PHT-S Spectroscopy of Seyfert Galaxies

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A sample of 57 AGNs, about equally divided into type I (Seyfert type $\leq$ 1.5) and type II ($\geq$ 1.8), and one non-active SB galaxy, were observed contemporaneously by two instruments onboard of ISO: by ISOPHOT-S at wavelengths from 2.5 to 11 μm at a mean spectral resolution of 3360 km s^{-1} and by ISOCAM through the filters LW2 and LW7 at 6.75 and 9.63 μm. The mid-IR (MIR) spectra of type I (Sf1) and type II (Sf2) are statistically different. Sf1 show a strong continuum approximated by a power law with index -0.84 ± 0.24 with weak features of Polycyclic Aromatic Hydrocarbons (PAH), whereas the Sf2 spectra show strong PAH features with only a weak continuum. The luminosities we determine for the PAHs however are statistically not different, while the continua of Sy1 at 7 μm are on average by about a factor of 8 more luminous than in Sy2. Since the PAH emission is unrelated to the AGN activity, its EW is a sensitive nuclear reddening indicator. These results are consistent with unification schemes and will be discussed further in comparison with available X-ray data, spectropolarimetry and far infrared photometry, putting constraints on the vertical thickness of the molecular torus and the location of the reflector of hidden broad lines.