

KIC 008018547

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})
008018547-01	OBS	0902.01	83.929470	152.807207	7954.7	6.188	121.1	126.1	0.51	3960	4.51	0.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008018547-01	OBS	PC	0.97	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.

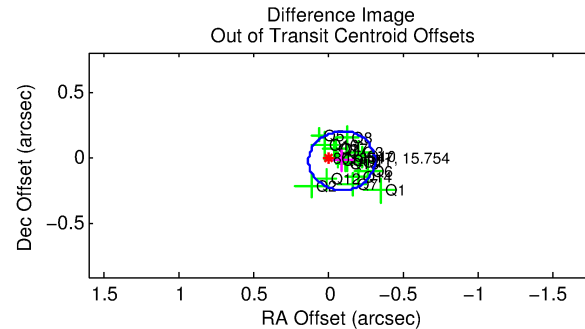
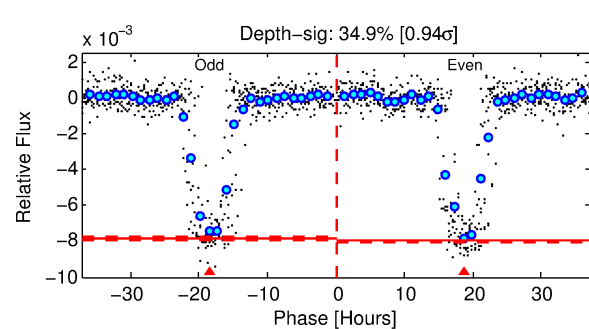
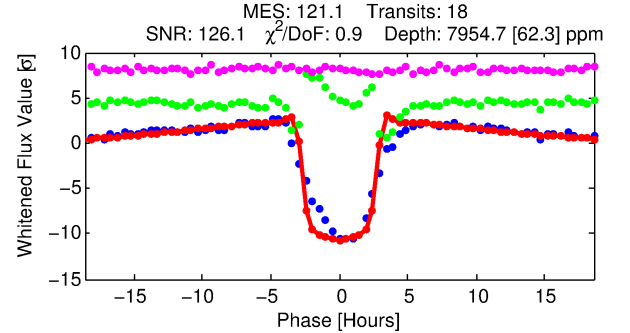
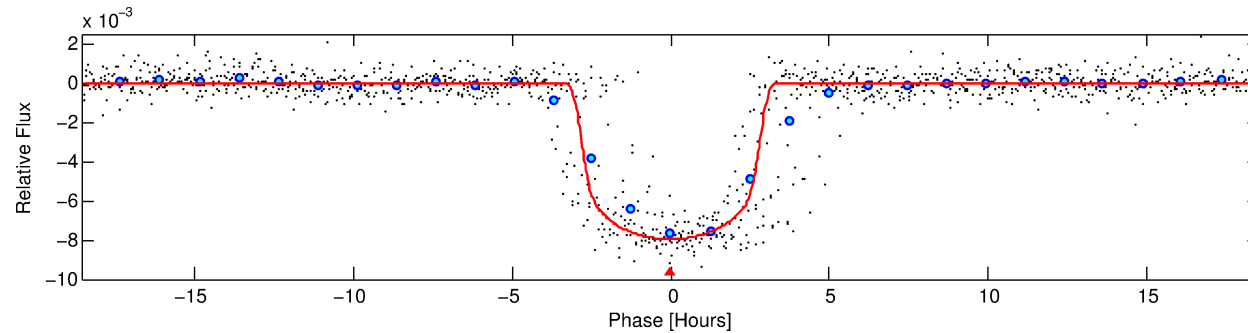
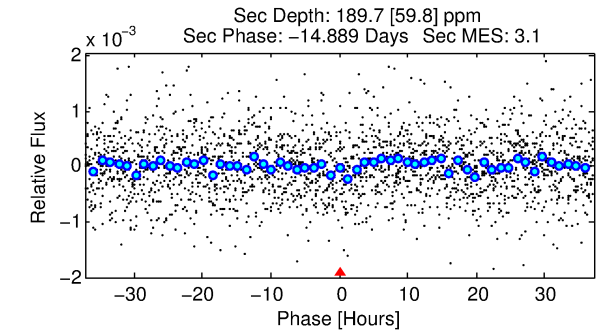
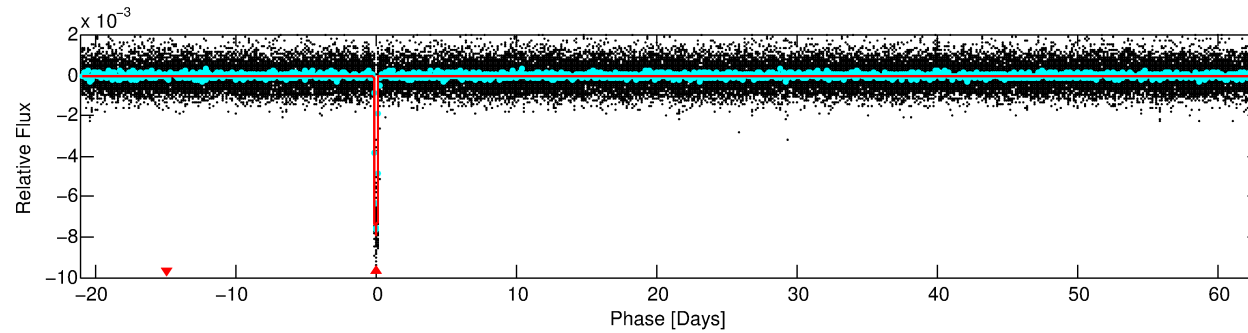
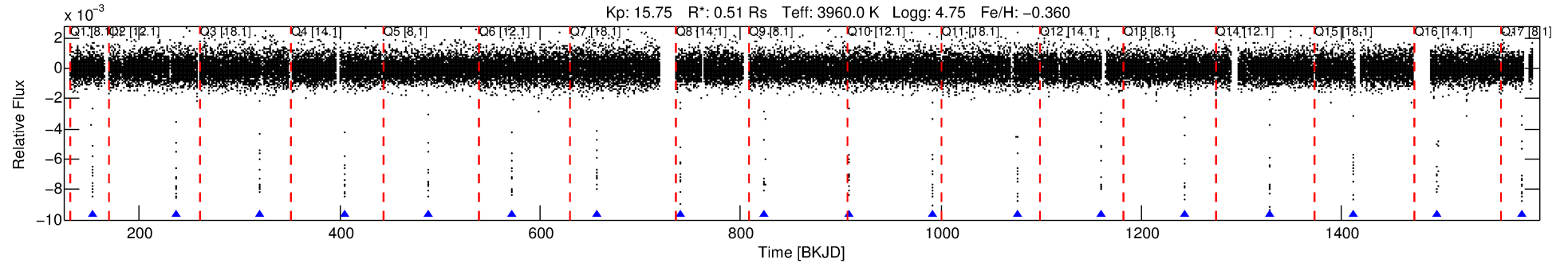
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008018547-01

No Significant Match Found

DV One-Page Summary

KIC: 8018547 Candidate: 1 of 1 Period: 83.929 d
KOI: K00902.01 Corr: 0.918



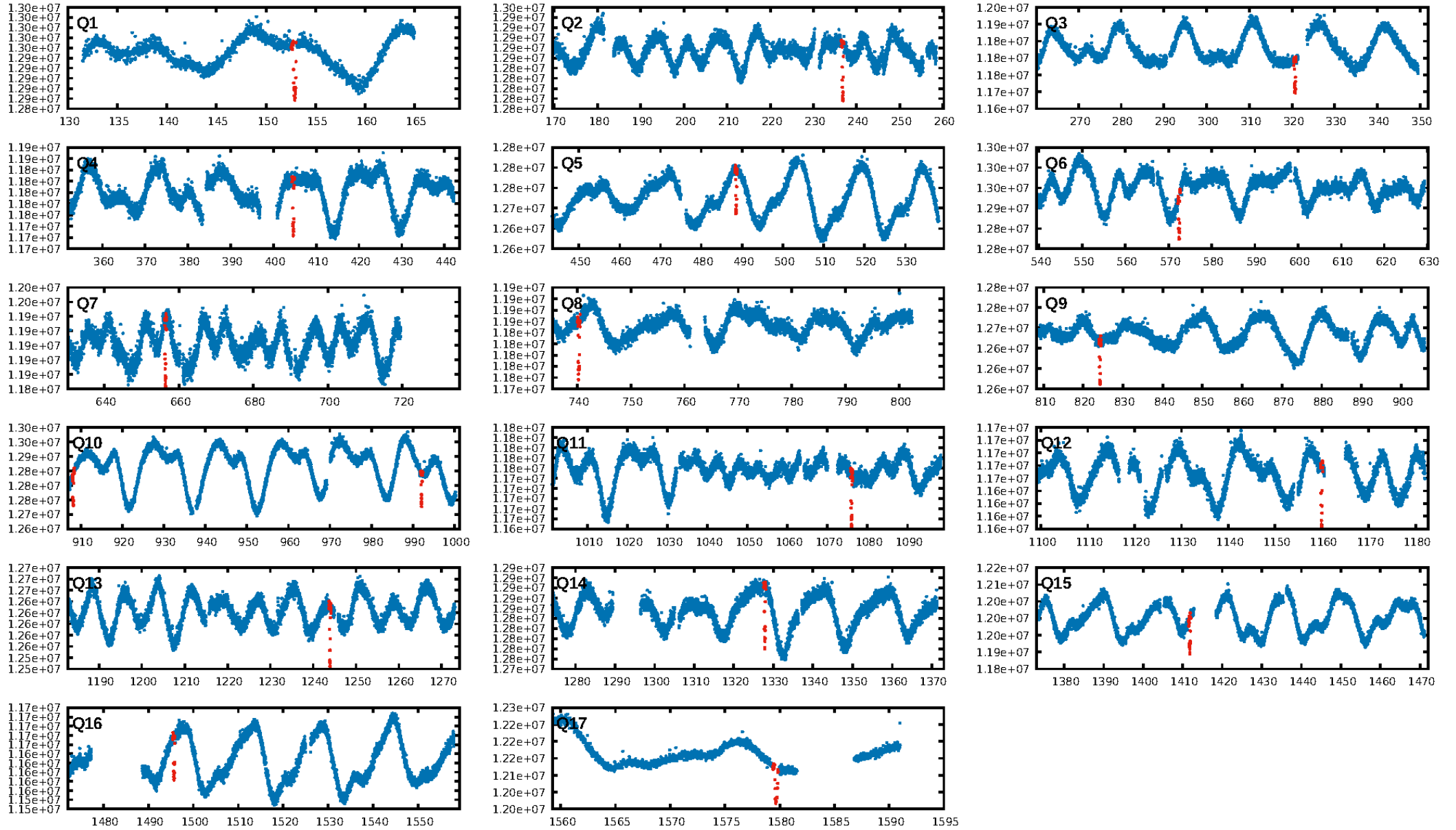
DV Fit Results:

Period = 83.92947 [0.00008] d
Epoch = 152.8072 [0.0008] BKJD
Rp/R* = 0.0812 [0.0020]
a/R* = 112.03 [11.79]
b = 0.02 [6.63]
Seff = 0.62 [0.10]
Teq = 226 [9] K
Rp = 4.51 [0.46] Re
a = 0.3030 [0.0224] AU
Ag = 470.57 [156.72] [3.00 σ]
Teffp = 1631 [141] K [9.96 σ]

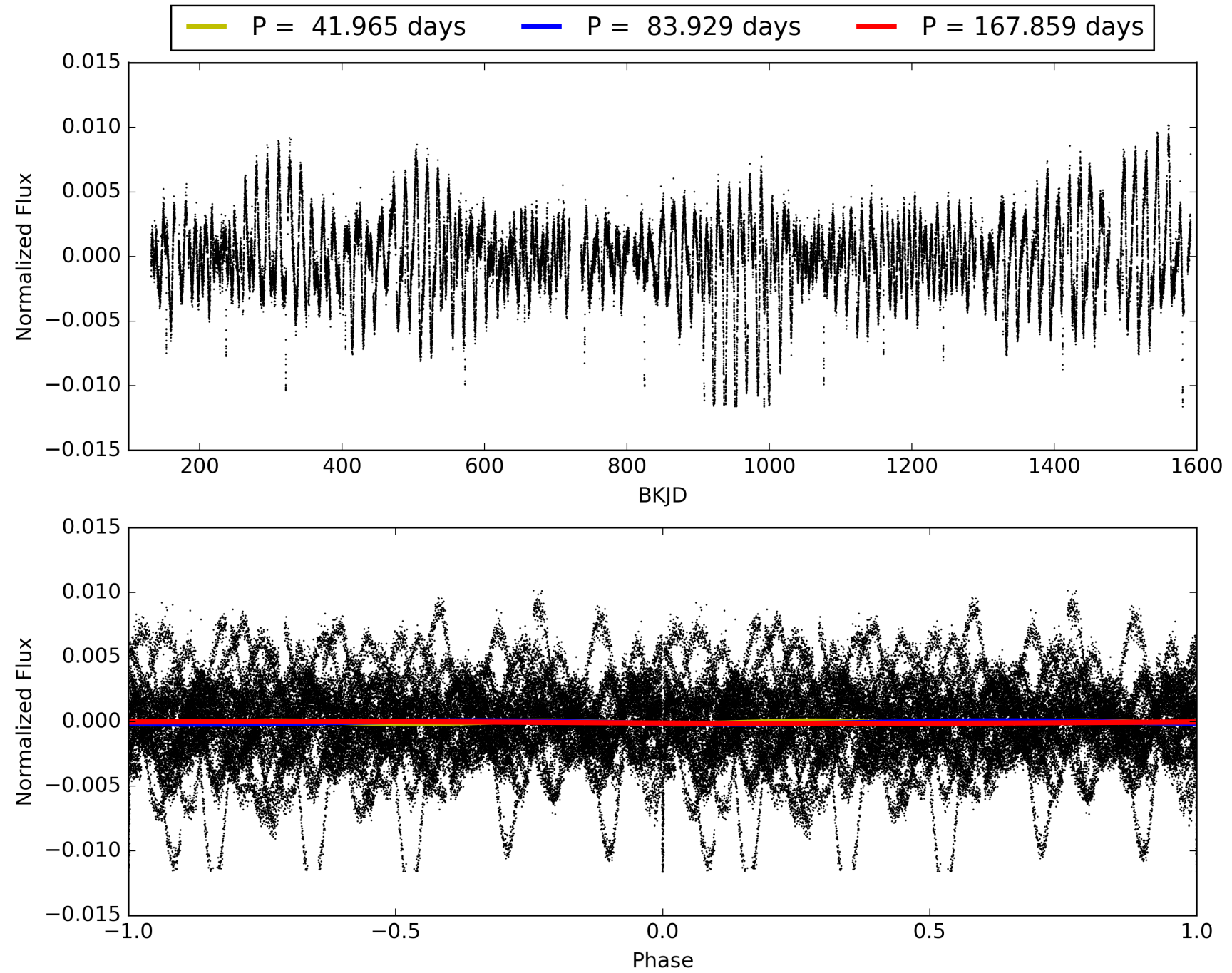
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 62.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [16/16]
GhostDiagnostic-chr: 3.764
Centroid-sig: 0.0%
Centroid-so: 0.404 arcsec [5.38 σ]
OotOffset-rm: 0.096 arcsec [1.30 σ]
KicOffset-rm: 0.178 arcsec [2.43 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008018547-01, PDC Light Curves

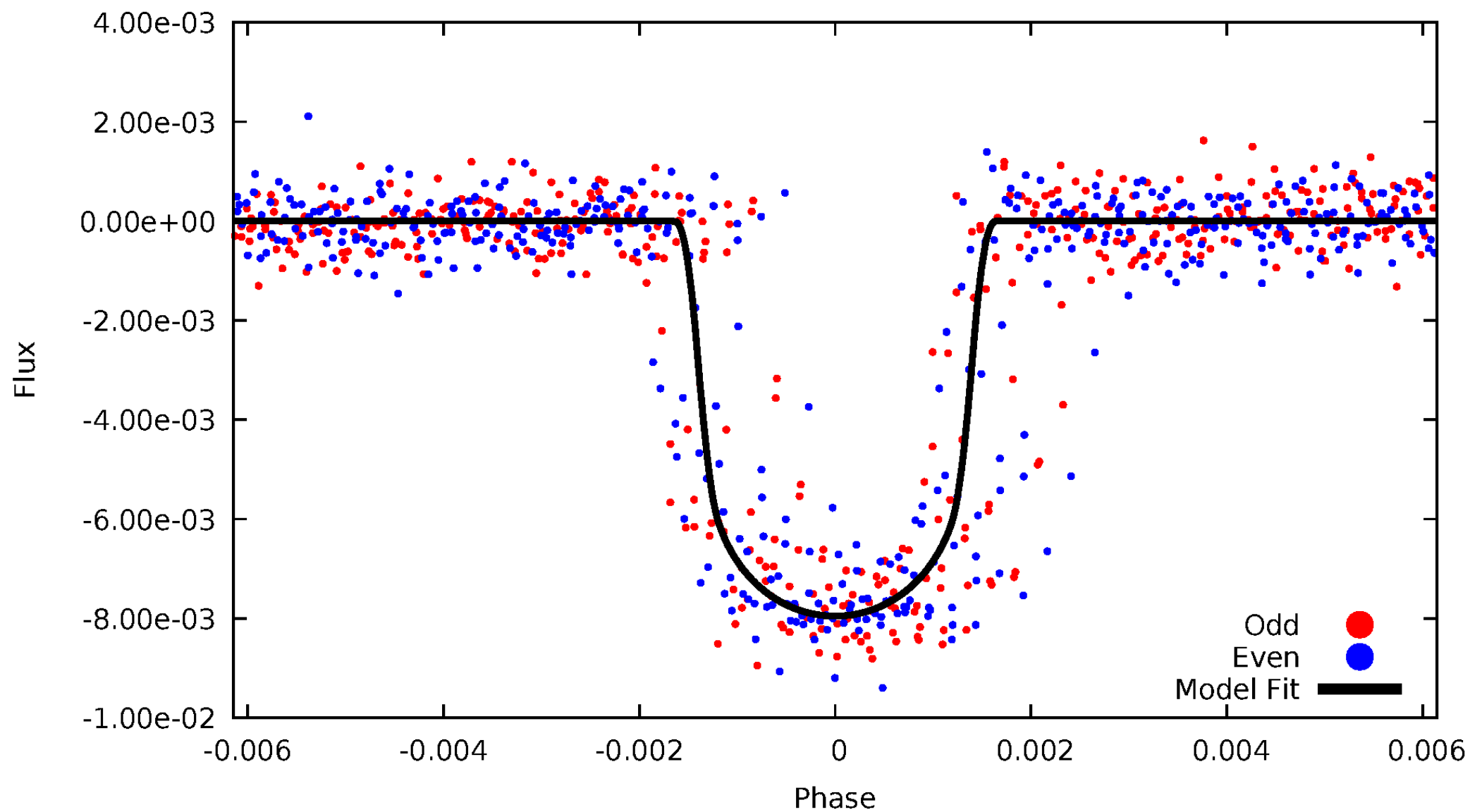


TCE 008018547-01



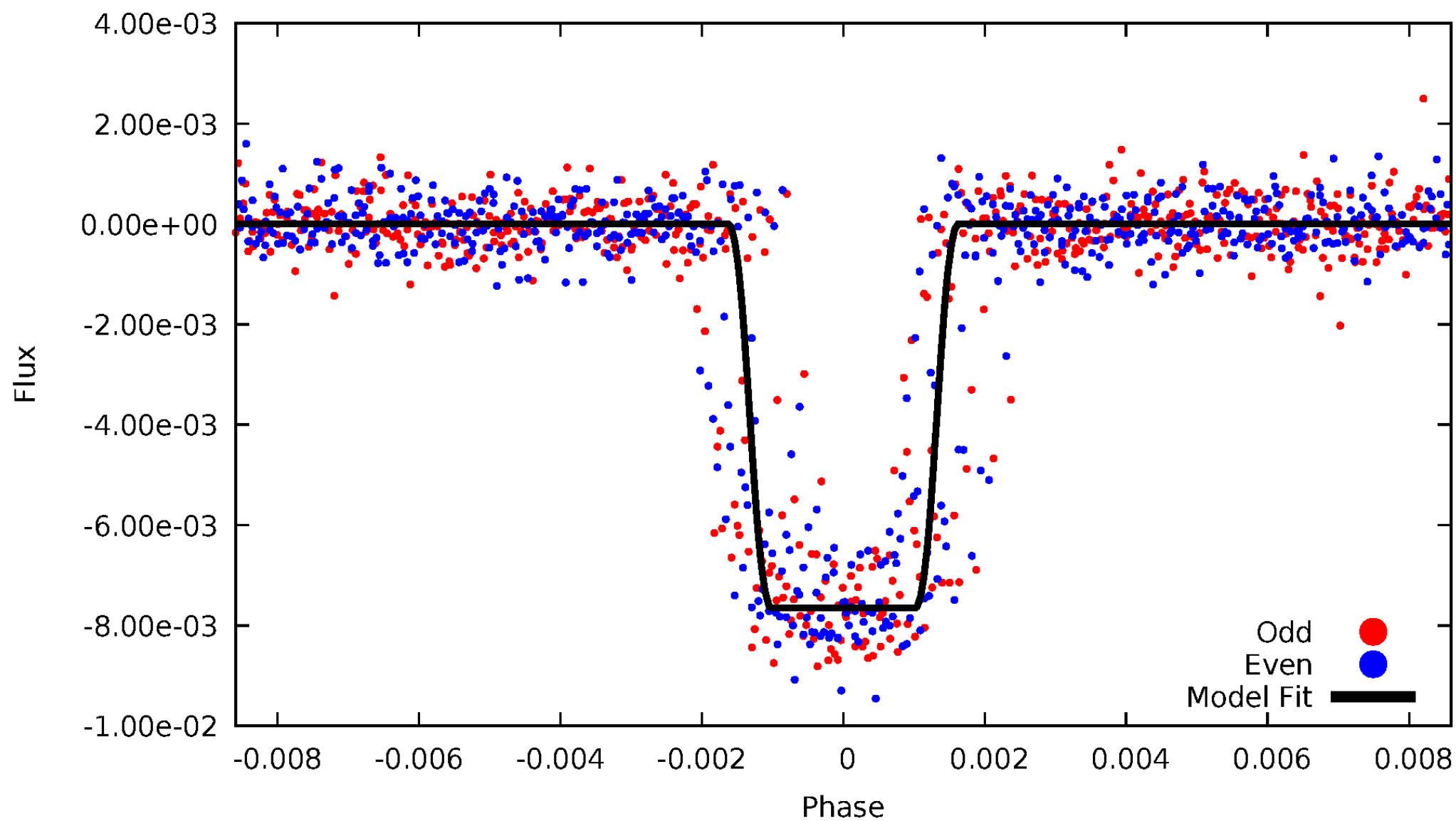
DV Odd/Even

TCE 008018547-01



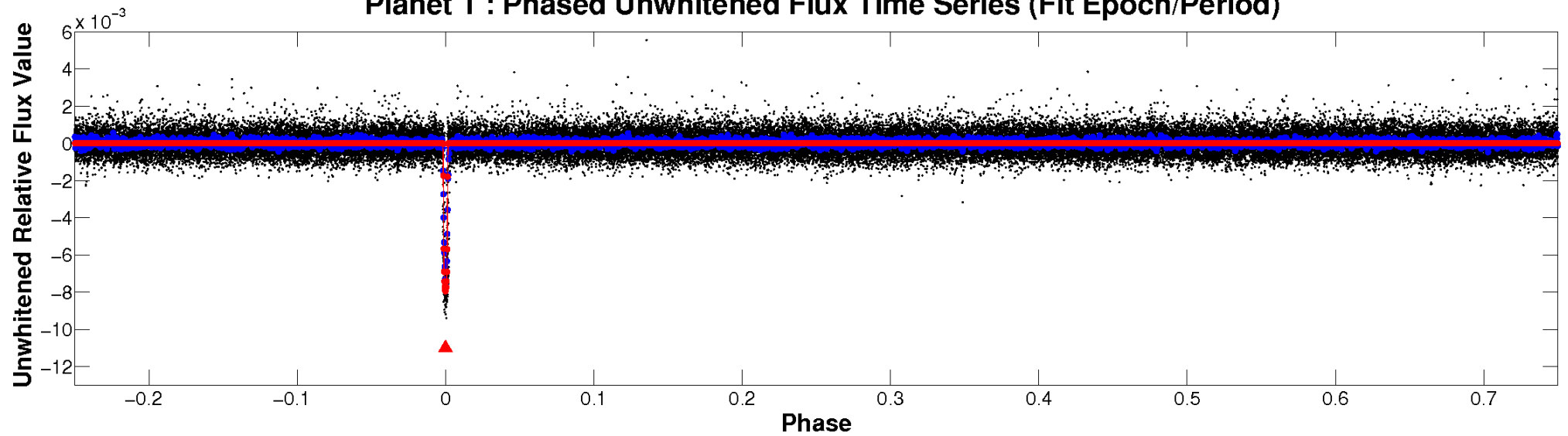
ALT Odd/Even

TCE 008018547-01

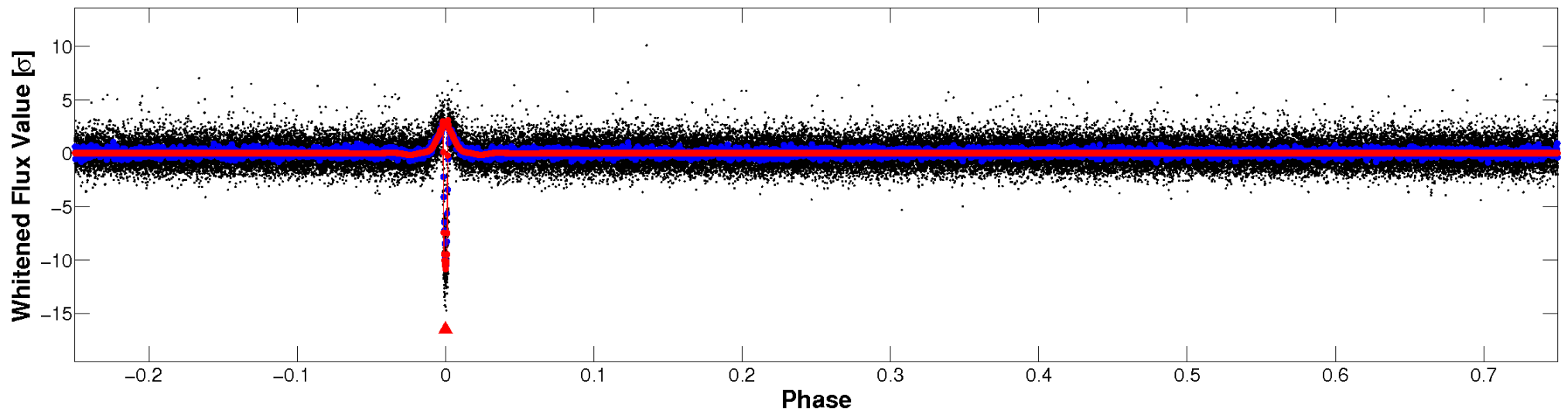


Non-Whitened Vs. Whitened Light Curve

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

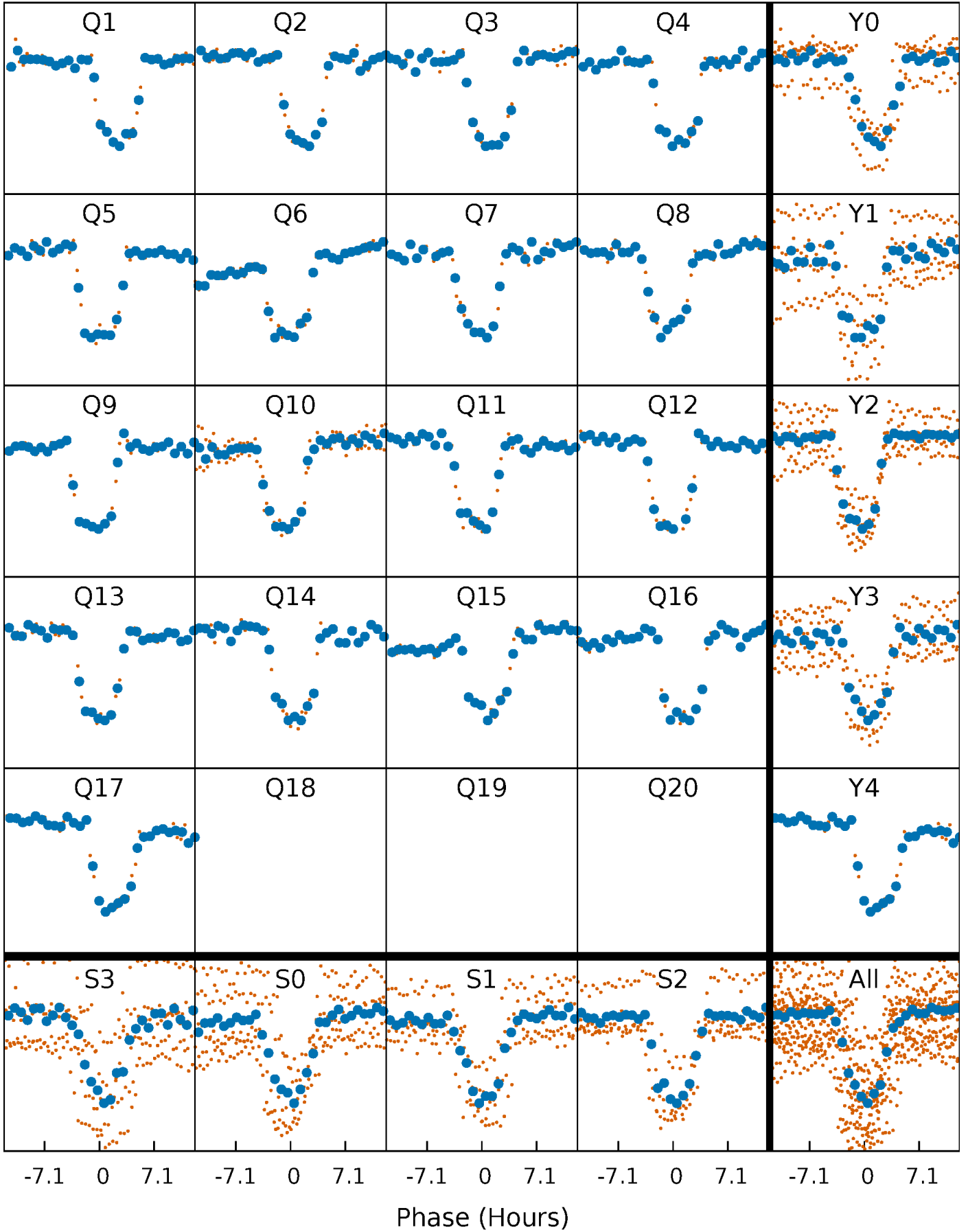


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



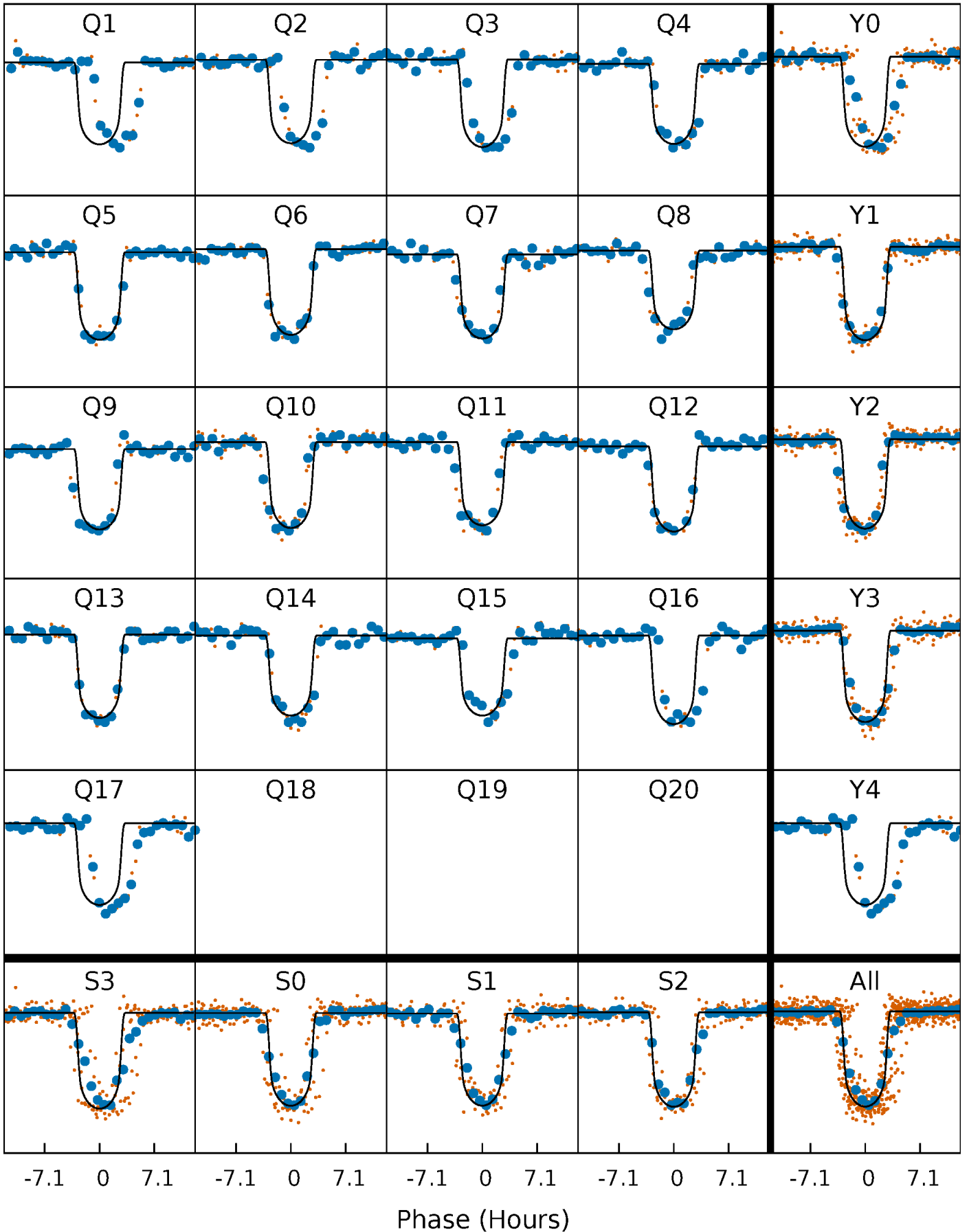
PDC Quarter-Phased Transit Curves

TCE 008018547-01 P= 83.929470 Days $T_0=152.807207$ (BKJD)



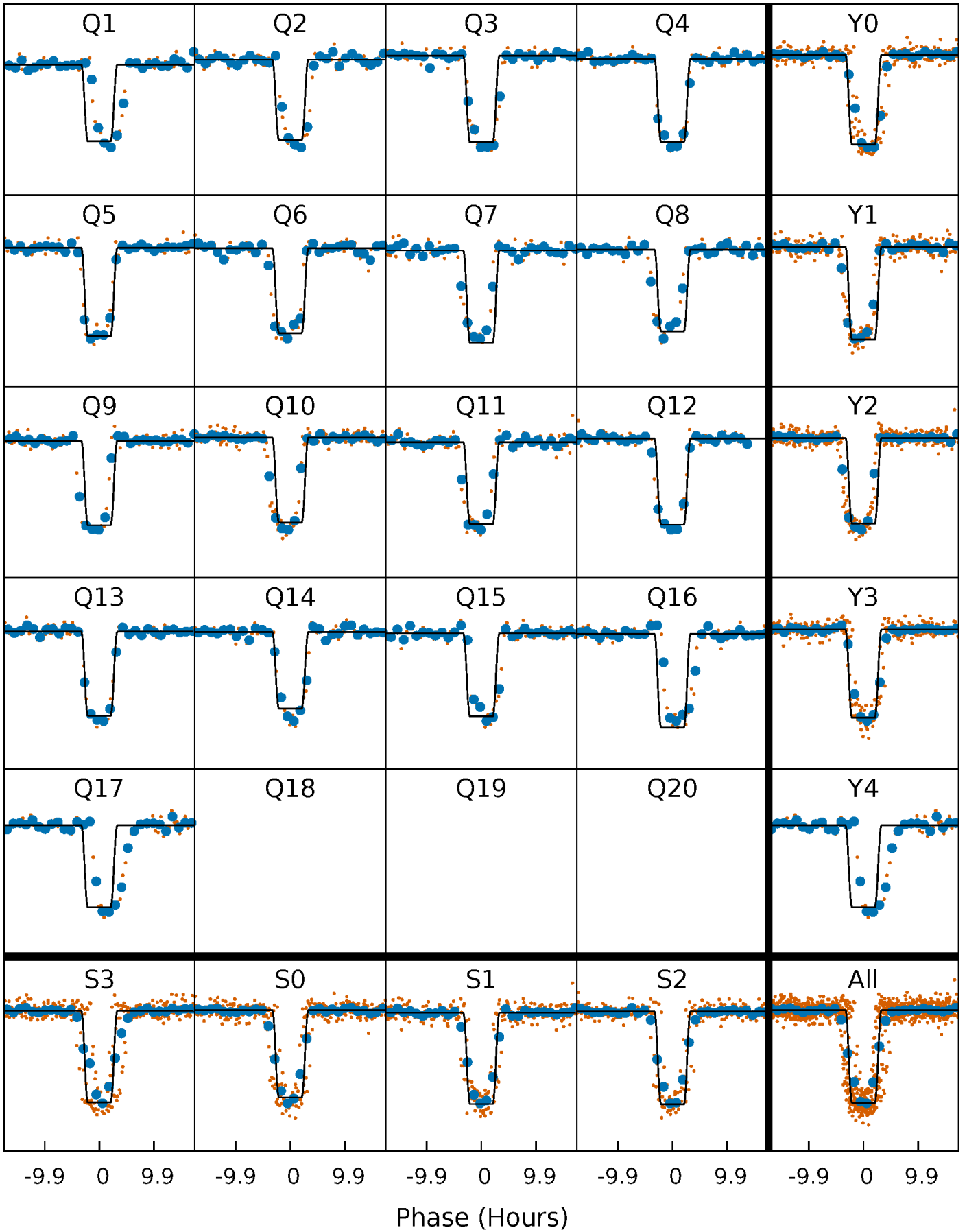
DV Quarter-Phased Transit Curves

TCE 008018547-01 P= 83.929470 Days $T_0=152.807207$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

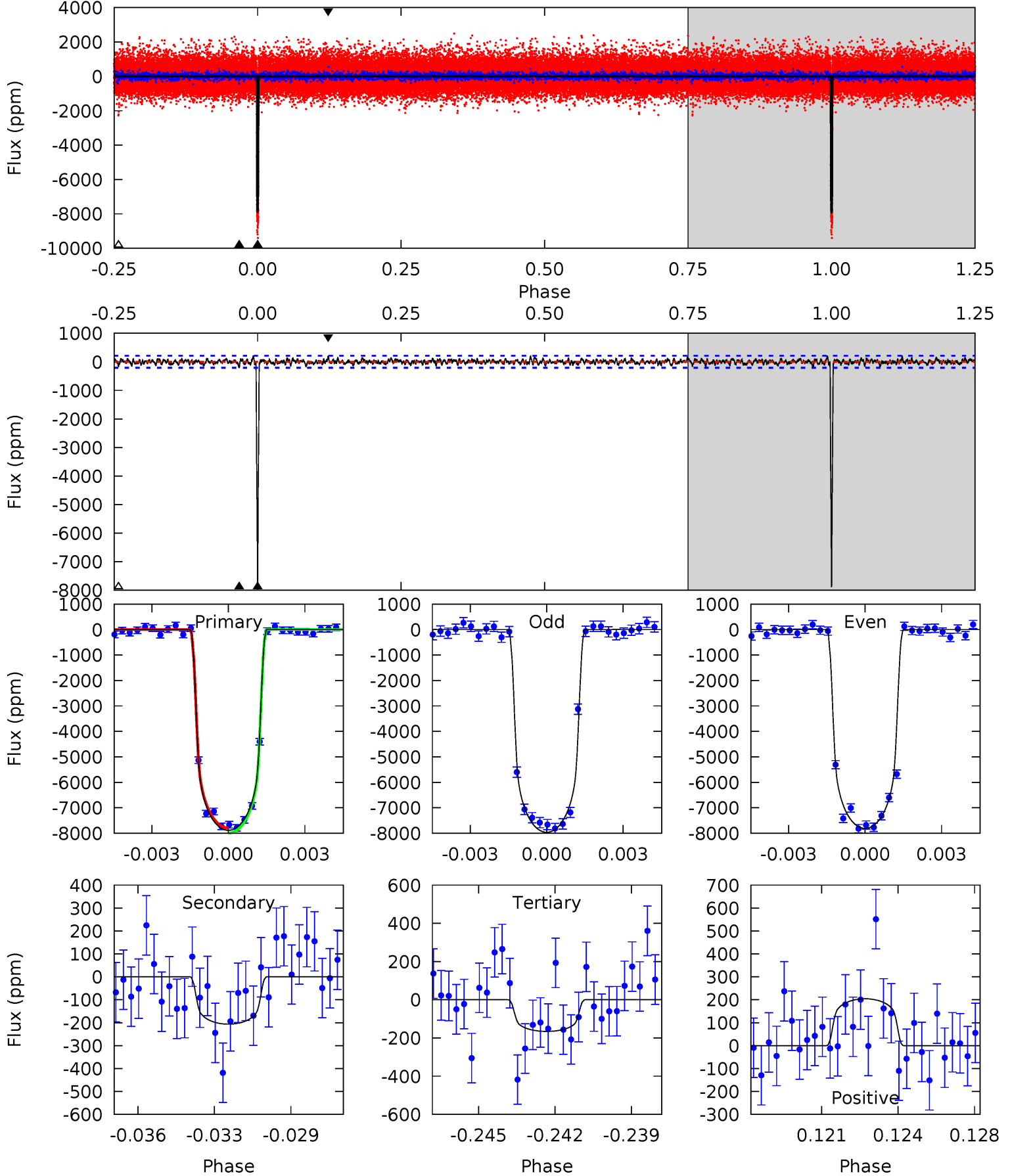
TCE 008018547-01 P= 83.927548 Days $T_0=152.836547$ (BKJD)



DV Model-Shift Uniqueness Test

008018547-01, P = 83.929470 Days, E = 68.877737 Days

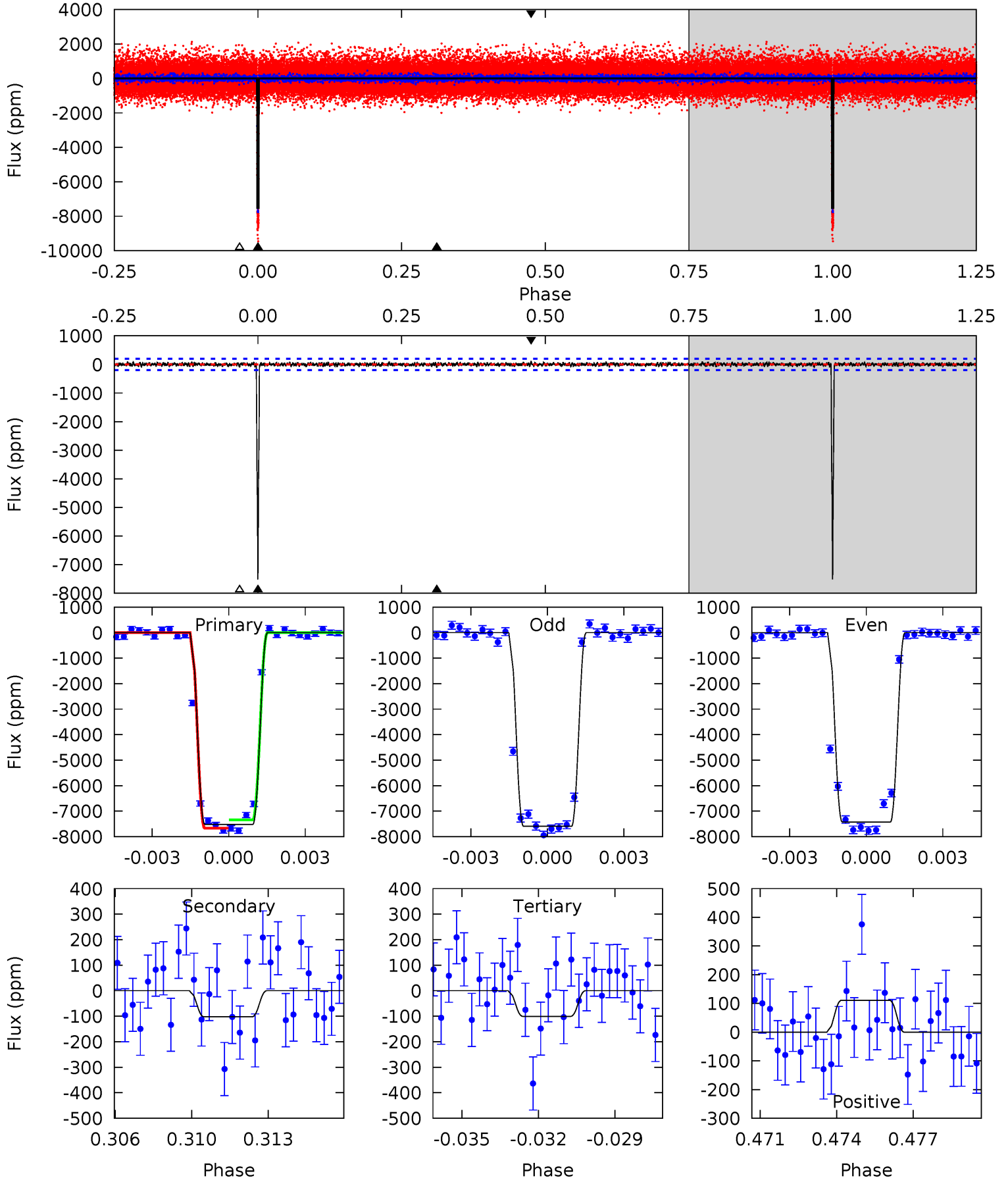
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
195.7	5.12	4.11	5.07	5.24	2.94	1.36	191.6	190.7	1.01	0.05	1.92	0.96	0.03	2.50



Alt Model-Shift Uniqueness Test

008018547-01, P = 83.927548 Days, E = 68.908999 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
196.1	2.67	2.62	2.89	5.24	2.95	0.71	193.5	193.2	0.05	-0.23	2.15	0.99	0.01	4.31



Stellar Parameters For KIC 008018547

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3960^{+118}_{-130}	$4.746^{+0.045}_{-0.040}$	$-0.360^{+0.100}_{-0.150}$	$0.509^{+0.036}_{-0.050}$	$0.526^{+0.034}_{-0.046}$	$5.627^{+1.271}_{-0.865}$
	+3%/-3%	+1%/-1%	+28%/-42%	+7%/-10%	+6%/-9%	+23%/-15%
Source	SPE5	SPE5	SPE5	DSEP		

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

Secondary Eclipse Parameters for KIC 008018547-01 / KOI 0902.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-206 ± 40	$4.53^{+0.21}_{-0.23}$	316^{+11}_{-12}	2408^{+68}_{-73}	510^{+111}_{-101}
Alt.	-102 ± 38	$4.87^{+0.23}_{-0.24}$	316^{+11}_{-12}	2185^{+96}_{-118}	218^{+94}_{-85}

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 $A_{\text{obs}} \gg 1.0$

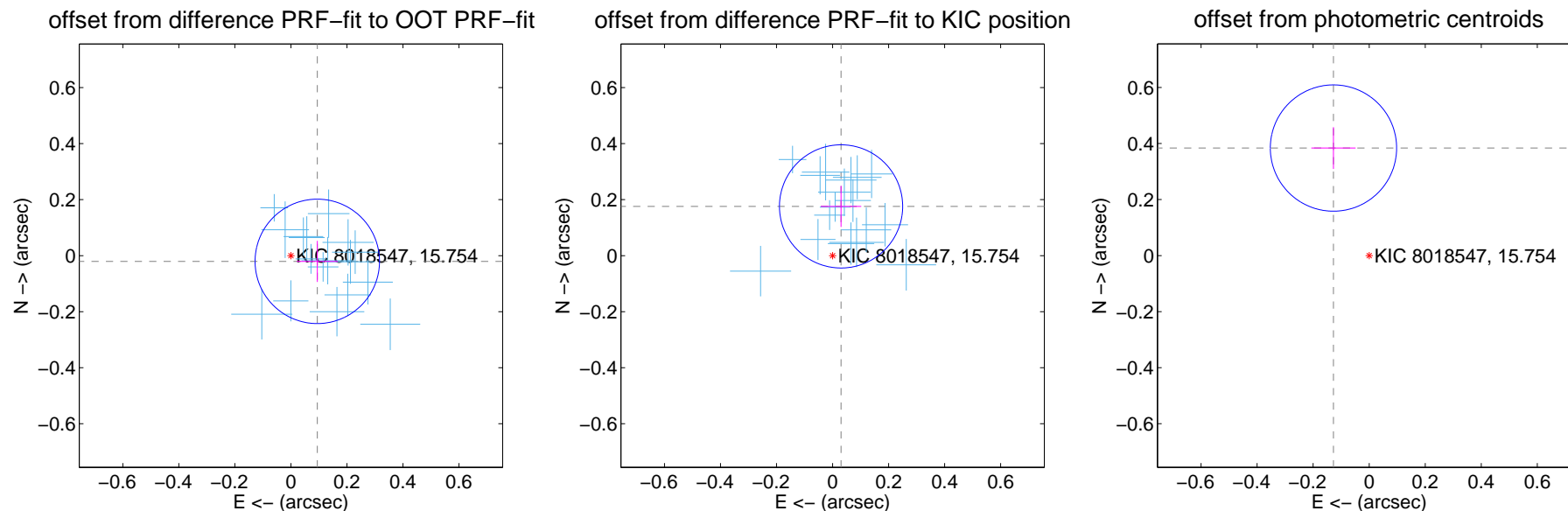
DV Centroid Data

Supplemental centroid analysis for 008018547-01. Kepler magnitude: 15.75. Transit SNR 126.11

There are 17 quarters with good PRF difference image offsets

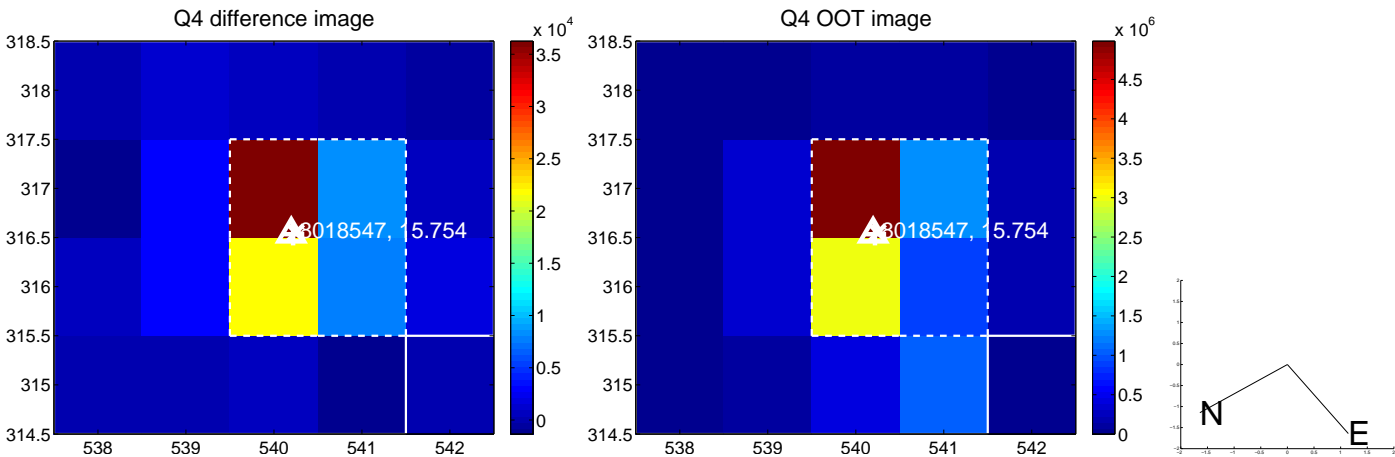
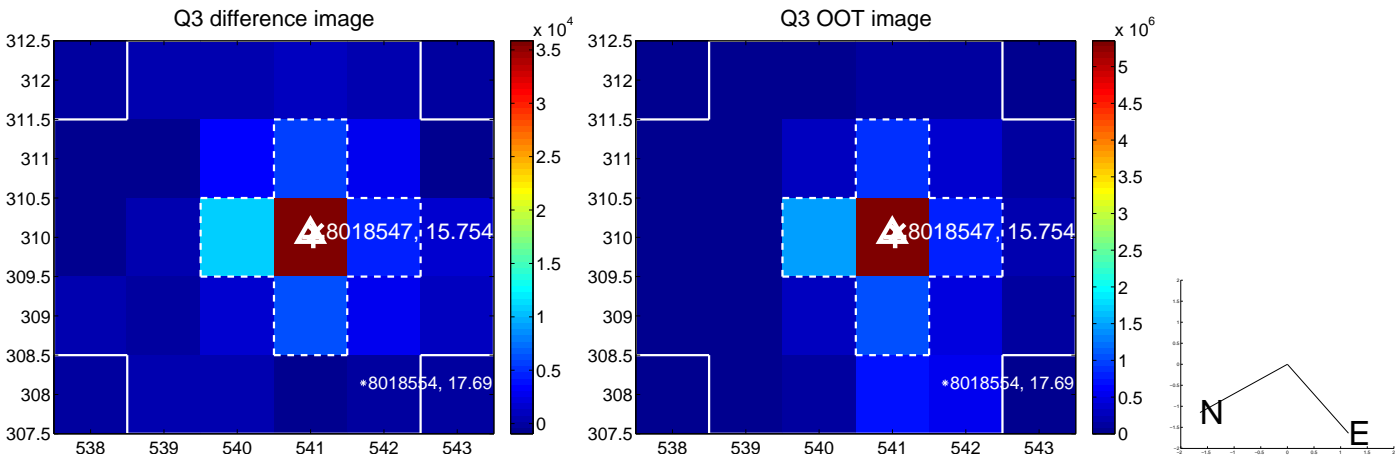
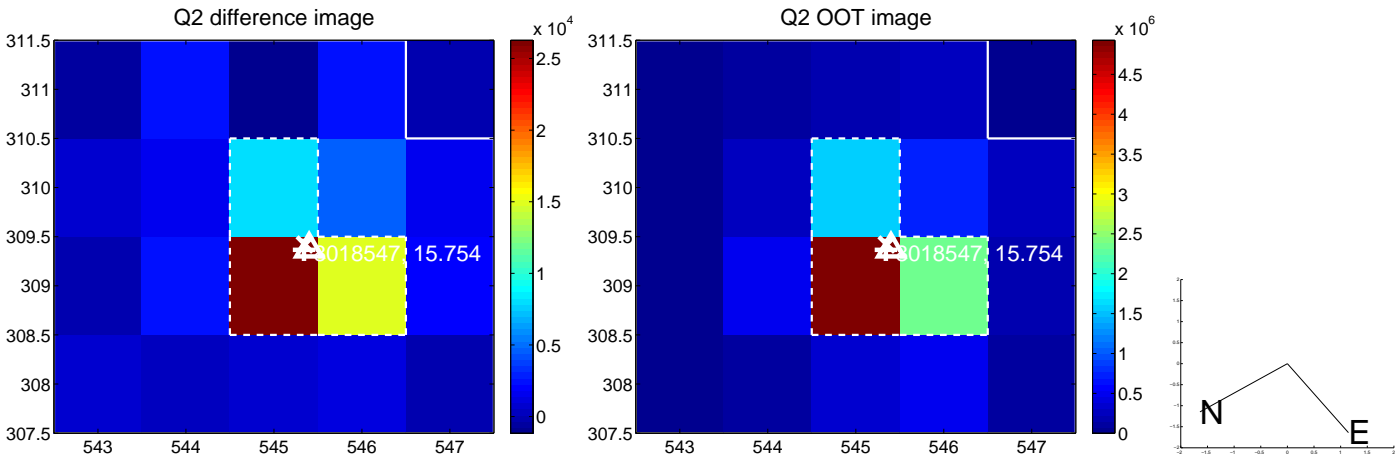
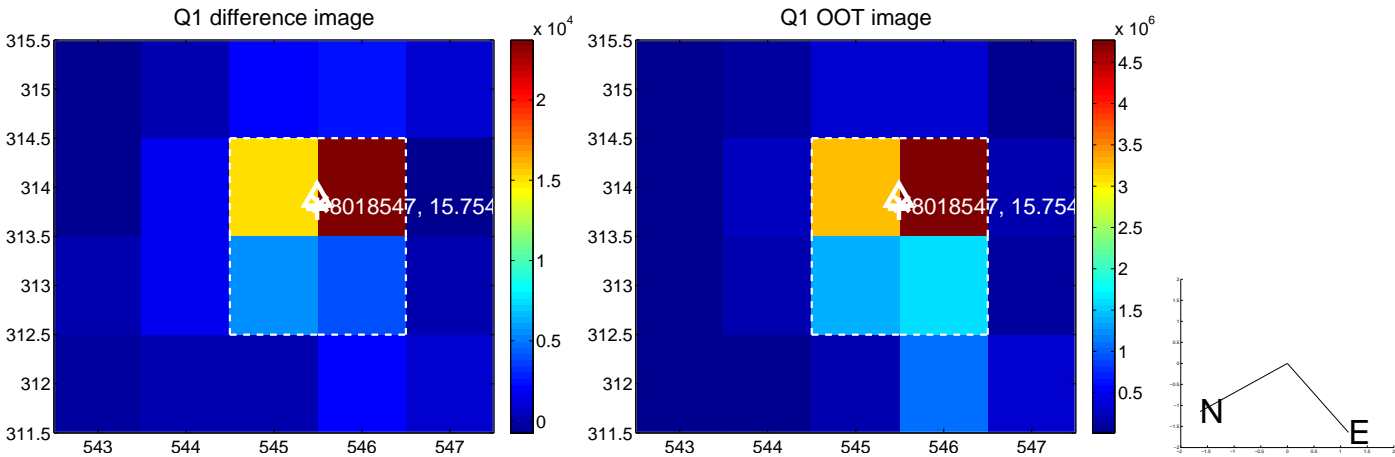
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.096 ± 0.074	1.30	-0.094 ± 0.073	-0.020 ± 0.073
PRF-fit source offset from KIC position	0.178 ± 0.073	2.43	-0.030 ± 0.072	0.176 ± 0.073
photometric centroid source offset	0.40 ± 0.08	5.38	0.13 ± 0.08	0.38 ± 0.07

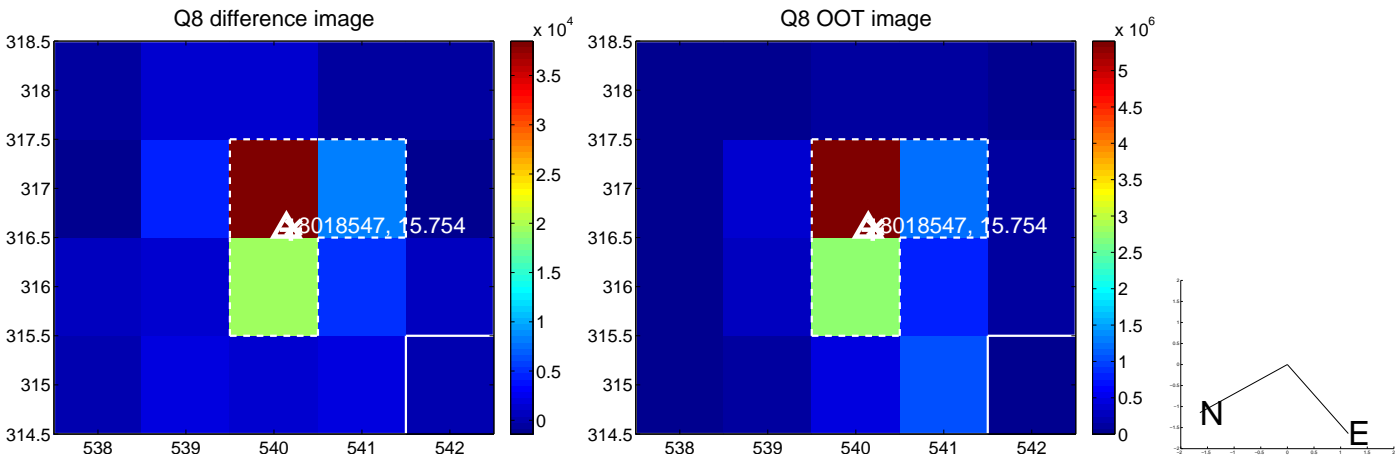
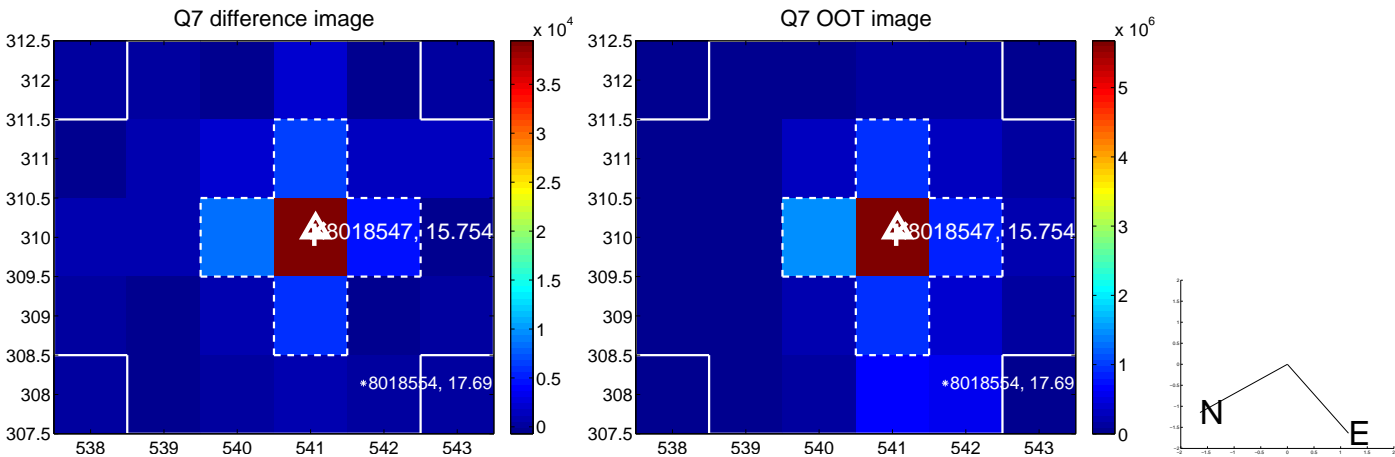
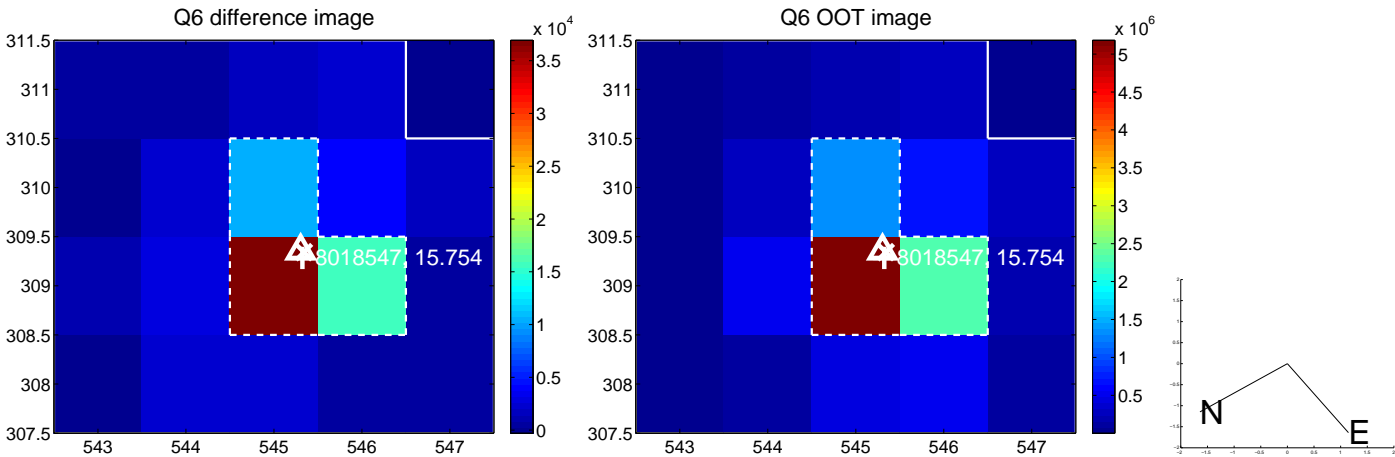
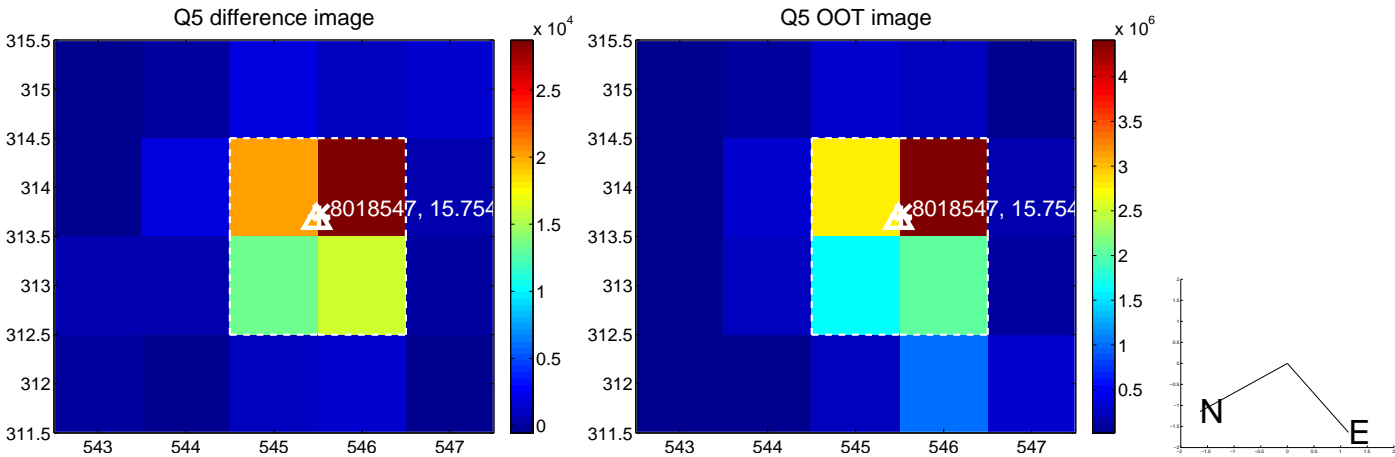


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

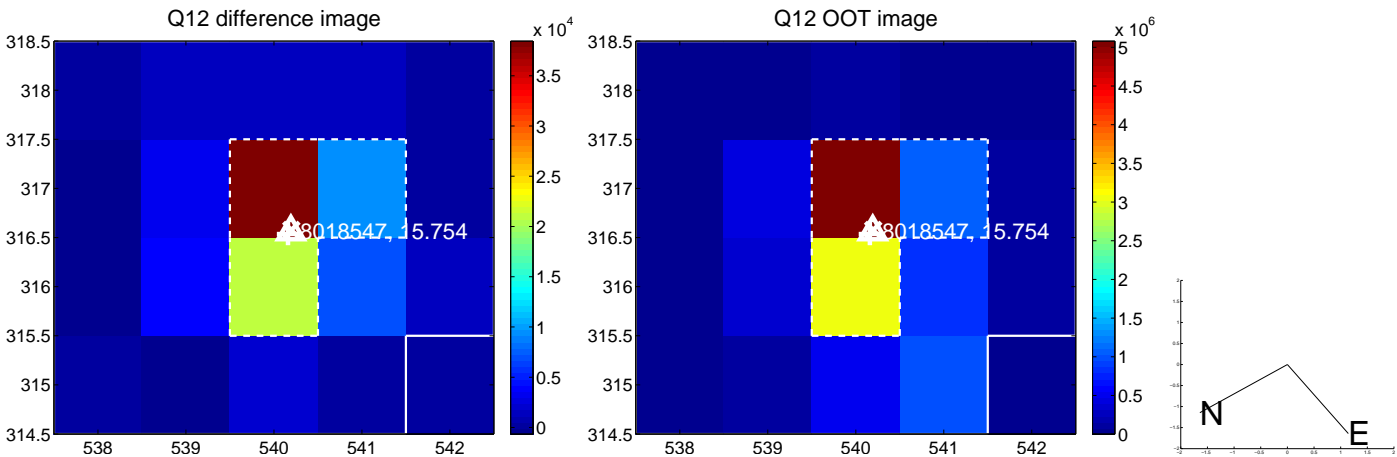
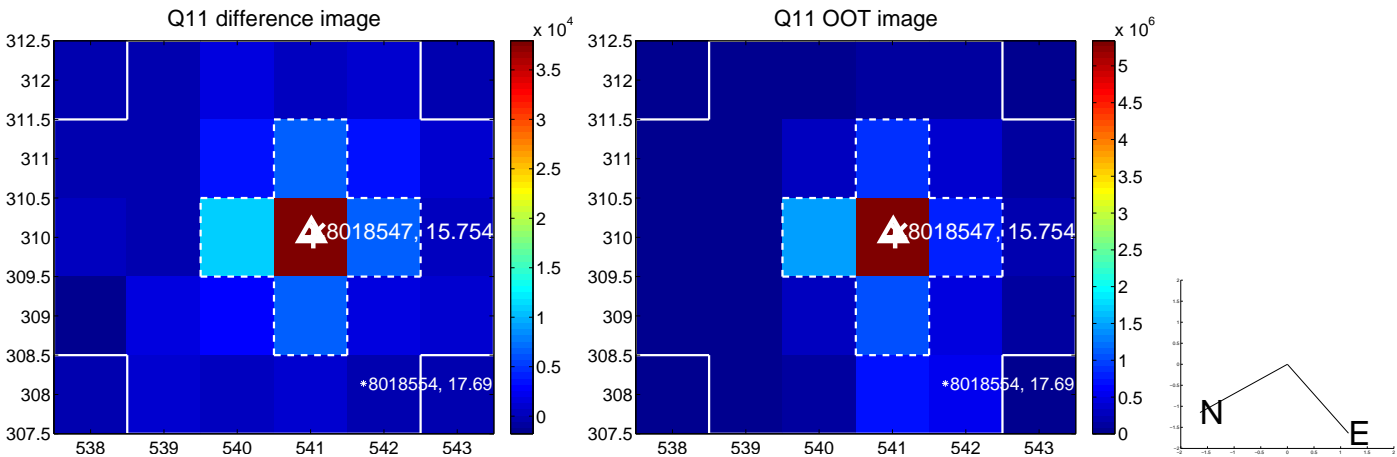
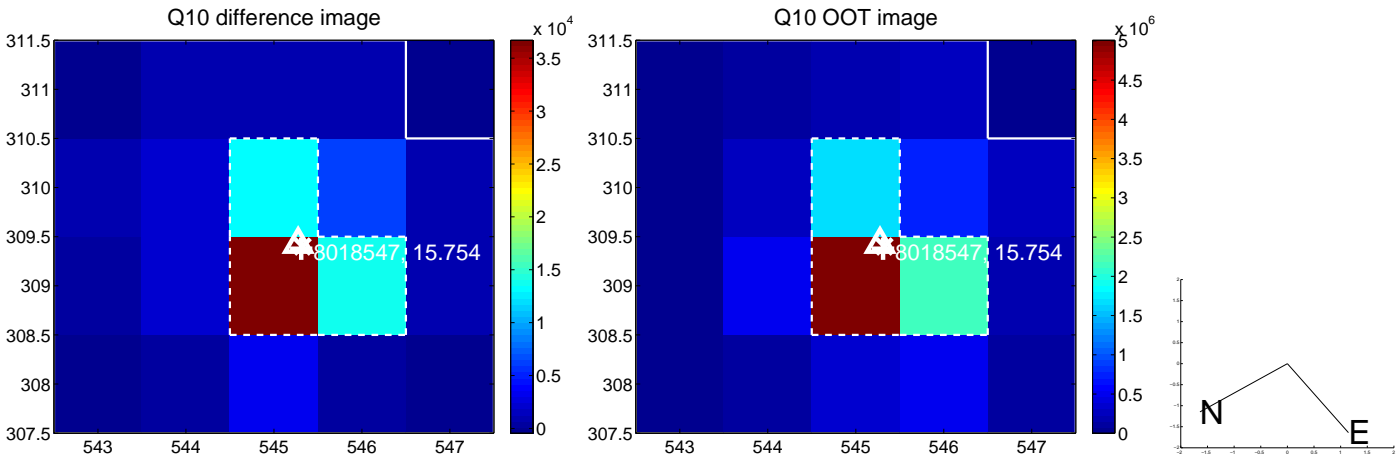
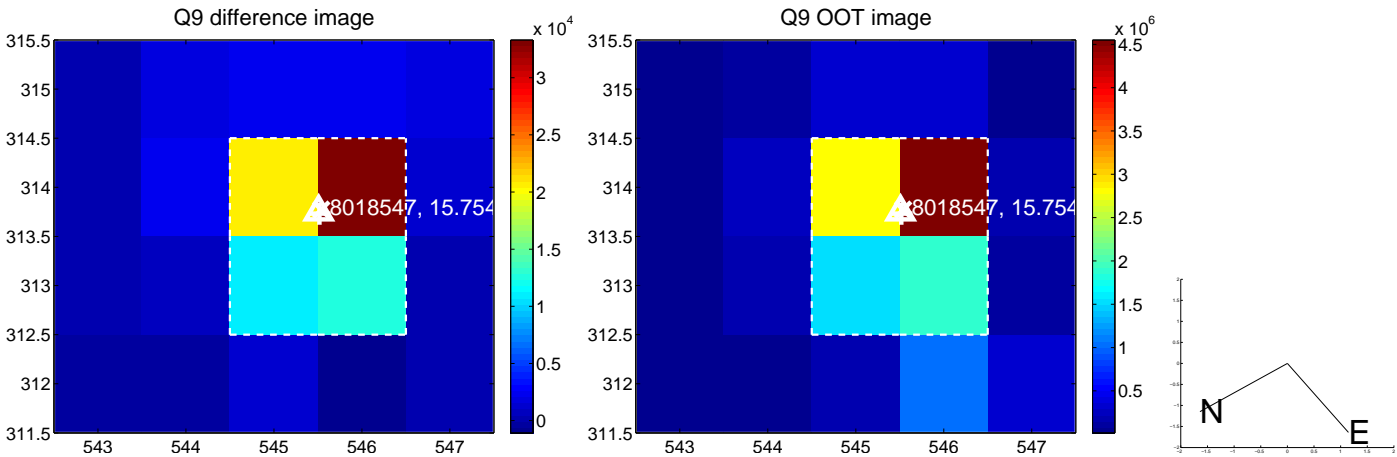
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



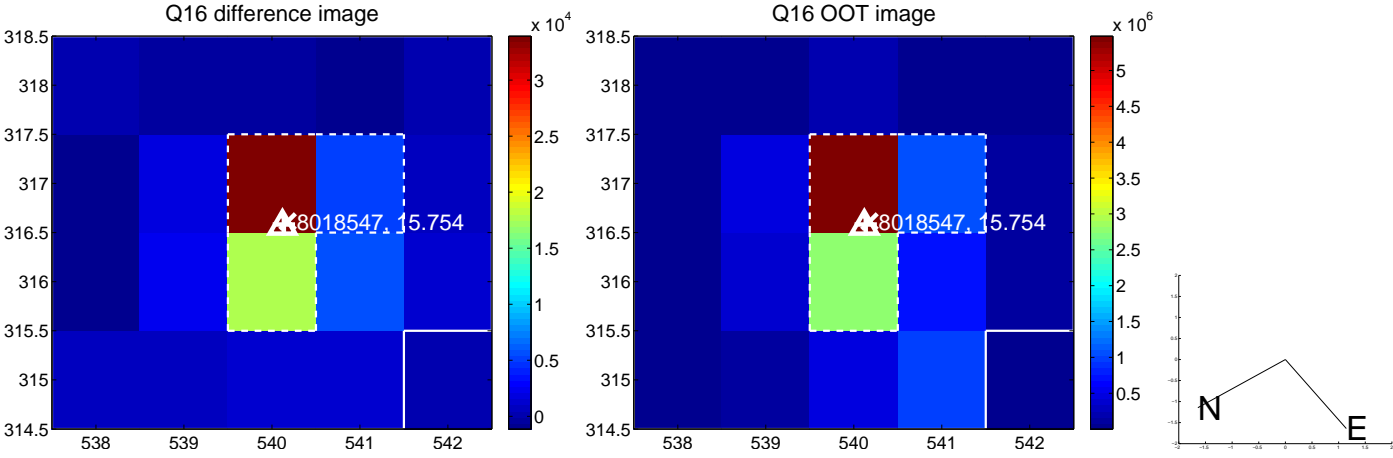
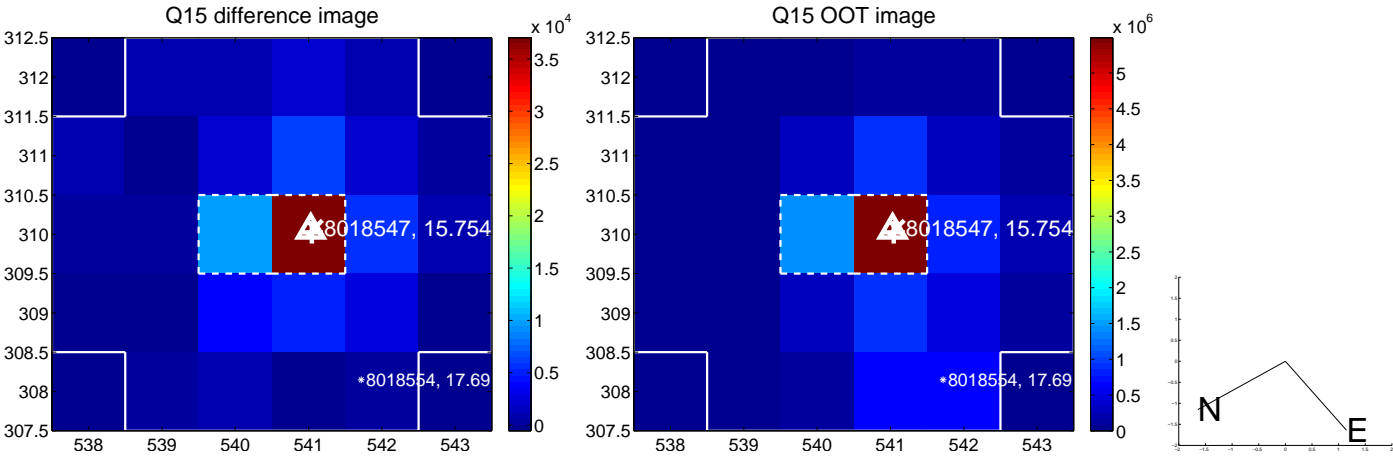
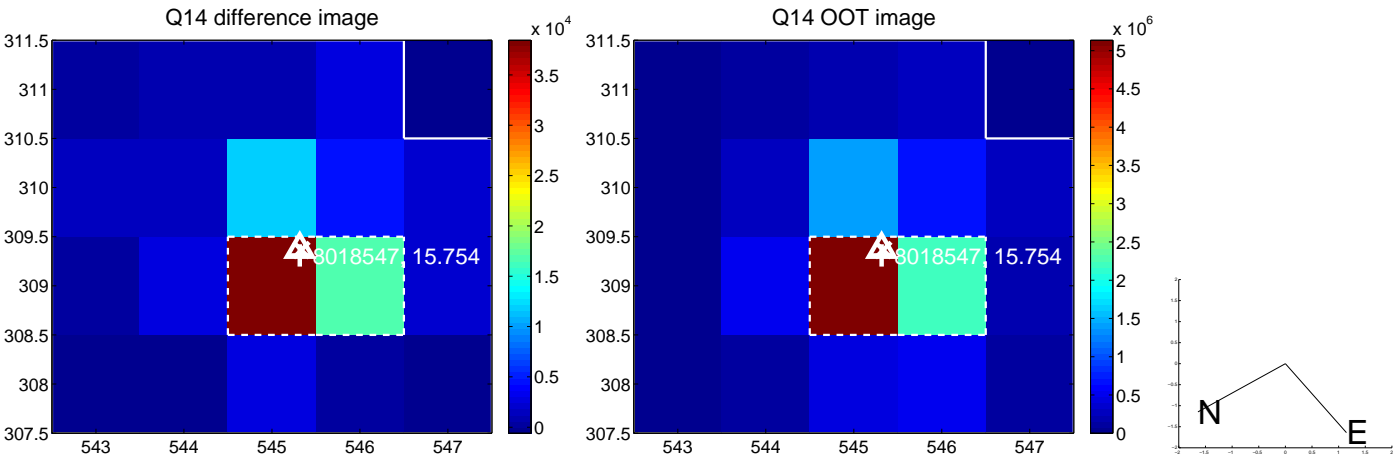
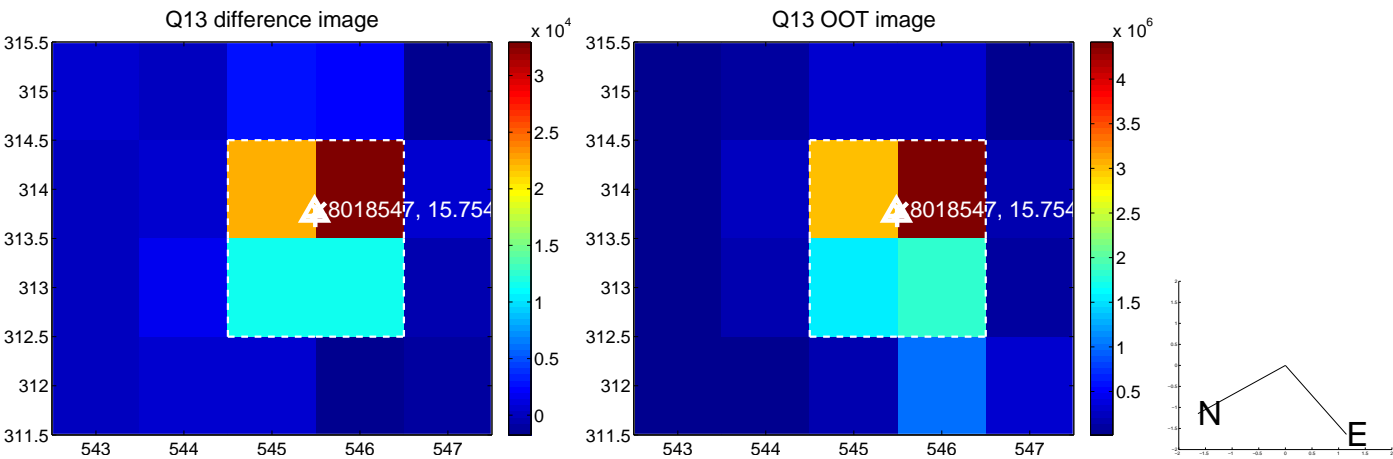
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



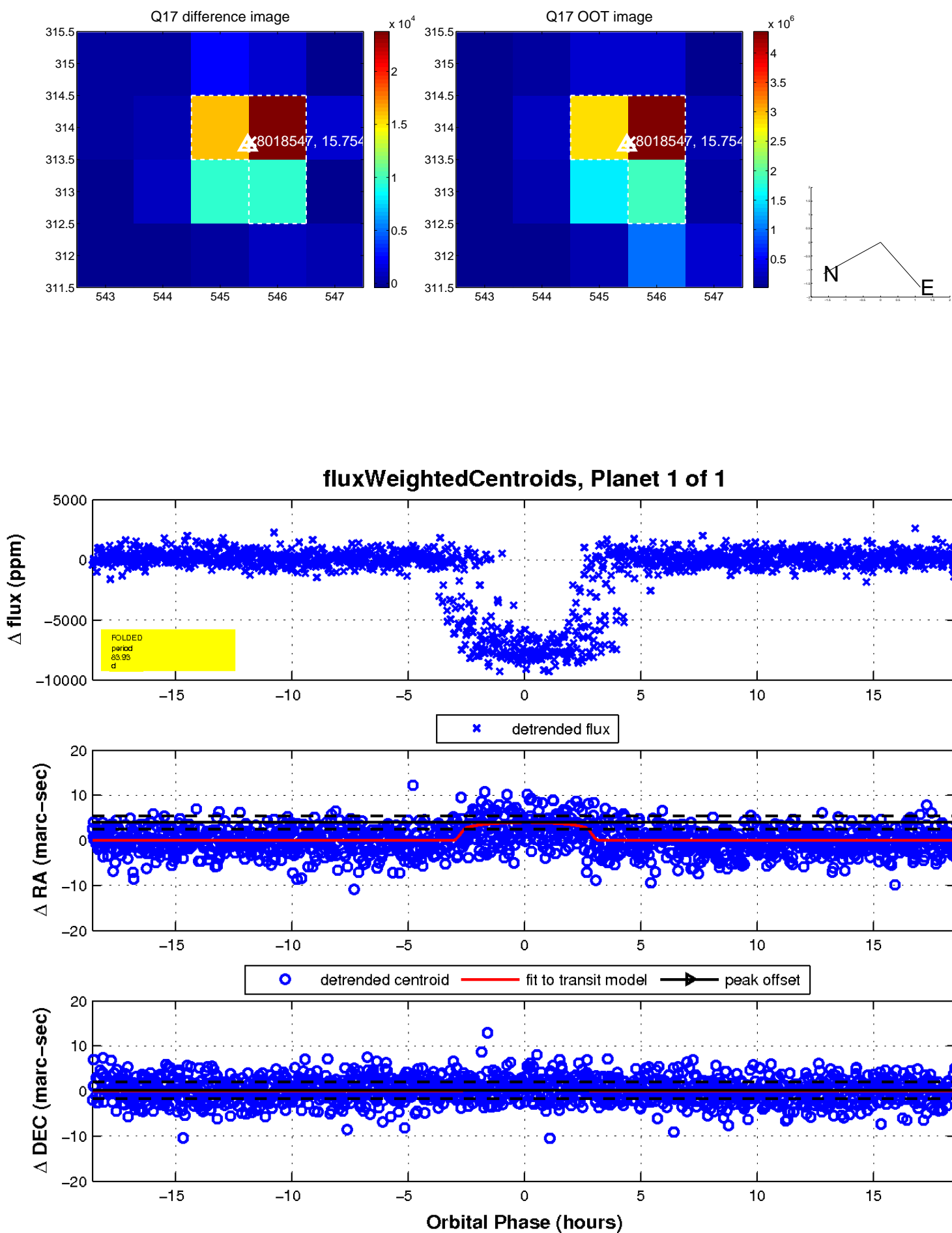
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

