

## ATMOSPHERIC EXTINCTION IN B AND V PHOTOMETRY AT THE SOUTH POLE

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Scientific work at the South Pole during austral winter began in 1957, the International Geophysical Year. Interest in a polar observatory was already expressed in the survey of polar research conducted by the Committee of Polar Research (Gould, 1970). But not until 1986, was photoelectric photometry of variable stars made at the South Pole (Chen *et al* 1988); and in 1988, stellar observations for atmospheric extinction were made. The optical telescope used for stellar observations at the South Pole is a twin-mirror siderostat with an 8 cm lens (Chen *et al* 1986; Taylor 1988). The computer-controlled automated telescope made the polar observations possible.

Only the preliminary results of one set of B and V extinction observations, made during the time from JD 2447295.34 to JD 2447296.61 (May 13-15 1988), are reported. The eight standard stars of the U B V system are listed in the table.

Stars observed for atmospheric extinction				
Star name	V	B-V	Air mass	Spectral type
$\alpha$ Columbae	2.64	-0.12	1.78	B7
$\beta$ Columbae	3.12	1.16	1.71	K1.5
$\epsilon$ Corvi	3.00	1.33	2.67	K2.5
$\gamma$ Corvi	2.59	-0.11	3.42	B8
$\gamma$ Trianguli Australis	2.89	0.00	1.07	A1
$\alpha$ Trianguli Australis	1.92	1.44	1.07	K2
$\lambda$ Sagittarii	2.81	1.04	2.33	K1
$\sigma$ Sagittarii	2.02	-0.22	2.26	B2.5

The extinction coefficients for V and B,  $k_V$  and  $k_B$ , were determined without considering the colour dependency for the group of four B- and A- type stars, and also for the group of four K-type stars. Their values are:

$$k_V = 0.162, k_B = 0.394 \text{ for the hot stars; and } k_V = 0.167, k_B = 0.194 \text{ for the cool stars.}$$

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### References

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