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Latency, energy, and schedulability of real-time embedded systems

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Di Liu

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Latency, Energy, and Schedulability of Real-Time Embedded Systems

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List of Abberivations

Proposed Algorithms

ASHM Allocation and Split on Heterogeneous Multicore

DM Density Minimization

FDM Frequency Driven Mapping

Data-Flow Models

CSDF Cyclo-Static Data-Flow

SDF Synchronous Data-Flow

Mixed-Criticality Systems

AMC Adaptive Mixed-Criticality

CA Certification Authority

EDF-VD Earliest Deadline First with Virtual Deadline

IMC Imprecise Mixed-Criticality

MC Mixed-Criticality

Others

ASIP Application Specific Instruction Processor

EE Energy-Efficient

ICP Integer Convex Programing

ILP Integer Linear Programing

MPSoC Multi-Processor System-on-Chip

PE Performance-Efficient

UAV Unmanned Aerial Vehicle

VFS Voltage and Frequency Scaling

Real-Time Systems

BF Best-Fit

DBF Demand Bound Function

EDF Earliest Deadline First

FF First-Fit

FFD First-Fit-Decreasing

HRT Hard-Real-Time

LLF Least Laxity First

QPA Quick convergency Processor-demand Analysis

WCET Worst-Case Execution Time

WF Worst-Fit

WFD Worst-Fit-Decreasing