Georgi P. Petrov. INVESTIGATION OF THE TWO TYPES UNABSORBED SEYFERT 2 GALAXIES

We have compiled a sample of 27 nearby unabsorbed Seyfert 2 type galaxies. These objects are X–ray unabsorbed and their measured column densities are $N_H < 10^{22}$ cm^{-2}. The Unabsorbed Seyfert 2 galaxies are divided in two types: unabsorbed Seyfert 2 galaxies with and without hidden broad line region (HBLR). We have investigated the unabsorbed Seyfert 2 galaxies for presence of a HBLR using calculated Eddington ratios L_{Bol} / L_{Edd} . There is a critical value of the Eddington ratio, 10^{-3}, below which there is no HBLR. When this ratio is ≥ 0.2–3 the broad lines also disappear. We found that only 4 objects of our sample have a HBLR. For the rest of the sample there is no evidence for existence of a HBLR. We determined that 12 objects certainly don't have a HBLR. At the same time, we have derived the ratio $(N_{ph} / N_{ion})_{h\nu > 55\ eV}$ of the number of photons traced by the [OIII] λ5007Å emission line (N_{ph}) to the number of high ionizing photons N_{ion} emitted by the central AGN source with $h\nu$ > 55 eV for all sample objects. In the anisotropic case the ratio $(N_{ph} / N_{ion})_{h\nu > 55\ eV}$ is larger than 1 and these objects possess a hidden AGN source. From the results can be inferred that unabsorbed Seyfert 2 galaxies with HBLR show an anisotropy and they have hidden central source.

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