

Part III

Controllability for Swimming Phenomenon

The subject of our interest in Chapters 10-15 is the swimming phenomenon from the viewpoint of controllability theory for pde's. We intend to address this problem by investigating the controllability properties of an abstract object (a “swimmer”) which applies *fishlike or rowing motion to propel itself in a fluid* (as opposed to bodies that are drifting, or being pushed/pulled in fluid by external forces). This object can be viewed as a simplified model of a swimming living organism or an artificial “mechanical device”.