

Title (en)

METHOD AND SYSTEM FOR CONTROLLING THE STABILITY CONDITIONS OF A MACHINE

Title (de)

VERFAHREN UND SYSTEM ZUR STEUERUNG DER STABILITÄTSZUSTÄNDE EINER MASCHINE

Title (fr)

PROCÉDÉ ET SYSTÈME DE CONTRÔLE DES CONDITIONS DE STABILITÉ D'UNE MACHINE

Publication

EP 4170100 A1 20230426 (EN)

Application

EP 21204161 A 20211022

Priority

EP 21204161 A 20211022

Abstract (en)

Method (100) for controlling the stability conditions of a machine (1) moveable on a ground (G) having at least an operational component (2), in particular a hydraulic cylinder, for moving a portion (3) of the machine (1), and being maneuvered by an operator through operational commands, the method (100) comprising acquiring (S101) at least a first sensor signal (4) defining the position of the portion of the machine (1); acquiring (S102) at least a second sensor signal (5) defining a variation of the position of the portion of the machine (1) relative to the ground (G); acquiring (S103) at least a command signal (6) defining the operational commands of the operator for actuating the operational component (2) and for transmitting an operational velocity to said portion (3) of the machine (1); determining (S104) a stability condition of the machine (1) based on the first sensor signal (4), the second sensor signal (5) and the command signal (6), and outputting (S105) a control signal (7) to control the operational component (2) as a function of the determined stability condition, wherein the stability condition is determined by monitoring and estimating both the static and the dynamic stability conditions of the machine (1), in particular by monitoring and estimating the position of the center of gravity and of an index of stability of the machine (1), relative to a contact area of the machine (1) with the ground (G).

IPC 8 full level

E02F 9/24 (2006.01); **E02F 9/26** (2006.01)

CPC (source: EP)

E02F 9/24 (2013.01); **E02F 9/265** (2013.01)

Citation (search report)

- [X] US 2017284056 A1 20171005 - MIZUOCHI MARIKO [JP], et al
- [A] US 2010204891 A1 20100812 - BIGGERSTAFF JOSEPH M [US]
- [A] US 2021214919 A1 20210715 - OKADA JUNICHI [JP], et al

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

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

EP 4170100 A1 20230426; EP 4170100 B1 20240417

DOCDB simple family (application)

EP 21204161 A 20211022