Title (en)

ACTUATOR CONTROL SYSTEMS AND RELATED METHODS

Title (de)

AKTUATORSTEUERUNGSSYSTEME UND ZUGEHÖRIGE VERFAHREN

Title (fr)

SYSTÈMES DE COMMANDE D'ACTIONNEUR ET PROCÉDÉ ASSOCIÉS

Publication

EP 3340942 A4 20200513 (EN)

Application

EP 16840207 A 20160826

Priority

- US 201562210439 P 20150826
- US 201514880118 A 20151009
- US 2016048972 W 20160826

Abstract (en)

[origin: WO2017035468A1] An actuator control system includes a motorized joint having first and second members rotatable relative to one another. An actuator is coupled with the motorized joint and is configured to rotate the first member relative to the second member in response to an input including a voltage, a current, or any combination thereof. A controller is coupled with the actuator and is configured to control the input using a control algorithm. The control algorithm controls the input based upon a mathematical model of biological muscle actuation that models titin as a filament which winds around actin during muscle actuation. In implementations the mathematical model includes mathematical representations of a contractile element, a viscous damping element in parallel with the contractile element, and a spring in series with the contractile element through a pulley and simultaneously in parallel with the contractile element.

IPC 8 full level

A61F 2/68 (2006.01); **A61F 2/66** (2006.01)

CPC (source: EP US)

A61F 2/66 (2013.01 - EP); **A61F 2/70** (2013.01 - EP US); **A61F 2/74** (2021.08 - EP); **A61F 2/741** (2021.08 - EP); A61F 2002/5006 (2013.01 - EP); A61F 2002/6863 (2013.01 - EP); A61F 2002/701 (2013.01 - EP); A61F 2002/7625 (2013.01 - EP)

Citation (search report)

- [A] US 2010324699 A1 20101223 - HERR HUGH M [US], et al
- [A] US 2006249315 A1 20061109 - HERR HUGH M [US], et al
- See references of WO 2017035468A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

WO 2017035468 A1 20170302; **WO 2017035468 A8 20180816**; EP 3340942 A1 20180704; EP 3340942 A4 20200513

DOCDB simple family (application)

US 2016048972 W 20160826; EP 16840207 A 20160826