

# KIC 007259722

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007259722-01	OBS	No	9.634473	137.370339	226.9	25.999	29.0	38.5	1.46	6257	4.32	397.57

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007259722-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV

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

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

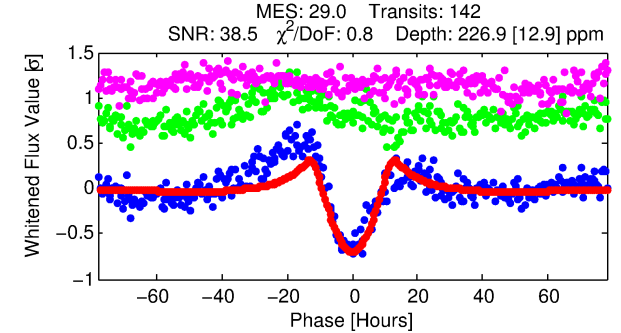
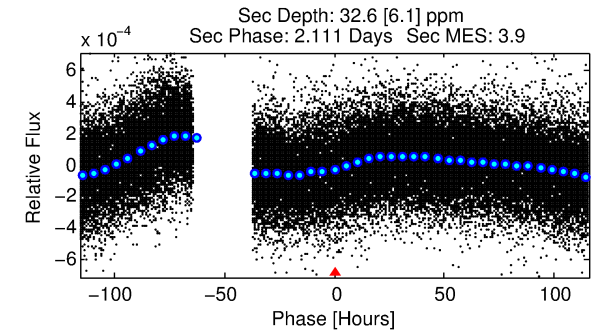
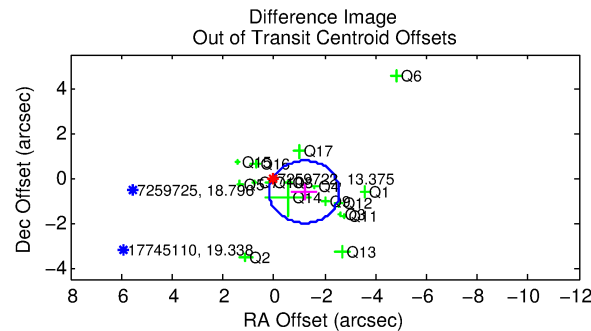
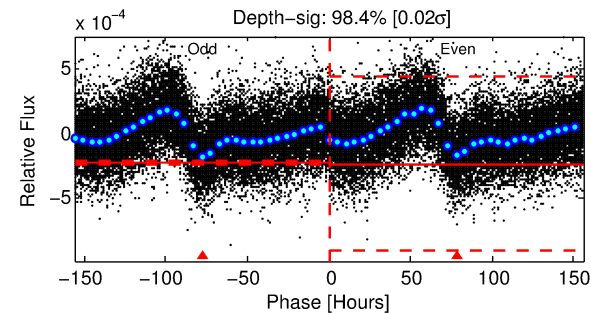
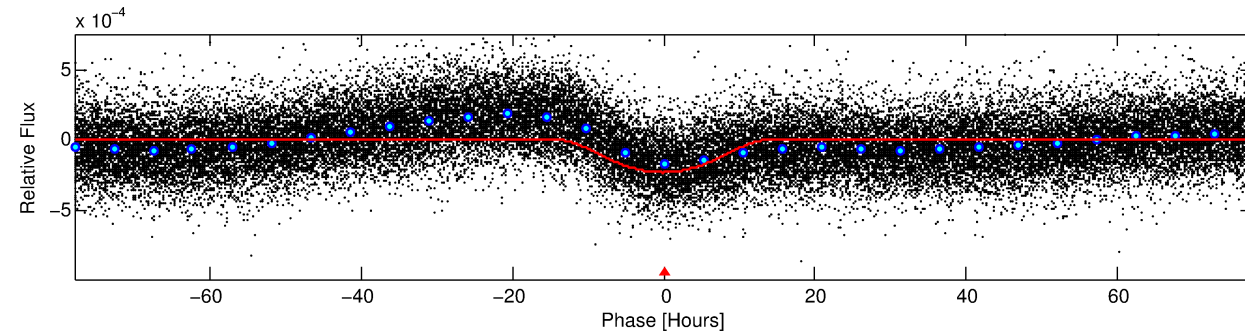
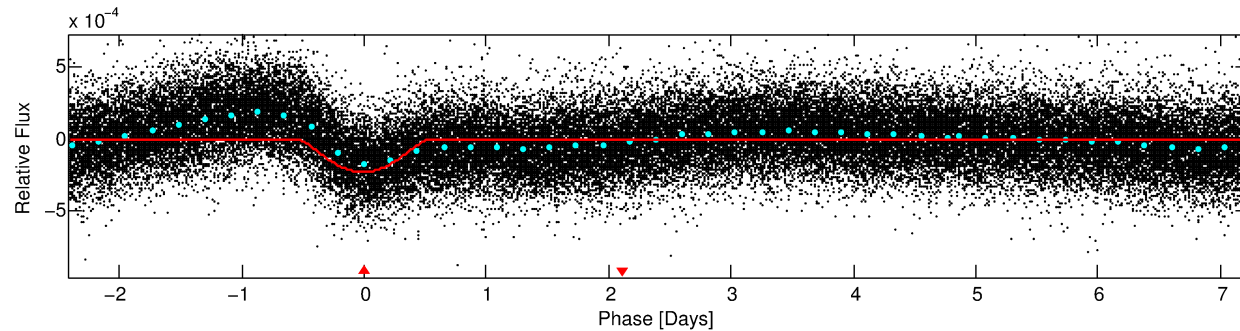
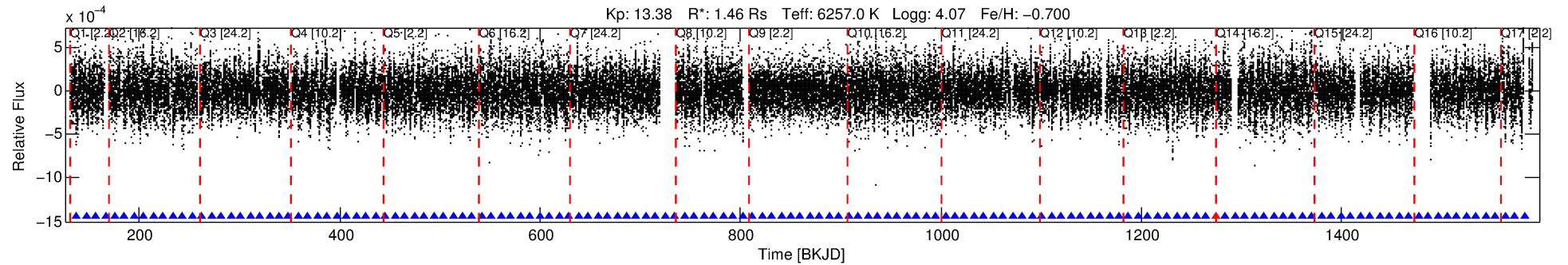
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007259722-01

No Significant Match Found

# DV One-Page Summary

KIC: 7259722 Candidate: 1 of 1 Period: 9.634 d



## DV Fit Results:

Period = 9.63447 [0.00013] d  
Epoch = 137.3703 [0.0109] BKJD  
Rp/R\* = 0.0271 [0.0133]  
a/R\* = 1.21 [0.03]  
b = 1.00 [0.02]  
Seff = 397.57 [252.65]  
Teq = 1139 [181] K  
Rp = 4.32 [2.60] Re  
a = 0.0860 [0.0318] AU  
Ag = 7.11 [8.41] [0.73 $\sigma$ ]  
Teffp = 2875 [727] K [2.32 $\sigma$ ]

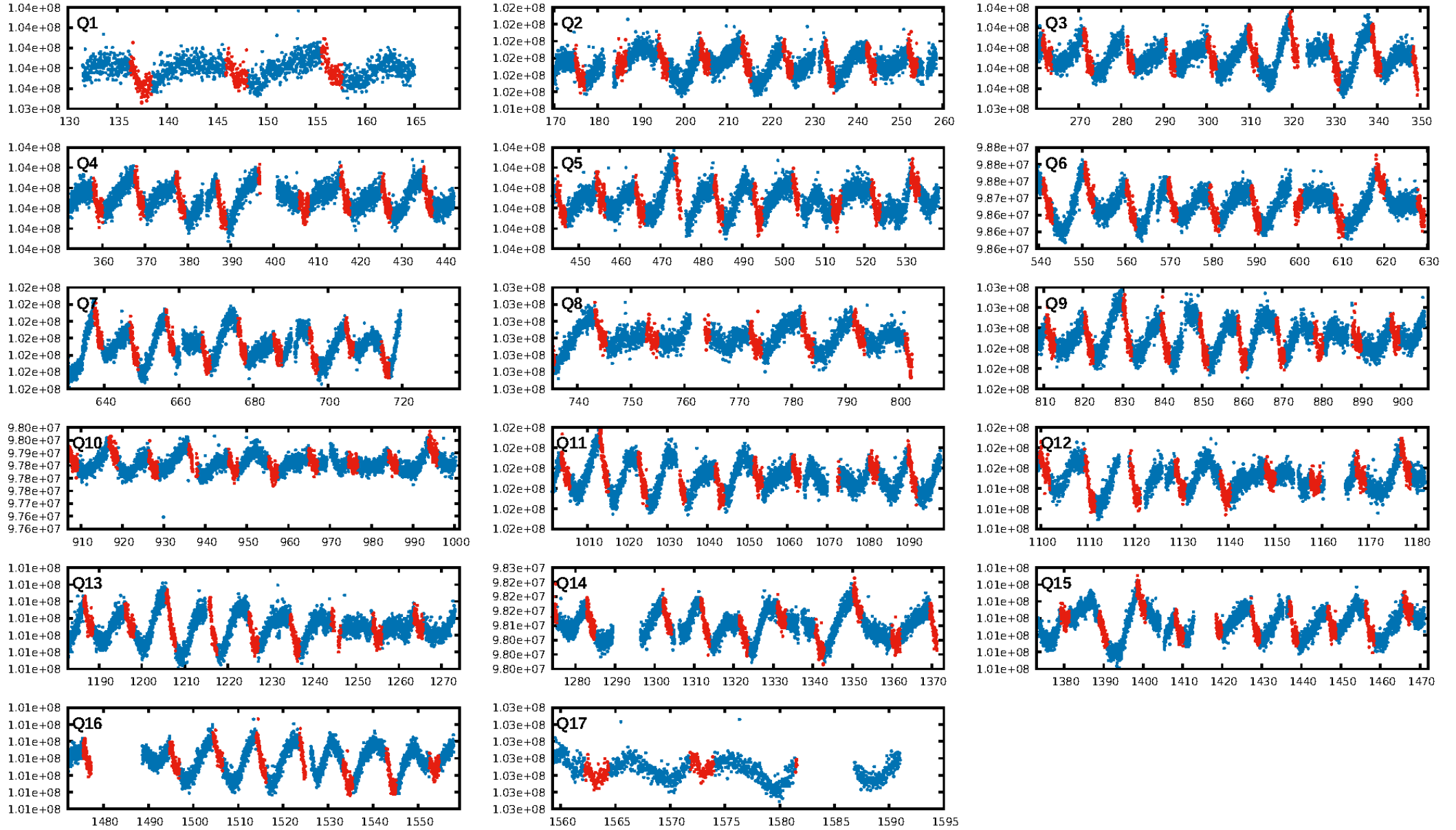
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.4%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 6.61e-213  
RollingBand-fgt: 0.99 [136/137]  
GhostDiagnostic-chr: 2.178  
Centroid-sig: 49.0%  
Centroid-so: 0.228 arcsec [1.06 $\sigma$ ]  
OotOffset-rm: 1.347 arcsec [2.92 $\sigma$ ]  
KicOffset-rm: 1.349 arcsec [2.92 $\sigma$ ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 0.71 [12/17]  
DiffImageOverlap-fno: 1.00 [17/17]

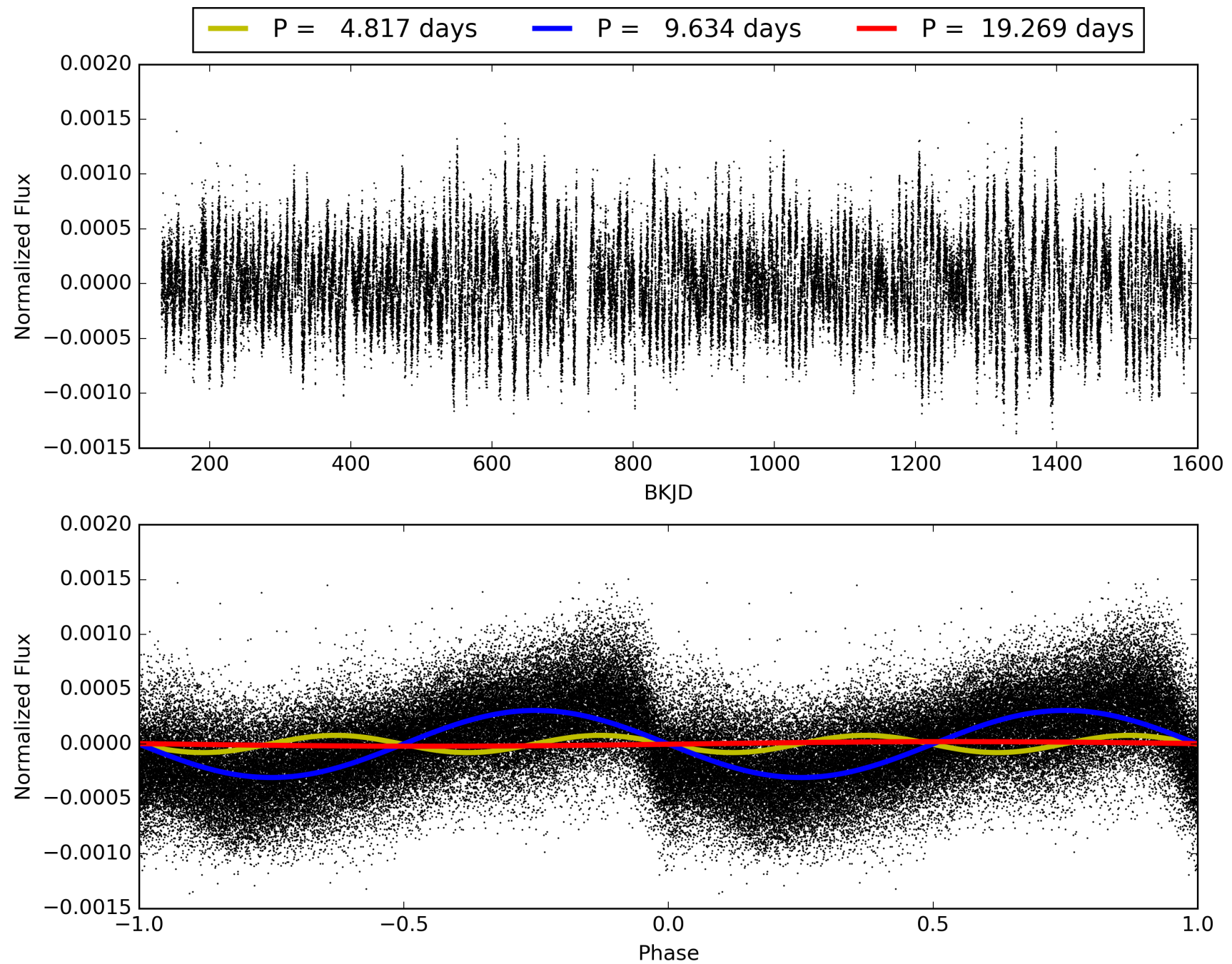
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 05:45:51 Z

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

# TCE 007259722-01, PDC Light Curves

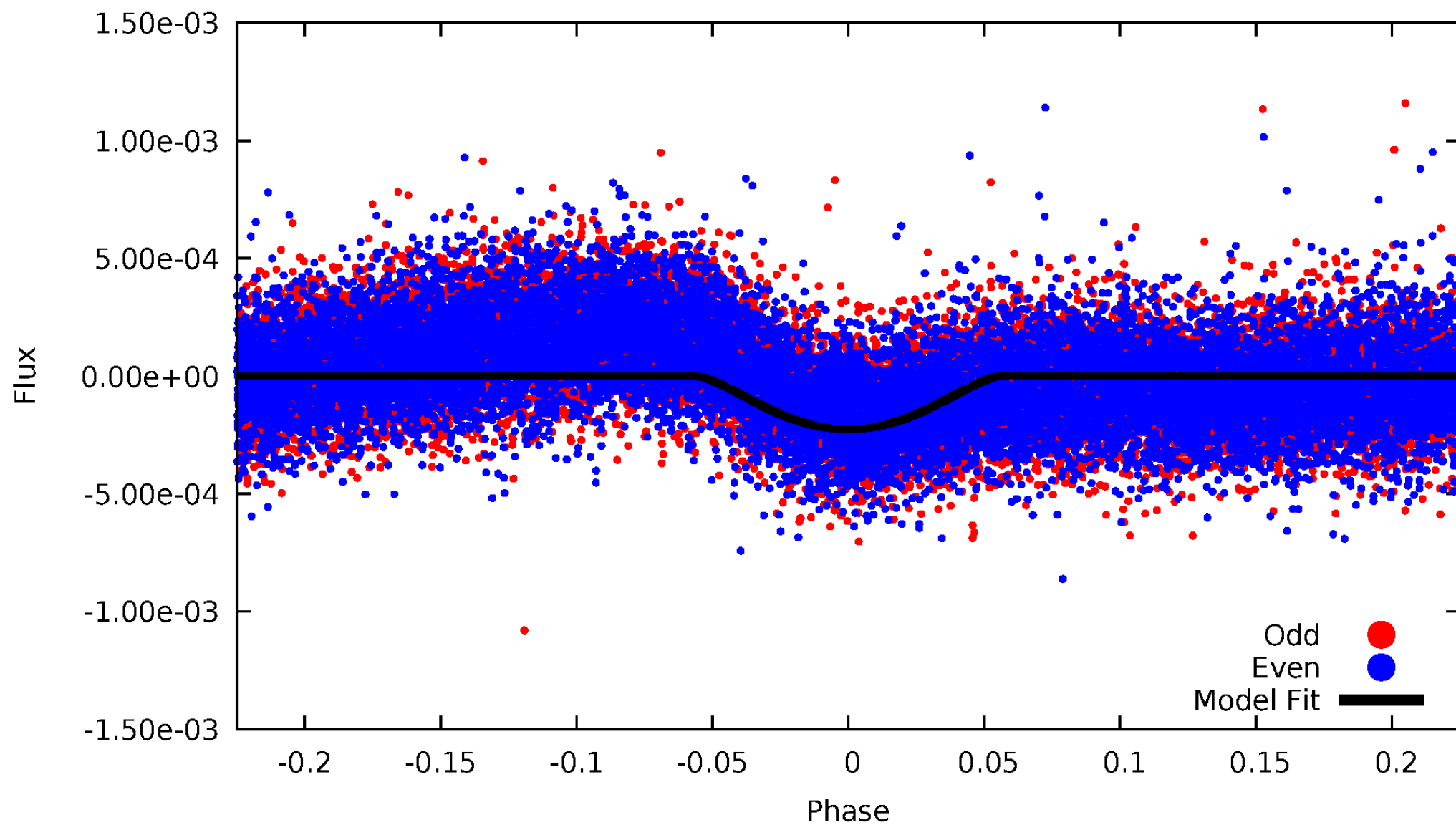


TCE 007259722-01



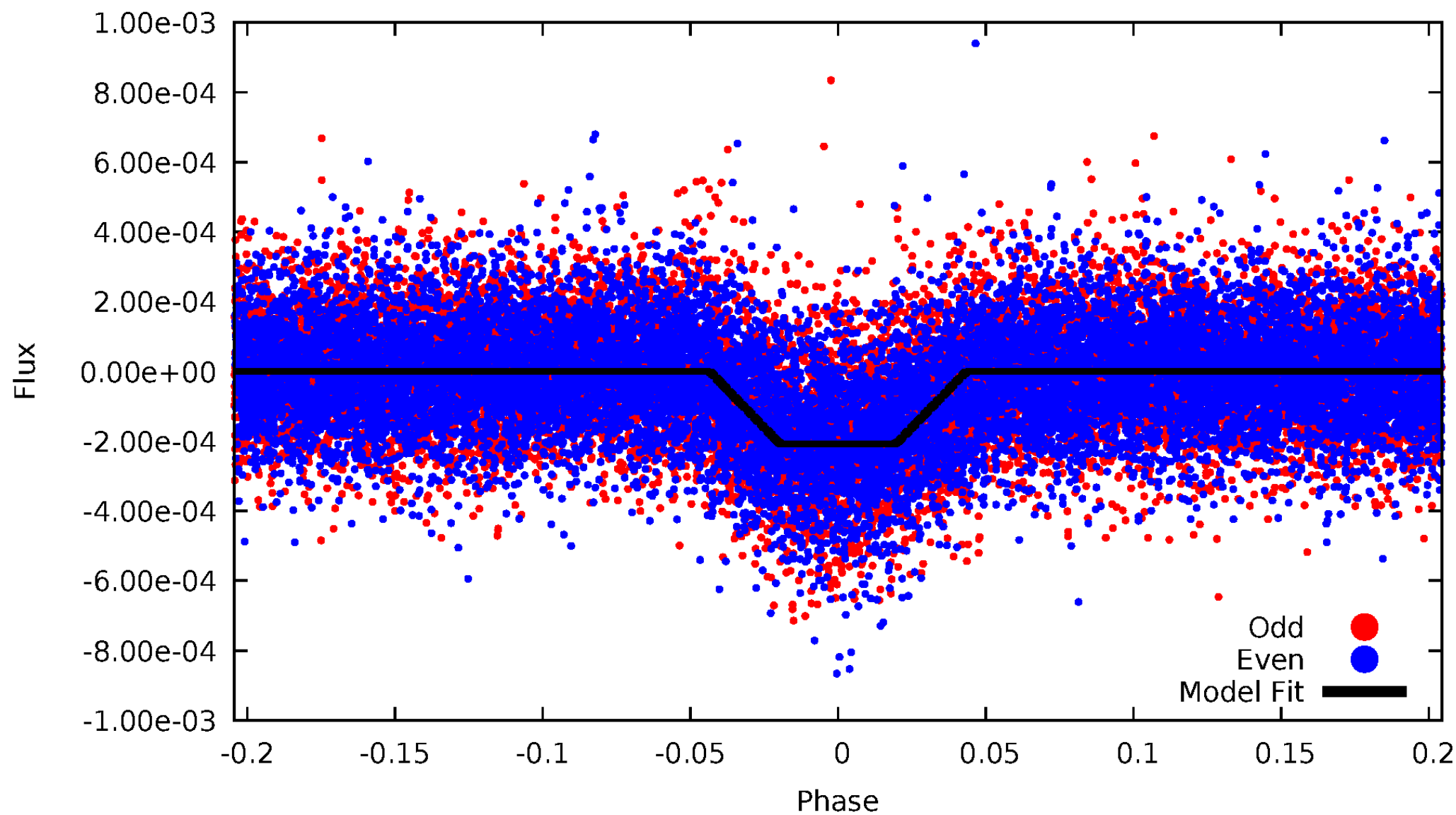
# DV Odd/Even

TCE 007259722-01



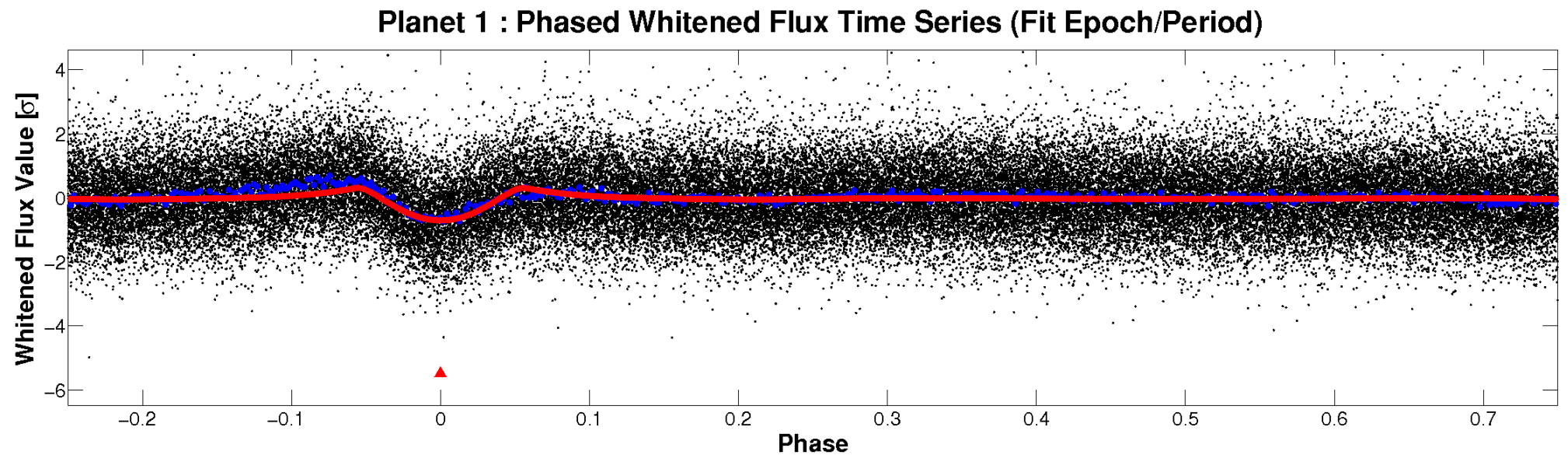
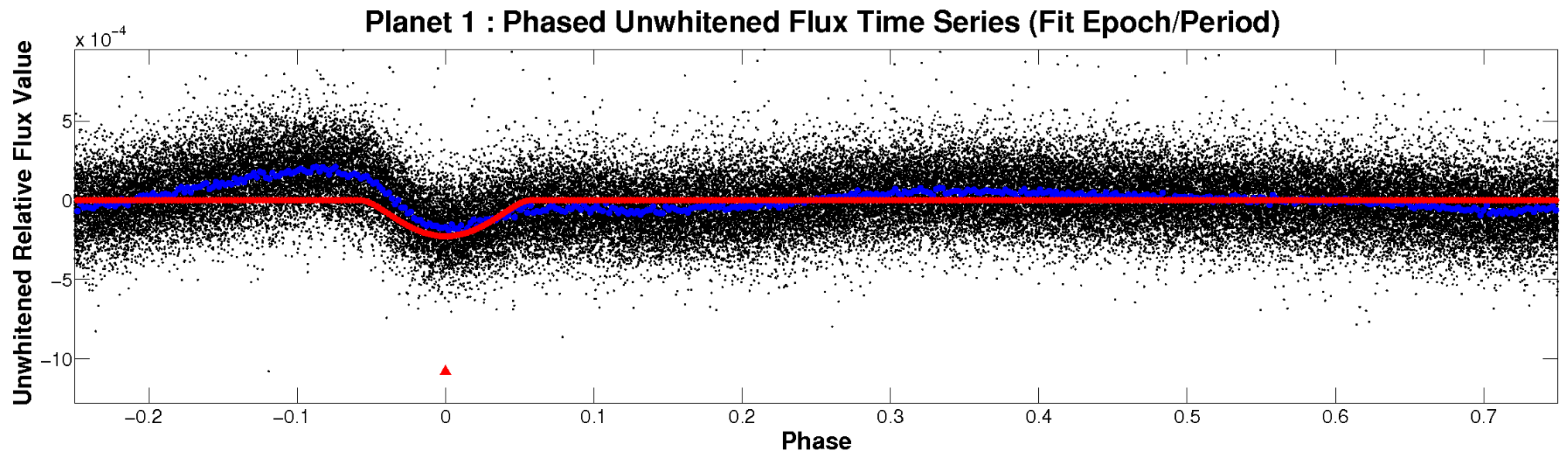
# ALT Odd/Even

TCE 007259722-01



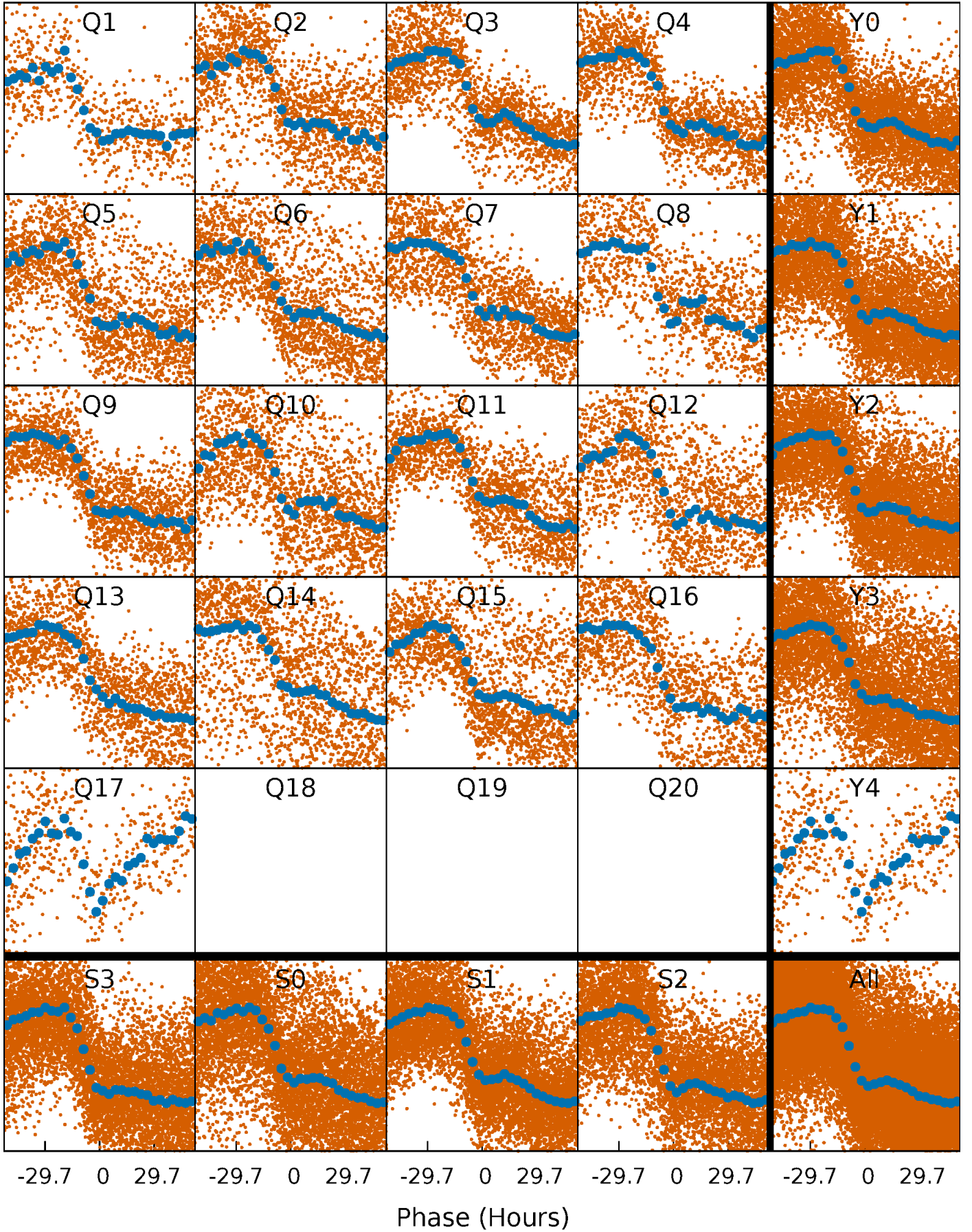


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

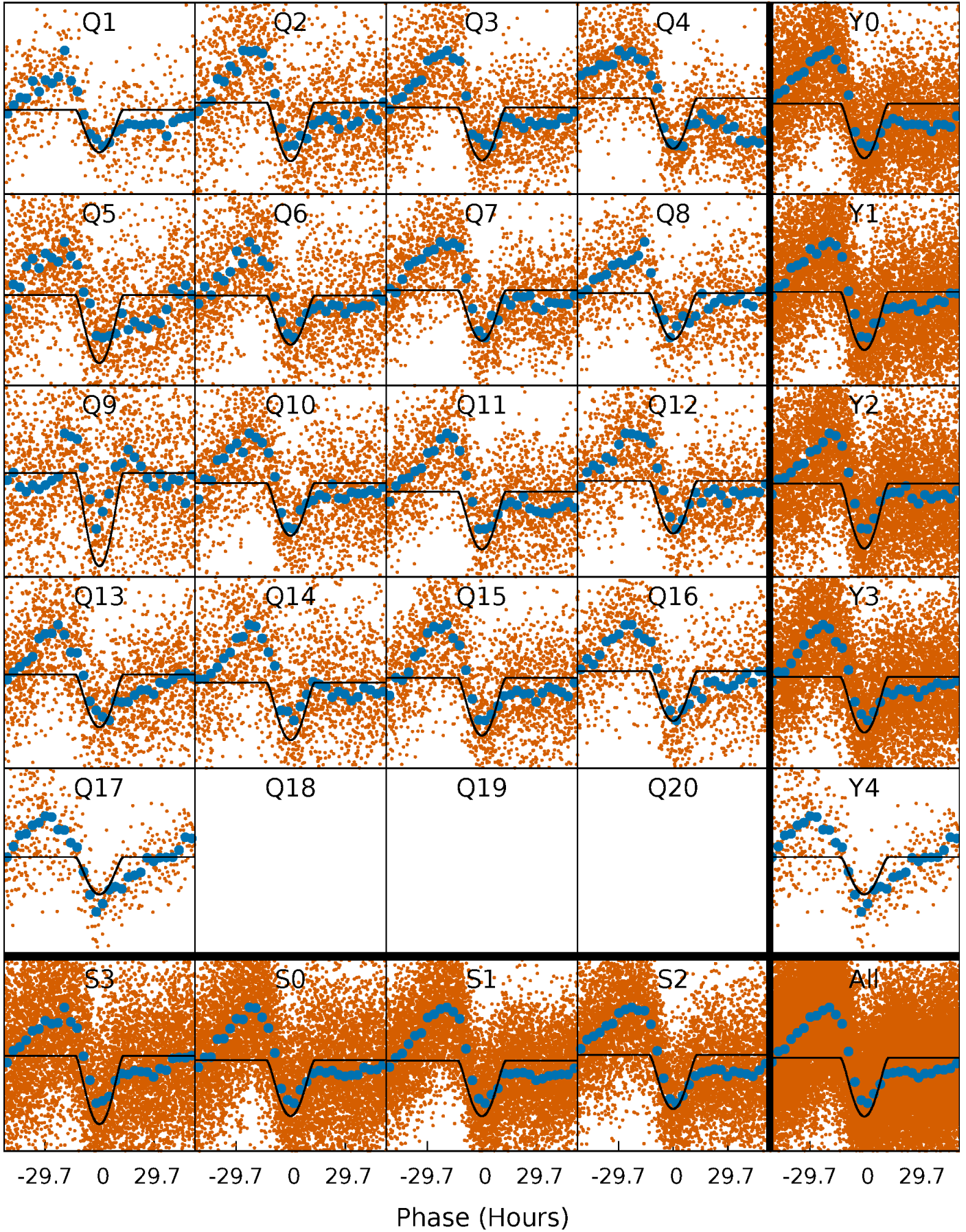
TCE 007259722-01 P= 9.634473 Days  $T_0=137.370339$  (BKJD)





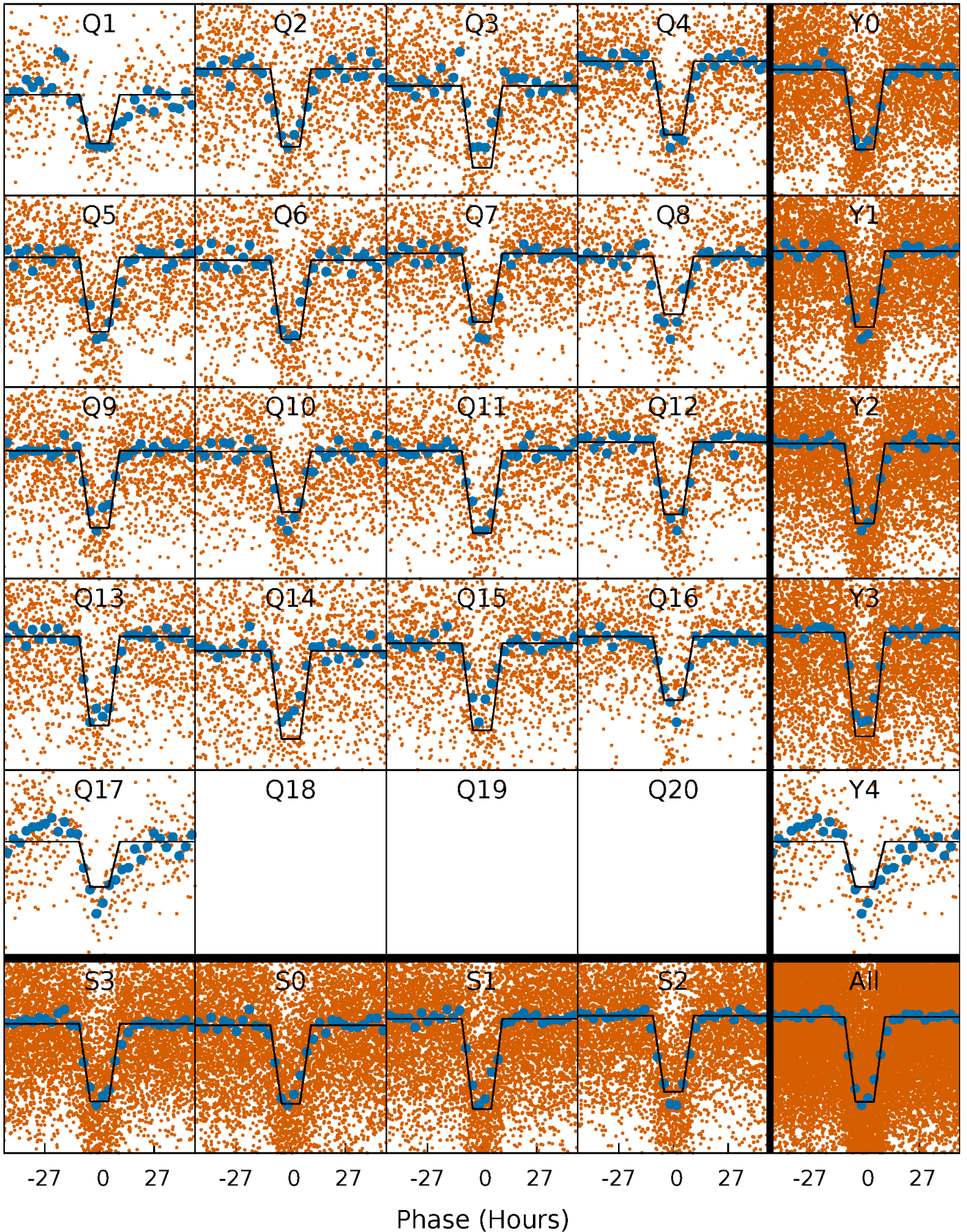
# DV Quarter-Phased Transit Curves

TCE 007259722-01 P= 9.634473 Days  $T_0=137.370339$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 007259722-01 P= 9.634368 Days  $T_0=137.359193$  (BKJD)

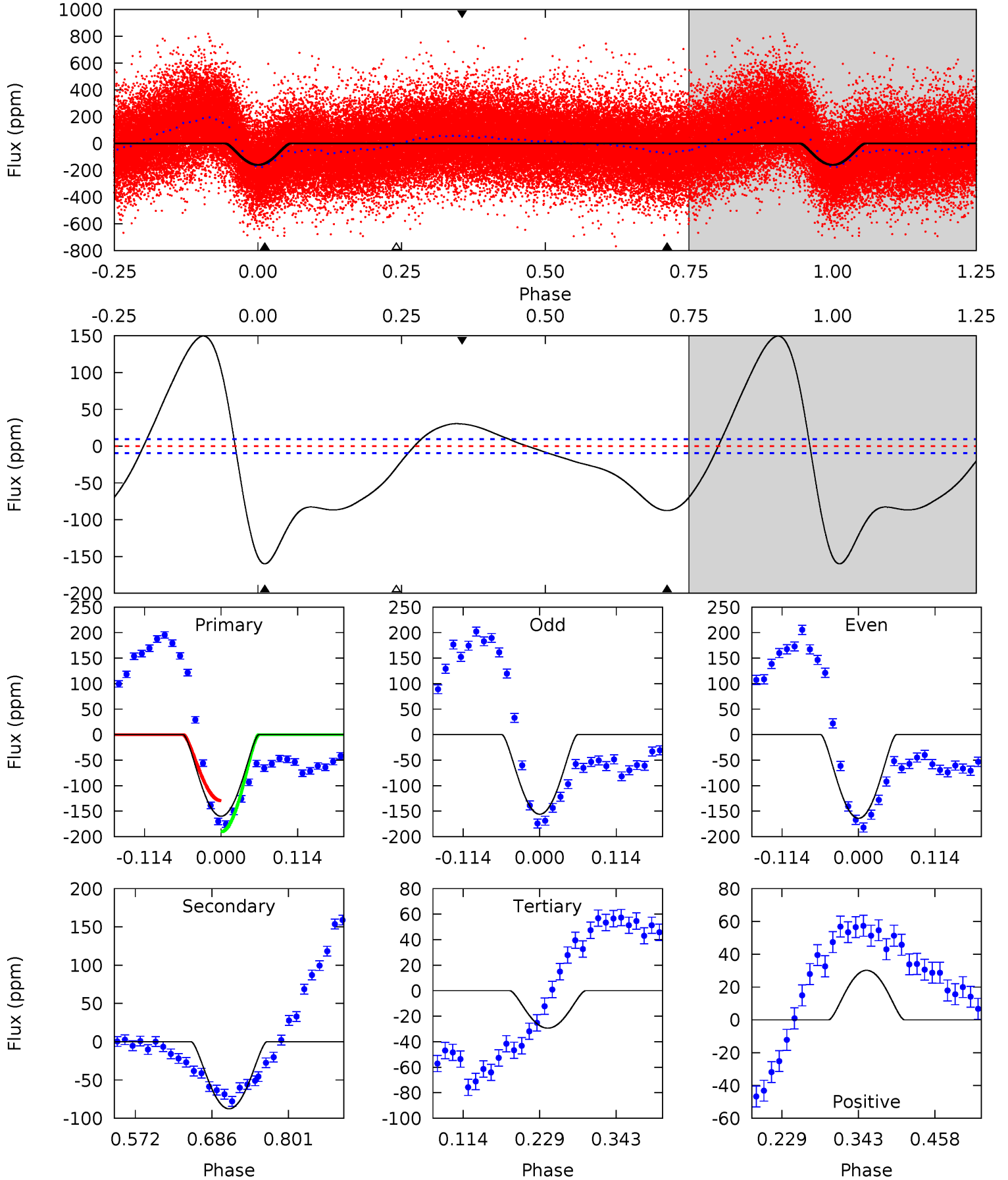




# DV Model-Shift Uniqueness Test

007259722-01, P = 9.634473 Days, E = 127.735866 Days

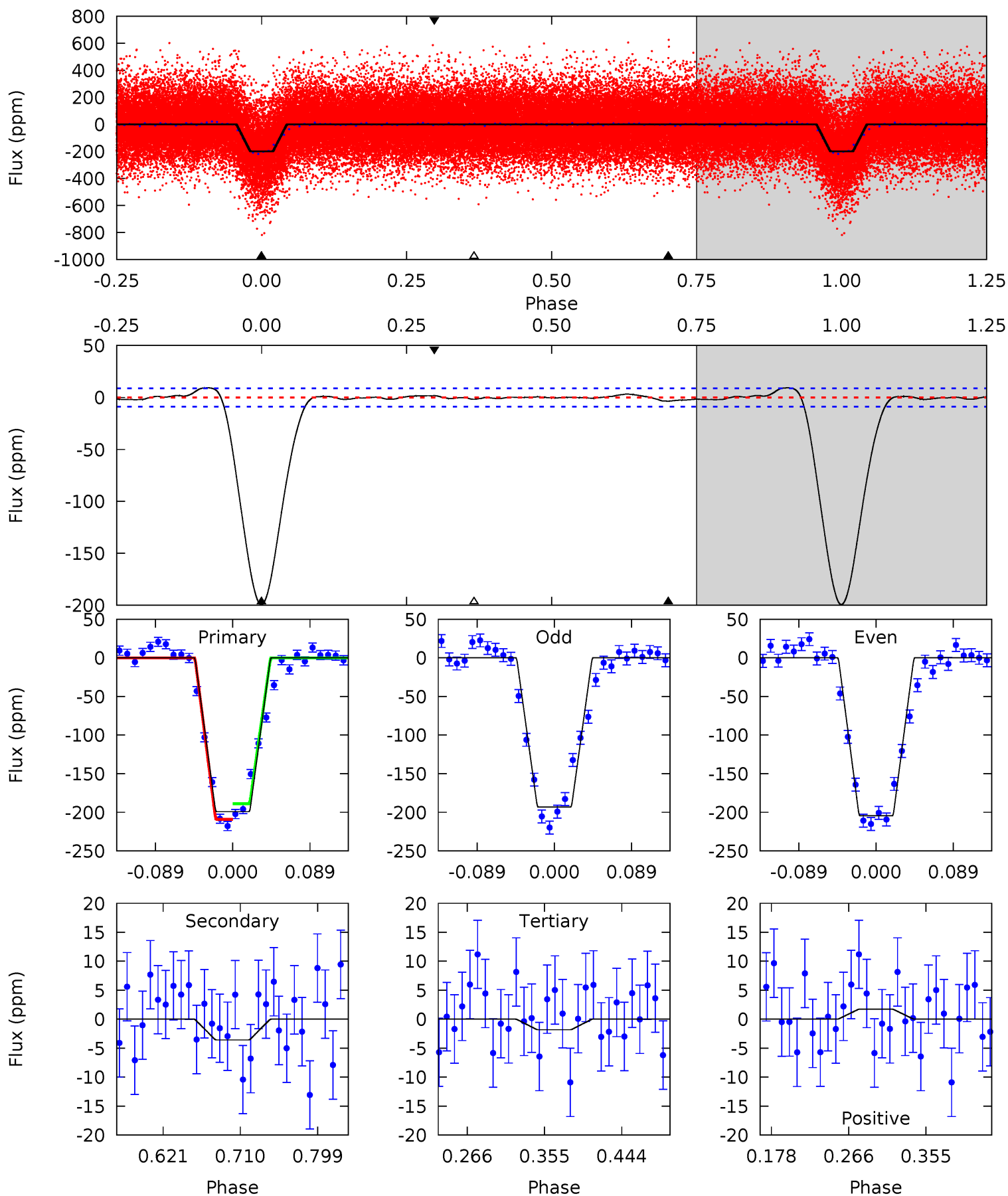
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
76.4	41.8	14.0	14.4	4.54	1.58	25.1	62.4	62.0	27.8	27.4	1.91	1.04	0.48	14.4



# Alt Model-Shift Uniqueness Test

007259722-01, P = 9.634368 Days, E = 127.724825 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
103.7	1.86	0.95	0.90	4.59	1.70	1.01	102.8	102.8	0.92	0.96	2.93	1.03	0.05	5.28





### Stellar Parameters For KIC 007259722

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$\rho_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6257^{+170}_{-189}$	$4.068^{+0.378}_{-0.162}$	$-0.700^{+0.300}_{-0.300}$	$1.463^{+0.366}_{-0.503}$	$0.912^{+0.114}_{-0.104}$	$0.410^{+1.067}_{-0.187}$
	+3%/-3%	+9%/-4%	+43%/-43%	+25%/-34%	+12%/-11%	+260%/-46%
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 007259722-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-88 \pm 2$	$4.14^{+2.16}_{-2.08}$	$1575^{+122}_{-175}$	$3996^{+1116}_{-519}$	$21^{+62}_{-12}$
Alt.	$-4 \pm 2$	$2.55^{+2.10}_{-1.60}$	$1568^{+120}_{-159}$	$2727^{+1013}_{-658}$	$2.145^{+13.601}_{-1.693}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature

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

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

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

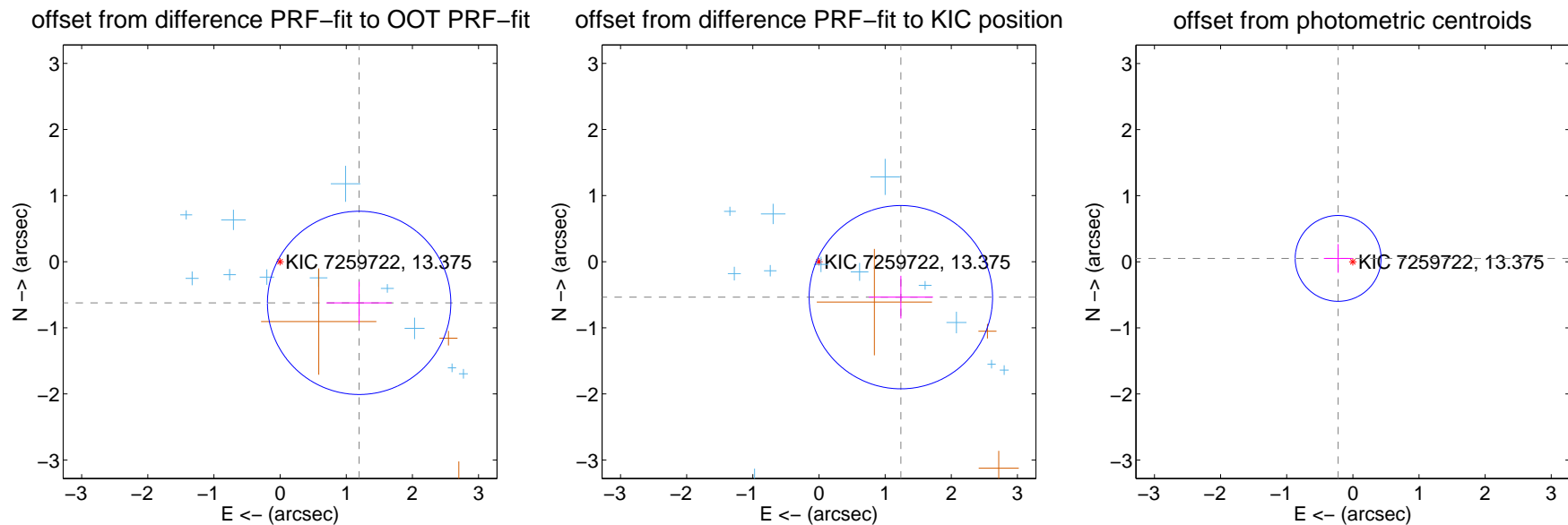
## DV Centroid Data

Supplemental centroid analysis for 007259722-01. Kepler magnitude: 13.38. Transit SNR 38.54

There are 12 quarters with good PRF difference image offsets

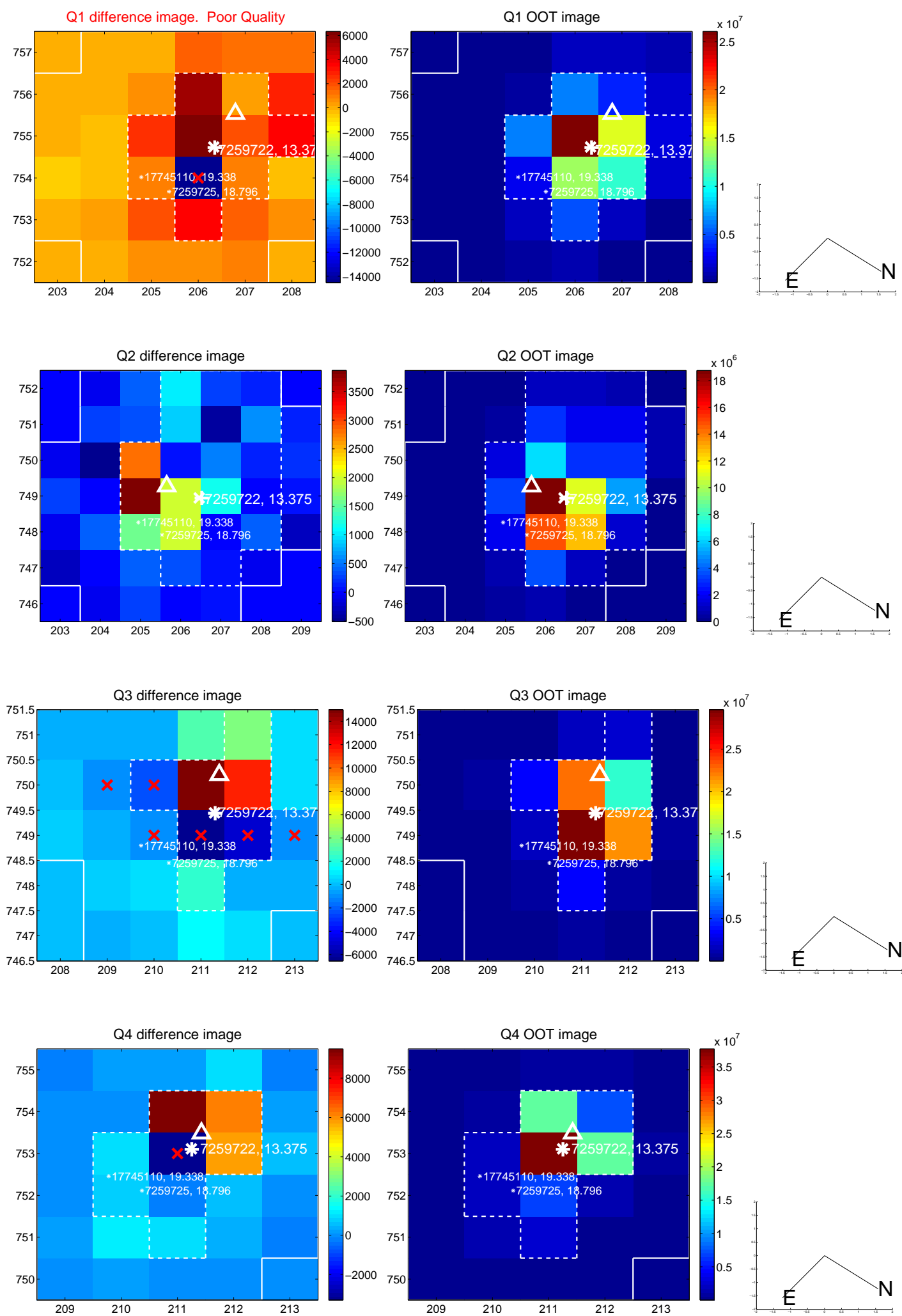
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.347 \pm 0.462$	2.92	$-1.195 \pm 0.494$	$-0.623 \pm 0.319$
PRF-fit source offset from KIC position	$1.349 \pm 0.462$	2.92	$-1.238 \pm 0.484$	$-0.537 \pm 0.323$
photometric centroid source offset	$0.23 \pm 0.22$	1.06	$0.22 \pm 0.22$	$0.05 \pm 0.22$

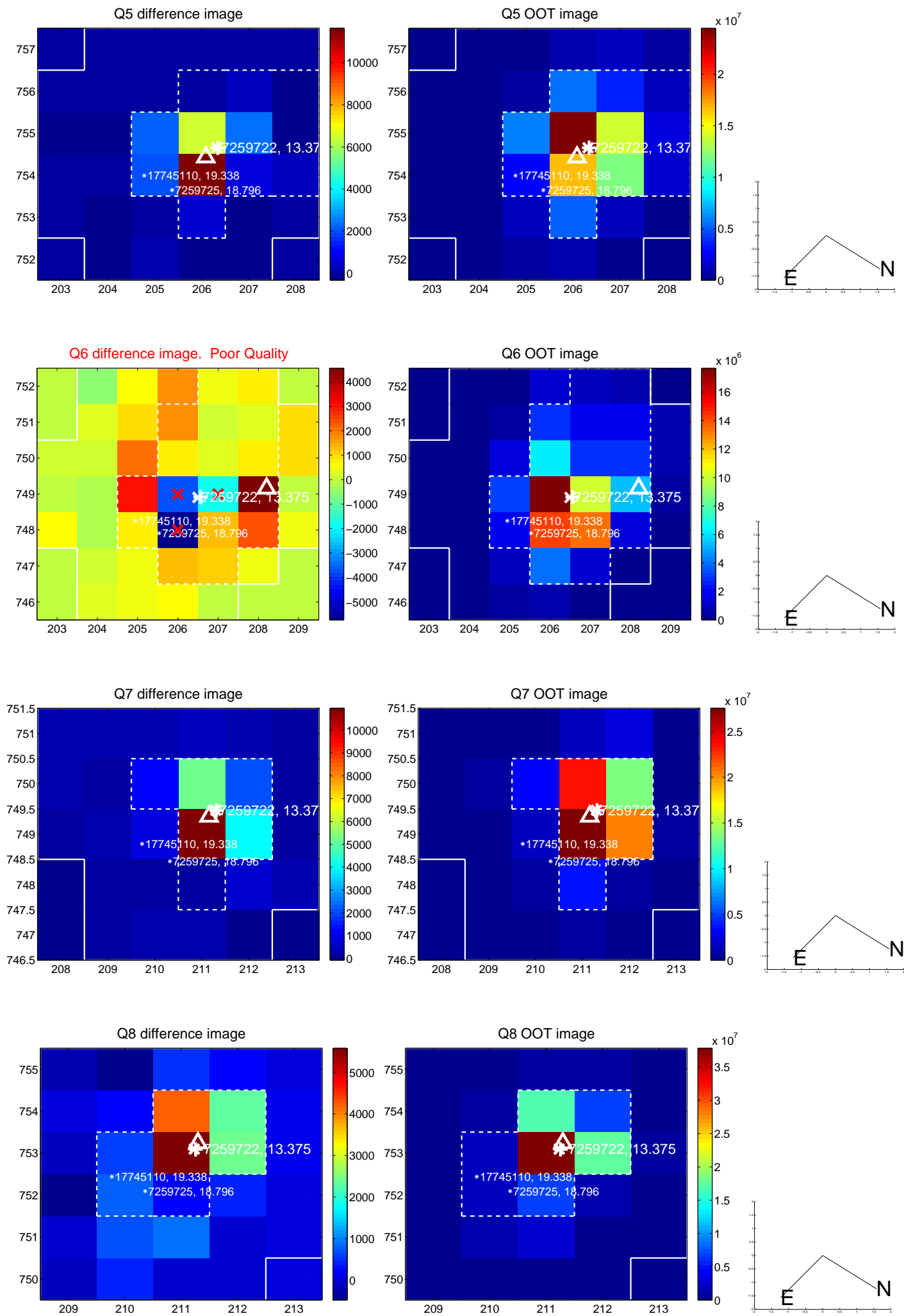


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

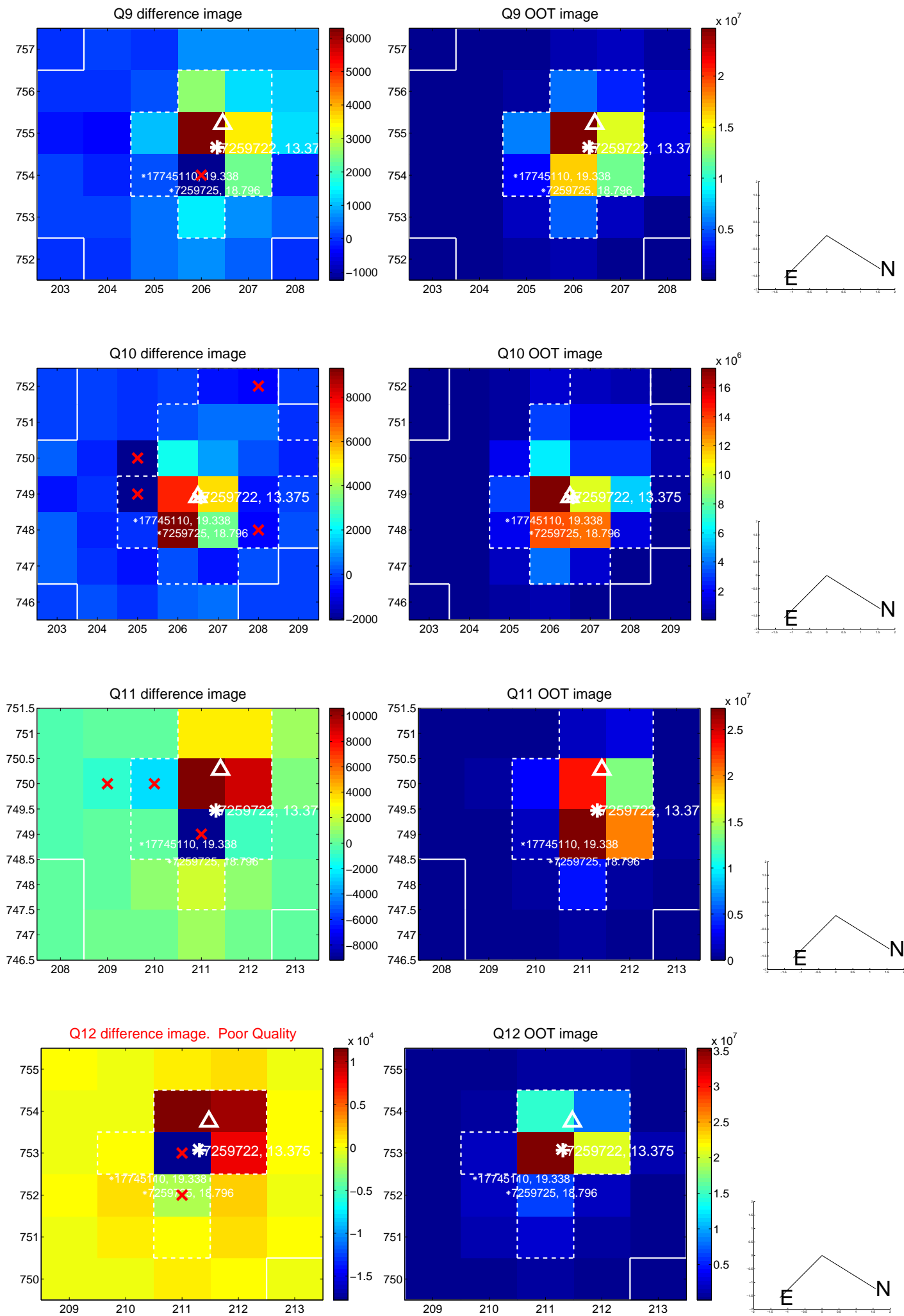


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

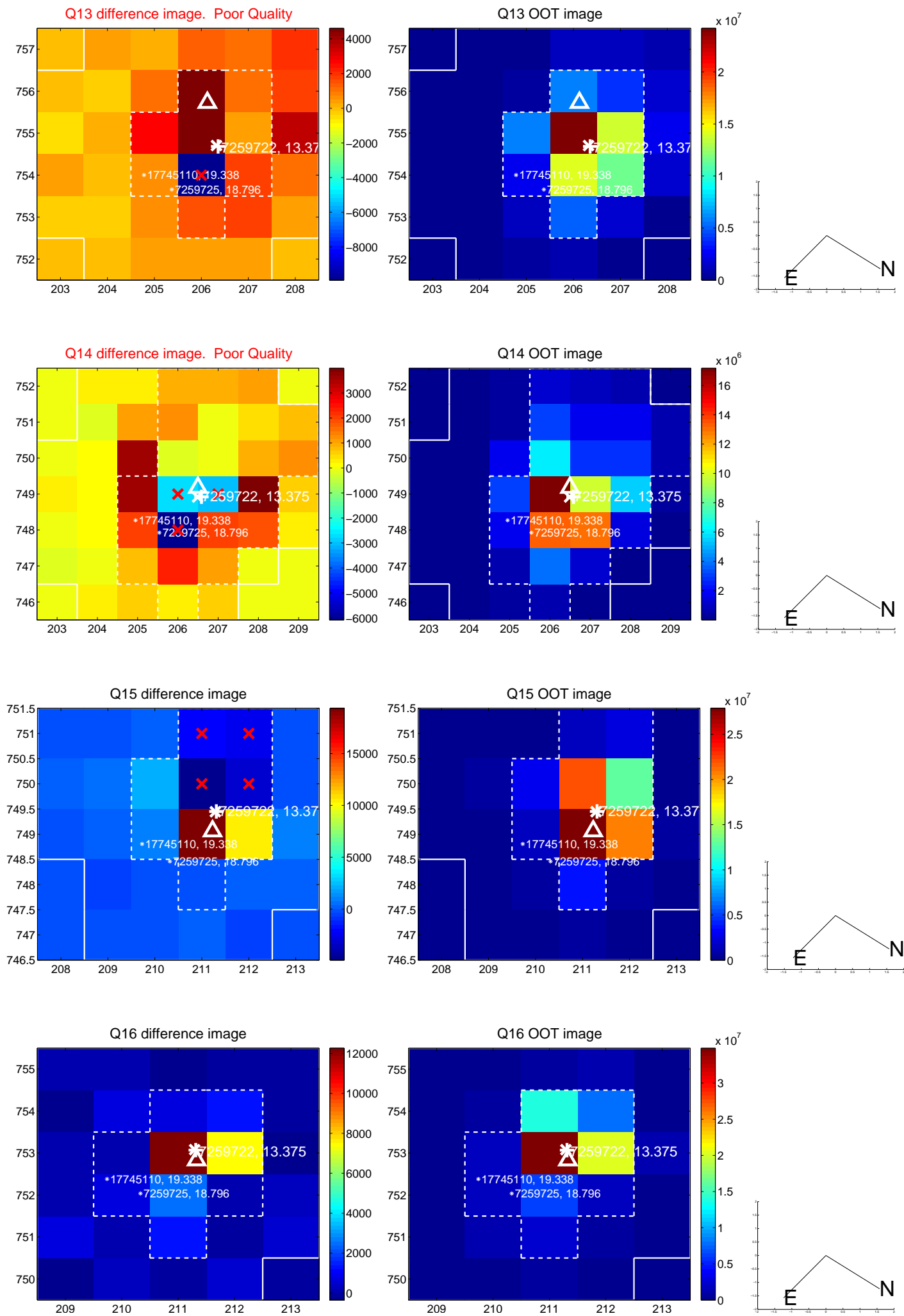




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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





UKIRT Image

Declination

