

KIC 004738249

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})
004738249-01	OBS	No	1.319103	132.464209	6.3	12.693	8.6	4.2	2.35	6694	0.63	12981.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004738249-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_SATURATED

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

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

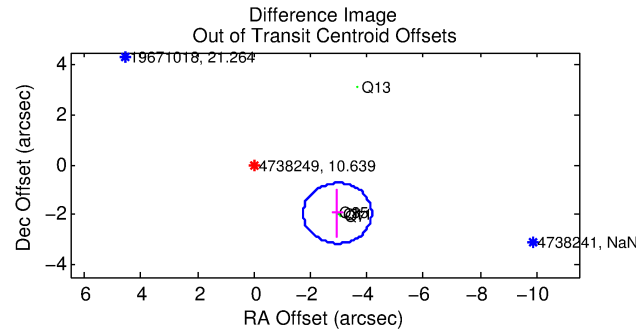
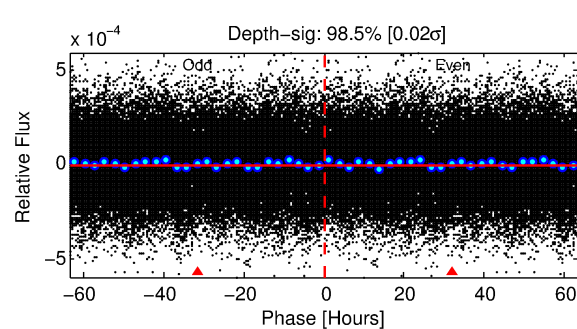
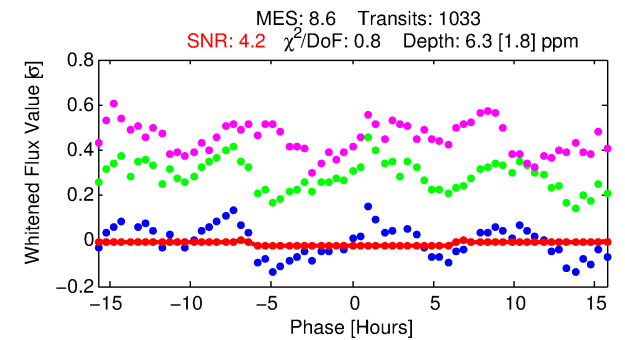
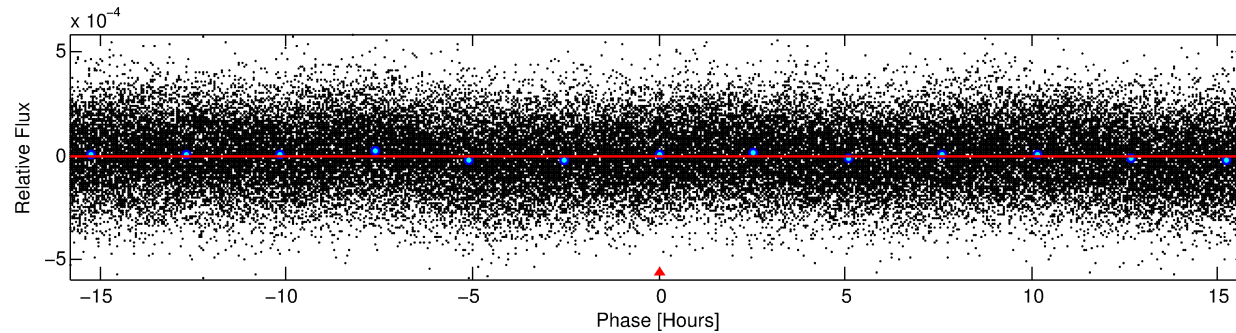
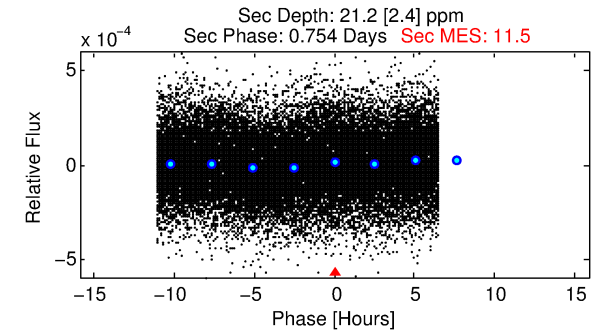
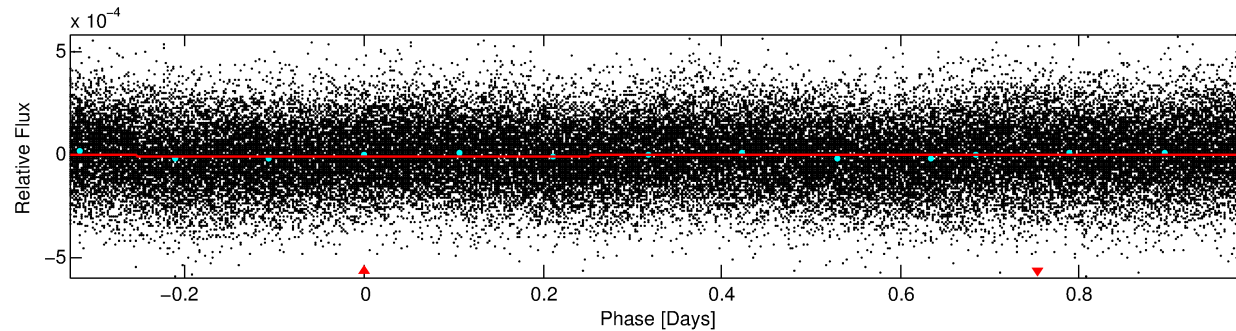
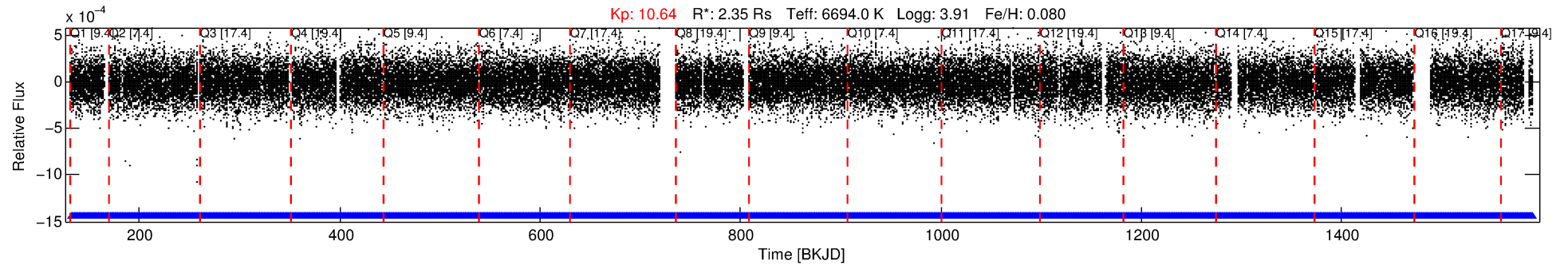
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004738249-01

No Significant Match Found

DV One-Page Summary

KIC: 4738249 Candidate: 1 of 1 Period: 1.319 d



DV Fit Results:

Period = 1.31910 [0.00007] d
Epoch = 132.4642 [0.0161] BKJD
Rp/R* = 0.0025 [0.0048]
a/R* = 1.03 [0.65]
b = 0.69 [8.53]
Seff = 12981.08 [4524.39]
Teq = 2722 [237] K
Rp = 0.63 [1.24] Re
a = 0.0277 [0.0060] AU
Ag = 22.47 [88.49] [0.24σ]
Teffp = 9162 [8988] K [0.72σ]

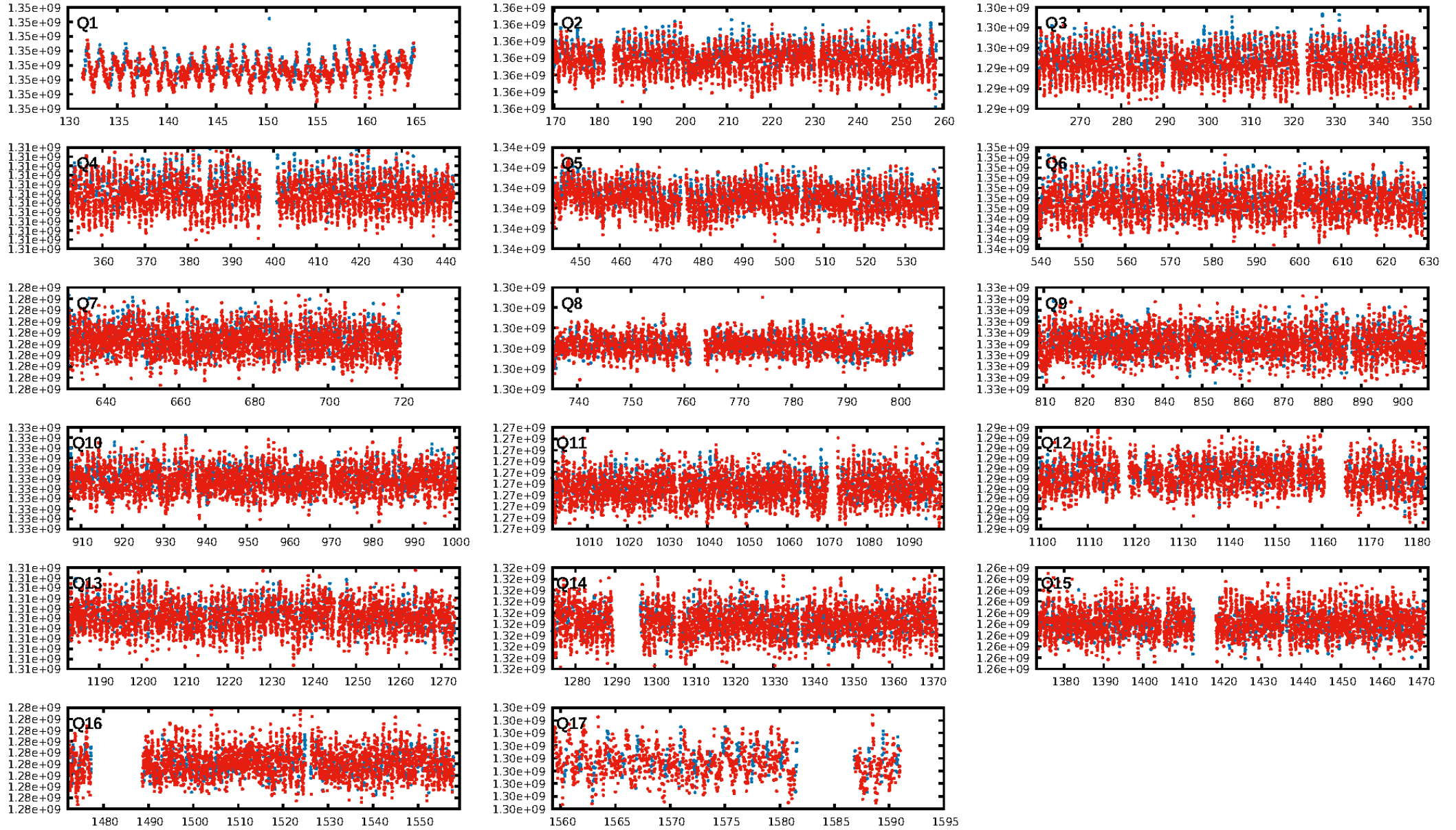
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [988/988]
GhostDiagnostic-chr: 0.5549
Centroid-sig: 0.1%
Centroid-so: 2.798 arcsec [2.45σ]
OotOffset-rm: 3.539 arcsec [8.78σ]
KicOffset-rm: 4.204 arcsec [4.44σ]
OotOffset-st: 0/4/0/1 [5]
KicOffset-st: 0/4/0/1 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 1.00 [17/17]

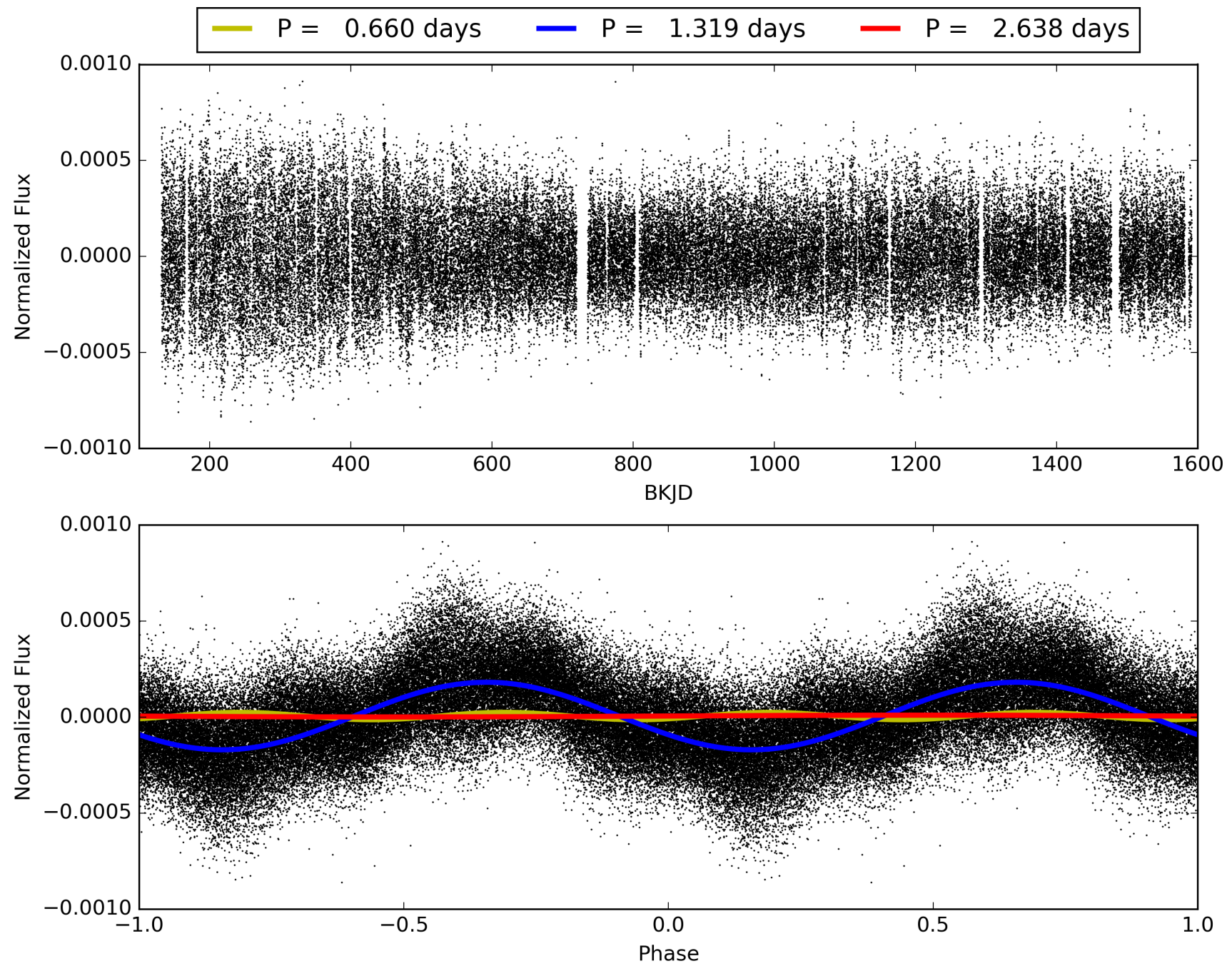
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:39:05 Z

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

TCE 004738249-01, PDC Light Curves

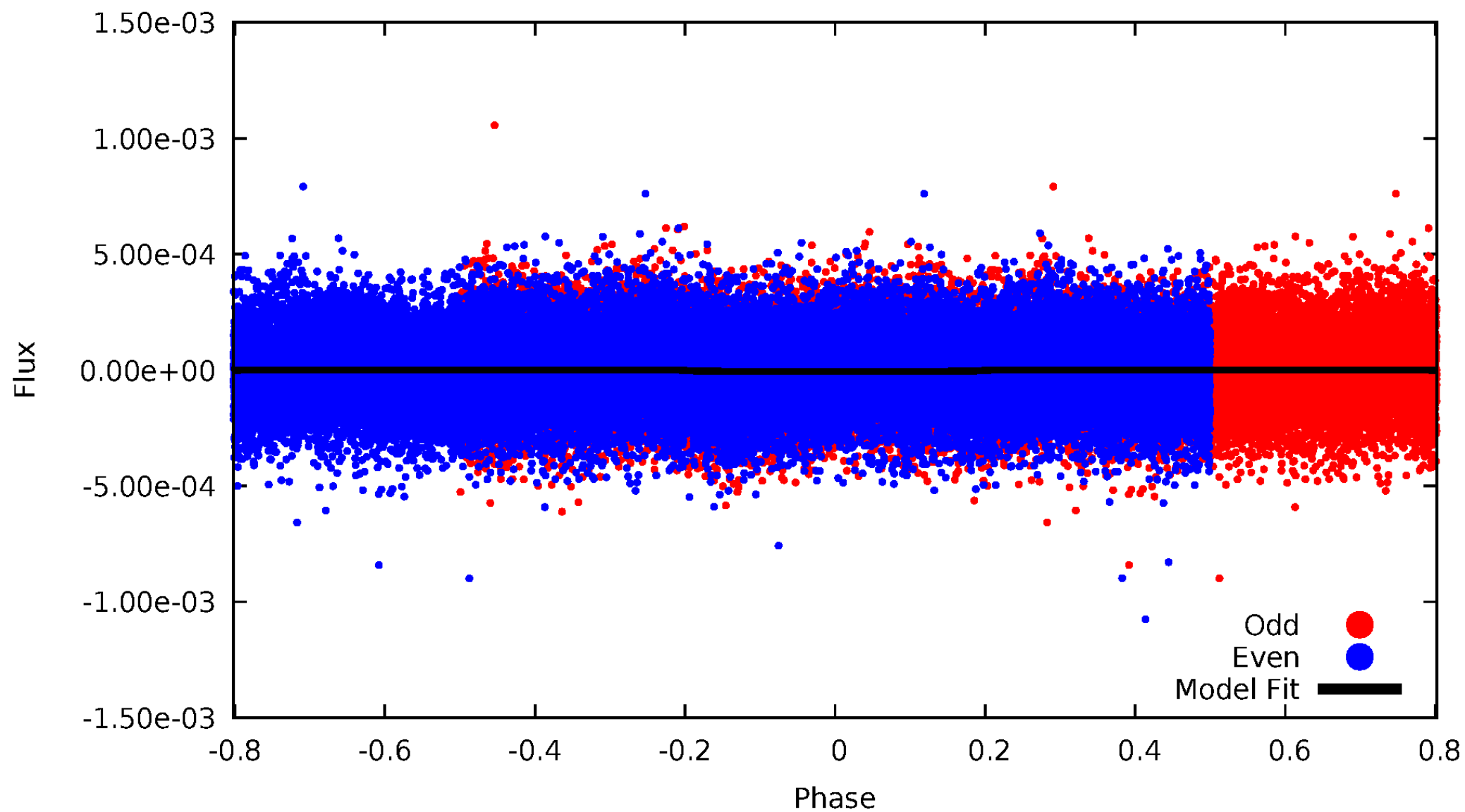


TCE 004738249-01



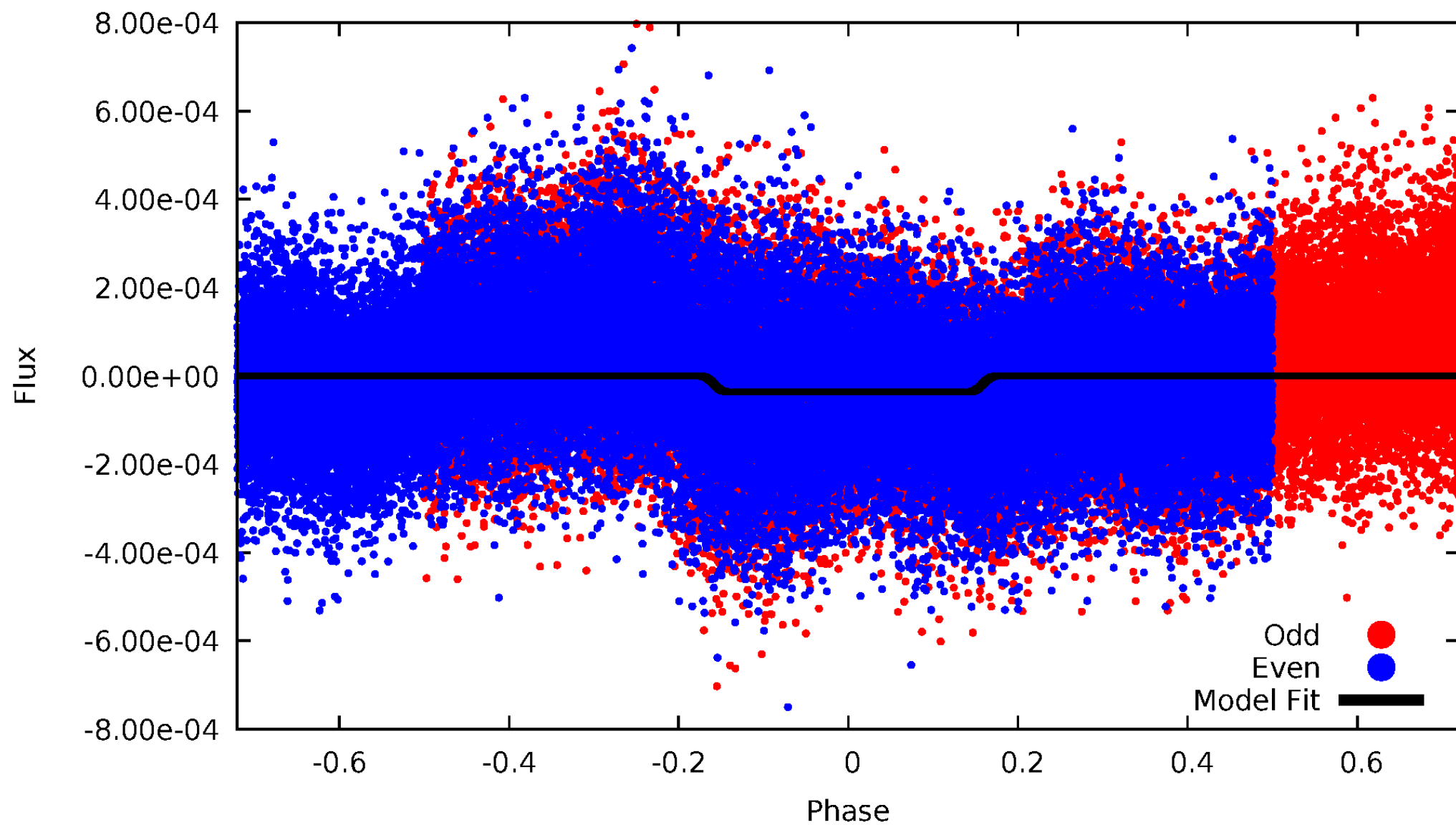
DV Odd/Even

TCE 004738249-01



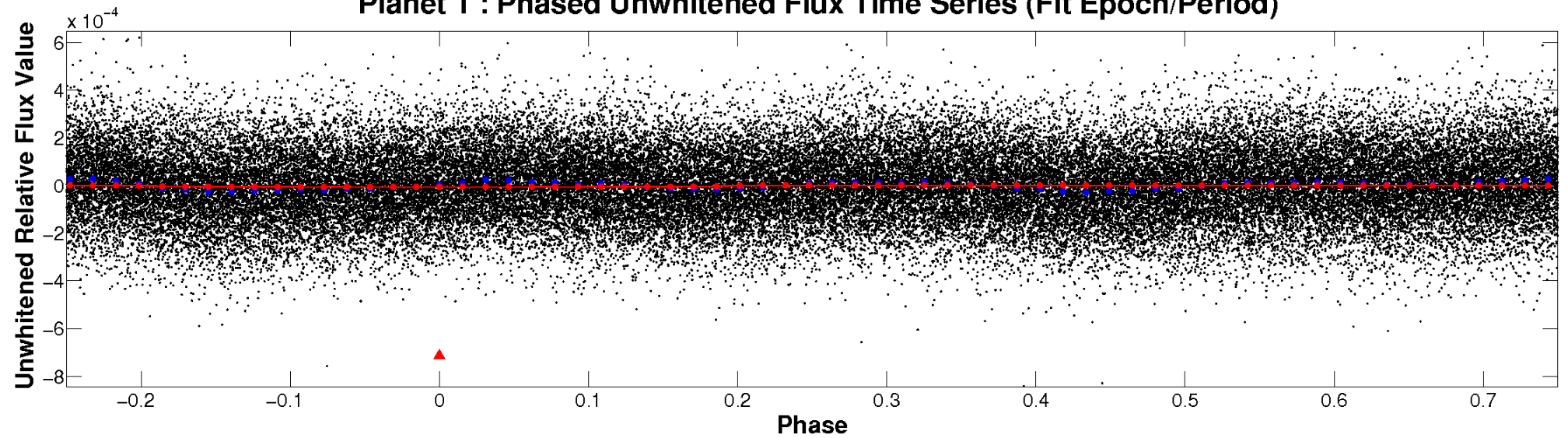
ALT Odd/Even

TCE 004738249-01

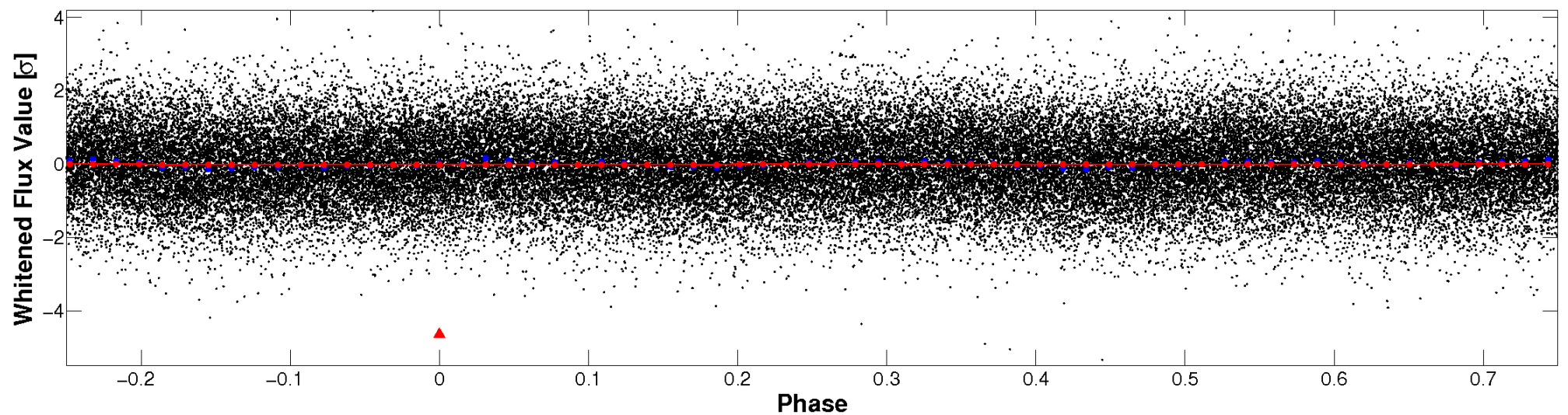


Non-Whitened Vs. Whitened Light Curve

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

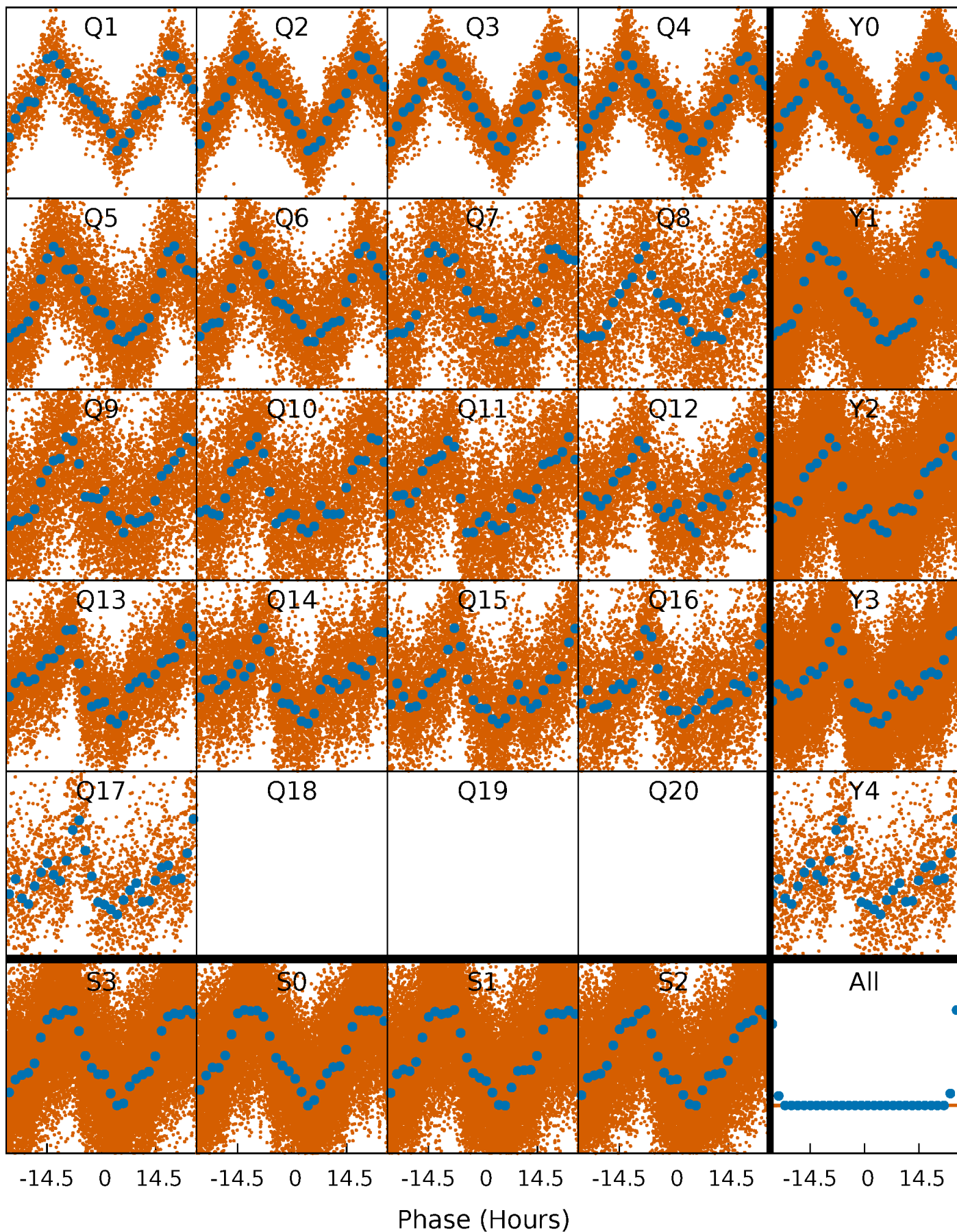


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



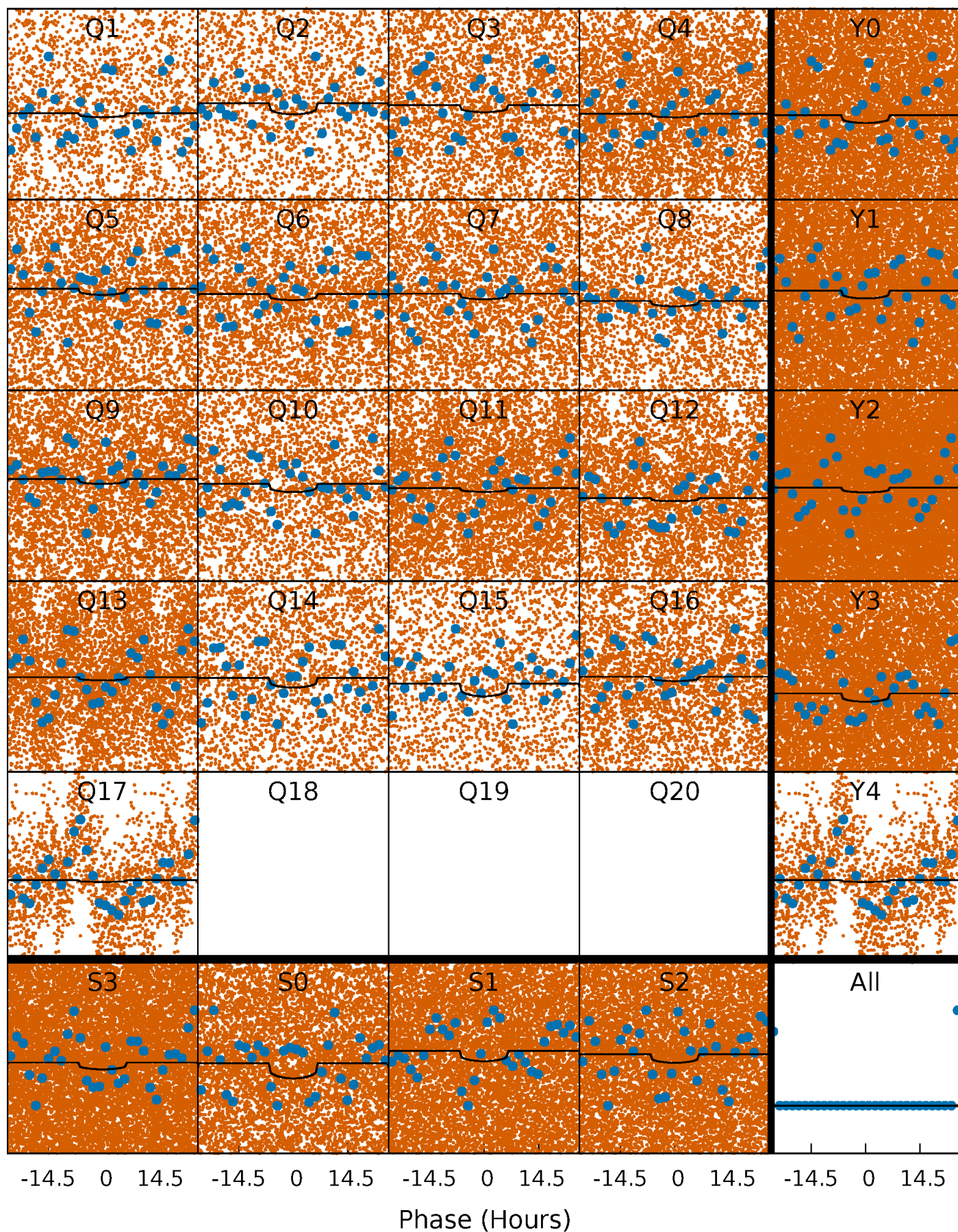
PDC Quarter-Phased Transit Curves

TCE 004738249-01 P= 1.319103 Days $T_0=132.464209$ (BKJD)



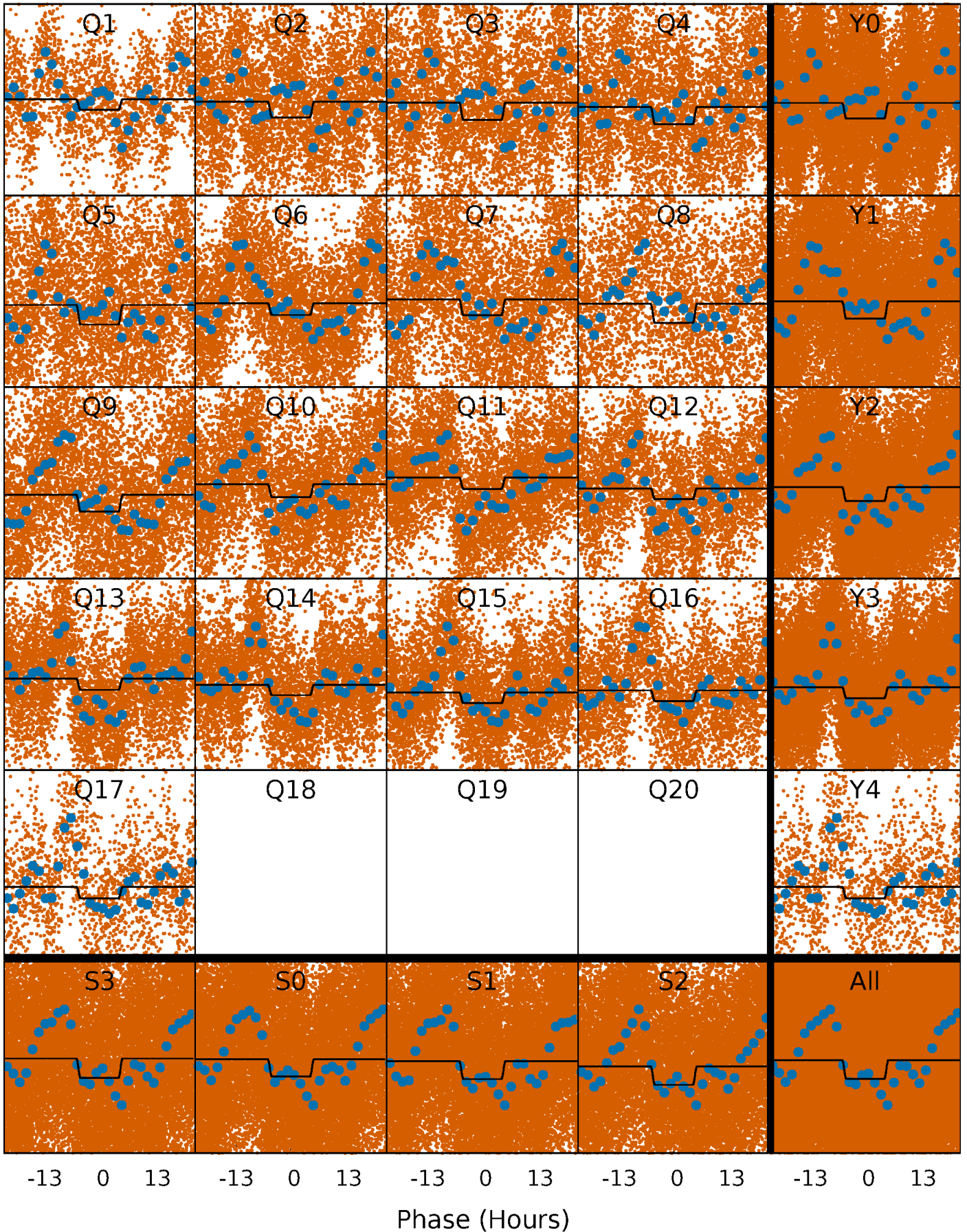
DV Quarter-Phased Transit Curves

TCE 004738249-01 P= 1.319103 Days $T_0=132.464209$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

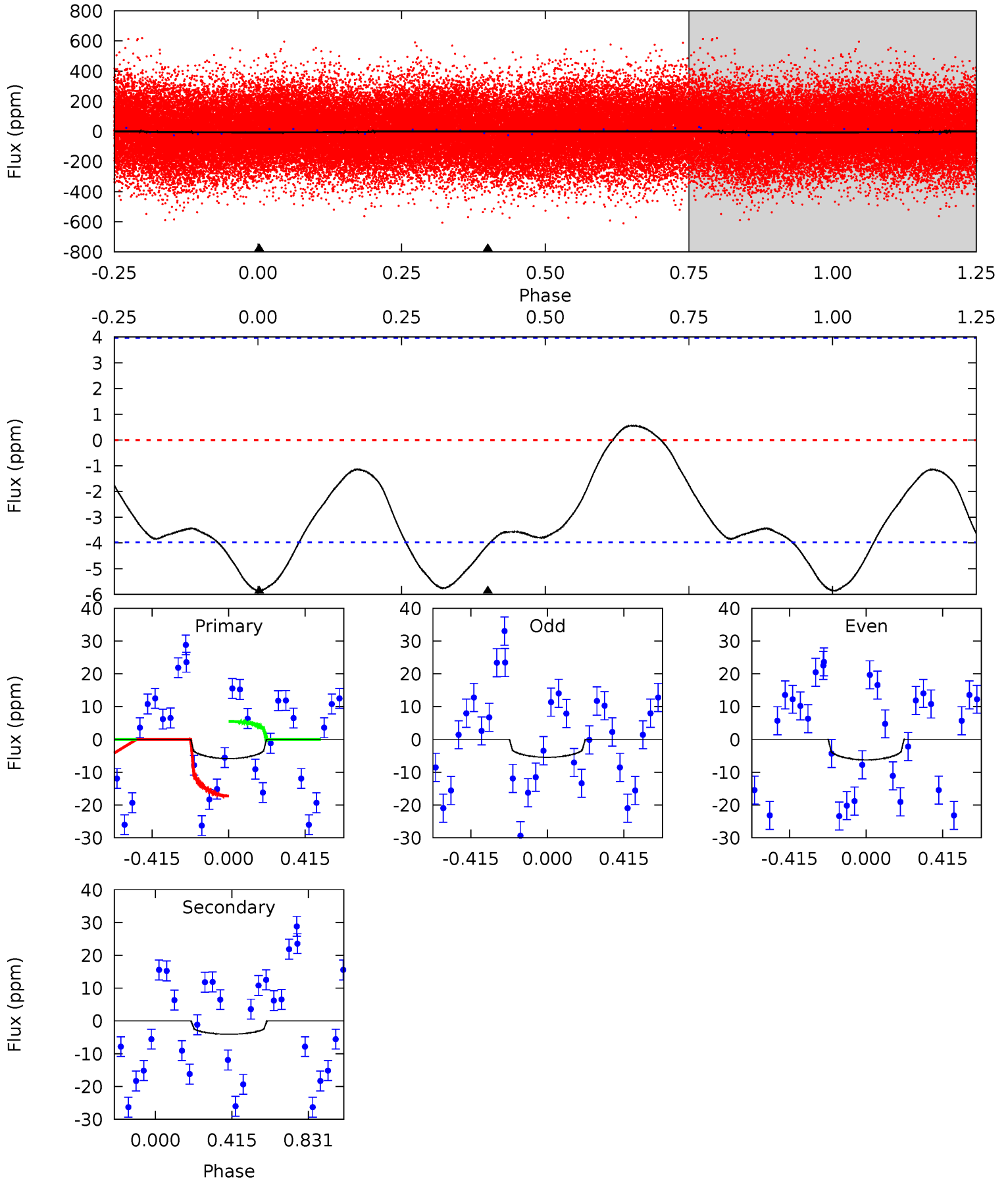
TCE 004738249-01 P= 1.319167 Days $T_0=132.429141$ (BKJD)



DV Model-Shift Uniqueness Test

004738249-01, P = 1.319103 Days, E = 131.145106 Days

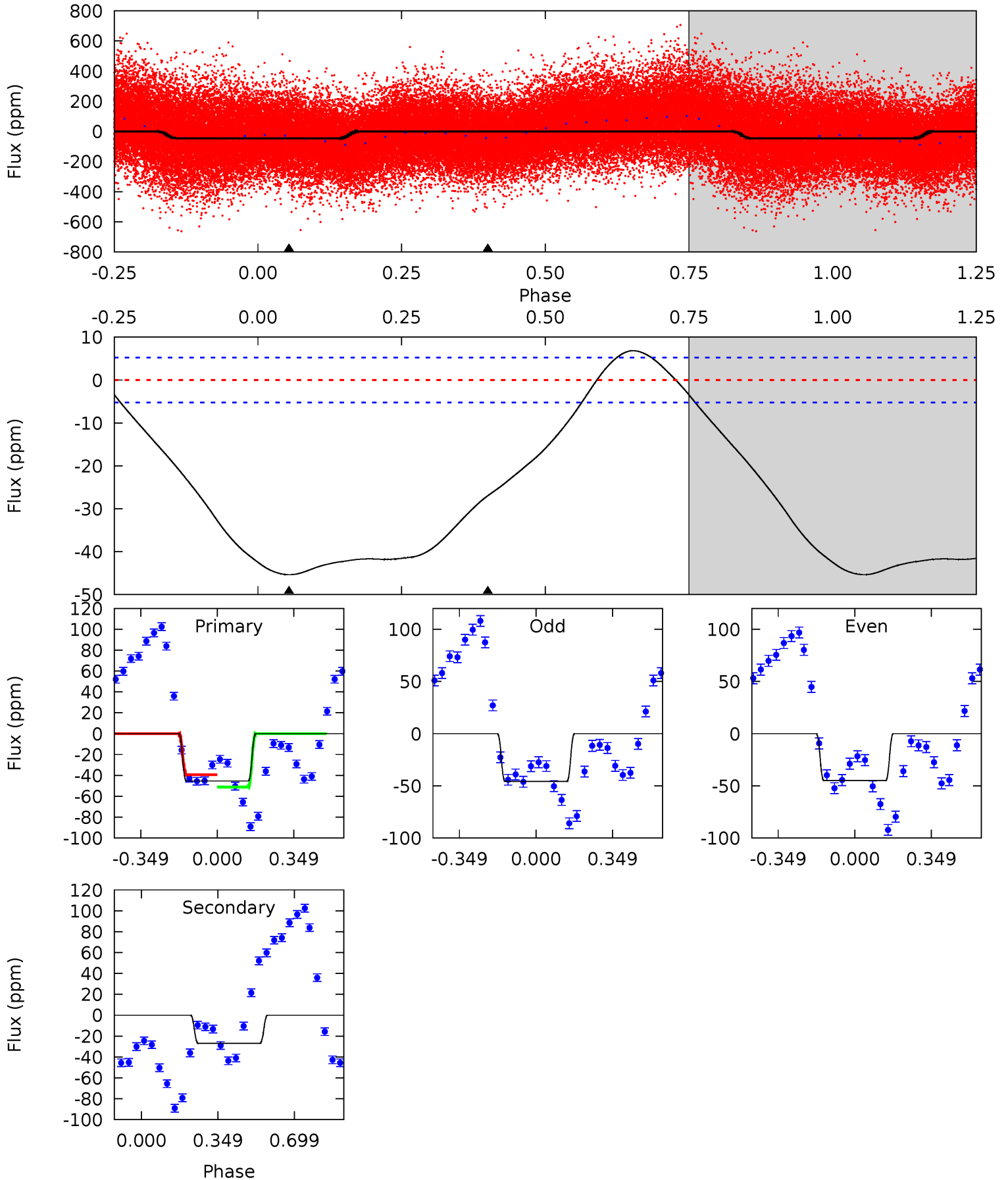
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.28	4.37	0	0	4.26	0.81	0.80	6.28	6.28	4.37	4.37	0.42	1.06	0.09	6.39



Alt Model-Shift Uniqueness Test

004738249-01, P = 1.319167 Days, E = 131.109974 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.2	22.1	0	0	4.29	0.94	3.38	37.2	37.2	22.1	22.1	0.35	1.10	0.13	5.39



Stellar Parameters For KIC 004738249

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6694^{+73}_{-80}	$3.906^{+0.201}_{-0.108}$	$0.080^{+0.150}_{-0.150}$	$2.350^{+0.446}_{-0.546}$	$1.622^{+0.145}_{-0.177}$	$0.176^{+0.194}_{-0.064}$
	+1%/-1%	+5%/-3%	+188%/-188%	+19%/-23%	+9%/-11%	+110%/-36%
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 004738249-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4 ± 1	$1.13^{+1.07}_{-0.76}$	3778^{+163}_{-247}	4362^{+3650}_{-1621}	$1.320^{+11.881}_{-0.968}$
Alt.	-27 ± 1	$1.65^{+1.22}_{-1.00}$	3770^{+176}_{-231}	5768^{+4335}_{-1307}	$4.185^{+20.505}_{-2.802}$

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

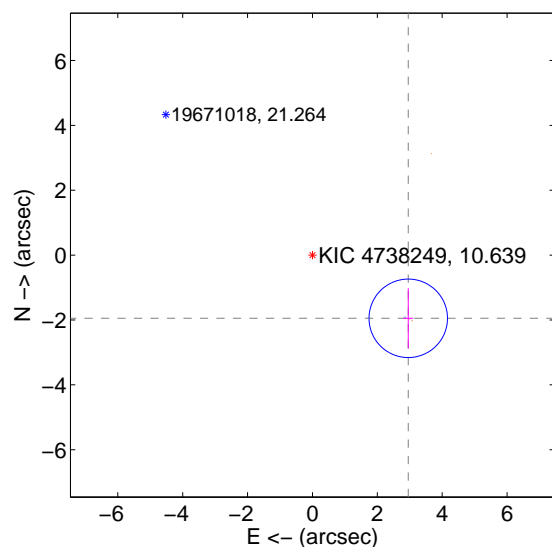
Supplemental centroid analysis for 004738249-01. **Kepler magnitude: 10.64.** Transit SNR 4.25

There are 2 quarters with good PRF difference image offsets

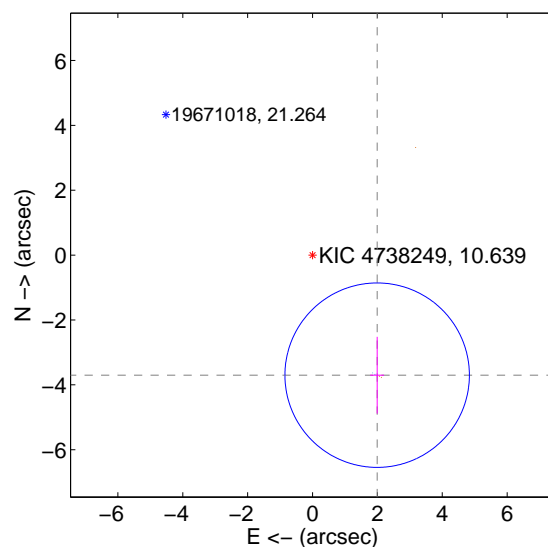
The OOT PRF centroid is offset from the target star catalog position by about 2.00 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.539 ± 0.403	8.78	-2.954 ± 0.156	-1.949 ± 0.926
PRF-fit source offset from KIC position	4.204 ± 0.948	4.44	-1.992 ± 0.214	-3.702 ± 1.183
photometric centroid source offset	2.80 ± 1.14	2.45	2.60 ± 1.11	1.02 ± 1.31

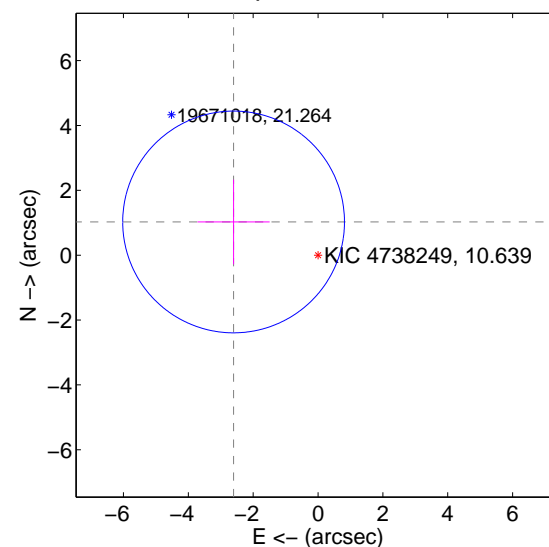
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

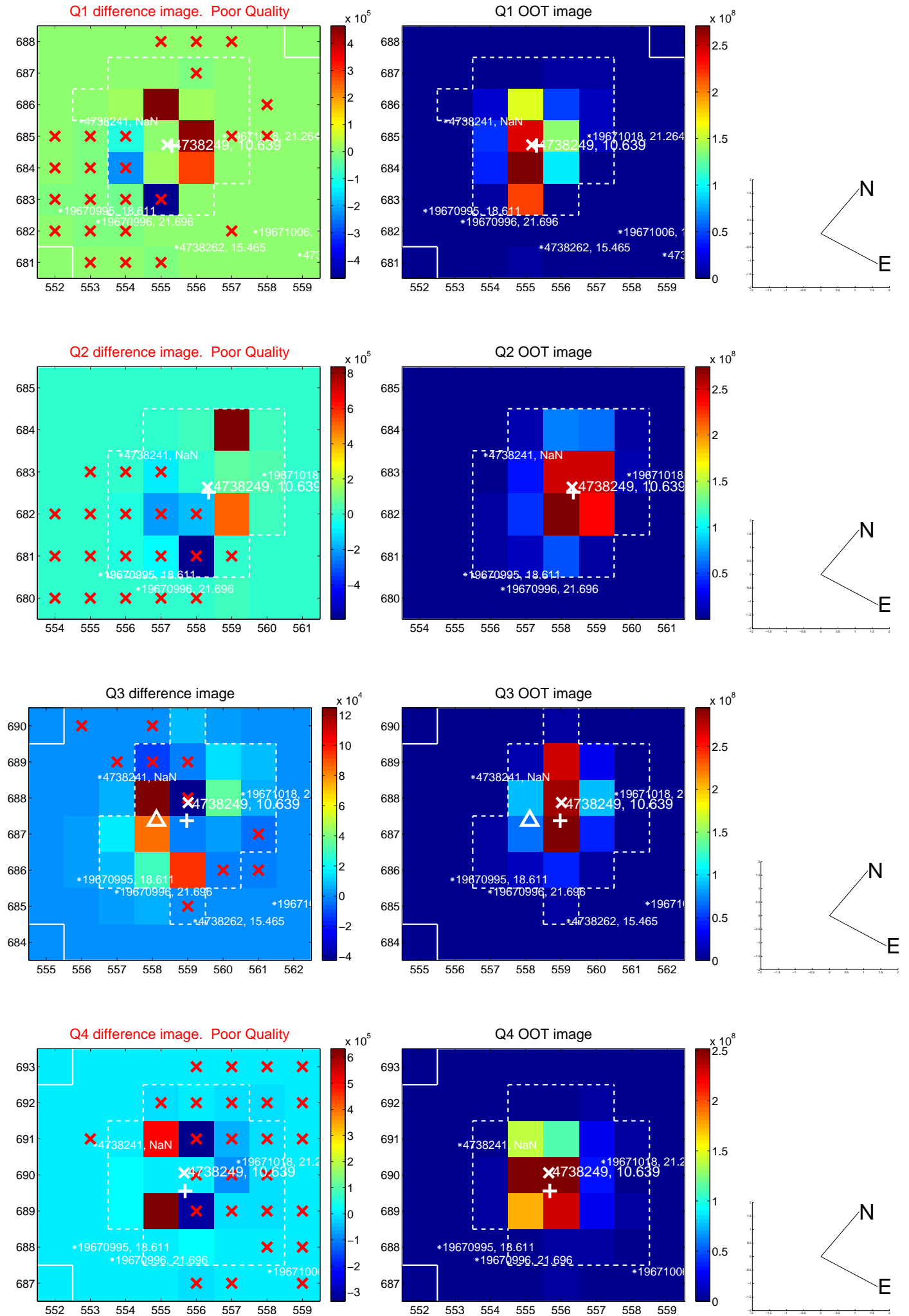


offset from photometric centroids

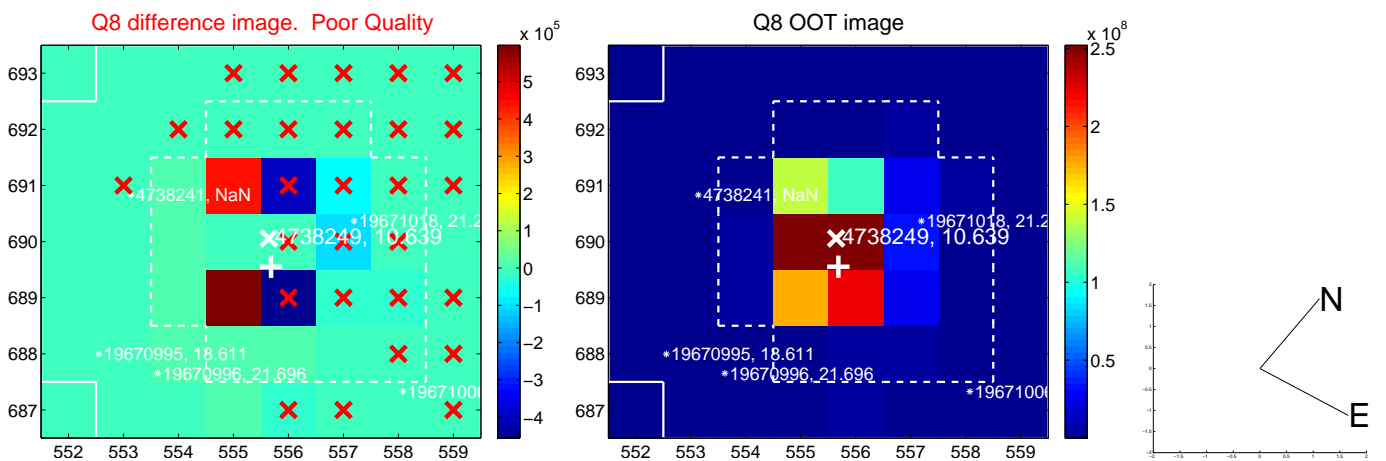
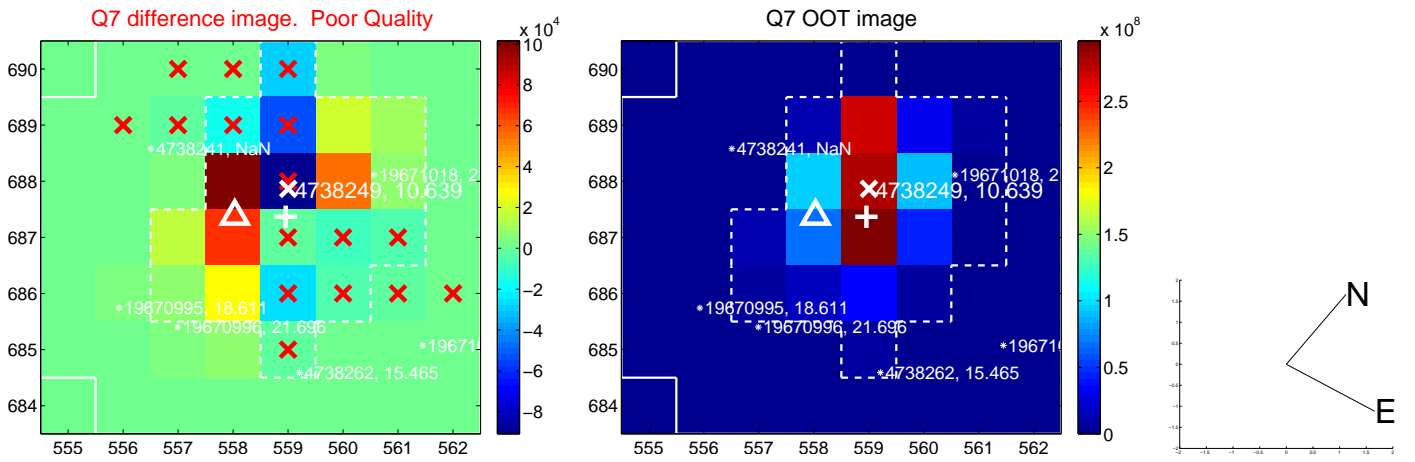
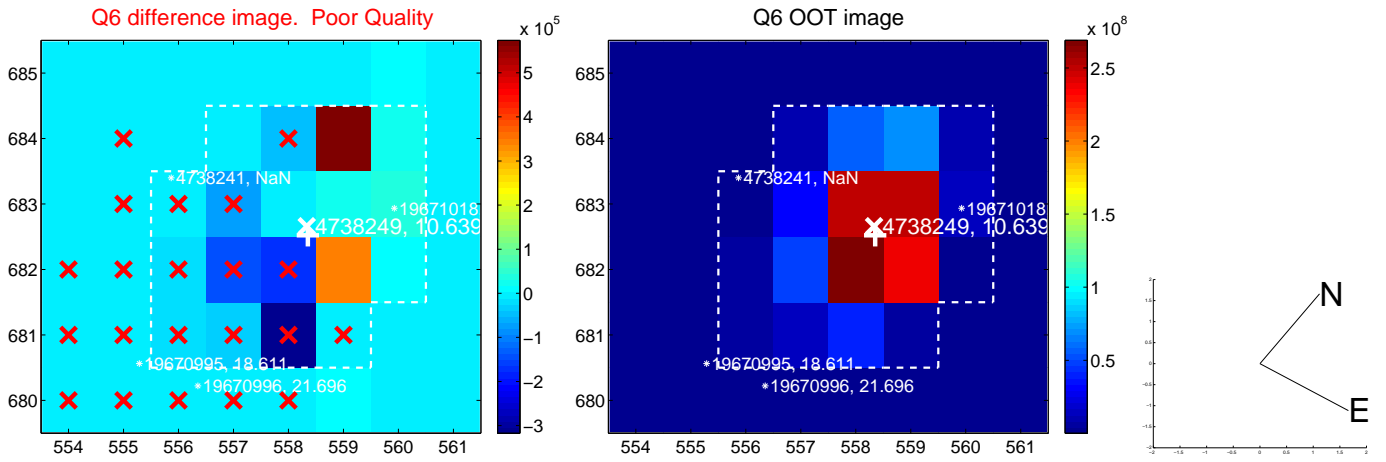
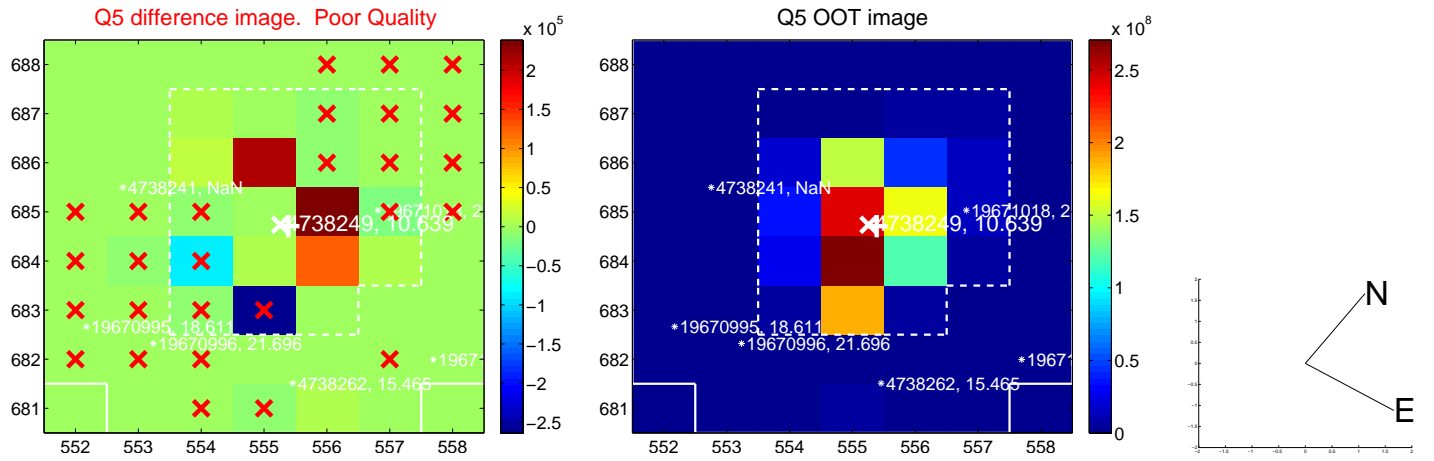


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

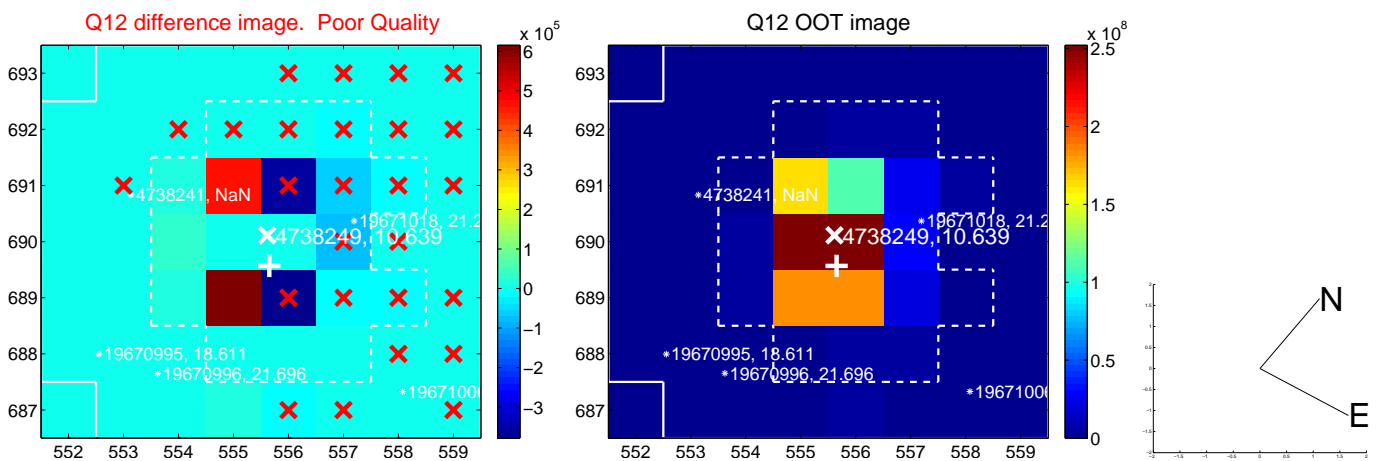
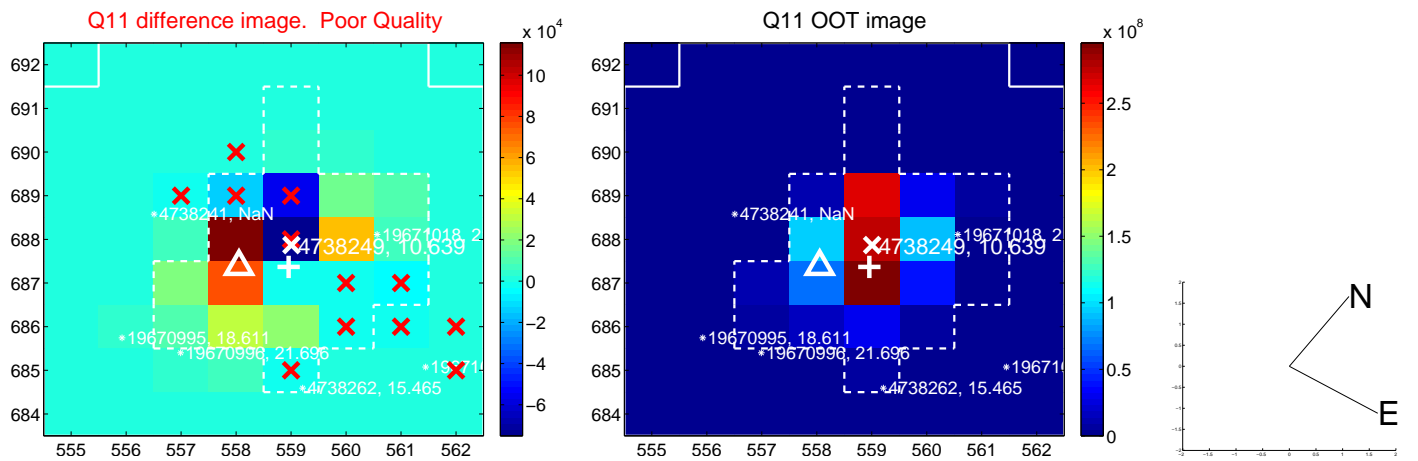
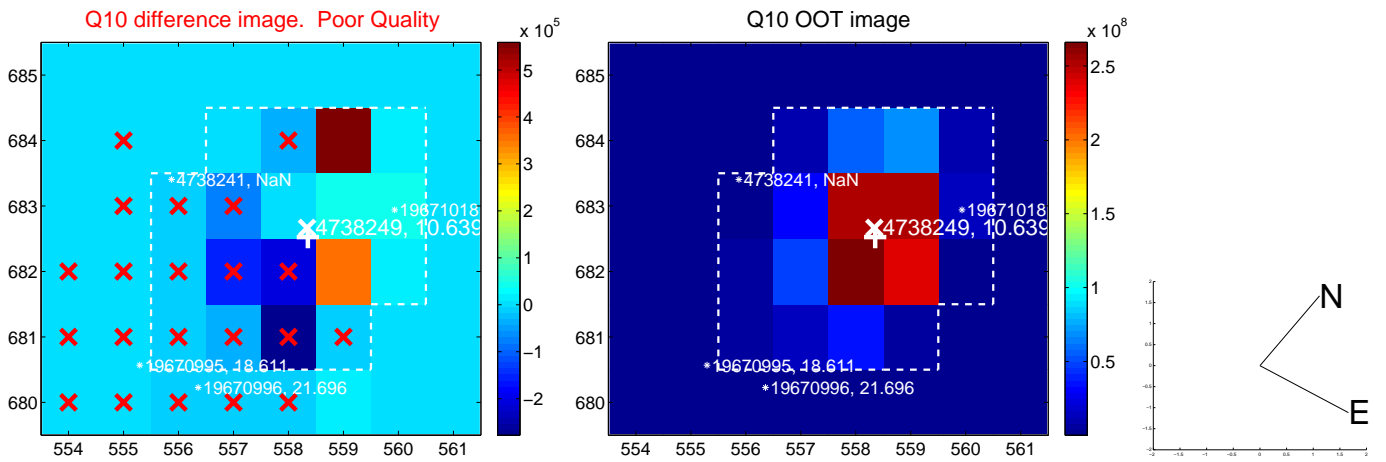
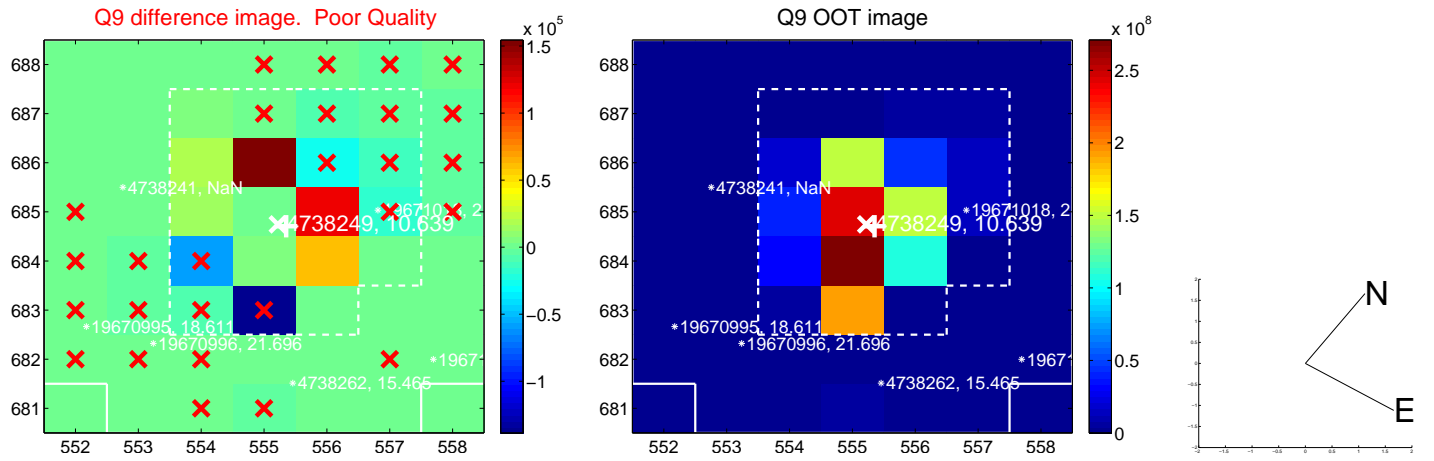
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



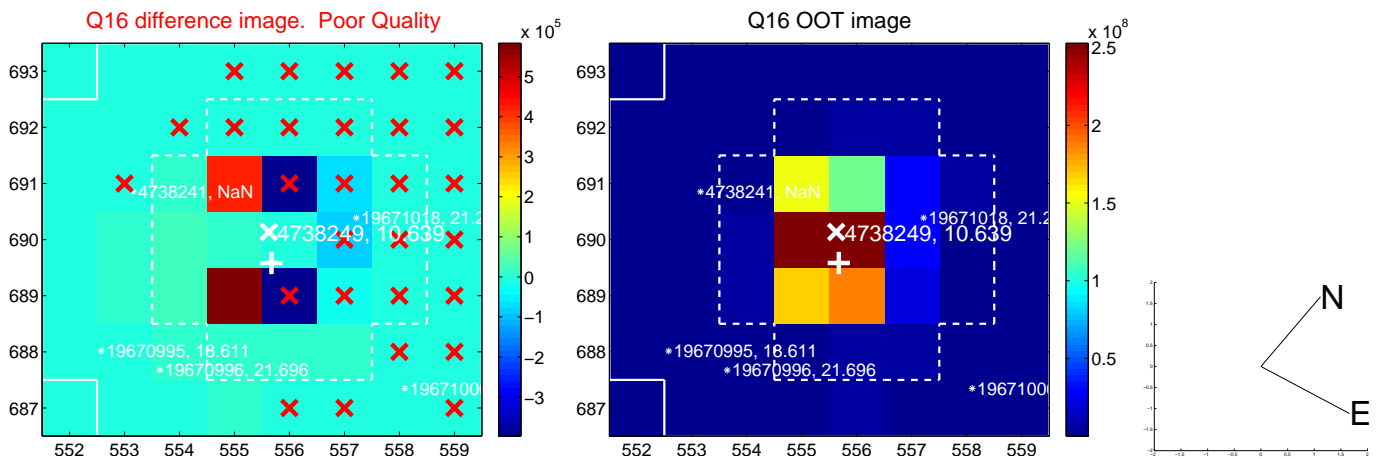
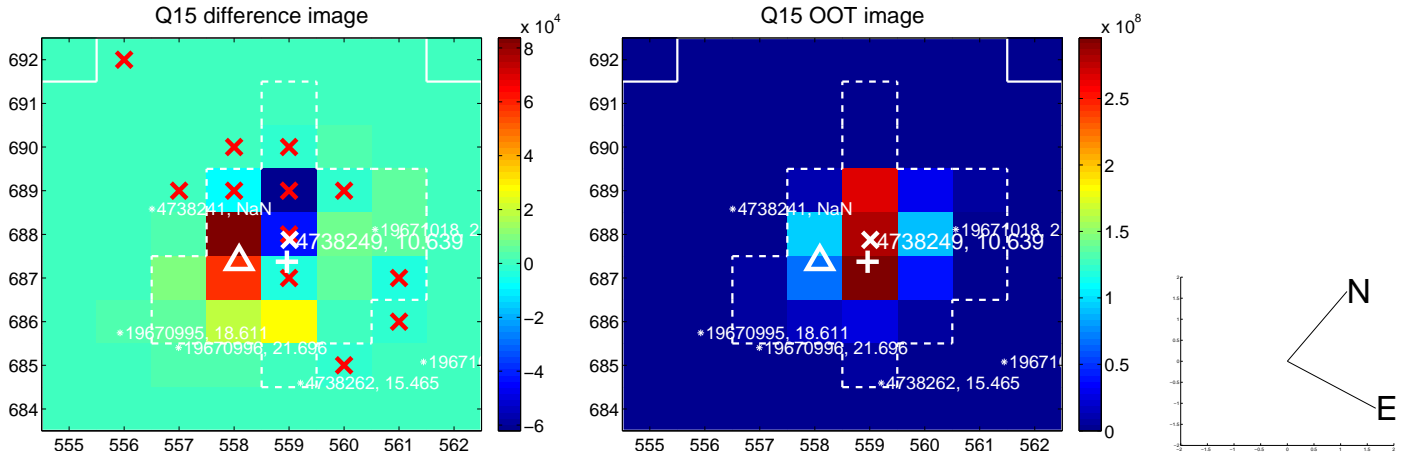
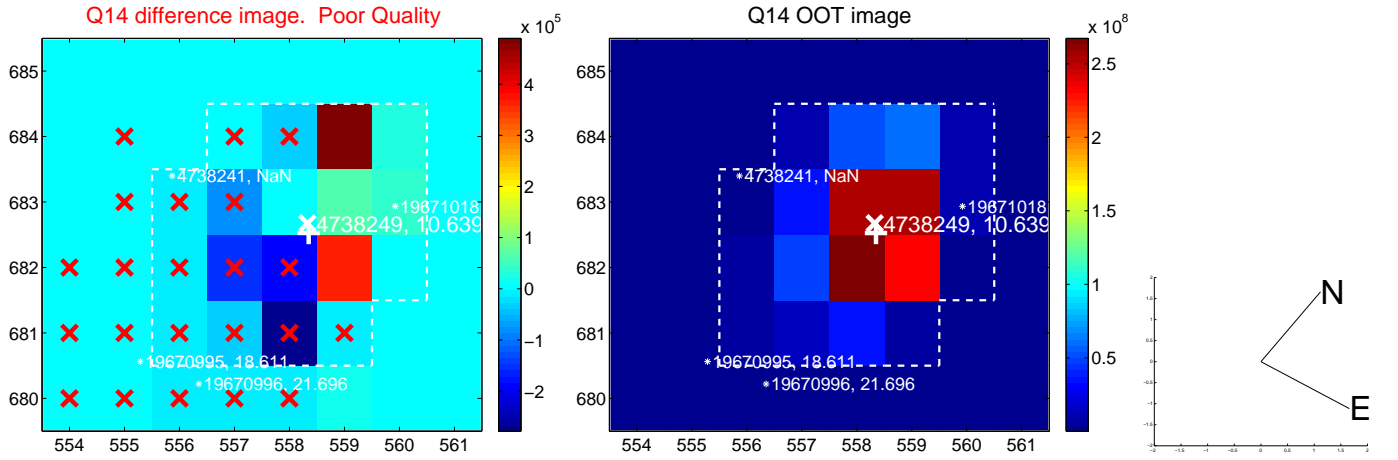
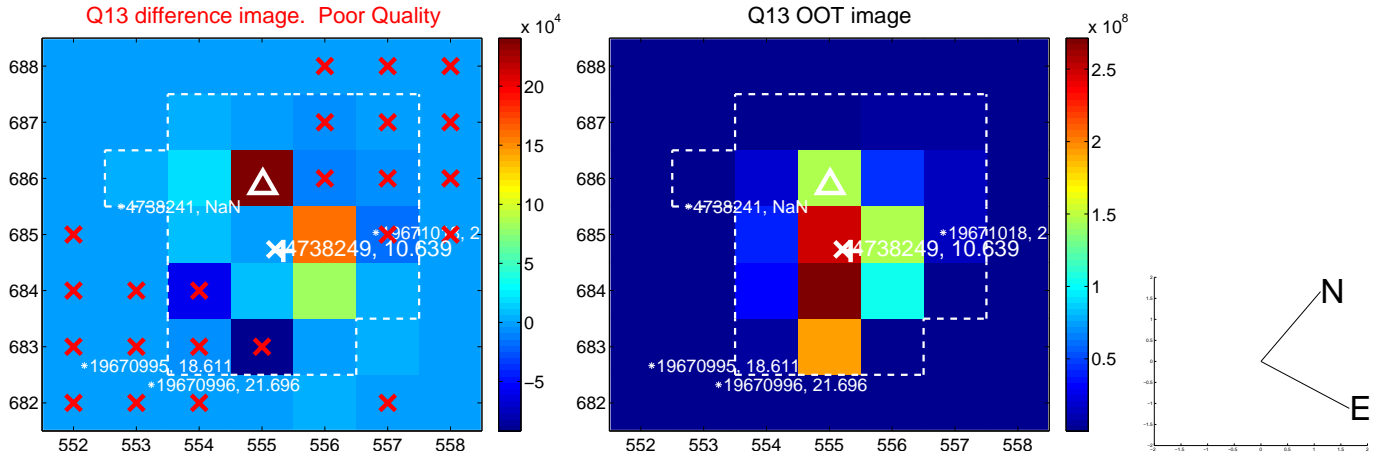
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



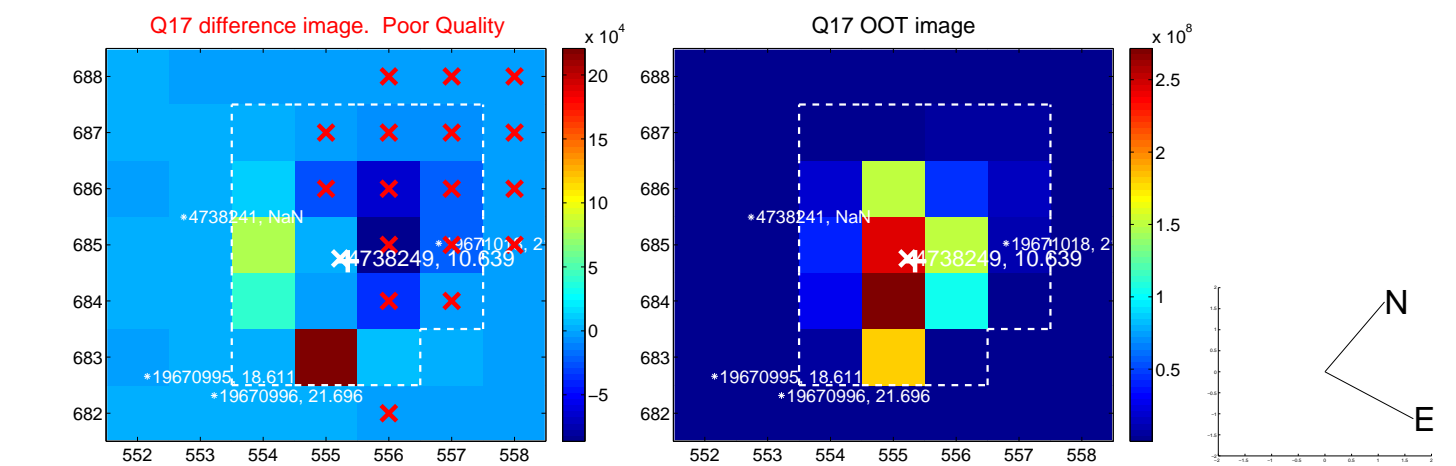
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



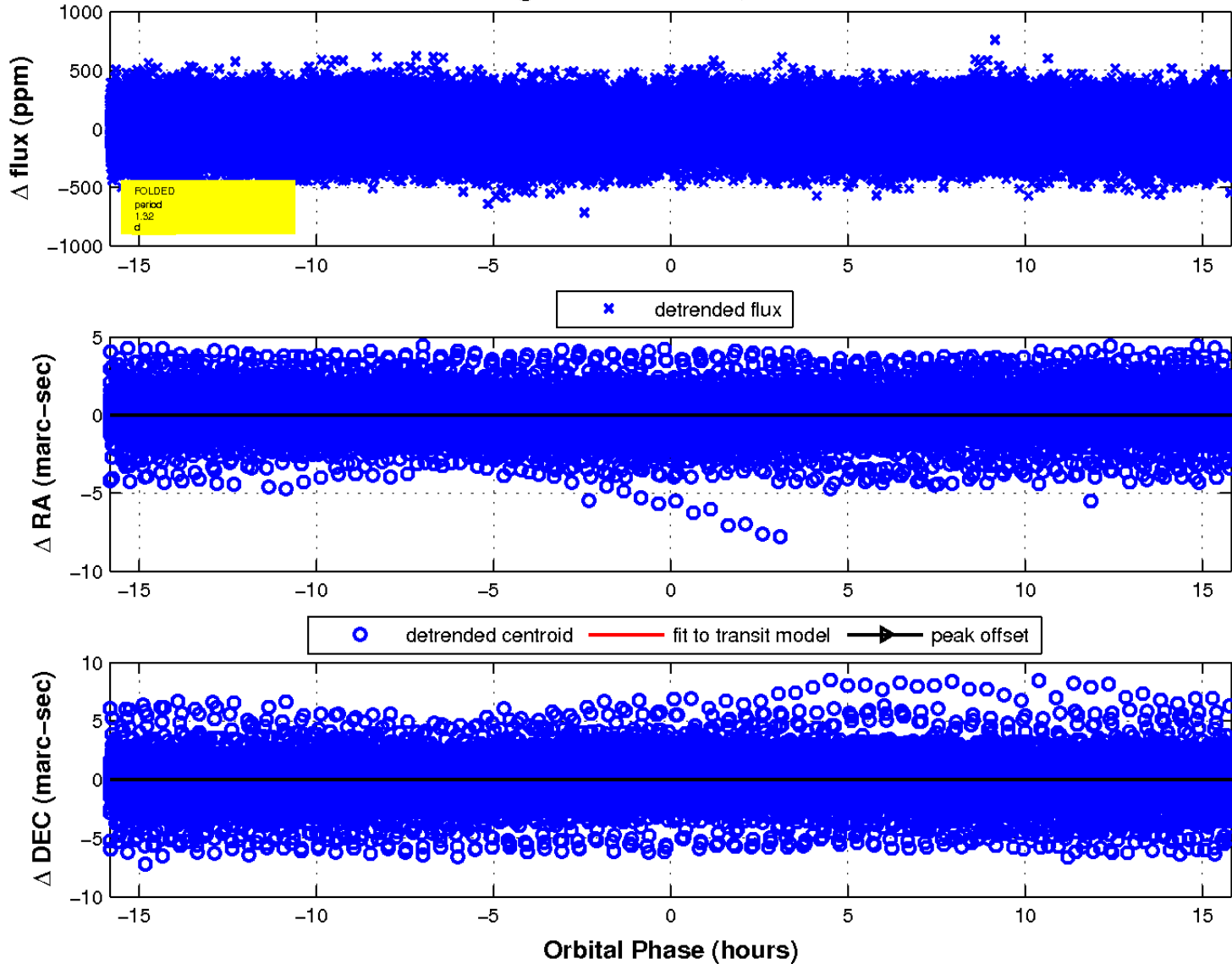
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

