

KIC 005551240

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})
005551240-01	OBS	5178.01	4.139592	134.045072	114.3	3.348	11.4	12.4	1.18	6535	1.42	792.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005551240-01	OBS	PC	1.00	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.

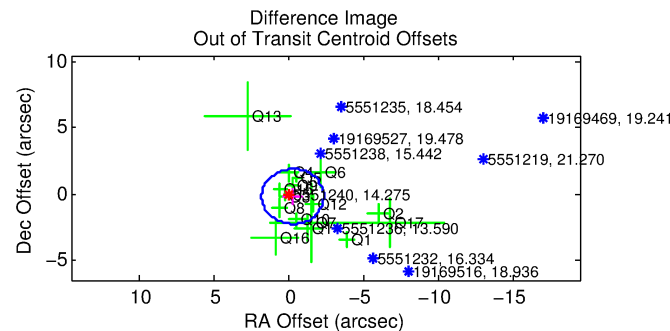
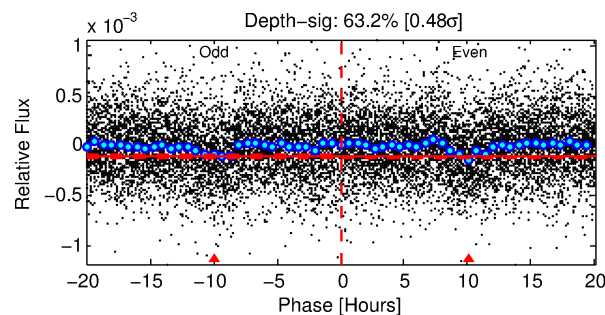
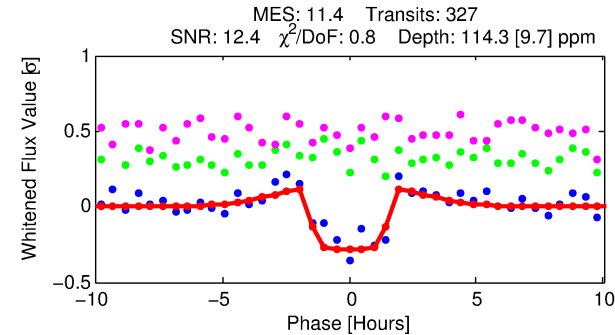
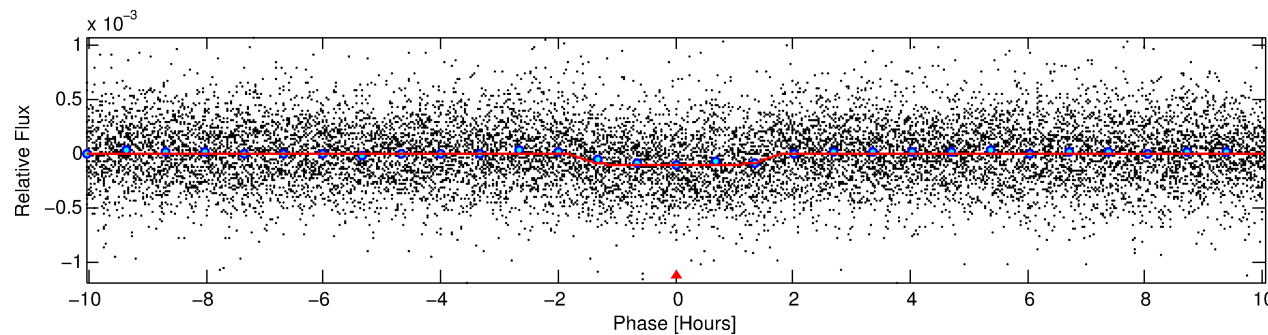
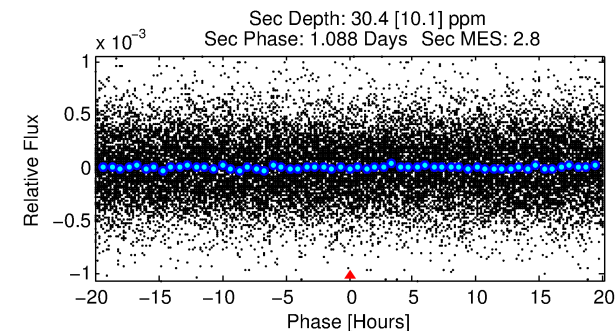
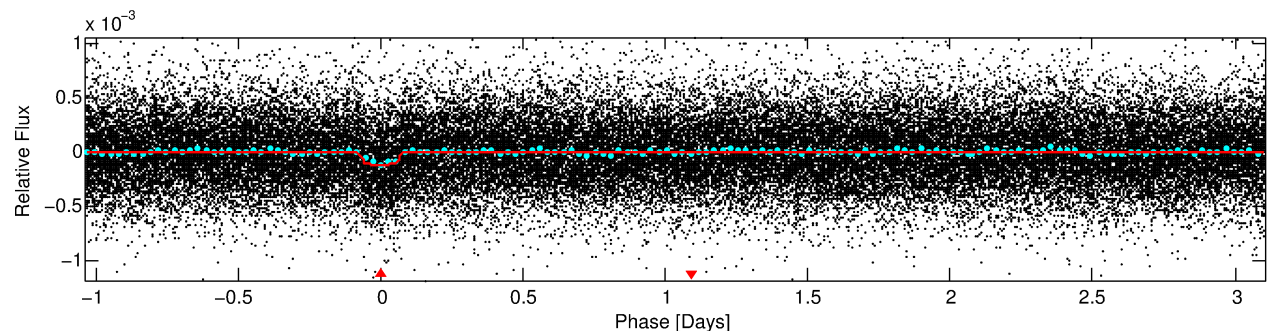
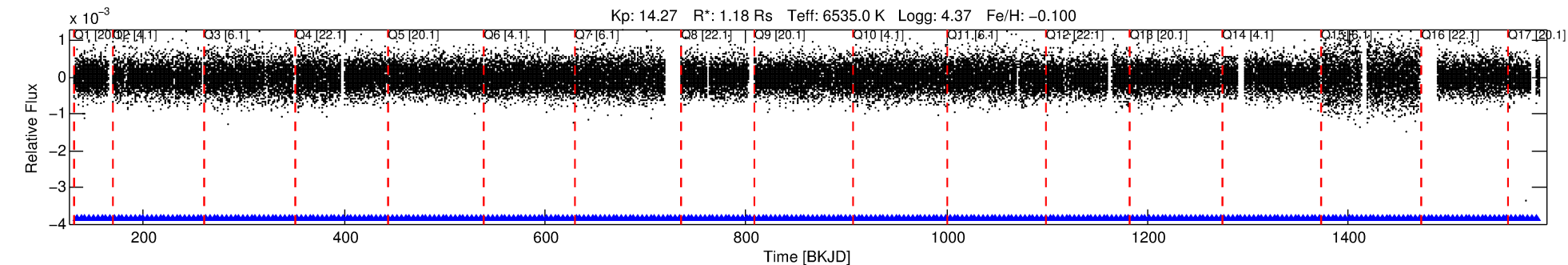
Ephemeris Match Information For 005551240-01

No Significant Match Found

DV One-Page Summary

KIC: 5551240 Candidate: 1 of 1 Period: 4.140 d

KOI: K05178.01 Corr: 0.969



DV Fit Results:

Period = 4.13959 [0.00002] d
Epoch = 134.0451 [0.0031] BKJD
Rp/R* = 0.0110 [0.0040]
a/R* = 5.48 [10.74]
b = 0.83 [0.75]
Seff = 792.08 [309.76]
Teq = 1353 [132] K
Rp = 1.42 [0.69] Re
a = 0.0536 [0.0141] AU
Ag = 24.01 [21.15] [1.09σ]
Teffp = 4630 [938] K [3.46σ]

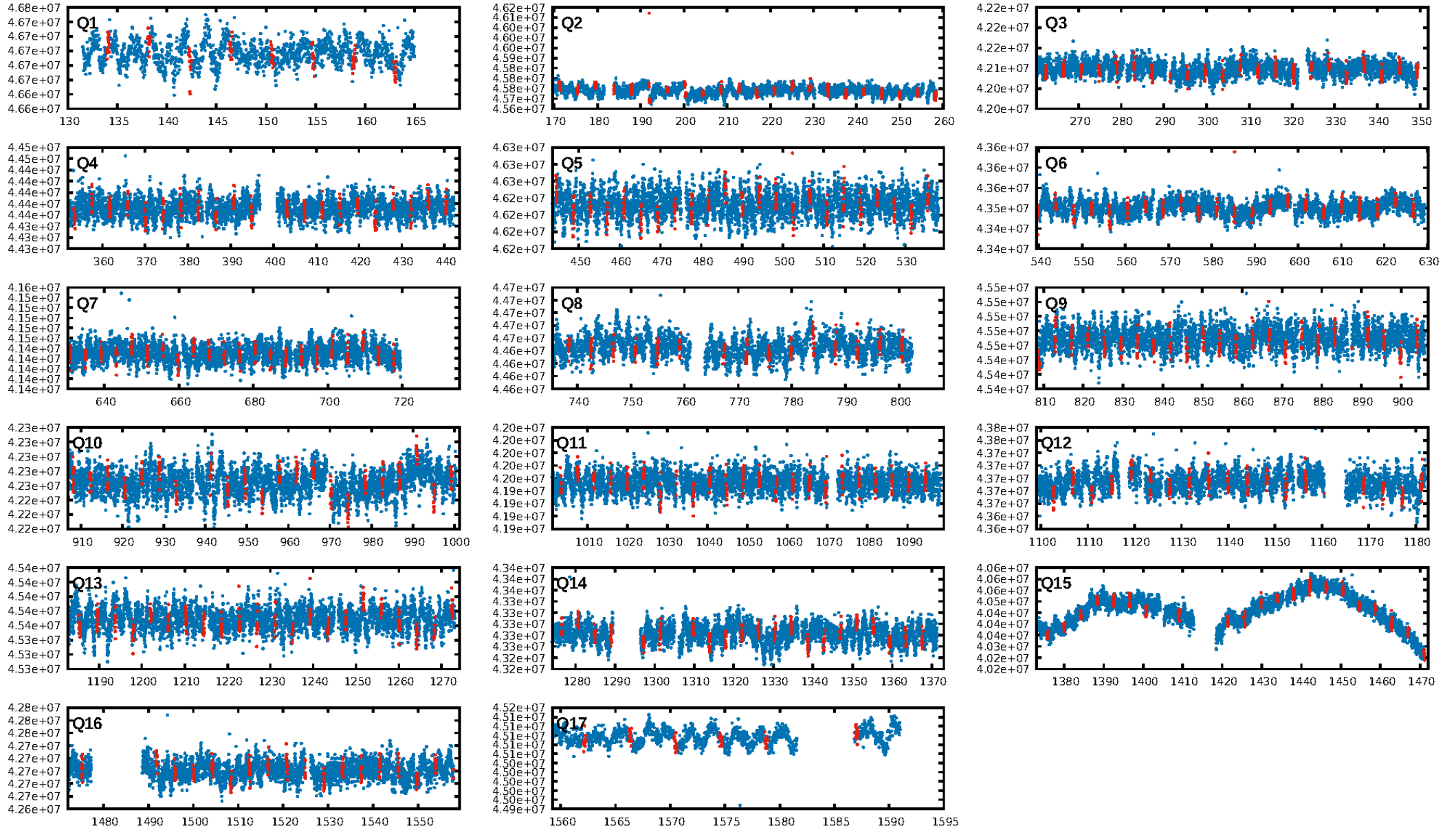
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.36e-29
RollingBand-fgt: 1.00 [313/313]
GhostDiagnostic-chr: 1.584
Centroid-sig: 0.9%
Centroid-so: 0.928 arcsec [1.63σ]
OotOffset-rm: 0.360 arcsec [0.52σ]
KicOffset-rm: 0.473 arcsec [0.72σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 1.00 [17/17]

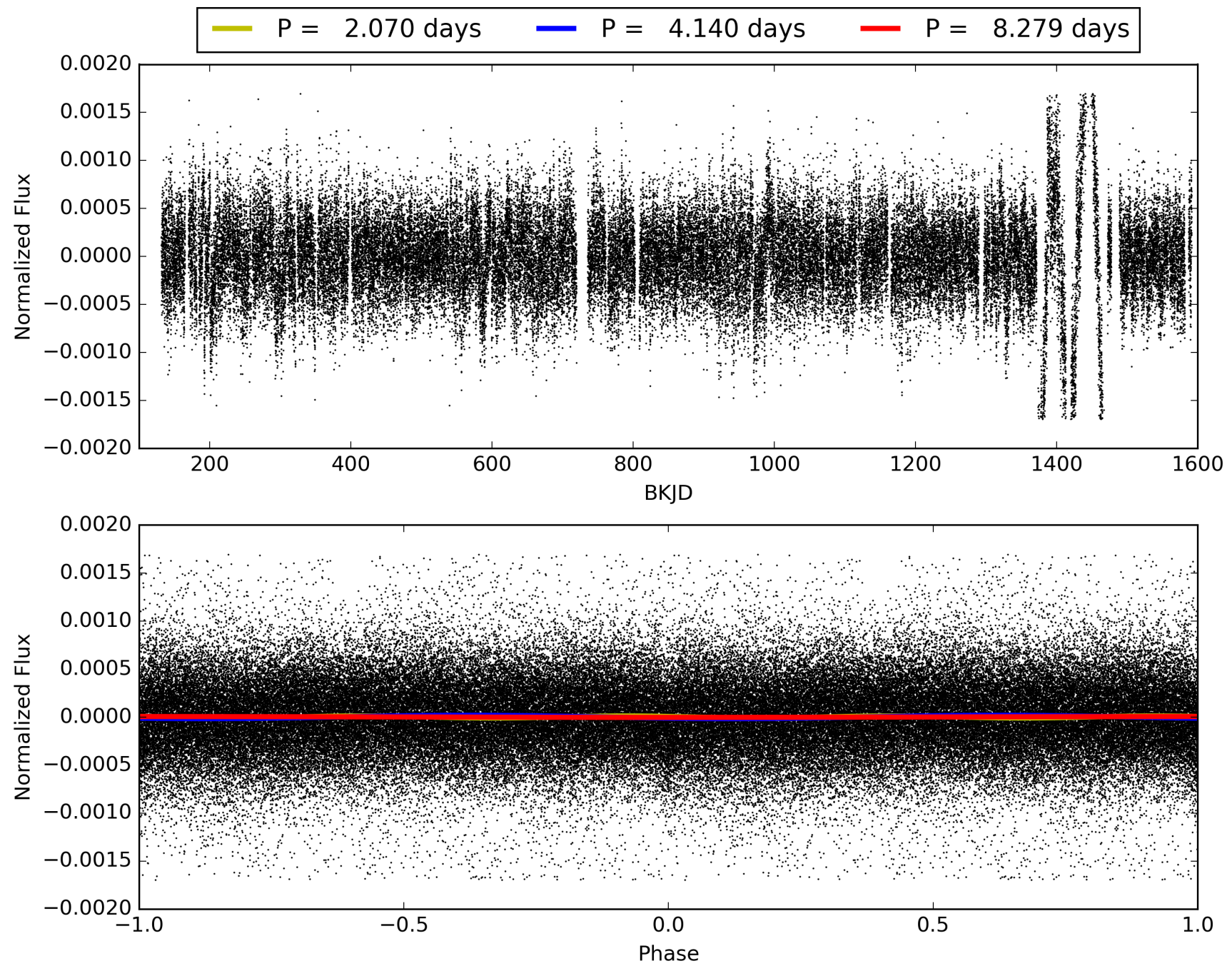
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:34:14 Z

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

TCE 005551240-01, PDC Light Curves

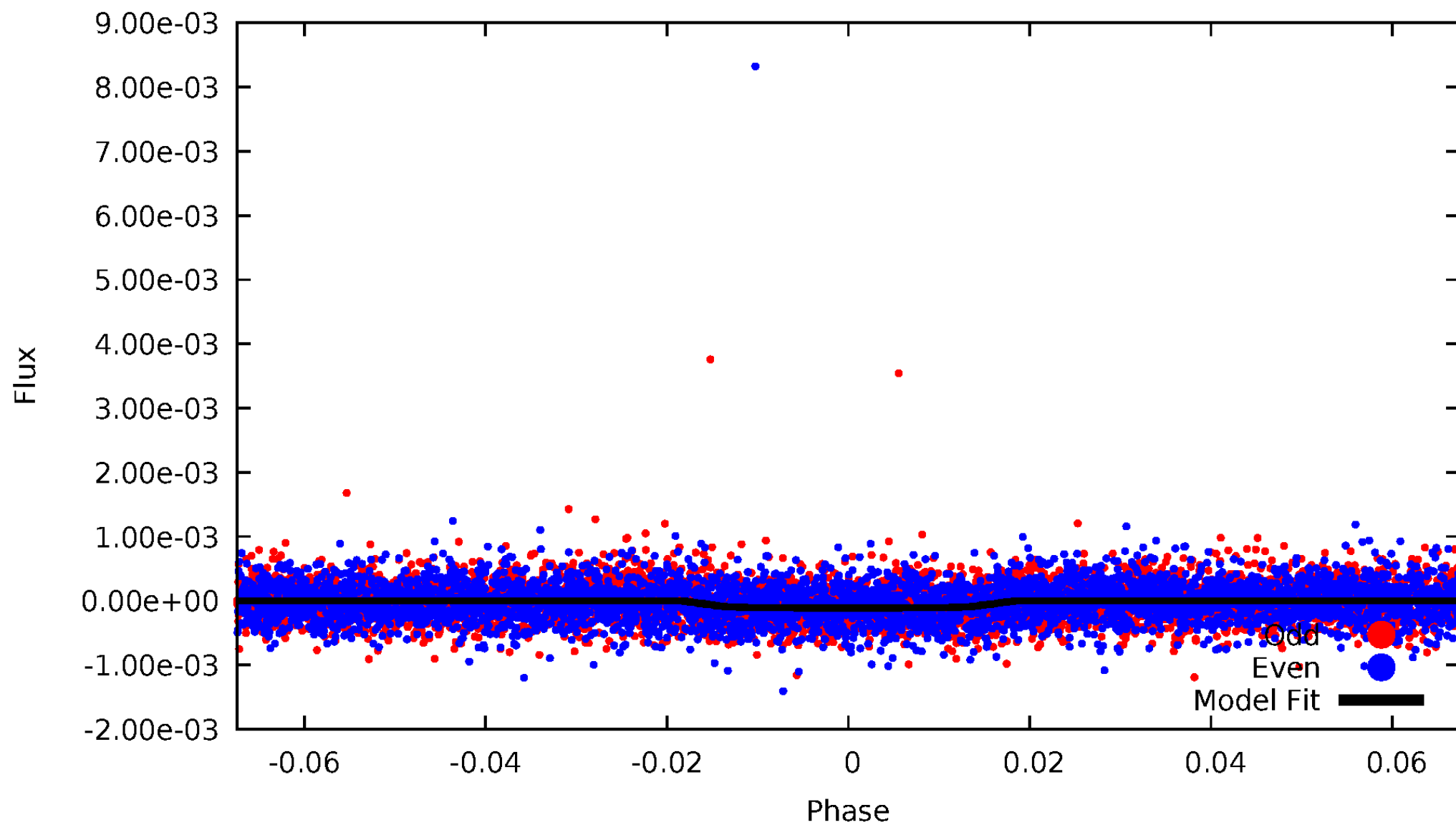


TCE 005551240-01



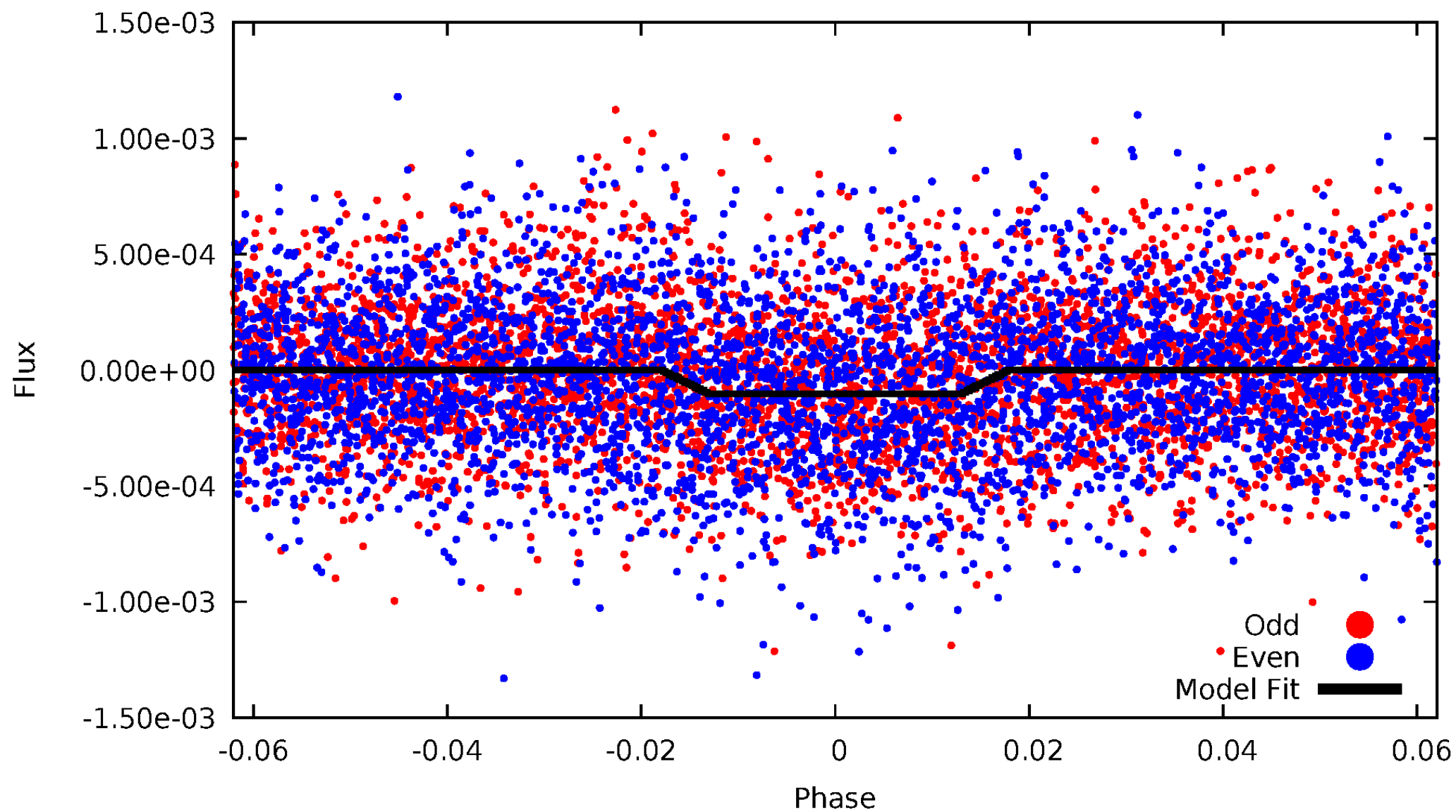
DV Odd/Even

TCE 005551240-01

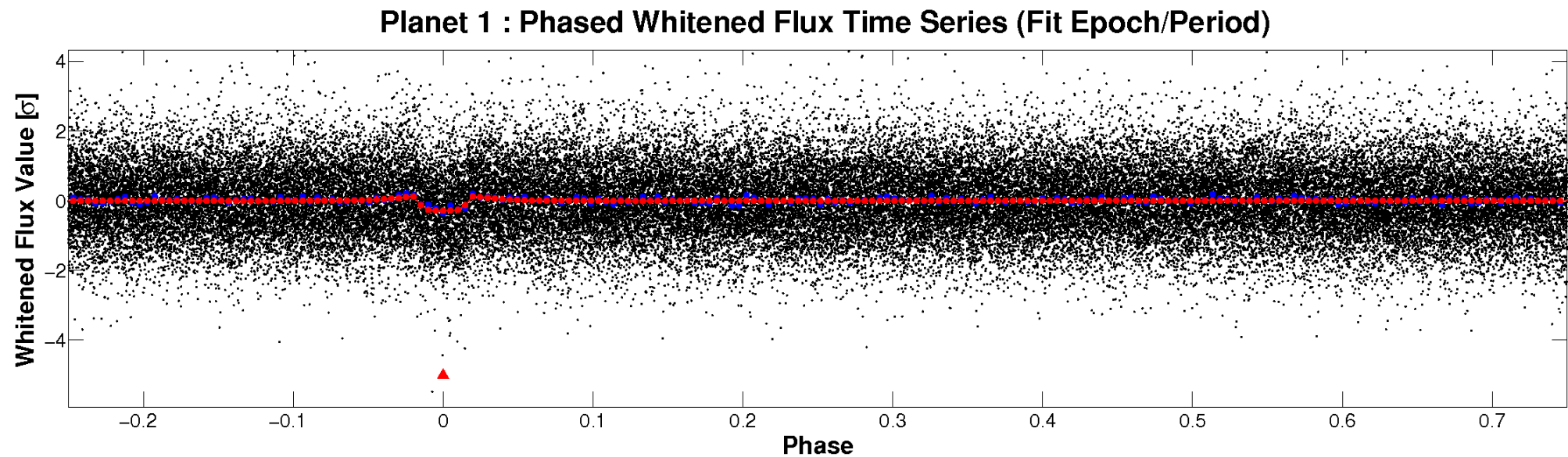
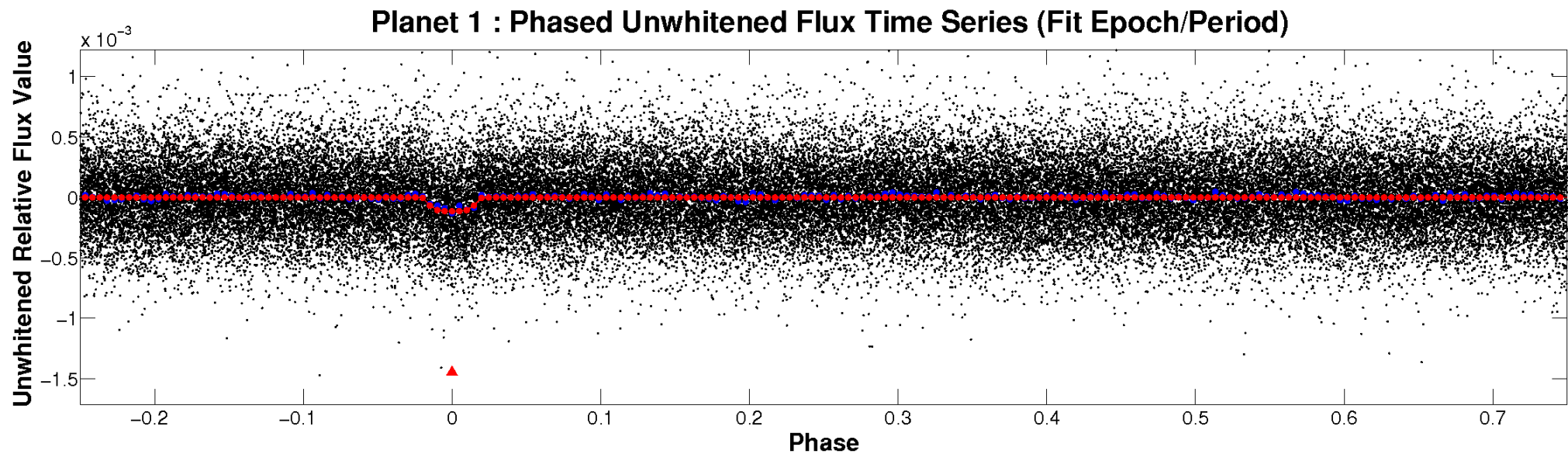


ALT Odd/Even

TCE 005551240-01

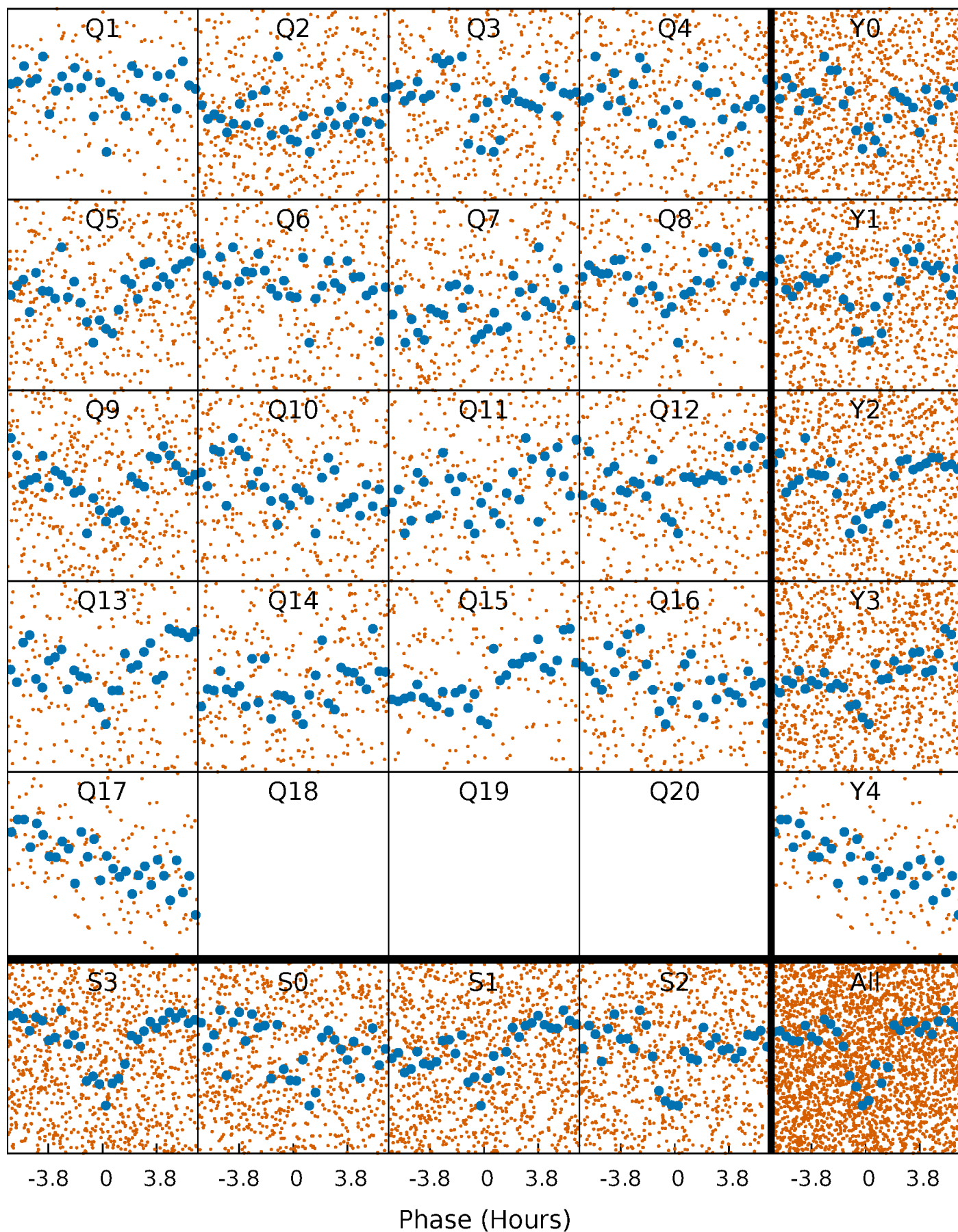


Non-Whitened Vs. Whitened Light Curve



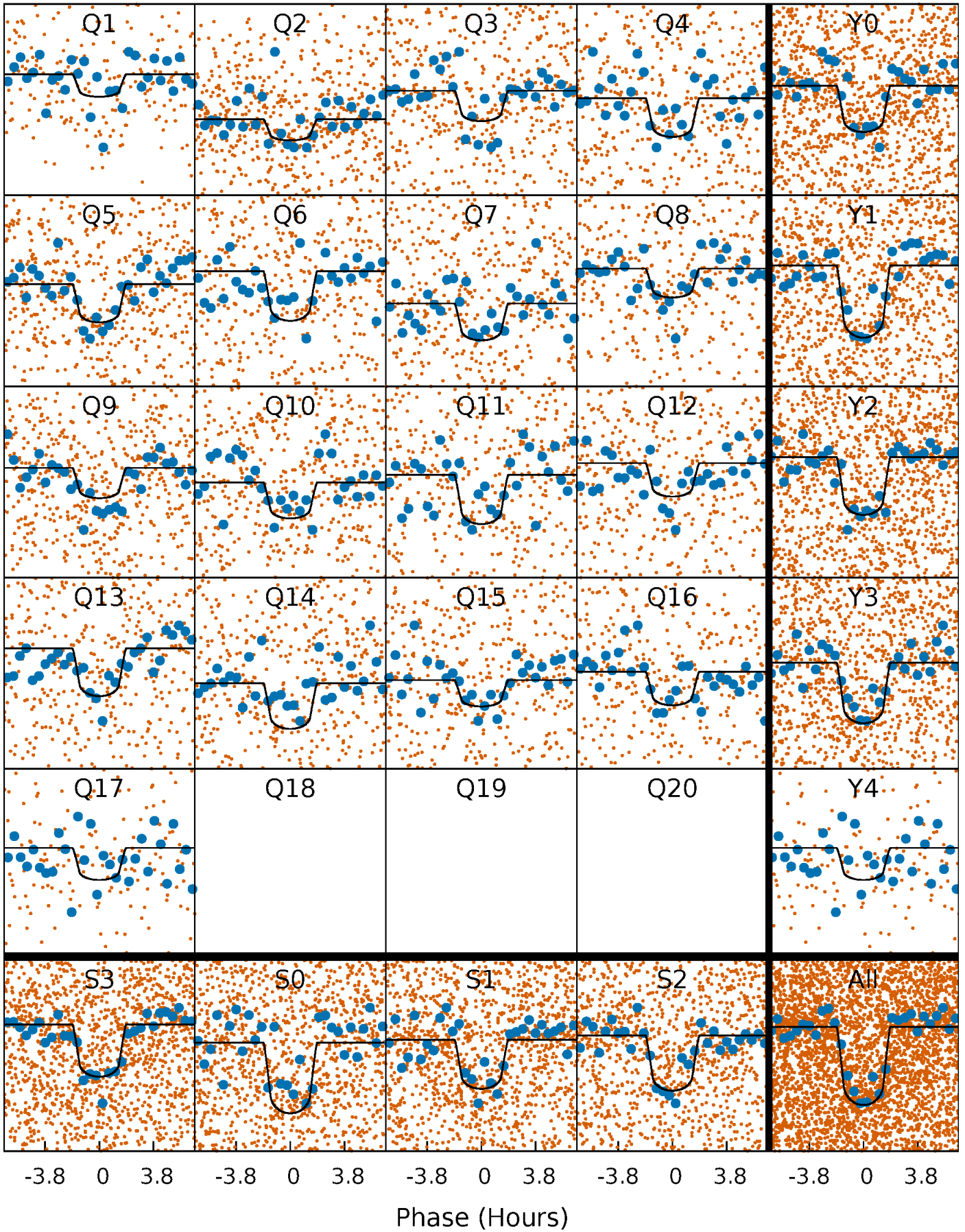
PDC Quarter-Phased Transit Curves

TCE 005551240-01 P= 4.139592 Days $T_0=134.045072$ (BKJD)



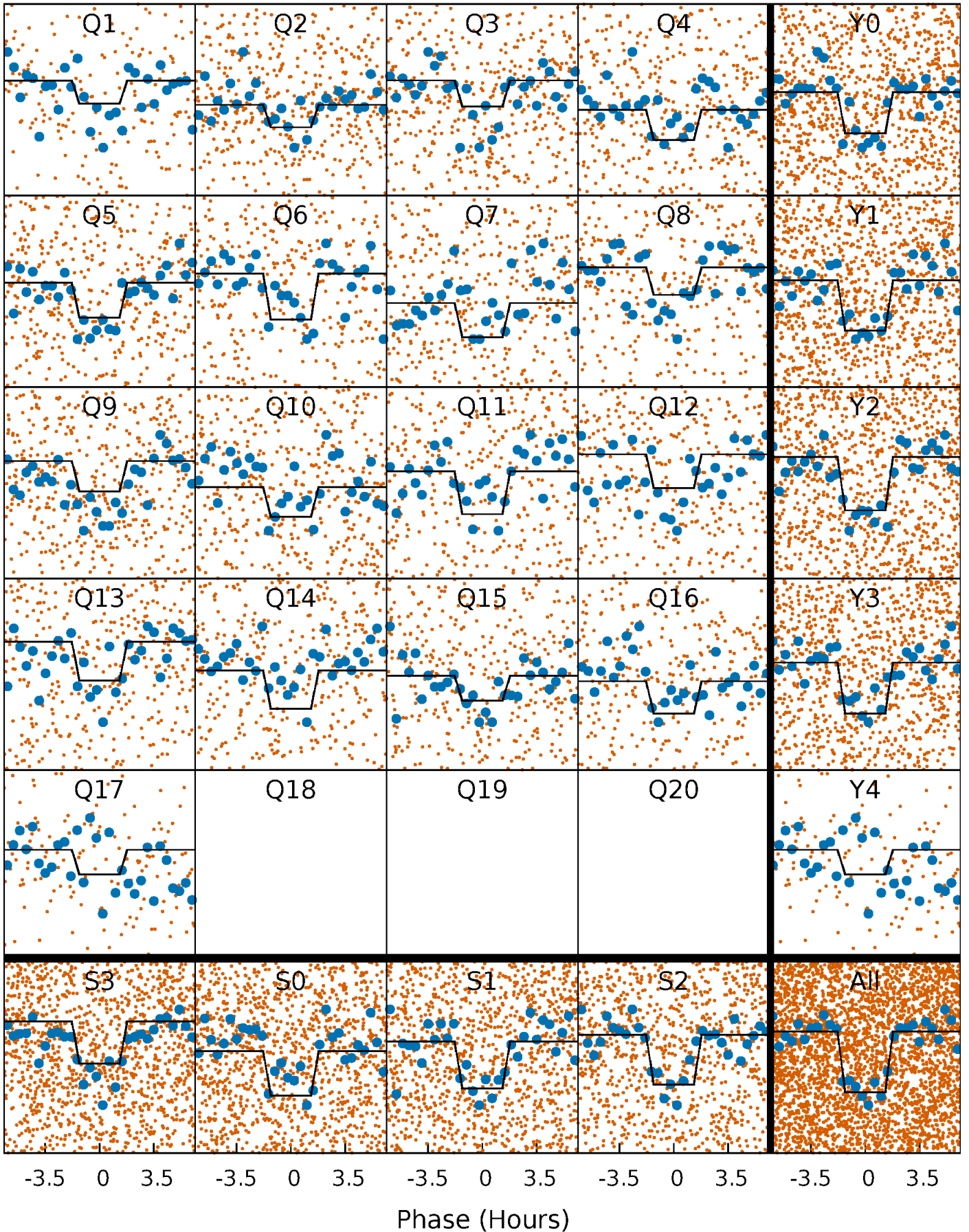
DV Quarter-Phased Transit Curves

TCE 005551240-01 P= 4.139592 Days $T_0=134.045072$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

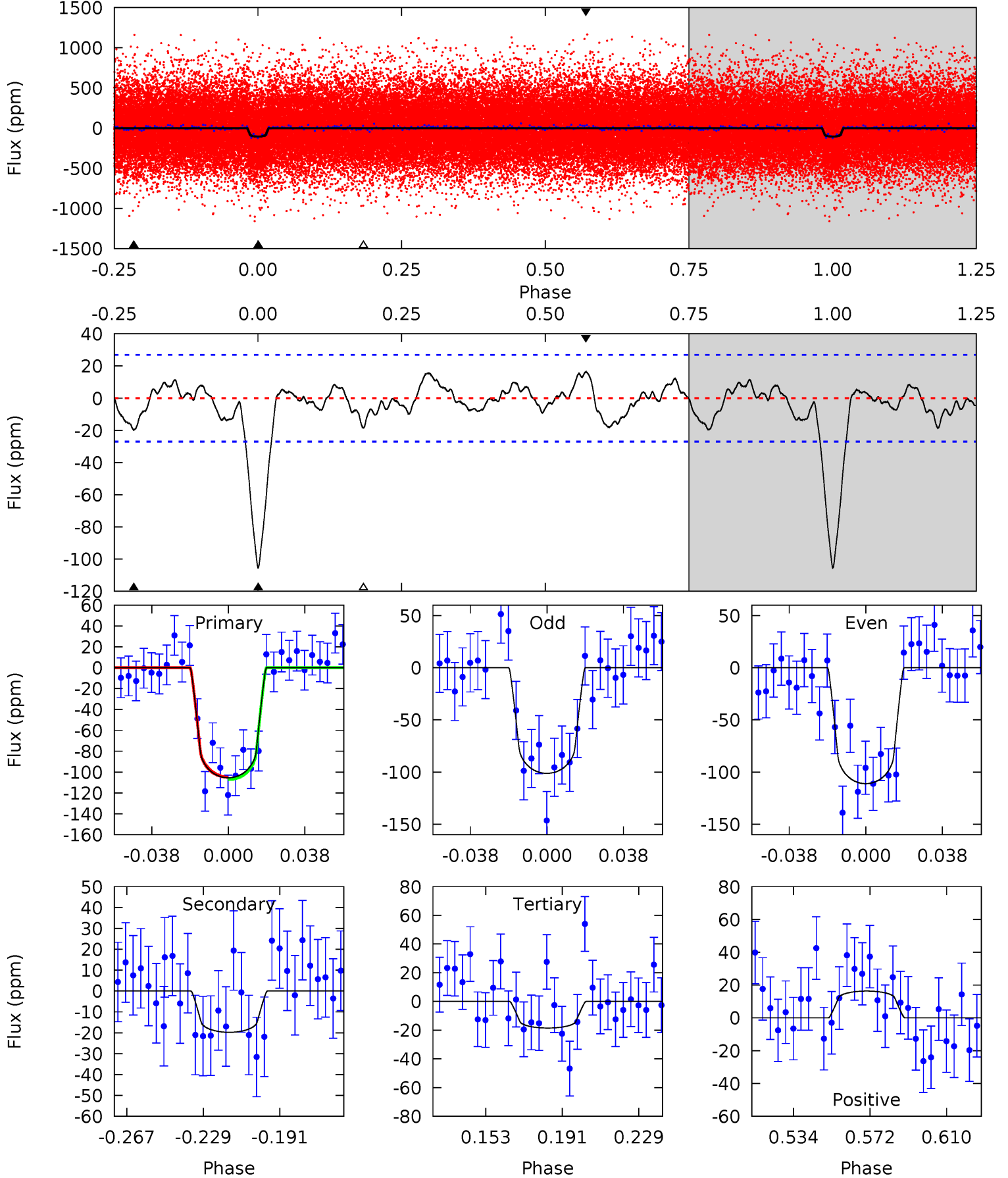
TCE 005551240-01 P= 4.139546 Days $T_0=134.053210$ (BKJD)



DV Model-Shift Uniqueness Test

005551240-01, P = 4.139592 Days, E = 129.905480 Days

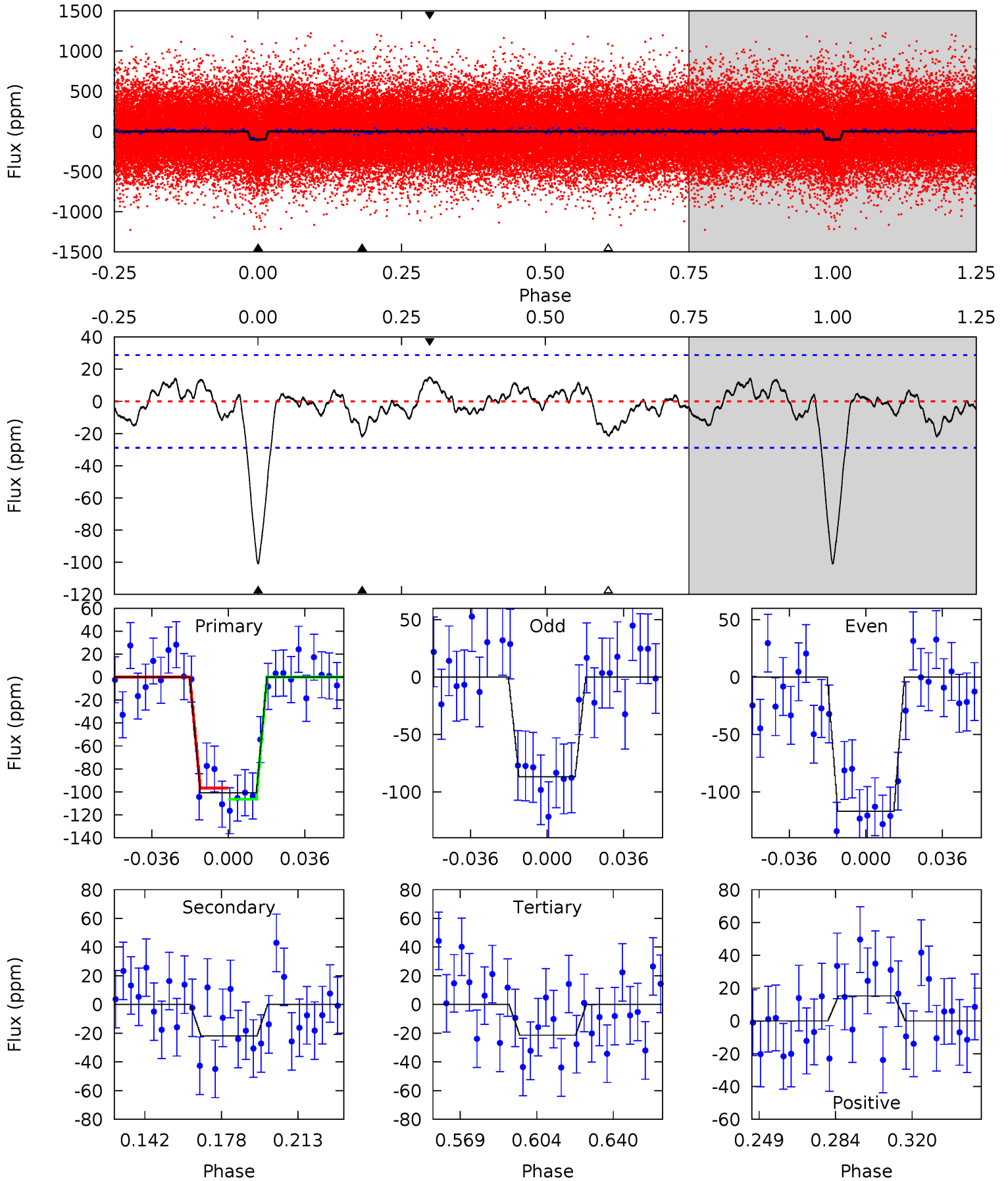
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	3.50	3.28	2.89	4.76	2.07	1.35	15.4	15.8	0.22	0.61	0.88	0.91	0.13	0.20



Alt Model-Shift Uniqueness Test

005551240-01, P = 4.139546 Days, E = 129.913664 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.7	3.63	3.55	2.53	4.78	2.10	1.24	13.2	14.2	0.09	1.10	2.50	0.92	0.13	0.81



Stellar Parameters For KIC 005551240

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6535^{+154}_{-212}	$4.373^{+0.065}_{-0.195}$	$-0.100^{+0.250}_{-0.300}$	$1.181^{+0.382}_{-0.127}$	$1.202^{+0.164}_{-0.164}$	$1.029^{+0.290}_{-0.516}$
	+2%/-3%	+1%/-4%	+250%/-300%	+32%/-11%	+14%/-14%	+28%/-50%
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 005551240-01 / KOI 5178.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-20 ± 6	$1.48^{+0.55}_{-0.54}$	1918^{+135}_{-91}	4346^{+846}_{-558}	14^{+20}_{-7}
Alt.	-22 ± 6	$1.34^{+0.57}_{-0.52}$	1911^{+130}_{-93}	4531^{+1257}_{-578}	19^{+33}_{-10}

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

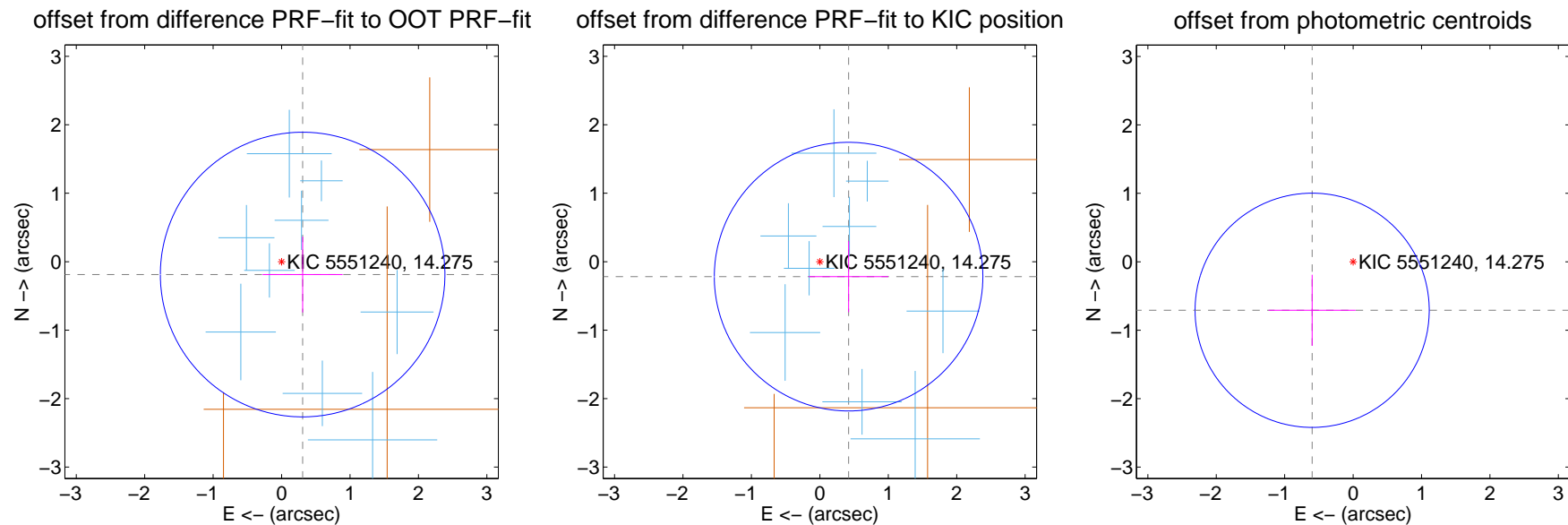
DV Centroid Data

Supplemental centroid analysis for 005551240-01. Kepler magnitude: 14.28. Transit SNR 12.41

There are 9 quarters with good PRF difference image offsets

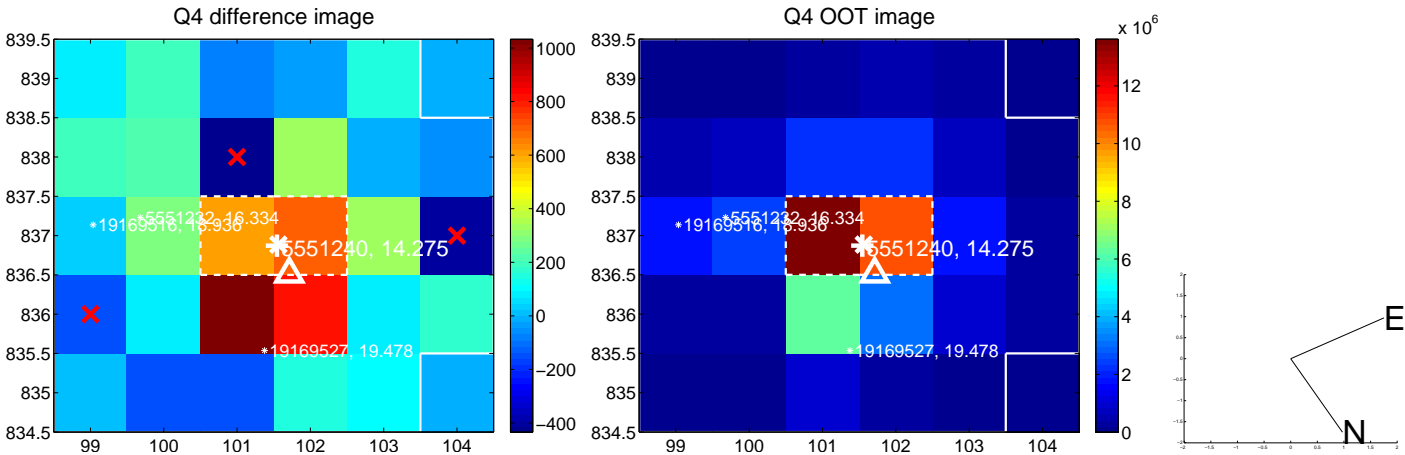
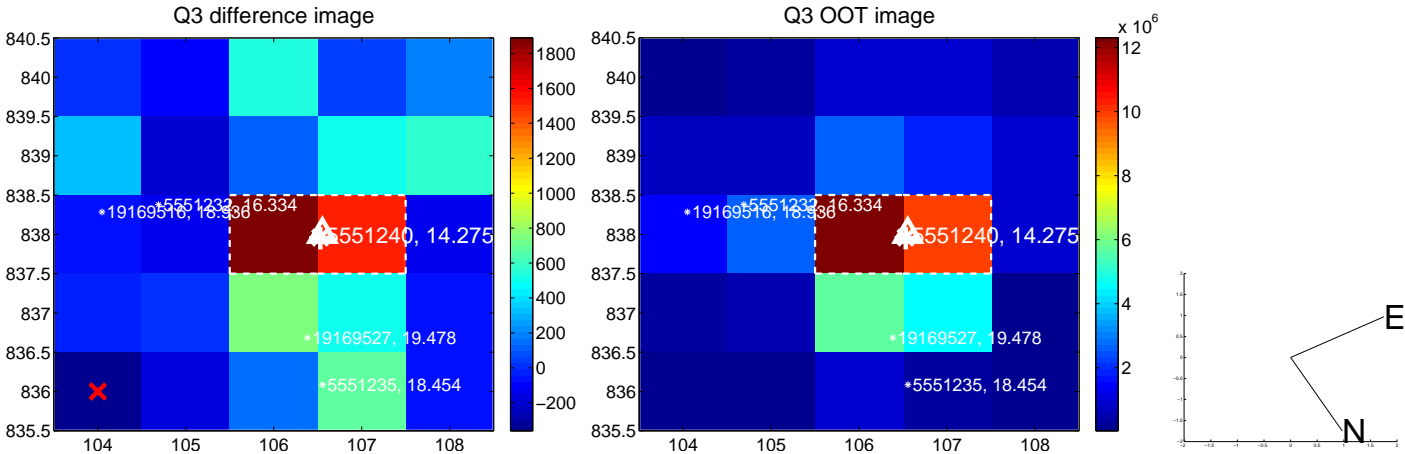
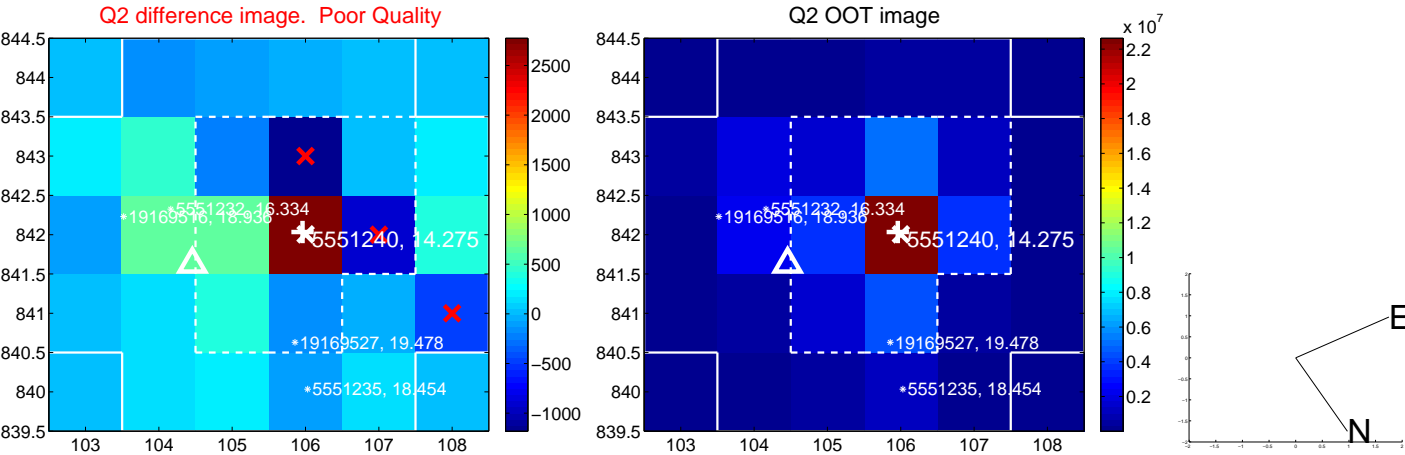
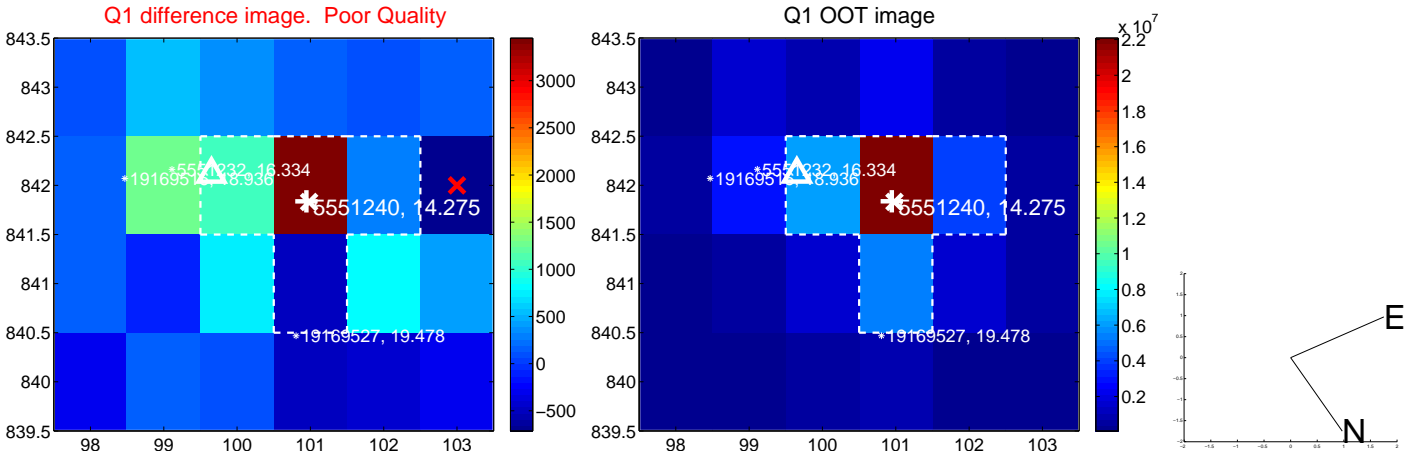
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.360 ± 0.693	0.52	-0.308 ± 0.585	-0.188 ± 0.553
PRF-fit source offset from KIC position	0.473 ± 0.654	0.72	-0.420 ± 0.580	-0.218 ± 0.518
photometric centroid source offset	0.93 ± 0.57	1.63	0.60 ± 0.64	-0.71 ± 0.52

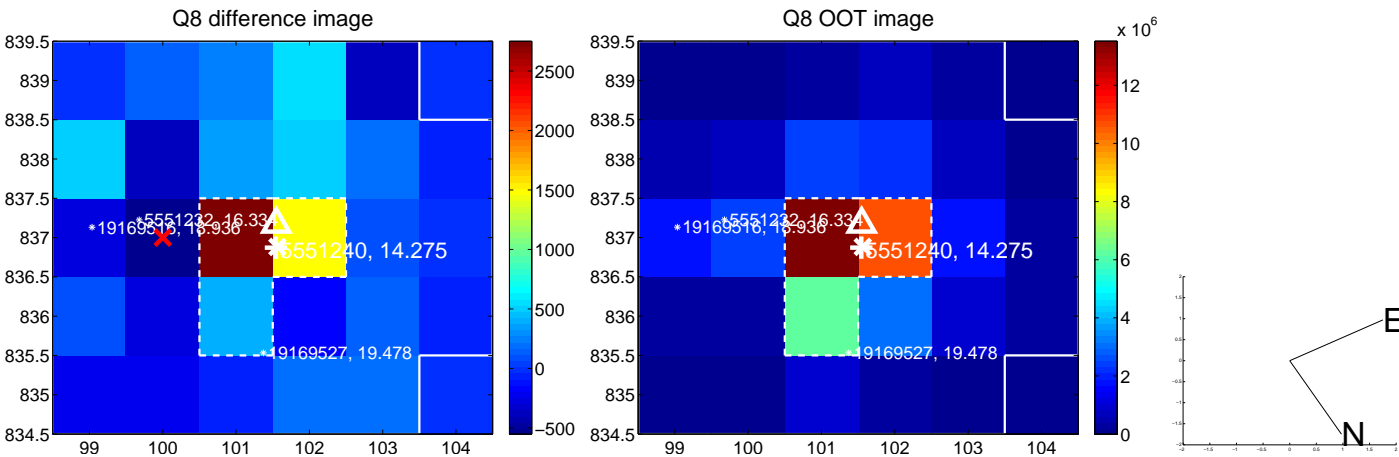
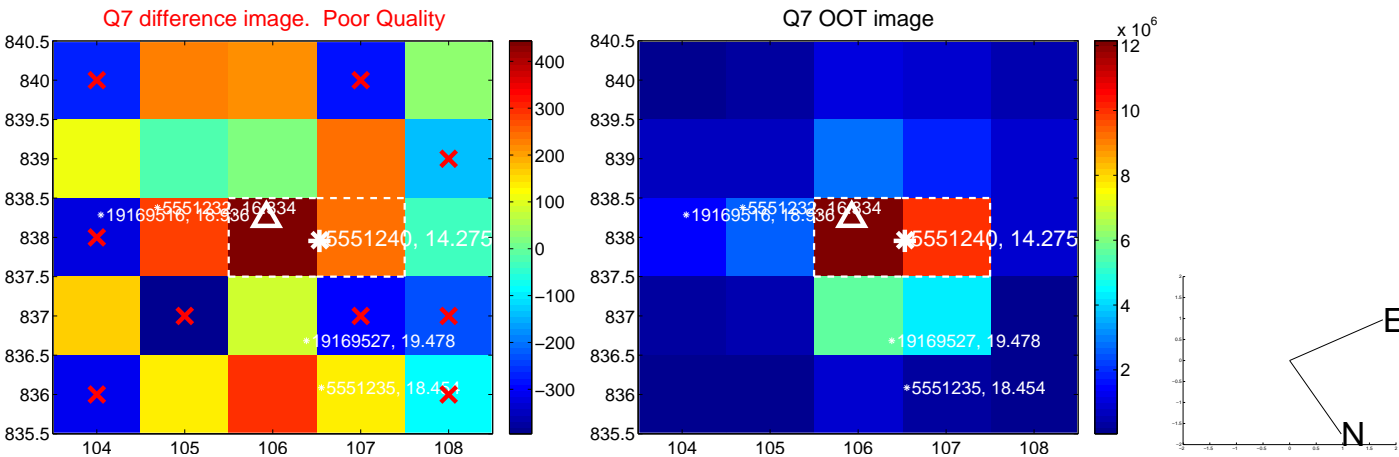
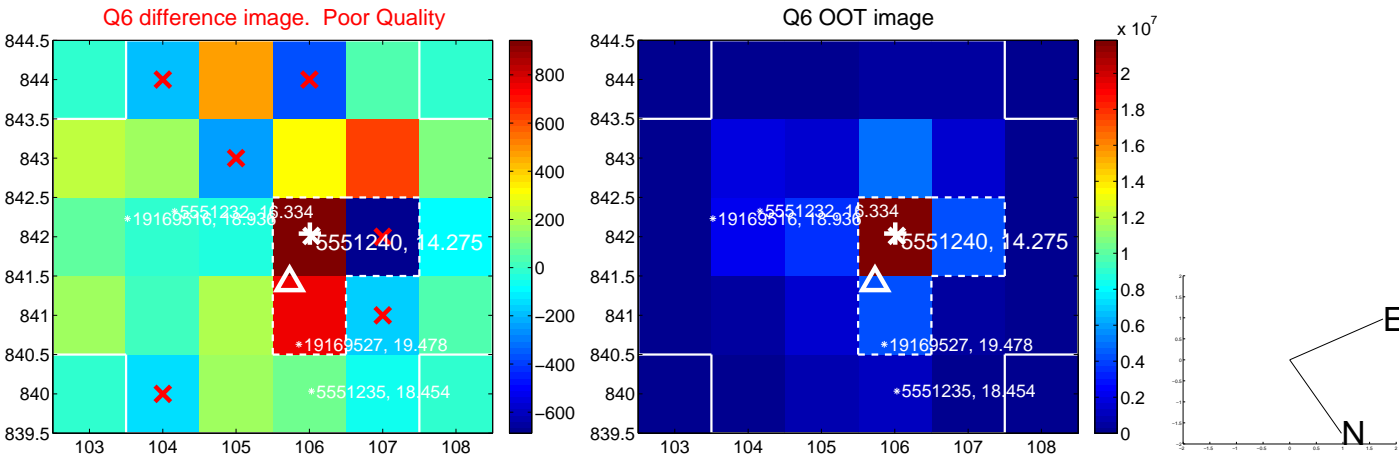
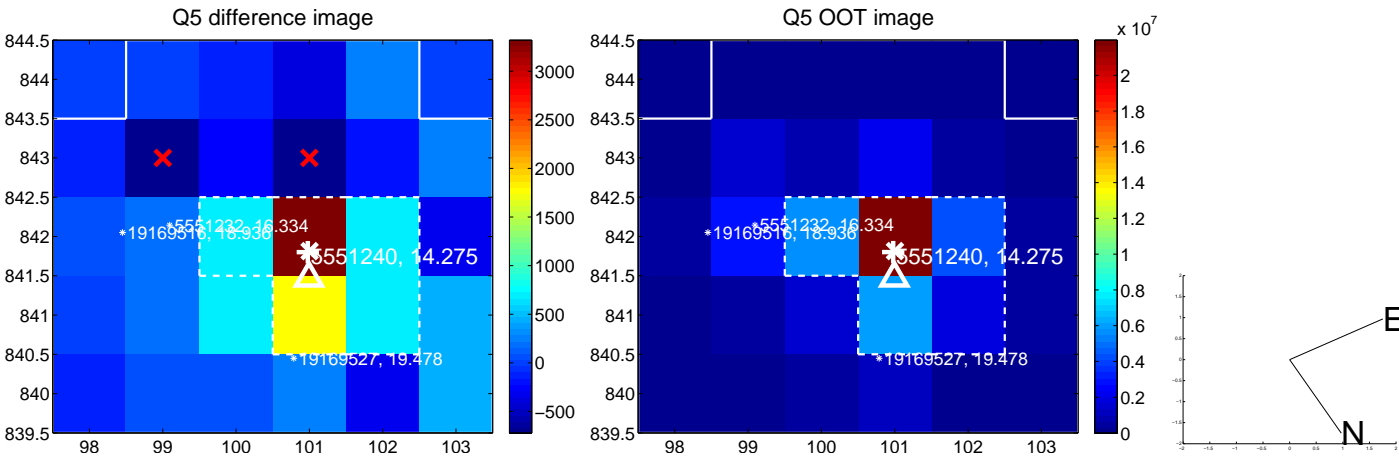


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

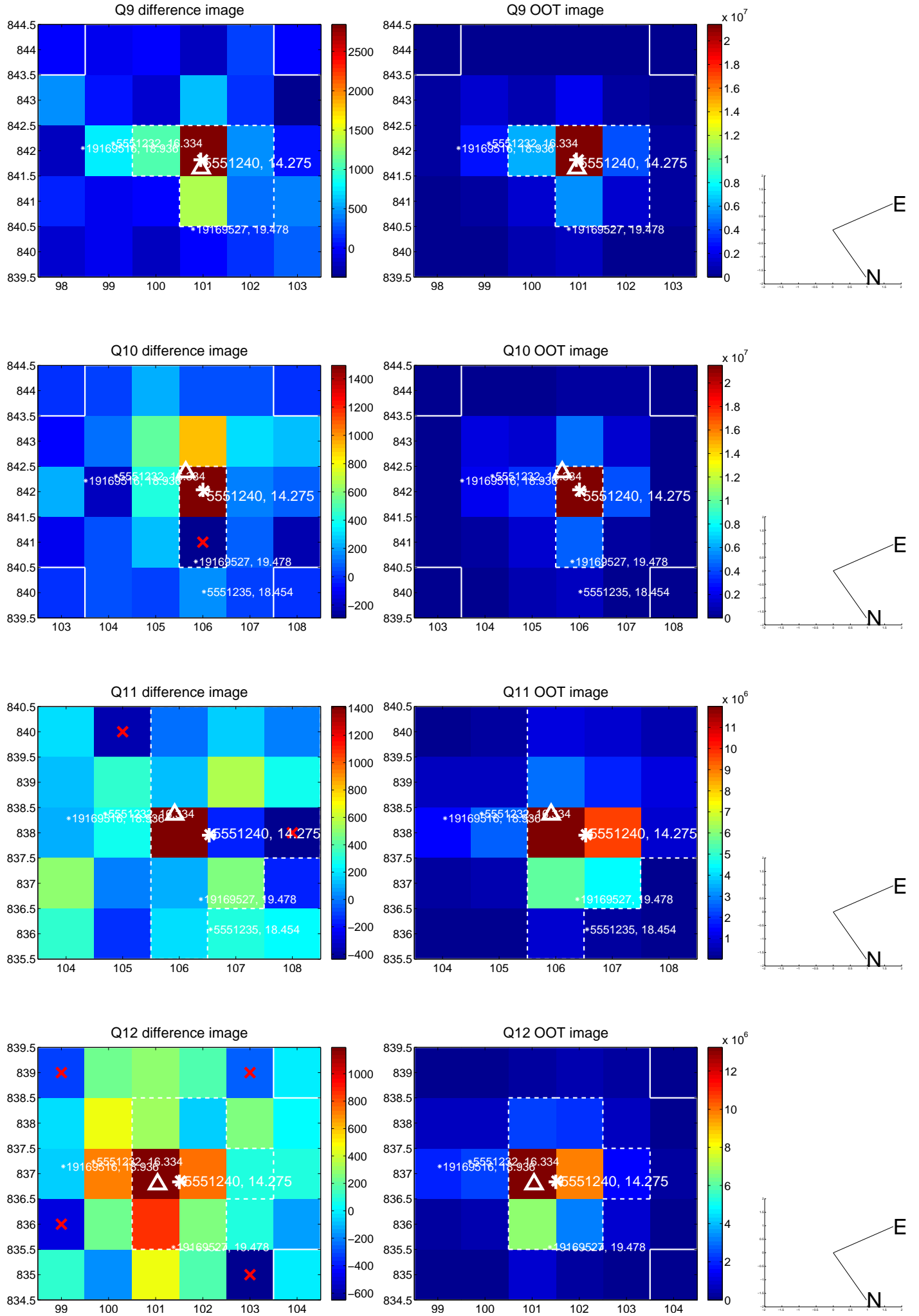
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



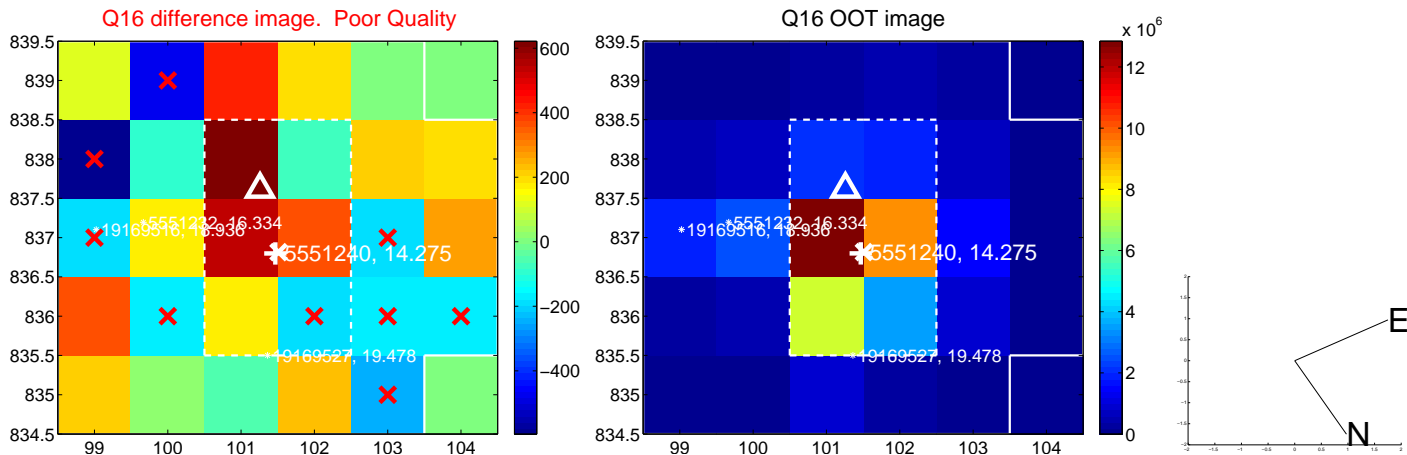
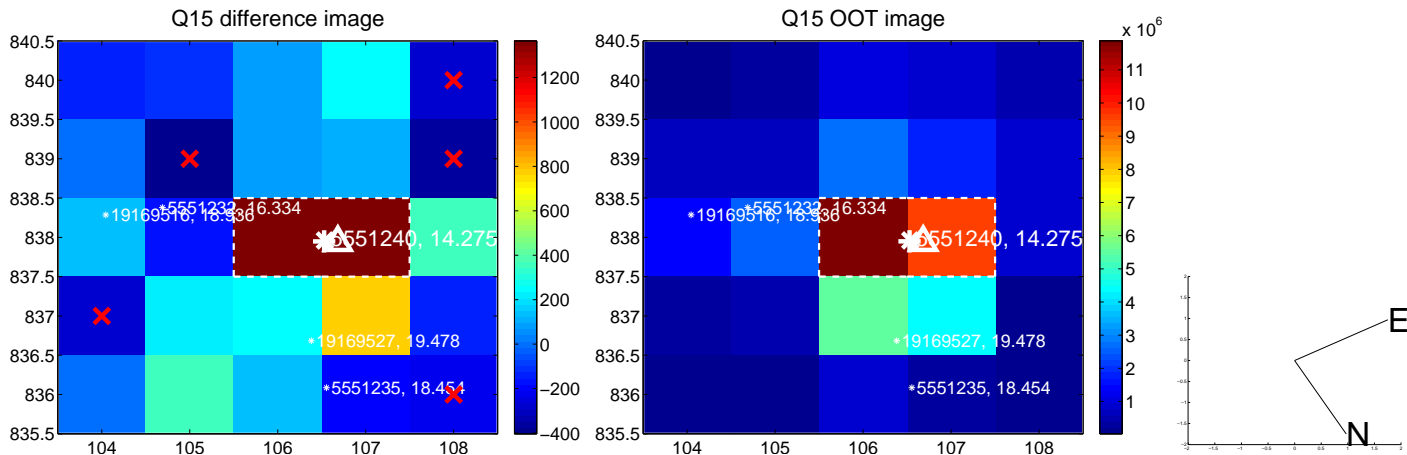
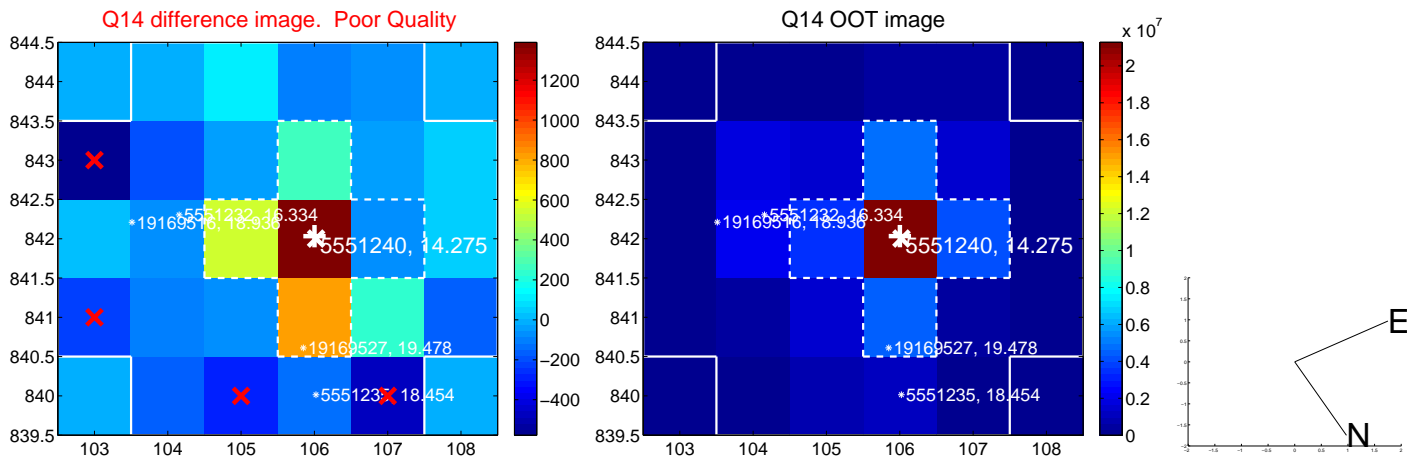
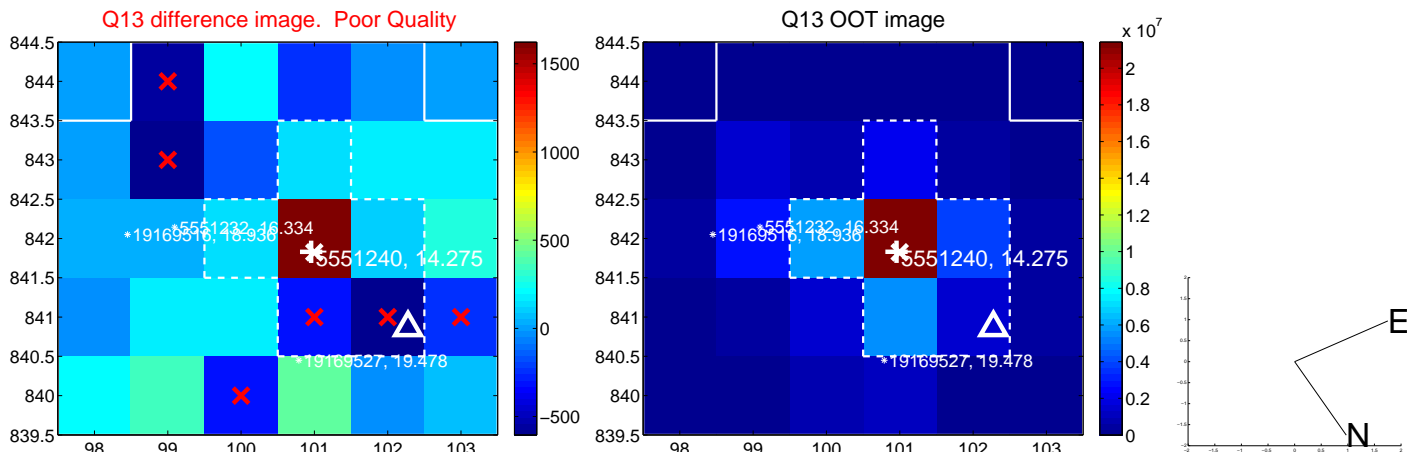
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



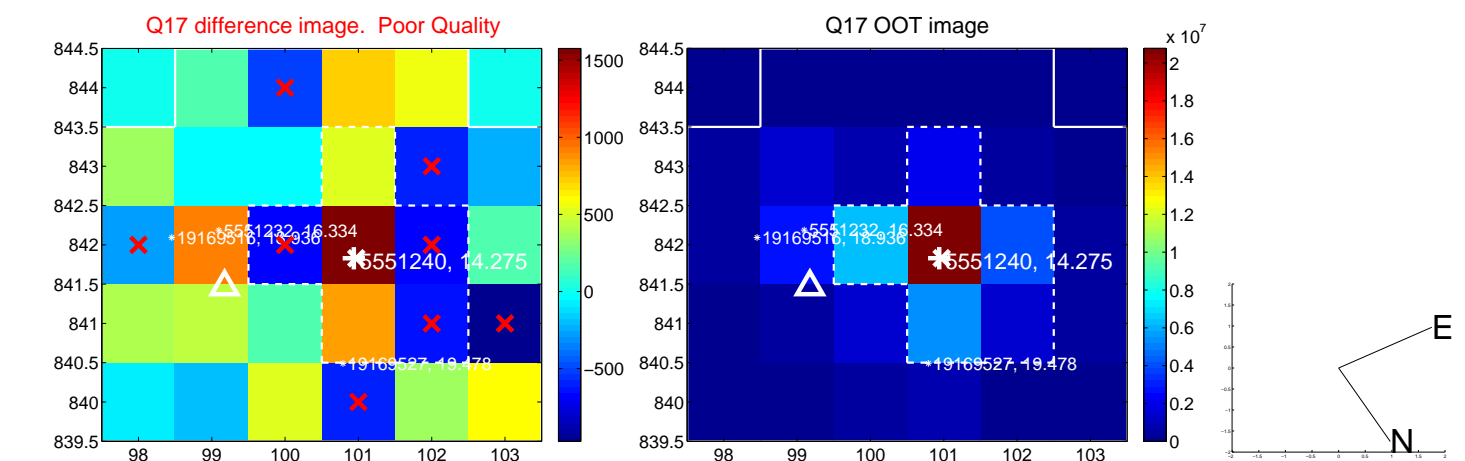
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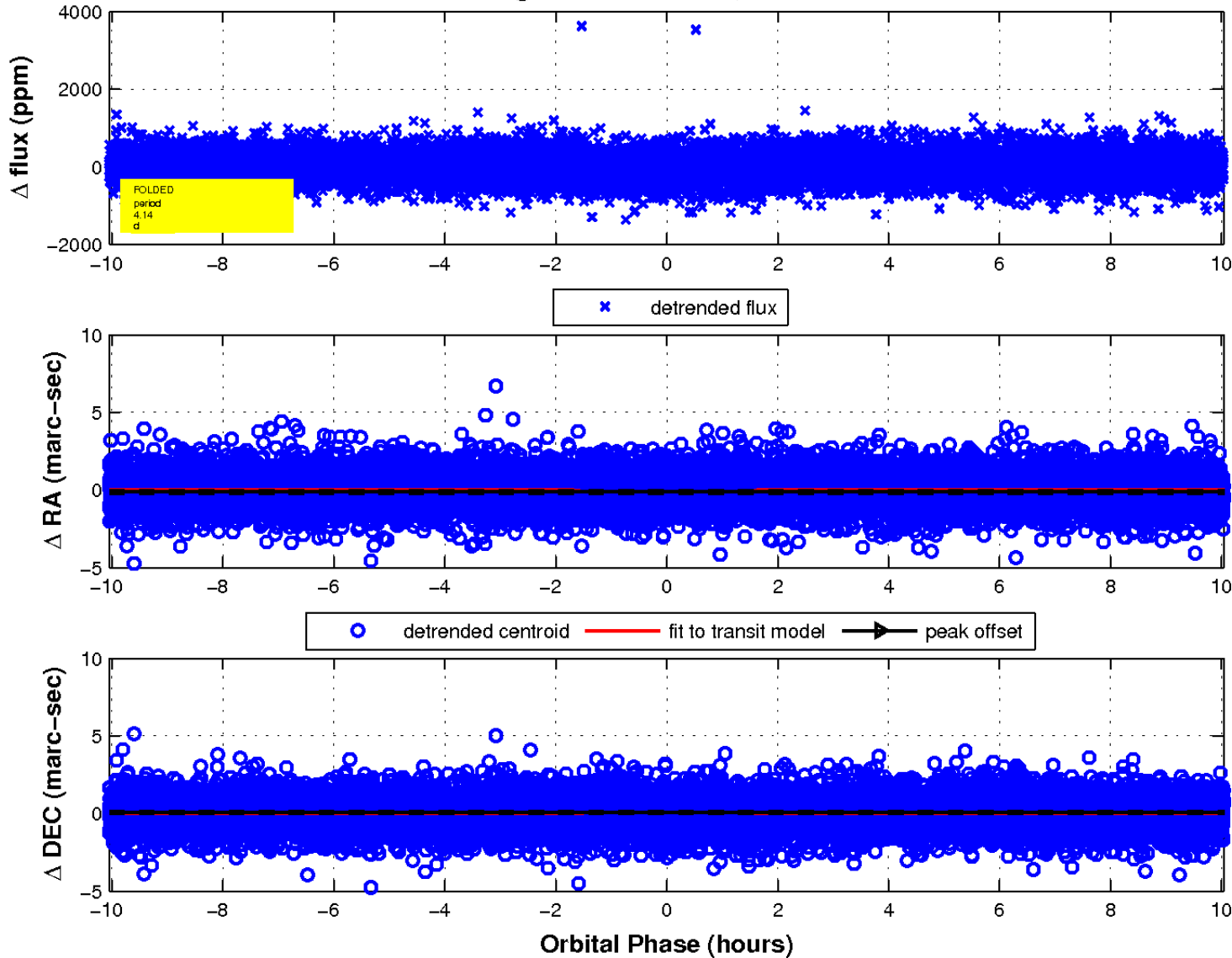
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

