

KIC 009520668

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})
009520668-01	OBS	1514.01	1.399323	132.218226	183.3	1.887	17.9	19.8	0.73	4502	1.22	404.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009520668-01	OBS	FP	0.00	0	0	1	0	CENT_RESOLVED_OFFSET

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

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

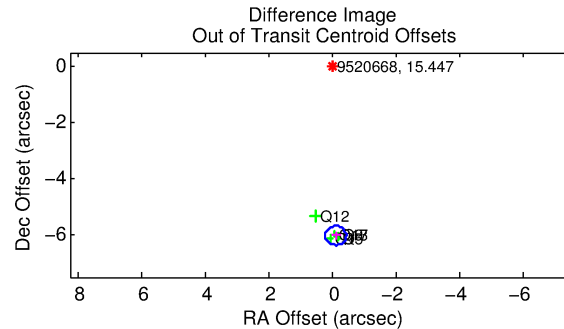
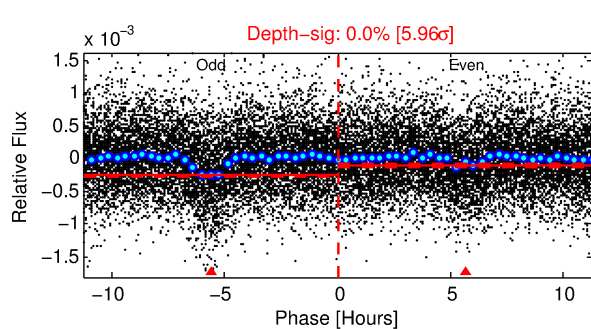
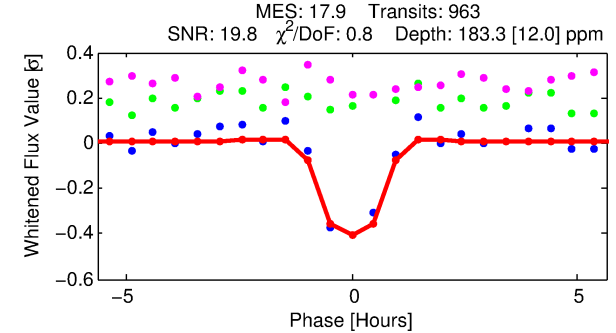
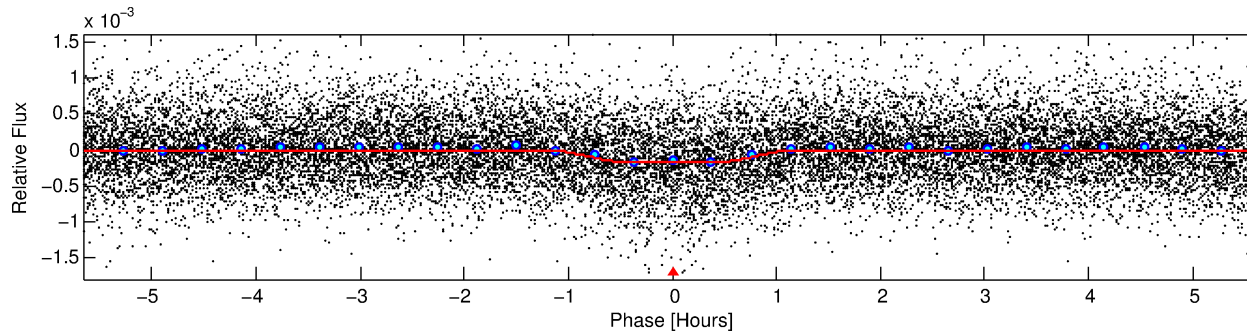
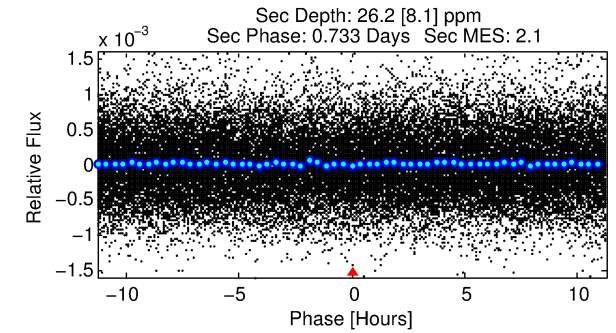
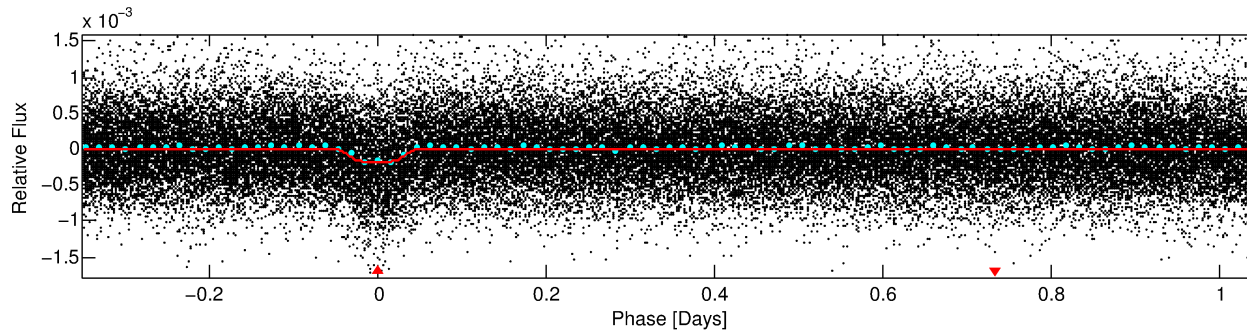
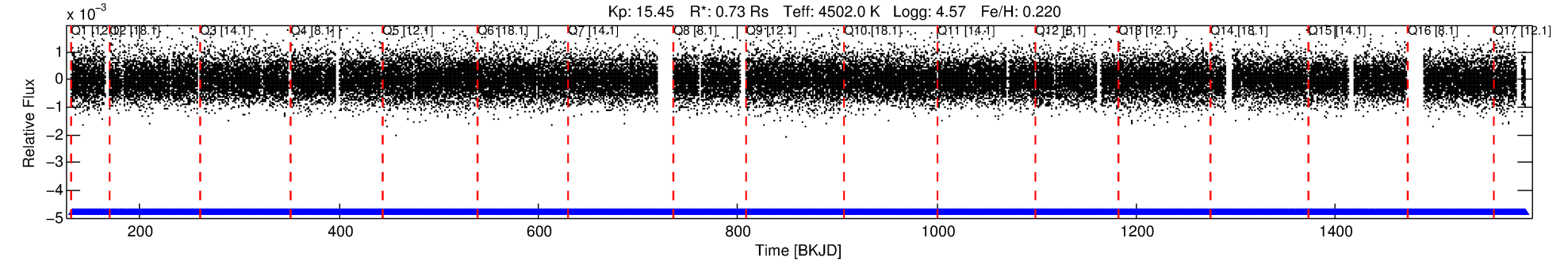
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009520668-01

No Significant Match Found

DV One-Page Summary

KIC: 9520668 Candidate: 1 of 1 Period: 1.399 d
KOI: K01514.01 Corr: 0.960



DV Fit Results:

Period = 1.39932 [0.00001] d
Epoch = 132.2182 [0.0014] BKJD
Rp/R* = 0.0153 [0.0080]
a/R* = 2.86 [4.74]
b = 0.90 [0.43]
Seff = 404.31 [64.47]
Teq = 1143 [46] K
Rp = 1.22 [0.64] Re
a = 0.0220 [0.0016] AU
Ag = 4.68 [5.11] [0.72σ]
Teffp = 2600 [712] K [2.04σ]

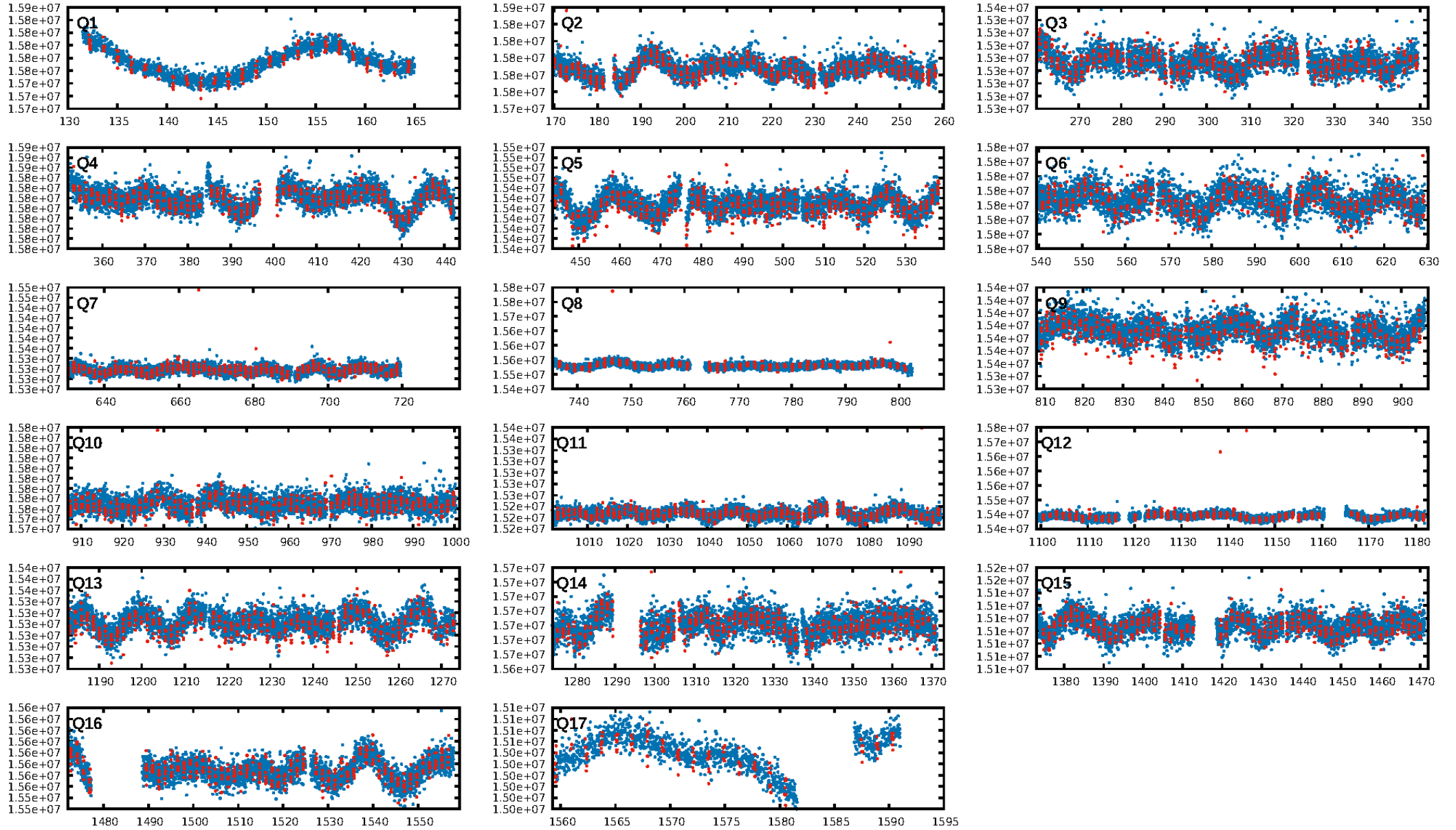
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.96e-70
RollingBand-fgt: 1.00 [920/920]
GhostDiagnostic-chr: -0.6481
Centroid-sig: 0.0%
Centroid-so: 23.265 arcsec [33.72σ]
OotOffset-rm: 6.032 arcsec [53.40σ]
KicOffset-rm: 6.653 arcsec [45.92σ]
OotOffset-st: 0/0/1/5 [6]
KicOffset-st: 0/0/1/5 [6]
DiffImageQuality-fgm: 1.00 [6/6]
DiffImageOverlap-fno: 1.00 [17/17]

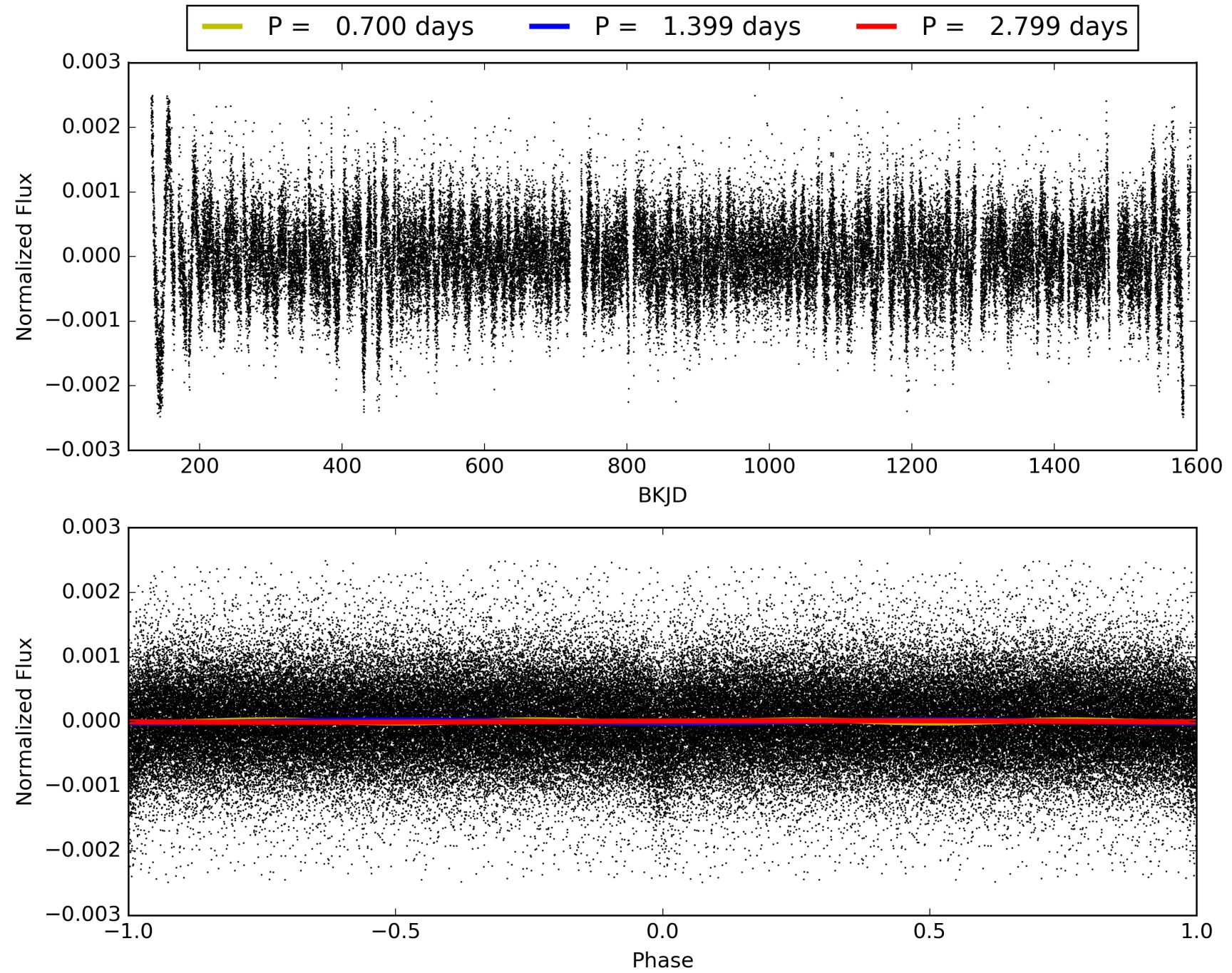
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 02:10:53 Z

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

TCE 009520668-01, PDC Light Curves

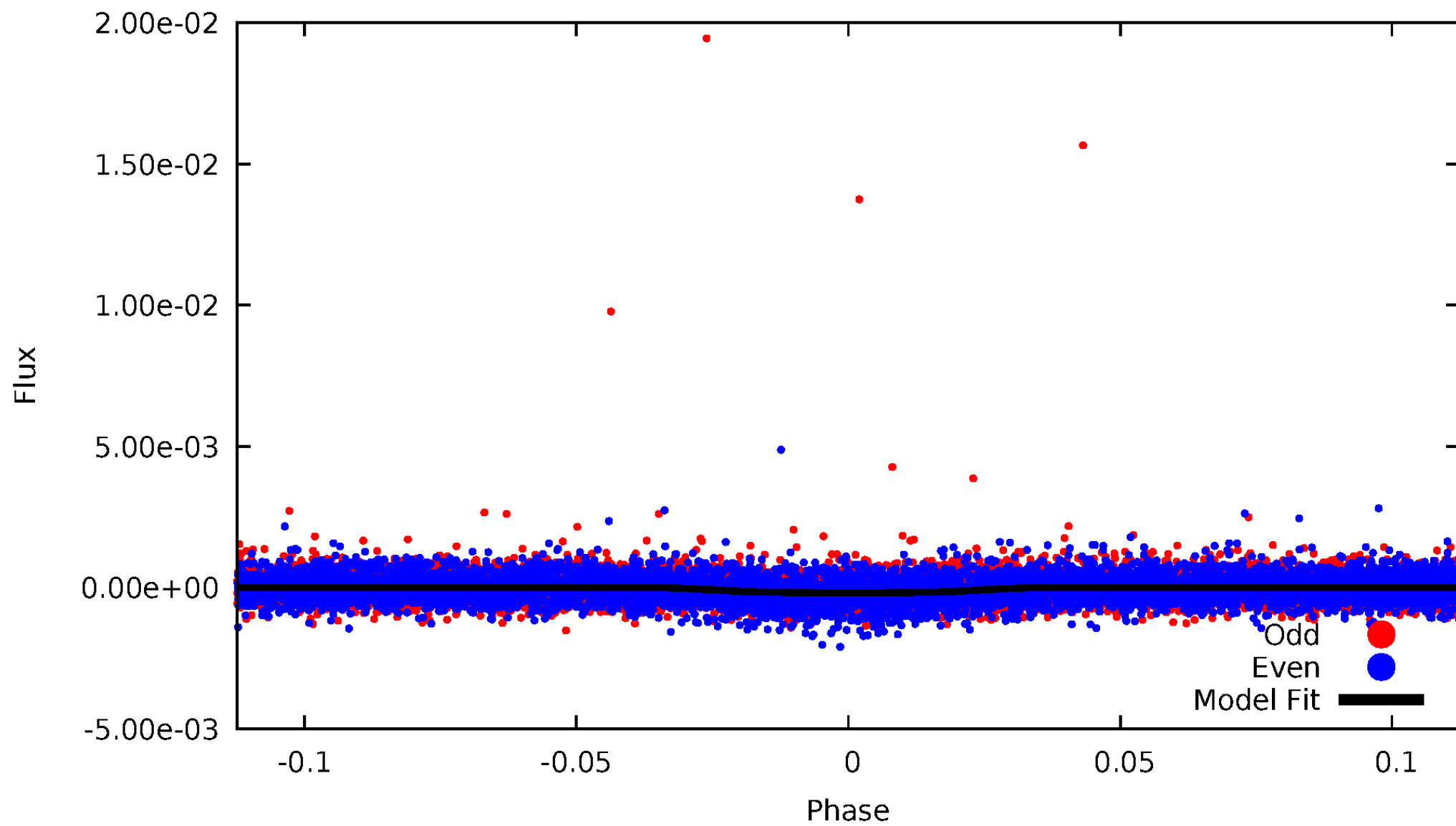


TCE 009520668-01



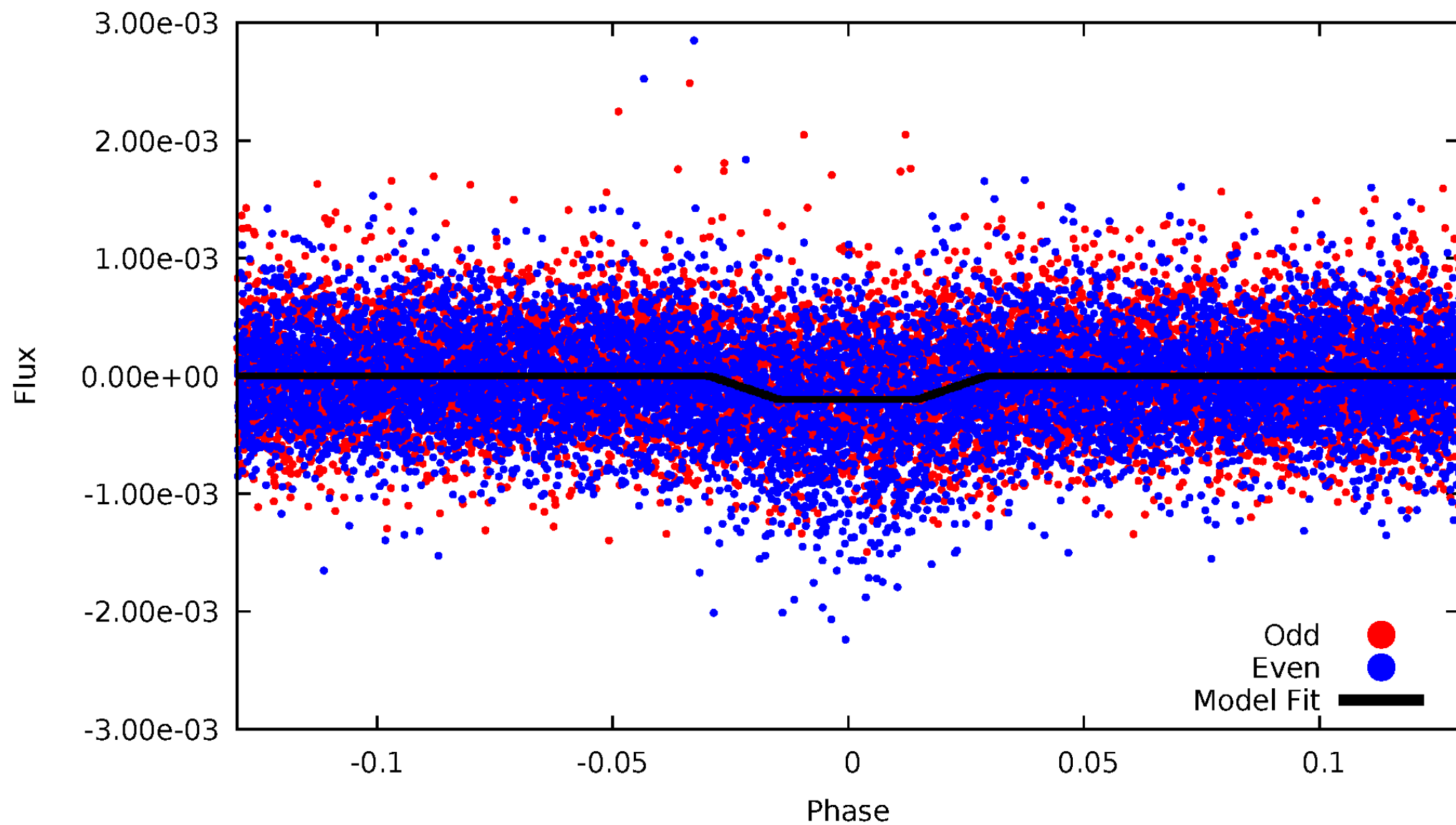
DV Odd/Even

TCE 009520668-01



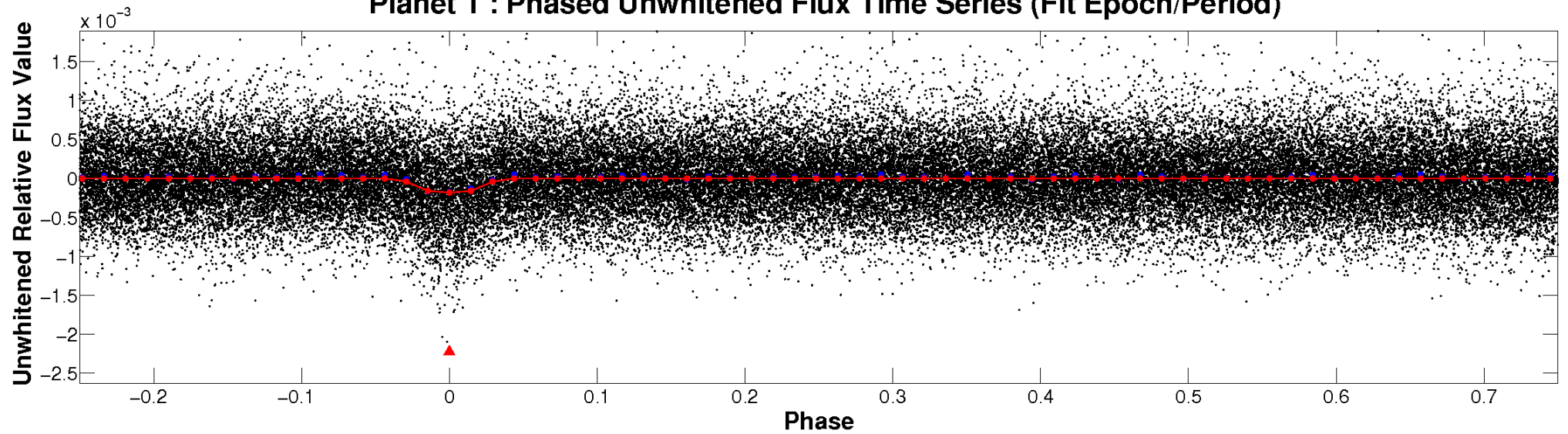
ALT Odd/Even

TCE 009520668-01

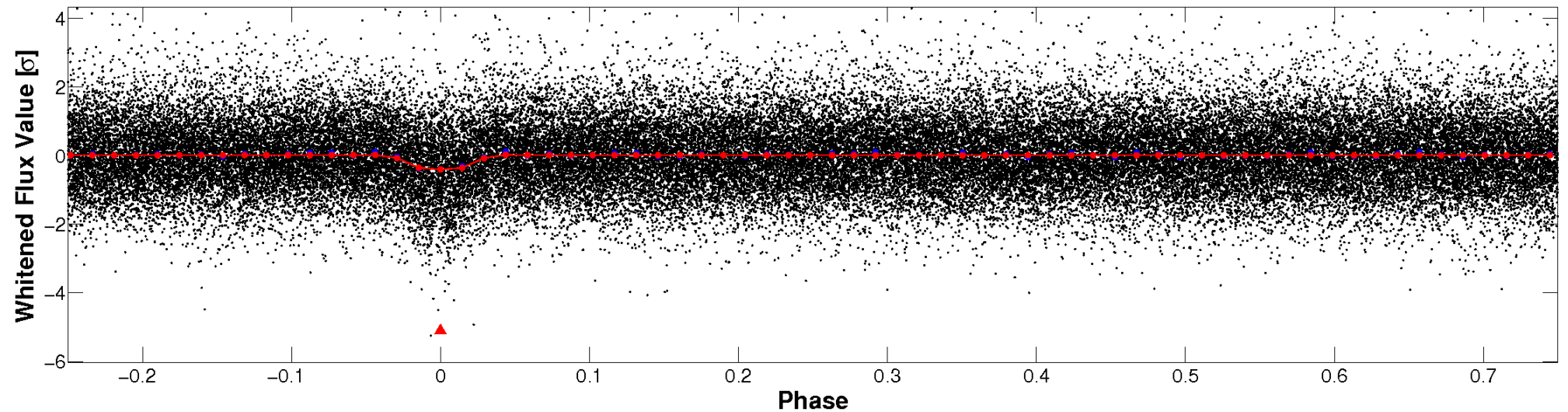


Non-Whitened Vs. Whitened Light Curve

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

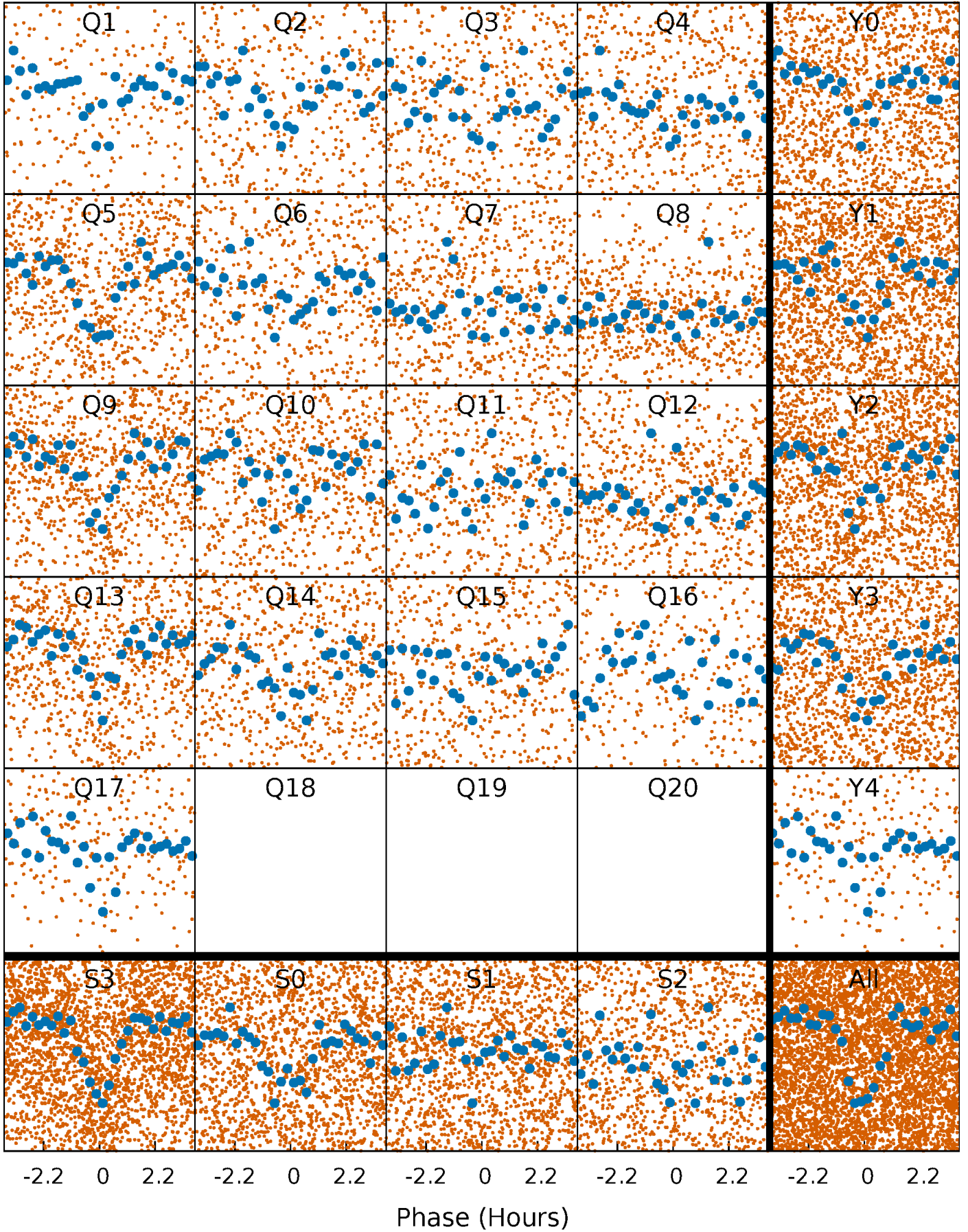


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



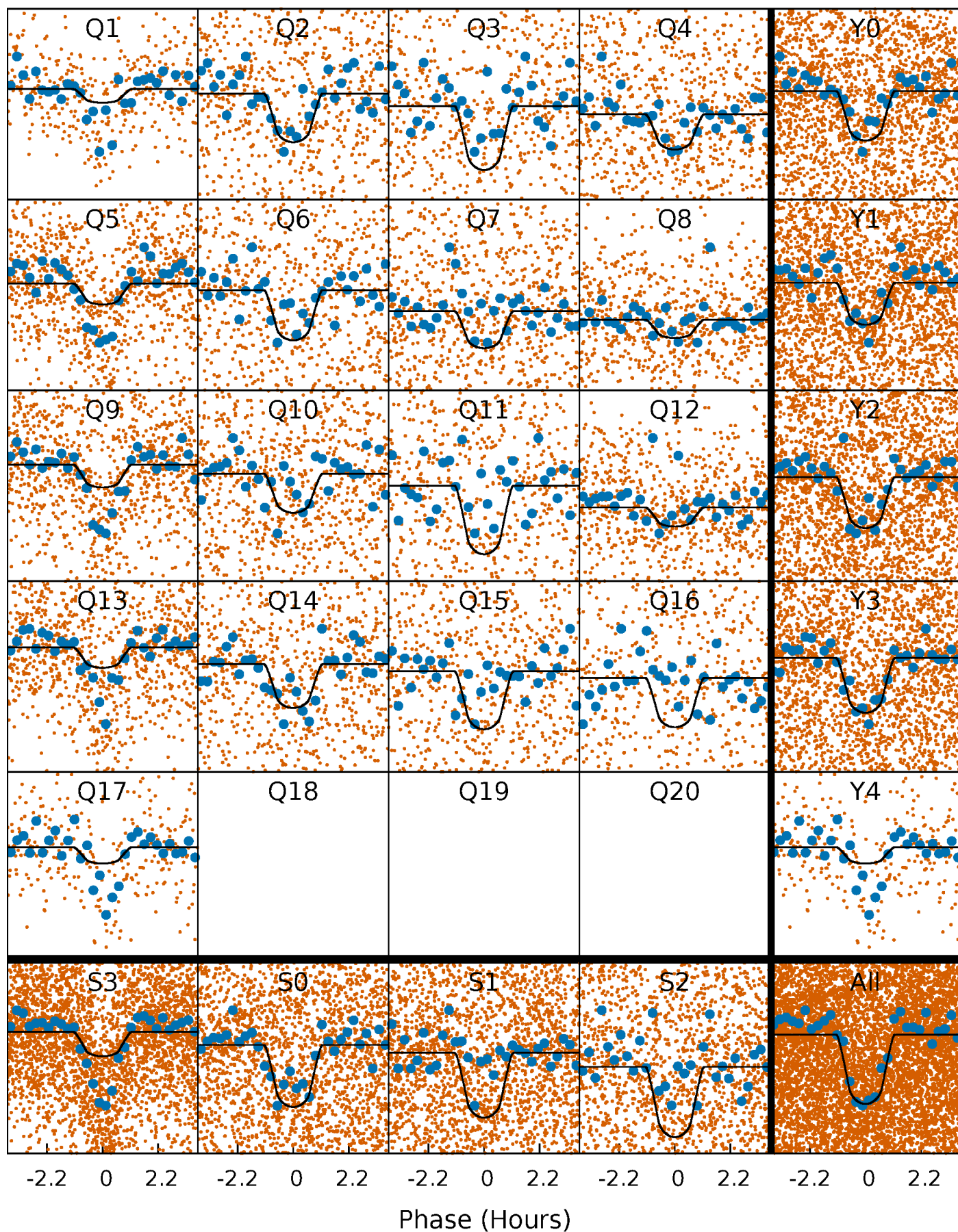
PDC Quarter-Phased Transit Curves

TCE 009520668-01 $P = 1.399323$ Days $T_0 = 132.218226$ (BKJD)



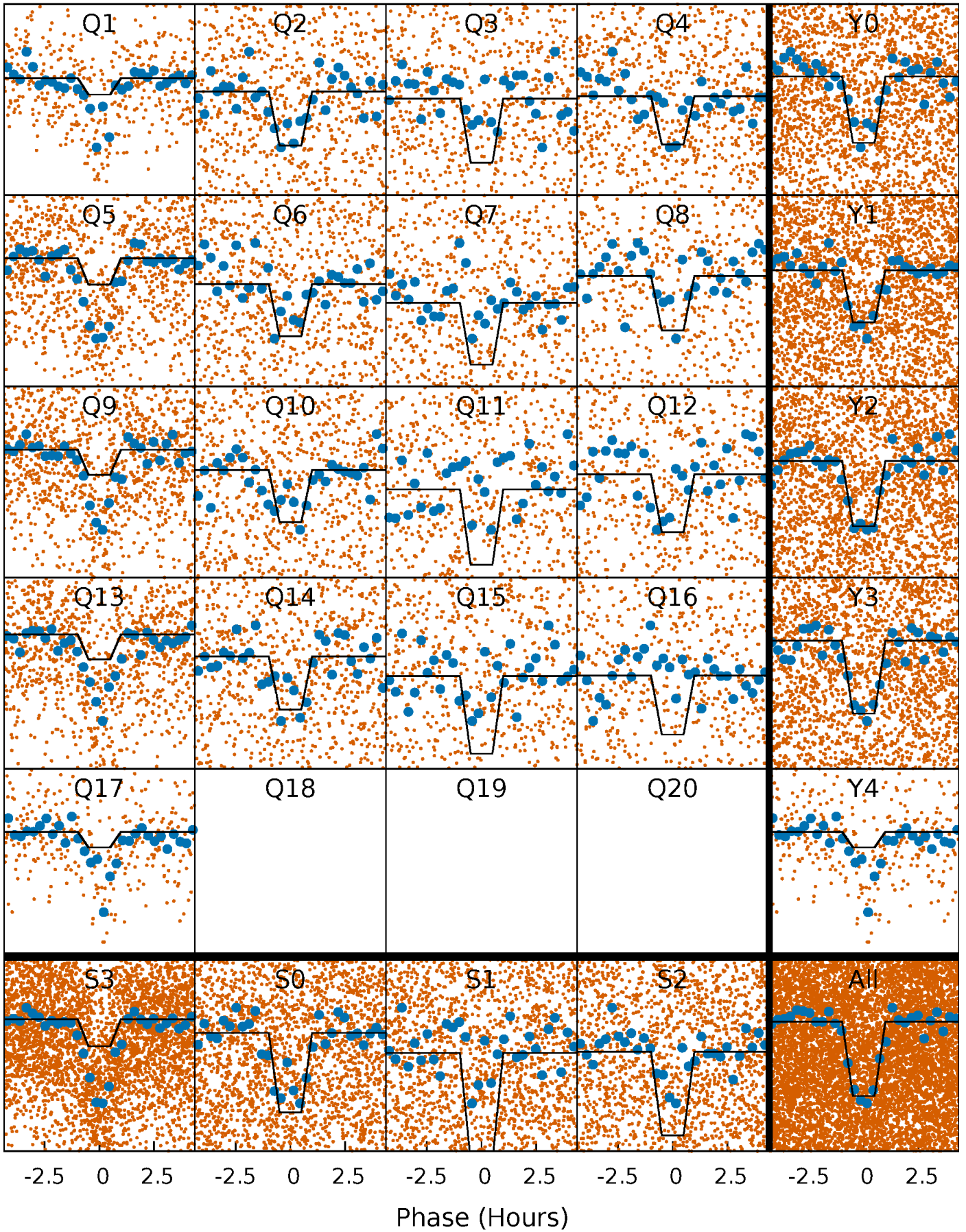
DV Quarter-Phased Transit Curves

TCE 009520668-01 P= 1.399323 Days $T_0=132.218226$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

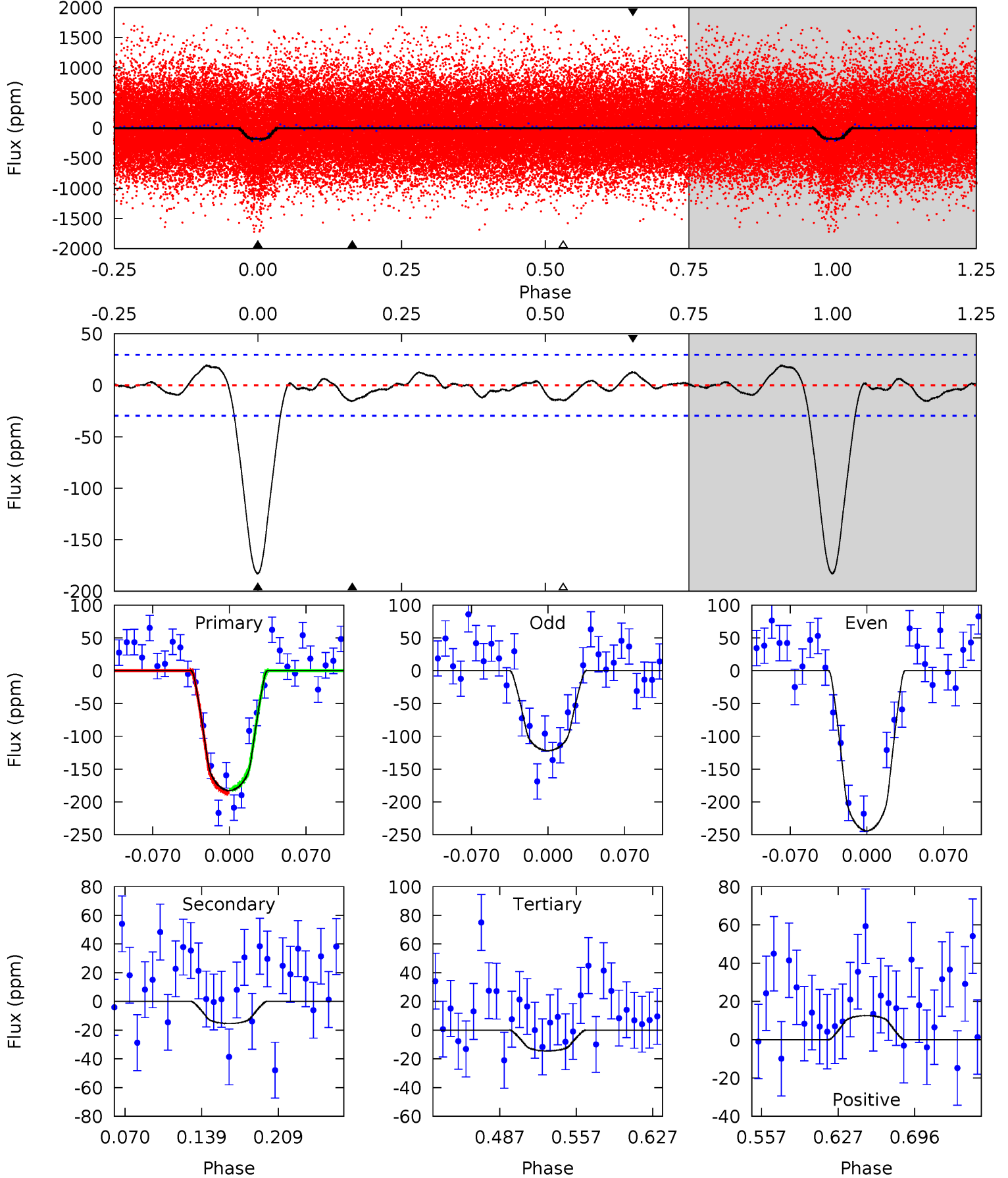
TCE 009520668-01 P= 1.399324 Days $T_0=132.216326$ (BKJD)



DV Model-Shift Uniqueness Test

009520668-01, P = 1.399323 Days, E = 130.818903 Days

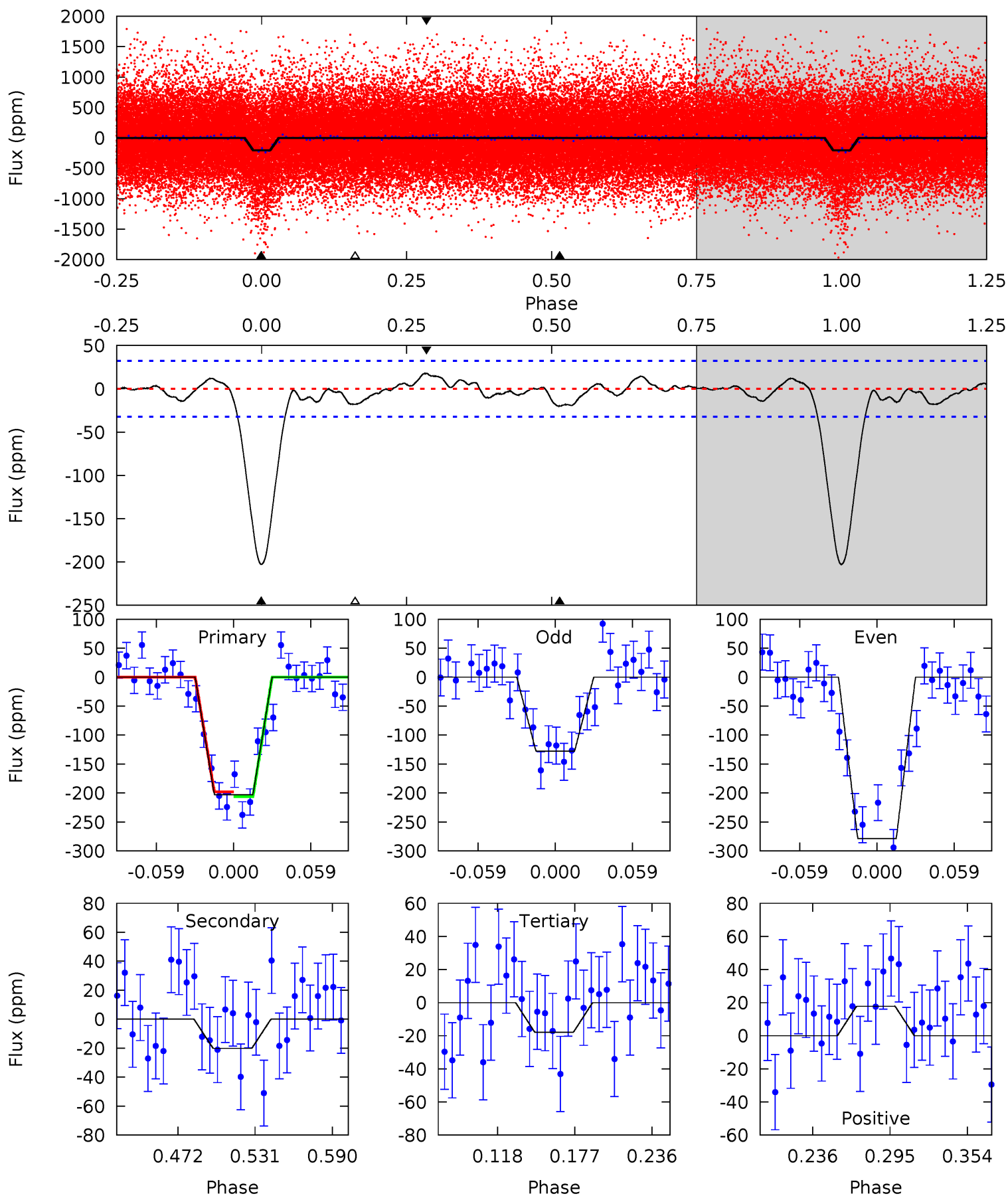
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.7	2.42	2.28	1.98	4.64	1.81	1.11	26.4	26.7	0.14	0.44	9.61	1.03	0.09	0.42



Alt Model-Shift Uniqueness Test

009520668-01, P = 1.399324 Days, E = 130.817002 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
29.4	2.93	2.60	2.57	4.67	1.89	1.17	26.8	26.8	0.33	0.35	10.9	1.18	0.08	0.60



Stellar Parameters For KIC 009520668

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4502^{+137}_{-123}	$4.572^{+0.056}_{-0.020}$	$0.220^{+0.200}_{-0.300}$	$0.728^{+0.026}_{-0.062}$	$0.722^{+0.048}_{-0.052}$	$2.637^{+0.617}_{-0.191}$
	+3%/-3%	+1%/-0%	+91%/-136%	+4%/-9%	+7%/-7%	+23%/-7%
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 009520668-01 / KOI 1514.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-15 ± 6	$1.15^{+0.64}_{-0.53}$	1591^{+52}_{-51}	2862^{+657}_{-414}	$2.935^{+8.135}_{-1.877}$
Alt.	-20 ± 7	$1.10^{+0.58}_{-0.60}$	1588^{+51}_{-51}	3049^{+873}_{-414}	$4.473^{+16.563}_{-2.792}$

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

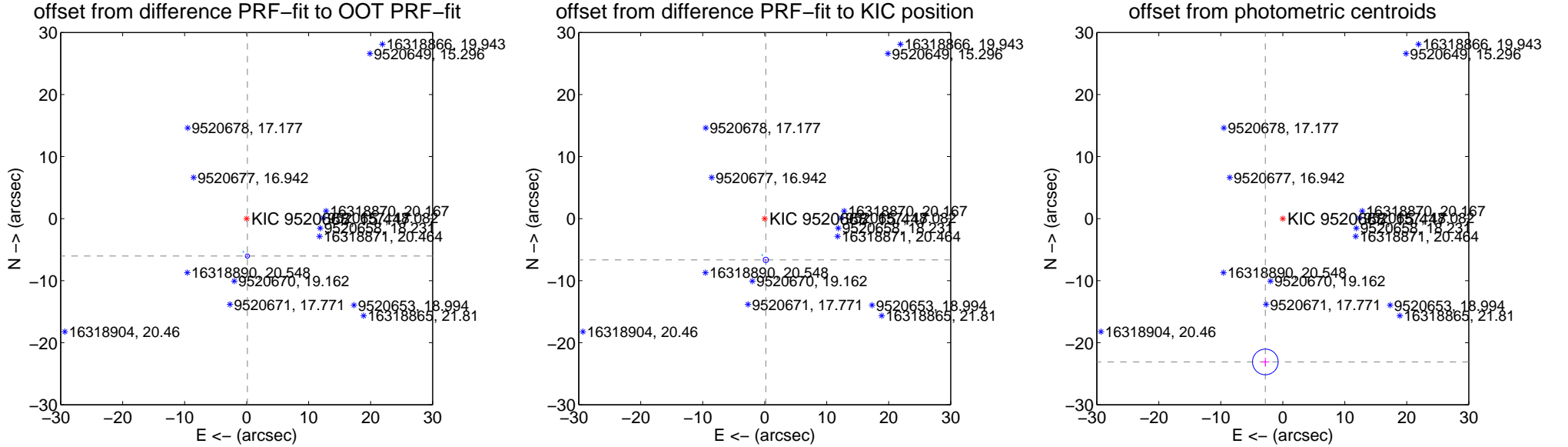
DV Centroid Data

Supplemental centroid analysis for 009520668-01. Kepler magnitude: 15.45. Transit SNR 19.84

There are 6 quarters with good PRF difference image offsets

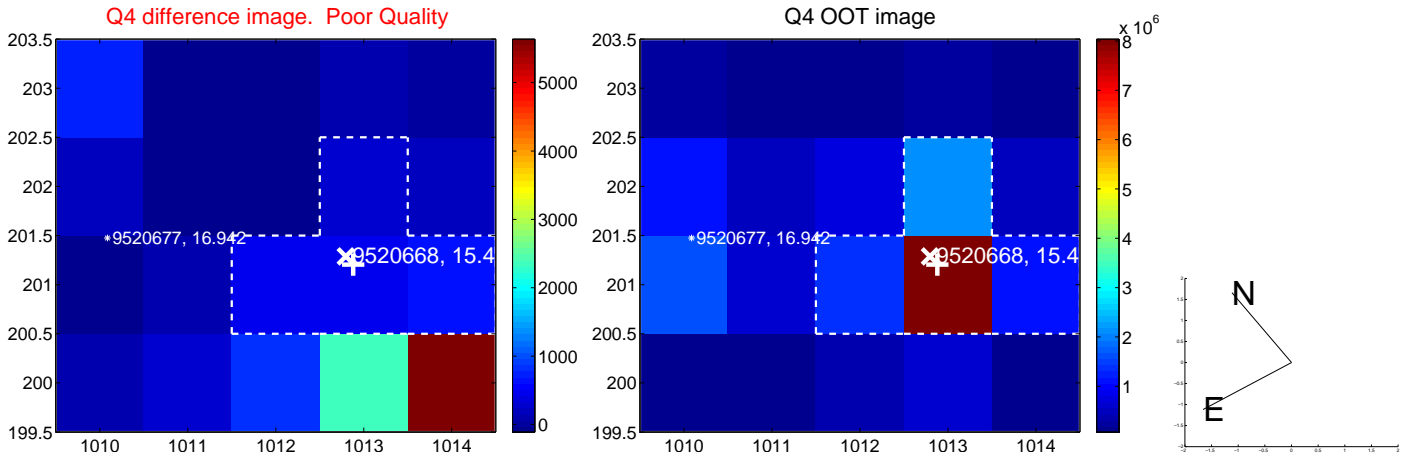
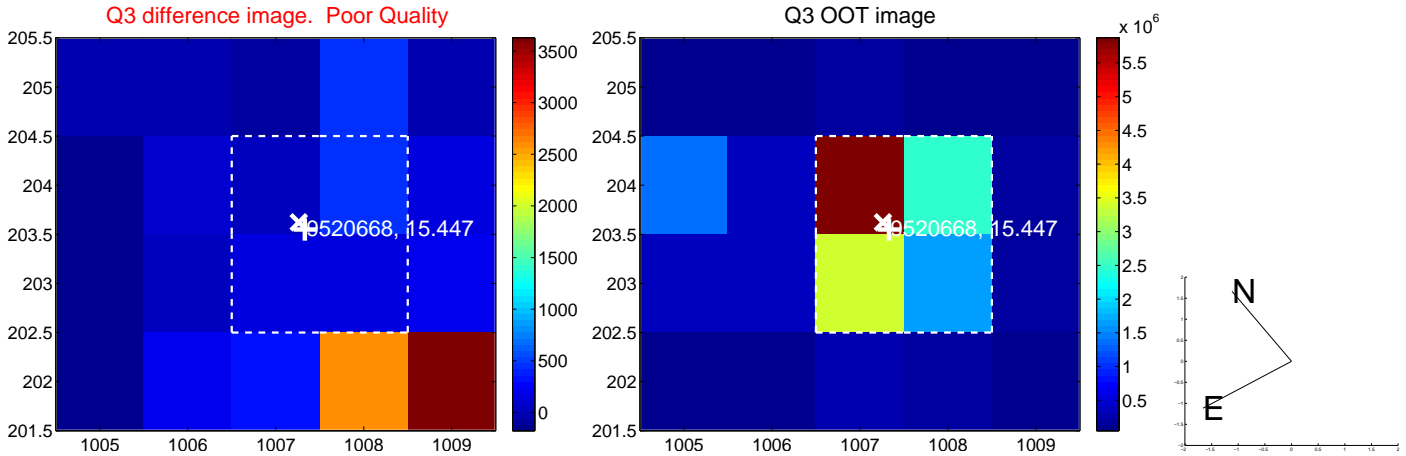
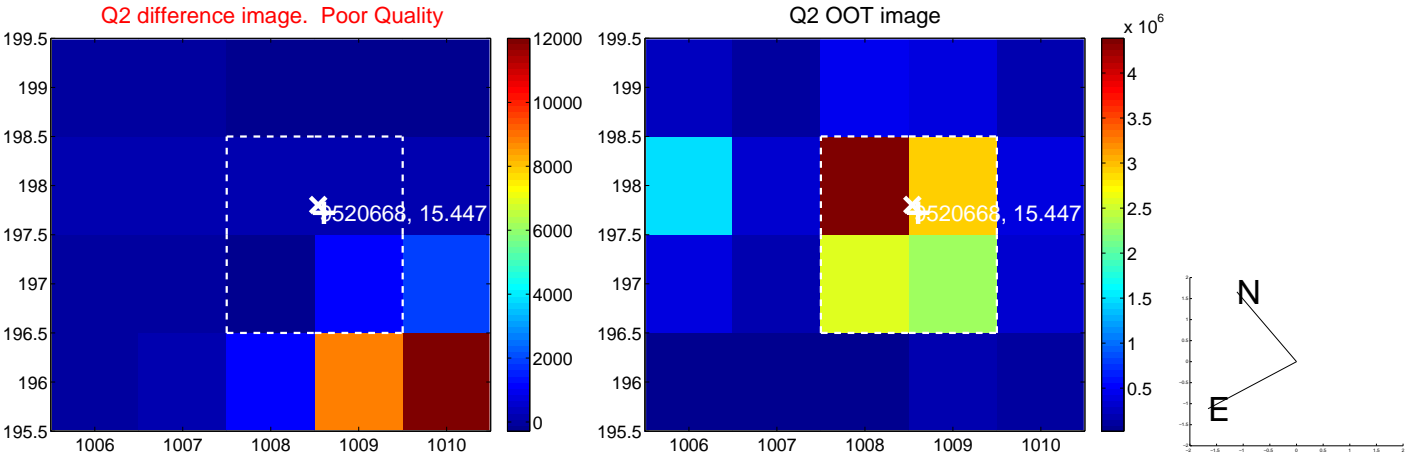
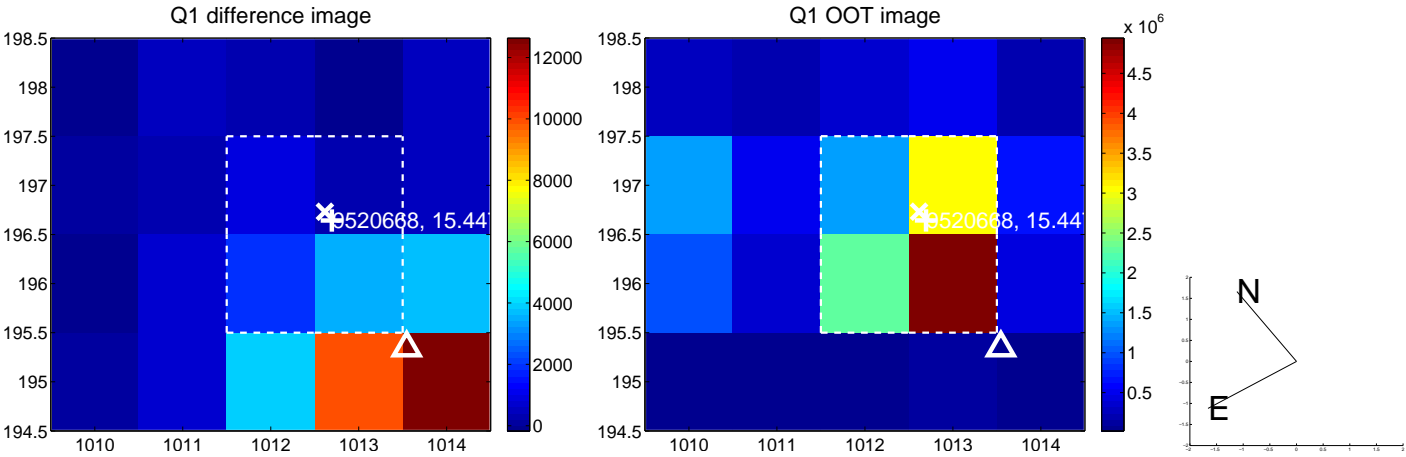
The direct PRF centroid is offset from the target star catalog position by about 0.70 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.032 ± 0.113	53.40	-0.117 ± 0.107	-6.031 ± 0.112
PRF-fit source offset from KIC position	6.653 ± 0.145	45.92	-0.179 ± 0.118	-6.650 ± 0.143
photometric centroid source offset	23.27 ± 0.69	33.72	2.81 ± 0.65	-23.09 ± 0.69

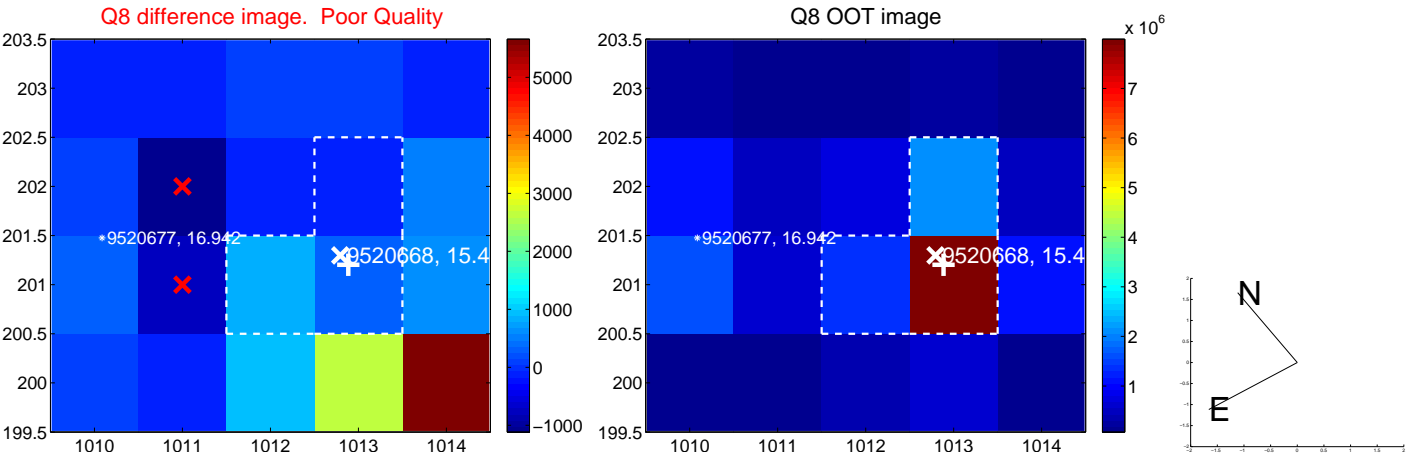
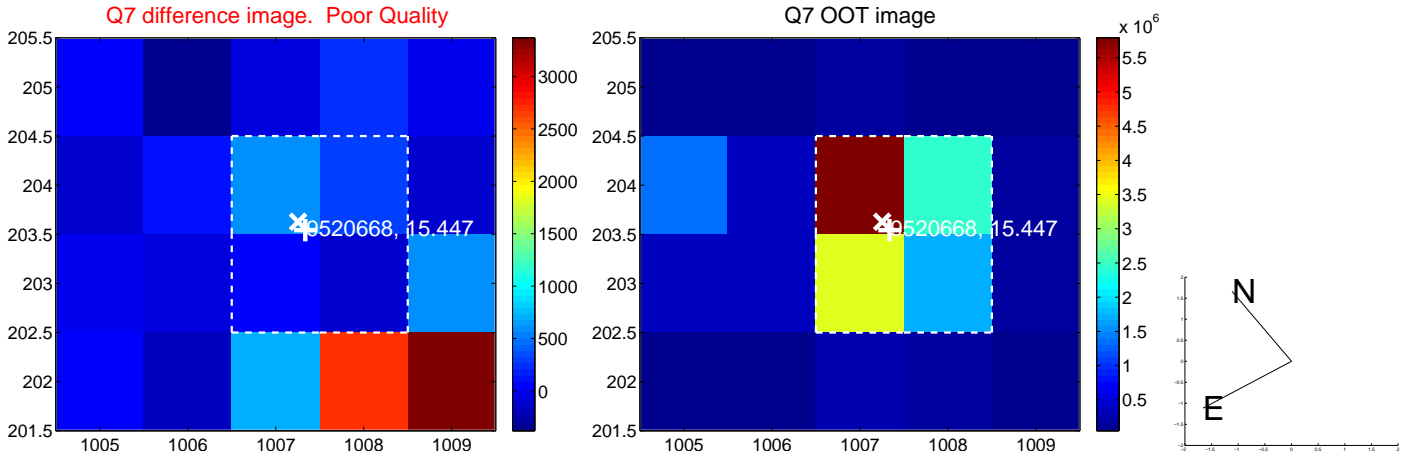
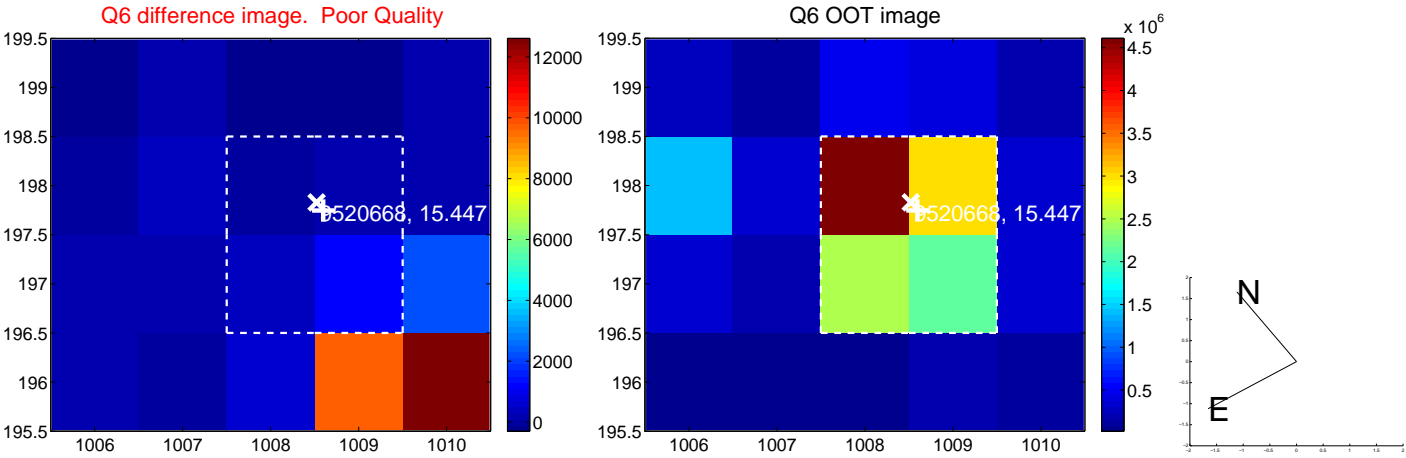
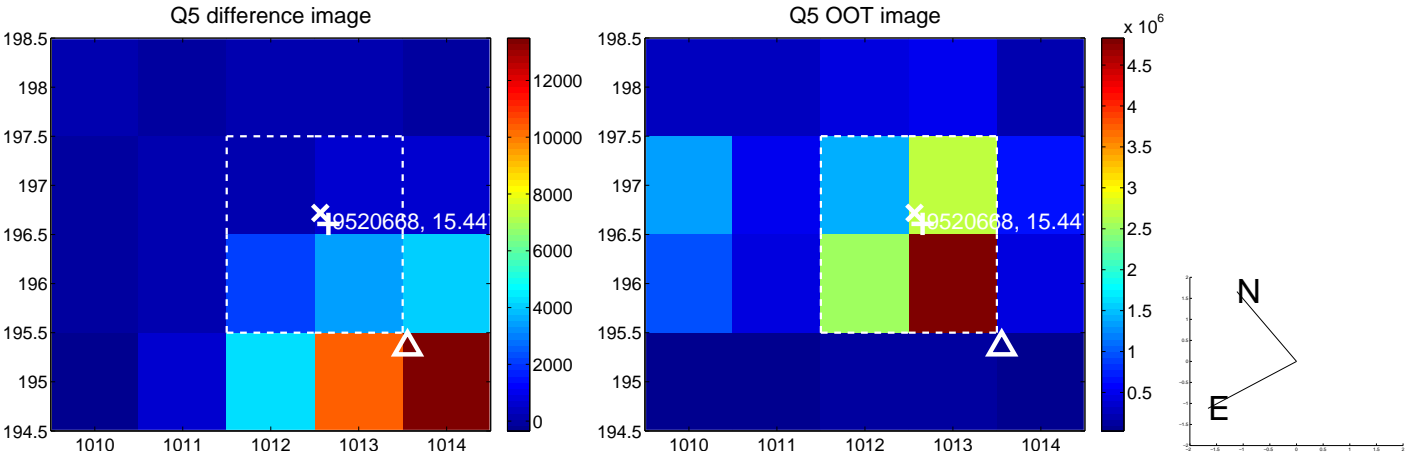


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000$, are from the UKIRT catalog.

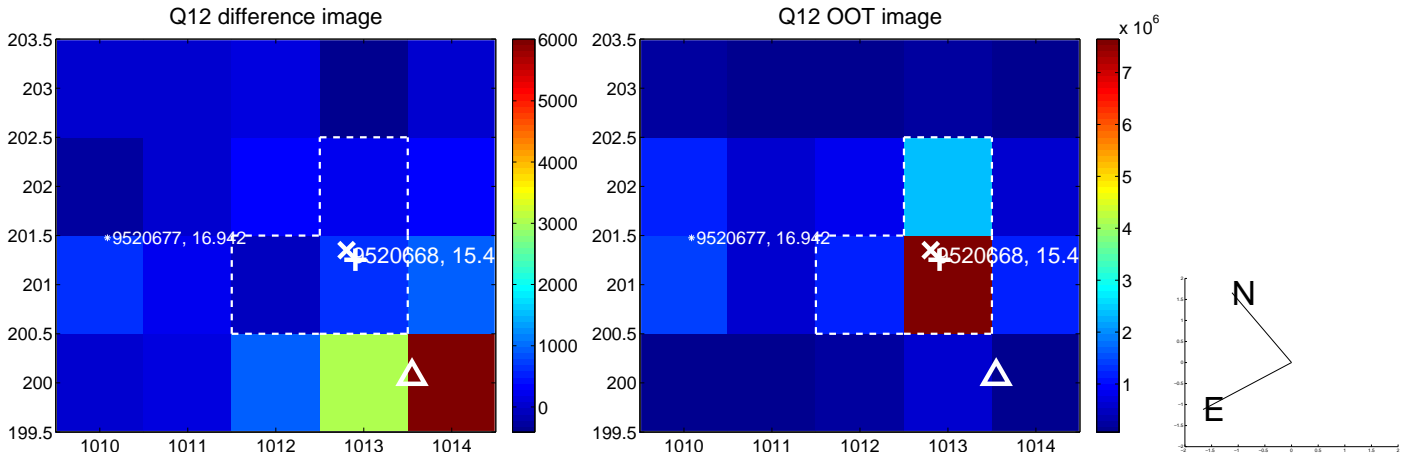
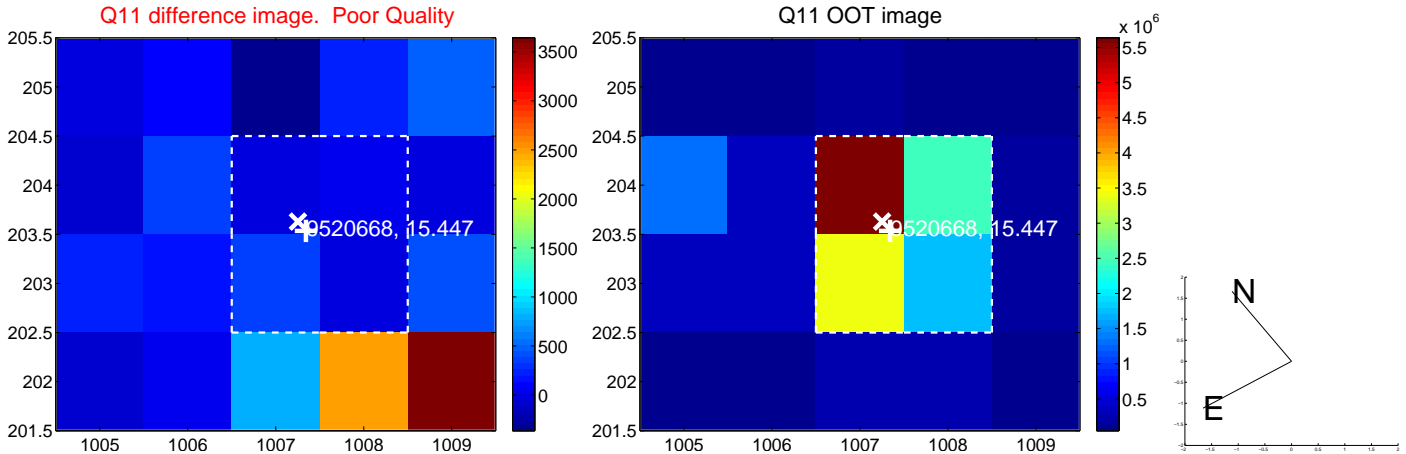
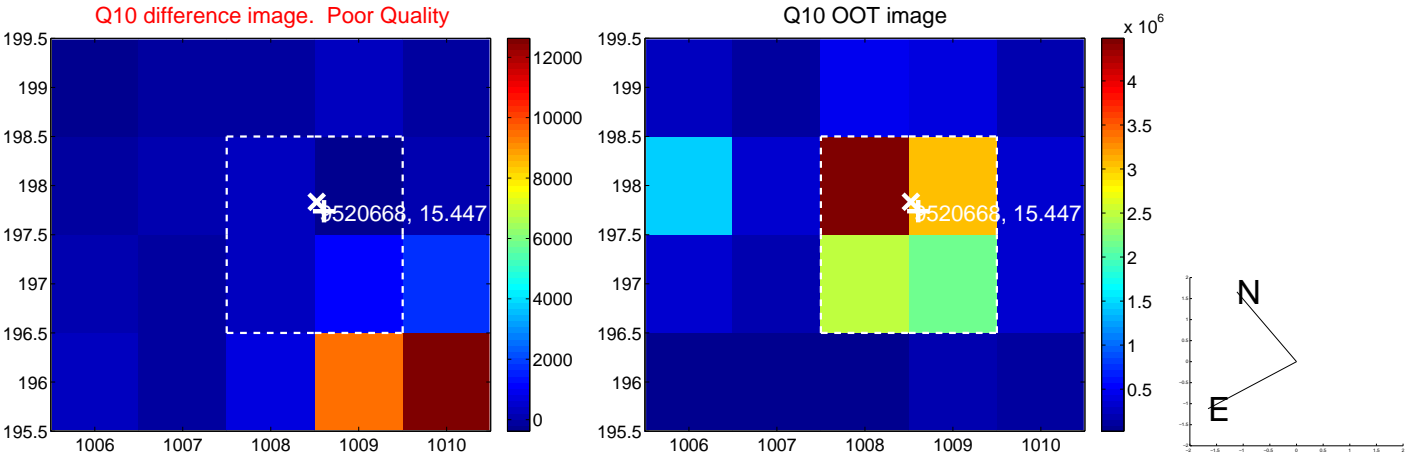
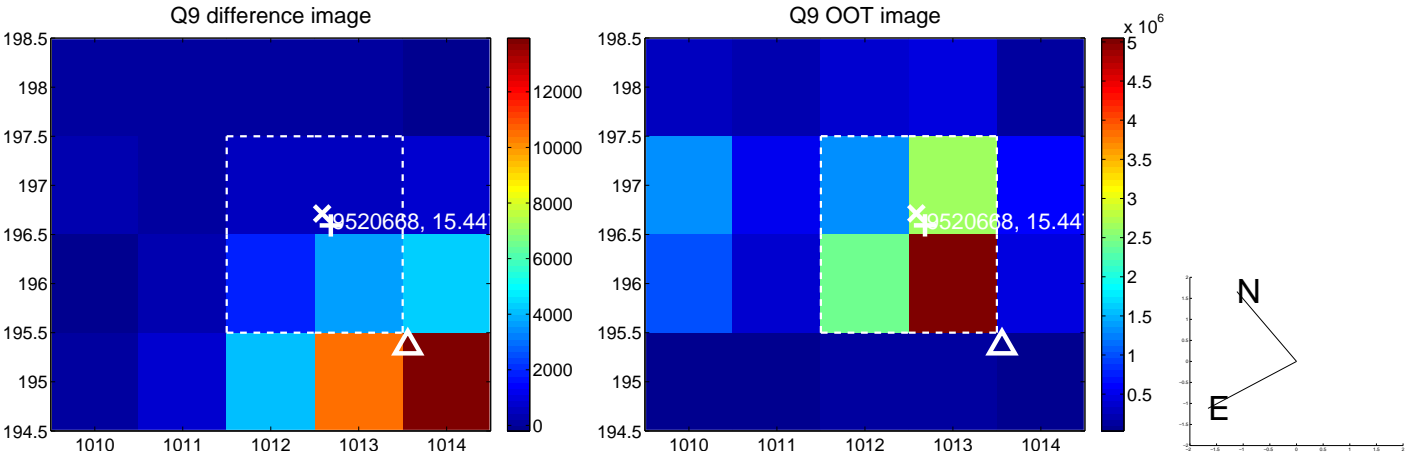
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



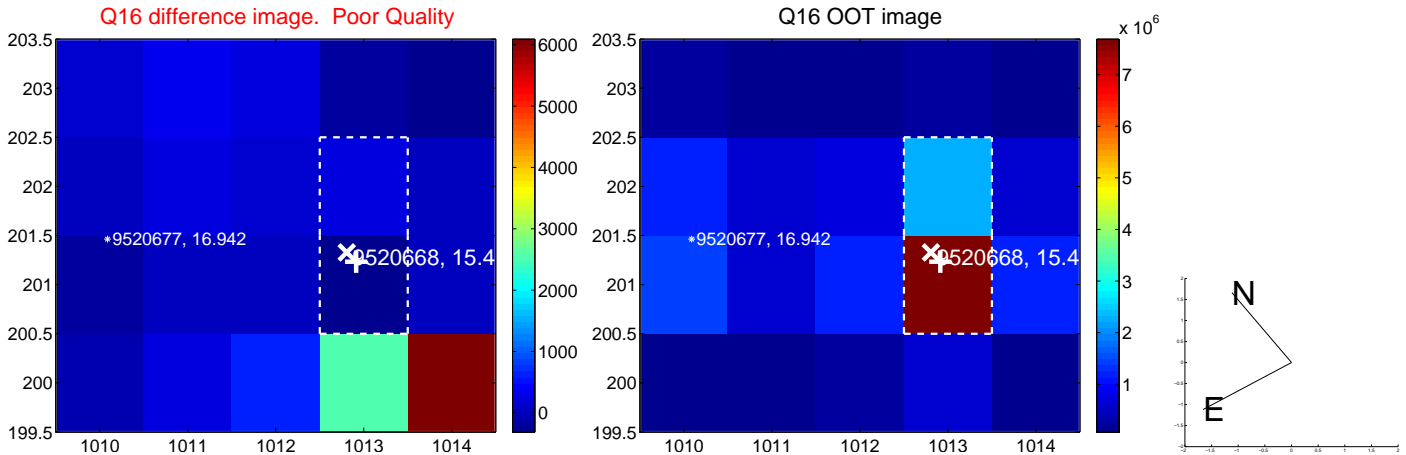
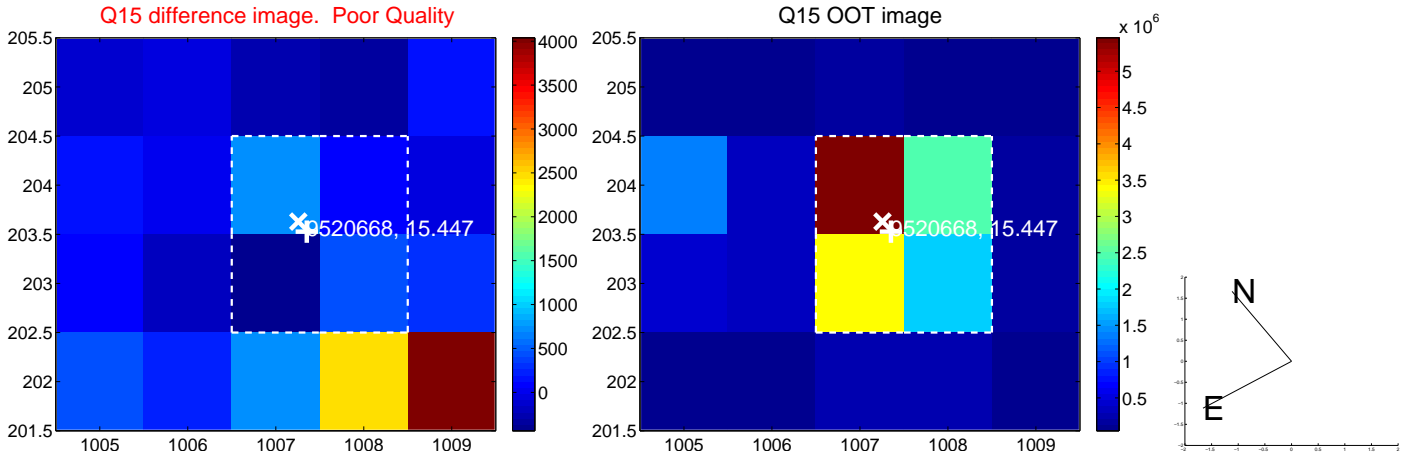
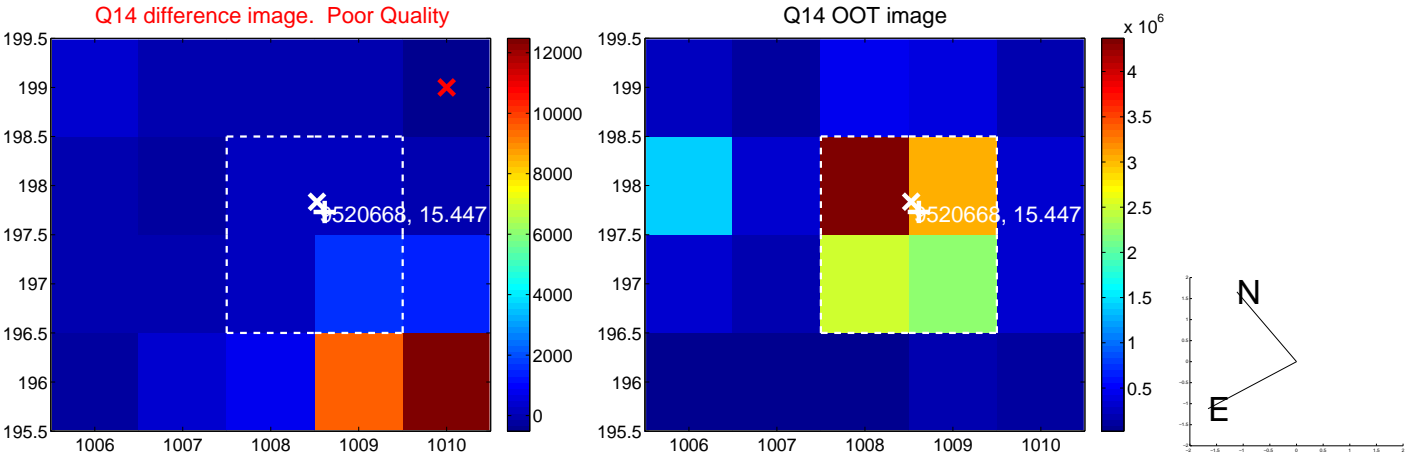
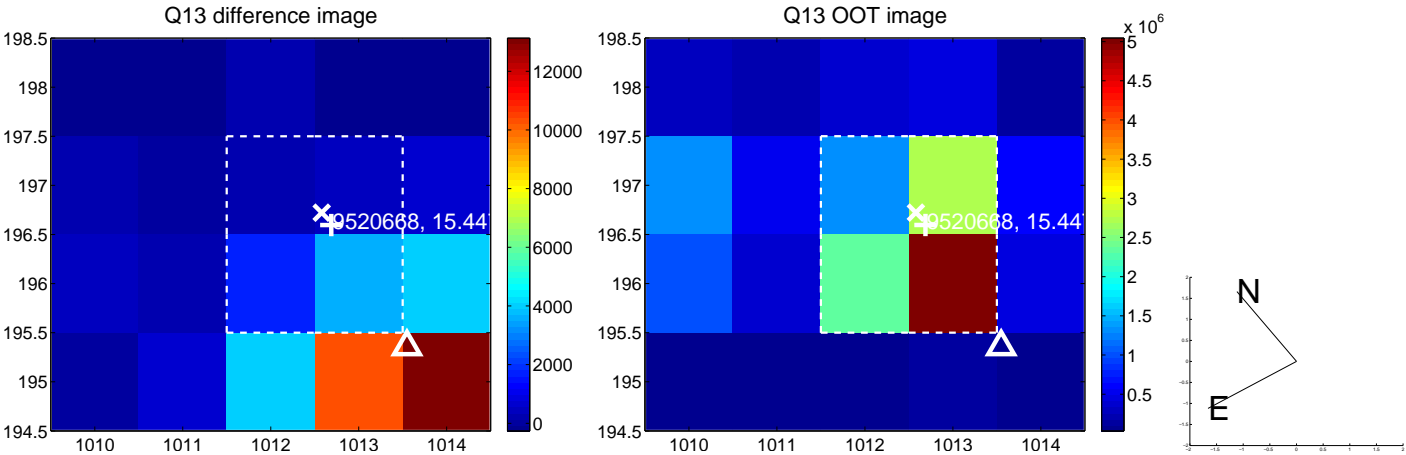
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



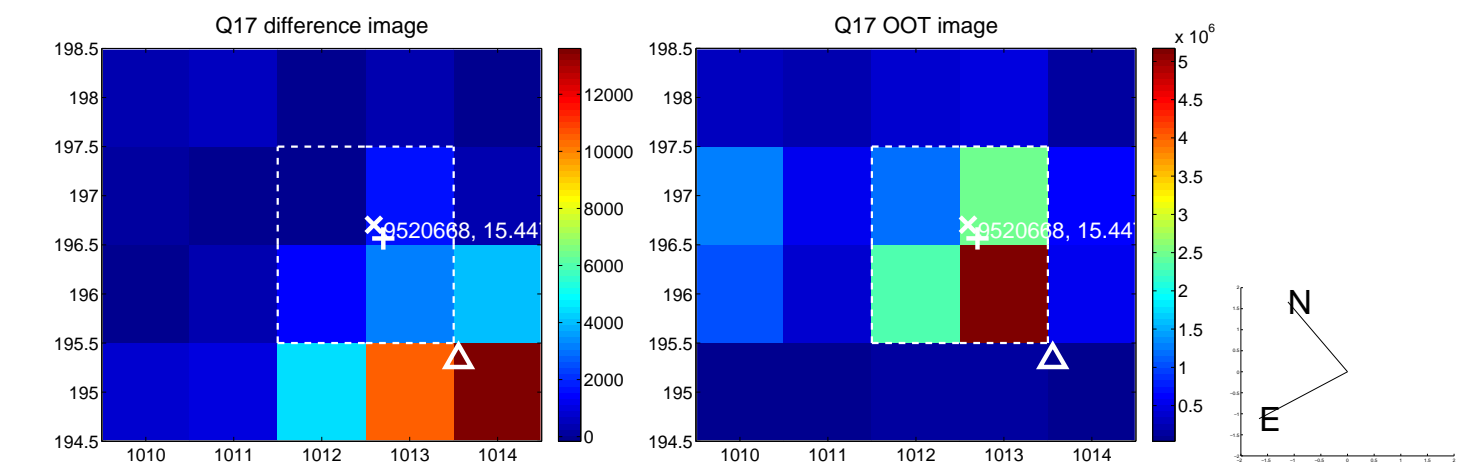
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



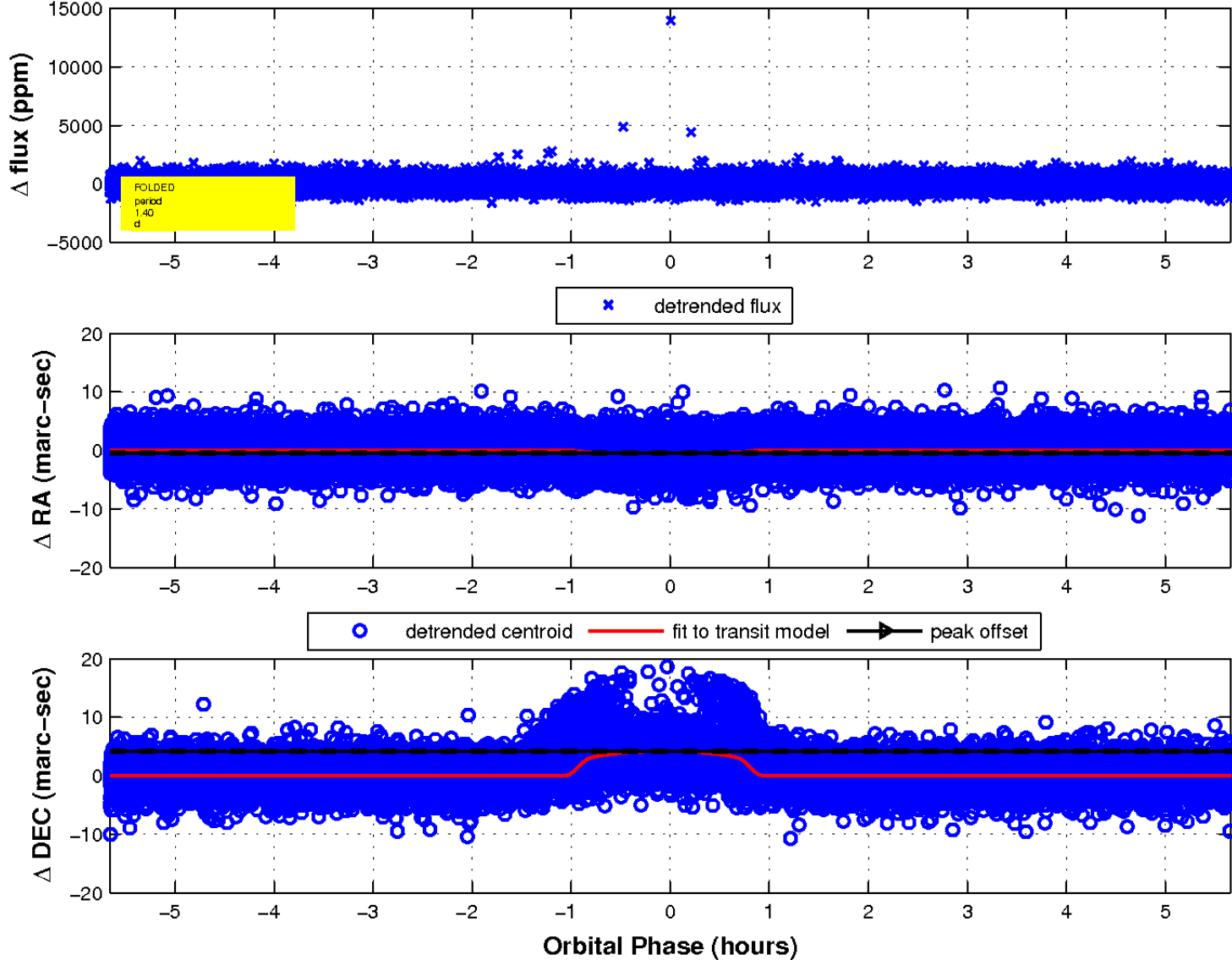
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

