

KIC 005004909

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})
005004909-01	OBS	3421.01	40.651110	164.548477	130.2	12.049	12.5	12.6	1.37	6297	1.86	42.62

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005004909-01	OBS	FP	0.14	0	0	1	0	CENT_UNRESOLVED_OFFSET

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

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

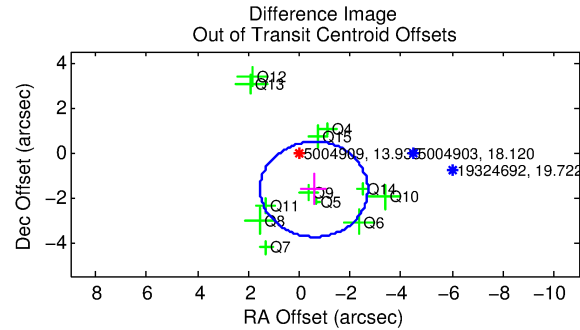
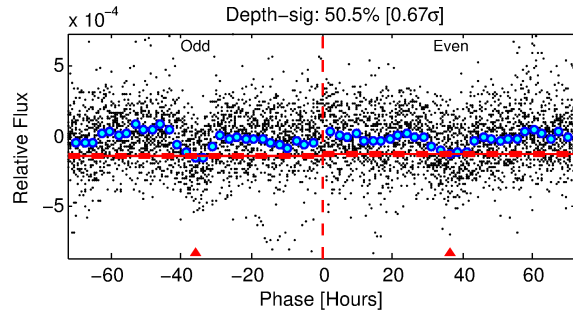
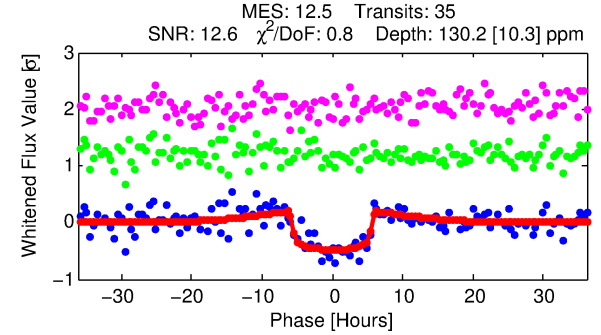
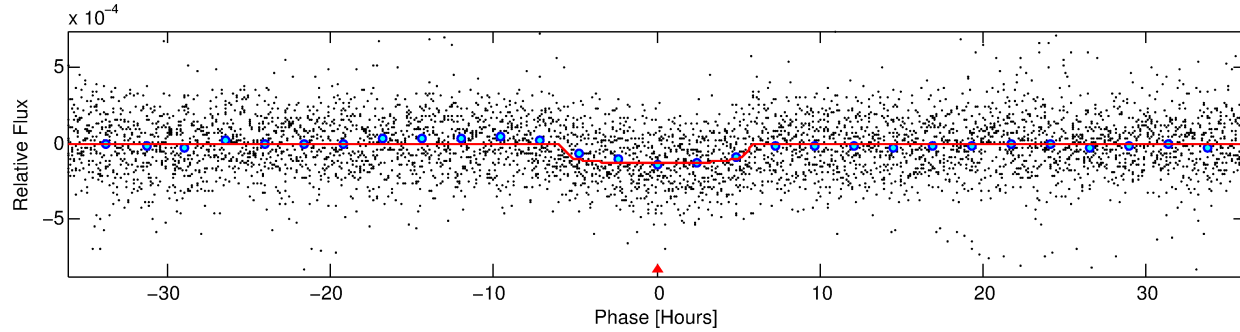
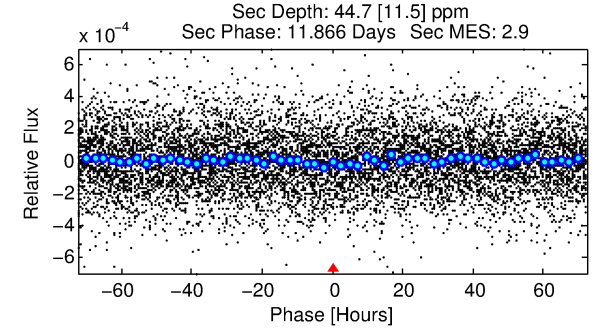
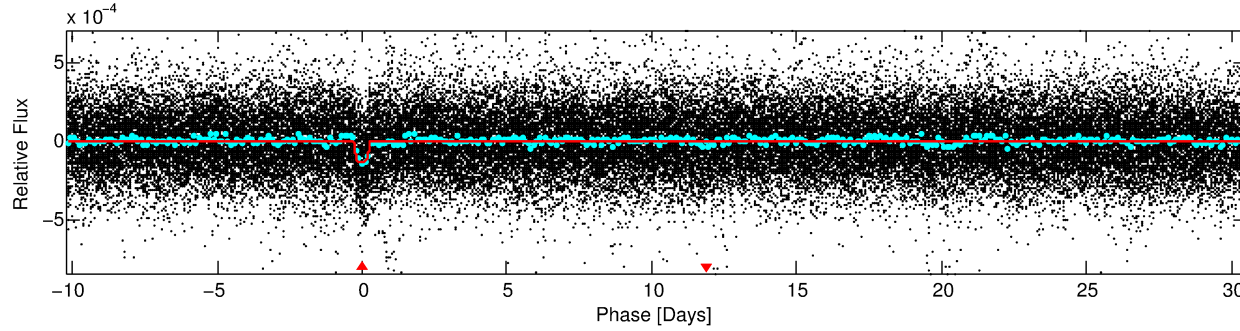
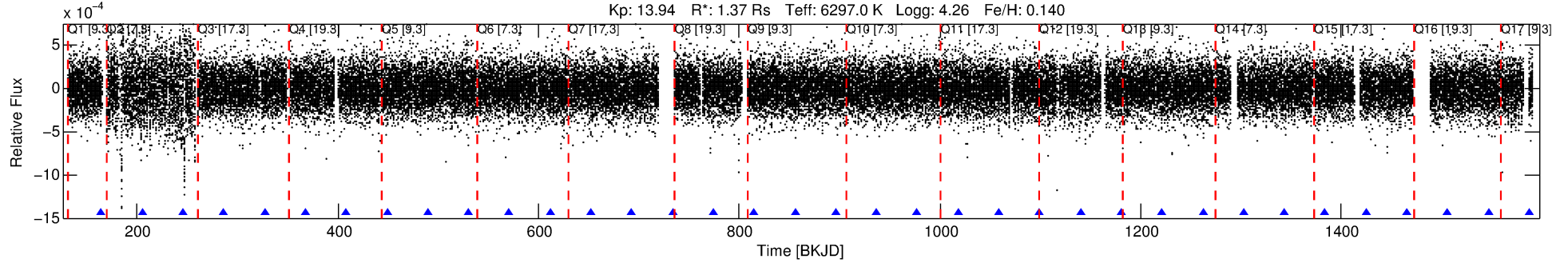
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005004909-01

No Significant Match Found

DV One-Page Summary

KIC: 5004909 Candidate: 1 of 1 Period: 40.651 d
KOI: K03421.01 Corr: 0.969



DV Fit Results:

Period = 40.65111 [0.00060] d
Epoch = 164.5485 [0.0125] BKJD
Rp/R* = 0.0125 [0.0011]
a/R* = 11.18 [4.75]
b = 0.92 [0.08]
Seff = 42.62 [9.49]
Teq = 652 [36] K
Rp = 1.86 [0.38] Re
a = 0.2489 [0.0374] AU
Ag = 439.57 [167.50] [2.62σ]
Teffp = 4612 [368] K [10.71σ]

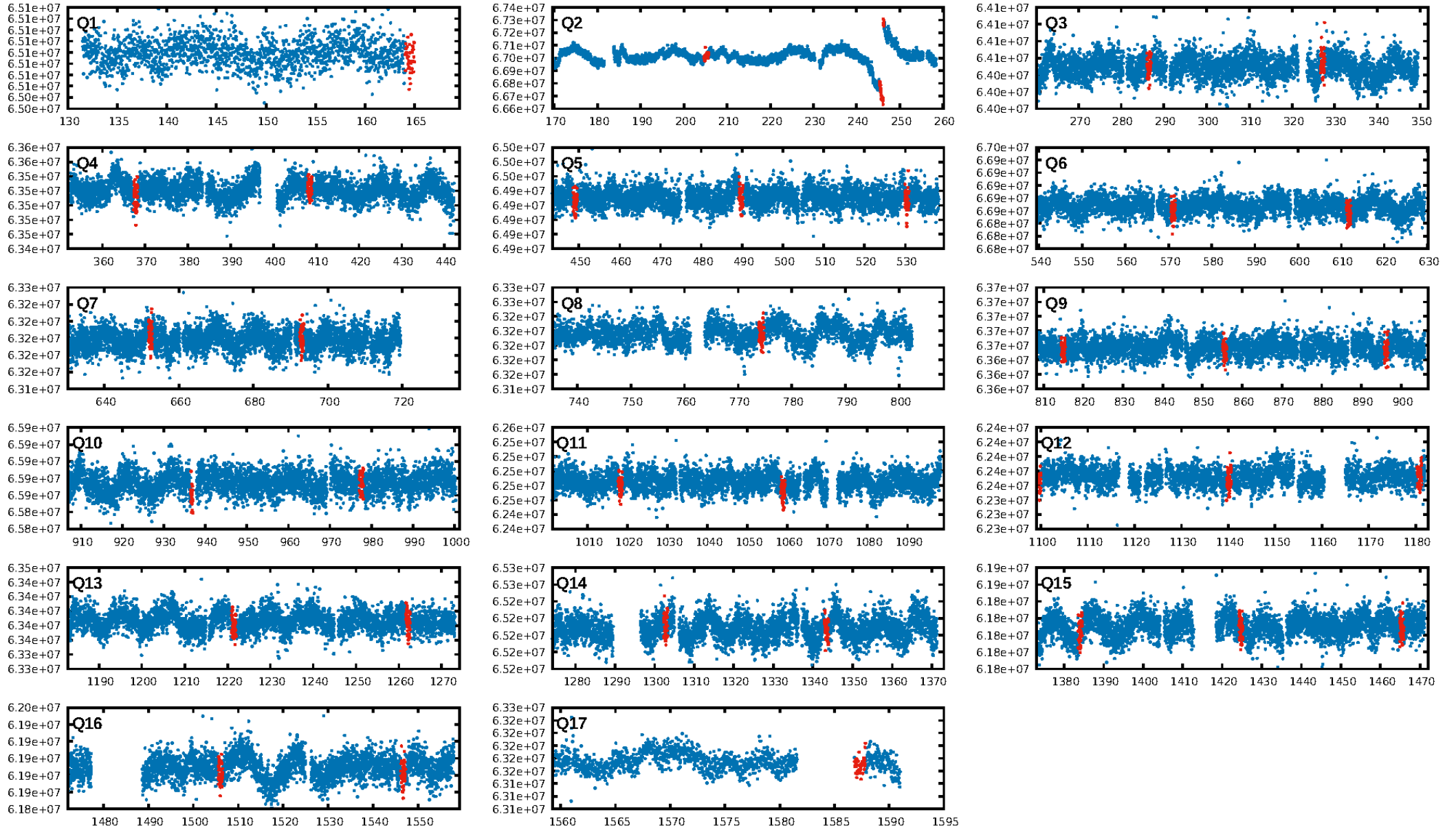
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.90e-35
RollingBand-fgt: 1.00 [33/33]
GhostDiagnostic-chr: -9.306
Centroid-sig: 10.0%
Centroid-so: 0.971 arcsec [1.34σ]
OotOffset-rm: 1.743 arcsec [2.47σ]
KicOffset-rm: 1.816 arcsec [2.32σ]
OotOffset-st: 3/3/3/3 [12]
KicOffset-st: 3/3/3/3 [12]
DiffImageQuality-fgm: 0.83 [10/12]
DiffImageOverlap-fno: 1.00 [14/14]

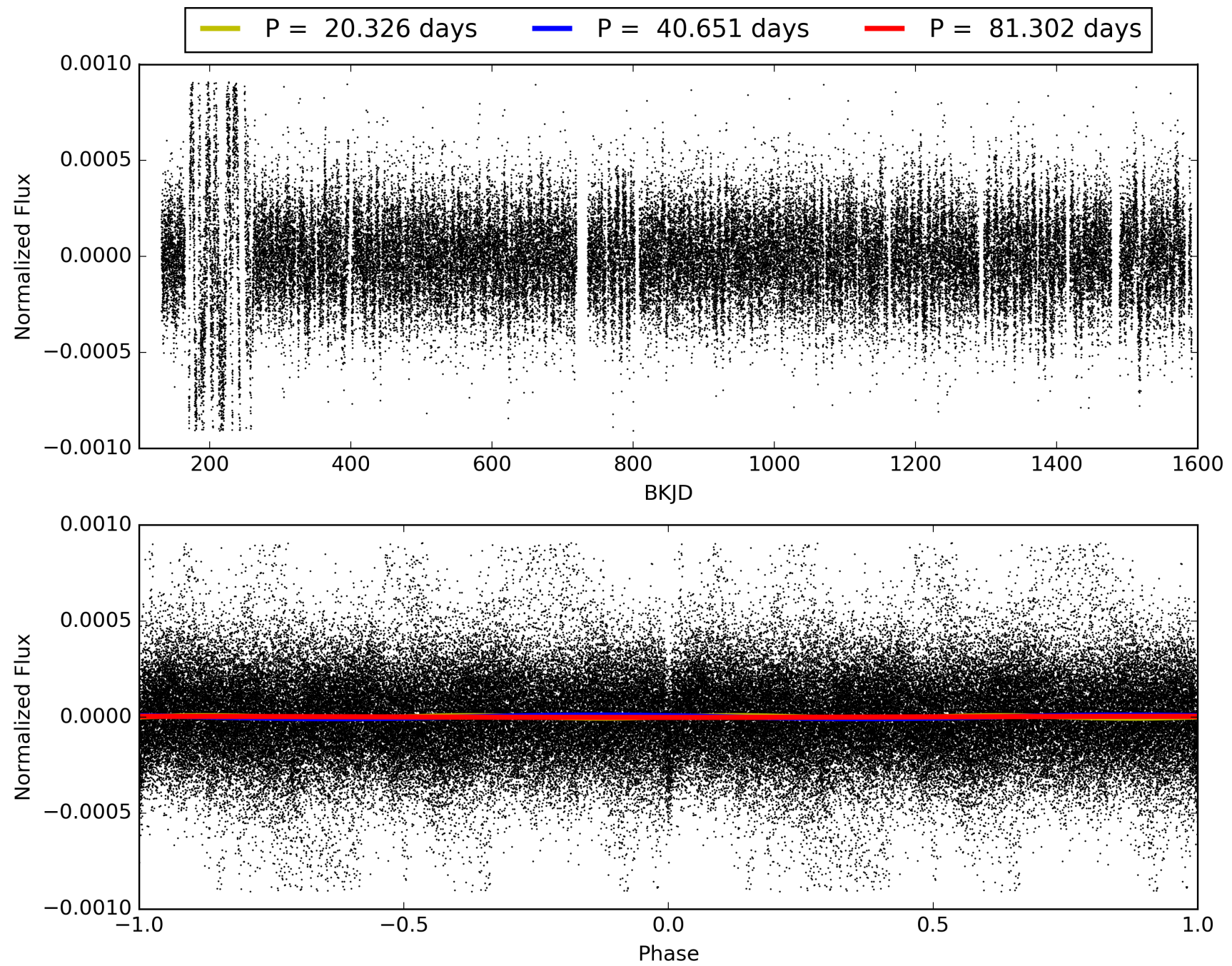
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:42:53 Z

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

TCE 005004909-01, PDC Light Curves

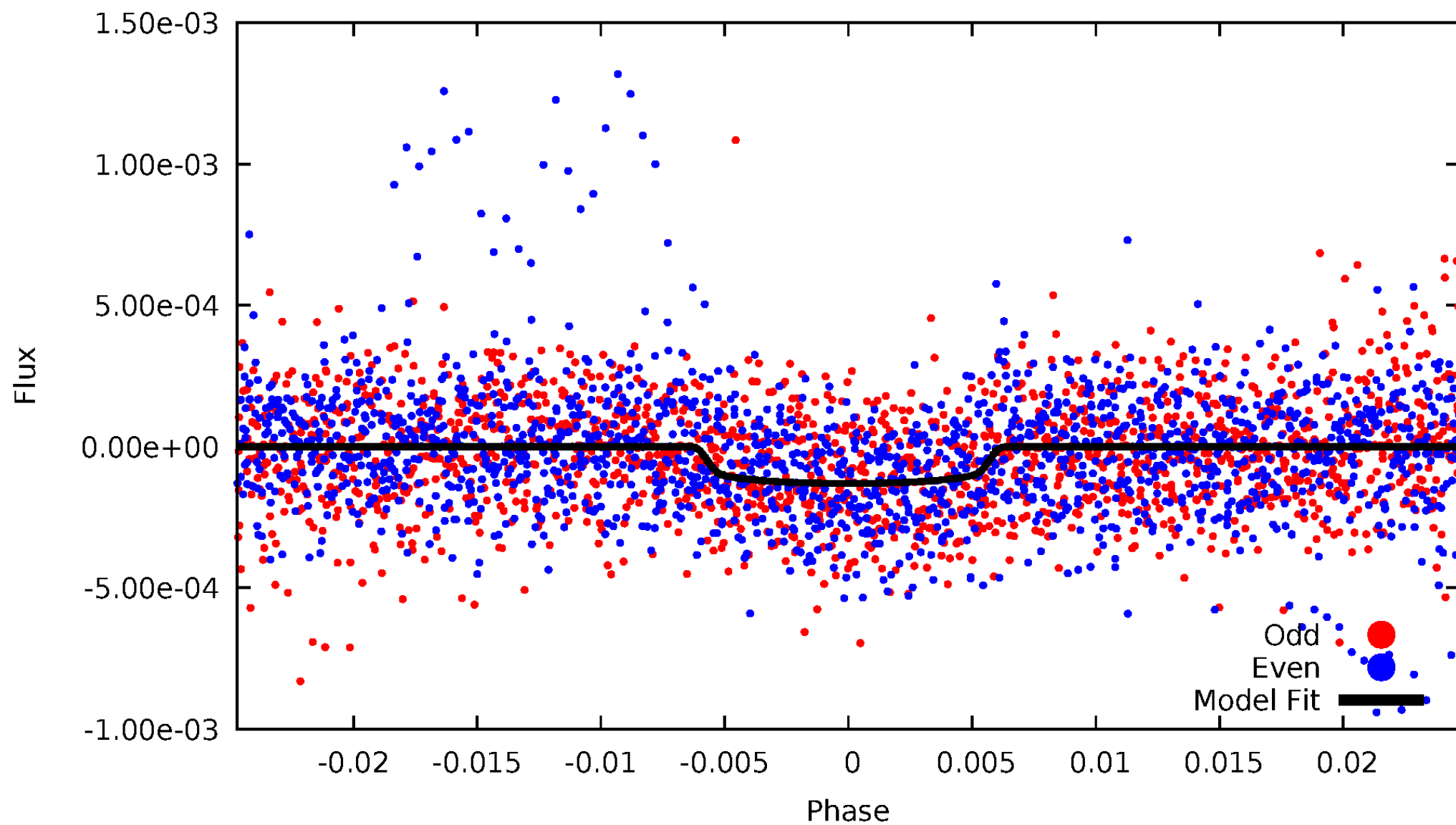


TCE 005004909-01



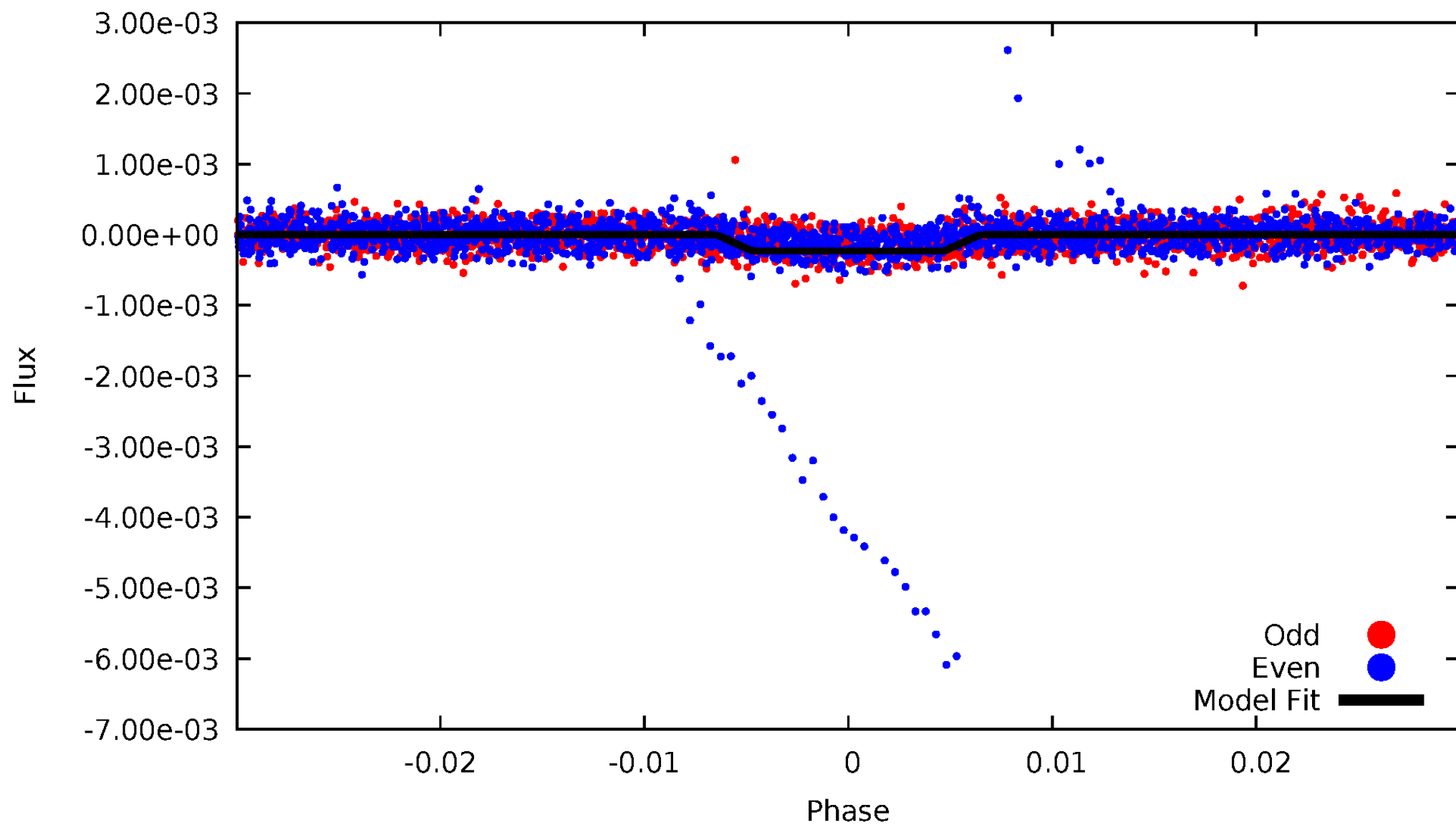
DV Odd/Even

TCE 005004909-01



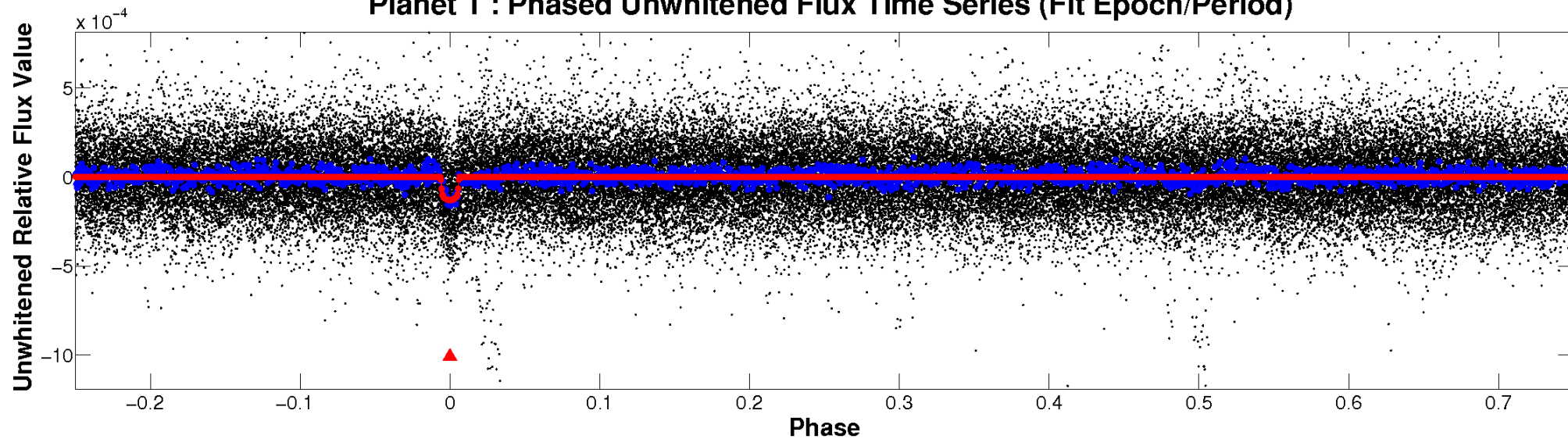
ALT Odd/Even

TCE 005004909-01

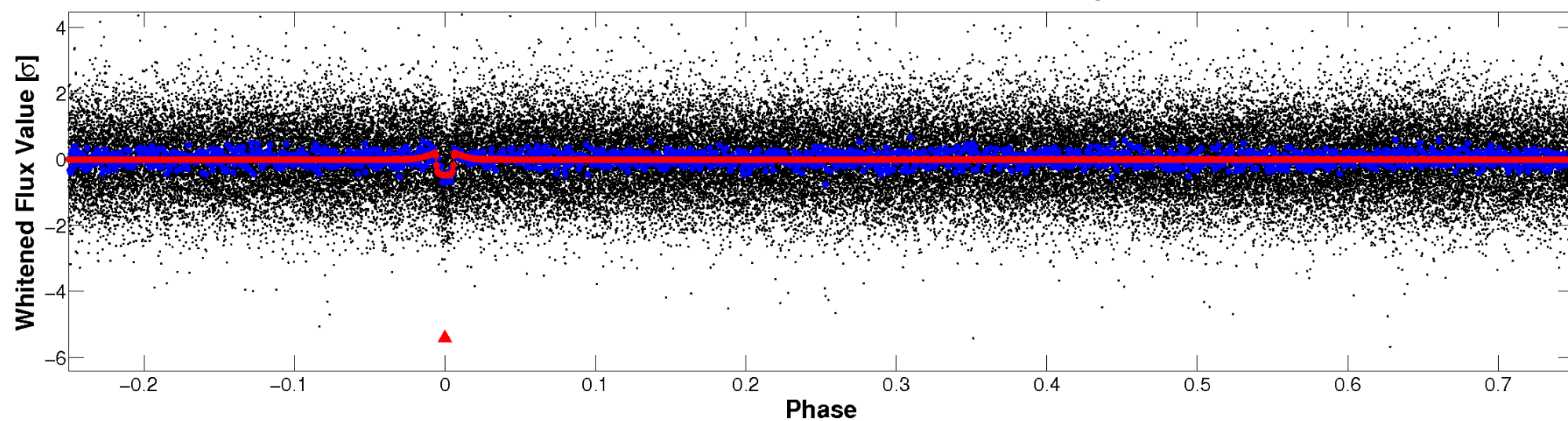


Non-Whitened Vs. Whitened Light Curve

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

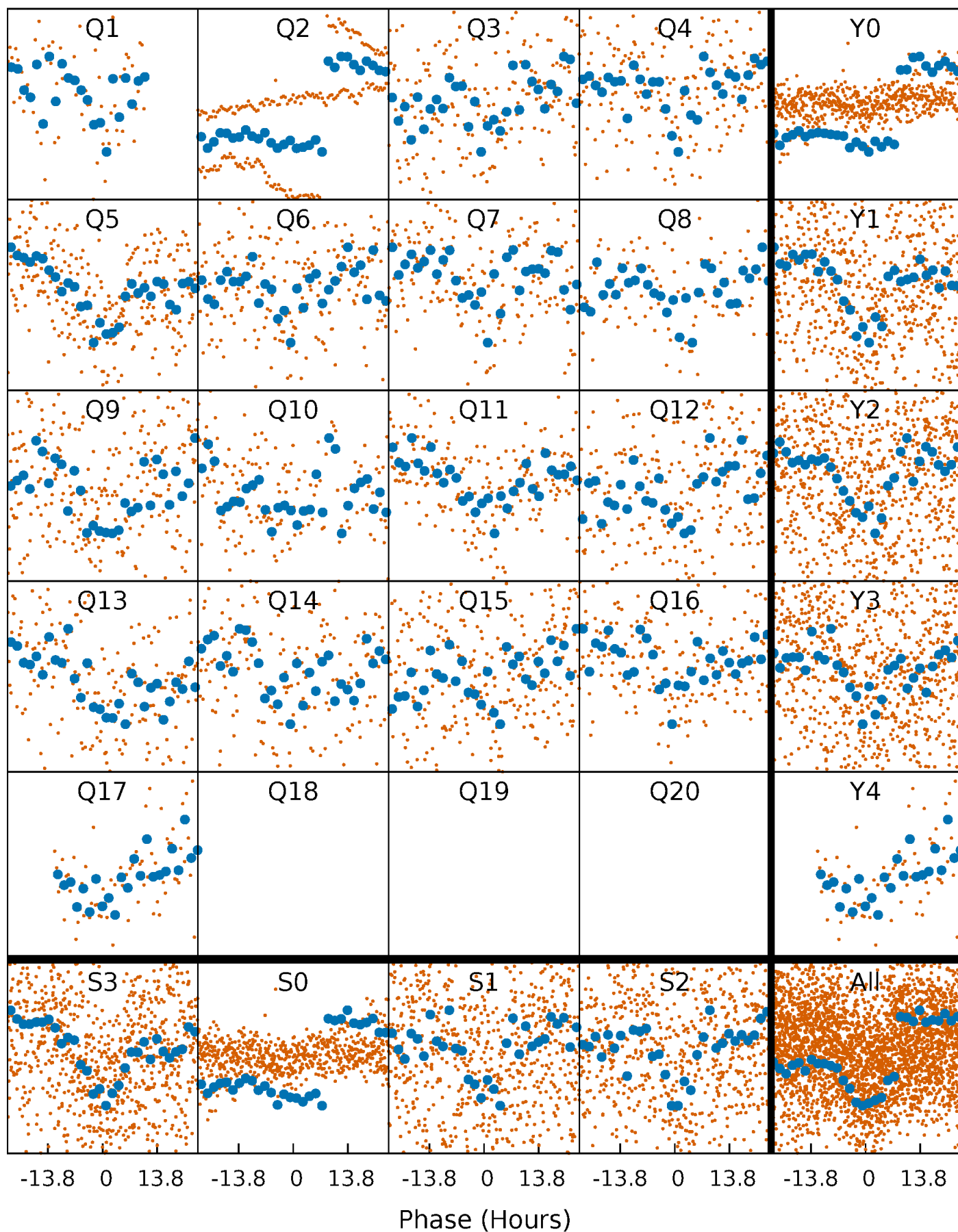


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



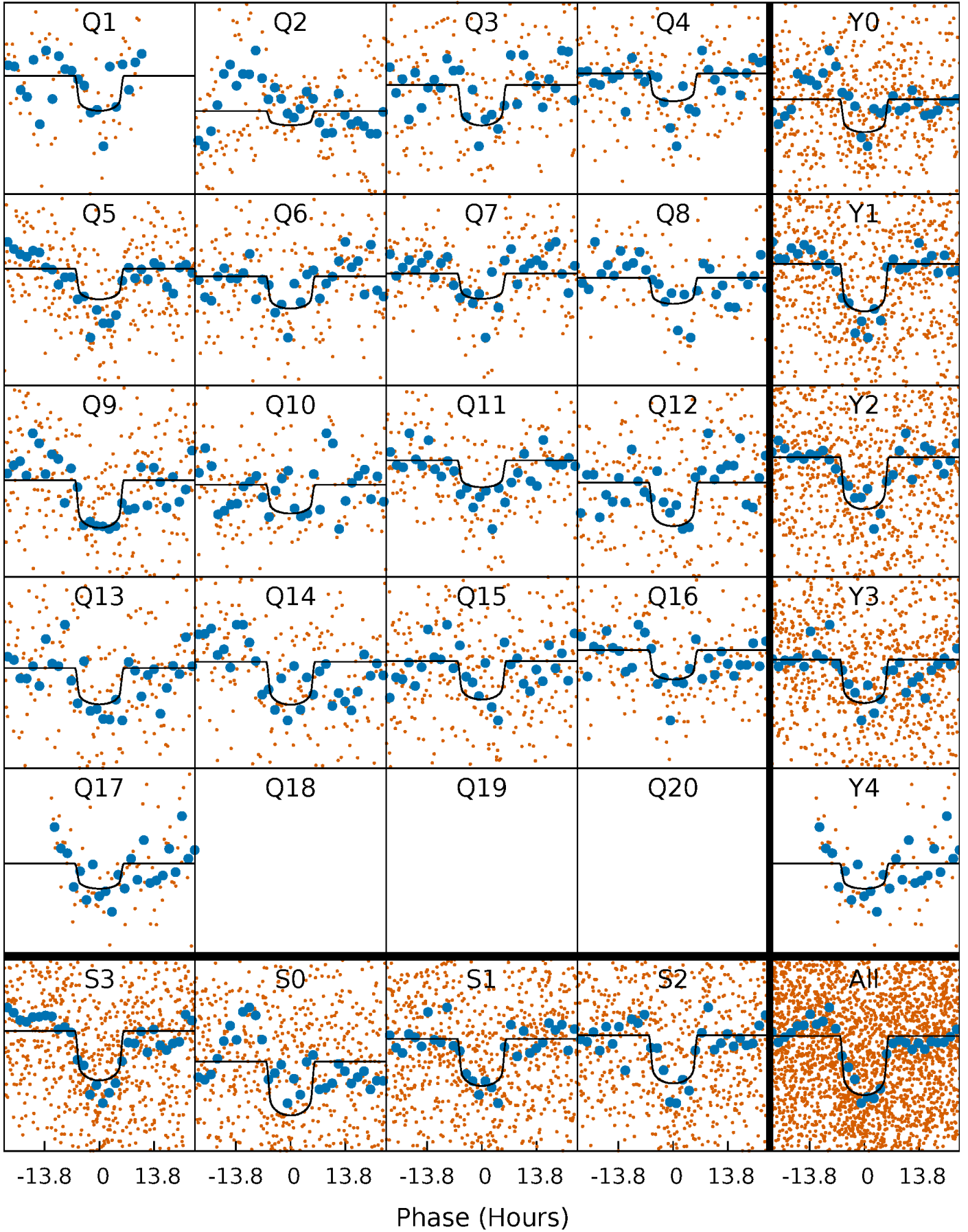
PDC Quarter-Phased Transit Curves

TCE 005004909-01 P= 40.651110 Days $T_0=164.548477$ (BKJD)



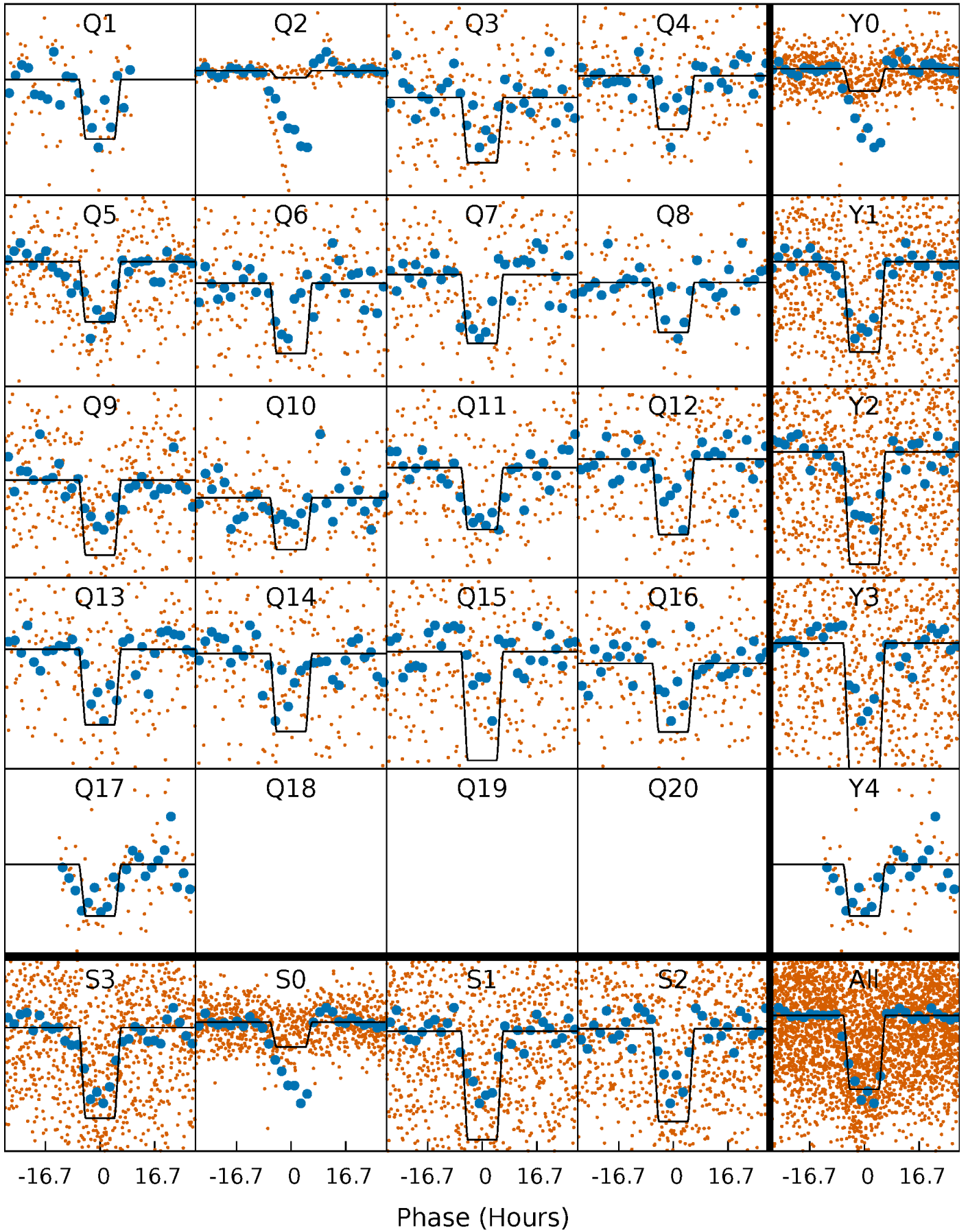
DV Quarter-Phased Transit Curves

TCE 005004909-01 P= 40.651110 Days $T_0=164.548477$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

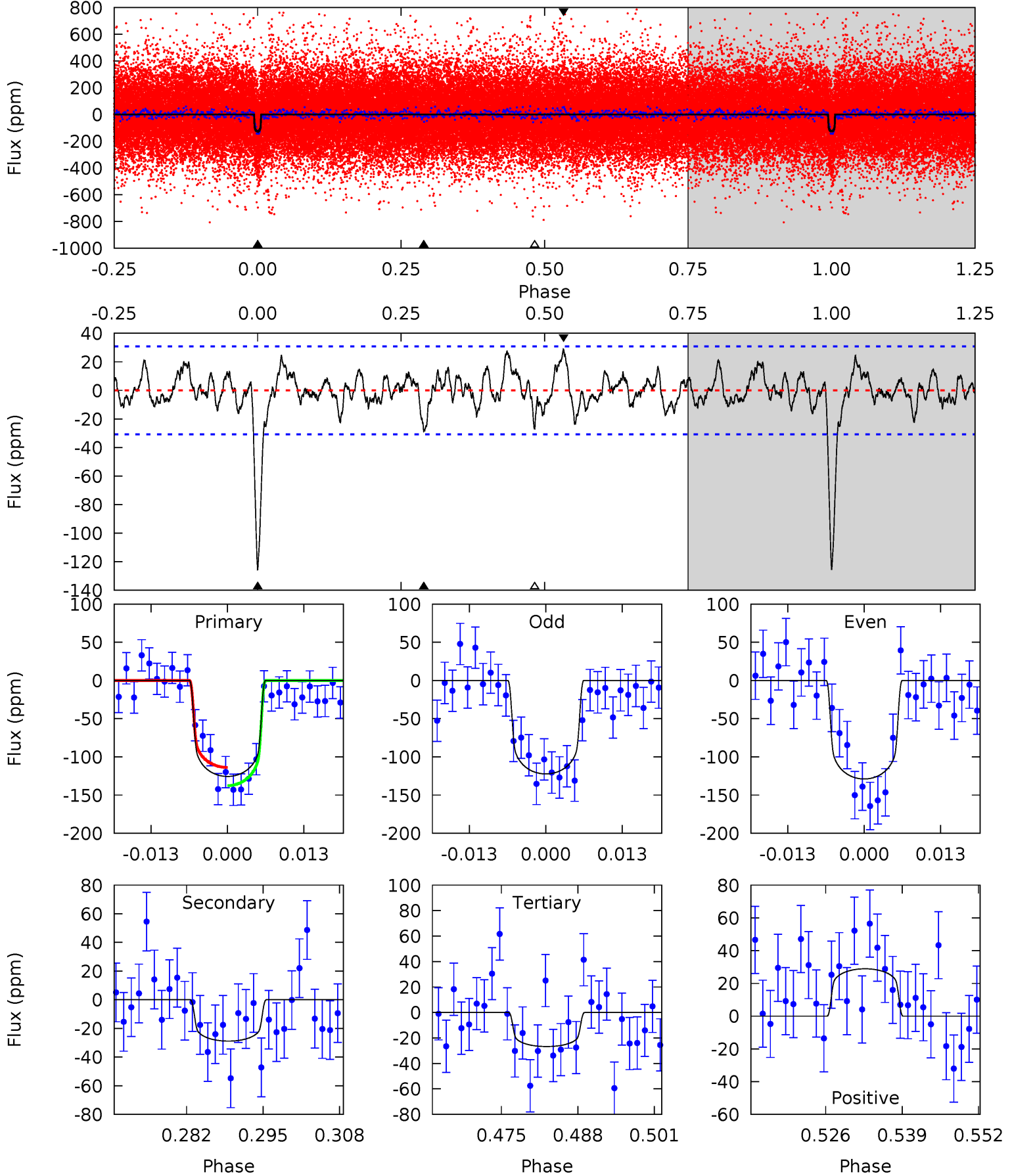
TCE 005004909-01 P= 40.650297 Days $T_0=164.589499$ (BKJD)



DV Model-Shift Uniqueness Test

005004909-01, $P = 40.651110$ Days, $E = 123.897367$ Days

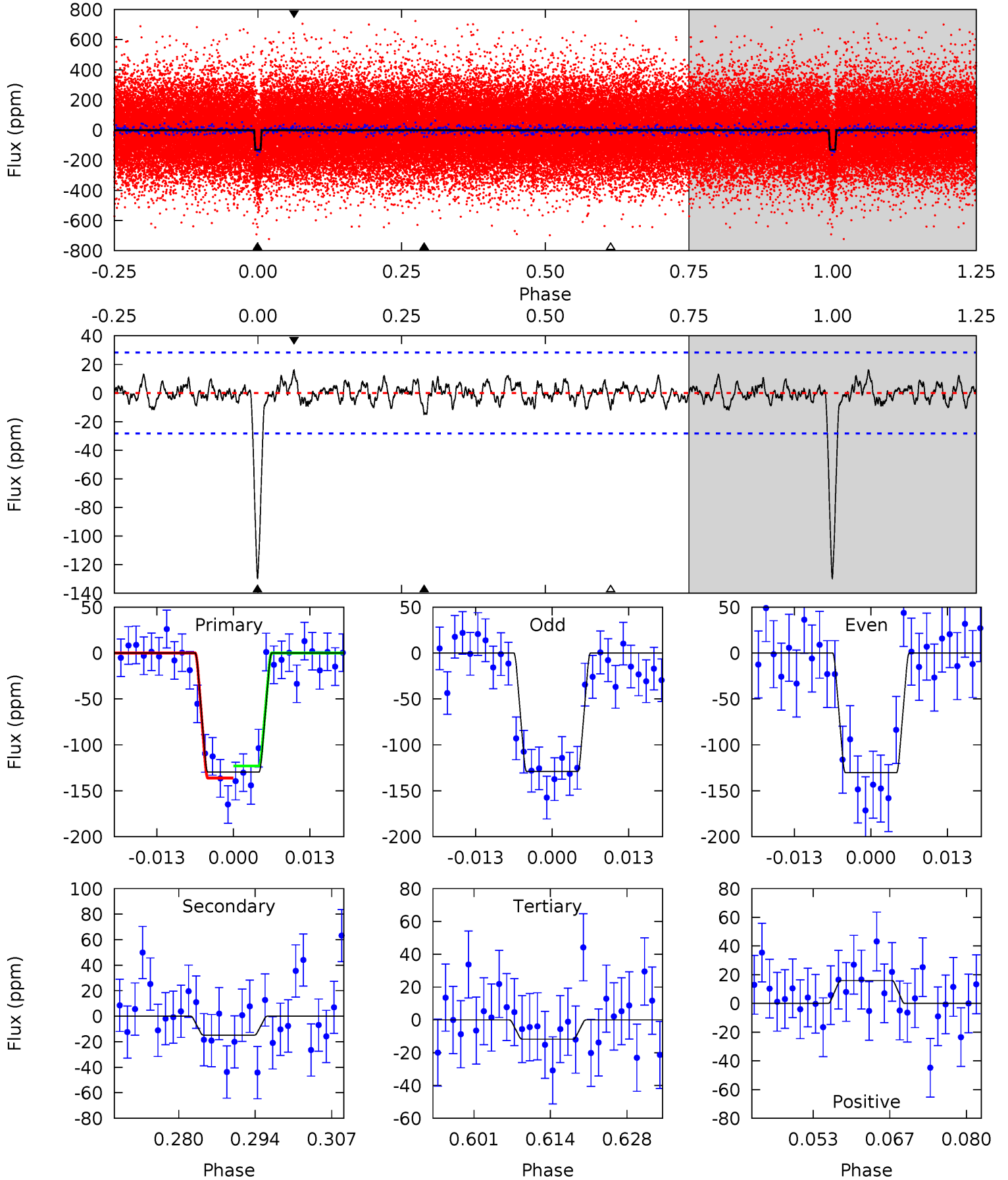
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	4.67	4.33	4.68	4.98	2.49	1.53	16.0	15.6	0.34	-0.01	0.54	0.95	0.19	1.93



Alt Model-Shift Uniqueness Test

005004909-01, P = 40.650297 Days, E = 123.939202 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.7	2.60	2.07	2.80	4.97	2.47	0.88	20.7	19.9	0.53	-0.21	0.12	1.92	0.11	1.14



Stellar Parameters For KIC 005004909

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6297^{+69}_{-88}	$4.260^{+0.095}_{-0.116}$	$0.140^{+0.150}_{-0.150}$	$1.369^{+0.249}_{-0.166}$	$1.247^{+0.091}_{-0.111}$	$0.684^{+0.284}_{-0.235}$
	+1%/-1%	+2%/-3%	+107%/-107%	+18%/-12%	+7%/-9%	+41%/-34%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005004909-01 / KOI 3421.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-29 ± 6	$1.86^{+0.24}_{-0.23}$	911^{+37}_{-37}	4366^{+232}_{-257}	284^{+105}_{-82}
Alt.	-15 ± 6	$2.29^{+0.27}_{-0.24}$	912^{+45}_{-35}	3623^{+220}_{-294}	97^{+45}_{-43}

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 $A_{obs} \gg 1.0$

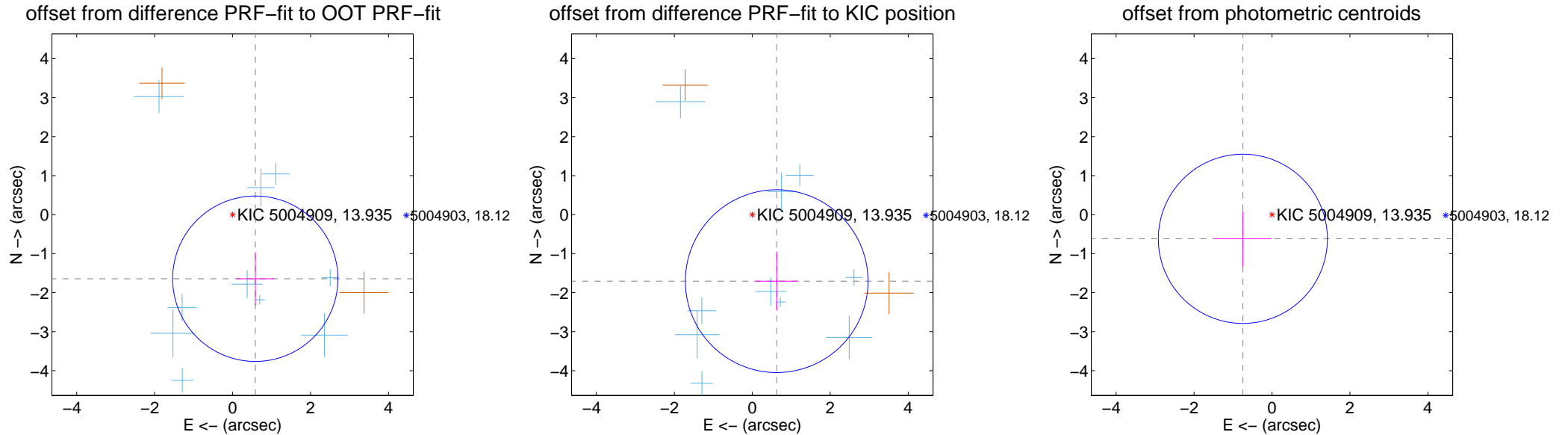
DV Centroid Data

Supplemental centroid analysis for 005004909-01. Kepler magnitude: 13.94. Transit SNR 12.60

There are 10 quarters with good PRF difference image offsets

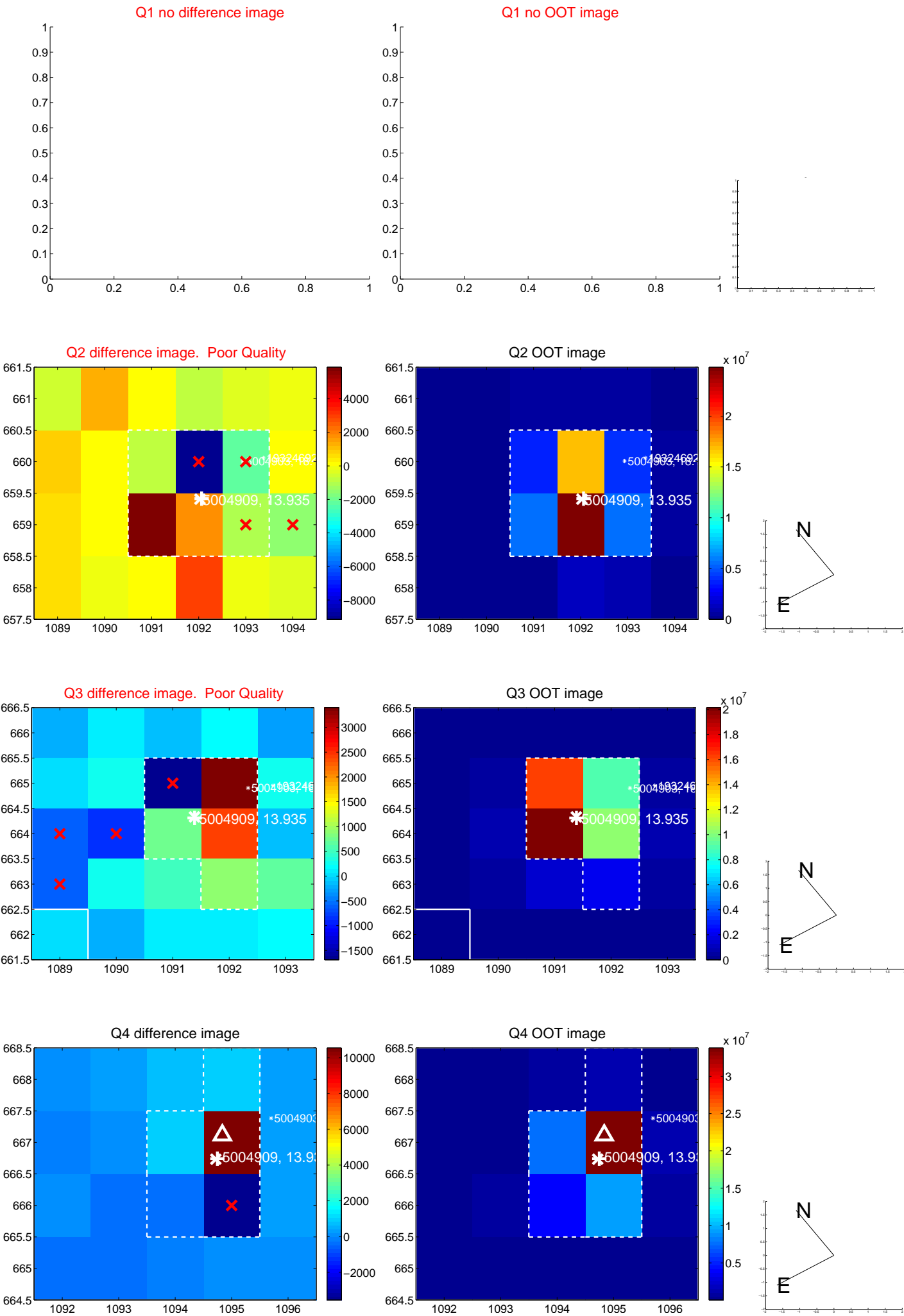
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.743 ± 0.707	2.47	-0.581 ± 0.483	-1.643 ± 0.681
PRF-fit source offset from KIC position	1.816 ± 0.781	2.32	-0.626 ± 0.552	-1.705 ± 0.756
photometric centroid source offset	0.97 ± 0.72	1.34	0.75 ± 0.73	-0.62 ± 0.71

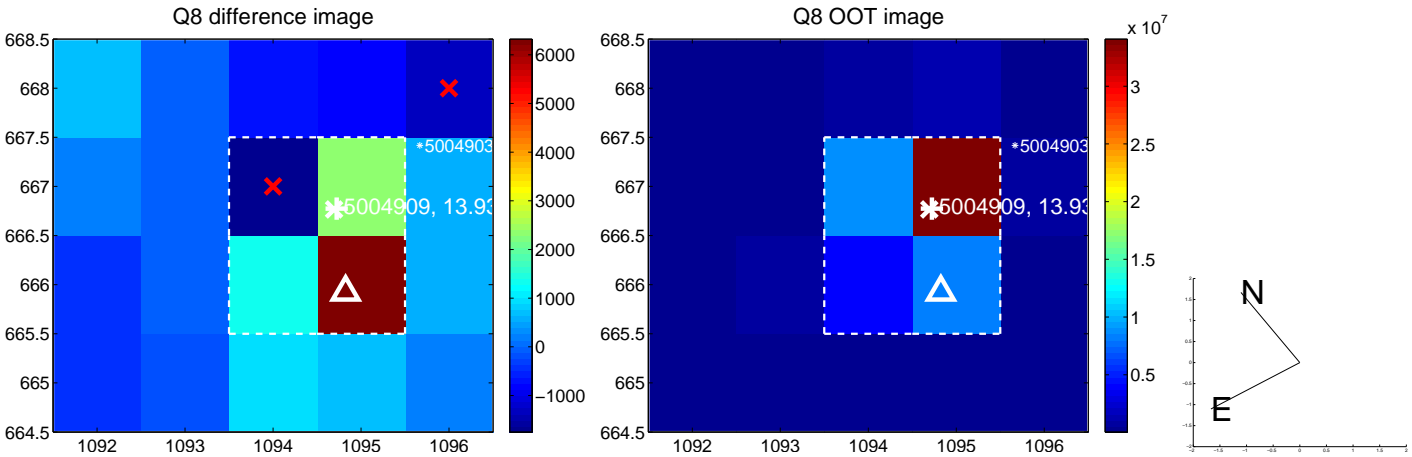
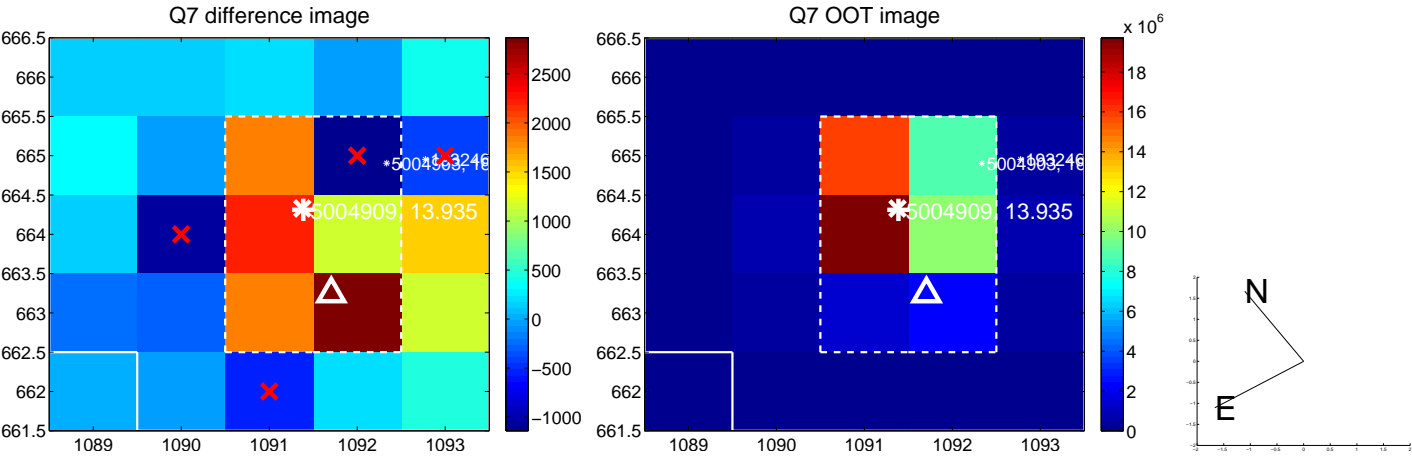
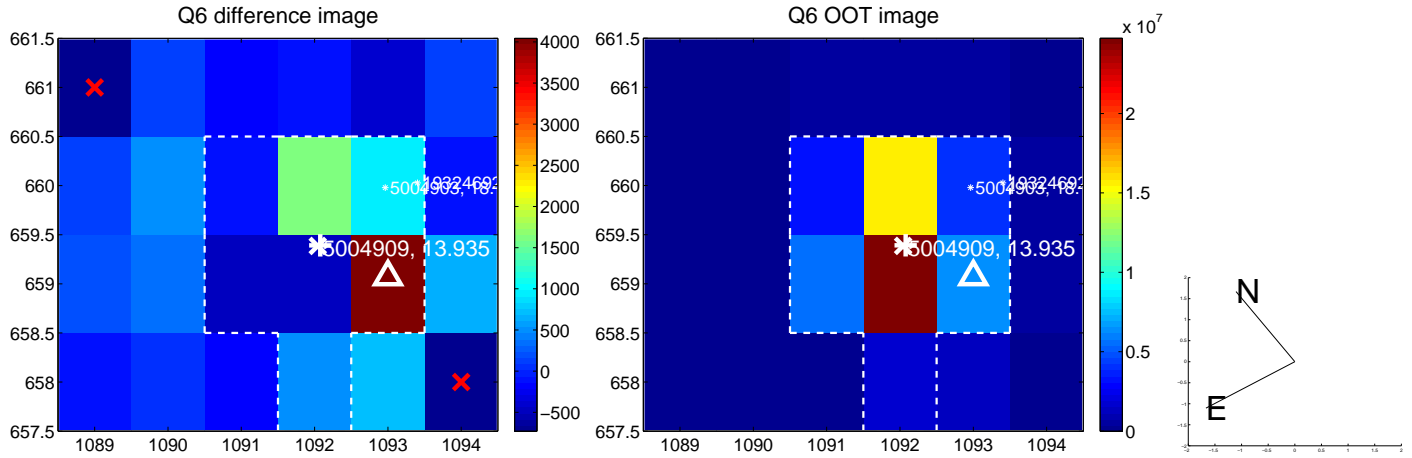
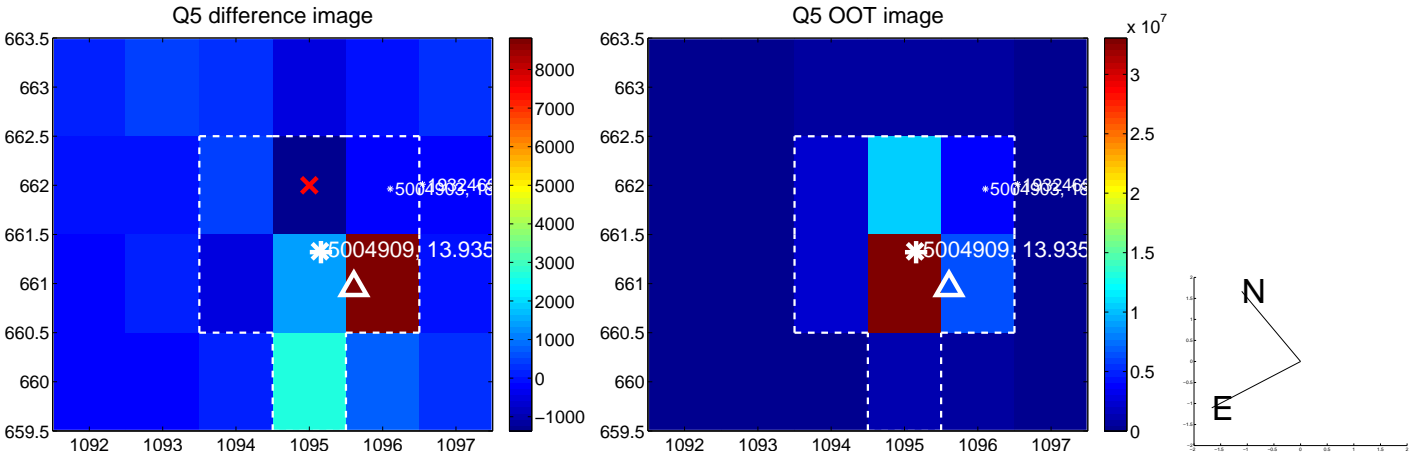


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

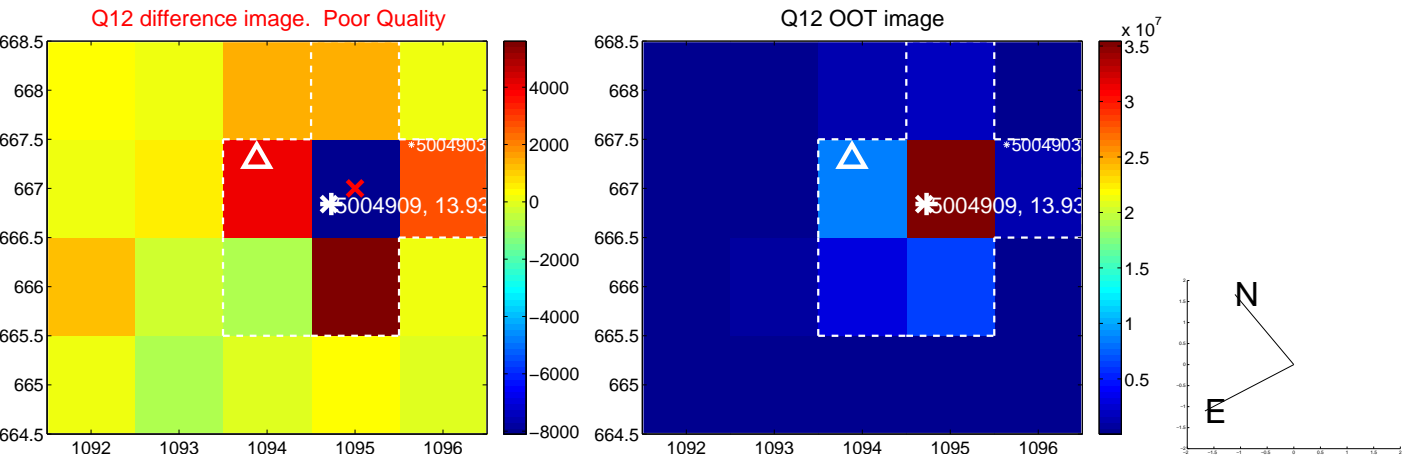
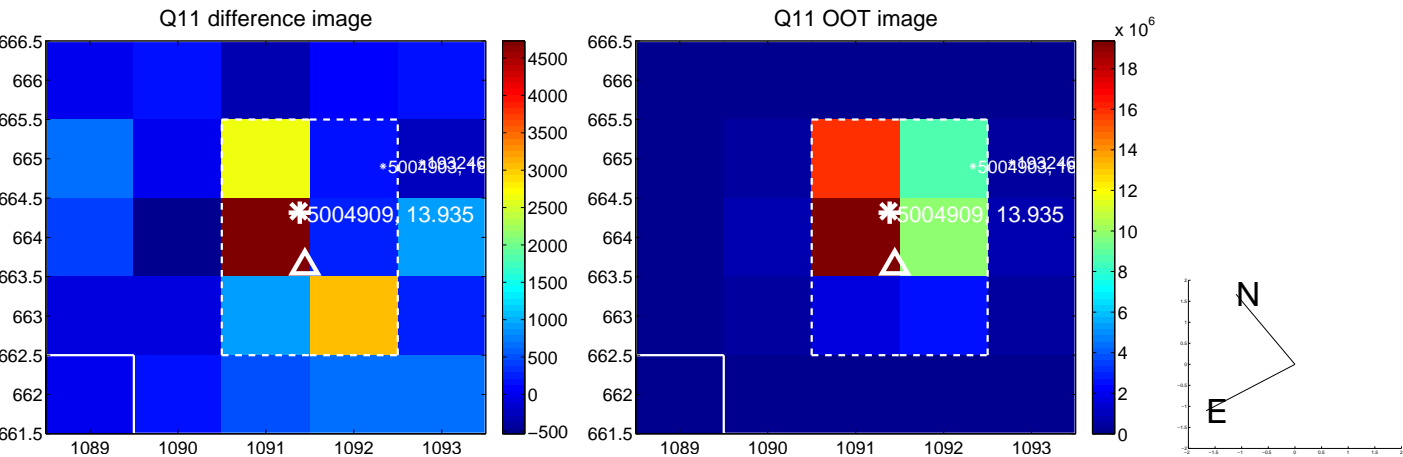
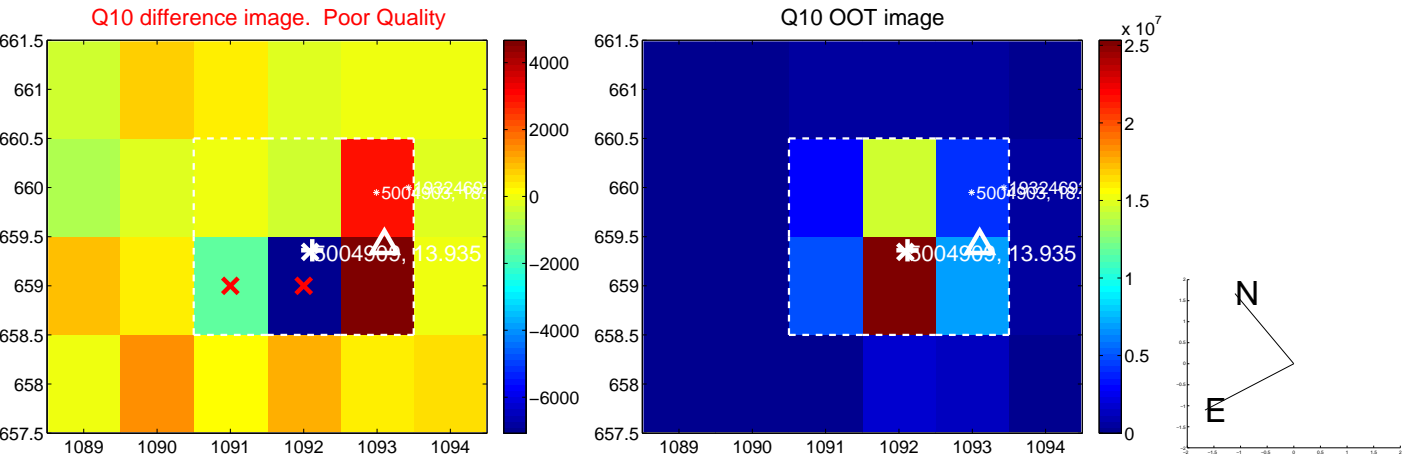
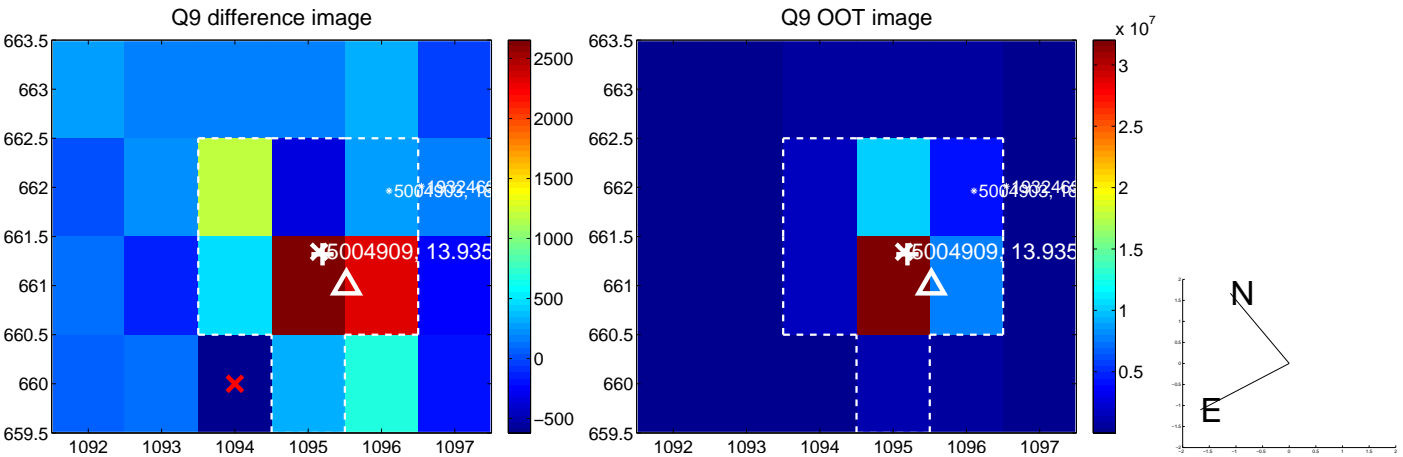
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



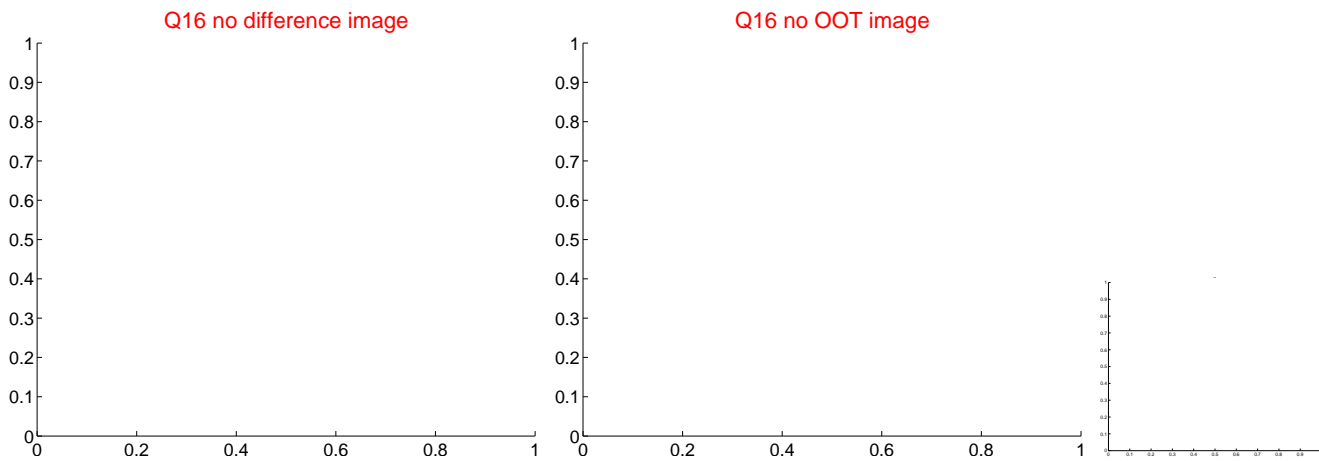
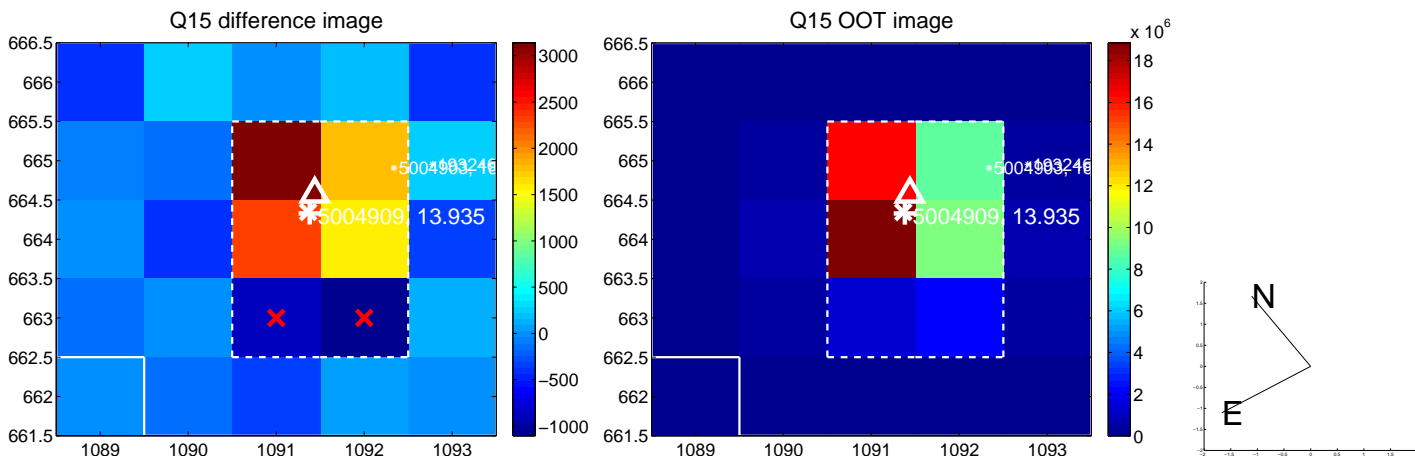
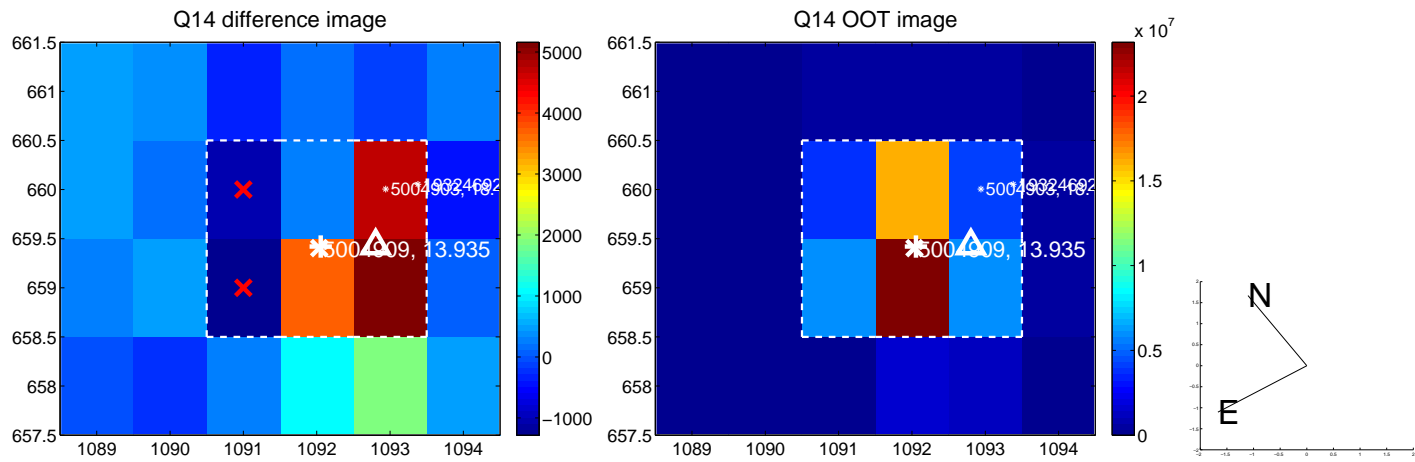
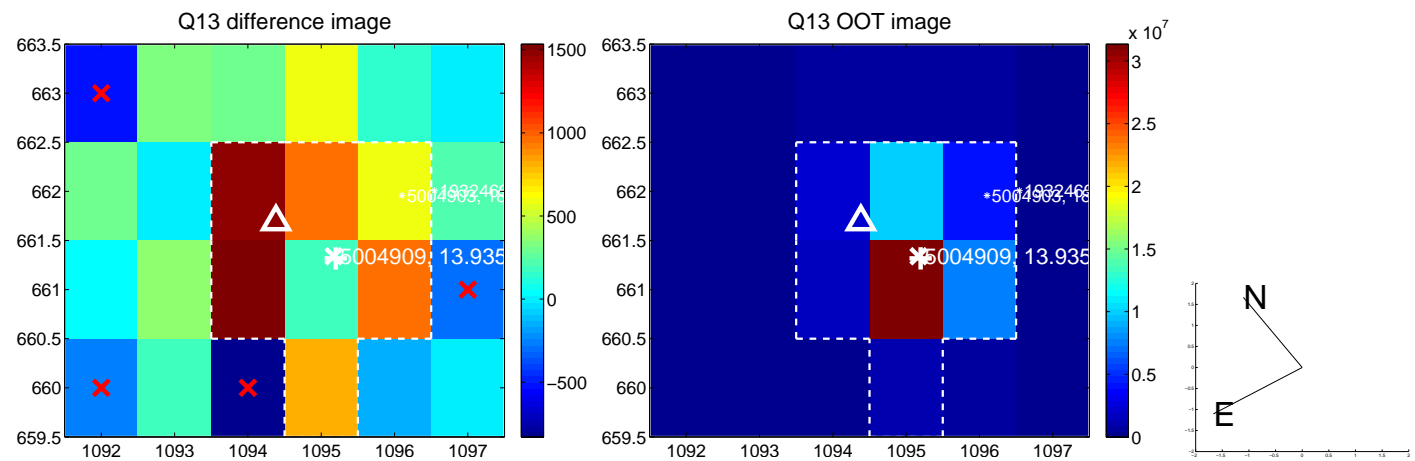
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



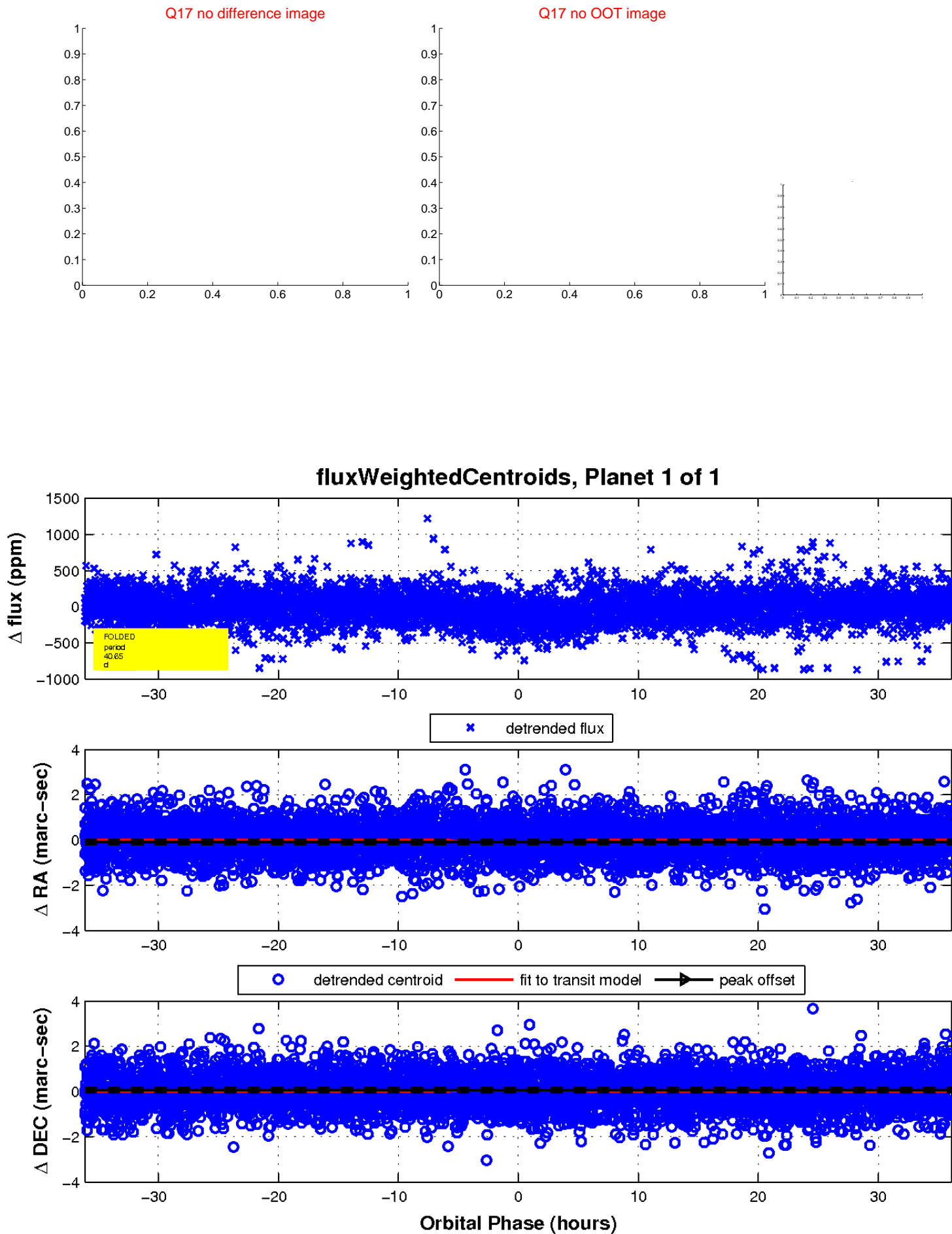
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

