$Clustering\ output, found\ in/home/pauline/Research/m83\_clustering/results/broad\_narrow/B\_HBeta/clustering/mag05\_487-mag05\_4$ 

# K-means results

Nclust	inertia	score	TotObj	N1	N2	N3	N4	N5	N6	N7	N8
3	3349.32609229	0.373560073196	13147	7104	4769	1274	0	0	0	0	0
4	2562.80798794	0.404954218415	13147	7384	3593	1248	922	0	0	0	0
5	2097.70829716	0.334210722064	13147	4907	4600	2541	656	443	0	0	0
6	1806.12334999	0.314341463877	13147	4939	3084	2862	1513	426	323	0	0
7	1602.78962805	0.321189252775	13147	4293	2559	2497	1667	1436	421	274	0
8	1443.93194598	0.304103101861	13147	3713	2822	2024	1495	1463	1054	343	233

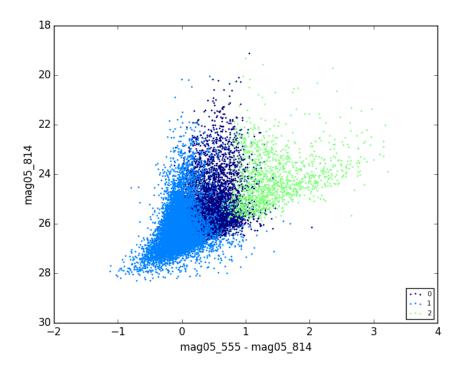
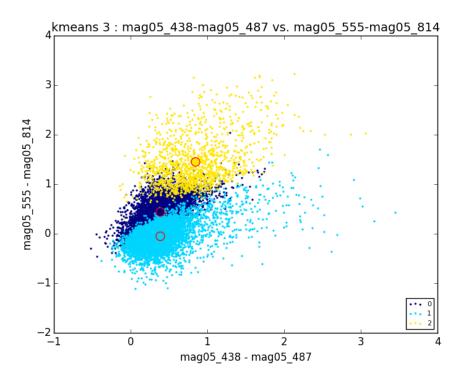
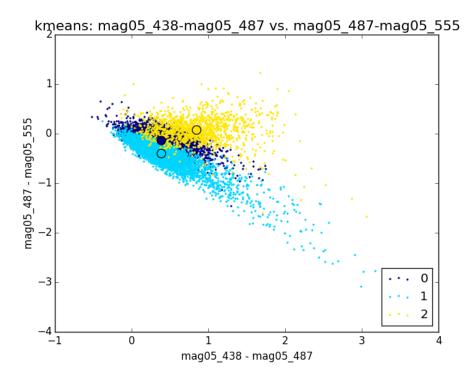


Figure 1: kmeans\_CMD\_3cl\_mag05\_555-mag05\_814vsmag05\_814.png

Cluster	r Nobj	tScore	cScore	${ m rms}$	AvgDist	MaxDist	MinDist	Stdev	Cen1	
1	4769	0.373560073196	0.365661982444	0.3786	0.5204	2.7159	0.0024	0.3324	0.383479136087	-0
2	7104	0.373560073196	0.390798218914	0.5025	0.5433	5.5644	0.0010	0.4788	0.386853040541	-0
3	1274	0.373560073196	0.307002936321	1.1018	0.9308	5.1795	0.0032	0.74	0.845956828885	0.0
$\frac{2}{3}$						0.00				



 $Figure~2:~kmeans\_base\_color\_3cl\_mag05\_438-mag05\_487vsmag05\_555-mag05\_814.png$ 



 $Figure \ 3: \ kmeans\_3d\_3cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555.png$ 

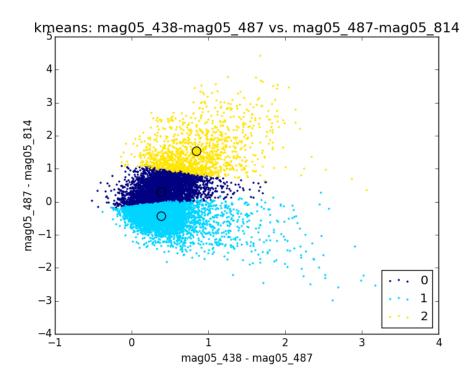
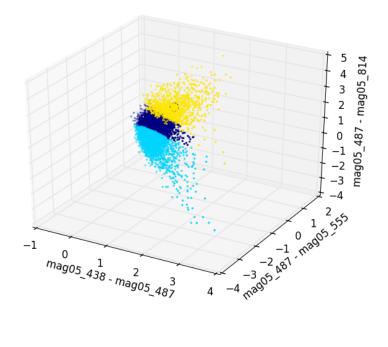
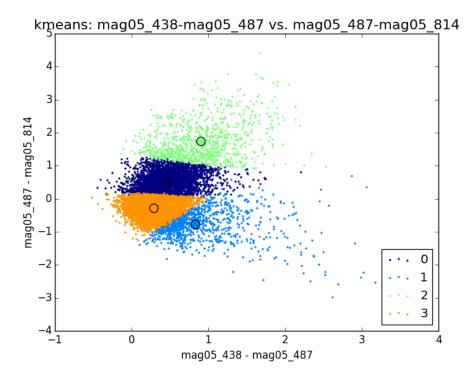


Figure 4: kmeans\_3d\_3cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_814.png



 $\label{eq:figure 5: kmeans_3d_color_3cl_mag05_438-mag05_487vsmag05_487-mag05_555vsmag05_487-mag05_814.png$ 



 $Figure \ 6: \ kmeans\_3d\_4cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_814.png$ 

Cluster	Nobj	tScore	cScore	${ m rms}$	AvgDist	MaxDist	MinDist	Stdev	Cen1	
1	3593	0.404954218415	0.351638303213	0.4658	0.5340	3.2871	0.0028	0.3711	0.459107152797	-0
2	1248	0.404954218415	0.167416455563	0.9024	0.7984	4.4902	0.0017	0.8679	0.832721153846	-0.
3	922	0.404954218415	0.309289138557	1.2108	0.9343	4.3872	0.0071	0.7884	0.906444685466	0.
4	7384	0.404954218415	0.48298975674	0.3445	0.4057	1.7235	0.0010	0.33	0.288490655471	-0

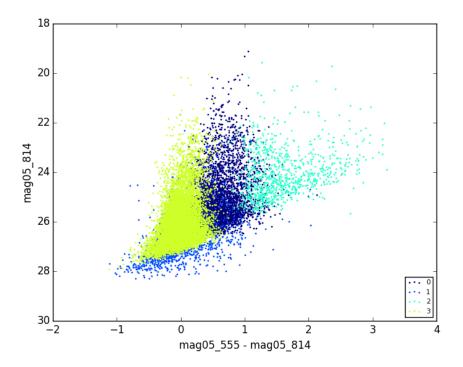
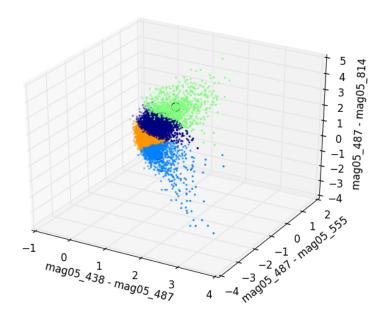
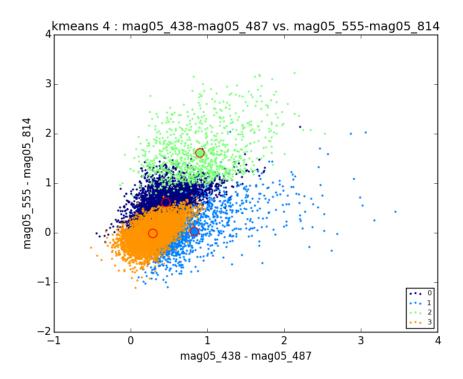


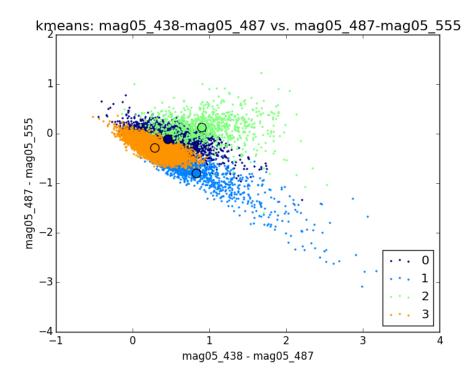
Figure 7: kmeans\_CMD\_4cl\_mag05\_555-mag05\_814vsmag05\_814.png



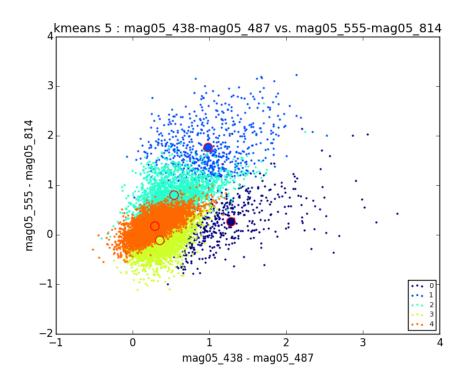
 $\label{lem:figure 8: kmeans_3d_color_4cl_mag05_438-mag05_487vsmag05_487-mag05_555vsmag05_487-mag05_814.png$ 



 $Figure~9:~kmeans\_base\_color\_4cl\_mag05\_438-mag05\_487vsmag05\_555-mag05\_814.png$ 



 $Figure~10:~kmeans\_3d\_4cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555.png$ 



 $Figure~11:~kmeans\_base\_color\_5cl\_mag05\_438-mag05\_487vsmag05\_555-mag05\_814.png$ 

Cluster	Nobj	tScore	cScore	${ m rms}$	AvgDist	MaxDist	$\operatorname{MinDist}$	Stdev	Cen1	
1	443	0.334210722064	0.203944189147	1.2139	1.0183	4.2026	0.0135	1.1906	1.28623250564	-
2	656	0.334210722064	0.319612162069	1.3280	0.9208	4.2113	0.0180	0.8368	0.984088414634	0
3	2541	0.334210722064	0.321463422518	0.5793	0.5527	3.1937	0.0028	0.4253	0.542324281779	-0
4	4600	0.334210722064	0.363082901678	0.4672	0.3908	1.6453	0.0014	0.4284	0.358743478261	-(
5	4907	0.334210722064	0.327457836669	0.2700	0.3899	2.0243	0.0010	0.2691	0.287576115753	-(

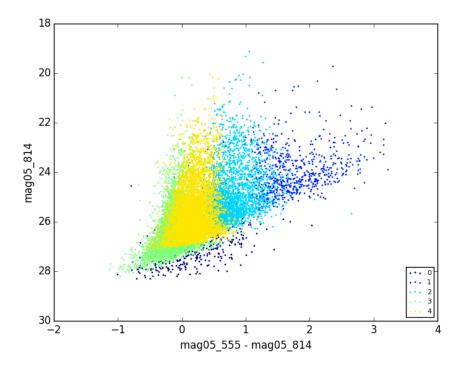
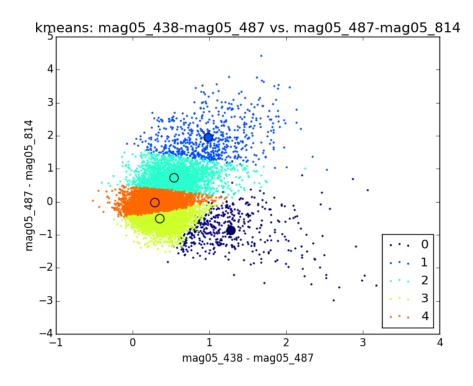


Figure 12: kmeans\_CMD\_5cl\_mag05\_555-mag05\_814vsmag05\_814.png



 $Figure~13:~kmeans\_3d\_5cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_814.png$ 

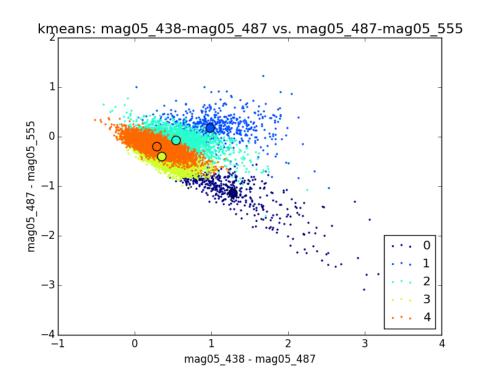
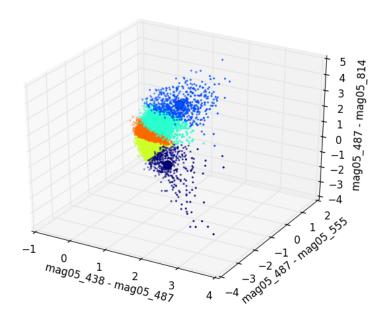
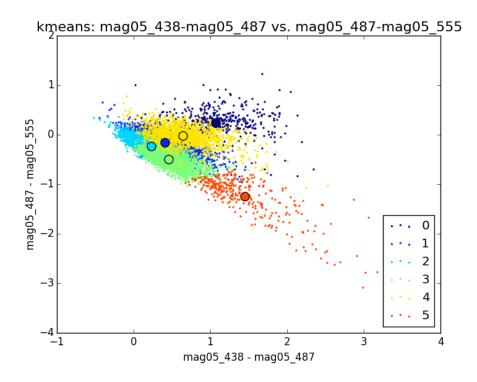


Figure 14: kmeans\_3d\_5cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555.png

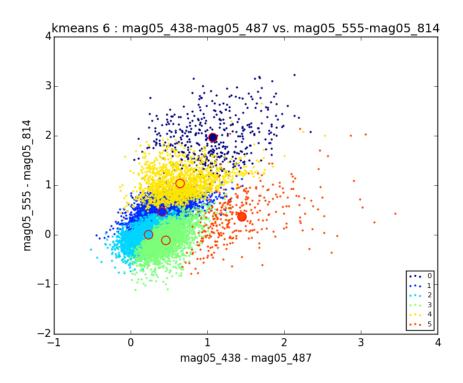


 $\label{lem:figure 15:mag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_814.png$ 



 $Figure~16:~kmeans\_3d\_6cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555.png$ 

Cluster	Nobj	tScore	cScore	${ m rms}$	AvgDist	MaxDist	MinDist	Stdev	Cen1	
1	426	0.314341463877	0.343365855424	1.4768	0.8895	3.6652	0.0230	0.9008	1.07120422535	0.
2	3084	0.314341463877	0.279584754978	0.3680	0.4325	2.4278	0.0030	0.3179	0.41185538262	-0
3	4939	0.314341463877	0.370856202515	0.2791	0.3266	1.5026	0.0010	0.2676	0.236170479854	-0
4	2862	0.314341463877	0.273416768375	0.5574	0.4154	1.9897	0.0017	0.515	0.458705450734	-0
5	1513	0.314341463877	0.291267409256	0.7450	0.5842	3.1922	0.0028	0.5073	0.648490416391	-0.
6	323	0.314341463877	0.214454555158	1.3207	1.0559	4.1676	0.0135	1.3006	1.44843034056	-1



 $Figure~17:~kmeans\_base\_color\_6cl\_mag05\_438-mag05\_487vsmag05\_555-mag05\_814.png$ 

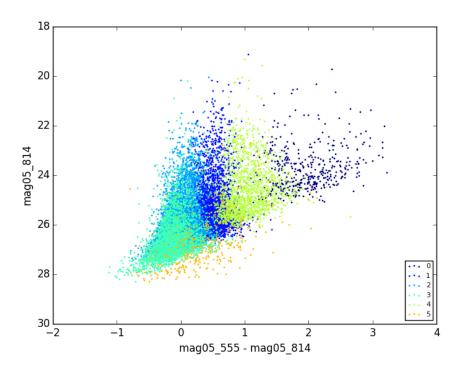


Figure 18: kmeans\_CMD\_6cl\_mag05\_555-mag05\_814vsmag05\_814.png

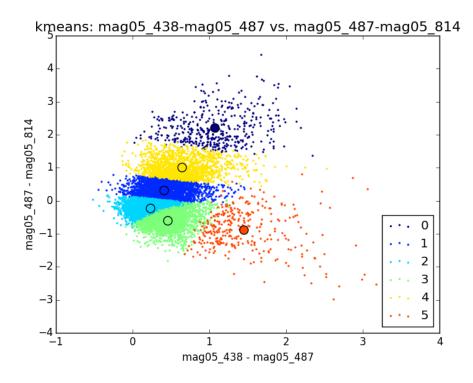
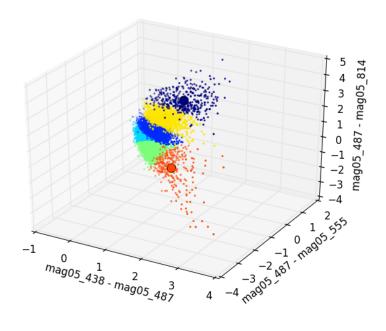
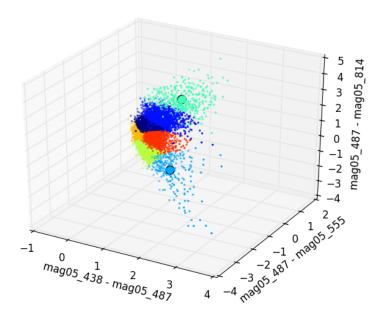


Figure 19: kmeans\_3d\_6cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_814.png

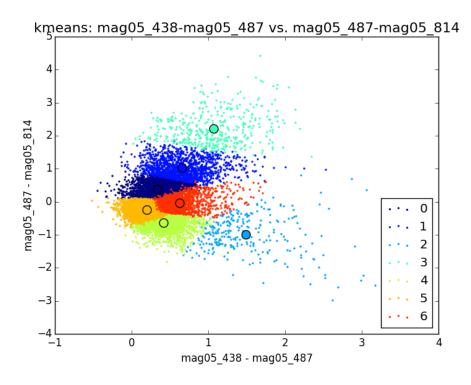


 $\label{lem:color_figure_20:mag05_487vsmag0$ 

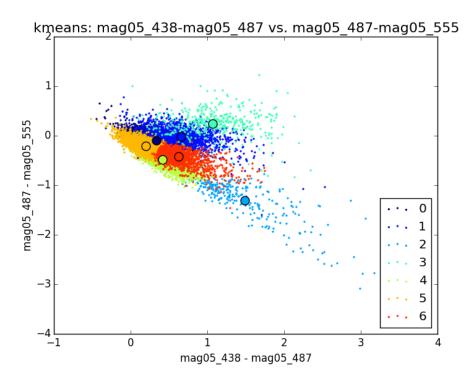


 $\label{lem:figure 21:mag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_814.png$ 

Cluster	Nobj	tScore	cScore	${ m rms}$	AvgDist	MaxDist	$\operatorname{MinDist}$	Stdev	Cen1	
1	2497	0.321189252775	0.33951673218	0.3380	0.3766	1.6087	0.0028	0.271	0.340675210252	-0
2	1436	0.321189252775	0.269552622929	0.7562	0.5798	3.1922	0.0032	0.5118	0.661782033426	-0
3	274	0.321189252775	0.255867144324	1.3795	1.0357	4.0285	0.0135	1.3518	1.48939416058	-
4	421	0.321189252775	0.337595074111	1.4809	0.8883	3.6652	0.0230	0.9025	1.07504750594	0
5	2559	0.321189252775	0.314312307576	0.5556	0.3769	1.5645	0.0017	0.502	0.419655334115	-(
6	4293	0.321189252775	0.37903338534	0.2615	0.3004	1.2778	0.0010	0.2463	0.202110878174	-0
7	1667	0.321189252775	0.20640288984	0.4832	0.4088	1.6863	0.0014	0.4805	0.630792441512	-(



 $Figure~22:~kmeans\_3d\_7cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_814.png$ 



 $Figure~23:~kmeans\_3d\_7cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555.png$ 

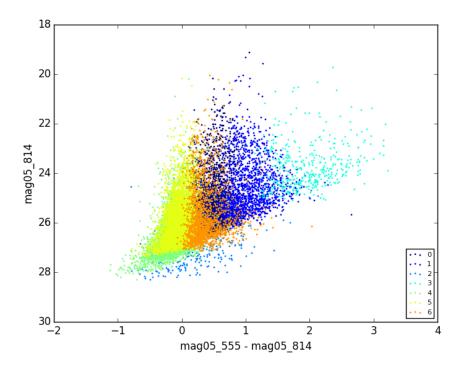
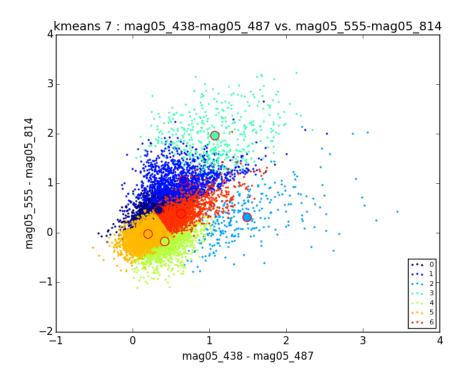
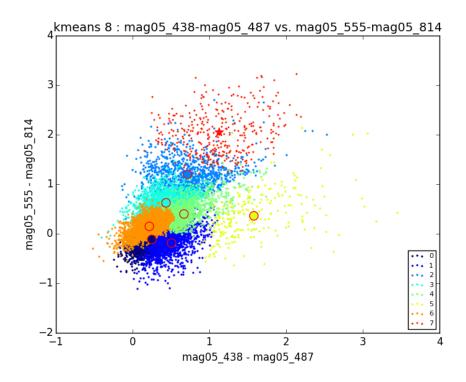


Figure 24: kmeans\_CMD\_7cl\_mag05\_555-mag05\_814vsmag05\_814.png

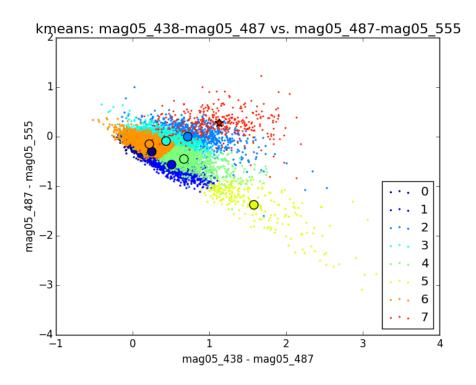


 $Figure~25:~kmeans\_base\_color\_7cl\_mag05\_438-mag05\_487vsmag05\_555-mag05\_814.png$ 



 $Figure~26:~kmeans\_base\_color\_8cl\_mag05\_438-mag05\_487vsmag05\_555-mag05\_814.png$ 

Cluster	Nobj	tScore	cScore	${ m rms}$	AvgDist	MaxDist	MinDist	Stdev	Cen1	
1	3713	0.304103101861	0.372106949475	0.3455	0.2724	0.9976	0.0010	0.3109	0.248555346081	
2	1495	0.304103101861	0.27274157118	0.6433	0.3962	1.5501	0.0017	0.5836	0.504959866221	
3	1054	0.304103101861	0.230459757781	0.8531	0.6106	3.3244	0.0032	0.5652	0.721717267552	0
4	2024	0.304103101861	0.318762358439	0.4429	0.3970	1.9176	0.0028	0.3272	0.435733695652	-
5	1463	0.304103101861	0.18751611496	0.5076	0.4211	1.6713	0.0014	0.5048	0.665443609023	
6	233	0.304103101861	0.242756092725	1.4377	1.0481	4.0285	0.0135	1.4116	1.57773390558	
7	2822	0.304103101861	0.309060122162	0.2043	0.3050	1.1859	0.0017	0.2029	0.215067682495	
8	343	0.304103101861	0.342612883793	1.5476	0.8624	3.3599	0.0230	0.9268	1.1261574344	



 $Figure~27:~kmeans\_3d\_8cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555.png$ 

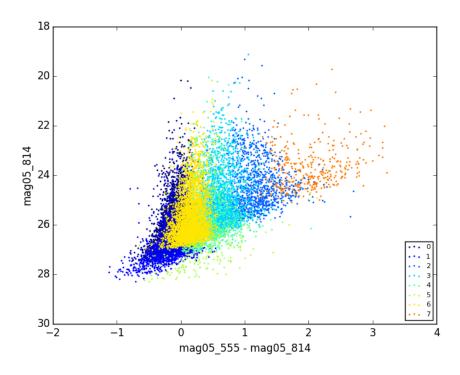
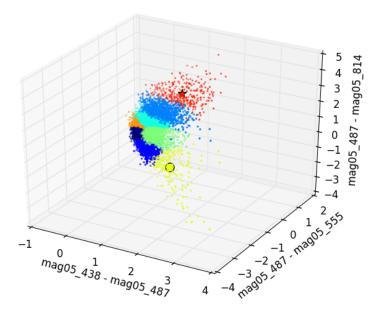
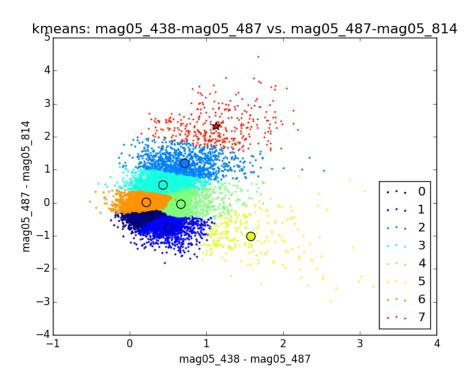


Figure 28: kmeans\_CMD\_8cl\_mag05\_555-mag05\_814vsmag05\_814.png



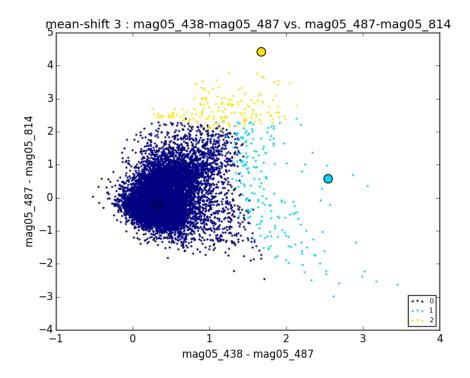
 $\label{lem:sigma} Figure 29: kmeans\_3d\_color\_8cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555vsmag05\_487-mag05\_814.png$ 



 $Figure~30:~kmeans\_3d\_8cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_814.png$ 

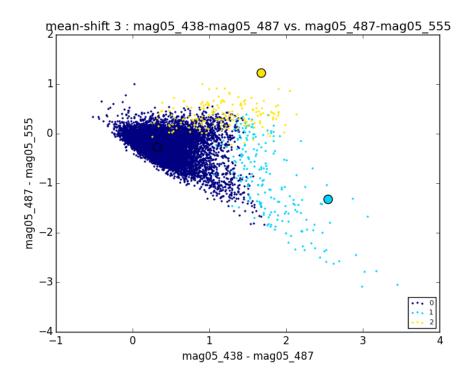
# Meanshift results

Bandw	Nclust	score	TotObj	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
0.5000	13	0.449105654949	13147	11849	847	98	96	89	64	45	38	12	4
0.5500	10	0.466277447292	13147	11886	858	147	88	78	29	28	27	4	2
0.6500	6	0.466936668027	13147	12454	456	96	64	45	32	0	0	0	0
0.7000	4	0.560071988436	13147	12705	221	160	61	0	0	0	0	0	0
0.7500	3	0.596968117107	13147	12774	203	170	0	0	0	0	0	0	0
0.5700	7	0.418526426698	13147	12337	344	312	51	40	32	31	0	0	0

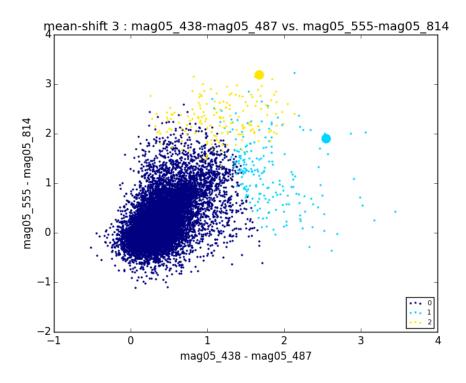


 $Figure~31:~meanshift\_3d\_color\_3cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_814.png$ 

Cluster	Nobj	tScore	cScore	${ m rms}$	AvgDist	MaxDist	MinDist	Stdev	Cen1
1	12774	0.596968117107	0.605384208993	0.4883	0.8235	5.4019	0.0010	0.4867	0.323309452012
2	203	0.596968117107	-0.0288506262498	1.5102	1.9464	6.1748	0.0135	1.4641	2.54785714286
3	170	0.596968117107	0.711874276868	1.7414	0.8130	2.6058	0.0230	1.0217	1.677



 $Figure~32:~meanshift\_3d\_color\_3cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555.png$ 



 $Figure~33:~meanshift\_base\_color\_3cl\_mag05\_438-mag05\_487vsmag05\_555-mag05\_814.png$ 

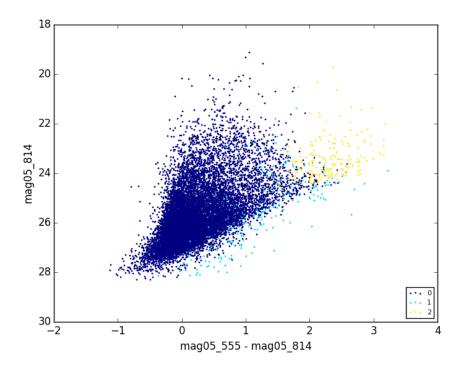
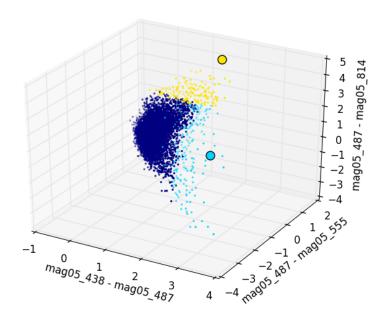
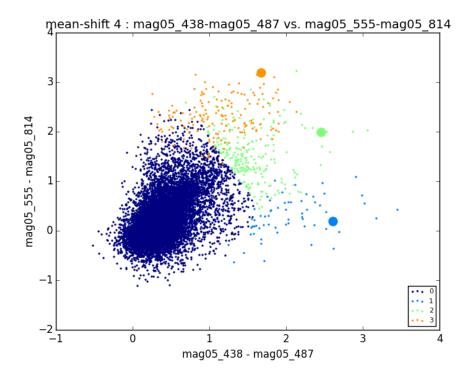


Figure 34: meanshift\_CMD\_3cl\_mag05\_555-mag05\_814vsmag05\_814.png

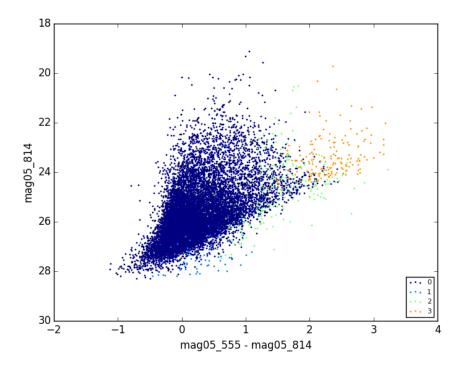


 $\label{eq:figure 35} Figure 35: meanshift\_3d\_color\_3cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555vsmag05\_487-mag05\_814.png$ 

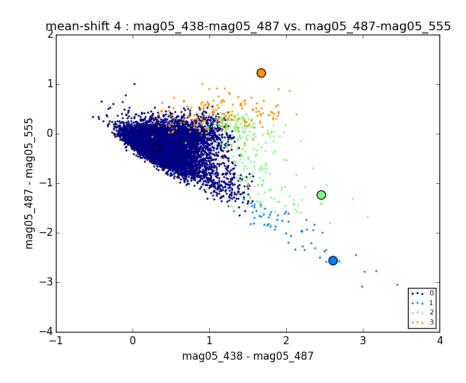


 $Figure~36:~meanshift\_base\_color\_4cl\_mag05\_438-mag05\_487vsmag05\_555-mag05\_814.png$ 

Cluster	Nobj	tScore	cScore	${ m rms}$	AvgDist	MaxDist	MinDist	Stdev	Cen1	
1	12705	0.560071988436	0.569370136789	0.4795	0.8089	4.3469	0.0010	0.4782	0.318374824419	-
2	61	0.560071988436	0.667156323613	1.9428	0.9701	2.8507	0.0521	1.8728	2.61618181818	
3	221	0.560071988436	-0.015655100981	1.3148	1.3740	3.8195	0.0135	1.0634	2.4632	
4	160	0.560071988436	0.576138035264	1.7507	0.8086	2.6058	0.0230	1.0292	1.677	



 $Figure~37:~meanshift\_CMD\_4cl\_mag05\_555-mag05\_814vsmag05\_814.png$ 



 $Figure~38:~meanshift\_3d\_color\_4cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555.png$ 

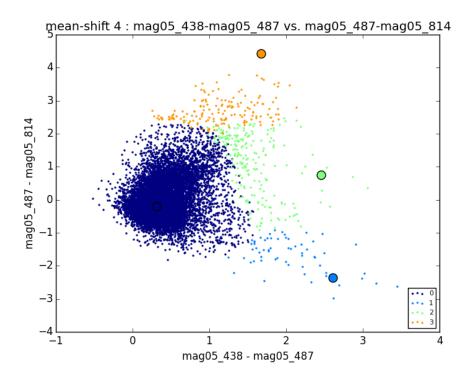
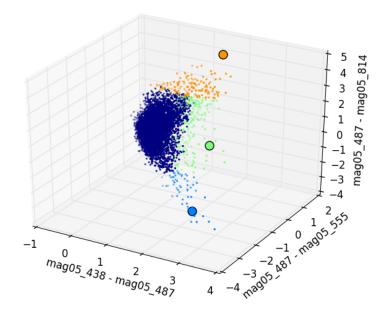
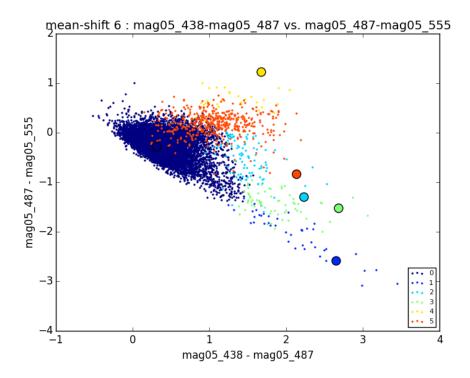


Figure 39: meanshift\_3d\_color\_4cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_814.png

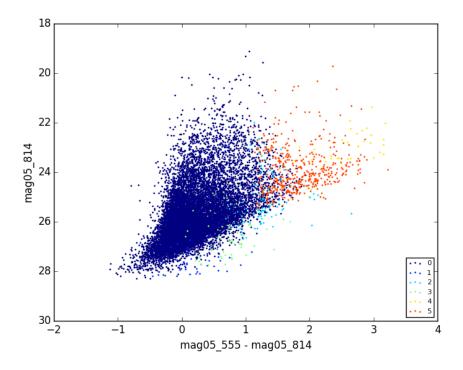


 $\label{eq:figure 40:meanshift_3d_color_4cl_mag05_438-mag05_487vsmag05_487-mag05_555vsmag05_487-mag05_814.png$ 

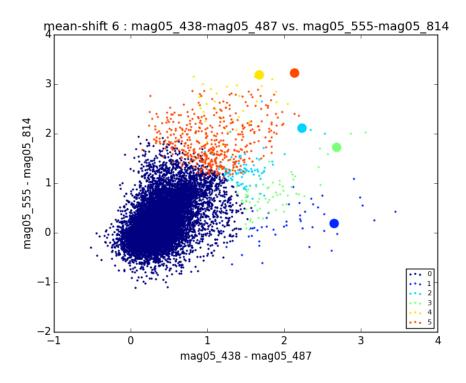


 $Figure~41:~meanshift\_3d\_color\_6cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555.png$ 

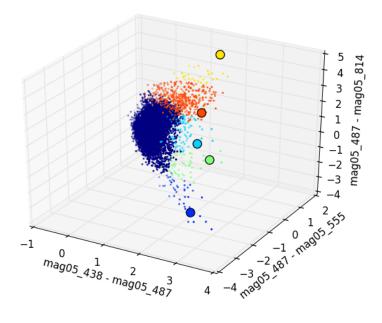
Cluster	Nobj	tScore	cScore	${ m rms}$	AvgDist	MaxDist	MinDist	Stdev	Cen1	
1	12454	0.466936668027	0.473671481006	0.4566	0.7644	4.2393	0.0010	0.4561	0.312539418618	-0
2	45	0.466936668027	0.326359341582	2.0531	0.9786	2.8507	0.0521	1.9658	2.656	
3	96	0.466936668027	0.352646212655	1.0709	0.7752	1.8063	0.0221	0.9116	2.2318	
4	64	0.466936668027	0.424132333184	1.4401	0.7510	2.4132	0.0135	1.4383	2.685	
5	32	0.466936668027	0.530057939999	2.1041	0.7031	1.8427	0.0543	1.162	1.677	
6	456	0.466936668027	0.322511447157	1.3681	0.8062	2.3653	0.0195	0.8348	2.138	



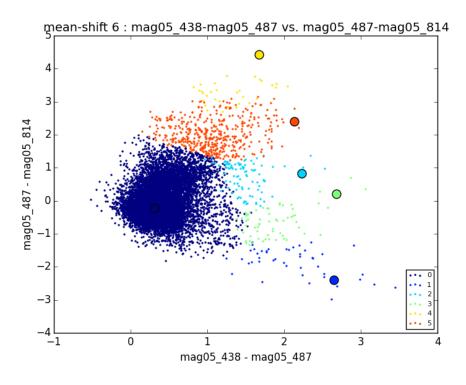
 $Figure~42:~meanshift\_CMD\_6cl\_mag05\_555-mag05\_814vsmag05\_814.png$ 



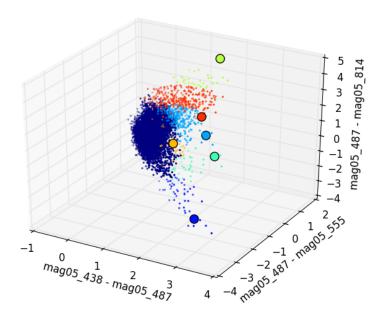
 $Figure~43:~meanshift\_base\_color\_6cl\_mag05\_438-mag05\_487vsmag05\_555-mag05\_814.png$ 



 $\label{eq:figure 44:meanshift_3d_color_6cl_mag05_438-mag05_487vsmag05_487-mag05_555vsmag05\_487-mag05\_814.png$ 

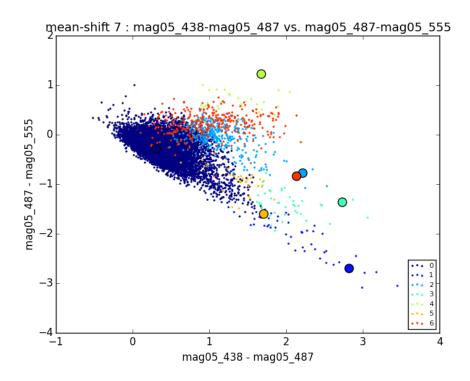


 $Figure~45:~meanshift\_3d\_color\_6cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_814.png$ 

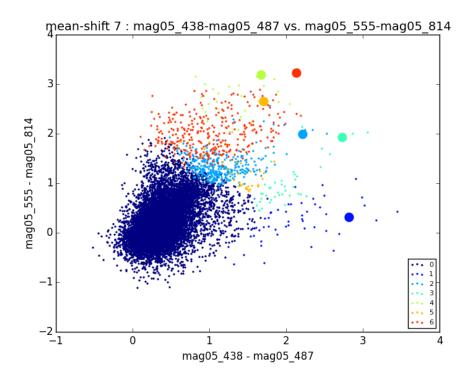


 $\label{eq:figure 46:mag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_487vsmag05_814.png$ 

Cluster	Nobj	tScore	cScore	${ m rms}$	AvgDist	MaxDist	$\operatorname{MinDist}$	Stdev	Cen1	
1	12337	0.418526426698	0.426317117983	0.4513	0.7508	4.2393	0.0010	0.4512	0.304222235902	-
2	51	0.418526426698	0.365822440715	2.0129	0.9741	2.8507	0.0521	1.9343	2.82166666667	
3	344	0.418526426698	0.379645494623	1.0416	0.6142	2.4072	0.0180	0.6643	2.221	
4	40	0.418526426698	0.291226939472	1.4699	0.7491	2.0501	0.0135	1.4685	2.73275	
5	32	0.418526426698	0.464355444315	2.1041	0.7031	1.8427	0.0543	1.162	1.677	
6	31	0.418526426698	0.268351793503	1.0520	0.7025	2.1878	0.0292	1.0248	1.711	
7	312	0.418526426698	0.188494535983	1.4640	0.7726	2.3653	0.0230	0.899	2.138	



 $Figure~47:~meanshift\_3d\_color\_7cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555.png$ 



 $Figure~48:~meanshift\_base\_color\_7cl\_mag05\_438-mag05\_487vsmag05\_555-mag05\_814.png$ 

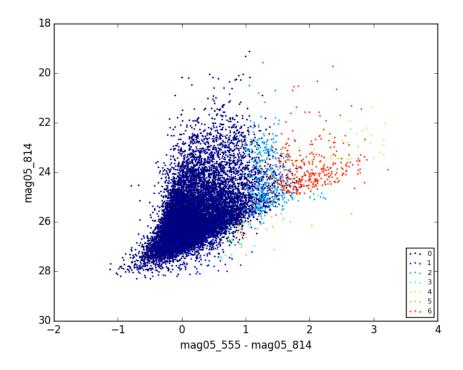
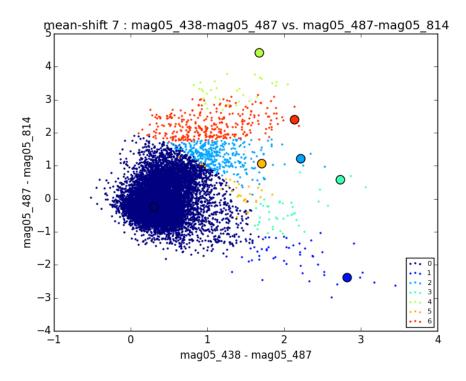
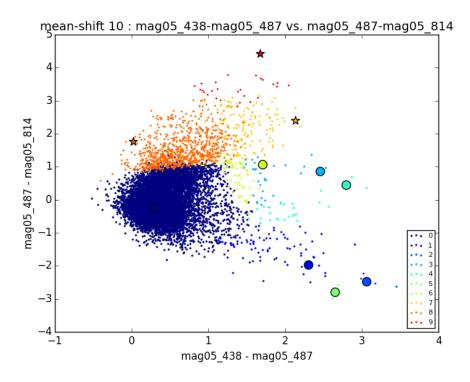


Figure 49: meanshift\_CMD\_7cl\_mag05\_555-mag05\_814vsmag05\_814.png

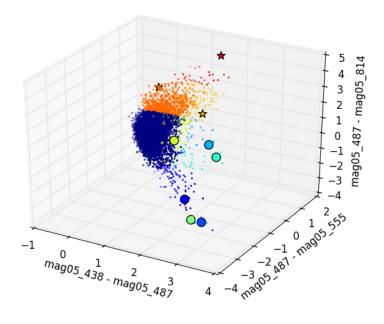


 $Figure~50:~meanshift\_3d\_color\_7cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_814.png$ 

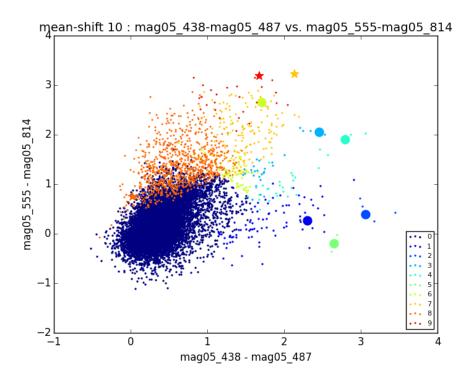


 $Figure~51:~meanshift\_3d\_color\_10cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_814.png$ 

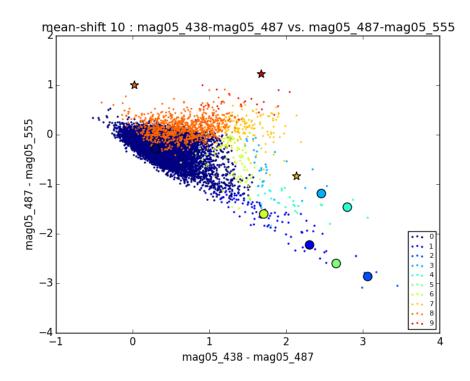
Cluster	Nobj	tScore	cScore	${ m rms}$	AvgDist	MaxDist	MinDist	Stdev	Cen1
1	11886	0.466277447292	0.485344988203	0.4305	0.6928	3.1662	0.0010	0.4304	0.301835847382
2	88	0.466277447292	0.276418962739	1.6547	0.8359	2.3732	0.0168	1.5921	2.30638461538
3	4	0.466277447292	0.419858939903	2.8641	0.4361	0.6322	0.3275	2.7678	3.0672
4	29	0.466277447292	-0.00363368793981	1.2086	0.8209	1.6846	0.0292	1.0499	2.46275
5	28	0.466277447292	0.448096627689	1.4578	0.6497	1.8427	0.0135	1.4526	2.80033333333
6	2	0.466277447292	0.468527316455	2.6873	0.3935	0.3935	0.3935	2.5276	2.6565
7	78	0.466277447292	0.0994991602134	1.0004	0.7583	2.3173	0.0221	0.853	1.711
8	147	0.466277447292	0.180682301716	1.5616	0.8038	1.9176	0.0230	0.9307	2.138
9	858	0.466277447292	0.319062252211	1.0065	0.7301	2.8113	0.0032	0.6569	0.022
10	27	0.466277447292	0.514064324993	2.1541	0.6869	1.6941	0.0543	1.1981	1.677



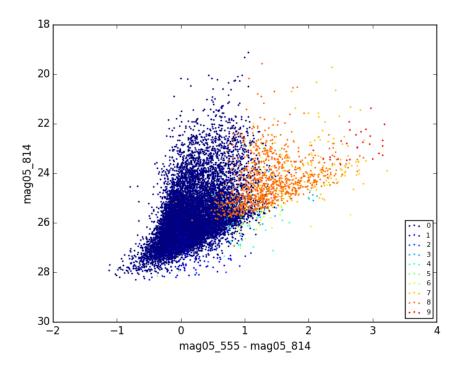
 $\label{eq:figure 52:meanshift_3d_color_10cl_mag05_438-mag05_487vsmag05_487-mag05_555vsmag05\_487-mag05\_814.png$ 



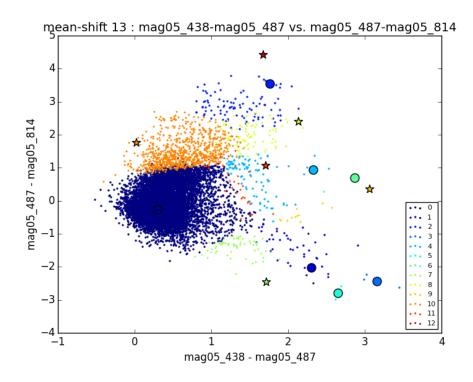
 $Figure~53:~meanshift\_base\_color\_10cl\_mag05\_438-mag05\_487vsmag05\_555-mag05\_814.png$ 



 $Figure~54:~meanshift\_3d\_color\_10cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555.png$ 

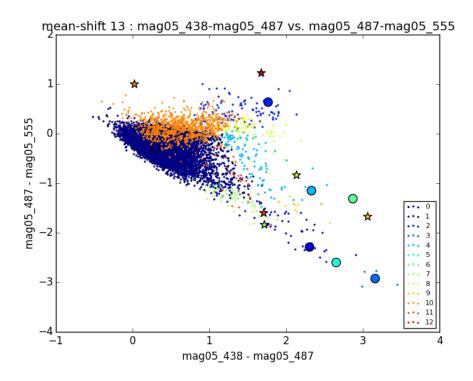


 $Figure~55:~meanshift\_CMD\_10cl\_mag05\_555-mag05\_814vsmag05\_814.png$ 

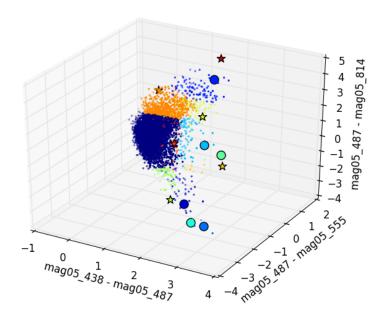


 $Figure~56:~meanshift\_3d\_color\_13cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_814.png$ 

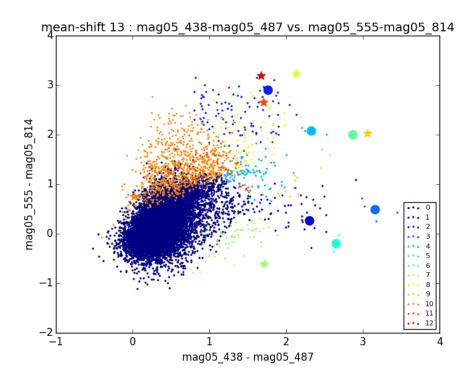
Cluster	Nobj	tScore	cScore	${ m rms}$	AvgDist	MaxDist	MinDist	Stdev	Cen1
1	11849	0.449105654949	0.46605975635	0.4275	0.6877	3.1425	0.0010	0.4274	0.296615173549
2	45	0.449105654949	0.0372608491729	1.8277	0.8252	2.0918	0.0680	1.7817	2.30909090909
3	98	0.449105654949	0.320795139402	1.8739	0.6984	1.6854	0.0230	1.0464	1.76525
4	4	0.449105654949	0.419858939903	2.8641	0.4361	0.6322	0.3275	2.7678	3.161
5	96	0.449105654949	0.0328380824797	1.1040	0.8330	2.3946	0.0135	0.9213	2.327666666667
6	2	0.449105654949	0.468527316455	2.6873	0.3935	0.3935	0.3935	2.5276	2.6565
7	2	0.449105654949	0.407940003928	1.7598	0.5880	0.5880	0.5880	1.6568	2.868
8	64	0.449105654949	0.504434507516	1.3781	0.5209	1.5643	0.0164	1.2945	1.718
9	89	0.449105654949	0.308968354609	1.4478	0.6475	1.6063	0.0292	0.8823	2.138
10	12	0.449105654949	0.418635101382	1.5748	0.5246	1.5303	0.0473	1.5703	3.068
11	847	0.449105654949	0.330378700382	0.9765	0.6907	2.3729	0.0032	0.6359	0.022
12	38	0.449105654949	-0.0601544226348	1.0239	0.9326	2.4837	0.0338	0.952	1.711
13	1	0.449105654949	0.0	N/A	N/A	N/A	N/A	1.4089	1.677



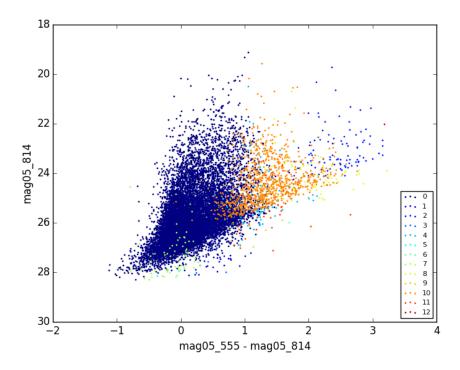
 $Figure~57:~meanshift\_3d\_color\_13cl\_mag05\_438-mag05\_487vsmag05\_487-mag05\_555.png$ 



 $\label{eq:figure 58:meanshift_3d_color_13cl_mag05_438-mag05_487vsmag05_487-mag05_555vsmag05\_487-mag05\_814.png$ 



 $Figure~59:~meanshift\_base\_color\_13cl\_mag05\_438-mag05\_487vsmag05\_555-mag05\_814.png$ 



 $Figure~60:~meanshift\_CMD\_13cl\_mag05\_555-mag05\_814vsmag05\_814.png$