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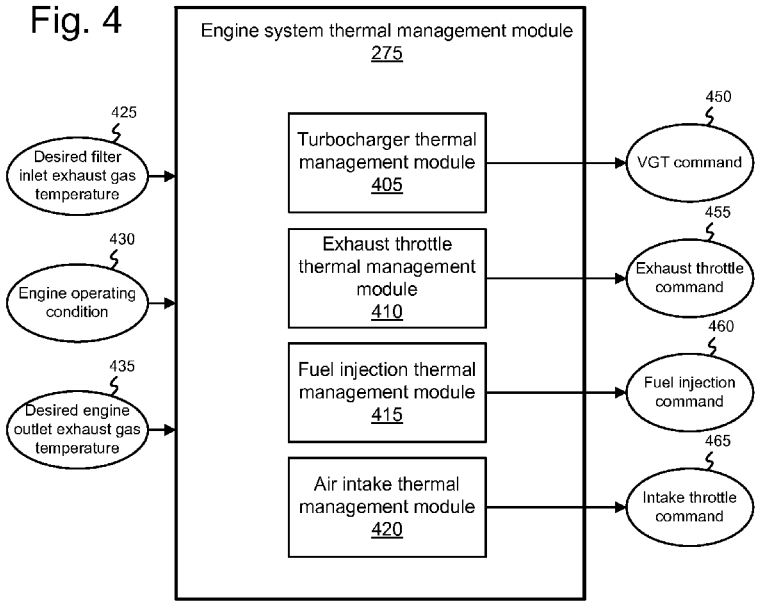
— *with international search report (Art. 21(3))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

[Continued on next page]

(54) Title: ENGINE PERFORMANCE MANAGEMENT DURING A DIESEL PARTICULATE FILTER REGENERATION EVENT

Fig. 4



(57) Abstract: Embodiments of an apparatus, system, and method are disclosed for managing regeneration event characteristics. For example, in one embodiment, an apparatus (130) for controlling the temperature of the output exhaust of an internal combustion engine (110) for a regeneration event on a particulate matter filter (150) includes a regeneration module (260) that determines a desired particulate matter filter inlet exhaust gas temperature (425) for a regeneration event, a turbocharger thermal management module (405) that determines a variable geometry turbine (VGT) device position strategy, a fuel injection thermal management module (415) determines a fuel injection strategy, and an air intake thermal management module (420) that determines an intake throttle position strategy. The VGT device position strategy, post-injection fuel injection strategy, and intake throttle position strategy cooperatively achieve the desired particulate matter filter inlet exhaust gas temperature and maintain a fuel dilution level of the engine below a maximum fuel dilution level.

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A. CLASSIFICATION OF SUBJECT MATTER

F01N 3/023(2006.01)i, F01N 3/02(2006.01)i, B01D 46/42(2006.01)i, F01N 9/00(2006.01)i, F02D 45/00(2006.01)i, F02D 41/04(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: F01N3/023, F01N3/02, F01N9/00, F02D45/00, F02D41/04, B01D46/42

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models and applications for Utility models since 1975

Japanese Utility models and applications for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & keyword : regeneration, exhaust gas, temperature

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	KR 10-2005-0070572 A (HYUNDAI MOTOR COMPANY) 7 July 2005 See abstract, claims 1, 2, fig. 3	1 2-20
A	EP 1662101 A1 (MITSUBISHI JIDOSHA KOGYO KABUSHIKI KAISHA) 21 May 2006 See abstract, paragraph 5, 10, 11, 20-22, 28-33, fig. 2	1-20
A	US 2007-214772 A1 (ROGER D. ENGLAND) 20 September 2007 See abstract, paragraph 24-30, fig. 2	1-20

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
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		CN 100439665 C	03.12.2008
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