

KIC 004037476

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})
004037476-01	OBS	No	1.989986	132.262587	19.2	6.543	9.0	8.4	4.01	7348	2.10	26806.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004037476-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

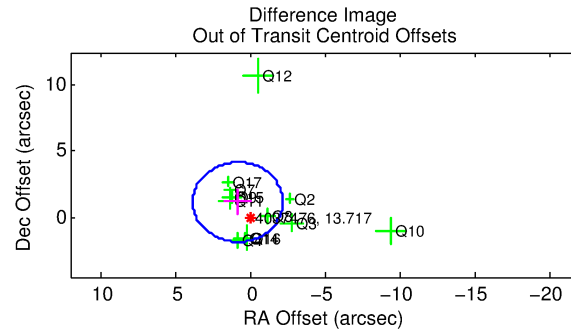
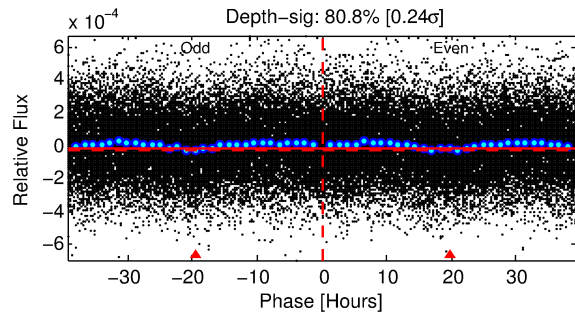
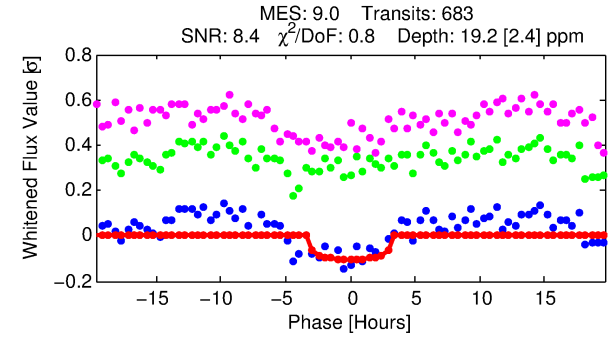
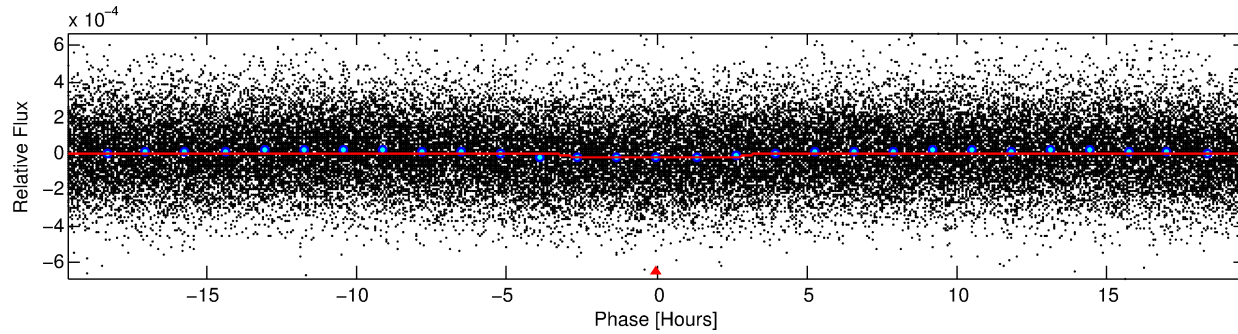
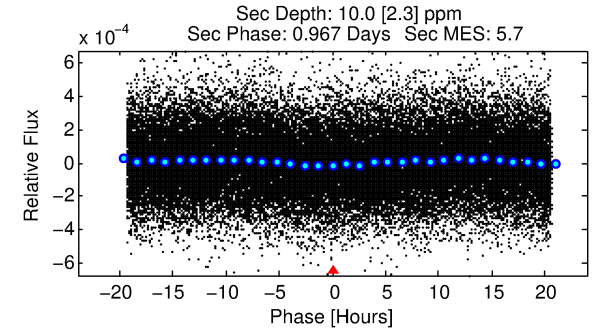
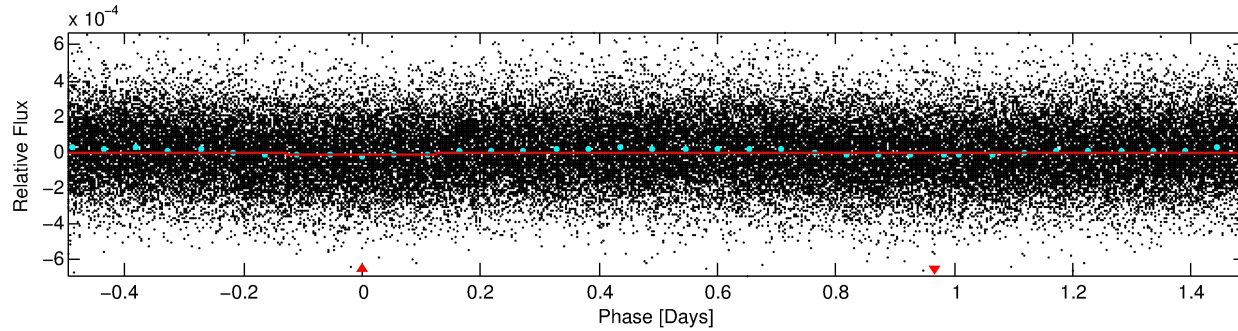
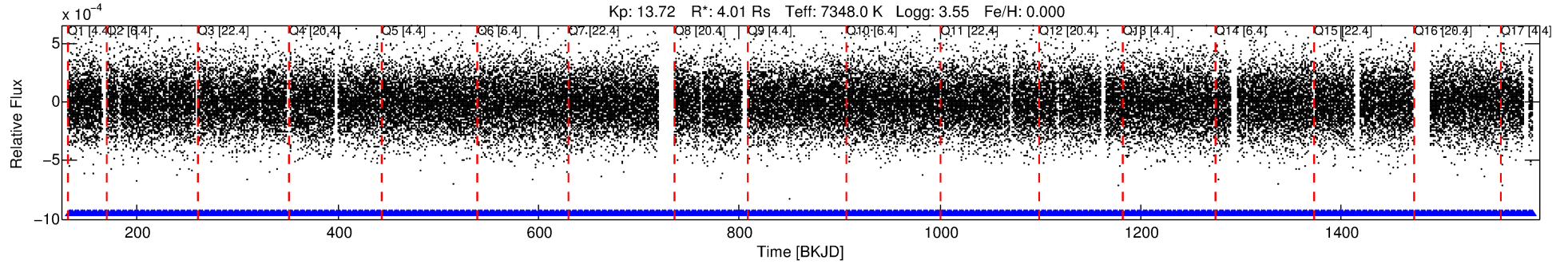
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004037476-01

No Significant Match Found

DV One-Page Summary

KIC: 4037476 Candidate: 1 of 1 Period: 1.990 d



DV Fit Results:

Period = 1.98999 [0.00003] d
Epoch = 132.2626 [0.0083] BKJD
Rp/R* = 0.0048 [0.0014]
a/R* = 1.28 [0.96]
b = 0.94 [0.25]
Seff = 26806.80 [24373.38]
Teq = 3263 [742] K
Rp = 2.10 [1.31] Re
a = 0.0395 [0.0217] AU
Ag = 1.93 [2.12] [0.44σ]
Teffp = 5949 [980] K [2.19σ]

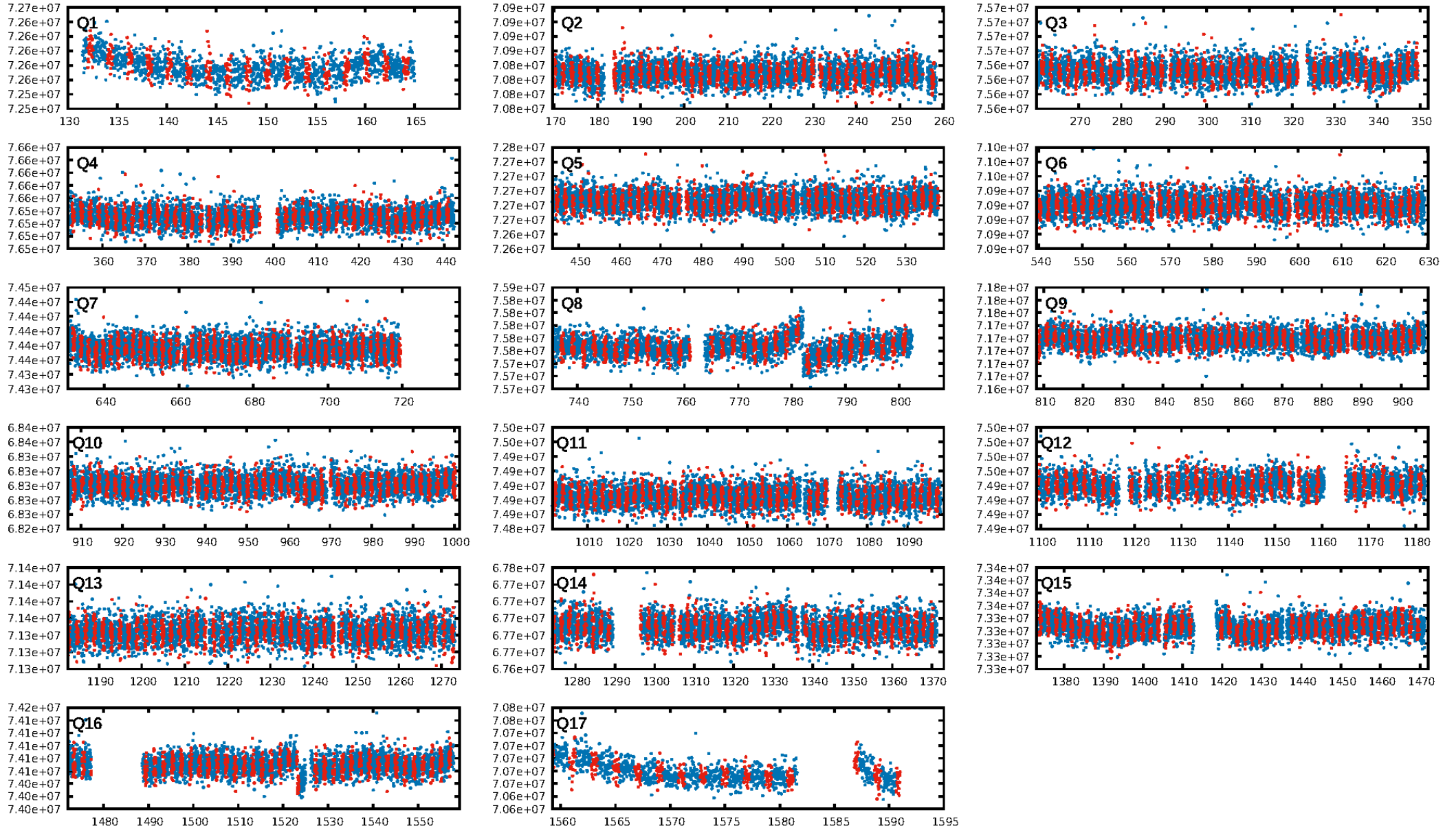
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 8.99e-19
RollingBand-fgt: 1.00 [652/652]
GhostDiagnostic-chr: -7.51
Centroid-sig: 68.2%
Centroid-so: 0.792 arcsec [0.45σ]
OotOffset-rm: 1.420 arcsec [1.41σ]
KicOffset-rm: 1.573 arcsec [1.64σ]
OotOffset-st: 3/4/4/2 [13]
KicOffset-st: 3/4/4/2 [13]
DiffImageQuality-fgm: 0.77 [10/13]
DiffImageOverlap-fno: 1.00 [17/17]

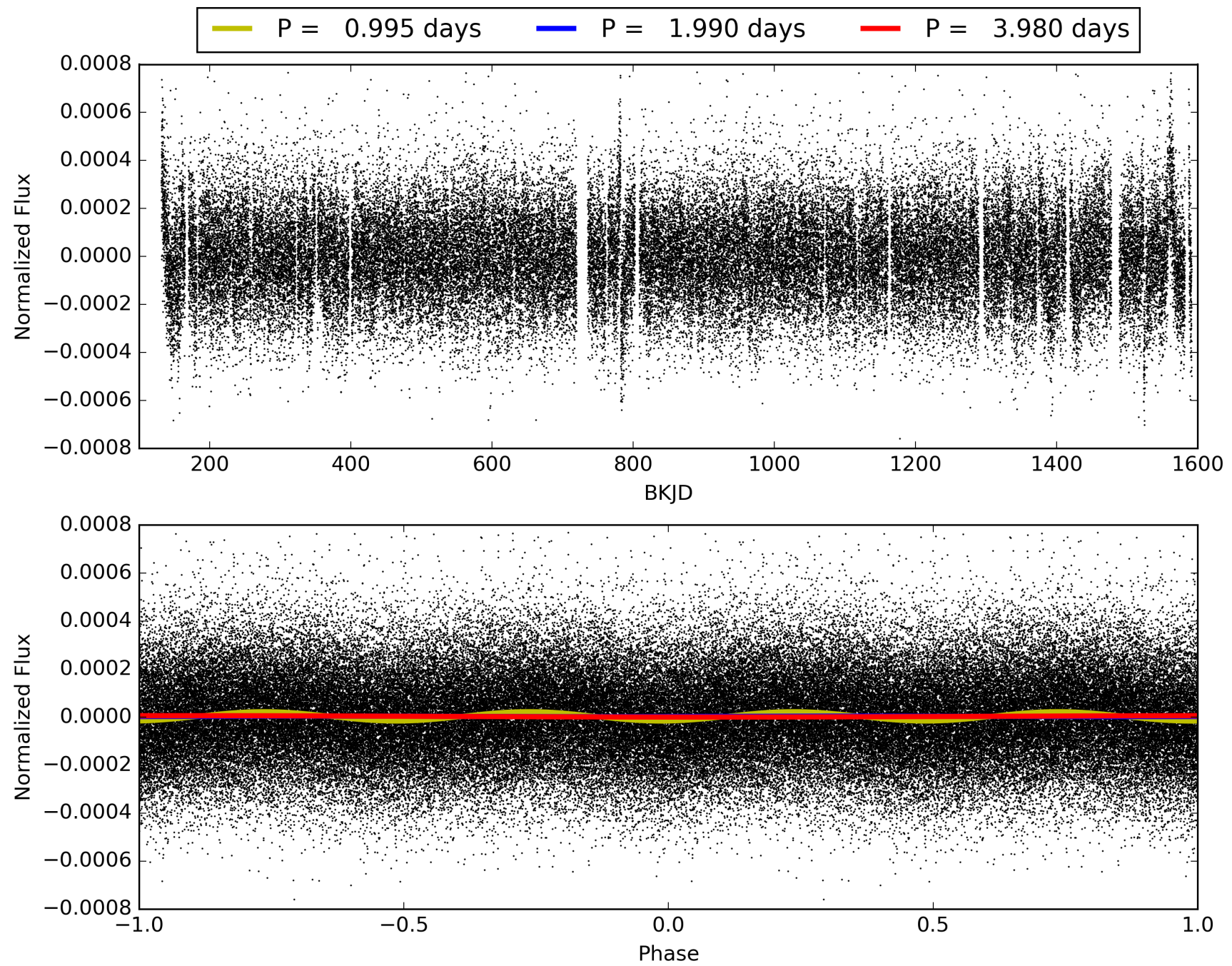
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:58:45 Z

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

TCE 004037476-01, PDC Light Curves

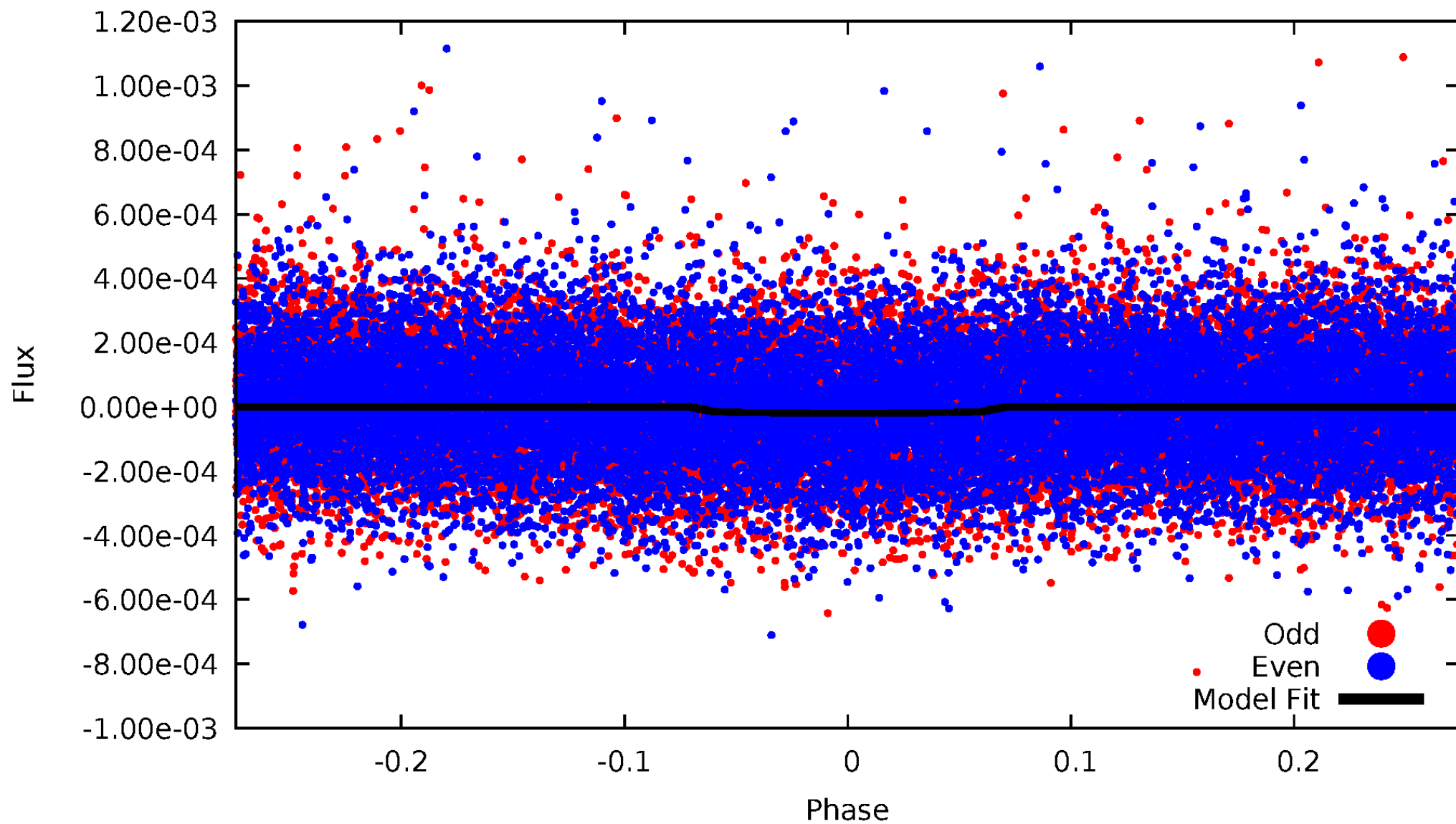


TCE 004037476-01



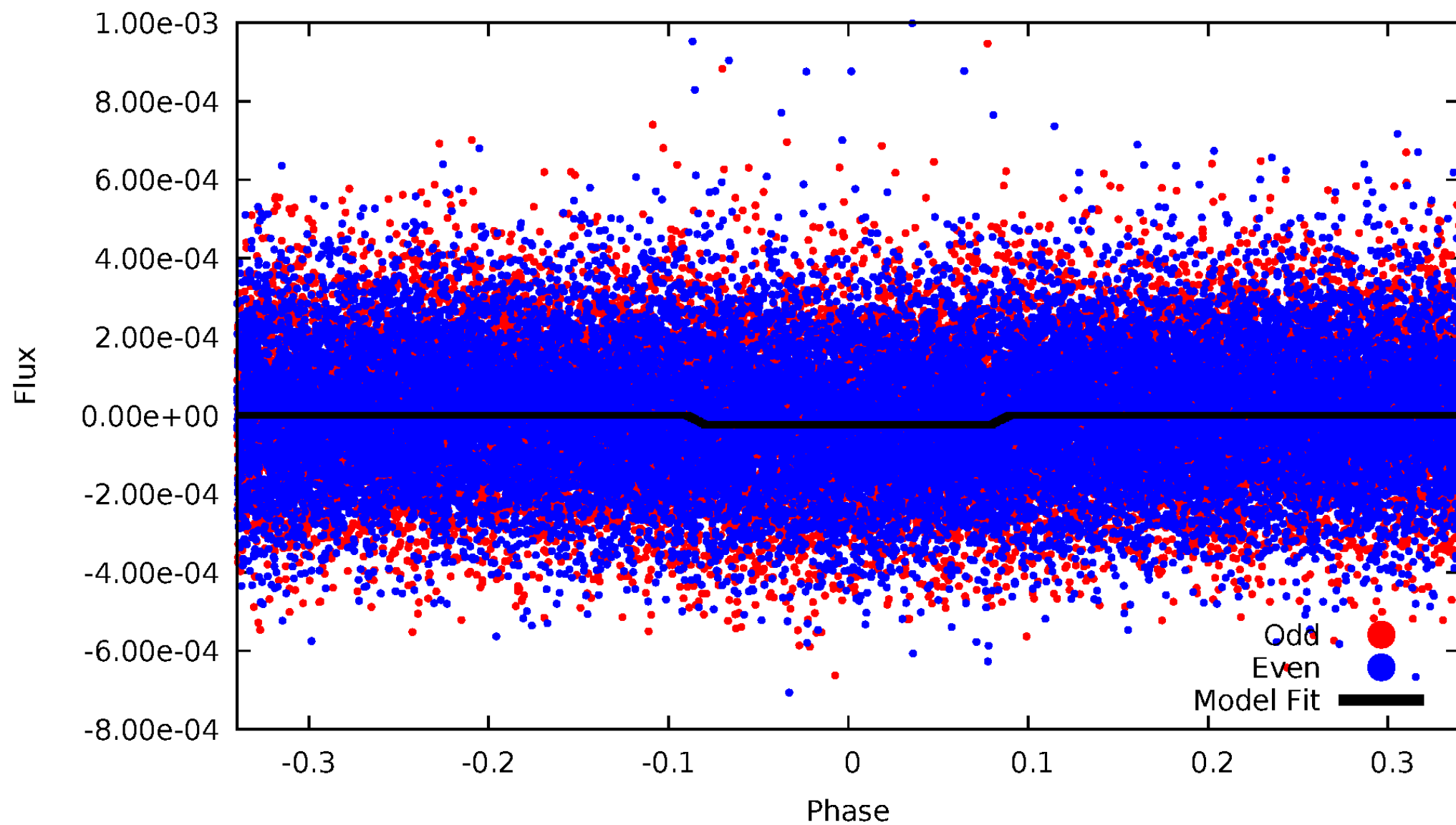
DV Odd/Even

TCE 004037476-01



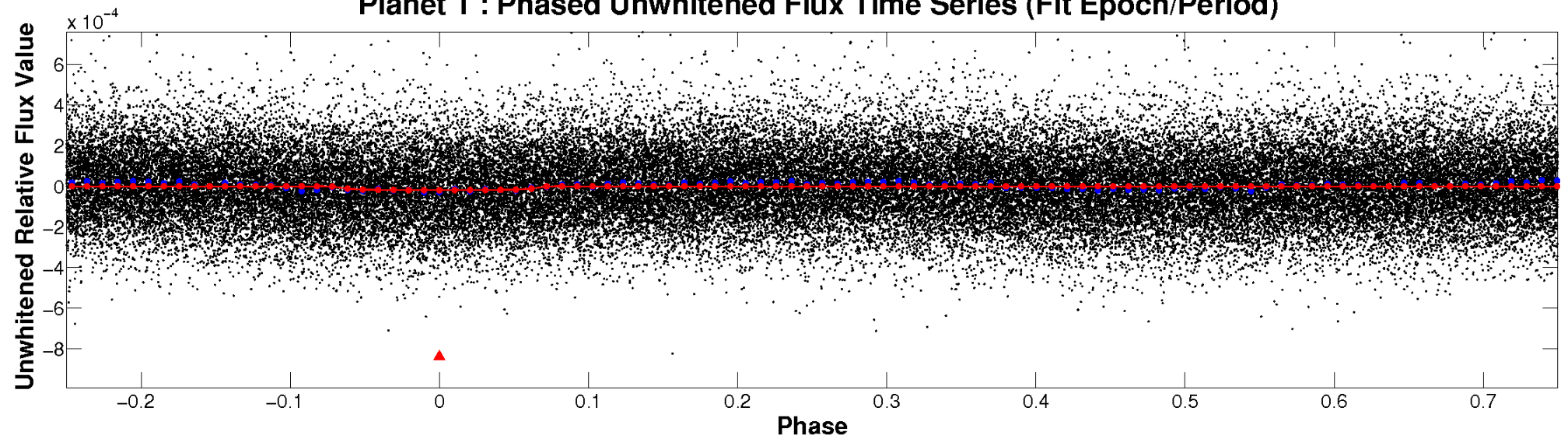
ALT Odd/Even

TCE 004037476-01

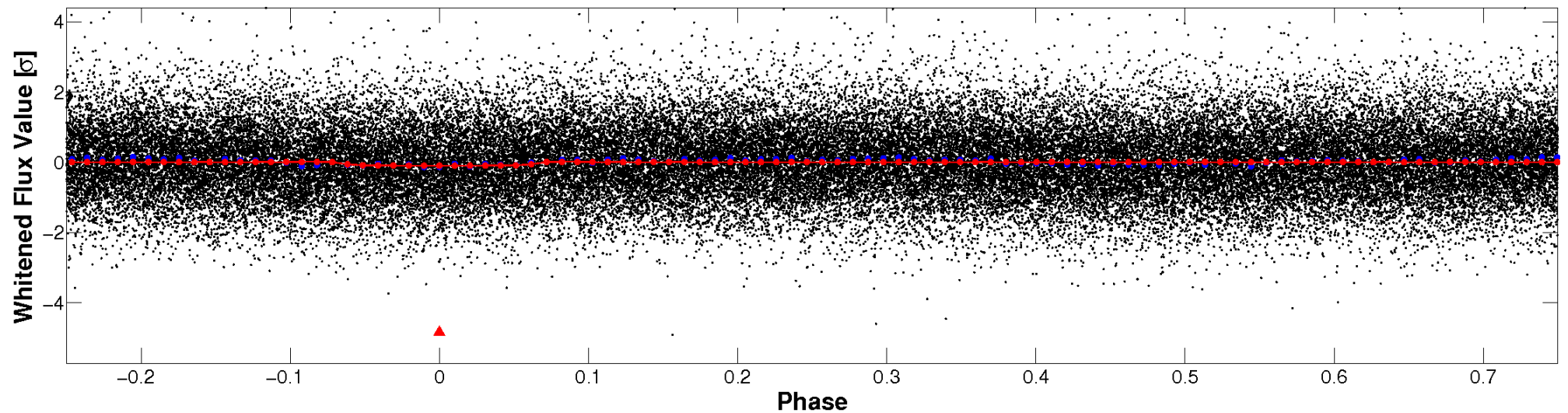


Non-Whitened Vs. Whitened Light Curve

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

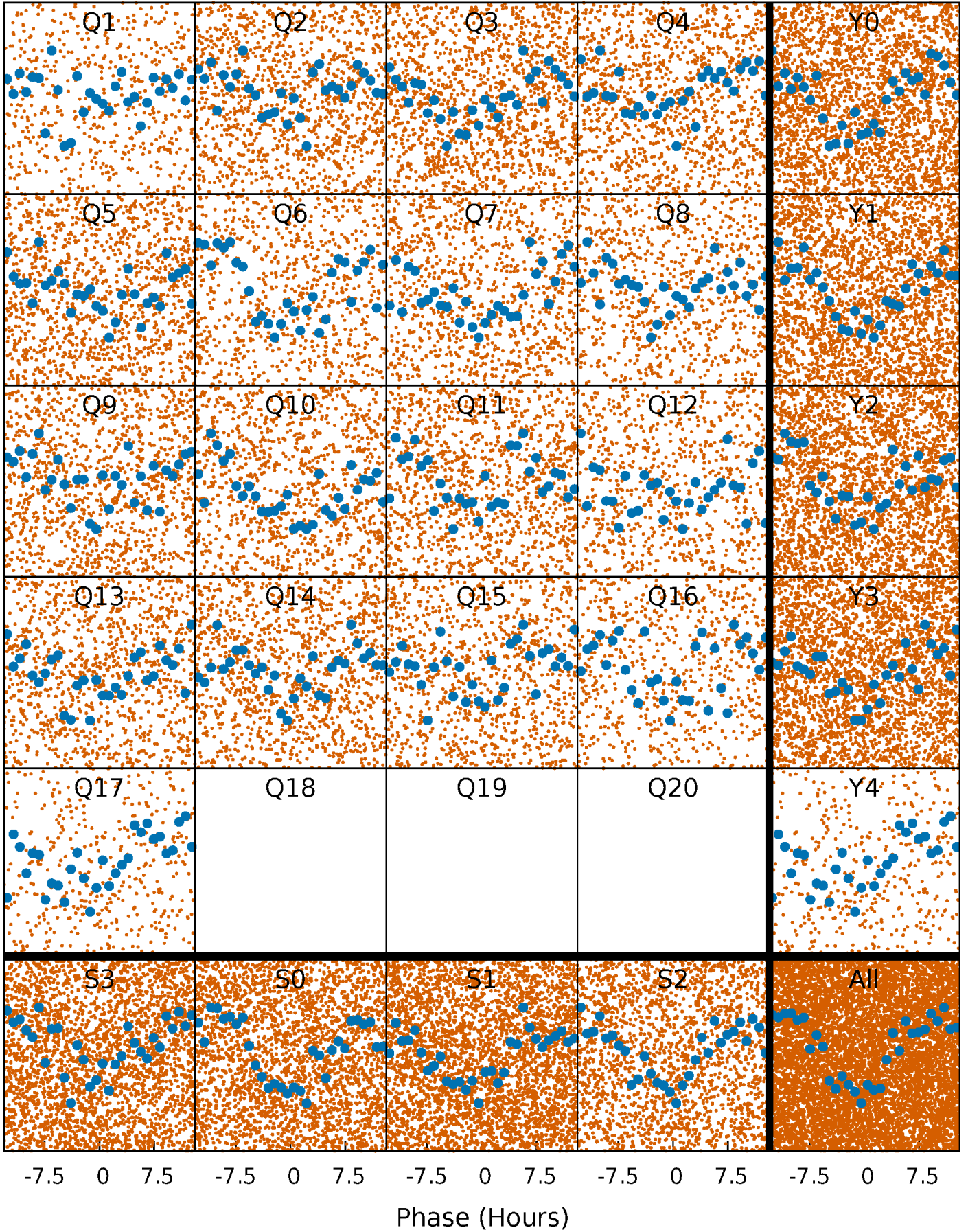


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



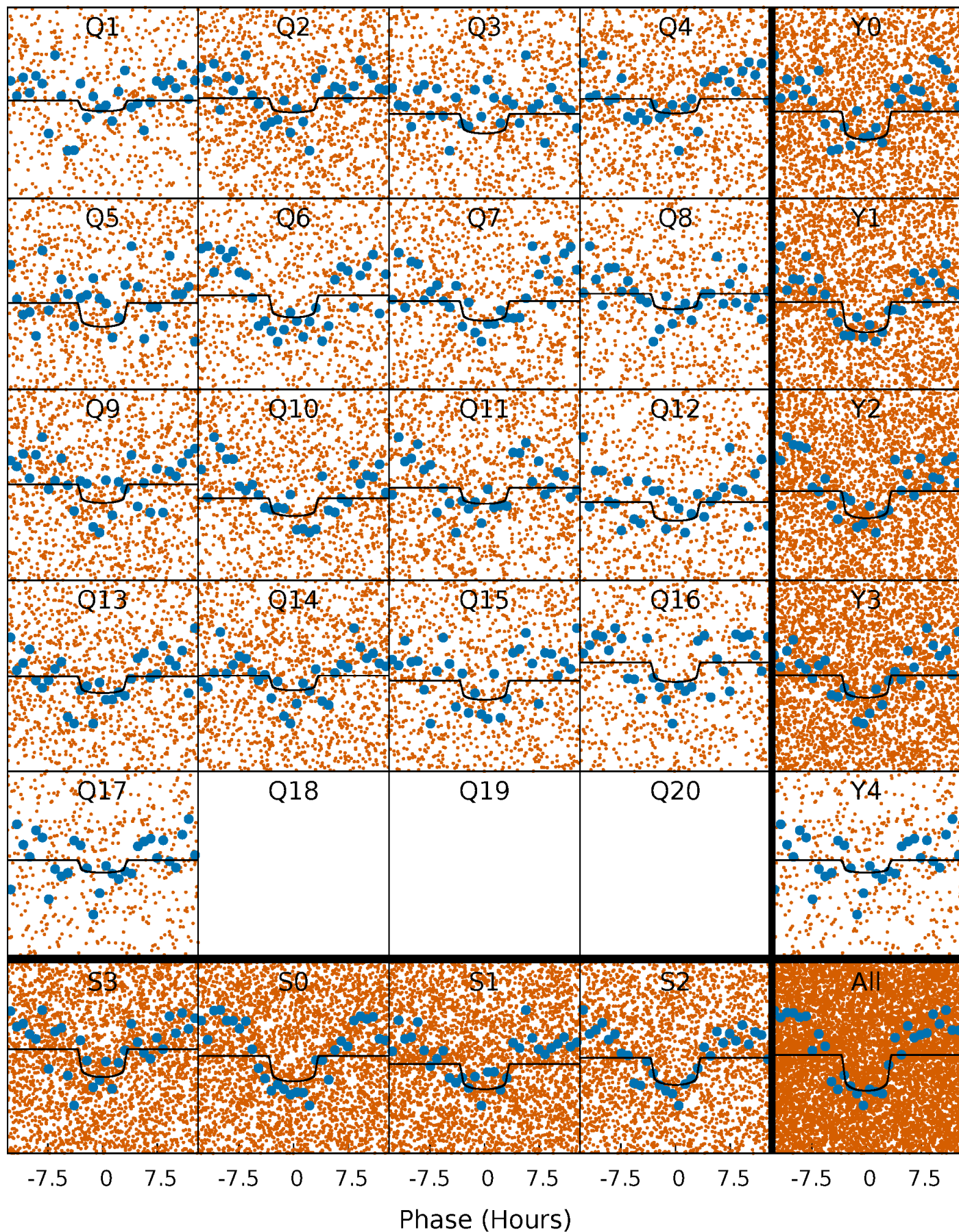
PDC Quarter-Phased Transit Curves

TCE 004037476-01 P= 1.989986 Days $T_0=132.262587$ (BKJD)



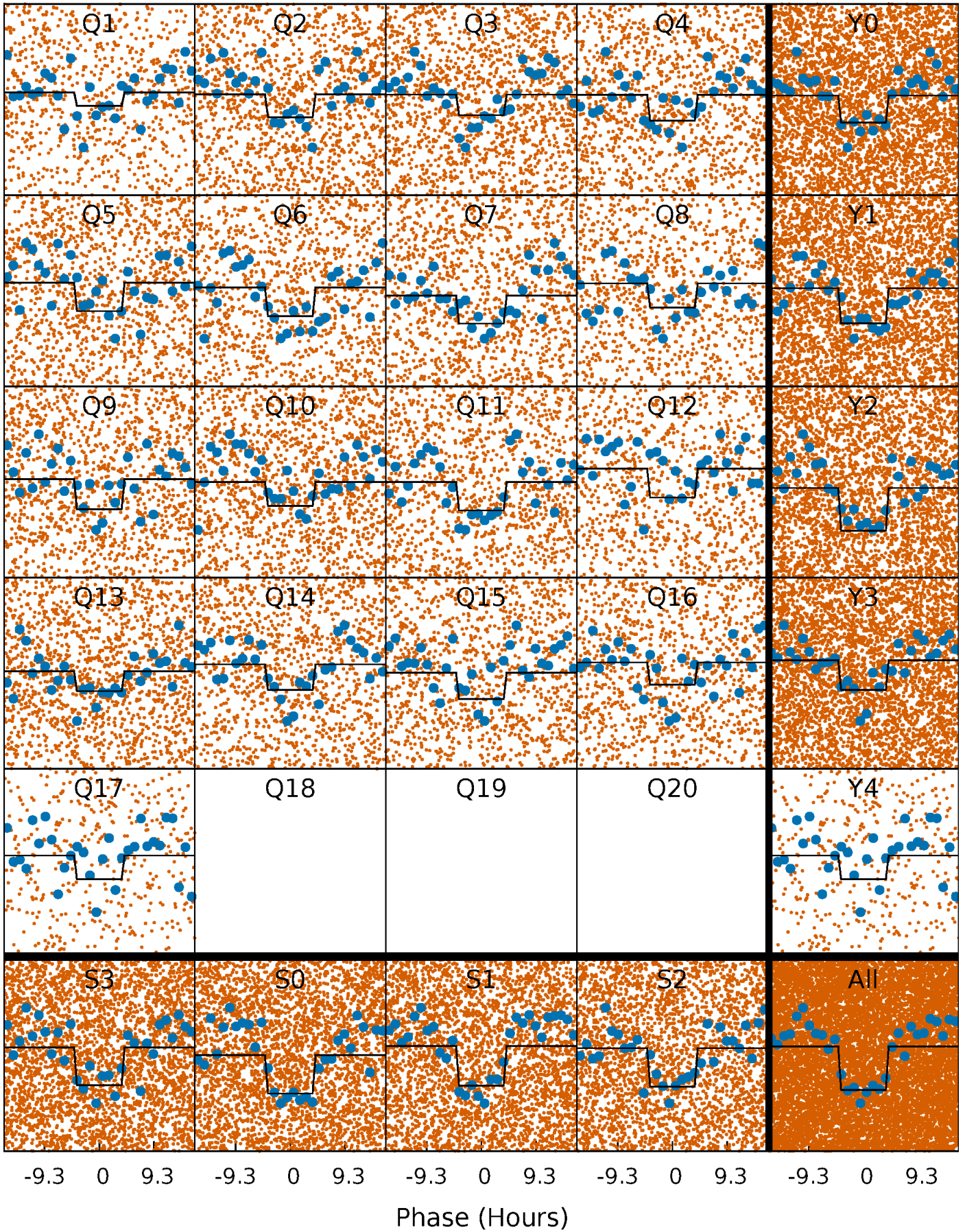
DV Quarter-Phased Transit Curves

TCE 004037476-01 P= 1.989986 Days $T_0=132.262587$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

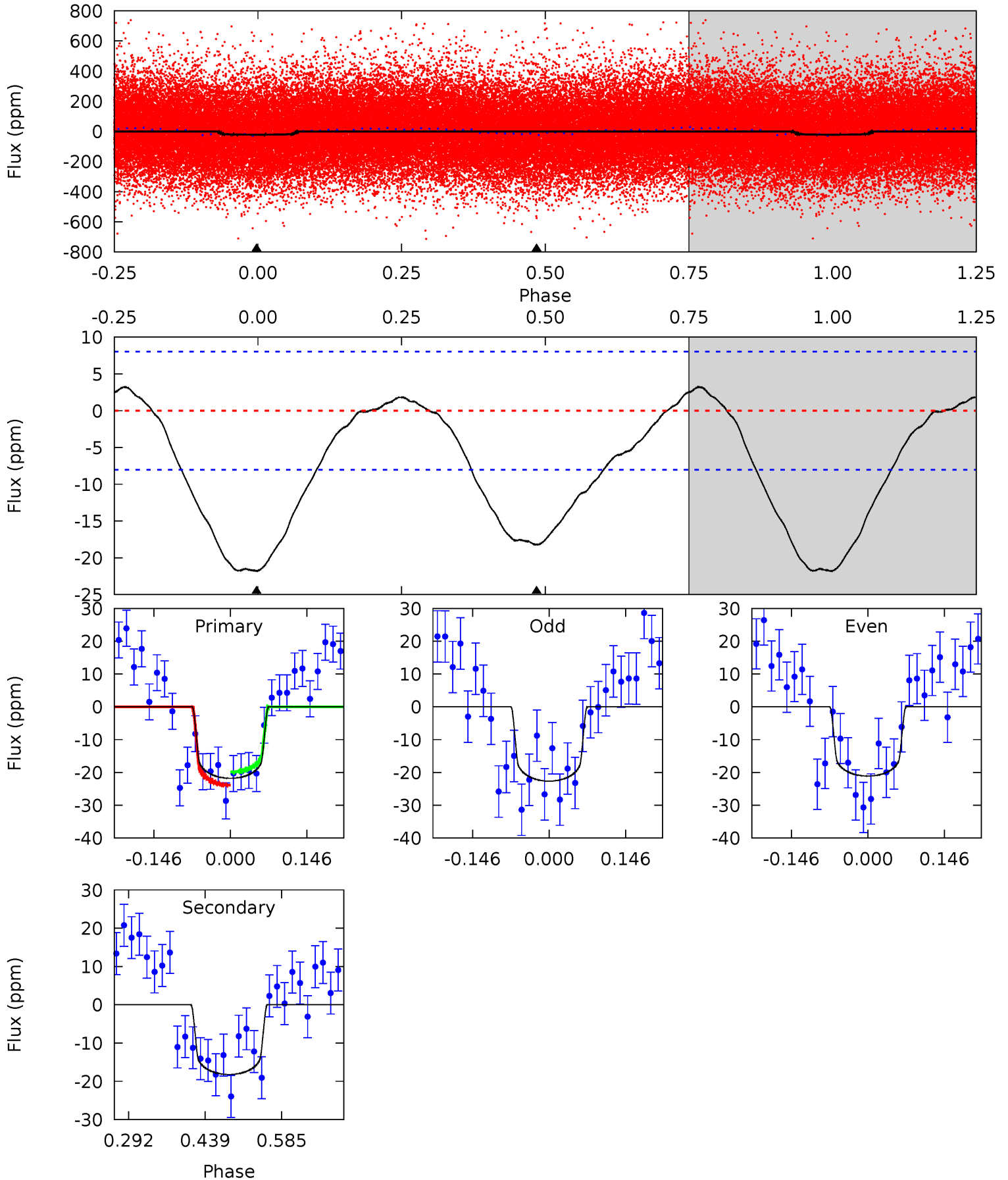
TCE 004037476-01 P= 1.990078 Days $T_0=132.193369$ (BKJD)



DV Model-Shift Uniqueness Test

004037476-01, P = 1.989986 Days, E = 130.272601 Days

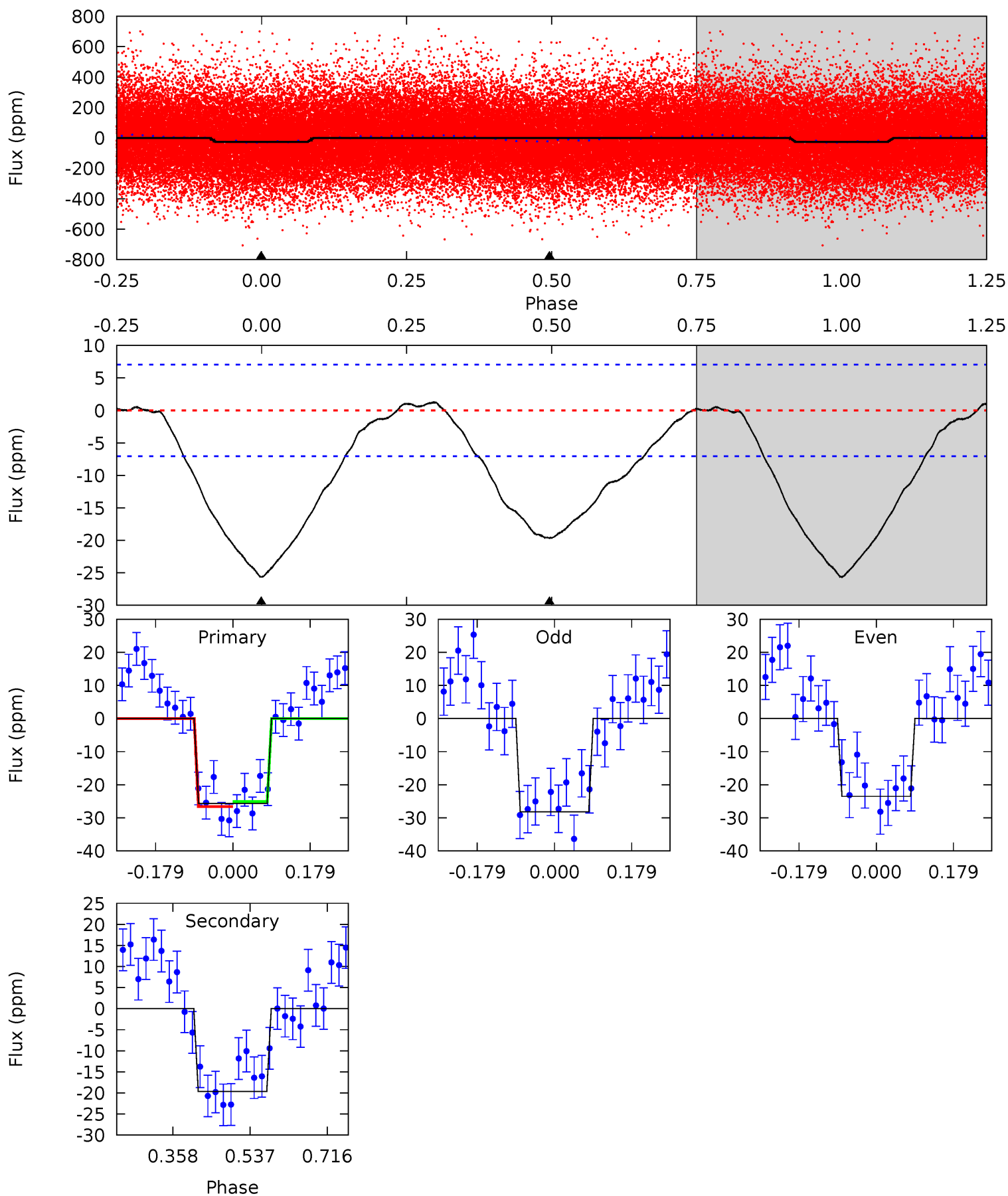
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	10.2	0	0	4.48	1.45	1.26	12.2	12.2	10.2	10.2	0.44	0.99	0.13	1.12



Alt Model-Shift Uniqueness Test

004037476-01, P = 1.990078 Days, E = 130.203291 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	12.4	0	0	4.44	1.34	0.96	16.2	16.2	12.4	12.4	1.46	1.08	0.05	0.48



Stellar Parameters For KIC 004037476

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7348^{+231}_{-308}	$3.551^{+0.531}_{-0.059}$	$0.000^{+0.200}_{-0.300}$	$4.006^{+0.388}_{-2.201}$	$2.082^{+0.233}_{-0.583}$	$0.046^{+0.285}_{-0.009}$
	+3%/-4%	+15%/-2%	+inf%/-inf%	+10%/-55%	+11%/-28%	+625%/-20%
Source	KIC0	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 004037476-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18 ± 2	$1.85^{+0.72}_{-0.70}$	4389^{+288}_{-594}	6740^{+1610}_{-1013}	$4.553^{+6.742}_{-2.135}$
Alt.	-20 ± 2	$1.97^{+0.73}_{-0.76}$	4390^{+288}_{-540}	6696^{+1658}_{-924}	$4.315^{+6.709}_{-1.928}$

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

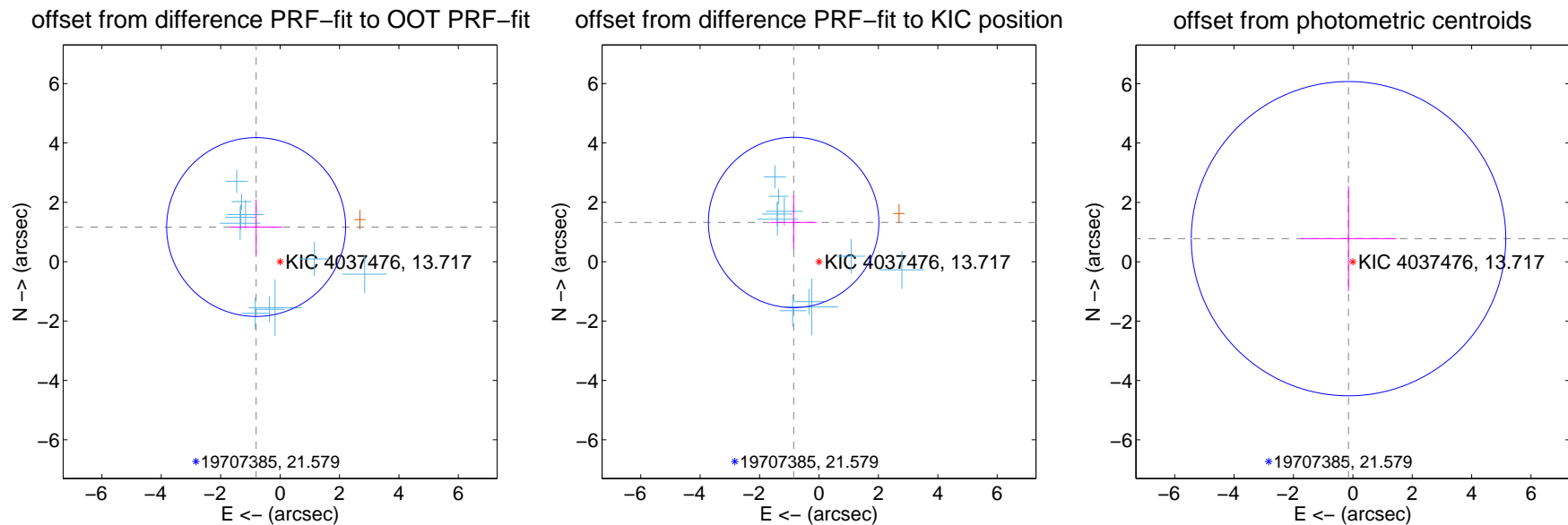
DV Centroid Data

Supplemental centroid analysis for 004037476-01. Kepler magnitude: 13.72. Transit SNR 8.38

There are 10 quarters with good PRF difference image offsets

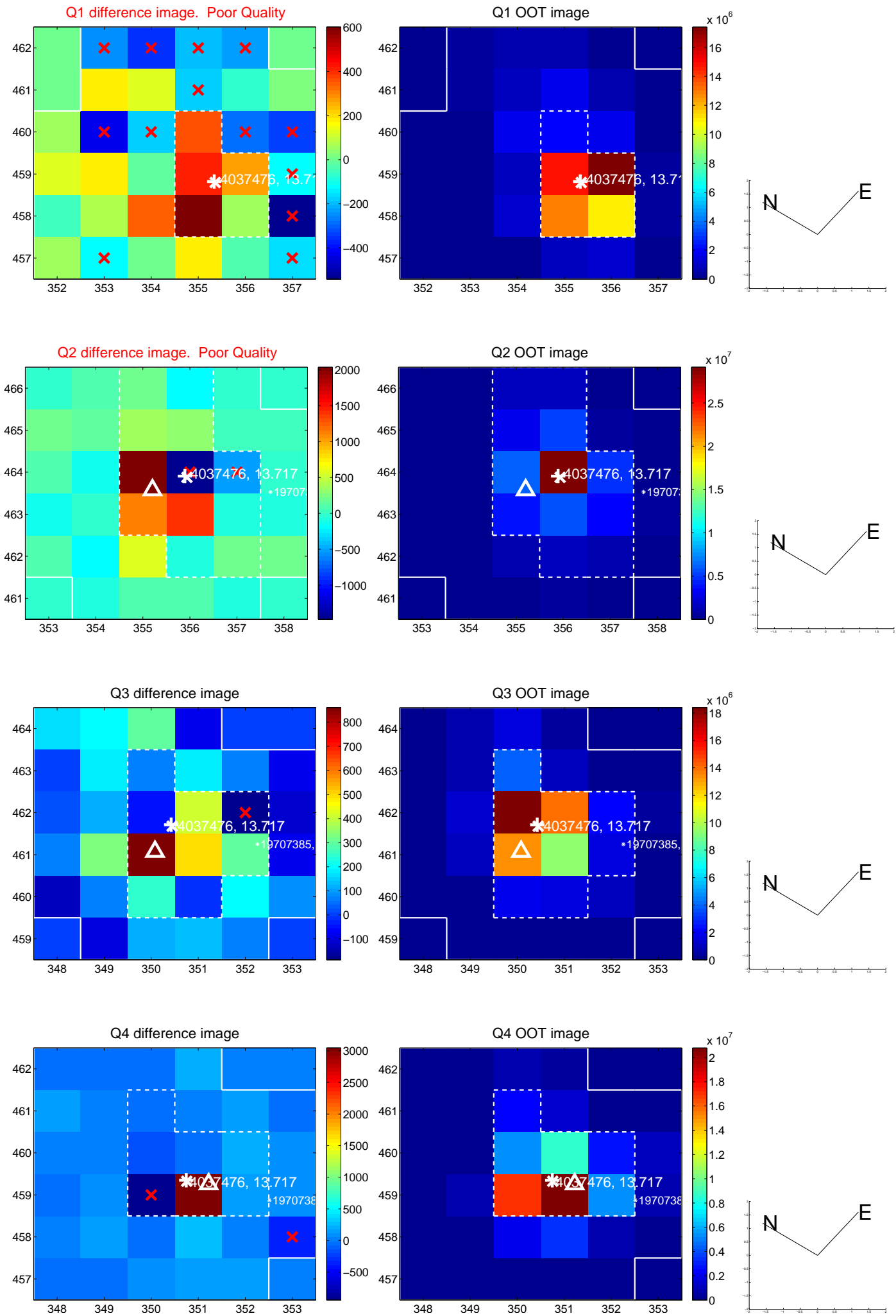
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.420 ± 1.004	1.41	0.808 ± 0.873	1.168 ± 0.932
PRF-fit source offset from KIC position	1.573 ± 0.957	1.64	0.853 ± 0.780	1.322 ± 0.917
photometric centroid source offset	0.79 ± 1.77	0.45	0.15 ± 1.62	0.78 ± 1.77

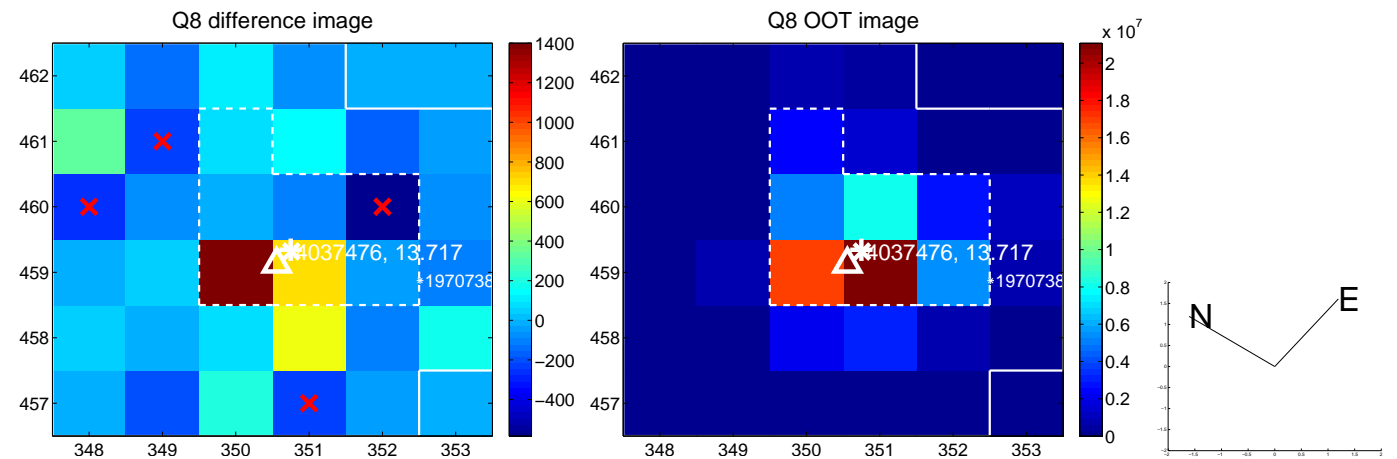
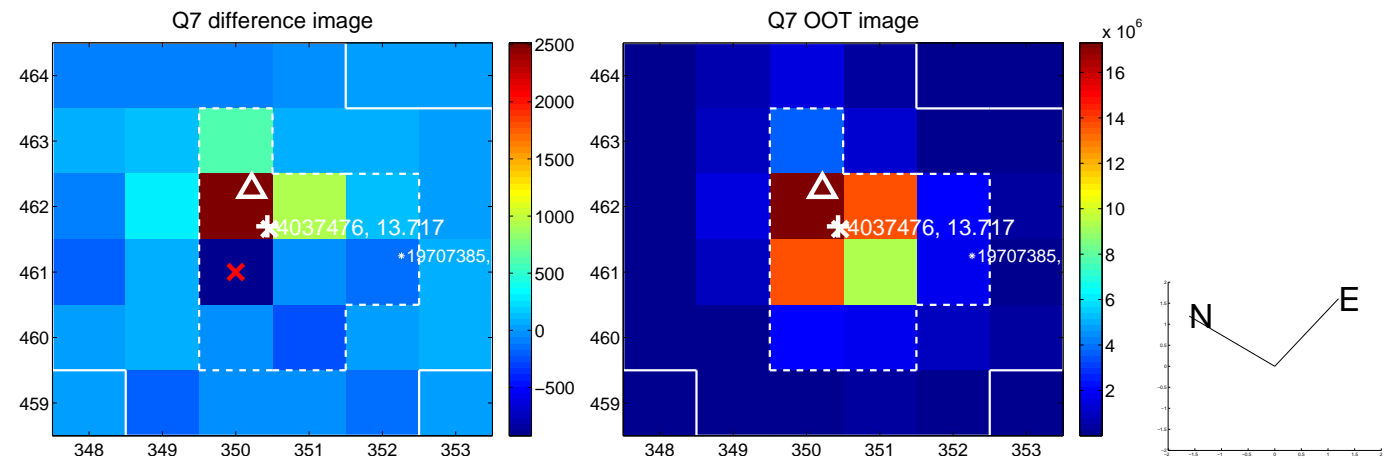
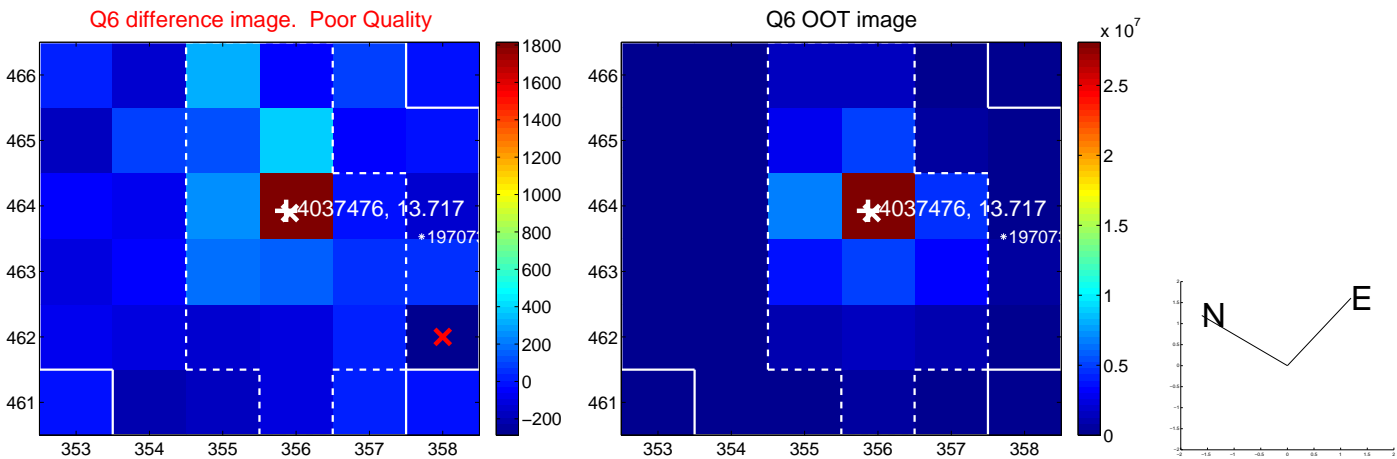
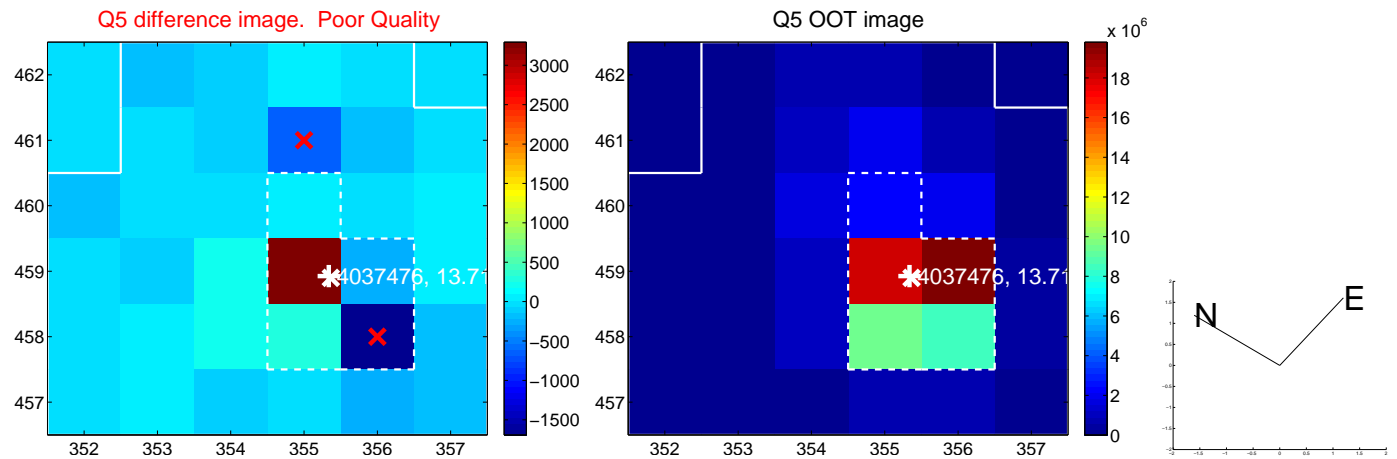


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

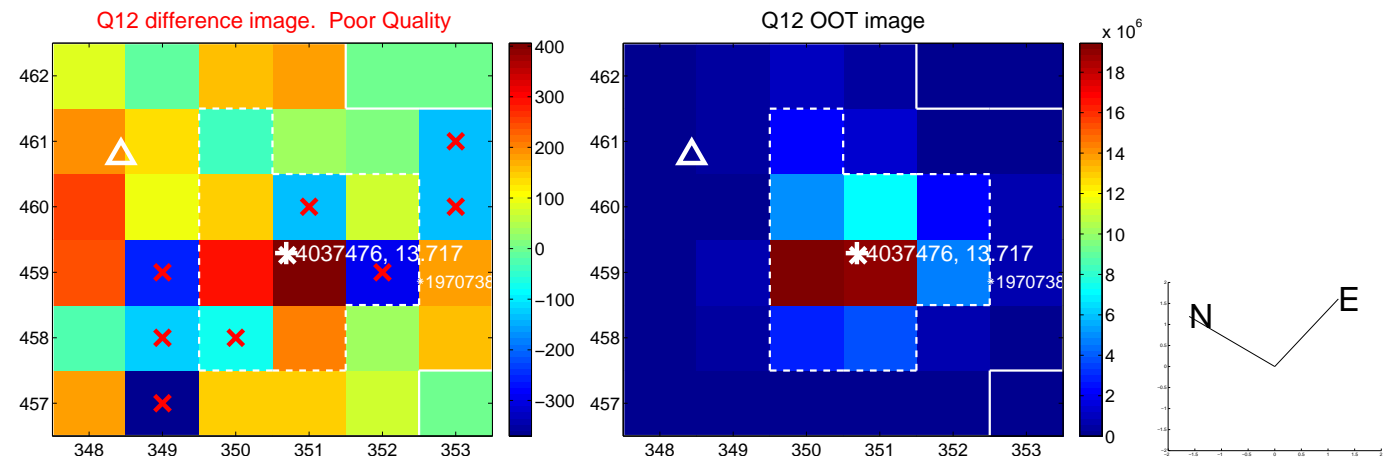
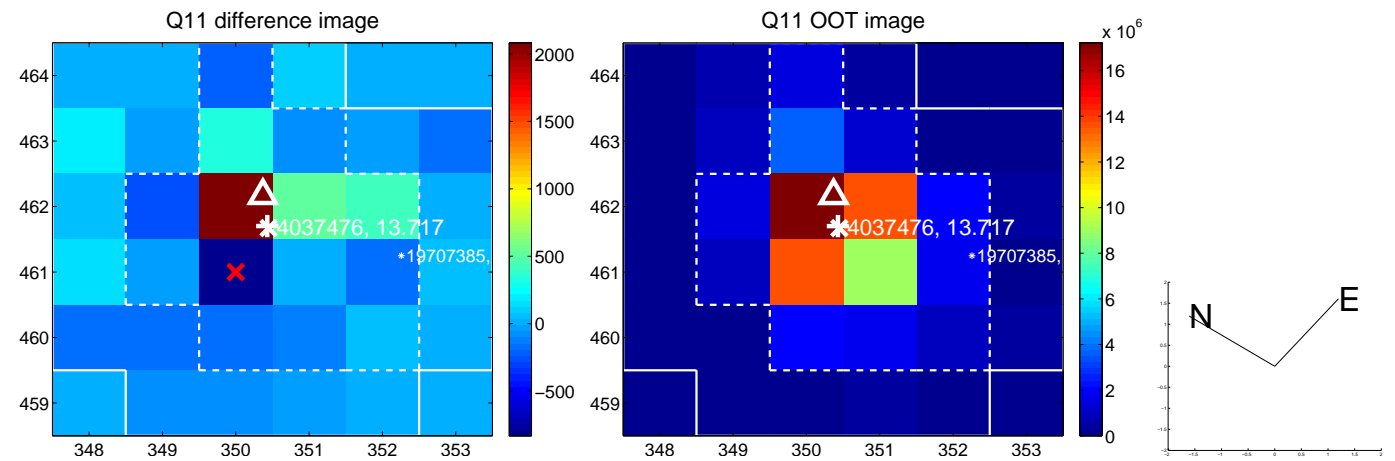
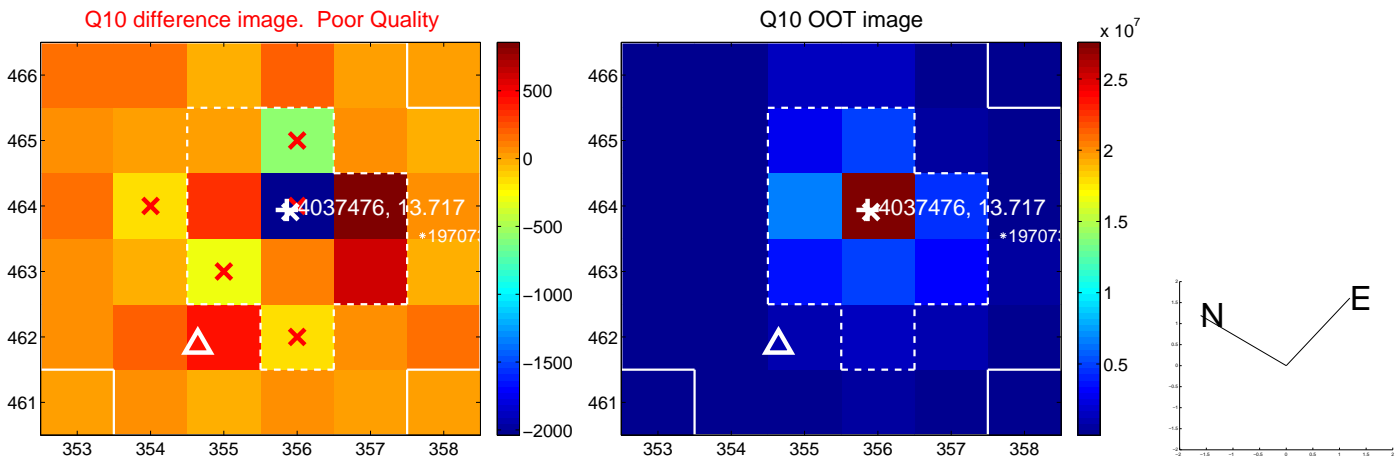
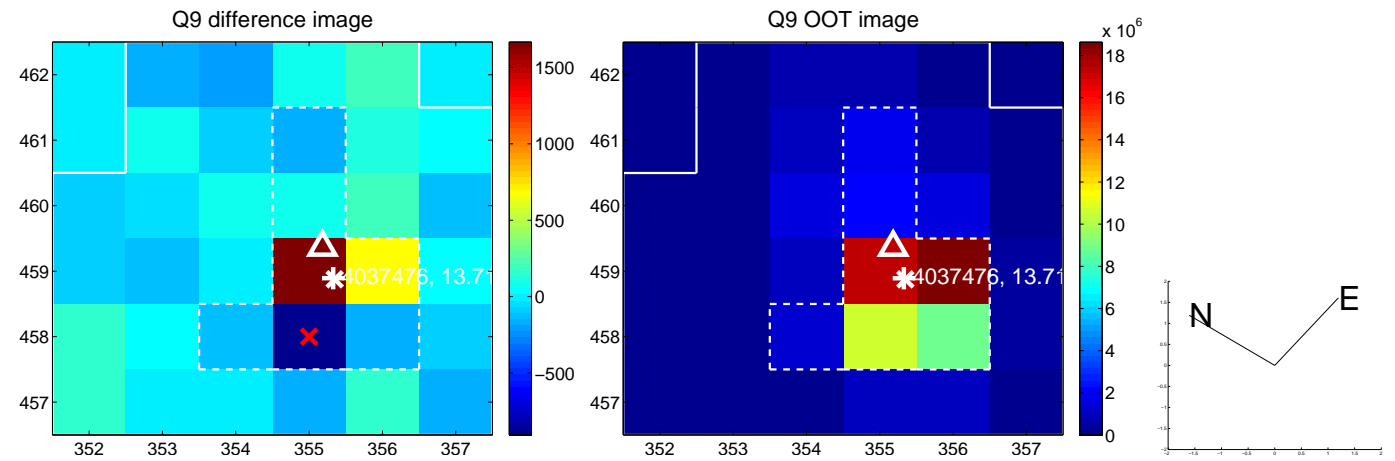
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



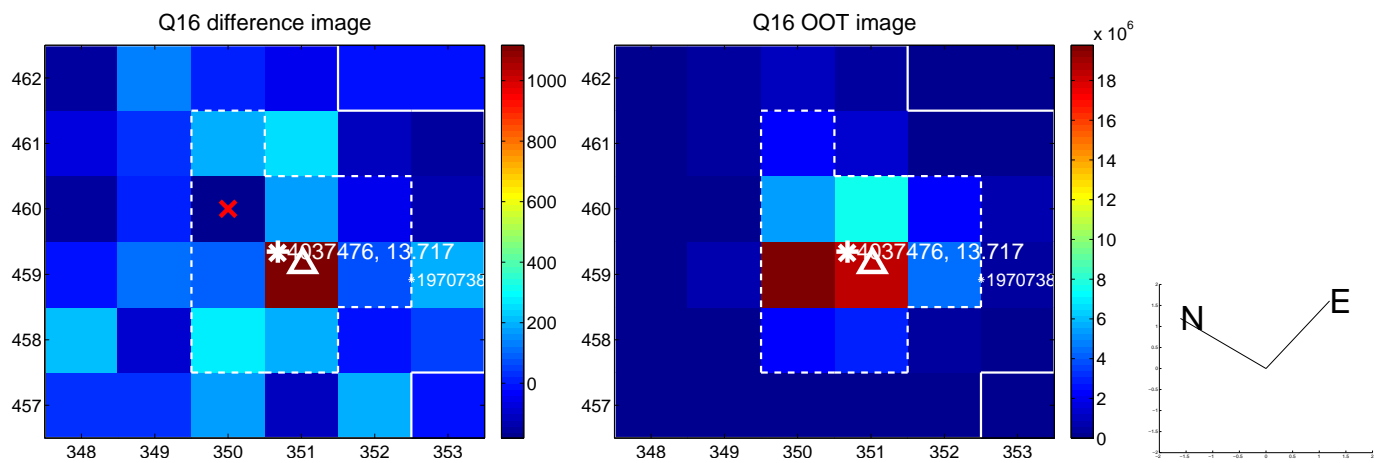
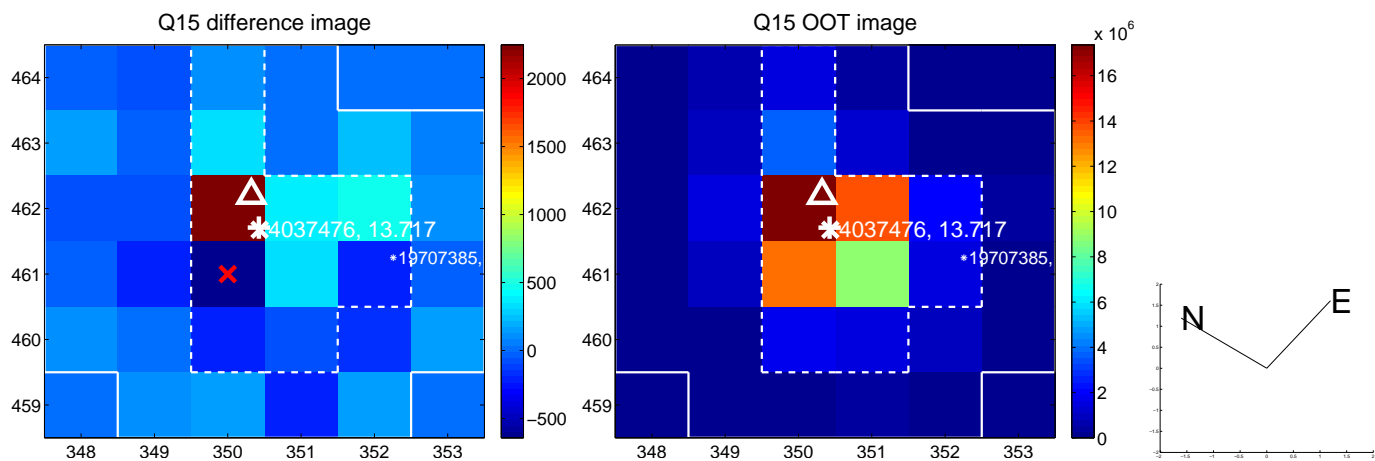
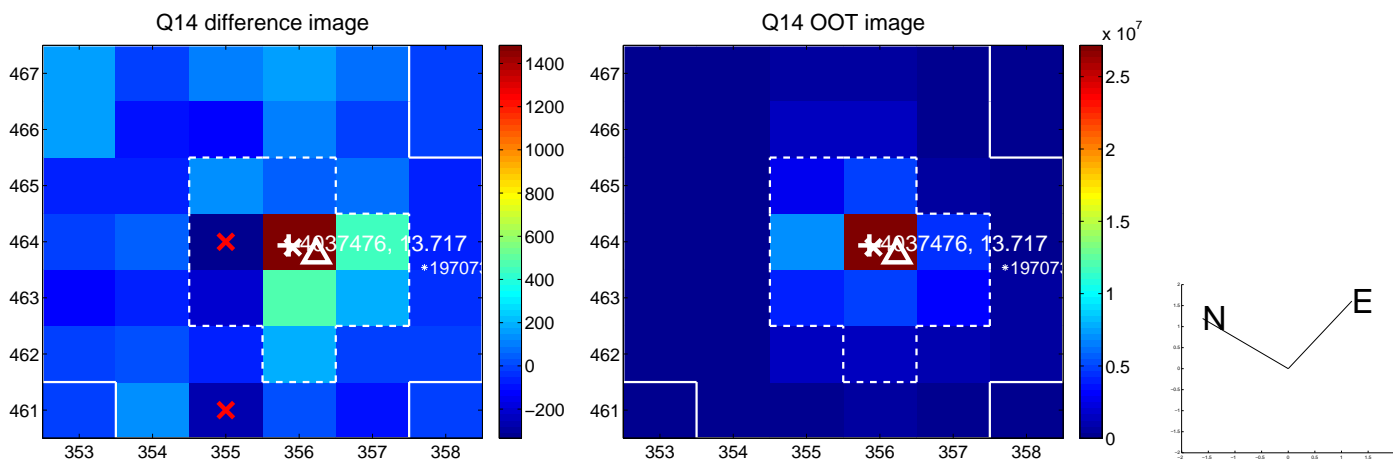
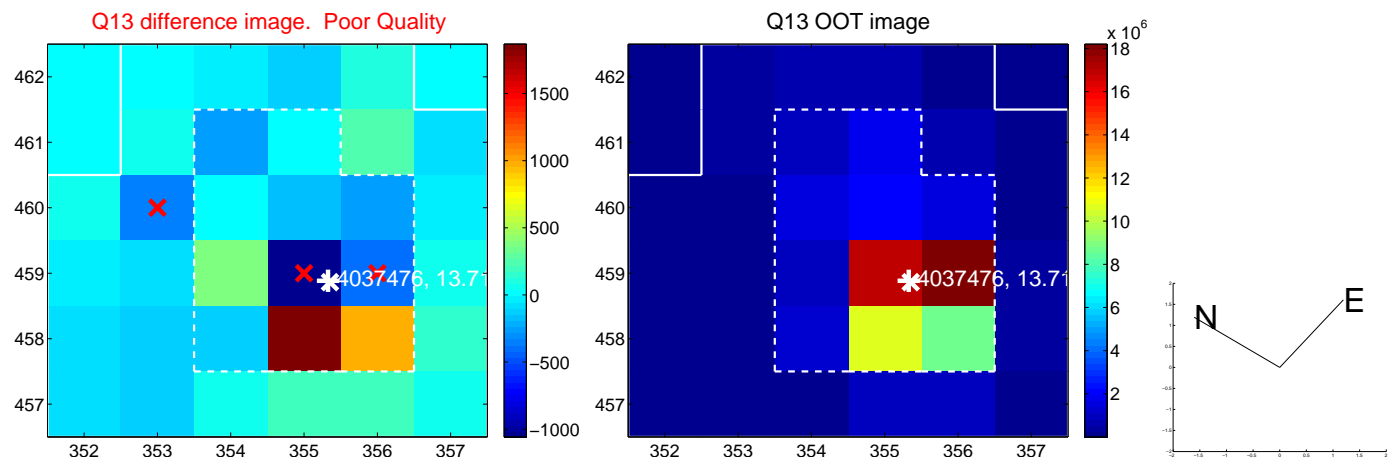
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



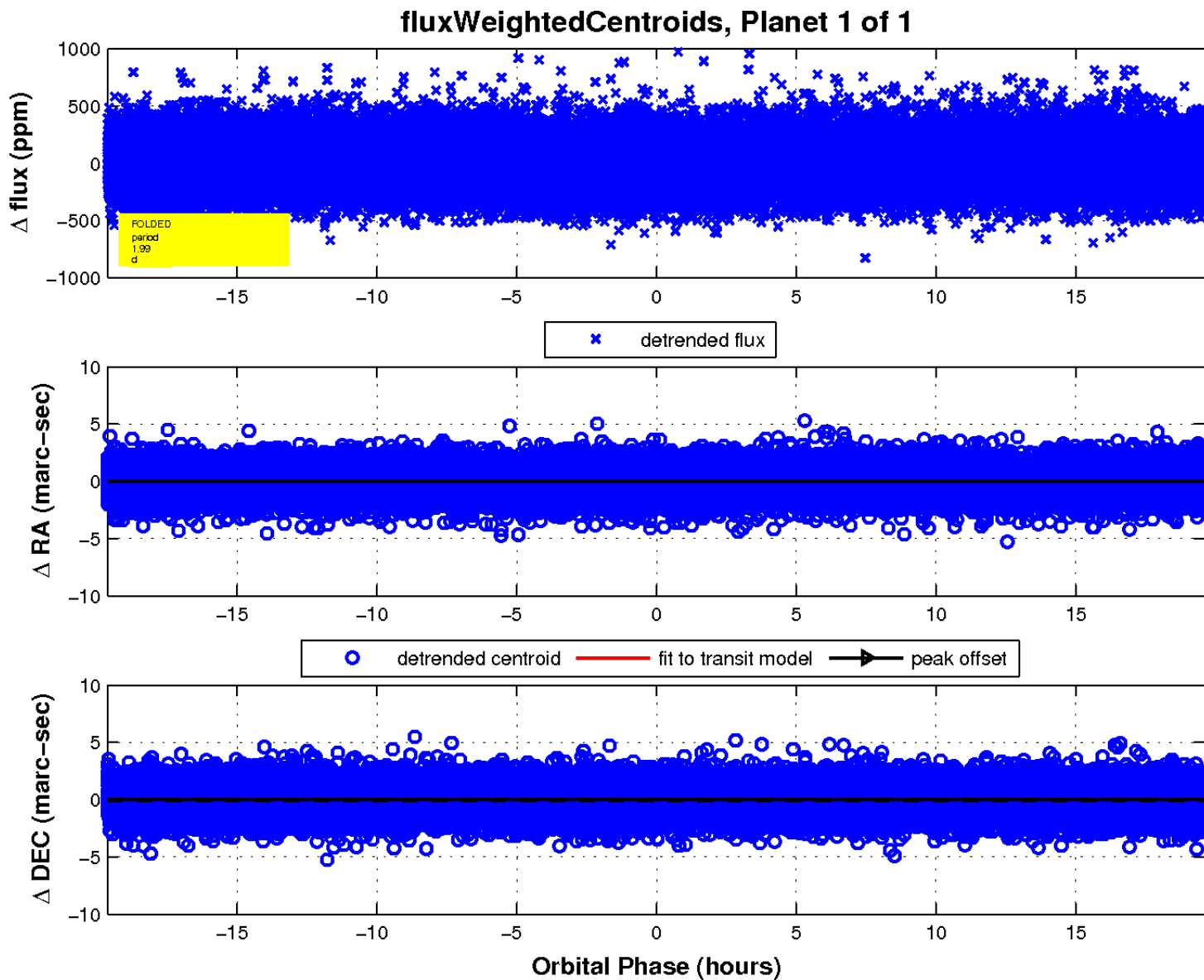
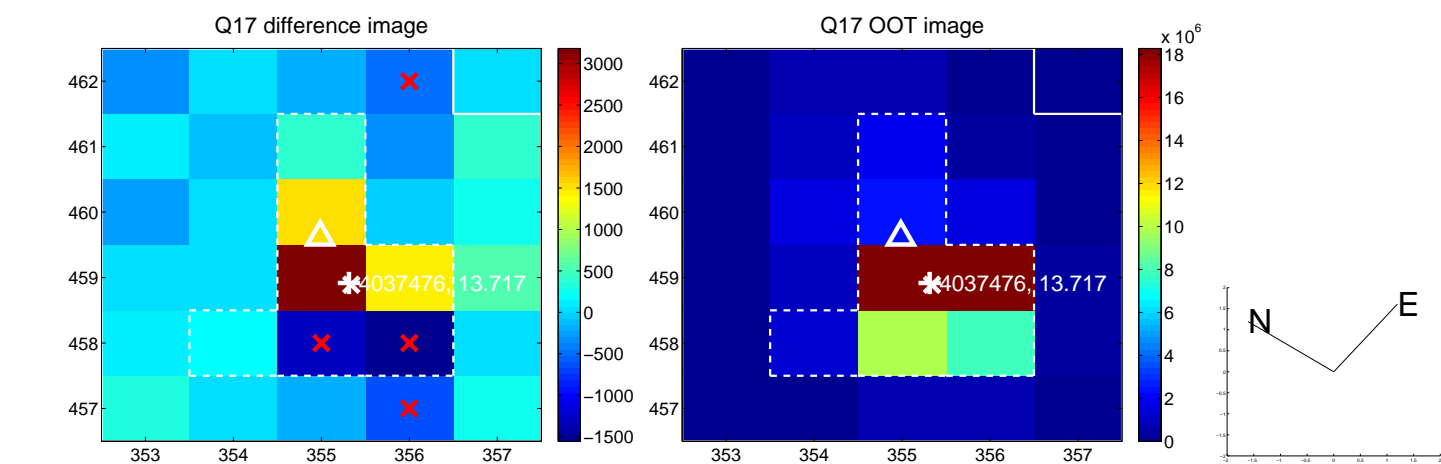
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

