▶ BEIBUT KULPESHOV, *On algebras of binary formulas for weakly circularly minimal theories with a trivial definable closure.*

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Algebras of binary formulas are a tool for describing relationships between elements of the sets of realizations of 1-types at binary level with respect to superpositions of binary definable sets. We consider algebras of binary isolating formulas originally studied in [1, 2], where under a binary isolating formula we understand a formula of the form $\varphi(x, y)$, without parameters, such that for some parameter a the formula $\varphi(a, y)$ isolates some complete type from $S_1(\{a\})$.

The notion of *weak circular minimality* was originally studied in [3]. A *weakly circularly minimal structure* is a circularly ordered structure $M = \langle M, K_3, \dots \rangle$ such that any definable (with parameters) subset of M is a union of finitely many convex sets in M. In [4] $\aleph_0$-categorical 1-transitive non-primitive weakly circularly minimal structures of convexity rank 1 with a trivial definable closure have been described up to binarity.

Here we discuss algebras of binary isolating formulas for these structures and give the following criterion for commutability of such algebras:

THEOREM 1. *Let M be an $\aleph_0$-categorical 1-transitive non-primitive weakly circularly minimal structure of convexity rank 1 with $\mathrm{dcl}(a) = \{a\}$ for some $a \in M$. Then the algebra $\mathfrak{P}_M$ of binary isolating formulas is commutable iff for any convex-to-right formula $R(x, y)$ that is not equivalence-generating the function $r(y) := \mathrm{rend}\, R(M, y)$ is monotonic-to-right on M.*

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