

PHOTOMETRY OF THE ZODIACAL LIGHT WITH THE
BALLOON - BORNE TELESCOPE THISBE

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We report on new measurements extending the spectral range of our earlier photometry (Frey et al. 1974) to the near ultraviolet. The residual extinction caused by atmospheric ozone was found to be 0.25 ± 0.13 (2950 Å) and 0.36 ± 0.13 (2150 Å) at 41.5 km float altitude. Within the errors of 10-30% arising from calibration and the reduction procedure our measurements at 5000, 3450, and 2950 Å are compatible to a colour of the zodiacal light not different from that of the sun. Our result obtained at 2150 Å is an upper limit, since no reduction of airglow and integrated starlight has been done yet at that wavelength. This upper limit is 30% above a solar-like spectrum. This result is not in contradiction to the OAO-2 measurements (Lillie 1972). The strong intensity increase he found occurs at wavelengths below 2150 Å.

The airglow intensity found at 2950 Å is $0.77 R/\text{Å}$ corresponding to 1270 S_{10} - units (solar type stars of $m_V = 10.0$ per square degree). At 2150 Å we got an upper limit of $0.05 R/\text{Å}$ or 1730 S_{10} .

References

- Frey, A., Hofmann, W., Lemke, D., Thum, C.: 1974, *Astron & Astrophys.* 36, 447
- Lillie, C.F.: 1972, in *The Scientific Results from the Orbiting Astronomical Observatory OAO-2*, NASA Sp.-310, 541