

Accepted Manuscript

Integral admittance shaping: A unified framework for active exoskeleton control

Umashankar Nagarajan, Gabriel Aguirre-Ollinger, Ambarish Goswami

PII: S0921-8890(15)00203-1

DOI: <http://dx.doi.org/10.1016/j.robot.2015.09.015>

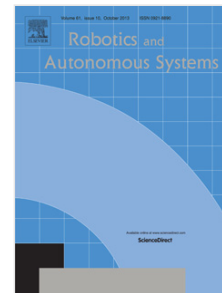
Reference: ROBOT 2543

To appear in: *Robotics and Autonomous Systems*

Received date: 6 April 2015

Revised date: 3 September 2015

Accepted date: 12 September 2015



Please cite this article as: U. Nagarajan, G. Aguirre-Ollinger, A. Goswami, Integral admittance shaping: A unified framework for active exoskeleton control, *Robotics and Autonomous Systems* (2015), <http://dx.doi.org/10.1016/j.robot.2015.09.015>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

- A control method for lower-limb exoskeletons based on modifying the dynamic response of the legs.
- Active control renders the lower limbs more responsive to muscle torques generated by the human.
- Optimization method synthesizes a controller capable of generating the desired dynamic response.
- Optimization also ensures the stability and passivity of the coupled human limb-exoskeleton.
- Control robustness to parameter uncertainties is analyzed and discussed.

Download English Version:

<https://daneshyari.com/en/article/10326714>

Download Persian Version:

<https://daneshyari.com/article/10326714>

[Daneshyari.com](https://daneshyari.com)