

**ECU meeting:  
EPFL/CERN/UNIGE Joint  
Encounters**

**Report of Contributions**

Contribution ID: 1

Type: **not specified**

## Signatures of Cosmic Reionization on the 21cm 3-Point Correlation

*Wednesday 3 October 2018 09:30 (1 hour)*

Constraints on reionization models from future 21cm observations will rely on the statistical characterization of the spatial fluctuations in the observed 21cm brightness temperature. So far studies have focused almost exclusively on second-order statistics, such as 2-point correlations, to characterize these fluctuations, neglecting a significant amount of information, which is encoded in the higher-order statistics. I will present a study of the 21cm 3-point correlation in configuration space, as predicted by a semi-numerical simulation. The results show a strong dependence of the 3-point correlation on the triangle shape, as we probe the morphology of large-scale fluctuations in the 21cm signal. This behavior changes strongly for different reionization scenarios and can hence be used to tighten observational constraints from the 2-point correlation on the latter. I will further discuss a physical interpretation of 21cm correlations during reionization in terms of the local quadratic bias model as well a simple approach for generating fast predictions for 21cm observations using random walks.

**Presenter:** HOFFMANN, Kai

Contribution ID: 2

Type: **not specified**

## Planck Legacy

*Wednesday 3 October 2018 10:45 (45 minutes)*

I will discuss the cosmological legacy from the Planck mission, with the 2018 constraints on cosmological parameters, with emphasis on the dark energy and modified gravity results.

**Presenter:** KUNZ, Martin

Contribution ID: 3

Type: **not specified**

## Recent progress in the theory of LSS

*Wednesday 3 October 2018 11:45 (45 minutes)*

In this talk, I will review some successes of perturbation theory approach to clustering of dark matter and biased tracers, including calculations of the broadband of the power spectrum, BAO resummation and the prediction of the shape of the BAO peak in the correlation function. I will also briefly talk about some more recent results, such as fast algorithms for calculating loop integrals, perturbation theory inspired reconstruction schemes and what can we learn from comparisons with simulations on the level of realizations.

**Presenter:** SIMONOVIĆ, Marko