

RCS Clusters at $z \sim 1$

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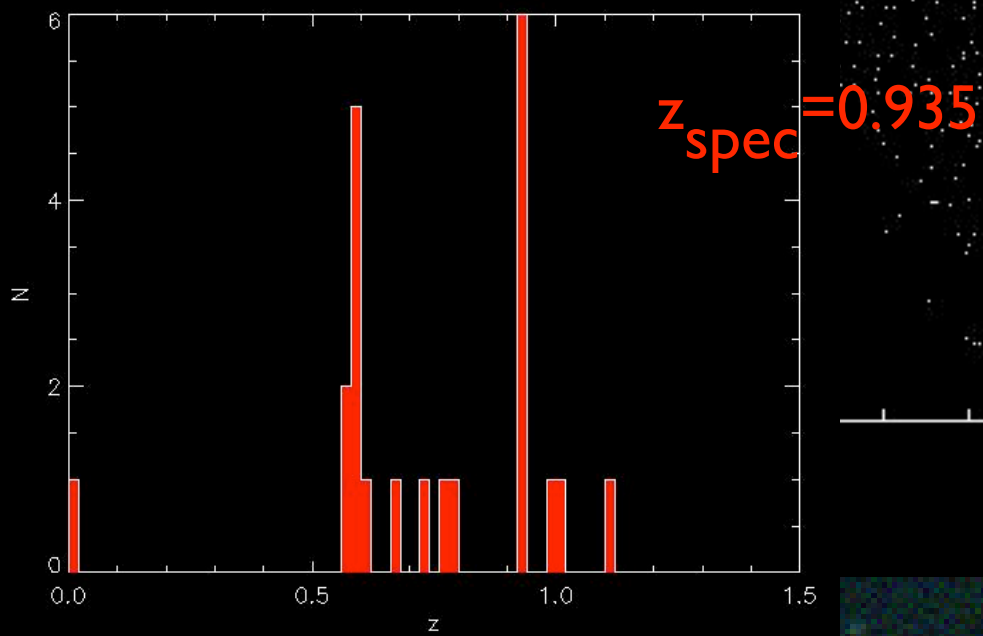
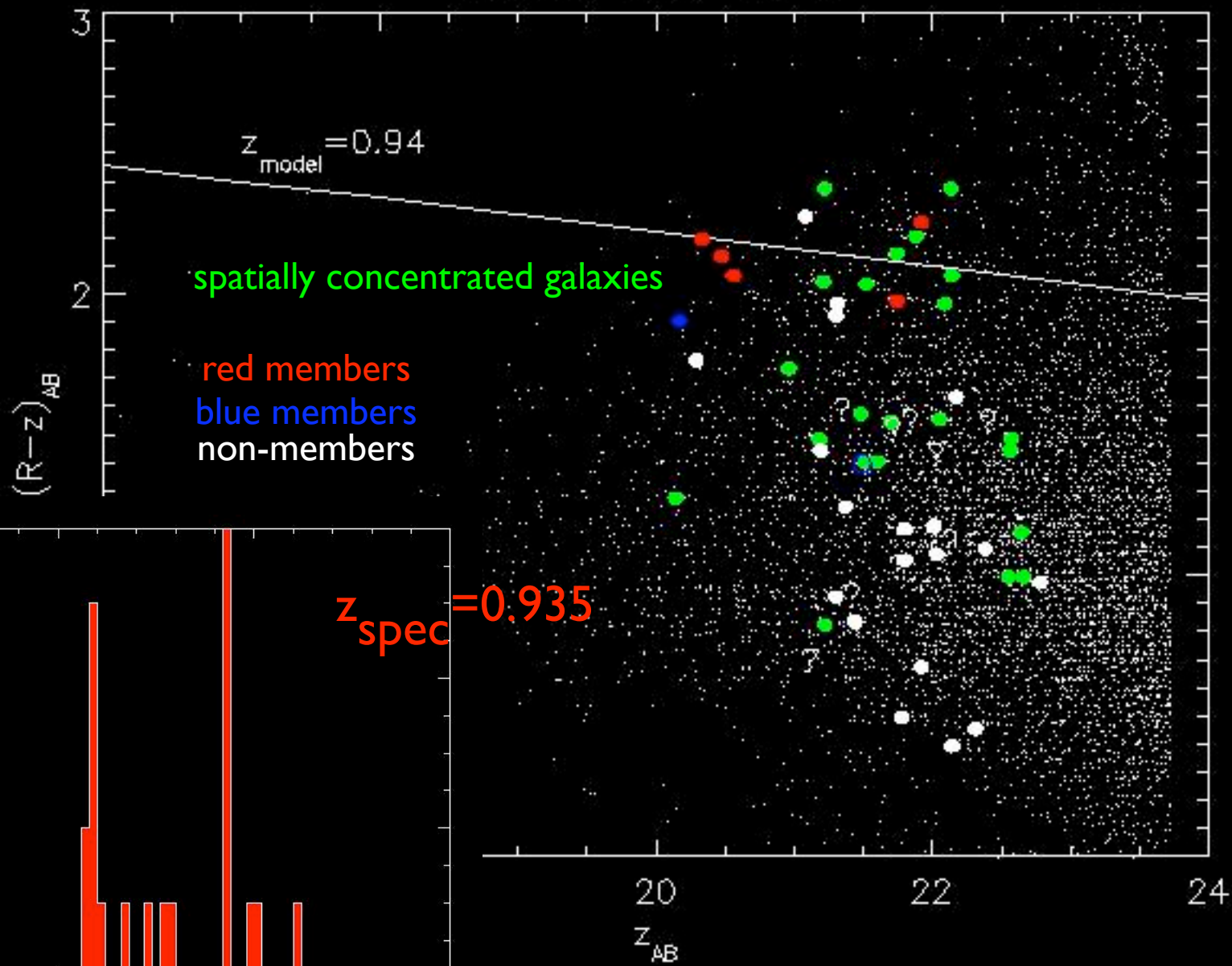
$z \sim 1$ clusters

spectroscopy examples
(~20 clusters to date)

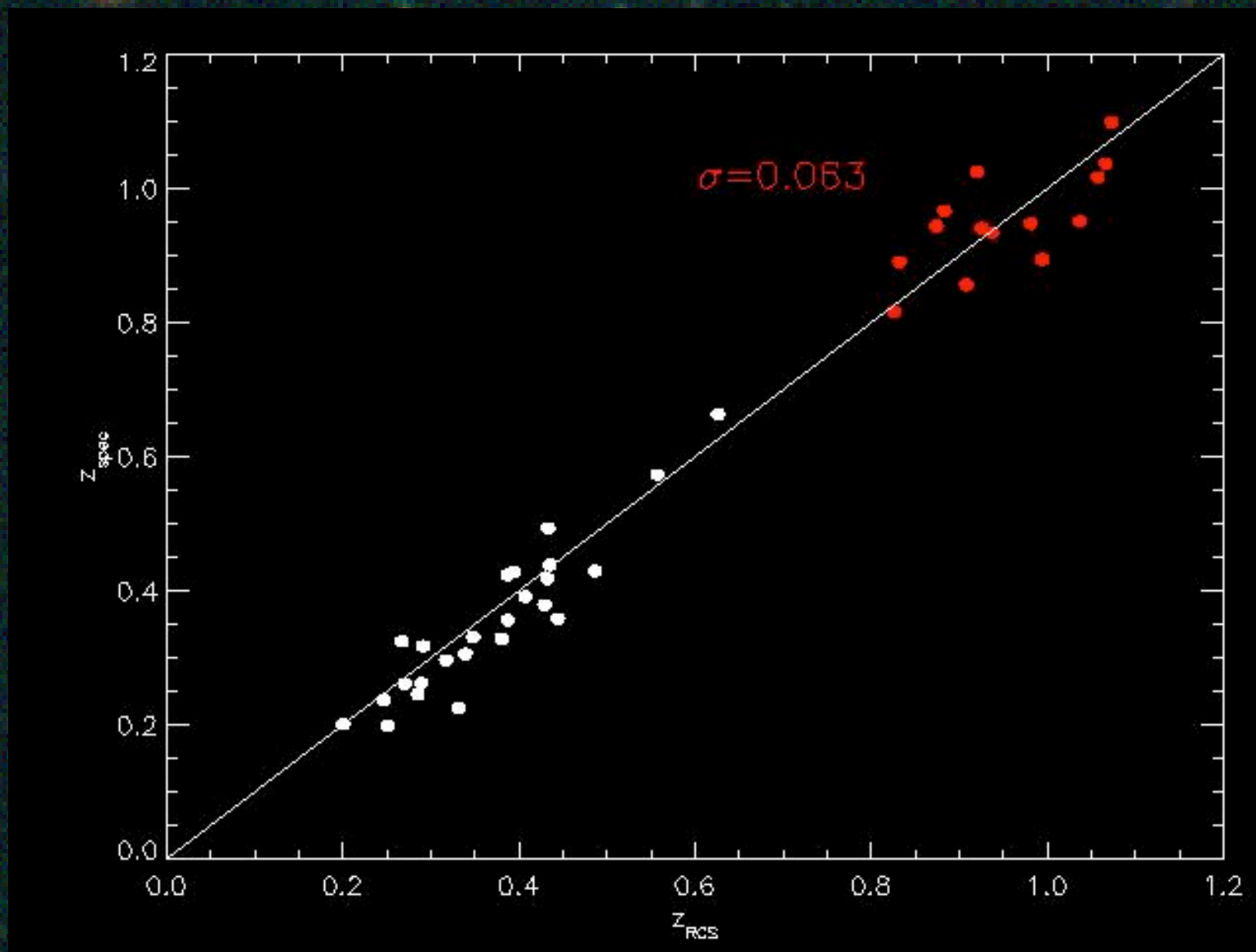
Cluster	B_{gc}	z_{est}	z_{spec}	N_z	N_{mem}
RCS0220.9-0333	760	0.920	1.026	16	6
RCS0221.7-0322	590	1.057	1.018	47	19
RCS0336.1-2733	750	0.925	0.942	24	5
RCS0350.8-1024	620	0.874	0.945	46	10
RCS0441.2-2858	570	1.037	0.952	16	5
RCS0517.0-4340	870	0.937	0.935	26	6
RCS2112.4-6326	1010	1.073	1.100	47	7

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RCS0517.0-4340

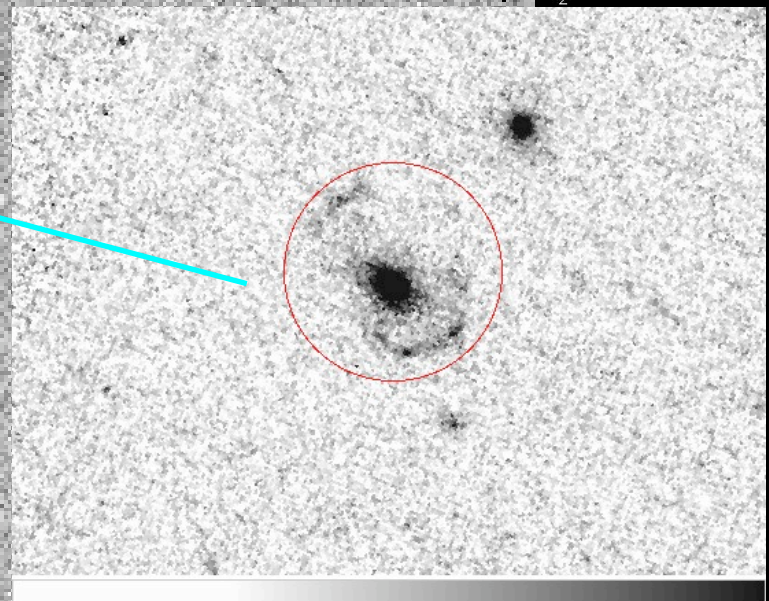
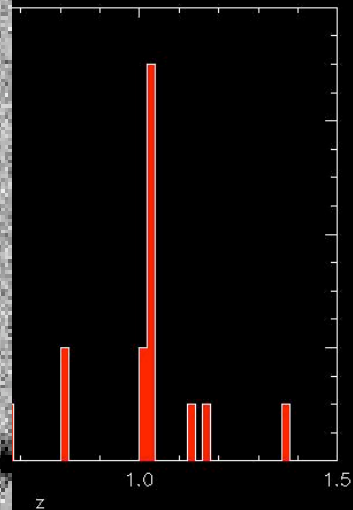


Z_{RCS} VS Z_{spec}

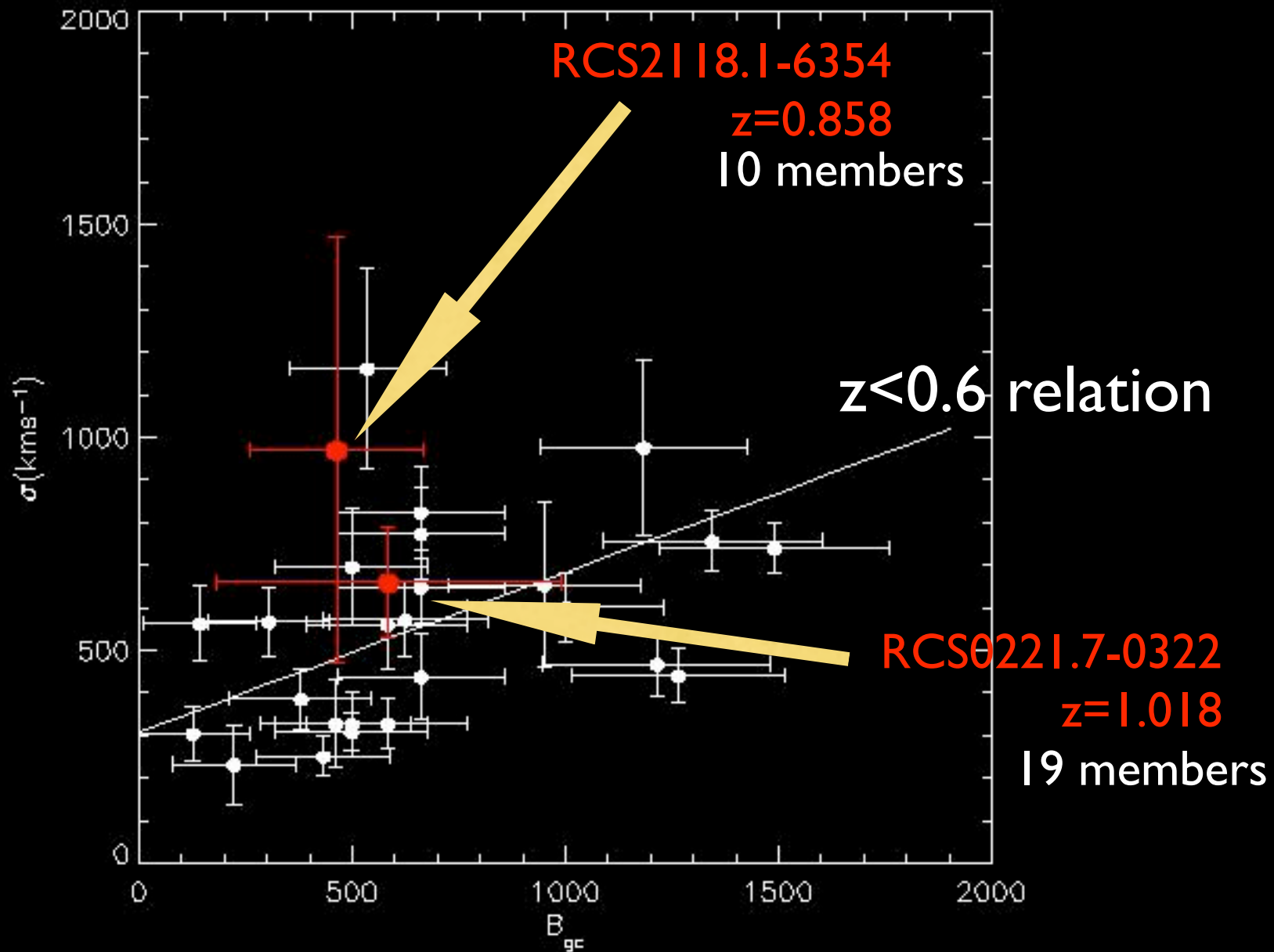


RCS0220.9-0333

$z=1.026$

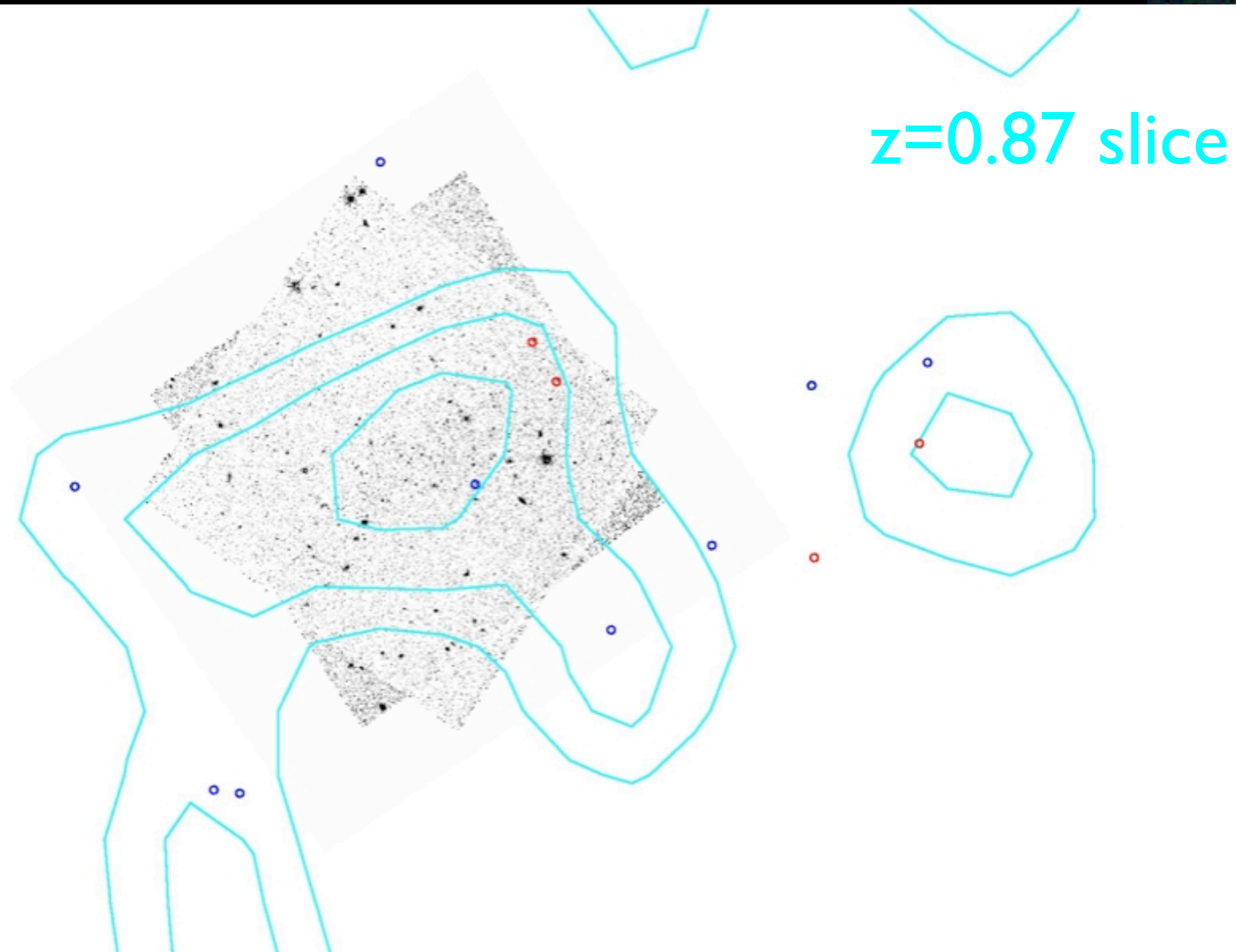


Richness vs Velocity dispersion

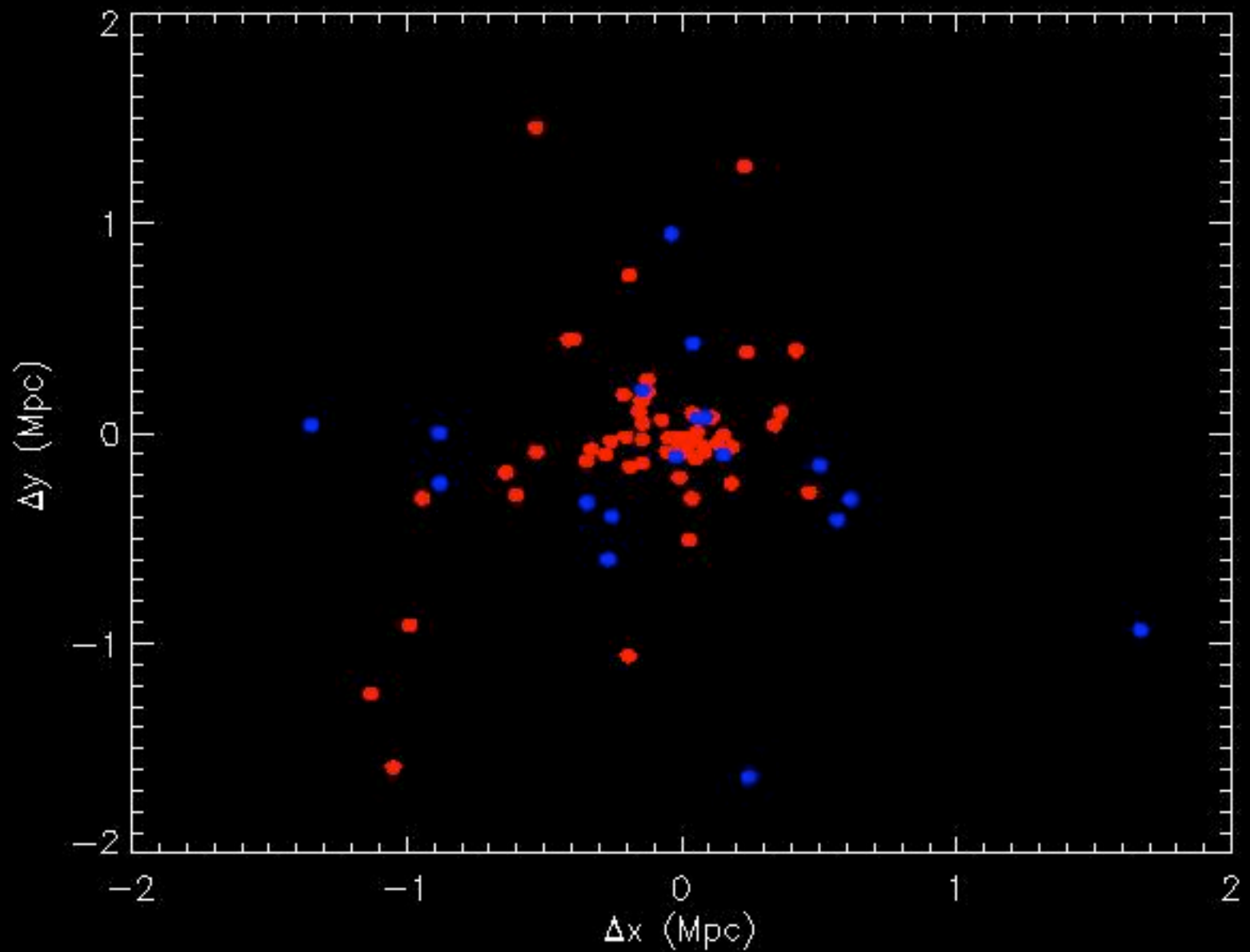


RCS0439.6-2905

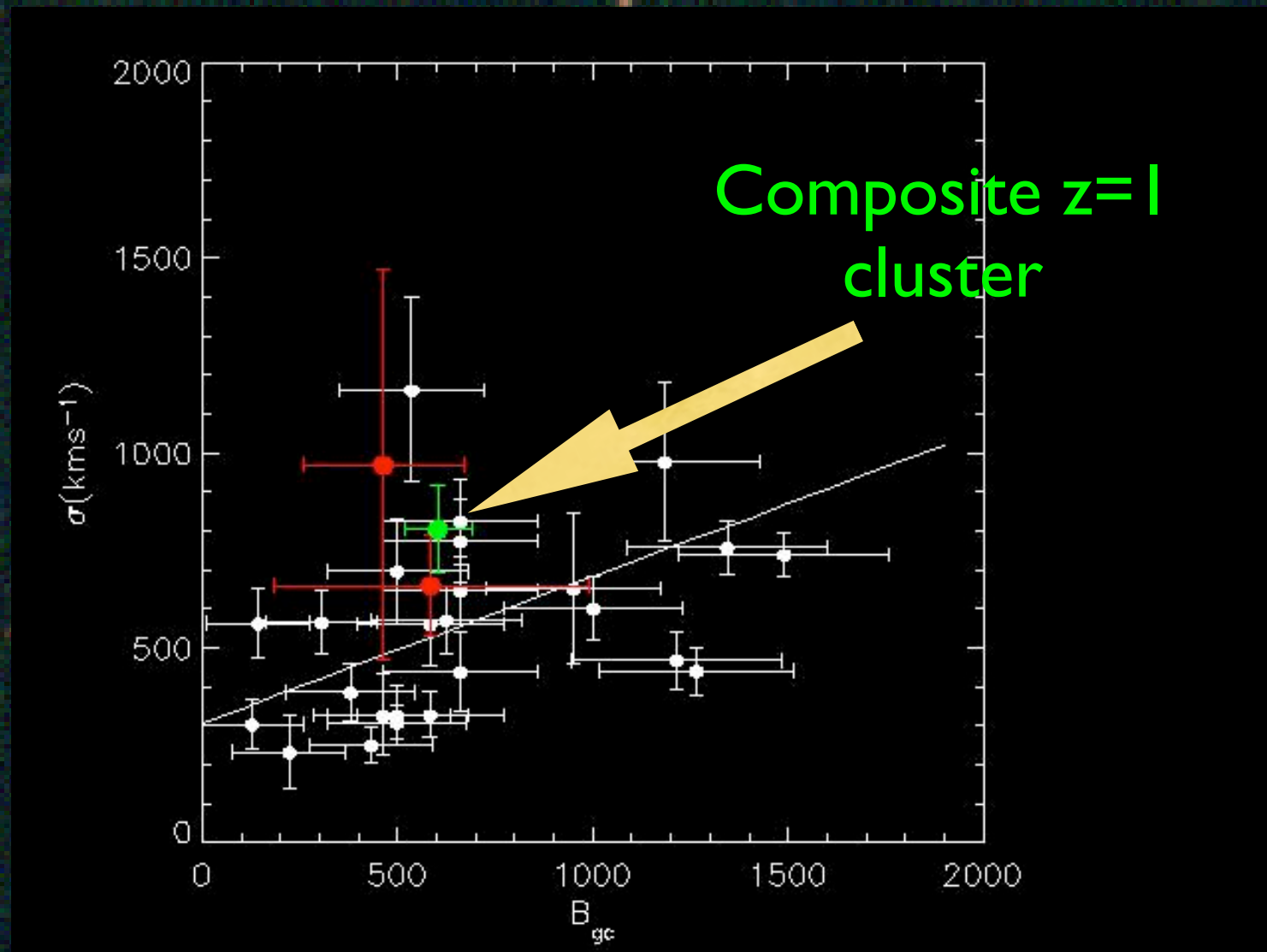
$z=0.96$



Composite $z=1$ cluster



Richness vs Velocity dispersion



clusters in RCS2...

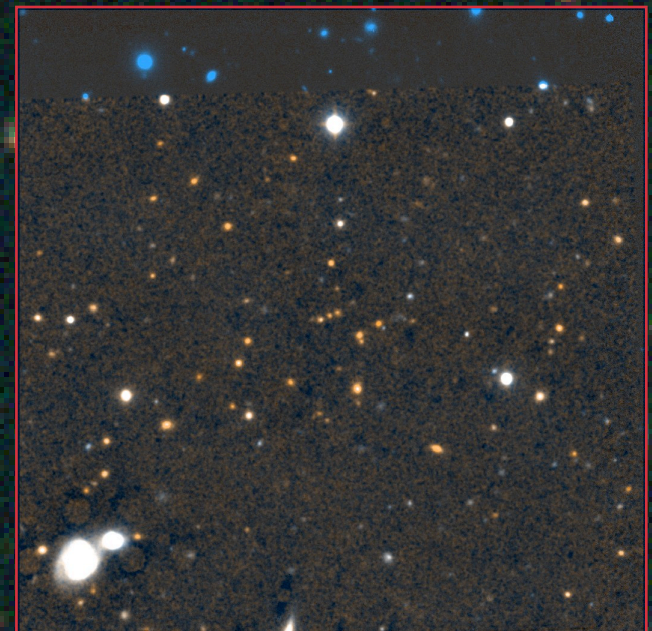
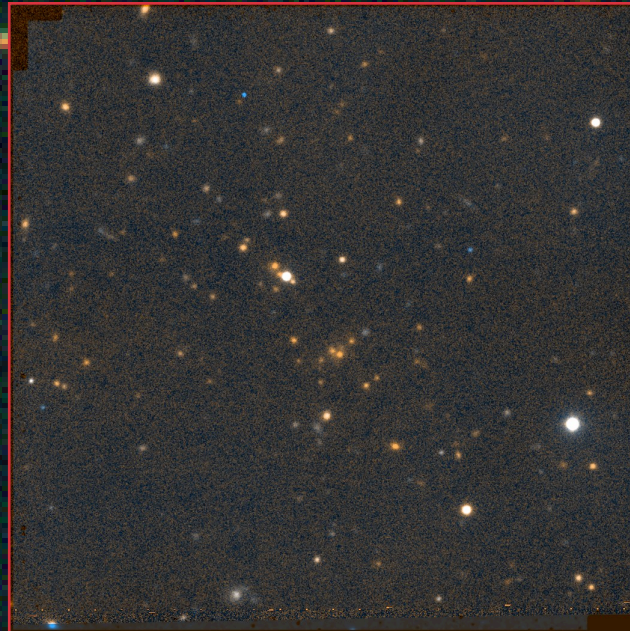
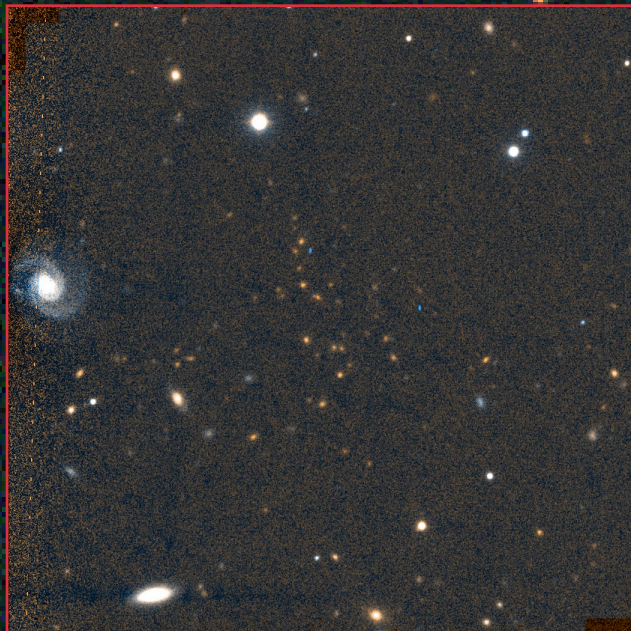
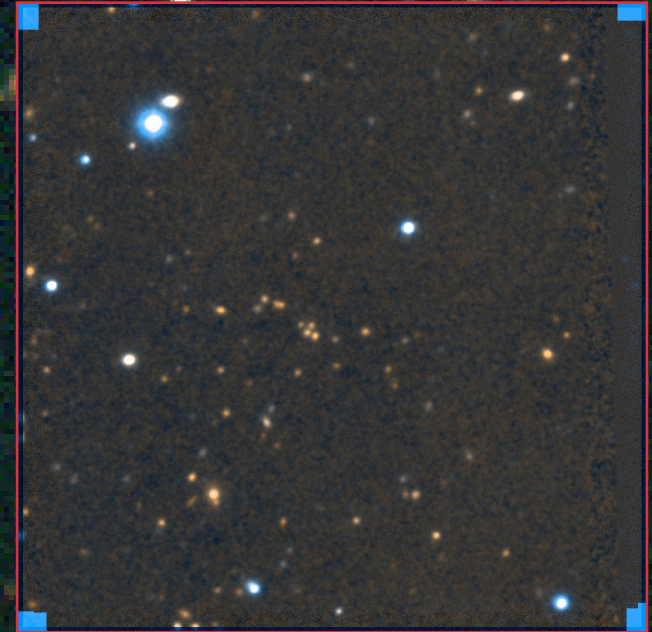
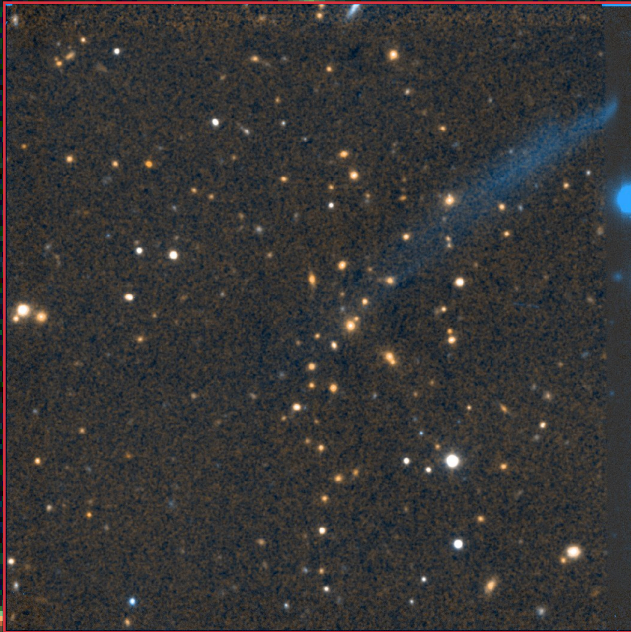
$z = 0.995$ $\sigma = 3.776$



NIR follow up

- > 100 clusters nominally at $z > 0.95$ followed up in I, K
- > This deeper, redder imaging shows $\sim 90\%$ of $R-z$ candidates also show a concentration of red galaxies in these passbands

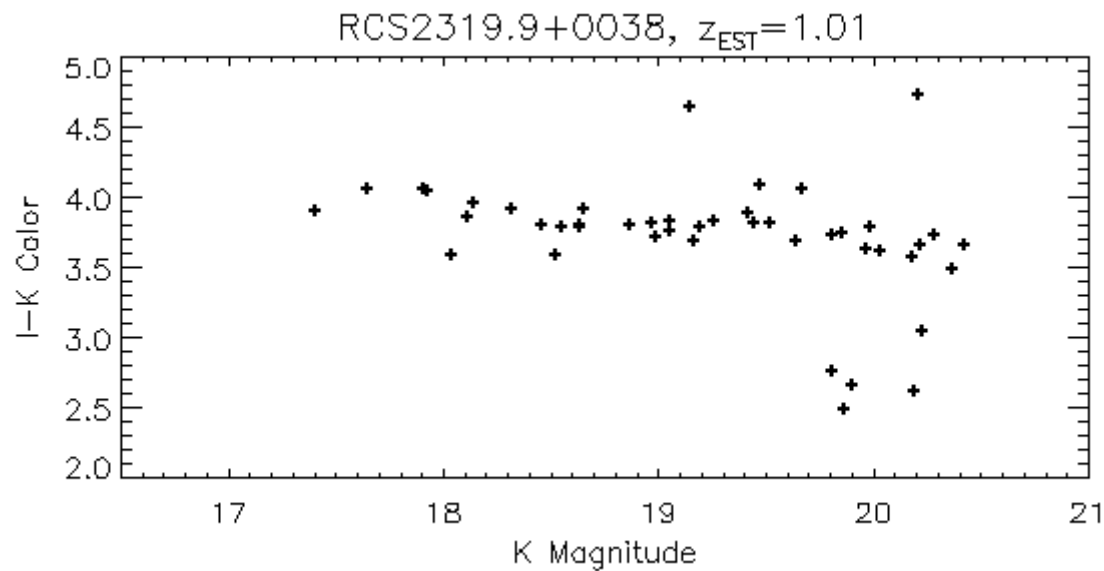
Examples from WIRC



Examples from ISAAC

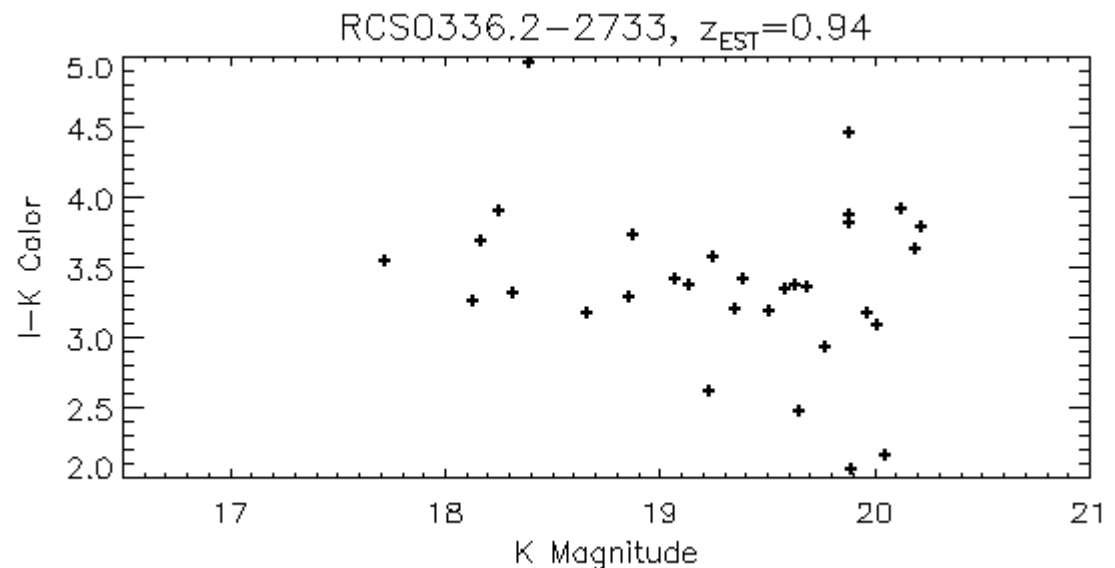


Colour-magnitude diagrams

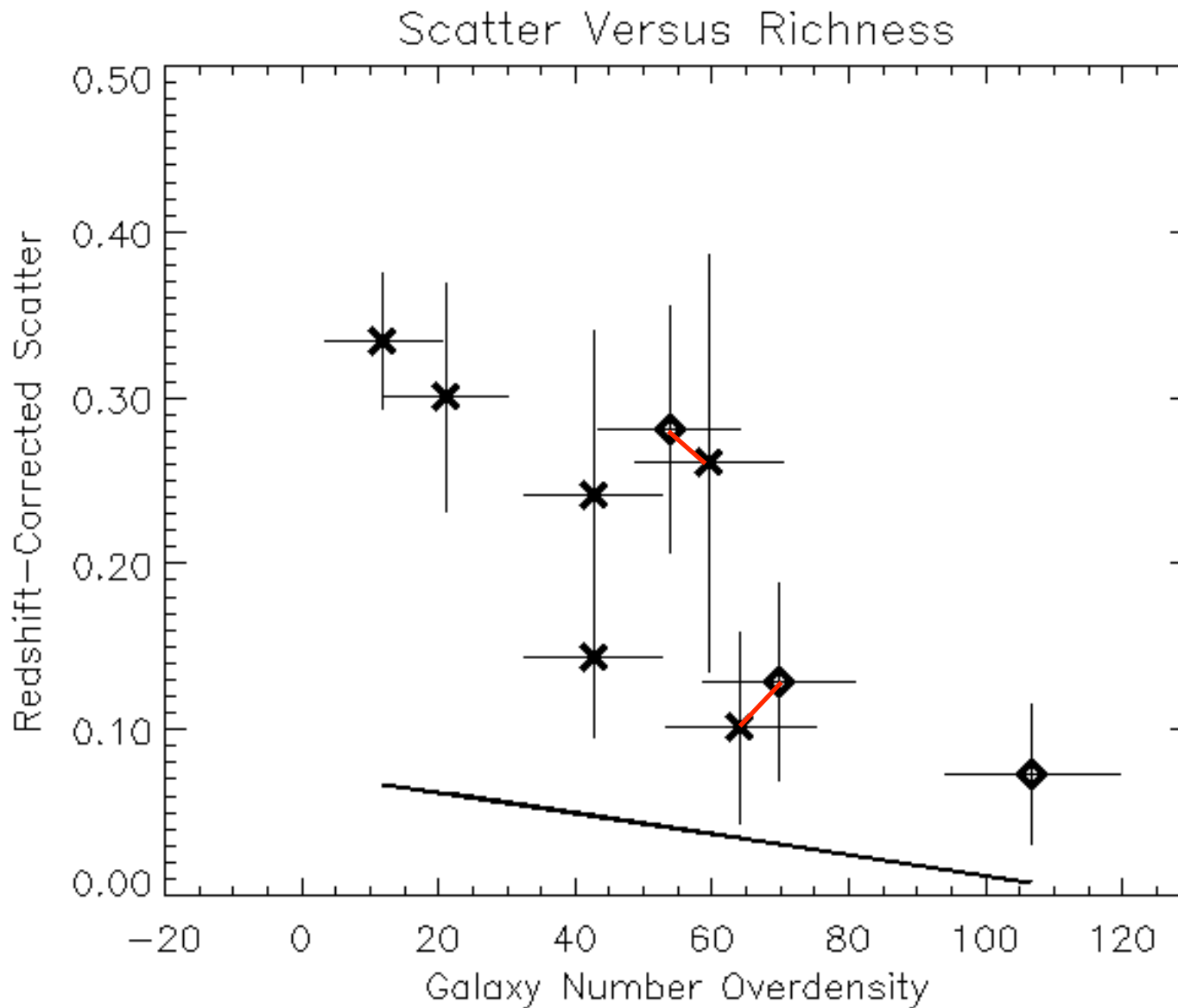


Low scatter
red sequence
($z_{\text{spec}}=0.895$)

High scatter
red sequence
($z_{\text{spec}}=0.942$)



Scatter vs Richness



Summary & Future Work

- > Spectroscopy for ~ 20 $z \sim 1$ clusters
 - > average velocity dispersion ~ 800 km/s
 - > early results show they appear to fall on same richness -- velocity dispersion relation as $z < 0.6$ clusters
- > $\sim 90\%$ of RCS $z \sim 1$ clusters are real
 - > 130 clusters in RCSI catalogue with $z > 0.9$ ($B_{gc} > 500$, significance > 3.3 -sigma)
- > Preliminary NIR work on $z \sim 1$ red sequence shows scatter decreases with increasing richness

RCS2319.9+0038

$z=0.895$

