

Galaxy - "ILLUSIONS"

TSP Advanced Observing Program – May 2013

Observe ANY 20 Pair - and see BOTH Objects

Object	2000	Const.	Dim.	Mag.	z	Distance	U - 1
<input type="checkbox"/> NGC 2672 NGC 2673	08 49 21.9 + 19 04 30	Cnc	2.9 x 2.7	12.7B 14.3	0.014487 0.012535	195M 169M	U-142
<input type="checkbox"/> NGC 2872 NGC 2874	09 25 42.6 + 11 25 56	Leo	1.6 x 1.4 2.8 x 0.8	12.8 13.4	0.010661 0.012619	144M 170M	U-188
<input type="checkbox"/> PGC30467 PGC 30466	10 23 47.1 + 53 06 28	Uma	0.7 x 0.6 0.7 x 0.4	13.8 13.5	0.031385 0.033451	419M 446M	U-45
<input type="checkbox"/> UGC 5770 UGC 5769	10 37 04.9 + 20 26 27	Leo	0.9 x 0.9 1.0 x 0.9	15.4 15.3	0.042156 0.043251	568M 582M	U-145
<input type="checkbox"/> NGC 3314A NGC 3314B	10 37 12.8 – 27 41 02	Hya	1.6 x 0.7 1.3 x 0.6	14.4 13.8	0.009510 0.015481	128M 208M	U 325
<input type="checkbox"/> UGC 5818 CGCG 37-114	10 41 15.7 + 06 21 41	Leo	1.1 x 0.7 .8 x 0.7	14.6 14.8	0.020864 0.019264	280M 259M	U-190
<input type="checkbox"/> MCG +7-22-57 MCG +7-22-58	10 45 24.9 + 39 09 50	LMi	0.8 x 0.2 0.8 x 0.8	14.9 15.3	0.025554 0.026498	342M 355M	U-72
<input type="checkbox"/> UGC 5904 MCG +11-13-38B	10 48 37.9 + 66 21 43	Uma	2.0 x 0.3 0.5 x 0.3	13.9 16.0	0.021985 0.024041	295M 322M	U-24
<input type="checkbox"/> Markarian 421 PGC 33453	11 04 27.3 + 38 12 32 11 04 28.3 + 38 12 40	Uma	Stellar 0.8 x 0.7	13.3Var 17.0	0.030021 0.031288	401M 418M	U-106
<input type="checkbox"/> NGC 3607 NGC 3605	11 16 54.7 + 18 03 06	Leo	5.5 x 5.1 1.6 x 1.2	10.8 13.1 (V)	0.003202 0.002365	43M 32M	U-146
<input type="checkbox"/> MCG +4-28-43 MCG +4-28-44	11 44 16.5 + 20 13 01	Leo	0.6 x 0.4 0.9 x 0.5	16.2 14.3	0.02247 0.02124	301M 285M	U-147
<input type="checkbox"/> NGC 3861 MCG +3-30-94	11 45 03.9 + 19 58 25	Leo	2.1 x 1.2 0.6 x 0.3	13.7 15.5	0.016982 0.025171	228M 337M	U-147
<input type="checkbox"/> NGC 3873 NGC 3875	11 45 46.1 + 19 46 26	Leo	1.0 x 1.0 1.4 x 0.4	13.9B 14.9	0.018126 0.023209	244M 311M	U-147
<input type="checkbox"/> NGC 4073 PGC 38205	12 04 27.0 + 01 53 45	Vir	3.4 x 2.3 0.2 x 0.2	12.9 15.3	0.019584 0.021361	263M 287M	U-238
<input type="checkbox"/> NGC 4089 NGC 4091	12 05 37.4 + 20 33 21	Com	0.8 x 0.8 1.2 x 0.3	14.6 (P) 15.2	0.024240 0.025638	325M 343M	U-148
<input type="checkbox"/> NGC 4169, H61A NGC 4173, H61B	12 12 18.8 + 29 10 46	Com	2.3 x 1.2 5.0 x 0.7	13.2 (B) 15.2 (B)	0.012622 0.003759	170M 51M	U-107
<input type="checkbox"/> NGC 4496A NGC 4496B	12 31 39.2 + 03 56 22	Vir	4.0 x 3.1 1.0 x 0.9	11.9B 14.0	0.005771 0.015085	78M 203M	U-238
<input type="checkbox"/> NGC 4540 IC 3528	12 34 50.9 + 15 33 06	Com	1.9 x 1.4 0.4 x 0.4	12.4 (B) 15.2 (B)	0.004290 0.046120	58M 610M	U-194

Object	2000	Const.	Dim.	Mag.	z	Distance	U - 1
<input type="checkbox"/> PGC 44984, H 63A PGC 44979, H 63C	13 02 17.4 – 32 45 44	Cen	1.3 x 0.4 0.7 x 0.5	14.9 (B) 15.5 (B)	0.016361 0.032102	220M 428M	U-370
<input type="checkbox"/> NGC 5353, H 68A NGC 5354, H 68B	13 53 26.7 + 40 16 59	CVn	3.3 x 1.8 2.8 x 2.2	12.0 (V) 12.3 (V)	0.007755 0.008603	105M 116M	U-76
<input type="checkbox"/> UGC 8960 UGC 8962 PGC 50020	14 02 43.1 + 39 10 06	CVn	2.0 x 0.4 1.1 X 1.1 0.4 x 0.3	14.4 14.8 16.1	0.018937 0.019992 0.068000	254M 268M 889M	U-77
<input type="checkbox"/> IC 4371, H70A IC 4370, H 70D	14 04 10.1 + 33 20 15 14 04 09.8 + 33 20 45	CVn	1.4 x 0.3 0.5 x 0.3	14.7 15.7	0.027479 0.062863	367M 825M	U-110
<input type="checkbox"/> NGC 5526 MCG +10-20-84	14 13 51.8 + 57 46 13	Uma	1.9 x 0.2 0.8 x 0.5	14.3 15.2	0.006685 0.039988	90M 531M	U-49
<input type="checkbox"/> NGC 5532 UGC 9137	14 16 52.9 + 10 48 27 14 16 53.4 + 10 47 54	Boo	1.6 x 1.6 0.7 x 0.5	14.1 15.0	0.024704 0.0230	331M 308M	U-197
<input type="checkbox"/> NGC 5679B, Arp274 NGC 5679A	14 35 08.8 + 05 21 23	Vir	1.1 x 0.7 1.3 x 0.6	13.8 14.5	0.028900 0.025604	386M 343M	U-197
<input type="checkbox"/> UGC 9401 MAC 1436+2148	14 36 09.2 + 21 47 37 14 36 06.3 + 21 48 01	Boo	1.5 x 0.6 0.5 x 0.2	14.3 (P) 17.7	0.018773 0.087047	252M 1.127B	U-152
<input type="checkbox"/> NGC 5707 PGC 52269	14 37 30.8 + 51 33 42	Boo	2.5 x 0.4 1.0 x 1.0	13.1 15.6	0.007378 0.043717	100M 579M	U-50
<input type="checkbox"/> UGC 9602 CGCG 76-100	14 55 55.3 + 11 51 42	Boo	0.8 x 0.58 0.7 x 0.78	14.6 14.5	0.032196 0.029574	429M 395M	U-198
<input type="checkbox"/> NGC 5829, H 73A IC 4526, H73B	15 02 42.0 + 23 20 01 15 02 38.2 + 23 21 04	Boo	1.5 x 1.0 0.5 x 0.4	14.1 15.7	0.018797 0.045648	253M 604M	U-153
<input type="checkbox"/> CGCG 135-51 CGCG 135-51-02	15 21 40.6 + 25 50 33 15 21 39.6 + 25 50 46	CrB	0.4 x 0.4	15.2 16.8	0.033946 0.0745	452M 971M	U-154
<input type="checkbox"/> UGC 10052 UGC 10052-01	15 49 59.4 + 20 48 20 15 49 57.3 + 20 48 19	Ser	0.5 x 0.4 0.8 x 0.7	14.4 14.7	0.035923 0.035149	478M 468M	U-155
<input type="checkbox"/> CGCG 224-13 J162326.33+414231-7	16 23 27.7 + 41 42 23	Her	0.7 x 0.5	14.6 (P) 17.5	0.028039 0.134002	375M 1.69B	U-79
<input type="checkbox"/> MCG +7-34-64 MCG +7-34-69	16 28 44.4 + 39 28 26	Her	0.8 x 0.8 0.7 x 0.3	14.1 15.7	0.027225 0.025898	364M 347M	U-80
<input type="checkbox"/> NGC 6365A NGC 6365B	17 22 43.8 + 62 09 58	DrA	1.5 x 1.0 1.1 x 0.3	14.7 16.5	0.028341 0.026801	379M 359M	U-29
<input type="checkbox"/> NGC 6962 NGC 6964	20 47 19.0 + 00 19 15	Aqr	3.3 x 2.2 1.7 x 4.2	13.3 13.8	0.014046 0.012689	189M 171M	U-254

Good Luck – Good Hunting

$H_0 = 72 \text{ km s}^{-1} \text{ Mpc}^{-1}$
Open Universe

Larry Mitchell -- Jim Chandler