

Planck HFI and PICO Calibration and Performance Verification (CPV) phase

March 14, 2018

Based on 'Planck HFI Core Team' et al. 2011

Time Line

- Launch - May 14, 2009
- Passive Outgassing - ends June 2
- 93 mK on dilution cold head - July 3
 - Set temperature regulation points
 - Entered Lissajous orbit
- CPV = “6 weeks before first survey”
 - Last part of CPV: Start two weeks of “first light survey” - Aug. 13
- Start of observations - Sept. 1

Planck CPV

- Noise as a function of JFET temperature
- Set bolometer biases
- Temporal response of detection chain
- Crosstalk
- Responsivity vs. 4 and 1.4 K stage temperature fluctuations
- RF sensitivity to transmitter
- Optimization of data compression
- System response to a range of ring-to-ring slew amplitudes
- Effect of varying scan angle wrt/Sun
- Effect of varying satellite spin rate wrt/nominal = 1 rpm

PICO CPV

- Optimize SQUID tuning parameters
- Optimize bolometer biases
- Temporal response of detection chain
- Crosstalk
- Responsivity vs. various cryogenic stage temperature fluctuations
- RF sensitivity to transmitter
- Optimization of data compression