CHAPTER VI

RESULTS AND DISCUSSION OF PALEOMAGNETIC DATA

6.1 RESULTS

It has been shown by the various stability techniques used on the Mysore dykes described in Chapter 3.2, that the TEM of dykes is highly stable. Specimens having unwanted, secondary soft components were cleaned. Out of 10 dykes studied, 4 dykes (3, 4, 8 and 9) did not improve after cleaning thereby indicating that the original TEM was destroyed to a large extent. Out of ten dykes studied, six dykes (1, 2, 5, 6, 7 and 10) possessed stable directions of magnetization and the remaining four dykes (3, 4, 8 and 9) did not improve after cleaning.

Fig. 7 shows the stereographic plot of the cleaned remanent magnetic directions of all the specimens studied from the six dykes. The stable mean magnetic directions for these dykes are given in Table 4. Using Fisher's (1953) method the radius of the 95% circle of confidence was calculated, which represents the precision ($\alpha_{95}$). The precision parameter ($K$) was calculated for all the dykes before and after cleaning. The precision increased appreciably in six dykes, indicating stability of magnetization, and in the four dykes, which did not have stable directions of magnetizations, $K$ decreased. The directions of the six dykes form a cluster, away from the present geomagnetic field. This good agreement indicates that scatter within a dyke is rather small and hence a statistically significant mean could be obtained. The mean directions of RM for various dykes given in Table 6 show that out of six
dykes which possess stable directions of $RM$, the directions for four dykes agree with each other within the statistical limit.

6.2 DISCUSSION

The virtual geomagnetic pole positions derived from mean directions of $RM$ for each dyke, which possessed stable directions along with those of Deccan traps are shown in Fig. 11. It can be seen from the figure that the poles derived from dykes 1, 5 and 7 are close to each other. This suggests that these dykes might have intruded contemporaneously. The poles of these dykes and pole of dyke 7 are in close agreement with the mean pole position calculated for upper and lower Deccan trap igneous activity.

The dyke 2, petrochemically alkalic in nature, has a pole position which suggests the position of India in the northern hemisphere. It is, however, interesting to note that dyke 2 occurs near the tholeiite dyke 1 which shows the pole position similar to those of Deccan traps. The dyke 10 is also alkalic in nature and shows pole position similar to that of dyke 2. This led to the conclusion that the two dykes (2, 10) are probably of Precambrian age.

The results reported on the present dykes belong to Mysore dyke swarms and indicate that they were intruded into the Indian shield, may be in Precambrian times and in association with the Deccan trap igneous activity.