CHAPTER V

DISCUSSION OF RESULTS AND CONCLUSION

From Table 2 and Table 3, the East-West asymmetry of cosmic radiation is plotted with zenith angle (Fig. 16). The East-West intensity distribution is also shown in Fig. 17. The West-East ratios vs. zenith angles and West-East differences with zenith angles are shown in Fig. 18 and Fig. 19 respectively.

From Table 2 column 5 it shows that the intensity J in cpm decreases as the zenith angle increases. It can be explained that, at a given latitude the energy lost by the secondaries in getting through the atmosphere increases with increasing zenith angles, i.e. increasing path length in the atmosphere. From the graph in Fig. 16, it is evident that the maximum asymmetry is about 14.2 % at zenith angle 43°. This agrees with the result of Bhomik (17) who made the measurements in Delhi ($\pi = 19^{\circ}$) as shown as dotted line in Fig. 16, his maximum asymmetry being 15 % at zenith angle 40°. It is in good agreement with theory that the asymmetry increases as the geomagnetic latitude decreases. The difference of the zenith angles at maximum asymmetry is the result of the difference in cut-off energies of the geomagnetic latitudes. At higher latitude the cut-off energy is lower than at lower latitude. Consequently, the radiation at low latitude is capable of penetrating to greater thickness of the atmosphere. It is also in agreement with the result of Johnson (1) who compared it to the result of Compton(1).