Title (en)
Method for controlling the common rail pressure of a direct injection engine

Title (de)
Verfahren zur Steuerung eines Common-Rail-Direkteinspritzungssystems

Title (fr)
Méthode de contrôle de la pression dans une rampe d'injection commune d'un moteur à injection directe

Publication
EP 2284380 A2 20110216 (EN)

Application
EP 10172447 A 20100811

Priority
IT BO20090545 A 20090812

Abstract (en)
A method for controlling a direct injection system (1) of common-rail type of an internal combustion engine (2); the direct injection system (1) has: a fuel tank (10), a low pressure pump (8) which draws from the tank (10), and a high pressure pump (6) which receives the fuel from the low pressure pump (8) and feeds the pressurized fuel to a common rail (5) connected to a number of injectors (4); the control method includes the steps of: determining a desired pressure (P railref) of the fuel inside the common rail (5); and regulating the delivery of the low pressure pump (8) towards the high pressure pump (6) to pursue the desired pressure (P railref) of the fuel inside the common rail (5) and so as to obtain a corresponding regulation of the delivery of the high pressure pump (6) towards the common rail (5). The method involves determining closed loop contribution, open loop contribution (feedforward) and the use of nested control loops.

IPC 8 full level
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CPC (source: EP)
F02D 41/3854 (2013.01); F02D 2041/141 (2013.01); F02D 2041/1419 (2013.01); F02D 2200/0602 (2013.01); F02D 2250/31 (2013.01)

Citation (applicant)
- EP 0481964 A2 19920422 - NIPPON DENSO CO [JP]
- US 6116870 A 20000912 - KRAEMER MANFRED [DE]
- EP 1612402 A1 20060104 - FIAT RICERCHE [IT]

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CN106286061A; CN109555609A; EP2634411A4; CN112240260A; EP2762718A4; EP2728159A4; US9657680B2; US10161347B2

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 SE SI SK SM TR

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BA ME RS

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EP 2284380 A2 20110216; EP 2284380 A3 20130828; EP 2284380 B1 20171129; IT 1395038 B1 20120905; IT BO20090545 A1 20110213

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EP 10172447 A 20100811; IT BO20090545 A 20090812