

KIC 010661679

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R _★ (R _☉)	T _★ (K)	R _p (R _⊕)	S _p (S _⊕)
010661679-01	OBS	5818.01	1.231344	131.810713	51.7	4.098	14.7	14.4	0.96	5791	0.82	1747.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010661679-01	OBS	FP	0.00	0	1	1	1	MOD_SEC_DV—MOD_SEC_ALT—CENT_RESOLVED_OFFSET—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 010661679-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	ΔRow	ΔCol	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ _P	σ _T
010661679-01	10661679	010661783-pri	10661783	1:1	110.6	-19	-20	9.59	14.81	4188.50	Direct-PRF	0	1.31	0.38

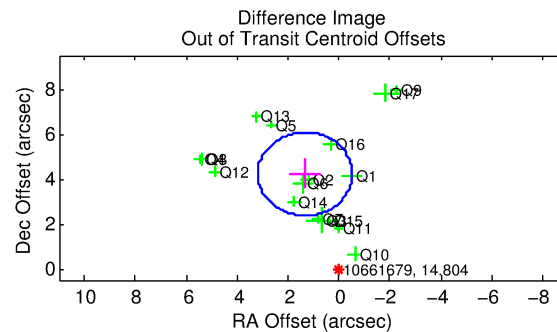
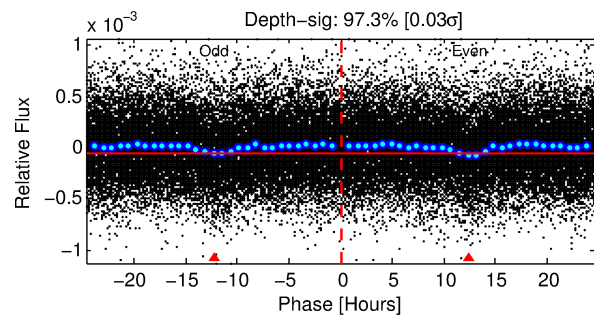
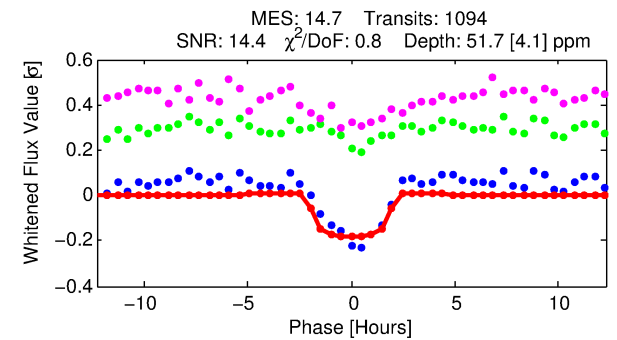
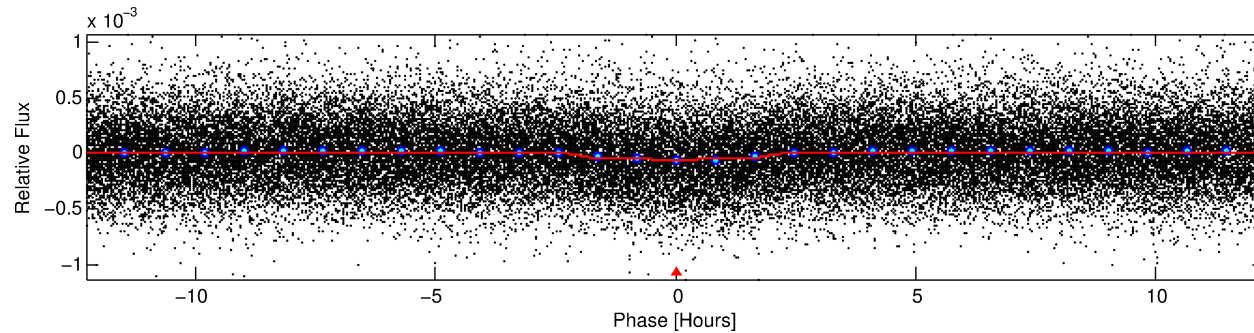
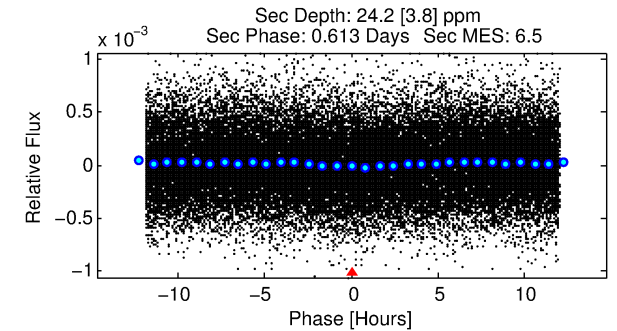
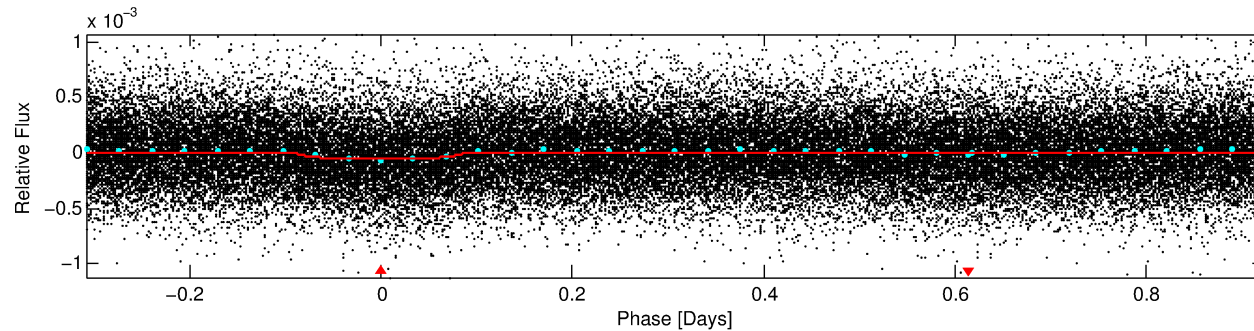
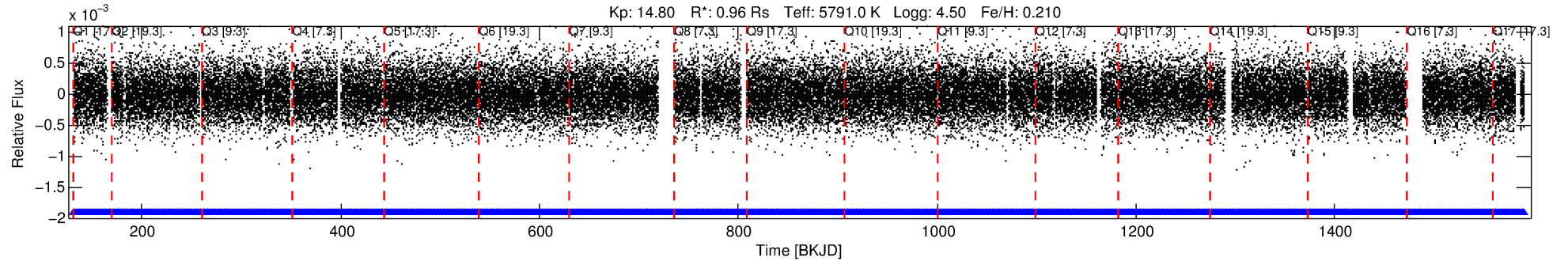
Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant σ_P < 5.0 and σ_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: 10661679 Candidate: 1 of 1 Period: 1.231 d

KOI: K05818.01 Corr: 0.941

Kp: 14.80 R*: 0.96 Rs Teff: 5791.0 K Logg: 4.50 Fe/H: 0.210



DV Fit Results:

Period = 1.23134 [0.00001] d
Epoch = 131.8107 [0.0036] BKJD
Rp/R* = 0.0079 [0.0034]
a/R* = 1.40 [1.41]
b = 0.90 [0.44]
Seff = 1747.08 [732.47]
Teff = 1649 [173] K
Rp = 0.82 [0.44] Re
a = 0.0230 [0.0063] AU
Ag = 10.43 [10.11] [0.93σ]
Teffp = 4580 [1020] K [2.83σ]

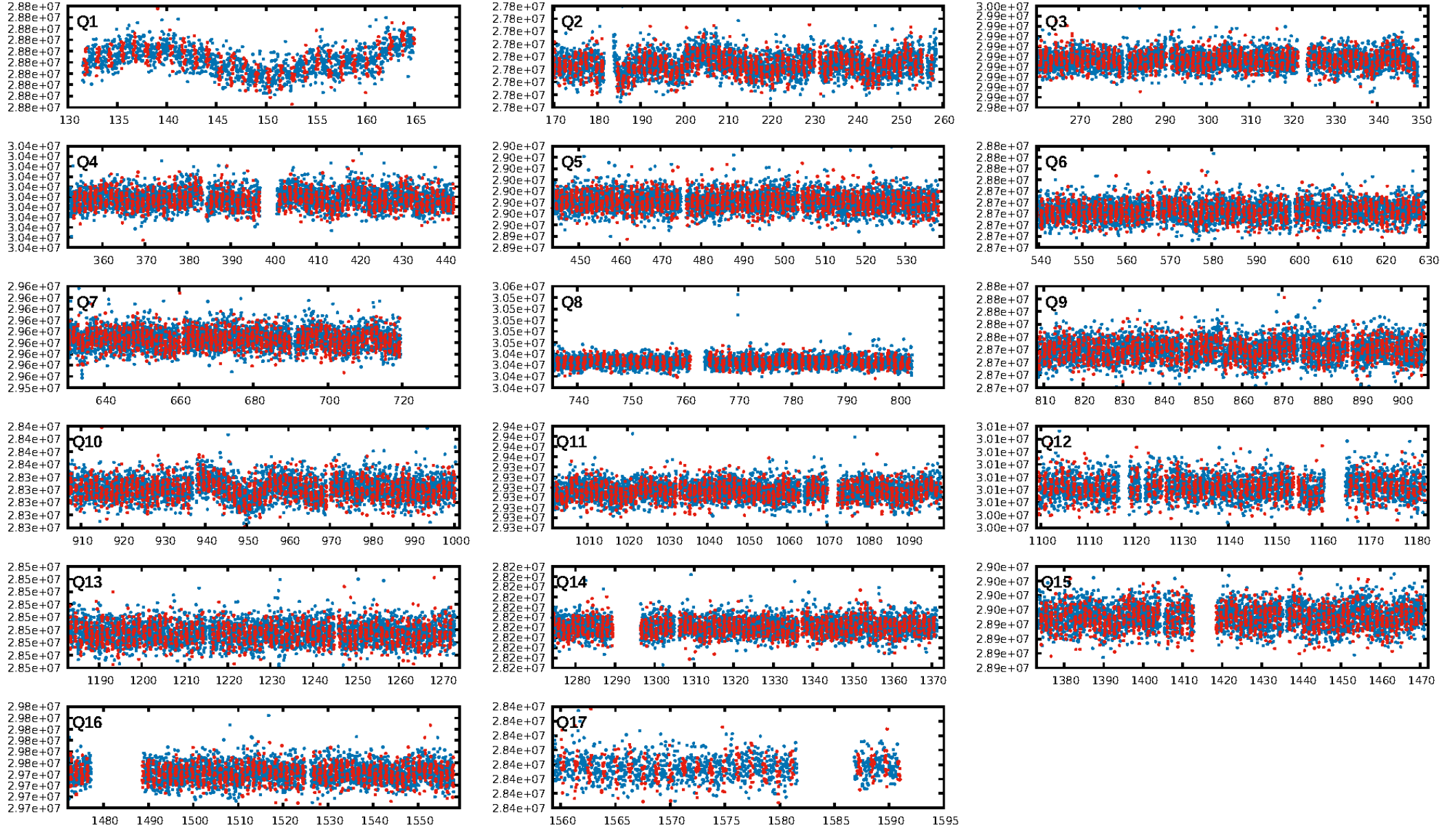
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.75e-41
RollingBand-fgt: 1.00 [1044/1044]
GhostDiagnostic-chr: -0.2141
Centroid-sig: 0.0%
Centroid-so: 5.642 arcsec [6.84σ]
OotOffset-rm: 4.424 arcsec [7.15σ]
KicOffset-rm: 4.261 arcsec [6.79σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.24 [4/17]
DiffImageOverlap-fno: 1.00 [17/17]

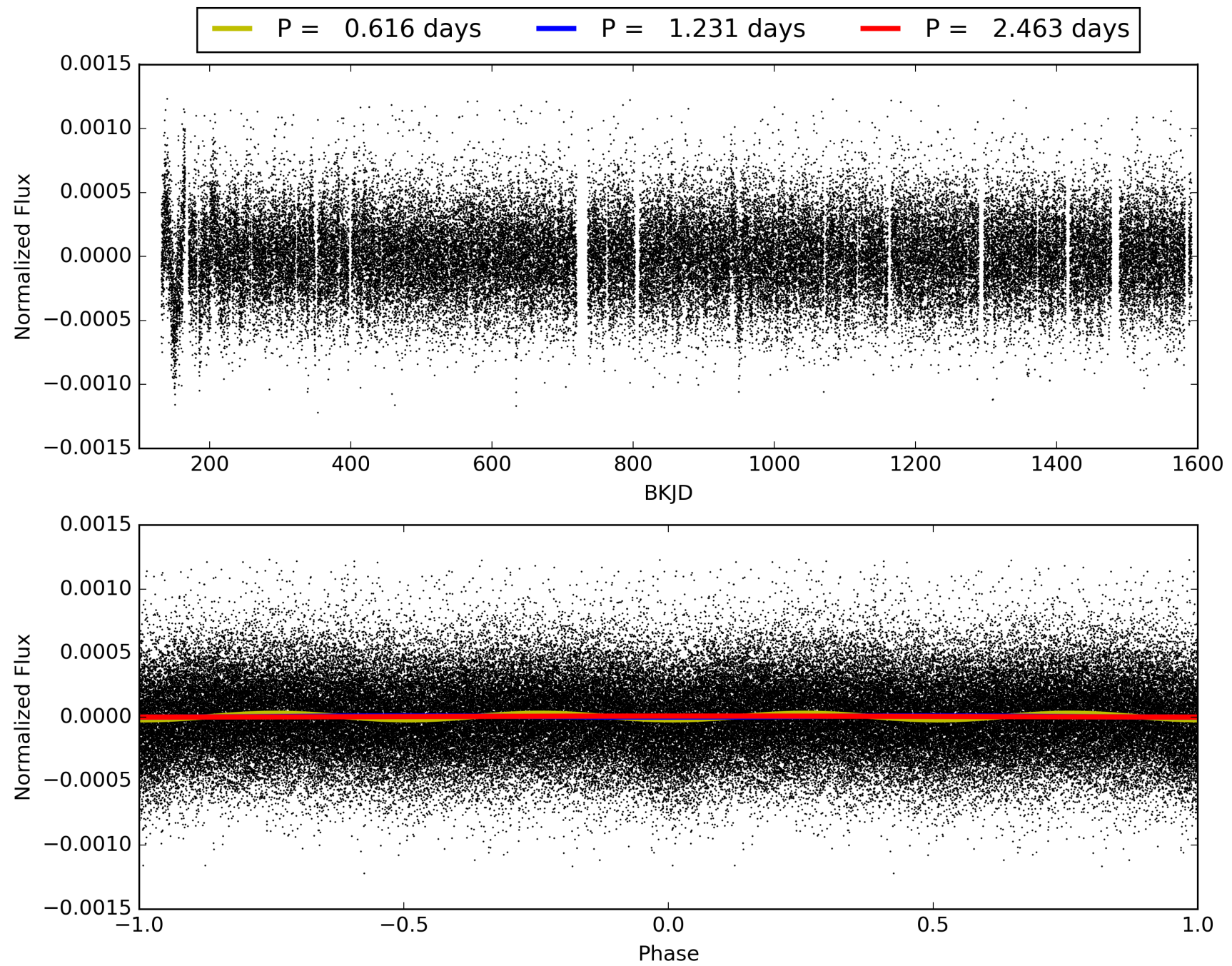
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:35:21 Z

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

TCE 010661679-01, PDC Light Curves

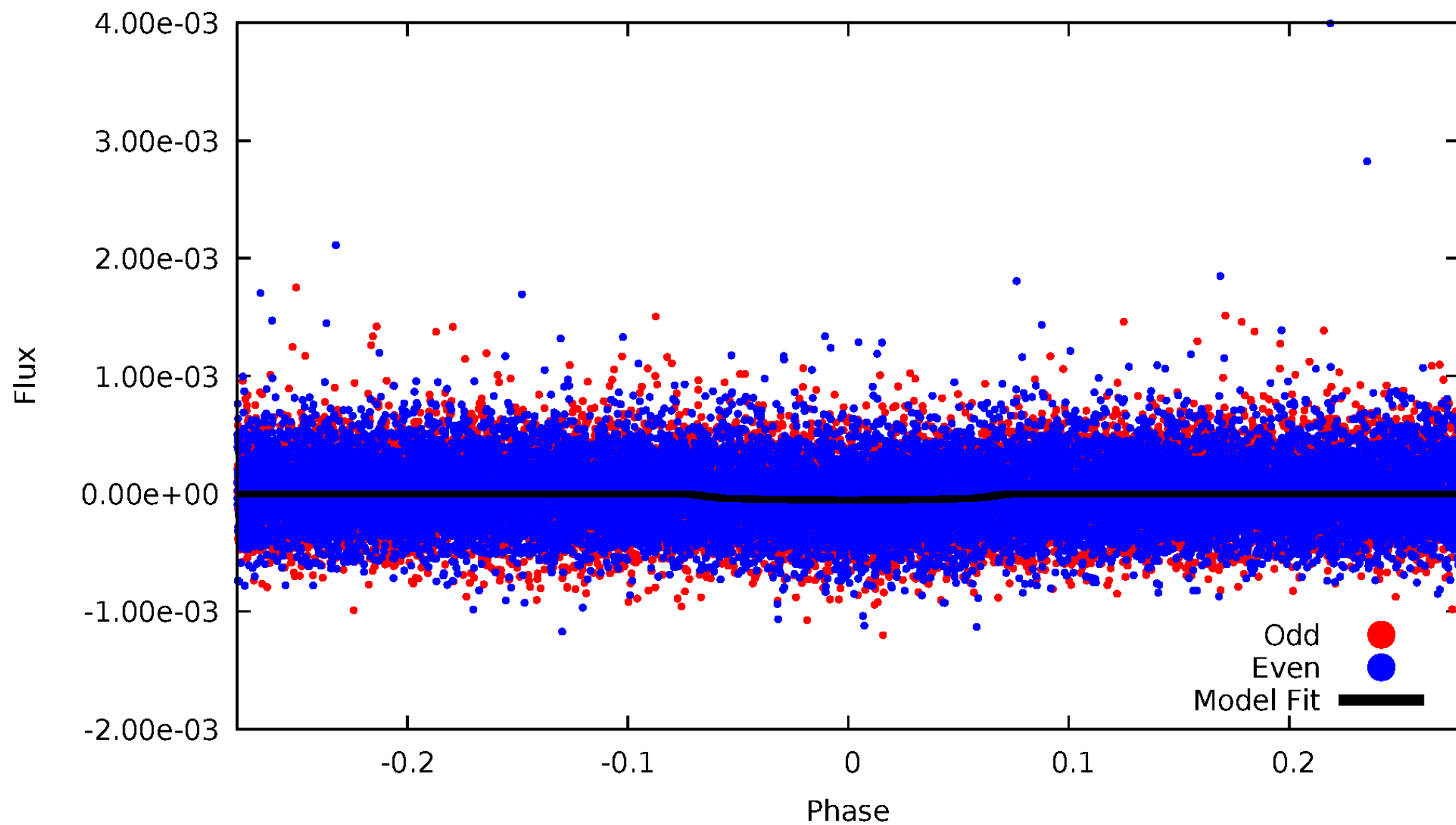


TCE 010661679-01



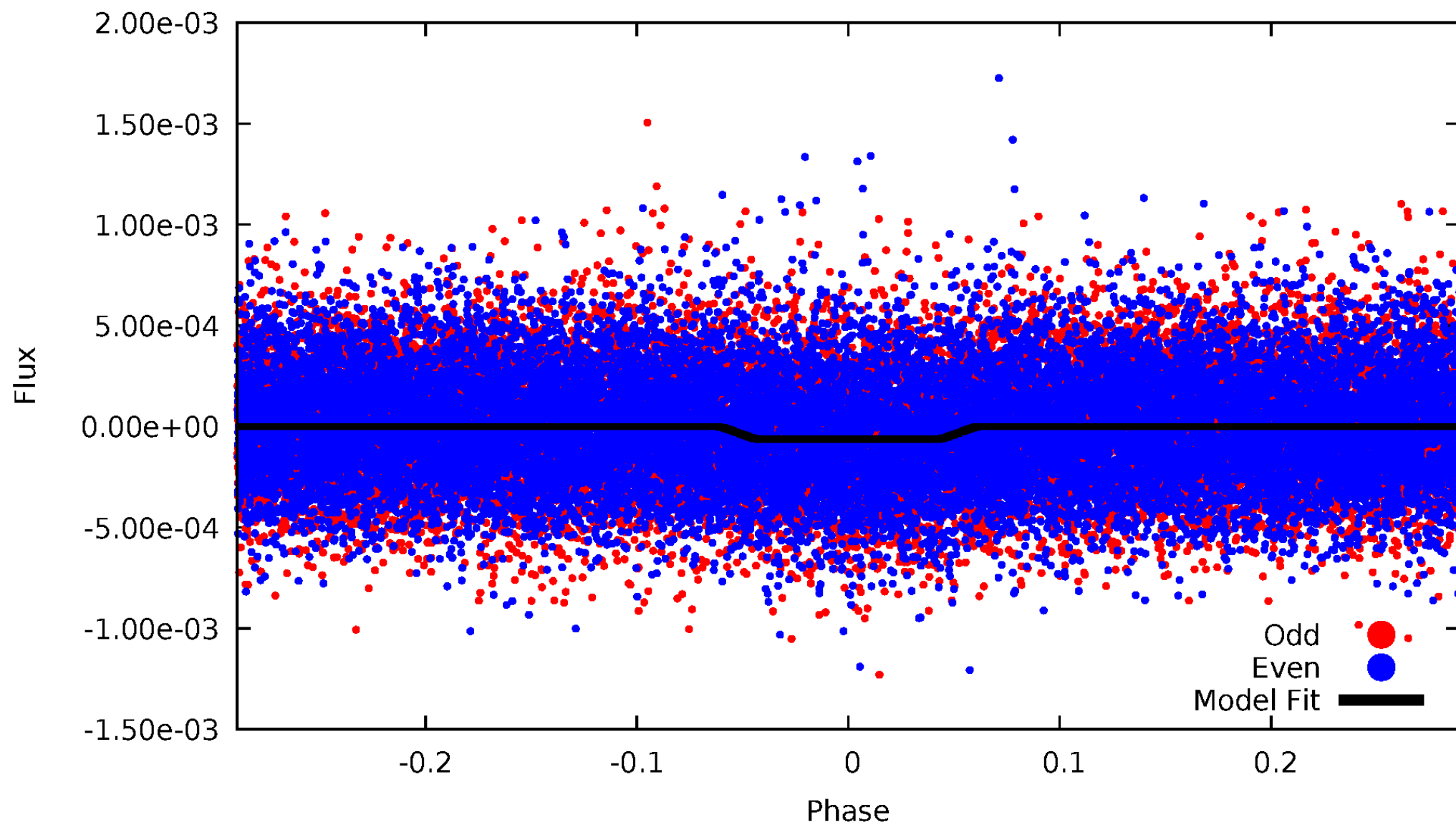
DV Odd/Even

TCE 010661679-01



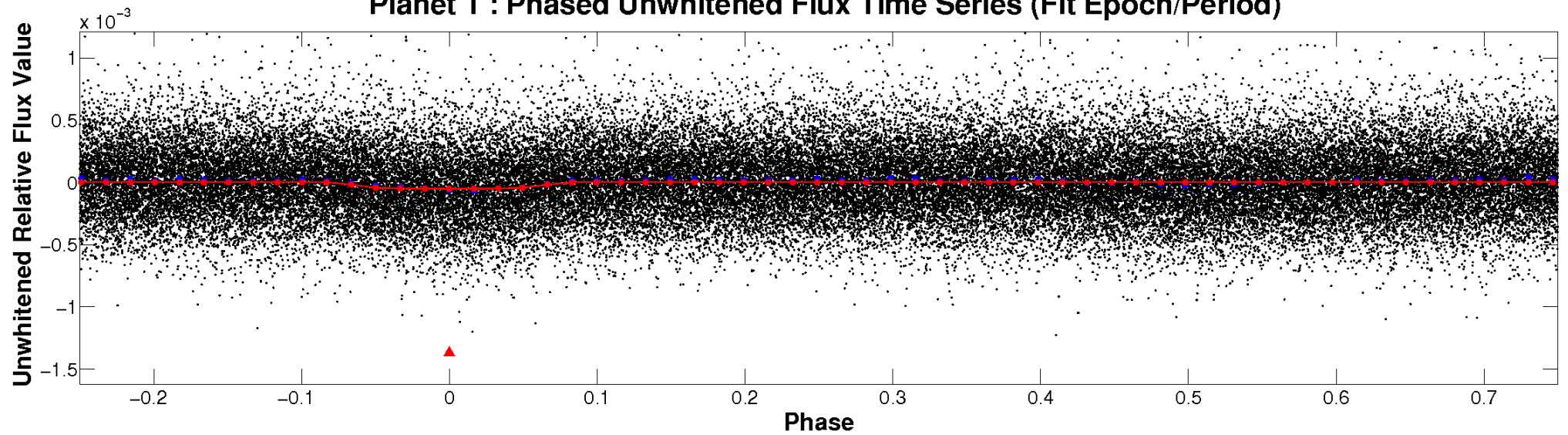
ALT Odd/Even

TCE 010661679-01

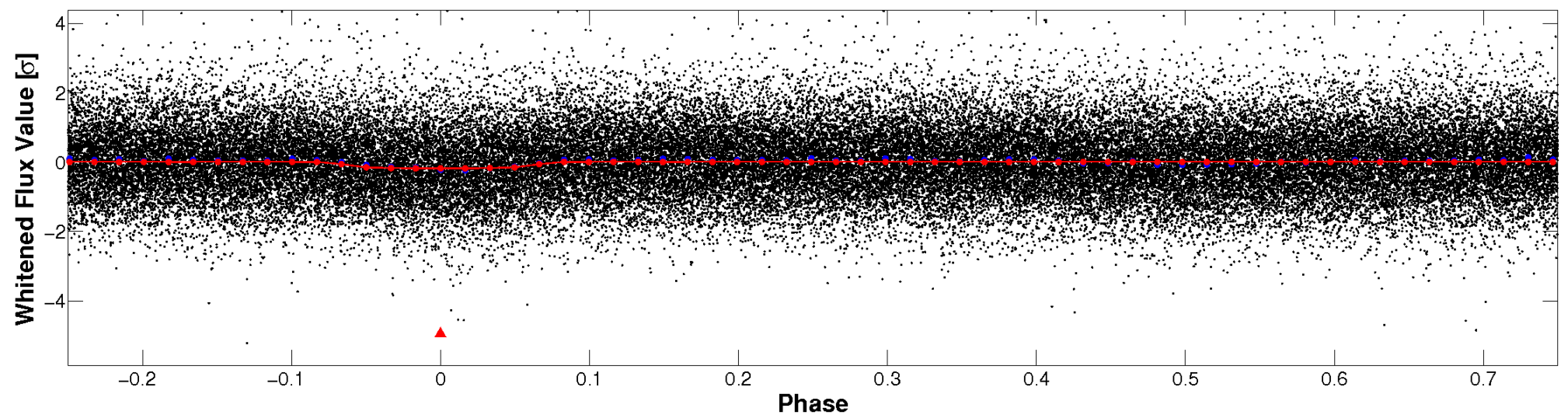


Non-Whitened Vs. Whitened Light Curve

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

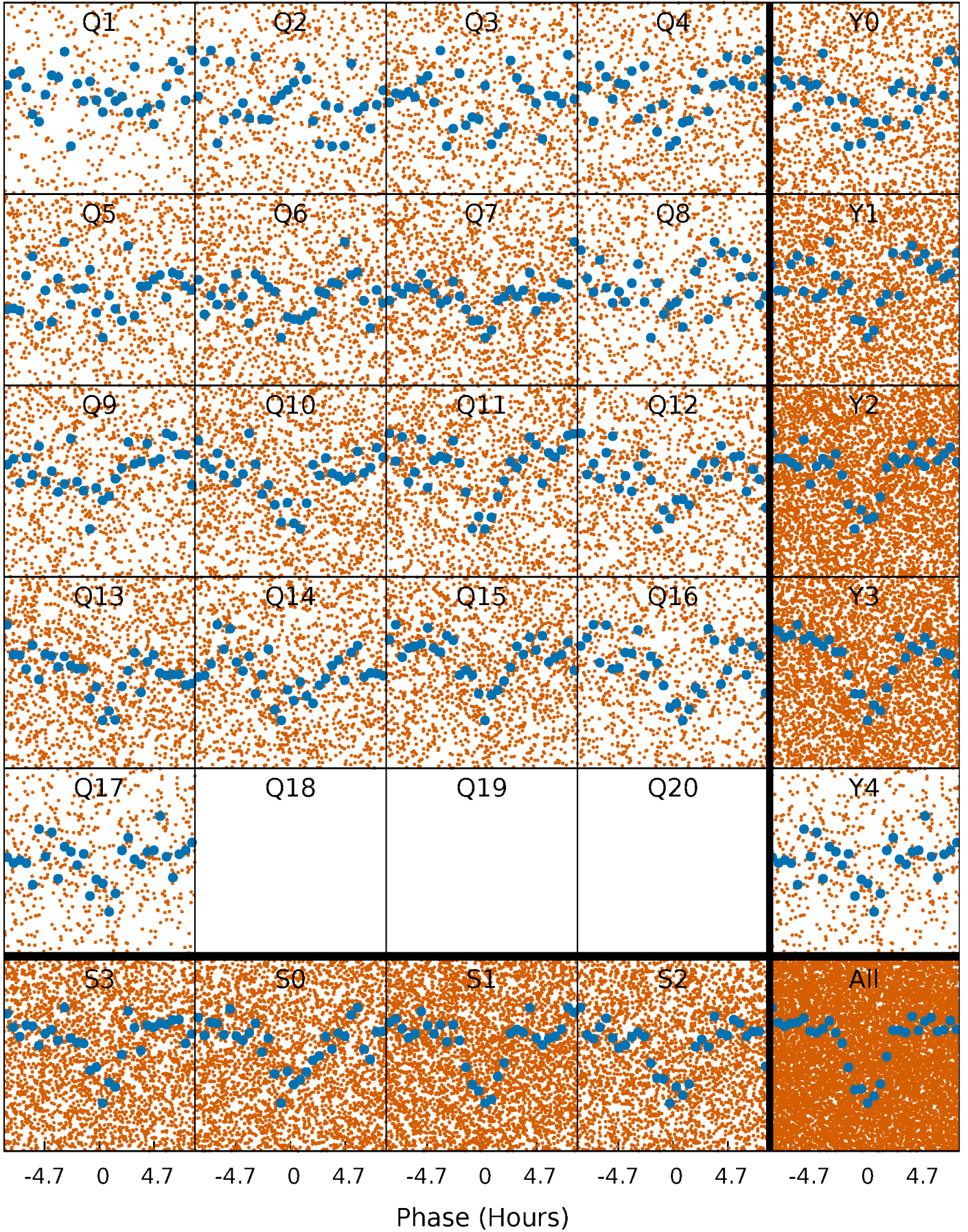


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



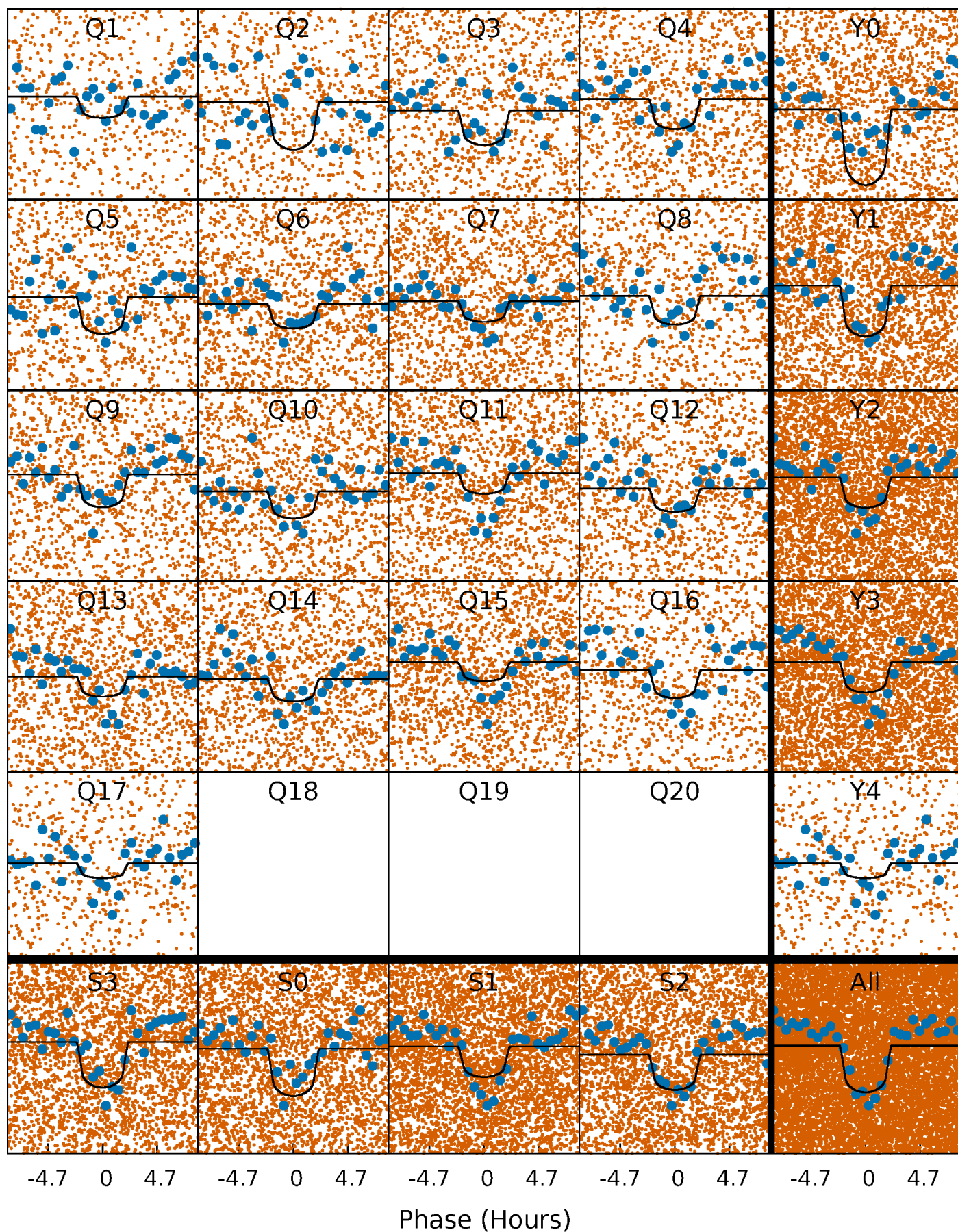
PDC Quarter-Phased Transit Curves

TCE 010661679-01 P= 1.231344 Days $T_0=131.810713$ (BKJD)



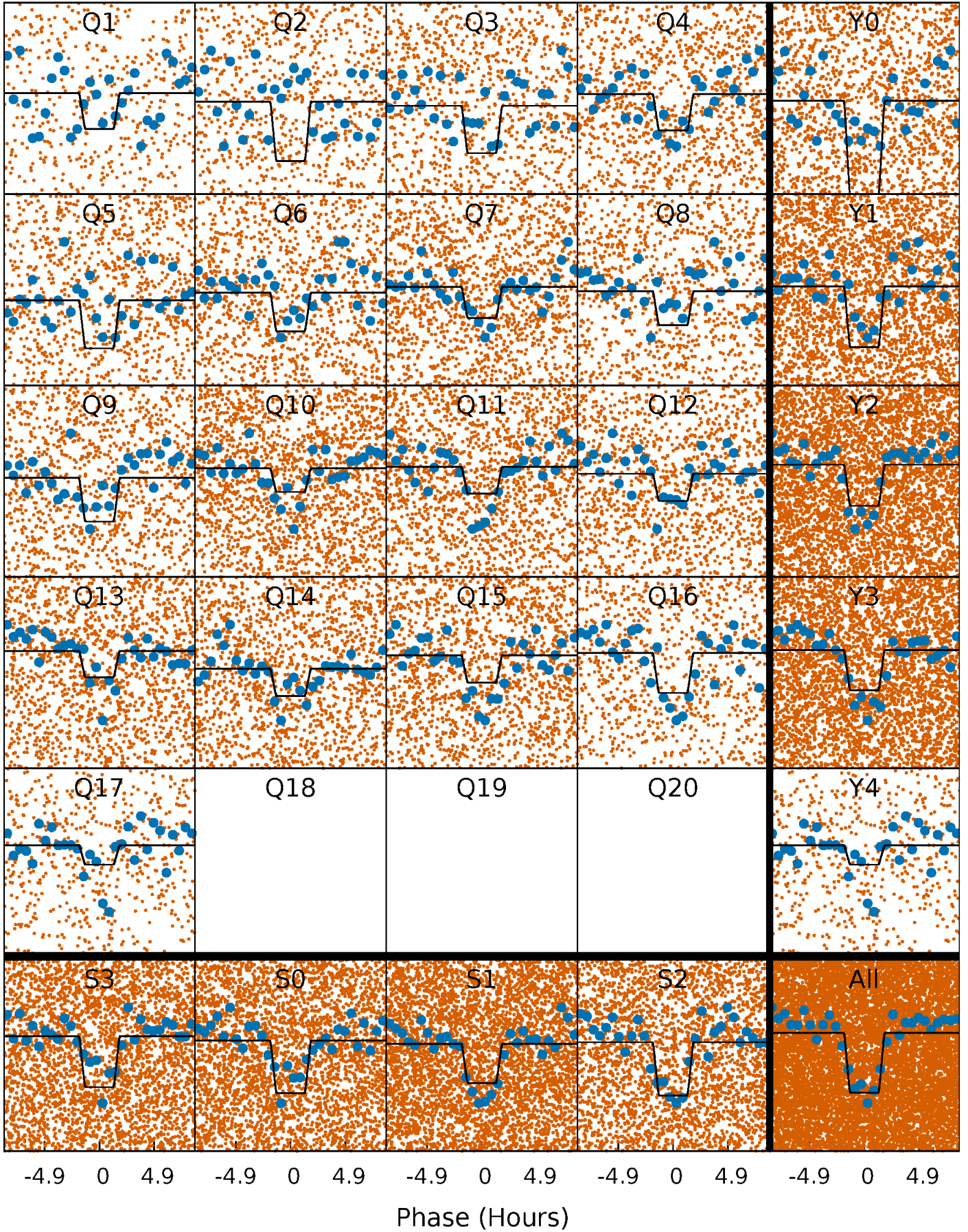
DV Quarter-Phased Transit Curves

TCE 010661679-01 P= 1.231344 Days $T_0=131.810713$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

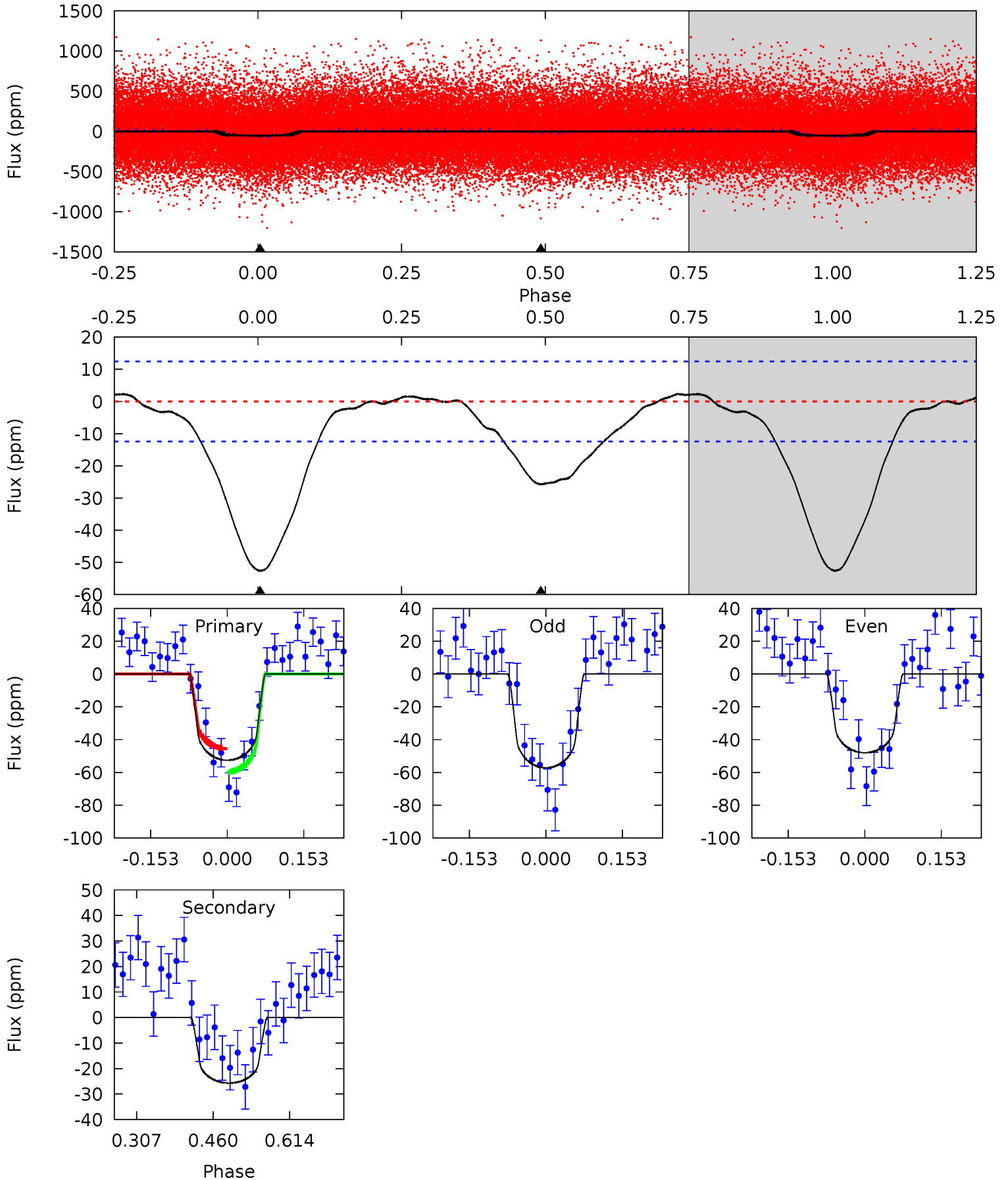
TCE 010661679-01 P= 1.231356 Days $T_0=131.809858$ (BKJD)



DV Model-Shift Uniqueness Test

010661679-01, P = 1.231344 Days, E = 130.579369 Days

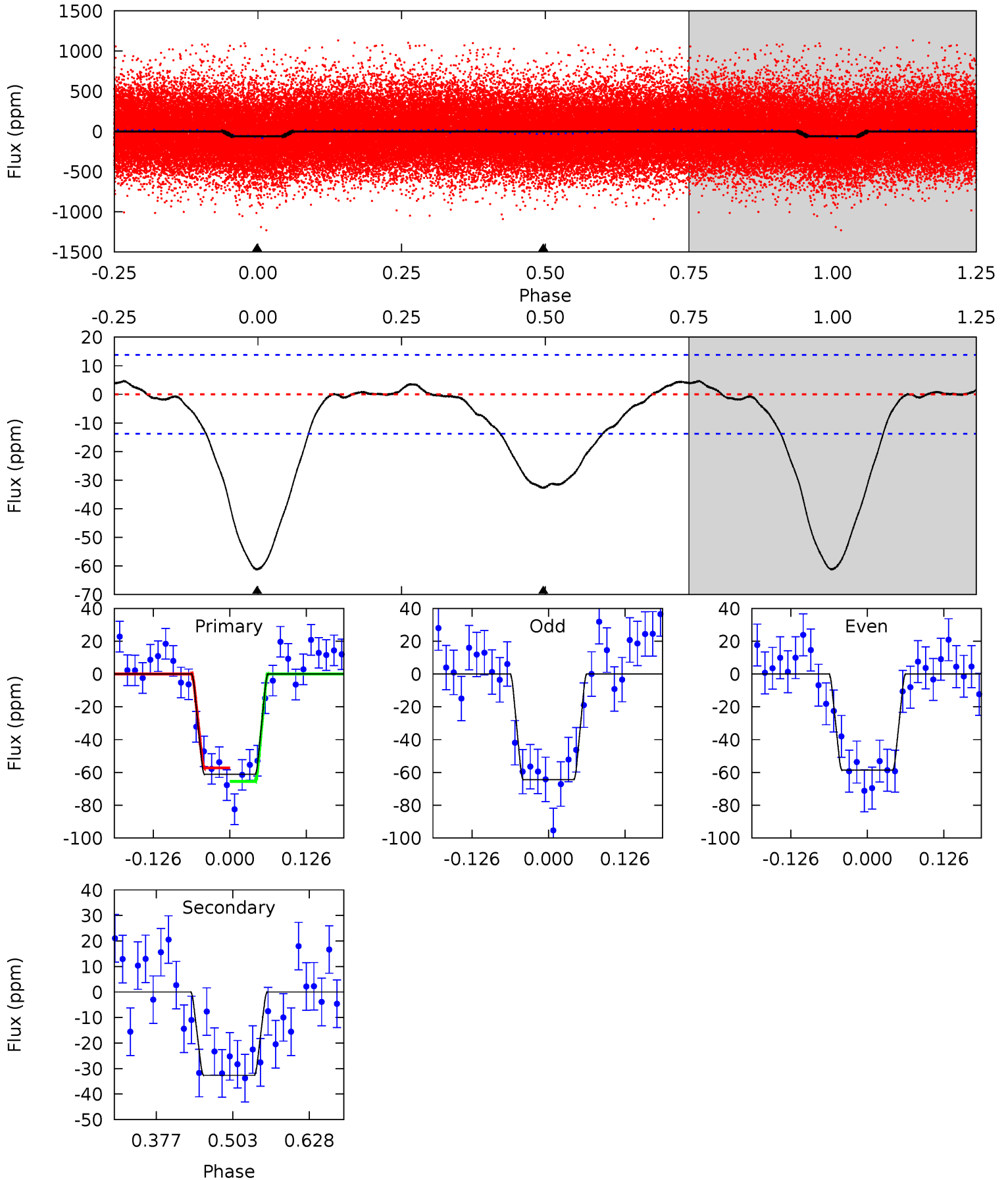
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	9.23	0	0	4.47	1.43	0.67	18.9	18.9	9.23	9.23	1.65	0.97	0.04	2.54



Alt Model-Shift Uniqueness Test

010661679-01, P = 1.231356 Days, E = 130.578502 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	10.7	0	0	4.52	1.53	0.92	20.0	20.0	10.7	10.7	0.94	0.96	0.07	1.35



Stellar Parameters For KIC 010661679

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5791^{+156}_{-174}	$4.505^{+0.039}_{-0.221}$	$0.210^{+0.200}_{-0.300}$	$0.958^{+0.309}_{-0.077}$	$1.071^{+0.112}_{-0.125}$	$1.714^{+0.362}_{-0.962}$
	+3%/-3%	+1%/-5%	+95%/-143%	+32%/-8%	+10%/-12%	+21%/-56%
Source	PHO1	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 010661679-01 / KOI 5818.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-26 ± 3	$0.89^{+0.41}_{-0.35}$	2358^{+182}_{-103}	4708^{+1224}_{-660}	$9.386^{+16.717}_{-5.001}$
Alt.	-33 ± 3	$0.90^{+0.39}_{-0.37}$	2363^{+168}_{-114}	4942^{+1342}_{-692}	12^{+22}_{-6}

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

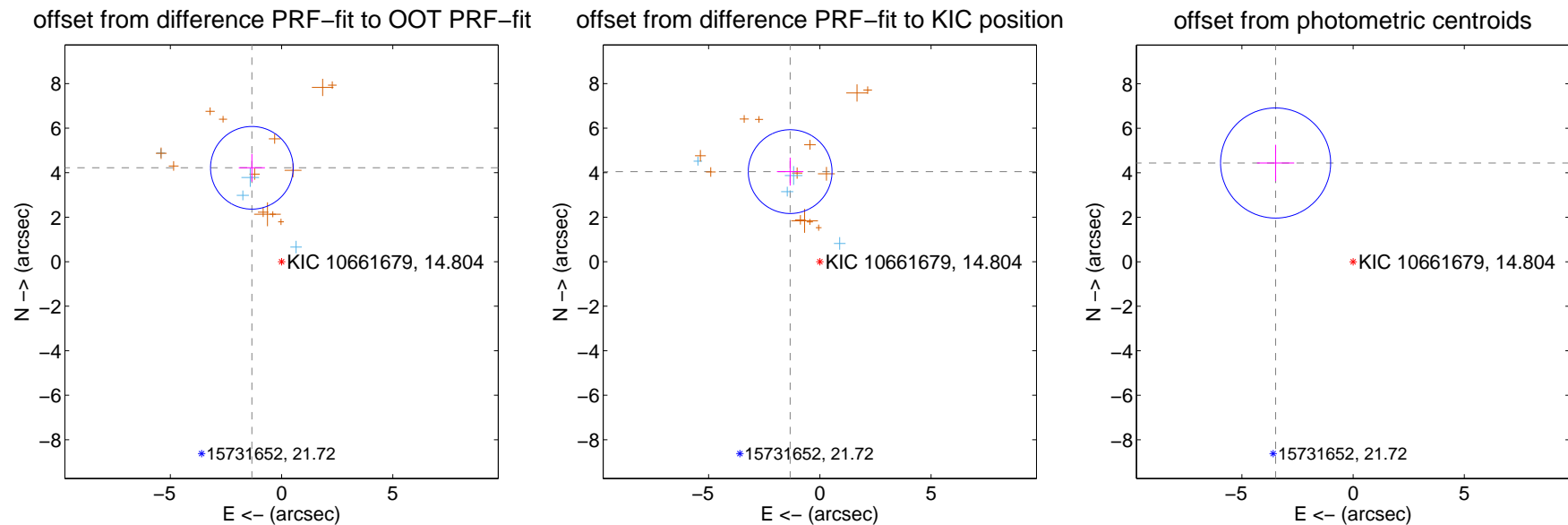
DV Centroid Data

Supplemental centroid analysis for 010661679-01. Kepler magnitude: 14.80. Transit SNR 14.44

There are 4 quarters with good PRF difference image offsets

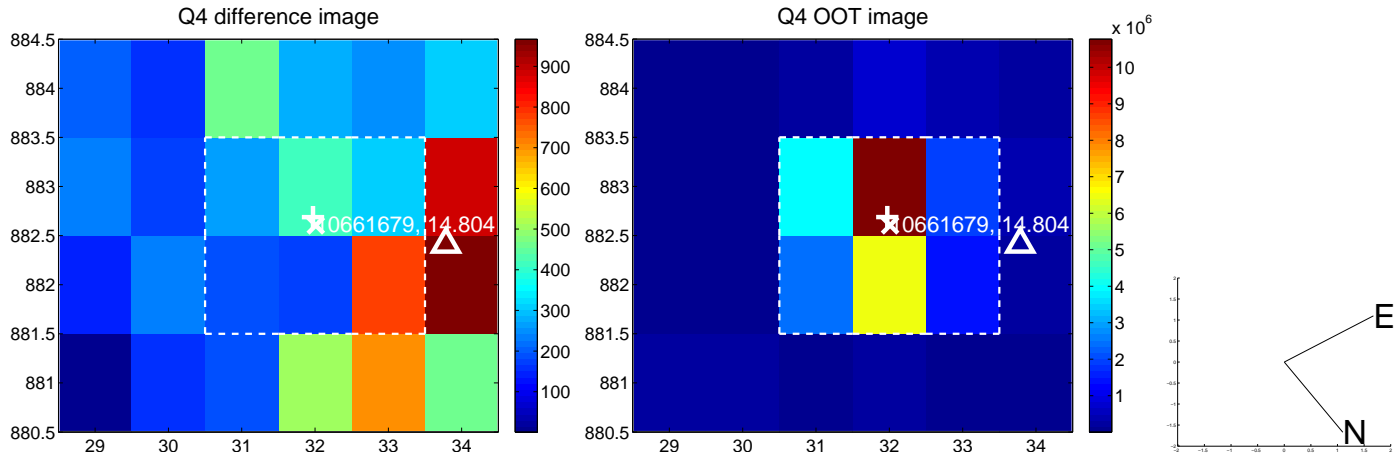
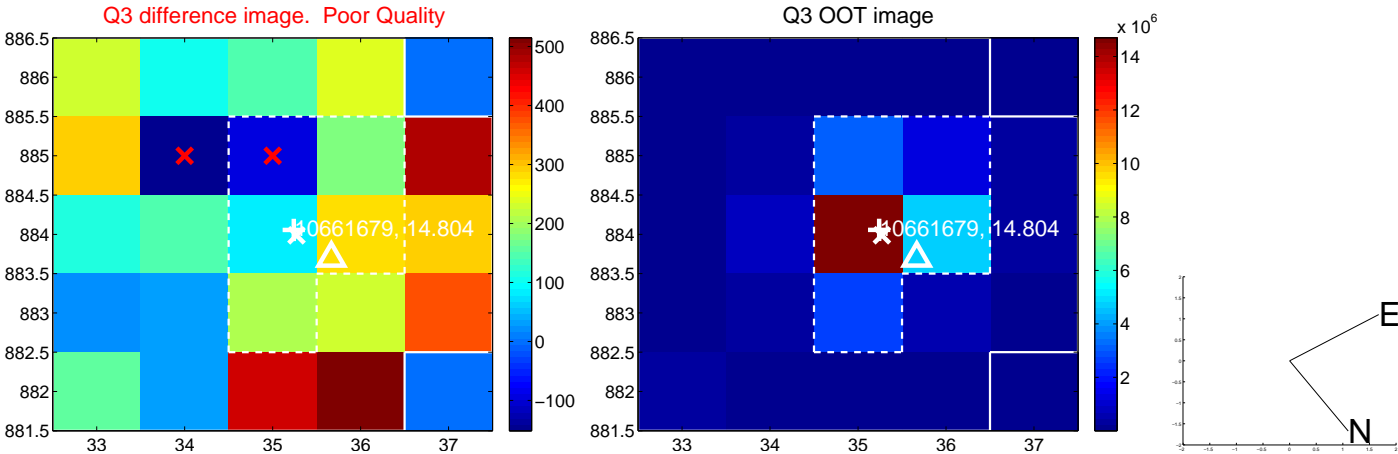
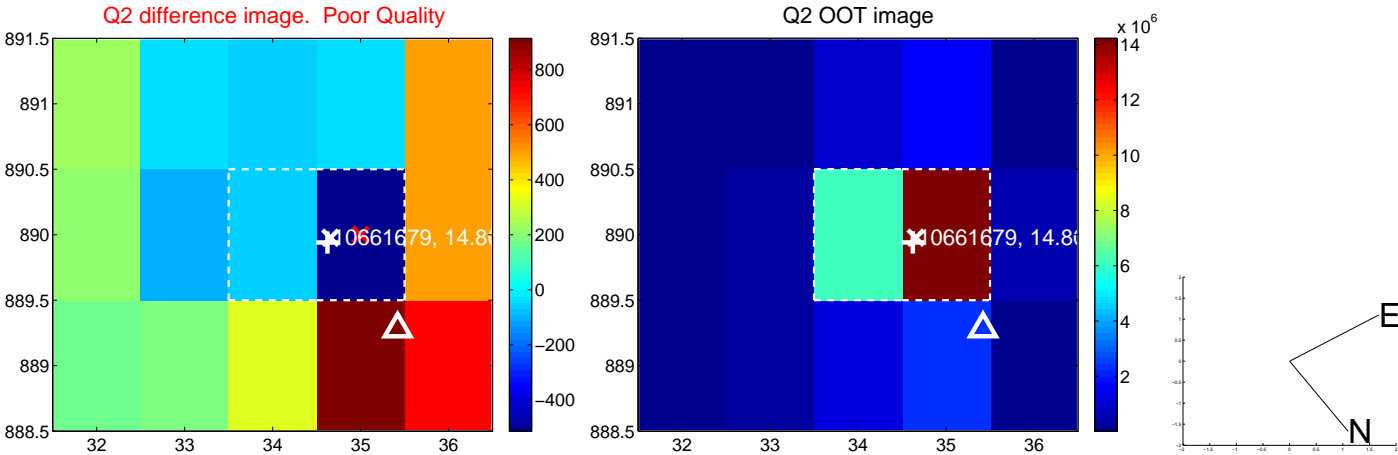
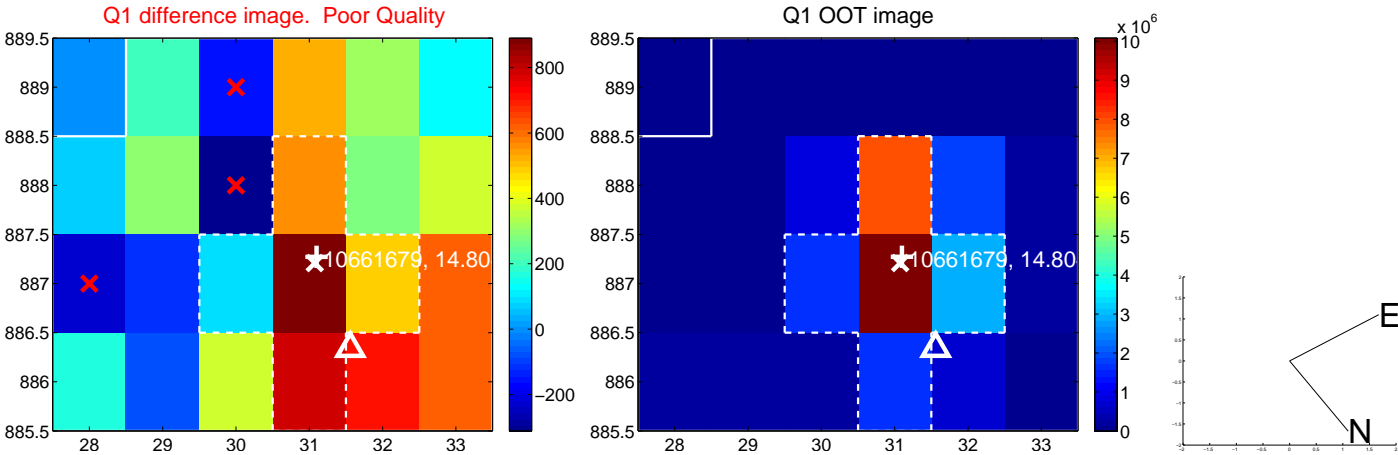
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.424 ± 0.619	7.15	1.336 ± 0.589	4.217 ± 0.622
PRF-fit source offset from KIC position	4.261 ± 0.627	6.79	1.334 ± 0.596	4.046 ± 0.631
photometric centroid source offset	5.64 ± 0.82	6.84	3.48 ± 0.84	4.44 ± 0.82

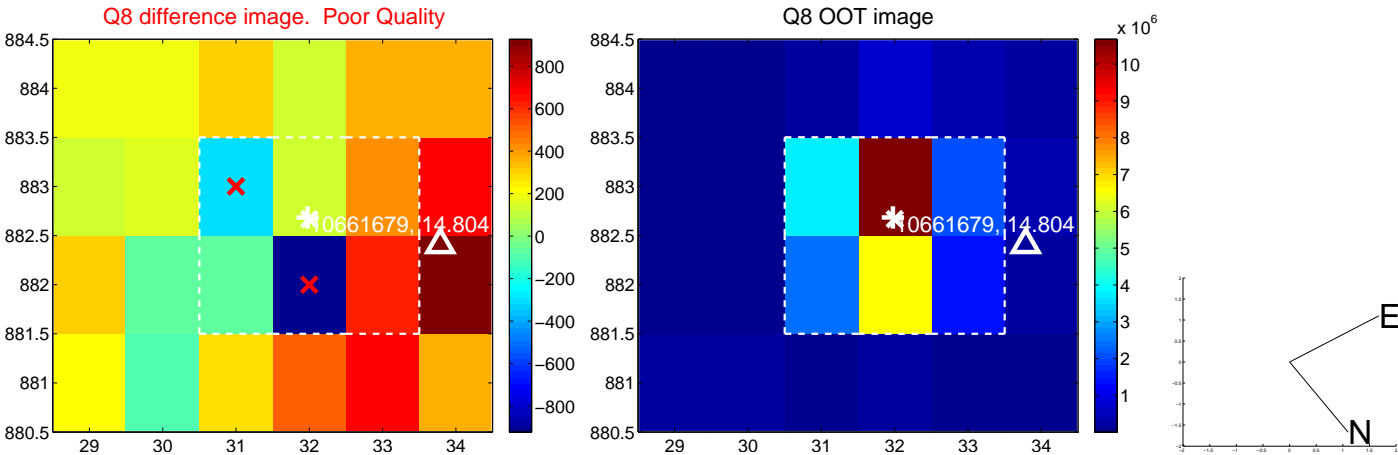
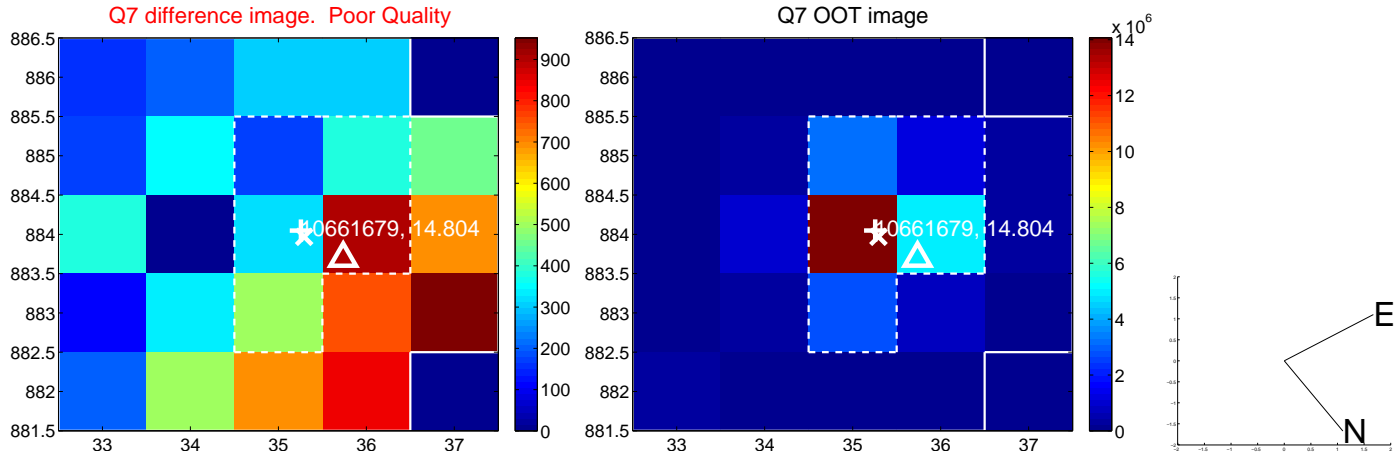
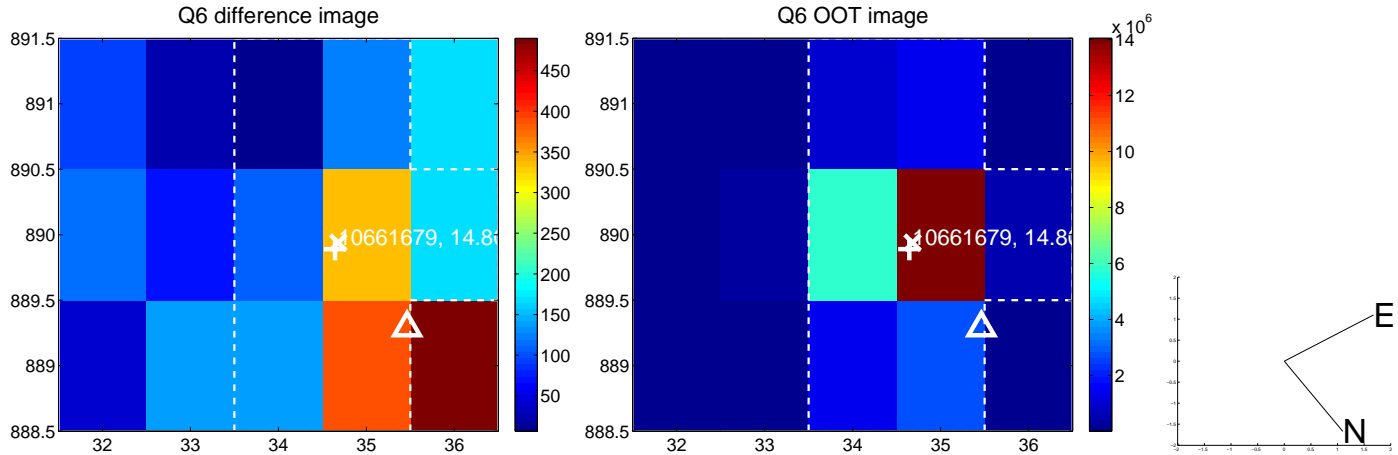
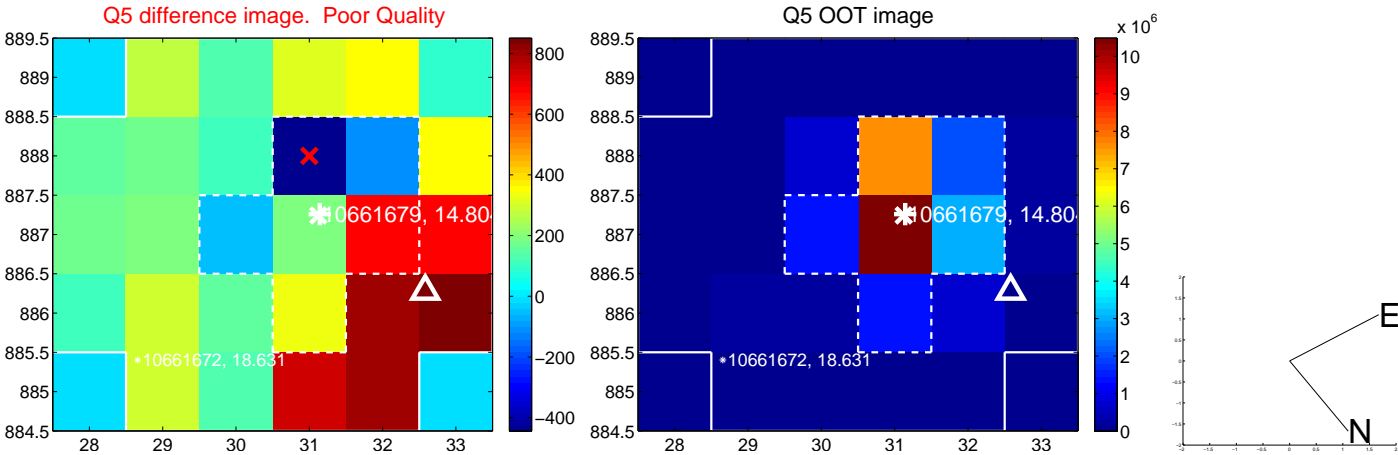


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

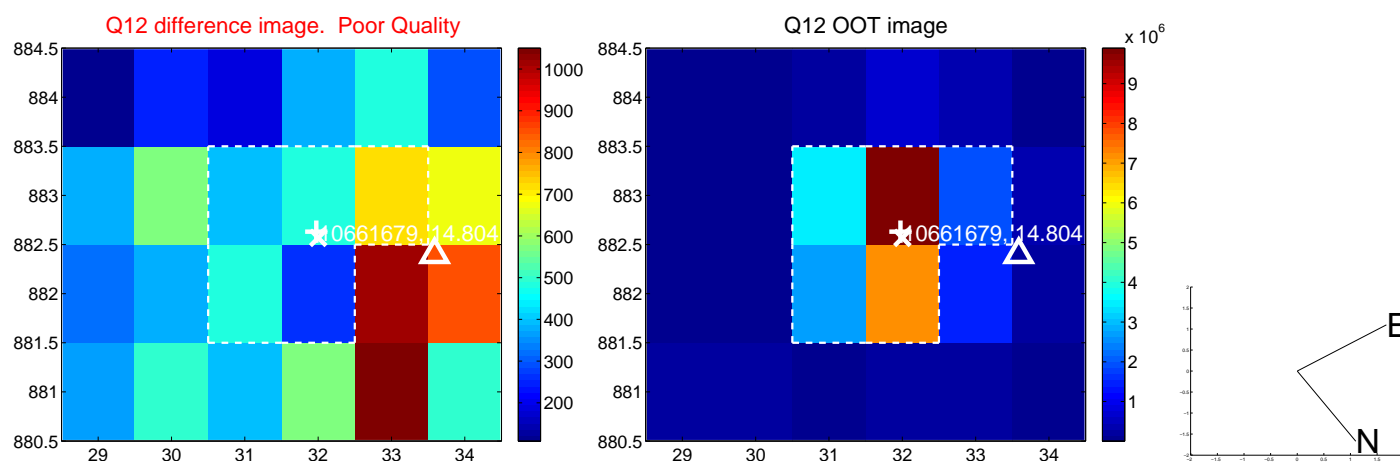
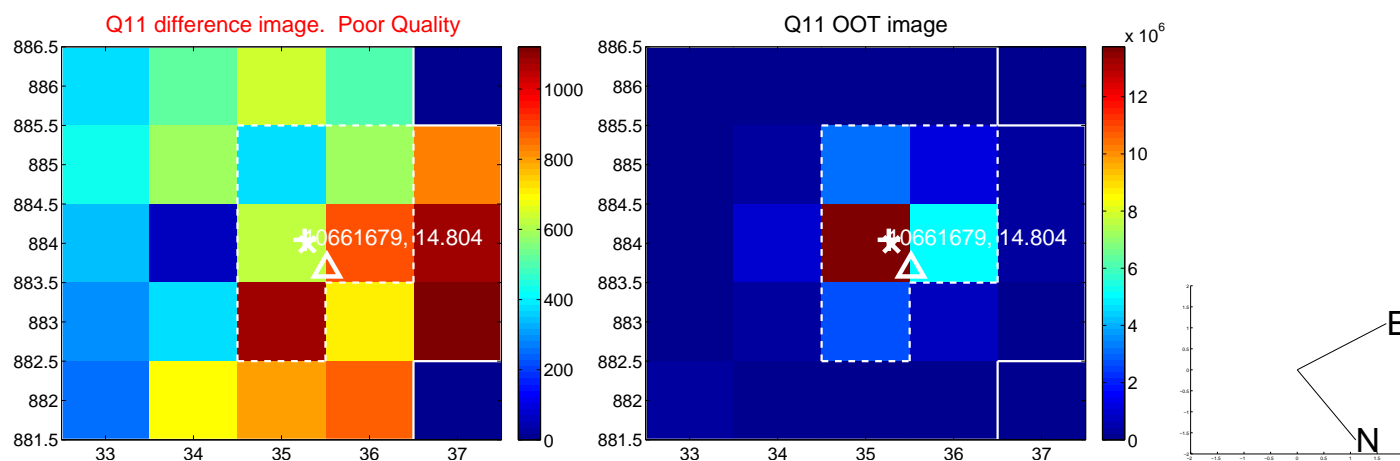
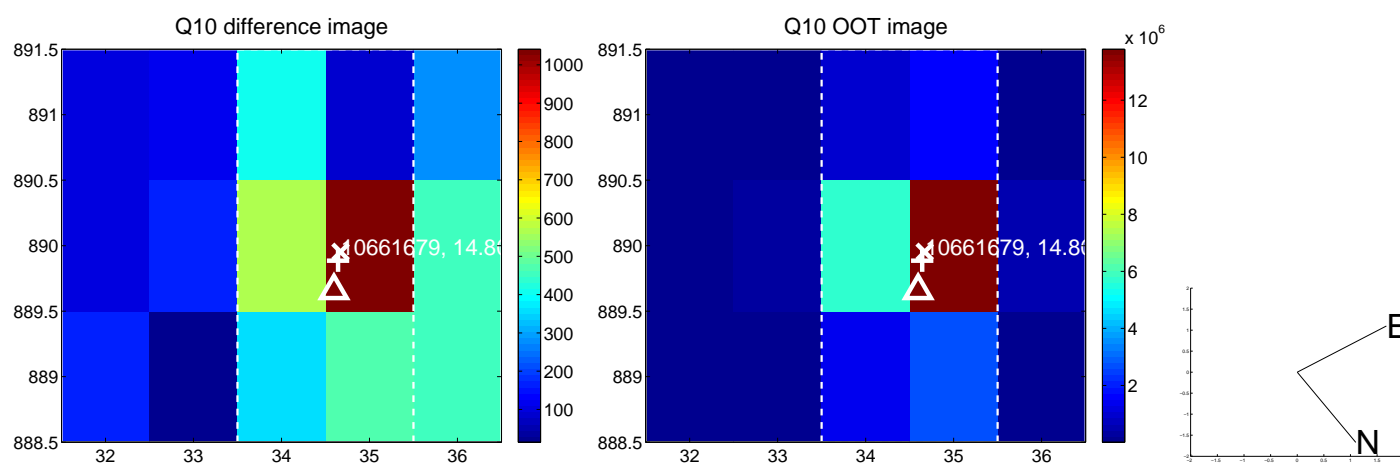
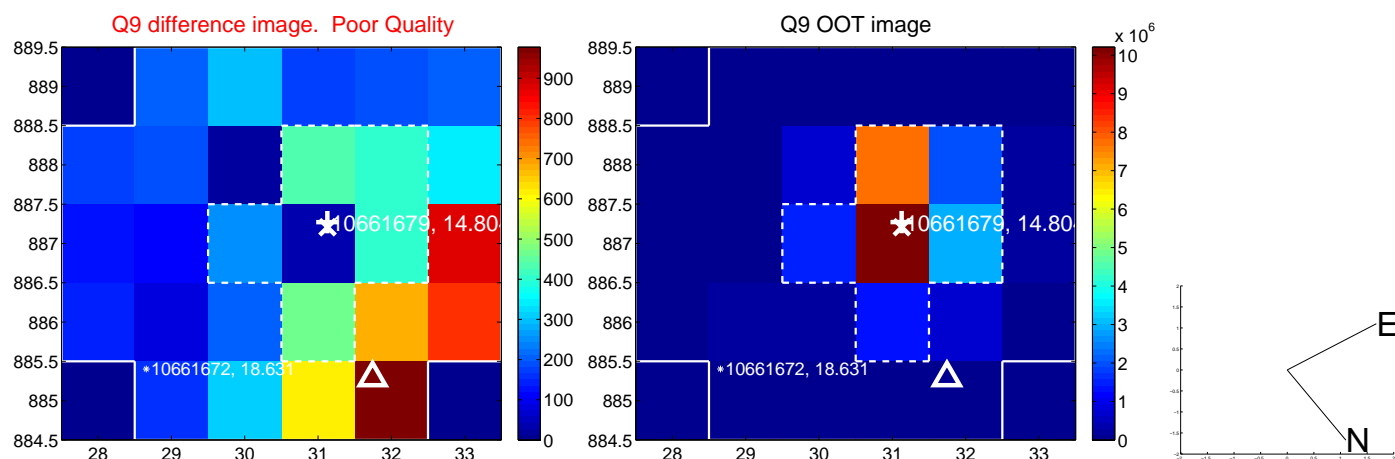
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



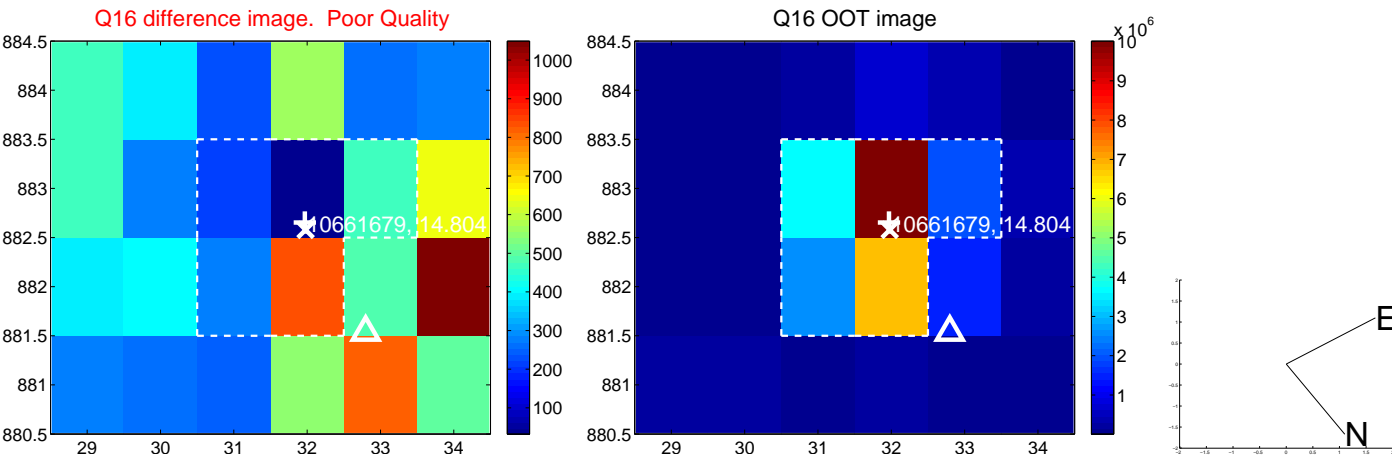
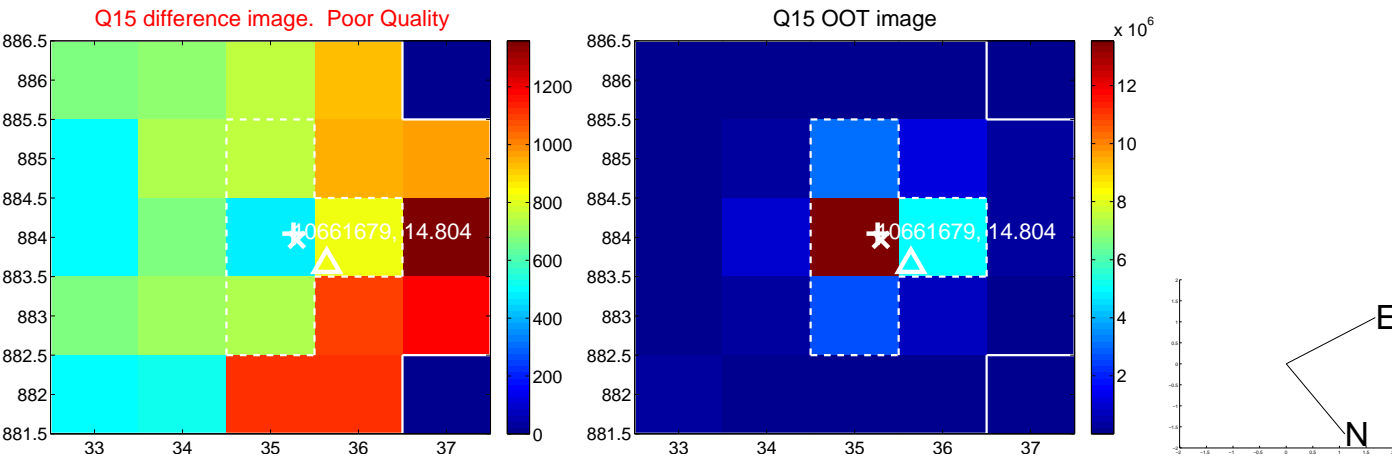
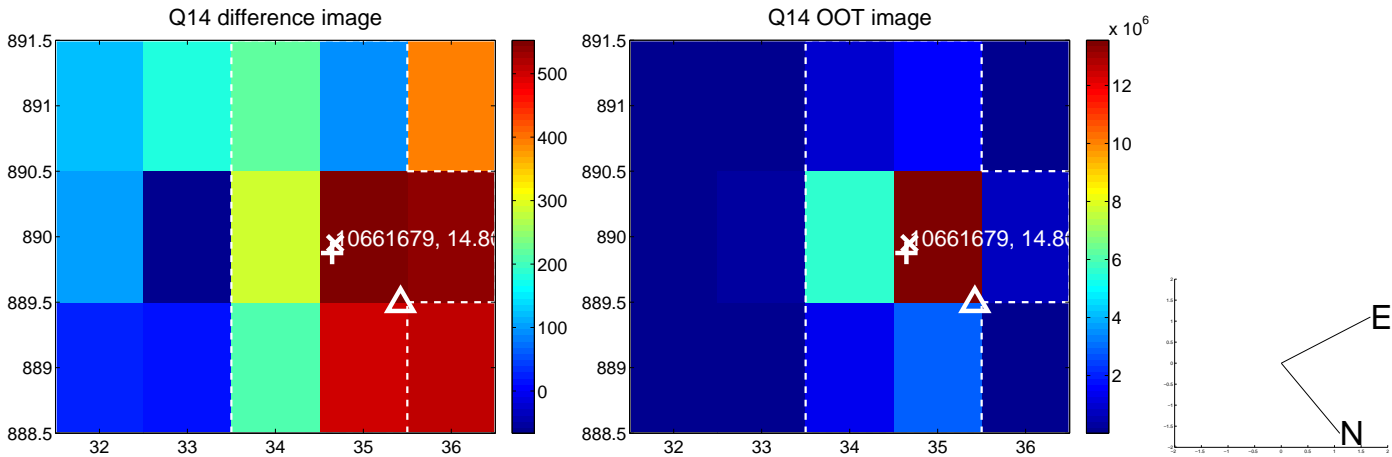
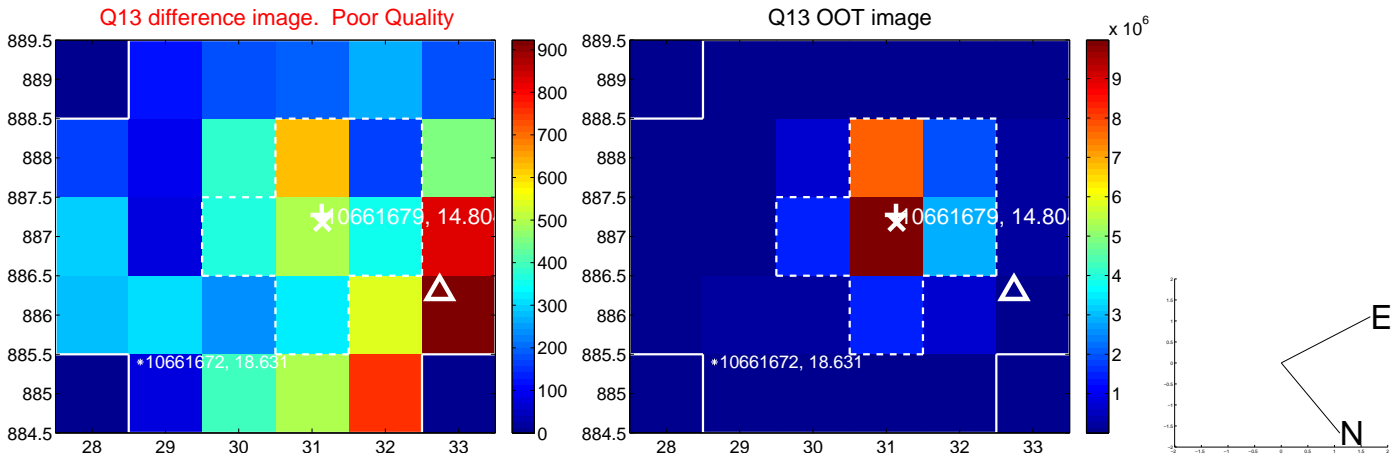
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



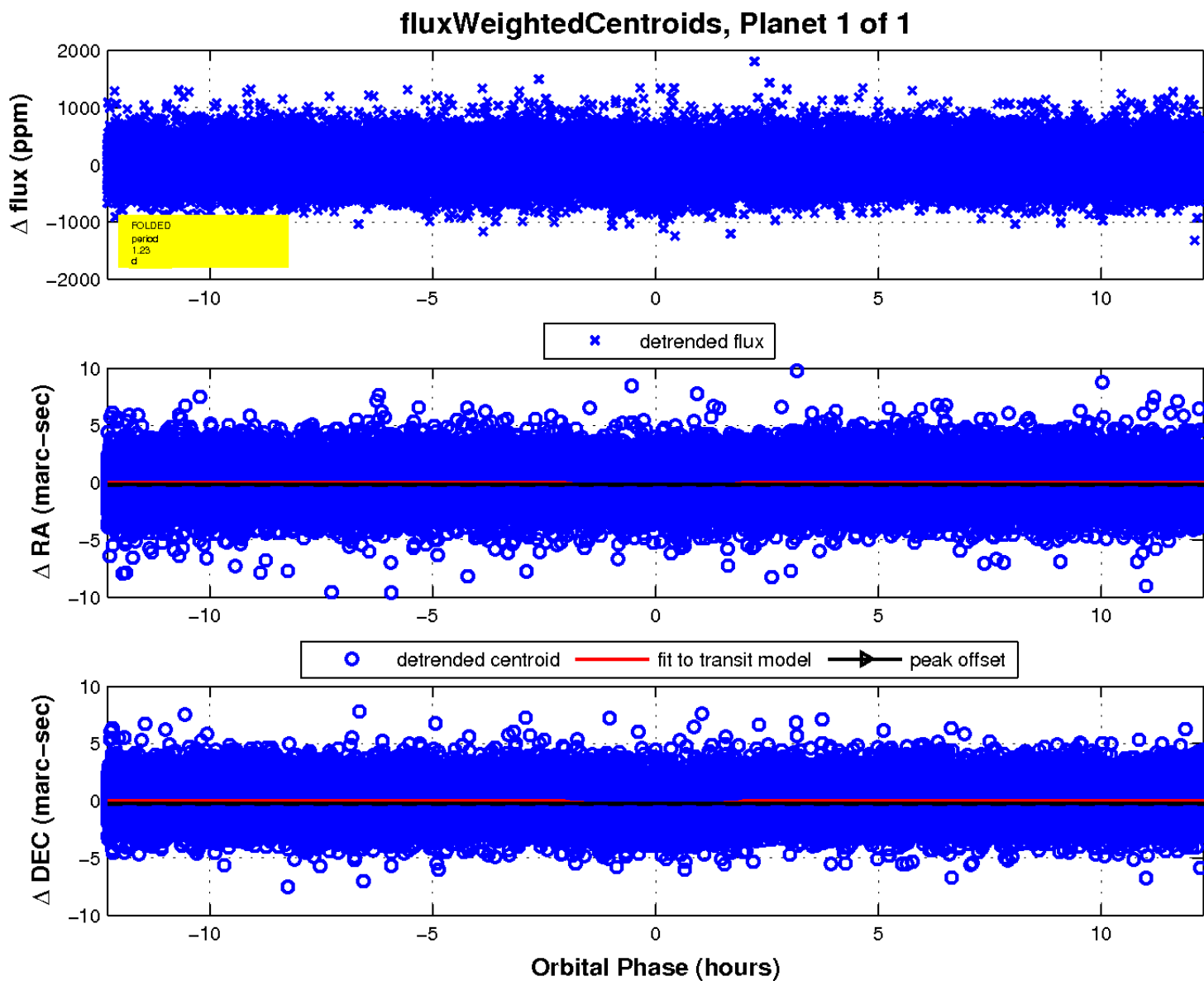
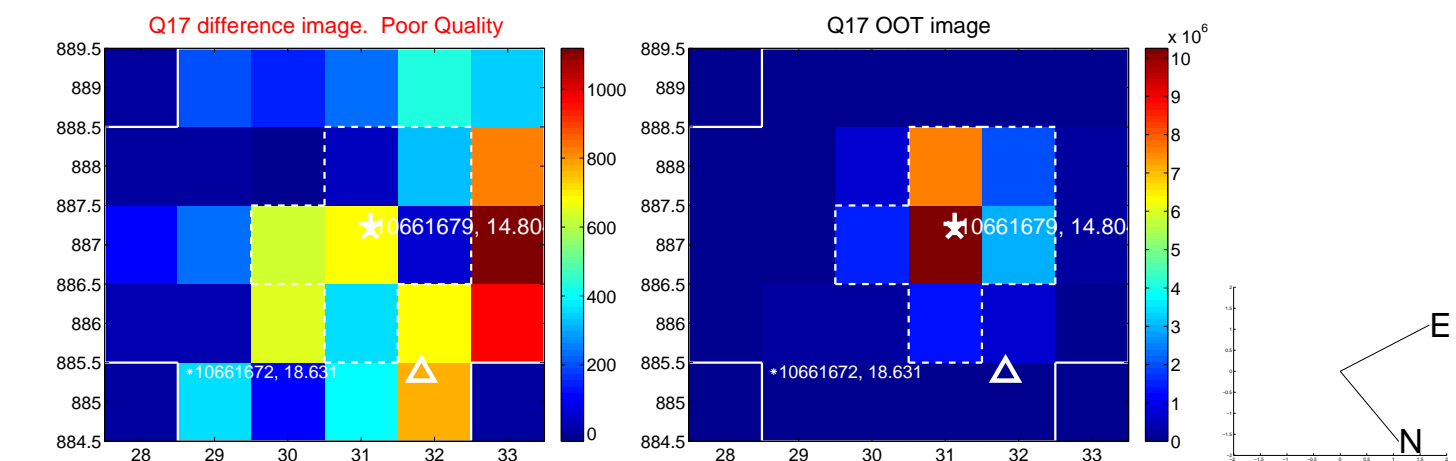
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UKIRT Image

Declination

