

# Celestial amplitudes for Goldstone bosons and soft theorems

*Friday 19 July 2024 20:45 (15 minutes)*

The S-matrix for a QFT in 4D Minkowski space is an inherently holographic object, i.e. defined at the (conformal) boundary of spacetime. A section of this boundary is the celestial 2-sphere and Lorentz group acts on it by conformal transformations. I will briefly review scattering, when translated from the basis of plane waves (translation eigenstates) to the conformal basis (dilatation eigenstates). The resulting object is called a celestial amplitude and the change of basis is implemented for massless particles by a Mellin transform. I will apply this formalism to amplitudes of Goldstone bosons with an emphasis on their soft theorems. The illustrative example will be the U(1) (non)-linear sigma model.

## Alternate track

### I read the instructions above

Yes

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**Session Classification:** Poster Session 2

**Track Classification:** 10. Formal Theory