Environmental Control for Plants using Intelligent Control Systems

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GRIN Verlag Mrz 2012, 2012. Taschenbuch. Book Condition: Neu. 210x148x10 mm. This item is printed on demand - Print on Demand Neuware - Master's Thesis from the year 2005 in the subject Engineering - Artificial Intelligence, grade: MSc, - (Menoufia University - Faculty of Electornics Engineering - Dept. of Industrial Electronics and Control Engineering), course: Intelligent Control, language: English, abstract: [.] In practice, conventional controllers were used to control the system however theirparameters are empirically adjusted. Besides, the operation of these controllers relies on themeasurements provided by sensors located inside and near the greenhouse. If theinformation provided by one or several of these sensors is erroneous, the controllers will not operate properly. Similarly, failure of one or several of the actuators to functionproperly will impair the greenhouse operation. Therefore, an automatic diagnosis system offailures in greenhouses is proposed. The diagnosis system is based on deviations observedbetween measurements performed in the system and the predictions of a model of thefailure-free system. This comparison is done through a bank of fuzzy observers, where eachobserver becomes active to a specific failure signature and inactive to the other failures.Neural networks are used to develop a model for the failure-free greenhouse.The main objective of this...

Reviews

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