

Title (en)

METHOD, COMPUTER PROGRAM, AND CONTROL AND/OR REGULATING DEVICE FOR OPERATING AN INTERNAL COMBUSTION ENGINE, AND CORRESPONDING INTERNAL COMBUSTION ENGINE

Title (de)

VERFAHREN, COMPUTERPROGRAMM UND STEUER- UND/ODER REGELGERÄT ZUM BETREIBEN EINER BRENNKRAFTMASCHINE, SOWIE BRENNKRAFTMASCHINE

Title (fr)

PROCEDE, PROGRAMME INFORMATIQUE ET APPAREIL DE COMMANDE ET/OU DE REGULATION PERMETTANT DE FAIRE FONCTIONNER UN MOTEUR A COMBUSTION INTERNE, ET MOTEUR A COMBUSTION INTERNE Y RELATIF

Publication

**EP 1432901 B1 20061122 (DE)**

Application

**EP 02767102 A 20020816**

Priority

- DE 0202995 W 20020816
- DE 10147814 A 20010927

Abstract (en)

[origin: WO03031787A1] The invention relates to a method for operating an internal combustion engine. According to said method, fuel is injected directly into at least one combustion chamber of the internal combustion engine by means of at least one fuel injection device. The valve element of the fuel injection device is displaced by means of a piezoelectric actuator. Furthermore, the torque produced during the combustion of the fuel quantity injected into the combustion chamber in one injection is determined. The aim of the invention is to optimise the consumption and emission behaviour of the internal combustion engine. To this end, a current valve characteristic (fc) of the fuel injection device integrated into the internal combustion engine is at least approximately determined on the basis of the torque. The valve characteristic (fc) combines a fuel mass flow rate (Qstat), which is to be emitted by the fuel injection device, with a control power (U) which is to be supplied to the piezoelectric actuator.

IPC 8 full level

**F02D 41/20** (2006.01); **F02M 51/00** (2006.01); **F02D 41/04** (2006.01); **F02D 41/14** (2006.01); **F02D 41/22** (2006.01); **F02D 41/24** (2006.01); **F02D 45/00** (2006.01); **F02M 51/06** (2006.01)

CPC (source: EP)

**F02D 41/1497** (2013.01); **F02D 41/2096** (2013.01); **F02D 41/2432** (2013.01); **F02D 41/2467** (2013.01)

Designated contracting state (EPC)

DE FR IT

DOCDB simple family (publication)

**WO 03031787 A1 20030417**; DE 10147814 A1 20030508; DE 50208805 D1 20070104; EP 1432901 A1 20040630; EP 1432901 B1 20061122; JP 2005504912 A 20050217; JP 4235552 B2 20090311

DOCDB simple family (application)

**DE 0202995 W 20020816**; DE 10147814 A 20010927; DE 50208805 T 20020816; EP 02767102 A 20020816; JP 2003534740 A 20020816