PHOTOMETRIC PROPERTIES OF AGNs FROM THE ABSOLUTE SPECTROPHOTOMETRY OF DE BRUYN AND SARGENT

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The absolute spectrophotometry of 66 AGNs (de Bruyn and Sargent, 1978) is used to compute synthetic magnitudes and colors, and K-corrections in the UBV system. In our preliminary contribution (Kalinkov et al., 1988) only some results of $(U-B)_s$ and $(B-V)_s$ colors were given. Here we use the whole observational data given by de Bruyn and Sargent. Synthetic spectra for 41 Sy1, 7 Sy1.5 and 15 Sy2 galaxies are constructed in relative units, assuming $f(\lambda 5470) = 1000$. Colors and K-corrections are obtained from the synthetic spectra. The variations with the redshift are presented in the polynomial approximation form $X = a_i z^i$, i = 0,1,.., where $X = (U-B)_{ss}$, $(B-V)_{ss}$, K_B, K_V (Table 1). The largest deviation in mag. from the computed curves is denoted by Q. The relations in Table 1 are very good approximations in the corresponding redshift ranges.

Table 1.   Polynomial approximation $X = a_i z^i$ for colors and K–corrections

X	Sy	a_0	a_1	a_2	a_3	a_4	Q, mag.	Range
$(U-B)_s$	1	-0.671	-1.220				0.01	$0 \leq z \leq 0.12$
$(B-V)_s$	1	0.391	1.037	-6.09			0.01	$0 \leq z \leq 0.26$
$(B-V)_s$	1.5	0.566	2.900	-12.49			0.005	$0 \leq z \leq 0.18$
$(B-V)_s$	2	0.708	4.031	-12.82			0.005	$0 \leq z \leq 0.18$
K_B	1	0.005	0.300	-2.41			0.01	$0 < z \leq 0.32$
K_B	1.5	-0.005	1.975	-4.12			0.01	$0 < z \leq 0.18$
K_B	2	-0.003	3.048	-0.89			0.01	$0 < z \leq 0.18$
K_V	1	0.004	-1.496	12.14	-27.71	18.74	0.015	$0 < z \leq 0.66$
K_V	1.5	-0.022	-0.440	8.05	-10.46		0.03	$0.03 < z \leq 0.52$
K_V	2	-0.044	0.112	7.85	8.32		0.025	$0.04 < z \leq 0.54$

The colors $(B-V)_{ss}$, K_B and K_V, calculated from the synthetic spectra are given in Figs 1–3 with the st.dev. of the mean, $\sigma/\sqrt{n}$.

de Bruyn, A. G. and Sargent, W. L. W. 1978, *A.J.*, **83**, 1257.

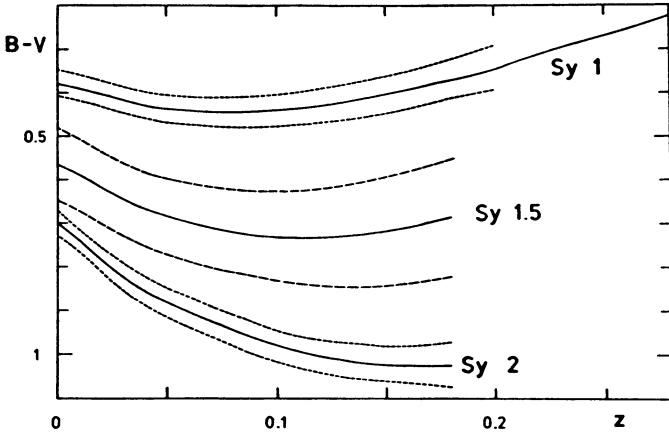Kalinkov, M., Kuneva, I., Tsvetanov, Z. and Filipov, L. 1988, *Adv. Space Res.*, **8**, 75.

Fig. 1.
Colors $(B-V)_{ss}$ from the synthetic spectra.

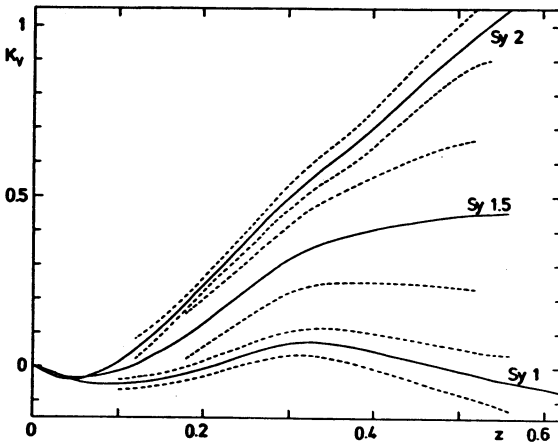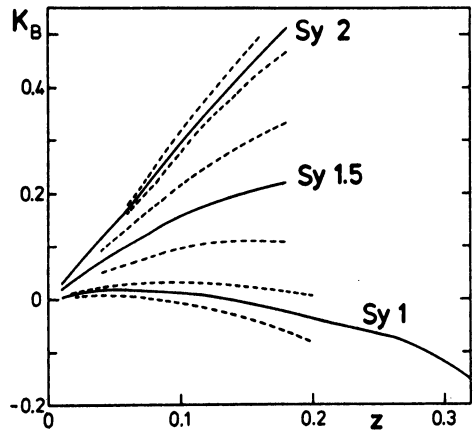Fig. 2. K_B-correction from the synthetic spectra.

Fig. 3. K_V-correction from the synthetic spectra.