

KIC 004571536

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})
004571536-01	OBS	2954.01	0.676725	131.757684	178.0	1.104	12.0	13.4	0.73	5334	1.07	2147.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004571536-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—CENT_FEW_MEAS

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.

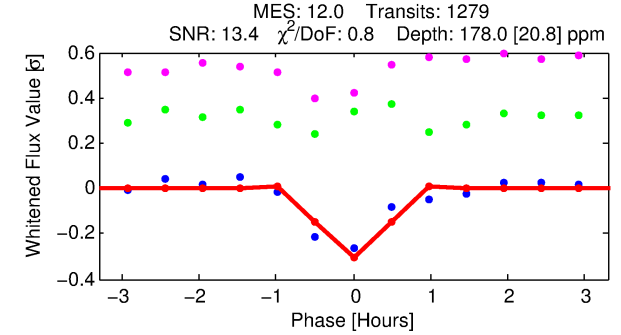
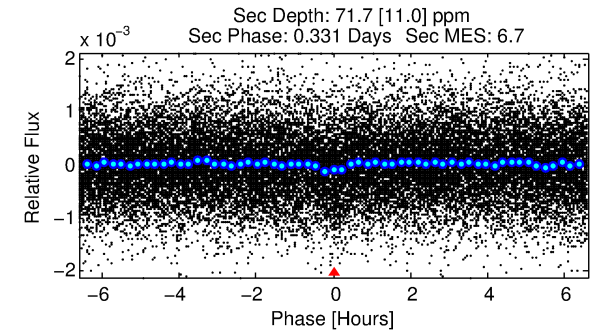
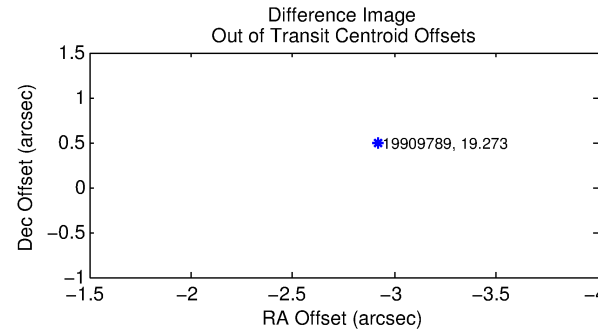
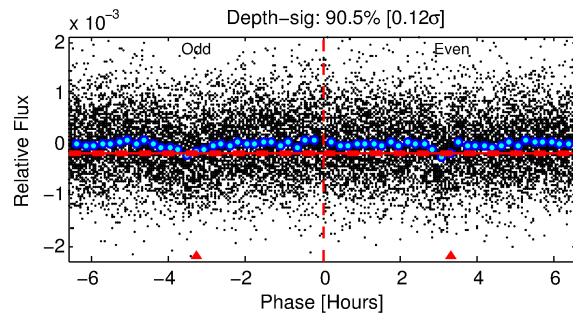
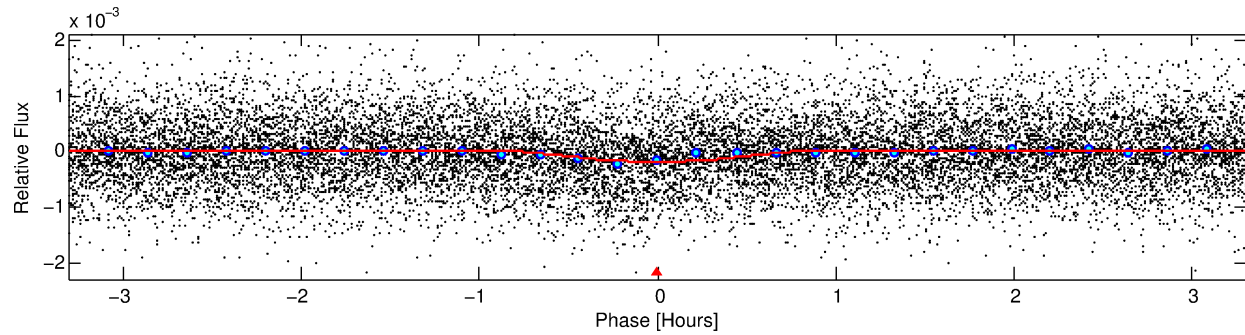
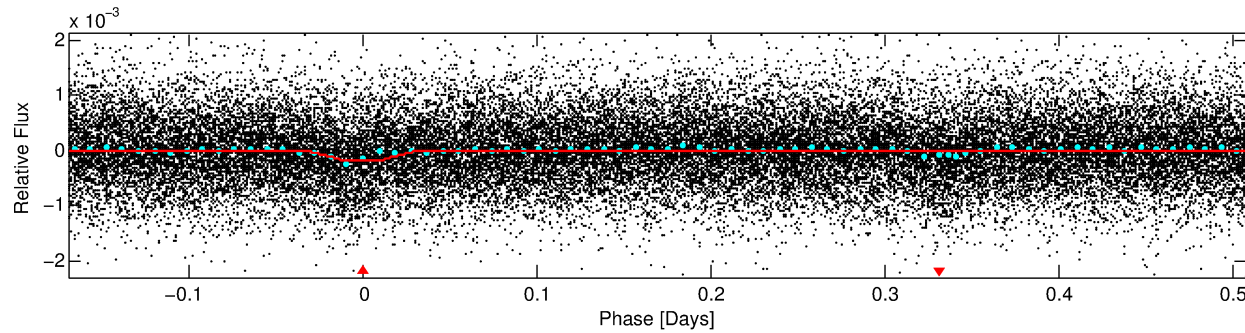
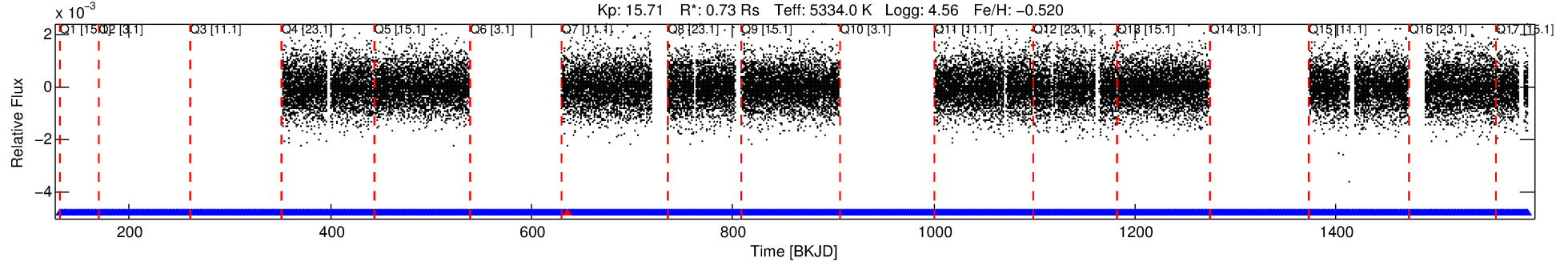
Ephemeris Match Information For 004571536-01

No Significant Match Found

DV One-Page Summary

KIC: 4571536 Candidate: 1 of 1 Period: 0.677 d
KOI: K02954 Corr: No Ephemeris Match

Kp: 15.71 R*: 0.73 Rs Teff: 5334.0 K Logg: 4.56 Fe/H: -0.520



DV Fit Results:

Period = 0.67672 [0.00001] d
Epoch = 131.7577 [0.0014] BKJD
Rp/R* = 0.0134 [0.0060]
a/R* = 3.33 [5.69]
b = 0.74 [1.15]
Seff = 2147.63 [455.23]
Teq = 1736 [92] K
Rp = 1.07 [0.50] Re
a = 0.0135 [0.0014] AU
Ag = 6.27 [5.79] [0.91σ]
Teffp = 4246 [982] K [2.54σ]

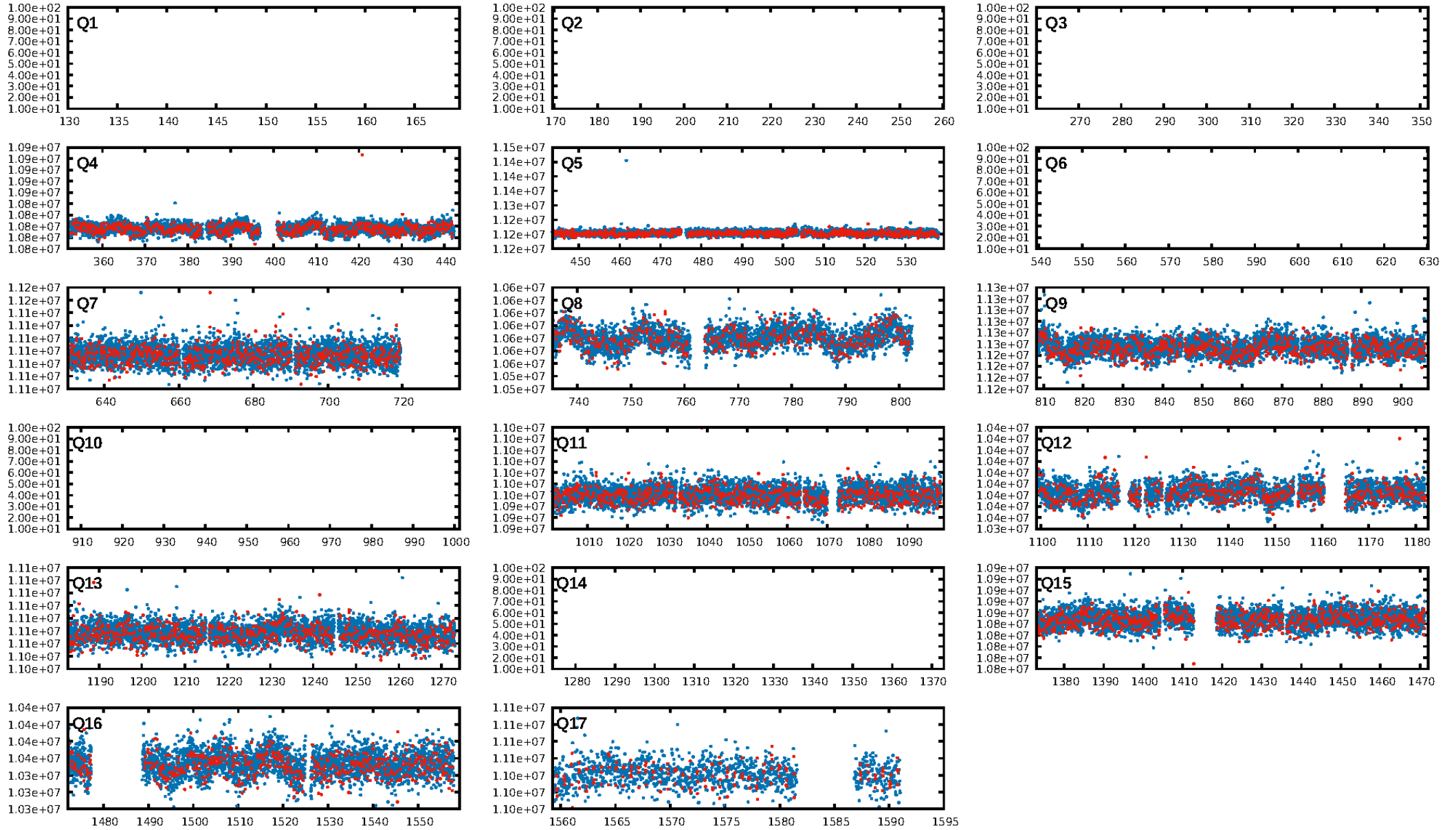
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.60e-32
RollingBand-fgt: 1.00 [1239/1240]
GhostDiagnostic-chr: 1.179
Centroid-sig: 1.4%
Centroid-so: 4.247 arcsec [4.74σ]
OotOffset-rm: N/A
KicOffset-rm: 2.990 arcsec [3.15σ]
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/1/2/4 [7]
DiffImageQuality-fgm: 0.71 [5/7]
DiffImageOverlap-fno: 1.00 [11/11]

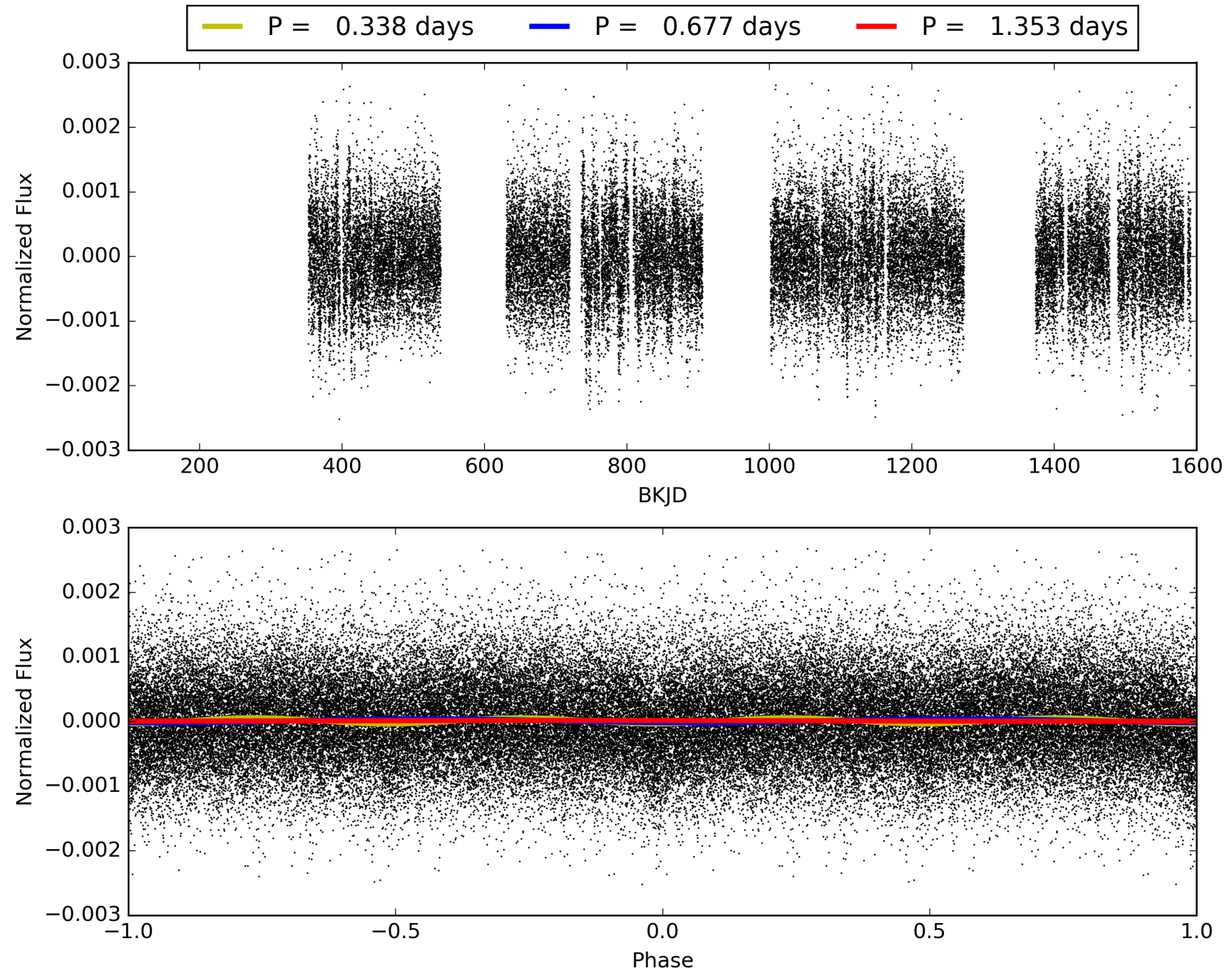
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:22:40 Z

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

TCE 004571536-01, PDC Light Curves

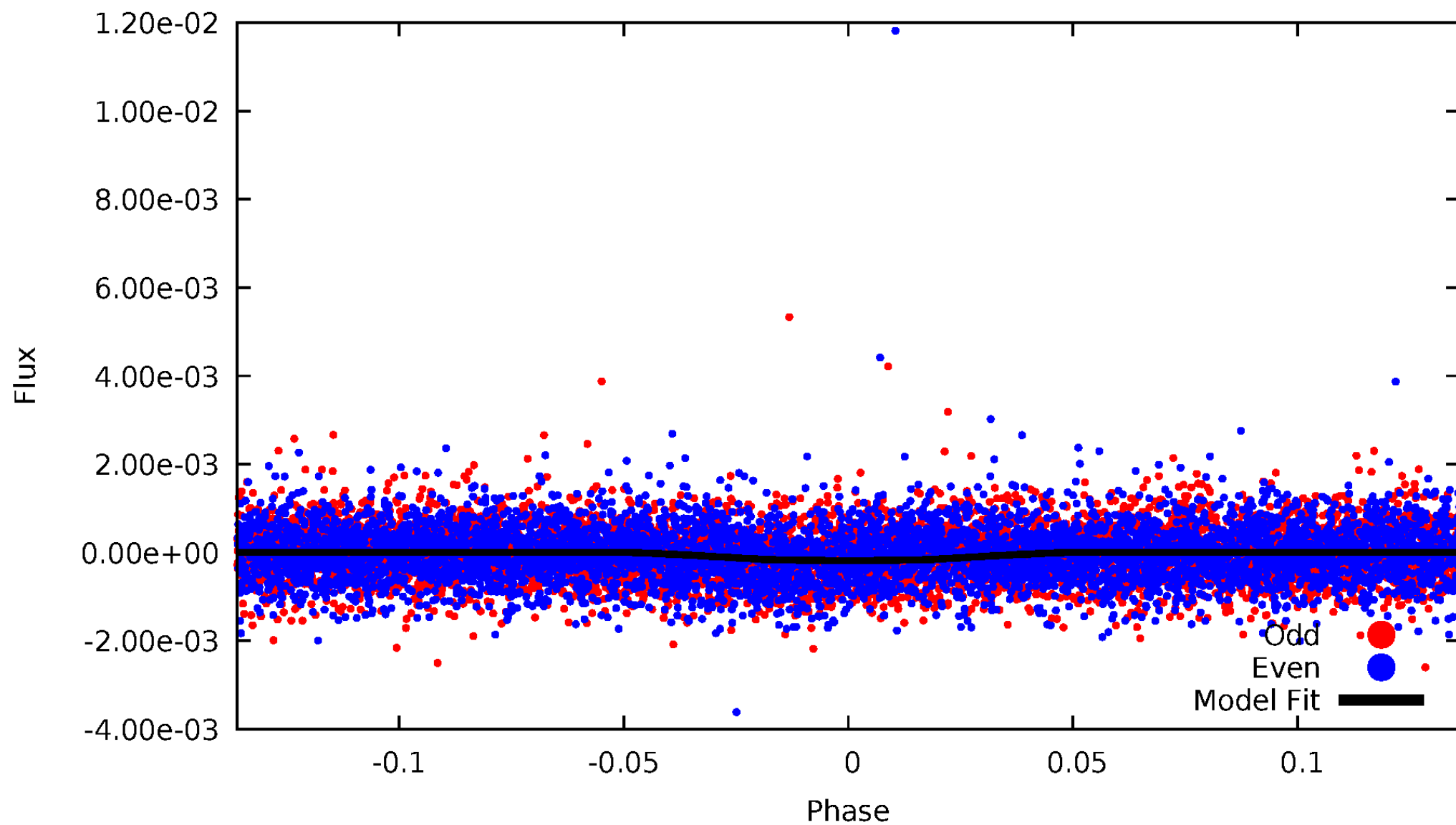


TCE 004571536-01



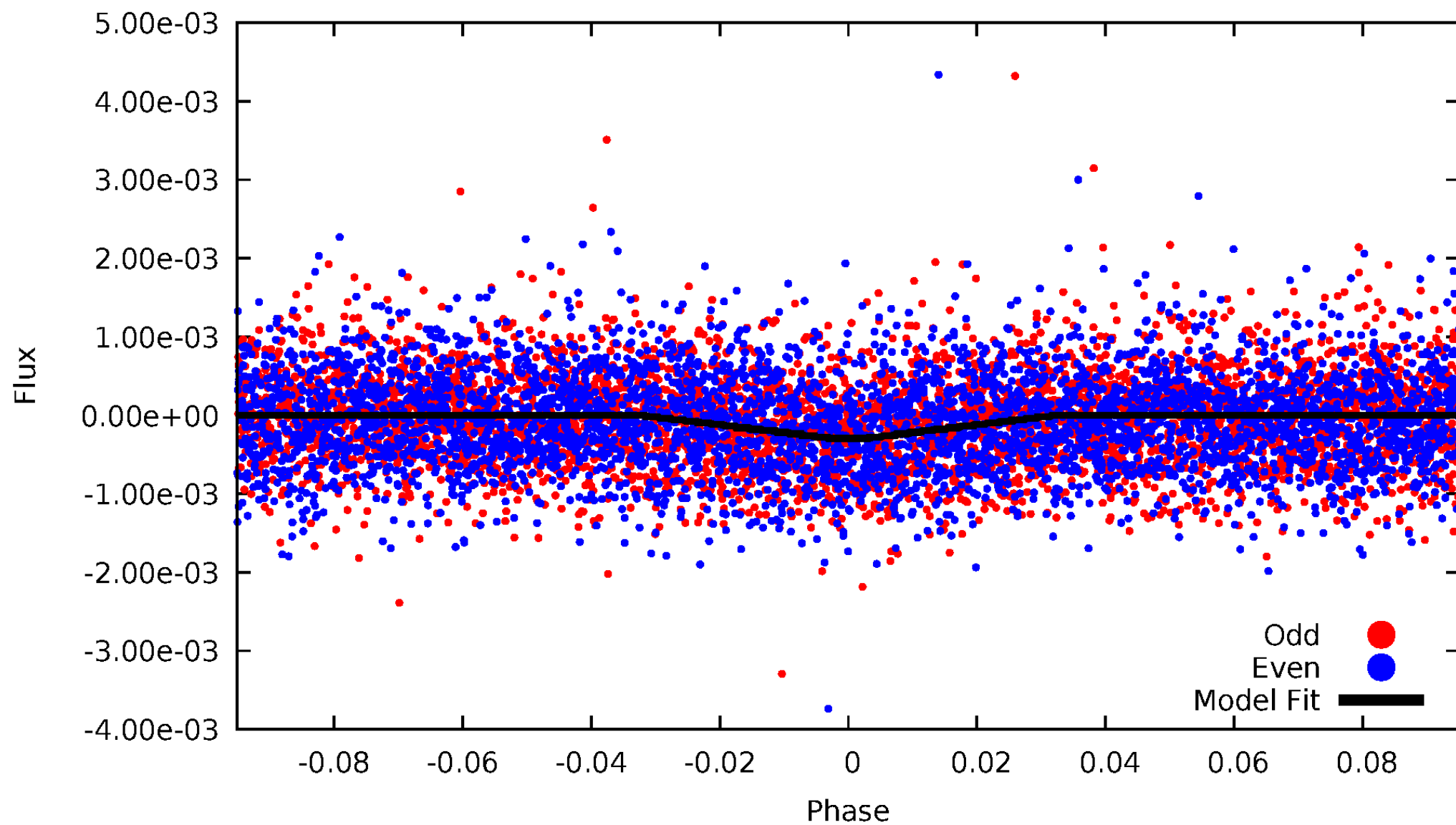
DV Odd/Even

TCE 004571536-01

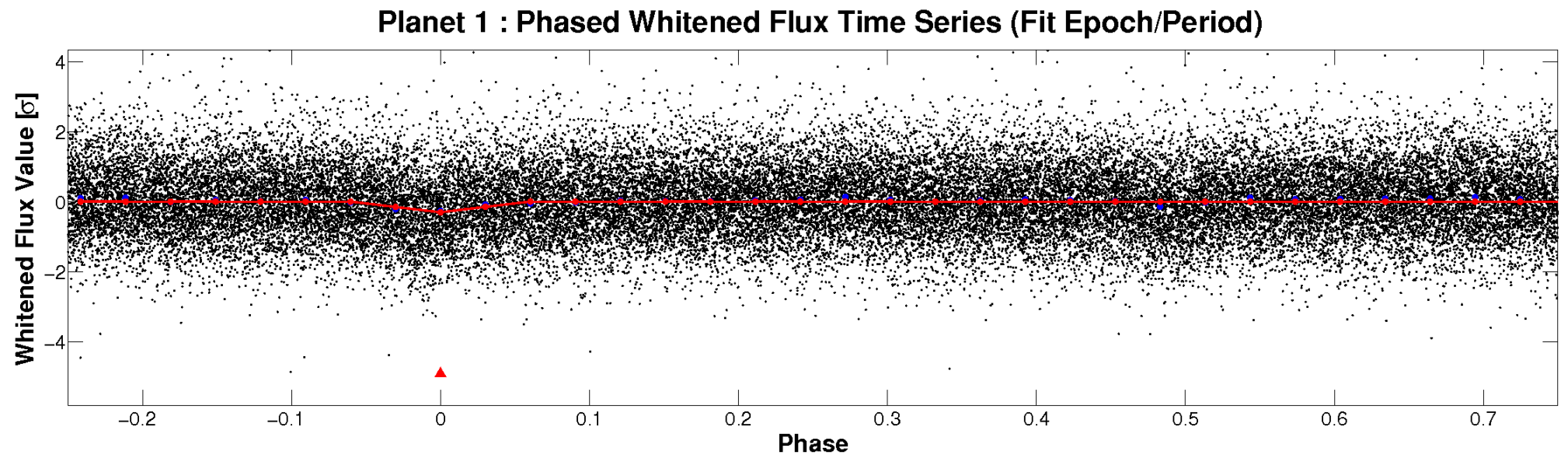
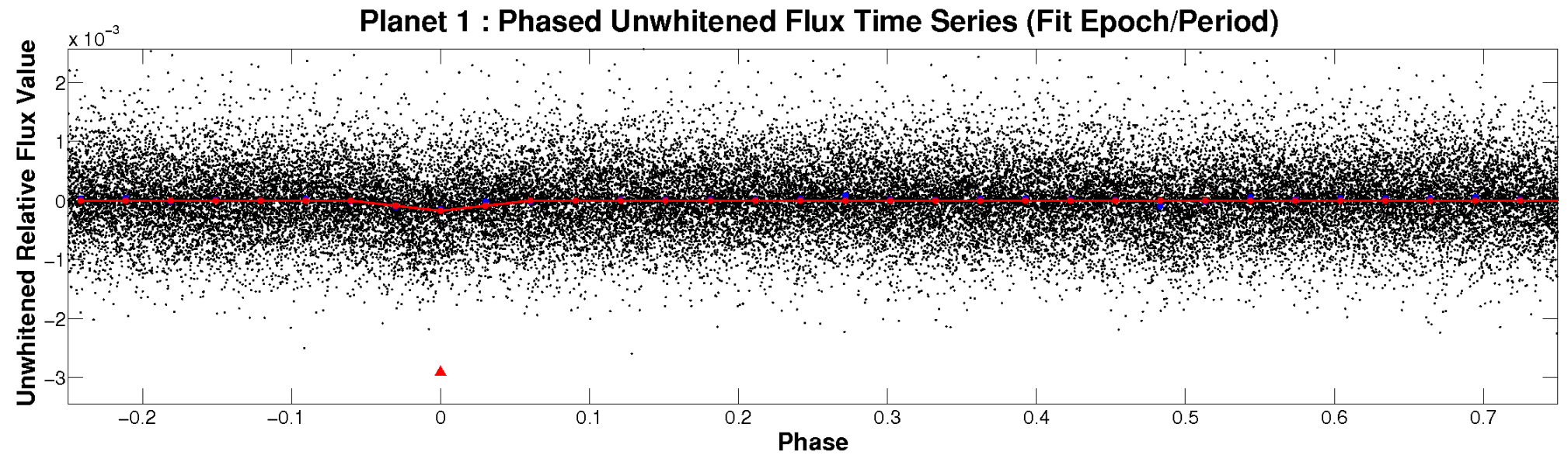


ALT Odd/Even

TCE 004571536-01

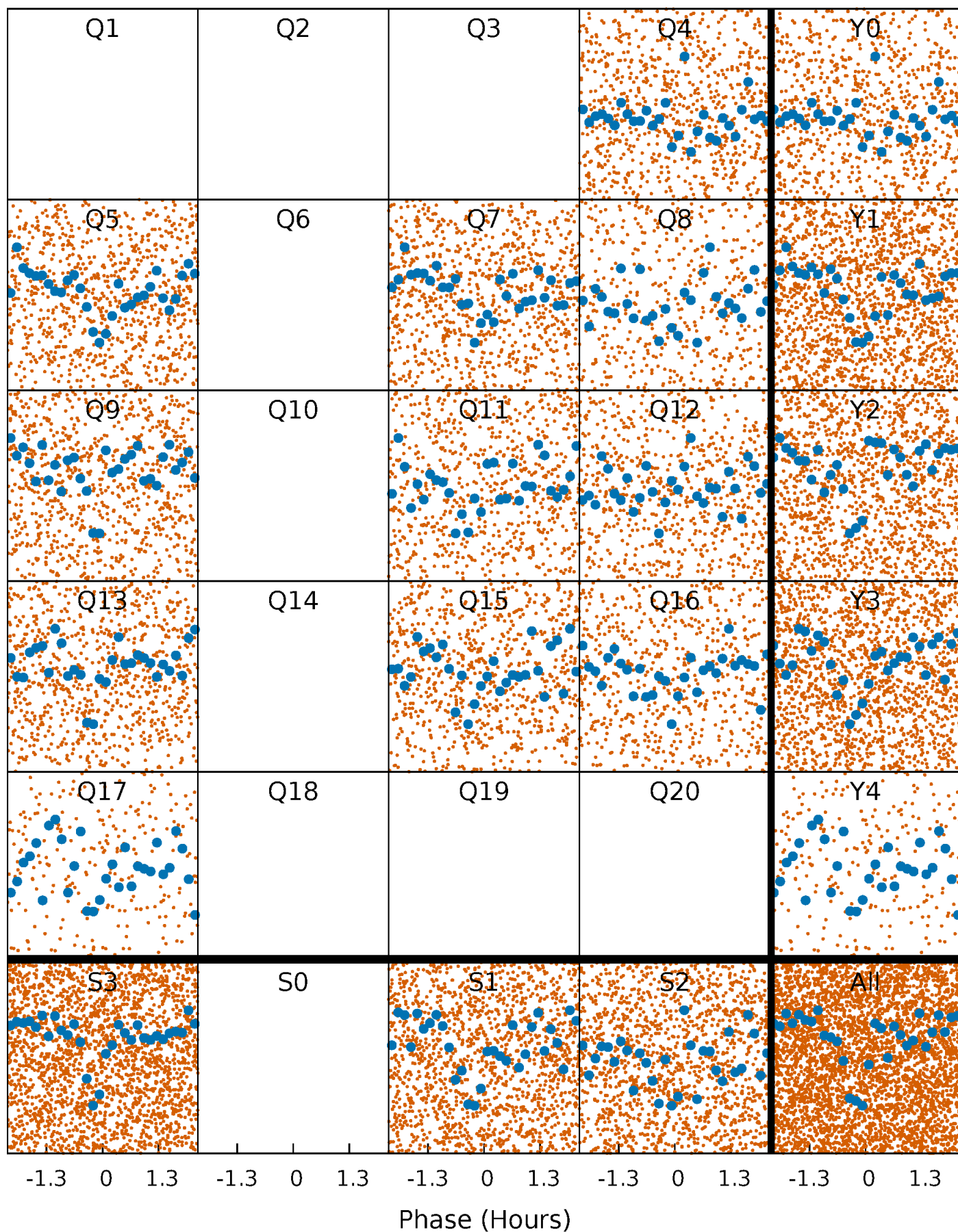


Non-Whitened Vs. Whitened Light Curve



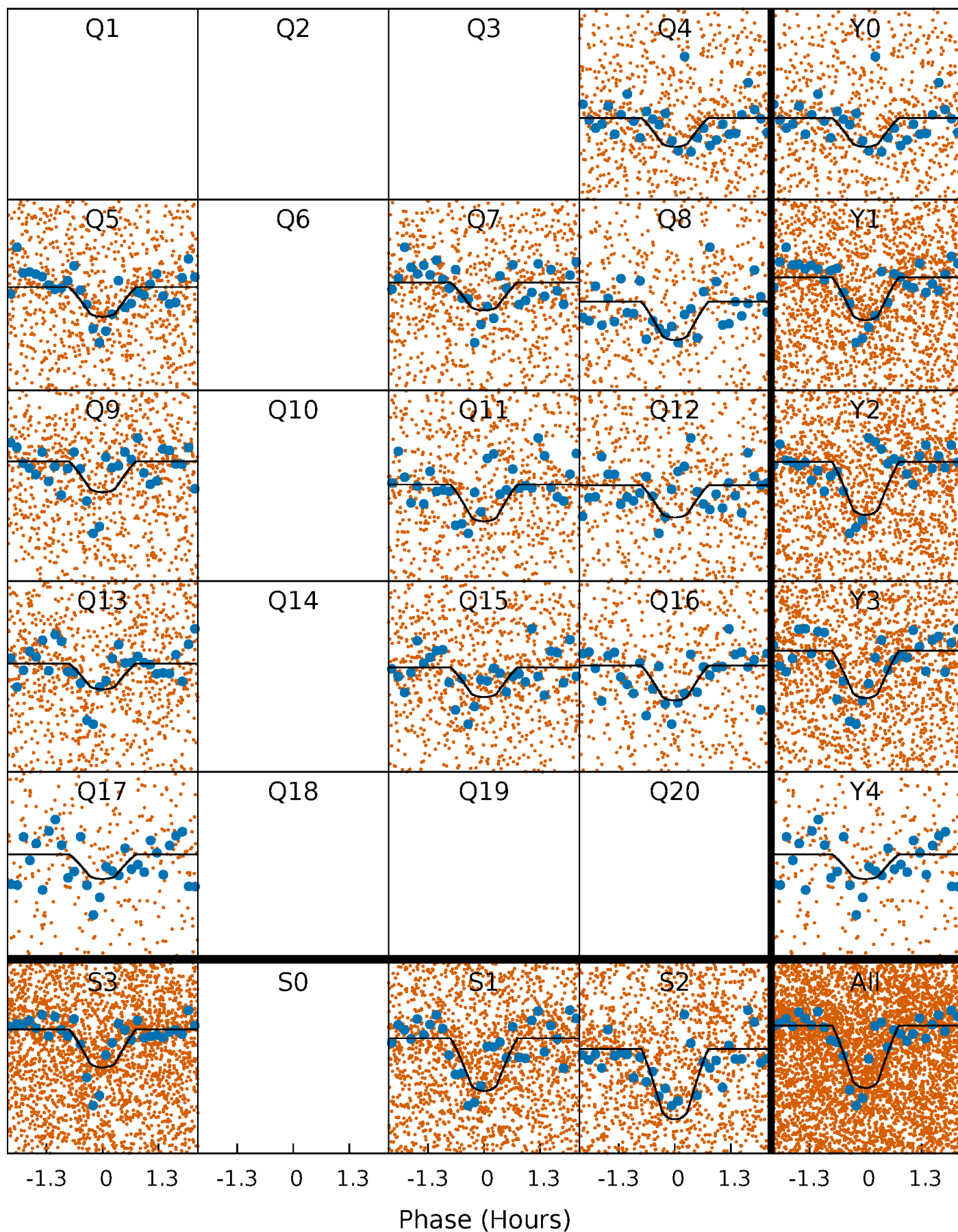
PDC Quarter-Phased Transit Curves

TCE 004571536-01 P= 0.676725 Days $T_0=131.757684$ (BKJD)



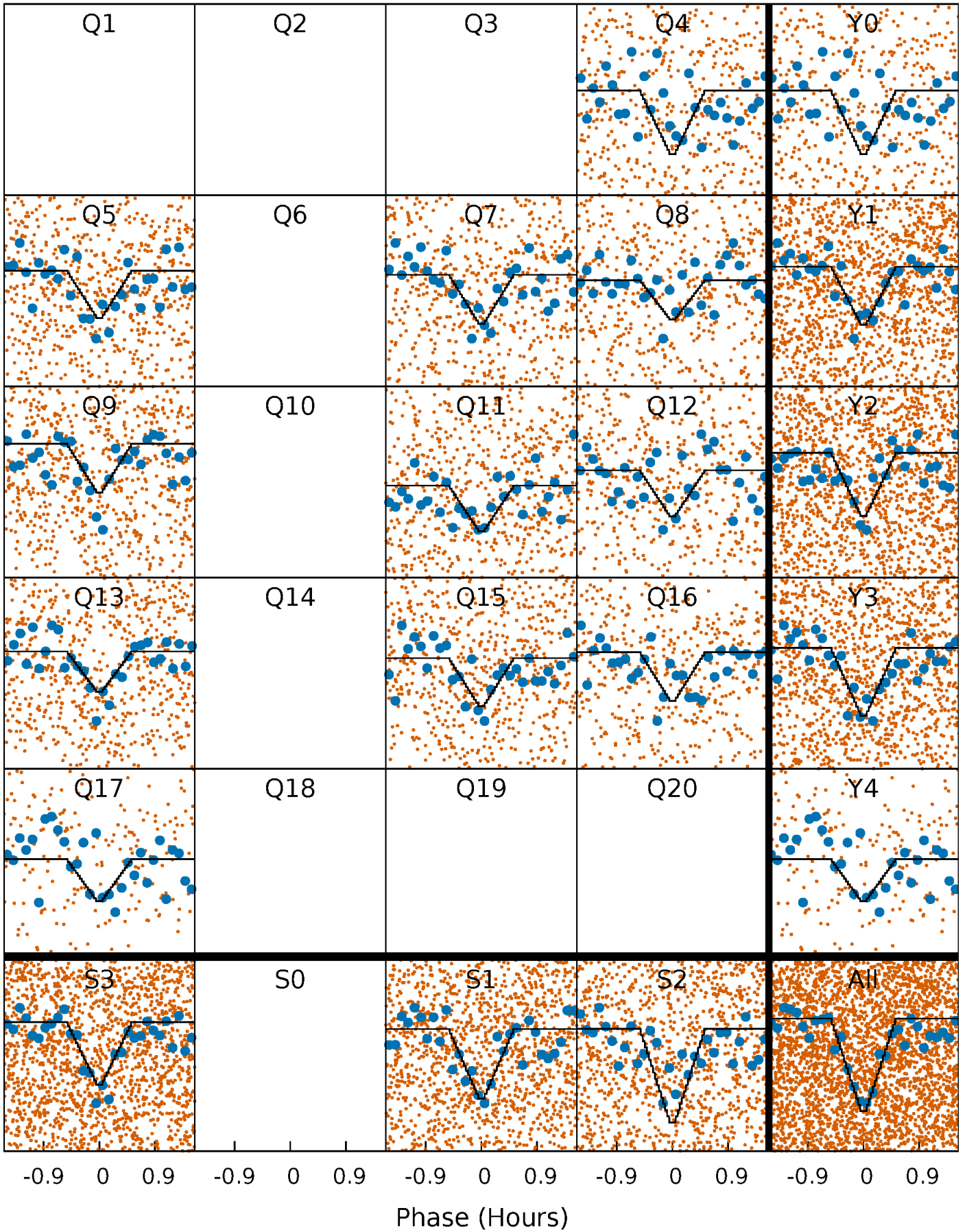
DV Quarter-Phased Transit Curves

TCE 004571536-01 P= 0.676725 Days $T_0=131.757684$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

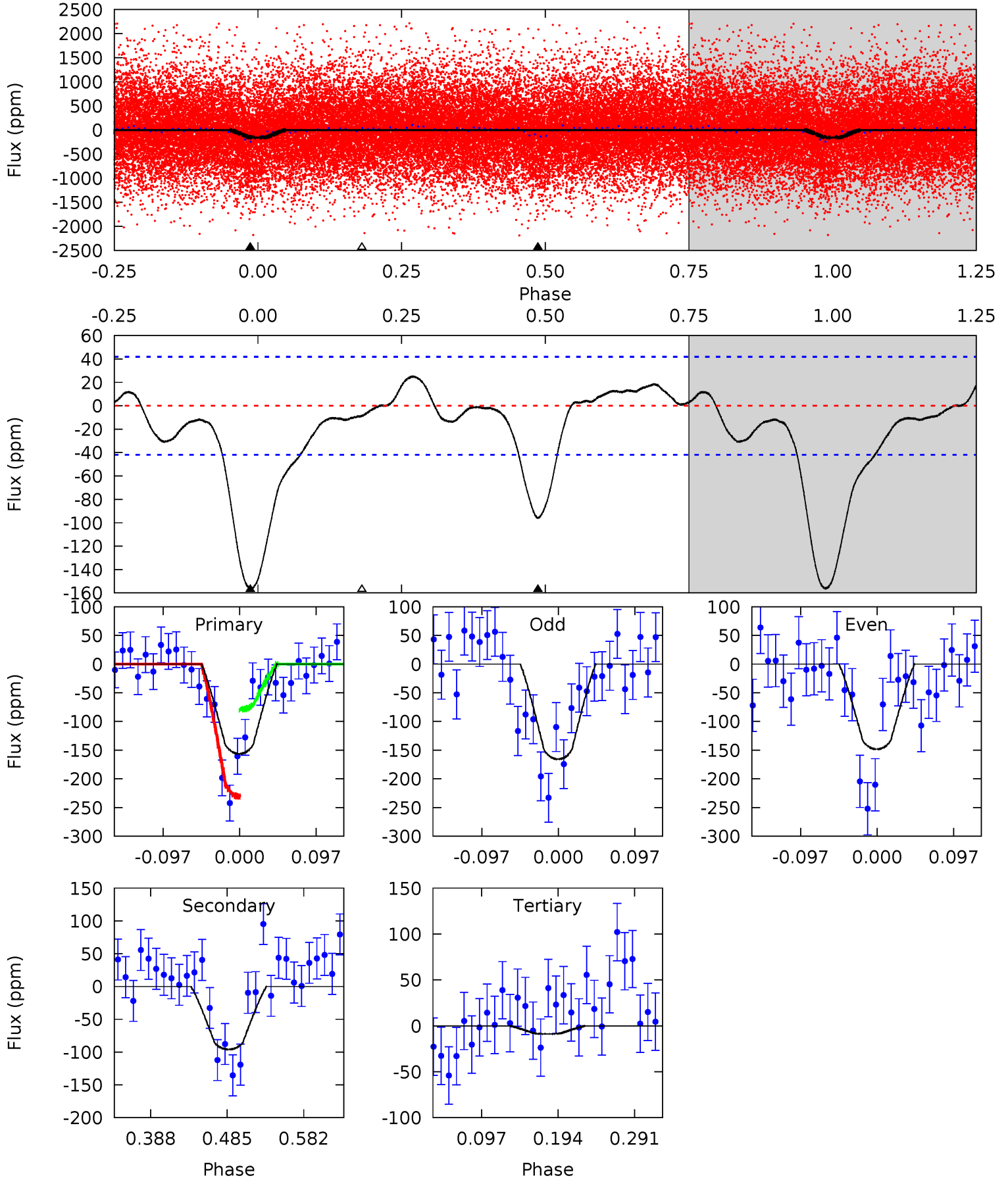
TCE 004571536-01 P= 0.676716 Days $T_0=131.760181$ (BKJD)



DV Model-Shift Uniqueness Test

004571536-01, P = 0.676725 Days, E = 131.757684 Days

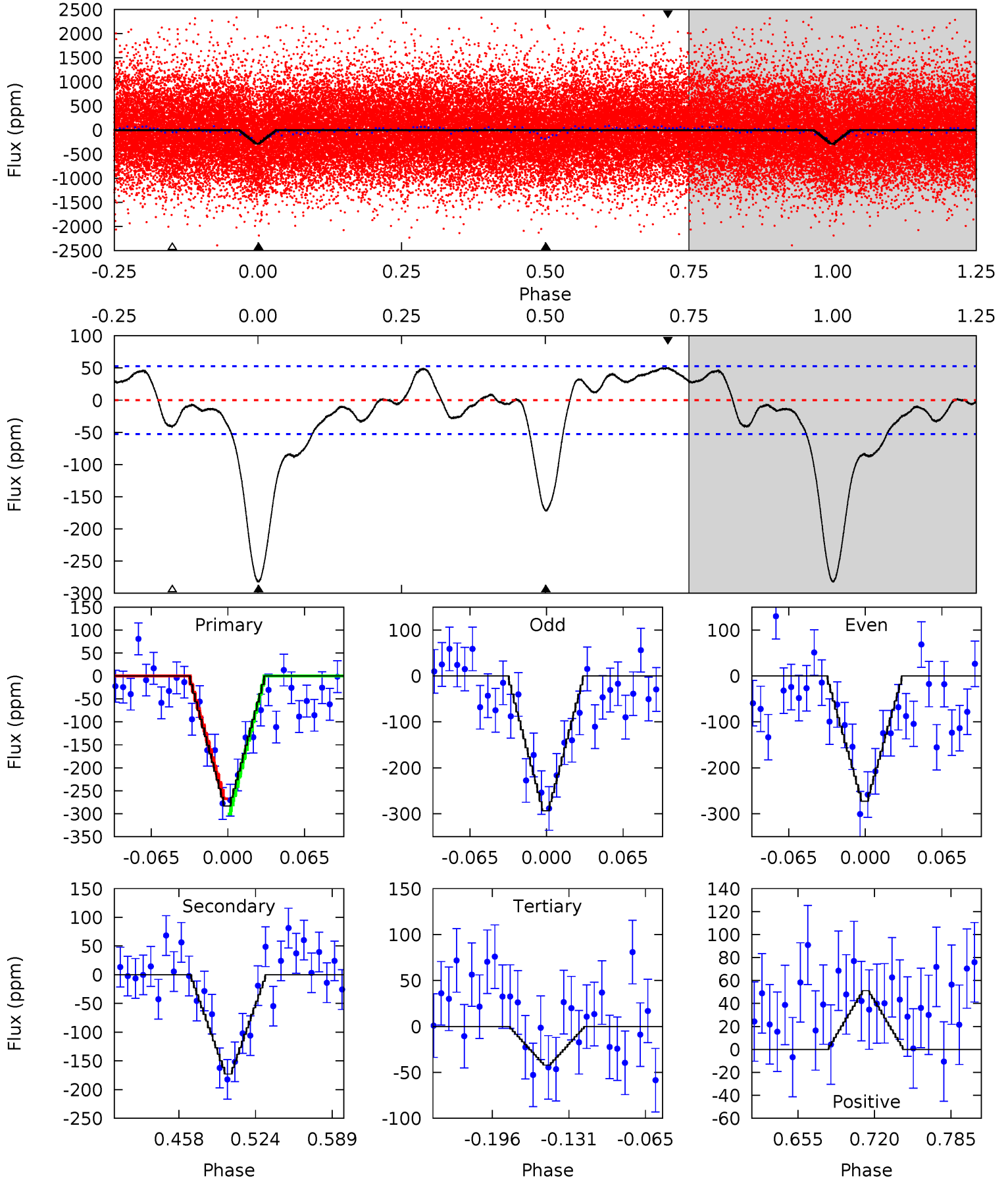
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	10.5	0.97	0	4.57	1.66	1.58	16.1	17.1	9.51	10.5	0.95	0.80	0.14	8.32



Alt Model-Shift Uniqueness Test

004571536-01, P = 0.676716 Days, E = 131.760181 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.0	15.3	3.71	4.51	4.65	1.84	2.74	21.2	20.4	11.5	10.8	0.92	1.02	0.15	1.47



Stellar Parameters For KIC 004571536

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5334^{+204}_{-185}	$4.560^{+0.075}_{-0.075}$	$-0.520^{+0.300}_{-0.300}$	$0.733^{+0.100}_{-0.072}$	$0.712^{+0.095}_{-0.044}$	$2.541^{+0.810}_{-0.615}$
	+4%/-3%	+2%/-2%	+58%/-58%	+14%/-10%	+13%/-6%	+32%/-24%
Source	KIC0	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 004571536-01 / KOI 2954.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-96 ± 9	$1.09^{+0.48}_{-0.48}$	2419^{+117}_{-110}	4611^{+1366}_{-644}	$8.073^{+17.562}_{-4.239}$
Alt.	-173 ± 11	$1.39^{+0.49}_{-0.50}$	2428^{+112}_{-111}	4746^{+994}_{-578}	$9.037^{+12.605}_{-4.053}$

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 $A_{obs} \gg 1.0$

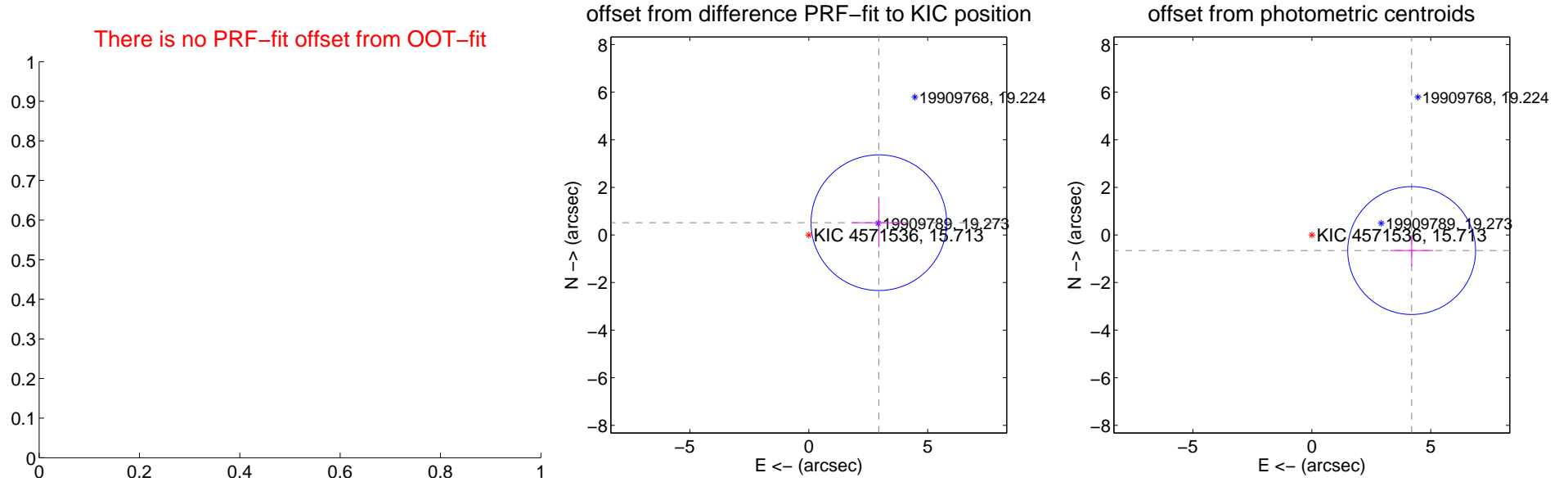
DV Centroid Data

Supplemental centroid analysis for 004571536-01. Kepler magnitude: 15.71. Transit SNR 13.35

There are 5 quarters with good PRF difference image offsets

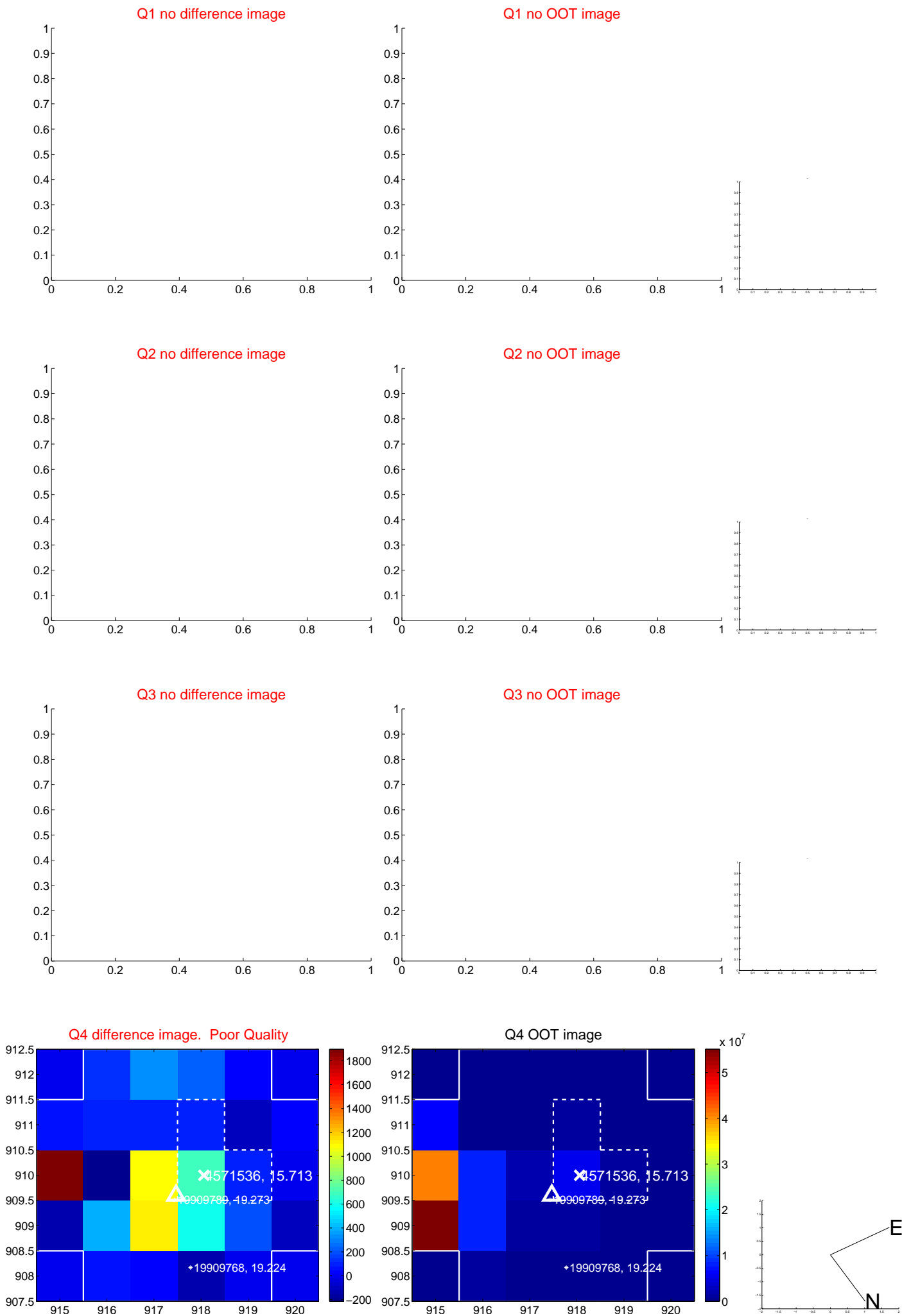
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	2.990 ± 0.950	3.15	-2.945 ± 1.136	0.515 ± 1.028
photometric centroid source offset	4.25 ± 0.90	4.74	-4.20 ± 0.90	-0.66 ± 0.64

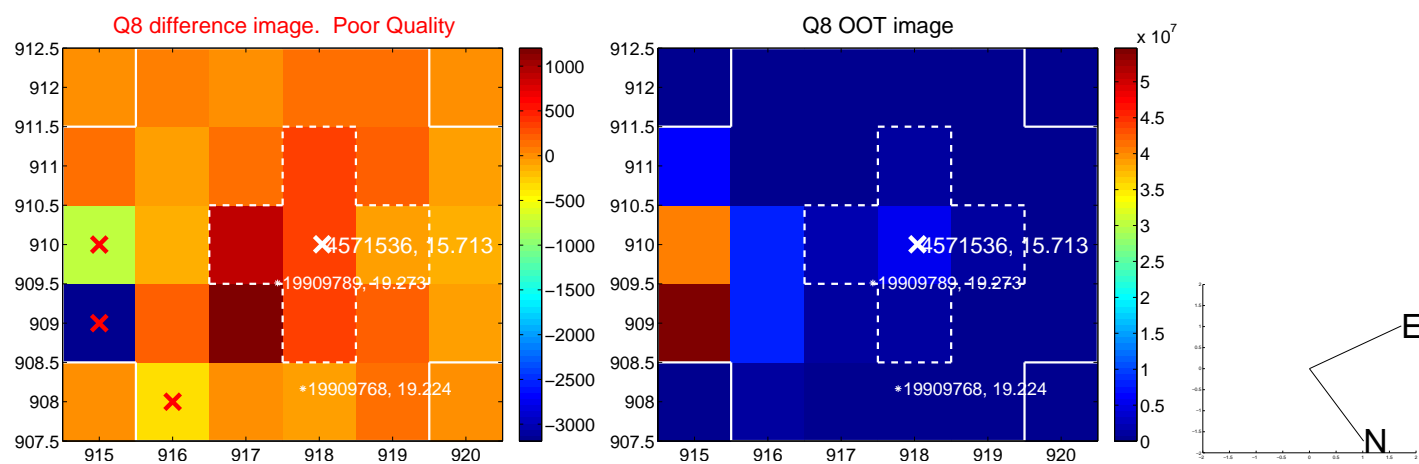
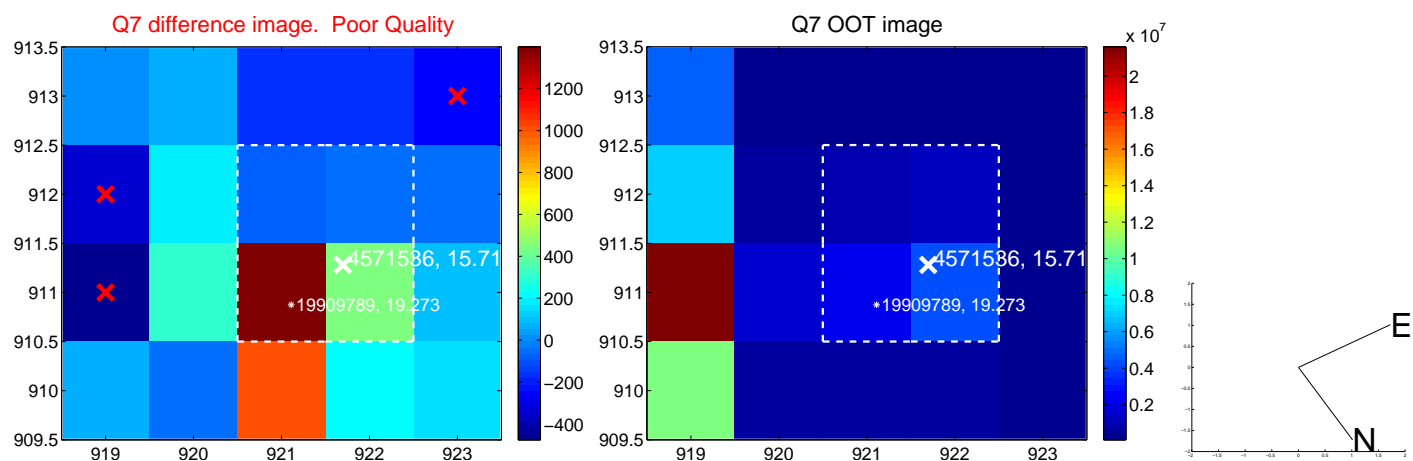
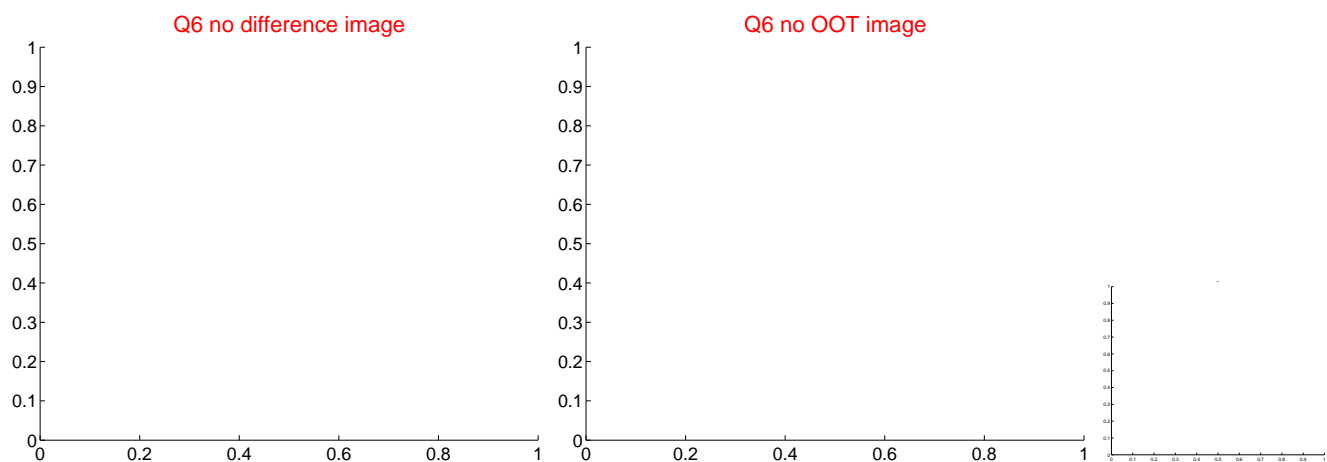
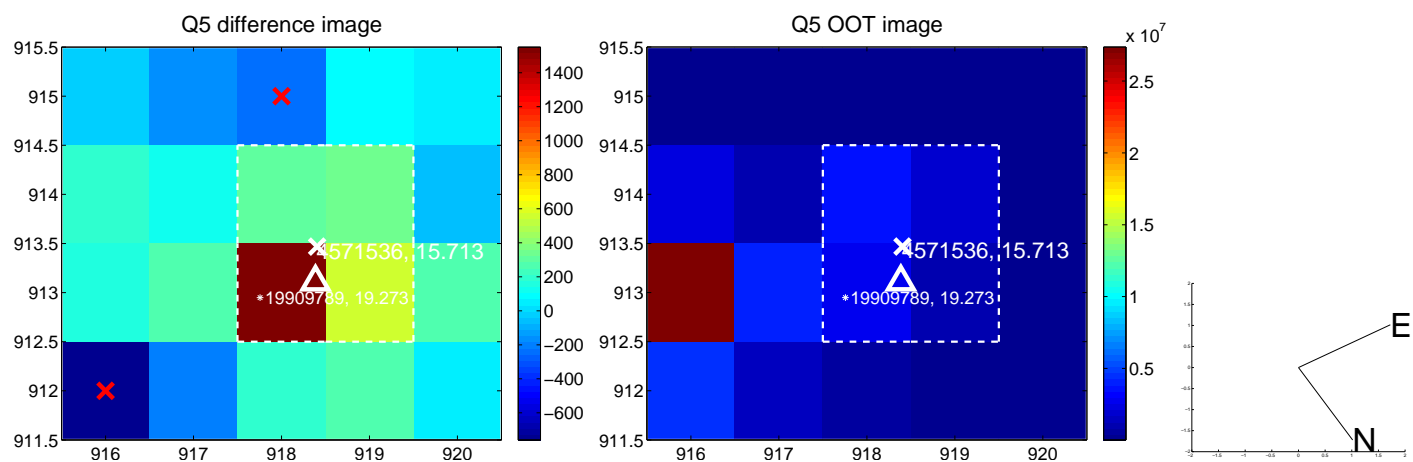


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

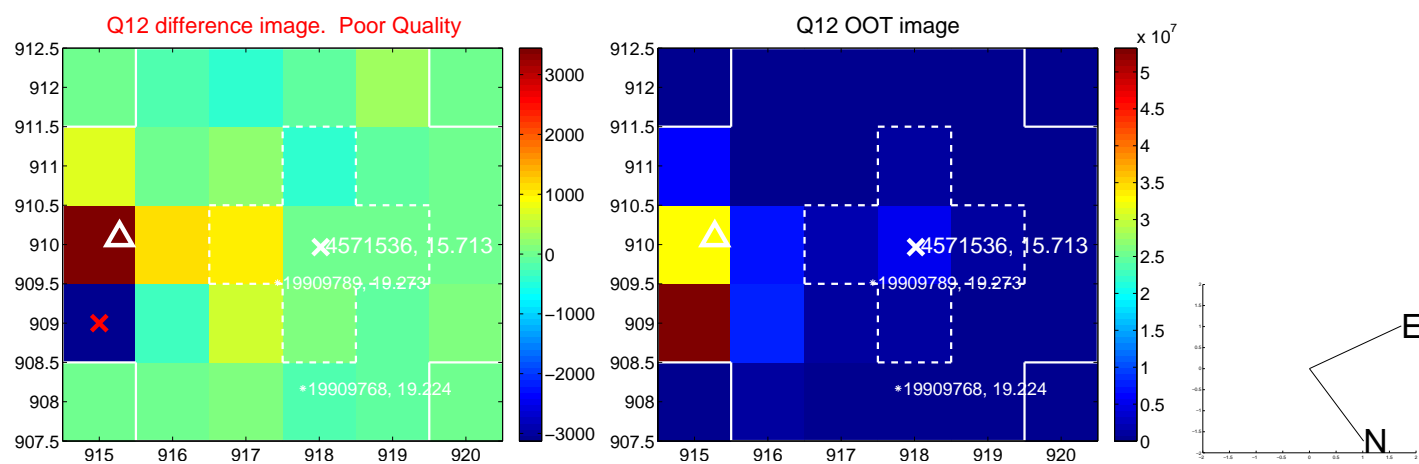
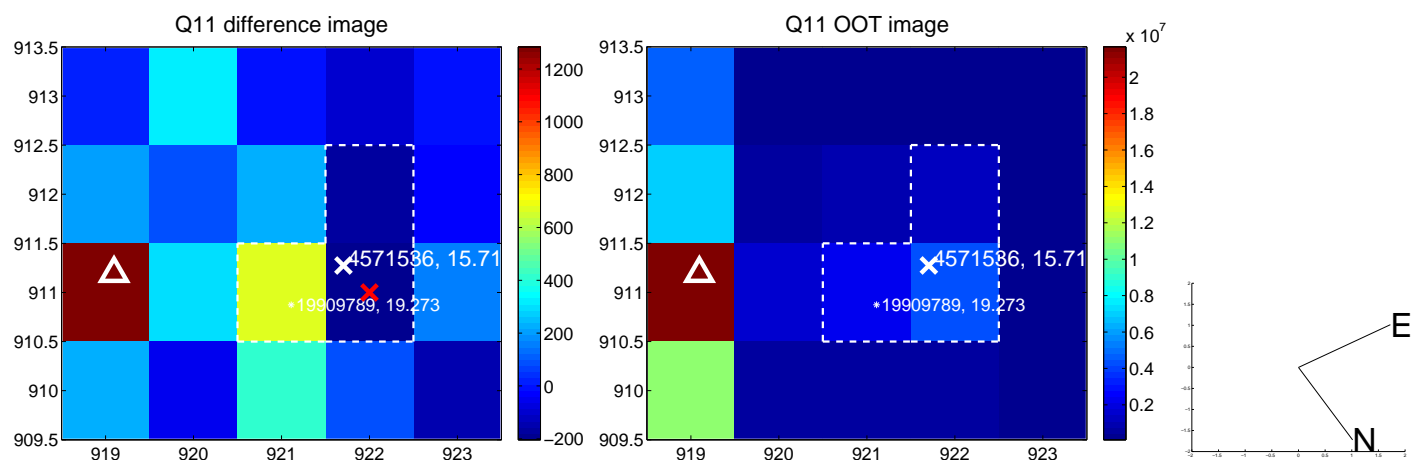
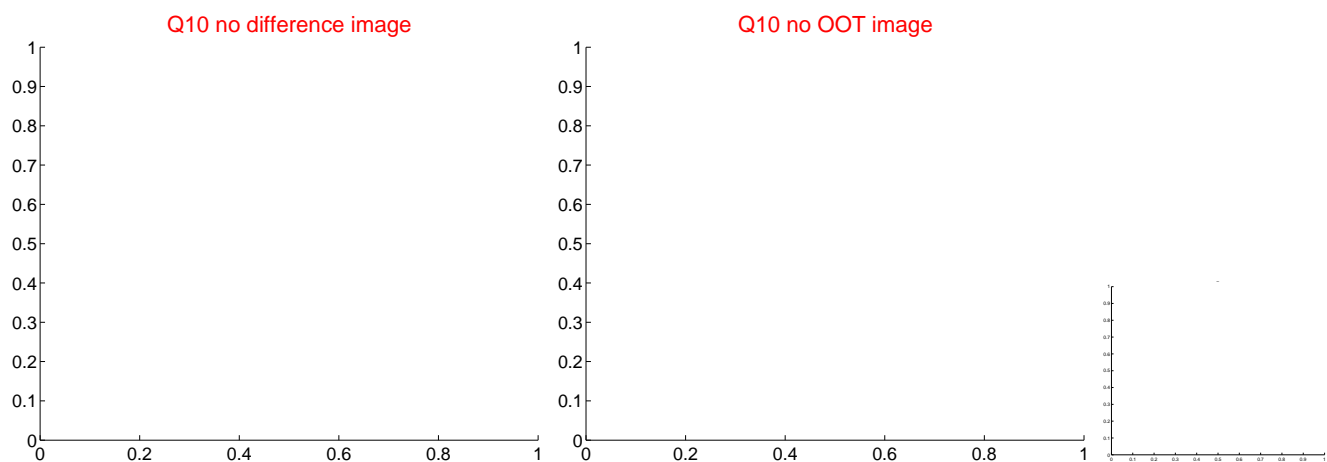
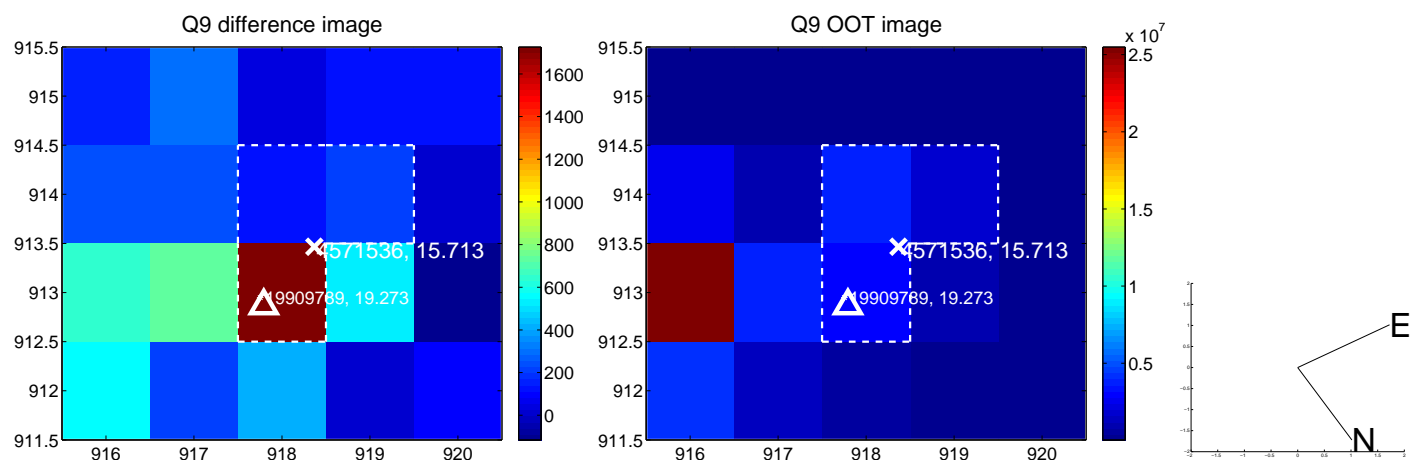
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



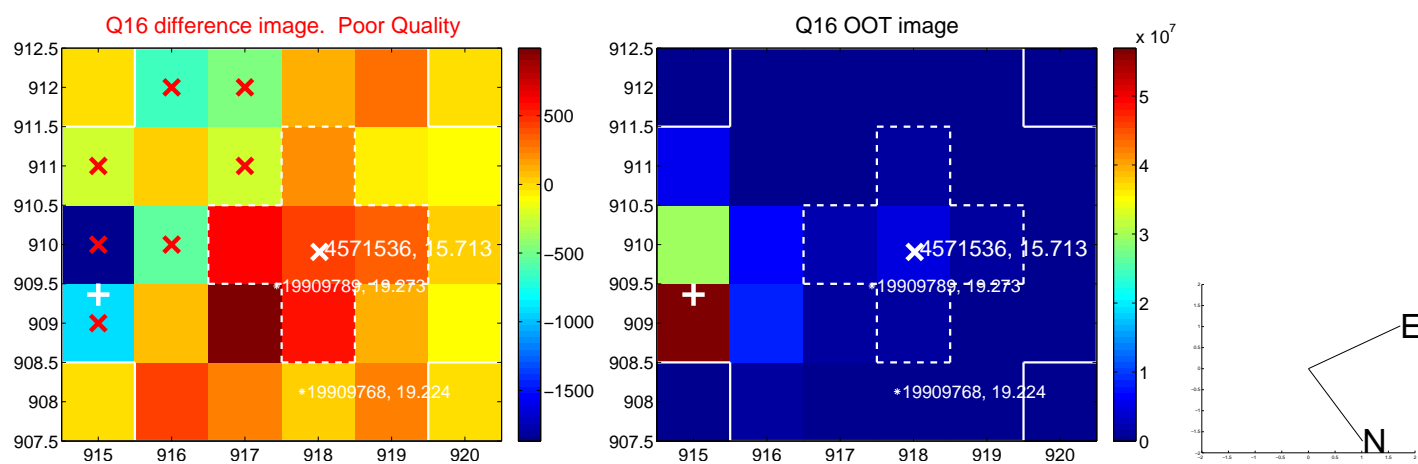
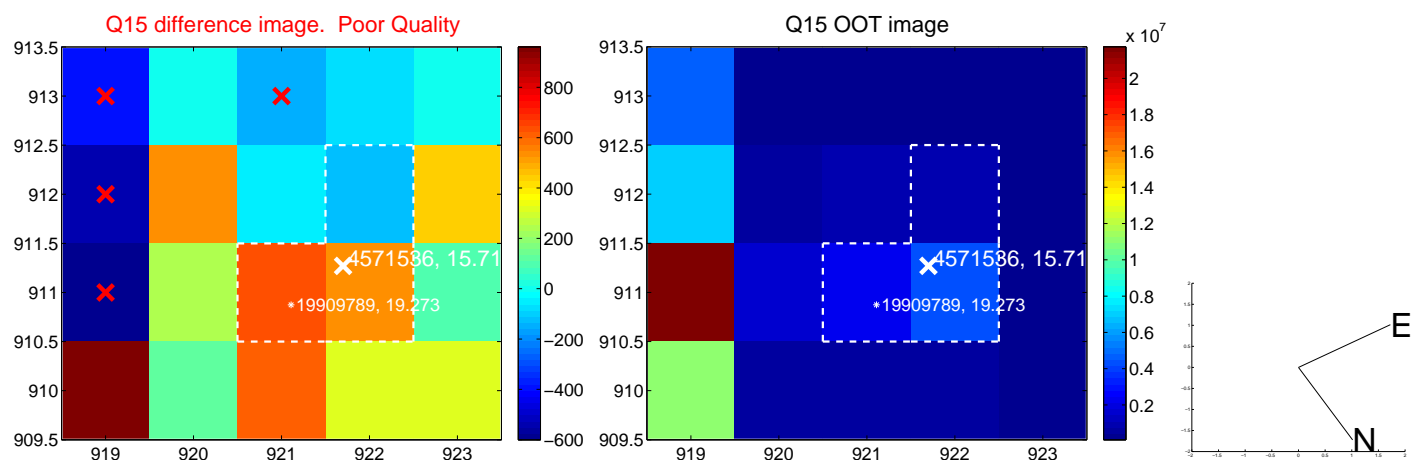
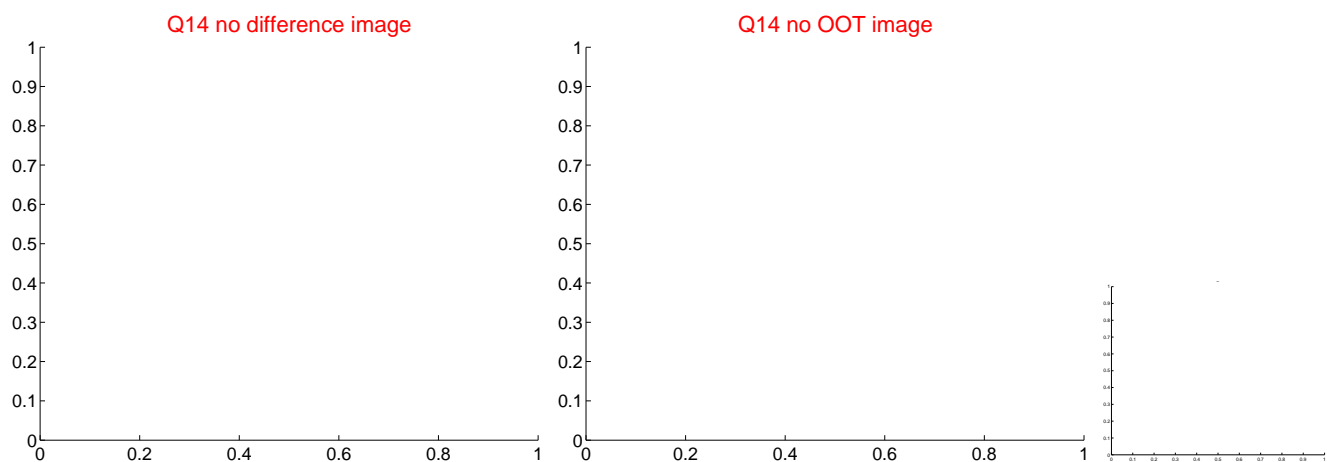
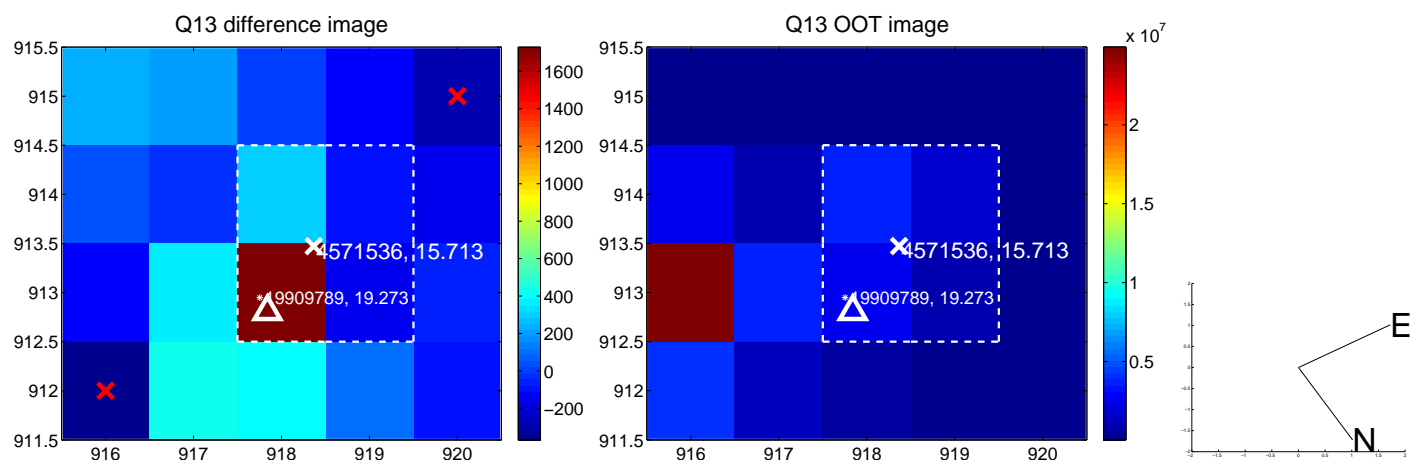
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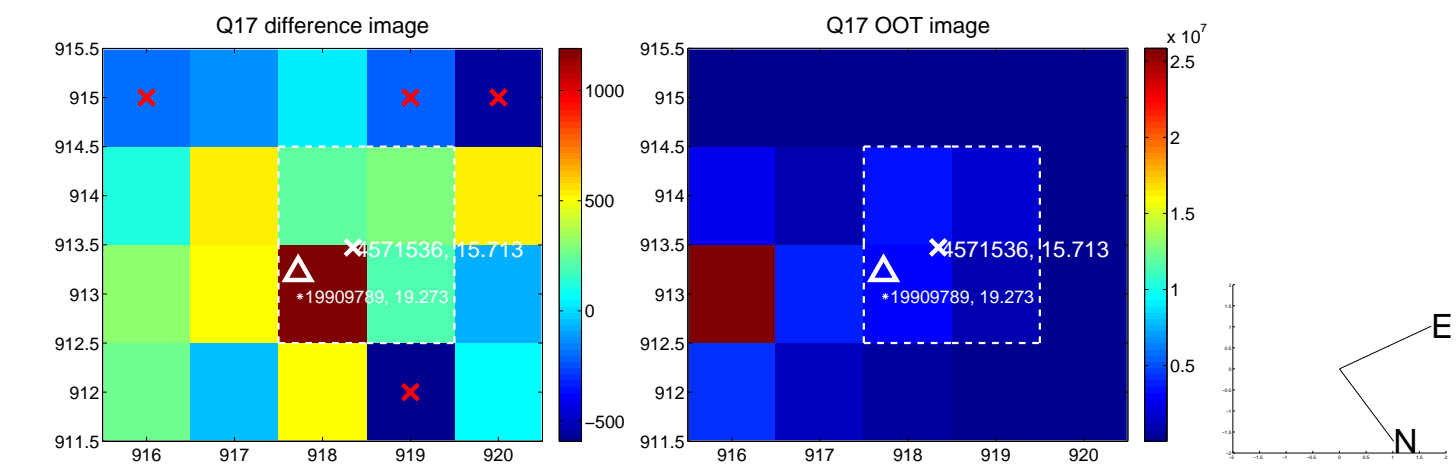
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



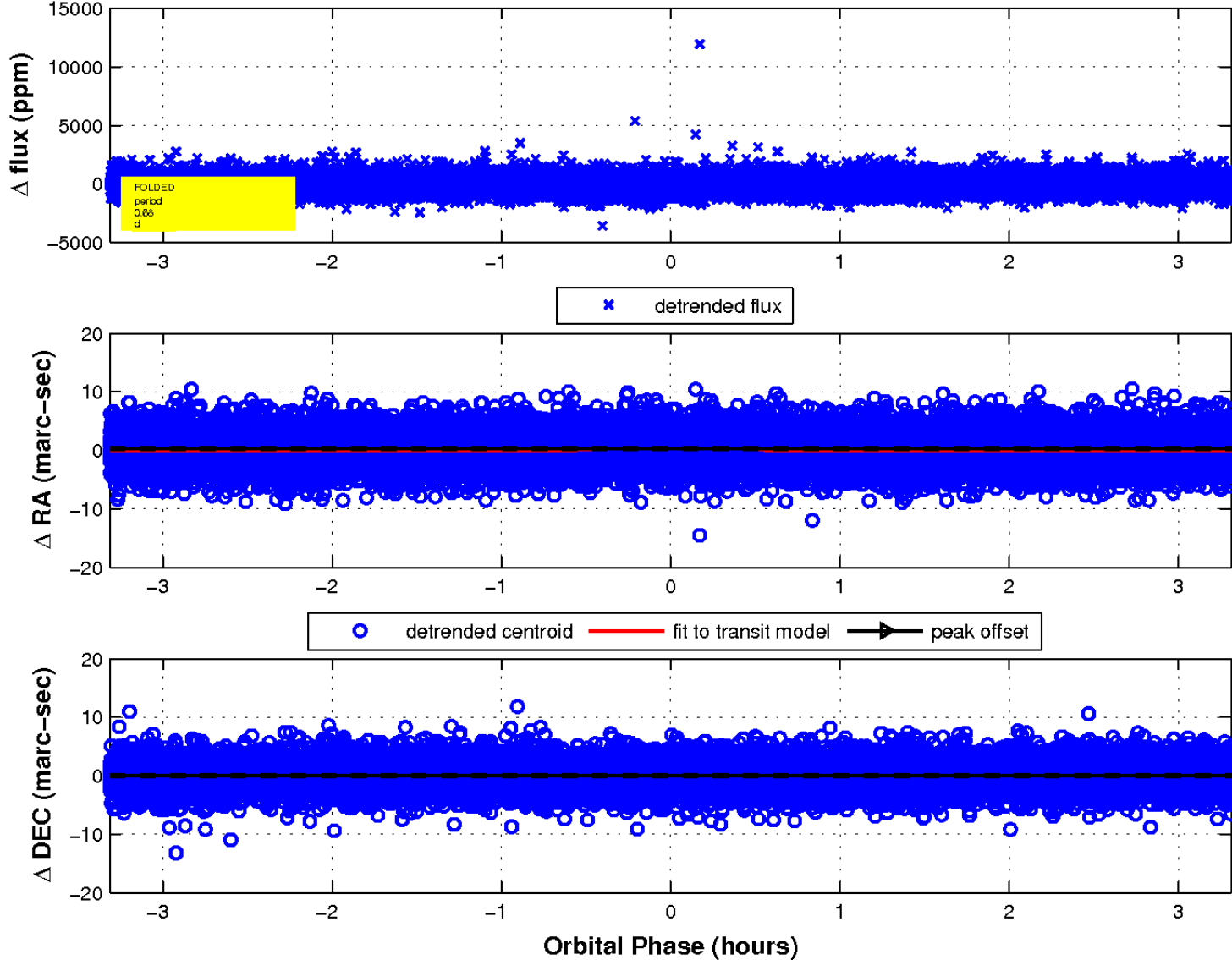
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

