The Investigation of the Luminosity Function for Sample 6168 Galaxy Clusters

Wlodzimierz Godlowski Institute of Physics Uniwersytet Opolski Poland

The analysis of the luminosity function is an important problem for analysis of large scale structure statistics and interpretation of astronomical object counts (Lin & Kirshner 1996). The problem of the analysis of luminosity function for galaxy cluster, (contrary to the analysis of luminosity function for individual optical galaxies and radio galaxies) is rather negligent till now. We have decided to construct and investigate the luminosity function of galaxy cluster. This was performed by counting brightness of 6168 galaxies belonging to clusters from PF Catalogue in the magnitude range m_3+3 . Our results showed that the obtained luminosity function is significantly different than obtained for both individual optical galaxies and radiogalaxies. The probable explanation of this differences, as well as the implications of this result for theories of galaxy formation are discussed as well.