

KIC 012265150

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})
012265150-01	OBS	5963.01	1.686003	133.061359	297.3	1.274	34.9	39.5	0.88	5783	1.81	1024.91
012265150-02	OBS	No	1.685984	132.225949	85.4	1.086	10.1	11.0	0.88	5783	0.97	1024.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012265150-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
012265150-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—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.

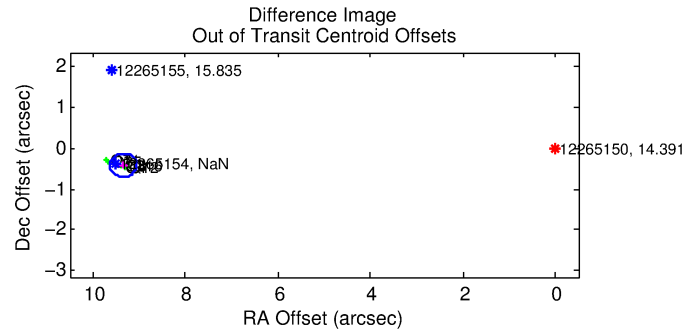
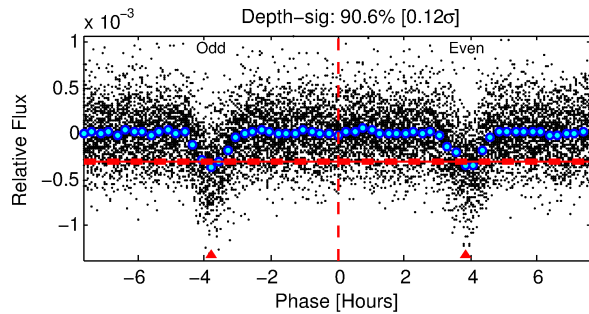
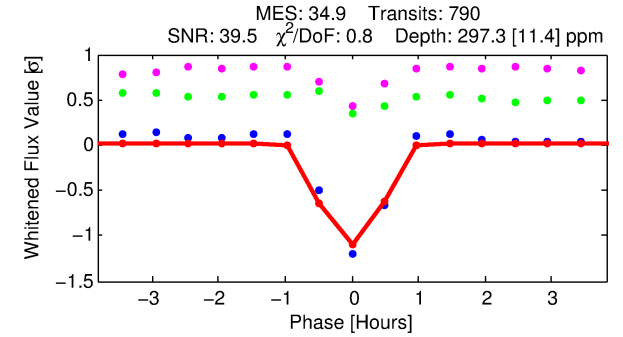
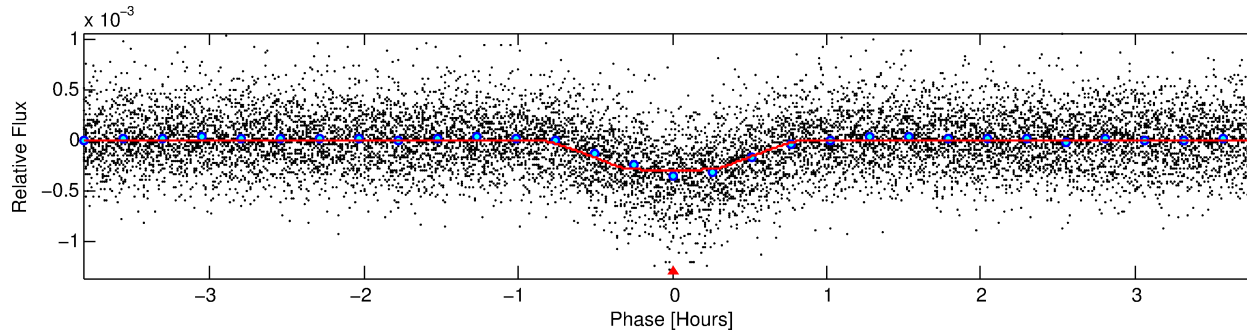
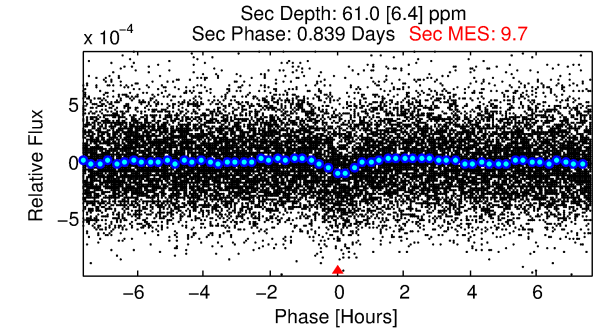
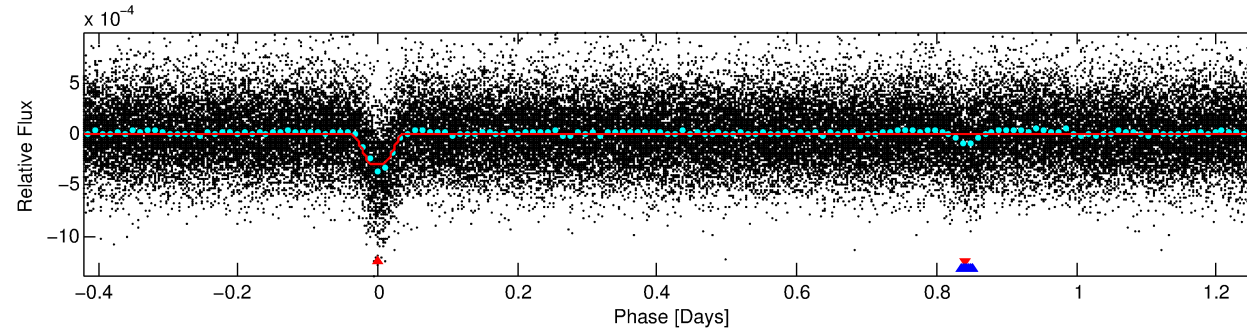
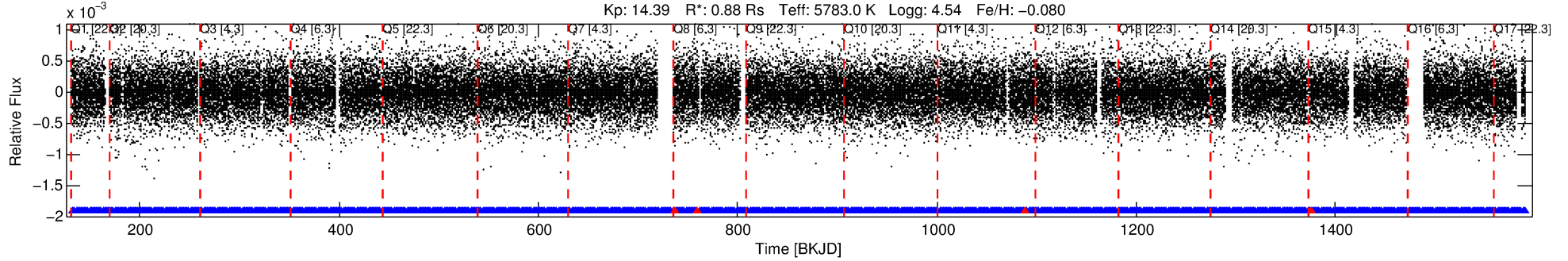
Ephemeris Match Information For 012265150-01

No Significant Match Found

DV One-Page Summary

KIC: 12265150 Candidate: 1 of 2 Period: 1.686 d
KOI: K05963.01 Corr: 0.956

Kp: 14.39 R*: 0.88 Rs Teff: 5783.0 K Logg: 4.54 Fe/H: -0.080



DV Fit Results:

Period = 1.68600 [0.00000] d
Epoch = 133.0614 [0.0005] BKJD
Rp/R* = 0.0189 [0.0042]
a/R* = 4.91 [4.99]
b = 0.90 [0.23]
Seff = 1024.91 [404.87]
Teq = 1443 [142] K
Rp = 1.81 [0.67] Re
a = 0.0275 [0.0070] AU
Ag = 7.72 [4.60] [1.46σ]
Teffp = 3719 [438] K [4.94σ]

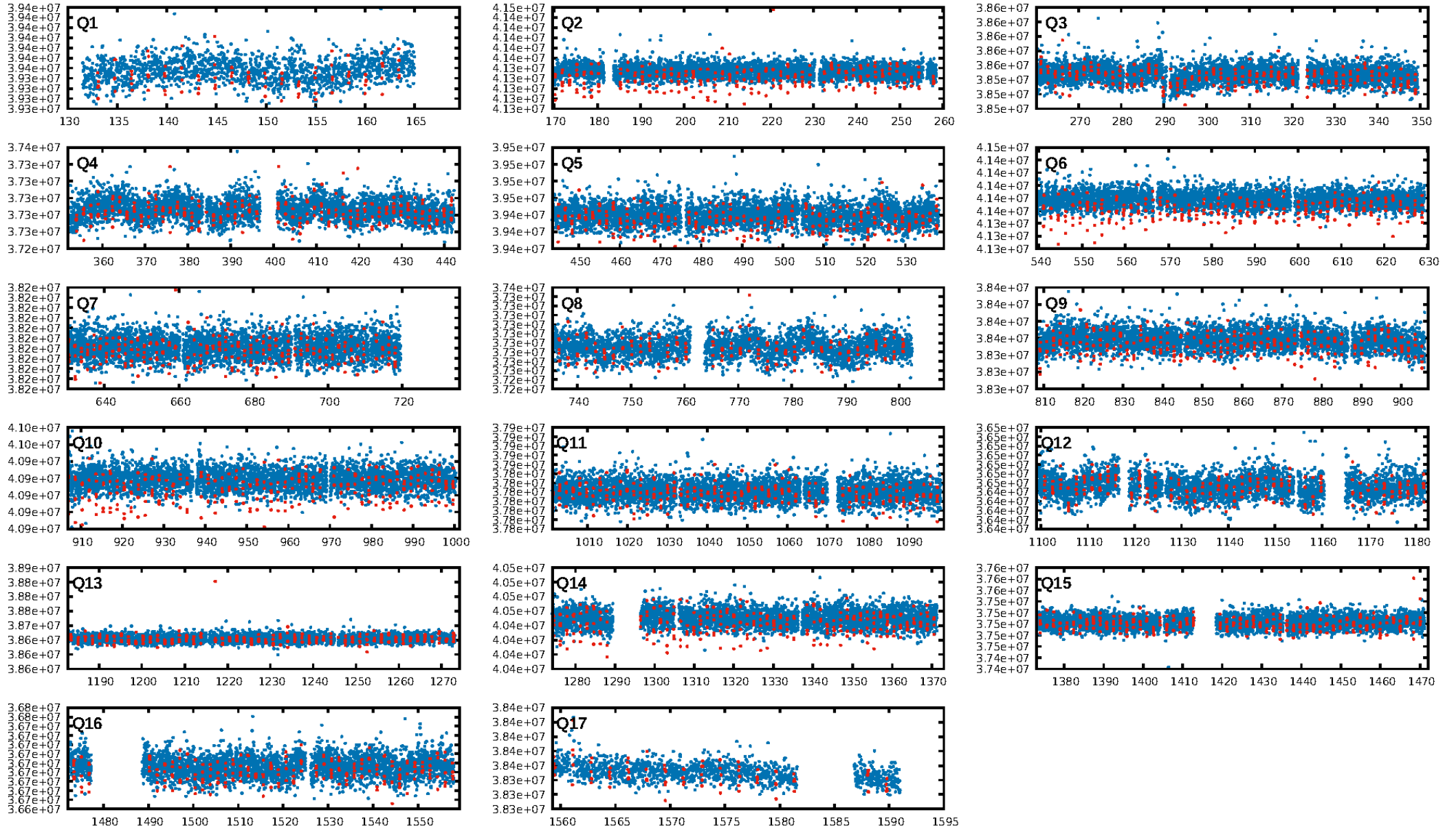
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.90e-254
RollingBand-fgt: 0.99 [751/755]
GhostDiagnostic-chr: -0.5714
Centroid-sig: 0.0%
Centroid-so: N/A
OotOffset-rm: 9.357 arcsec [97.56σ]
KicOffset-rm: 9.467 arcsec [86.48σ]
OotOffset-st: 0/4/4/0 [8]
KicOffset-st: 0/4/4/0 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [17/17]

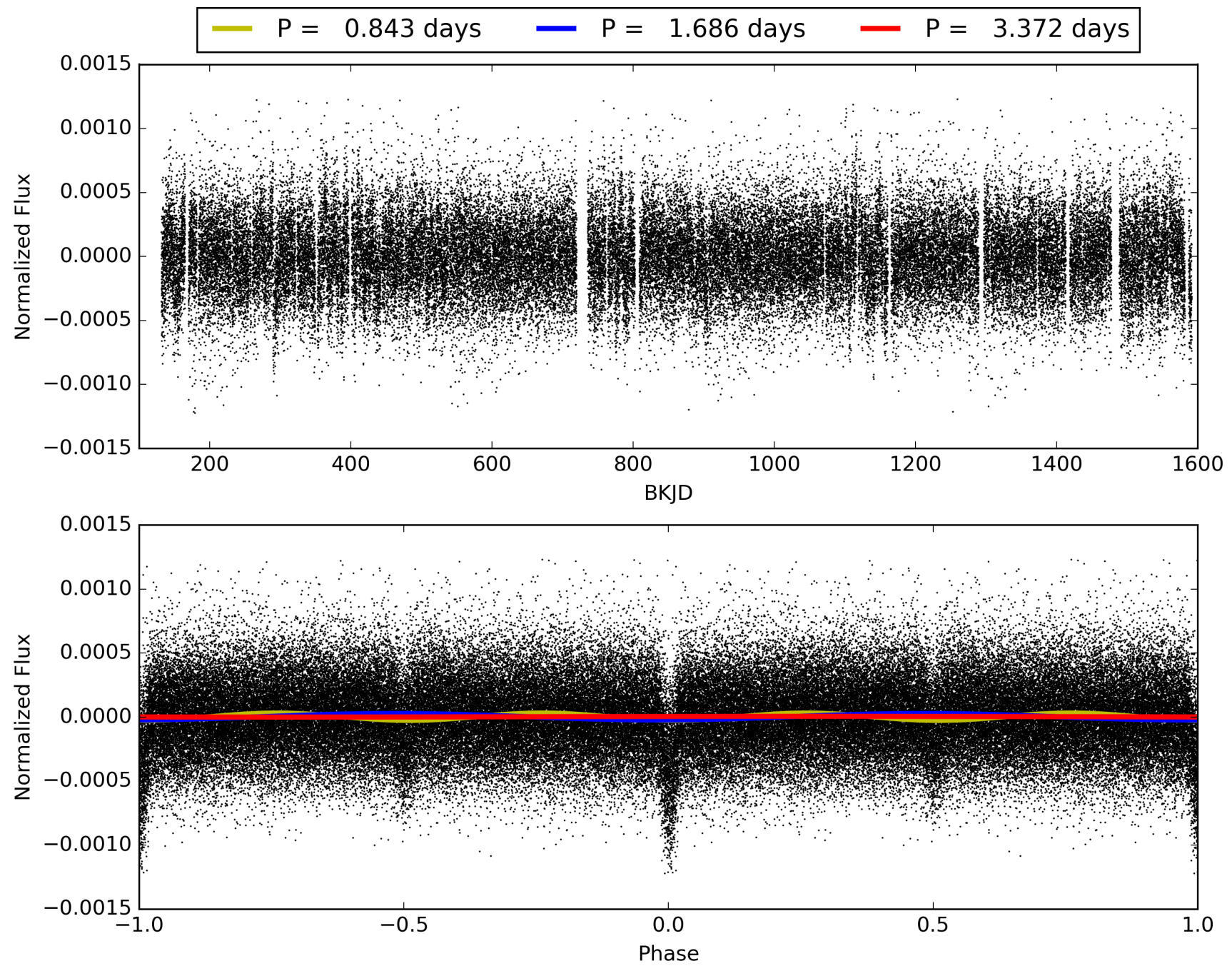
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 012265150-01, PDC Light Curves

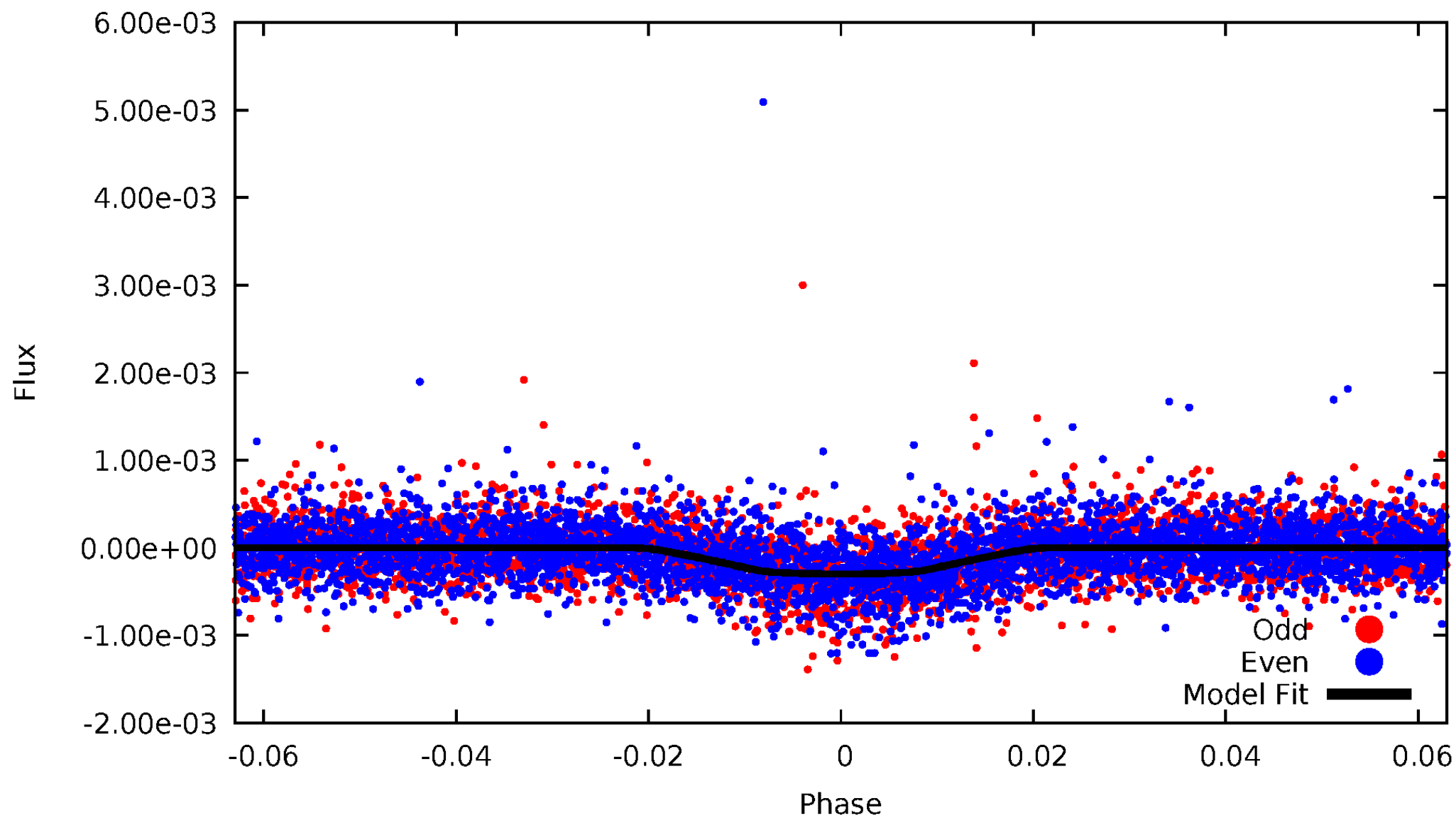


TCE 012265150-01



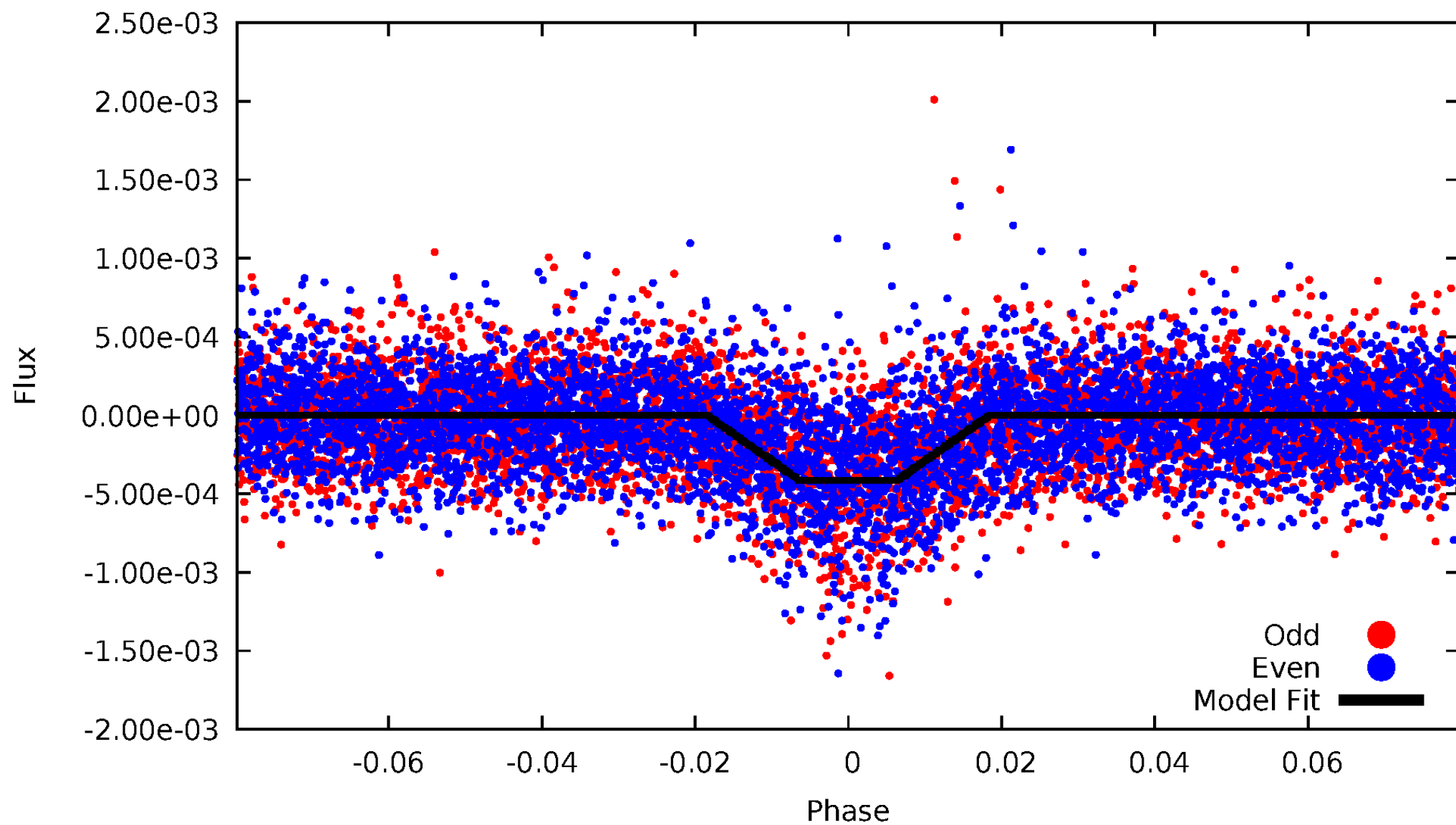
DV Odd/Even

TCE 012265150-01

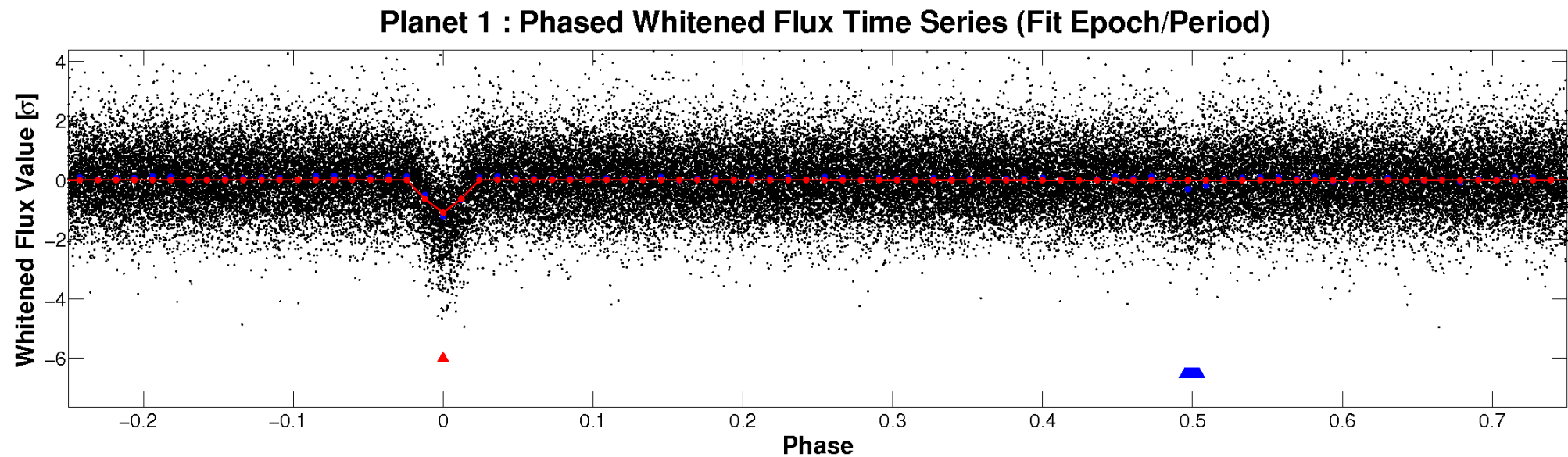
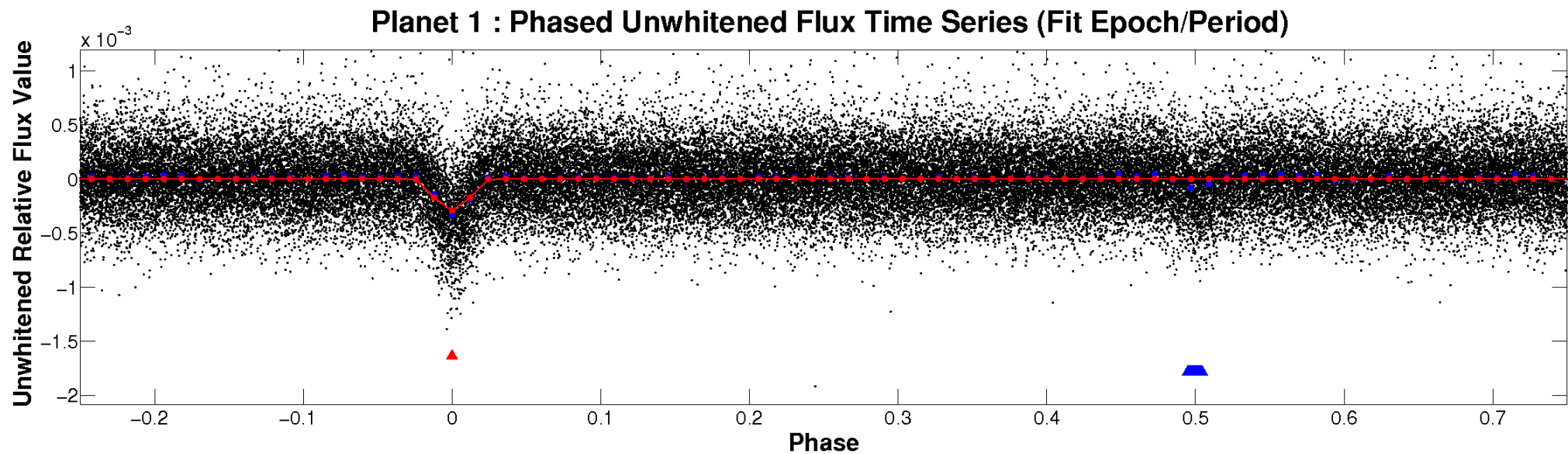


ALT Odd/Even

TCE 012265150-01

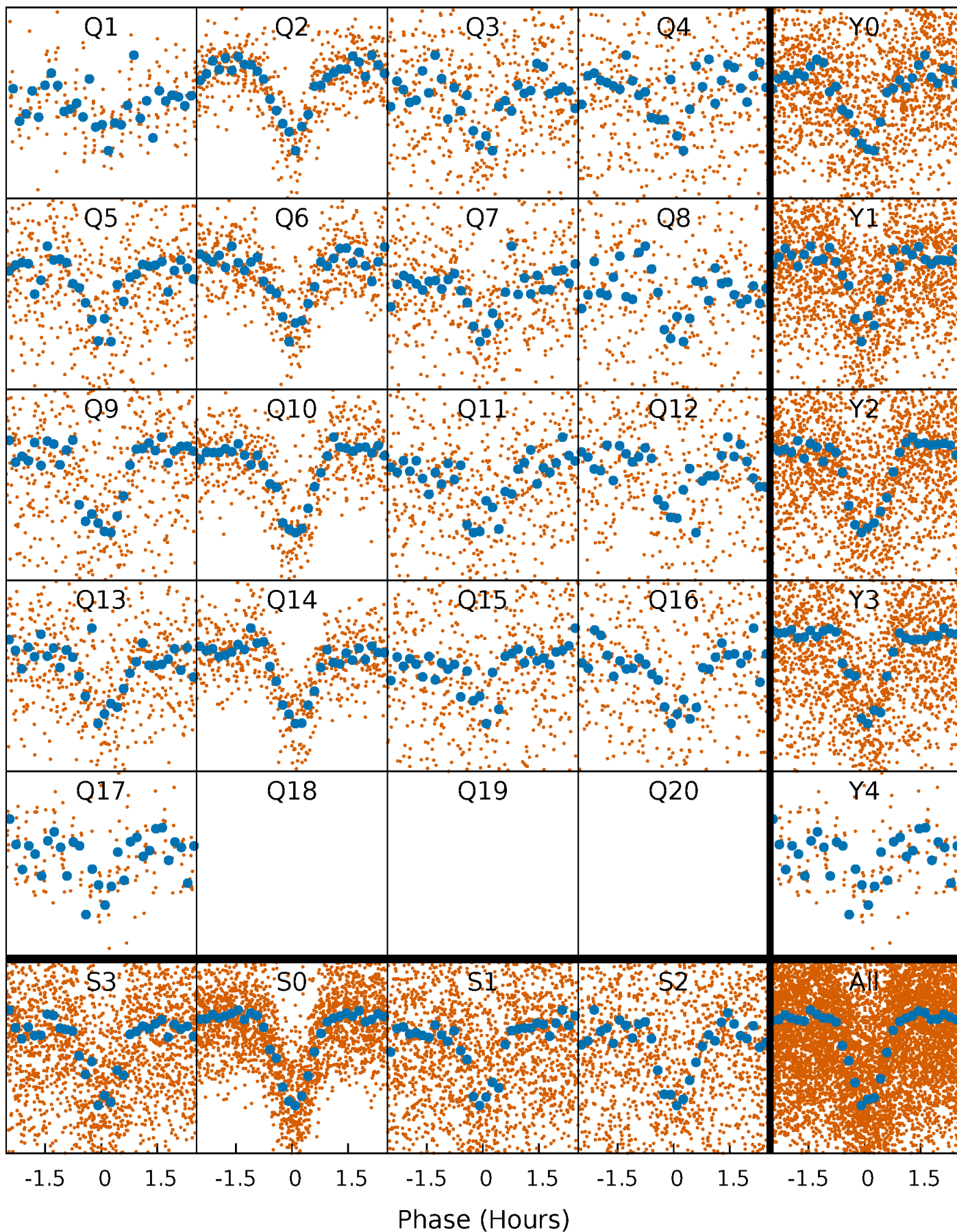


Non-Whitened Vs. Whitened Light Curve



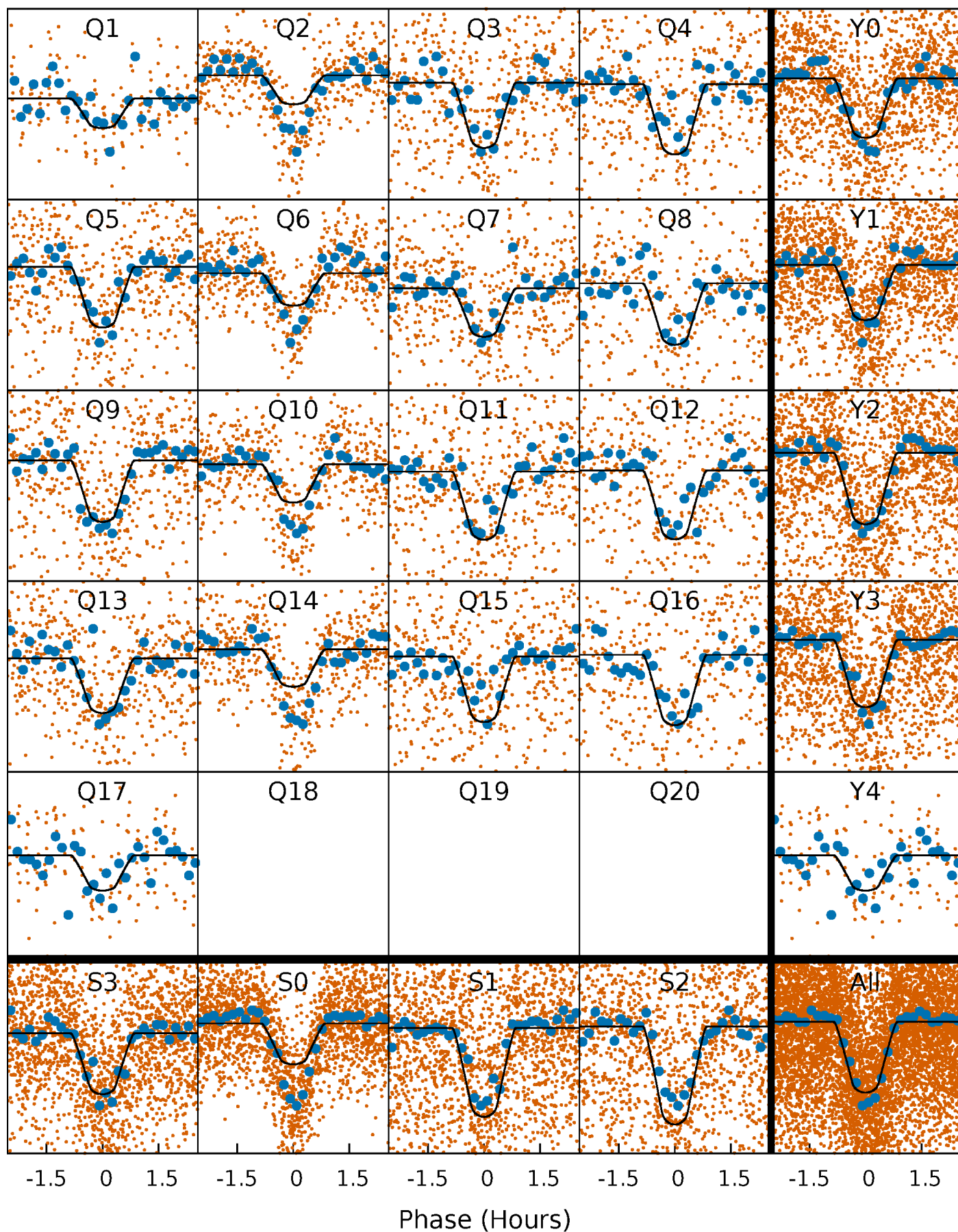
PDC Quarter-Phased Transit Curves

TCE 012265150-01 P= 1.686003 Days $T_0=133.061360$ (BKJD)



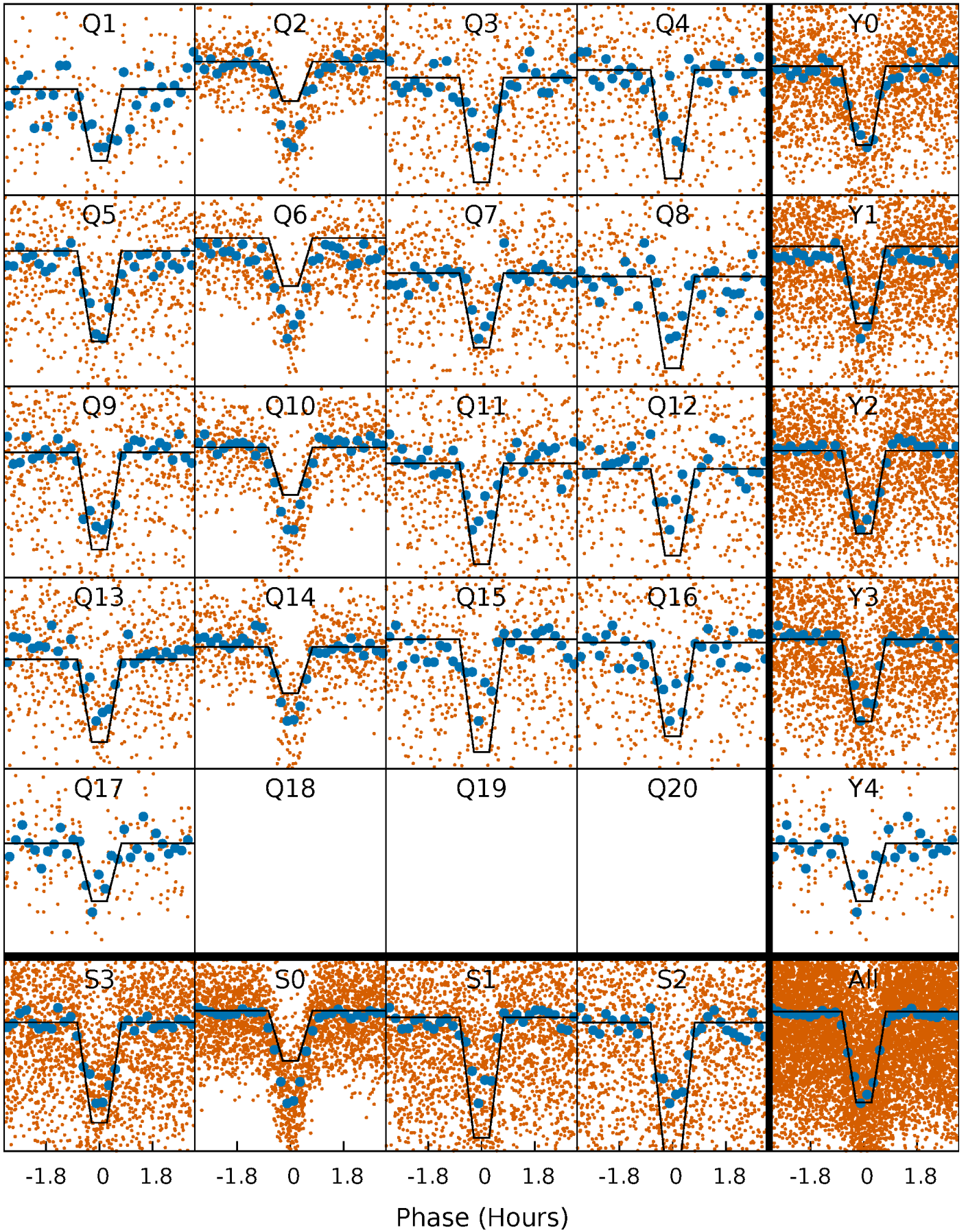
DV Quarter-Phased Transit Curves

TCE 012265150-01 P= 1.686003 Days $T_0=133.061360$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

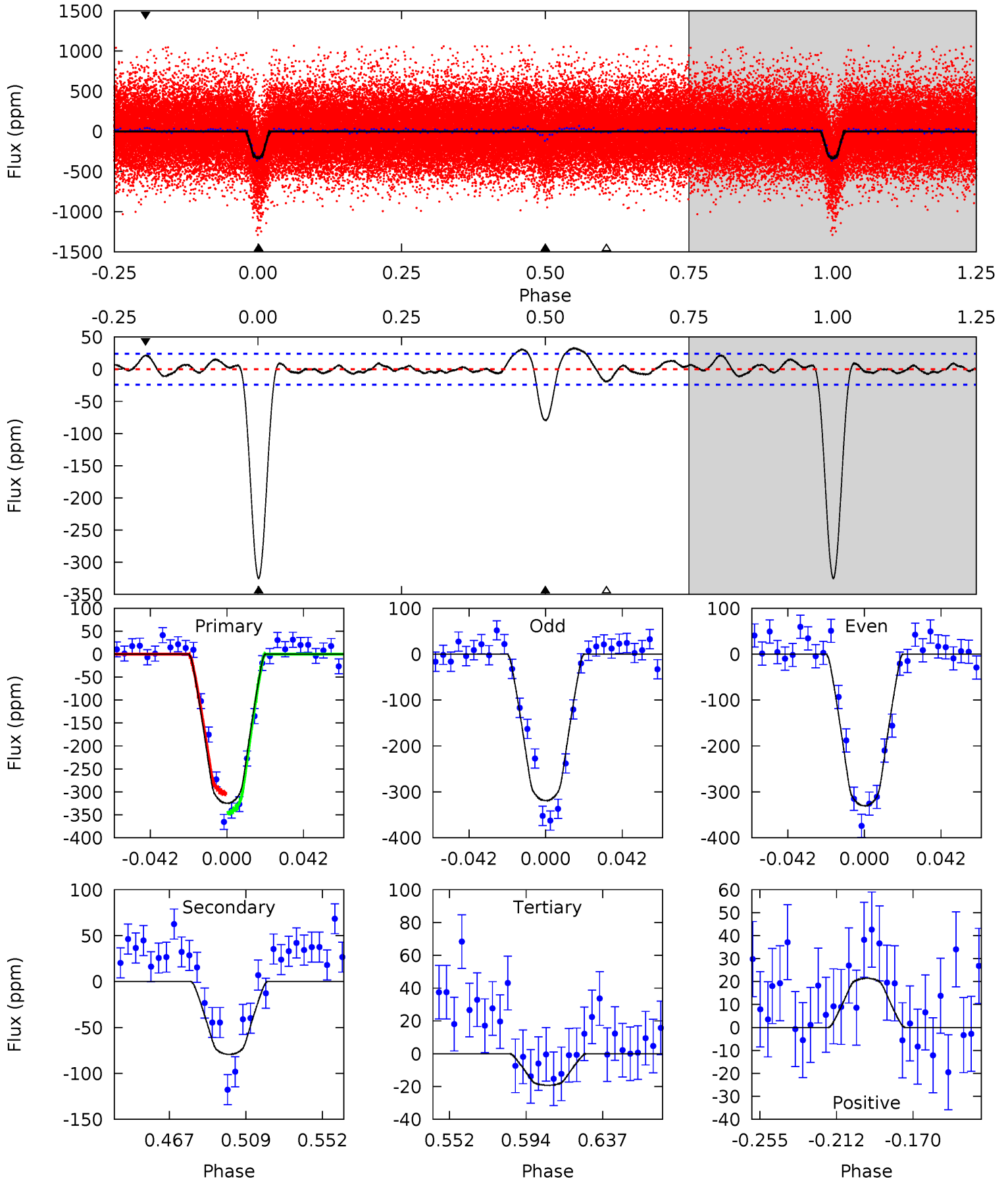
TCE 012265150-01 P= 1.686011 Days $T_0=133.060012$ (BKJD)



DV Model-Shift Uniqueness Test

012265150-01, P = 1.686003 Days, E = 131.375357 Days

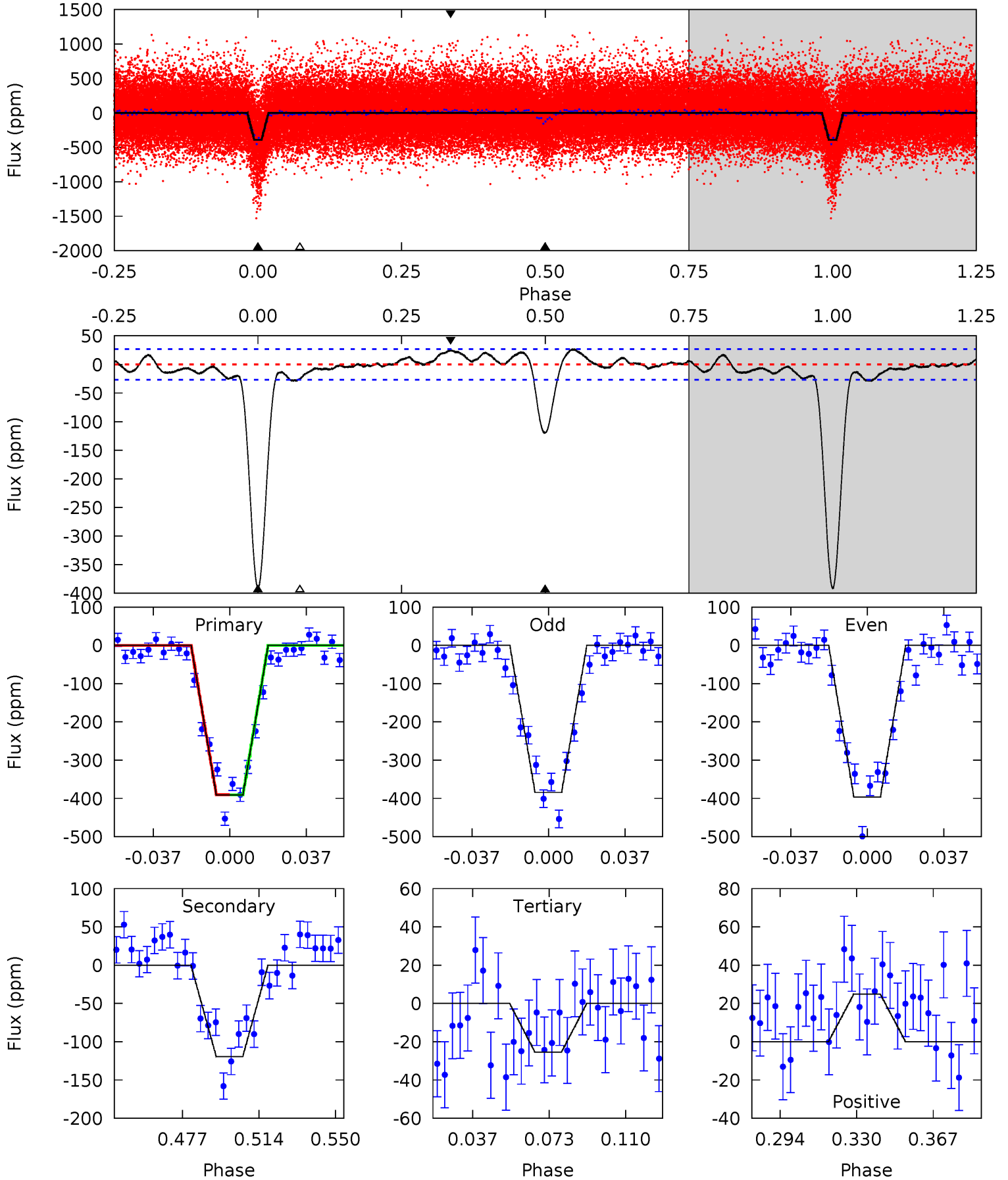
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.9	15.6	3.79	4.21	4.74	2.03	1.84	60.1	59.7	11.8	11.4	1.11	1.02	0.09	4.13



Alt Model-Shift Uniqueness Test

012265150-01, P = 1.686011 Days, E = 131.374001 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
69.9	21.3	4.55	4.44	4.77	2.09	2.14	65.4	65.5	16.8	16.9	1.07	1.09	0.06	0.04



Stellar Parameters For KIC 012265150

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5783^{+144}_{-158}	$4.539^{+0.038}_{-0.212}$	$-0.080^{+0.300}_{-0.300}$	$0.880^{+0.258}_{-0.086}$	$0.977^{+0.102}_{-0.114}$	$2.021^{+0.417}_{-1.075}$
	+2%/-3%	+1%/-5%	+375%/-375%	+29%/-10%	+10%/-12%	+21%/-53%
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 012265150-01 / KOI 5963.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-79 ± 5	$1.93^{+0.52}_{-0.46}$	2072^{+140}_{-94}	4169^{+452}_{-296}	$8.683^{+6.123}_{-3.219}$
Alt.	-119 ± 6	$2.09^{+0.49}_{-0.48}$	2072^{+144}_{-89}	4400^{+486}_{-316}	11^{+8}_{-4}

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 $A_{obs} \gg 1.0$

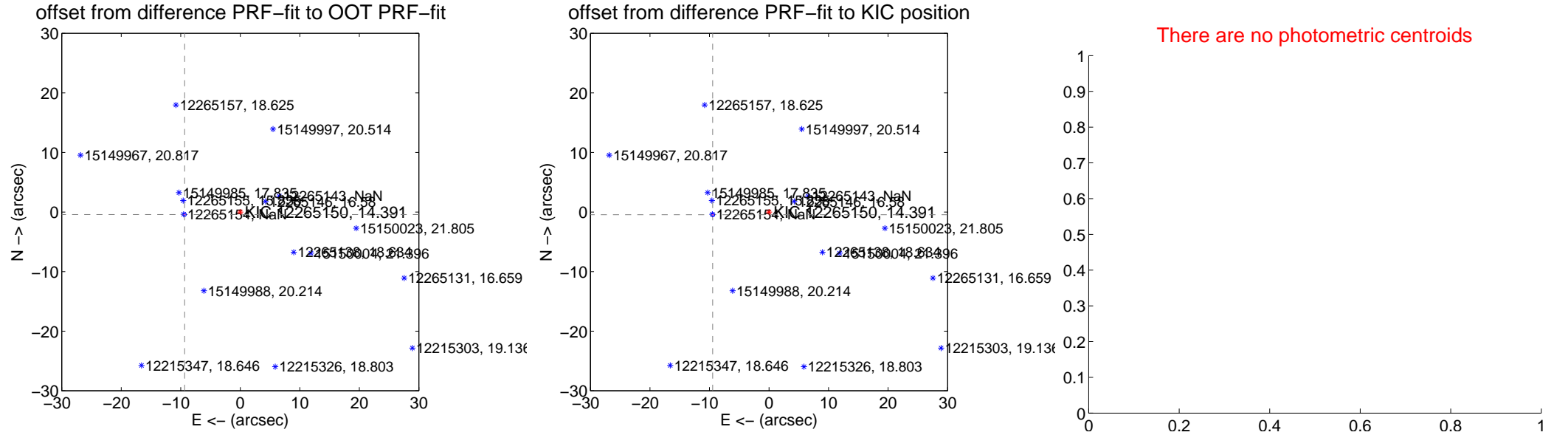
DV Centroid Data

Supplemental centroid analysis for 012265150-01. Kepler magnitude: 14.39. Transit SNR 39.53

There are 8 quarters with good PRF difference image offsets

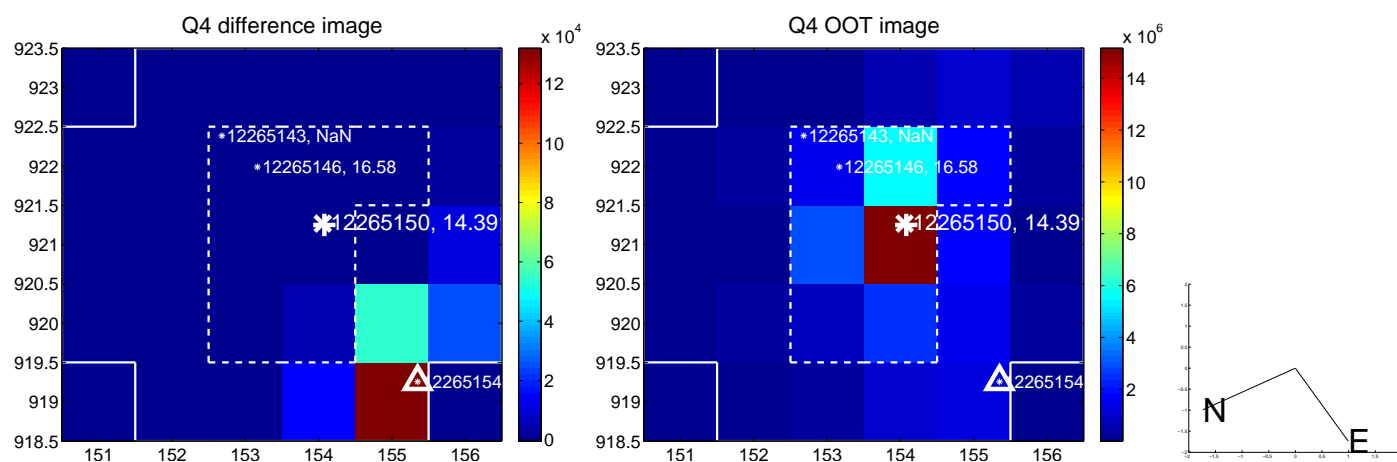
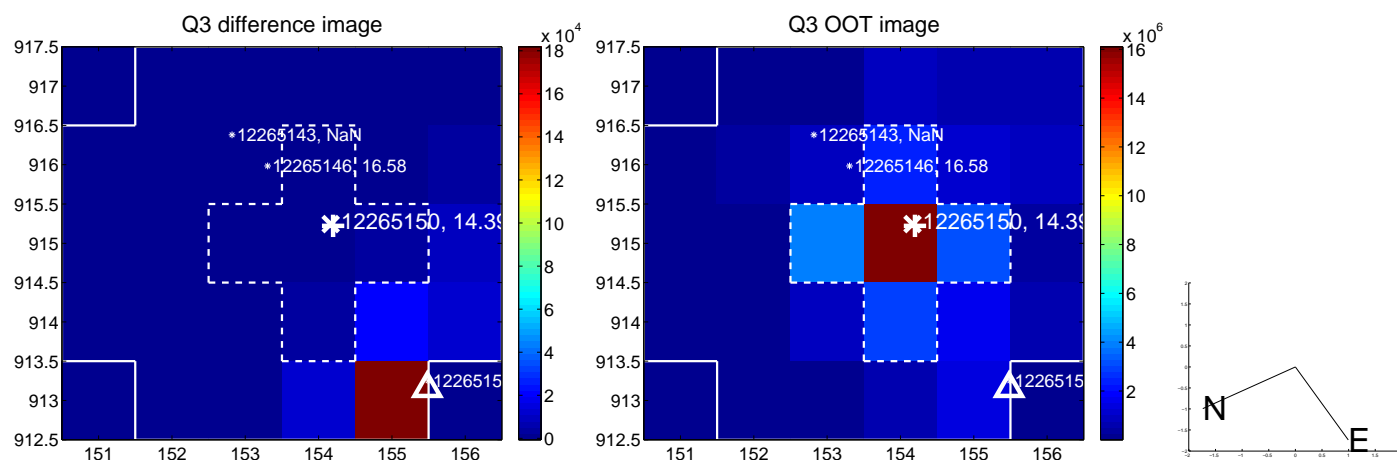
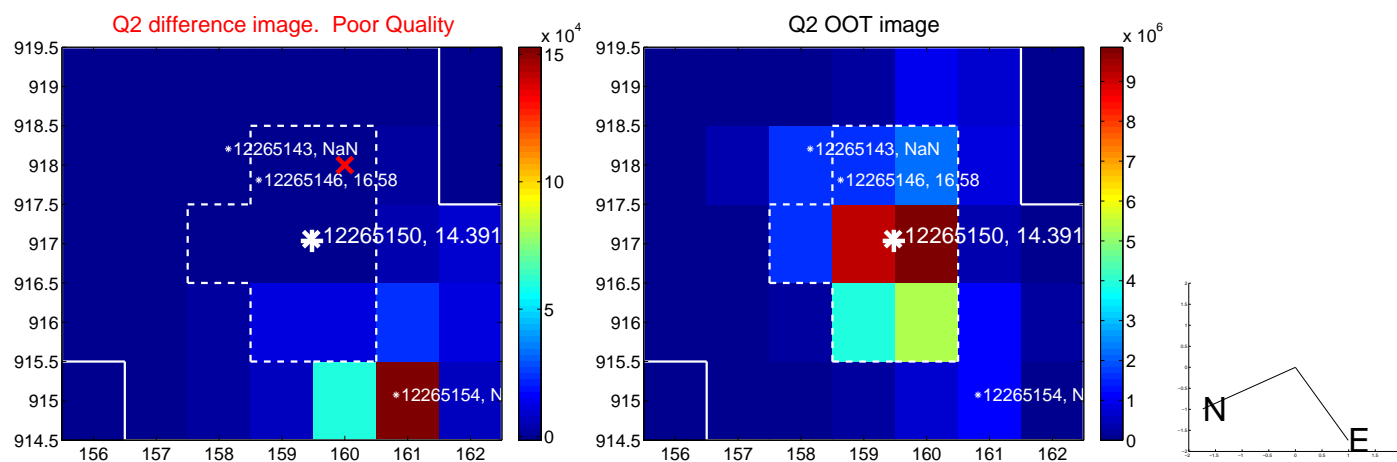
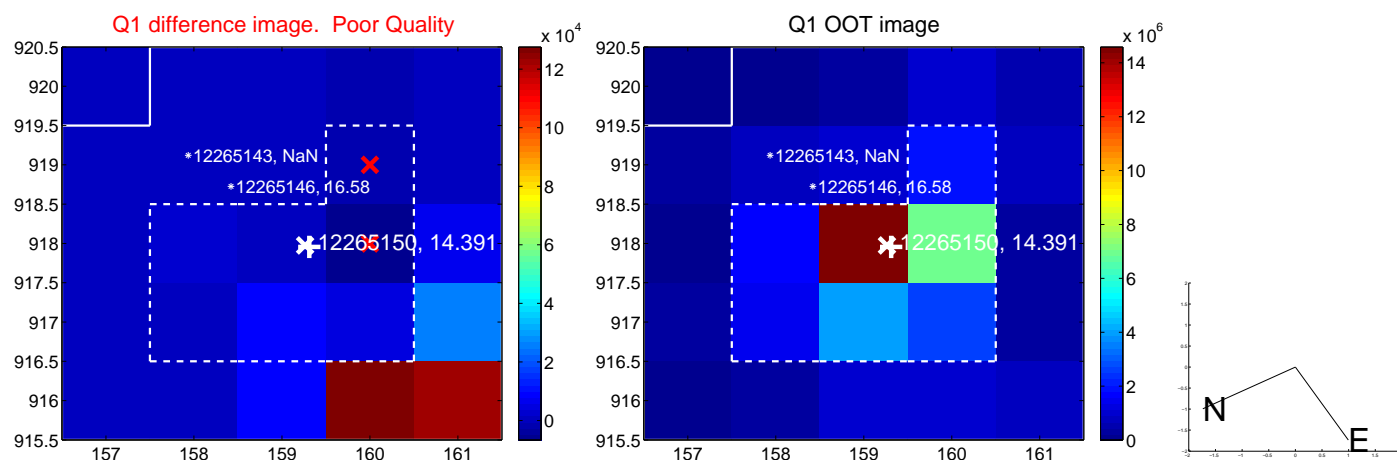
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.357 \pm 0.096	97.56	9.348 \pm 0.097	-0.417 \pm 0.072
PRF-fit source offset from KIC position	9.467 \pm 0.109	86.48	9.457 \pm 0.110	-0.454 \pm 0.071
photometric centroid source offset	—	—	—	—

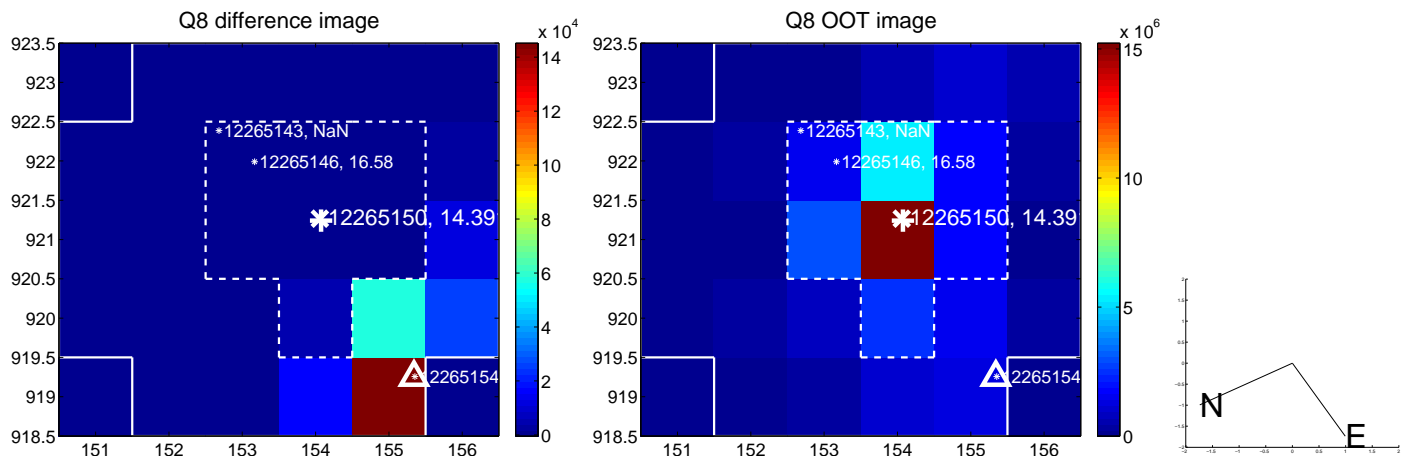
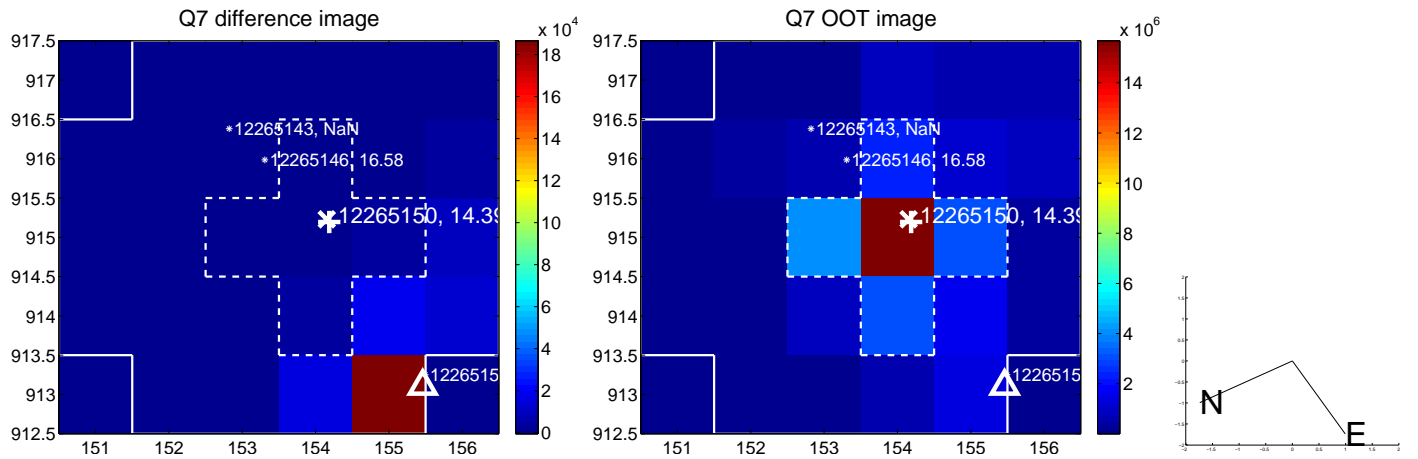
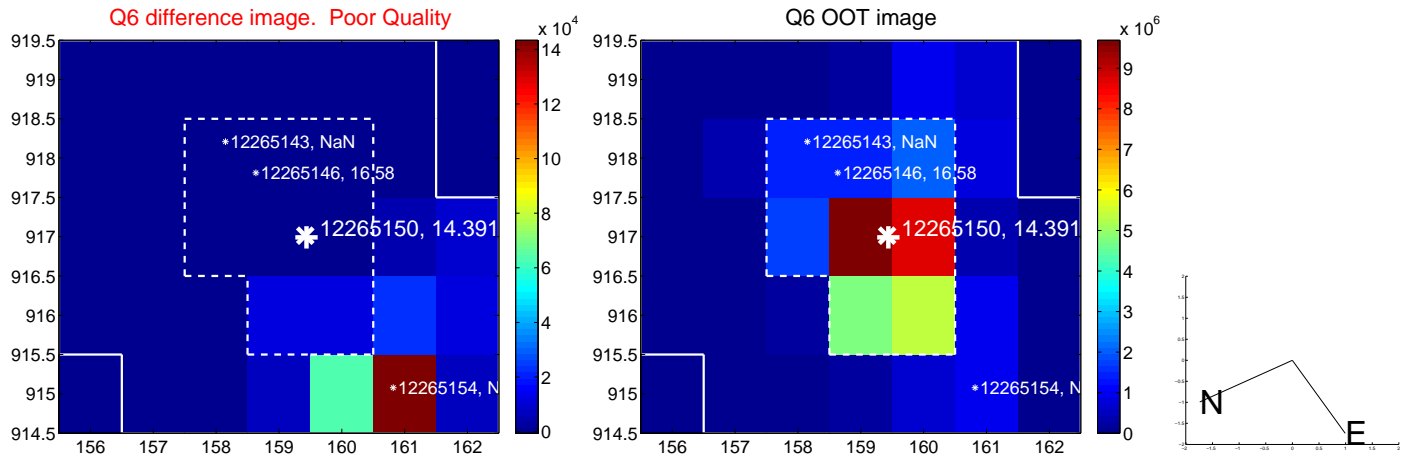
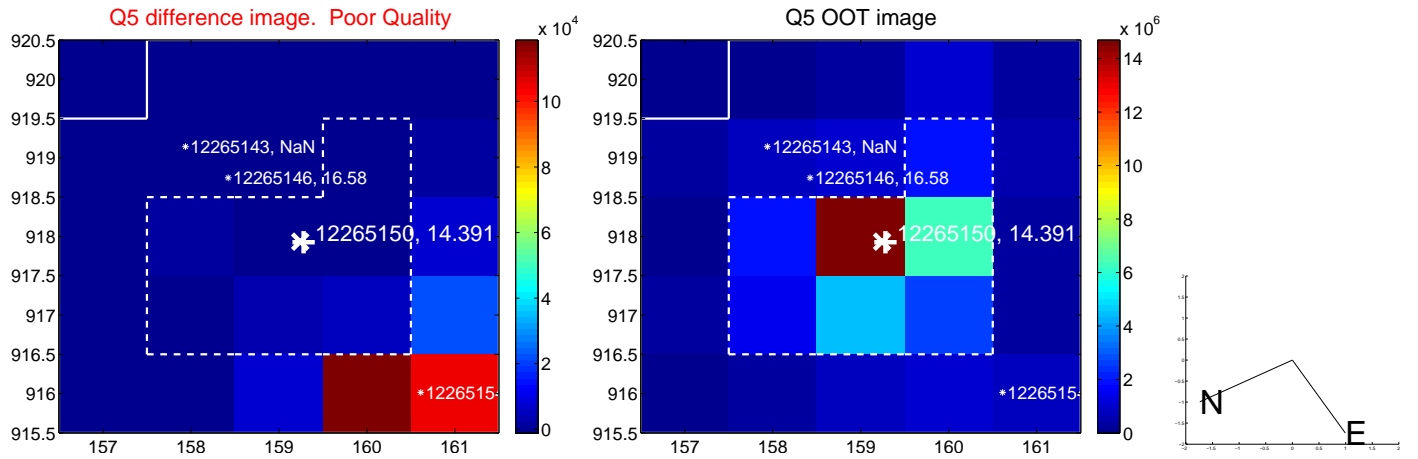


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

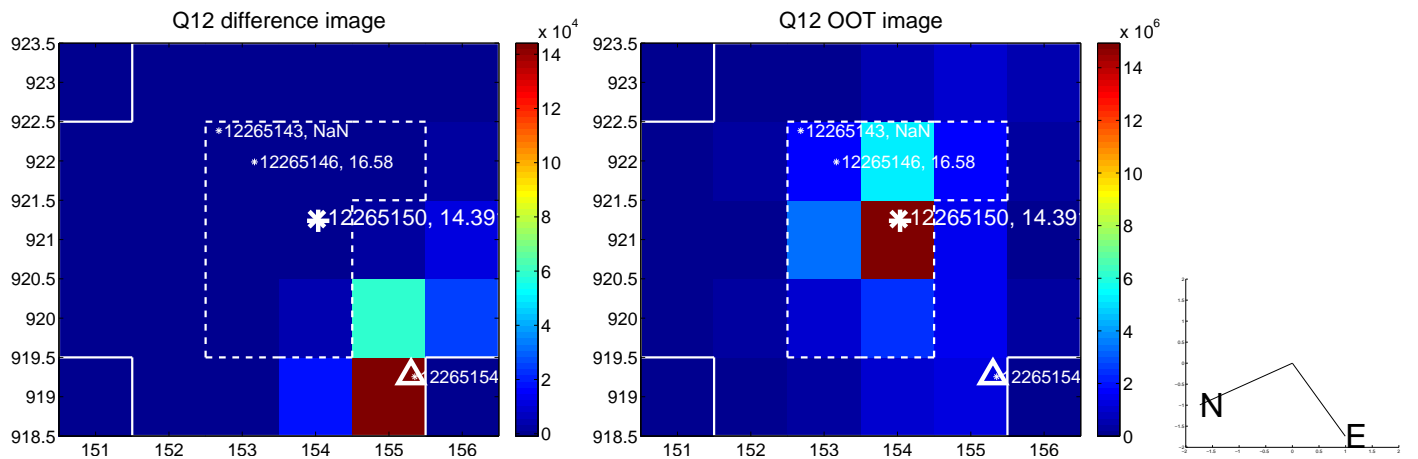
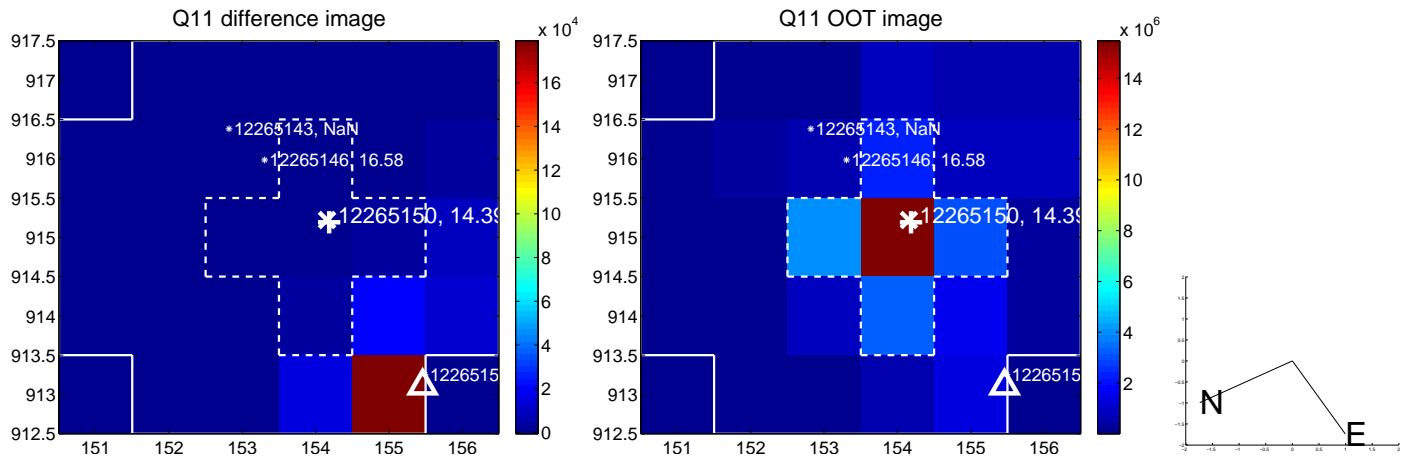
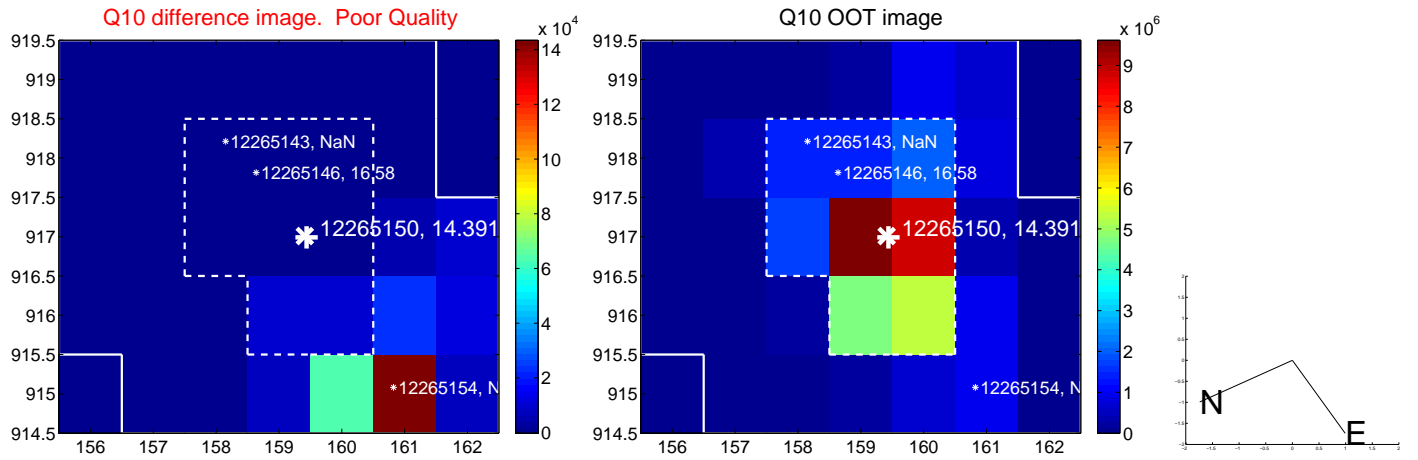
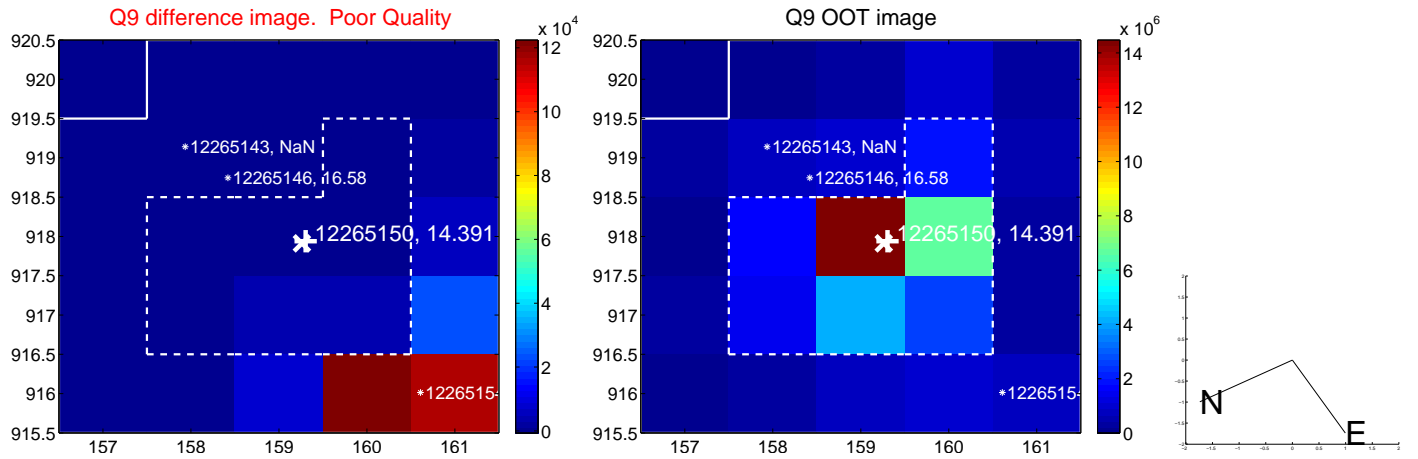
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



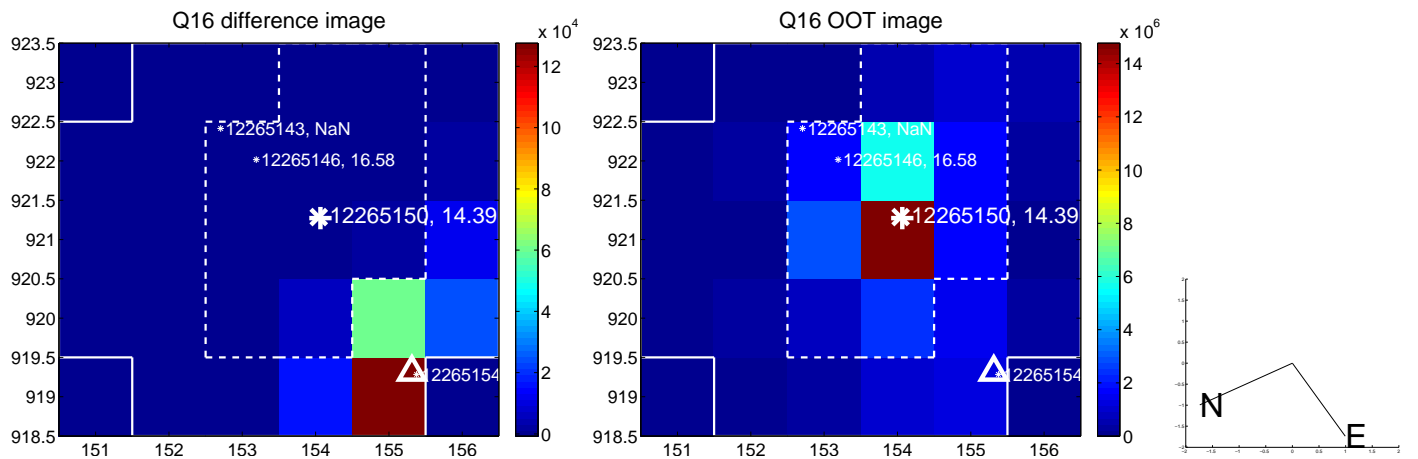
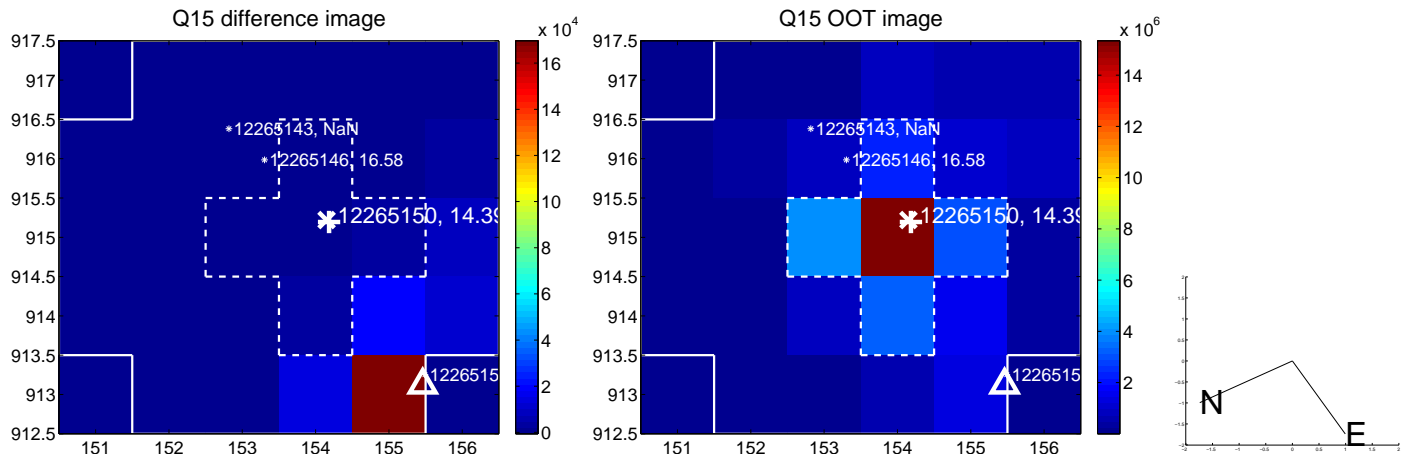
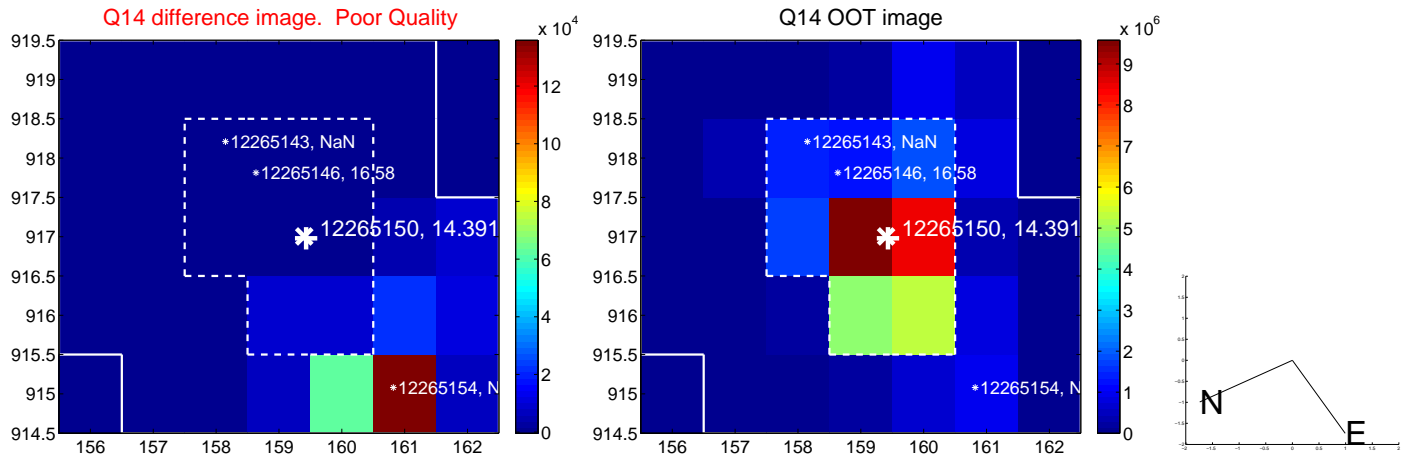
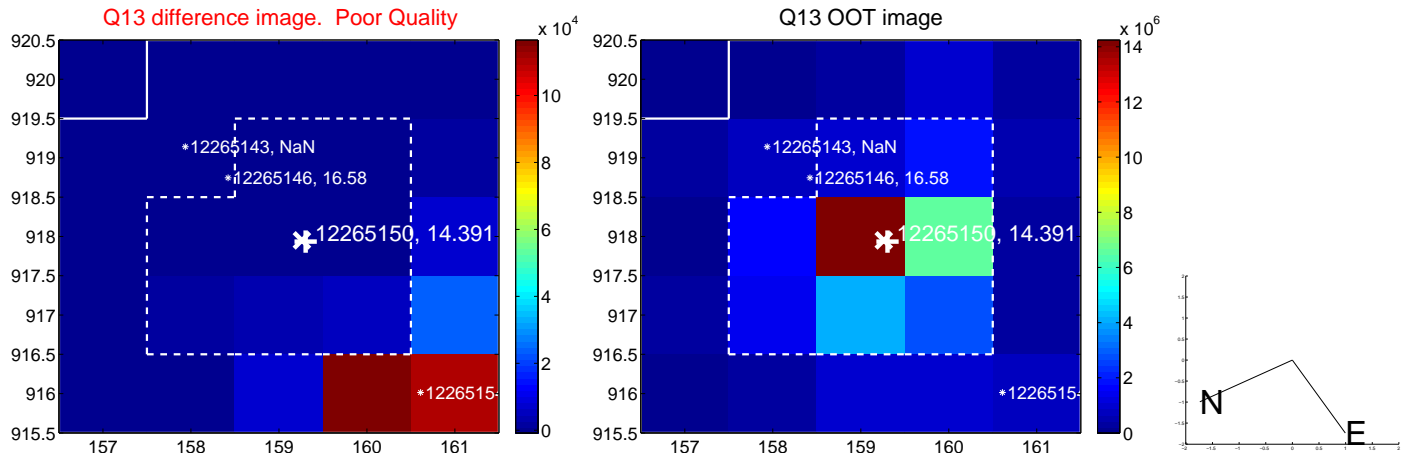
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



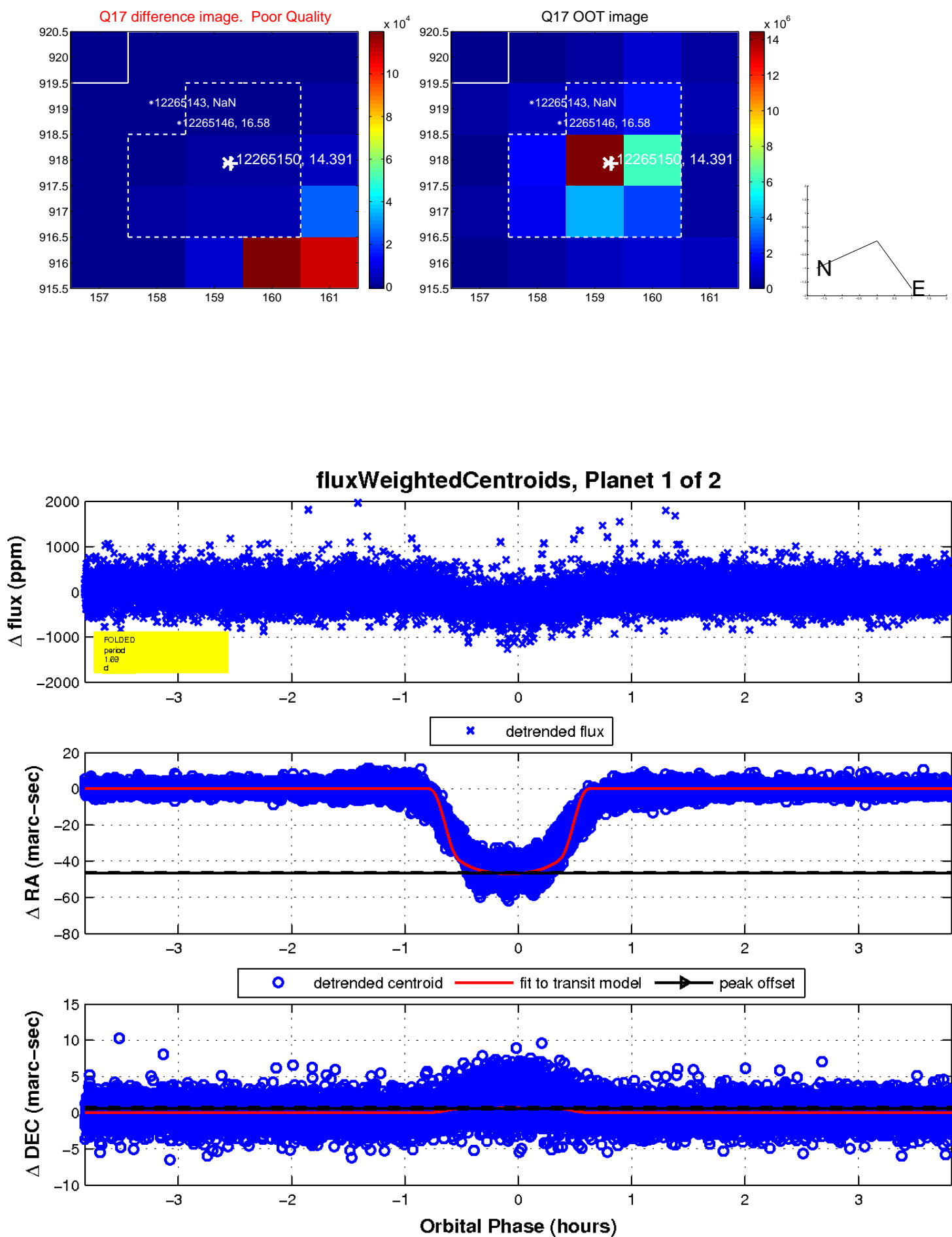
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

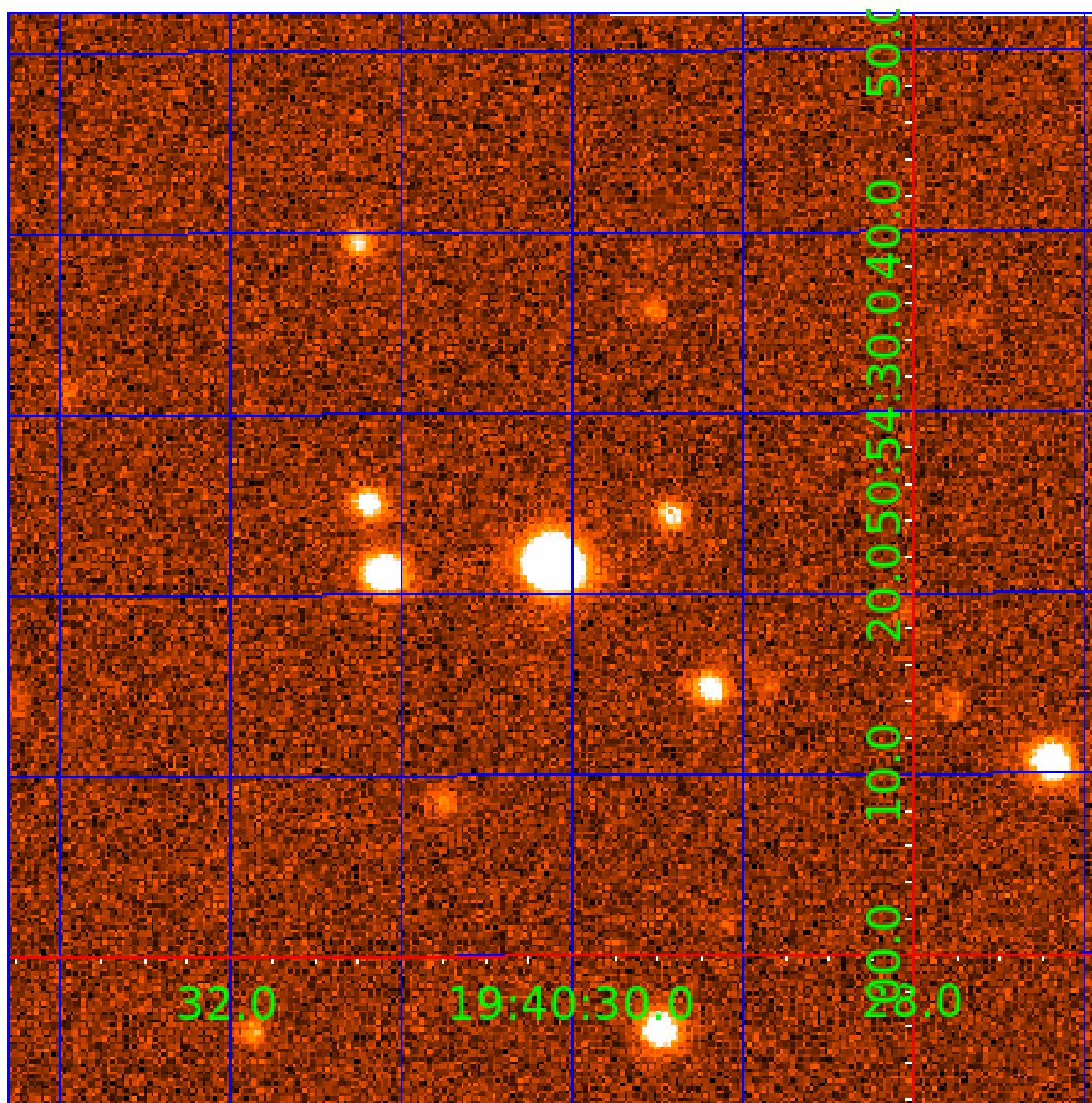


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012265150

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})
012265150-01	OBS	5963.01	1.686003	133.061359	297.3	1.274	34.9	39.5	0.88	5783	1.81	1024.91
012265150-02	OBS	No	1.685984	132.225949	85.4	1.086	10.1	11.0	0.88	5783	0.97	1024.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012265150-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE—CENT_RESOLVED_OFFSET
012265150-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—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 012265150-02

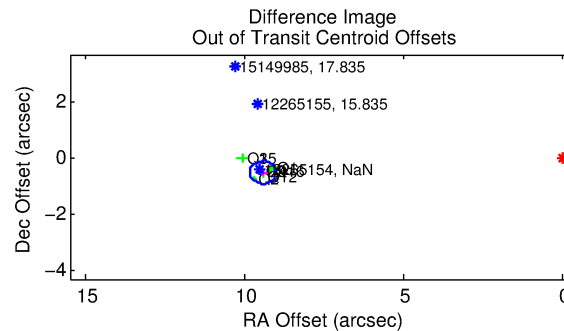
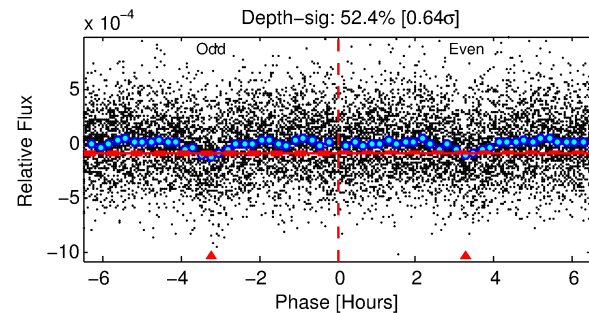
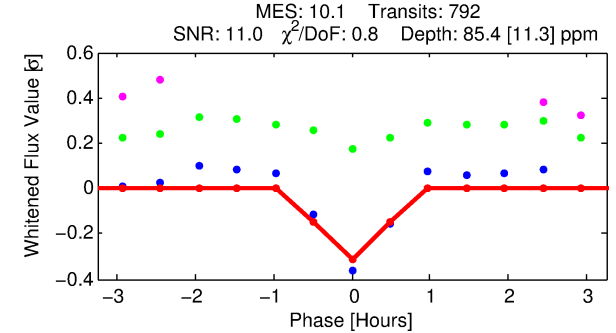
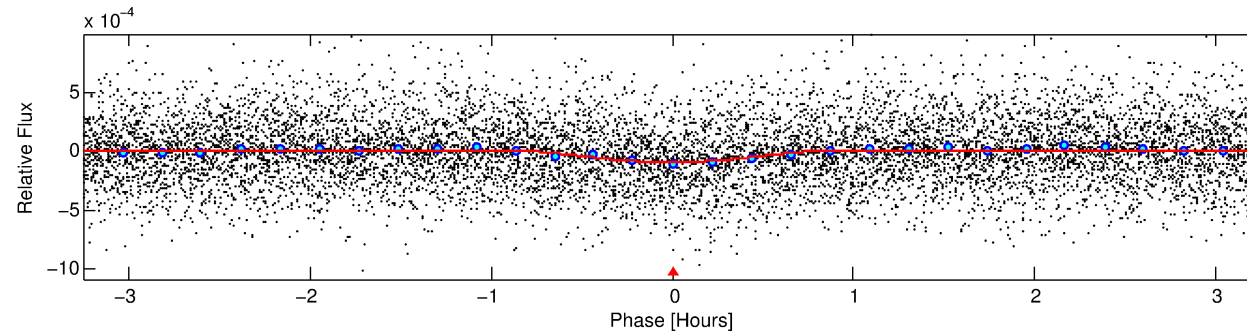
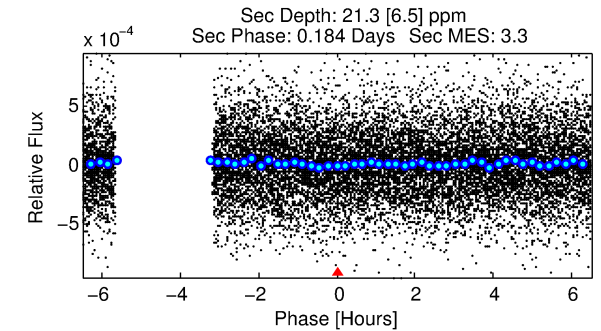
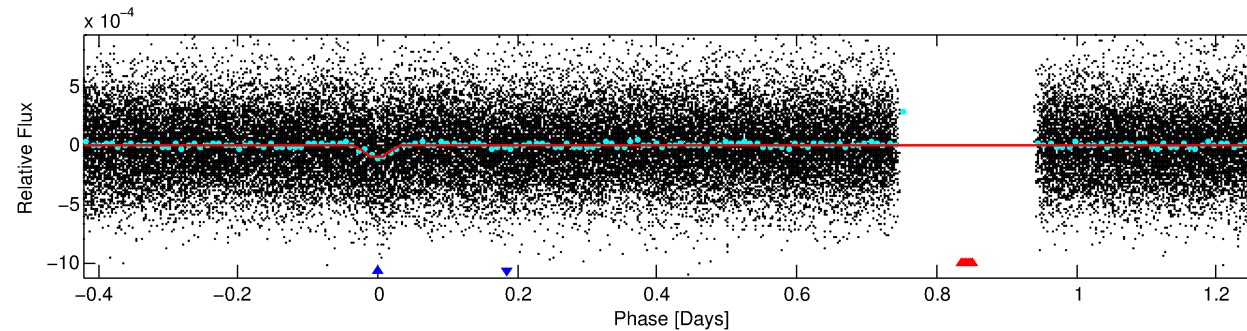
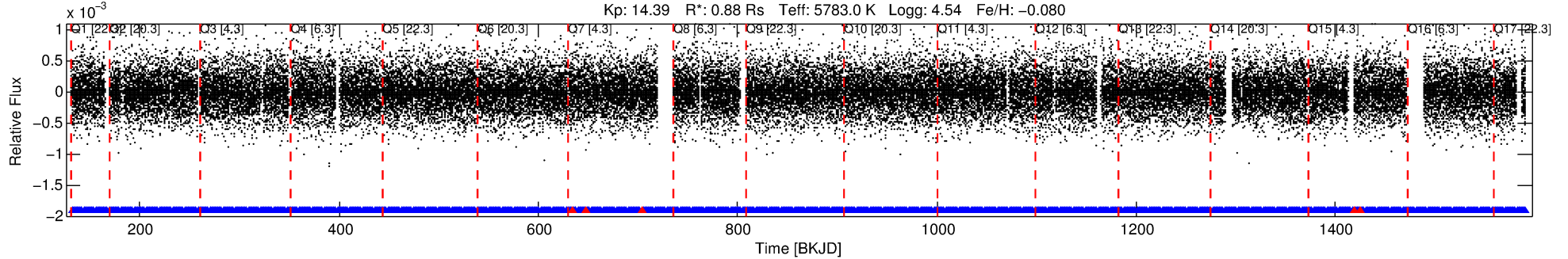
No Significant Match Found

DV One-Page Summary

KIC: 12265150 Candidate: 2 of 2 Period: 1.686 d

KOI: K05963 Corr: No Ephemeris Match

Kp: 14.39 R*: 0.88 Rs Teff: 5783.0 K Logg: 4.54 Fe/H: -0.080



DV Fit Results:

Period = 1.68598 [0.00001] d
Epoch = 132.2259 [0.0018] BKJD
Rp/R* = 0.0101 [0.0061]
a/R* = 5.52 [15.52]
b = 0.90 [0.63]
Seff = 1024.92 [404.88]
Teq = 1443 [142] K
Rp = 0.97 [0.65] Re
a = 0.0275 [0.0070] AU
Ag = 9.37 [12.16] [0.69σ]
Teffp = 3903 [1215] K [2.01σ]

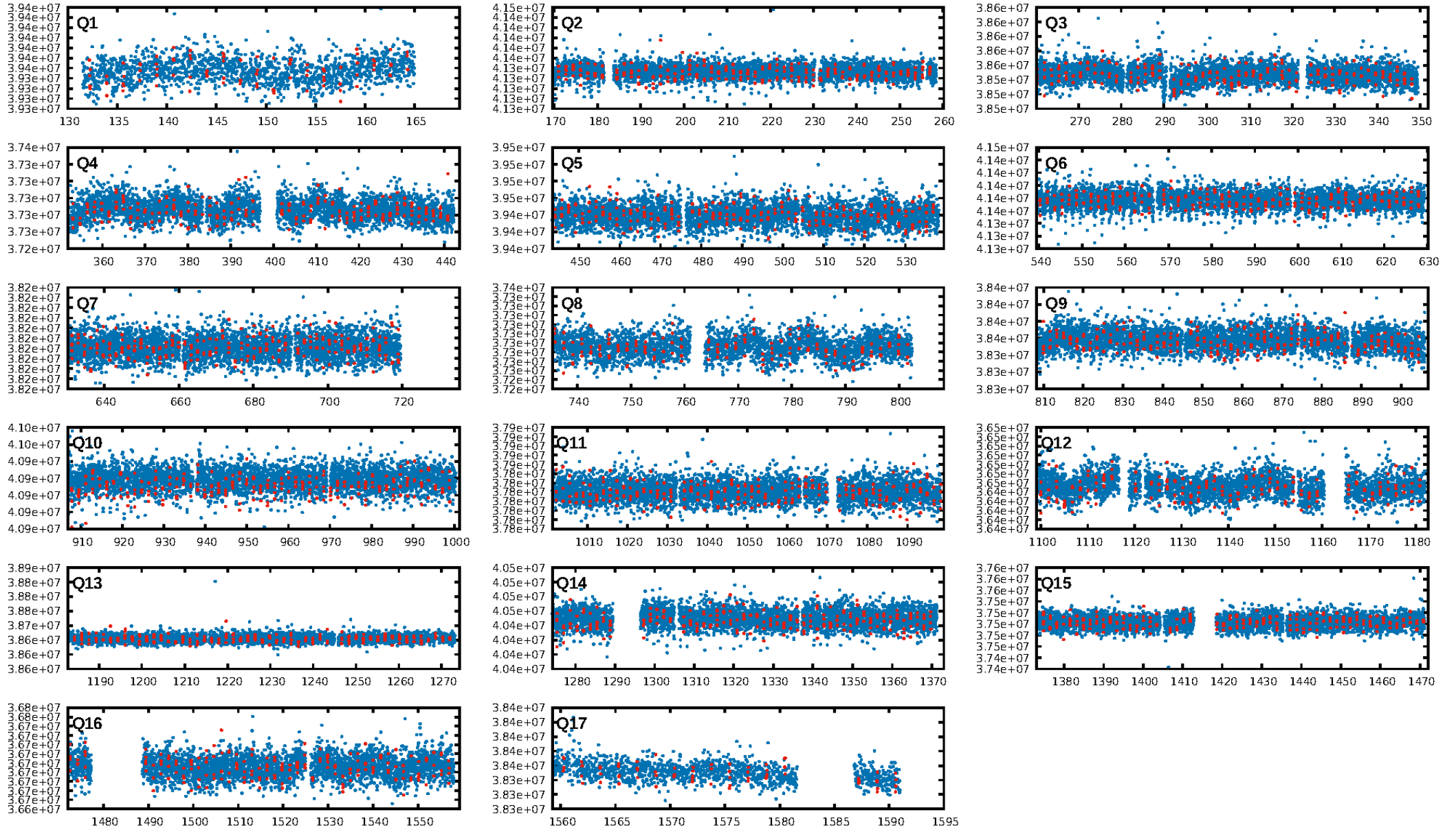
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.24e-24
RollingBand-fgt: 0.99 [751/756]
GhostDiagnostic-chr: -1.376
Centroid-sig: 0.0%
Centroid-so: 18.086 arcsec [10.99σ]
OotOffset-rm: 9.452 arcsec [69.95σ]
KicOffset-rm: 9.559 arcsec [63.49σ]
OotOffset-st: 1/2/4/1 [8]
KicOffset-st: 1/2/4/1 [8]
DiffImageQuality-fgm: 1.00 [8/8]
DiffImageOverlap-fno: 1.00 [17/17]

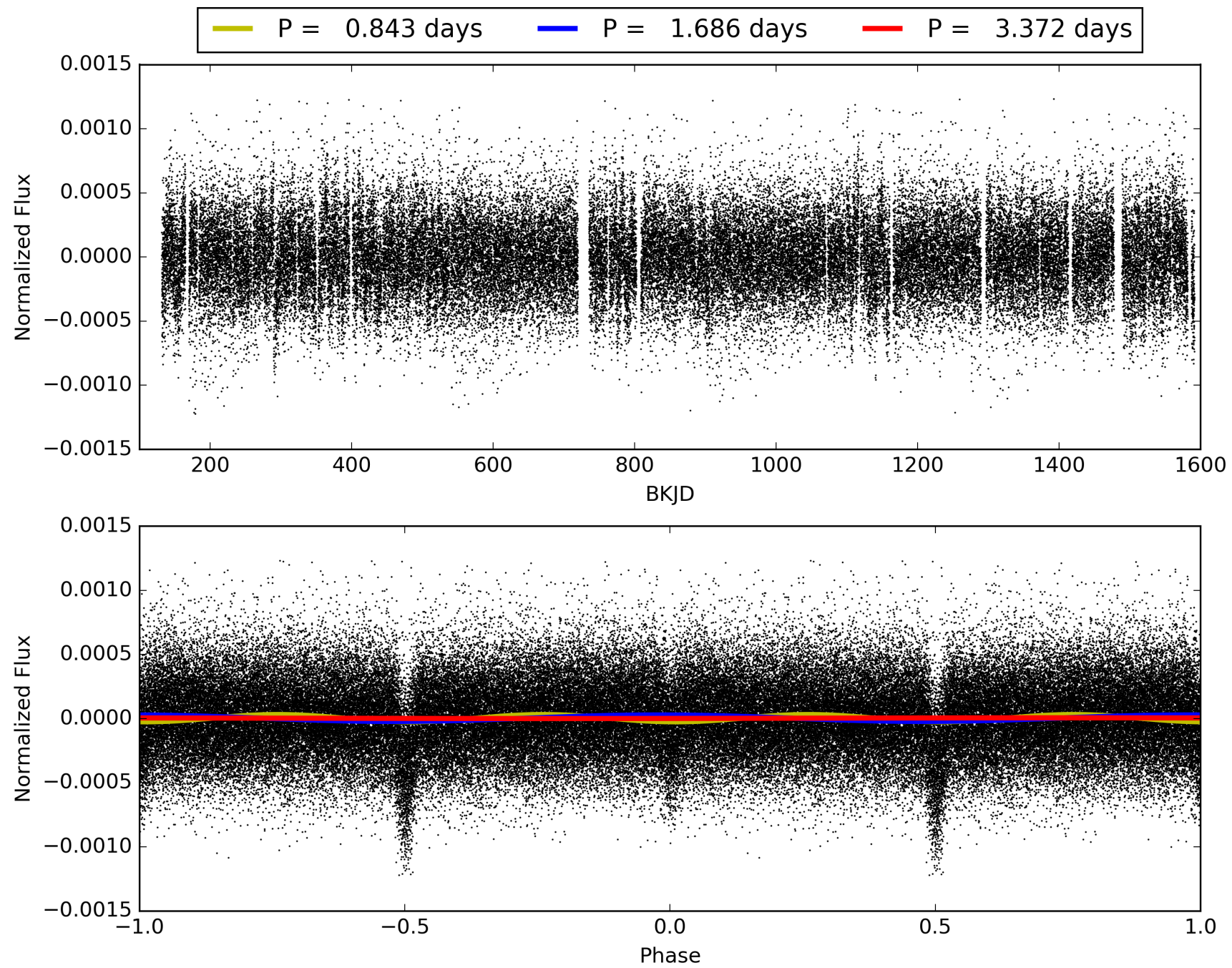
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 06:37:32 Z

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

TCE 012265150-02, PDC Light Curves

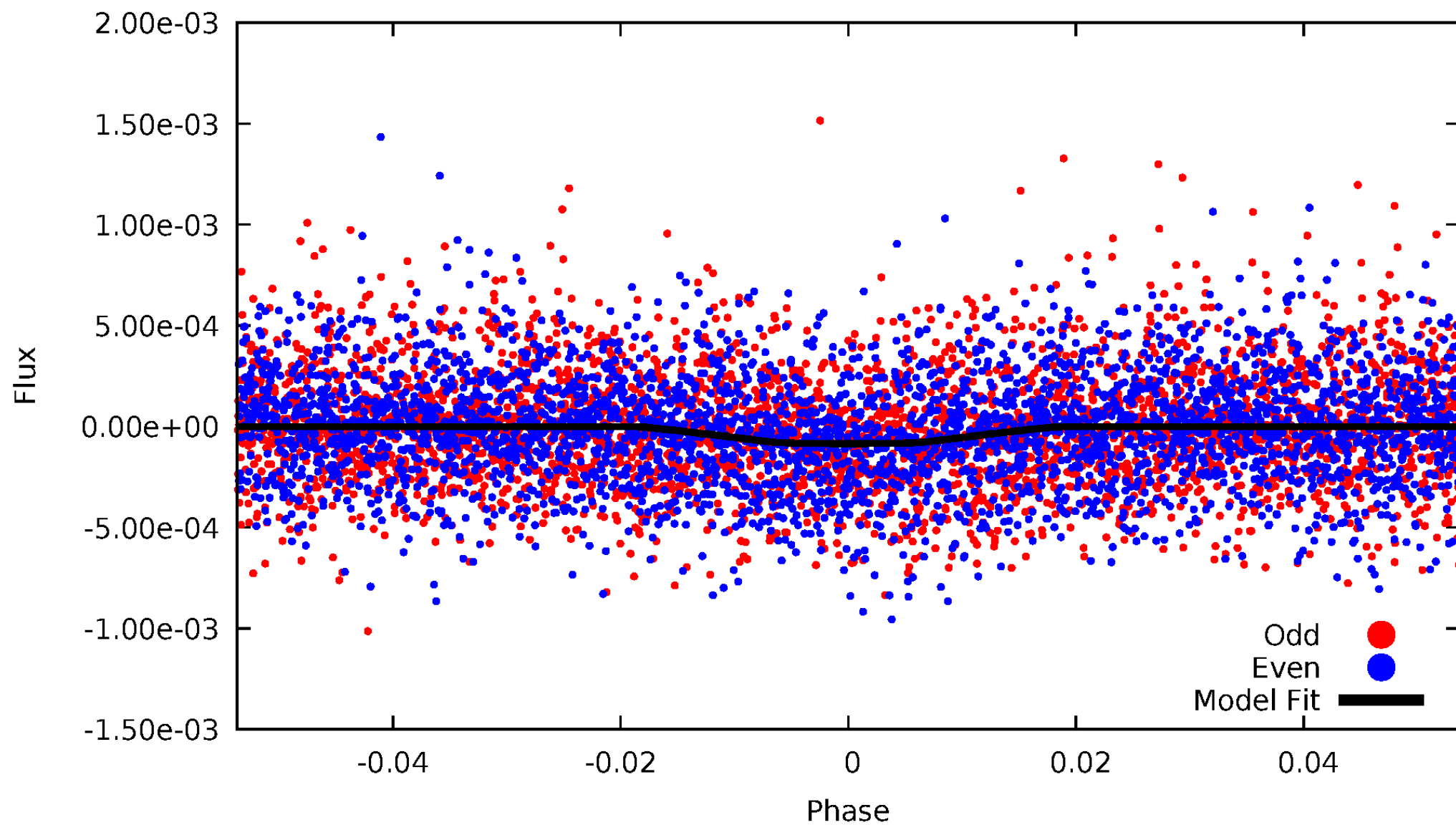


TCE 012265150-02



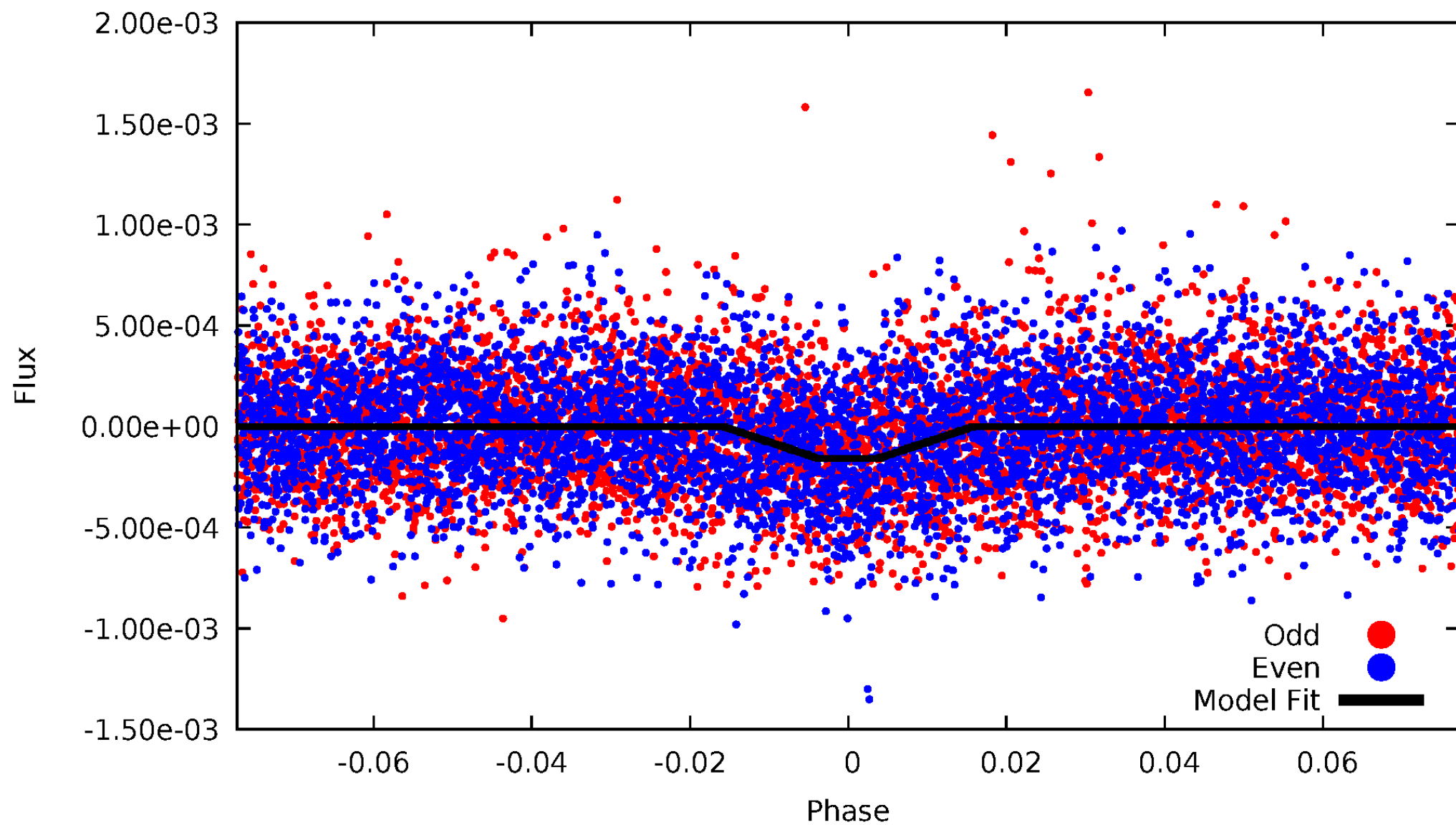
DV Odd/Even

TCE 012265150-02



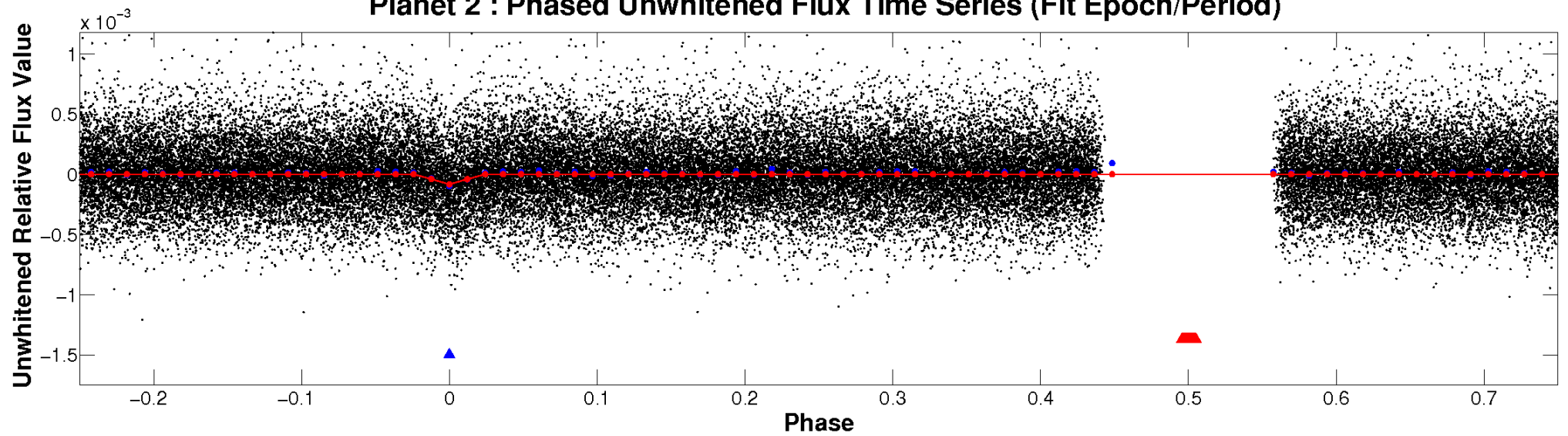
ALT Odd/Even

TCE 012265150-02

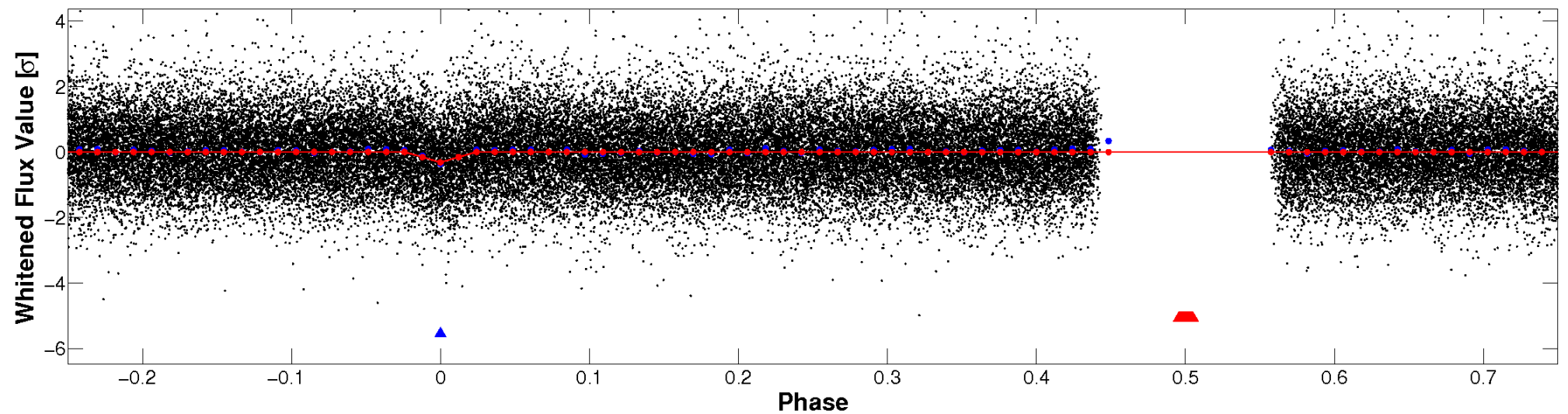


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

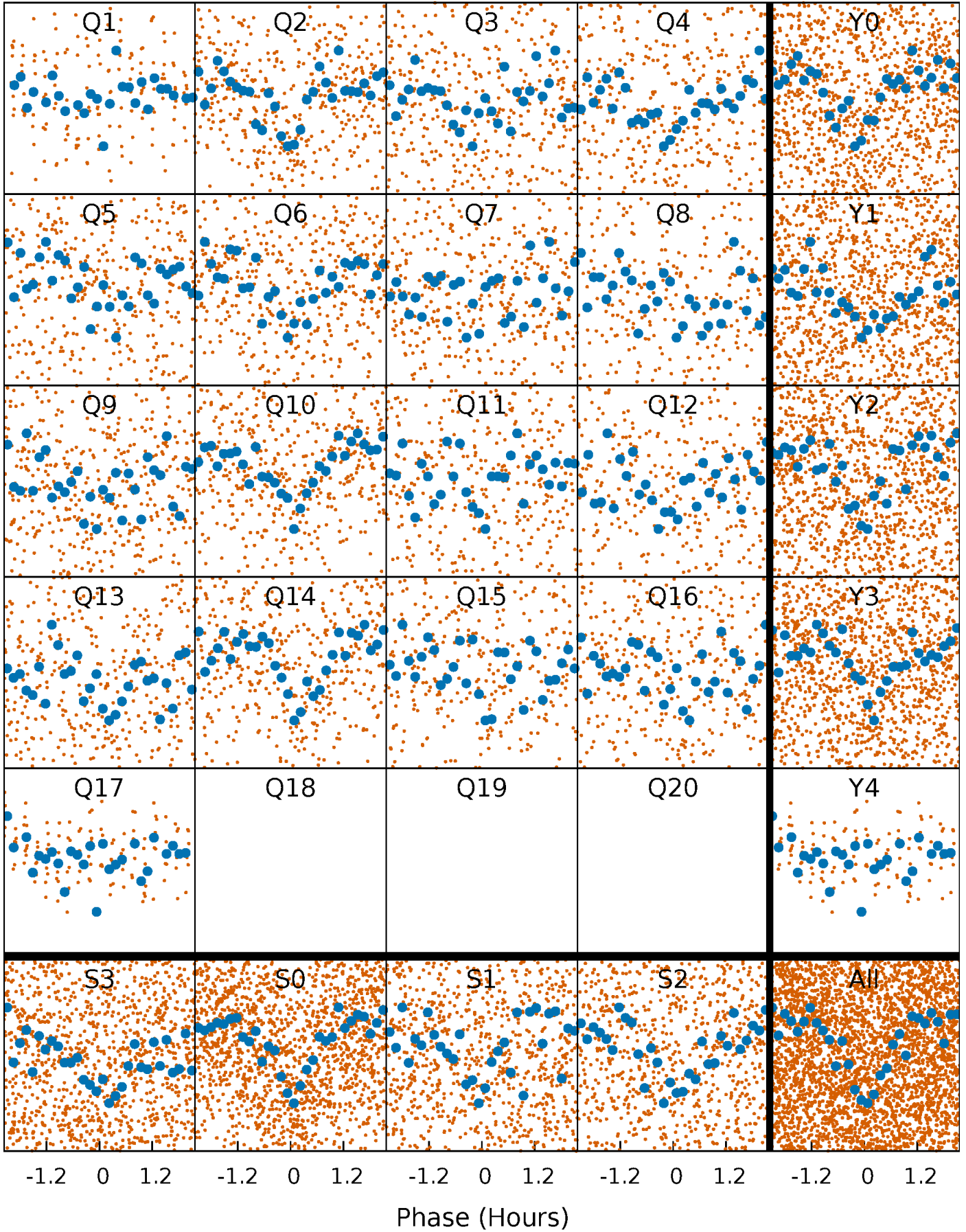


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



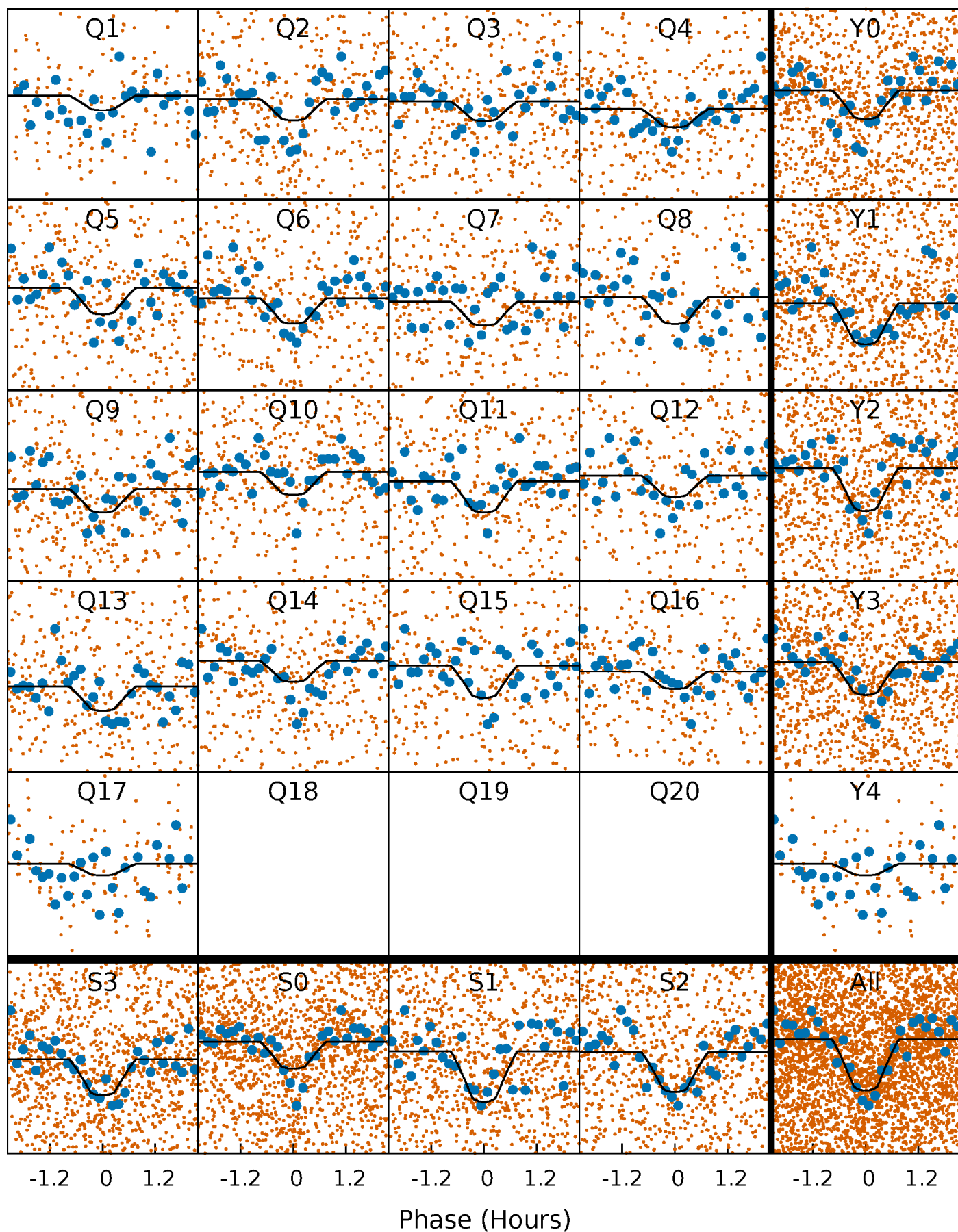
PDC Quarter-Phased Transit Curves

TCE 012265150-02 P= 1.685984 Days $T_0=132.225949$ (BKJD)



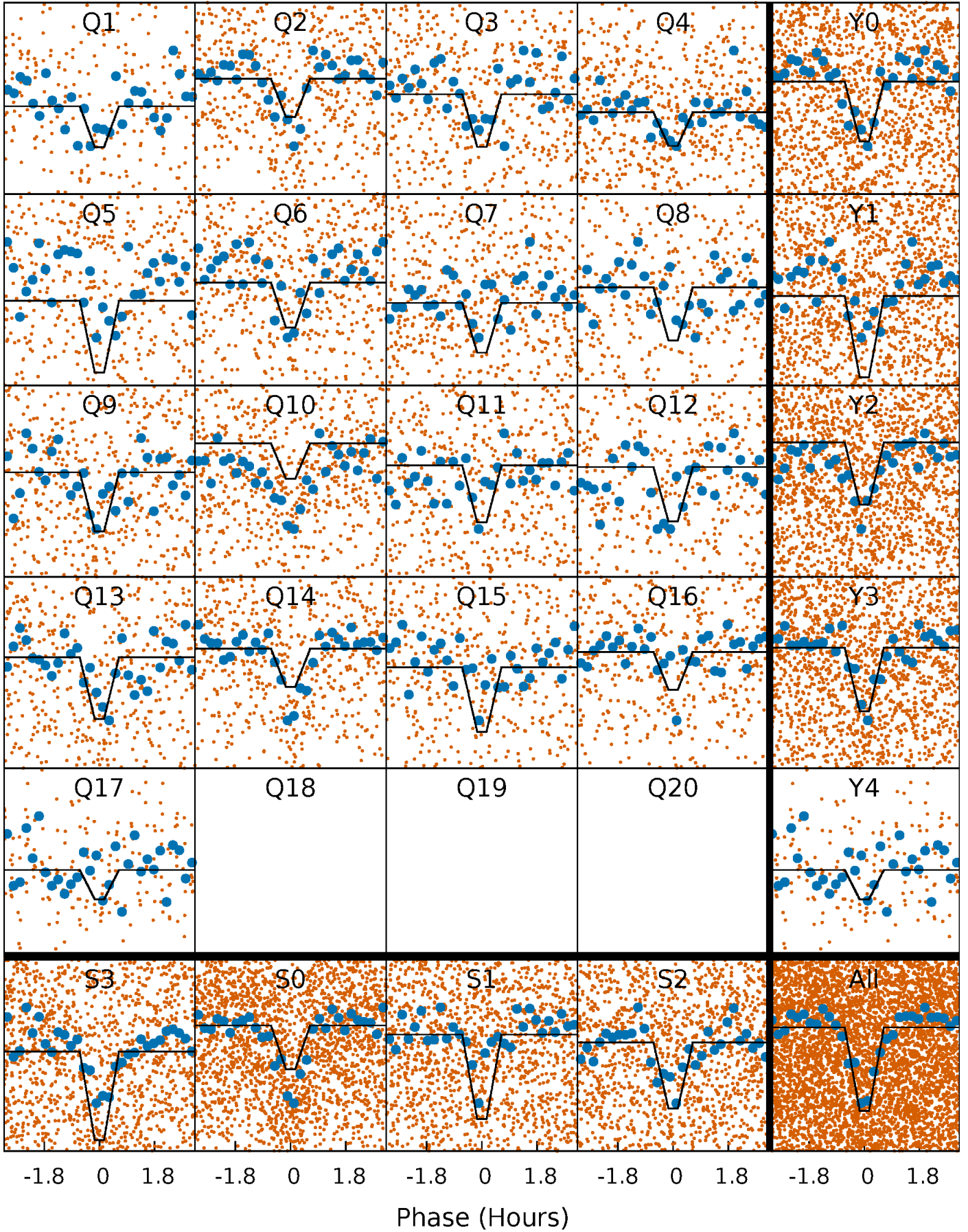
DV Quarter-Phased Transit Curves

TCE 012265150-02 P= 1.685984 Days $T_0=132.225949$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

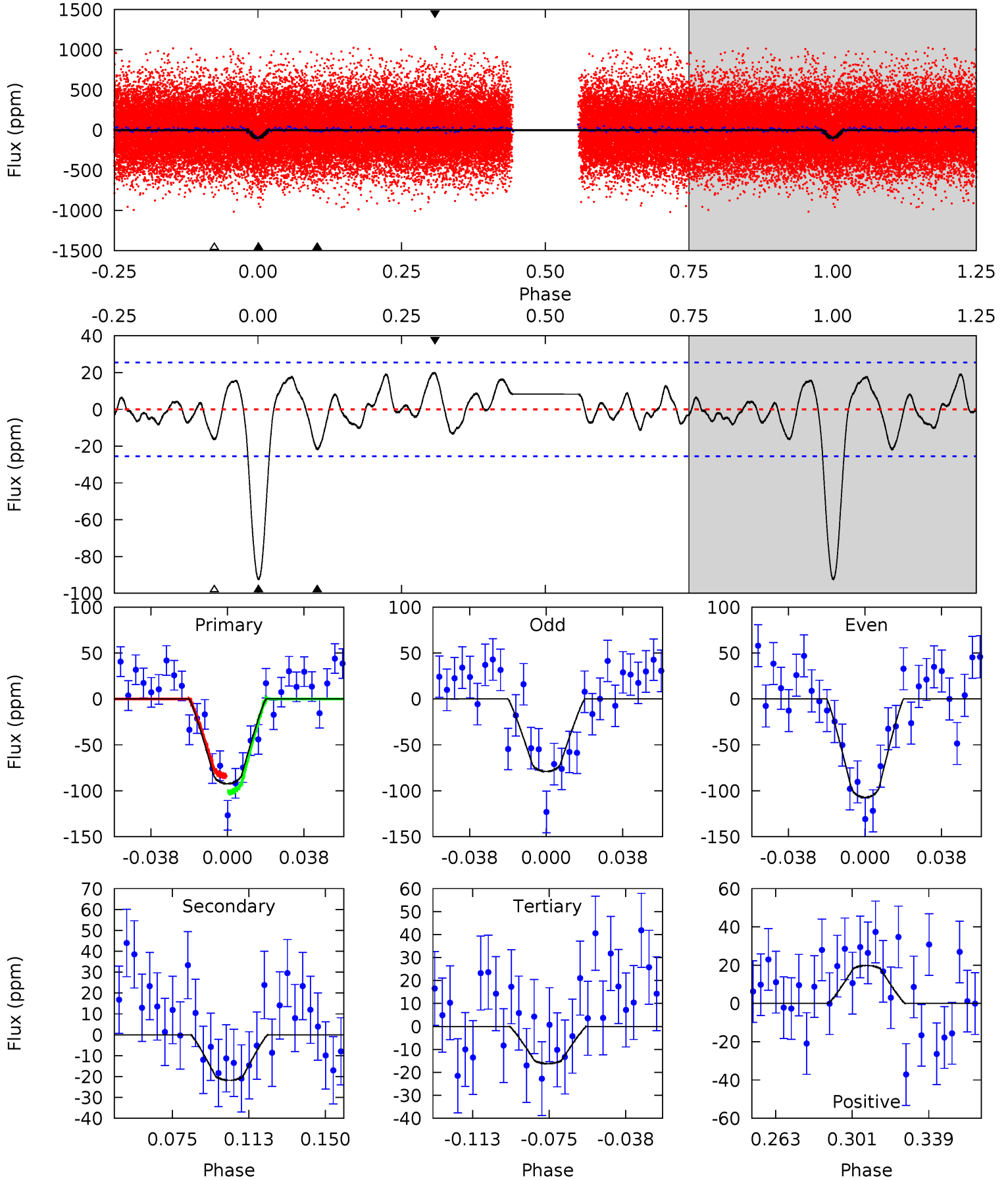
TCE 012265150-02 P= 1.686001 Days $T_0=132.220112$ (BKJD)



DV Model-Shift Uniqueness Test

012265150-02, P = 1.685984 Days, E = 130.539965 Days

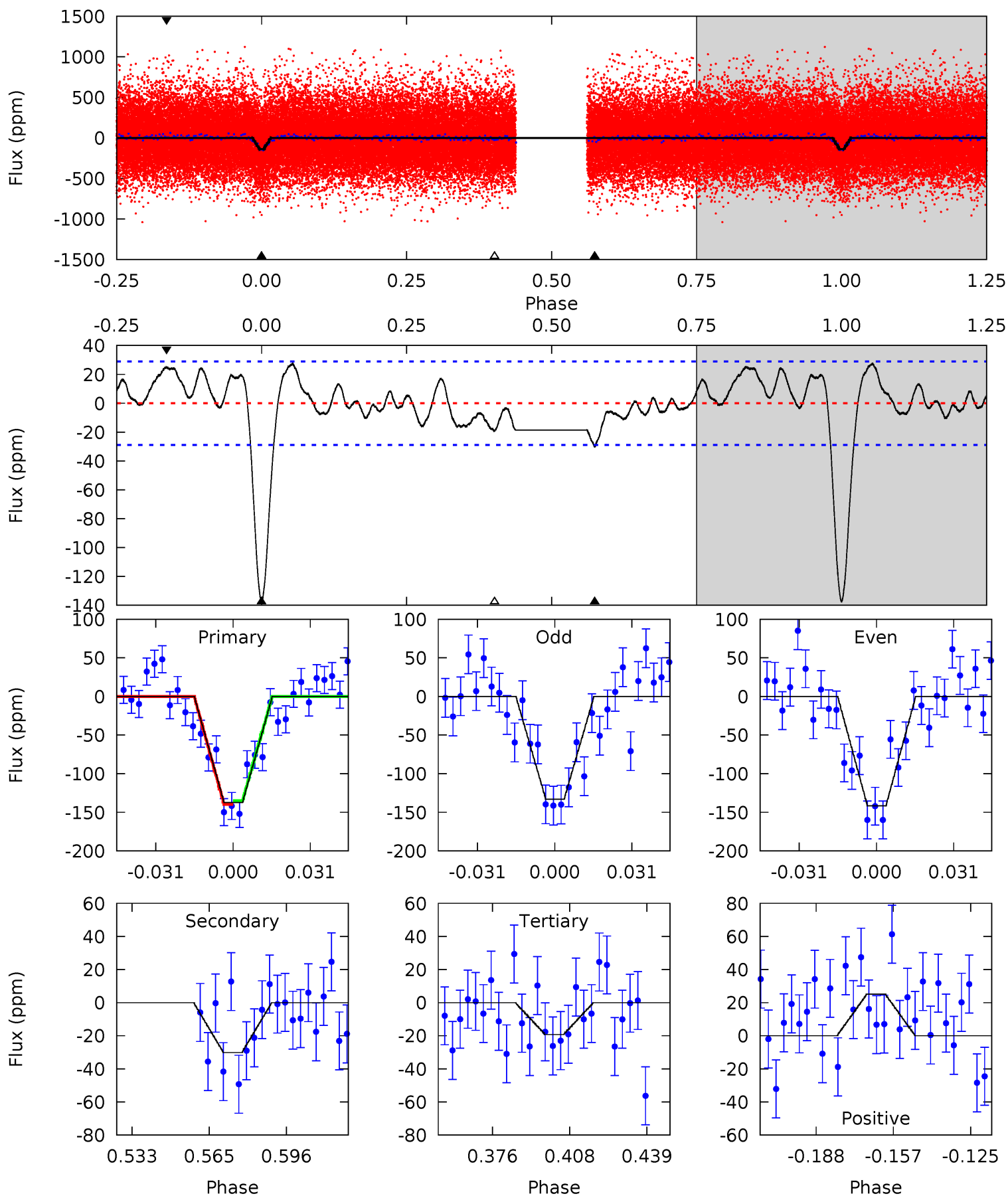
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	4.08	3.03	3.71	4.77	2.08	1.50	14.2	13.6	1.05	0.37	2.64	0.92	0.18	1.68



Alt Model-Shift Uniqueness Test

012265150-02, P = 1.686001 Days, E = 130.534111 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	5.01	3.20	4.17	4.80	2.15	1.87	19.6	18.6	1.81	0.83	0.74	1.03	0.17	0.41



Stellar Parameters For KIC 012265150

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5783^{+144}_{-158}	$4.539^{+0.038}_{-0.212}$	$-0.080^{+0.300}_{-0.300}$	$0.880^{+0.258}_{-0.086}$	$0.977^{+0.102}_{-0.114}$	$2.021^{+0.417}_{-1.075}$
	+2%/-3%	+1%/-5%	+375%/-375%	+29%/-10%	+10%/-12%	+21%/-53%
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 012265150-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-22 ± 5	$1.06^{+0.63}_{-0.56}$	2069^{+159}_{-94}	4112^{+1565}_{-670}	$7.806^{+28.079}_{-4.837}$
Alt.	-30 ± 6	$1.32^{+0.64}_{-0.64}$	2078^{+148}_{-101}	4052^{+1202}_{-540}	$7.092^{+19.833}_{-3.853}$

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 $A_{obs} \gg 1.0$

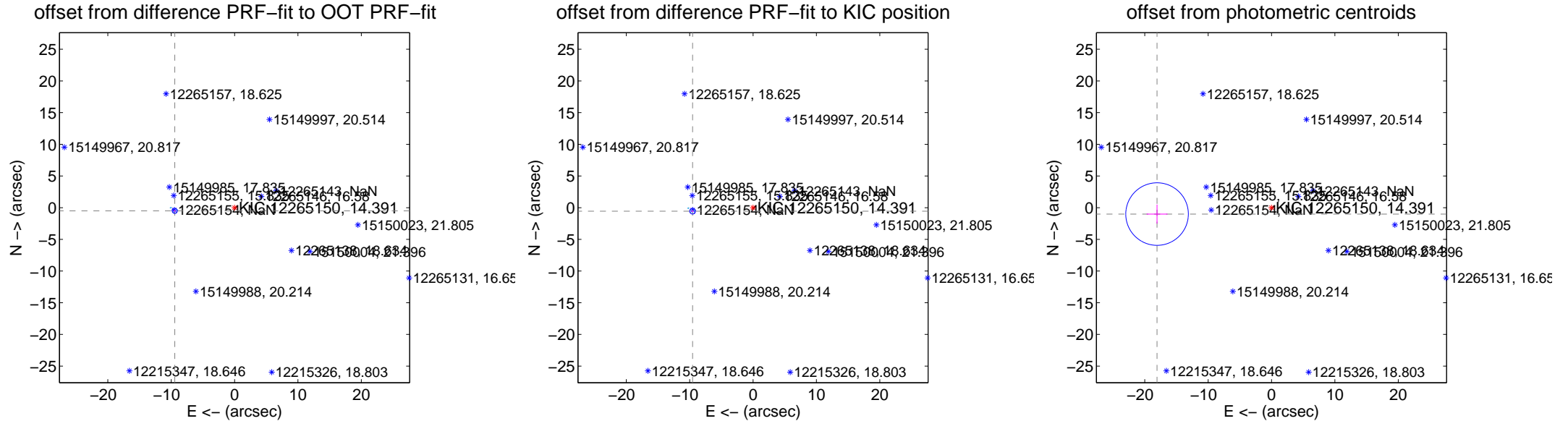
DV Centroid Data

Supplemental centroid analysis for 012265150-02. Kepler magnitude: 14.39. Transit SNR 10.98

There are 8 quarters with good PRF difference image offsets

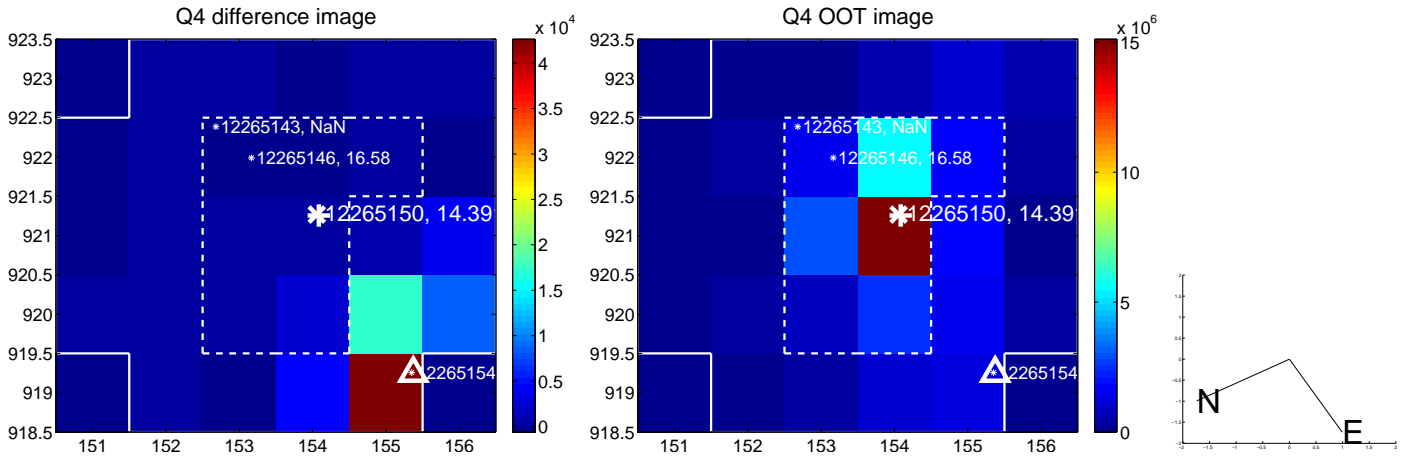
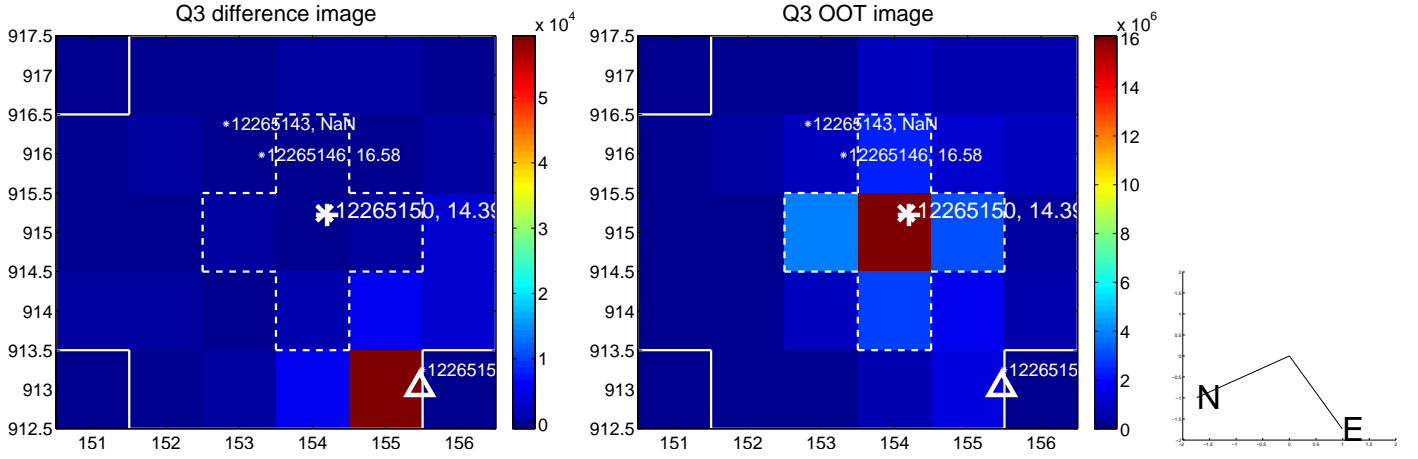
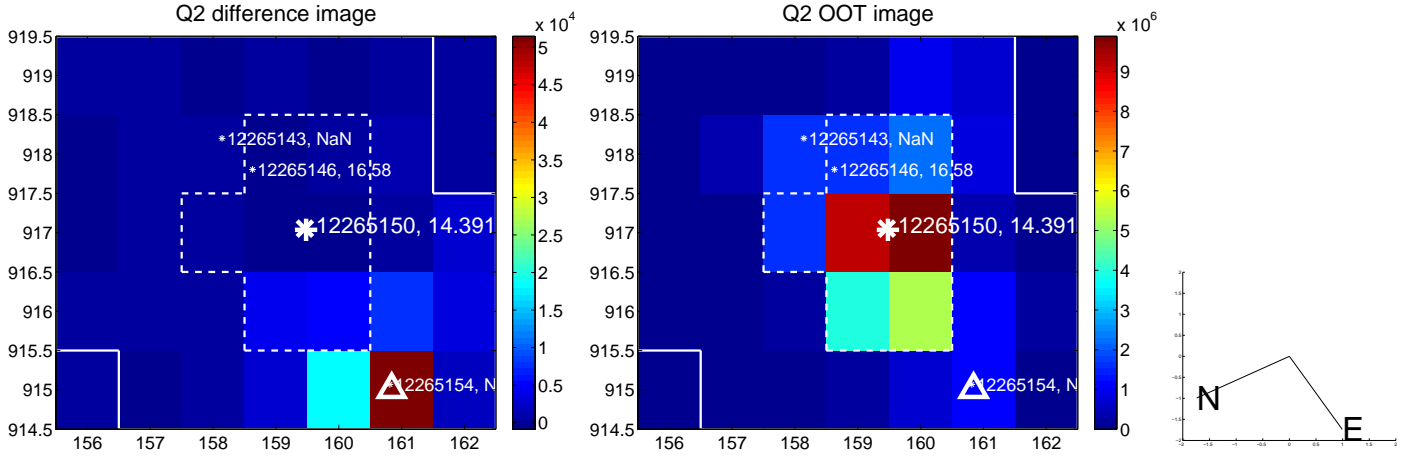
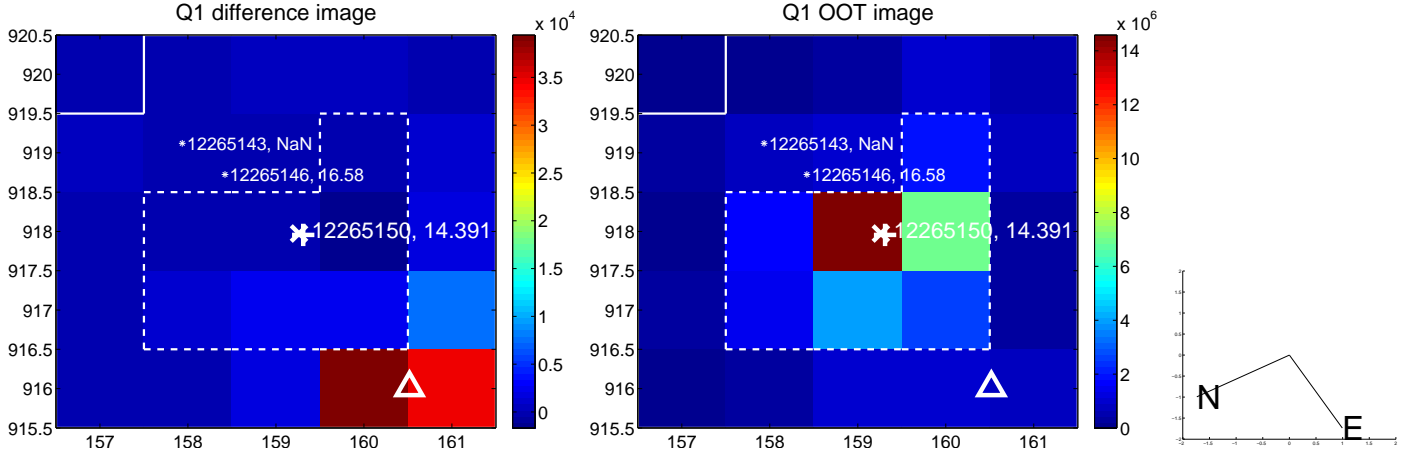
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.452 \pm 0.135	69.95	9.439 \pm 0.137	-0.501 \pm 0.100
PRF-fit source offset from KIC position	9.559 \pm 0.151	63.49	9.543 \pm 0.154	-0.552 \pm 0.112
photometric centroid source offset	18.09 \pm 1.65	10.99	18.06 \pm 1.65	-1.01 \pm 1.50

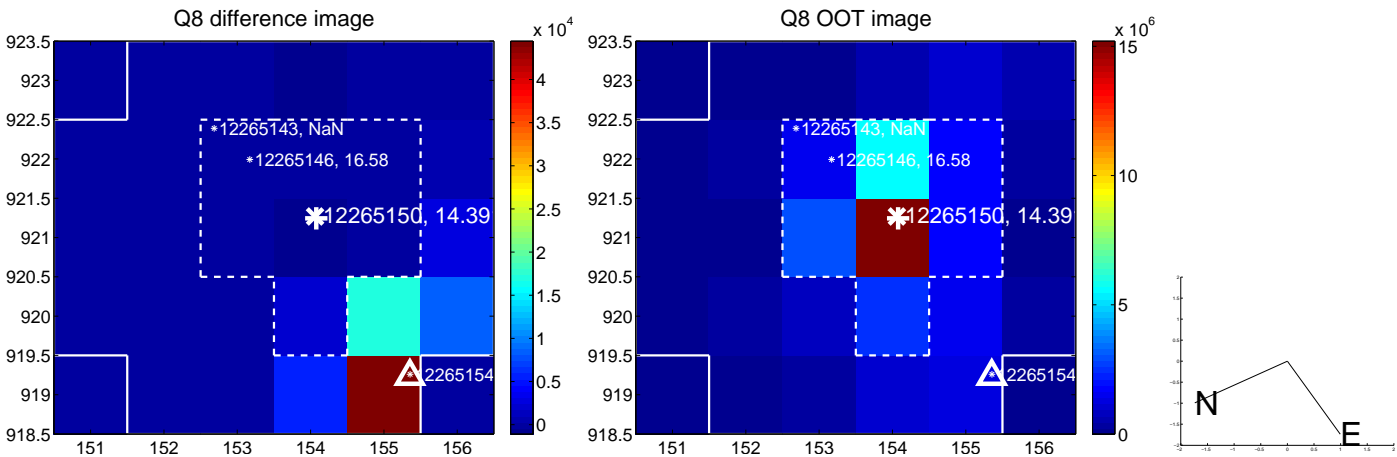
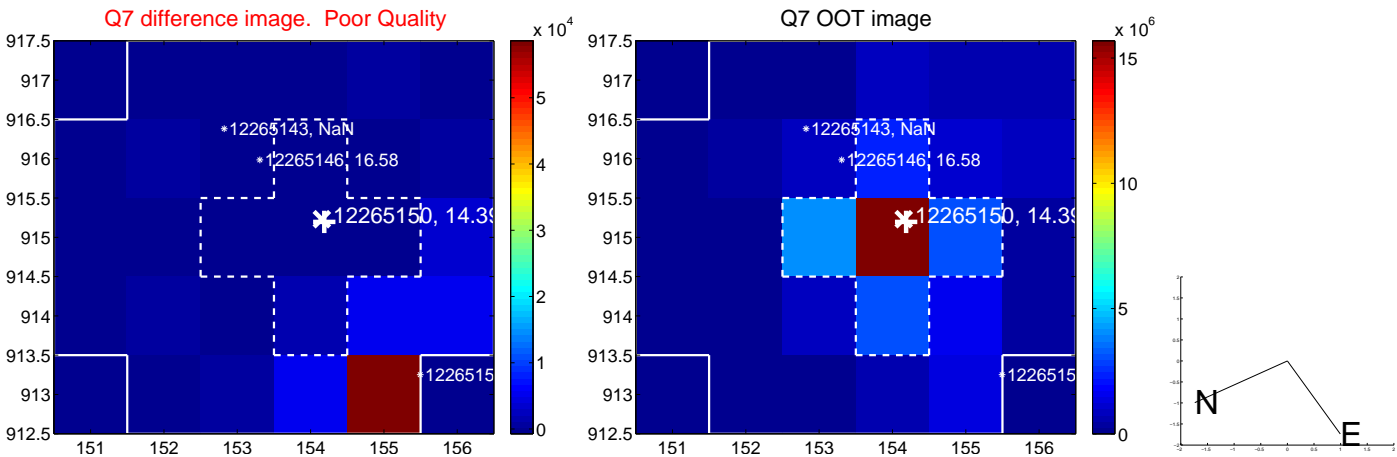
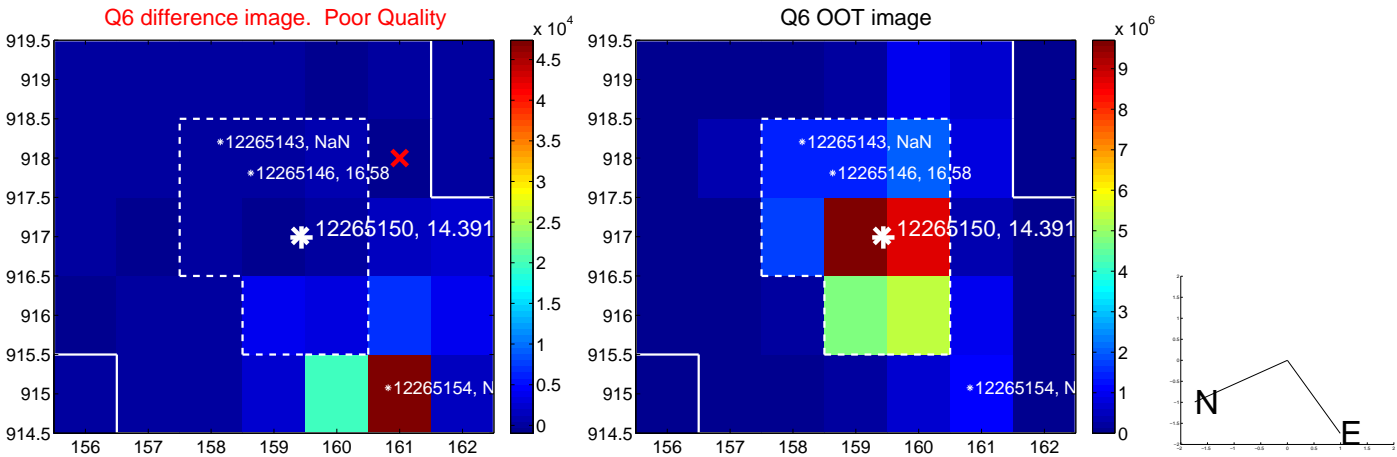
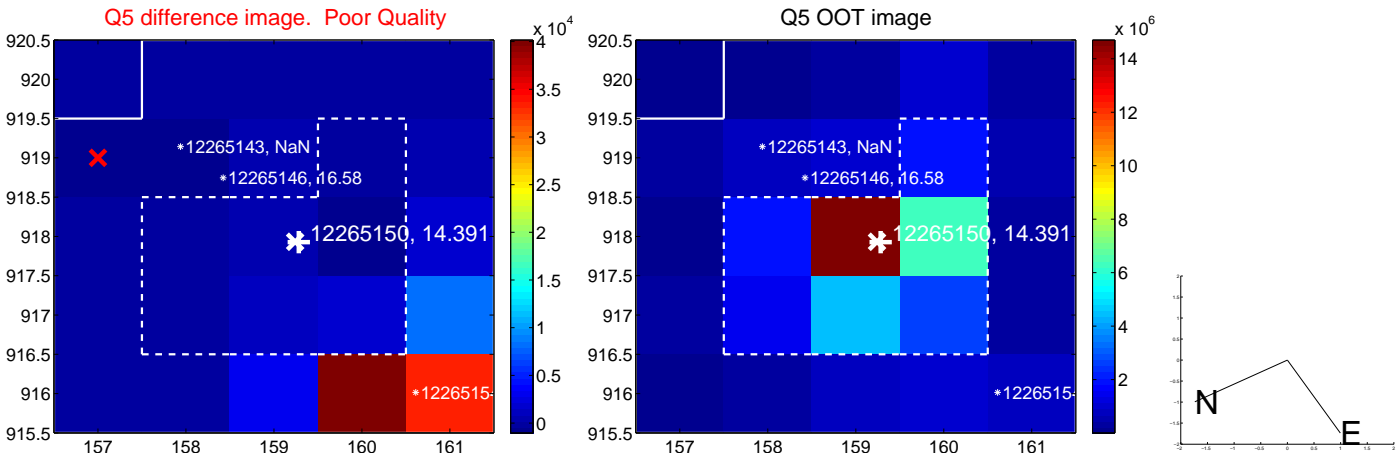


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

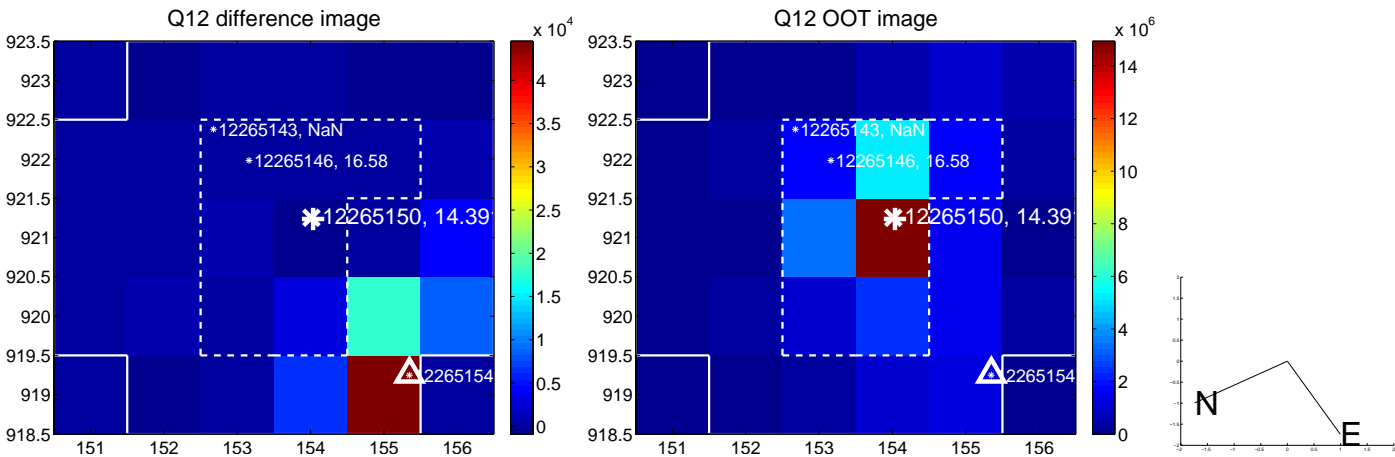
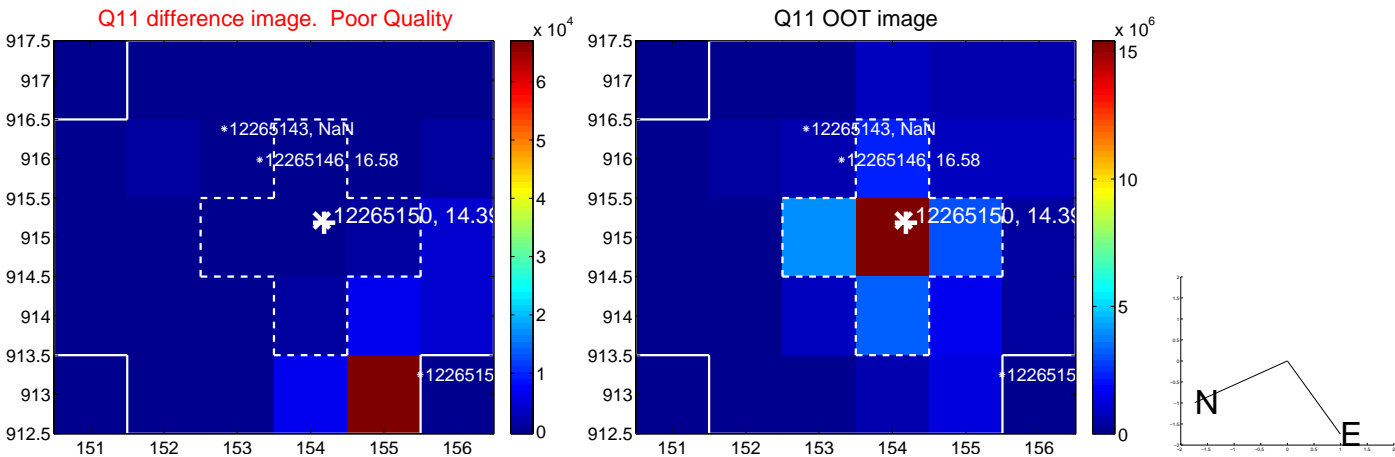
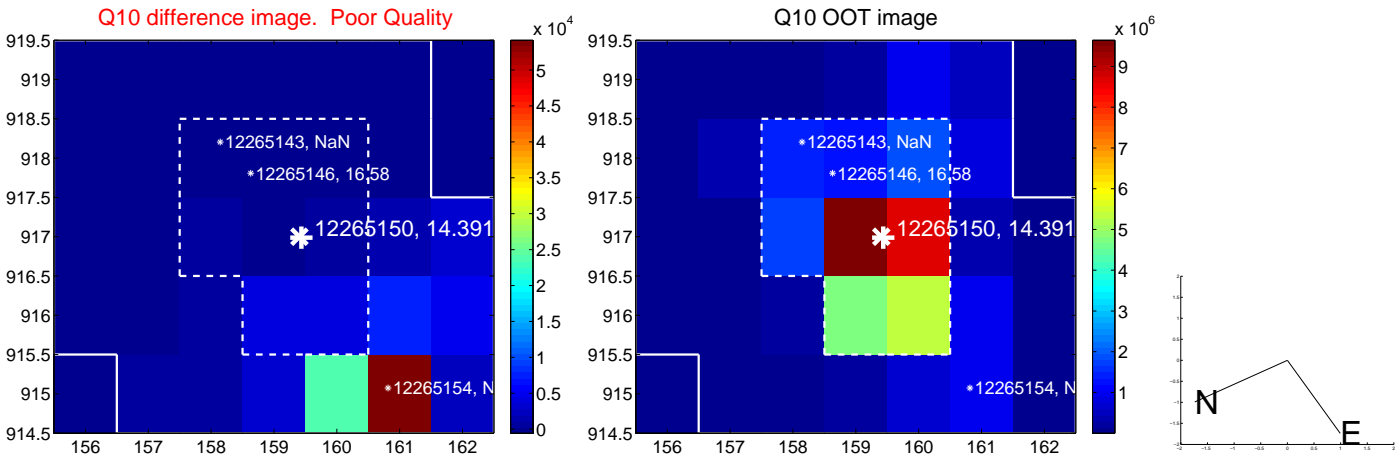
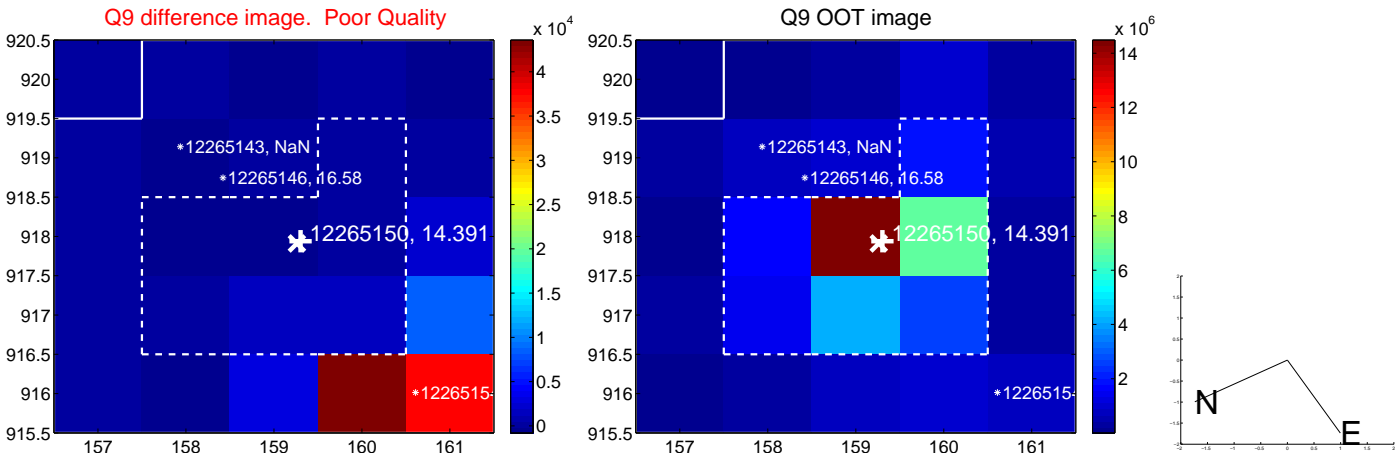
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



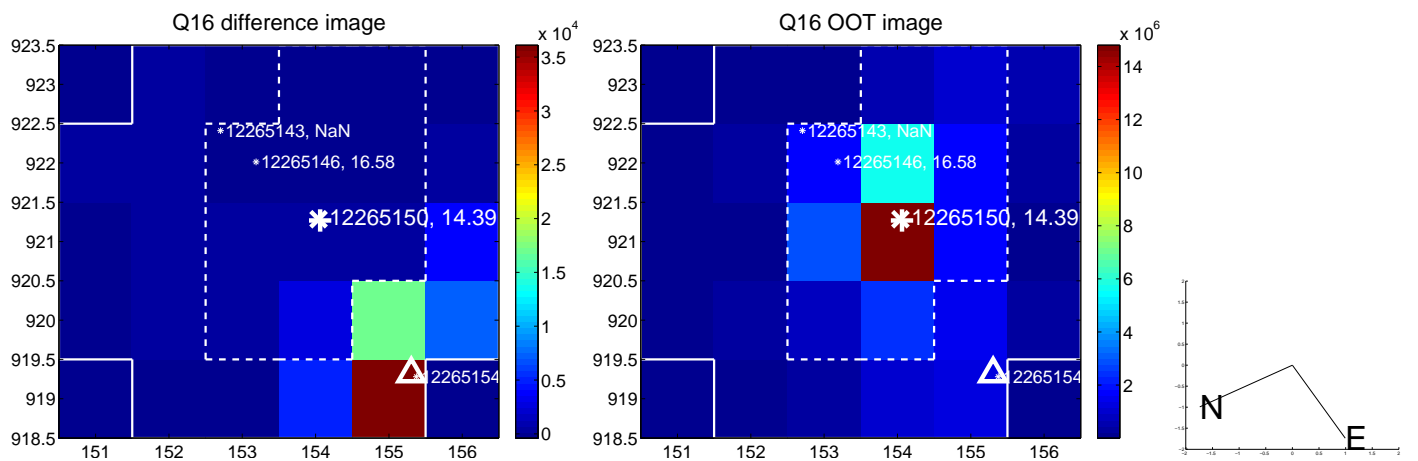
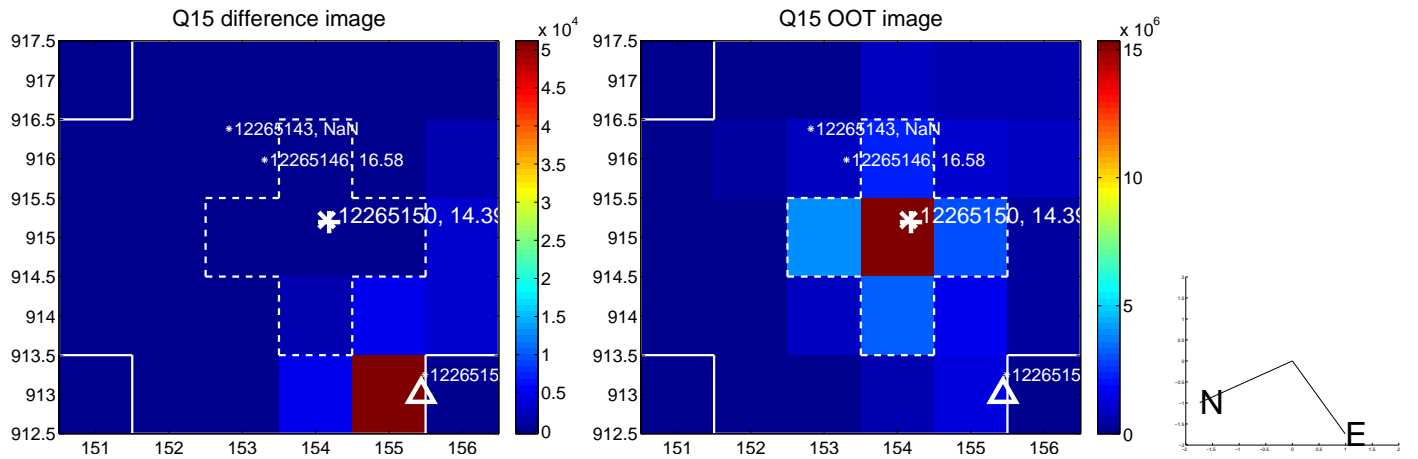
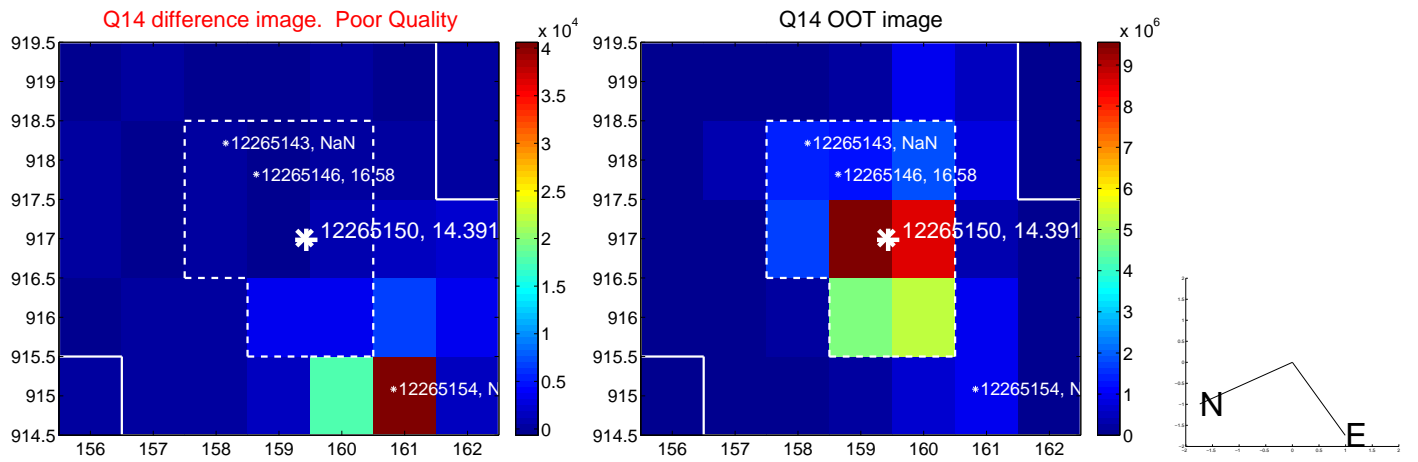
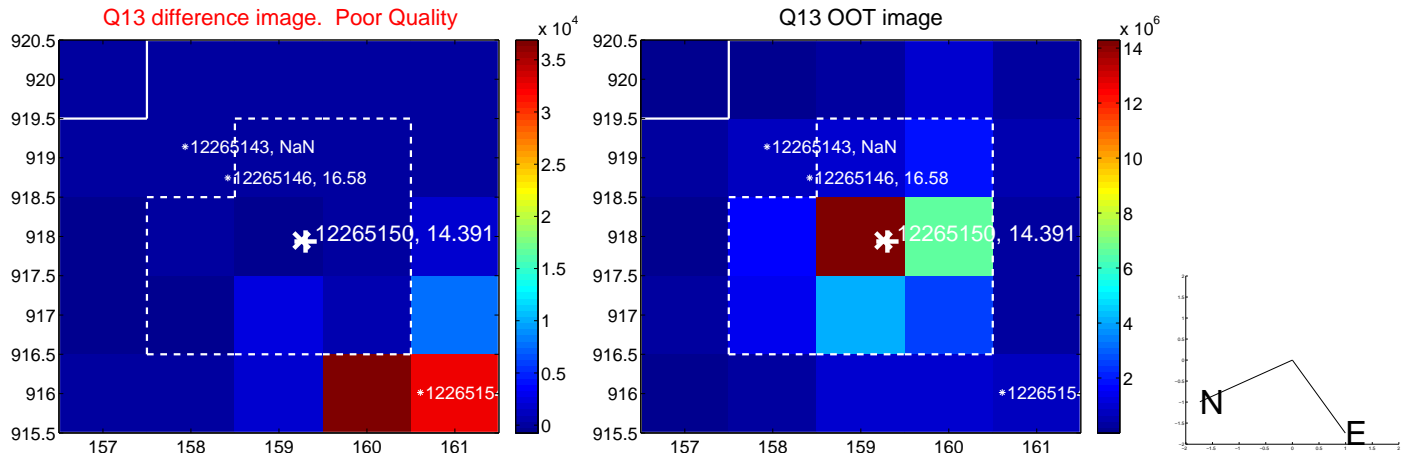
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



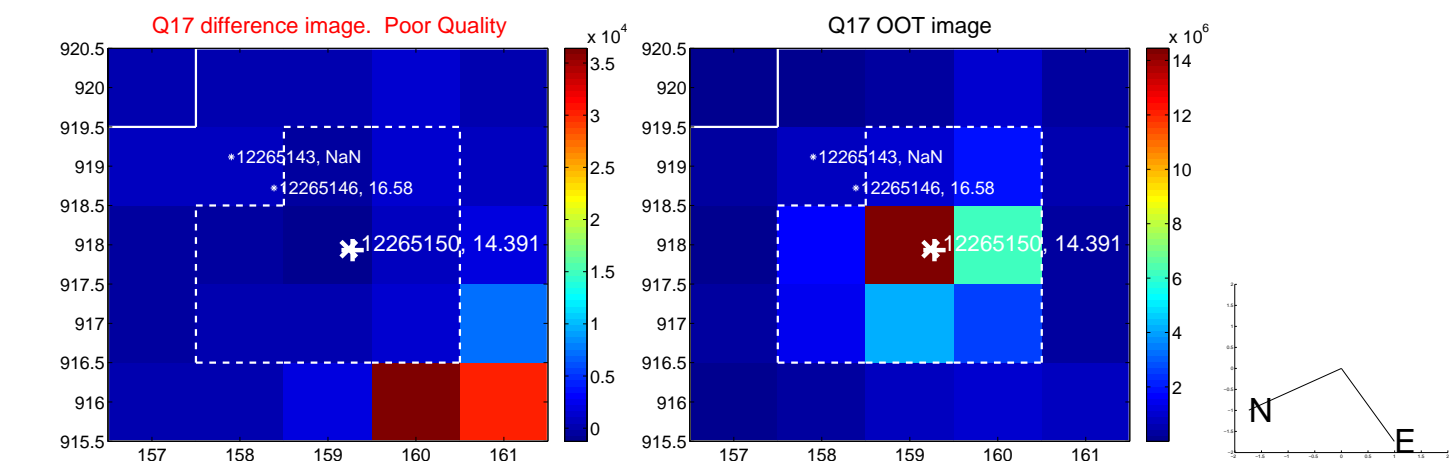
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



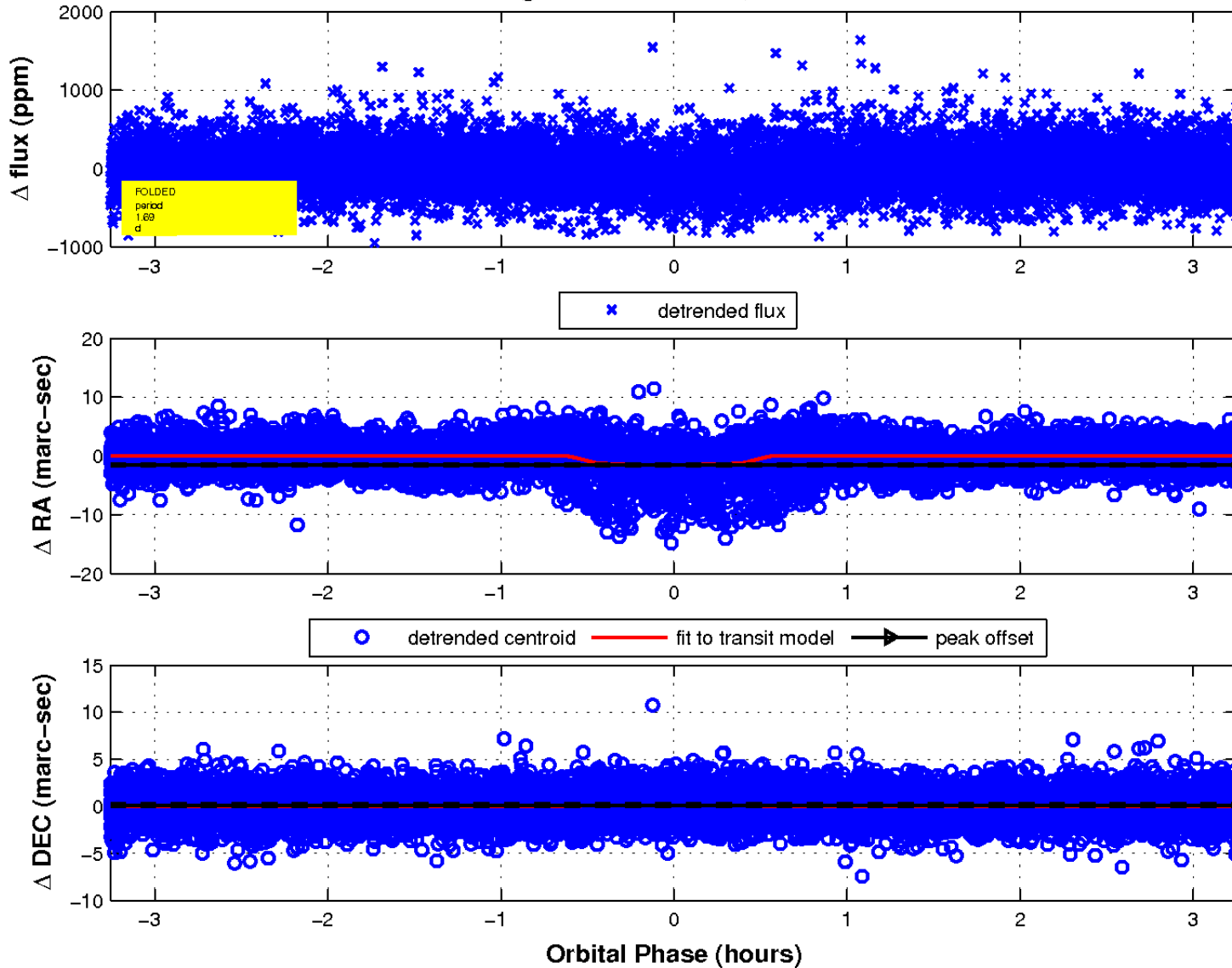
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

