

KIC 009581445

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})
009581445-01	OBS	No	237.847922	288.592692	529.5	2.841	8.1	8.2	12.68	4955	35.77	76.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009581445-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

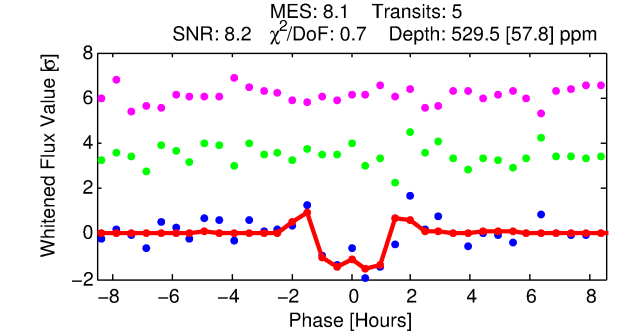
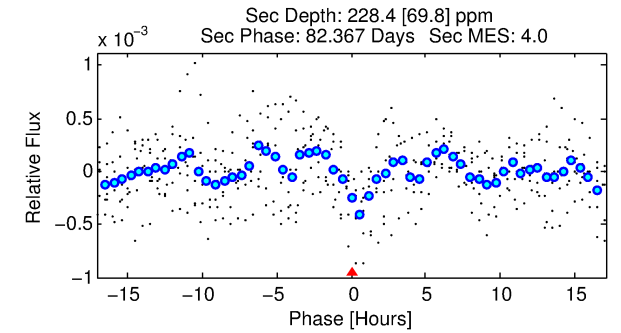
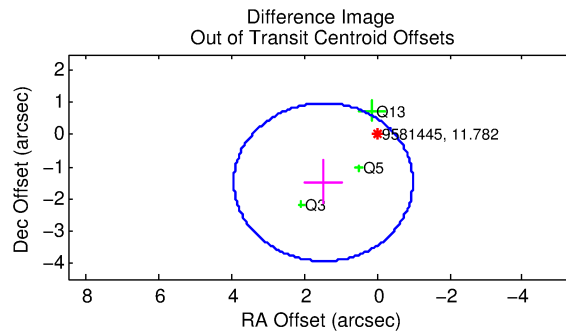
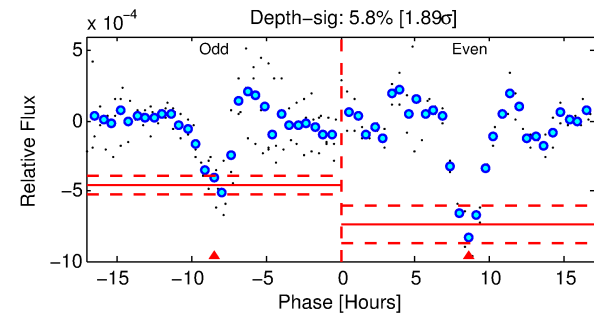
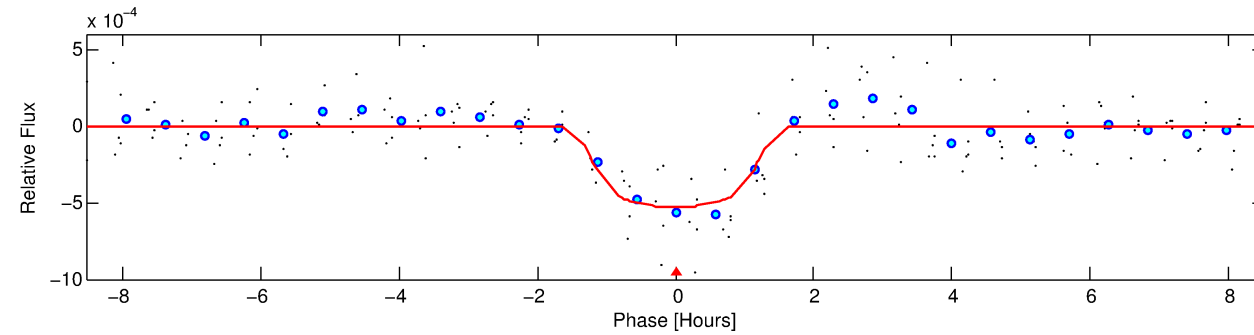
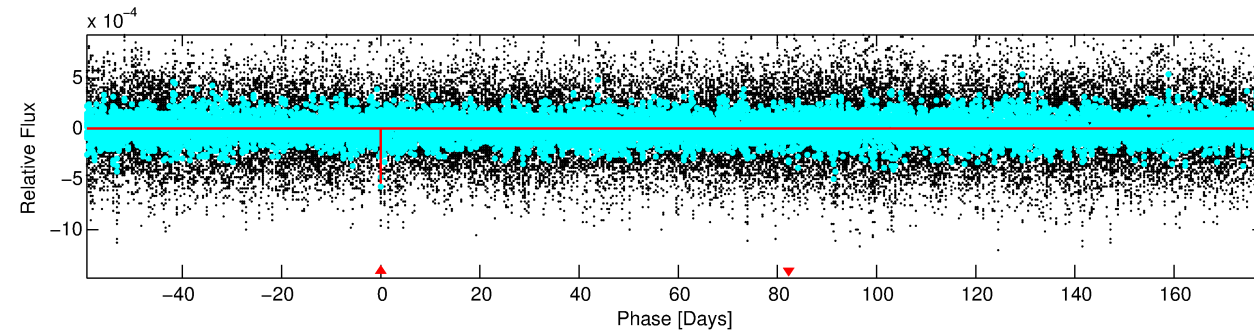
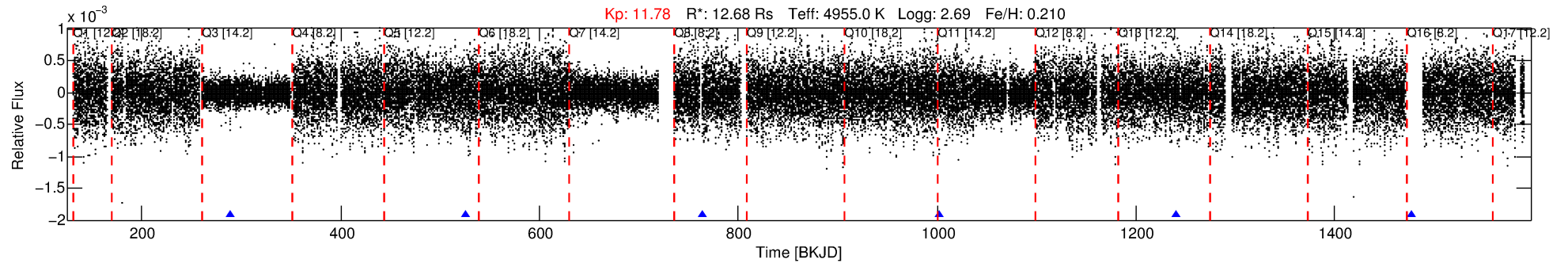
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009581445-01

No Significant Match Found

DV One-Page Summary

KIC: 9581445 Candidate: 1 of 1 Period: 237.848 d



DV Fit Results:

Period = 237.84792 [0.00084] d
Epoch = 288.5927 [0.0017] BKJD
Rp/R* = 0.0259 [0.0191]
a/R* = 312.98 [930.95]
b = 0.90 [0.63]
Seff = 76.56 [7.91]
Teff = 754 [19] K
Rp = 35.77 [26.47] Re
a = 1.0647 [0.0497] AU
Ag = 111.28 [167.74] [0.66 σ]
Teffp = 3788 [1428] K [2.12 σ]

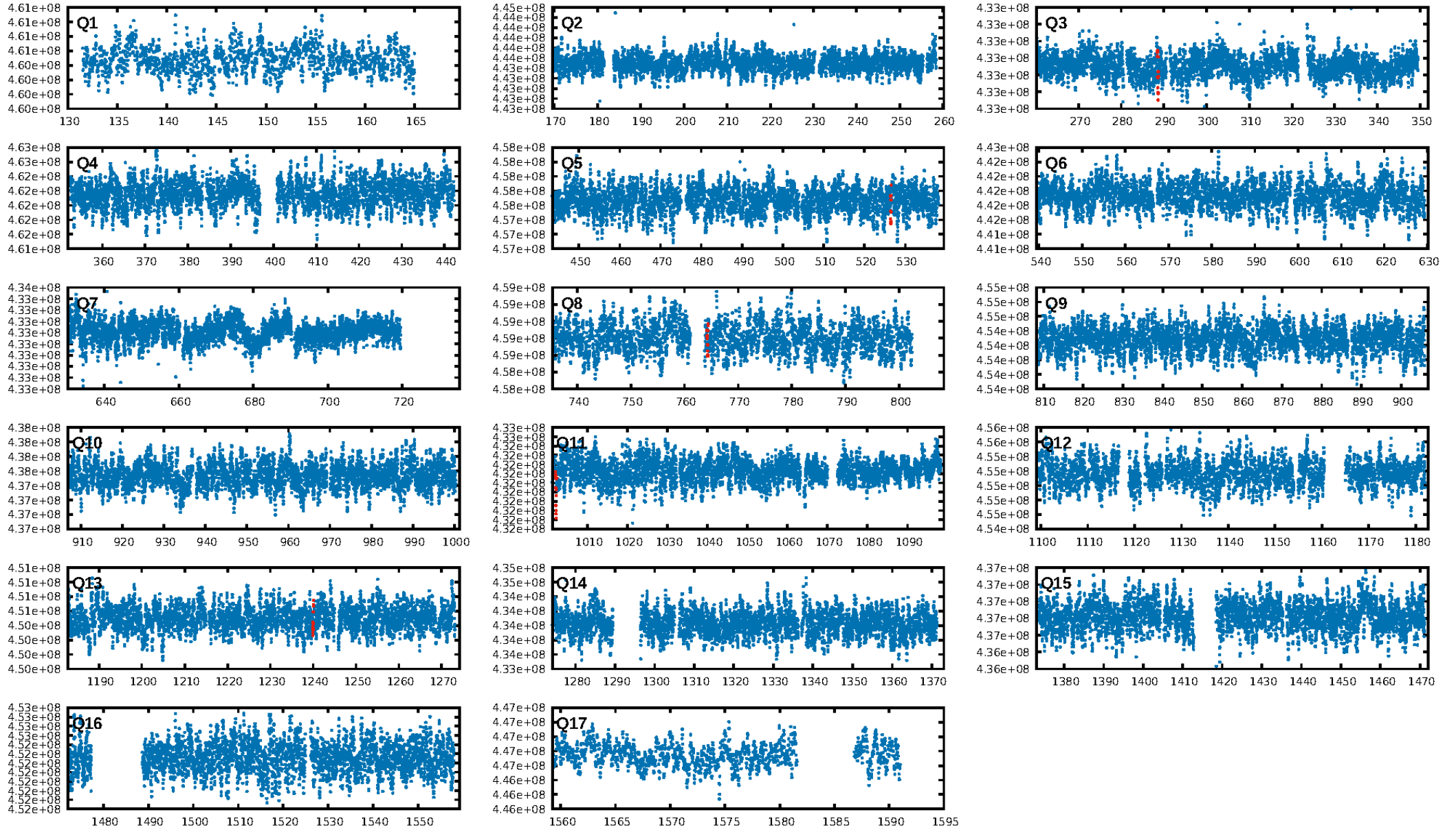
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 49.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.30e-11
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.906
Centroid-sig: 3.6%
Centroid-so: 0.829 arcsec [2.00 σ]
OotOffset-rm: 2.090 arcsec [2.55 σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-rm: 2.054 arcsec [3.37 σ]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

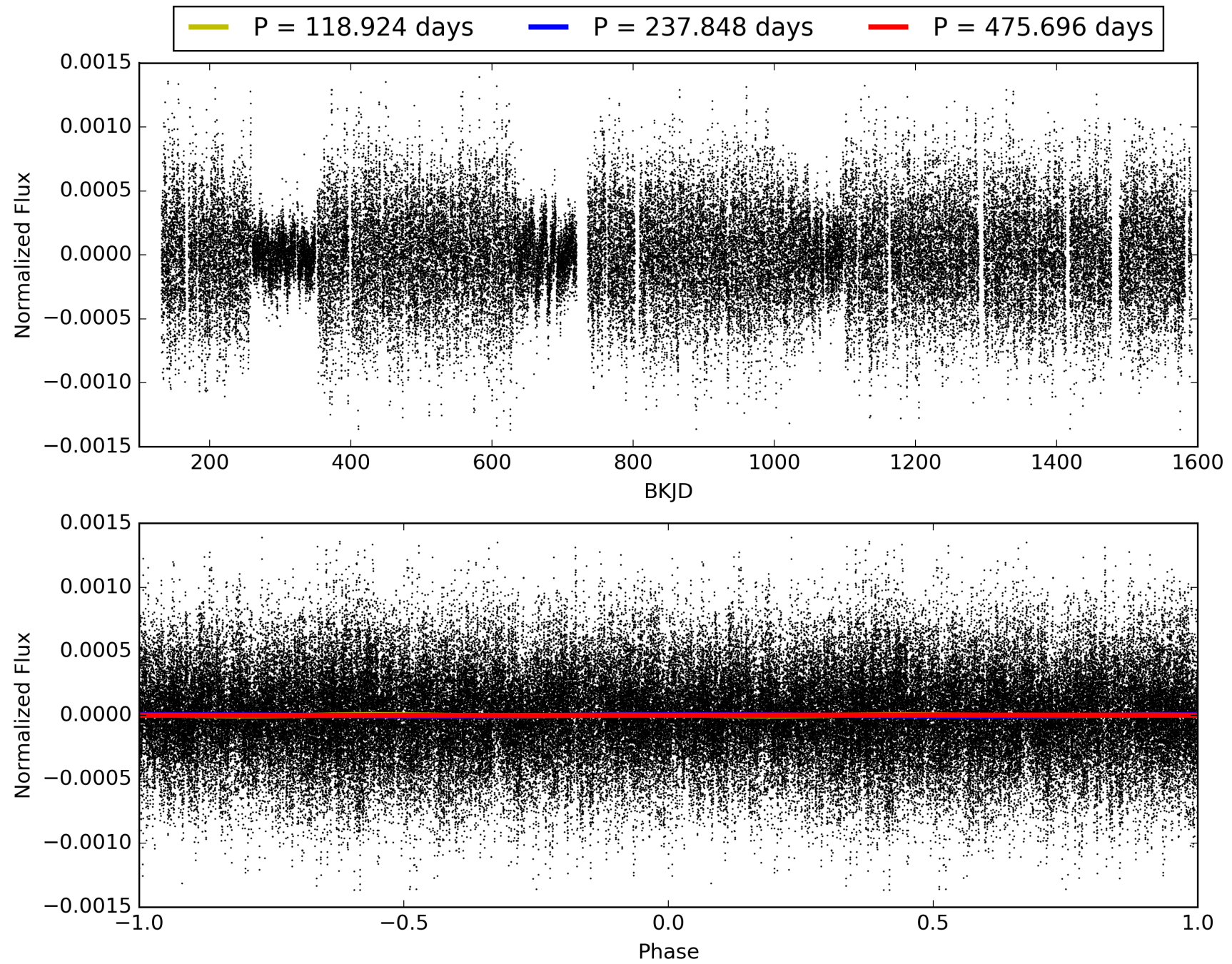
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 20:52:50 Z

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

TCE 009581445-01, PDC Light Curves

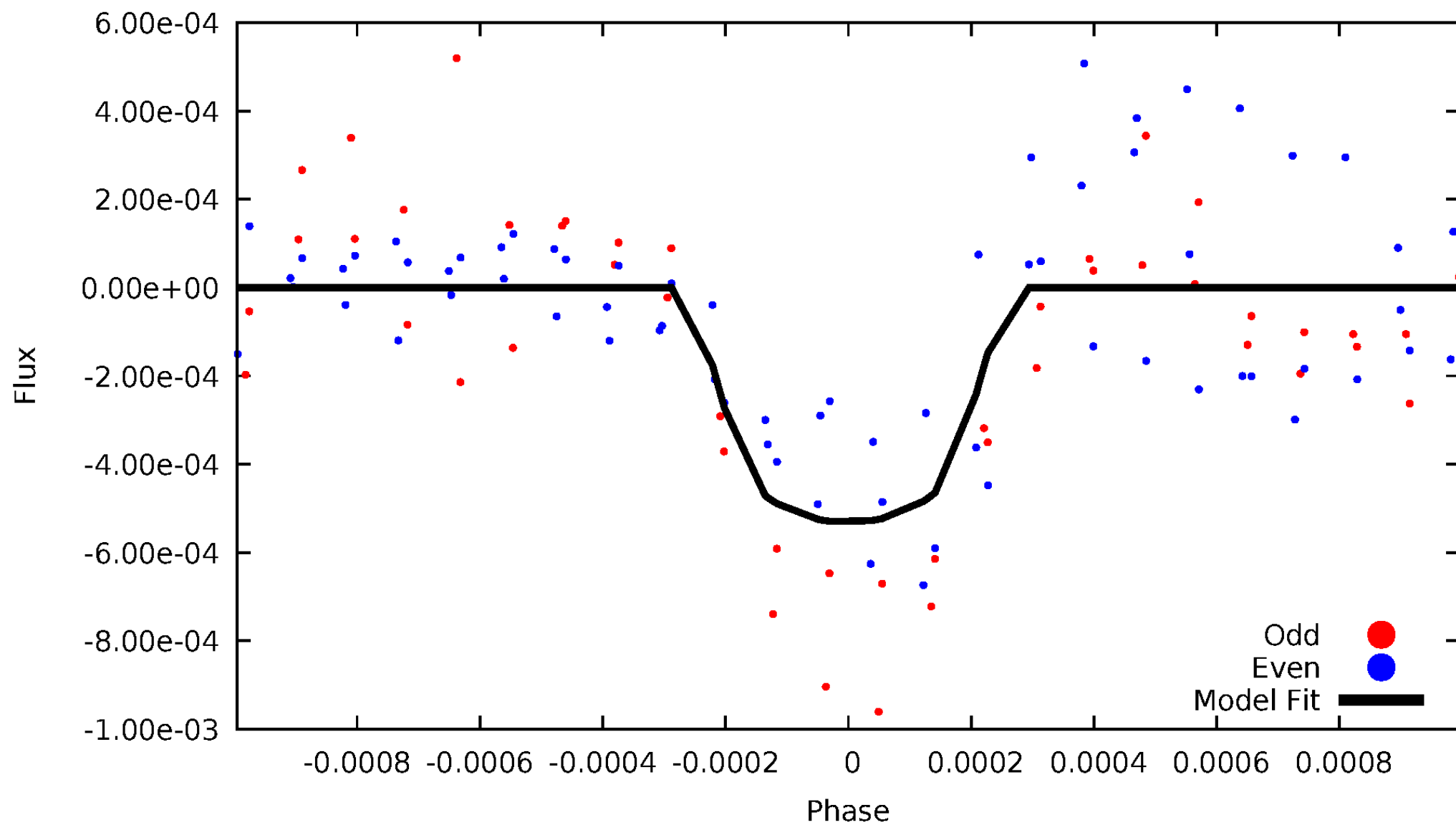


TCE 009581445-01



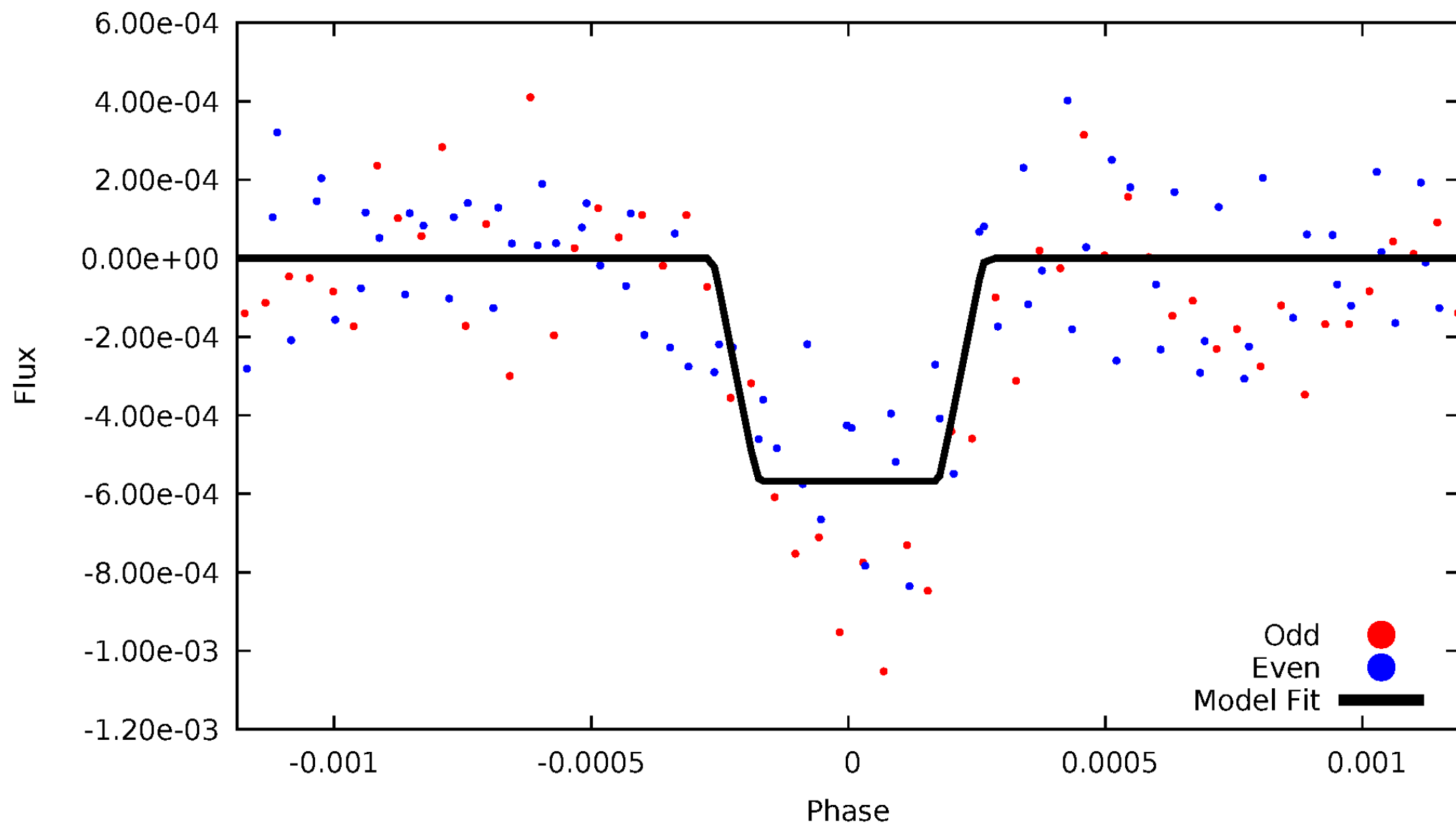
DV Odd/Even

TCE 009581445-01

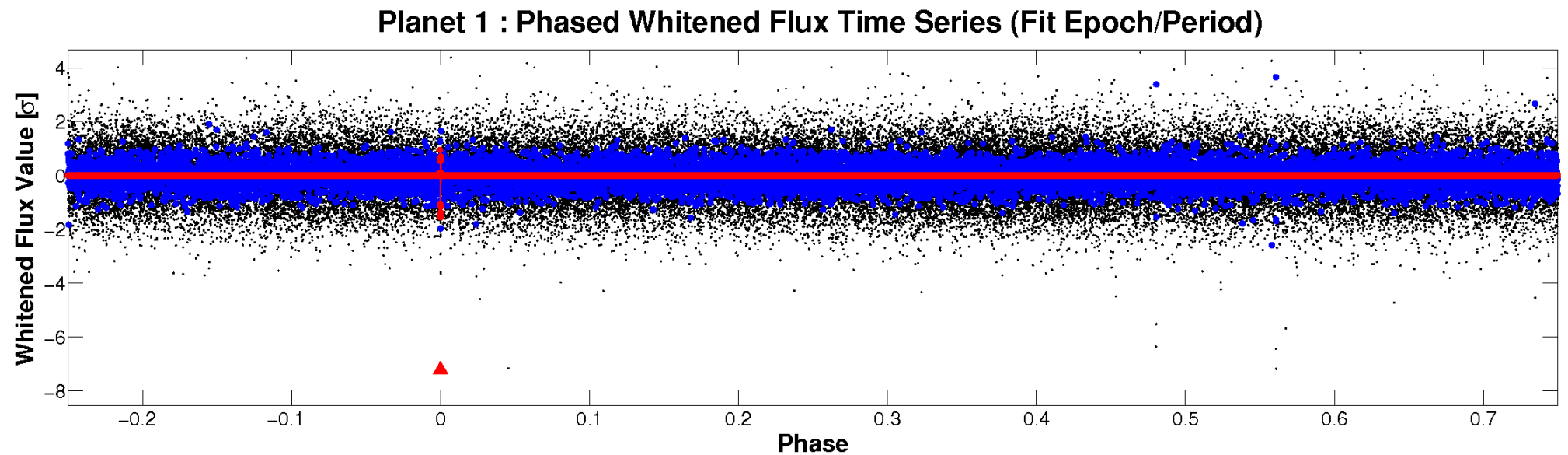
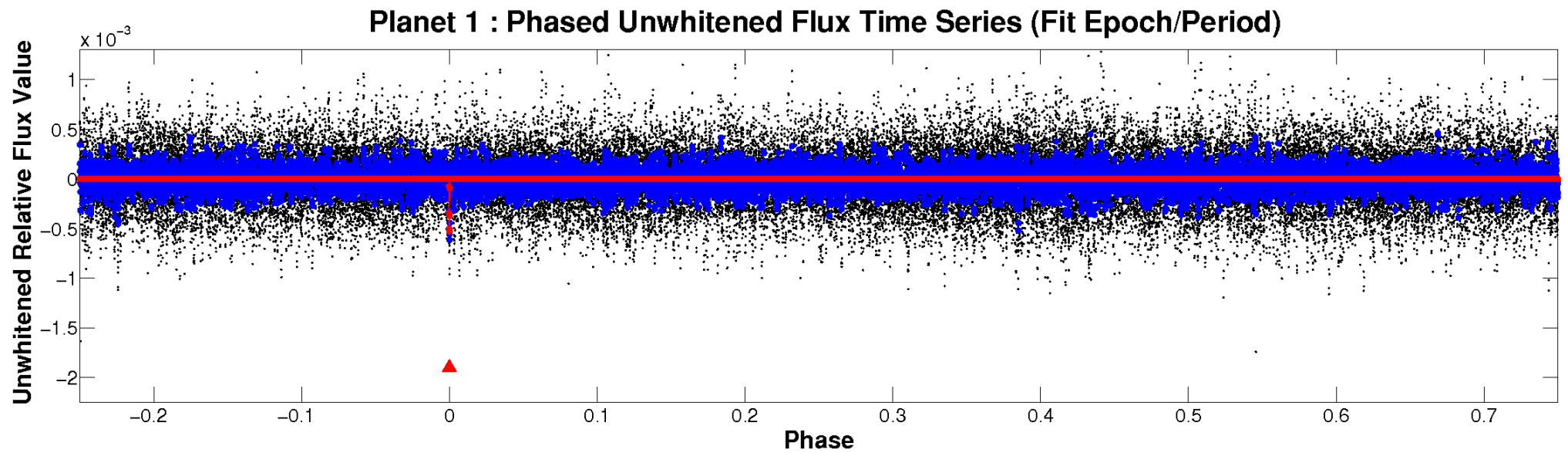


ALT Odd/Even

TCE 009581445-01

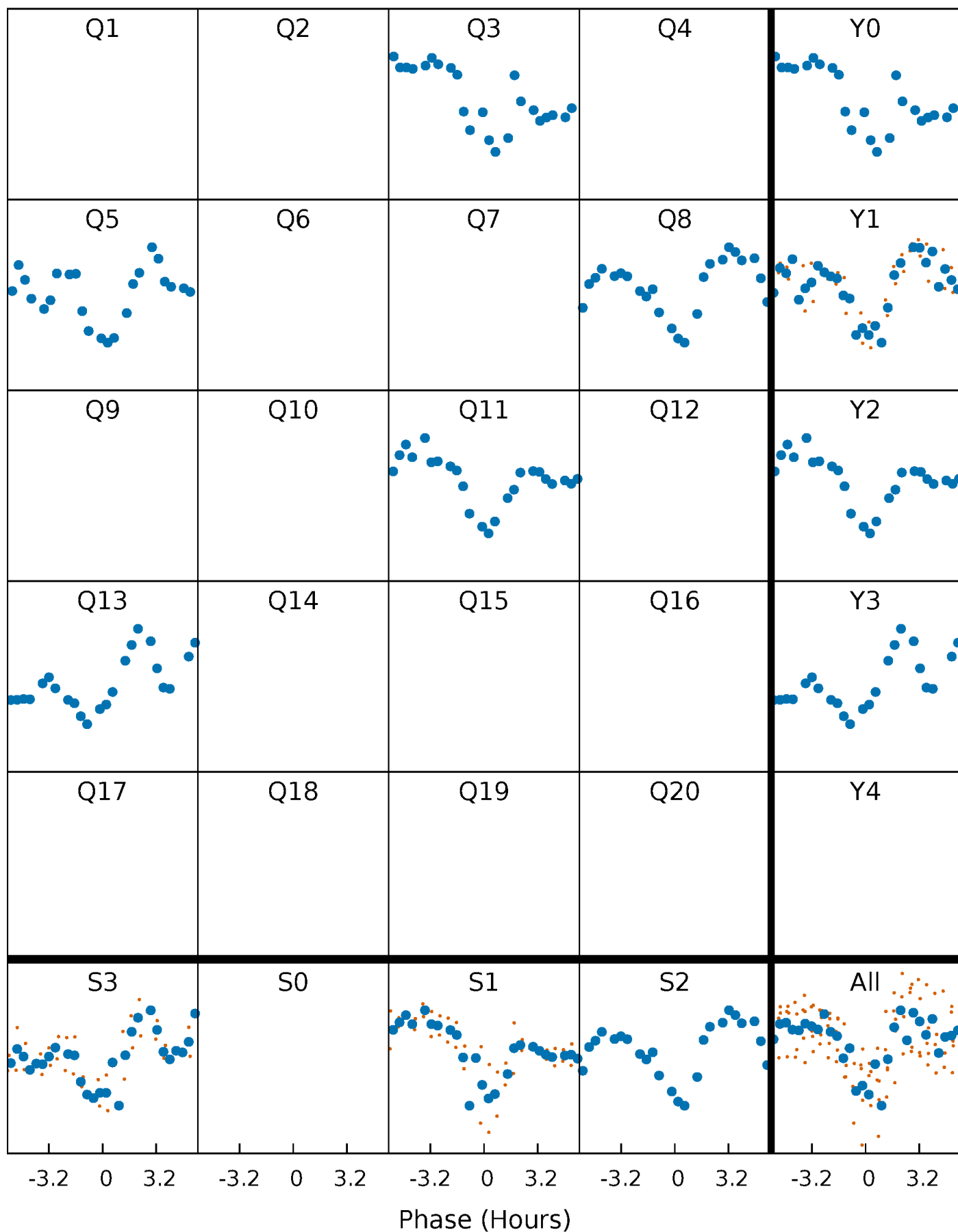


Non-Whitened Vs. Whitened Light Curve



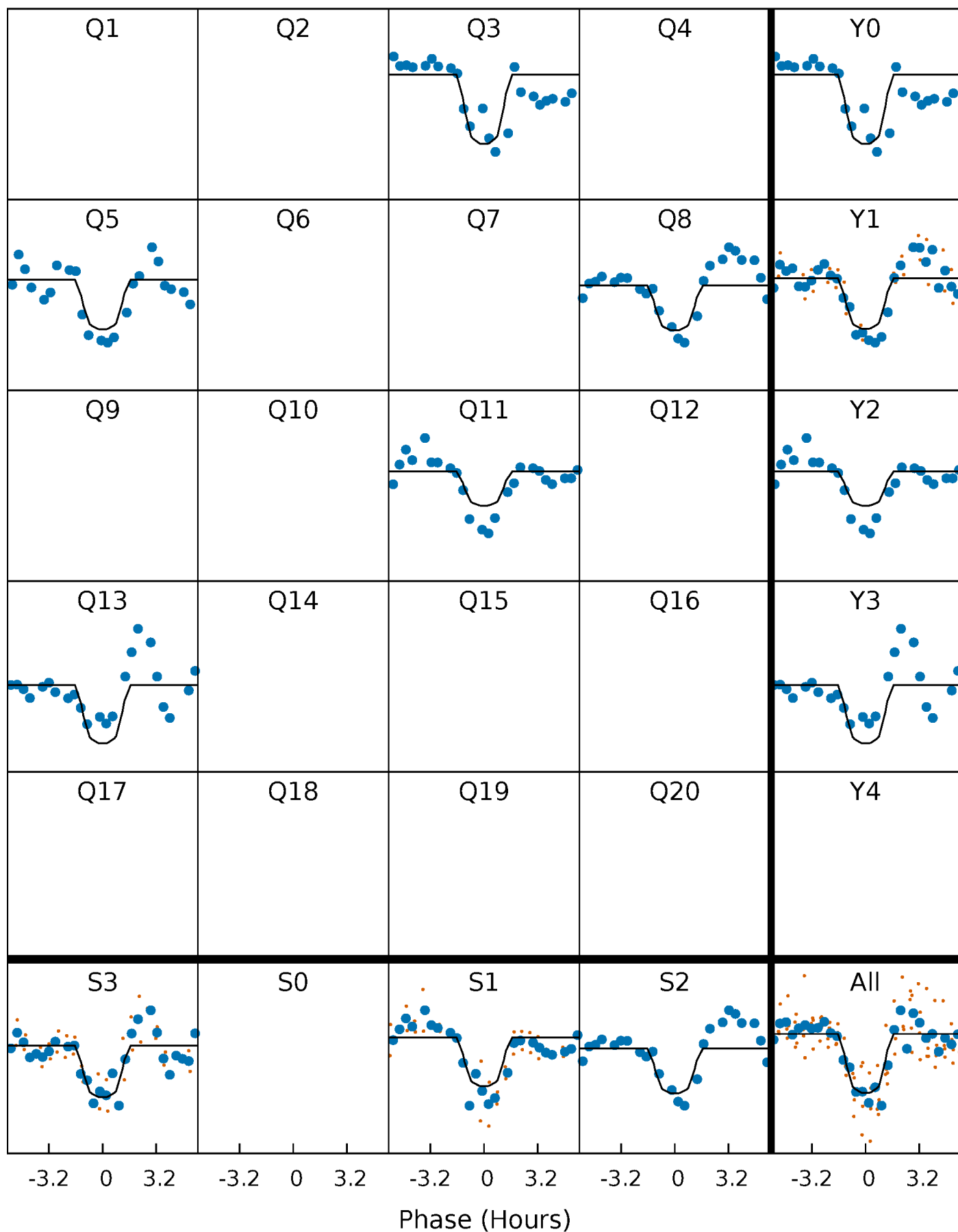
PDC Quarter-Phased Transit Curves

TCE 009581445-01 P=237.847922 Days $T_0=288.592692$ (BKJD)



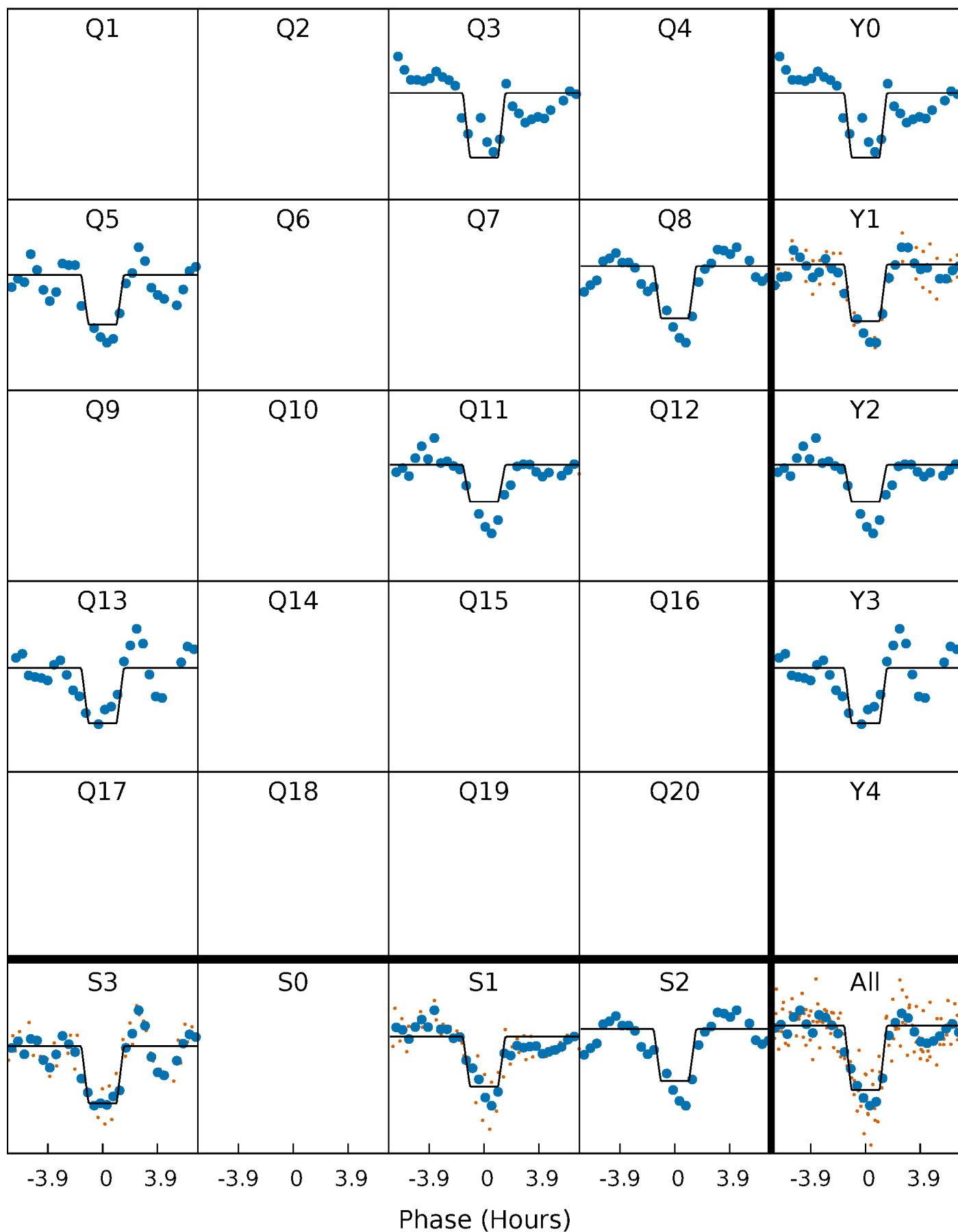
DV Quarter-Phased Transit Curves

TCE 009581445-01 $P=237.847922$ Days $T_0=288.592692$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

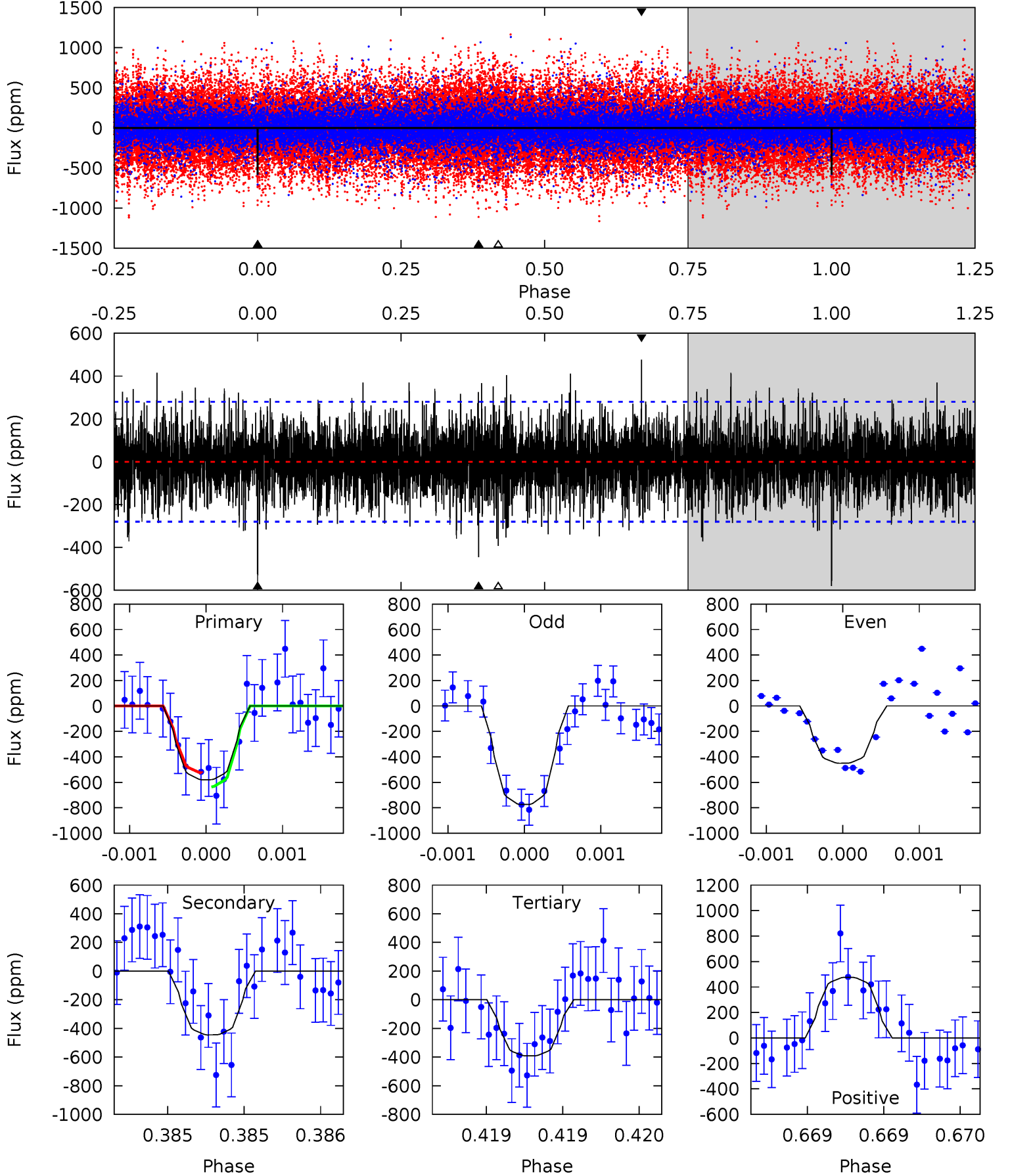
TCE 009581445-01 $P=237.842442$ Days $T_0=288.604473$ (BKJD)



DV Model-Shift Uniqueness Test

009581445-01, $P = 237.847922$ Days, $E = 50.744770$ Days

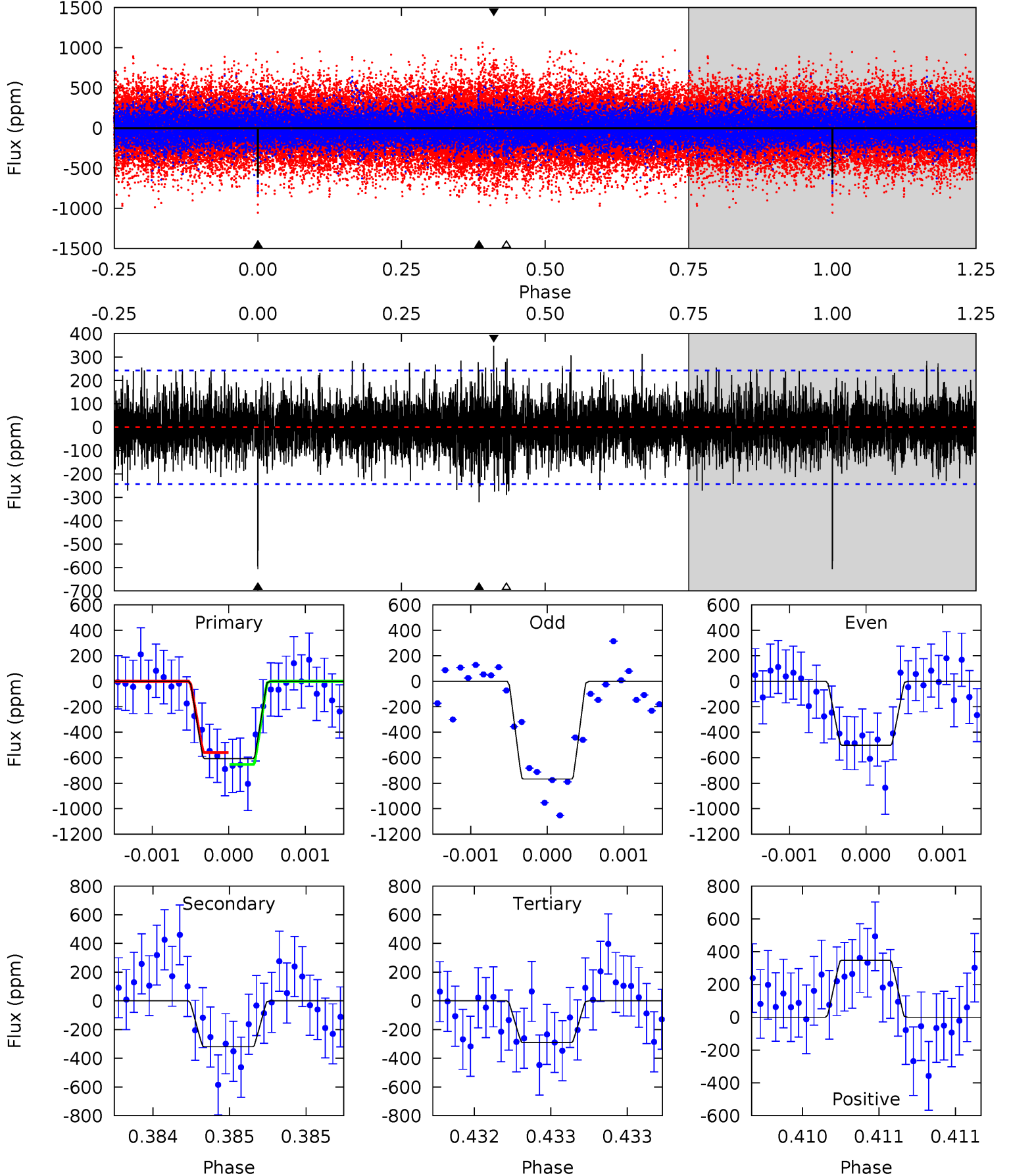
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	8.85	7.79	9.46	5.57	3.47	2.12	3.74	2.07	1.07	-0.60	3.18	1.05	0.45	1.10



Alt Model-Shift Uniqueness Test

009581445-01, P = 237.842442 Days, E = 50.762031 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	7.33	6.65	7.96	5.56	3.47	1.81	7.24	5.93	0.68	-0.63	2.98	0.88	0.36	1.07



Stellar Parameters For KIC 009581445

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4955^{+81}_{-103}	$2.686^{+0.030}_{-0.030}$	$0.210^{+0.200}_{-0.100}$	$12.677^{+0.696}_{-0.773}$	$2.841^{+0.105}_{-0.151}$	$0.002^{+0.000}_{-0.000}$
	+2%/-2%	+1%/-1%	+95%/-48%	+5%/-6%	+4%/-5%	+15%/-11%
Source	PHO55	AST55	SPE55	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009581445-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-445 ± 50	$38.31^{+26.82}_{-21.15}$	1054^{+20}_{-25}	4435^{+2009}_{-760}	188^{+812}_{-122}
Alt.	-320 ± 44	$35.36^{+25.91}_{-21.49}$	1054^{+24}_{-26}	4277^{+2146}_{-751}	159^{+872}_{-108}

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

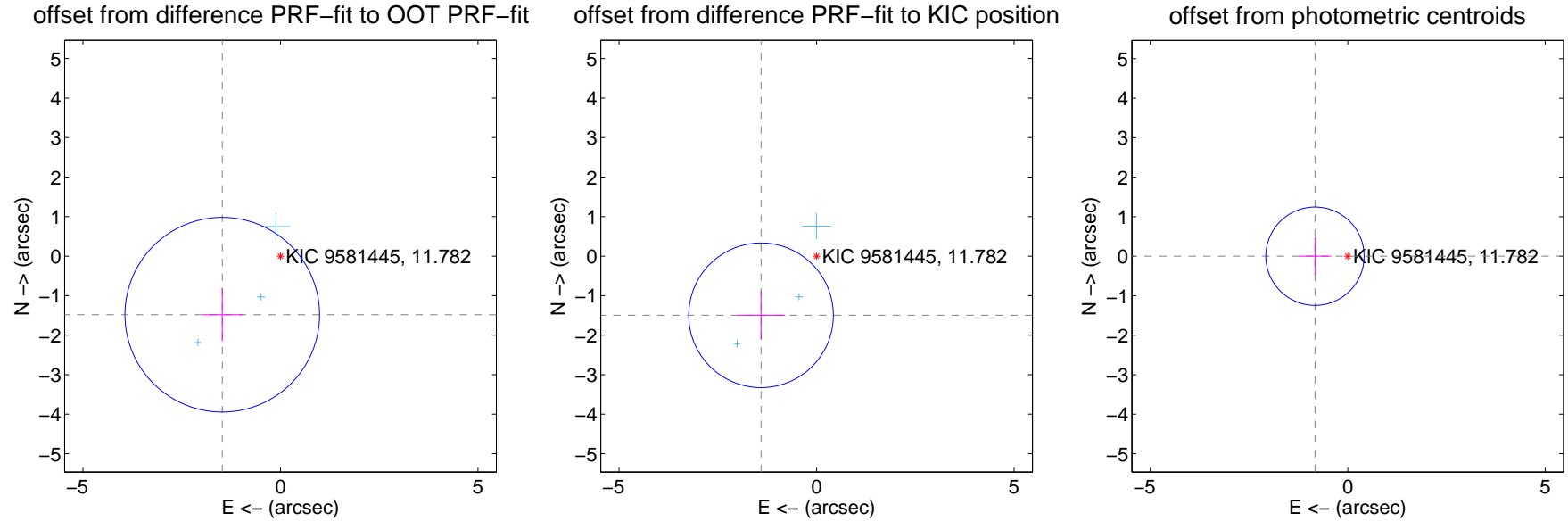
DV Centroid Data

Supplemental centroid analysis for 009581445-01. **Kepler magnitude: 11.78.** Transit SNR 8.25

There are 3 quarters with good PRF difference image offsets

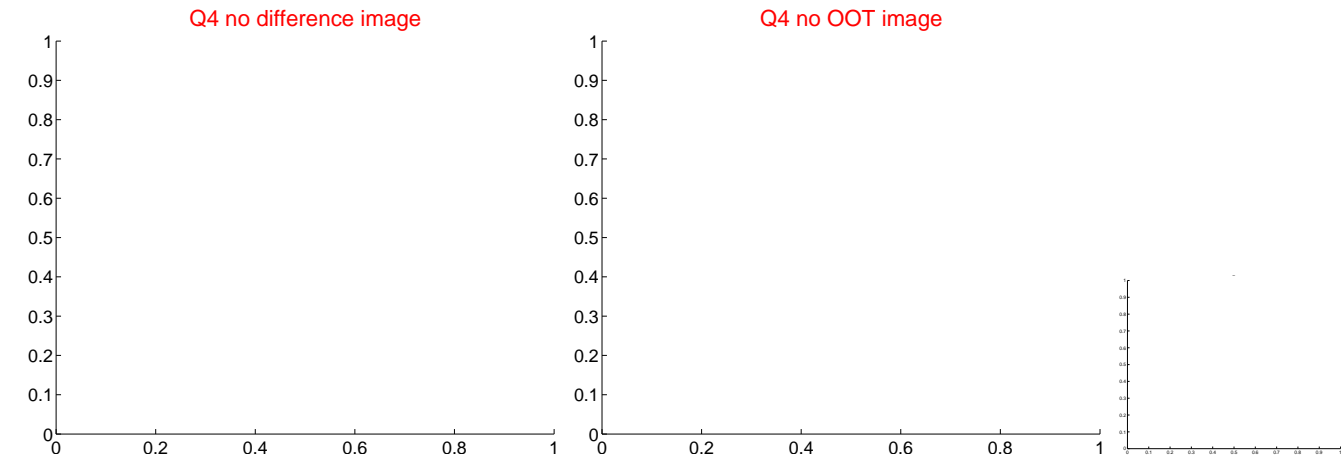
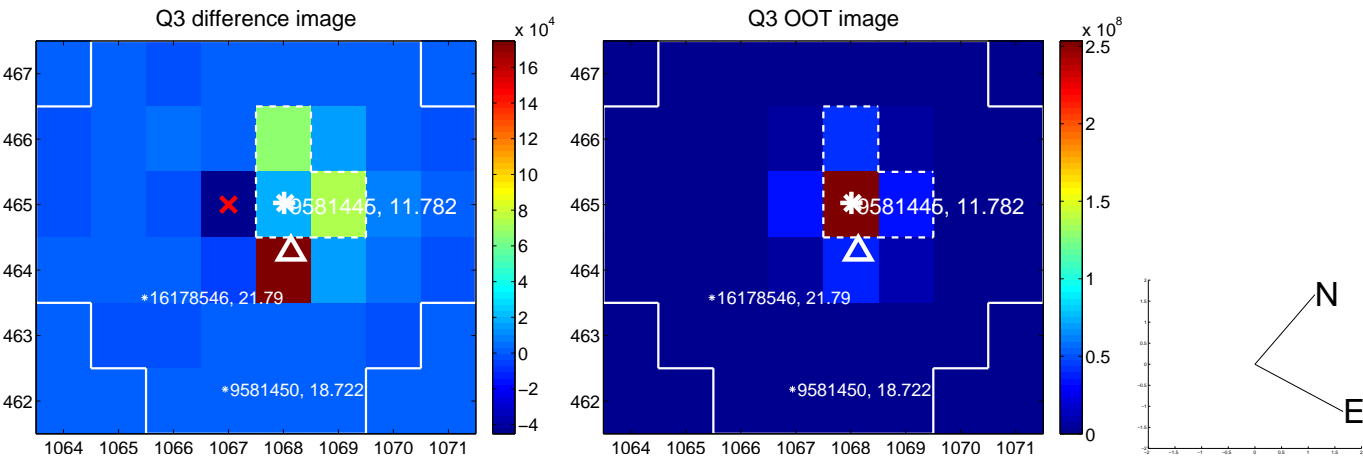
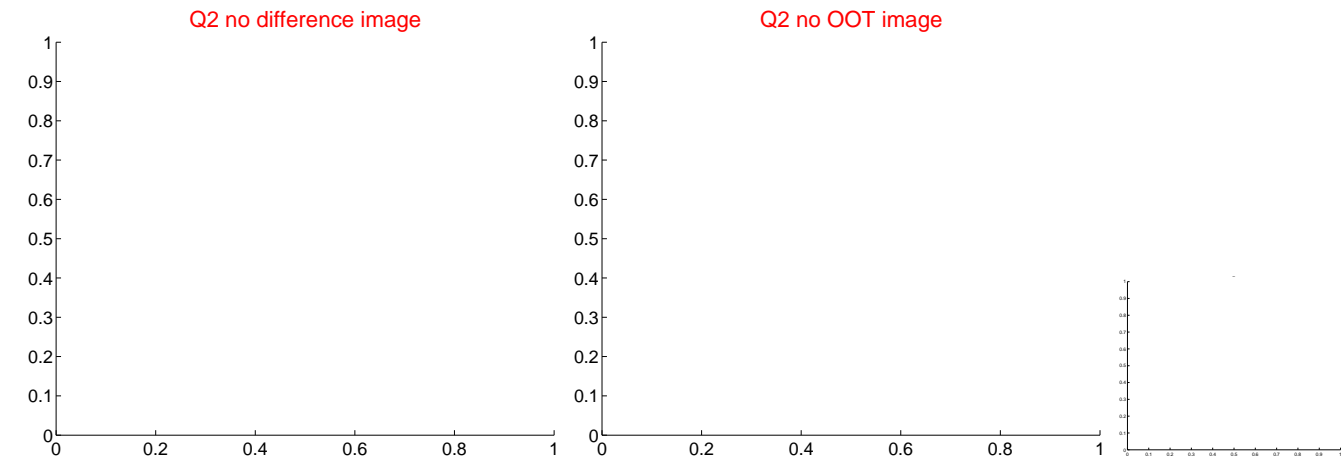
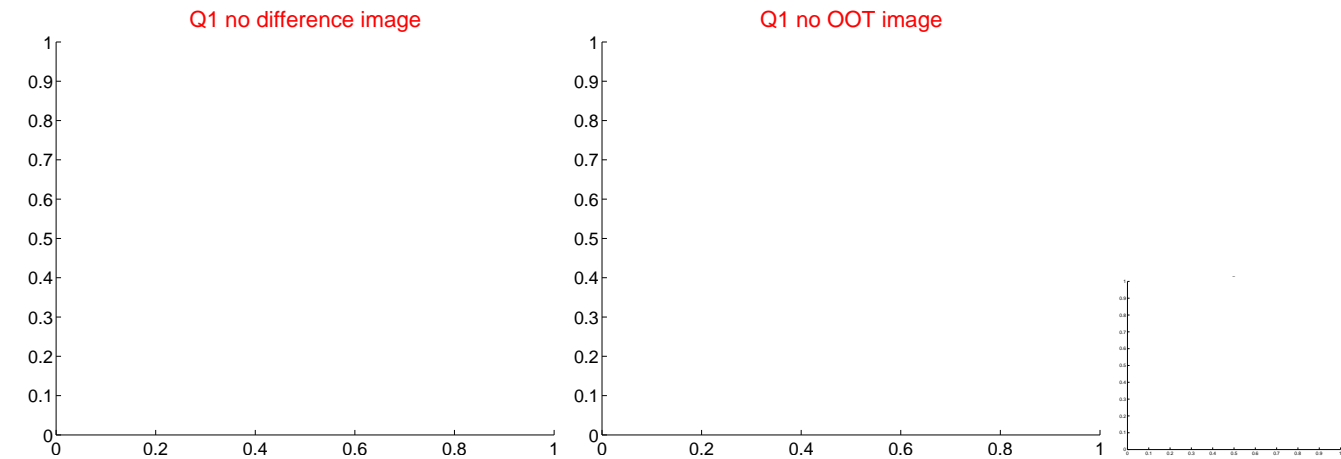
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.090 ± 0.821	2.55	1.473 ± 0.509	-1.483 ± 0.675
PRF-fit source offset from KIC position	2.054 ± 0.610	3.37	1.406 ± 0.608	-1.497 ± 0.612
photometric centroid source offset	0.83 ± 0.41	2.00	0.83 ± 0.41	0.00 ± 0.47

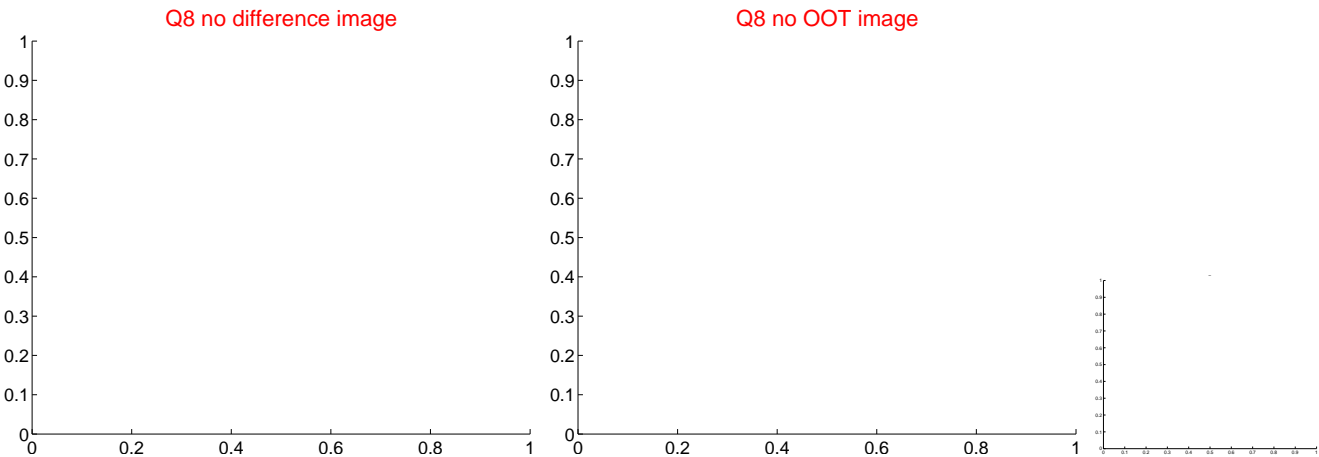
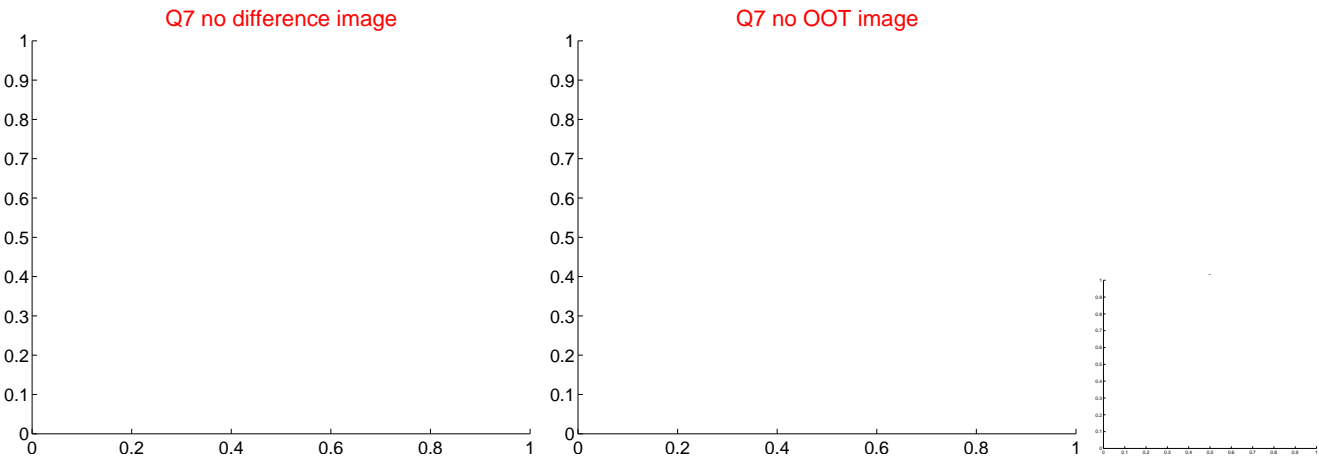
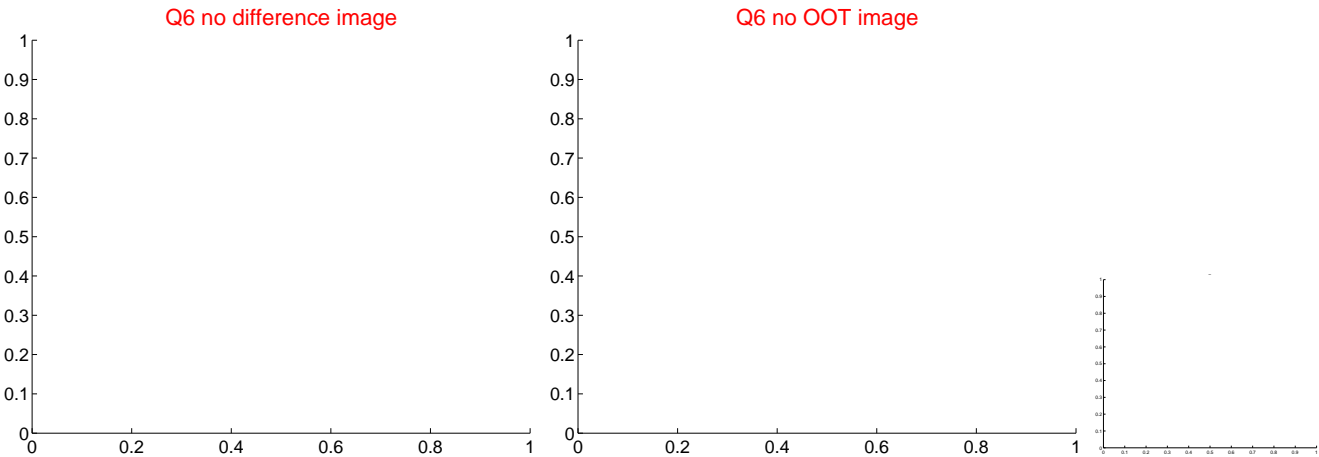
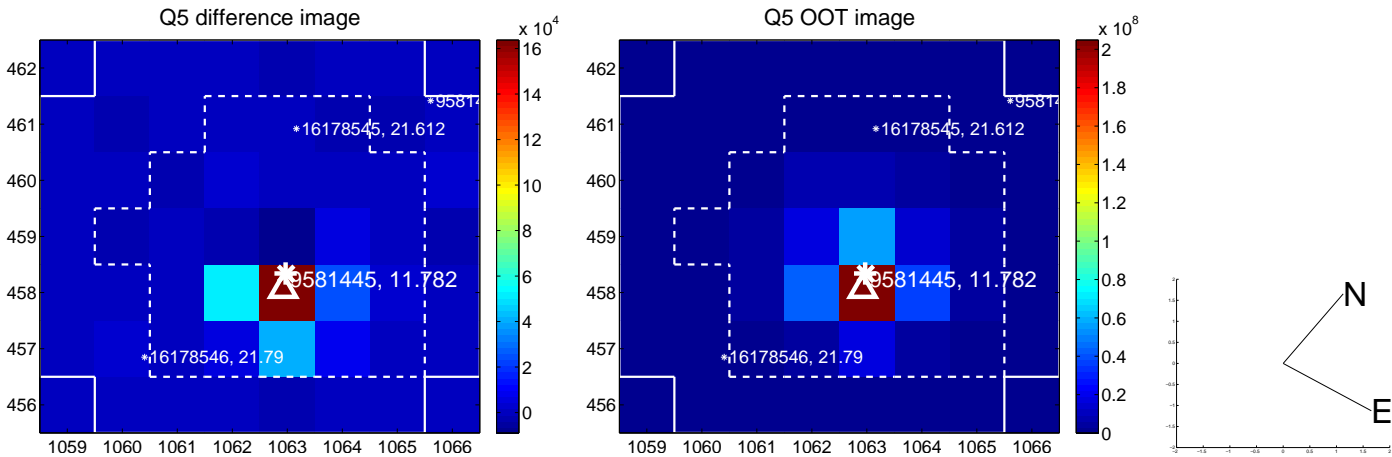


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



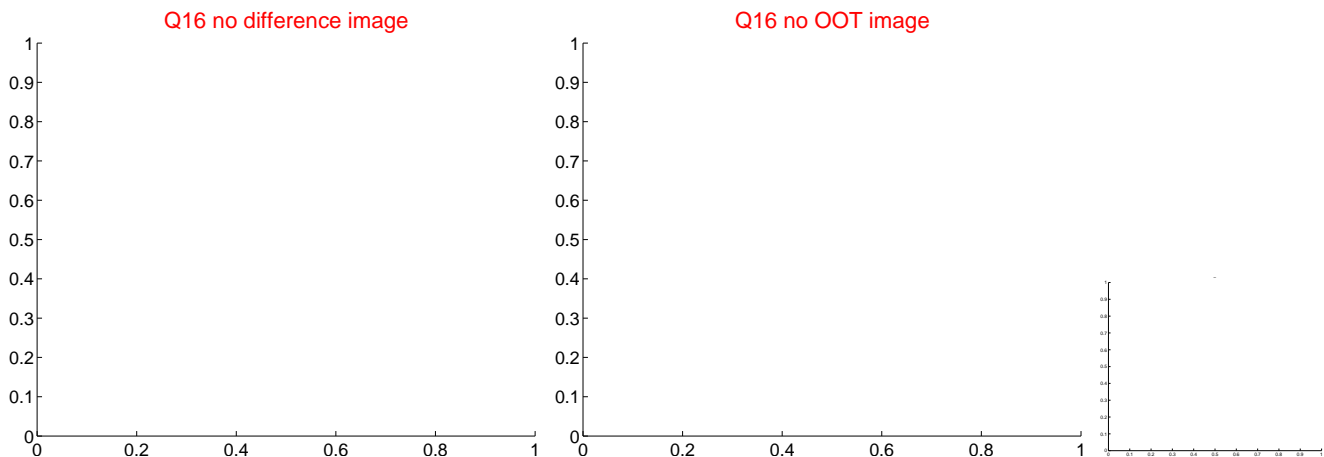
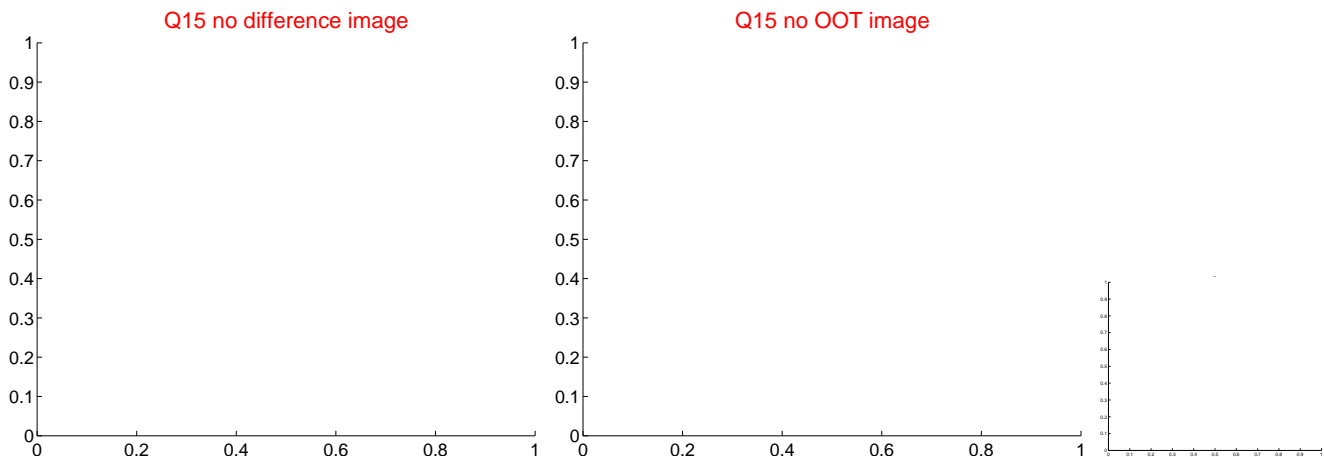
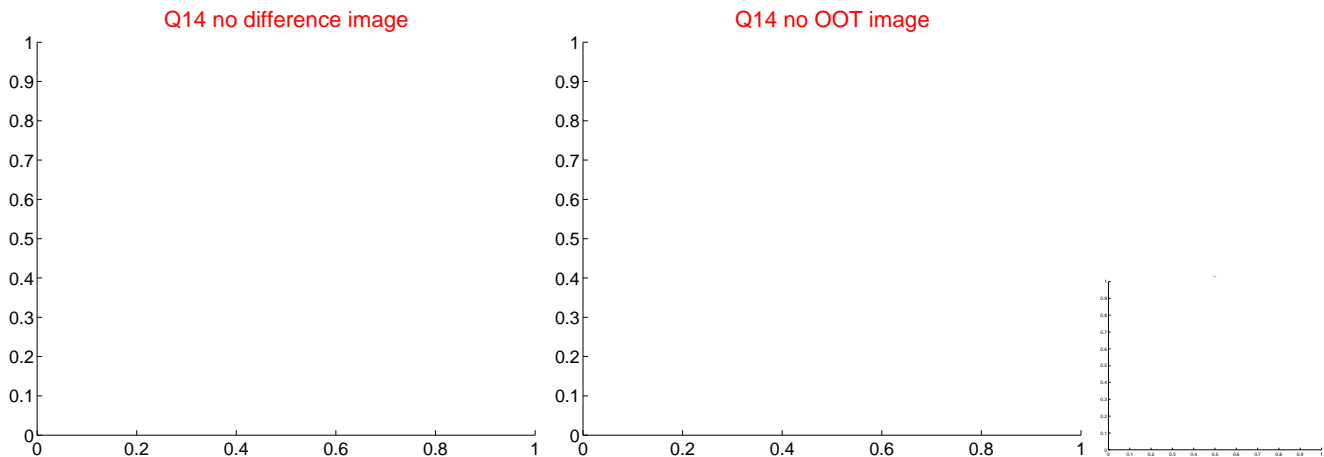
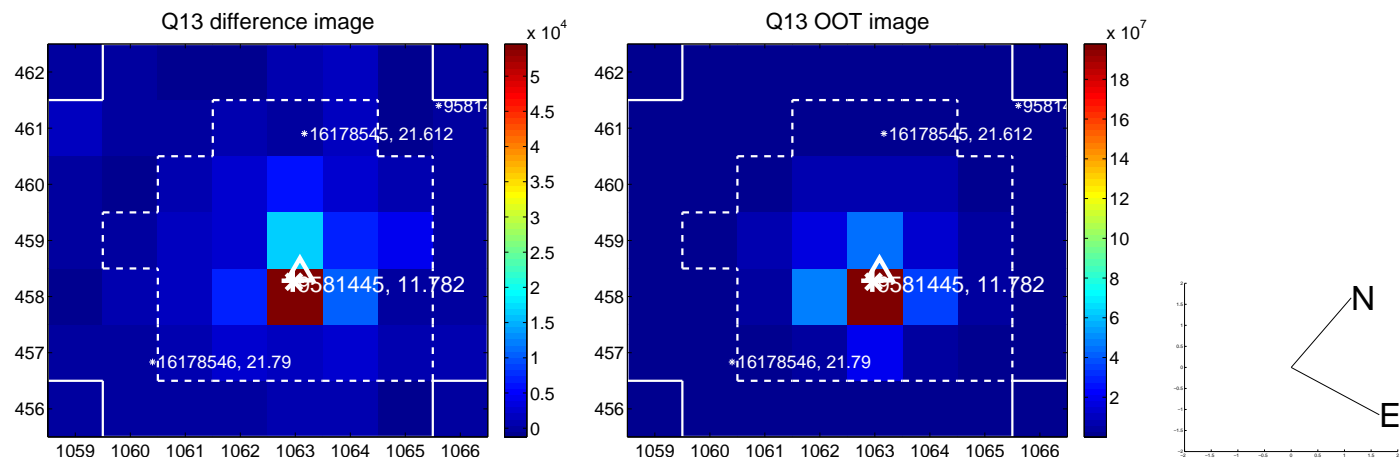
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



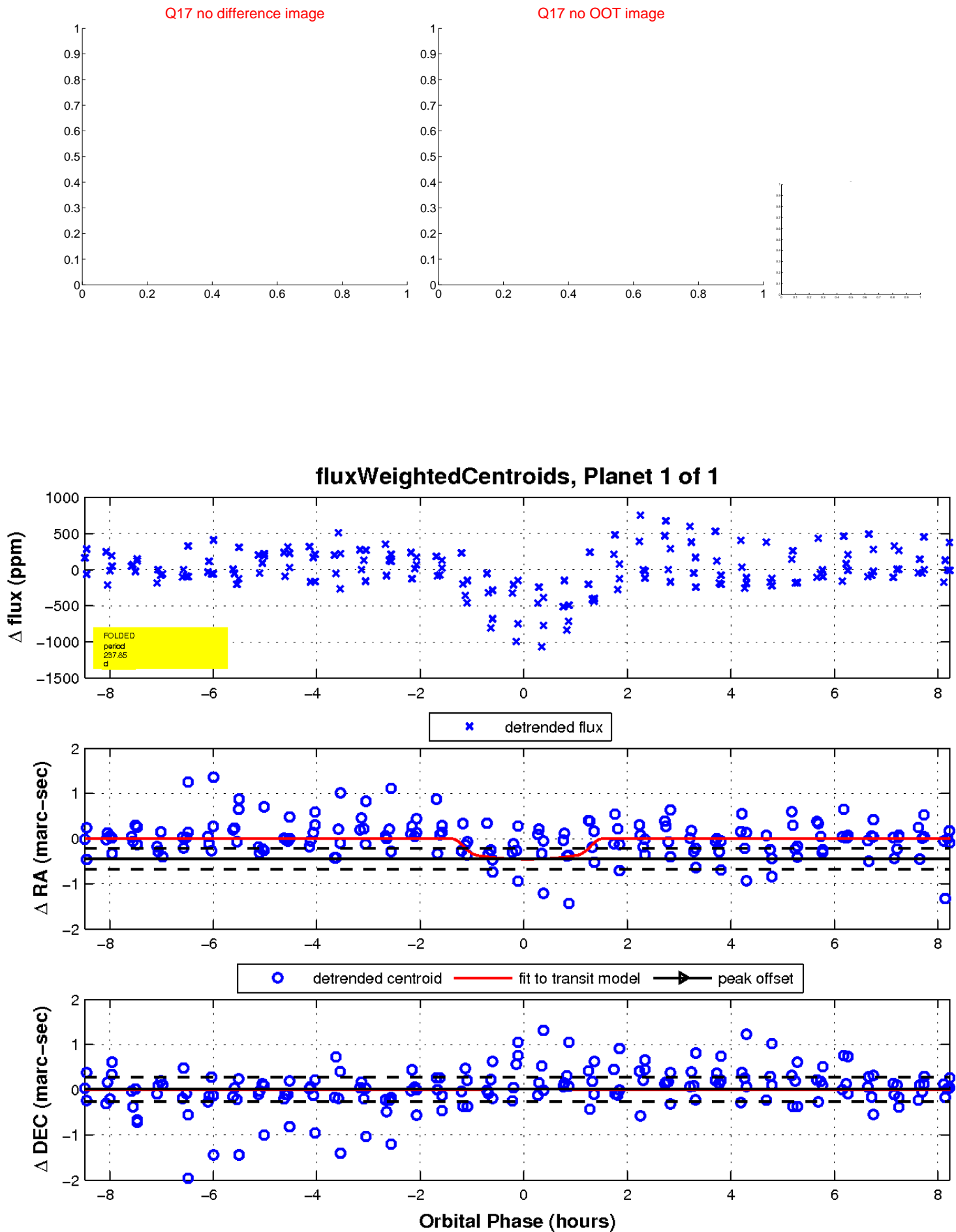
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UKIRT Image

Declination

