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題名	Foundations of inconsistency-tolerant model checking: Logics, translations, and examples
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概要	We develop logics and translations for inconsistency-tolerant model checking that can be used to verify systems having inconsistencies. Paraconsistent linear-time temporal logic (pLTL), paraconsistent computation tree logic (pCTL), and paraconsistent full computation tree logic (pCTL*) are introduced. These are extensions of standard linear-time temporal logic (LTL), standard computation tree logic (CTL), and standard full computation tree logic (CTL*), respectively. These novel logics can be applied when handling inconsistency-tolerant temporal reasoning. They are also regarded as four-valued temporal logics that extend Belnap and Dunn's four-valued logic. Translations from pLTL into LTL, pCTL into CTL, and pCTL* into CTL*, are defined, and these are used to prove the theorems for embedding pLTL into LTL, pCTL into CTL, and pCTL* into CTL*. These embedding theorems allow the standard LTL-, CTL-, and CTL*-based model checking algorithms to be used for verifying inconsistent systems that are modeled and specified by pLTL, pCTL, and pCTL*. Some illustrative examples for inconsistency-tolerant model checking are presented based on the proposed logics and translations.