

INTRODUZIONE

PROGRAMMA 18/10 su moodle 2

TESTI: Fundam. Astronomy Karttunen +

COORDINATE To measure the sky Chorney

OTTICA E TELESCOPI

CATALOGHI E MAPPE STELLARI

DATA BASE E ARCHIVI + HW

|| FITS E VISUALIA. IMMAGINI + HW

{ FOTOMETRIA E ASTROMETRIA
GAIA / SKYCAT + HW

OSS. RADIO REMOTO

WINEM.
VIA LATTE

{ IRAF E SPEKTROSCOPIA

NOTTURNE A BASQUINA

OSS. 1 + 1 STELLA VARIABILE

DIURNE SOLE

ASIAGO 4 pp a luglio ? }

CATALOGHI E MAPPE STELLARI ²

Kauftmann e Cromey

Costellazioni (pp seguendo IAU)

es. α Cygni

↳ + brillante

NOMI
STELLE

α Orionis (Betelgeuse)

58 Orionis nel British Catalog

↳ in order of RA

VARIABILI

+ deboli R ... Z RR, RS, ... RZ

SS ... SZ

RR Lyr

SUPERNOVE

SN 1987A

↓
1^o SN del 1987

Betelgeuse = HD 39801

↓
Henry Draper Catalog

CATALOGHI STELLARI

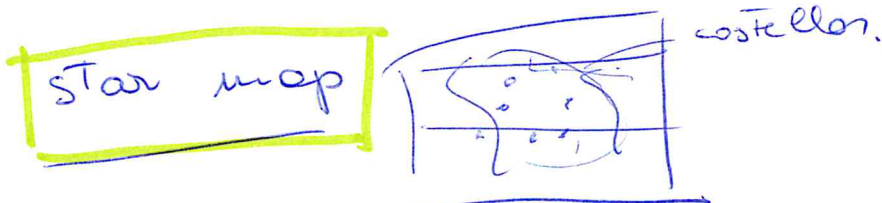
di TOLOMEO (1025) → 17th secolo stelle

BONNER DURCHMUSTERUNG 1799-1875 FWA Argelander 320'000 posit. e map

1879 FUNDAMENTA KATALOG FK1 500 stelle
posizioni molto accurate!

1984 FK5 1535 + 3117 stelle

1960 SAO SMITHSONIAN ASTRONOMICAL OBSERVATORY
pos., mag, nome proprio, class. spett. 258'997 stelle $m < 9$



USNO US NAVAL OBS. CATALOG USNO-B1

HIPPARCOS CAT.

satellite ESA 118000 coordinate al msec

TYCHO CAT. $\sim 10^6$ stelle (polar. - microw)

GAIA

HUBBLE GUIDE STAR CAT.

GSC GSC II preparato x lancio di HST

NOMI E CATALOGHI DI OGGETTI NON STELLARI

4

(1783) 40 nebulose di Messier (1730-1817)
→ M31 Andromeda me anche
M1 SN remnant nubi stellari / gas
CRAB NEBULA

NGC New General Catalog (1887)
7840 Nebulae

IC INDEX CATALOG

nel 19... ~1930 astronomi hanno iniziato
a dividere fra galattici e extragalattici

→ VEDI TAB.

SDSS Sloan Digital Sky Survey
V1; 2... 10^2 di 10^6 di oggetti, $\sim 10^6$
V12 con redshift!
OMOGENEITA'

PANSTARRS

CATALOGHI in IR, X → VEDI TAB

Table 4.3. Catalogs of non-stellar objects. Code: HHhh = hours, decimal hours of RA, MMSS = minutes, seconds of time or arc, DDdd degrees and decimal degrees of arc, LLLI, BBbb = degrees and decimal degrees of Galactic longitude and latitude; FF = field number

Type of object	Sample designation	Reference
89 Stellar associations	Assoc 34	<i>Un catalogue des composantes d'étoiles doubles et multiples</i> (C.C.D.M.), J. Dommanget, <i>Bull. Inf. Centre Donnees Stellaires</i> , 24 , 83-90 (1983) (plus supplements)
137 Globular star clusters	GCI 101	<i>Catalogue Of Star Clusters and Associations</i> , G. Alter, J. Ruprecht, and V. Vanysek, Akad. Kiado, Budapest, Hungary (1970) (plus supplements)
1112 Open star clusters	OCI 925	<i>Catalogue of Star Clusters and Associations</i> , G. Alter, J. Ruprecht, and V. Vanysek, Akad. Kiado, Budapest, Hungary (1970) (plus supplements)
1154 Open star clusters	Lund 877, Lynga 877 or C HHMM+DDd	<i>Catalogue of Open Cluster Data</i> , 5th edition, Lynga (Lund Observatory) (1987). Revised: 1996AJ.112.2013S (electronic)
37 Open star clusters	Trumpler 21	<i>Preliminary Results on the Distances, Dimensions and Space Distribution of Open Star Clusters</i> , R. J. Trumpler, <i>Lick Obs. Bull.</i> , 14 , 154-188 (1930)
1125 Emission nebulae	LBN 1090 or LBN LLL.II±BB.bb	<i>Catalogue of Bright Nebulae</i> , B. T. Lynds, , <i>Astrophys. J., Suppl. Ser.</i> , 12 , 163 (1965)

1036 Planetary nebulae	PK LLL+BB	<i>Catalogue Of Galactic Planetary Nebulae</i> , L. Perek and L. Kohoutek, <i>Acad. Publ. Czech. Acad. Sci.</i> , 1-276 (1967)
1802 Dark nebulae	LDN 1234	<i>Catalogue of dark nebulae</i> , B.T. Lynds, <i>Astrophys. J., Suppl. Ser.</i> , 7, 1-52 (1962)
287 Million objects, mostly, galaxies and stars	SDSS JHHMMSS.ss+ DDMMSS.s	Current data release of the Sloan Digital Sky survey (images, photometry, and spectra). On-line access at http://www.sdss.org/
12,921 Galaxies	UGC 12345	<i>Uppsala General Catalogue of Galaxies</i> , P. Nilsson, <i>Nova Acta Regiae Soc. Sci. Upsaliensis, Ser. V</i> (1973). Data for 12,921 galaxies north of delta = -23
1200 Galaxies	MCG + FF-FF-1234	<i>Morphological Catalogue of Galaxies. Part V</i> (Parts 1-IV earlier), B. A. Vorontsov-Vel'yaminov, V.P. Arkhipova, <i>Trudy Gosud. Astron. Inst. Shternberga</i> , 46, 1-67 (1974)
338 Peculiar galaxies	Arp 123= APG 123	<i>Atlas of Peculiar Galaxies</i> , H. Arp, <i>Astrophys. J., Suppl. Ser.</i> , 14, 1-20 (1966)
31350 Galaxies and 970 clusters of galaxies	Z FFF-123 = ZHHMM.m± DDMM	<i>Catalogue of Galaxies and of Clusters of Galaxies</i> , F. Zwicky, E. Herzog, P. Wild, M. Karpowicz, and C.T. Kowal, <i>California Inst. Techn.</i> vol. I to vol. VIII (1961-68)
5200 Clusters of galaxies	ZwCI FFF-123 = ZwCI HHMM±DDMM ACO 1234 or ACO S 1234	<i>A Catalog of Rich Clusters of Galaxies</i> , G.O. Abell, H.G. Corwin, Jr., and R.P. Olowin, <i>Astrophys. J., Suppl. Ser.</i> , 70, 1-138 (1989)

Table 4.4. *Examples of some source designations at non-optical wavelengths*

Modern designation	Source	Other designations
4U0900-40	Entry in the fourth catalog from the Uhuru X-ray satellite at position RA 9:00 Dec -40	Vela X-1, GP Vel, a binary star, one component is a neutron star
CXO JHHMMSS.s +DDMMSS	Chandra X-ray satellite catalog. First release expected 2009	Source at the specified J2000 coordinates
4C 02.32	Entry in the 4th Cambridge Catalog of Radio Sources	3C 273, first quasar discovered = QSO J1229 +0203 = ICRF J122906.6 +020308
GBS 0526-661	Gamma-ray burst source at this location	Possibly N 49, a supernova remnant in the Large Magellanic Cloud
2MASS J05551028 +0724255	2-Micron All-Sky Survey (near-IR JHK photometry)	Betelgeuse
FIRST J022107.4- 020230	Catalog of Faint Images of the Radio Sky at Twenty centimeters	Very faint anonymous galaxy
GeV J0534+ 2159	Compton Gamma-ray Observatory, EGRET instrument, J2000 position	Crab Nebula: M1, Taurus A, Tau X-1, and many other designations.
IRAS 05314+ 2200	Infrared Astronomical Satellite (12, 25 60 and 100 micron photometry) 1950 position	Crab Nebula

wants to spend the next hour observing. *Atlases* give a pictorial representation of the sky, and can be of tremendous help in identification. In practice, astronomers will routinely make use of *finding charts*, images of a small area of the sky near the object of interest. In many cases, astronomers will publish finding charts along with their results as aides to the identification of the objects of interest.

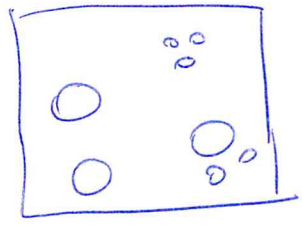
FINDING
CHARTS

4903

FINDING CHARTS

(es. utili
x fore
astrometria)

PICCOLA AREA del cielo
in cui mi posso orientare



stelle + luminose mi aiutano ...

WEB SITES

CDS dell'Univ. de Strasbourg
A&A riviste

{ Simbad database
VizieR impo cataloghi
Aladin sky atlas

MPS dello Smithsonian

ADS letterature