THE LARGE SPACE TELESCOPE ASTROMETRIC INSTRUMENT

W.F. van Altena, O.G. Franz, and L. W. Fredrick

SUMMARY

The preliminary designs for the LST and its instruments are now complete and present schedules call for the announcement of opportunity for the instruments to be issued during the summer of 1977 and launch of the telescope in late 1983. The astrometric instrument will be an integral part of the telescope's fine guidance sensor system which is normally used to stabilize the telescope during exposures. Of the three fine guidance sensors, two are required to stabilize the telescope while the third is free to measure the relative positions of stars within a 40 square arc-min area. The instrument is designed to measure serially the relative positions of preselected stars with an accuracy of $\pm 0''.002$ (s.e.) to at least the 17th magnitude. The integration may be varied to achieve either higher accuracy or a fainter limiting magnitude.

It is anticipated that proposals for specific scientific programs with the astrometric instrument will be solicited several months before launch of the telescope.

DISCUSSION

C.A. MURRAY: Will it be possible to scan a complete field, or will preselection of stars be necessary?

W. van ALTENA: The selection of objects will be the most efficient method of observing. Coordinates accurate to 1 arc-second are sufficiently accurate for this purpose and may therefore be obtained from the Schmidt telescope sky surveys.

W. DIECKVOSS: How will the focussing be done?

W. van ALTENA: Focussing will be done through the secondary mirror.

S. VASILEVSKIS: What is the maximum magnitude difference between components of double stars for achieving a separation of $0''.2$?

W. van ALTENA: Approximately 5 magnitudes.

Edith A. Müller (ed.), Highlights of Astronomy, Vol. 4, Part I, 351.

https://doi.org/10.1017/S1539299600002781 Published online by Cambridge University Press