

KIC 002720582

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})
002720582-01	OBS	No	0.531910	131.972271	19.9	1.345	10.5	9.9	1.90	7055	0.98	36299.91

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002720582-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_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.

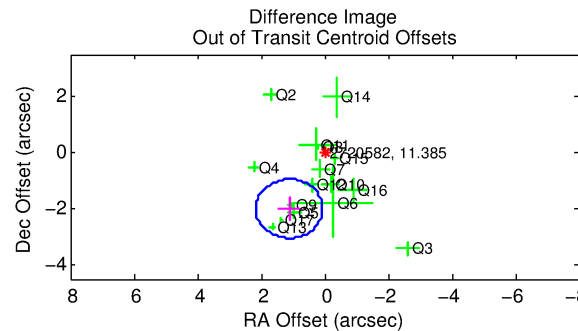
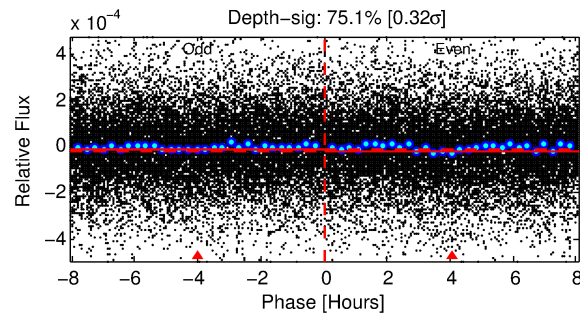
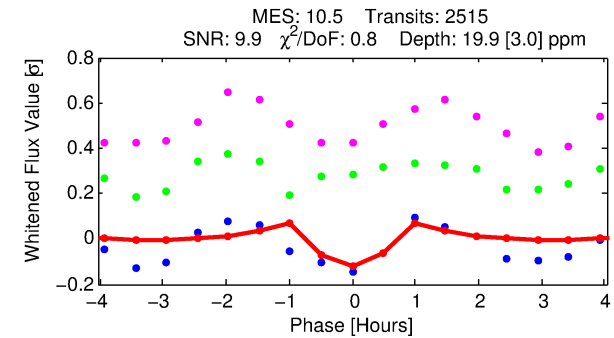
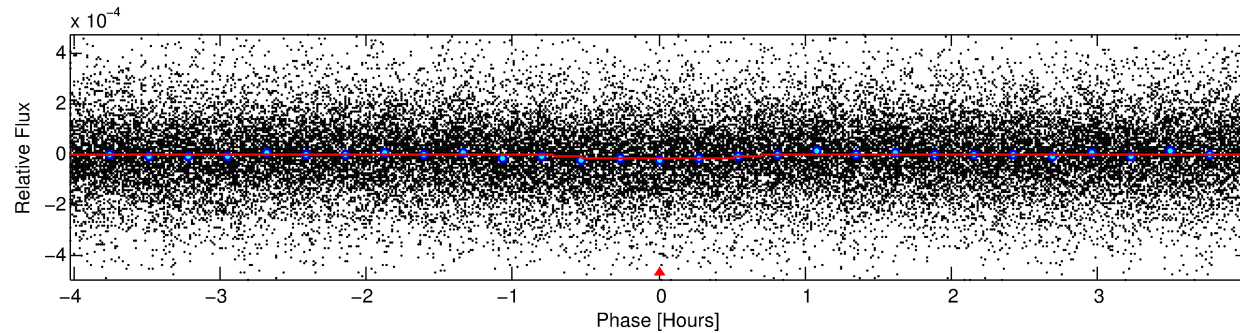
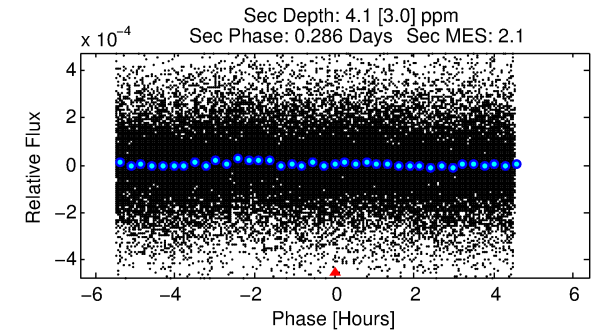
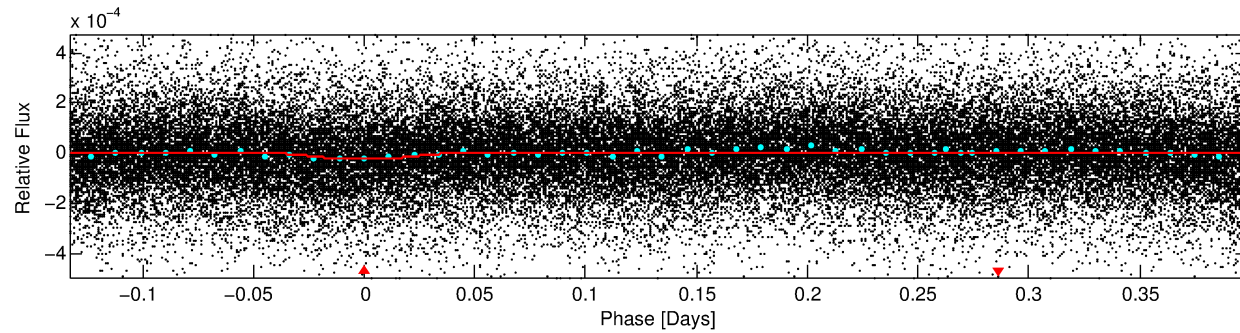
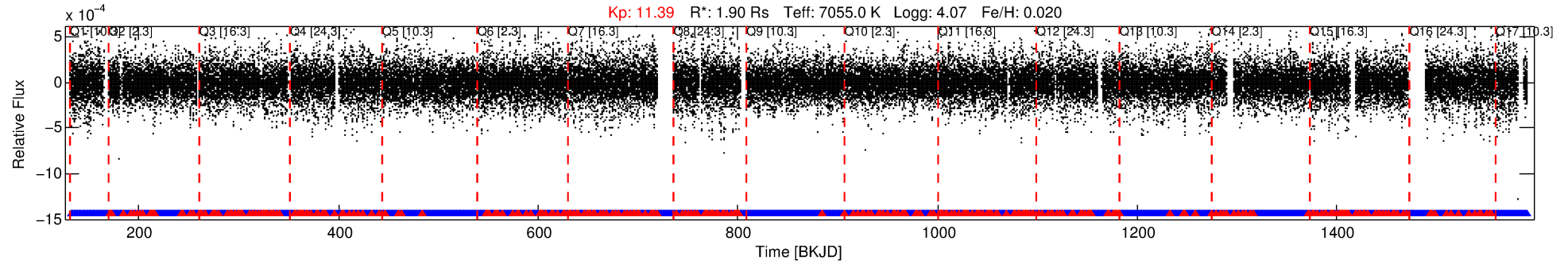
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002720582-01

No Significant Match Found

DV One-Page Summary

KIC: 2720582 Candidate: 1 of 1 Period: 0.532 d



DV Fit Results:

Period = 0.53191 [0.00001] d
Epoch = 131.9723 [0.0013] BKJD
Rp/R* = 0.0047 [0.0006]
a/R* = 1.73 [0.81]
b = 0.88 [0.18]
Seff = 36299.91 [8357.87]
Teq = 3520 [203] K
Rp = 0.98 [0.21] Re
a = 0.0149 [0.0022] AU
Ag = 0.53 [0.43] [-1.11σ]
Teffp = 4636 [904] K [1.20σ]

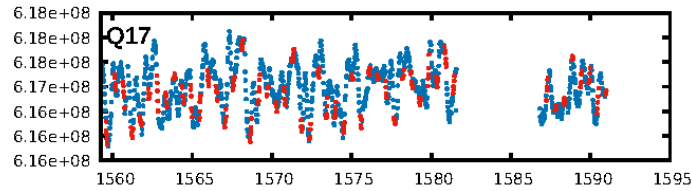
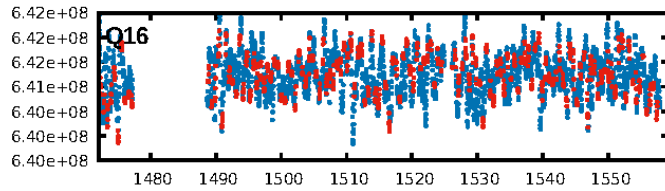
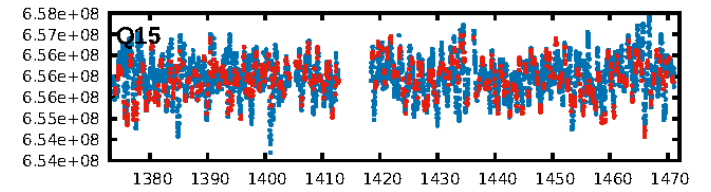
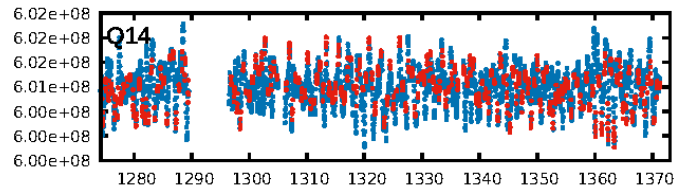
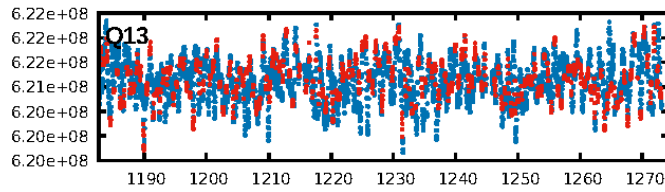
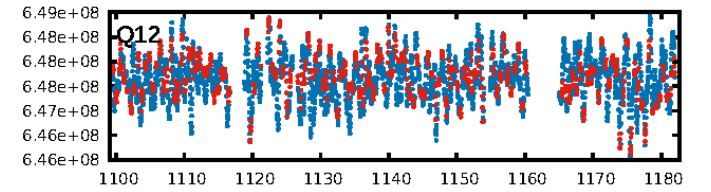
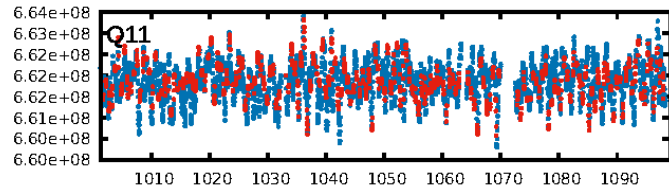
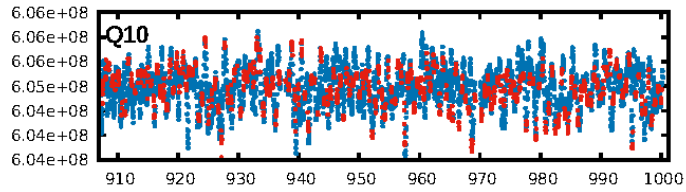
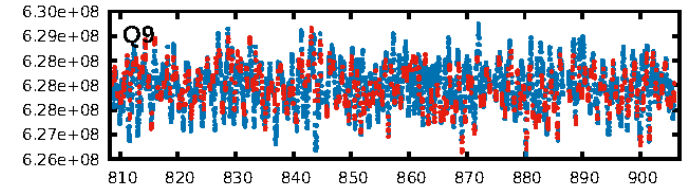
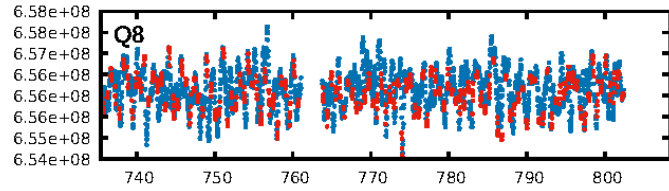
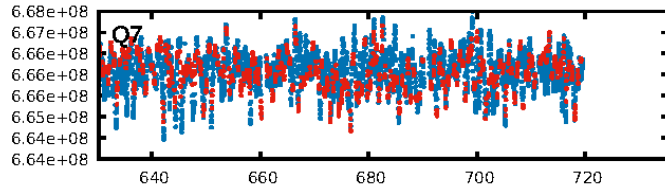
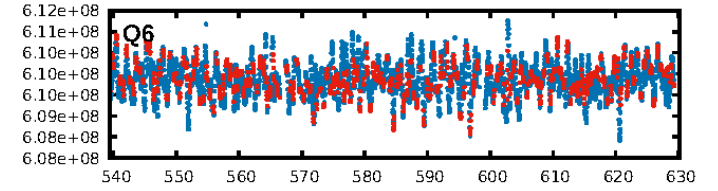
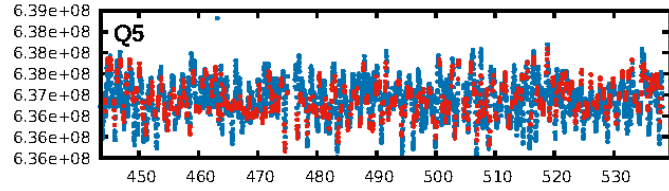
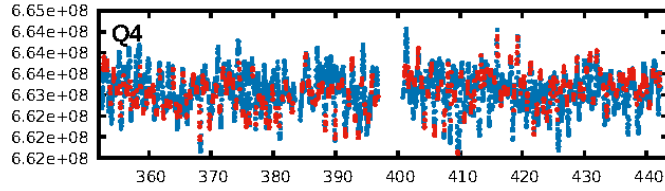
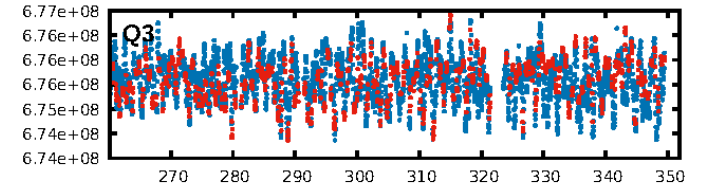
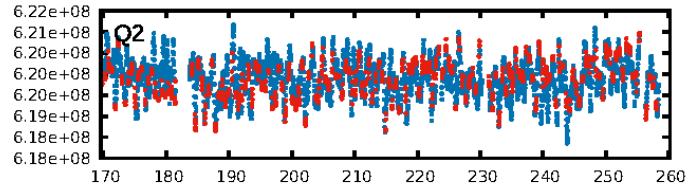
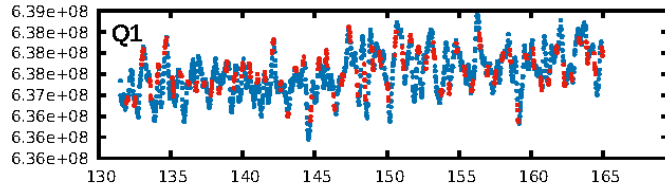
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.95e-26
RollingBand-fgt: 0.86 [2074/2402]
GhostDiagnostic-chr: 1.801
Centroid-sig: 2.8%
Centroid-so: 1.001 arcsec [1.36σ]
OotOffset-rm: 2.289 arcsec [6.56σ]
KicOffset-rm: 2.289 arcsec [6.52σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.69 [11/16]
DiffImageOverlap-fno: 1.00 [17/17]

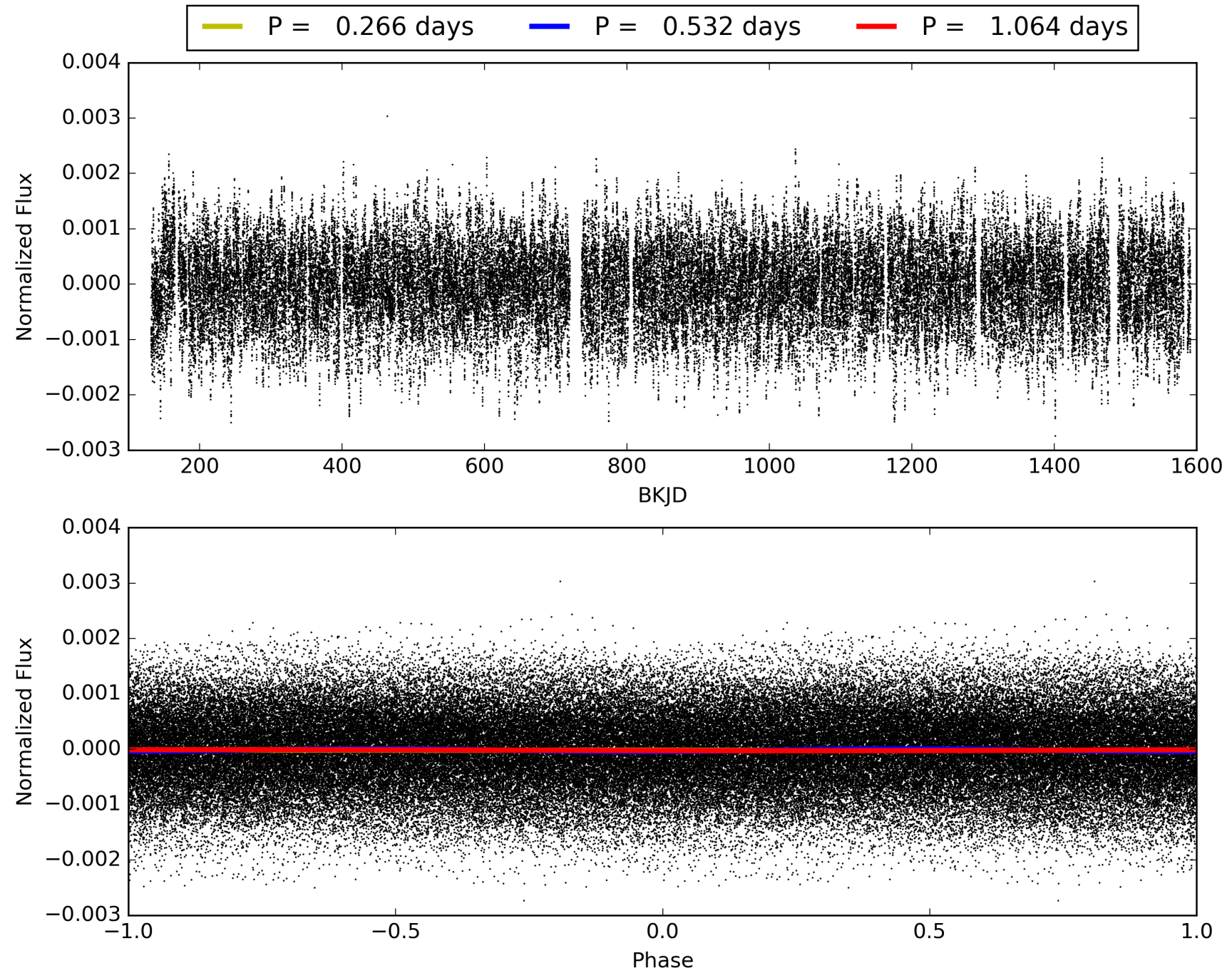
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 08:42:55 Z

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

TCE 002720582-01, PDC Light Curves

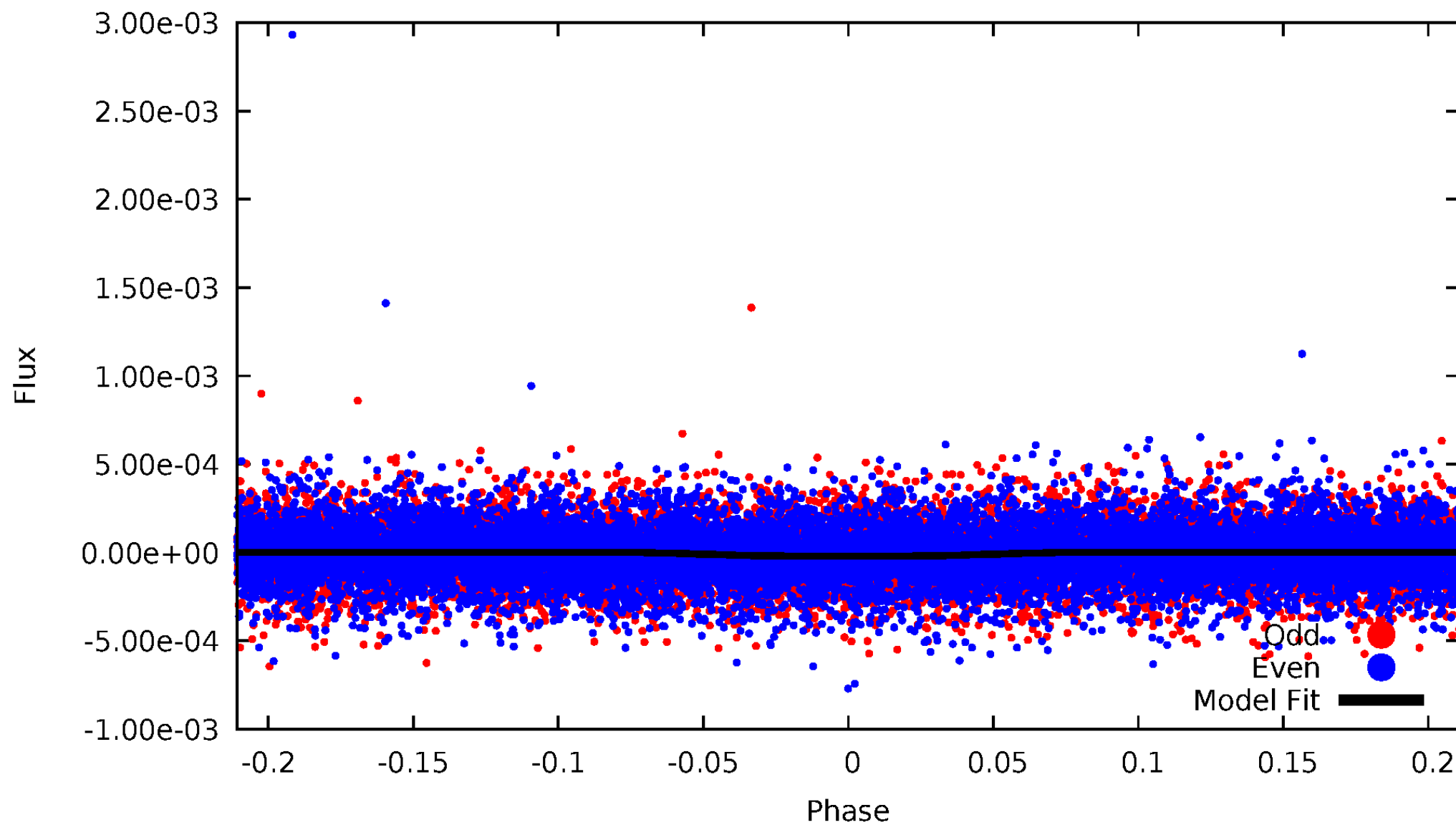


TCE 002720582-01



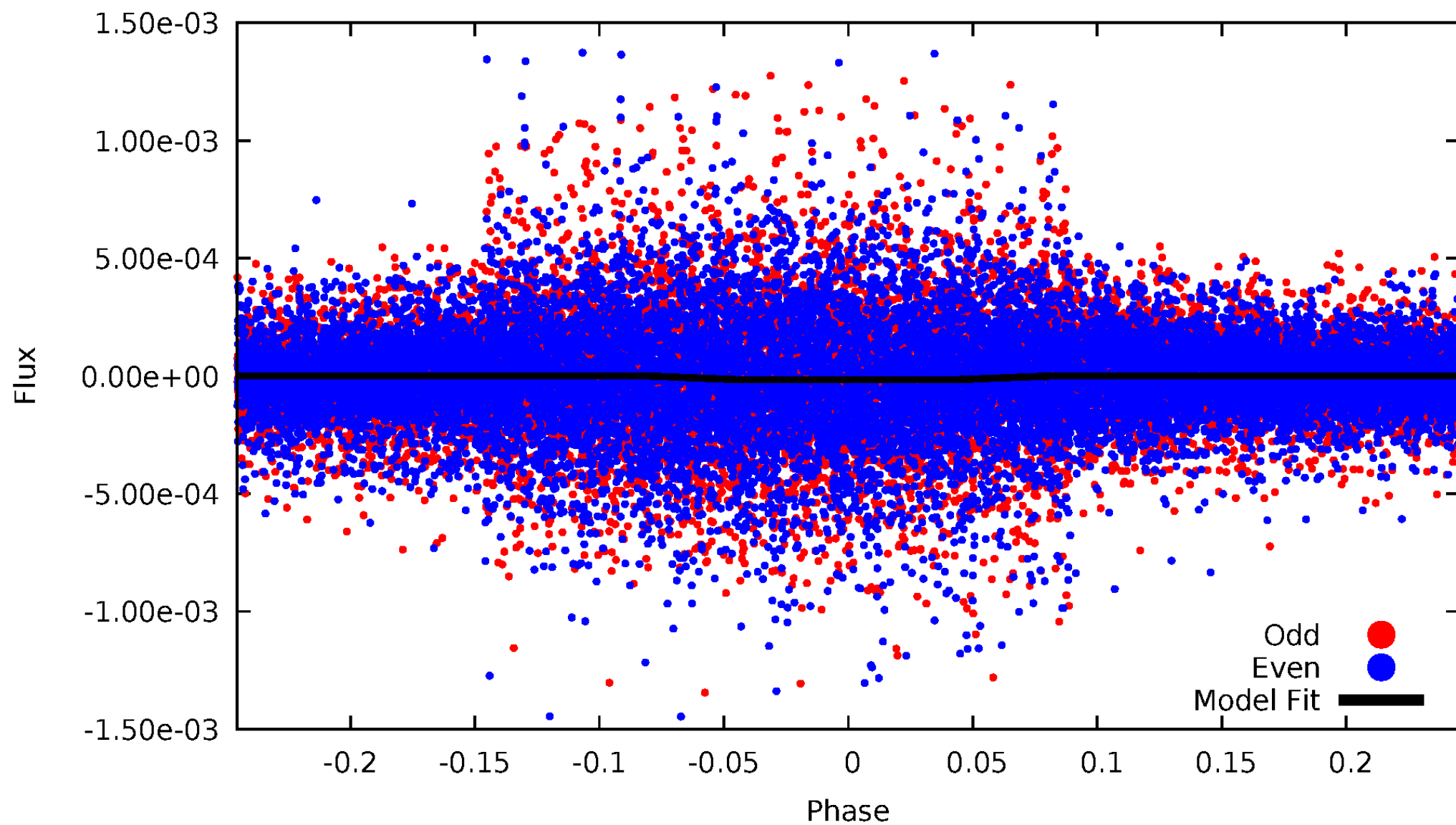
DV Odd/Even

TCE 002720582-01



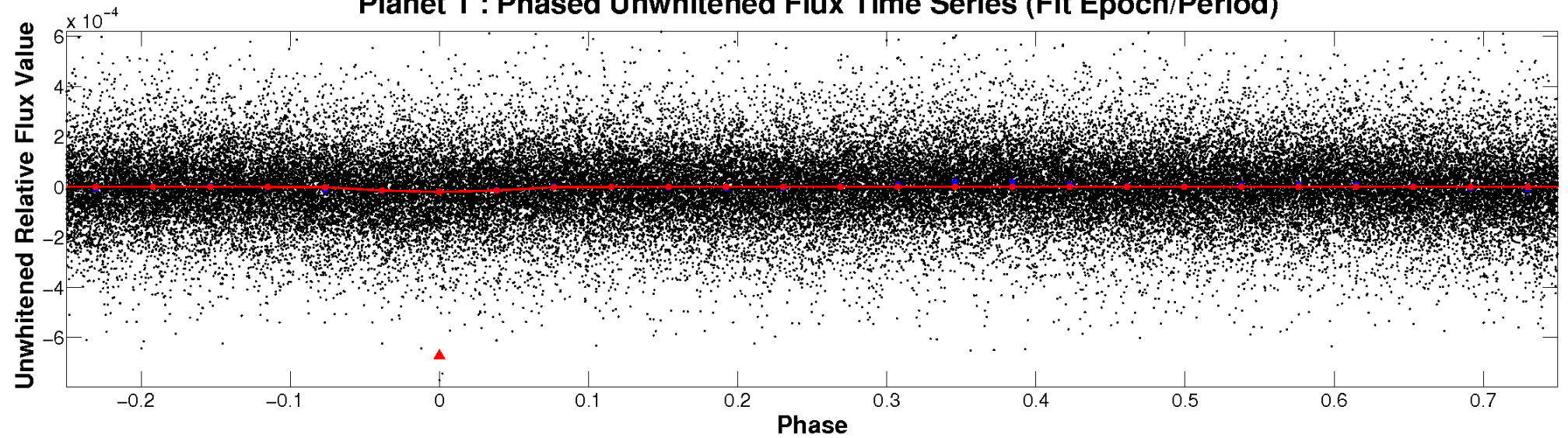
ALT Odd/Even

TCE 002720582-01

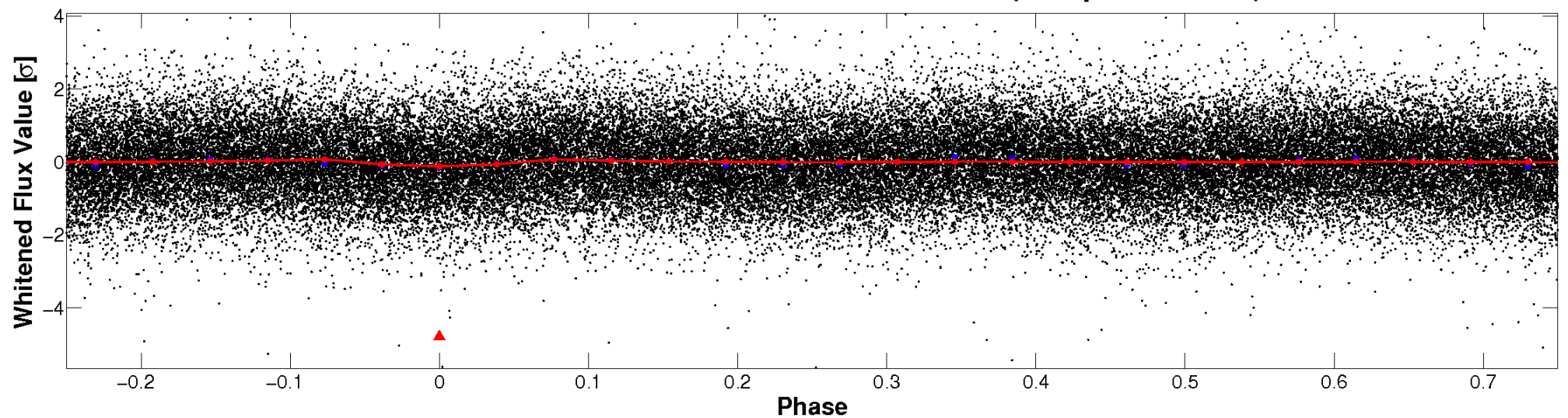


Non-Whitened Vs. Whitened Light Curve

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

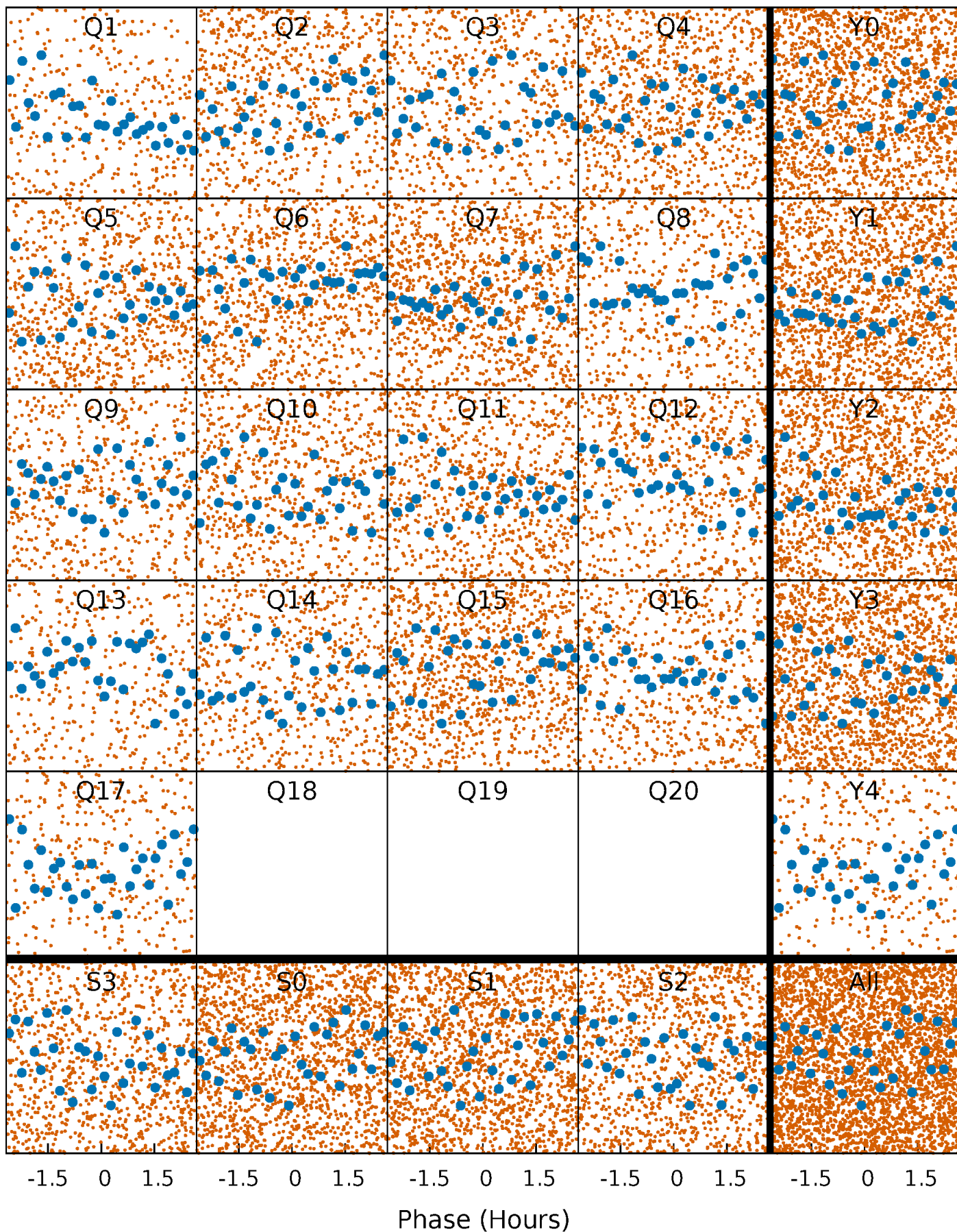


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



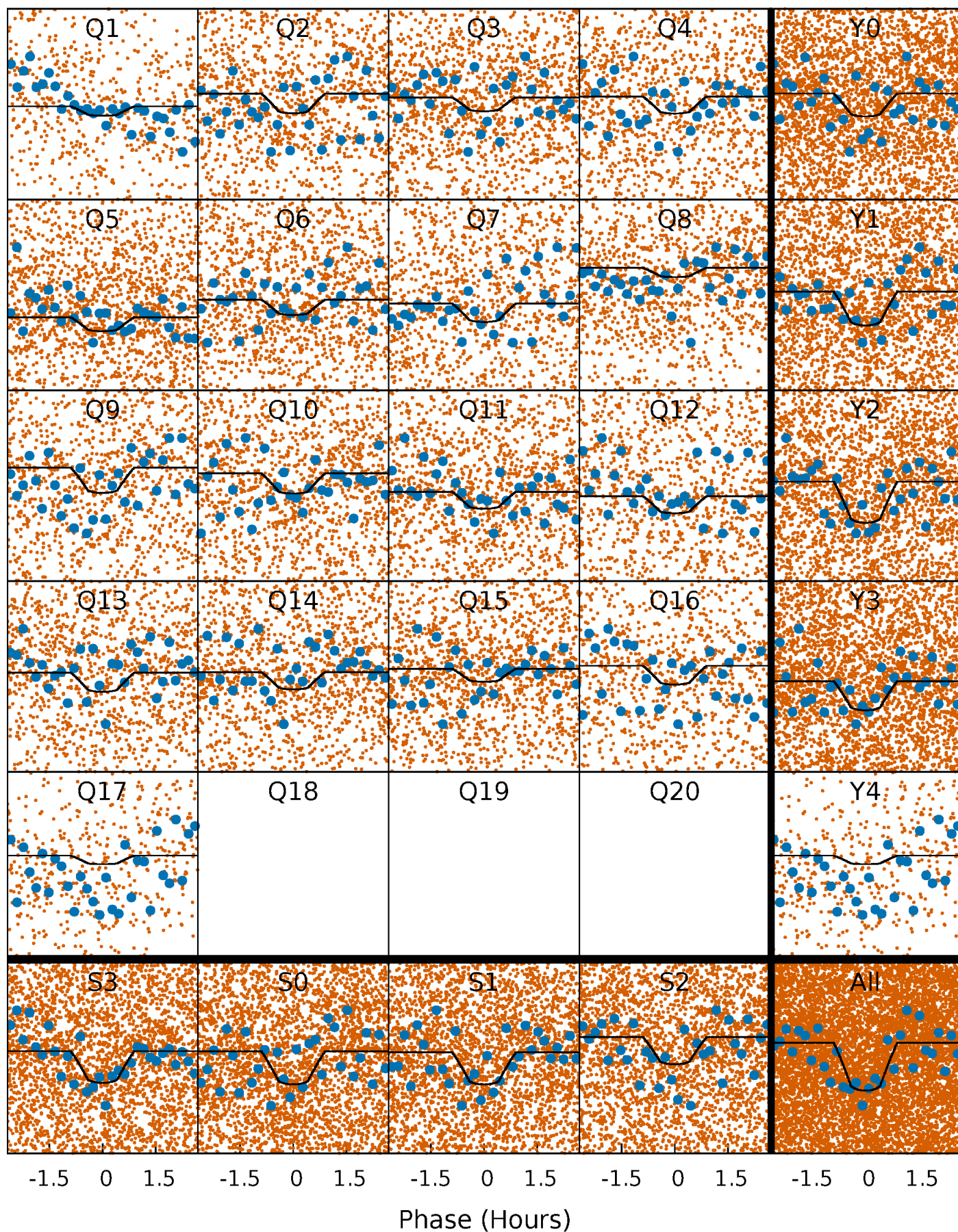
PDC Quarter-Phased Transit Curves

TCE 002720582-01 P= 0.531910 Days $T_0=131.972271$ (BKJD)



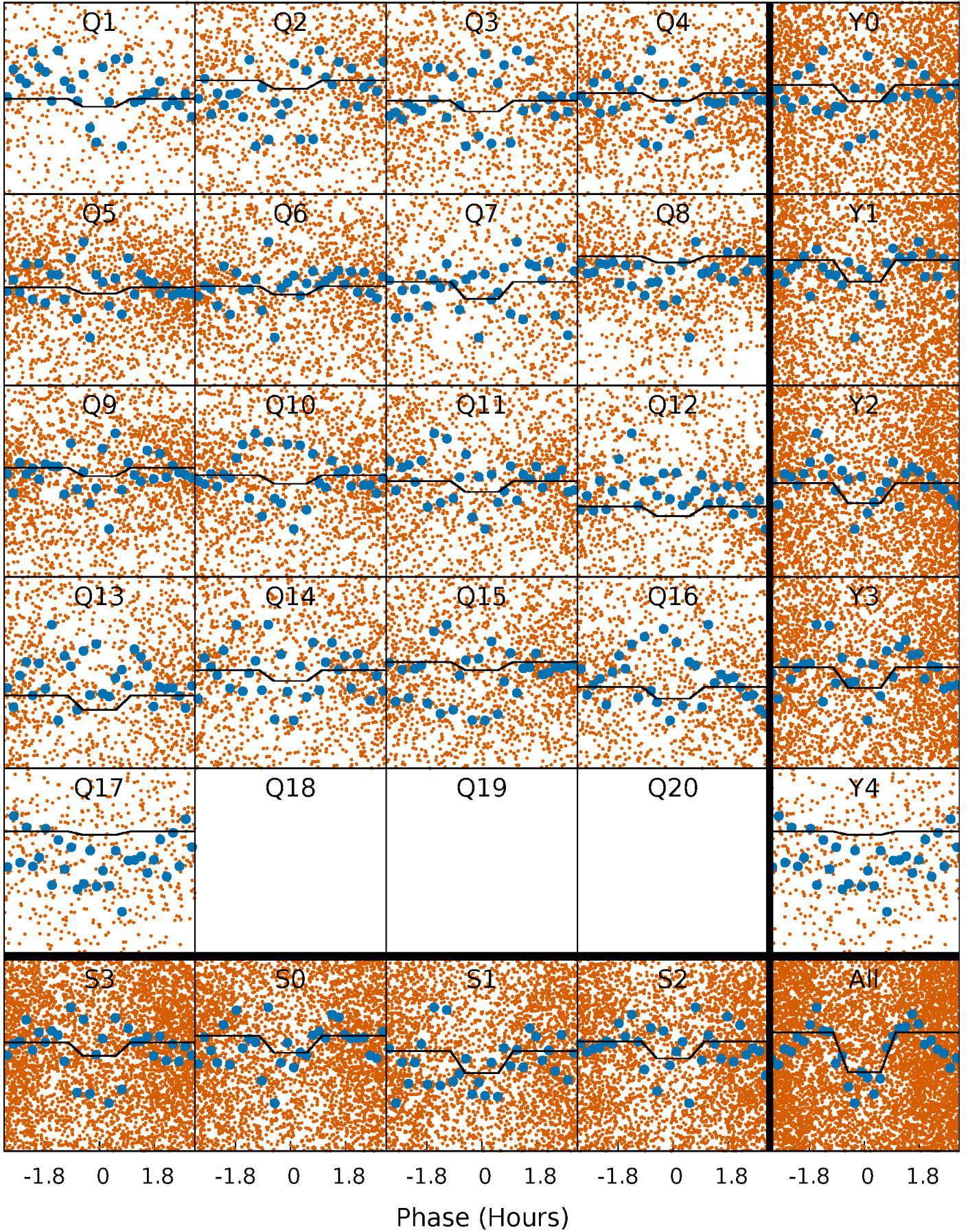
DV Quarter-Phased Transit Curves

TCE 002720582-01 P= 0.531910 Days $T_0=131.972271$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

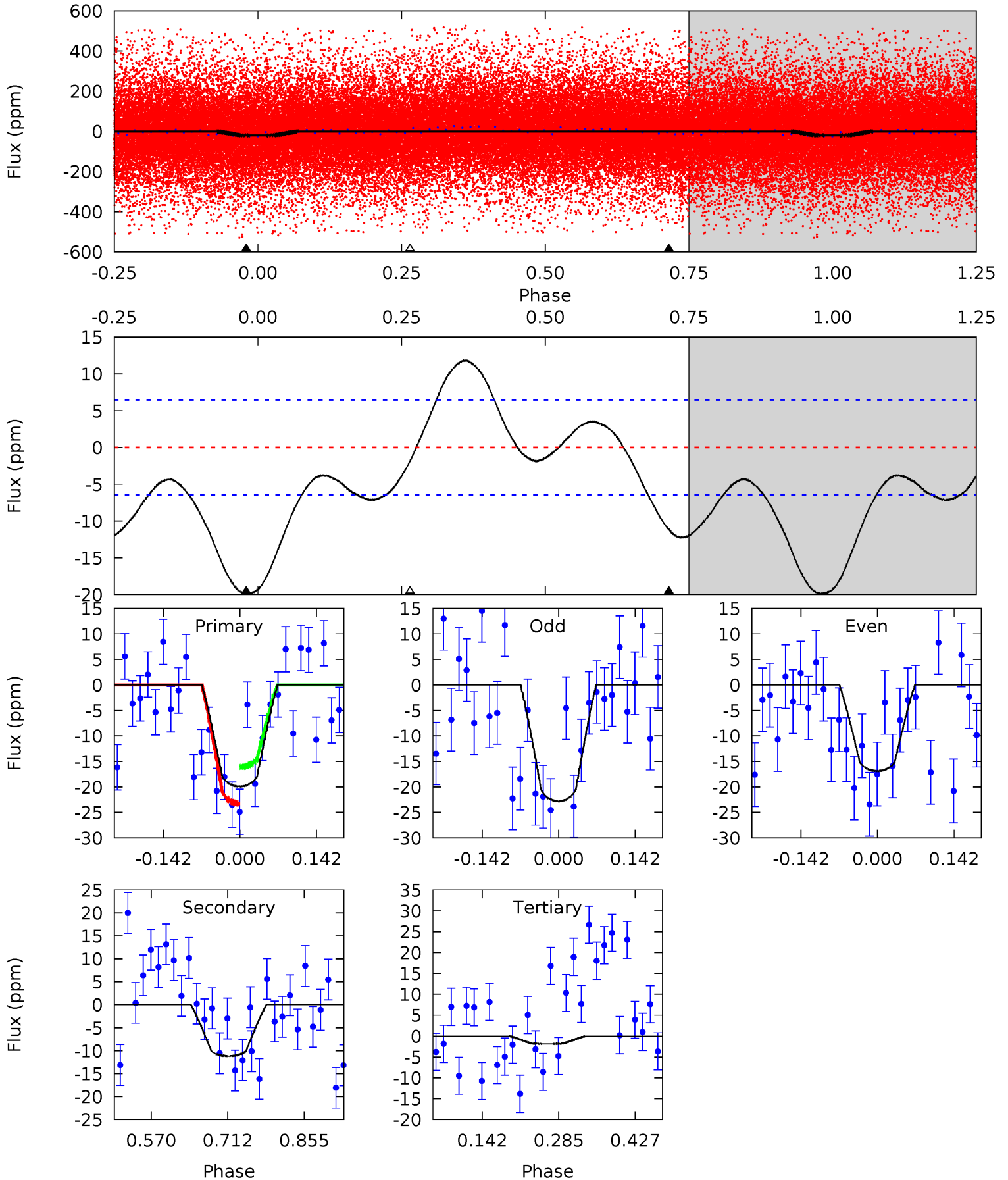
TCE 002720582-01 P= 0.531903 Days $T_0=131.977337$ (BKJD)



DV Model-Shift Uniqueness Test

002720582-01, P = 0.531910 Days, E = 131.440361 Days

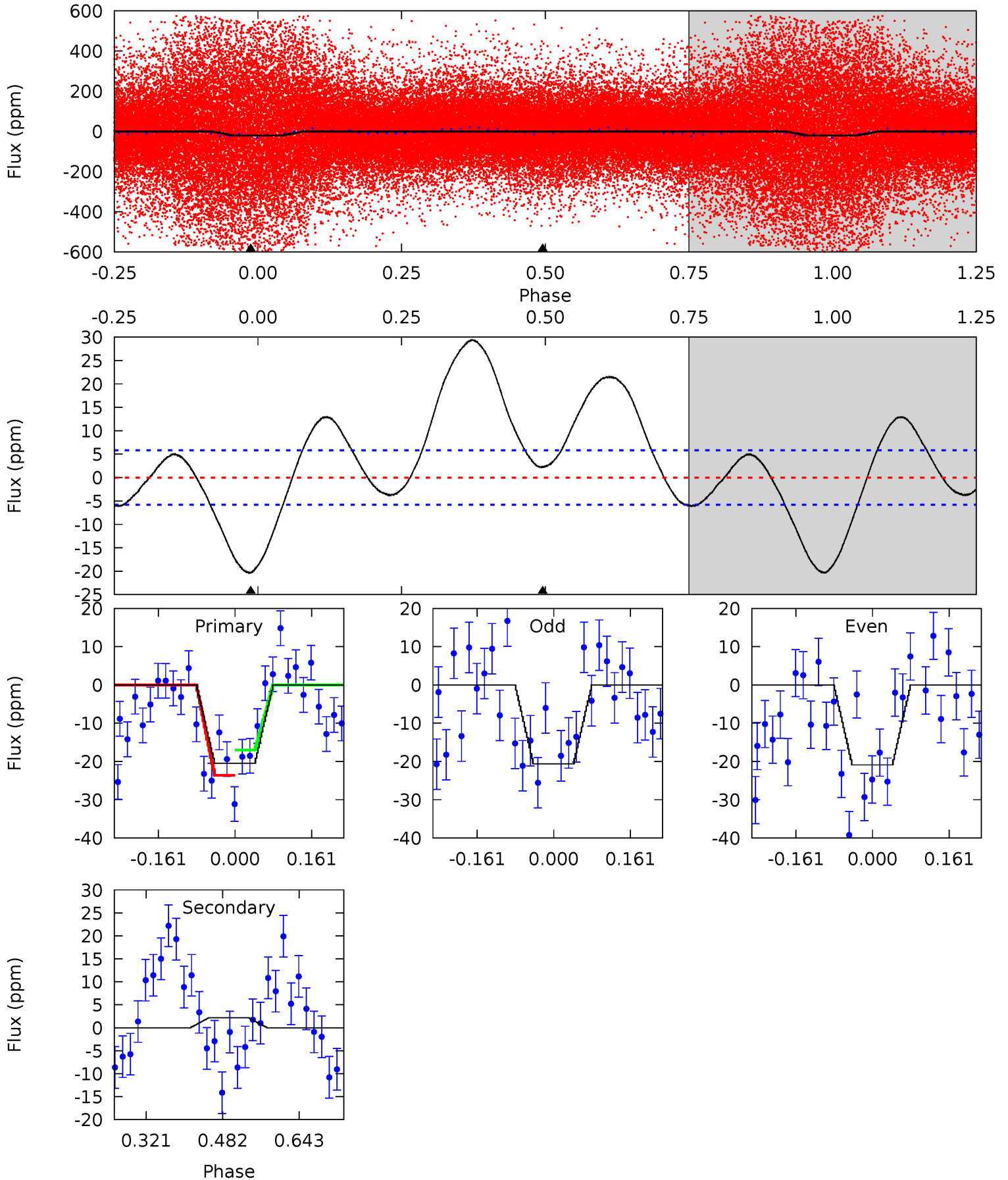
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	7.75	1.31	0	4.49	1.47	4.10	12.5	13.8	6.43	7.75	2.06	1.06	0.37	2.50



Alt Model-Shift Uniqueness Test

002720582-01, P = 0.531903 Days, E = 131.445434 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	-1.65	0	0	4.46	1.40	5.51	15.7	15.7	-1.65	-1.65	0.12	0.84	0.59	2.52



Stellar Parameters For KIC 002720582

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7055^{+84}_{-77}	$4.070^{+0.127}_{-0.115}$	$0.020^{+0.150}_{-0.150}$	$1.902^{+0.322}_{-0.322}$	$1.550^{+0.117}_{-0.117}$	$0.317^{+0.192}_{-0.112}$
	+1%/-1%	+3%/-3%	+750%/-750%	+17%/-17%	+8%/-8%	+61%/-35%
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 002720582-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-11 ± 1	$0.98^{+0.18}_{-0.16}$	4911^{+222}_{-219}	5567^{+575}_{-461}	$1.433^{+0.673}_{-0.430}$
Alt.	2 ± 1	$0.85^{+0.16}_{-0.15}$	4919^{+218}_{-223}	-4972^{+394}_{-451}	$-0.357^{+0.211}_{-0.297}$

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

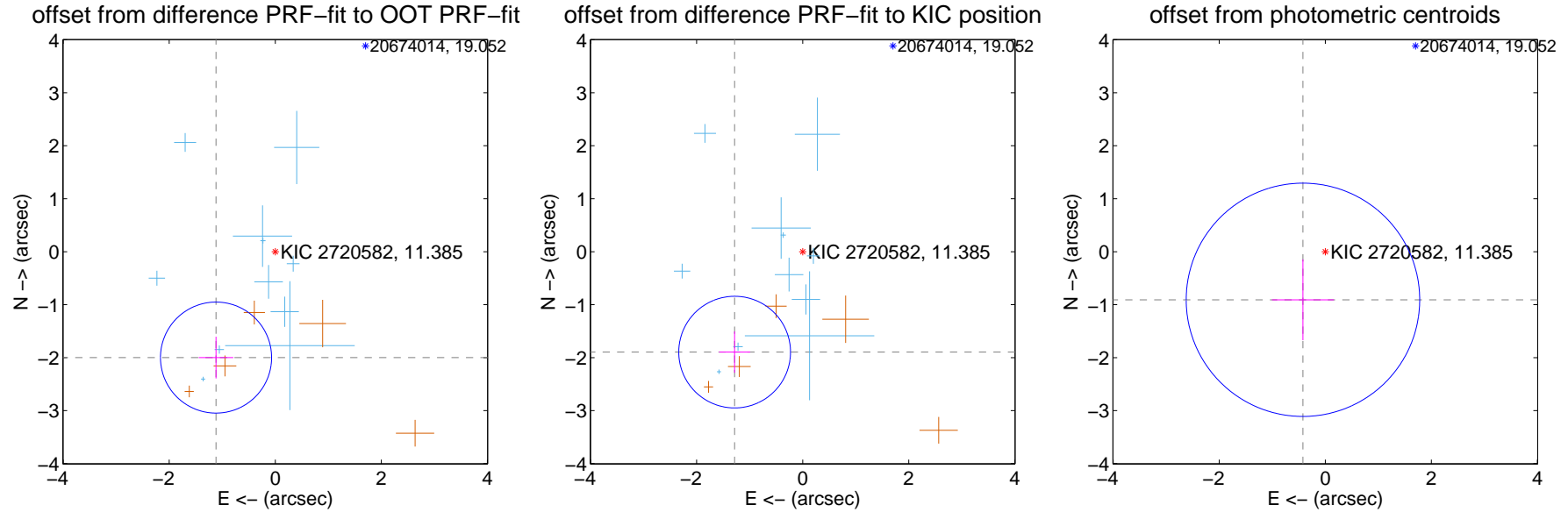
DV Centroid Data

Supplemental centroid analysis for 002720582-01. **Kepler magnitude: 11.38.** Transit SNR 9.90

There are 11 quarters with good PRF difference image offsets

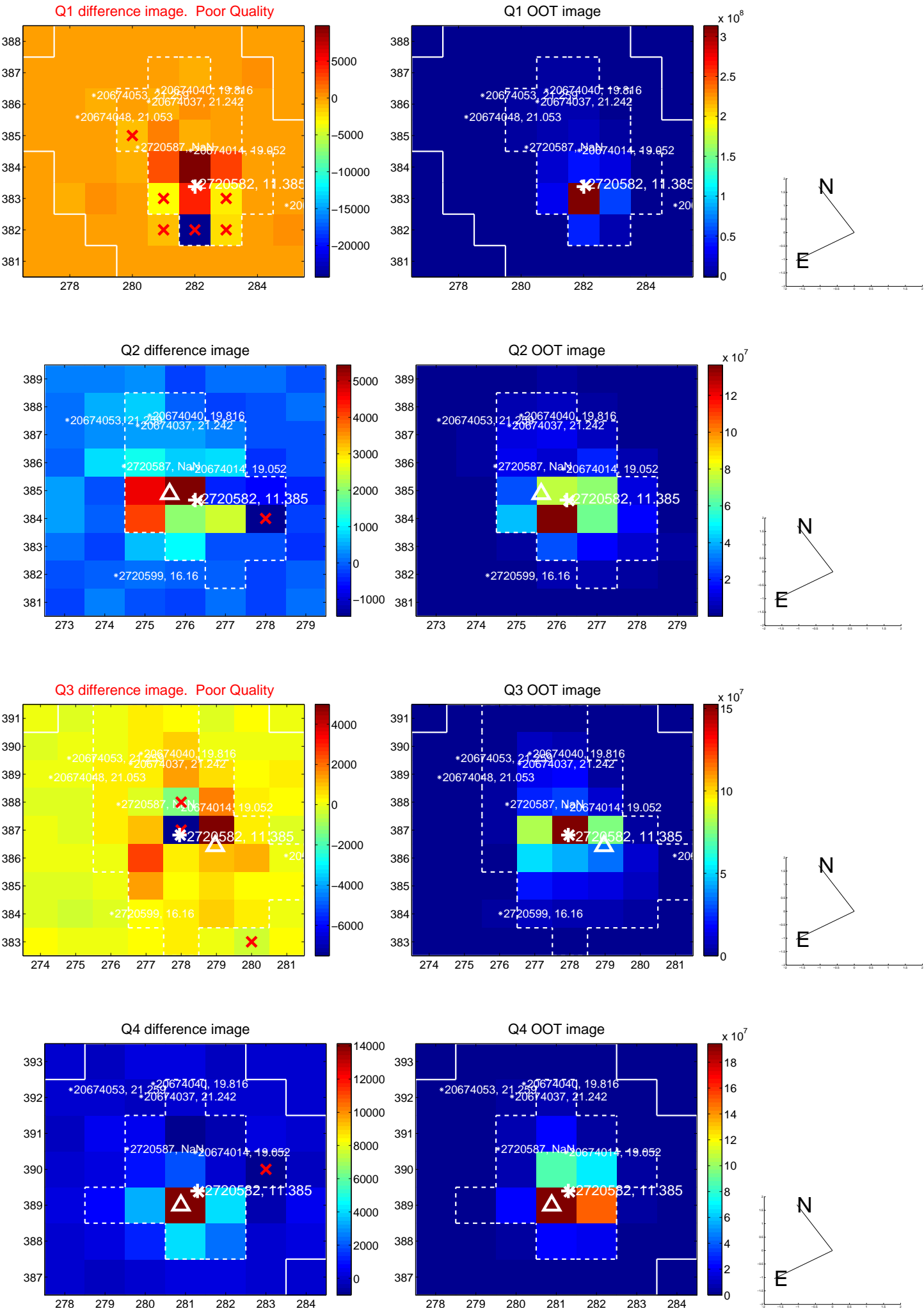
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.289 ± 0.349	6.56	1.117 ± 0.326	-1.998 ± 0.394
PRF-fit source offset from KIC position	2.289 ± 0.351	6.52	1.283 ± 0.293	-1.895 ± 0.389
photometric centroid source offset	1.00 ± 0.73	1.36	0.42 ± 0.58	-0.91 ± 0.76

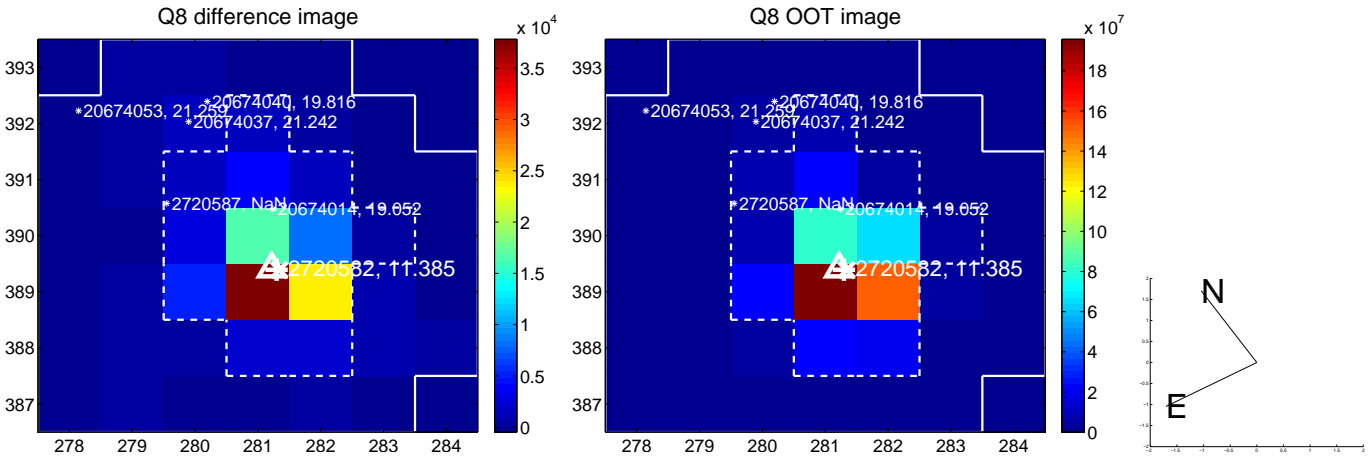
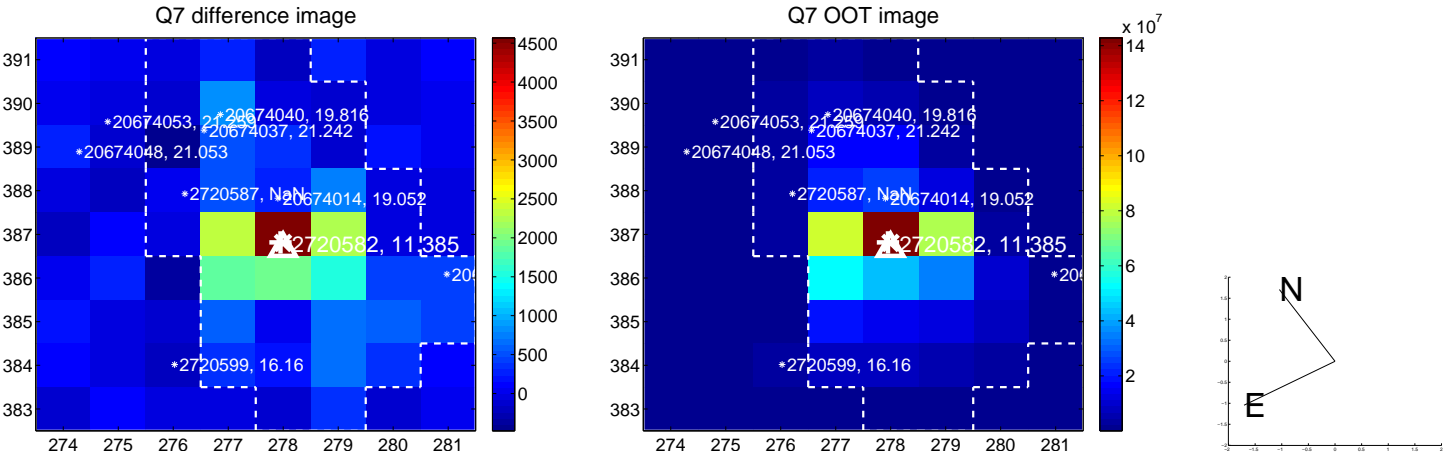
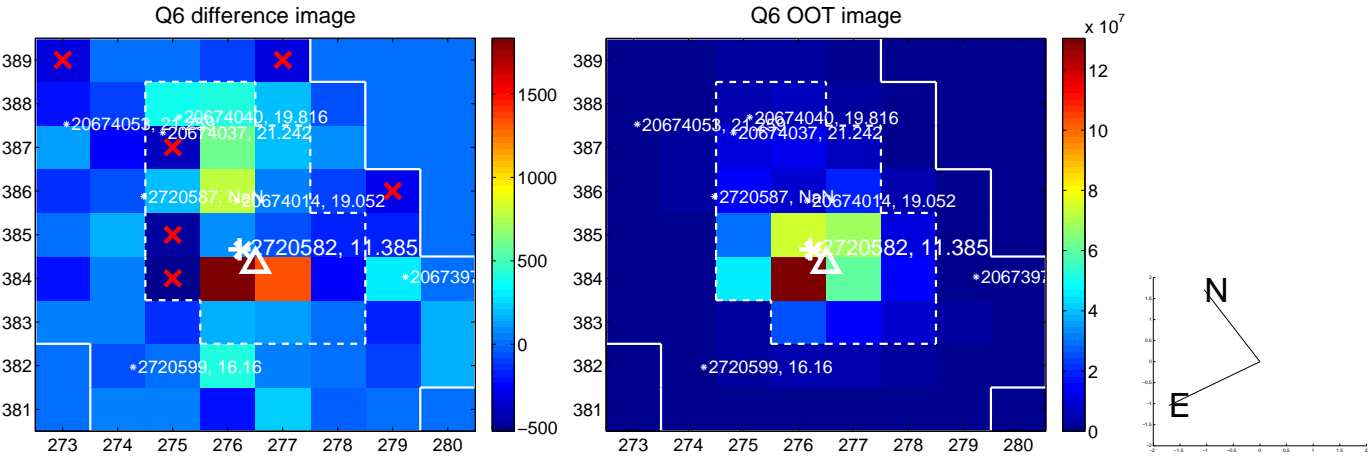
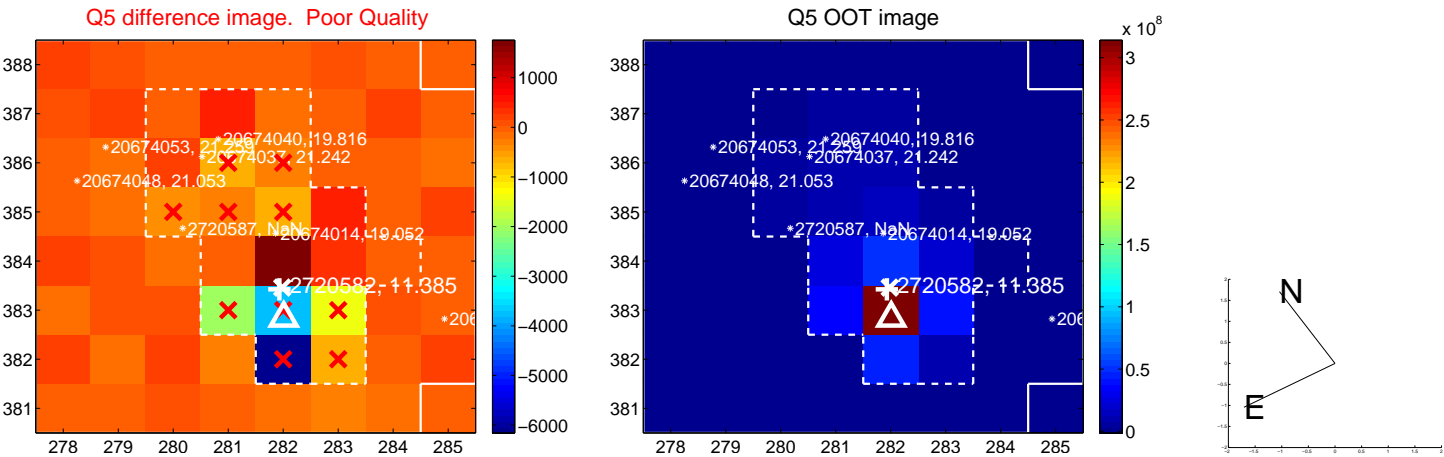


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

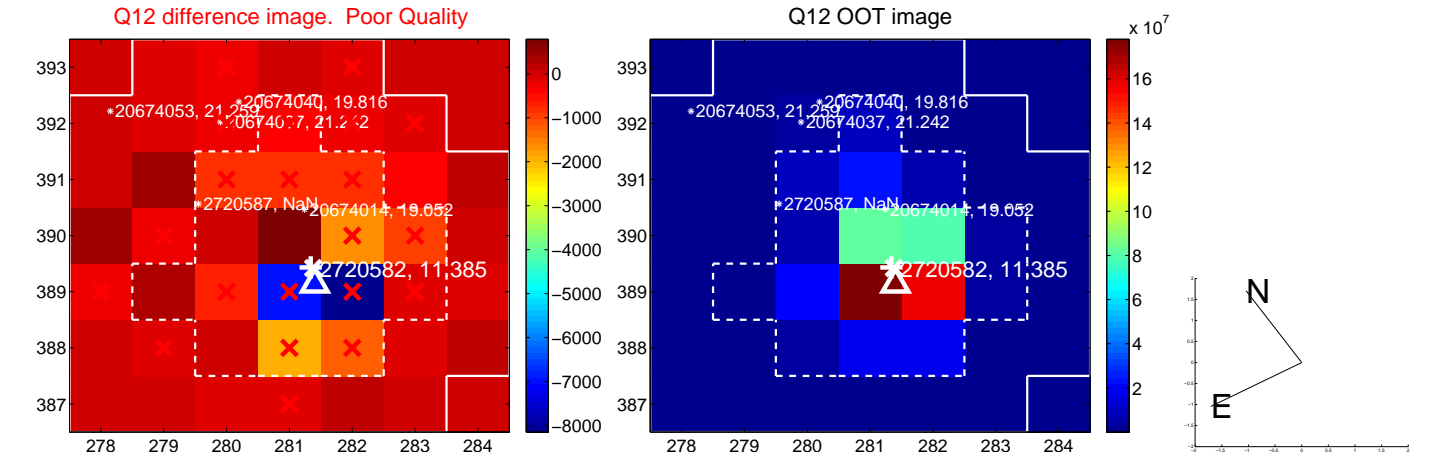
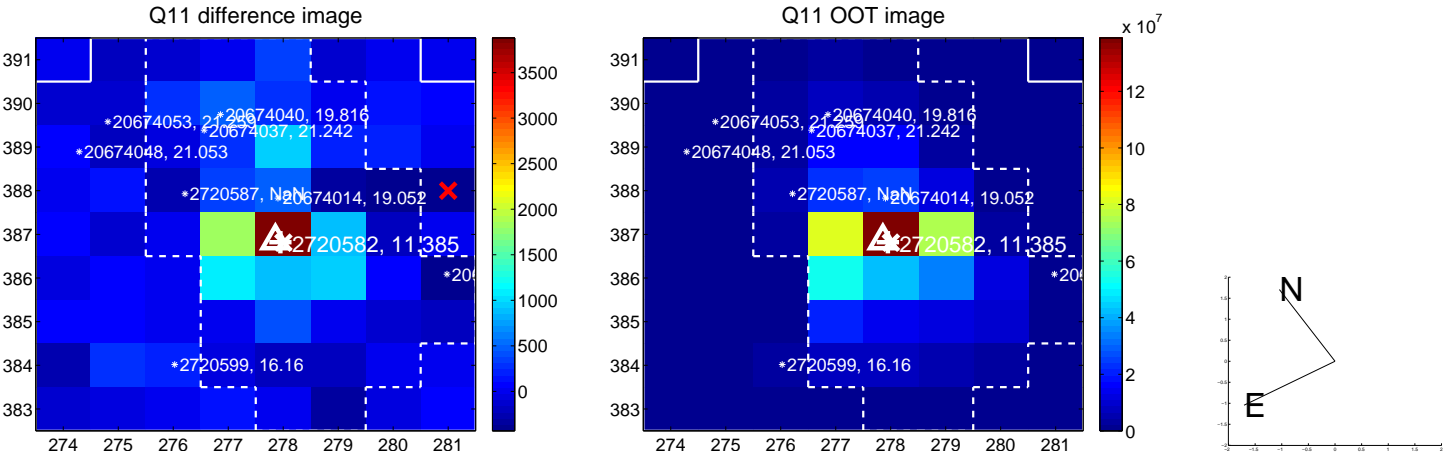
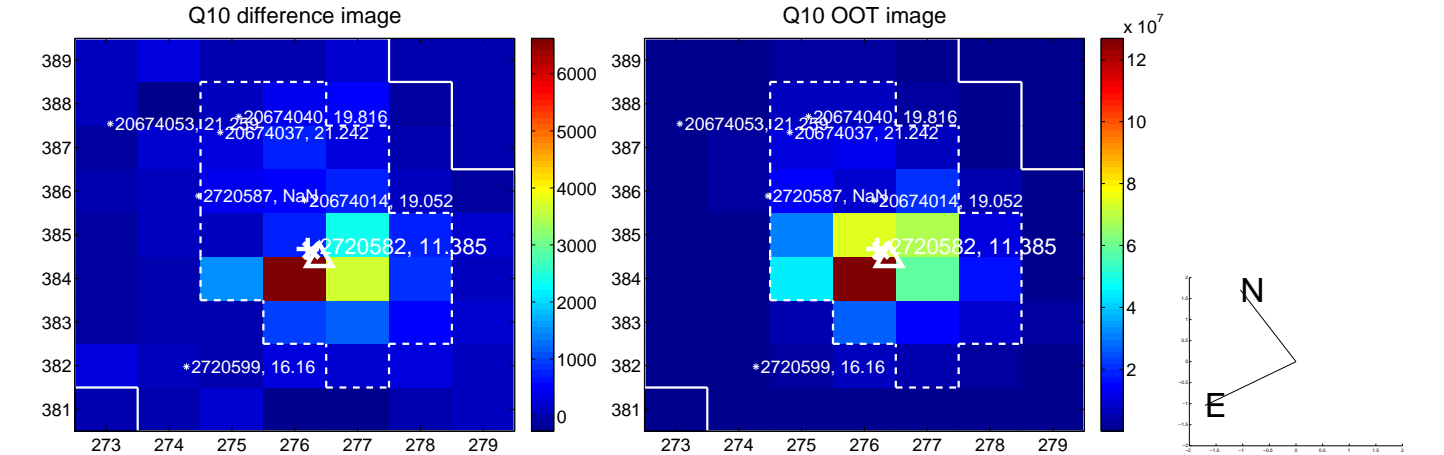
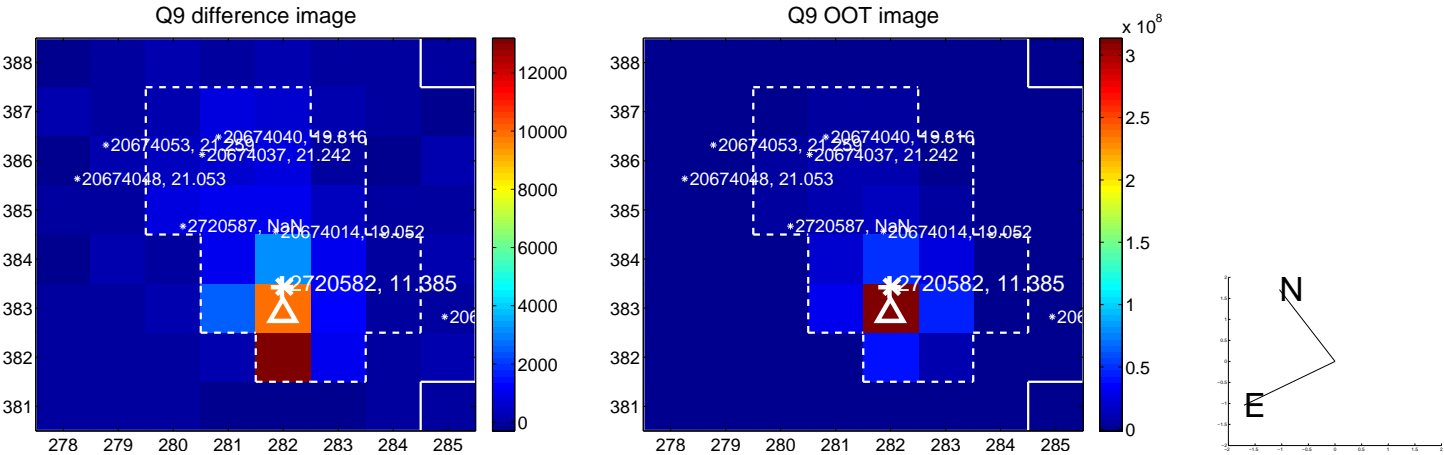
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



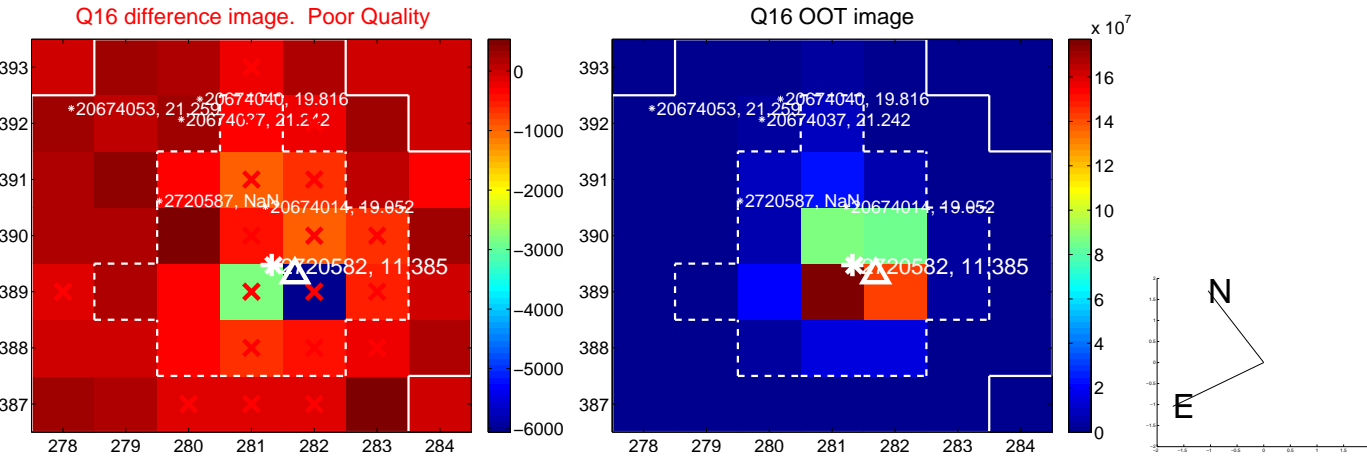
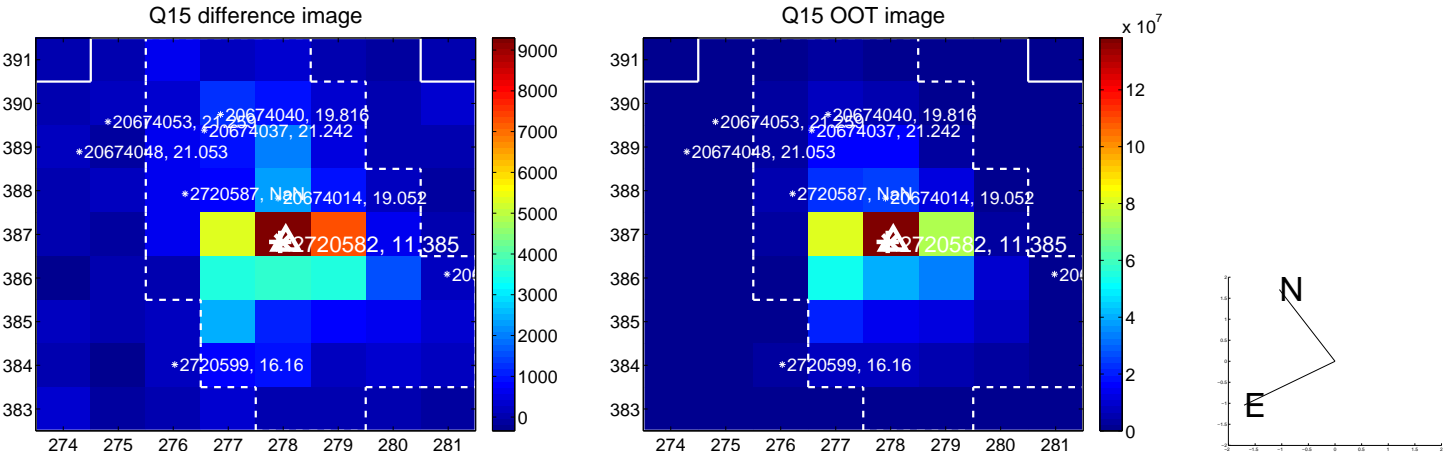
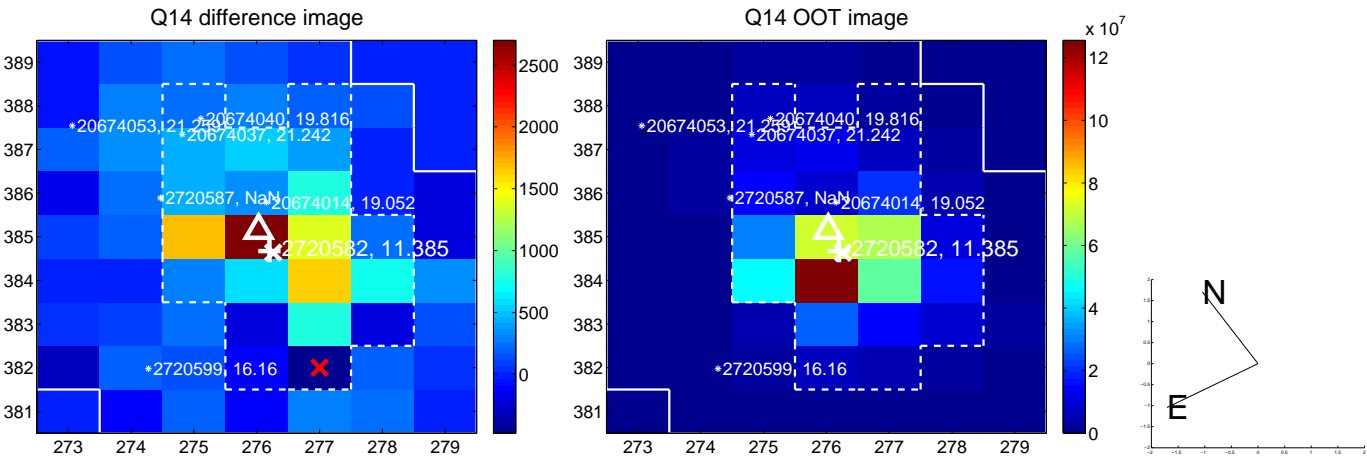
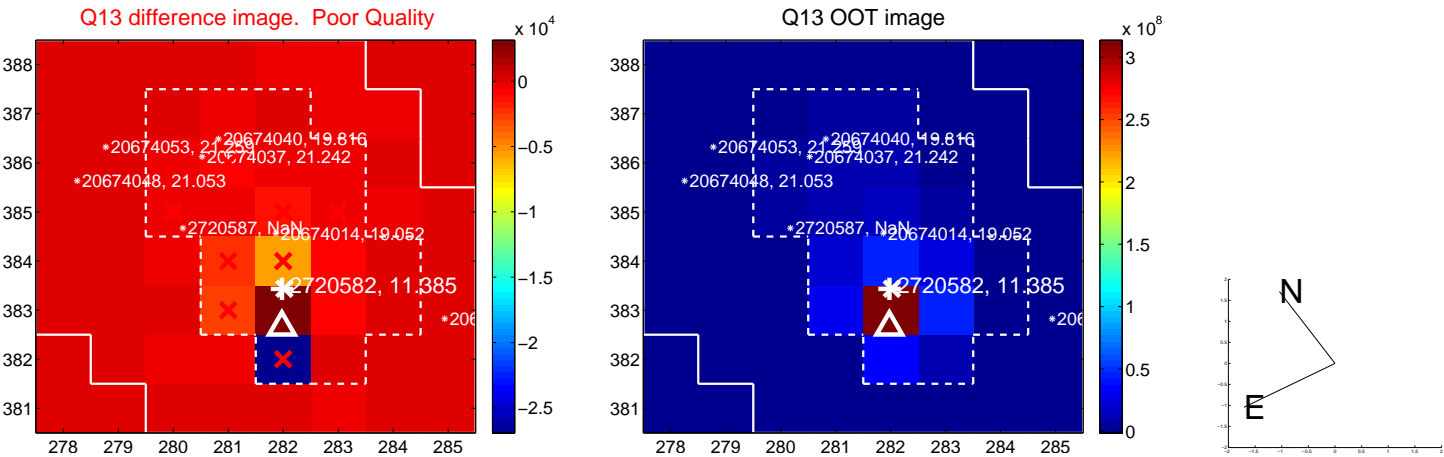
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



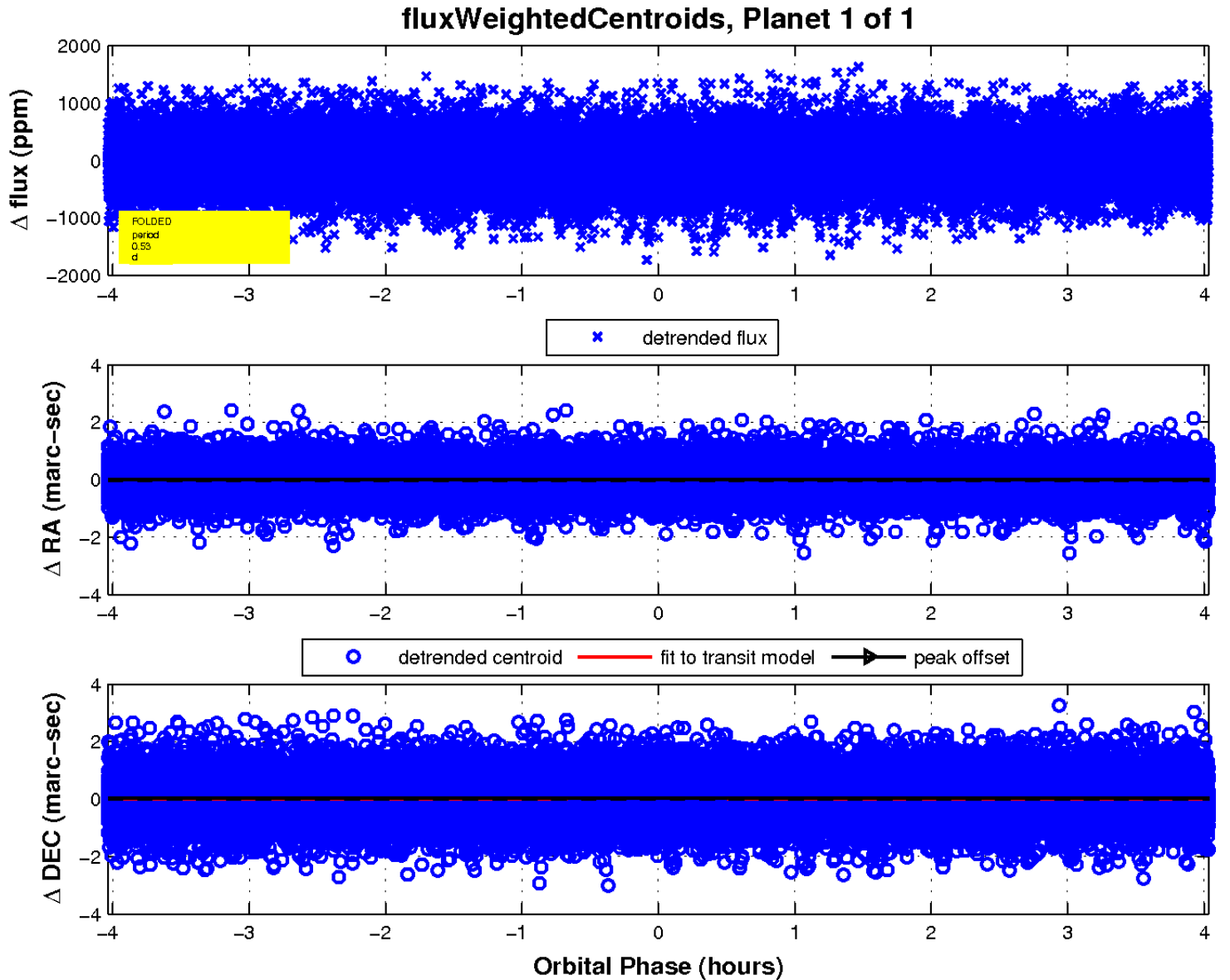
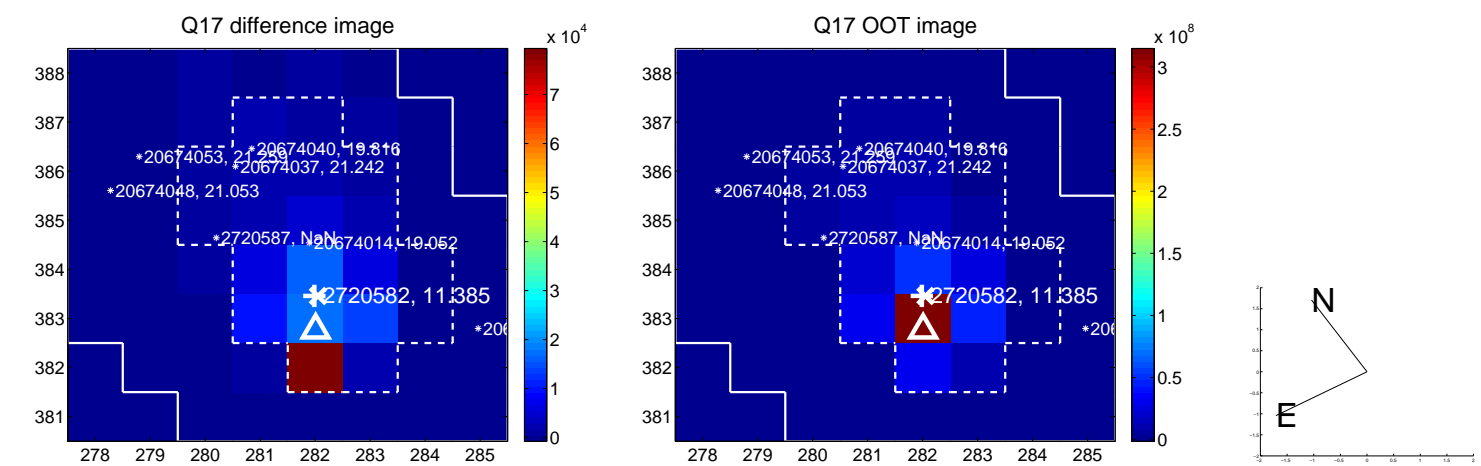
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

