Unavoidable uncertainty in the observed luminosity of galaxies at high redshifts

Anastasia Fialkov[1]

[1] *Departement de Physique, Ecole Normale Superieure, CNRS, 24 rue Lhomond, Paris, 75005 France*

Abstract

Gravitational lensing modifies properties of the observable galaxies by having impact on their number densities, shapes and brightness. As a result, the observed luminosity function (LF), the main topic of my talk, can be significantly different from the intrinsic one. Since the LF is one of the primary inputs we have from distant populations of bright objects, it is highly important to understand the impact of weak (and strong) gravitational lensing on the LF. In this talk I will elaborate on how to model the effect of weak gravitational lensing statistically, as well as on how do parameters of the observed luminosity function depend on the underlying foreground field of galaxies.