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“The Categorical Connection Between Geometric and Algebraic Formulations of General Relativity”

I present the results of a paper which demonstrates using category theory that an algebraic formulation of general relativity based on Geroch’s (1972) concept of Einstein algebras has the same expressive content as traditional formulations based on geometric manifolds. I discuss how this methodology can be refined and extended to compare and clarify the physical content of other mathematical formalisms.