

KIC 010407086

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})
010407086-01	OBS	4568.01	0.933677	132.502002	16.0	5.096	14.5	12.3	2.17	5574	0.87	10751.60

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010407086-01	OBS	FP	0.00	0	0	1	1	HALO_GHOST—EPHEM_MATCH

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.

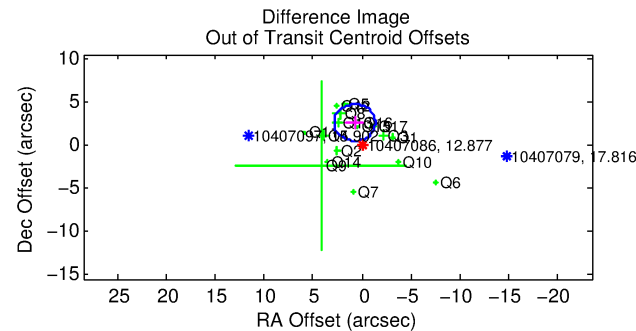
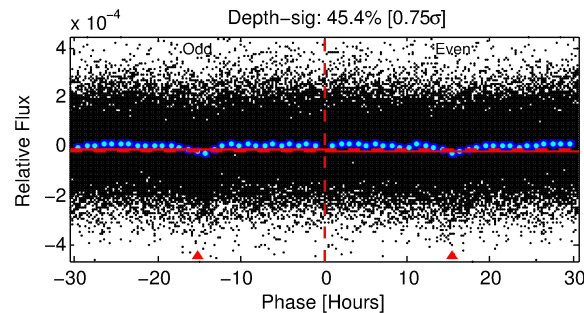
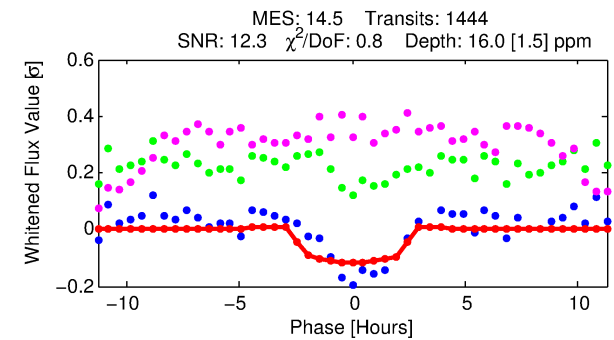
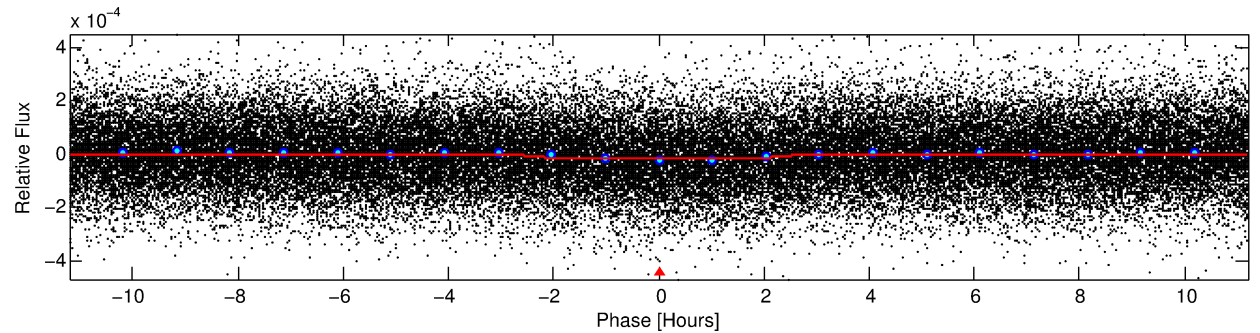
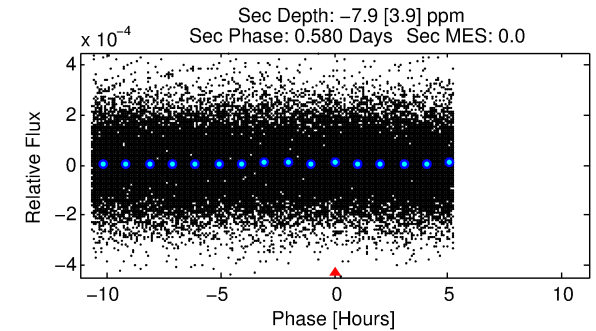
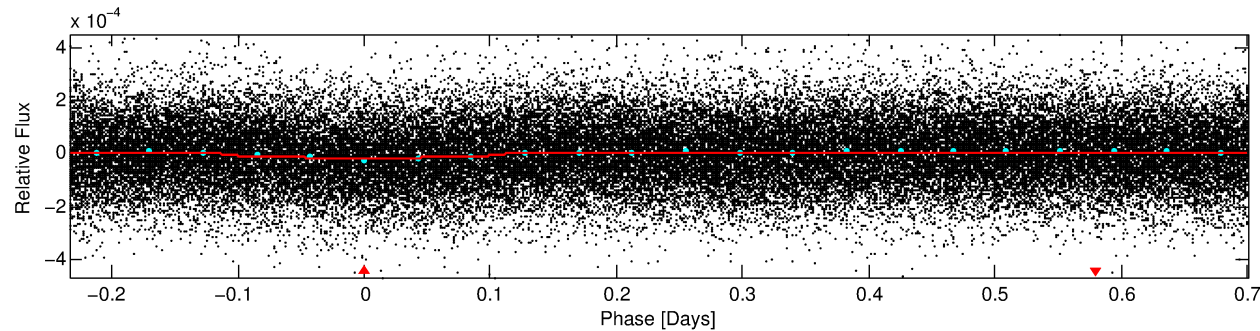
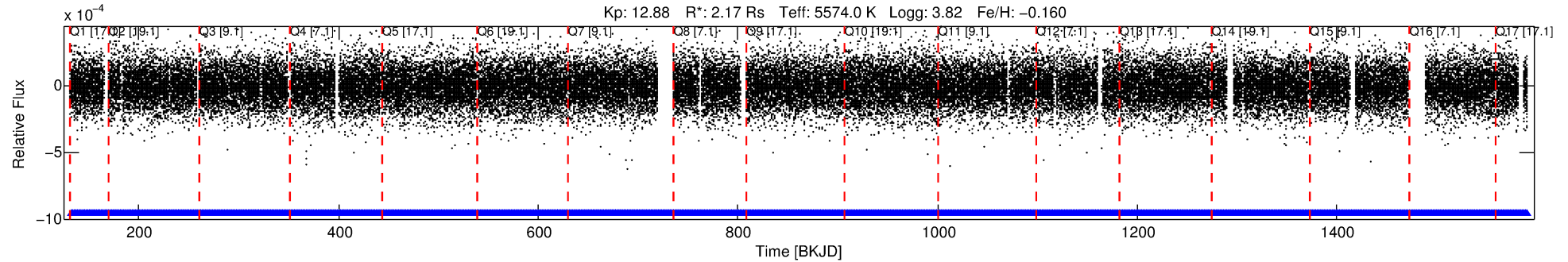
Ephemeris Match Information For 010407086-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
010407086-01	10407086	V2083-Cyg-pri	10342012	1:2	349.6	82	-31	6.90	12.88	12395.00	Direct-PRF	0	0.79	2.99

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 10407086 Candidate: 1 of 1 Period: 0.934 d
KOI: K04568.01 Corr: 0.861



DV Fit Results:

Period = 0.93368 [0.00001] d
Epoch = 132.5020 [0.0046] BKJD
Rp/R* = 0.0036 [0.0031]
a/R* = 1.49 [2.95]
b = 0.29 [11.35]
Seff = 10751.60 [5516.22]
Teq = 2597 [333] K
Rp = 0.87 [0.79] Re
a = 0.0195 [0.0063] AU
Ag = N/A
Teffp = N/A

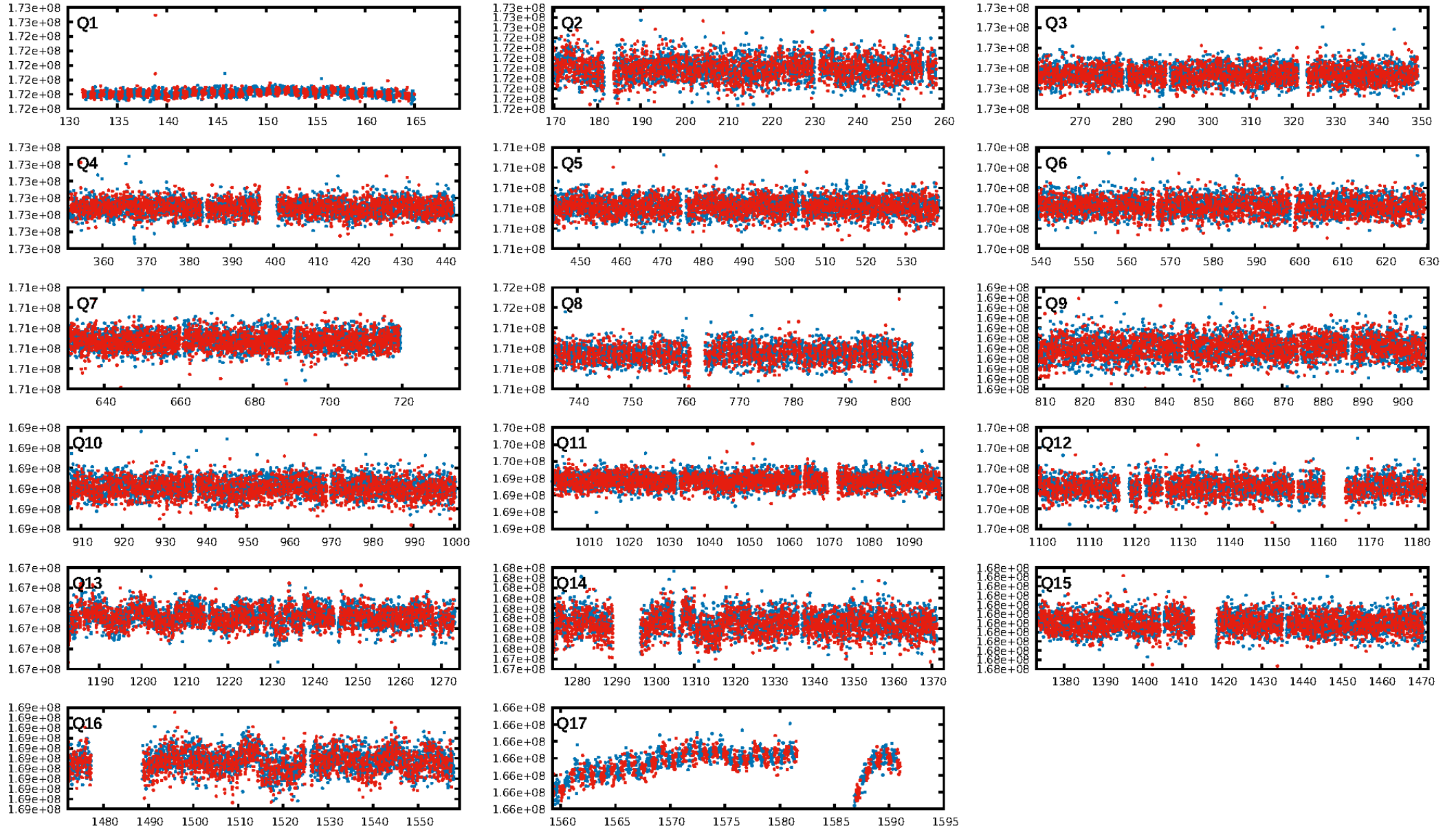
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 7.24e-36
RollingBand-fgt: 1.00 [1378/1378]
GhostDiagnostic-chr: -0.1925
Centroid-sig: 0.0%
Centroid-so: 2.065 arcsec [2.78σ]
OotOffset-rm: 2.711 arcsec [3.85σ]
KicOffset-rm: 2.694 arcsec [3.53σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.12 [2/17]
DiffImageOverlap-fno: 1.00 [17/17]

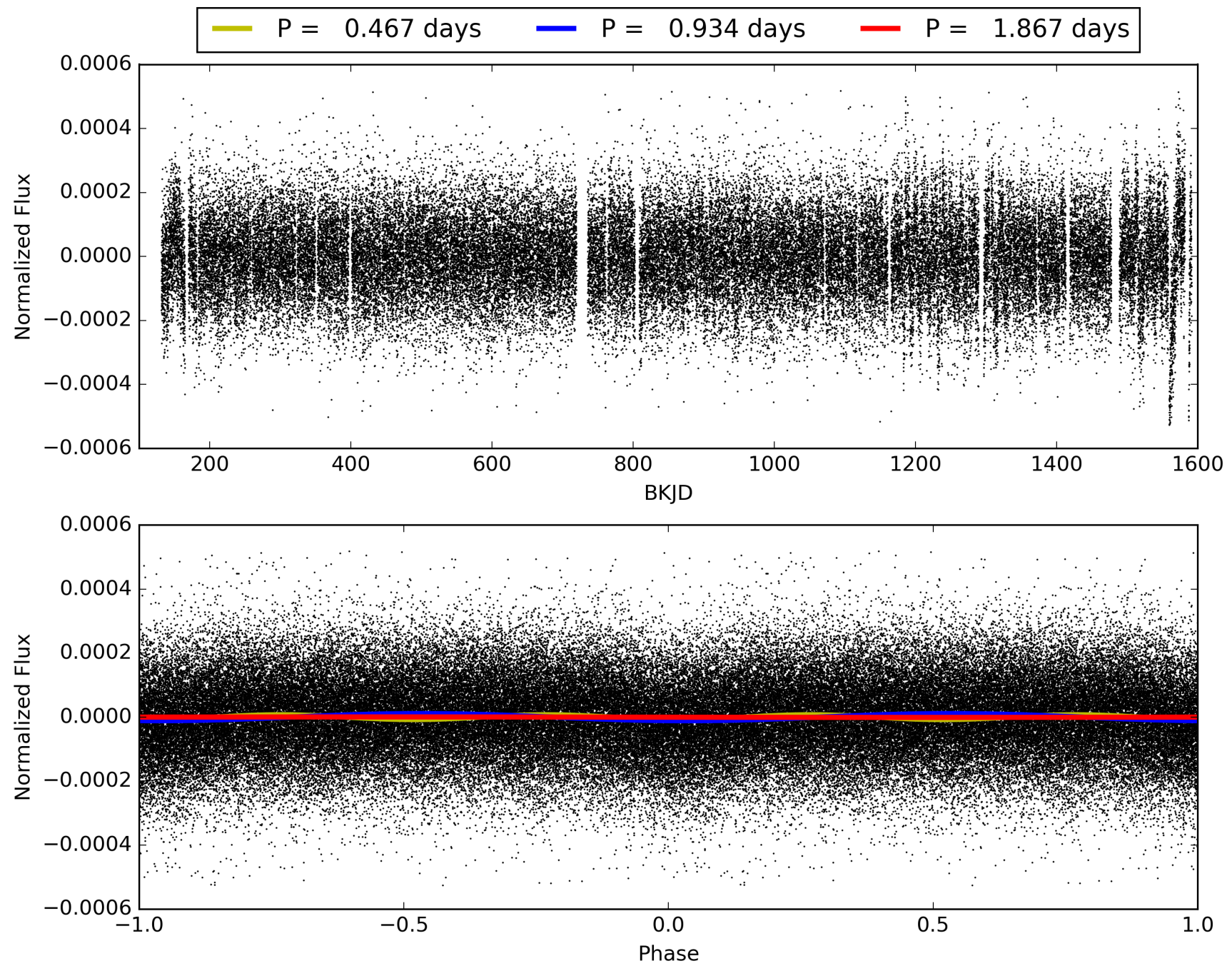
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:14:14 Z

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

TCE 010407086-01, PDC Light Curves

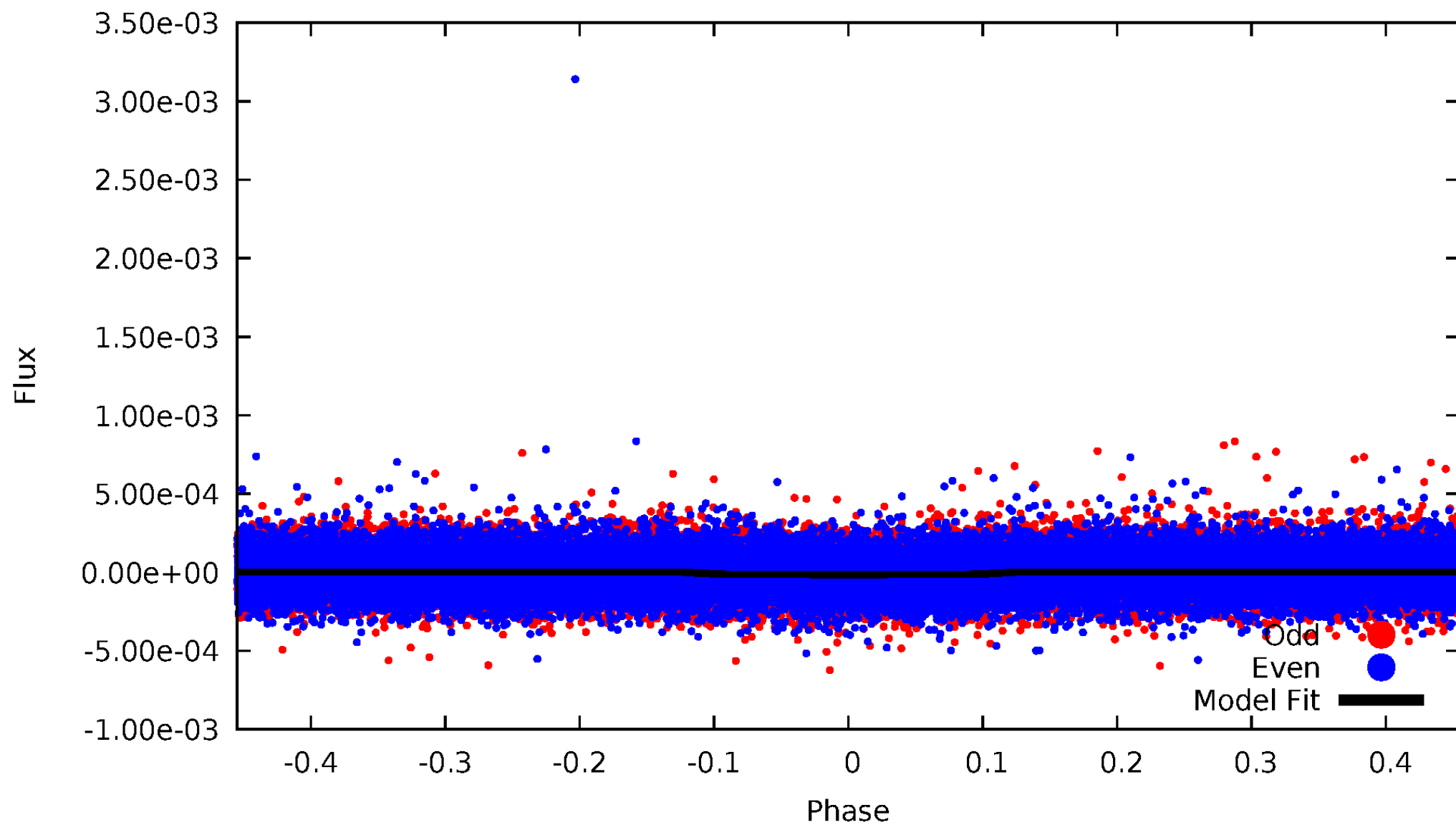


TCE 010407086-01



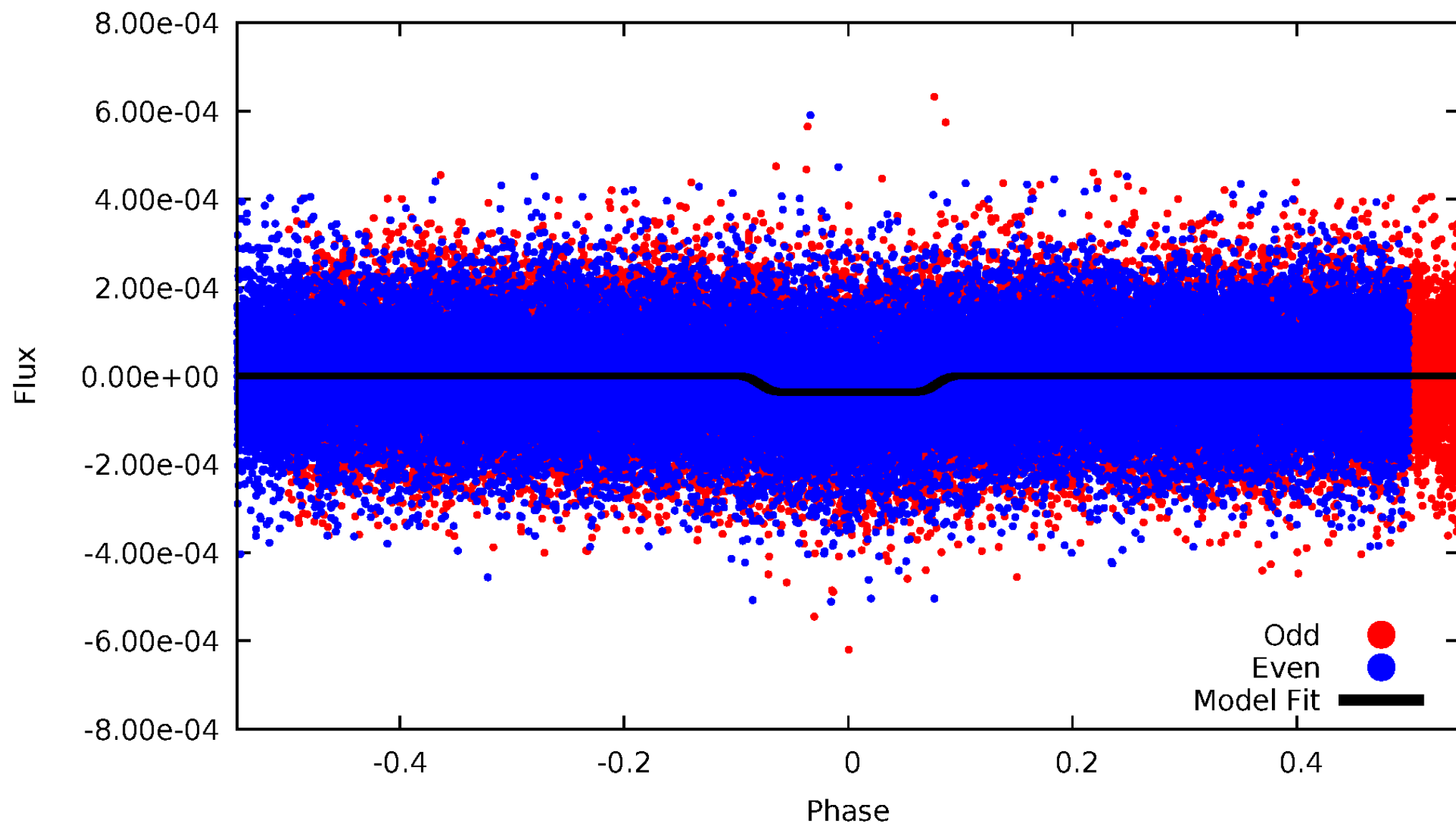
DV Odd/Even

TCE 010407086-01



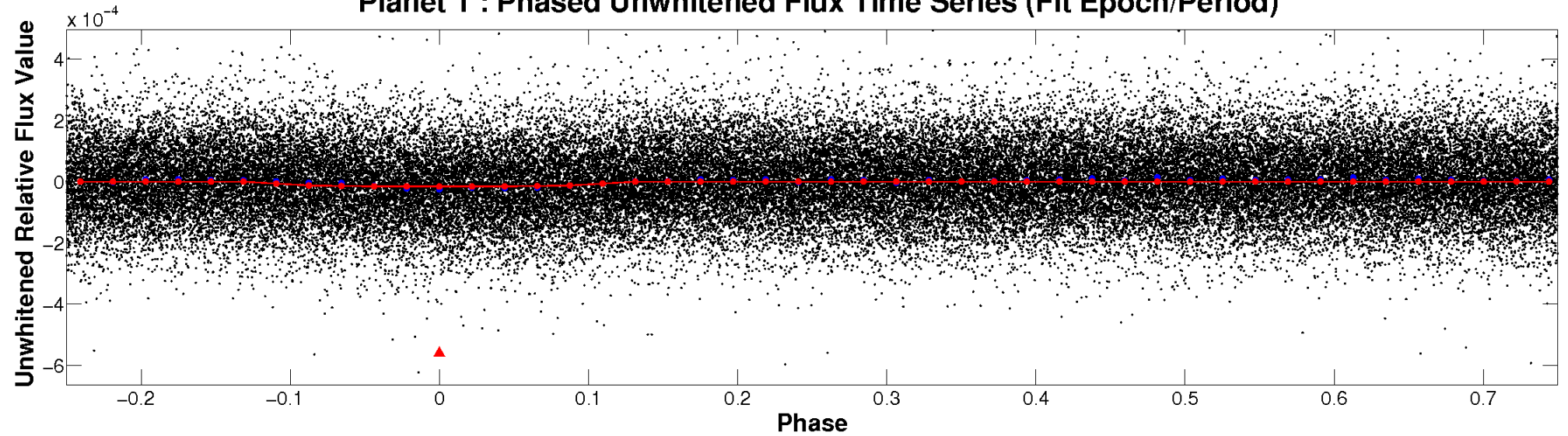
ALT Odd/Even

TCE 010407086-01

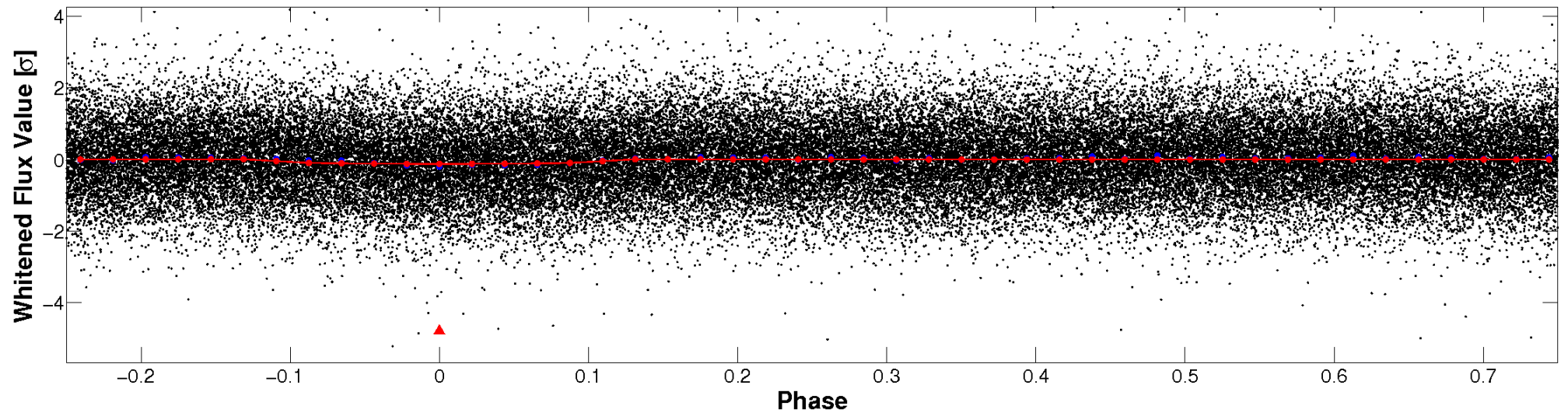


Non-Whitened Vs. Whitened Light Curve

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

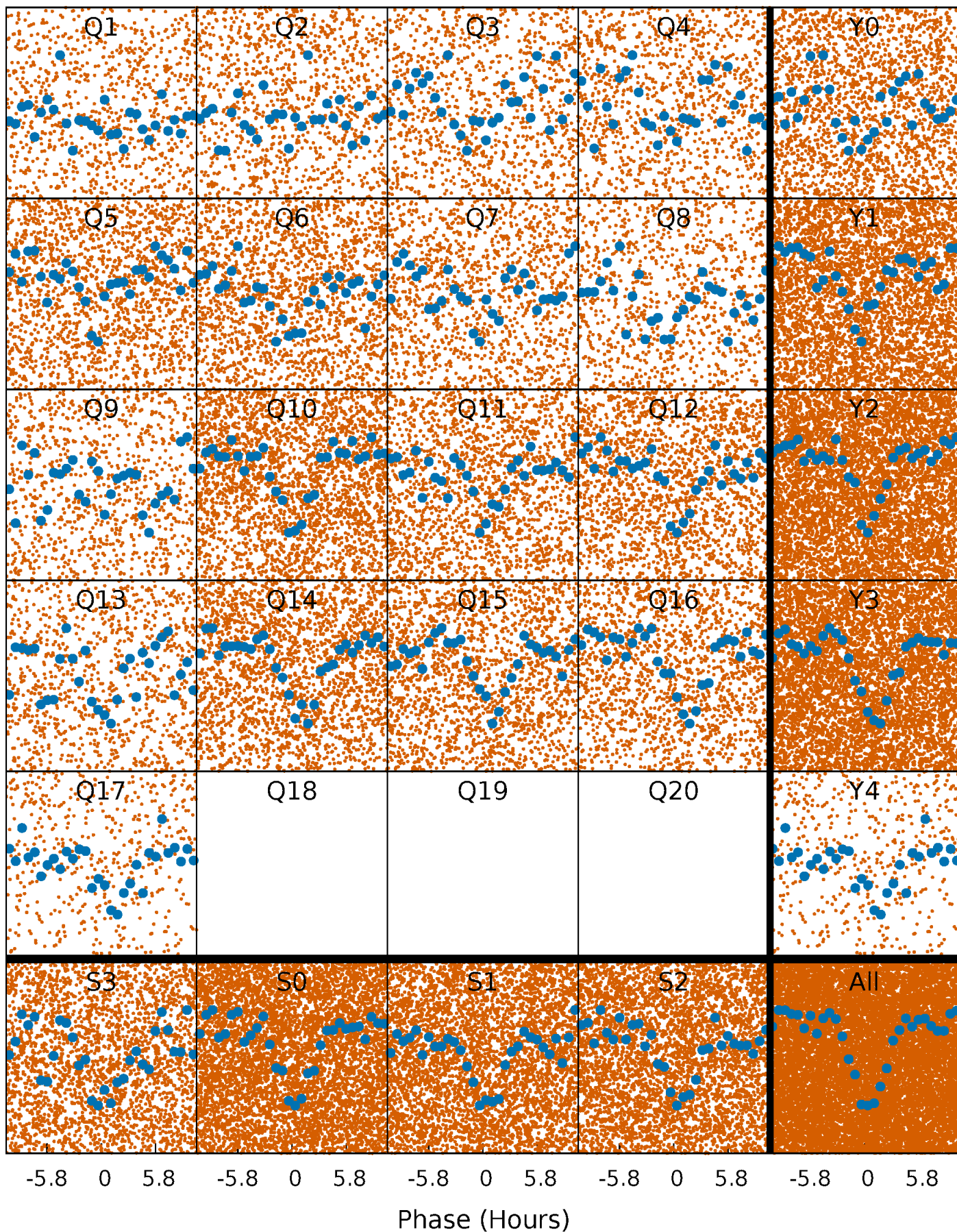


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



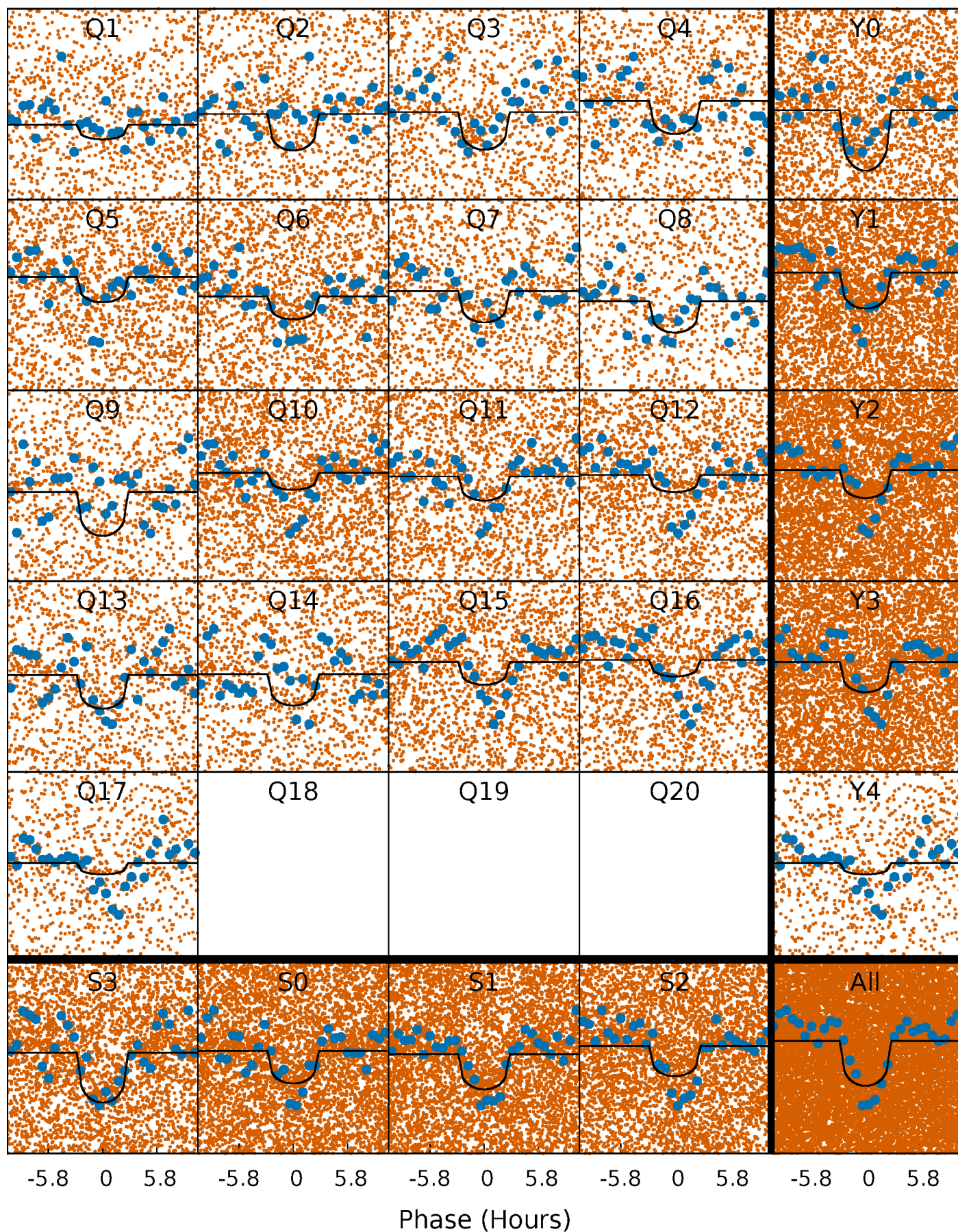
PDC Quarter-Phased Transit Curves

TCE 010407086-01 P= 0.933677 Days $T_0=132.502002$ (BKJD)



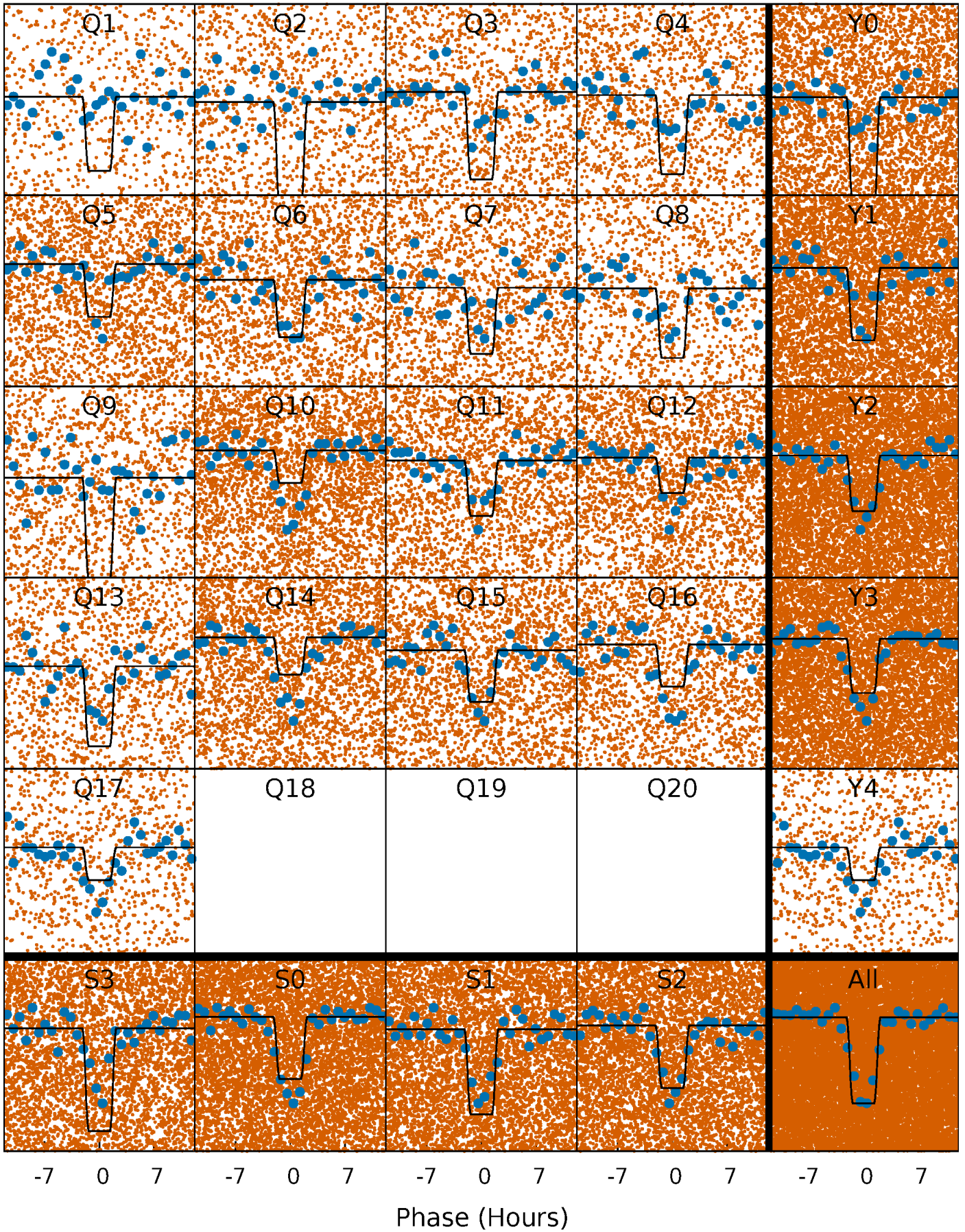
DV Quarter-Phased Transit Curves

TCE 010407086-01 P= 0.933677 Days $T_0=132.502002$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

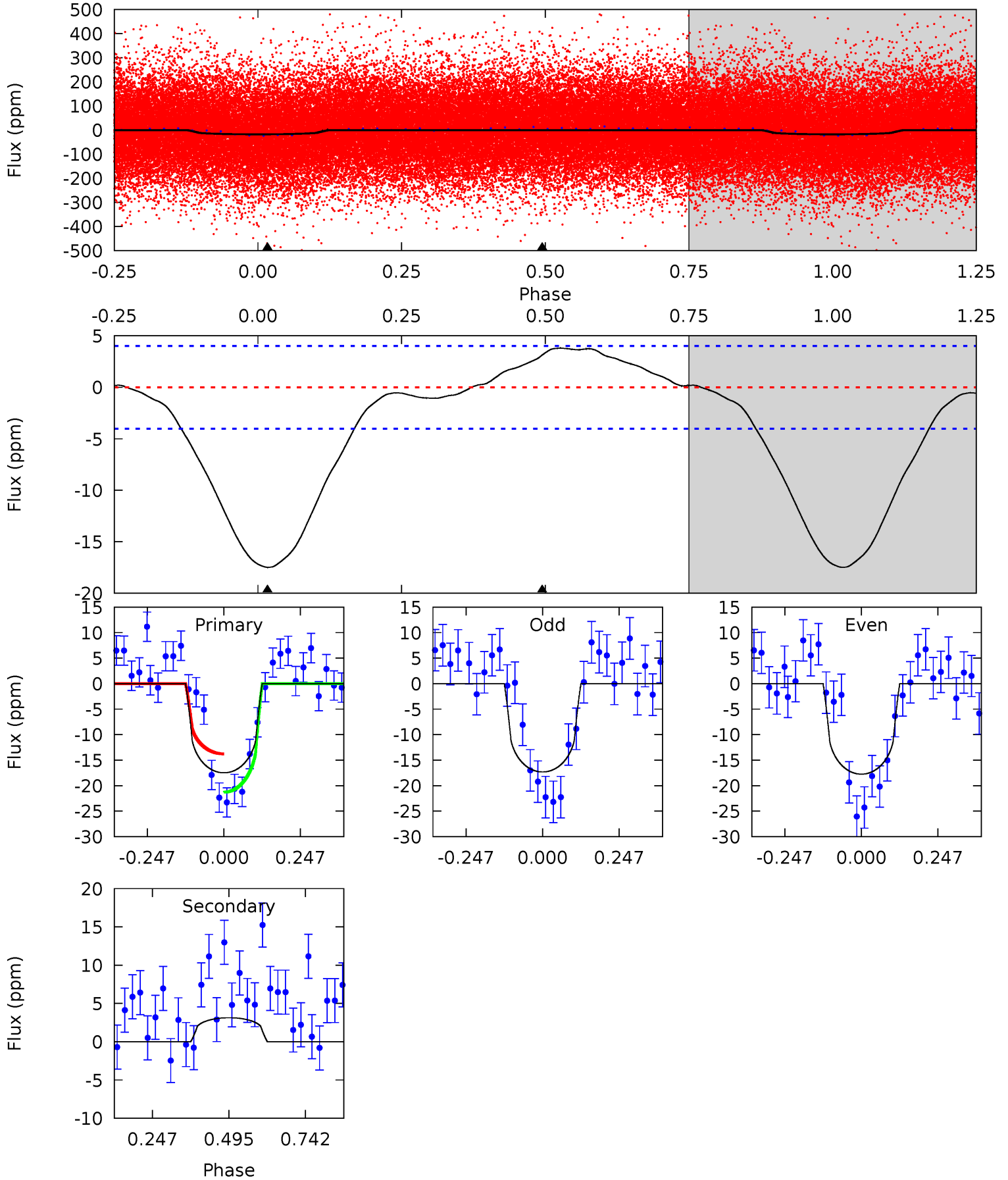
TCE 010407086-01 P= 0.933759 Days $T_0=132.439770$ (BKJD)



DV Model-Shift Uniqueness Test

010407086-01, P = 0.933677 Days, E = 130.634648 Days

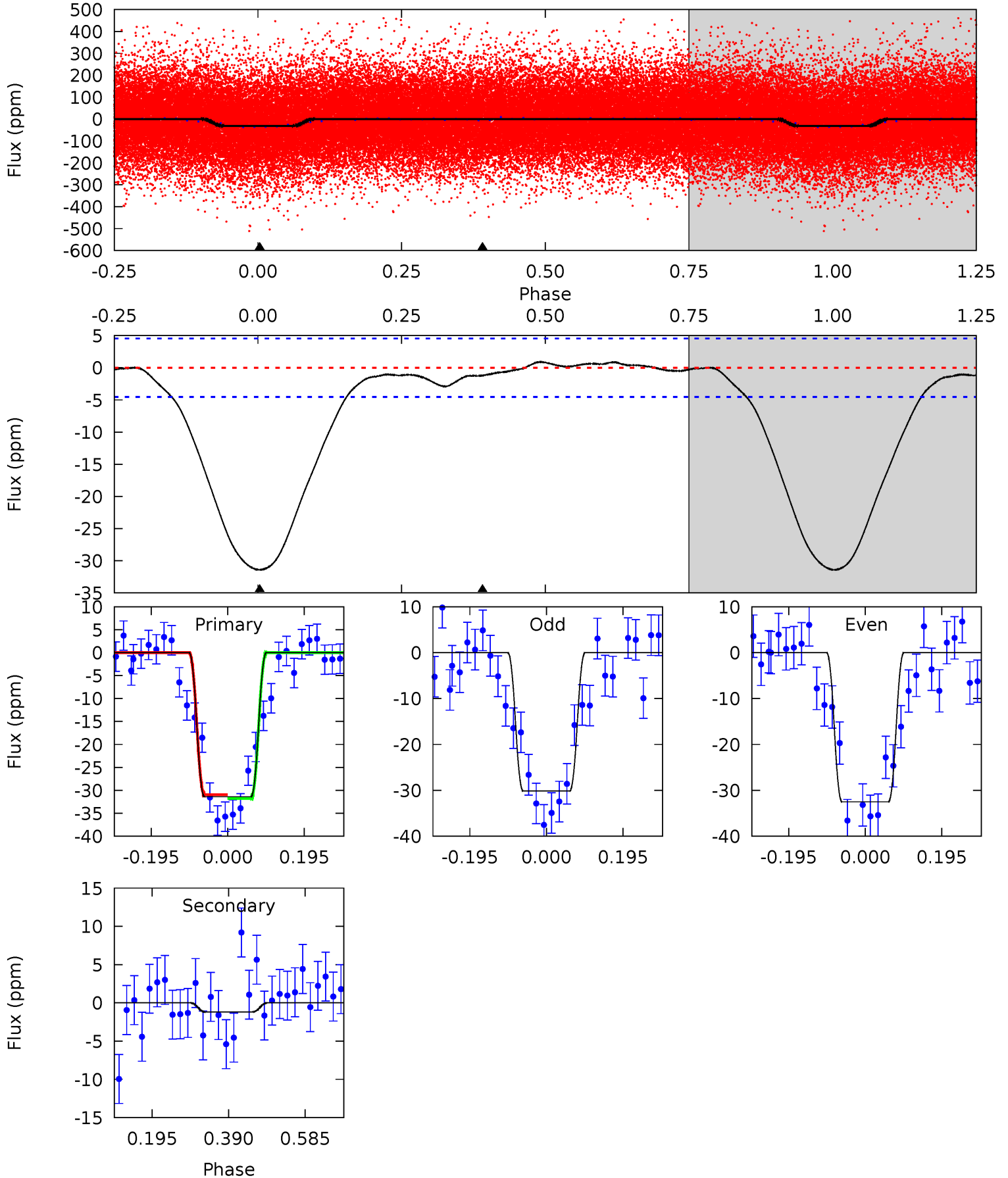
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.0	-3.42	0	0	4.37	1.16	0.43	19.0	19.0	-3.42	-3.42	0.24	0.94	0.18	4.09



Alt Model-Shift Uniqueness Test

010407086-01, P = 0.933759 Days, E = 131.506011 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
30.6	1.17	0	0	4.42	1.30	0.42	30.6	30.6	1.17	1.17	1.15	0.99	0.03	0.39



Stellar Parameters For KIC 010407086

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5574^{+168}_{-140}	$3.818^{+0.287}_{-0.123}$	$-0.160^{+0.350}_{-0.250}$	$2.174^{+0.410}_{-0.762}$	$1.134^{+0.148}_{-0.204}$	$0.155^{+0.291}_{-0.056}$
	+3%/-3%	+8%/-3%	+219%/-156%	+19%/-35%	+13%/-18%	+188%/-36%
Source	PHO1	FLK73	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 010407086-01 / KOI 4568.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	3 ± 1	$0.89^{+0.69}_{-0.56}$	3599^{+218}_{-314}	-4280^{+504}_{-1783}	$-0.798^{+0.550}_{-5.420}$
Alt.	-1 ± 1	$1.38^{+0.79}_{-0.68}$	3604^{+234}_{-310}	-3155^{+6442}_{-322}	$0.118^{+0.430}_{-0.102}$

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

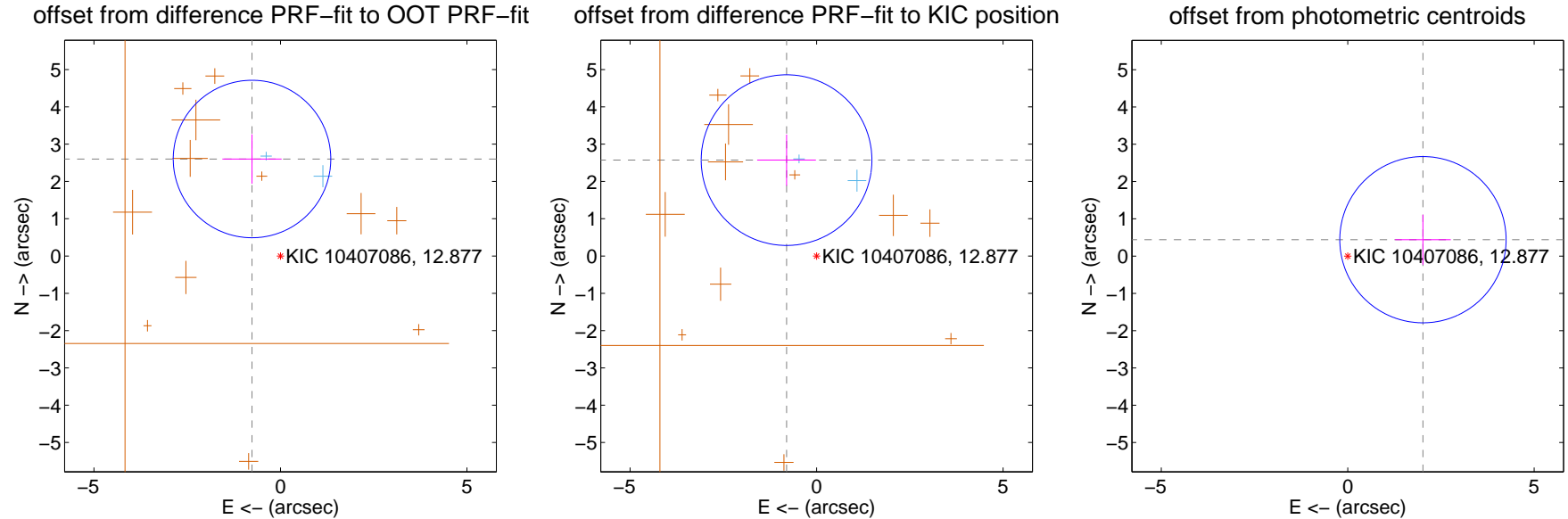
DV Centroid Data

Supplemental centroid analysis for 010407086-01. Kepler magnitude: 12.88. Transit SNR 12.32

There are 2 quarters with good PRF difference image offsets

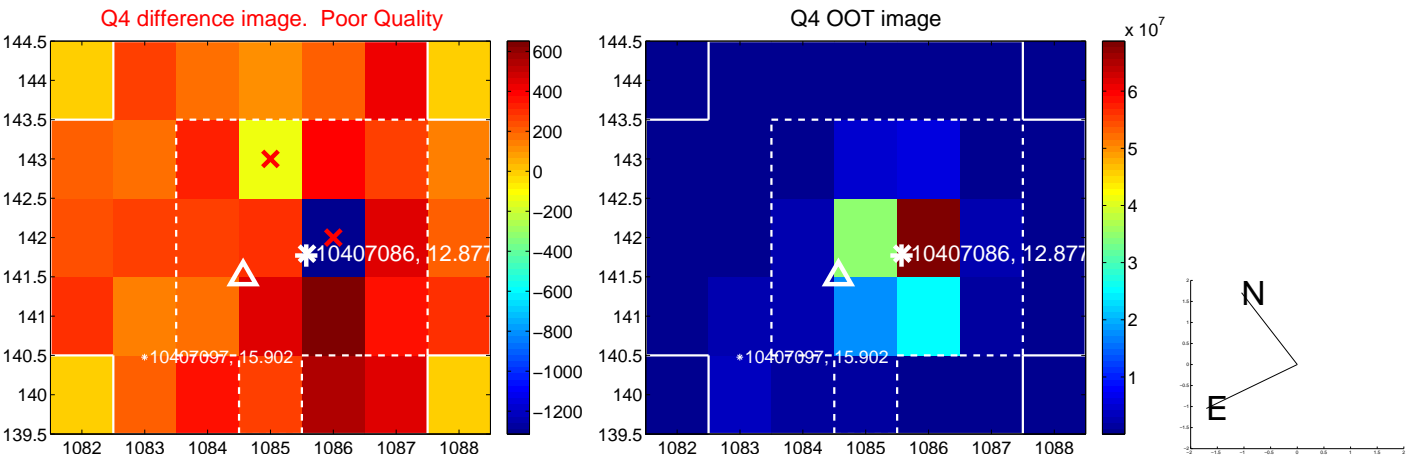
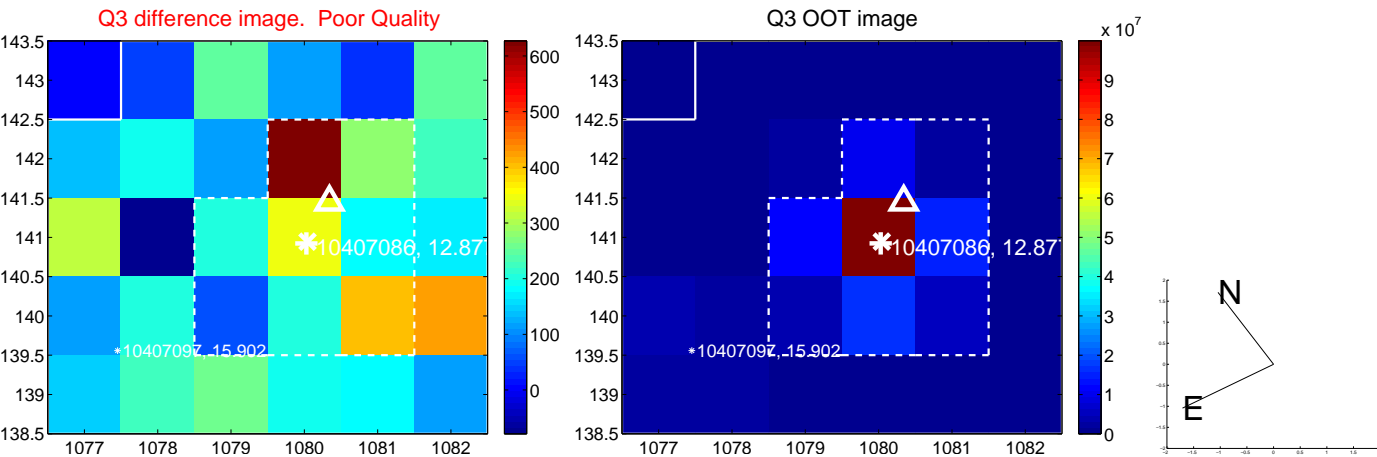
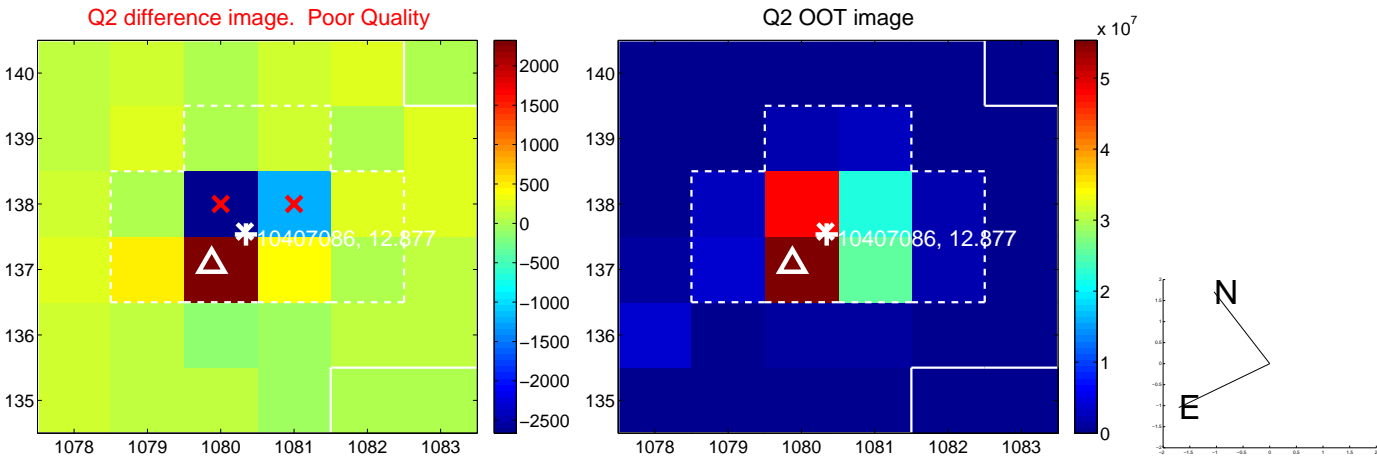
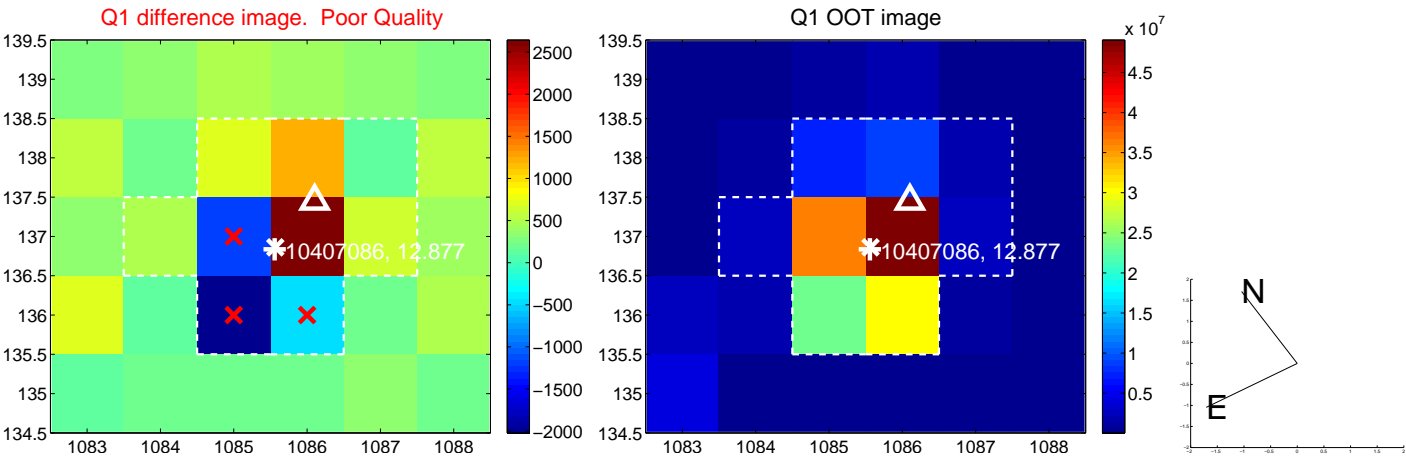
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.711 ± 0.704	3.85	0.762 ± 0.793	2.601 ± 0.661
PRF-fit source offset from KIC position	2.694 ± 0.763	3.53	0.805 ± 0.788	2.571 ± 0.685
photometric centroid source offset	2.06 ± 0.74	2.78	-2.02 ± 0.75	0.44 ± 0.67

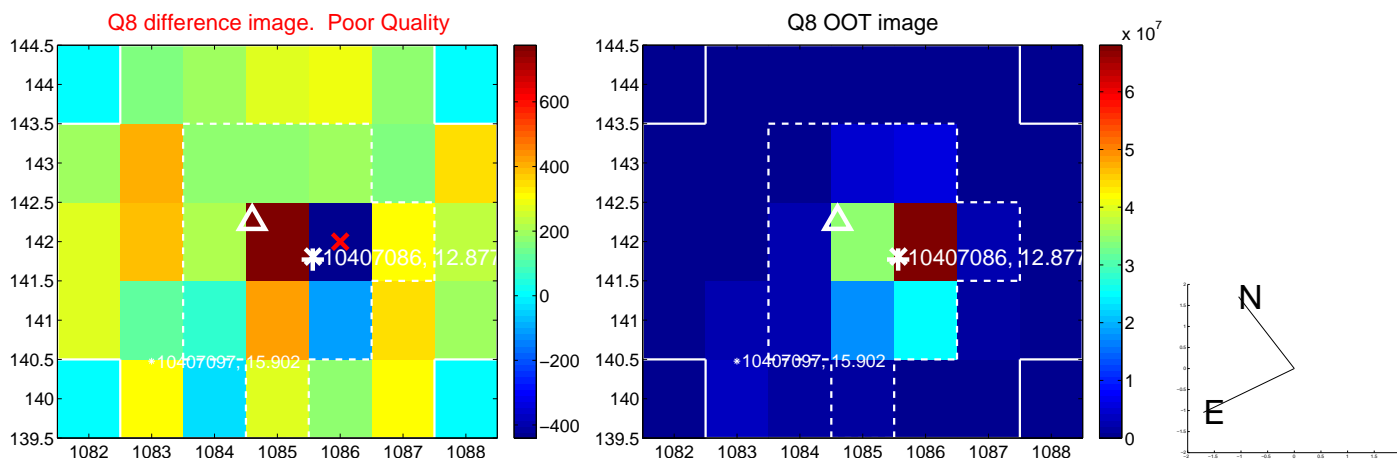
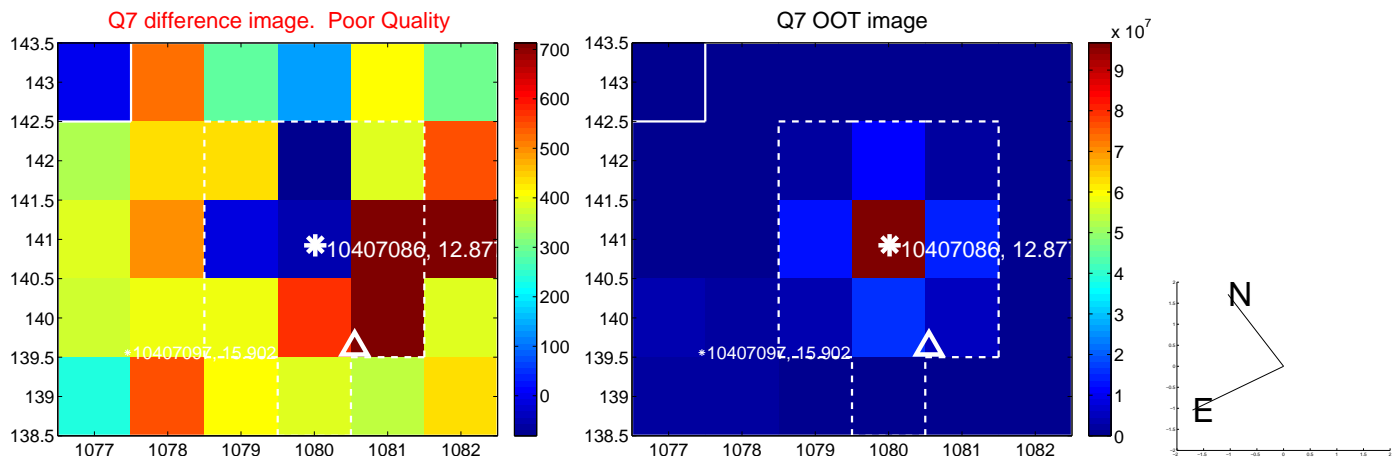
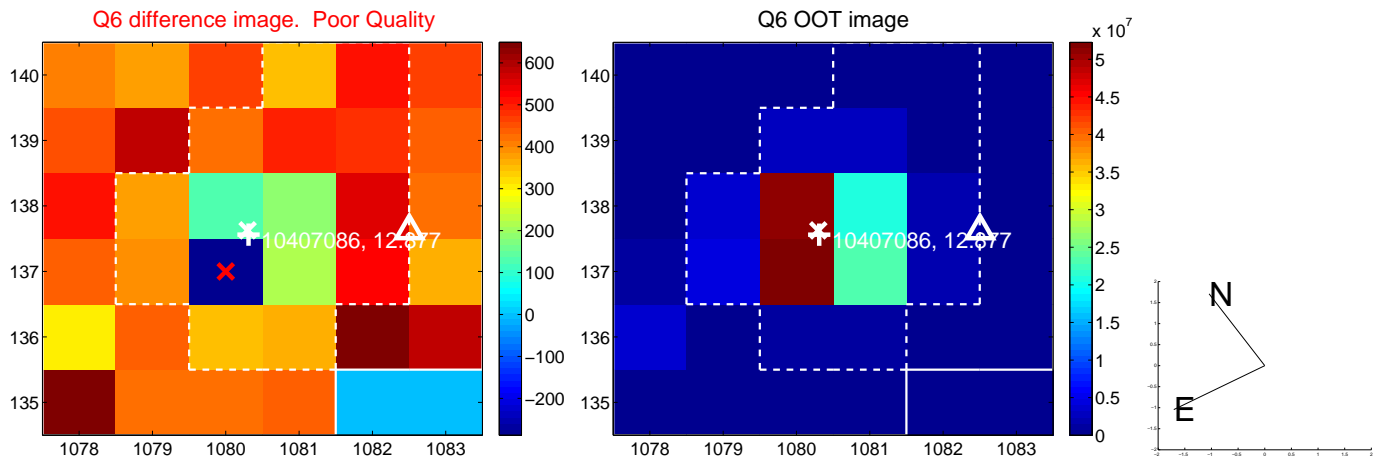
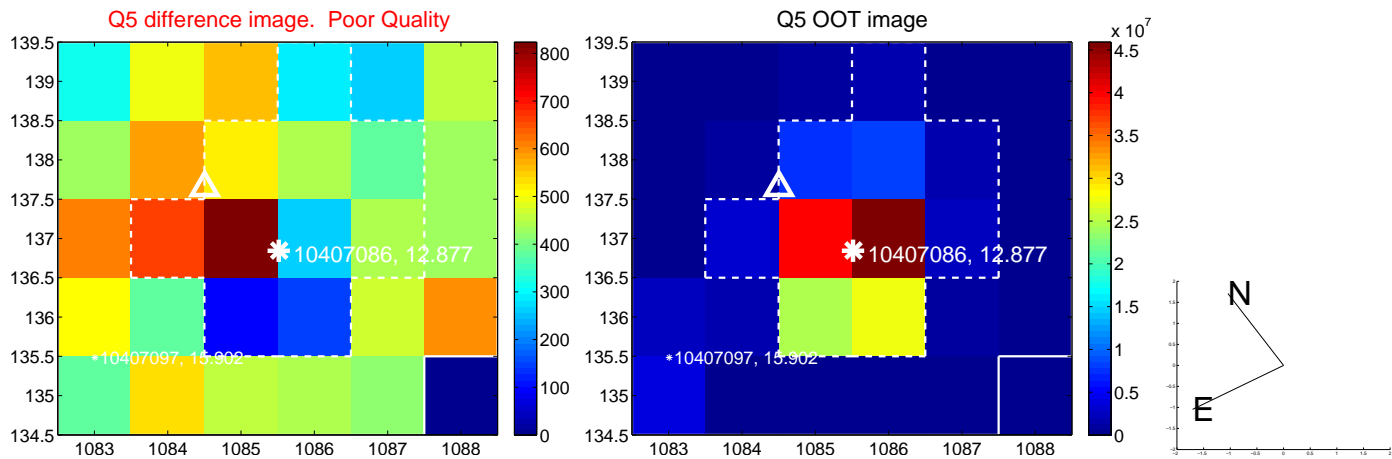


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

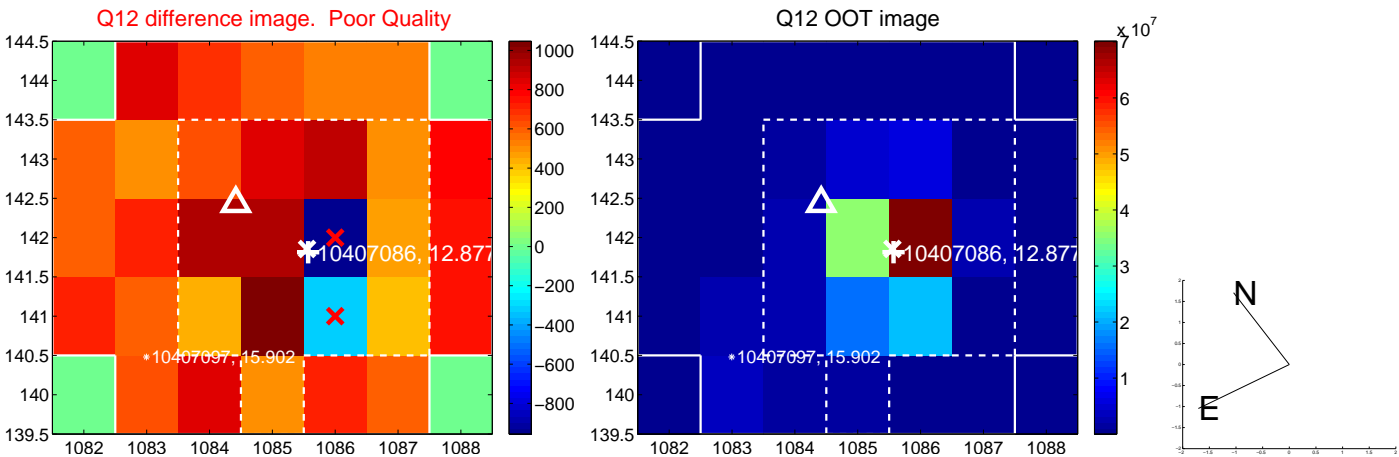
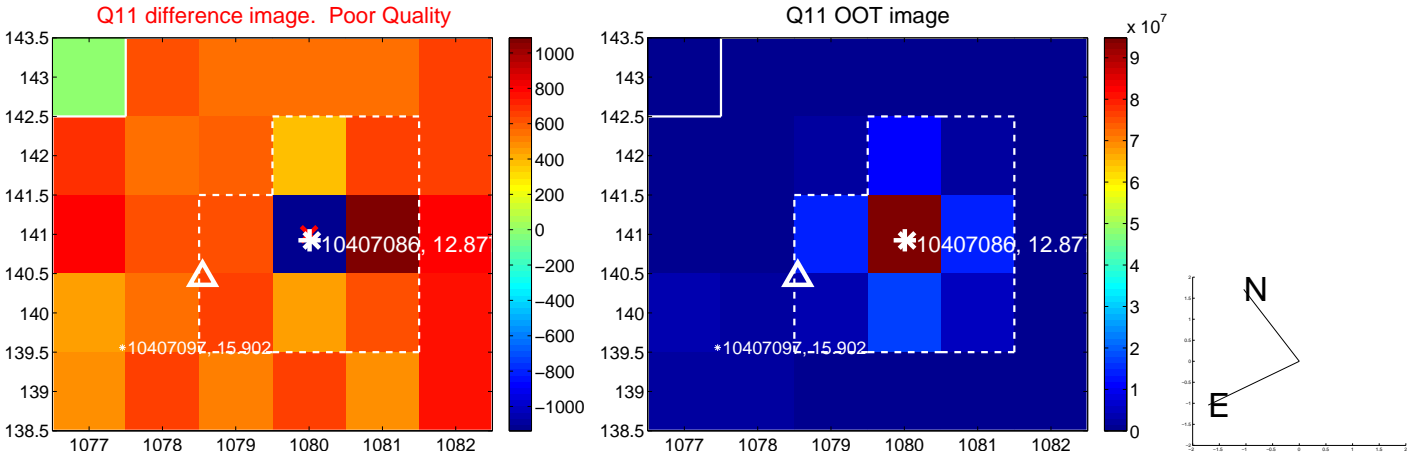
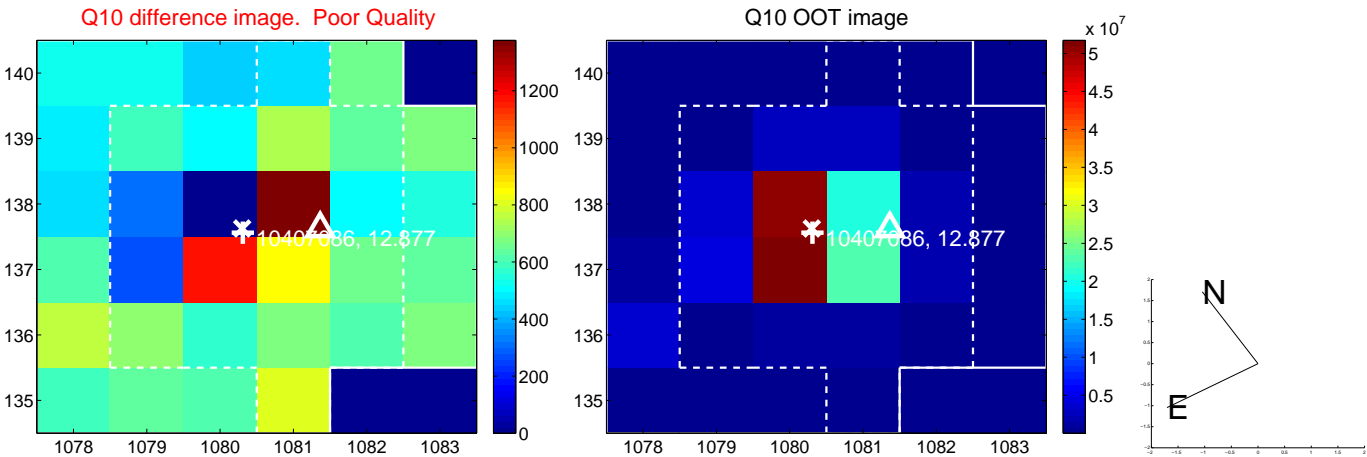
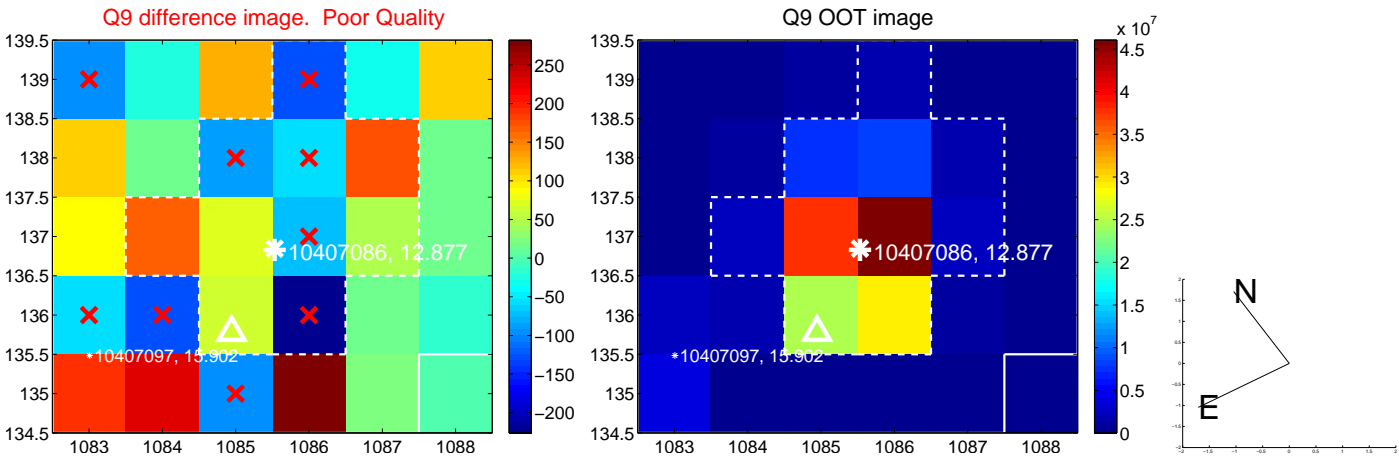
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



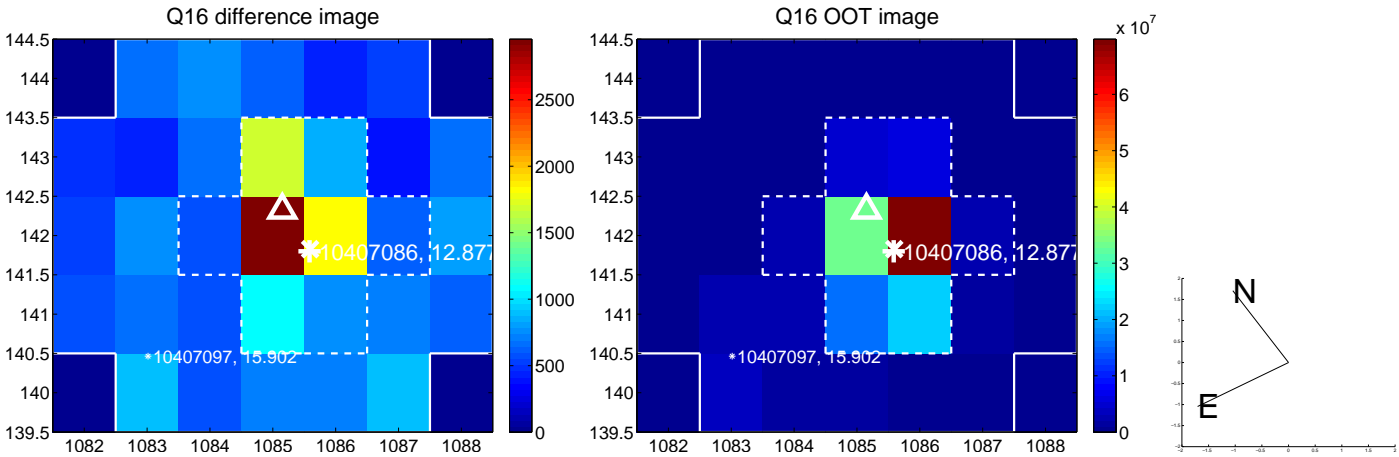
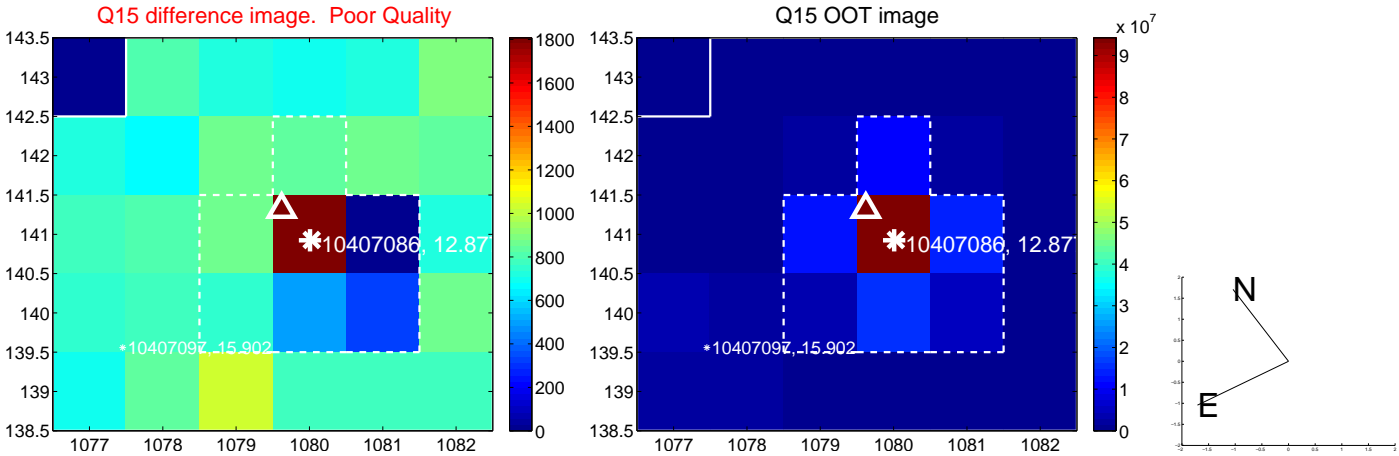
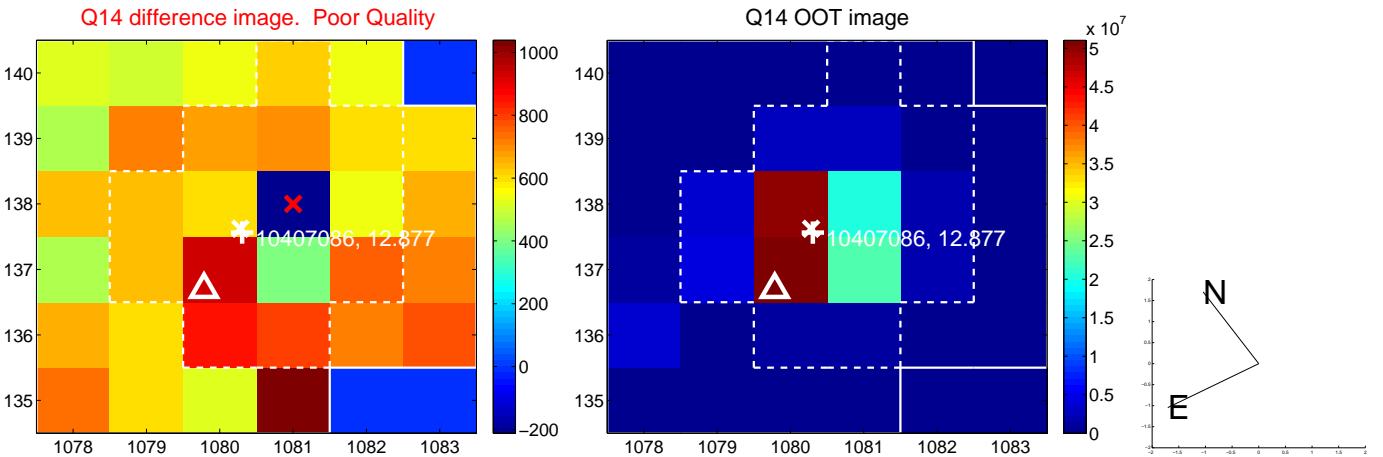
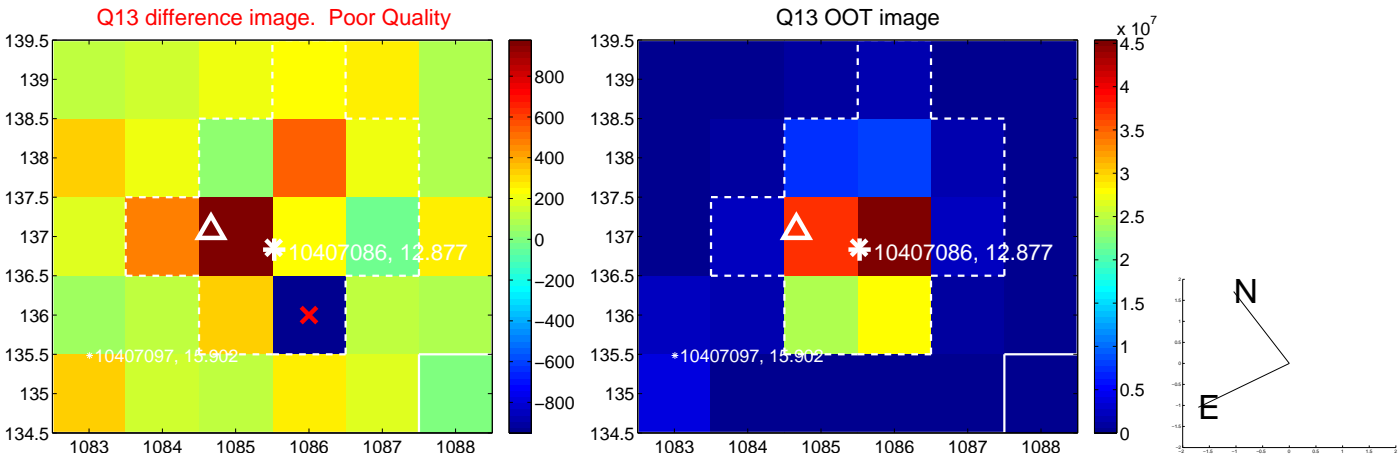
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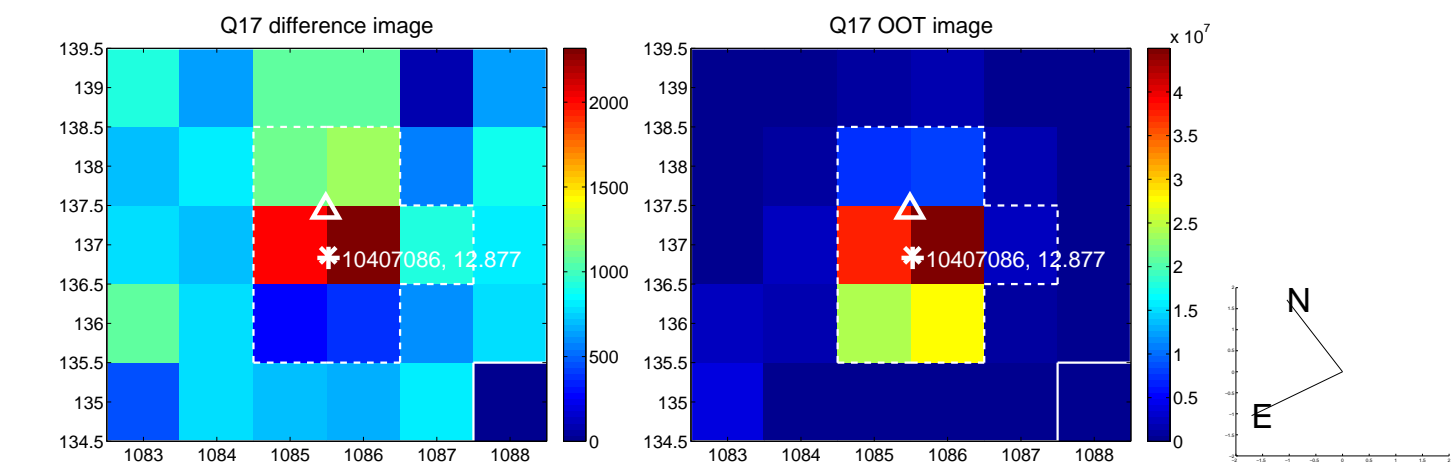
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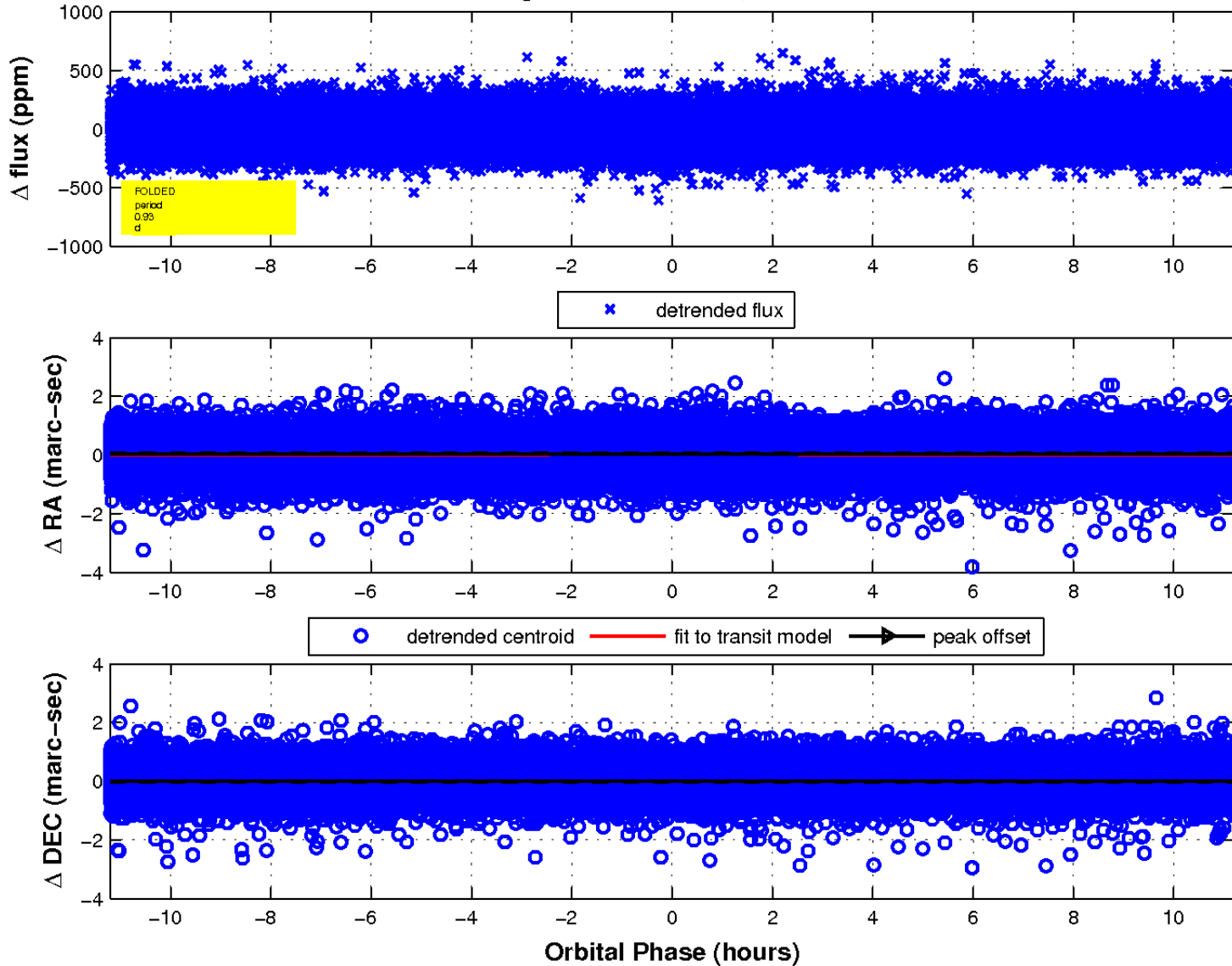
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

