

# **INVESTIGATING OF LONGITUDINAL DEVELOPMENT PARAMETERS THROUGH AIR SHOWER SIMULATION BY DIFFERENT HADRONIC MODELS**

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## **ABSTRACT**

In this work the simulation of the Extensive Air Showers was performed by investigating the longitudinal development parameters ( $N$  and  $X_{\max}$ ) by using a system for air shower simulation which is called AIRES version 2.6.0 at the energy range ( $10^{14}$ - $10^{19}$  eV) for different primary particles like (gamma, electron, positron, proton and iron nuclei) and different zenith angles. The comparison of simulated longitudinal profile was fulfilled for different hadronic models (SIBYLL, QGSJET99 and SIBYLL S16).

**KEYWORDS:** High Energy Cosmic Rays, Extensive Air Showers, Longitudinal Development, Aires Simulation Code