Asynchronous Programming in the Abstract Behavioural Specification Language

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Cover Page

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Part IV

Deadlock Analysis

This part consists of the following chapter:

Chapter 6   In this chapter, we introduce an approach for detecting deadlocks in an actor-based program in ABS. The underlying language features active objects, that communicate asynchronously, and cooperative scheduling of the tasks belonging to an object. To this aim, we model the system as a well-structured transition system based on predicate abstraction and prove the decidability of the deadlock detection.