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	Extending Probabilistic Model Checking
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	Model checking is well-known to be a formal and automated technique for verifying concurrent systems, and probabilistic model checking is an extended model checking paradigm that can appropriately verify probabilistic or stochastic concurrent systems. In this study, a locative inconsistency-tolerant hierarchical probabilistic computation tree logic and its subsystems and variants are introduced to establish the logical foundation of our proposed extended probabilistic model checking paradigm. These logics are extensions or modifications of several previously proposed extensions of the standard computation tree logic that has been widely used in model checking. Our proposed extended probabilistic model checking paradigm aims to appropriately verify spatial, inconsistent, hierarchical, and probabilistic concurrent systems. A theorem for embedding a subsystem of the locative inconsistency-tolerant hierarchical probabilistic computation tree logic into a standard probabilistic computation tree logic is proved using a probability-measure-independent translation. The relative decidability theorem of this subsystem with respect to the standard logic is proved using this embedding theorem. These embedding and relative decidability results allow us to reuse the existing standard model checking algorithms to verify the systems that can be described using this subsystem. Moreover, in this study, some illustrative examples of our extended probabilistic model checking paradigm, including a verification of the reasoning process behind diagnosing multiple sclerosis, a relatively rare disease, are presented based on the locative inconsistency-tolerant hierarchical probabilistic computation tree logic.