

Title (en)

Method for estimating the air/fuel ratio in a cylinder of an internal combustion engine using an extended Kalman filter

Title (de)

Auf einem erweiterten Kalmanfilter basiertes Verfahren zur Abschätzung des Kraftstoff/Luft-Verhältnisses in einem Zylinder eines Verbrennungsmotors

Title (fr)

Méthode d'estimation par un filtre de Kalman étendu de la richesse dans un cylindre d'un moteur à combustion

Publication

**EP 1729000 A1 20061206 (FR)**

Application

**EP 06290557 A 20060403**

Priority

FR 0505443 A 20050530

Abstract (en)

The method for estimating the richness of the fuel mixture in the cylinders of an i.c. engine with a sensor (SR) located after its exhaust manifold (CE) consists of defining an estimate of the richness measured by the sensor, modelling the transfer function of the sensor, and establishing a physical model in real time of the gases ejected from the cylinders. The model is connected to an extended Kalman-type non-linear estimator, which is used to estimate a real-time value for the fuel mixture richness in each of the cylinders.

IPC 8 full level

**F02D 41/14** (2006.01); **F02D 41/34** (2006.01)

CPC (source: EP US)

**F02D 41/008** (2013.01 - EP US); **F02D 41/1458** (2013.01 - EP US); **F02D 41/1408** (2013.01 - EP US); **F02D 41/1454** (2013.01 - EP US); **F02D 2041/1416** (2013.01 - EP US); **F02D 2041/1417** (2013.01 - EP US); **F02D 2041/143** (2013.01 - EP US); **F02D 2041/1431** (2013.01 - EP US)

Citation (applicant)

FR 2834314 A1 20030704 - PEUGEOT CITROEN AUTOMOBILES SA [FR]

Citation (search report)

- [A] US 2005022797 A1 20050203 - IKEMOTO NORIAKI [JP], et al
- [A] EP 0688945 A2 19951227 - HONDA MOTOR CO LTD [JP]
- [A] EP 0553570 A2 19930804 - HONDA MOTOR CO LTD [JP]
- [A] US 6357429 B1 20020319 - CARNEVALE CLAUDIO [FR], et al

Cited by

EP2650516A1; FR2989428A1

Designated contracting state (EPC)

DE GB IT

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AL BA HR MK YU

DOCDB simple family (publication)

**EP 1729000 A1 20061206; EP 1729000 B1 20080702**; DE 602006001609 D1 20080814; FR 2886346 A1 20061201; FR 2886346 B1 20100827; JP 2006336645 A 20061214; JP 4703488 B2 20110615; US 2006271270 A1 20061130; US 7581535 B2 20090901

DOCDB simple family (application)

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