

# KIC 006699562

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
006699562-01	OBS	5317.01	46.270525	173.655865	66145.7	8.919	4138.7	3667.6	1.07	6357	36.38	25.33

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006699562-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED

**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.

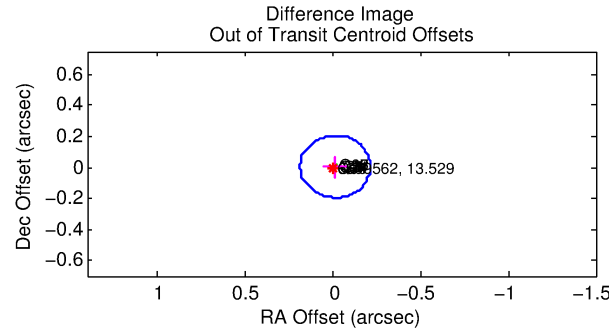
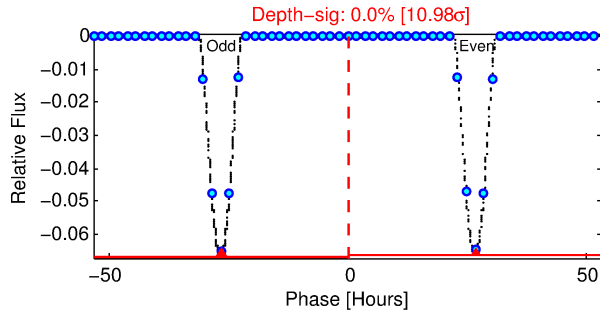
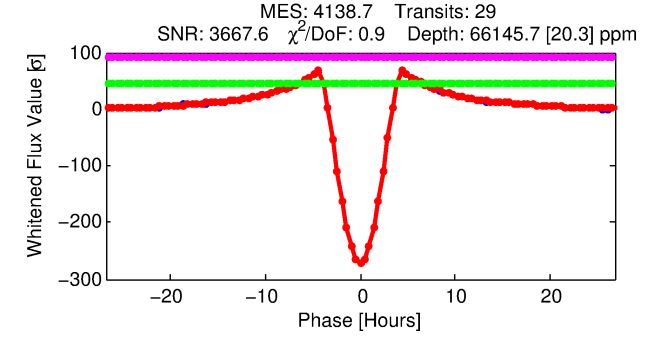
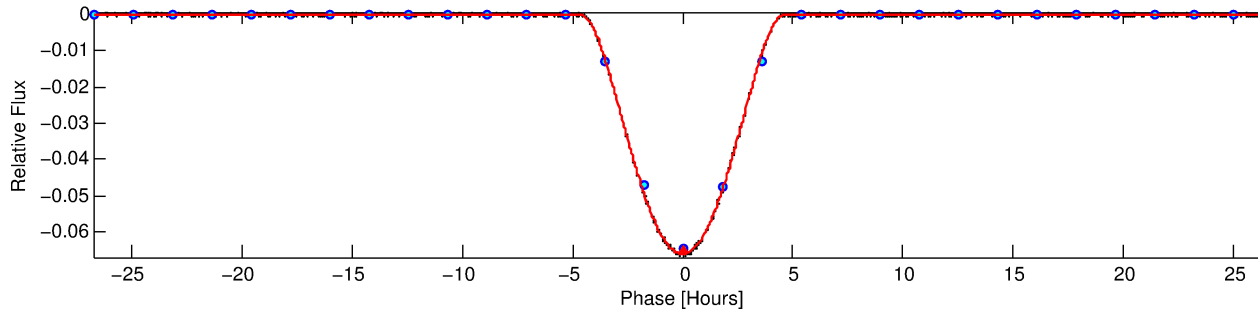
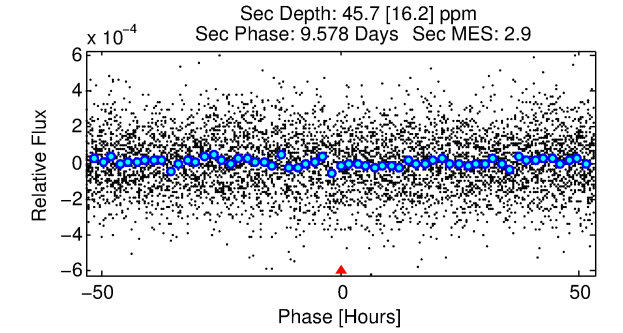
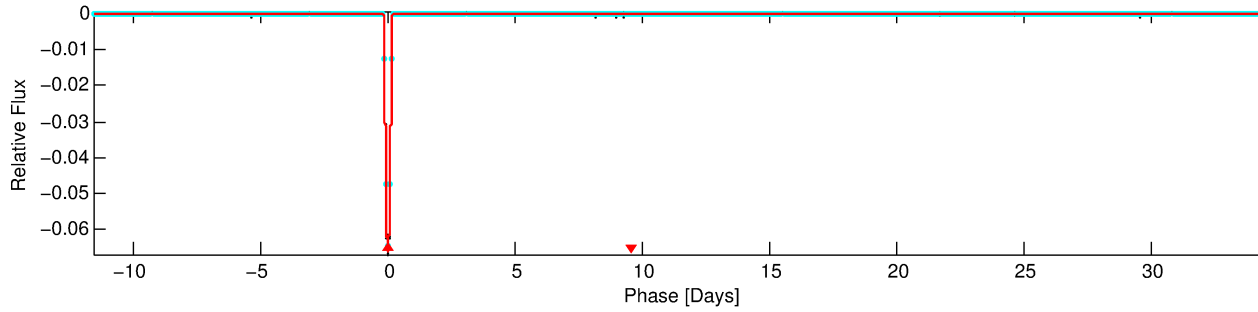
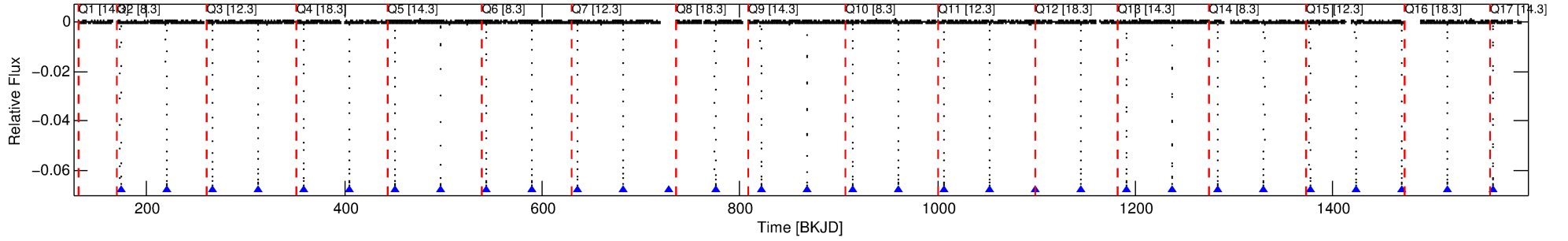
## Ephemeris Match Information For 006699562-01

No Significant Match Found

# DV One-Page Summary

KIC: 6699562 Candidate: 1 of 1 Period: 46.271 d  
KOI: K05317.01 Corr: 0.999

Kp: 13.53 R\*: 1.07 Rs Teff: 6357.0 K Logg: 4.41 Fe/H: -0.240



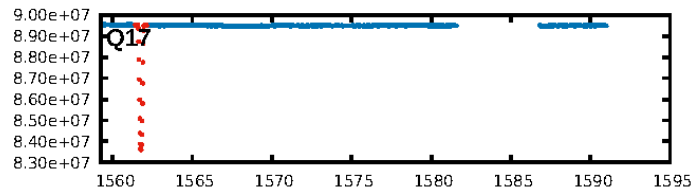
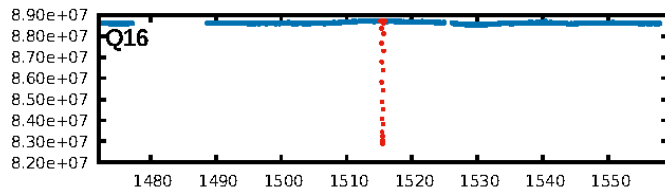
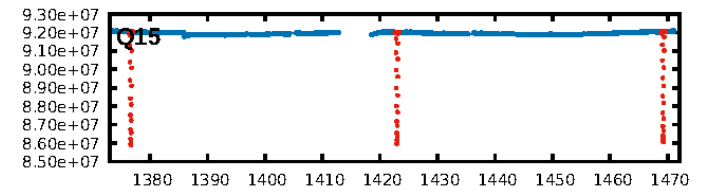
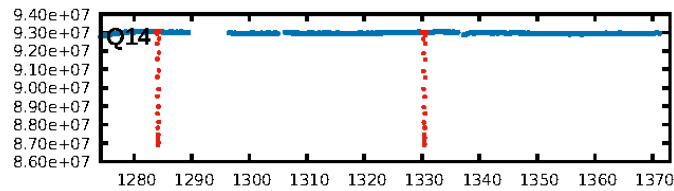
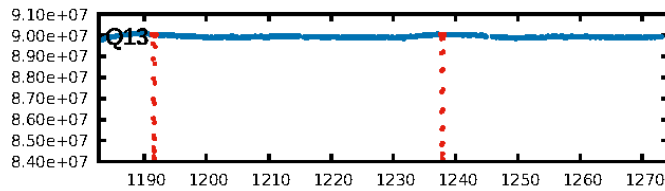
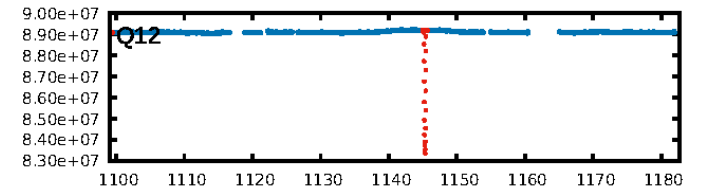
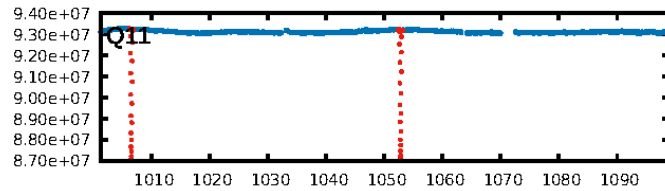
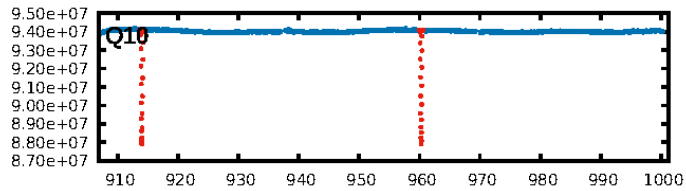
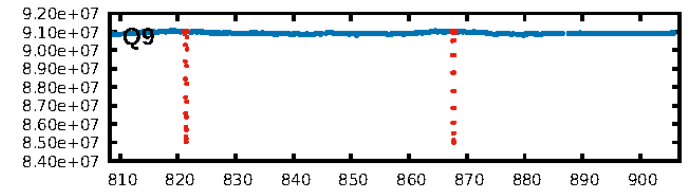
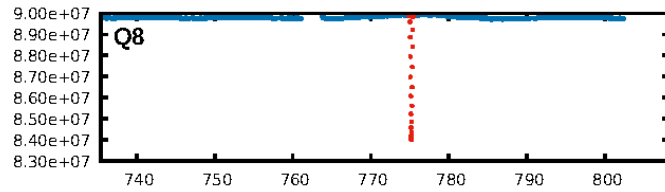
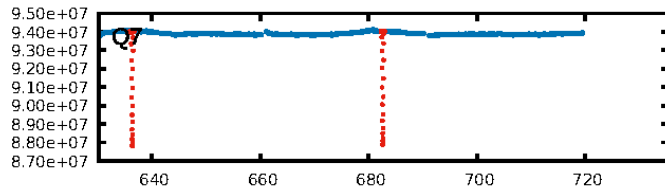
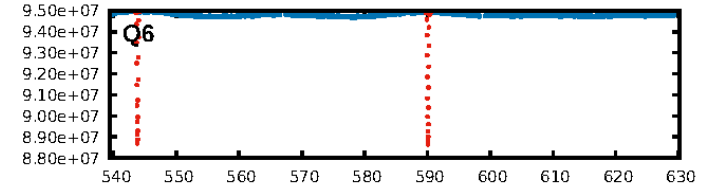
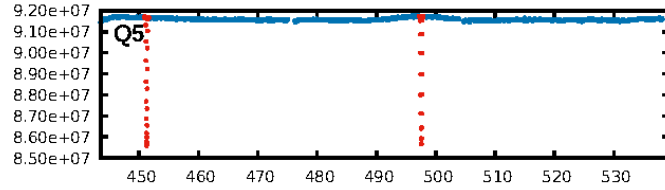
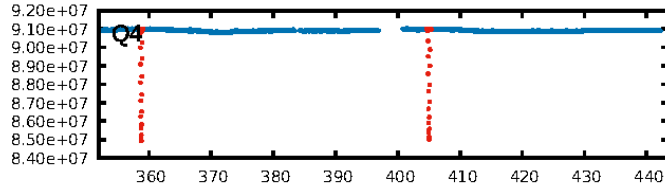
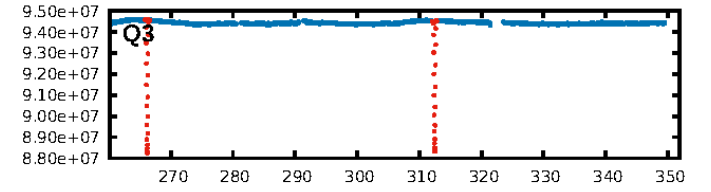
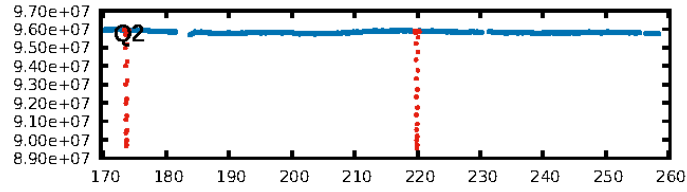
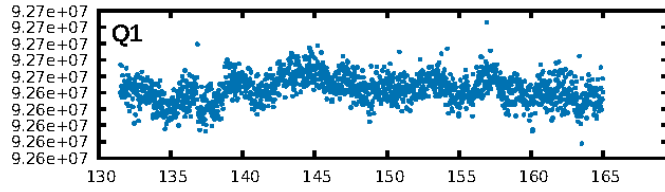
## DV Fit Results:

Period = 46.27053 [0.00000] d  
Epoch = 173.6559 [0.0000] BKJD  
Rp/R\* = 0.3110 [0.0015]  
a/R\* = 39.01 [0.02]  
b = 0.87 [0.00]  
Seff = 25.33 [10.28]  
Teq = 572 [58] K  
Rp = 36.38 [11.51] Re  
a = 0.2576 [0.0684] AU  
Ag = 1.26 [0.66] [0.40σ]  
Teffp = 937 [88] K [3.45σ]

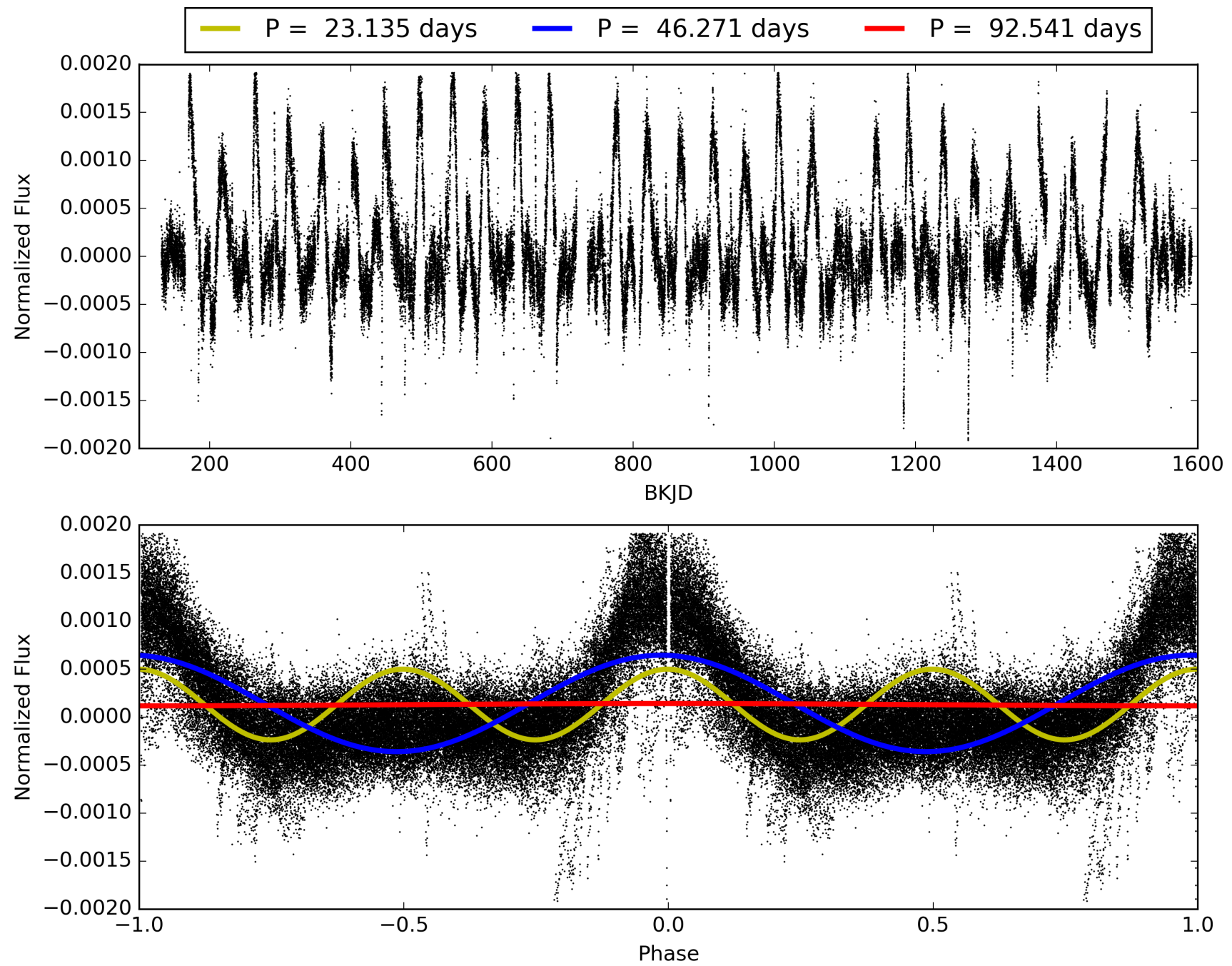
## DV Diagnostic Results:

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 [28/28]  
GhostDiagnostic-chr: 8.406  
Centroid-sig: 0.0%  
Centroid-so: 0.152 arcsec [78.25σ]  
OotOffset-rm: 0.016 arcsec [0.23σ]  
KicOffset-rm: 0.162 arcsec [2.42σ]  
OotOffset-st: 4/4/3/4 [15]  
KicOffset-st: 4/4/3/4 [15]  
DiffImageQuality-fgm: 1.00 [15/15]  
DiffImageOverlap-fno: 1.00 [15/15]

# TCE 006699562-01, PDC Light Curves

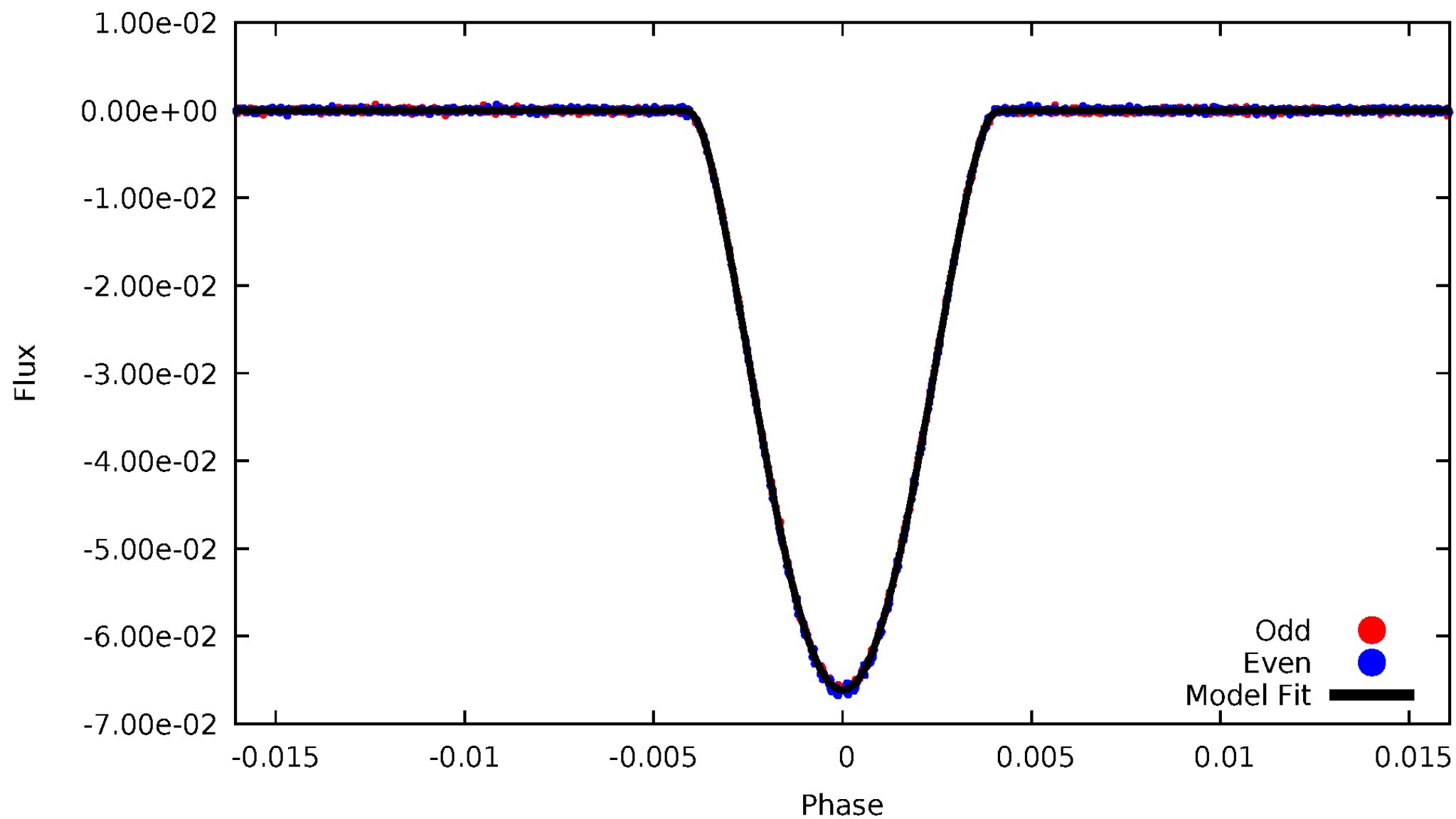


TCE 006699562-01



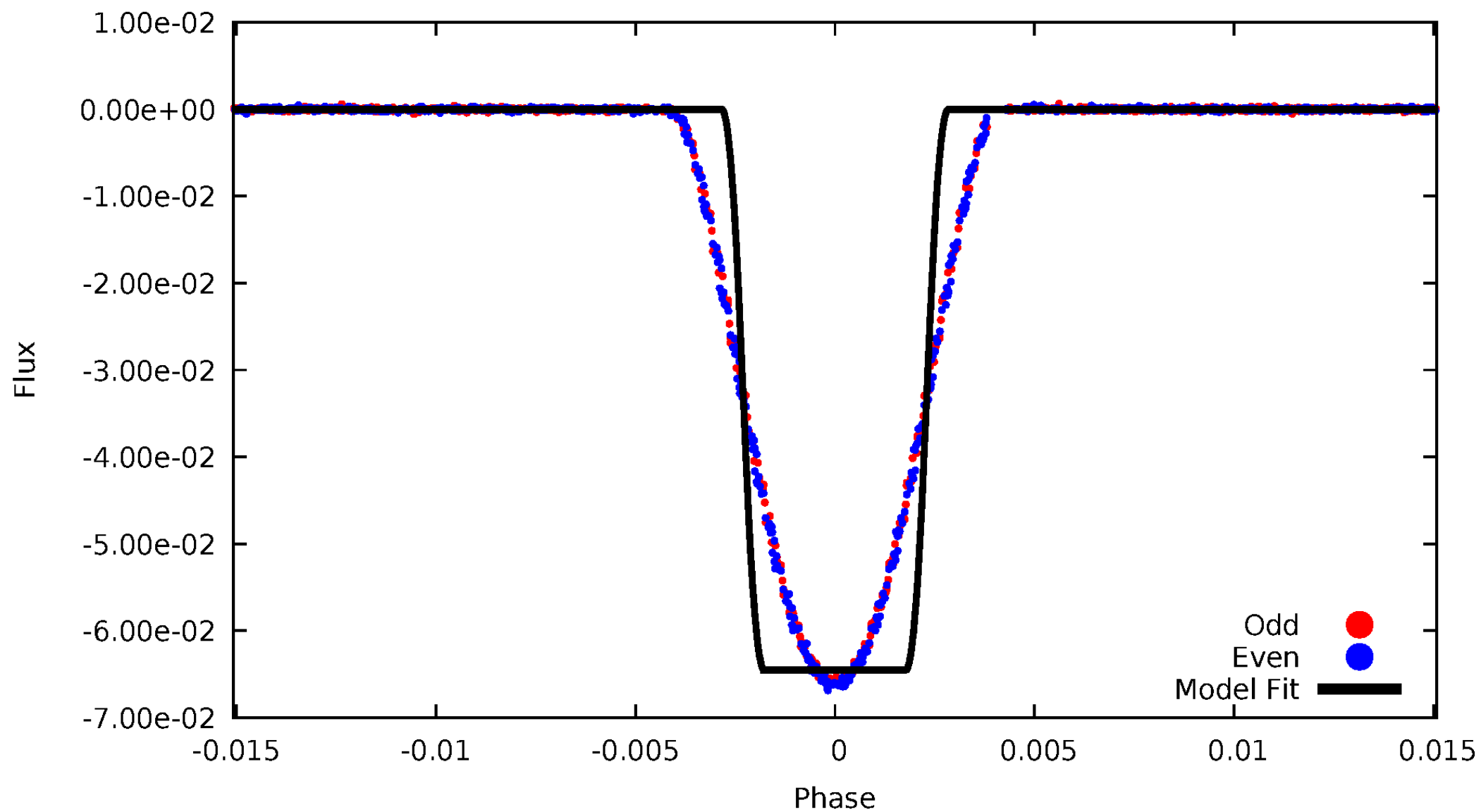
# DV Odd/Even

TCE 006699562-01



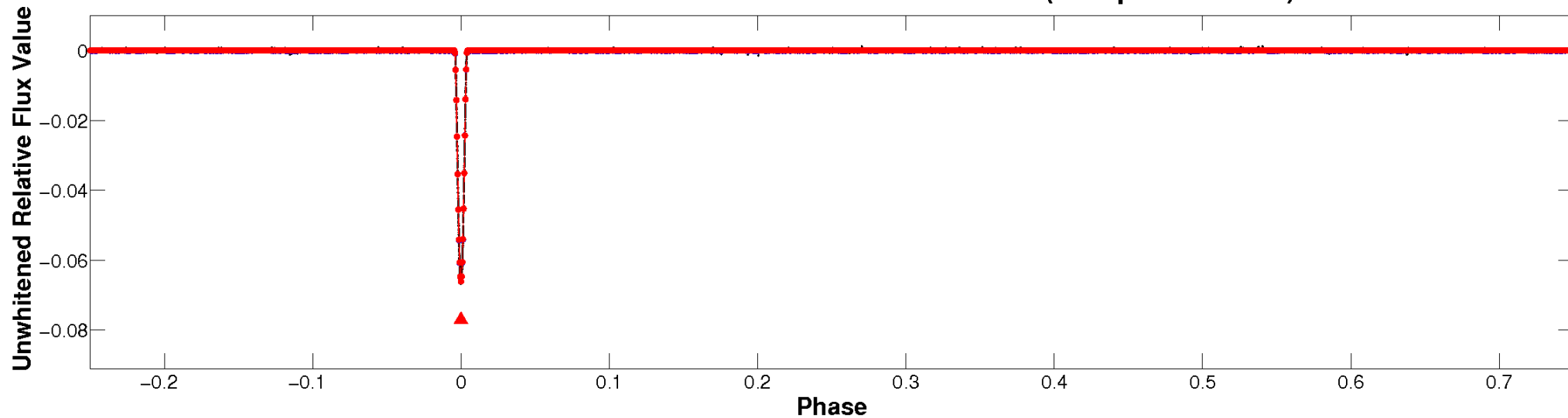
# ALT Odd/Even

TCE 006699562-01

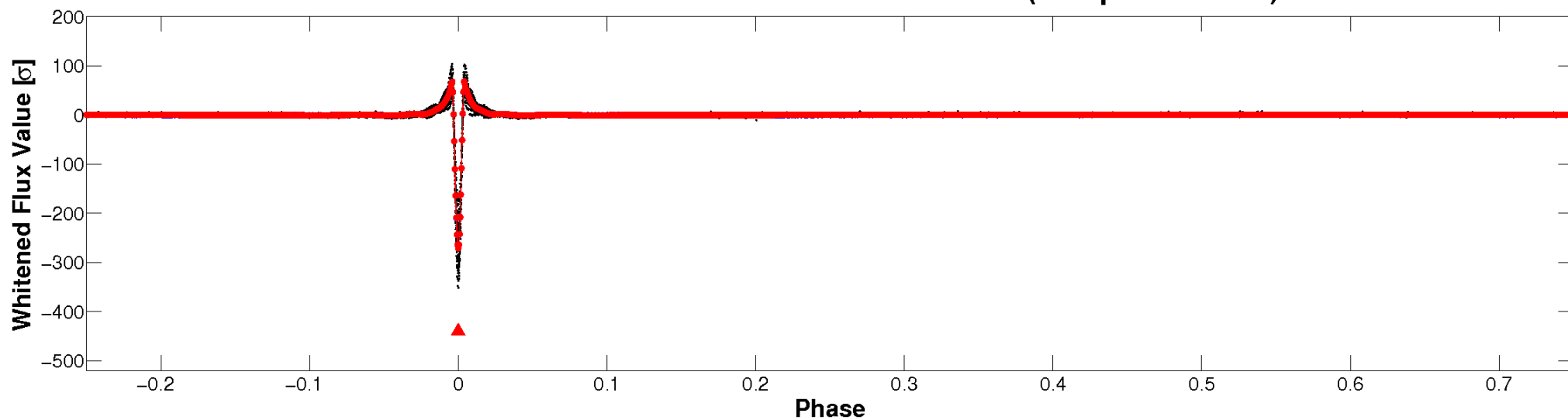


# Non-Whitened Vs. Whitened Light Curve

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

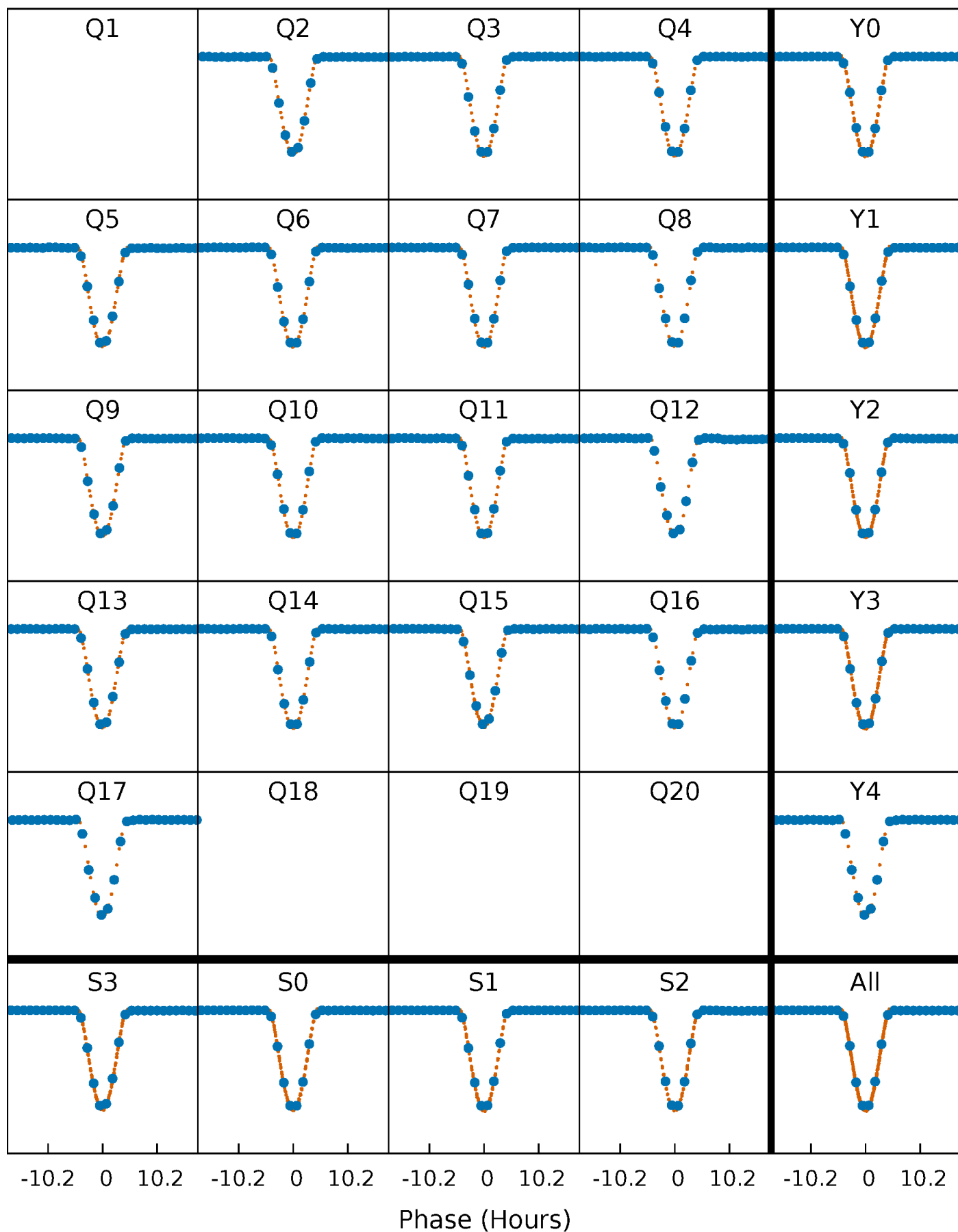


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

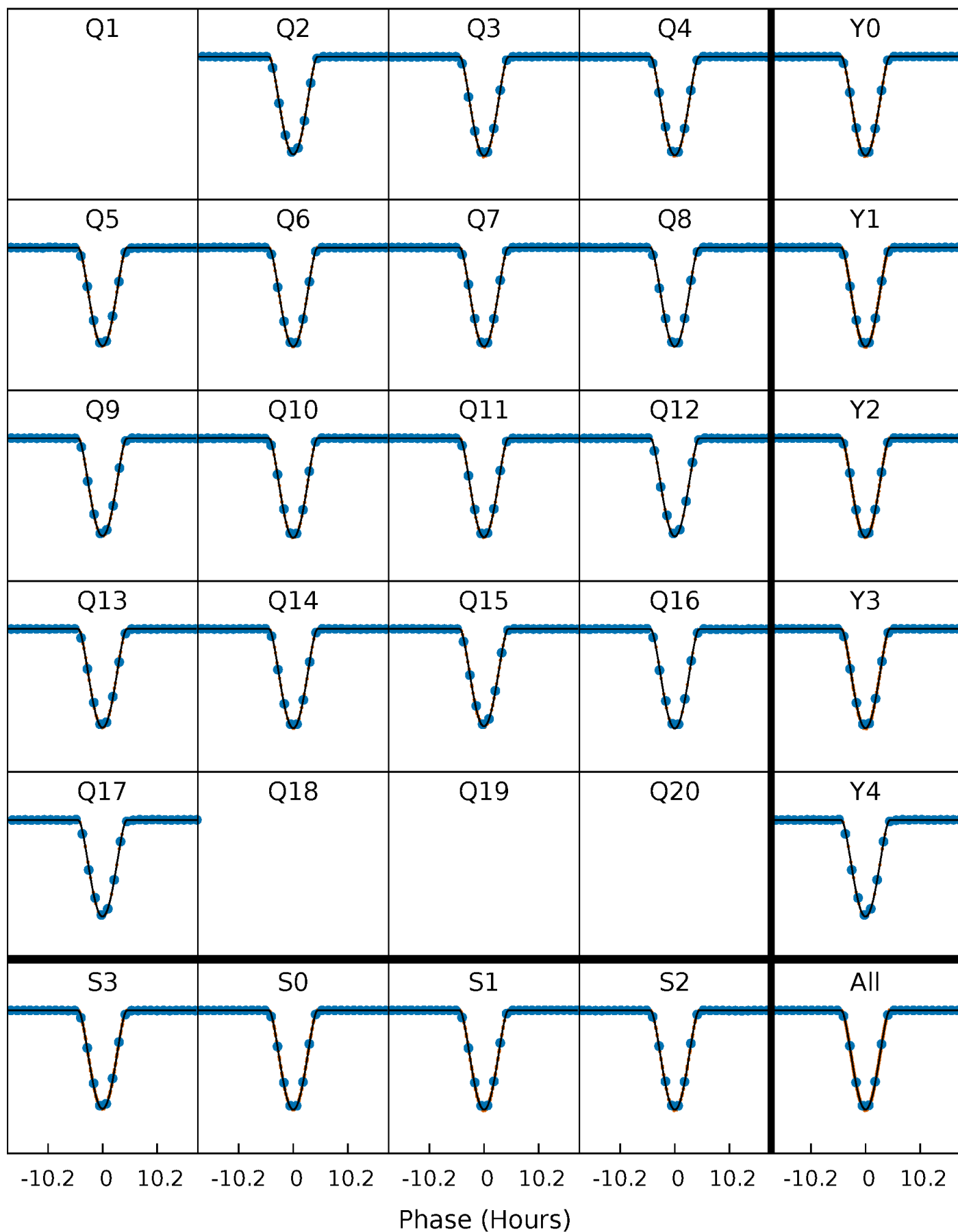
TCE 006699562-01 P= 46.270525 Days  $T_0=173.655865$  (BKJD)





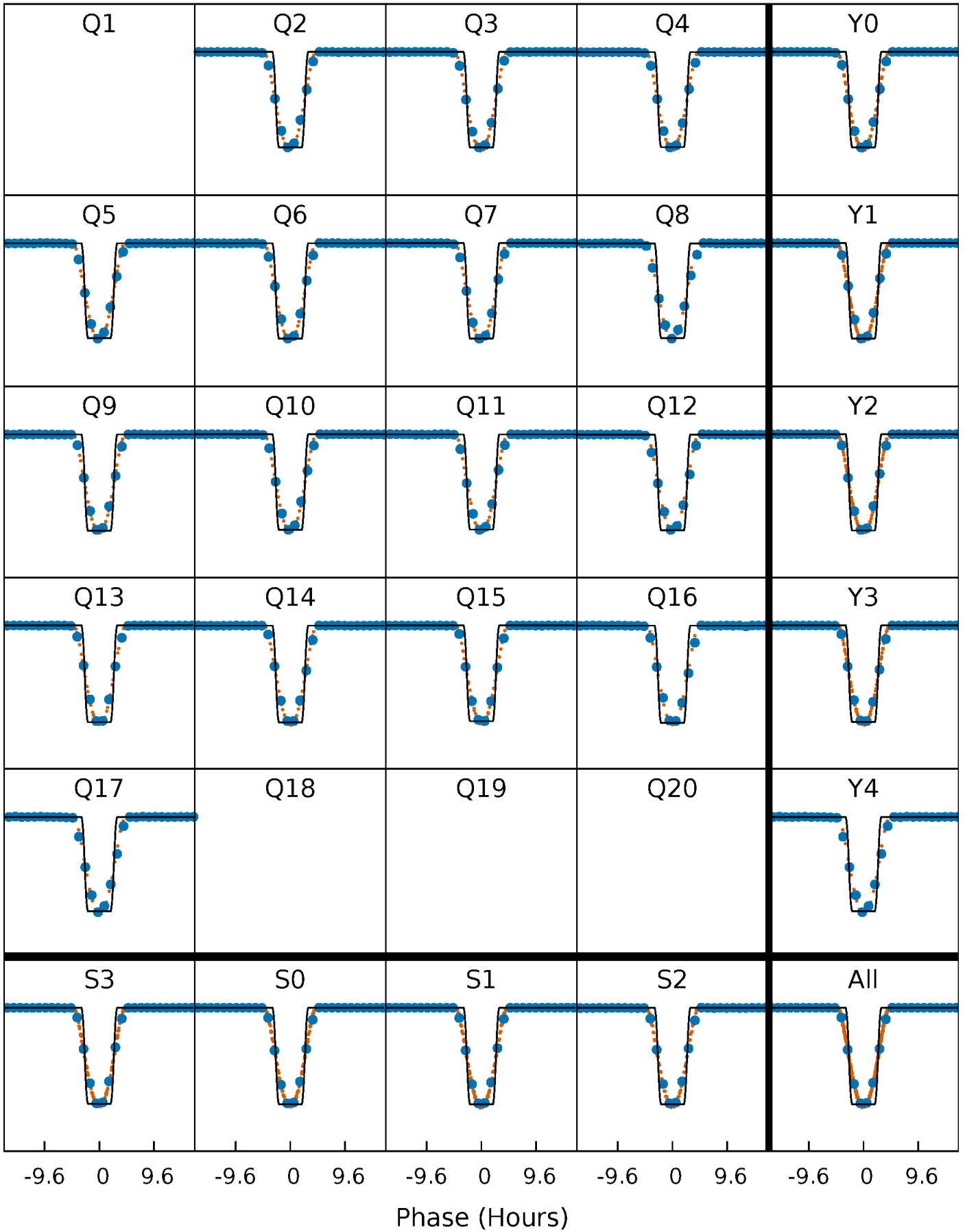
# DV Quarter-Phased Transit Curves

TCE 006699562-01 P= 46.270525 Days  $T_0=173.655865$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

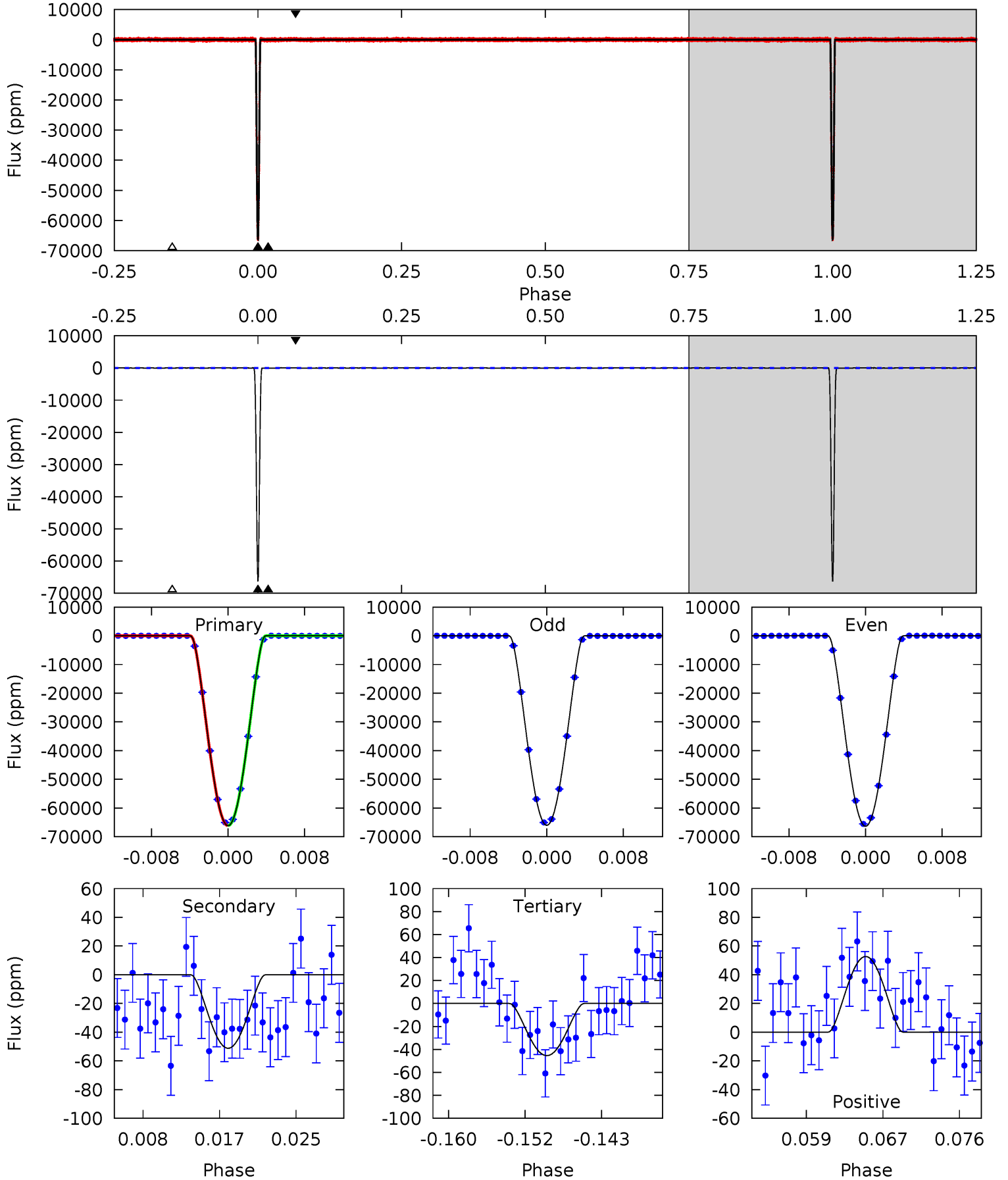
TCE 006699562-01 P= 46.270319 Days  $T_0=173.659010$  (BKJD)



# DV Model-Shift Uniqueness Test

006699562-01, P = 46.270525 Days, E = 127.385340 Days

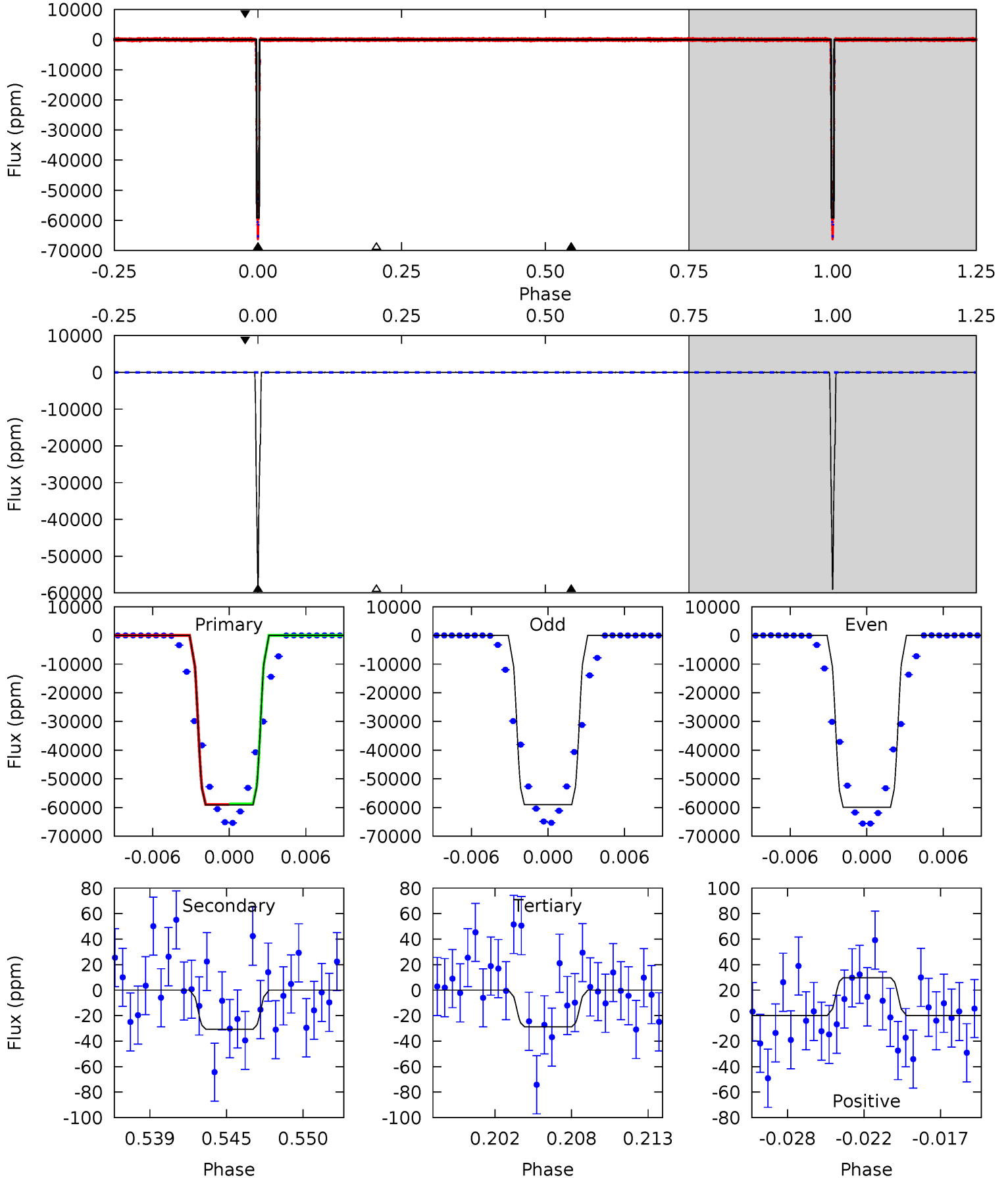
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9597	7.43	6.59	7.65	5.06	2.63	2.52	9590	9589	0.84	-0.22	24.3	1.00	0.00	0.67



# Alt Model-Shift Uniqueness Test

006699562-01, P = 46.270319 Days, E = 127.388691 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
6217	3.23	3.02	3.13	5.14	2.77	1.88	6214	6214	0.21	0.09	46.5	1.00	0.00	10.5



### Stellar Parameters For KIC 006699562

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6357^{+157}_{-204}$	$4.405^{+0.070}_{-0.210}$	$-0.240^{+0.250}_{-0.300}$	$1.072^{+0.339}_{-0.121}$	$1.061^{+0.172}_{-0.115}$	$1.211^{+0.449}_{-0.628}$
	+2%/-3%	+2%/-5%	+104%/-125%	+32%/-11%	+16%/-11%	+37%/-52%
Source	PHO1	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 006699562-01 / KOI 5317.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-51 \pm 7$	$37.21^{+6.56}_{-2.83}$	$814^{+59}_{-41}$	$1919^{+39}_{-48}$	$1.303^{+0.316}_{-0.352}$
Alt.	$-31 \pm 10$	$30.48^{+5.14}_{-2.45}$	$812^{+64}_{-41}$	$1888^{+74}_{-95}$	$1.136^{+0.450}_{-0.394}$

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

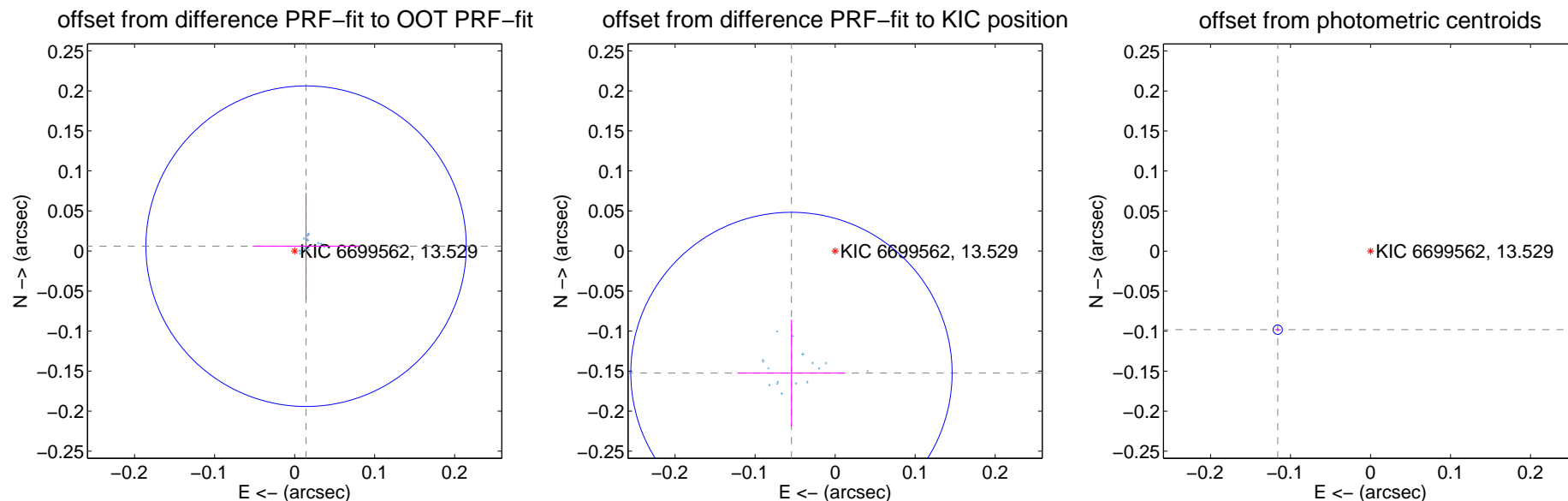
## DV Centroid Data

Supplemental centroid analysis for 006699562-01. Kepler magnitude: 13.53. Transit SNR 3667.58

There are 15 quarters with good PRF difference image offsets

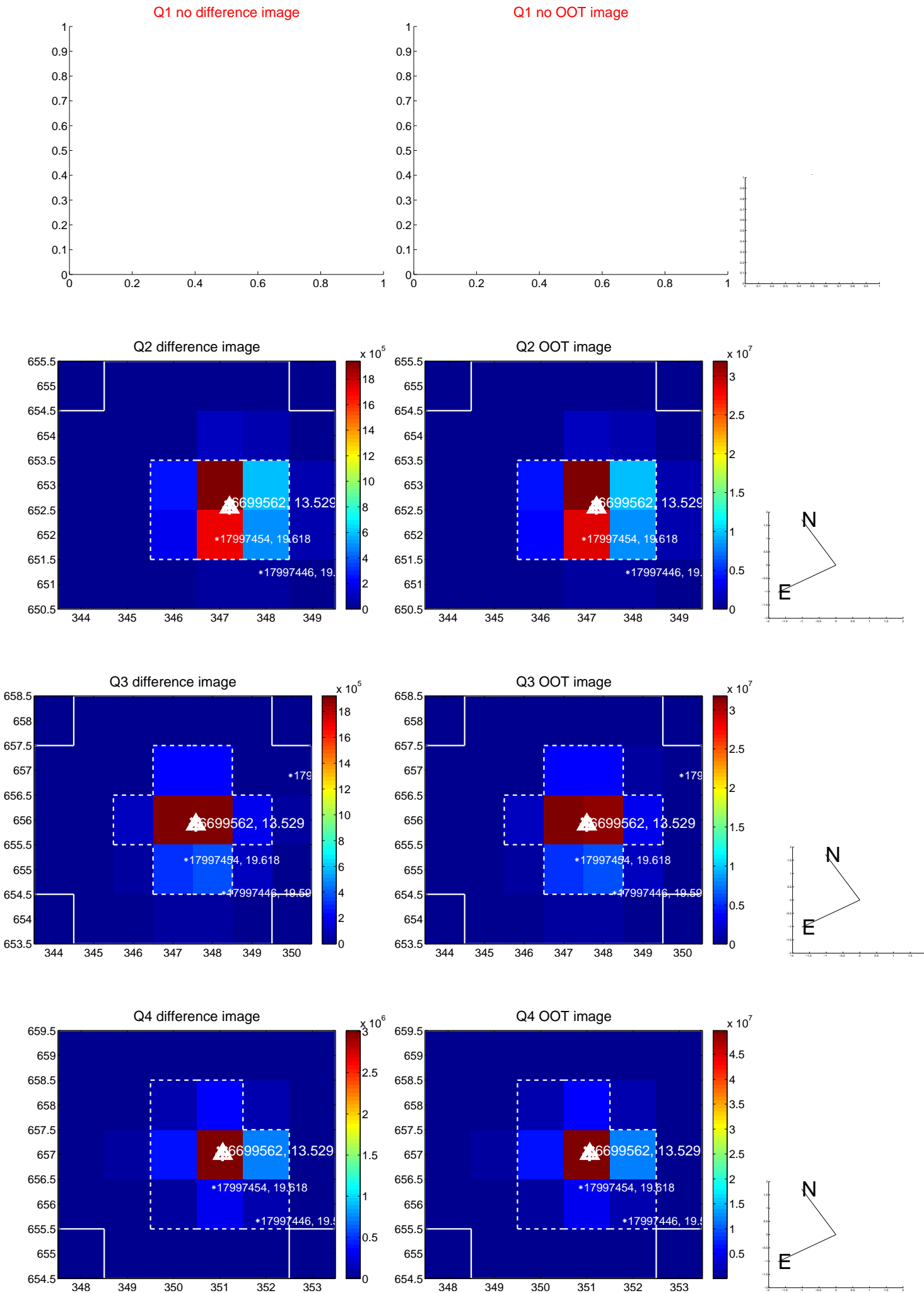
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.016 \pm 0.067$	0.23	$-0.014 \pm 0.067$	$0.006 \pm 0.067$
PRF-fit source offset from KIC position	$0.162 \pm 0.067$	2.42	$0.055 \pm 0.067$	$-0.152 \pm 0.067$
photometric centroid source offset	$0.15 \pm 0.00$	78.25	$0.12 \pm 0.00$	$-0.10 \pm 0.00$

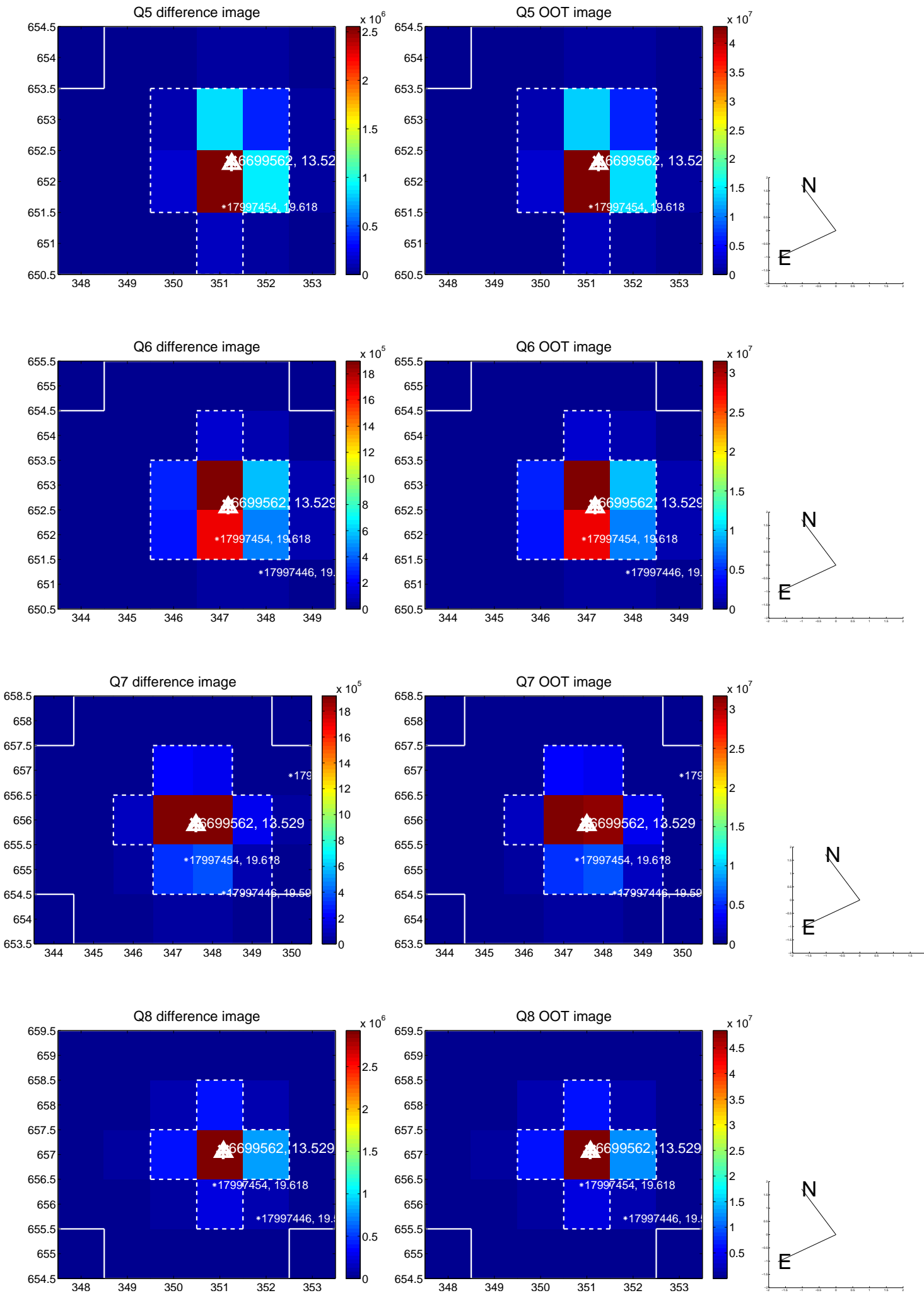


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . 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.

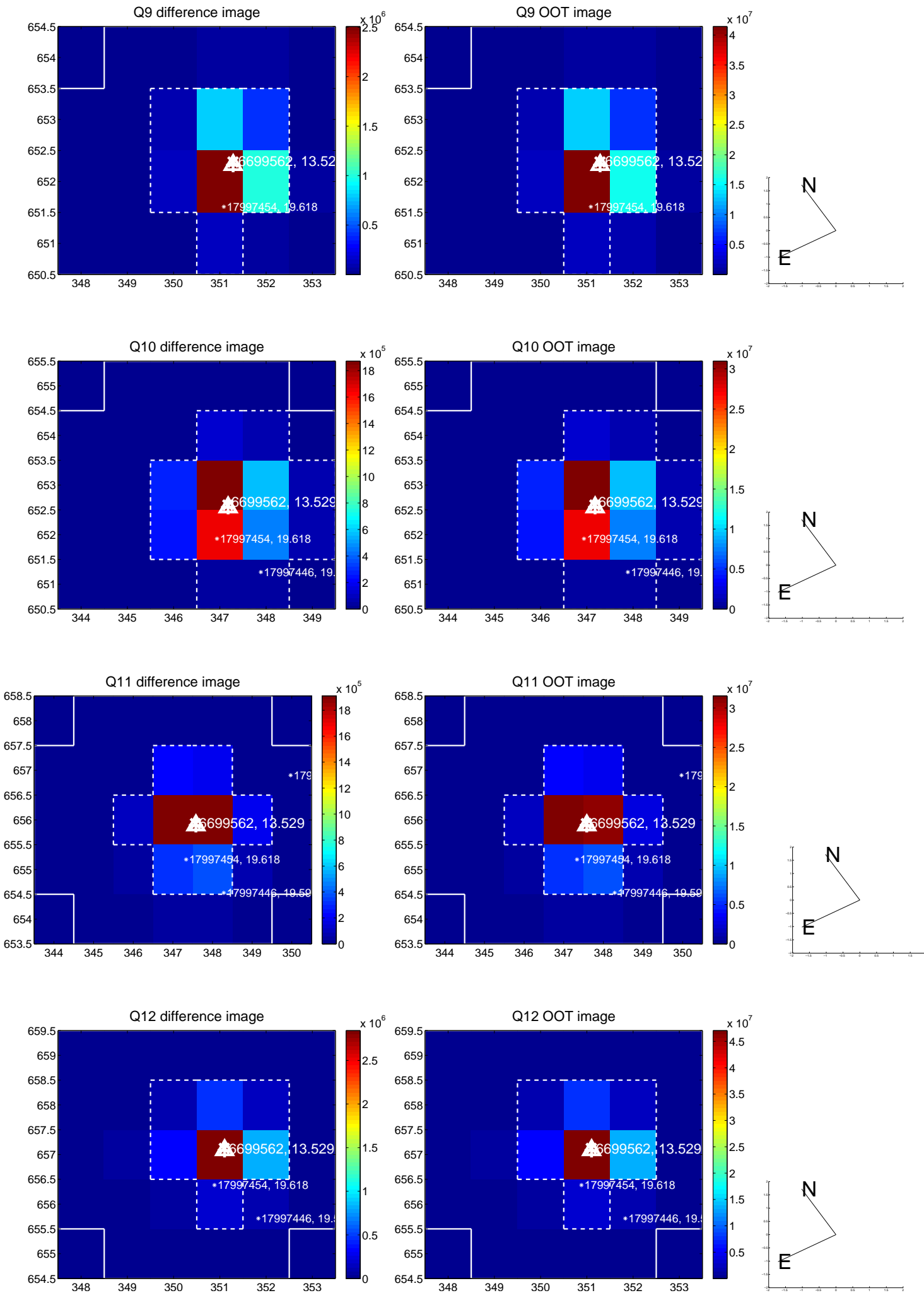


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

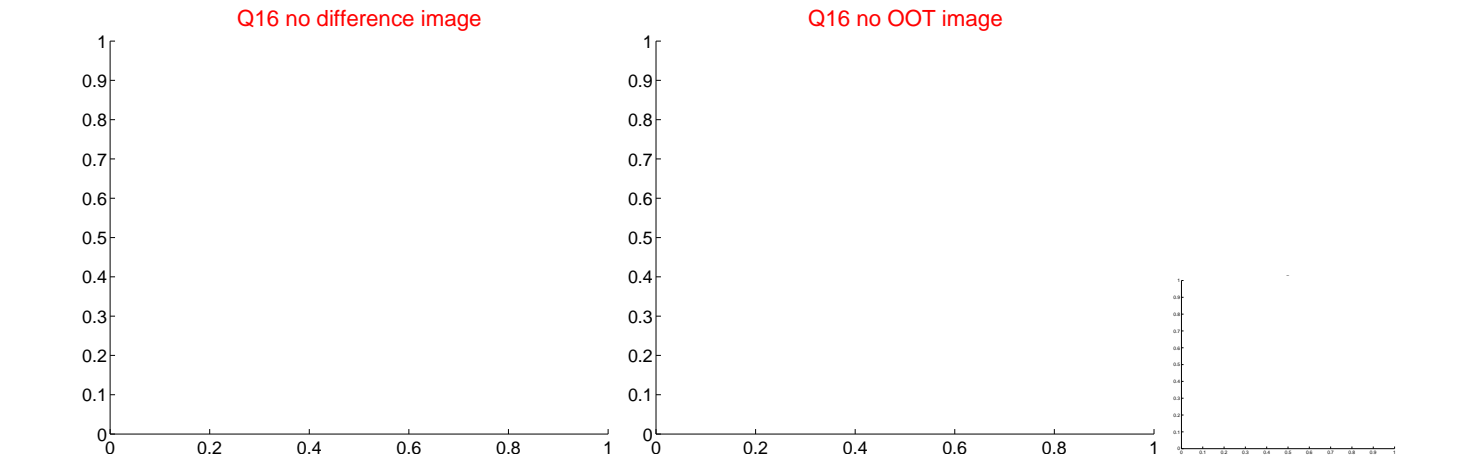
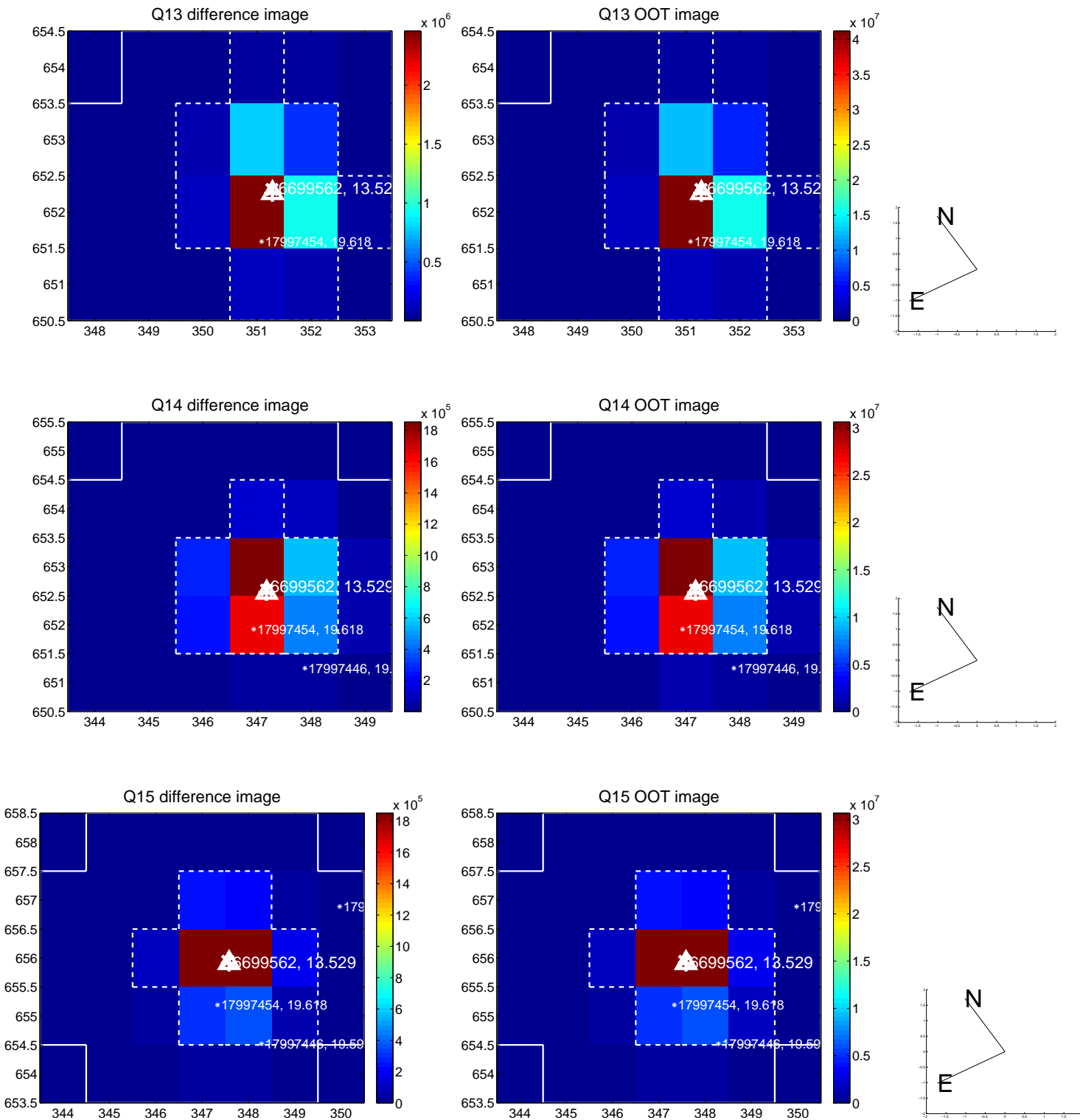




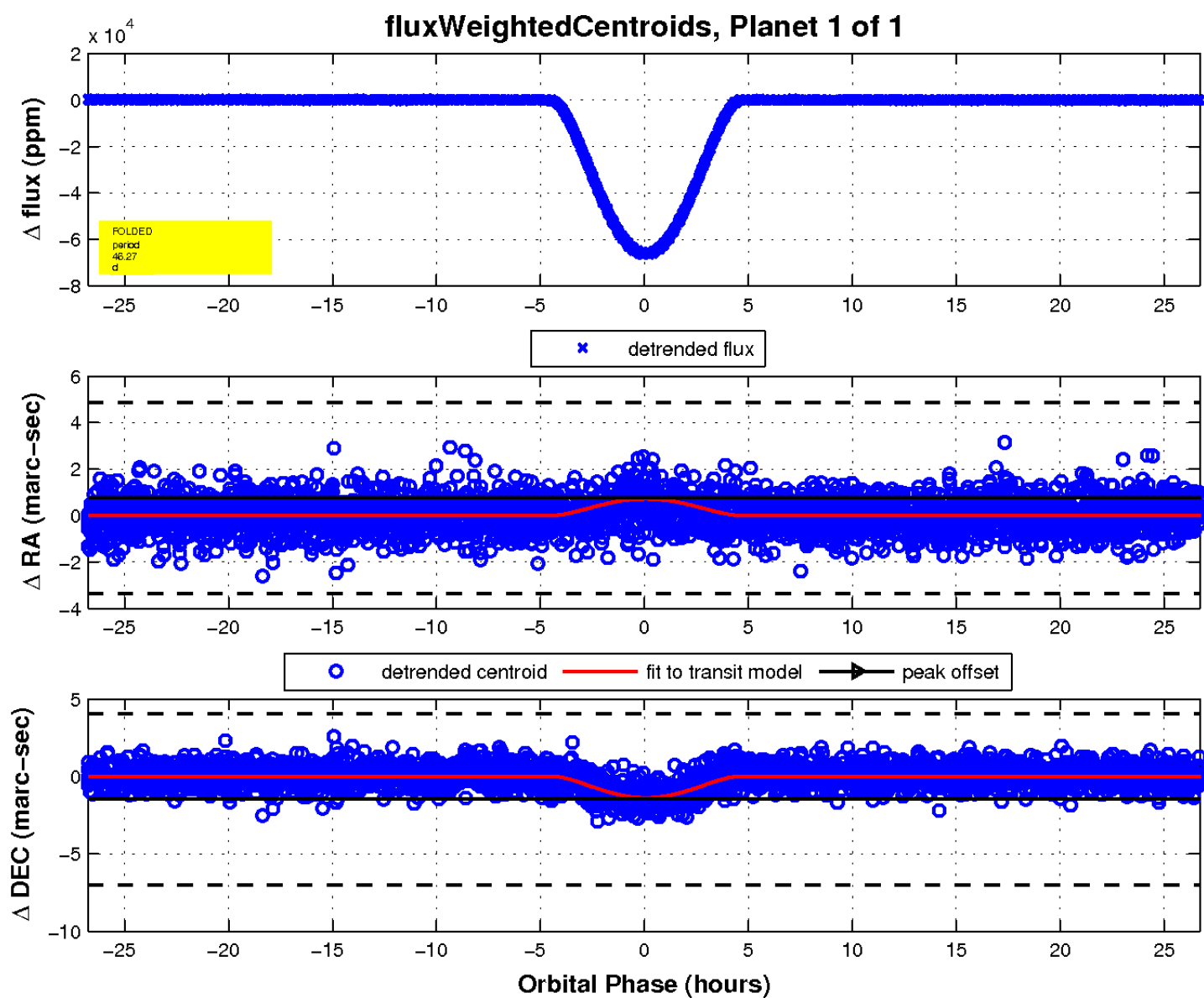
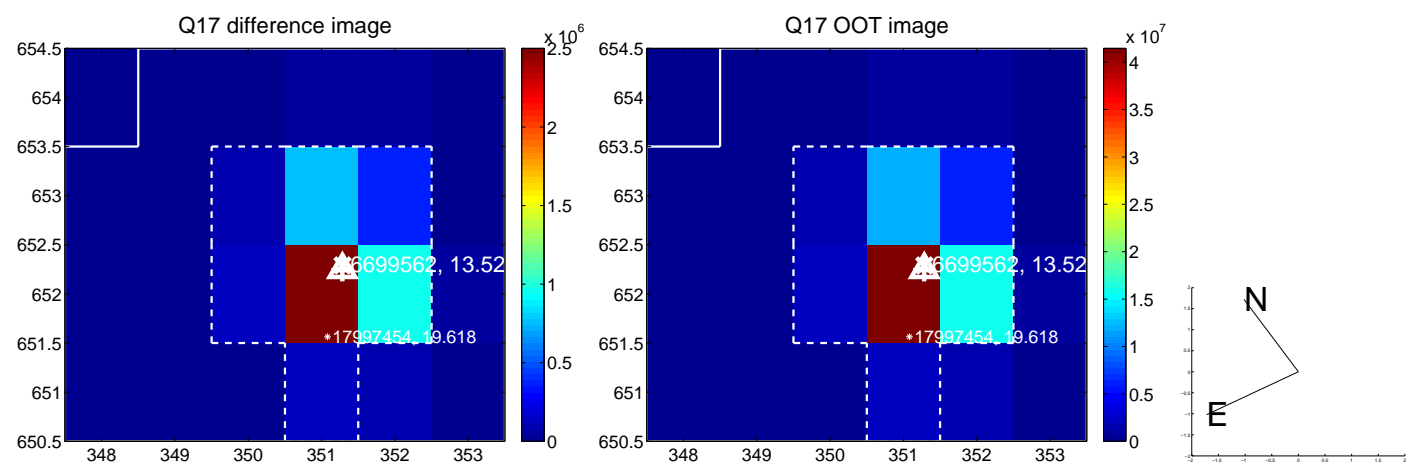
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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



UKIRT Image

Declination

