

Title (en)

METHOD FOR THE MODEL-BASED OPEN-LOOP AND CLOSED-LOOP CONTROL OF AN INTERNAL COMBUSTION ENGINE

Title (de)

VERFAHREN ZUR MODELLBASIERTEN STEUERUNG UND REGELUNG EINER BRENNKRAFTMASCHINE

Title (fr)

PROCÉDÉ DE COMMANDE REPOSANT SUR UN MODÈLE EN BOUCLE OUVERTE ET EN BOUCLE FERMÉE D'UN MOTEUR À COMBUSTION INTERNE

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Application

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Abstract (en)

[origin: WO2021148410A1] The invention relates to a method for model-based open-loop and closed-loop control of an internal combustion engine (1), in which: the injection system setpoint values for controlling the injection system actuators are determined via a combustion model (4) according to a setpoint torque; during operation of the internal combustion engine (1), the combustion model (4) is adapted according to a model value, the model value being calculated from a first Gaussian process model for representing a base grid and a second Gaussian process model for representing adaptation data points; a minimised measure of quality is determined by an optimiser (3) by changing the injection system setpoint values within a prediction horizon, and, in the event that a minimised measure of quality is found, the injection system setpoint values are set as critical for adjusting the operating point of the internal combustion engine (1). The invention is characterised in that the model value is monitored in respect of a predefined monotonicity.

IPC 8 full level

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