

KIC 009304997

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})
009304997-01	OBS	No	0.714129	131.966598	5.7	6.830	8.1	6.1	4.00	5222	0.94	0.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009304997-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL —LPP_DV —CENT_RESOLVED_OFFSET

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

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

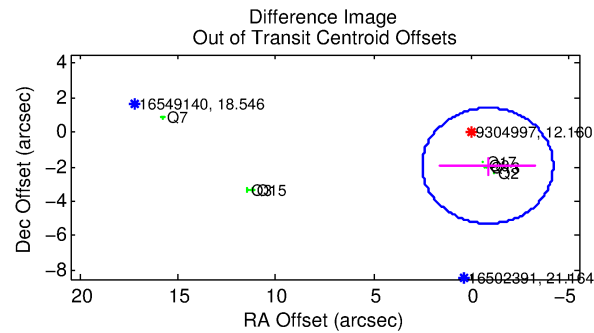
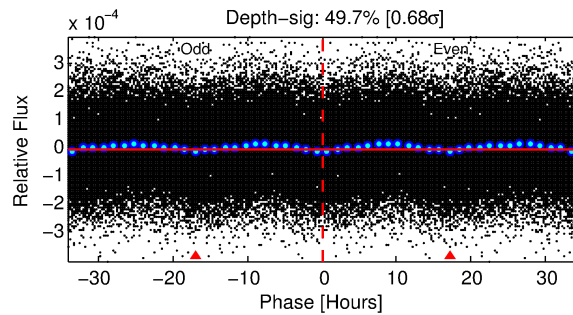
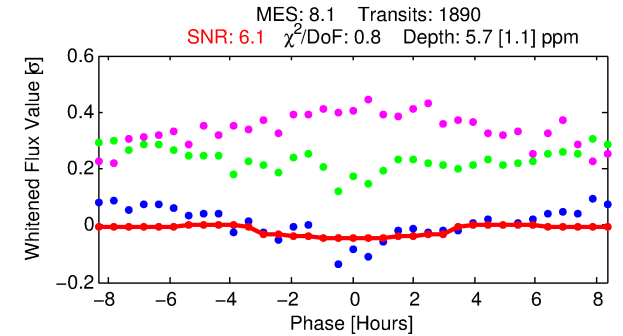
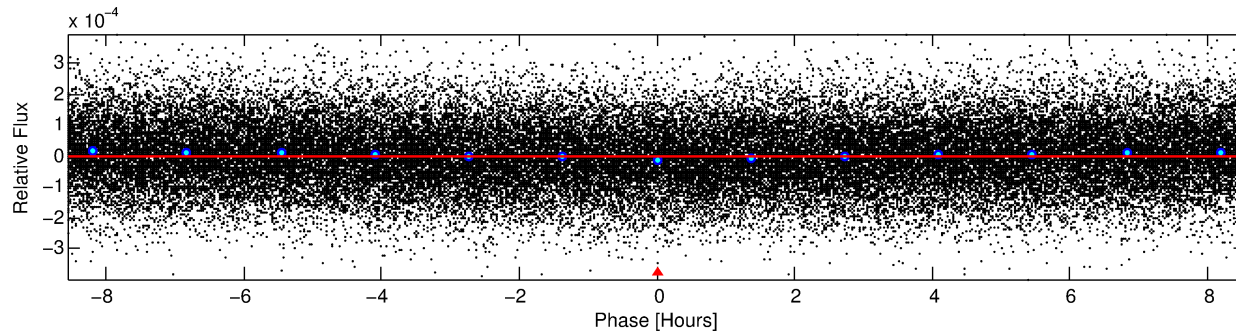
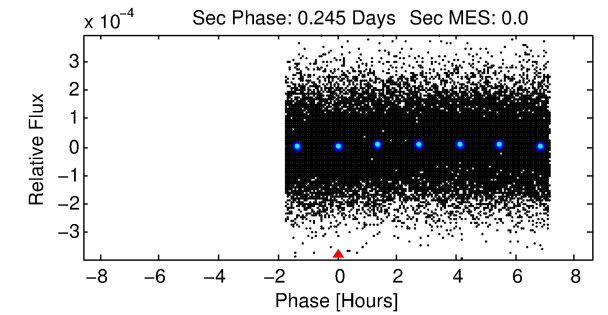
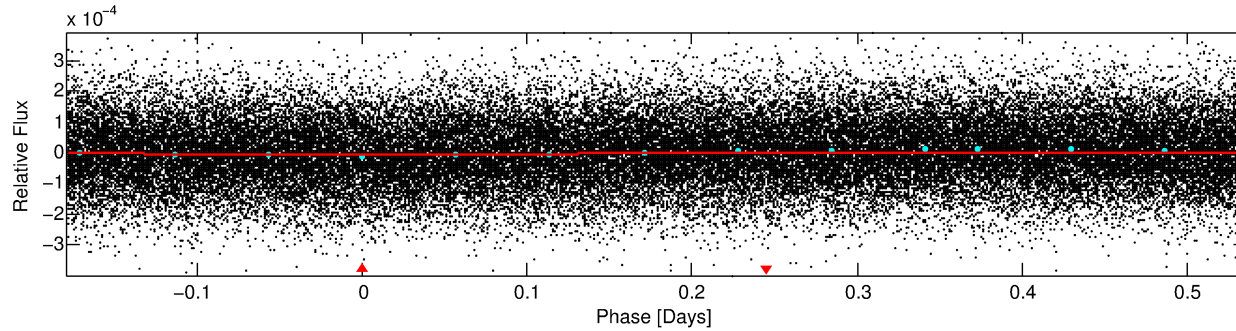
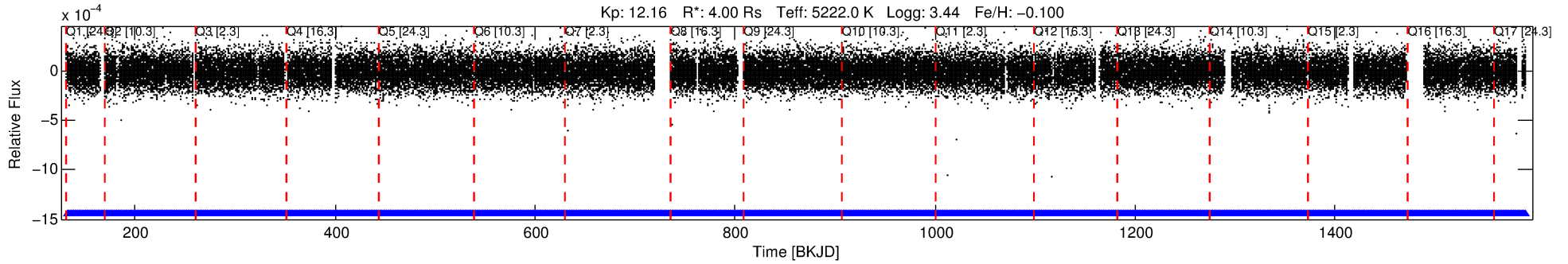
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009304997-01

No Significant Match Found

DV One-Page Summary

KIC: 9304997 Candidate: 1 of 1 Period: 0.714 d



DV Fit Results:

Period = 0.71413 [0.00002] d
Epoch = 131.9666 [0.0119] BKJD
Rp/R* = 0.0022 [0.0029]
a/R* = 1.05 [0.51]
b = 0.23 [21.39]
Seff = N/A
Teq = N/A
Rp = 0.94 [1.38] Re
a = N/A
Ag = N/A
Teffp = N/A

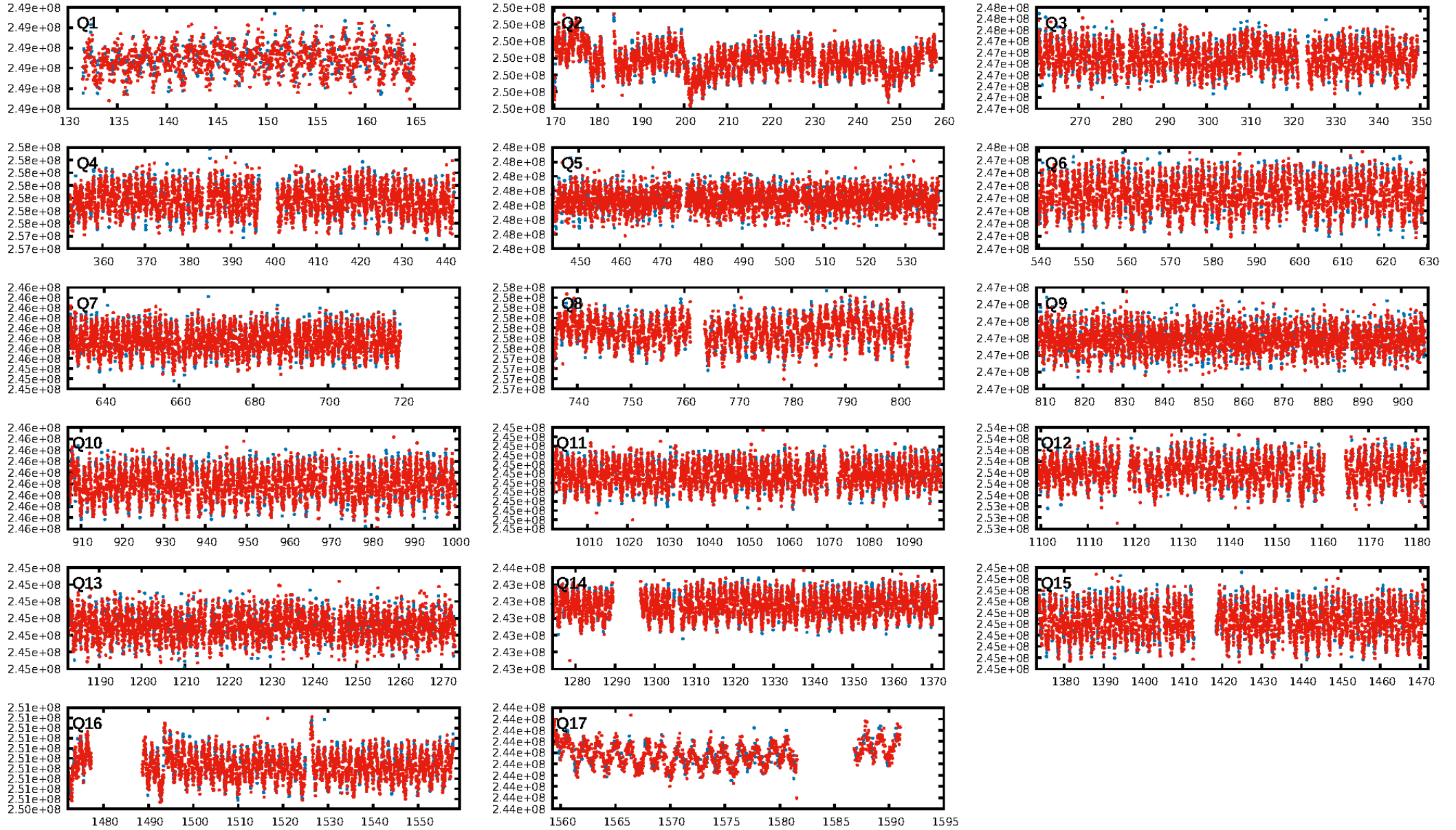
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1805/1805]
GhostDiagnostic-chr: -3.906
Centroid-sig: 0.0%
Centroid-so: 13.636 arcsec [5.38σ]
OotOffset-rm: 2.120 arcsec [1.90σ]
KicOffset-rm: 10.056 arcsec [24.34σ]
OotOffset-st: 1/3/0/3 [7]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 0.27 [4/15]
DiffImageOverlap-fno: 1.00 [17/17]

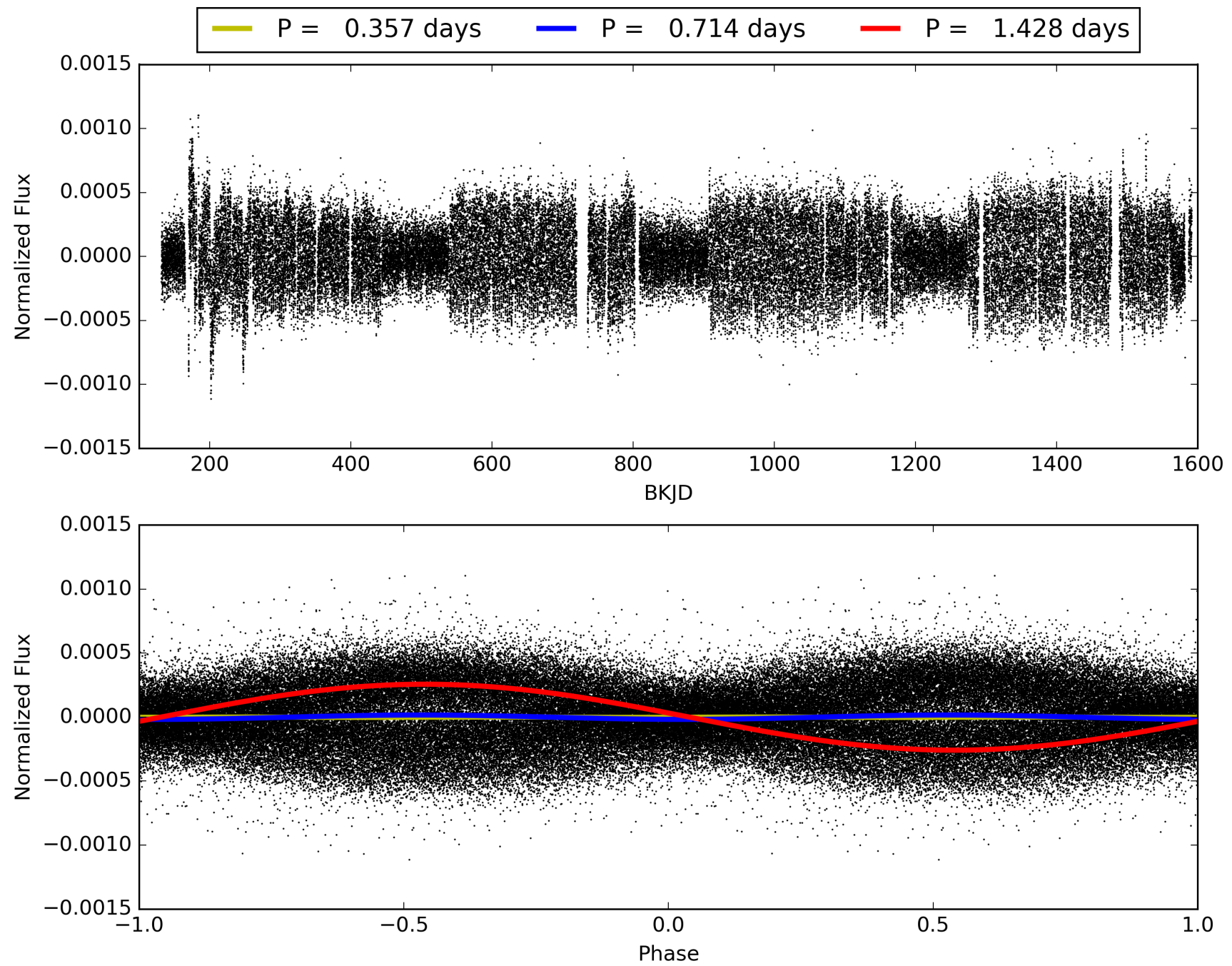
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 11:36:36 Z

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

TCE 009304997-01, PDC Light Curves

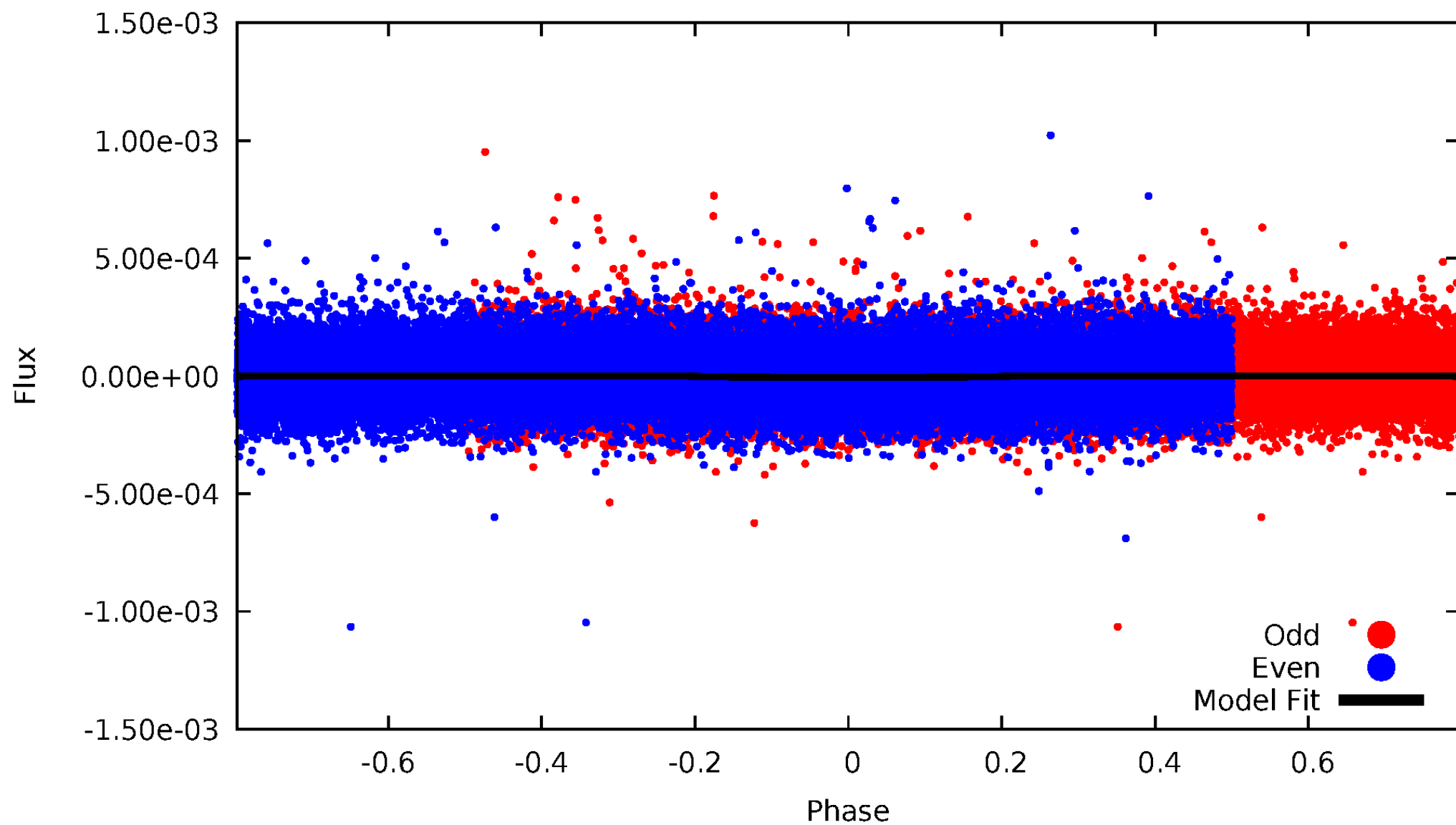


TCE 009304997-01



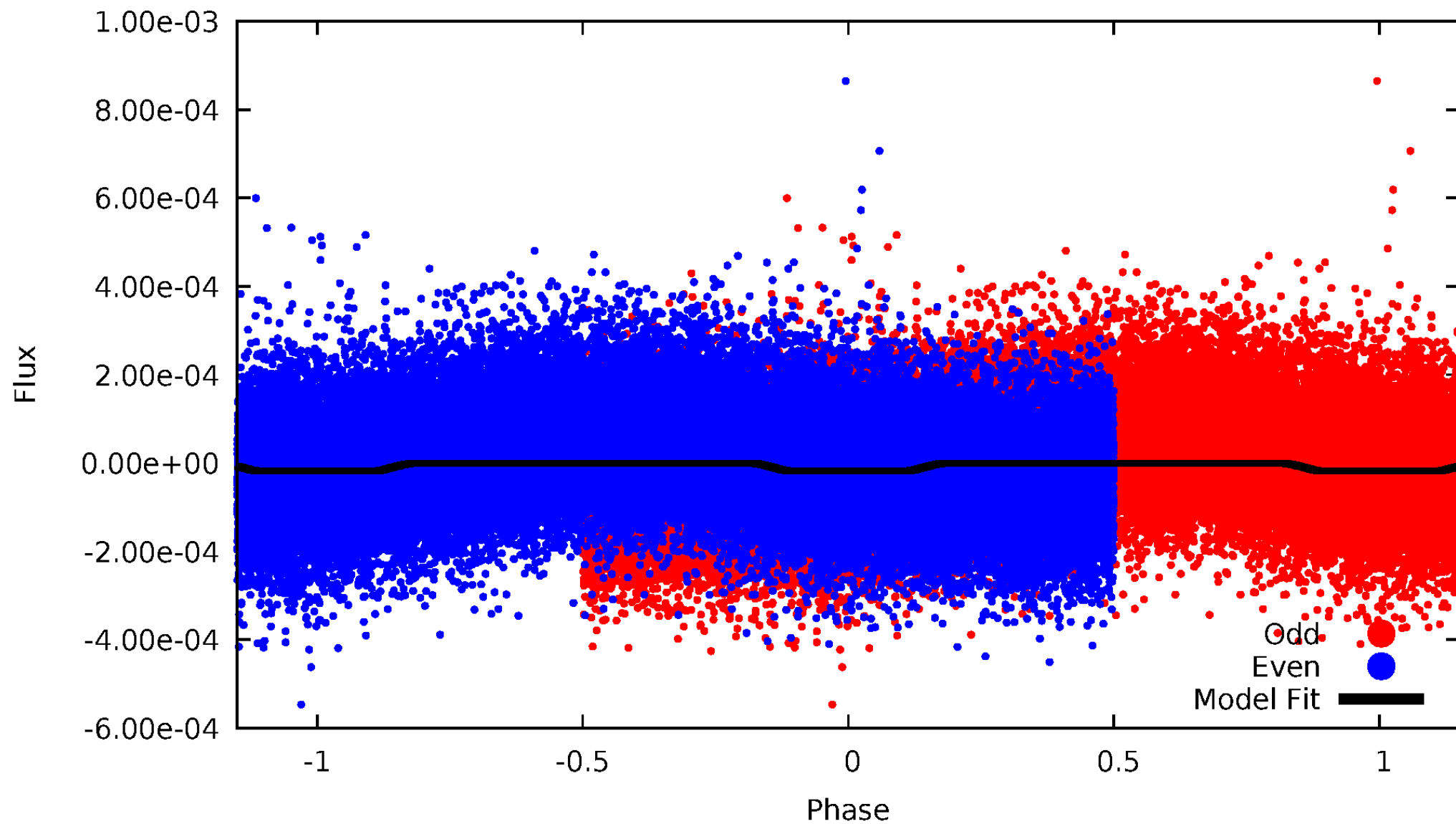
DV Odd/Even

TCE 009304997-01

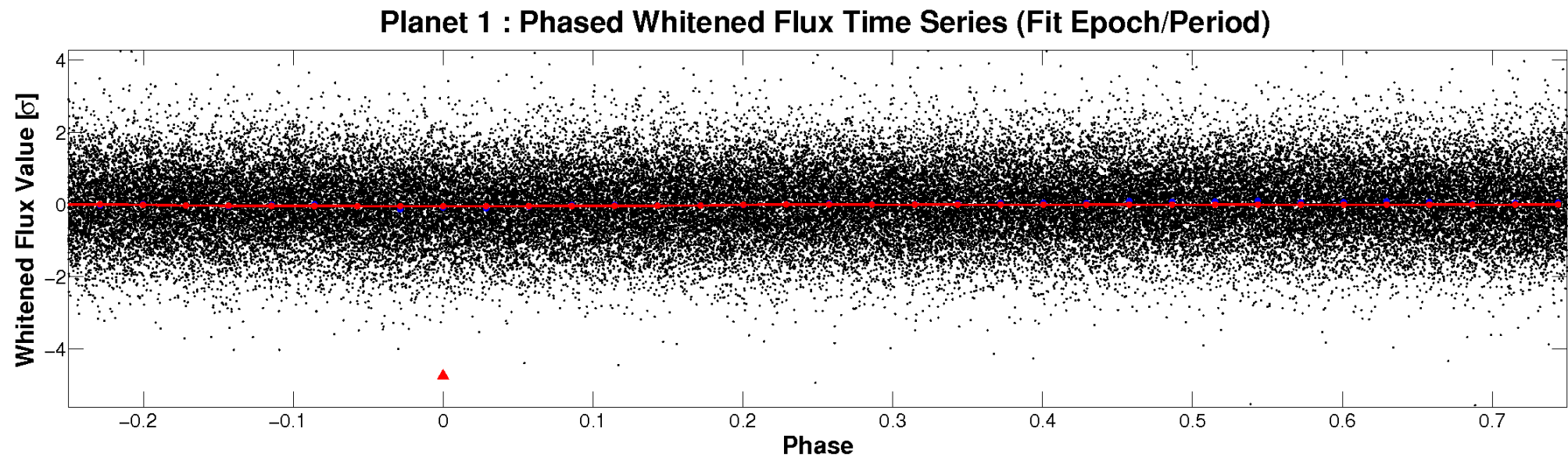
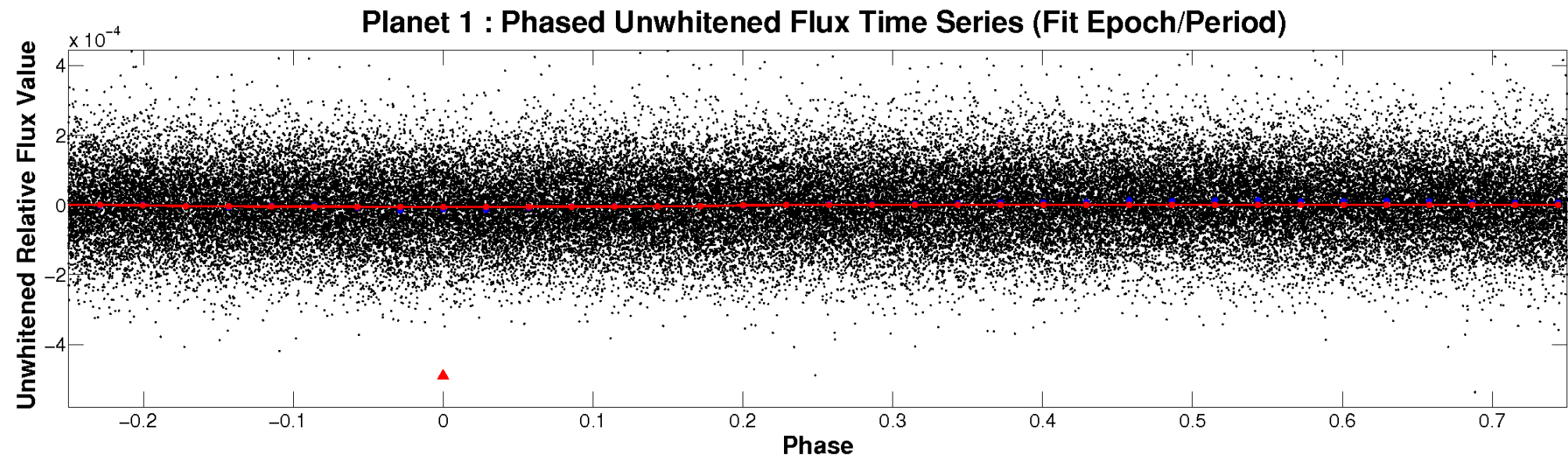


ALT Odd/Even

TCE 009304997-01

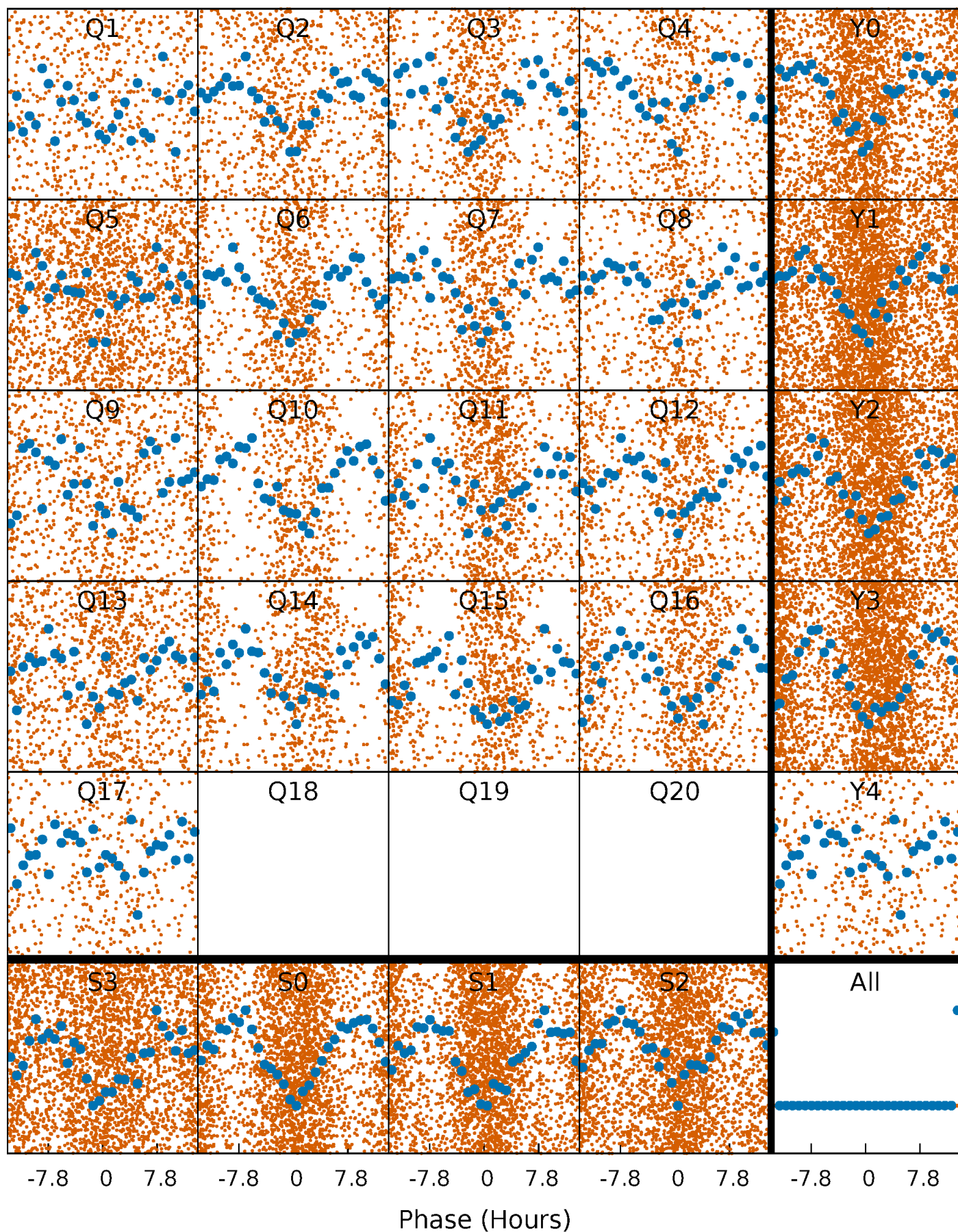


Non-Whitened Vs. Whitened Light Curve



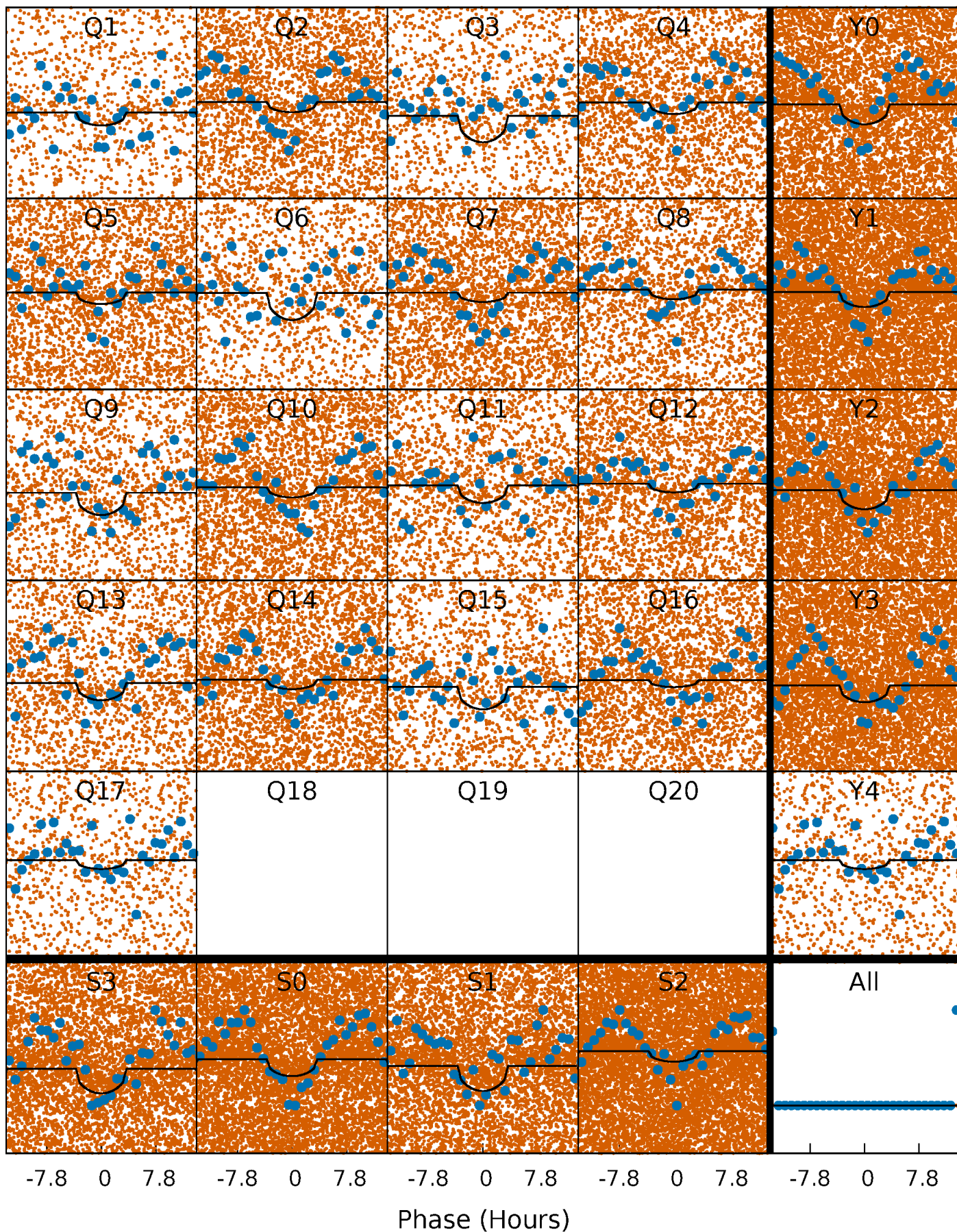
PDC Quarter-Phased Transit Curves

TCE 009304997-01 P= 0.714129 Days $T_0=131.966598$ (BKJD)



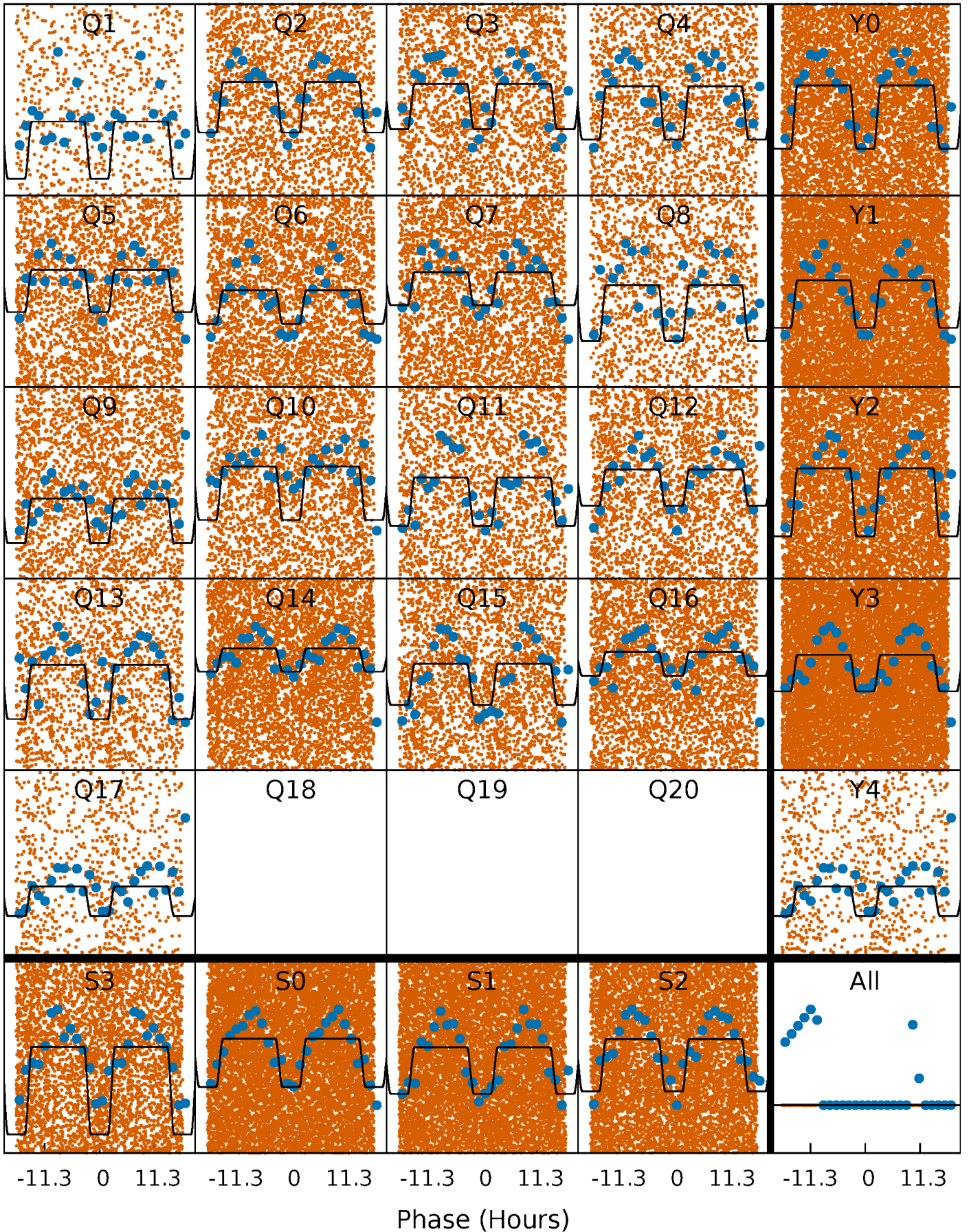
DV Quarter-Phased Transit Curves

TCE 009304997-01 P= 0.714129 Days $T_0=131.966598$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

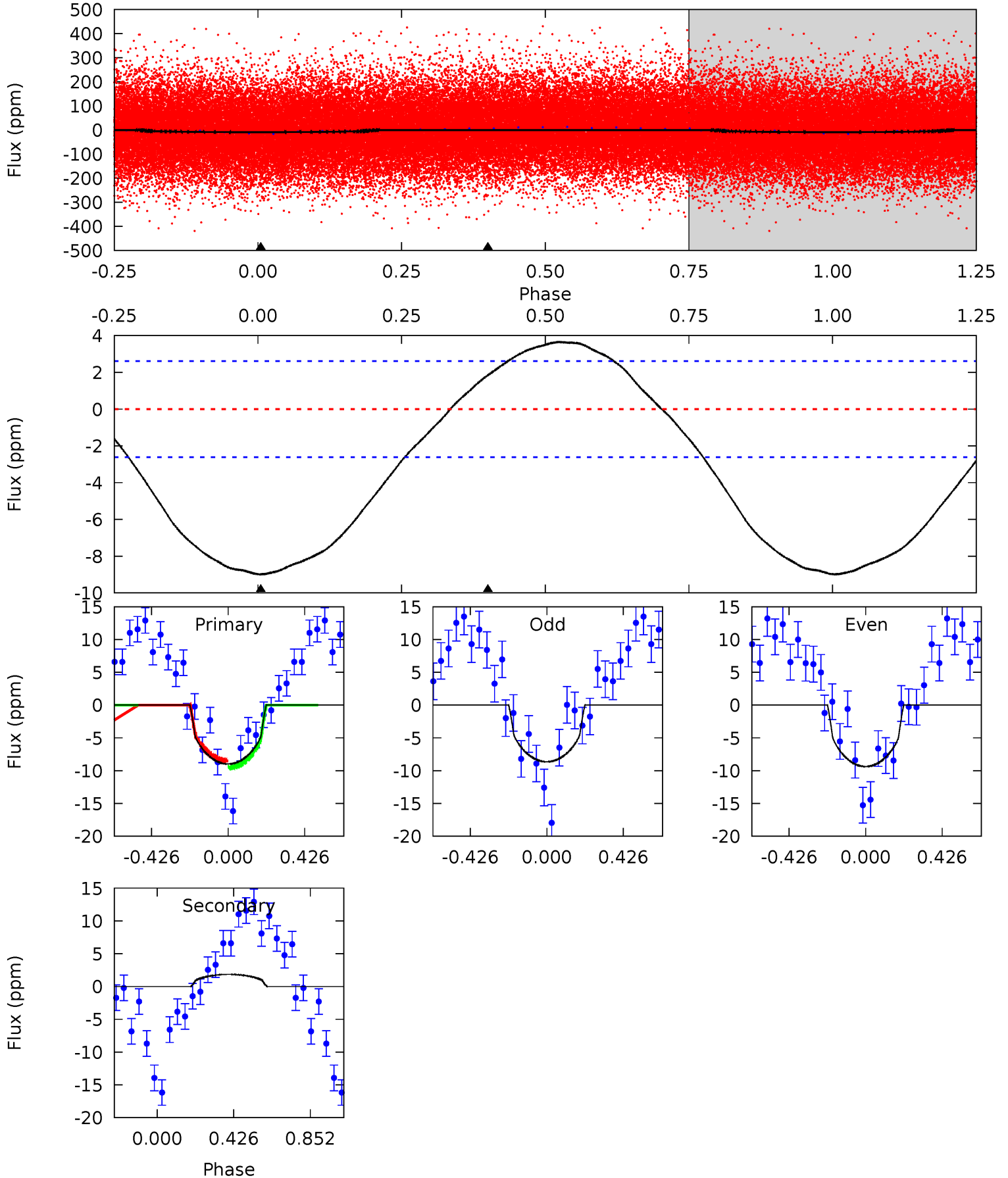
TCE 009304997-01 P= 0.714128 Days $T_0=131.969015$ (BKJD)



DV Model-Shift Uniqueness Test

009304997-01, P = 0.714129 Days, E = 131.252469 Days

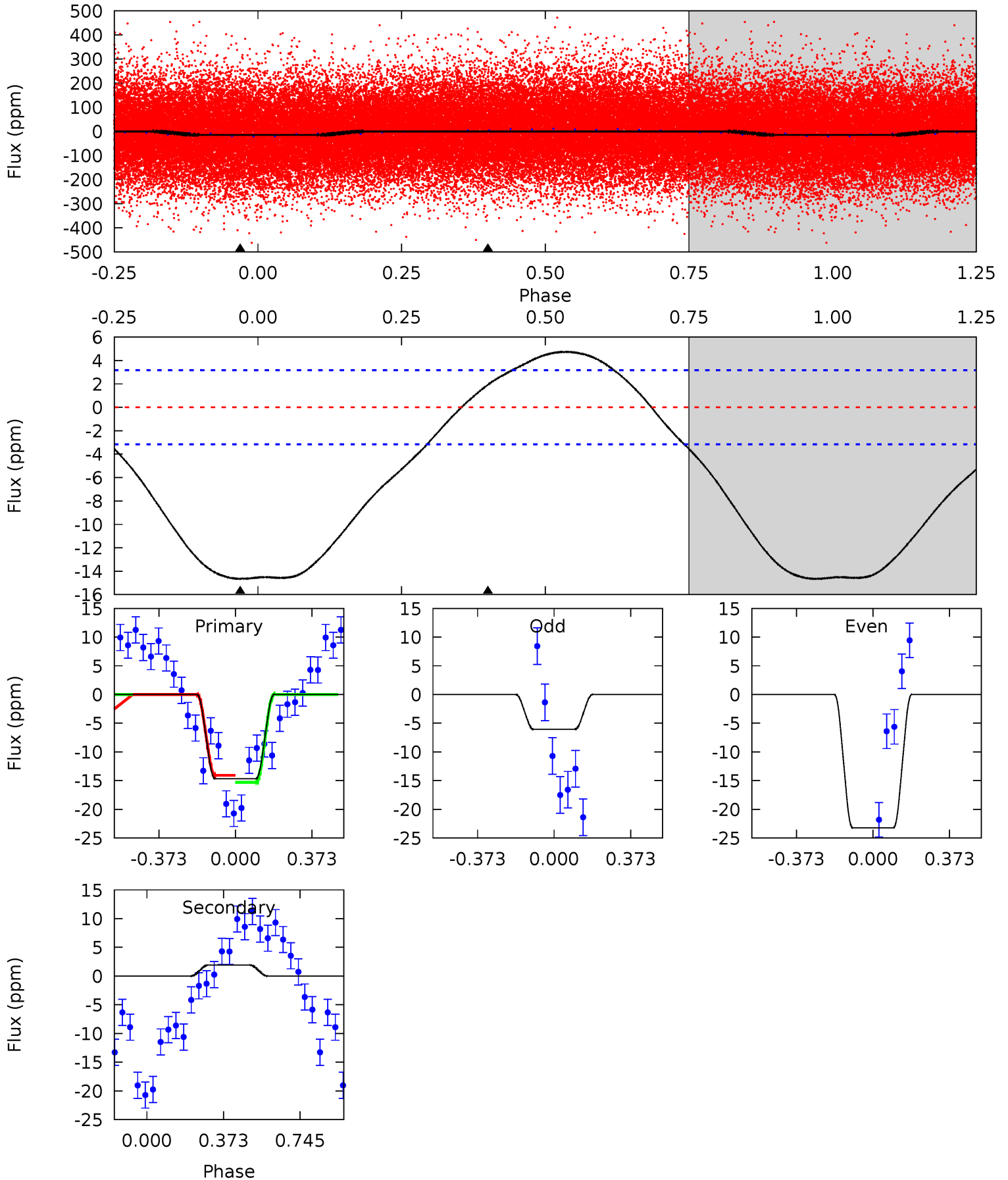
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	-3.00	0	0	4.25	0.80	1.56	14.6	14.6	-3.00	-3.00	0.59	1.13	0.29	0.82



Alt Model-Shift Uniqueness Test

009304997-01, P = 0.714128 Days, E = 131.254887 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	-2.60	0	0	4.28	0.89	2.25	19.8	19.8	-2.60	-2.60	12.1	1.15	0.24	0.85



Stellar Parameters For KIC 009304997

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5222^{+188}_{-188}	$3.445^{+0.638}_{-0.213}$	$-0.100^{+0.300}_{-0.300}$	$3.997^{+1.204}_{-2.236}$	$1.623^{+0.232}_{-0.697}$	$0.036^{+0.325}_{-0.020}$
	+4%/-4%	+19%/-6%	+300%/-300%	+30%/-56%	+14%/-43%	+908%/-56%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 009304997-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	2 ± 1	$1.10^{+1.10}_{-0.74}$	4599^{+524}_{-781}	-4572^{+516}_{-1401}	$-0.262^{+0.202}_{-1.971}$
Alt.	2 ± 1	$1.76^{+1.33}_{-1.14}$	4675^{+497}_{-773}	-4398^{+431}_{-680}	$-0.111^{+0.080}_{-0.718}$

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

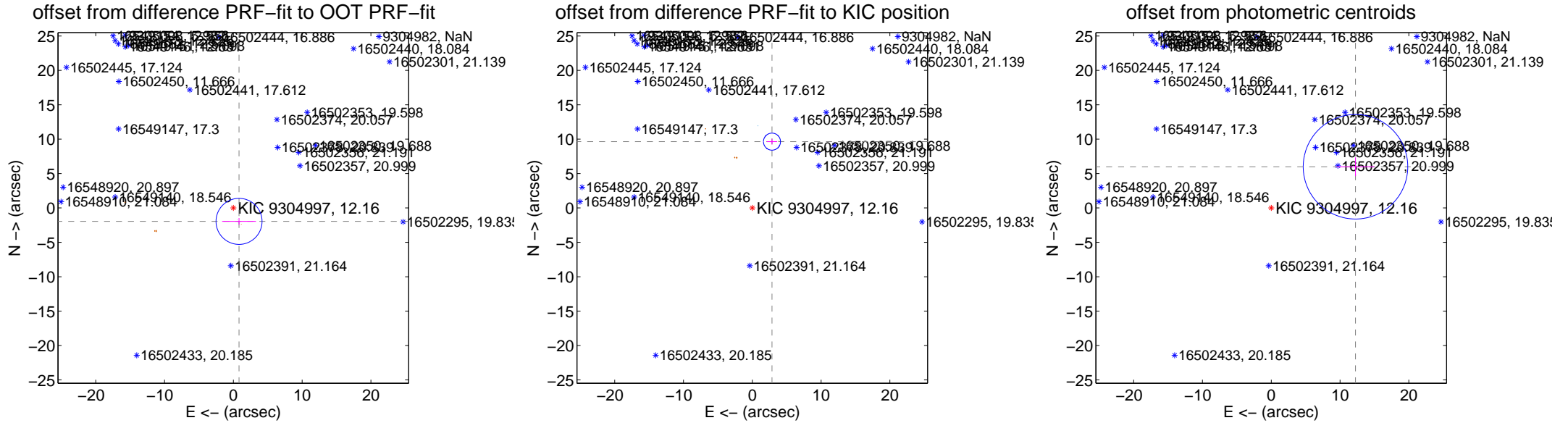
DV Centroid Data

Supplemental centroid analysis for 009304997-01. Kepler magnitude: 12.16. Transit SNR 6.13

There are 4 quarters with good PRF difference image offsets

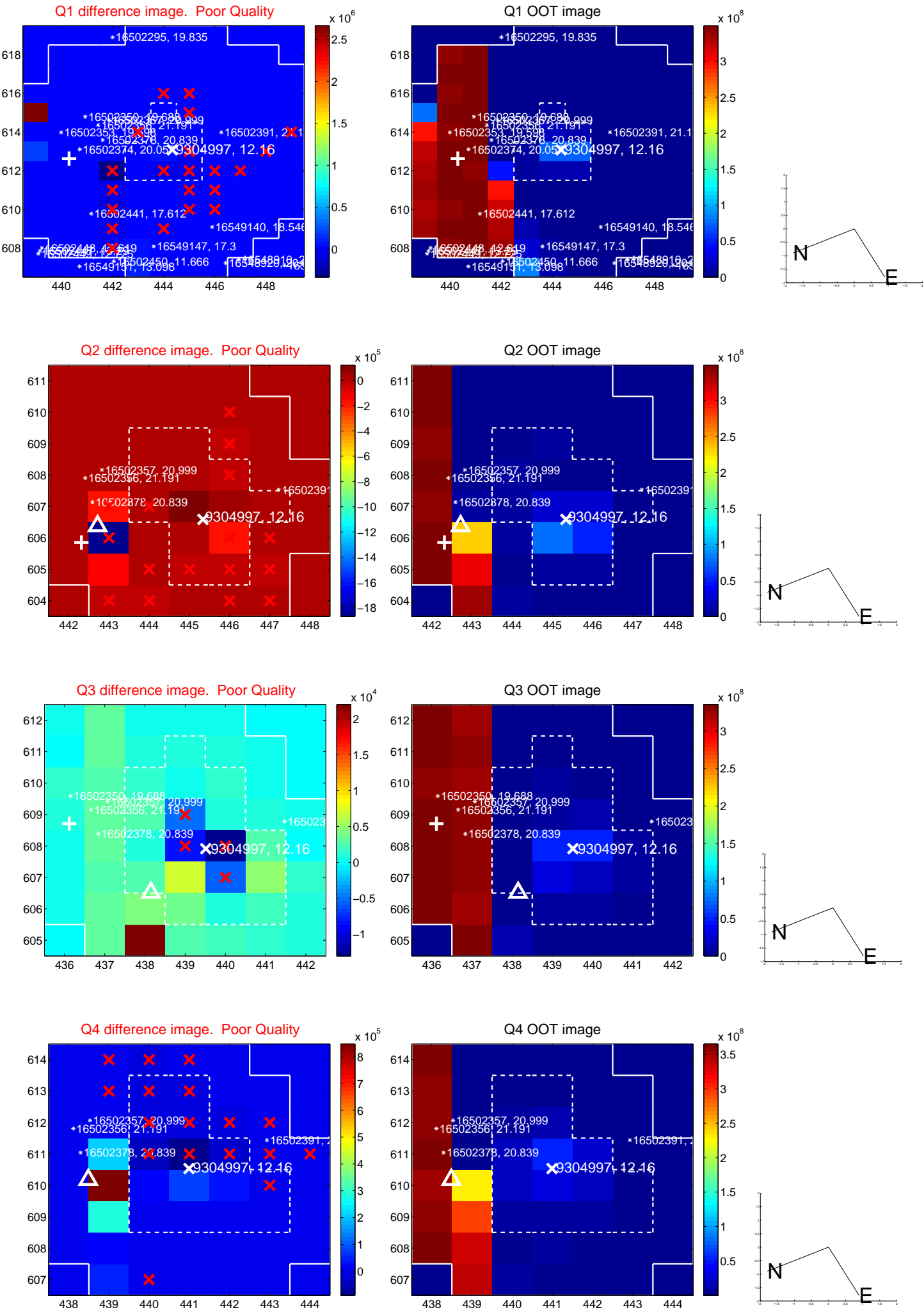
The OOT PRF centroid is offset from the target star catalog position by about 13.73 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.120 ± 1.115	1.90	-0.827 ± 2.463	-1.952 ± 0.483
PRF-fit source offset from KIC position	10.056 ± 0.413	24.34	-2.863 ± 0.745	9.640 ± 0.405
photometric centroid source offset	13.64 ± 2.53	5.38	-12.25 ± 2.74	5.99 ± 1.36

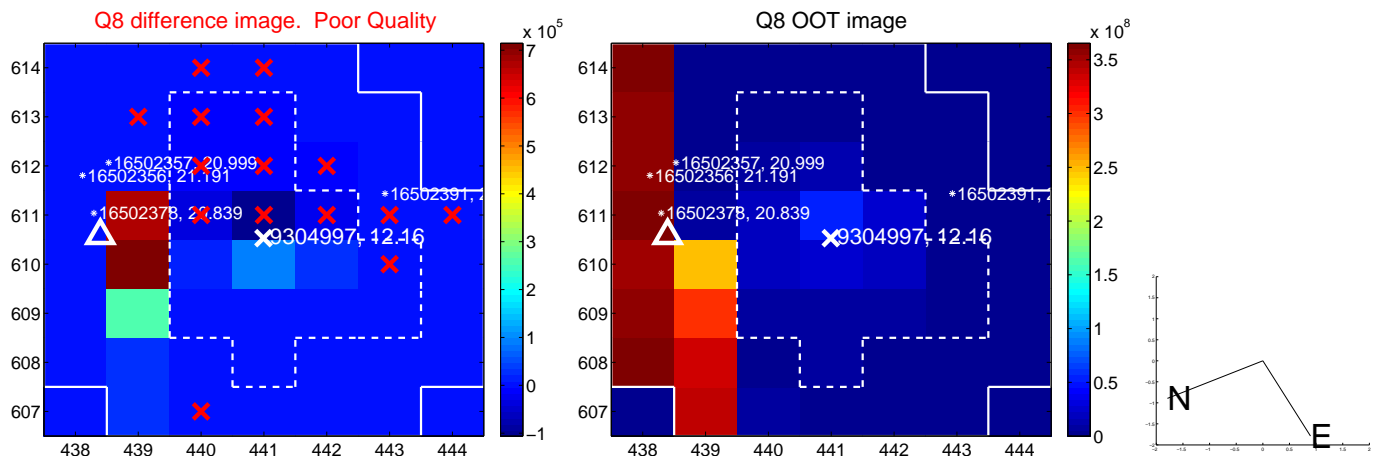
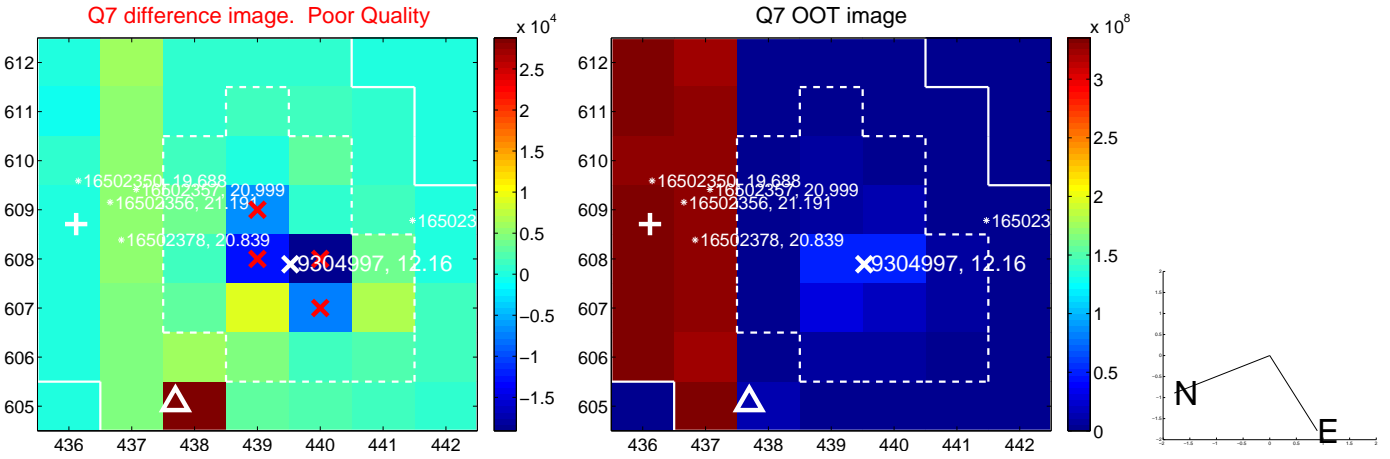
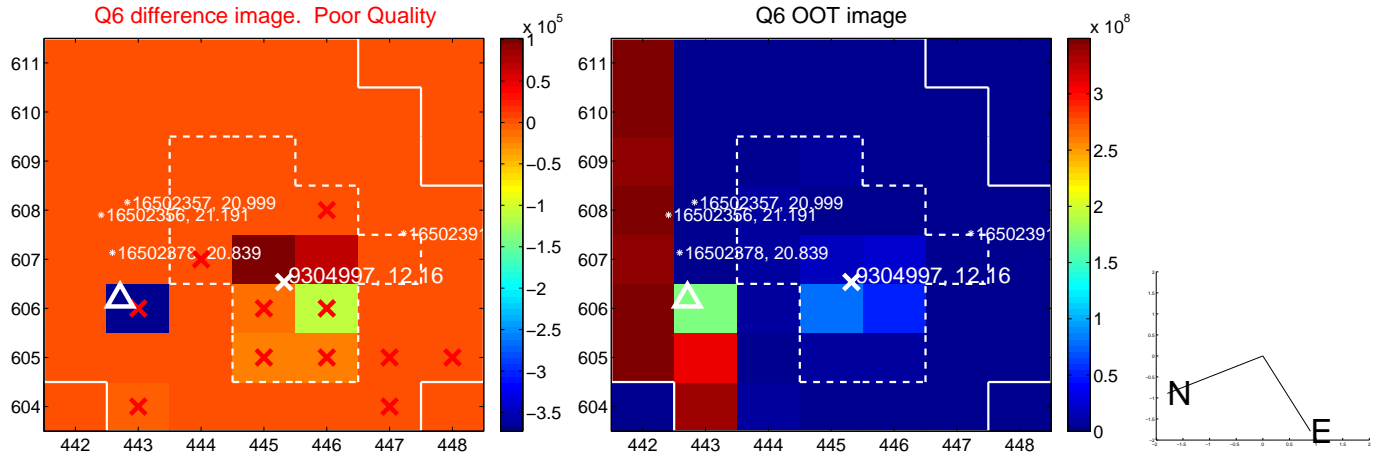
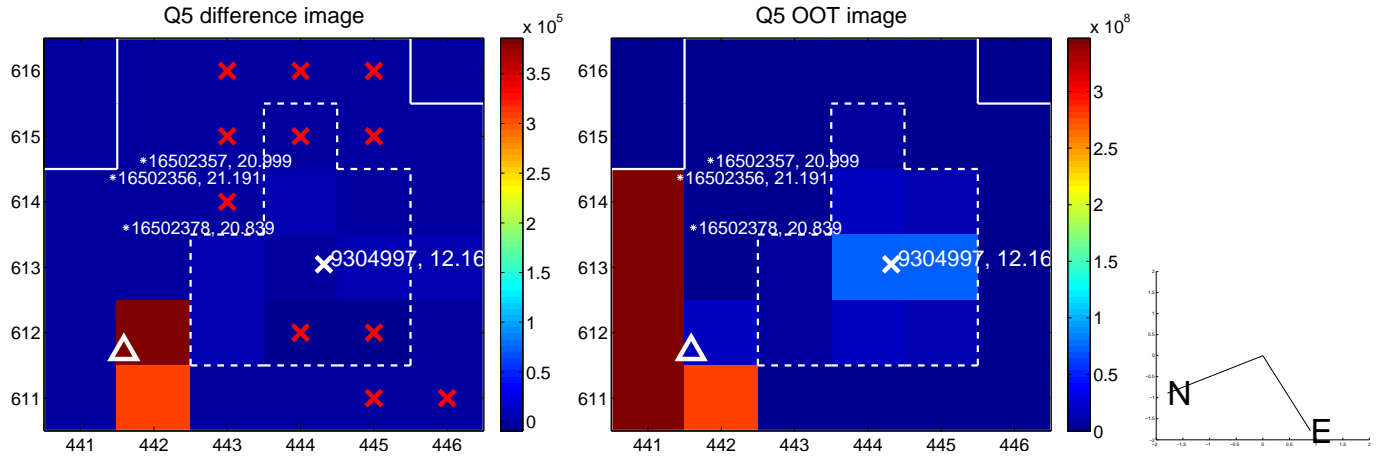


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

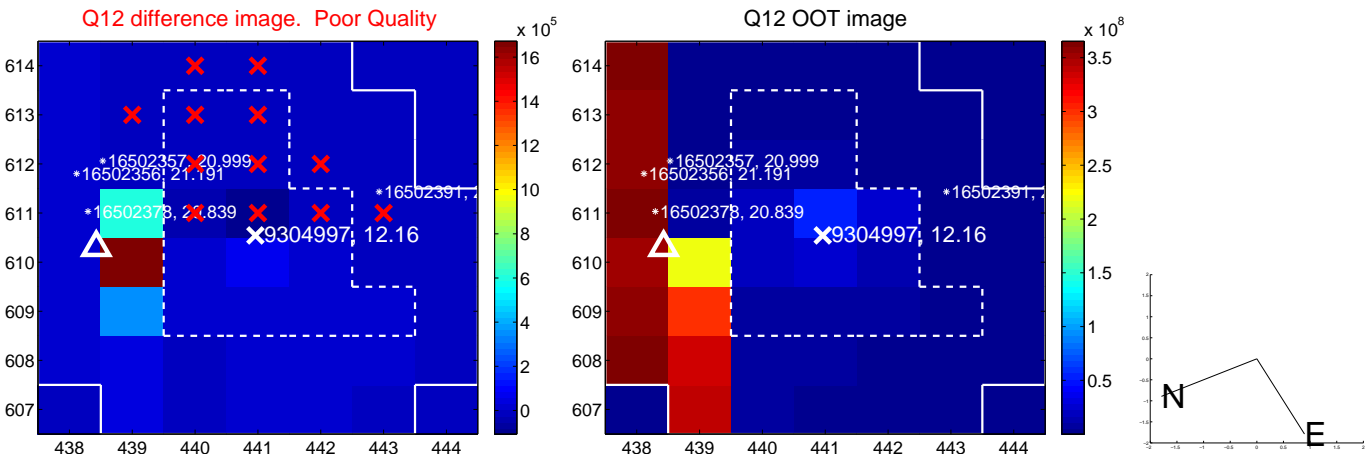
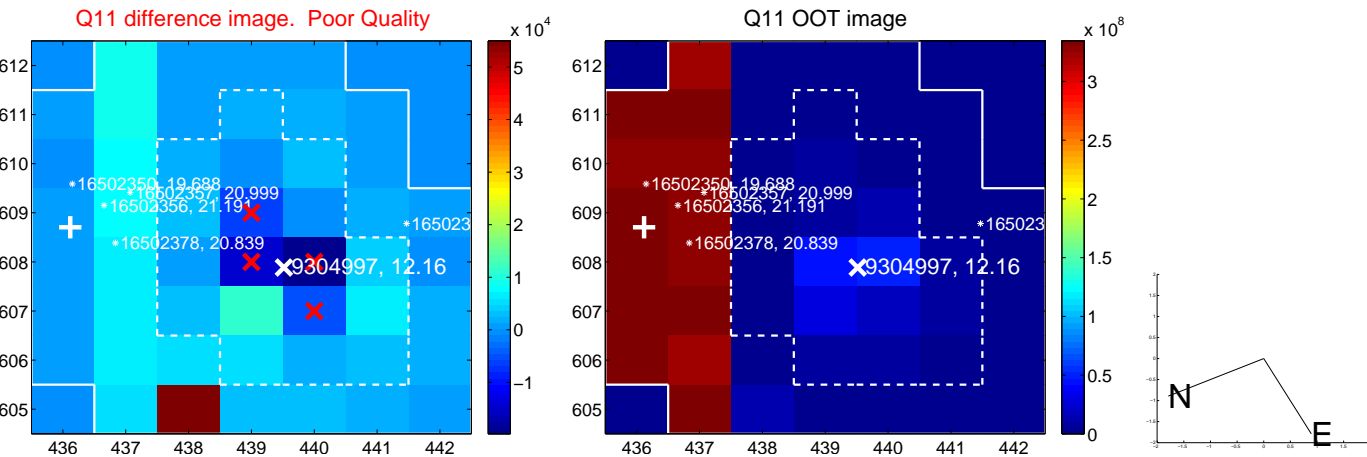
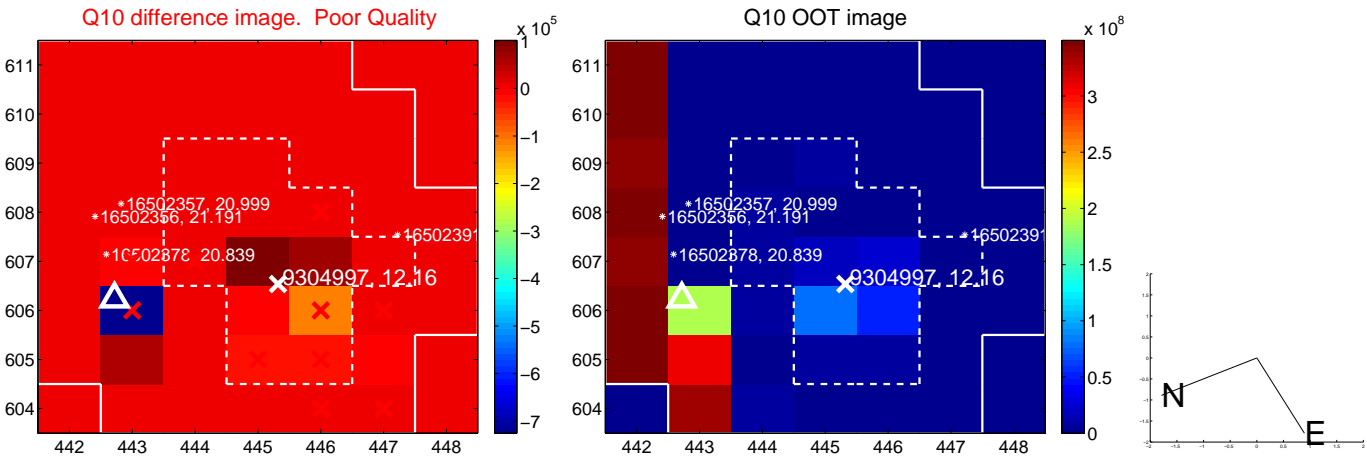
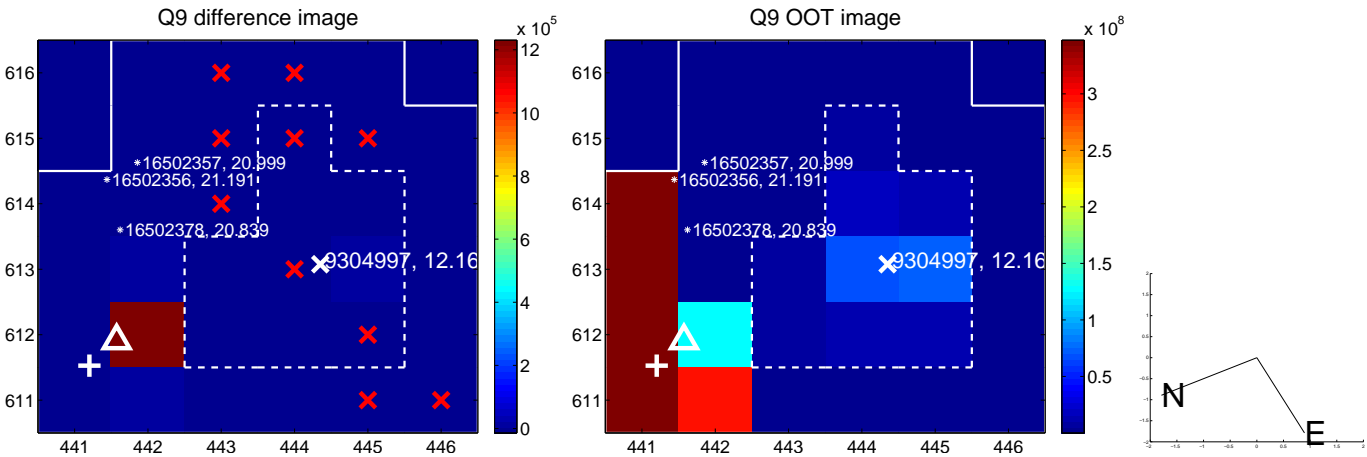
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



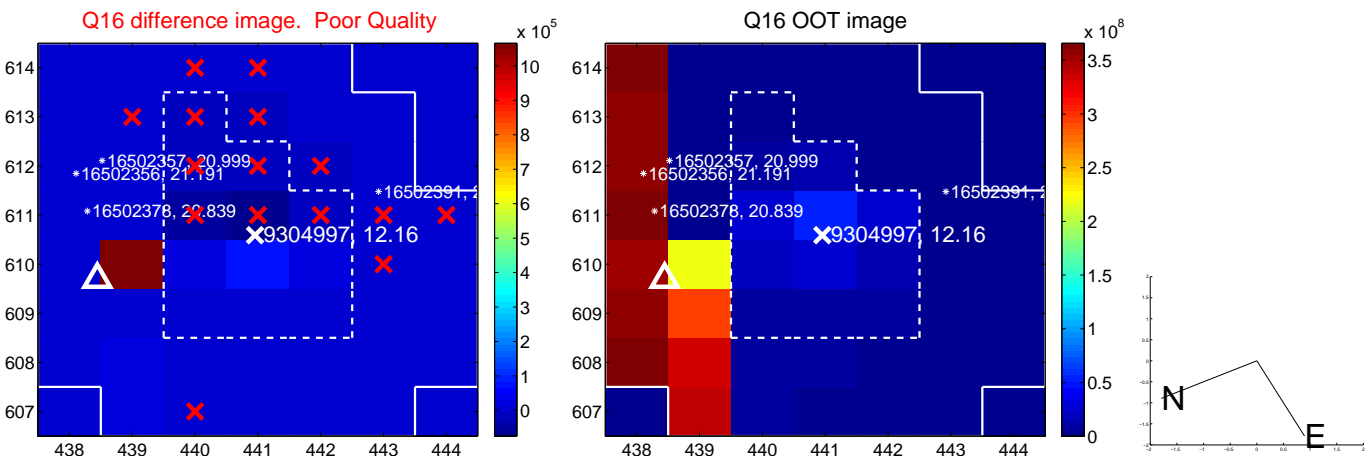
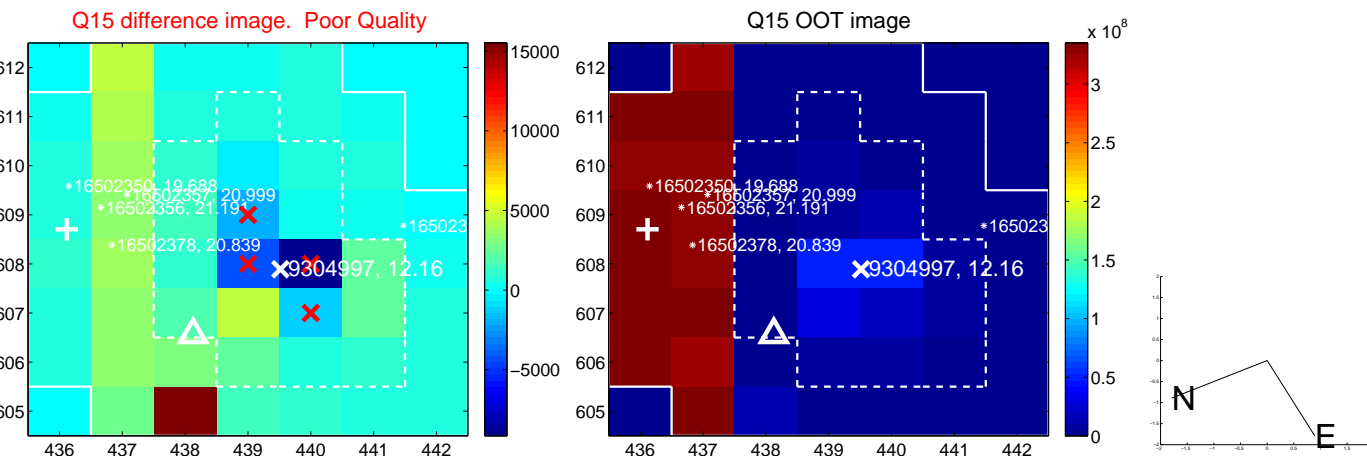
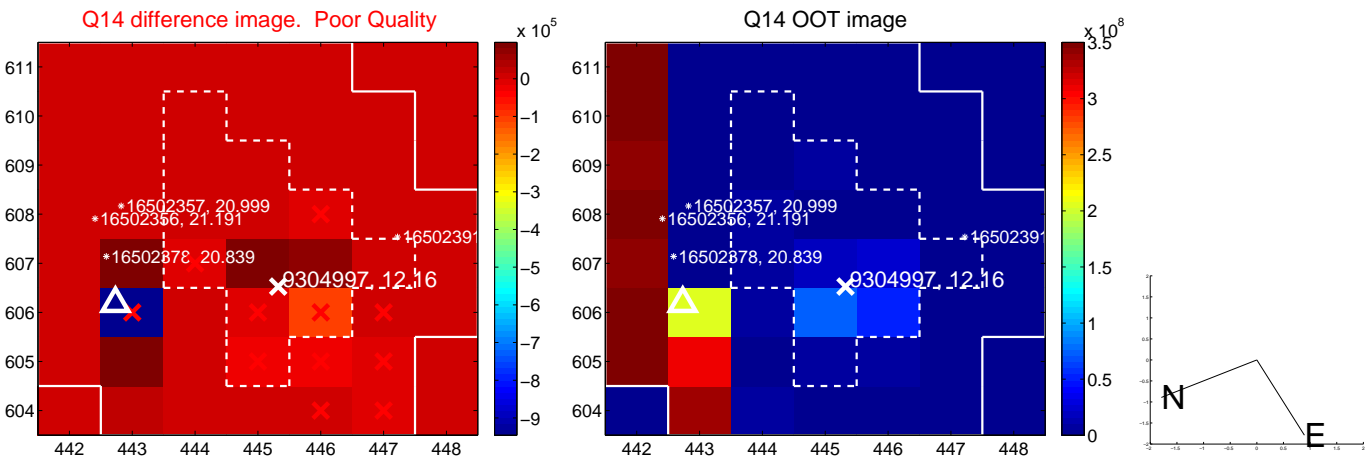
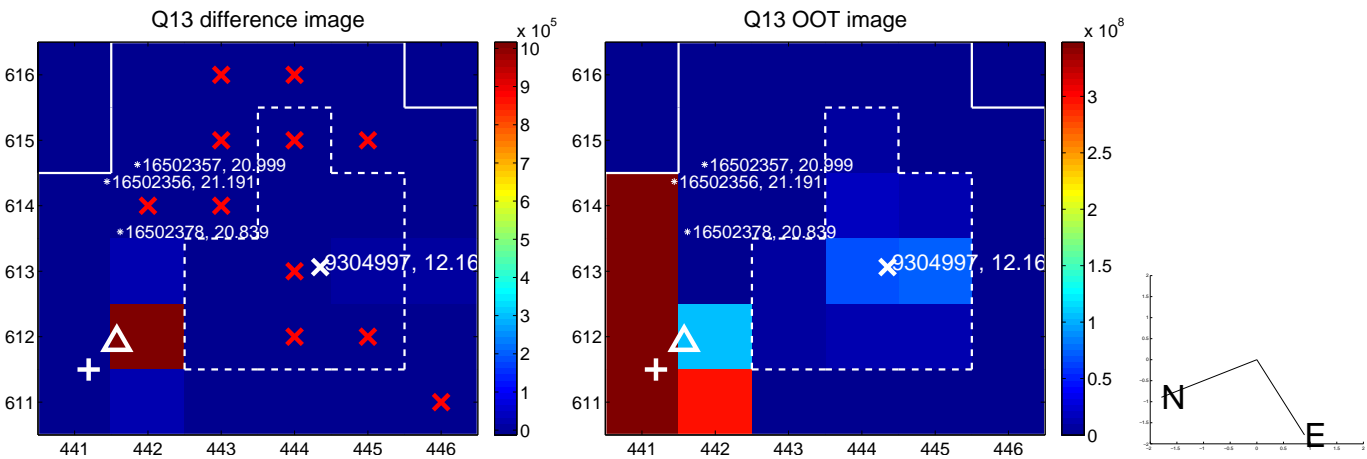
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



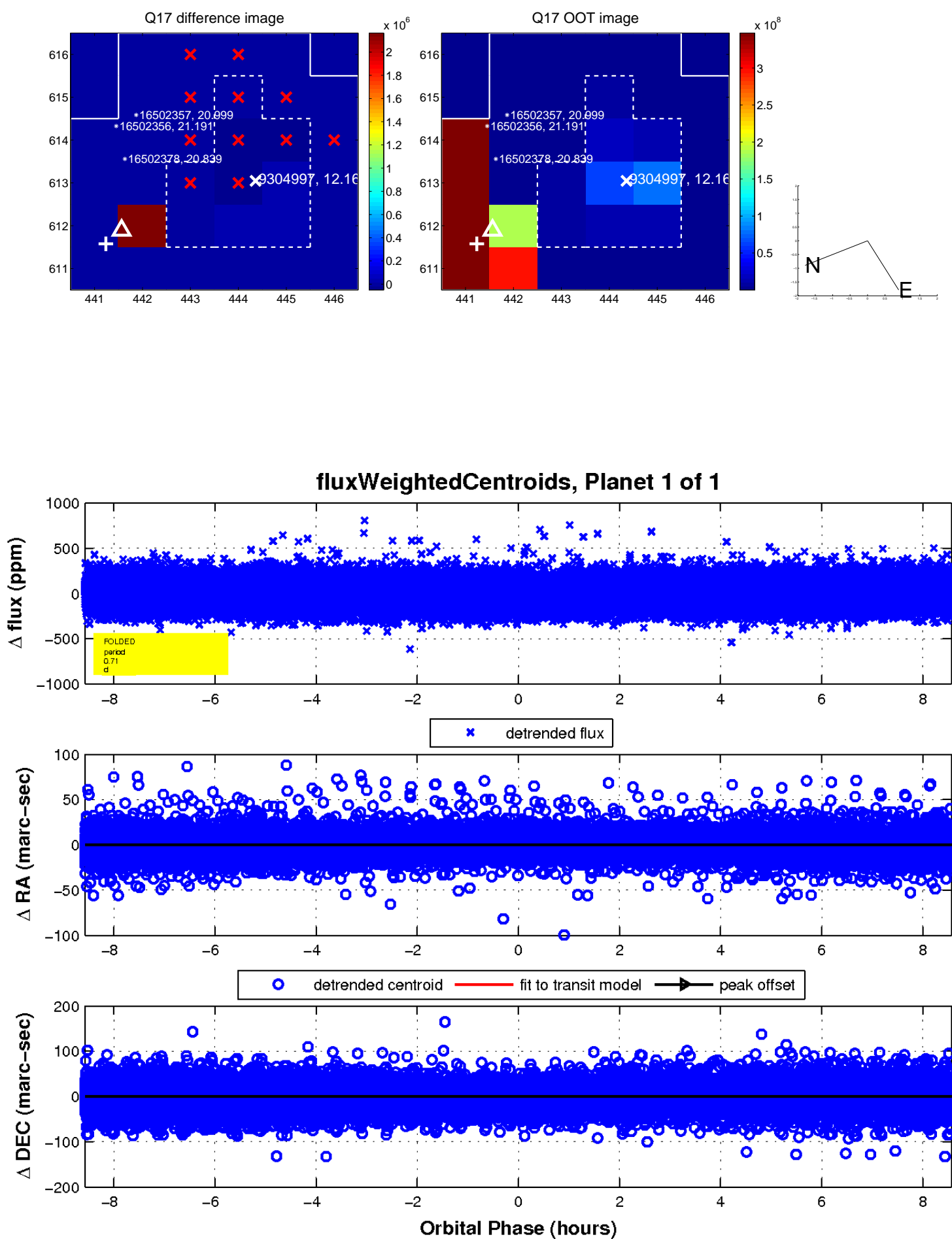
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UKIRT Image

Declination

