

**Data Input Table to 13.7 Gyr Graph
for Spacetime Map (Spacetime Map see main text for sources)**

Billion Light Years (distance from Earth) (Gyr)	Open Cosmos (no gravity) (calculated Z)	Closed Cosmos (~ critical gravity) (calculated Z)	Observations (from literature) (Z = "red shift")	Number of Observations
0.4	0.0224	0.0152	0.04	single
1.0	0.056	0.038	-	-
2.0	0.171	0.080	0.1572	average of 3
3.0	0.29	0.129	0.25	single
3.5	-	-	0.30	average of 2
4.0	0.412	0.184	-	-
5.0	0.575	0.25	0.50	single
5.5	-	-	0.57	single
6.0	0.78	0.33	0.661	average of 3
6.9	-	-	0.81	average of 2
7.0	1.154	0.42	-	-
8.0	1.404	0.54	1.0	single
9.0	1.915	0.69	1.356	average of 2
9.2	-	-	1.44	single
10.0	2.703	0.91	1.71	average of 3
10.35	-	-	2.04	average of 3
11.0	4.076	1.23	2.332	average of 2
11.66	-	-	3.17	average of 3
12.0	7.059	1.81	3.9	average of 3
12.2	-	-	4.35	single
12.4	-	-	4.75	single
12.6	-	-	5.0	double
12.76	-	-	5.75	average of 4
12.880	-	-	6.240	average of 5
12.876	-	-	6.706	average of 7
13.0	18.571	3.37	7.8	average of 3
13.1	-	3.72	8.26	single
13.2	-	4.17	10.0	average of 4
13.3	-	4.79	14.0	average of 2
13.4	-	5.68	18.3	single
13.5	-	7.18	-	-
13.6	-	10.56	-	-
15.0	-	-	-	63 total obsv.
John A. Gowan Jan., 2011 homepage				