

COB688 REGULAÇÃO AUTO-AJUSTÁVEL DE NÍVEL COM BASE EM ESTRATÉGIAS DE CONTROLE PREDITIVO: ESTUDO DE CASO / SELF-TUNING REGULATION OF A LEVEL SYSTEM BASED ON PREDICTIVE CONTROL STRATEGIES: CASE STUDY

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Predictive control algorithms with different controller design were compared when applied to a practical control problem. A case study of a laboratory scale level process has been used to evaluate the control algorithms. The design of each monovariable adaptive control law utilizes predictive control and are based on minimum variance strategy. Advanced control techniques and identification of process models are useful in industrial applications. A level control system was used to compare four types of controllers: D. W. Clarke & P. J. Gawthrop (1975), A. A. R. Coelho et al. (1988), K. Furuta et al. (1989) and C. M. Lim (1990). Experimental tests were carried out to evaluate servo and regulatory behaviour, features the flexibility of each controller and closed-loop stability.

Keywords: *Process control, Identification algorithms, Level control, Predictive control, Control equipment, Minimum variance control / Controle de processos, Algoritmos de identificação, Controle de nível, Controle preditivo, Equipamento de controle, Controle de variância mínima*

COB724 THERMAL CONTROL SIMULATION OF A WIDE FIELD IMAGER FOR SPACE APPLICATIONS

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This paper presents the results of the simulation of the active thermal control system of a Wide Field Imager (WFI) camera to be used on board of a low orbit satellite for earth resources observation. The objective of the simulation study was to verify if the active thermal control system could maintain the temperature of the optical unit, where the CCD sensors are located, inside the specified operational temperature range. Simulated results show good agreement with measured temperature values during a thermal vacuum test. In orbit simulation results show that the active thermal control can maintain the CCD sensors' temperature inside the specified operational range.

Keywords: *Energy; Simulation; Thermal Control; Temperature; Mathematical Modeling.*

COB803 DESENVOLVIMENTO DE UM CONTROLADOR ADAPTATIVO PARA MANIPULADORES FLEXÍVEIS COM INCERTEZAS DE CARGAS / DEVELOPMENT OF AN ADAPTIVE CONTROL TO FLEXIBLE MANIPULATORS WITH UNCERTAINTY PAYLOADS

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