

Aspects of Conformal Gravity and Double Field Theory from a Double Copy of Yang-Mills Theory

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Double field theory can be naturally constructed as the double copy of a Yang-Mills theory. Indeed, a double copy prescription for the Yang-Mills action can be provided that produces a double field theory action in which the dilaton has been integrated out. In turn, this result can be extended by including higher-derivative terms. In this talk I will review how the double-copy map for the Yang-Mills action potentially yields a weakly constrained double field theory. I will also explore how a double-copy formulation serves as a guiding principle for studying the relationship between higher-derivative gauge theories and higher-derivative extensions of double field theory.

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