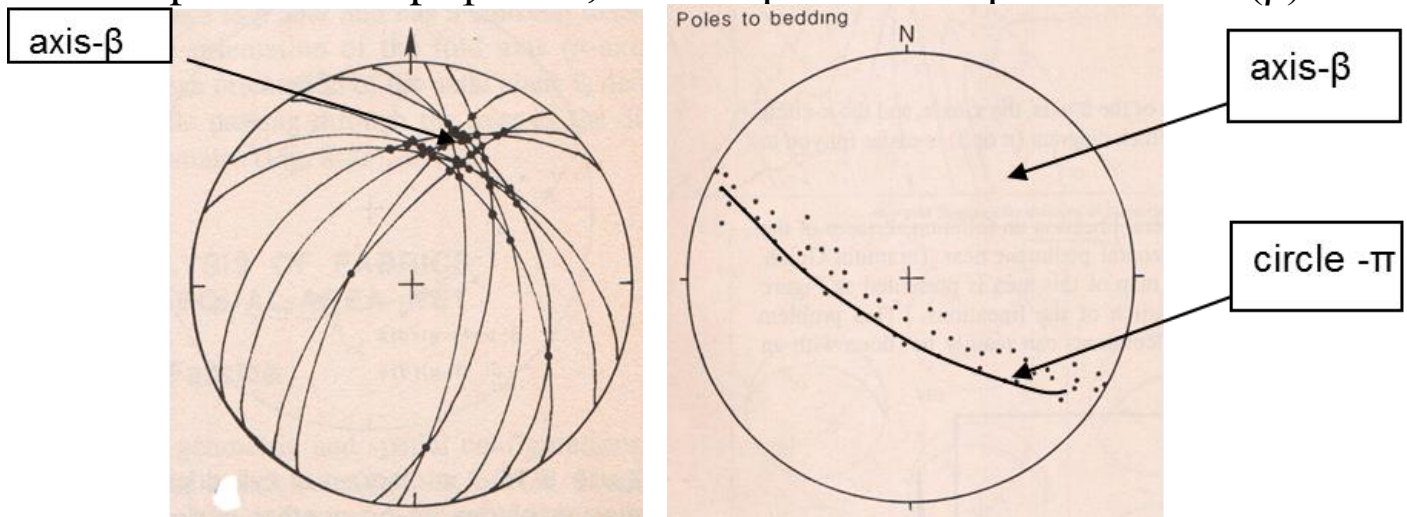


## Beta ( $\beta$ ) and Pi ( $\pi$ )-diagram in fold analysis

**Beta (  $\beta$  ) diagram:** is the diagram represents the projection of sets of beds (planes) on stereographic net. The intersections of these planes called Beta (  $\beta$  )-axis

**Pi (  $\pi$  ) diagram:** is the diagram represents the poles of many planes on stereographic projection. The planes which passes through a large number of these poles called pi-planes, and the pole to this plane is Beta (  $\beta$  )-axis



**Beta (  $\beta$  ) diagram**

**Pi (  $\pi$  ) diagram**

### **Exercise:**

Structural cross-section was taken through Pirmam anticline, the following field data were measured using geological Compass. Draw pi-diagram from these data and then answer the following questions:

- 1-are the fold is cylindrical or non-cylindrical? Why
- 2-determine the mean attitude for each limb? Is the fold symmetrical or unsymmetrical? Why
- 3-determine the attitude of the fold axis (hinge line).
- 4-are the fold is plunging or not within this section? Why
- 5-determine the attitude of the axial plane for this fold
- 6-determine interlimb angle for pirmam anticline
- 7-classify the fold according to Fleuty fold classification:
  - a): according to interlimb angle.
  - b): dip of axial plane and plunge of fold axis

### **Attitude of NE Limb:**

158/20NE, 161/21NE, 150/16NE, 160/16NE, 162/18NE, 140/20NE, 144/20NE, 144/18NE, 162/12NE, 151/15NE, 060/17, 070/08, 066/16, 065/20, 067/16, 055/15, 054/16, 060/18, 140/16NE, 148/12NE, 153/16NE, 160/18NE, 155/20NE, 154/22NE, 156/05NE, 160/04NE, 155/06NE

### **Attitude of SW Limb:**

123/39SW, 127/40SW, 125/50SW, 140/50SW, 144/48SW, 123/45SW, 126/50SW, 125/46SW, 128/50SW, 133/46SW, 215/46, 217/48, 219/50, 220/30, 213/38, 218/38, 220/50, 215/46, 141/47SW, 130/51SW, 127/50SW, 125/45SW, 130/44SW, 136/42SW, 140/10SW, 144/08SW, 135/05SW, 125/04SW, 120/05SW