

# The Asiago plate archive and its scientific use

*Ulisse Munari*

1767



Padova

1938

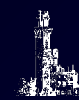


Asiago - Pennar

1973



Asiago - Ekar



Erection of the **Asiago** observing station begun in **1938**

the **1.22m** telescope opened in **1942**

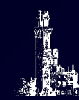
the Schmidt **40/50cm** in **1958**

the Schmidt **67/92cm** in **1965**

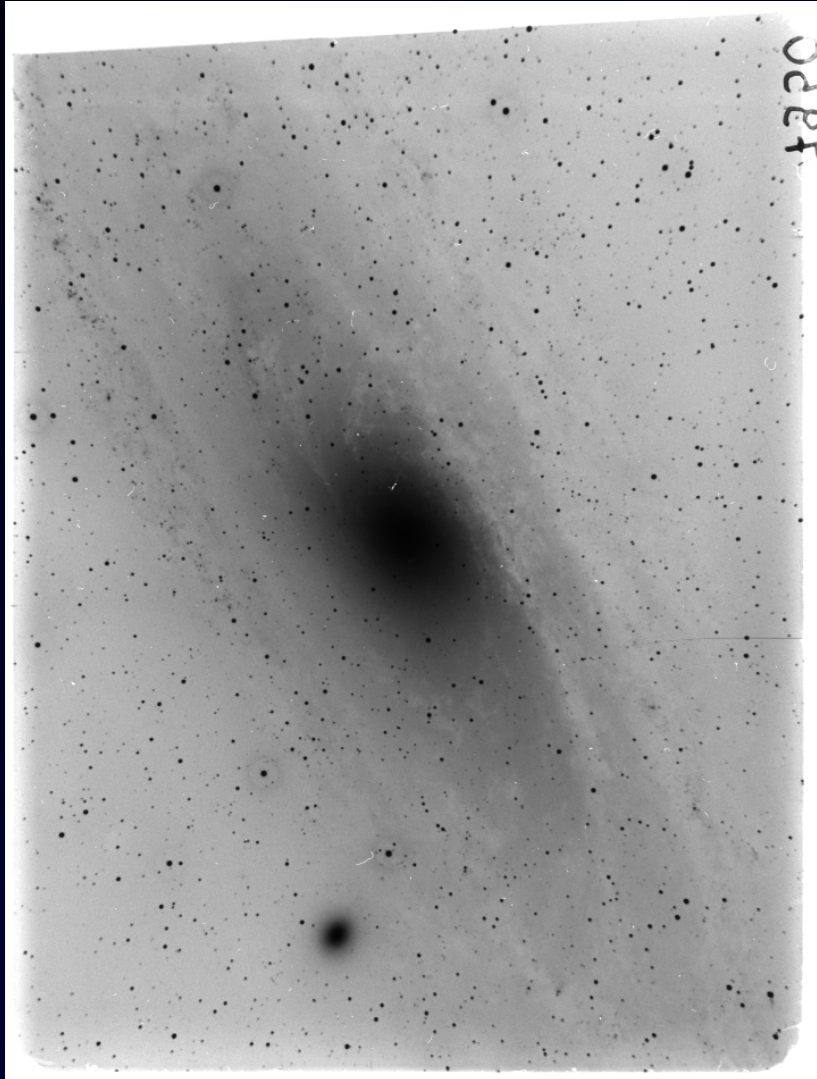
and the **1.82m** telescope in **1973**



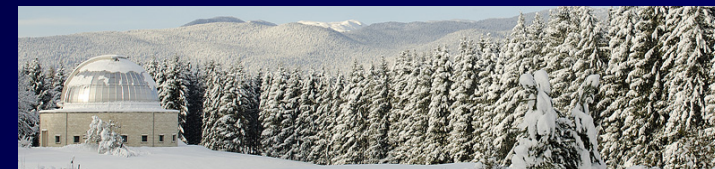




the 1.22m telescope is in continued operation since 1942  
1942-1997 9,720 imaging plates at the Newton focus



since 1997 used exclusively  
with a B&C+CCD spectrograph





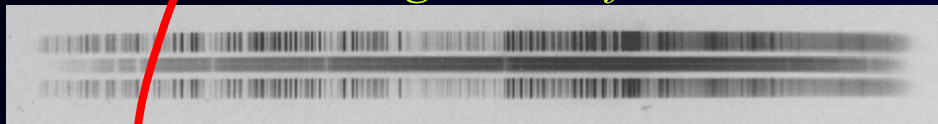
the **1.22m** telescope is in continued operation since **1942**

1942-1997 **9,720 imaging plates** at the Newton focus

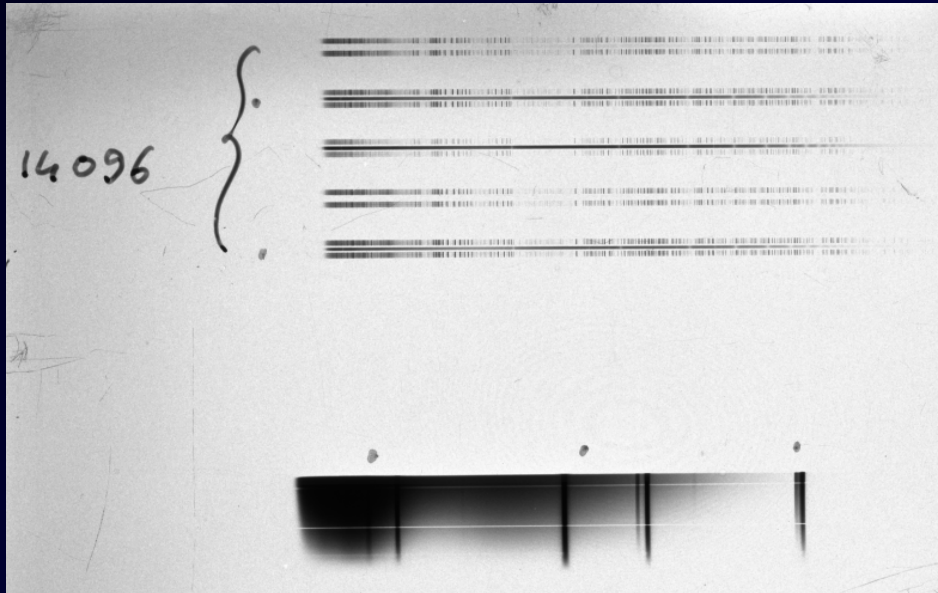
1951-1994 **18,584 plate spectra** with the Cassegrain prism spectrograph

1958-1991 **3,220 plate spectra** with the Newtonian grating spectrograph

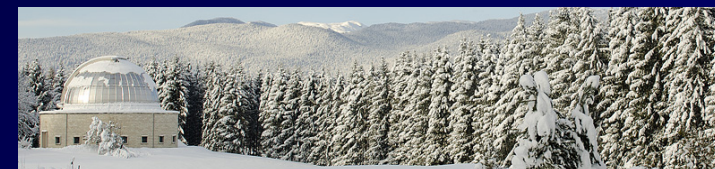
*103a-D + S20 image intensifier*



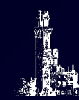
*103a-F direct*



since 1997 used exclusively  
with a **B&C+CCD** spectrograph







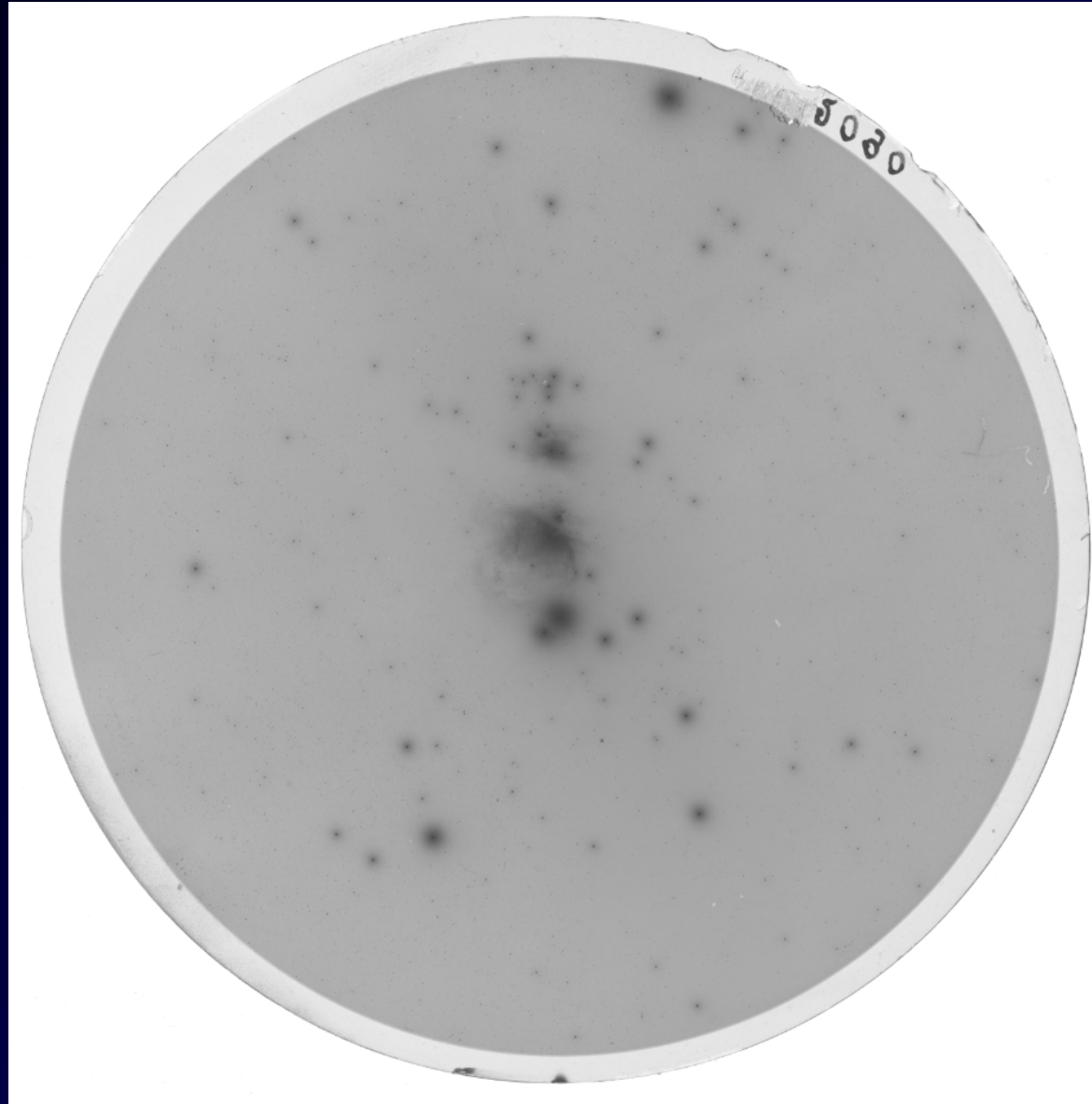
the Schmidt 40/50cm operated from 1958 to 1992

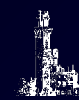
photographic films  
circular  
10cm = 5° 45'

$B_{\text{lim}} \sim 18.0$

18,411 direct images

*the telescope could soon re-open  
equipped with a large CCD detector*





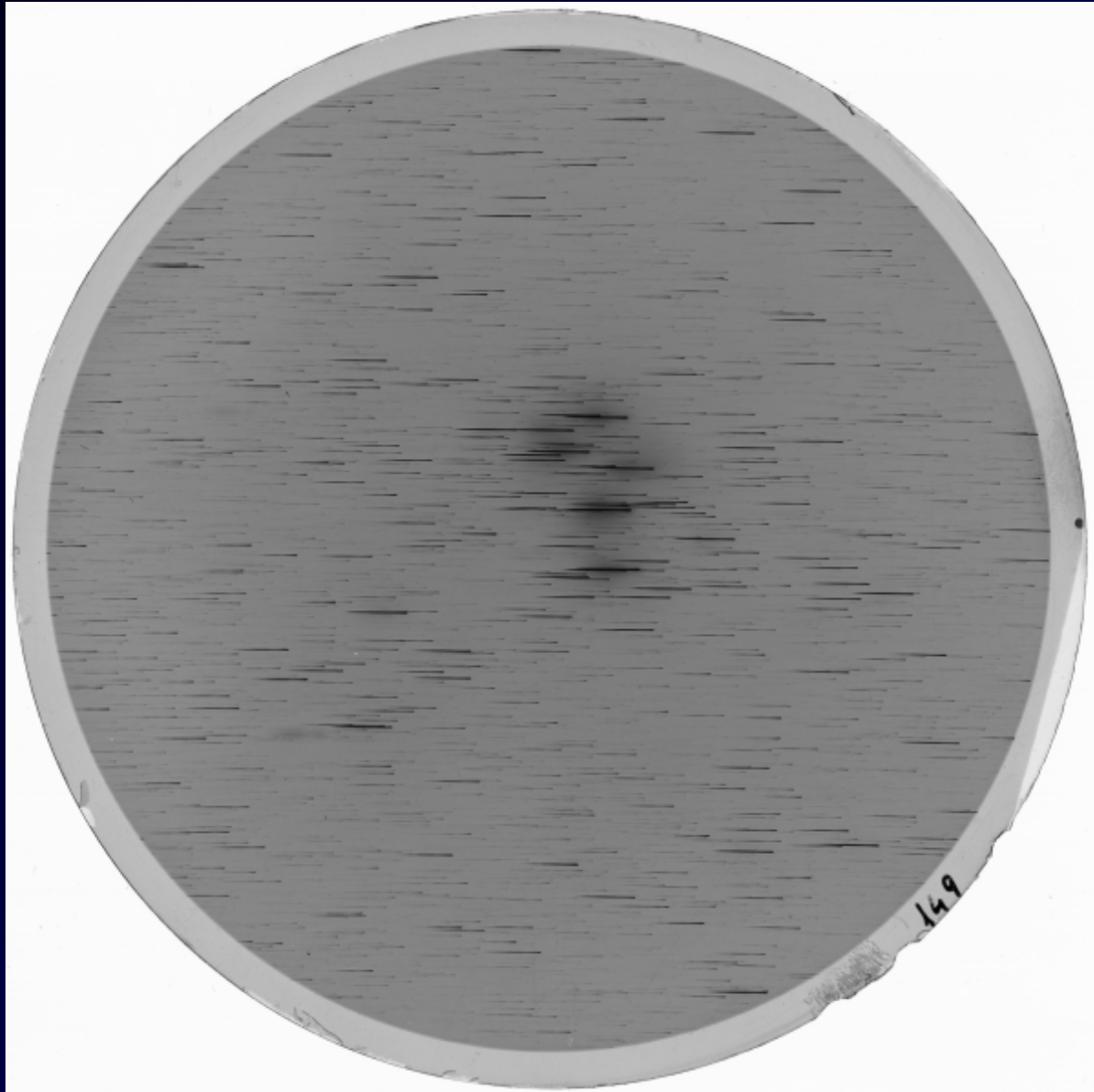
the Schmidt 40/50cm operated from 1958 to 1992

photographic films  
circular  
10cm = 5° 45'

18,411 direct images

2,006 obj. prism images

*the telescope could soon re-open  
equipped with a large CCD detector*





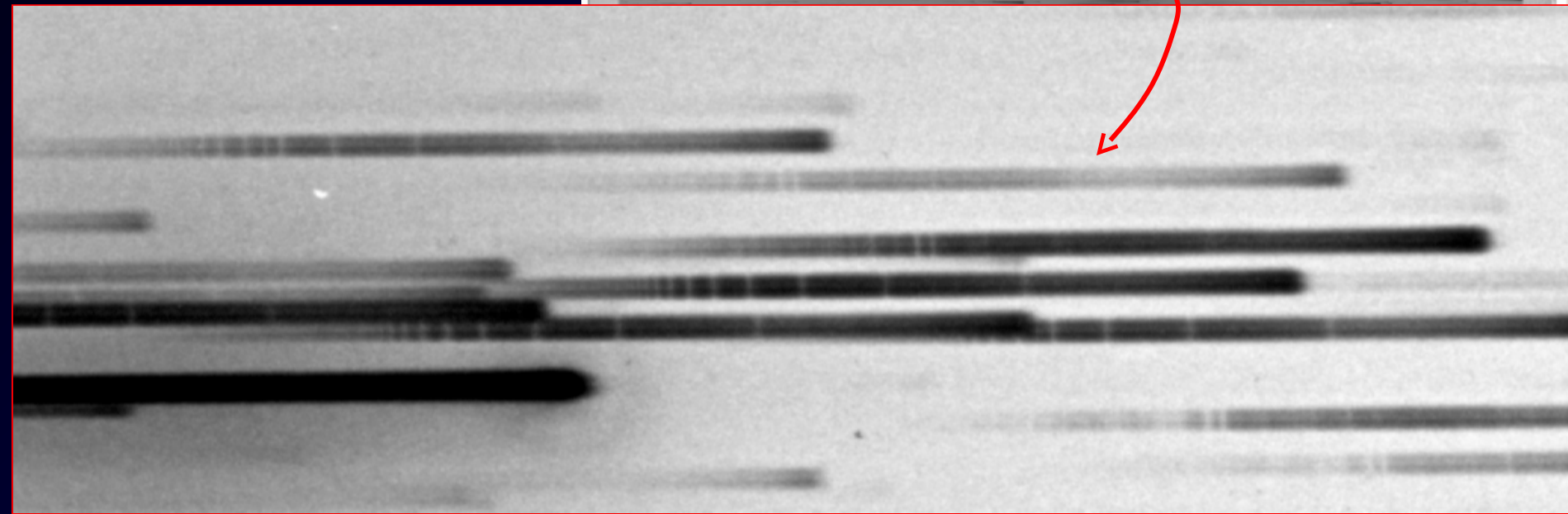
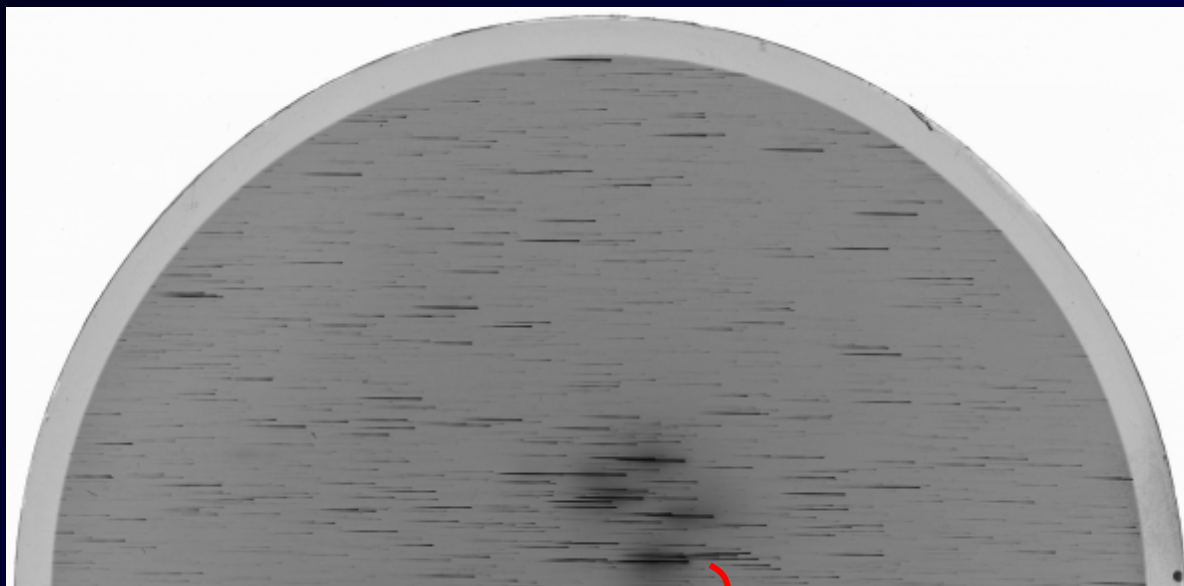


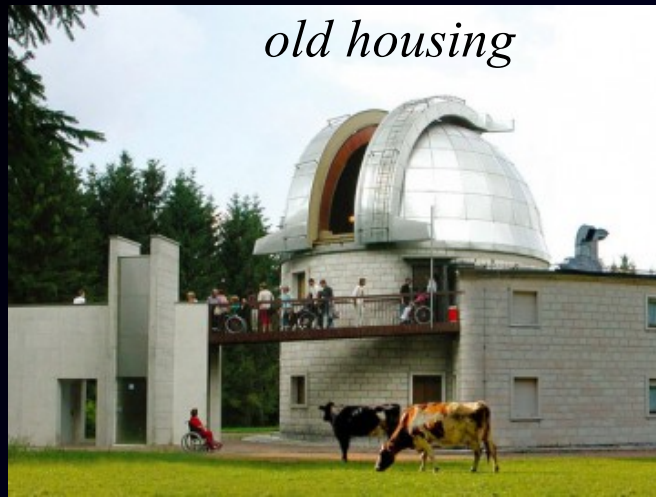
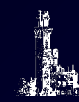
the Schmidt 40/50cm operated from 1958 to 1992

photographic films  
circular  
10cm = 5° 45'

18,411 direct images

2,006 obj. prism images





*old housing*

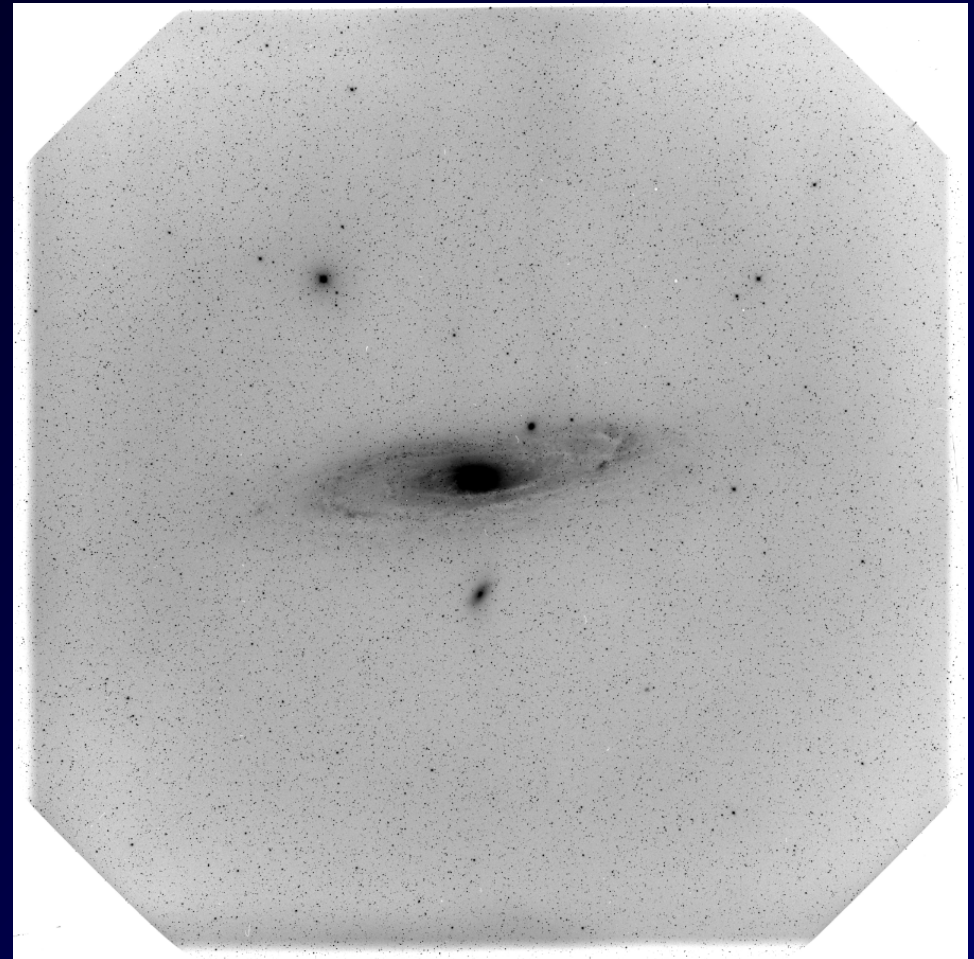
the Schmidt 67/92cm is in operation since 1965

the plates cover  $20 \times 20$  cm =  $5^\circ 20' \times 5^\circ 20'$

16,729 direct image plates

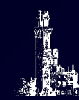
$B_{\text{lim}} \sim 18.5$

1956-1993 glassy plates  
1993-1998 TP 4415 films  
1999 → CCD camera

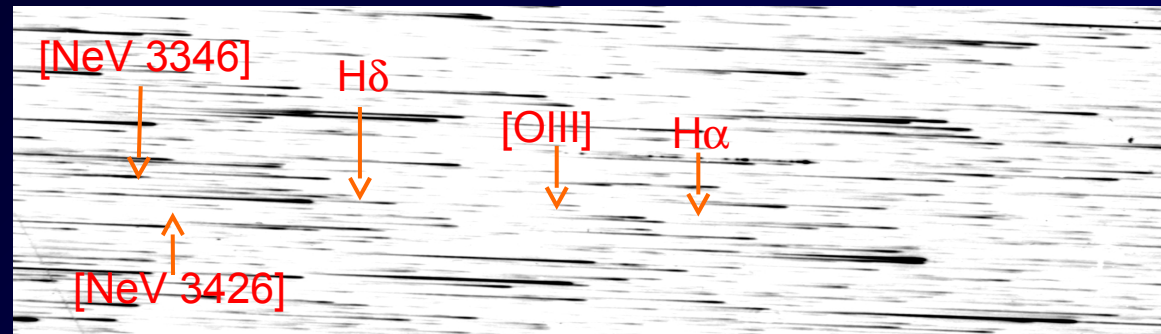


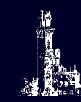
*new dome*





1,087 objective prism plates

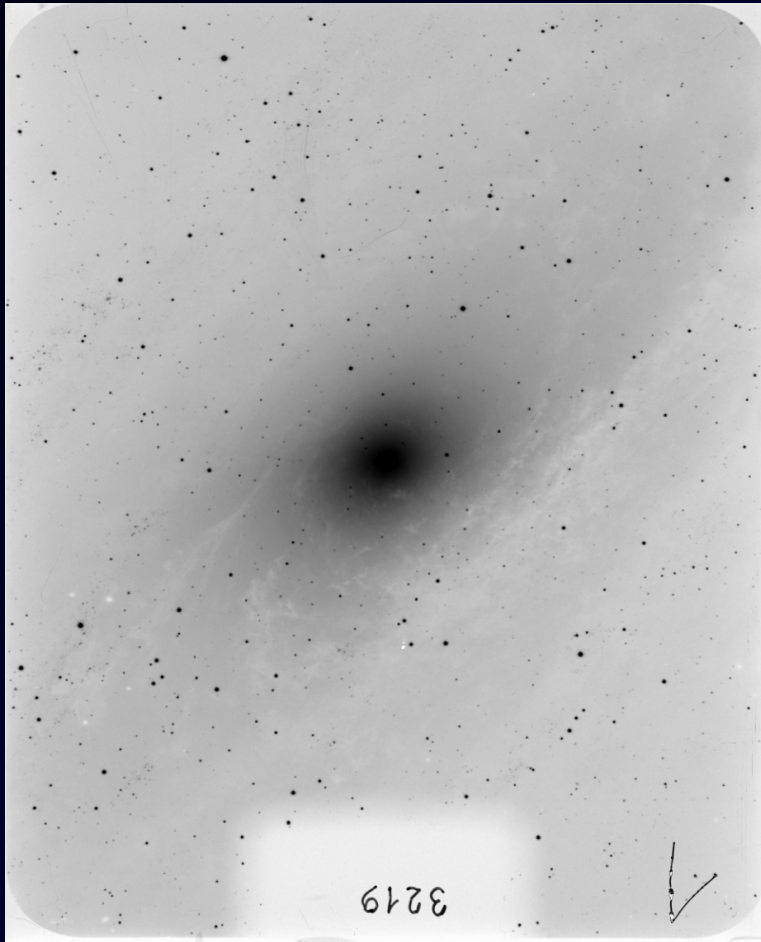




the 1.82m telescope is in continued operation since 1973

3870 direct imaging 12x20cm plates

after 1987 all detectors are CCDs





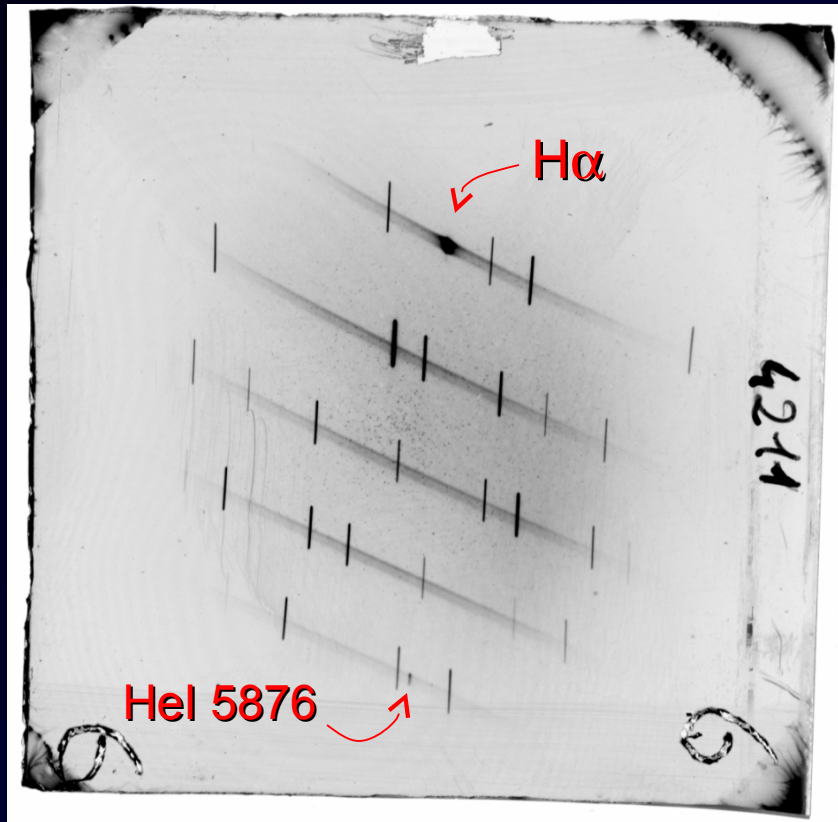


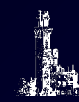
the 1.82m telescope is in continued operation since 1973

3870 direct imaging 12x20cm plates

4301 spectra (B&C and Echelle)

after 1987 all detectors are CCDs





distribution on the sky of the 48023 imaging plates: monitor, not patrol

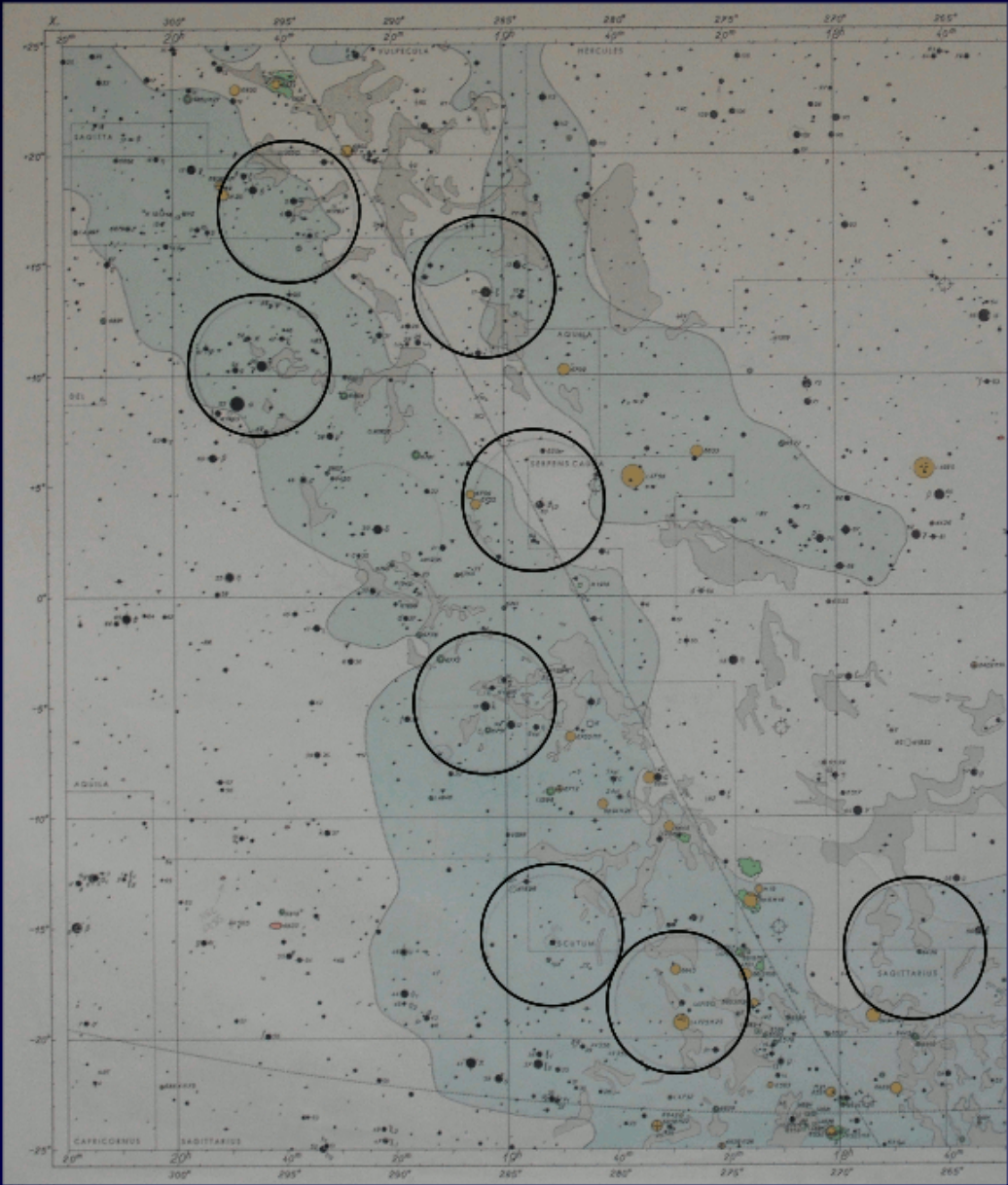
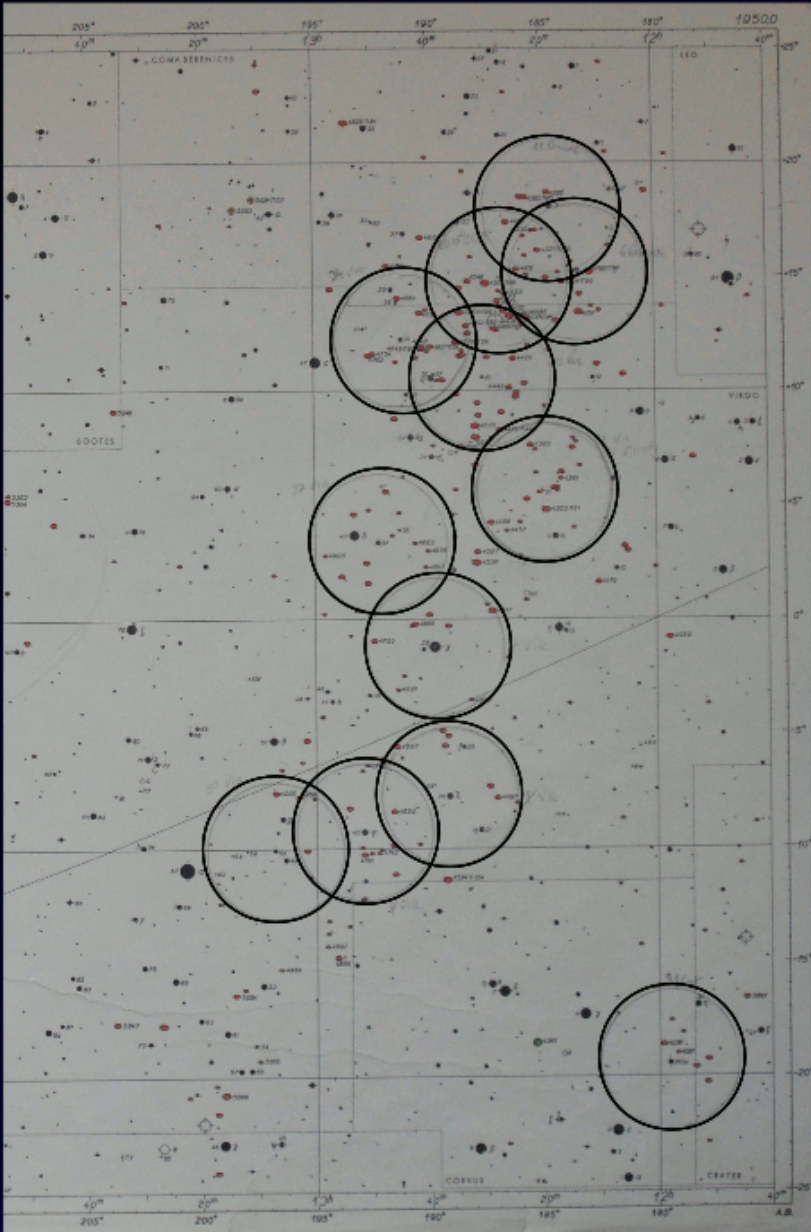
M31

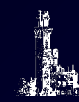
star forming regions

open clusters rich in flare stars

highest concentrations of galaxies







distribution on the sky of the 48023 imaging plates: monitor, not patrol

M31

star forming regions

open clusters rich in flare stars

rich galaxy clusters (Virgo, Coma, etc.)

targets of the 26105 spectra on plates:

variable stars

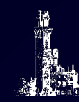
novae

pre-ZAMS objects

interacting binaries

SB2 binaries

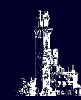




targets for recent mining of the Asiago *imaging* plate archive:

- long term behaviour of known variables
- precursors of recent novae
- AGN activity
- previous outbursts of FU Ori
- SN impostors
- M31 field
- pre-ZAMS fields

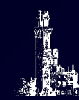
every year data from the Asiago plate archive find their way into several refereed papers

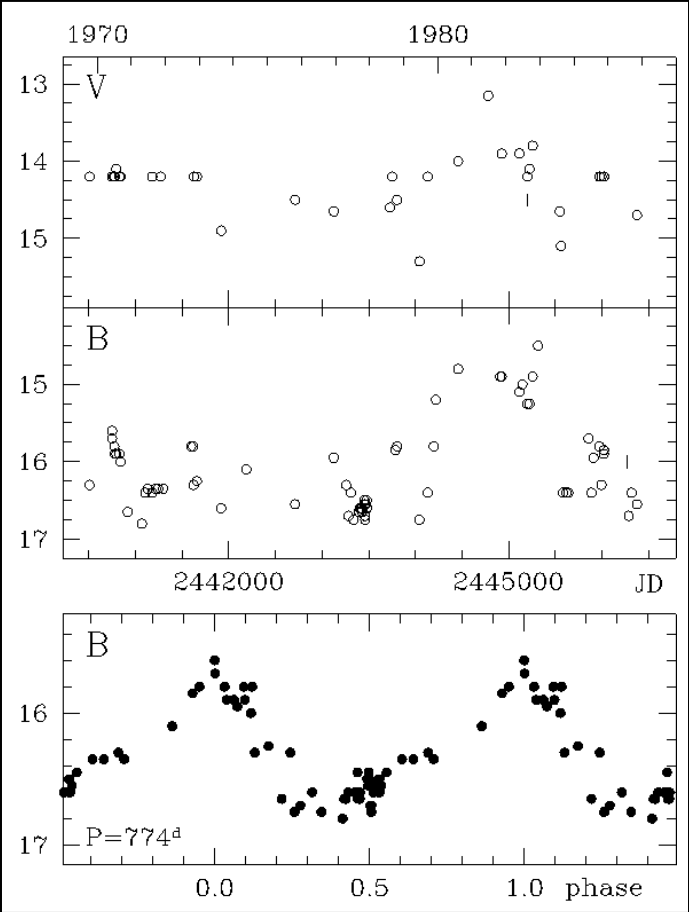
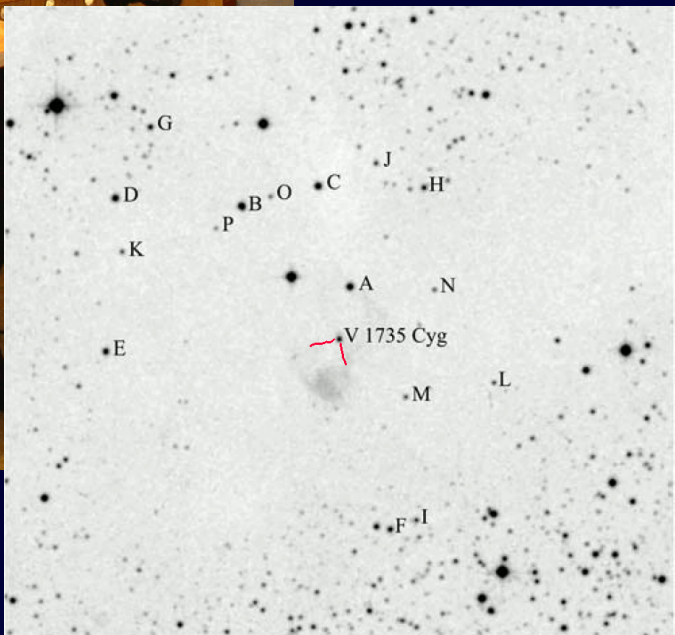
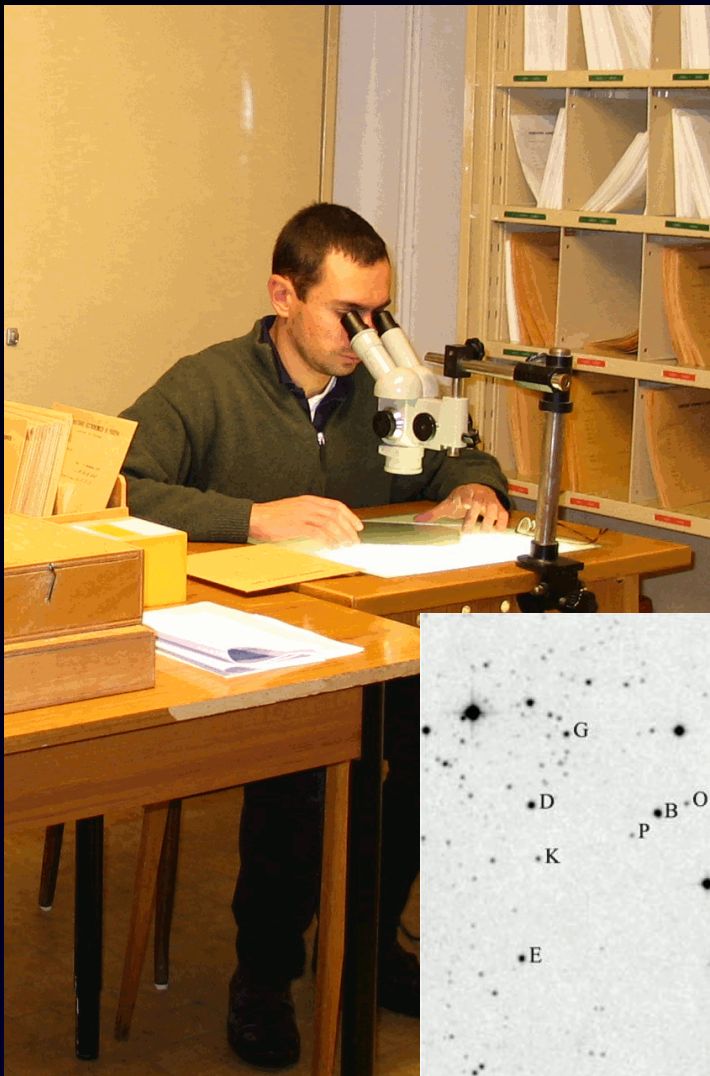


+74,000 plates well documented and preserved in  
controlled humidity (50%) and 19-21 °C temperature













~10,000 imaging plates scanned at 1600 or 2400 dpi resolution








THE 67/92 cm SCHMIDT TELESCOPE: ARCHIVE

LOG OF PHOTOGRAPHIC OBSERVATIONS

-  [Photografic Archive Information](#)
-  [Archive Query Page](#)

DIRECT IMAGES

-  [Short list of all observations](#) ASCII formatted (.prn, 1.6 MB) for direct browsing
-  [Full list of observations](#) ASCII separator delimited (.csv, 1.5 MB) for upload into most spreadsheets
-  [Excel zip file](#) (680 KB)

OBJECTIVE PRISM

-  [Full list of observations](#) ASCII formatted (.prn, 188 KB) for direct browsing
-  [Full list of observations](#) ASCII separator delimited (.csv, 118 KB) for upload into most spreadsheets
-  [Excel file](#) (335 KB)





metadata for all 48,000 direct imaging plates

05915	27	11	1972	20	22	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05916	27	11	1972	20	52	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05917	27	11	1972	21	25	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05918	27	11	1972	21	55	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05919	27	11	1972	22	25	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05920	28	11	1972	17	29	00	PALOMAR 10	19	16	00	18	28	00	030	I-N Sen.	RG 5	CLEAR	----	----
05921	28	11	1972	17	56	00	PALOMAR 10	19	16	00	18	28	00	015	103 a-0	GG 13	CLEAR	----	----
05922	28	11	1972	18	19	00	NGC 7635	23	18	30	60	55	00	020	103 a-0	GG 13	CLEAR	----	----
05923	28	11	1972	18	49	00	NGC 7635	23	18	30	60	55	00	030	I-N Sen.	RG 5	CLEAR	----	----
05924	28	11	1972	19	20	00	CETUS II	01	31	12	-07	16	48	015	103 a-0	----	CLEAR	----	----
05925	28	11	1972	20	05	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05926	28	11	1972	20	34	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05927	28	11	1972	21	03	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05928	28	11	1972	21	31	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05929	28	11	1972	22	00	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05930	28	11	1972	22	58	00	IC 443	06	14	06	22	37	00	060	103 a-E	RG 1	CLEAR	----	----
05931	28	11	1972	23	40	00	FIELD LF 11	06	53	36	00	49	00	003	103 a-E	RG 1	CLEAR	----	DIAF. 60 cm
05932	28	11	1972	23	50	00	FIELD LF 11	06	53	36	00	49	00	004	103 a-0	GG 5	CLEAR	----	DIAF. 60 cm
05933	28	11	1972	24	05	00	FIELD LF 11	06	53	36	00	49	00	012	103 a-0	UG 1	CLEAR	----	DIAF. 60 cm
05934	29	11	1972	17	14	00	22H 45M +62G 00P	22	45	00	62	00	00	032	I-N Sen.	RG 5	CLEAR	----	----
05935	29	11	1972	17	45	00	22H 45M +62G 00P	22	45	00	62	00	00	020	103 a-0	GG 13	CLEAR	----	----
05936	29	11	1972	18	13	00	STEPHAN'S QUINTET	22	32	00	33	50	00	020	103 a-0	----	CLEAR	----	----
05937	29	11	1972	18	37	00	NGC 7634	23	19	12	08	36	48	015	103 a-0	GG 13	CLEAR	----	----
05938	29	11	1972	18	56	00	NGC 7634	23	19	12	08	36	48	005	103 a-D	GG 14	CLEAR	----	5 EXP. X TIME
05939	29	11	1972	19	21	00	IC 1613	01	02	18	01	51	54	020	103 a-0	GG 13	CLEAR	----	----
05940	29	11	1972	19	40	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05941	29	11	1972	20	13	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05942	29	11	1972	20	49	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05943	29	11	1972	21	25	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR-THIN CLOUDS	----	5 EXP. X TIME
05944	05	12	1972	17	42	00	PALOMAR 10	19	16	00	18	28	00	030	I-N Sen.	RG 5	CLEAR	----	----
05945	05	12	1972	18	10	00	NOVA CYGNI 1970	20	50	48	35	48	06	015	103 a-0	GG 13	CLEAR	----	----
05946	05	12	1972	18	35	00	M 31 (32 AND)	00	38	24	39	11	06	020	103 a-0	----	CLEAR-THIN CLOUDS	----	----
05947	05	12	1972	19	07	00	M 33	01	31	06	30	24	00	030	103 a-0	GG 13	CLEAR	----	----
05948	05	12	1972	19	36	00	PLEIADES	03	44	00	23	58	00	012	103 a-0	UG 1	CLEAR	----	5 EXP. X TIME
05949	05	12	1972	20	42	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05950	05	12	1972	22	53	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05951	05	12	1972	23	26	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05952	05	12	1972	24	17	00	S.A. 94	02	53	18	00	20	00	001	103 a-D	GG 14	CLEAR	----	----
05953	05	12	1972	24	48	00	ZETA ORIONIS	05	40	00	-01	58	00	015	103 a-D	GG 14	CLEAR	----	----
05954	05	12	1972	25	19	00	ZETA ORIONIS	05	40	00	-01	58	00	025	I-N Sen.	RG 5	CLEAR	----	----
05955	16	12	1972	17	16	00	LICK H ALPHA 234	21	41	00	66	00	00	025	I-N Sen.	RG 5	CLEAR	----	----
05956	16	12	1972	17	47	00	LICK H ALPHA 233	22	32	30	40	25	00	025	I-N Sen.	RG 5	CLEAR	----	----
05957	16	12	1972	18	15	00	NOVA CYGNI 1970	20	50	48	35	48	06	015	103 a-D	GG 14	CLEAR	----	----
05958	16	12	1972	19	40	00	PLEIADES	03	44	00	23	58	00	012	103 a-0	UG 1	CLEAR	----	5 EXP. X TIME
05959	16	12	1972	20	41	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05960	16	12	1972	21	09	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	THIN CLOUDS	----	5 EXP. X TIME
05961	16	12	1972	21	38	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME
05962	16	12	1972	22	07	00	PLEIADES	03	44	00	23	58	00	005	103 a-0	----	CLEAR	----	5 EXP. X TIME

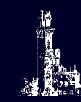
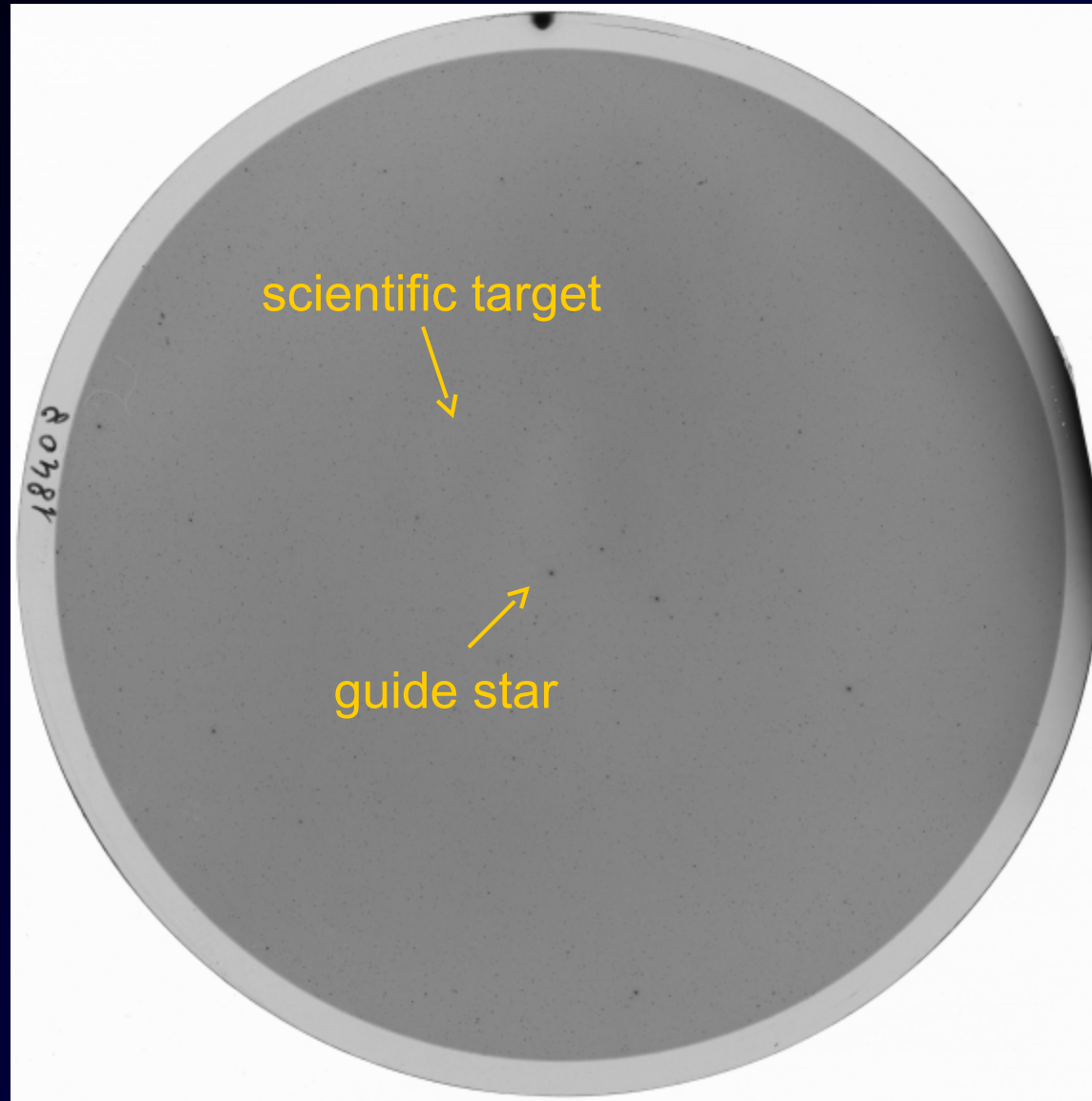


plate coordinates provided on the web archive are those of the  
scientific target, not those of the field center







# The Asiago Photographic Archive Query

## Query

Please enter qualifiers (Plate number and/or object name and/or coordinates) in the fields below and press the 'Search' button.

Database

Plate number

Object name

Right Ascension  
 hh  mm  ss

Declination  
 dd  mm  ss

Range  
 deg

## Fields

Database  
Select Telescope Logbook.

Plate number  
Enter the exact archive number of the plate to obtain the details.

Object name  
Note: The Messier objects, e.g. M42, are registered in the archive as M 42 with a space. Greek symbols must be spelled out in letters: alpha, beta, gamma etc. The system is not case sensitive.

Coordinates  
The coordinates of the objects in the archive are in B1950.0.  
If no values are specified, the system considers '00' in the empty cell.

Range  
Be sure to specify a value range (1 degree is the default). If the field is cancelled the system searches for an exact match.



interrogation query output

No	<u>r</u> deg	<u>IDobs</u>	<u>IDins</u> cm	<u>IDno</u>	<u>RAJ2000</u> "h:m:s"	<u>DEJ2000</u> "d:m:s"	<u>DATE</u> "Y:M:D"	<u>UT</u> "h:m:s"	<u>OBJNAM</u>	<u>METHOD</u>	<u>EXP</u> min	<u>EM</u>	Intestazione (Predefinito) +	
1	1.31161	<a href="#">ASI</a>	67	3100	05 21 17	+33 57 56	1970-02-07	21:03:00	REG. H II 229-31-36	1	60.0	103 a-E	RG6450	
2	1.31161	<a href="#">ASI</a>	67	3113	05 21 17	+33 57 56	1970-02-09	21:51:00	REG. H II 229-34-36	1	60.0	103 a-E	RG6450	
3	1.31161	<a href="#">ASI</a>	67	3171	05 21 17	+33 57 56	1970-03-29	20:44:00	REG. H II 229-34-36	1	90.0	103 a-J	OG5150	
4	1.31161	<a href="#">ASI</a>	67	3209	05 21 17	+33 57 56	1970-04-02	19:28:00	REG. H II 301	1	60.0	103 a-J	OG5150	
5	2.07044	<a href="#">ASI</a>	67	4248	05 35 18	+34 09 37	1971-02-28	22:27:00	M 36	1	20.0	103 a-O	GG 13	
6	2.07044	<a href="#">ASI</a>	67	4249	05 35 18	+34 09 37	1971-02-28	22:59:00	M 36	1	30.0	I-N Sen	RG 5	
7	2.07044	<a href="#">ASI</a>	67	4294	05 35 18	+34 09 37	1971-04-13	20:07:00	M 36	1	20.0	103 a-O	GG 13	
8	2.07044	<a href="#">ASI</a>	67	4295	05 35 18	+34 09 37	1971-04-13	20:38:00	M 36	1	30.0	I-N Sen	RG 5	
9	2.07044	<a href="#">ASI</a>	67	4308	05 35 18	+34 09 37	1971-04-19	20:29:00	M 36	1	20.0	103 a-O	GG 13	
10	2.07044	<a href="#">ASI</a>	67	4309	05 35 18	+34 09 37	1971-04-19	21:03:00	M 36	1	30.0	I-N Sen	RG 5	
11	2.07044	<a href="#">ASI</a>	67	4321	05 35 18	+34 09 37	1971-04-19	20:08:00	M 36	1	20.0	103 a-O	GG 13	
12	2.07044	<a href="#">ASI</a>	67	4322	05 35 18	+34 09 37	1971-04-19	20:39:00	M 36	1	30.0	I-N Sen	RG 5	
13	0.41673	<a href="#">ASI</a>	67	4995	05 25 20	+35 16 38	1971-11-27	03:00:00	NGC 1778-1893-1907	1	10.0	103 a-O	GG 13	
14	0.41673	<a href="#">ASI</a>	67	4996	05 25 20	+35 16 38	1971-11-27	03:29:00	NGC 1778-1893-1907	1	40.0	103 a-O	UG 2	
15	2.07044	<a href="#">ASI</a>	67	5185	05 35 18	+34 09 37	1972-01-12	01:11:00	M 36	1	30.0	I-N Sen	RG 5	
16	2.07044	<a href="#">ASI</a>	67	5186	05 35 18	+34 09 37	1972-01-12	01:41:00	M 36	1	20.0	103 a-O	GG 13	
17	2.07044	<a href="#">ASI</a>	67	5277	05 35 18	+34 09 37	1972-03-14	20:20:00	M 36	1	20.0	103 a-O	GG 13	
18	2.07044	<a href="#">ASI</a>	67	5278	05 35 18	+34 09 37	1972-03-14	20:49:00	M 36	1	30.0	I-N Sen	RG 5	
19	0.41673	<a href="#">ASI</a>	67	5314	05 25 20	+35 16 38	1972-03-16	19:50:00	5H 22M +35G 14P	1	30.0	103 a-O	UG 2	
20	0.41673	<a href="#">ASI</a>	67	5315	05 25 20	+35 16 38	1972-03-16	20:25:00	5H 22M +35G 14P	1	30.0	103 a-O	UG 2	
21	0.41673	<a href="#">ASI</a>	67	5344	05 25 20	+35 16 38	1972-04-05	20:20:00	5H 22M +35G 14P	1	30.0	103 a-O	UG 2	
22	0.41673	<a href="#">ASI</a>	67	5351	05 25 20	+35 16 38	1972-04-07	19:32:00	5H 22M +35G 14P	1	30.0	103 a-O	UG 2	
23	0.41673	<a href="#">ASI</a>	67	5352	05 25 20	+35 16 38	1972-04-07	20:07:00	5H 22M +35G 14P	1	30.0	103 a-O	UG 2	
24	2.07044	<a href="#">ASI</a>	67	5717	05 35 18	+34 09 37	1972-10-30	23:24:00	M 36	1	20.0	103 a-O	GG 13	
25	2.07044	<a href="#">ASI</a>	67	5718	05 35 18	+34 09 37	1972-10-30	23:58:00	M 36	1	30.0	I-N Sen	RG 5	
26	2.07044	<a href="#">ASI</a>	67	6071	05 35 18	+34 09 37	1973-01-06	19:53:00	M 36	1	15.0	103 a-D	GG 14	
27	2.07044	<a href="#">ASI</a>	67	6072	05 35 18	+34 09 37	1973-01-06	20:25:00	M 36	1	20.0	I-N Sen	RG 5	
28	2.07044	<a href="#">ASI</a>	67	6102	05 35 18	+34 09 37	1973-01-10	22:30:00	M 36	1	20.0	I-N Sen	RG 5	
29	2.07044	<a href="#">ASI</a>	67	6103	05 35 18	+34 09 37	1973-01-10	22:57:00	M 36	1	15.0	103 a-D	GG 14	



