



Model Based Predictive Networked Control Systems

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Methods, Design and Implementation | In a typical networked control system, the control loop is closed over computer nodes that communicate through a communication network. For ordinary communication networks which introduce data loss and random delays, guaranteeing the stability of the system can be difficult. This book introduces Model Based Predictive Networked Control Systems, which is a method that can work with communication networks imposing unbounded end to end transport delay and data loss. These shortcomings are overcome using control predictions based on an explicit model of the plant in the controller node and a state machine in the actuator node. An important contribution is this framework which eliminates the need for acknowledge signals. The method and its implementation are explained and results of tests are presented. This method can be applied to various hard real time control applications that work on an unreliable and ordinary communication channel. The work should shed some light on experience to develop networked control systems using Linux and embedded devices, and should be especially useful to professionals in control systems and embedded automation fields. | Format: Paperback | Language/Sprache: english | 95 gr | 220x150x3 mm...



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