



PONTIFICIA UNIVERSIDAD CATÓLICA DE CHILE

VVV Bulge Catalogues and CMDs

*2nd VVV Science Meeting
OIRGP Surveys Meeting*

*University of Hertfordshire,
July 19, 2011*

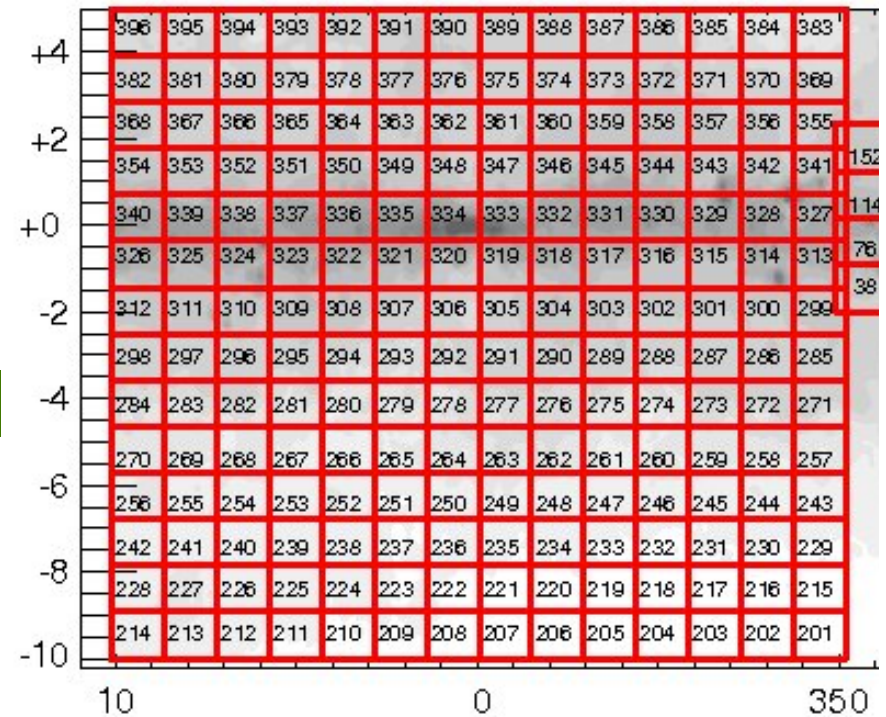
**Roberto K. Saito,
Dante Minniti,
et al.**





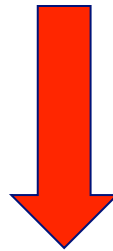
VVV bulge colour catalogues:

- First year data
- Bulge: ZY (~40%)
JHKs (~90% → 174/196 tiles)
- CASU Catalogues (JHKs): tiles (`#_t1_cat.fits`), Completed, v1.1 (v1.2 released on July 12, 2011)





fitsio_cat_list



awk
Programming



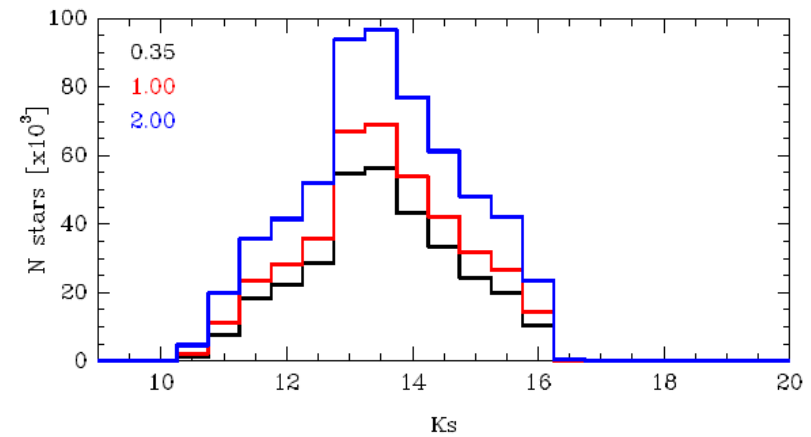
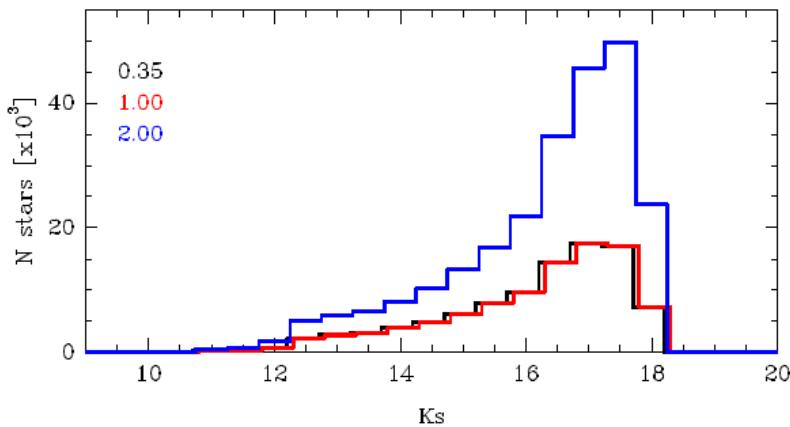
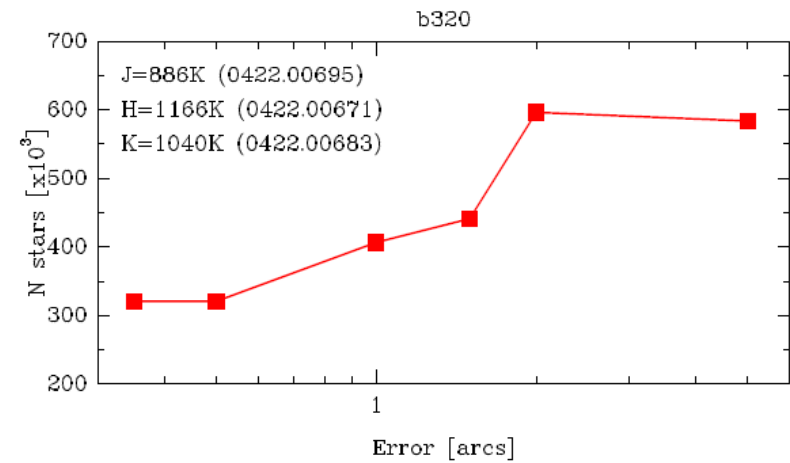
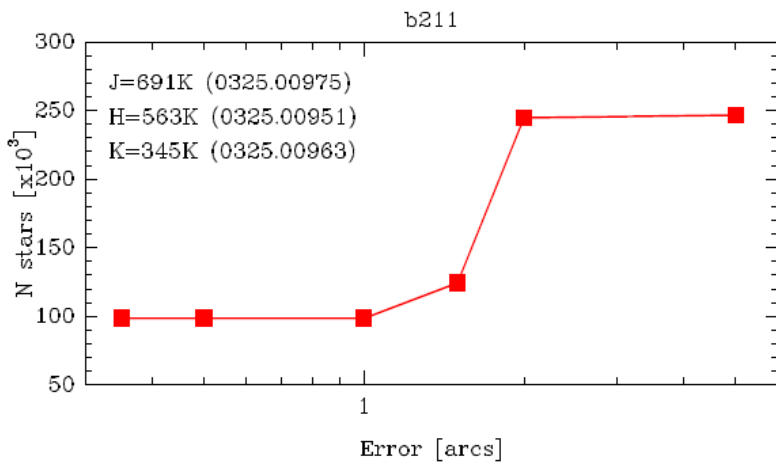
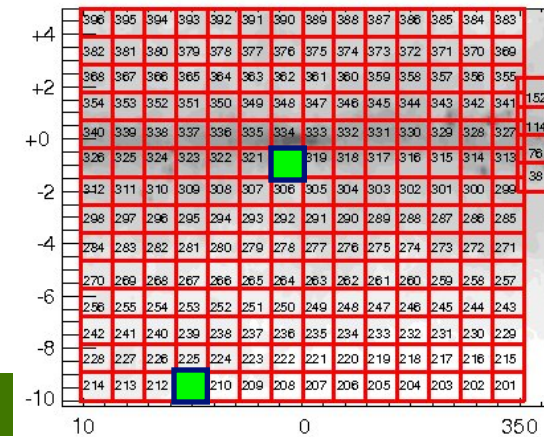
TOPCAT

YOU CAN'T JUST TURN ON
CREATIVITY LIKE A FAUCET.
YOU HAVE TO BE IN THE
RIGHT MOOD.



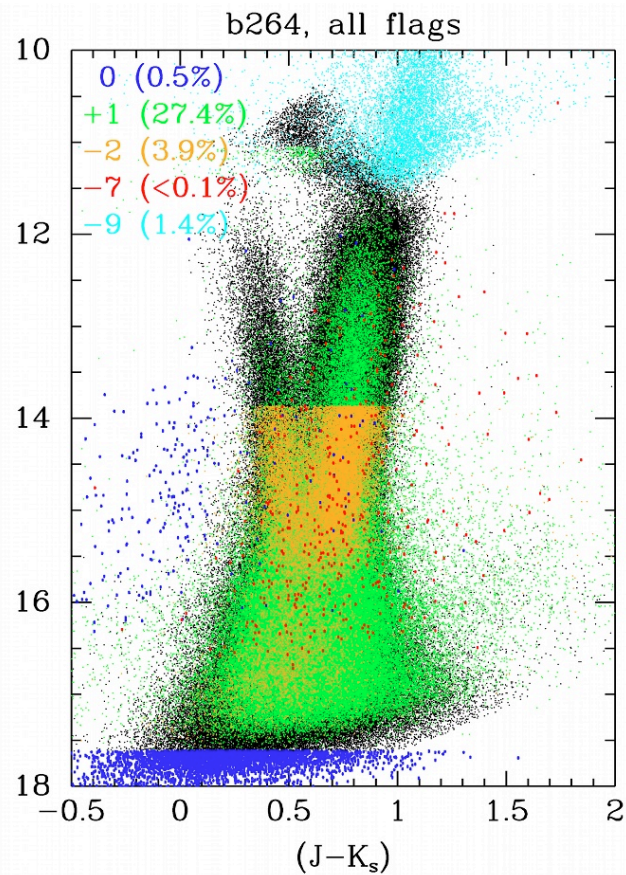
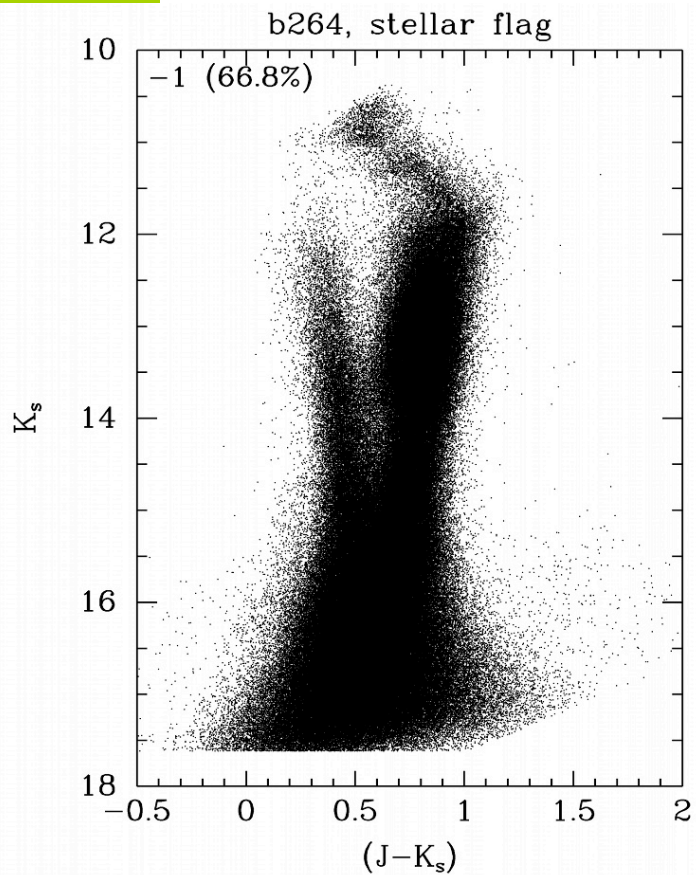
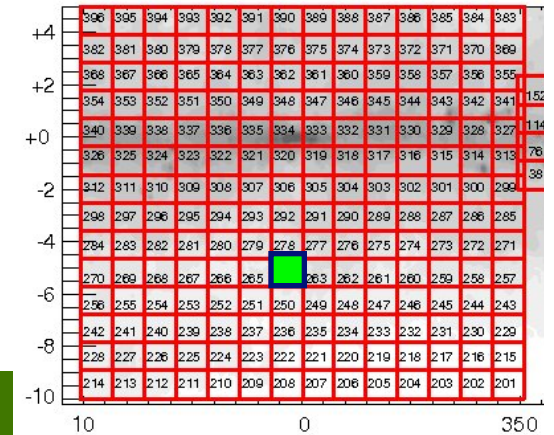


Performance tests:





Performance tests:



- Photometric flags:**
- 1 → stellar
 - 0 → noise
 - +1 → non-stellar
 - 2 → borderline stellar
 - 7 → extended sources
 - 9 → desaturated stars

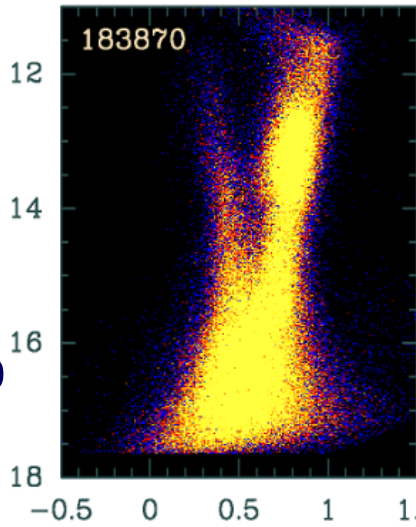


Performance tests:

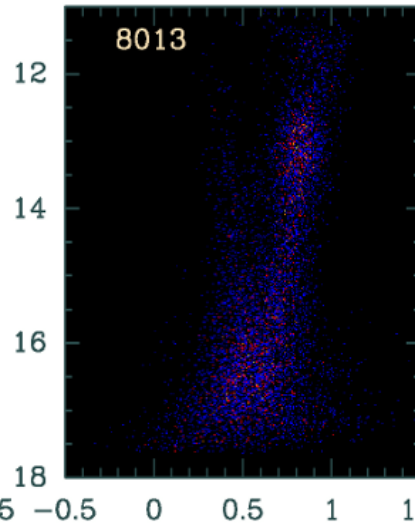
Original data

Random mags

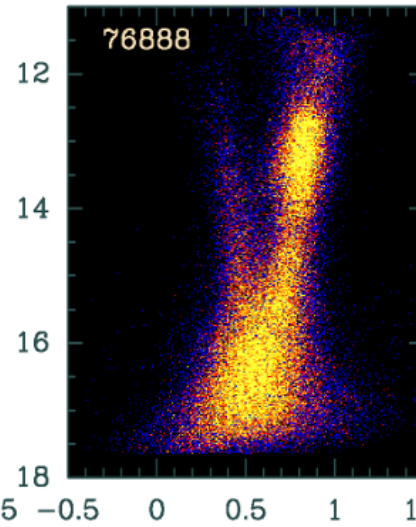
separation < 0.40 arc
level 0



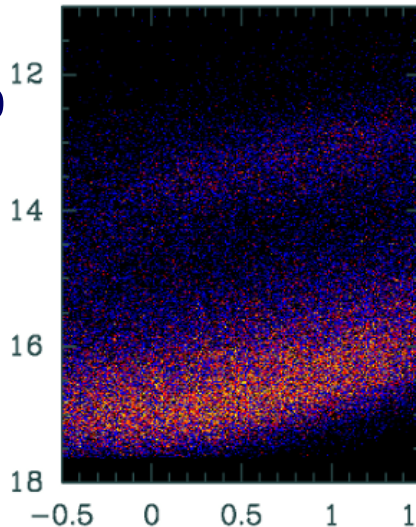
0.40 < sep < 0.70
level 1



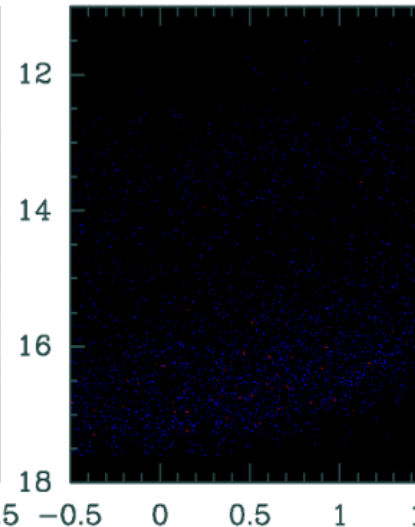
0.70 < sep < 1.00
level 2



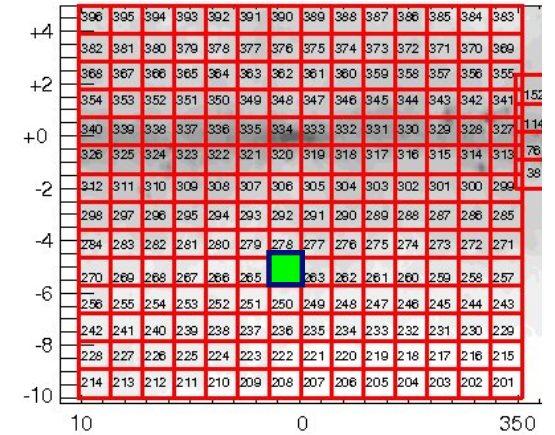
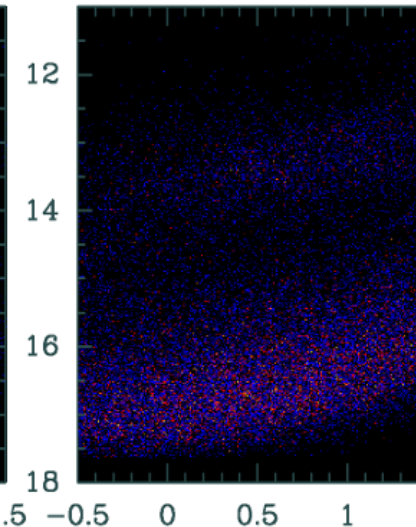
level 0



level 1



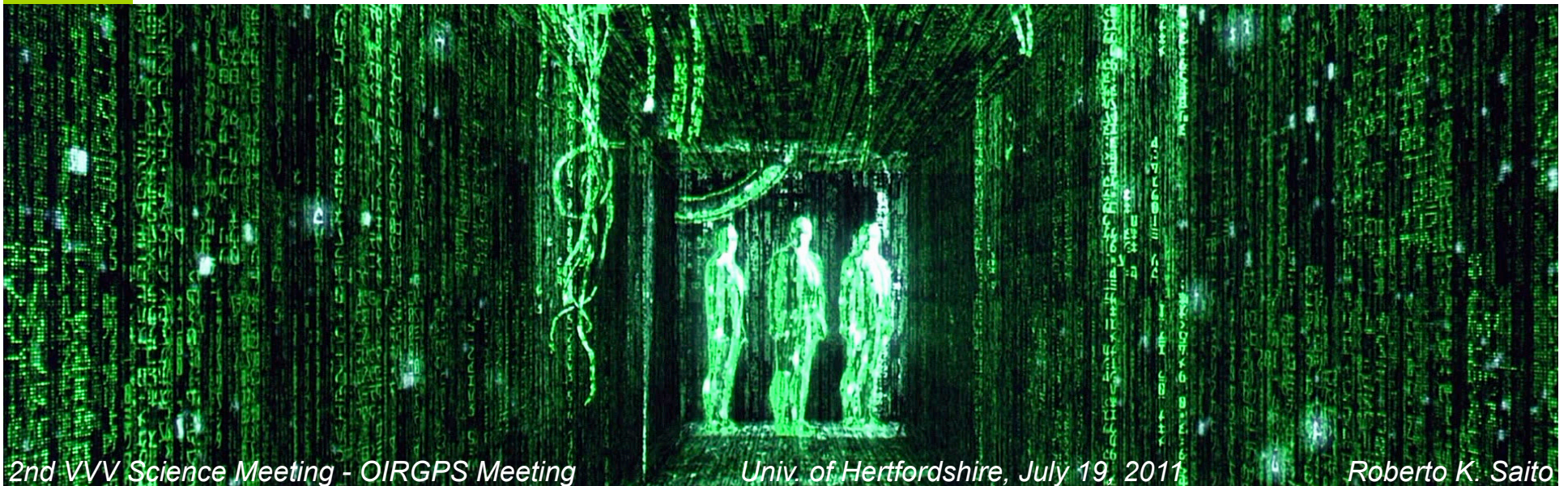
level 2





Some numbers:

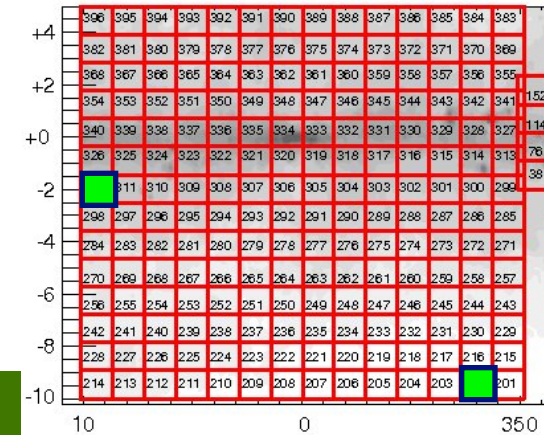
- 174 tiles x J,H,Ks = 522 catalogues
- up to 1.5M sources per tile catalogue
- i3/3GB laptop powered by Linux (Draco)





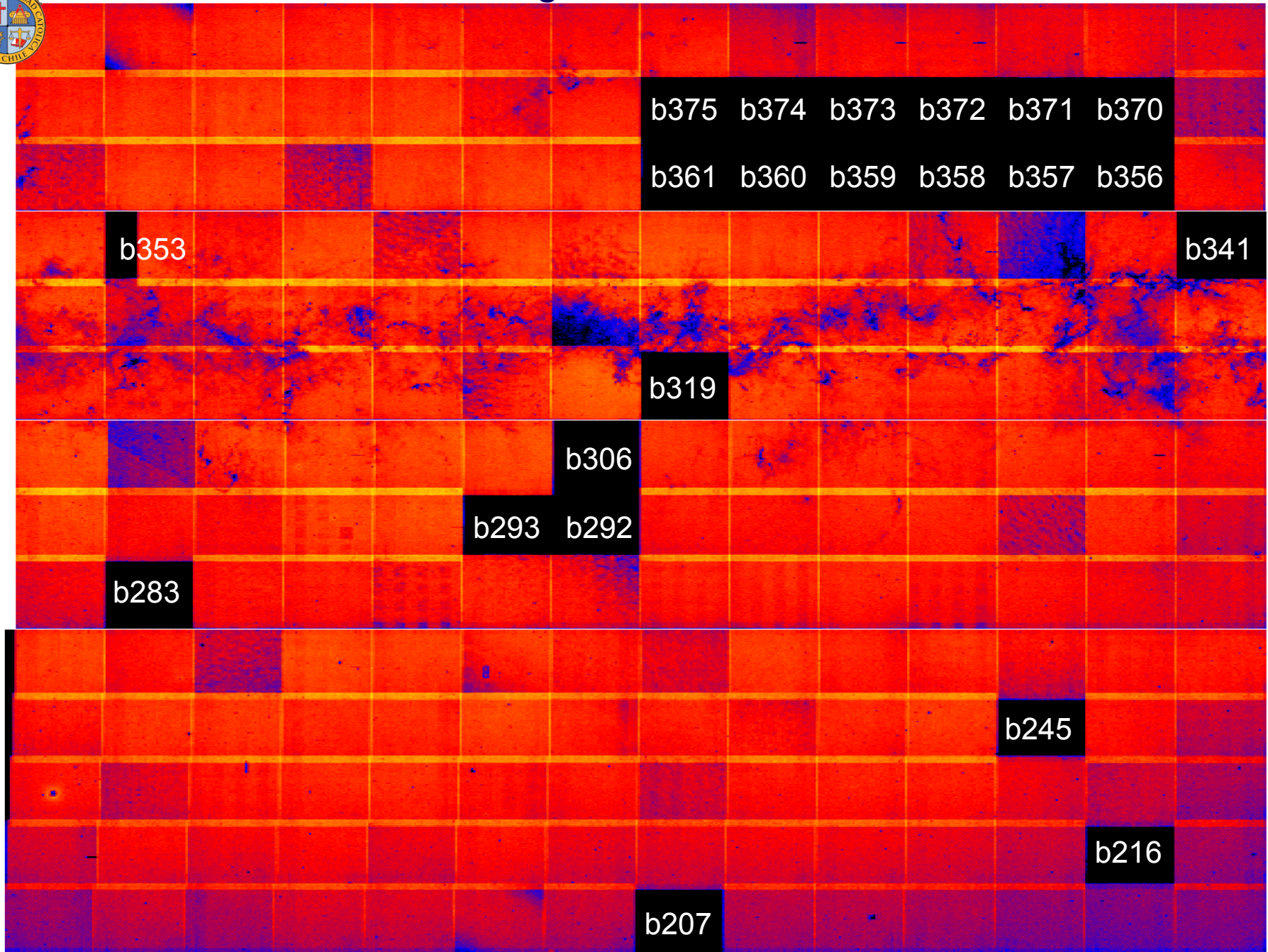
Some numbers:

- 75-85% of the shortest catalogue (usually K_s)
- b202: 341,992 sources
- b312: 1,085,454 sources
- ~100-200MB in disk / catalogue
- **131,458,624** sources (all flags)
- >500K stars/sqdeg



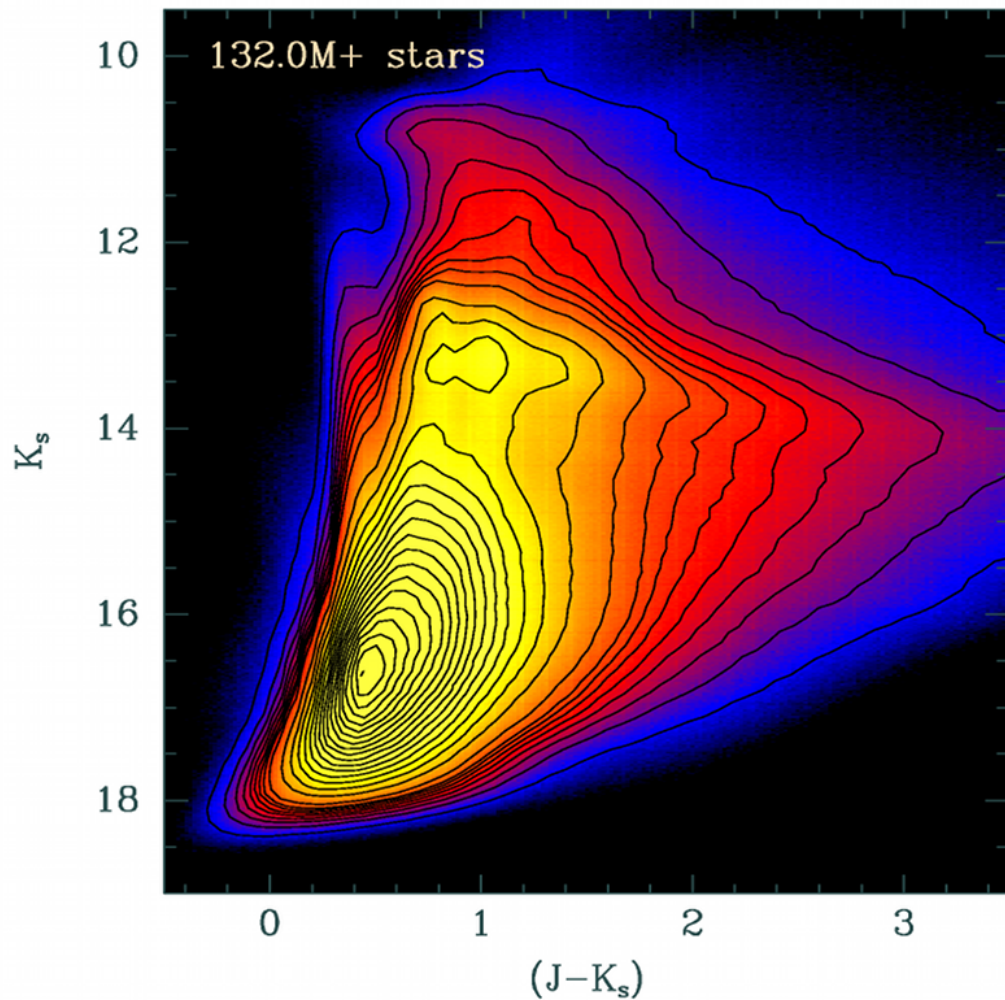


VVV Bulge Area: 131M+ stars

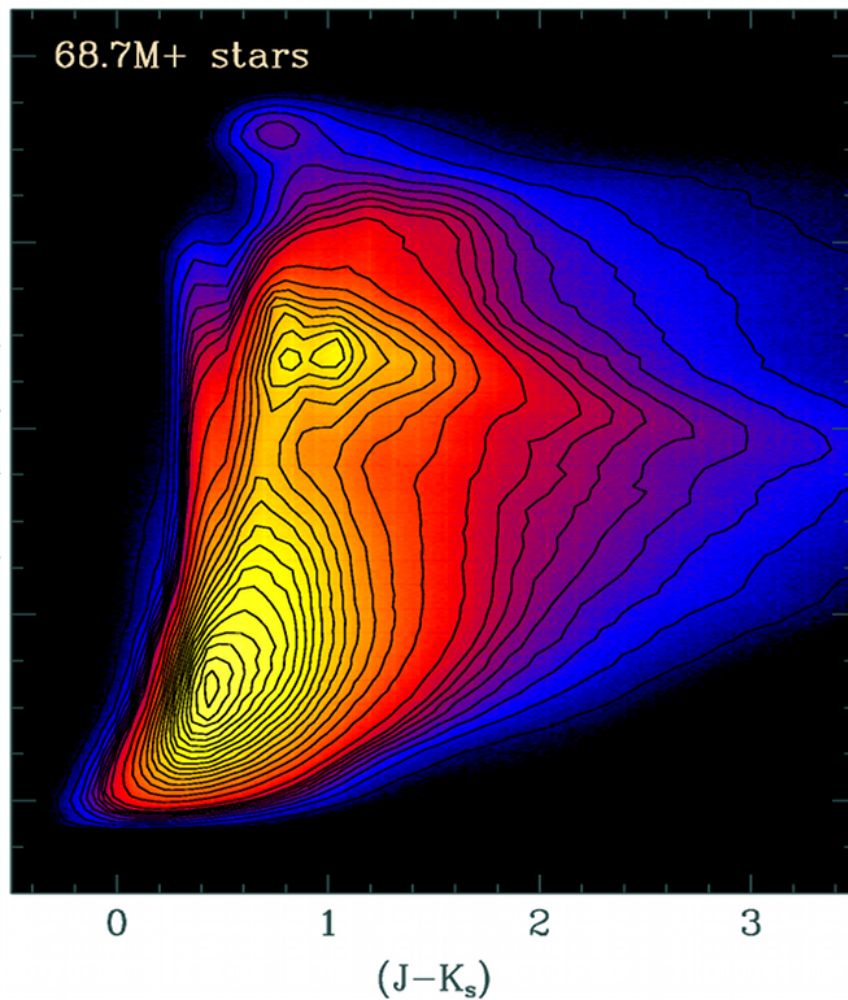




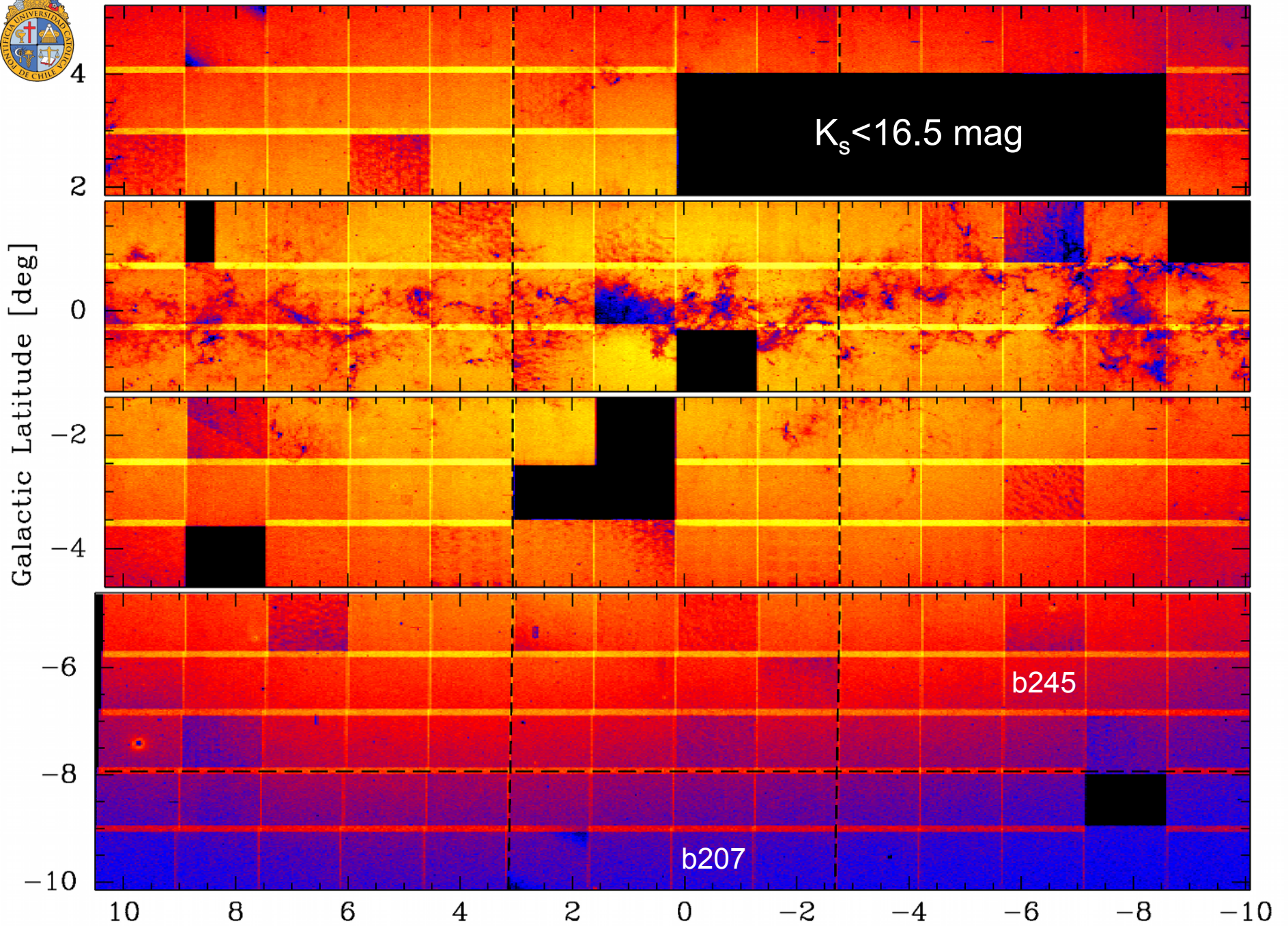
all flags



stellar flag

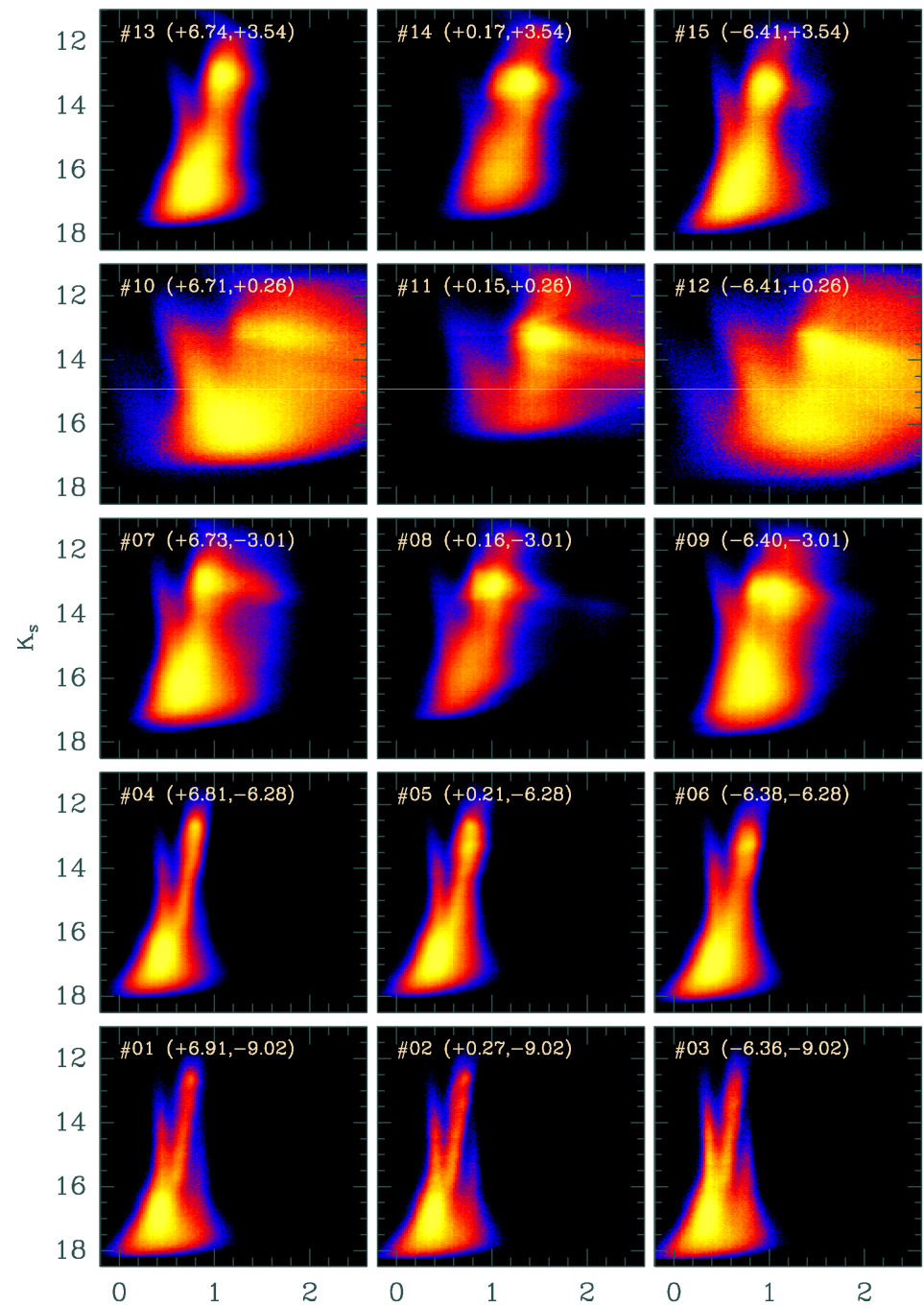
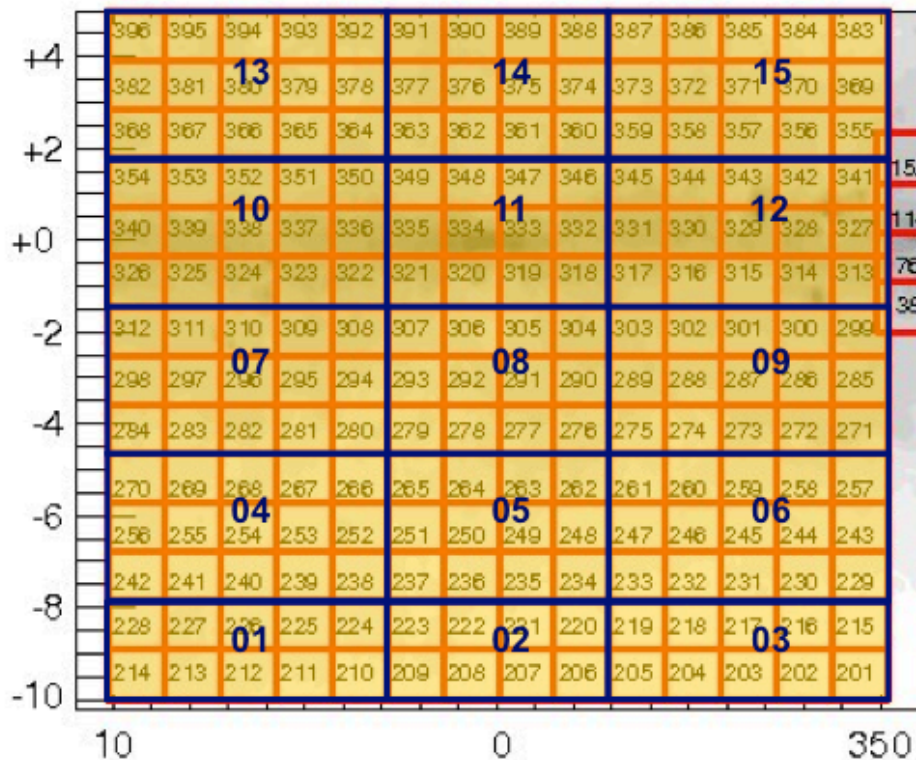


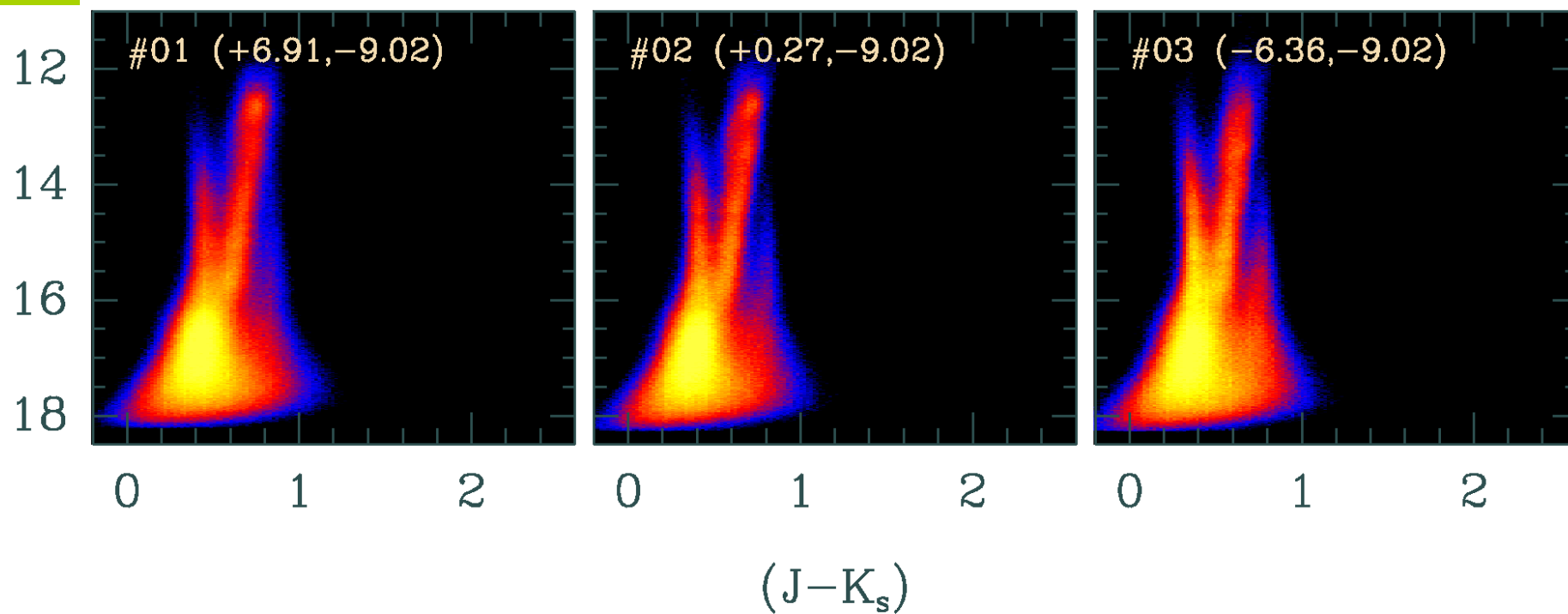
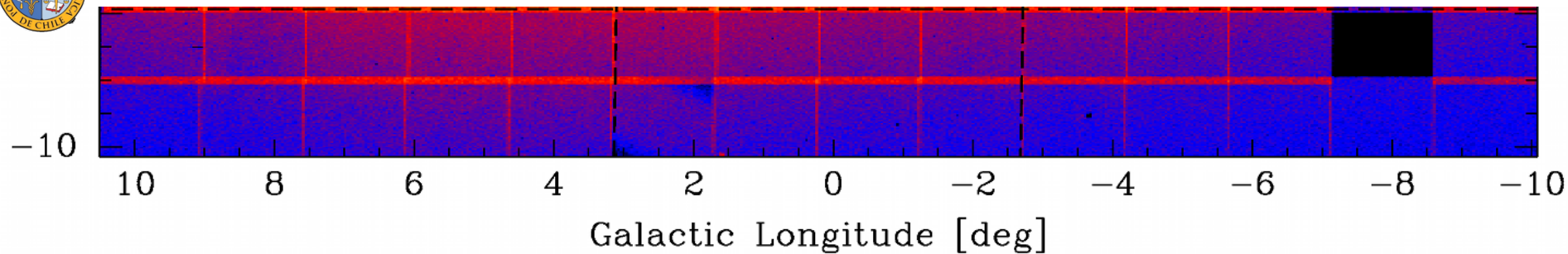
* including b207 and b245, 132M+ sources

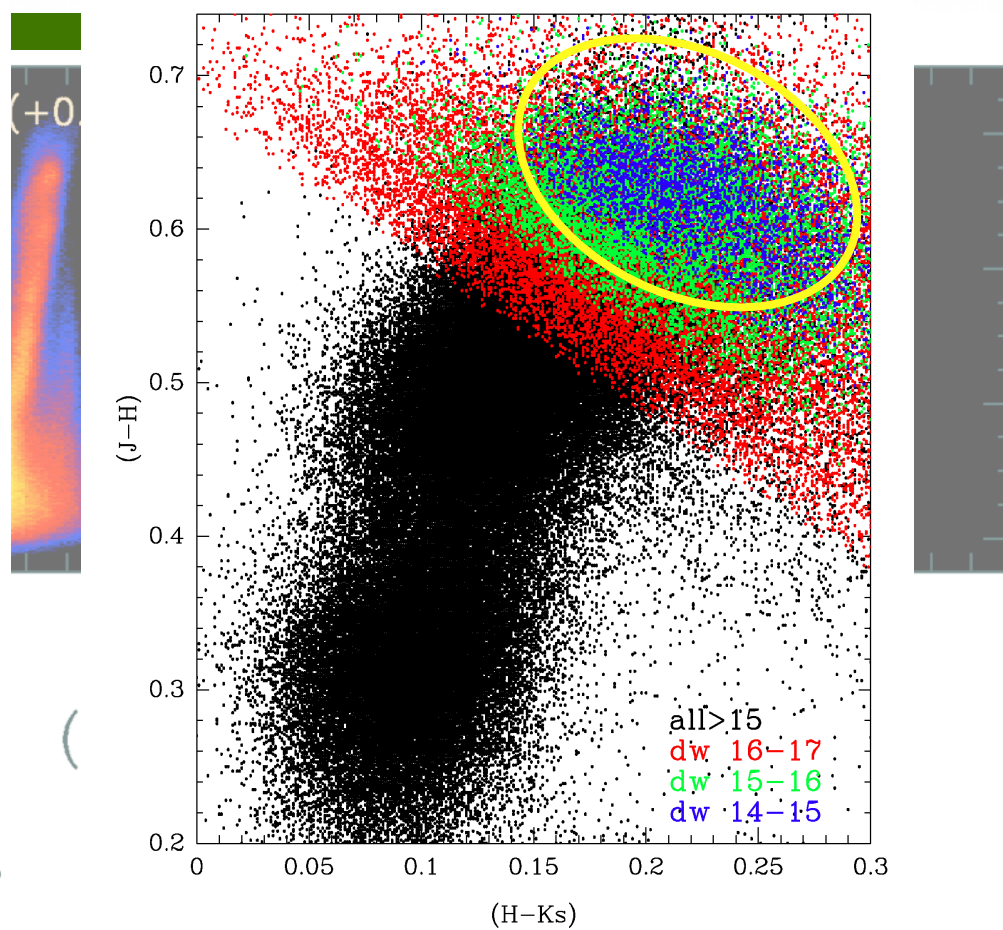
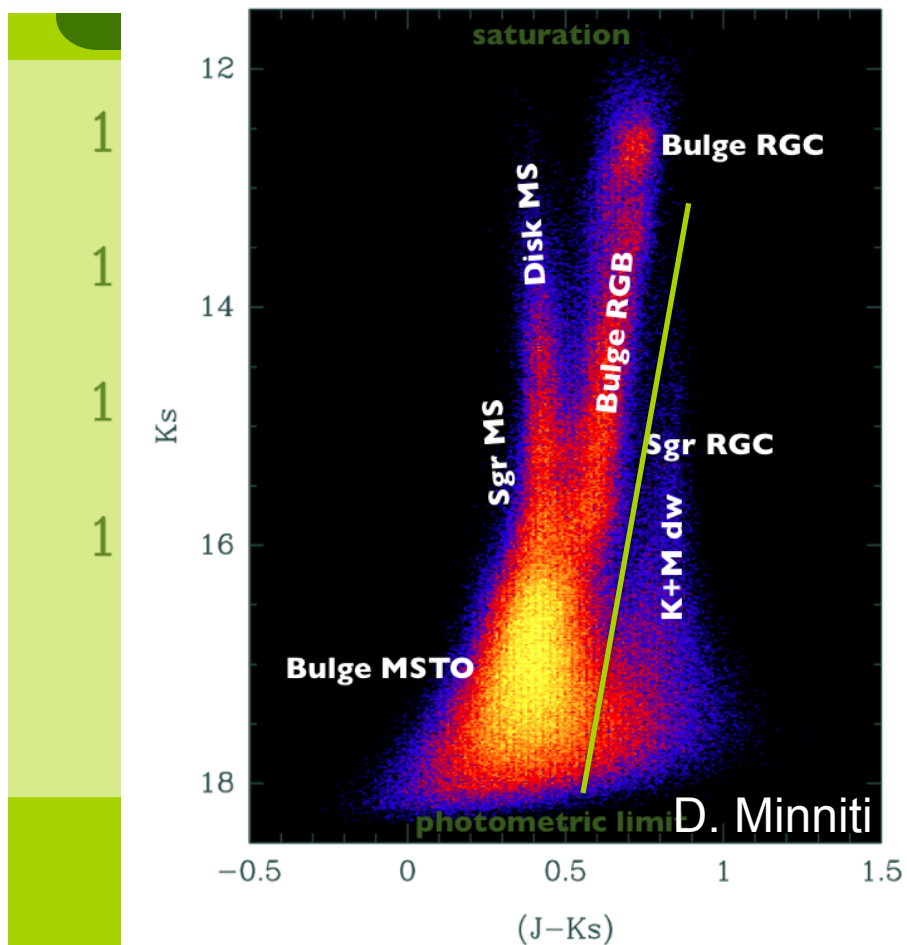
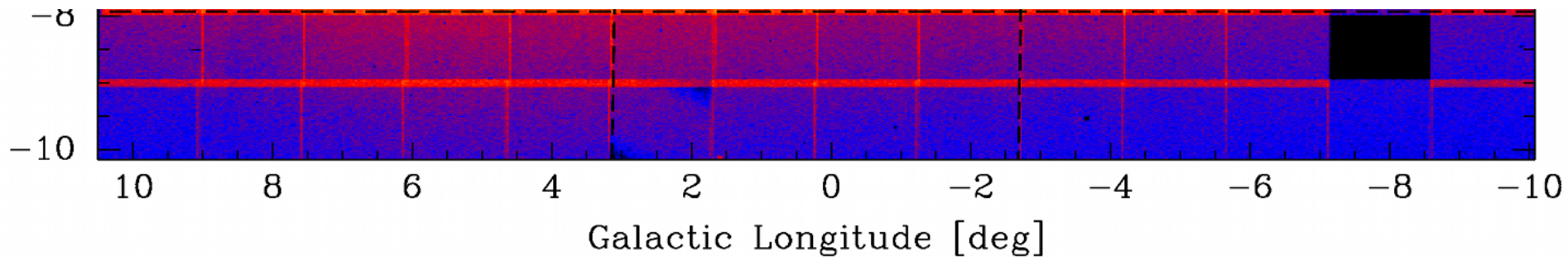


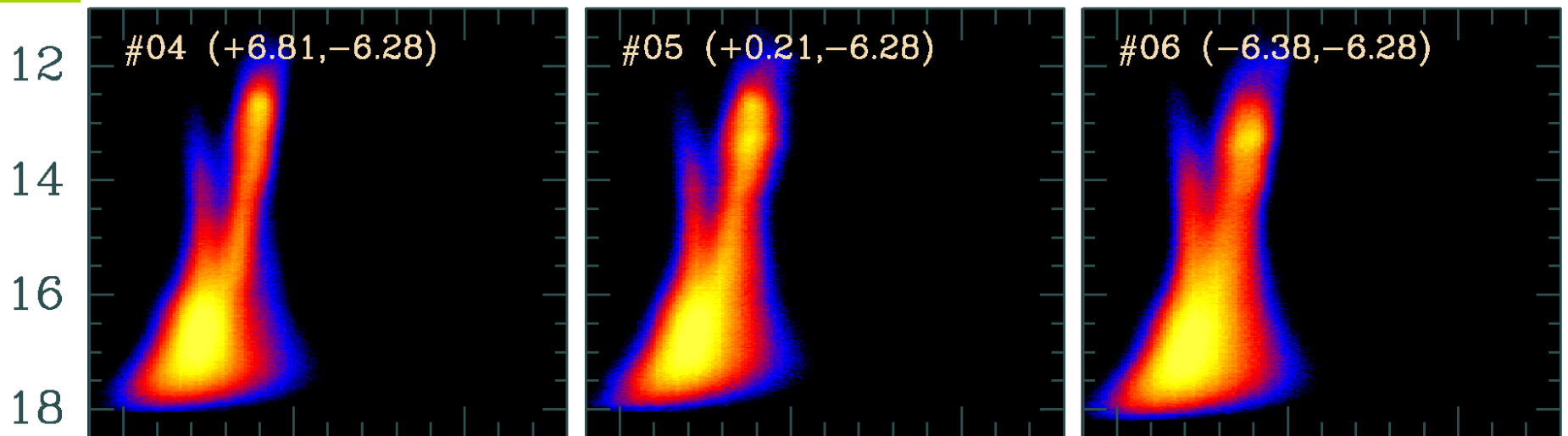
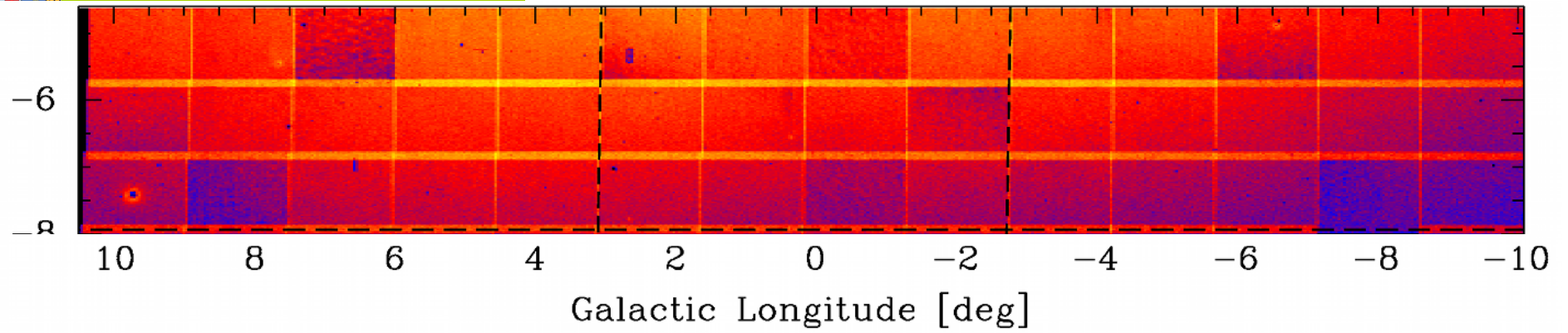


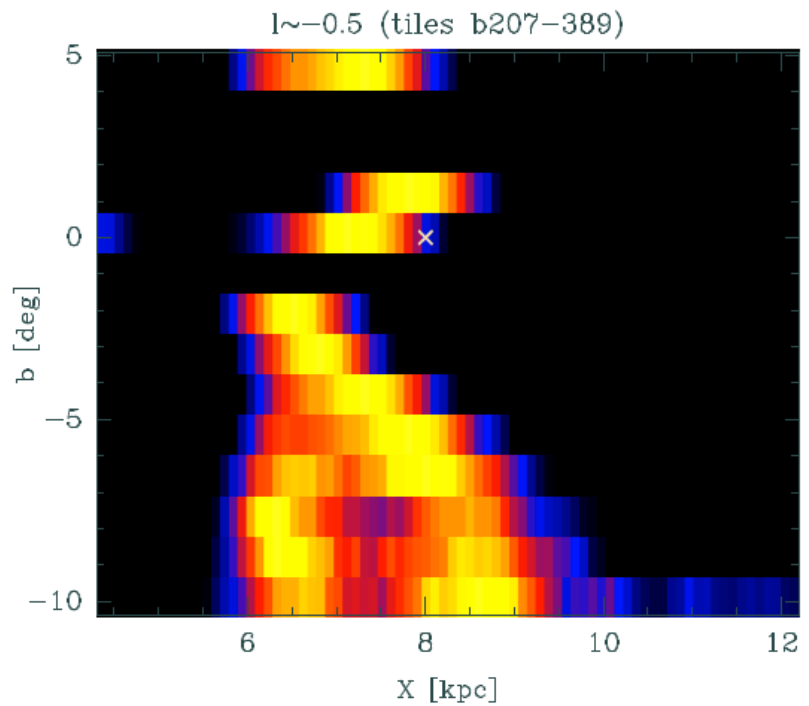
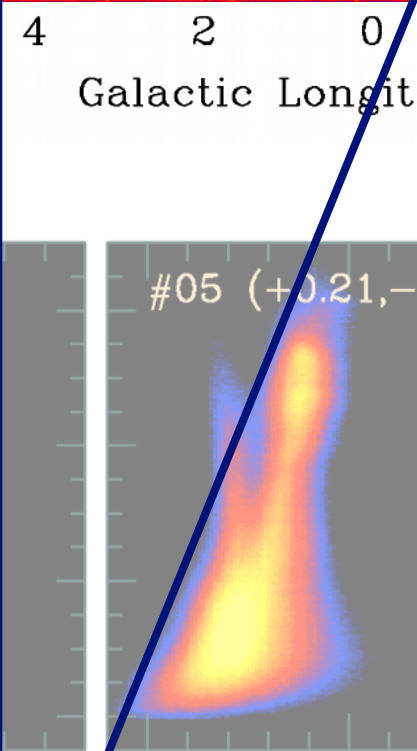
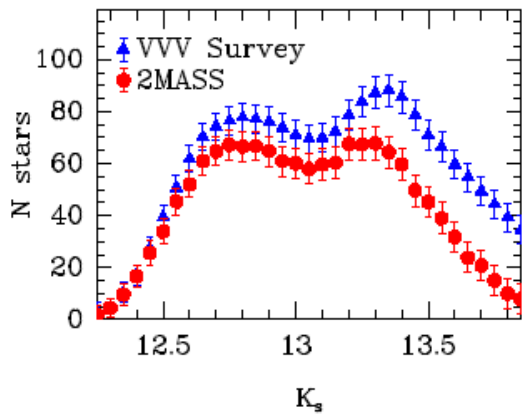
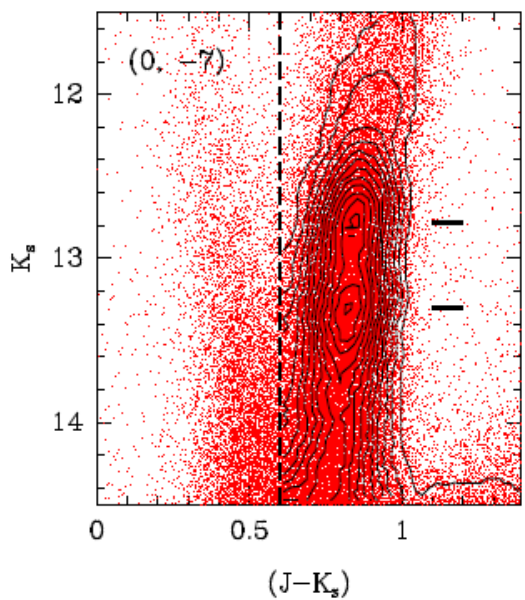
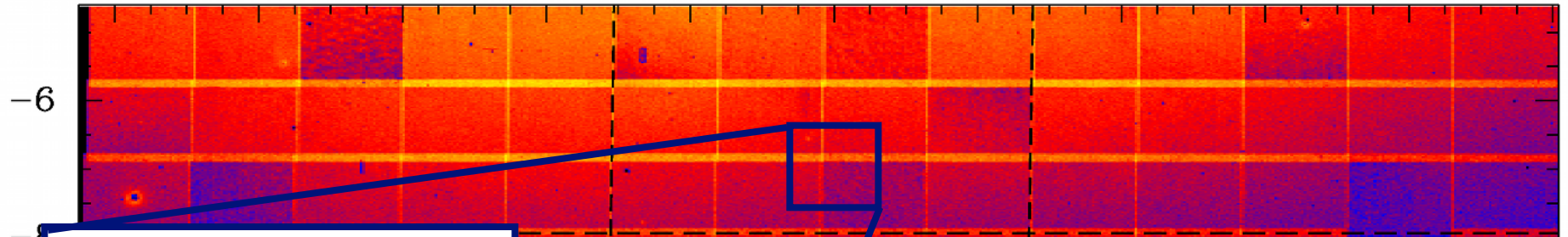
15 areas:
8-15 tiles each one





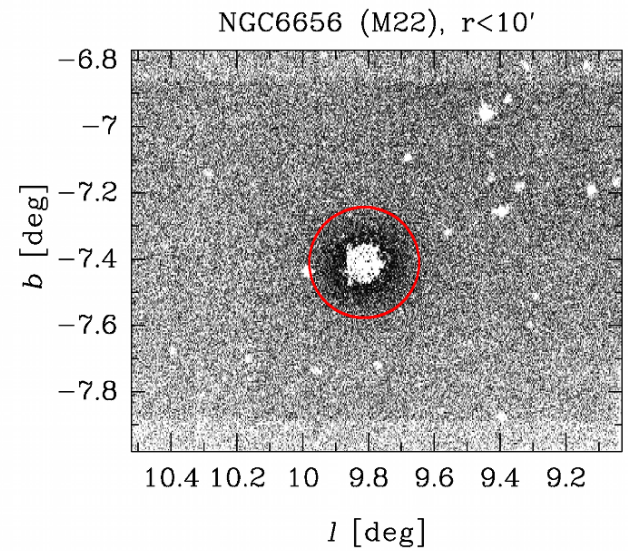
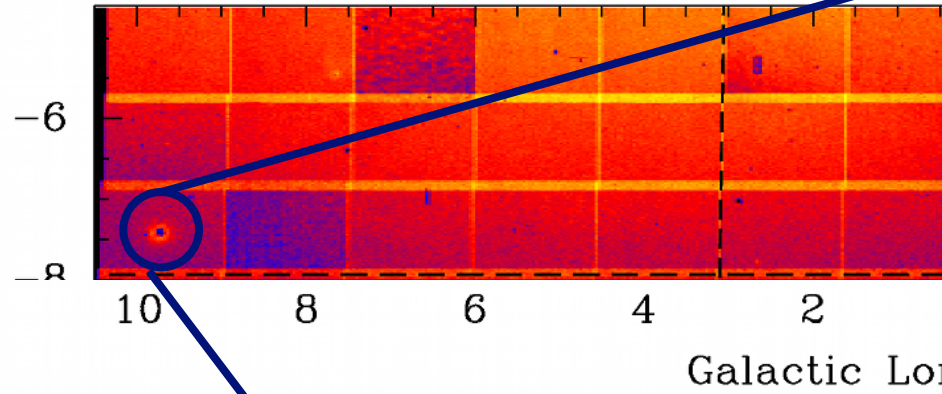




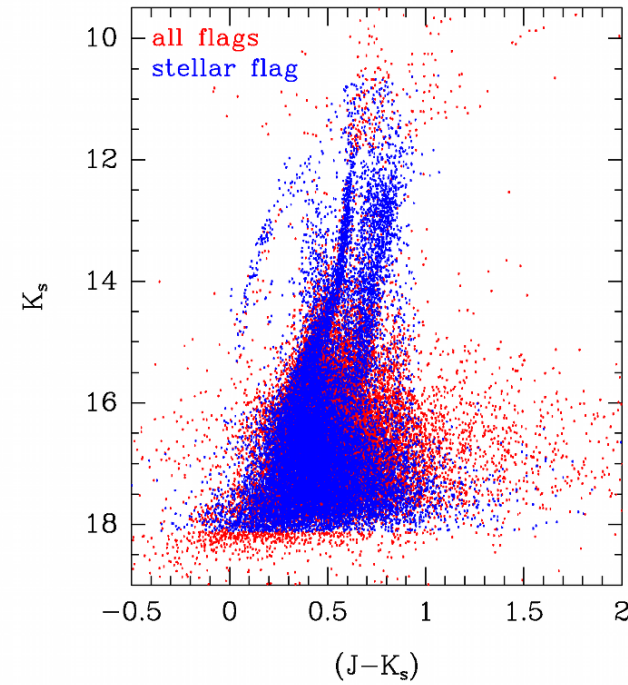
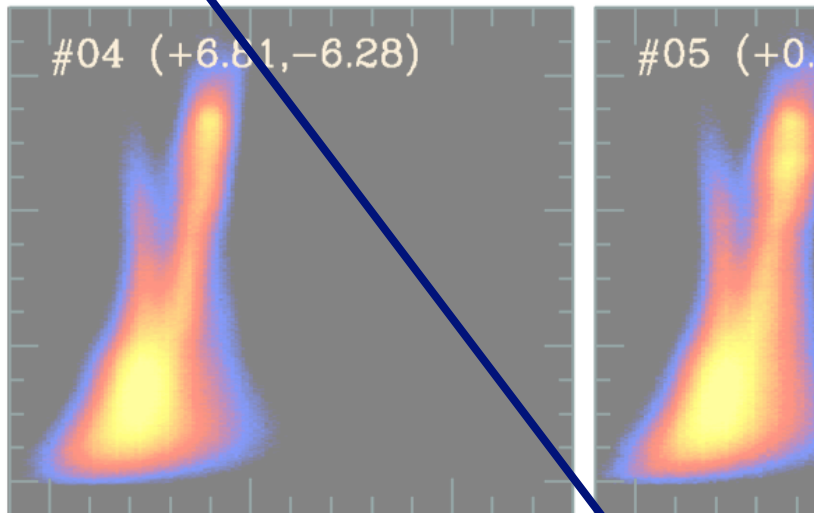


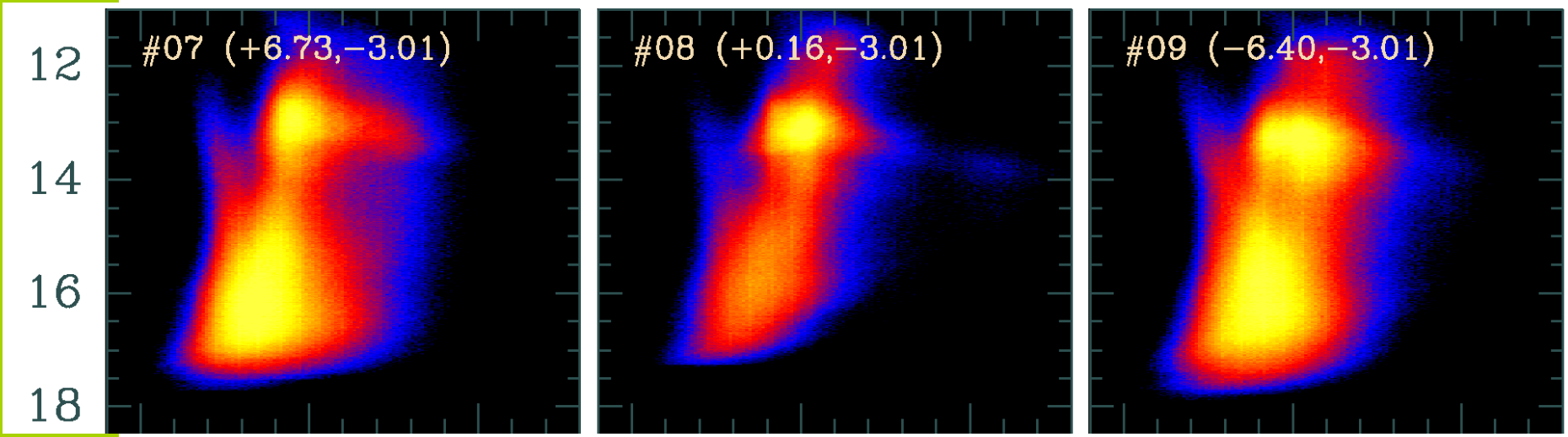
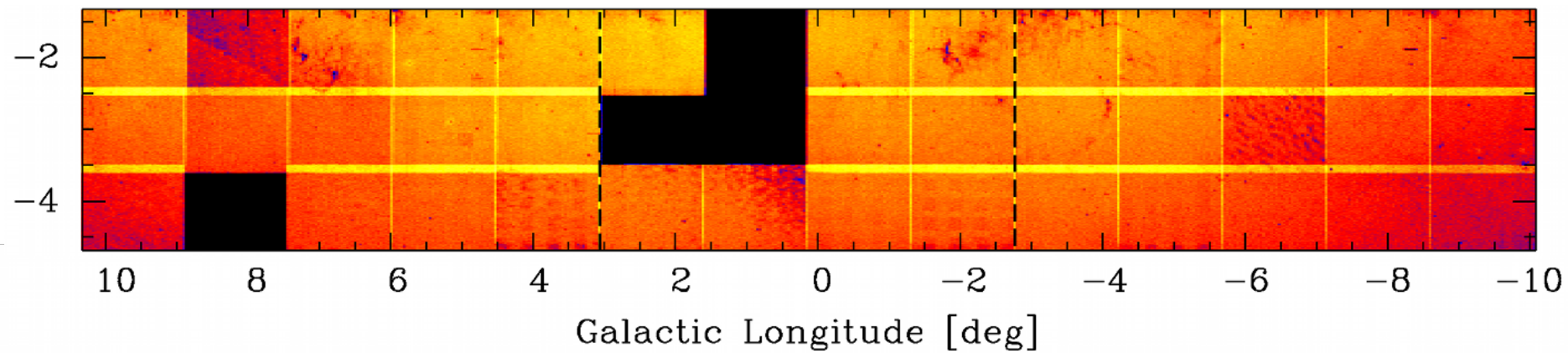
Mapping the X-shaped MW bulge, Saito et al. 2011, AJ, in press

Reddening-Free Indices for the VISTA/VVV Filter System, poster by Catelan et al.



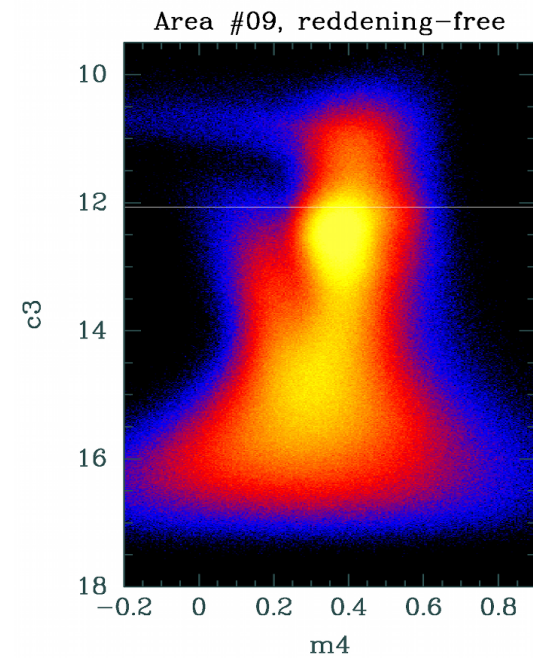
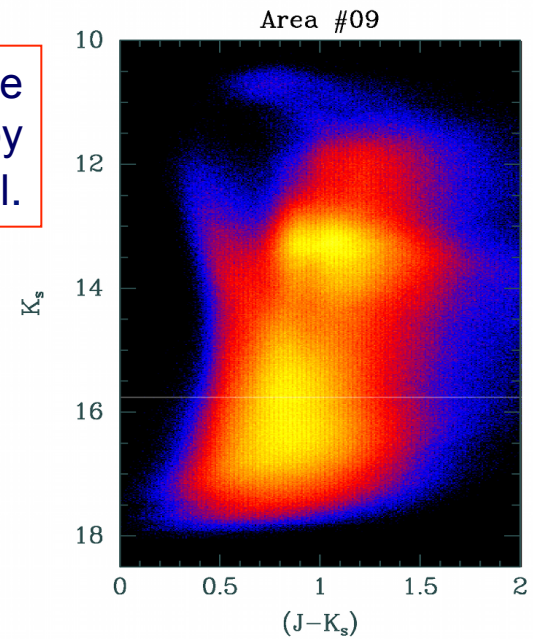
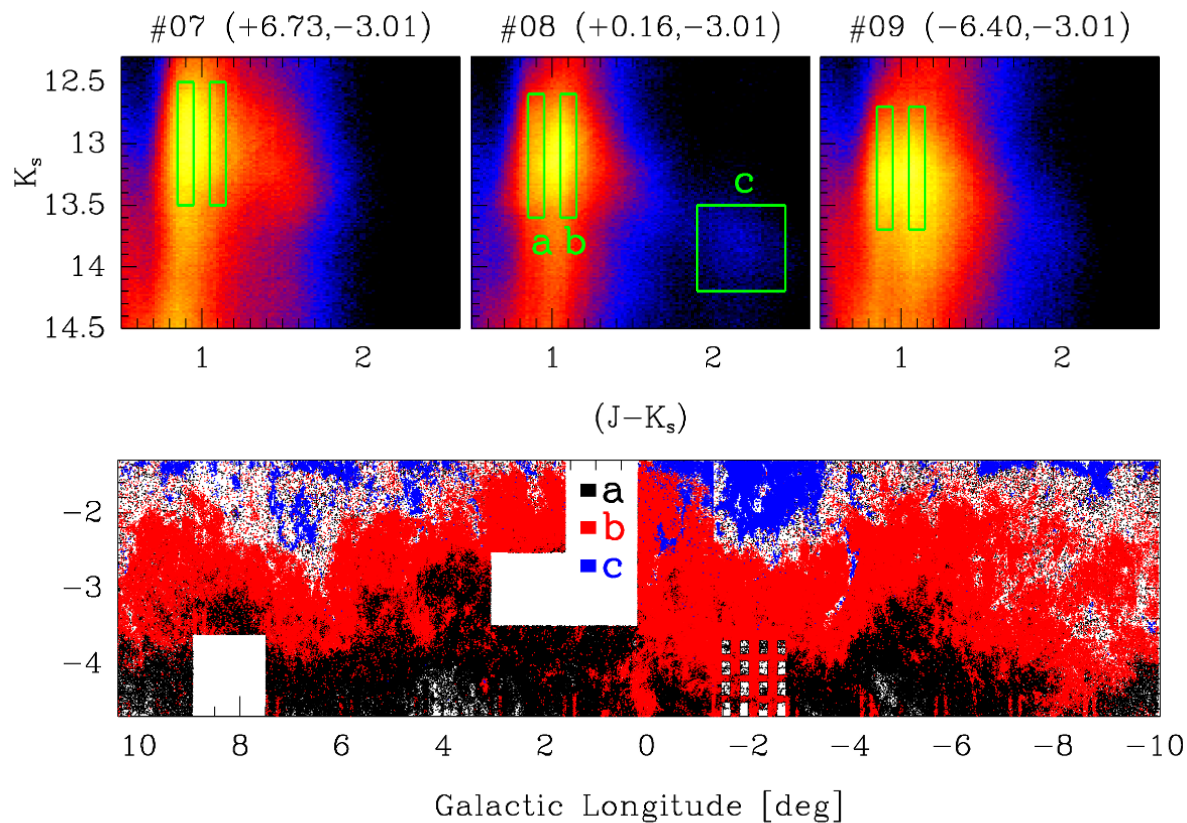
12
14
16
18

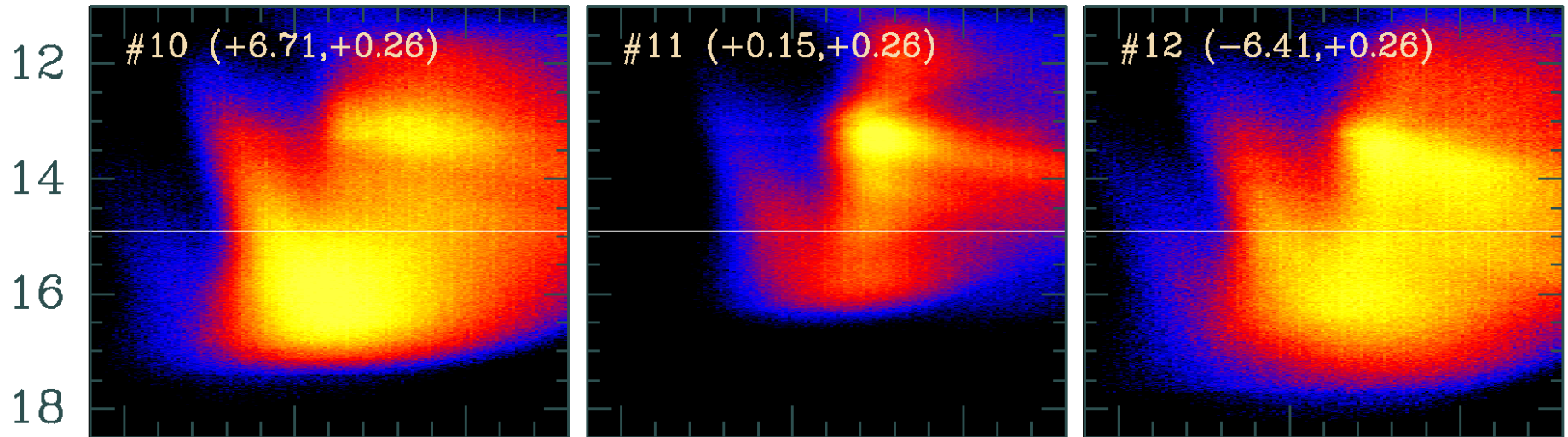
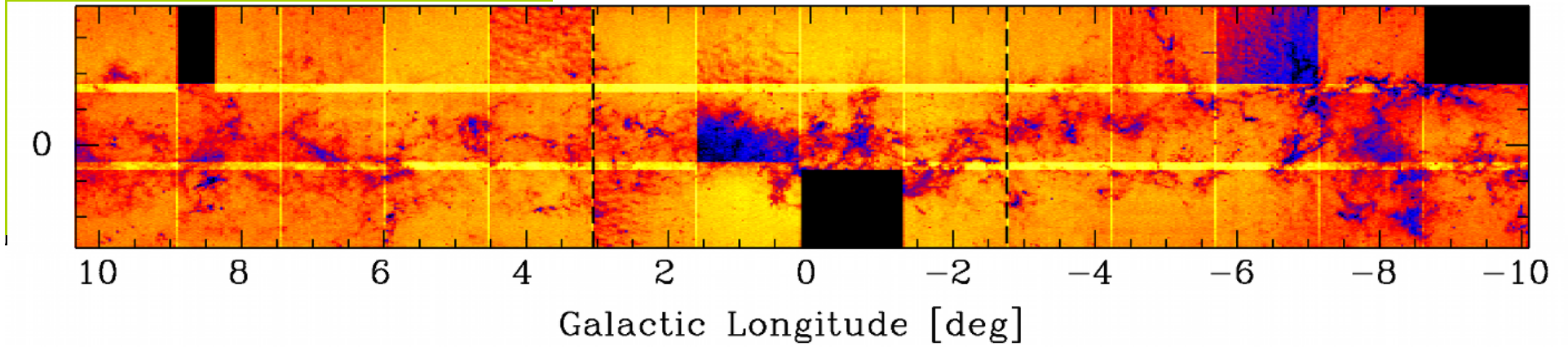






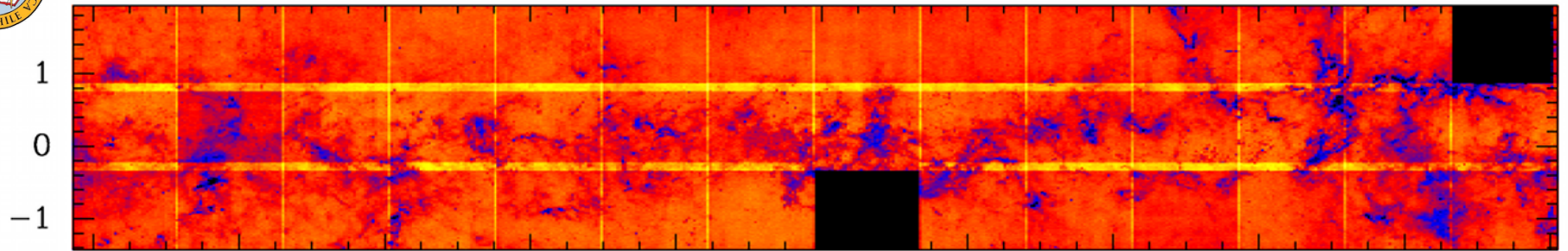
Reddening-Free Indices for the VISTA/VVV Filter System, poster by Catelan et al.



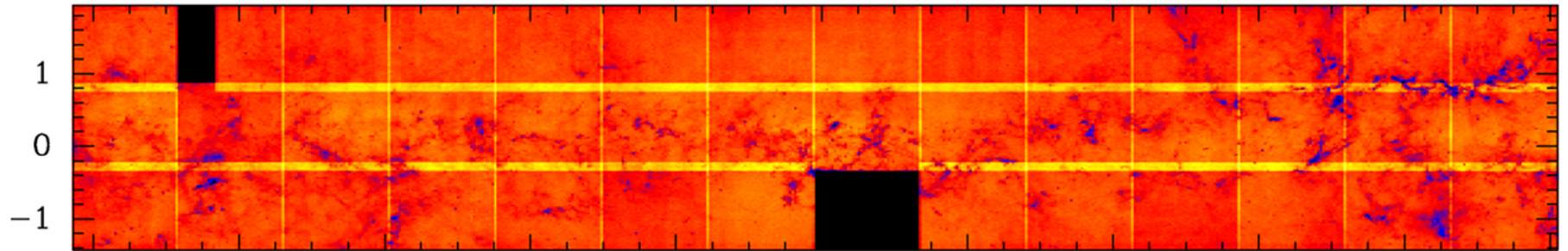




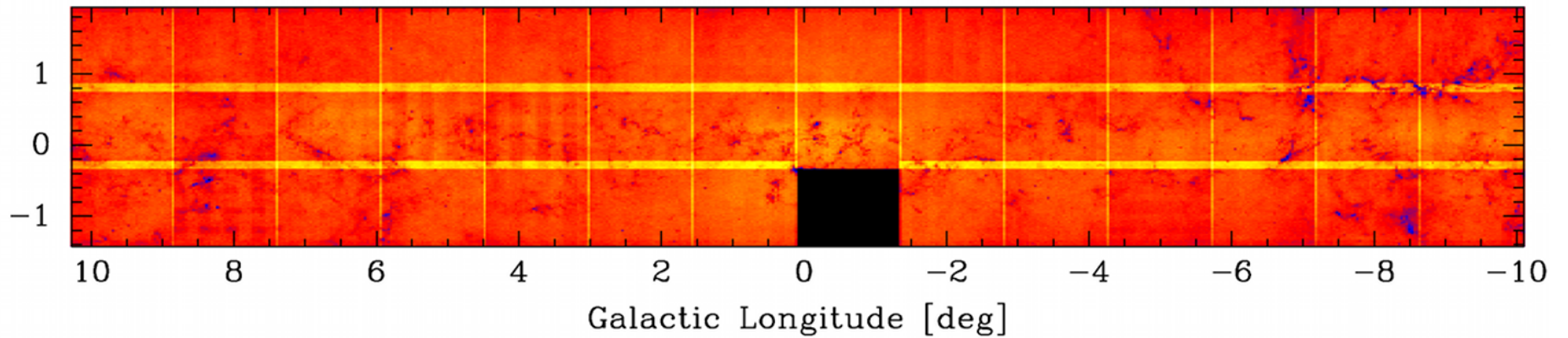
J-band, 48.1M+ stars



H-band, 53.1M+ stars



K_s -band, 53.3M+ stars



Galactic Longitude [deg]

