

KIC 005642688

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})
005642688-01	OBS	4705.01	1.473324	132.856911	112.8	1.576	10.0	11.3	0.92	5751	1.16	1459.86

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005642688-01	OBS	PC	0.45	0	0	0	0	NO_COMMENT

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.

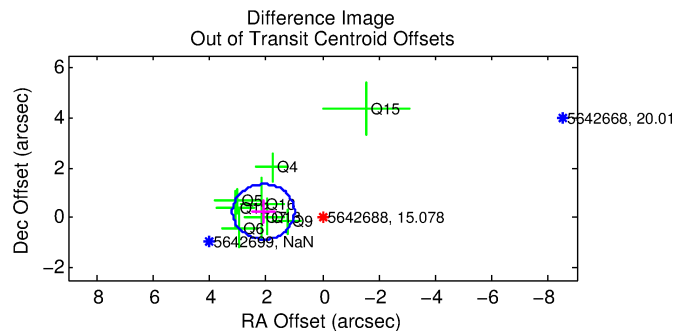
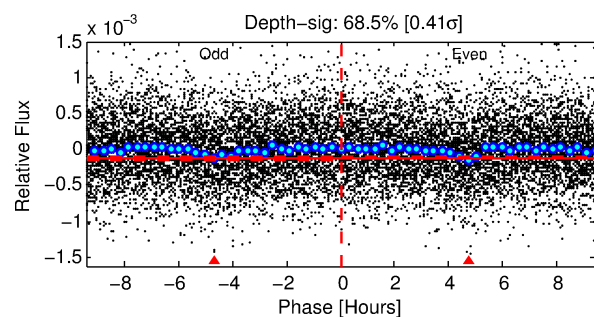
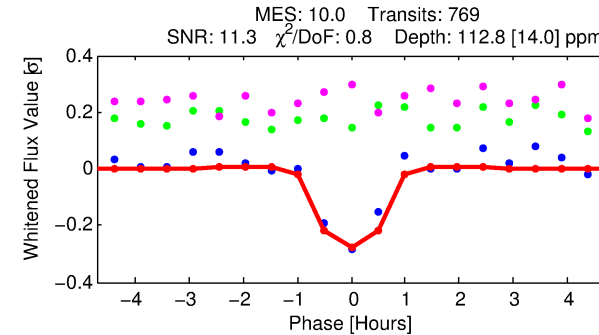
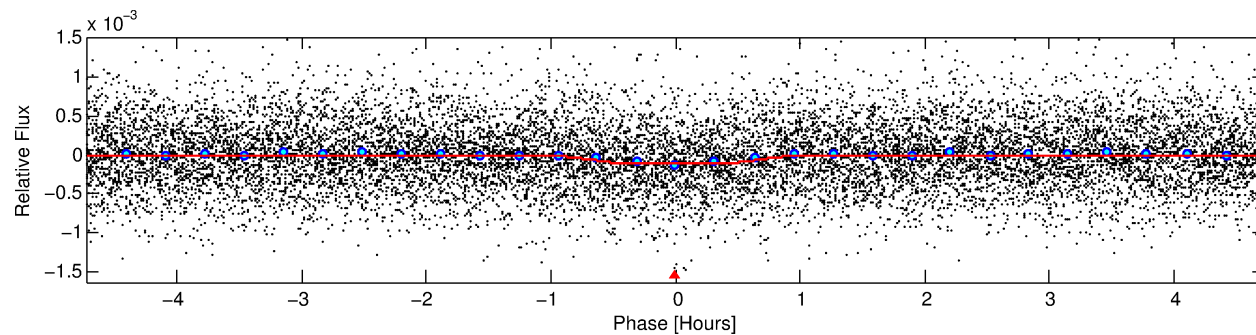
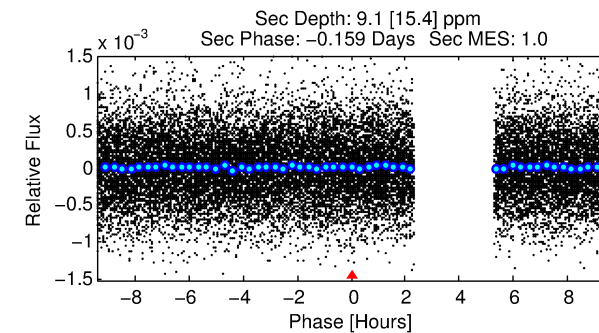
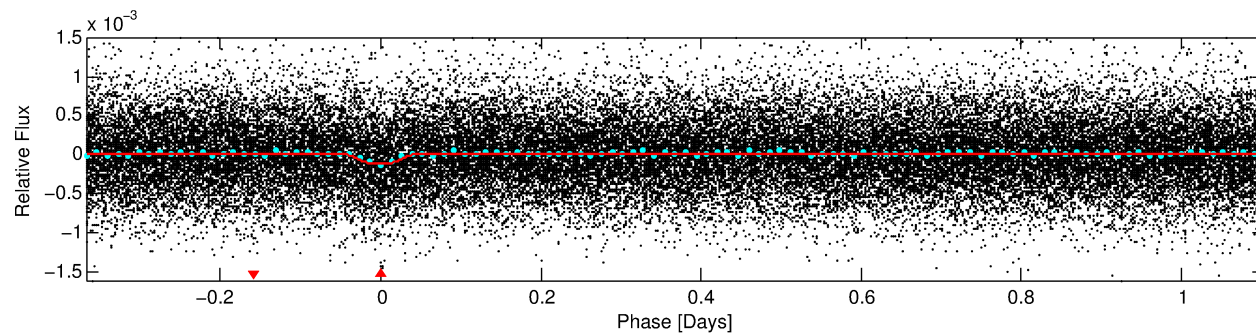
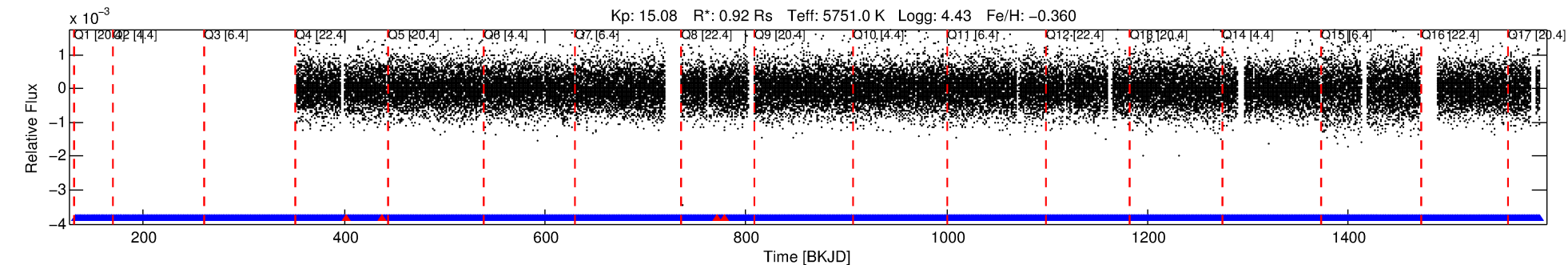
Ephemeris Match Information For 005642688-01

No Significant Match Found

DV One-Page Summary

KIC: 5642688 Candidate: 1 of 1 Period: 1.473 d

KOI: K04705.01 Corr: 0.911



DV Fit Results:

Period = 1.47332 [0.00001] d
Epoch = 132.8569 [0.0022] BKJD
Rp/R* = 0.0115 [0.0064]
a/R* = 3.47 [8.75]
b = 0.90 [0.61]
Seff = 1459.86 [517.90]
Teff = 1576 [140] K
Rp = 1.16 [0.71] Re
a = 0.0239 [0.0054] AU
Ag = 2.13 [4.36] [0.26σ]
Teffp = 2944 [1490] K [0.91σ]

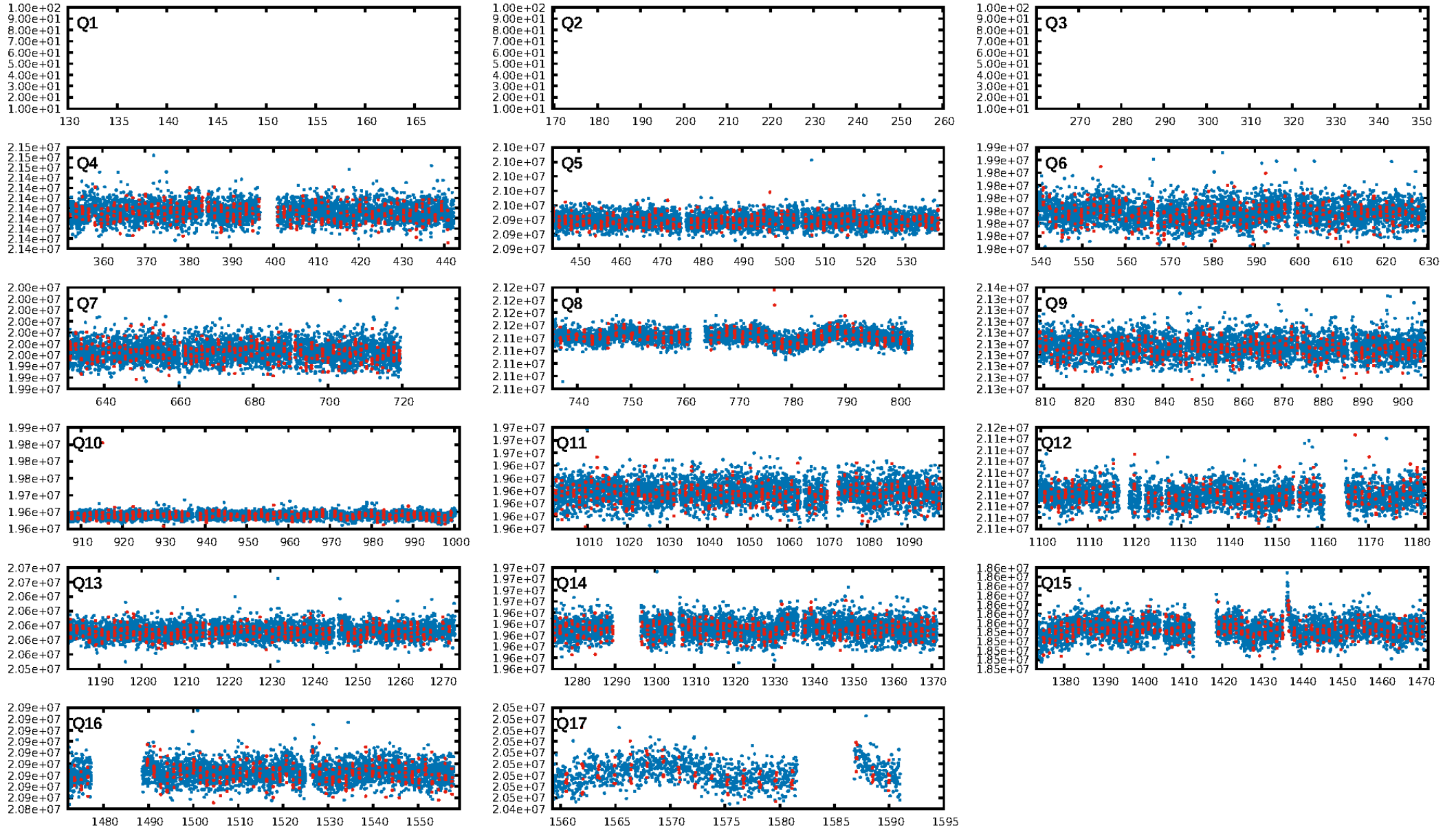
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.58e-23
RollingBand-fgt: 0.99 [747/751]
GhostDiagnostic-chr: 3.271
Centroid-sig: 0.0%
Centroid-so: 4.067 arcsec [3.34σ]
OotOffset-rm: 2.101 arcsec [5.73σ]
KicOffset-rm: 2.117 arcsec [4.29σ]
OotOffset-st: 1/2/3/3 [9]
KicOffset-st: 1/2/3/3 [9]
DiffImageQuality-fgm: 0.56 [5/9]
DiffImageOverlap-fno: 1.00 [14/14]

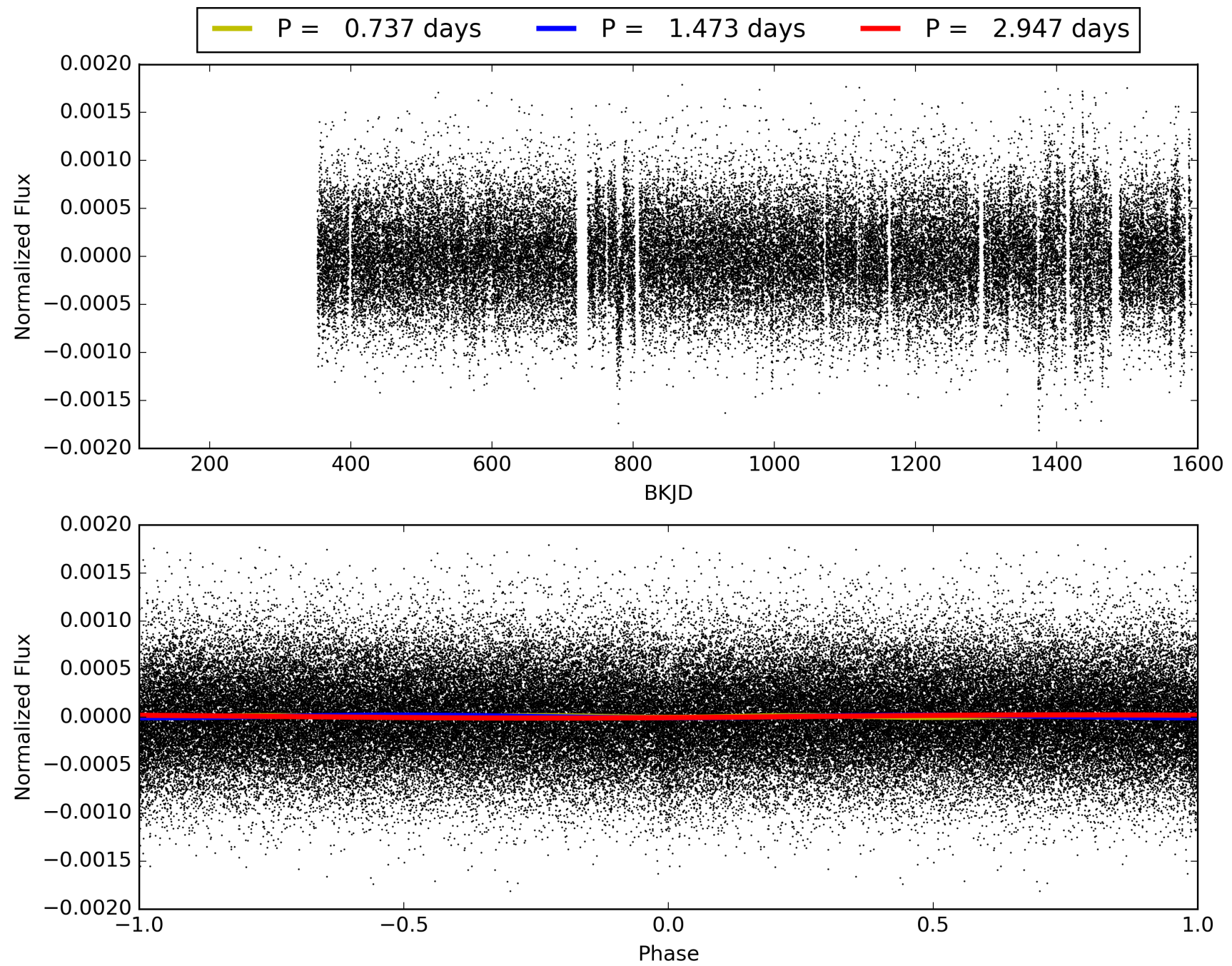
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 09:48:21 Z

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

TCE 005642688-01, PDC Light Curves

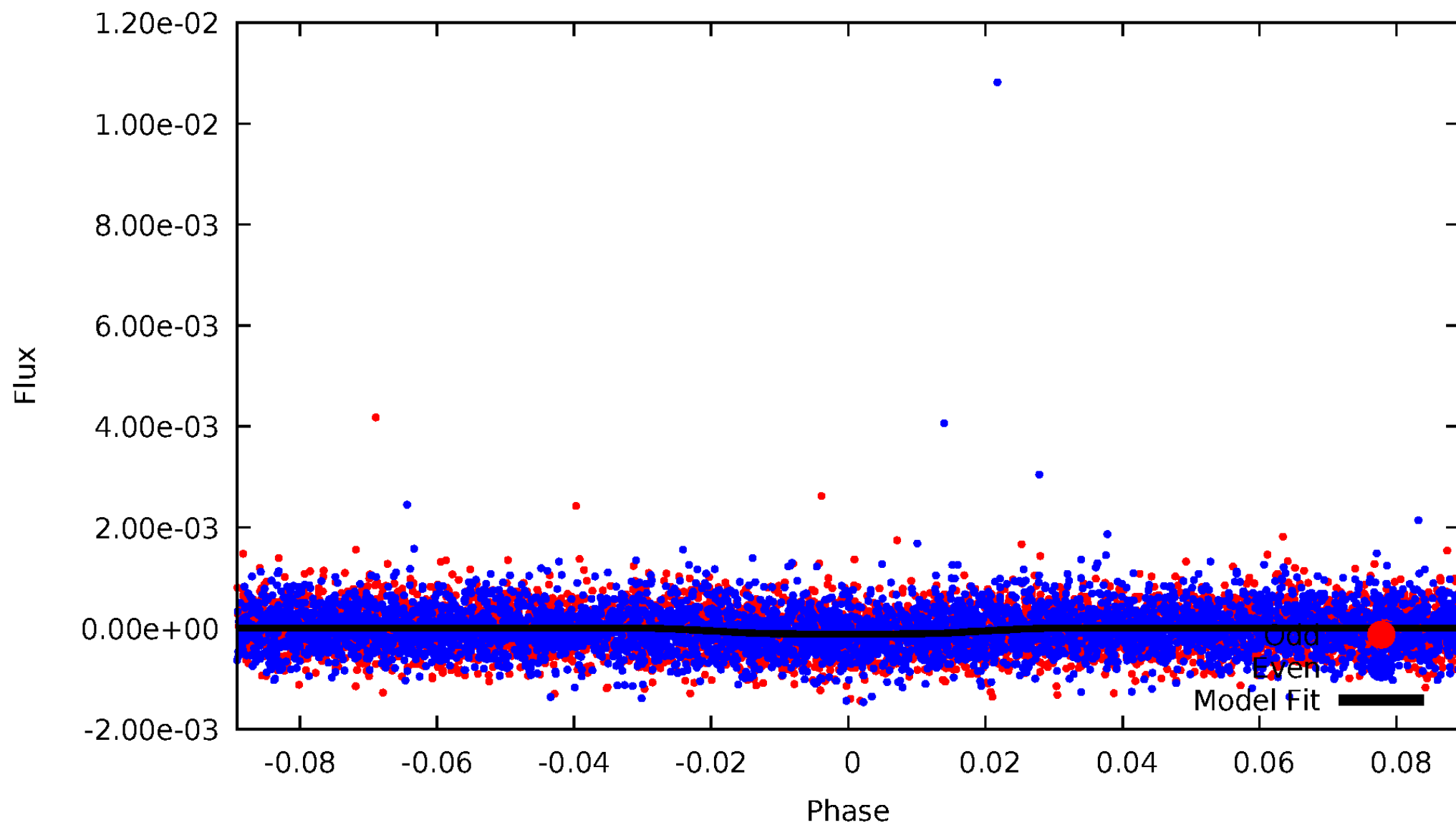


TCE 005642688-01



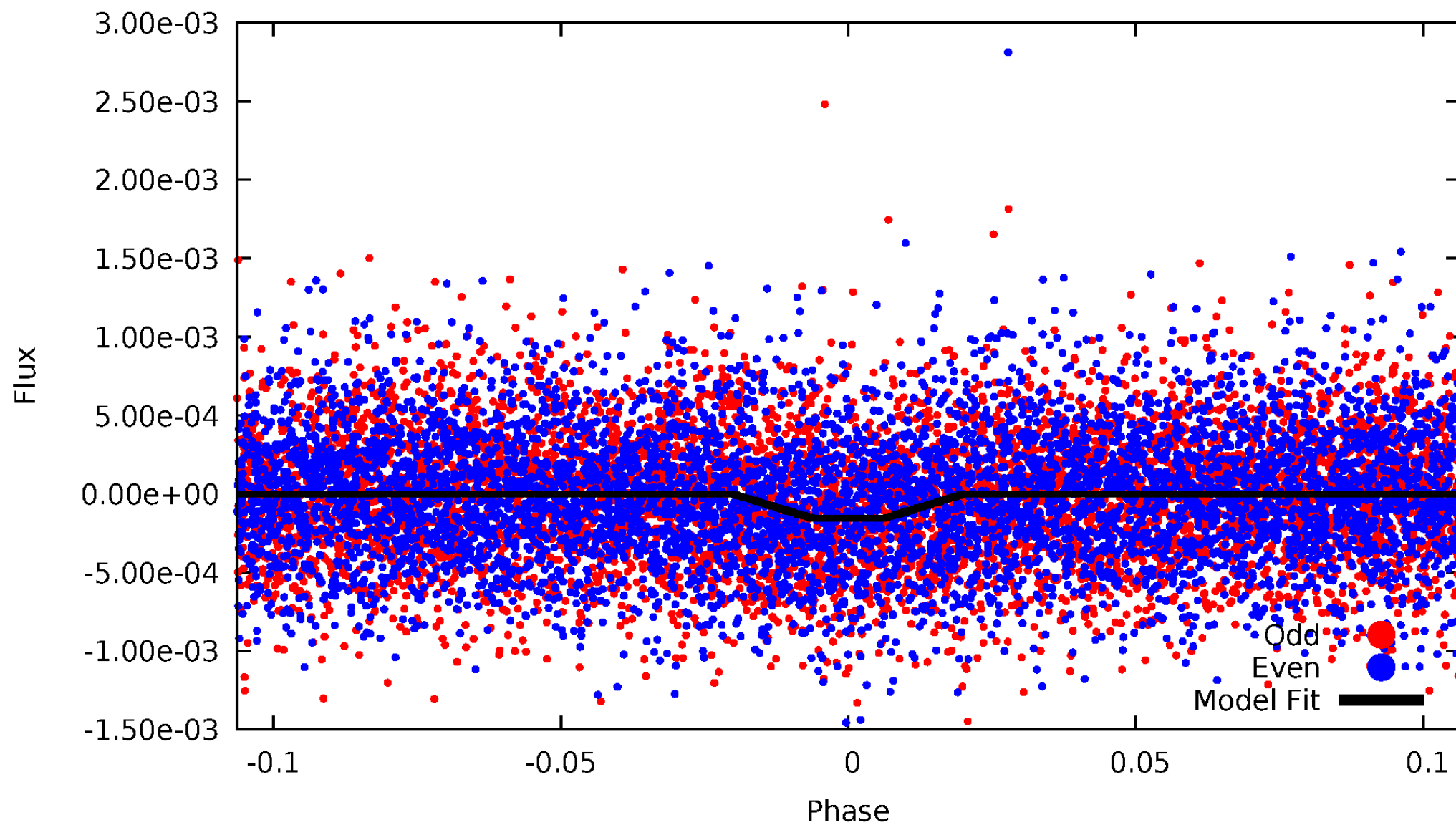
DV Odd/Even

TCE 005642688-01



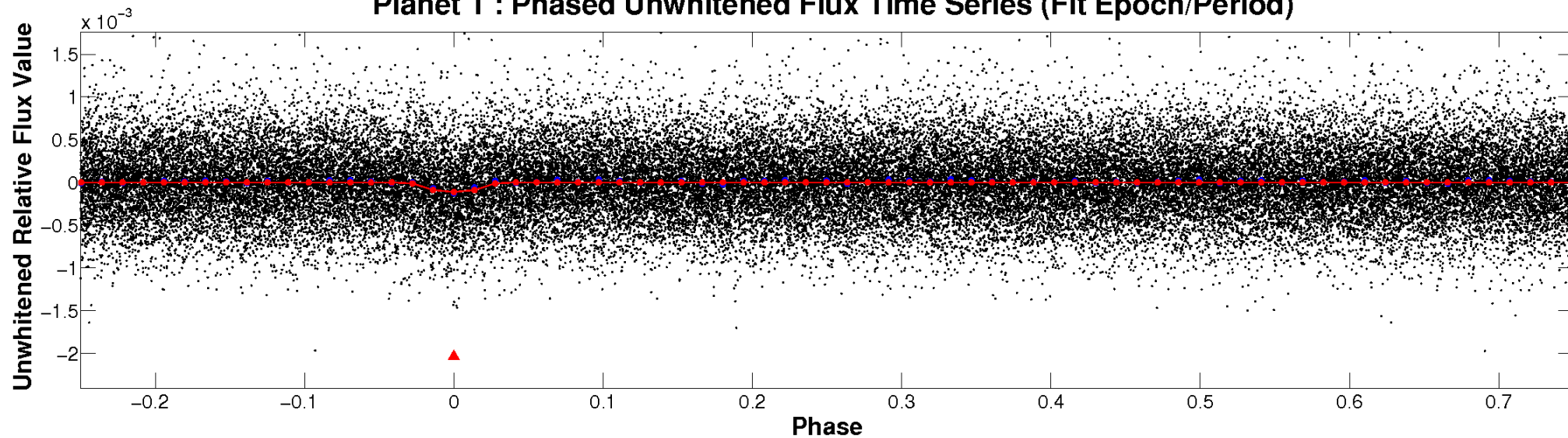
ALT Odd/Even

TCE 005642688-01

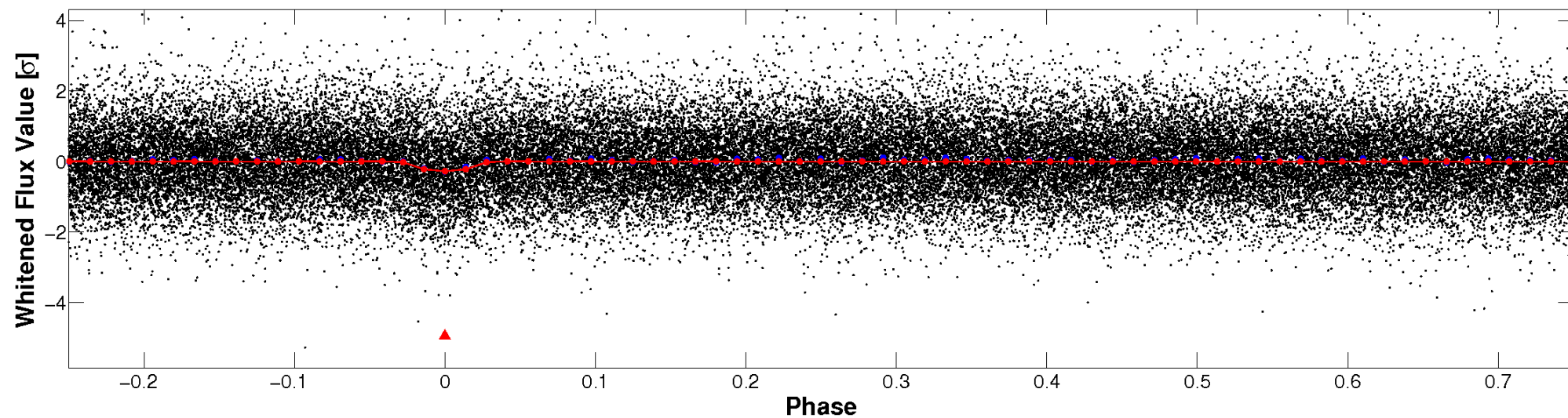


Non-Whitened Vs. Whitened Light Curve

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

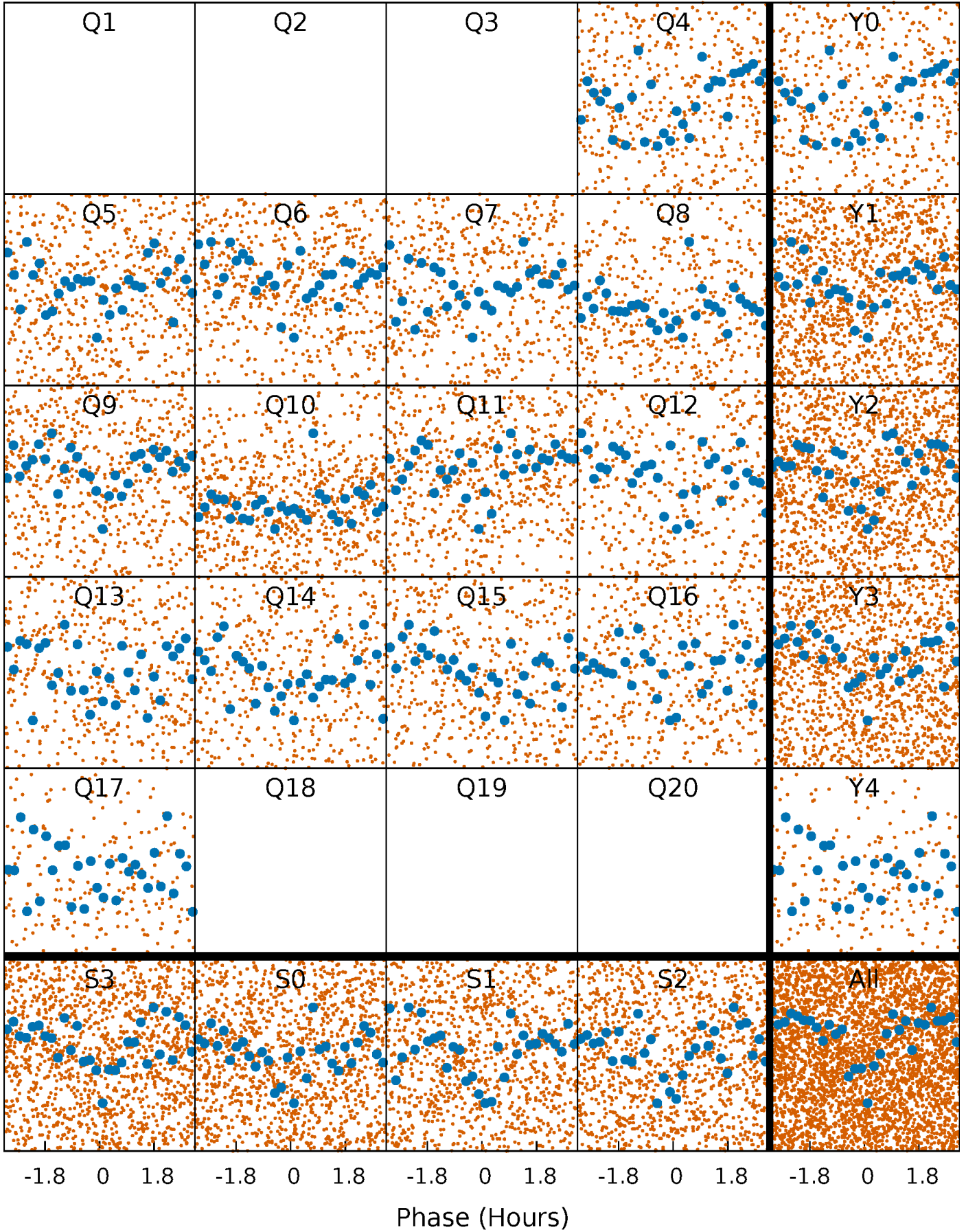


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



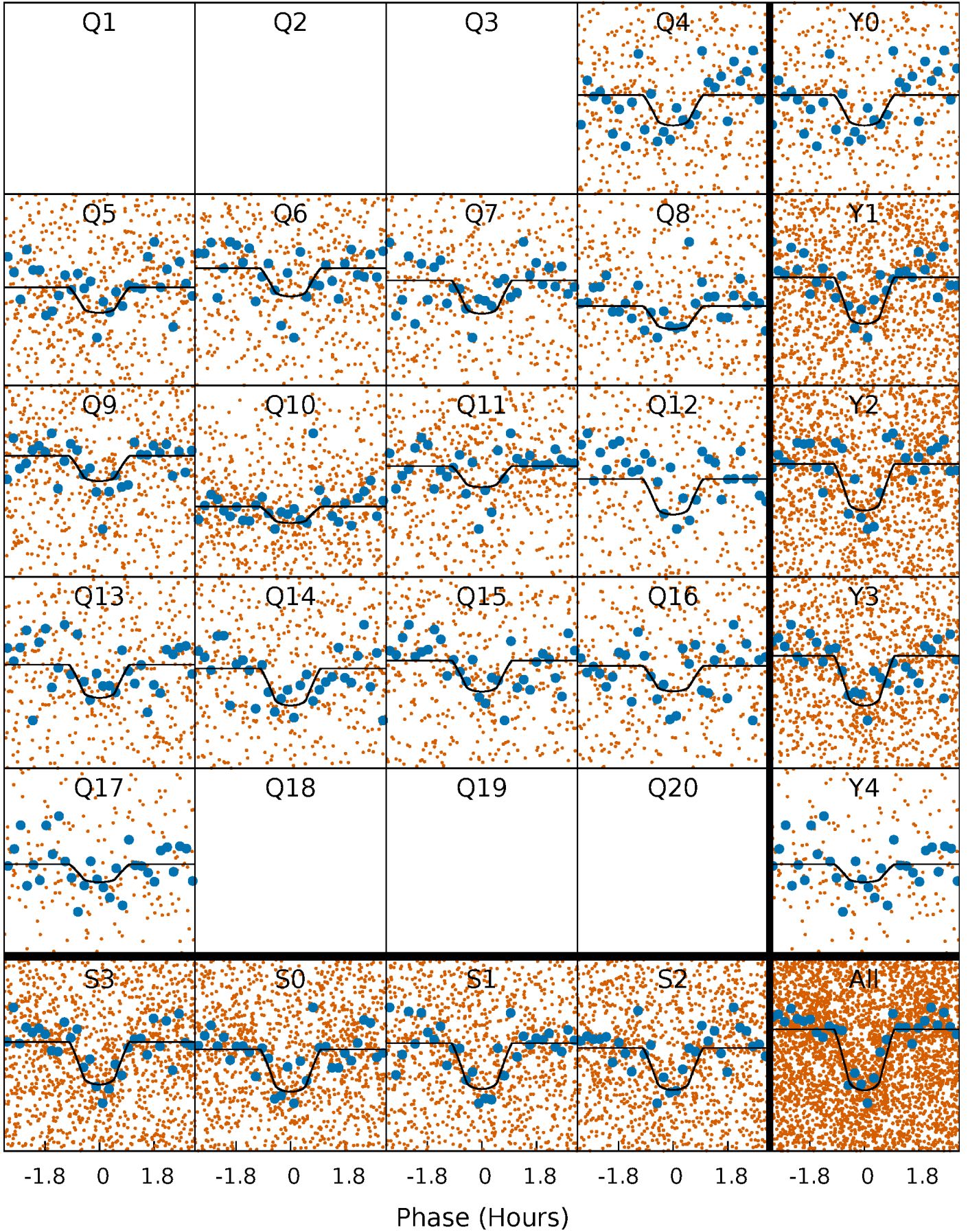
PDC Quarter-Phased Transit Curves

TCE 005642688-01 P= 1.473324 Days $T_0=132.856911$ (BKJD)



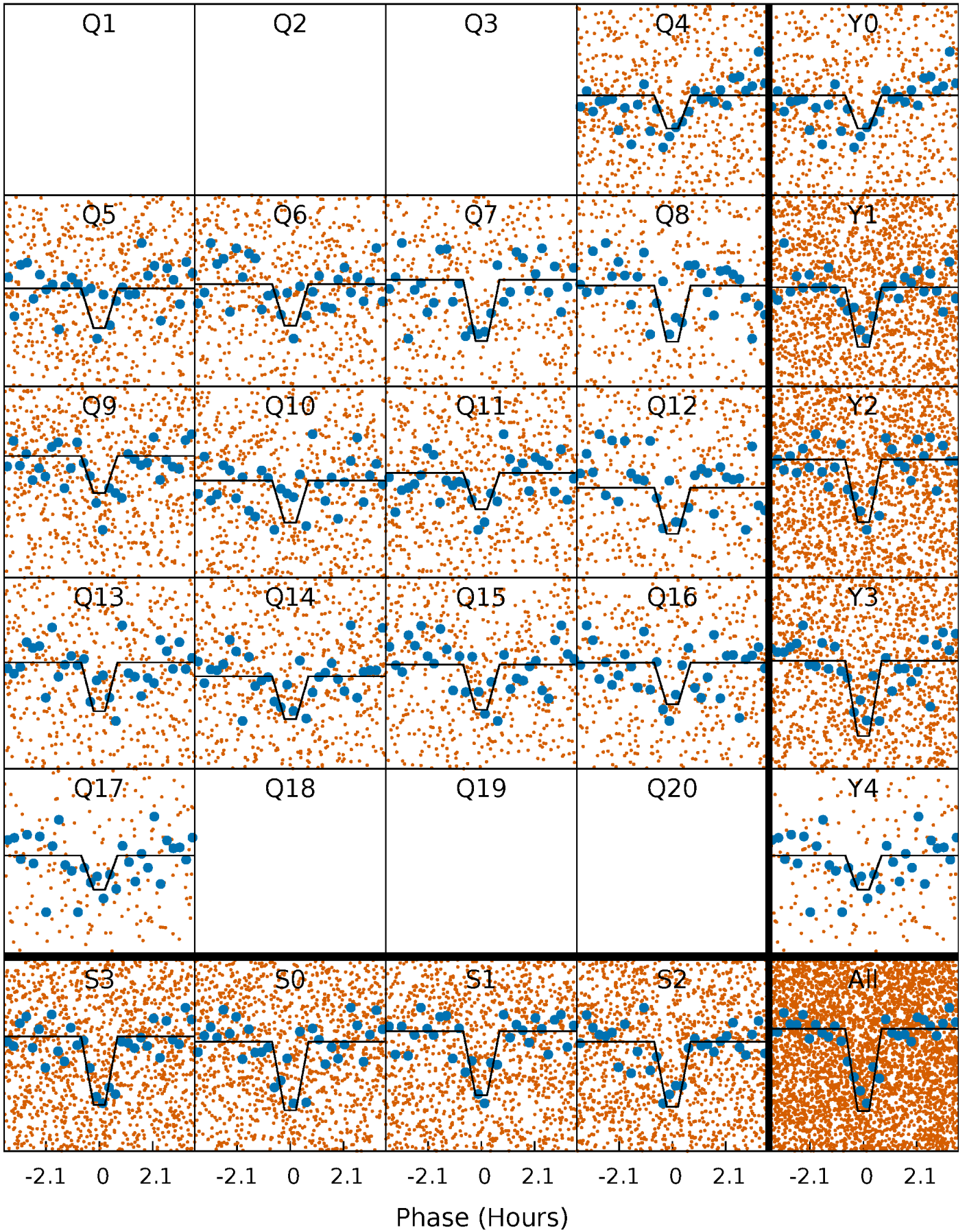
DV Quarter-Phased Transit Curves

TCE 005642688-01 P= 1.473324 Days $T_0=132.856911$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

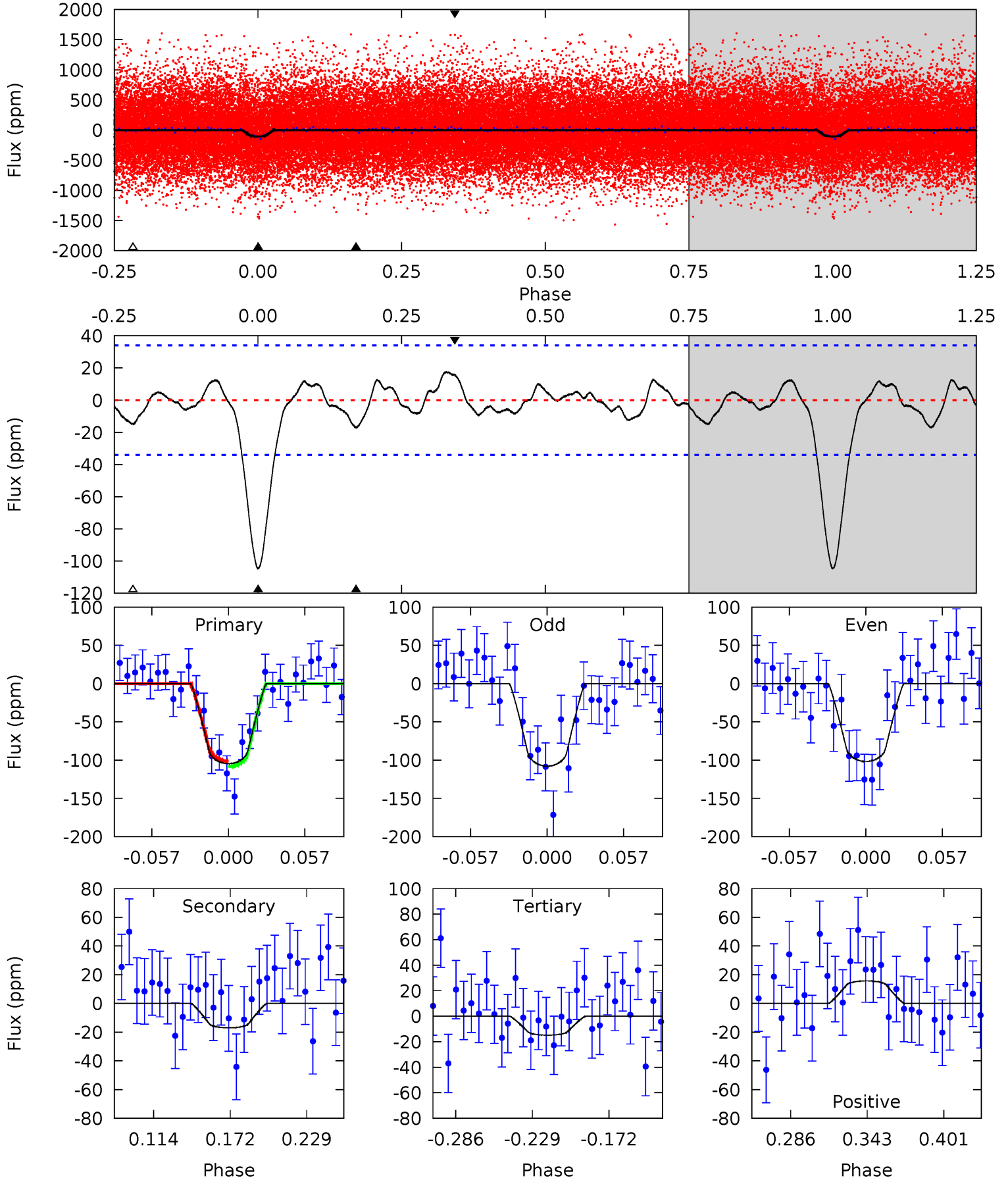
TCE 005642688-01 P= 1.473325 Days $T_0=132.856797$ (BKJD)



DV Model-Shift Uniqueness Test

005642688-01, P = 1.473324 Days, E = 132.856911 Days

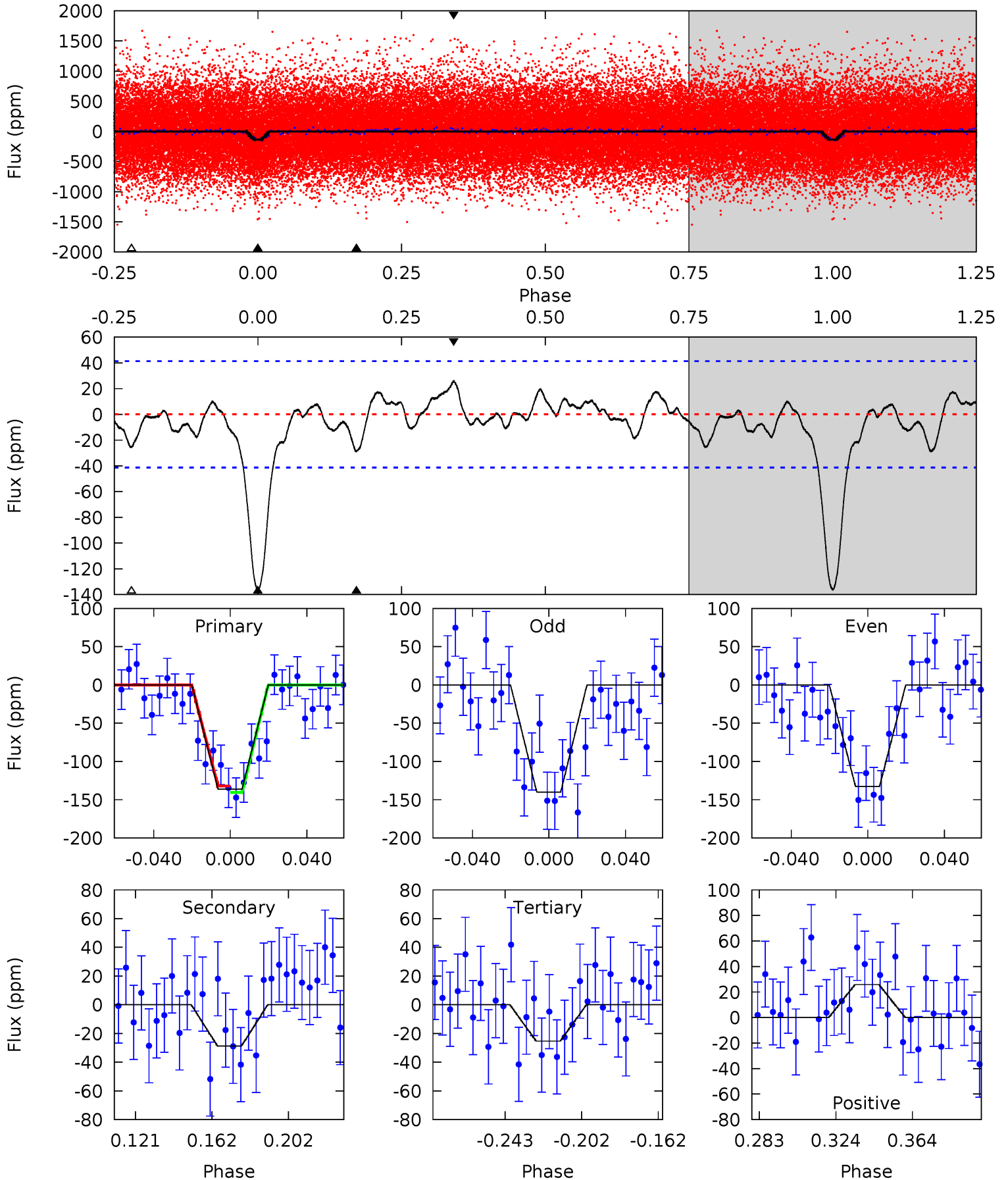
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	2.34	2.04	2.16	4.68	1.90	1.00	12.3	12.2	0.30	0.18	0.42	0.81	0.14	0.48



Alt Model-Shift Uniqueness Test

005642688-01, P = 1.473325 Days, E = 132.856797 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	3.30	2.91	2.97	4.75	2.05	1.13	12.7	12.7	0.38	0.33	0.42	0.98	0.16	0.48



Stellar Parameters For KIC 005642688

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5751^{+172}_{-189}	$4.431^{+0.120}_{-0.180}$	$-0.360^{+0.300}_{-0.300}$	$0.921^{+0.248}_{-0.134}$	$0.834^{+0.120}_{-0.070}$	$1.505^{+0.807}_{-0.711}$
	+3%/-3%	+3%/-4%	+83%/-83%	+27%/-15%	+14%/-8%	+54%/-47%
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 005642688-01 / KOI 4705.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-17 ± 7	$1.22^{+0.66}_{-0.63}$	2214^{+154}_{-119}	3733^{+1089}_{-648}	$3.598^{+10.536}_{-2.360}$
Alt.	-29 ± 9	$1.30^{+0.73}_{-0.61}$	2222^{+165}_{-127}	3998^{+1240}_{-620}	$5.108^{+14.238}_{-3.070}$

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

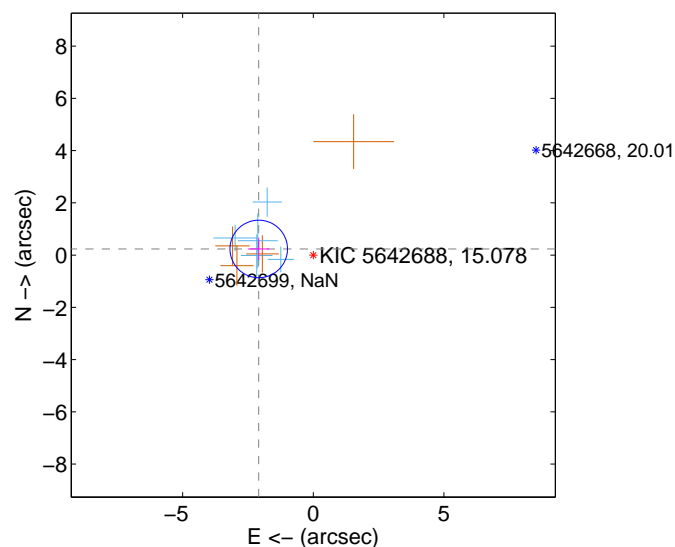
Supplemental centroid analysis for 005642688-01. Kepler magnitude: 15.08. Transit SNR 11.33

There are 5 quarters with good PRF difference image offsets

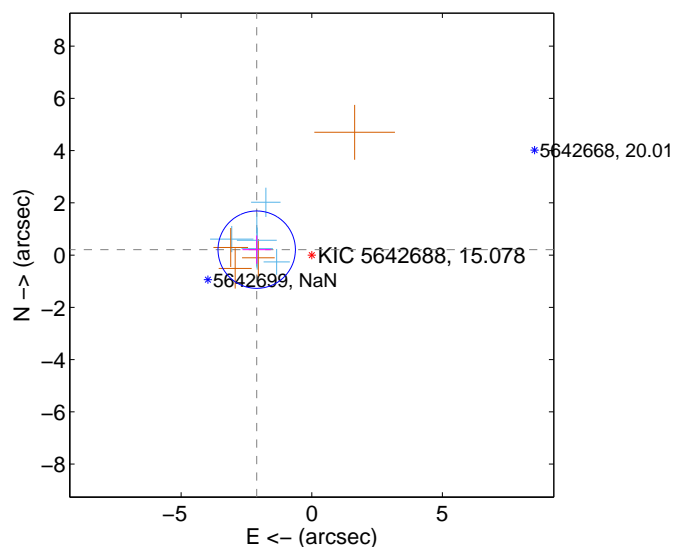
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.101 ± 0.367	5.73	2.088 ± 0.407	0.236 ± 0.427
PRF-fit source offset from KIC position	2.117 ± 0.494	4.29	2.107 ± 0.543	0.208 ± 0.545
photometric centroid source offset	4.07 ± 1.22	3.34	4.05 ± 1.22	0.31 ± 1.05

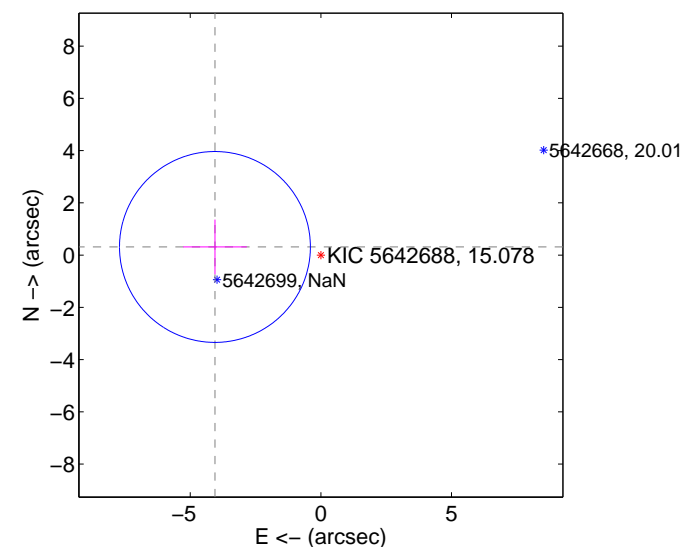
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

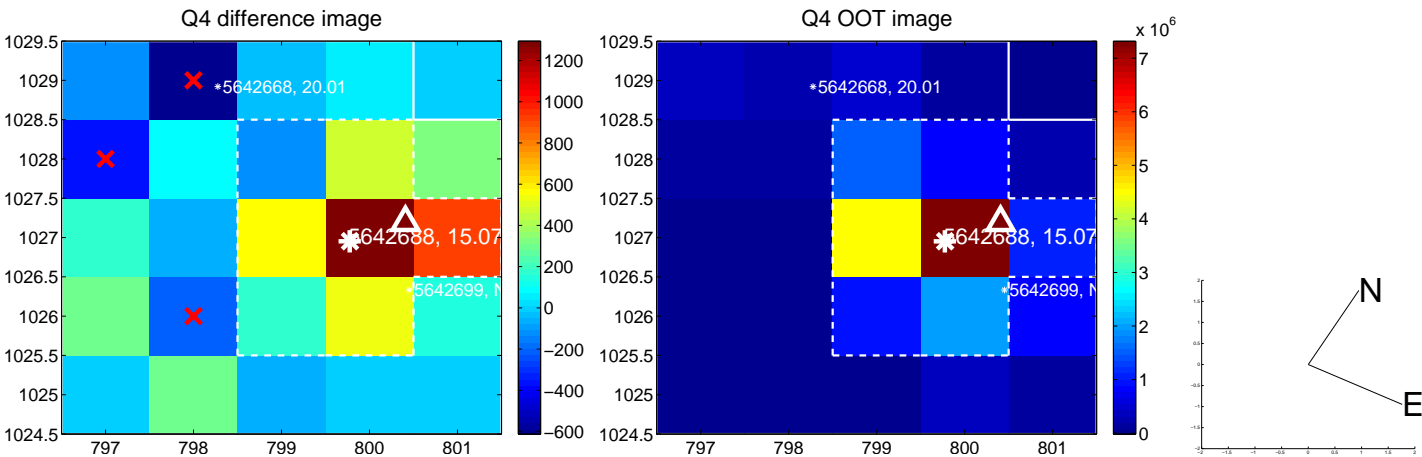


offset from photometric centroids

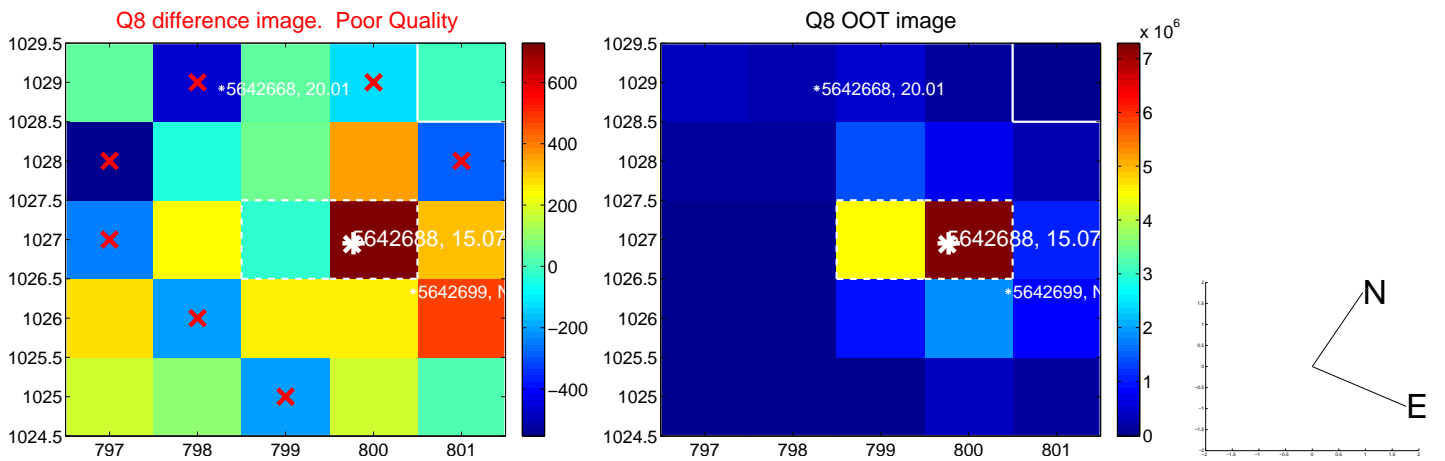
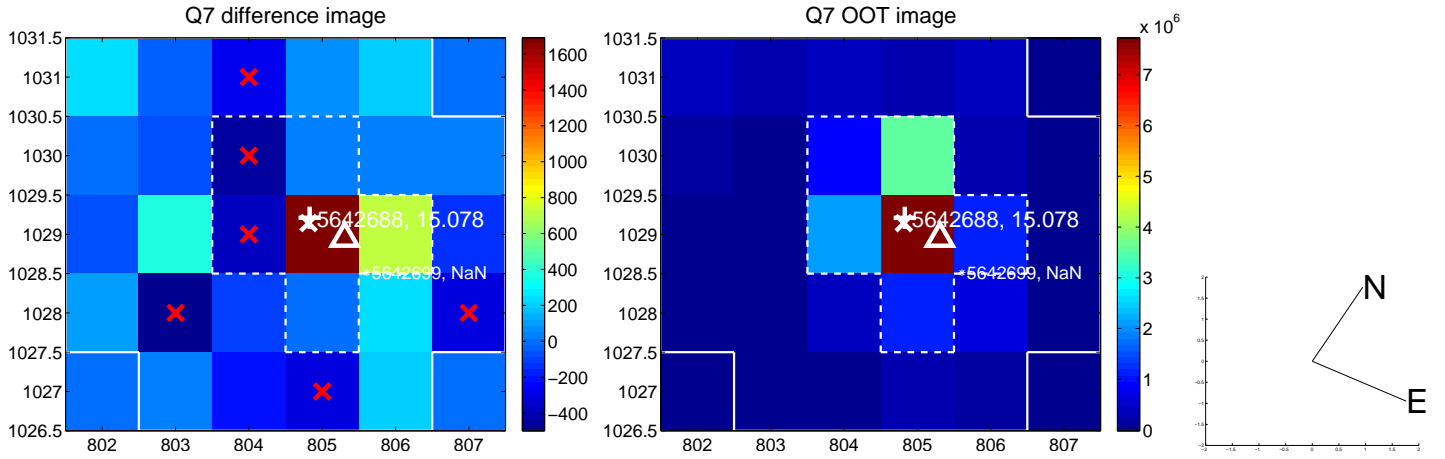
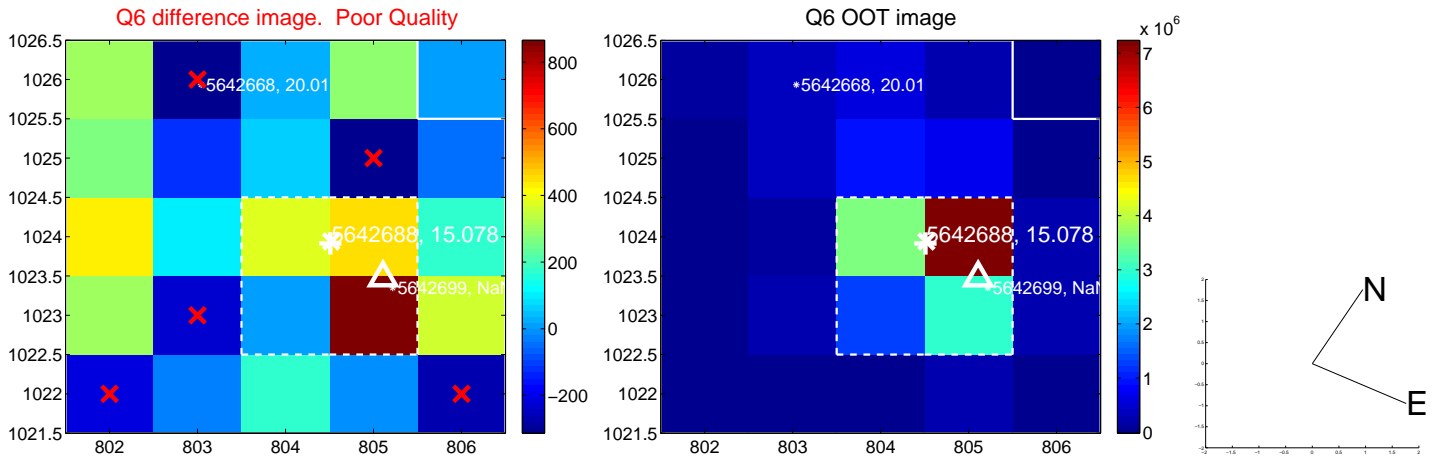
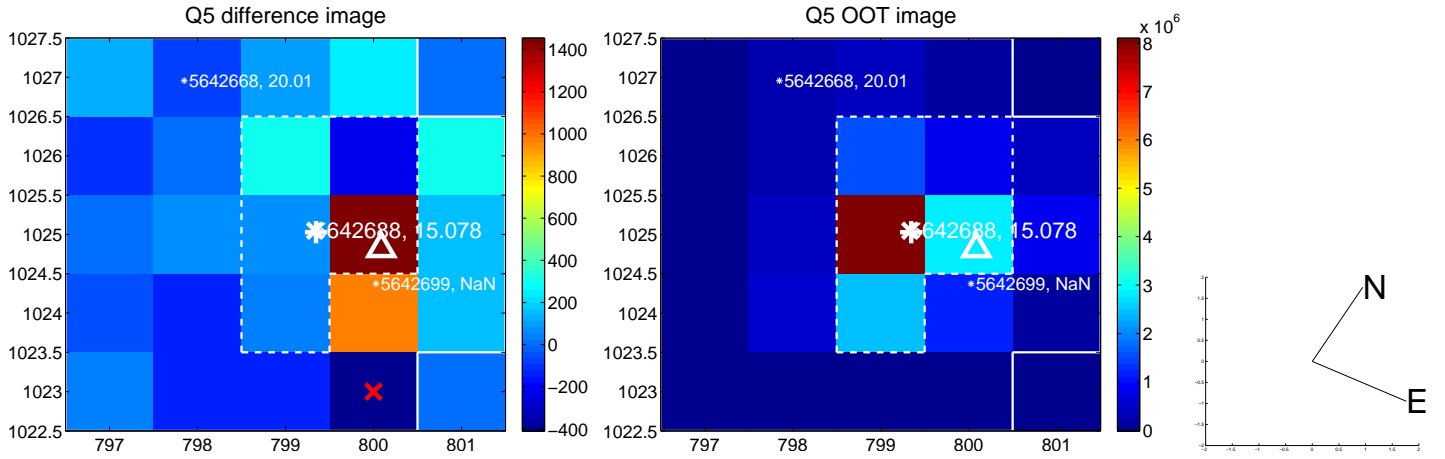


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

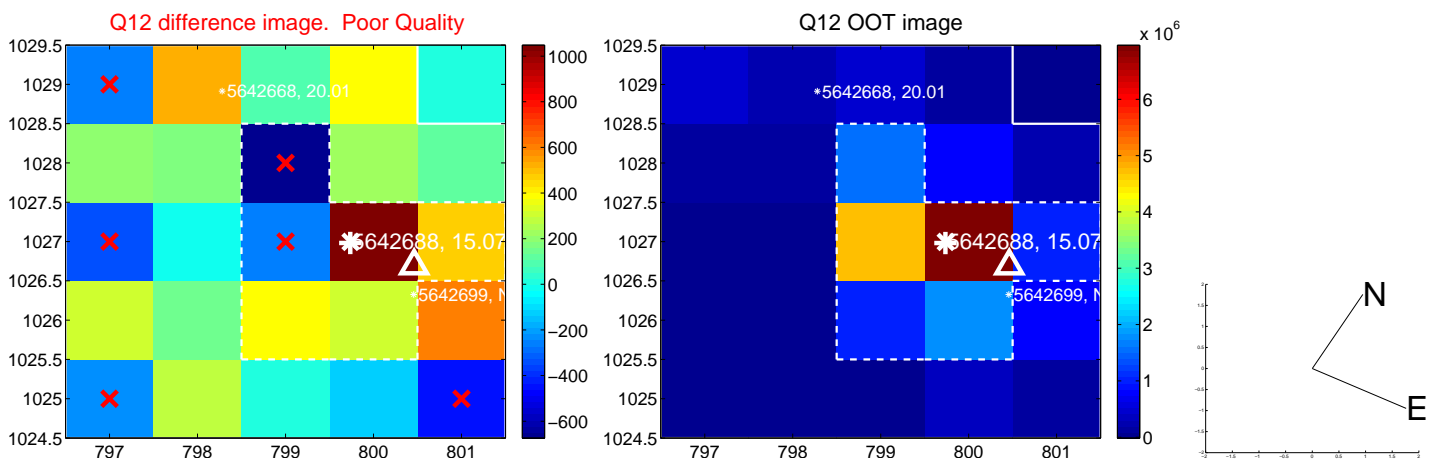
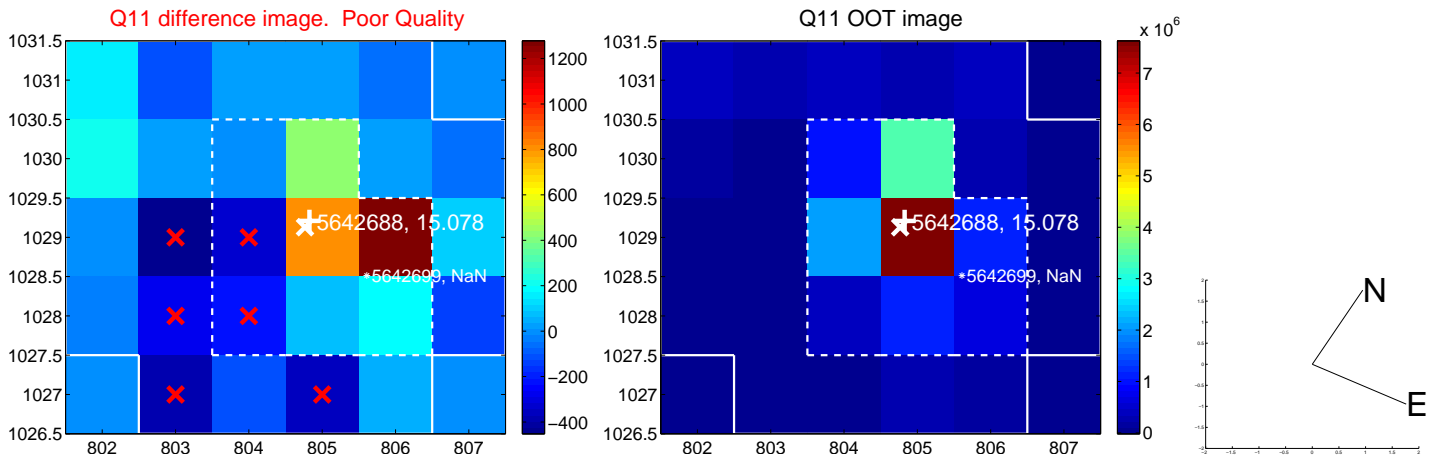
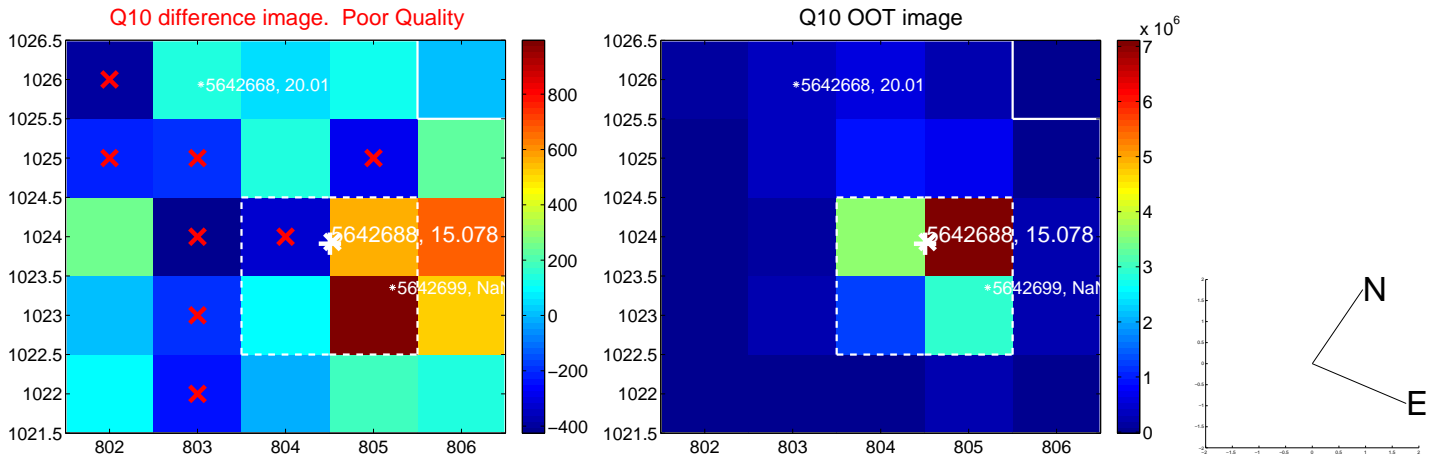
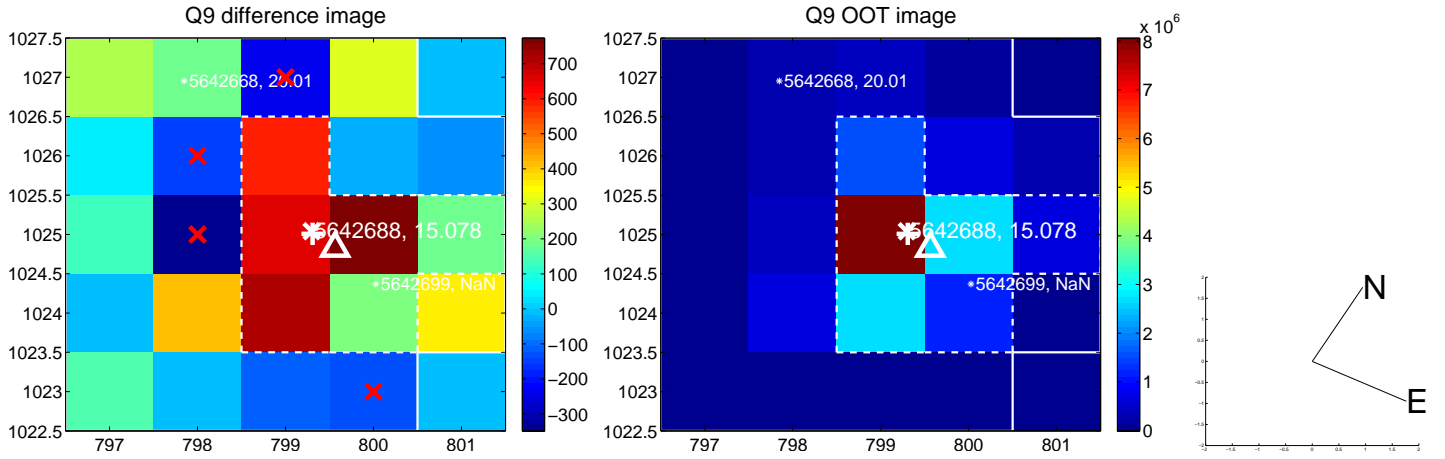
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



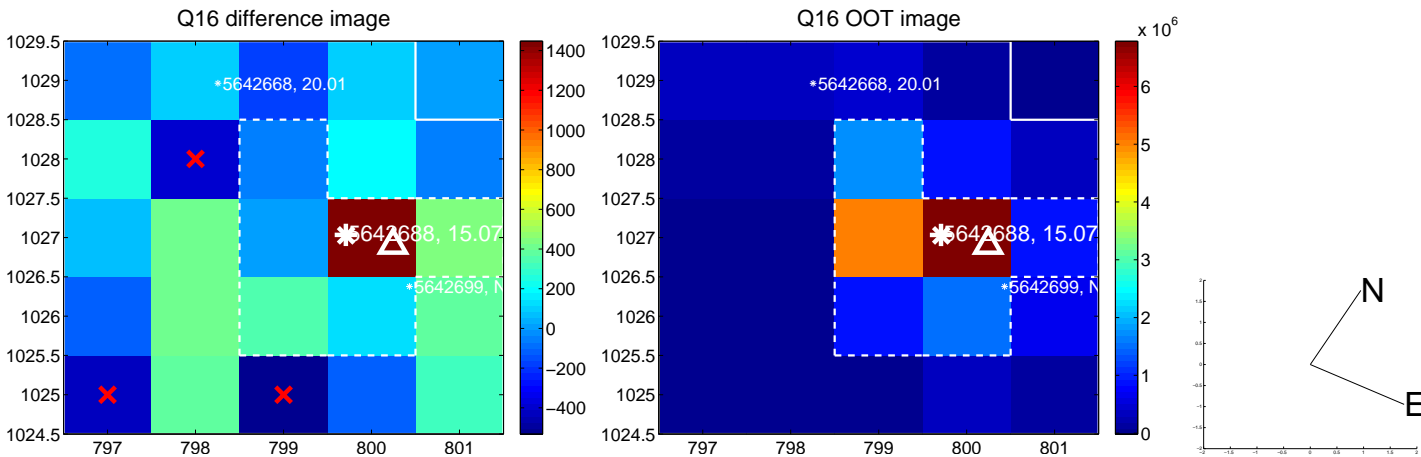
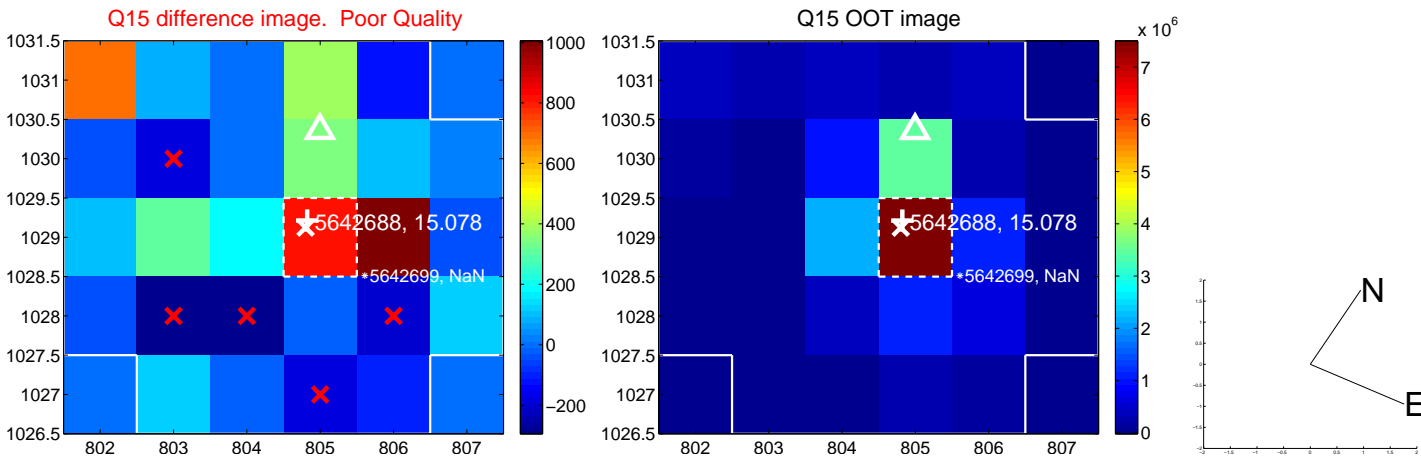
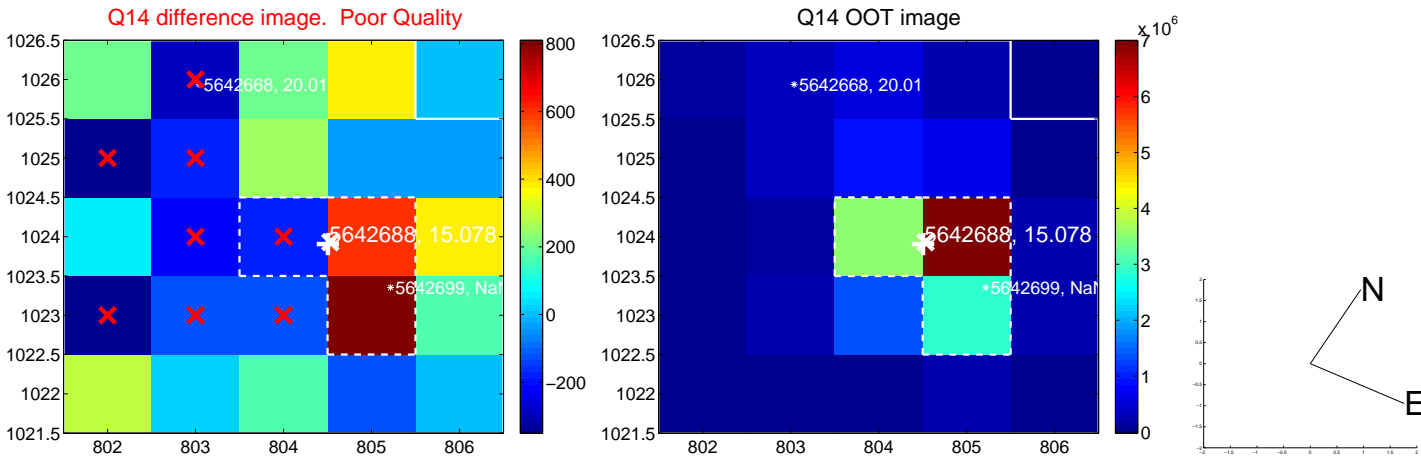
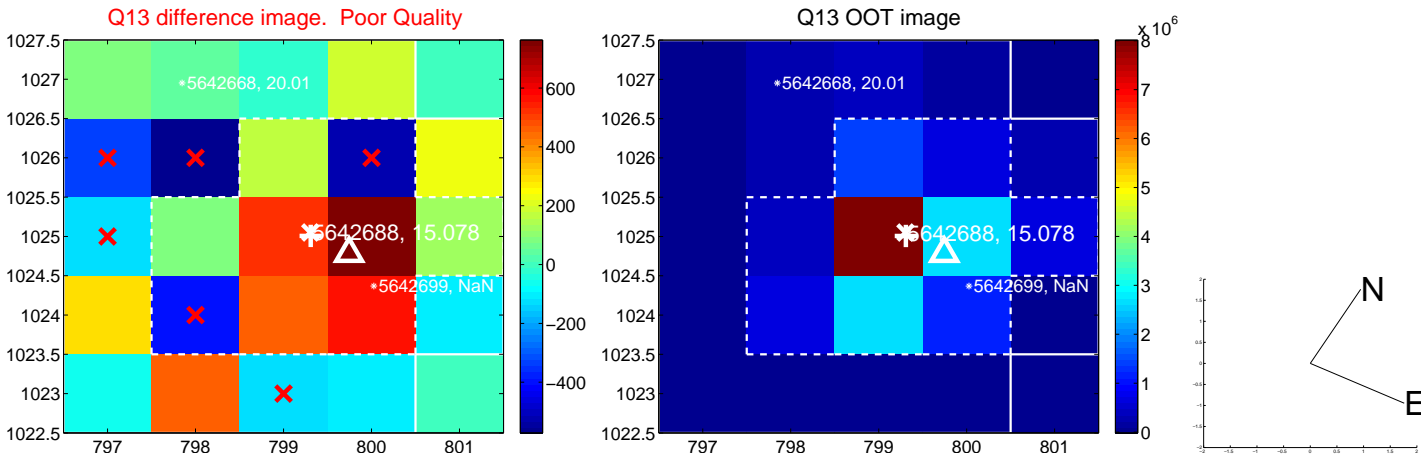
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



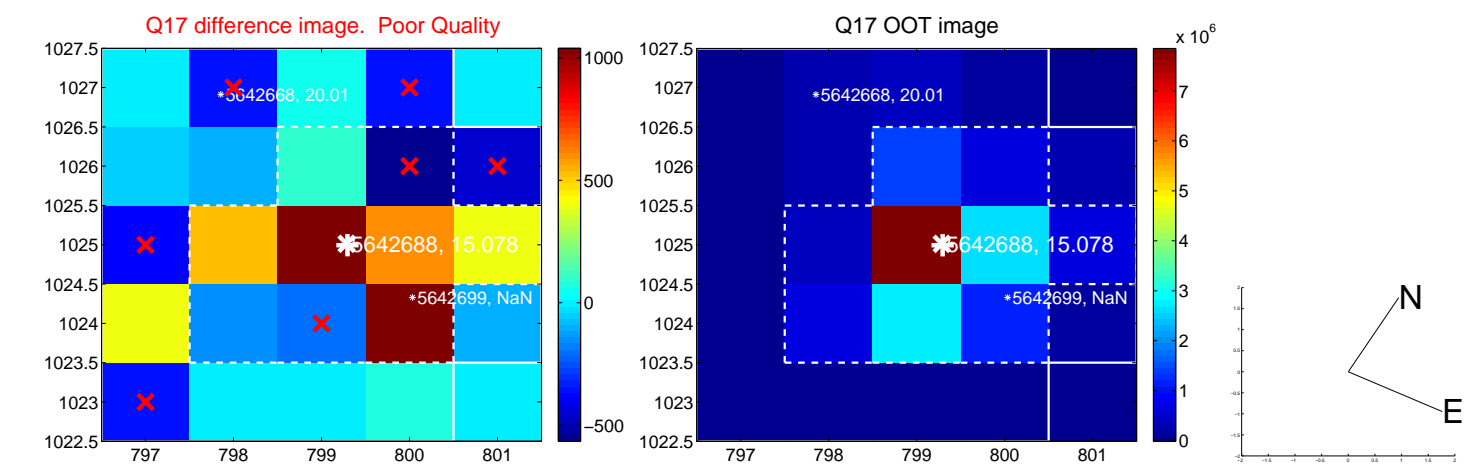
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



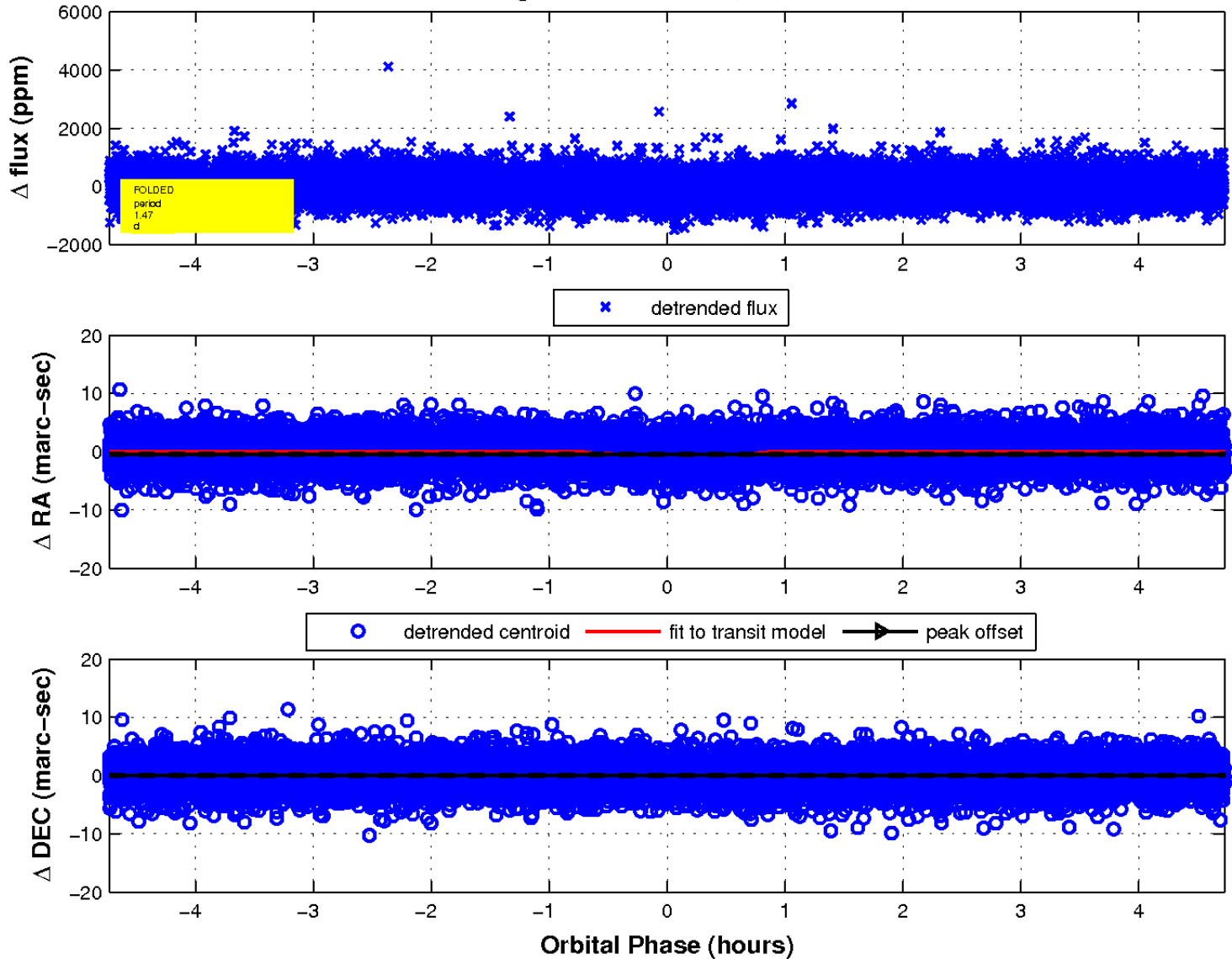
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

