

Title (en)

METHOD FOR ESTIMATING THE SPEED AND POSITION OF A ROTOR OF A WOUND-ROTOR SYNCHRONOUS MACHINE

Title (de)

VERFAHREN ZUR SCHÄTZUNG DER DREHZAHL UND POSITION EINES ROTORS EINER SYNCHRONMASCHINE MIT GEWICKELTEM ROTOR

Title (fr)

PROCÉDÉ D'ESTIMATION DE LA VITESSE ET DE LA POSITION D'UN ROTOR D'UNE MACHINE SYNCHRONE À ROTOR BOBINÉ

Publication

EP 3824541 A1 20210526 (FR)

Application

EP 19733828 A 20190702

Priority

- FR 1856535 A 20180716
- EP 2019067754 W 20190702

Abstract (en)

[origin: WO2020016002A1] The invention relates to a method for estimating the speed and position of a rotor (50) of a wound-rotor synchronous machine (50) powered by a three-phase electric power network, comprising: - a step of injecting, into the three-phase electrical network, a high-frequency voltage signal; - a step (101) of demodulating the currents transformed by the second transformation step (101), comprising high-pass or band-pass filtering, and for determining an estimation error signal (ϵ); - a step of estimating (102) the phase shift (ϕ_{comp}) produced by the rotor acceleration and by the high-pass or band-pass filtering of the demodulation step (101) to refine the estimation error signal (ϵ) determined during the demodulation step (101); a step (103) of separating the high-frequency component from the low frequency of the measured currents; the method further comprising a second part (12) for gradually estimating the position, speed and acceleration of the rotor, with gain parameters decoupled from each other, according to the sign of the obtained estimation error.

IPC 8 full level

H02P 6/18 (2016.01); **H02P 21/28** (2016.01)

CPC (source: EP)

H02P 6/183 (2013.01); **H02P 21/28** (2016.02)

Citation (search report)

See references of WO 2020016002A1

Cited by

WO2024132022A1

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)

FR 3083863 A1 20200117; **FR 3083863 B1 20200619**; CN 112425062 A 20210226; EP 3824541 A1 20210526; WO 2020016002 A1 20200123

DOCDB simple family (application)

FR 1856535 A 20180716; CN 201980047989 A 20190702; EP 19733828 A 20190702; EP 2019067754 W 20190702