

NGC 1466

AMMASSO GLOBULARE

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E tutti i suoi segreti

HST



NGC 1466

AMMASSO
GLOBULARE



FILTRI:

- ☐ F606W
- ☐ F814W

PROGRAMMI:

- ☐ SExtractor
- ☐ DS9
- ☐ TOPCAT

AMMASSI GLOBULARI

- ❖ Stelle vecchie
- ❖ Alta densità
- ❖ Bassa metallicità

Ammasso globulare

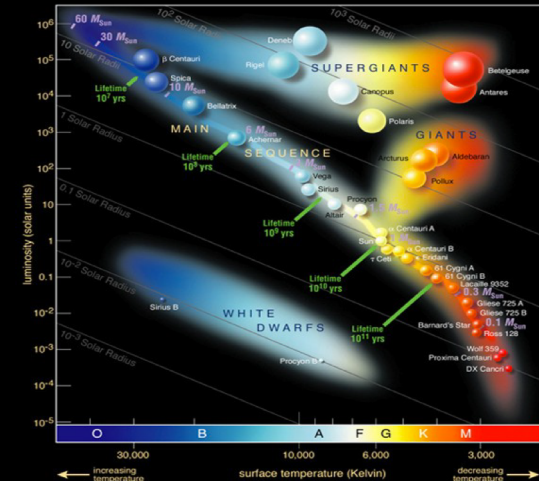


Ammasso aperto



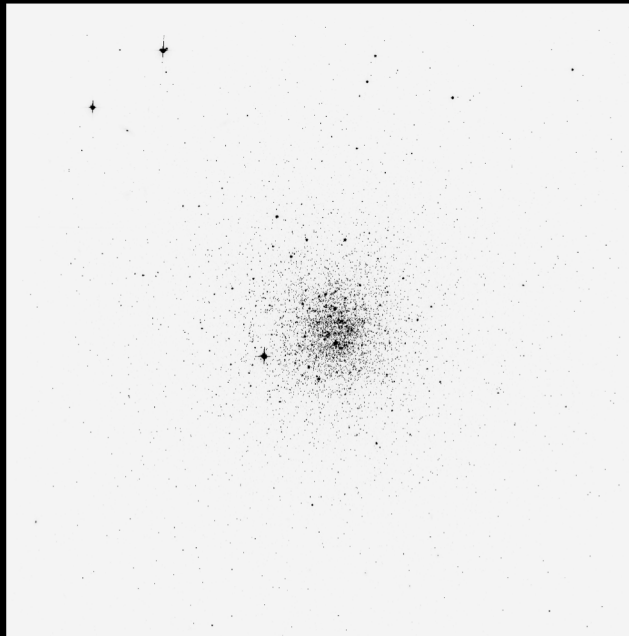
DIAGRAMMI CM (e HR)

- ❖ Studio ammassi stellari
- ❖ Colore su magnitudine
- ❖ Disposizione e caratteristiche

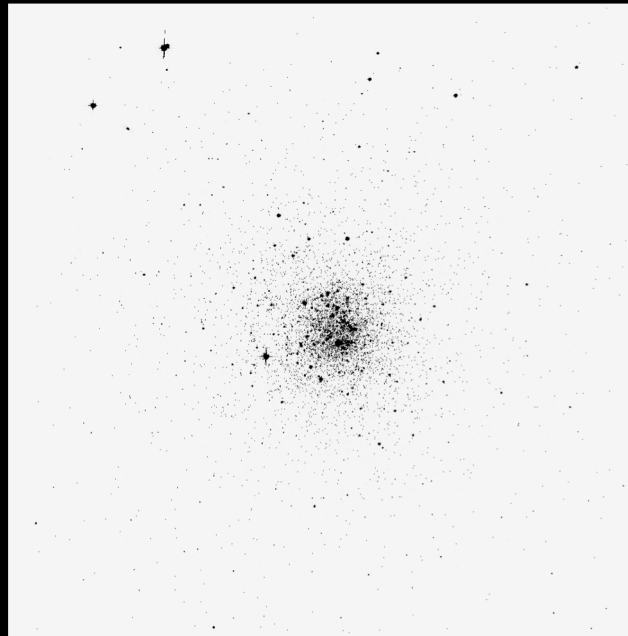


IMMAGINI UTILIZZATE

F606W



F814W



Rilevazione sorgenti di luce nella foto

```
((astroconda) labas09:NGC1466_ACS labastro$ sex ngc1466_ACS_F606W.fits  
----- SExtractor 2.5.0 started on 2020-02-12 at 11:52:29 with 1 thread
```

```
Measuring from: "Unnamed" / 4446 x 4485 / 32 bits FLOATING POINT data  
(M+D) Background: -0.00470498 RMS: 0.00560077 / Threshold: 0.00840116  
> Line: 1968 Objects: 16563 detected / 11664 sextracted
```

```
> WARNING: Pixel stack overflow at position 2436,1977  
> Line: 2256 Objects: 19282 detected / 14160 sextracted
```

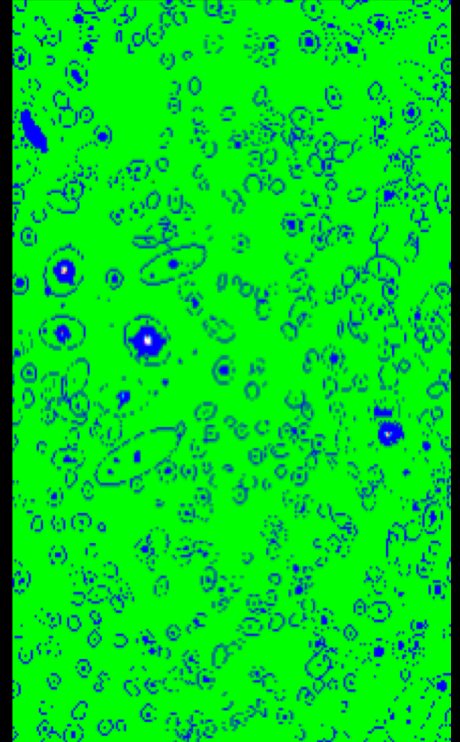
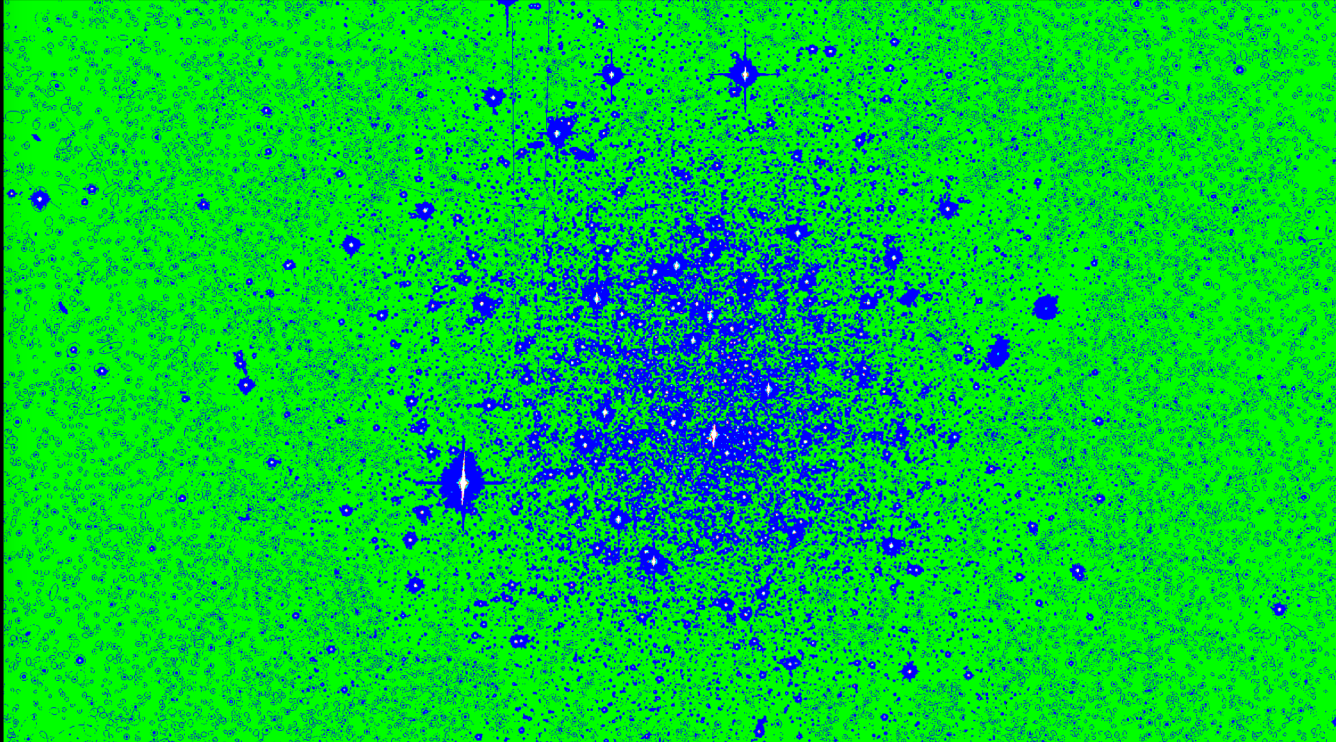
```
> WARNING: Pixel stack overflow at position 1644,2264  
> Line: 2560 Objects: 22031 detected / 16646 sextracted
```

```
> WARNING: Pixel stack overflow at position 2572,2570  
Objects: detected 37250 / sextracted 32817  
> All done (in 6 s)
```

```
# Default configuration file for SExtractor 2.5.0  
# EB 2006-07-14  
#  
#----- Catalog -----  
CATALOG_NAME uno.cat # name of the output catalog  
CATALOG_TYPE ASCII_VOTABLE # NONE, ASCII, ASCII_HEAD, ASCII_SKYCAT,  
# ASCII_VOTABLE, FITS_1.0 or FITS_LDAC  
PARAMETERS_NAME default.param # name of the file containing catalog contents  
#----- Extraction -----  
DETECT_TYPE CCD # CCD (linear) or PHOTO (with gamma correction)  
DETECT_MINAREA 5 # minimum number of pixels above threshold  
DETECT_THRESH 1.5 # <sigmas> or <threshold>, <ZP> in mag.arcsec-2  
ANALYSIS_THRESH 1.5 # <sigmas> or <threshold>, <ZP> in mag.arcsec-2  
FILTER Y # apply filter for detection (Y or N)?  
FILTER_NAME default.conv # name of the file containing the filter  
DEBLEND_NTHRESH 32 # Number of deblending sub-thresholds  
DEBLEND_MINCONT 0.005 # Minimum contrast parameter for deblending  
CLEAN Y # Clean spurious detections? (Y or N)?  
CLEAN_PARAM 1.0 # Cleaning efficiency  
MASK_TYPE CORRECT # type of detection MASKing: can be one of  
# NONE, BLANK or CORRECT  
#----- Photometry -----  
PHOT_APERTURES 5 # MAG_APER aperture diameter(s) in pixels  
PHOT_AUTOPARAMS 2.5, 3.5 # MAG_AUTO parameters: <Kron_fact>, <min_radius>  
PHOT_PETROPARAMS 2.0, 3.5 # MAG_PETRO parameters: <Petrosian_fact>,  
# <min_radius>  
SATUR_LEVEL 50000.0 # level (in ADUs) at which arises saturation  
MAG_ZEROPOINT 0.0 # magnitude zero-point  
MAG_GAMMA 4.0 # gamma of emulsion (for photographic scans)  
GAIN 0.0 # detector gain in e-/ADU  
PIXEL_SCALE 1.0 # size of pixel in arcsec (0=use FITS WCS info)  
#----- Star/Galaxy Separation -----  
SEEING_FWHM 1.2 # stellar FWHM in arcsec  
STARNNN_NAME default.nnw # Neural-Network_Weight table filename  
#----- Background -----  
BACK_SIZE 64 # Background mesh: <size> or <width>,<height>  
BACK_FILTERSIZE 3 # Background filter: <size> or <width>,<height>  
BACKPHOTO_TYPE GLOBAL # can be GLOBAL or LOCAL  
#----- Check Image -----  
CHECKIMAGE_TYPE APERTURES # can be NONE, BACKGROUND, BACKGROUND_RMS,  
# MINIBACKGROUND, MINIBACK_RMS, -BACKGROUND,  
# FILTERED, OBJECTS, -OBJECTS, SEGMENTATION,  
# or APERTURES  
CHECKIMAGE_NAME uno.fits # Filename for the check-image  
#----- Memory (change with caution!) -----  
MEMORY_OBJSTACK 3000 # number of objects in stack  
MEMORY_PIXSTACK 300000 # number of pixels in stack  
MEMORY_BUFSIZE 1024 # number of lines in buffer  
#----- Miscellaneous -----  
VERBOSE_TYPE NORMAL # can be QUIET, NORMAL or FULL  
WRITE_XML N # Write XML file (Y/N)?  
XML_NAME sex.xml # Filename for XML output
```


F606W

Sorgenti rilevate



F606W

TOPCAT

PARAMETRI ANALIZZATI:

- Number
- Flux_best
- X_image
- Y_image
- Alpha_J2000
- Delta_J2000
- Ellipticity
- FWHM_image

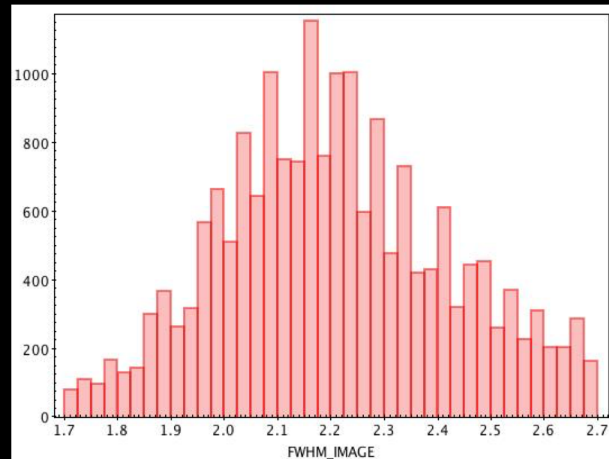
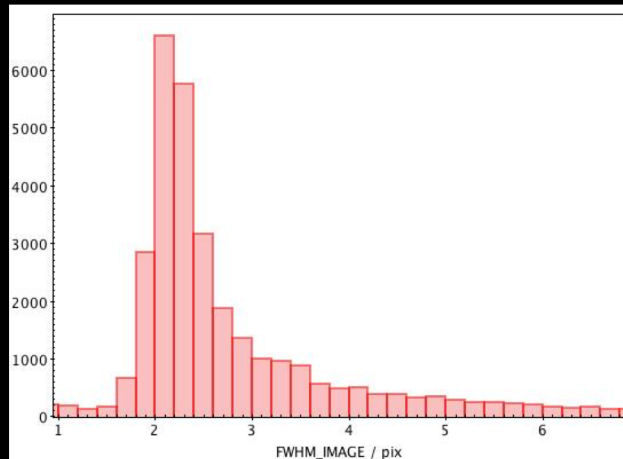
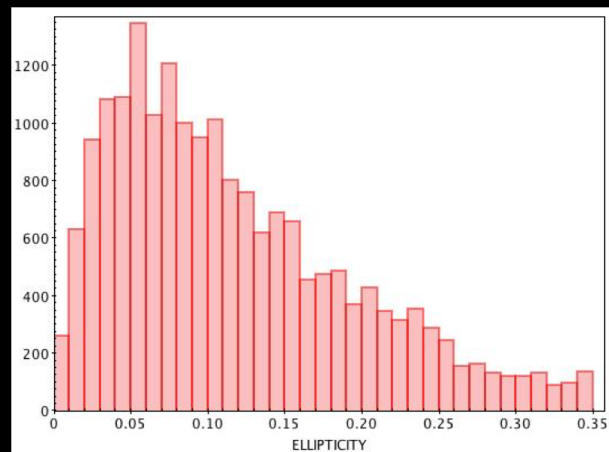
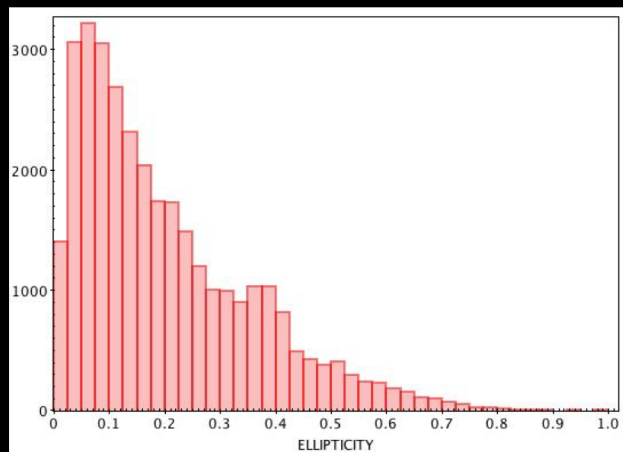
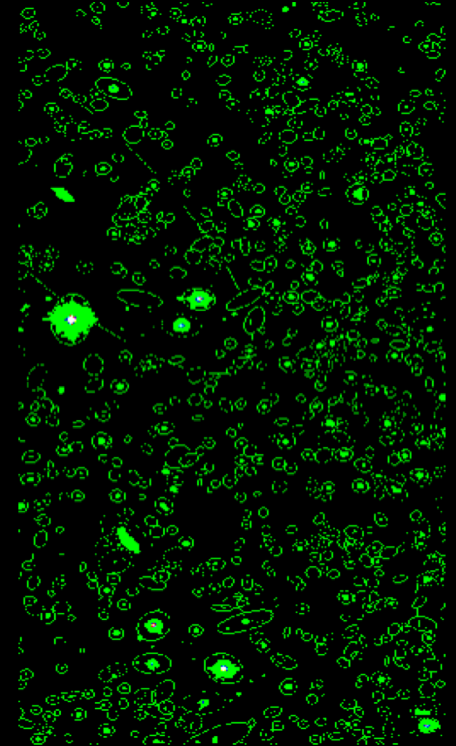
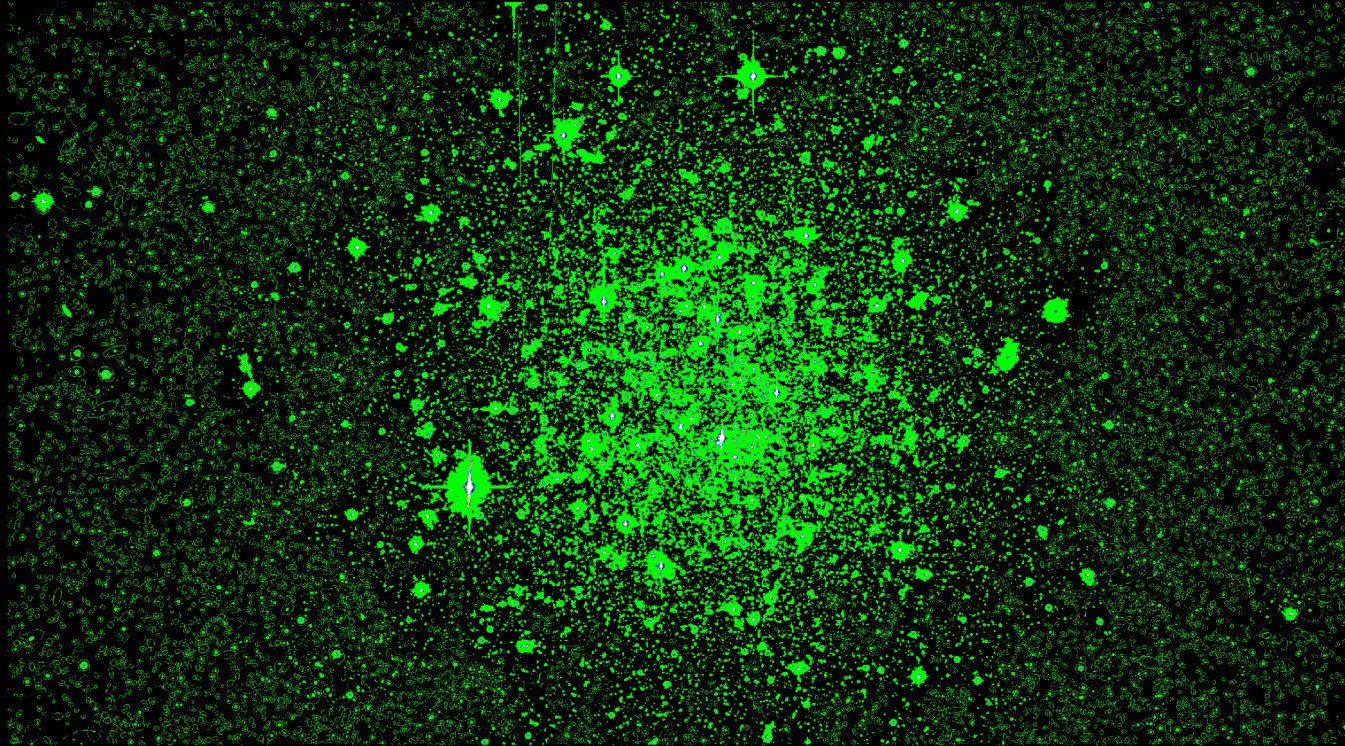


Tabella dati

	NUMBER	FLUX_BEST	X_IMAGE	Y_IMAGE	ALPHA_J2000	DELTA_J2000	ELLIPTICITY	FWHM_IMAGE
1	19	0,13528	1046,197	24,163	56,05747	-71,69563	0,248	2,06
2	20	0,136	1061,004	23,954	56,05729	-71,69544	0,007	2,24
3	35	0,57062	1385,869	31,984	56,05394	-71,69105	0,247	1,91
4	39	0,1706	709,273	31,463	56,06161	-71,70013	0,272	2,39
5	52	0,38895	1503,207	39,326	56,05293	-71,68944	0,134	2,19
6	56	4,13684	857,446	26,74	56,05972	-71,69816	0,127	2,13
7	59	0,26832	738,038	41,742	56,06172	-71,69971	0,145	1,96
8	60	0,13806	1517,144	42,557	56,05291	-71,68925	0,25	1,84
9	66	0,71982	1362,858	39,703	56,05454	-71,69133	0,141	2,02
10	68	0,13828	1277,472	46,977	56,05582	-71,69245	0,349	2,32
11	74	0,85873	1791,111	44,006	56,04986	-71,68556	0,027	2,1
12	80	0,11682	827,829	49,871	56,06105	-71,69847	0,245	1,98
13	82	0,1822	1797,103	48,484	56,04998	-71,68547	0,19	1,71
14	100	0,12708	1926,115	56,127	56,04884	-71,68371	0,222	2,69
15	101	81,73312	304,346	9,794	56,06528	-71,70564	0,119	2,29
16	108	0,65875	2024,059	53,938	56,04764	-71,6824	0,101	2,62
17	110	0,16451	798,973	58,741	56,06175	-71,69883	0,067	2,64
18	114	0,34464	1182,47	57,425	56,05734	-71,69369	0,204	2,31
19	126	0,10068	467,588	62,214	56,06567	-71,70326	0,314	1,93
20	129	0,38994	1787,959	60,422	56,0506	-71,68555	0,212	1,88
21	141	6,85428	853,733	51,053	56,0608	-71,69812	0,034	2,11
22	144	0,95556	1998,345	57,016	56,04806	-71,68274	0,152	1,98
23	155	0,28105	2953,637	68,137	56,03771	-71,66987	0,323	2,47
24	161	0,07727	3094,02	71,562	56,03626	-71,66798	0,348	2,13
25	166	0,12627	615,581	70,219	56,06433	-71,70125	0,339	2,07
26	170	0,08337	3081,986	69,998	56,03633	-71,66814	0,122	2,09
Total: 18.926		Visible: 18.926		Selected: 0				

F814W

Sorgenti rilevate



F814W

TOPCAT

PARAMETRI ANALIZZATI:

- Number
- Flux_best
- X_image
- Y_image
- Alpha_J2000
- Delta_J2000
- Ellipticity
- FWHM_image

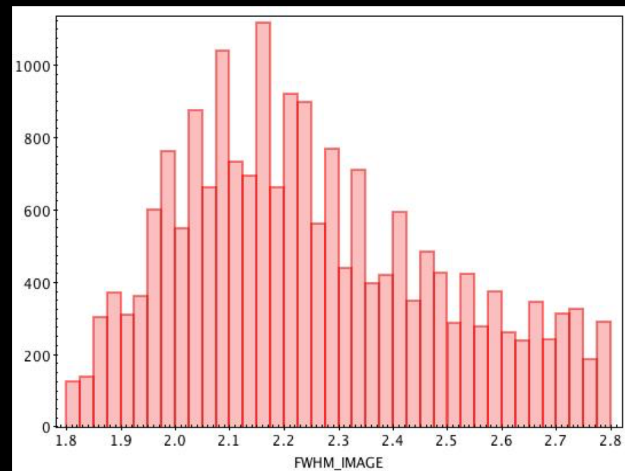
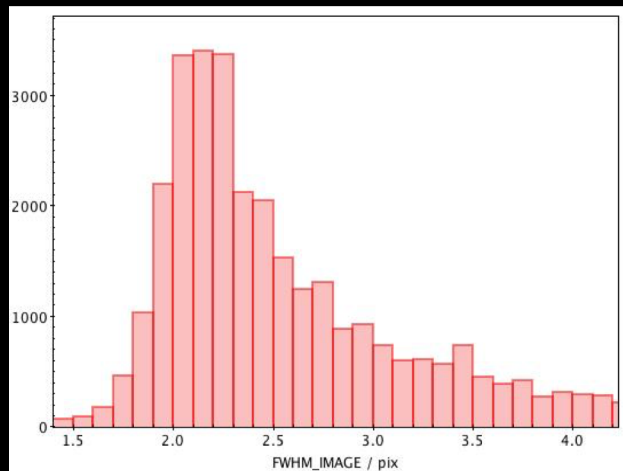
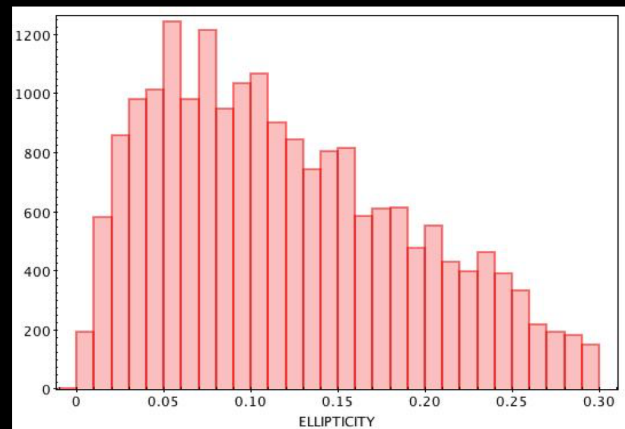
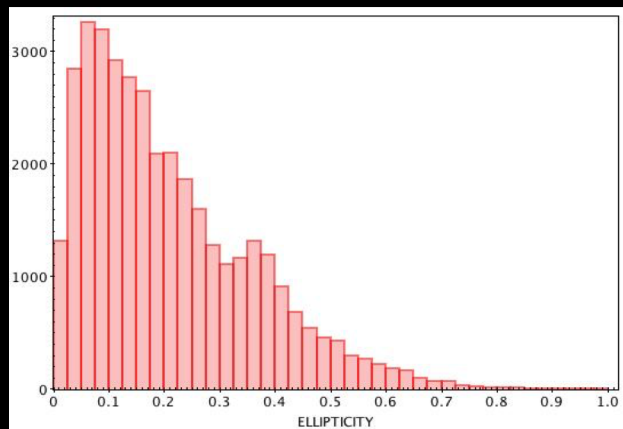
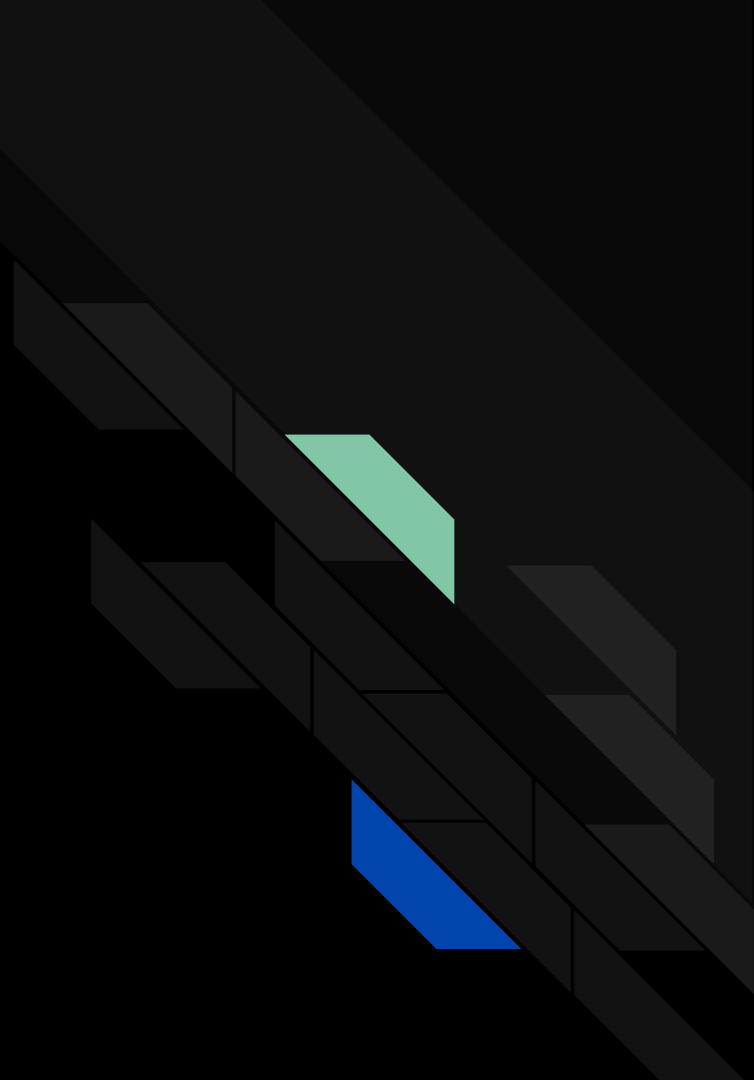


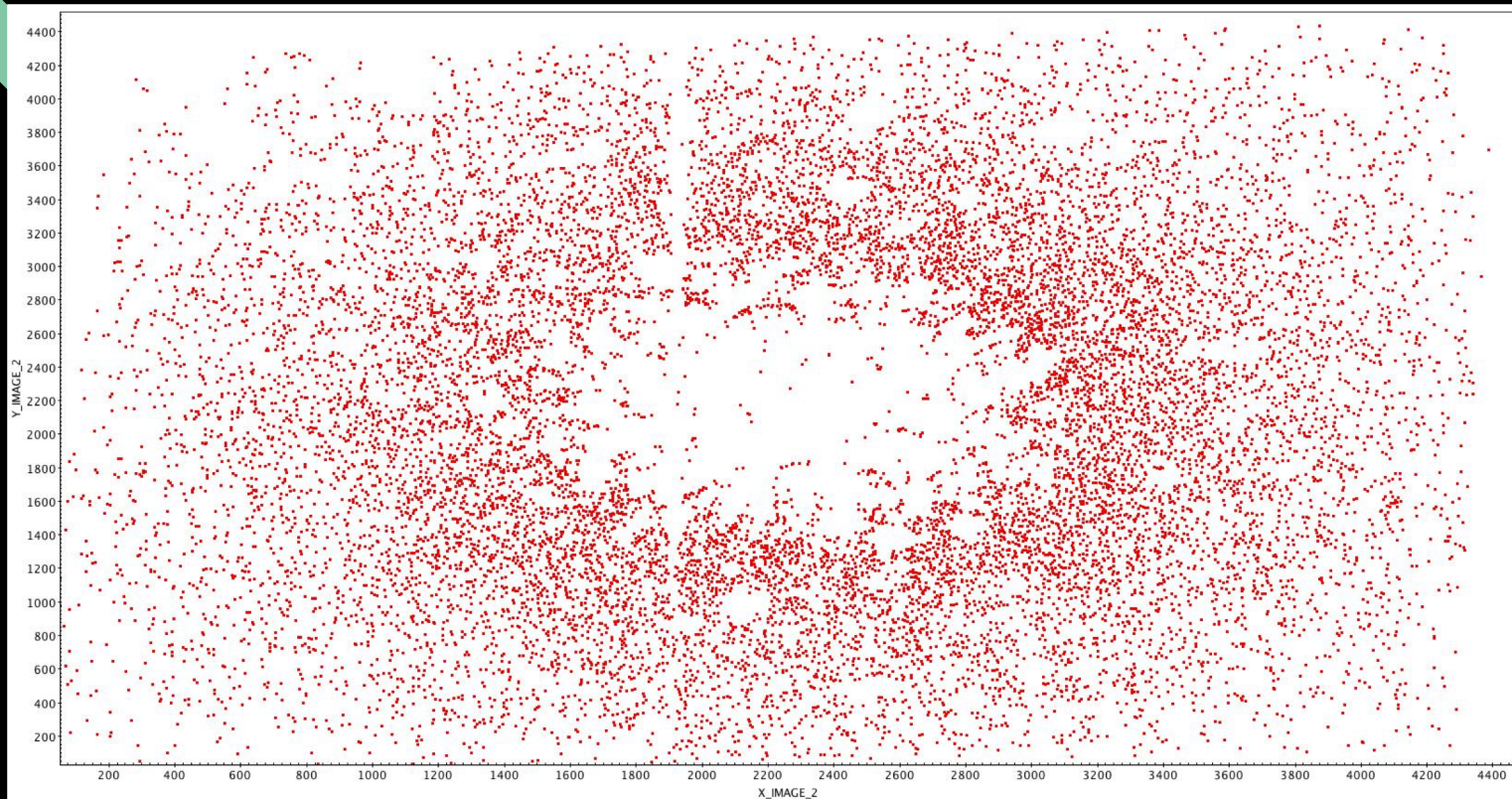
Tabella dati

	NUMBER	FLUX_BEST	X_IMAGE	Y_IMAGE	ALPHA_J2000	DELTA_J2000	ELLIPTICITY	FWHM_IMAGE
1	46	0,10203	276,161	22,06	56,06677	-71,70564	0,2	2,2
2	72	0,18708	736,375	34,295	56,06206	-71,69942	0,268	2,64
3	104	0,17884	1563,75	40,08	56,05291	-71,6883	0,117	1,99
4	110	0,13146	1683,852	41,371	56,0516	-71,68668	0,297	2,75
5	121	0,14492	1847,057	44,655	56,04989	-71,68448	0,121	2,27
6	127	5,13218	834,935	30,526	56,06078	-71,69811	0,153	2,2
7	129	2,18728	514,263	36,674	56,06469	-71,7024	0,121	2,24
8	139	5,41155	1237,732	39,102	56,05657	-71,69268	0,212	2,
9	154	0,36151	1483,917	51,11	56,05429	-71,68933	0,08	1,95
10	157	0,9667	1337,589	52,792	56,05602	-71,69129	0,178	2,19
11	161	15,30213	1121,036	31,687	56,05758	-71,69427	0,089	2,05
12	164	0,27807	1870,315	57,684	56,05018	-71,68412	0,075	2,28
13	169	0,9588	1501,403	55,299	56,05427	-71,68908	0,073	2,
14	171	0,66799	1894,973	55,378	56,0498	-71,6838	0,078	2,36
15	175	0,29638	1897,067	59,71	56,04997	-71,68375	0,079	2,7
16	178	0,09658	2731,416	64,875	56,04072	-71,67253	0,279	2,16
17	179	0,3896	2182,224	60,853	56,04678	-71,67992	0,186	2,8
18	199	7,41558	1916,763	52,248	56,04942	-71,68351	0,052	2,27
19	203	4,52122	294,789	48,657	56,06769	-71,7053	0,281	2,67
20	204	0,40587	1985,673	65,238	56,0492	-71,68254	0,095	2,49
21	205	0,26057	1893,641	68,269	56,05037	-71,68377	0,166	2,56
22	213	1,48263	540,482	64,865	56,06559	-71,70194	0,031	2,17
23	219	0,96744	2511,69	65,712	56,04325	-71,67548	0,07	1,97
24	220	0,59066	1676,426	68,251	56,05283	-71,68668	0,08	2,17
25	222	0,24224	1226,661	73,362	56,05816	-71,6927	0,197	2,56
26	224	0,20574	1938,461	74,057	56,05011	-71,68315	0,069	2,24
Total: 19.802		Visible: 19.802	Selected: 0					

PRODUZIONE DEL DIAGRAMMA CM (HR)



INCROCIO DELLE TABELLE



CALCOLO DELLE MAGNITUDINI

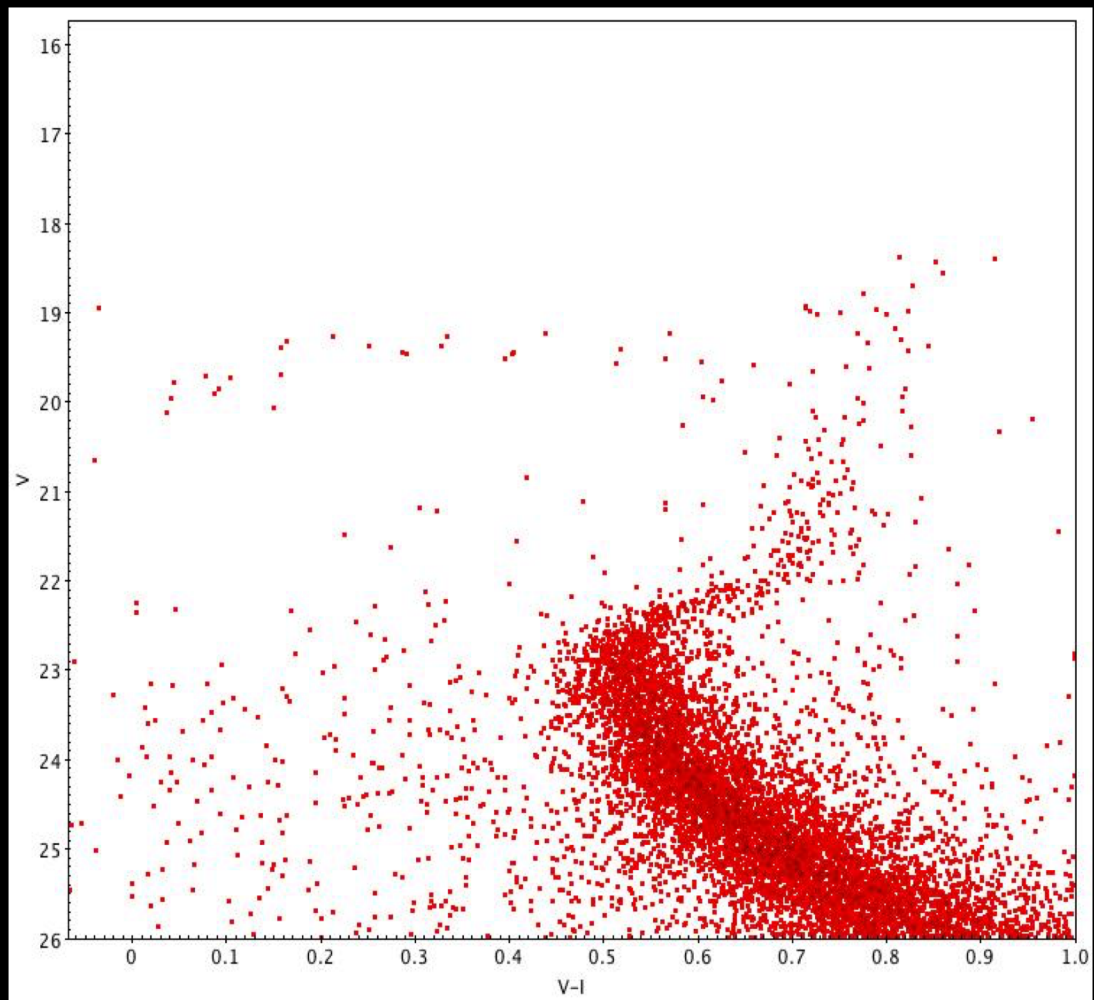
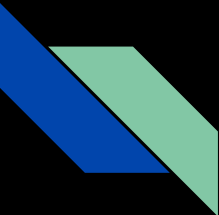
V	I	V-I
27,77211	23,29013	4,48198
27,96873	23,50579	4,46293
28,54401	24,22537	4,31865
27,48789	23,33237	4,15552
28,45348	24,48071	3,97277
28,0754	24,14255	3,93285
27,52506	23,65301	3,87205
27,80733	23,99191	3,81541
27,66029	23,84552	3,81476
27,59533	23,78332	3,81201
27,74511	23,99148	3,75363
28,56318	24,82526	3,73792
24,67257	20,98697	3,6856
28,32051	24,67401	3,6465
28,10208	24,48328	3,6188
28,45192	24,83931	3,61261
26,62884	23,06901	3,55983
27,15095	23,62919	3,52176
27,66169	24,19871	3,46298
25,54856	22,16385	3,38471
26,46587	23,14179	3,32408
28,22538	24,98763	3,23775
27,73056	24,49602	3,23454
27,99839	24,79701	3,20138
28,278	25,15032	3,12768
27,58696	24,56343	3,02353
28,30746	25,38376	2,9237
25,34022	22,43443	2,90579
27,68978	24,82314	2,86663
25,74237	22,88587	2,8565
27,50085	24,64794	2,8529
28,17531	25,32815	2,84716
27,02844	24,19463	2,83381
25,82976	23,01015	2,81961
26,35968	23,54883	2,81085
28,11437	25,35292	2,76144
27,63554	24,88668	2,74886
26,19137	23,45129	2,74008
24,72792	22,02945	2,69847
28,08139	25,38905	2,69234

$$m = Zp^{\text{filter}} - 2,5 *$$

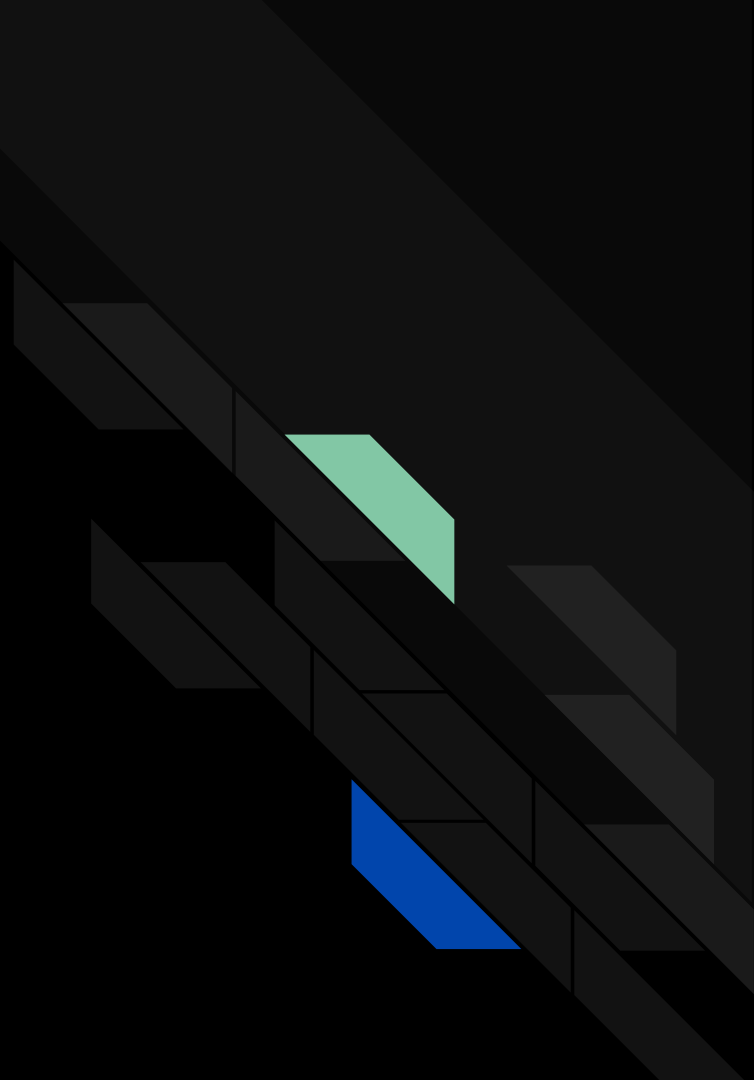
$$\log_{10}(\text{Flusso Filtro})$$

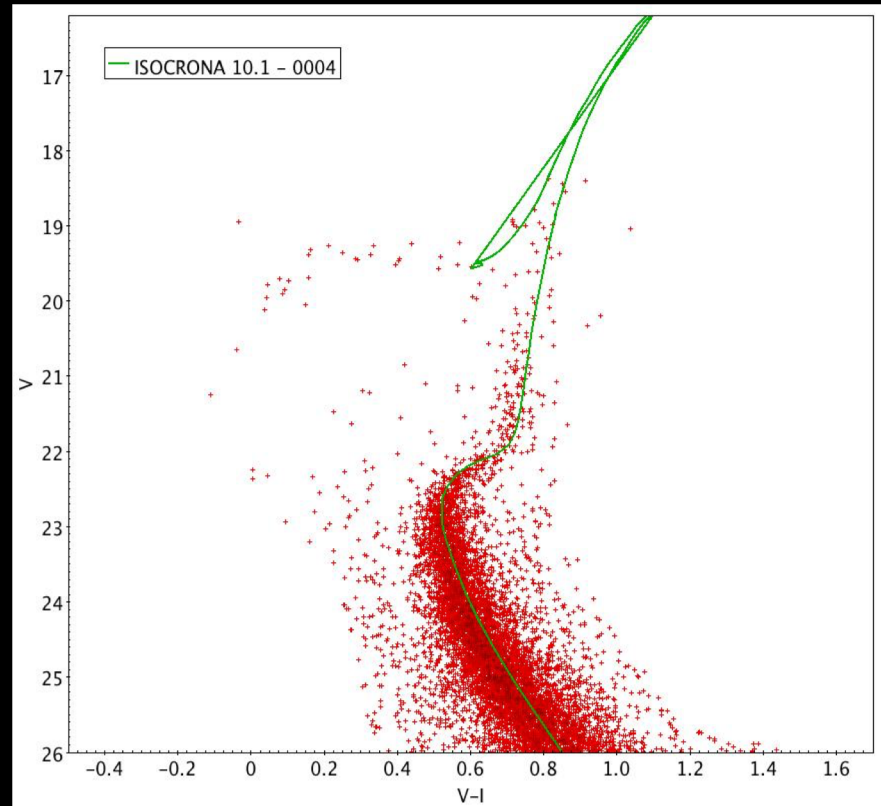
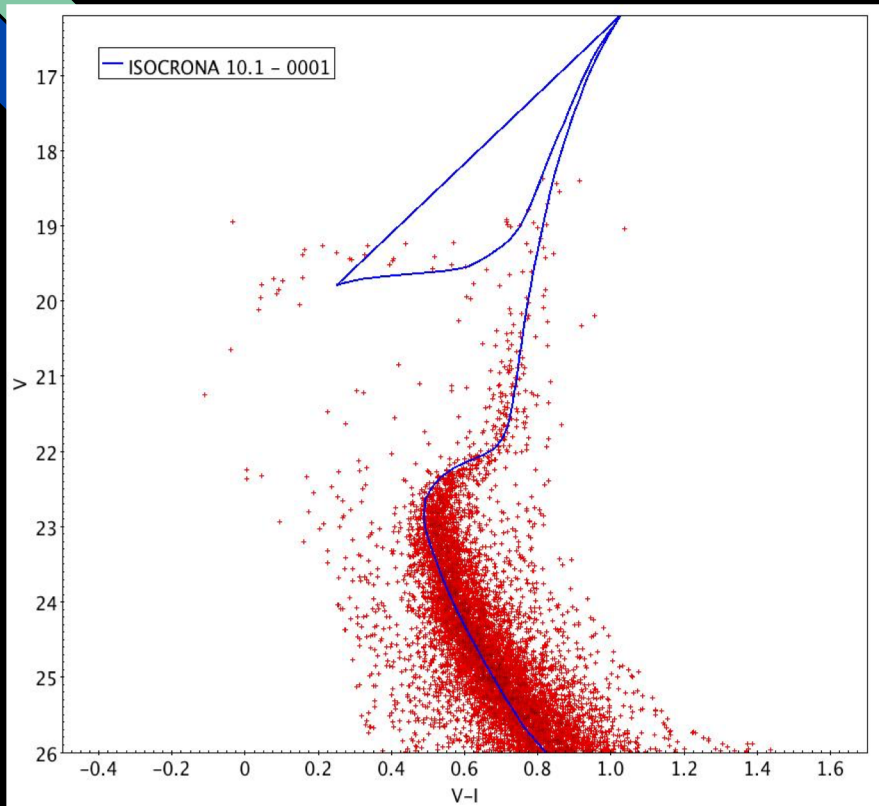
Table 5. Natural ACS-Vega system zero-points (Zp^{filter}), and fluxes $I^0(\text{filter})$ (in $10^{-6} \text{ erg s}^{-1} \text{ cm}^{-2}$).

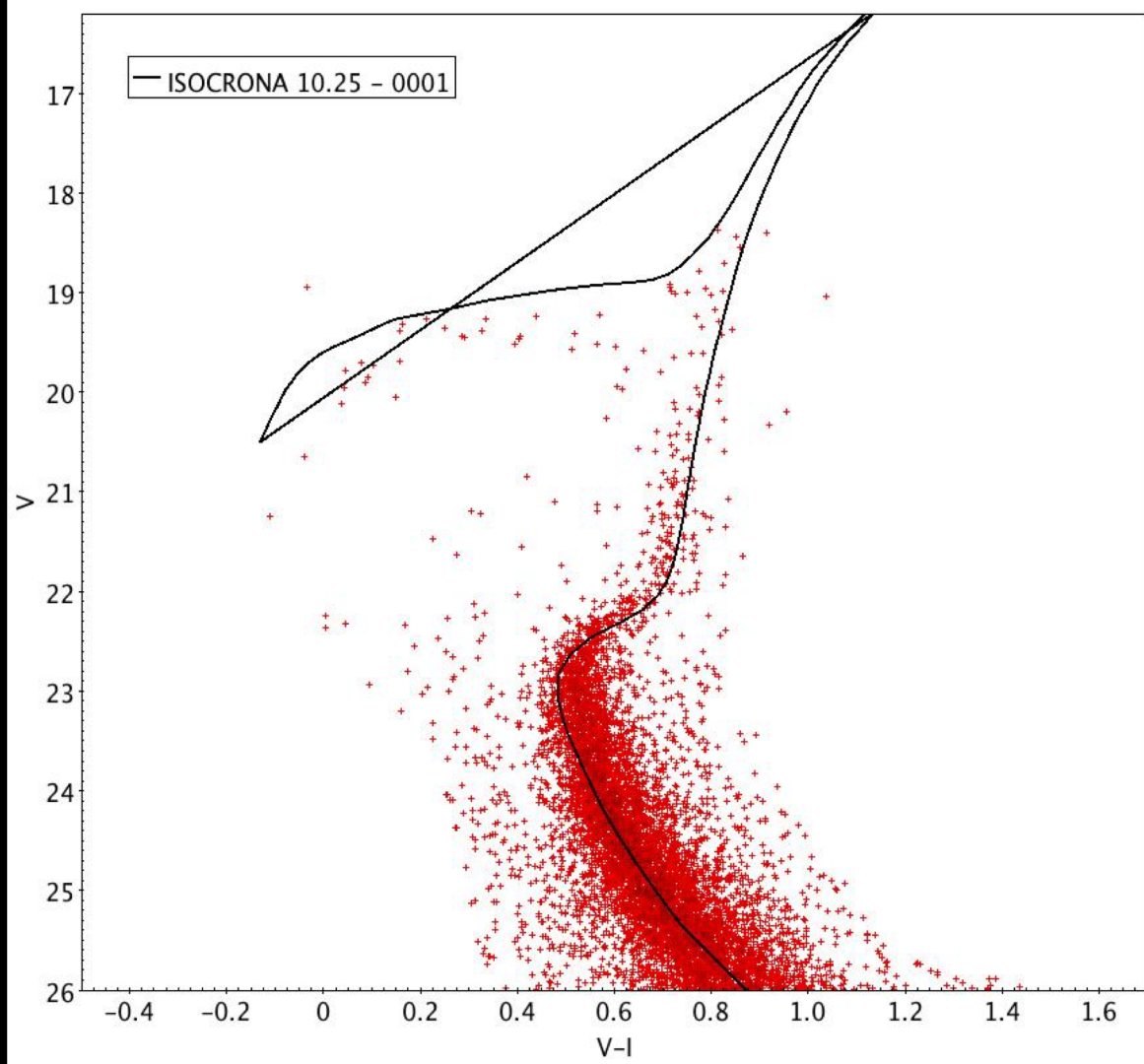
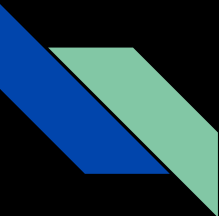
Filter	Zp^{filter}	$I^0(\text{filter})$
F435W	25.785	2.0994
F475W	26.168	2.7611
F502N	22.338	0.075320
F550M	24.861	0.69396
F555W	25.718	1.6028
F606W	26.391	2.7591
F625W	25.722	1.3687
F658N	22.381	0.059770
F660N	21.342	0.022895
F775W	25.254	0.72740
F814W	25.492	0.87198



STUDIO
DELL'ETÀ E
DELLA
METALLICITÀ







CONCLUSIONI

