

ESTIMATION OF LATERAL DISTRIBUTION FUNCTION IN EXTENSIVE AIR SHOWERS BY USING AIRES SIMULATION SYSTEM

AL-RUBAIEE A. AHMED & AHMED JUMAAH

Al-Mustansiriyah University, College of Science, Department of Physics, Baghdad, Iraq

ABSTRACT

In this work the estimation of the lateral distribution function in Extensive Air showers was performed by using a system for air shower simulations which is called AIRES version 2.6 for different hadronic models like (QGSJET99, SIBYLL and SIBYLL1.6). The simulation was fulfilled in the high energy range (10^{15} - 10^{19} eV) for different primary particles like (gamma, protons and iron nuclei) for vertical showers. This simulation can be used to reconstruct the type and energy of the particle that generated Extensive Air showers for charged particles that registered with different arrays.

KEYWORDS: Extensive Air Showers, Lateral Distribution Function, Aires Simulation