

Linear Kinematics & Dynamics and the Control Algorithms of Parallel Micro-manipulators

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This research project focuses on the methodology of deriving simple but effective linear kinematic and dynamic models of micro-manipulators which accurately represents the real-system, and can also be easily calculated in real-time for the control implementation. A few micro-manipulators will be selected as examples to develop this methodology. One of them is the 3-DOF micro-motion device (also known as RRR compliant mechanism). The others micro-manipulators will be either a 4, 5 or 6-DOF structure in order to develop the methodology for a wide range of micro-manipulators.