

KIC 004474407

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})
004474407-01	OBS	No	2.996052	131.996783	7.1	27.807	7.7	3.6	1.70	6896	0.47	2909.76

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004474407-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—CENT_FEW_DIFFS

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

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

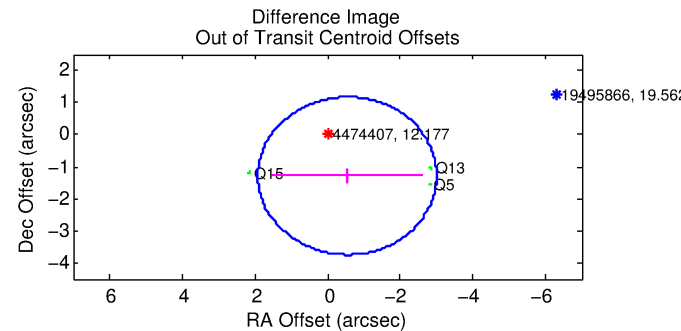
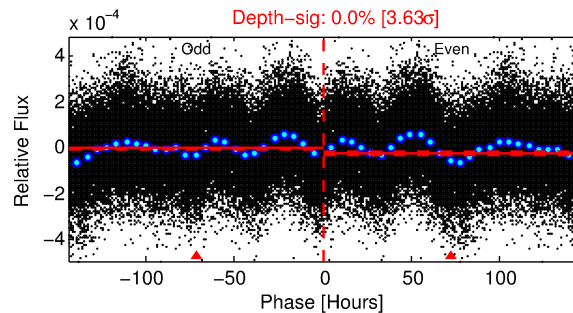
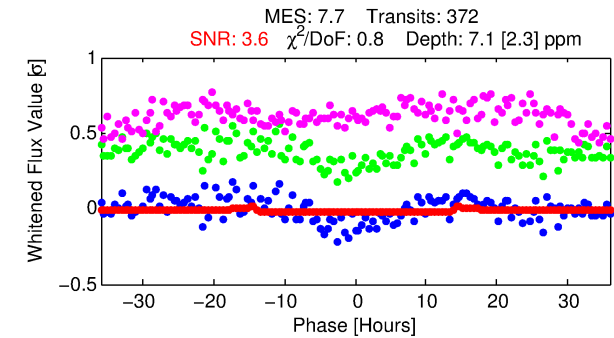
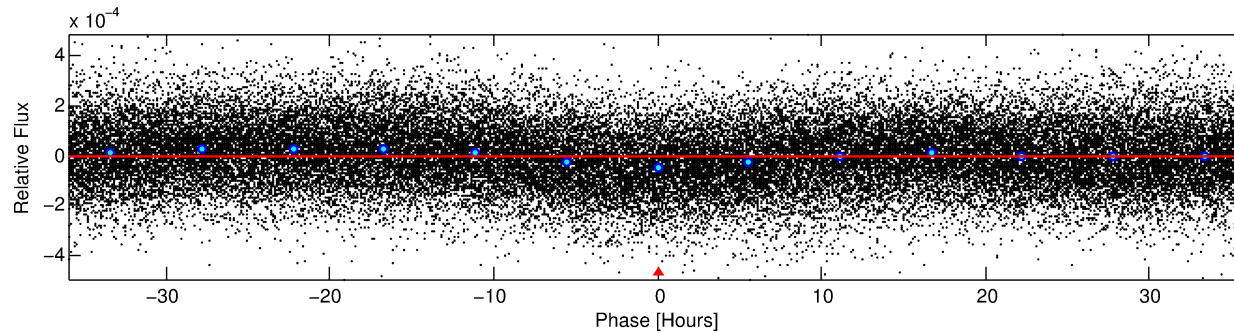
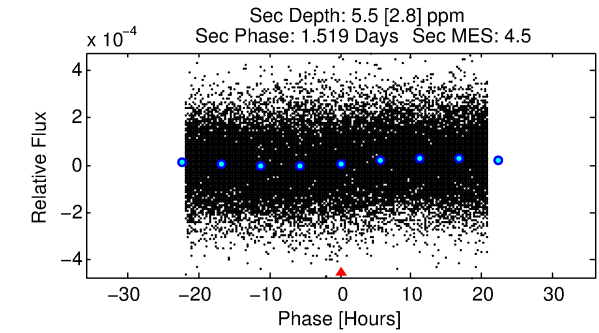
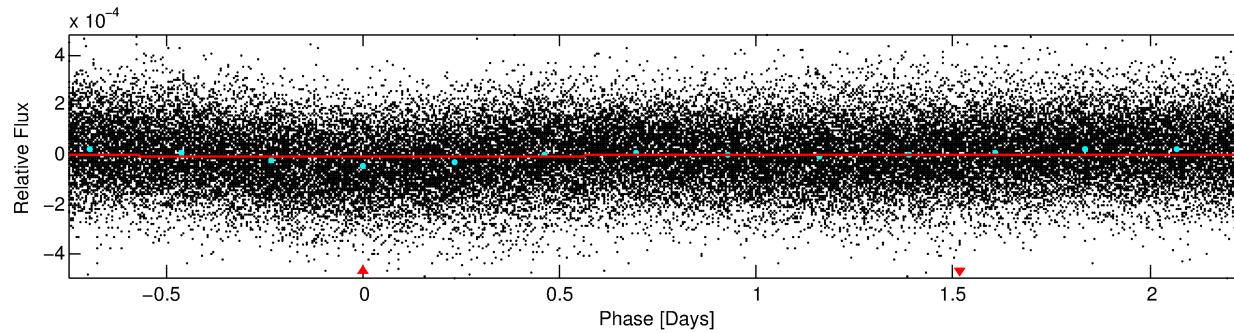
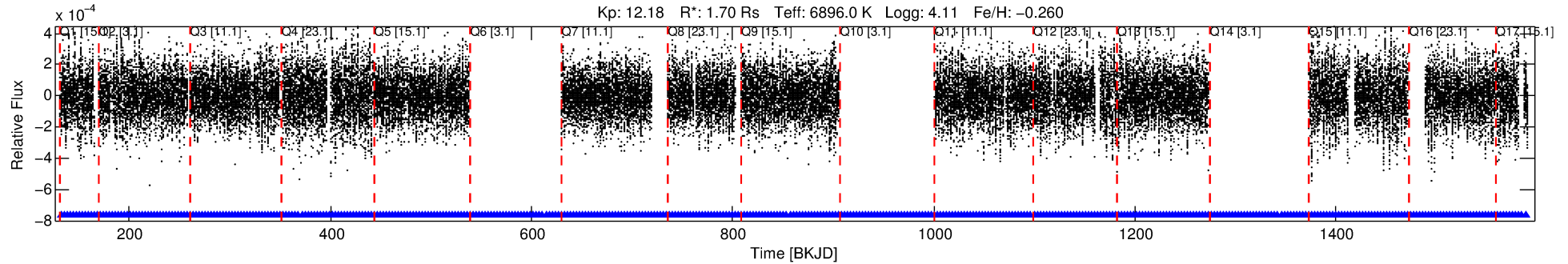
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004474407-01

No Significant Match Found

DV One-Page Summary

KIC: 4474407 Candidate: 1 of 1 Period: 2.996 d



DV Fit Results:

Period = 2.99605 [0.00012] d
Epoch = 131.9968 [0.0225] BKJD
Rp/R* = 0.0025 [0.0040]
a/R* = 1.05 [0.99]
b = 0.50 [14.44]
Seff = 2909.76 [1129.64]
Teq = 1873 [182] K
Rp = 0.47 [0.76] Re
a = 0.0449 [0.0109] AU
Ag = 27.53 [89.43] [0.30σ]
Teffp = 6633 [5362] K [0.89σ]

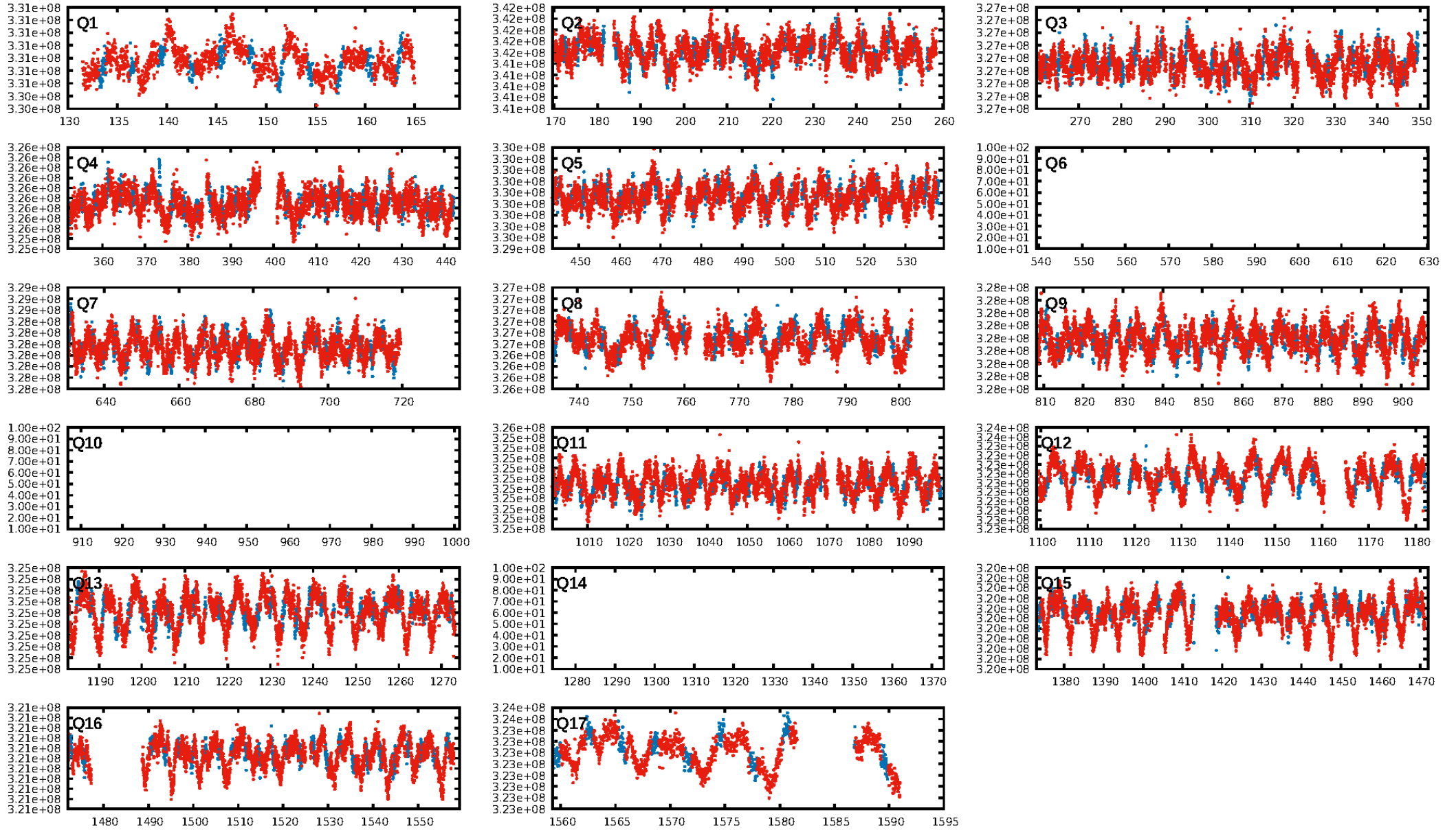
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [350/350]
GhostDiagnostic-chr: 0.8437
Centroid-sig: 1.5%
Centroid-so: 2.657 arcsec [2.03σ]
OotOffset-rm: 1.396 arcsec [1.70σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-rm: 1.270 arcsec [1.56σ]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [14/14]

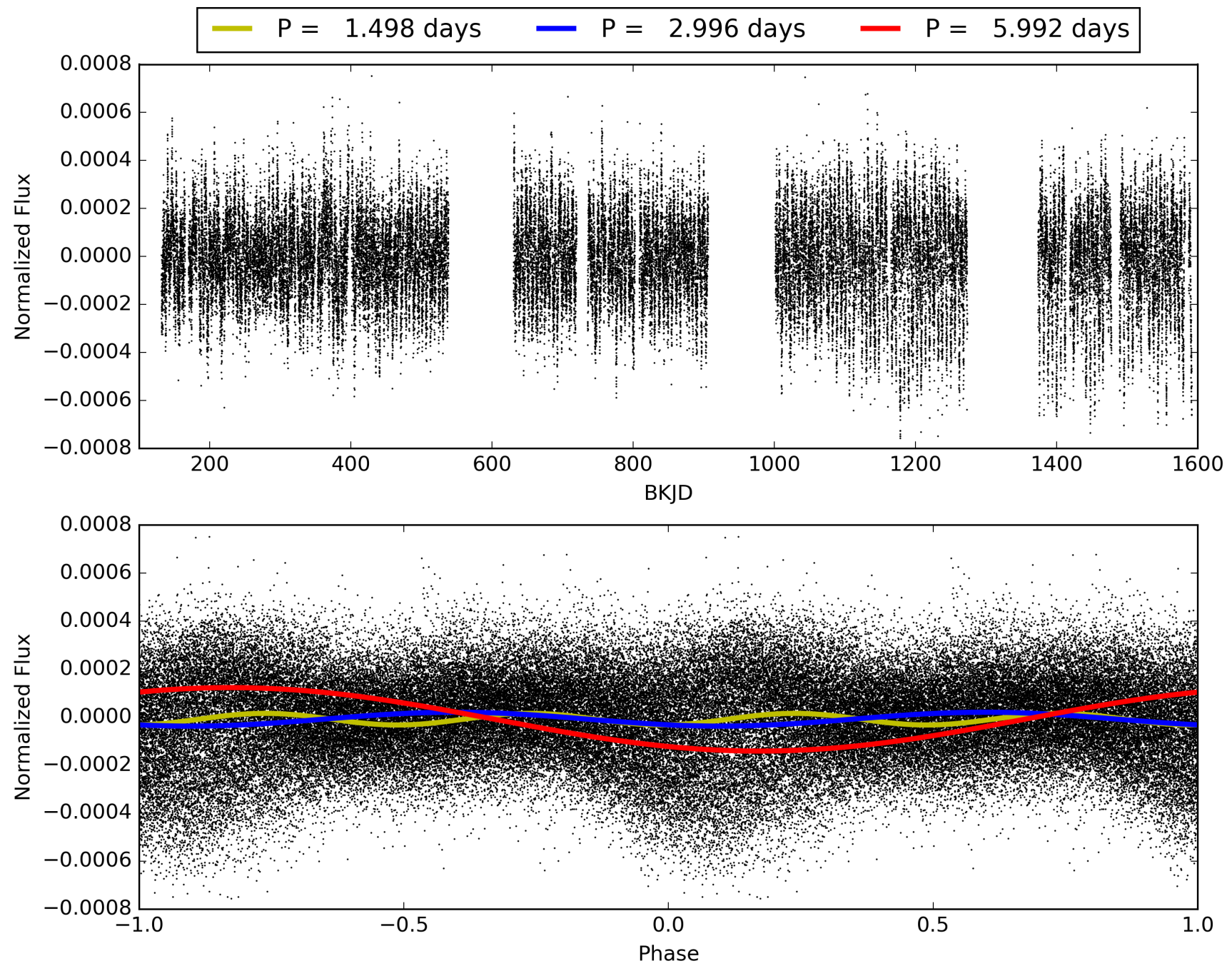
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 02:13:38 Z

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

TCE 004474407-01, PDC Light Curves

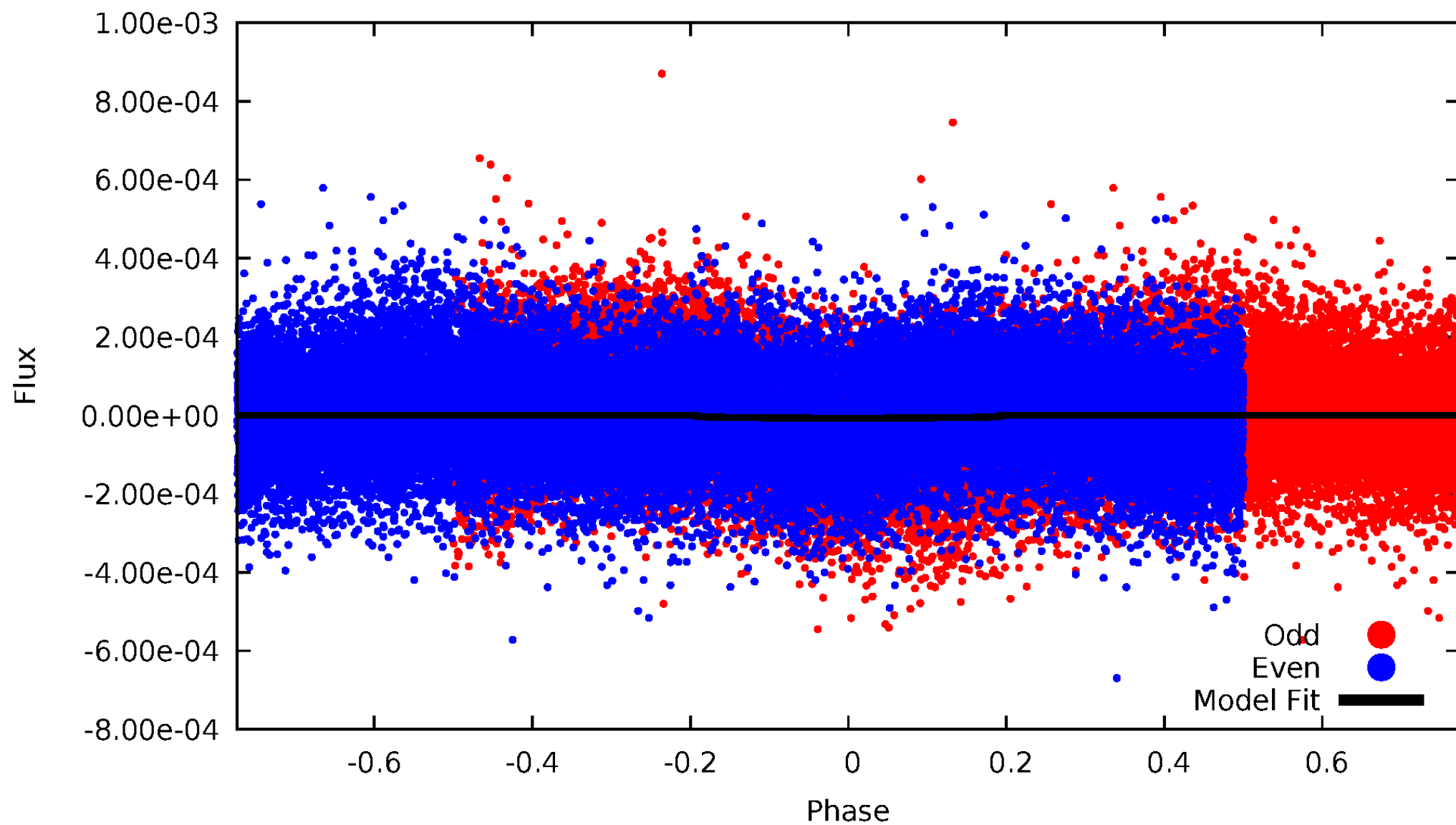


TCE 004474407-01



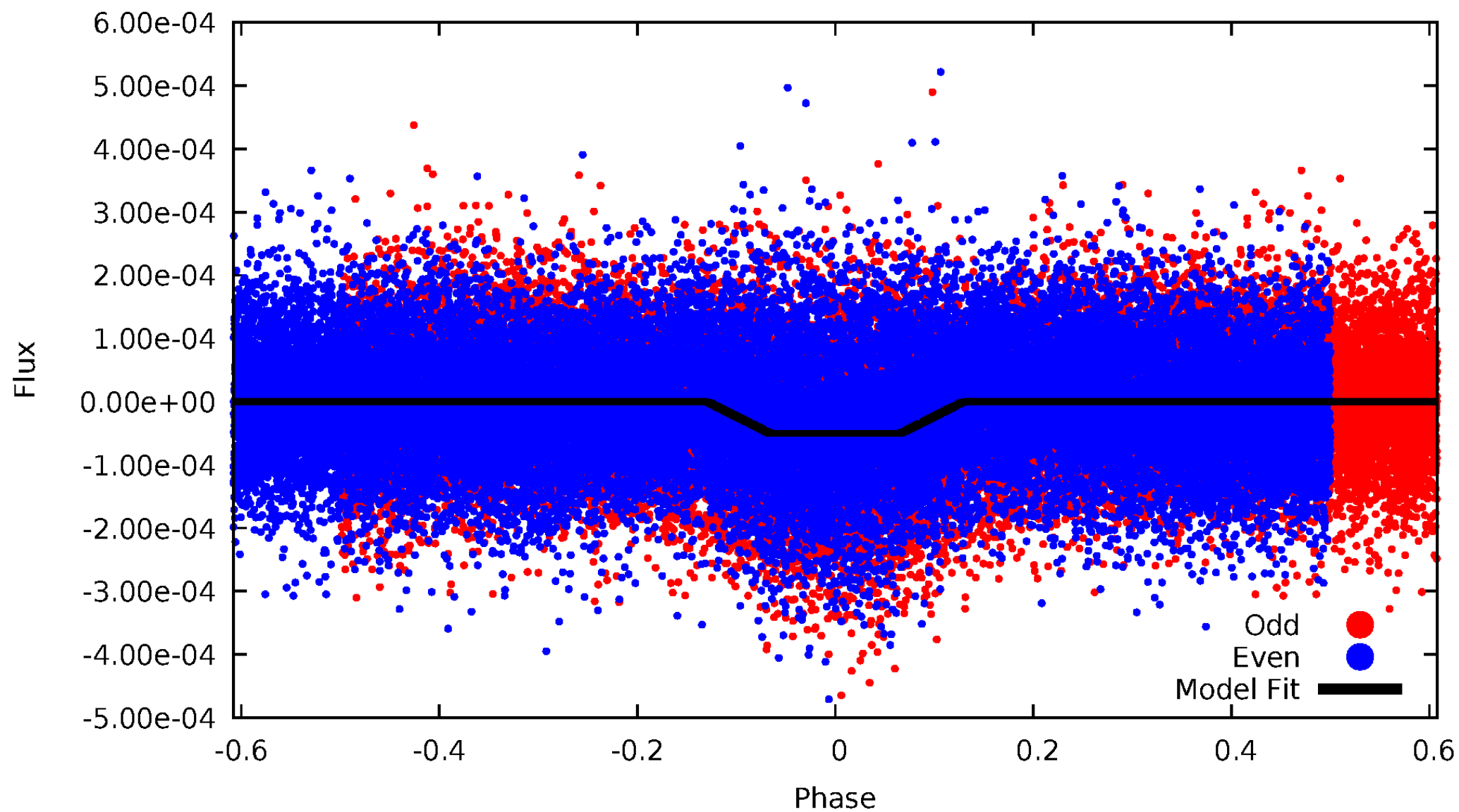
DV Odd/Even

TCE 004474407-01



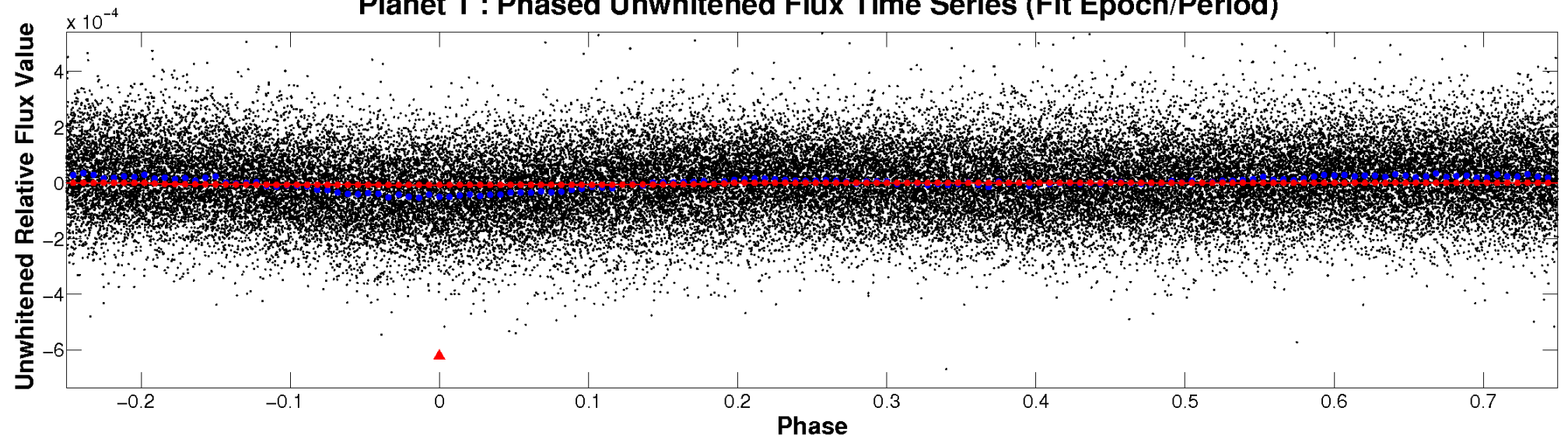
ALT Odd/Even

TCE 004474407-01

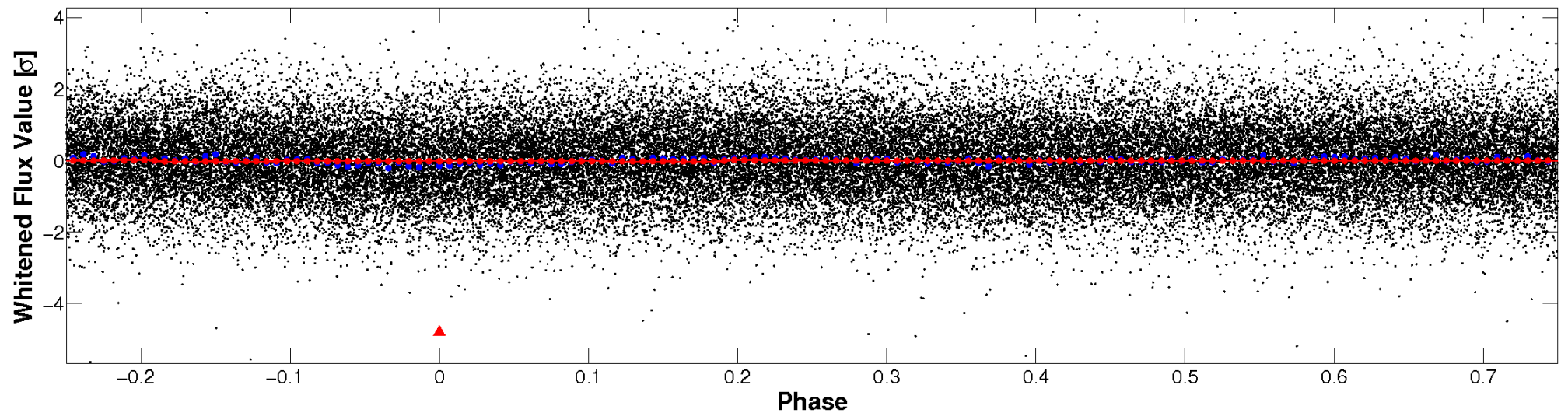


Non-Whitened Vs. Whitened Light Curve

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

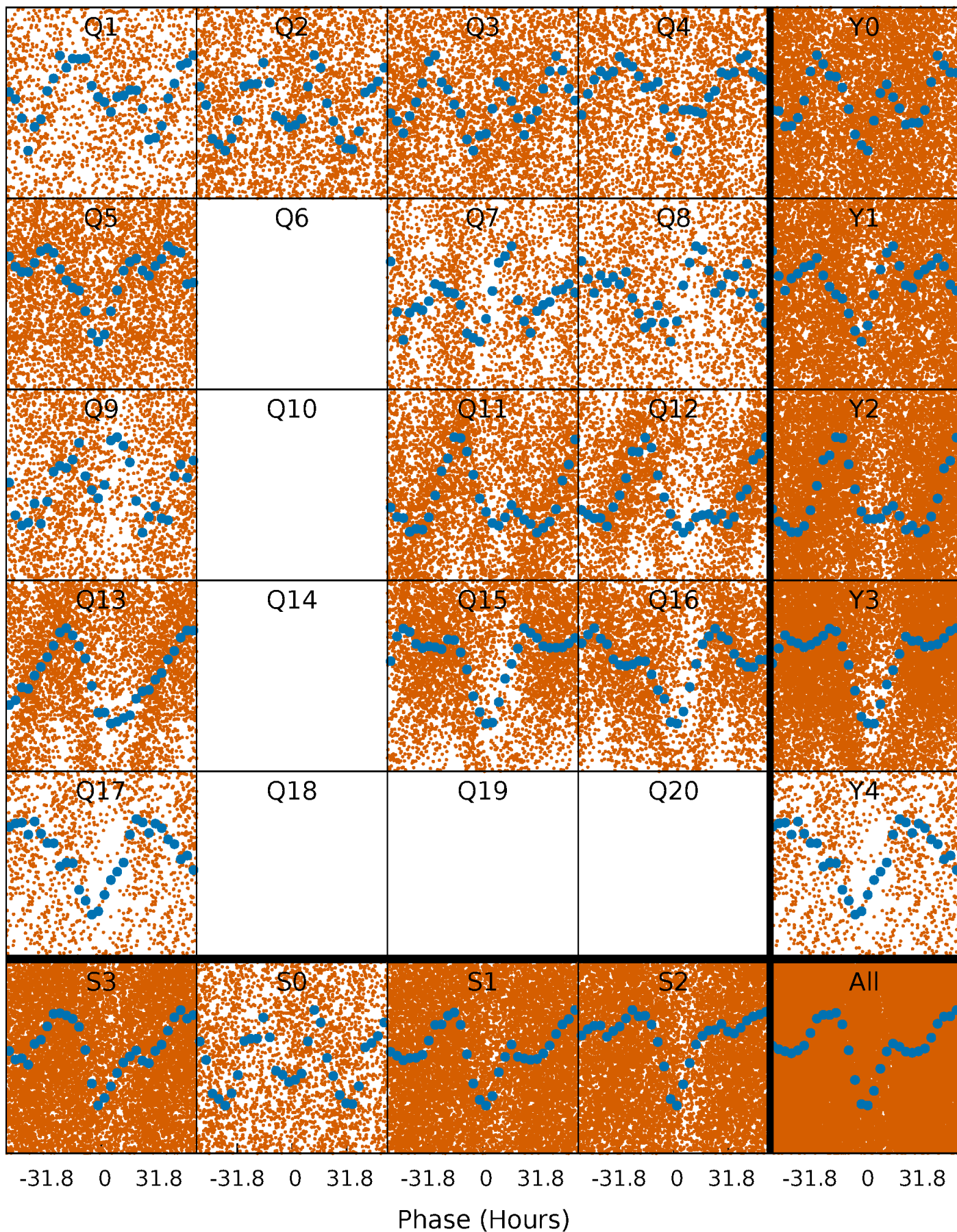


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



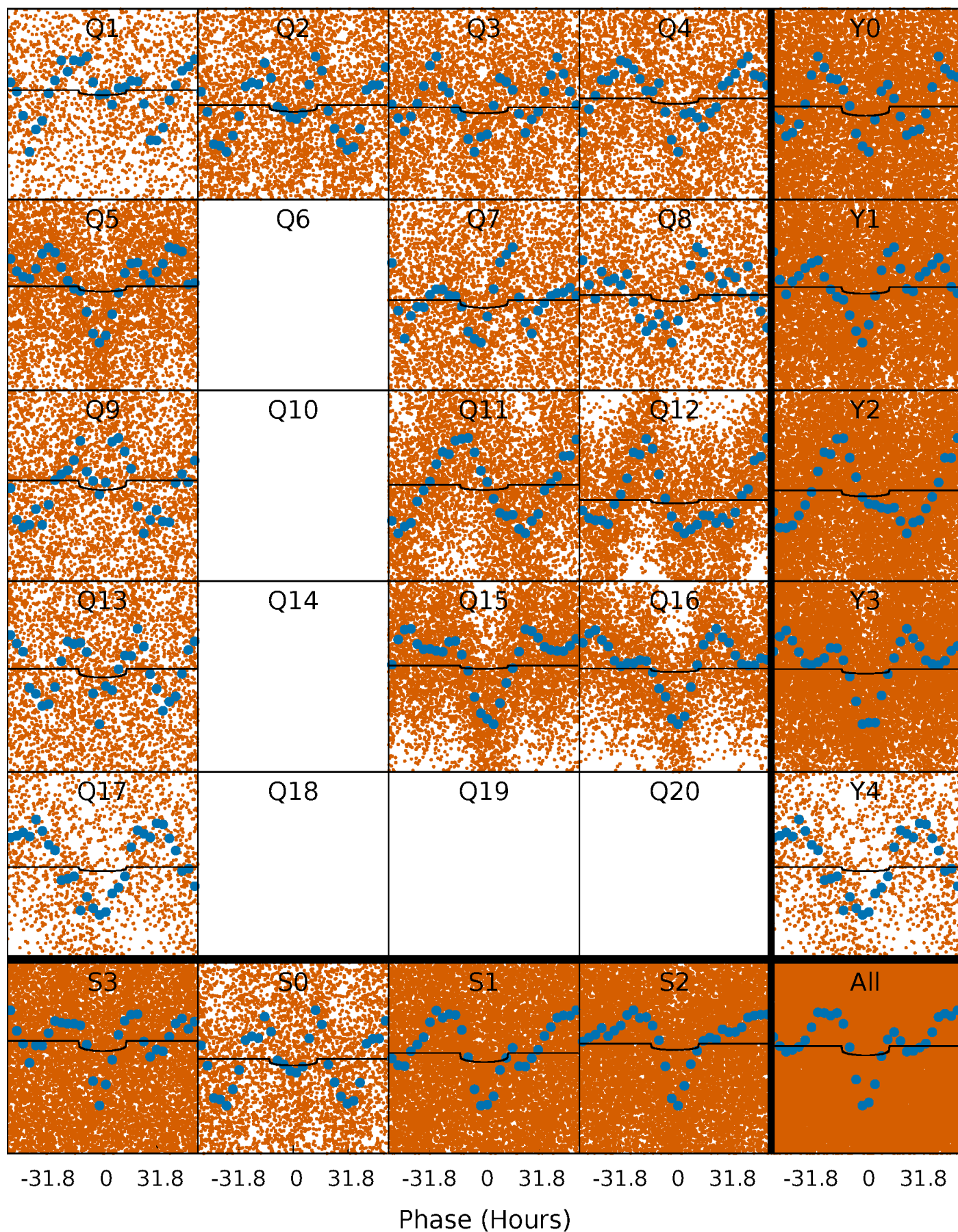
PDC Quarter-Phased Transit Curves

TCE 004474407-01 P= 2.996052 Days $T_0=131.996783$ (BKJD)



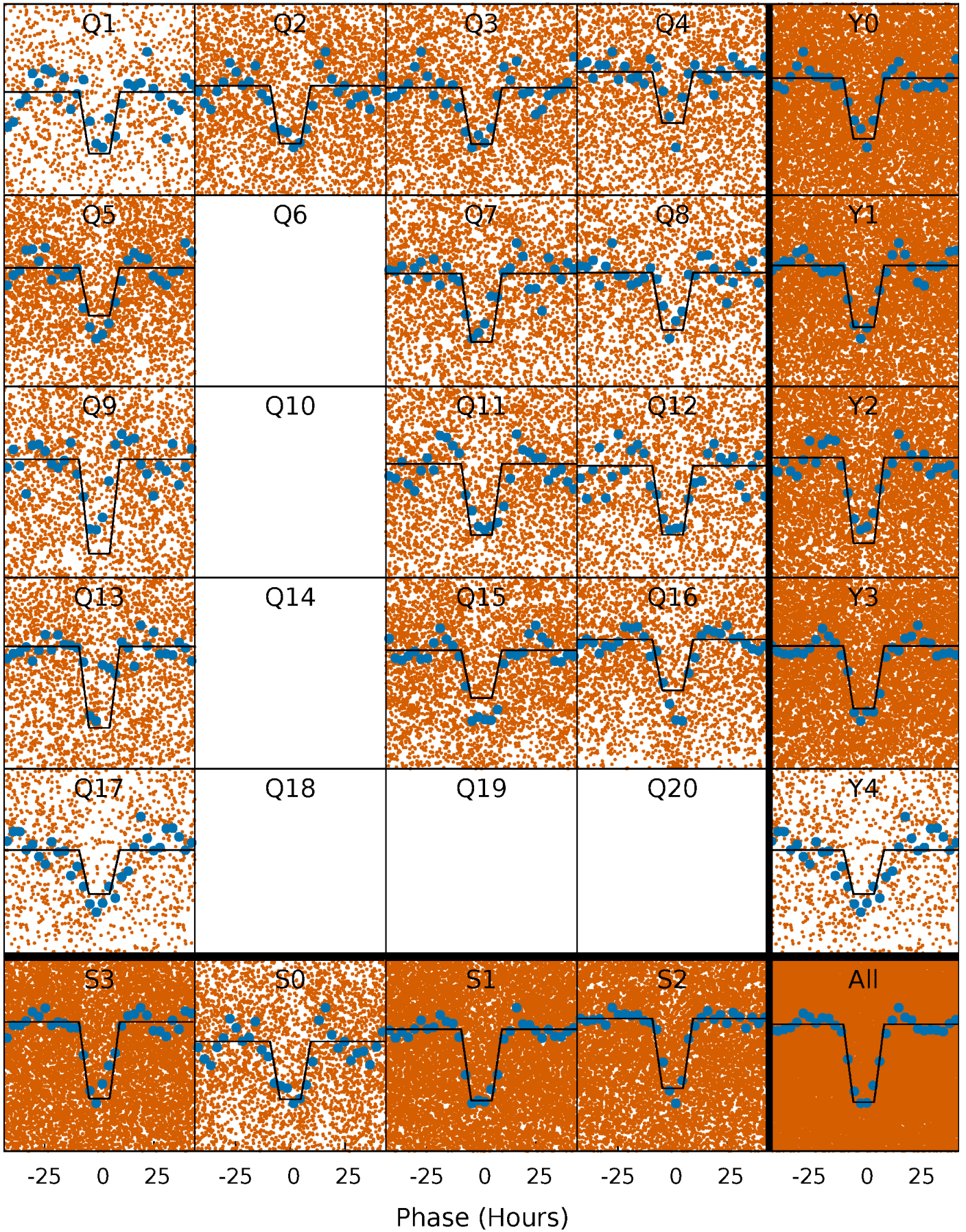
DV Quarter-Phased Transit Curves

TCE 004474407-01 P= 2.996052 Days $T_0=131.996783$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

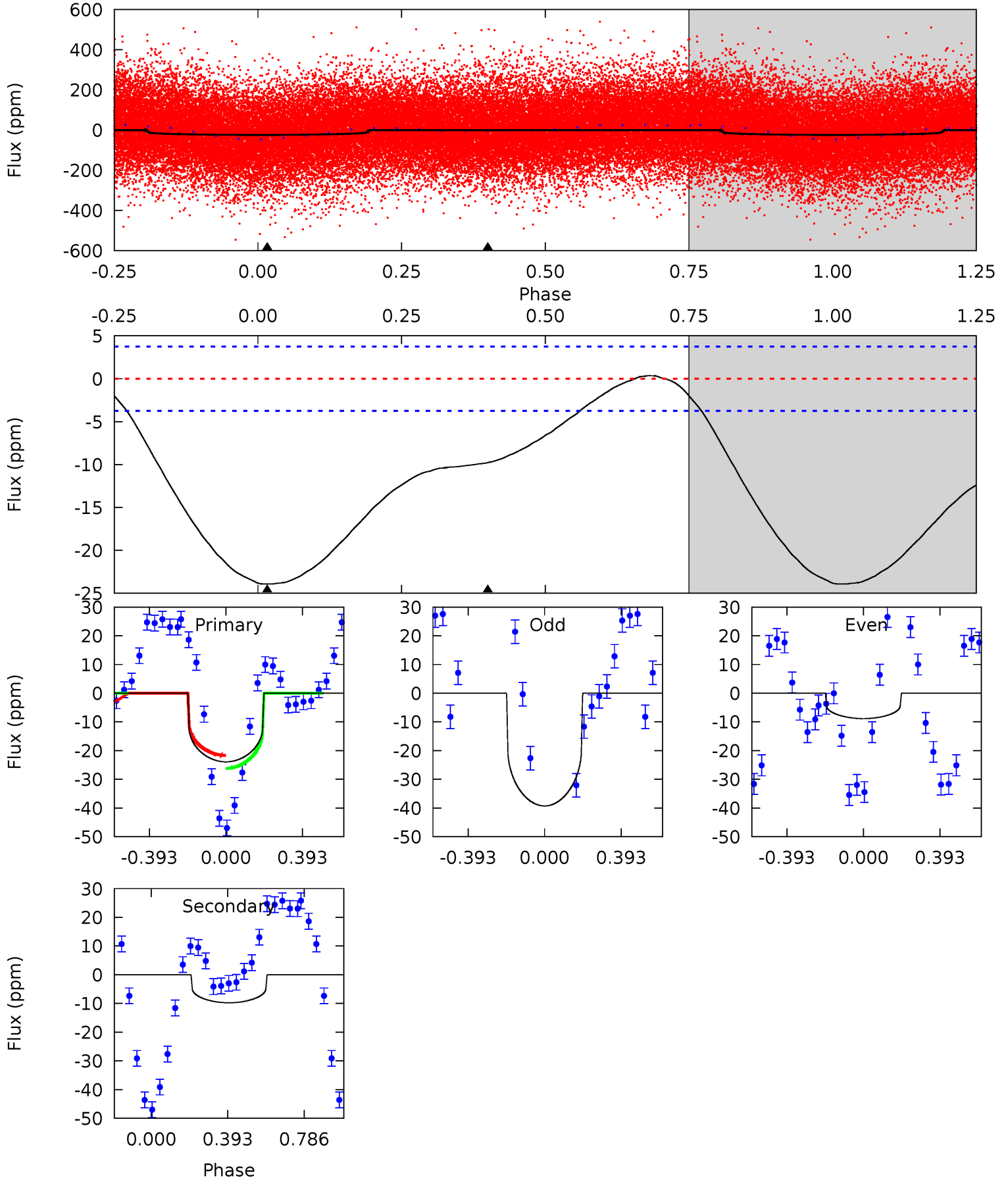
TCE 004474407-01 P= 2.996235 Days $T_0=131.942027$ (BKJD)



DV Model-Shift Uniqueness Test

004474407-01, P = 2.996052 Days, E = 129.000731 Days

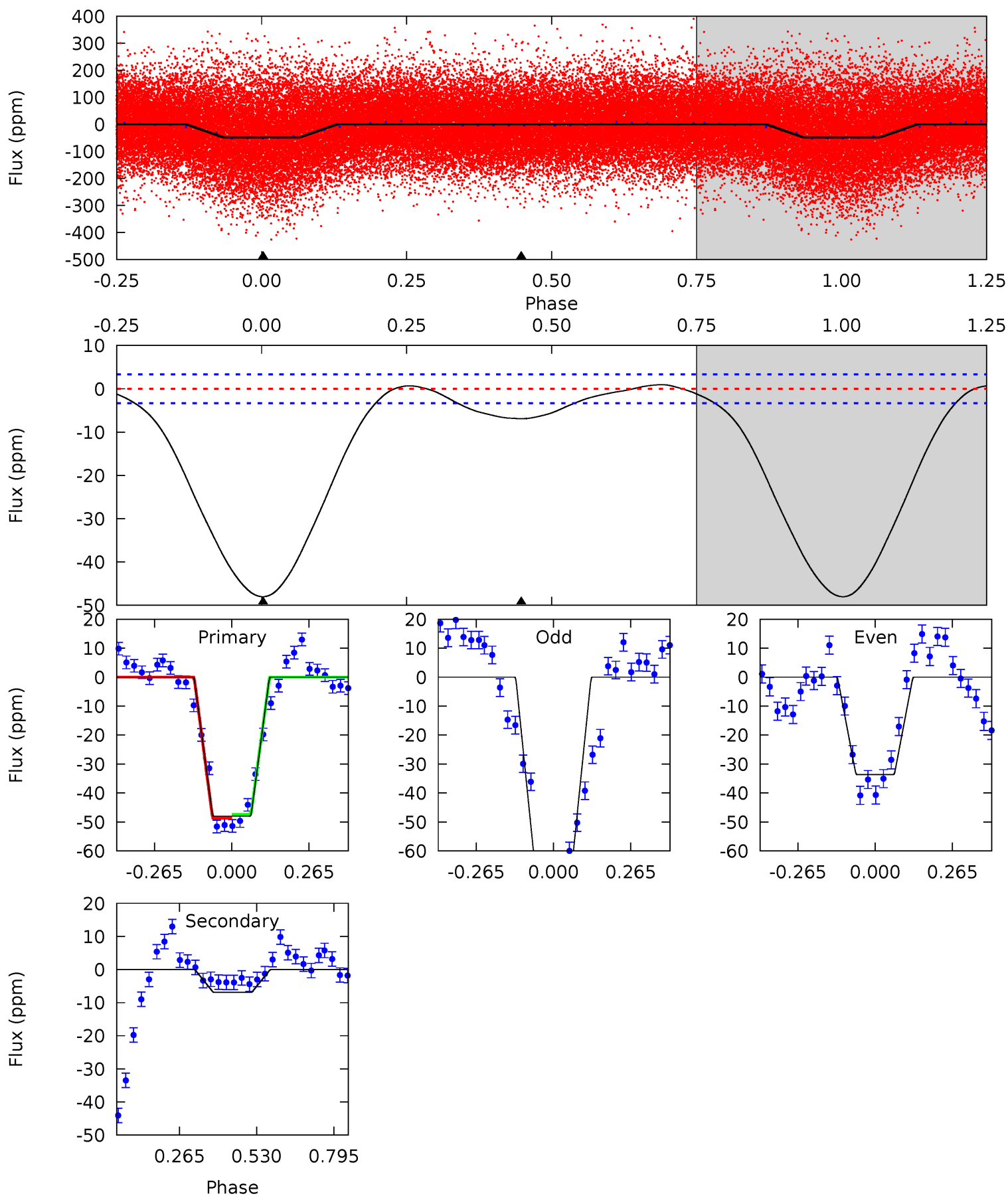
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27.3	11.1	0	0	4.27	0.85	0.98	27.3	27.3	11.1	11.1	16.7	1.38	0.01	2.61



Alt Model-Shift Uniqueness Test

004474407-01, P = 2.996235 Days, E = 128.945792 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.2	9.11	0	0	4.36	1.11	1.54	63.2	63.2	9.11	9.11	19.1	1.02	0.02	0.86



Stellar Parameters For KIC 004474407

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6896^{+216}_{-288}	$4.105^{+0.190}_{-0.190}$	$-0.260^{+0.300}_{-0.300}$	$1.702^{+0.496}_{-0.446}$	$1.349^{+0.202}_{-0.224}$	$0.386^{+0.451}_{-0.179}$
	+3%/-4%	+5%/-5%	+115%/-115%	+29%/-26%	+15%/-17%	+117%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 004474407-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 1	$0.69^{+0.66}_{-0.47}$	2611^{+219}_{-185}	6209^{+7177}_{-1562}	22^{+196}_{-16}
Alt.	-7 ± 1	$1.36^{+0.77}_{-0.77}$	2611^{+221}_{-211}	4233^{+1779}_{-672}	$4.059^{+16.505}_{-2.406}$

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

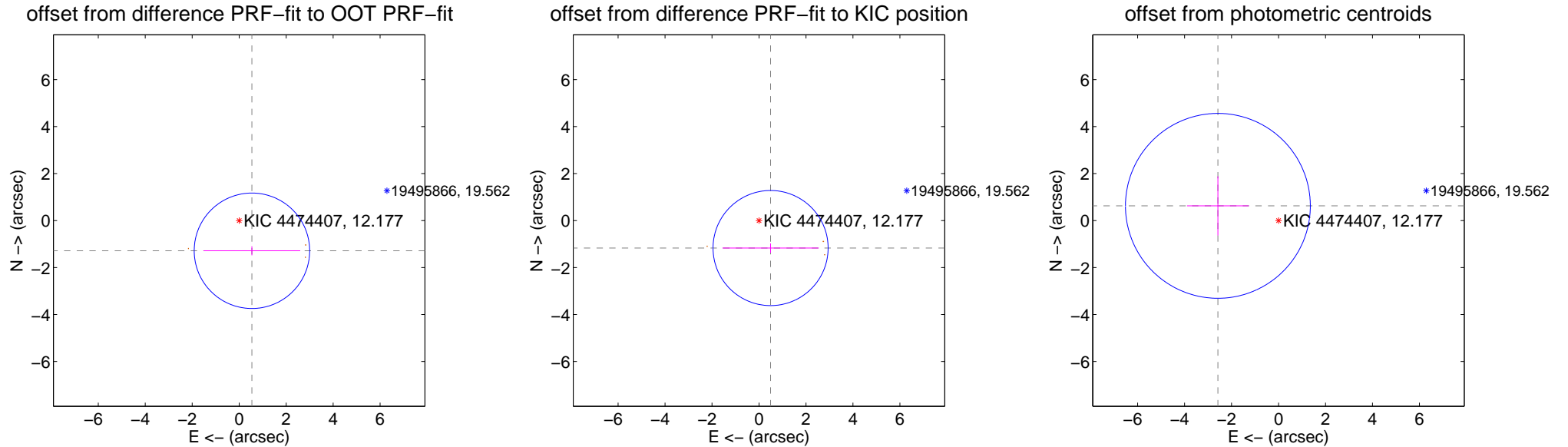
DV Centroid Data

Supplemental centroid analysis for 004474407-01. Kepler magnitude: 12.18. Transit SNR 3.63

There are 0 quarters with good PRF difference image offsets

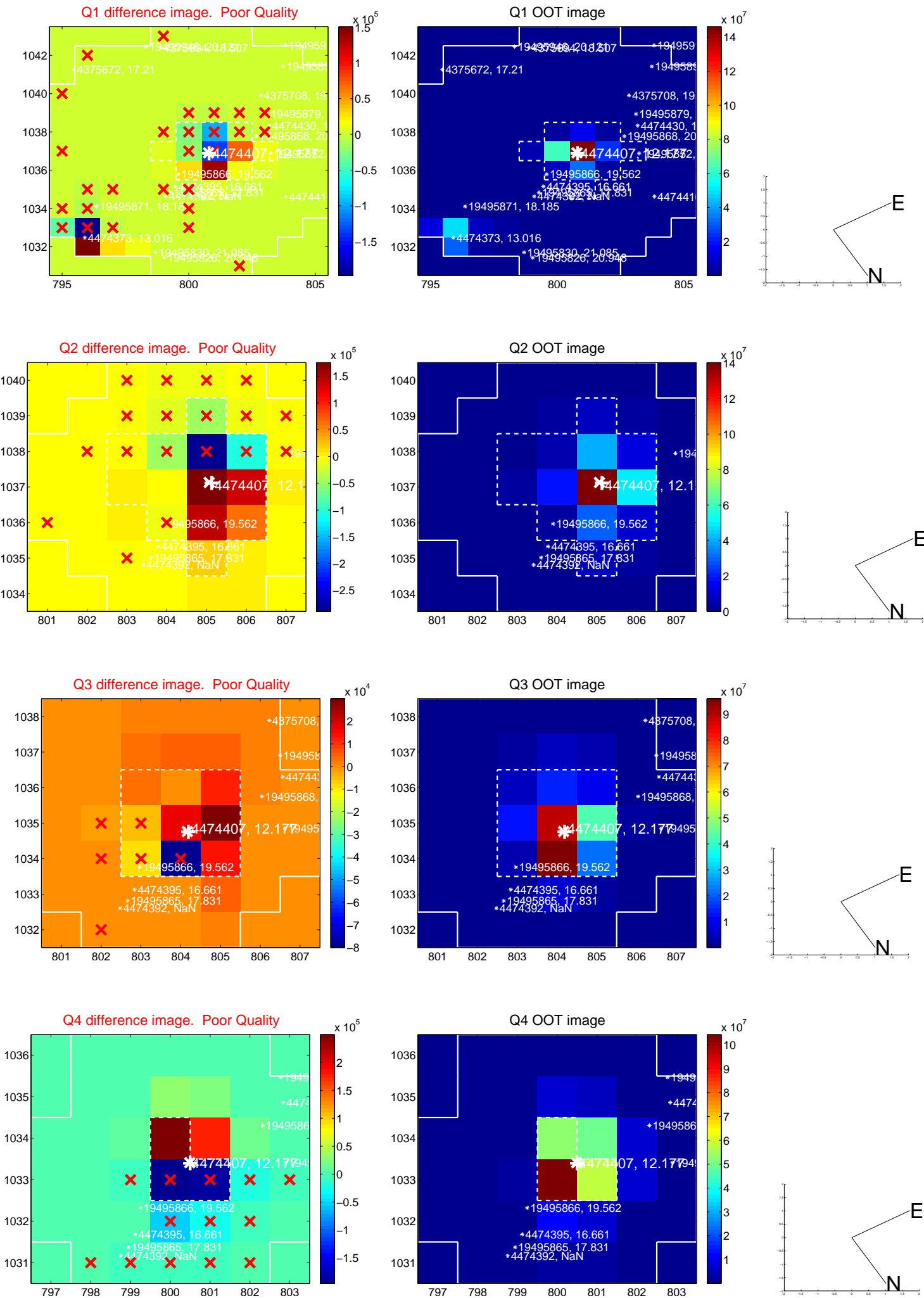
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.396 ± 0.819	1.70	-0.543 ± 2.058	-1.286 ± 0.193
PRF-fit source offset from KIC position	1.270 ± 0.817	1.56	-0.493 ± 2.050	-1.171 ± 0.201
photometric centroid source offset	2.66 ± 1.31	2.03	2.58 ± 1.31	0.63 ± 1.26

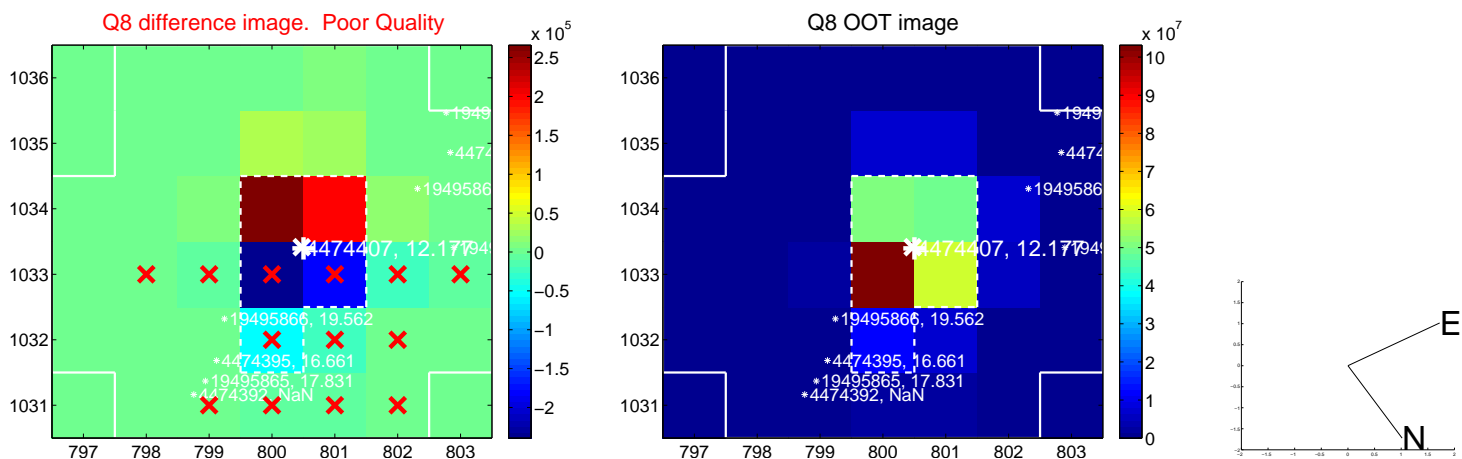
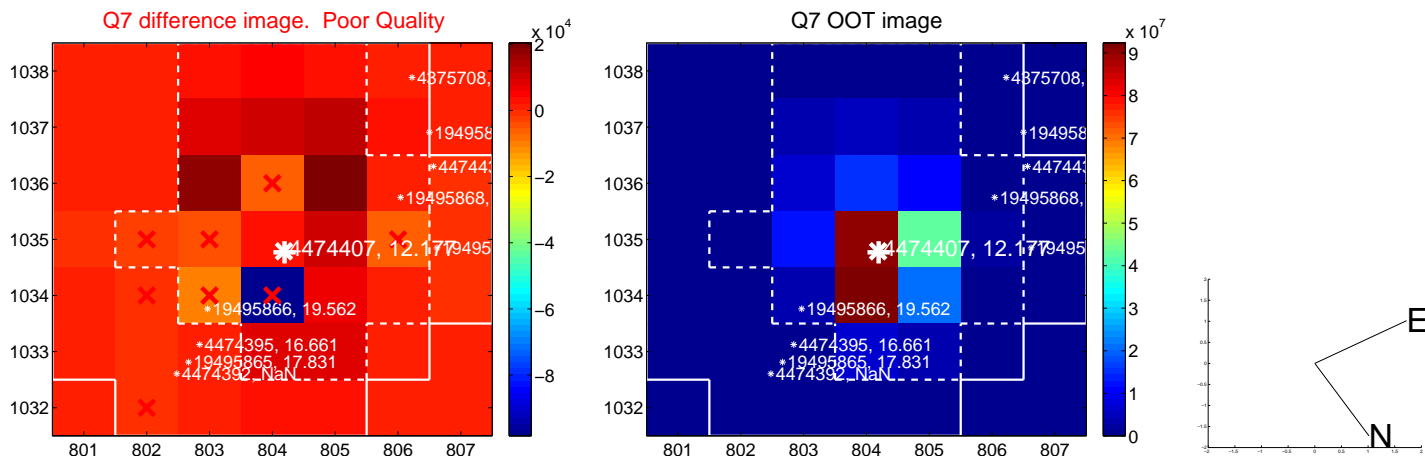
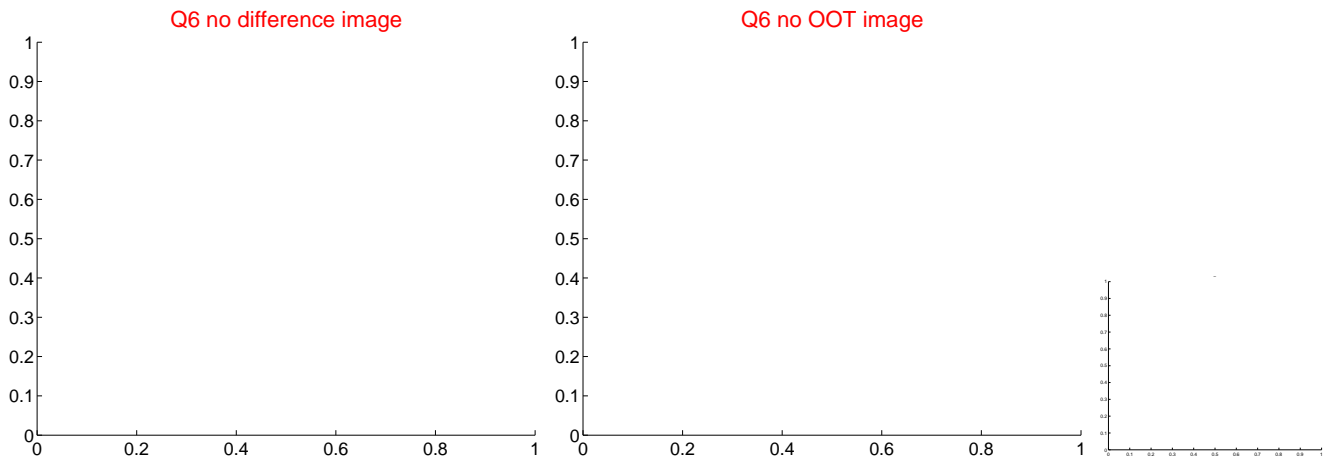
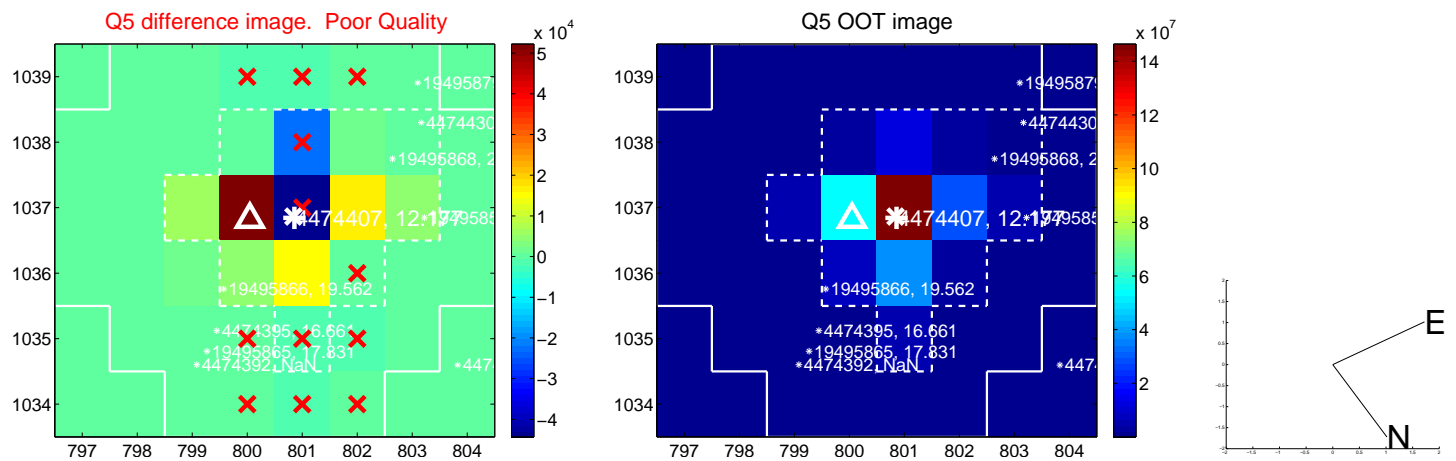


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

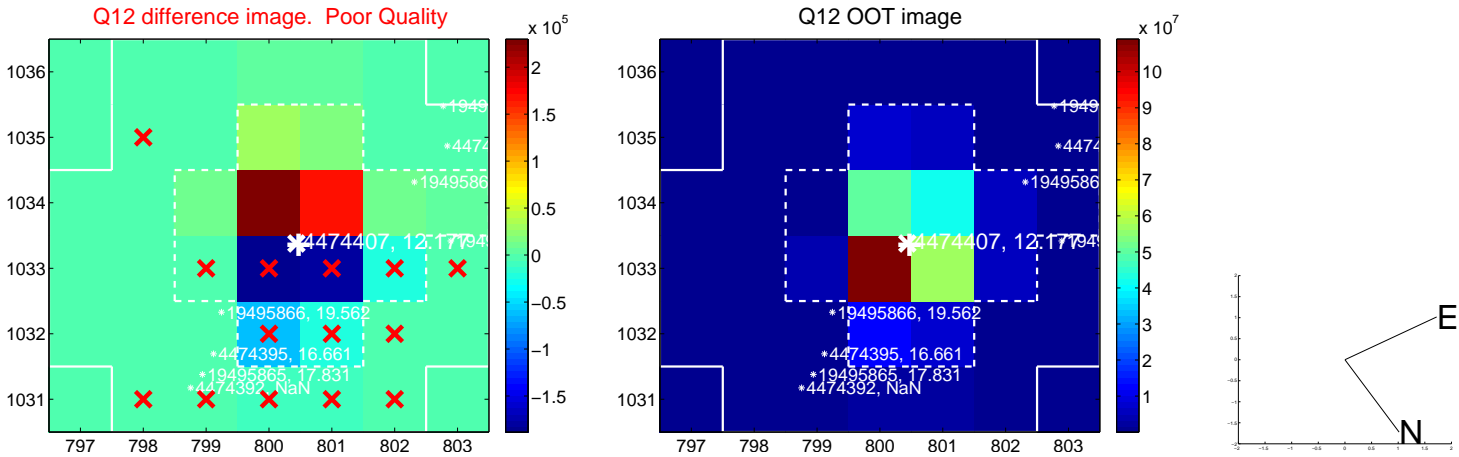
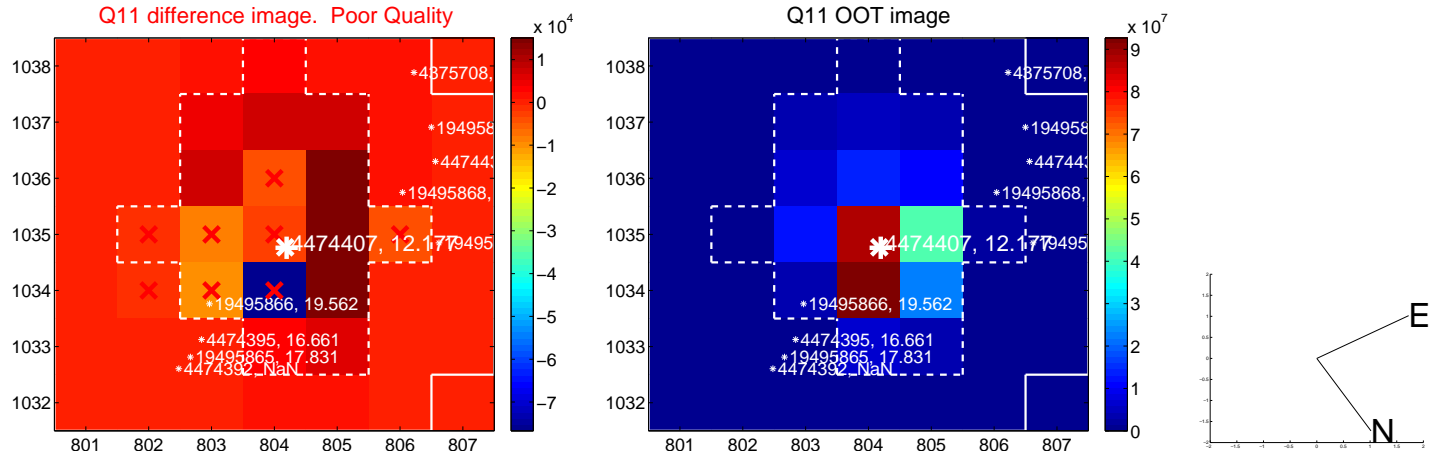
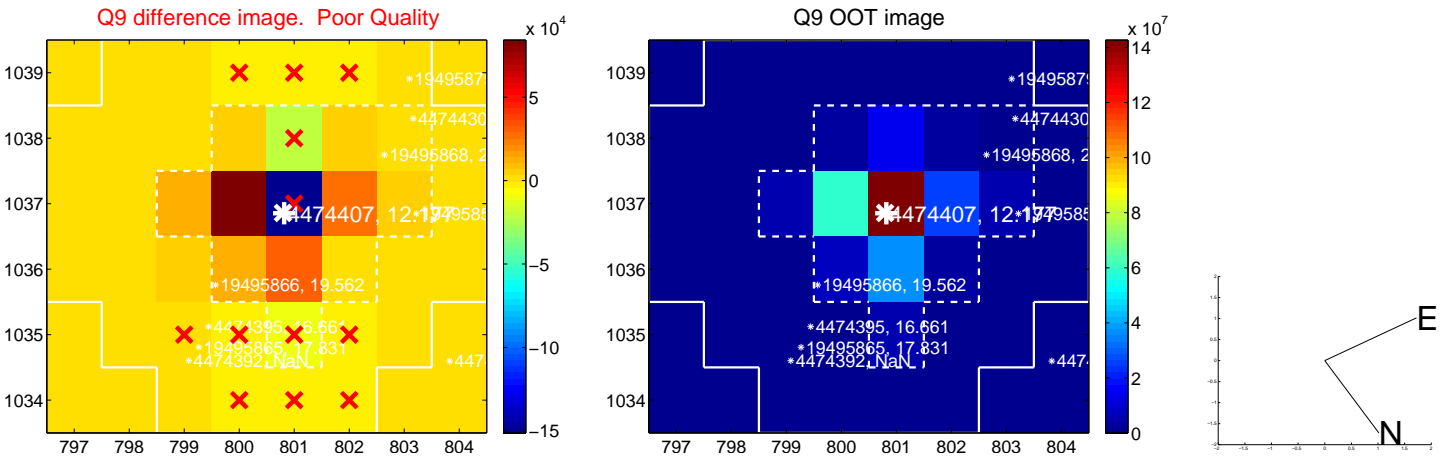
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



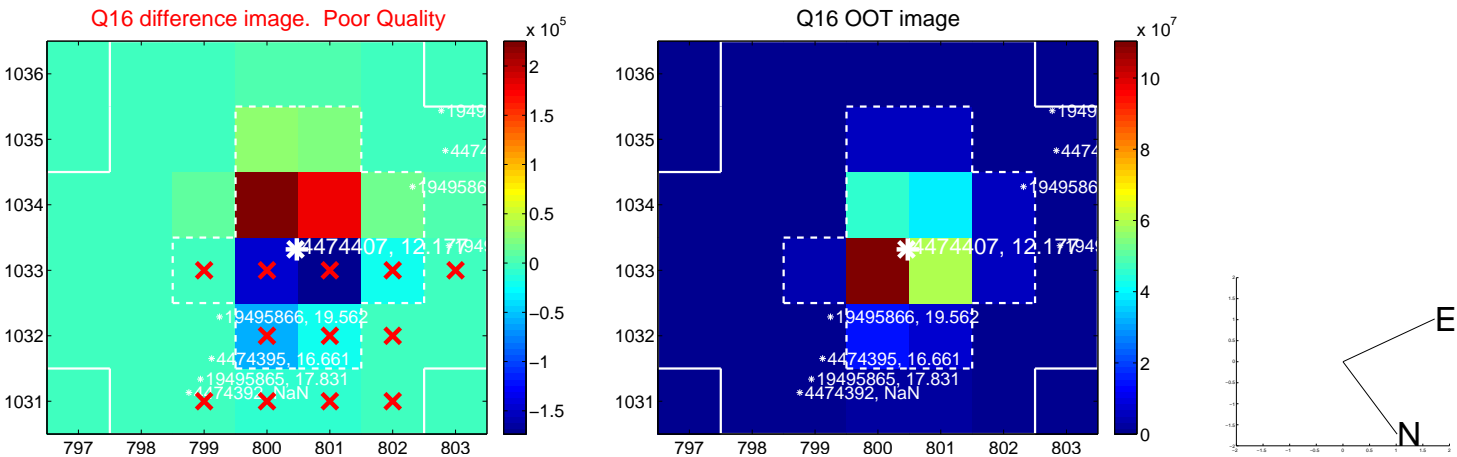
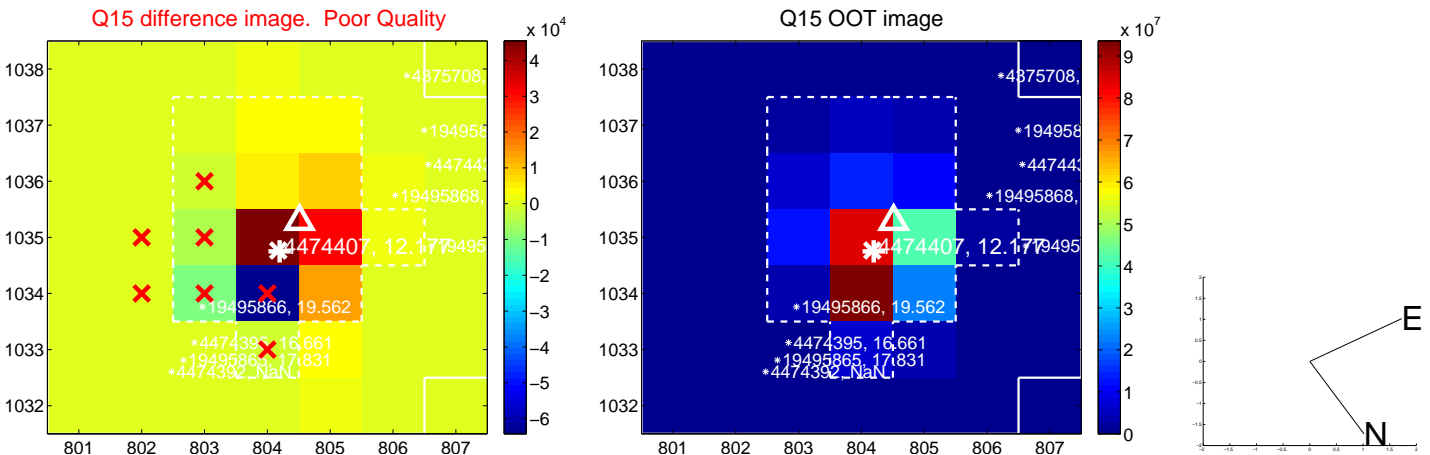
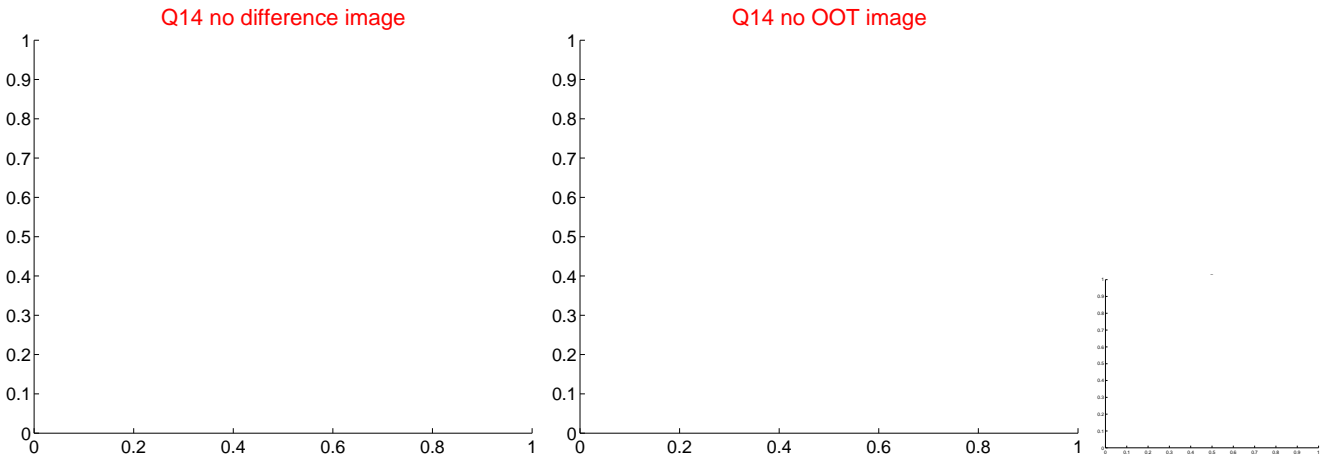
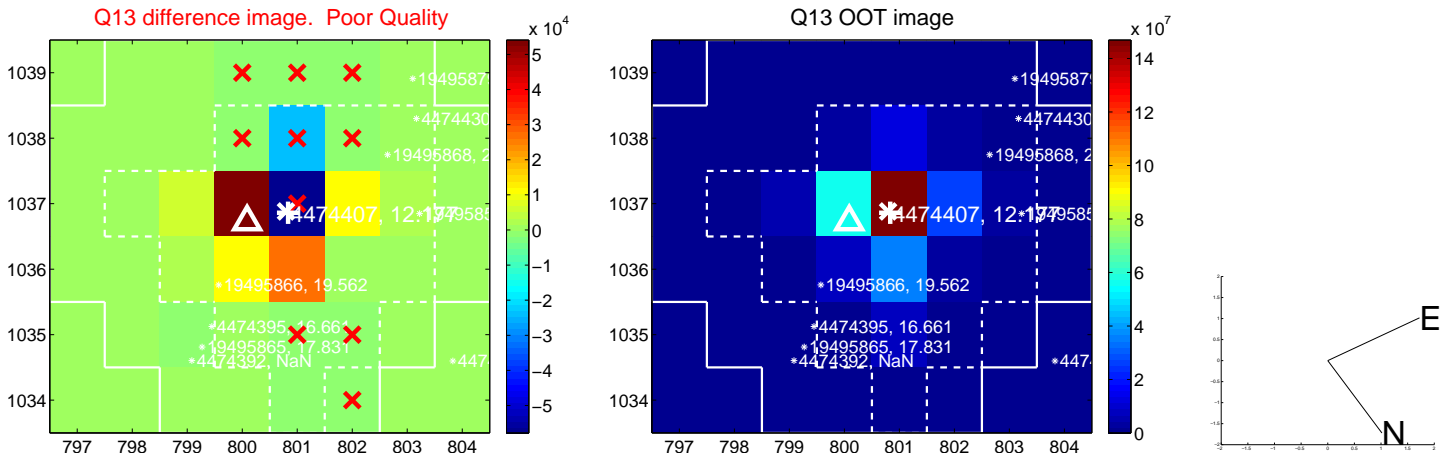
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

