

KIC 005811454

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})
005811454-01	OBS	No	0.534381	131.902919	77.4	4.240	13.5	6.9	2.54	7810	2.32	84124.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005811454-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

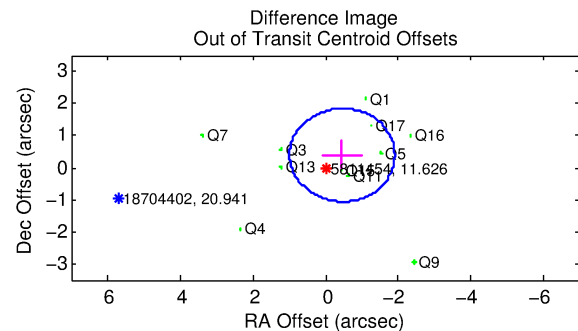
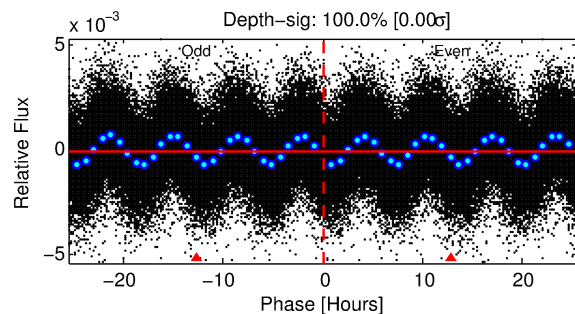
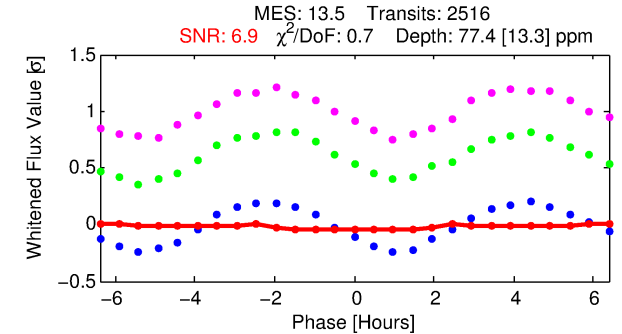
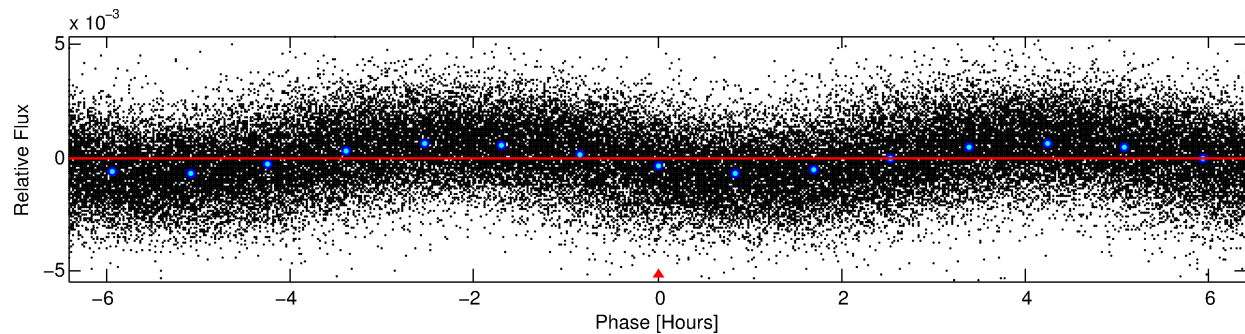
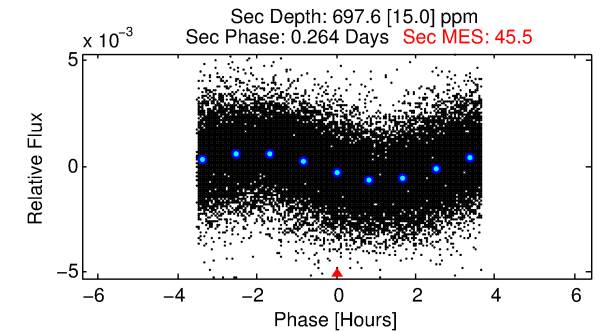
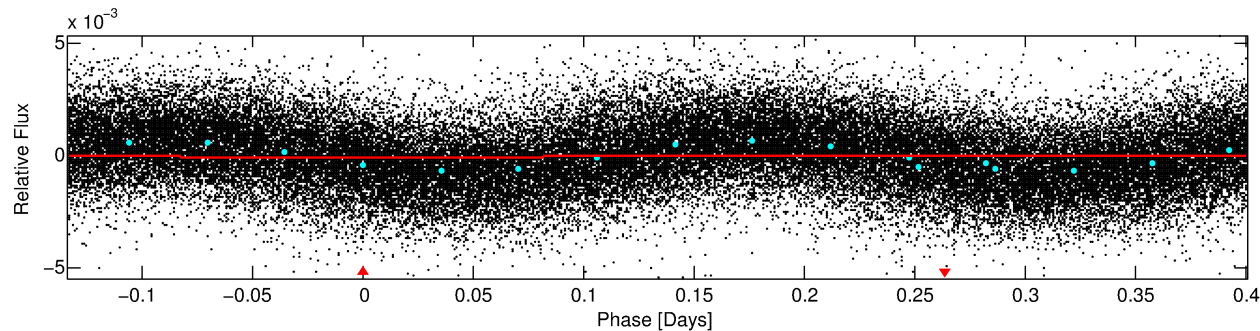
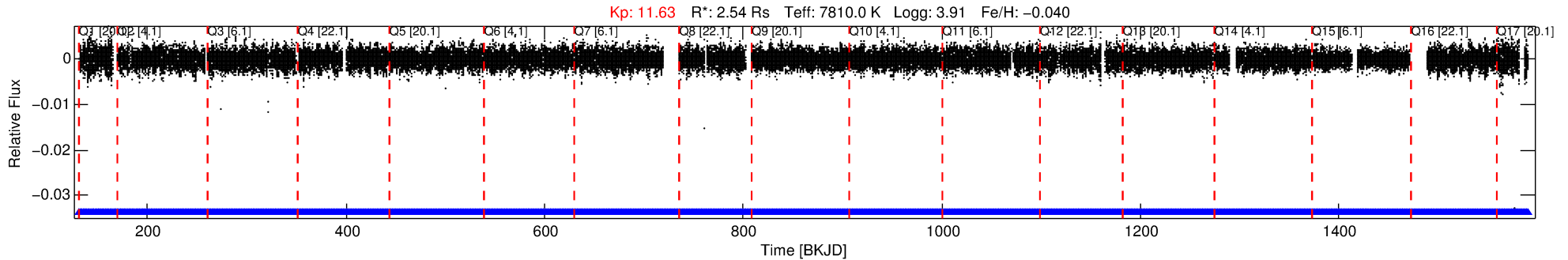
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005811454-01

No Significant Match Found

DV One-Page Summary

KIC: 5811454 Candidate: 1 of 1 Period: 0.534 d



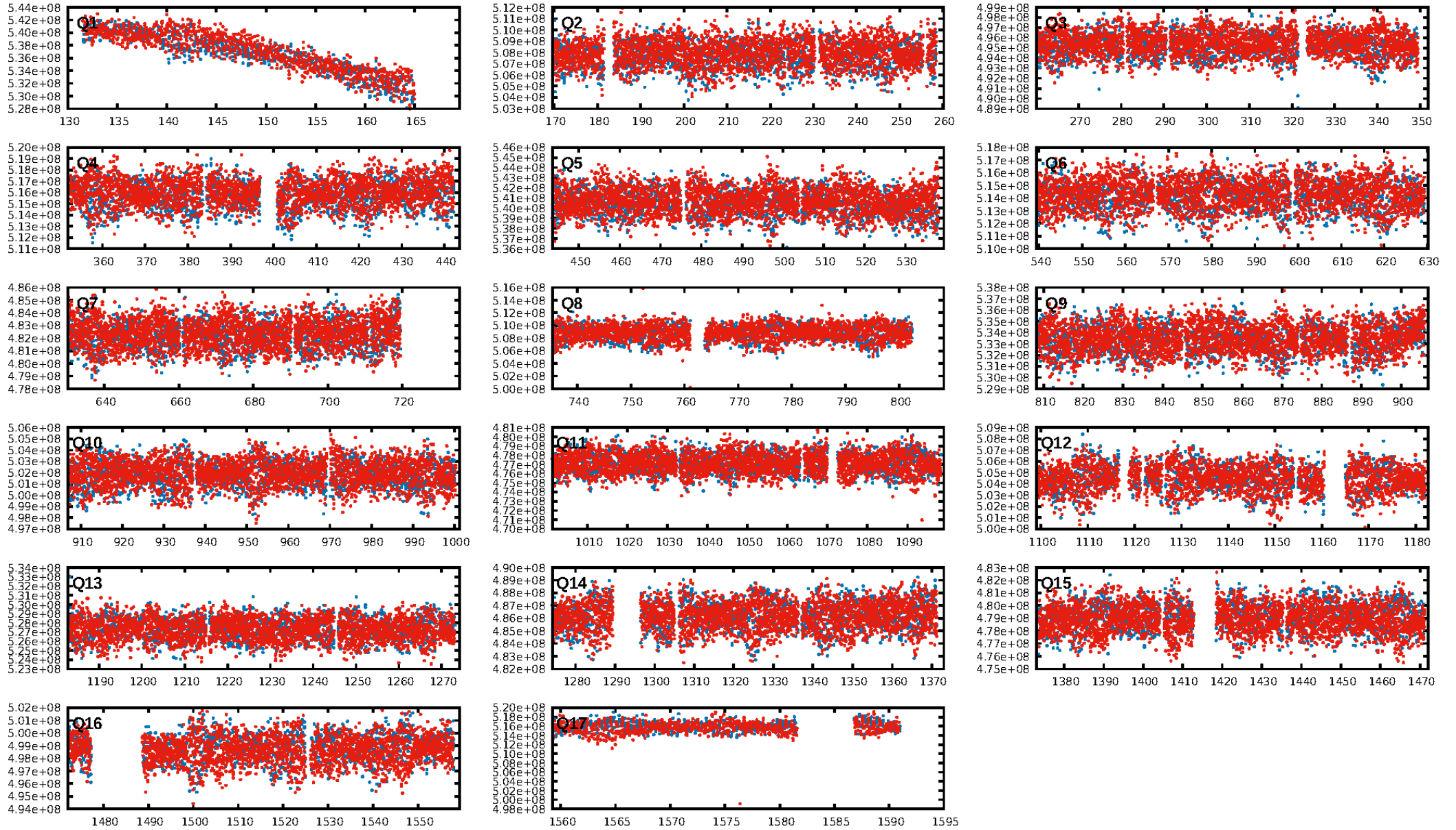
DV Fit Results:

Period = 0.53438 [0.00002] d
Epoch = 131.9029 [0.0037] BKJD
Rp/R* = 0.0084 [0.0093]
a/R* = 1.13 [1.66]
b = 0.50 [10.12]
Seff = 84124.05 [22354.71]
Teff = 4343 [288] K
Rp = 2.32 [2.61] Re
a = 0.0160 [0.0027] AU
Ag = 18.24 [40.75] [0.42 σ]
Teffp = 13875 [7699] K [1.24 σ]

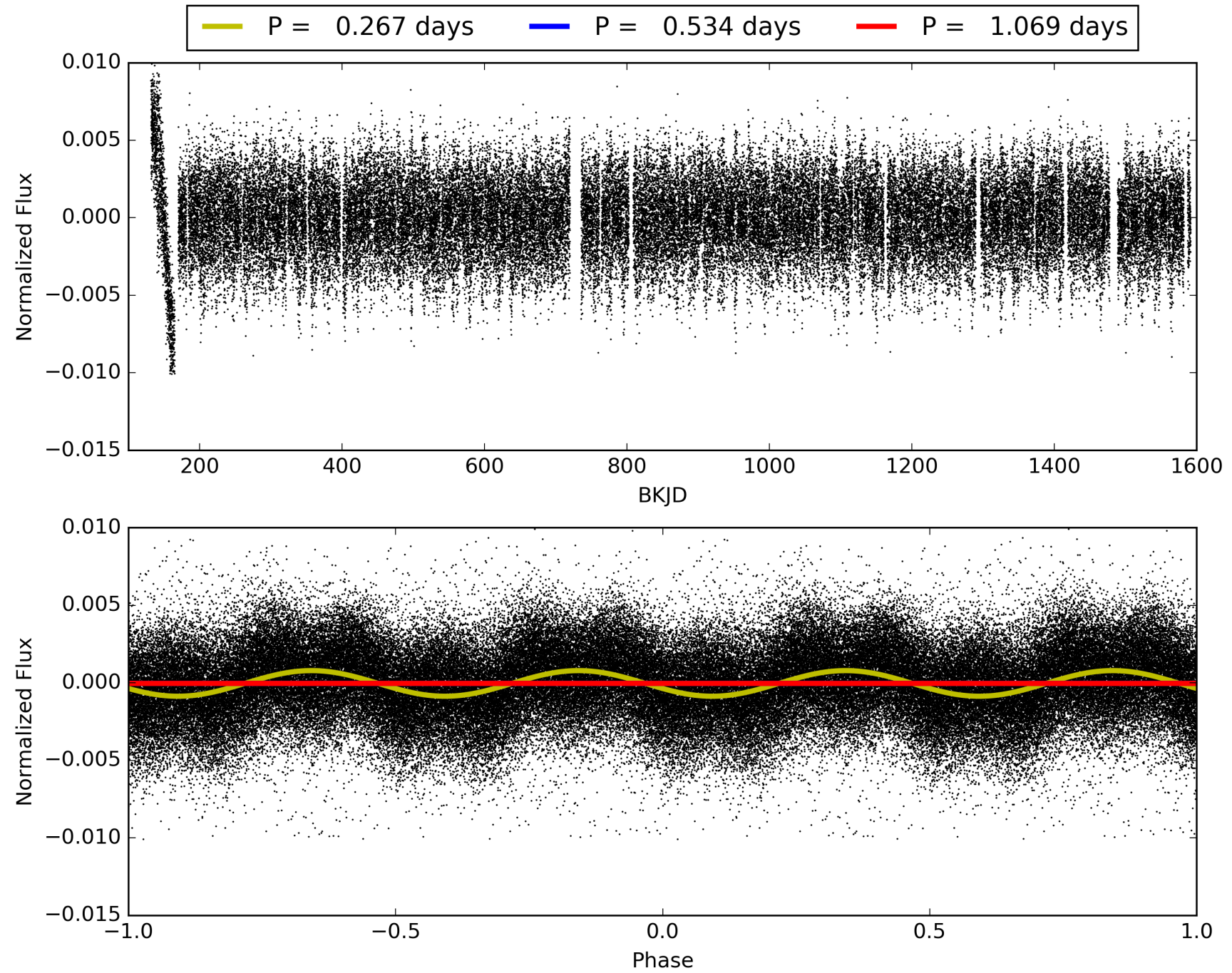
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2402/2402]
GhostDiagnostic-chr: 0.9965
Centroid-sig: 17.3%
Centroid-so: 0.278 arcsec [3.21 σ]
OotOffset-rm: 0.602 arcsec [1.25 σ]
KicOffset-rm: 0.688 arcsec [1.38 σ]
OotOffset-st: 0/4/2/5 [11]
KicOffset-st: 0/4/2/5 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005811454-01, PDC Light Curves

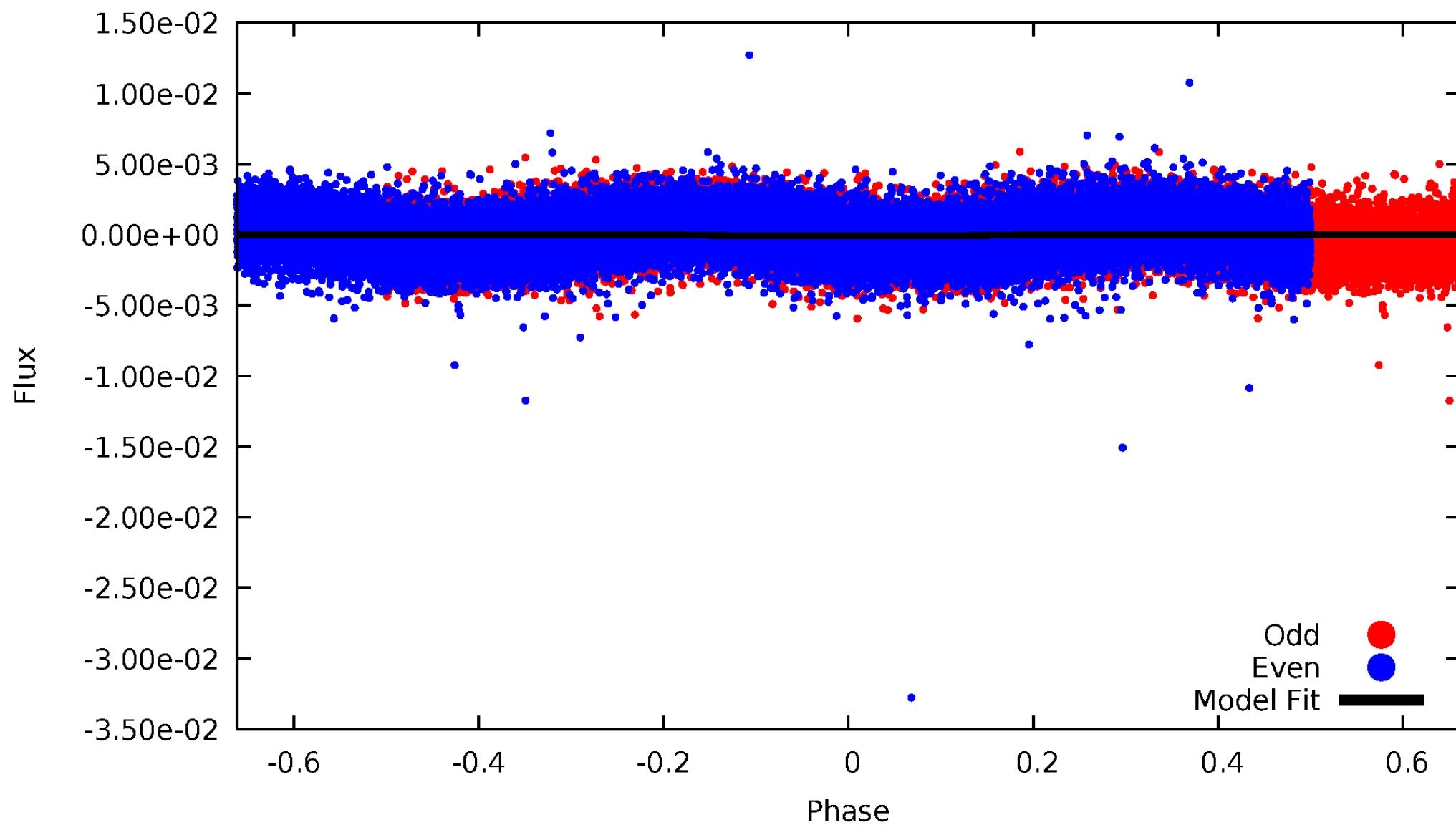


TCE 005811454-01



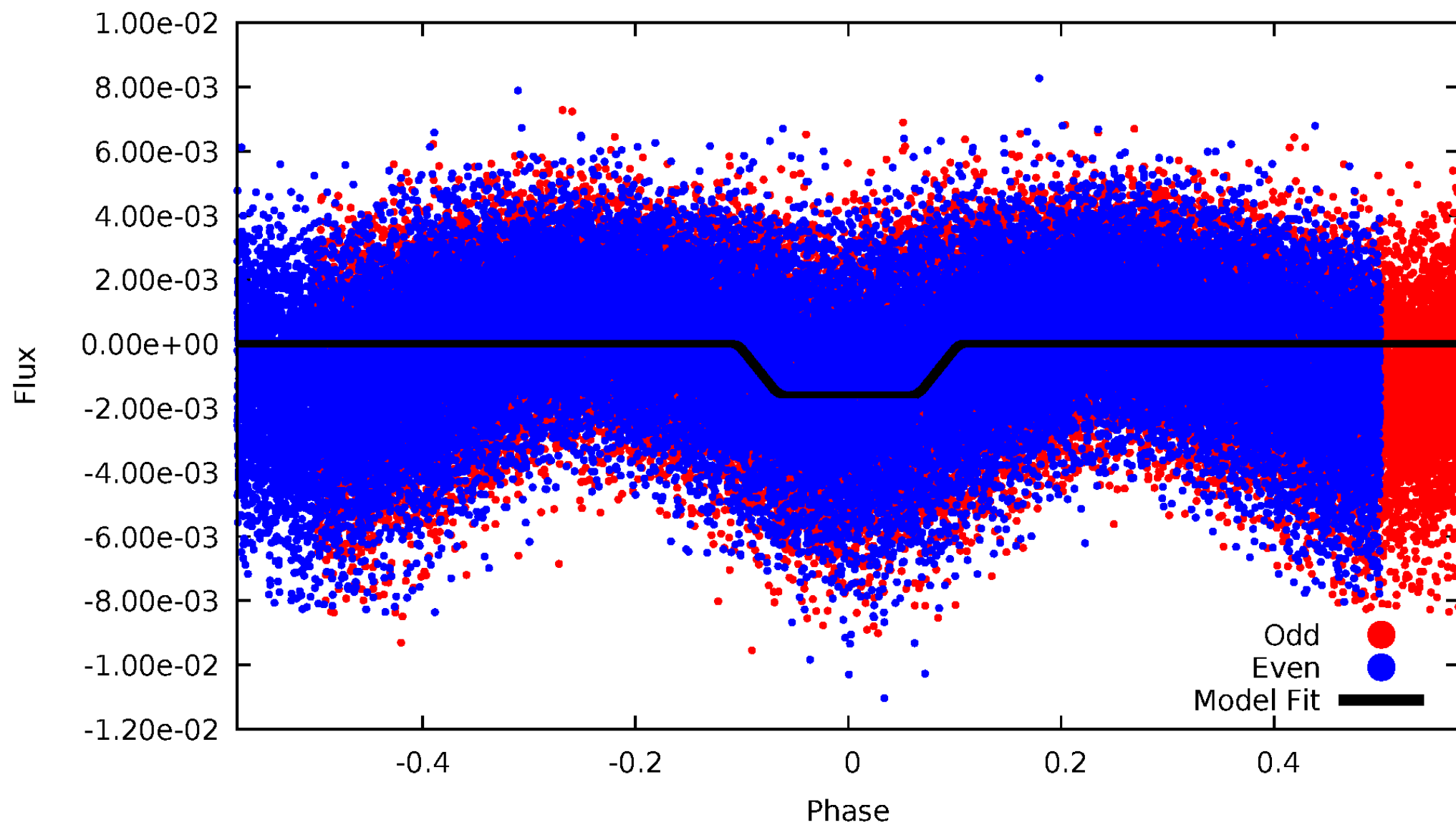
DV Odd/Even

TCE 005811454-01



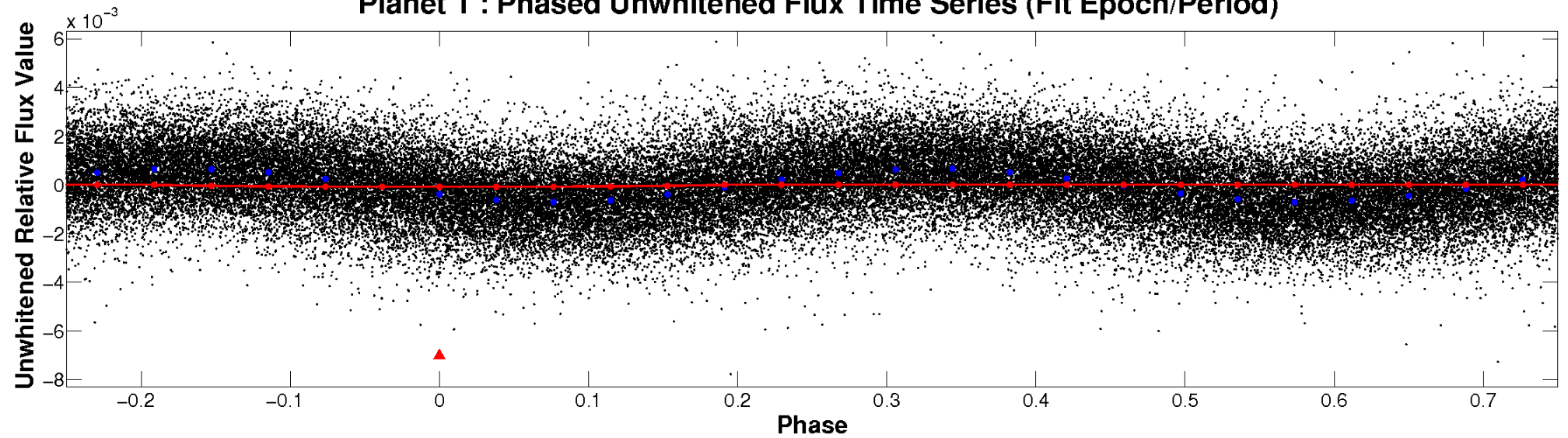
ALT Odd/Even

TCE 005811454-01

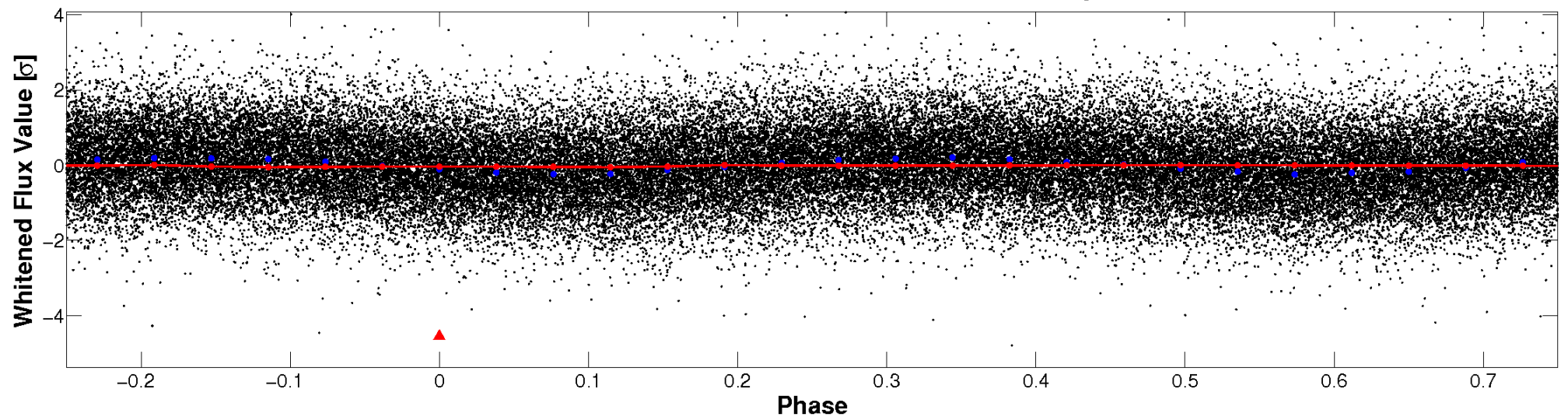


Non-Whitened Vs. Whitened Light Curve

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

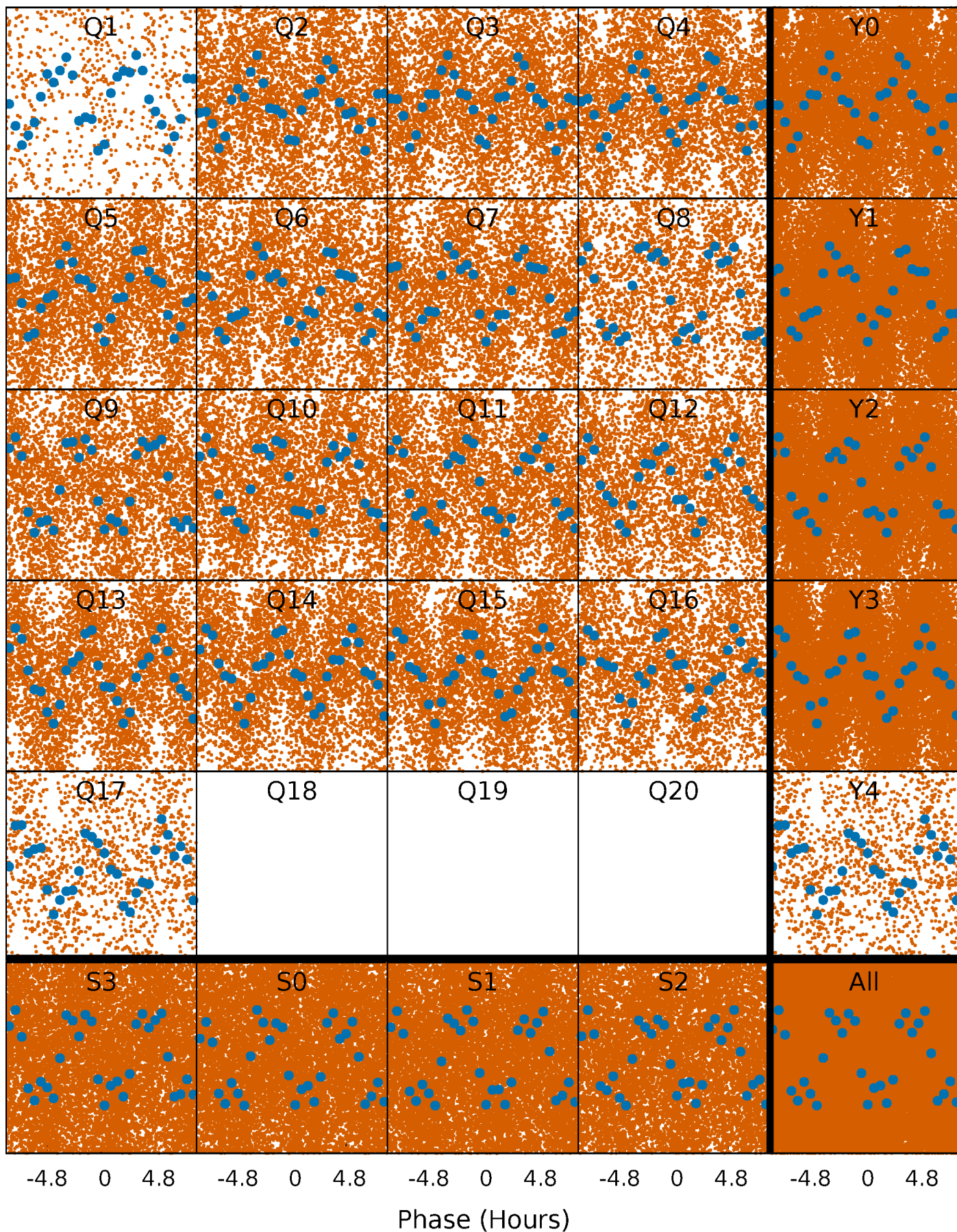


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



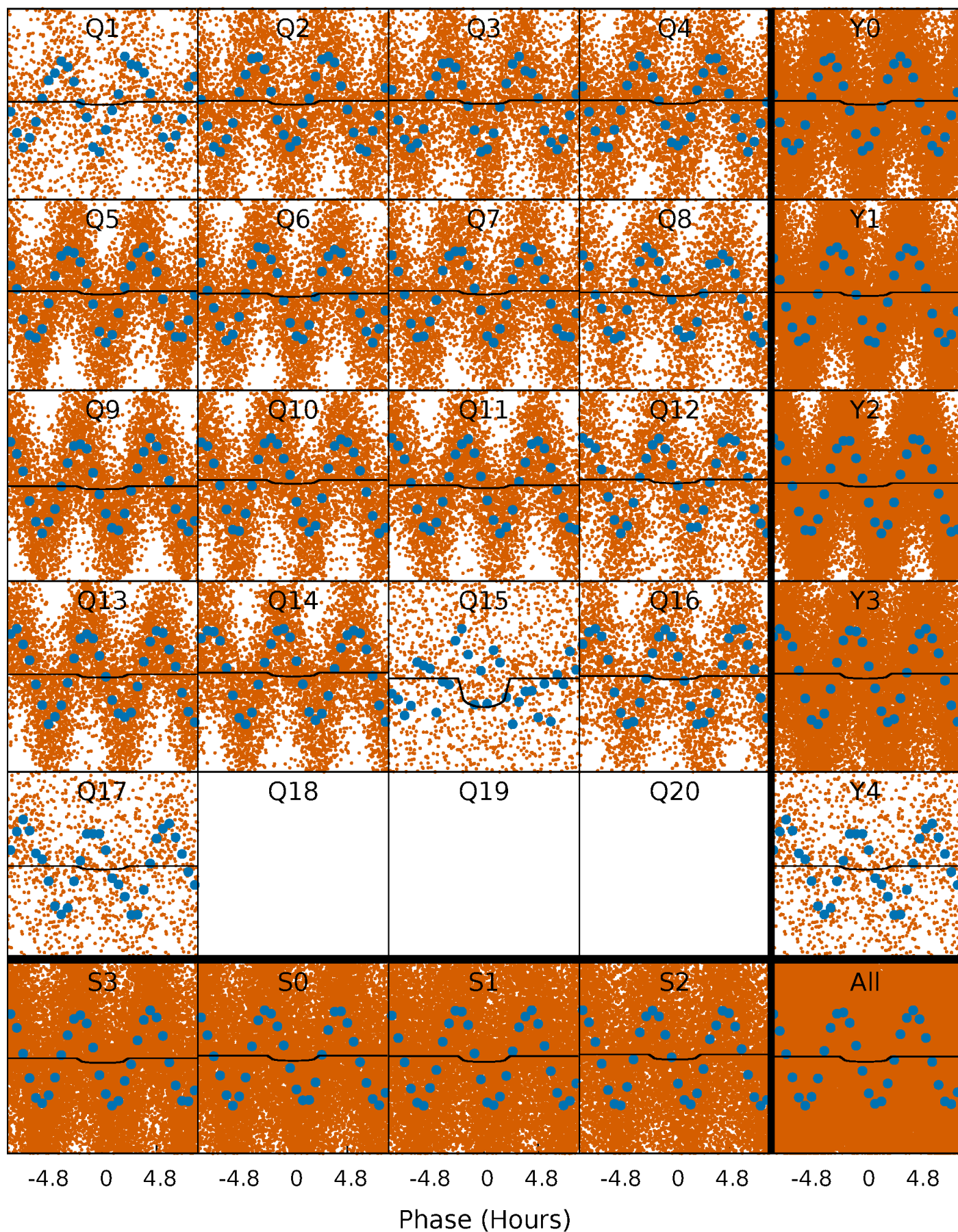
PDC Quarter-Phased Transit Curves

TCE 005811454-01 P= 0.534380 Days $T_0=131.902919$ (BKJD)



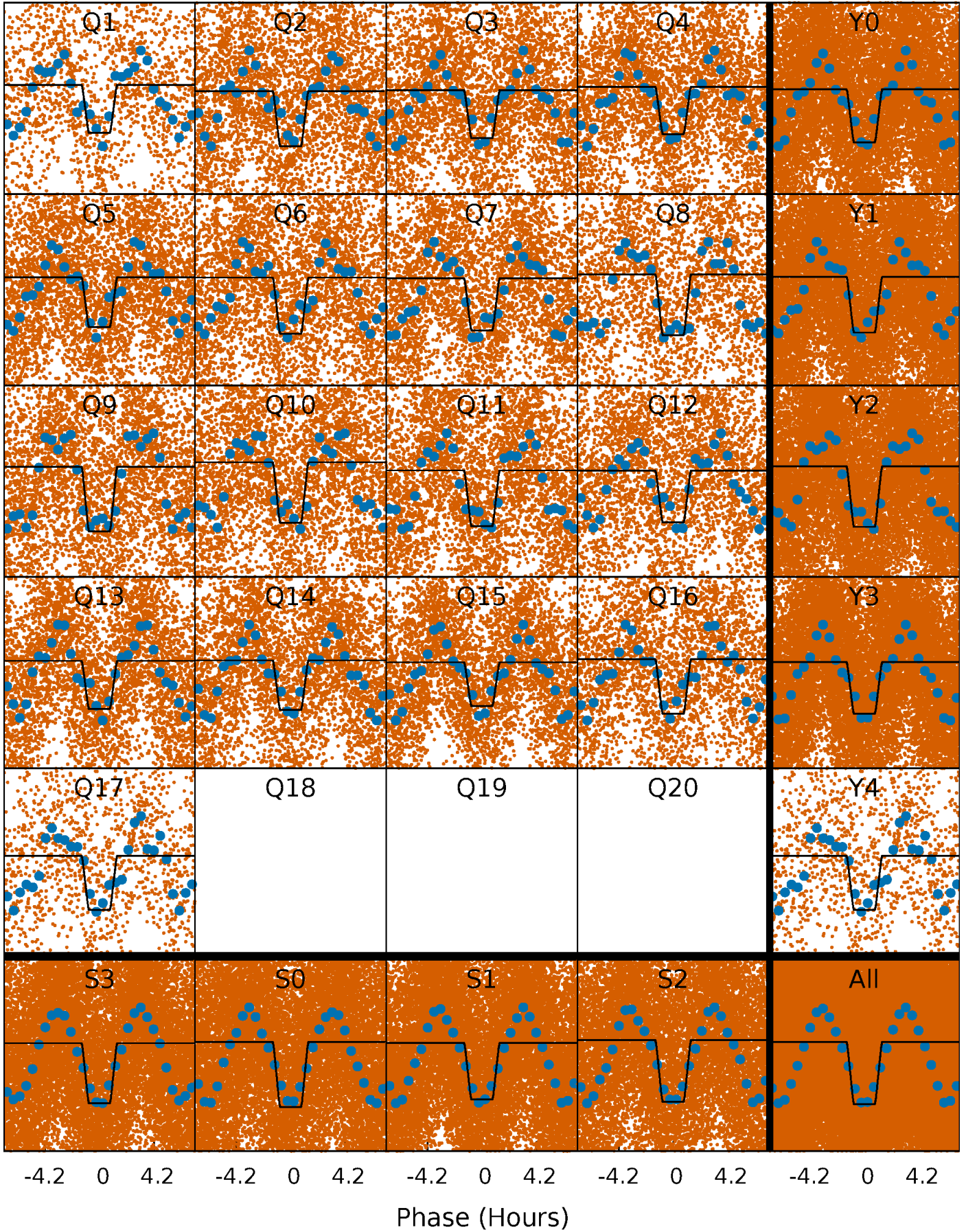
DV Quarter-Phased Transit Curves

TCE 005811454-01 P= 0.534380 Days $T_0=131.902919$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

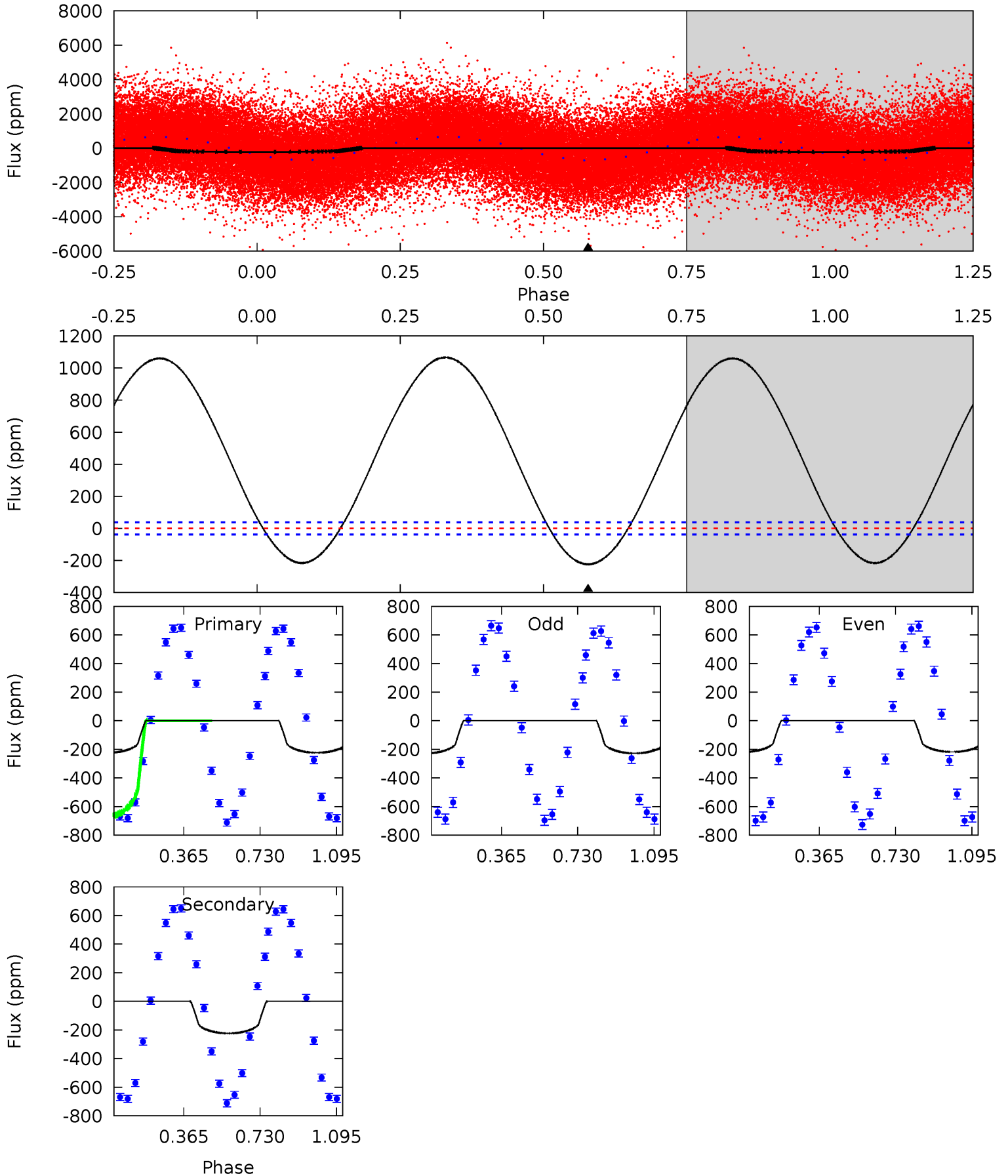
TCE 005811454-01 P= 0.534423 Days $T_0=131.893374$ (BKJD)



DV Model-Shift Uniqueness Test

005811454-01, P = 0.534380 Days, E = 131.368539 Days

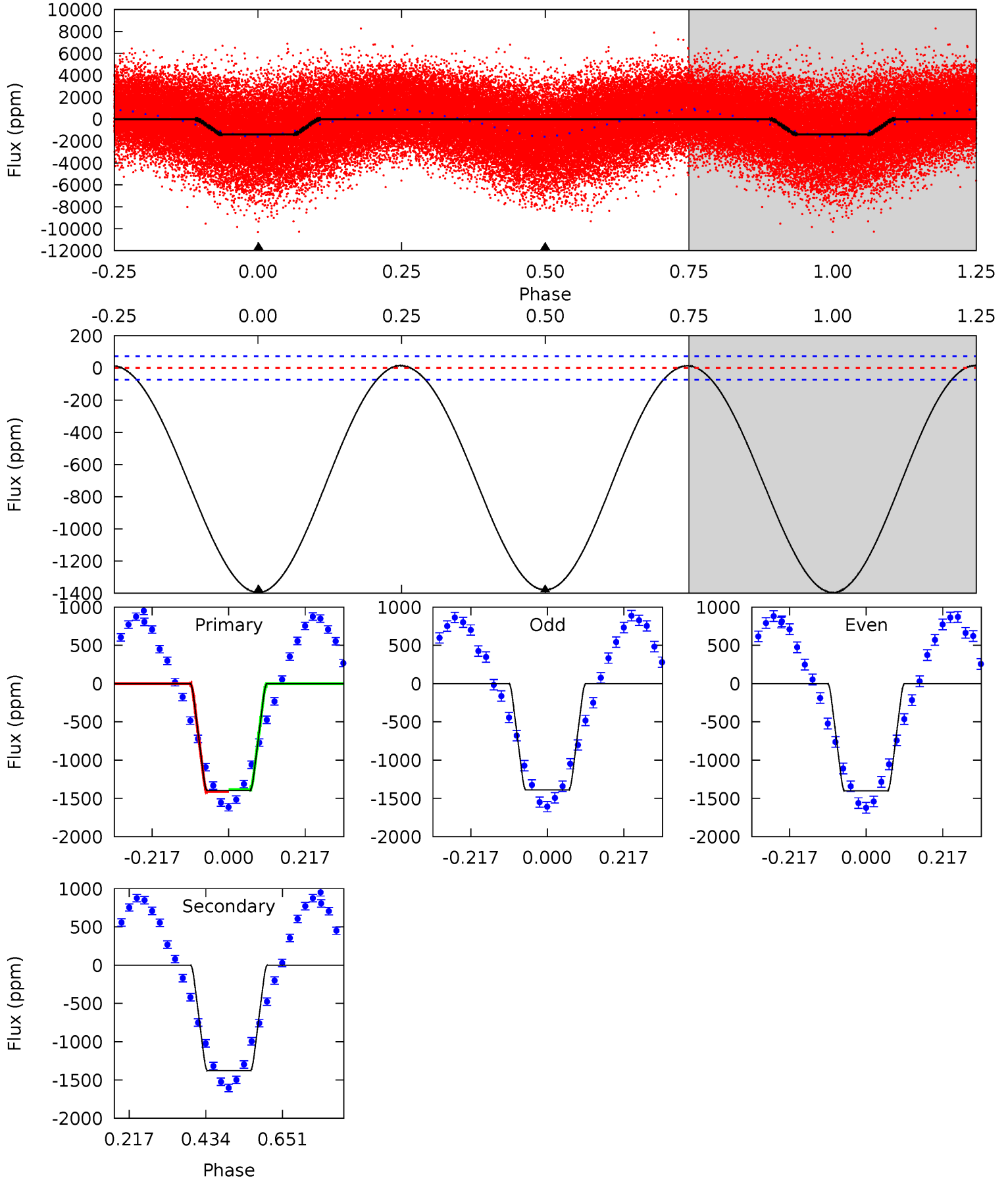
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.5	25.5	0	0	4.29	0.91	25.3	25.5	25.5	25.5	25.5	0.55	0.97	0.83	24.7



Alt Model-Shift Uniqueness Test

005811454-01, P = 0.534423 Days, E = 131.358951 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
83.9	82.8	0	0	4.40	1.23	1.04	83.9	83.9	82.8	82.8	0.42	1.04	0.01	0.67



Stellar Parameters For KIC 005811454

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7810^{+70}_{-85}	$3.909^{+0.149}_{-0.080}$	$-0.040^{+0.100}_{-0.150}$	$2.540^{+0.285}_{-0.488}$	$1.906^{+0.046}_{-0.194}$	$0.164^{+0.119}_{-0.042}$
	+1%/-1%	+4%/-2%	+250%/-375%	+11%/-19%	+2%/-10%	+73%/-26%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005811454-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-224 ± 9	$2.81^{+2.36}_{-1.83}$	6058^{+212}_{-286}	9729^{+18758}_{-3400}	$3.956^{+28.695}_{-2.787}$
Alt.	-1378 ± 17	$10.69^{+2.60}_{-2.52}$	6041^{+211}_{-279}	7103^{+1360}_{-924}	$1.679^{+1.116}_{-0.593}$

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

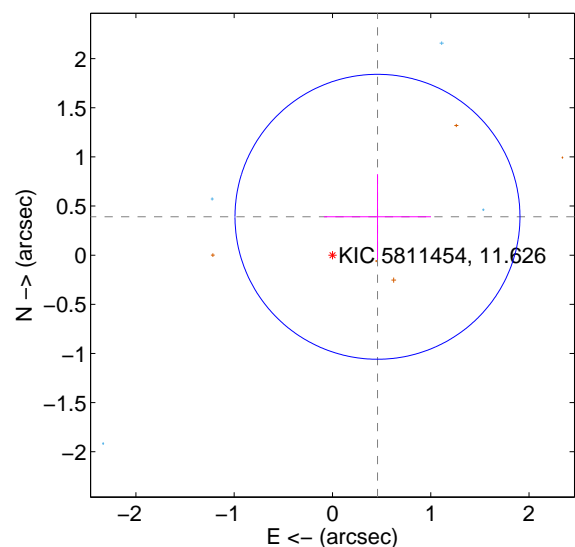
Supplemental centroid analysis for 005811454-01. **Kepler magnitude: 11.63.** Transit SNR 6.86

There are 5 quarters with good PRF difference image offsets

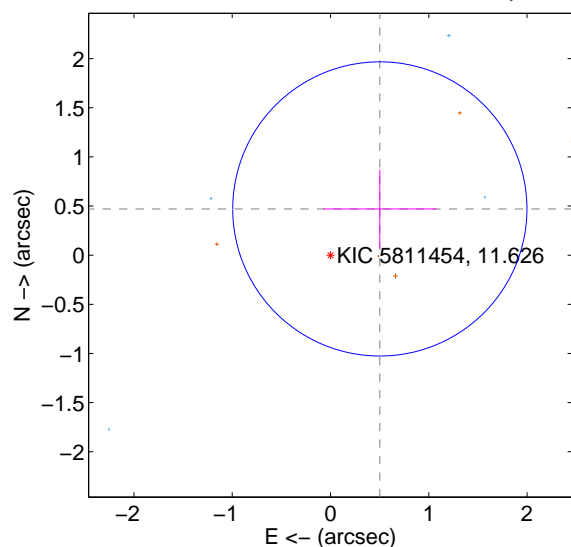
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.602 ± 0.483	1.25	-0.458 ± 0.545	0.391 ± 0.434
PRF-fit source offset from KIC position	0.688 ± 0.499	1.38	-0.502 ± 0.576	0.471 ± 0.400
photometric centroid source offset	0.28 ± 0.09	3.21	-0.17 ± 0.09	0.22 ± 0.08

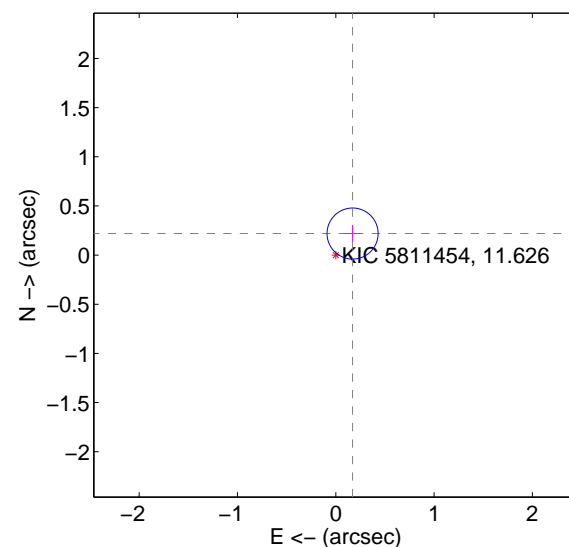
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

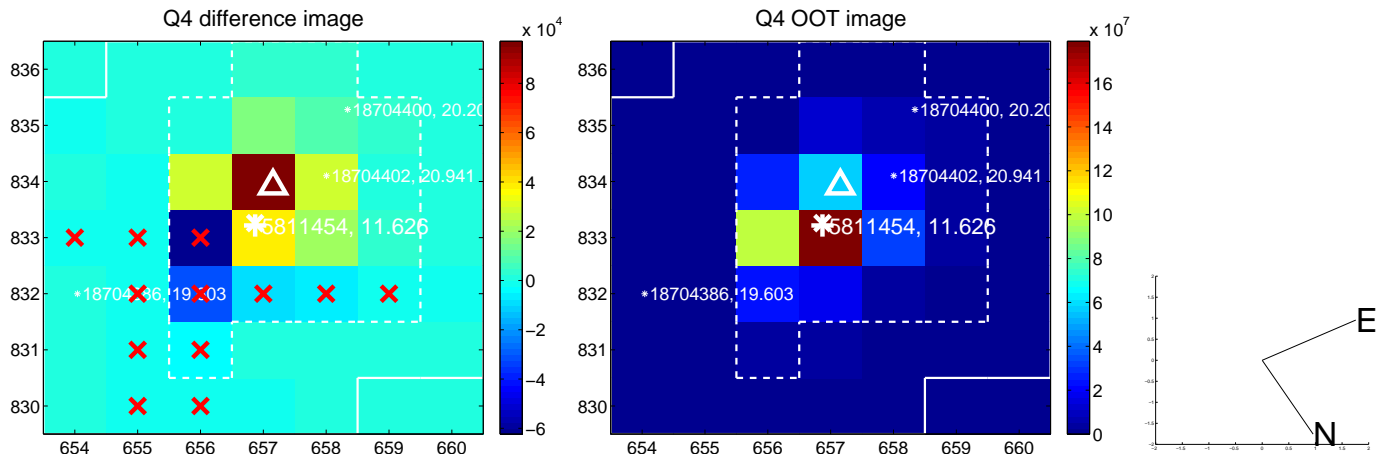
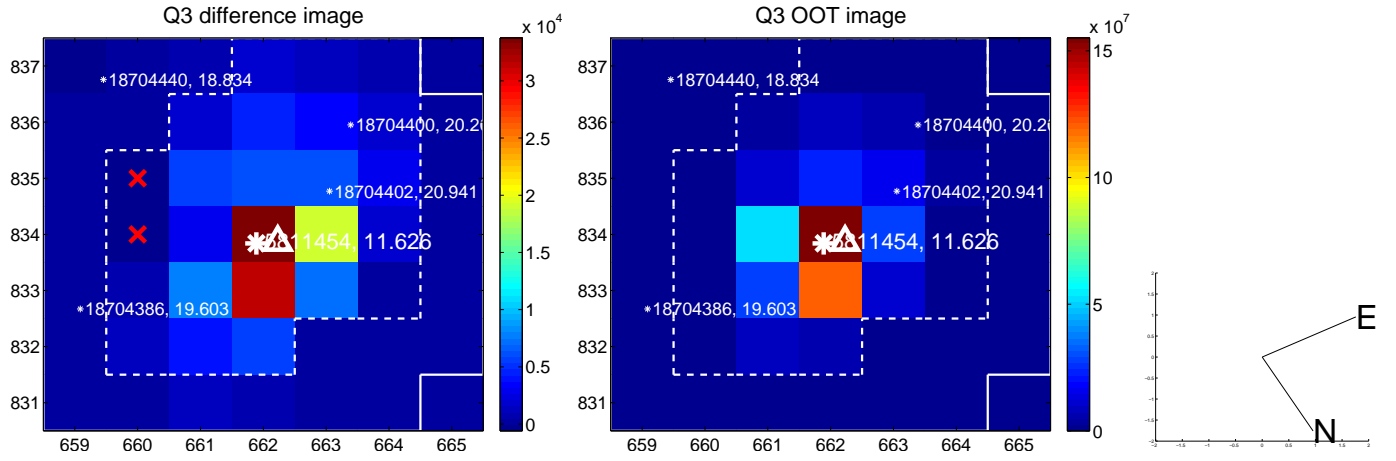
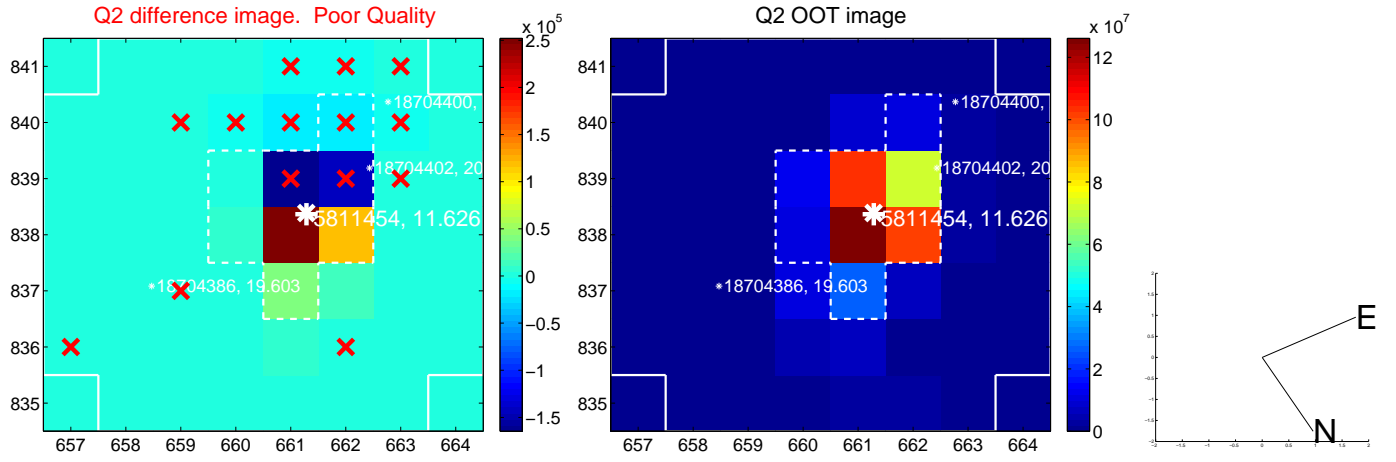
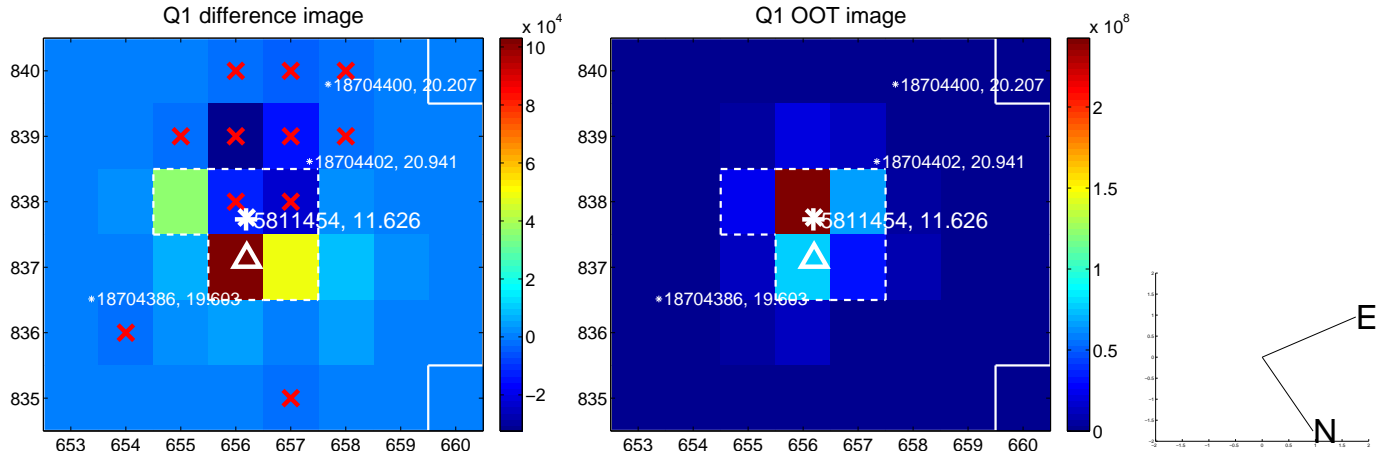


offset from photometric centroids

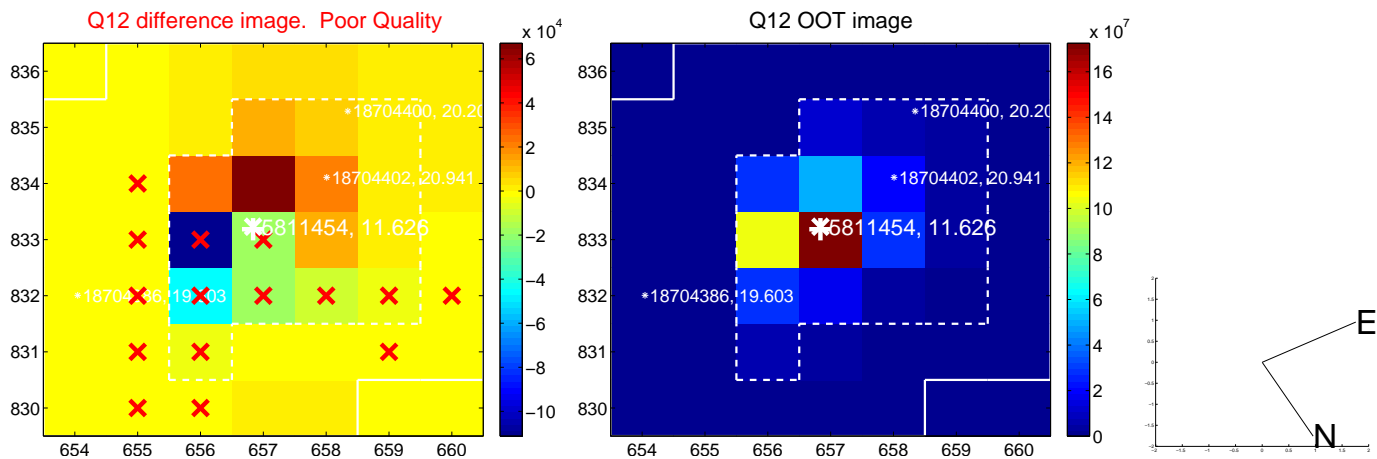
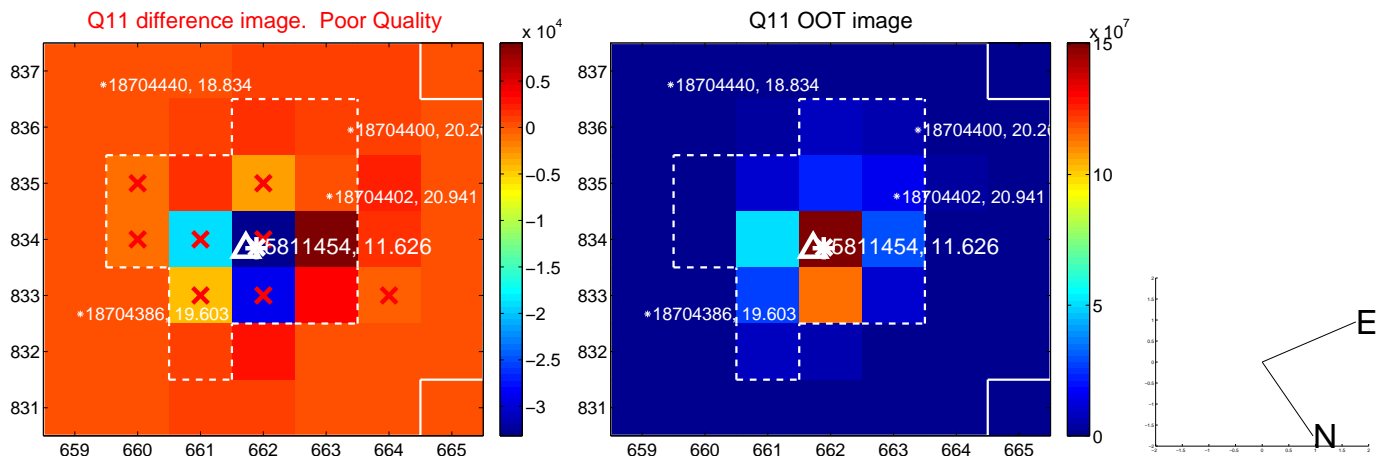
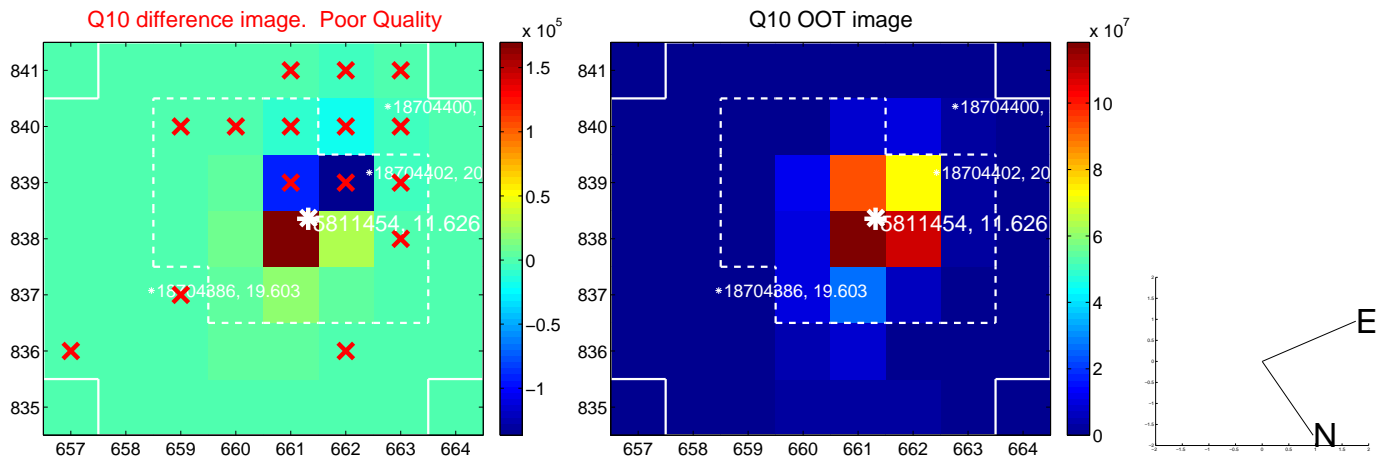
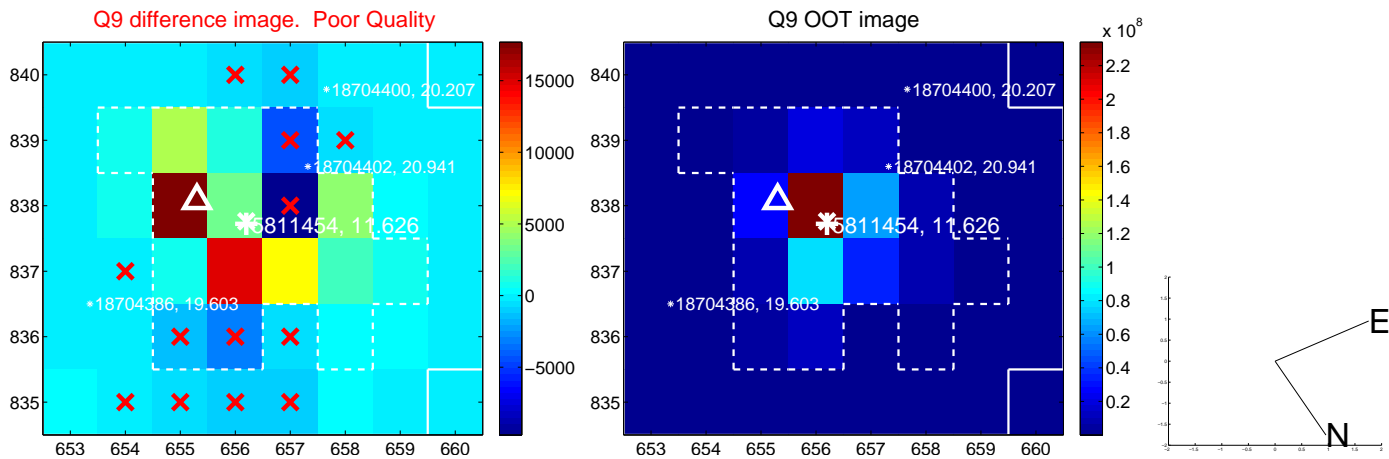


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

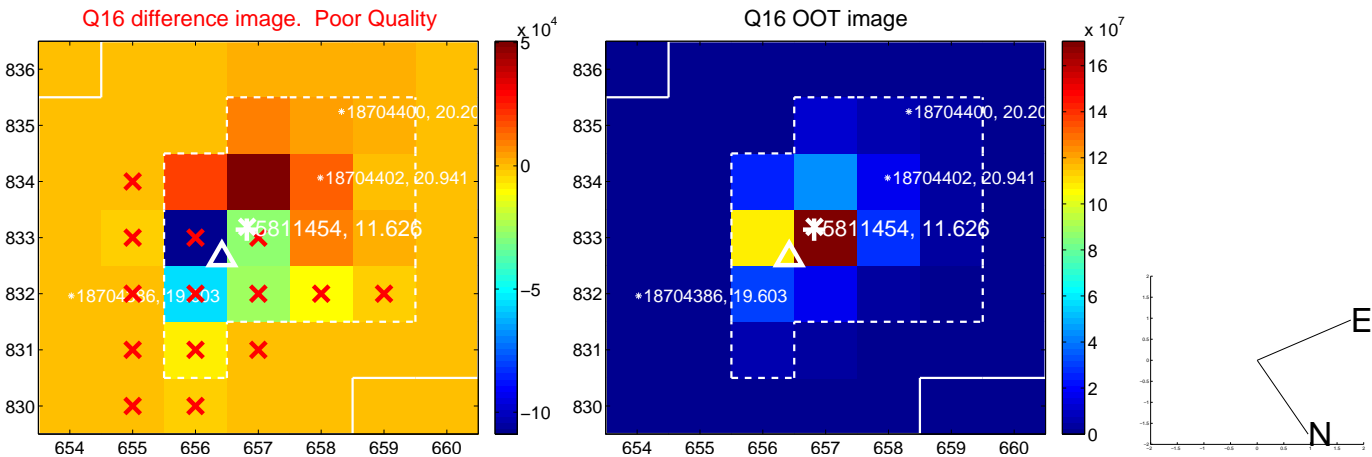
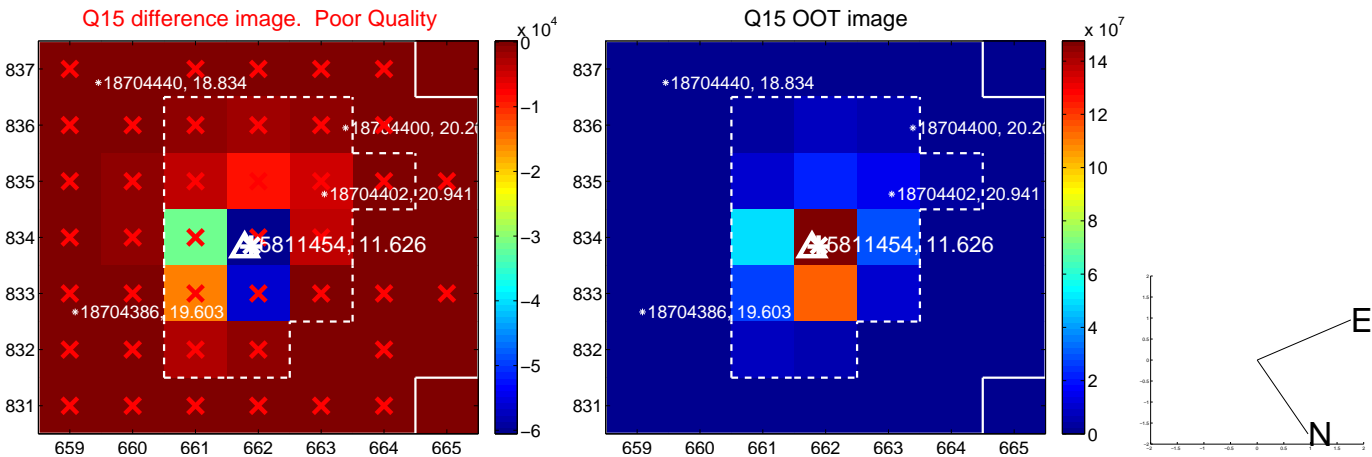
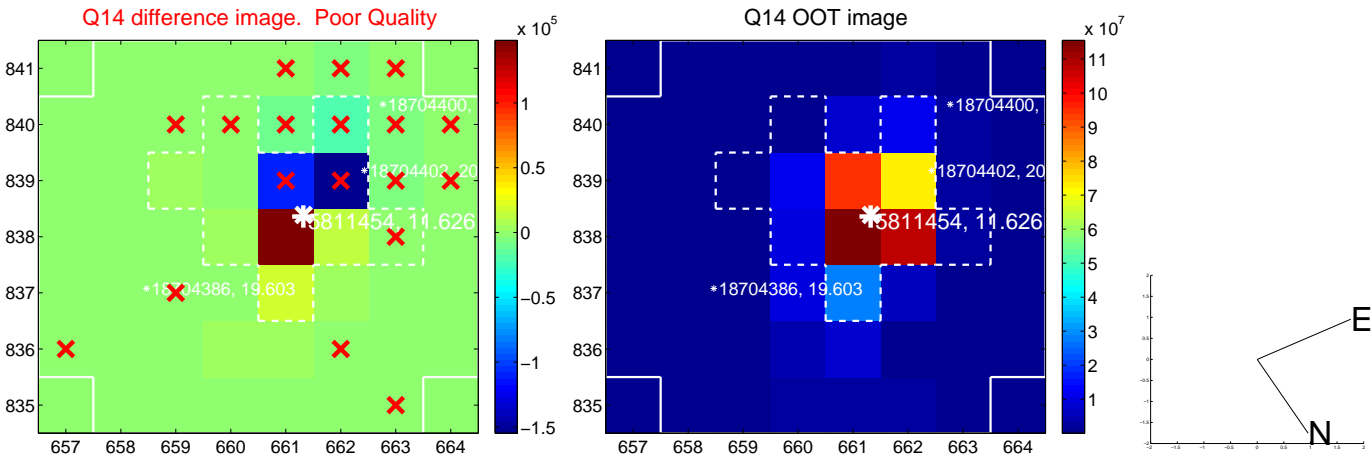
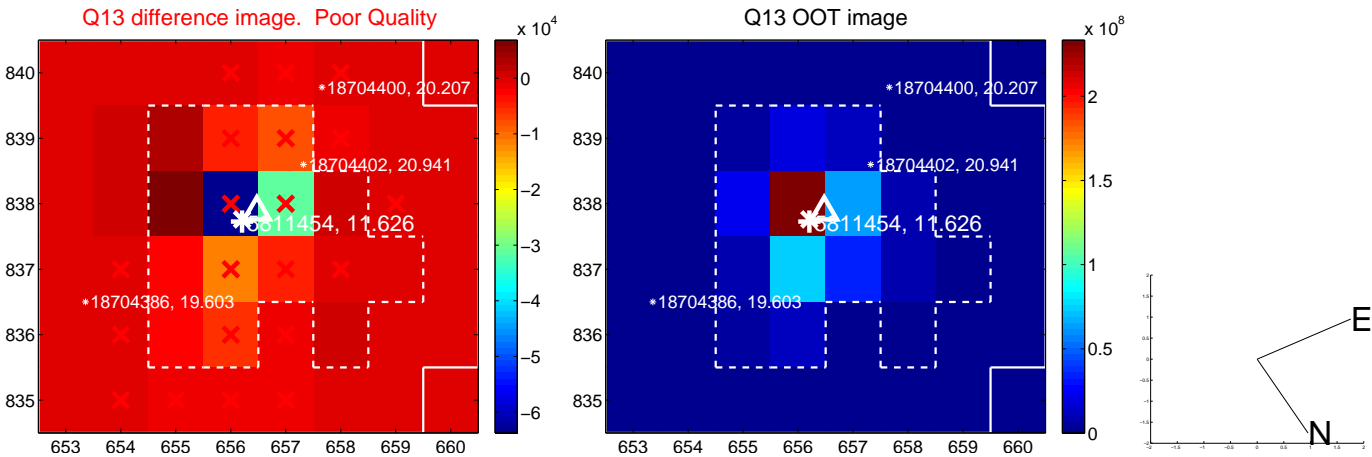
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



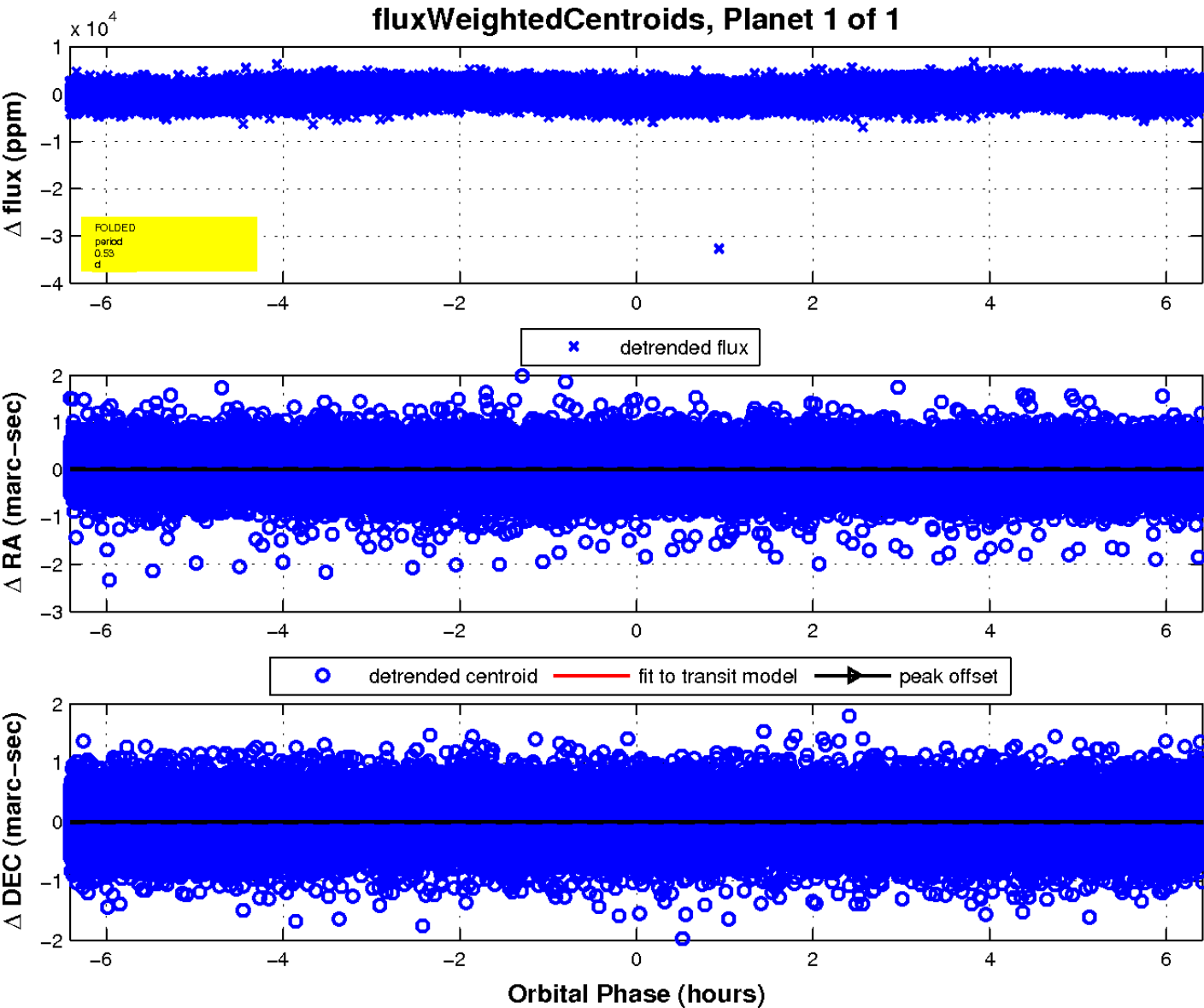
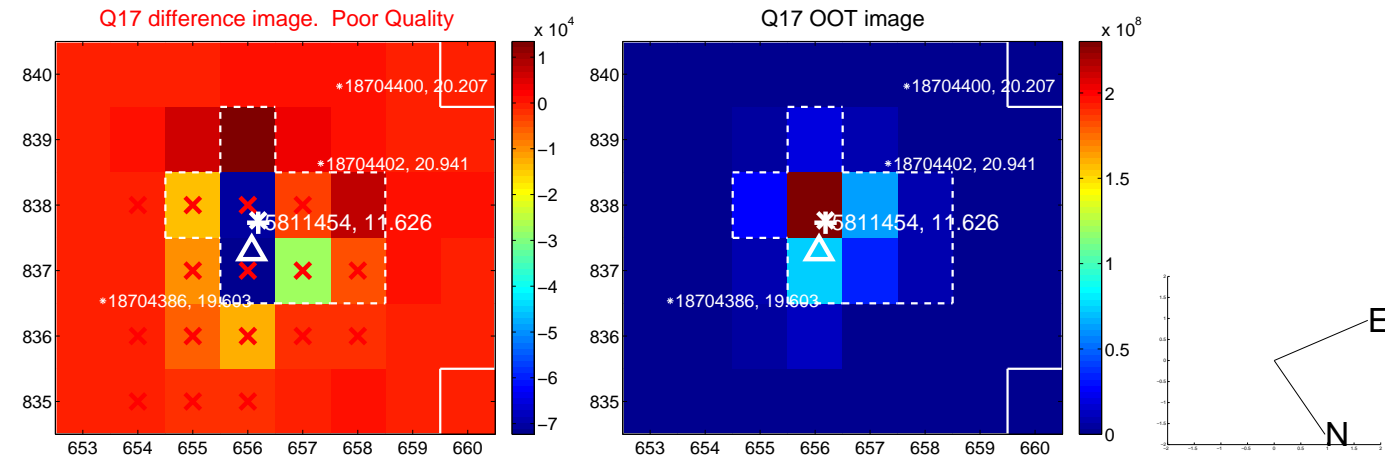
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

