Elements	Panchatsaram (1981)	Kim(This Paper)
ω_{123} (deg)	280. 0	273. 1(±7.3)
e123 (deg)	0. 6	0. 50(±0.19)
P_4 (year)	100. 0	121.03(±2.12)
T_{123} (JD Hel)	241 2098. 0	241 1411. 0(±533.4)
$f(m)_3$ (m_0)	0. 017	0. 027(±533.3)
$\overline{m_3}$ (m_0)	0. 74	0. 027
$f(m)_4$ (m_0)	0. 006	0. 013
$\overline{m_4}$ (m_0)	0. 59	0. 82

Determinations of the Inclination of Magnetic Filed Lines Near the Sunspot Boundary*

Kim Jung Hoon, Yun Hong Sik

Department of Astronomy, Seoul National University

With the use of high resolution magnetogram data taken from a dozen of simple, rounf sunspots observed at Big Bear Solar Observatory, we have determained the angle of magnetic field inclination γ near the sunspot boundary. Normally the observed spots do not reveal any magnetic polarity reversal line in their Stokes V images when they are located on the disk center. As the spots move away from the disk center, the reversal kine begins to show up because of the geometric projection effect. Since it is extremely difficult to determine the field inclination γ directly from the observations, model fitting techniques are required.

In the present study, we made use of Skunmaich's simple model sunspot which is characterized by a cylindrically symmetric field configuration with no azimuthal component. Numerous polarity patterns have been generated from the model spot as a function of heliocentric angle theta and the angle of inclination, γ. By comparing the computed polarity patterns with the observations, the values of γ have been estimated for the observed spots. The estimated values are presented and resulting magnetic geometries are discussed.

* The present study is supported in part by the Baisc Science Institute Program, Ministry of Education 1994 (BSRI-94-5408)