

PROOF, COMPUTATION, PRESERVATION: A CASE STUDY FROM ALGEBRA.

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Remarkable progress has been made toward a partial realisation of a revised Hilbert Programme in commutative algebra (Coquand, Lombardi, et al.). A principal obstacle is that many proofs of theorems about very real objects contain invocations of forms of the Axiom of Choice, which allegedly blast any computational information. Along the lines of a basic but typical example we show how, essentially by putting the proof upside down, this phenomenon can be dealt with—potentially systematically.