**Characterization of Cosmic Effect on Background Nuclear Radiation**

**1Ibikunle S. B.,**

1. Department Of Physics, The Federal University of Technology,

P. M. B. 704, Akure, Ondo State. Nigeria.

Mobile: +2348037218023, E. Mail: [tuncom7084@yahoo.co.uk](mailto:tuncom7084@yahoo.co.uk)

**ABSTRACT**

The effect of cosmos on background nuclear radiation has been estimated with altitude on Idanre hill using rad scanner model 500VBR. Five readings were taken to ensure accuracy and reliability of the result. The mean absorbed dose rate in air for ground, middle and top of the hill were estimated at 322.67±35.80, 353.72±37.79 and 457.88±40.30 nGy h-1 respectively. The absorbed dose rate and the effective dose equivalent increases with height which is an indication of nuclear radiation enhancement by the cosmos. The mean outdoor annual effective dose equivalent was obtained as 0.40±0.05, 0.43±0.08 and 0.56±0.06 mSv y-1 respectively for the heights. The mean absorbed dose rate and the mean outdoor annual effective dose equivalent from different heights are higher than the world average of 59 nGy h-1 r and 0.07 mSv y-1 respectively and the World Health Organization recommendation of 0.1 mSv y-1, but lower than the International Commission on Radiological Protection recommendation of 1.0 mSv y-1. The estimated excess lifetime cancer risk 1.83 x10-3 is higher than the world average value of 2.9 x 10-4. This implies a highly significant radiation health risk in the area mote predominantly as the height increases and the cosmic effect heightened up.