

KIC 012453855

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})
012453855-01	OBS	8080.01	0.559642	131.523494	1301.3	1.500	9.0	-1.0	0.77	5240	2.75	2836.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012453855-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—CENT_NOFITS

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

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

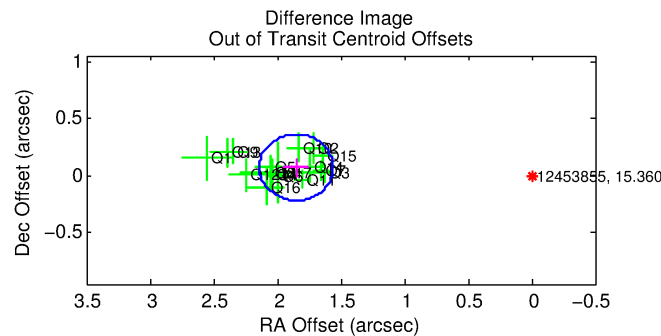
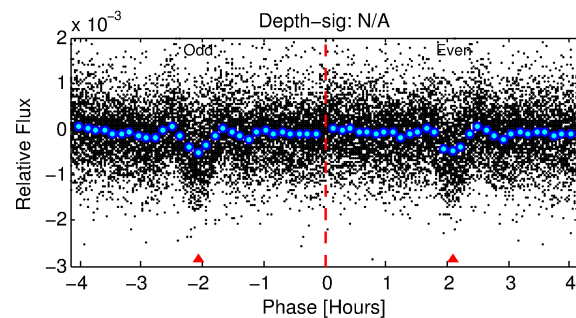
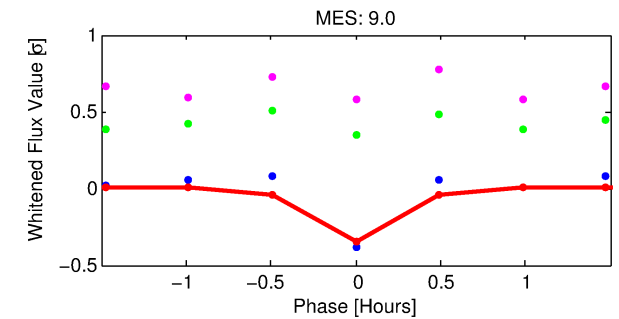
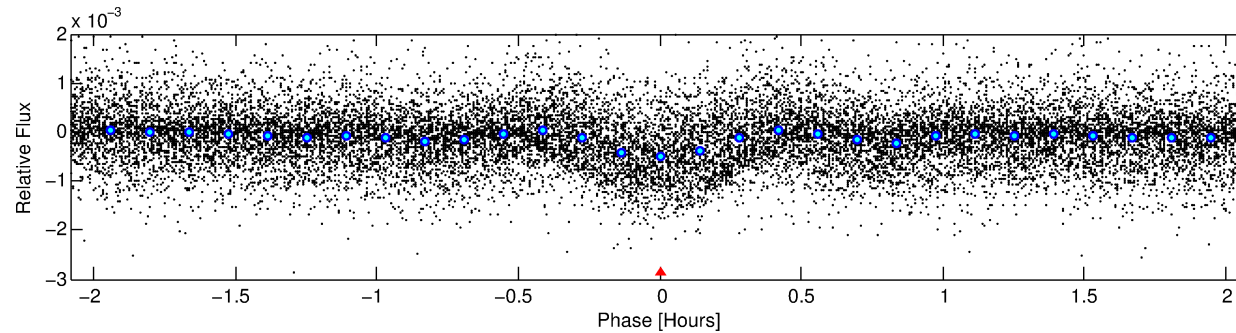
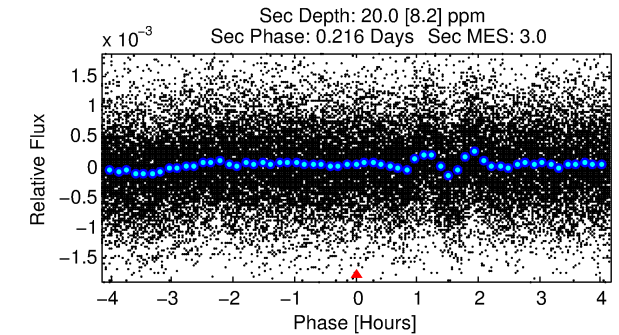
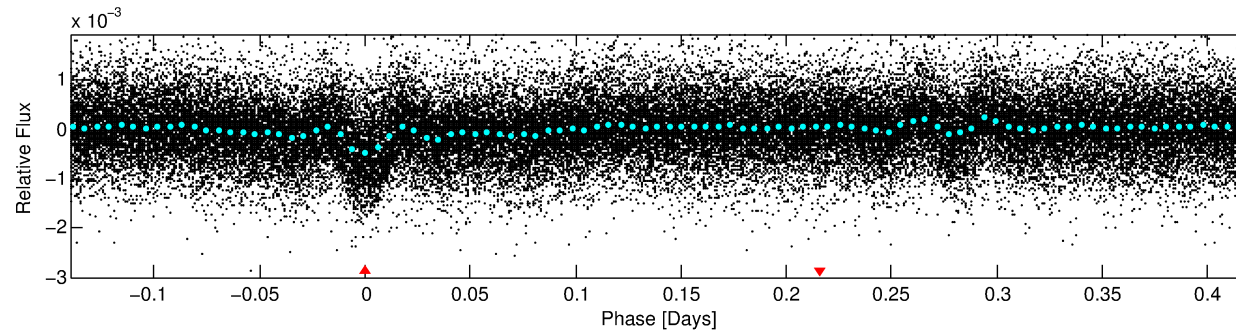
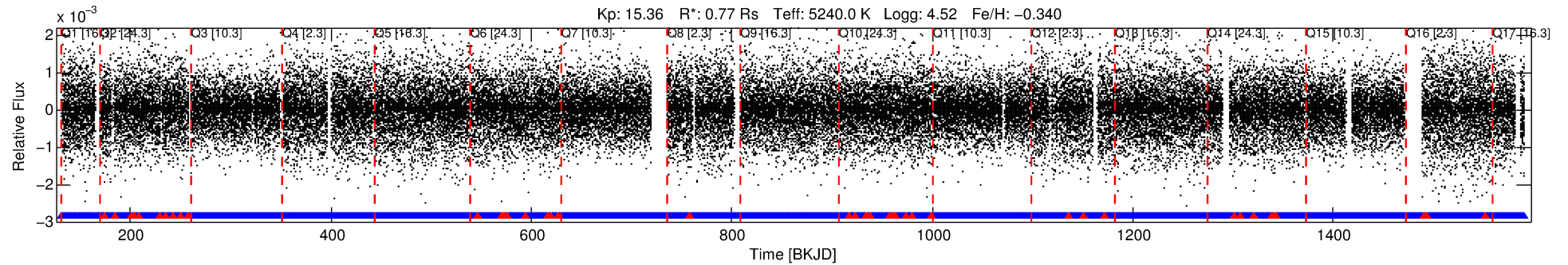
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012453855-01

No Significant Match Found

DV One-Page Summary

KIC: 12453855 Candidate: 1 of 1 Period: 0.560 d



TPS TCE Results:

Period = 0.55964 d
Epoch = 131.5235 BKJD

DV fit results are unavailable

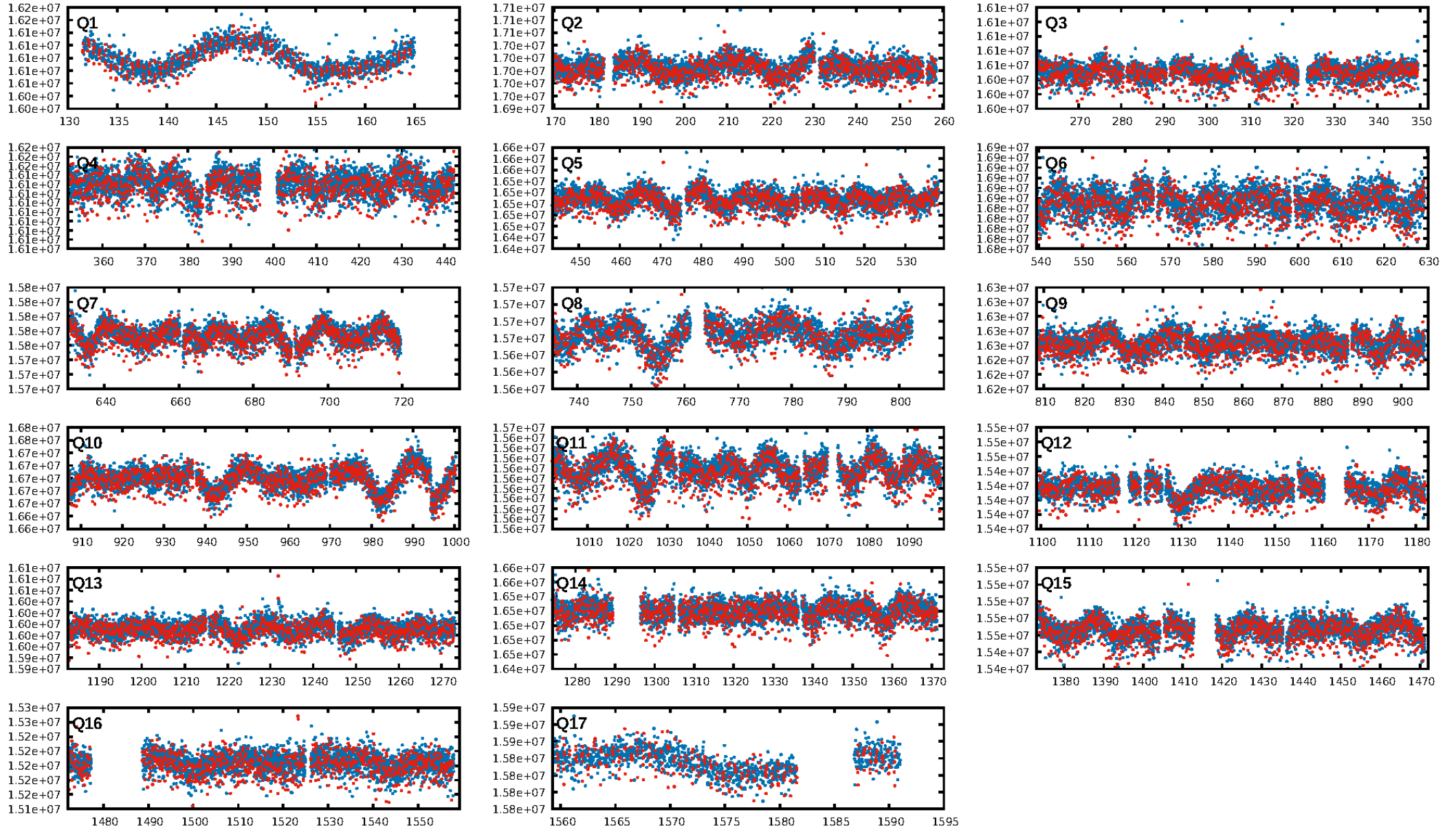
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.69e-18
RollingBand-fgt: 0.98 [2235/2282]
GhostDiagnostic-chr: 0.6676
Centroid-sig: 0.0%
Centroid-so: 1.499 arcsec [14.87σ]
OotOffset-rm: 1.853 arcsec [19.18σ]
KicOffset-rm: 1.845 arcsec [19.65σ]
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]

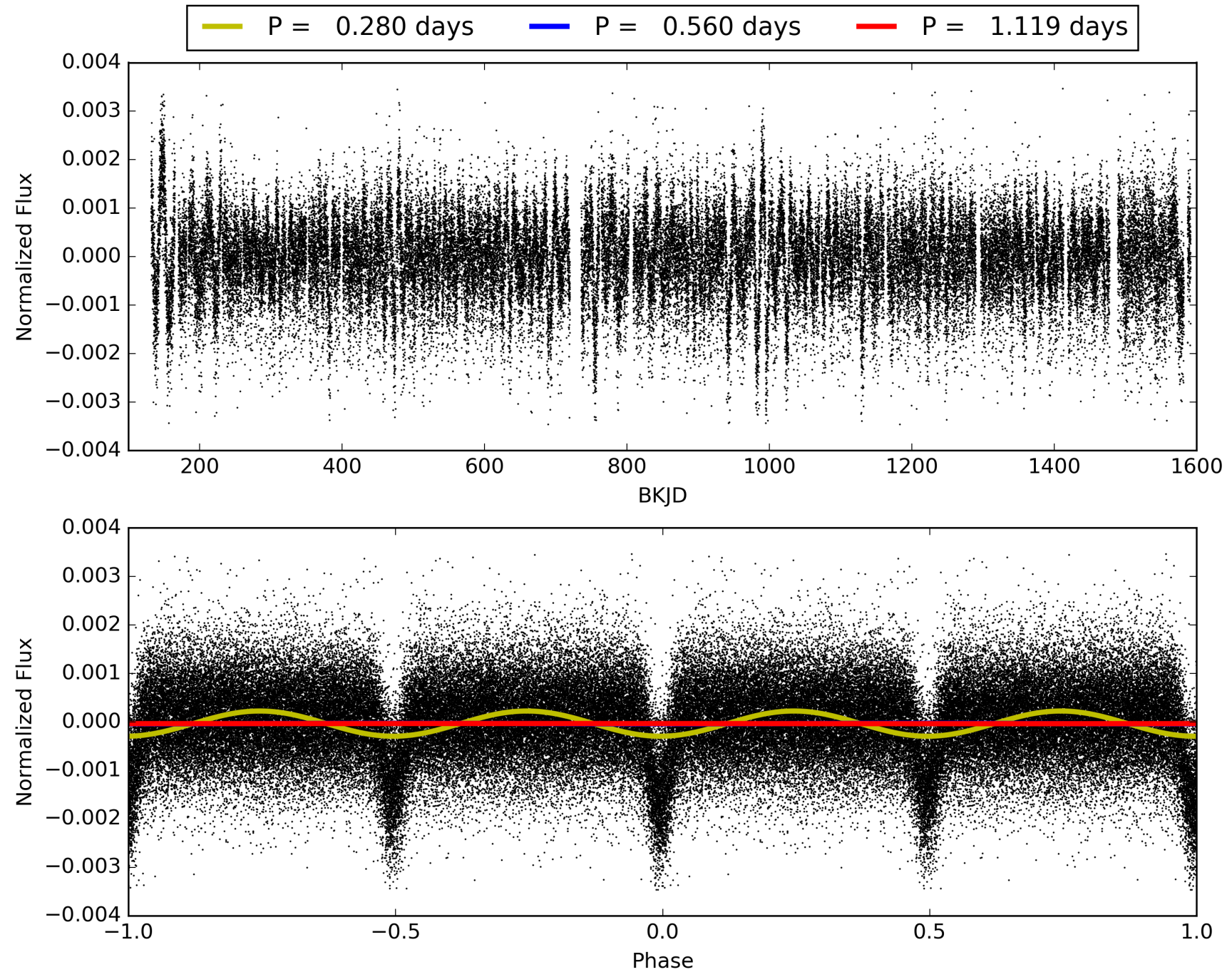
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 00:55:14 Z

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

TCE 012453855-01, PDC Light Curves

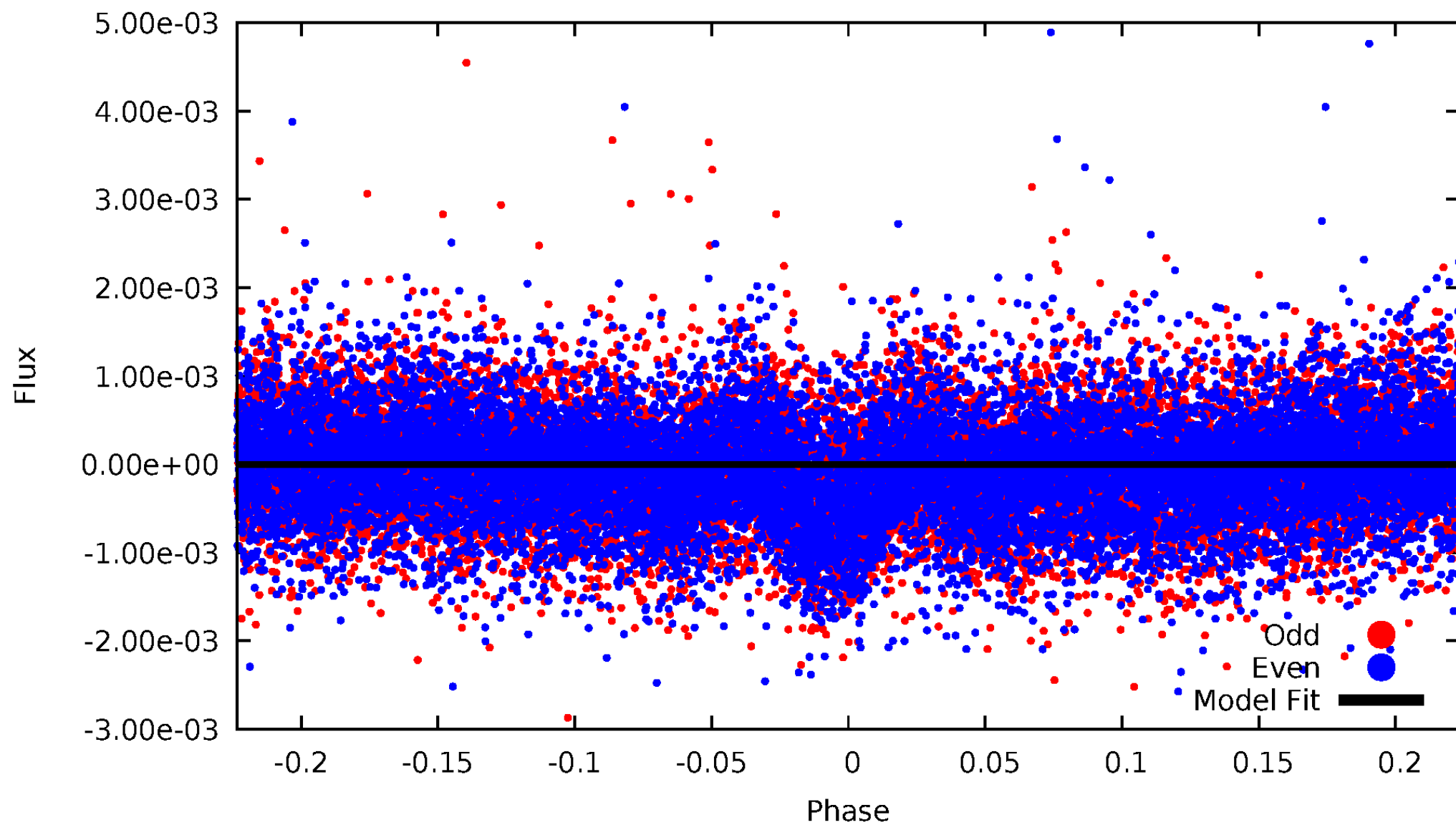


TCE 012453855-01



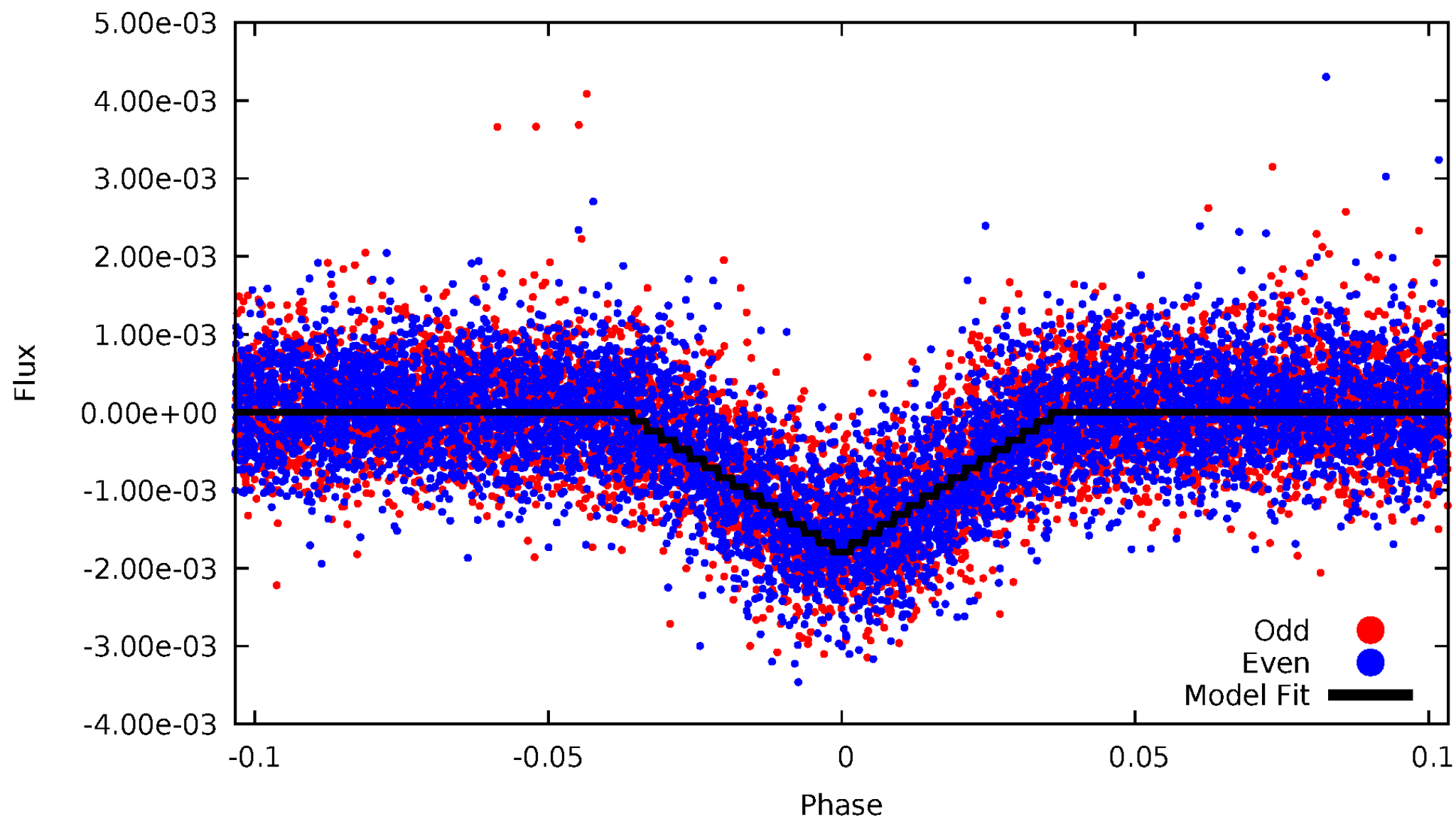
DV Odd/Even

TCE 012453855-01

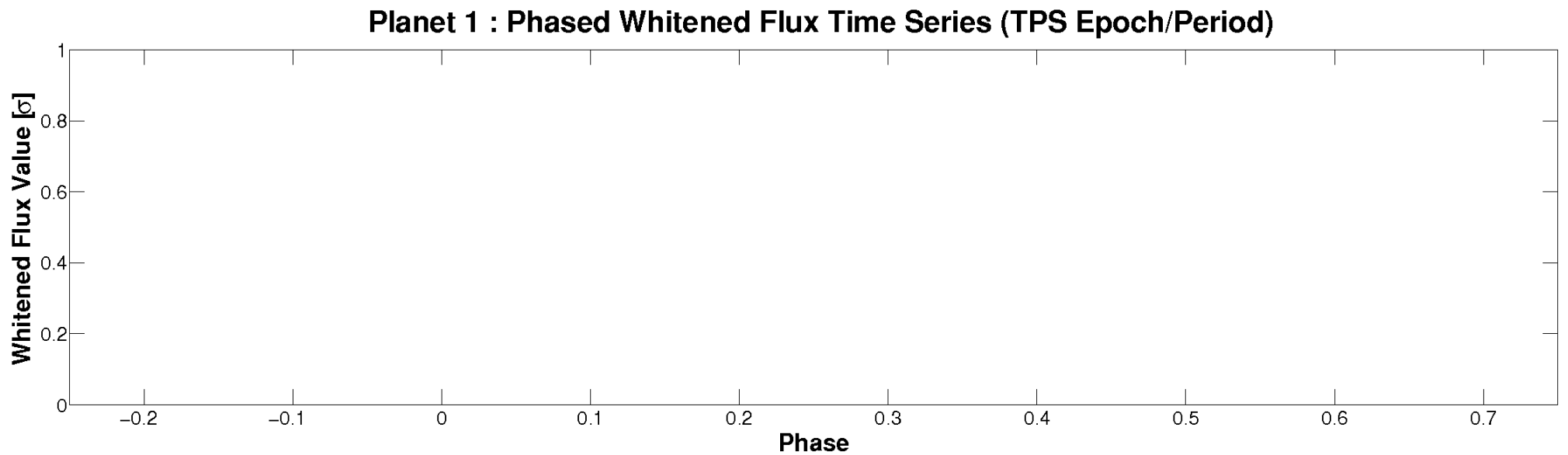
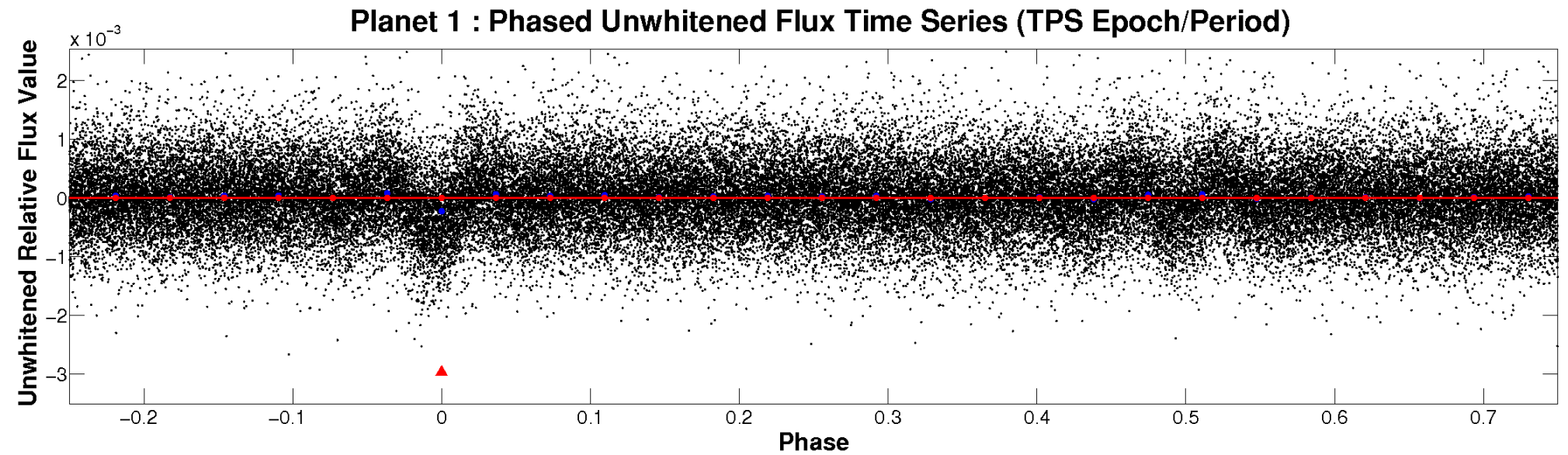


ALT Odd/Even

TCE 012453855-01

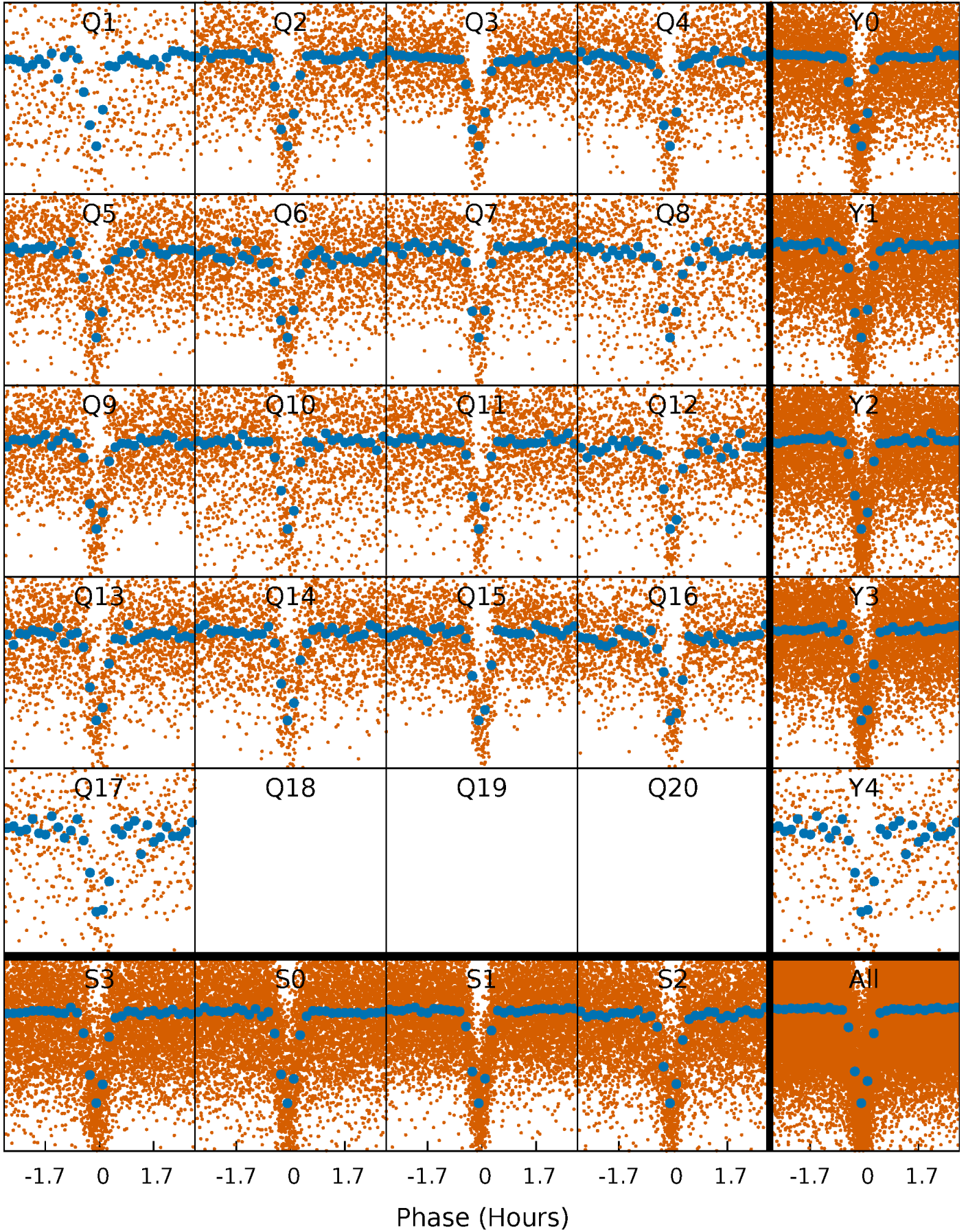


Non-Whitened Vs. Whitened Light Curve



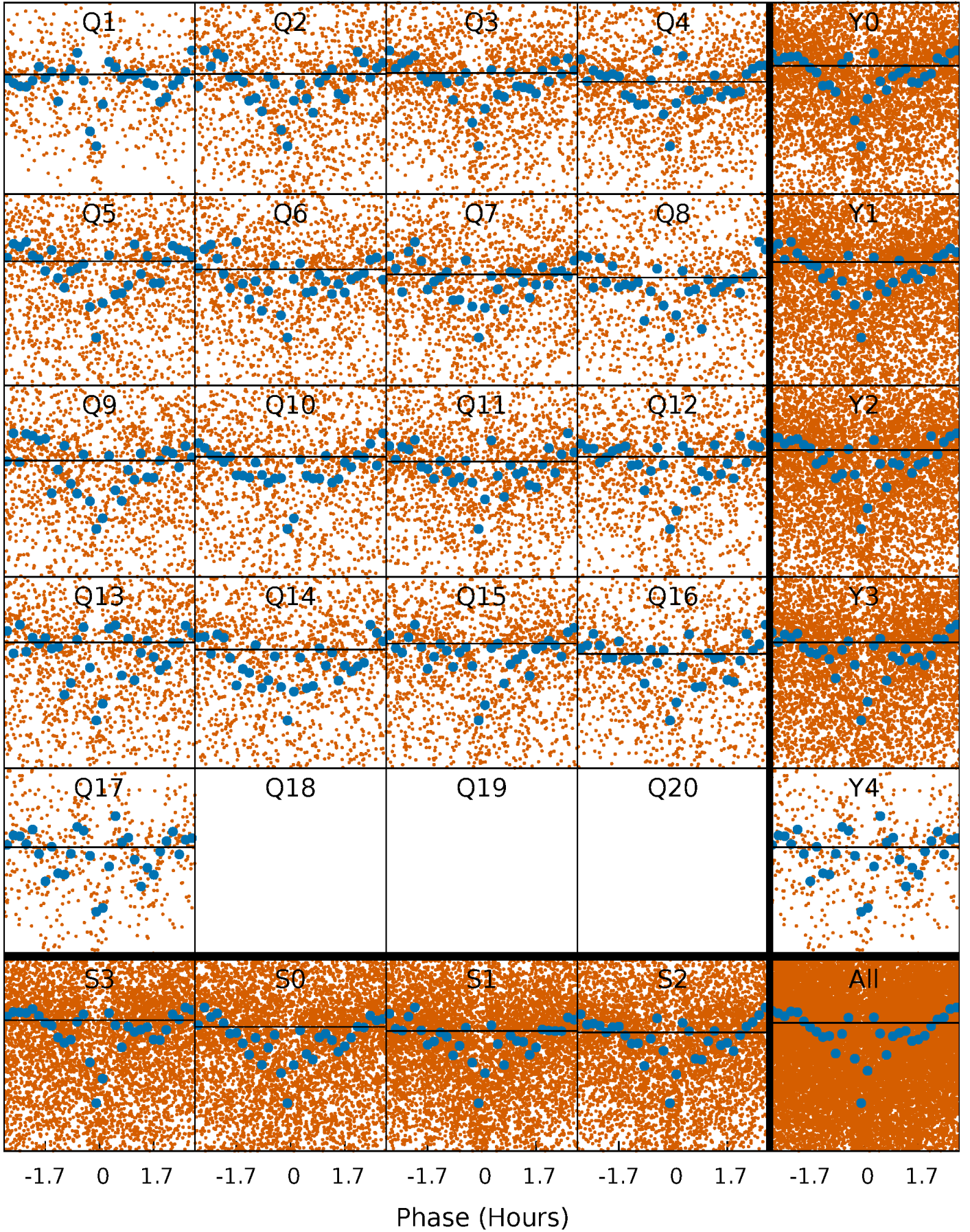
PDC Quarter-Phased Transit Curves

TCE 012453855-01 P= 0.559642 Days $T_0=131.523494$ (BKJD)



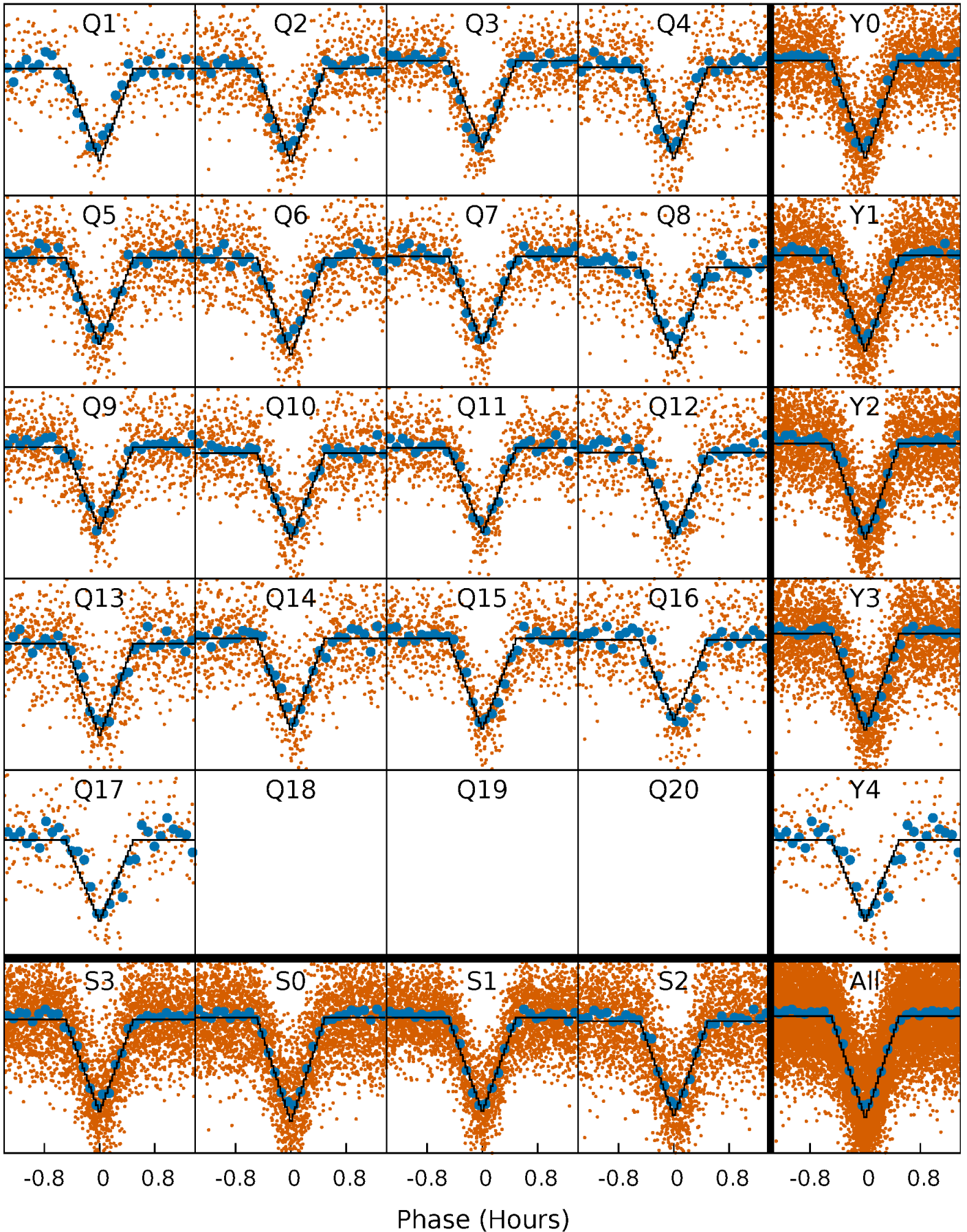
DV Quarter-Phased Transit Curves

TCE 012453855-01 P= 0.559642 Days $T_0=131.523494$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

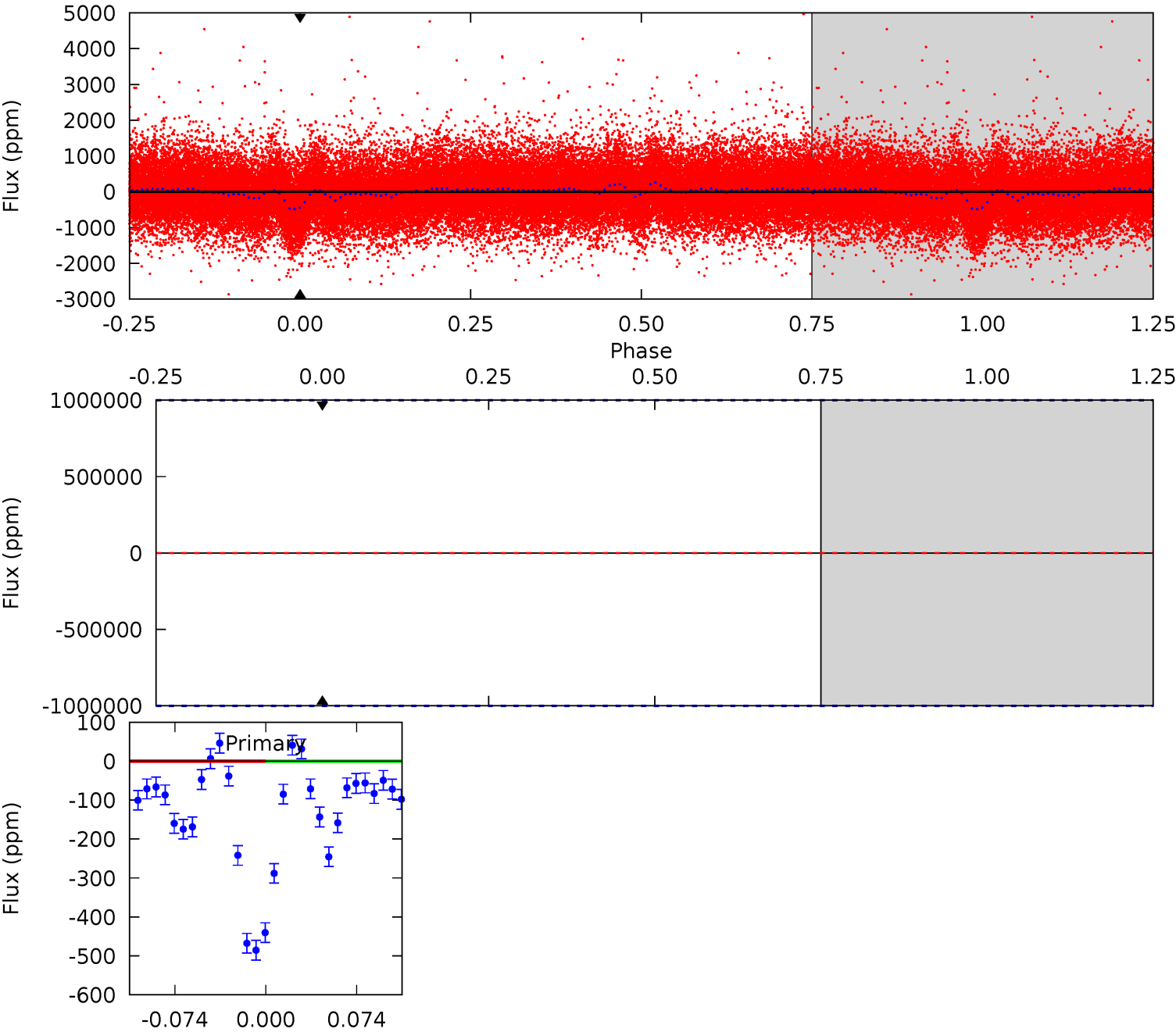
TCE 012453855-01 P= 0.559642 Days $T_0=131.519985$ (BKJD)



DV Model-Shift Uniqueness Test

012453855-01, P = 0.559642 Days, E = 130.963852 Days

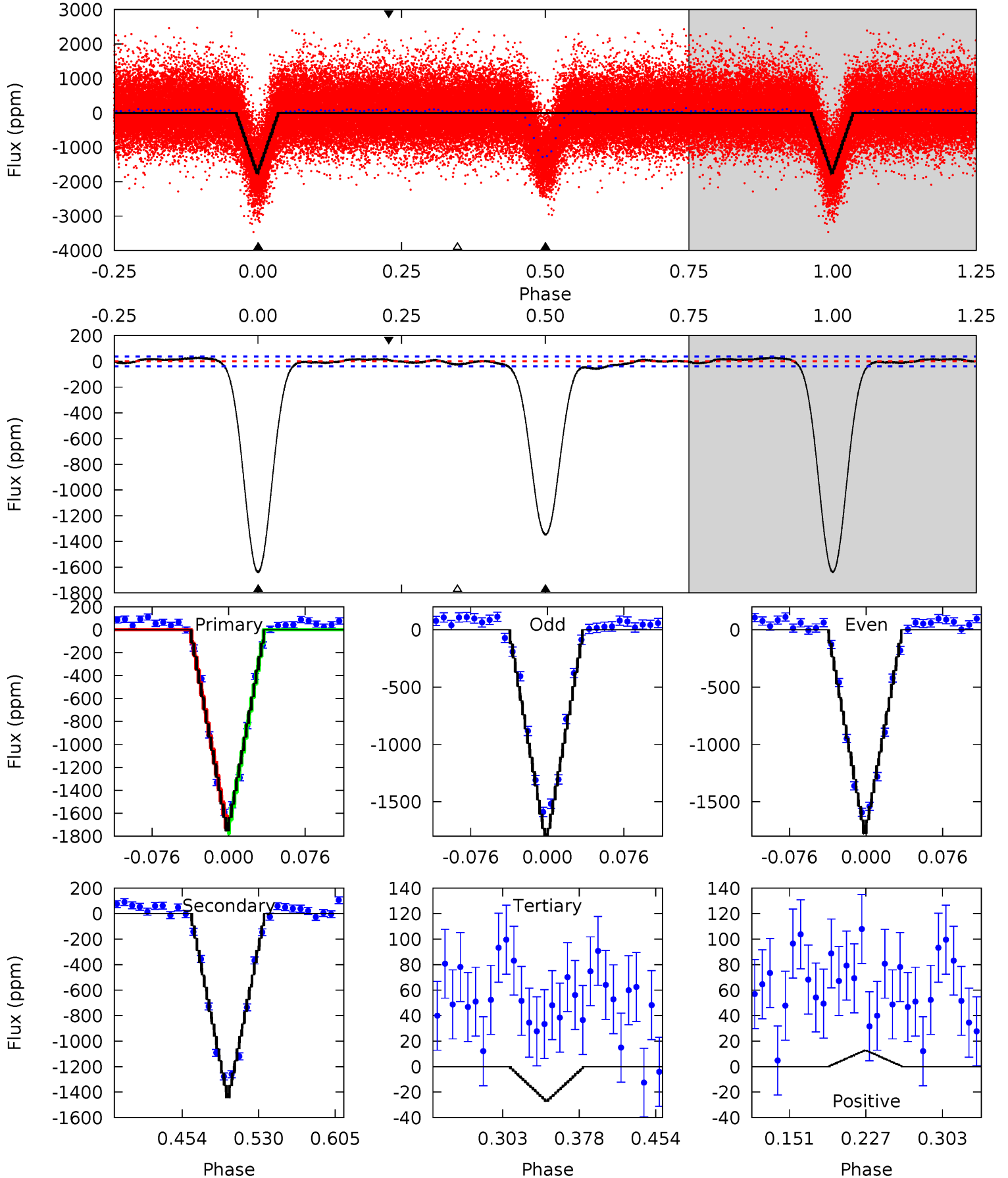
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

012453855-01, P = 0.559642 Days, E = 130.960343 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
198.2	163.0	3.06	1.45	4.62	1.78	2.07	195.2	196.8	159.9	161.6	4.45	0.99	0.02	9.82



Stellar Parameters For KIC 012453855

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5240^{+158}_{-158}	$4.521^{+0.099}_{-0.081}$	$-0.340^{+0.350}_{-0.300}$	$0.774^{+0.095}_{-0.095}$	$0.724^{+0.107}_{-0.054}$	$2.200^{+0.899}_{-0.538}$
	+3%/-3%	+2%/-2%	+103%/-88%	+12%/-12%	+15%/-7%	+41%/-24%
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 012453855-01 / KOI 8080.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$7.11^{+6.93}_{-4.75}$	2594^{+115}_{-110}	-4267^{+18991}_{-10599}	$-4.135^{+288.819}_{-276.476}$
Alt.	-1347 ± 8	$7.16^{+6.99}_{-4.68}$	2589^{+112}_{-115}	3695^{+2095}_{-950}	$2.124^{+15.424}_{-1.583}$

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

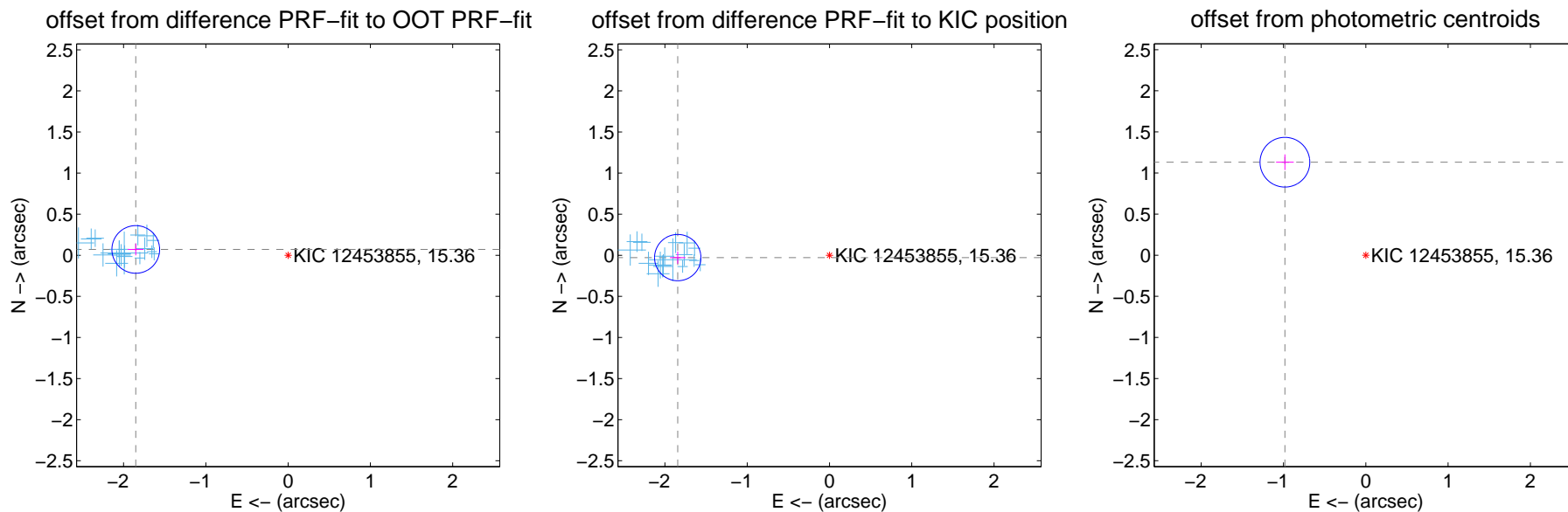
DV Centroid Data

Supplemental centroid analysis for 012453855-01. Kepler magnitude: 15.36. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

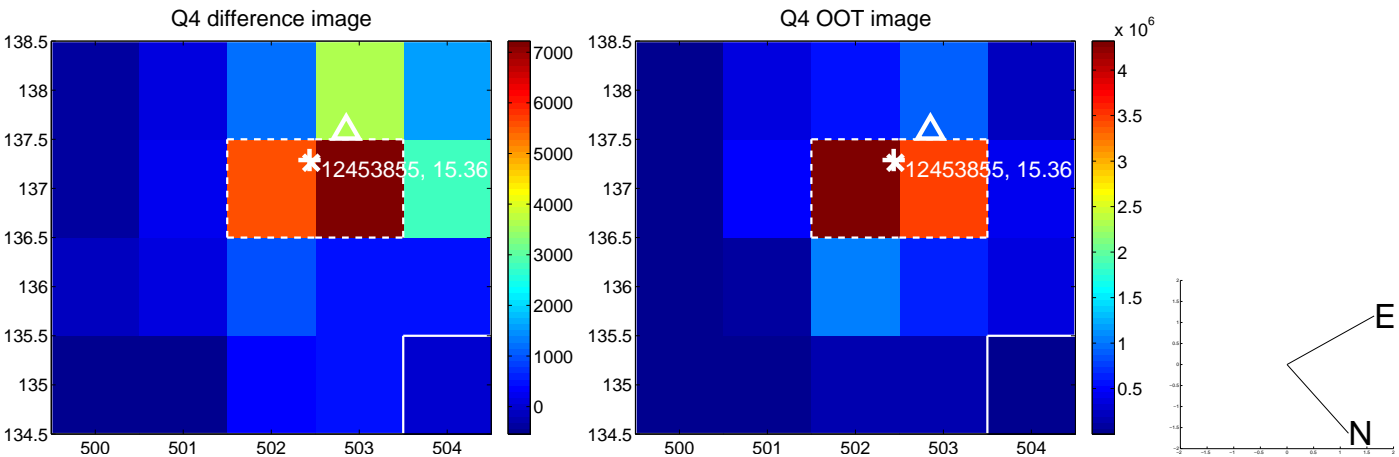
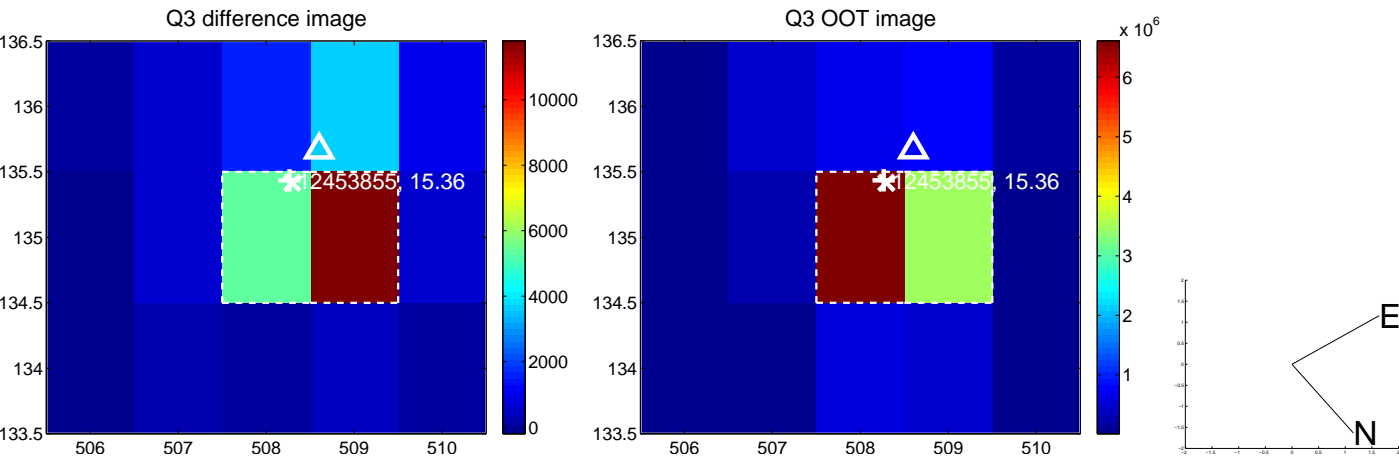
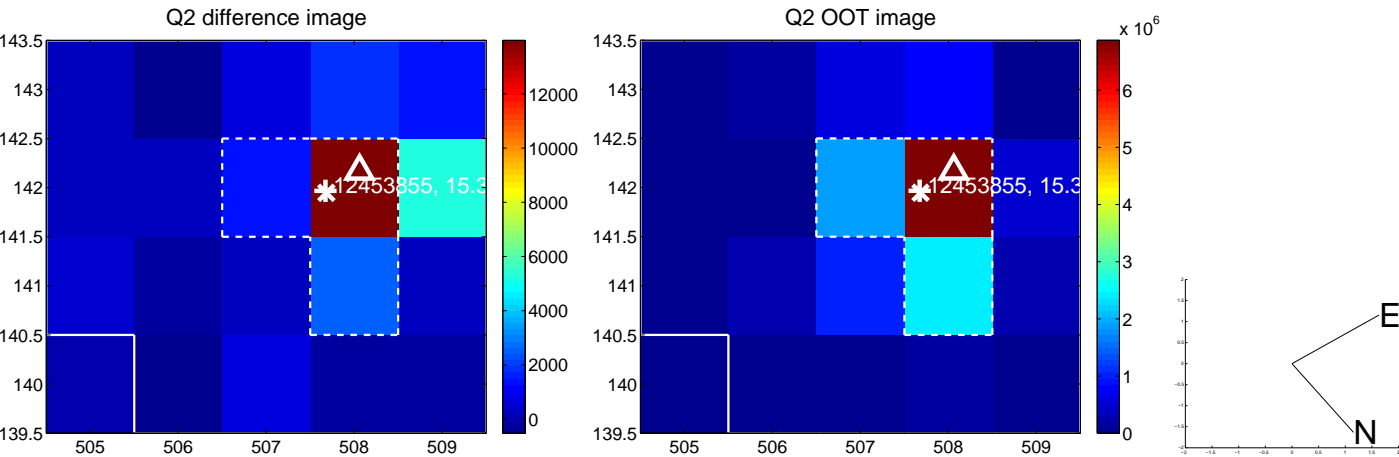
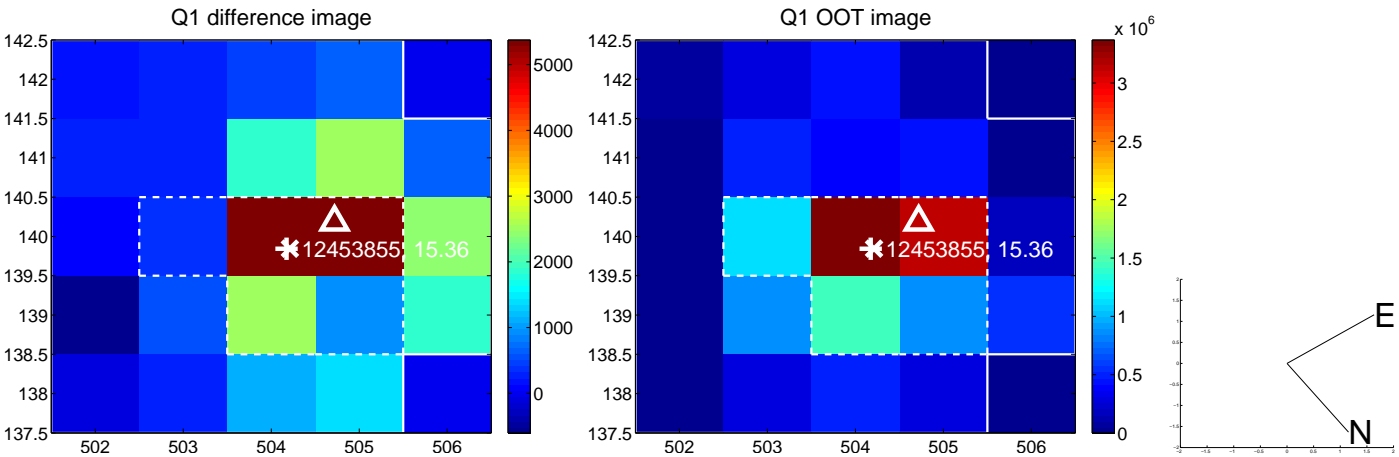
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.853 ± 0.097	19.18	1.852 ± 0.097	0.071 ± 0.072
PRF-fit source offset from KIC position	1.845 ± 0.094	19.65	1.845 ± 0.094	-0.028 ± 0.074
photometric centroid source offset	1.50 ± 0.10	14.87	0.98 ± 0.11	1.13 ± 0.10

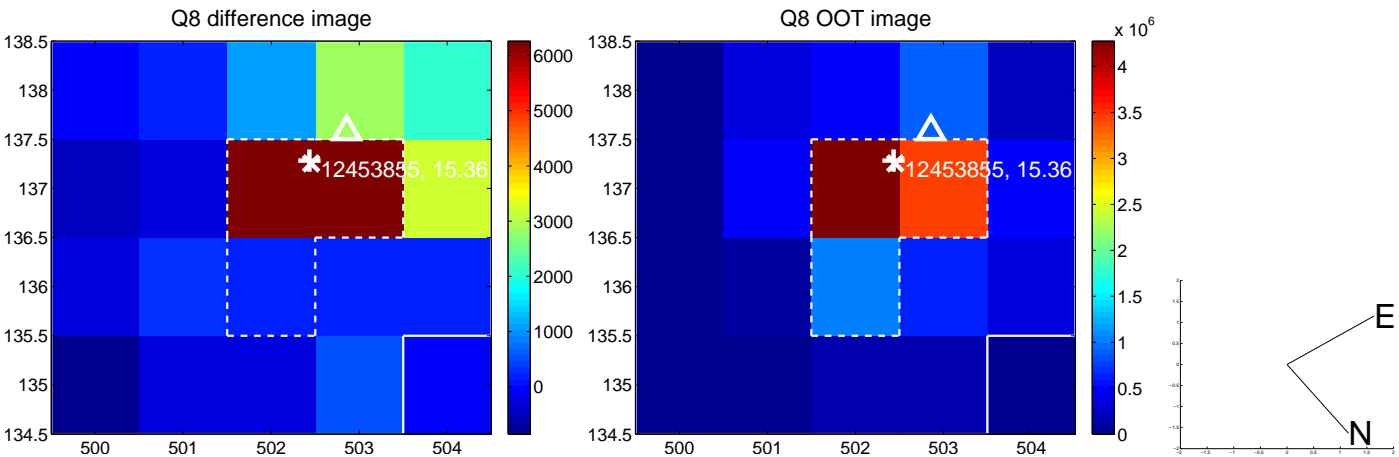
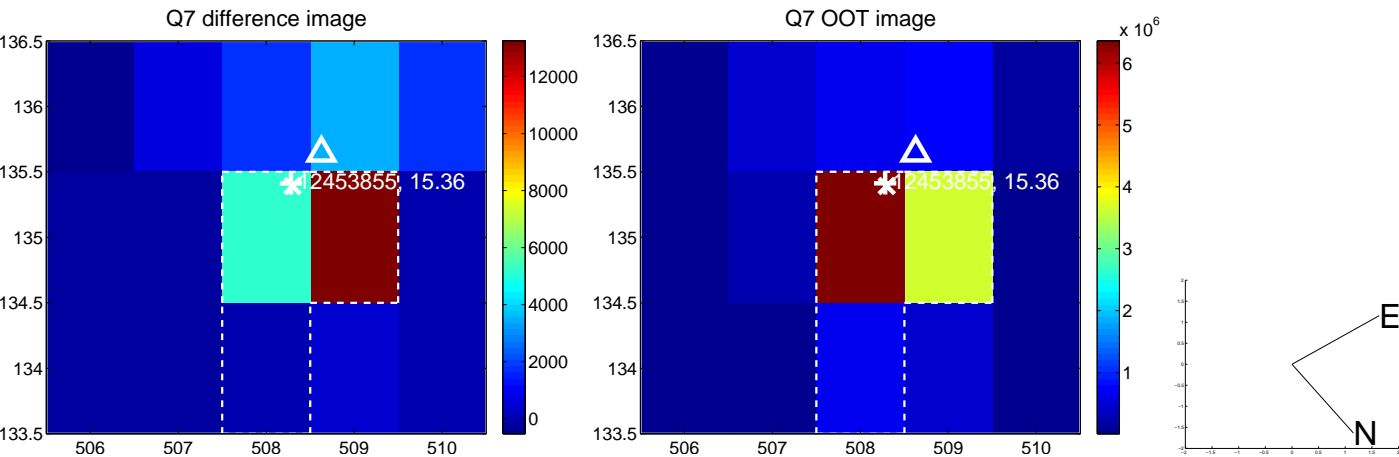
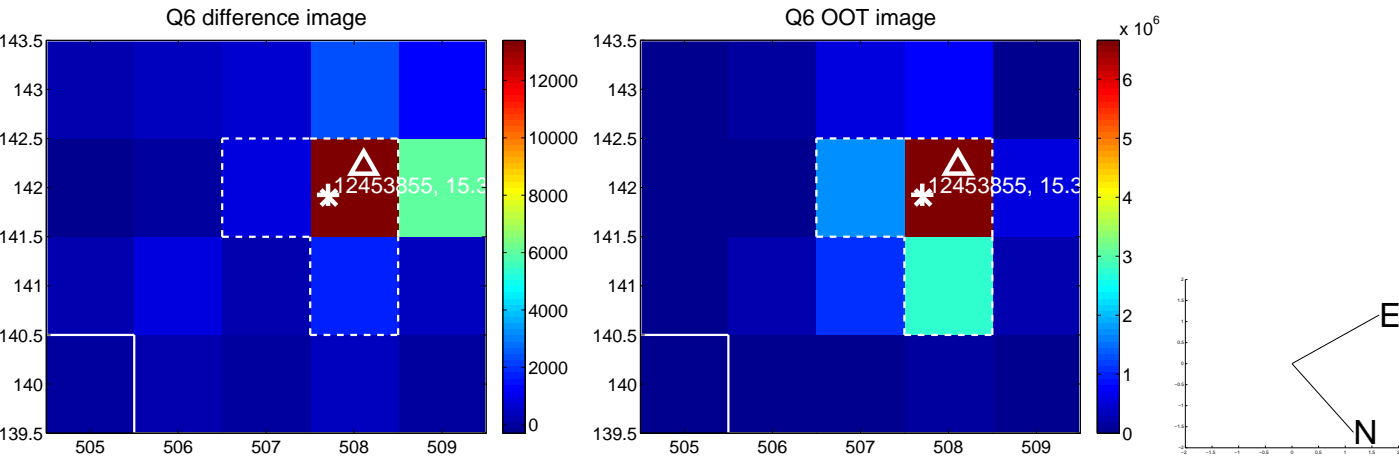
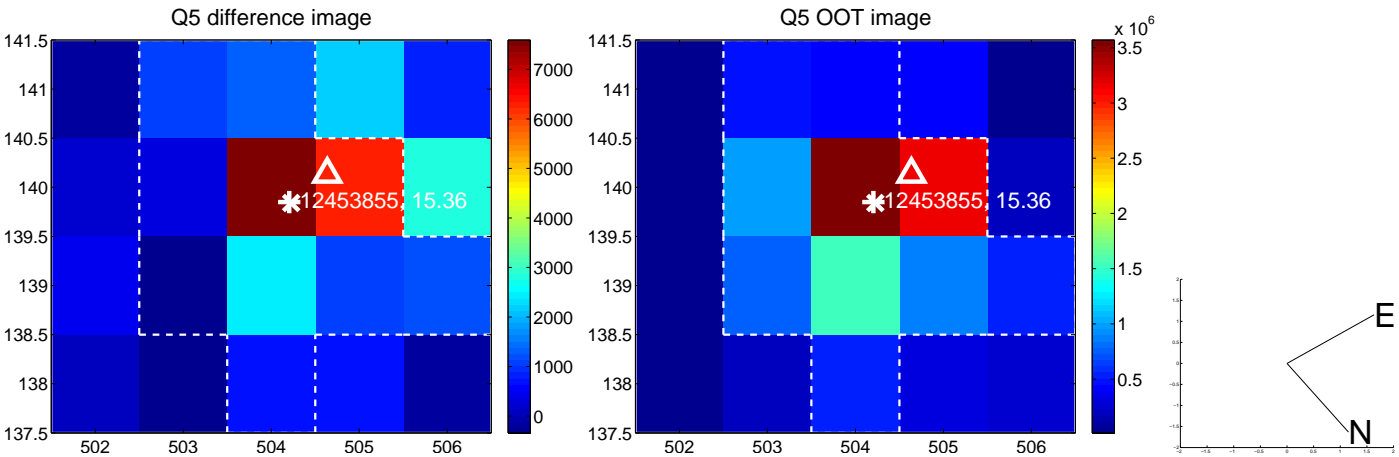


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

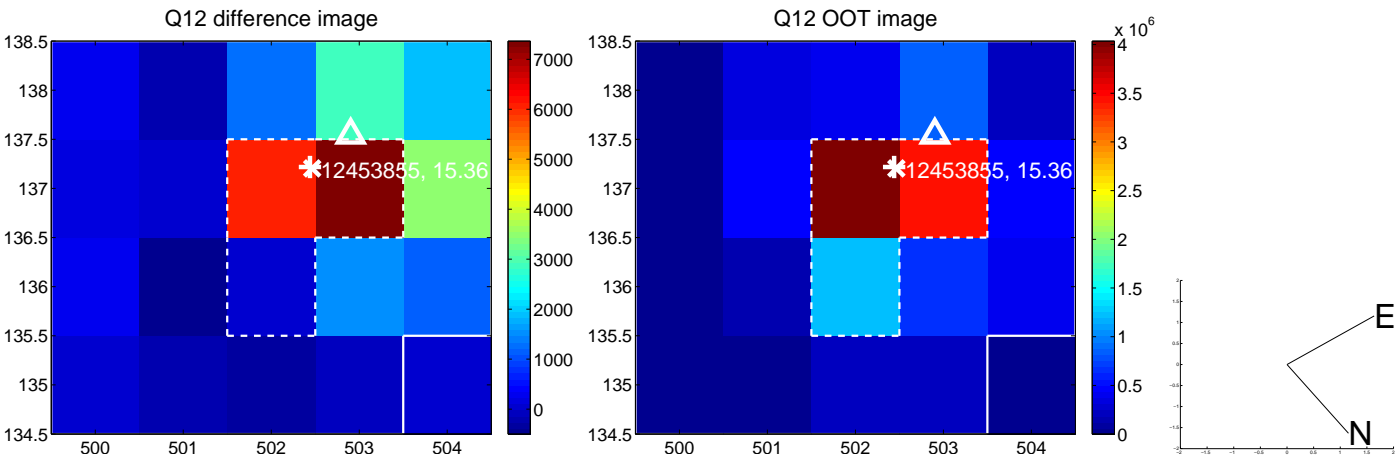
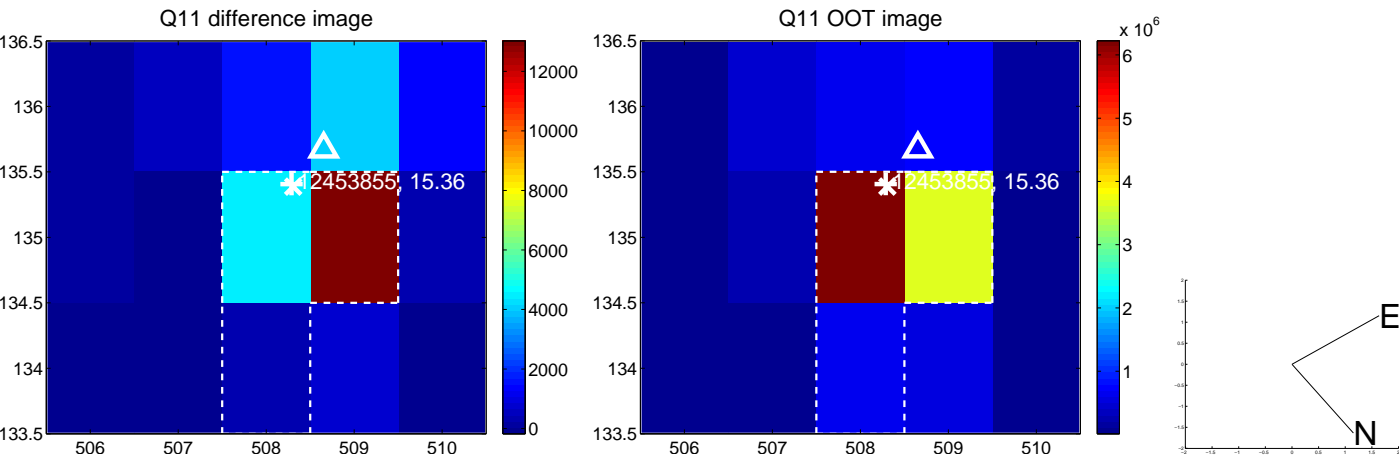
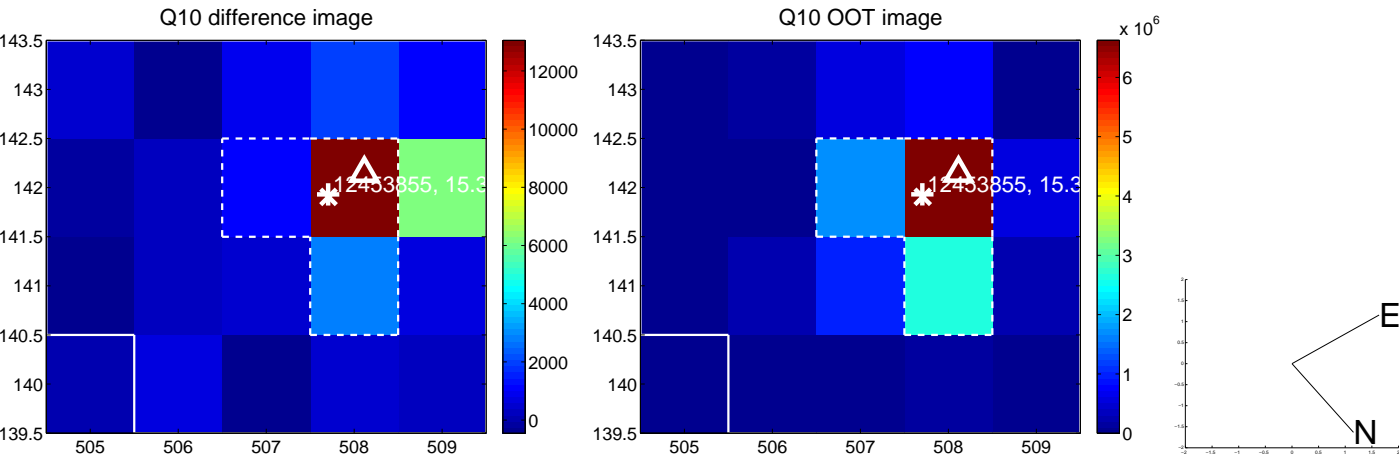
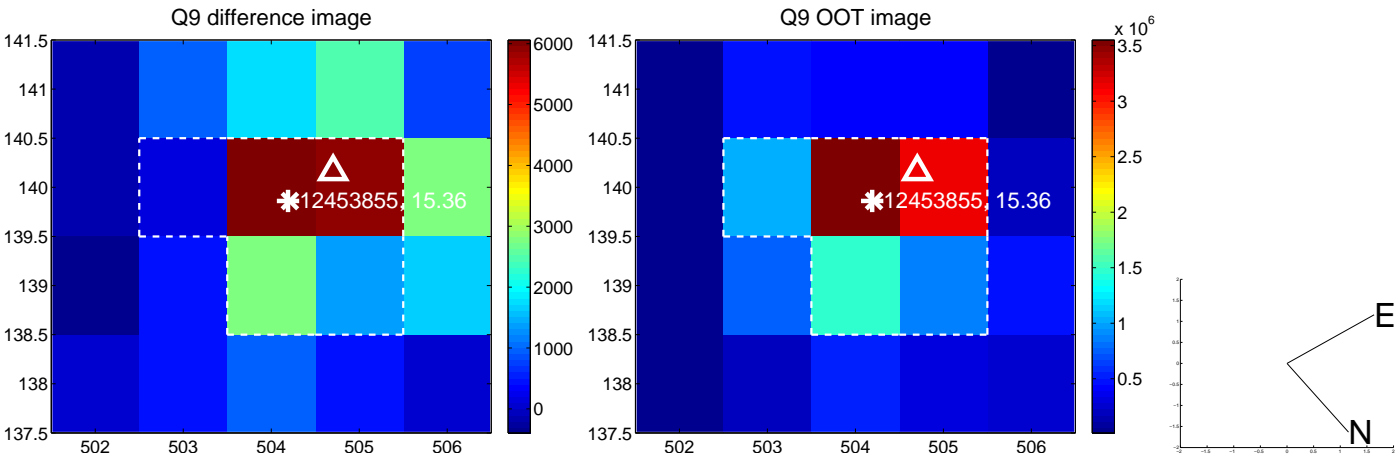
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



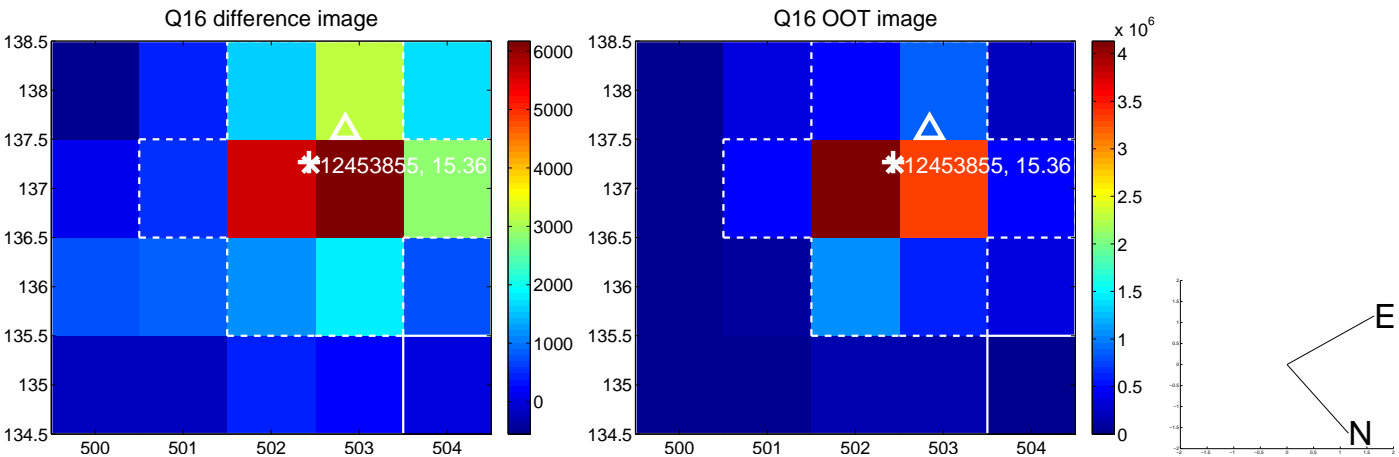
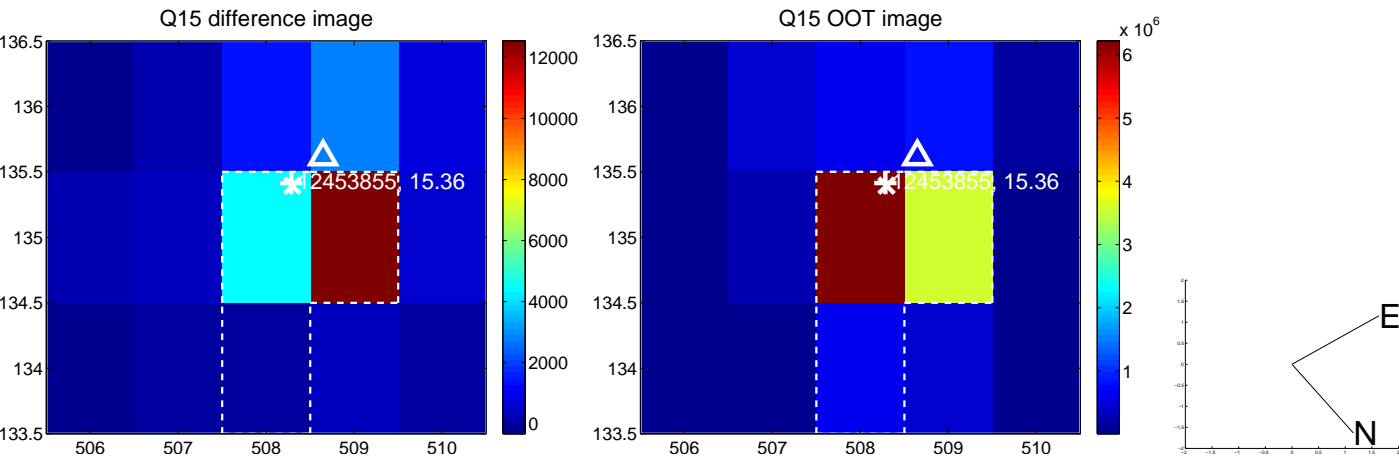
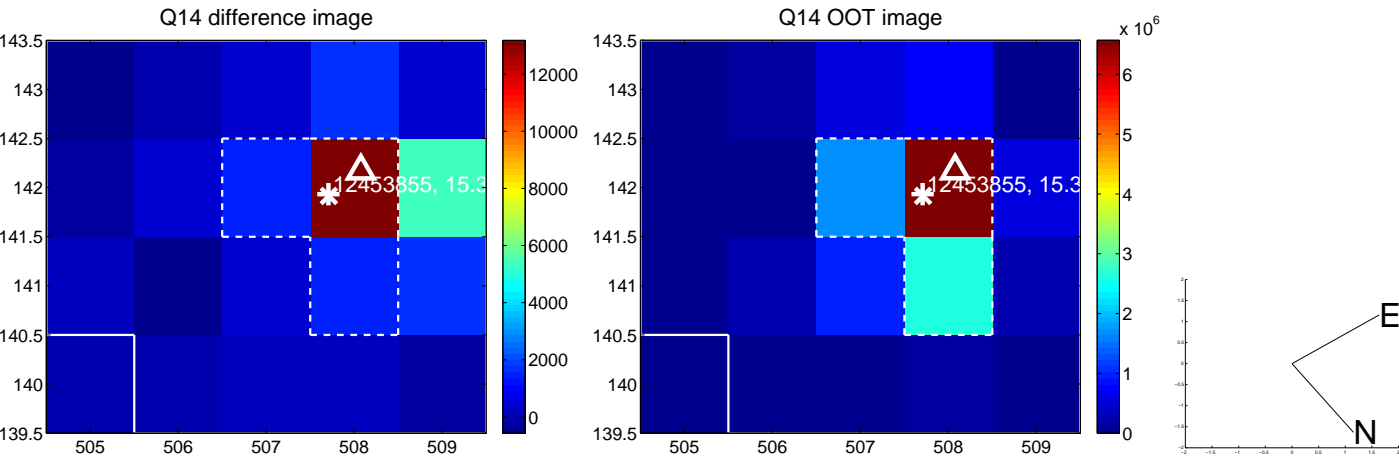
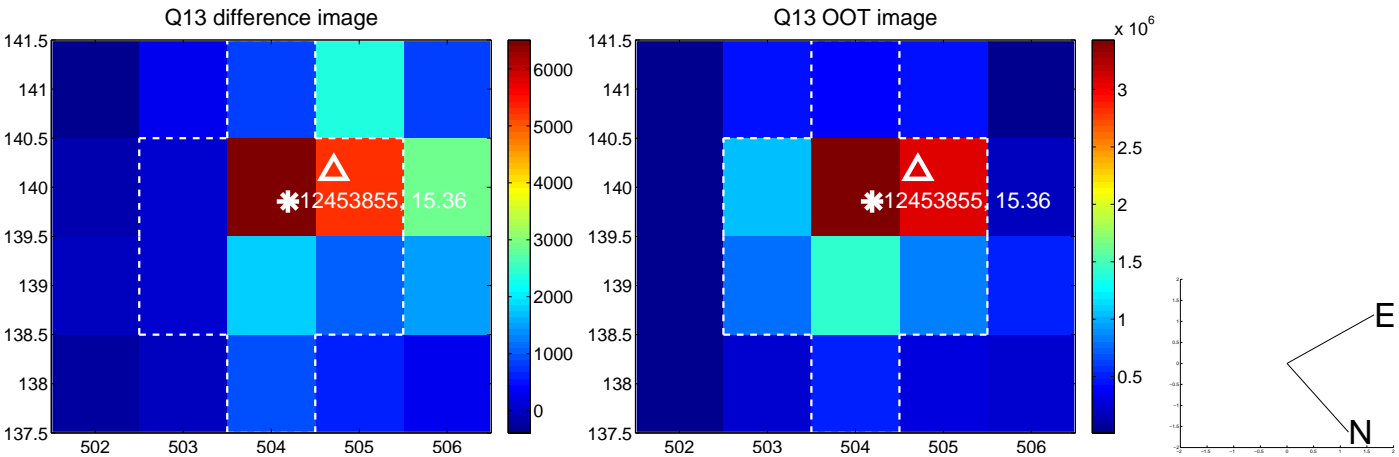
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



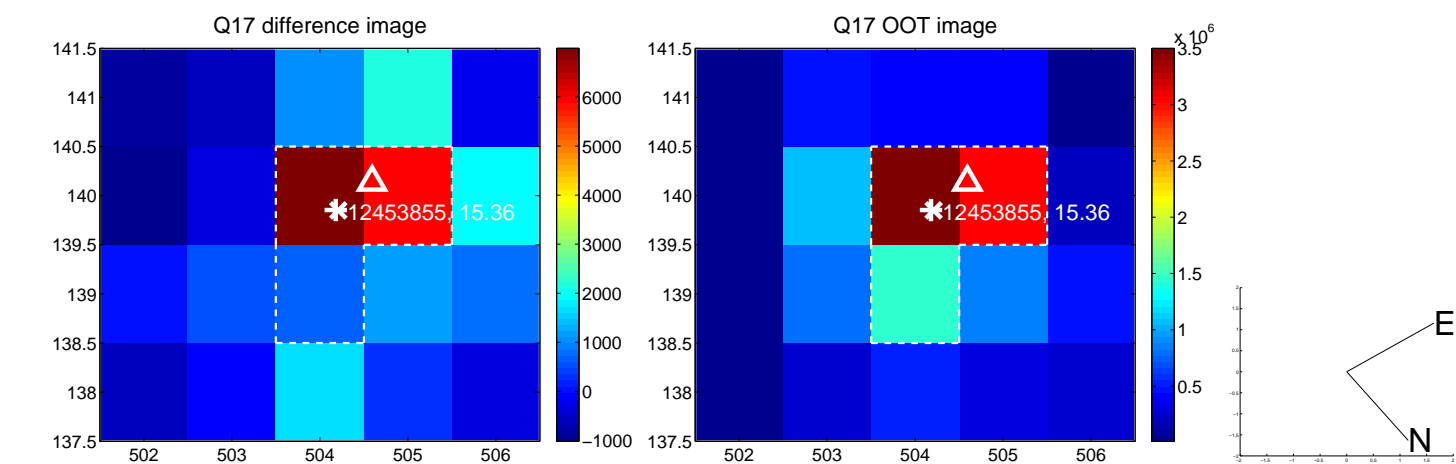
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



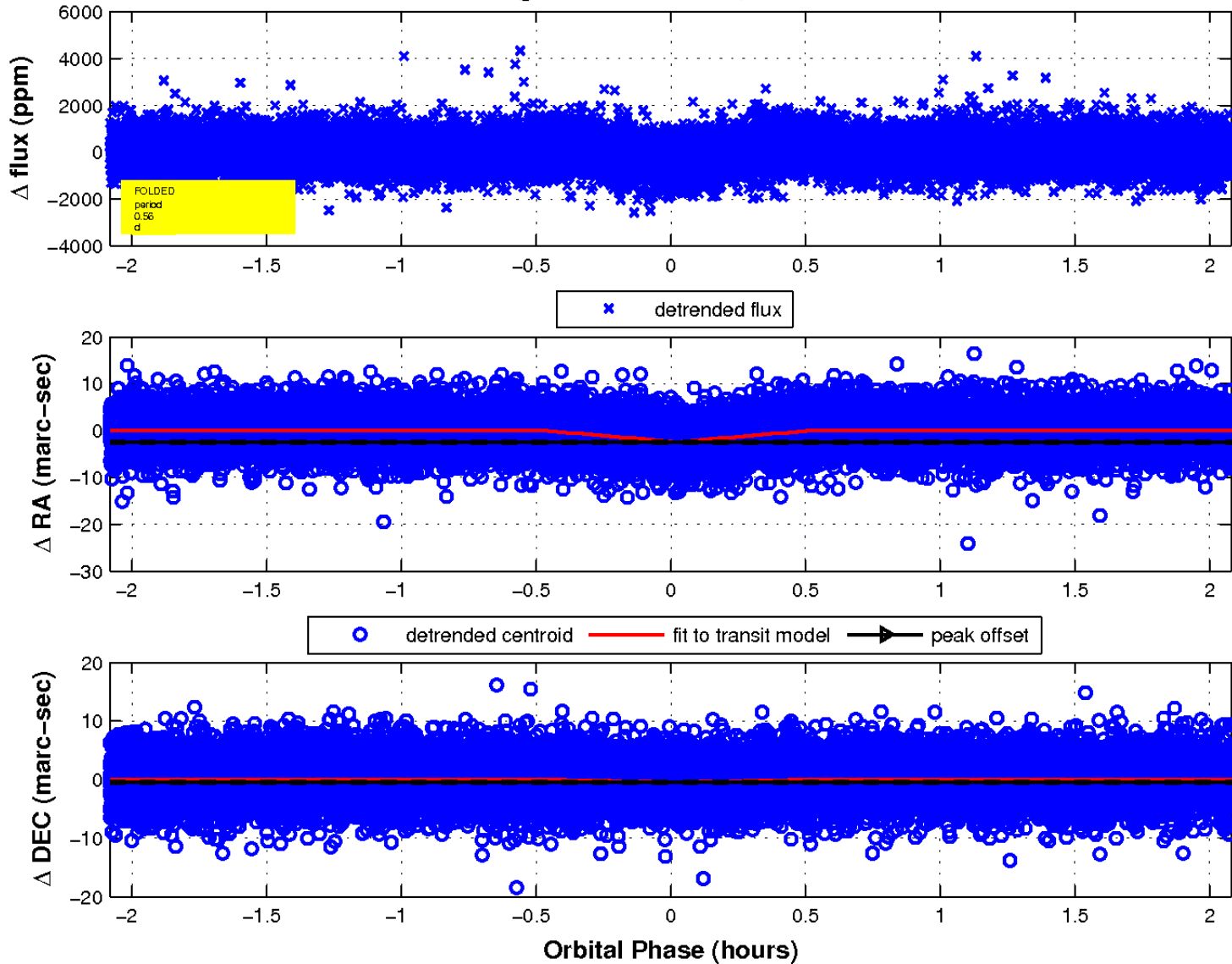
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

