determining the optimal finger spacing for a swimmer to use in order to achieve maximum thrust.

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