

	Kripke Completeness of bi-intuitionistic multilattice logic and its connexive variant
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	<p>In this paper, bi-intuitionistic multi-lattice logic, which is a combination of multi-lattice logic and the bi-intuitionistic logic also known as Heyting-Brouwer logic, is introduced as a Gentzen-type sequent calculus. A Kripke semantics is developed for this logic, and the completeness theorem with respect to this semantics is proved via theorems for embedding this logic into bi-intuitionistic logic. The logic proposed is an extension of first-degree entailment logic and can be regarded as a bi-intuitionistic variant of the original classical multi-lattice logic determined by the algebraic structure of multi-lattices. Similar completeness and embedding results are also shown for another logic called bi-intuitionistic connexive multi-lattice logic, obtained by replacing the connectives of intuitionistic implication and co-implication with their connexive variants.</p>