عنوان مقاله:

Control and modeling of a arm robot for the purpose of rehabilitation

محل انتشار:

دومین کنفرانس بین المللی و سومین همایش ملی کاربرد فناوری های نوین در علوم مهندسی (سال: 1394)

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خلاصه مقاله:

In this paper, modeling and simulation of an exoskeleton based on bio mechatronics has beenexamined using MATLAB software. Exoskeletons are a kind of robot which have a constantand direct communication with the user's body like a rigid clothes and is used in most of thedaily activities. In exoskeleton, the movement of the robot determines the movement of anorgan. This robotic arm should be able to function in a dynamic situation and ensure areasonable behavior in unforeseen circumstances. To do this, the control method is requiredthat needs an accurate model of the system because the robotic arm has to get involved withthe arm and forearm of the injured person and applies force to it properly. The robot shouldalso make definitive decisions based on imprecise or incomplete information. The resultsobtained from this simulation approach showed that this method can be used as a suitable onein designing and modeling of these robots for rehabilitation of forearm and arm muscles ininjured people.

کلمات کلیدی:

robotic arm, exoskeleton, bio mechatronics, robotics rehabilitation