

Title (en)

METHOD FOR CONTROLLING THE ELECTROMAGNETIC TORQUE OF A HIGH SPEED SYNCHRONOUS MACHINE

Title (de)

VERFAHREN ZUR STEUERUNG DES ELEKTROMAGNETISCHEN DREHMOMENTS FÜR EINE HOCHGESCHWINDIGKEITSSYNCHRONMASCHINE

Title (fr)

PROCEDE DE COMMANDE DU COUPLE ELECTROMAGNETIQUE D'UNE MACHINE SYNCHRONE A HAUTE VITESSE

Publication

**EP 2856632 A1 20150408 (FR)**

Application

**EP 13727299 A 20130516**

Priority

- FR 1254908 A 20120529
- FR 2013051066 W 20130516

Abstract (en)

[origin: WO2013178906A1] A method for controlling the electromagnetic torque of a three-phase synchronous machine with permanent magnets, which comprises measuring the current delivered to the three phases of the machine, transposing the three measured currents into a direct current component (Id) and a quadratic current component (Iq) using Park's transformation, and receiving an instruction (Iq\_req) for the quadratic current component (Iq). When the direct current component (Id) is negative, a defluxing control mode is activated in which the machine is controlled from a direct voltage component (Ud) and a quadratic voltage component (Uq) of said machine, the direct voltage component (Ud) and the quadratic voltage component (Uq) being determined in Park's plane.

IPC 8 full level

**H02P 21/00** (2006.01)

CPC (source: EP KR RU US)

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Citation (search report)

See references of WO 2013178906A1

Citation (examination)

- ZHU LEI ET AL: "Deep field-weakening control of PMSMs for both motion and generation operation", ELECTRICAL MACHINES AND SYSTEMS (ICEMS), 2011 INTERNATIONAL CONFERENCE ON, IEEE, 20 August 2011 (2011-08-20), pages 1 - 5, XP032020238, ISBN: 978-1-4577-1044-5, DOI: 10.1109/ICEMS.2011.6073476
- ZHU LEI ET AL: "A new deep field-weakening strategy of IPM machines based on single current regulator and voltage angle control", ENERGY CONVERSION CONGRESS AND EXPOSITION (ECCE), 2010 IEEE, IEEE, PISCATAWAY, NJ, USA, 12 September 2010 (2010-09-12), pages 1144 - 1149, XP031787062, ISBN: 978-1-4244-5286-6, DOI: 10.1109/ECCE.2010.5617844

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Designated extension state (EPC)

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DOCDB simple family (application)

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