Contribution ID: **6** Type: **not specified**

COSMOLOGICAL CORRELATORS, IN-IN FORMALISM AND DOUBLE COPY

We are investigating if the double copy structure as product of scattering amplitudes of gauge theories applies to cosmological correlators computed, in a class of theories for inflation, by the operatorial version of the In-In formalism of Schwinger-Keldysh. We consider tree level momentum-space correlators involving primordial gravitational waves with different polarizations and the scalar curvature fluctuations on a three dimensional fixed spatial slice. The correlators are sum of terms factorized in a time dependent scalar factor, which takes into account the curved background where energy is not conserved, and in a so-called tensor factor, constructed by polarization tensors. In the latter we recognize scattering amplitudes in four dimensional Minkowski space spanned by three points gravitational amplitudes related by double copy to those of gauge theories. Our study indicates that gravitational waves are double copy of gluons and the primordial scalar curvature is double copy of a scalar with Higgs-like interactions.

Author: Prof. FAZIO, Angelo Raffaele (Universidad Nacional de Colombia)

Presenter: Prof. FAZIO, Angelo Raffaele (Universidad Nacional de Colombia)

Session Classification: Contributed talks