Problem #33 (Solved !)

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Summary: How can completion modulo ACUI be made effective?

Completion modulo associativity and commutativity (AC) [PS81] is probably the most important case of *extended completion*; the general case of finite congruence classes is treated in [JK86]. Adding an axiom (U) for an identity element $(x + 0 = x)$ gives rise to infinite classes. This case was viewed as conditional completion in [BPW89], and solved completely in [JM90]. The techniques, however, do not carry over to completion with idempotence (I) added $(x + x = x)$. How to handle ACUI-completion effectively is open.

Remark

Normalized Rewriting as introduced by Claude Marché in [Mar96] is the right way of handling axiom systems like ACUI.

Bibliography

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