

KIC 005514383

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})
005514383-01	OBS	0257.01	6.883402	138.245893	499.9	2.207	165.8	165.6	1.19	6139	3.08	322.09

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005514383-01	OBS	PC	1.00	0	0	0	0	CENT_SATURATED

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 for comment definitions.

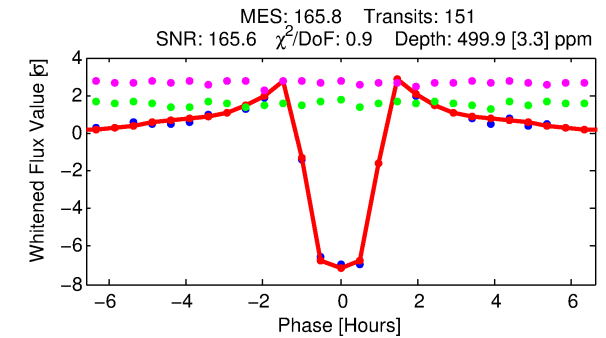
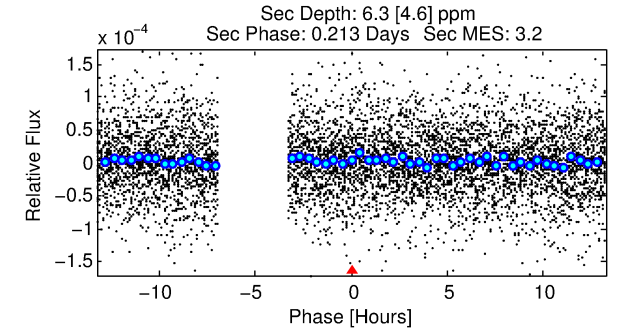
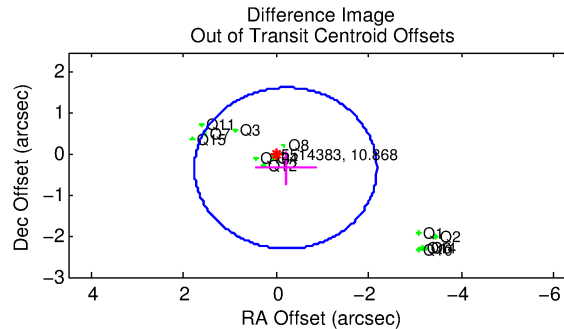
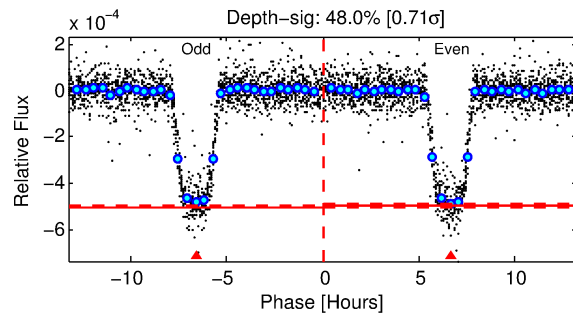
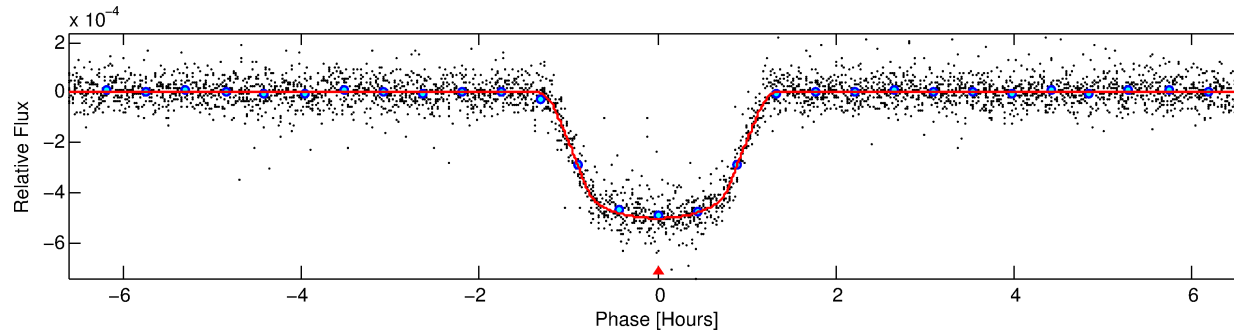
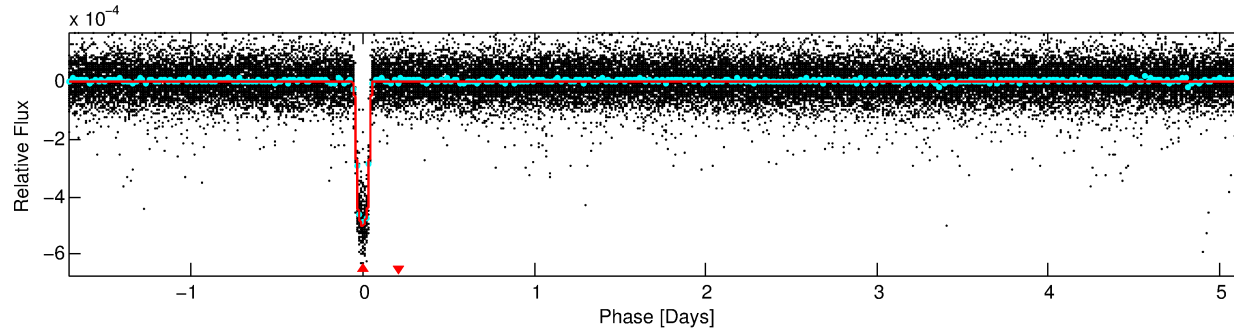
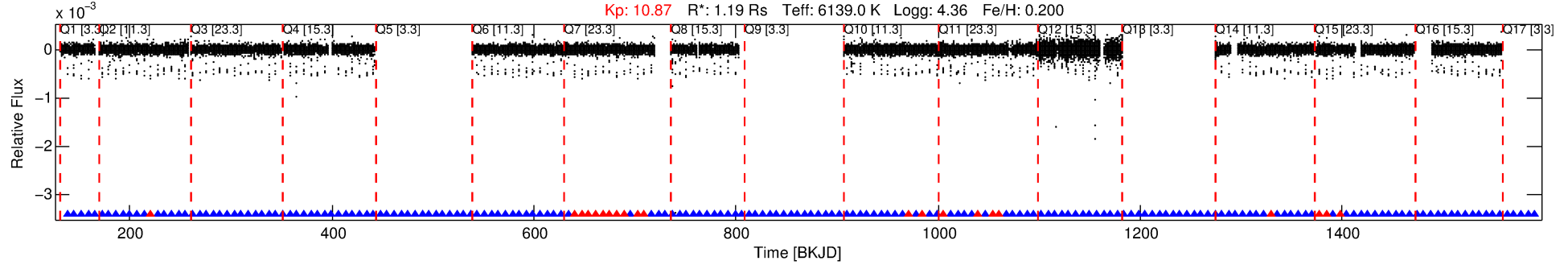
Ephemeris Match Information For 005514383-01

No Significant Match Found

DV One-Page Summary

KIC: 5514383 Candidate: 1 of 1 Period: 6.883 d
KOI: K00257.01 Corr: 0.967

Kp: 10.87 R*: 1.19 Rs Teff: 6139.0 K Logg: 4.36 Fe/H: 0.200



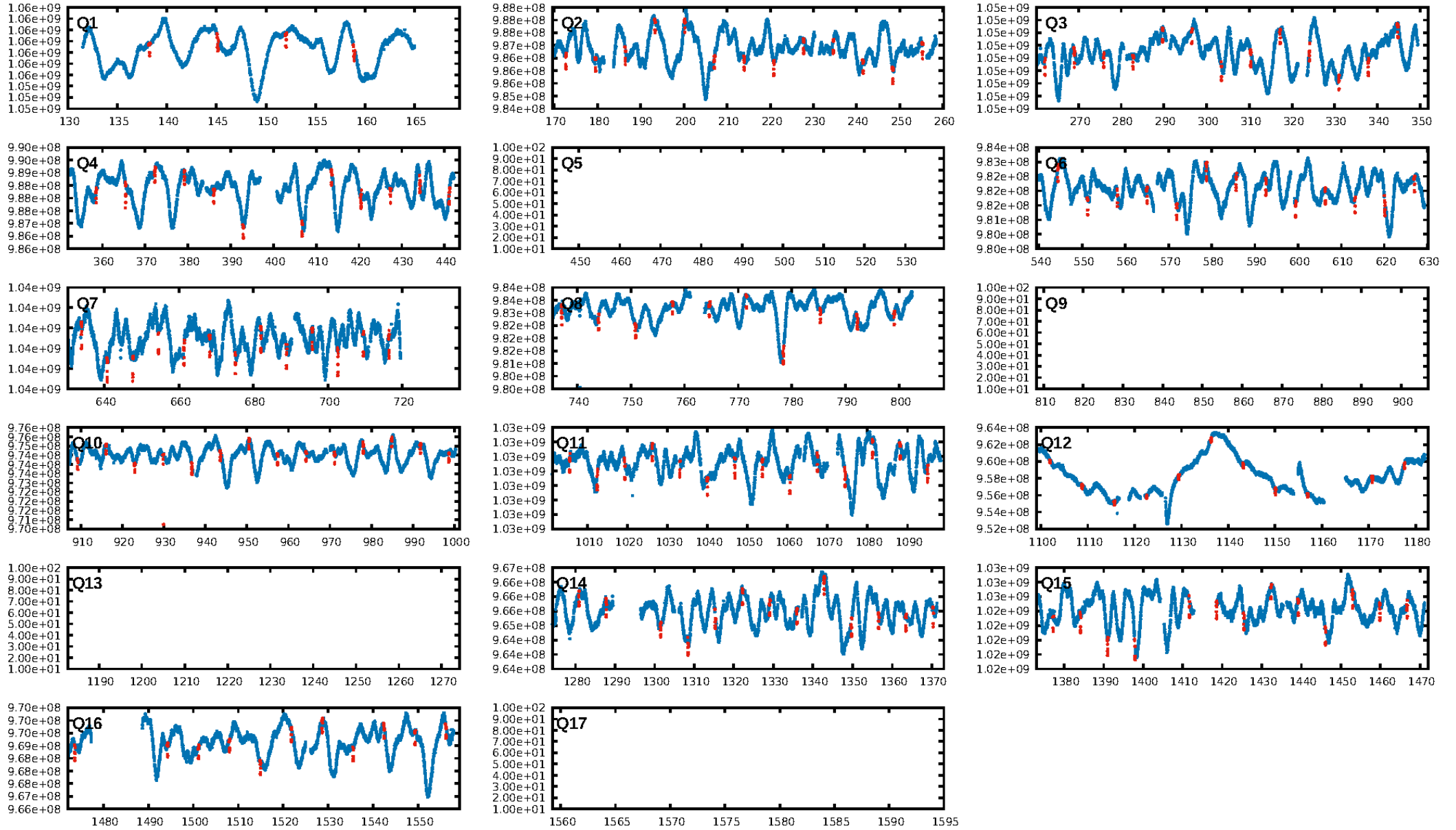
DV Fit Results:

Period = 6.88340 [0.00000] d
Epoch = 138.2459 [0.0002] BKJD
Rp/R* = 0.0237 [0.0006]
a/R* = 12.84 [1.65]
b = 0.87 [0.04]
Seff = 322.09 [20.51]
Teq = 1080 [17] K
Rp = 3.08 [0.14] Re
a = 0.0750 [0.0019] AU
Ag = 2.04 [1.49] [0.70σ]
Teffp = 1997 [364] K [2.51σ]

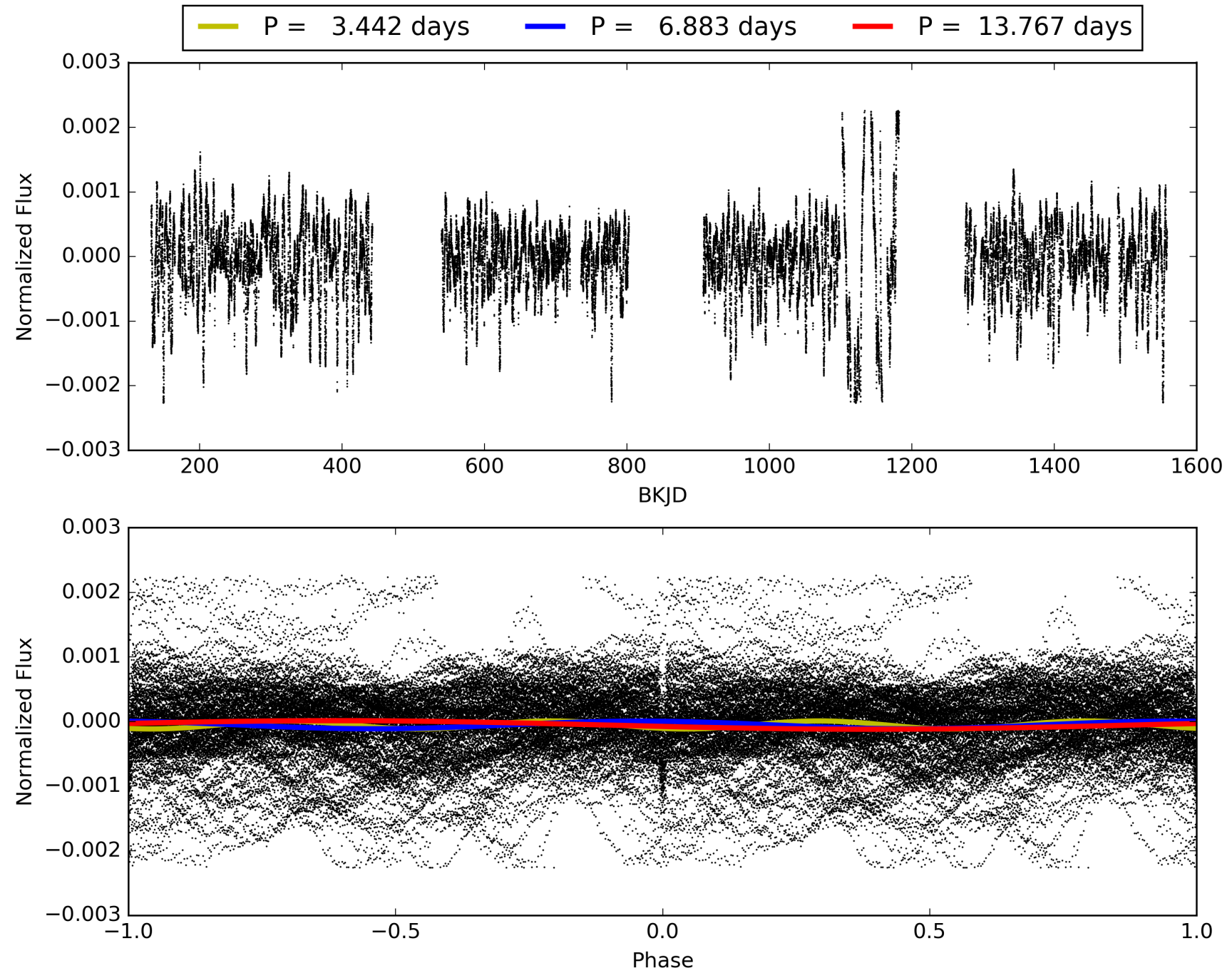
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 0.86 [126/147]
GhostDiagnostic-chr: 12.98
Centroid-sig: 0.0%
Centroid-so: 0.524 arcsec [7.39σ]
OotOffset-rm: 0.393 arcsec [0.60σ]
KicOffset-rm: 0.178 arcsec [0.29σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.85 [11/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 005514383-01, PDC Light Curves

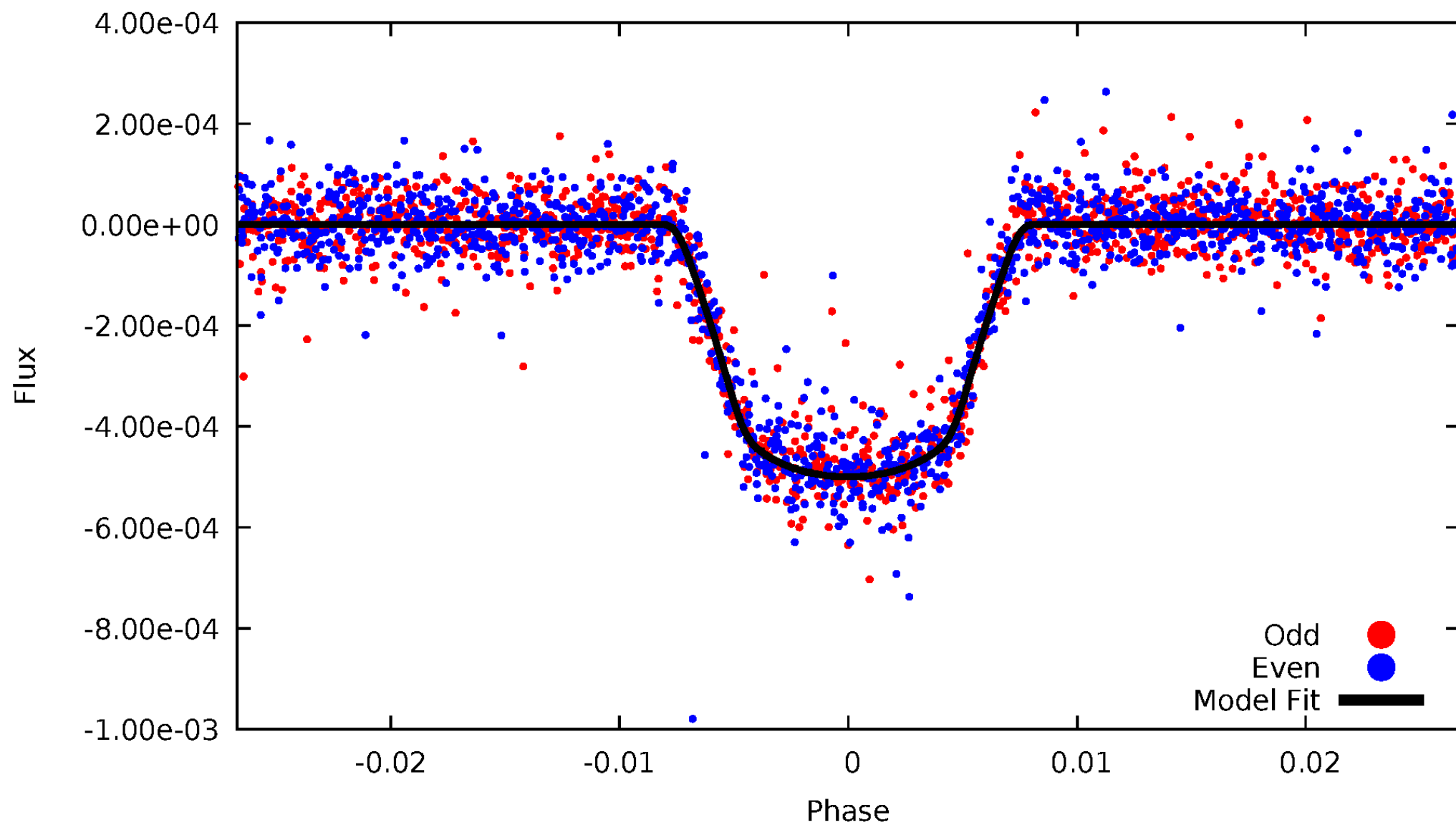


TCE 005514383-01



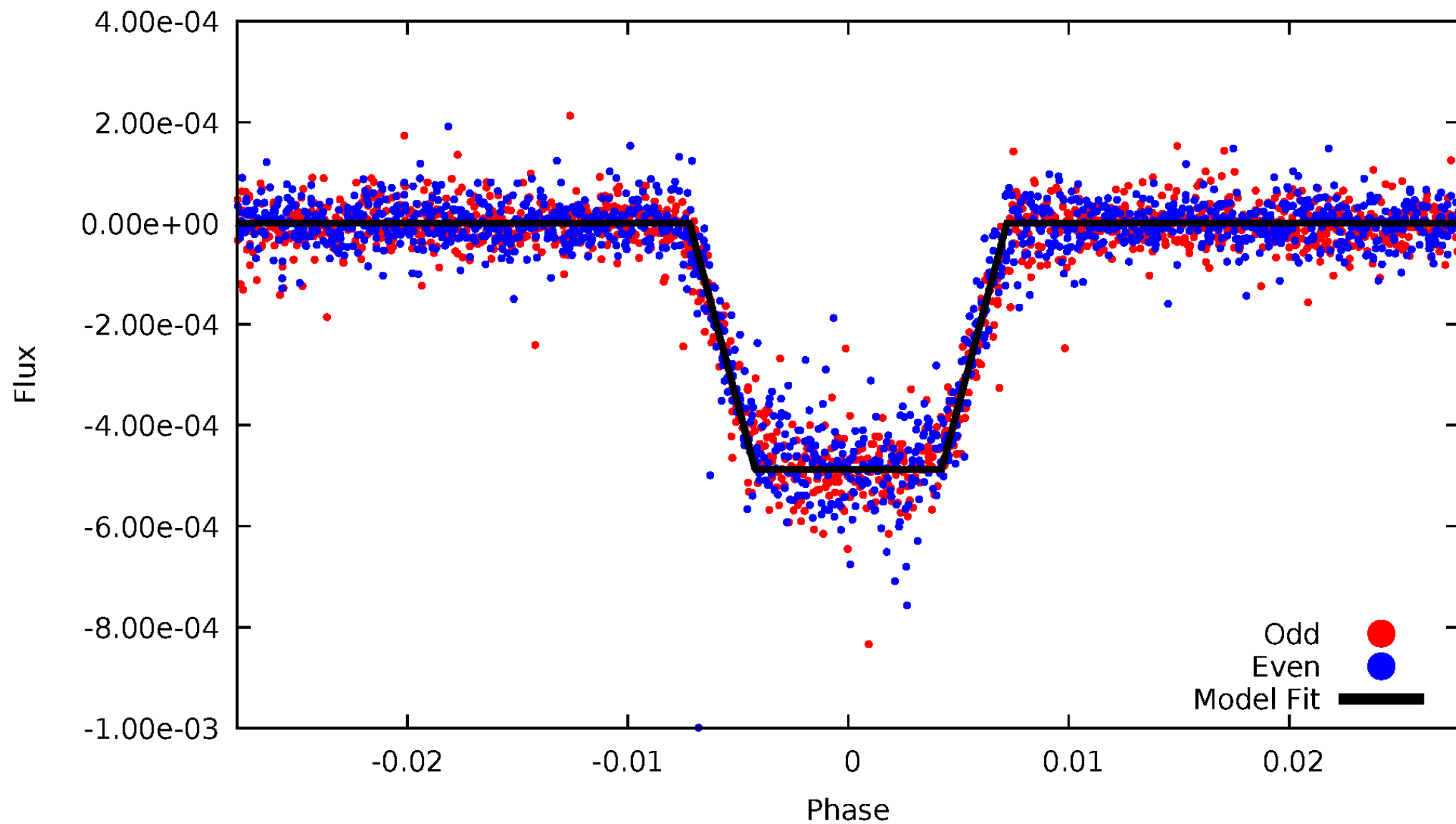
DV Odd/Even

TCE 005514383-01



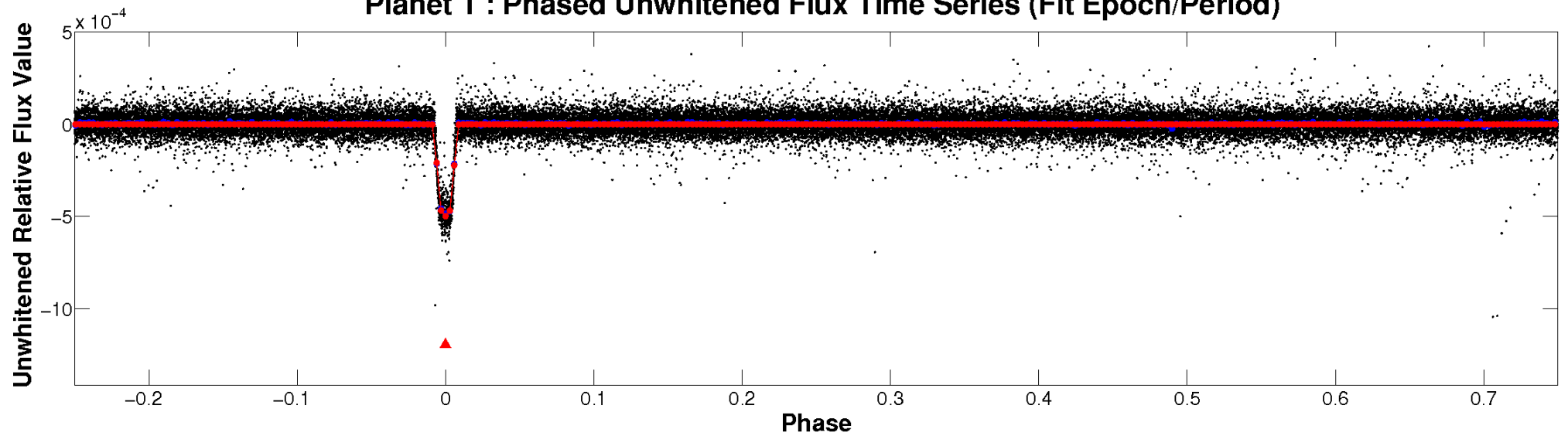
ALT Odd/Even

TCE 005514383-01

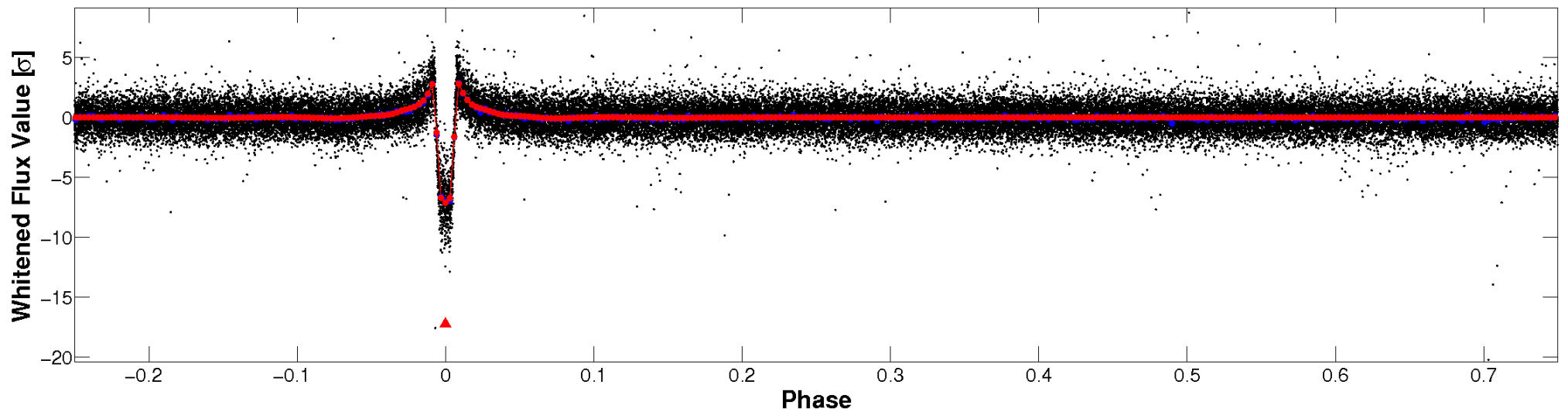


Non-Whitened Vs. Whitened Light Curve

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

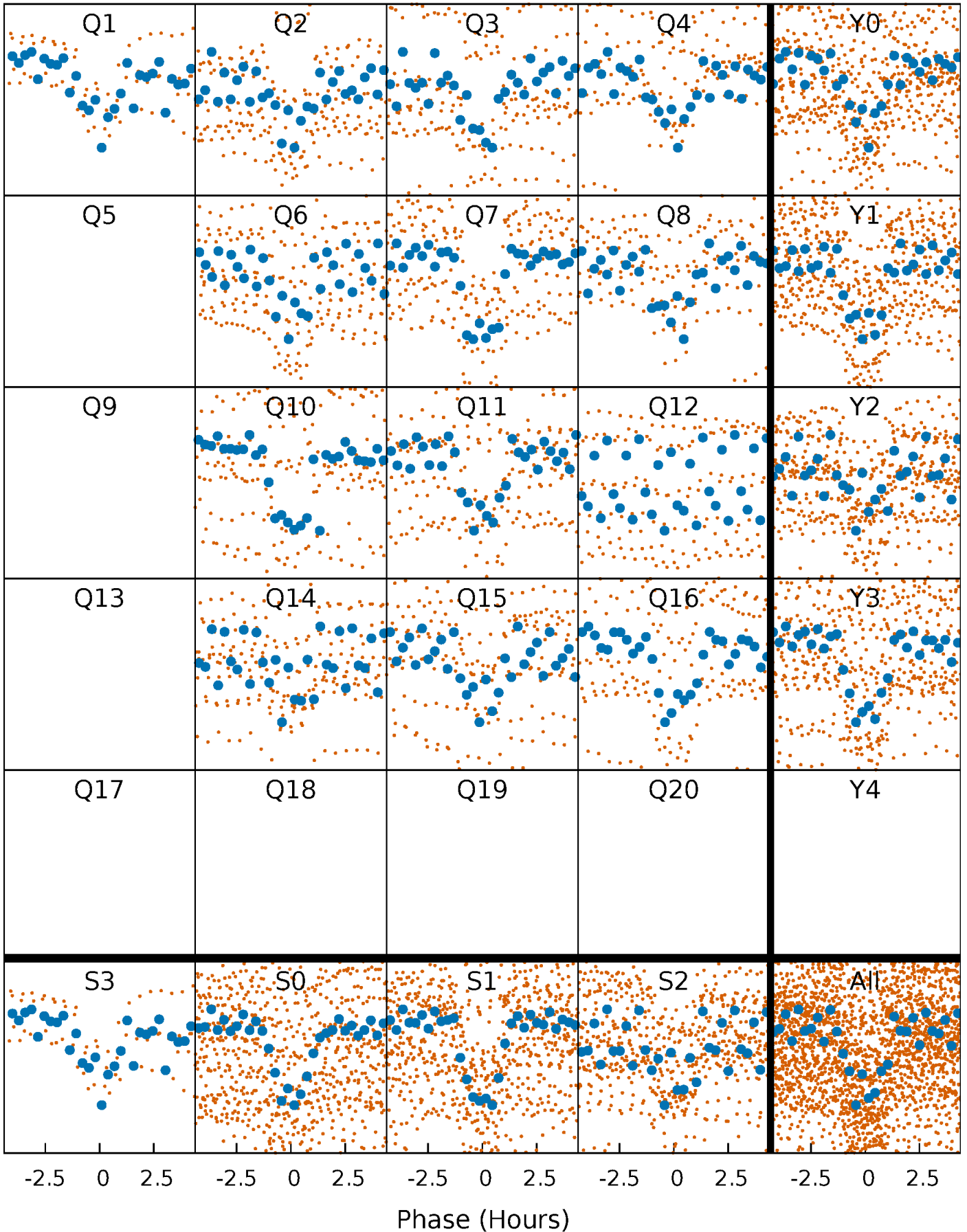


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



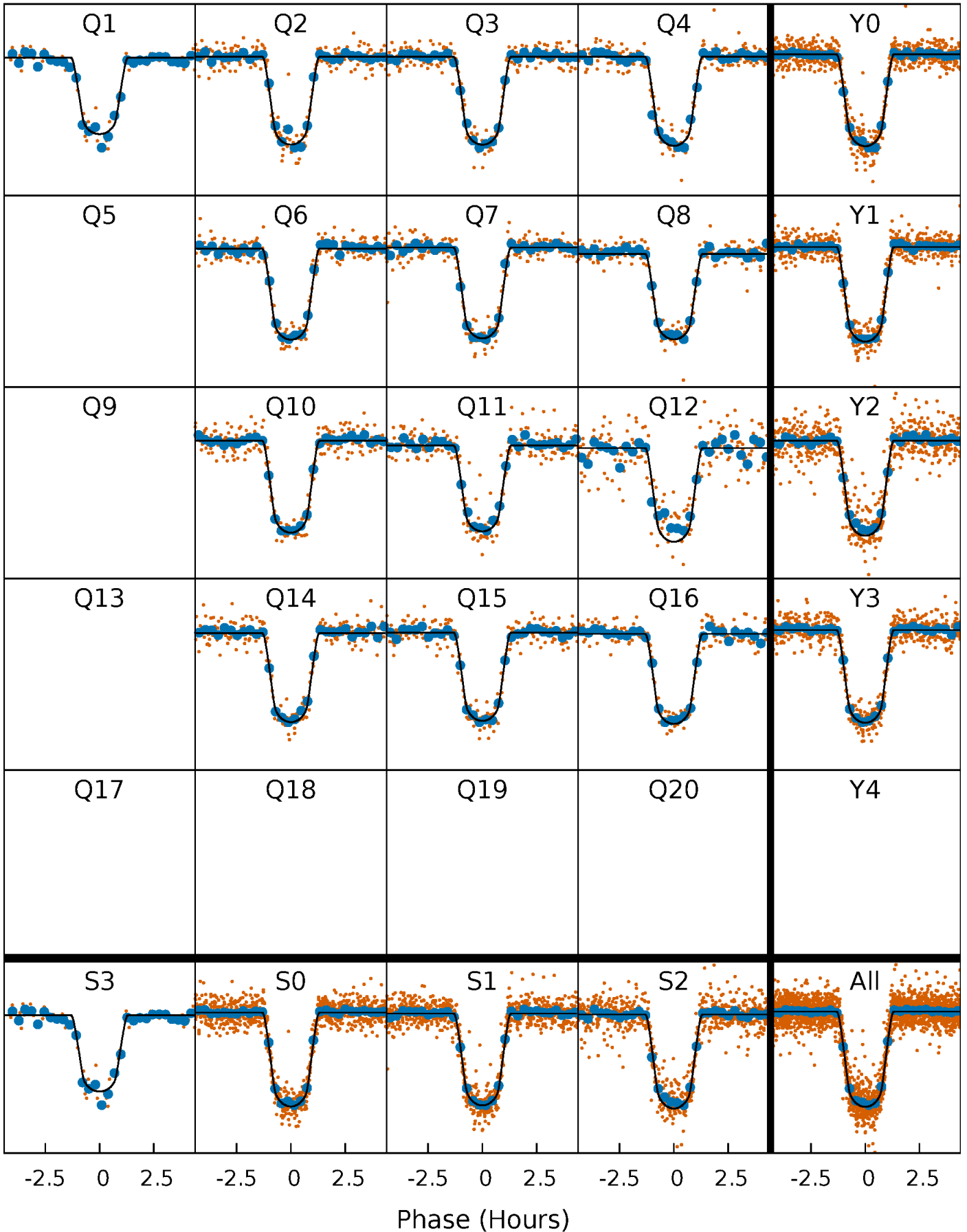
PDC Quarter-Phased Transit Curves

TCE 005514383-01 P= 6.883402 Days $T_0=138.245893$ (BKJD)



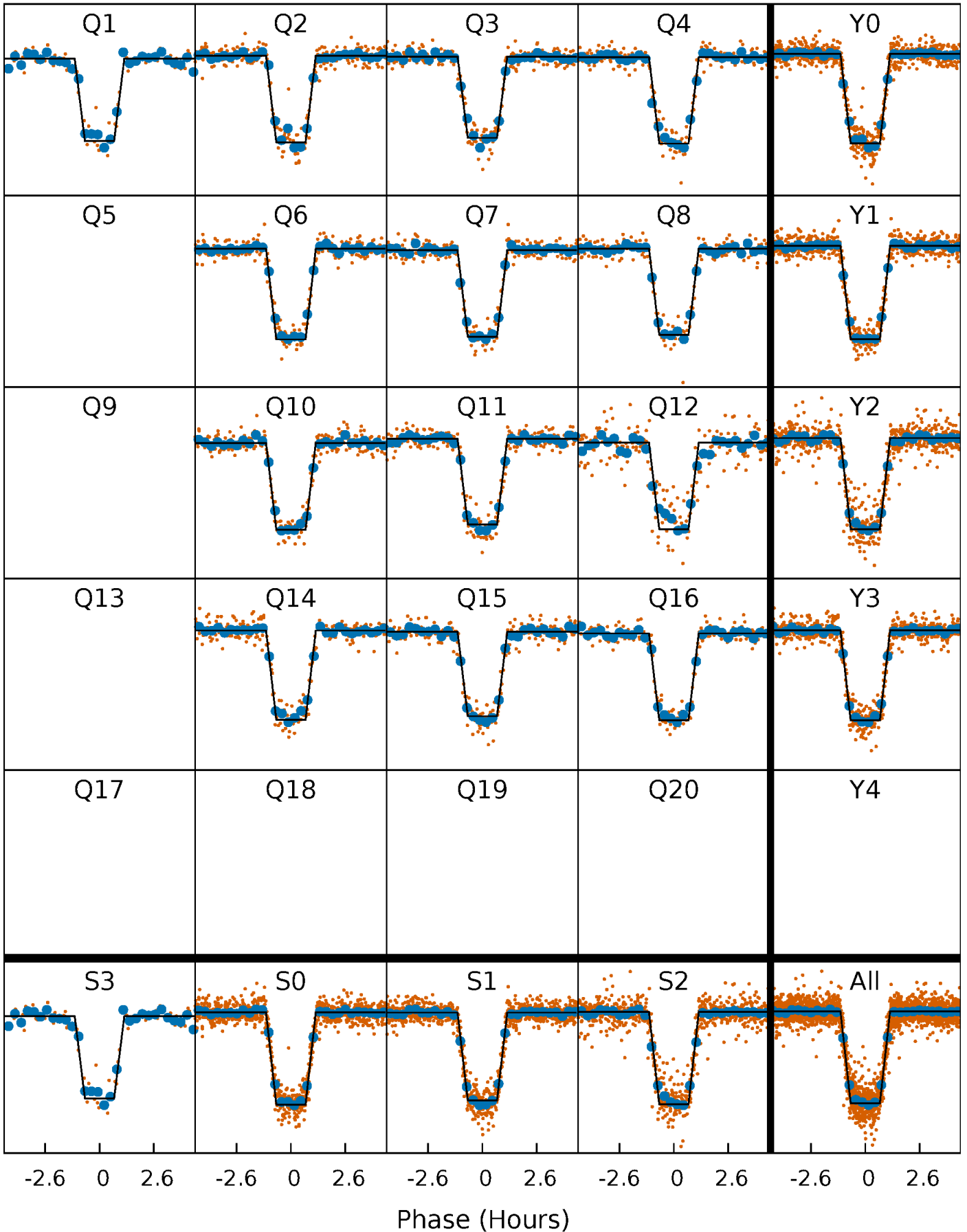
DV Quarter-Phased Transit Curves

TCE 005514383-01 P= 6.883402 Days $T_0=138.245893$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

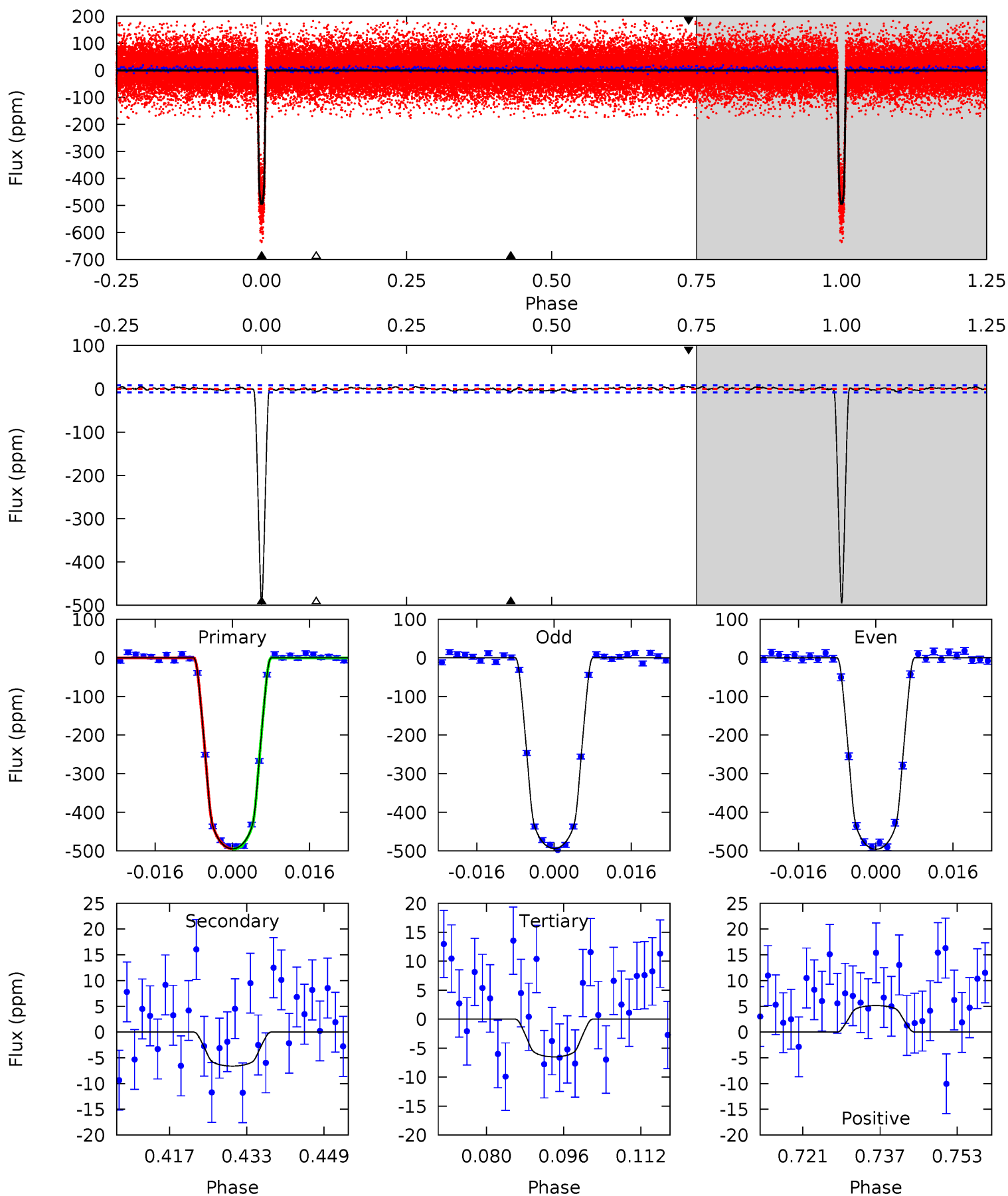
TCE 005514383-01 P= 6.883403 Days $T_0=138.245810$ (BKJD)



DV Model-Shift Uniqueness Test

005514383-01, P = 6.883402 Days, E = 131.362491 Days

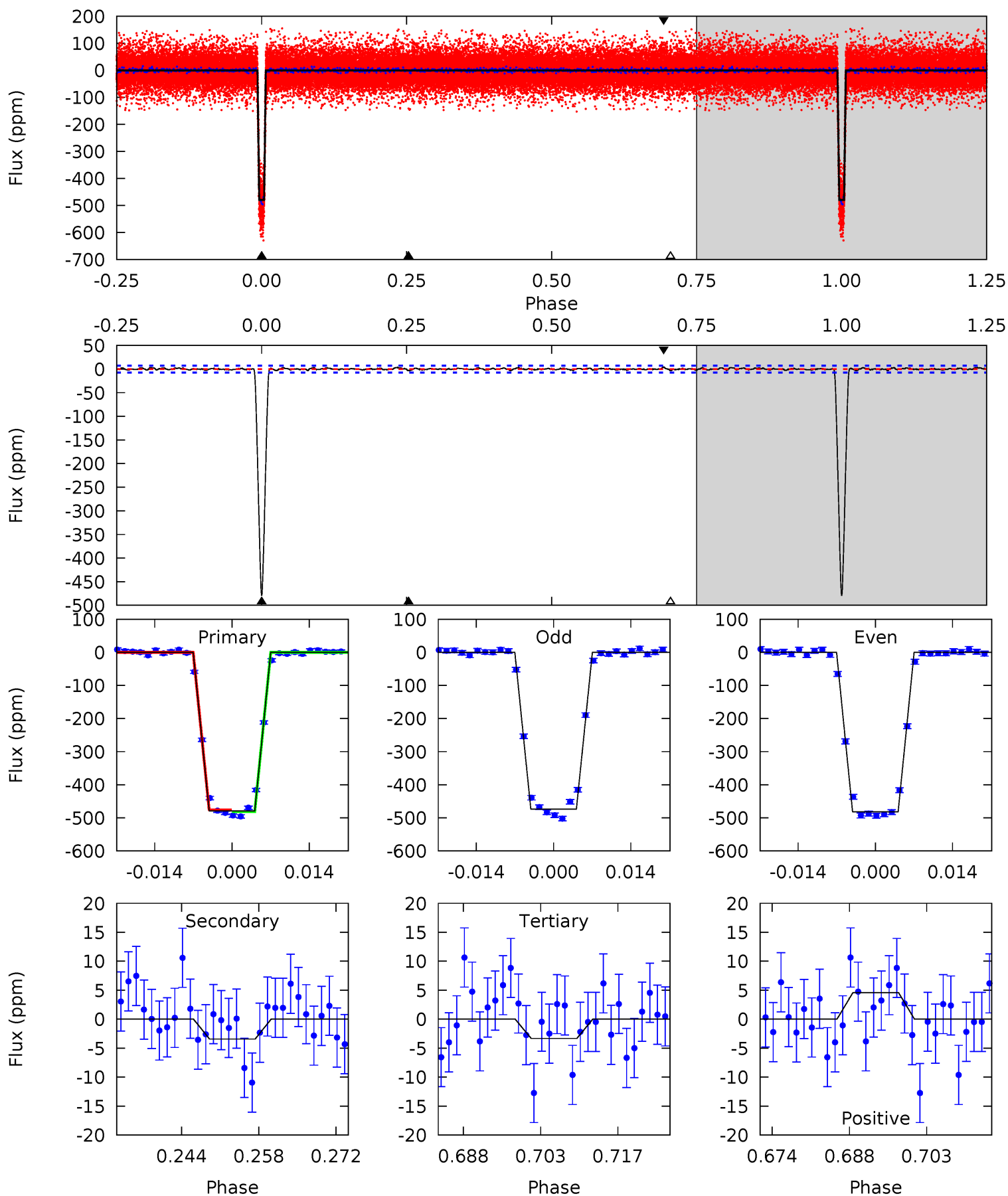
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
288.9	3.86	3.80	3.01	4.94	2.41	1.35	285.1	285.9	0.06	0.86	0.61	1.00	0.01	0.45



Alt Model-Shift Uniqueness Test

005514383-01, P = 6.883403 Days, E = 131.362407 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
326.2	2.34	2.27	3.13	4.96	2.45	0.82	324.0	323.1	0.07	-0.79	2.83	1.01	0.01	0



Stellar Parameters For KIC 005514383

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6139^{+74}_{-86}	$4.359^{+0.012}_{-0.012}$	$0.200^{+0.150}_{-0.150}$	$1.193^{+0.029}_{-0.043}$	$1.190^{+0.042}_{-0.072}$	$0.987^{+0.056}_{-0.044}$
	+1%/-1%	+0%/-0%	+75%/-75%	+2%/-4%	+4%/-6%	+6%/-5%
Source	SPE72	AST8	SPE72	DSEP		

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

Secondary Eclipse Parameters for KIC 005514383-01 / KOI 0257.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-7 ± 2	$3.09^{+0.10}_{-0.10}$	1508^{+22}_{-21}	2721^{+102}_{-124}	$2.142^{+0.547}_{-0.570}$
Alt.	-3 ± 1	$2.88^{+0.10}_{-0.09}$	1509^{+21}_{-22}	2511^{+144}_{-218}	$1.284^{+0.539}_{-0.532}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

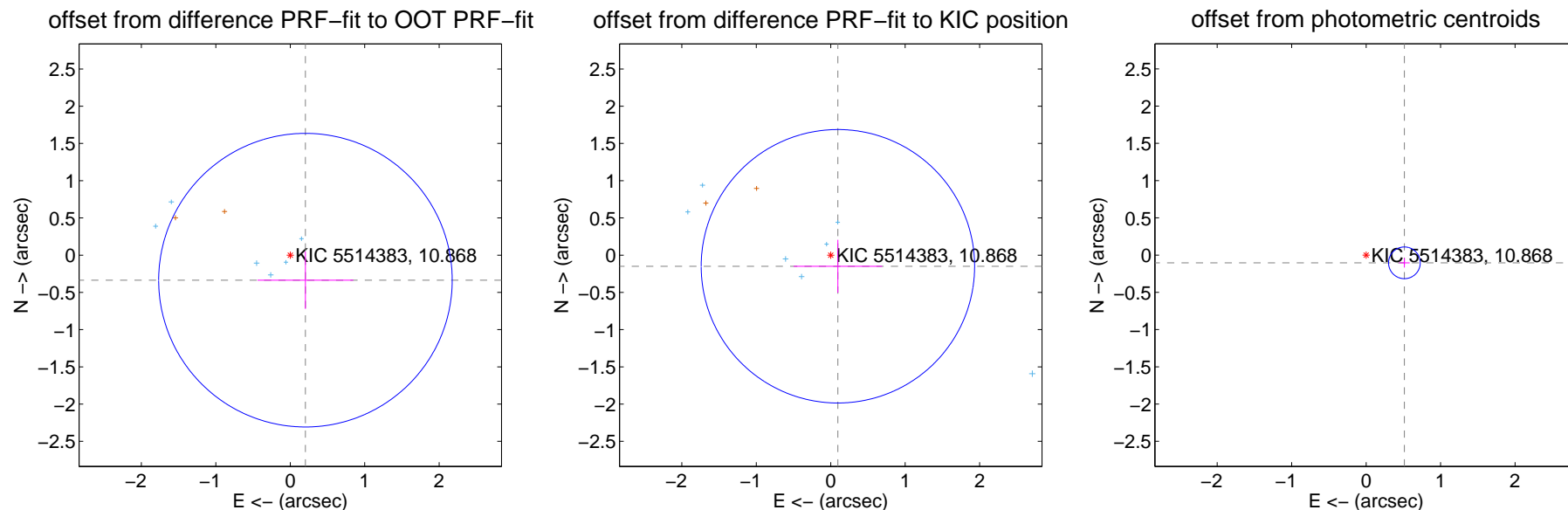
DV Centroid Data

Supplemental centroid analysis for 005514383-01. **Kepler magnitude: 10.87.** Transit SNR 165.57

There are 11 quarters with good PRF difference image offsets

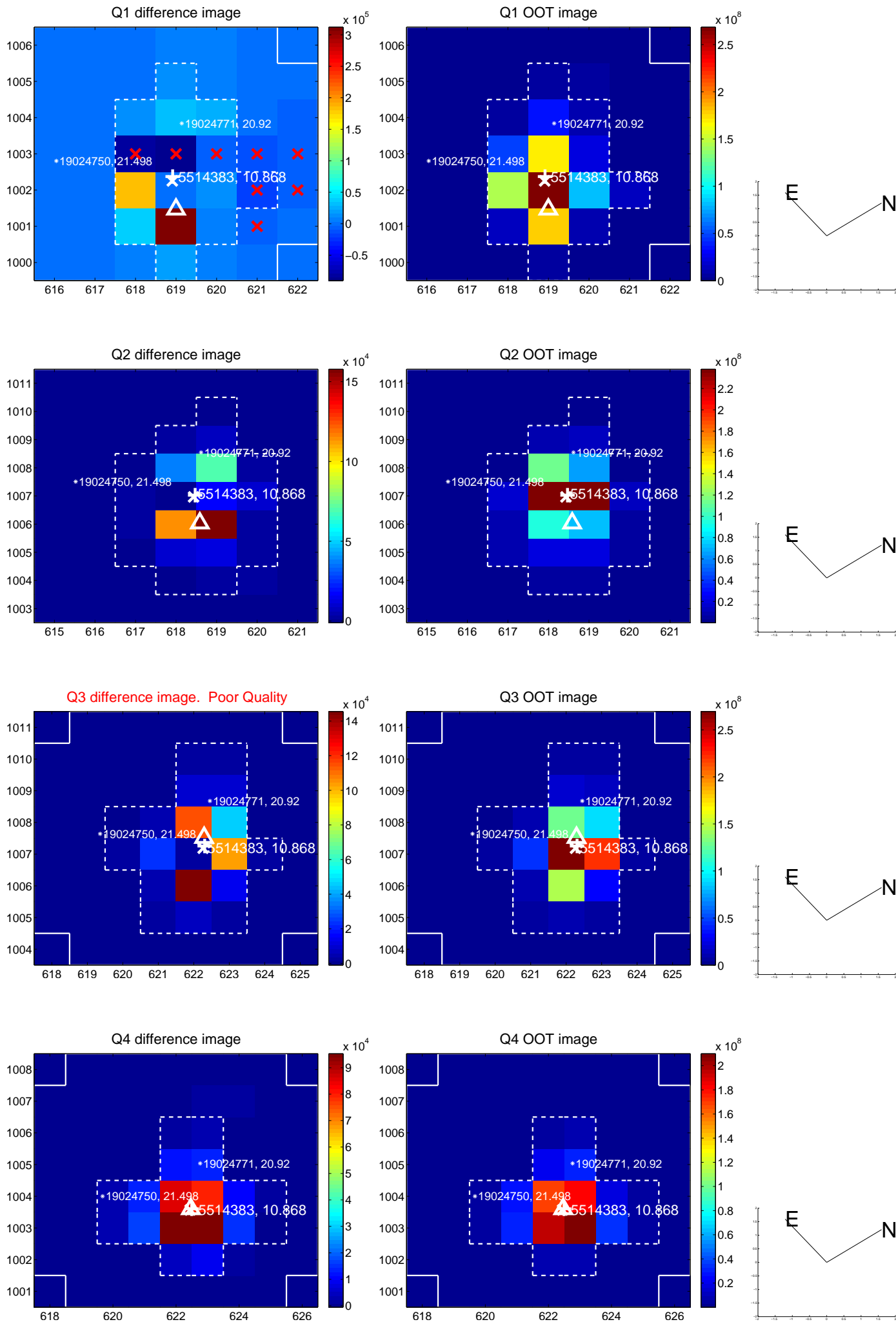
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.393 ± 0.657	0.60	-0.204 ± 0.643	-0.336 ± 0.386
PRF-fit source offset from KIC position	0.178 ± 0.612	0.29	-0.096 ± 0.594	-0.149 ± 0.355
photometric centroid source offset	0.52 ± 0.07	7.39	-0.51 ± 0.07	-0.10 ± 0.06



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- σ uncertainty. Blue circle: three- σ . 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.

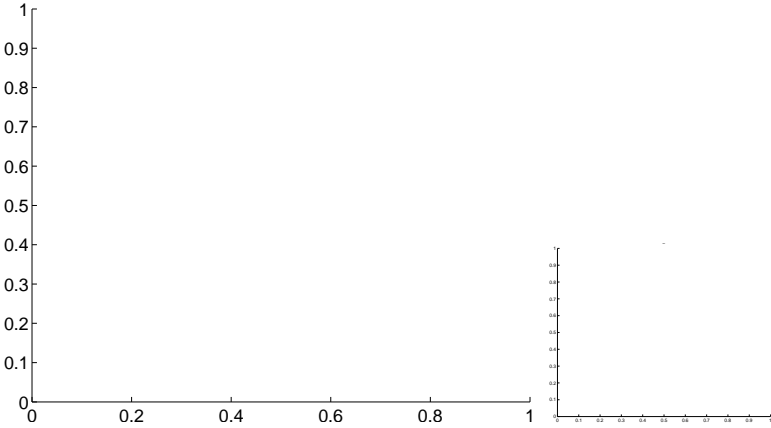


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

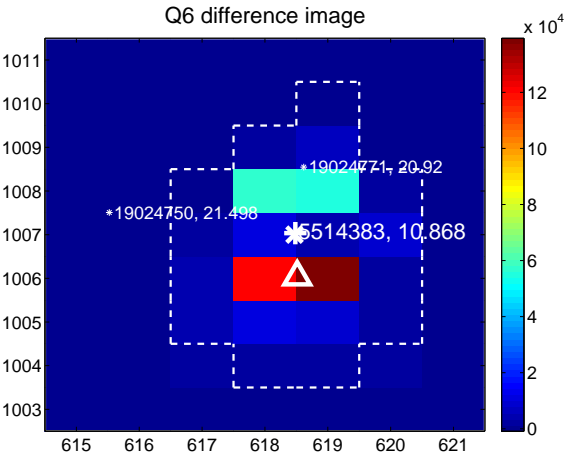
Q5 no difference image



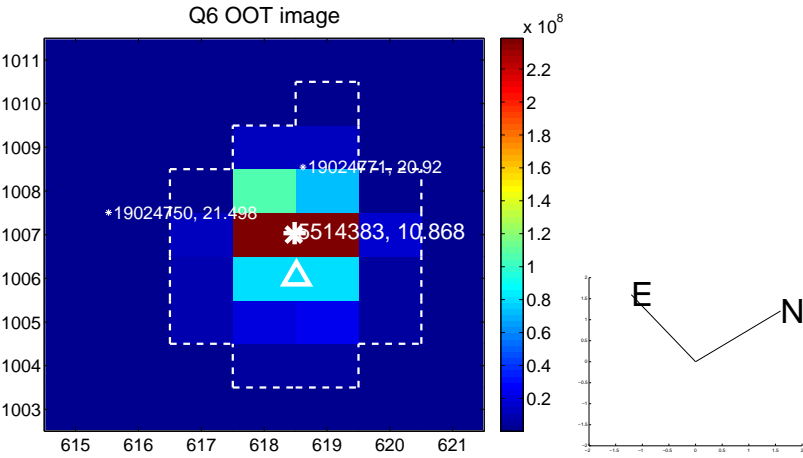
Q5 no OOT image



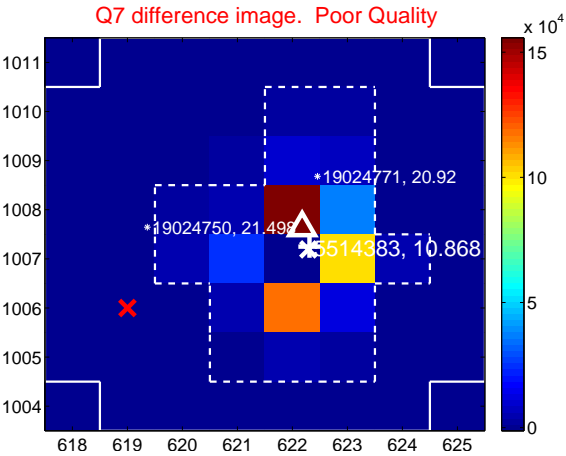
Q6 difference image



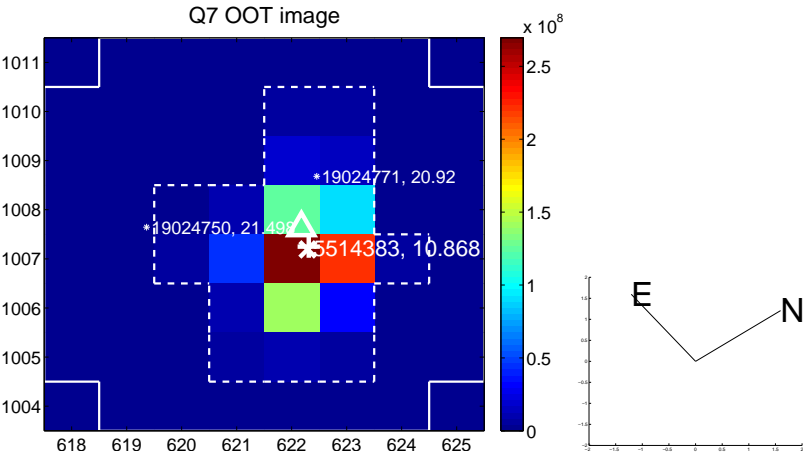
Q6 OOT image



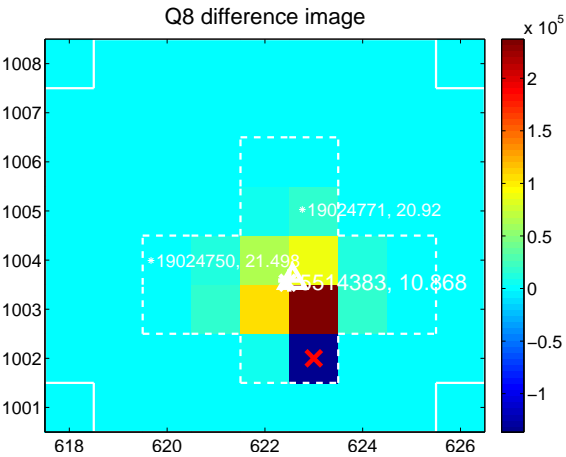
Q7 difference image. Poor Quality



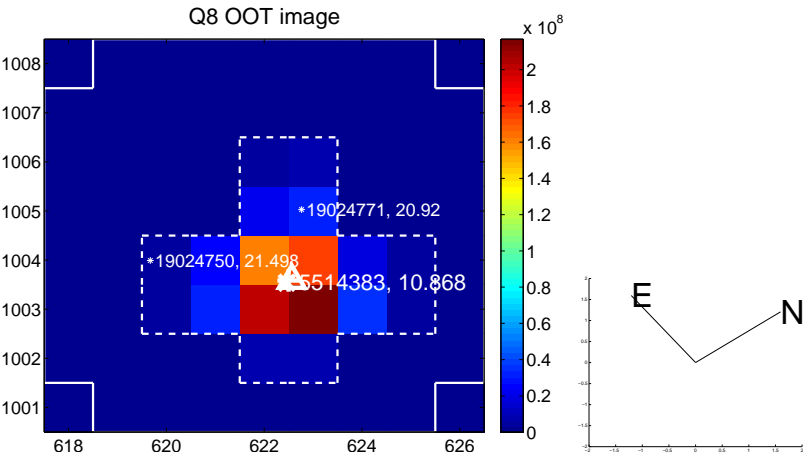
Q7 OOT image



Q8 difference image



Q8 OOT image

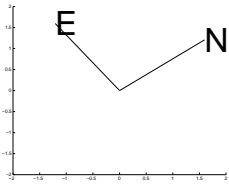
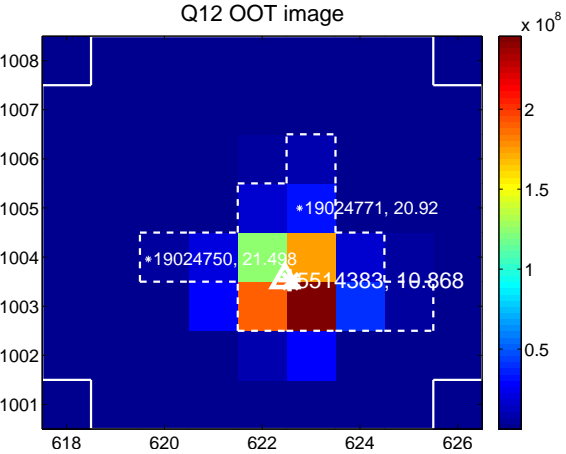
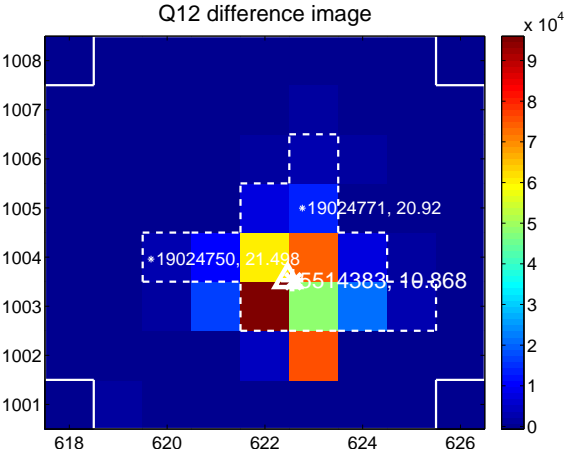
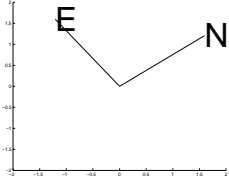
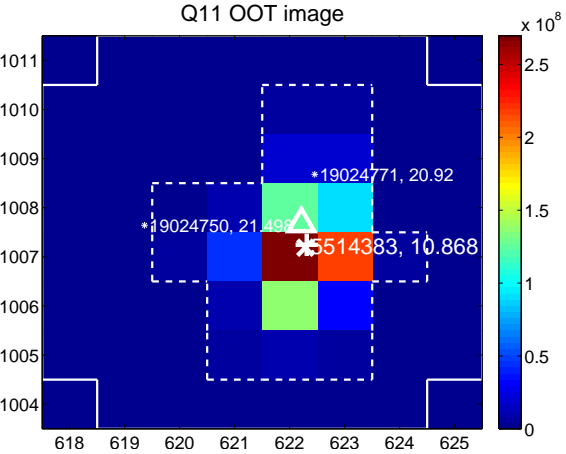
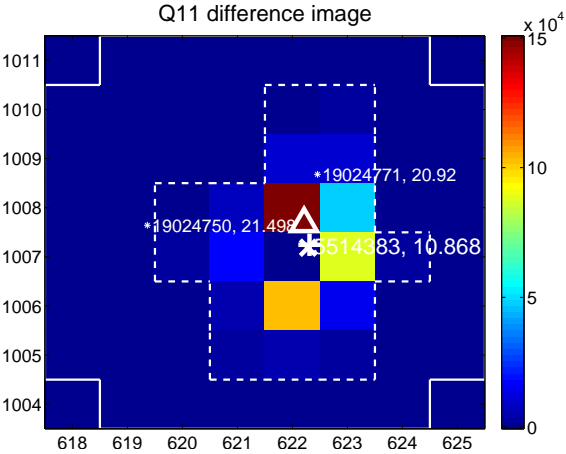
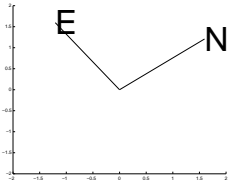
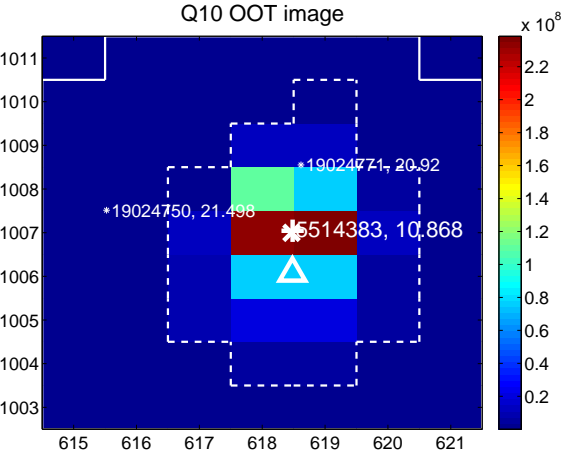
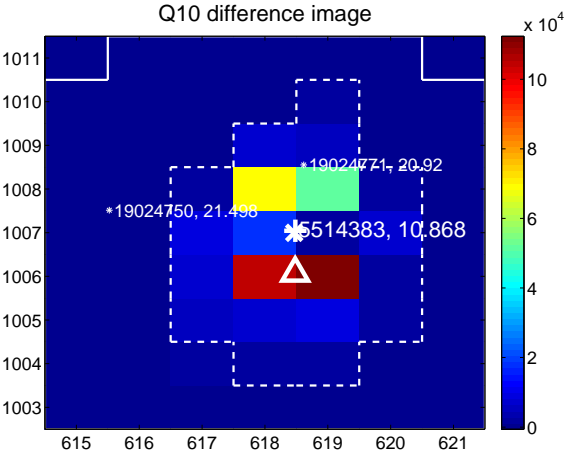


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q9 no difference image



Q9 no OOT image



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

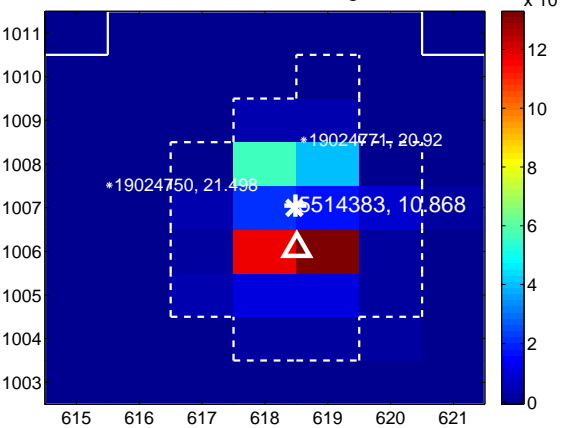
Q13 no difference image



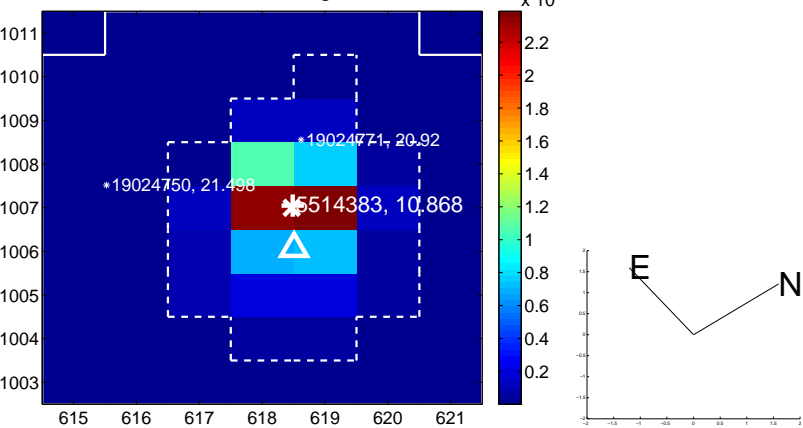
Q13 no OOT image



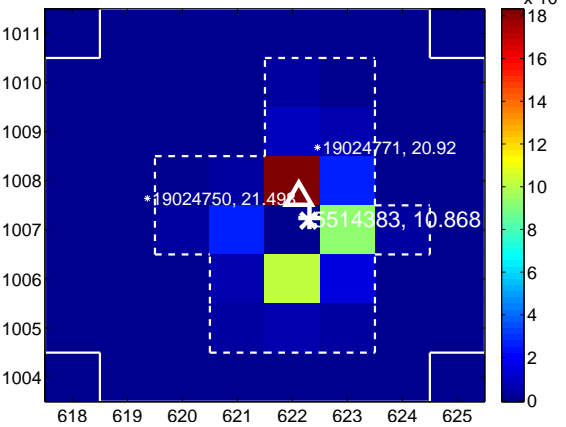
Q14 difference image



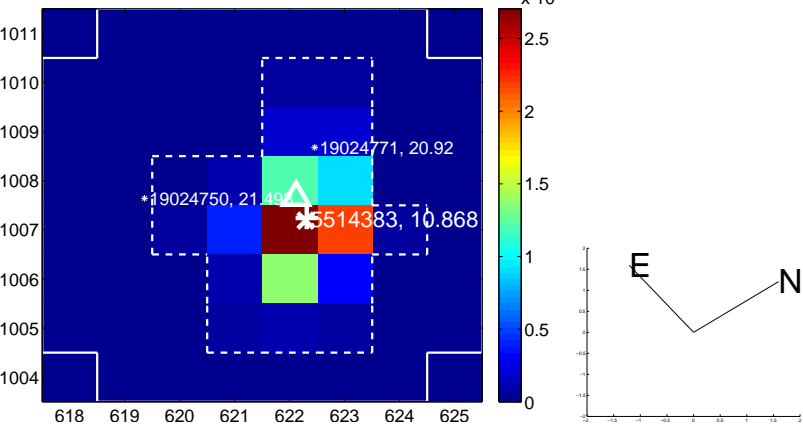
Q14 OOT image



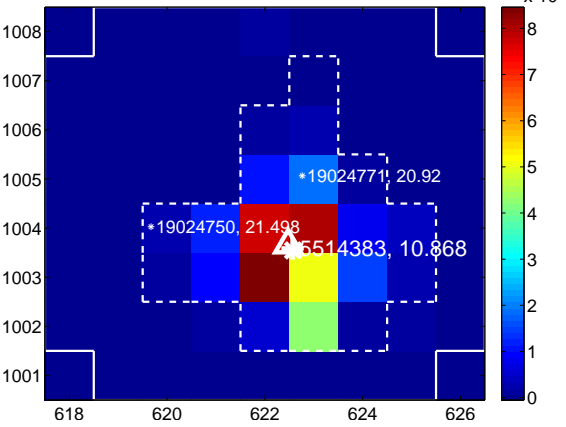
Q15 difference image



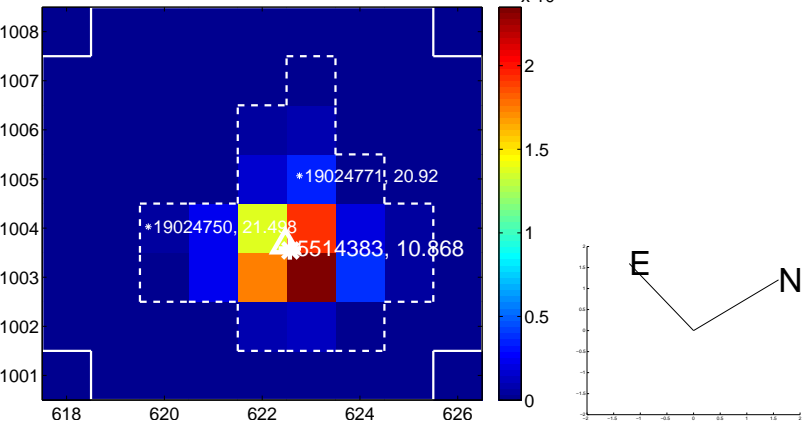
Q15 OOT image



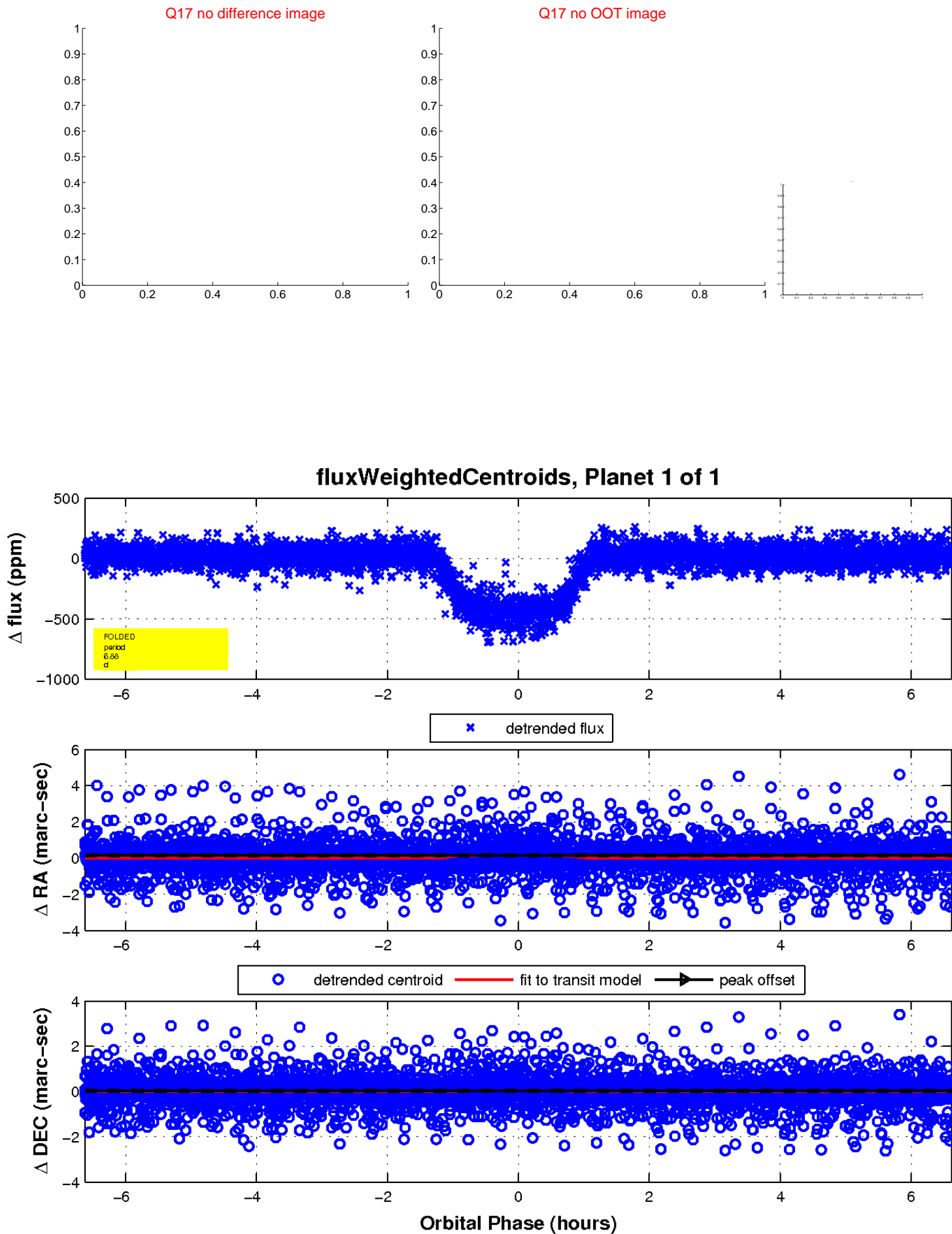
Q16 difference image



Q16 OOT image



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



UKIRT Image

