

KIC 004150497

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})
004150497-01	OBS	No	26.810695	134.938992	159.3	68.425	9.4	15.2	1.05	5798	1.77	42.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004150497-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

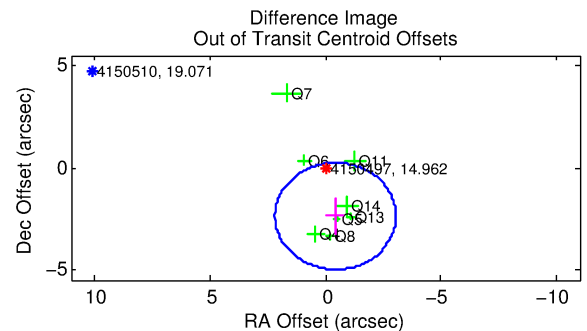
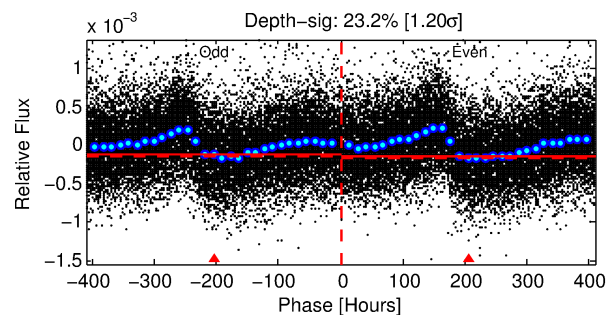
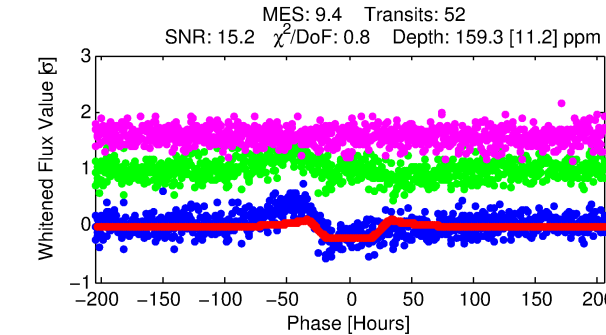
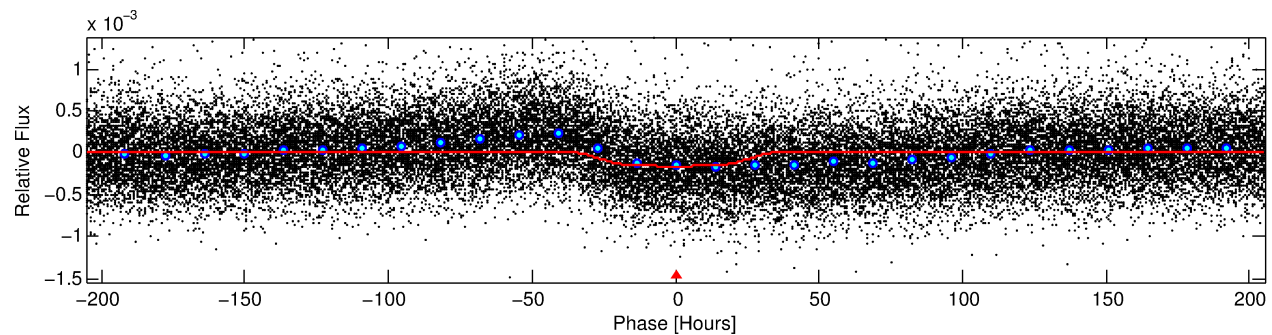
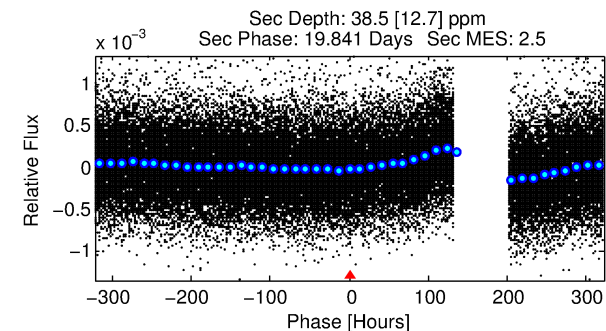
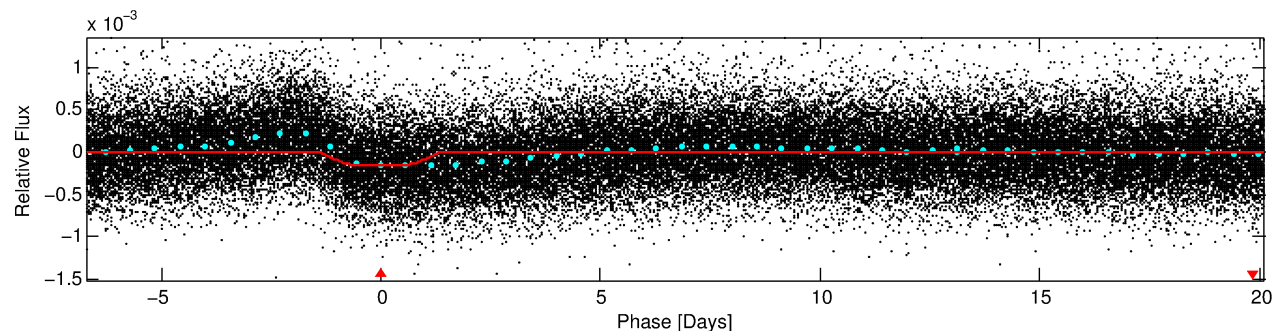
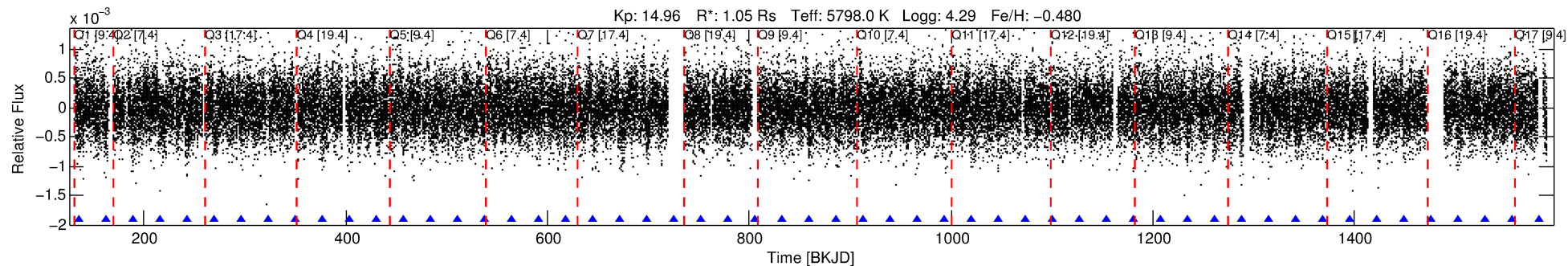
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004150497-01

No Significant Match Found

DV One-Page Summary

KIC: 4150497 Candidate: 1 of 1 Period: 26.811 d



DV Fit Results:

Period = 26.81070 [0.00232] d
Epoch = 134.9390 [0.0708] BKJD
Rp/R* = 0.0154 [0.0007]
a/R* = 1.30 [0.05]
b = 0.98 [0.01]
Seff = 42.42 [18.92]
Teff = 651 [73] K
Rp = 1.77 [0.54] Re
a = 0.1625 [0.0450] AU
Ag = 178.47 [97.72] [1.82 σ]
Teffp = 3678 [332] K [8.92 σ]

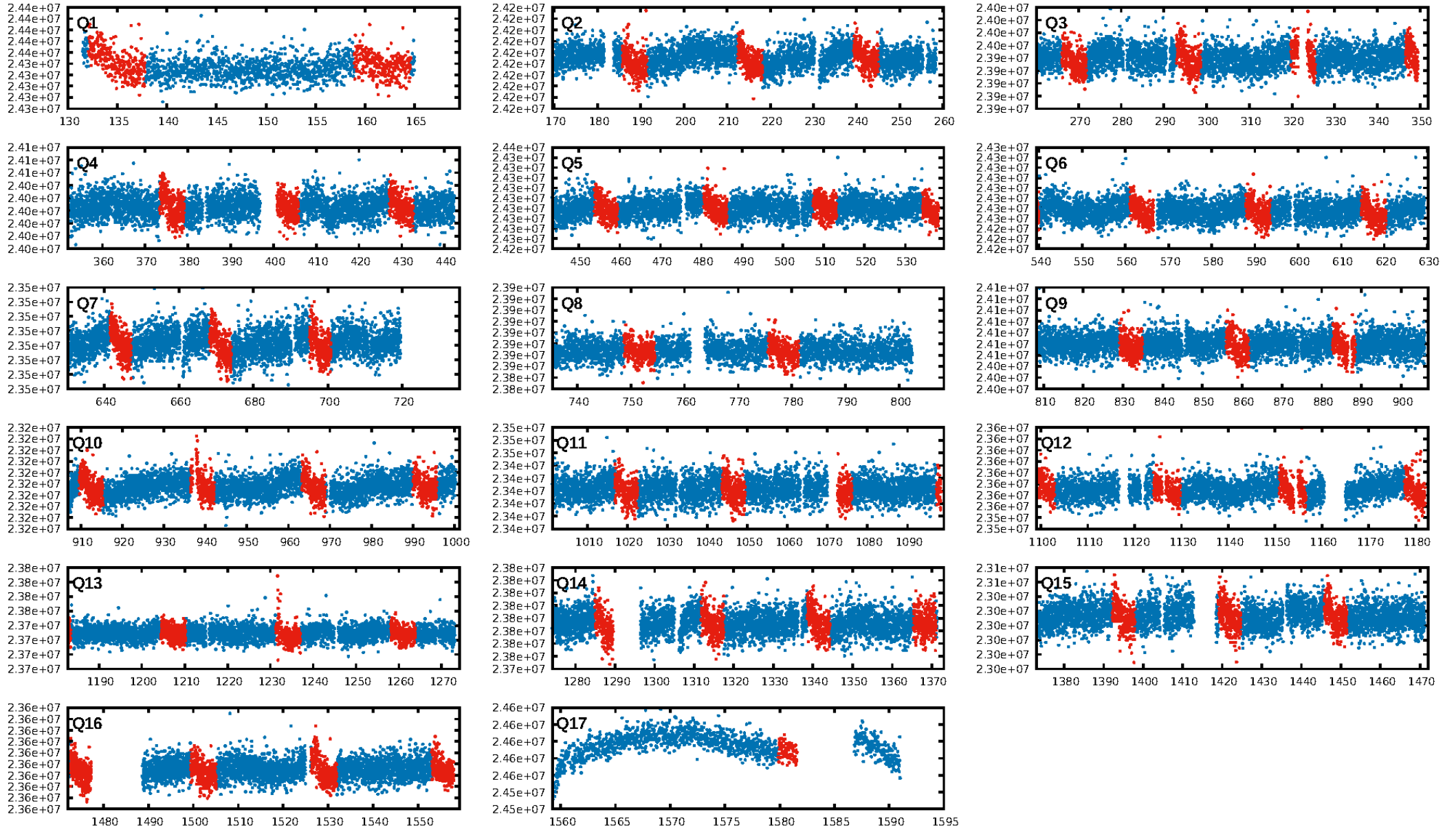
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 29.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.30e-20
RollingBand-fgt: 1.00 [49/49]
GhostDiagnostic-chr: 1.156
Centroid-sig: 9.8%
Centroid-so: 0.703 arcsec [1.42 σ]
OotOffset-rm: 2.413 arcsec [2.77 σ]
KicOffset-rm: 2.286 arcsec [2.98 σ]
OotOffset-st: 2/2/2/2 [8]
KicOffset-st: 2/2/2/2 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 1.00 [11/11]

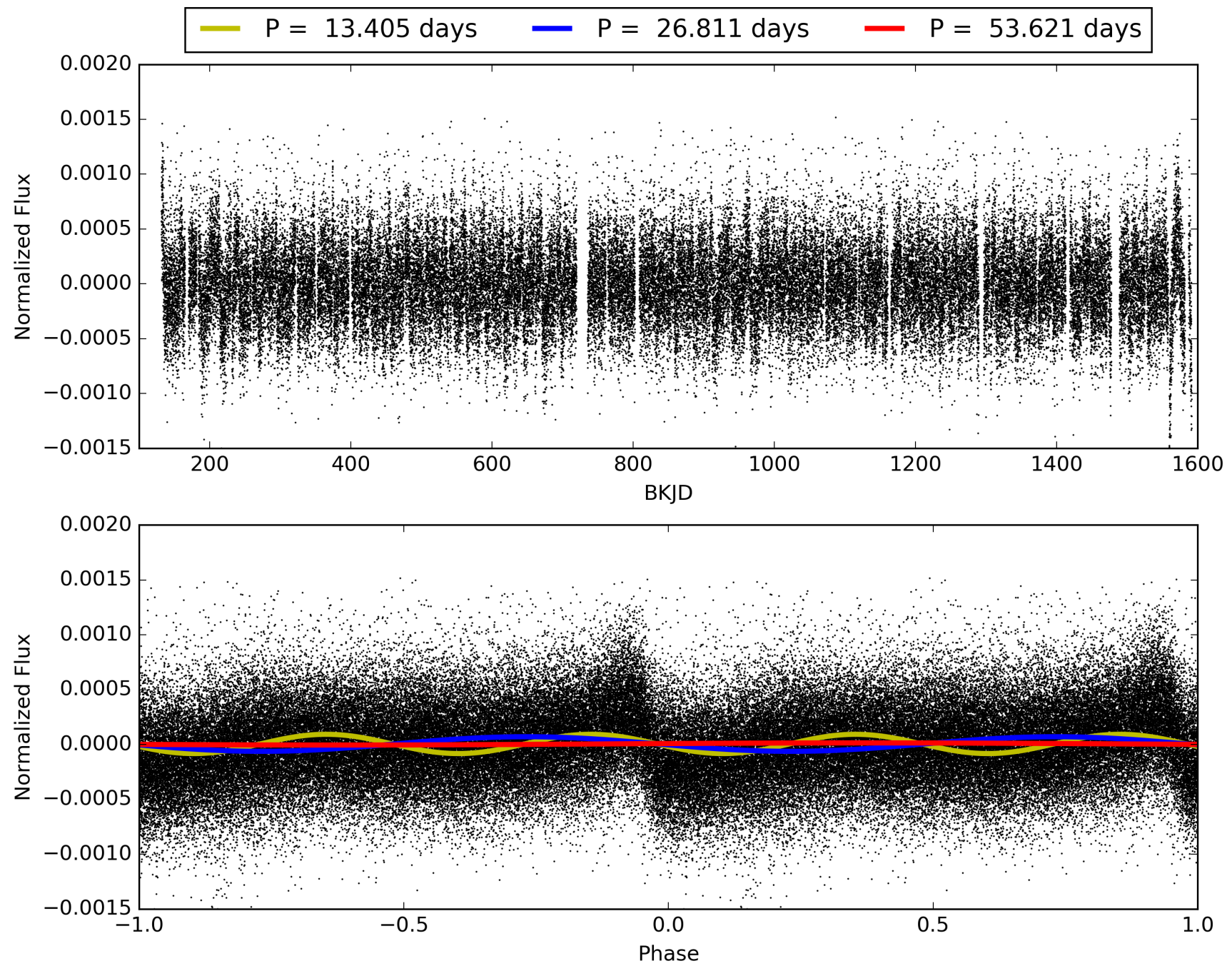
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 18:05:05 Z

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

TCE 004150497-01, PDC Light Curves

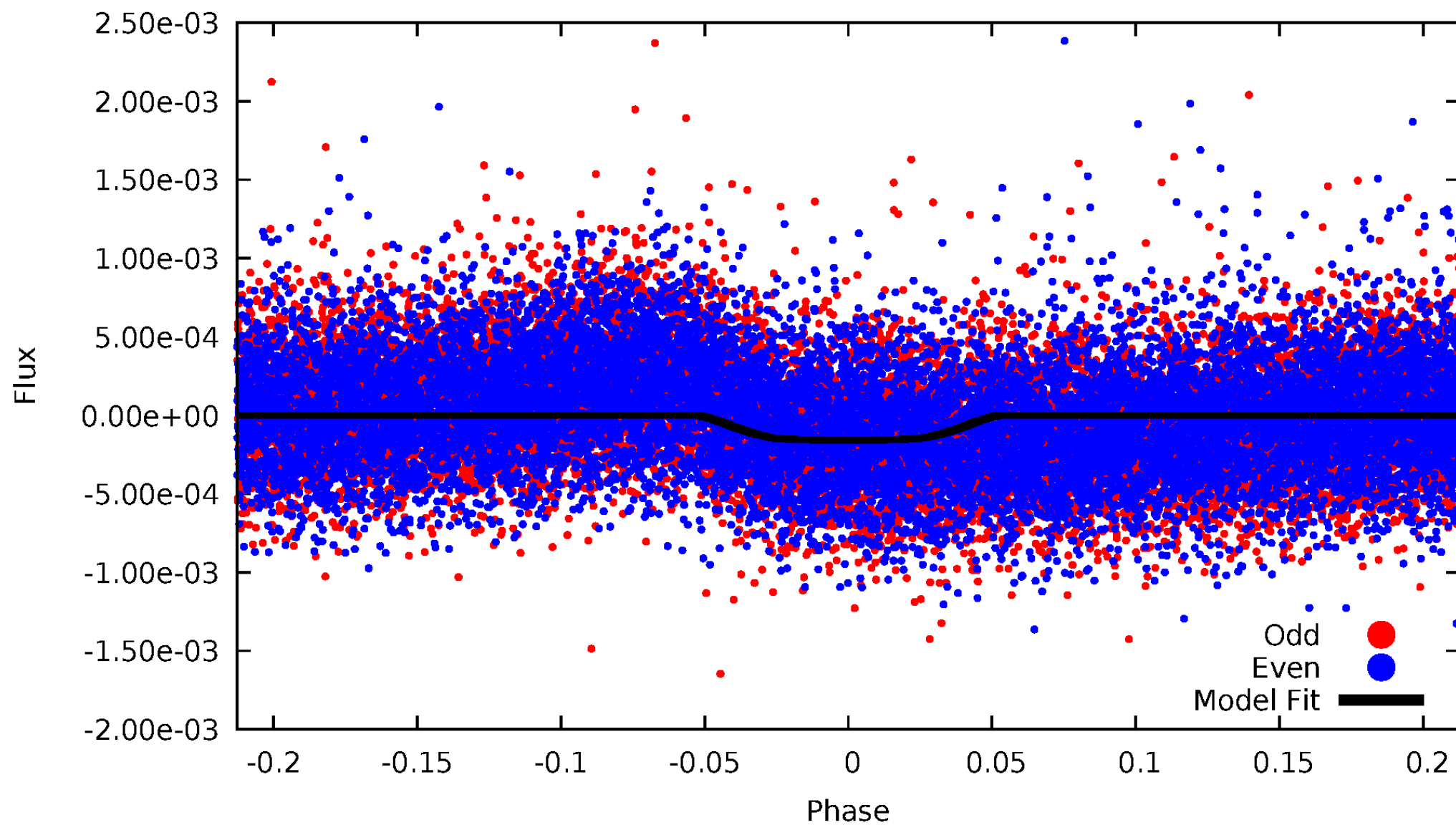


TCE 004150497-01



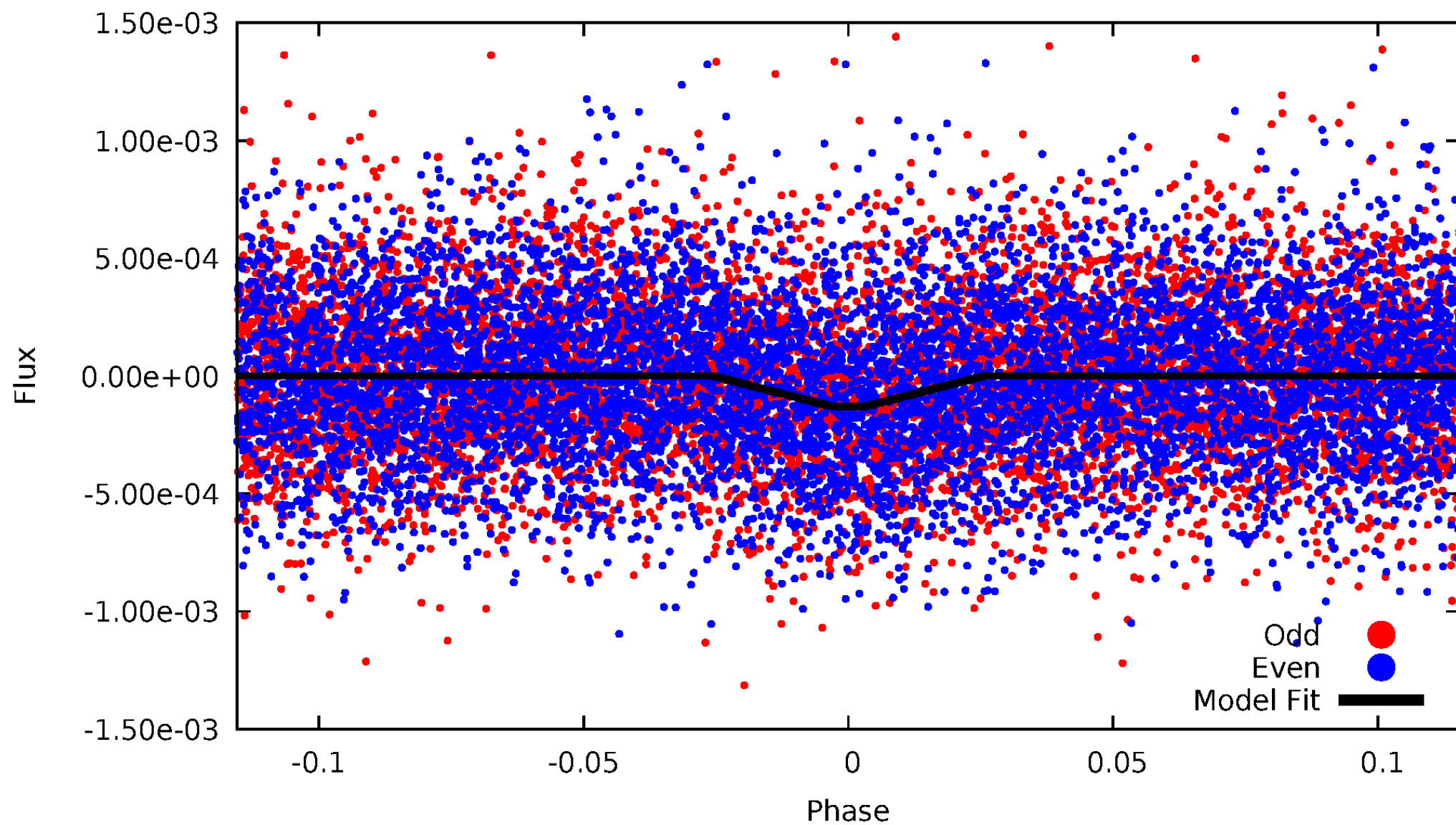
DV Odd/Even

TCE 004150497-01



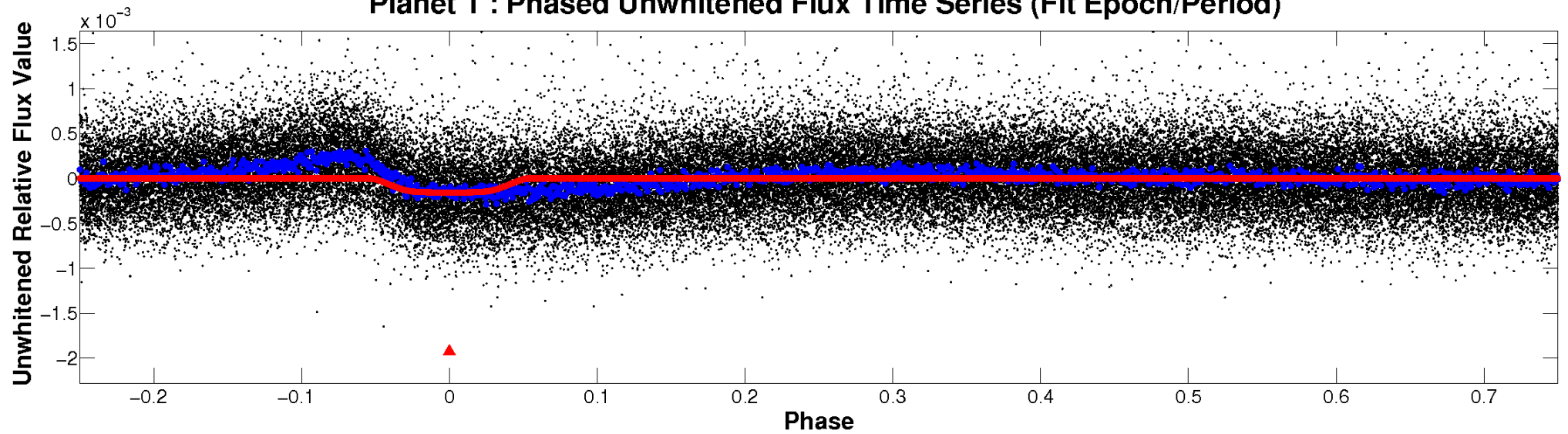
ALT Odd/Even

TCE 004150497-01

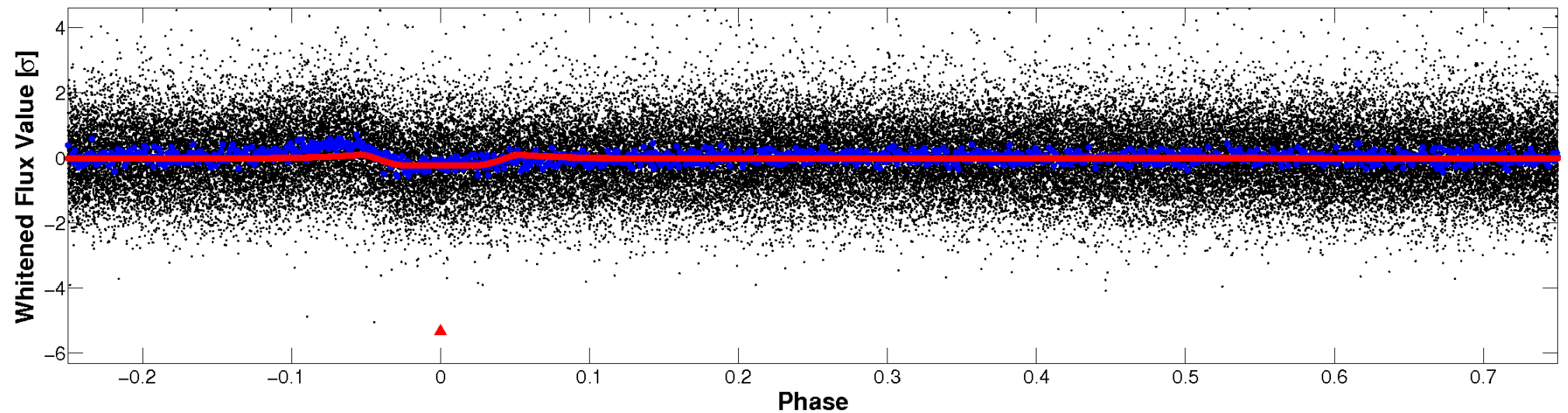


Non-Whitened Vs. Whitened Light Curve

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

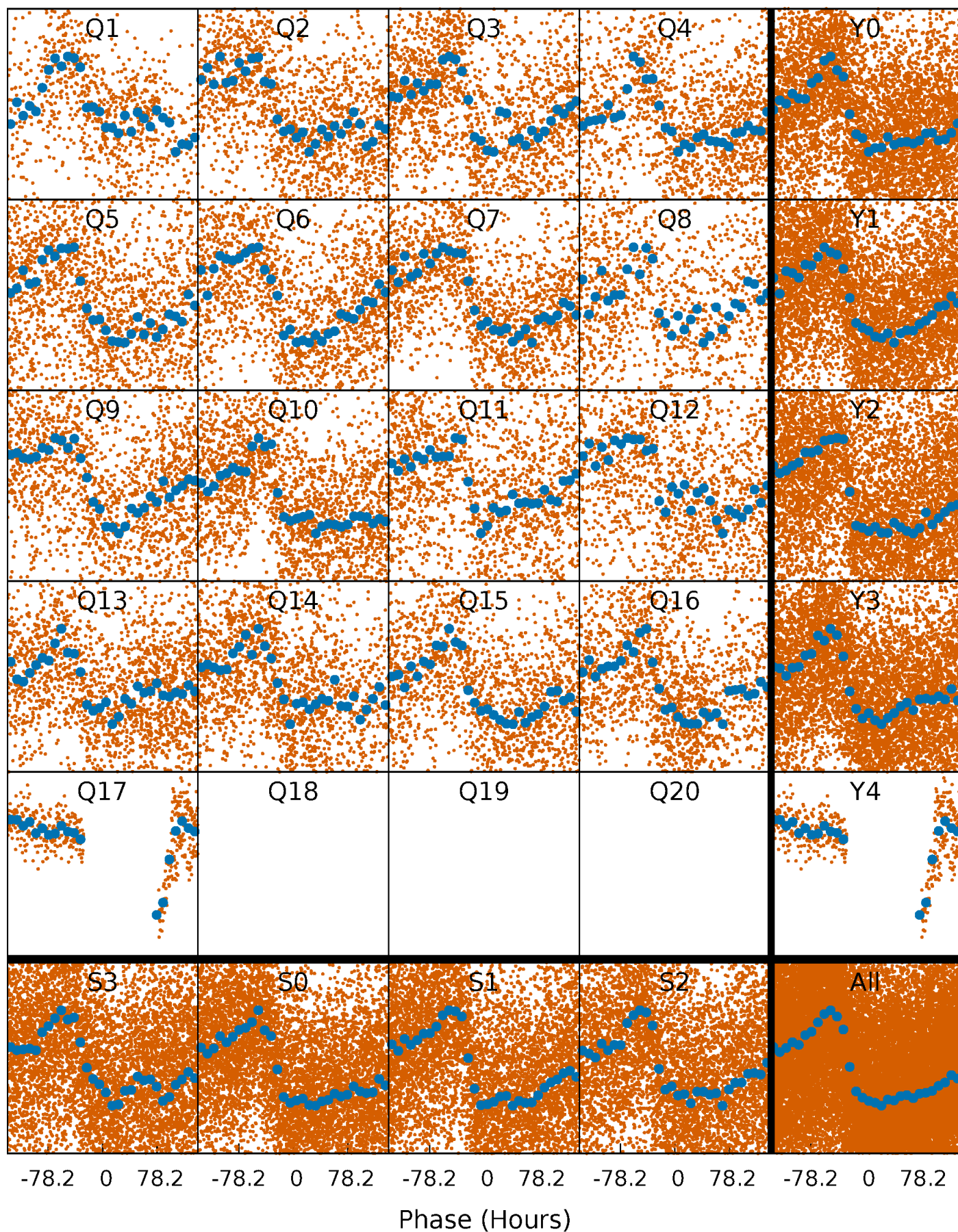


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



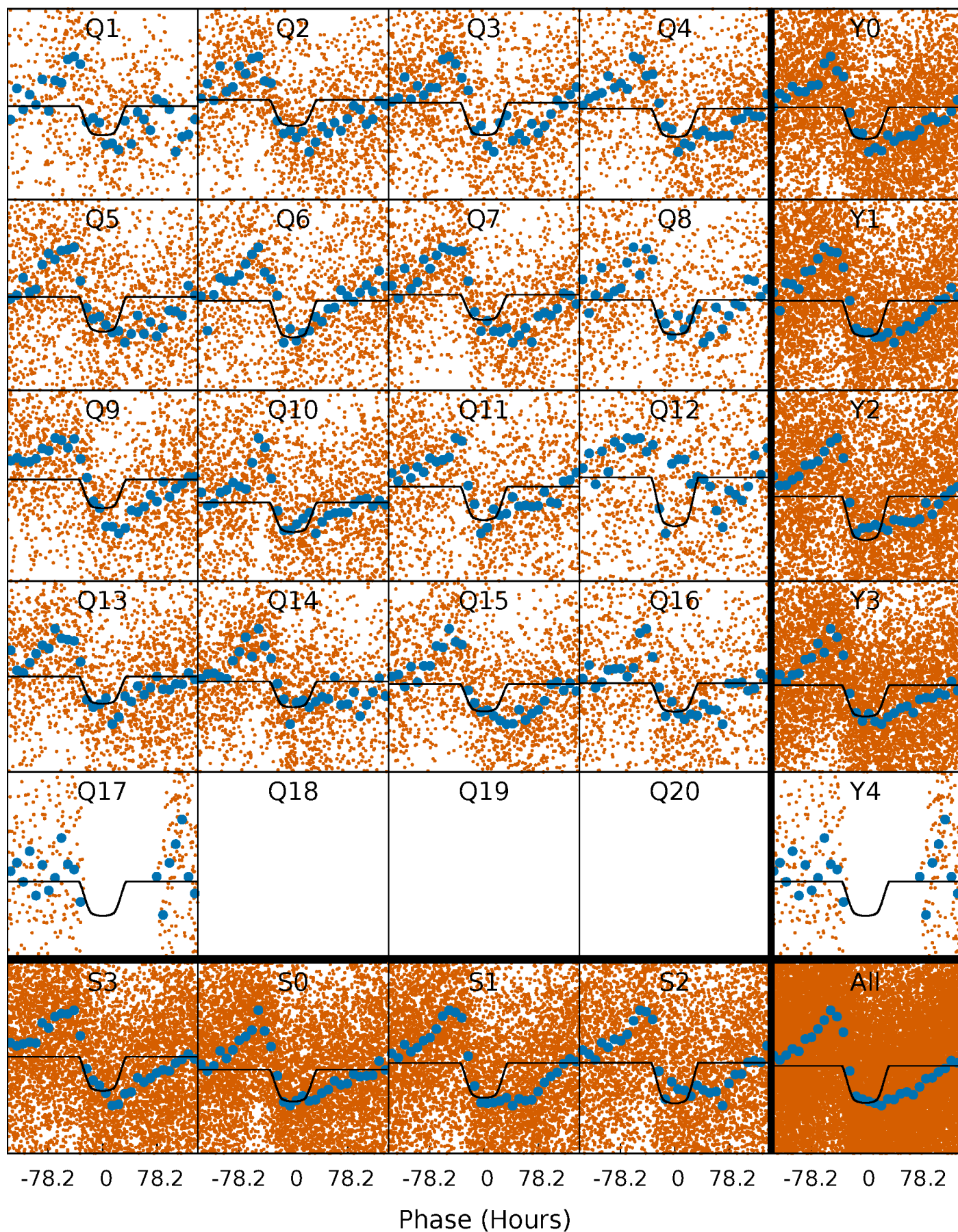
PDC Quarter-Phased Transit Curves

TCE 004150497-01 P= 26.810695 Days $T_0=134.938992$ (BKJD)



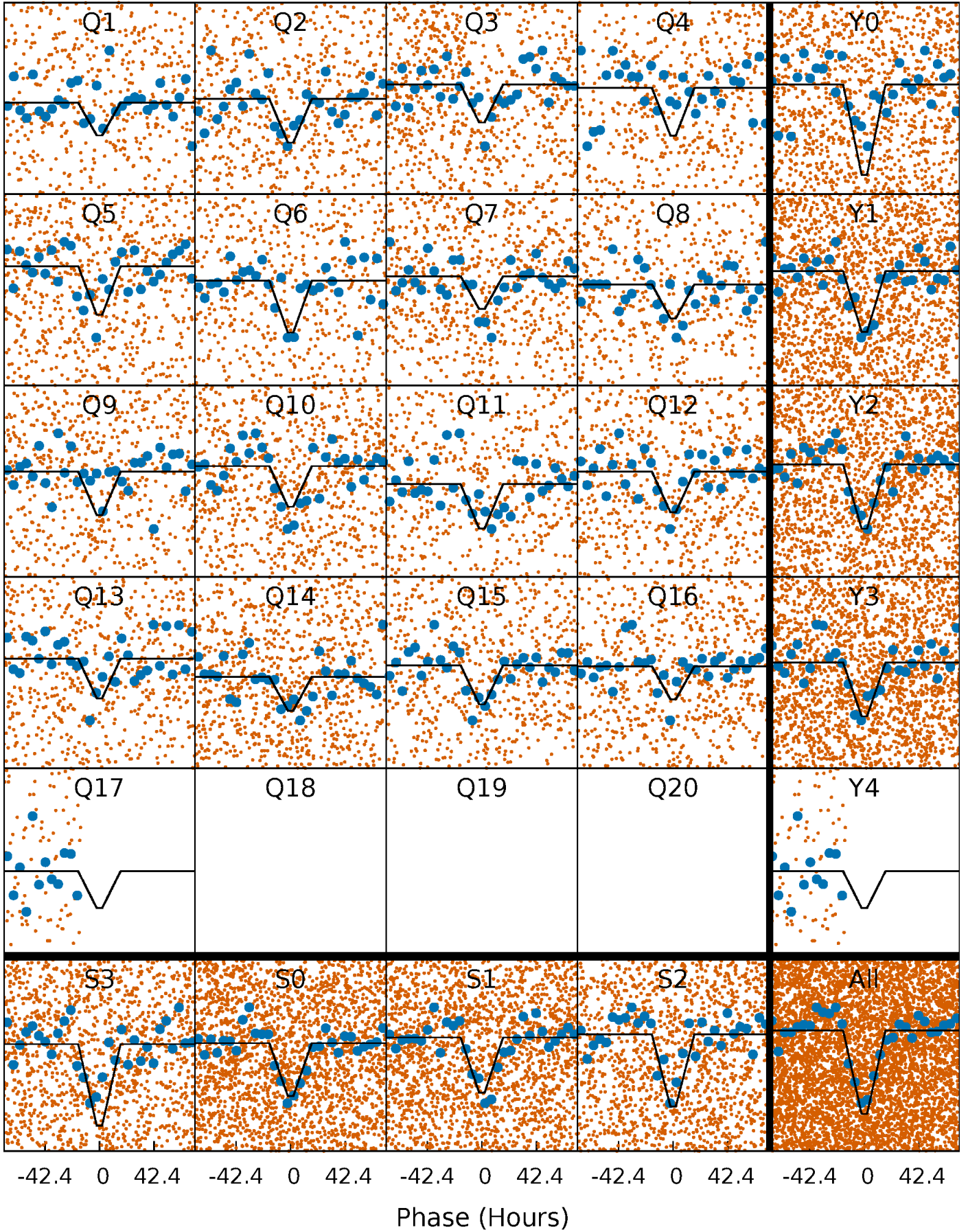
DV Quarter-Phased Transit Curves

TCE 004150497-01 P= 26.810695 Days $T_0=134.938992$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

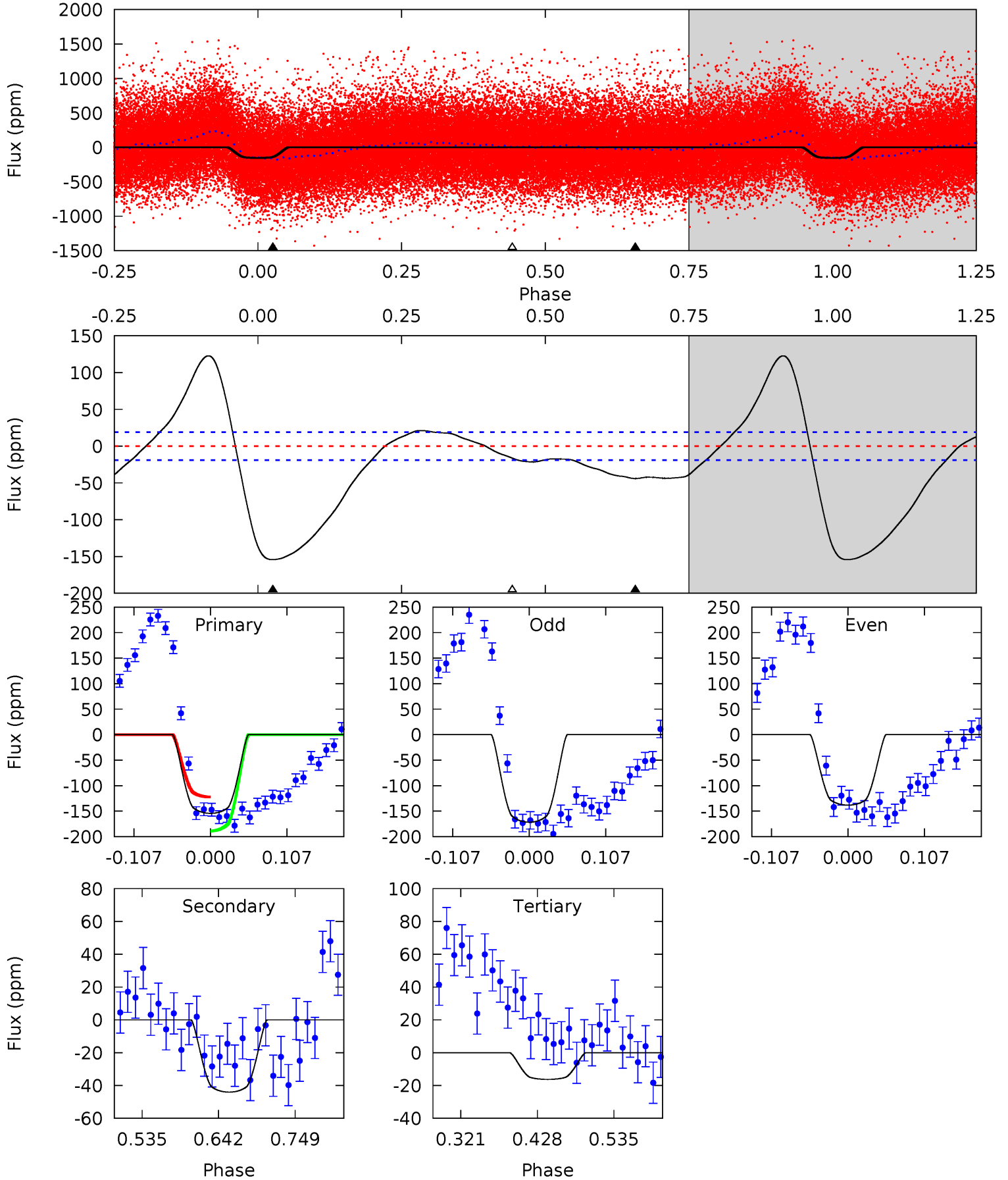
TCE 004150497-01 P= 26.812808 Days $T_0=134.303789$ (BKJD)



DV Model-Shift Uniqueness Test

004150497-01, P = 26.810695 Days, E = 108.128297 Days

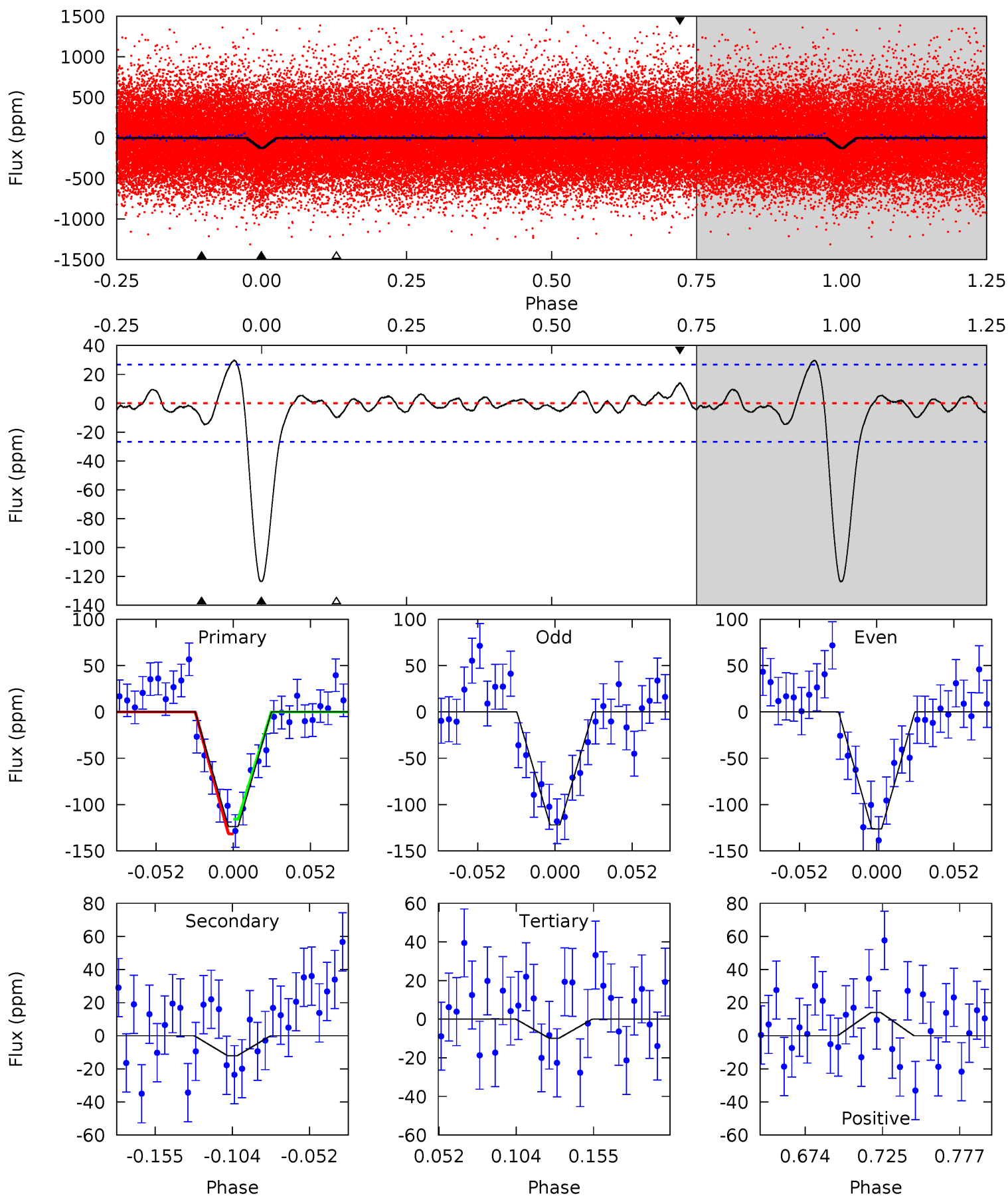
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.9	10.5	3.90	0	4.55	1.61	9.35	33.0	36.9	6.64	10.5	4.01	1.08	0.44	8.03



Alt Model-Shift Uniqueness Test

004150497-01, P = 26.812808 Days, E = 107.490981 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.7	2.12	1.73	2.47	4.70	1.94	0.77	20.0	19.3	0.39	-0.35	0.38	0.90	0.19	1.38



Stellar Parameters For KIC 004150497

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5798^{+175}_{-175}	$4.295^{+0.247}_{-0.202}$	$-0.480^{+0.300}_{-0.250}$	$1.052^{+0.318}_{-0.260}$	$0.796^{+0.117}_{-0.054}$	$0.964^{+1.310}_{-0.520}$
	+3%/-3%	+6%/-5%	+62%/-52%	+30%/-25%	+15%/-7%	+136%/-54%
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 004150497-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-44 ± 4	$1.79^{+0.28}_{-0.25}$	913^{+74}_{-75}	4094^{+131}_{-138}	203^{+77}_{-54}
Alt.	-12 ± 6	$1.32^{+0.26}_{-0.21}$	912^{+82}_{-73}	3625^{+301}_{-336}	98^{+74}_{-50}

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

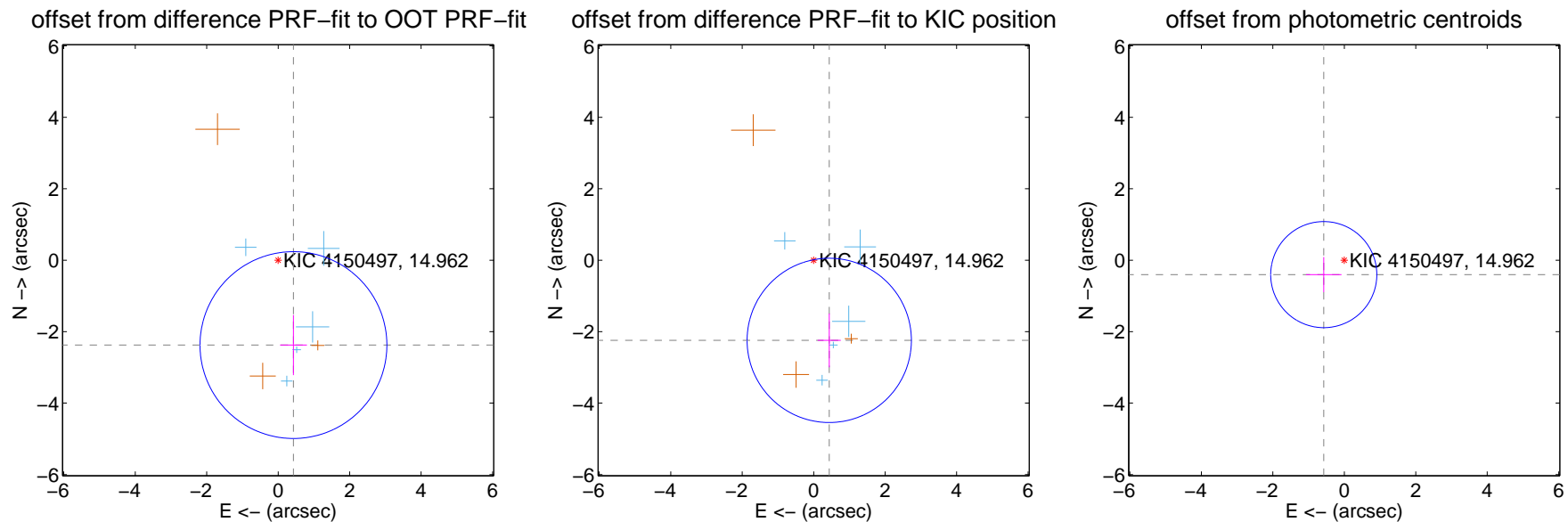
DV Centroid Data

Supplemental centroid analysis for 004150497-01. Kepler magnitude: 14.96. Transit SNR 15.22

There are 5 quarters with good PRF difference image offsets

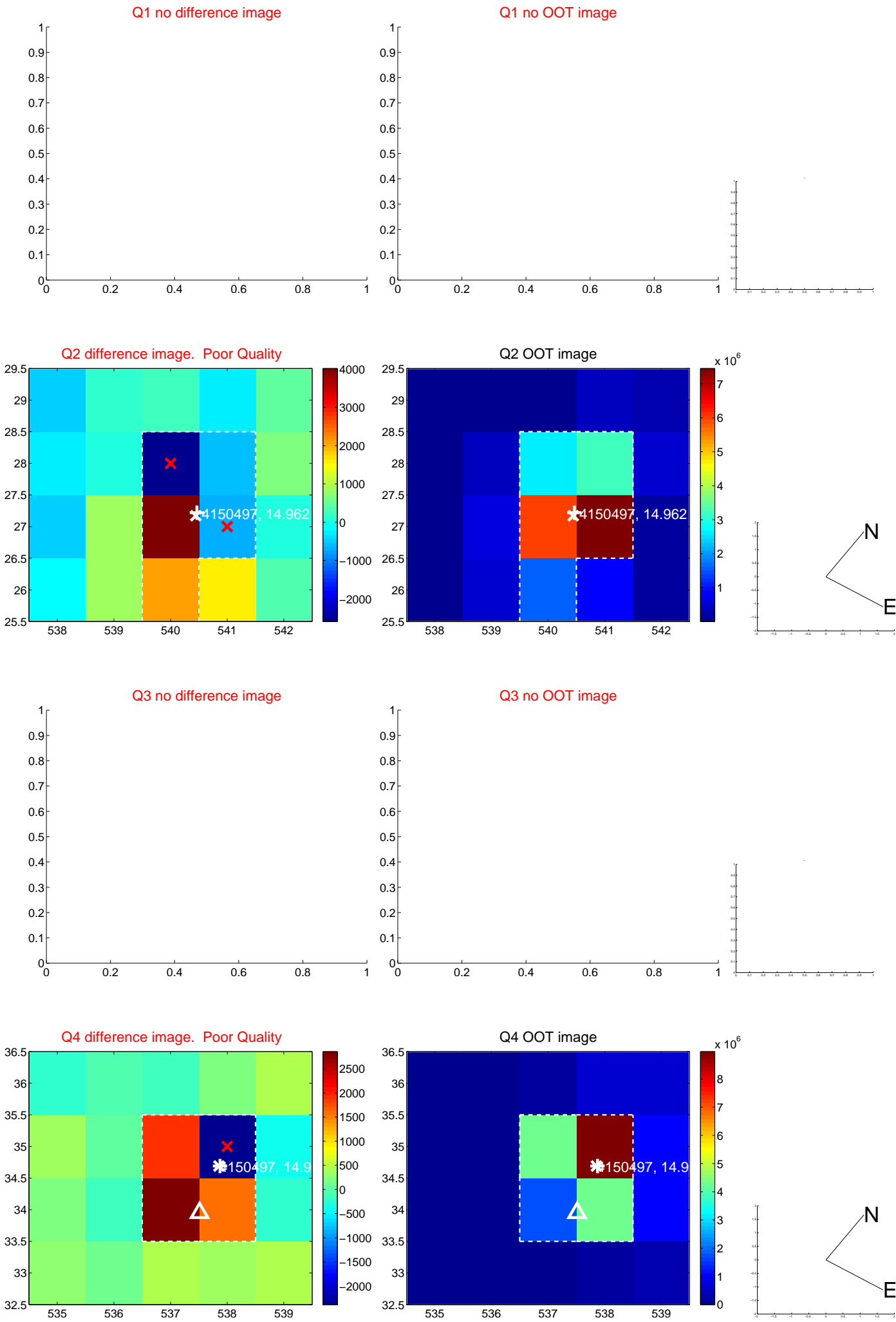
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.413 ± 0.871	2.77	-0.427 ± 0.375	-2.375 ± 0.842
PRF-fit source offset from KIC position	2.286 ± 0.766	2.98	-0.435 ± 0.323	-2.244 ± 0.753
photometric centroid source offset	0.70 ± 0.49	1.42	0.57 ± 0.50	-0.40 ± 0.49

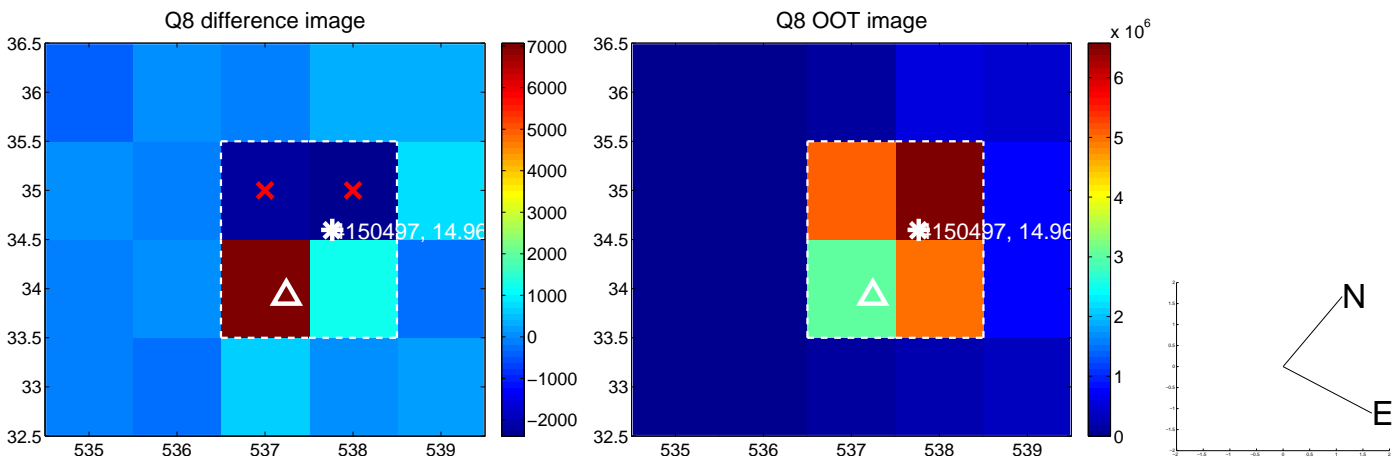
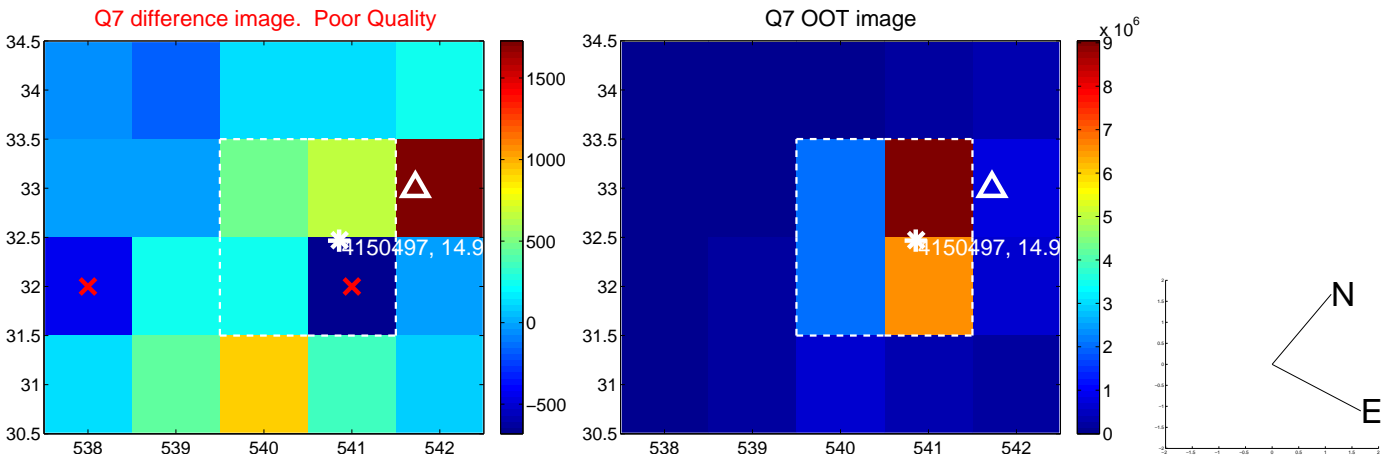
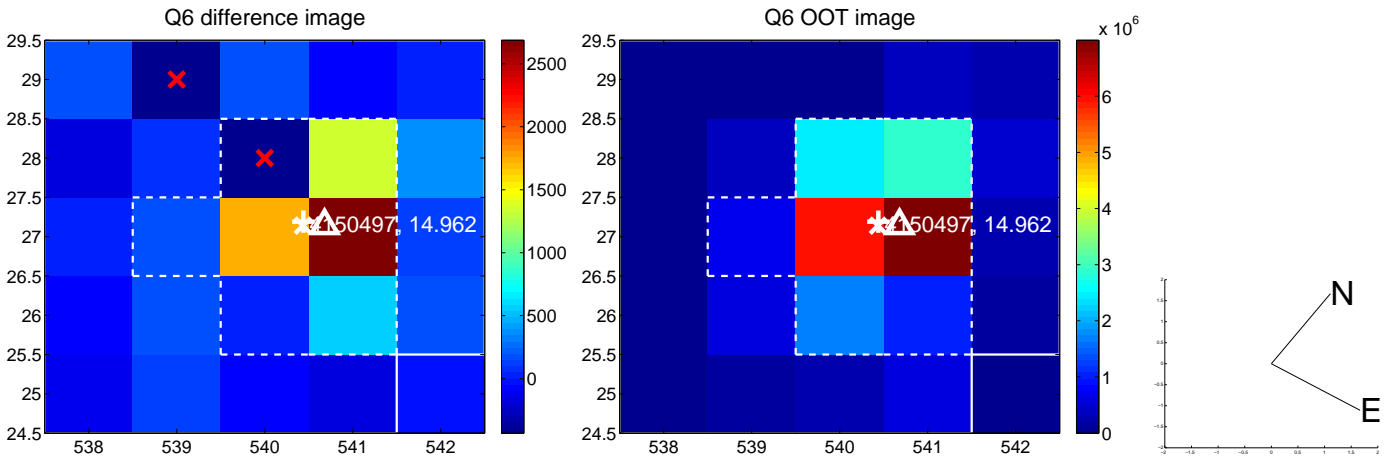
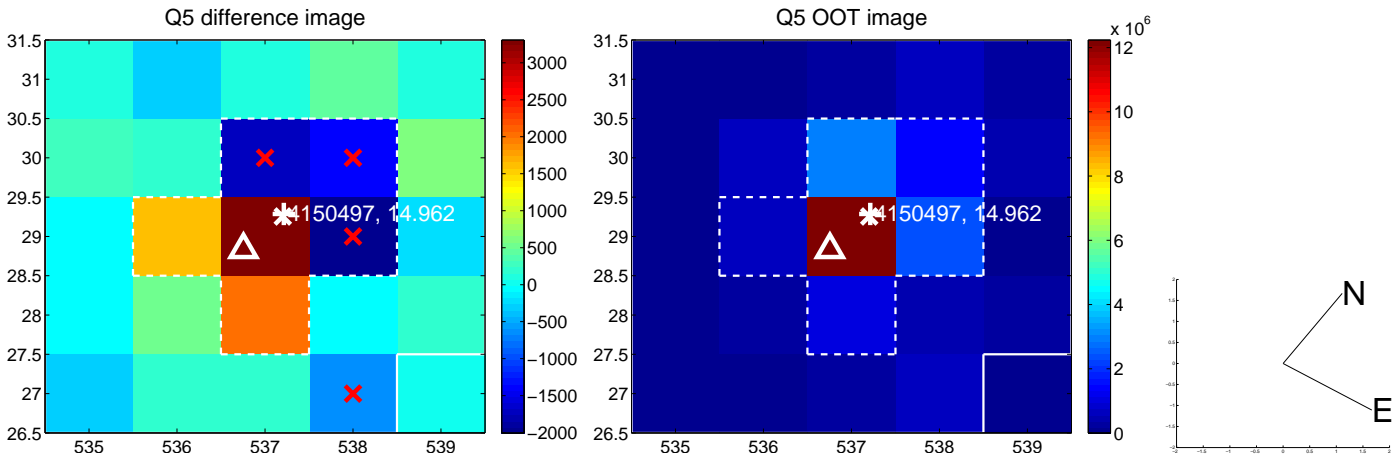


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

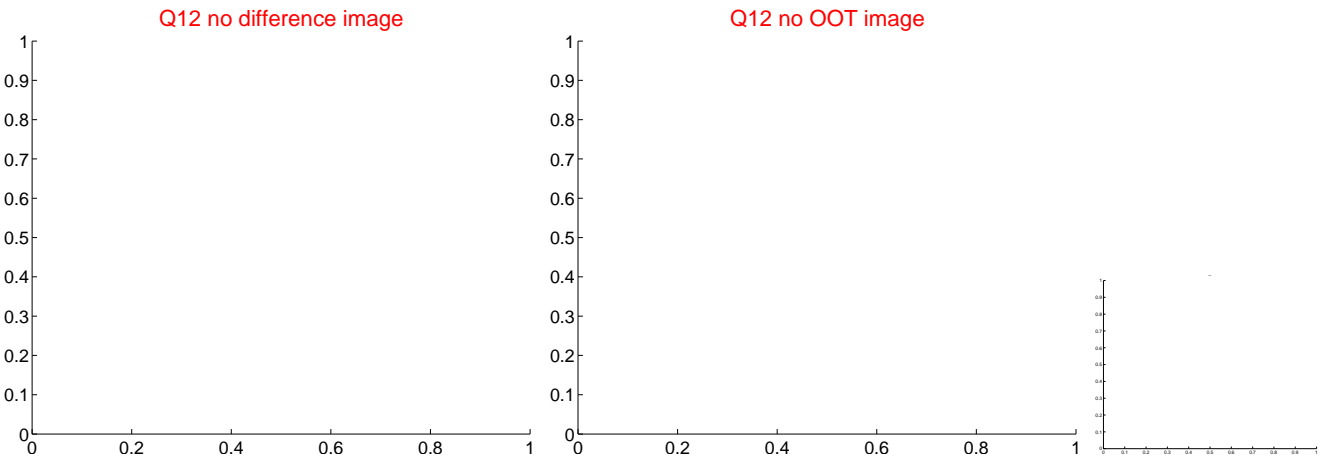
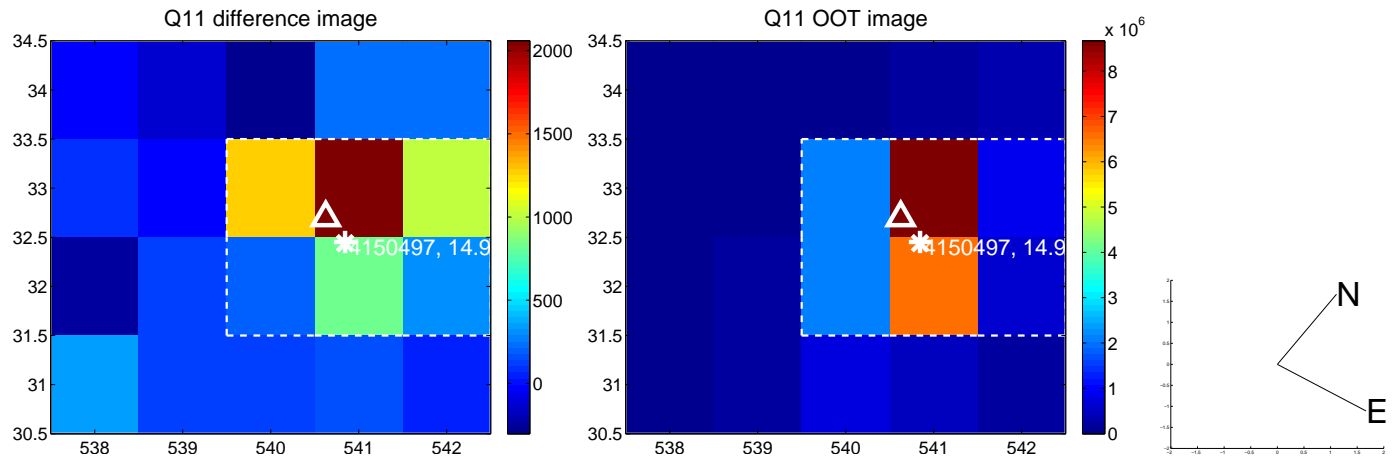
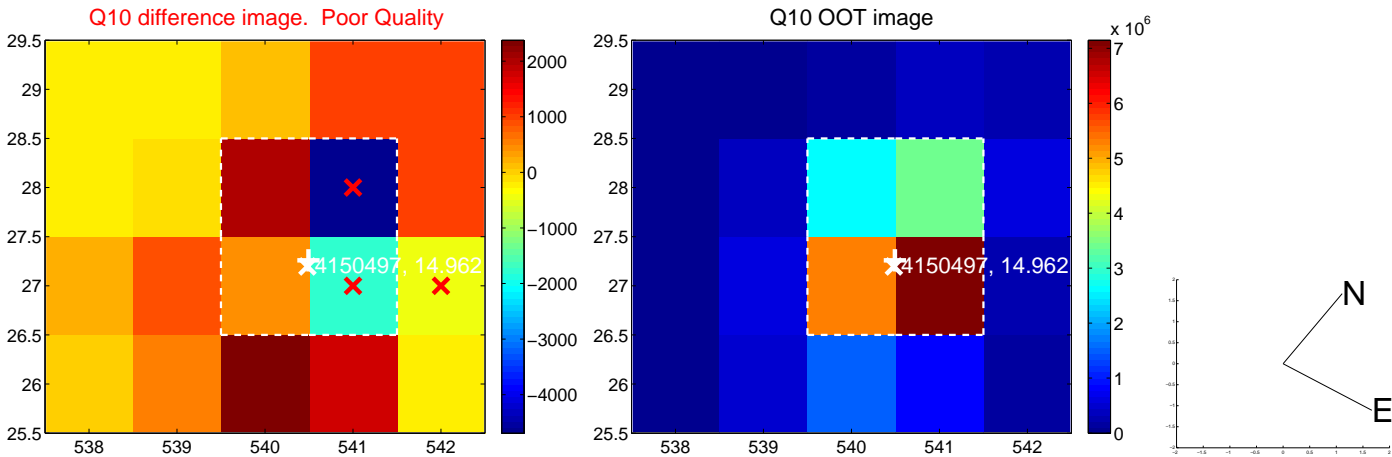
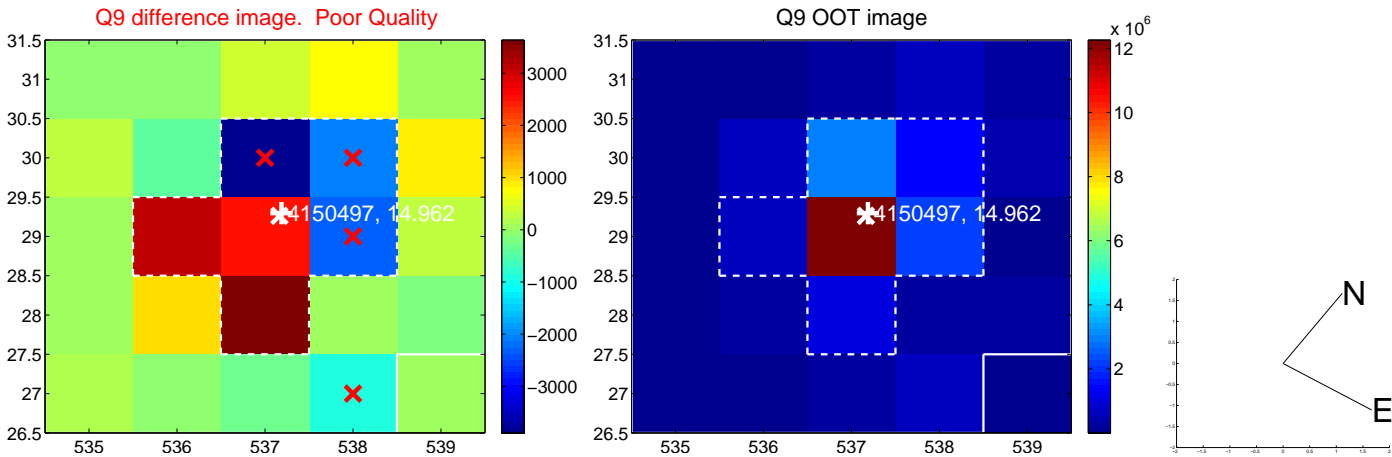
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



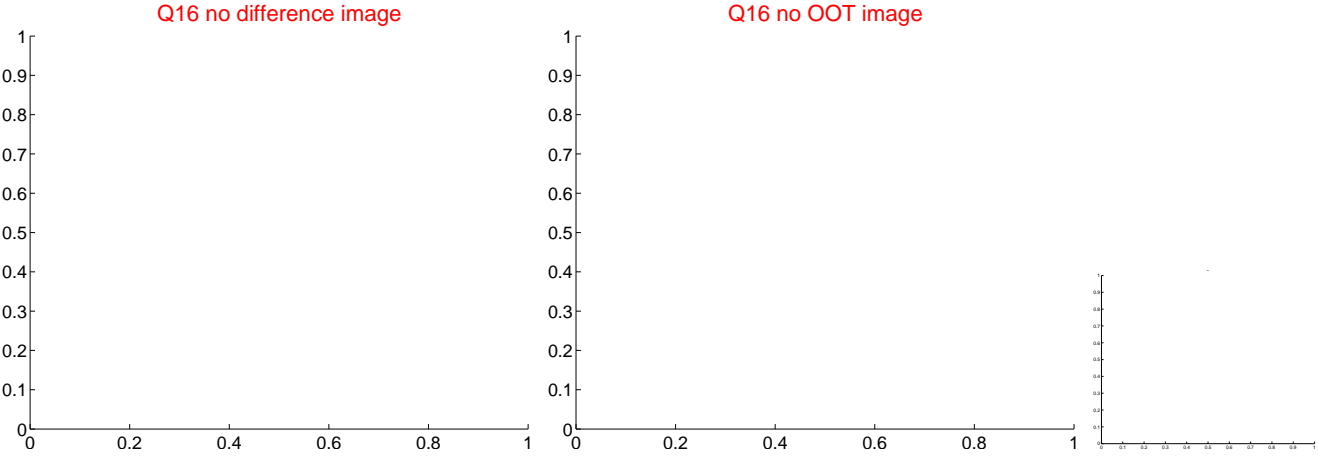
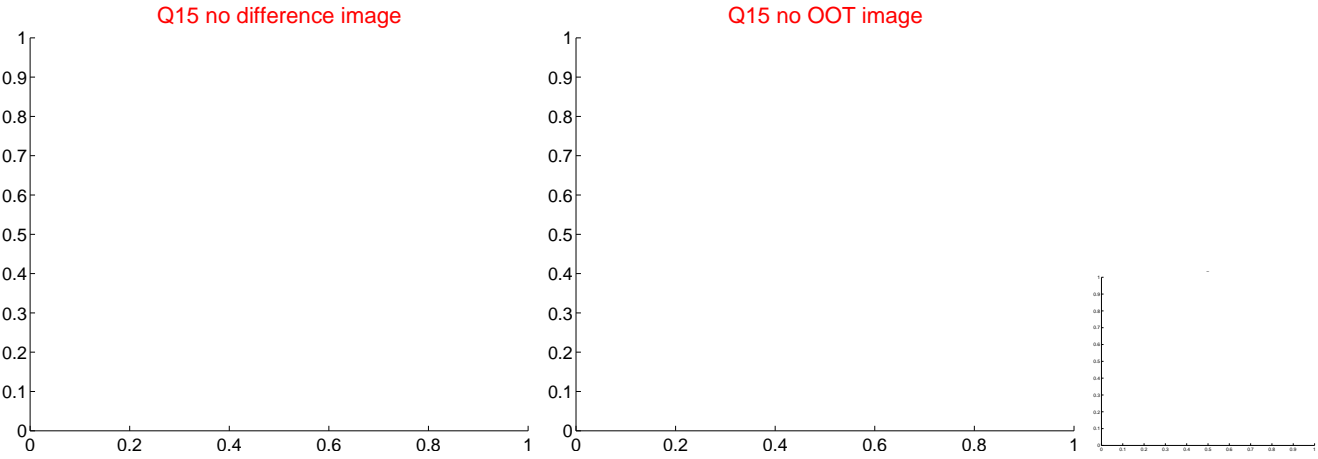
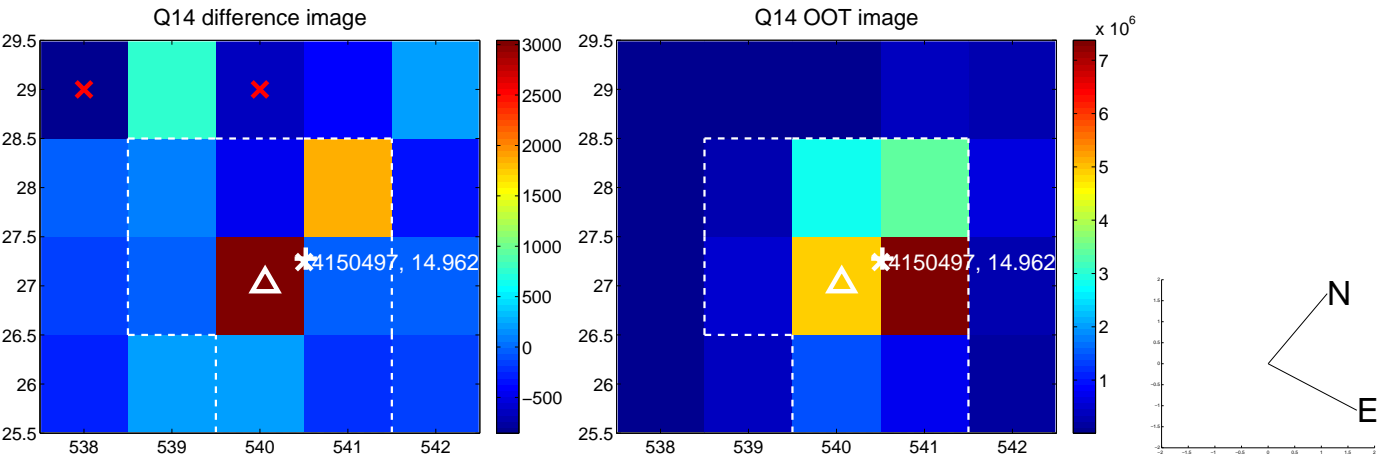
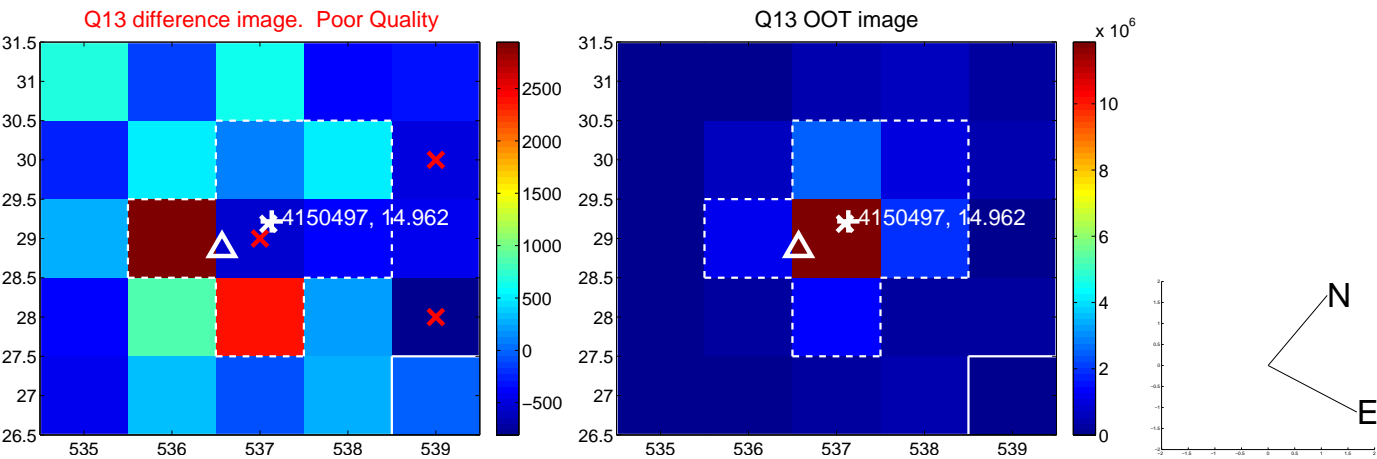
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



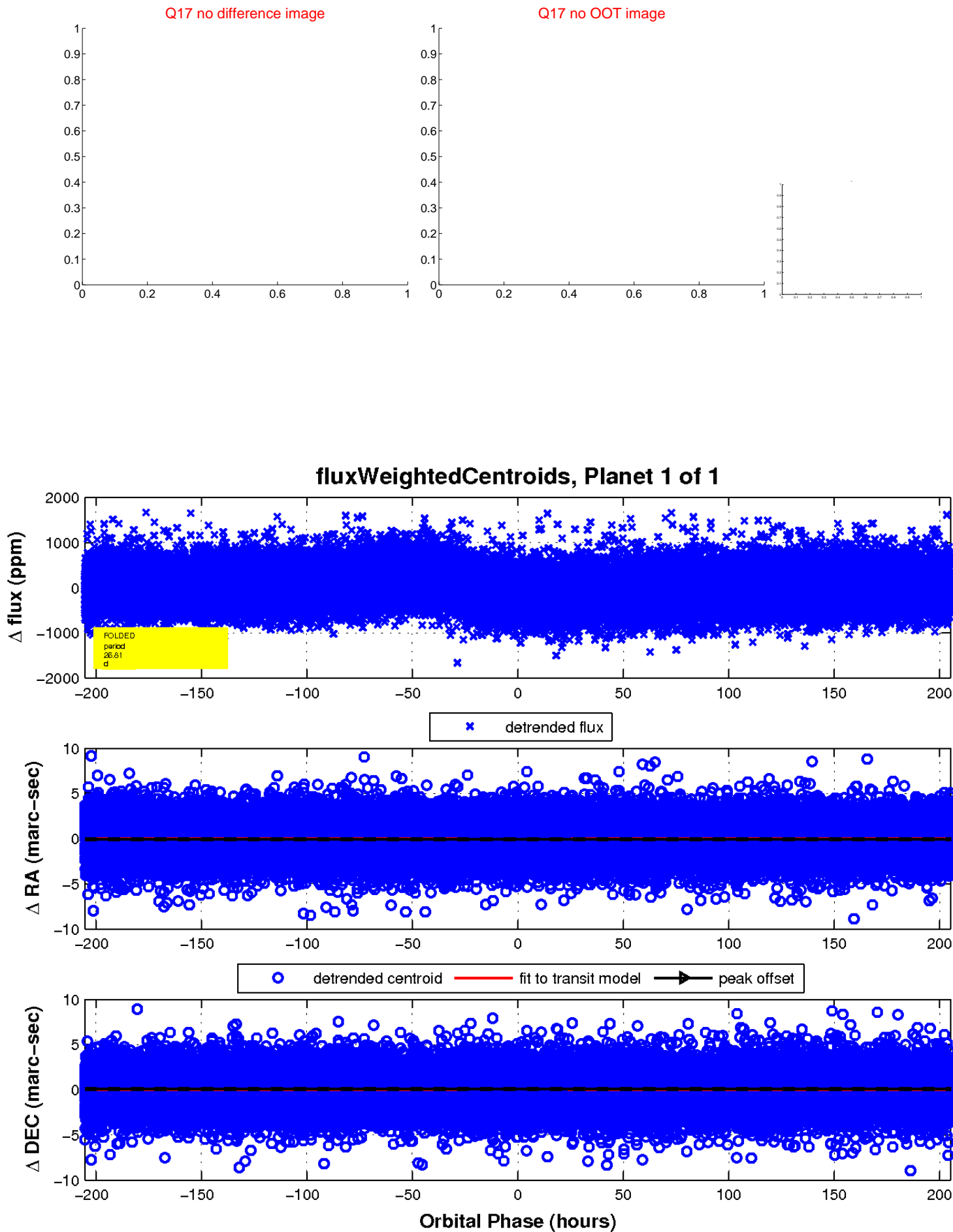
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

