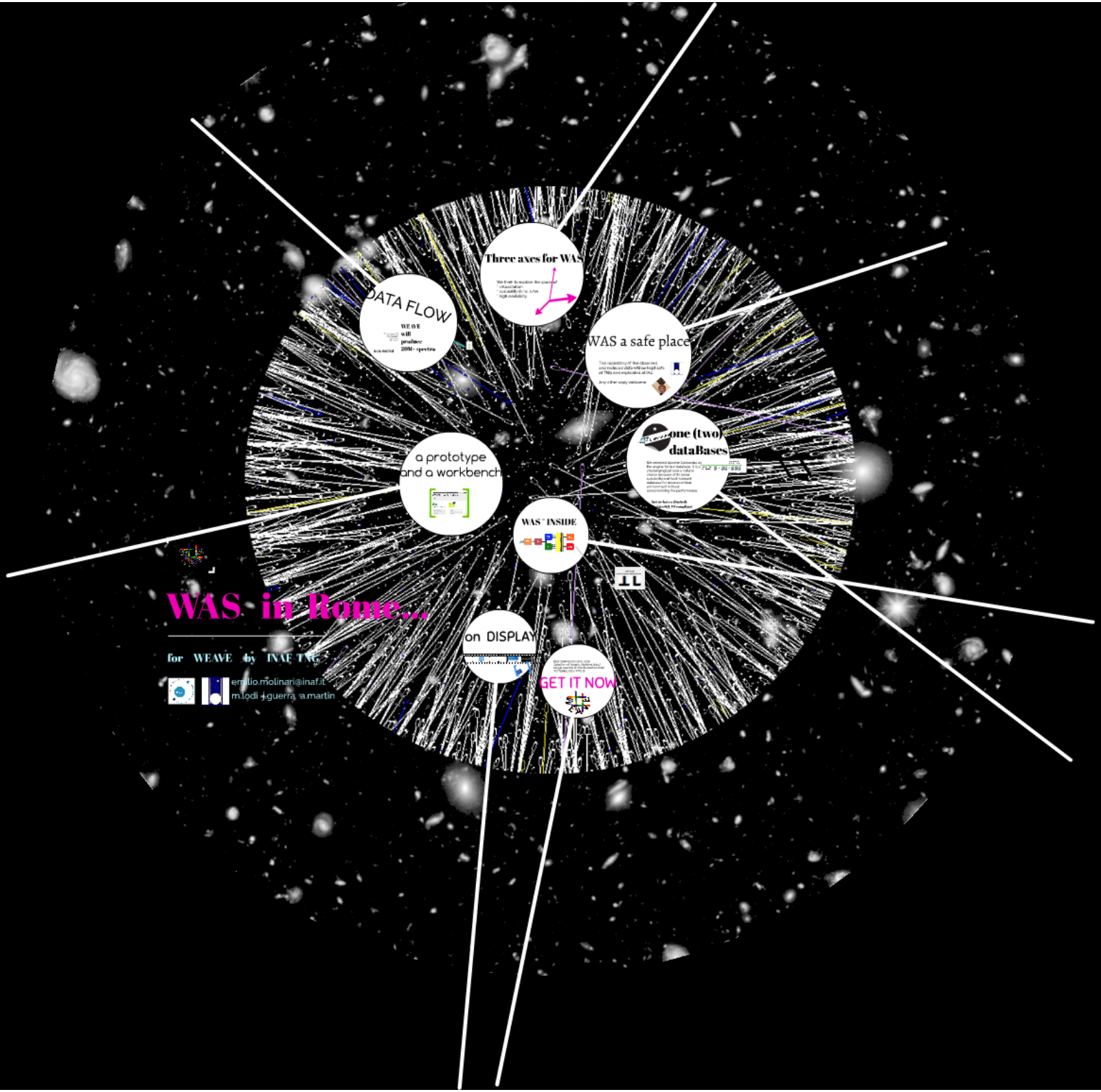

WAS in Rome...

for WEAVE by INAF TNG

emilio.molinari@inaf.it
m.lodi ; guerra ; a.martin

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Three axes for WAS

We think to explore the space of
- virtualization
- scalability (h/w, s/w)
- high availability

DATA FLOW

WEAVE will produce 20M+ spectra

OCS: 10GB/d

WAS a safe place

The repository of the observed and reduced data will be kept safe at TNG and replicated at IAz.

Any other copy welcome.

one (two) dataBases

We selected Apache Cassandra as the engine for our database. It is a challenging but also a natural choice because of its linear scalability and fault-tolerant database for mission-critical environment without compromising the performance.

but we have a (limited) PostgreSQL VO compliant

a prototype and a workbench

WAS ° INSIDE

on DISPLAY

GET IT NOW

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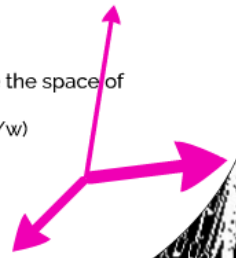

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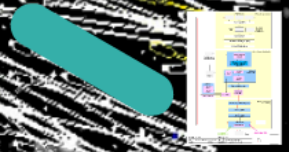
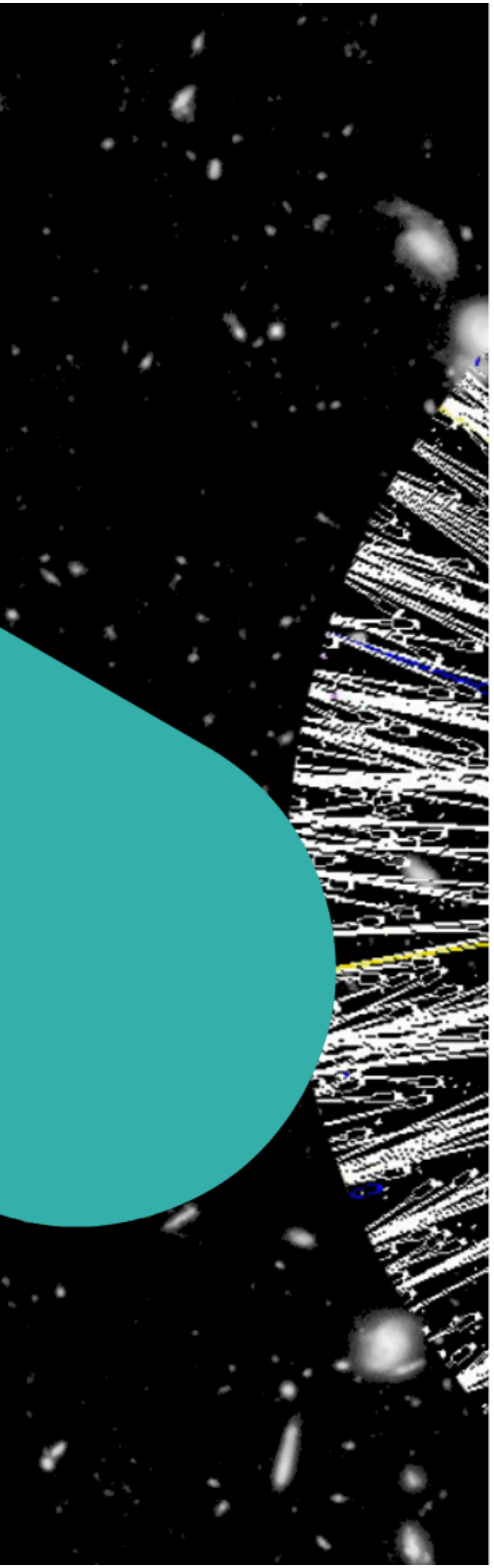
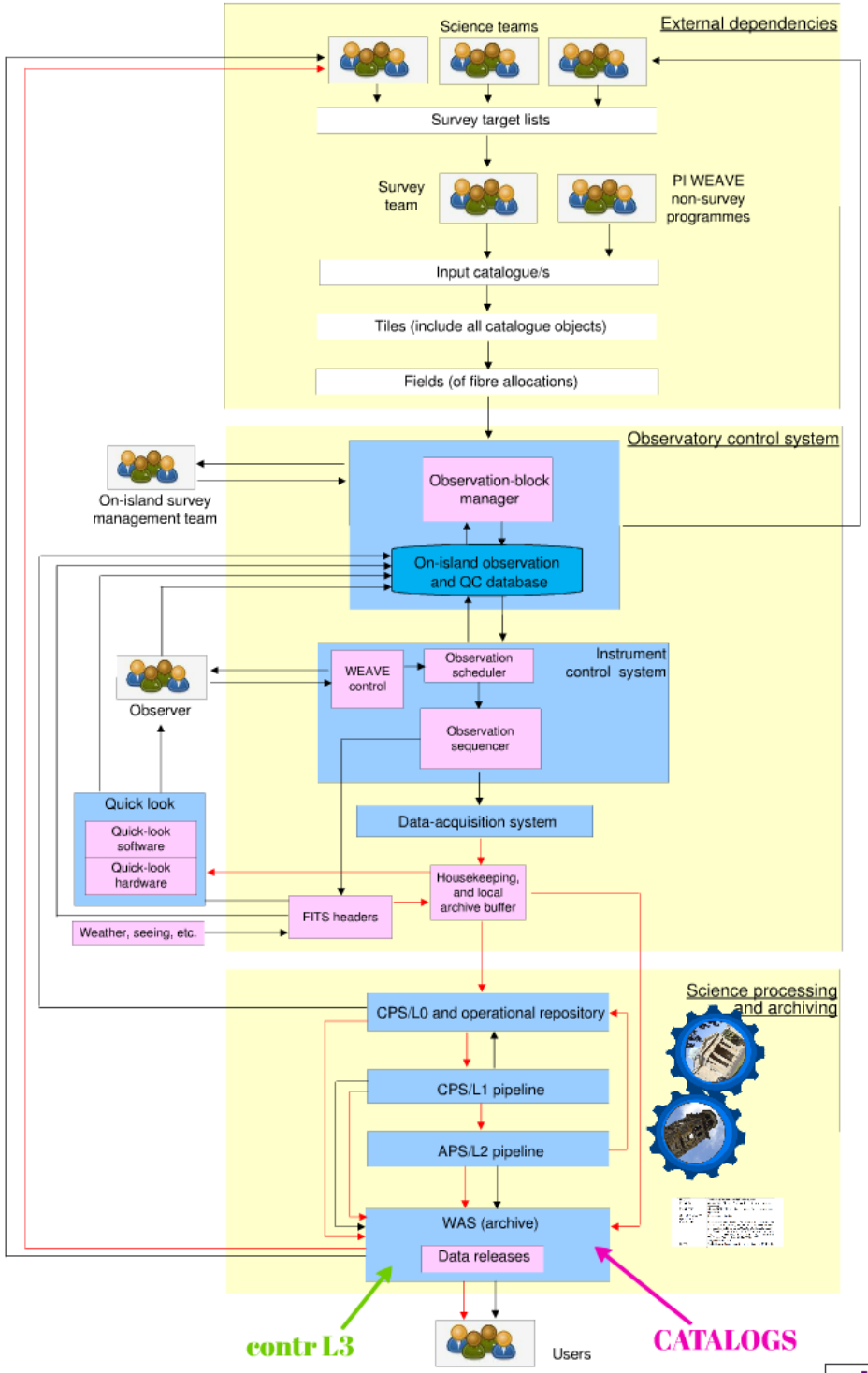
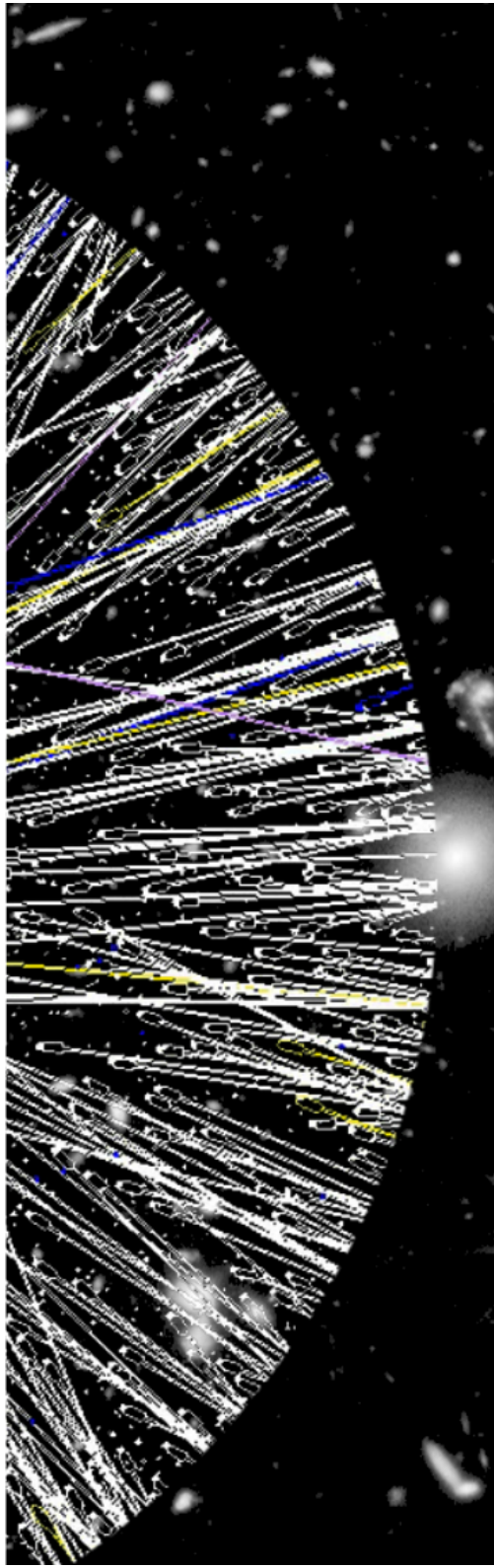


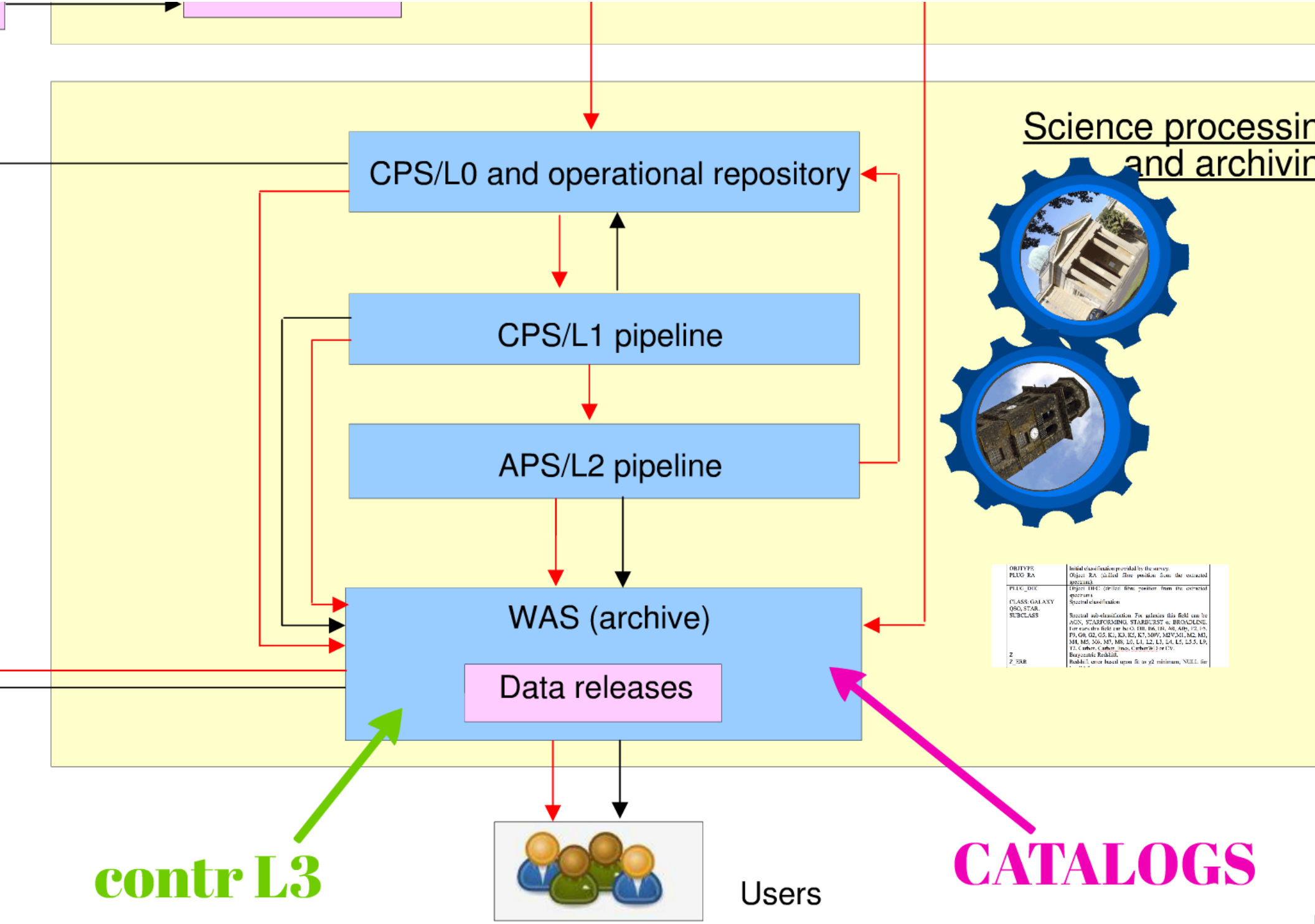






Drawn by	Chris Benn			**Project**	WEAVE
Date	30 MAR 15	**Doc No**	WEAVE-SYS-010-FIG1	**Title**	Survey Infromation and Data Flow
Version	1.1	**Size**	A3	**Location**	http://www.ing.iac.es/bscw/bscw.cgi

Key
Information flow
Science data flow



	Project	WEAVE

OBJTYPE	Initial classification provided by the survey.
PLUG_RA	Object RA (drilled fibre position from the extracted spectrum).
PLUG_DEC	Object DEC (drilled fibre position from the extracted spectrum).
CLASS: GALAXY QSO, STAR.	Spectral classification
SUBCLASS	Spectral sub-classification. For galaxies this field can be AGN, STARFORMING, STARBURST or BROADLINE. For stars this field can be O, OB, B6, B9, A0, A0p, F2, F5, F9, G0, G2, G5, K1, K3, K5, K7, M0V, M2V,M1, M2, M3, M4, M5, M6, M7, M8, L0, L1, L2, L3, L4, L5, L5.5, L9, T2, Carbon, Carbon_lines, CarbonWD or CV.
Z	Barycentric Redshift.
Z_ERR	Redshift error based upon fit to $\chi 2$ minimum; NULL for

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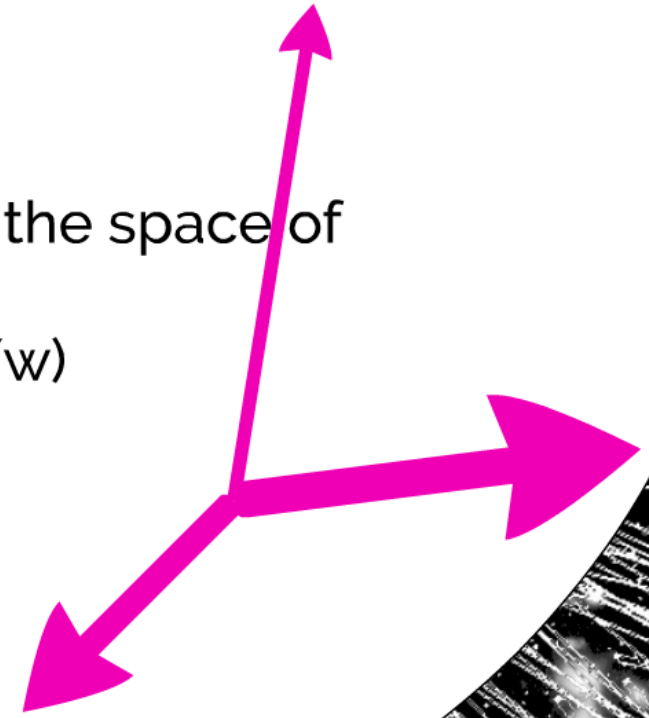

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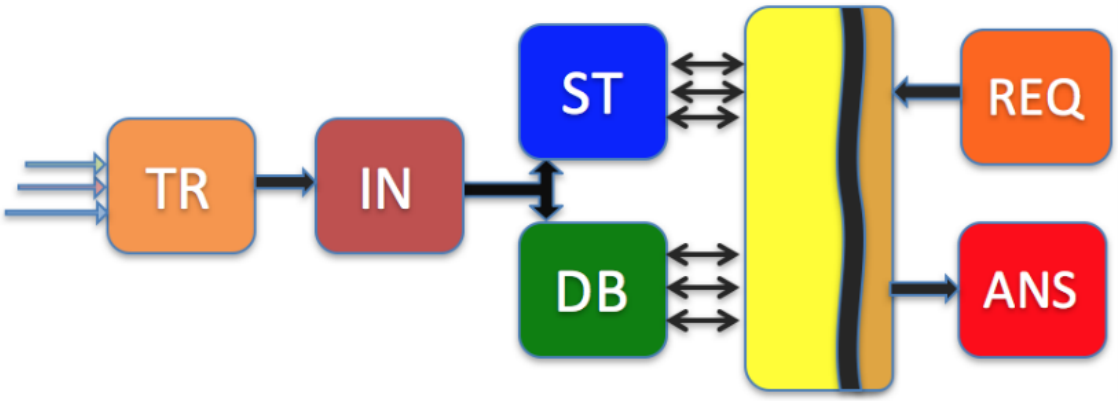
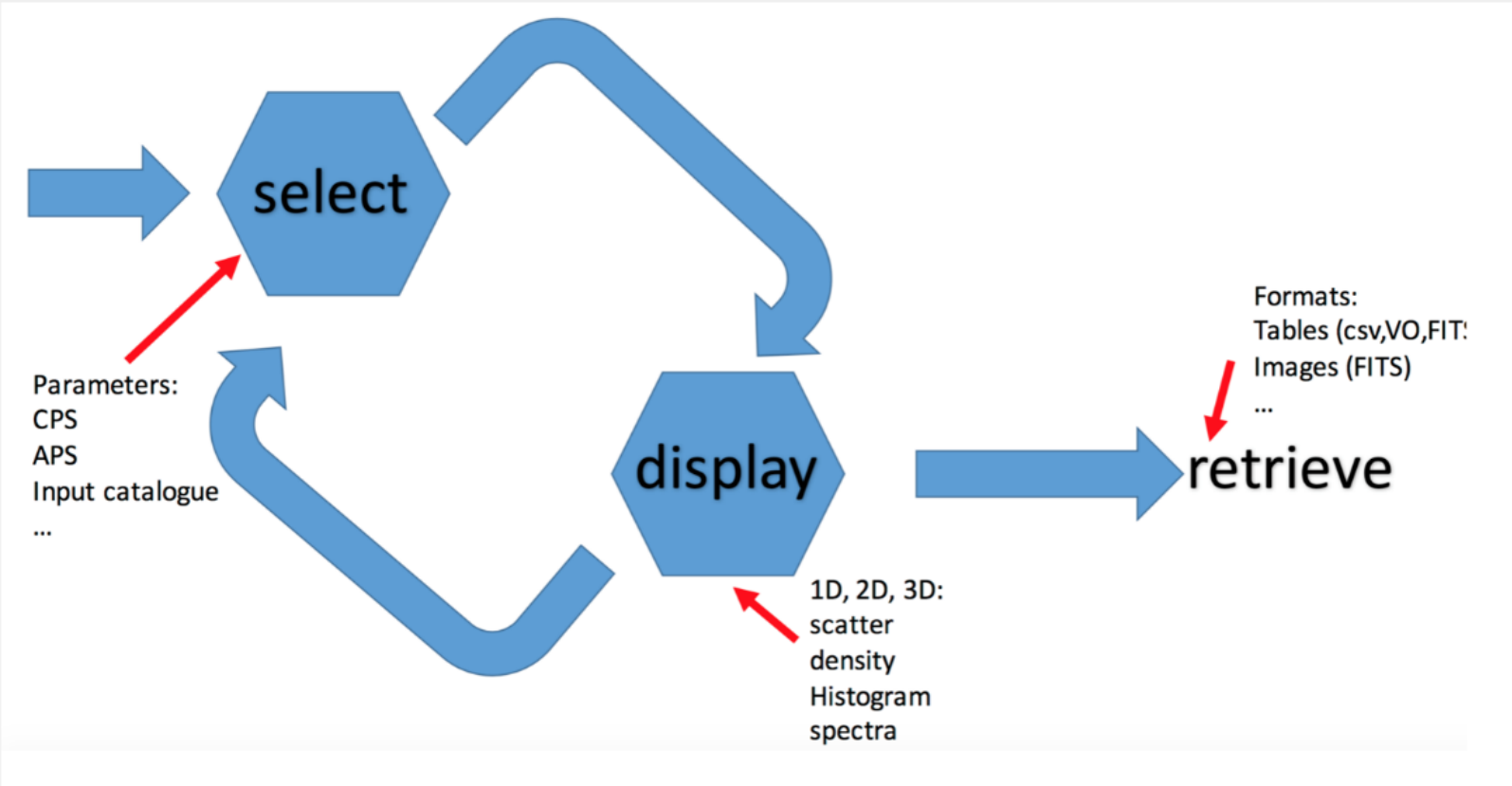
WAS ° INSIDE

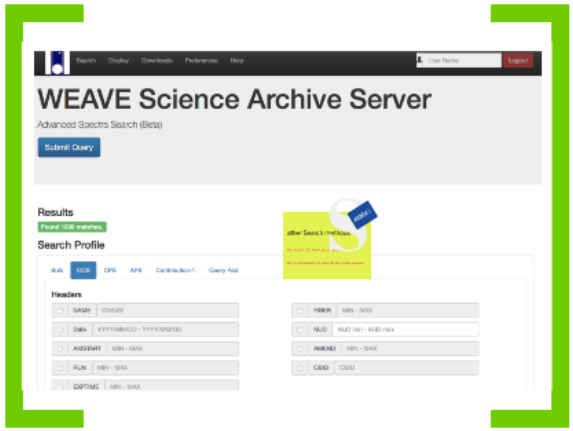


AUI concept

is tailored by use cases: science



a prototype and a workbench



Search Display Downloads Preferences Help

User Name Logout

WEAVE Science Archive Server

Advanced Spectra Search (Beta)

Submit Query

Results

Found 1230 matches.

Search Profile

Bulk OCS CPS APS Contribution-1 Query Pad

other Search methods

will include FILES input lists, co

will include INTERACTIVE using the DISPLAYED selection

wishlist !

Headers

☐	NAME	CNAME	☐	FIBER	MIN - MAX
☐	Date	YYYY/MM/DD - YYYY/MM/DD	☐	MJD	MJD min - MJD max
☐	AMSTART	MIN - MAX	☐	AMEND	MIN - MAX
☐	RUN	MIN - MAX	☐	OBID	OBID
☐	EXPTIME	MIN - MAX			

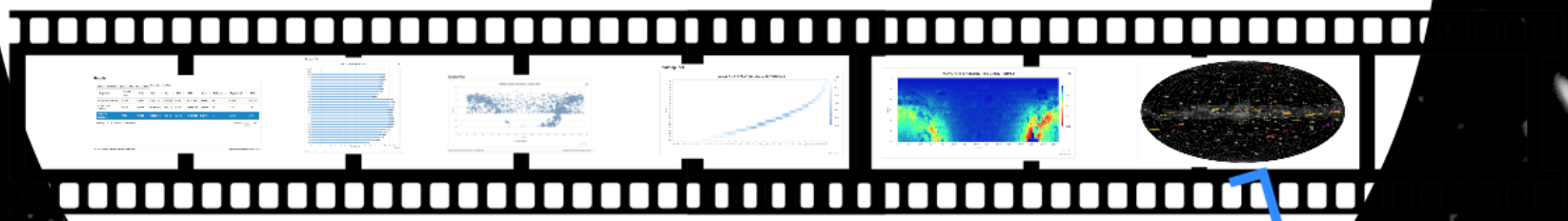
wishlist

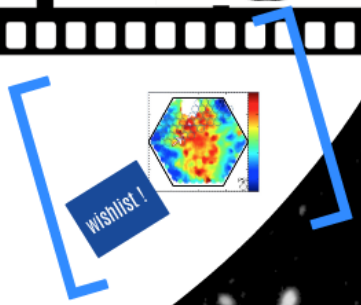
other Search methods

will include FILES: input lists, co ras, ID,

will include INTERACTIVE: using the DISPLAYED selection

on DISPLAY





Results

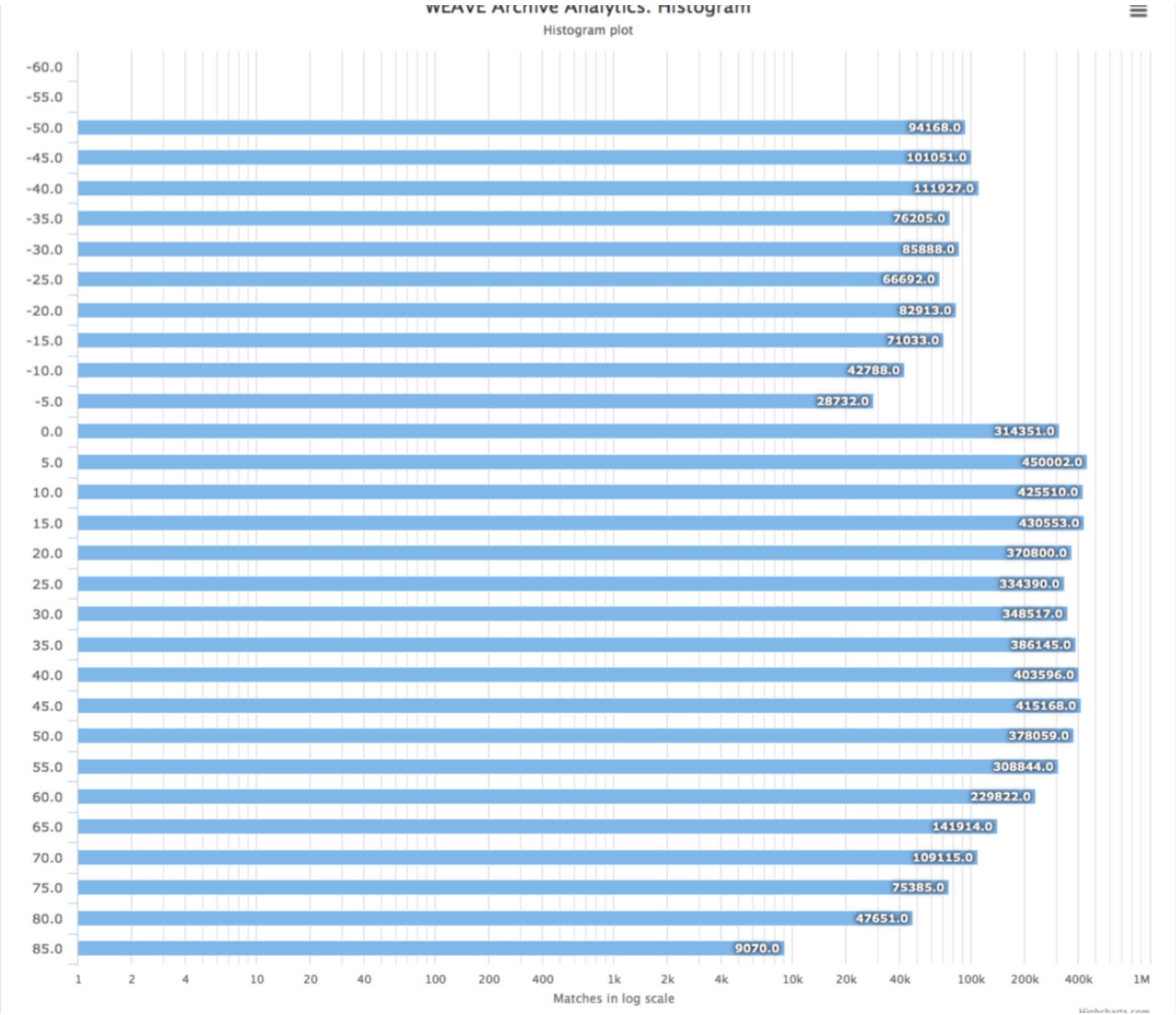
Plot | Deselect all | Print | Copy | CSV | PDF Show 20 entries

Target Name	Program Name	Plate	Fiber	RA	DEC	MJD	Class	Subclass	Magnitude_R	SNR
W359.8528-0.853994	PROG6	MOSB	-720767176	359.8528	0.854	58553.7476	GALAXY	A0	14.5374	26.5917
W359.43234-0.6551413	PROG0	MOSB	1915089472	359.4323	0.6551	58588.5773	GALAXY	A0	12.8103	7.9827
W359.712-0.89154404	PROG5	MOSB	-1353844248	359.712	0.8915	58615.7893	GALAXY	G0	13.5208	9.7534

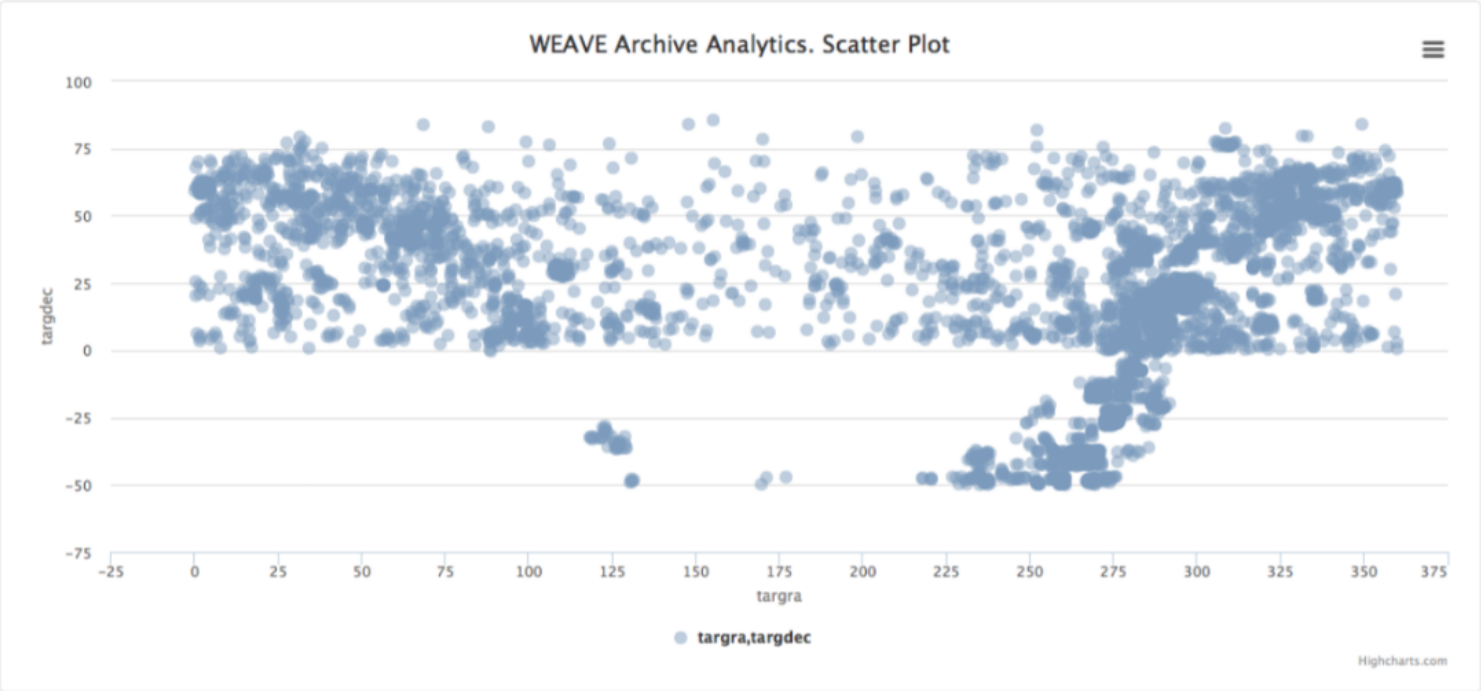
Showing 1 to 3 of 3 entries 1 row selected

Previous | 1 | Next

Telescopio Nazionale Galileo ©2016

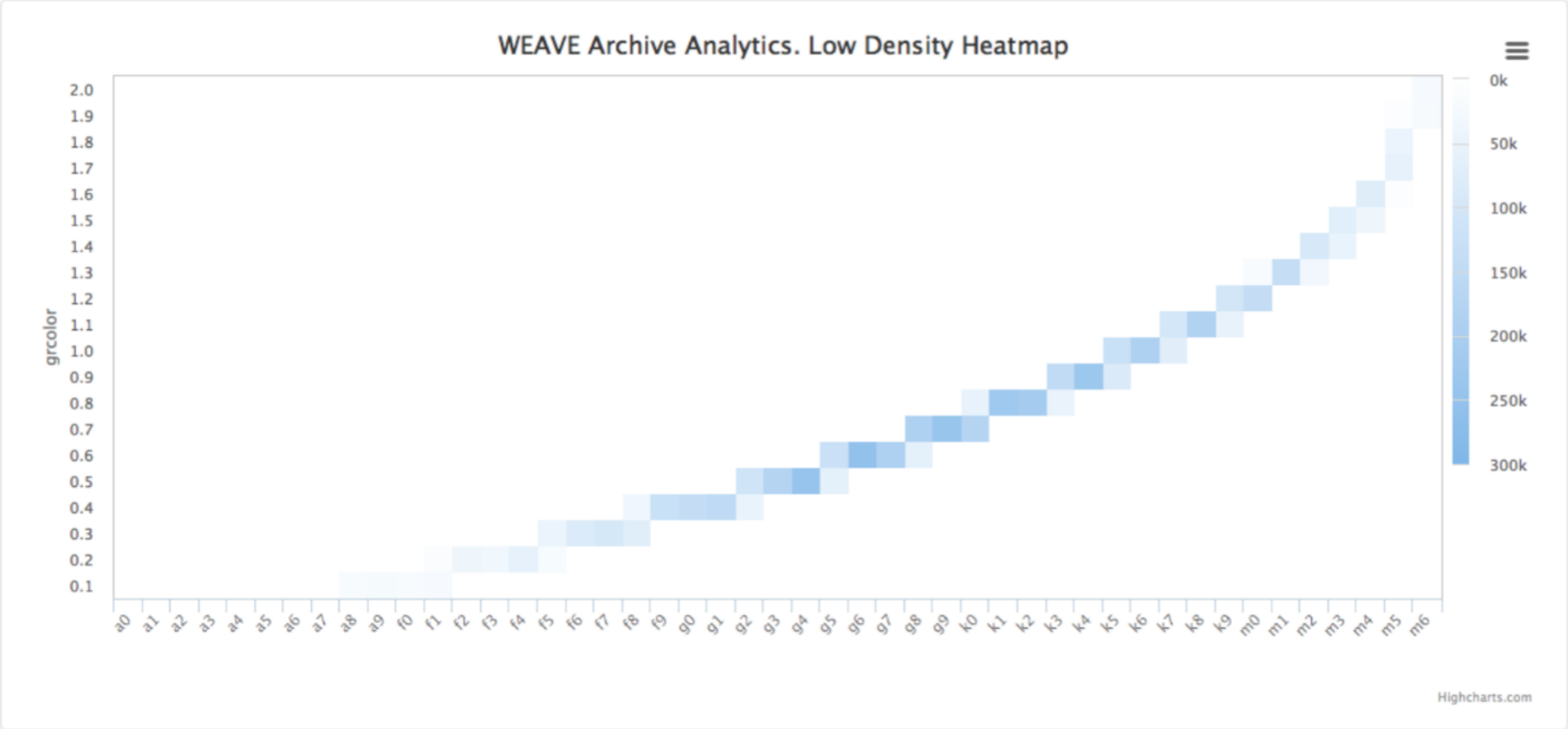

WEAVE Archive Analytics: Histogram
Histogram plot
-60.0
-55.0
-50.0
-45.0
-40.0
-35.0
-30.0
-25.0
-20.0
-15.0
-10.0
-5.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
55.0
60.0
65.0
70.0
75.0
80.0
85.0
94168.0
101051.0
111927.0
76205.0
85888.0
66692.0
82913.0
71033.0
42788.0
28732.0
314351.0
450002.0
425510.0
430553.0
370800.0
334390.0
348517.0
386145.0
403596.0
415168.0
378059.0
308844.0
229822.0
141914.0
109115.0
75385.0
47651.0
9070.0
1
2
4
10
20
40
100
200
400
1k
2k
4k
10k
20k
40k
100k
200k
400k
1M
Matches in log scale

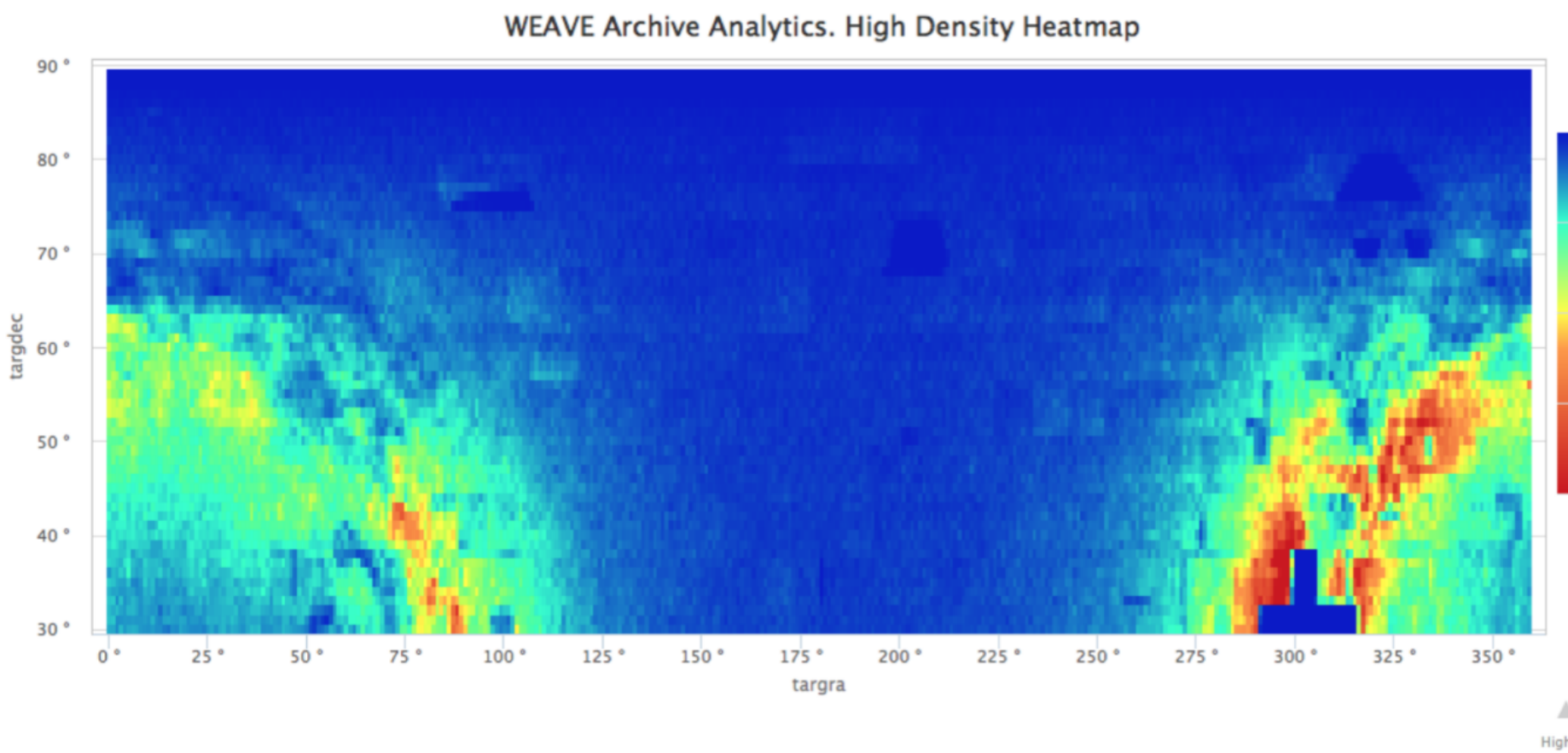
Scatter Plot

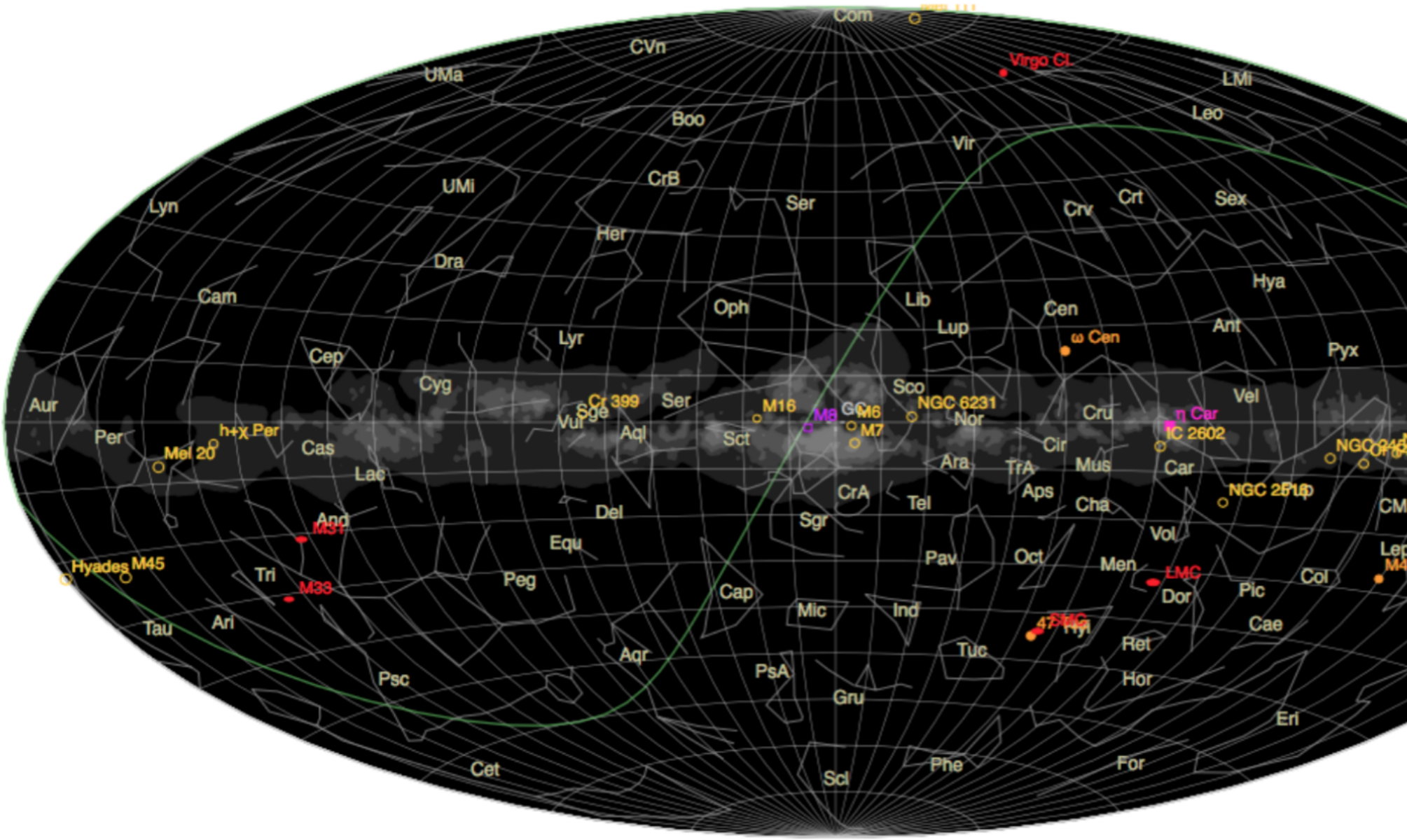


Telescopio Nazionale Galileo ©2016

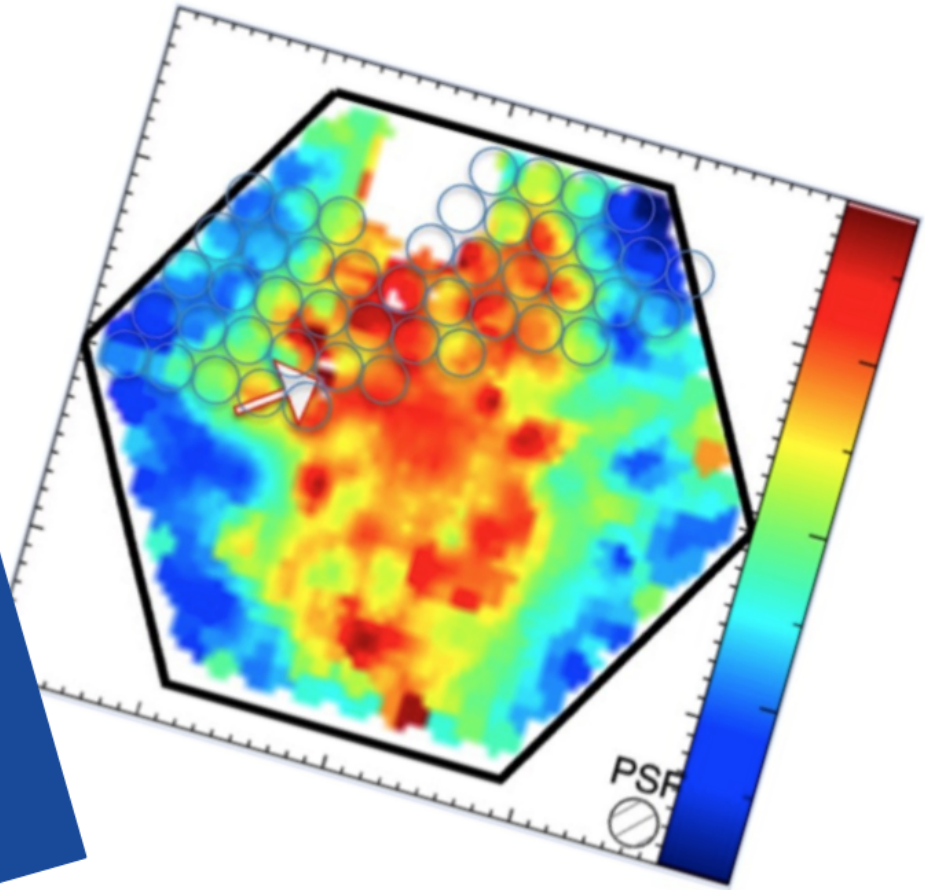
Heatmap Plot




WEAVE Archive Analytics. High Density Heatmap
90 °
80 °
70 °
60 °
50 °
40 °
30 °
targdec
0 °
25 °
50 °
75 °
100 °
125 °
150 °
175 °
200 °
225 °
250 °
275 °
300 °
325 °
350 °
targra


Com
CVn
Virgo Cl.
UMa
LMi
Leo
Boo
Vir
UMi
CrB
Lyn
Ser
Crv
Crt
Sex
Her
Dra
Hya
Cam
Oph
Lib
Cen
Lup
Ant
ω Cen
Lyr
Pyx
Cep
Cyg
Sco
Vel
Aur
Cr 399
Ser
M16
NGC 6231
Sge
M8
M6
Nor
Cru
η Car
Vul
Aql
M7
IC 2602
Per
h+χ Per
Sct
Cir
Mel 20
Cas
Ara
TrA
Mus
Car
Lac
CrA
Aps
Tel
Cha
Del
Sgr
Vol
Equ
Pav
Oct
Men
LMC
Hyades
M45
Tri
M33
Peg
Cap
Mic
Ind
Dor
Pic
Col
Tau
Ari
Cae
Tuc
Ret
Aqr
PsA
Hor
Psc
Gru
Eri
Cet
Scl
Phe
For

wishlist !



Bulk download (rsync, scp)
Selection of targets (deferred jobs)
Single spectra on the fly (button click)
VO Tables, CSV, FITS (!)

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