History
Spartan IR Camera for the SOAR Telescope

Edwin D. Loh

Department of Physics & Astronomy
Michigan State University, East Lansing, MI 48824

Loh@msu.edu 517 884–5612

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Date	*Event*
8 October 2008	Spartan arrived on Cerro Pachon.
	Controller hardware version: May 2004
	Controller software version: (Cont: H3 Umb: G4)
	Software version 1
18 November 2008	**Software version 2**
	First light
21 January 2009	**Software version 3**
	Links to the SOAR Observatory work well.
	SpartanTUI is now suitable for observing.
12 May 2009	**Software version 4**
	Software broadcasts the health of instrument.
	Controller software version: (Cont: H4 Umb: G5)
	Controllers use EPROM SCH4. Detector flushes when idle.
	Umbilical uses EPROM UG5. Fixed data loss.
	Fixed command-line command to move wide-field camera mirror.
16 May 2009	Installed detector 108 in channel 1.
	Installed Y, HeI 1083, [FeII] 1644, Cont. 1 2045, HeI/CIV 2070, H2 2121, Cont. 2 2140, and Cont. 3 2210 filters
24 July 2009	Installed detector 102 in channel 0.
	Local sidereal time in the FITS header was wrong.
	Installed Brackett γ and CO filters
	Added information about the guider. However, the Telescope Control System does not send information on the guider performance.
10 November 2009	Added world-coordinate system to the FITS headers.

Date	*Event*
30 January 2010	1. SpartanTUI logs the time for a script to complete. 2. SpartanTUI blinks for 10 min after a script completes to flag the observer to start another script.
30 January 2010	1. SpartanGUI shows "offset from reference" to remind the observer to define the reference. 2. Helper has been removed, and its functions were put on the panels Observing and Observing Setup, which are easier to find. Furthermore, it is easier to see the last image.
4 May 2010	1. The group names, NOAO and Brazil, were swapped so that pictures belonging to NOAO were transferred to Brazil's directory on soaric7 (and vice versa). Now fixed. 2. The pressure from the TCS was misinterpreted to be in torr, not mbar. Fixed. 3. After initialization, a picture had to be read to put the detector controller into the mode where the detector flushes when it is idle. Now done automatically. 4. Dithering was changed so that a star is positioned on the circumference of the circle centered on the nominal location, not within the circle. This change biases the distribution of stellar separations to larger separations. 5. Because the guider error has not been implememented, the TCS sends nonsensical values, which Spartan uses to compute the RMS guider error to be 1.4arcsec. Now, when Spartan gets a nonsensical guider error, it sets the RMS error to be -1.
24 Aug 2010	1. A new indicator shows the number of images remaining in a running script. 2. Images are written in `c:\images\yyyy-mm-dd` 3. Deleting old image files to free space on the disk. (1) SpartanGUI automatically deletes the oldest image directory if it is older than 28 days and if there is less than 50Gb of free space. This occurs when the date changes (at 12:00 UT). (2) A new button "Clean disk" on the panel "Observing Setup" deletes the oldest image directory that is older than 10 days. 4. SpartanGUI automatically recovers after a failure of the Telescope Control System. TelescopeLink no longer starts, because there is no need for it.

Date	*Event*
12 September 2010	Instrument warmed up. The pressure was high.
17 September 2010	The Telescope Control System (TCS) sends an erroneous value for the telescope coordinates. The TCS does not keep track of offsets specified with respect to directions on the detector. Therefore, the right ascension and declination in the FITS header are incorrect, and the focusing assistant fails with the scripts doFocusStepnn, where nn is 10, 30, etc. The focusing assistant does work for the scripts doFocusnn.
16 October 2010	The pressure was high. A nut in the line for liquid nitrogen was loose.
13 December 2010	New leak. After reassembly, a leak was discovered on the flange between the top and bathtub.
16 June 2011	Leak fixed. The leak was actually in the bulkheads for the detector cables. The nuts were loose.
14 Dec 2013	Motor driver for the mask wheel is broken. The mask wheel is set to “Wide-field Open.”
Jan 2014	Detector 0 is inoperable, because the cable from the vacuum bulkhead to the controller is torn. It was torn while cleaning the controller.
25 February 2014	The vacuum was pumped. The window was fogging up on humid nights. Nitrogen gas was installed, but that did not always keep the window clear.
7 April 2014	Detector 3 is inoperable, because the cable from the vacuum bulkhead to the controller is torn. It was torn inexplicably.
10 April 2014	The temperature sensors inside the dewar (except for the ones on the detector cards) are inoperable. The cable for the temperature sensors between the vacuum bulkhead and controller was torn.
15 Jan 2015	The mask wheel is operational again. A fuse in motor driver #2 was blown.