

Periodical body's deformations are optimal strategies for locomotion

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ABSTRACT

A periodical cycle of body's deformation is a common strategy for locomotion (see for instance birds, fishes, humans). The aim of this talk is to establish that the auto-propulsion of deformable object is optimally achieved using periodic strategies of body's deformations. This property is proved by an asymptotic analysis of some optimal control problems, [1].

This is a joint work with *Laetitia Giraldi* from *INRIA, Université Côte d'Azur*.

References

- [1] Laetitia Giraldi and Frédéric Jean, *Periodical body's deformations are optimal strategies for locomotion*, SIAM Journal on Control and Optimization, vol. 38, pp. 1700-1714, 2020.