

KIC 004951249

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})
004951249-01	OBS	2258.01	4.523414	135.469816	202.4	2.653	14.0	14.4	1.06	6211	1.73	483.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004951249-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET—HALO_GHOST

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.

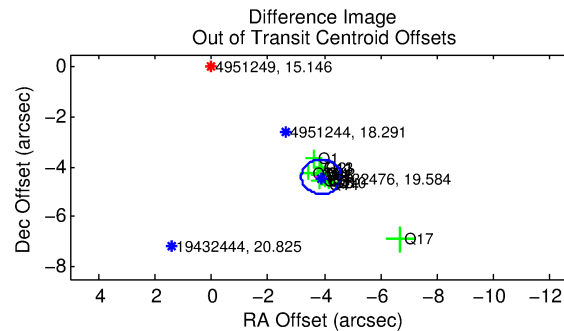
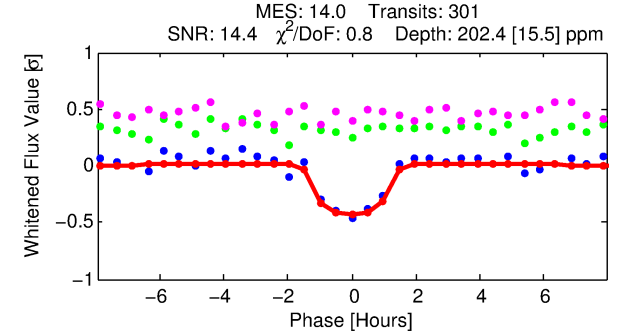
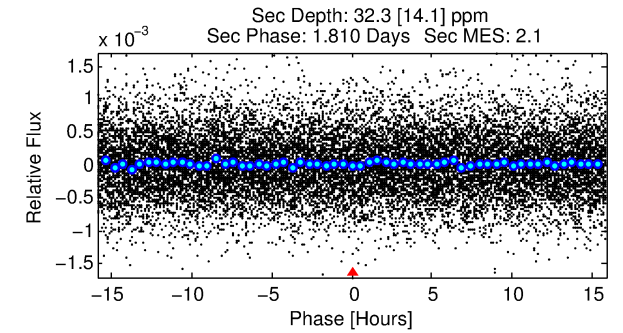
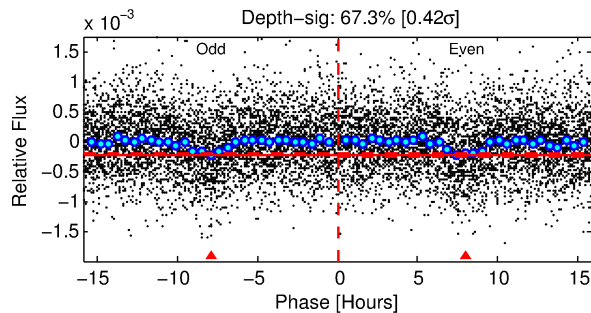
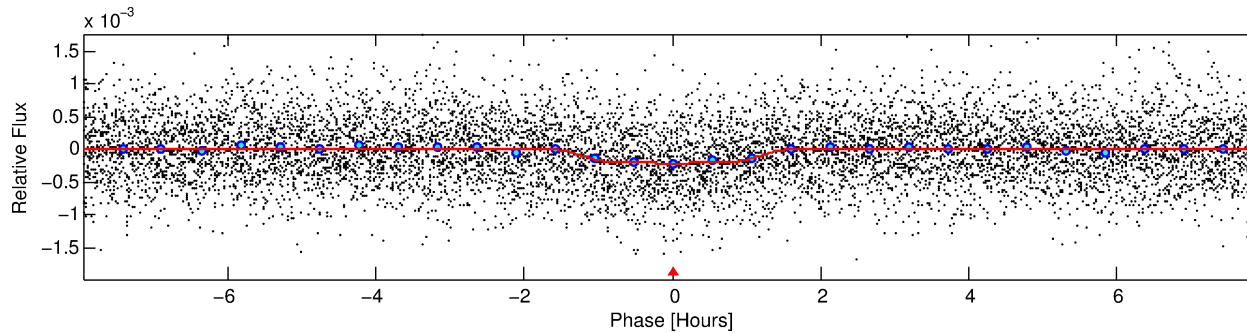
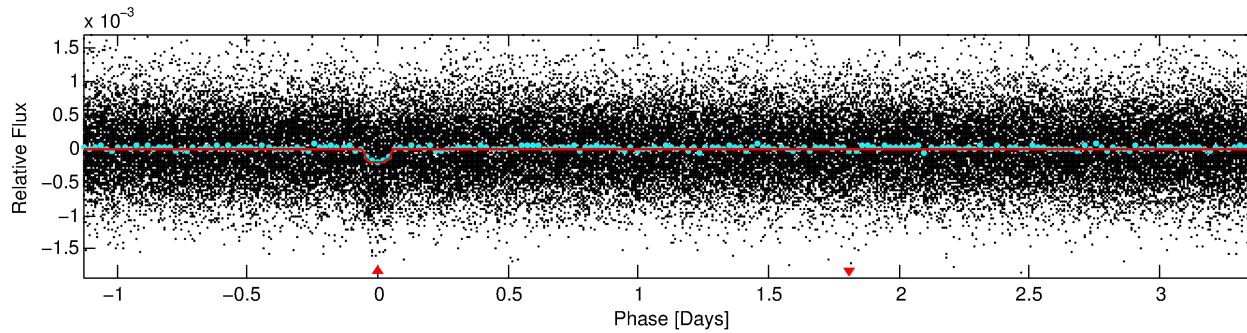
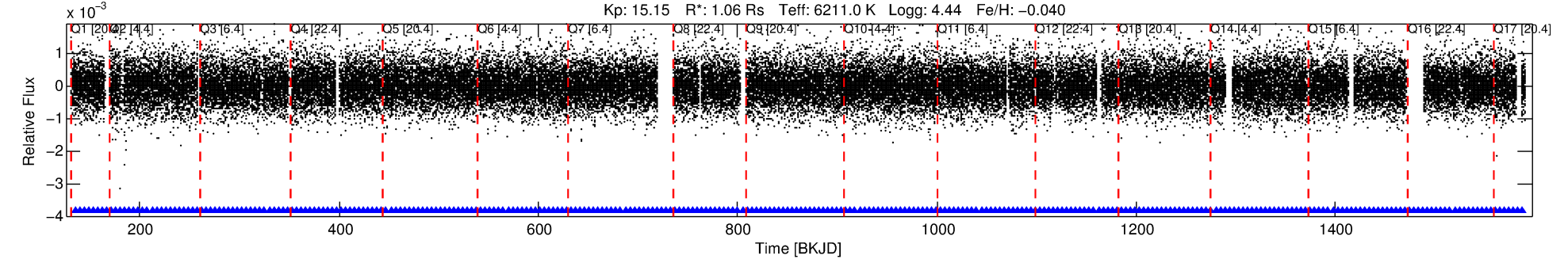
Ephemeris Match Information For 004951249-01

No Significant Match Found

DV One-Page Summary

KIC: 4951249 Candidate: 1 of 1 Period: 4.523 d
KOI: K02258.01 Corr: 0.934

Kp: 15.15 R*: 1.06 Rs Teff: 6211.0 K Logg: 4.44 Fe/H: -0.040



DV Fit Results:

Period = 4.52341 [0.00002] d
Epoch = 135.4698 [0.0034] BKJD
Rp/R* = 0.0150 [0.0074]
a/R* = 6.92 [17.51]
b = 0.87 [0.75]
Seff = 483.70 [195.08]
Teff = 1196 [121] K
Rp = 1.73 [1.00] Re
a = 0.0555 [0.0140] AU
Ag = 18.34 [20.90] [0.83σ]
Teffp = 3826 [1044] K [2.50σ]

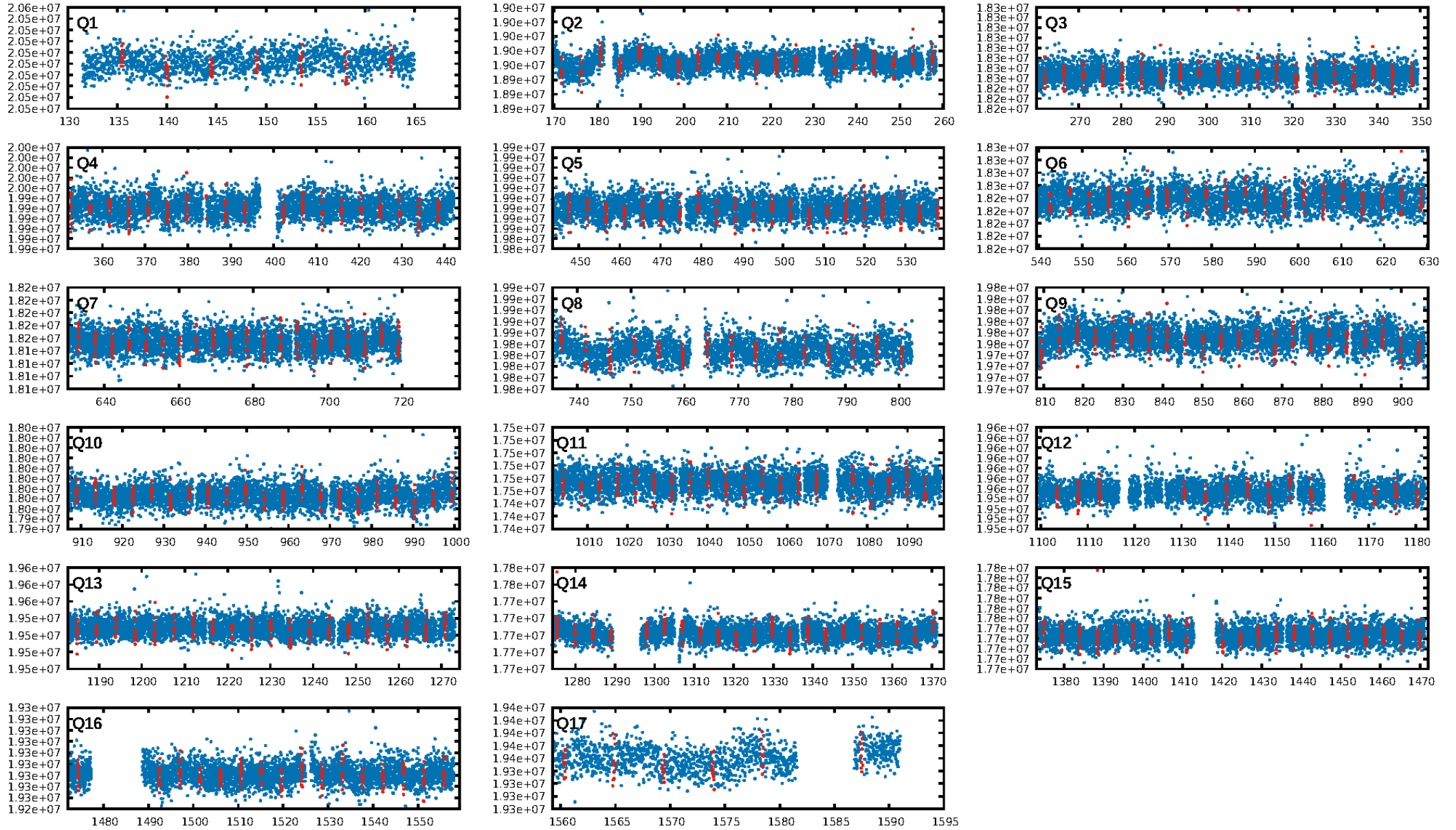
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.46e-43
RollingBand-fgt: 1.00 [288/288]
GhostDiagnostic-chr: 0.01565
Centroid-sig: 0.0%
Centroid-so: 12.827 arcsec [15.56σ]
OotOffset-rm: 5.874 arcsec [25.40σ]
KicOffset-rm: 6.070 arcsec [23.93σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

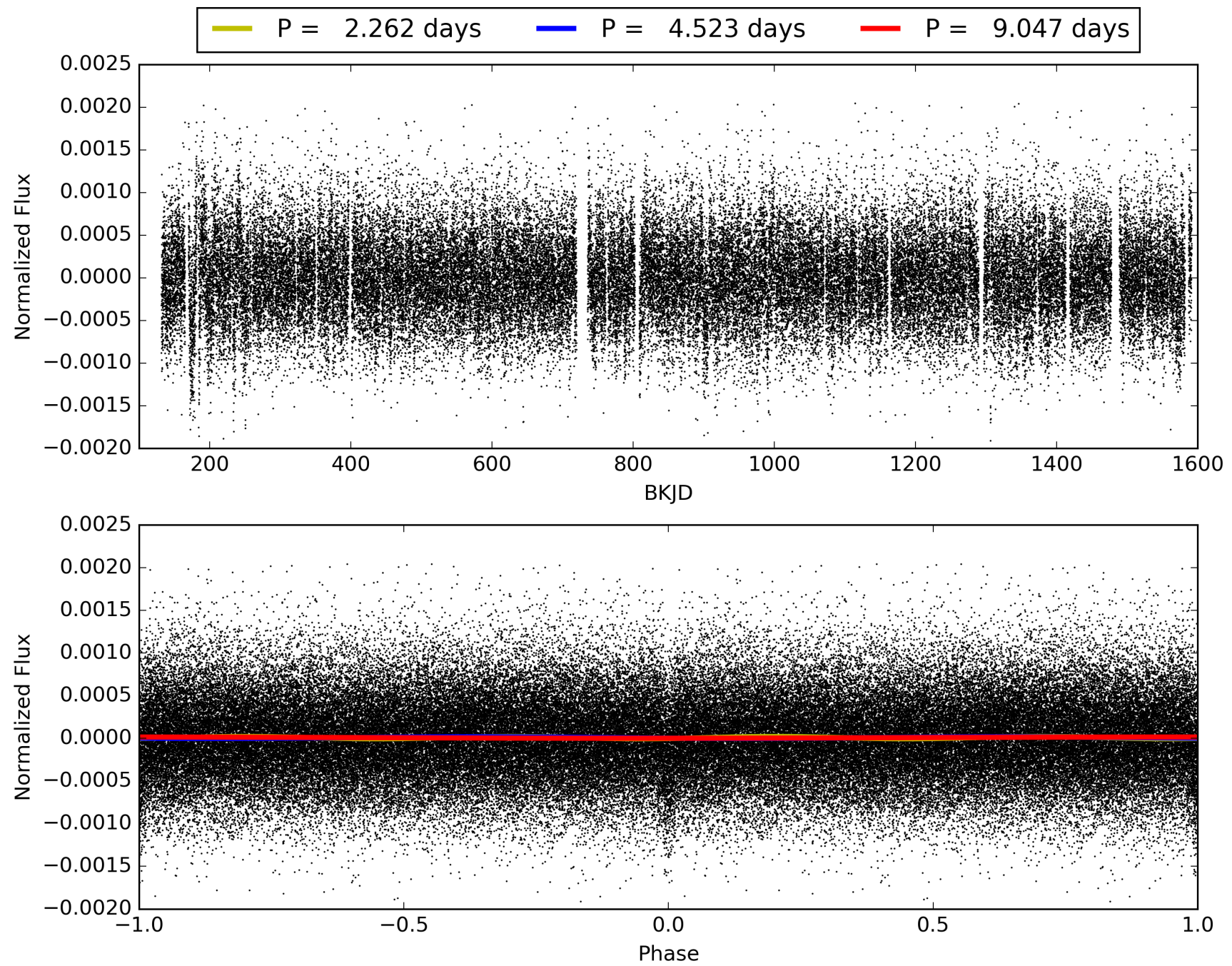
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:23:24 Z

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

TCE 004951249-01, PDC Light Curves

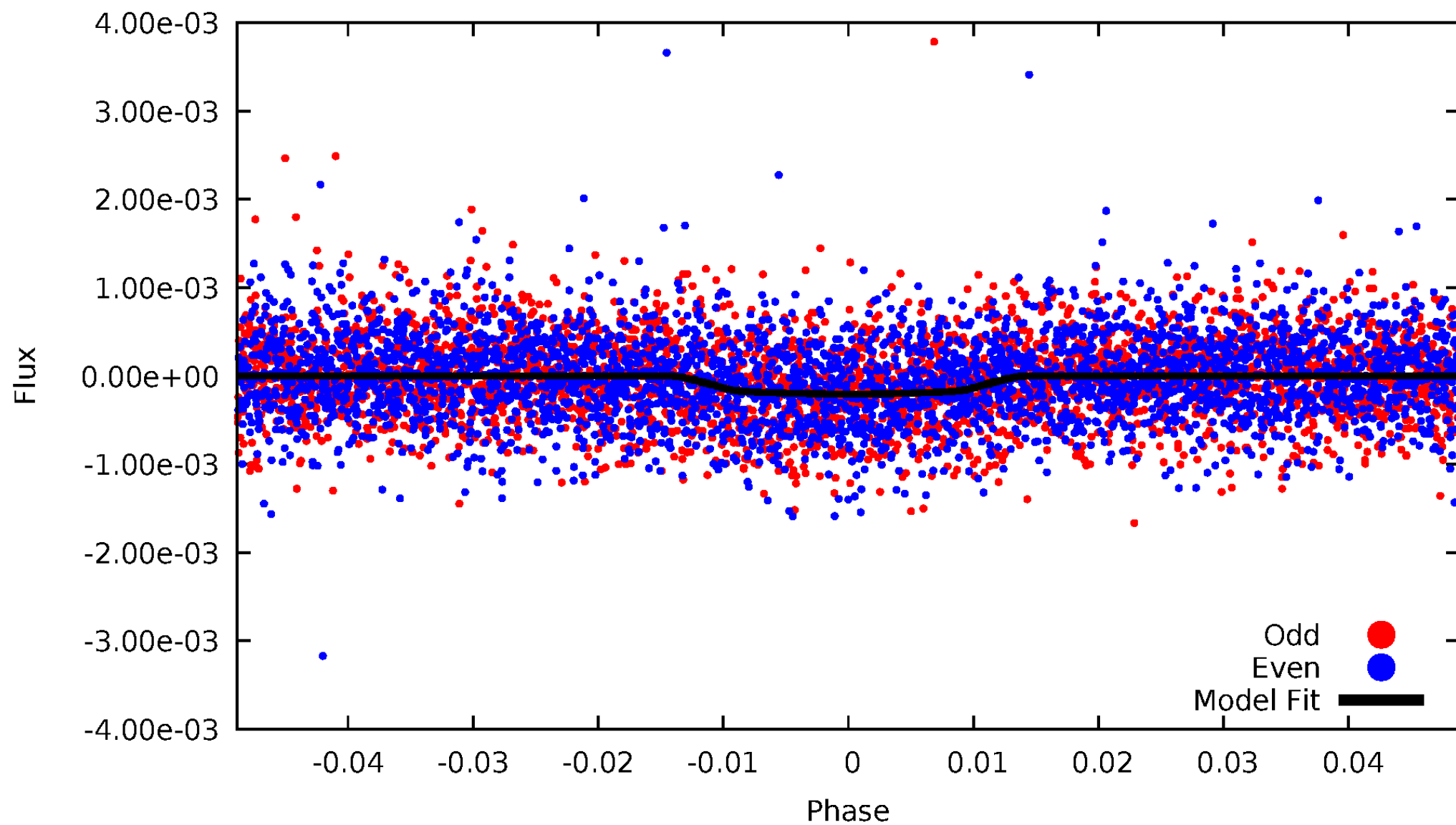


TCE 004951249-01



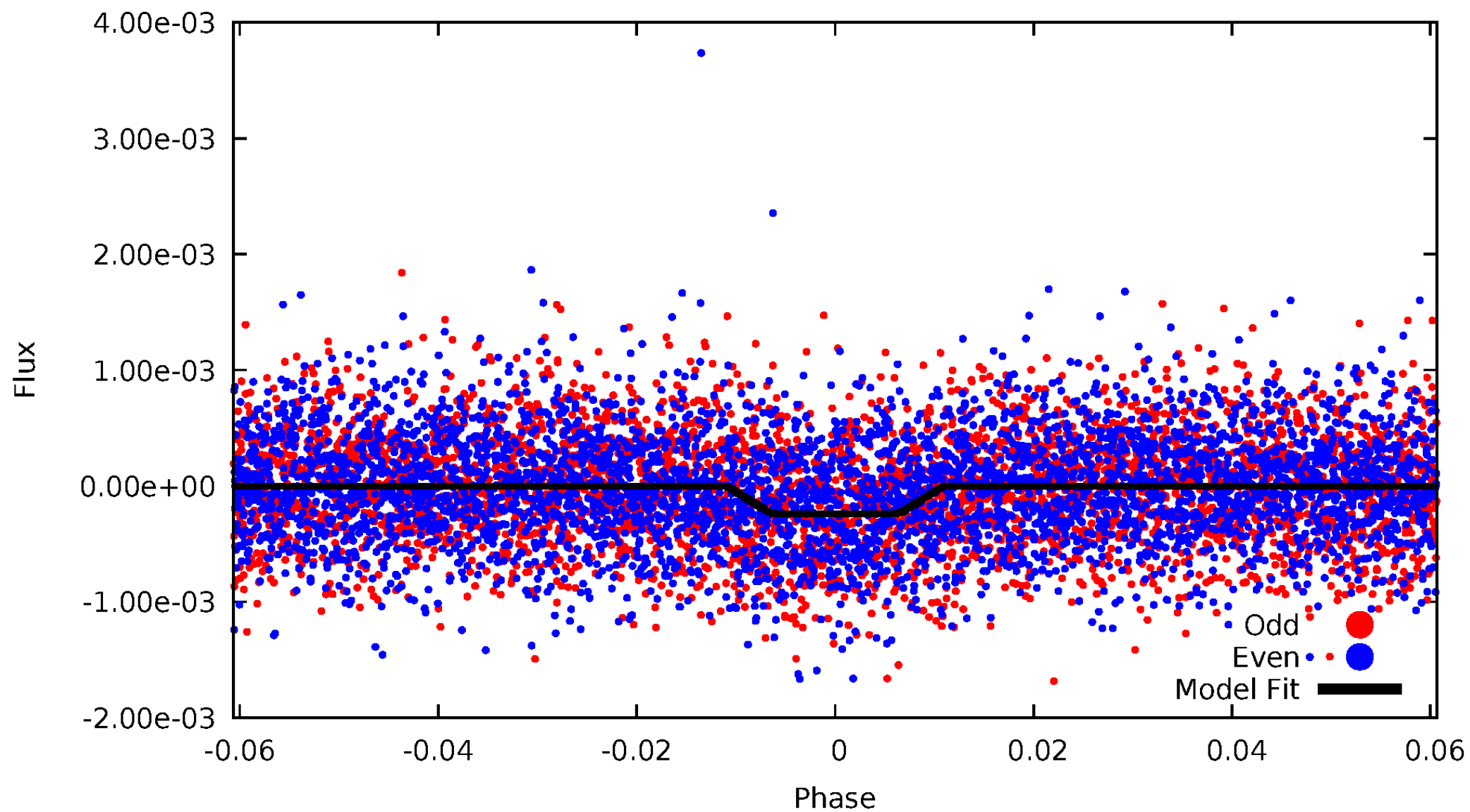
DV Odd/Even

TCE 004951249-01



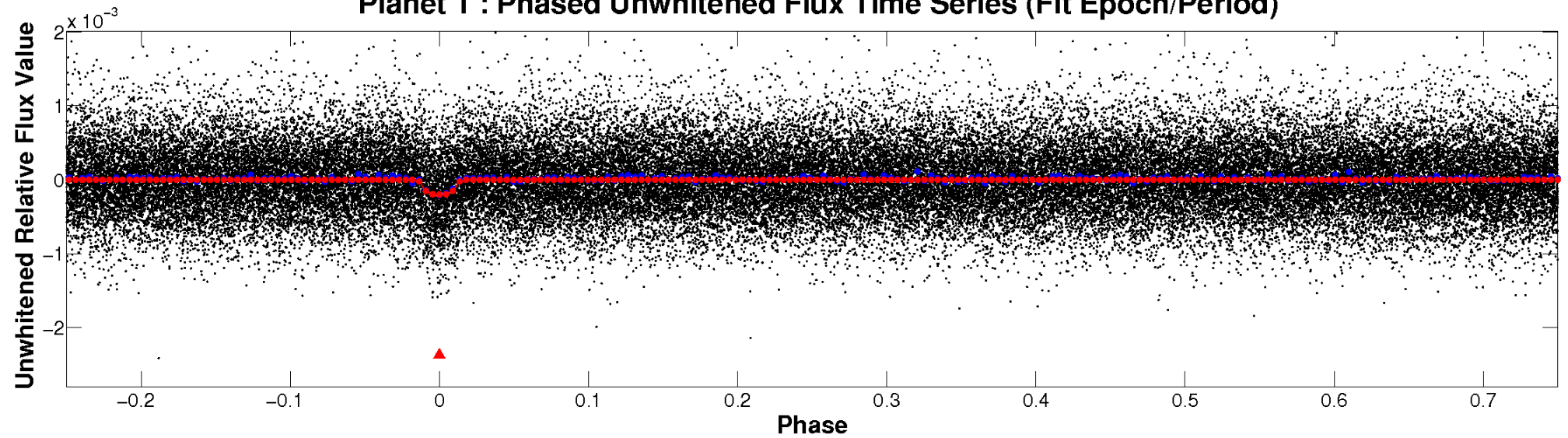
ALT Odd/Even

TCE 004951249-01

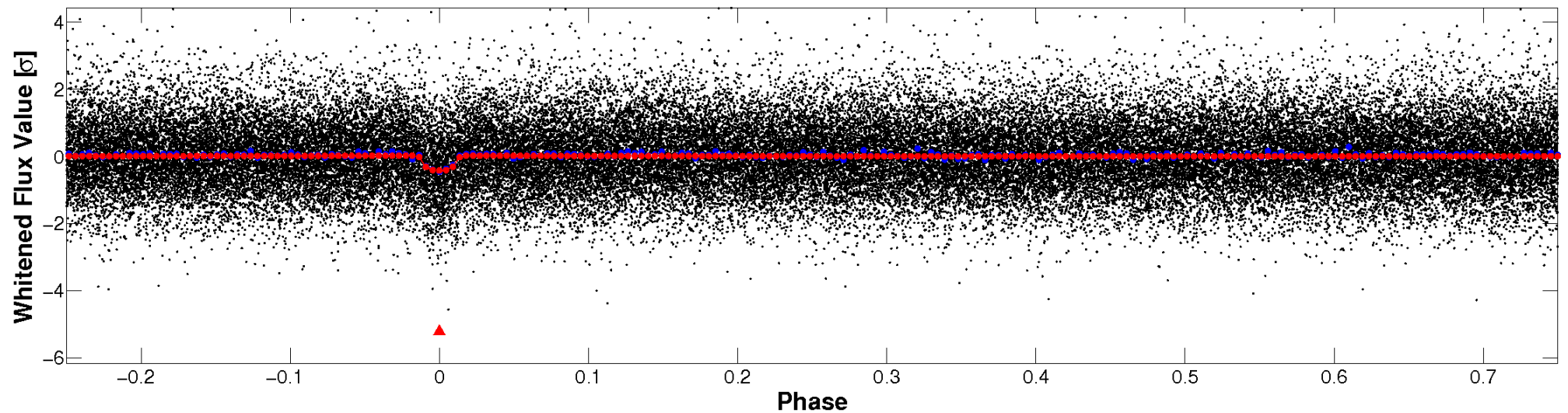


Non-Whitened Vs. Whitened Light Curve

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

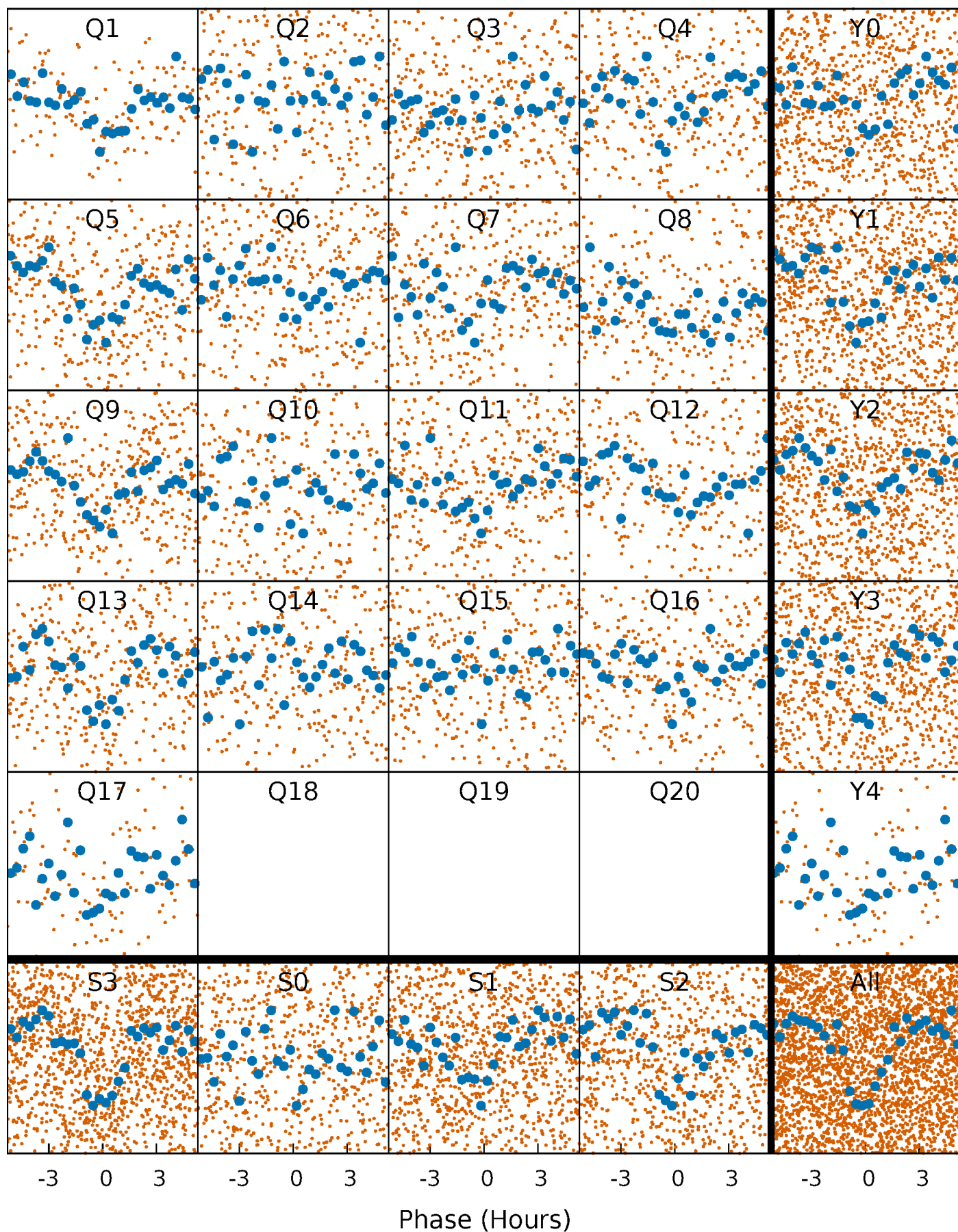


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



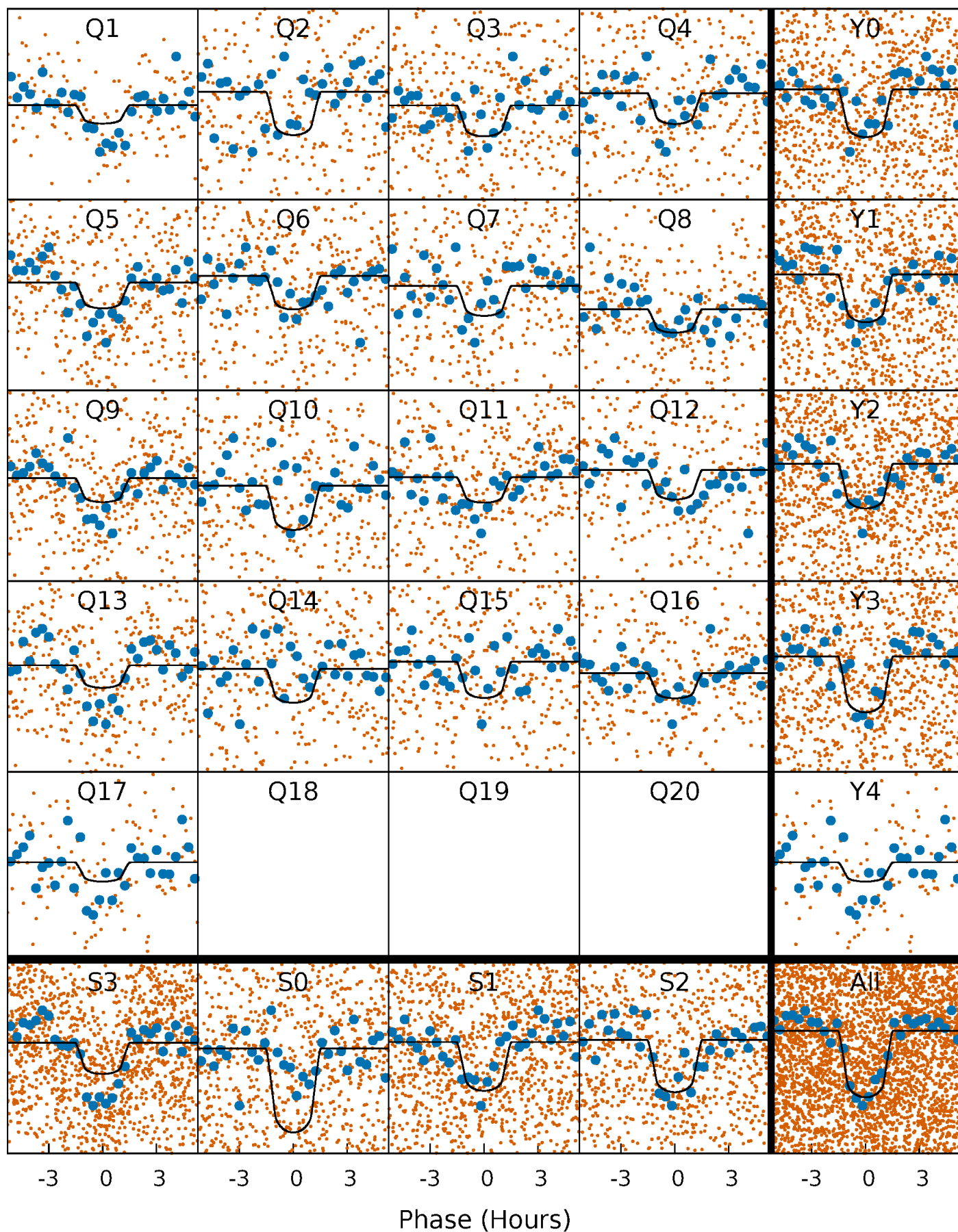
PDC Quarter-Phased Transit Curves

TCE 004951249-01 P= 4.523414 Days $T_0=135.469816$ (BKJD)



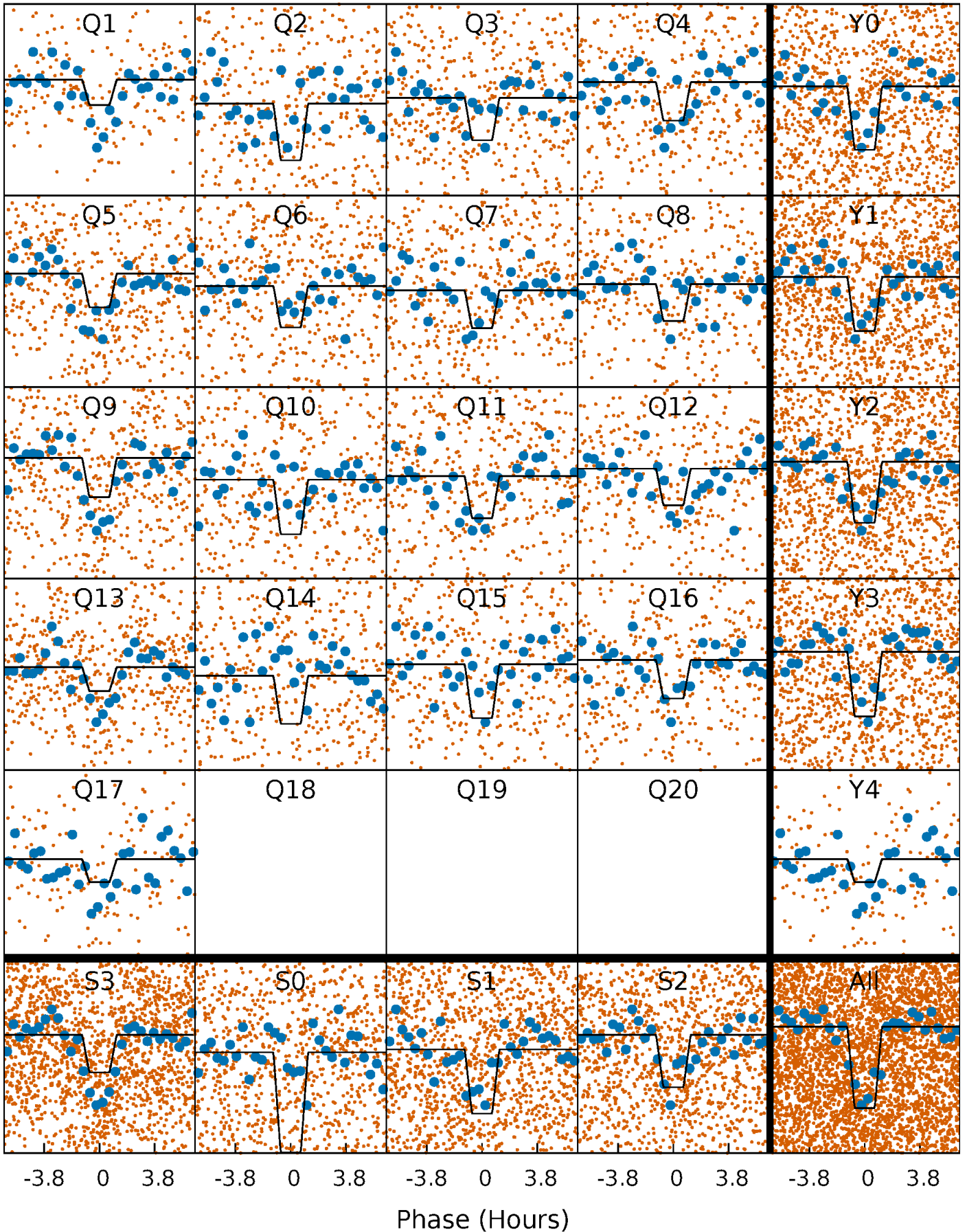
DV Quarter-Phased Transit Curves

TCE 004951249-01 P= 4.523414 Days $T_0=135.469816$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

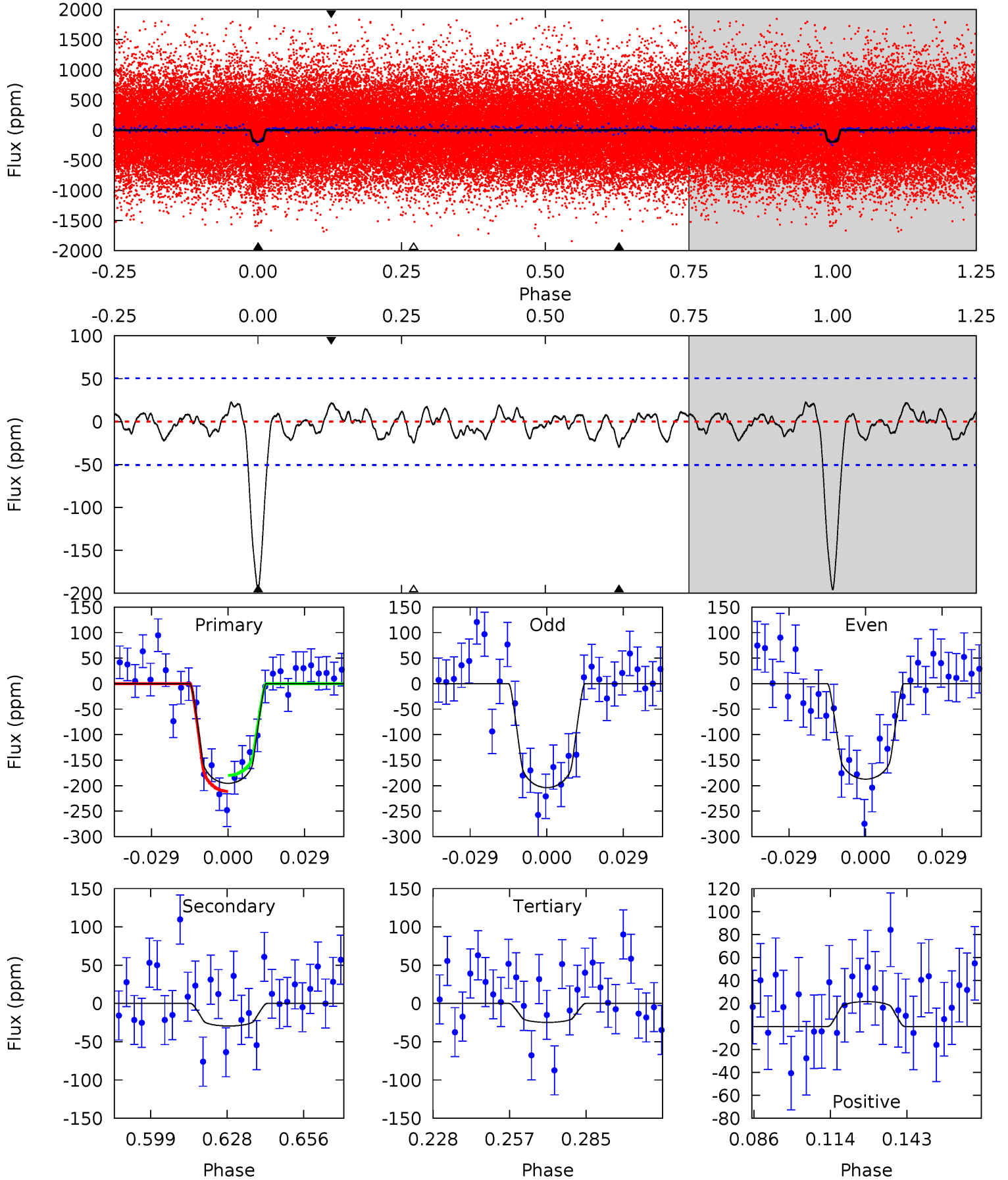
TCE 004951249-01 P= 4.523379 Days $T_0=135.473928$ (BKJD)



DV Model-Shift Uniqueness Test

004951249-01, P = 4.523414 Days, E = 130.946402 Days

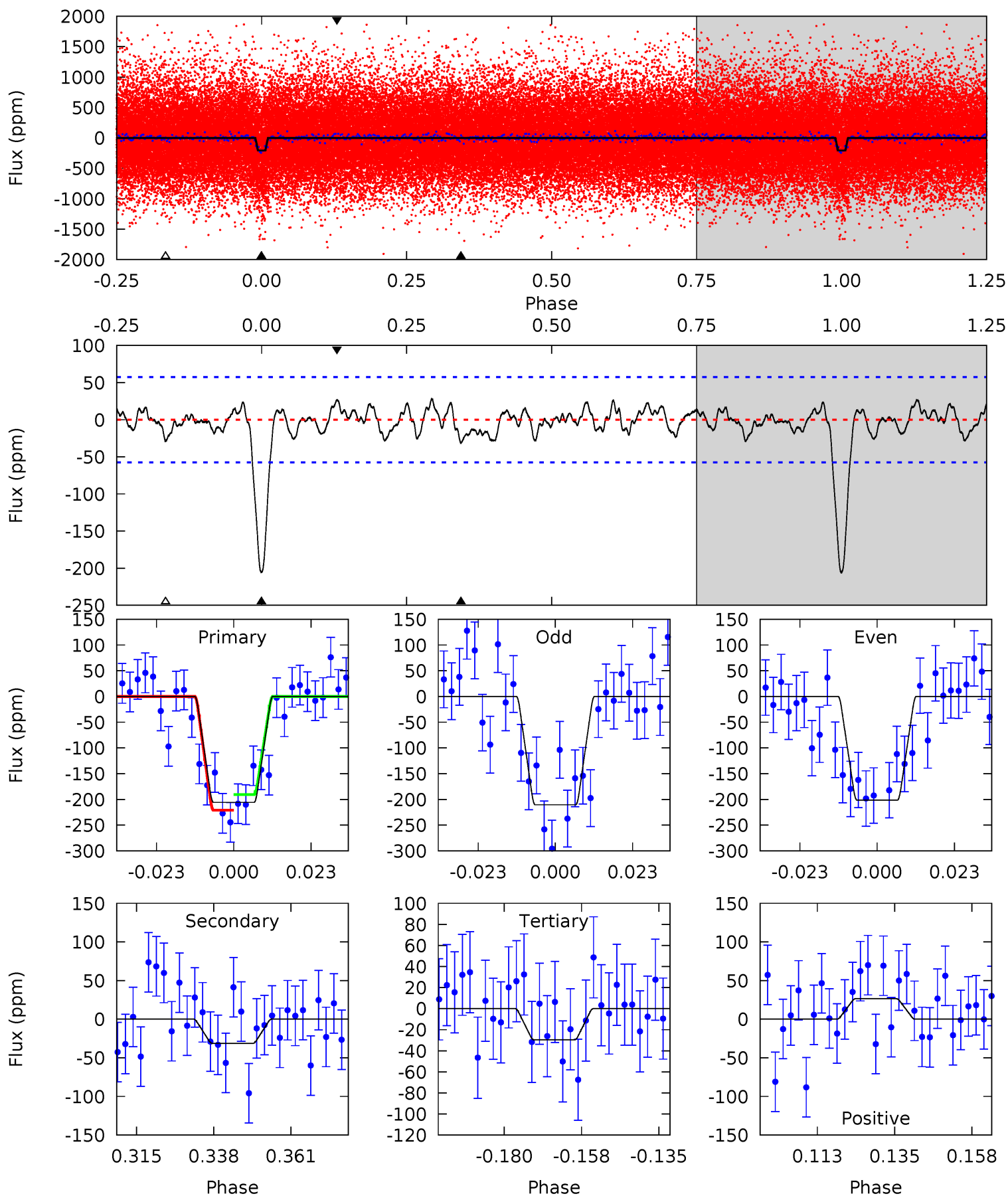
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	2.81	2.36	2.06	4.82	2.19	1.02	16.3	16.6	0.45	0.75	0.80	0.97	0.10	1.50



Alt Model-Shift Uniqueness Test

004951249-01, P = 4.523379 Days, E = 130.950549 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.4	2.64	2.50	2.25	4.87	2.28	1.06	14.9	15.2	0.14	0.40	0.39	0.98	0.12	1.29



Stellar Parameters For KIC 004951249

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6211^{+196}_{-261}	$4.437^{+0.062}_{-0.200}$	$-0.040^{+0.250}_{-0.300}$	$1.058^{+0.318}_{-0.127}$	$1.117^{+0.141}_{-0.157}$	$1.328^{+0.440}_{-0.642}$
	+3%/-4%	+1%/-5%	+625%/-750%	+30%/-12%	+13%/-14%	+33%/-48%
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 004951249-01 / KOI 2258.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-29 ± 10	$1.84^{+0.92}_{-0.91}$	1699^{+130}_{-95}	3976^{+1242}_{-585}	14^{+41}_{-9}
Alt.	-31 ± 12	$1.87^{+0.97}_{-0.84}$	1693^{+132}_{-91}	3987^{+1050}_{-565}	14^{+32}_{-9}

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

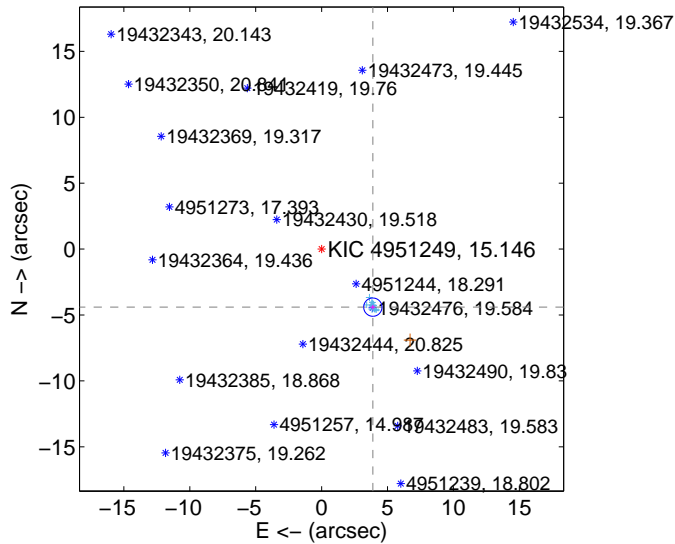
Supplemental centroid analysis for 004951249-01. Kepler magnitude: 15.15. Transit SNR 14.43

There are 16 quarters with good PRF difference image offsets

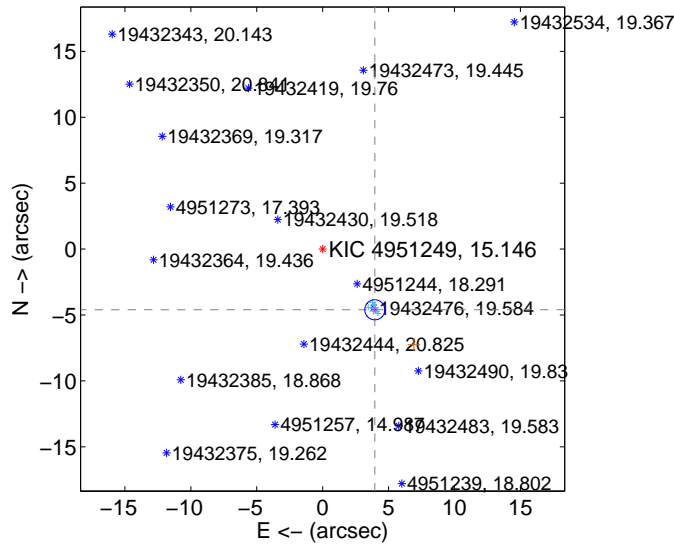
The direct PRF centroid is offset from the target star catalog position by about 0.41 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.874 ± 0.231	25.40	-3.886 ± 0.177	-4.404 ± 0.169
PRF-fit source offset from KIC position	6.070 ± 0.254	23.93	-3.957 ± 0.193	-4.603 ± 0.183
photometric centroid source offset	12.83 ± 0.82	15.56	-8.39 ± 0.88	-9.70 ± 0.78

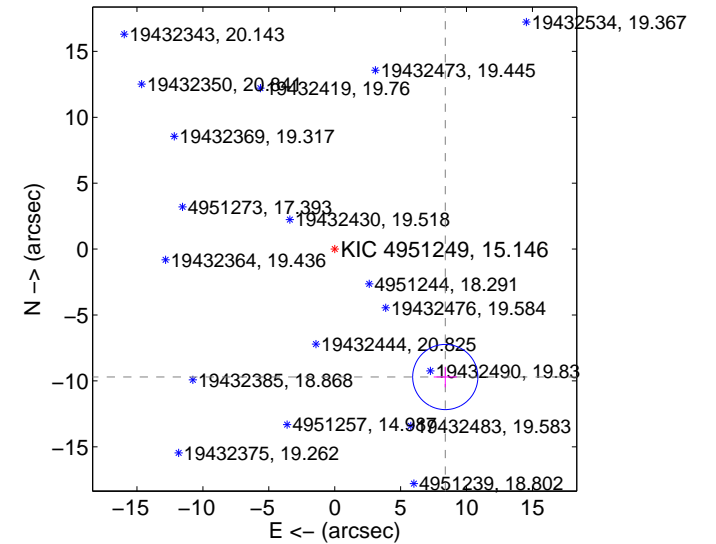
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

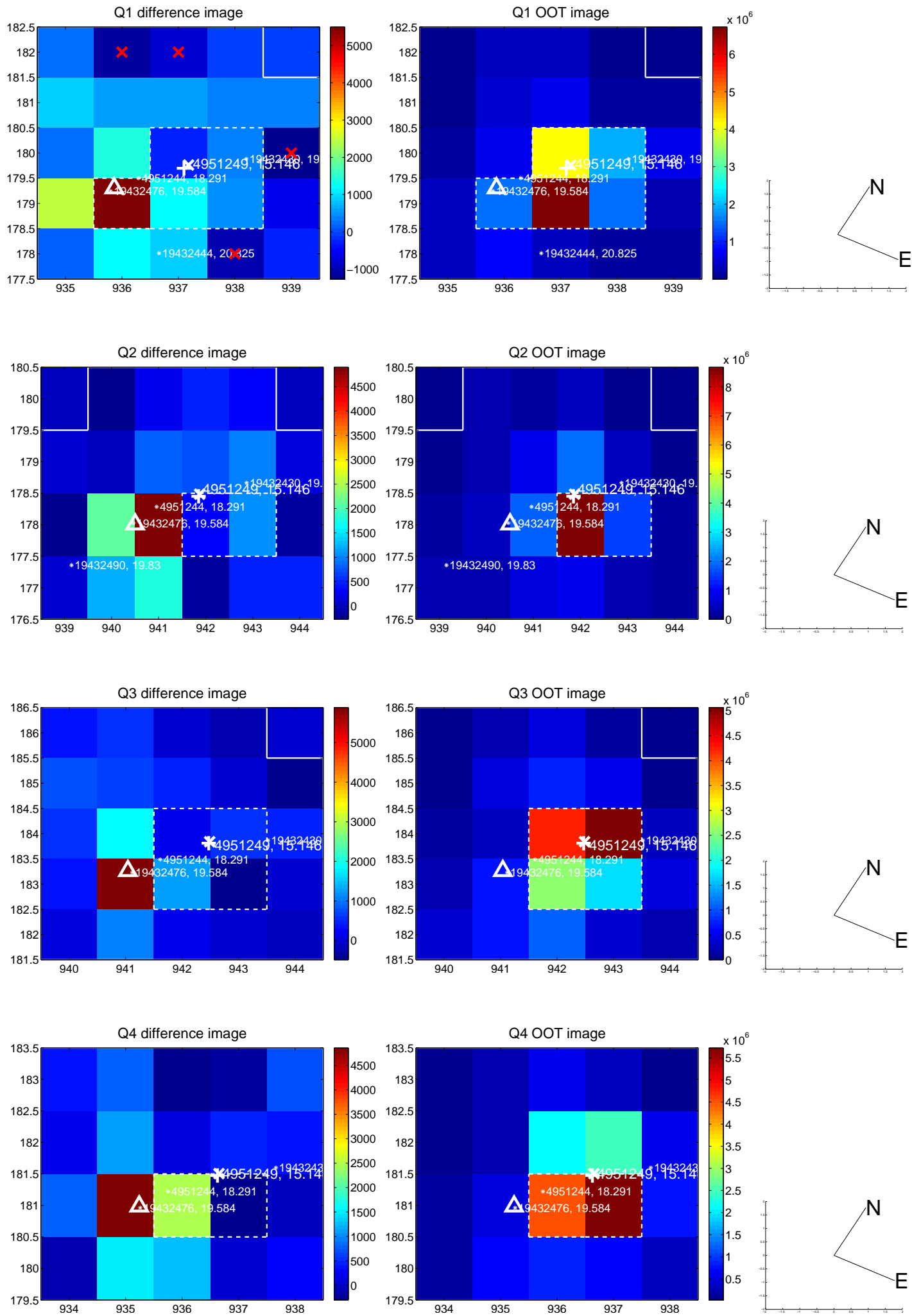


offset from photometric centroids

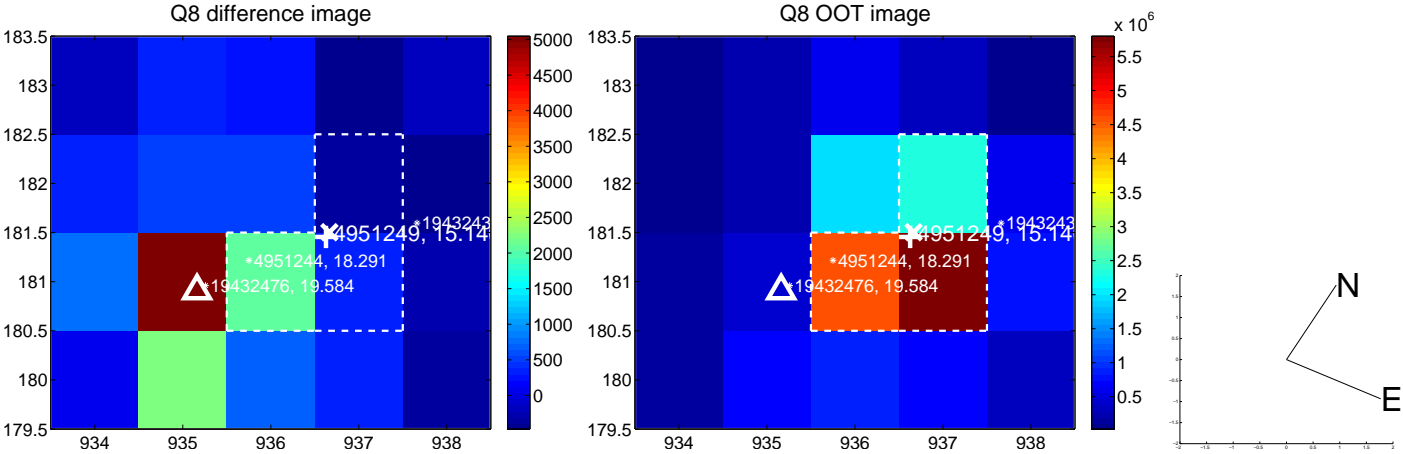
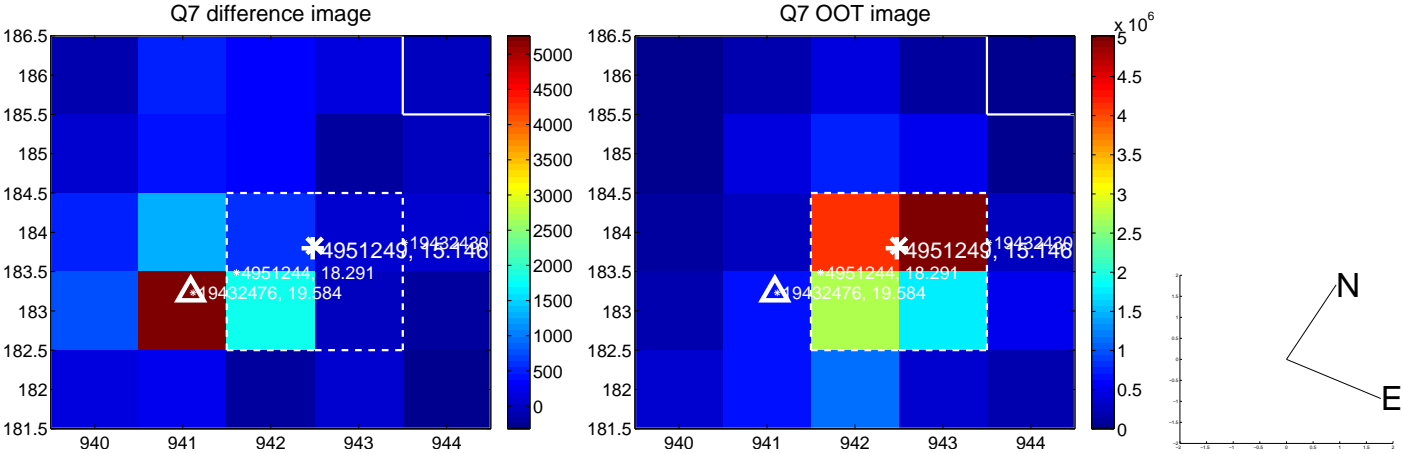
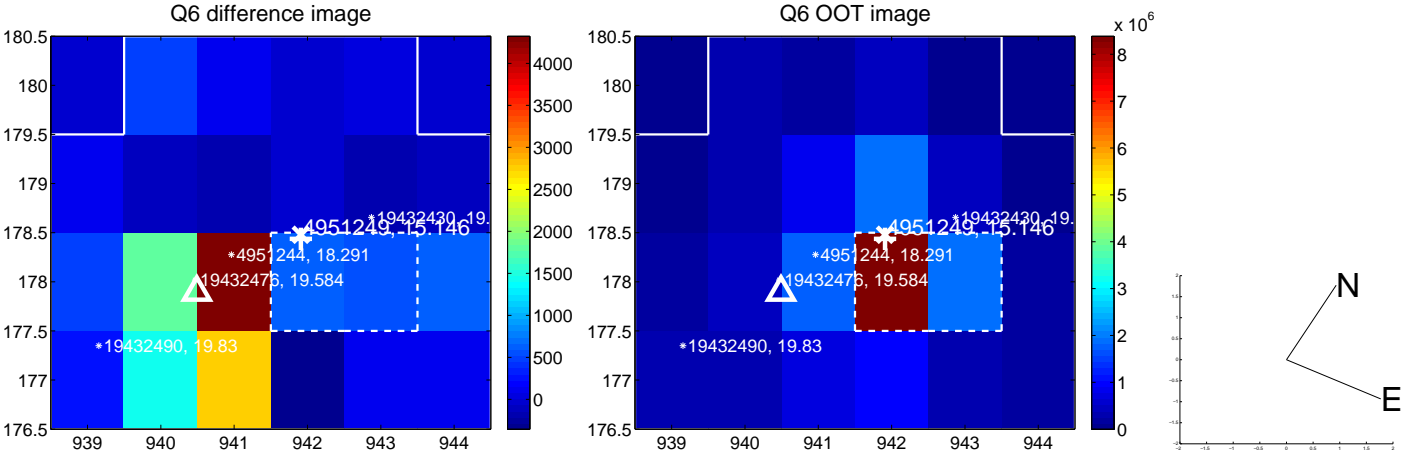
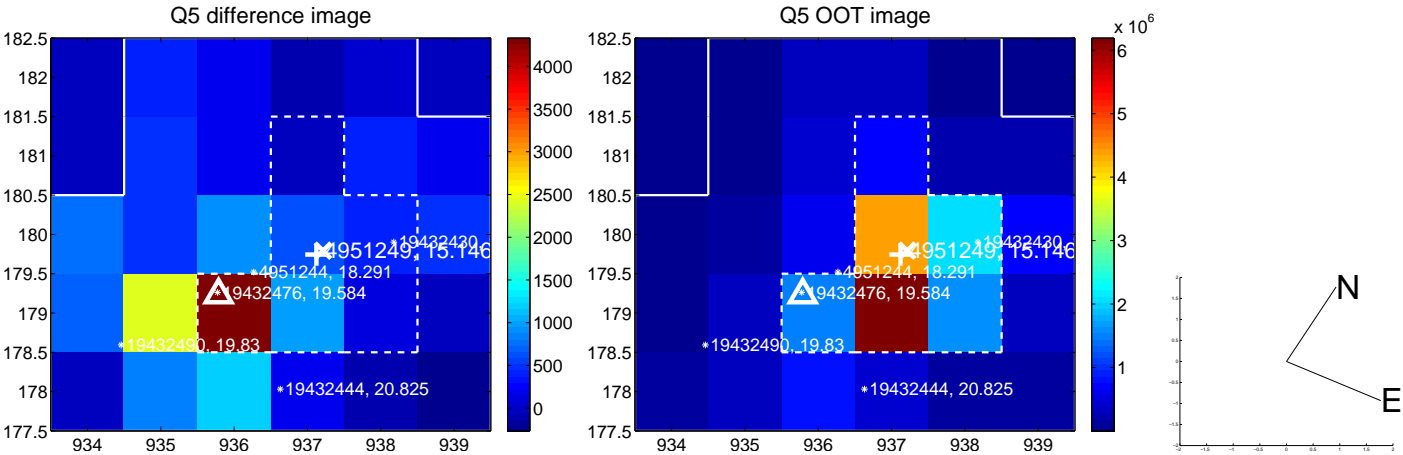


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

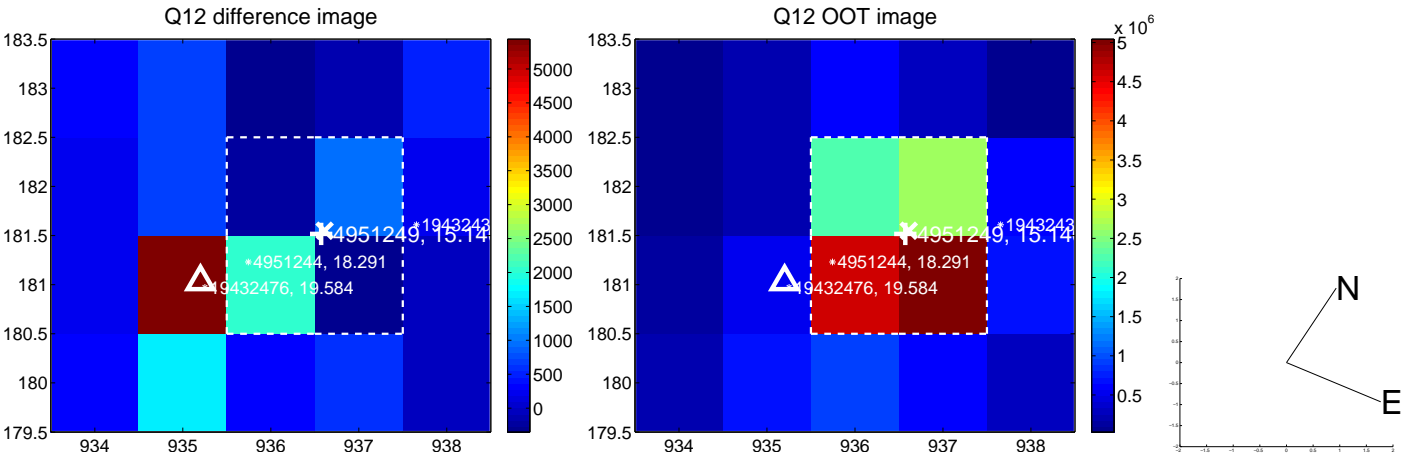
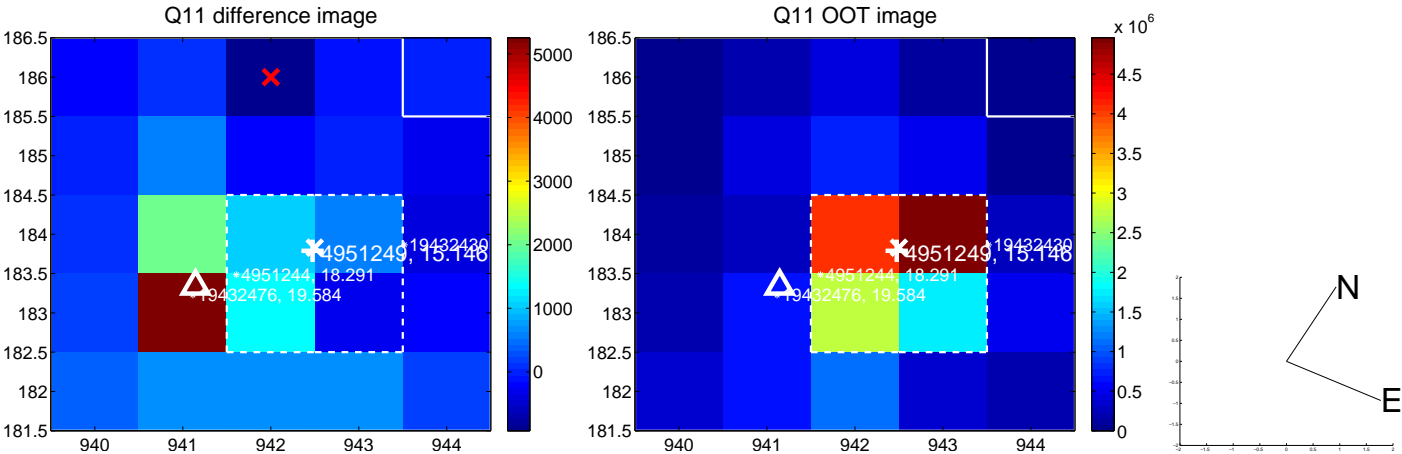
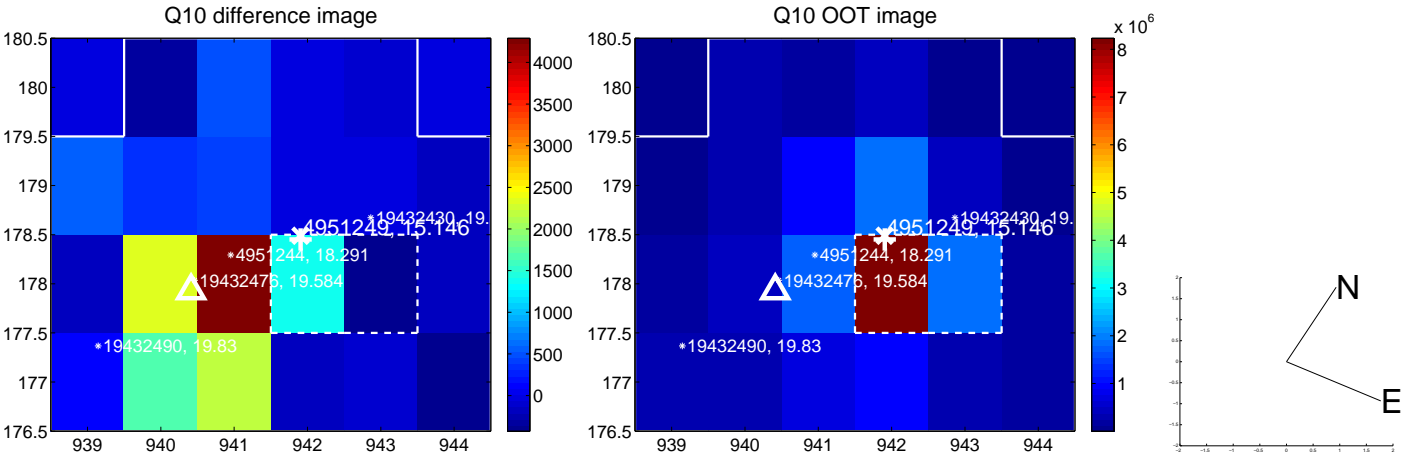
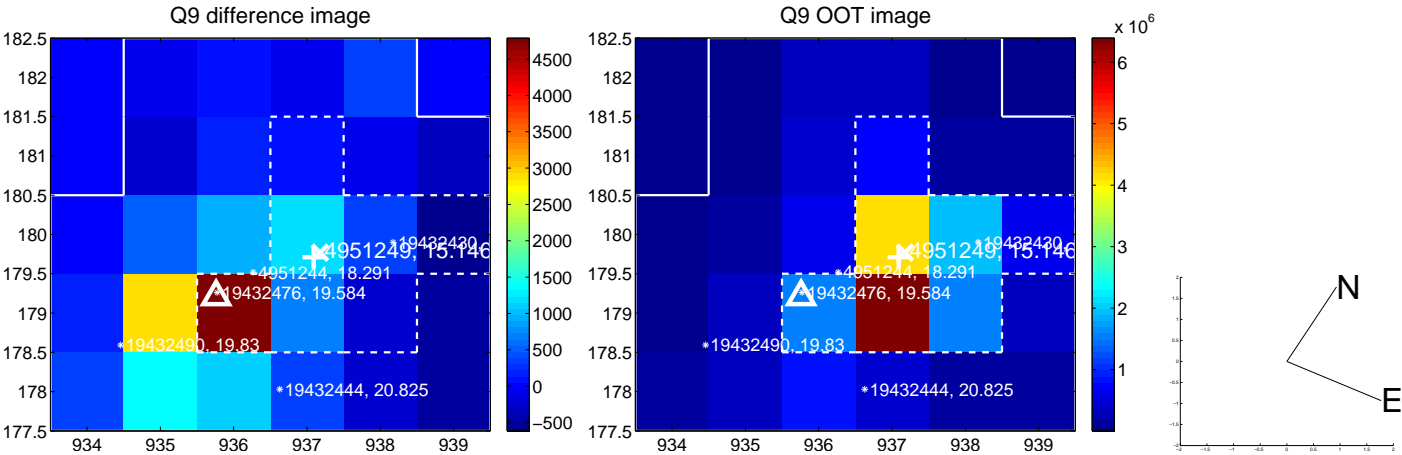
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



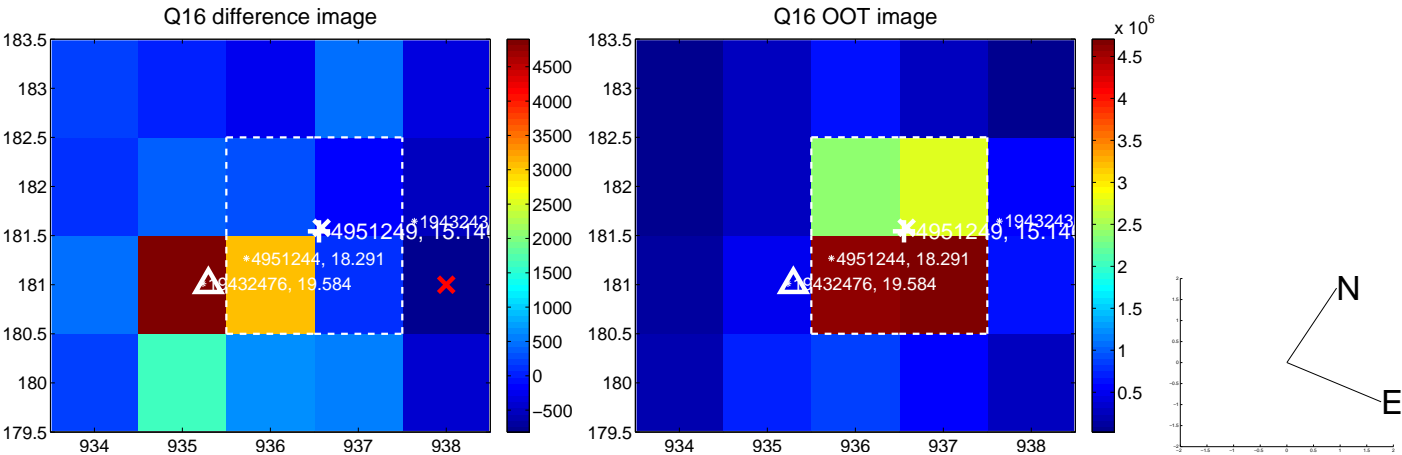
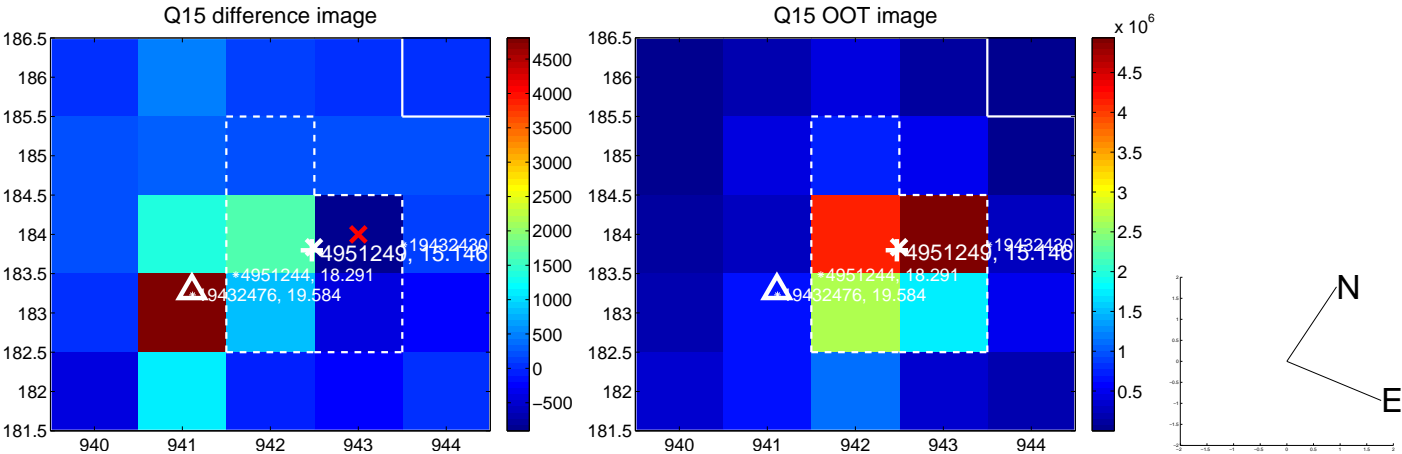
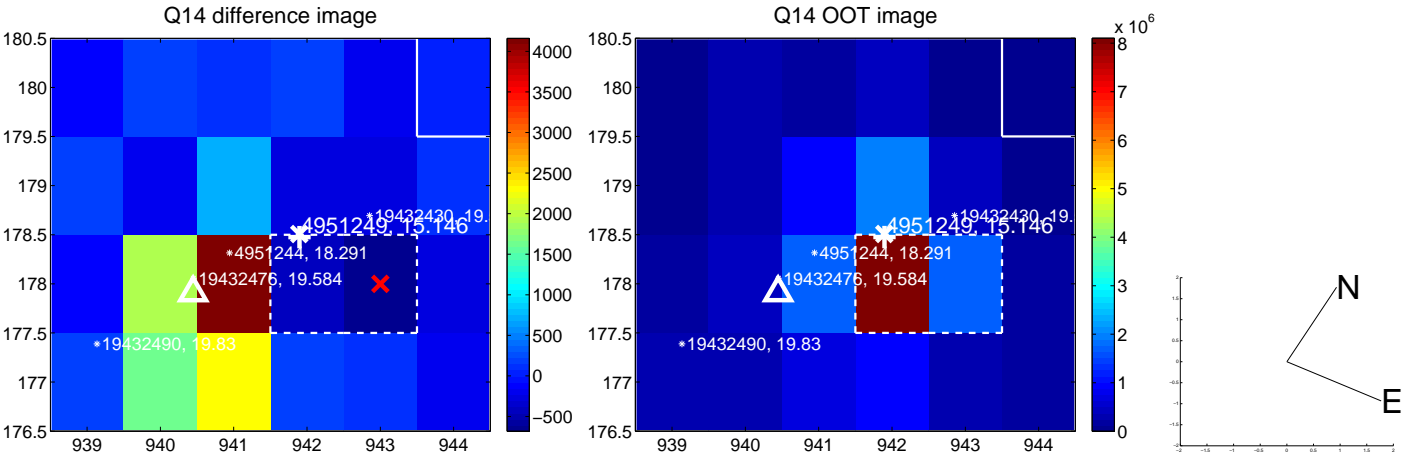
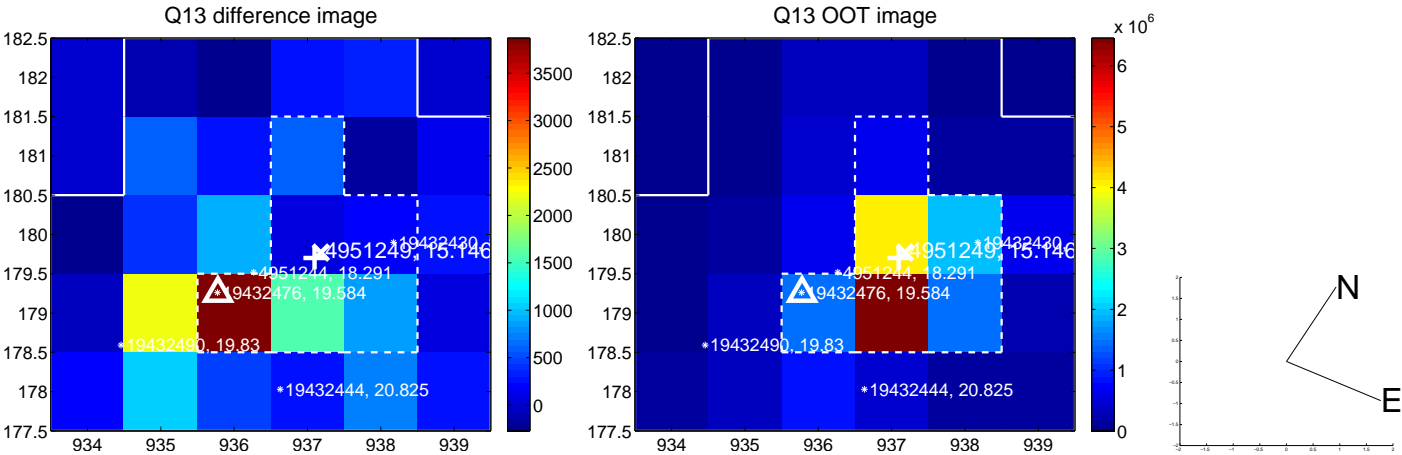
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



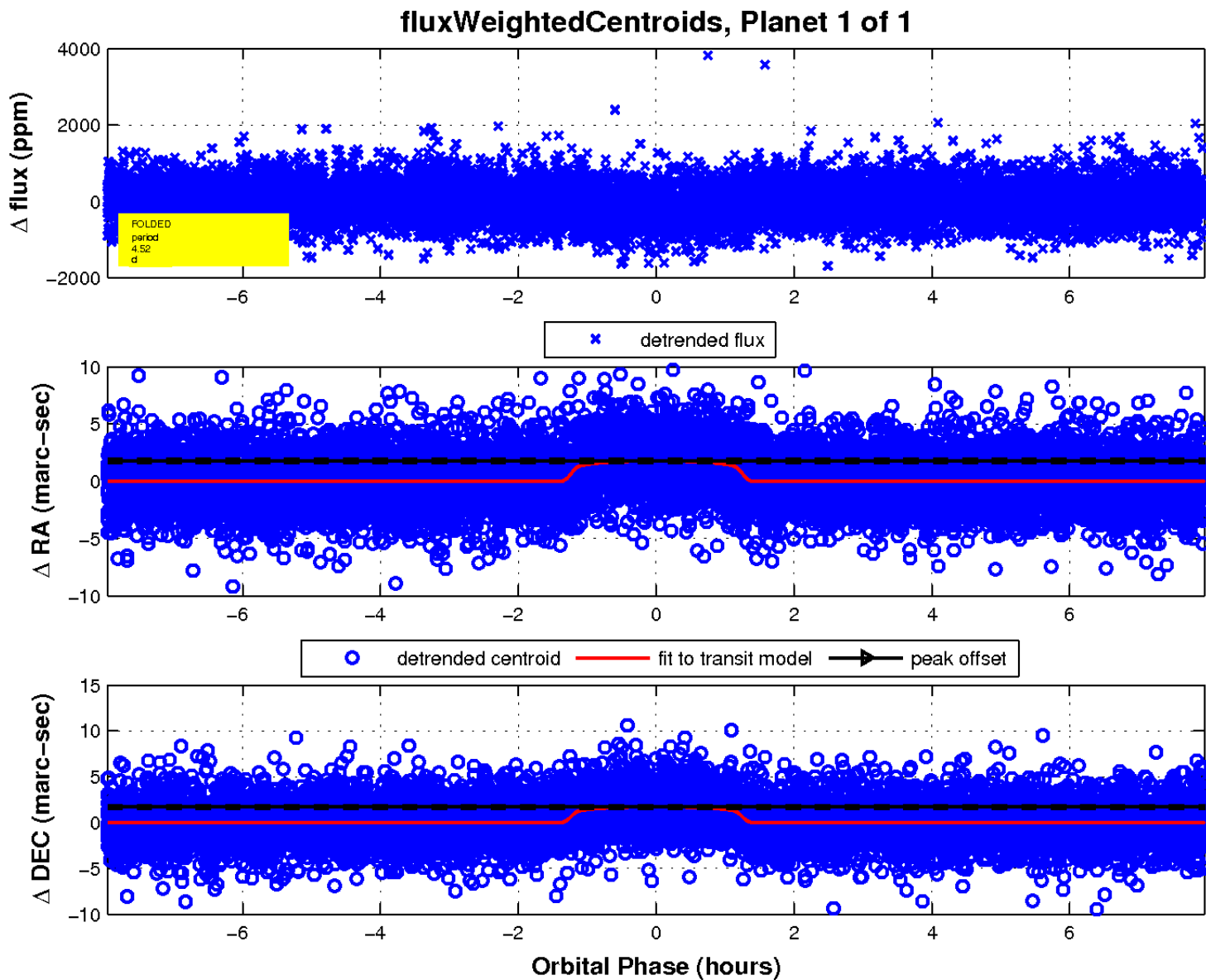
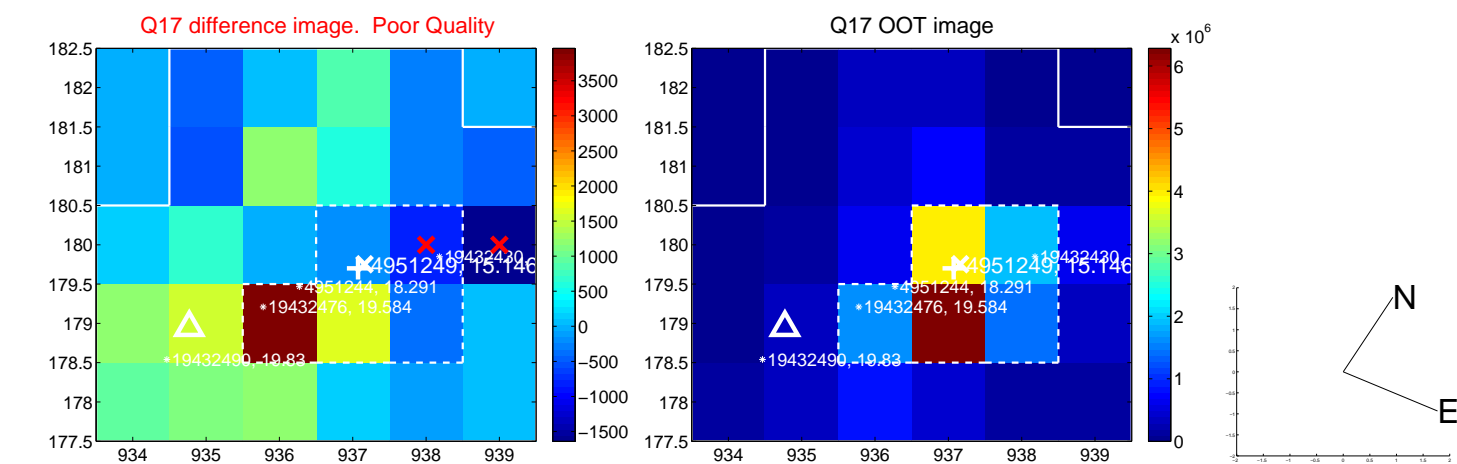
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

