

# The Billion-Light-Year Club: Extra Targets

Object	Mag(v)	z	Light Travel Time (Gyr)	RA	Dec.	Comments
CTA 102	17.3	1.04	7.9	22 <sup>h</sup> 32.6 <sup>m</sup>	+11° 44'	V = 11.3 maximum
PG 1718+481	14.6	1.08	8.1	17 <sup>h</sup> 19.6 <sup>m</sup>	+48° 04'	Visible in a 10-inch
PG 1634+706	14.7	1.34	8.9	16 <sup>h</sup> 34.5 <sup>m</sup>	+70° 32'	Visible in a 10-inch
Double Quasar	16.5 / 16.7	1.40	9.1	10 <sup>h</sup> 01.3 <sup>m</sup>	+55° 54'	Twin lensed quasar at 6"
Ton 490	15.4	1.64	9.7	10 <sup>h</sup> 13.9 <sup>m</sup>	+24° 49'	Easy in 18-inch
Einstein Cross	17.5–18.5	1.69	9.8	22 <sup>h</sup> 40.5 <sup>m</sup>	+03° 22'	Quadruply lensed quasar
HE 0515-4414	14.9	1.71	9.8	05 <sup>h</sup> 17.1 <sup>m</sup>	−44° 11'	
Mrk 679	16.6	1.91	10.2	14 <sup>h</sup> 23.4 <sup>m</sup>	+32° 52'	Near NGC 5611
Q1224-1116	15.4	1.98	10.3	12 <sup>h</sup> 27.4 <sup>m</sup>	−11° 34'	Near NGC 4484
PG 1247+268	15.6	2.04	10.4	12 <sup>h</sup> 50.1 <sup>m</sup>	+26° 31'	Ultra-luminous quasar
S4 1435+638	~16.0	2.07	10.5	14 <sup>h</sup> 36.8 <sup>m</sup>	+63° 37'	
Andromeda's Parachute	~15.5	2.38	10.9	01 <sup>h</sup> 47.2 <sup>m</sup>	+46° 31'	Quadruply lensed quasar
QSO B1603+3820	16.0	2.55	11.1	16 <sup>h</sup> 04.9 <sup>m</sup>	+38° 12'	
HS 1549+1919	~15.5	2.84	11.4	15 <sup>h</sup> 51.9 <sup>m</sup>	+19° 11'	
SBS 1425+606	15.8	2.86	11.4	14 <sup>h</sup> 26.9 <sup>m</sup>	+60° 26'	
HS 1946+7658	16.0	3.05	11.5	19 <sup>h</sup> 44.9 <sup>m</sup>	+77° 06'	
S5 0014+81	16.5	3.37	11.7	00 <sup>h</sup> 17.1 <sup>m</sup>	+81° 35'	
QSO B1422+231	15.8	3.62	11.9	14 <sup>h</sup> 24.6 <sup>m</sup>	+22° 56'	Quadruply lensed quasar
APM 08279+5255	16.2	3.91	12.1	08 <sup>h</sup> 31.7 <sup>m</sup>	+52° 45'	Most distant viewed in 18-inch

Angular sizes and separations are from recent catalogs. Visually, an object's size is often smaller than the cataloged value and varies according to the aperture and magnification of the viewing instrument. Right ascension and declination are for equinox 2000.0.