

# KIC 006960446

## 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> )
006960446-01	OBS	3654.01	5.074348	136.069748	114255.4	5.552	1191.1	731.3	1.30	6366	60.46	710.54

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006960446-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED—CENT_KIC_POS

**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 006960446-01

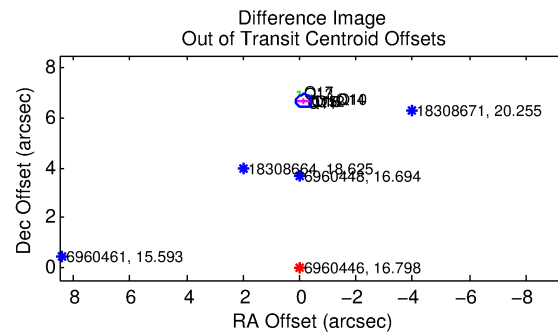
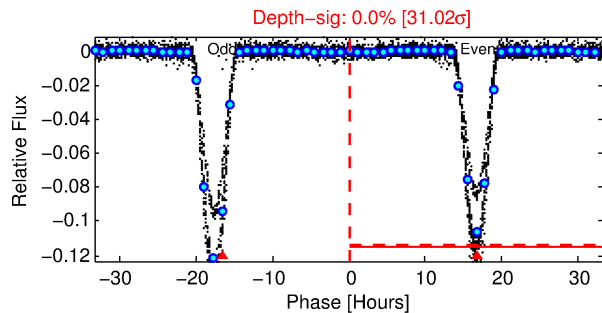
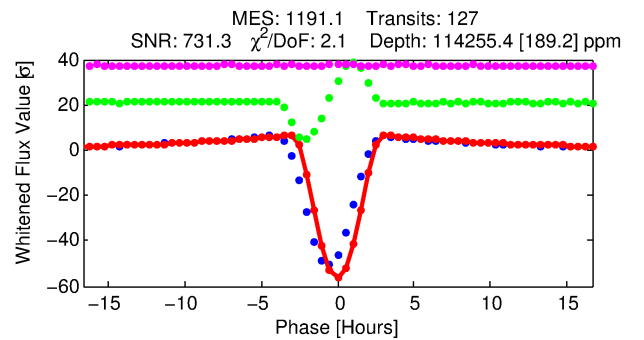
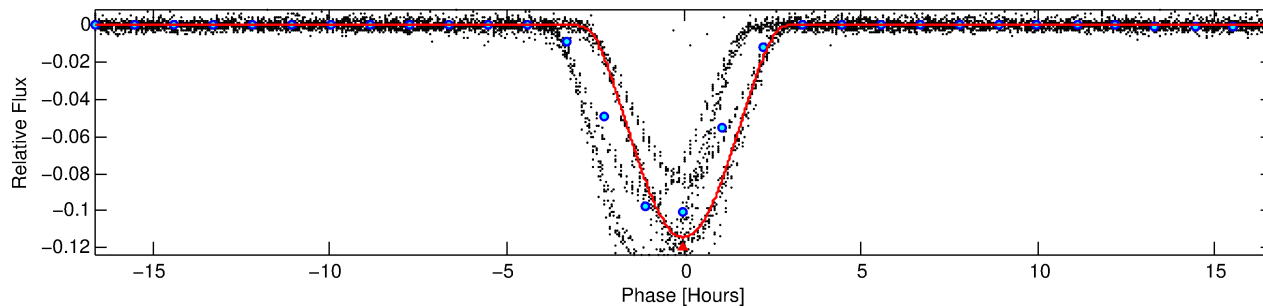
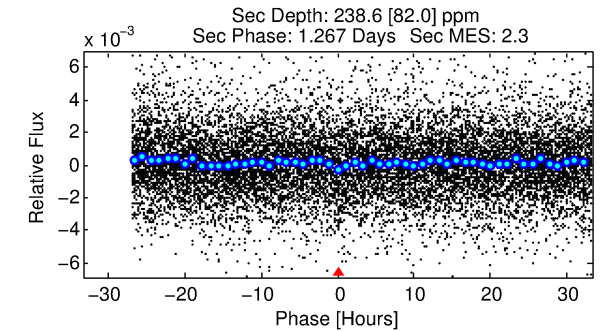
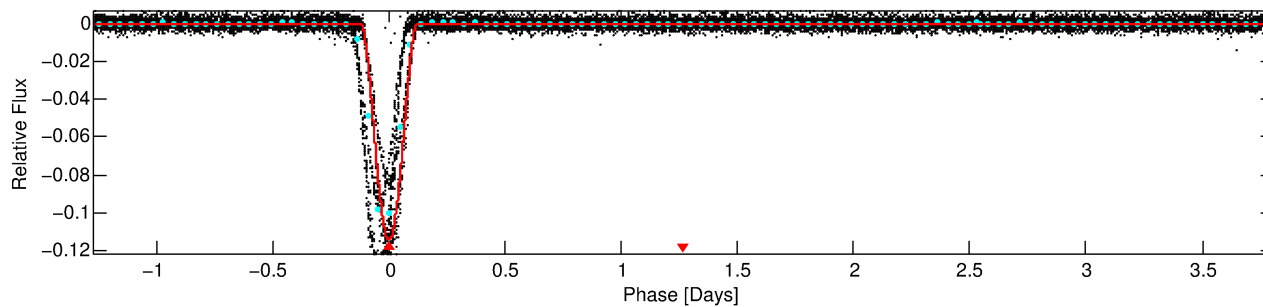
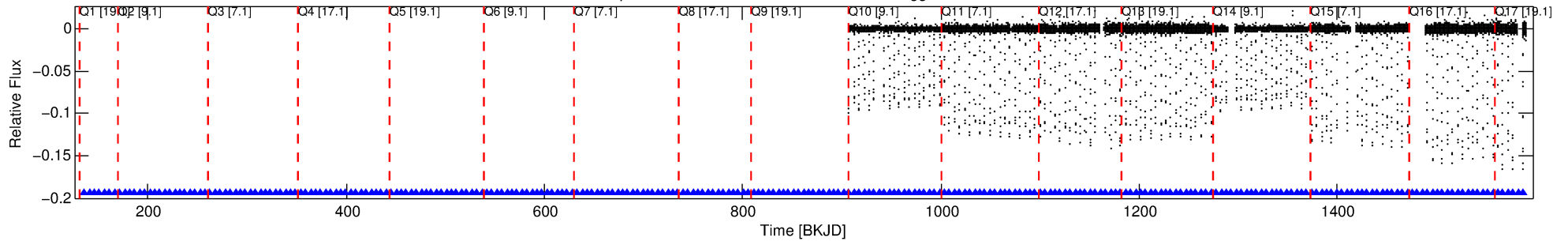
No Significant Match Found

# DV One-Page Summary

KIC: 6960446 Candidate: 1 of 1 Period: 5.074 d

KOI: K03654 Corr: No Ephemeris Match

Kp: 16.80 R\*: 1.30 Rs Teff: 6366.0 K Logg: 4.24 Fe/H: -0.260



## DV Fit Results:

Period = 5.07435 [0.00000] d  
Epoch = 136.0697 [0.0003] BKJD  
Rp/R\* = 0.4275 [0.0345]  
a/R\* = 8.01 [0.02]  
b = 0.86 [0.05]  
Seff = 710.54 [262.31]  
Teff = 1317 [122] K  
Rp = 60.46 [18.07] Re  
a = 0.0590 [0.0139] AU  
Ag = 0.12 [0.06] [-13.81σ]  
Teffp = 1210 [124] K [-0.61σ]

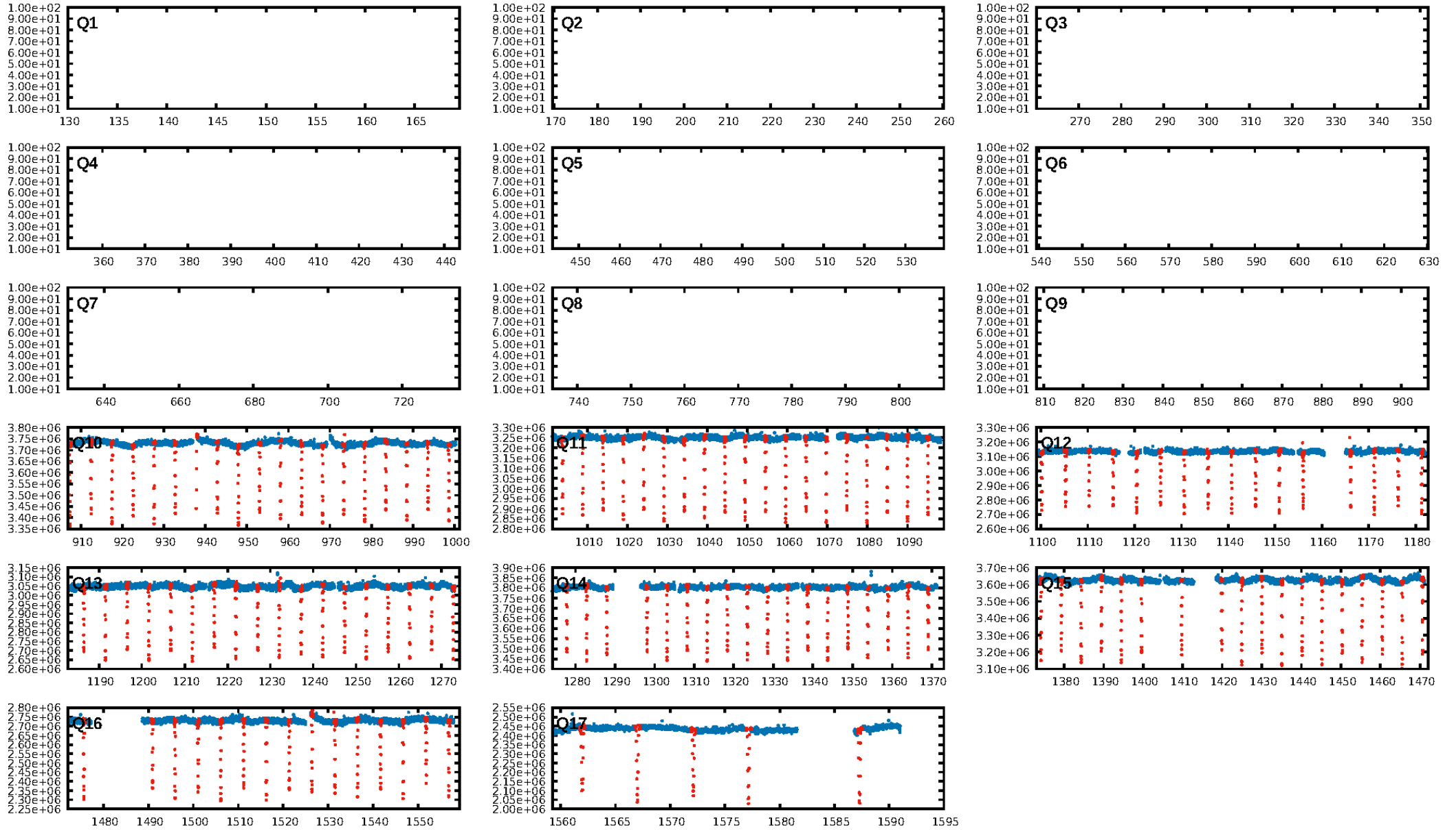
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [122/122]  
GhostDiagnostic-chr: 2.206  
Centroid-sig: 0.0%  
Centroid-so: 4.226 arcsec [3649.10σ]  
OotOffset-rm: 6.678 arcsec [75.88σ]  
KicOffset-rm: 0.090 arcsec [0.91σ]  
OotOffset-st: 2/2/2/2 [8]  
KicOffset-st: 2/2/2/2 [8]  
DiffImageQuality-fgm: 1.00 [8/8]  
DiffImageOverlap-fno: 1.00 [8/8]

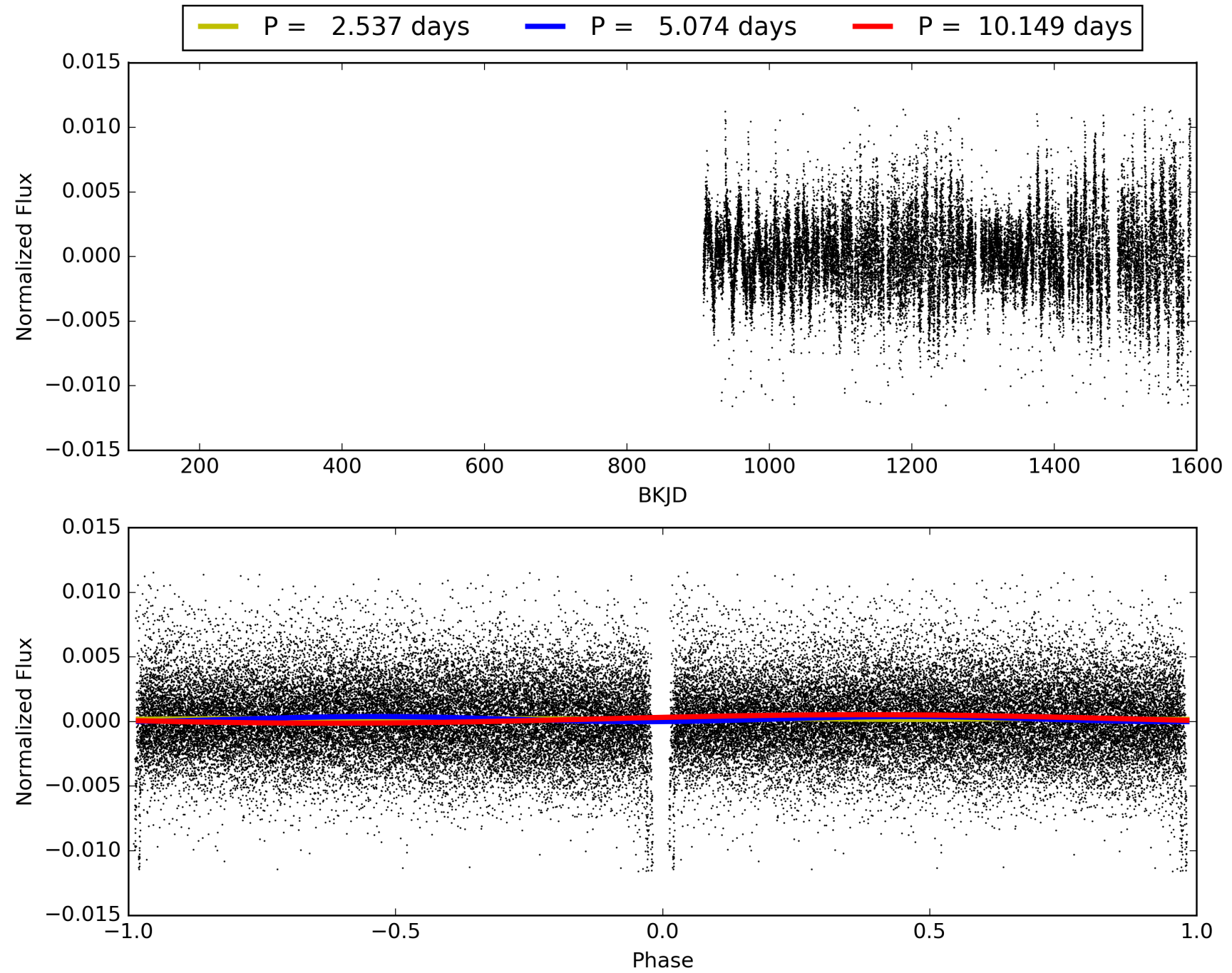
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:04:33 Z

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

# TCE 006960446-01, PDC Light Curves

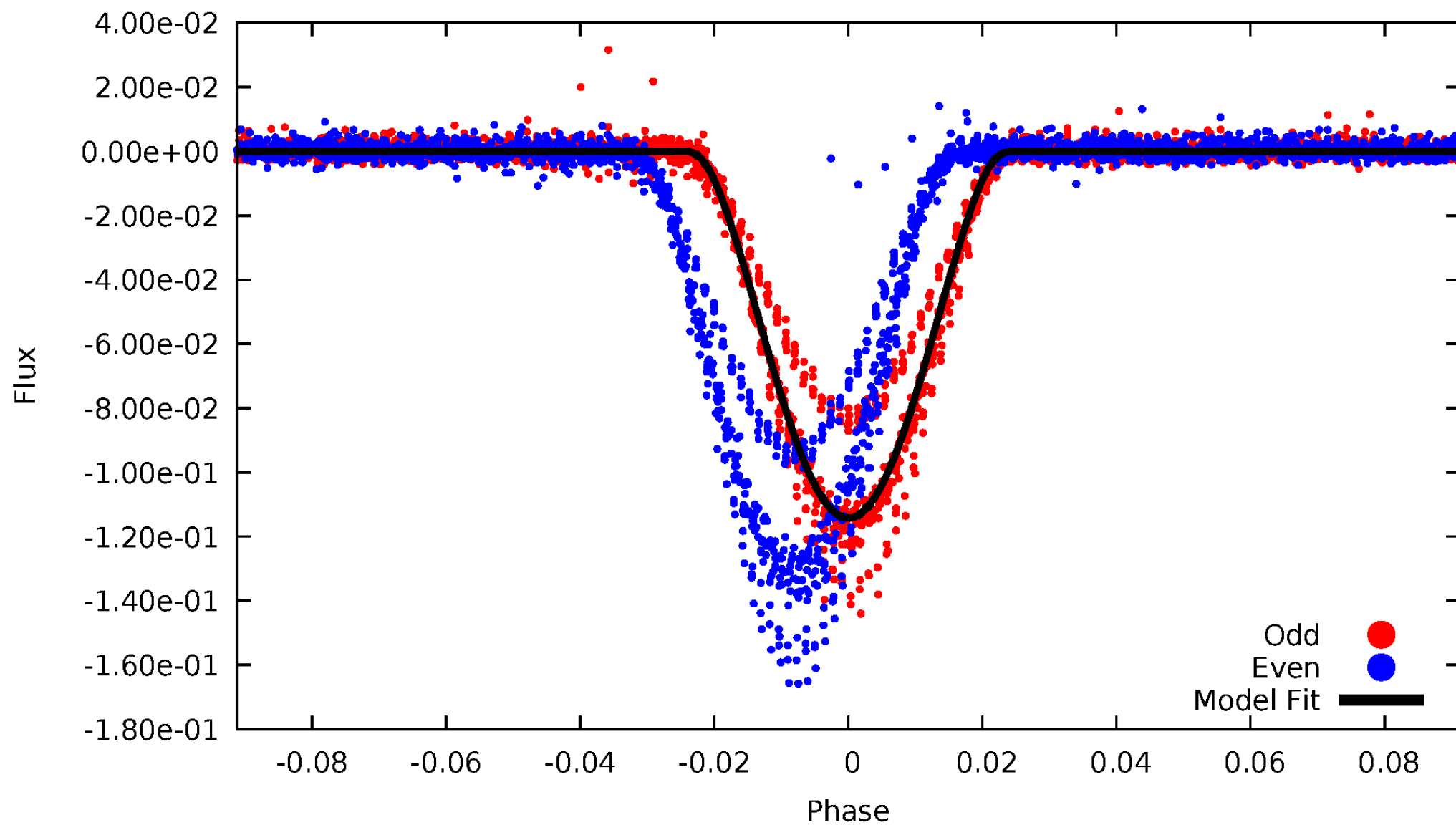


TCE 006960446-01



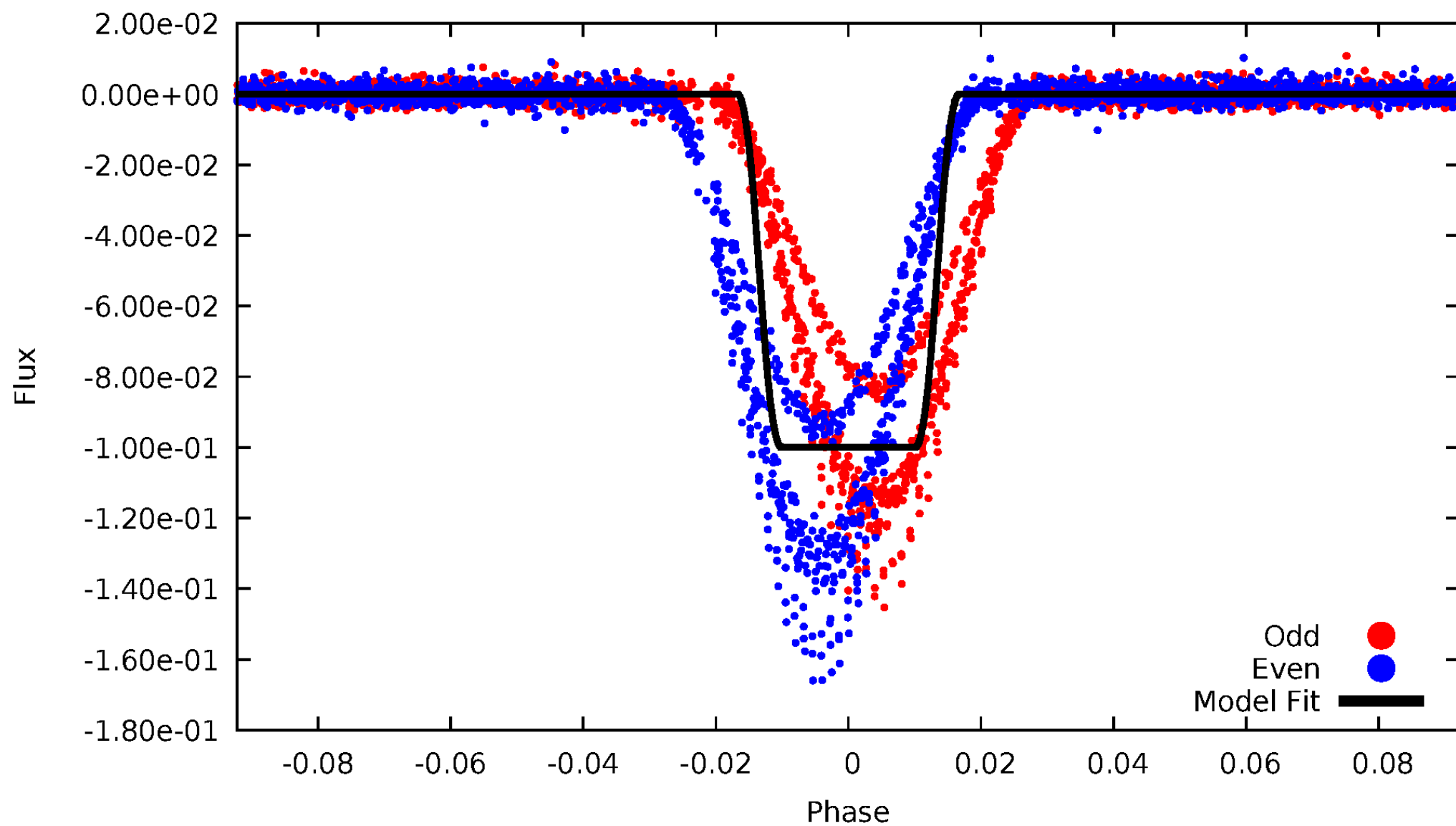
# DV Odd/Even

TCE 006960446-01



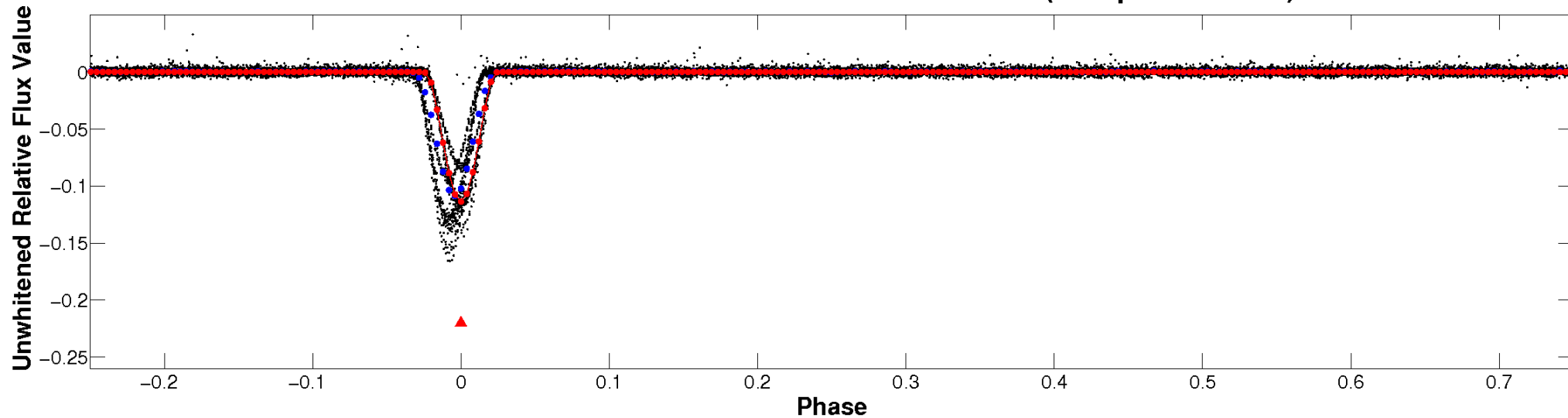
# ALT Odd/Even

TCE 006960446-01

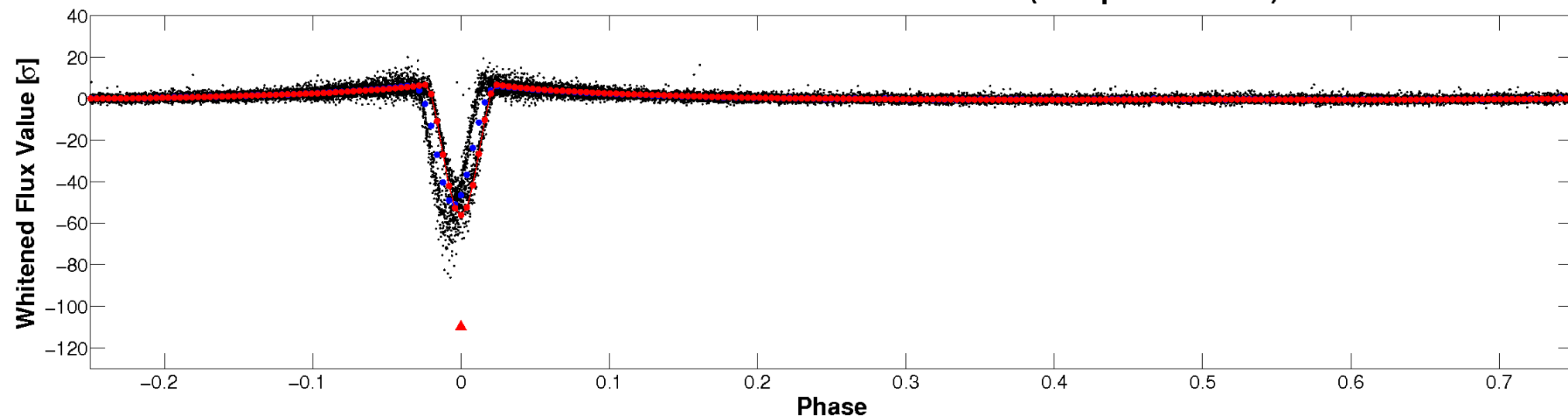


# Non-Whitened Vs. Whitened Light Curve

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

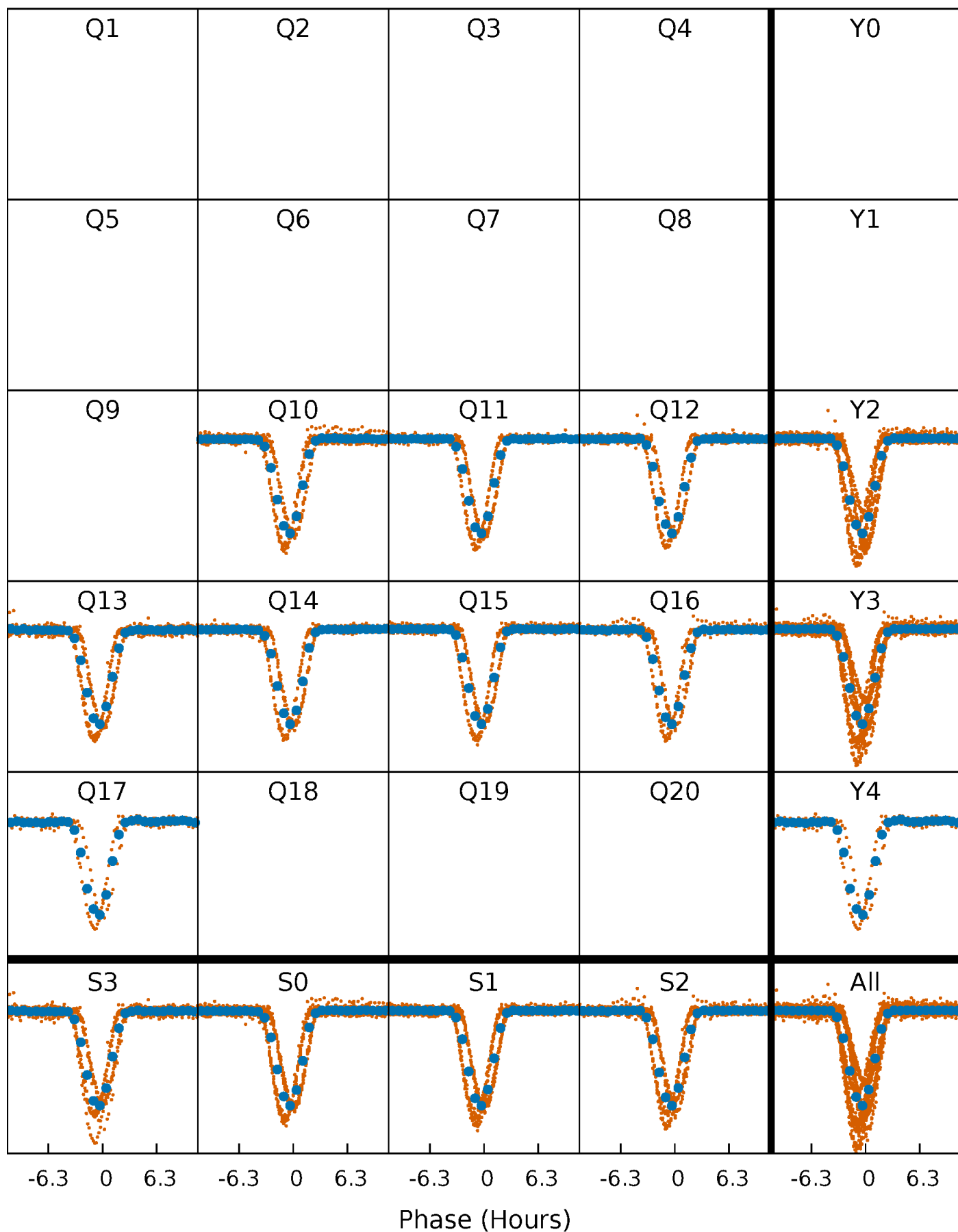


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

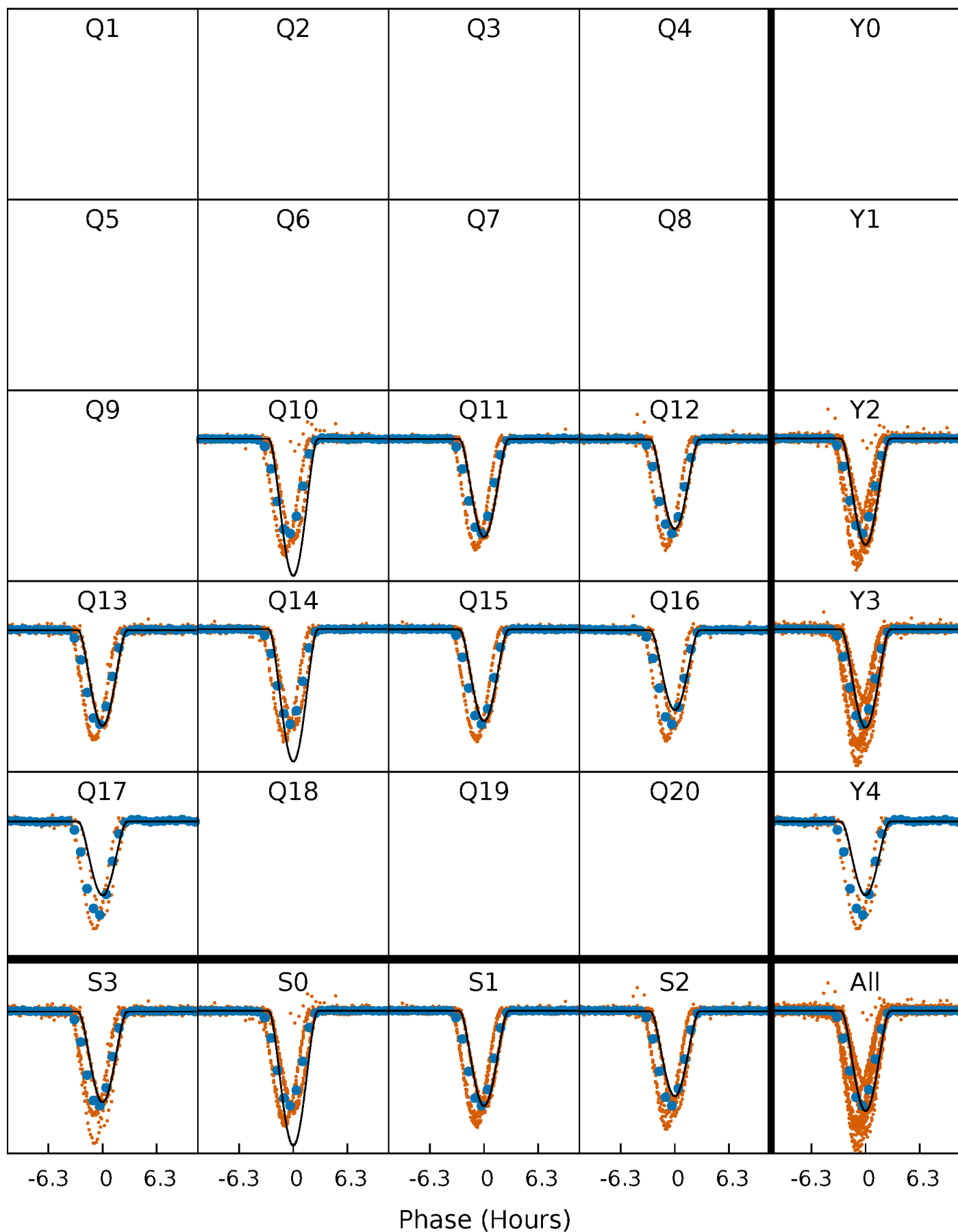
TCE 006960446-01 P= 5.074348 Days  $T_0=136.069748$  (BKJD)





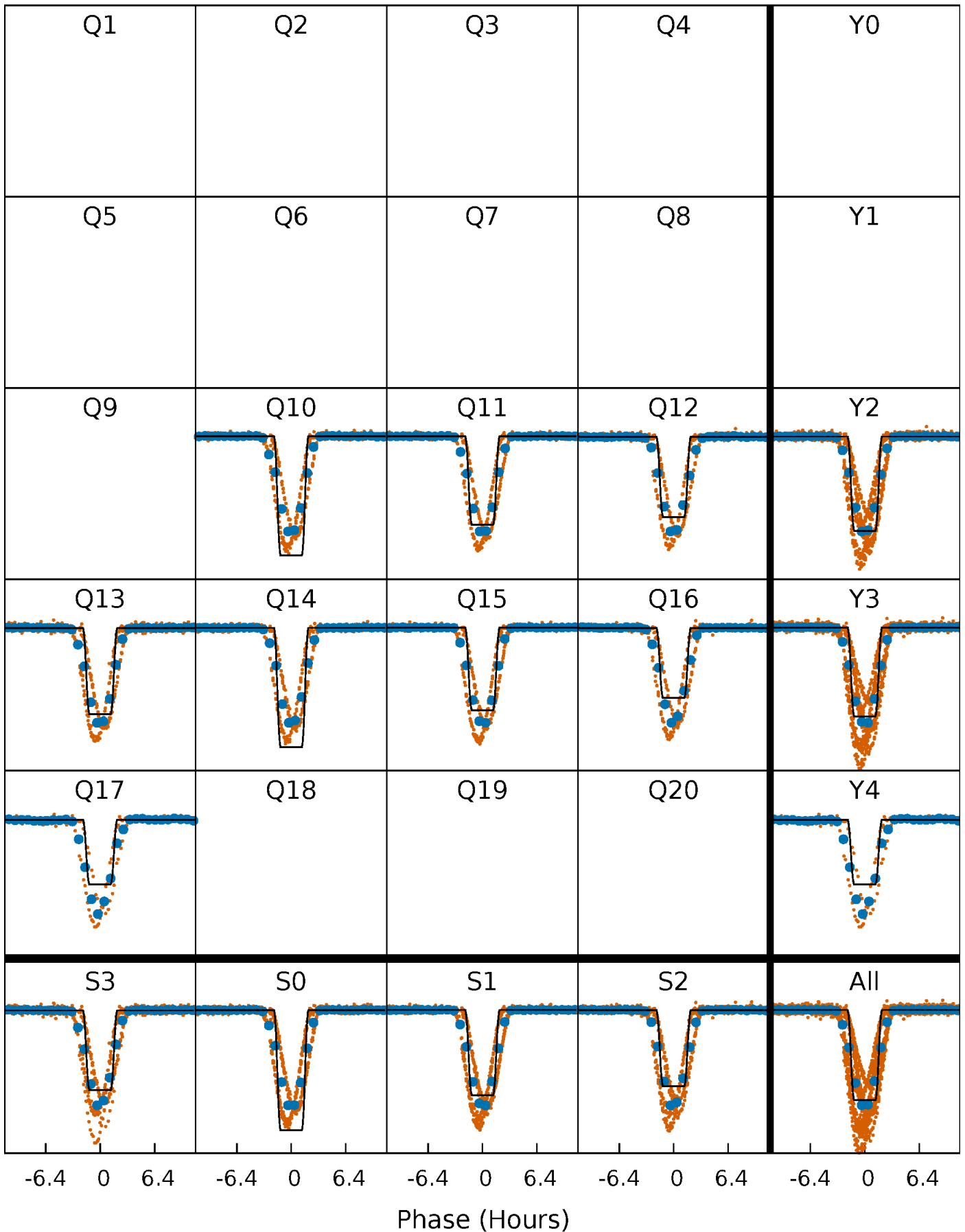
# DV Quarter-Phased Transit Curves

TCE 006960446-01 P= 5.074348 Days  $T_0=136.069748$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

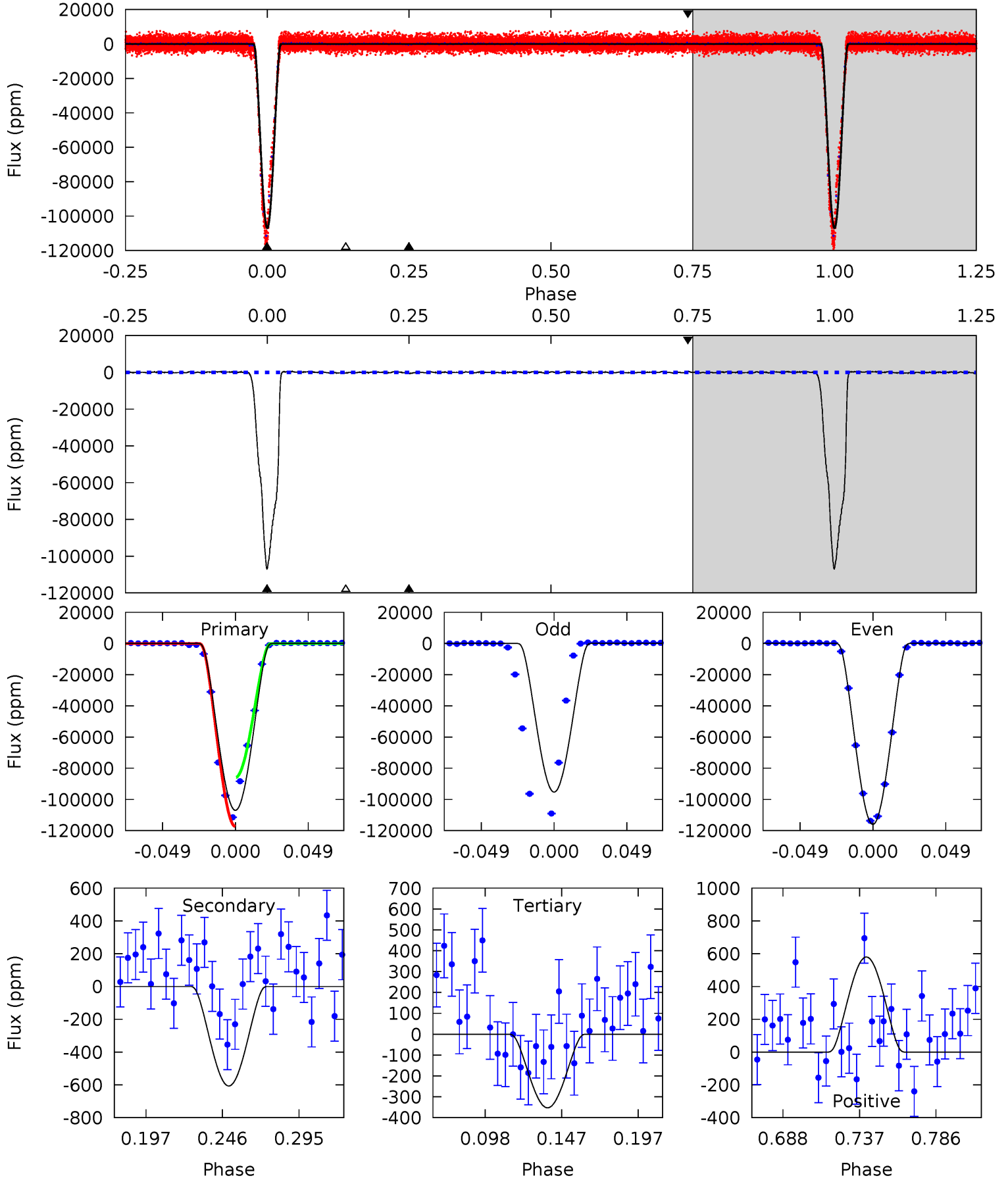
TCE 006960446-01 P= 5.074379 Days  $T_0=136.042716$  (BKJD)



# DV Model-Shift Uniqueness Test

006960446-01, P = 5.074348 Days, E = 136.069748 Days

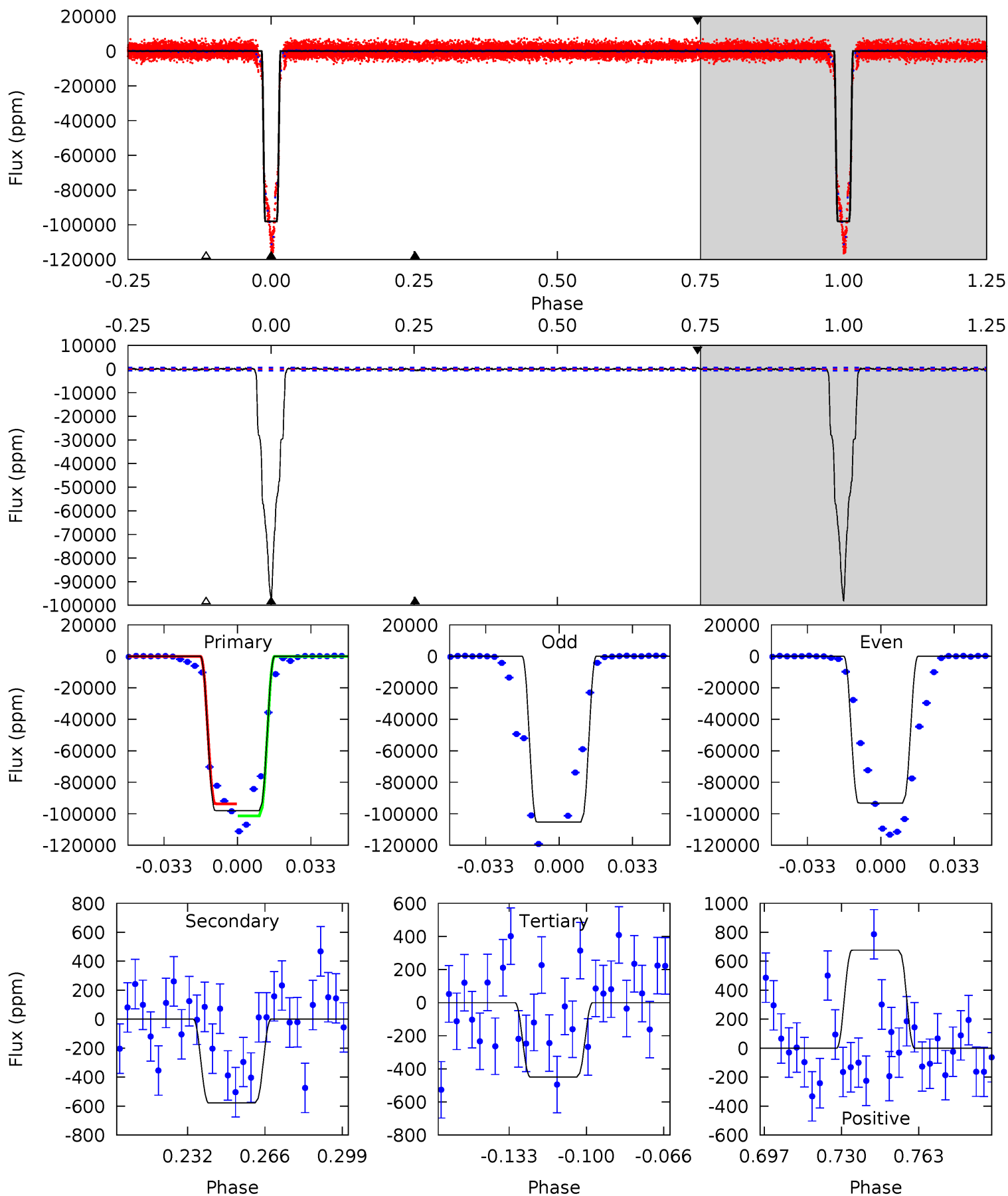
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1228	6.97	4.05	6.66	4.71	1.97	1.95	1224	1222	2.92	0.31	167.1	0.94	0.01	0



## Alt Model-Shift Uniqueness Test

006960446-01, P = 5.074379 Days, E = 136.042716 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
750.8	4.43	3.45	5.19	4.79	2.13	1.24	747.3	745.6	0.98	-0.76	63.8	0.98	0.01	0



### Stellar Parameters For KIC 006960446

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6366^{+176}_{-242}$	$4.239^{+0.180}_{-0.180}$	$-0.260^{+0.250}_{-0.300}$	$1.296^{+0.373}_{-0.271}$	$1.059^{+0.184}_{-0.123}$	$0.684^{+0.641}_{-0.333}$
	+3%/-4%	+4%/-4%	+96%/-115%	+29%/-21%	+17%/-12%	+94%/-49%
Source	KIC0	KIC0	KIC0	DSEP		

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

### Secondary Eclipse Parameters for KIC 006960446-01 / KOI 3654.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-607 \pm 87$	$59.44^{+10.93}_{-8.20}$	$1822^{+156}_{-127}$	$1846^{+328}_{-3914}$	$0.326^{+0.132}_{-0.094}$
Alt.	$-578 \pm 131$	$44.34^{+8.15}_{-7.09}$	$1831^{+141}_{-135}$	$2356^{+176}_{-290}$	$0.576^{+0.279}_{-0.205}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$

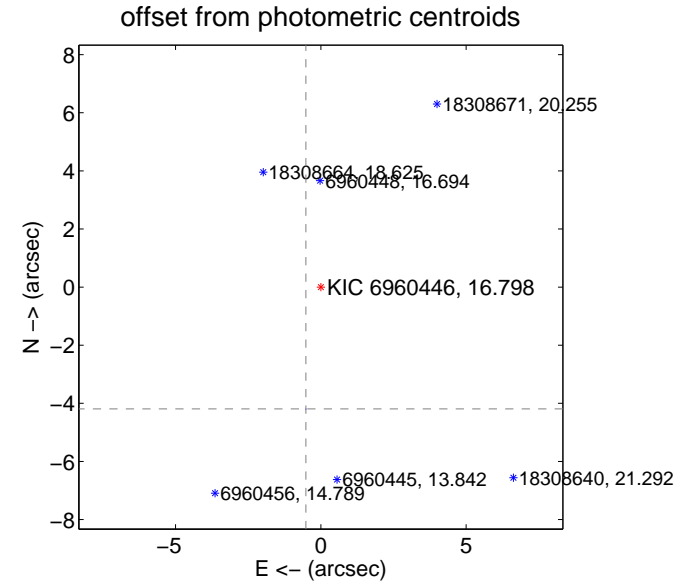
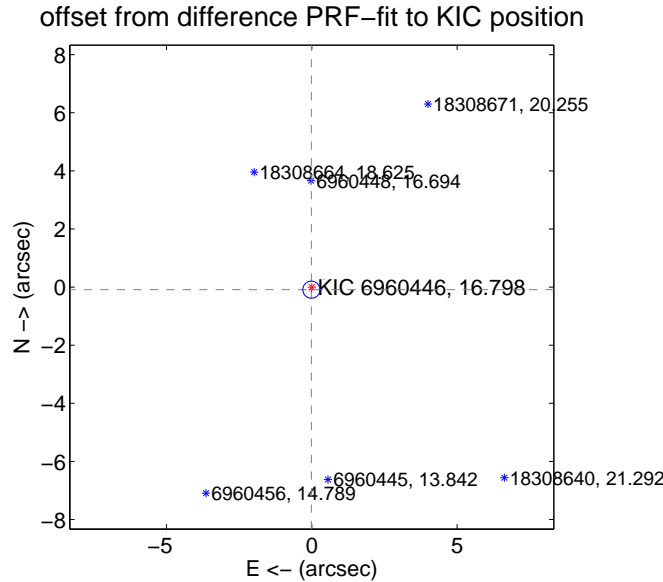
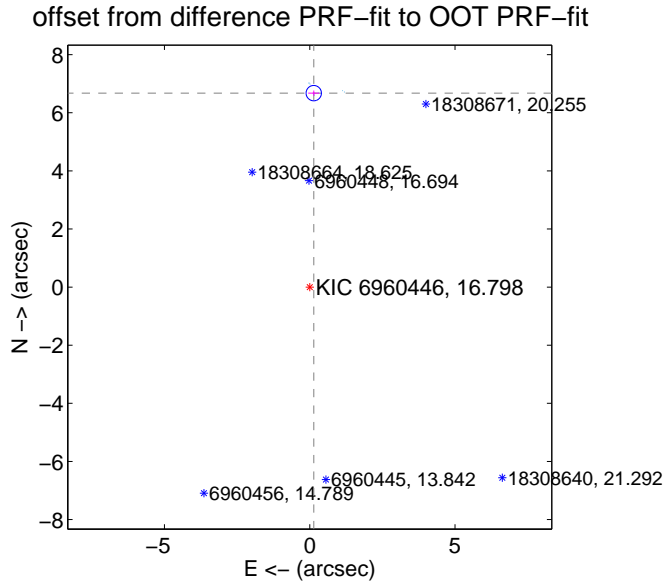
## DV Centroid Data

Supplemental centroid analysis for 006960446-01. Kepler magnitude: 16.80. Transit SNR 731.31

There are 8 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 7.05 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$6.678 \pm 0.088$	75.88	$-0.138 \pm 0.191$	$6.676 \pm 0.089$
PRF-fit source offset from KIC position	$0.090 \pm 0.098$	0.91	$0.014 \pm 0.101$	$-0.089 \pm 0.091$
photometric centroid source offset	$4.23 \pm 0.00$	3649.10	$0.52 \pm 0.00$	$-4.19 \pm 0.00$



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.

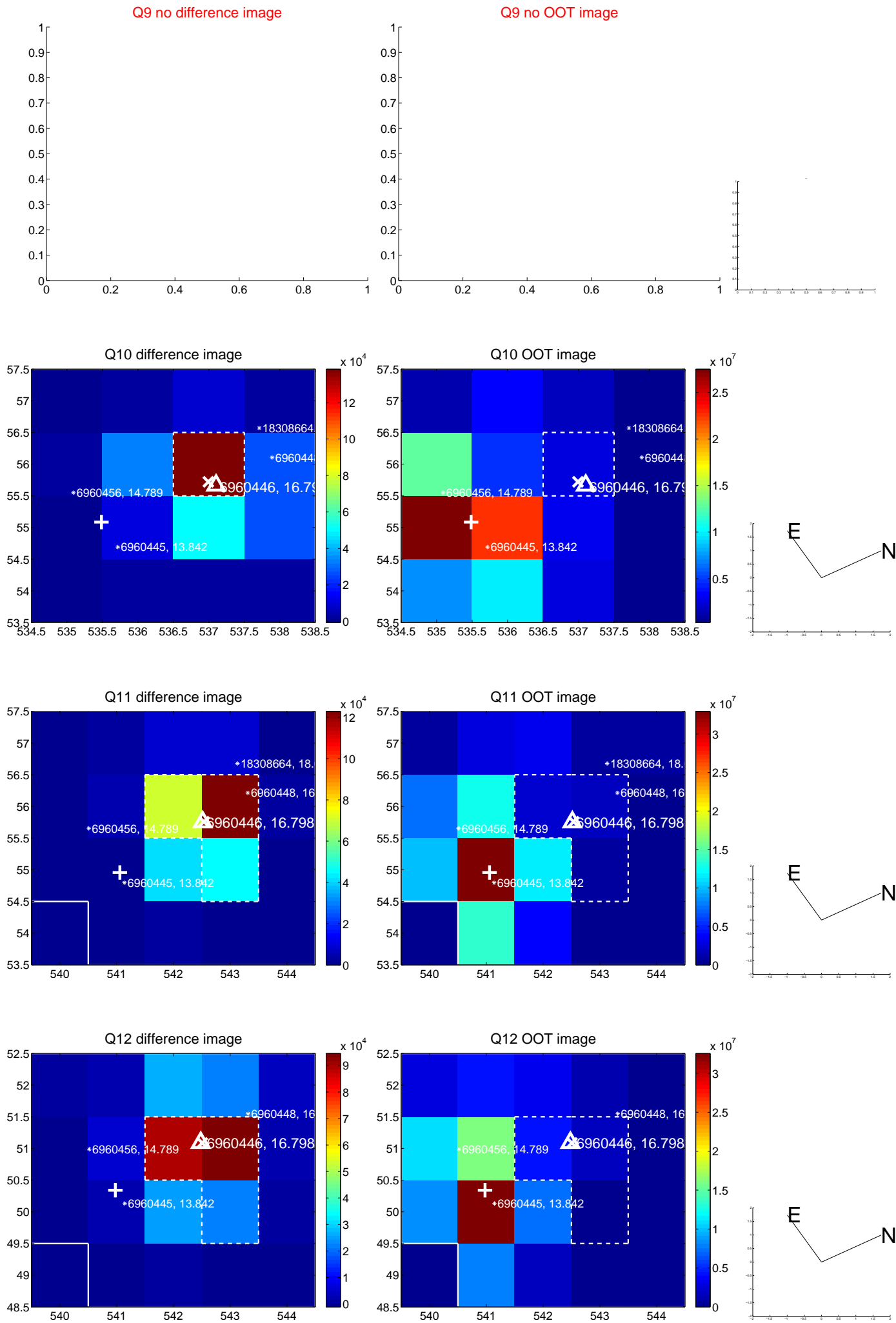


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

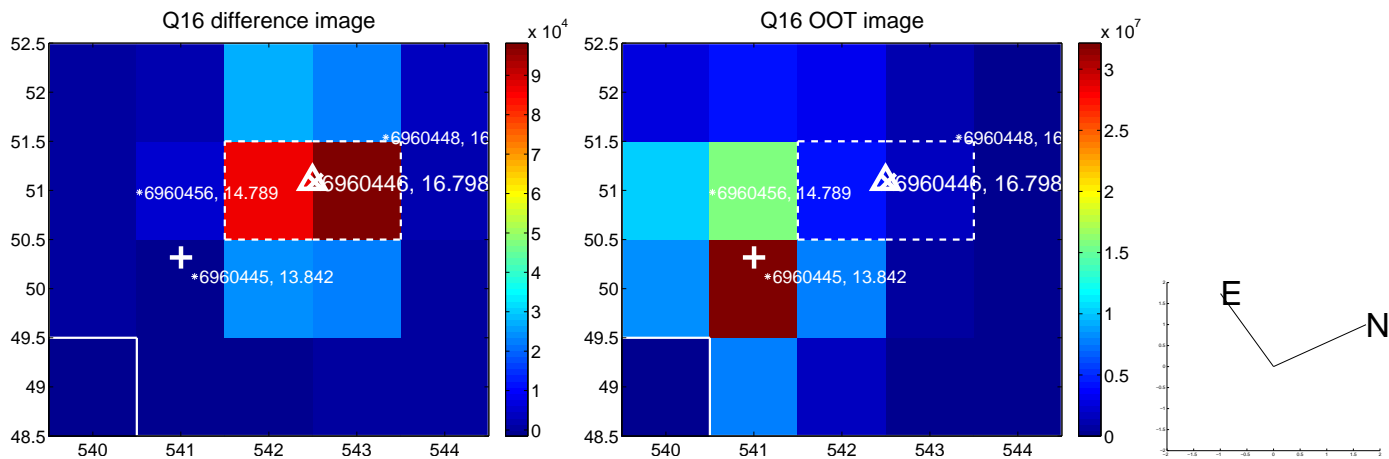
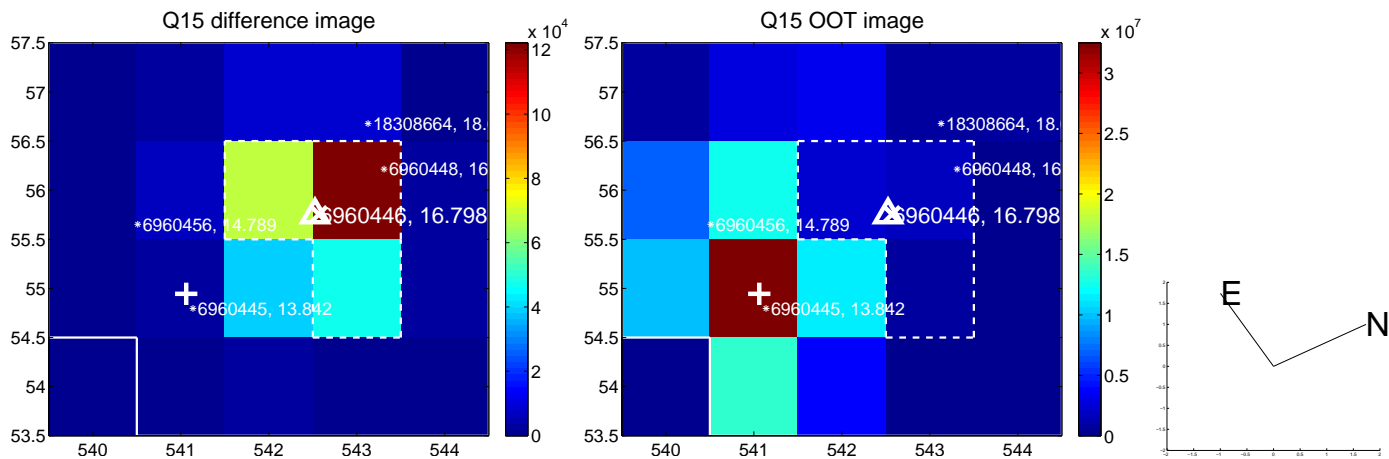
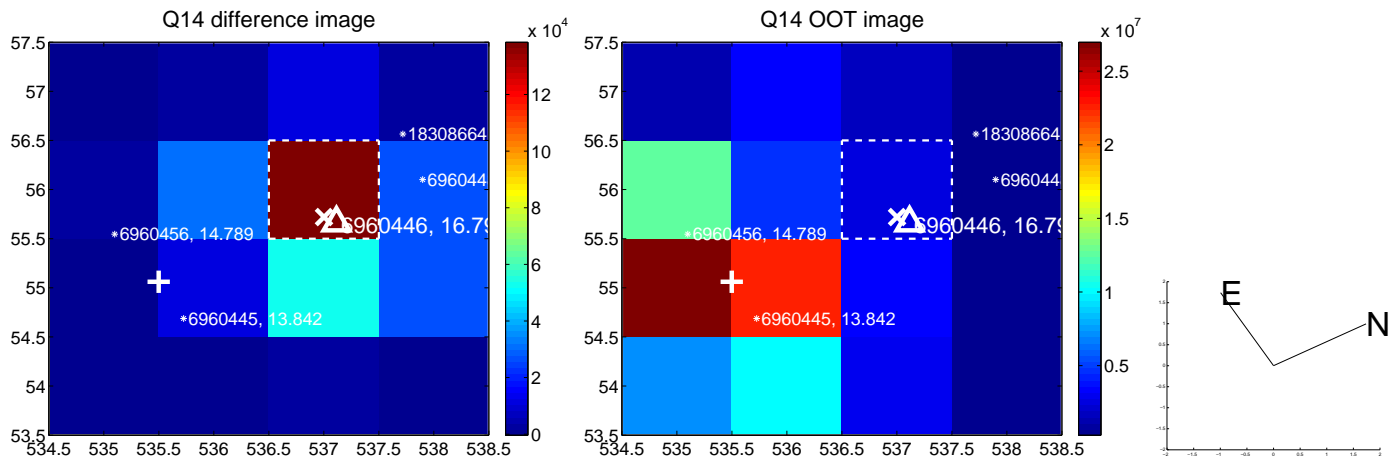
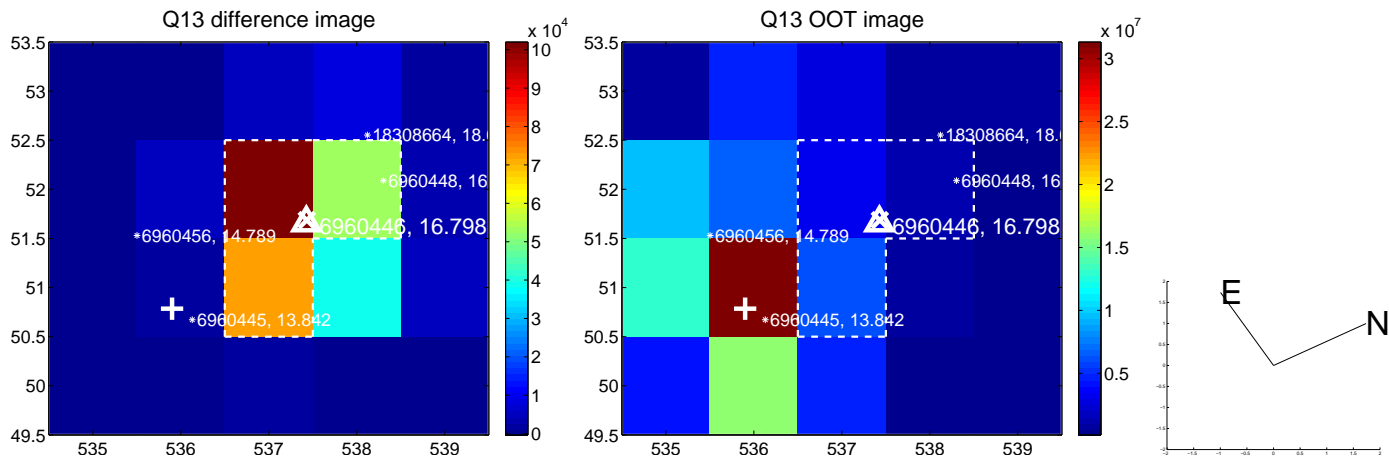




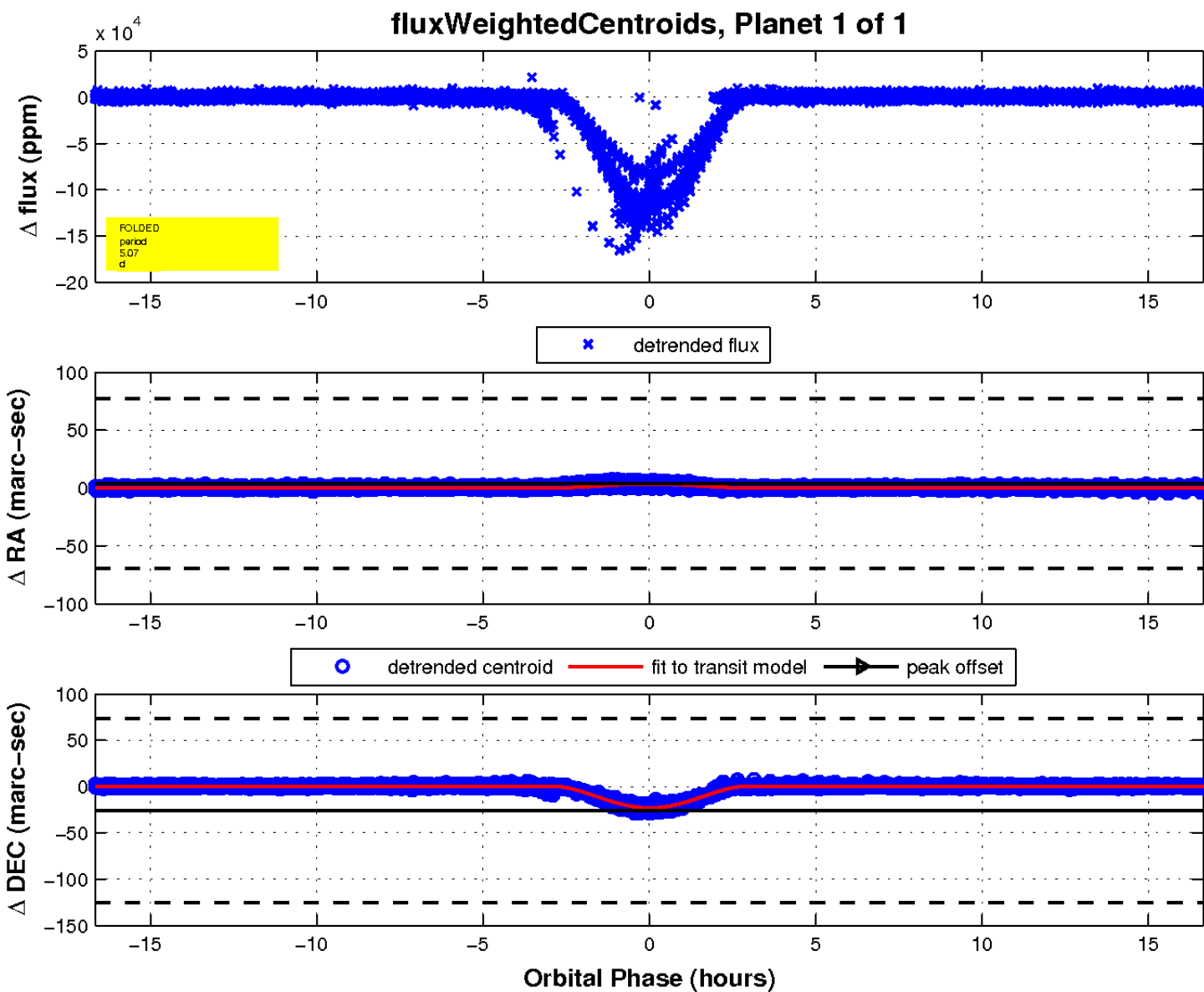
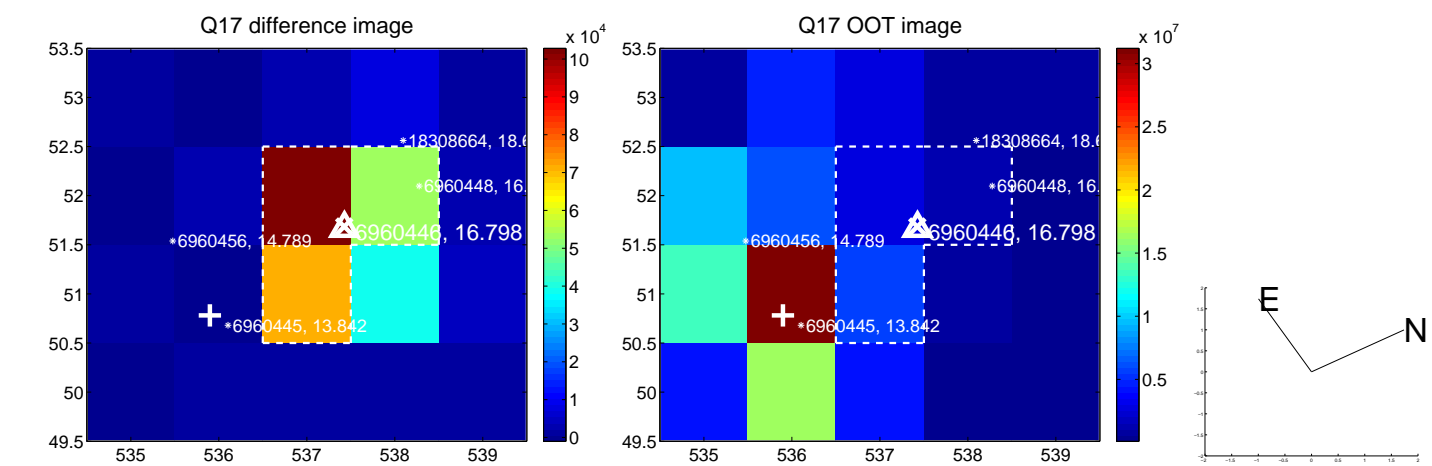
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UKIRT Image

Declination

