Contribution ID: **16**   Type: **not specified**

The Unity of Colored Scalars, Pions and Gluons

Tuesday 12 December 2023 09:45 (30 minutes)

I report on a new discovery that the "stringy"amplitudes of trφ3 (the simplest theory of colored scalars) secretly contain the scattering amplitudes for pions and non-supersymmetric gluons in arbitrary dimensions. At tree level, this unified object naturally explains some surprising, hidden properties shared by amplitudes in all these colored theories, namely the string and particle amplitudes of tr φ3 , non-linear sigma model and Yang-Mills theory, all have a hidden pattern of zeros as well as new factorizations near such zeros.

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Session Classification: Tuesday AM 1