

Title (en)
TORQUE RIPPLE FREE ELECTRIC POWER STEERING

Title (de)
ELEKTRISCHE SERVOLENKUNG OHNE DREHMOMENTSCHWANKUNG

Title (fr)
SERVO-DIRECTION ELECTRIQUE SANS ONDULATION DE COUPLE

Publication
EP 1405398 A4 20051109 (EN)

Application
EP 00959930 A 20000906

Priority
US 0024416 W 20000906

Abstract (en)
[origin: WO0220293A2] Disclosed is an electric motor system with reduced torque ripple comprising a sinusoidally magnetized permanent magnet, a sinusoidal inverter, a higher resolution position sensor, a composite iron stator yoke, a composite reinforced plastic rotor core and shaft; and a high gear ratio gear reduction box. The novel combination of magnet, inverter, sensor plastic rotor core and shaft and high gear ratio gear box substantially reduces the torque ripple on the shaft of said motor system.

IPC 1-7
H02P 6/00; **B62D 5/04**

IPC 8 full level
B62D 5/04 (2006.01); **H02K 29/03** (2006.01); **H02K 29/08** (2006.01); **H02P 6/10** (2006.01)

CPC (source: EP)
B62D 5/046 (2013.01); **H02K 29/03** (2013.01); **H02K 29/08** (2013.01); **H02P 6/10** (2013.01); **H02P 2209/07** (2013.01)

Citation (search report)

- [Y] US 5982067 A 19991109 - SEBASTIAN TOMY [US], et al
- [Y] EP 0664600 A1 19950726 - NSK LTD [JP]
- [E] WO 0120351 A1 20010322 - DELPHI TECH INC [US]
- [Y] US 4599561 A 19860708 - TAKAHASHI TADASHI [JP], et al
- [XY] JAHNS T M ET AL: "PULSATING TORQUE MINIMIZATION TECHNIQUES FOR PERMANENT MAGNET AC MOTOR DRIVES-A REVIEW", IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, IEEE INC. NEW YORK, US, vol. 43, no. 2, 1 April 1996 (1996-04-01), pages 321 - 330, XP000592585, ISSN: 0278-0046
- See references of WO 0220293A2

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
WO 0220293 A2 20020314; **WO 0220293 A3 20040129**; EP 1405398 A2 20040407; EP 1405398 A4 20051109; JP 2004508792 A 20040318

DOCDB simple family (application)
US 0024416 W 20000906; EP 00959930 A 20000906; JP 2002524938 A 20000906