STUDY AND OPERATION OF A STELLAR SPECTROGRAPH

L. A. Milone and D. Minniti

OAC, IMAF

A Ridell-Spotz stellar spectrograph was put in operation for spectral classification, radial velocity measurements, and so on, but prior to its operation at the Bosque Alegre reflecting telescope, we considered worthwhile studying it in the optical shop. Focal ratios of the optical parts, mechanical dimensions and angles, as well as efficiencies and focus position, were determined; optimum exposure time was obtained working at the telescope.

A simple procedure was used to determine the position of the blaze angle of a grating.

It was found that the focal ratios of the collimator and reducing lens are not the same, so that a light loss of around 13 % results. Moreover, when a stellar image is just in focus on the slit of the spectograph, the separation between the primary mirror and the Cassegrain is not optimun for the smallest image diameter. However, using a dispersion of 120 Å/mm., a projected slit on the plate of 0.025x0.27mm., fresh 103 a-D plates preflashed, and without intensifying tube, a good spectrum of a B=7.0 magnitude star is obtained in 3 minutes.

Internal flexures of varying amount were not detected.

Several mechanical improvements are under construction in the mechanical shop of our observatory.

This paper will be published in full elsewhere.