

KIC 007115550

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
007115550-01	OBS	7811.01	0.566771	131.839145	25.6	3.191	11.9	11.3	0.83	5724	0.44	4094.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007115550-01	OBS	FP	0.00	0	1	0	1	MOD_SEC_ALT—EPHEM_MATCH

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.

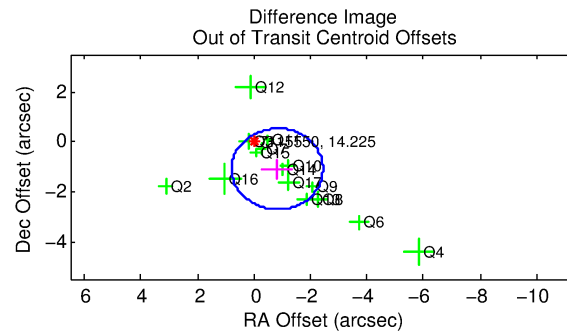
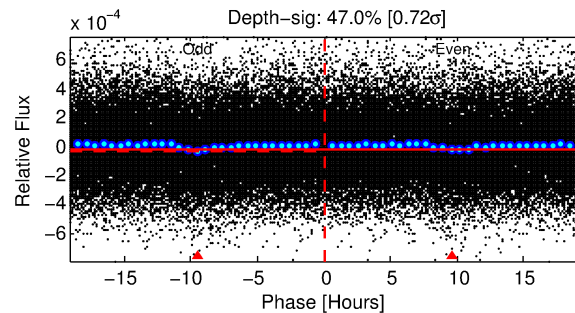
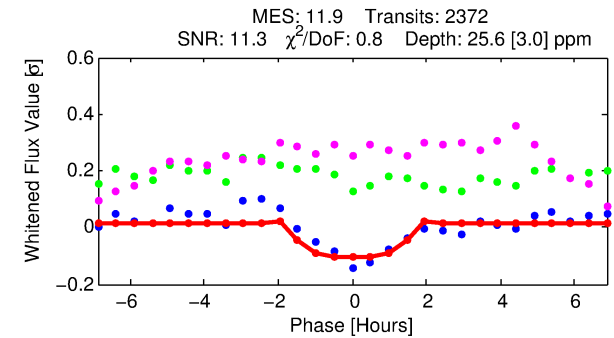
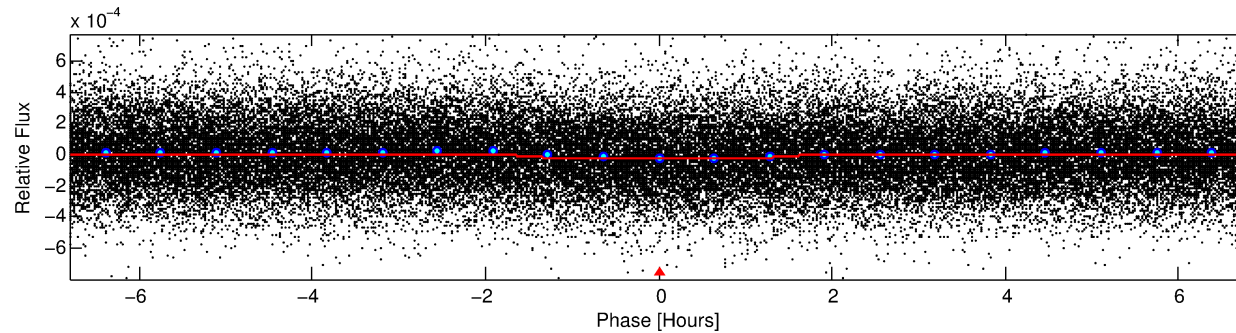
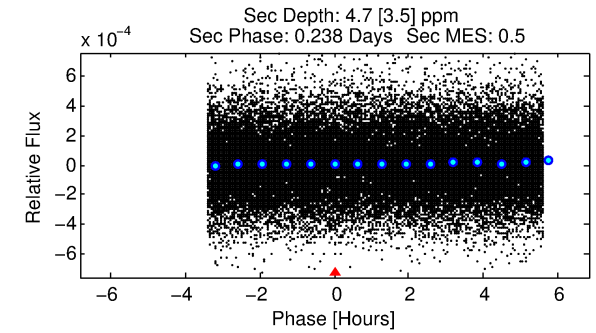
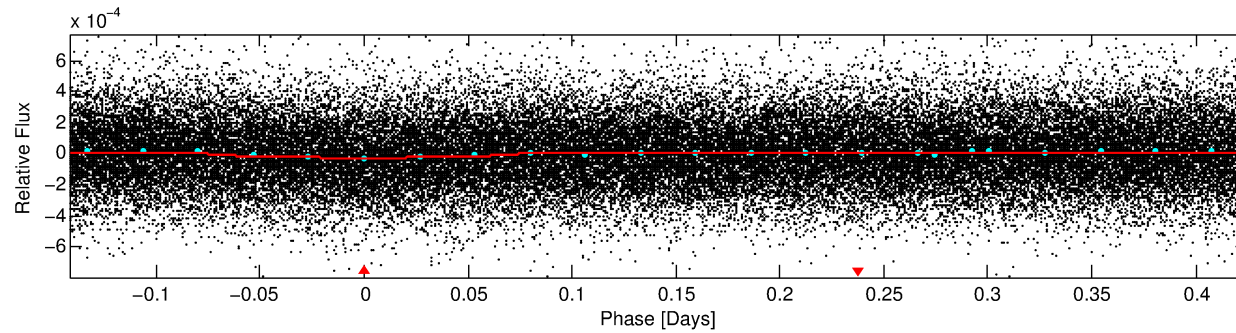
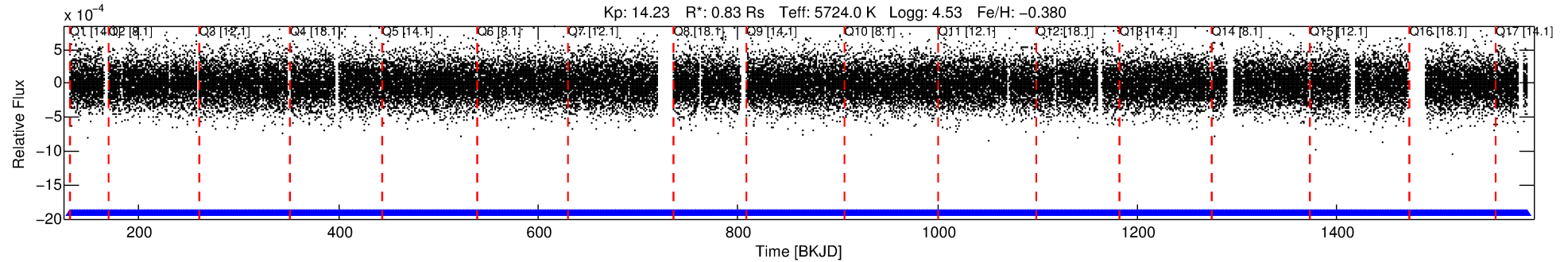
Ephemeris Match Information For 007115550-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
007115550-01	7115550	RR-Lyr-pri	7198959	1:1	956.7	30	-239	7.86	14.22	23973.00	Direct-PRF	0	4.76	24.24

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_T < 5.0. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 7115550 Candidate: 1 of 1 Period: 0.567 d



DV Fit Results:

Period = 0.56677 [0.00001] d
Epoch = 131.8391 [0.0031] BKJD
Rp/R* = 0.0048 [0.0023]
a/R* = 1.34 [1.30]
b = 0.60 [2.35]
Seff = 4094.05 [1314.21]
Teq = 2040 [164] K
Rp = 0.44 [0.24] Re
a = 0.0127 [0.0026] AU
Ag = 2.19 [2.74] [0.43σ]
Teffp = 3836 [1170] K [1.52σ]

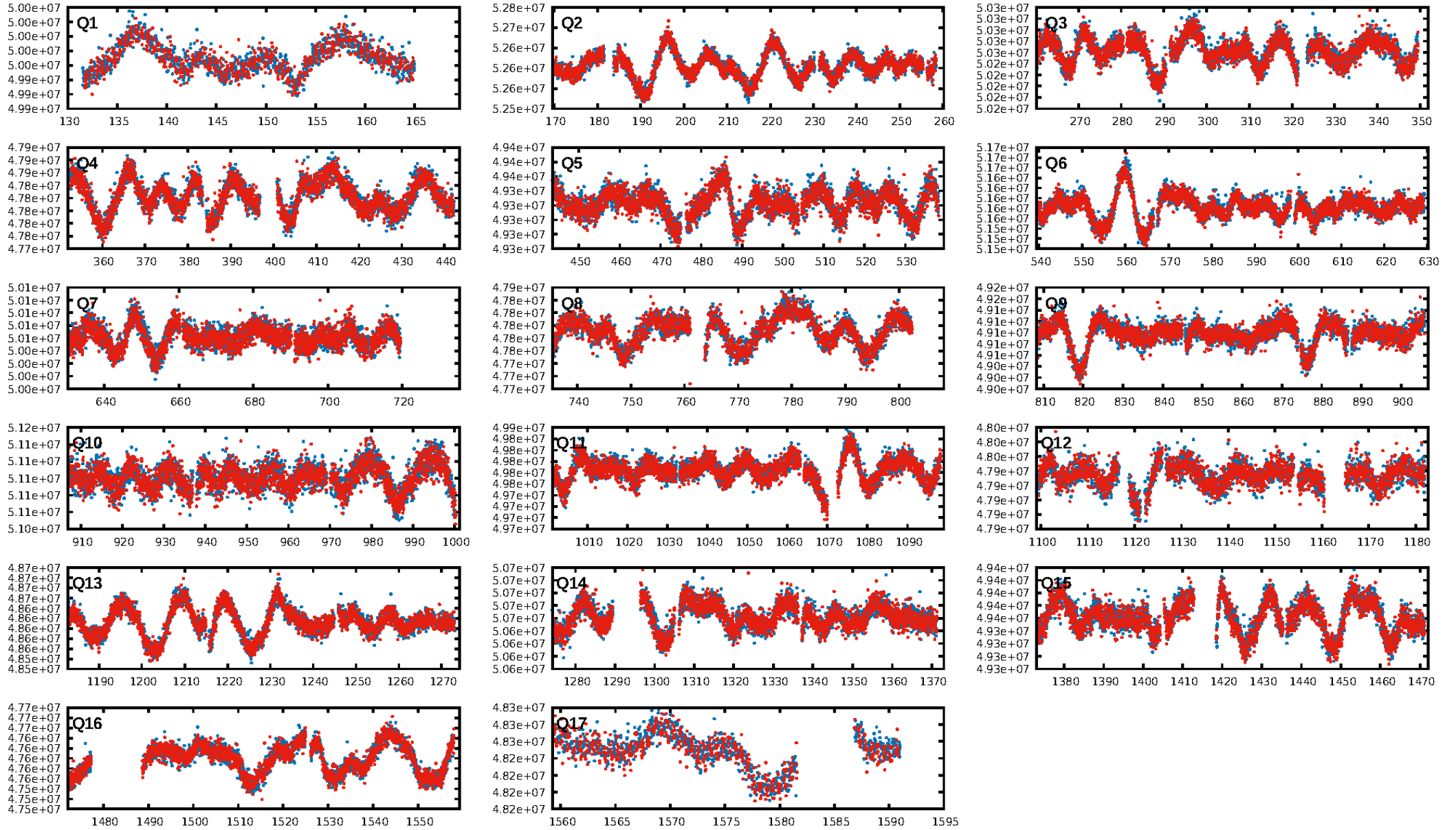
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.24e-27
RollingBand-fgt: 1.00 [2266/2266]
GhostDiagnostic-chr: 0.319
Centroid-sig: 0.0%
Centroid-so: 3.483 arcsec [3.83σ]
OotOffset-rm: 1.367 arcsec [2.53σ]
KicOffset-rm: 1.516 arcsec [2.83σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.07 [1/15]
DiffImageOverlap-fno: 1.00 [17/17]

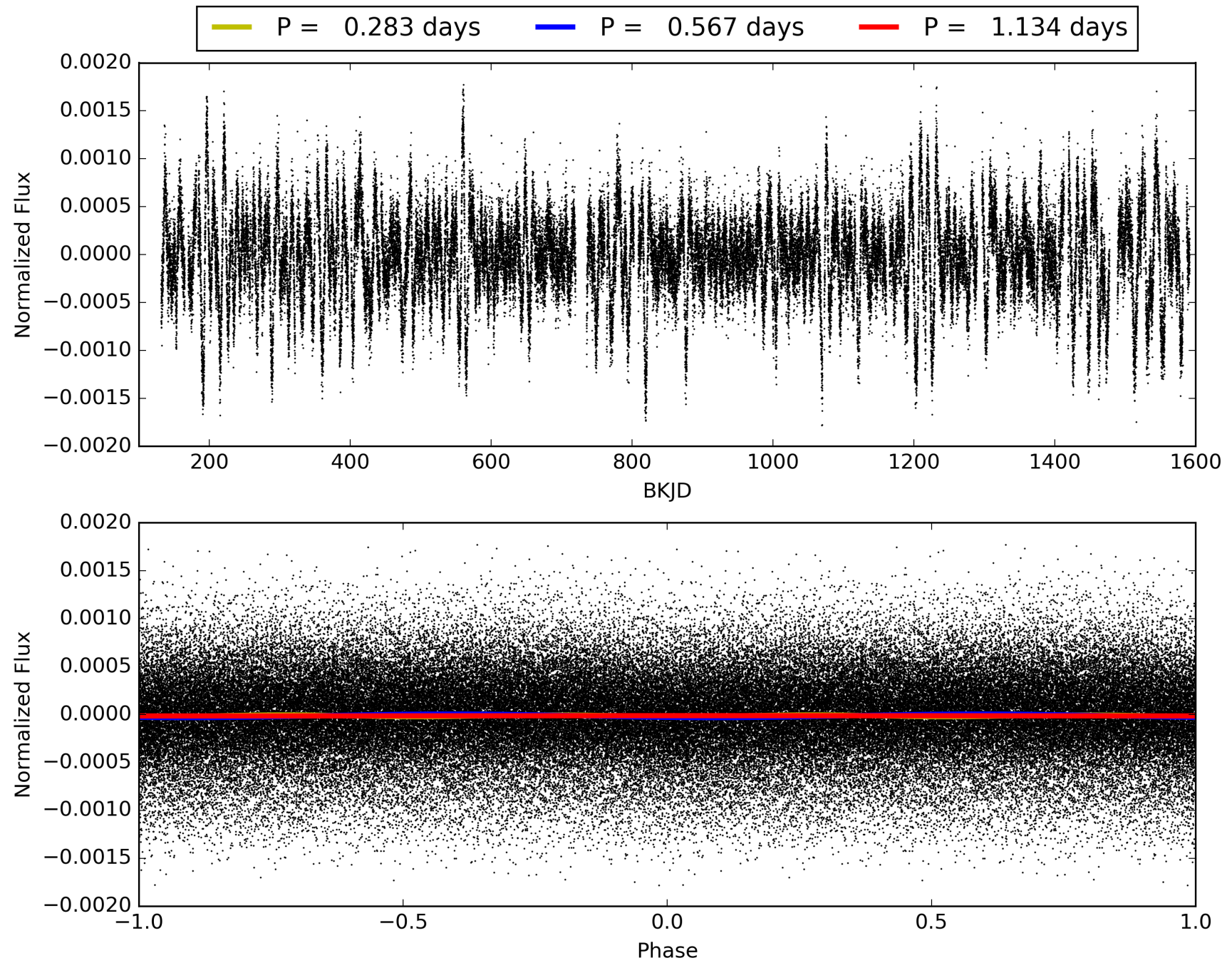
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:56:50 Z

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

TCE 007115550-01, PDC Light Curves

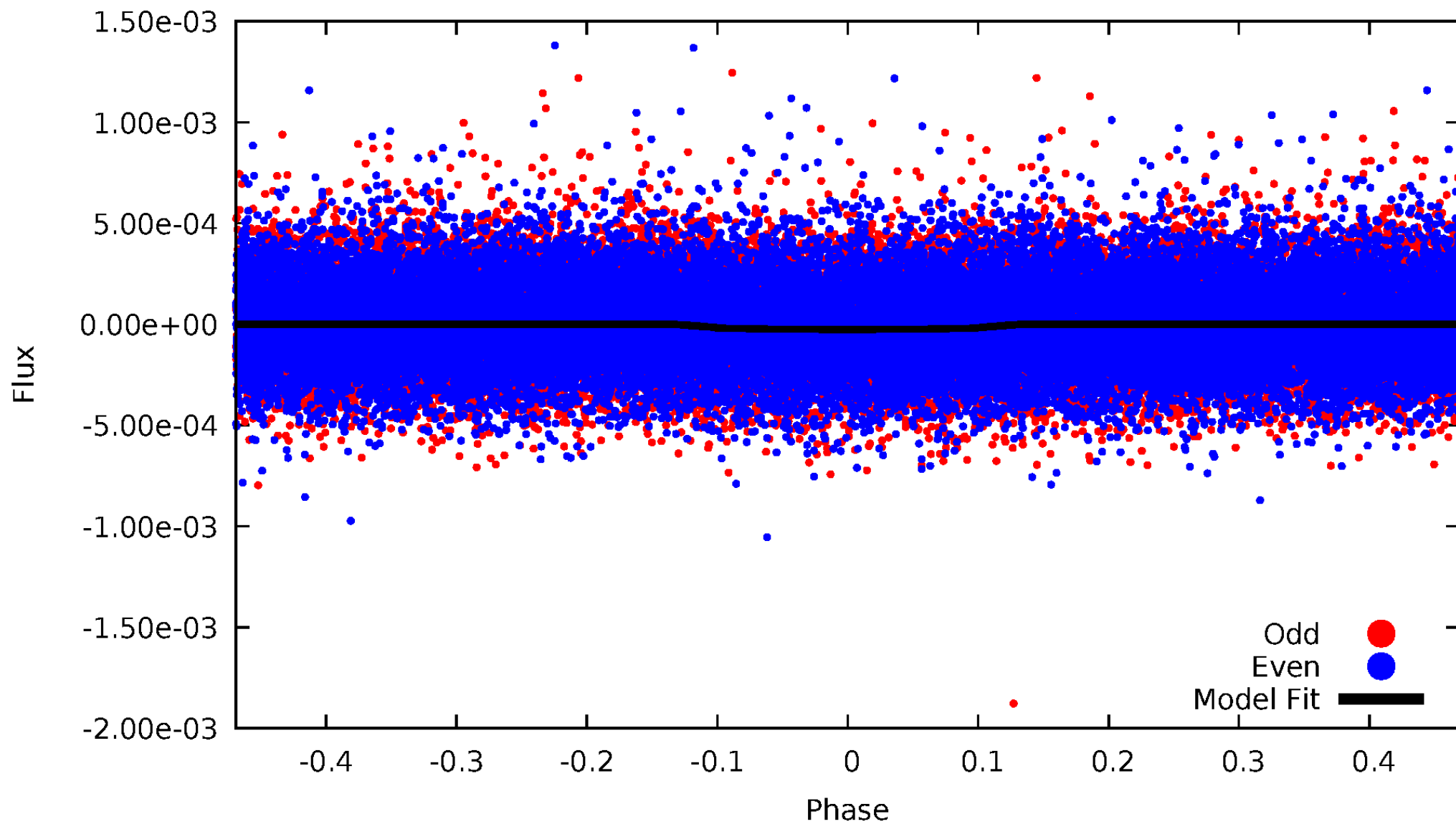


TCE 007115550-01



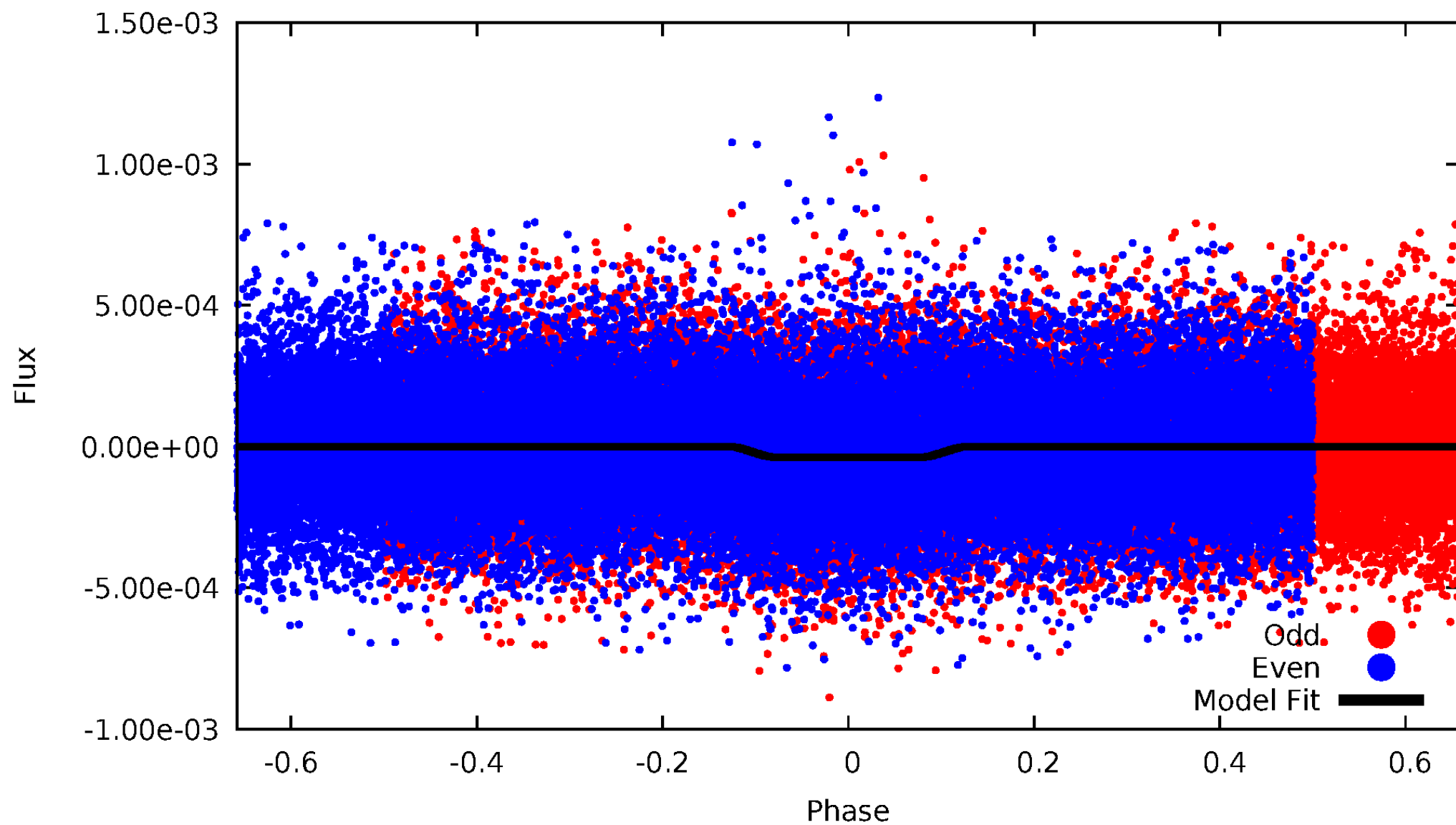
DV Odd/Even

TCE 007115550-01



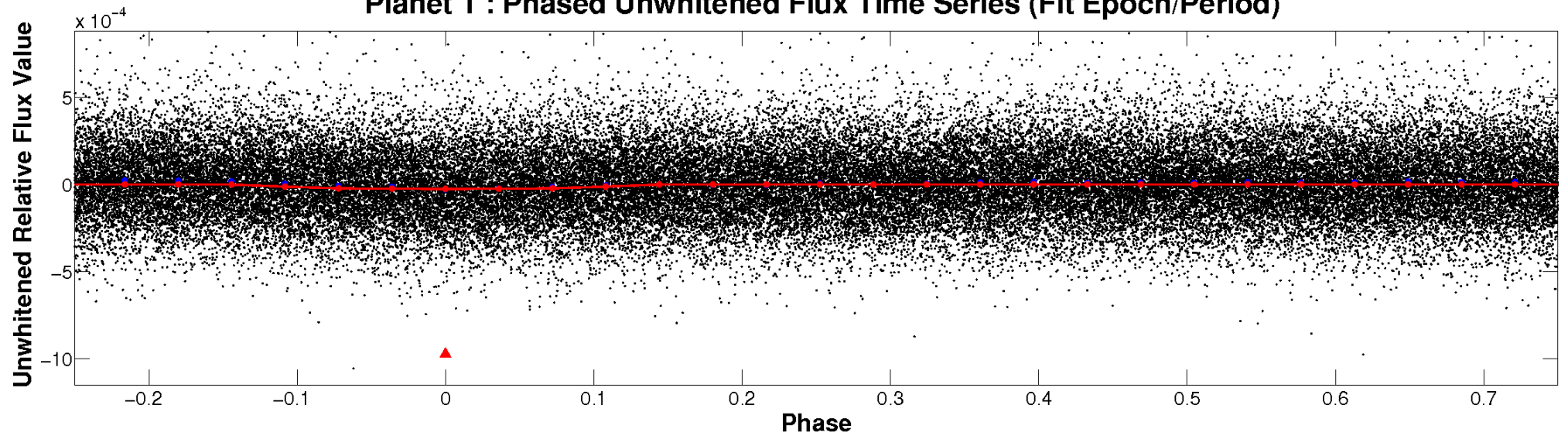
ALT Odd/Even

TCE 007115550-01

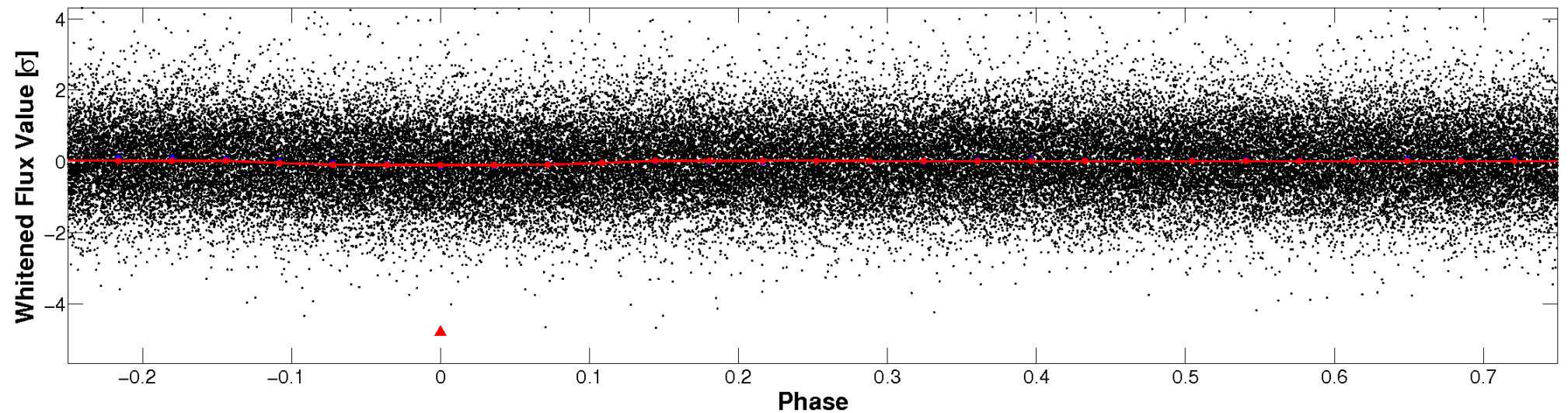


Non-Whitened Vs. Whitened Light Curve

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

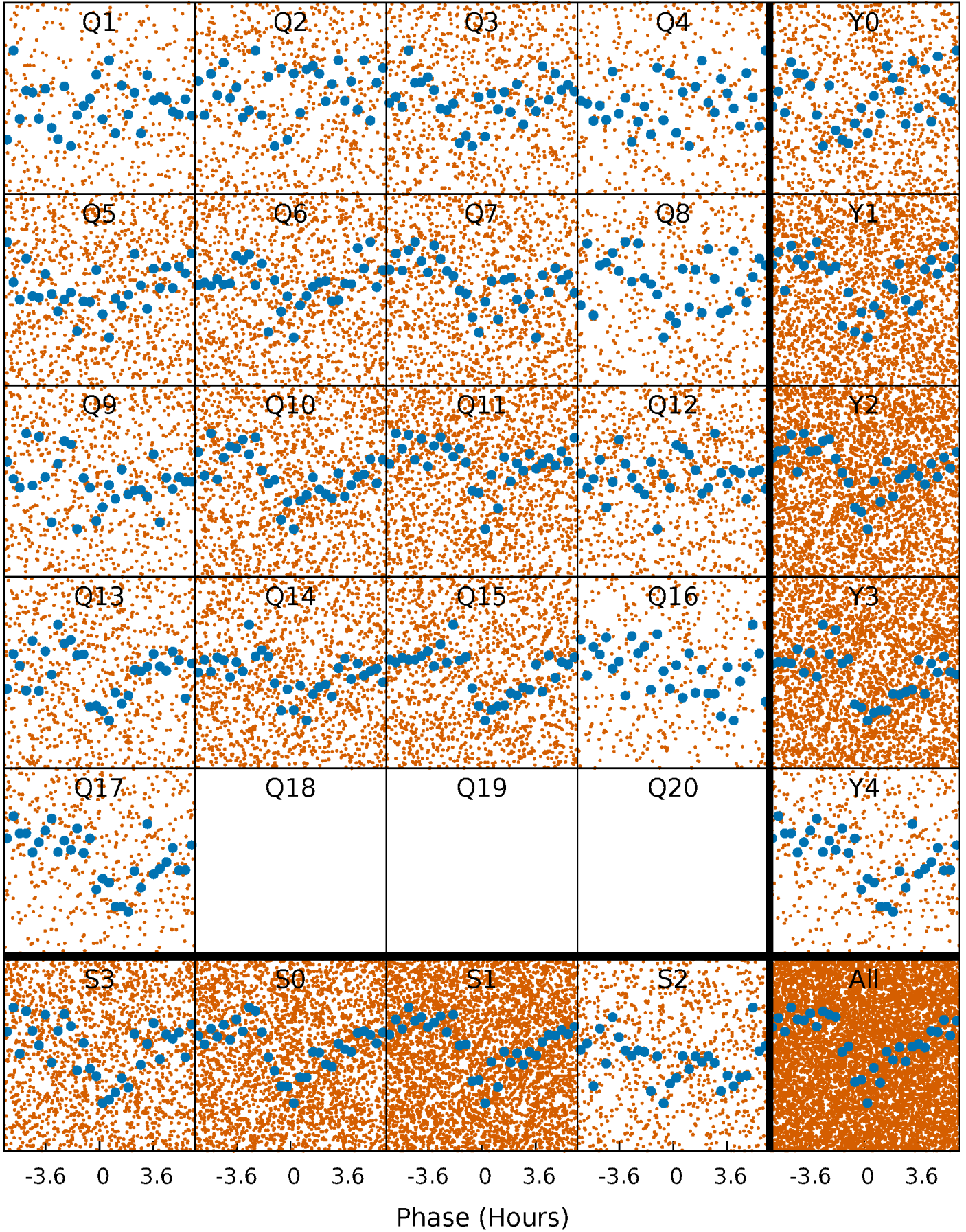


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



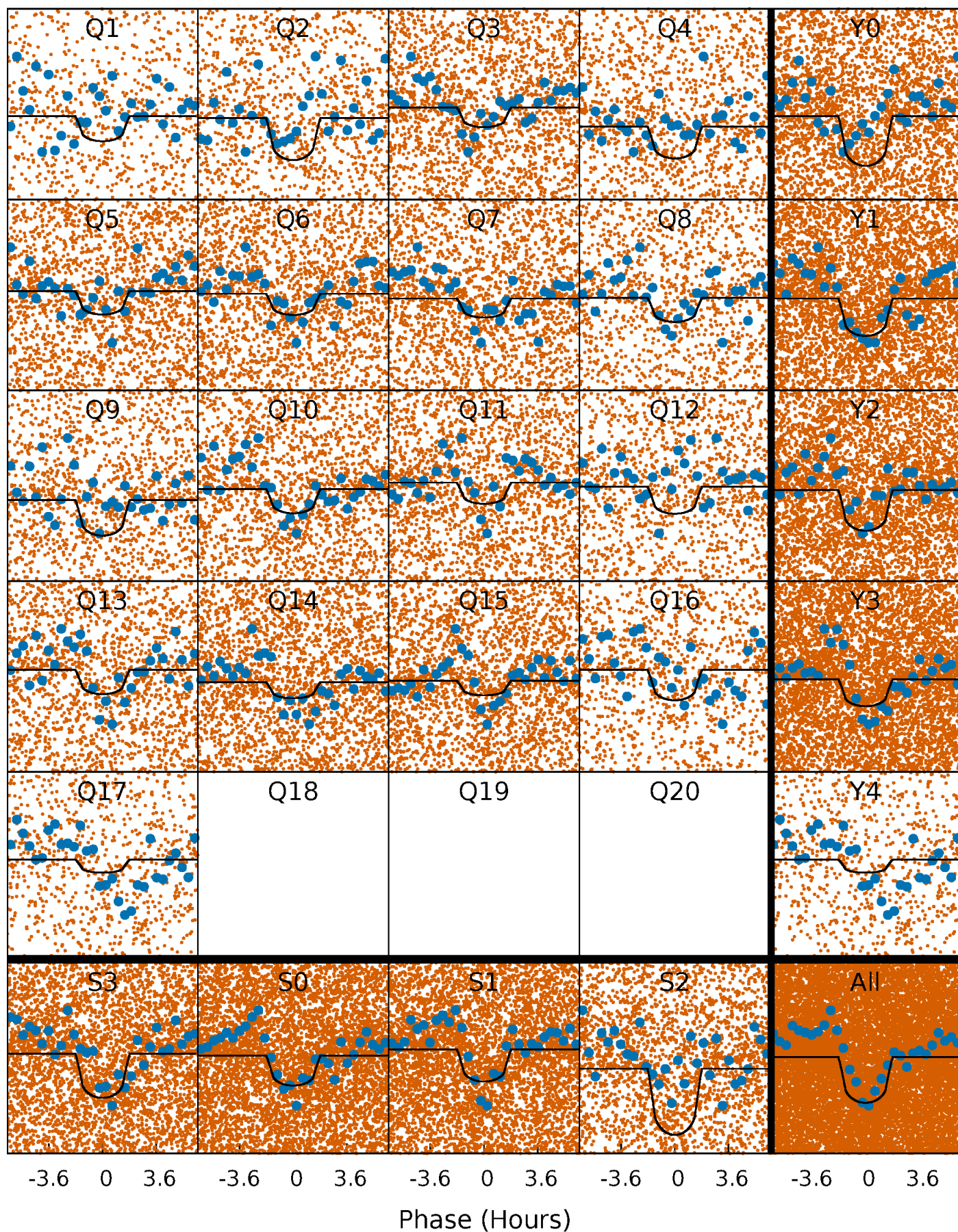
PDC Quarter-Phased Transit Curves

TCE 007115550-01 P= 0.566771 Days $T_0=131.839145$ (BKJD)



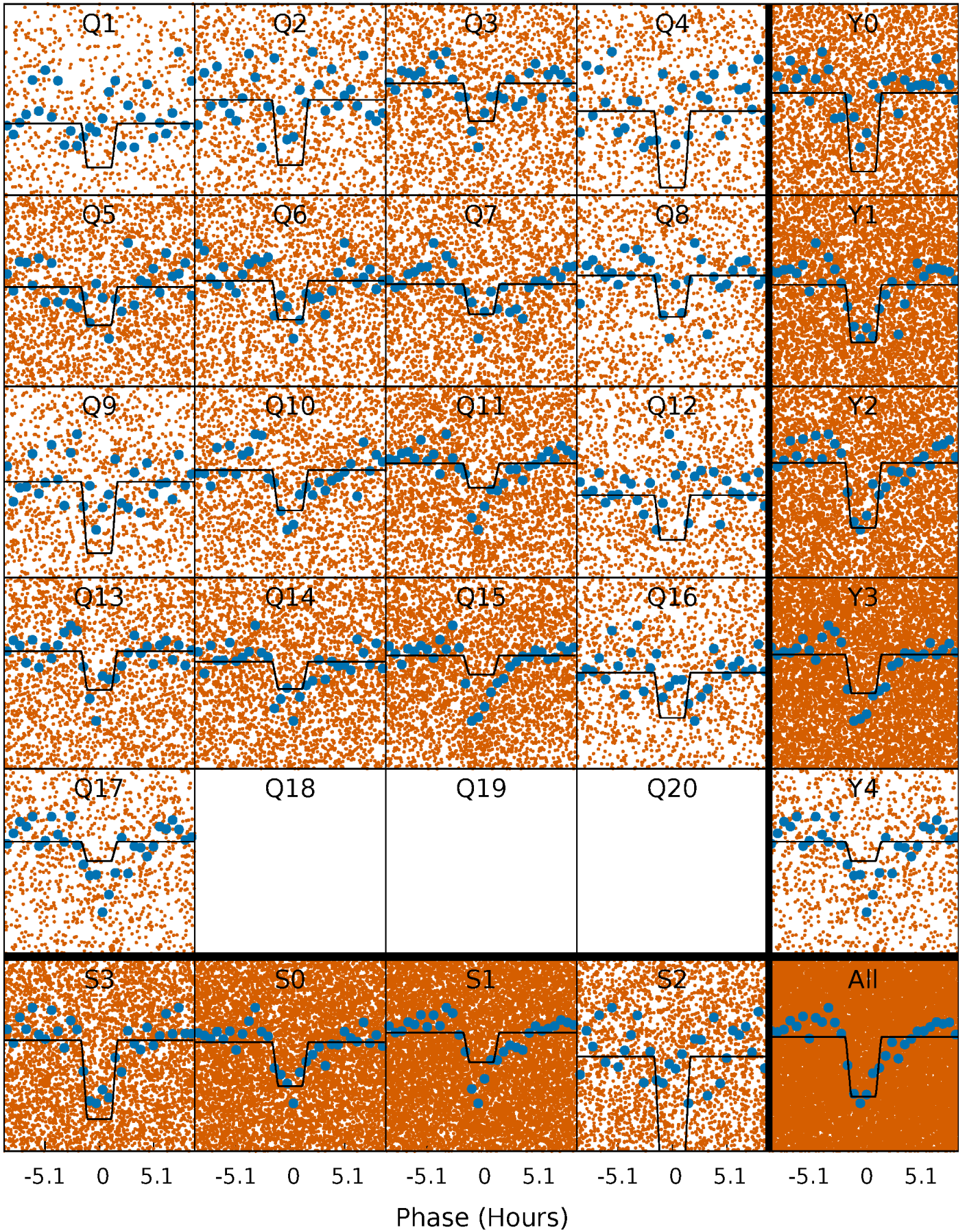
DV Quarter-Phased Transit Curves

TCE 007115550-01 P= 0.566771 Days $T_0=131.839145$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

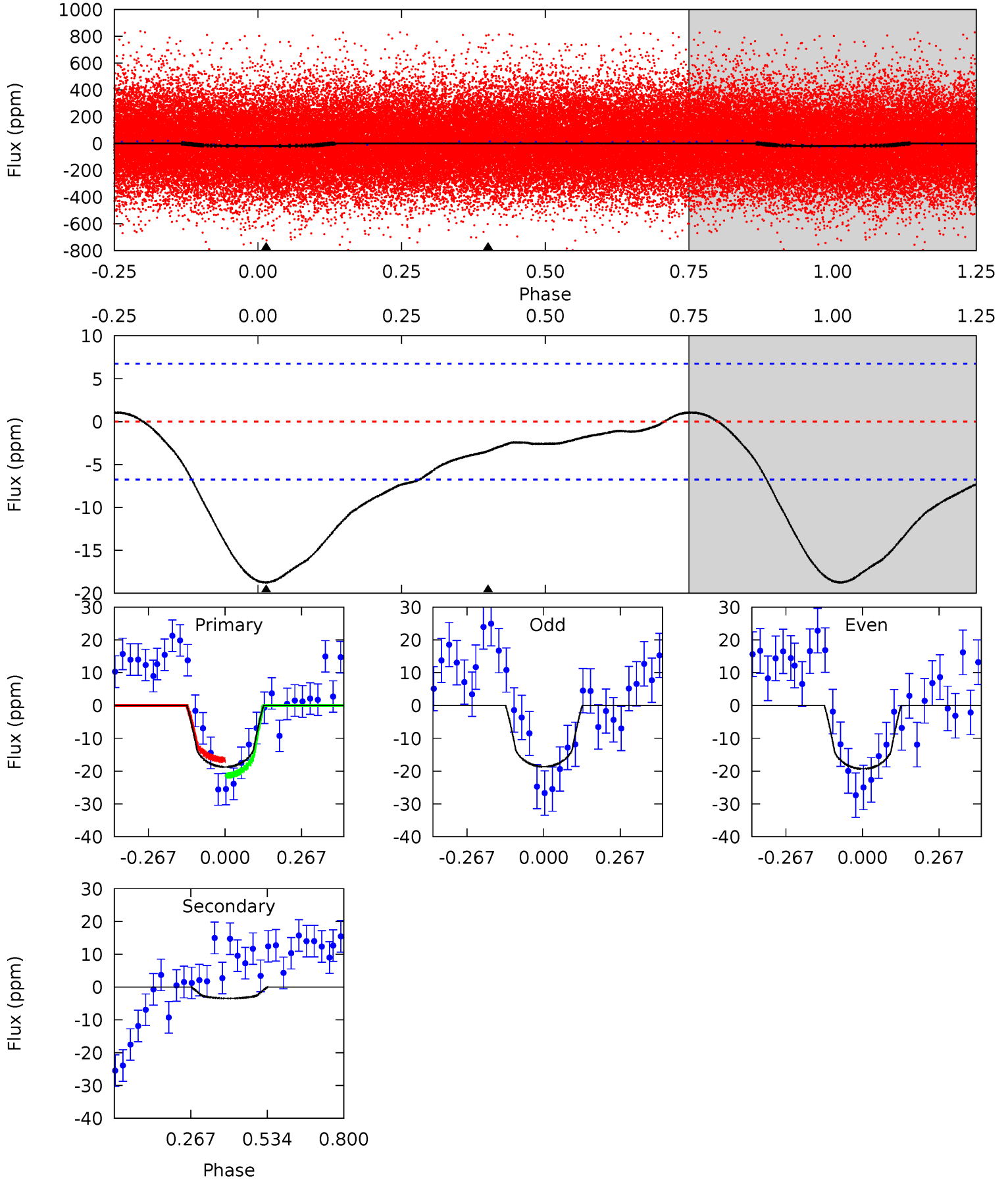
TCE 007115550-01 P= 0.566801 Days $T_0=131.807598$ (BKJD)



DV Model-Shift Uniqueness Test

007115550-01, P = 0.566771 Days, E = 131.272374 Days

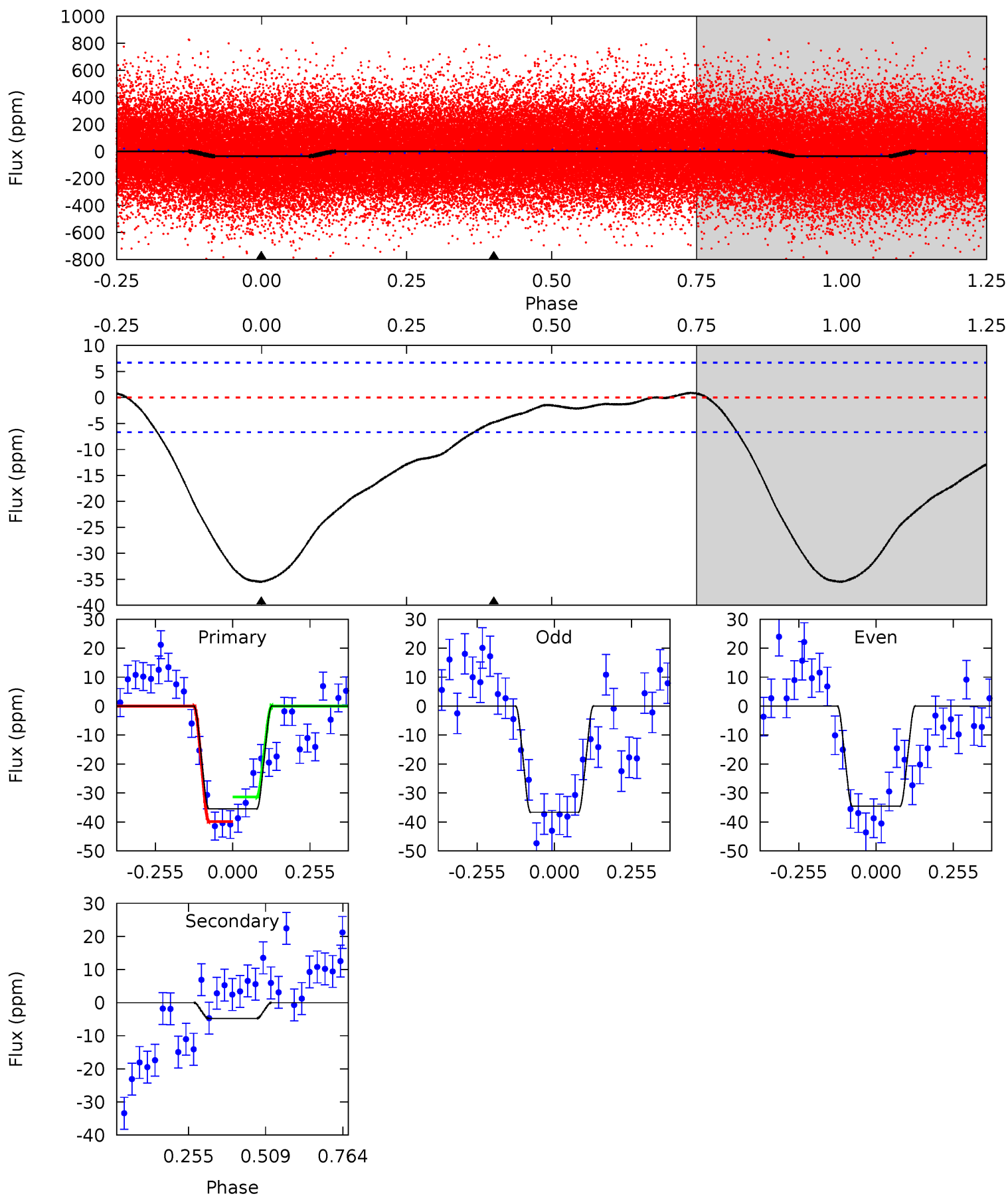
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.1	2.23	0	0	4.35	1.11	0.51	12.1	12.1	2.23	2.23	0.22	0.95	0.05	1.56



Alt Model-Shift Uniqueness Test

007115550-01, P = 0.566801 Days, E = 131.240797 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.1	3.12	0	0	4.36	1.14	0.29	23.1	23.1	3.12	3.12	0.69	1.00	0.02	2.81



Stellar Parameters For KIC 007115550

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5724^{+154}_{-154}	$4.530^{+0.055}_{-0.165}$	$-0.380^{+0.300}_{-0.300}$	$0.827^{+0.205}_{-0.088}$	$0.845^{+0.098}_{-0.080}$	$2.106^{+0.594}_{-0.926}$
	+3%/-3%	+1%/-4%	+79%/-79%	+25%/-11%	+12%/-9%	+28%/-44%
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 007115550-01 / KOI 7811.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-3 ± 2	$0.46^{+0.23}_{-0.20}$	2896^{+165}_{-121}	3707^{+1065}_{-848}	$1.392^{+3.408}_{-0.908}$
Alt.	-5 ± 2	$0.55^{+0.21}_{-0.22}$	2897^{+156}_{-123}	3663^{+918}_{-642}	$1.343^{+2.484}_{-0.752}$

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 $A_{obs} \gg 1.0$

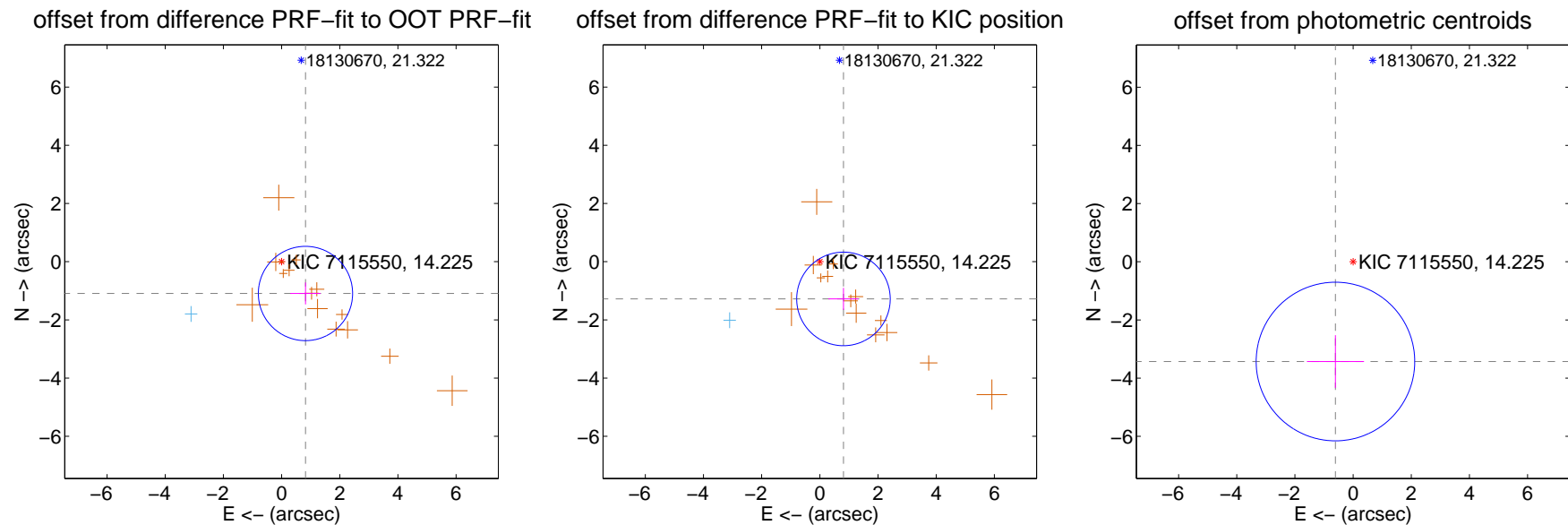
DV Centroid Data

Supplemental centroid analysis for 007115550-01. Kepler magnitude: 14.22. Transit SNR 11.29

There are 1 quarters with good PRF difference image offsets

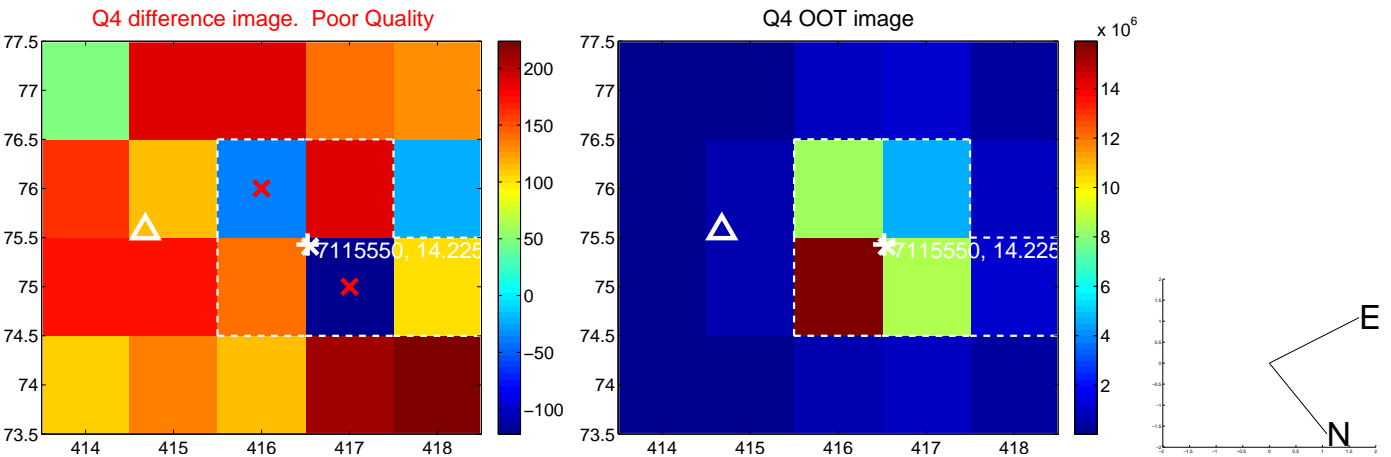
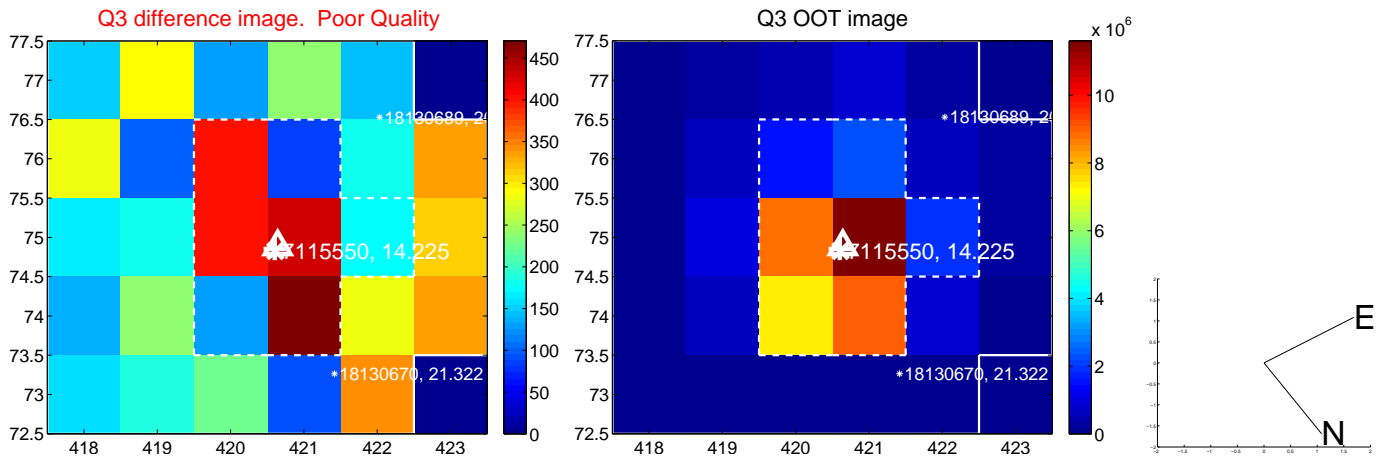
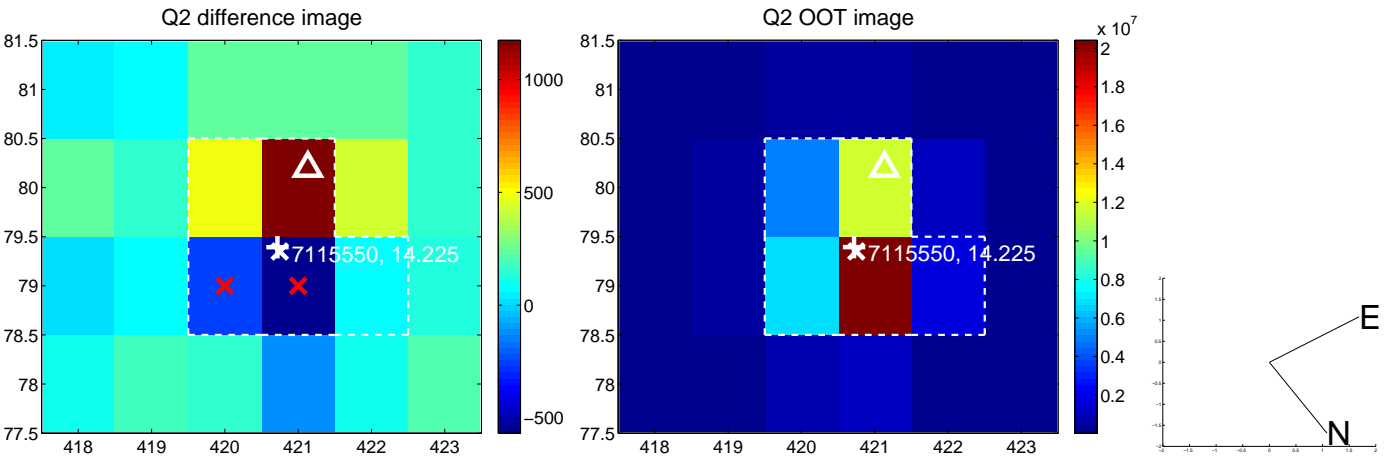
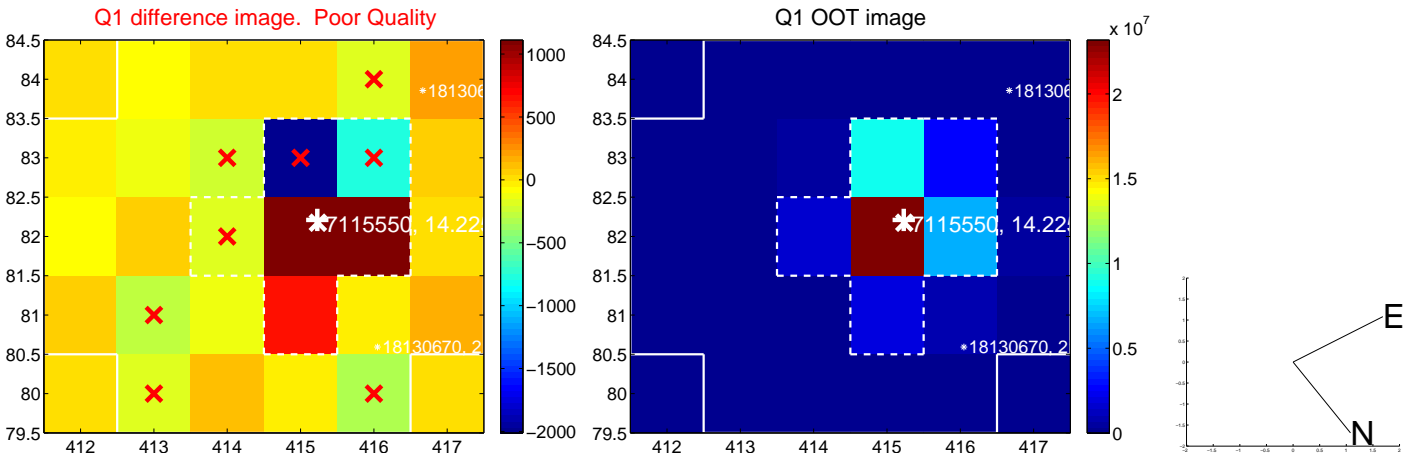
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.367 ± 0.540	2.53	-0.822 ± 0.522	-1.093 ± 0.378
PRF-fit source offset from KIC position	1.516 ± 0.536	2.83	-0.812 ± 0.519	-1.280 ± 0.378
photometric centroid source offset	3.48 ± 0.91	3.83	0.61 ± 0.98	-3.43 ± 0.91

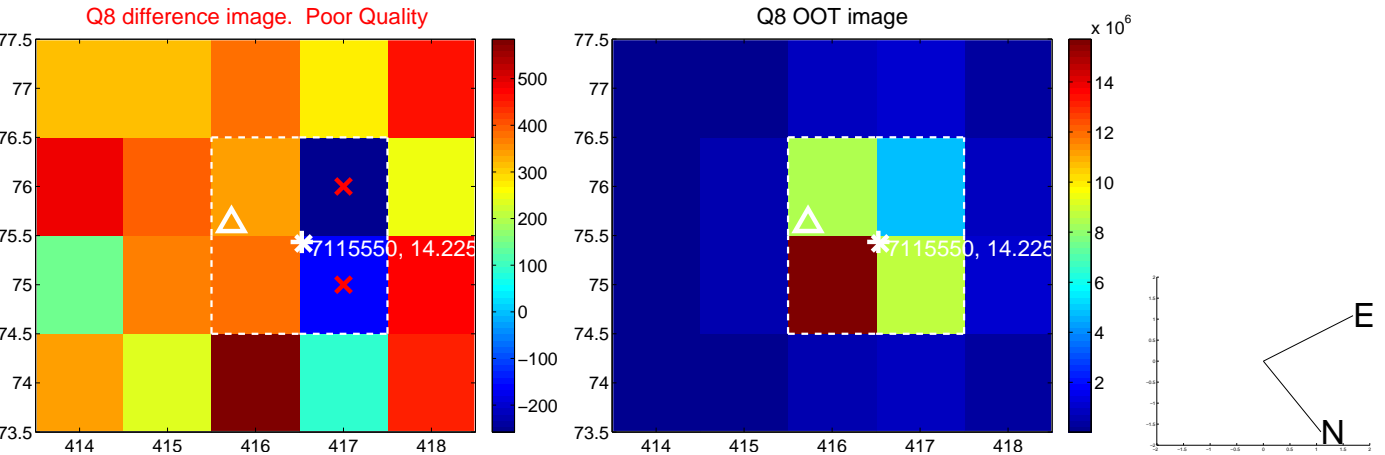
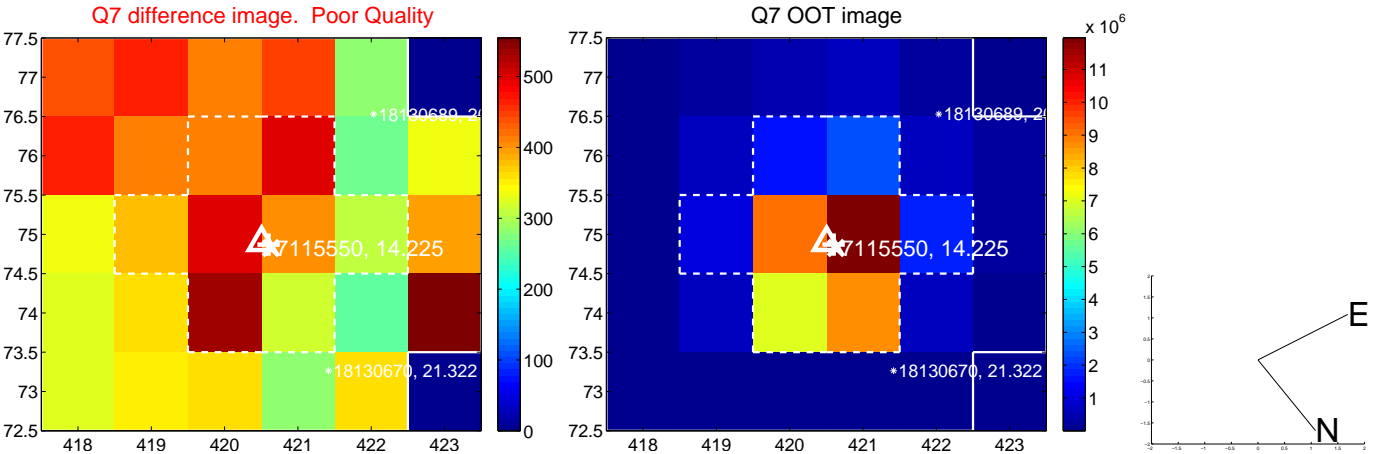
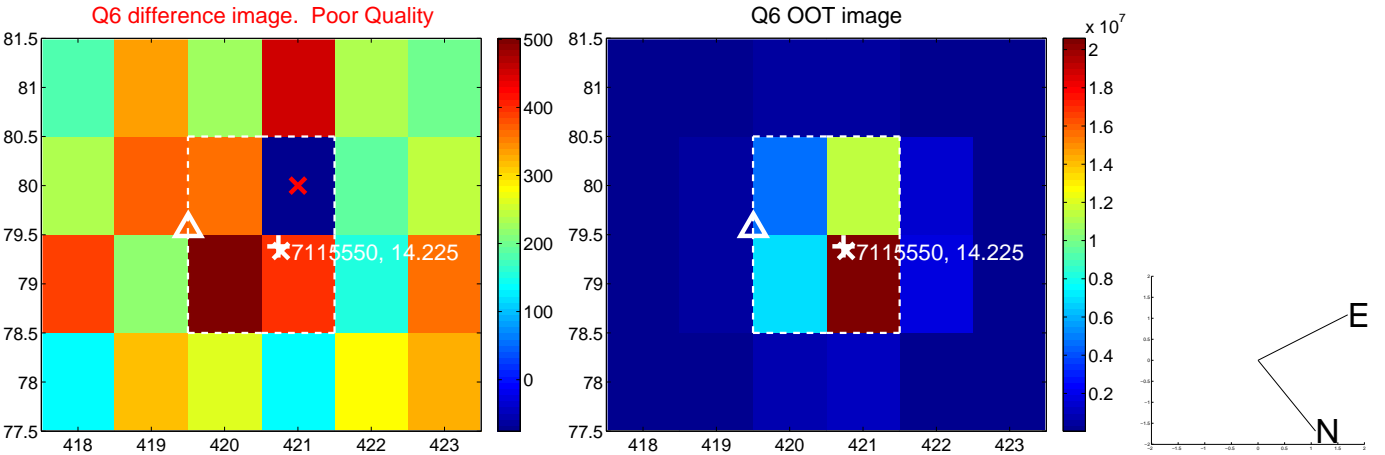
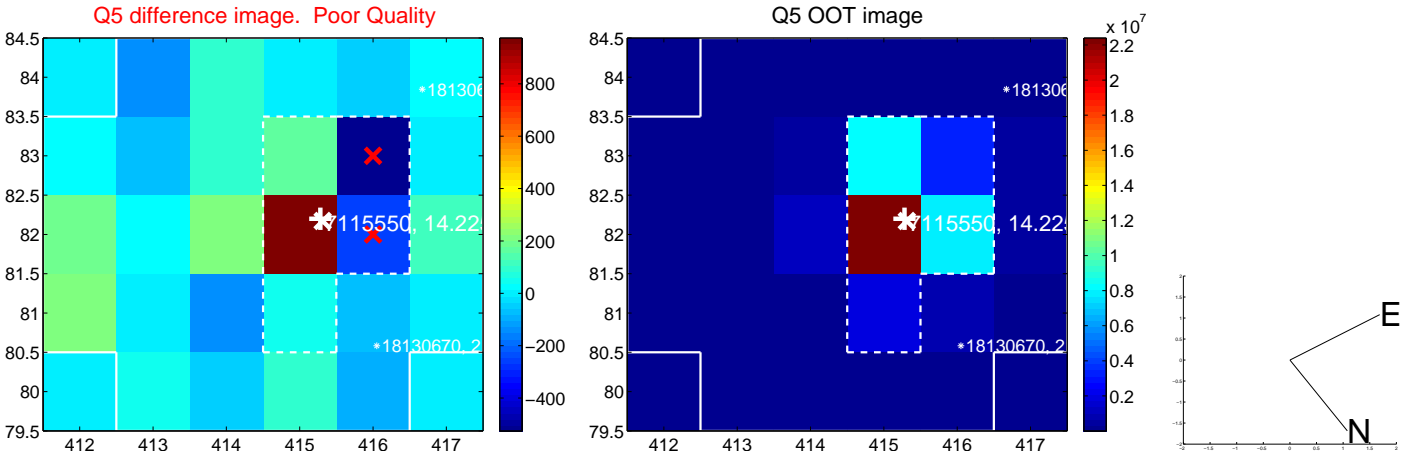


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

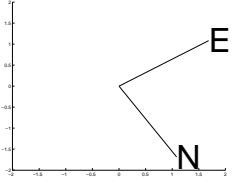
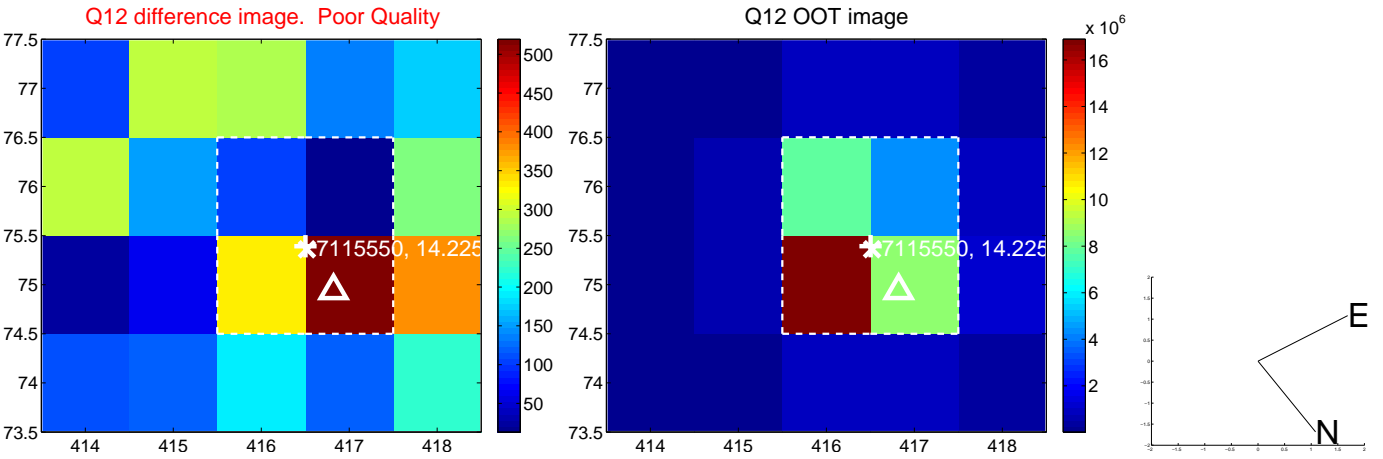
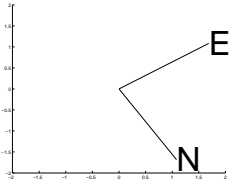
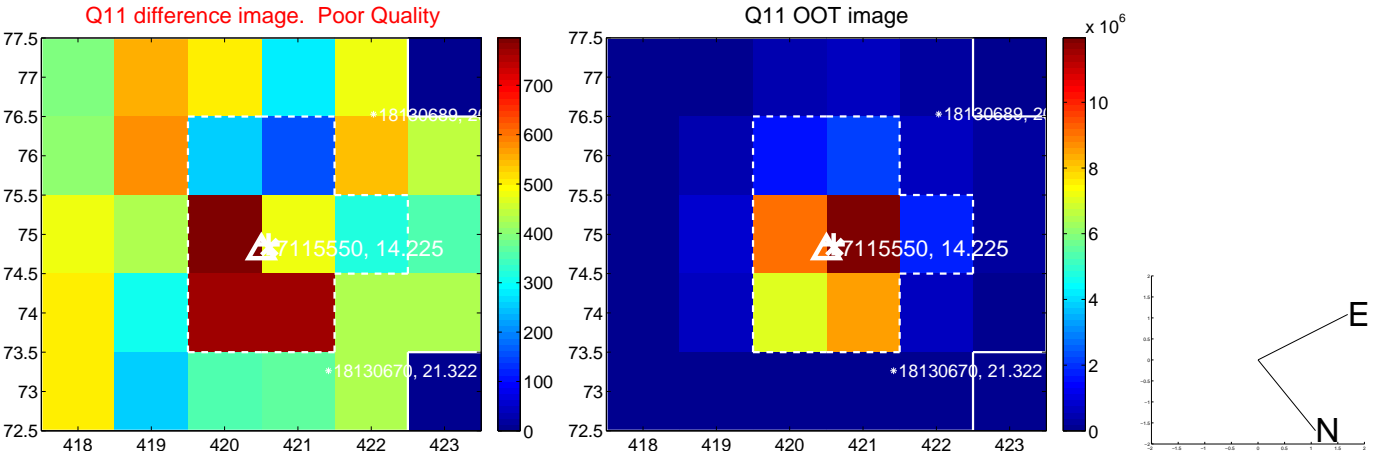
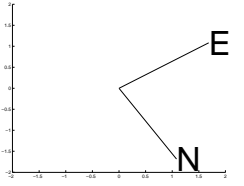
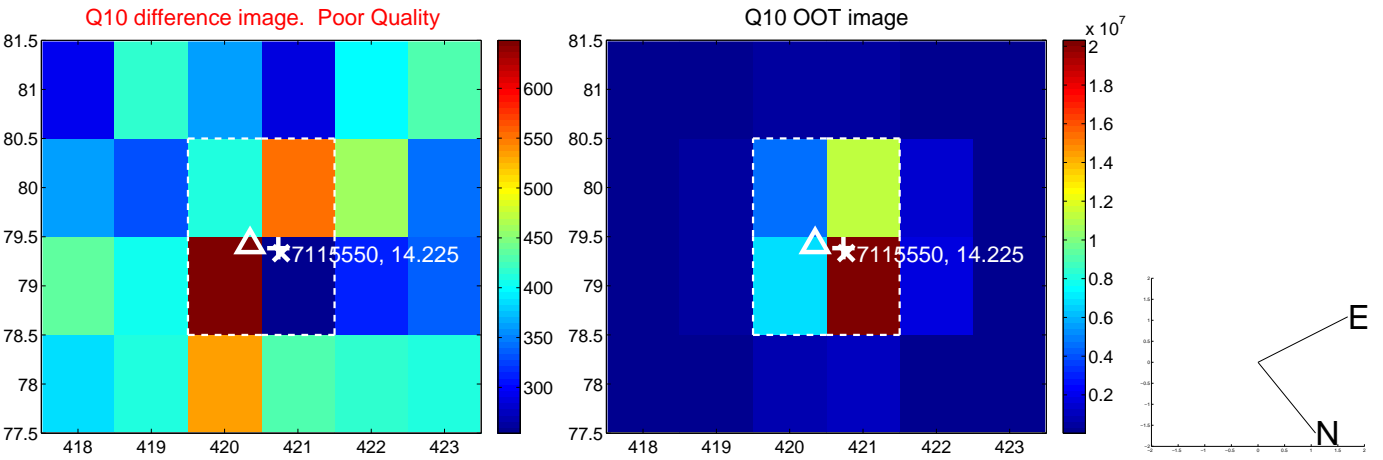
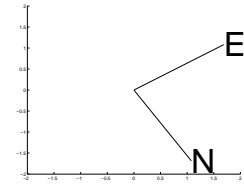
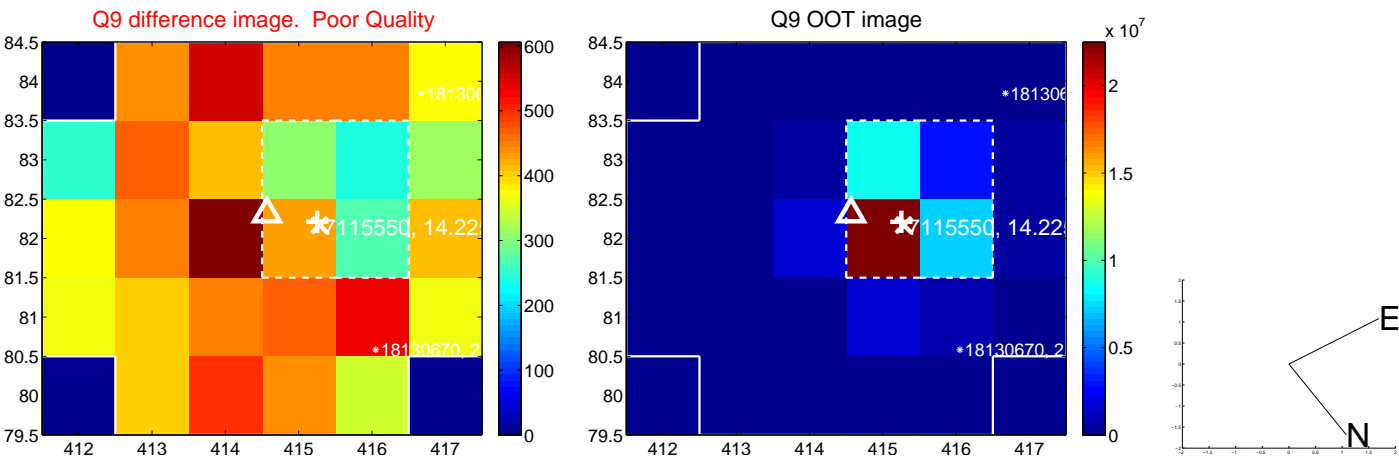
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



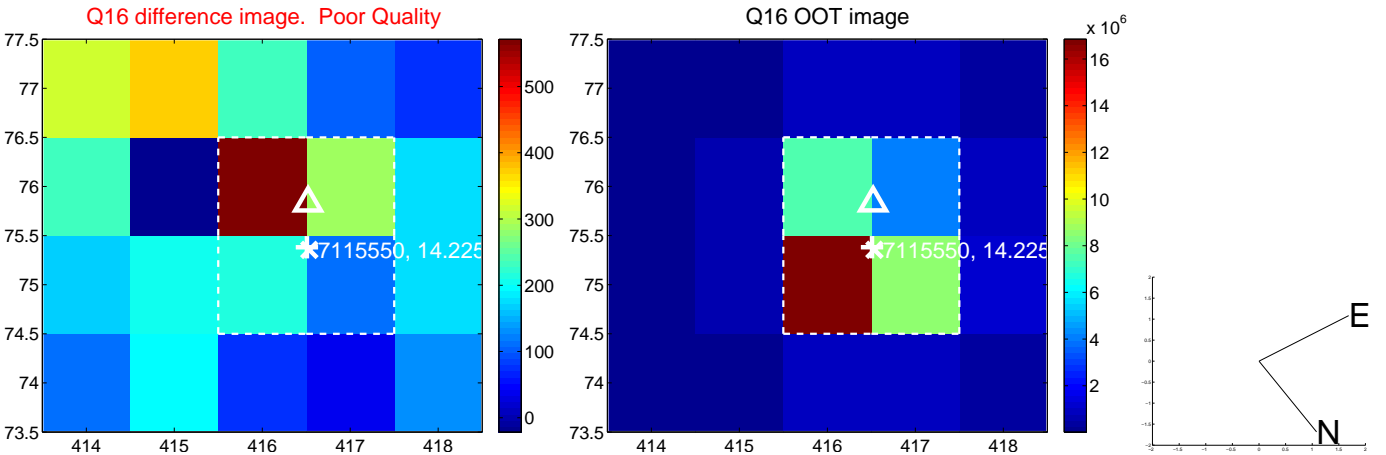
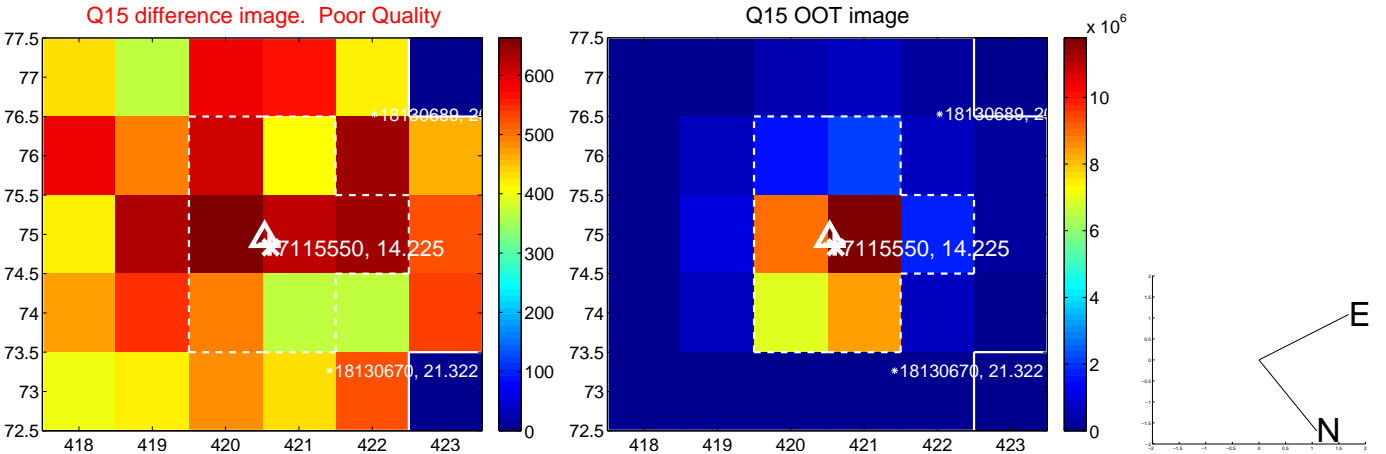
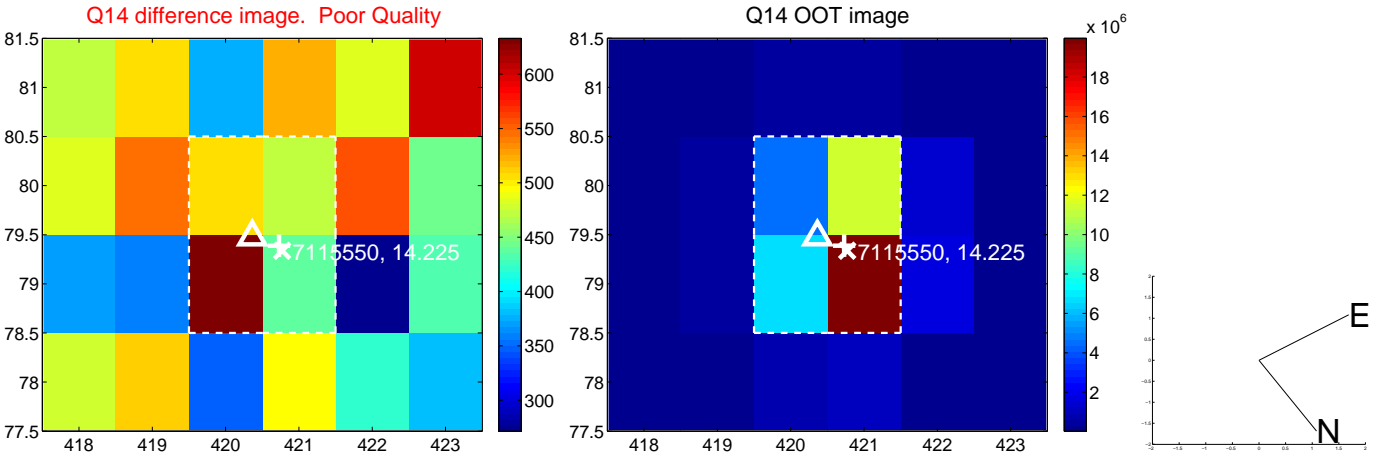
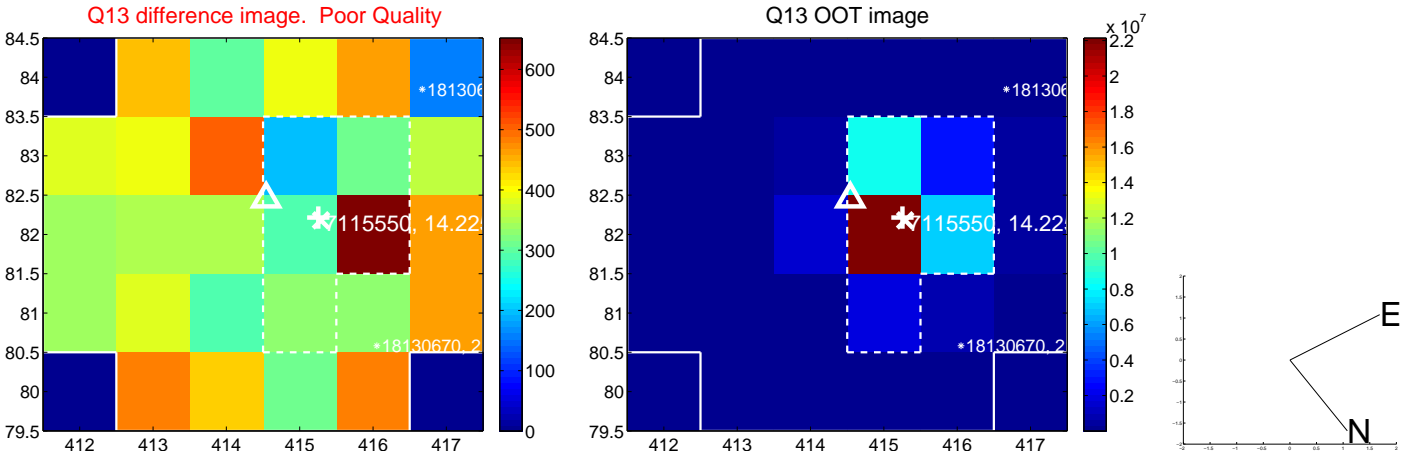
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



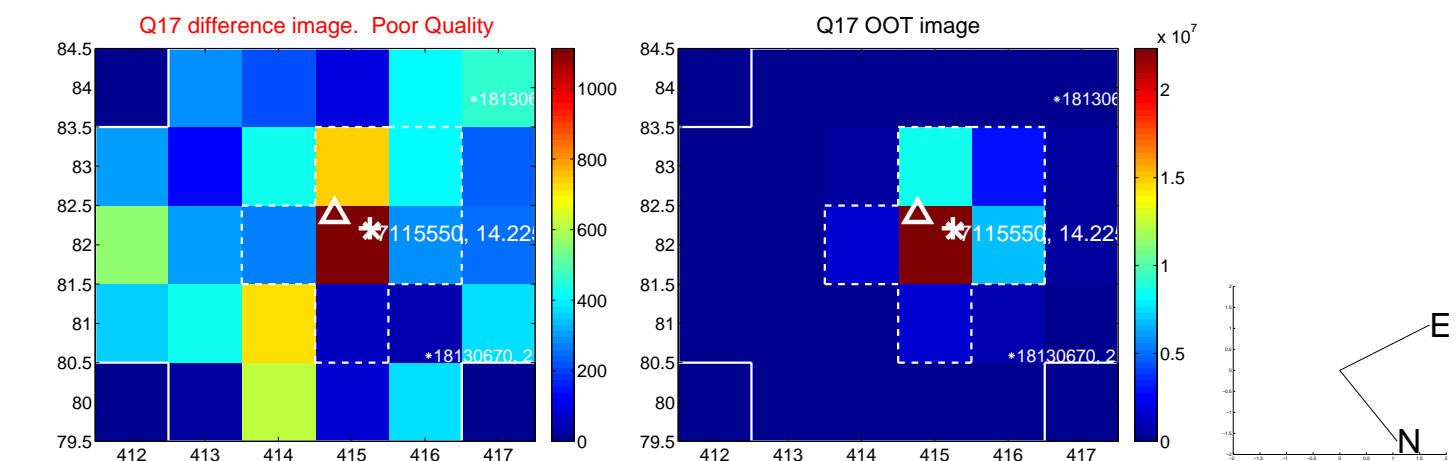
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



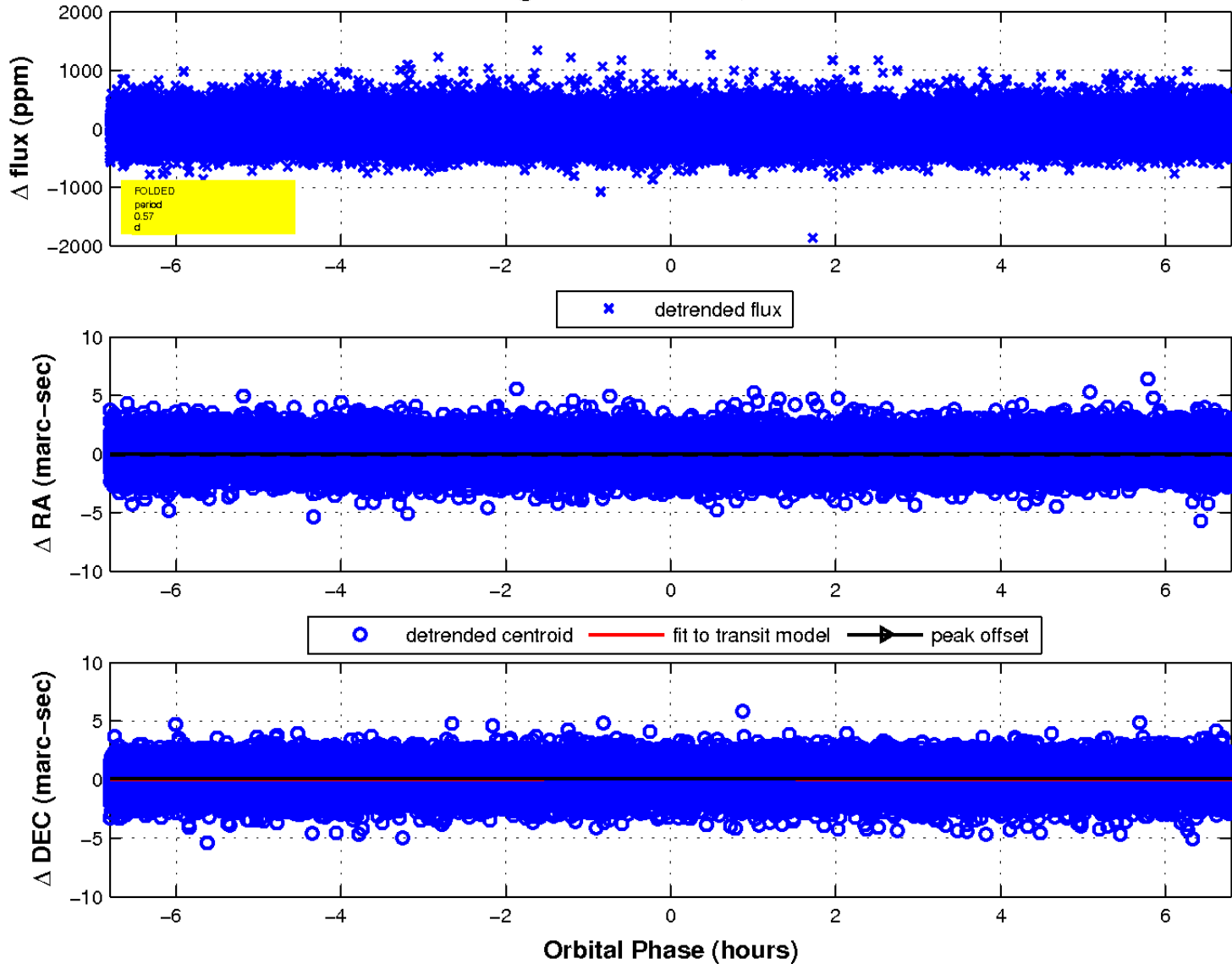
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

