

Lyman break galaxy population of $z > 3$ radiogalaxies

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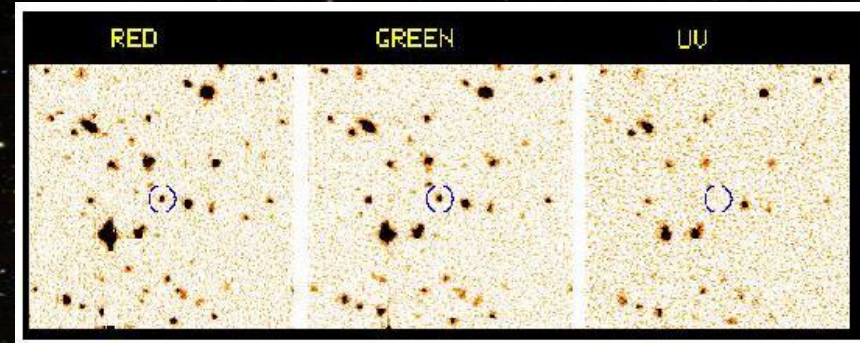
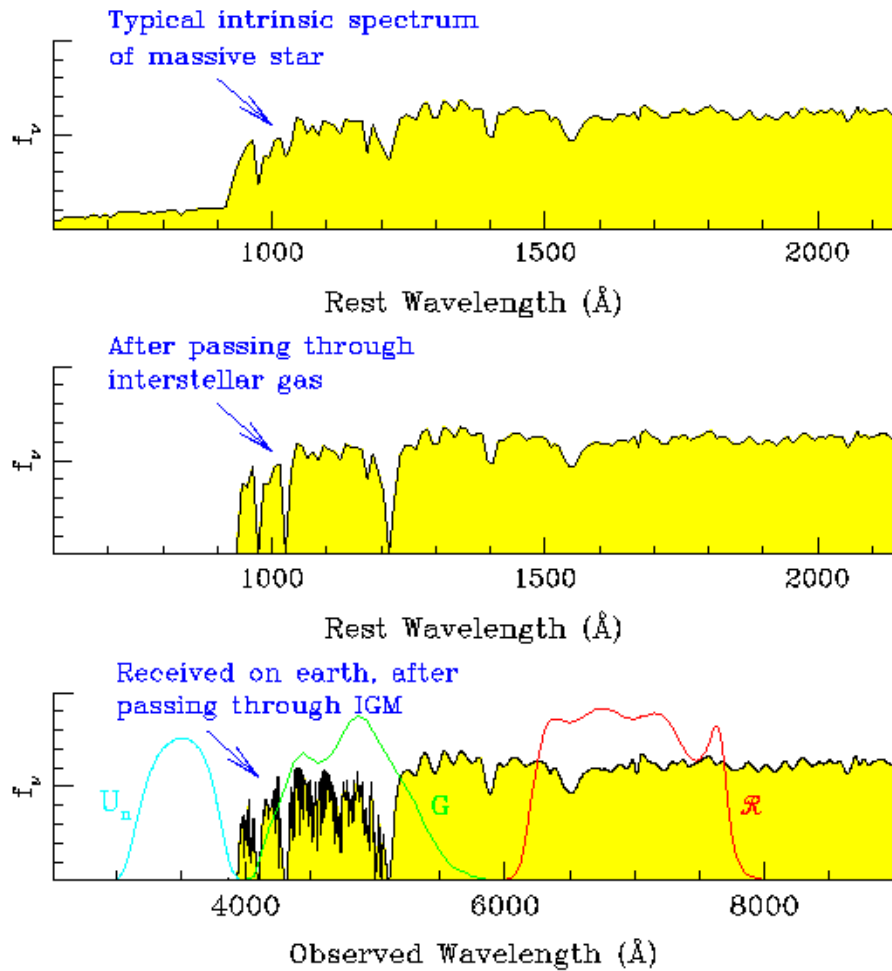


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NACIONAL
DE CORDOBA



Lyman break technique



Pioneer work : Partridge & Peebles 1967

Steidel et al. 1996

Steidel et al. 1999

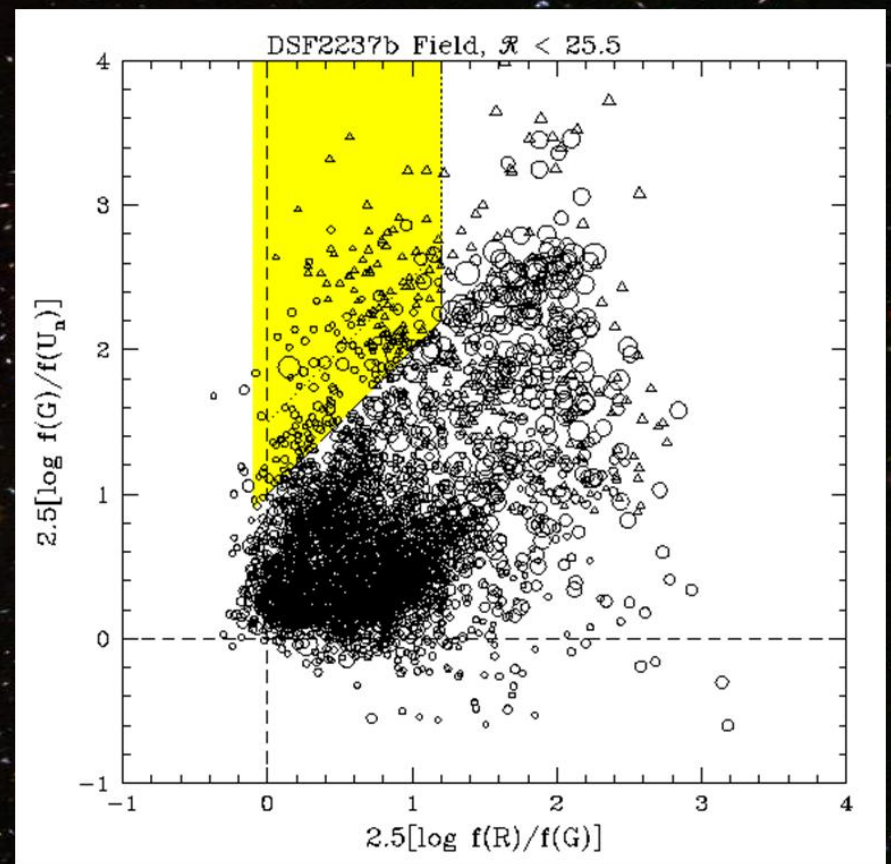
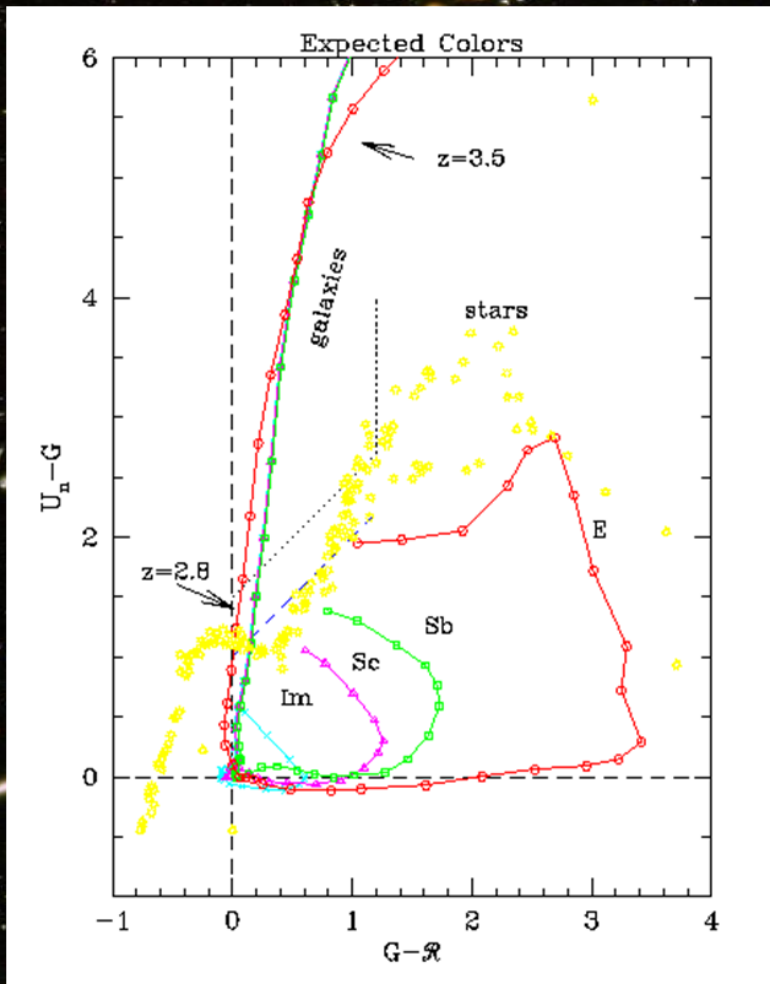
Steidel et al. 2003

Steidel & Hamilton 1992

Galaxy color evolution

Models & Theory

Observations



Intema et al. (2006)

LBGs in the field of TNJ1338-1942

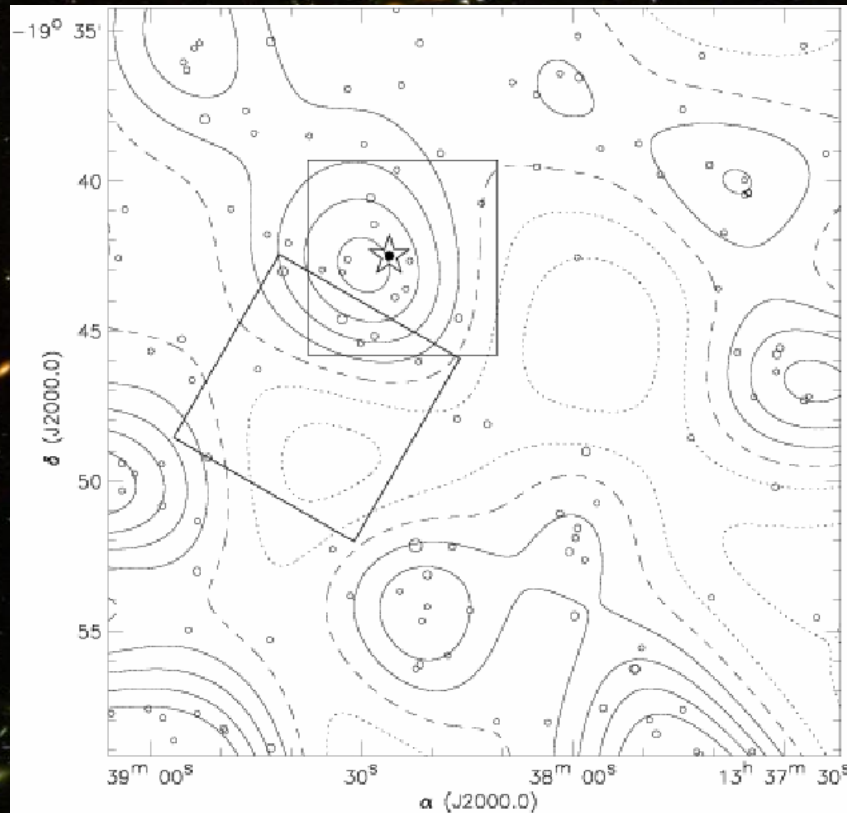


Figure 1. Projected distribution of 125 bright LBGs (open circles; diameter scales with brightness; $21.5 < i' < 25.0$) in the TN J1338–1942 field, including TN J1338–1942 (filled circle within star). The projected density contours (curved lines), obtained by gaussian smoothing, reveal overdense (solid lines; $\Delta = 0.25, 0.50, 0.75, 1.00$ from edge to center) and underdense regions (dotted lines; $\Delta = -0.25, -0.50, -0.75$ from edge to center) relative to a mean density of 0.21 per square arcminute (dashed line). TN J1338–1942 inhabits a significant overdense area, probably associated with the protocluster found by Venemans et al. (2002). The rectangles represent the two fields that were used by Venemans et al. (2002) and Venemans (2005) to search for LAEs.

Why Radiogalaxies?

Radio Galaxy MRC 1138-262
The Spiderweb Galaxy
HST • ACS/WFC



10''

**Previous work: Cross-correlation
function, Bornancini et al.
(2004, 2005, 2006, 2010)**

Radiogalaxy Sample

Name	R.A	Dec.	z	Pot (1.4 GHz)
TN J1123-2154	11:23:10.2	-21:54:05	4.109	28.45
TXS 1545-234	15:48:17.5	-23:37:02	2.754	28.74

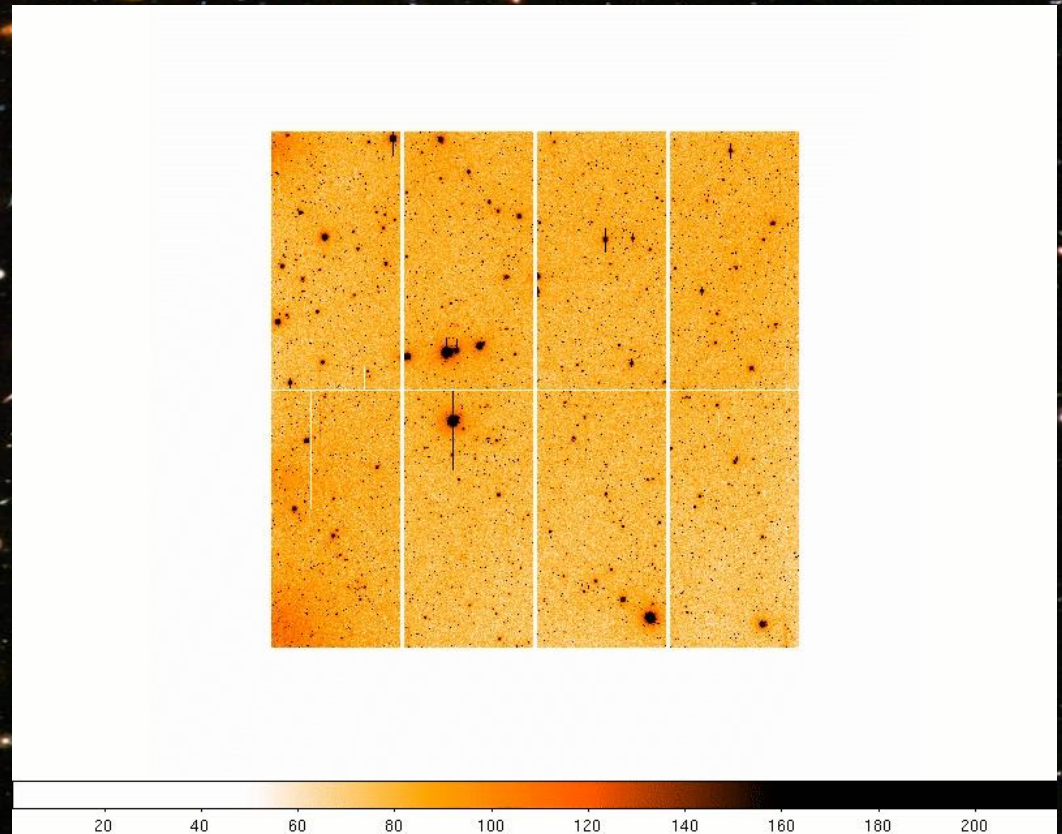
Name	R.A	Dec.	z	Pot (1.4 GHz)
TN J2007-1316	20:07:53.2	-13:16:44	3.837	29.13
NVSS J231727-352606	23:17:27.4	-35:26:07	3.874	28.71

Radiogalaxy Sample

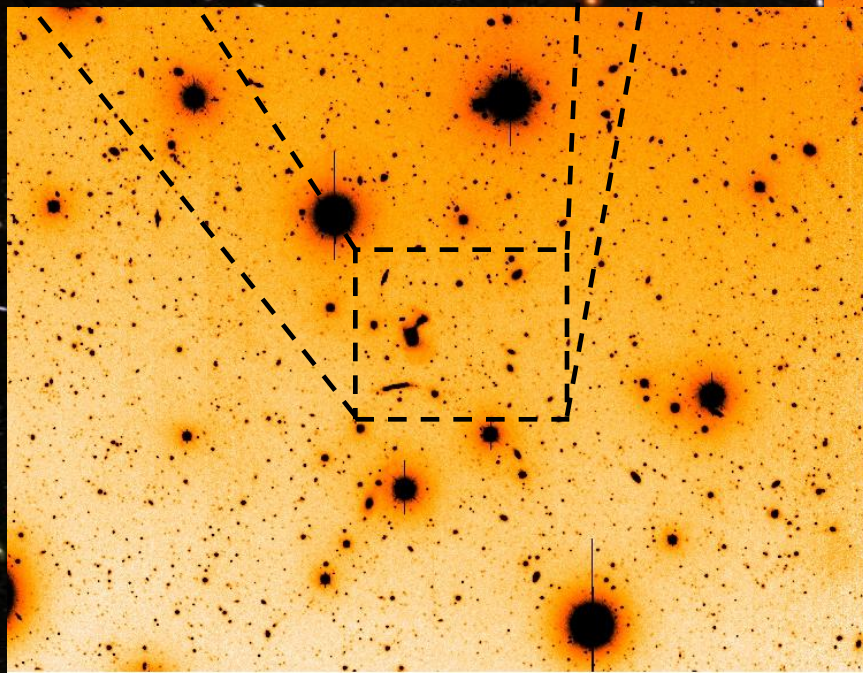
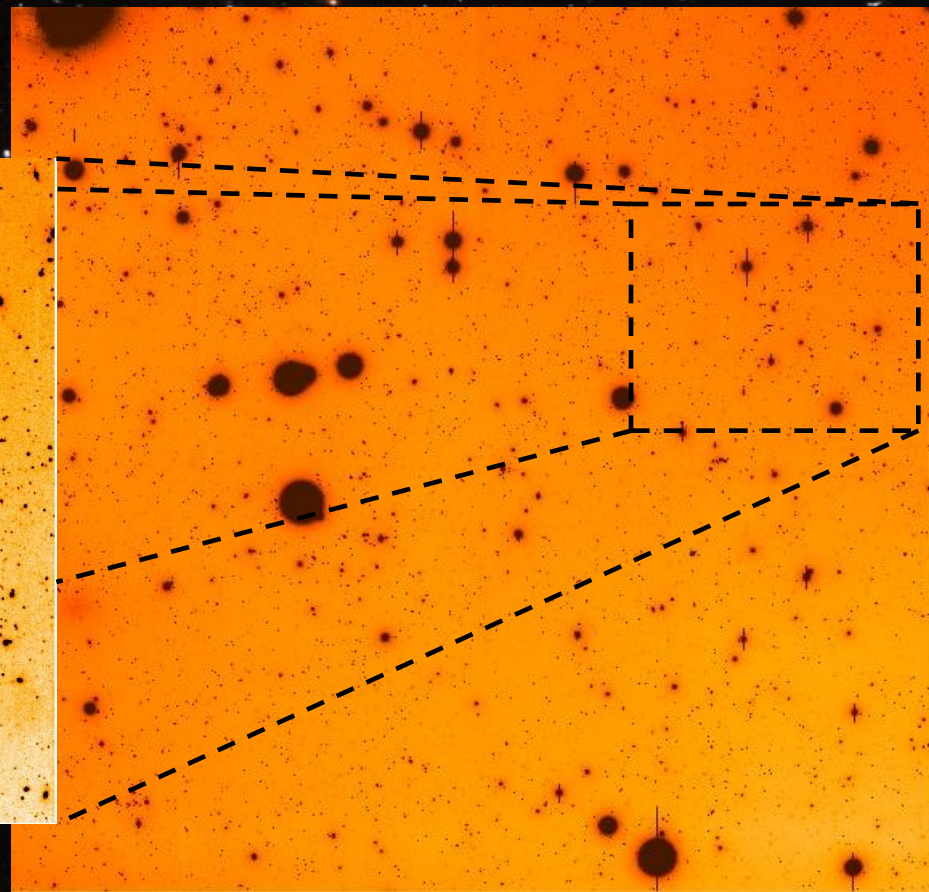
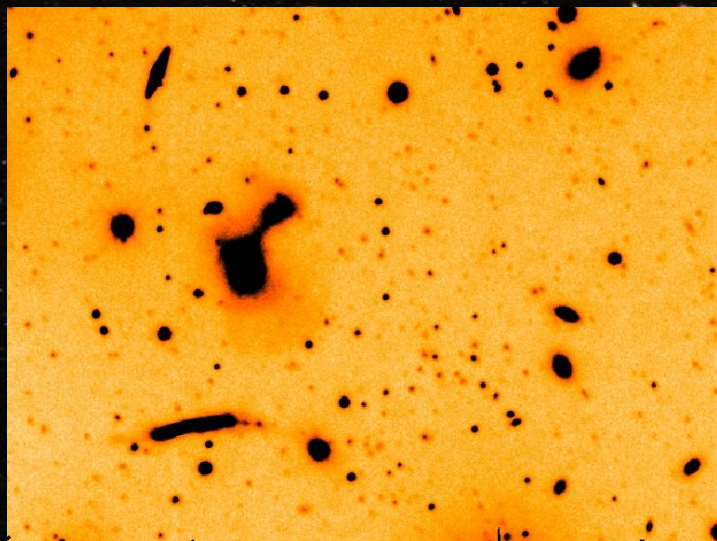
Nombre	R.A	Dec.	z	Pot (1.4 GHz)
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TXS 1545-234	15:48:17.5	-23:37:02	2.754	28.74

**CTIO, V.M Blanco (4m)
MOSAIC II, filters U,V,R e I**

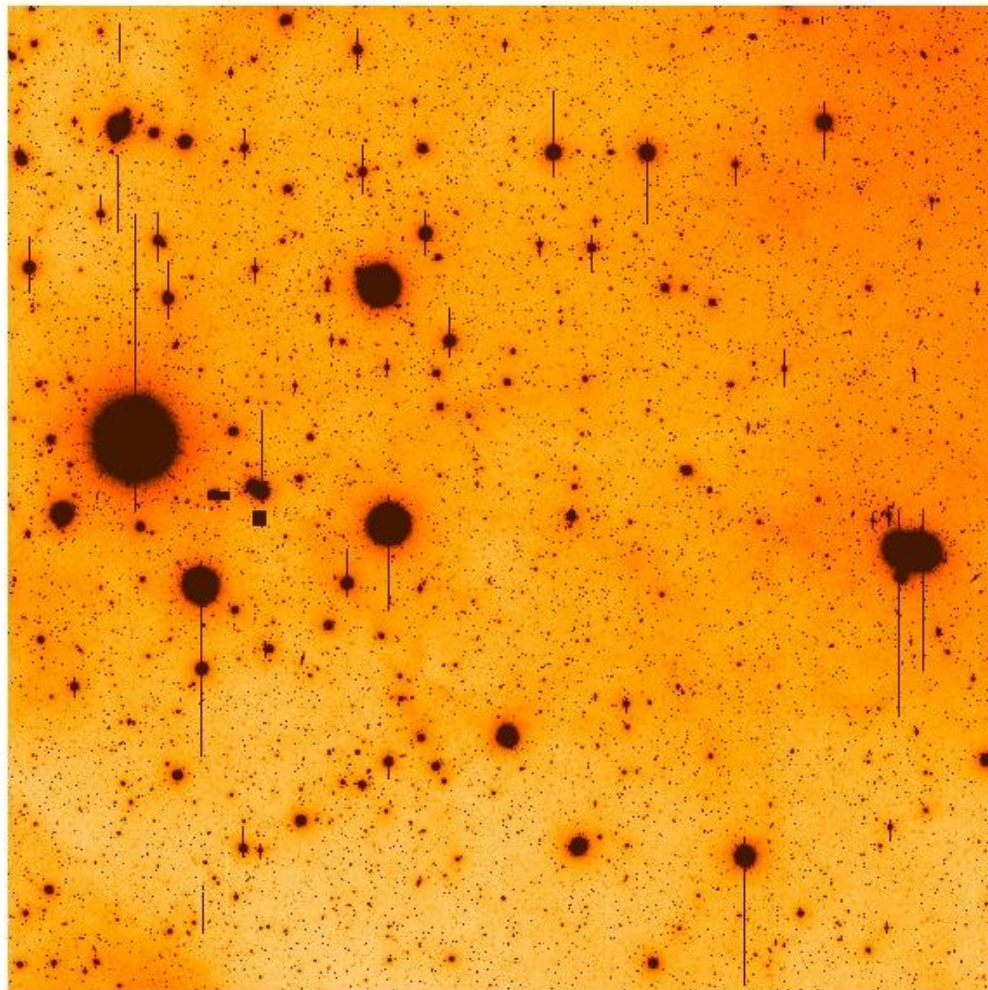
**Reduction package:
MSCRED (IRAF)**



TN J1123-2154, $z=4.1$



TXS 1545-234, $z=2.76$



1700

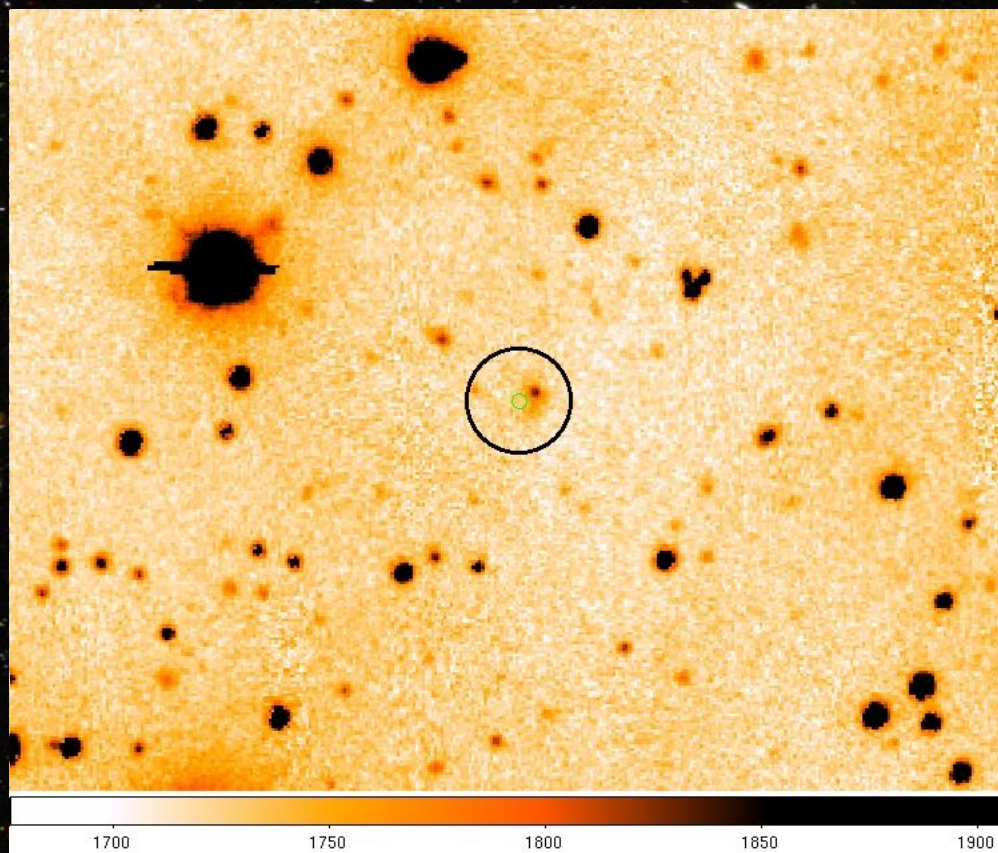
1750

1800

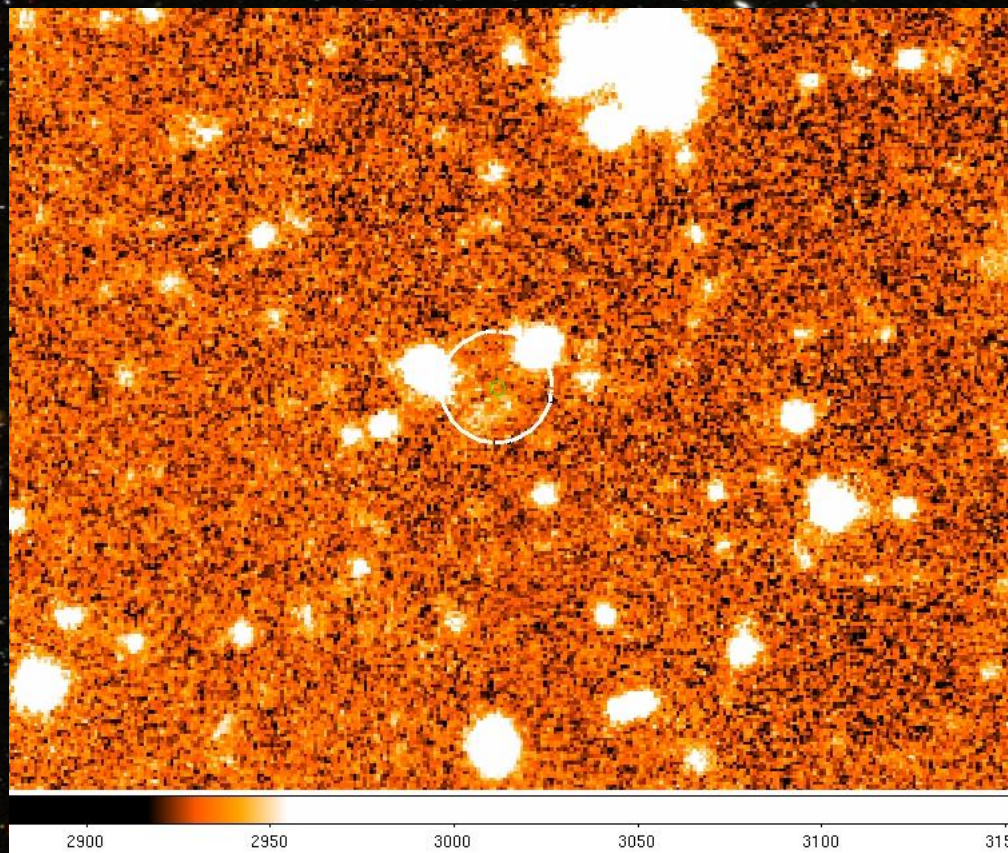
1850

1900

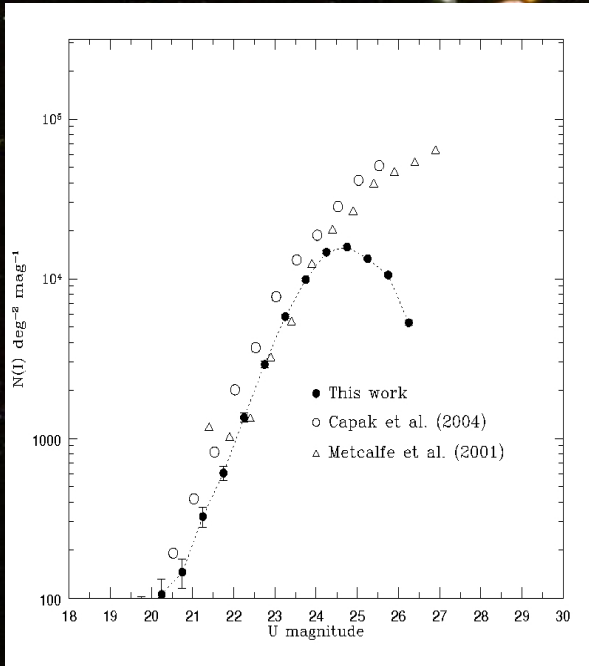
TXS 1545-234, $z=2.76$



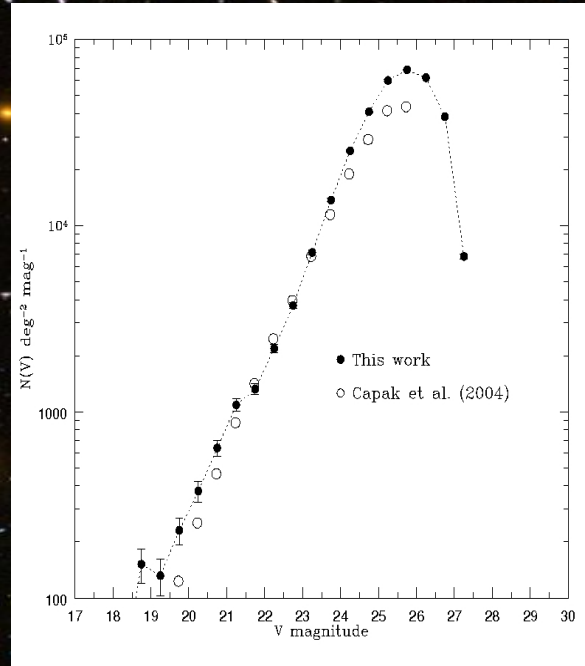
NVSS J231727-352606 $z=3.874$



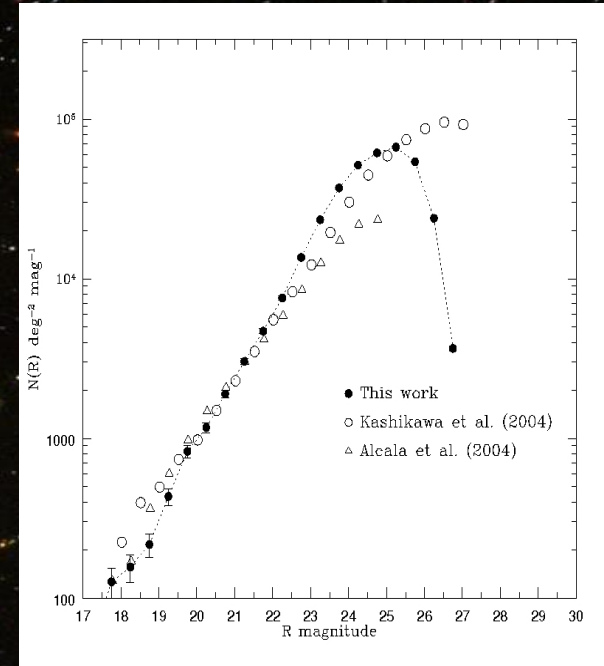
Galaxy Number counts TX152435-352623, $z=2.76$



U=24.25

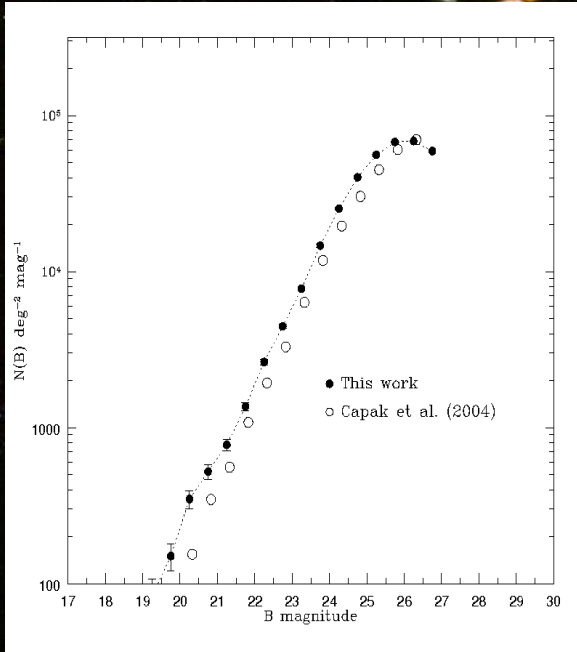


V=25.75

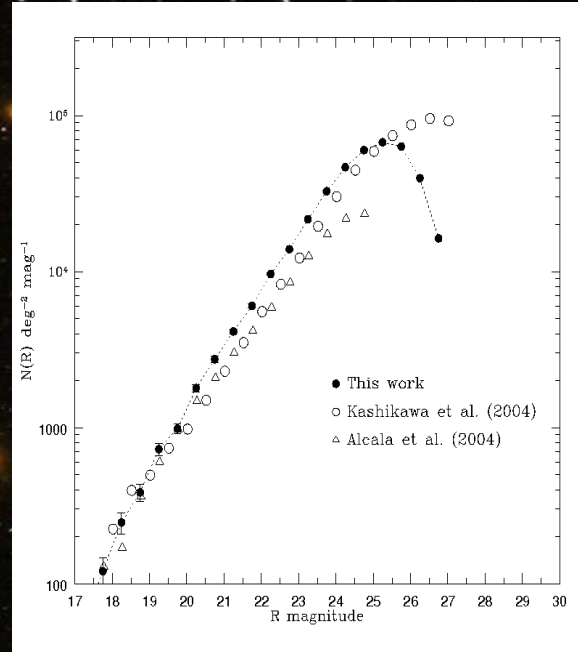


R=25.25

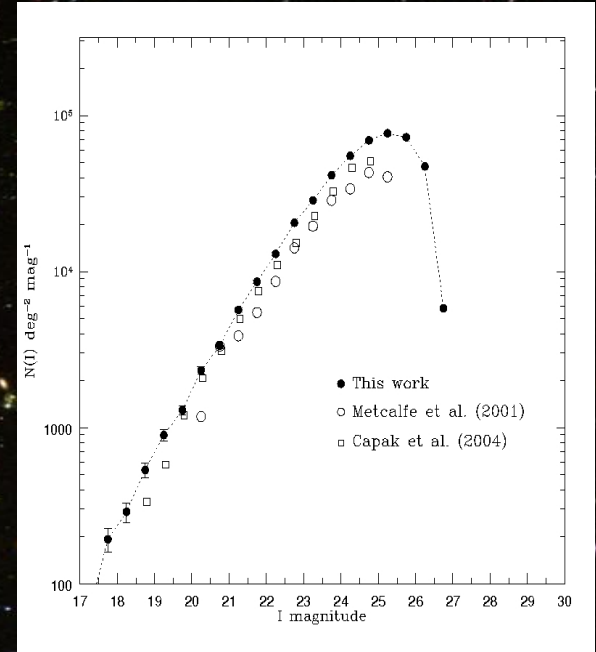
Galaxy number counts TNJ1123-2154, $z=4.1$



$B=25.75$

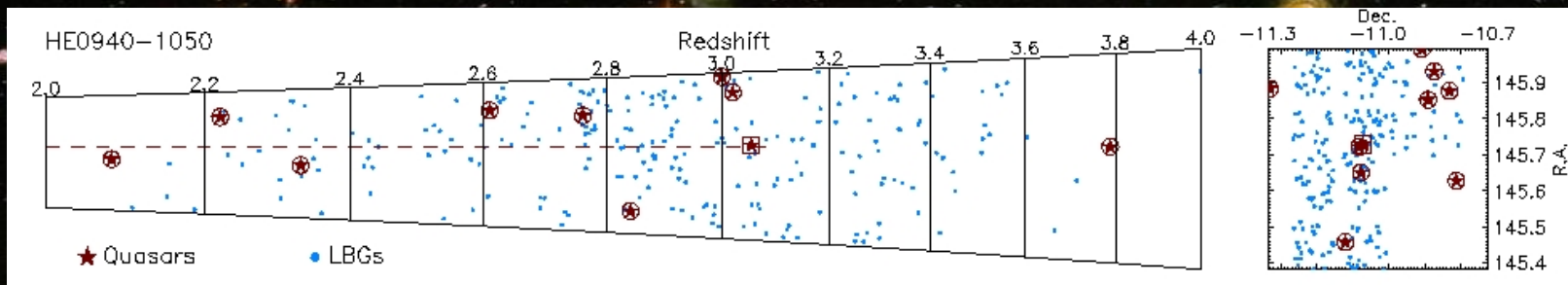
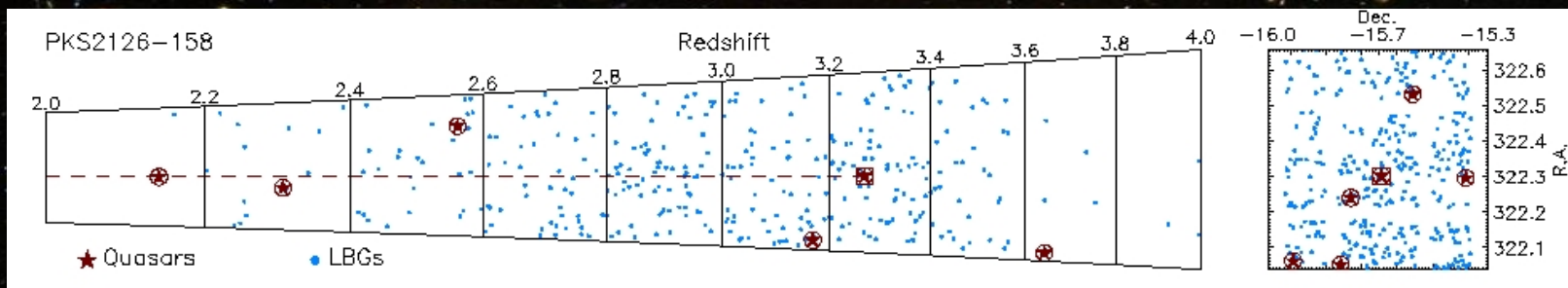
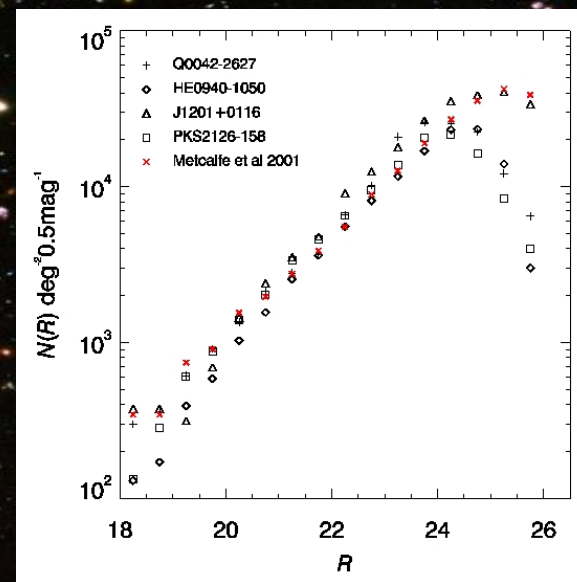
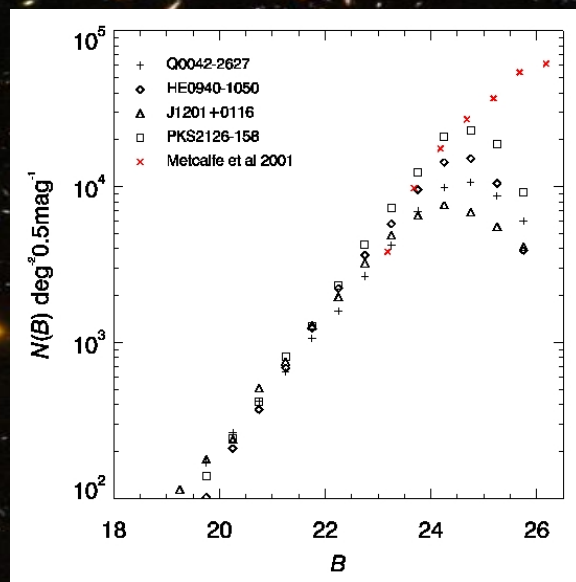
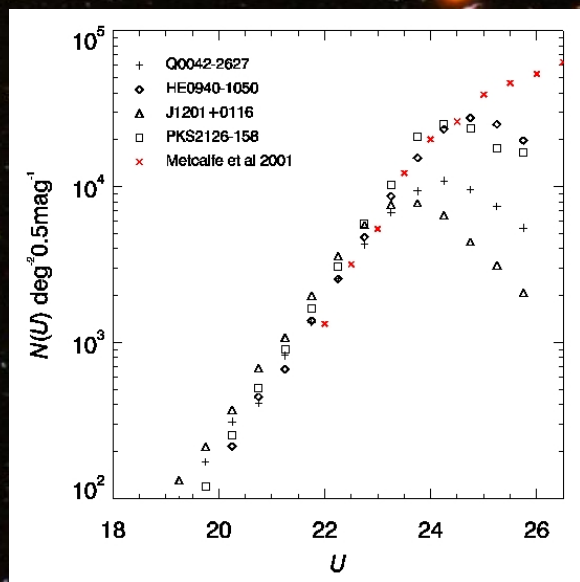


$R=25.25$



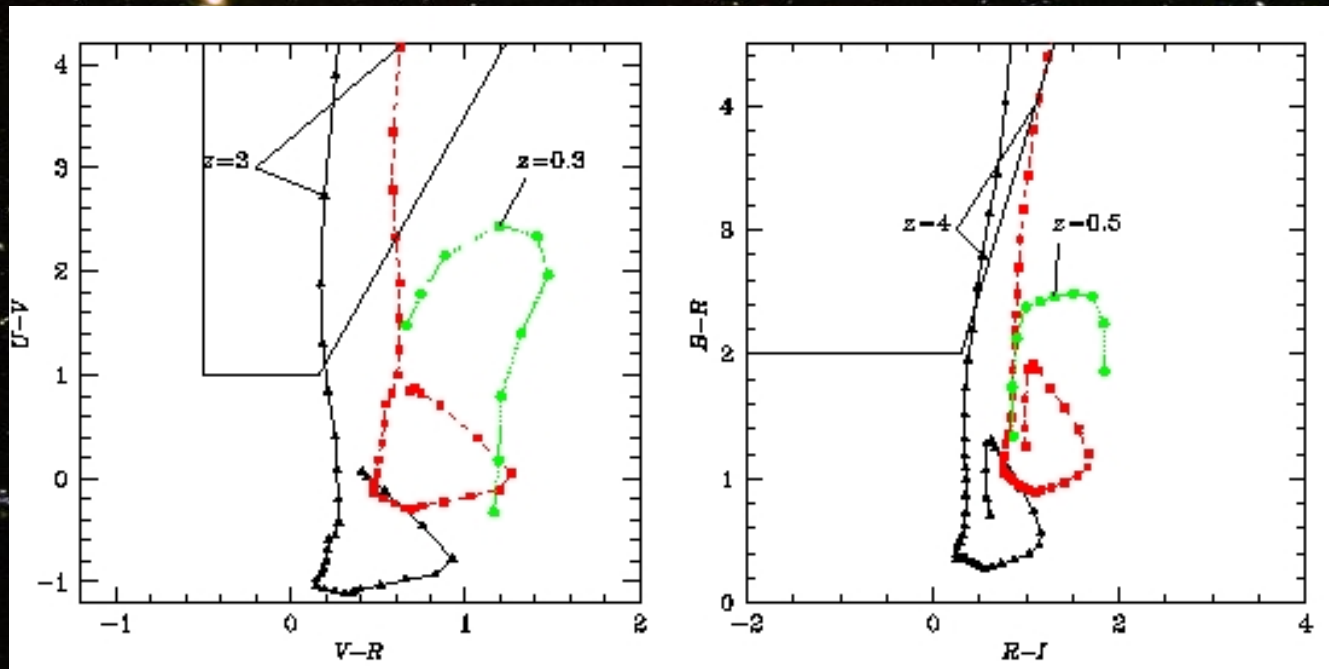
$I=25.25$

Bielby et al. 2010, in press

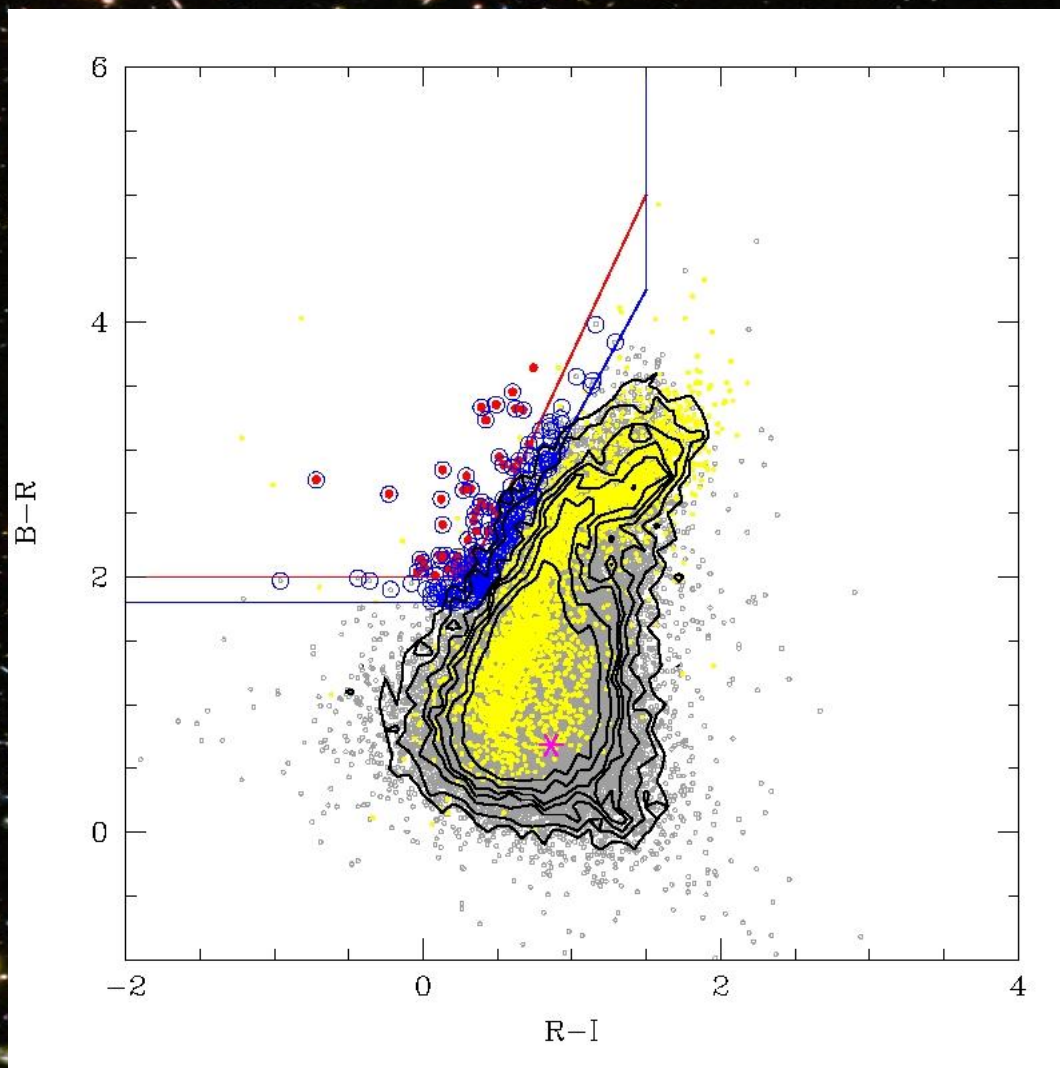


Color evolution and selection

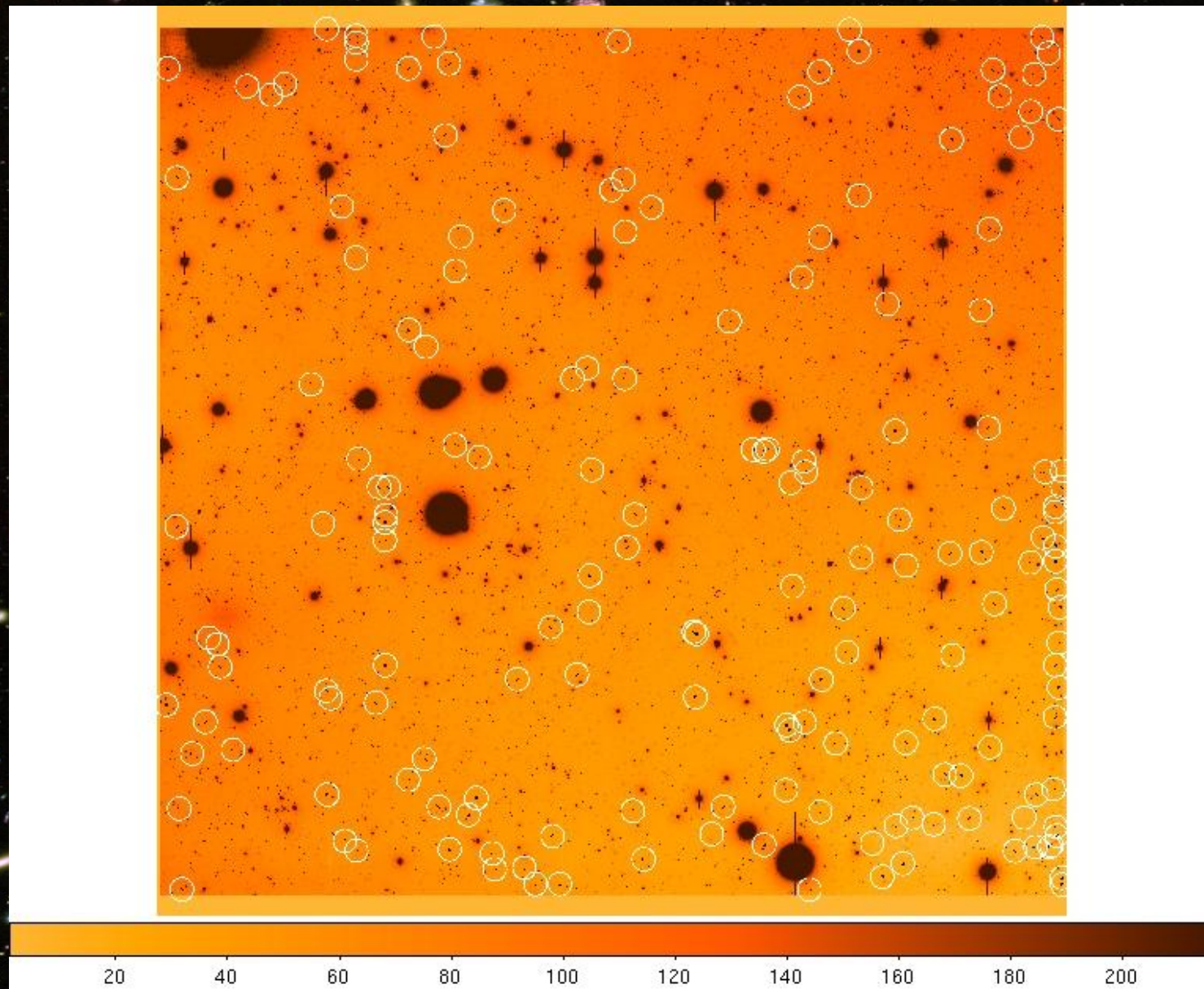
Hildebrandt et al. (2005)



TN J1123-2154, $z=4.1$



TN J1123-2154, $z=4.1$

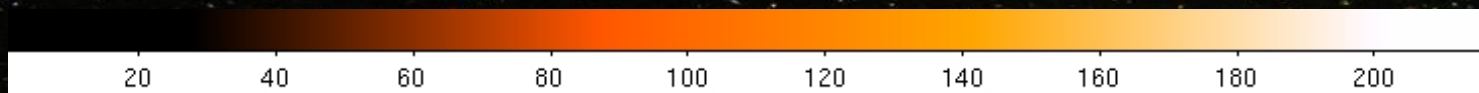
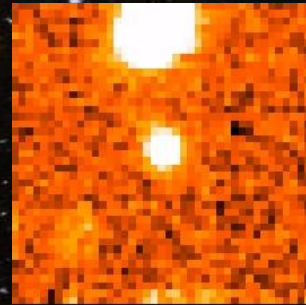
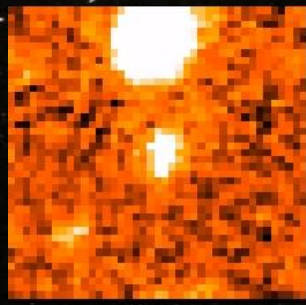
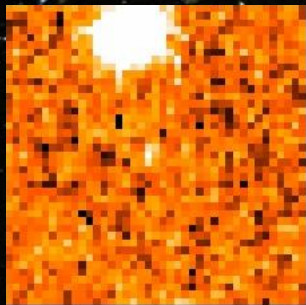
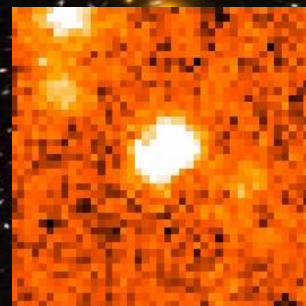
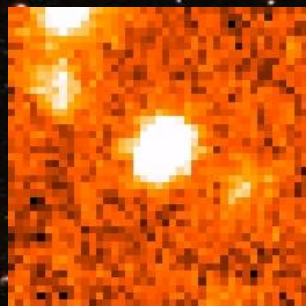
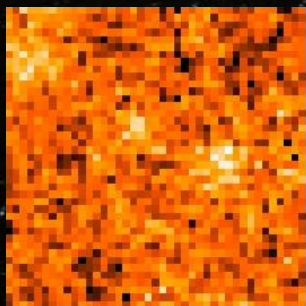
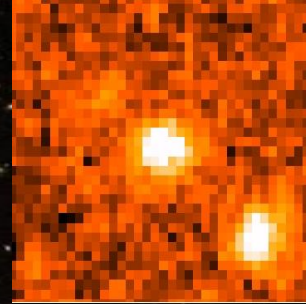
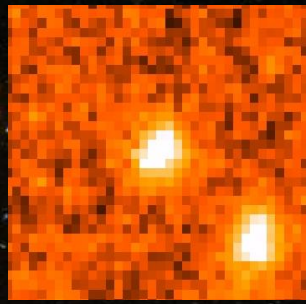
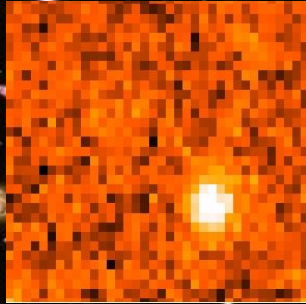


LBGs in the field of TX152435-352623, $z=2.76$

U-band

V-band

R-band

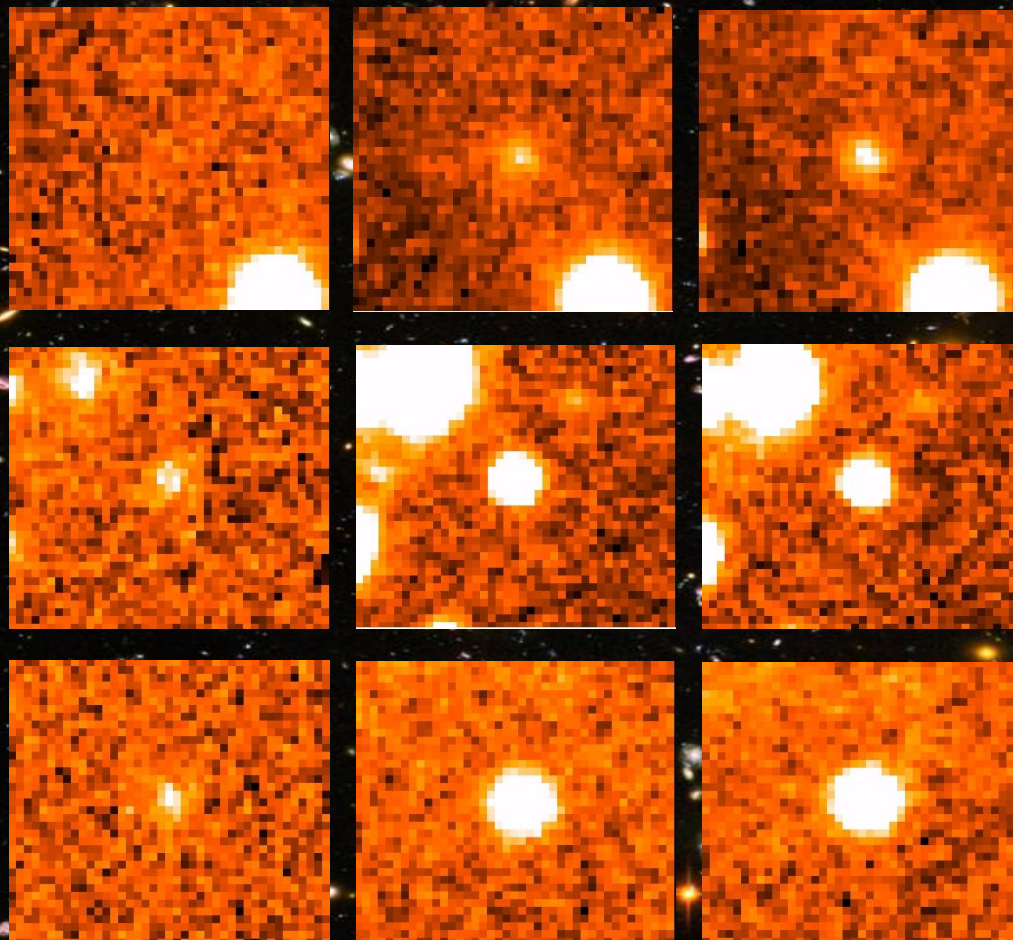


LBGs in the field of TN J1123-2154, $z=4.1$

B-band

R-band

I-band



20

40

60

80

100

120

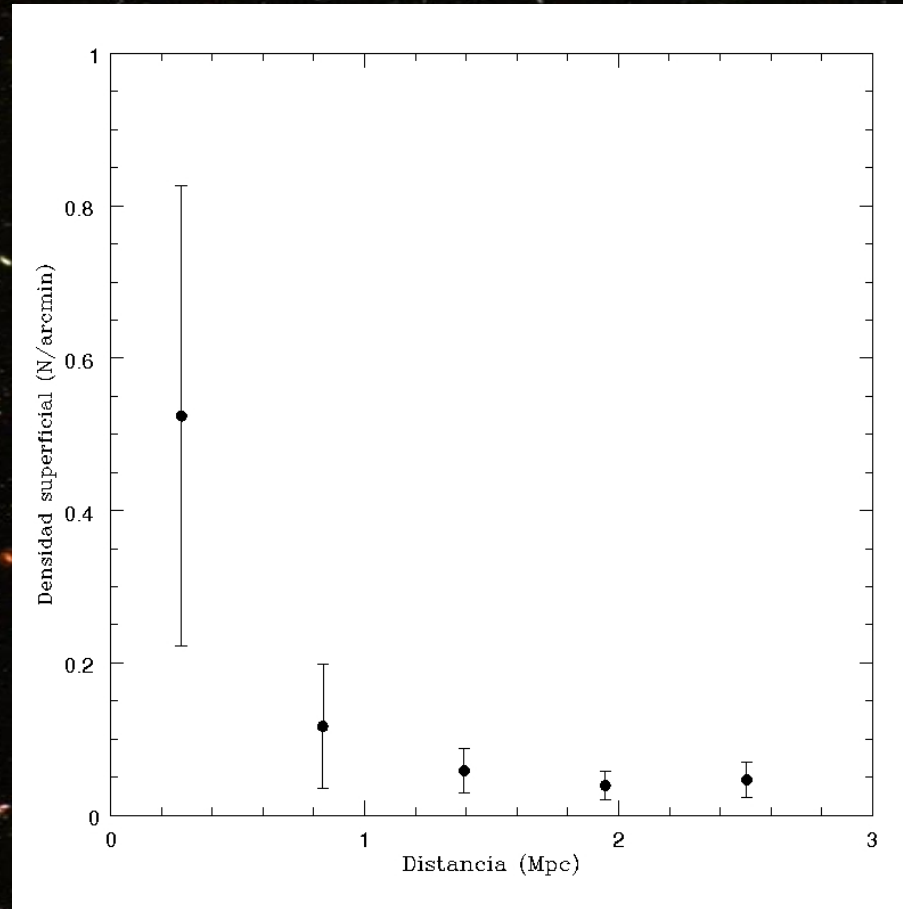
140

160

180

200

Projected density of LBGs in the field of TN J1123-2154



Next work

- Improve the reduction technique
- Radiosource identification: radio contours
- Cross correlation analysis for $z \sim 4$ radio galaxies and LBGs.