

Title (en)

FURNACE CONDITION CONTROL APPARATUS AND METHOD

Title (de)

VORRICHTUNG UND VERFAHREN ZUR STEUERUNG VON OFENBEDINGUNGEN

Title (fr)

APPAREIL ET PROCÉDÉ DE COMMANDE DE CONDITION DE FOUR

Publication

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Application

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Abstract (en)

The present invention relates to a furnace condition control apparatus and method for guiding preemptive actions to stably maintain the condition of a blast furnace, by using various operational data and sensor data generated from the blast furnace. The furnace condition control apparatus according to an embodiment of the present invention may comprise: a first sensor part for imaging at least one of temperature data and pressure data of a blast furnace according to measurement positions; a second sensor part for detecting unstructured data of the blast furnace; and an action guidance part having an artificial intelligence algorithm for outputting an action guidance for operating the blast furnace, on the basis of the imaged temperature data or pressure data from the first sensor part and the unstructured data from the second sensor part. The furnace condition control method according to an embodiment of the present invention may comprise the steps of: collecting, by a data preprocessing part, unstructured data of at least one of the feed material condition, the tuyere condition, and the taphole condition of a blast furnace, and imaging temperature data and pressure data of the blast furnace according to measurement positions; receiving the data preprocessed by the data preprocessing part and outputting an action guidance for operating the blast furnace, by an artificial intelligence algorithm; determining whether the artificial intelligence algorithm requires relearning, according to whether an operator employs the action guidance; and determining whether to replace the artificial intelligence algorithm, according to whether the corresponding artificial intelligence algorithm achieves the relearning.

IPC 8 full level

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