

# KIC 011177707

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R <sub>★</sub> (R <sub>☉</sub> )	T <sub>★</sub> (K)	R <sub>p</sub> (R <sub>⊕</sub> )	S <sub>p</sub> (S <sub>⊕</sub> )
011177707-01	OBS	1423.01	124.419422	150.596425	4120.6	3.909	40.3	38.9	1.66	5066	10.88	7.08

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011177707-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

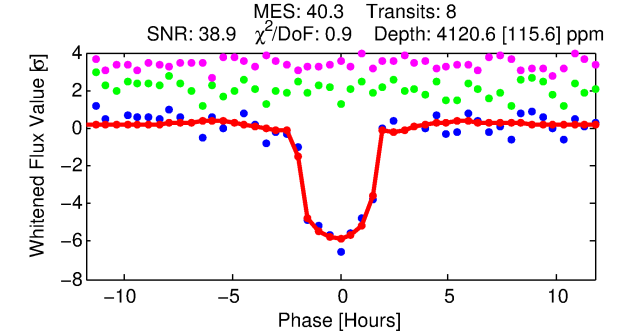
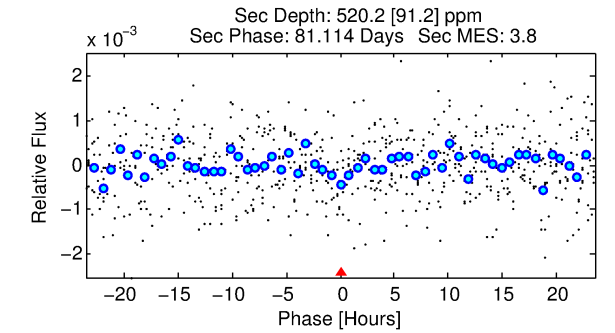
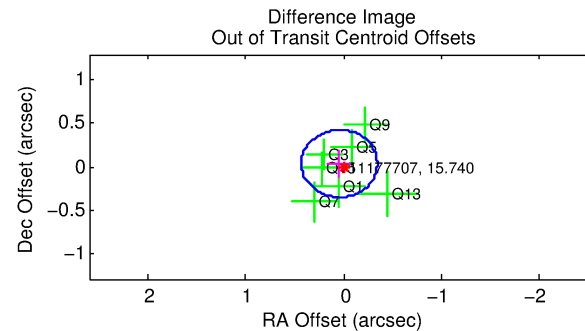
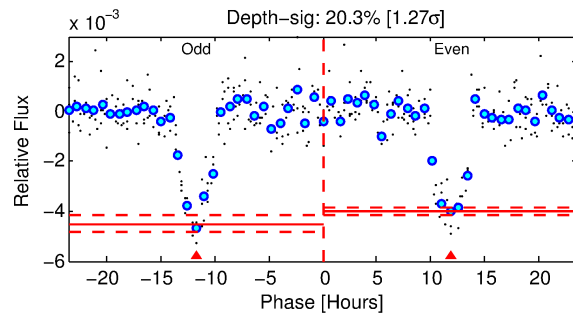
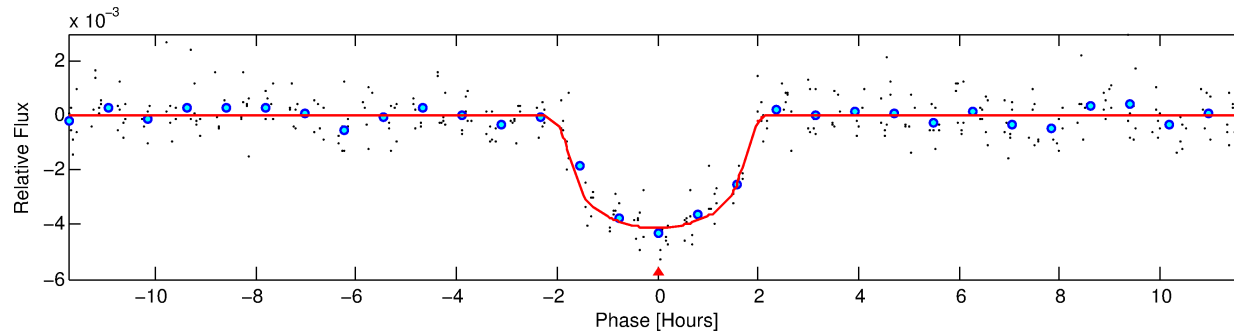
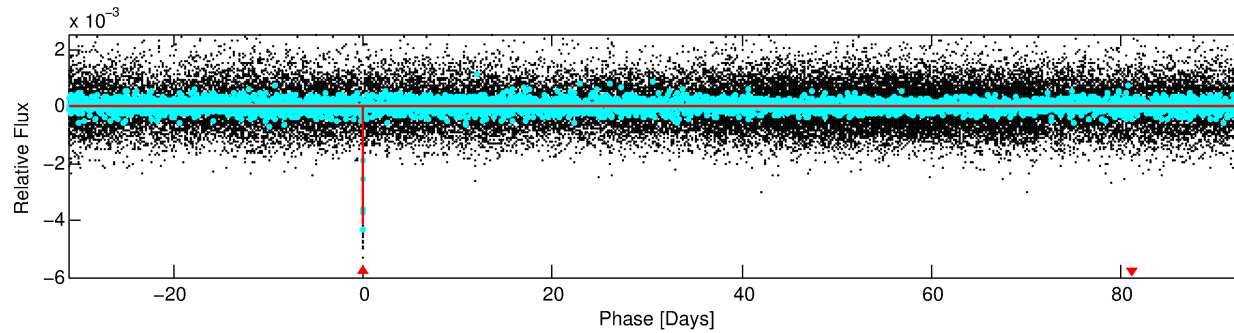
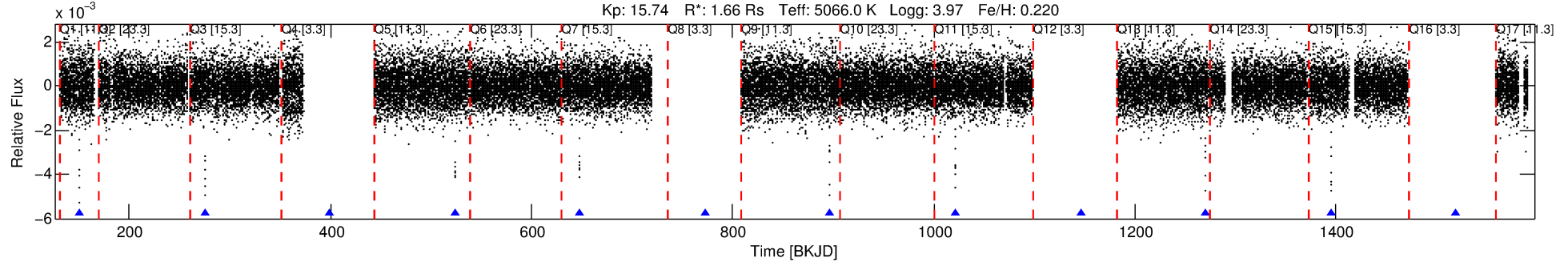
## Ephemeris Match Information For 011177707-01

No Significant Match Found

# DV One-Page Summary

KIC: 11177707 Candidate: 1 of 1 Period: 124.419 d  
KOI: K01423.01 Corr: 0.970

Kp: 15.74 R\*: 1.66 Rs Teff: 5066.0 K Logg: 3.97 Fe/H: 0.220



## DV Fit Results:

Period = 124.41942 [0.00038] d  
Epoch = 150.5964 [0.0025] BKJD  
Rp/R\* = 0.0601 [0.0130]  
a/R\* = 219.49 [158.08]  
b = 0.56 [0.91]  
Seff = 7.08 [6.67]  
Teq = 416 [98] K  
Rp = 10.88 [6.07] Re  
a = 0.4788 [0.2660] AU  
Ag = 554.50 [581.19] [0.95σ]  
Teffp = 3121 [368] K [7.10σ]

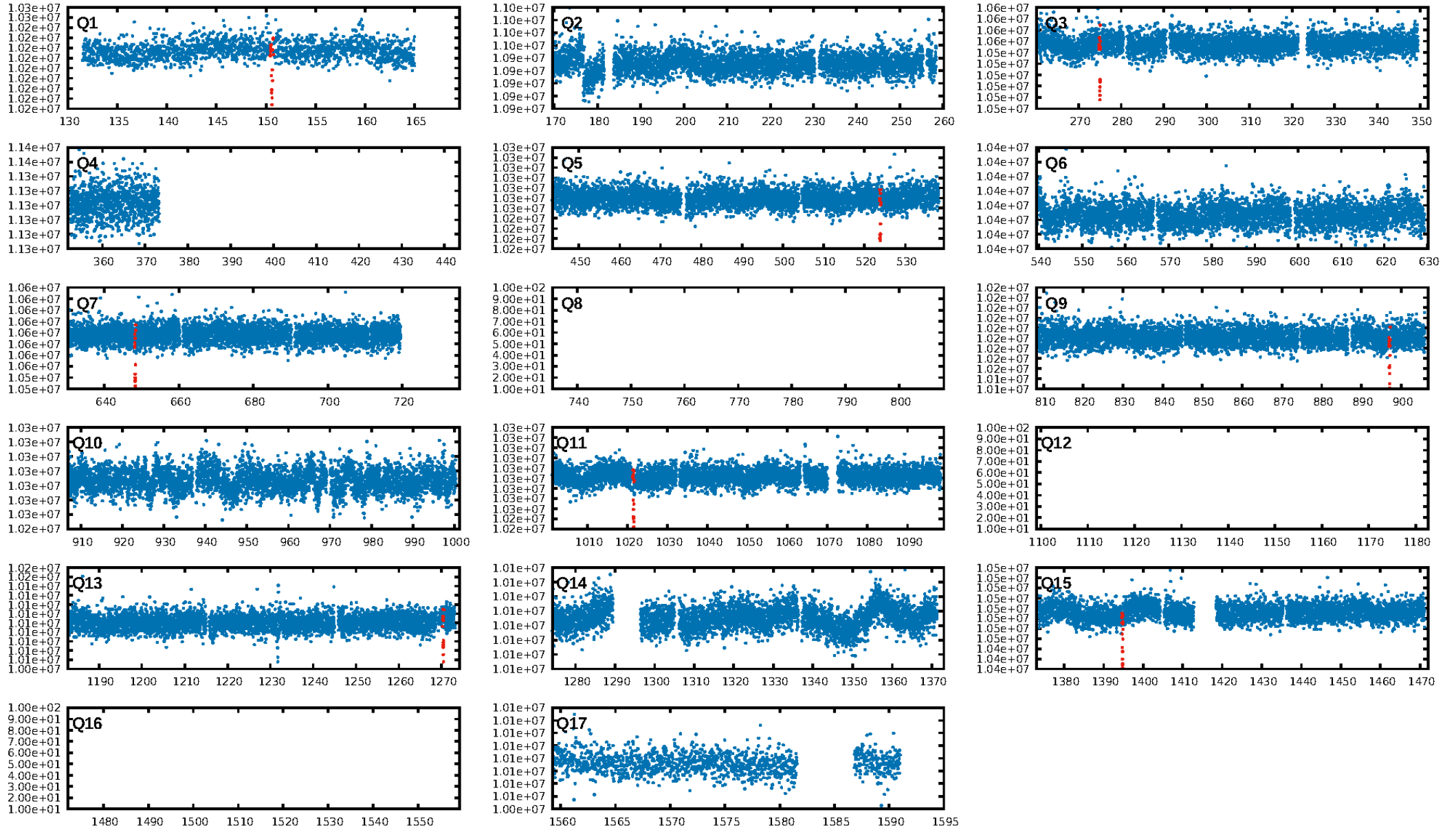
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 33.3%  
ModelChiSquareGof-sig: 99.9%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [7/7]  
GhostDiagnostic-chr: 6.458  
Centroid-sig: 84.5%  
Centroid-so: 0.171 arcsec [0.39σ]  
OotOffset-rm: 0.056 arcsec [0.43σ]  
KicOffset-rm: 0.136 arcsec [1.25σ]  
OotOffset-st: 0/3/0/4 [7]  
KicOffset-st: 0/3/0/4 [7]  
DiffImageQuality-fgm: 1.00 [7/7]  
DiffImageOverlap-fno: 1.00 [7/7]

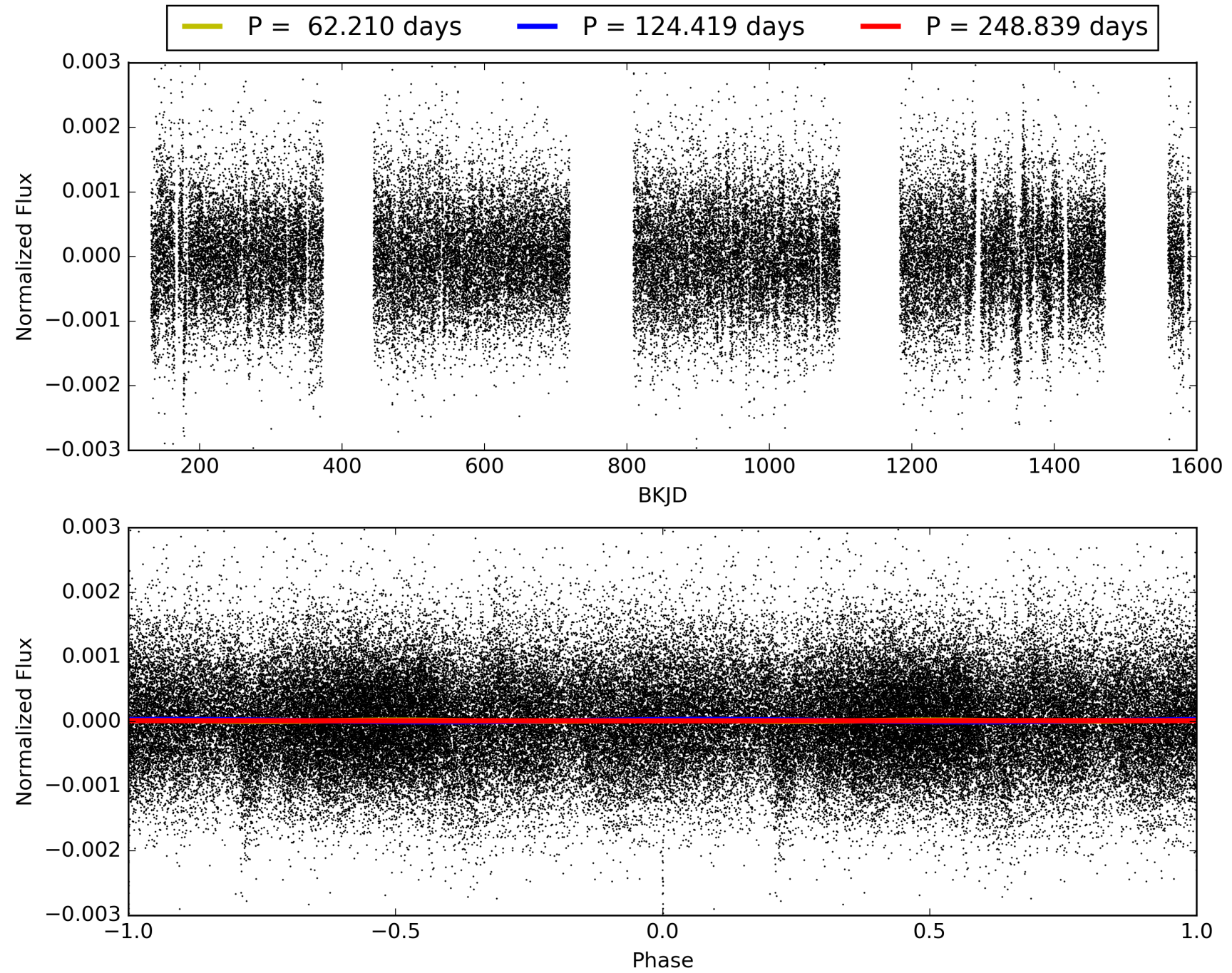
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 19:41:28 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 011177707-01, PDC Light Curves

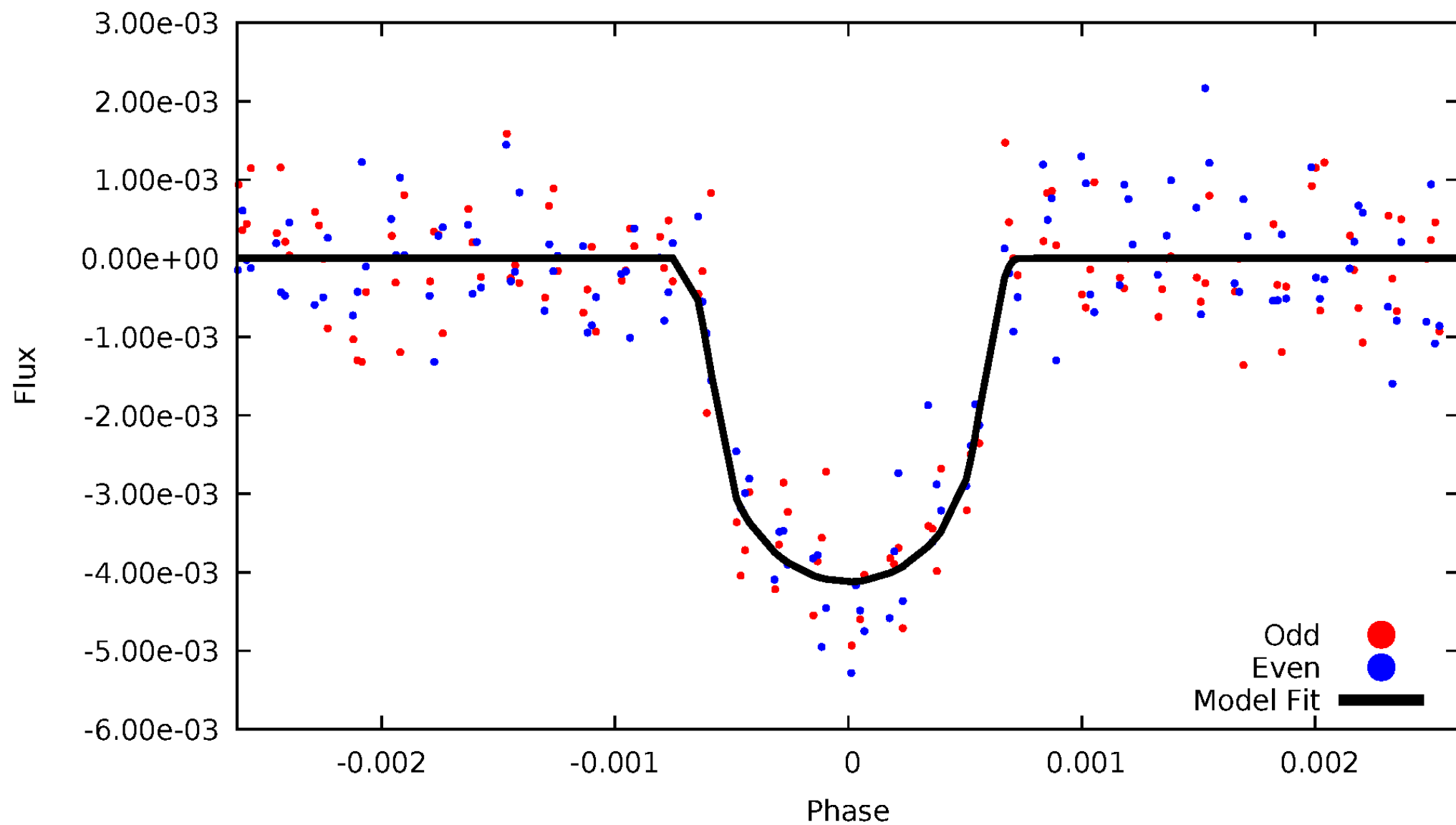


# TCE 011177707-01



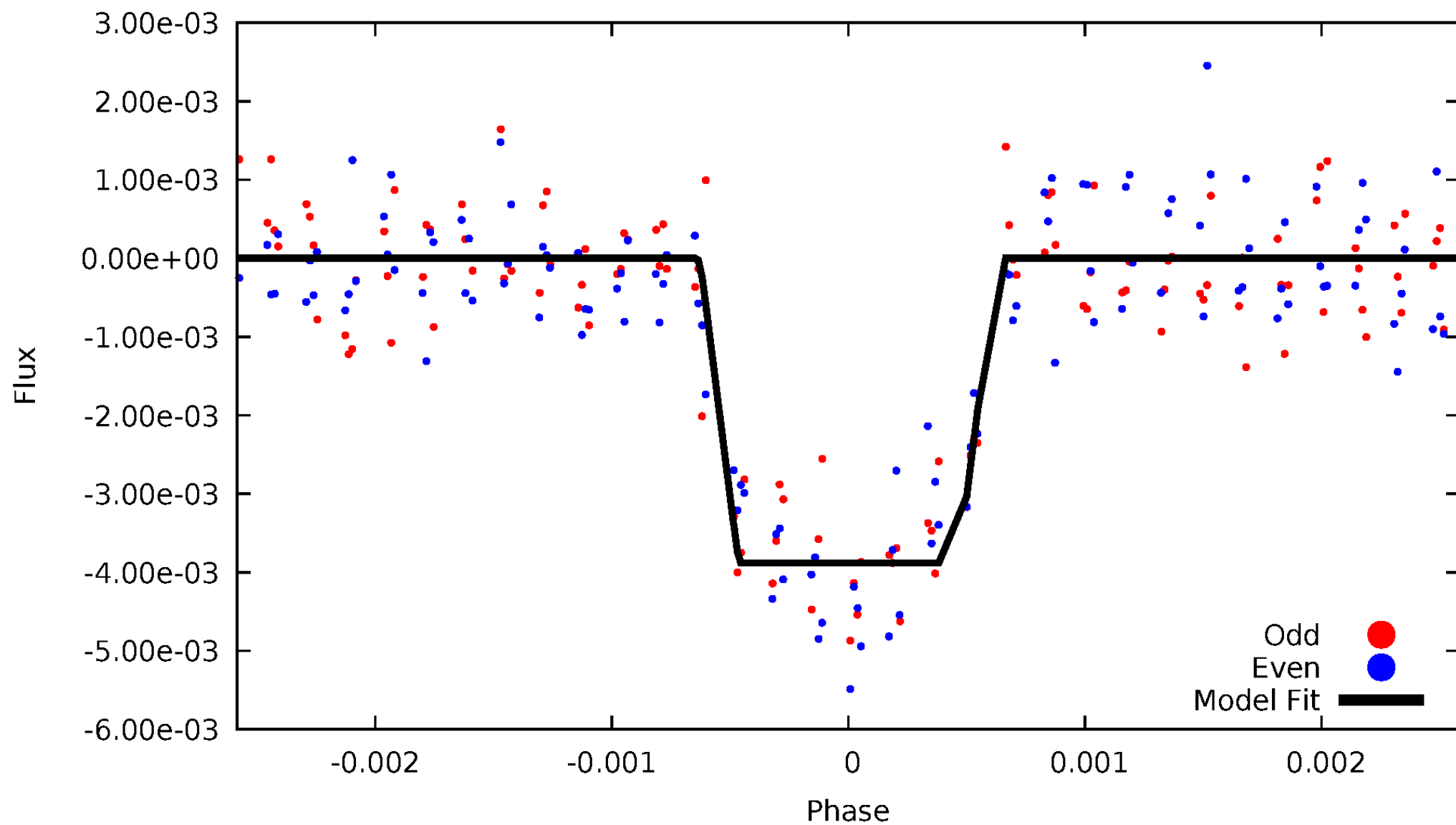
# DV Odd/Even

TCE 011177707-01



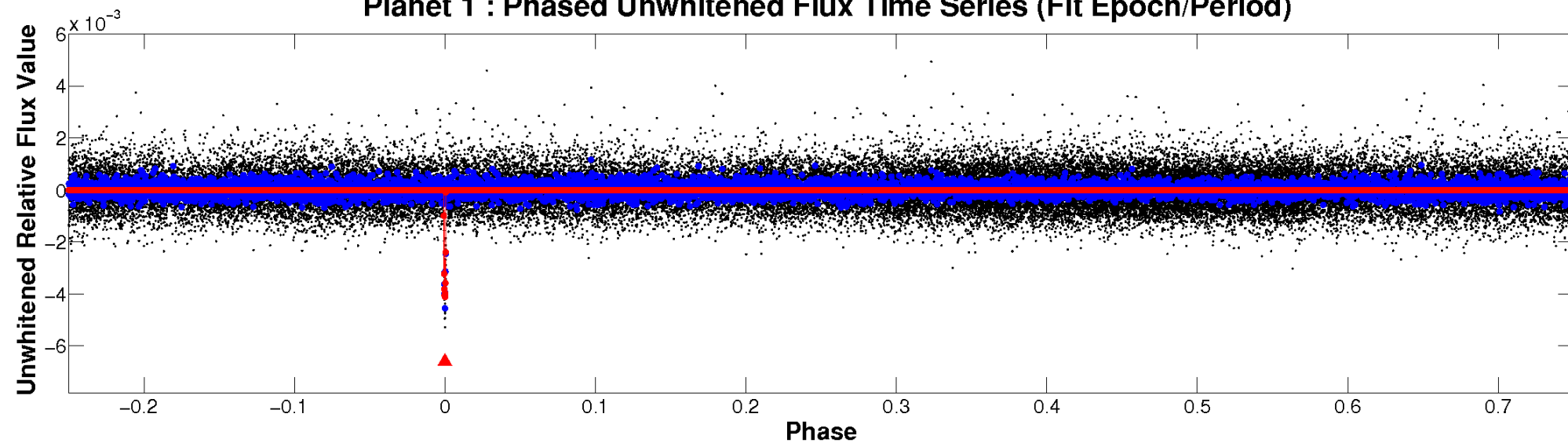
# ALT Odd/Even

TCE 011177707-01

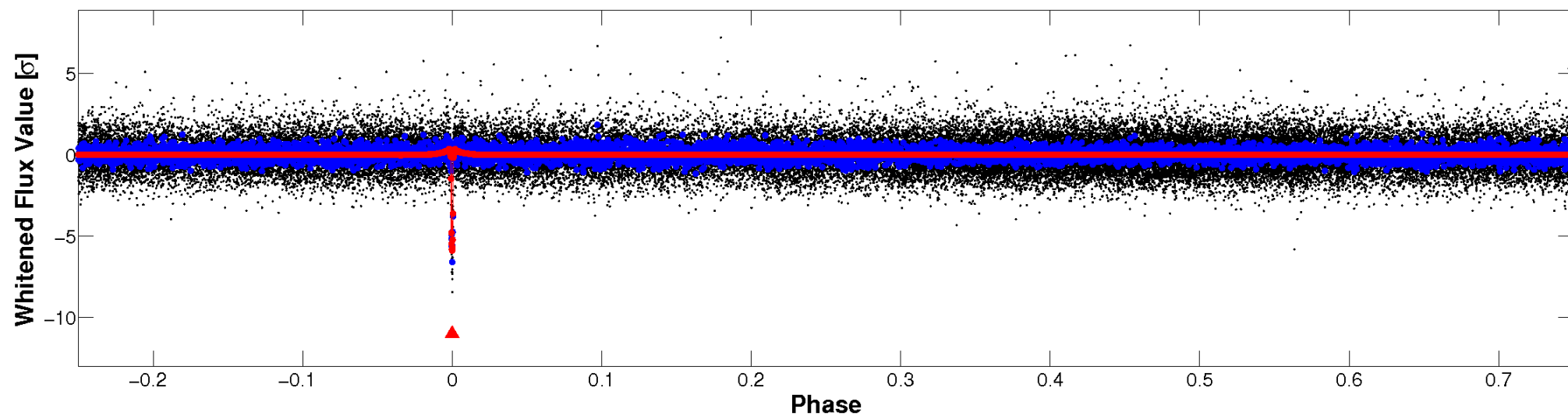


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**



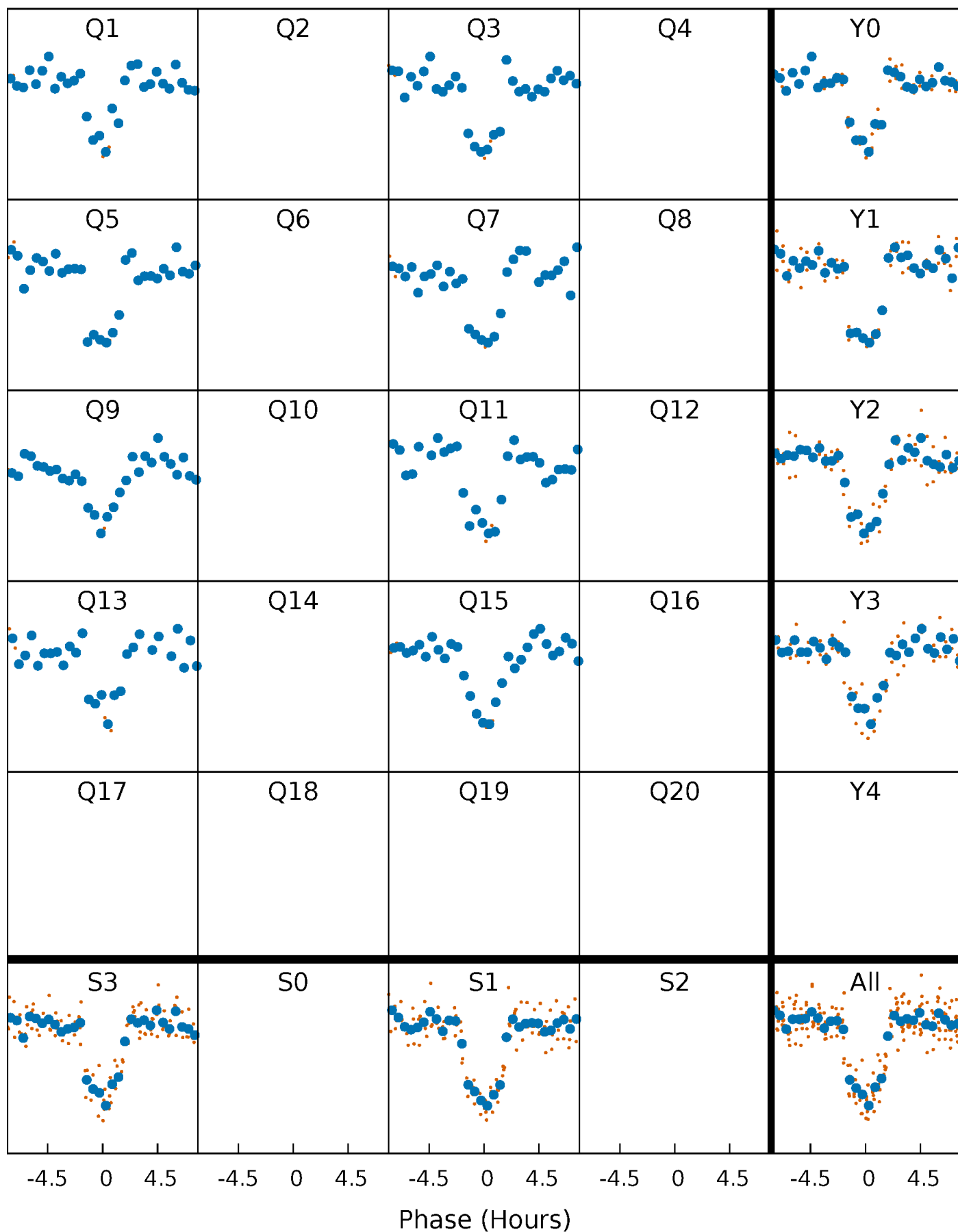
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

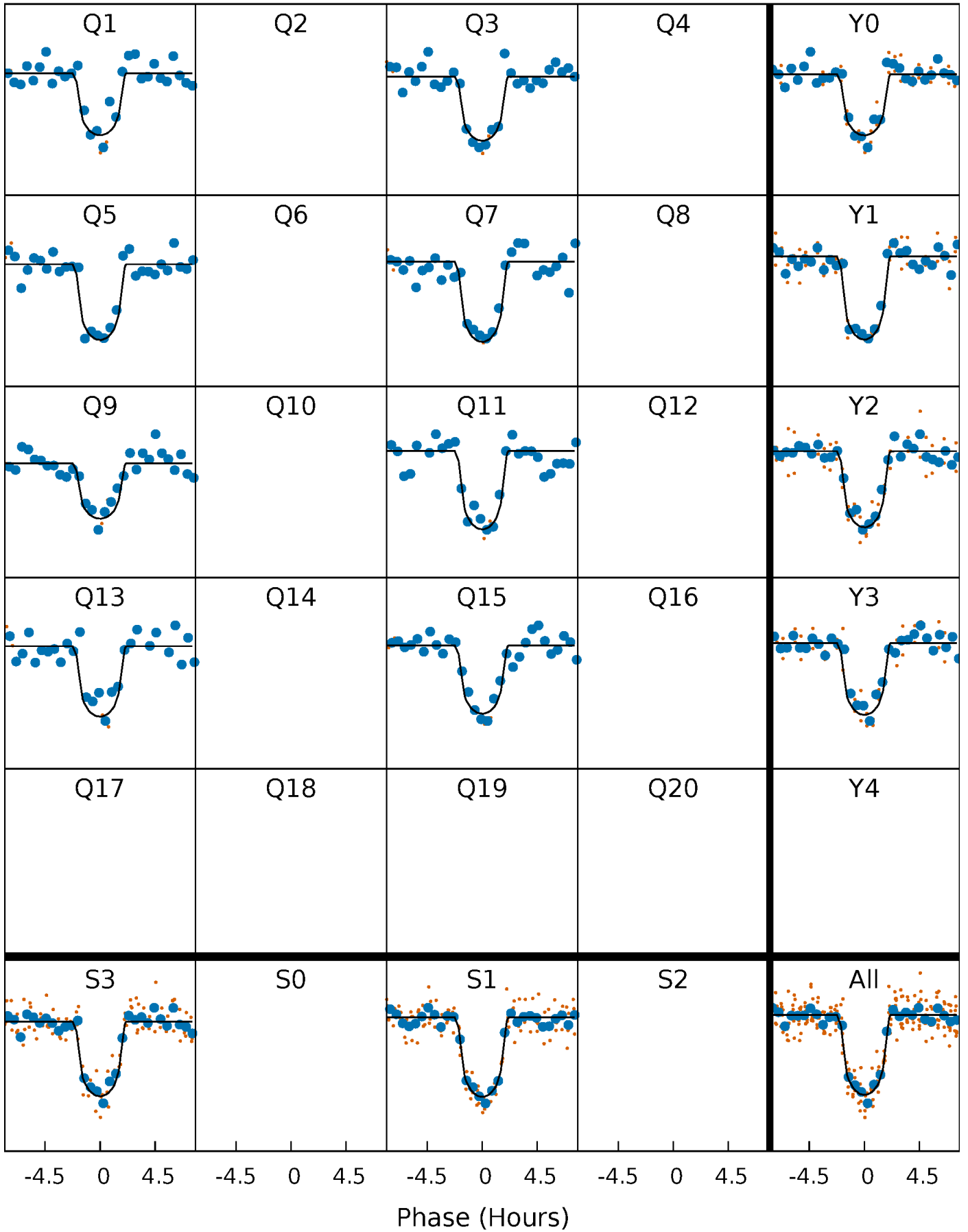
TCE 011177707-01 P=124.419422 Days  $T_0=150.596425$  (BKJD)





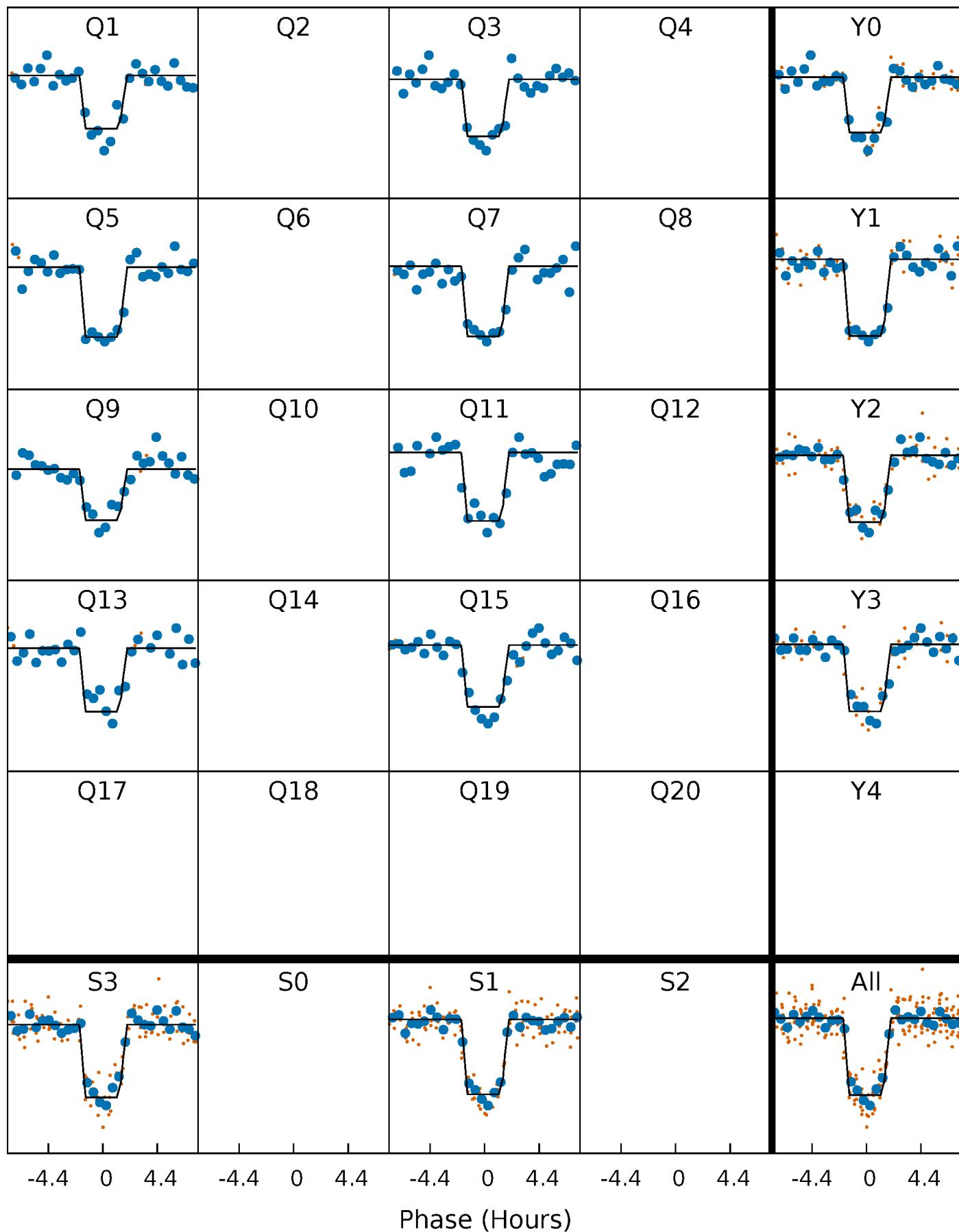
# DV Quarter-Phased Transit Curves

TCE 011177707-01 P=124.419422 Days  $T_0=150.596425$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

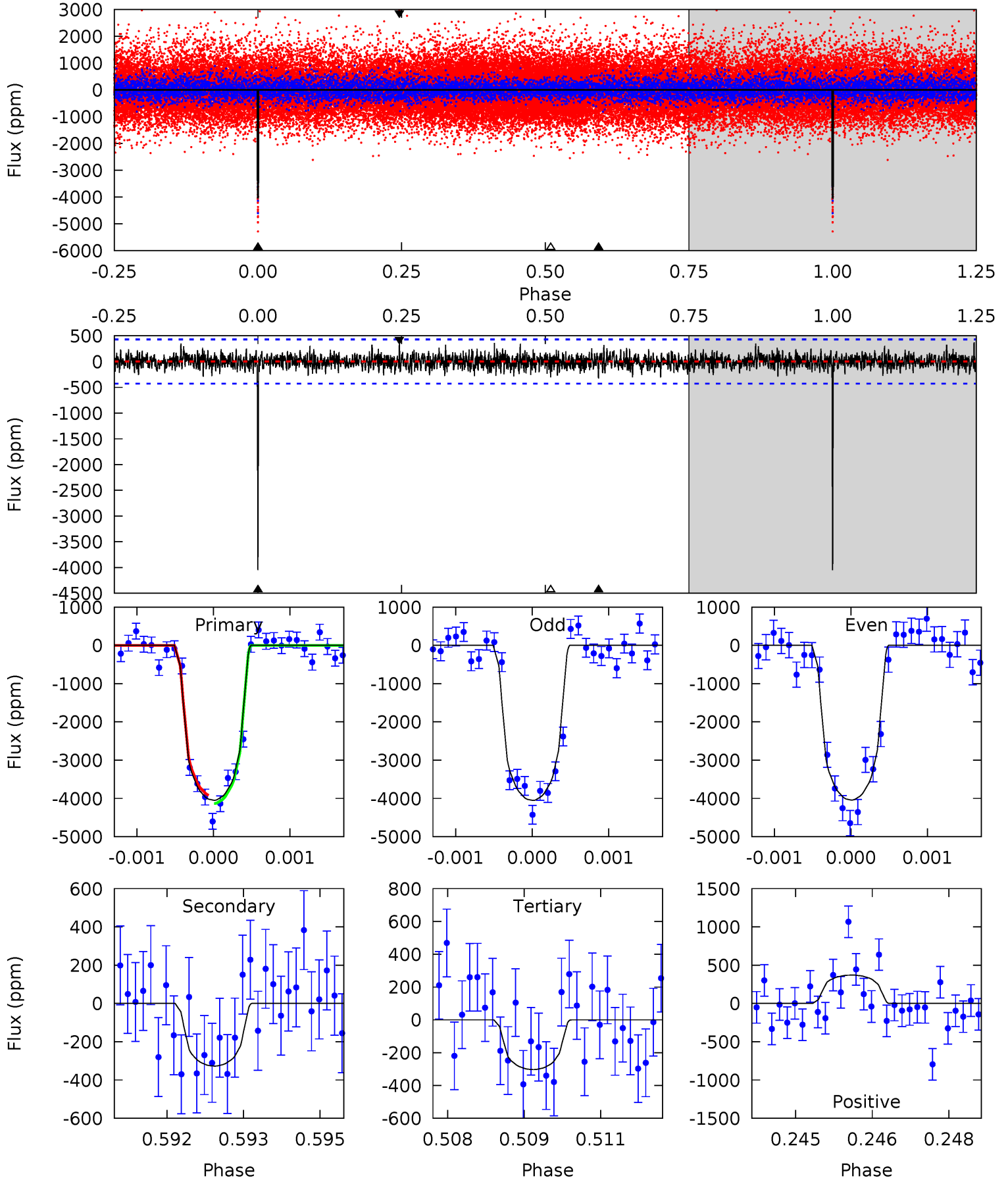
TCE 011177707-01 P=124.419556 Days  $T_0=150.597035$  (BKJD)



# DV Model-Shift Uniqueness Test

011177707-01, P = 124.419422 Days, E = 26.177003 Days

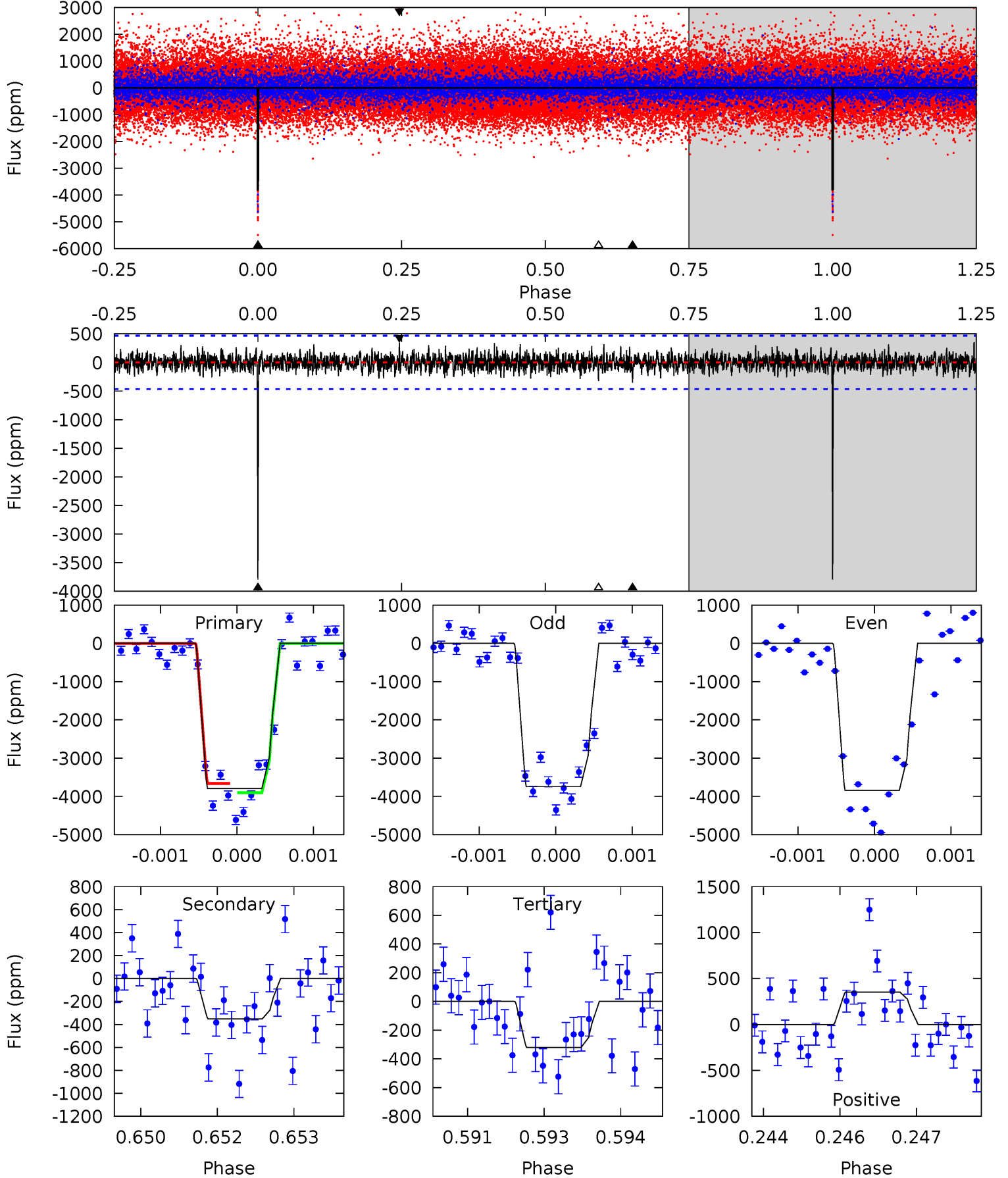
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.8	4.10	3.80	4.65	5.38	3.18	1.20	47.0	46.1	0.30	-0.55	0.06	0.99	0.08	1.33



# Alt Model-Shift Uniqueness Test

011177707-01,  $P = 124.419556$  Days,  $E = 26.177479$  Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.0	4.08	3.72	4.09	5.42	3.24	1.05	40.3	39.9	0.36	-0.01	0.56	1.00	0.09	1.39



### Stellar Parameters For KIC 011177707

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5066^{+70}_{-90}$	$3.974^{+0.569}_{-0.100}$	$0.220^{+0.150}_{-0.150}$	$1.659^{+0.285}_{-0.854}$	$0.945^{+0.090}_{-0.136}$	$0.291^{+1.920}_{-0.085}$
	+1%/-2%	+14%/-3%	+68%/-68%	+17%/-51%	+10%/-14%	+659%/-29%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 011177707-01 / KOI 1423.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-327 \pm 80$	$9.90^{+2.75}_{-3.08}$	$567^{+35}_{-75}$	$3301^{+283}_{-220}$	$430^{+447}_{-184}$
Alt.	$-351 \pm 86$	$10.27^{+2.77}_{-3.33}$	$565^{+36}_{-83}$	$3281^{+285}_{-208}$	$428^{+474}_{-183}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

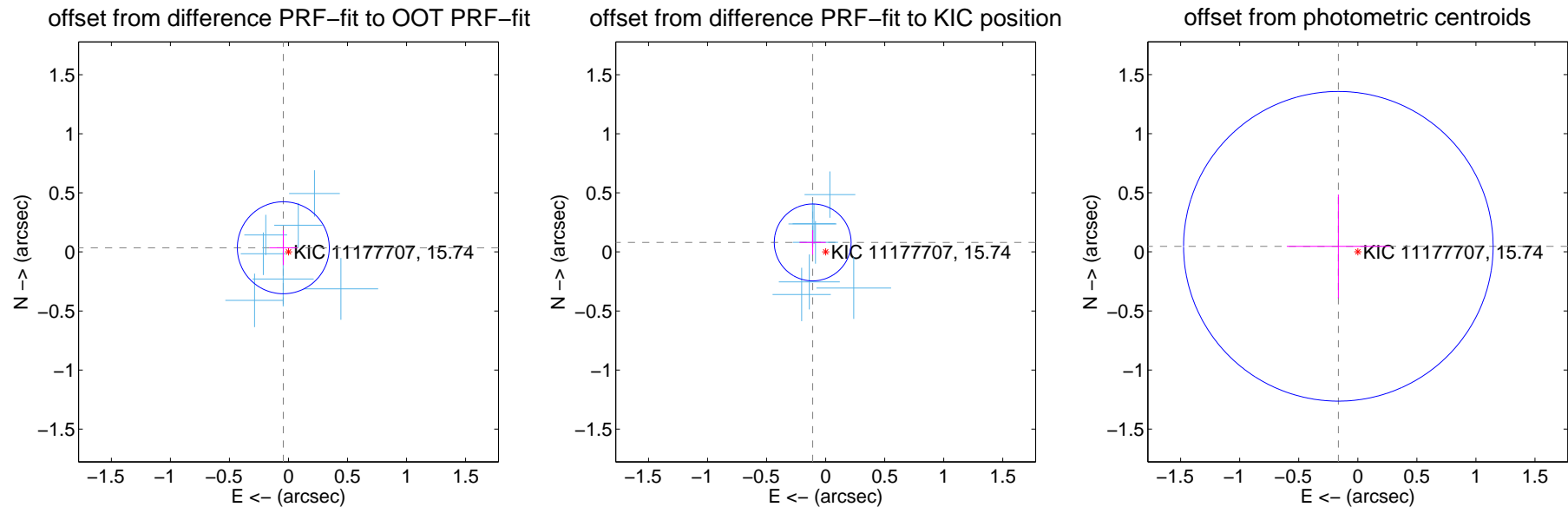
## DV Centroid Data

Supplemental centroid analysis for 011177707-01. Kepler magnitude: 15.74. Transit SNR 38.95

There are 7 quarters with good PRF difference image offsets

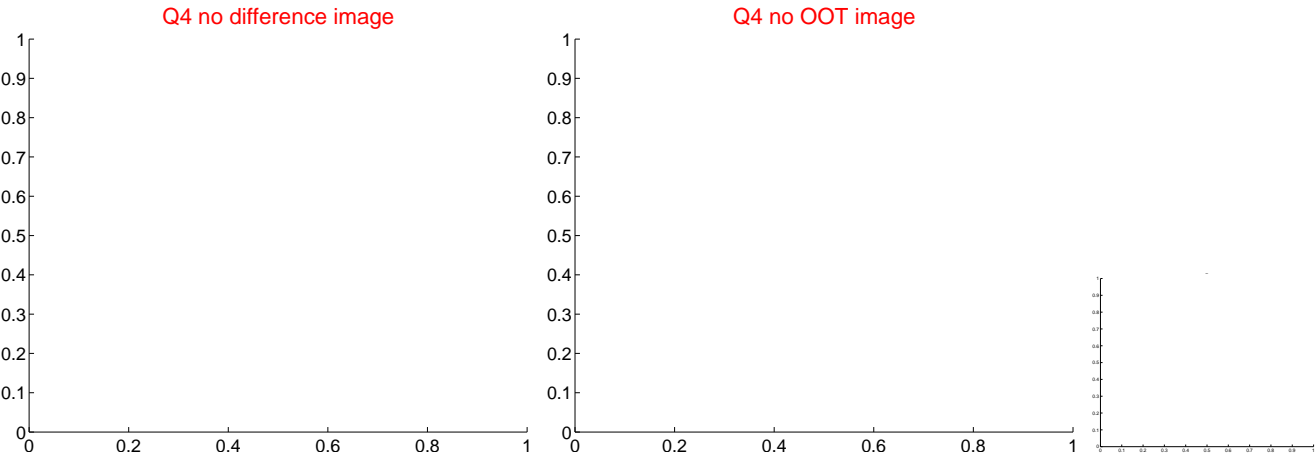
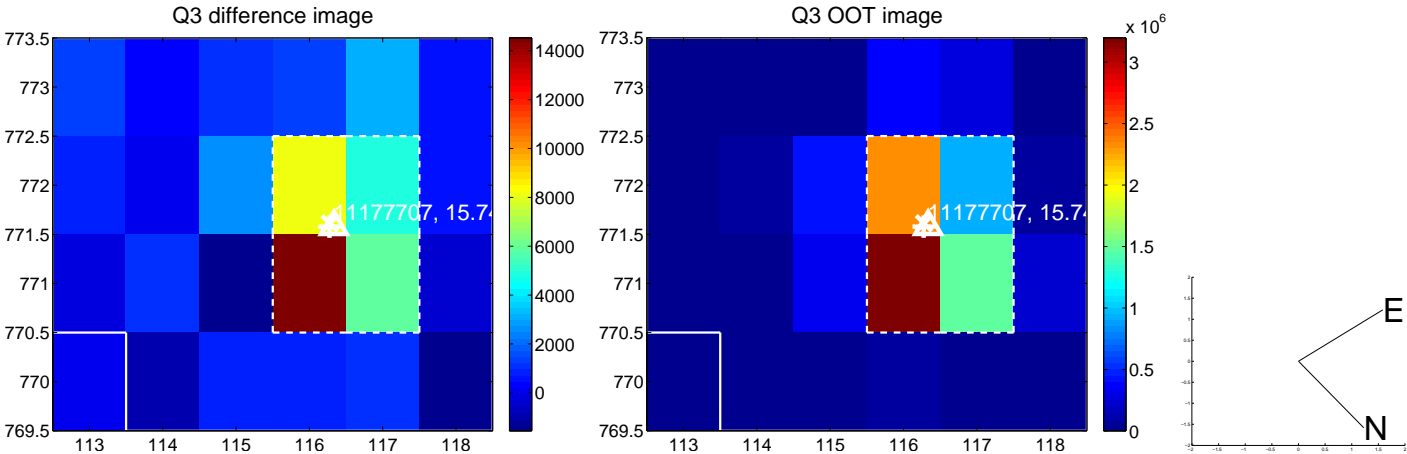
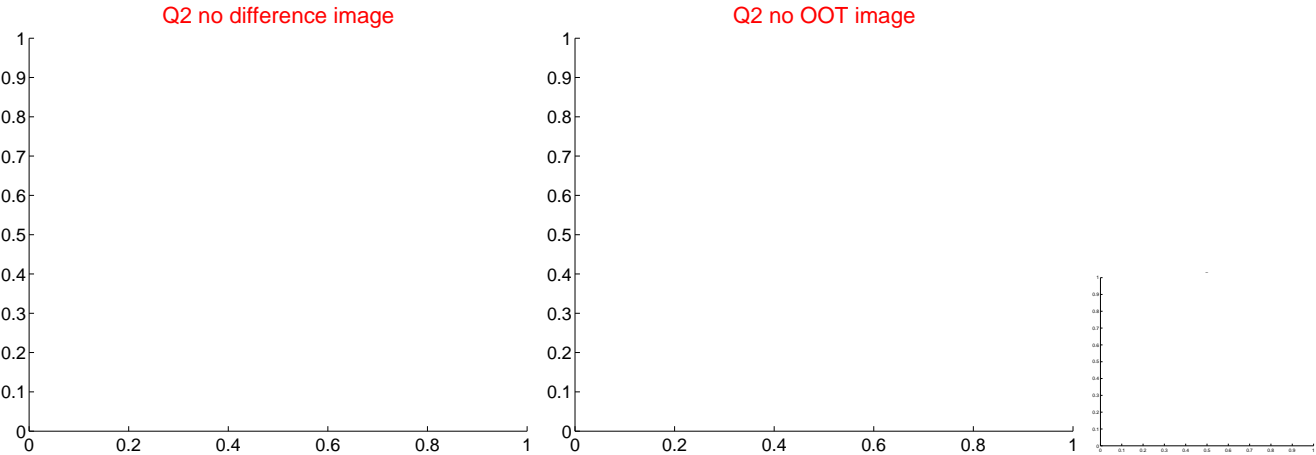
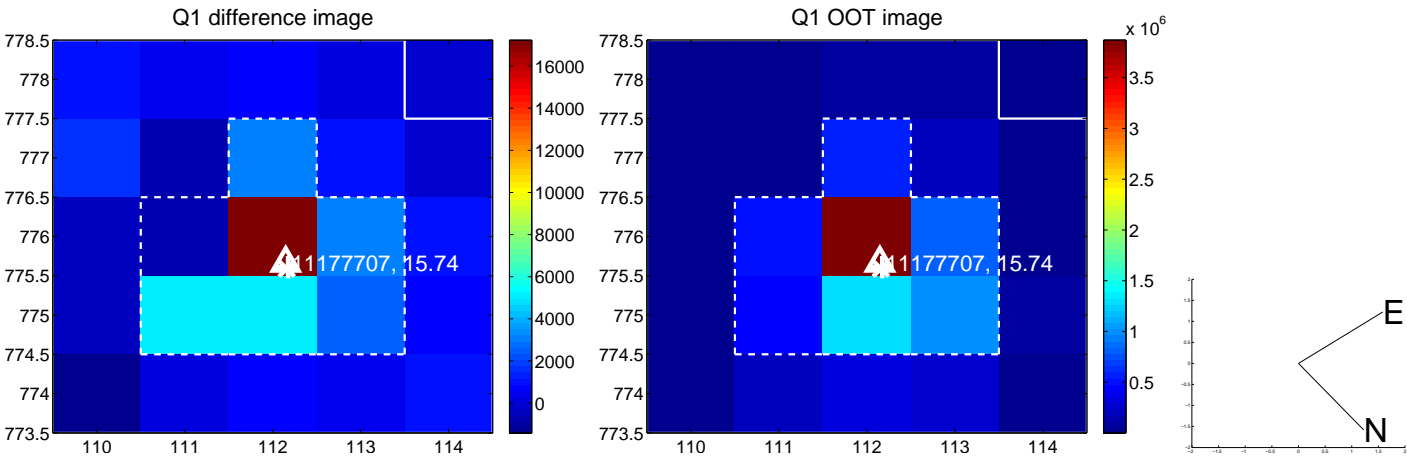
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.056 \pm 0.130$	0.43	$0.044 \pm 0.118$	$0.035 \pm 0.147$
PRF-fit source offset from KIC position	$0.136 \pm 0.108$	1.25	$0.110 \pm 0.111$	$0.080 \pm 0.104$
photometric centroid source offset	$0.17 \pm 0.44$	0.39	$0.16 \pm 0.44$	$0.05 \pm 0.44$



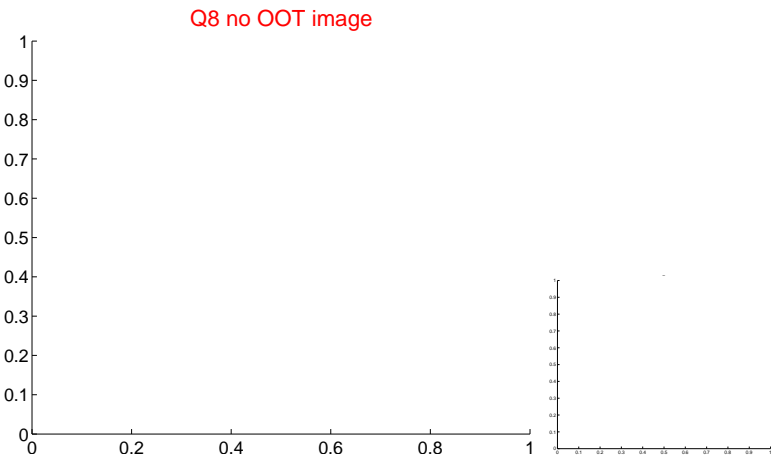
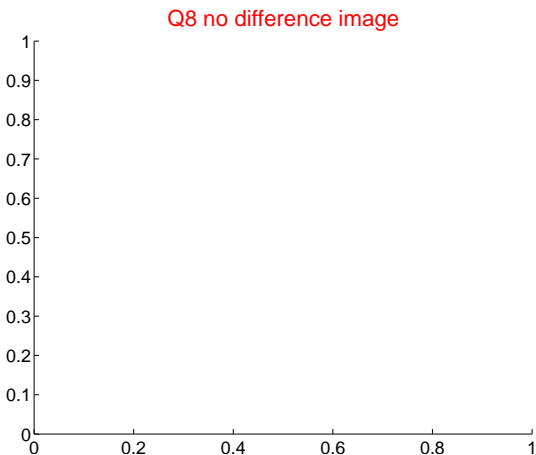
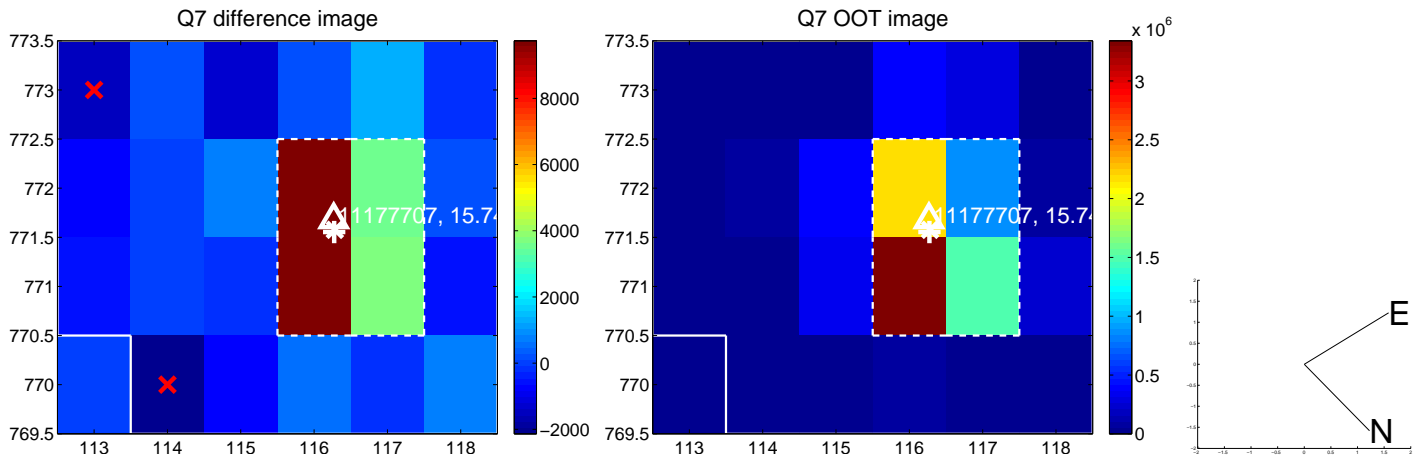
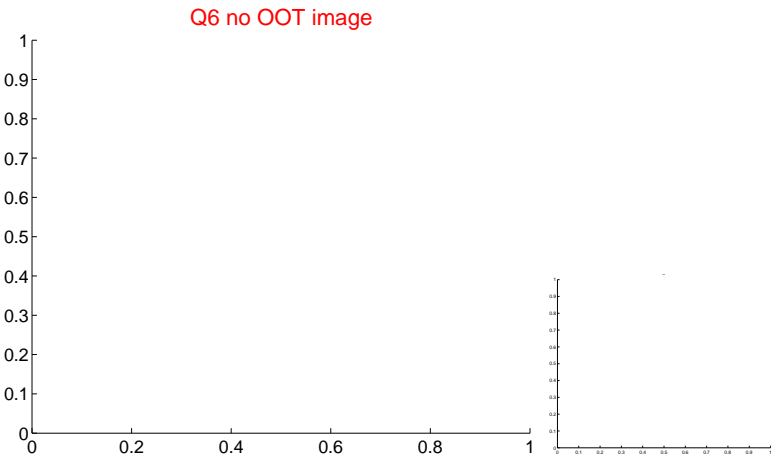
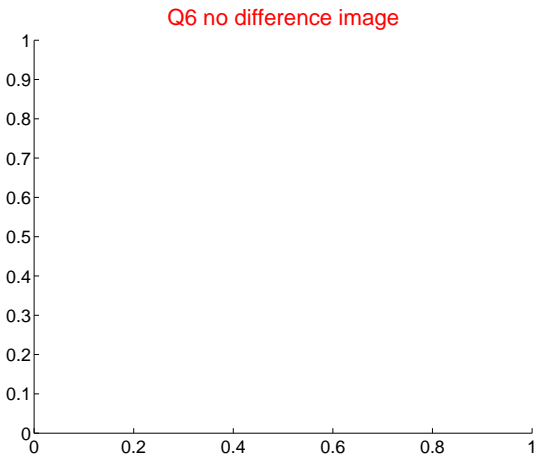
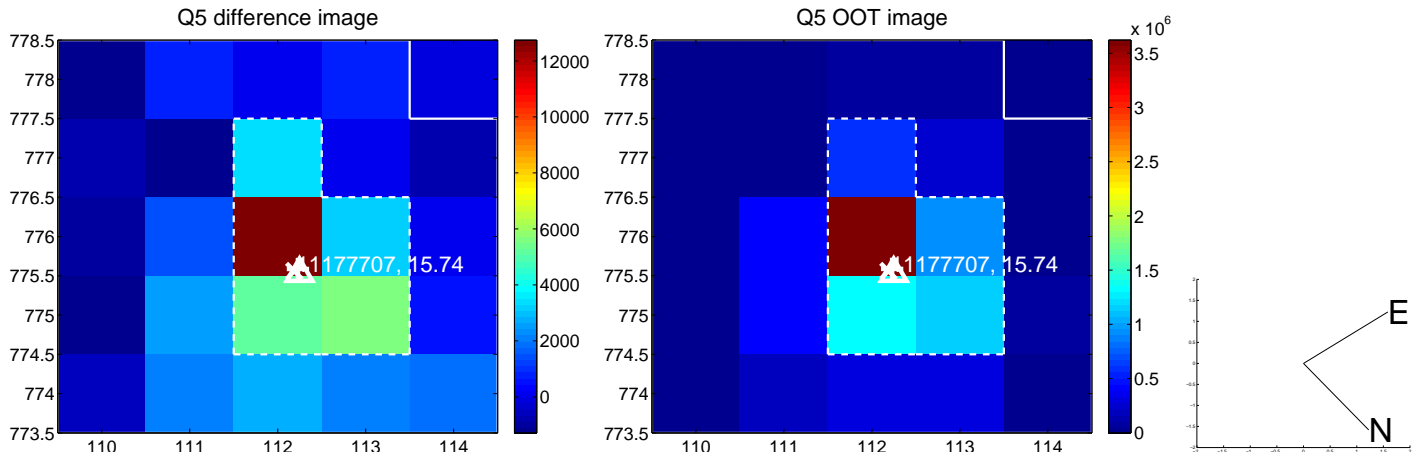
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

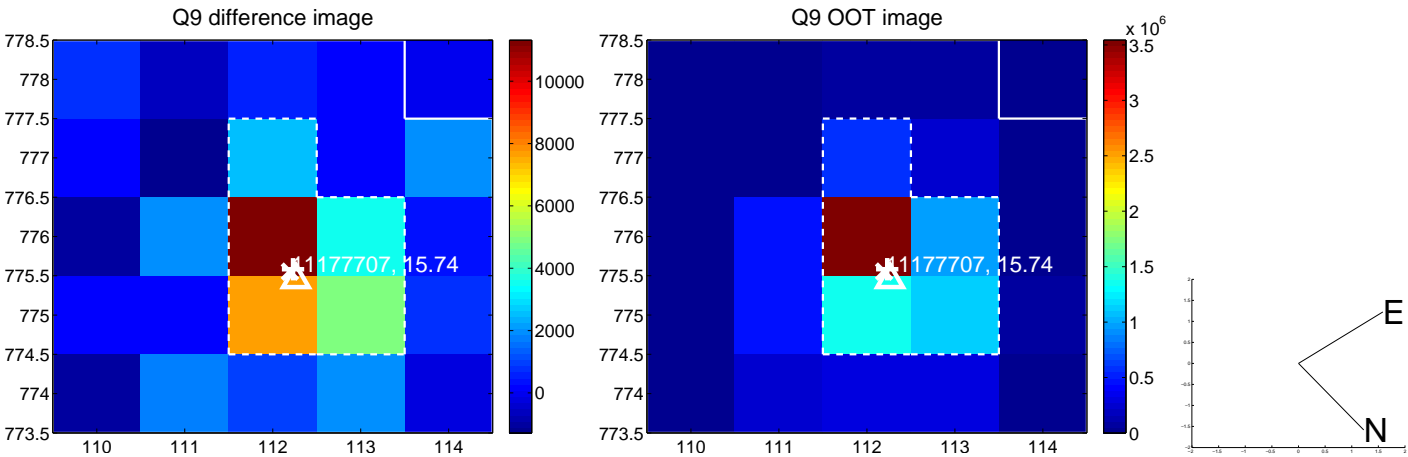




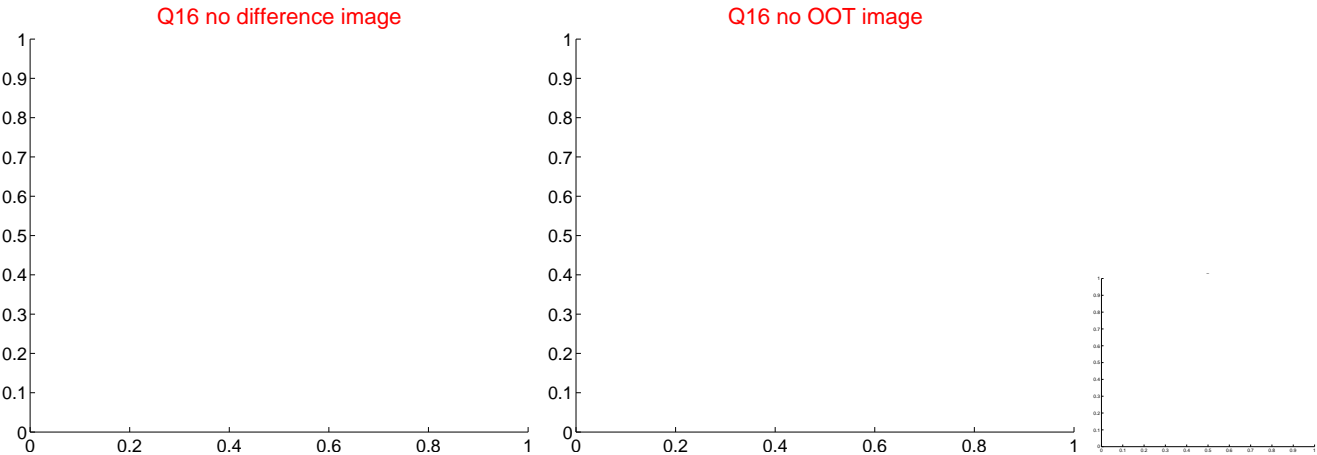
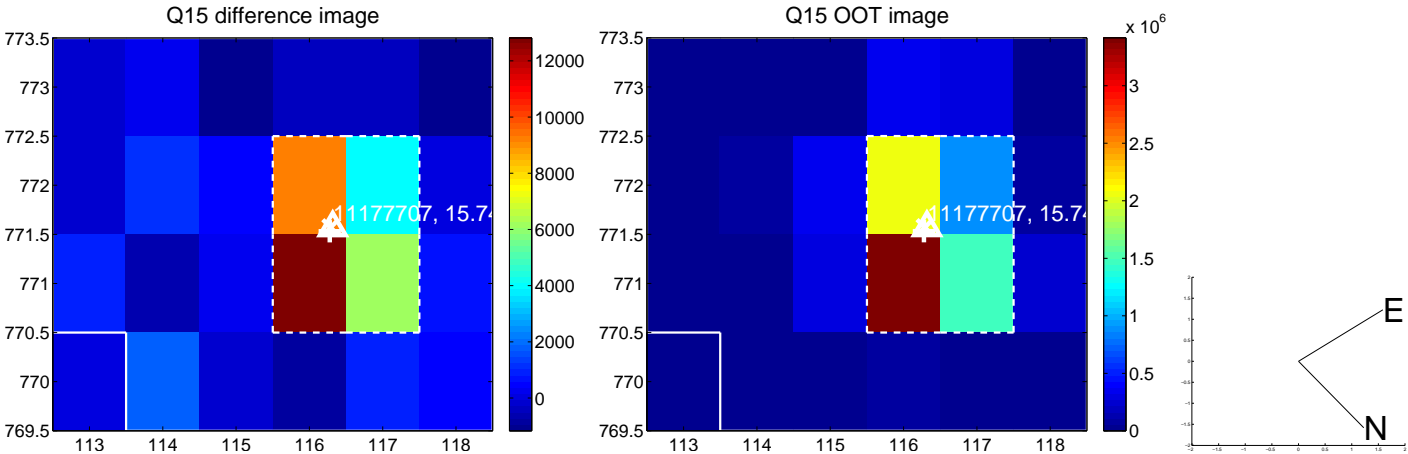
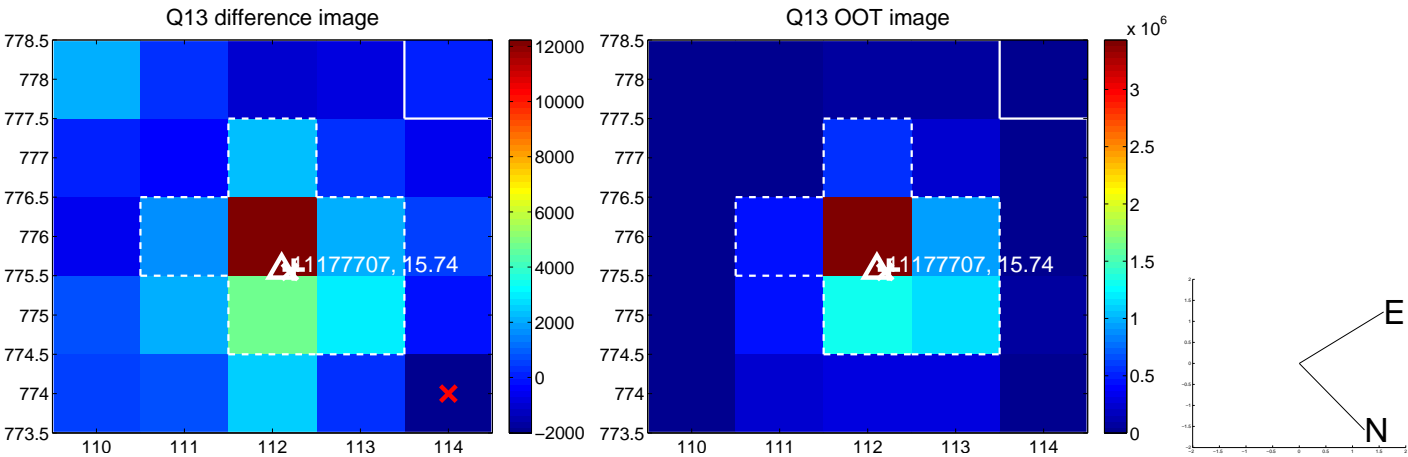
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value



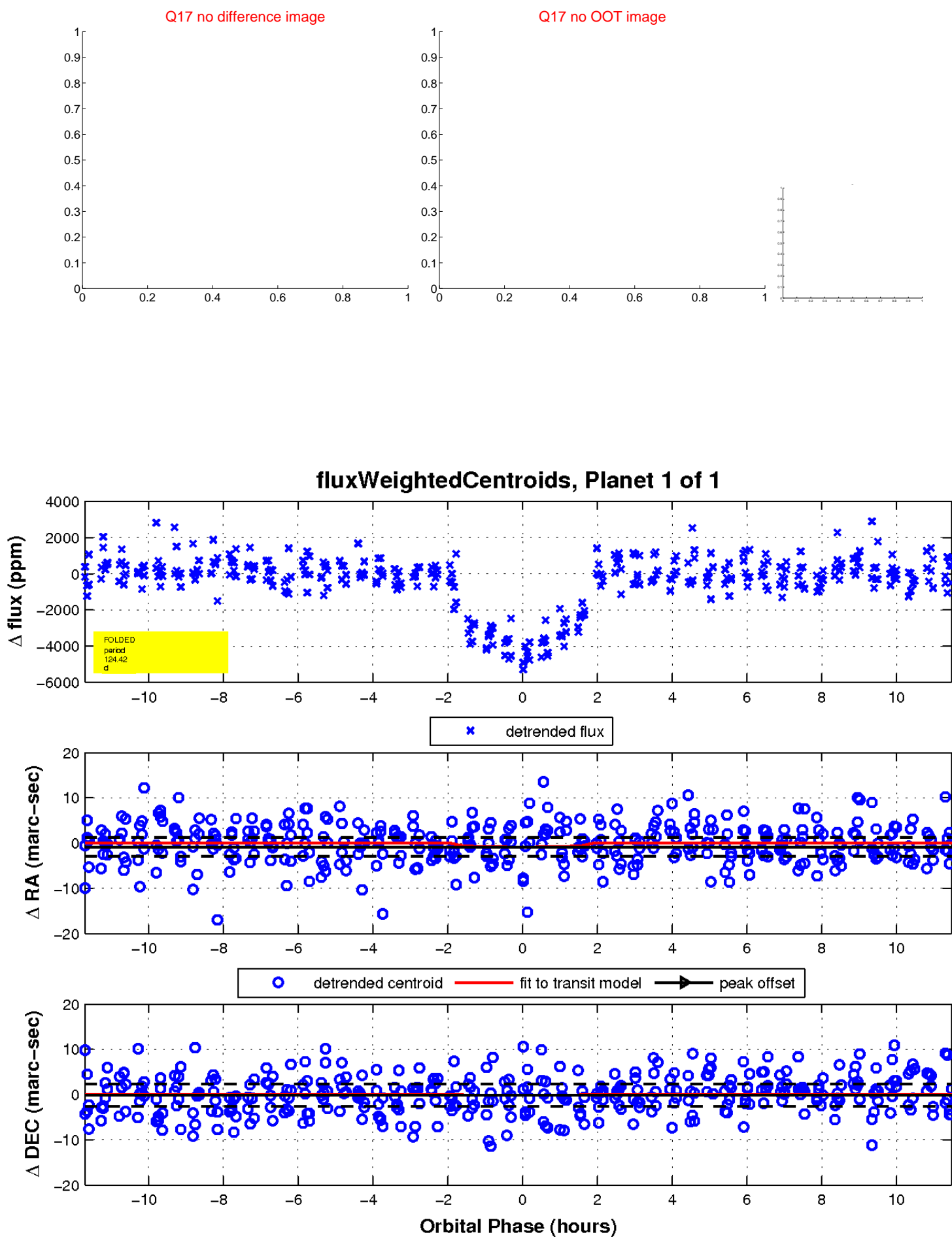
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

