QUASARS DISKS AND COSMOLOGY

Hagai Netzer
School of Physics and Astronomy, Tel Aviv University
Tel Aviv 69978
Israel

ABSTRACT Much of the optical and ultraviolet radiation of bright quasars may originate in a massive accretion disk around a central black hole. Most searches for the signature of such disks gave ambiguous results but lately there are new ideas that may lead to their discovery. In particular, the apparent brightness of thin disks depend on their inclination to the observer's line of sight and this may be detected by the equivalent width of some emission lines (Netzer 1985, 1986). This idea may change our view on the inner structure of quasars and other AGN. In addition, it points to a potential selection effect that has not been taken into account so far. Magnitude limited optical quasar samples may contain, preferentially, face-on disks, thus cosmological evolution based on such samples may be biased. There are other implications, especially to the observed correlation of L_{op} with L_x in quasars.

DISCUSSION

WEBB: It has been suggested that the incidence of broad absorption in QSOs may be due to an orientation effect. If so, could there be any correlation between broad CIV absorption and the shape of the continuum in the region of the CIV emission line.

NETZER: I do not know how BAL quasars fit into this picture.

WINDHORST: One would expect that viewing a QSO accretion disk edge-on or face-on would produce different high resolution radio morphologies (at the VLA A-array or at VLBI resolution), if they are radio sources. Do you have any radio data for your QSO's that might shed further light on your suggestion?

A. Hewitt et al. (eds.), Observational Cosmology, 695–696.

NETZER: It could have been a good way if we understood the structure of the inner radio source and how it is related to the central disk. I can tell you what is happening if, for example, the radio jet is perpendicular to the disk. I am not sure, however, that this is indeed the case.

WALSH: Following on the last point, if a sample of radio QSOs is selected by the flux from the extended emission regions, it should be free of orientation bias, and could provide a test of your ideas.

NETZER: Certainly. In my opinion it might be the best way to select them.

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