Problem #46

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Summary: For which equational theories is ground reducibility of extended rewriting decidable?

Ground reducibility of extended rewrite systems, modulo congruence, like associativity and commutativity (AC), is undecidable [KNZ87]. For left-linear AC systems, on the other hand, it is decidable [JK89]. What can be said more generally about restrictions on extended rewriting that give decidability? This problem is related to Problem #25.

Remark

Progress has been made in [KR94], where it is proven that ground reducibility remains undecidable when a single non-constant function symbol is associative.

http://www.cs.tau.ac.il/~nachumd/rtaloop/
Bibliography


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