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Fault Tolerant Distributed Cyber Physical Systems

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Abstract:

Distributed computation implemented in cyber-physical systems (DCPS) depends at large on the dynamics of physical processes and their interaction with the physical world. DCPS may suffer from failures that are qualitatively different from those studied in distributed computing.

Failures of the components including actuators and sensors of DCPS that interact with the physical processes must be considered. As a result, cyber domain functionality and operation may adversly be impacted when interacting with the failed sensors and actuators.

The goal of this proposal is to develop a methodology for designing a fault-tolerant model.

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