Characterizing the generators of McNaughton functions evaluated in a lattice filter

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Abstract

In a recent paper the author has axiomatized, using some axioms Ax and rules R, the set T_r of formulas that in the infinite-valued Łukasiewicz algebra always take a value above some fixed real number r. The purpose of this talk is to present a characterization of all formulas in one variable which also axiomatize (using the same rules R) this set T_r. An immediate application of this characterization is that while both formulas $p \vee \neg p$ and $((p \odot p) \oplus p) \vee ((\neg p \odot \neg p) \oplus \neg p)$ belong to the set $T_{0.5}$, only the first one axiomatizes the set $T_{0.5}$.