

OPTICAL SPECTRA OF NUCLEI OF EARLY TYPE GALAXIES

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Early type galaxies classified as SO by Sandage or lenticulars and SO/a appearing in RCBG have been observed with the IDS on the ESO 3.6 m telescope. The slit was 1" x 4" and the spectral resolution was 9 Å from 3900 Å to 7000 Å. Statistics for the first 50 galaxies observed are given.

18% of the sample show the [OIII] doublet stronger than H β ; 32% have spectra dominated by the Balmer series progressing from mainly emission through strong absorption series to weak absorption; 20% have only [NII] or [SII] in emission while 30% show absorption lines and bands. That is, 70% show emission lines toward the nuclear region. Among the 50 galaxies, HI at 21 cm has been detected in 21 galaxies: 16 of these show ionized gas to be present. NGC5273 has Seyfert characteristics with strong [OIII]; H β has a width of $\sim 1000 \text{ km s}^{-1}$. The low luminosity end of the Seyfert distribution may be found among normal galaxies.