Title (en)

Multivariable flatness control system

Title (de)

Mehrgrössen-Planheitsregelungssystem

Title (fr)

Système de contrôle de la planéité à variables multiples

Publication

EP 1181992 B1 20051019 (DE)

Application

EP 01119908 A 20010817

Priority

DE 10041181 A 20000818

Abstract (en)

[origin: EP1181992A2] The system detects band flatness with a measurement system and separates the planarity error into orthogonal components. A real-time model takes all rolling process parameters into account. Another model computes planarity regulation demand values. A multi-parameter regulator regulates band planarity. Control parameters for inclusion in dynamic optimization are predicted from the dead time. Noise parameter mixing is performed. The system detects the flatness of a band with a measurement system and separates the planarity error into orthogonal components. A real-time capability model takes all parameters involved in the rolling process in to account and another model computes demand values for planarity regulation. A multi-parameter regulator regulates band planarity. Control parameters for inclusion in dynamic optimization are predicted from the dead time. Noise parameter mixing takes into account the characteristics of the incoming band, the variation of the roller force and thermal crowning. Independent claims are also included for the following: a method of measuring and/or regulating flatness in when rolling material, and a device for measuring and/or regulating the flatness of a band.

IPC 1-7

B21B 37/28

IPC 8 full level

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CPC (source: EP US)

B21B 37/28 (2013.01 - EP US); B65H 2557/2644 (2013.01 - EP US)

Cited by

EP1488863A3; CN1311922C; DE102004005011A1; DE102004005011B4; CN103406364A; CN107138540A; DE102014007381A1; US7031797B2; WO03078086A1

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DOCDB simple family (publication)

EP 1181992 A2 20020227; **EP 1181992 A3 20030502**; **EP 1181992 B1 20051019**; AT E306991 T1 20051115; DE 10041181 A1 20020516; DE 50107738 D1 20051124; JP 2002153909 A 20020528; US 2002050070 A1 20020502; US 6721620 B2 20040413

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