

## The Herschel Sprint Mark Bratton

Interested observers can experience Herschel's "Night of Discovery" for themselves. Like the Messier Marathon, the Herschel Sprint can be completed in one moonless night in the spring. Purists can recreate the sweep using an eyepiece that provides a magnification of about 150 $\times$ , sweeping in a north–south pattern over a 2–3 $^\circ$  field as stars drift into view from the east. Modern eyepieces provide much wider fields of view than the ones Herschel employed; to further authenticate the experience, choose a higher magnification eyepiece that provides a 15–20' field, or use an older style eyepiece (for example, an orthoscopic with a 45 or 50 $^\circ$  field of view). Others may prefer to use a good star atlas or computer-assisted telescope to more quickly locate objects and provide more time to study each one. At least a 15-inch aperture telescope will likely be required to ensure total success, but observers using smaller telescopes can observe many, if not most, of the objects on the list with little difficulty. What is the minimum aperture that reveals all 73 objects?

NGC	Herschel No.	RA	Dec	Const	Type	Size	Mag (v)	Notes
3196	III 348	10 <sup>h</sup> 18.8 <sup>m</sup>	+27 $^\circ$ 40'	Leo	S0	0.3' $\times$ 0.2'	14.9	Radial velocity 15,131 km/s; distance 675 ml-y
3245	I 86	10 <sup>h</sup> 27.3 <sup>m</sup>	+28 $^\circ$ 30'	LMi	SA(r)0 <sup>o</sup> :?	3.2' $\times$ 1.8'	10.8	
3265	III 349	10 <sup>h</sup> 31.1 <sup>m</sup>	+28 $^\circ$ 48'	LMi	E:	1.3' $\times$ 1.0'	13.5	
3274	II 358	10 <sup>h</sup> 32.3 <sup>m</sup>	+27 $^\circ$ 40'	Leo	SABd?	2.1' $\times$ 1.0'	12.6	
3277	II 359	10 <sup>h</sup> 32.9 <sup>m</sup>	+28 $^\circ$ 31'	LMi	Sa(r)ab	1.9' $\times$ 1.7'	11.7	
3380	II 360	10 <sup>h</sup> 48.2 <sup>m</sup>	+28 $^\circ$ 36'	LMi	(R') SBa?	1.7' $\times$ 1.3'	12.7	
3400	II 361	10 <sup>h</sup> 50.8 <sup>m</sup>	+28 $^\circ$ 28'	LMi	SB(s)a:	1.3' $\times$ 0.8'	13.4	
3414	II 362	10 <sup>h</sup> 51.3 <sup>m</sup>	+27 $^\circ$ 59'	LMi	S0 pec	3.5' $\times$ 2.6'	10.9	Arp 162
3418	II 363	10 <sup>h</sup> 51.4 <sup>m</sup>	+28 $^\circ$ 07'	LMi	SAB(s)0/a:	1.4' $\times$ 1.1'	13.4	
3451	II 364	10 <sup>h</sup> 54.4 <sup>m</sup>	+27 $^\circ$ 14'	LMi	Sd	1.7' $\times$ 0.8'	13.1	
3486	I 87	11 <sup>h</sup> 00.4 <sup>m</sup>	+28 $^\circ$ 58'	LMi	SAB(r)c	7.1' $\times$ 5.2'	10.5	Bright, multi-armed spiral
3504	I 88	11 <sup>h</sup> 03.2 <sup>m</sup>	+27 $^\circ$ 58'	LMi	(R)SAB(s)ab	2.7' $\times$ 2.1'	11.8	
3510	II 365	11 <sup>h</sup> 03.7 <sup>m</sup>	+28 $^\circ$ 53'	LMi	SB(s)m	4.0' $\times$ 0.8'	12.3	Low surface brightness
3512	II 366	11 <sup>h</sup> 04.1 <sup>m</sup>	+28 $^\circ$ 02'	LMi	SAB(rs)c	1.6' $\times$ 1.5'	12.9	
3527	III 350	11 <sup>h</sup> 07.3 <sup>m</sup>	+28 $^\circ$ 32'	UMa	(R)SB(r)ab:	1.0' $\times$ 0.9'	13.9	Abell 1185. Radial velocity 10,060 km/s; distance 450 ml-y
3550	III 351	11 <sup>h</sup> 10.7 <sup>m</sup>	+28 $^\circ$ 46'	UMa	E pec	1.0' $\times$ 1.0'	13.2	Abell 1185. Radial velocity 10,356 km/s; distance 450 ml-y
3552	III 352	11 <sup>h</sup> 10.7 <sup>m</sup>	+28 $^\circ$ 42'	UMa	E	0.6' $\times$ 0.5'	14.5	Abell 1185. Radial velocity 9,893 km/s; distance 450 ml-y
3713	II 367	11 <sup>h</sup> 31.7 <sup>m</sup>	+28 $^\circ$ 09'	Leo	S0–:	1.2' $\times$ 0.8'	13.3	
3714	III 353	11 <sup>h</sup> 31.9 <sup>m</sup>	+28 $^\circ$ 21'	UMa	I?	0.5' $\times$ 0.4'	13.3	
4004	III 354	11 <sup>h</sup> 58.1 <sup>m</sup>	+27 $^\circ$ 53'	Leo	Pec	1.8' $\times$ 0.6'	13.6	Peculiar morphology
4008	II 368	11 <sup>h</sup> 58.3 <sup>m</sup>	+28 $^\circ$ 12'	Leo	S0/E5?	2.5' $\times$ 1.3'	11.8	

4017	II 369	11 <sup>h</sup> 58.8 <sup>m</sup>	+27° 27'	Com	SABbc	1.8' × 1.4'	12.7	Arp 305 (with NGC 4016)
4080	III 355	12 <sup>h</sup> 04.9 <sup>m</sup>	+27° 00'	Com	Im?	1.2' × 0.5'	13.9	
4104	II 370	12 <sup>h</sup> 06.7 <sup>m</sup>	+28° 10'	Com	S0	2.6' × 1.5'	12.2	
4131	III 356	12 <sup>h</sup> 08.8 <sup>m</sup>	+29° 18'	Com	Sb	1.3' × 0.7'	13.3	Triplet with NGC 4132 and NGC 4134
4132	III 357	12 <sup>h</sup> 09.0 <sup>m</sup>	+29° 15'	Com	Sab	1.1' × 0.3'	14.0	Spiral MCG+5-29-24 immediately ENE seen by Herschel?
4134	II 371	12 <sup>h</sup> 09.2 <sup>m</sup>	+29° 11'	Com	Sb	2.2' × 0.9'	13.1	
4169	III 358	12 <sup>h</sup> 12.3 <sup>m</sup>	+29° 11'	Com	S0/a	1.8' × 0.9'	12.3	Hickson 61. Quartet with NGC 4173, NGC 4174 and NGC 4175
4173	II 372	12 <sup>h</sup> 12.3 <sup>m</sup>	+29° 13'	Com	Sdm	5.0' × 0.7'	13.3	Hickson 61. Foreground object? Radial velocity 1,122 km/s
4174	III 359	12 <sup>h</sup> 12.5 <sup>m</sup>	+29° 09'	Com	S0	0.8' × 0.3'	13.6	Hickson 61
4175	III 360	12 <sup>h</sup> 12.5 <sup>m</sup>	+29° 10'	Com	Sbc	1.8' × 0.4'	13.4	Hickson 61
4185	II 373	12 <sup>h</sup> 13.4 <sup>m</sup>	+28° 31'	Com	Sbc	2.6' × 1.9'	12.3	
4196	II 374	12 <sup>h</sup> 14.5 <sup>m</sup>	+28° 25'	Com	S0?	1.2' × 0.9'	12.9	
4209	II 375	12 <sup>h</sup> 15.4 <sup>m</sup>	+28° 28'	Com				Star? Non-existent? Duplicate observation of NGC 4185?
4251	I 89	12 <sup>h</sup> 18.1 <sup>m</sup>	+28° 11'	Com	SB0? sp	3.6' × 1.5'	10.6	Bright lenticular
4275	II 376	12 <sup>h</sup> 19.9 <sup>m</sup>	+27° 37'	Com	S?	0.8' × 0.7'	12.8	
4278	I 90 = II 322	12 <sup>h</sup> 20.1 <sup>m</sup>	+29° 17'	Com	E1-2	4.1' × 3.8'	10.2	With NGC 4283 and NGC 4286, discovered March 13, 1785
4283	II 323 = II 377	12 <sup>h</sup> 20.4 <sup>m</sup>	+29° 19'	Com	E0	1.5' × 1.5'	12.1	
4310	II 378	12 <sup>h</sup> 22.4 <sup>m</sup>	+29° 13'	Com	(R')SAB(r)0+?	2.2' × 1.2'	12.3	
4375	II 379	12 <sup>h</sup> 25.0 <sup>m</sup>	+28° 34'	Com	SB(r)ab pec:	1.6' × 1.4'	13.0	
4393	III 361	12 <sup>h</sup> 25.9 <sup>m</sup>	+27° 34'	Com	SABd	3.2' × 3.0'	12.2	Low surface brightness
4448	I 91	12 <sup>h</sup> 28.3 <sup>m</sup>	+28° 37'	Com	SB(r)ab	3.9' × 1.4'	11.2	Bright, inclined ring galaxy
4475	III 362	12 <sup>h</sup> 29.8 <sup>m</sup>	+27° 15'	Com	SABc	2.0' × 1.0'	13.5	
4556	II 380	12 <sup>h</sup> 35.8 <sup>m</sup>	+26° 55'	Com	E+:	1.2' × 1.0'	13.2	
4559	I 92	12 <sup>h</sup> 36.0 <sup>m</sup>	+27° 58'	Com	SAB(rs)cd	10.7' × 4.4'	10.0	Large, bright spiral
4692	II 381	12 <sup>h</sup> 47.9 <sup>m</sup>	+27° 13'	Com	E+:	1.3' × 1.3'	12.8	Abell 1656
4793	I 93	12 <sup>h</sup> 54.7 <sup>m</sup>	+28° 56'	Com	SAB(rs)c	2.8' × 1.5'	11.9	
4798	II 382	12 <sup>h</sup> 54.9 <sup>m</sup>	+27° 25'	Com	S0-:	1.2' × 0.9'	13.2	Abell 1656
4816	II 383	12 <sup>h</sup> 56.2 <sup>m</sup>	+27° 45'	Com	S0-:	1.3' × 1.1'	12.8	Abell 1656
4827	II 384	12 <sup>h</sup> 56.7 <sup>m</sup>	+27° 11'	Com	S0:	1.4' × 1.3'	12.8	Abell 1656

4839	II 386	12 <sup>h</sup> 57.4 <sup>m</sup>	+27° 30'	Com	cD;SA0	4.0' × 1.9'	12.1	Abell 1656
4840	II 385	12 <sup>h</sup> 57.5 <sup>m</sup>	+27° 37'	Com	E1/SAB0	0.7' × 0.7'	13.9	Abell 1656
4841	II 387	12 <sup>h</sup> 57.5 <sup>m</sup>	+28° 29'	Com	E+ pec	1.6' × 1.0'	13.1	Abell 1656
4869	II 388	12 <sup>h</sup> 59.4 <sup>m</sup>	+27° 55'	Com	E3	0.7' × 0.7'	13.8	Abell 1656
4874	II 389	12 <sup>h</sup> 59.6 <sup>m</sup>	+27° 58'	Com	E+0(gE)	1.9' × 1.9'	12.2	Abell 1656. Can you spot NGC 4872 nearby, southwest?
4889	II 391	13 <sup>h</sup> 00.1 <sup>m</sup>	+27° 59'	Com	cD;E4;Db	2.9' × 1.9'	11.9	Abell 1656
4892	II 390	13 <sup>h</sup> 00.1 <sup>m</sup>	+26° 54'	Com	Sb	1.3' × 0.3'	13.8	Abell 1656
IC 4051	III 363	13 <sup>h</sup> 00.9 <sup>m</sup>	+28° 00'	Com	E5	1.0' × 0.9'	13.2	Abell 1656. NGC 4908?
4911	II 392	13 <sup>h</sup> 00.9 <sup>m</sup>	+27° 47'	Com	SAB(r)bc	1.4' × 1.3'	13.2	Abell 1656
4921	II 393	13 <sup>h</sup> 01.4 <sup>m</sup>	+27° 53'	Com	SB(rs)ab	2.5' × 2.2'	12.3	Abell 1656
4923	II 394	13 <sup>h</sup> 01.5 <sup>m</sup>	+27° 51'	Com	(R')SA(r)0-?	0.8' × 0.8'	13.7	Abell 1656
4927	III 364	13 <sup>h</sup> 02.0 <sup>m</sup>	+28° 00'	Com	SA0-:	0.8' × 0.6'	13.8	Abell 1656
4944	II 395	13 <sup>h</sup> 03.8 <sup>m</sup>	+28° 11'	Com	SA0	1.7' × 0.6'	12.9	Abell 1656
4952	II 396 = III 303	13 <sup>h</sup> 05.0 <sup>m</sup>	+29° 07'	Com	E	1.8' × 1.1'	13.0	Abell 1656. Discovered March 13, 1785
4957	II 397	13 <sup>h</sup> 05.2 <sup>m</sup>	+27° 34'	Com	E3	1.2' × 1.0'	13.1	Abell 1656
4961	II 398	13 <sup>h</sup> 05.8 <sup>m</sup>	+27° 44'	Com	SB(s)cd	1.6' × 1.1'	12.8	
4983	III 365	13 <sup>h</sup> 08.5 <sup>m</sup>	+28° 19'	Com	S0/a	1.1' × 0.7'	14.0	Abell 1656
5000	III 366	13 <sup>h</sup> 09.8 <sup>m</sup>	+28° 54'	Com	SB(rs)bc	1.7' × 1.4'	13.4	Abell 1656?
5032	III 367	13 <sup>h</sup> 13.5 <sup>m</sup>	+27° 48'	Com	SB(r)b	2.1' × 1.1'	12.8	Abell 1656?
5116	III 368	13 <sup>h</sup> 22.9 <sup>m</sup>	+26° 59'	Com	SB(s)c:	2.0' × 0.7'	12.9	
5251	III 369	13 <sup>h</sup> 37.4 <sup>m</sup>	+27° 25'	Boö	S?	0.7' × 0.7'	13.9	
5263	III 370	13 <sup>h</sup> 39.9 <sup>m</sup>	+28° 24'	CVn	S+	1.6' × 0.4'	13.4	M3 is 30' E
5958	II 399	15 <sup>h</sup> 34.8 <sup>m</sup>	+28° 39'	CrB	S?	1.0' × 1.0'	12.7	
6001	III 371	15 <sup>h</sup> 47.8 <sup>m</sup>	+28° 39'	CrB	Sc	1.0' × 1.0'	13.7	