

BOOK OF ABSTRACTS
LIVRO DE RESUMOS

19th Brazilian Logic conference
EBL 2019

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19TH BRAZILIAN LOGIC CONFERENCE
BOOK OF ABSTRACTS

XIX ENCONTRO BRASILEIRO DE LÓGICA
LIVRO DE RESUMOS

XIX EBL

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Representing Rational McNaughton Functions via MODSAT Relativisation*

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Lukasiewicz Infinitely-valued Logic (L_∞) is one of the most studied many-valued logics [5]. It has continuous truth-functional semantics, classical logic as a limit case and it possesses well developed proof-theoretical and algebraic presentations. A McNaughton function is a piecewise linear function with integer coefficients, and the semantics of L_∞ -functions represent all McNaughton functions and only those [2,3]. A rational McNaughton function is as a McNaughton function where its linear pieces have rational coefficients instead of the integer ones. There are some attempts to define logics based in L_∞ with semantics representing rational McNaughton functions; these logics either have expensive computational complexity for deciding satisfiability [4,6] or extend the L_∞ -language [1]. In this work we investigate the possibility of implicitly representing a rational McNaughton function in a L_∞ -theory, which we call the L_∞ MODSAT Φ logic, where Φ is a set of L_∞ -formulas that always have value 1 for the L_∞ -semantics.

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