

M22b

The Tilt Angle Distribution of Individual Sunspot Proper Motion

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We computed tilt angle of 416 individual sunspot proper motions, by = means of $\tan \alpha = 3D \text{ VB/VL}$, where VB and VL are drift in latitude and longitude, respectively. It is found = that they moved horizontally with tilt angle less than 40 degree. Dividing into Zurich = classification, the difference of tilt angle=20 for preceding and following polarity sunspots is the largest in early = type class of sunspot (AB classes)=20 and the smallest in well-developed class (EF classes). This suggests = that the flux tubes emerge=20 asymmetrically to the solar surface and have slightly eastward tilting.