CHAPTER IV.

ANALYSIS OF DATA

The numbers of stars having more than 2, 3 --- dense prongs and soon. are listed in Table III. Comparision figures of star rates per number of prongs per star between east and west directions are shown in Table IV. and the results of Charoen Darmaphajija and Thaworn Suttipongse (22) who exposed the plates in noth and south direction are also shown in this table. The plots of frequency distributions of stars with their prongs are shown in Fig. IV and V. having the peaks at 3-prong stars. The logarithmic plot of size distributions of star due to particles coming from the east and that coming from the west are shown in Fig. VI and VII respectively. The method of fitting the curves are obtained by the method of Least Square of Indices. (see Appendix II) The plot of the ratio of number of stars coming from the western direction to those coming from the eastern direction against their prongs are shown in Fig. VIII.

Table III

The size distribution of stars form east and west positions.

No. of stars $N(>n) \pm \sqrt{n}$		No. of dense prong per star (n)
East	West	
7175 ± 85	6106 ± 78	> 2
3695 ± 61	5150 ± 71.5	> 3
867 ± 19.5	2616 ± 51	> 4
163 ± 12.8	643 ± 25.3	> 5
113 ± 10.3	123 ± 11.1	> 6
77 ± 8.7	69 ± 8.3	> 7
47 ± 6.8	46 ± 6.8	> 8
33 ± 5.7	35 ± 5.9	> 9
24 ± 4.9	26 ± 5.1	> 10
13 ± 3.6	20 ± 4.5	> 11
11 ± 3.3	13 ± 3.6	> 12
4 ± 2.0	8 ± 2.8	> 13
2 ± 1.4	4 ± 2.0	> 14

Table IVI

Comparision figures of star rates per number of pronge per star between north-south , east and west directions

No. of pronge per star	stars/c.c./day			West/East
	N-S	E	W	
3	6.5 ± .3	7.7 ± .32	7.78 ± .37	1.01 ± .064
4	5.4 ± .3	5.16± .25	6.03 ± .33	1.17 ± .085
5	0.9 ± .1	0.76± .10	1.21 ± .15	1.59 ± .290
>2	12.9 ± 1.3	13.6 ± .42	14.9 ± .5	1.10 ± .03

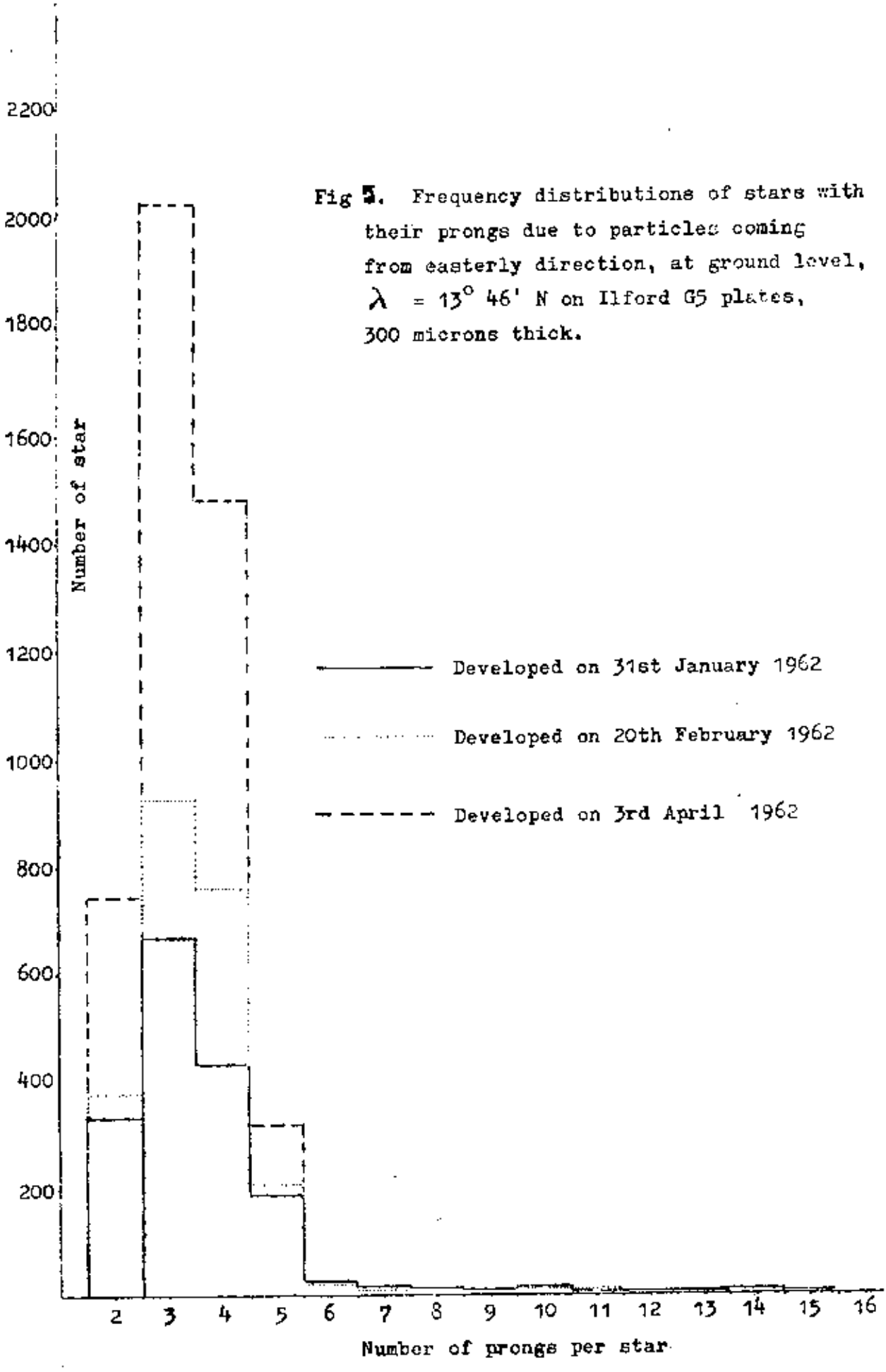

Fig 5. Frequency distributions of stars with their prongs due to particles coming from easterly direction, at ground level, λ = 13° 46' N on Ilford G5 plates, 300 microns thick.

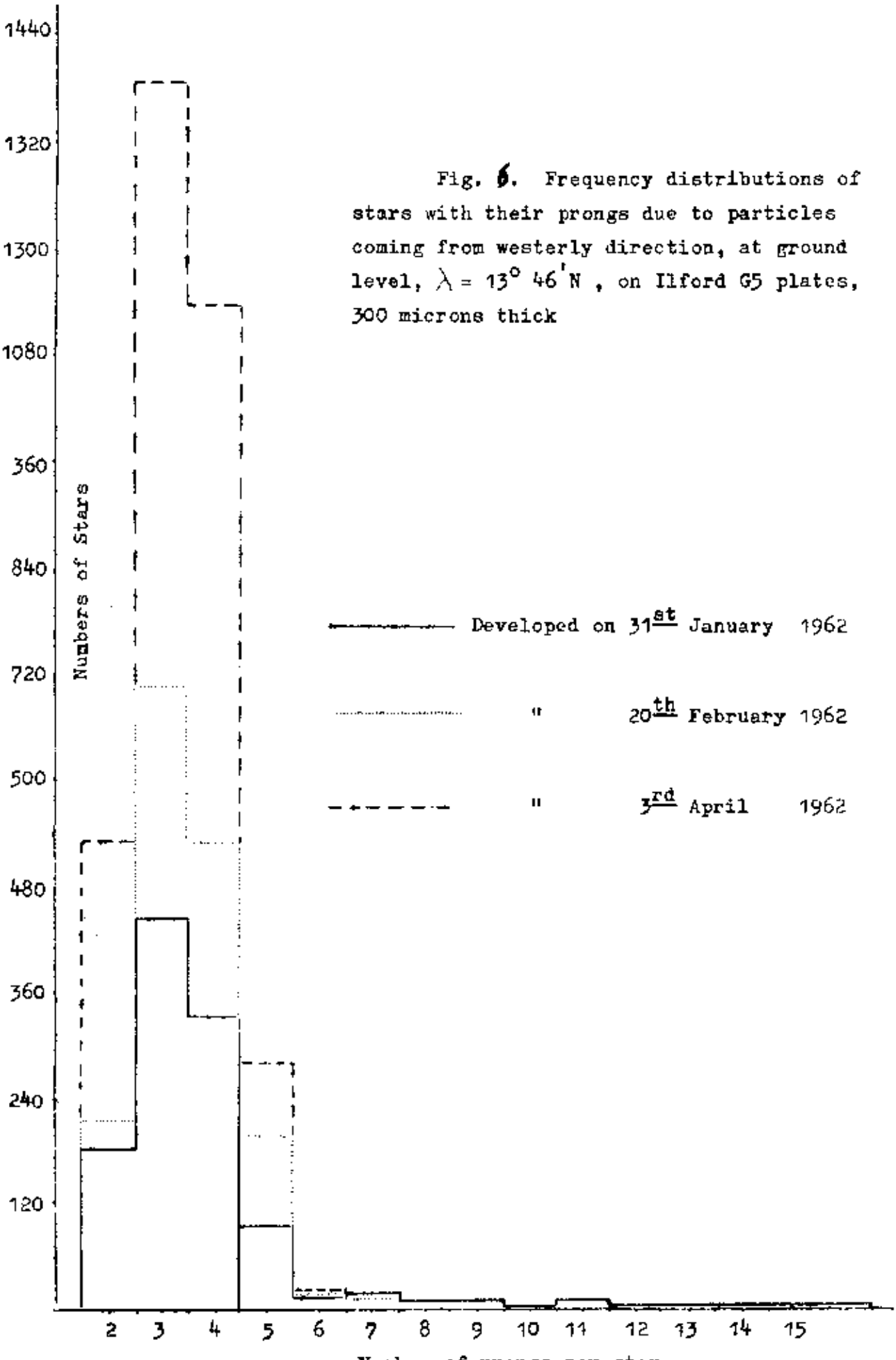

Fig. 6. Frequency distributions of stars with their prongs due to particles coming from westerly direction, at ground level, $\lambda = 13^{\circ}\ 46'\ N$, on Ilford G5 plates, 300 microns thick

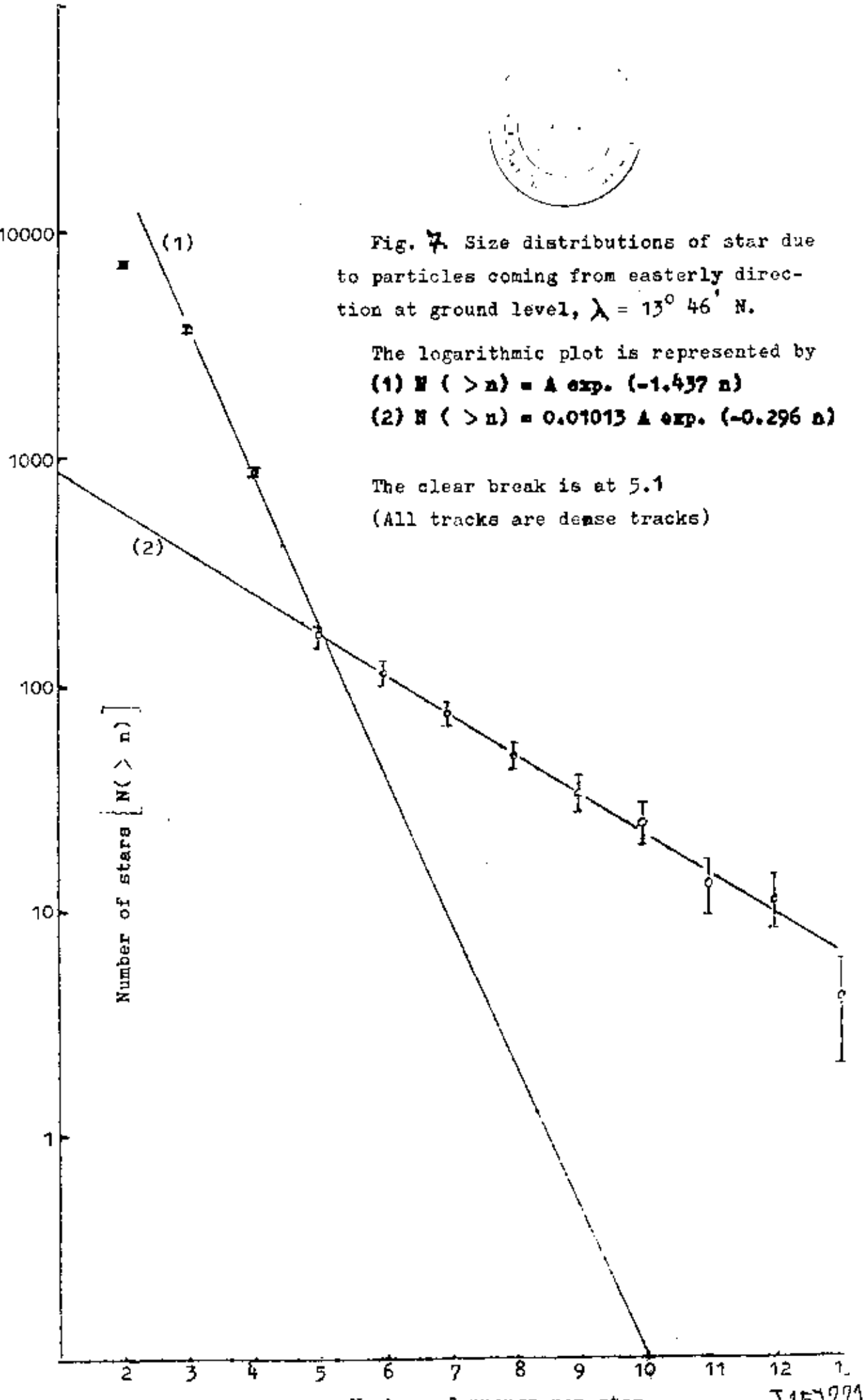

Fig. 7. Size distributions of star due to particles coming from easterly direction at ground level, $\lambda = 13^{\circ} 46'$ N.

The logarithmic plot is represented by

(1) N (> n) = A exp. (-1.437 n)

(2) N (> n) = 0.01013 A exp. (-0.296 n)

The clear break is at 5.1

(All tracks are dense tracks)

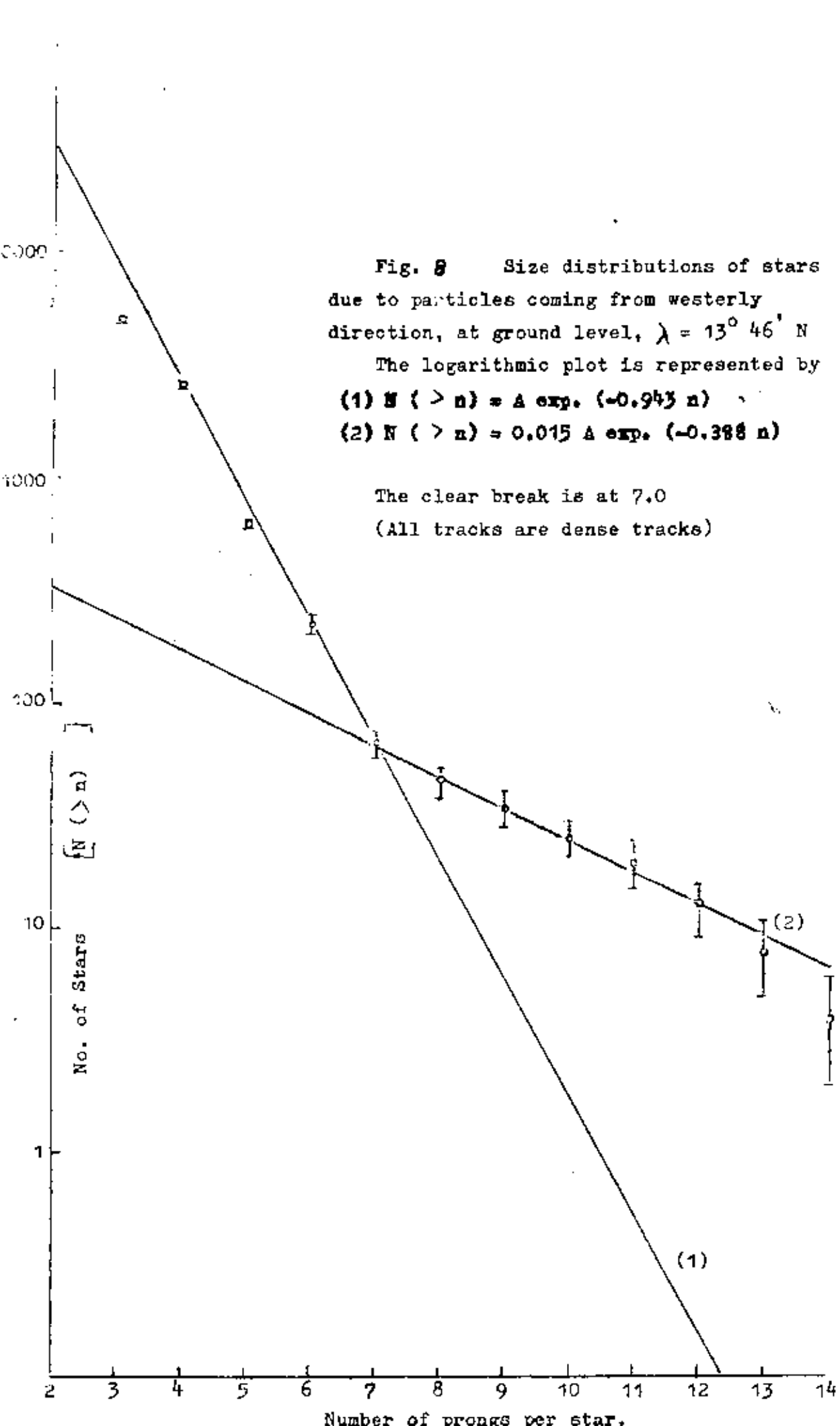

Fig. 8 Size distributions of stars due to particles coming from westerly direction, at ground level, $\lambda = 13^{\circ}\ 46'$ N

The logarithmic plot is represented by

(1) N (> n) = A exp. (-0.943 n)

(2) N (> n) = 0.015 A exp. (-0.388 n)

The clear break is at 7.0

(All tracks are dense tracks)

Fig. 9

Graph showing the increase of West/East rate with number of pronge/star