

Title (en)

Process to produce a metal melt on the basis of a dynamic process model, including a correction model

Title (de)

Verfahren zur Herstellung einer Metallschmelze an Hand eines dynamischen Prozessmodells, inklusiv Korrekturmodell

Title (fr)

Procédé pour la production d'une fonte de métal à base d'un modèle de processus dynamique, inclus un modèle de correction

Publication

EP 1310573 A3 20080123 (DE)

Application

EP 02450259 A 20021111

Priority

AT 17842001 A 20011113

Abstract (en)

[origin: EP1310573A2] Process control for molten metal involves using a dynamic computer process model together with a correction model. <??>To produce a molten metal in a metallurgical plant, a process model is used with the plant computer control. The process model has the behavior for at least one variable process parameter between an actual process value, a setting value, and a final process value. The process model takes the actual process value data to a given time point, as the temperature and/or the chemical composition where a computer simulation gives the direct time point where the actual process value gives the final process value at a later point in time. On deviations of the simulated process value from a nominal value, corrections are computed and the actual process value is altered accordingly. The actual process value is repeated from the data taken to the further time point. The process module has at least one module with intelligent self-optimizing e.g. with a neural network.

IPC 8 full level

C21C 5/46 (2006.01); **C21C 7/00** (2006.01); **C21C 5/00** (2006.01)

CPC (source: EP KR)

C21C 5/005 (2013.01 - EP); **C21C 5/4673** (2013.01 - EP); **C21C 7/00** (2013.01 - KR); **F27D 19/00** (2013.01 - EP); **F27D 21/0014** (2013.01 - EP); **F27D 21/0035** (2013.01 - EP)

Citation (search report)

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- [X] JP H05339617 A 19931221 - NIPPON KOKAN KK
- [X] JP H05195035 A 19930803 - NIPPON STEEL CORP
- [X] JP 2000144229 A 20000526 - NIPPON KOKAN KK
- [X] TOSHIO HATANAKA ET AL: "DEVELOPMENT OF BLOWING CONTROL SYSTEM IN BOF APPLYING AI TECHNOLOGY", PROCEEDINGS OF THE INTERNATIONAL CONFERENCE ON INDUSTRIAL ELECTRONICS, CONTROL AND INSTRUMENTATION (IECON). KOBE, OCT. 28 - NOV. 1, 1991, NES YORK, IEEE, US, vol. VOL. 1 CONF. 17, 28 October 1991 (1991-10-28), pages 48 - 53, XP000346266, ISBN: 0-87942-688-8
- [X] KOMATANI M ET AL: "DEVELOPMENT OF THE AUTOMATIC REFINING CONTROL SYSTEM IN BOF **", CAHIERS D'INFORMATIONS TECHNIQUES DE LA REVUE DE METALLURGIE, REVUE DE METALLURGIE. PARIS, FR, vol. 88, no. 6, 1 June 1991 (1991-06-01), pages 531 - 536, XP000261612, ISSN: 0035-1563

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Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

Designated extension state (EPC)

AL LT LV MK RO SI

DOCDB simple family (publication)

EP 1310573 A2 20030514; **EP 1310573 A3 20080123**; **EP 1310573 B1 20120926**; AT 411068 B 20030925; AT A17842001 A 20030215; BR 0206891 A 20040615; BR PI0206891 B1 20160705; ES 2396053 T3 20130218; KR 100904006 B1 20090622; KR 20030040135 A 20030522

DOCDB simple family (application)

EP 02450259 A 20021111; AT 17842001 A 20011113; BR 0206891 A 20021113; ES 02450259 T 20021111; KR 20020070375 A 20021113