

KIC 004358582

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})
004358582-01	OBS	No	3.416300	132.173809	263.3	27.152	7.5	8.7	0.77	5180	1.26	224.95

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004358582-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—CENT_KIC_POS

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

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

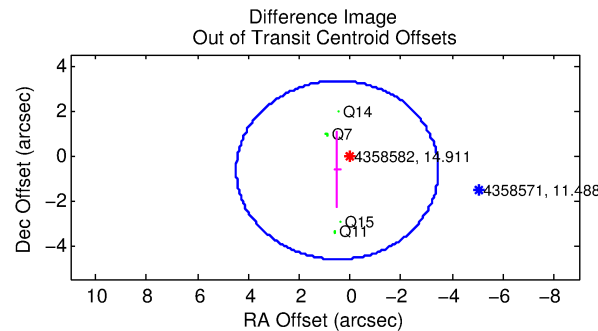
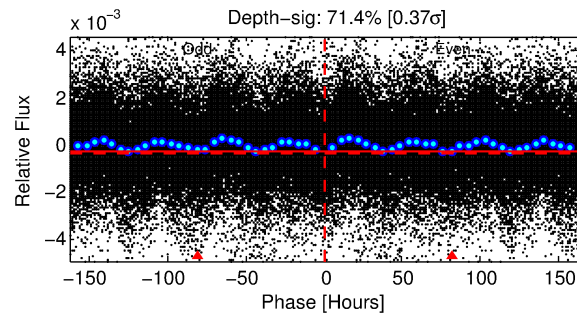
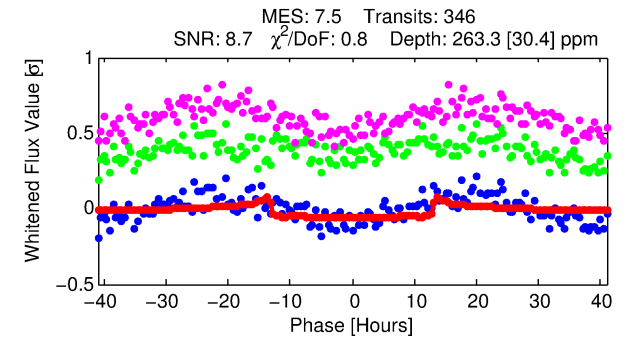
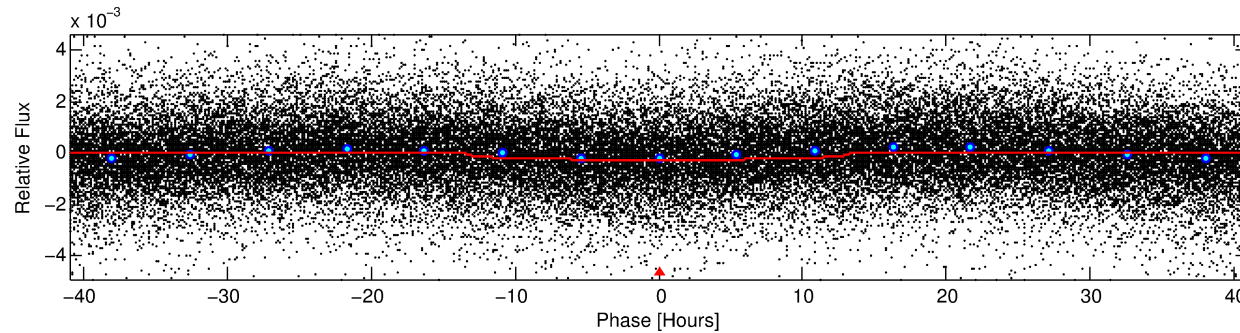
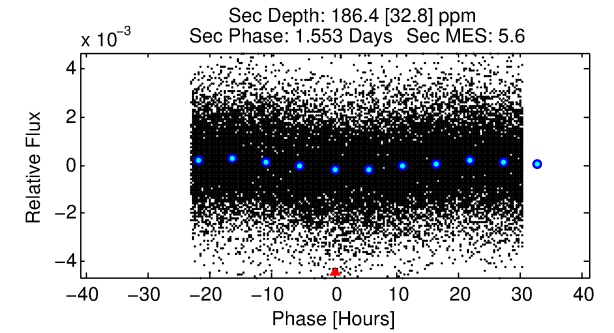
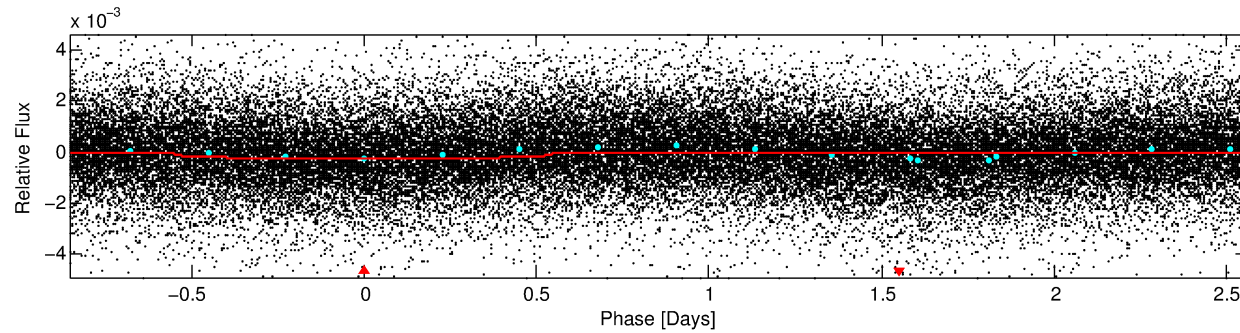
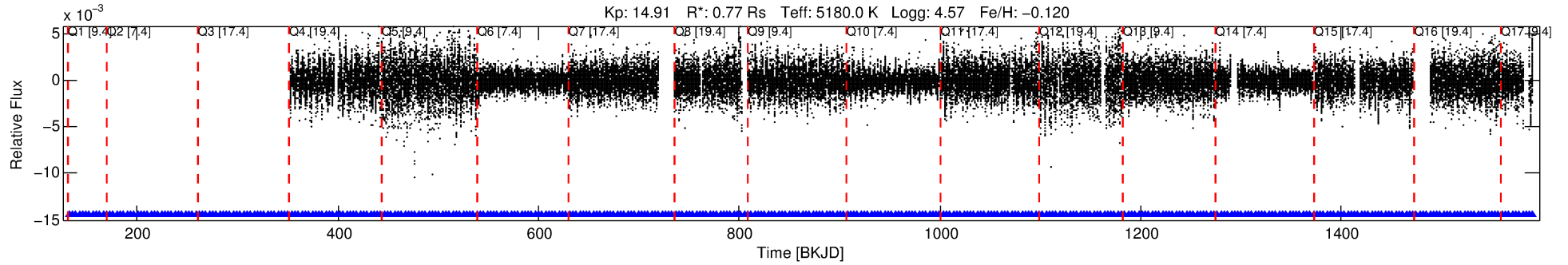
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004358582-01

No Significant Match Found

DV One-Page Summary

KIC: 4358582 Candidate: 1 of 1 Period: 3.416 d



DV Fit Results:

Period = 3.41630 [0.00005] d
Epoch = 132.1738 [0.0116] BKJD
Rp/R* = 0.0150 [0.0027]
a/R* = 1.14 [0.17]
b = 0.49 [0.99]
Seff = 224.95 [48.08]
Teq = 988 [53] K
Rp = 1.26 [0.28] Re
a = 0.0412 [0.0045] AU
Ag = 109.35 [46.34] [2.34σ]
Teffp = 4937 [523] K [7.51σ]

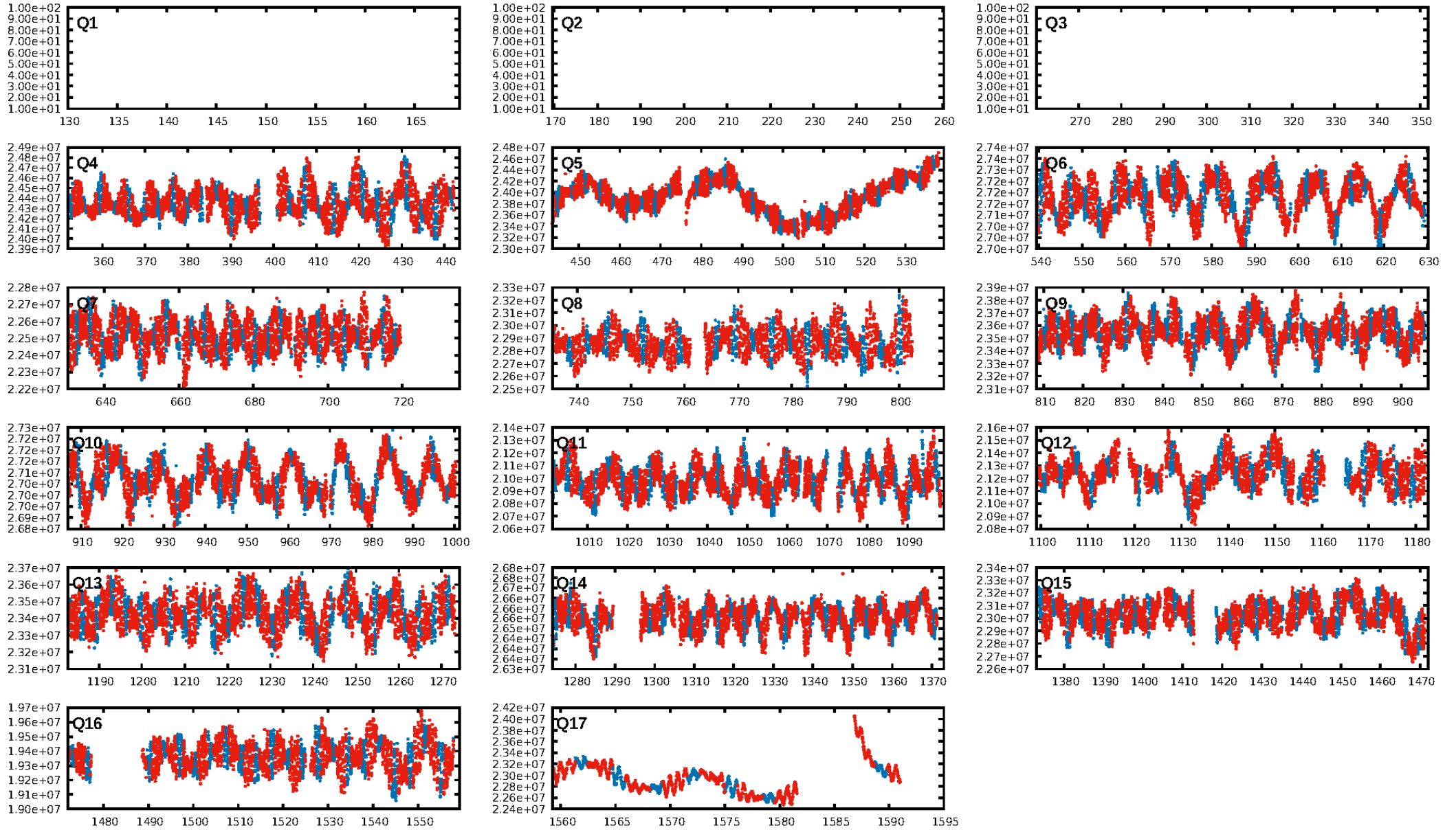
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [337/337]
GhostDiagnostic-chr: -0.563
Centroid-sig: 1.5%
Centroid-so: 3.499 arcsec [44.88σ]
OotOffset-rm: 0.824 arcsec [0.62σ]
KicOffset-rm: 4.860 arcsec [7.00σ]
OotOffset-st: 1/3/0/0 [4]
KicOffset-st: 1/3/0/0 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 1.00 [14/14]

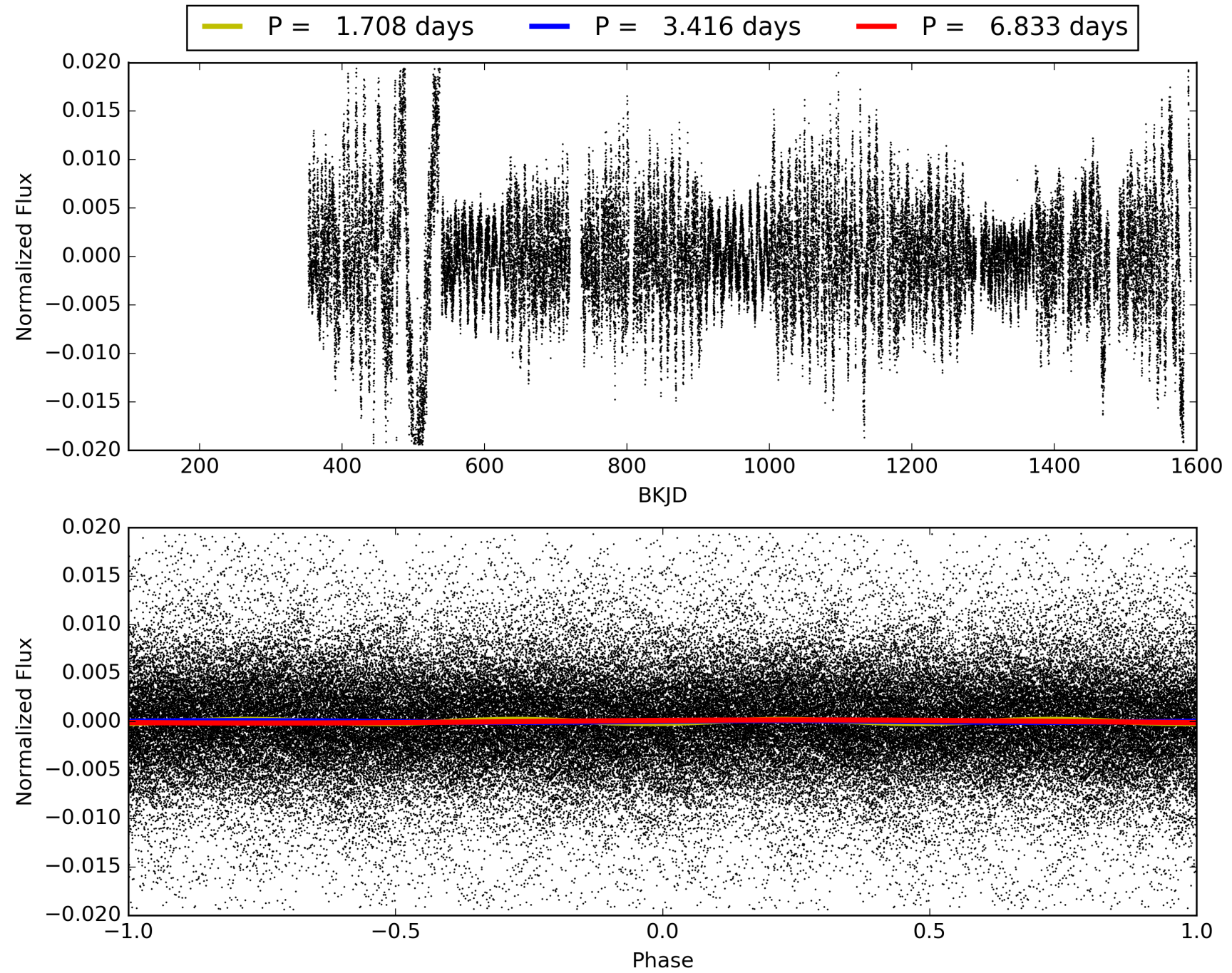
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 08:47:21 Z

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

TCE 004358582-01, PDC Light Curves

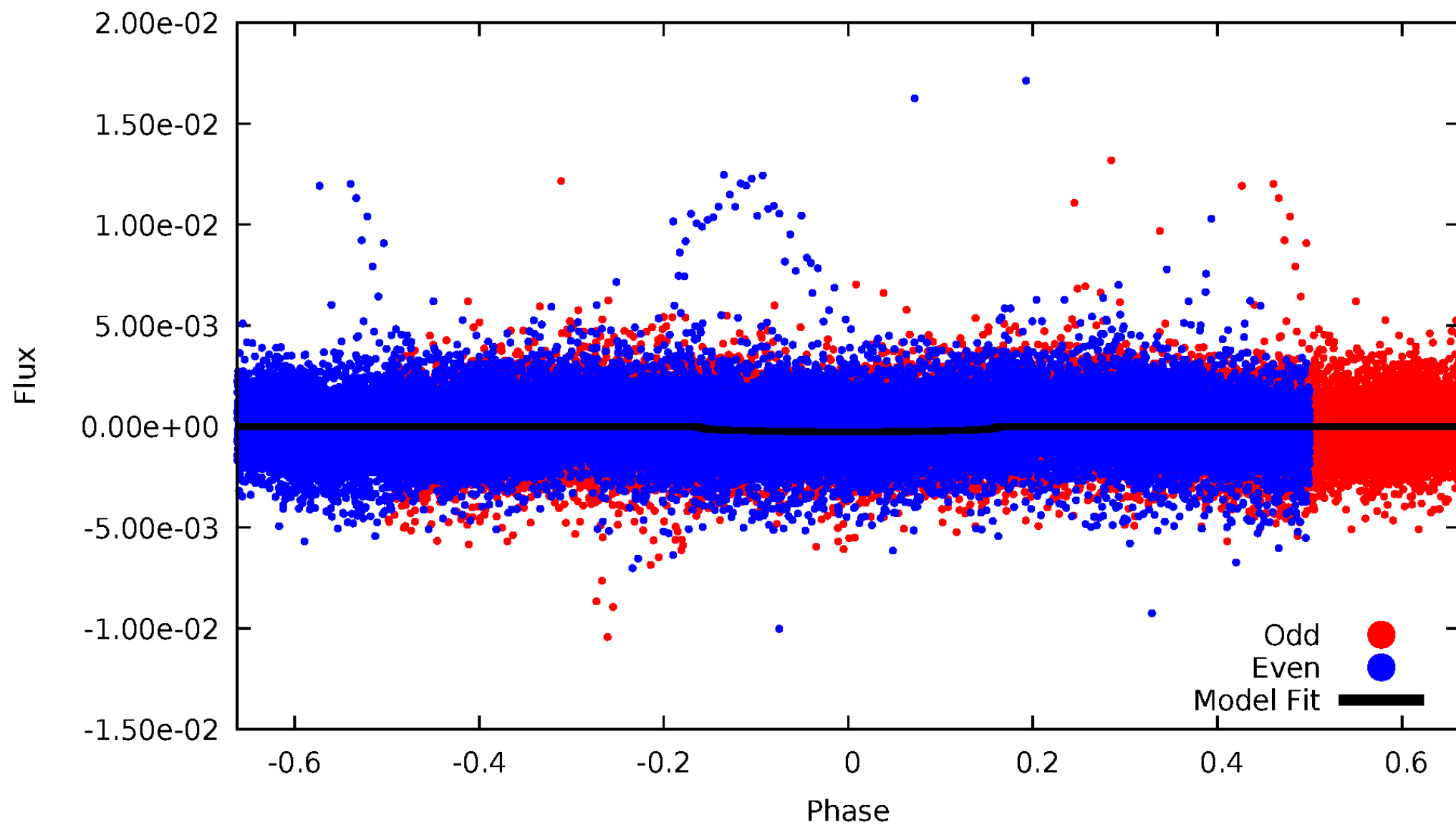


TCE 004358582-01



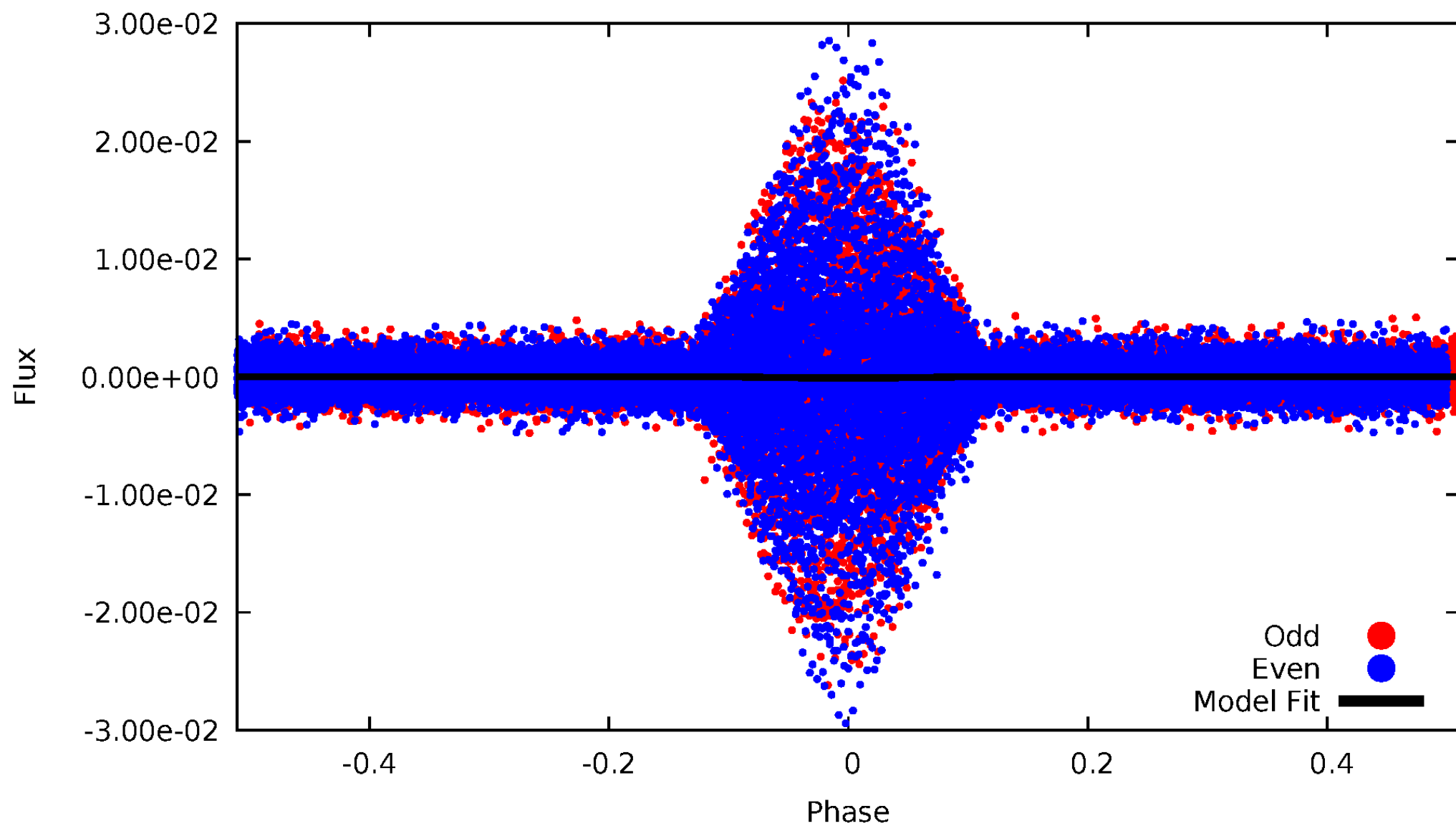
DV Odd/Even

TCE 004358582-01



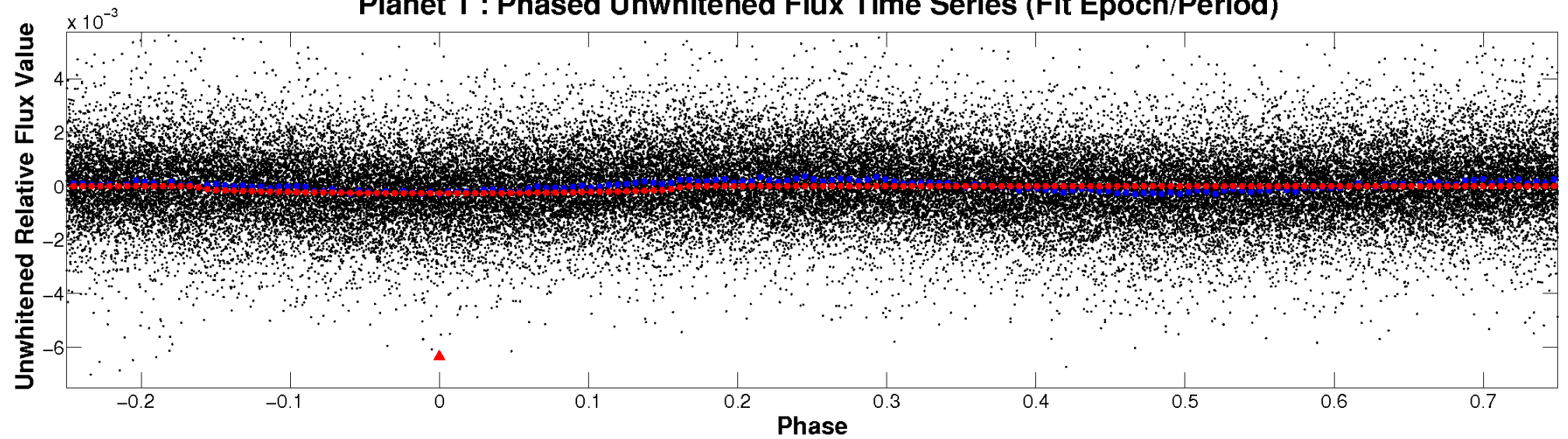
ALT Odd/Even

TCE 004358582-01

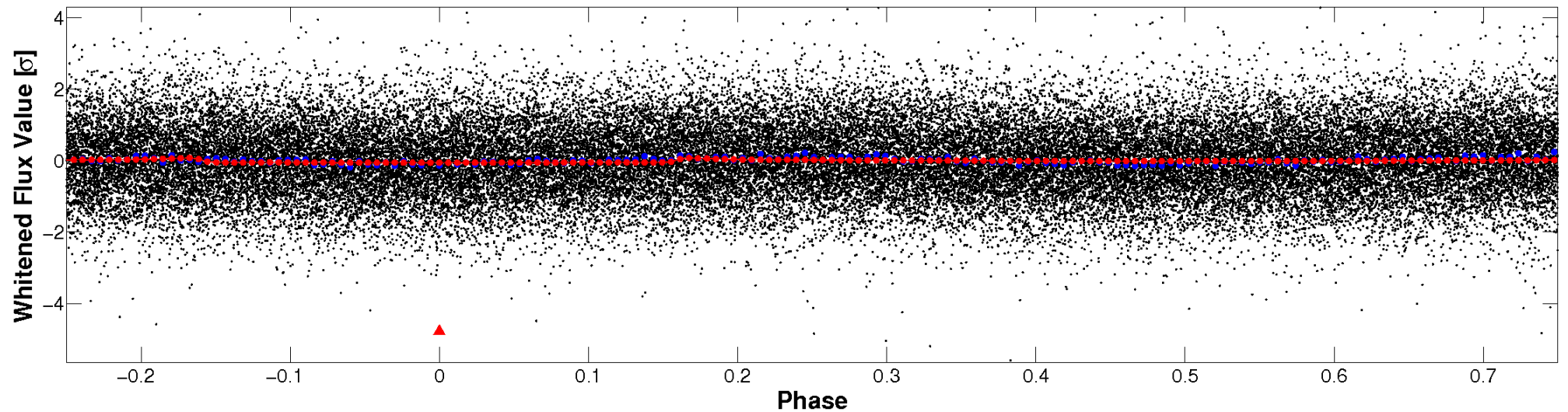


Non-Whitened Vs. Whitened Light Curve

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

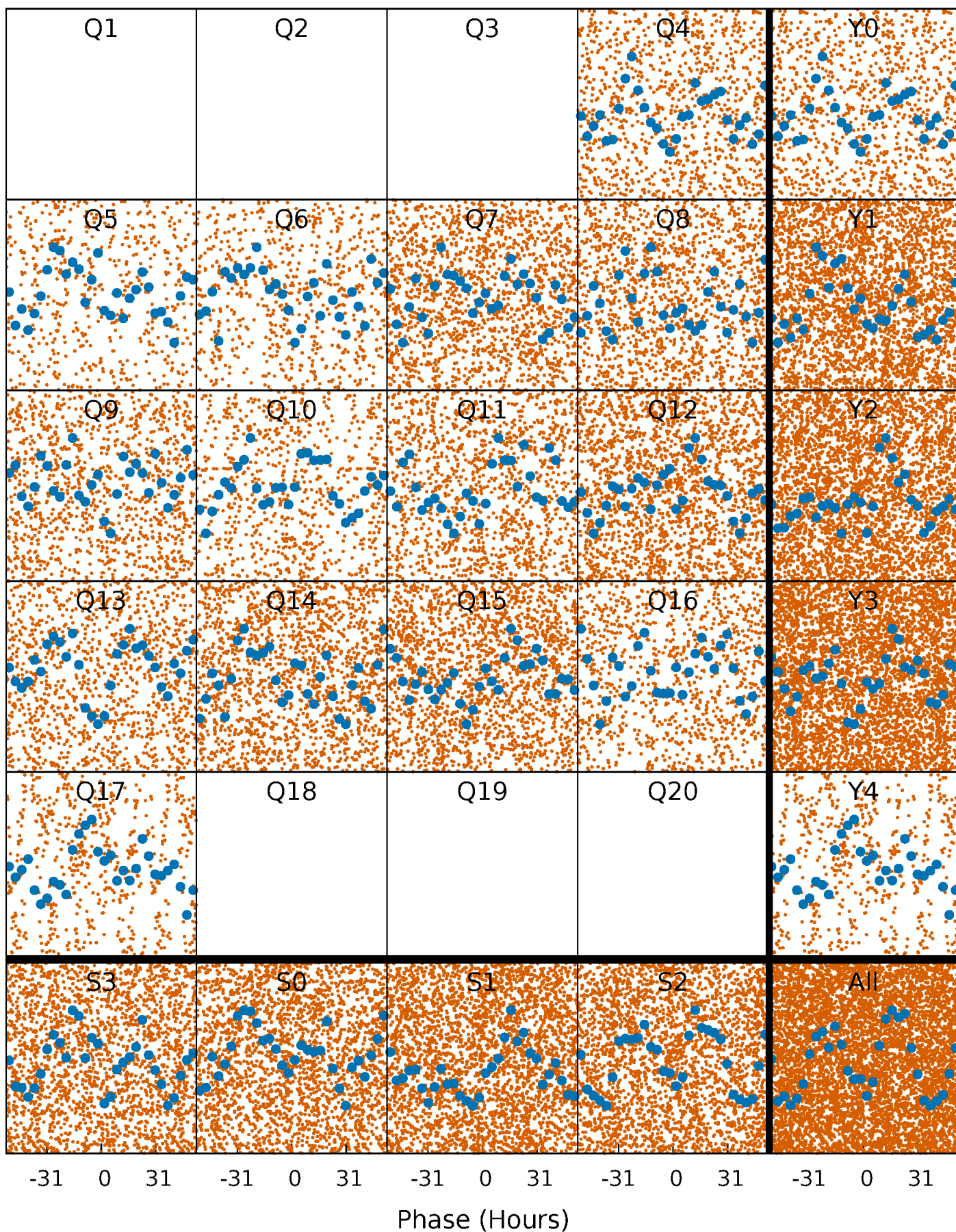


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



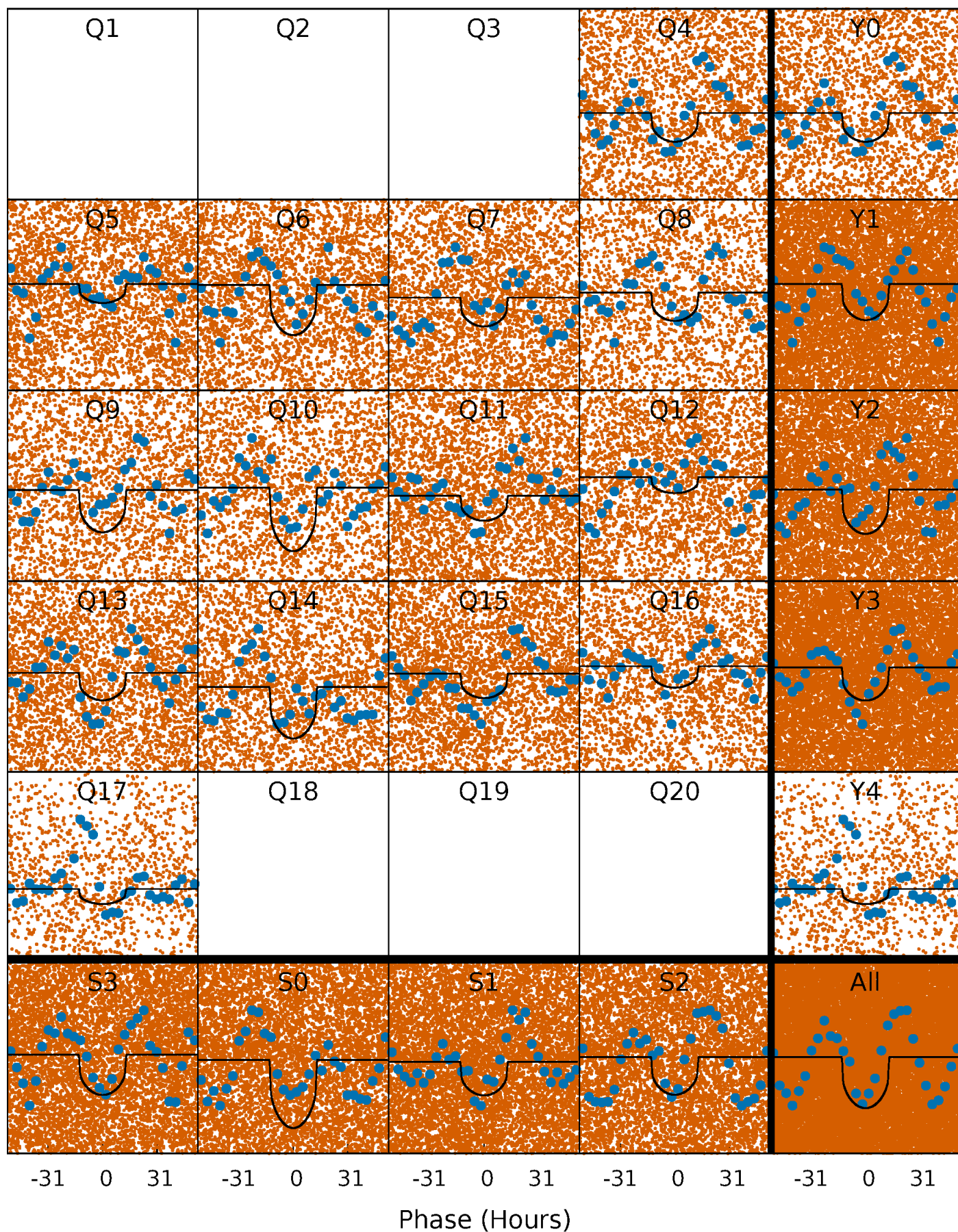
PDC Quarter-Phased Transit Curves

TCE 004358582-01 P= 3.416300 Days $T_0=132.173809$ (BKJD)



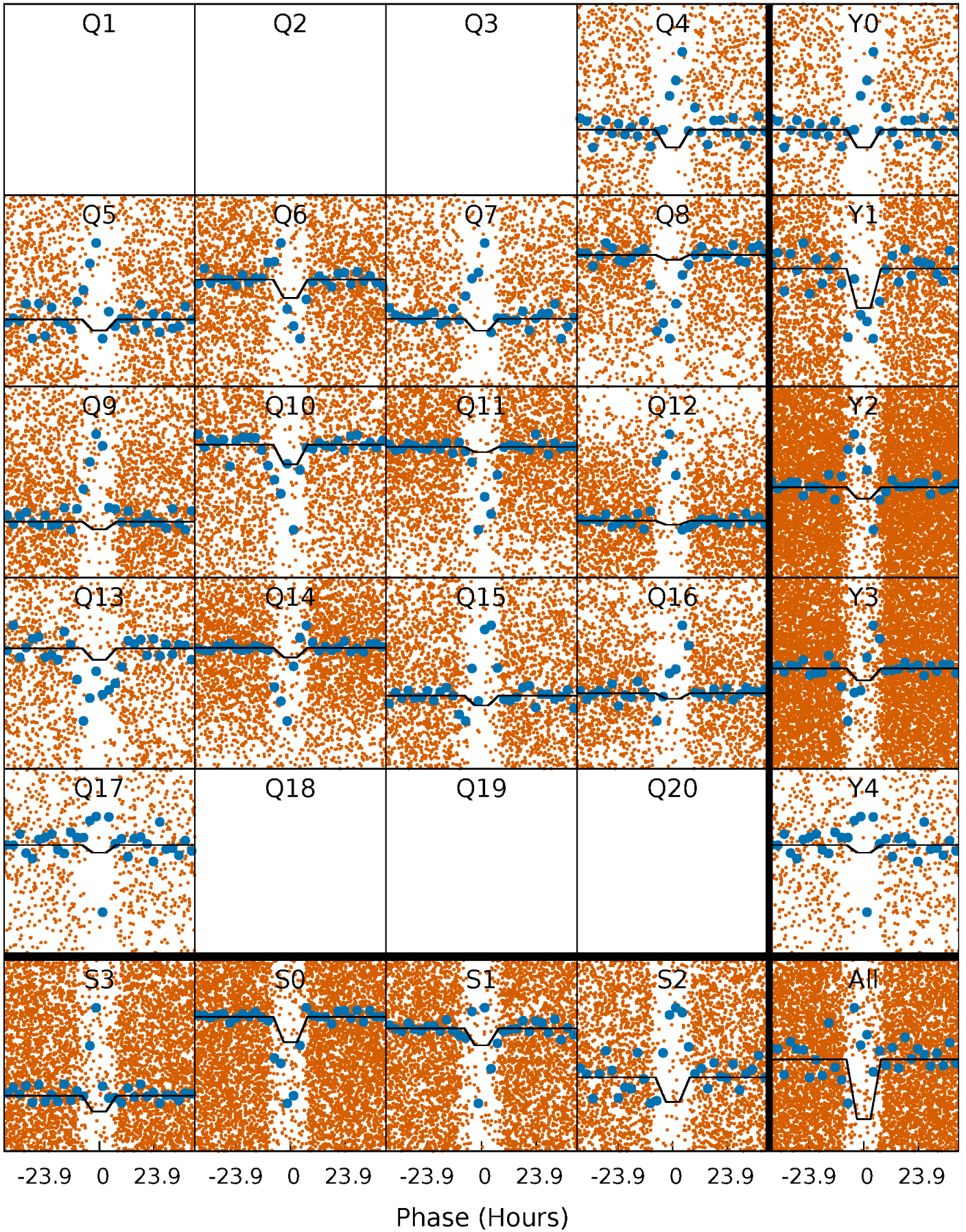
DV Quarter-Phased Transit Curves

TCE 004358582-01 P= 3.416300 Days $T_0=132.173809$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

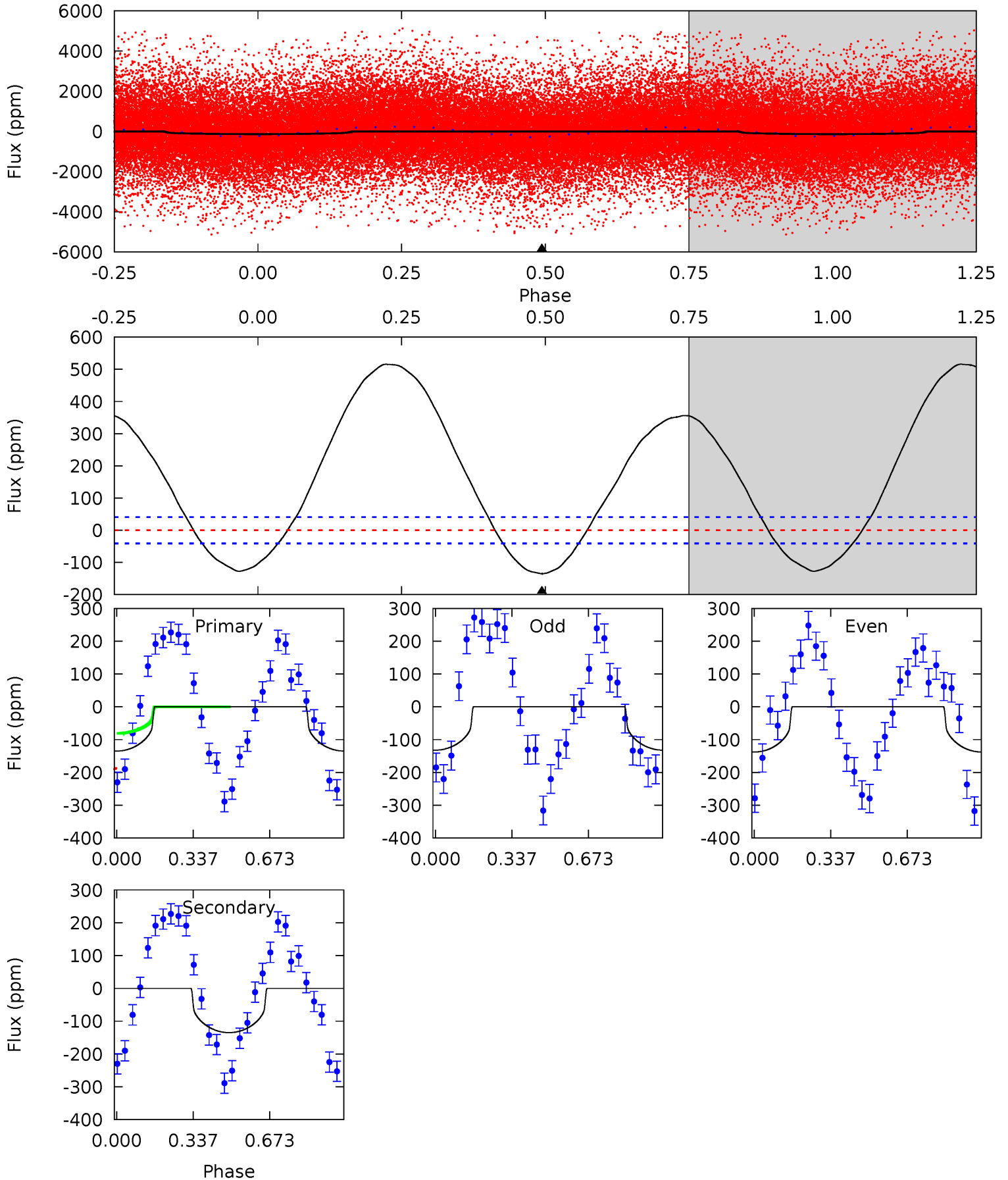
TCE 004358582-01 P= 3.415918 Days $T_0=132.230013$ (BKJD)



DV Model-Shift Uniqueness Test

004358582-01, P = 3.416300 Days, E = 132.173809 Days

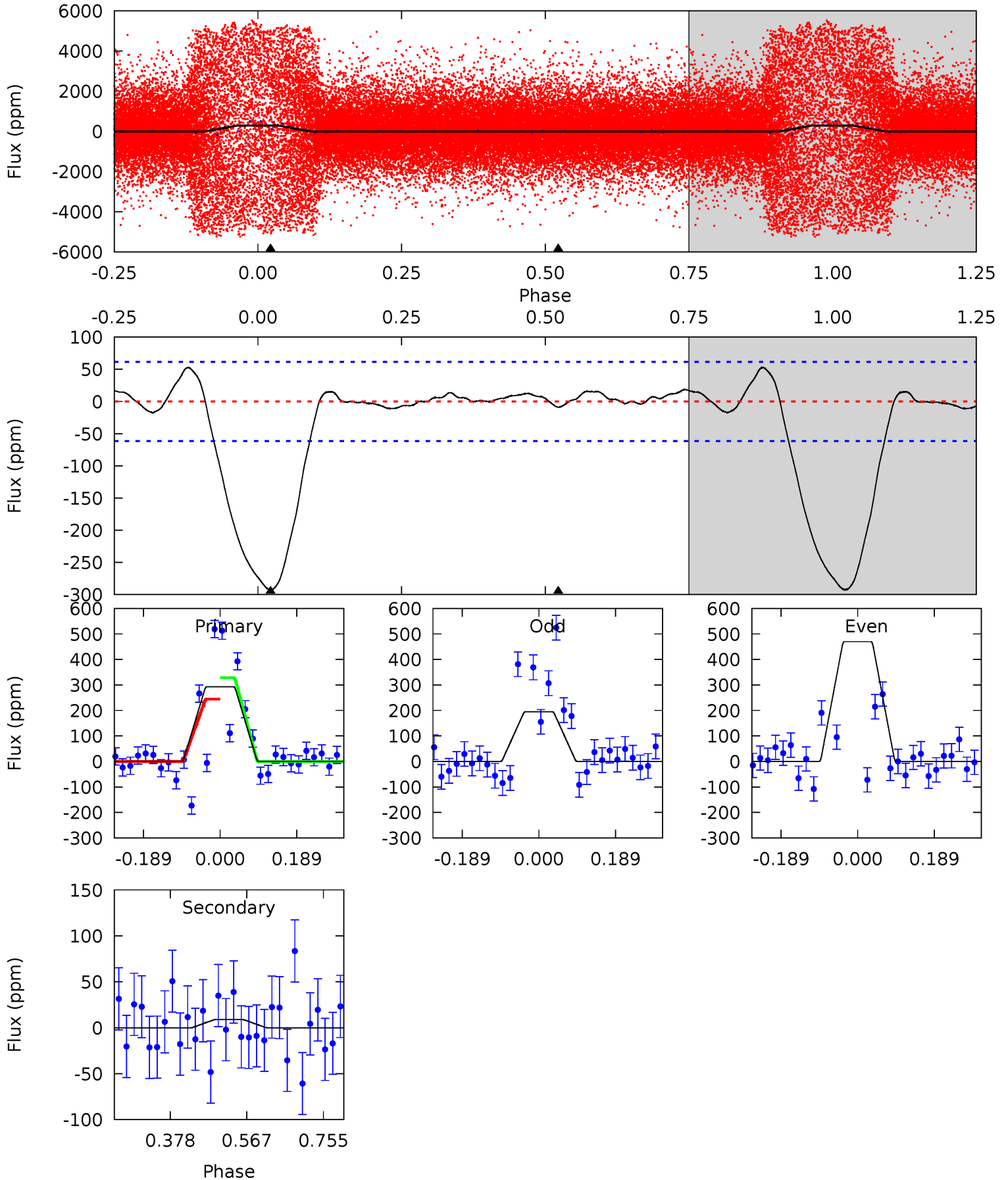
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	14.2	0	0	4.30	0.96	15.1	14.2	14.2	14.2	14.2	0.31	1.07	0.79	5.64



Alt Model-Shift Uniqueness Test

004358582-01, P = 3.415918 Days, E = 132.230013 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.1	0.64	0	0	4.43	1.31	0.76	21.1	21.1	0.64	0.64	9.80	0.13	0.15	0



Stellar Parameters For KIC 004358582

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5180^{+196}_{-179}	$4.568^{+0.045}_{-0.078}$	$-0.120^{+0.300}_{-0.300}$	$0.769^{+0.106}_{-0.071}$	$0.798^{+0.090}_{-0.073}$	$2.472^{+0.549}_{-0.641}$
	+4%/-3%	+1%/-2%	+250%/-250%	+14%/-9%	+11%/-9%	+22%/-26%
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 004358582-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-135 ± 10	$1.28^{+0.24}_{-0.23}$	1388^{+65}_{-57}	4650^{+434}_{-336}	77^{+39}_{-23}
Alt.	-9 ± 14	$0.79^{+0.26}_{-0.22}$	1394^{+69}_{-56}	3340^{+755}_{-6462}	12^{+28}_{-18}

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

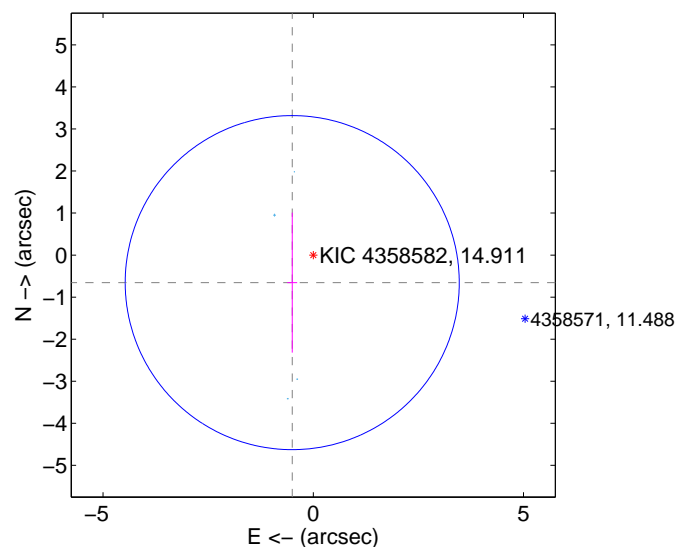
Supplemental centroid analysis for 004358582-01. Kepler magnitude: 14.91. Transit SNR 8.69

There are 4 quarters with good PRF difference image offsets

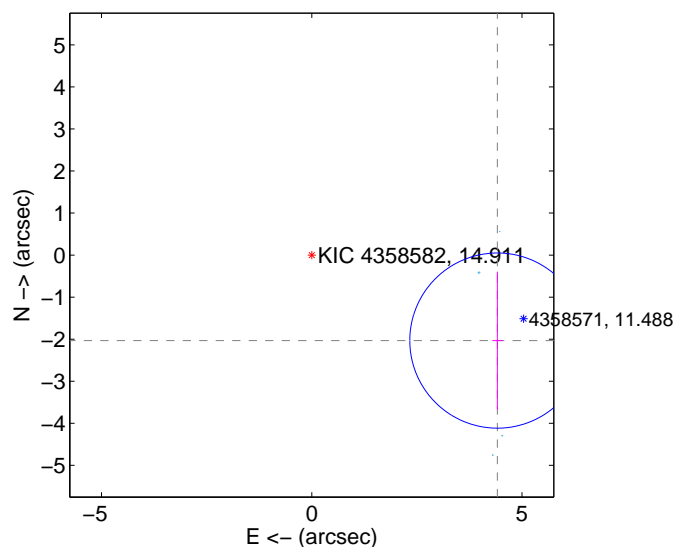
The OOT PRF centroid is offset from the target star catalog position by about 5.09 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.824 ± 1.324	0.62	0.500 ± 0.117	-0.655 ± 1.664
PRF-fit source offset from KIC position	4.860 ± 0.694	7.00	-4.414 ± 0.121	-2.033 ± 1.639
photometric centroid source offset	3.50 ± 0.08	44.88	-3.41 ± 0.08	-0.77 ± 0.04

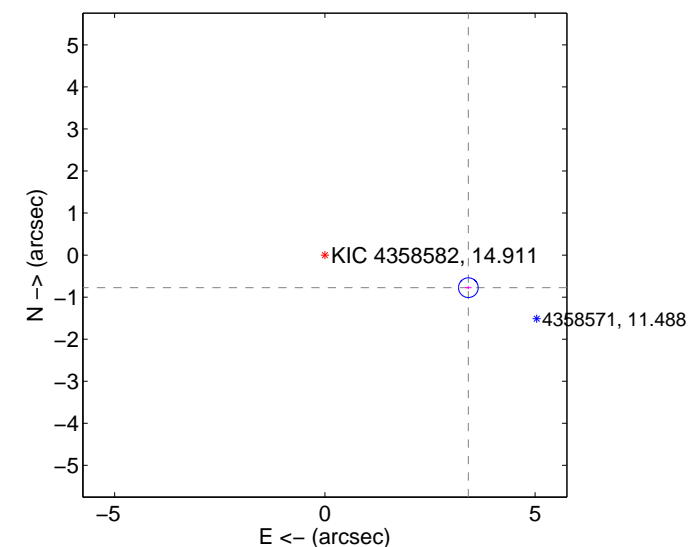
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

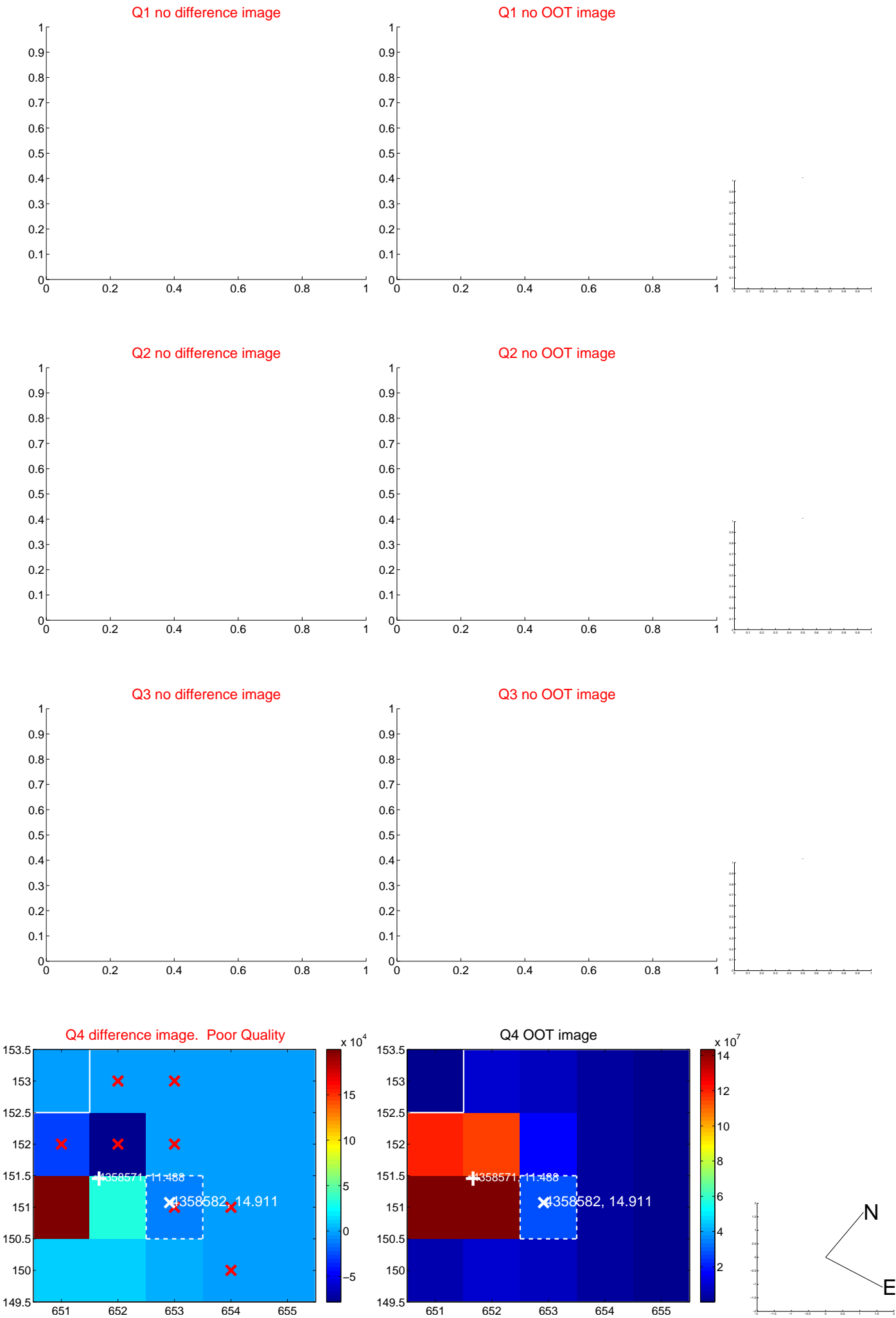


offset from photometric centroids

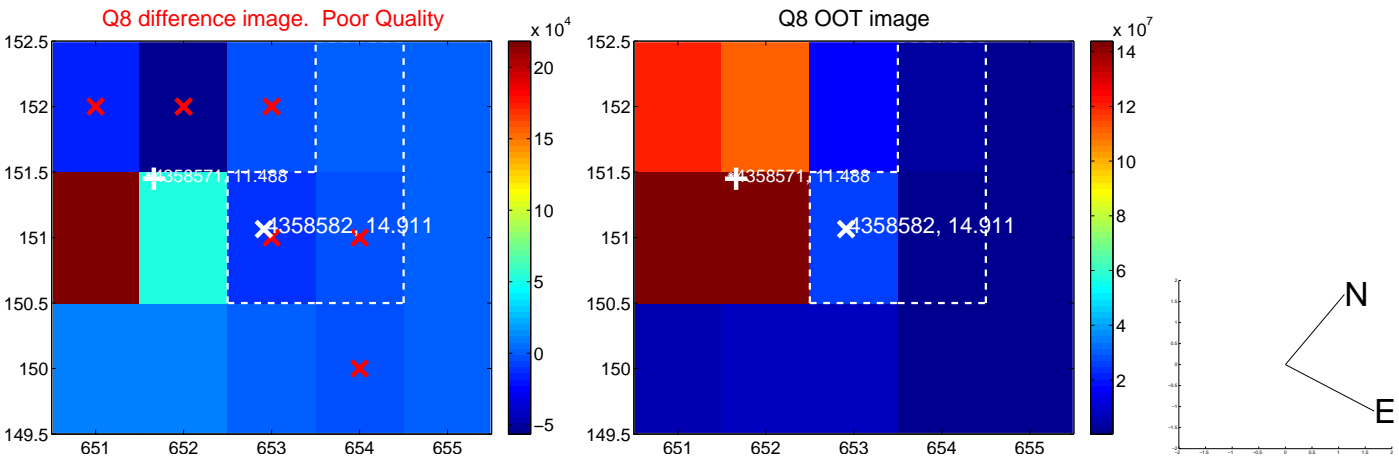
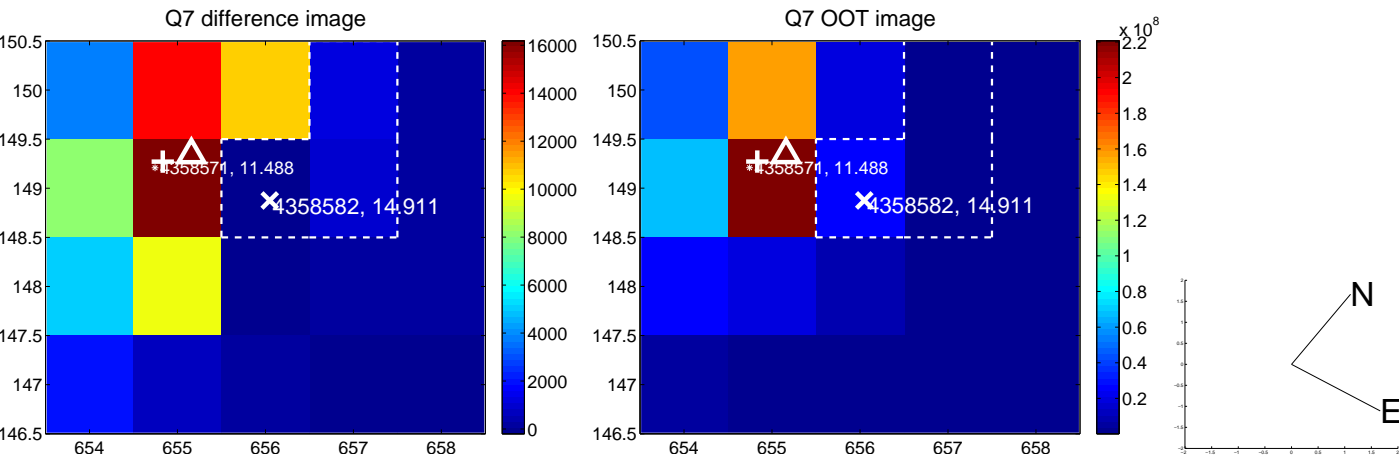
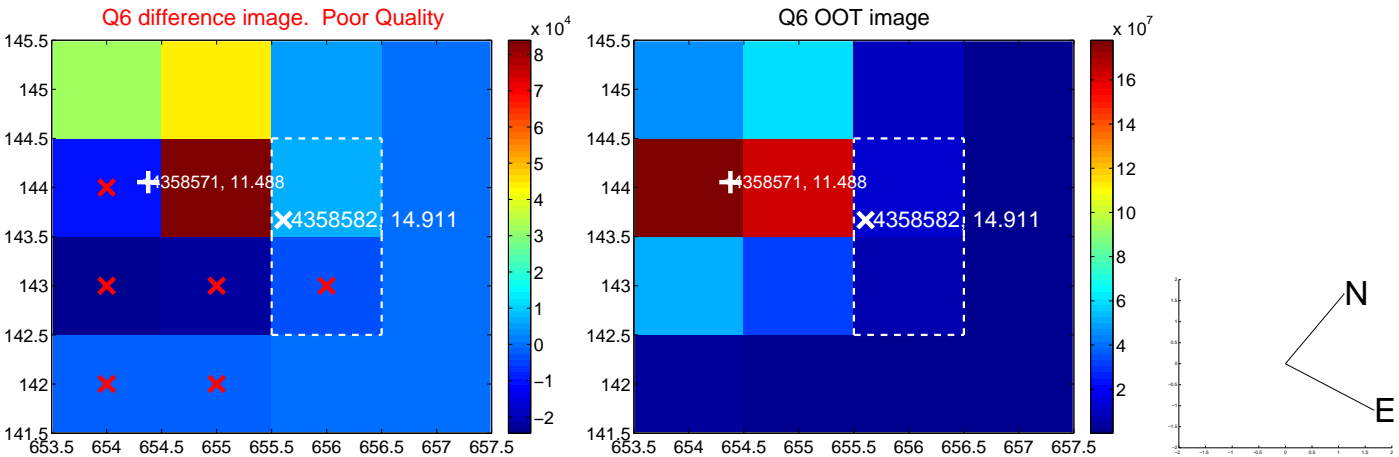
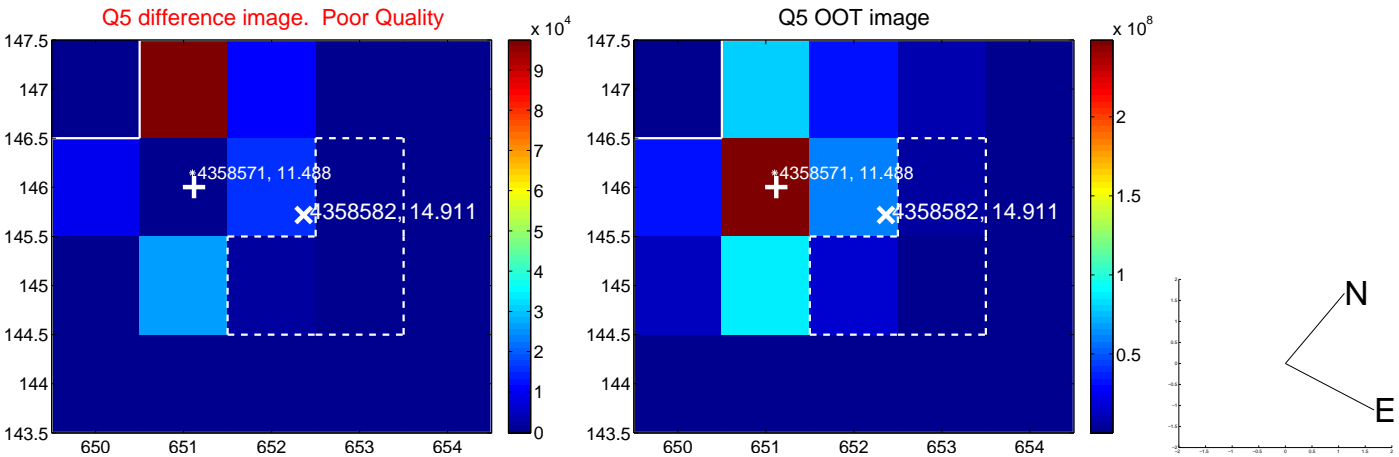


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

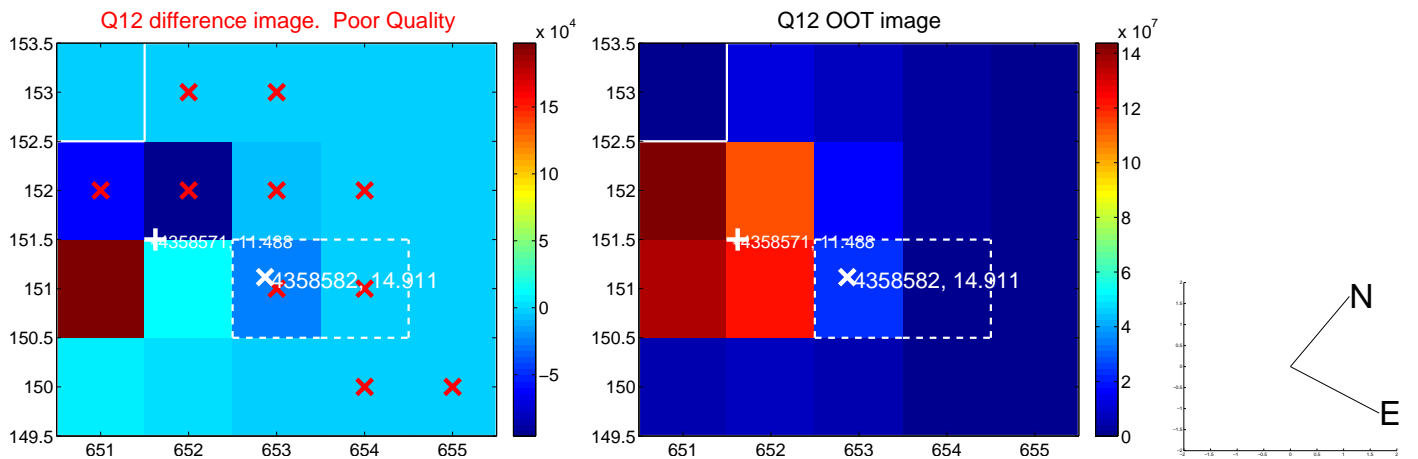
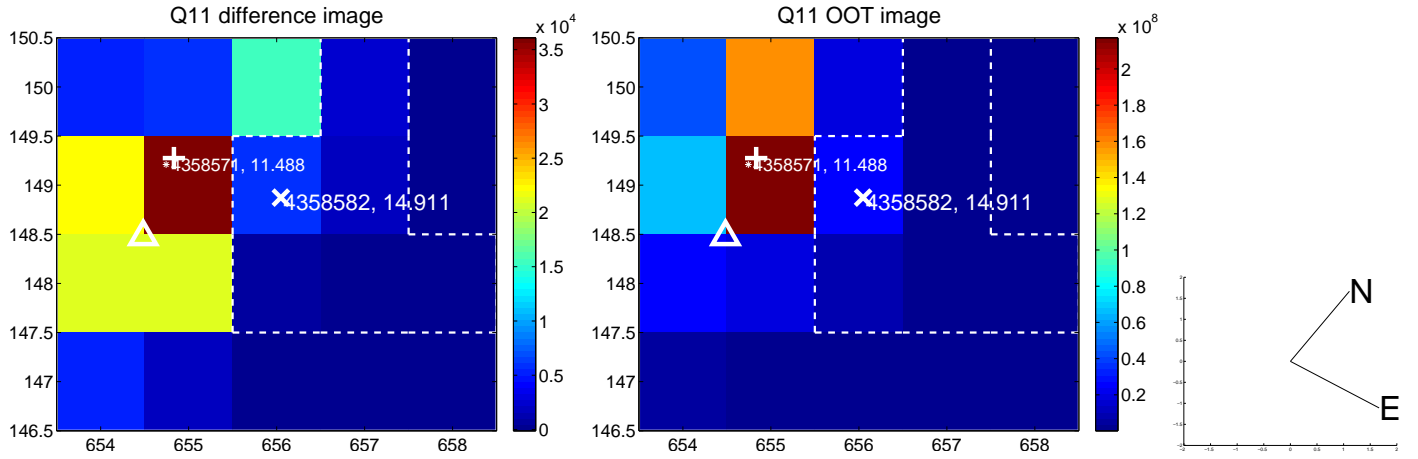
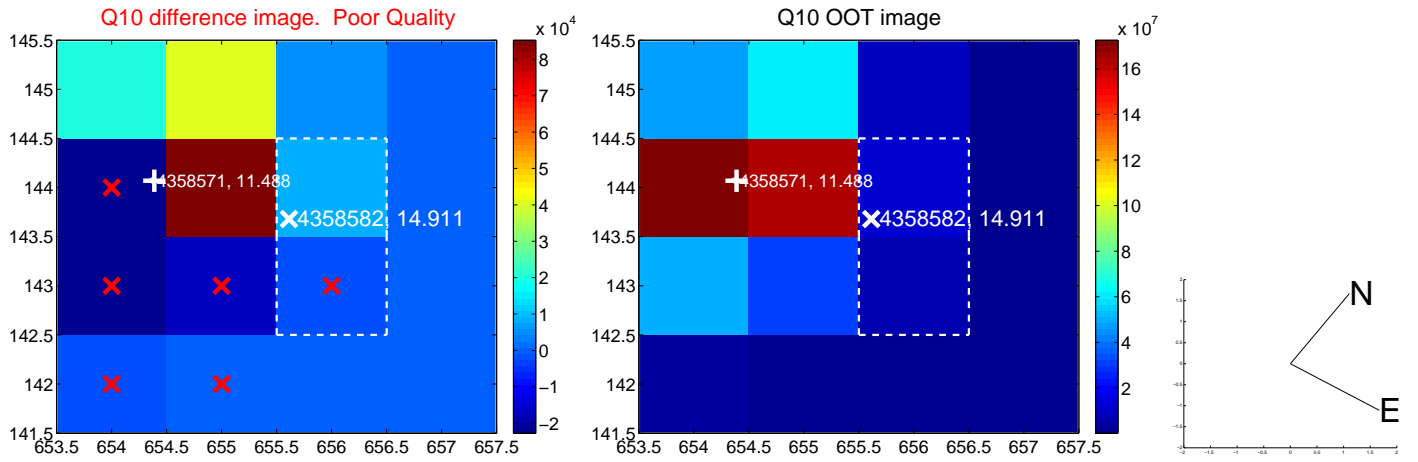
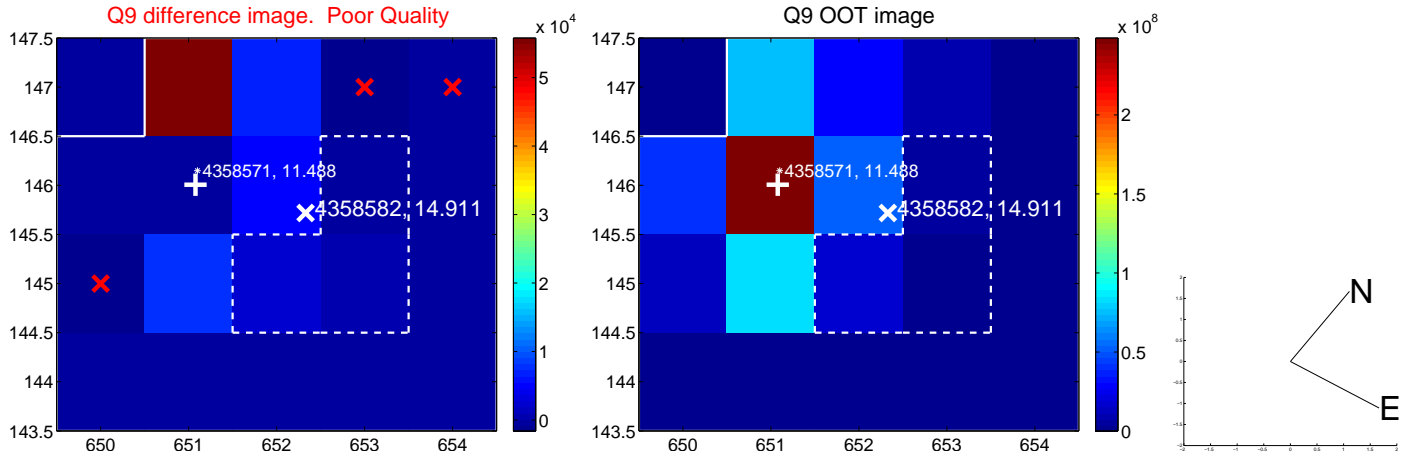
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



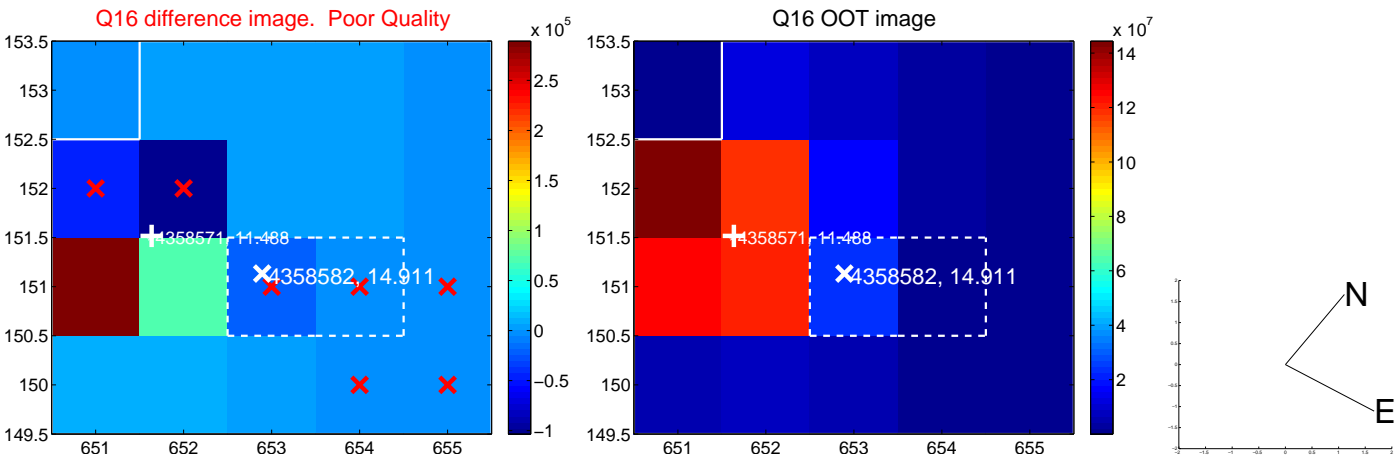
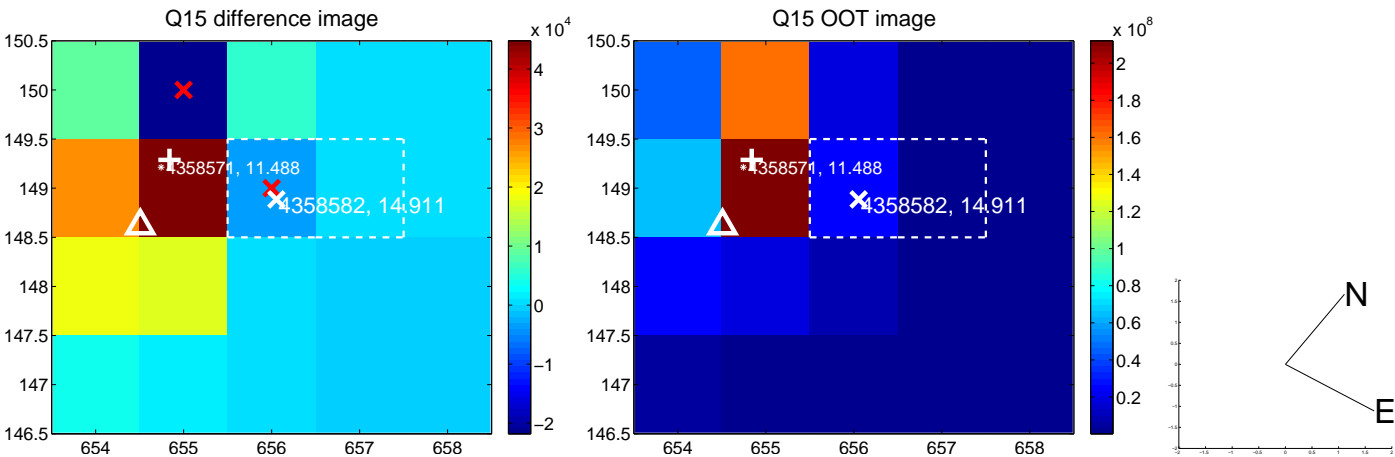
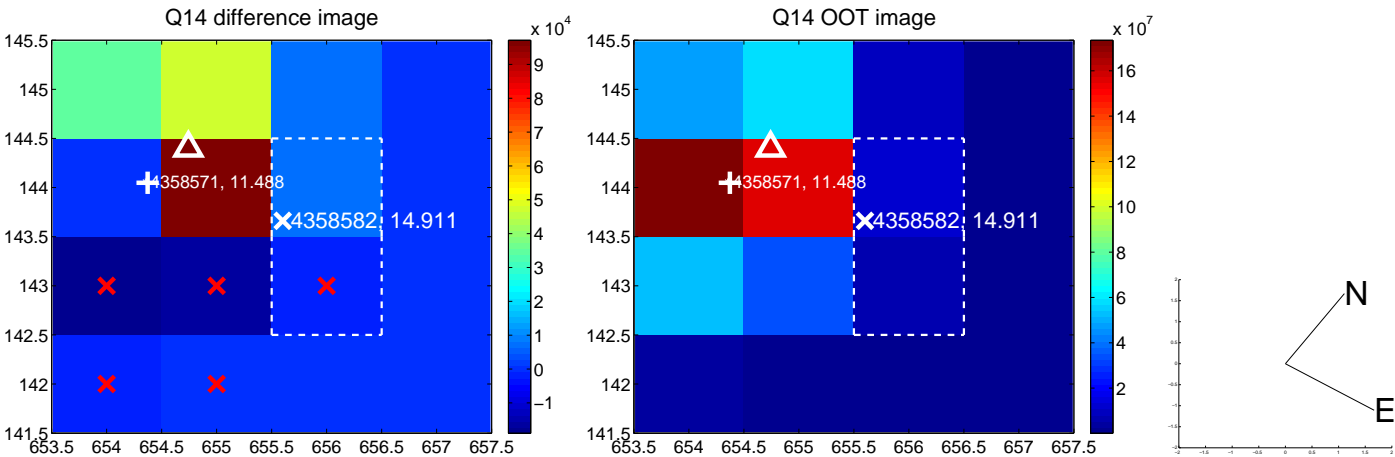
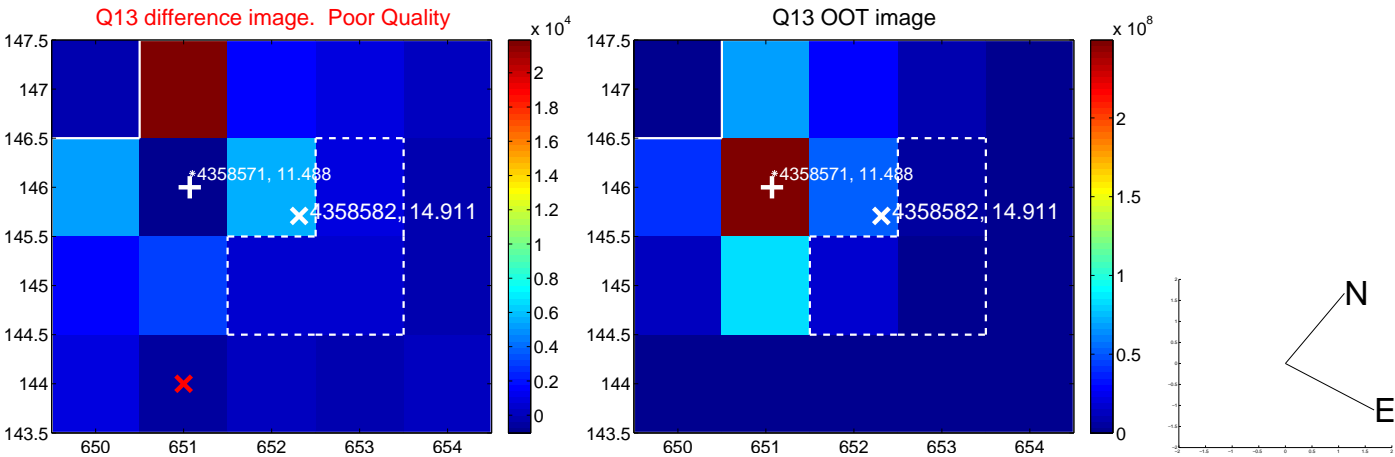
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



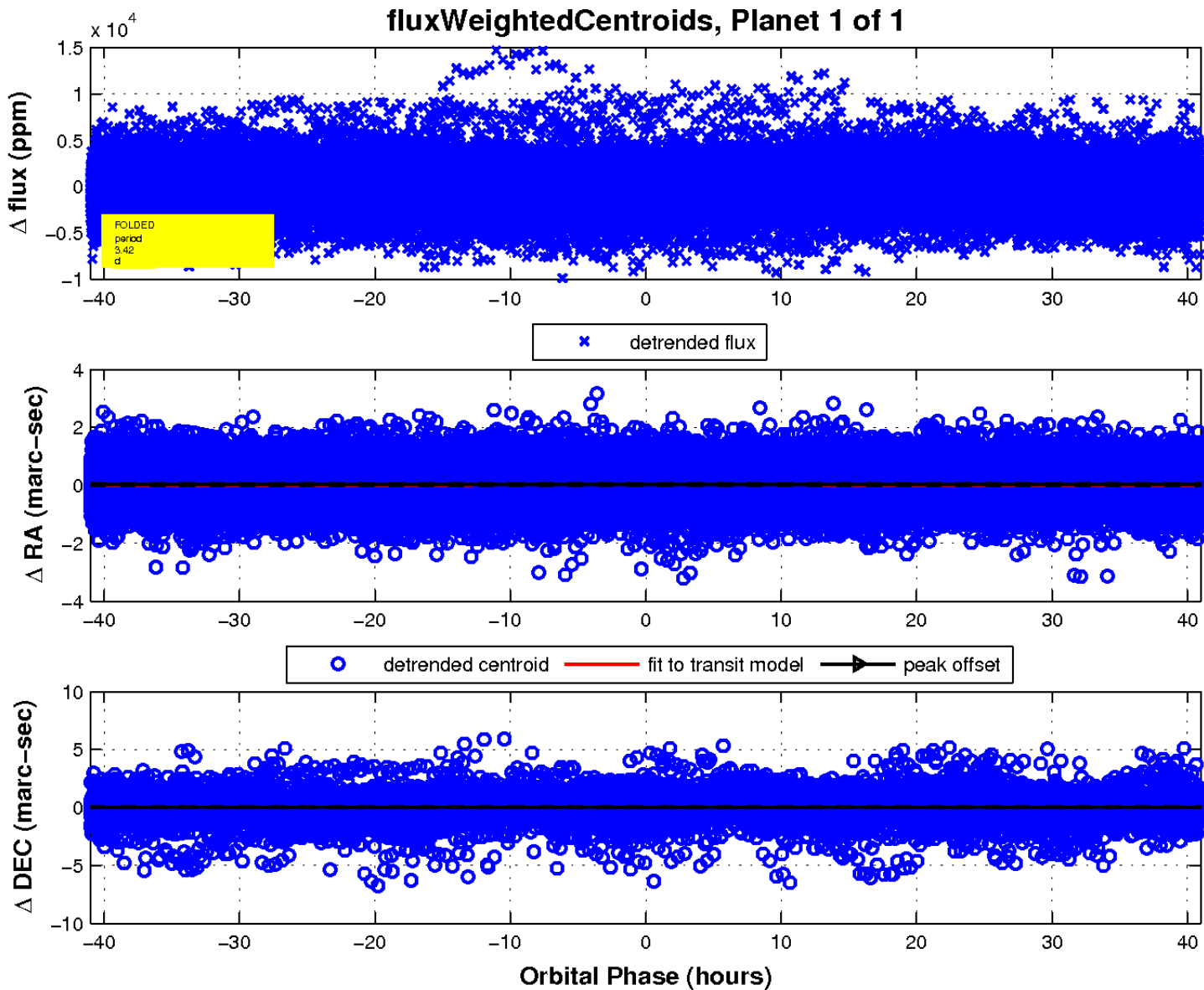
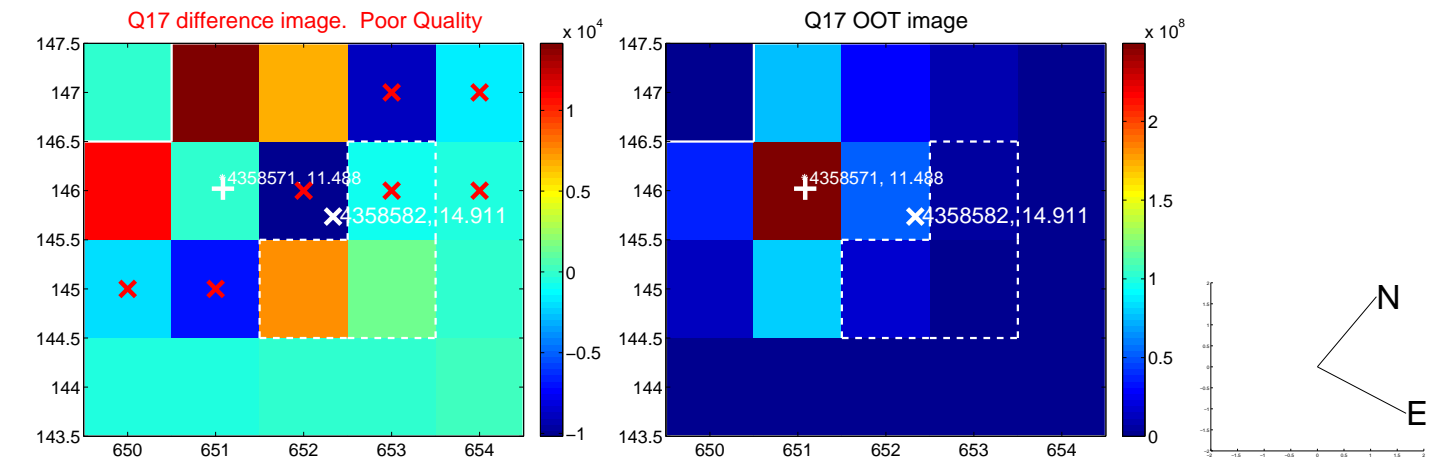
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UKIRT Image

