

KIC 010531955

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})
010531955-01	OBS	2208.01	2.344519	132.870591	59.0	1.447	20.4	23.7	1.13	5821	0.90	1108.44

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010531955-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

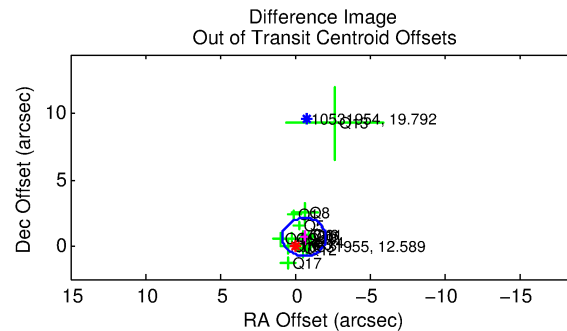
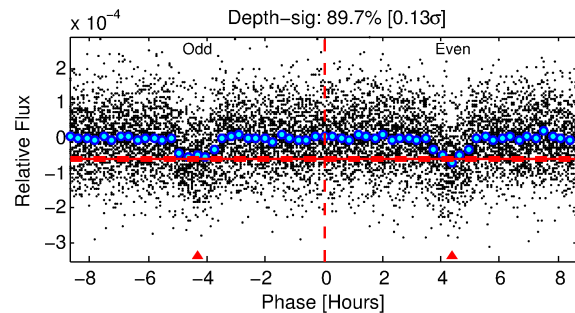
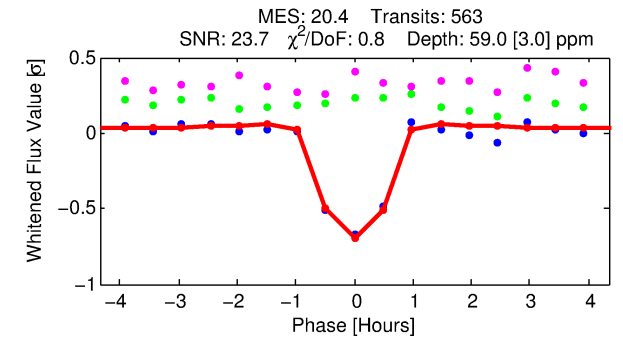
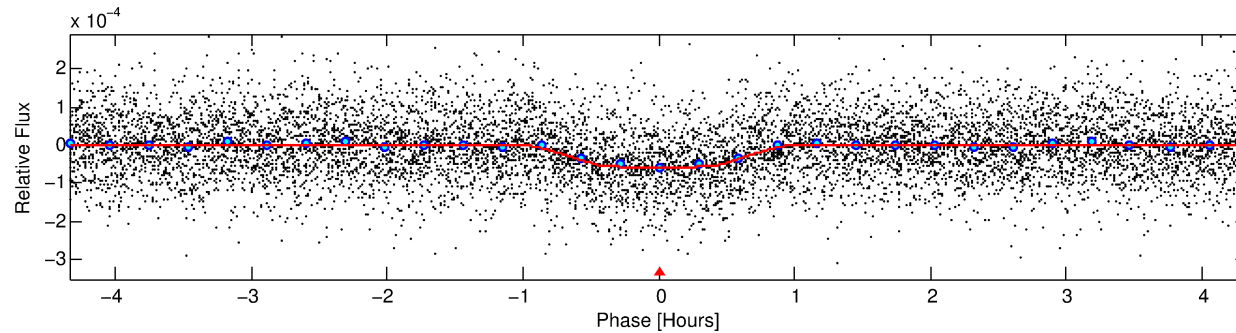
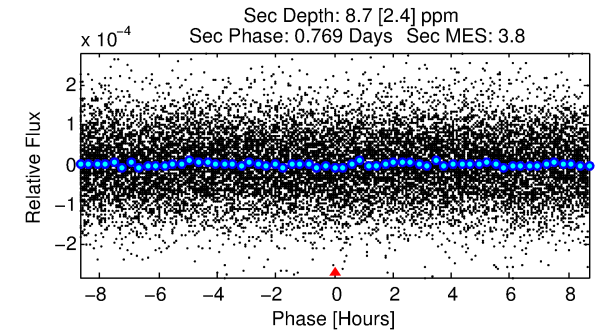
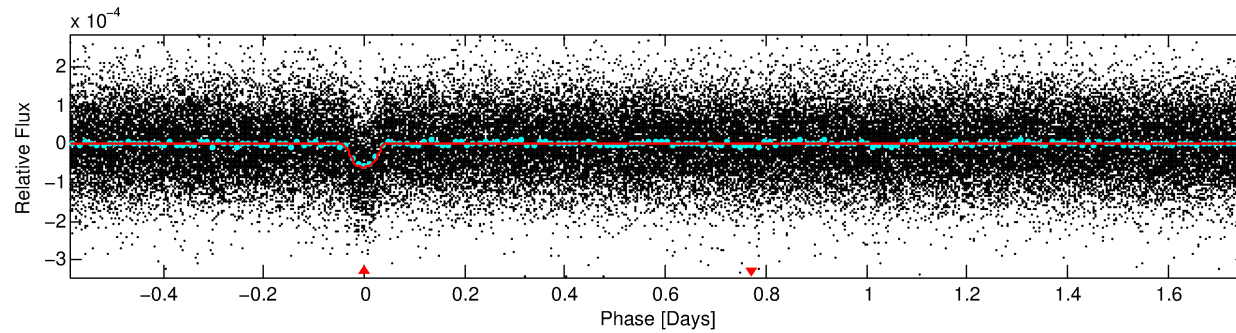
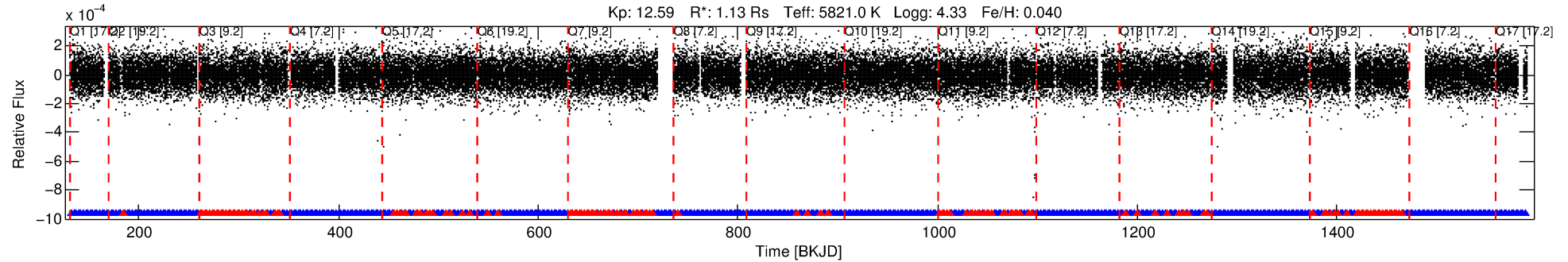
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010531955-01

No Significant Match Found

DV One-Page Summary

KIC: 10531955 Candidate: 1 of 1 Period: 2.345 d
KOI: K02208.01 Corr: 0.976



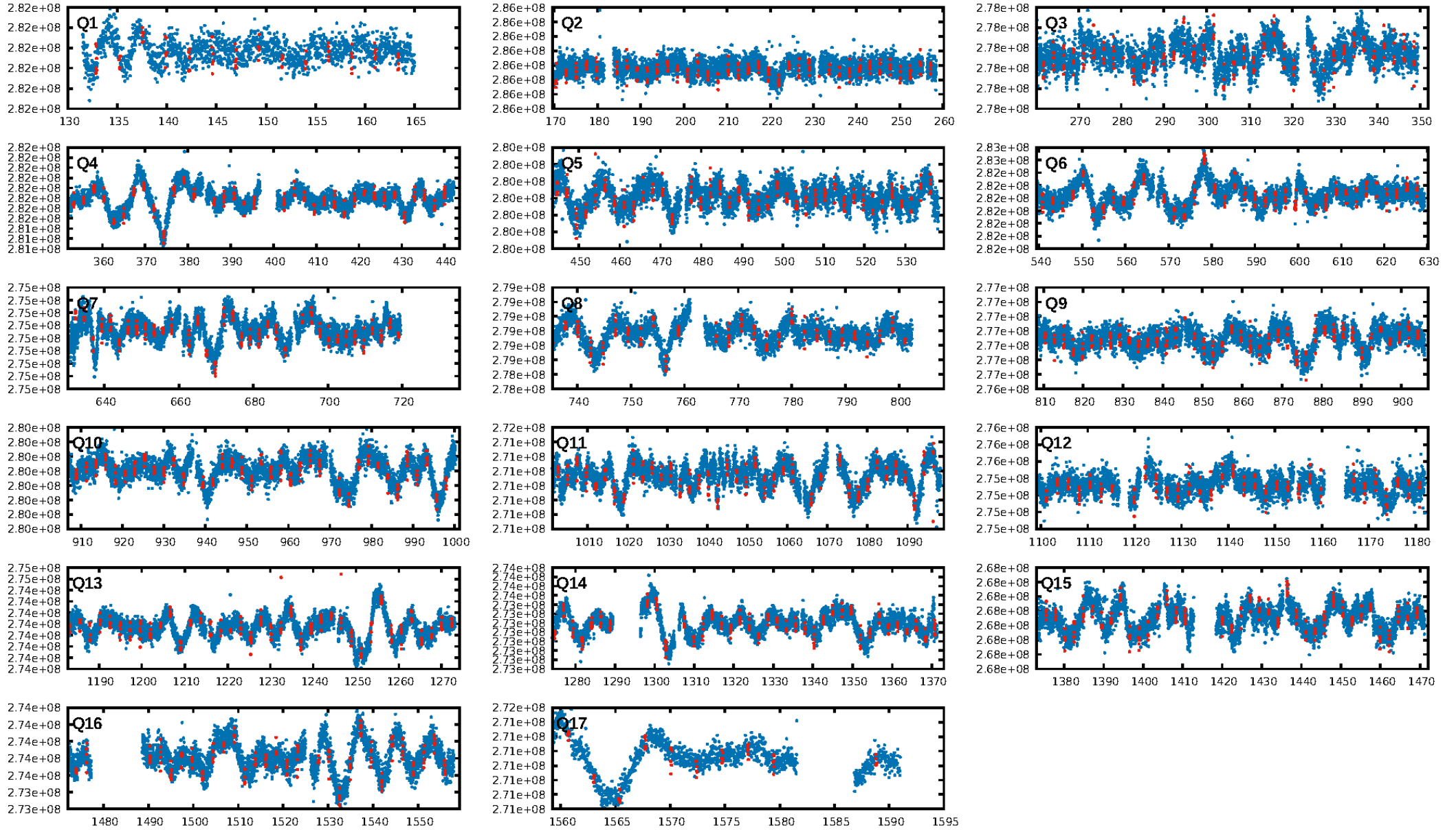
DV Fit Results:

Period = 2.34452 [0.00001] d
Epoch = 132.8706 [0.0010] BKJD
Rp/R* = 0.0073 [0.0013]
a/R* = 10.63 [8.59]
b = 0.53 [1.12]
Seff = 1108.44 [256.51]
Teff = 1471 [85] K
Rp = 0.90 [0.21] Re
a = 0.0345 [0.0048] AU
Ag = 7.11 [3.61] [1.69σ]
Teffp = 3715 [433] K [5.08σ]

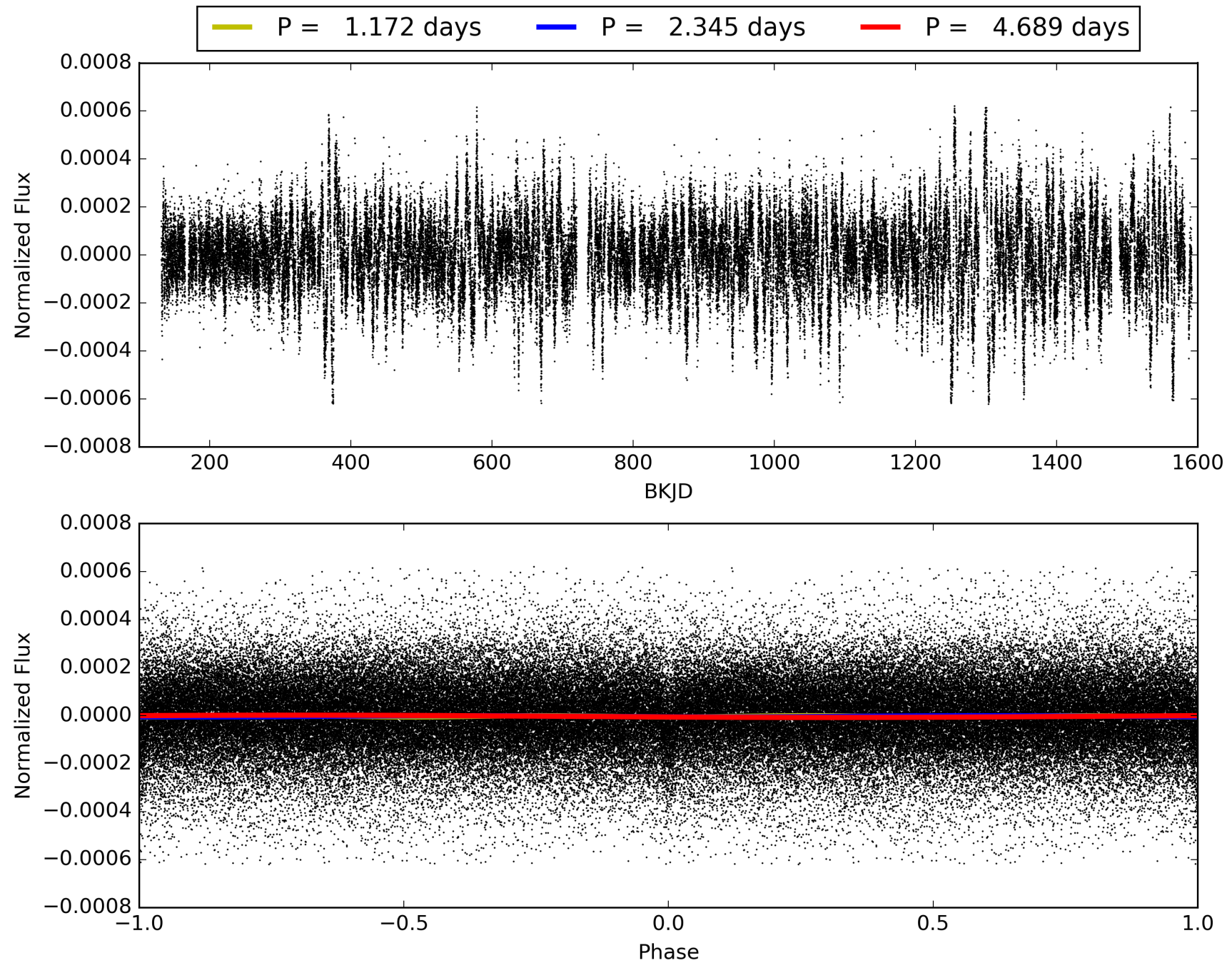
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.32e-88
RollingBand-fgt: 0.74 [397/539]
GhostDiagnostic-chr: -12.33
Centroid-sig: 76.3%
Centroid-so: 0.412 arcsec [0.79σ]
OotOffset-rm: 0.907 arcsec [1.87σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.972 arcsec [1.87σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.82 [14/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010531955-01, PDC Light Curves

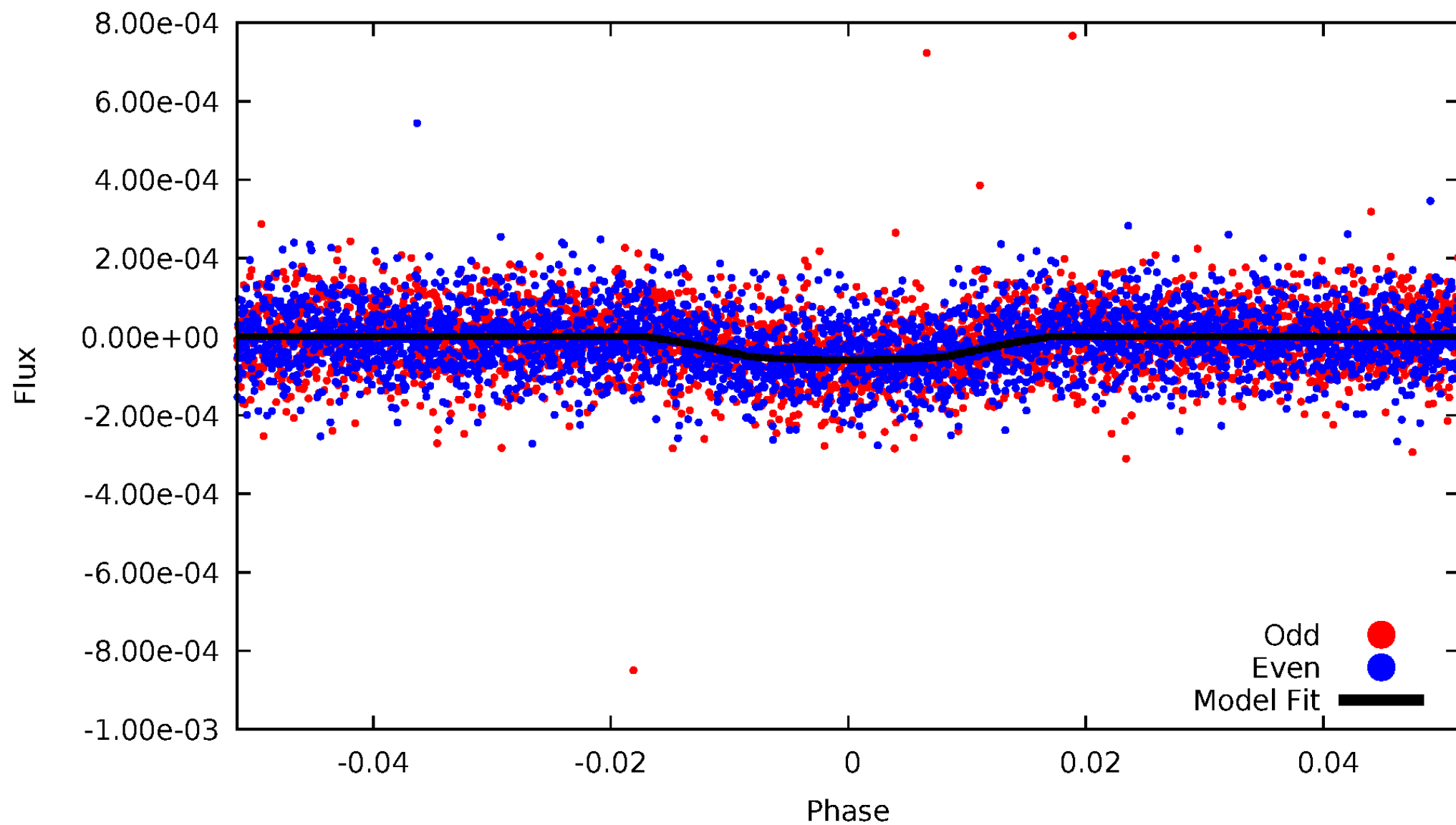


TCE 010531955-01



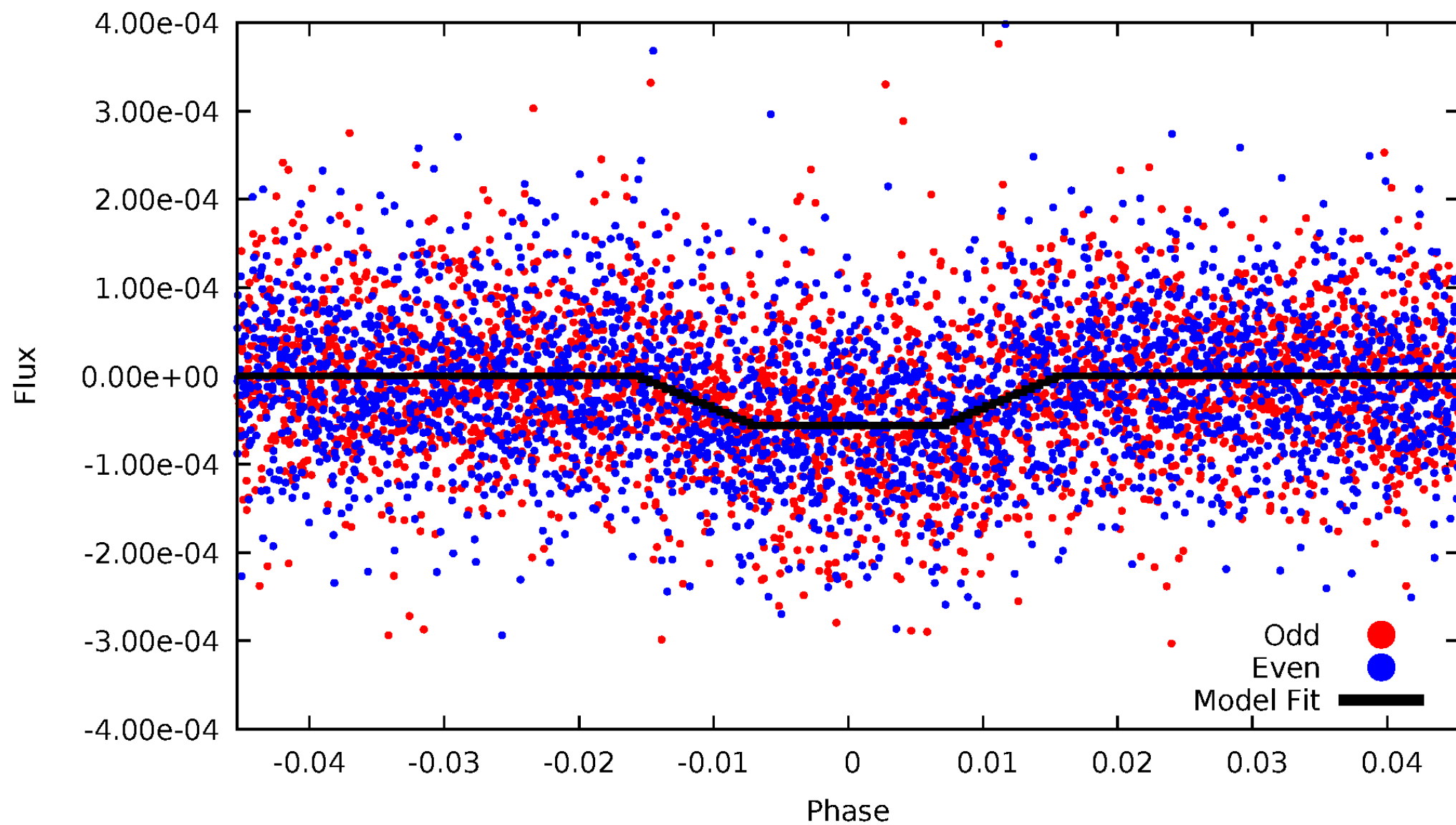
DV Odd/Even

TCE 010531955-01



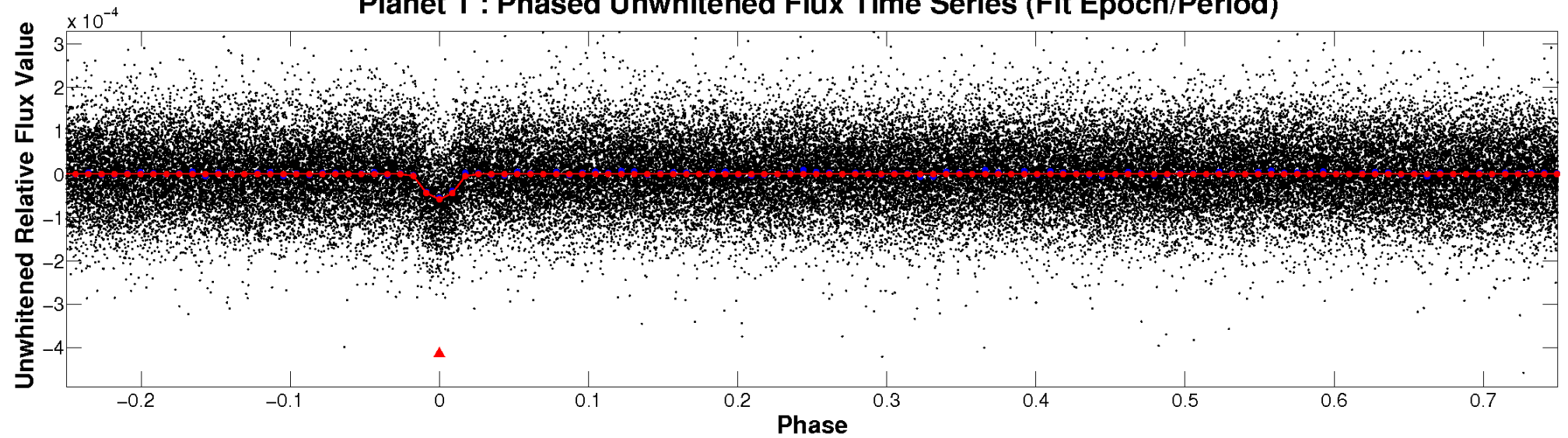
ALT Odd/Even

TCE 010531955-01

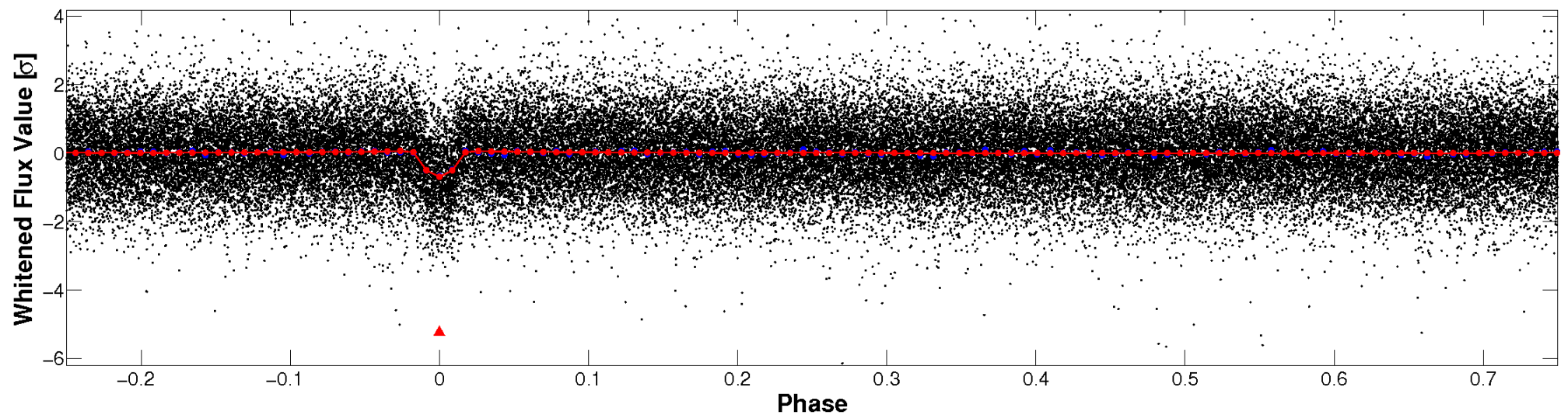


Non-Whitened Vs. Whitened Light Curve

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

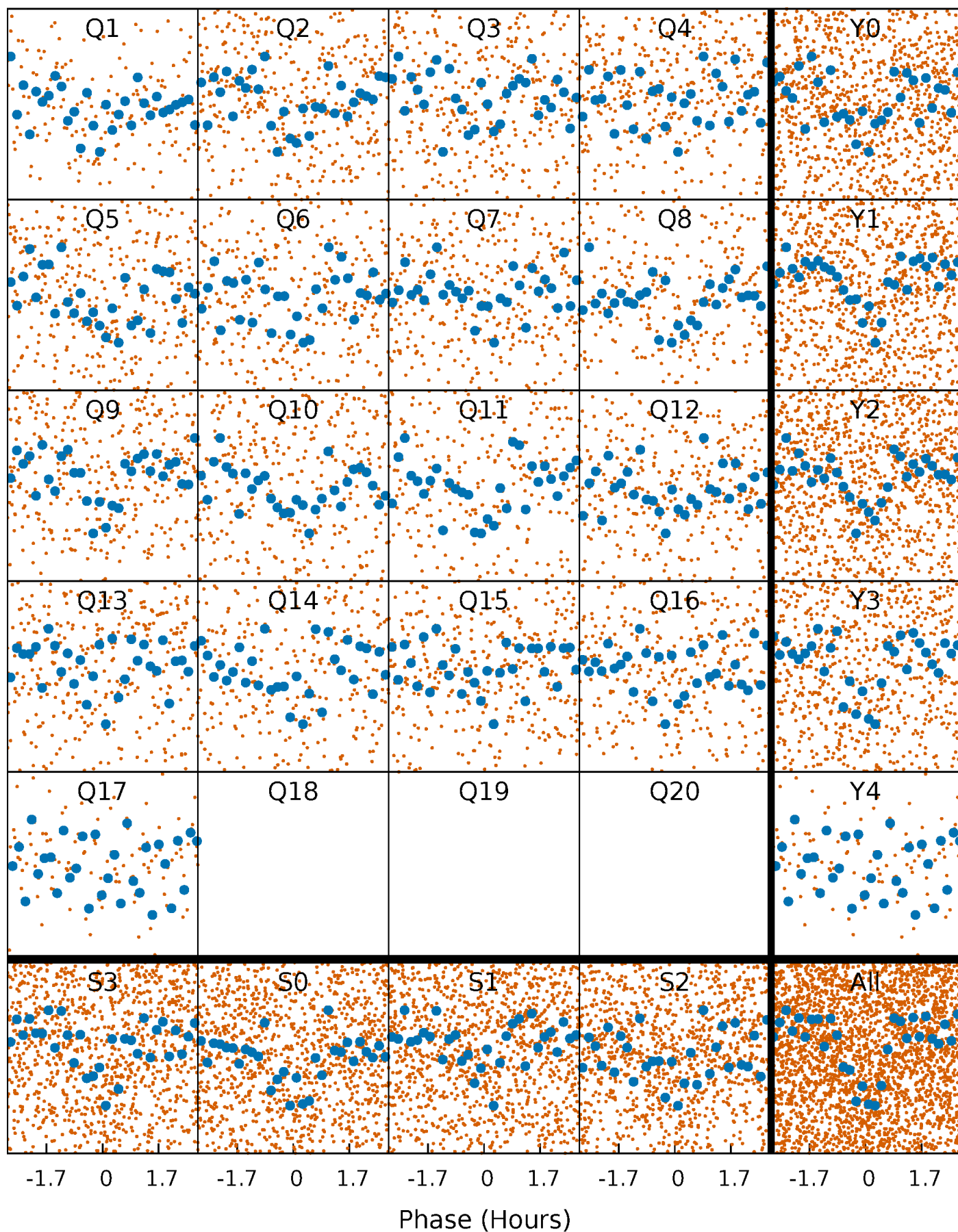


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



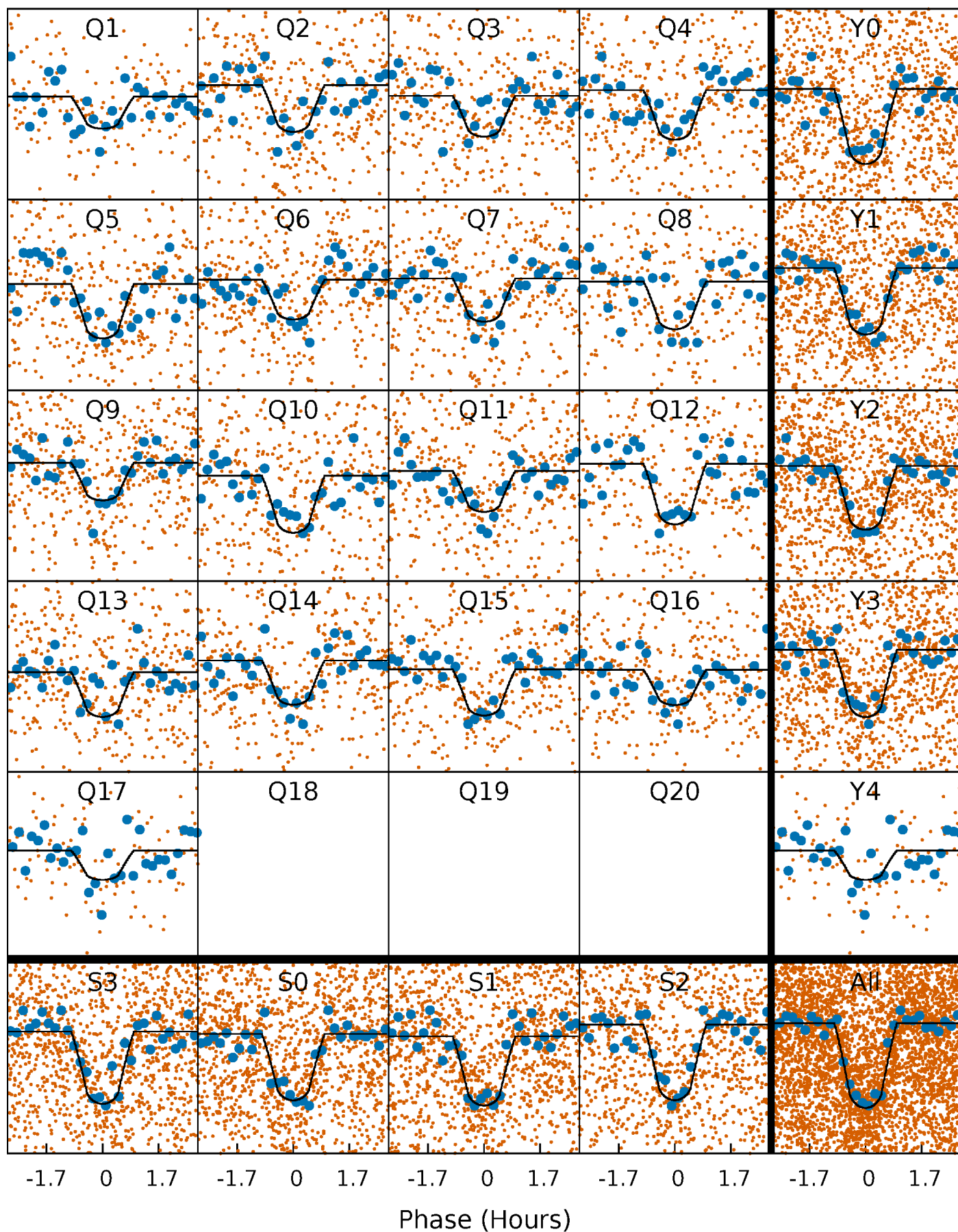
PDC Quarter-Phased Transit Curves

TCE 010531955-01 P= 2.344519 Days $T_0=132.870591$ (BKJD)



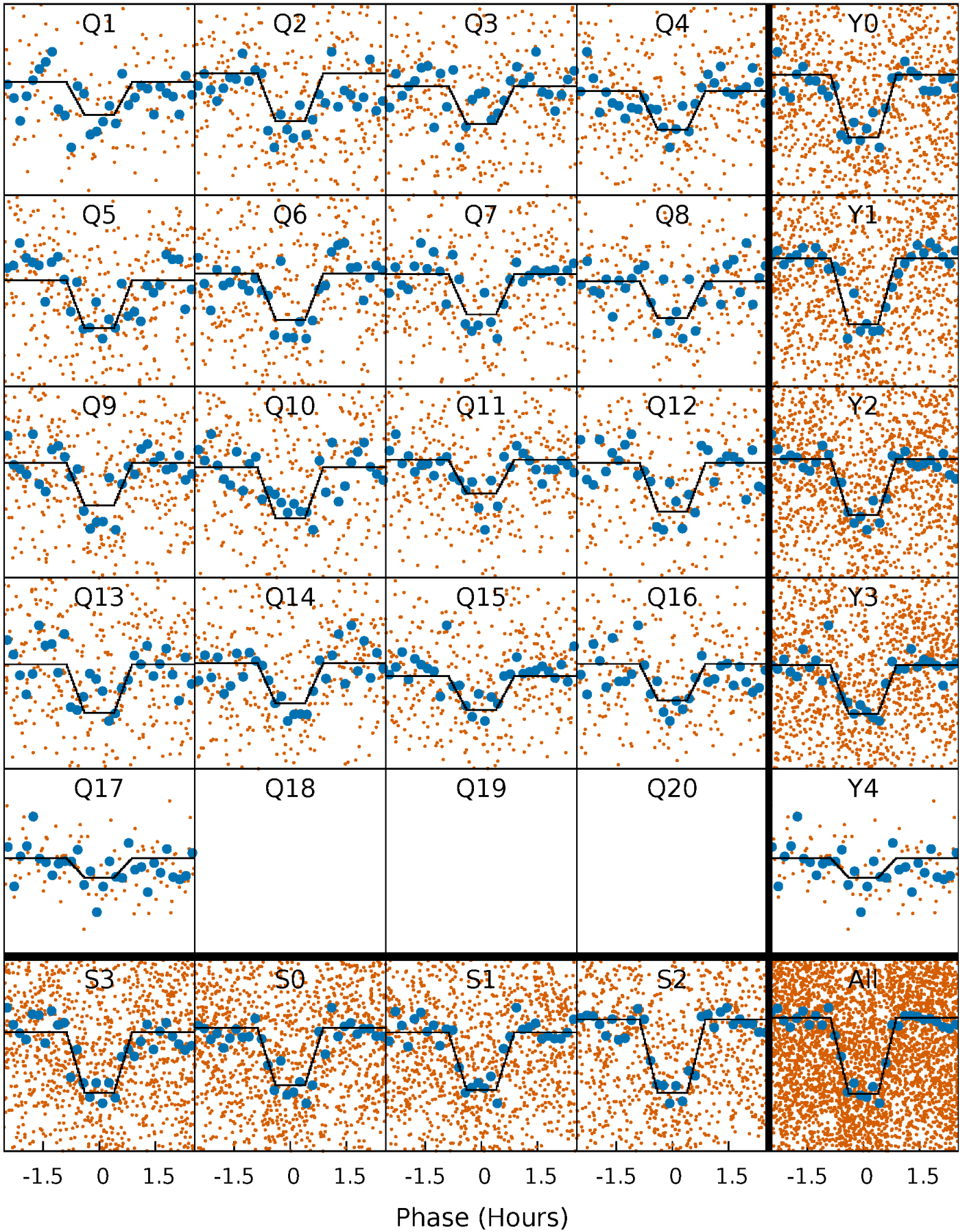
DV Quarter-Phased Transit Curves

TCE 010531955-01 P= 2.344519 Days $T_0=132.870591$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

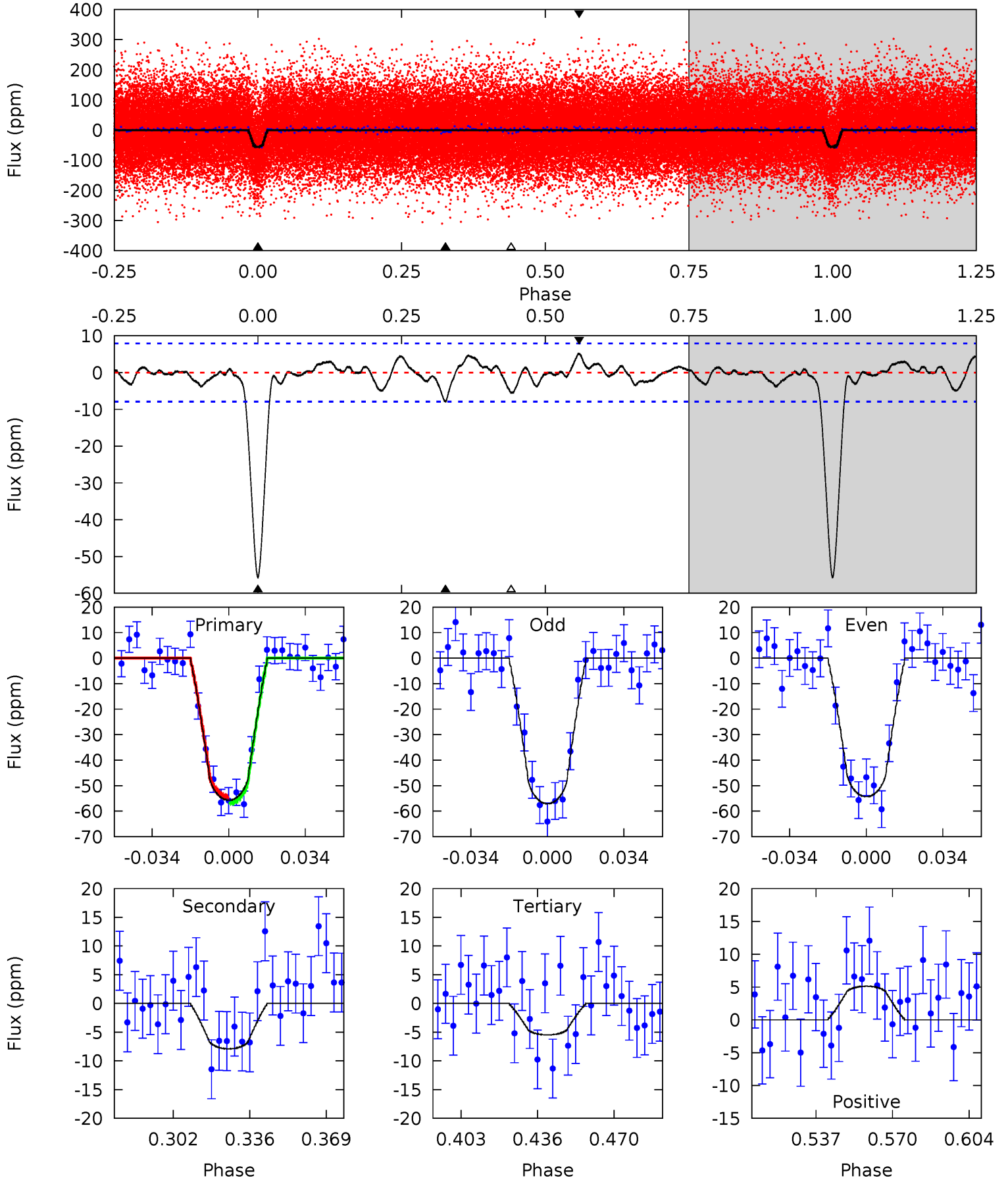
TCE 010531955-01 P= 2.344514 Days $T_0=132.871103$ (BKJD)



DV Model-Shift Uniqueness Test

010531955-01, P = 2.344519 Days, E = 130.526072 Days

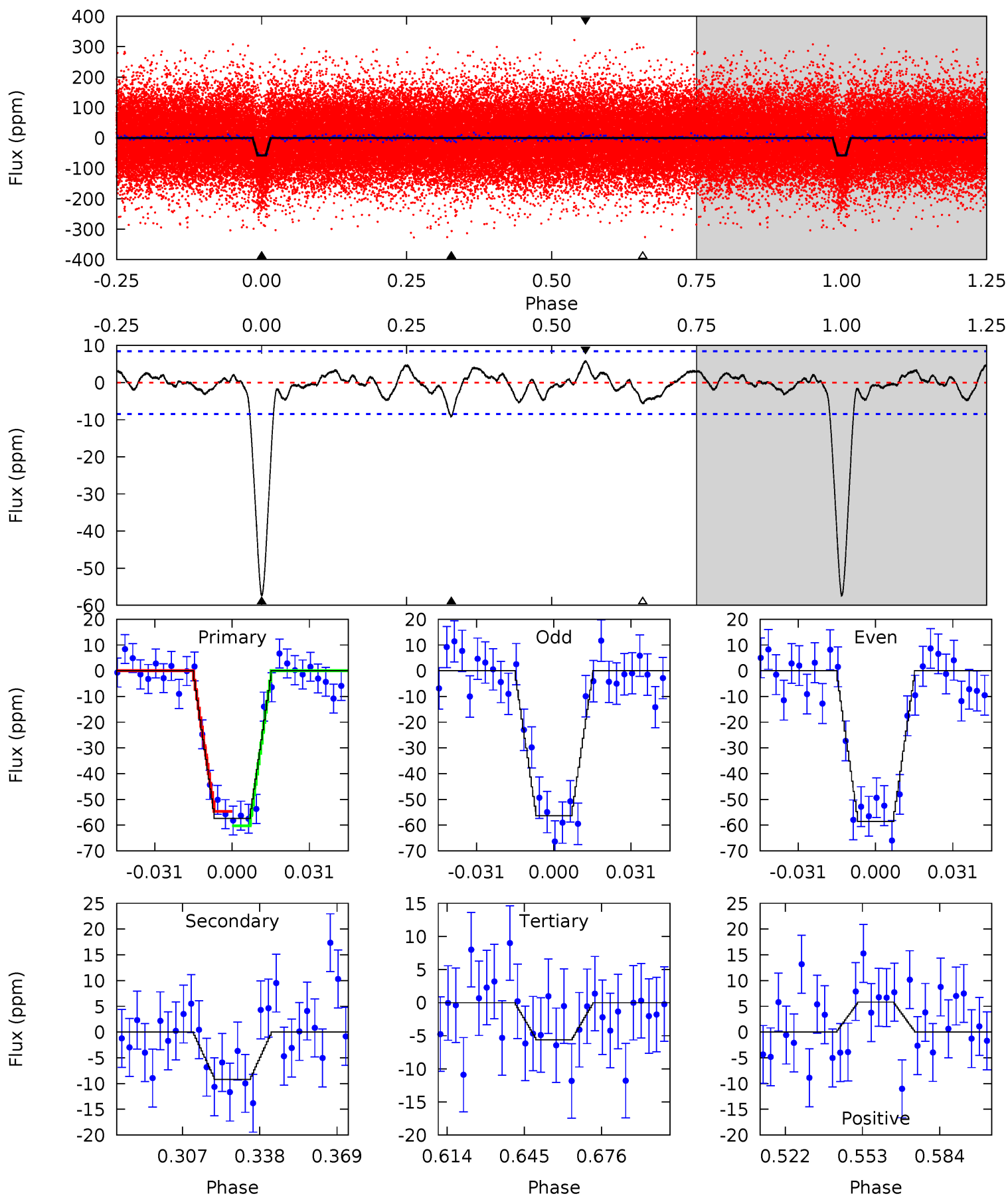
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.7	4.79	3.32	3.11	4.79	2.13	1.22	30.4	30.6	1.47	1.68	0.84	0.99	0.08	0.70



Alt Model-Shift Uniqueness Test

010531955-01, P = 2.344514 Days, E = 130.526589 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.6	5.22	3.19	3.31	4.81	2.16	1.30	29.4	29.3	2.03	1.91	0.63	0.95	0.09	1.60



Stellar Parameters For KIC 010531955

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5821^{+104}_{-116}	$4.328^{+0.126}_{-0.115}$	$0.040^{+0.150}_{-0.150}$	$1.132^{+0.168}_{-0.151}$	$0.995^{+0.081}_{-0.066}$	$0.965^{+0.486}_{-0.325}$
	+2%/-2%	+3%/-3%	+375%/-375%	+15%/-13%	+8%/-7%	+50%/-34%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 010531955-01 / KOI 2208.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8 ± 2	$0.90^{+0.19}_{-0.18}$	2051^{+97}_{-86}	3920^{+325}_{-267}	$6.452^{+3.844}_{-2.190}$
Alt.	-9 ± 2	$0.93^{+0.19}_{-0.18}$	2056^{+93}_{-89}	3981^{+331}_{-289}	$7.036^{+3.933}_{-2.556}$

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

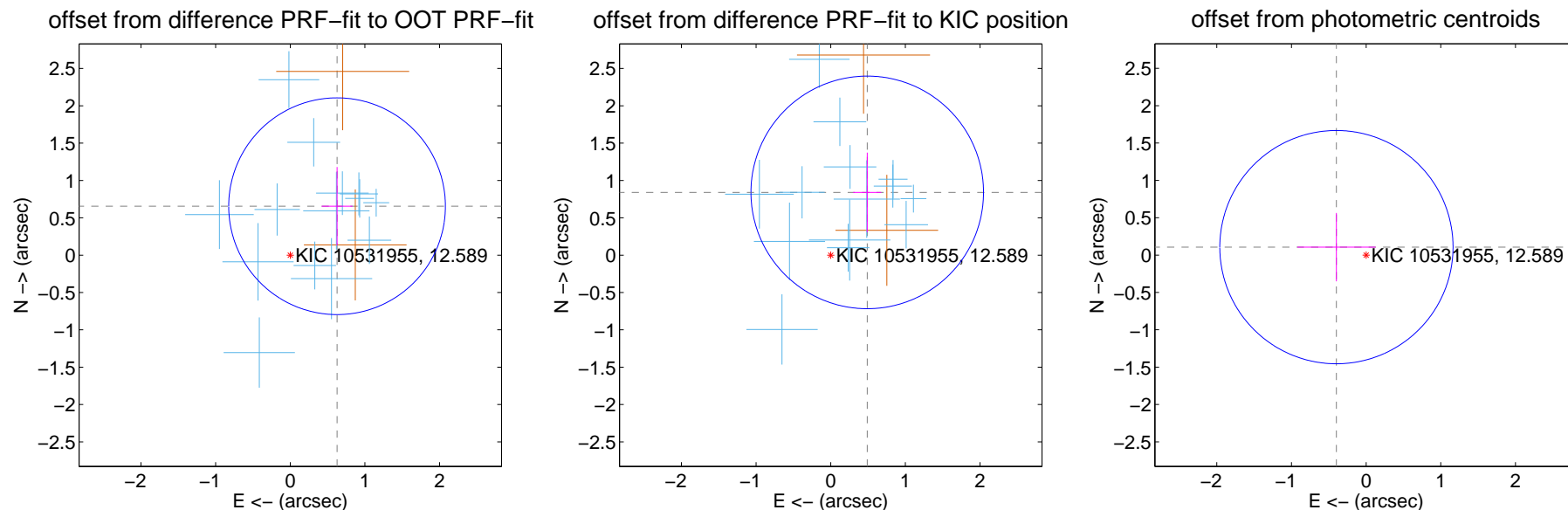
DV Centroid Data

Supplemental centroid analysis for 010531955-01. Kepler magnitude: 12.59. Transit SNR 23.71

There are 14 quarters with good PRF difference image offsets

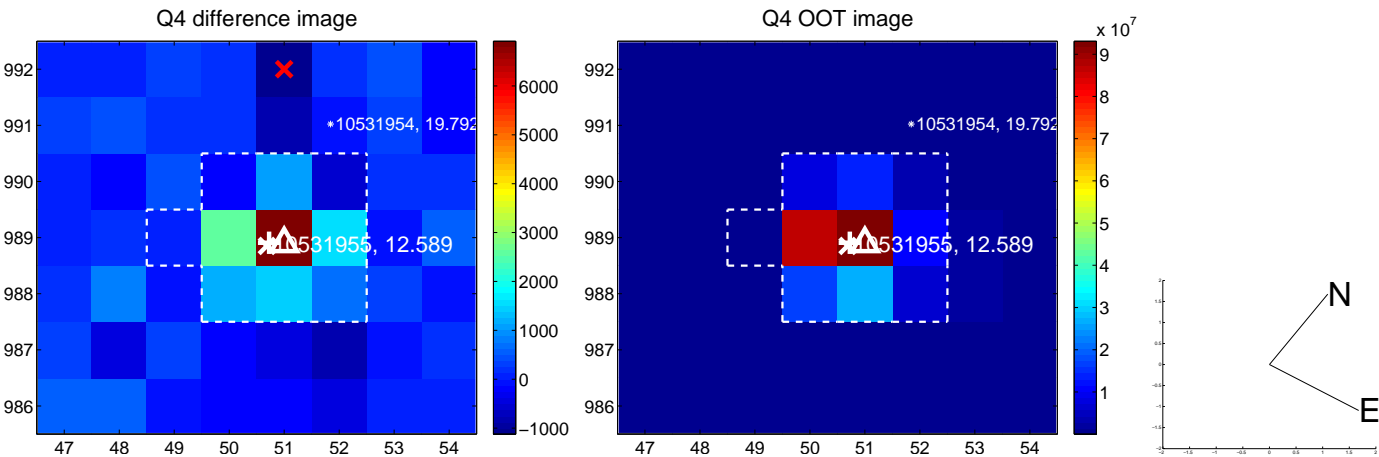
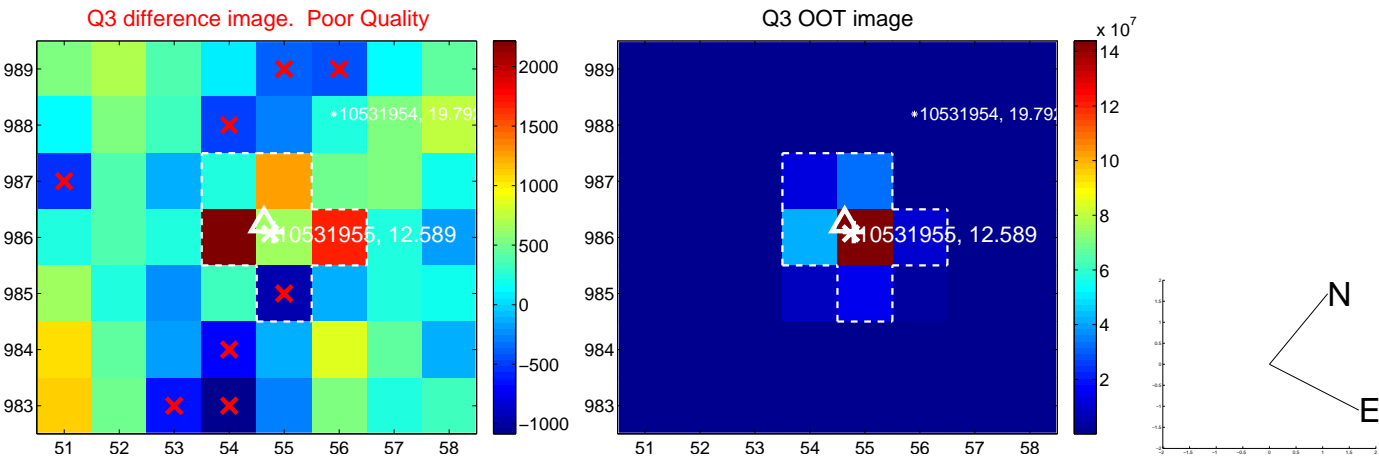
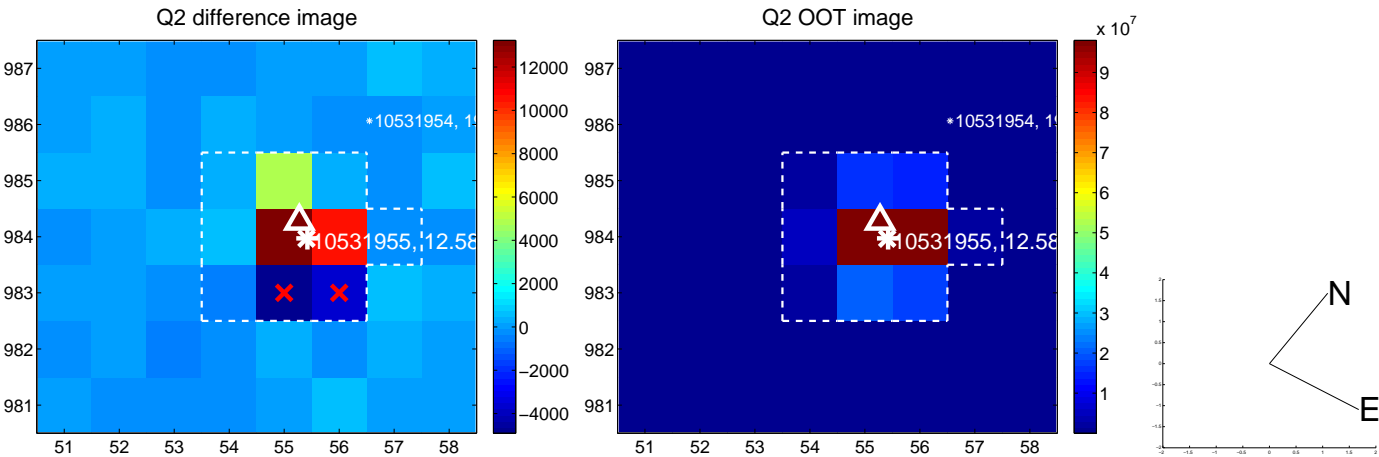
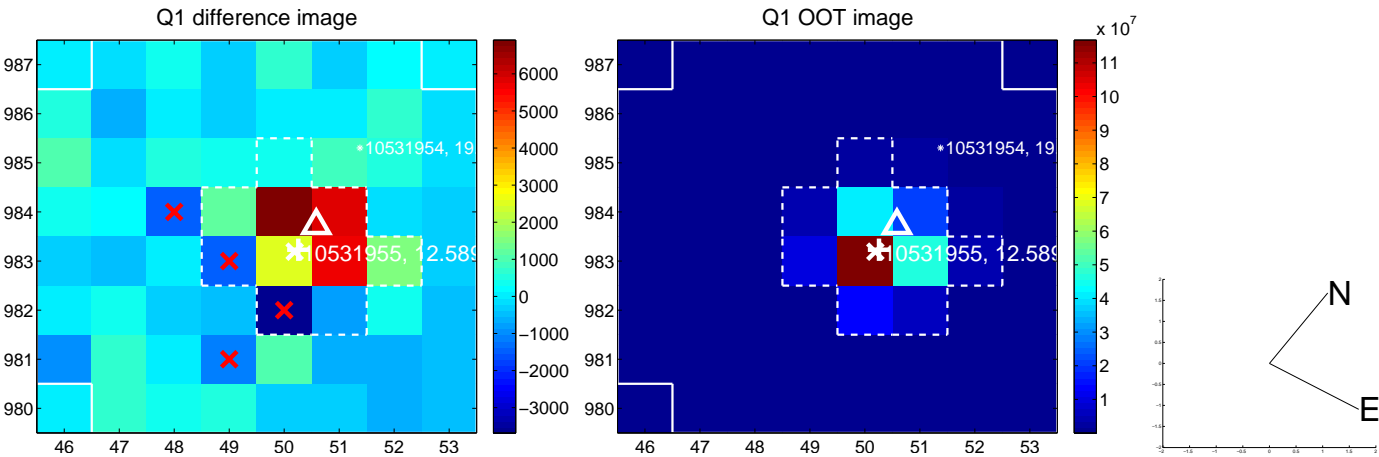
The direct PRF centroid is offset from the target star catalog position by about 0.39 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.907 ± 0.484	1.87	-0.627 ± 0.206	0.655 ± 0.525
PRF-fit source offset from KIC position	0.972 ± 0.519	1.87	-0.489 ± 0.188	0.840 ± 0.533
photometric centroid source offset	0.41 ± 0.52	0.79	0.40 ± 0.52	0.11 ± 0.46

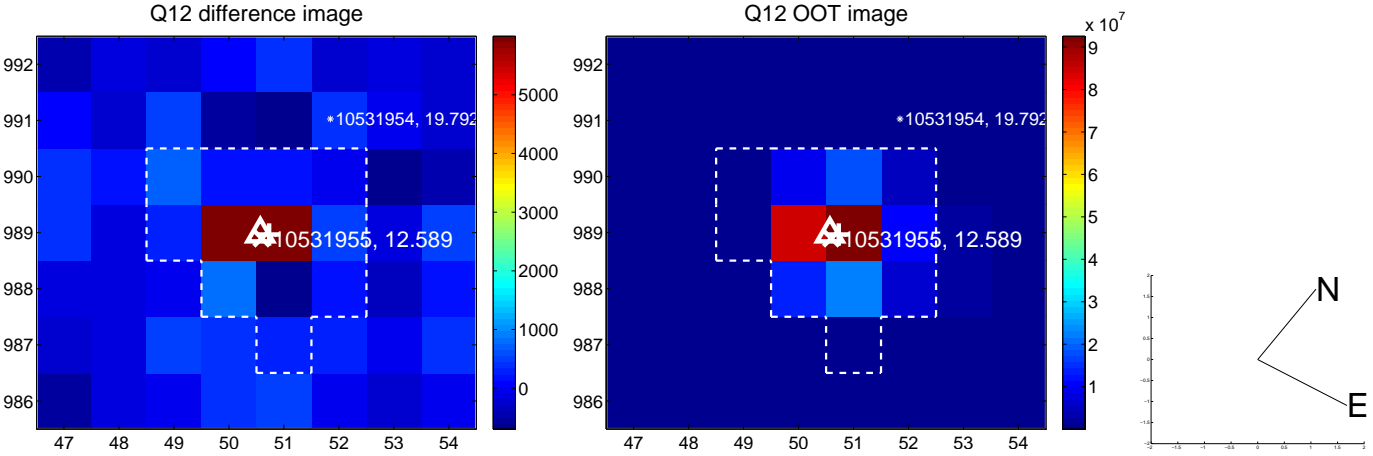
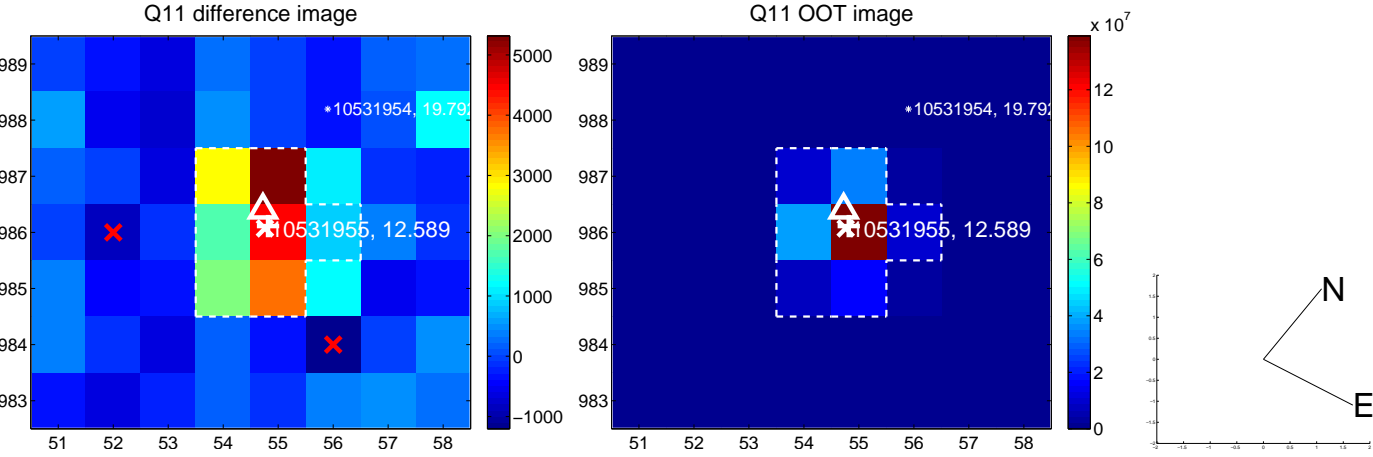
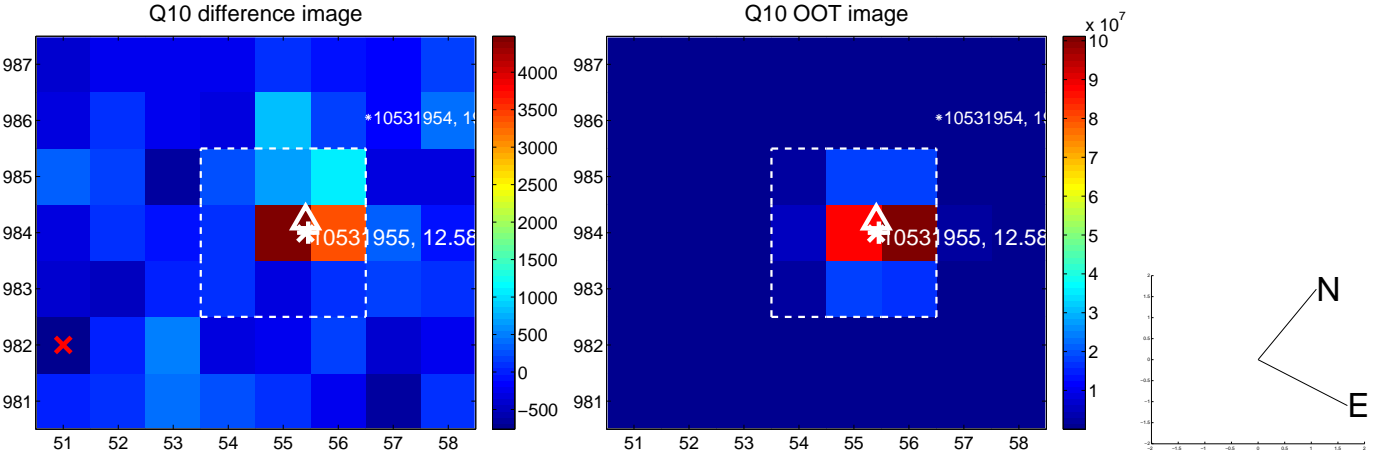
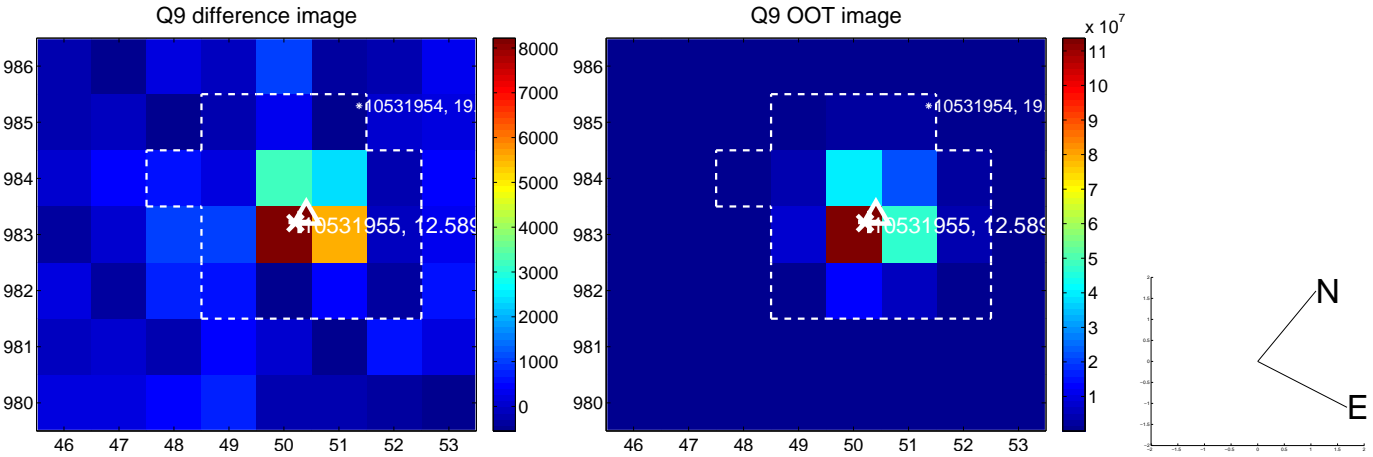


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

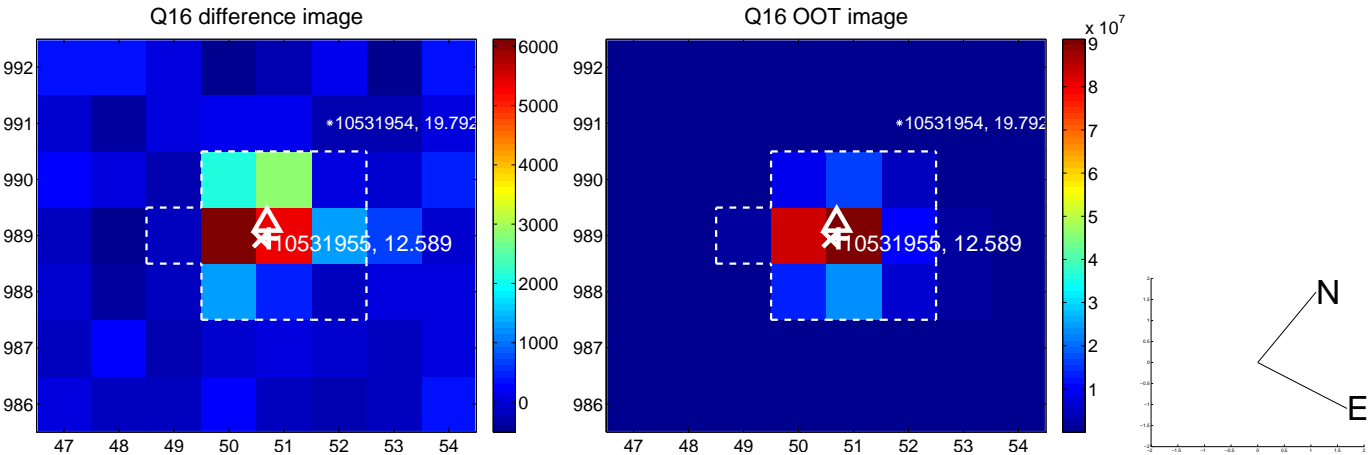
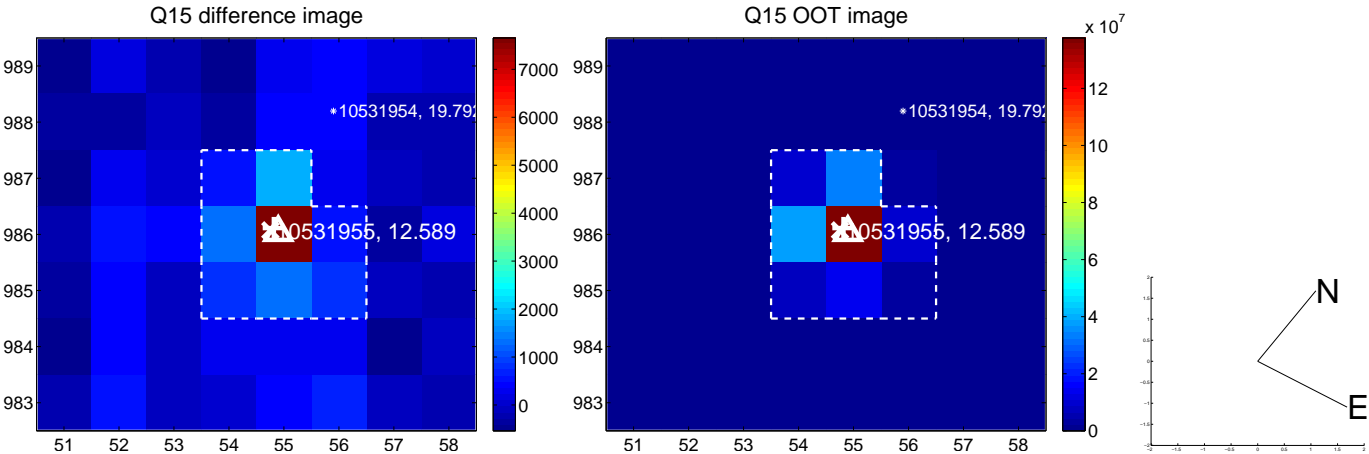
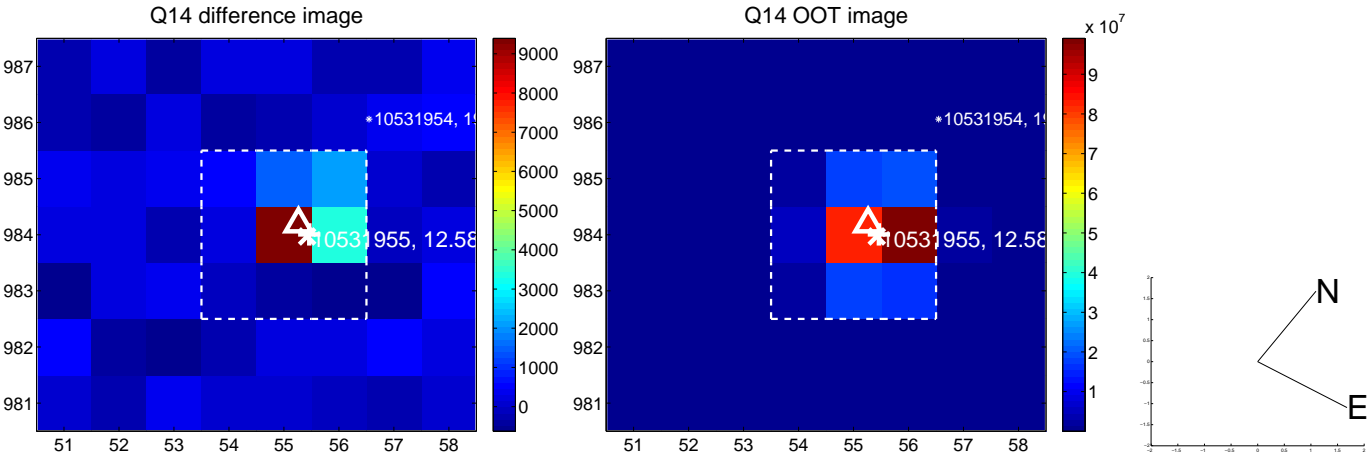
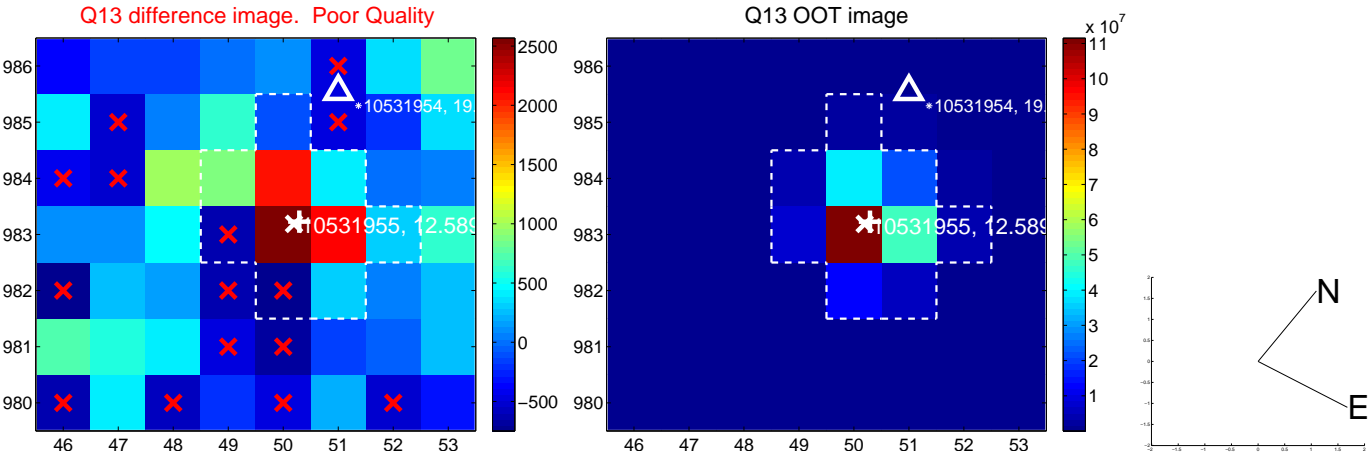
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



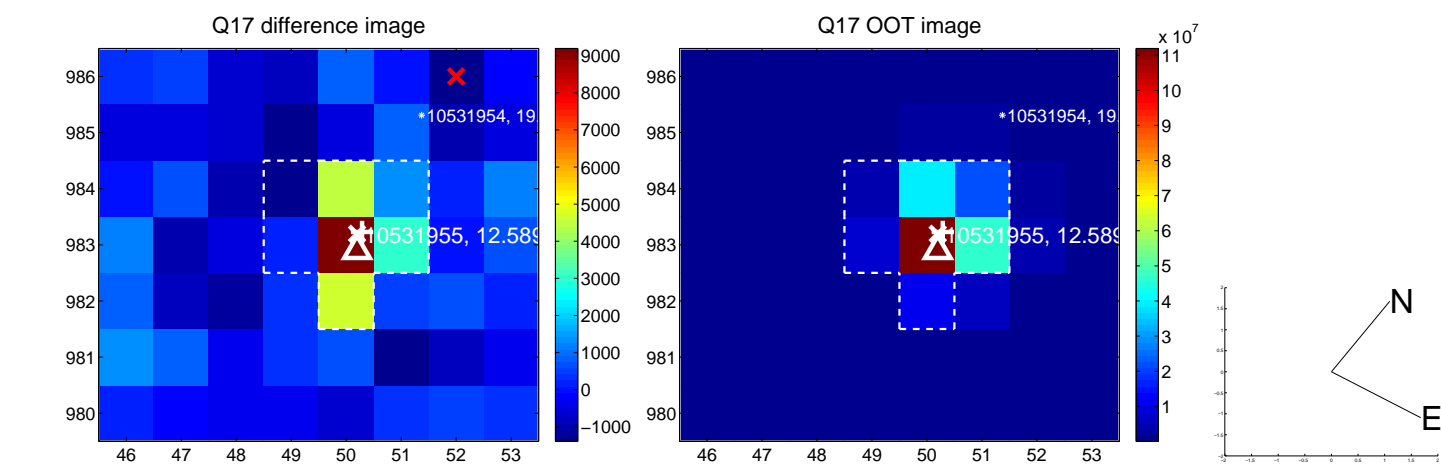
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



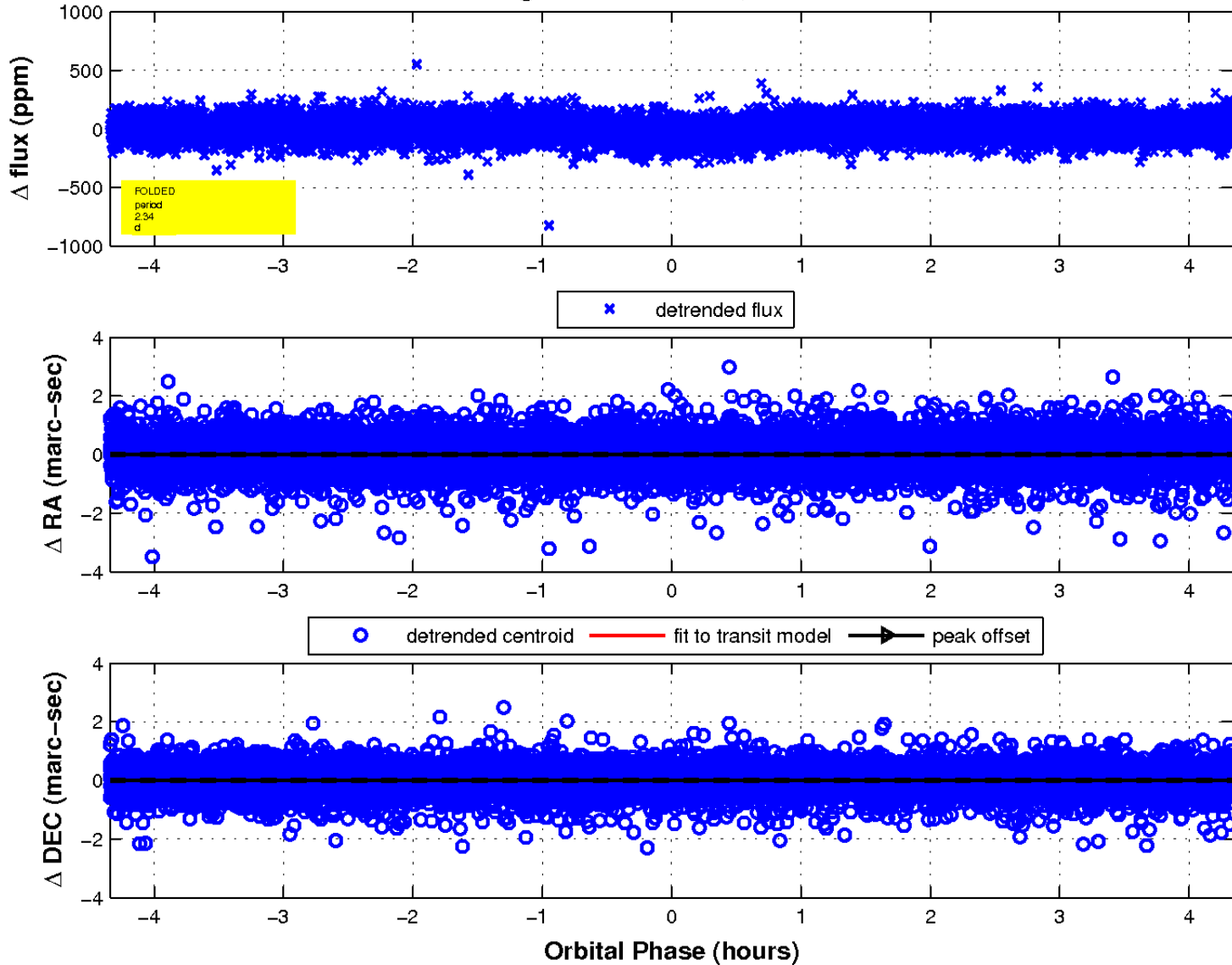
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

