Title (en)

METHOD AND APPARATUS FOR ROBUST TUNING OF MODEL-BASED PROCESS CONTROLLERS USED WITH UNCERTAIN MULTIPLE-INPUT, MULTIPLE-OUTPUT (MIMO) PROCESSES

Title (de)

VERFAHREN UND VORRICHTUNG ZUR ROBUSTEN ABSTIMMUNG VON MODELLBASIERTEN PROZESSSTEUERGERÄTEN MIT UNGEWISSEN MIMO-PROZESSEN

Title (fr)

PROCÉDÉ ET APPAREIL PERMETTANT LA MISE AU POINT ROBUSTE DE RÉGISSEURS DE PROCESSUS BASÉS SUR DES MODÈLES ET UTILISÉS AVEC DES PROCESSUS À ENTRÉE MULTIPLE SORTIE MULTIPLE (MIMO) INCERTAINS

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Application

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Priority

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Abstract (en)

[origin: WO2016191849A1] A method includes obtaining information identifying (i) uncertainties associated with multiple time-domain parameters of a model (202) and (ii) time- domain performance specifications for a model-based industrial process controller (104, 204). The model mathematically represents a MIMO industrial process (210). The method also includes generating multiple tuning parameters for the controller based on the uncertainties and the time-domain performance specifications. The tuning parameters include vectors of tuning parameters associated with the controller, and each vector includes values associated with different outputs of the industrial process. The time-domain parameters could include a process gain, a time constant, and a time delay for each input-output pair of the model. The time-domain performance specifications could include requirements related to worst-case overshoots, settling times, and total variations. The uncertainties could be specified as intervals in which the time-domain parameters lie.

IPC 8 full level

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