W3(A). A lower intensity "ridge" extends about 30 pc to the south along a prominent ionization front. The far-infrared contours generally follow those of CO emission mapped at about the same angular resolution by Lada, Elmegreen, Cong, and Thaddeus (preprint). This seems to confirm their suggestion that star formation in the region was triggered by the expansion of the giant IC 1805 H II region. We have detected no far-infrared emission other than along the front.

11.P2.08 Radial Velocities from Microdensitometer Scans of Objective Prism Spectra. E.W. WELS, D.W. DAWSON, and A.R. UPGREN, Van Vleck Obs. - Raster scans have been made of four objective prism plates using the PDS microdensitometer of the Kitt Peak National Observatory. The plates are of one star field and were taken with the Curtis Schmidt Telescope at the Cerro Tololo InterAmerican Observatory by Jurgen Stock in the course of his program and catalogue of objective prism spectral types and radial velocities. About one thousand spectra were measured on each plate by Stock using one of the Zeiss FS2 measuring machines of C.I.D.A., the Venezuelan National Observatory. His positions were used as input positions for the PDS measures. The purpose of this effort is to determine whether the very rapid PDS microdensitometer can be used to measure positions of spectral lines with no loss of precision when compared to measures made by hand. Computer programs have been developed to determine line positions from the scans using a number of algorithms. Measures were made over a wide range of spectral types as well as image densities which are related to apparent magnitudes. The measures were used to evaluate systematic errors in the radial velocities (if any) as functions of these quantities. In addition, photometric parameters are computed to allow determination of photographic magnitudes and quantitative spectral classifications.

11.P2.10 Deep Photographic Photometry of Two Very Rich Clusters of Galaxies. ERICKSON, T.B., U.C. Berkeley - We present photographic colors, magnitudes, and profiles for many galaxies in Abell 754 and in the cluster surrounding 3C295. Deep IIa-J and IIa-F plates taken at the Kitt Peak Mayall telescope and at the CTIO 4-meter were reduced on the Berkeley PDS Microdensitometer. We constructed luminosity functions and color-magnitude diagrams for the two clusters. We compared them to one another and to previous work. The blue galaxies reported by Butcher and Oemler (1978) in the 3C295 cluster are still blue. We made still another attempt to detect cluster light from each cluster.

10.P2.10 Faint Galaxy Number Counts. TYSON, J. Anthony, JAVIS, John F., Bell Labs - The FOGCAS faint object classification and analysis system, developed for detecting and classifying galactic and stellar photographic and CCD images, has been used on deep 4-meter data to generate a catalog of faint objects in selected high latitude areas. Completeness is 96% at B=24 mag. The galaxy number counts are very approximately linear in Log N vs B from B=15 to B=24 mag, with a slope d Log N/dB of 0.4. This is consistent with the K-correction reversing sign at ~2.25. Some implications for galaxy evolution will be discussed.

The Mark III Very Long Baseline Interferometer (VLBI) System is a complete data recording and processing system which has greatly increased sensitivity compared to the previous Mark I and Mark II systems since it uses instrumentation tape recorders which permit bandwidths up to 56 MHz. The system consists of electronic, microprocessor, and software components developed at NASA/GSFC, Haystack Observatory, and NRAO. At each telescope, a minicomputer-based Field System reads a prepared schedule and for each observation sets the bandwidth, recorder configuration, and other controls for the Mark III electronics; starts and stops the tape drive at scheduled times; and automatically monitors and logs weather, hardware status, and radiometry. The data tapes are processed at Haystack by a modular correlator whose flexibility allows a tape-track pair (baseline) to be processed by any correlator module. Integral to the entire Mark III System is a computer-independent data base handler. The initial data base, which contains scheduled observations, is augmented with the correlator output and the logged data. Each analysis program then uses the data base handler to access information specific to its needs. A full test of the entire system is planned for the first quarter 1979, at which time the Field System will be installed at Haystack, NRAO Green Bank, and Owens Valley, California. Later in 1979 other radio telescopes, including those at Fort Davis, Texas, and Onsala, Sweden, will be similarly equipped.