情報電子工学科　論文発表

題名	Logics with definitional reflection rules
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概　要	Definitional reflection rules (DRRs) provide a proof-theoretic framework for dealing with a set of clauses. An infinite version of definitional reflection logic (DRL), which has some infinite-premise DRRs, is introduced according to Gentzen-type sequent calculus for classical propositional logic. A finite version of DRL is obtained from the infinite version of DRL by replacing the infinite-premise DRRs with finite ones. A theorem for embedding the infinite version into infinitary propositional logic is proved, and a theorem for embedding the finite version into classical propositional logic is shown. The cut-elimination theorems for Gentzen-type sequent calculi for these versions are obtained using these embedding theorems. The finite version is shown to be decidable. Some similar results for the infinite and finite versions of generalized definitional reflection logic (GDRL) which has generalized definitional reflection rules (GDRRs) are also obtained. Some paraconsistent and temporal extensions of the above-mentioned classical versions of DRL and GDRL are also investigated.