

LOW RESOLUTION STELLAR SPECTROPHOTOMETRIC OBSERVATIONS IN THE REGION 1500 Å–3000 Å

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The success of Stecher and Milligan (1962) in obtaining UV photoelectric objective dispersion spectra of stars in 1962 inspired similar work at the Royal Observatory, Edinburgh. For a number of reasons we preferred to build a system using grating dispersion in the convergent beam from a 21-cm diameter paraboloidal mirror (Sudbury, 1969). The same principle of random sky scan from a spinning rocket was employed.

The first flight of this instrument in August 1965 on an ESRO Skylark rocket from Sardinia obtained what can now be identified as stellar spectra but for a number of reasons (partial telemetry failure, lunar attitude sensor failure, and pitch-yaw lock-in producing a large precession and very slow roll) it was not possible to resolve the attitude solution. A subsequent payload fired on 3rd December 1968, this time fitted with roll-rate control, was entirely satisfactory. There were two parallel instruments, similar except that one employed wide-range, photon-pulse counting from an EMI photomultiplier (spectral range 1650 Å–3000 Å) while the other continued to employ the system of current measurement from an Ascop tube over the range 1500 Å–3000 Å. The slit-width resolution was 190 Å.

At the present moment of the reduction some 75 stars have been identified, all with spectral types between O7 and A5, and extending to 6th magnitude. Consistency checks of stars observed more than once show that good multicolour photometric data should be derivable for the majority of the stellar spectra.

References

- Stecher, T. P. and Milligan, J. E.: 1962, *Astrophys. J.* **136**, 1.
Sudbury, G. C.: 1969, *Appl. Opt.* **8**, 2013.