

Double-Copy Constructions for Yang-Mills-Einstein Supergravities with Non-Compact Gauge Groups

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I present a framework for extending the double copy to five-dimensional $N=2$ Yang-Mills-Einstein theories with non-compact gauge groups. While non-compact gauge groups are known to lead to inconsistencies in case of YM theories, they become a viable option in supergravity and have long been known and investigated by the supergravity community. We will show that their amplitudes can be constructed as the double copy of an $N=2$ SYM theory with massive hypermultiples and a non-supersymmetric theory with massive fermions. Explicit examples will be presented, including five-dimensional supergravities with both massive tensors and massive vectors.

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