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Computer-assisted analysis of the Anderson-Hájek ontological controversy. (English)

Zbl 1417.03131

Log. Univers. 11, No. 1, 139-151 (2017).

Summary: A universal reasoning approach based on shallow semantical embeddings of higher-order modal logics into classical higher-order logic is exemplarily employed to analyze several modern variants of the ontological argument on the computer. Several novel findings are reported which contribute to the clarification of a long-standing dispute between Anderson and Hájek. The technology employed in this work, which to some degree realizes Leibniz's dream of a *characteristica universalis* and a *calculus ratiocinator* for solving philosophical controversies, is ready to be fruitfully adopted in larger scale by philosophers.

MSC:

03B35 Mechanization of proofs and logical operations

03B15 Higher-order logic; type theory (MSC2010)

03B45 Modal logic (including the logic of norms)

Cited in 5 Documents

Keywords:

ontological argument; universal reasoning; shallow semantical embedding; higher-order modal logic; classical higher-order logic; higher-order automated theorem proving

Software:

Isabelle/HOL; LEO-II; Metis_; Nitpick; PVS; Satallax

Full Text: [DOI](#)

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