Seminarium Zakładu Fizyki Teoretycznej
Departament Badań Podstawowych
Narodowego Centrum Badań Jądrowych

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pawilon NCBJ, sala 22, Hoża 69

dr Anna DURKALEC

"CONNECTING LIGHT AND DARK SIDE OF THE UNIVERSE "

ABSTRACT:
Studies at low and intermediate redshift ranges show that the relation between the luminous structure and underlying dark matter distribution is not straightforward and depend on the various properties of galaxy population. Naturally one would like to extend these studies of the luminous-dark matter relations to the high redshift ranges (z>2) in order to improve our understanding of the evolution of the universe structure.
During my seminar I will present the recent attempts to describe the large scale structure of the universe in early epochs of its evolution (z>2). In this context I will demonstrate my study of the dependence of galaxy clustering on luminosity and stellar mass in the redshift range $2 < z < 3.5$ using spectroscopic data from the VIMOS Ultra Deep Survey (VUDS).
I will show the series of my recent results quantified using a power-law approximation of the correlation function and in the framework of the five parameter HOD (Halo Occupation Distribution) model, which indicate that at $z\sim3$ the correlation length, and all HOD characteristic masses depends on the luminosity and stellar mass - the bright and most massive galaxies are the ones that are the most strongly clustered and are likely to occupy the most massive dark matter haloes. I will conclude with the presentation of my measurements of the large scale galaxy bias and stellar-to-halo mass relation at high redshift.

Serdecznie zapraszamy,
M. Kowal, W. Piechocki, L. Roszkowski, J. Skalski, L. Szymanowski