

KIC 009145535

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})
009145535-01	OBS	No	449.809340	467.303072	723.1	23.488	9.4	9.8	1.04	6157	3.36	1.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009145535-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

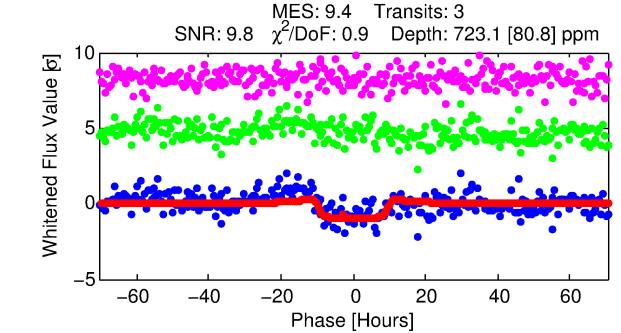
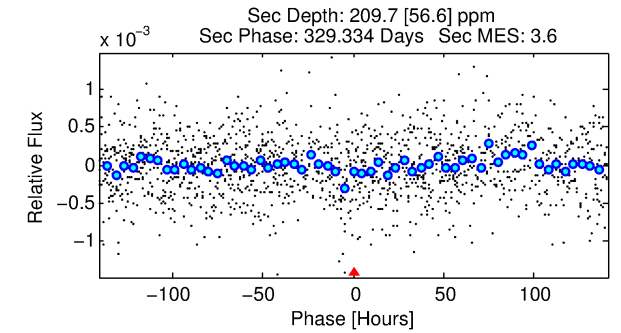
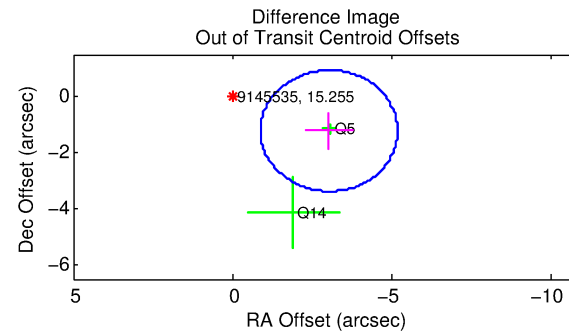
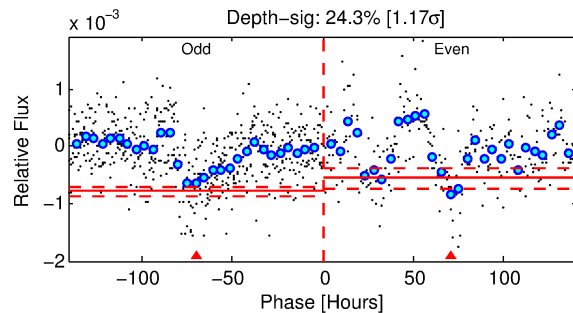
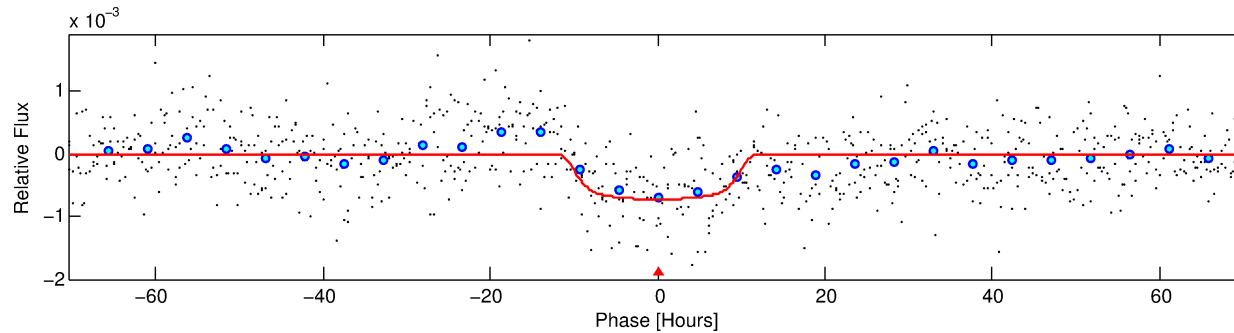
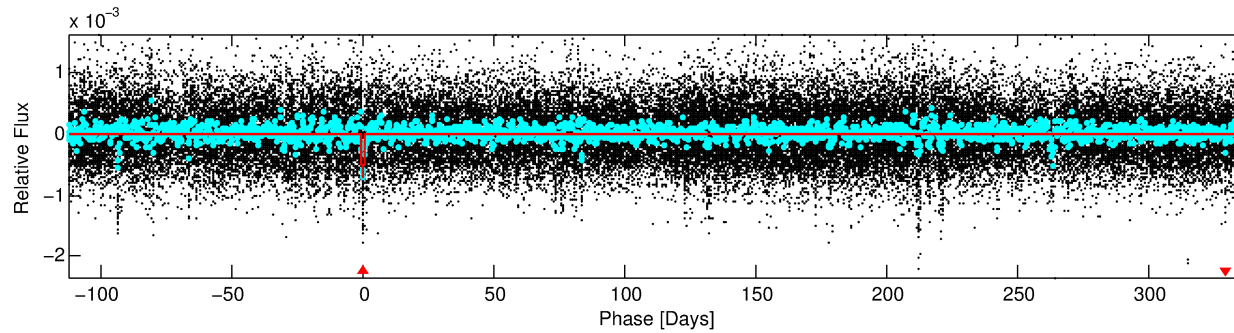
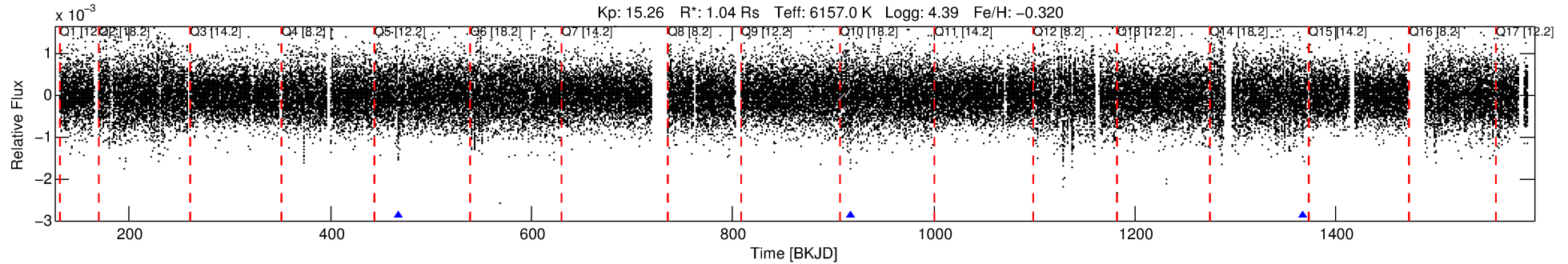
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009145535-01

No Significant Match Found

DV One-Page Summary

KIC: 9145535 Candidate: 1 of 1 Period: 449.809 d



DV Fit Results:

Period = 449.80934 [0.02342] d
Epoch = 467.3031 [0.0289] BKJD
Rp/R* = 0.0295 [0.0024]
a/R* = 67.41 [18.20]
b = 0.92 [0.05]
Seff = 1.08 [0.42]
Teq = 260 [25] K
Rp = 3.36 [1.02] Re
a = 1.1381 [0.2833] AU
Ag = 13232.22 [6381.73] [2.07 σ]
Teffp = 4314 [368] K [10.99 σ]

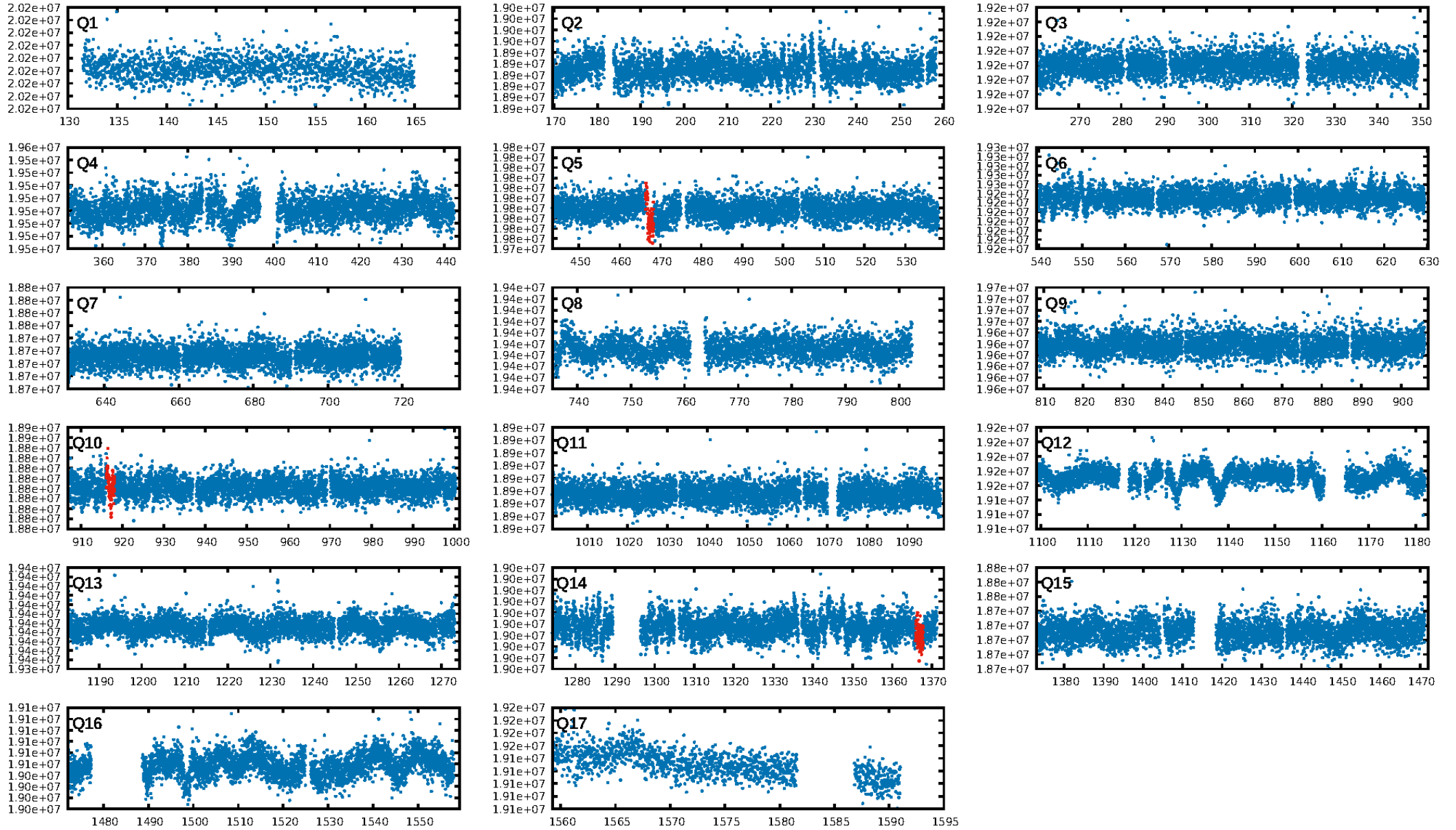
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.84e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -10.83
Centroid-sig: 0.0%
Centroid-so: 3.667 arcsec [2.45 σ]
OotOffset-rm: 3.282 arcsec [4.56 σ]
KicOffset-rm: 3.210 arcsec [4.45 σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-st: 1/0/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [3/3]

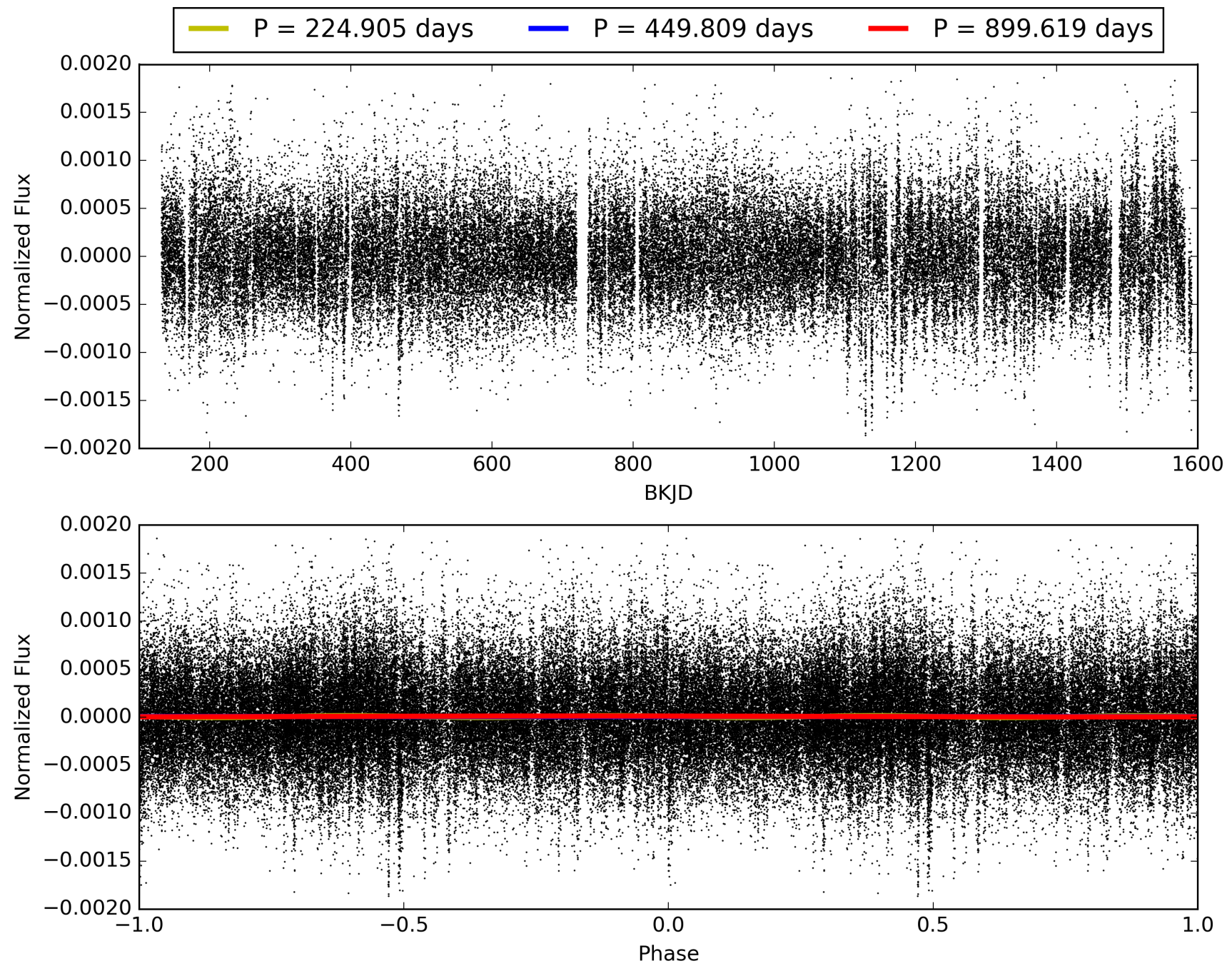
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 21:25:21 Z

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

TCE 009145535-01, PDC Light Curves

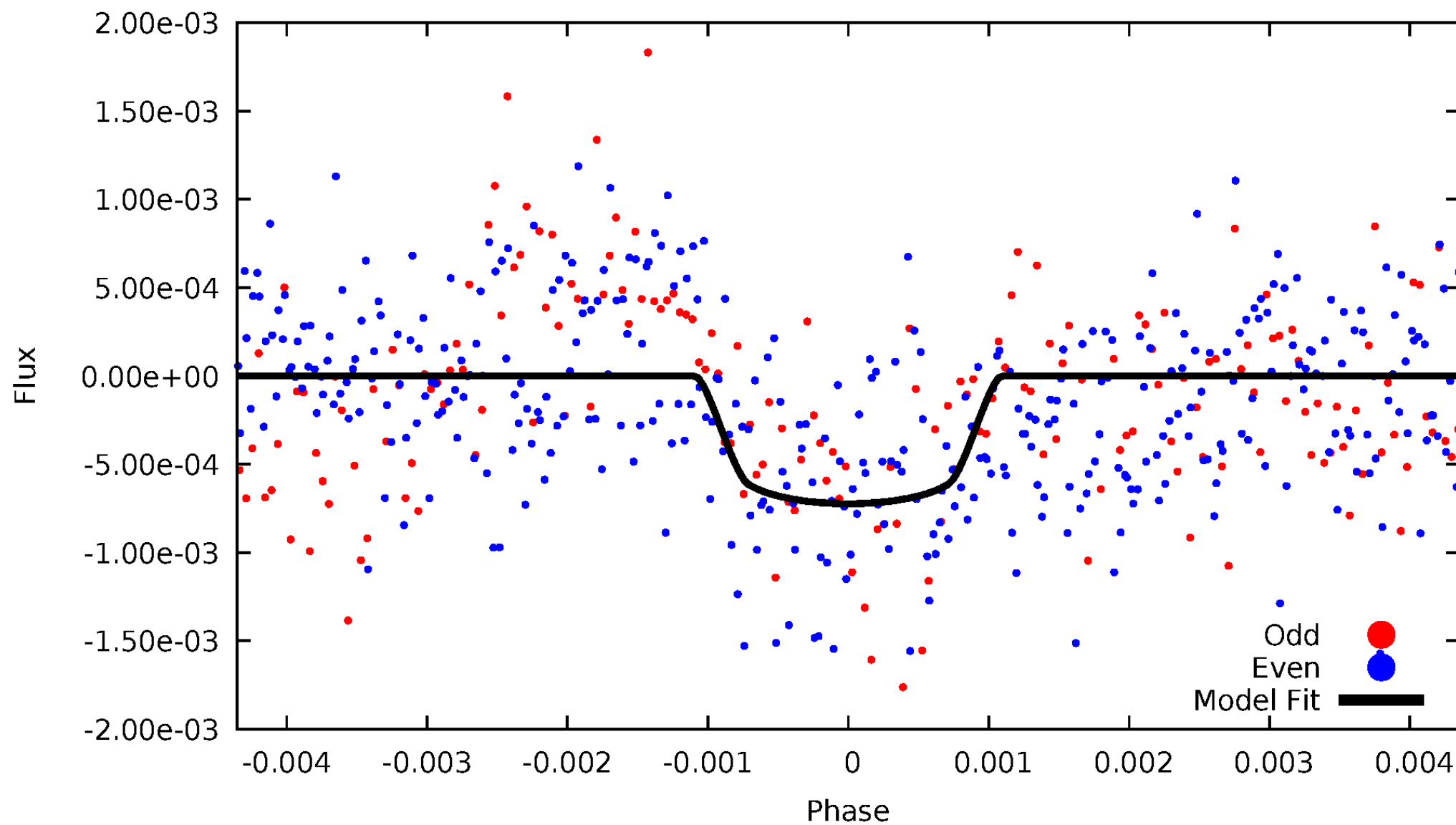


TCE 009145535-01



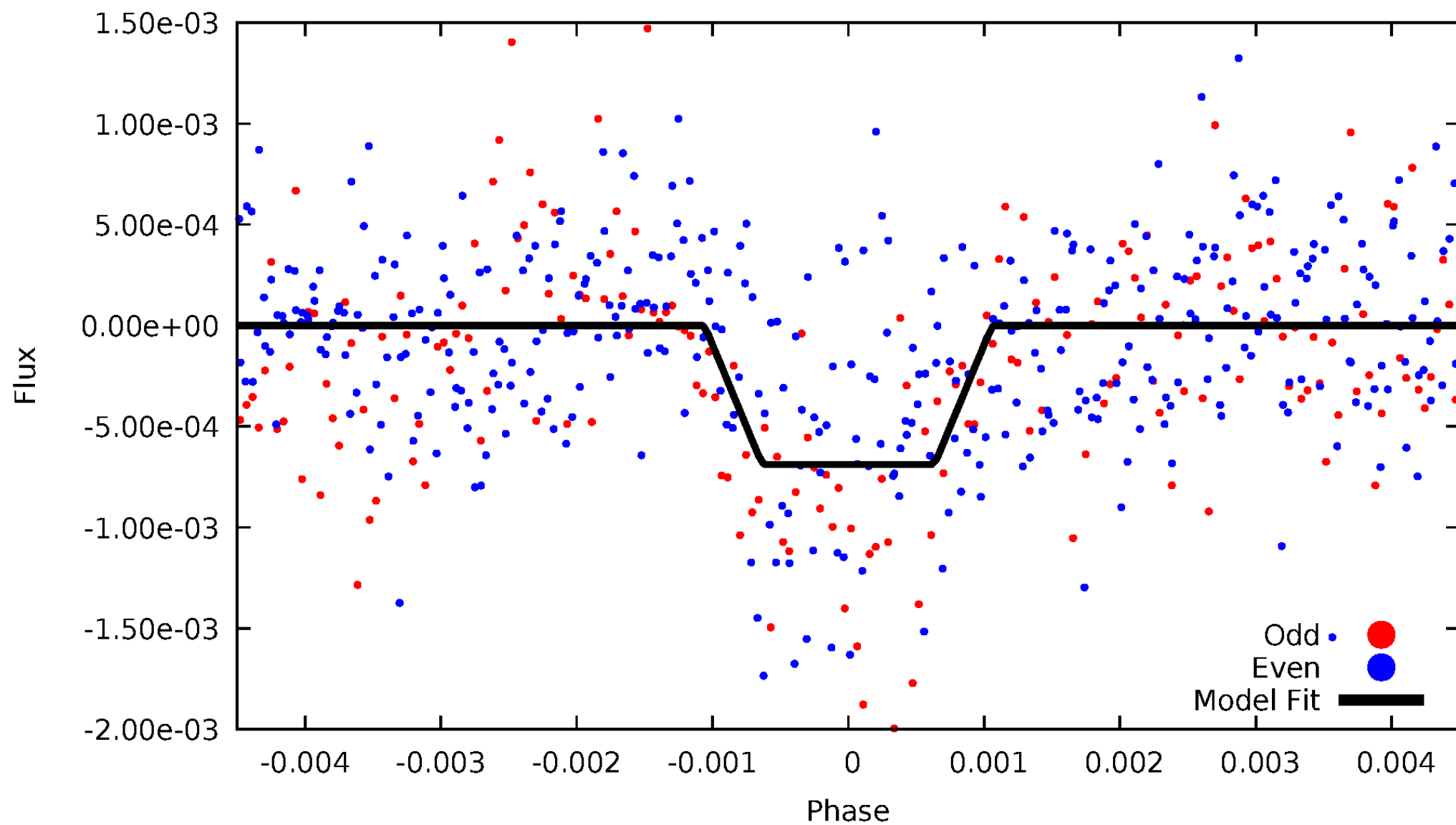
DV Odd/Even

TCE 009145535-01



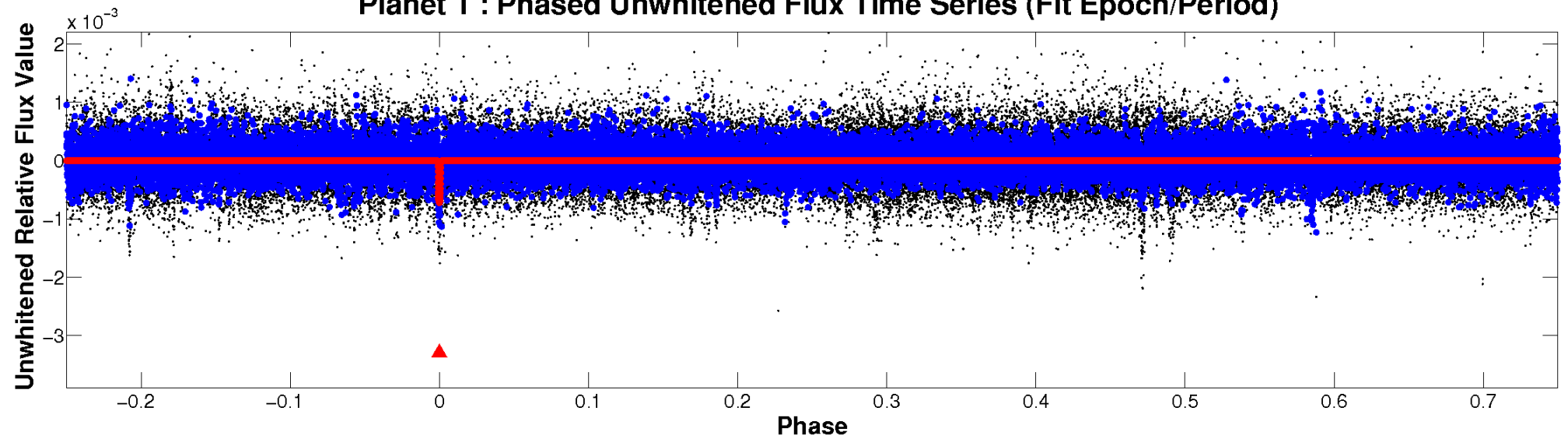
ALT Odd/Even

TCE 009145535-01

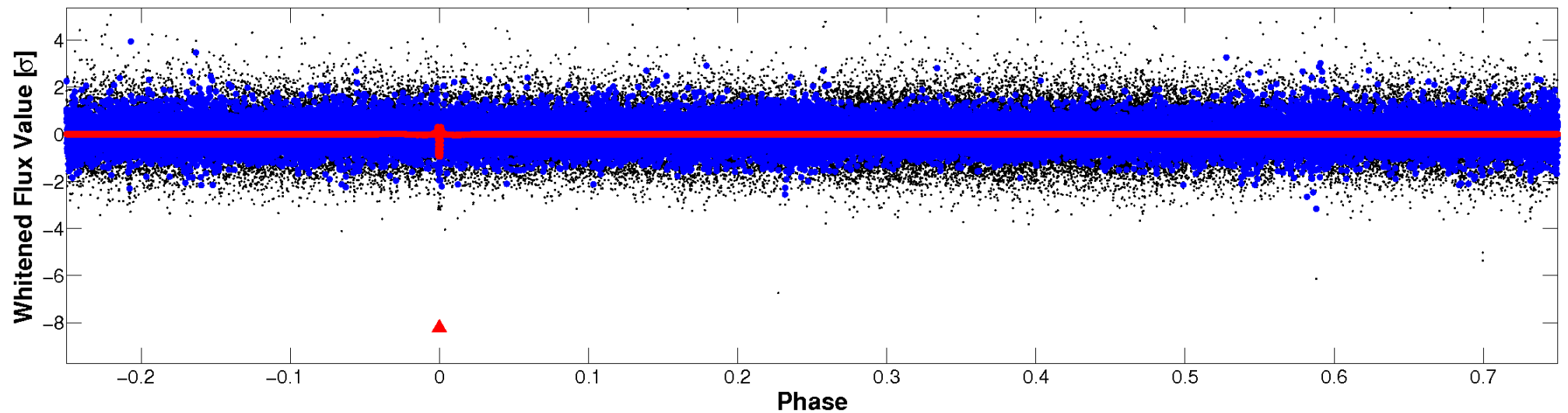


Non-Whitened Vs. Whitened Light Curve

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

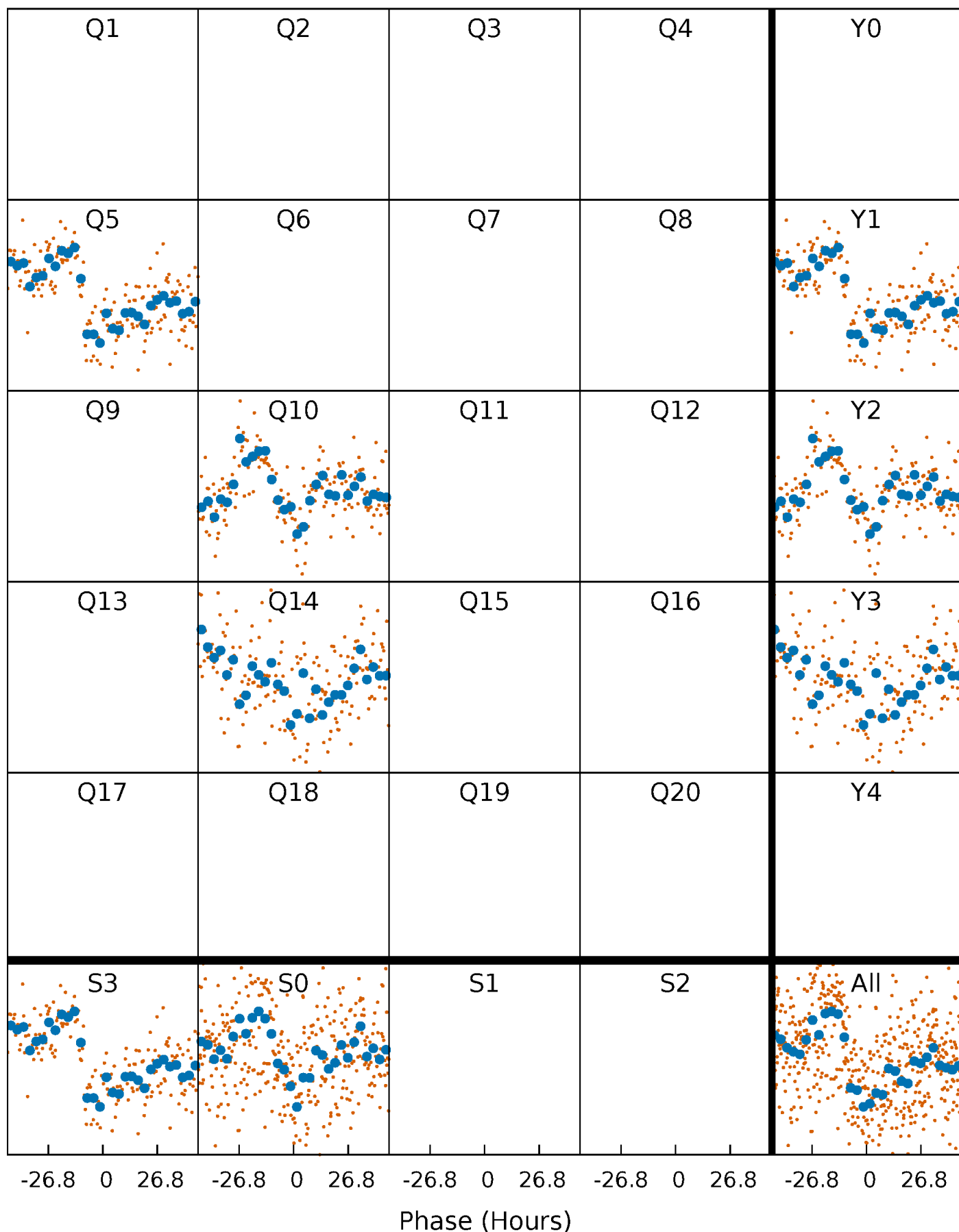


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 009145535-01 P=449.809340 Days $T_0=467.303072$ (BKJD)



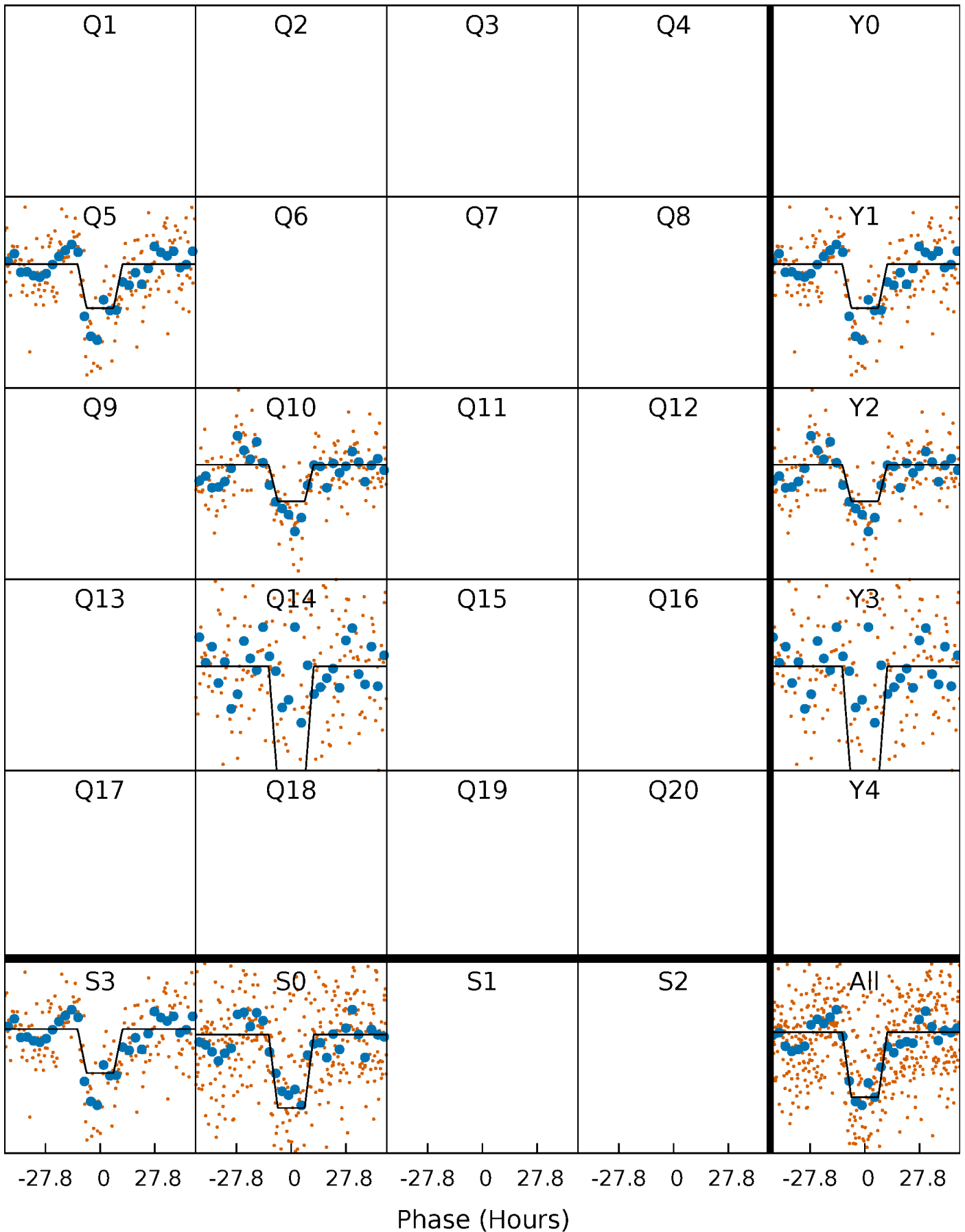
DV Quarter-Phased Transit Curves

TCE 009145535-01 P=449.809340 Days $T_0=467.303072$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

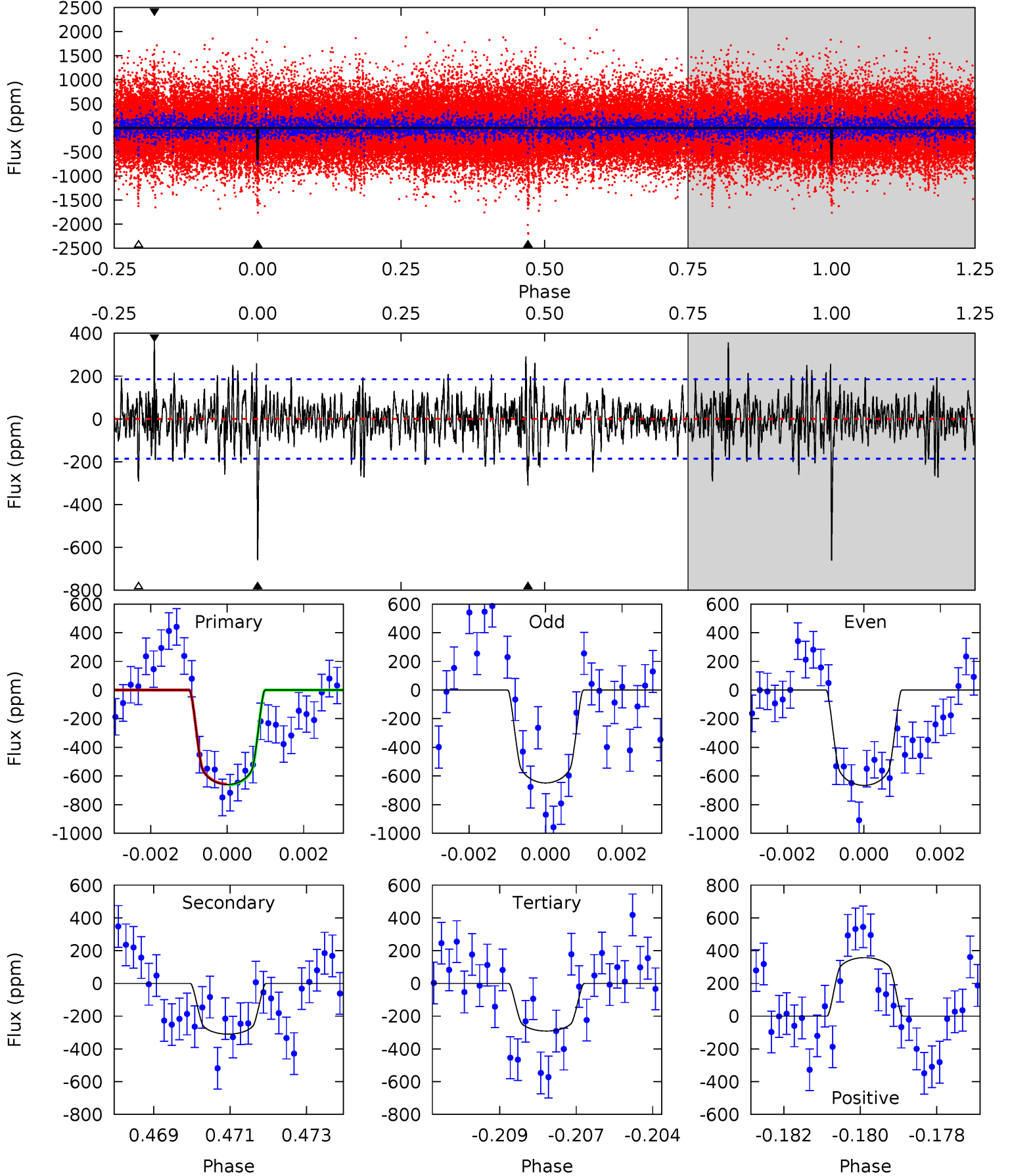
TCE 009145535-01 P=449.885691 Days $T_0=467.250225$ (BKJD)



DV Model-Shift Uniqueness Test

009145535-01, P = 449.809340 Days, E = 17.493732 Days

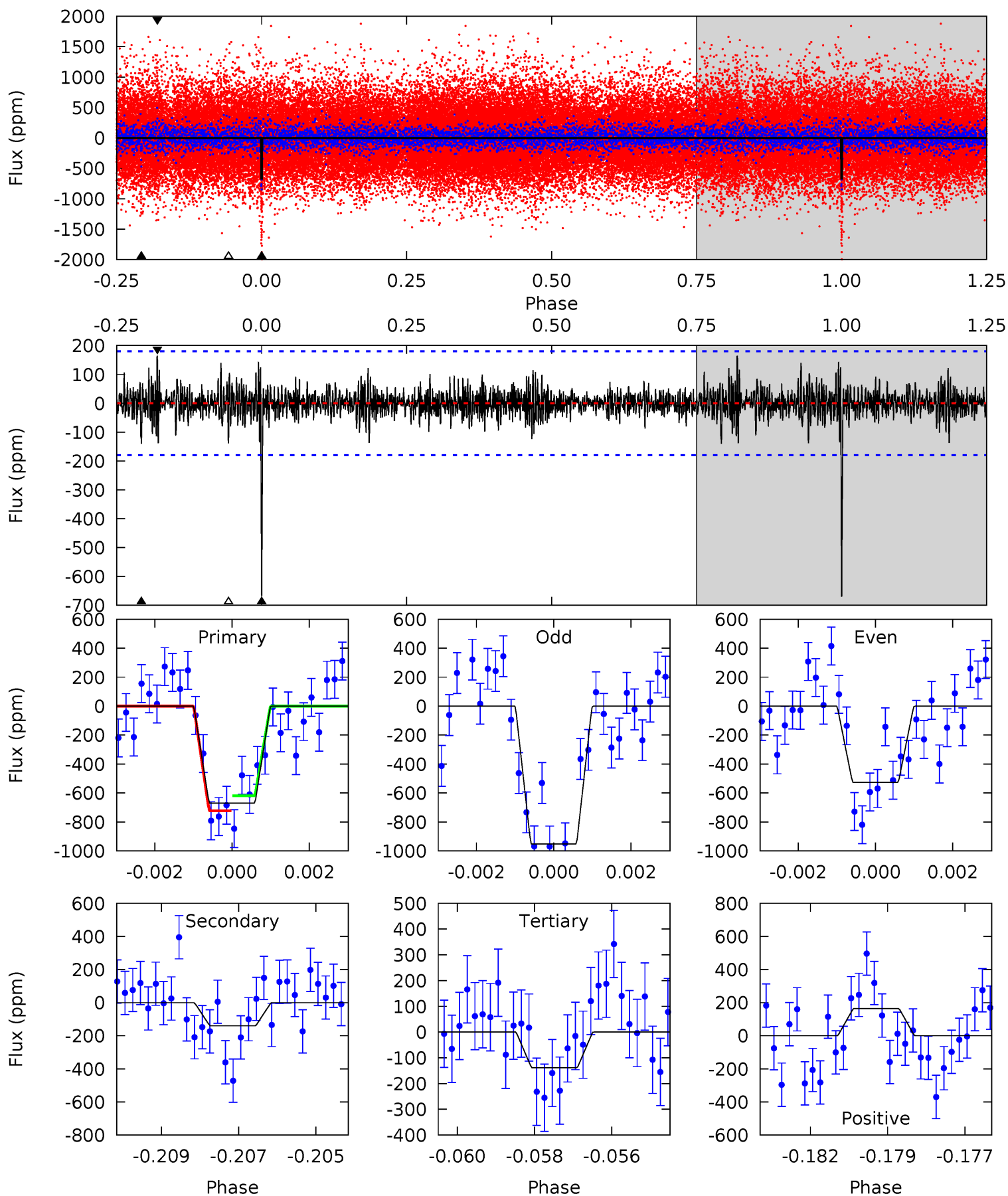
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	8.87	8.33	10.2	5.31	3.06	2.14	10.6	8.66	0.54	-1.36	0.23	1.02	0.35	0.09



Alt Model-Shift Uniqueness Test

009145535-01, P = 449.885691 Days, E = 17.364534 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.8	4.14	4.09	4.85	5.31	3.07	1.05	15.7	14.9	0.05	-0.71	5.90	0.71	0.20	1.52



Stellar Parameters For KIC 009145535

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6157^{+183}_{-202}	$4.388^{+0.108}_{-0.201}$	$-0.320^{+0.300}_{-0.300}$	$1.044^{+0.306}_{-0.165}$	$0.972^{+0.153}_{-0.114}$	$1.201^{+0.582}_{-0.624}$
	+3%/-3%	+2%/-5%	+94%/-94%	+29%/-16%	+16%/-12%	+48%/-52%
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 009145535-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-310 ± 35	$3.43^{+0.58}_{-0.44}$	368^{+25}_{-23}	4859^{+279}_{-224}	18524^{+6086}_{-4816}
Alt.	-140 ± 34	$3.08^{+0.54}_{-0.45}$	368^{+26}_{-21}	4359^{+267}_{-279}	10481^{+4757}_{-3618}

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

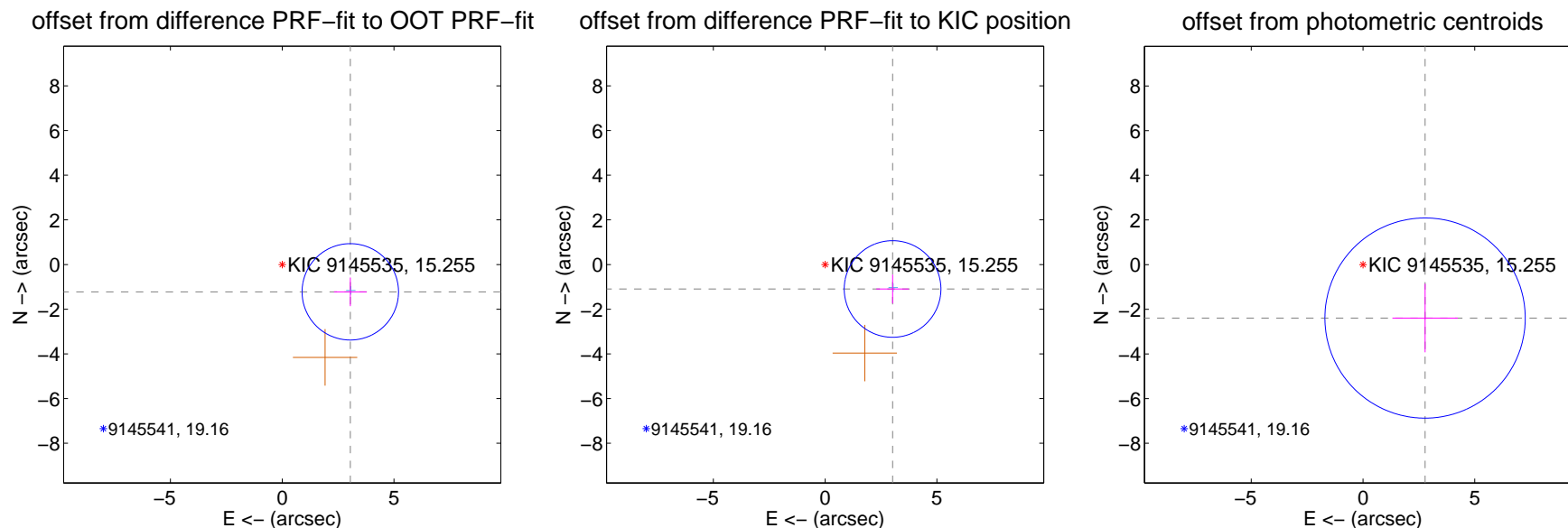
DV Centroid Data

Supplemental centroid analysis for 009145535-01. Kepler magnitude: 15.26. Transit SNR 9.77

There are 1 quarters with good PRF difference image offsets

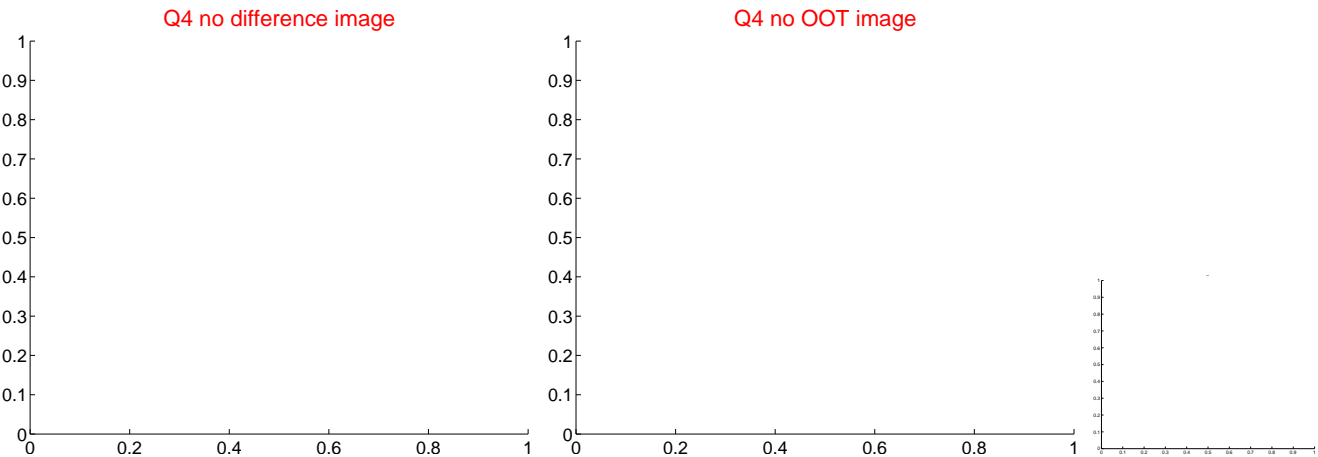
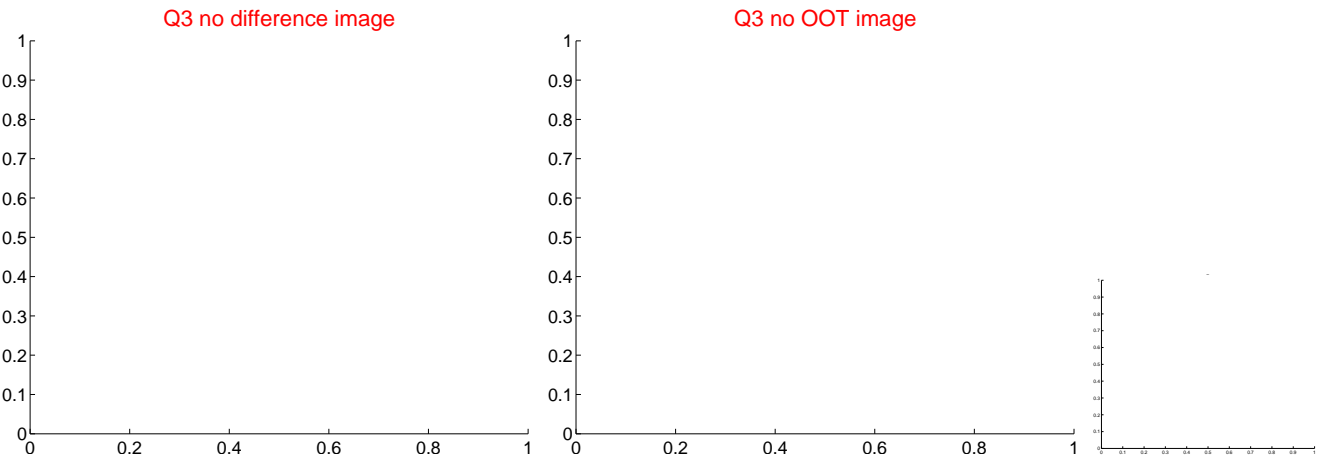
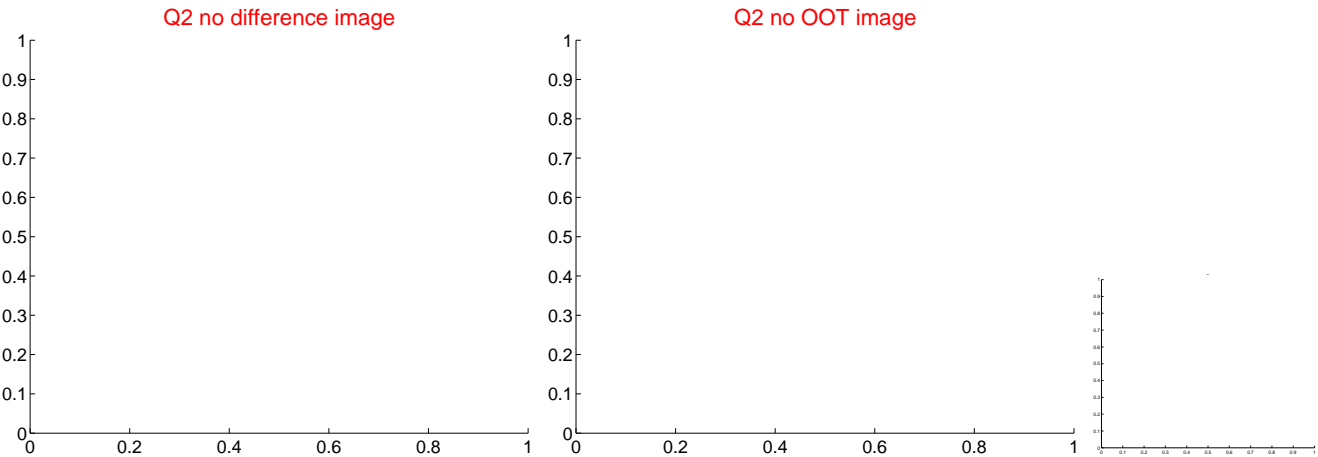
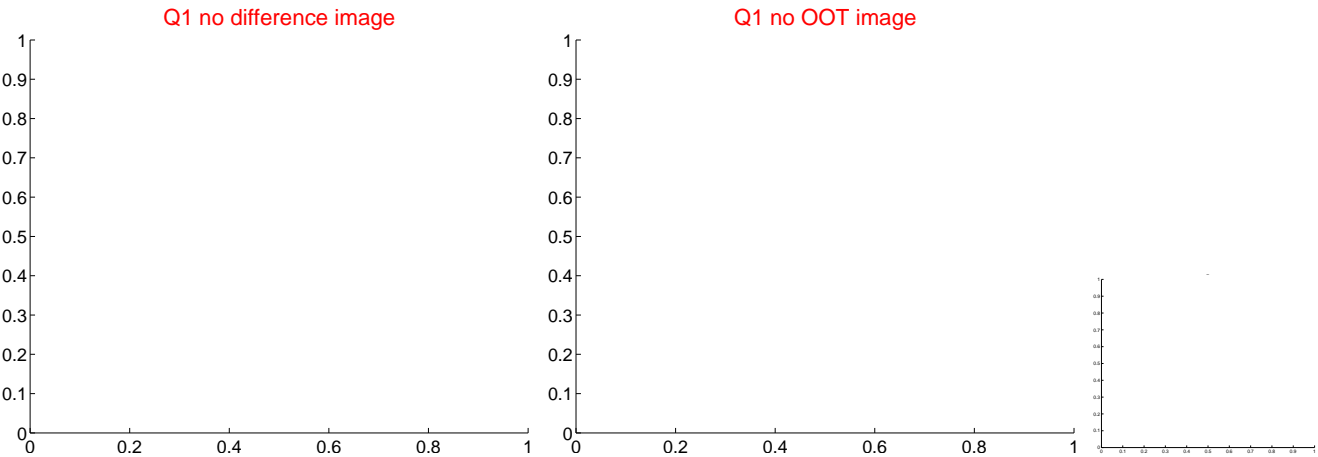
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.282 ± 0.719	4.56	-3.046 ± 0.731	-1.222 ± 0.643
PRF-fit source offset from KIC position	3.210 ± 0.721	4.45	-3.017 ± 0.731	-1.094 ± 0.643
photometric centroid source offset	3.67 ± 1.49	2.45	-2.78 ± 1.46	-2.39 ± 1.53

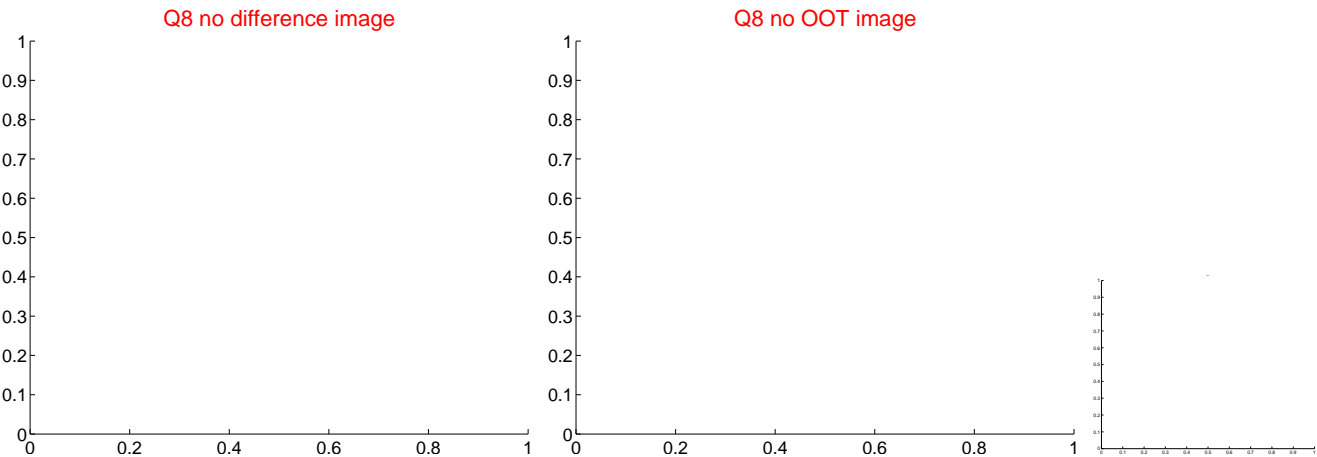
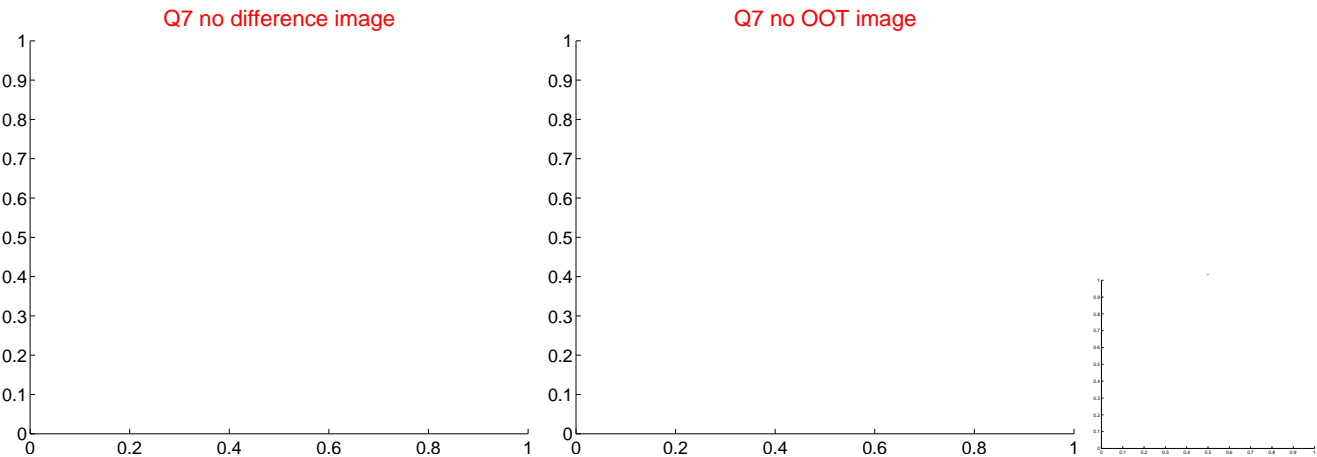
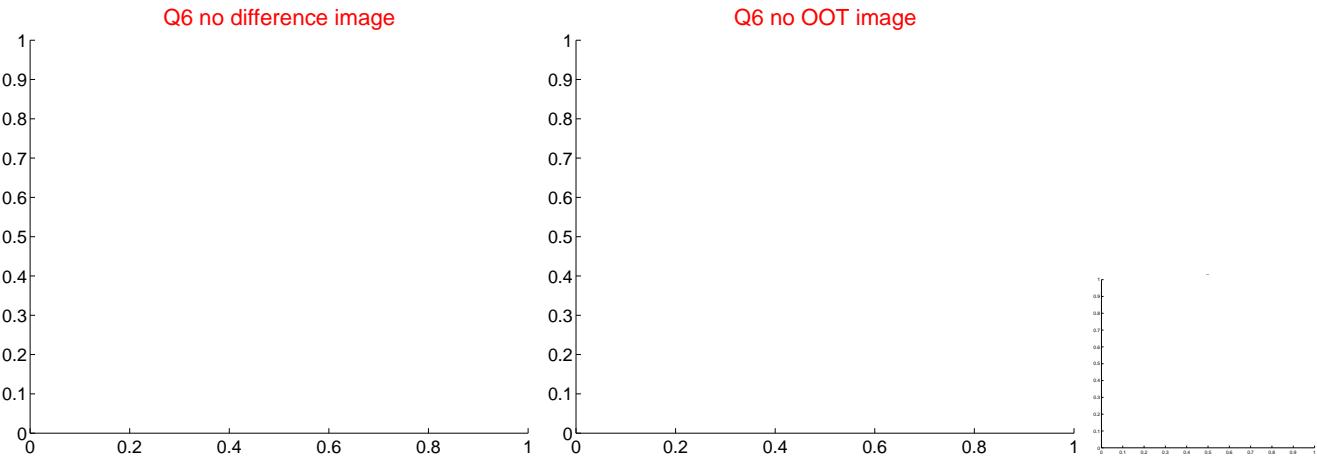
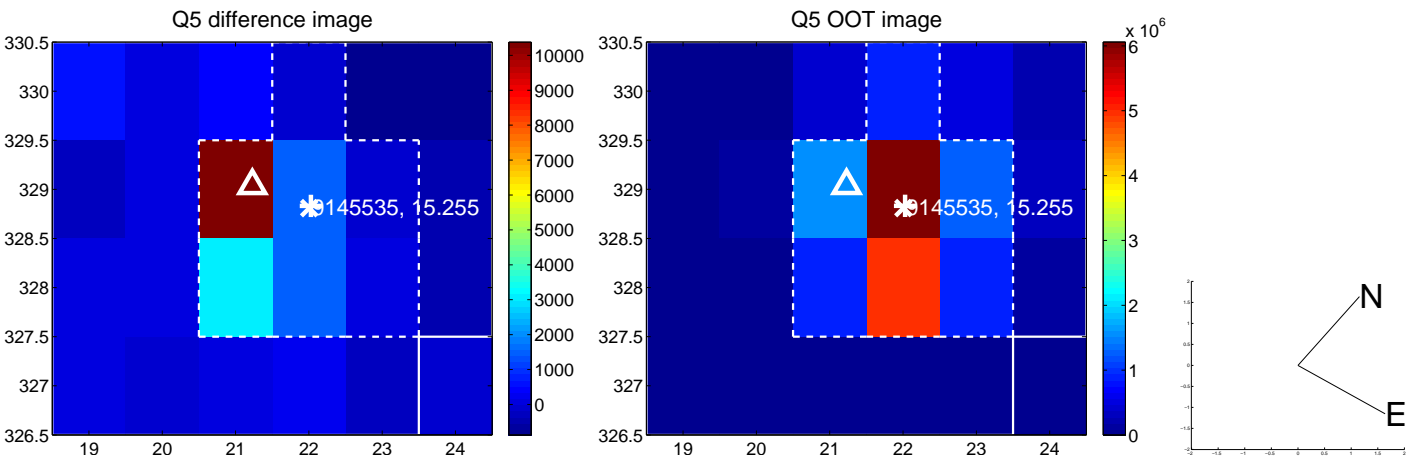


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

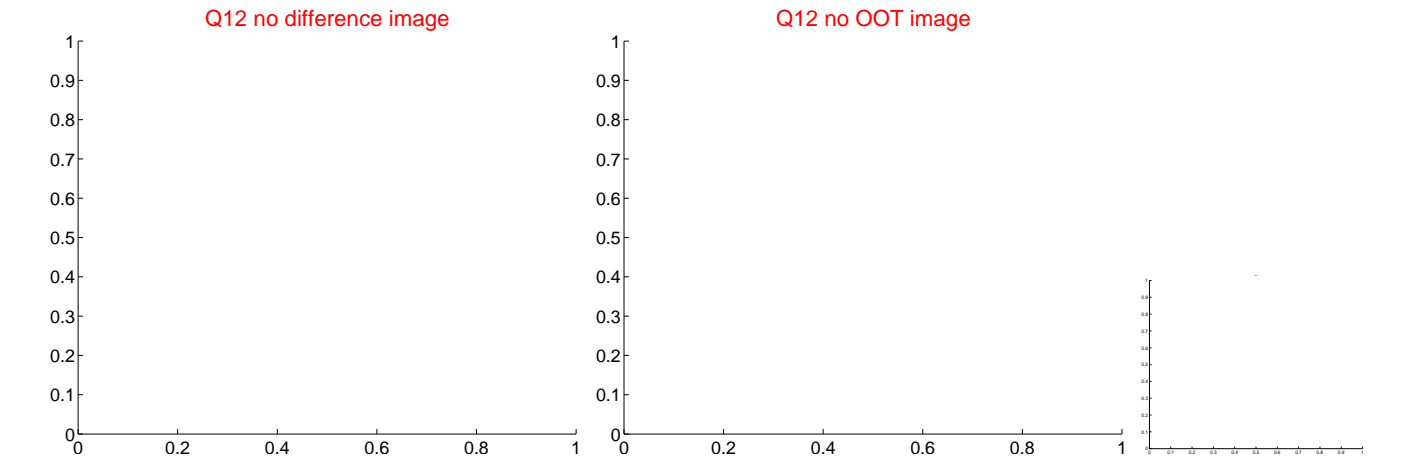
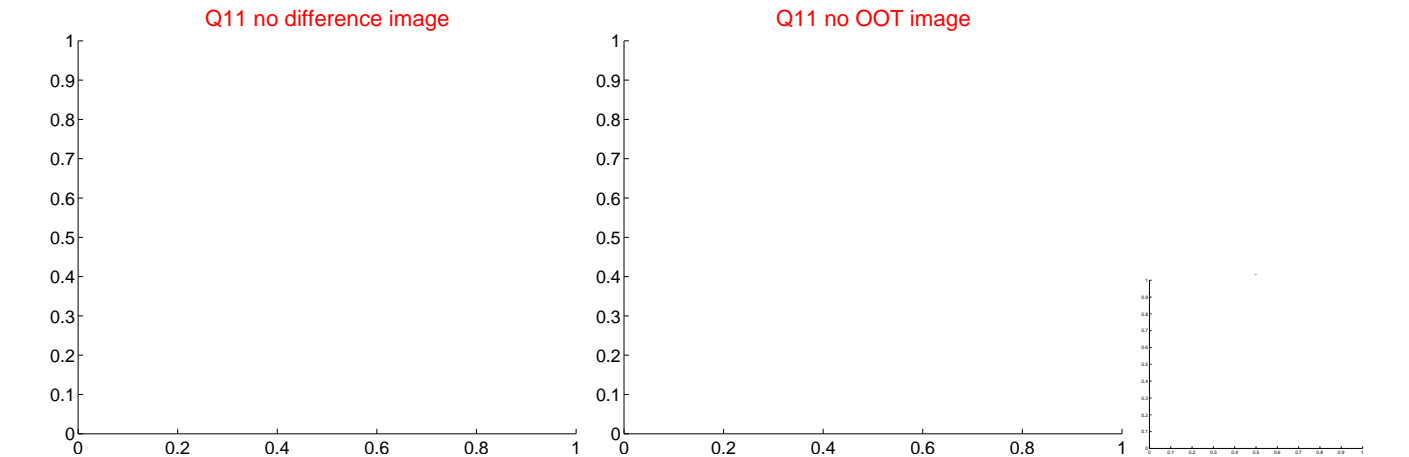
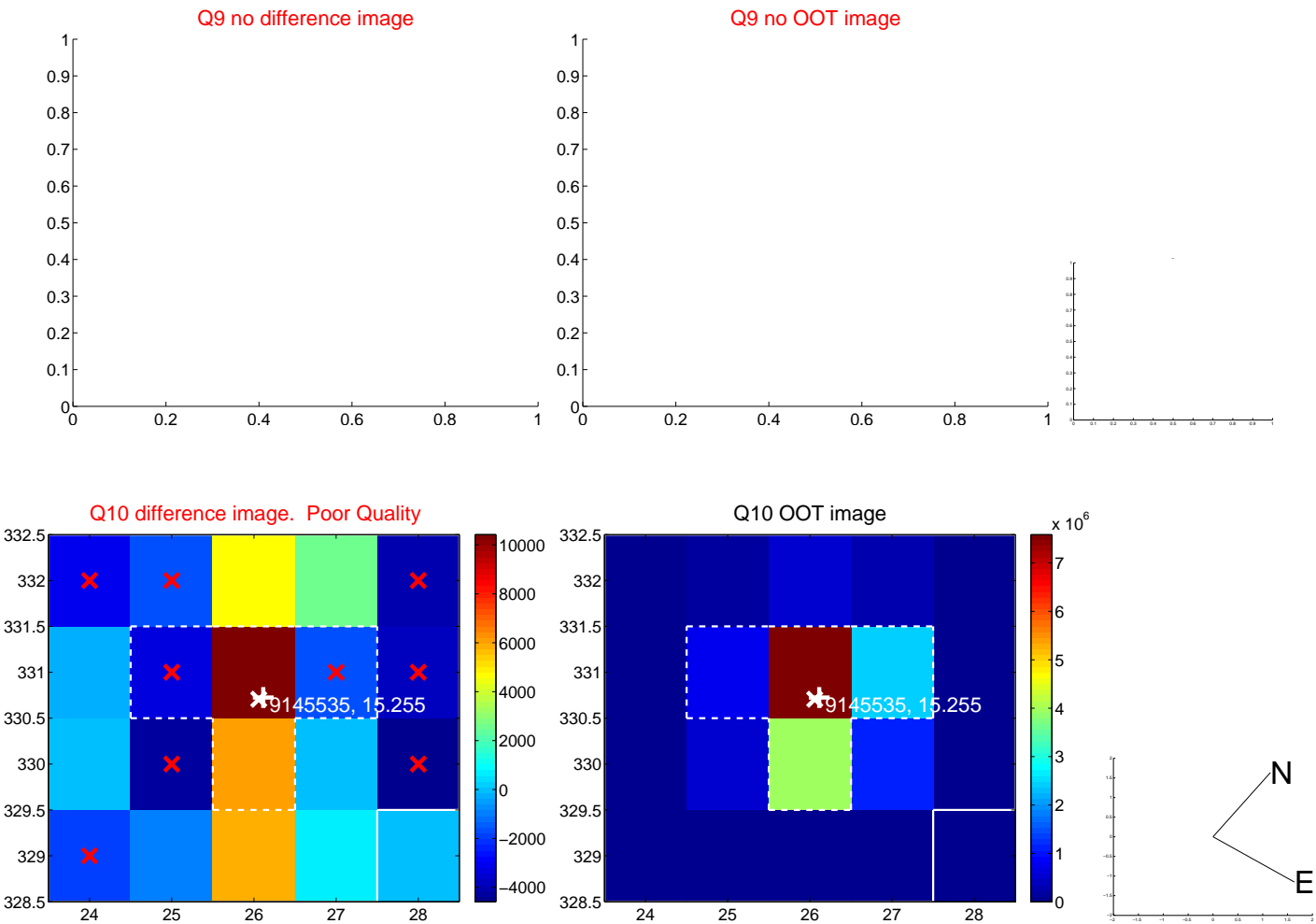
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



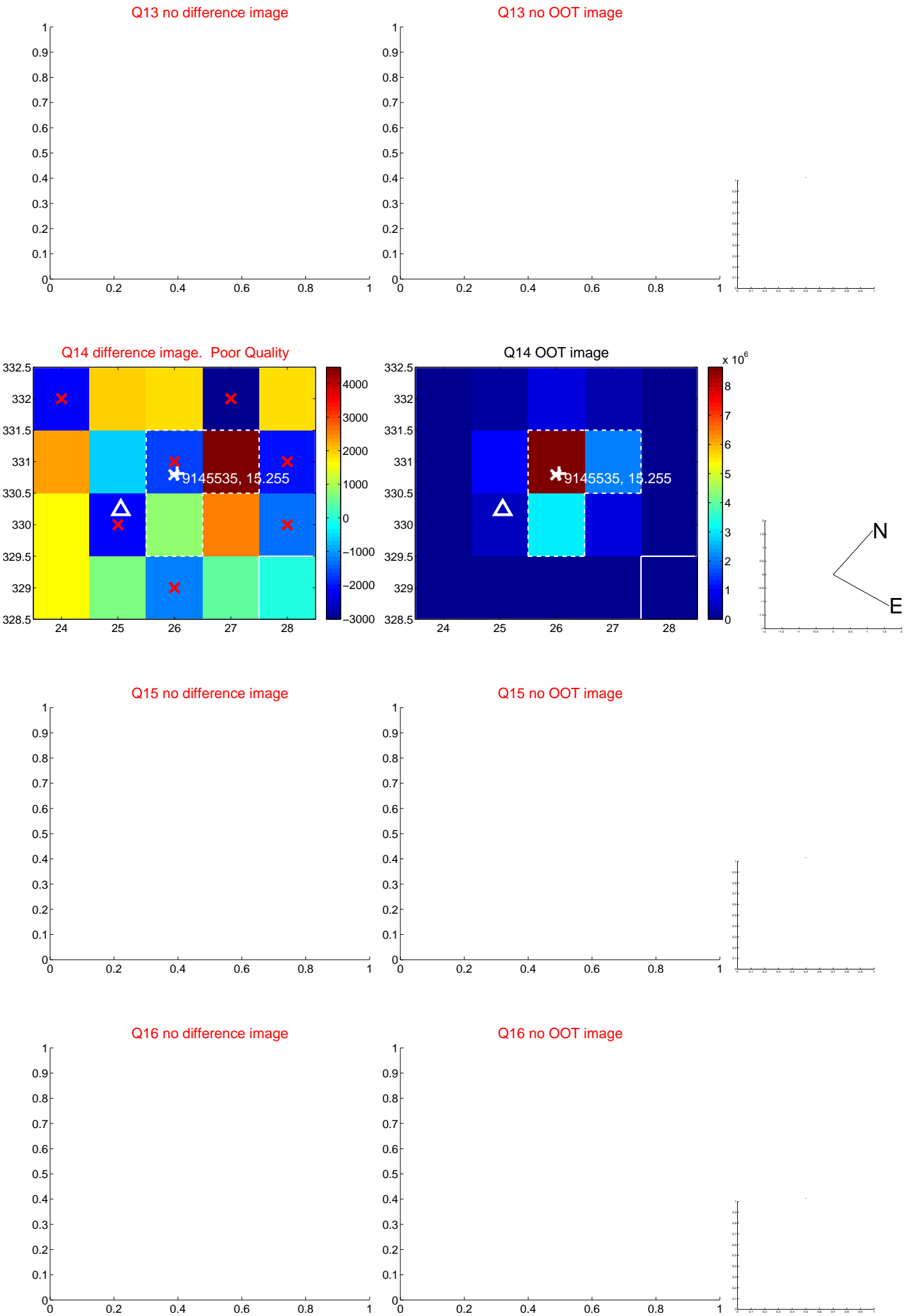
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



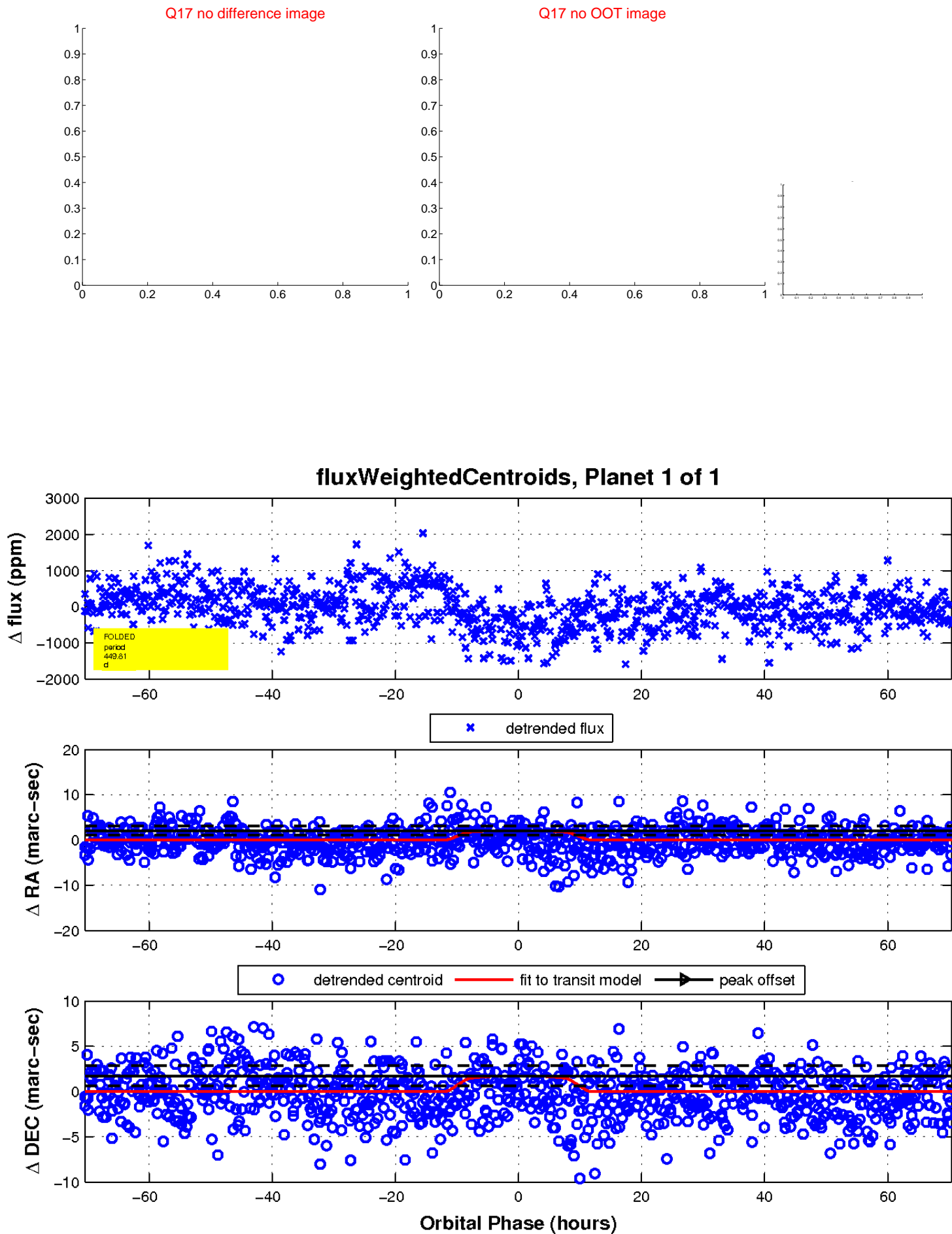
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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.



UKIRT Image

