DUST DISTRIBUTION IN IRAS SEYFERT GALAXIES

M. G. PASTORIZA*, CHARLES BONATTO*, EDUARDO BICA and T. STORCHI-BERGMANN*
Instituto de Física, UFRGS, C.P. 15051, Porto Alegre, RS, Brasil

Observational evidences of dust in the nuclear region of AGNs are substantial (Rudy 1984, ApJ, 284, 33; Jones *et al.* 1984, PASP, 96, 692). The ionization cones observed in several Seyfert galaxies has been interpreted as shadowing effects by a dust obscuring torus which hides the broad emission line region (BLR) and the central source (Wilson 1992; Storchi-Bergmann, Mulchaey and Wilson 1992, ApJ 395, L73). A large sample of optical and far-IR data for IRAS Seyfert galaxies has been analysed together with dust emission models (Bonatto and Pastoriza 1993), where it has been concluded that the same dust emission model can be applied to both Seyfert types. In order to further study the effects of dust in the spectra of active galactic nuclei, we have obtained spectrophotometry of 21 IRAS Seyfert galaxies in the range 3500-7200 Å and analyse them in conjuction with their IRAS fluxes. The stellar population type is derived from comparisons with normal galaxy templates using dilution effects in the K CaII line as discriminator. For 55% of the sample the population is of late type. For the rest, blue continua due to recent star formation and/or power-law may amount up to 30% at 4000Å. We conclude that the bulge stellar populations of IRAS Seyfert galaxies are similar to those of normal spirals, except that they are more reddened by $E(B-V)_i \sim 0.20$. Population-subtracted emission line ratios indicate on average stronger reddening for the narrow-line region $(E(B-V)_l \sim 0.8$. From photoionization models a power-law index for the ionizing continuum α=1.5, and a metallicity larger than solar are obtained. The most luminous IRAS galaxy of the sample (IRAS555) is discuss in detail: in order to be compatible with the observed IRAS fluxes and the optical stellar continuum, the ionizing continuum must be reddened by $A_V > 10$ magnitudes. Consequently a dust structure in this galaxy appears to be increasingly affecting stars and gas towards the galaxy center.

* Visiting Astronomer at the Cerro Tololo Interame rican Observatory of the National Optical Observatories, operated by AURA und er contract with the National Science Foundation

T. J.-L. Courvoisier and A. Blecha: Multi-Wavelength Continuum Emission of AGN, 355.