

Title (en)

METHOD FOR MINIMIZING LOADS ON THE ARTICULATED JOINTS OF A MANIPULATOR

Title (de)

VERFAHREN ZUR MINIMIERUNG VON BELASTUNGEN DER GELENKVERBINDUNGEN EINES MANIPULATORS

Title (fr)

PROCÉDÉ DE RÉDUCTION AU MINIMUM DES CONTRAINTES SUR LES LIAISONS ARTICULÉES D'UN MANIPULATEUR

Publication

EP 3551394 A1 20191016 (DE)

Application

EP 17780368 A 20170929

Priority

- DE 102016123909 A 20161209
- EP 2017074751 W 20170929

Abstract (en)

[origin: WO2018103908A1] A method for minimizing the load on at least one joint (3) of a manipulator (1), which is intended to exert a force and/or a torque on a work object or its environment by means of a tool (2), is characterized, with regard to the problem of operating a manipulator such that its manipulation capability is as far as possible not impaired by its individual structural design and its individual performance, in that the following steps are carried out: - defining the value and/or the direction of the maximum force and/or maximum torque with which the at least one articulated joint is intended to be maximally loaded, - defining the value and/or the direction of the expected force and/or expected torque which the tool is intended to exert and/or which acts thereon, - defining at least one first spatial orientation and/or spatial position of the tool, said orientation and/or position not being intended to change during the exertion or action of the force and/or torque, and - determining a configuration of the articulated joint that the latter adopts when the tool exerts and/or experiences the defined force and/or defined torque, while maintaining the defined first spatial orientation and/or spatial position, such that the defined value and/or the defined direction of the maximum force and/or maximum torque with which the at least one articulated joint is intended to be maximally loaded is not exceeded. A manipulator (1) is configured according to this method.

IPC 8 full level

B25J 9/16 (2006.01)

CPC (source: EP)

B25J 9/1643 (2013.01); **G05B 2219/40342** (2013.01); **G05B 2219/40343** (2013.01); **G05B 2219/40369** (2013.01); **G05B 2219/40377** (2013.01)

Citation (search report)

See references of WO 2018103908A1

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

WO 2018103908 A1 20180614; DE 102016123909 A1 20180614; EP 3551394 A1 20191016

DOCDB simple family (application)

EP 2017074751 W 20170929; DE 102016123909 A 20161209; EP 17780368 A 20170929