

KIC 002575161

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})
002575161-01	OBS	No	0.824401	131.984796	21.5	2.690	8.9	9.8	2.09	6932	1.13	22071.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002575161-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

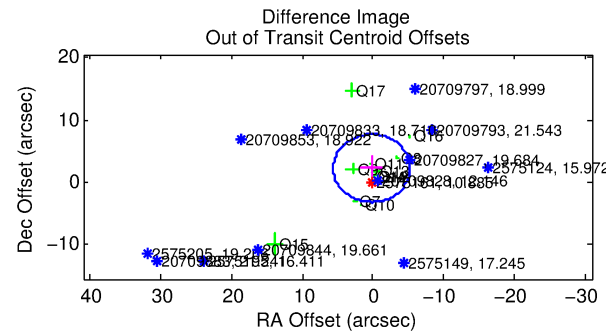
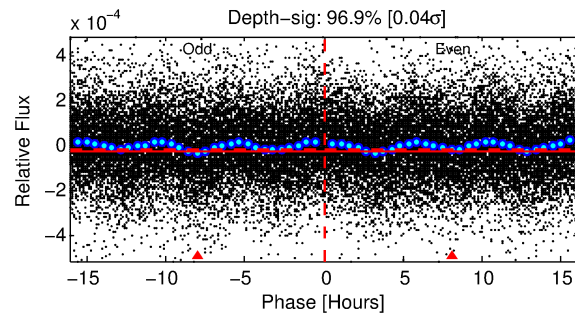
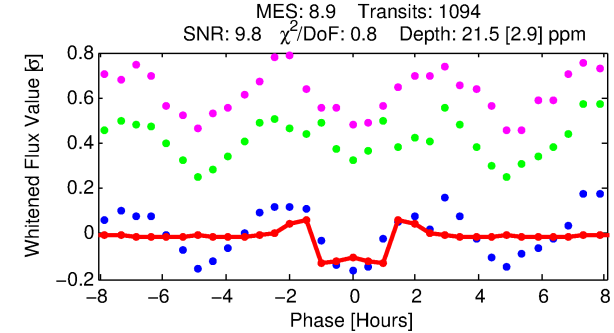
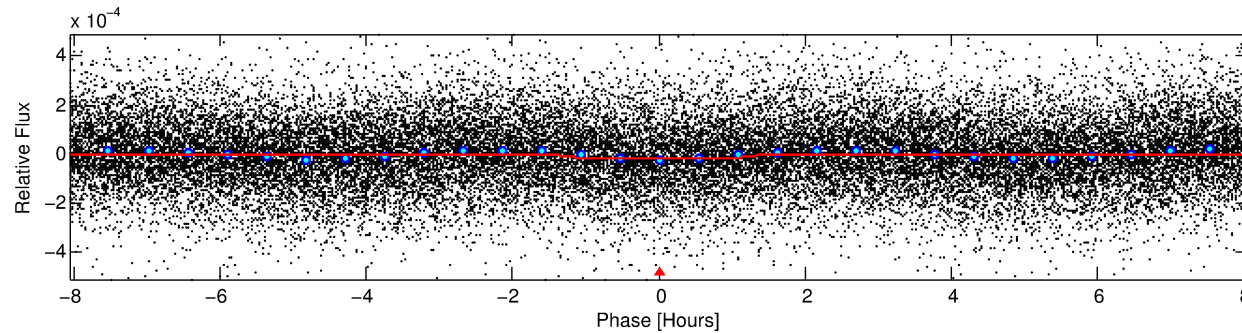
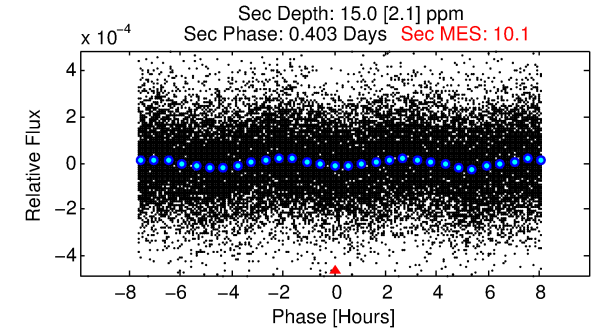
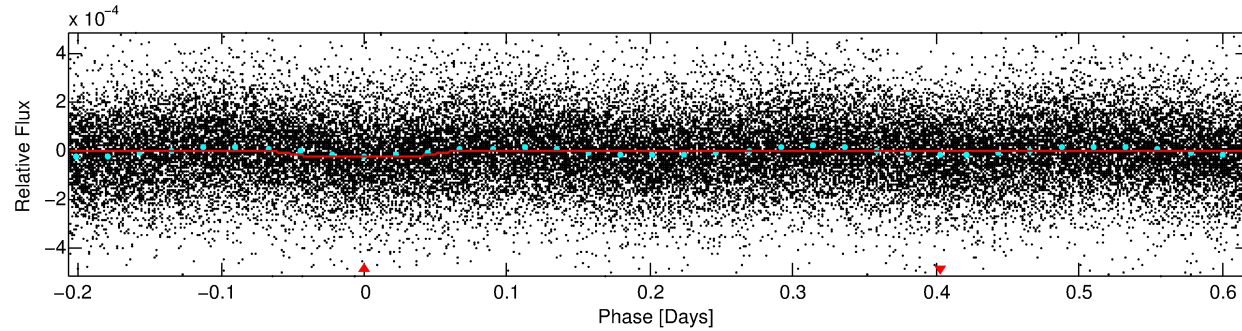
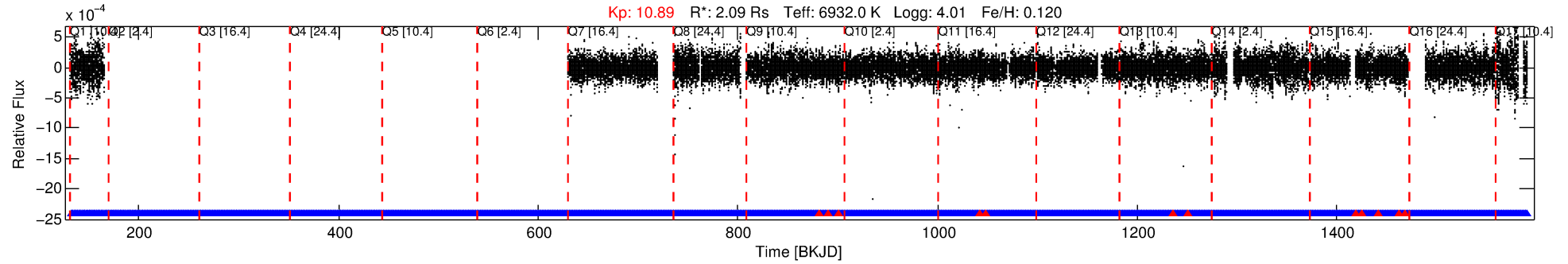
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002575161-01

No Significant Match Found

DV One-Page Summary

KIC: 2575161 Candidate: 1 of 1 Period: 0.824 d



DV Fit Results:

Period = 0.82440 [0.00001] d
Epoch = 131.9848 [0.0016] BKJD
Rp/R* = 0.0050 [0.0009]
a/R* = 1.40 [0.67]
b = 0.90 [0.21]
Seff = 22071.16 [5881.20]
Teq = 3108 [207] K
Rp = 1.13 [0.28] Re
a = 0.0202 [0.0033] AU
Ag = 2.65 [1.19] [1.39σ]
Teffp = 6133 [585] K [4.87σ]

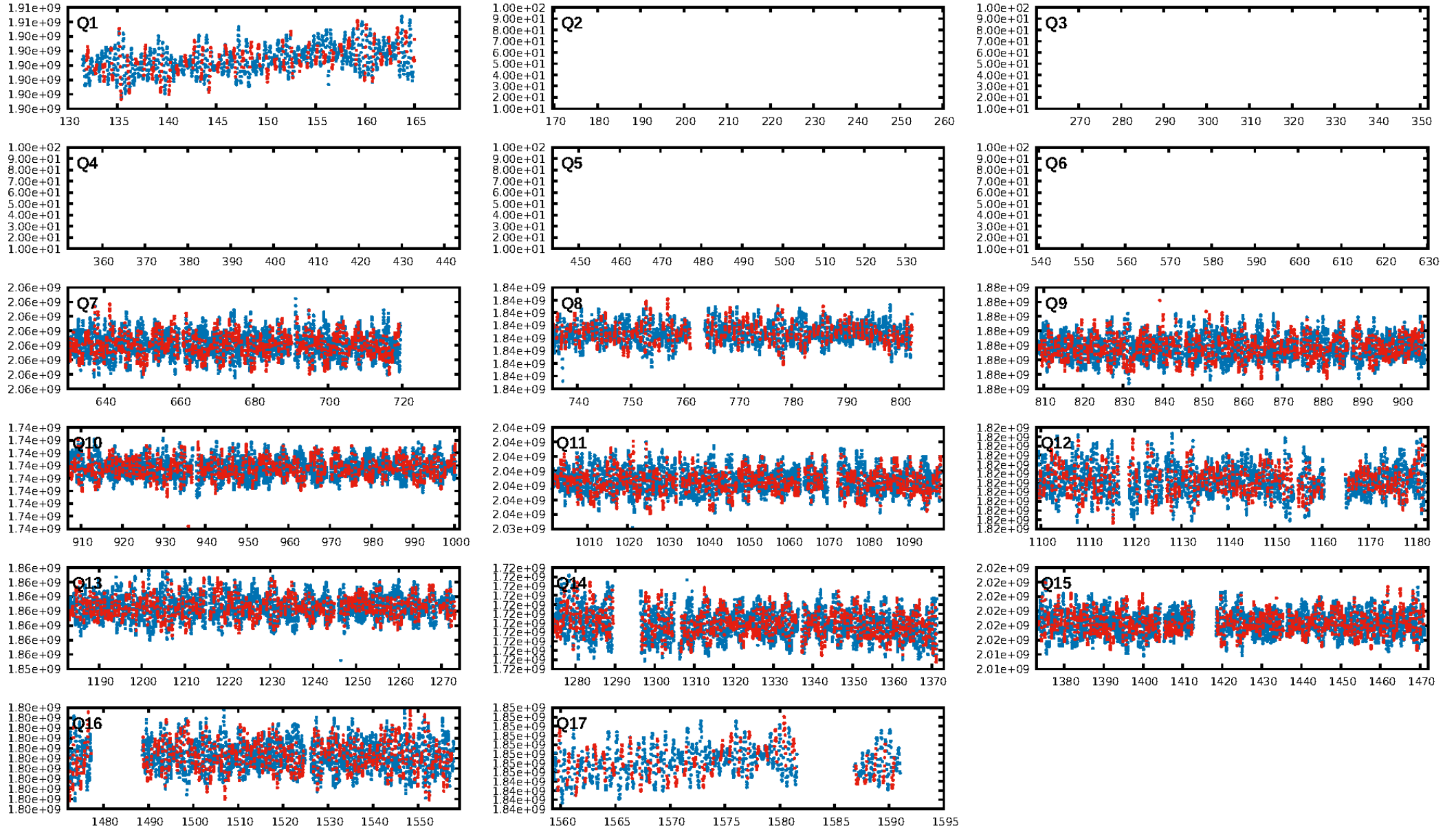
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 6.48e-15
RollingBand-fgt: 0.99 [1009/1021]
GhostDiagnostic-chr: 0.9084
Centroid-sig: 7.6%
Centroid-so: 1.004 arcsec [1.59σ]
OotOffset-rm: 2.241 arcsec [1.24σ]
OotOffset-st: 2/3/3/3 [11]
KicOffset-rm: 2.446 arcsec [1.55σ]
KicOffset-st: 2/3/3/3 [11]
DiffImageQuality-fgm: 0.18 [2/11]
DiffImageOverlap-fno: 1.00 [12/12]

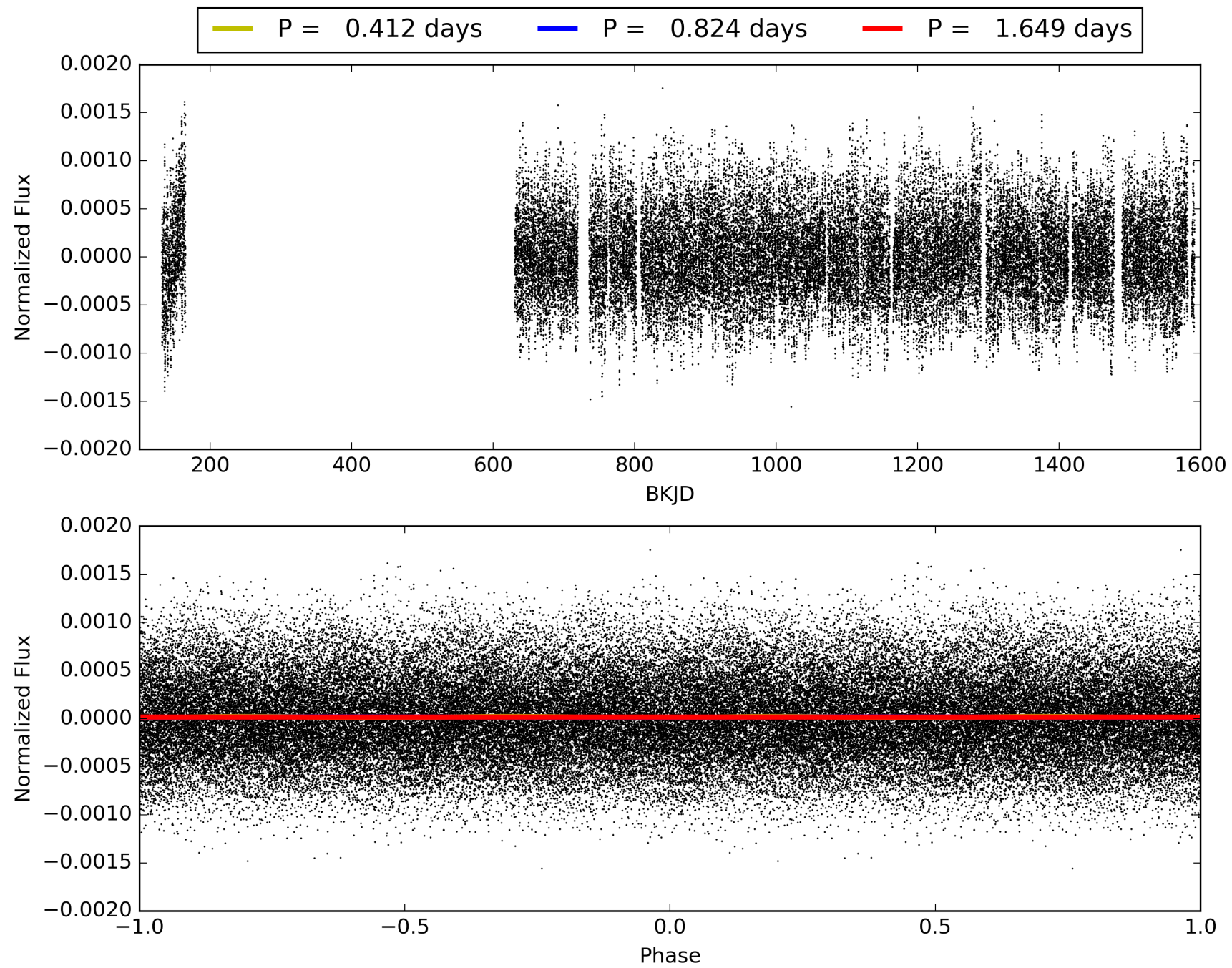
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 19:46:47 Z

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

TCE 002575161-01, PDC Light Curves

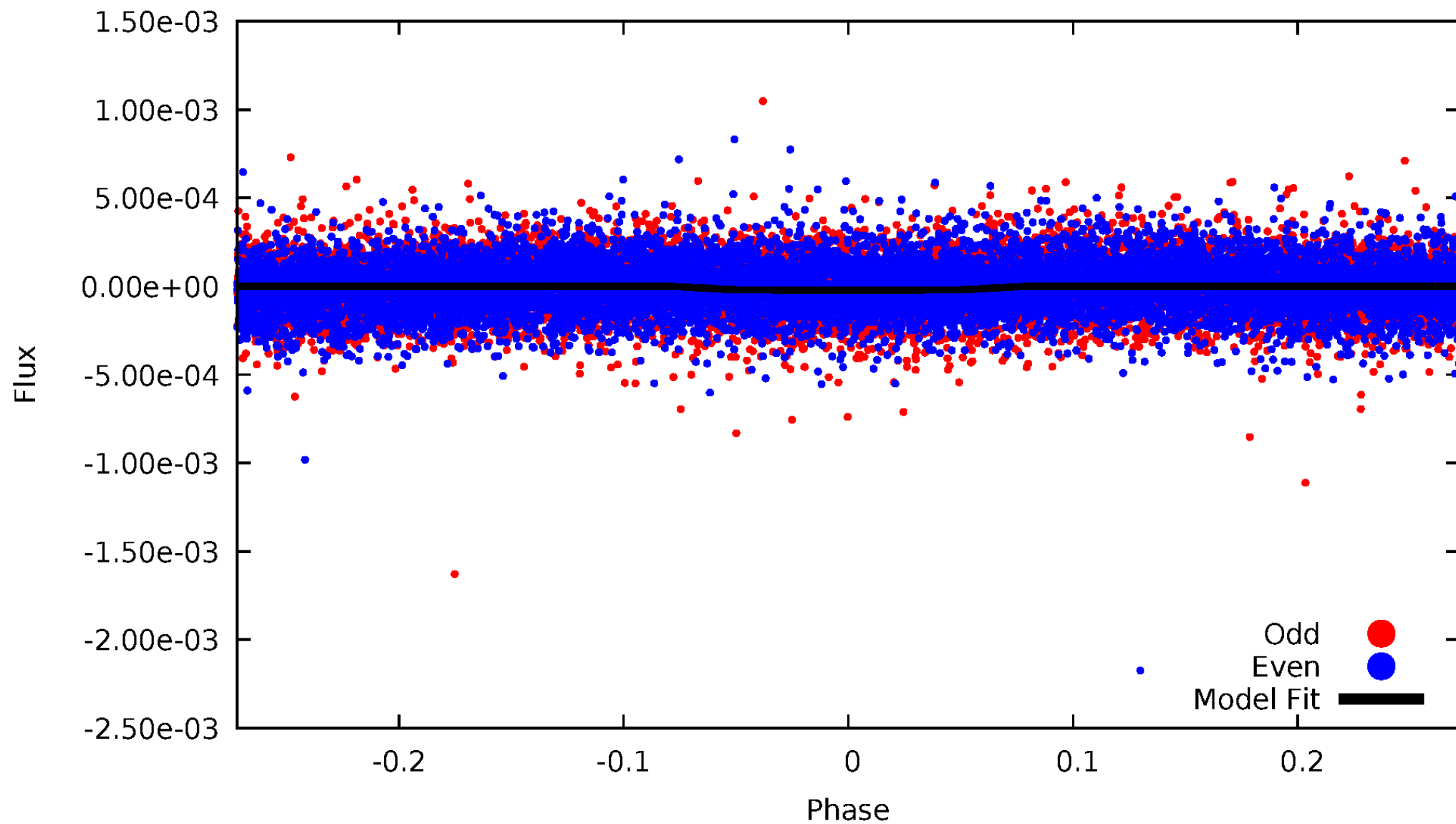


TCE 002575161-01



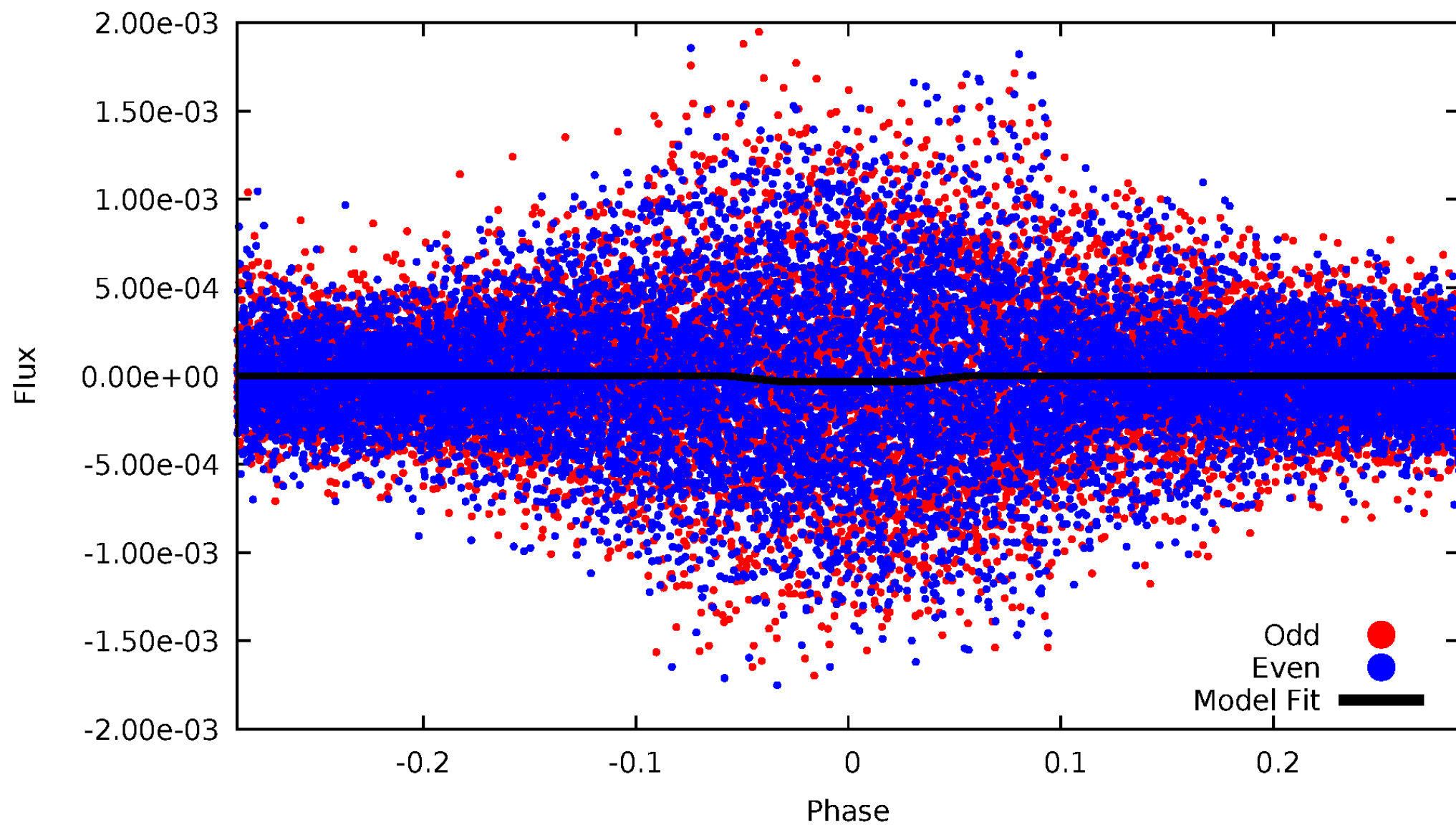
DV Odd/Even

TCE 002575161-01



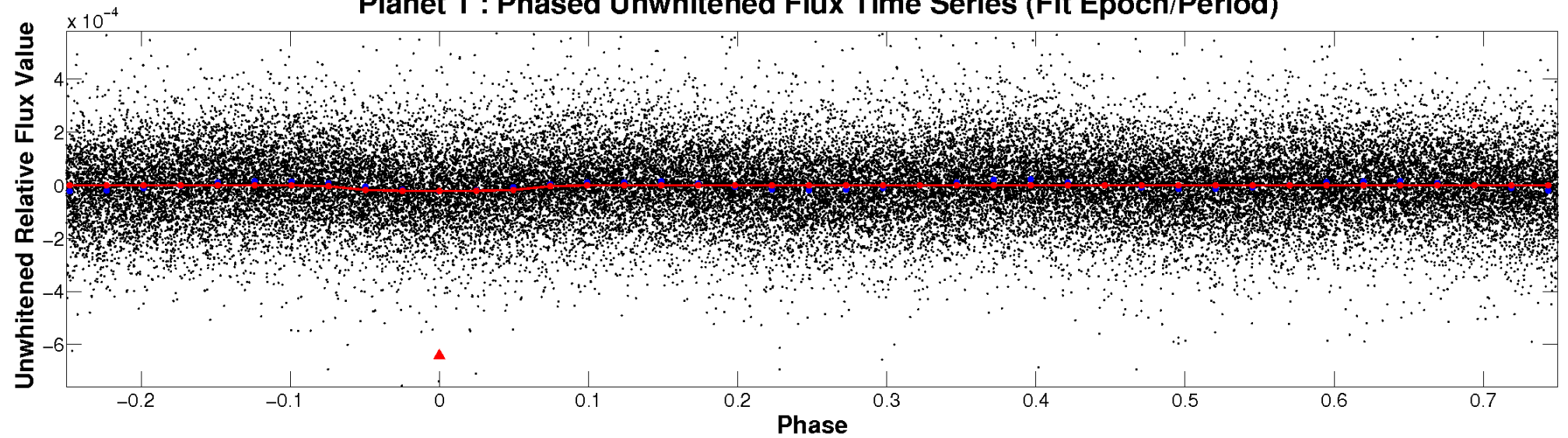
ALT Odd/Even

TCE 002575161-01

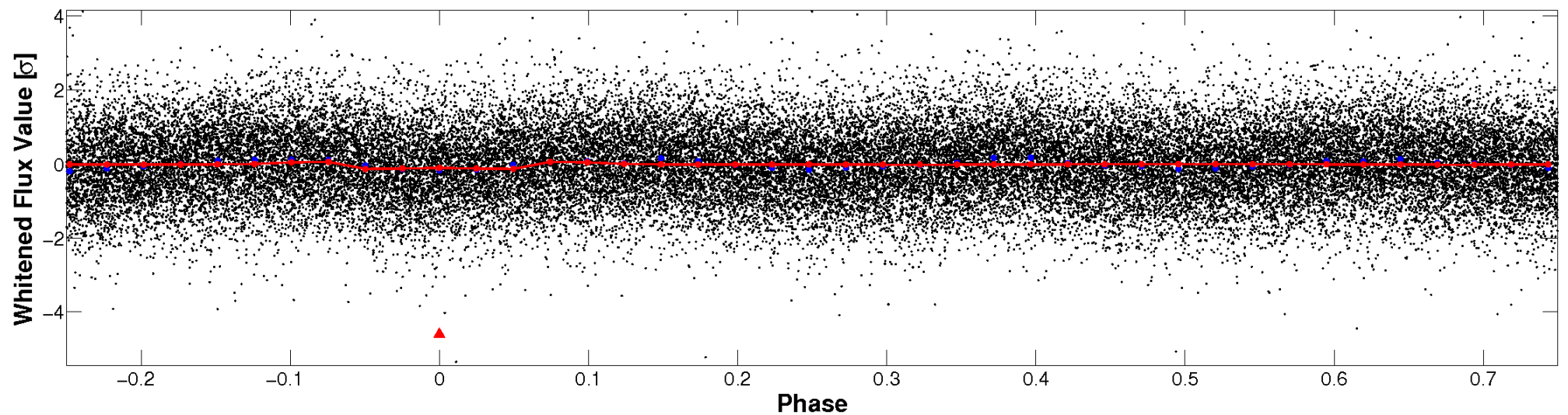


Non-Whitened Vs. Whitened Light Curve

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

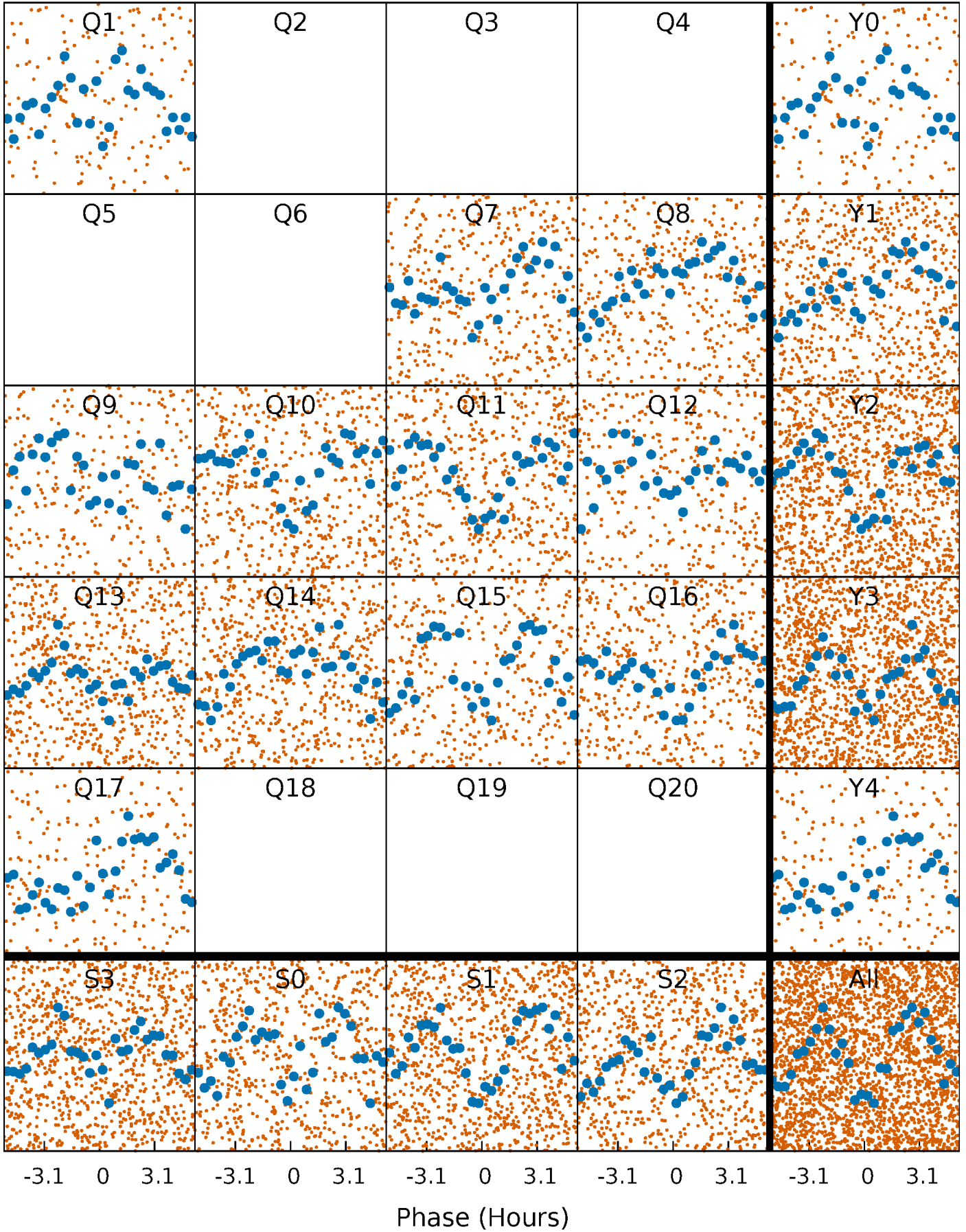


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



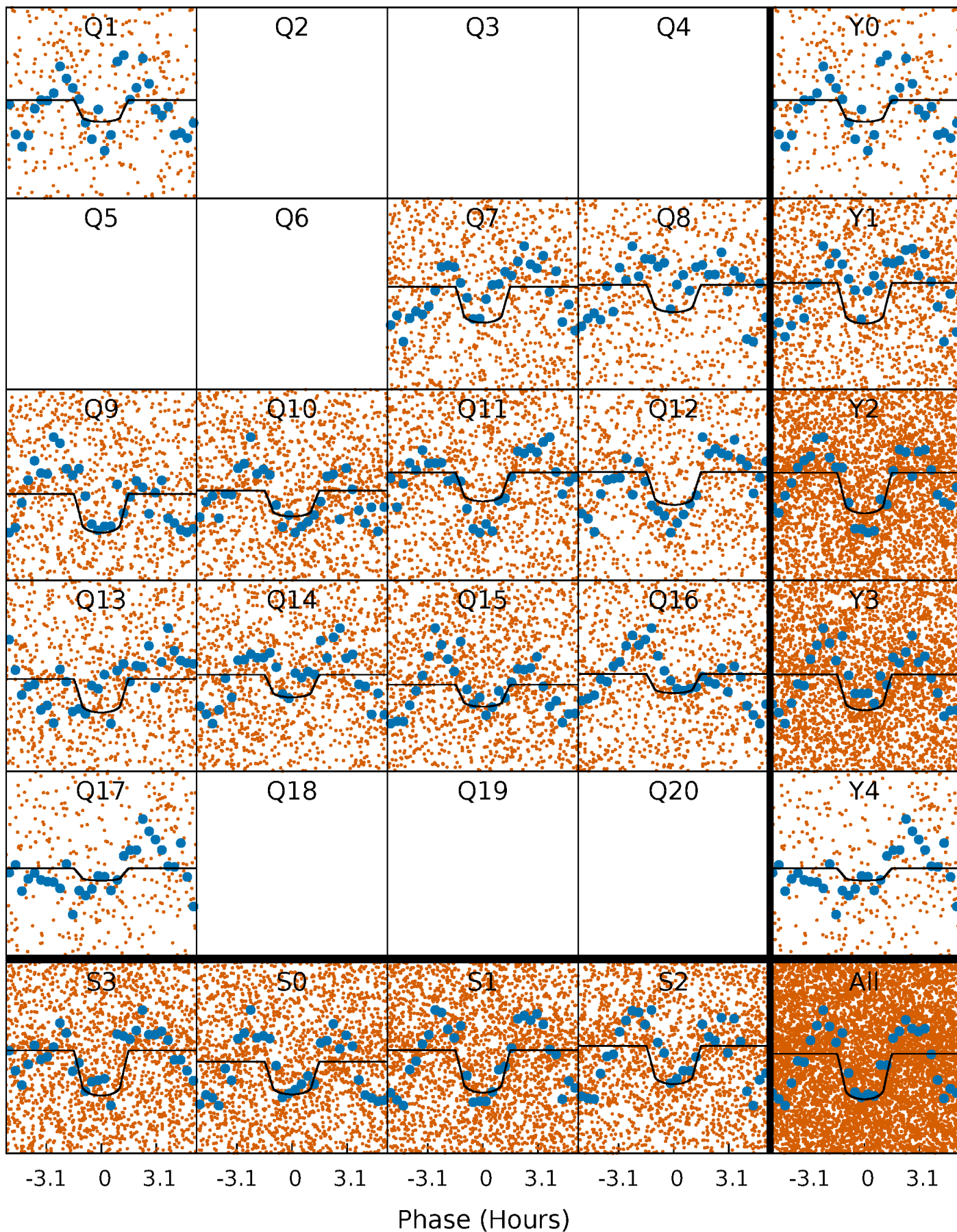
PDC Quarter-Phased Transit Curves

TCE 002575161-01 P= 0.824401 Days $T_0=131.984796$ (BKJD)



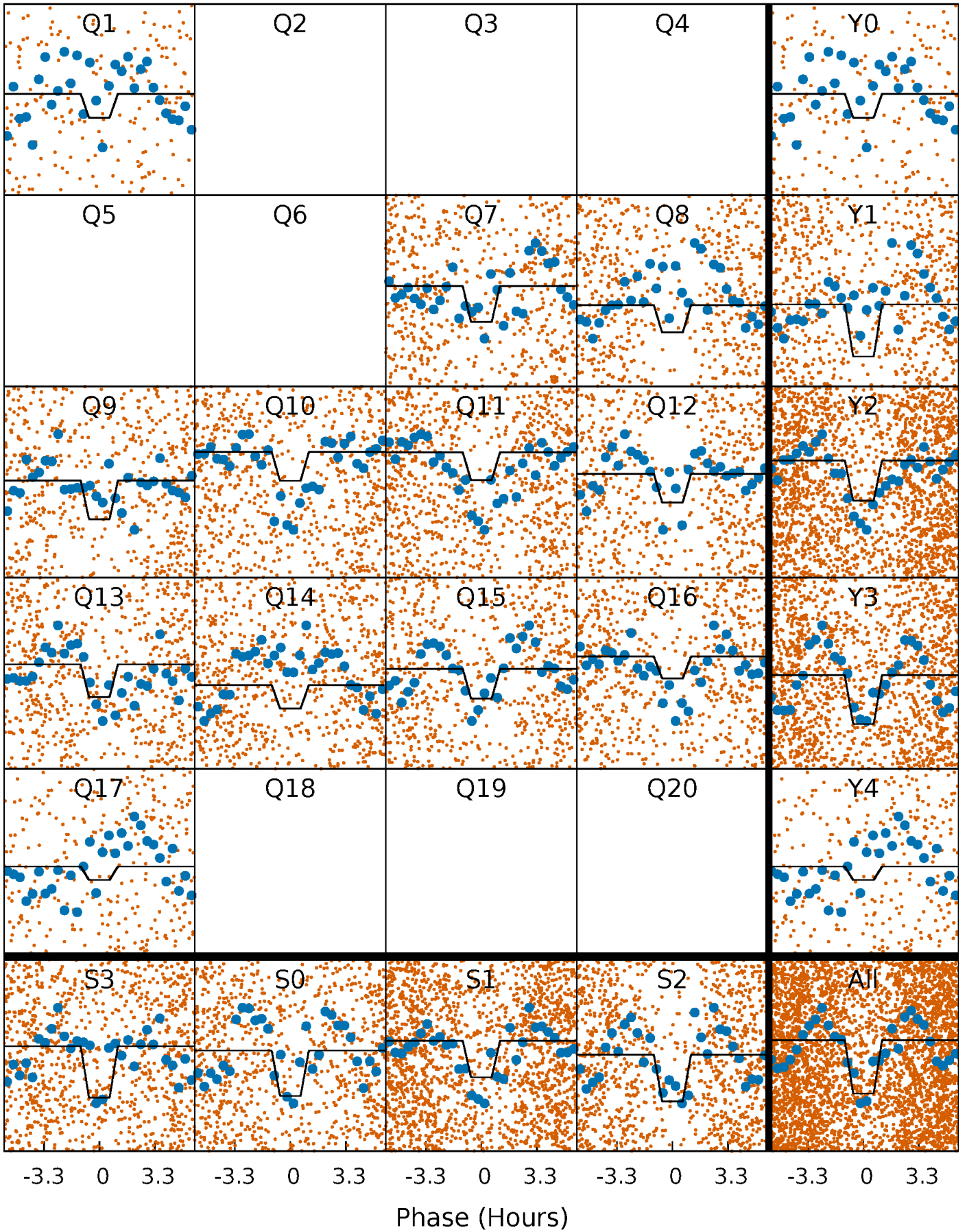
DV Quarter-Phased Transit Curves

TCE 002575161-01 P= 0.824401 Days $T_0=131.984796$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

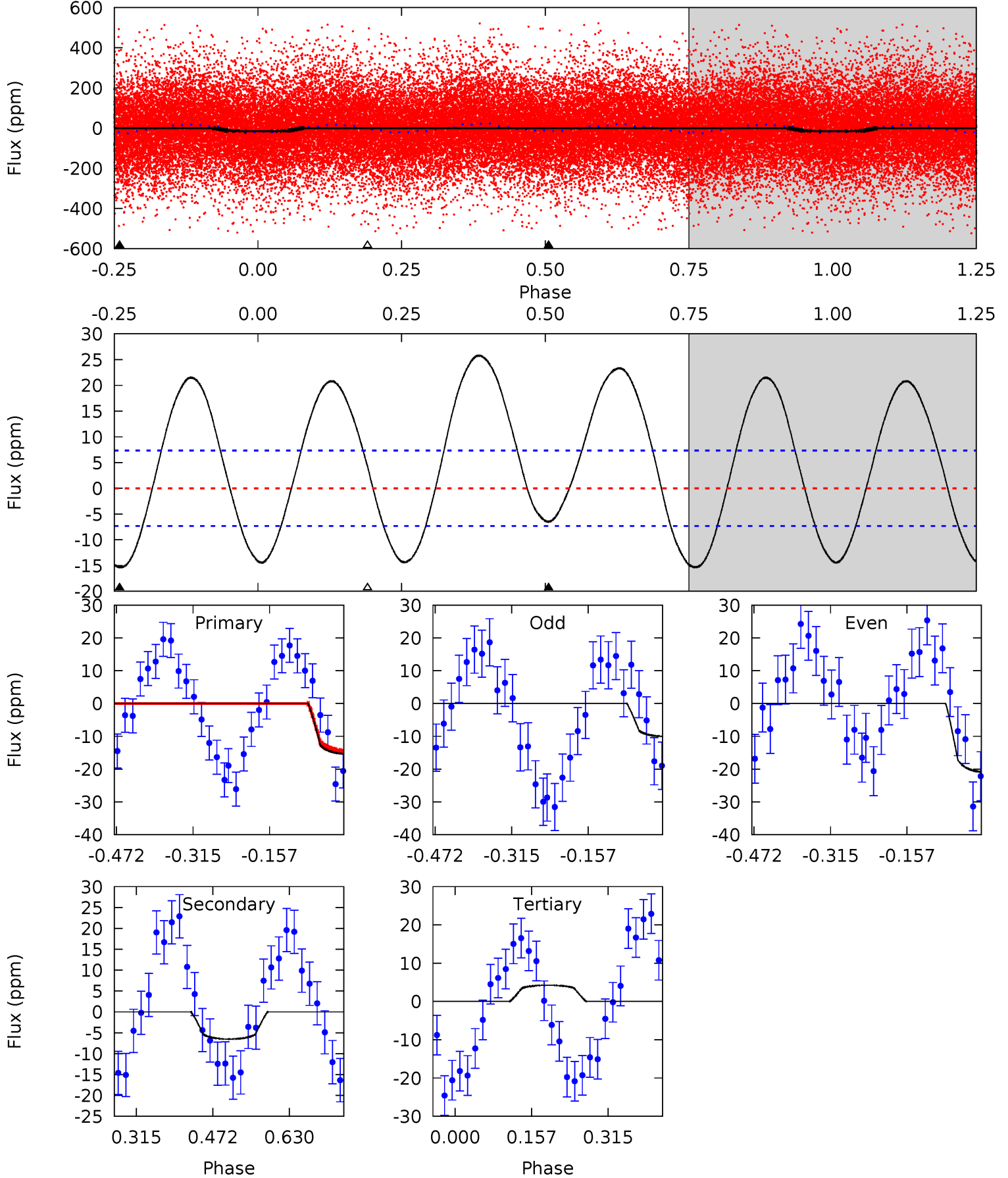
TCE 002575161-01 P= 0.824408 Days $T_0=131.982582$ (BKJD)



DV Model-Shift Uniqueness Test

002575161-01, P = 0.824401 Days, E = 131.160395 Days

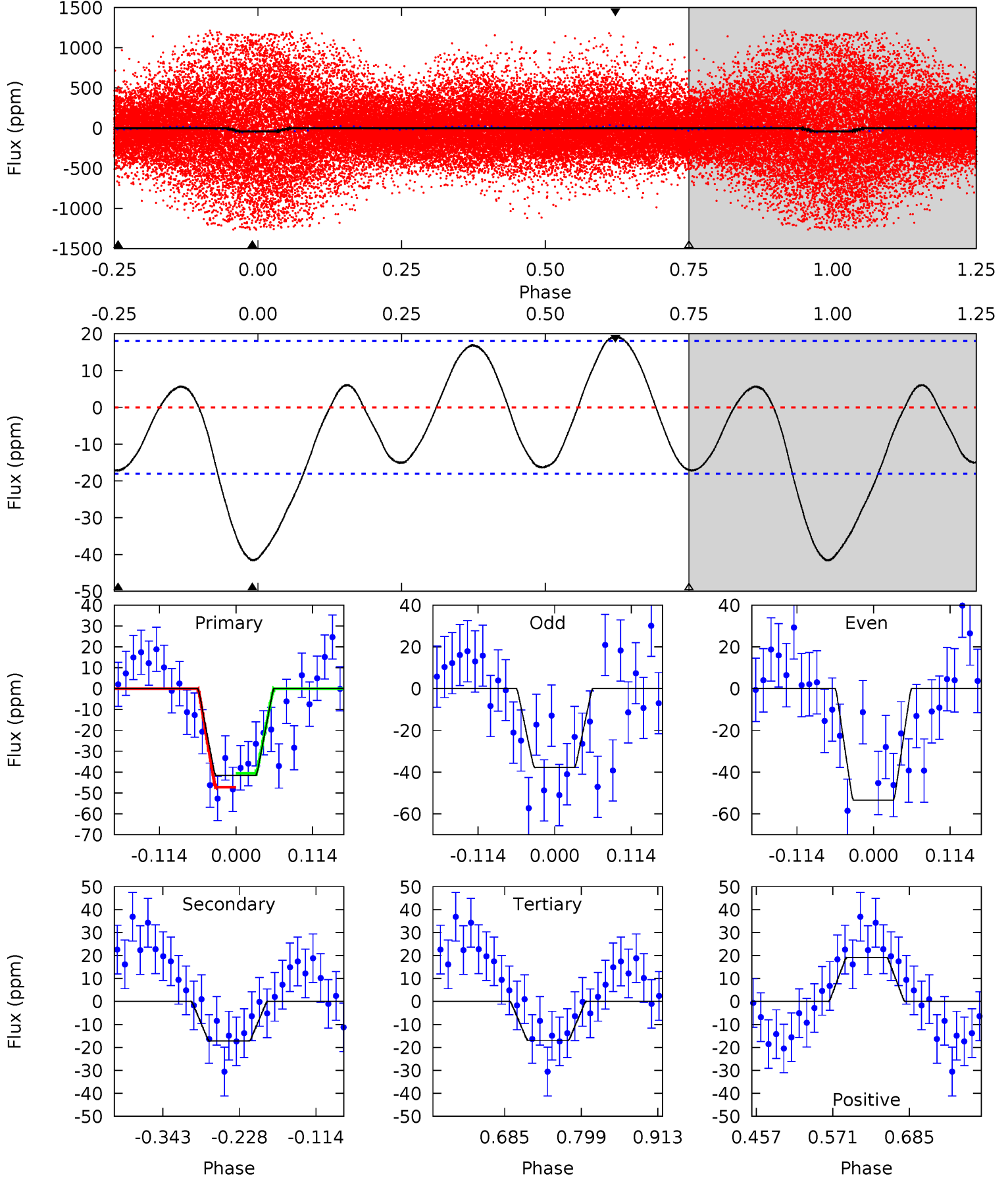
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.35	3.97	-2.58	0	4.47	1.41	7.14	11.9	9.35	6.55	3.97	3.32	0.86	0.63	0.59



Alt Model-Shift Uniqueness Test

002575161-01, P = 0.824408 Days, E = 131.158174 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	4.32	4.27	4.82	4.54	1.58	2.83	6.19	5.65	0.05	-0.50	1.98	0.51	0.32	0.85



Stellar Parameters For KIC 002575161

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6932^{+124}_{-152}	$4.008^{+0.143}_{-0.117}$	$0.120^{+0.150}_{-0.150}$	$2.087^{+0.385}_{-0.385}$	$1.618^{+0.130}_{-0.158}$	$0.251^{+0.177}_{-0.088}$
	+2%/-2%	+4%/-3%	+125%/-125%	+18%/-18%	+8%/-10%	+71%/-35%
Source	SPE4	SPE4	SPE4	DSEP		

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

Secondary Eclipse Parameters for KIC 002575161-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7 ± 2	$1.12^{+0.22}_{-0.22}$	4326^{+225}_{-218}	4739^{+597}_{-566}	$1.208^{+0.674}_{-0.469}$
Alt.	-17 ± 4	$1.27^{+0.23}_{-0.21}$	4318^{+220}_{-202}	5686^{+687}_{-559}	$2.388^{+1.199}_{-0.853}$

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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

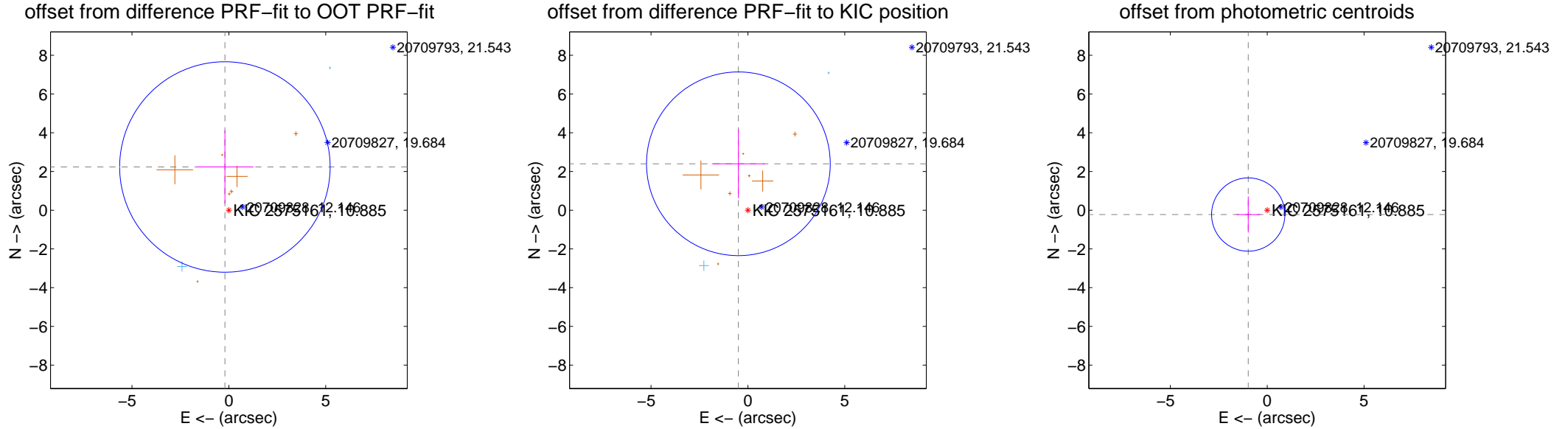
DV Centroid Data

Supplemental centroid analysis for 002575161-01. **Kepler magnitude: 10.88.** Transit SNR 9.78

There are 2 quarters with good PRF difference image offsets

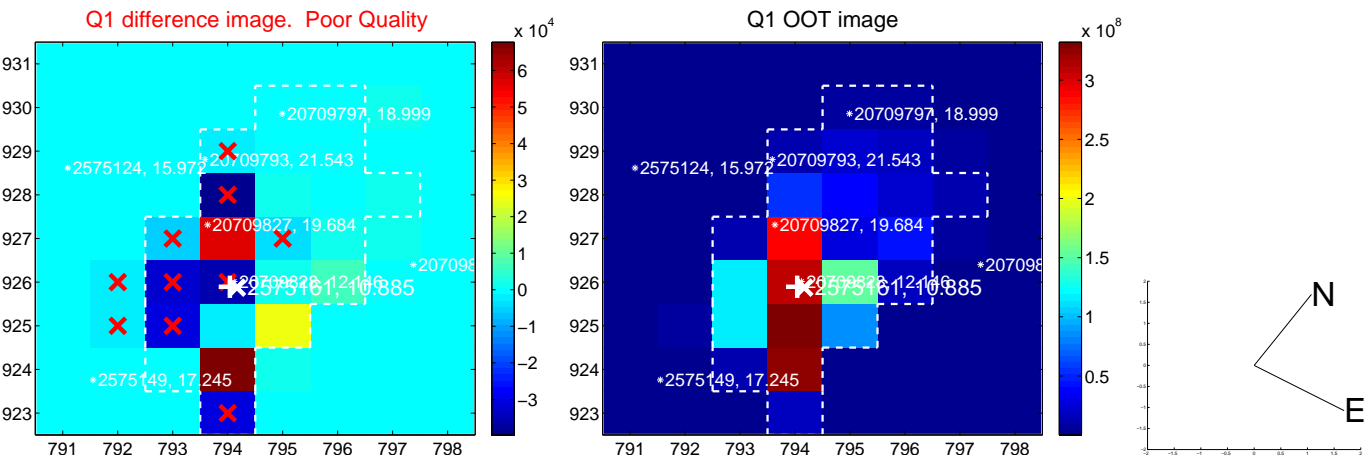
The direct PRF centroid is offset from the target star catalog position by about 0.44 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.241 ± 1.811	1.24	0.205 ± 1.476	2.231 ± 1.895
PRF-fit source offset from KIC position	2.446 ± 1.581	1.55	0.491 ± 1.362	2.396 ± 1.772
photometric centroid source offset	1.00 ± 0.63	1.59	0.98 ± 0.61	-0.22 ± 0.94

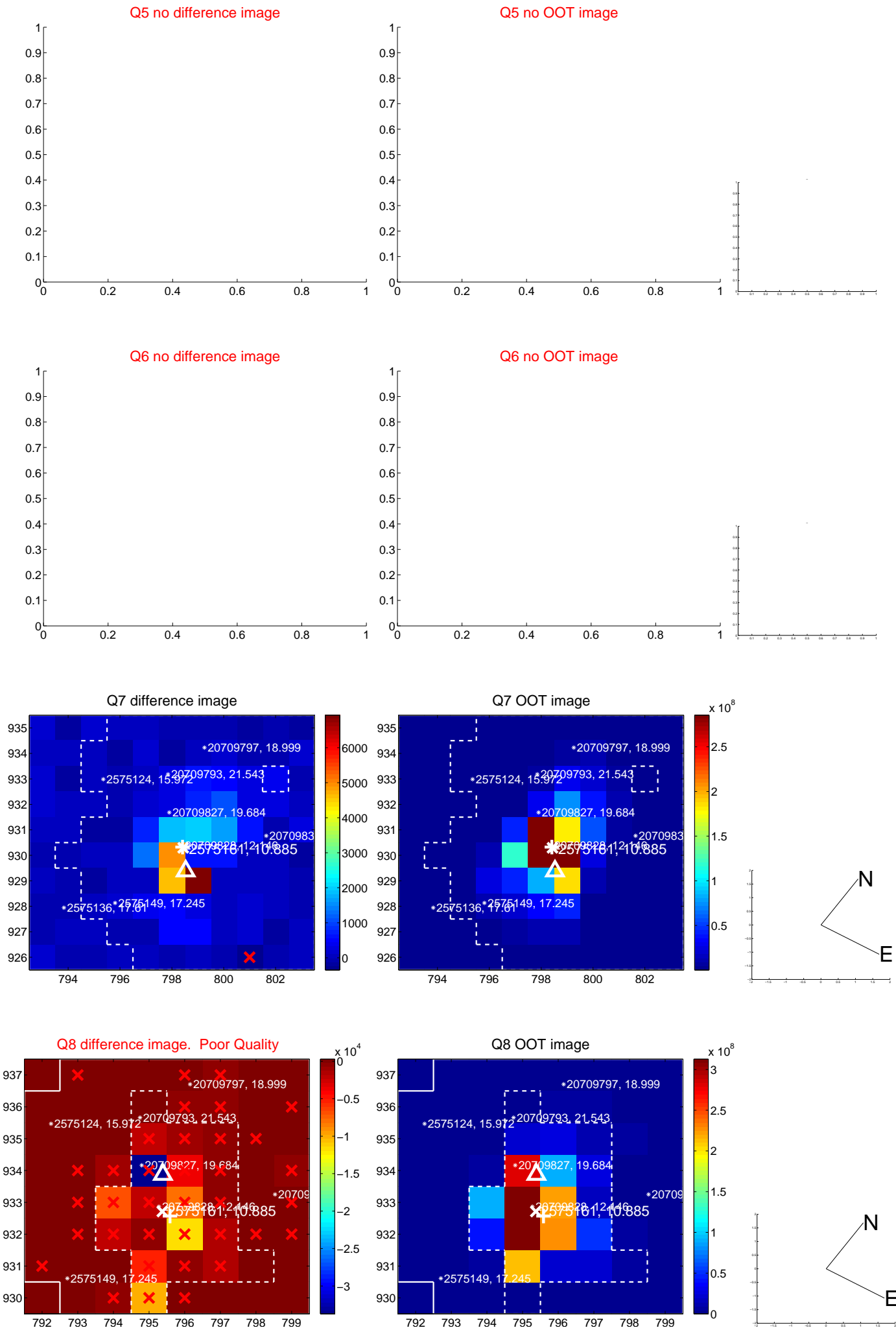


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

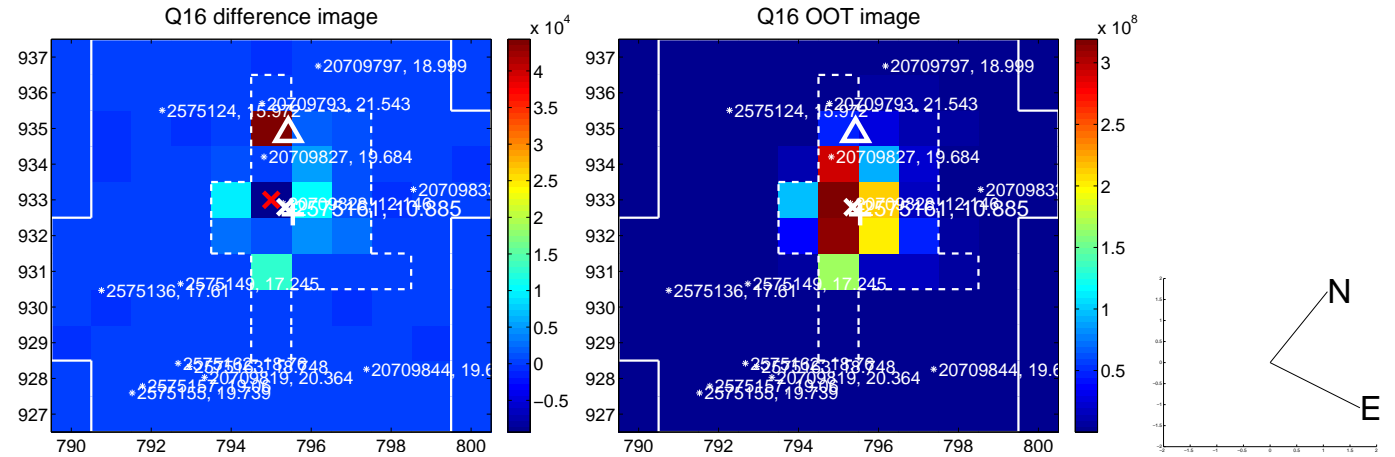
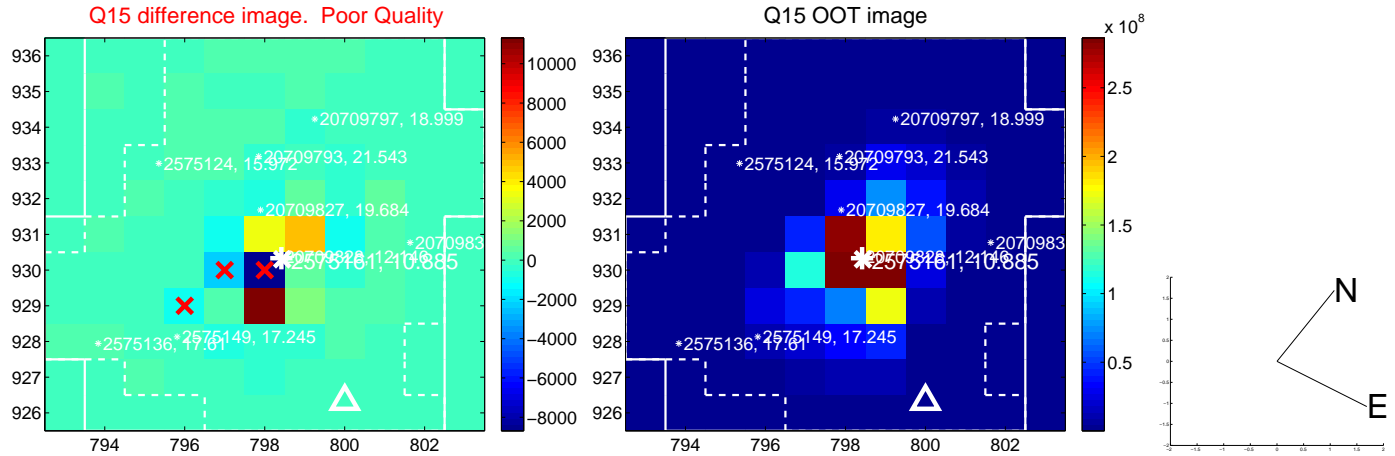
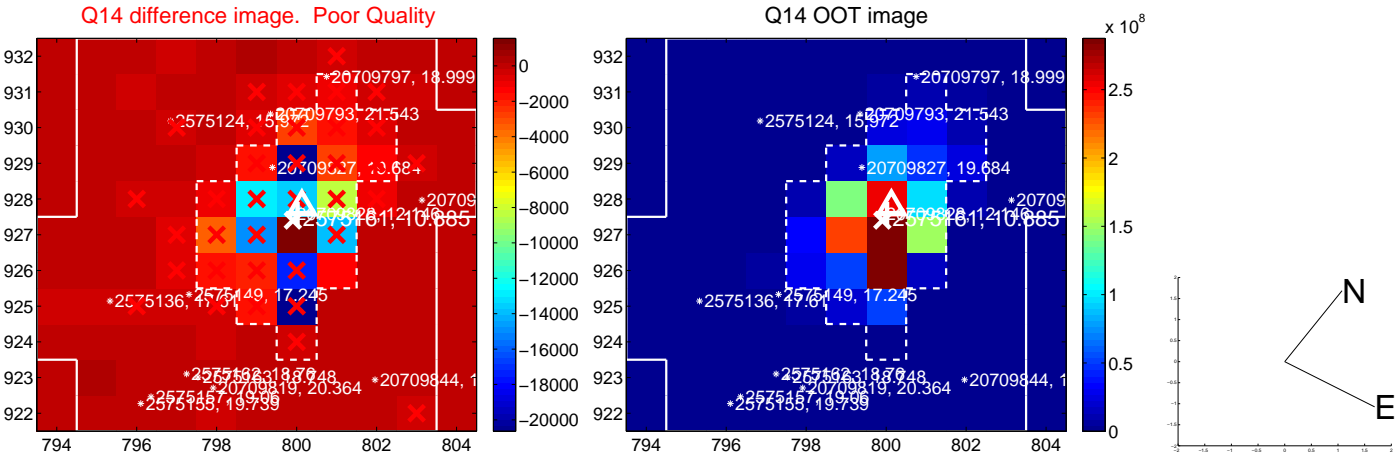
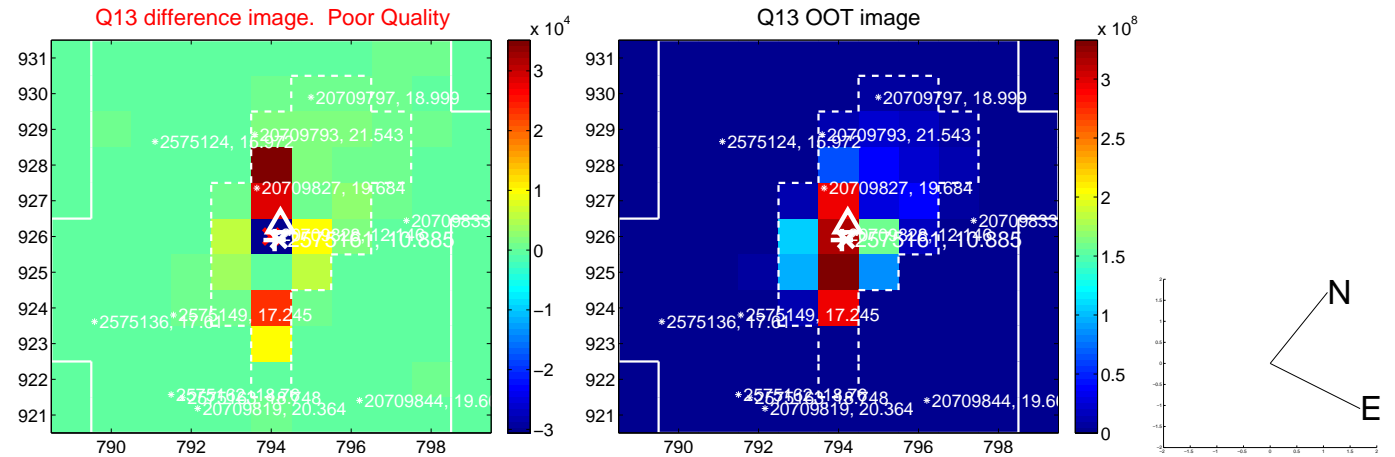
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



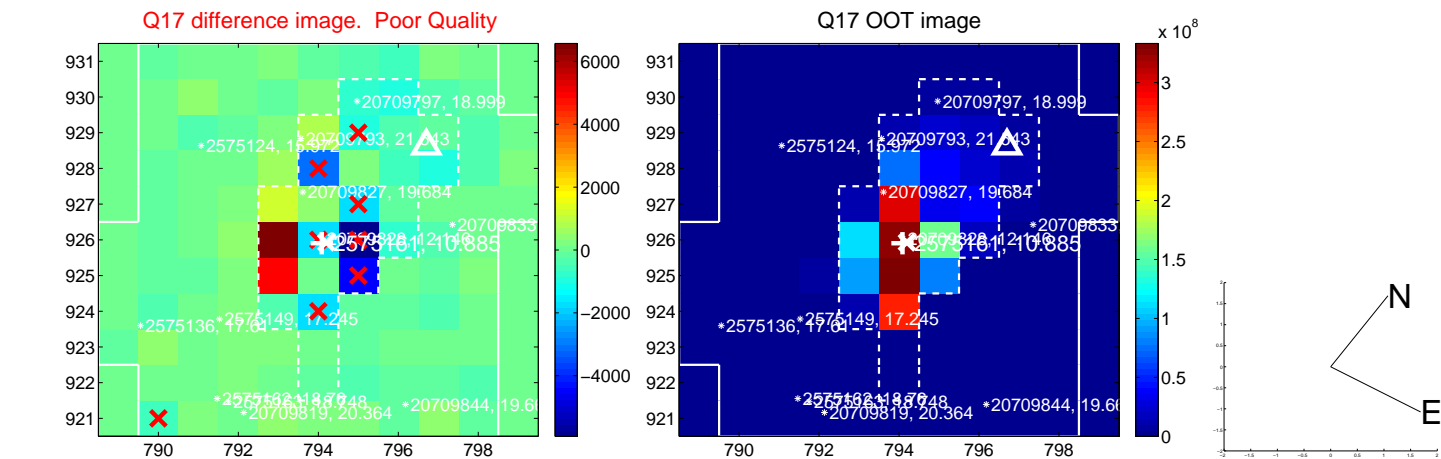
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



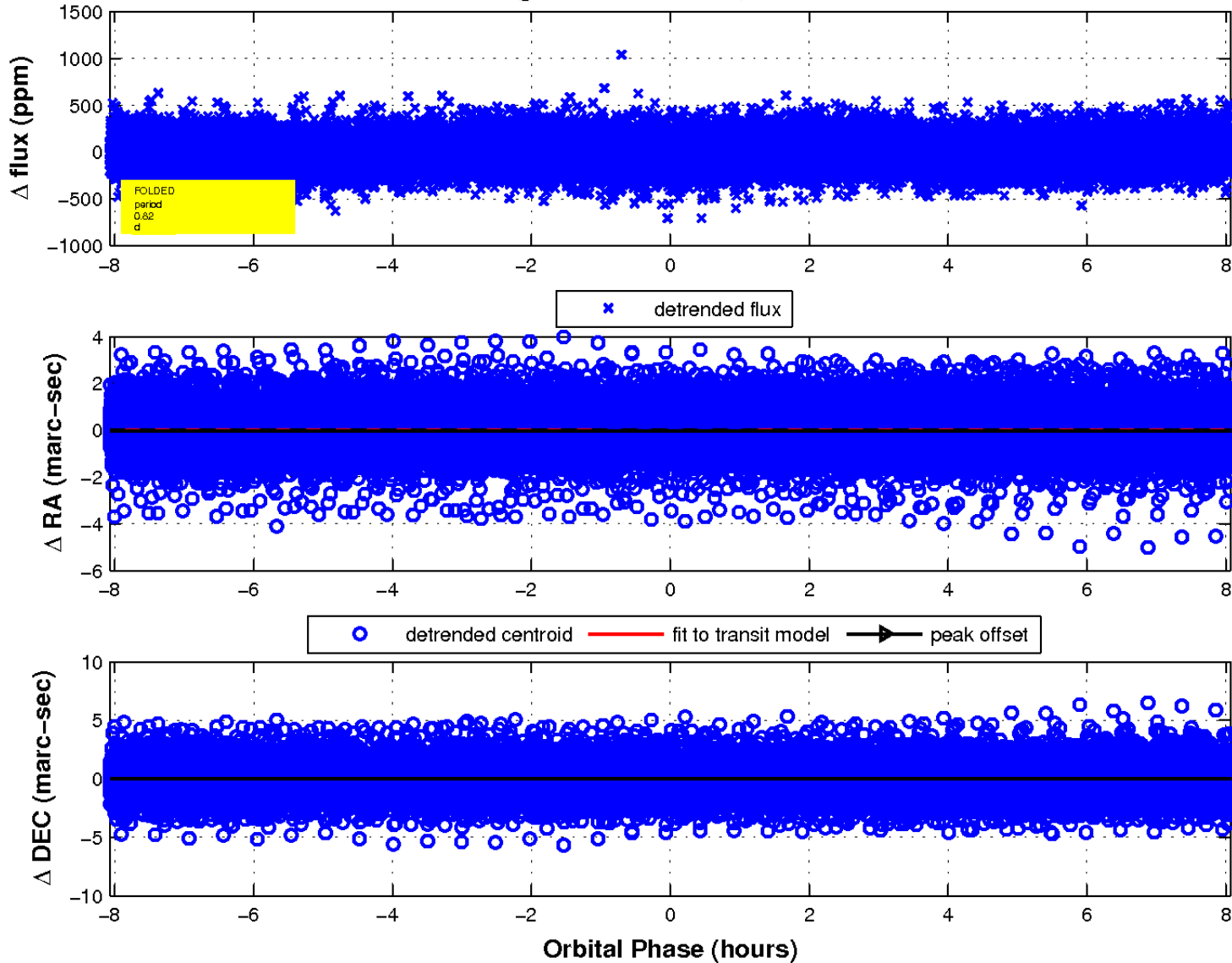
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

