

**Seminarium Studium Doktoranckiego NCBJ**  
**Poniedziałek, 8 kwietnia, godzina 9:00**  
**Sala 404 w NCBJ, Pasteura 7**

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**Title: Peculiar Velocities – a very important probe of cosmology**

Abstract: Peculiar velocity of galaxies is one of the very important probes of the cosmological model (Strauss and Willick (1995)). Since peculiar velocities are induced by gravity only, they can be used to obtain various cosmological parameters such as mean matter density or the growth of structure (Nusser and Davis (2011)). The large-scale fluctuations of the matter distribution can be determined using bulk flows where a given volume of the sample shows the net peculiar motion of galaxies. To study these velocity dependent properties, I have started with estimating observers motion using the radial peculiar velocities of the galaxies in observers frame. In this analysis, I have simulated 1000 galaxies in a volume of a sphere of radius 350Mpc. These galaxies have peculiar velocities in random directions with gaussian magnitudes. Then we try to recover the observer's motion from the observer frame updated data using chi-squared analysis. With real data, this type of analyses can be used to estimate the motion of the Local Group, bulk flows in at different scales, local voids, etc.