

Propositional logics with metric operators

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We introduce and investigate a formal language that is an extension of classical propositional language obtained by adding new binary operators of the form $D_{\leq s}$ and $D_{\geq s}$, $s \in \mathbb{Q}_0^+$. Our language allows making formulas such as $D_{\leq s}(\alpha, \beta)$ with the intended meaning “distance between formulas α and β is less than or equal to s ”. The semantics of the proposed language consists of possible worlds with a distance function defined between sets of worlds.

References

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