Draft version June 25, 2019
Typeset using LaTeX default style in AASTeX62

Research on the large-scale anisotropy of cosmic rays

Zhang peipei

ABSTRACT

Previous studies have shown that cosmic ray large-scale anisotropy has obvious energy dependence. With the change of energy, the large scale anisotropy structure will change obviously. In a dozen TeV energy segments,a excess feature around the right ascension of 50-100, and a deficit feature around the right ascension of 150-250. Nagashima et al. called these two anisotropy structures "Tail-in" and "Loss-cone" . When the energy increases to 50TeV, we find that the "Tail-in" gradually disappears. We guess that the formation of the "Tail-in" originates from the solar system and the formation of the "Loss-cone" originates from other galaxies. Therefore, the energy corresponding to the "Tail-in" is relatively low, so the "Tail-in" disappears when the energy increases gradually. Various experiments also shown that the distribution of anisotropy structures will change greatly when the energy increase to about 100TeV, but there is no definite conclusion about how the changes occur.

Keywords: large-scale anisotropy, cosmic rays

1. INTRODUCTION

Average time angle of case :

$$hourangle(t) = event(t) * hourangle(t) \tag{1}$$

Differential variation of cosmic ray intensity

$$diff(R(t)) = E(t) - W(t)/(E(t) + W(t)) * hourangle(t) \tag{2}$$

This is my equation "$F(X) = \int f(x)\mathrm{d}x = \int x^2 dx = x^3/3$"

$$F(X) = \int f(x)\mathrm{d}x = \int x^2 dx = x^3/3 \tag{3}$$

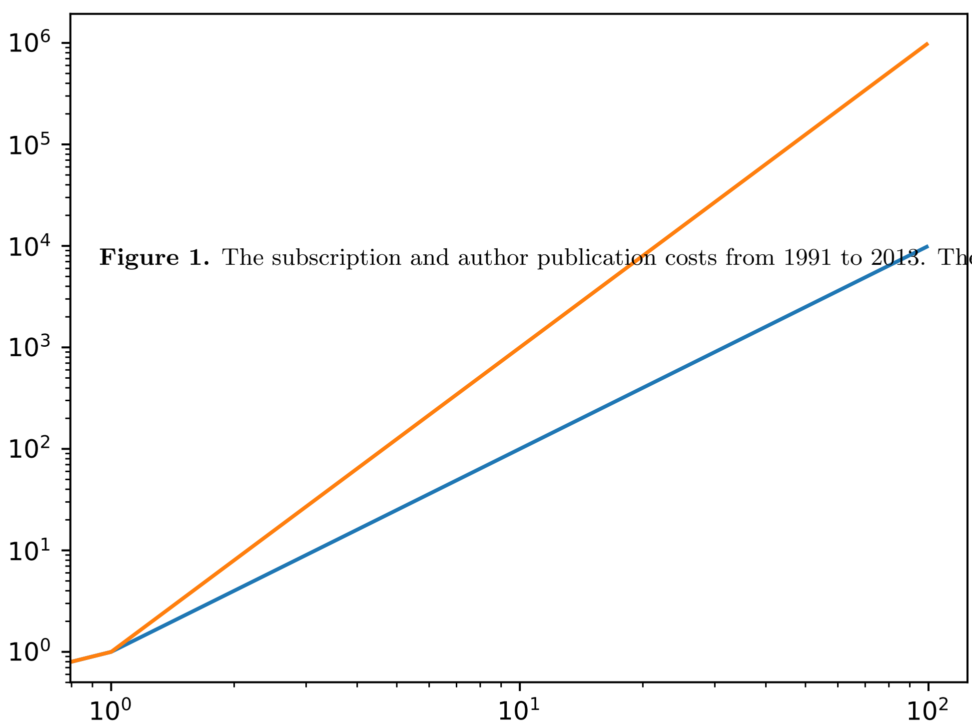

Figure 1. The subscription and author publication costs from 1991 to 2013. The data comes from Table **??**.