Appendix F

The HydraI Multi-Color Surface Photometry

On the following pages (pp. 252–267) we show the surface photometry for the 64 galaxies in the HydraI photometric sample (Table 3.3, p. 28). We plot the surface brightness μ (in $^{\mathrm{m}}/\mathrm{arcsec}^2$); from top to bottom on the panels the passband is Gunn r (squares), Johnson B (crosses), and Johnson U (triangles). We plot the colors $(B-r)$ (crosses) and $(U-r)$ (triangles). Note that Johnson U photometry is only available for 22 of the 64 galaxies (cf. Table 3.5, p. 30). We plot the ellipticity, the position angle, and the Fourier coefficients c_3, s_3, c_4, and s_3 for Gunn r only.

All the plots have the same axis intervals. This makes a galaxy-to-galaxy comparison easy. An axis interval for the Fourier coefficients as large as ± 0.13 is needed to accommodate the 'semi-spiral' galaxy R224 (p. 256) and the very disky galaxy R338 (p. 266). Other very disky galaxies include R250 (p. 259), R266 (p. 261), and R295 (p. 263). Only the interval for the position angle is shifted in the cases where the position angle profile crosses $0°$ or $180°$.

The interval on the $\log(r/\mathrm{arcsec})$-axis is 0.0–1.9, corresponding to a range in r of $1''$–$79''$. The surface brightnesses μ are plotted from $1''$ to the radius where the uncertainty on μ exceeds $0.2^{\mathrm{m}}/\mathrm{arcsec}^2$. The colors are plotted from $2''$ to the radius where the uncertainty on the color exceeds $\sqrt{2}\cdot 0\overset{\mathrm{m}}{.}2$. The other quantities are plotted from $2''$ to either the radius where the ellipticity and the position angle are no longer free parameters in the fit (cf. Sect. 4.1, p. 35), or the maximum radius for the μ plot, whichever is the smallest.

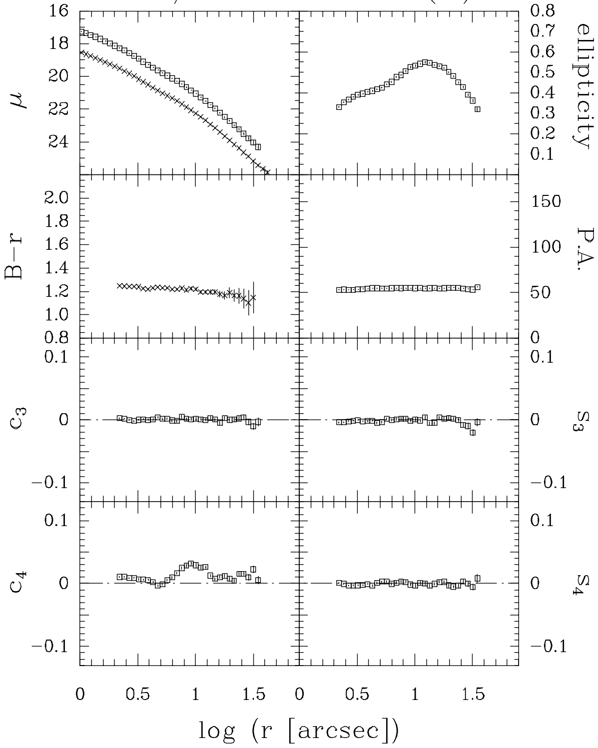
Given in the title for each plot is the galaxy ID from Richter (1989) (e.g. R269), the common galaxy name if available (e.g. N3311), and the morphological type listed by Richter.

The surface brightnesses and the colors are on the standard photometric system (cf. Sect. 4.3, p. 40), but no offsets for galactic extinction, k-correction, or cosmological dimming have been applied. This is the standard way of presenting surface photometry. The errorbars for the surface brightnesses and the colors include a conservative estimate of the uncertainty on the background subtraction of 1% for Gunn r and 0.5% for Johnson B and U.

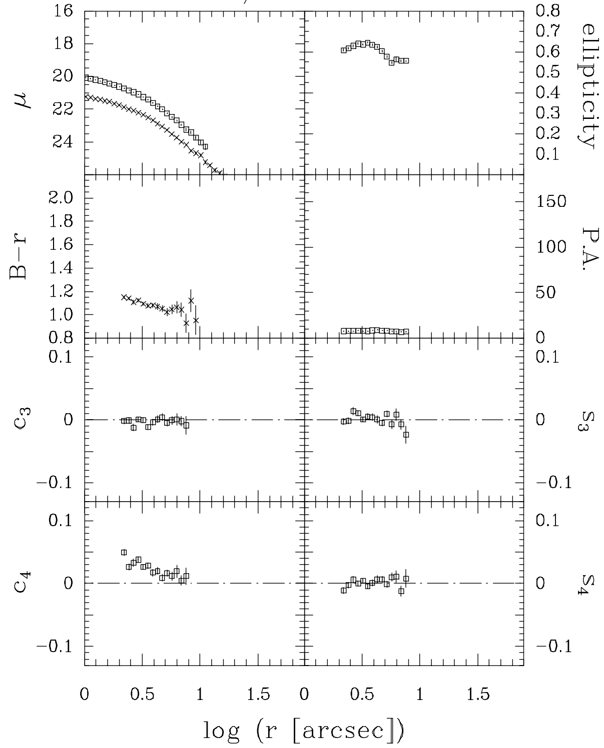
For the galaxies that have been observed more than once the best seeing observation was chosen (cf. Table 3.5, p. 30). The only exception to this is the Johnson B observation of R166, where an observation with a marginally ($0.02''$) worse seeing was chosen. By doing so it was achieved that all 64 pairs of Gunn r and Johnson B observations shown here were observed just after each other (within ~ 10 minutes).

The seeing for the shown observations is in the range $0.77''$–$1.37''$ for Gunn r, $0.81''$–$1.70''$ for Johnson B, and $1.01''$–$1.57''$ for Johnson U. The mean values are $0.95''$, $1.04''$, and $1.20''$, respectively. For Gunn r, the seeing range corresponds to a range in $\log(r/'')$ of -0.11 to $+0.14$.

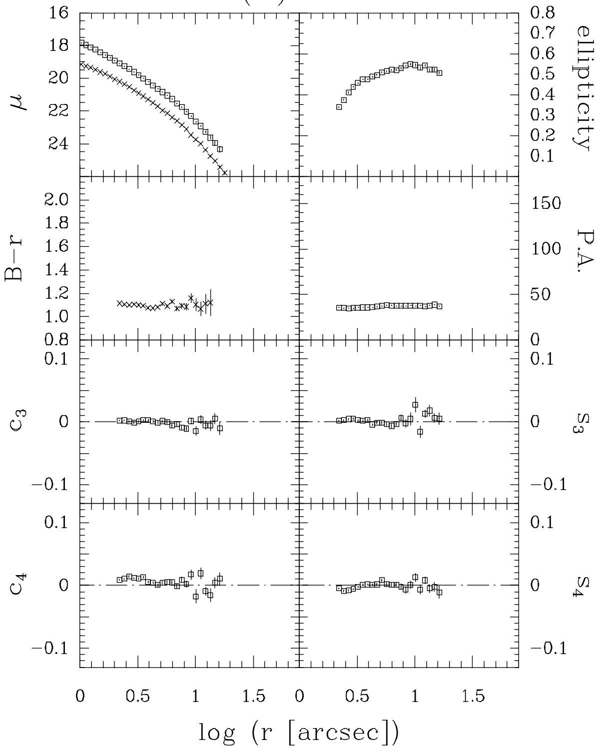
R112/E501G13 S0(4)



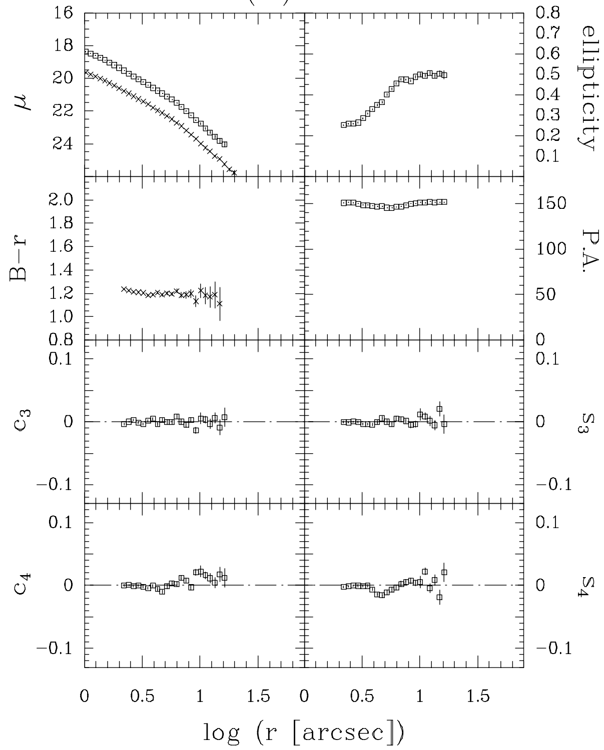
R120 S0/a



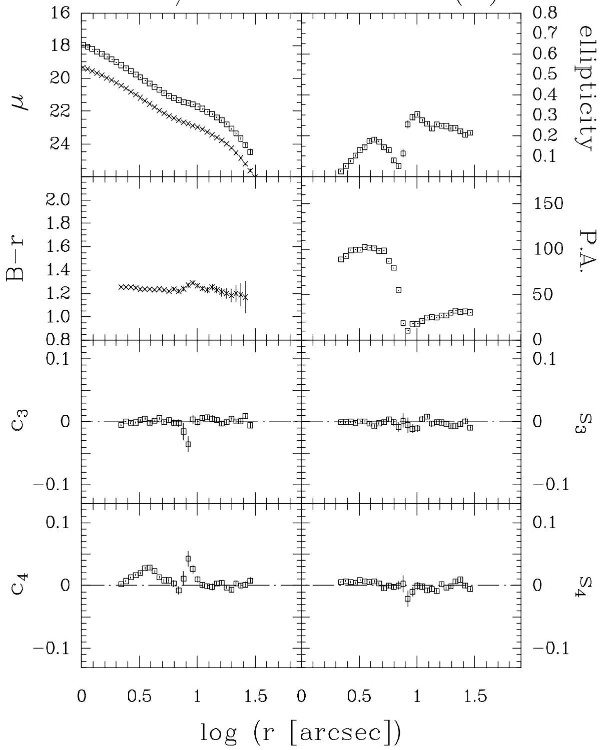
R129 S0(5)



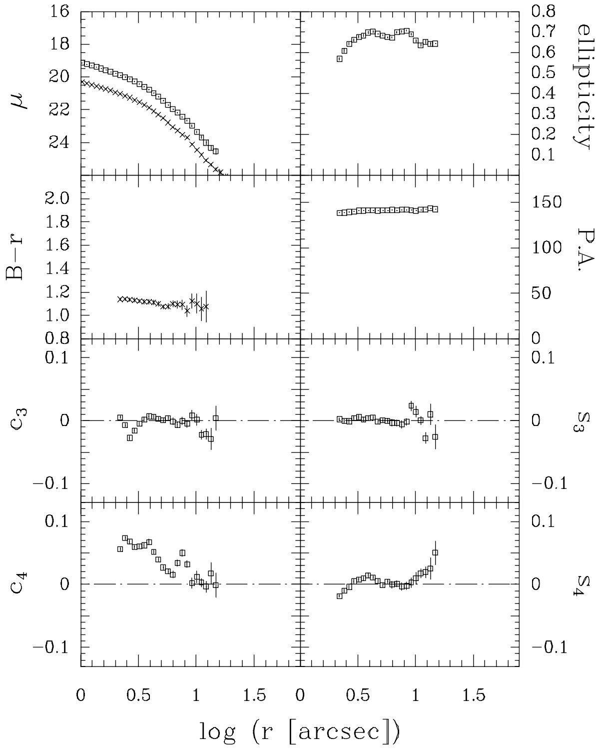
R138 S0(5)



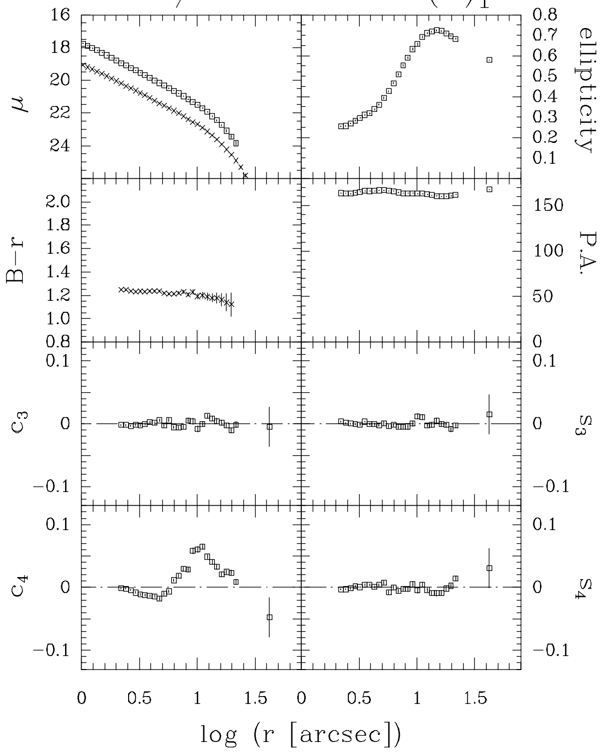
R166/E501G20 SB0(2)



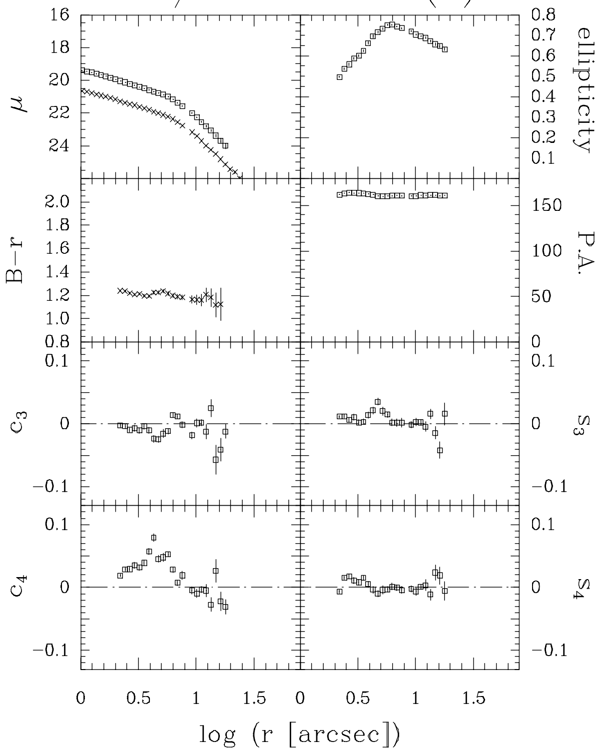
R185 S0

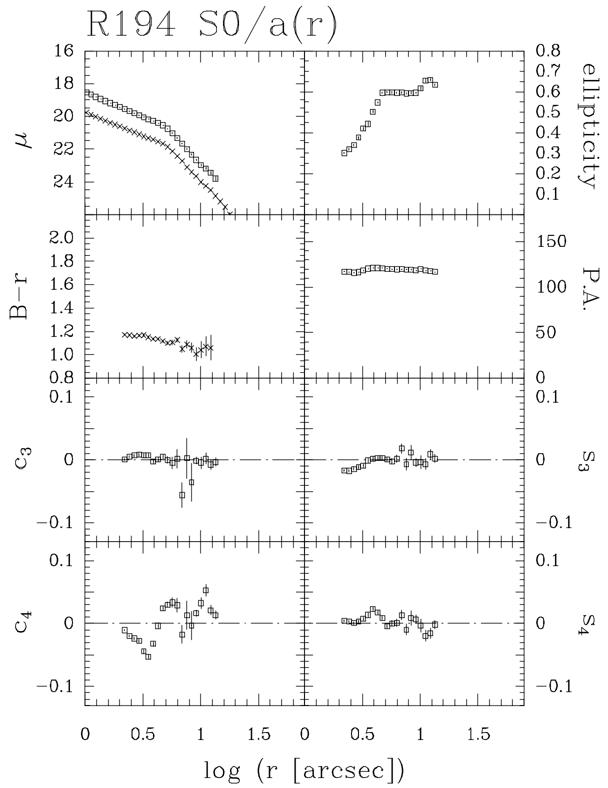


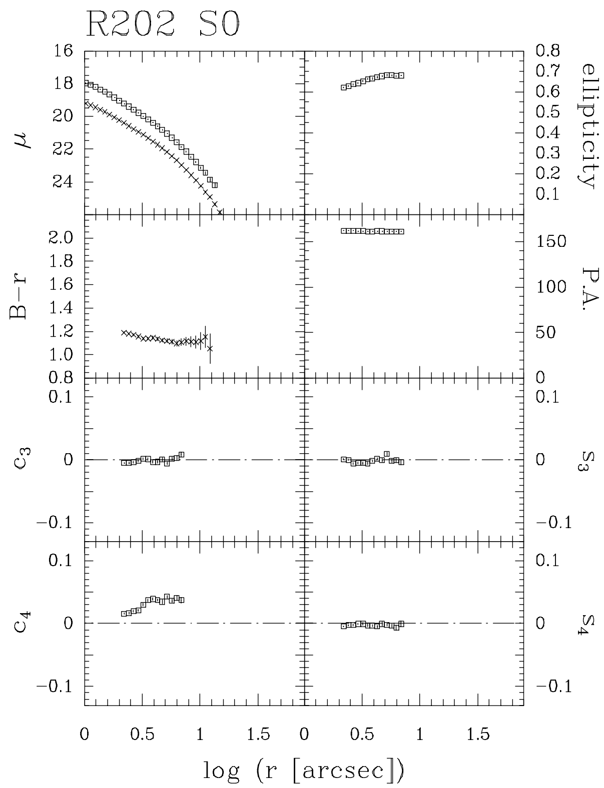
R188/E501G21 S0(6)pec

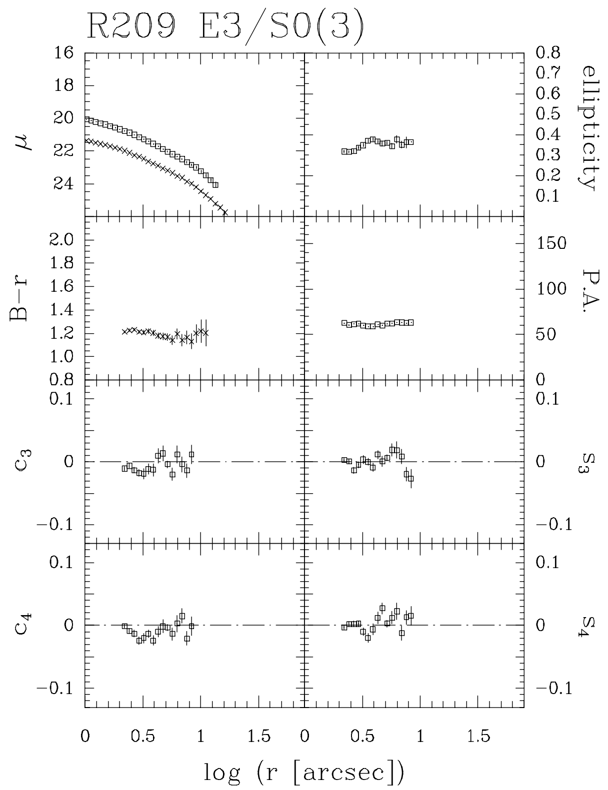


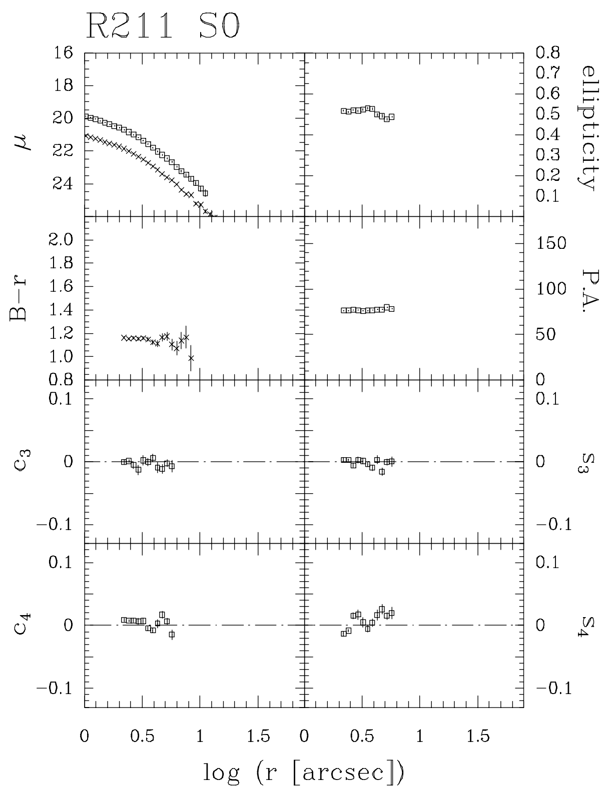
R193/E501G26 S0(6)



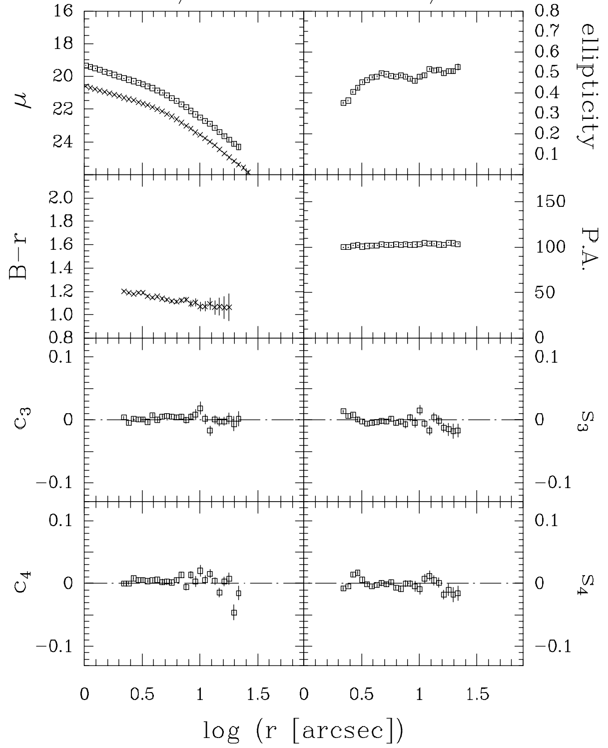

R194 S0/a(r)
μ
ellipticity
B−r
P.A.
c_3
s_3
c_4
s_4
log (r [arcsec])


R202 S0
μ
ellipticity
B−r
P.A.
c_3
s_3
c_4
s_4
log (r [arcsec])

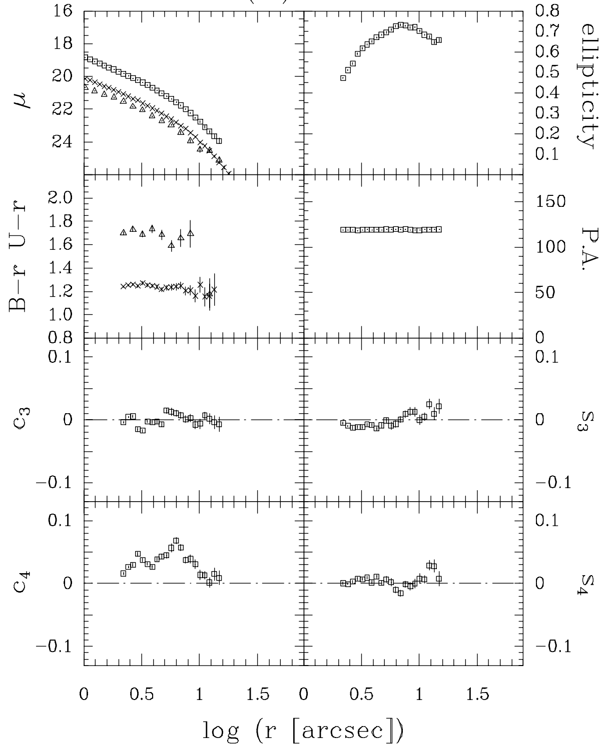

R209 E3/S0(3)
μ
ellipticity
B−r
P.A.
c_3
s_3
c_4
s_4
log (r [arcsec])


R211 S0
μ
ellipticity
B−r
P.A.
c_3
s_3
c_4
s_4
log (r [arcsec])

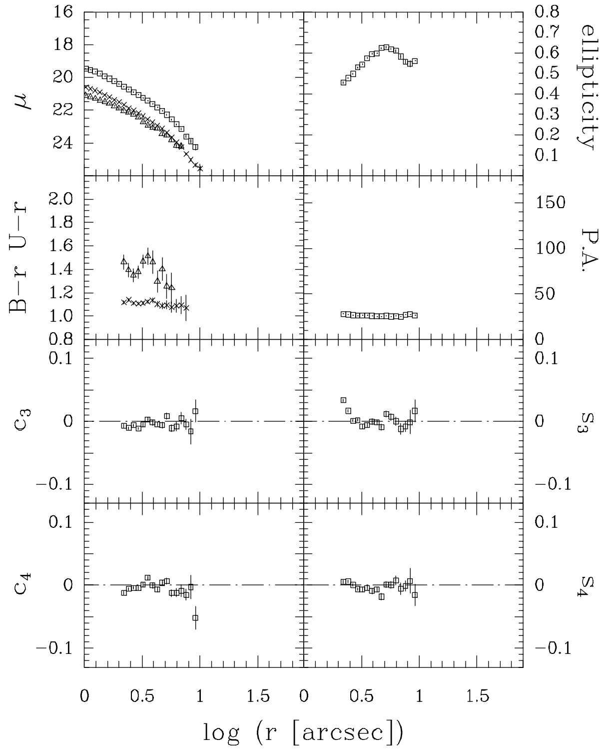
R212/E501G27 E6/S0



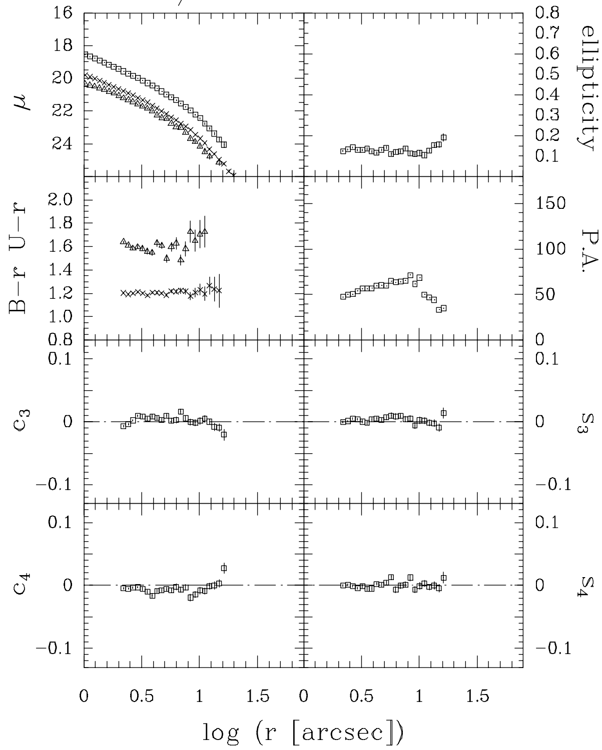
R213 S0(6)



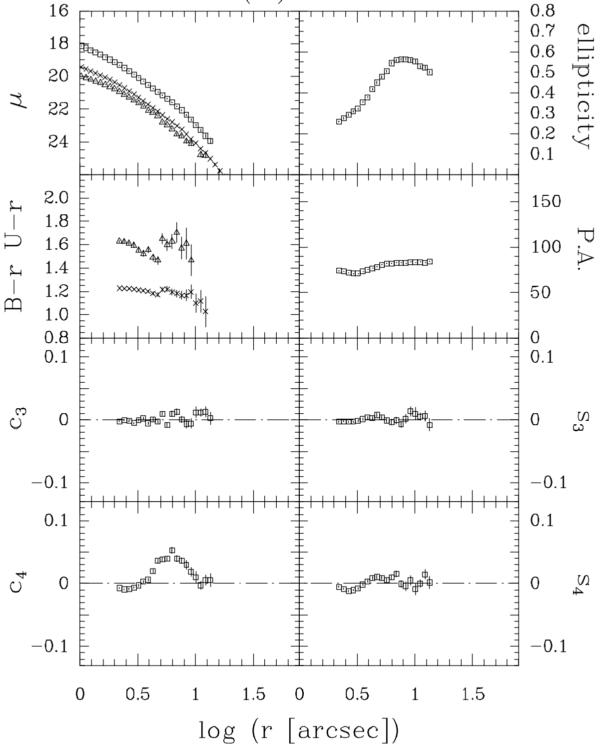
R214 S0



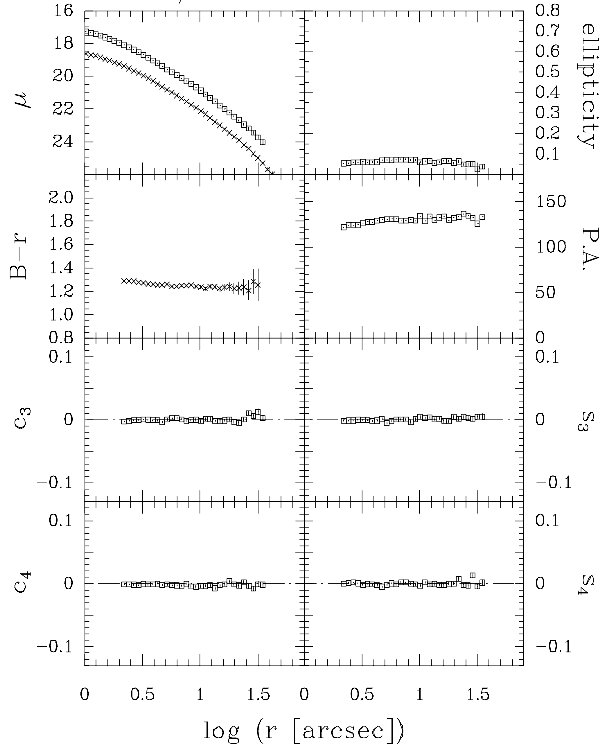
R216/A1033−27 E2



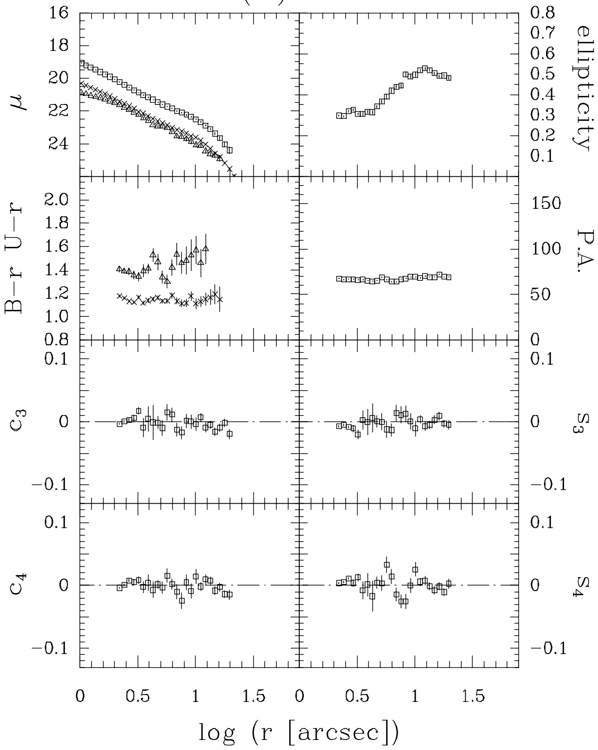
R217 S0(6)



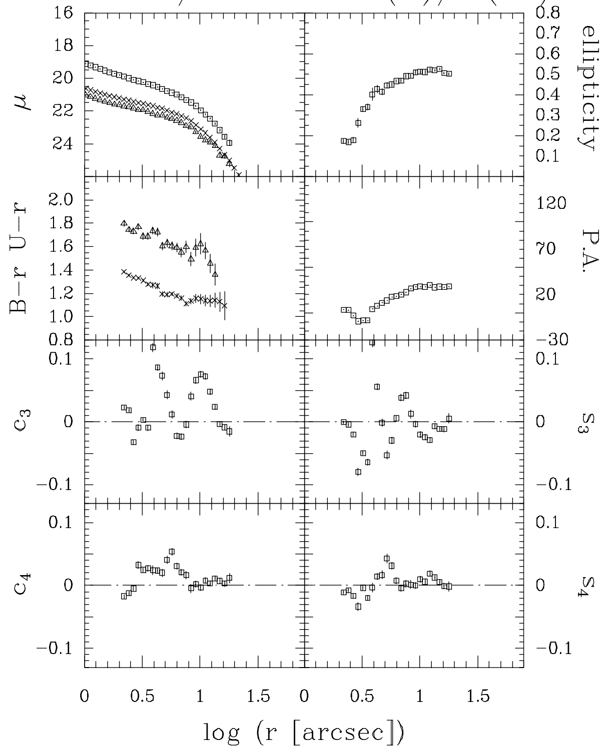
R218/N3305 E1

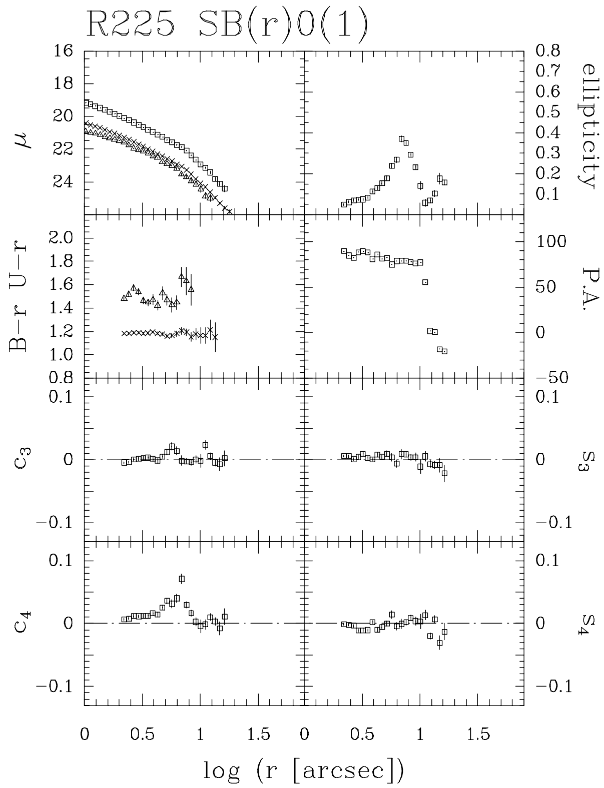


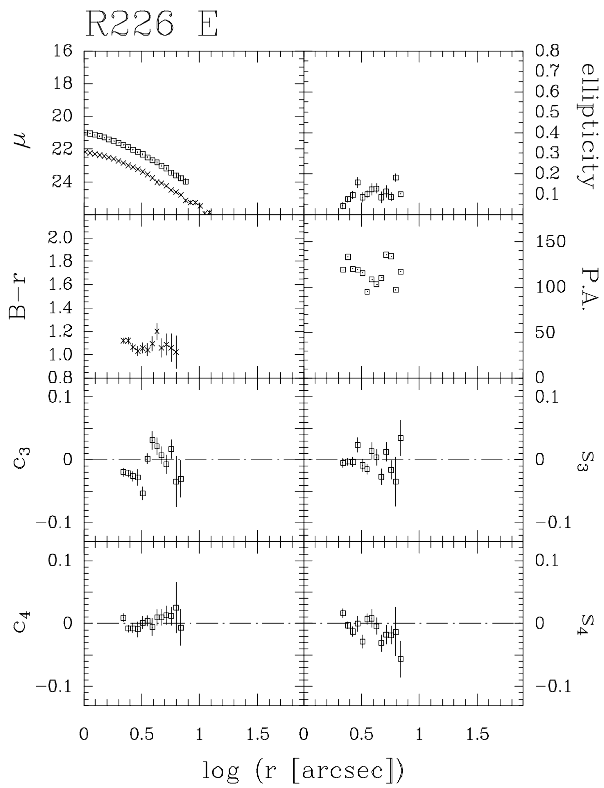
R219 S0(4)

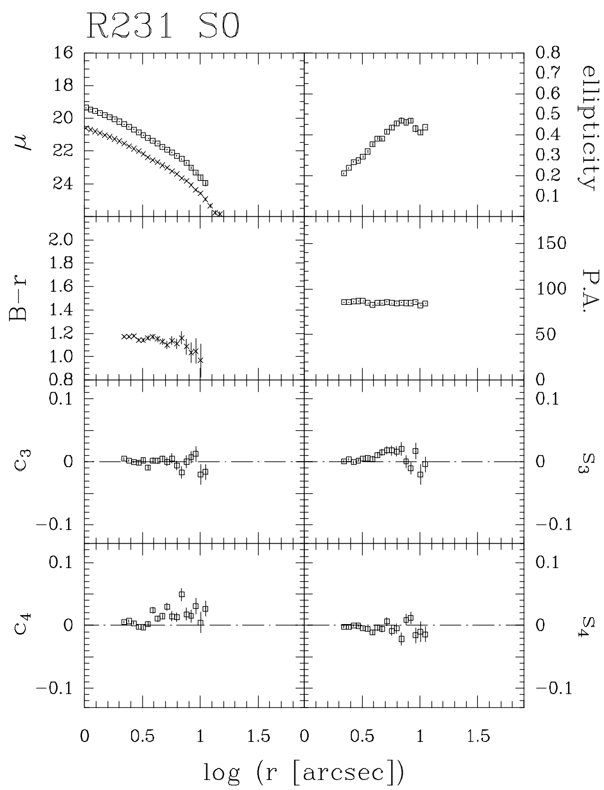


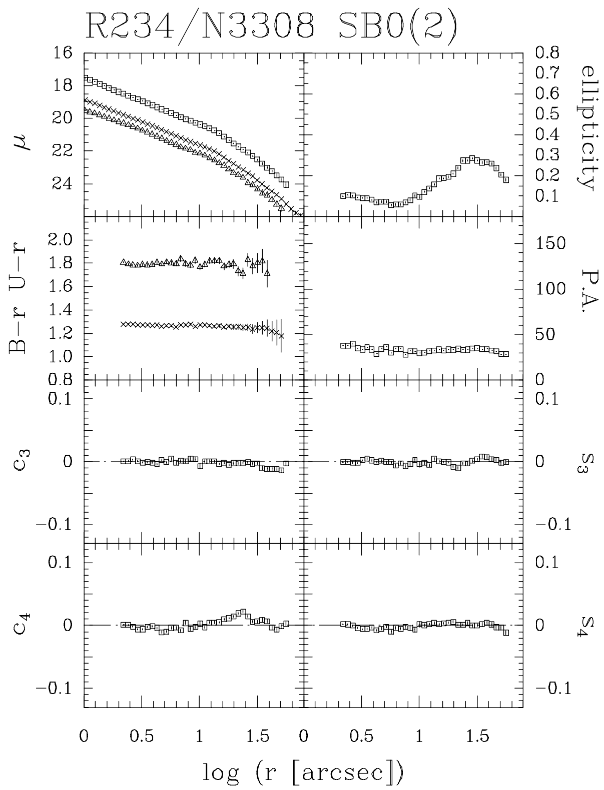
R224/N3307 S0(5)/a(rs)

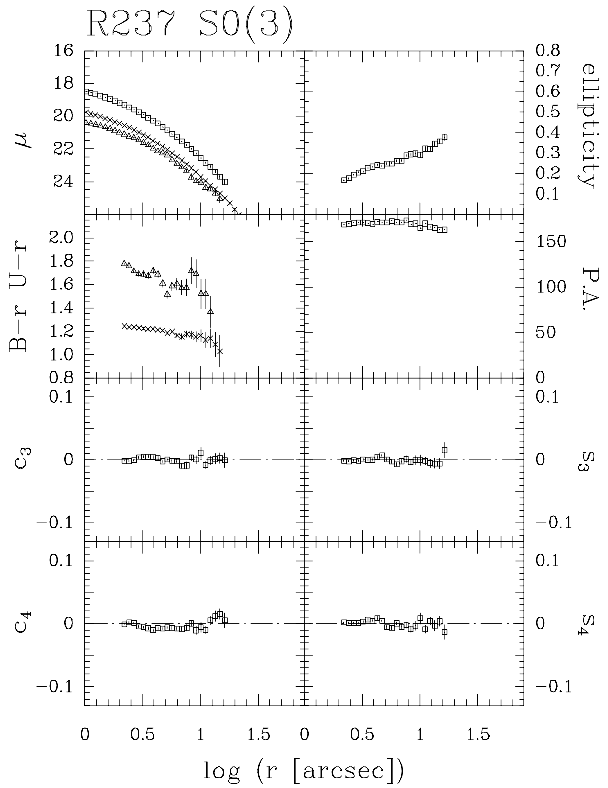


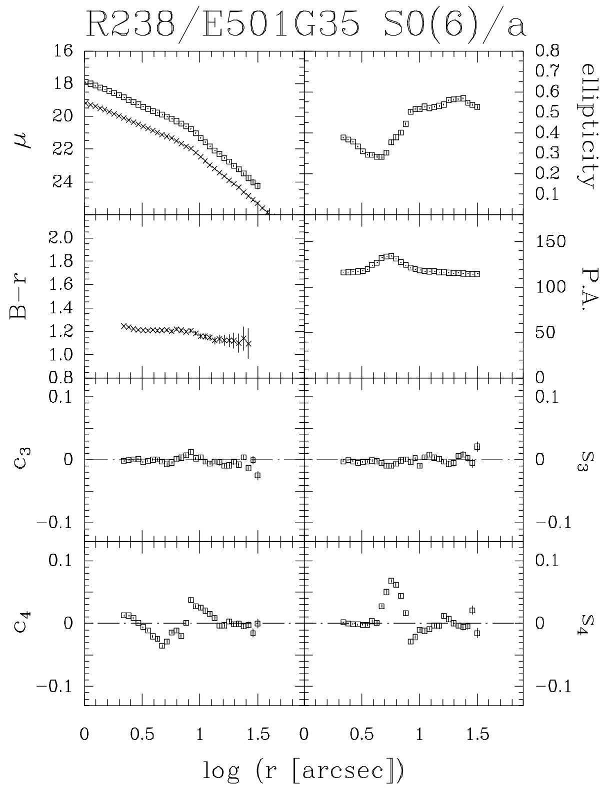

R225 SB(r)0(1)
μ
ellipticity
B−r U−r
P.A.
c3
s3
c4
s4
log (r [arcsec])

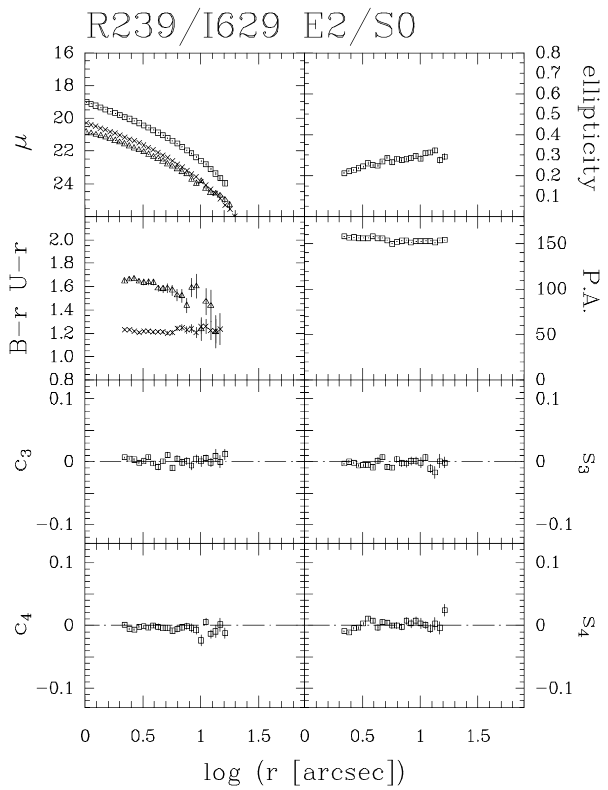

R226 E
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])

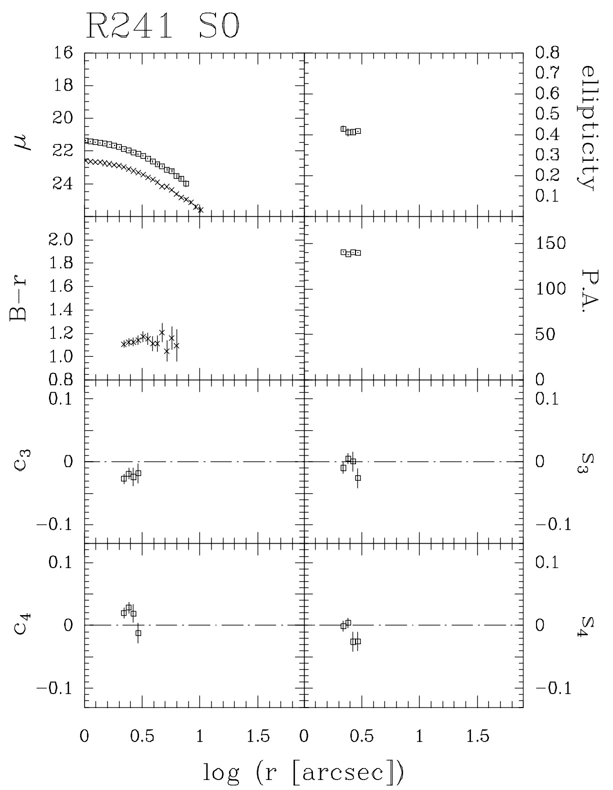

R231 S0
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])

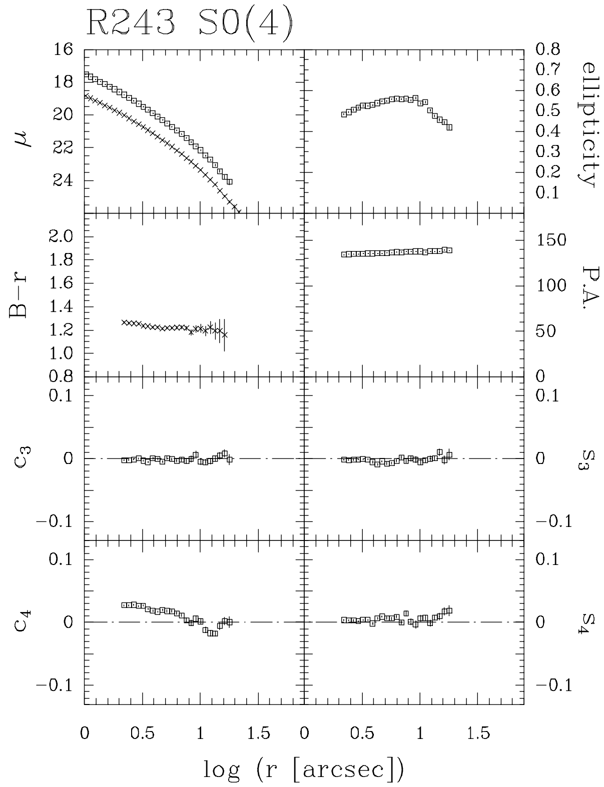

R234/N3308 SB0(2)
μ
ellipticity
B−r U−r
P.A.
c3
s3
c4
s4
log (r [arcsec])

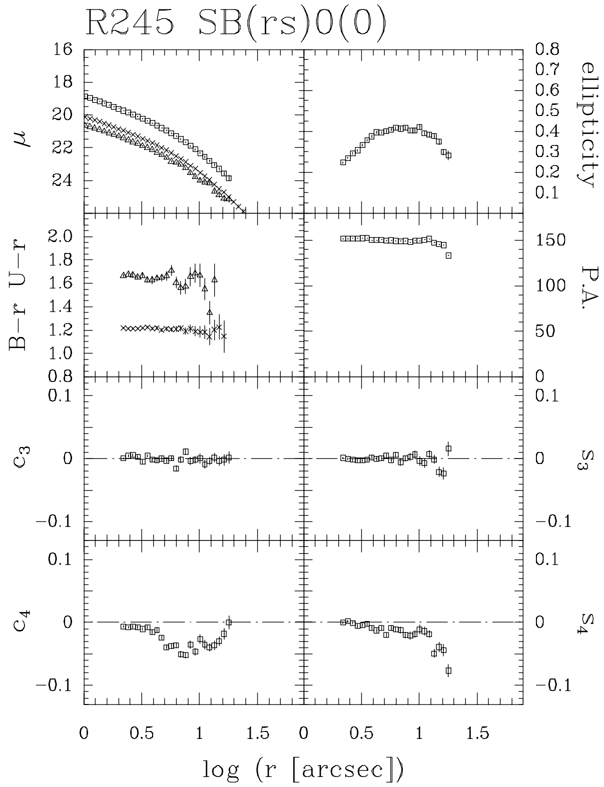

R237 S0(3)
μ
ellipticity
B−r U−r
P.A.
c_3
s_3
c_4
s_4
log (r [arcsec])

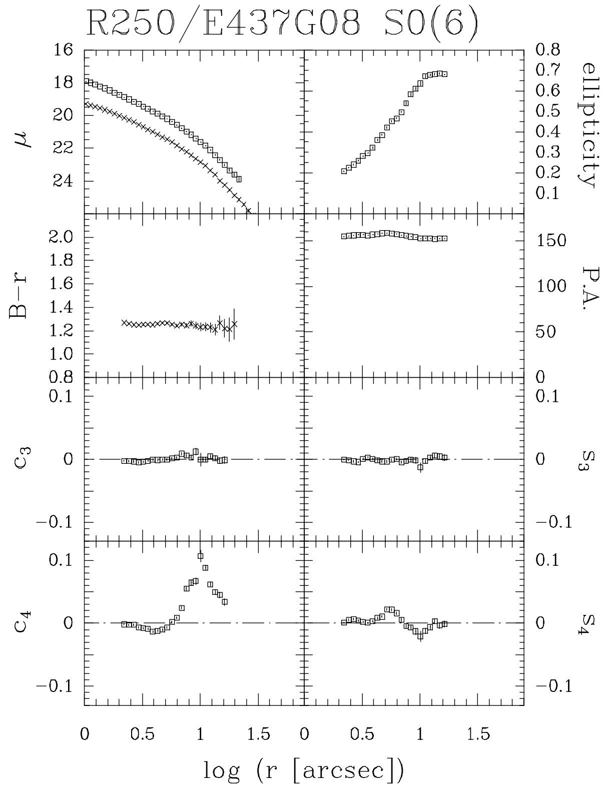

R238/E501G35 S0(6)/a
μ
ellipticity
B−r
P.A.
c_3
s_3
c_4
s_4
log (r [arcsec])

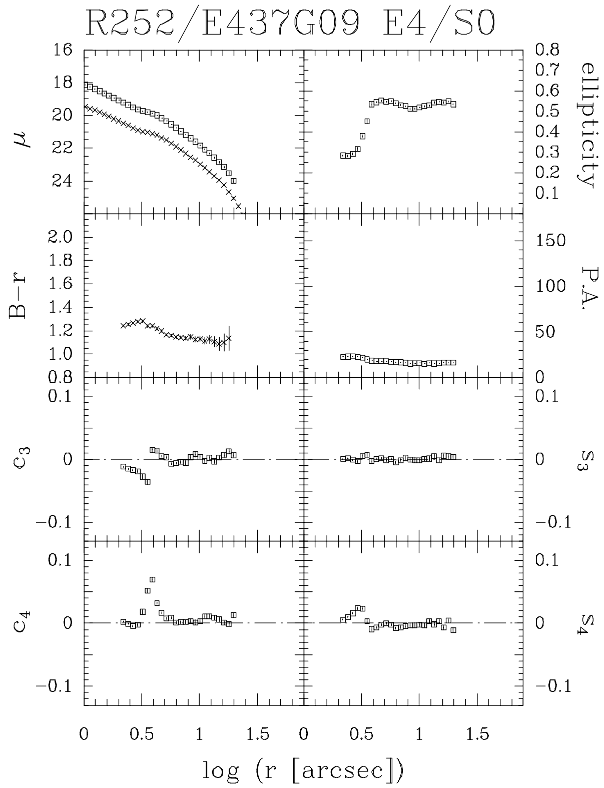

R239/I629 E2/S0
μ
ellipticity
B−r U−r
P.A.
c_3
s_3
c_4
s_4
log (r [arcsec])


R241 S0
μ
ellipticity
B−r
P.A.
c_3
s_3
c_4
s_4
log (r [arcsec])

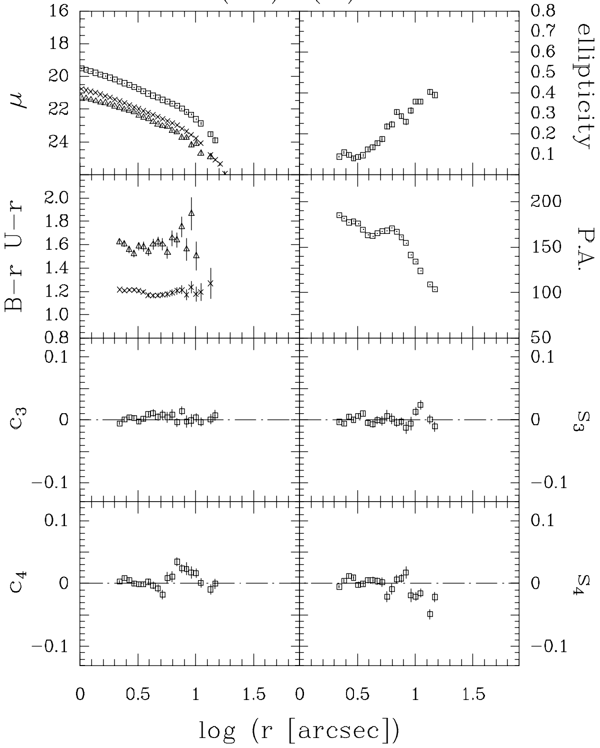

R243 S0(4)
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])


R245 SB(rs)0(0)
μ
ellipticity
B−r U−r
P.A.
c3
s3
c4
s4
log (r [arcsec])

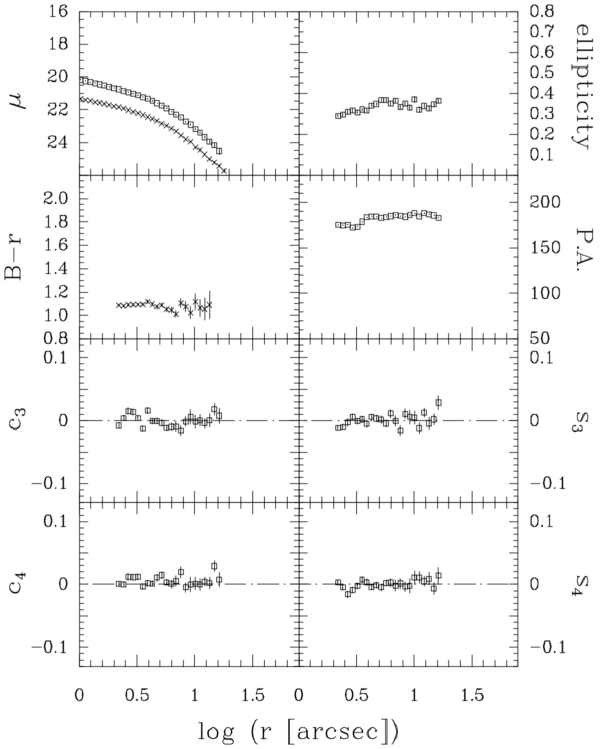

R250/E437G08 S0(6)
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])


R252/E437G09 E4/S0
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])

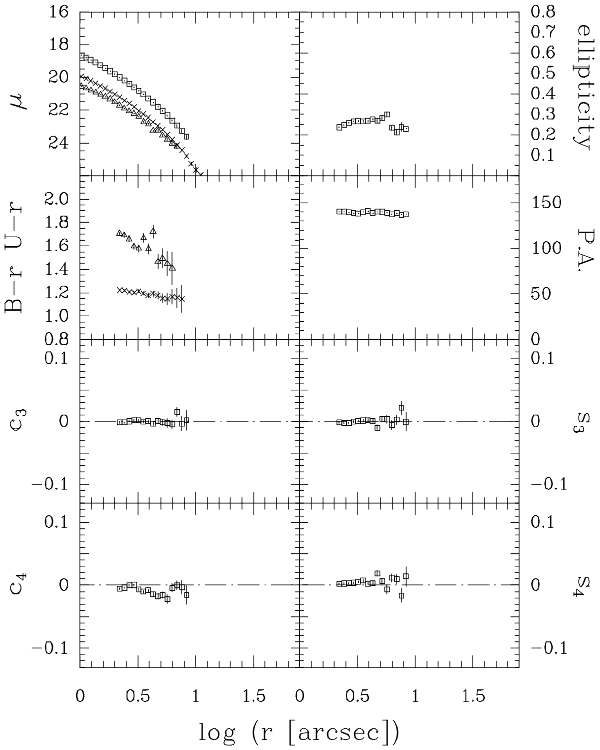
R253 S(rs)0(1)



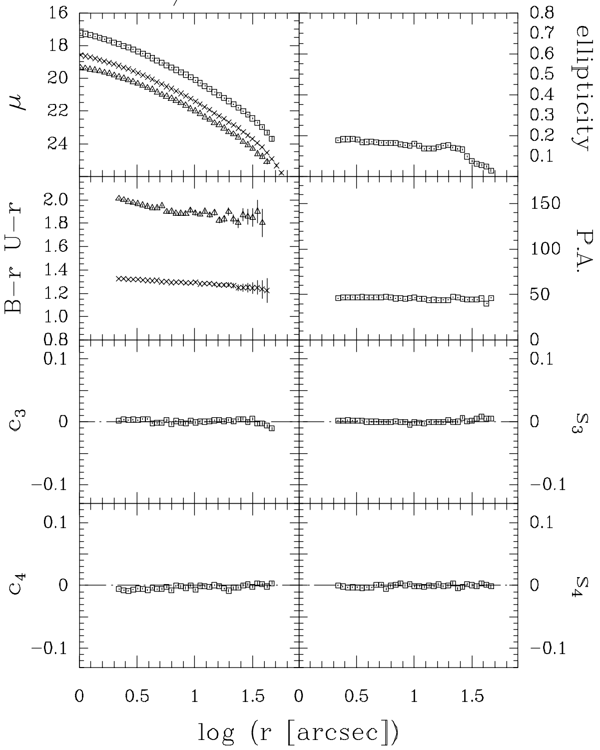
R254 E3



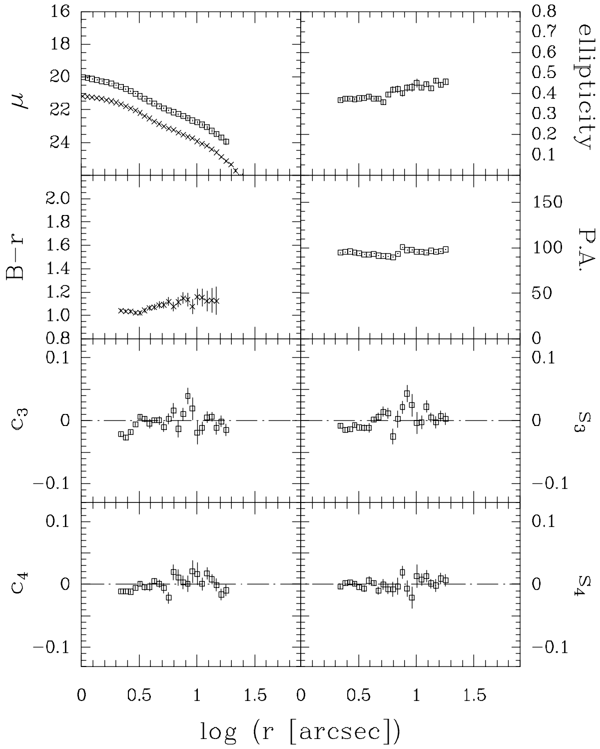
R255 E3



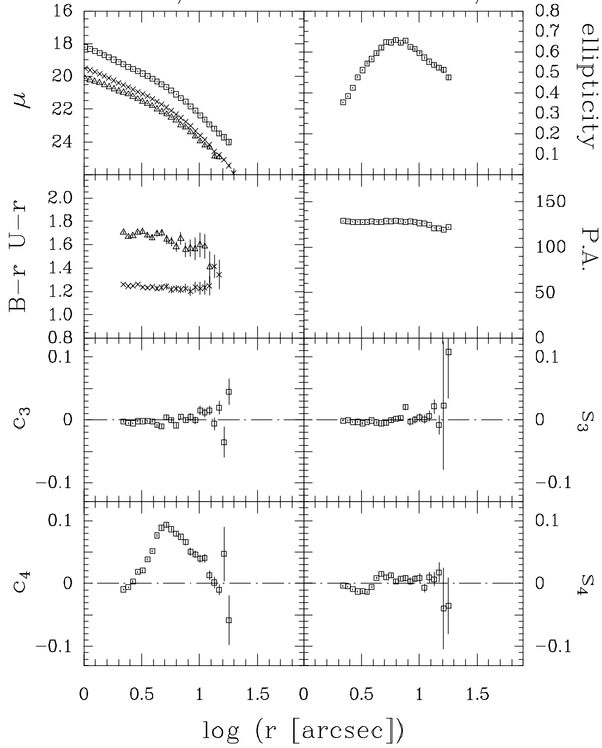
R256/N3309 E1



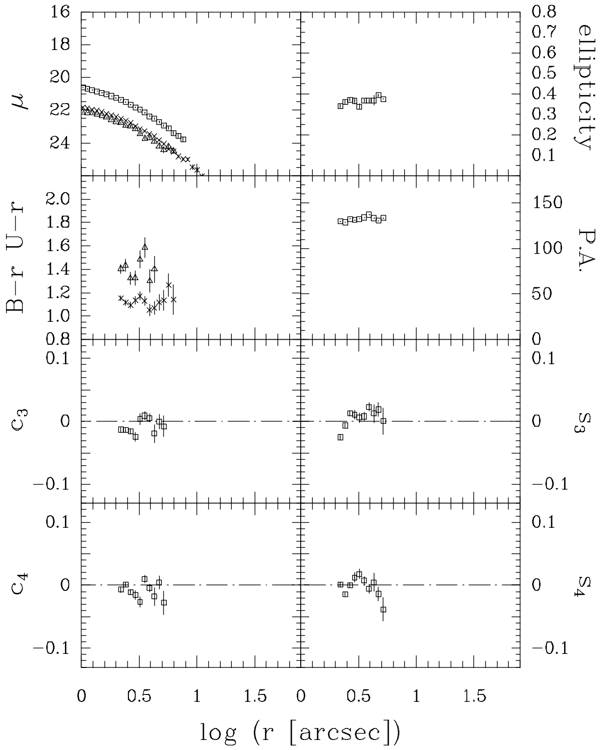
R261 S0



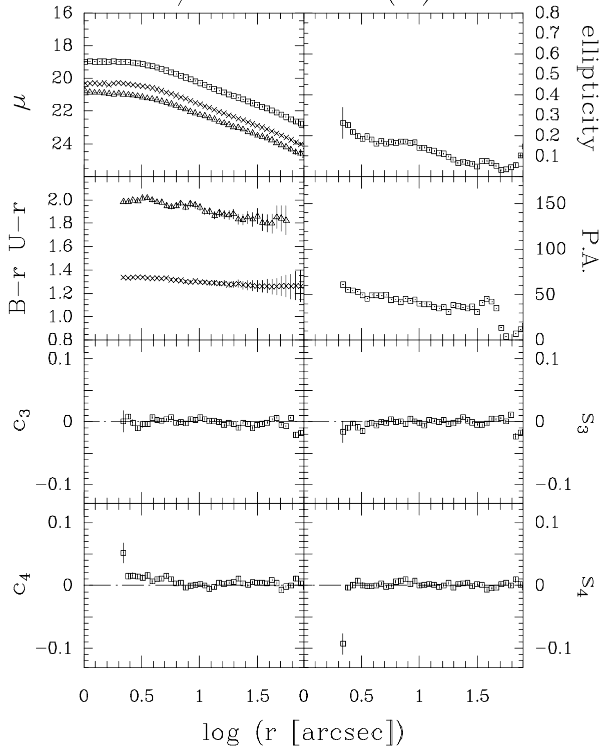
R266/A1034−27A E7/S0

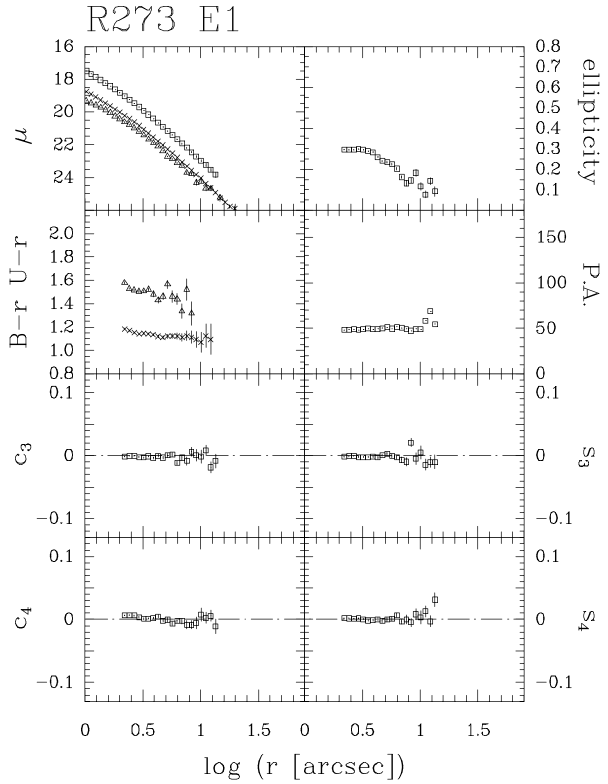


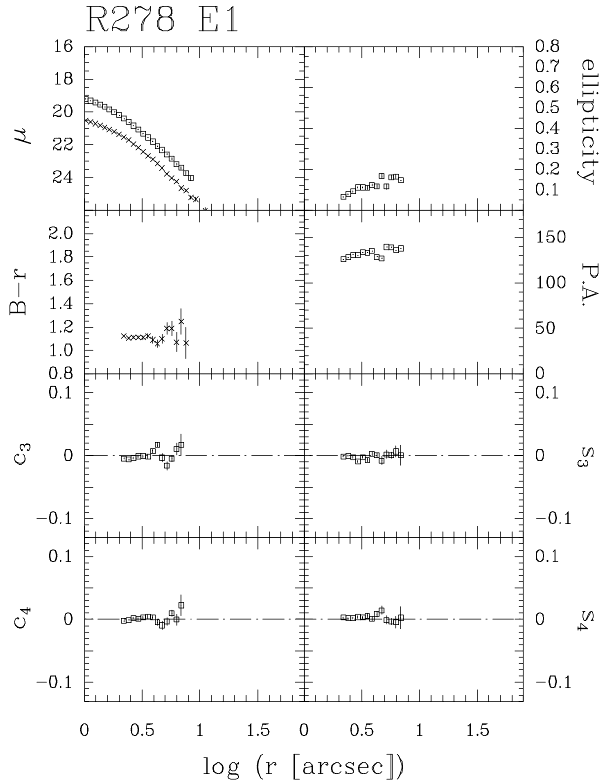
R268 S0

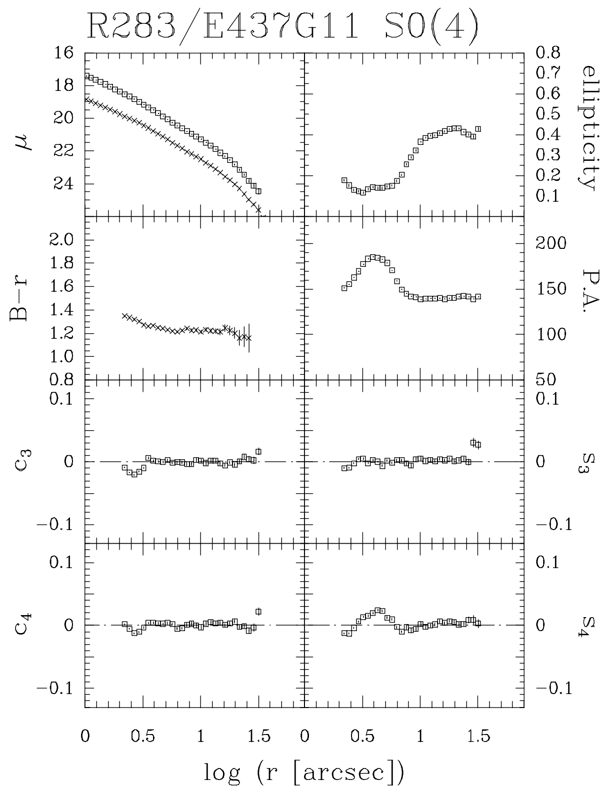


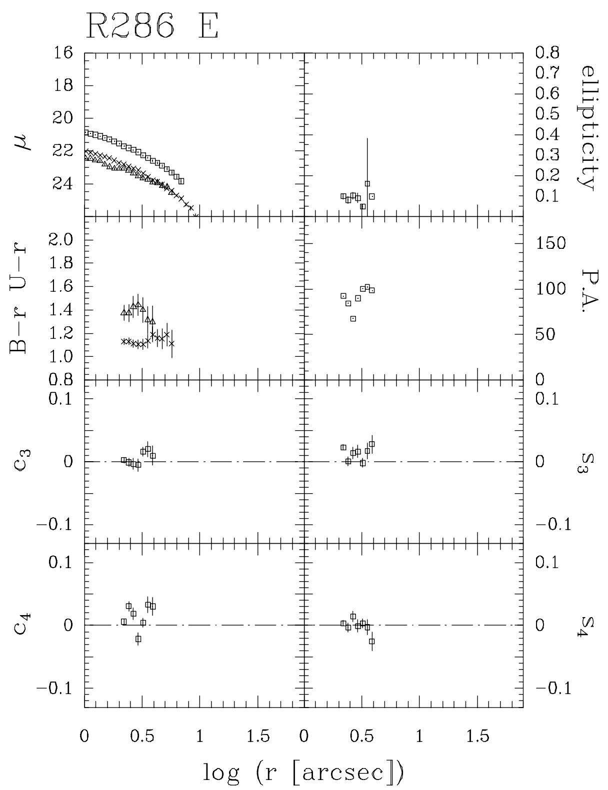
R269/N3311 S0(2)



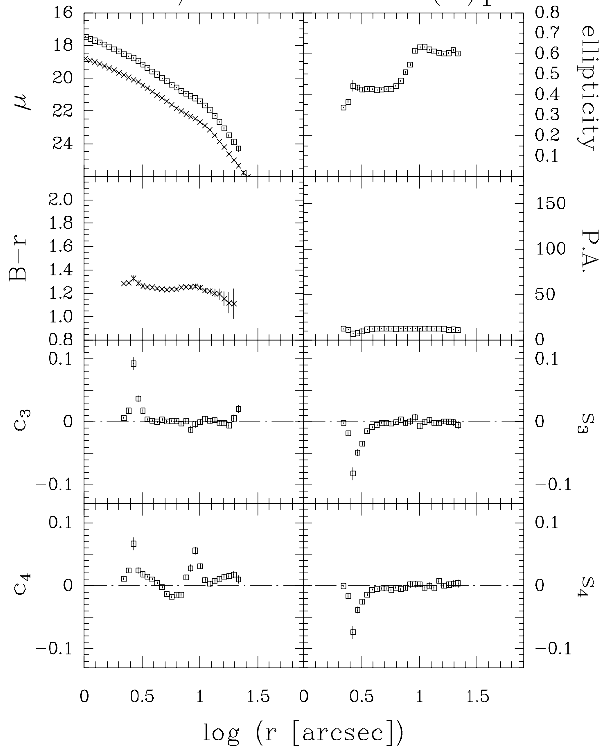

R273 E1
μ
ellipticity
B−r U−r
P.A.
c_3
s_3
c_4
s_4
log (r [arcsec])


R278 E1
μ
ellipticity
B−r
P.A.
c_3
s_3
c_4
s_4
log (r [arcsec])

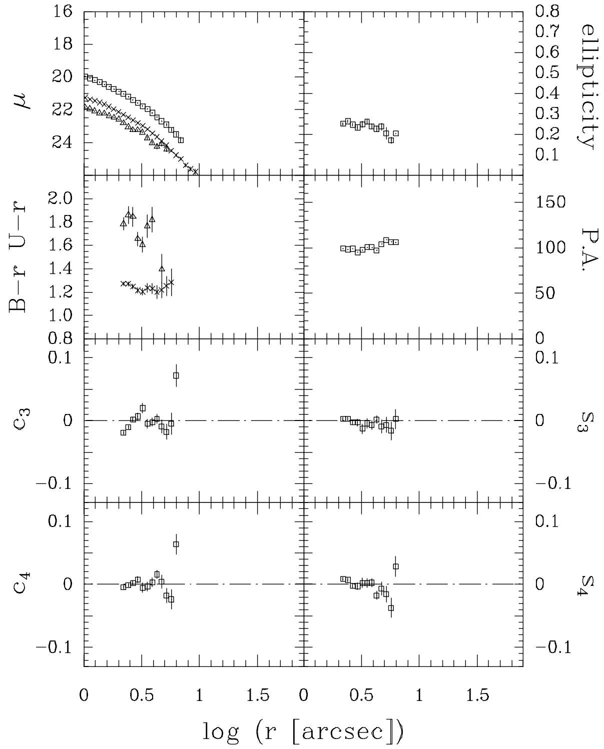

R283/E437G11 S0(4)
μ
ellipticity
B−r
P.A.
c_3
s_3
c_4
s_4
log (r [arcsec])


R286 E
μ
ellipticity
B−r U−r
P.A.
c_3
s_3
c_4
s_4
log (r [arcsec])

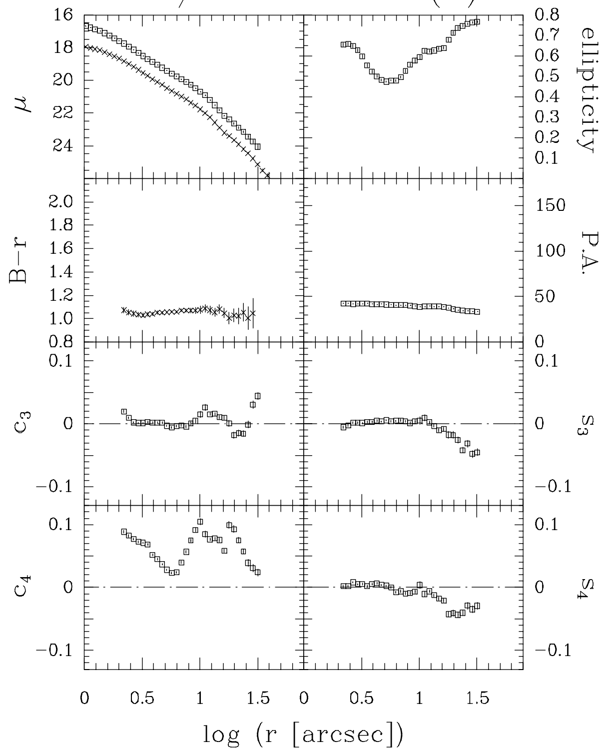
R288/E437G13 S0(5)pec



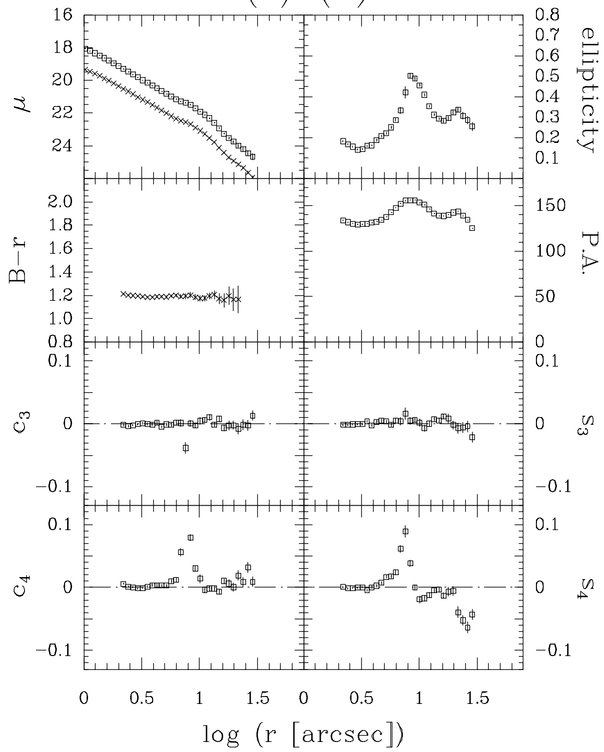
R293 E2



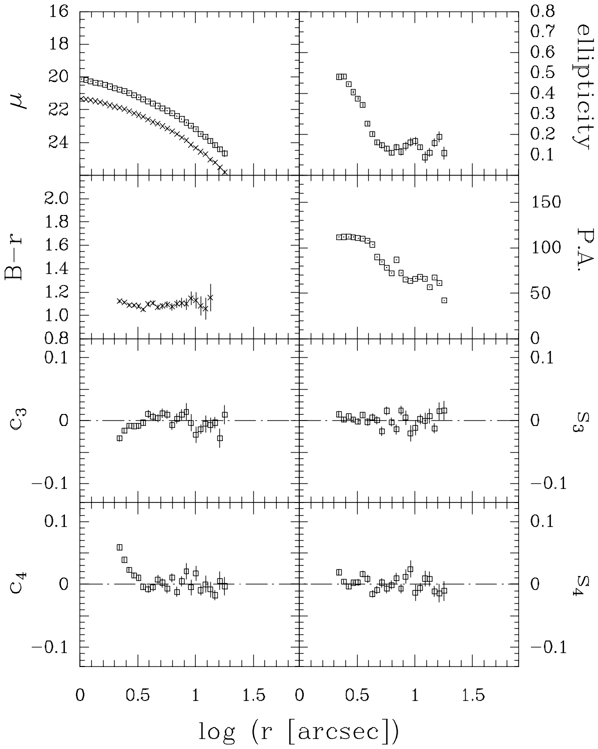
R295/E437G15 S0(7)



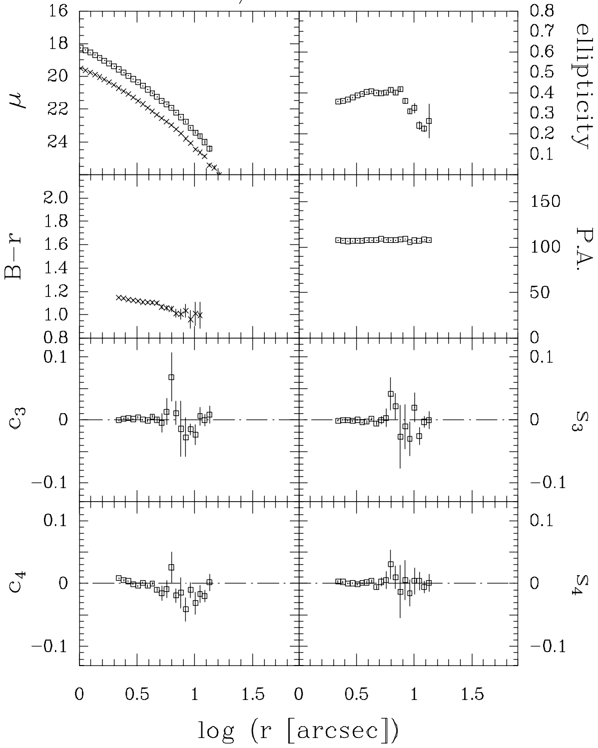
R305 SB(r)0(1)



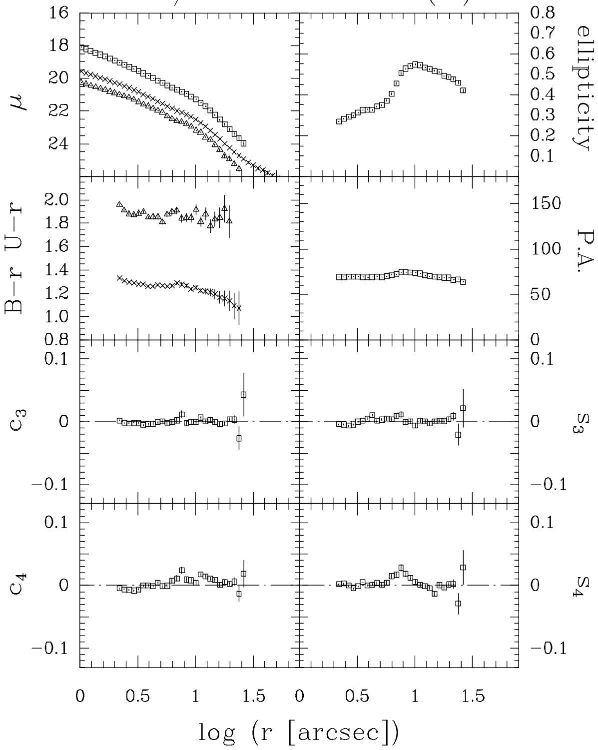
R307 E2



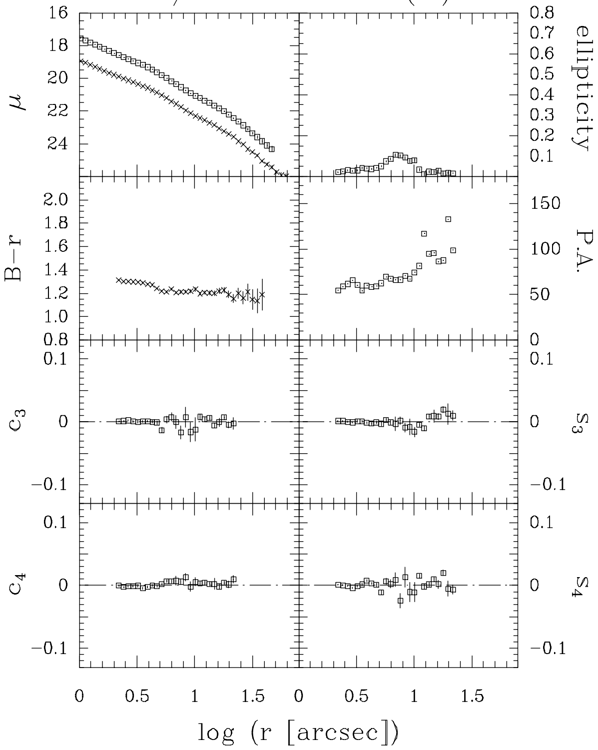
R308 E3/S0



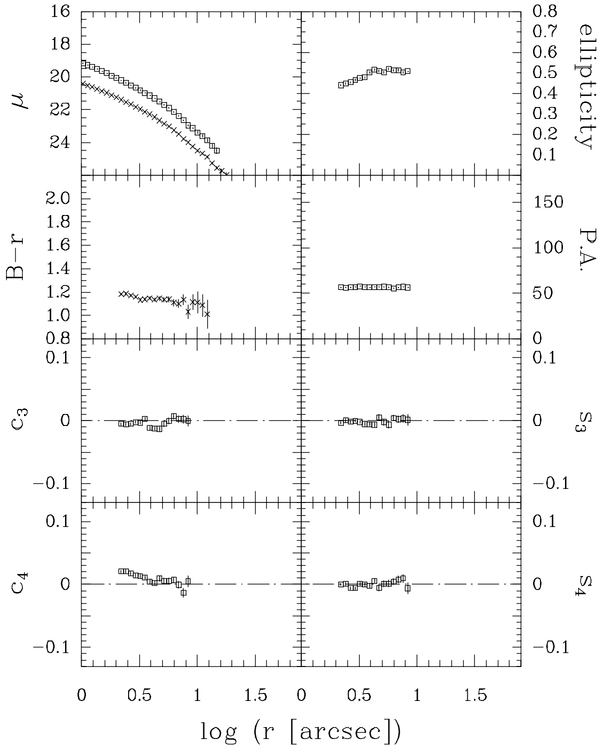
R316/E501G47 S0(5)



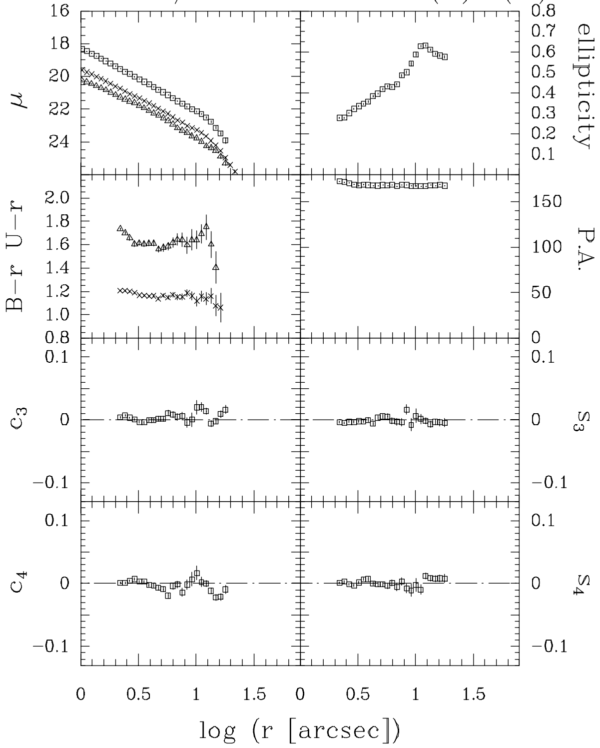
R317/N3315 SB0(0)



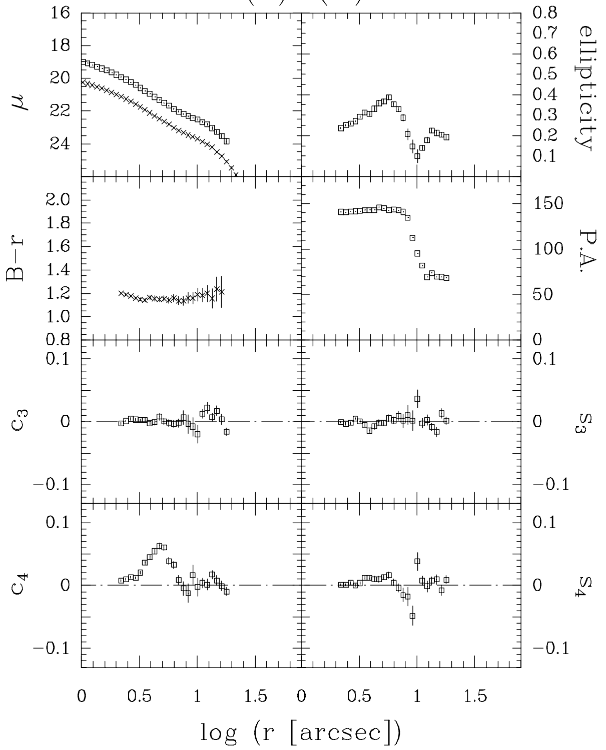
R319 S0



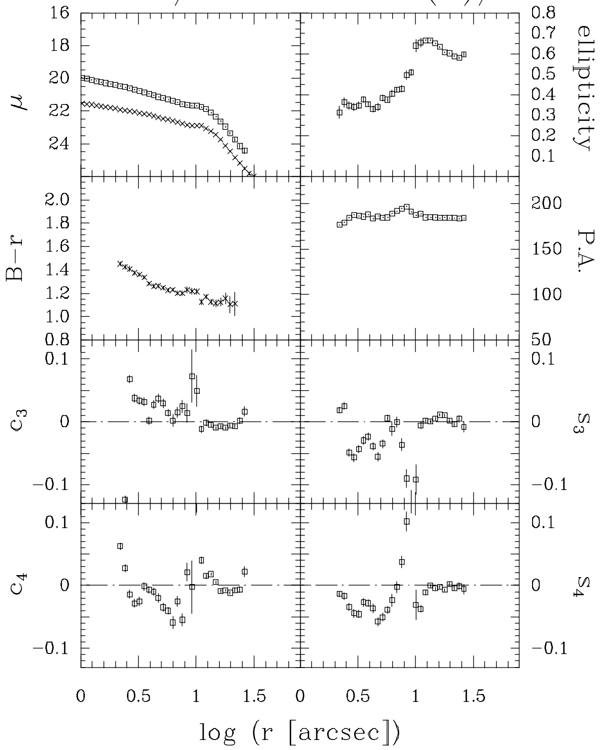
R322/E501G49 SB(s)0(6)

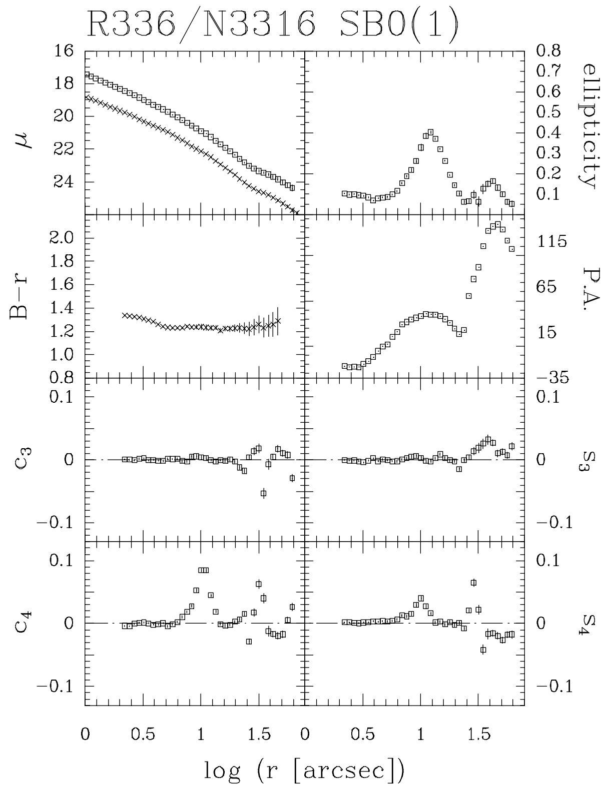


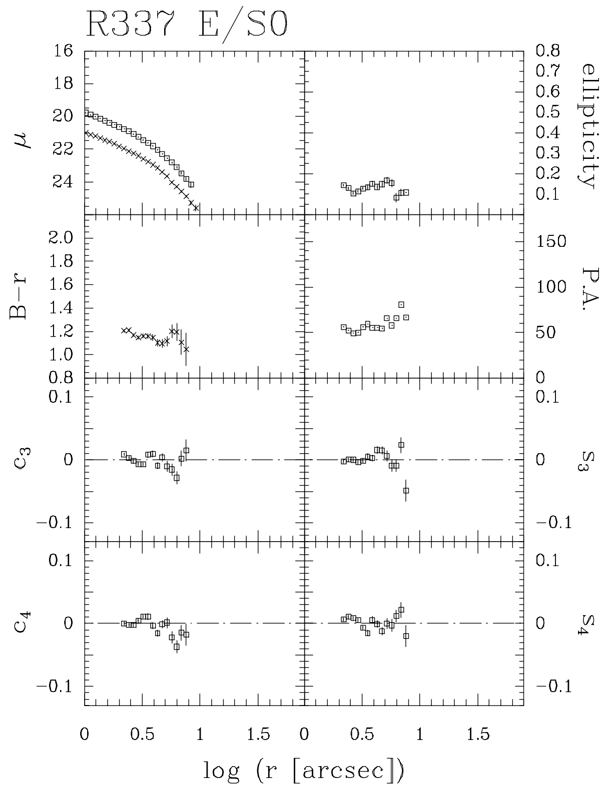
R327 SB(r)0(3)

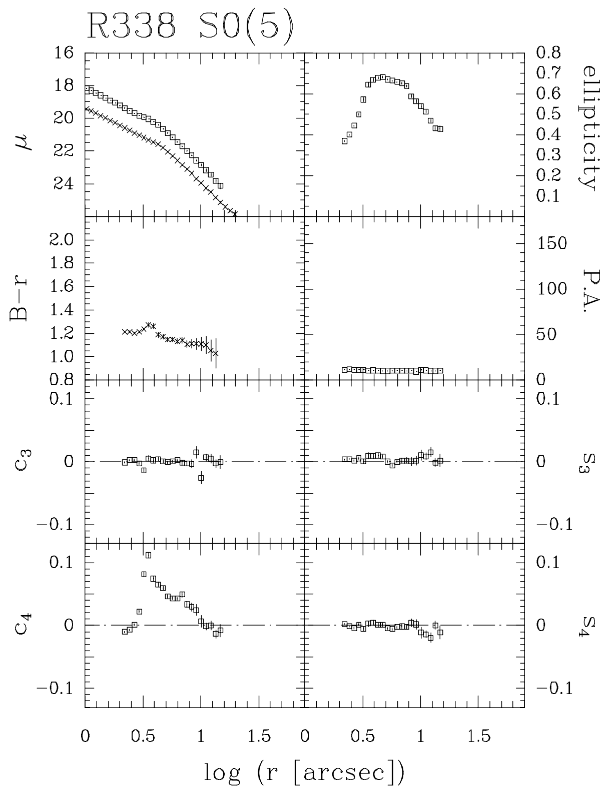


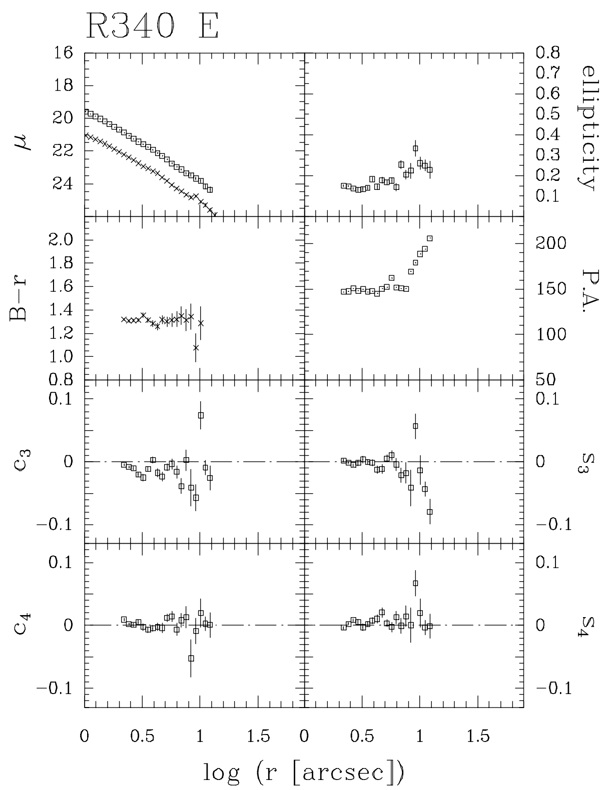
R334/E501G52 S0(5)/a

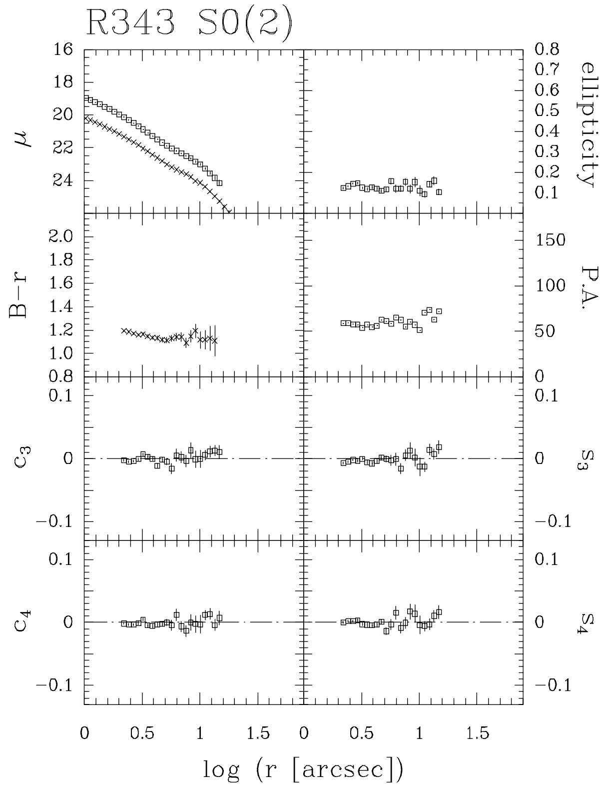


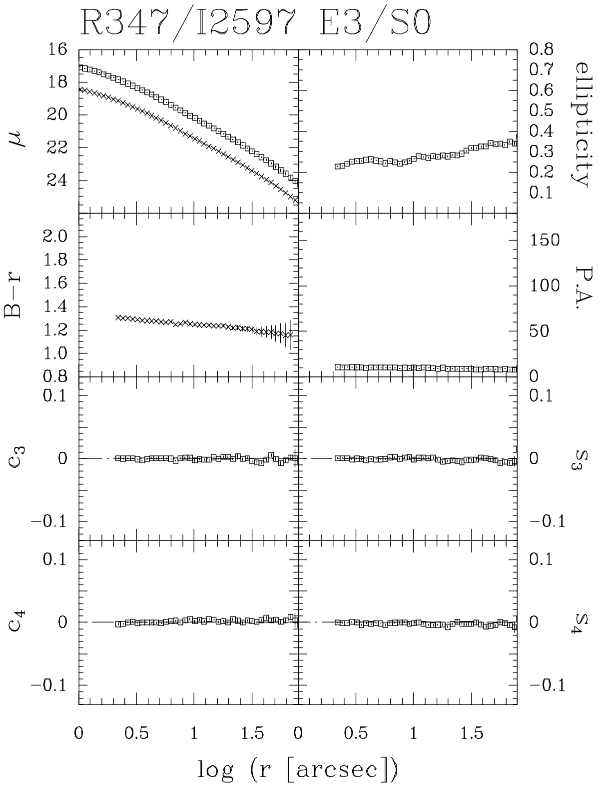

R336/N3316 SB0(1)
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])

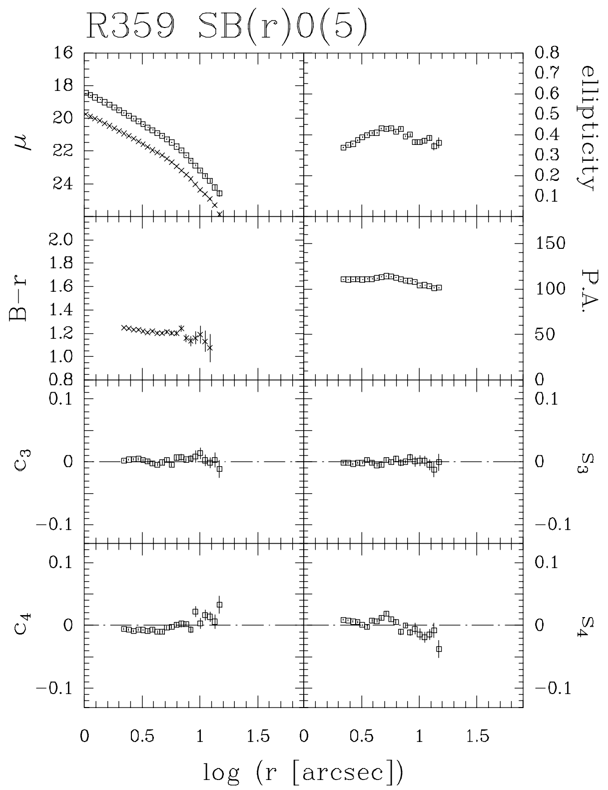

R337 E/S0
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])

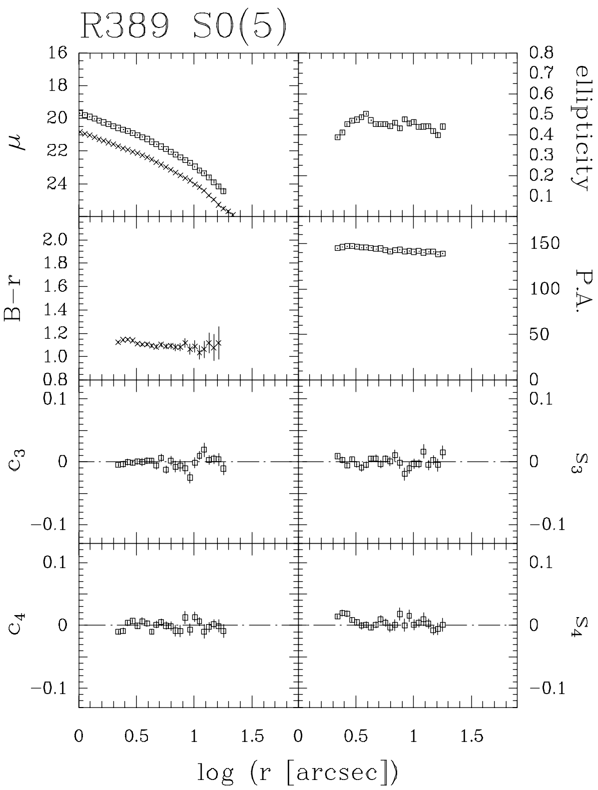

R338 S0(5)
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])


R340 E
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])


R343 S0(2)
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])


R347/I2597 E3/S0
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])


R359 SB(r)0(5)
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])


R389 S0(5)
μ
ellipticity
B−r
P.A.
c3
s3
c4
s4
log (r [arcsec])