

Tracking Trajectory of a Cable-Driven Robot for Lower Limb Rehabilitation

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Abstract : This paper investigates and presents a cable-driven robot to lower limb rehabilitation use in sagittal plane. The presented rehabilitation robot is used for a trajectory tracking in joint space. The paper covers kinematic and dynamic analysis, which reveals the tensionability of the used cables as being the actuating source to provide a rehabilitation exercises of the human leg. The desired trajectory is generated to be used in the control system design in joint space. The obtained simulation results is showed to be efficient in this kind of application.

Keywords : cable-driven multi-body system, computed-torque controller, lower limb rehabilitation, tracking trajectory

Conference Title : ICCDSR 2016 : International Conference on Control, Dynamic Systems, and Robotics

Conference Location : Amsterdam, Netherlands

Conference Dates : August 04-05, 2016