THE ASTROMETRY NETWORK OF OBSERVERS IN ITALY FOR INTERNATIONAL HALLEY WATCH.

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Abstract

In this paper astrometric networks of observers and the availability of telescopes in Italy for International Halley Watch are briefly described.

I. THE INTERNATIONAL HALLEY WATCH

The International Halley Watch is a world-wide organization with lead centers at the Jet Propulsion Laboratory in Pasadena, California, and the Remeis Sternwarte in Bamberg, West Germany. Its goal are: 1) Encourage observations of comets Halley and Giacobini-Zinner. 2) Coordinate observations. 3) Archive observations for use by researchers until Halley's next appearance in the twenty-first century.

Observing Networks are organized by seven discipline specialists: Astrometry, Infrared Spectroscopy and Radiometry, Large Scale Phenomena, Near Nucleus Studies, Photometry and Polarimetry, Radio Studies, Spectroscopy and Spectrophotometry.

Current partecipation is of about 350 professional astronomers from 42 countries and 3000 amateur astronomers from 21 countries.

II. THE ASTROMETRY NETWORK

The Astrometry Network goals are: 1) Establish world-wide Network of Astrometric Observers. 2) Make timely and accurate Astrometric observations. 3) Provide up-to-date orbits and Ephemerides for: a) ground based observers, b) Earth orbital spacecraft, c) flight project support.

Partecipation of about 176 astronomers from 35 countries.

III. ITALIAN PARTECIPATION TO ASTROMETRY IHW

In Table 1 are shown Italian Astrometry Network members from Jet Propulsion Laboratory issue of summer 1984.

TABLE 1. ASTROMETRY NETWORK MEMBER - ITALY

A. Carusi	Istituto Astrofisica Spaziale - ROMA
E. Colombini	Osservatorio San Vittore - BOLOGNA
A. Manara	Osservatorio Astronomico Brera - MILANO
L. Smaldone	Osservatorio Astronomico Capodimonte - NAPOLI
V. Zappalà	Osservatorio Astronomico di Torino - PINO T.

The results of Table 2 derive from a my investigation on the telescopes which will be used in Italy for the Astrometry IHW; some of them still do not appear in Table 1.

TABLE 2. MAIN TELESCOPES FOR IHW ASTROMETRY

STATION	TYPE	D	f	FIELD	MAG.	LONG.	LAT.	h
Asiago	S	92	215	6°X6°	20.0	+11°53	45°86	1050
Pino T.	R	105	997	30'X40'	20.0	+ 7°77	45°04	615
	A	20	114	8°X8°	16.0	"	"	"
Merate	A	20	207	2°5	16.5	+ 9°43	45°70	338
San Vittore	R	45	230	1°2	17.5	+11°34	44°47	185
Chaonis	R	40	180	1°9	17.2	+12°71	45°84	15
Giordano Bruno	R	40	200	1°2	17.0	+10°63	45°36	60

In Table 2 : S = Schmidt telescope, R = Reflector, A = Astrograph, D = Diameter in cm, f = focal length in cm, Mag = limiting magnitude, h = height in m.

Among the listed telescopes, some cannot be used entirely for IHW. However it is expected that they can be used almost entirely for IHW in the years of 1985 and 1986.

There are several telescopes which can be and have been used by amateur astronomers in Italy; of them three main telescopes are listed in Table 2. The telescope at San Vittore is operated by E. Colombini, that of Chaonis by J. M. Bauer and that of Verona by T. Lai.

There are several amateur groups in Italy although they have not any unified organization. Besides them many amateurs are scattered around Italy, which is situated about between 38° and 46° in latitude and between 7° and 18° in East longitude; unfortunately the observers of Table 2 are all around 45 degrees of latitude.

IV TELESCOPES AND OBSERVATIONS FOR ASTROMETRY IHW

For the observations it is necessary to have a telescope with focal length 2m.
Measuring engine should have a precision of $\pm 2\,\mu$.
Astrometry Network provides a Star Catalog.
Most important observations in the period October-December 1985, in January and March 1986.
Observations: at least 2 nights every week.

V. WHAT HAPPENS AT THE TELESCOPE

Ted Bowell in the IHW Astrometry Net Workshop of Munich, June 18-19, 1984 made the following recommendations for the observations:

1. UNIFORMITY: provision of a homogeneous data set
   - shortest useful exposure consistent with good seeing
   - preferrable to expose many images, but supply 1 or 2 positions/night
   - red filter preferred
   - bulk purchase of plates/film: 2415 or 098-04 emulsion

2. QUALITY CONTROL: we are only interested in well-made observations
   - be critical, reject suspect observations
   - require good tracking, preferably on comet rather than stars
   - measure UTC of start and stop to 1^s

3. DOCUMENTATION: for retrospective evaluation of observations
   - observer identification: name, telescope, image scale, location, ...
   - sky/weather conditions
   - provide nuclear/total magnitude, but only if reliable

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