

**K2 – New Life for
Kepler**

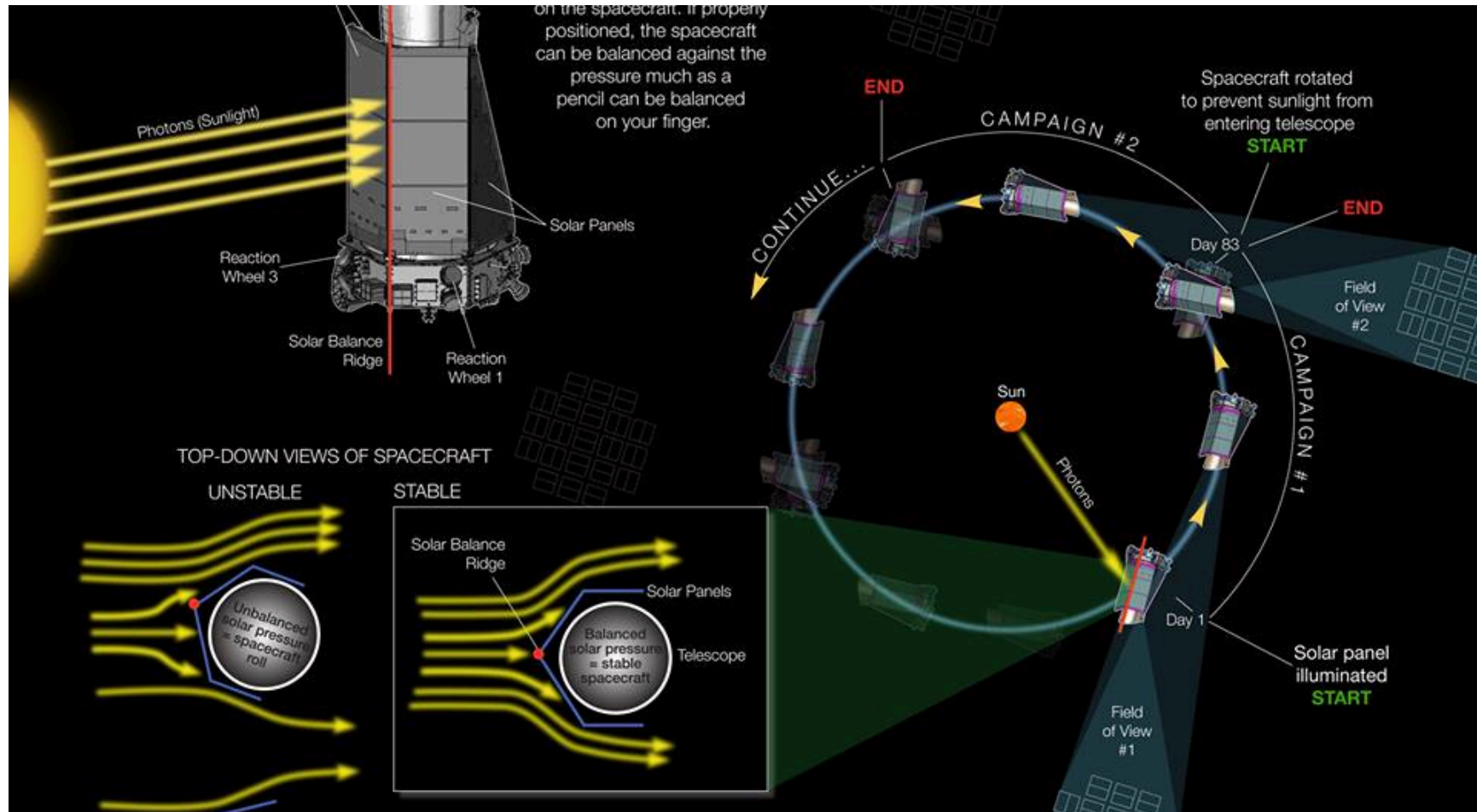
Kepler status

- Mission lost two gyros during 2012-2013
- This means mission loses required stability to remain pointing at the target area (Cygnus). Total ToT was 4 years. Finis Kepler!
- Since s/c otherwise was operating nominally, NASA decided on issuing a call for White Papers for extended mission
- Call closed on 3 Sept 2013
- Nasa received 42 WP's

Kepler status

- Two WP'S stood out:
- **KEPLER'S "SWEET SPOT"** Charles F. Lillie
- **NEW USES FOR THE KEPLER TELESCOPE: A SURVEY OF THE ECLIPTIC PLANE FOR TRANSITING PLANETS AND STAR FORMATION** Chas Beichman (NExSci)

Kepler status

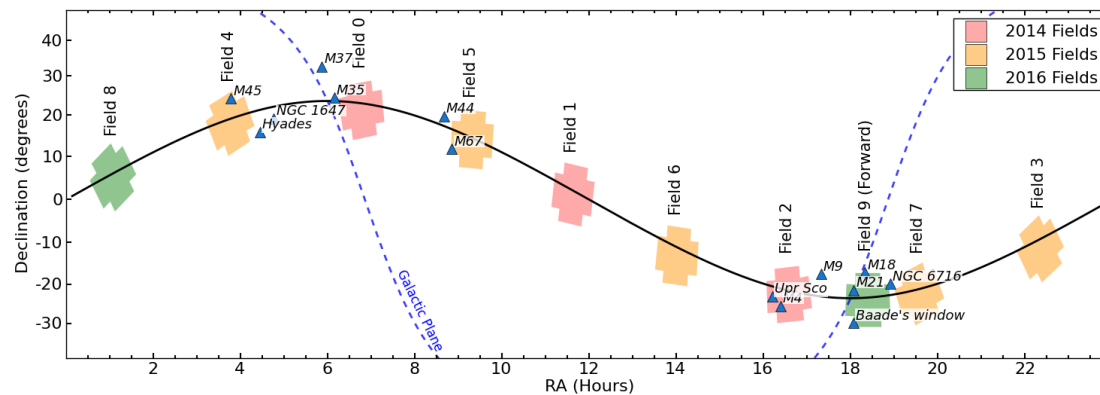


Kepler status

- Based on these 2 WP's a renewed mission called K2 is being proposed
- Assuming that it is approved following submission on 27 Jan, 2014 a 2 year K2 mission will be implemented
- Observing program will be open to everybody
- Data will be public immediately

K2 Characteristics

- Duration 2014 – 2016, 9 fields, up to ~ 80 days each
- 5 000 – 10 000 targets with 30min cadences and about 100 targets with 1 min cadence

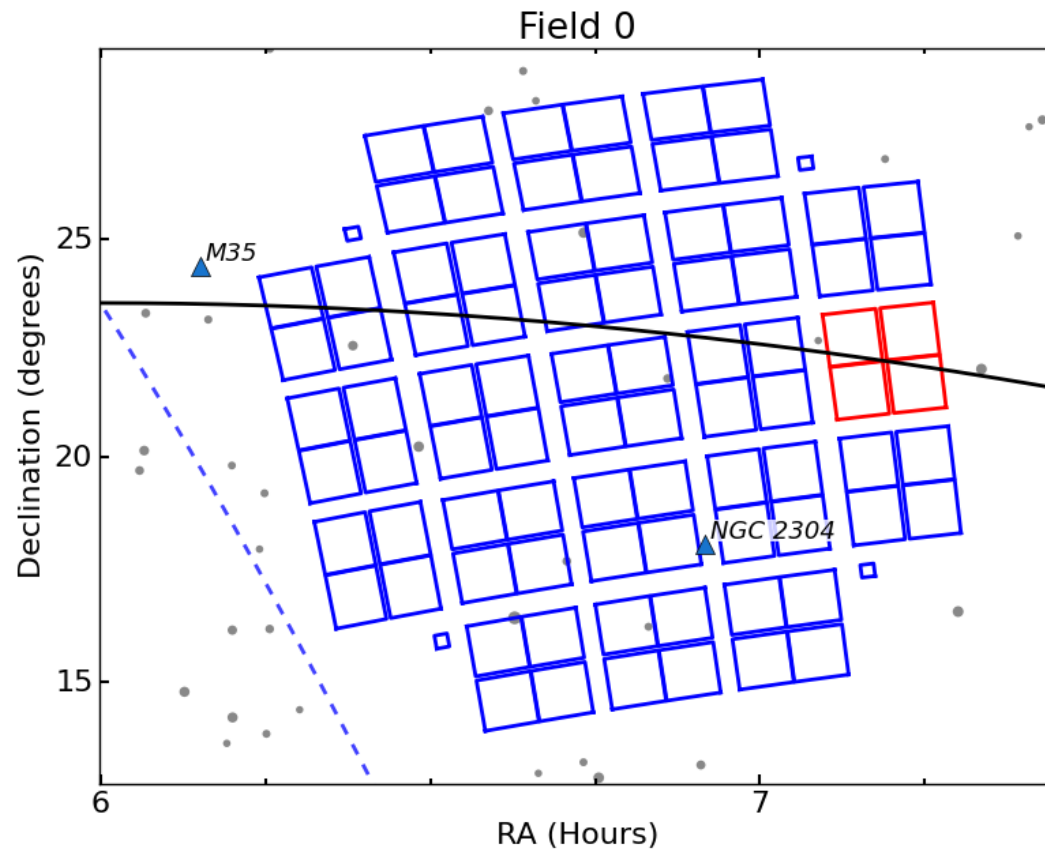


K2 field coordinates

PROPOSED K2 CAMPAIGN FIELDS					
Field	Date	RA (J2000)	Dec (J2000)	Comments	Plot
0	2014 May 04	06:46:59.58	+21:22:47.1	Near Galactic Anti-center, M35, NGC2304	
1	2014 Jul 23	11:37:55.65	+01:11:19.7	North Galactic Cap	
2	2014 Oct 14	16:34:43.63	-22:48:49.0	Near Galactic Center, M4, M80, M19, Upr Sco, rhoOph	
3	2015 Jan 05	22:21:06.01	-11:36:59.4	South Galactic Cap, Neptune	
4	2015 Mar 29	03:45:59.04	+18:07:49.7	M45 (Pleiades), NGC1647, Hyades	
5	2015 Jun 20	09:19:02.66	+14:11:41.0	M44 (Beehive), M67	
6	2015 Sep 11	14:01:11.20	-13:16:02.8	North Galactic Cap	
7	2015 Dec 03	19:34:16.22	-22:38:23.4	Near Galactic Center, NGC6717	
8	2016 Feb 24	01:04:43.18	+05:11:52.2	South Galactic Cap	
9	2016 May 17	18:23:35.72	-24:12:12.8	Galactic Center, Baades Window, M21, M18, M25, M8	

Each date listed in the table above refers to the day on which the spacecraft anti-velocity vector passes through the field-center coordinates provided. The one exception is proposed campaign 9 which points the spacecraft boresight towards the positive velocity vector. In general, campaigns can start a maximum of 52 days before each date and end no later than 30 days after each date.

K2 field 0 coordinates

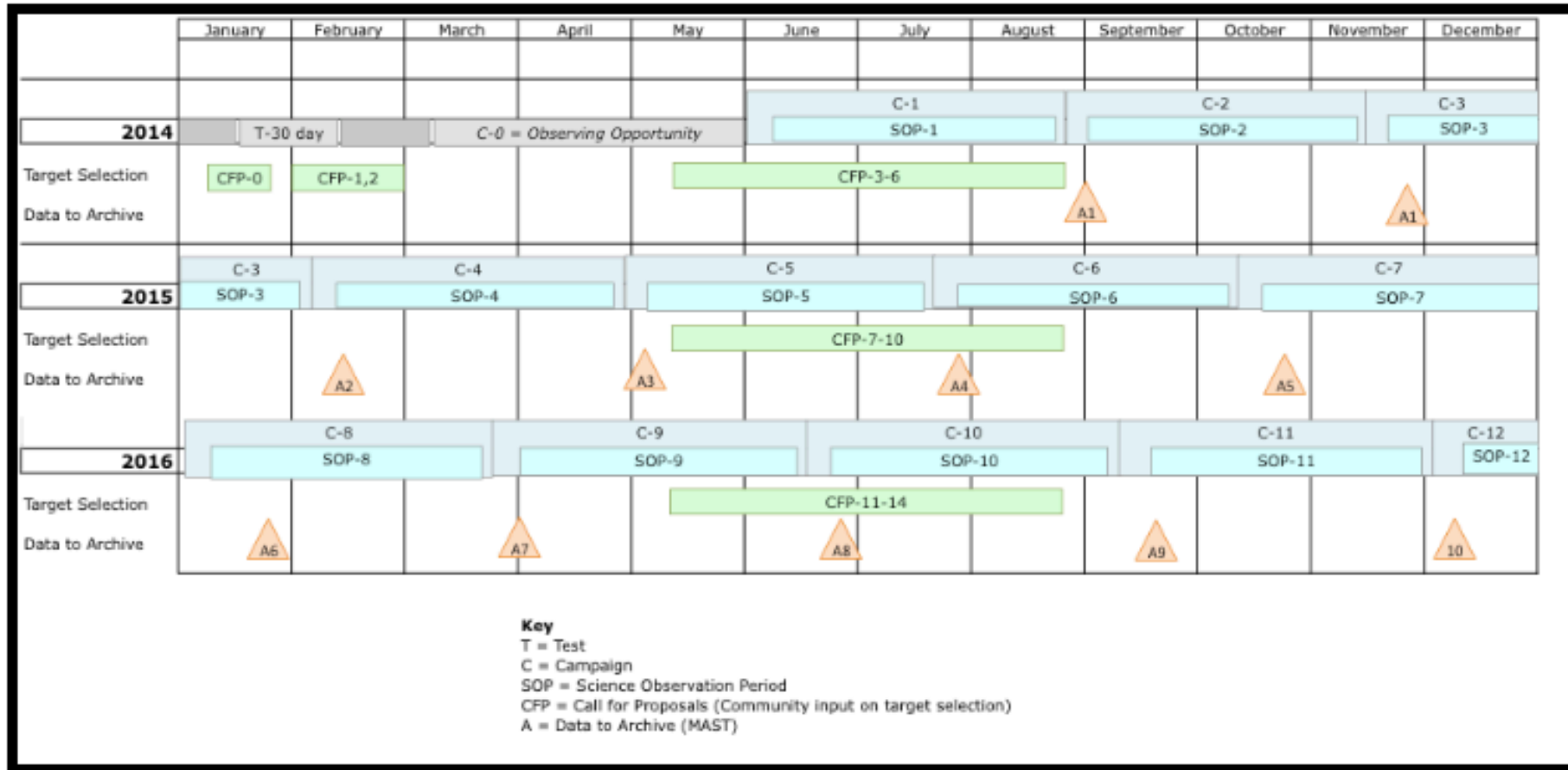


alpha 06:47 delta +21:23

<http://keplerscience.arc.nasa.gov/K2>

Deadline Feb 1, 2014

K2 schedule



K2 TARGET SELECTION

C-1 Deadline March 1, 2014, June-August 2014
 alpha 11:37 delta +01:11