

Title (en)

COMPUTER-IMPLEMENTED METHOD AND SYSTEM FOR DETERMINING OPTIMIZED SYSTEM PARAMETERS OF A TECHNICAL SYSTEM USING A COST FUNCTION

Title (de)

COMPUTERIMPLEMENTIERTES VERFAHREN UND SYSTEM ZUR BESTIMMUNG VON OPTIMIERTEN SYSTEMPARAMETERN EINES TECHNISCHEN SYSTEMS MITTELS EINER KOSTENFUNKTION

Title (fr)

PROCÉDÉ ET SYSTÈME MIS EN OEUVRE PAR ORDINATEUR POUR DÉTERMINER DES PARAMÈTRES DE SYSTÈME OPTIMISÉS D'UN SYSTÈME TECHNIQUE À L'AIDE D'UNE FONCTION DE COÛT

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Application

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Abstract (en)

[origin: WO2022242812A1] The invention relates to a computer-implemented method for determining optimized system parameters of a technical system using a cost function. The cost function is provided in order to determine optimized system parameters of the technical system, and the technical system has different components which can be adjusted by the system parameters. The technical system generates different output values for the different components upon setting the system parameters. The method has the steps of: - determining a function space with a definition space in which the cost function lies, - determining random system parameters which lie in the definition space, - applying the random system parameters to the technical system and ascertaining the output values, - modeling the technical system using a statistical analysis method and training the statistical analysis method, and - generating multiple rules on which the technical system is based and which are based on the different system parameters and the output values, - generating probability functions using the rules, wherein each probability function indicates with which probability the rules of any cost function are satisfied, - combining all of the probability functions in order to determine the cost function by maximizing the total probability of all the rules, - optimizing the system parameters given the cost function, and - outputting the optimized system parameters in order to adjust the components of the technical system.

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