TelePhysicalOperation: a Shared Control Architecture for Intuitive and Smart Teleoperation of Complex Mobile Manipulators

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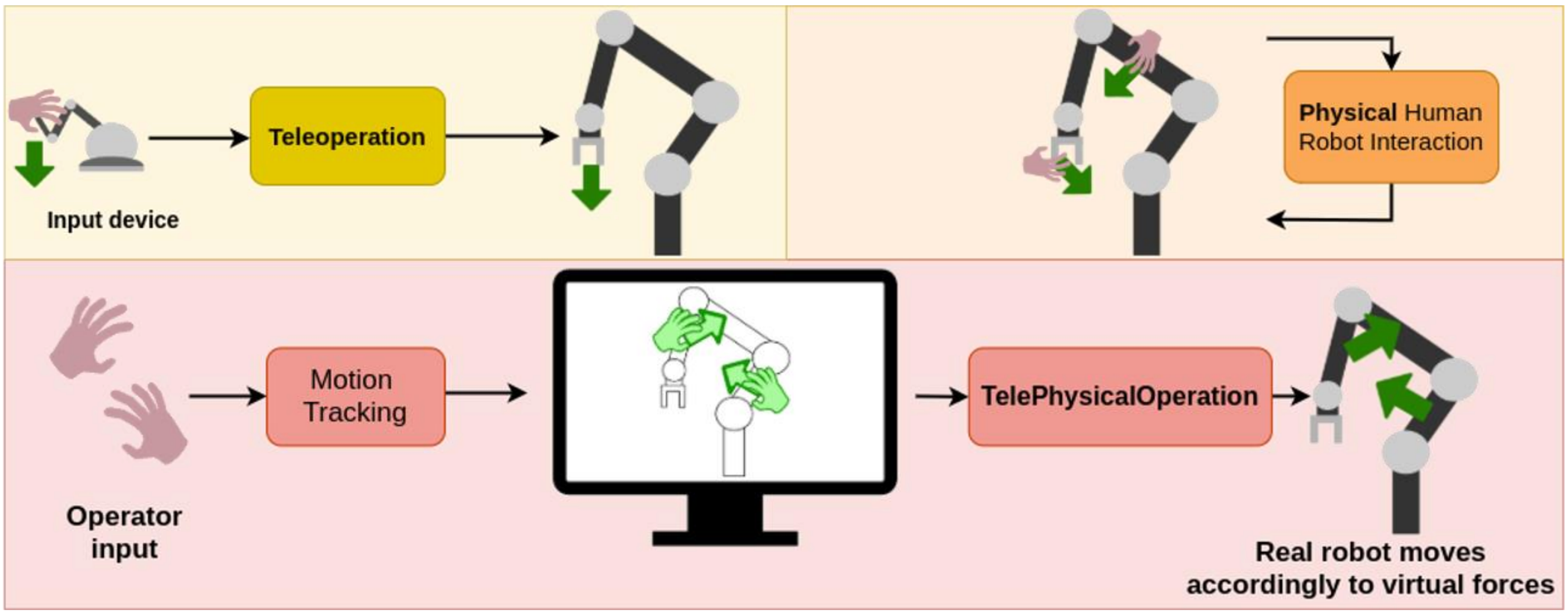
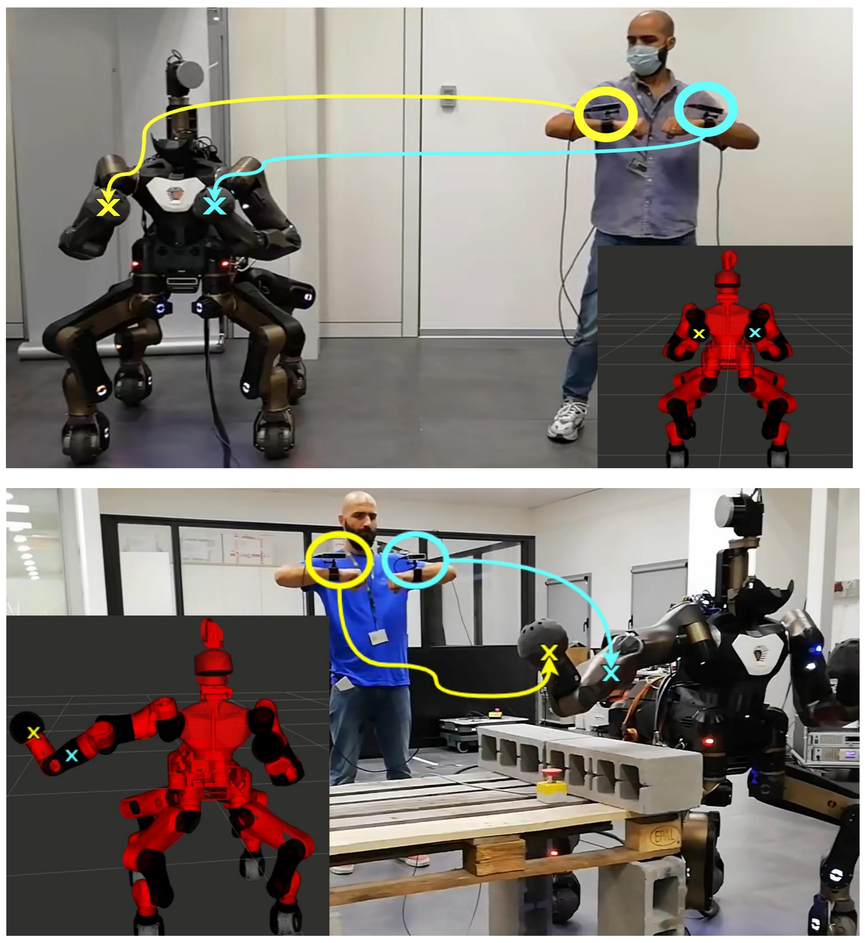
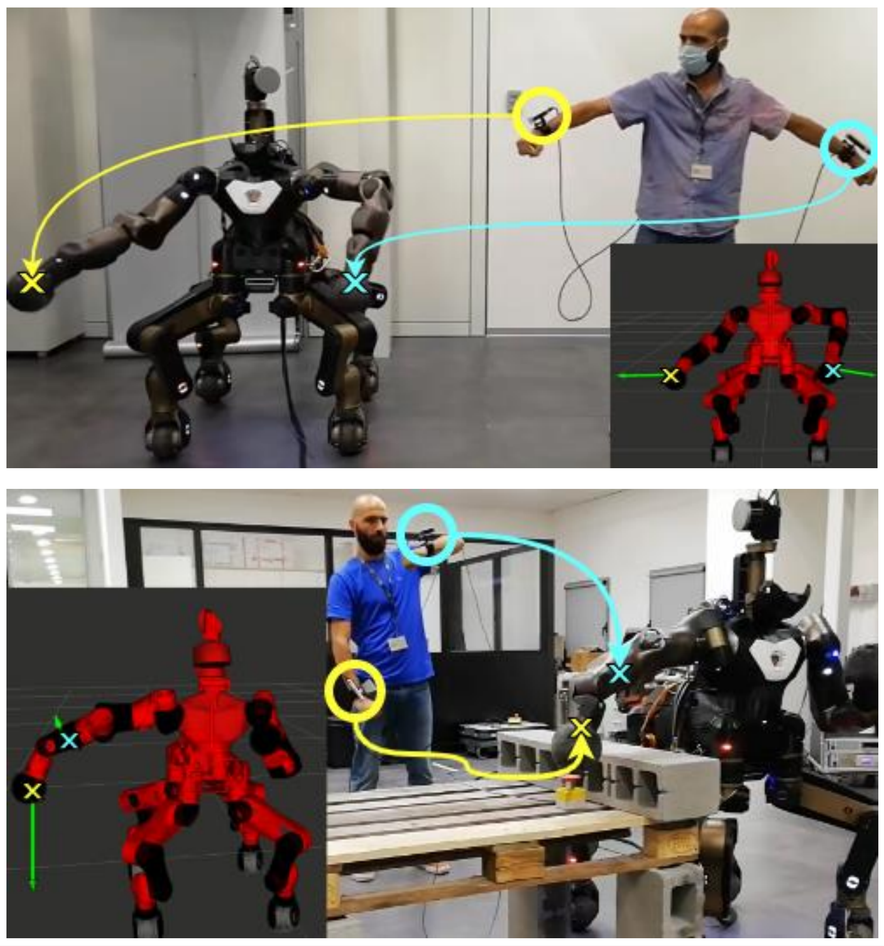
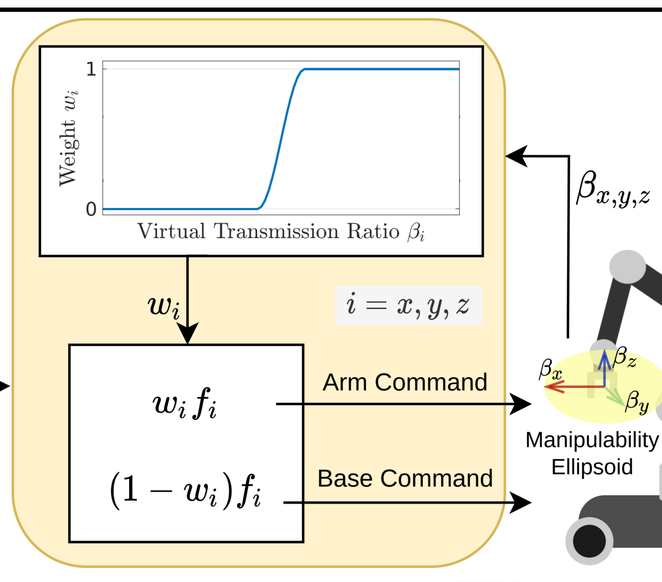
- A novel teleoperation concept to intuitively control redundant robots
- It permits to **virtually interact** with the robot through **virtual forces**
- The robot can be controlled **at a distance** by exploiting the intuitiveness of a **physical human-robot interaction** in a virtual manner





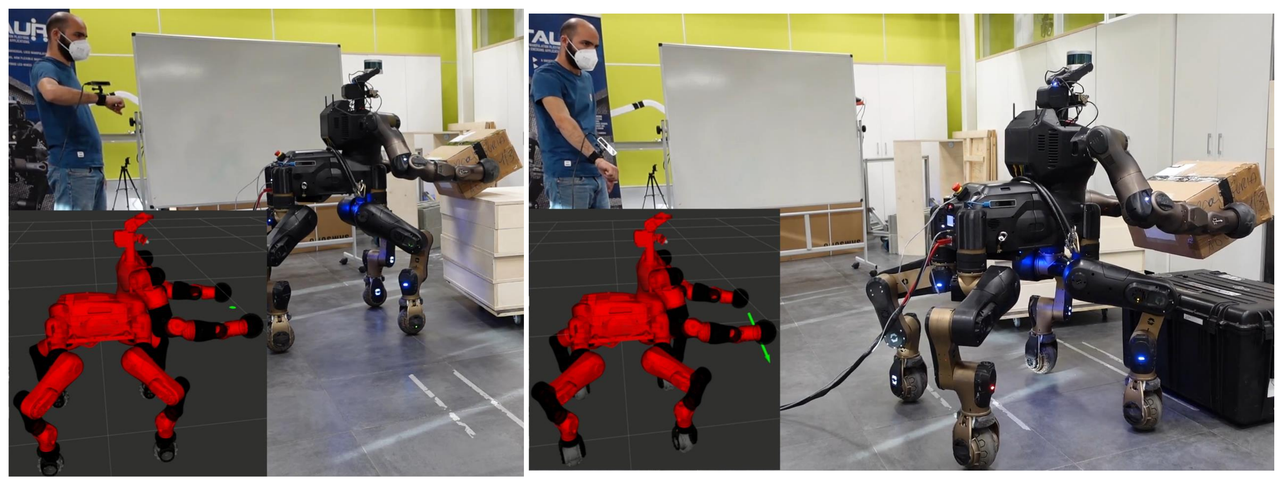


With the "**Marionette**" type interaction interface, virtual ropes are defined to let the operator push and pull the selected robot links



With the **manipulability-aware shared locomanipulation**, the interface generates arm and mobile base commands from a single operator input

With the **automatic regulation of grasping forces**, object transportation is made effortless



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