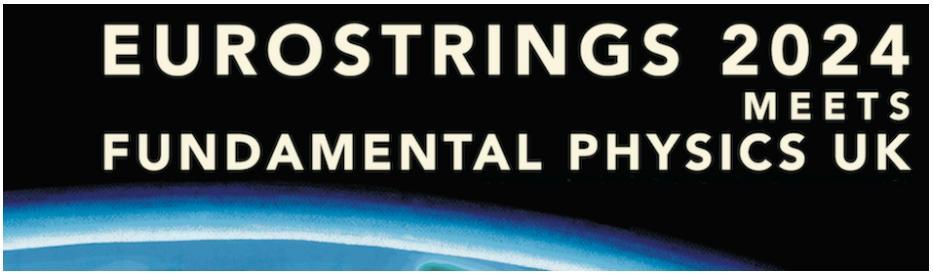

Contribution ID: **185** Type: **Talk in parallel session**

Constraining Glueball Couplings

Monday 2 September 2024 14:00 (30 minutes)

We set up a numerical S-matrix bootstrap problem to rigorously constrain bound state couplings given by the residues of poles in elastic amplitudes. We extract upper bounds on these couplings that follow purely from unitarity, crossing symmetry, and the Roy equations within their proven domain of validity. First we consider amplitudes with a single spin 0 or spin 2 bound state, both with or without a self-coupling. Subsequently we investigate amplitudes with the spectrum of bound states corresponding to the estimated glueball masses of pure SU(3) Yang-Mills. In the latter case the 'glue-hedron', the space of allowed couplings, provides a first-principles constraint for future lattice estimates.

Link to publication (if applicable)

Presenter: VAN REES, Balt

Session Classification: Parallel sessions