

Title (en)
INTRA-FURNACE STATE INFERENCE DEVICE, INTRA-FURNACE STATE INFERENCE METHOD, AND MOLTEN STEEL MANUFACTURING METHOD

Title (de)
OFENINTERNE ZUSTANDSABLEITUNGSVORRICHTUNG, OFENINTERNES ZUSTANDSABLEITUNGSVERFAHREN UND VERFAHREN ZUR HERSTELLUNG VON GESCHMOLZENEM STAHL

Title (fr)
DISPOSITIF D'INFÉRENCE D'ÉTAT INTRA-FOUR, PROCÉDÉ D'INFÉRENCE D'ÉTAT INTRA-FOUR ET PROCÉDÉ DE FABRICATION D'ACIER FONDU

Publication
EP 4400607 A1 20240717 (EN)

Application
EP 22898431 A 20221111

Priority
• JP 2021193655 A 20211129
• JP 2022042138 W 20221111

Abstract (en)
A furnace state estimation device (1) including: an input unit (11) configured to receive track record information and conditions of refining treatment; a model determination unit (14) configured to determine model parameters using past model parameters; a furnace state calculation unit (15) configured to calculate state quantities, including temperature and component concentration of molten metal and component concentration of slag, in a furnace, using the determined model parameters; and a model parameter calculation unit (13) configured to calculate model parameters in the refining treatment of the target charge, based on an evaluation function that includes terms representing a mass balance error and a heat balance error in the furnace from beginning to end of a particular period of time in the refining treatment, using track record information including results of the refining treatment of the target charge.

IPC 8 full level
C21C 7/00 (2006.01); **C21C 5/28** (2006.01)

CPC (source: EP)
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Designated contracting state (EPC)
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Designated extension state (EPC)
BA

Designated validation state (EPC)
KH MA MD TN

DOCDB simple family (publication)
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DOCDB simple family (application)
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