

AROPS : THE ASIAGO RED OBJECTIVE-PRISM SURVEY

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1. Background

AROPS is an objective-prism survey conducted at high galactic latitudes with the 67/92 cm ($f=205$ cm) Schmidt telescope of the Asiago Astrophysical Observatory (Italy). The basic technical data are:

- TP4415 high resolution plates, 20×20 cm, treated in forming gas (H_2+N_2) and covering 24 deg^2 on sky
- 4° UBK7 objective prism, for a dispersion of 1490 \AA mm^{-1} at NaI D
- blue side cut-off at 4980 \AA using a 2mm GG14 filter, for a recorded λ range $5000\text{--}7000 \text{ \AA}$
- untraced spectra to record $V \sim 16.5$ mag stars with 40 min exposures

Two main criteria have guided the selection of the AROPS fields:

- at least 15 direct imaging plates of a given field (in any photometric band, at any exposure date since 1956) must exist in the Asiago Schmidt Plate Archive. They will help in positional measurements and will also provide information about variability and colors
- the fields must be at $|b| \geq 20^\circ$ and widely distributed in galactic latitude and longitude

151 fields were originally selected (for a total area of 3650 deg^2). An additional ~ 100 fields (2400 deg^2) have been later added on with relaxed adherence to the above selection criteria.

2. Status Report

High quality plates have been obtained for 153 fields (as of Aug 15, 1996), with a plate rejection rate of 1 every 4 exposed. All the plates have gone through a quality assessment which has provided:

- the accurate plate center

- the magnitude of the faintest measurable stars
- star counts over five regions of $10' \times 10'$ each (0.139 deg^2 total area) on fixed positions on the plate
- the evaluation of contrast, focus, PSF, background fog level and uniformity over the whole plate field

The measured *mean* limiting magnitude for detection of stellar continuum is $V = 16$, for an *average* of 20,000 stars recorded on each plate.

3. Goals

AROPS is intended to search for, classify, catalogue and study in term of galactic distribution:

- cool stars with molecular spectra (M, S, C types)
- emission line objects of any kind
- optical counter-parts of sources from various satellite survey catalogues

4. World Wide Web

More information on AROPS, an updated status report and the list of fields/plates can be found on the *Web* at the address:

<http://www.fiz.uni-lj.si/astro/alarm/arops00/arops00.html>