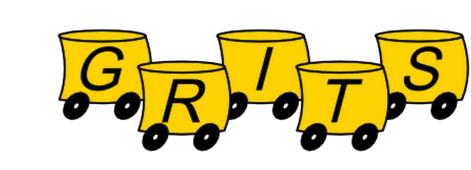


Towards Natural Human-Swarm Teleoperation Using Hand Synergies Mario Selvaggio¹ and Gennaro Notomista²



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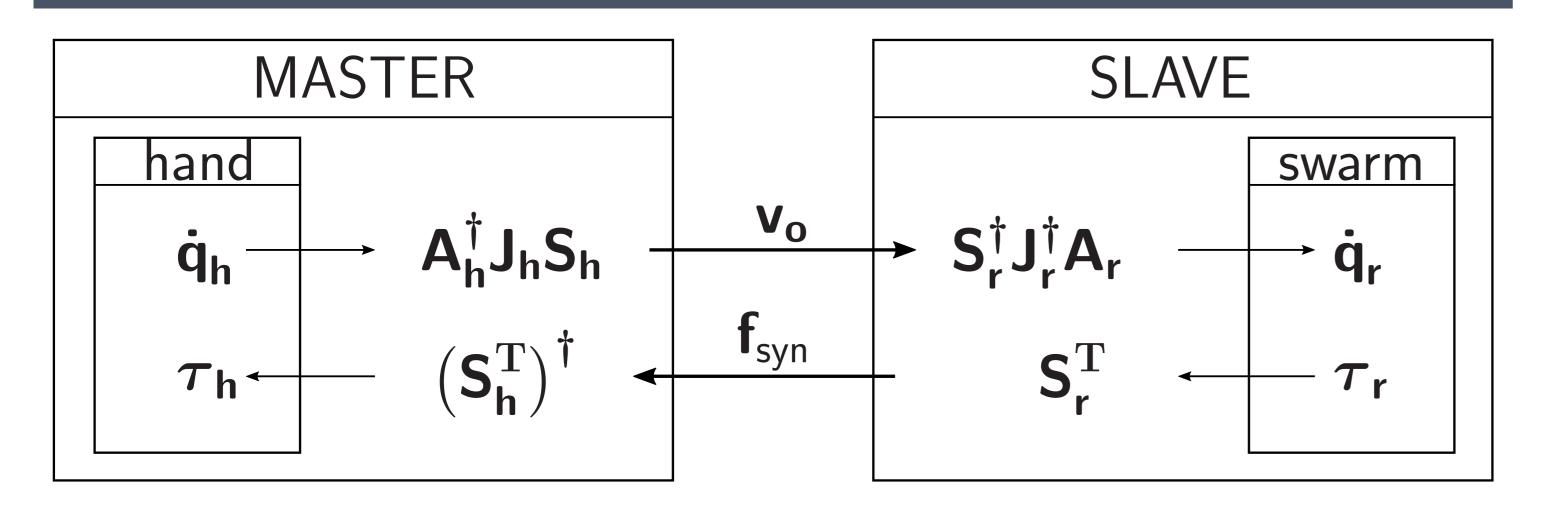
Goal

Development of a **natural** and **intuitive** human-swarm teleoperation scheme extending the concept of **hand-synergies**

System Model

hand with q_h and swarm with q_r (figures to generate)

Control Scheme



Synergistic Control

$$\dot{z}_r = S_r^{\dagger_I} J_r^{\dagger_I} A_r K_c A_h^{\dagger_r} J_h S_h \dot{z}_h$$

Explain all terms (inkscape?) formation control

Simulated Experiments

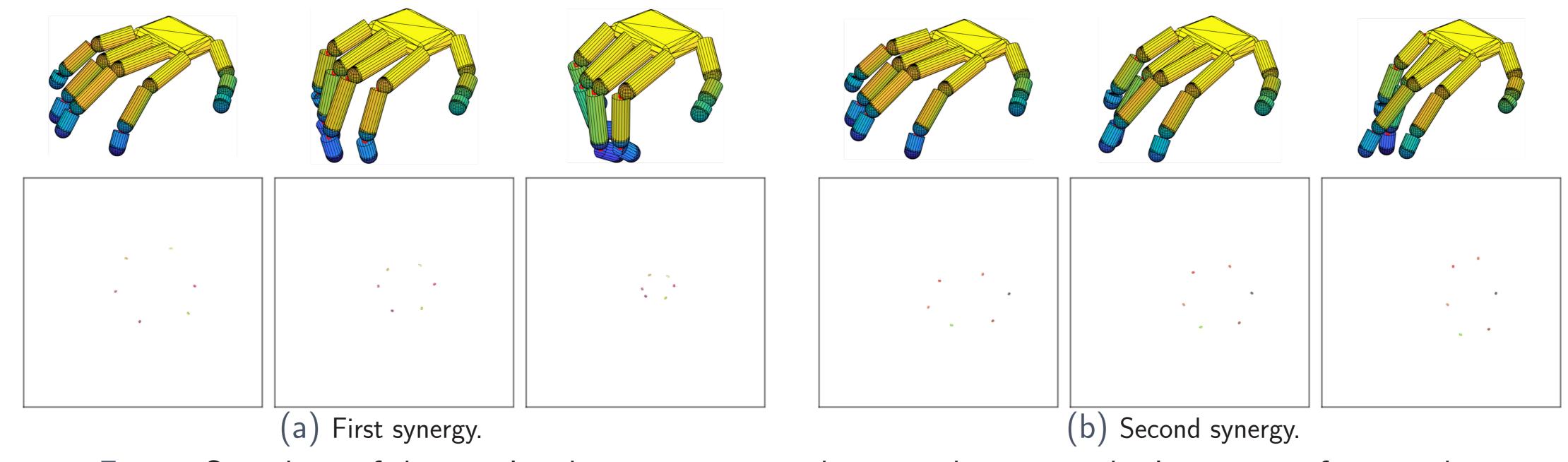
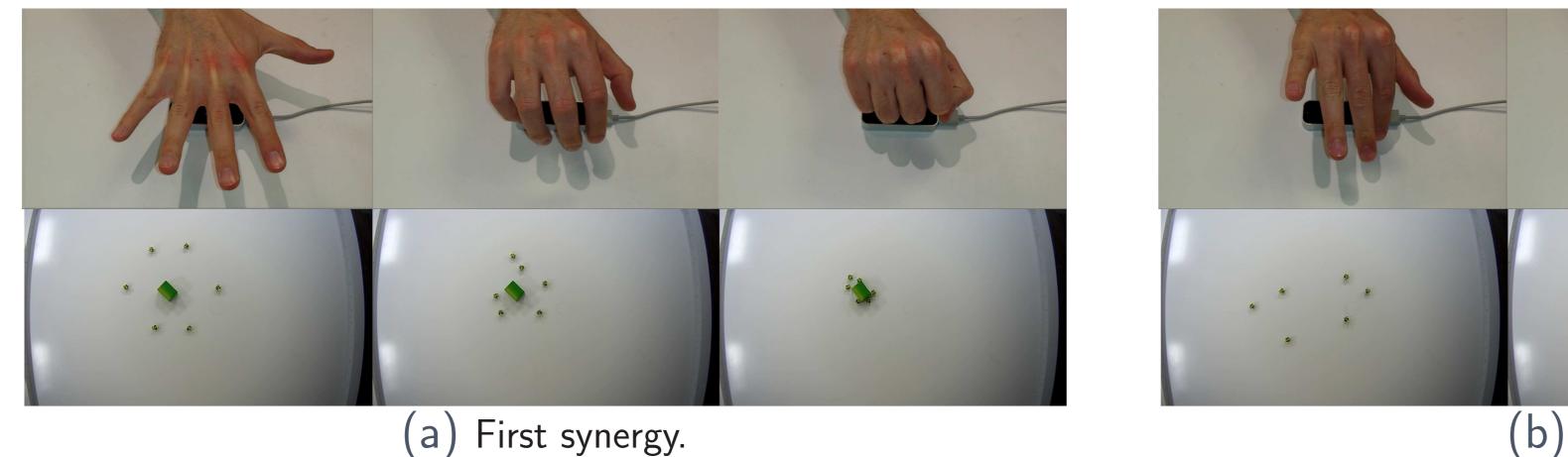


Figure: Snapshots of the simulated environment used to test the proposed teleoperation framework

Experiments on the Robotarium



(b) Second synergy.

Figure: Snapshots of the video recorded on the Robotarium, a remotely accessible swarm robotics testbed, on which the proposed teleoperation framework has been validated