

SPECTRAL CHARACTERISTICS OF A SAMPLE OF *IRAS* GALAXIES

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Observations of twelve *IRAS* objects selected by their noticeable infrared radiation are reported. From their optical spectral characteristics they are classified according to their degree of nuclear activity: five of them as Seyfert 2 types, three as Seyfert 1.9 types, and three others as HII region-like galaxies; the remaining one turns out to be a star. Some HII region-like galaxies present H α , [O III] λ 5007 and infrared luminosities, and internal reddening similar to those of Seyfert ones. Good correlations are observed between far infrared luminosity and H α and [O III] λ 5007 luminosities. The incidence of the dust content and the number of ionizing photons on the far IR luminosity is analyzed. The heliocentric radial velocities are given too.

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HIGH SENSITIVITY HI SURVEY OF THE SOUTHERN HEMISPHERE

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The sky region southward of $\delta = -25^\circ$ is currently being observed in the 21-cm λ line transition of the neutral hydrogen (HI). These observations are the basis of a high sensitivity HI survey that is underway at the Instituto Argentino de Radioastronomía. A total of 47640 grid points will be observed. The grid positions are spaced by $0.5/\cos b$ and 0.5 in galactic longitude and latitude, respectively. This survey covers the velocity range spanning from -450 to $+450$ km s⁻¹ (LSR) with a velocity resolution of 1.27 km s⁻¹. The target rms noise (in brightness temperature units) is 70 mK. As of February 1996, the survey is complete to $\sim 65\%$. The overall brightness scale temperature is accurate to within 3–4%.

The data will be corrected for “stray radiation” contamination. This survey is complementary of a similar one carried out in the Northern Hemisphere at Dwingeloo, The Netherlands, by Hartman &

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Burton (1995). The main goal of this project is to provide, when combined with the Dutch survey, a high sensitivity whole sky survey. It is worth stressing that both surveys will have a similar velocity coverage and velocity resolution as well as similar rms noise and angular resolution.

A NEW METHOD TO OBTAIN ASTROMETRIC POSITIONS BY CCD OBSERVATIONS

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We present CCD positions for 80 quasars, observed at the 1.60-m Telescope of the Laboratório Nacional de Astrofísica, Brazil. Four sets of positions were obtained, each one referred to either the Carlsberg Series (CAMC), the ACRS, PPM or IRS catalogues. A new method to obtain the positions based only on the CCD observations was developed.

Auxiliary frames formed by the Guide Star Catalogue (GSC) and fainter reference stars were measured on digitized images of the Hubble Space Telescope Sky Survey (HSTSS). No observations with great field astrographs are necessary here. The original GSC star positions are corrected to the local system of the astrometric catalogue using the coordinates of common stars in the tangential plane. Small HSTSS fields containing enough GSC stars are used to reduce the positions of the fainter reference stars also present in the CCD fields. Then, the CCD fields are reduced and the positions of the quasars are finally determined.

A brief comparison with VLBI positions is made. The CAMC has given the best results. The optical positions agree with the VLBI's with a $0''.15$ dispersion and an $0''.02$ average offset. The results support the GSC correction method developed and the use of the HSTSS in combination with CCDs, for high-precision optical astrometry of quasars. The procedures are very useful for simple precise astrometry of faint objects in general (natural satellites, spectroscopy with optic fibers and so on).

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