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Maximum predictability in signal interactions with HARETICK kernel

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Abstract

This paper addresses the problem of the predictability of the critical digital-signal acquisition and processing applications while interacting with signals. The hard real-time compact kernel (HARETICK) is briefly presented along with the model of the hard real-time tasks: the ModX. This paper focuses on the specification, analysis, scheduling, and implementation of the applications able to generate perfectly periodic signals on the HARETICK-based platforms. A specific nonpreemptive technique for scheduling a set of the ModXs with fixed-execution times during their periods-the fixed execution nonpreemptive (FENP) algorithm-was introduced. Some of the most interesting experimental results are also discussed.

Index Terms

Inspec

Controlled Indexing

[signal detection](#) [signal processing](#)

Non-controlled Indexing

[ModX](#) [digital signal acquisition](#) [digital signal processing](#) [fixed execution nonpreemptive algorithm](#) [hard real-time compact kernel](#) [predictability](#) [real-time tasks](#) [scheduling](#) [signal generation](#) [signal interactions](#)

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[Execution context](#) [fixed execution](#) [operating kernel](#) [predictability](#) [real-time](#) [scheduling](#) [signal generation](#) [task model](#)

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Not Available

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Not Available

DOE Thesaurus Terms

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References

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