

KIC 010491525

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})
010491525-01	OBS	4589.01	1.098434	132.442770	35.6	1.677	11.7	12.5	2.39	6403	1.67	17236.51

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010491525-01	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.

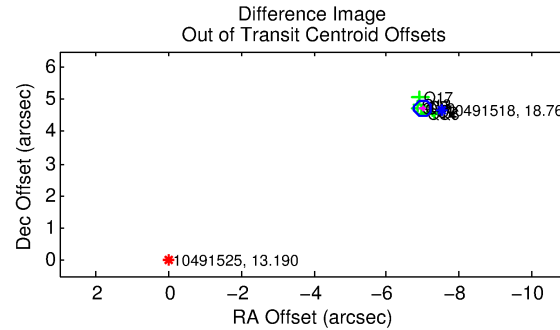
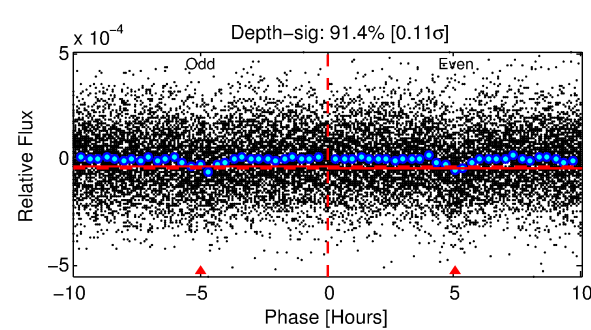
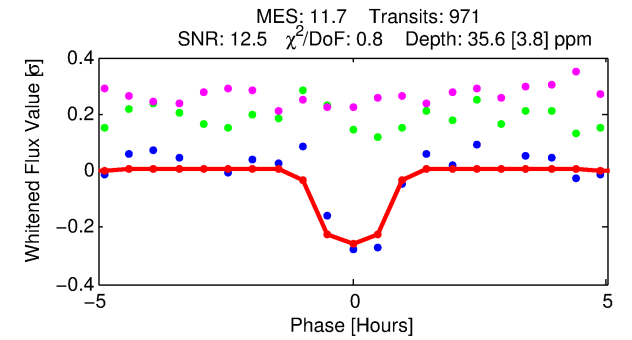
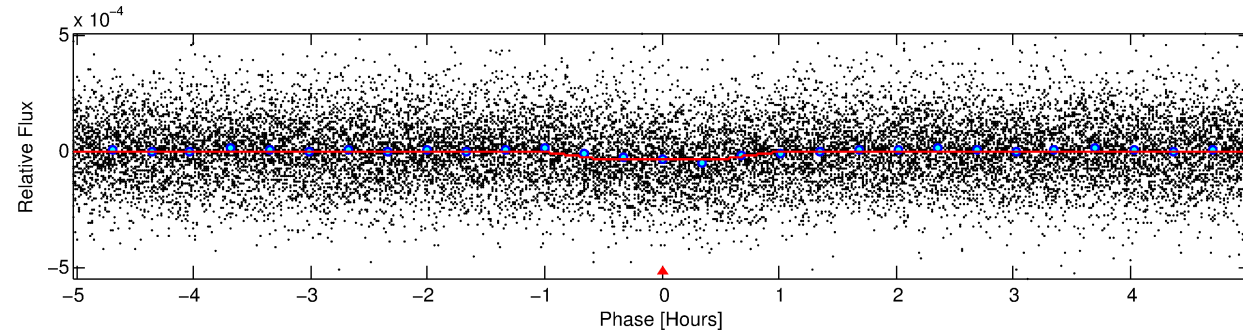
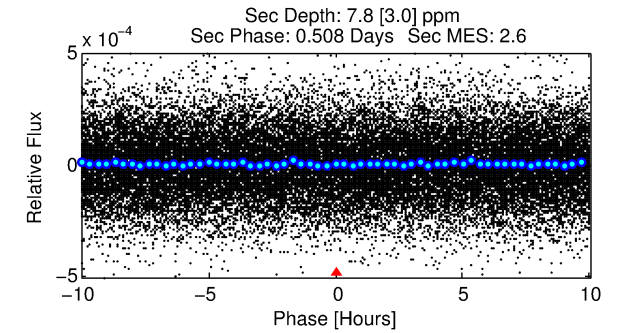
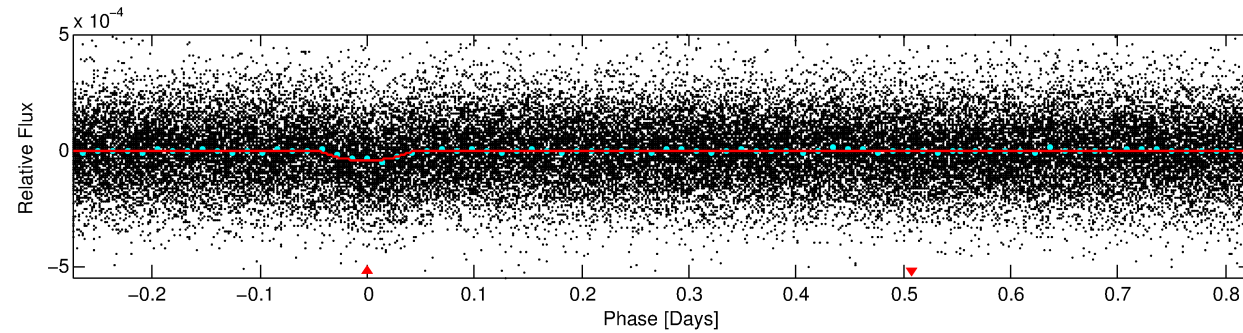
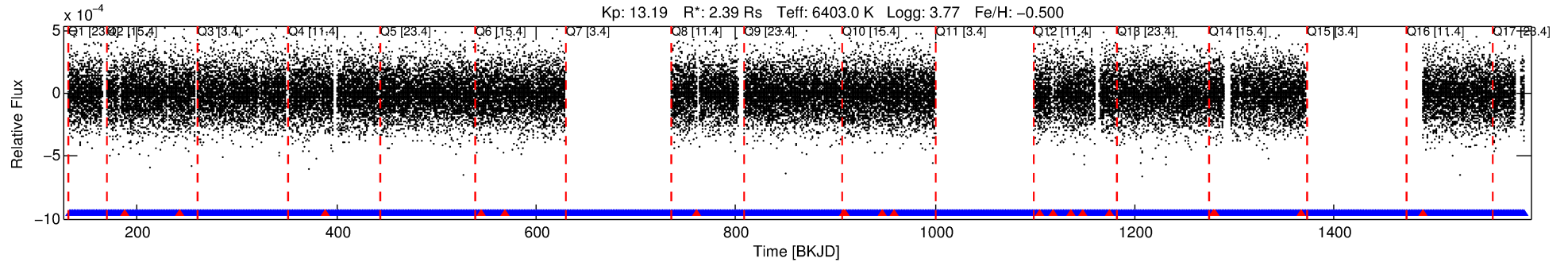
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010491525-01

No Significant Match Found

DV One-Page Summary

KIC: 10491525 Candidate: 1 of 1 Period: 1.098 d
KOI: K04589.01 Corr: 0.876



DV Fit Results:

Period = 1.09843 [0.00001] d
Epoch = 132.4428 [0.0020] BKJD
Rp/R* = 0.0064 [0.0023]
a/R* = 2.42 [4.14]
b = 0.90 [0.43]
Seff = 17236.51 [9828.15]
Teq = 2922 [416] K
Rp = 1.67 [0.85] Re
a = 0.0223 [0.0078] AU
Ag = 0.77 [0.76] [-0.30σ]
Teff = 4231 [862] K [1.37σ]

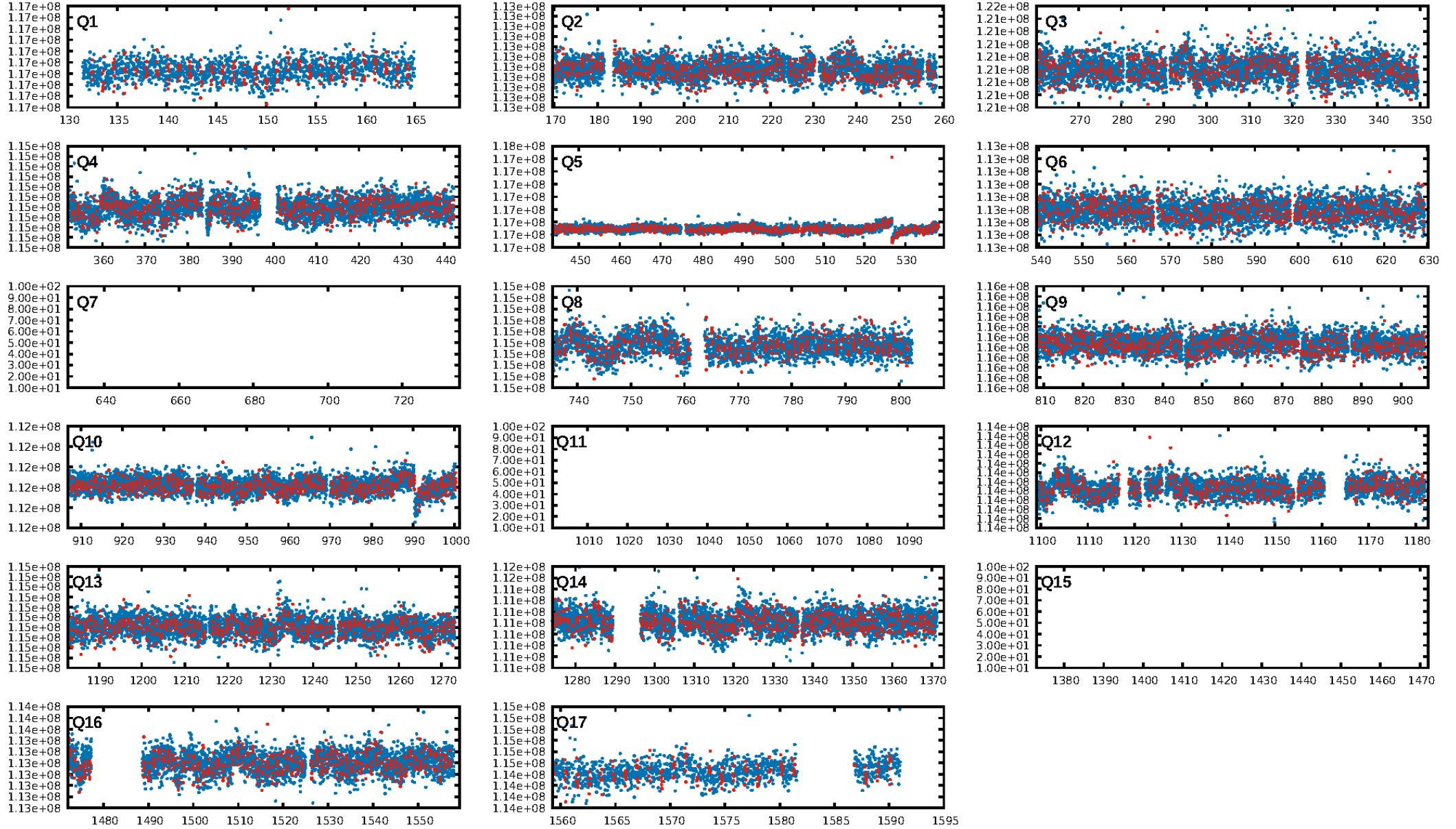
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.65e-38
RollingBand-fgt: 0.98 [898/917]
GhostDiagnostic-chr: -0.2795
Centroid-sig: 0.0%
Centroid-so: 25.735 arcsec [20.34σ]
OotOffset-rm: 8.431 arcsec [107.12σ]
KicOffset-rm: 8.526 arcsec [98.14σ]
OotOffset-st: 4/0/0/5 [9]
KicOffset-st: 4/0/0/5 [9]
DiffImageQuality-fgm: 1.00 [9/9]
DiffImageOverlap-fno: 1.00 [14/14]

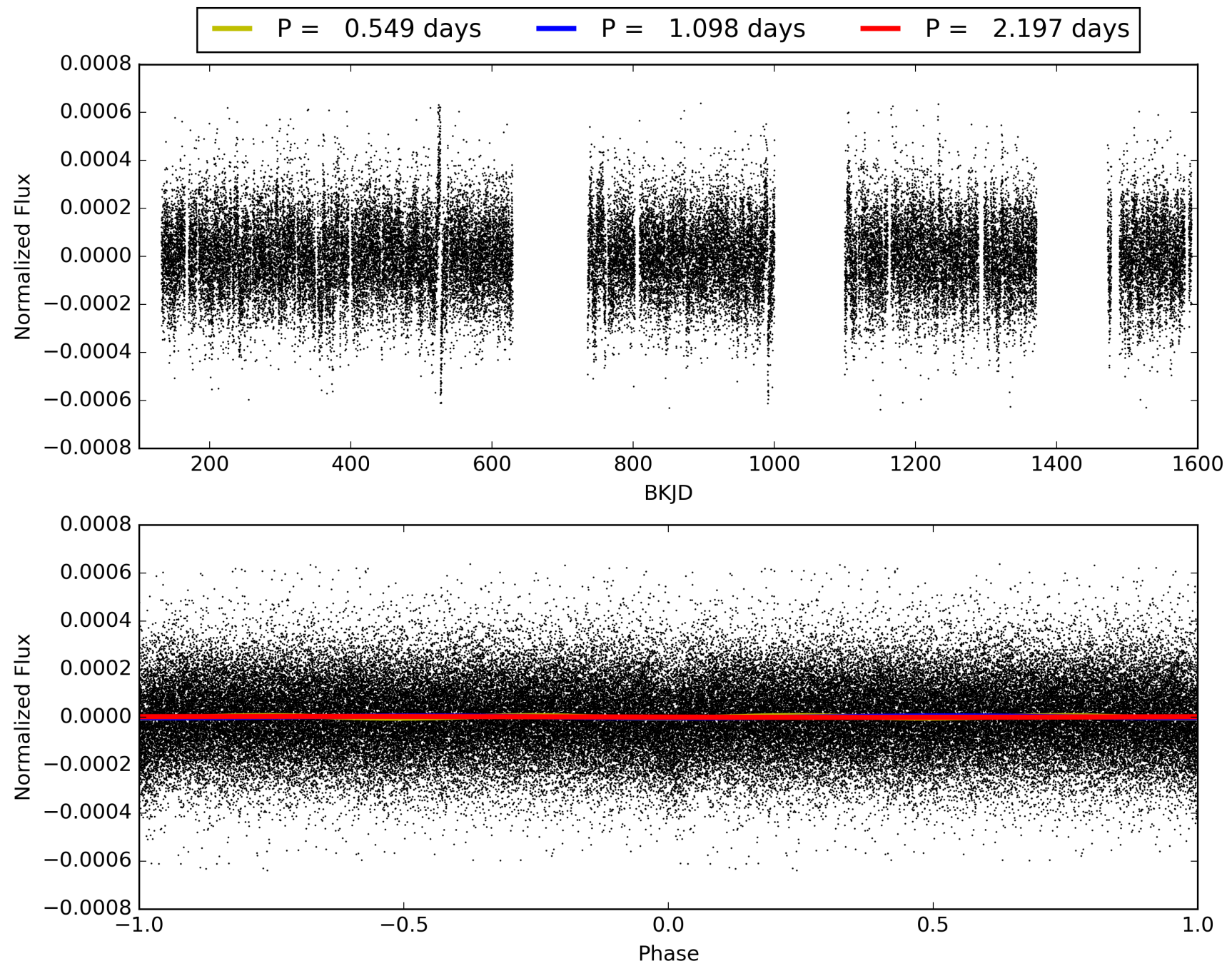
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:00:35 Z

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

TCE 010491525-01, PDC Light Curves

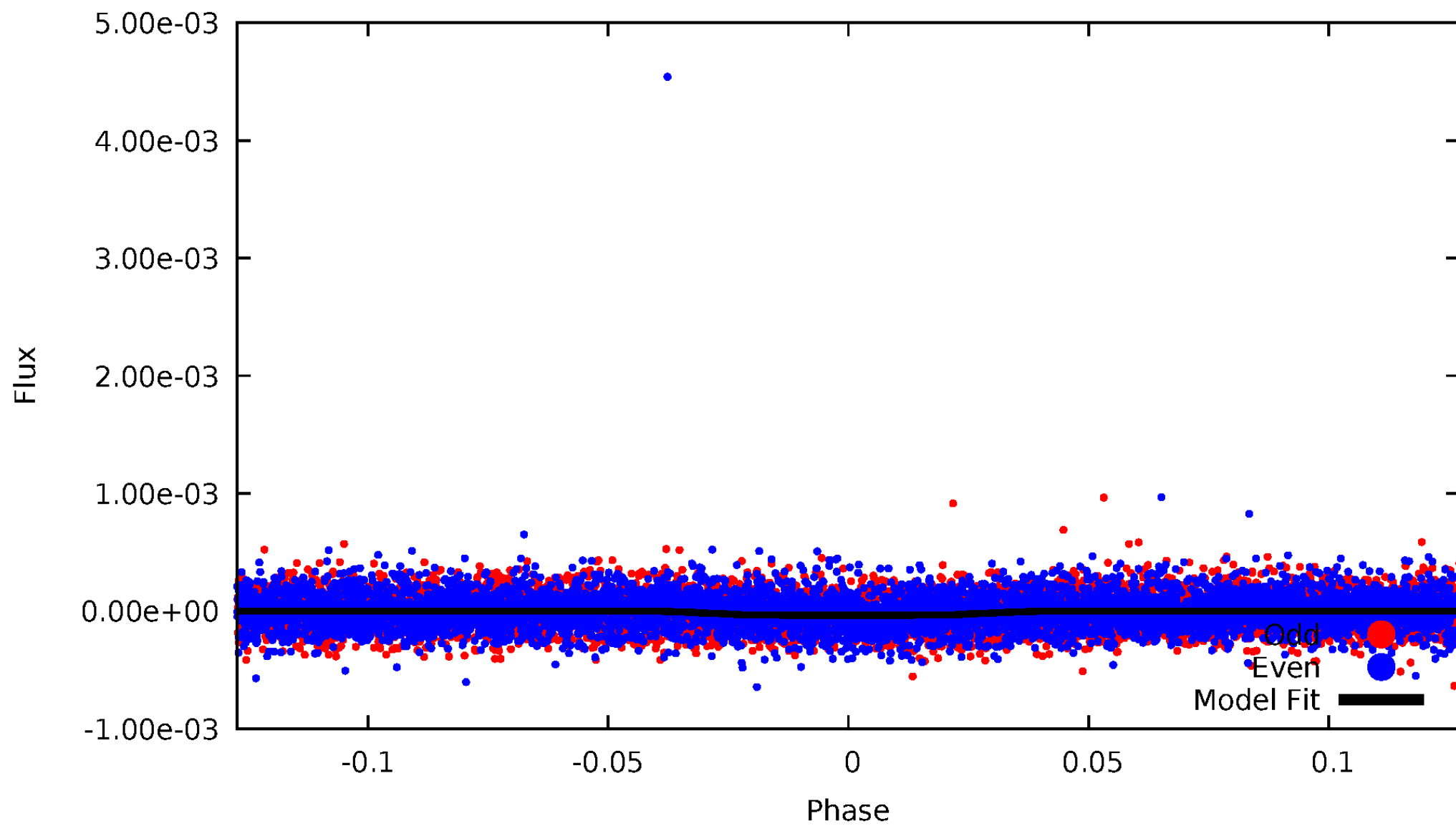


TCE 010491525-01



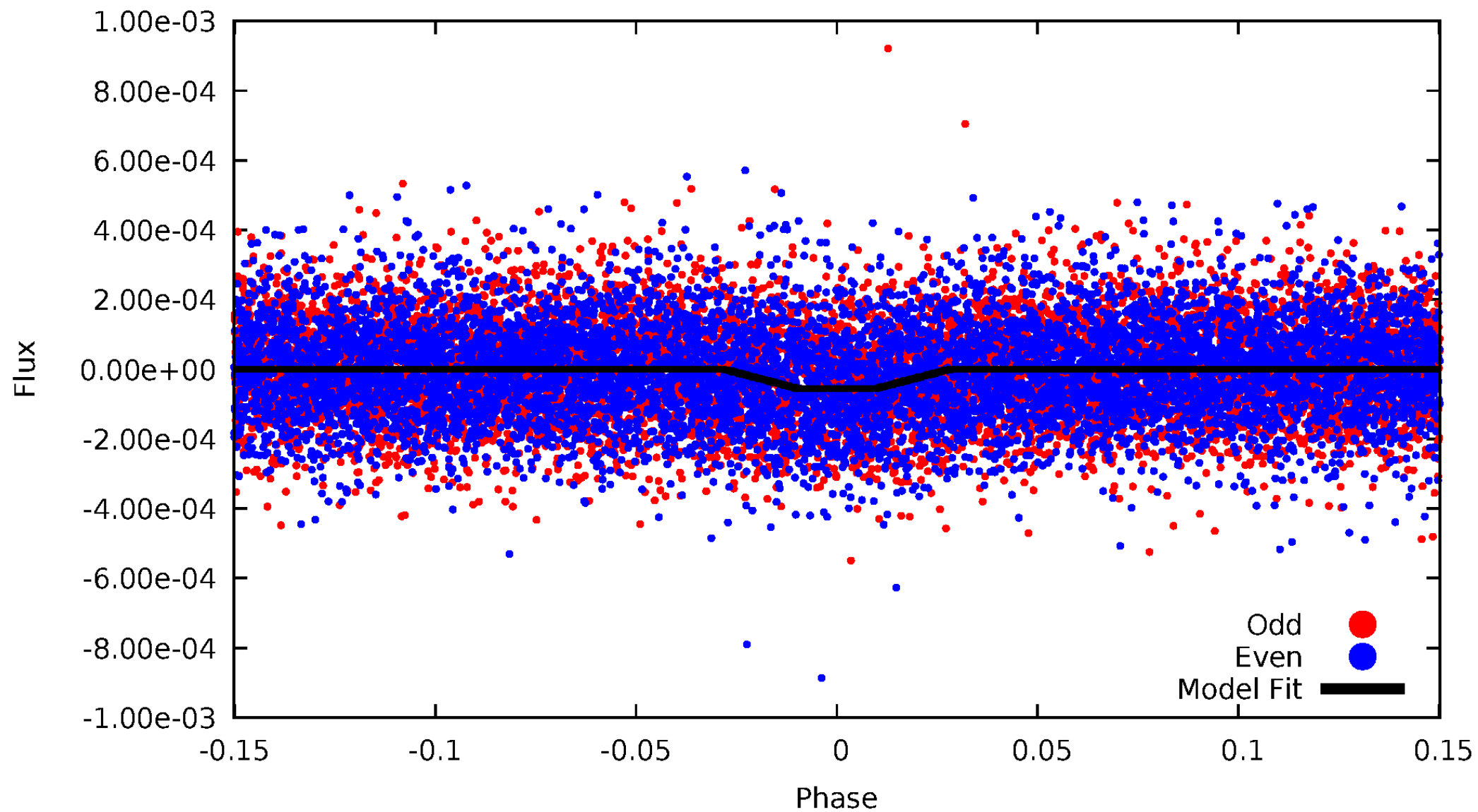
DV Odd/Even

TCE 010491525-01



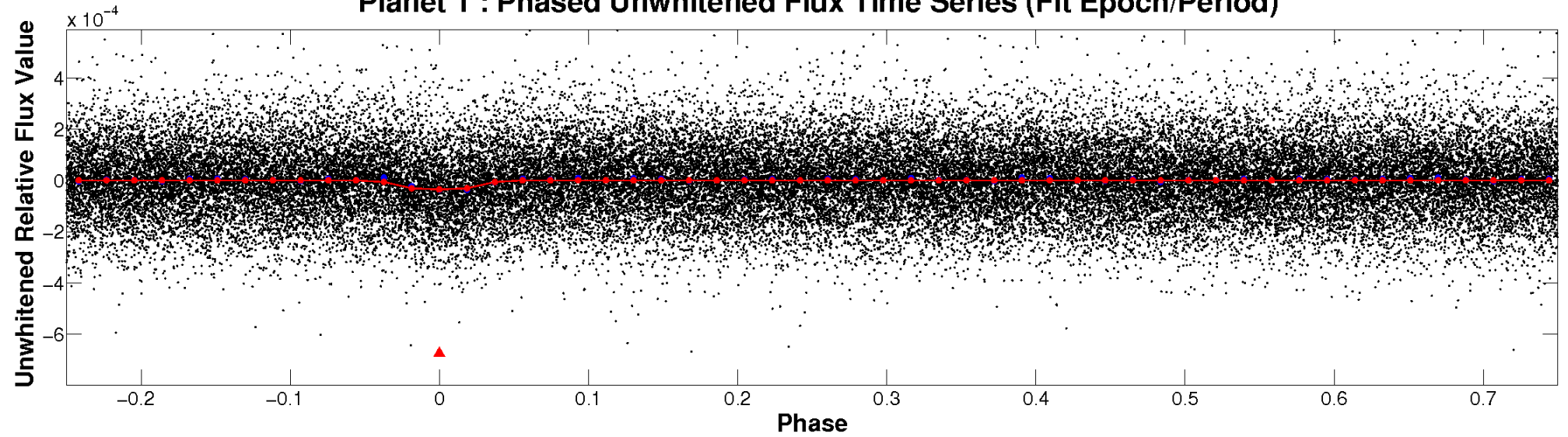
ALT Odd/Even

TCE 010491525-01

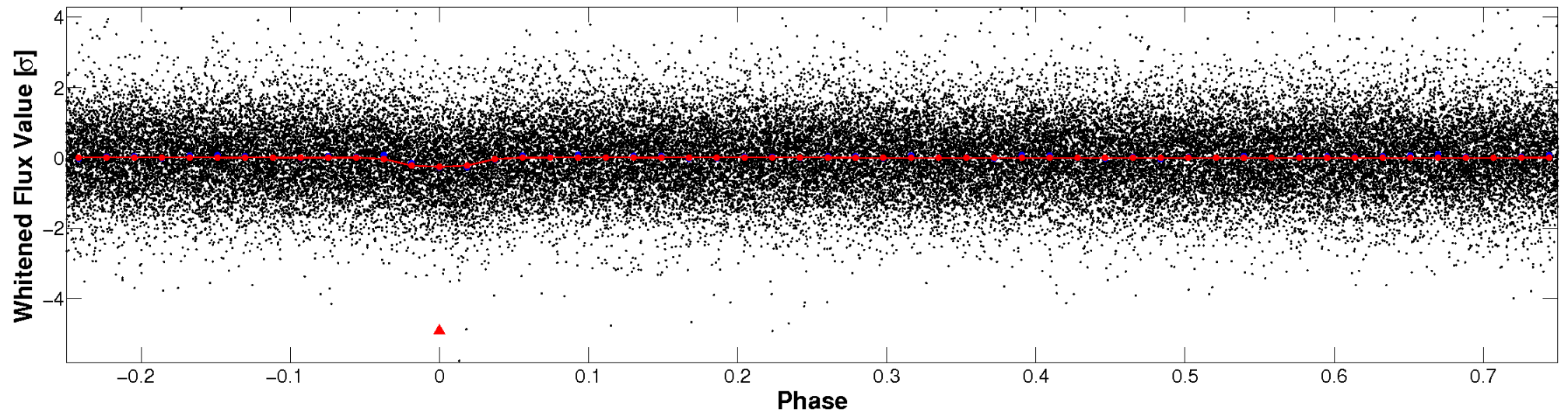


Non-Whitened Vs. Whitened Light Curve

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

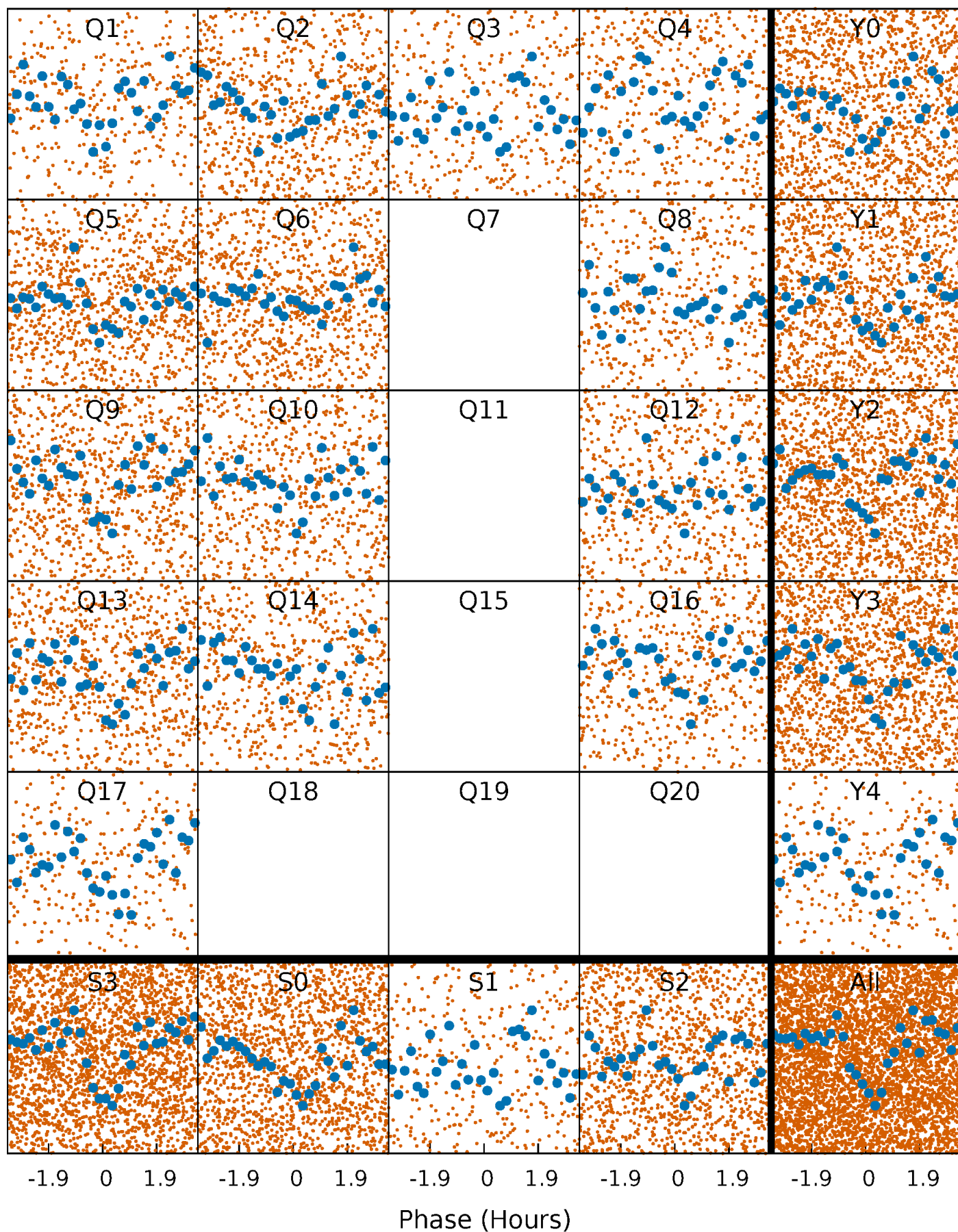


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



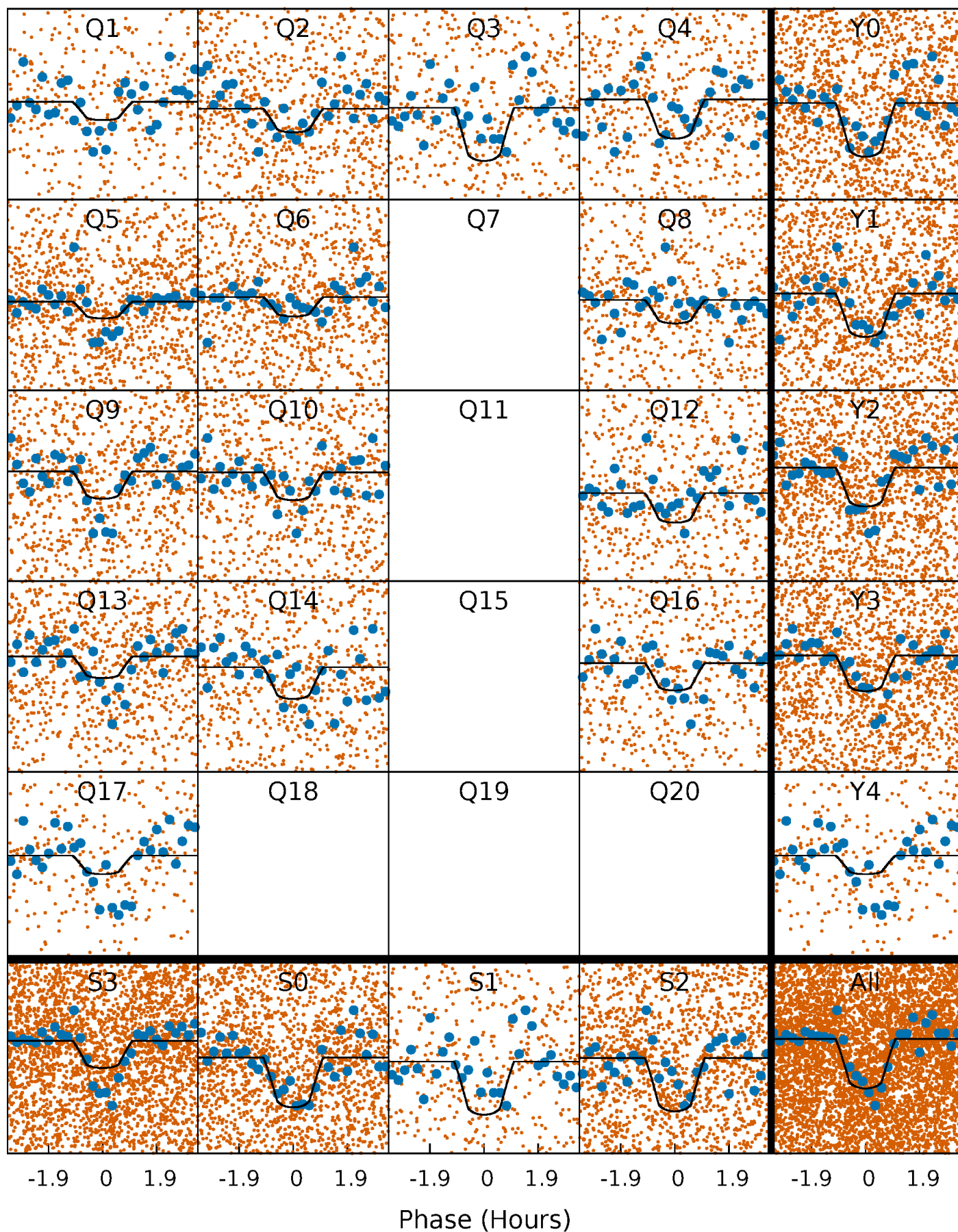
PDC Quarter-Phased Transit Curves

TCE 010491525-01 P= 1.098434 Days $T_0=132.442770$ (BKJD)



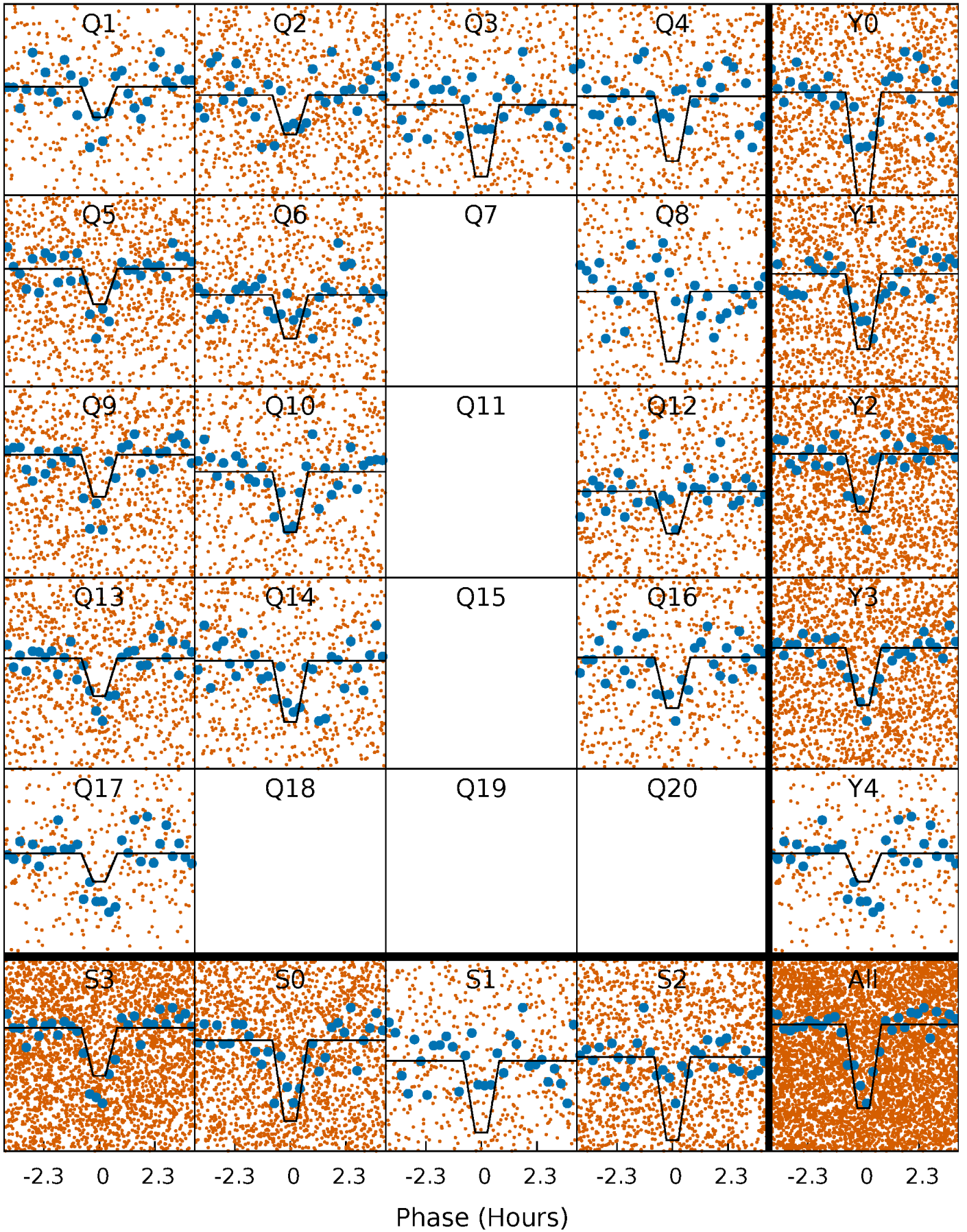
DV Quarter-Phased Transit Curves

TCE 010491525-01 P= 1.098434 Days $T_0=132.442770$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

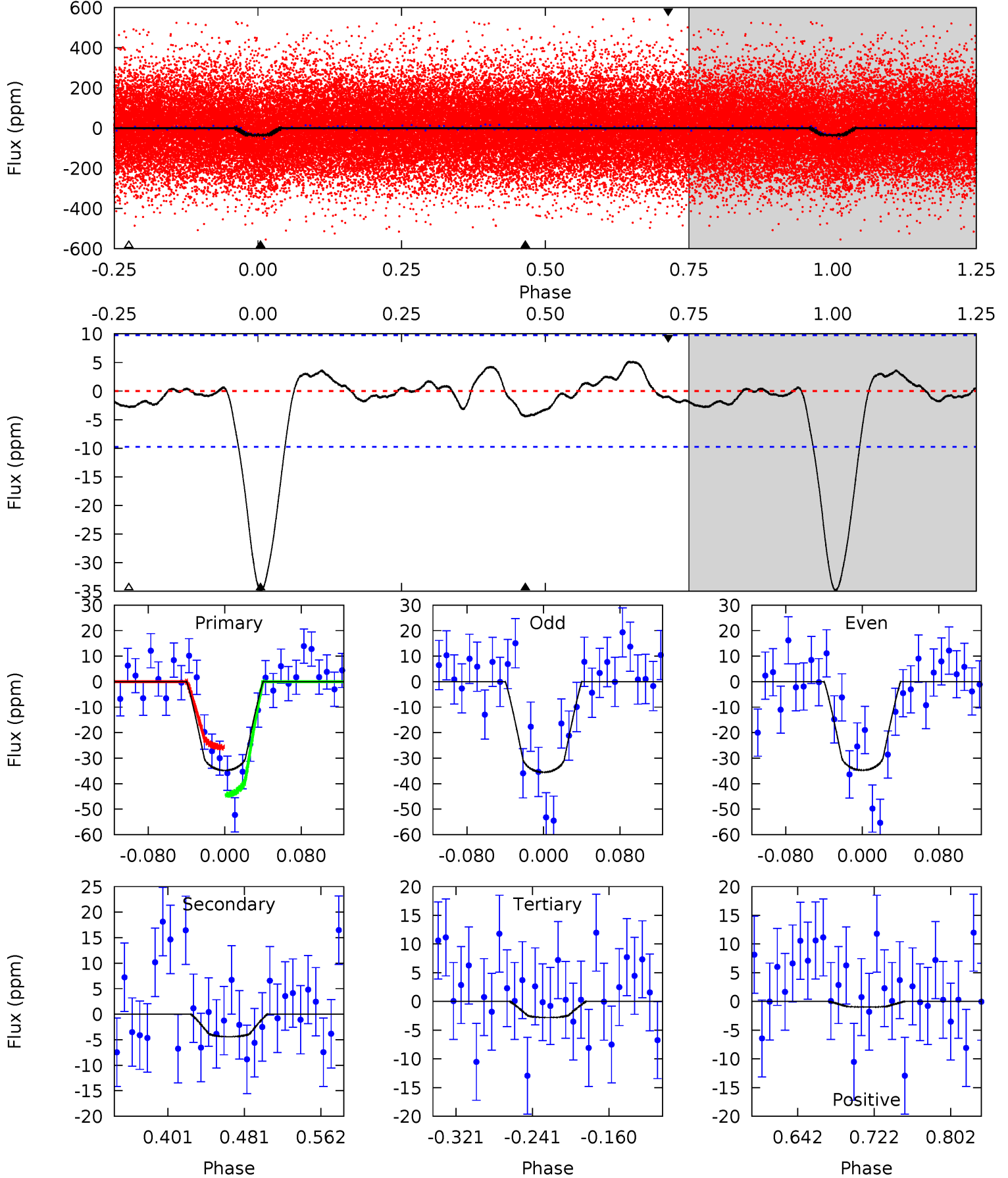
TCE 010491525-01 P= 1.098446 Days $T_0=132.442325$ (BKJD)



DV Model-Shift Uniqueness Test

010491525-01, P = 1.098434 Days, E = 131.344336 Days

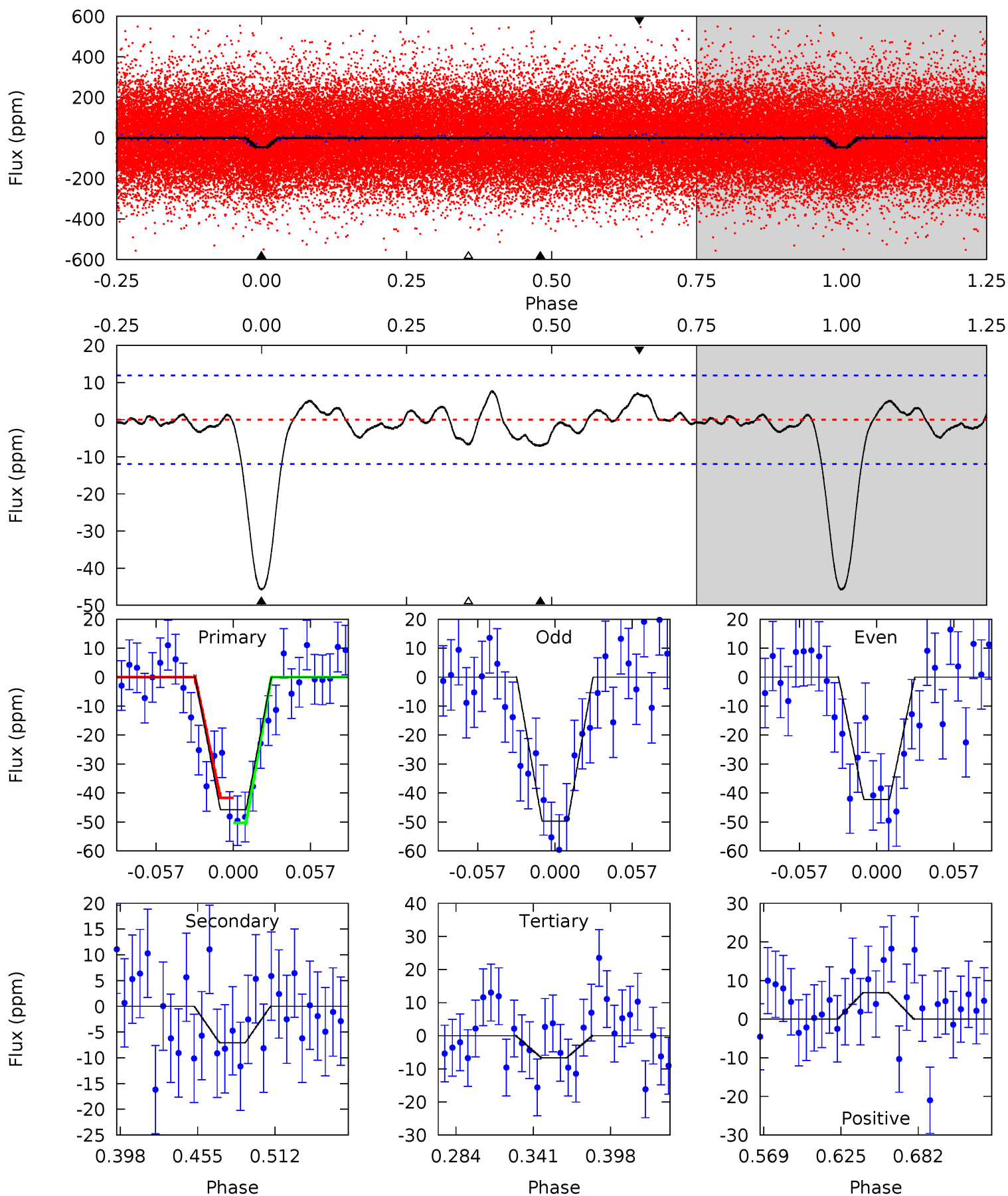
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	2.08	1.33	-0.46	4.61	1.75	0.90	15.1	16.9	0.76	2.54	0.19	1.02	0.13	4.38



Alt Model-Shift Uniqueness Test

010491525-01, P = 1.098446 Days, E = 131.343879 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	2.78	2.60	2.68	4.68	1.90	1.13	15.3	15.3	0.17	0.10	1.47	0.95	0.14	1.68



Stellar Parameters For KIC 010491525

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6403^{+176}_{-176}	$3.772^{+0.328}_{-0.082}$	$-0.500^{+0.350}_{-0.300}$	$2.391^{+0.375}_{-0.875}$	$1.233^{+0.233}_{-0.233}$	$0.127^{+0.278}_{-0.041}$
	+3%/-3%	+9%/-2%	+70%/-60%	+16%/-37%	+19%/-19%	+219%/-32%
Source	PHO1	FLK73	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 010491525-01 / KOI 4589.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 2	$1.60^{+0.64}_{-0.58}$	3991^{+241}_{-350}	3309^{+1067}_{-6484}	$0.466^{+0.717}_{-0.279}$
Alt.	-7 ± 3	$1.80^{+0.67}_{-0.59}$	3982^{+239}_{-349}	3600^{+884}_{-6178}	$0.579^{+0.760}_{-0.307}$

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 $A_{obs} \gg 1.0$

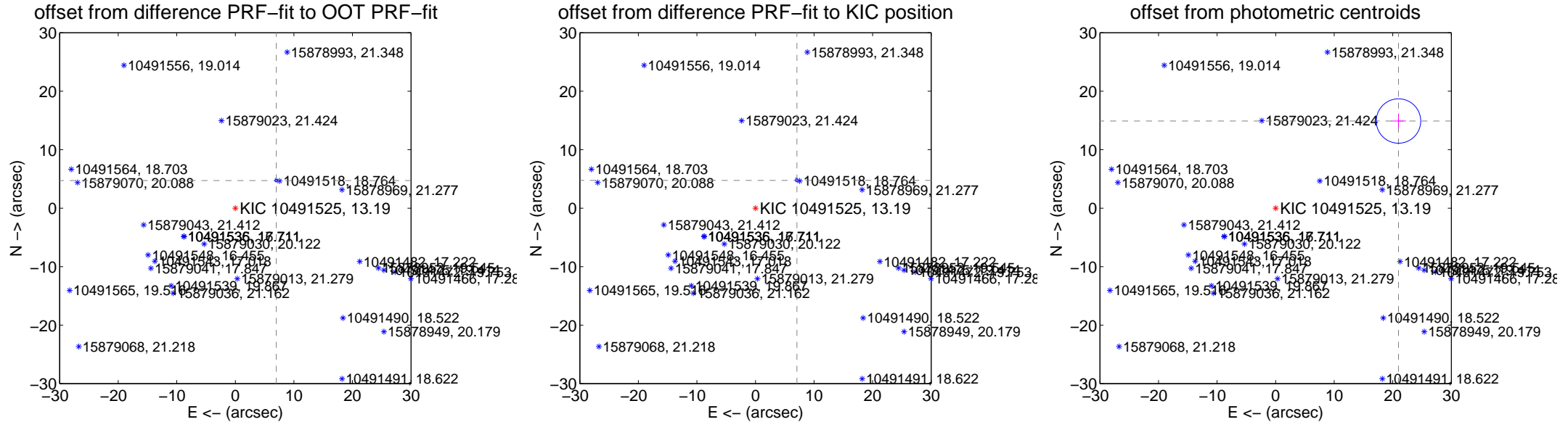
DV Centroid Data

Supplemental centroid analysis for 010491525-01. Kepler magnitude: 13.19. Transit SNR 12.50

There are 9 quarters with good PRF difference image offsets

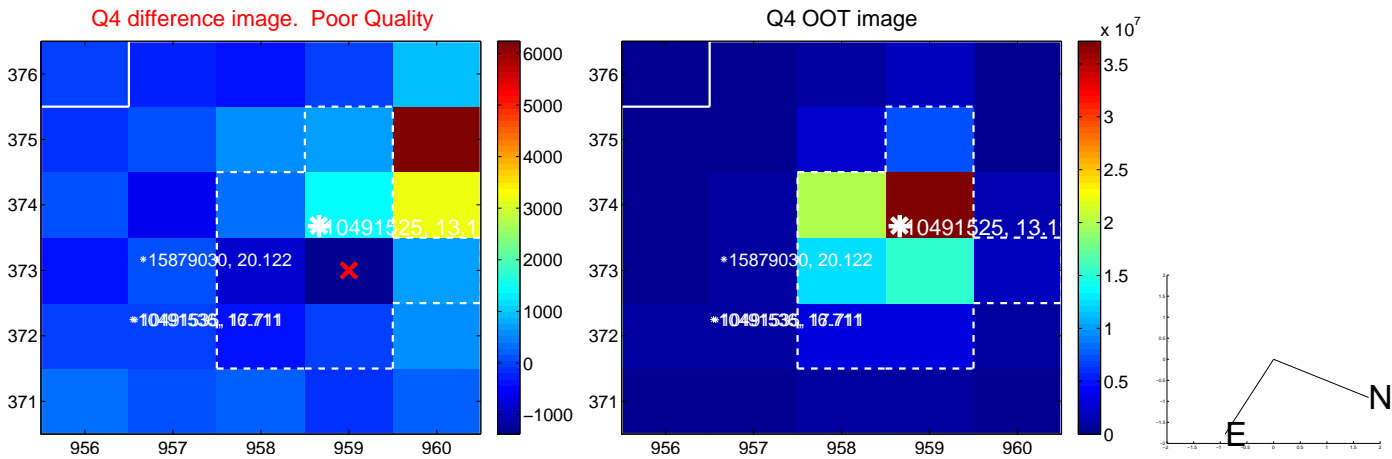
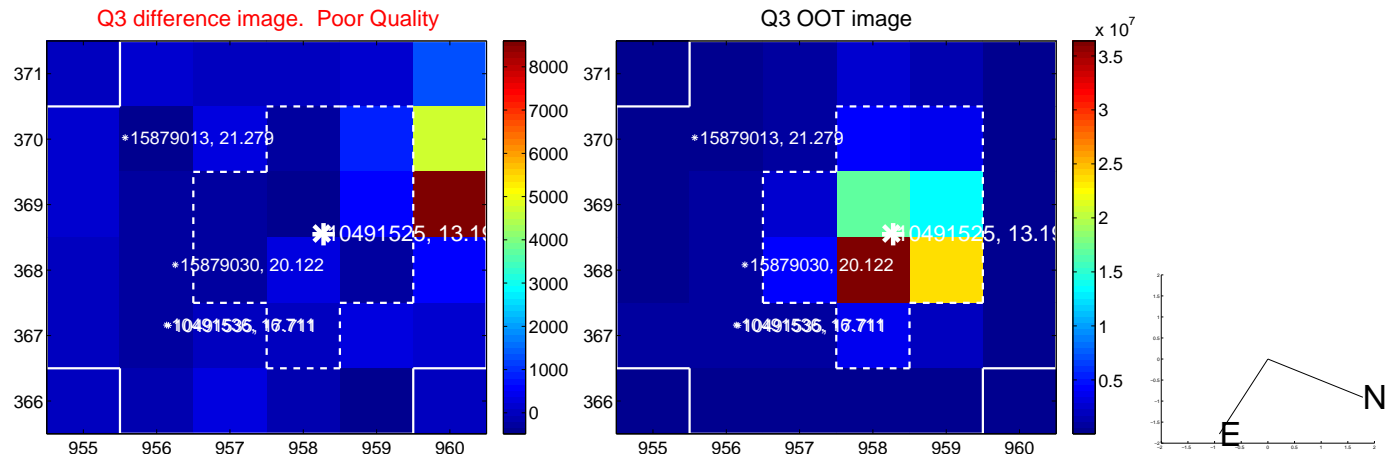
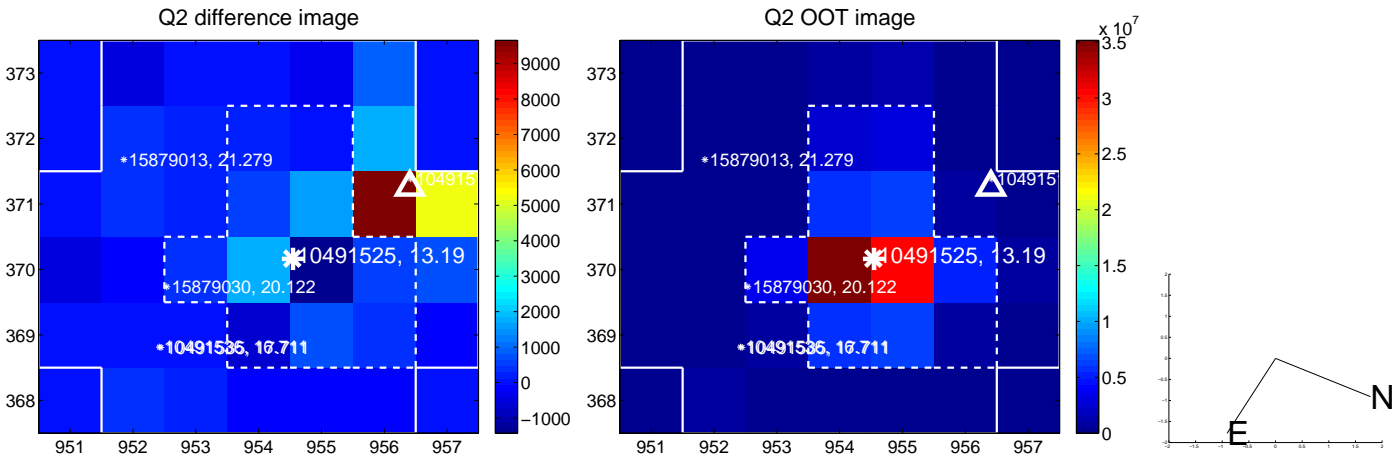
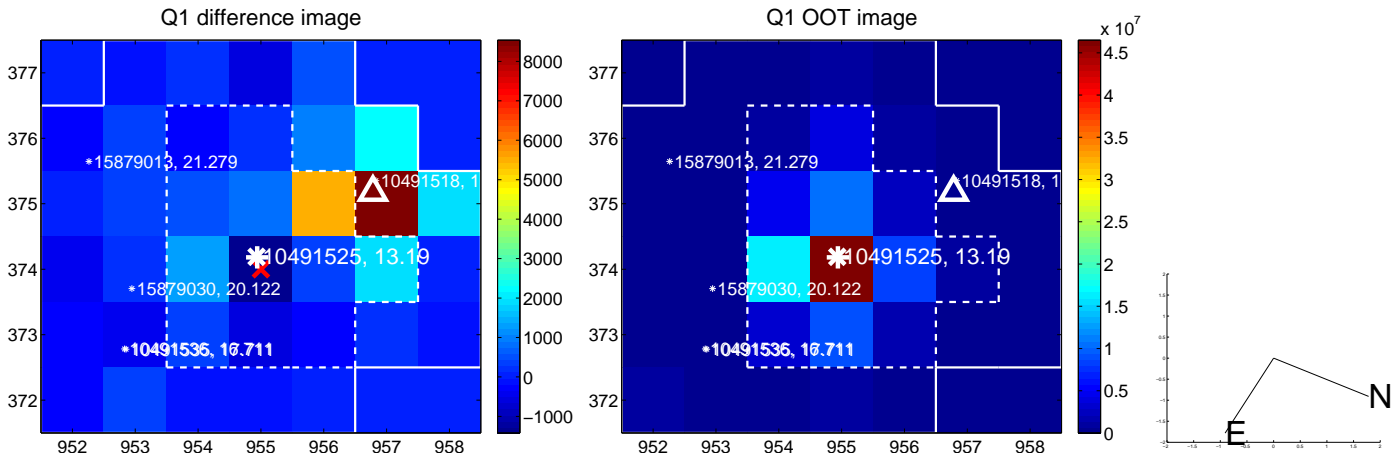
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.431 \pm 0.079	107.12	-6.989 \pm 0.078	4.716 \pm 0.080
PRF-fit source offset from KIC position	8.526 \pm 0.087	98.14	-7.077 \pm 0.088	4.754 \pm 0.083
photometric centroid source offset	25.73 \pm 1.27	20.34	-20.98 \pm 1.27	14.90 \pm 1.25

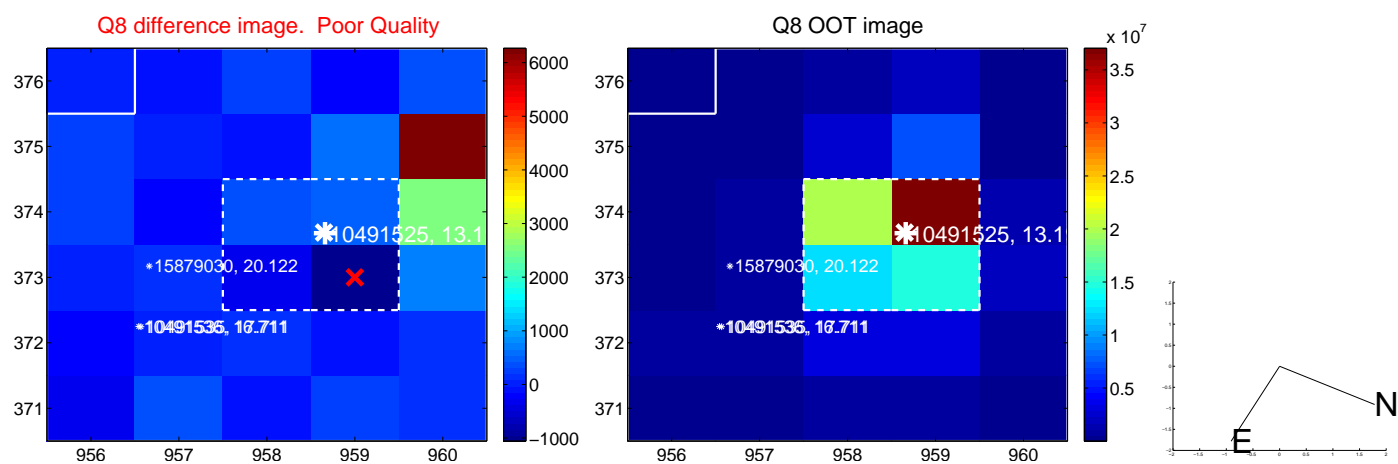
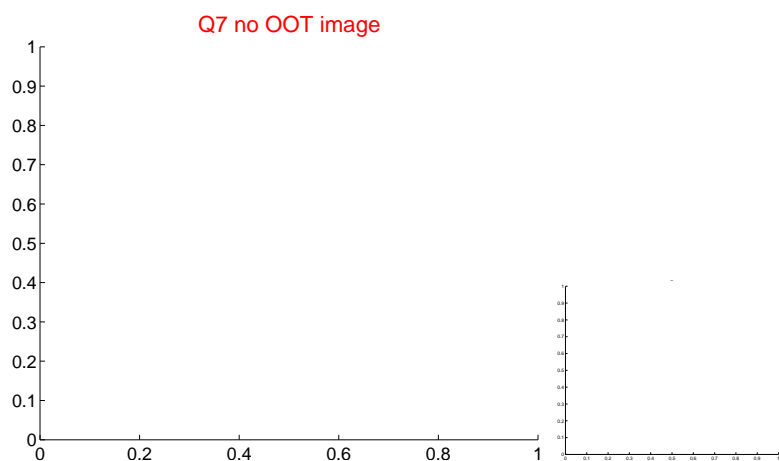
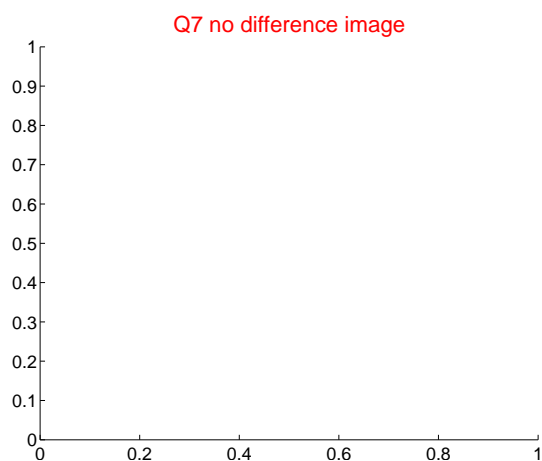
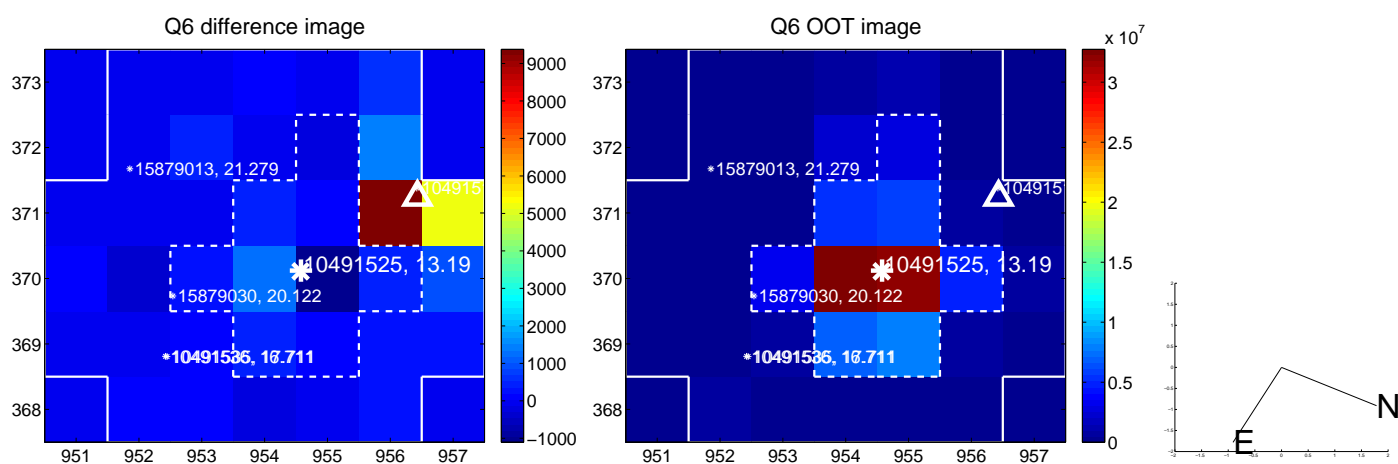
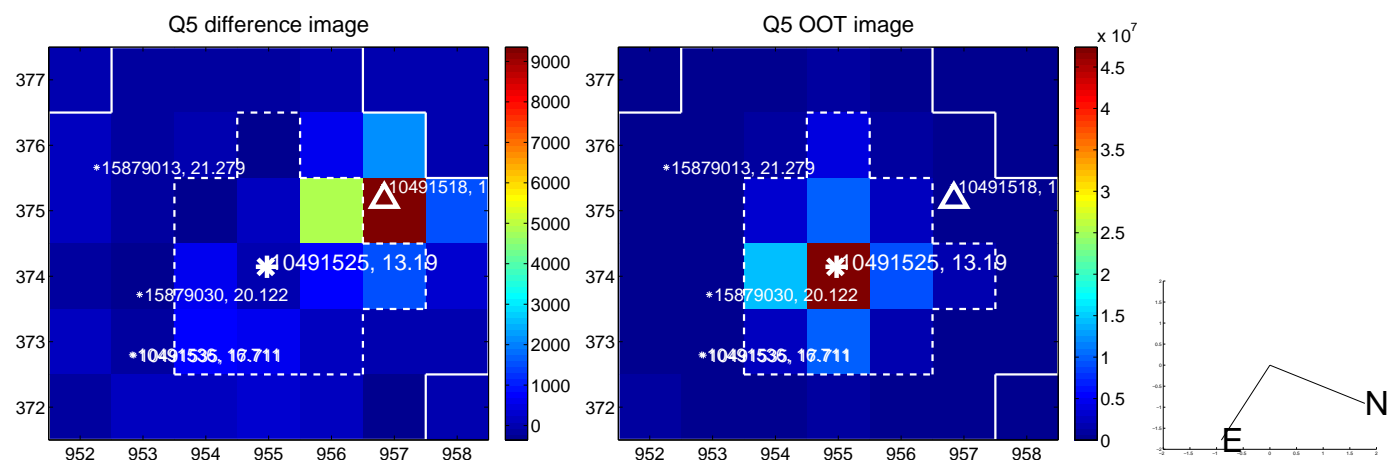


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

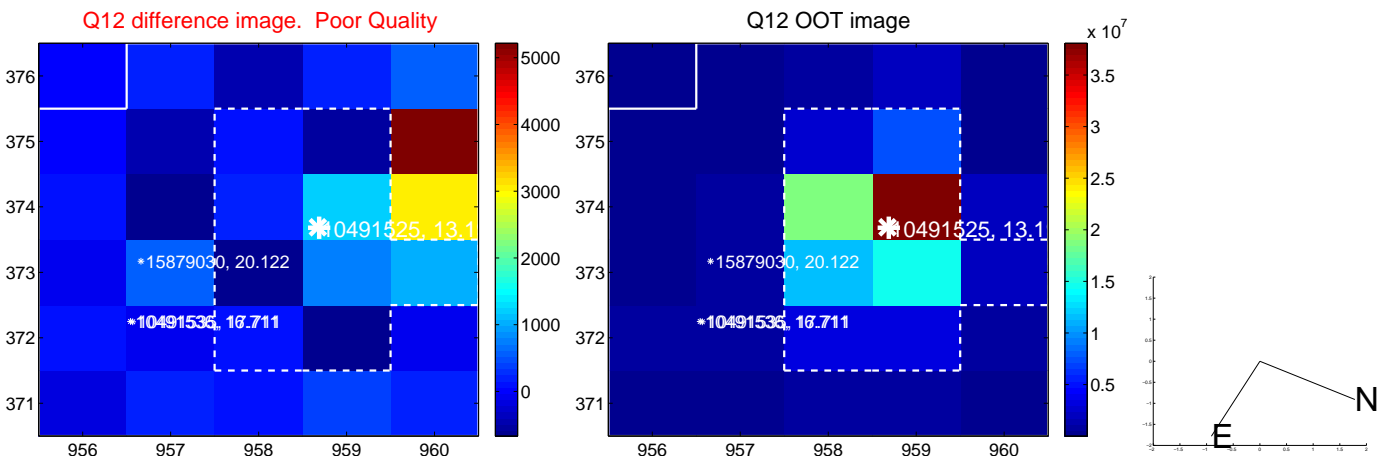
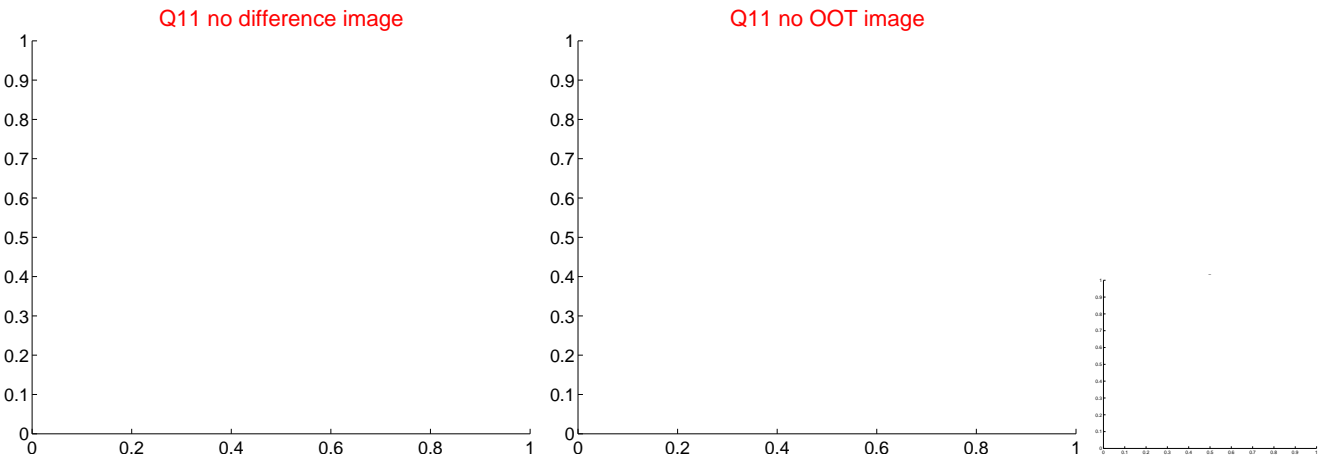
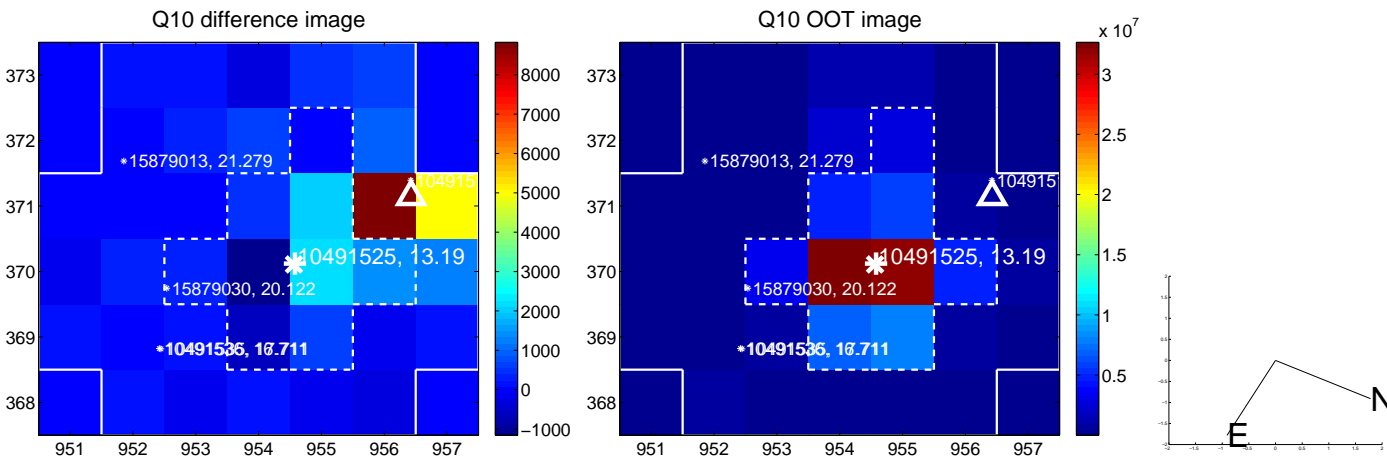
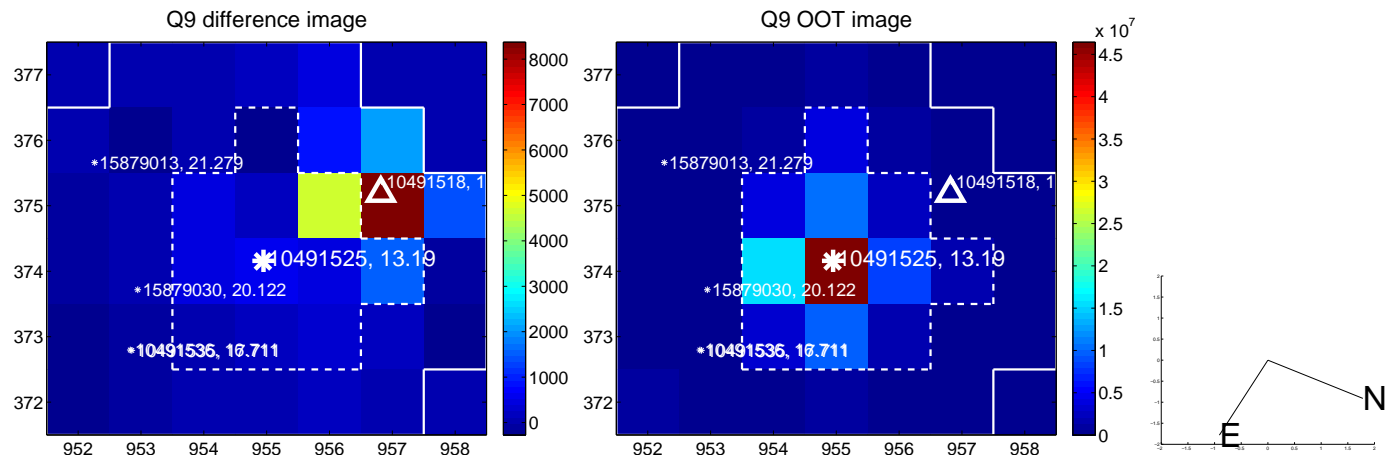
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



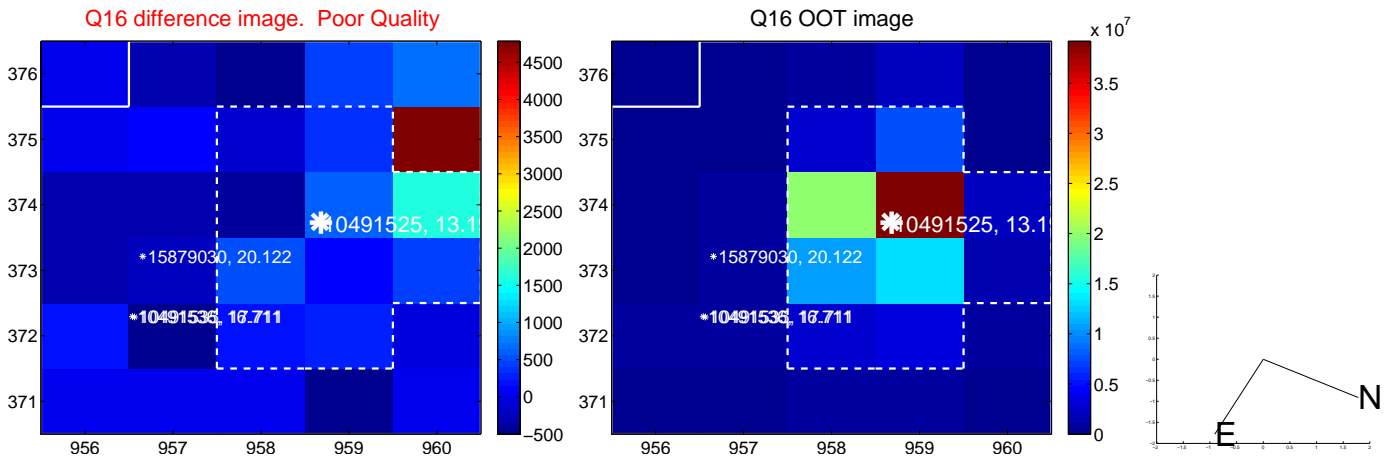
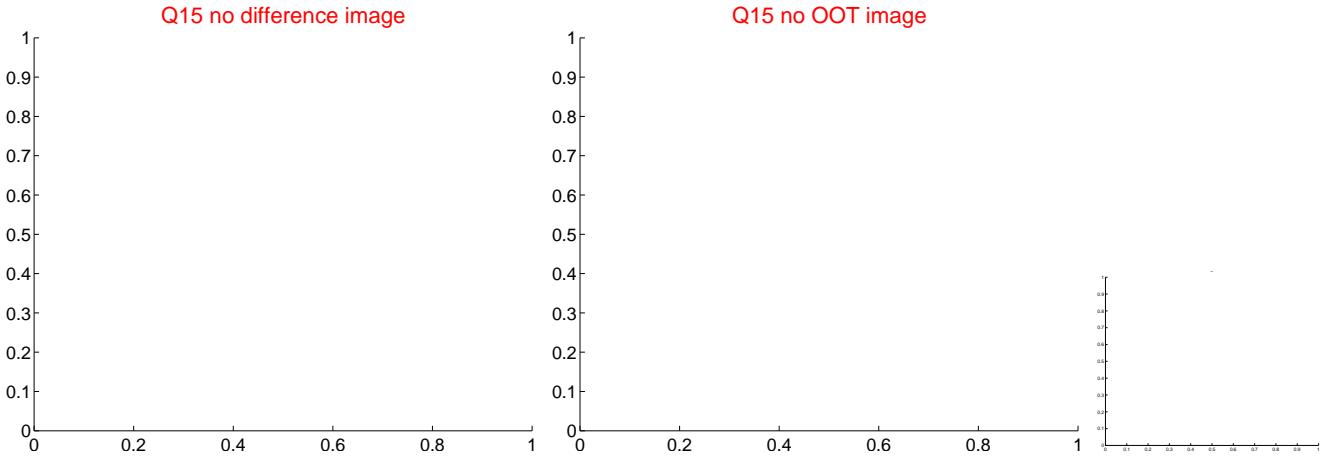
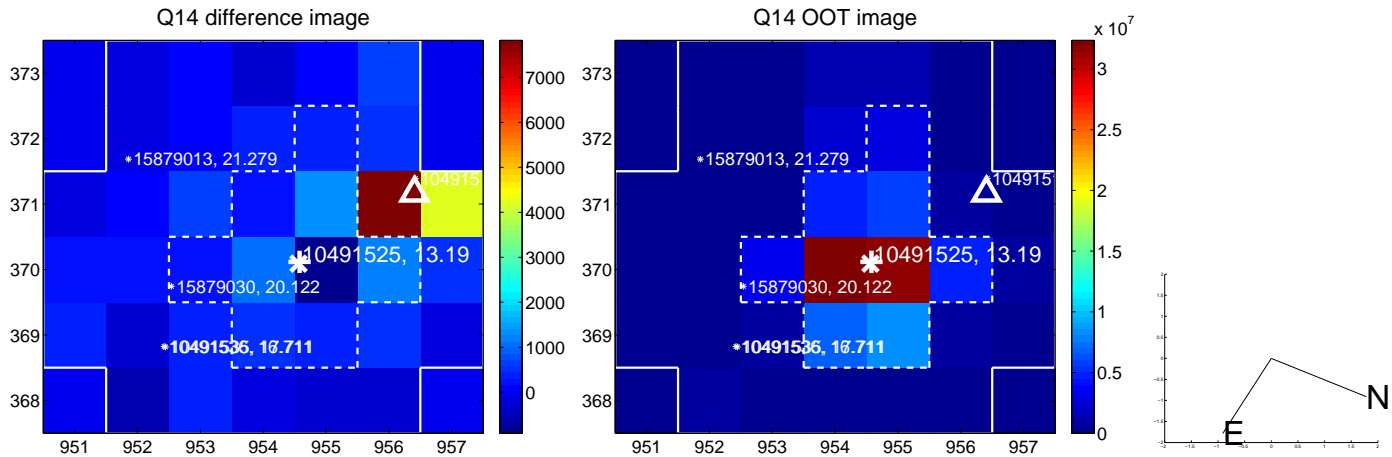
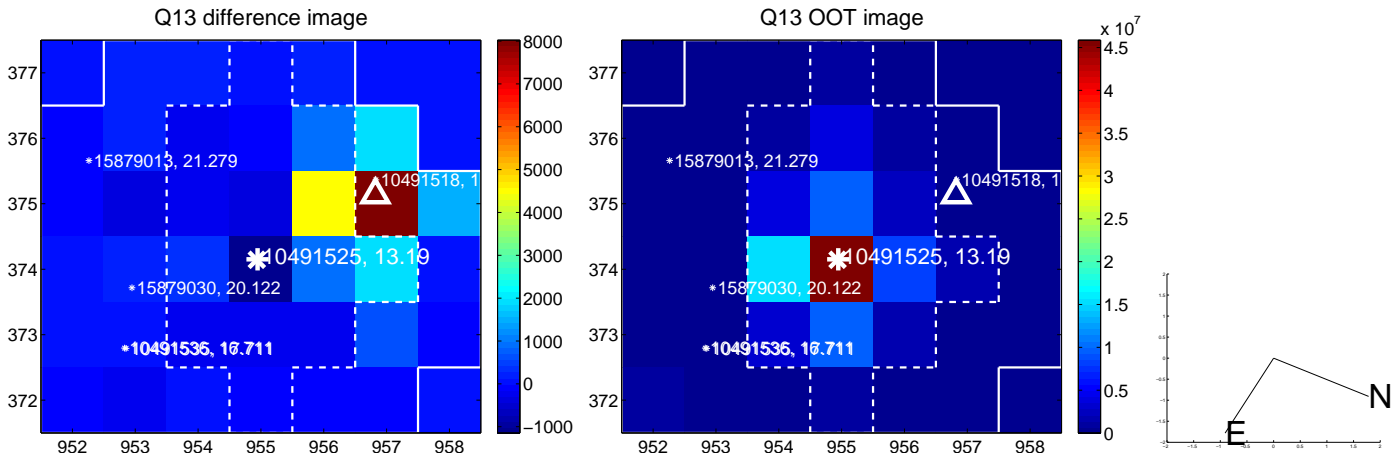
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



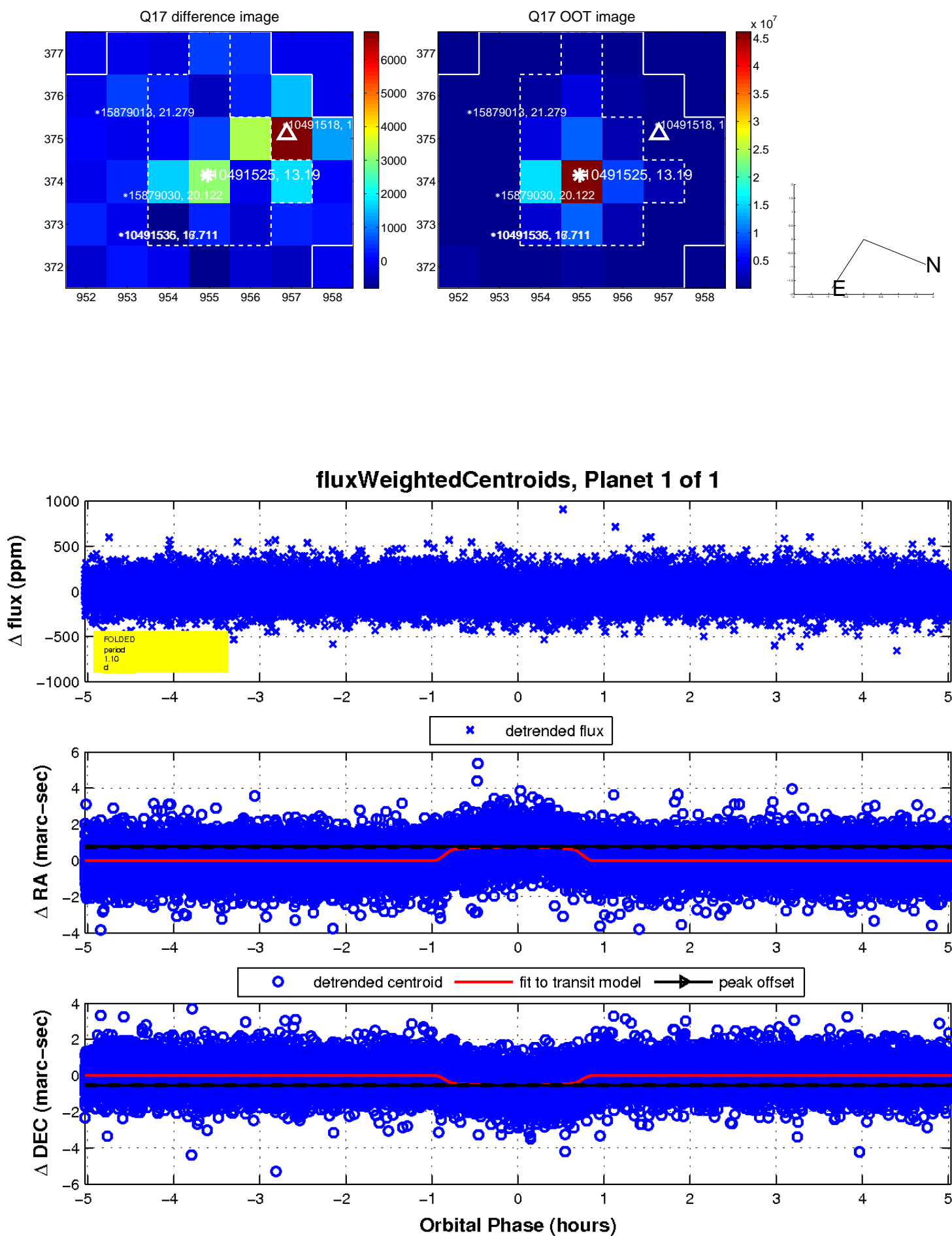
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

