



Contribution ID: 36

Type: Poster

## Double Copy: Turning Electricity into Black Holes

*Thursday, December 15, 2022 7:30 PM (2 hours)*

An open problem in theoretical physics is to combine all four of the fundamental forces of nature into one singular theory. Problematically, gravity has proven difficult to reconcile with the other forces. Recently, relationships between scattering amplitudes in non-abelian gauge theories and theories of quantum gravity have led to the discovery of a relation known as the double copy. The double copy relates scattering amplitudes in quantum gravity as the square for those in non-abelian gauge theories. This property has been extended to relate solutions in classical electromagnetism with those in general relativity, via a theory known as the classical double copy.

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**Session Classification:** Poster Session and Dinner