

情報電子工学科工学科 論文発表

題名	An extended parafinite Belnap-Dunn logic that is embeddable into classical logic and vice versa
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著者	Norihiro Kamide
概要	<p>In this study, an extended parafinite Belnap-Dunn logic (PBD) is introduced as a Gentzen-type sequent calculus. The logic PBD is an extension of Belnap-Dunn logic as well as a modified subsystem of Arieli, Avron, and Zamansky's ideal four-valued parafinite logic known as 4CC. The logic PBD is formalized on the basis of the idea of De and Omori's characteristic axiom scheme for an extended Belnap-Dunn logic with classical negation (BD+), even though PBD has no classical negation connective but can simulate classical negation. Theorems for syntactically and semantically embedding PBD into a Gentzen-type sequent calculus for classical logic and vice versa are proved. The cut-elimination and completeness theorems for PBD are obtained via these embedding theorems.</p>