



Predictive Networked Control of Satellite-Formations and Robotmanipulators

Masterthesis

Task Description

Novel modular satellite architecture concepts, which substitute the usually used fixed wired satellite bus with a flexible wireless harness promise a higher flexibility, intra- and inter-satellite inter-operability and have received a lot of positive attention in the past 1-2 years. One major challenge in such an architecture is to handle the mutual RF interference and negative influence of the satellite structures on the communication.



The Task in this thesis is to design a predictive controller that controls the position of a satellite in a formation as well as a robotmanipulator's pose while dealing with delays and packet-drops on the sensor to controller and controller to actuator communication channel. The performance of the controller should then be tested in Simulation: V-REP and Orekit for dynamics and Omnet++ for the communication.

Recommended Background

Control engineering, C++, Java, (Matlab)

Contact

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