

KIC 003557043

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})
003557043-01	OBS	No	8.674387	133.178041	217.9	32.729	11.9	19.0	1.40	6306	4.05	407.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003557043-01	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.

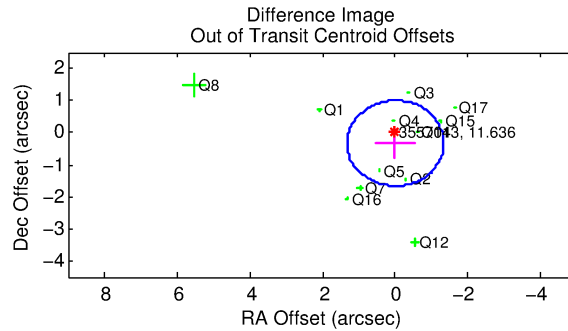
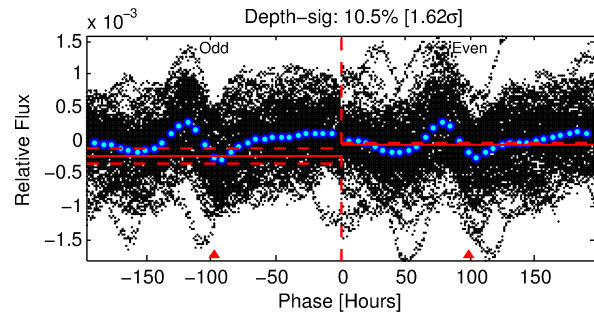
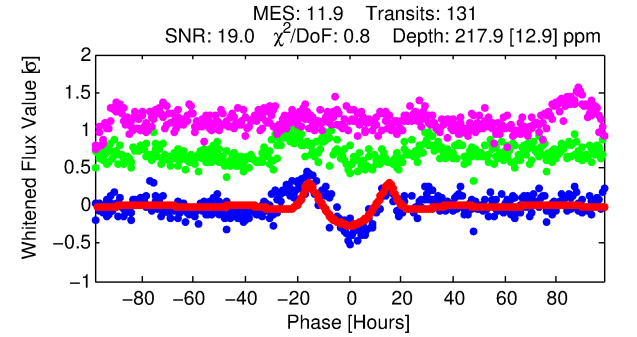
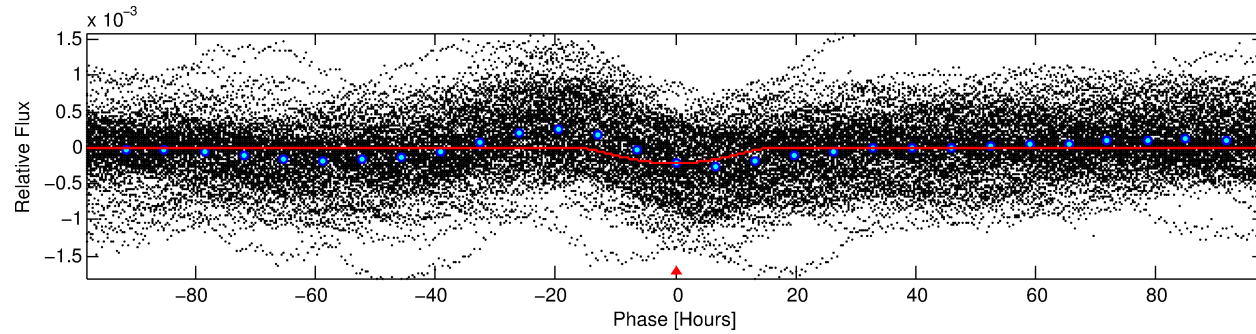
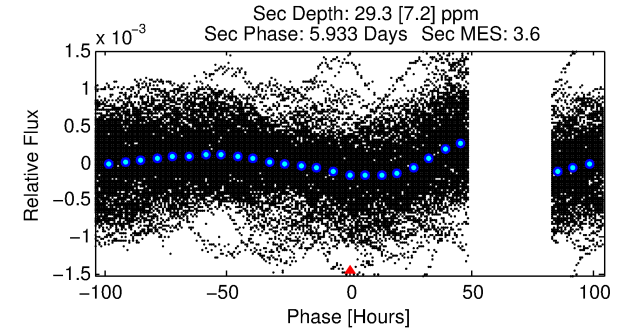
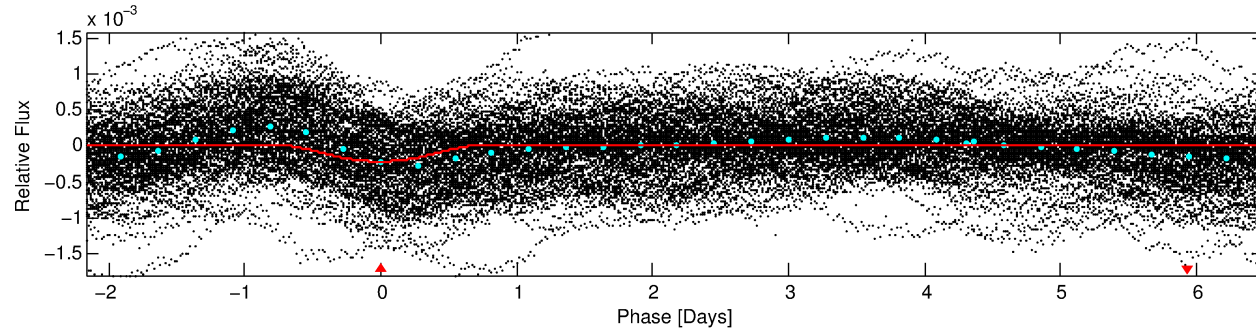
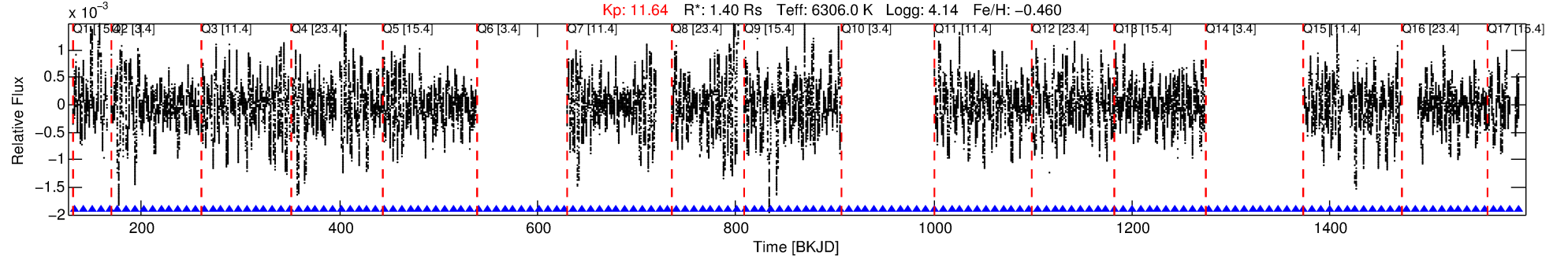
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003557043-01

No Significant Match Found

DV One-Page Summary

KIC: 3557043 Candidate: 1 of 1 Period: 8.674 d



DV Fit Results:

Period = 8.67439 [0.00016] d
Epoch = 133.1780 [0.0150] BKJD
Rp/R* = 0.0266 [0.0079]
a/R* = 1.11 [0.01]
b = 1.00 [0.01]
Seff = 407.75 [168.52]
Teq = 1146 [118] K
Rp = 4.05 [1.56] Re
a = 0.0823 [0.0200] AU
Ag = 6.66 [5.02] [1.13σ]
Teffp = 2846 [465] K [3.54σ]

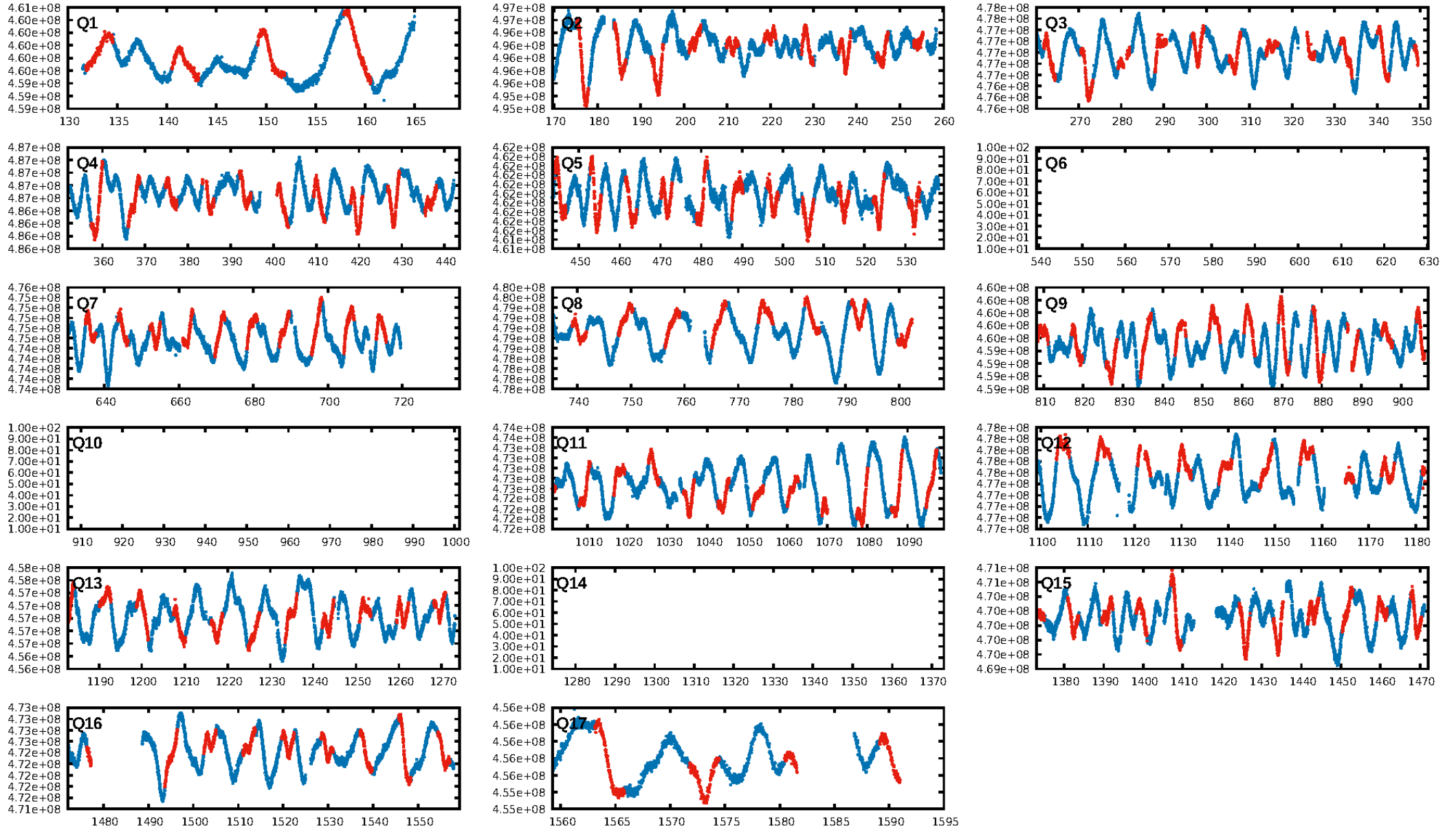
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 78.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.43e-35
RollingBand-fgt: 1.00 [123/123]
GhostDiagnostic-chr: 0.8853
Centroid-sig: 3.0%
Centroid-so: 0.335 arcsec [2.83σ]
OotOffset-rm: 0.333 arcsec [0.75σ]
KicOffset-rm: 0.134 arcsec [0.35σ]
OotOffset-st: 1/4/4/3 [12]
KicOffset-st: 1/4/4/3 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [14/14]

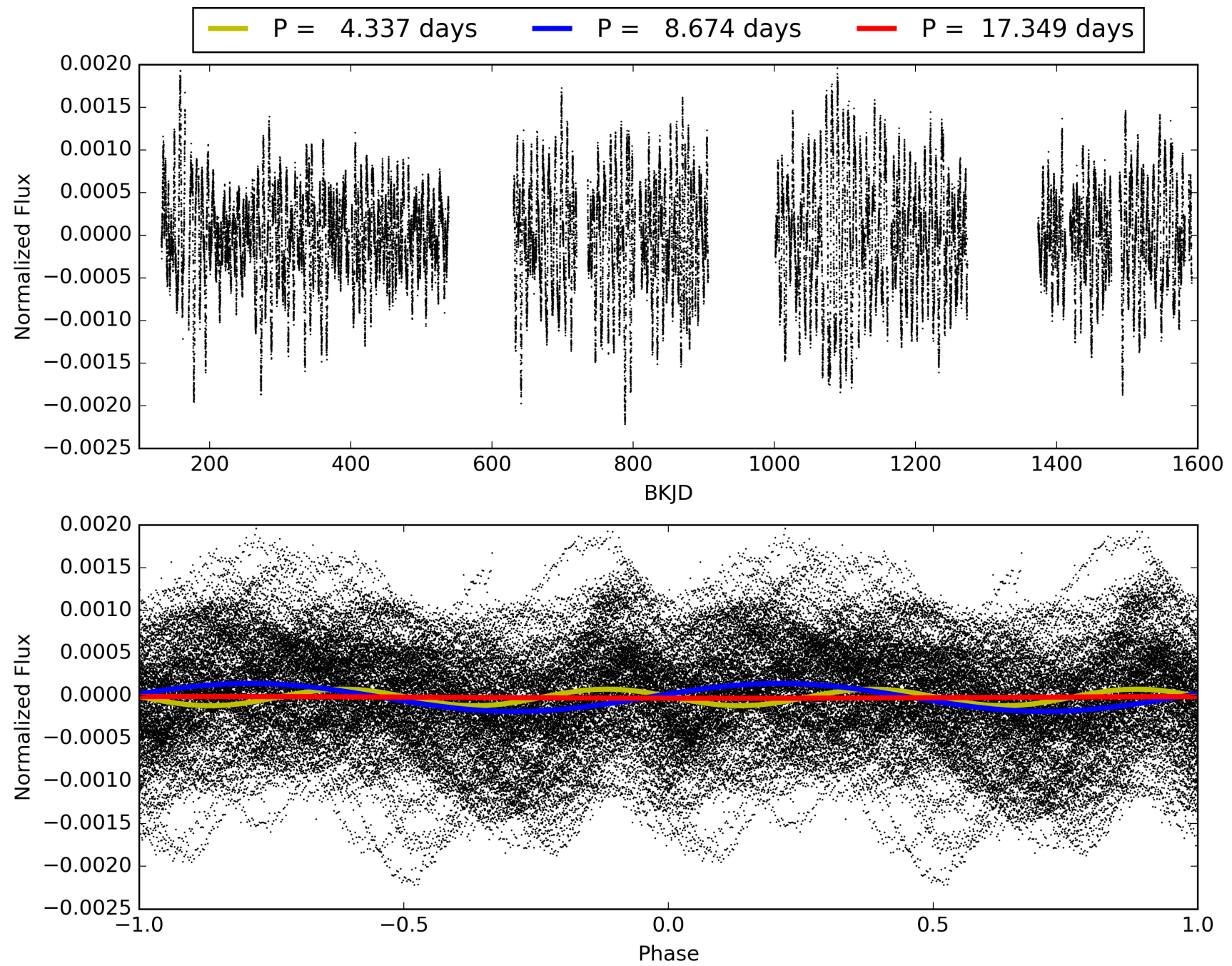
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:05:33 Z

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

TCE 003557043-01, PDC Light Curves

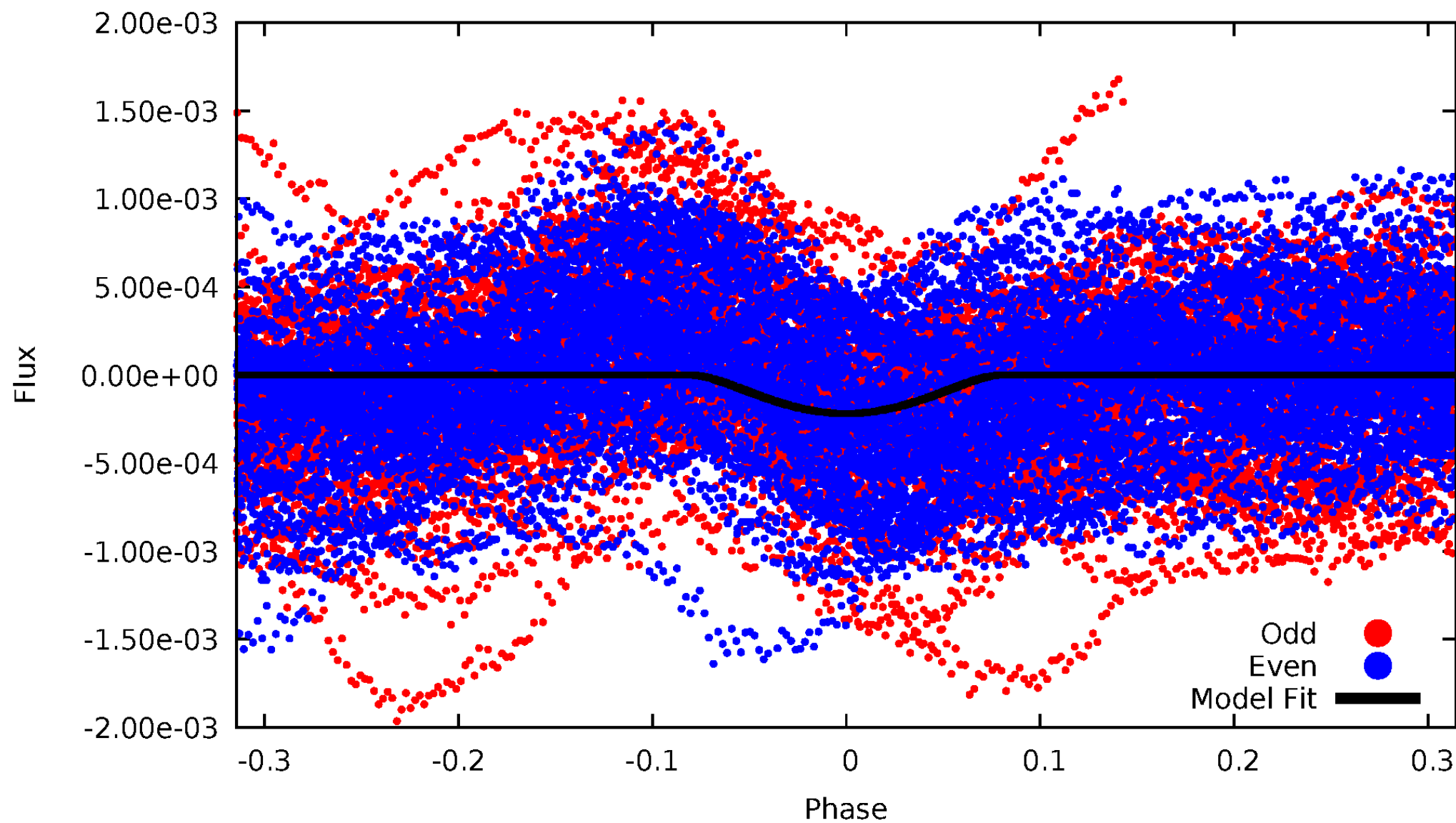


TCE 003557043-01



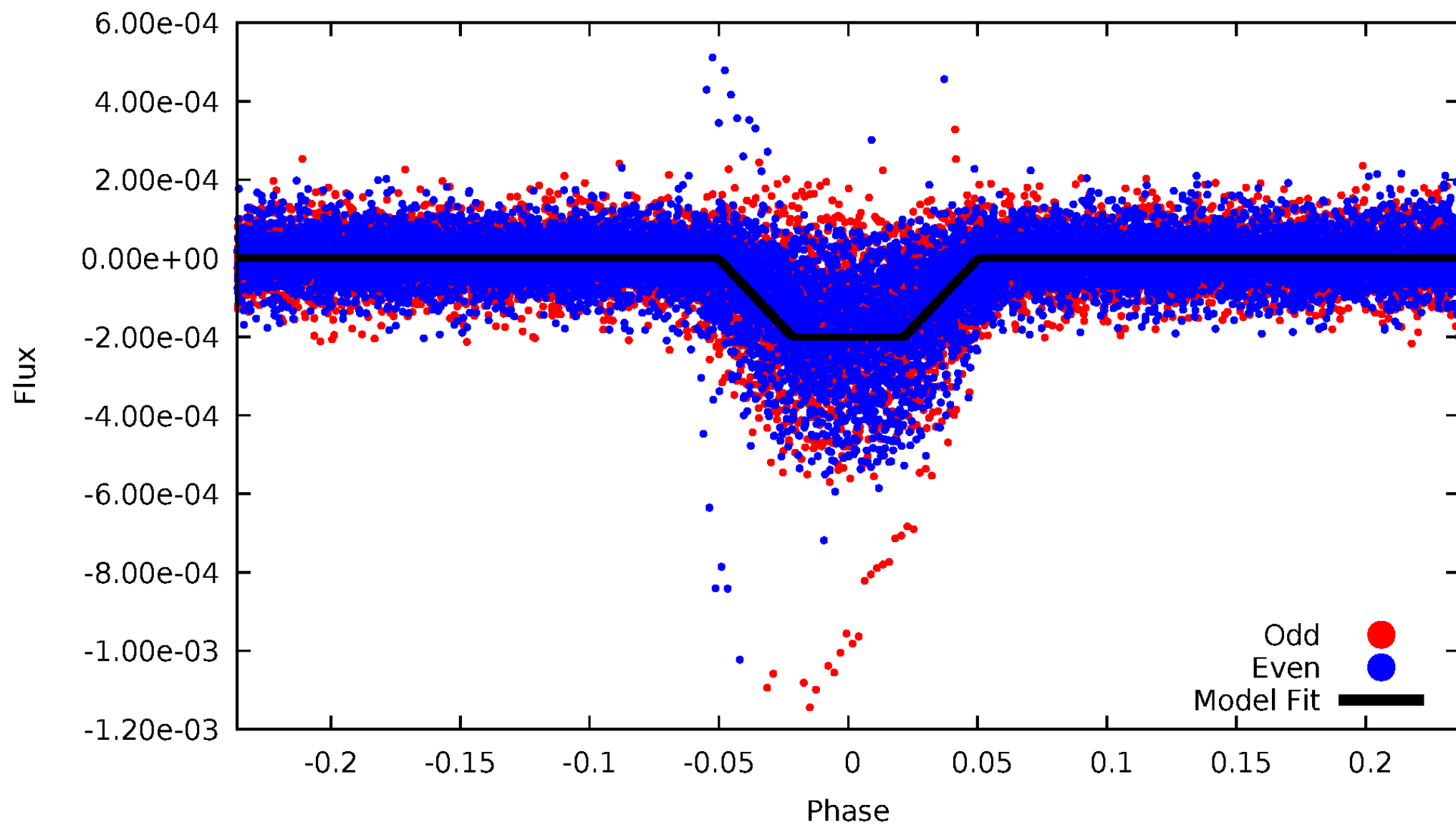
DV Odd/Even

TCE 003557043-01



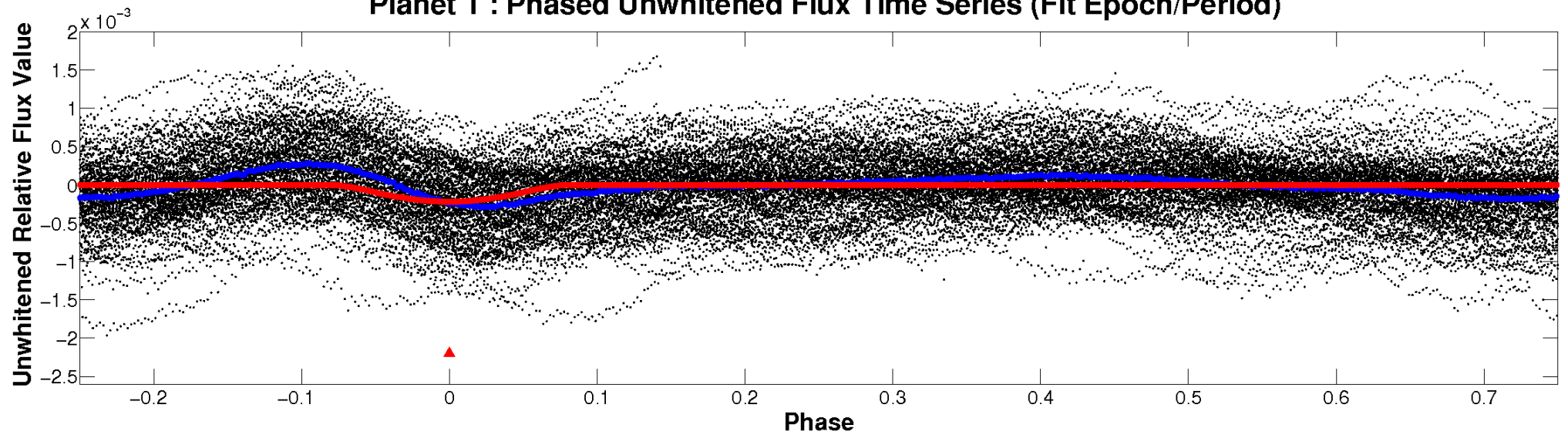
ALT Odd/Even

TCE 003557043-01

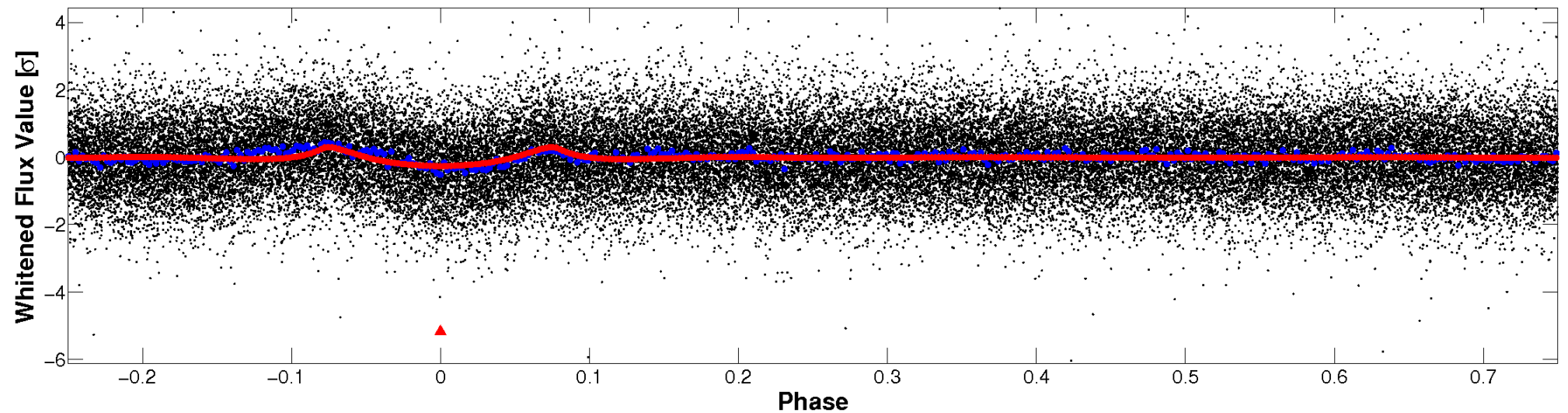


Non-Whitened Vs. Whitened Light Curve

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

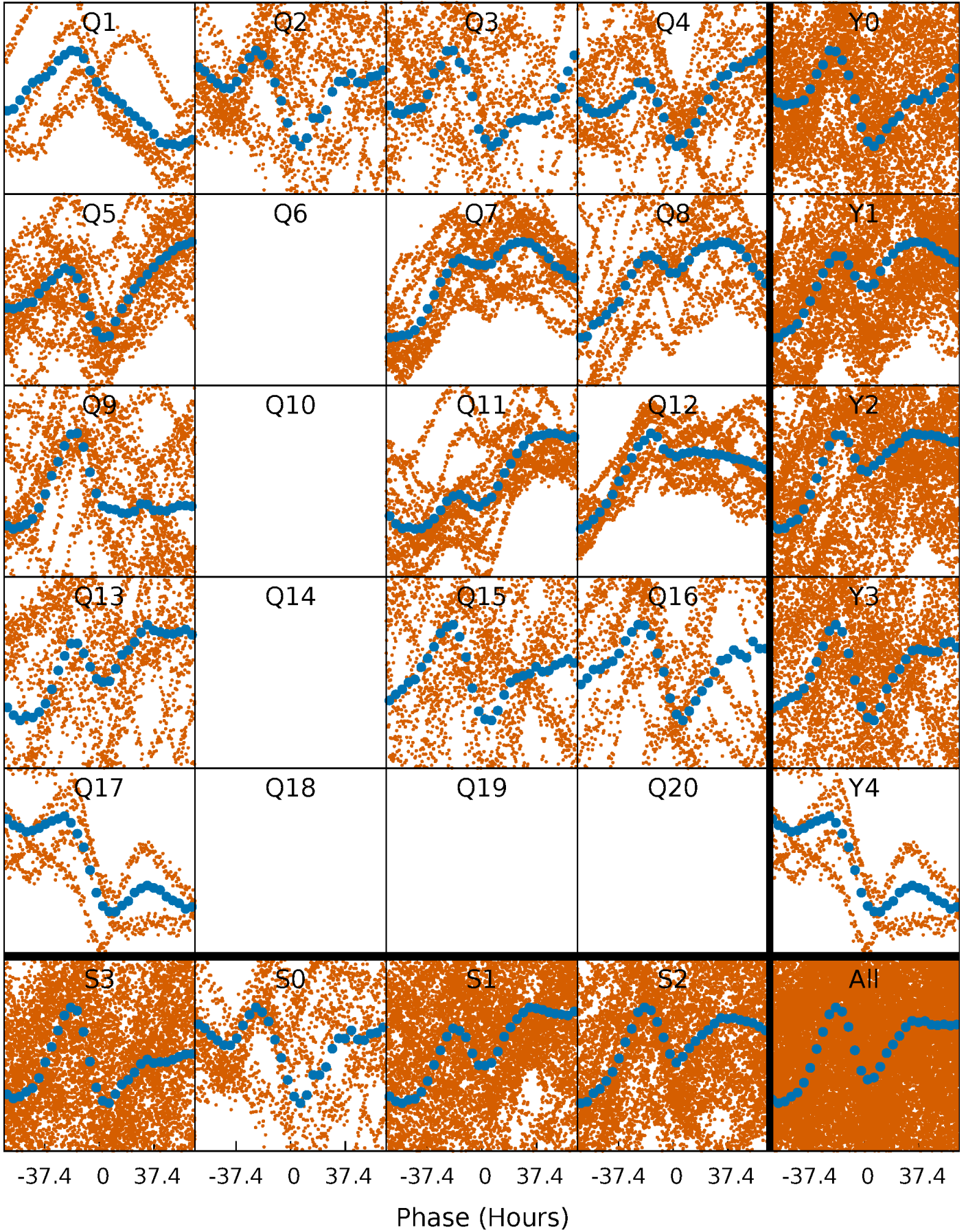


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



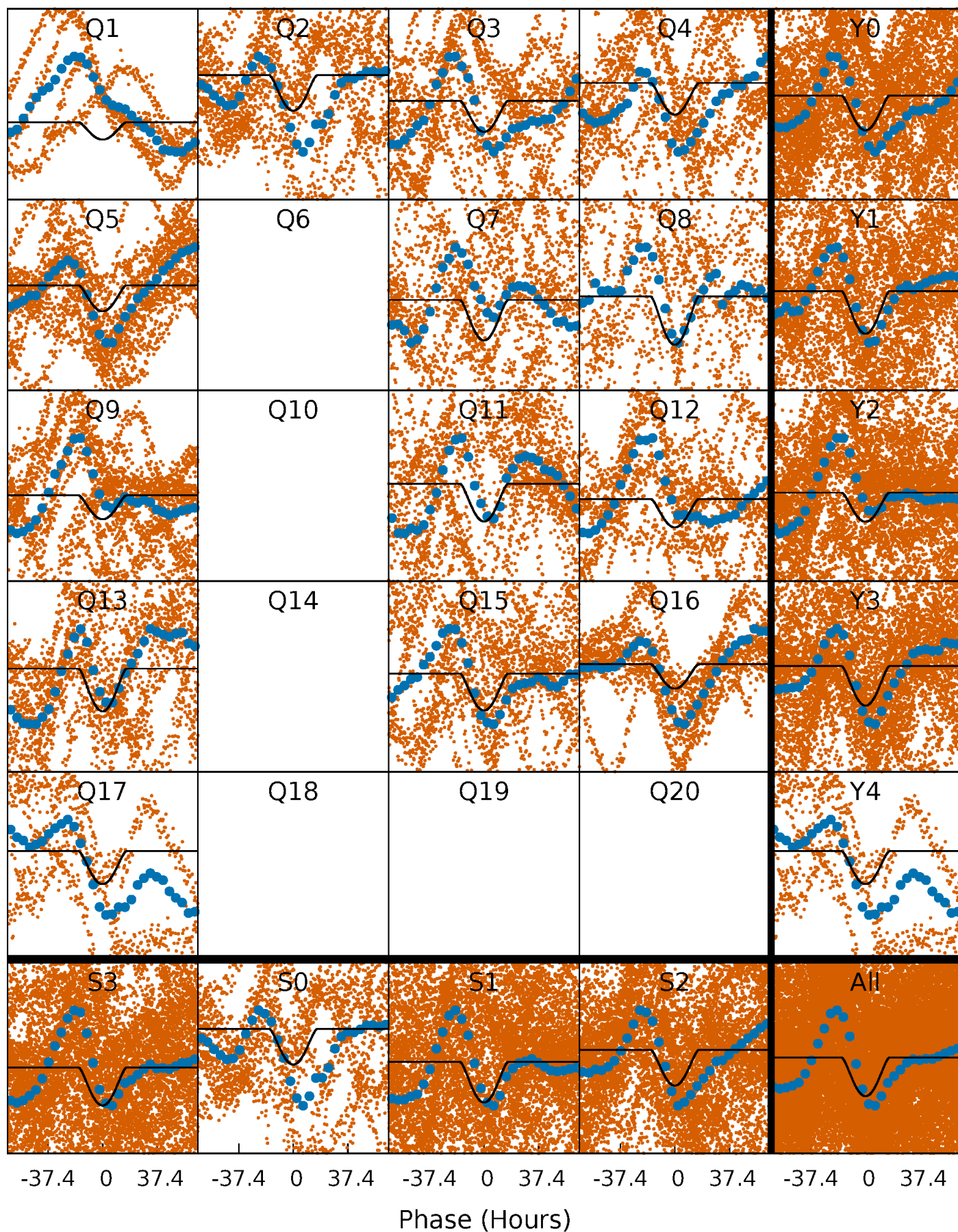
PDC Quarter-Phased Transit Curves

TCE 003557043-01 P= 8.674387 Days $T_0=133.178041$ (BKJD)



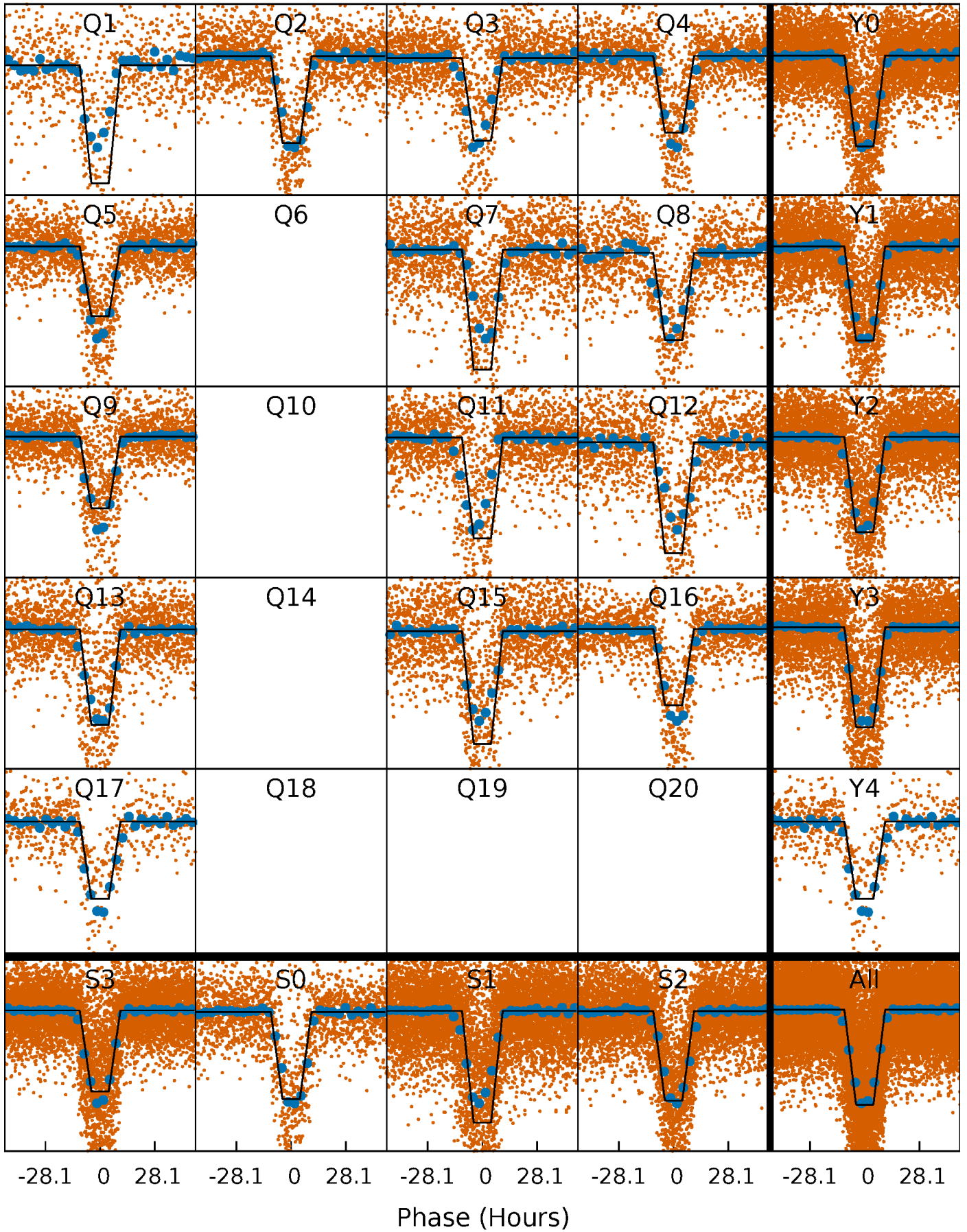
DV Quarter-Phased Transit Curves

TCE 003557043-01 P= 8.674387 Days $T_0=133.178041$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

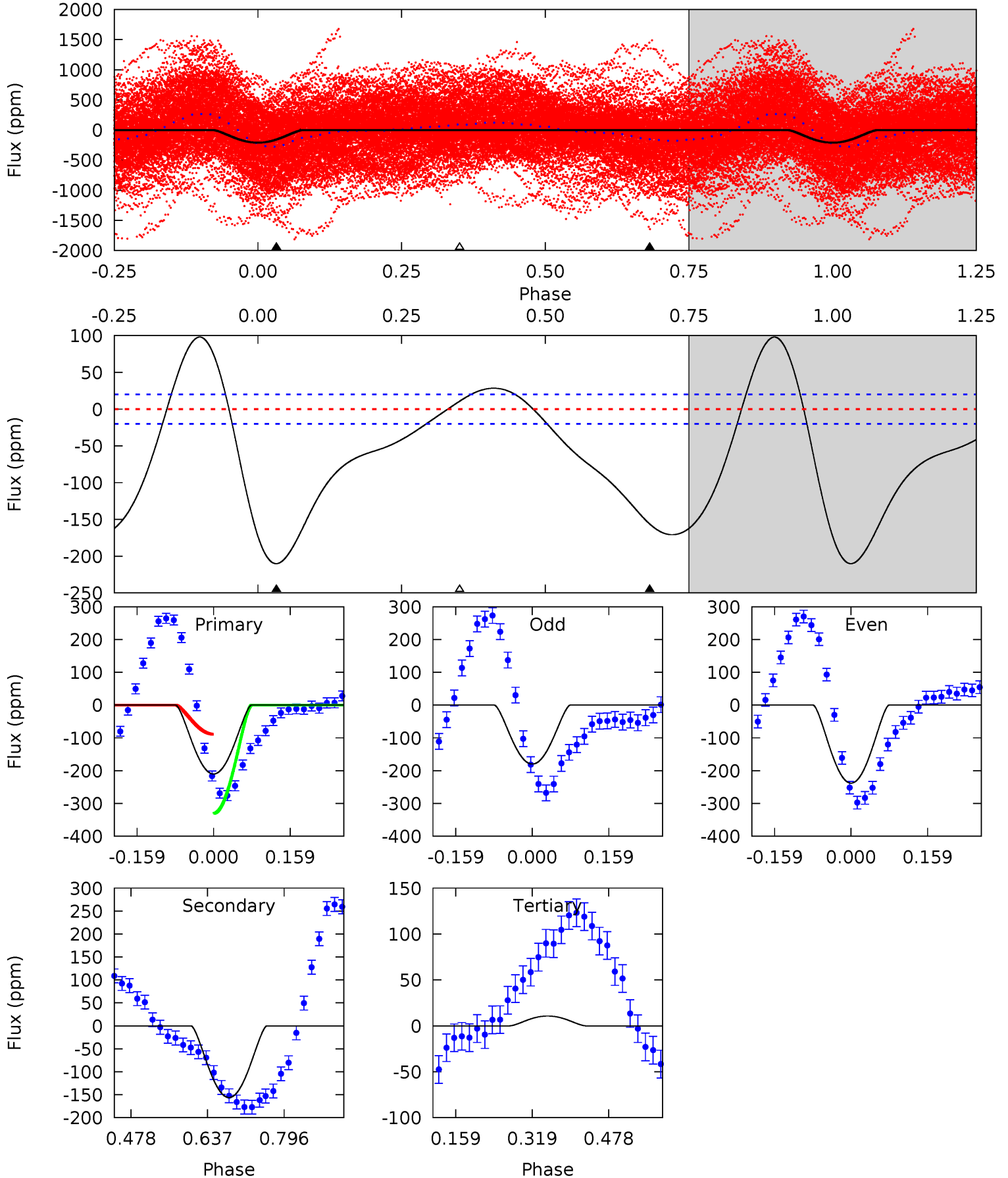
TCE 003557043-01 P= 8.673957 Days $T_0=133.275742$ (BKJD)



DV Model-Shift Uniqueness Test

003557043-01, P = 8.674387 Days, E = 124.503654 Days

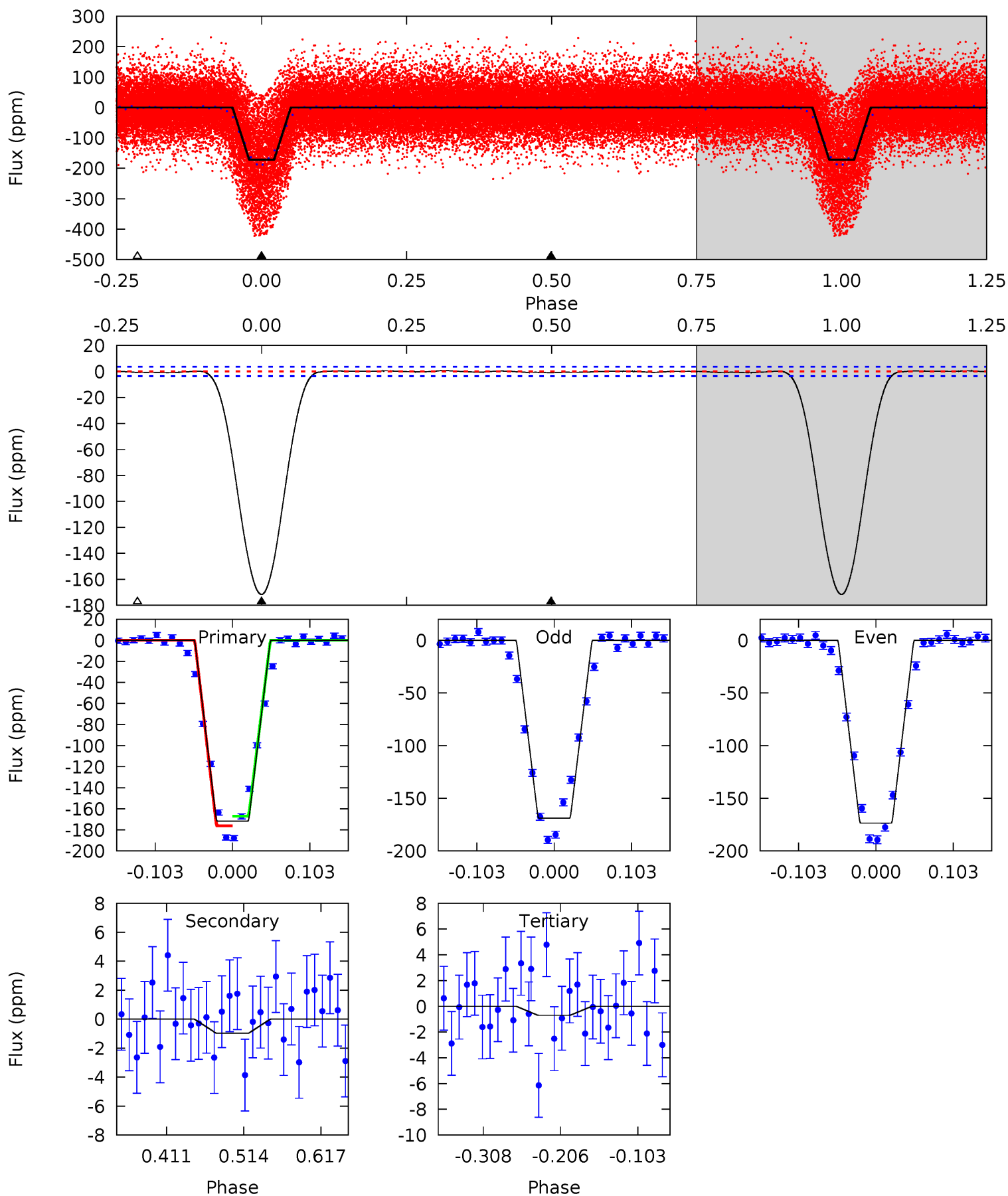
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.8	34.8	-2.38	0	4.47	1.41	6.82	49.2	46.8	37.2	34.8	6.48	0.77	0.32	24.7



Alt Model-Shift Uniqueness Test

003557043-01, P = 8.673957 Days, E = 124.601785 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
217.2	1.23	0.88	0	4.56	1.63	0.48	216.3	217.2	0.35	1.23	2.94	1.25	0.00	5.69



Stellar Parameters For KIC 003557043

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6306^{+175}_{-194}	$4.143^{+0.234}_{-0.126}$	$-0.460^{+0.300}_{-0.300}$	$1.397^{+0.280}_{-0.342}$	$0.988^{+0.161}_{-0.121}$	$0.511^{+0.643}_{-0.180}$
	+3%/-3%	+6%/-3%	+65%/-65%	+20%/-24%	+16%/-12%	+126%/-35%
Source	PHO1	FLK73	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 003557043-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-156 ± 4	$3.94^{+1.39}_{-1.26}$	1580^{+107}_{-121}	4486^{+669}_{-419}	38^{+44}_{-17}
Alt.	-1 ± 1	$2.10^{+1.19}_{-1.10}$	1586^{+96}_{-120}	2324^{+652}_{-4455}	$0.698^{+3.016}_{-0.583}$

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

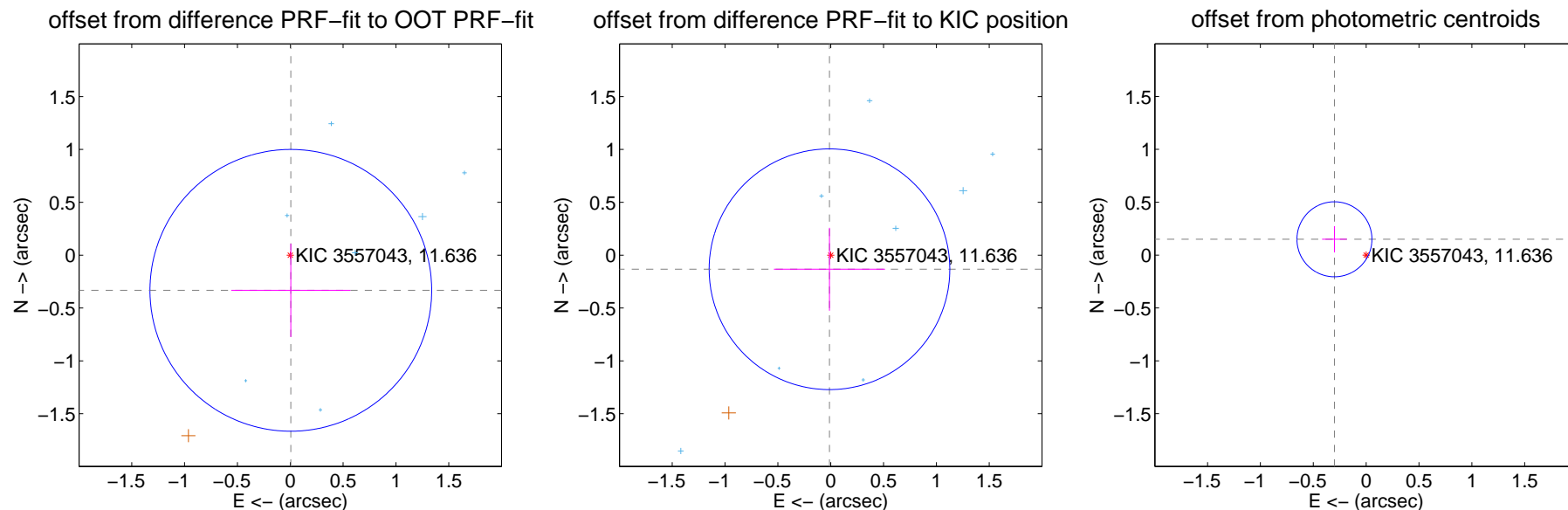
DV Centroid Data

Supplemental centroid analysis for 003557043-01. **Kepler magnitude: 11.64.** Transit SNR 18.96

There are 8 quarters with good PRF difference image offsets

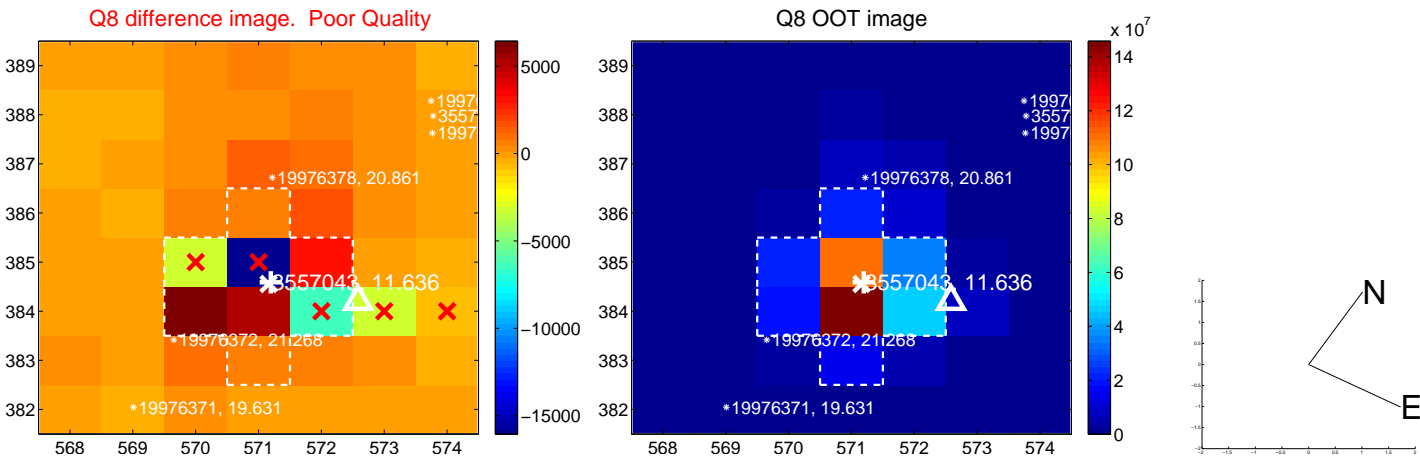
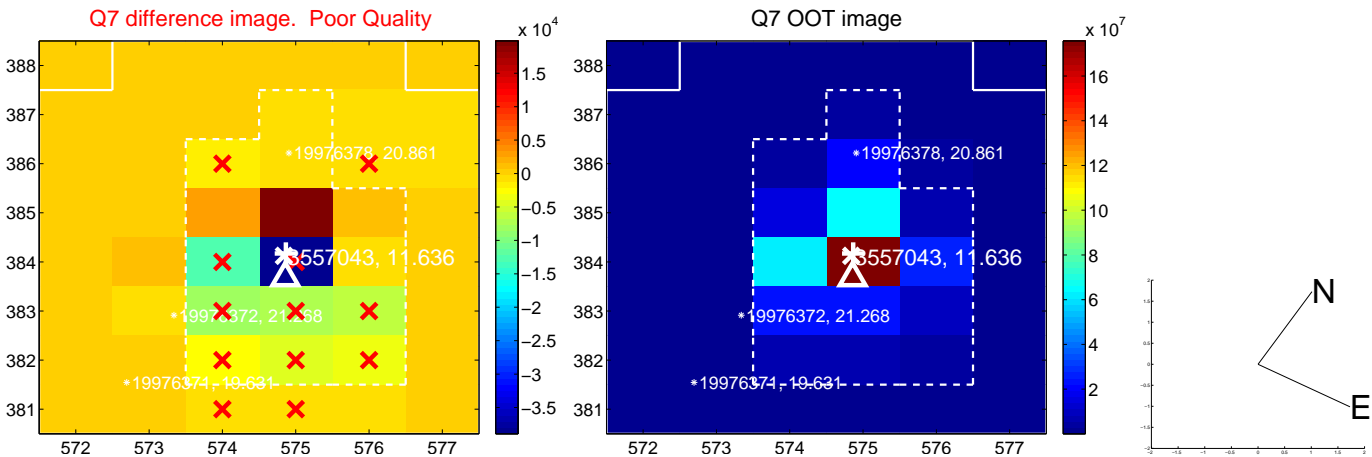
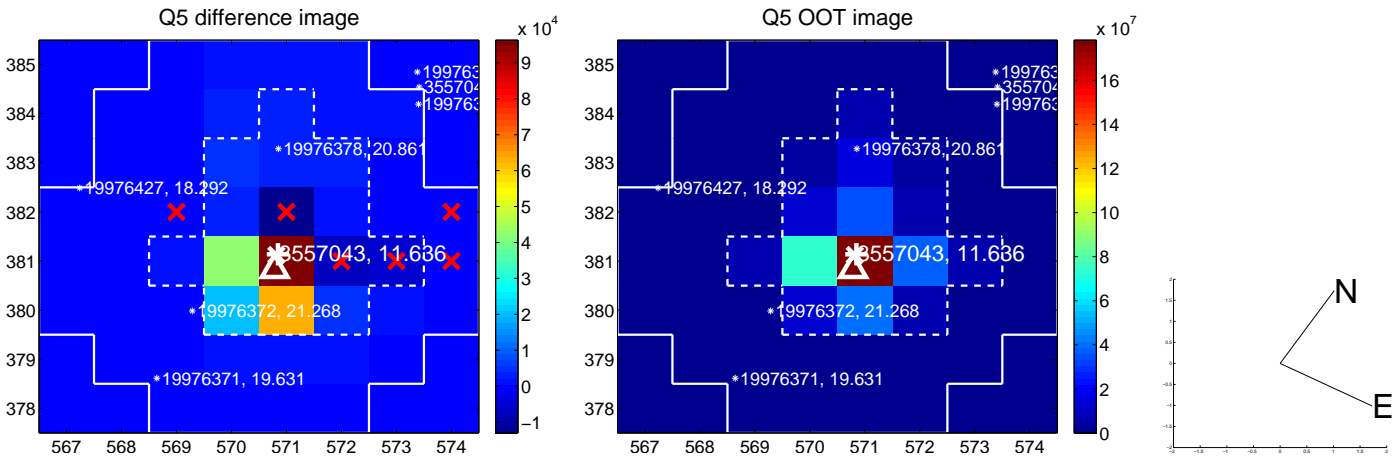
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.333 ± 0.444	0.75	-0.005 ± 0.564	-0.333 ± 0.441
PRF-fit source offset from KIC position	0.134 ± 0.379	0.35	0.012 ± 0.526	-0.133 ± 0.392
photometric centroid source offset	0.33 ± 0.12	2.83	0.30 ± 0.12	0.15 ± 0.12

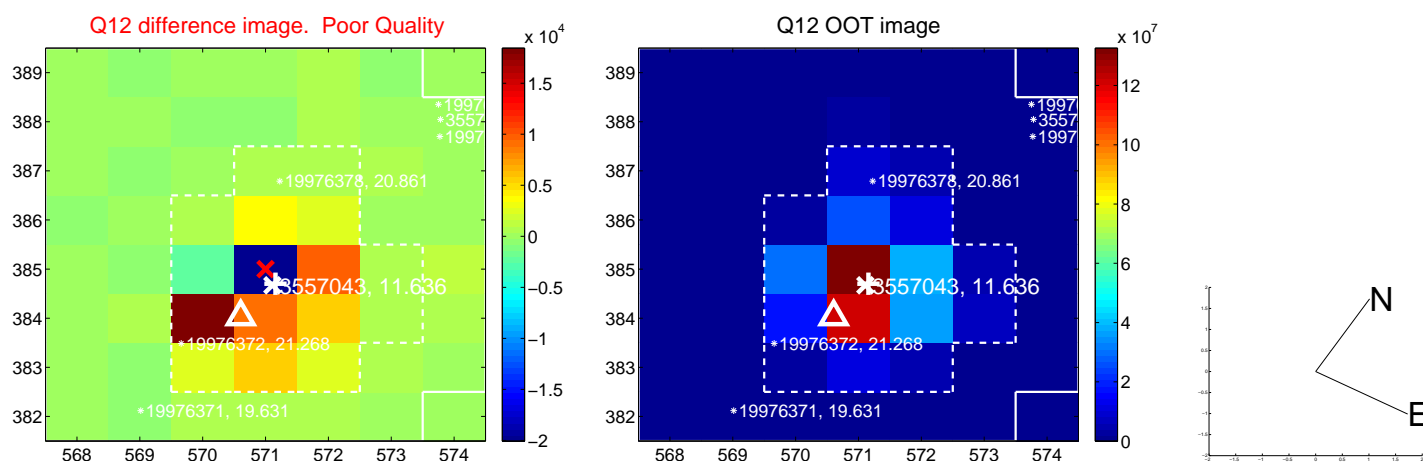
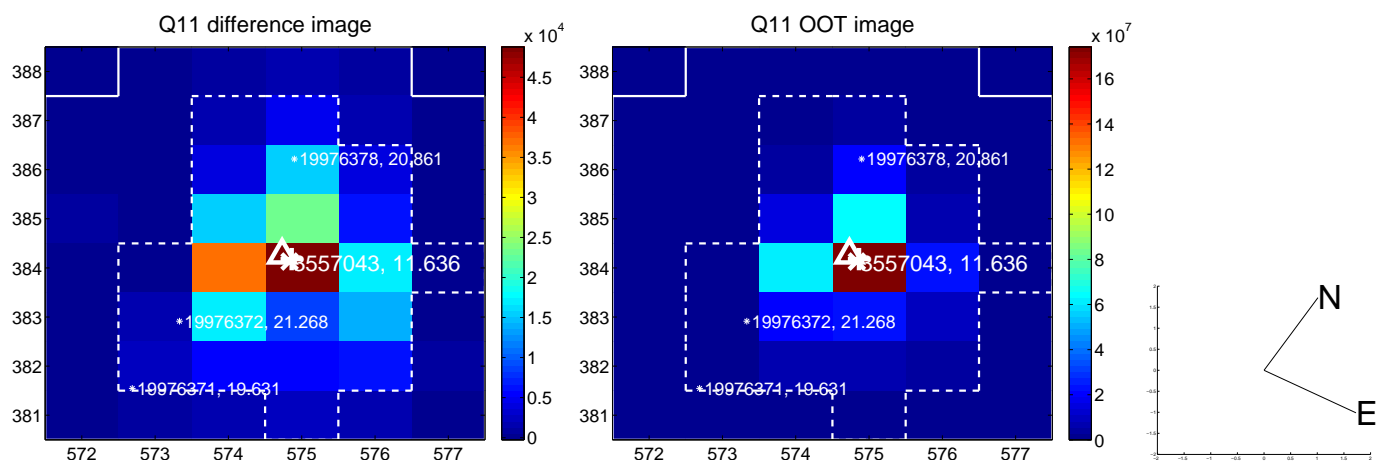
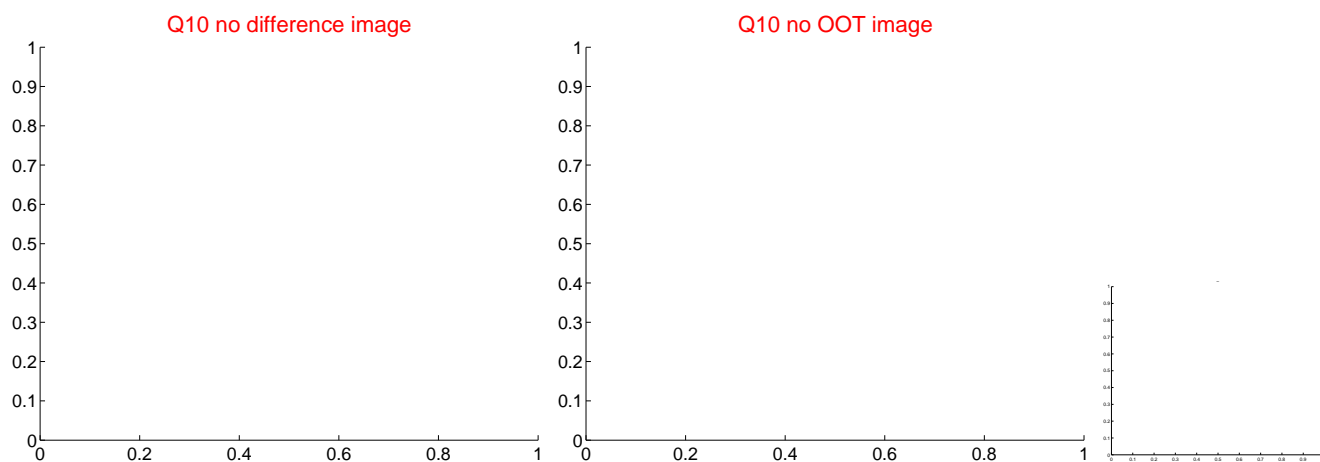
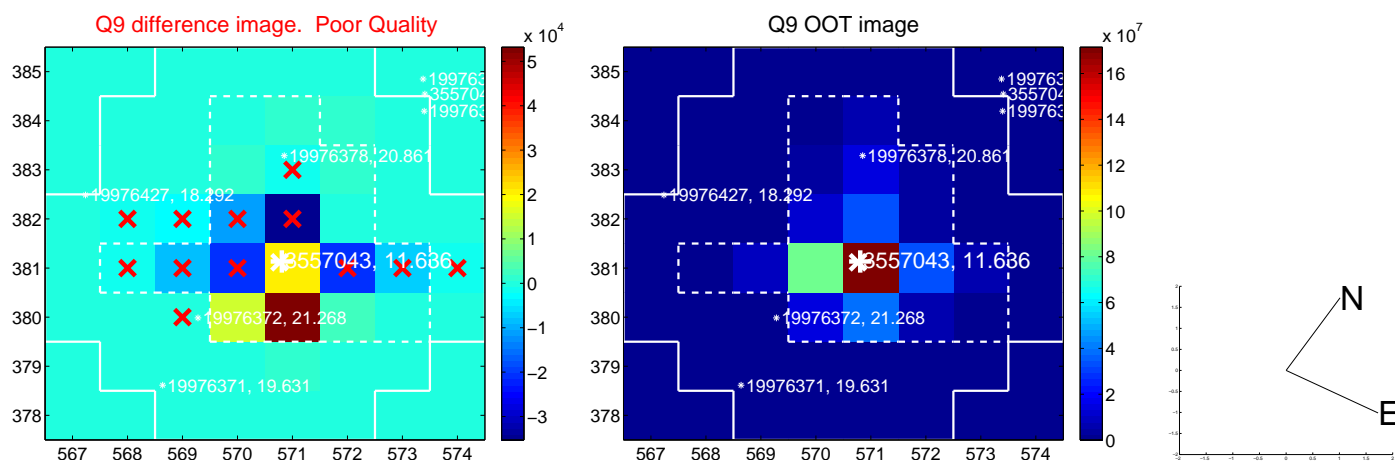


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

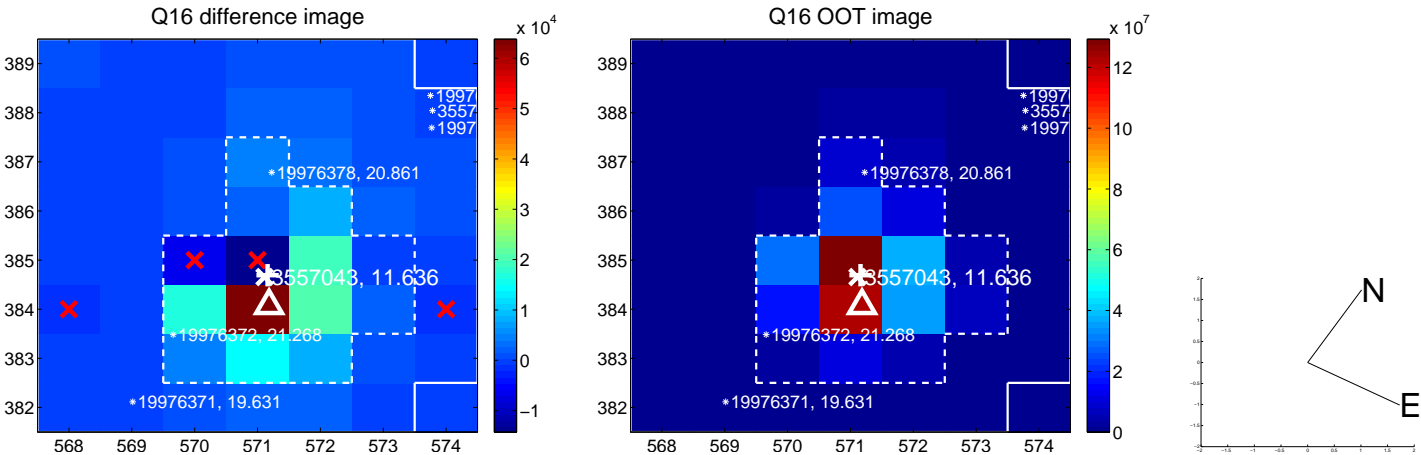
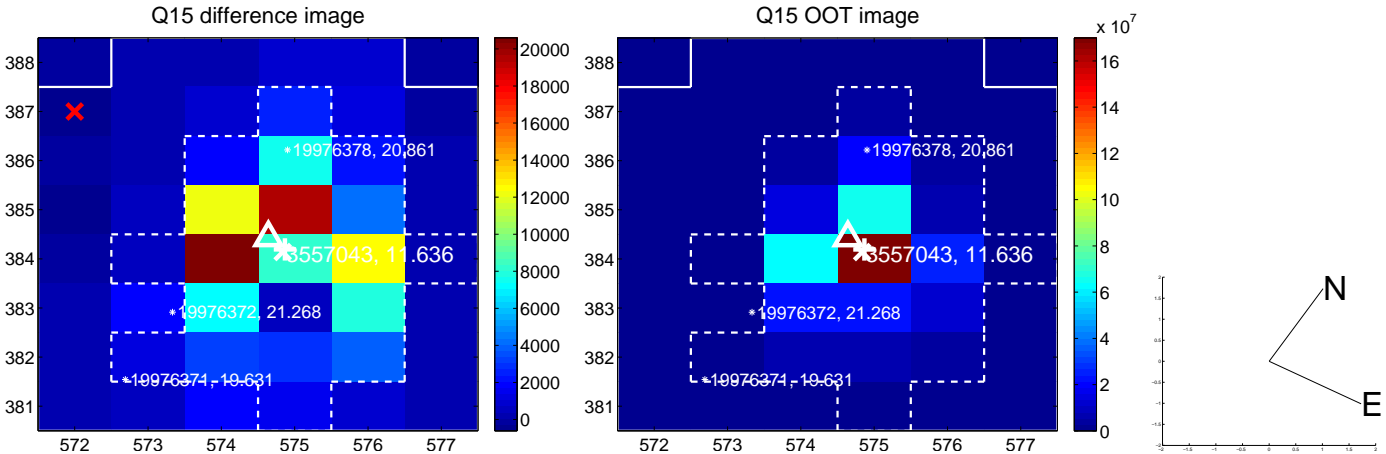
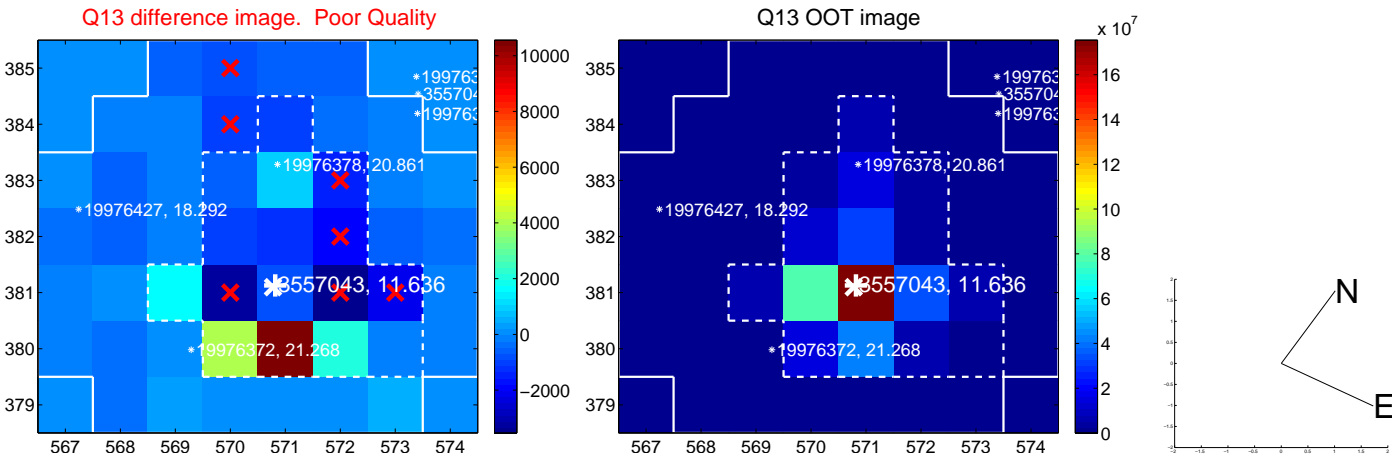
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



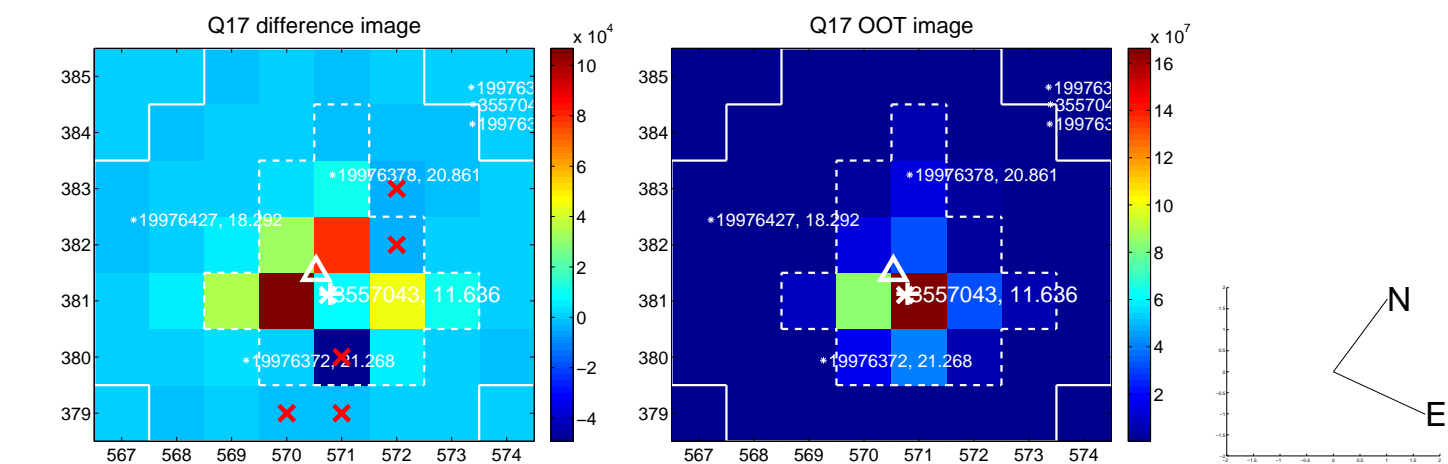
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



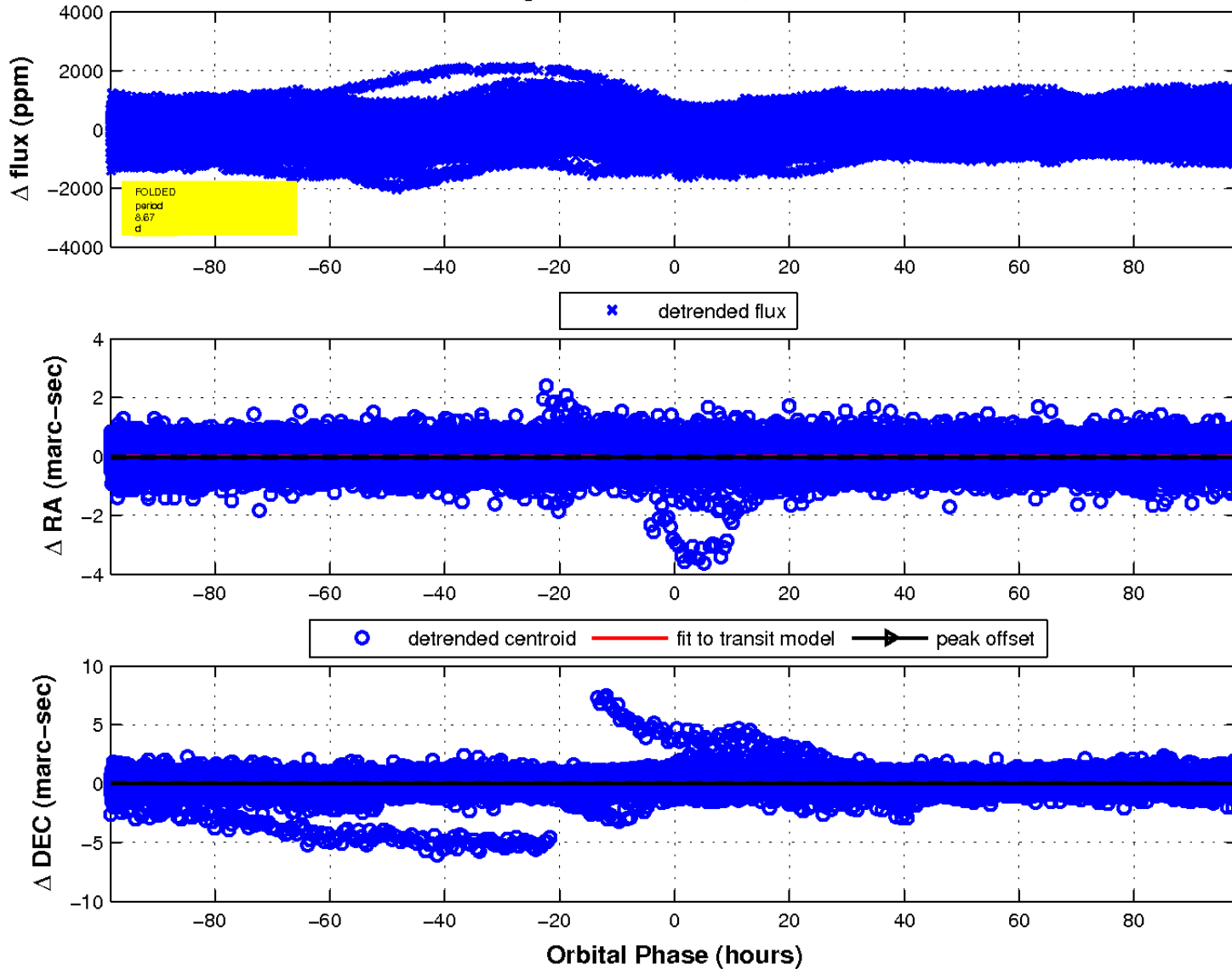
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

