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概要
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Gentzen-type sequent calculi GBD+, GBDe, GBD1, and GBD2 are respectively introduced for De and Omori's
axiomatic extensions BD+, BDe, BD1, and BD2 of Belnap-Dunn logic by adding classical negation. These calculi are
constructed based on a small modification of the original characteristic axiom scheme for negated implication.
Theorems for syntactically and semantically embedding these calculi into a Gentzen-type sequent calculus LK for
classical logic are proved. The cut-elimination, decidability, and completeness theorems for these calculi are
obtained using these embedding theorems. Similar results excluding cut-elimination results are also obtained for
alternative Gentzen-type sequent calculi gBD+, gBDe, gBD1, and gBD2 for BD+, BDe, BD1, and BD2, respectively.
These alternative calculi are constructed based on the original characteristic axiom scheme for negated implication.
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