

THE MYSTERY OF THE GZK CUTOFF IN THE LIGHT OF THE GALAXY DISTRIBUTION

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The Ultra High Energy Cosmic Rays have mystified physicists since their discovery. Up to now, their origin remains unknown as well as the explanation of the absence of GZK cutoff observed in all the experiments. In this paper we study the possible absence of GZK cutoff in the light of the recent galaxy surveys. We find that the overdensity in our neighbourhood deduced from the UZC survey couldn't reproduce the absence of cutoff in the cosmic rays spectra. The basic new element of this work is a detail treatment both with the correct luminosity function and with a special analysis of the faint dwarf galaxies. In addition we find an estimate of the density number of dwarf galaxies in order of 0.4 Mpc^{-3} .