

DEEP IMAGING OF QUASAR FIELDS

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Large scale (19 arc sec/mm), deeply exposed photographs (26.5 mag/sq arc sec) of a sample of 12 QSO's over the redshift range, $z = 0.158$ to 0.528 have been obtained. Baked IIIa-F plates were used at the prime focus of the ESO 3.6-m telescope. The band pass was 5700-6900Å. Logarithmic intensity contour maps and logarithmic image profiles were constructed from PDS microdensitometer scans. Seven of the 12 QSO's show extended (5-10 arc sec), asymmetric structure on the contour maps; while 9 of 12 QSO's show broader image profiles than stars of the same magnitude. The intensity contour maps provide two essential bits of information for follow-up spectroscopy: 1) a guide for locating the slit aperture and 2) a means of estimating integration times.

DISCUSSION

- Roberts:* How much time would be required to obtain a spectrum of one of the extensions?
- Wehinger:* Using a 4-meter telescope with a digital detector and careful sky subtraction techniques one might obtain spectra (of continuum and possible absorption-line features) in $\sim 5-10$ hours for extended structures with integrated magnitudes of $\sim 22-23$.
- Beichman:* Are the qualitative characteristics of the extensions and asymmetries repeatable from night to night?
- Wehinger:* Yes. We have two plates of some of the QSOs and they show the same extensions within the limits of detection ($\sim 1-3\%$ night sky in the red).
- Scheuer:* Does the proportion of light in the wings of the image depend on the luminosity of the quasar?
- Wehinger:* We have looked into this question, but as yet have no definite correlation based on the present sample of (12) objects.

M. Burbidge: Your point about accurate positioning of maximum intensity and location of asymmetric low luminosity material is going to be very important for Space Telescope observations.

Wehinger: Yes, exactly.