A model for magnetic microrobots for drug delivery

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Abstract

Controlling artificial devices that mimic the motion of real microorganisms, is attracting increasing interest, both from the mathematical point of view and applications, expecially for drug delivery purposes [1, 2, 3, 4]. A model for a magnetically driven slender micro-swimmer, mimicking a sperm cell is presented, supported by a feasibility study for its realization [4]. Using the well known Resistive Force Theory (RTF) approach to describe the hydrodinamic forces, the micro-swimmer can be described by a driftless affine control system where the control is an external magnetic field. Moreover we discuss through numerical simulations how to realize different kind of paths.

References

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