Boolean-Ordered O-Minimal Structures

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The notions of o-minimality and quasi o-minimality for partially ordered structures were introduced by C. Toffalori in [To]. They are equivalent for Boolean ordered structures, as shown in [NW]. Moreover, in case of strongly o-minimal theory of a Boolean ordered structure, the prime model over an arbitrary set is unique up to isomorphism [NW]. There is a complete characterization of Boolean ordered structures with a small o-minimal theory [W].

We analyse properties of various kinds of atoms in Boolean algebras generated by algebraically closed subsets of o-minimal Boolean ordered structures and the way in which they relate to the notion of strong o-minimality. We also investigate the notion of orthogonality in Boolean ordered o-minimal structures and properties of algebraic closure.

[NW] L. Newelski and R. Wencel, *Definable sets in Boolean-ordered o-minimal structures. I*, JSL, submitted.

[To] C. Toffalori, *Lattice ordered o-minimal structures*, The Notre Dame Journal of Formal Logic, to appear.

[W] R. Wencel, *Small theories of Boolean ordered o-minimal structures*, in preparation.

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