

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
EP 16802269 A 20160518

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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CPC (source: EP)
G05B 13/048 (2013.01); **G05B 2219/2646** (2013.01)

Citation (search report)

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- [A] US 2002111758 A1 20020815 - WANG QING-GUO [SG], et al
- [A] US 2007100476 A1 20070503 - FAN JUNQIANG [CA], et al
- [X] A. TANEVA: "Tuning parameters of the fuzzy model based predictive controller", PROC OF IASTED CONFERENCE ON CONTROL AND APPLICATIONS, 27 June 2001 (2001-06-27), pages 136 - 142, XP055534358, Retrieved from the Internet <URL:https://pdfs.semanticscholar.org/0bf1/af245c69ad08354b655073760efbbb389aa9.pdf> [retrieved on 20181214]
- See references of WO 2016191849A1

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