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time interval of any thread from the mean thread by the cosine of the star's declination gives the equatorial interval for the same. For circumpolar stars, whose motion during the time of transit from one thread to another is sensibly an arc of a circle the interval must be further multiplied by the cube root of the cosine of the hour angle of the star for the respective threads.

The following are the values of the equatorial intervals for Klotz transit, determined from transits of α Crucis, γ Trianguli, α Trianguli and β Chamæleontis.

Clamp East.

	s.
1.....	- 9.939
2.....	- 8.273
3.....	- 6.690
4.....	- 3.279
5.....	- 1.640
6.....	+ 0.036
7.....	+ 1.576
8.....	+ 3.200
9.....	+ 6.662
10.....	+ 8.352
11.....	+ 9.995

For the Werry transit, the values determined from transits of λ Centauri, α Crucis, Groombridge 1930 and δ Draconis are:—

Clamp East.

	s.
1.....	-14.209
2.....	-11.903
3.....	- 9.573
4.....	- 4.794
5.....	- 2.496
6.....	- .110
7.....	+ 2.451
8.....	+ 4.681
9.....	+ 9.591
10.....	+11.906
11.....	+14.153

Inequality of Pivots.—The Klotz transit was received from the maker in the dead of winter and just prior to leaving for the Pacific so that no opportunity was afforded to determine any of its constants at Ottawa.

The inequality of pivots was determined both by special series of observations and also from the many level readings just before and after reversal of transit in the daily (clear nights) time determinations.

In this transit there was a considerable change in the inequality of pivots from April to December. For Vancouver and Suva the values are identical, thence onward there is an increase for Southport and still more for Doubtless Bay. The cause of the change is not apparent. Before beginning observing in Southport I removed with great difficulty the plug carrying the lens in the clamp end of the axis as the inner surface of the lens was covered with brass filings. In re-inserting the plug I did not get it quite 'home.' This might perhaps have affected the diameter of that pivot. Whatever the reason, the quantity was accurately determined and applied to the level correction.