

KIC 011391636

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})
011391636-01	OBS	No	0.542537	131.926162	7.0	2.936	10.1	3.9	0.82	4922	0.26	2457.47
011391636-02	OBS	No	80.685317	156.491362	315.5	2.659	10.3	7.8	0.82	4922	1.75	3.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011391636-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET
011391636-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

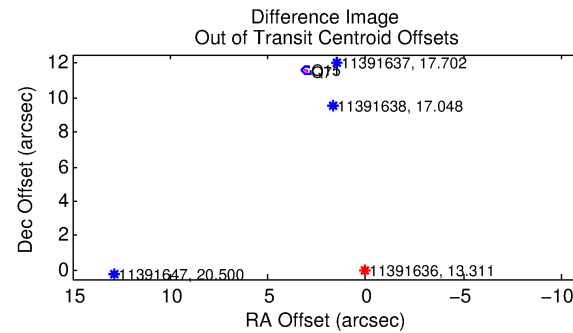
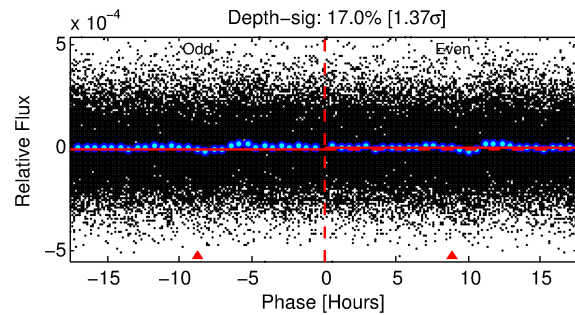
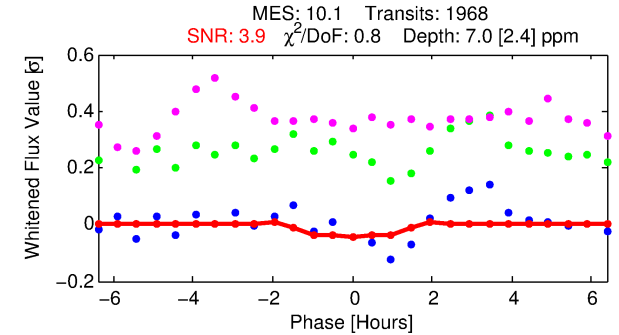
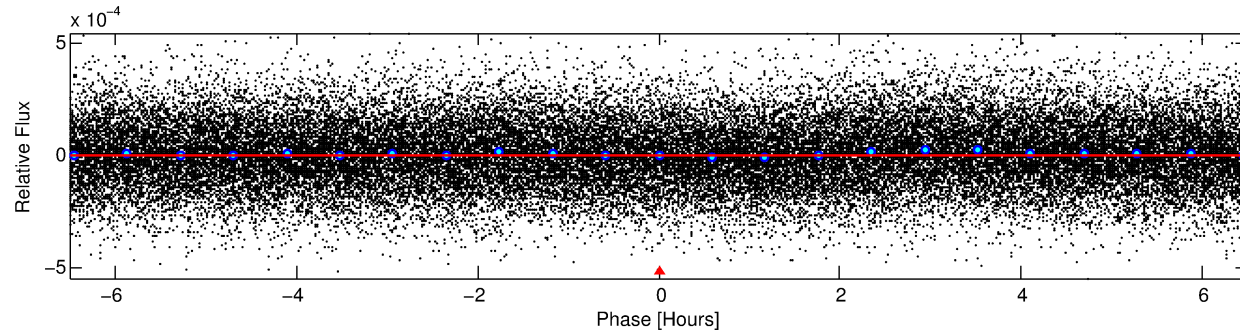
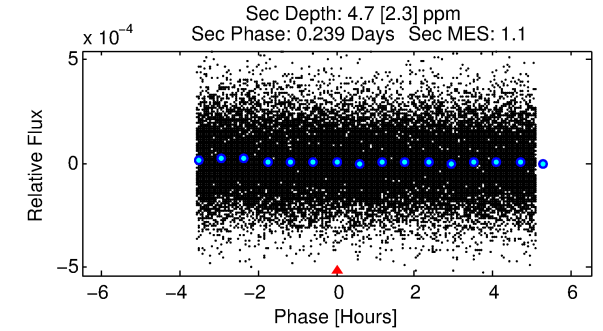
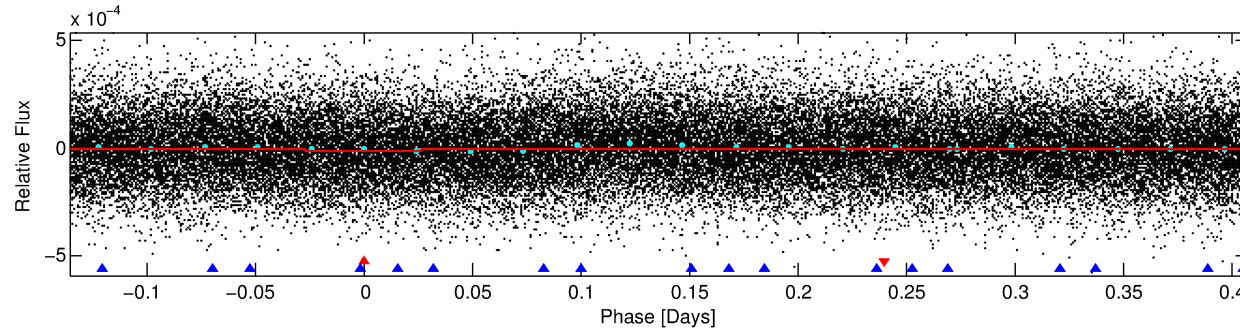
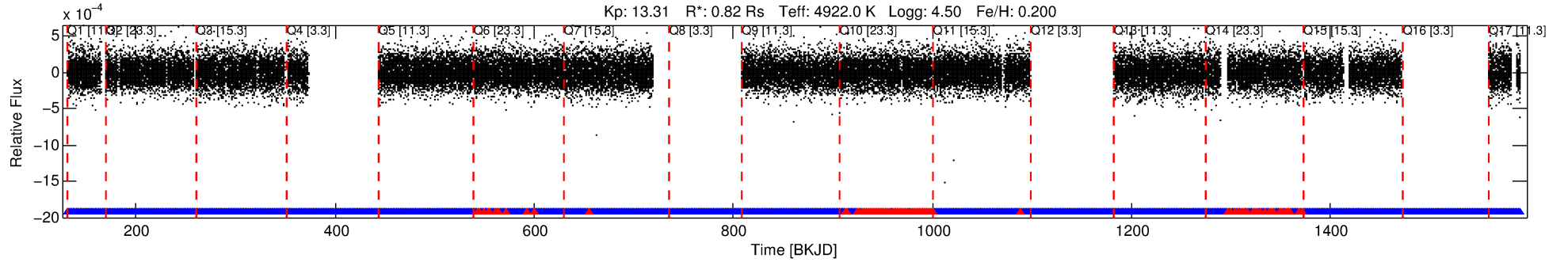
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011391636-01

No Significant Match Found

DV One-Page Summary

KIC: 11391636 Candidate: 1 of 2 Period: 0.543 d



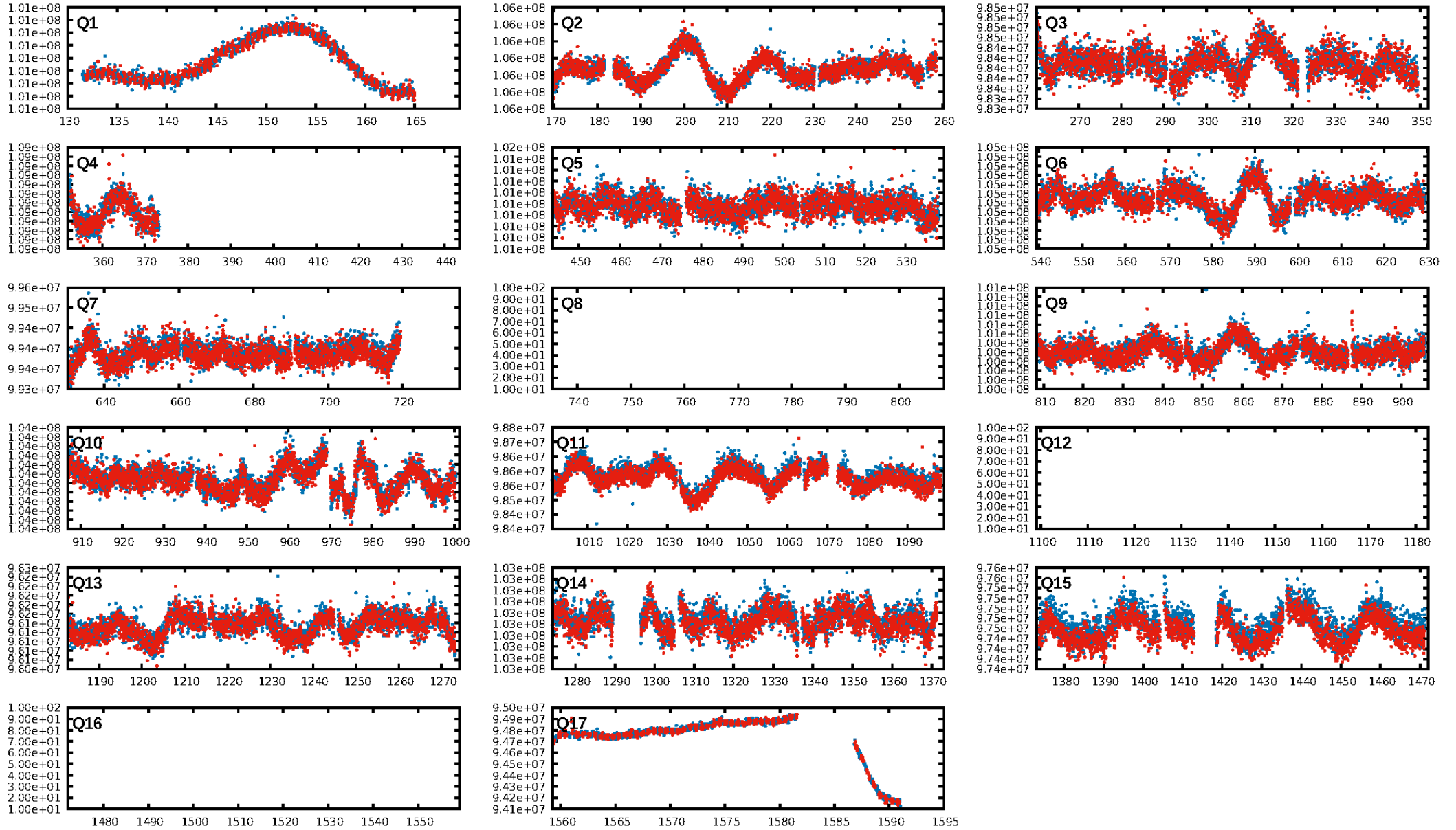
DV Fit Results:

Period = 0.54254 [0.00003] d
Epoch = 131.9262 [0.0087] BKJD
Rp/R* = 0.0028 [0.0023]
a/R* = 1.17 [0.96]
b = 0.86 [0.96]
Seff = 2457.47 [2494.95]
Teq = 1795 [456] K
Rp = 0.26 [0.21] Re
a = 0.0120 [0.0061] AU
Ag = 5.69 [11.20] [0.42σ]
Teff = 4286 [1819] K [1.33σ]

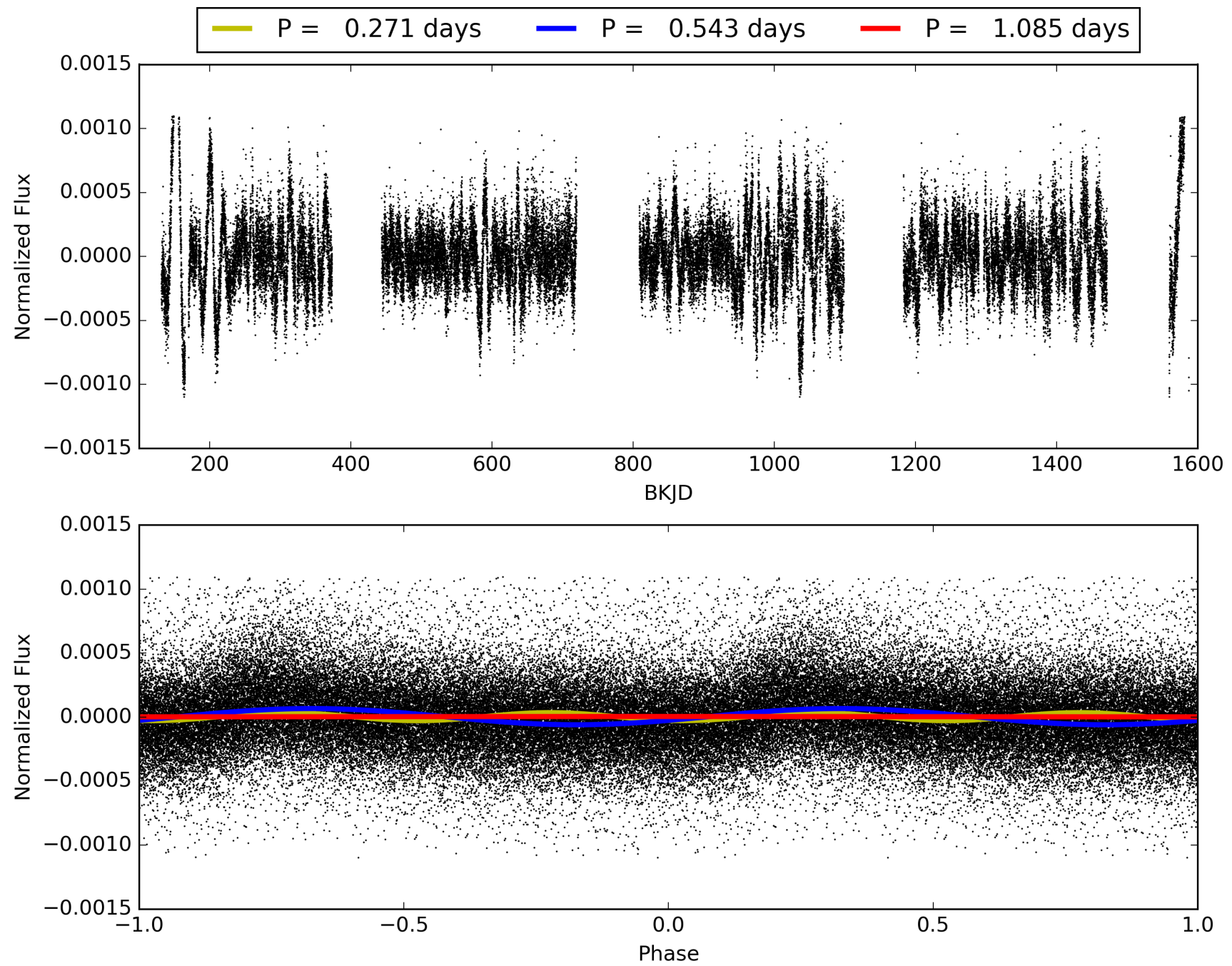
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [485.53σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.85e-17
RollingBand-fgt: 0.92 [1669/1818]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 11.940 arcsec [157.59σ]
KicOffset-rm: 11.131 arcsec [140.50σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 011391636-01, PDC Light Curves

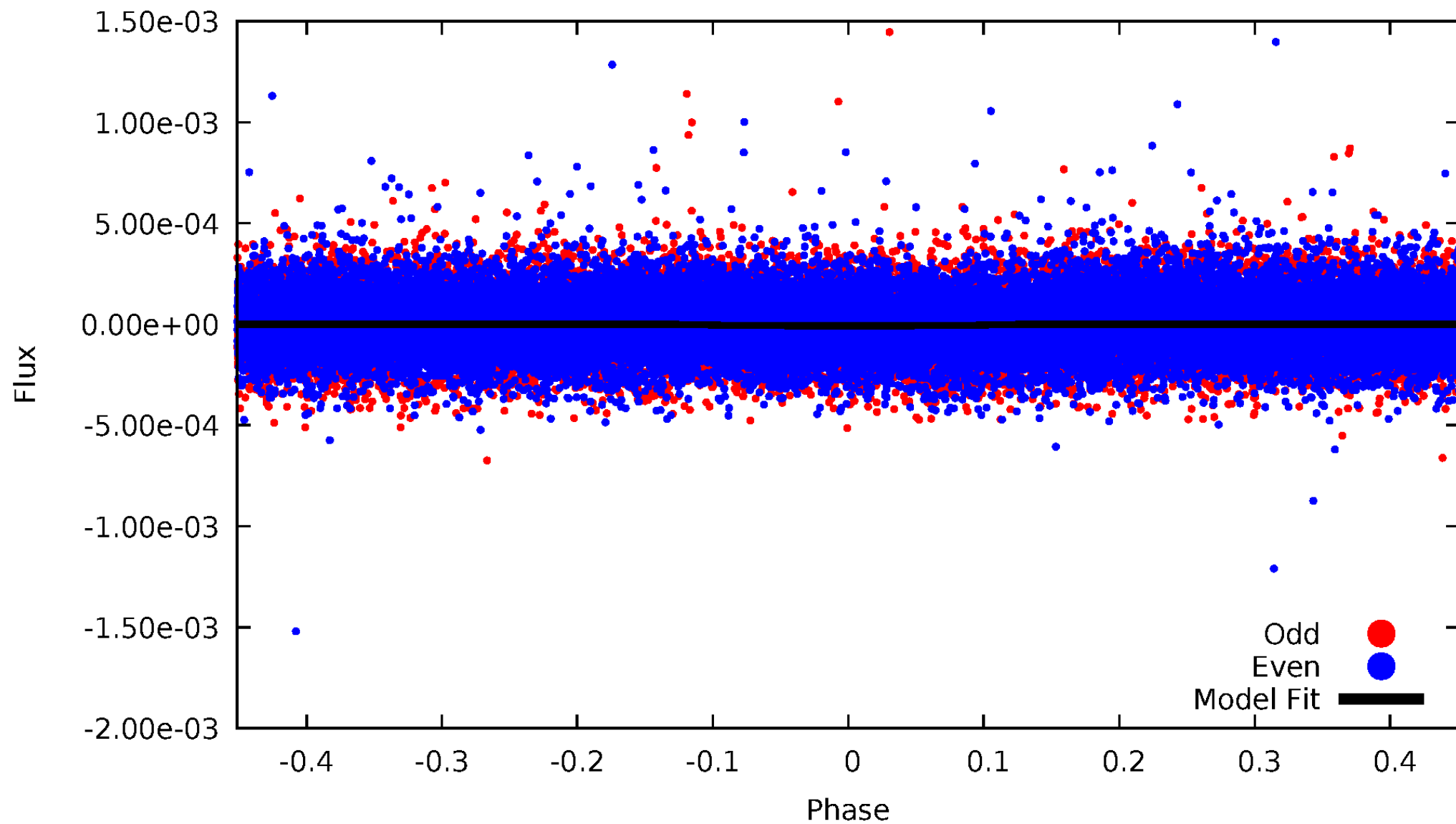


TCE 011391636-01



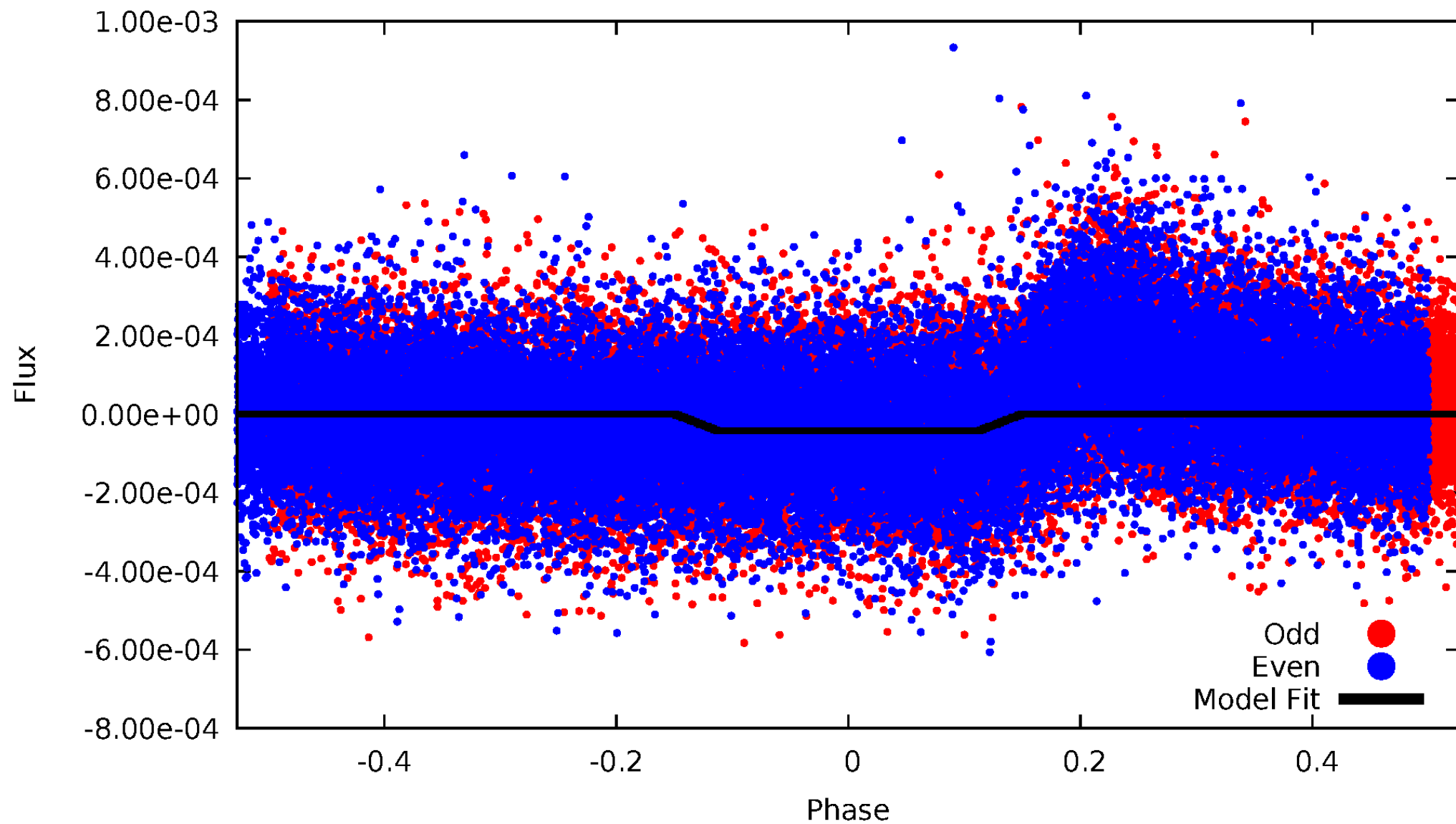
DV Odd/Even

TCE 011391636-01



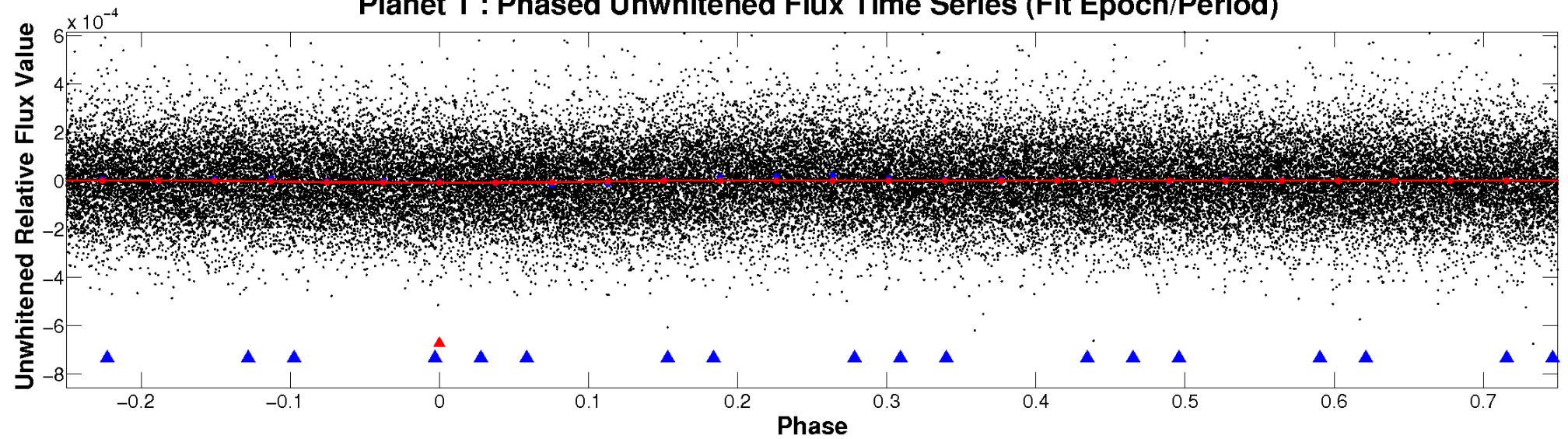
ALT Odd/Even

TCE 011391636-01

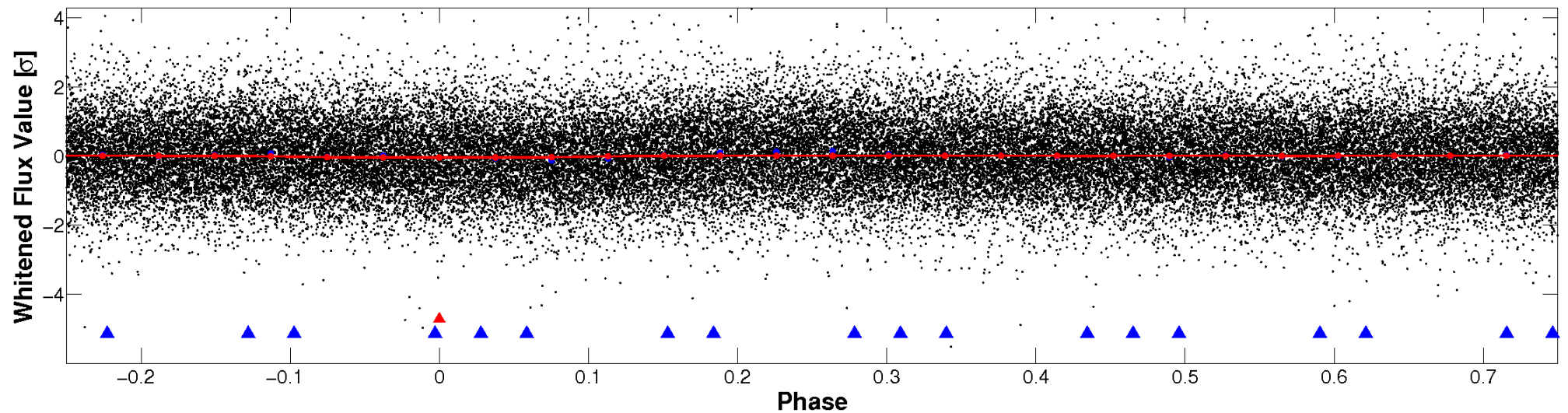


Non-Whitened Vs. Whitened Light Curve

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

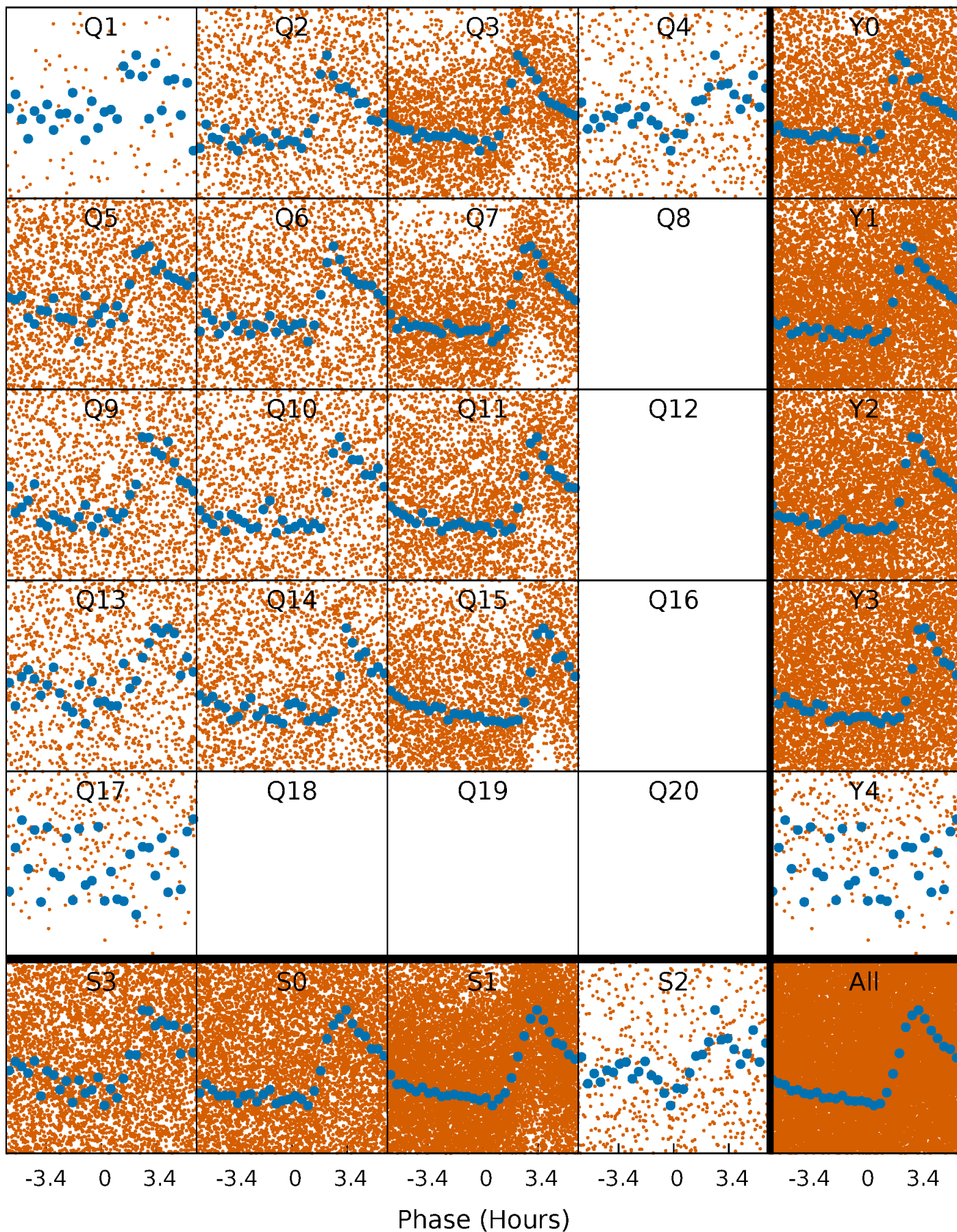


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



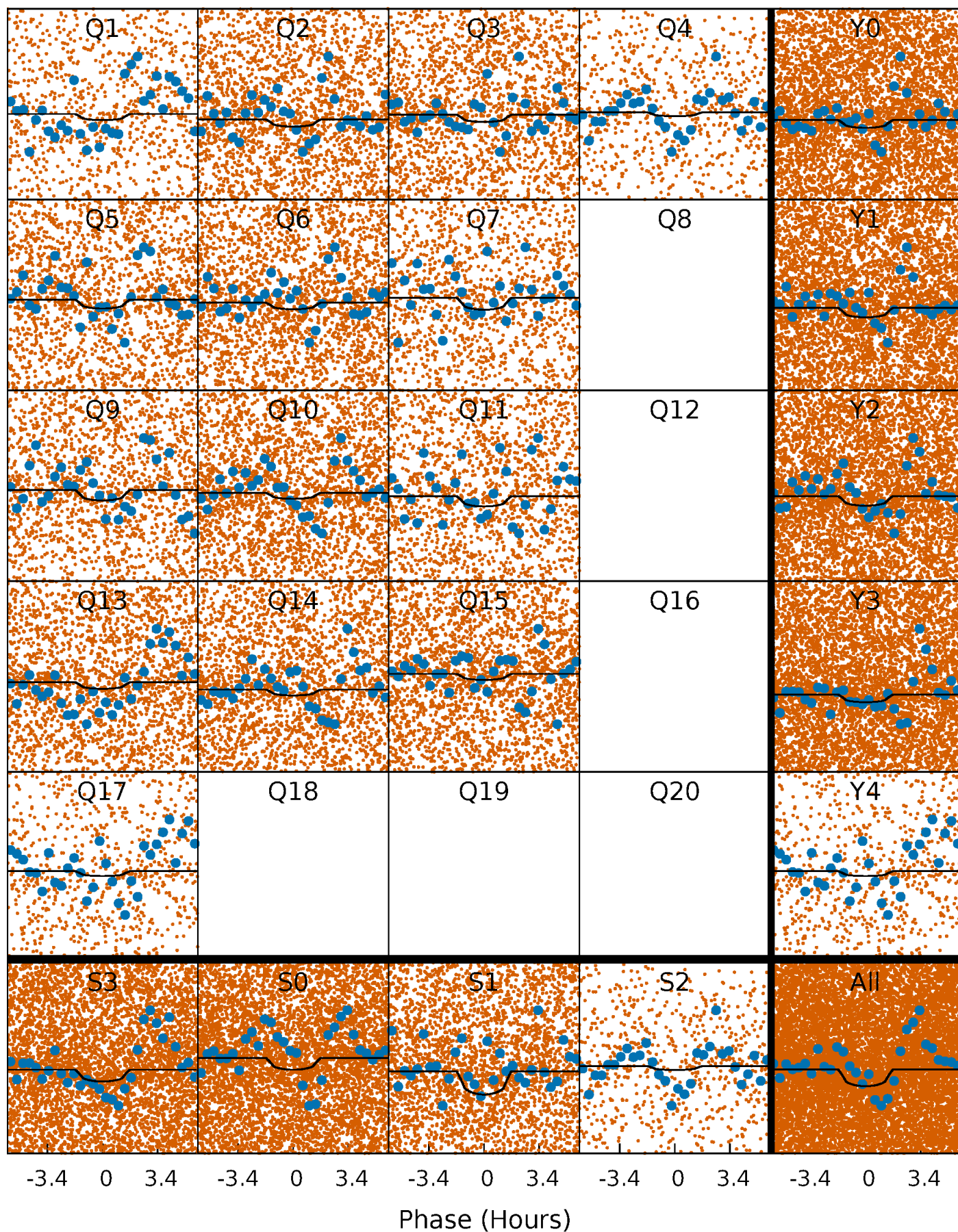
PDC Quarter-Phased Transit Curves

TCE 011391636-01 P= 0.542537 Days $T_0=131.926162$ (BKJD)



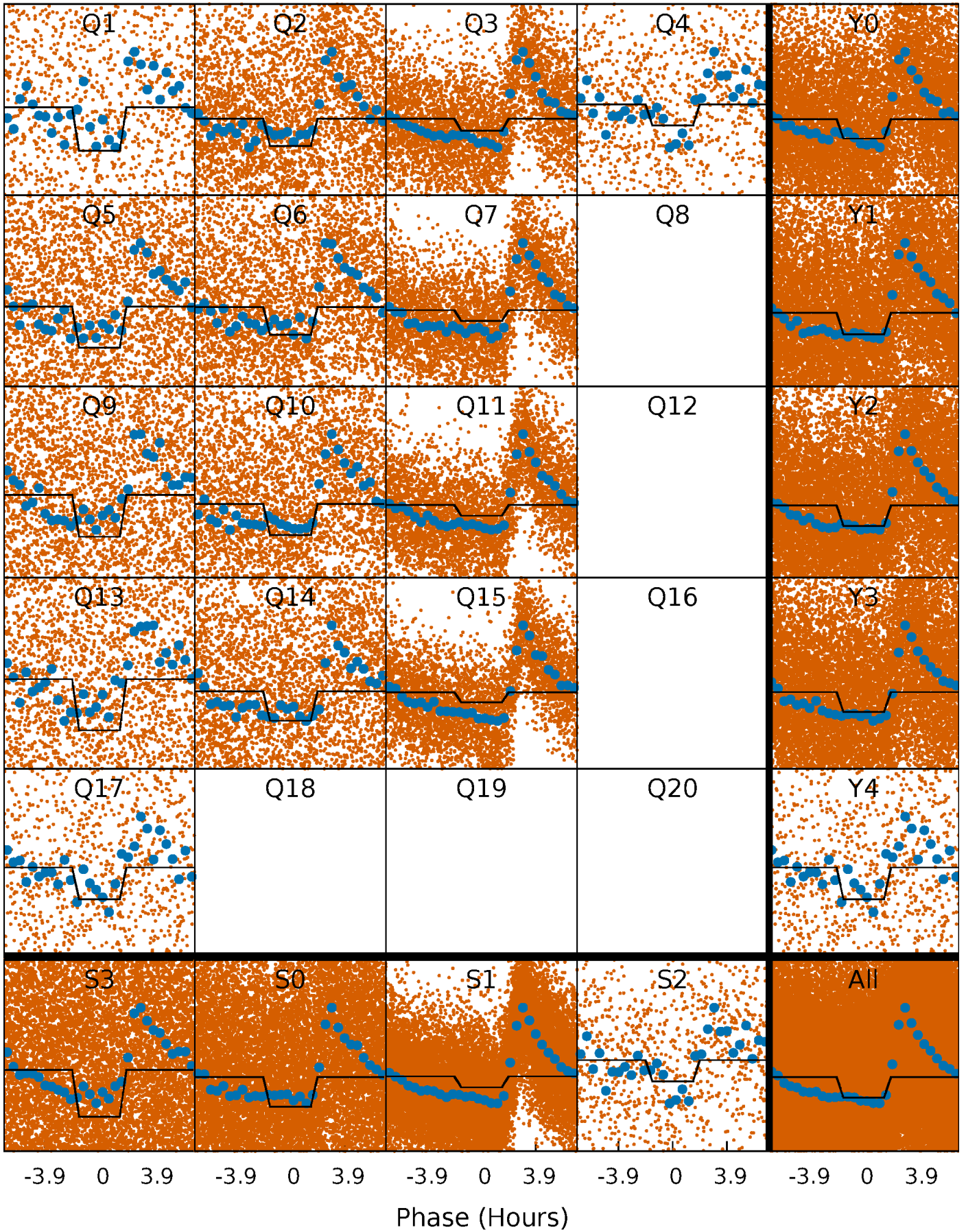
DV Quarter-Phased Transit Curves

TCE 011391636-01 P= 0.542537 Days $T_0=131.926162$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

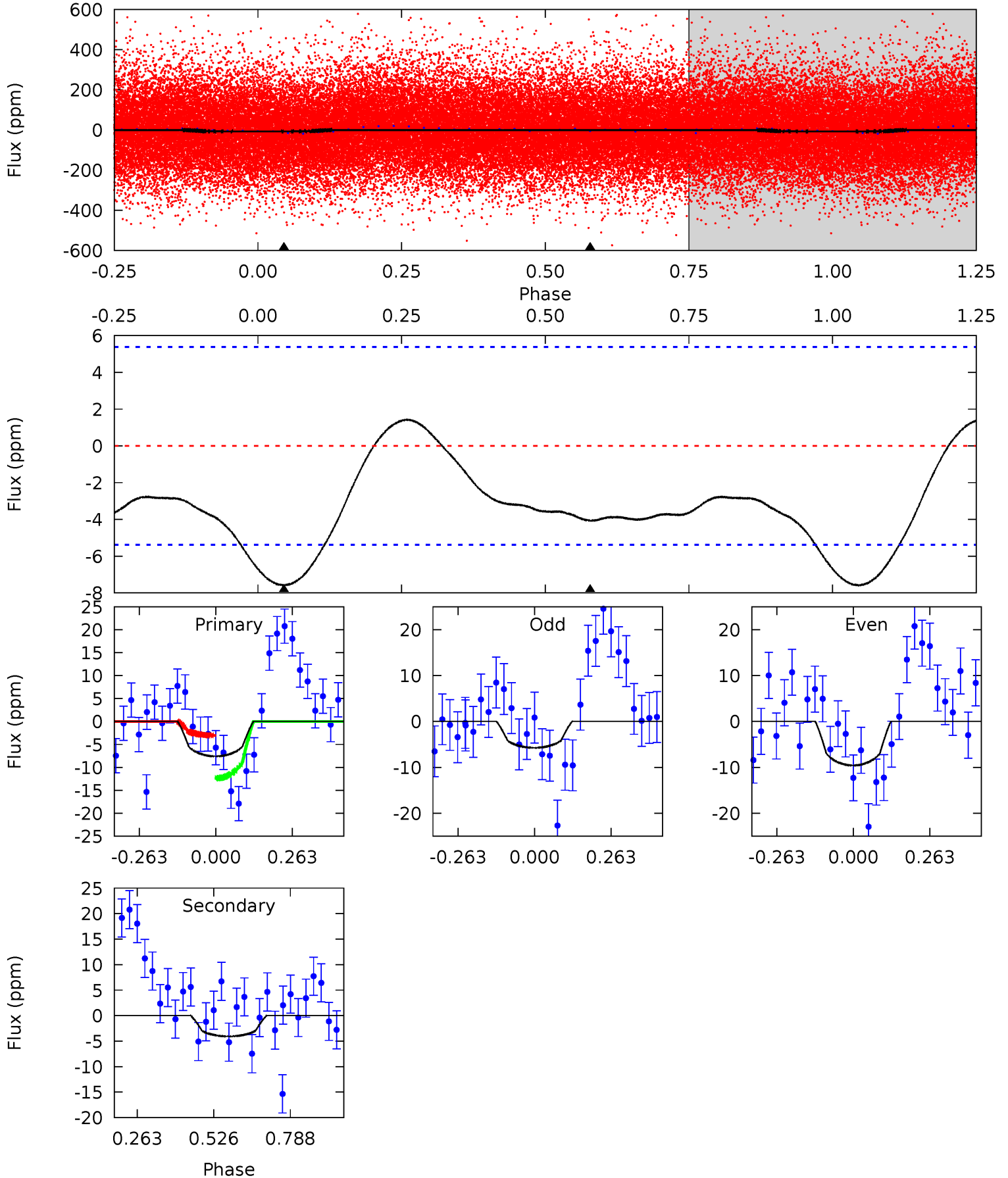
TCE 011391636-01 P= 0.542560 Days $T_0=131.896221$ (BKJD)



DV Model-Shift Uniqueness Test

011391636-01, $P = 0.542537$ Days, $E = 131.383625$ Days

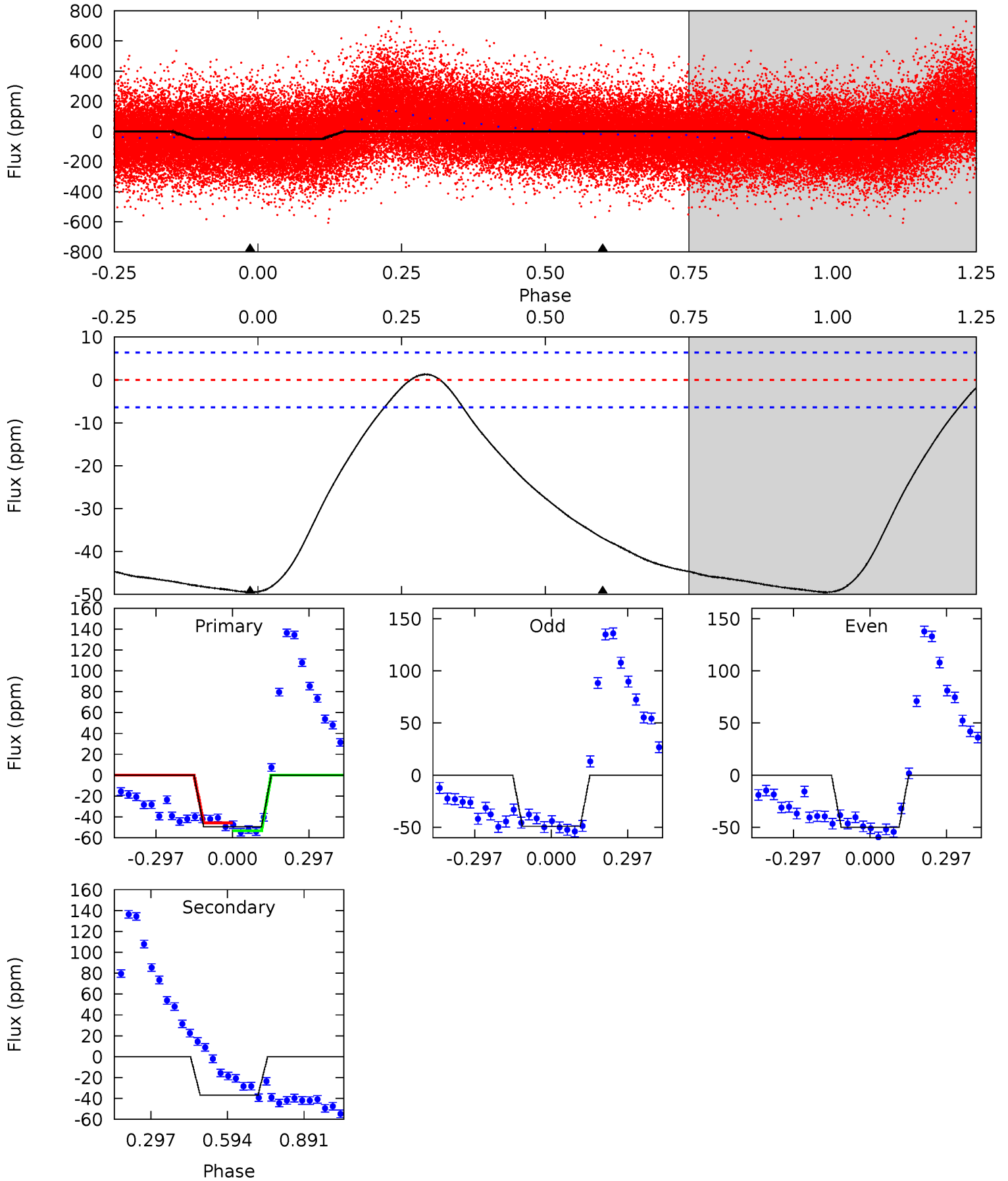
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.15	3.30	0	0	4.36	1.12	1.09	6.15	6.15	3.30	3.30	1.58	0.83	0.16	3.80



Alt Model-Shift Uniqueness Test

011391636-01, P = 0.542560 Days, E = 131.353661 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.6	25.1	0	0	4.33	1.04	1.00	33.6	33.6	25.1	25.1	0.32	1.03	0.03	2.59



Stellar Parameters For KIC 011391636

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4922^{+148}_{-133}	$4.505^{+0.103}_{-0.655}$	$0.200^{+0.200}_{-0.250}$	$0.823^{+0.090}_{-0.082}$	$0.790^{+0.073}_{-0.055}$	$1.996^{+0.661}_{-0.673}$
	+3%/-3%	+2%/-15%	+100%/-125%	+11%/-10%	+9%/-7%	+33%/-34%
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 011391636-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 1	$0.30^{+0.20}_{-0.17}$	2556^{+132}_{-120}	4034^{+1939}_{-779}	$3.617^{+16.906}_{-2.448}$
Alt.	-37 ± 1	$0.61^{+0.23}_{-0.22}$	2551^{+143}_{-122}	4727^{+1059}_{-539}	$7.975^{+11.943}_{-3.721}$

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 $A_{obs} \gg 1.0$

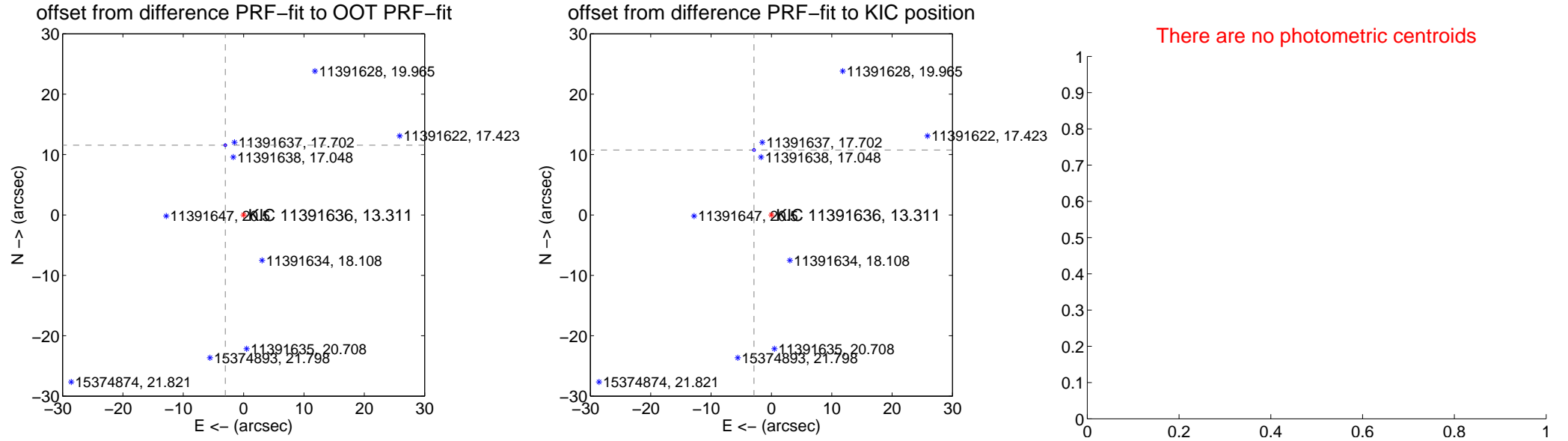
DV Centroid Data

Supplemental centroid analysis for 011391636-01. Kepler magnitude: 13.31. Transit SNR 3.91

There are 3 quarters with good PRF difference image offsets

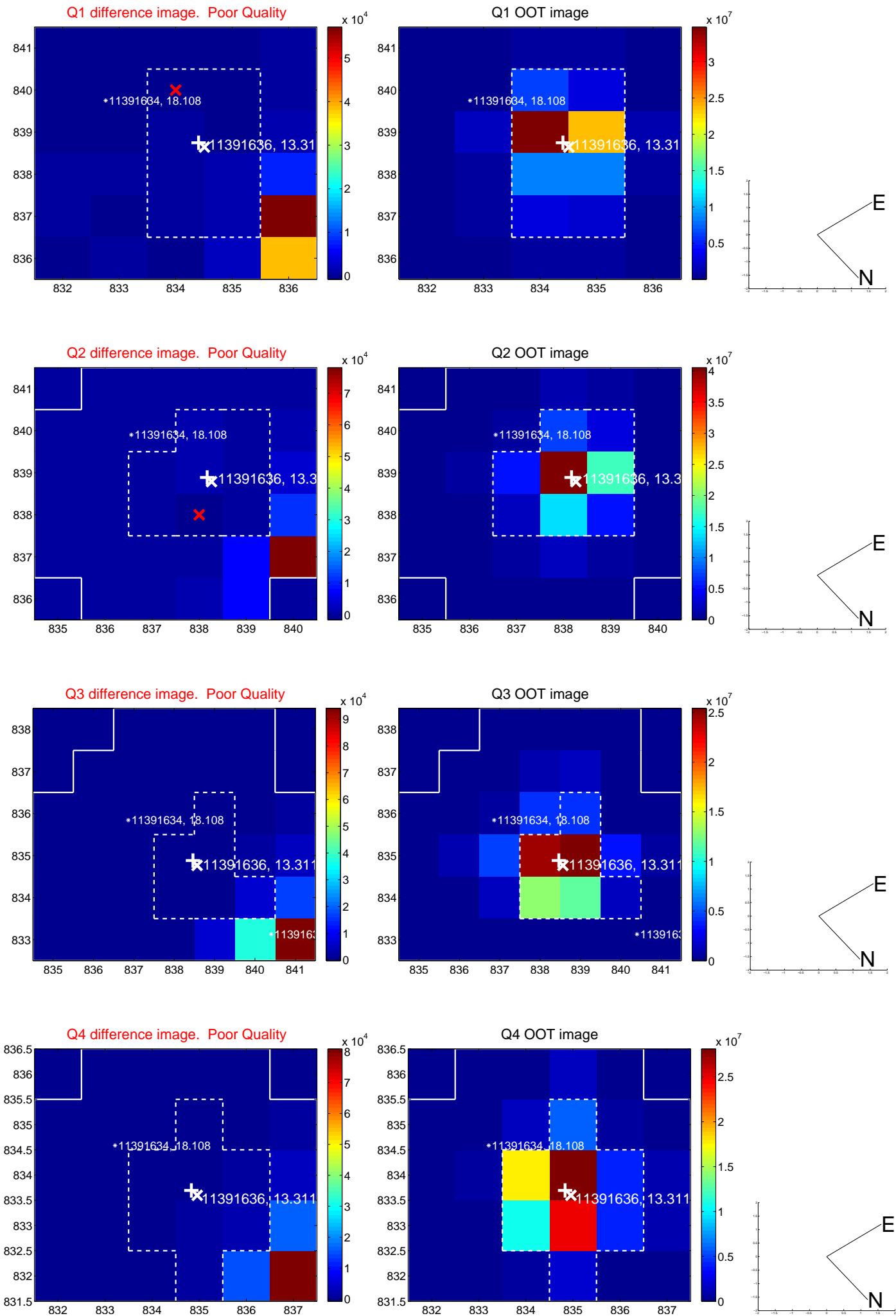
The direct PRF centroid is offset from the target star catalog position by about 0.92 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	11.940 ± 0.076	157.59	3.035 ± 0.067	11.548 ± 0.075
PRF-fit source offset from KIC position	11.131 ± 0.079	140.50	2.883 ± 0.068	10.751 ± 0.080
photometric centroid source offset	—	—	—	—

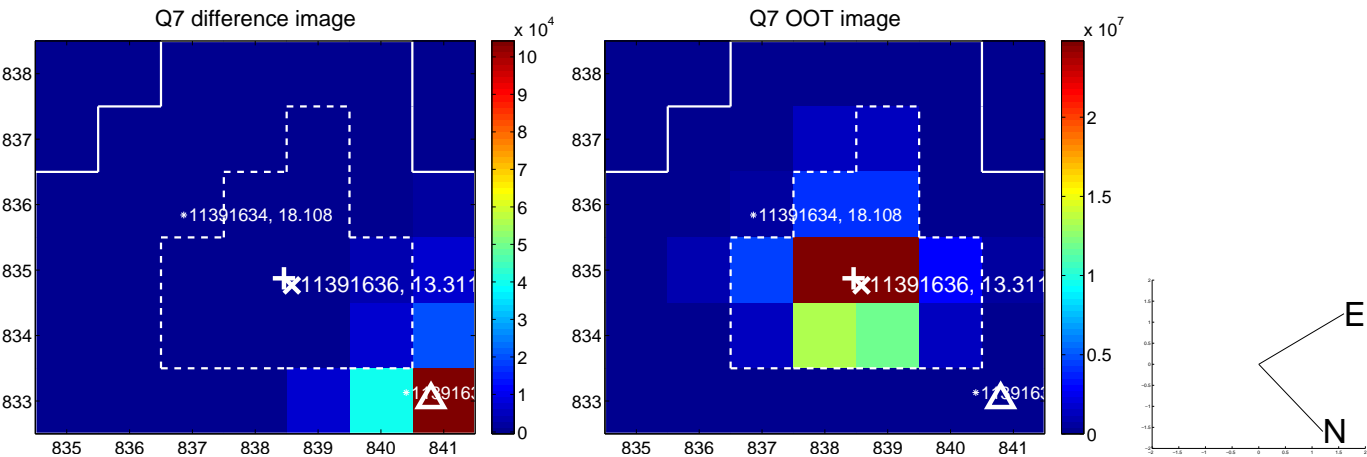
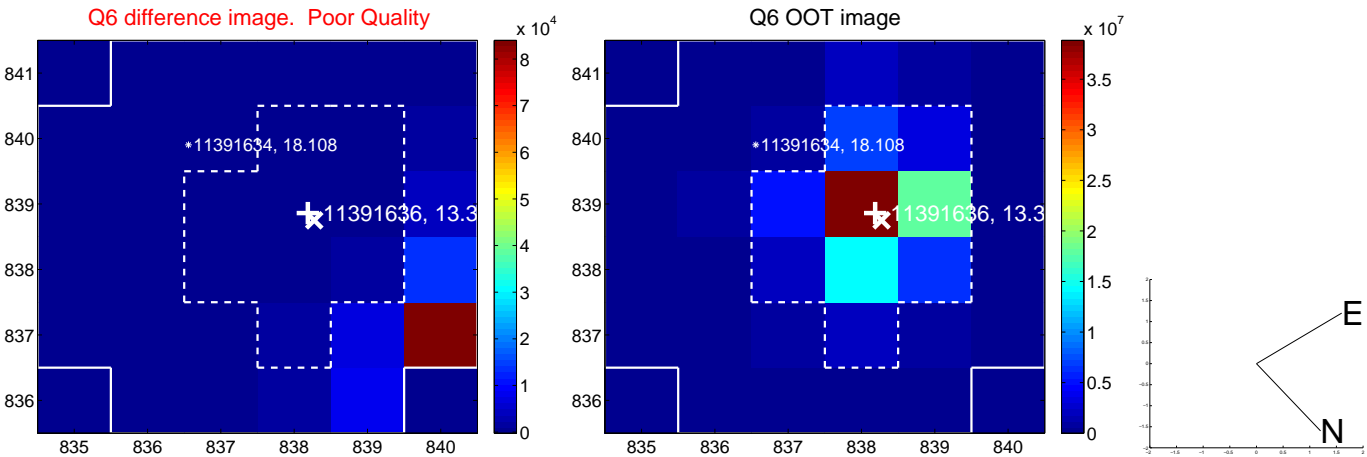
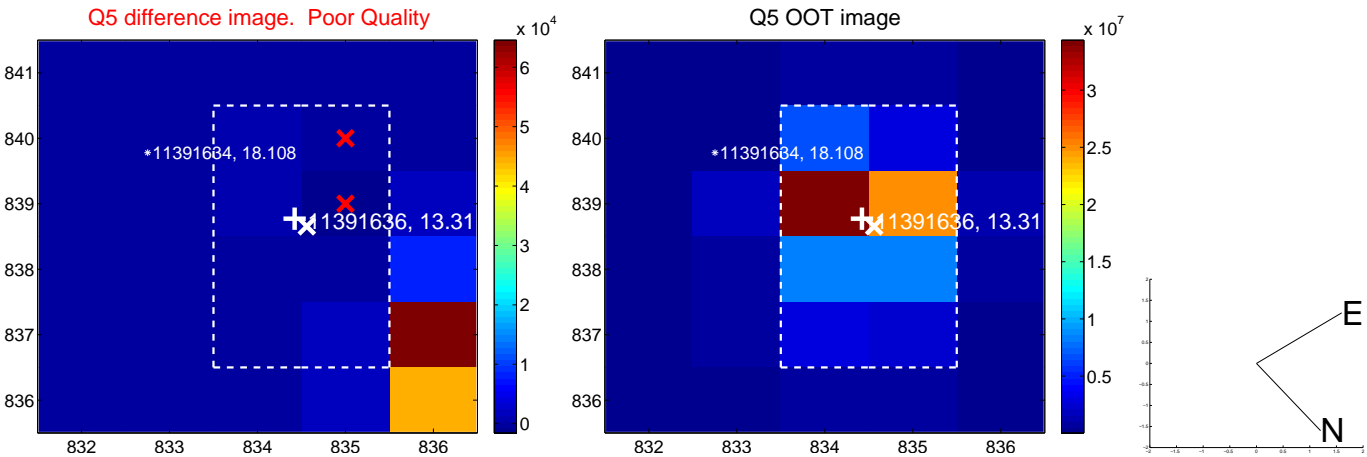


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

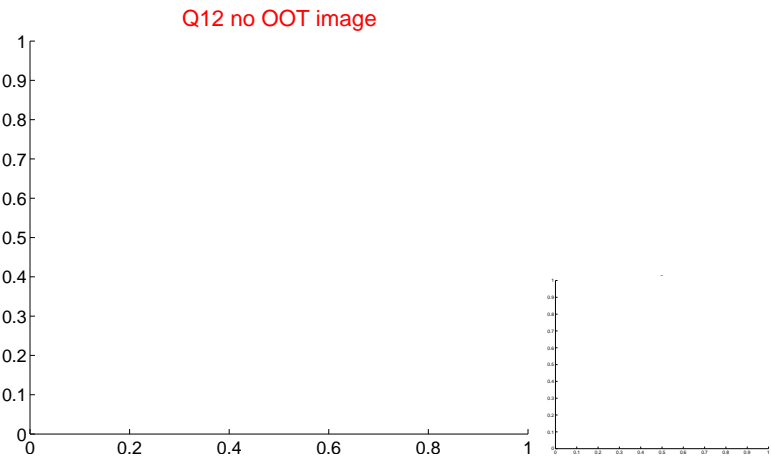
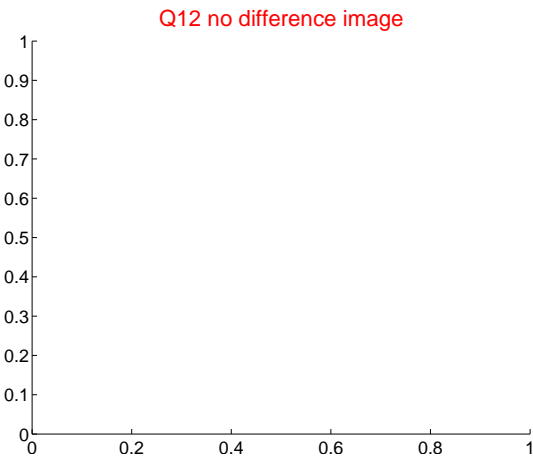
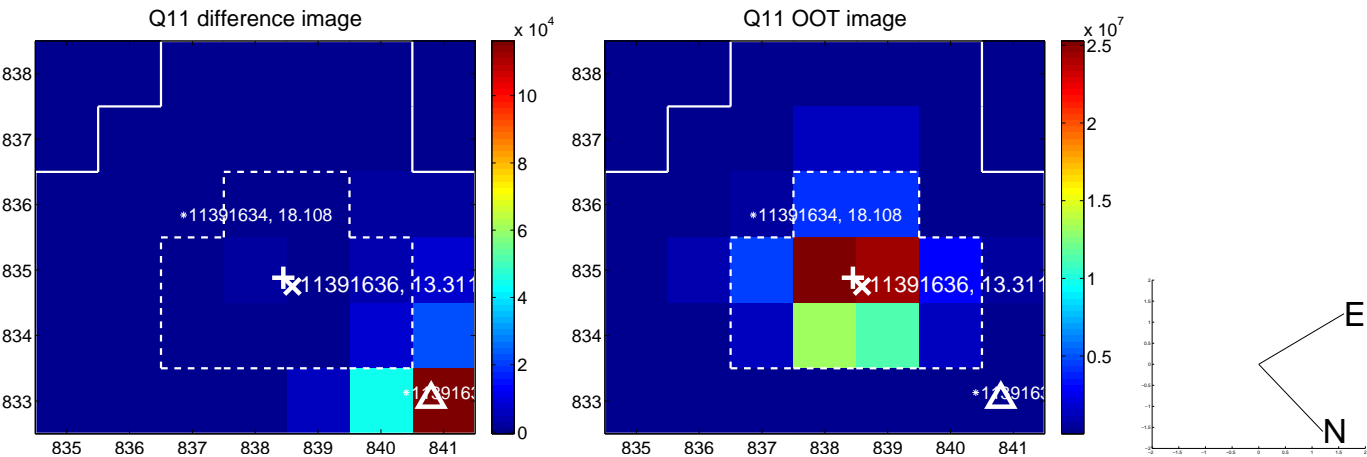
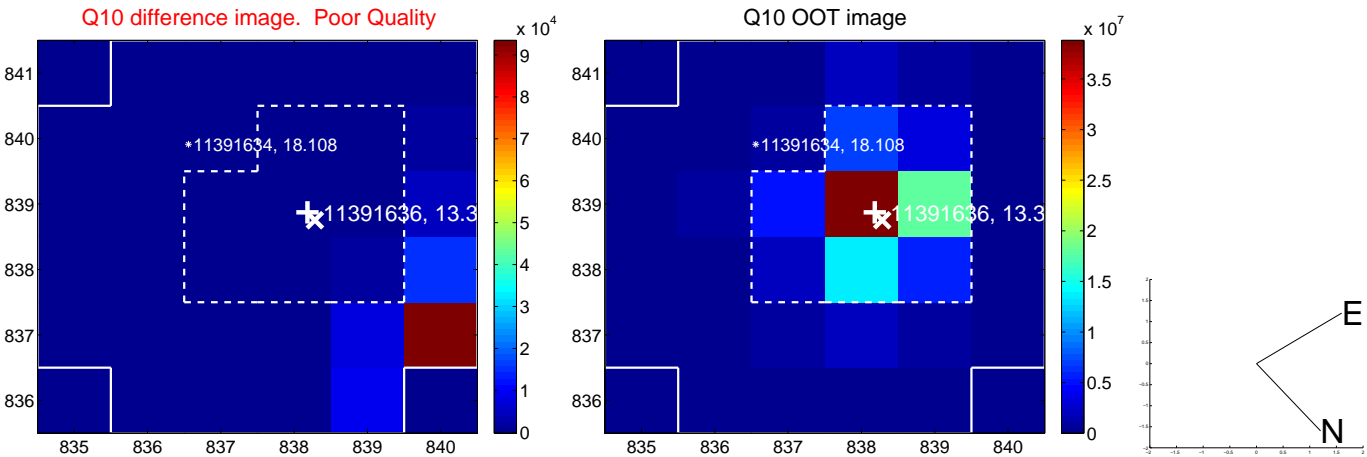
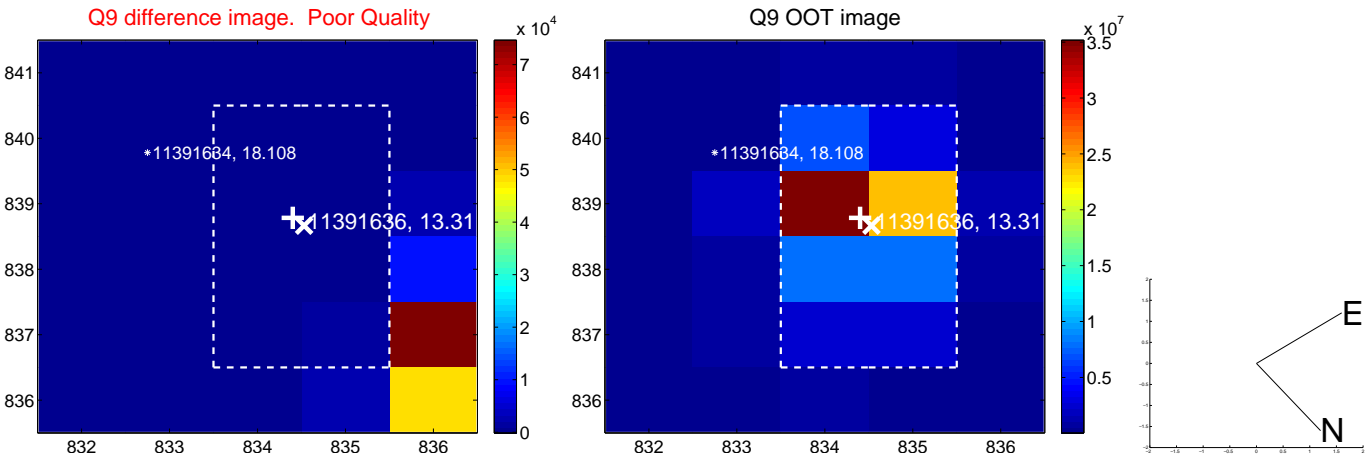
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



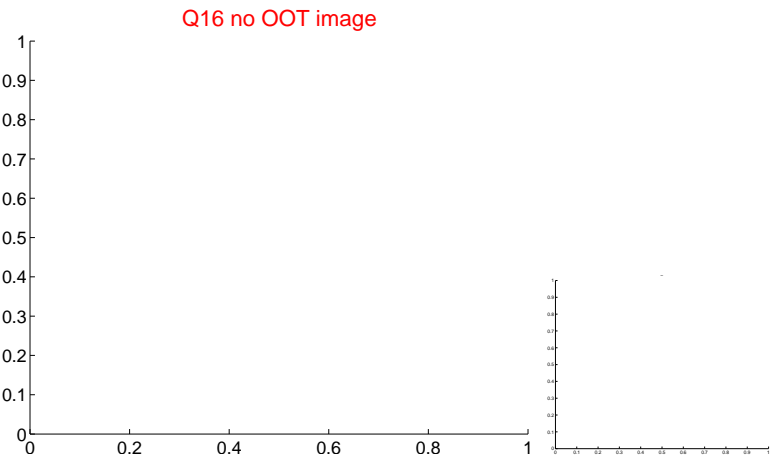
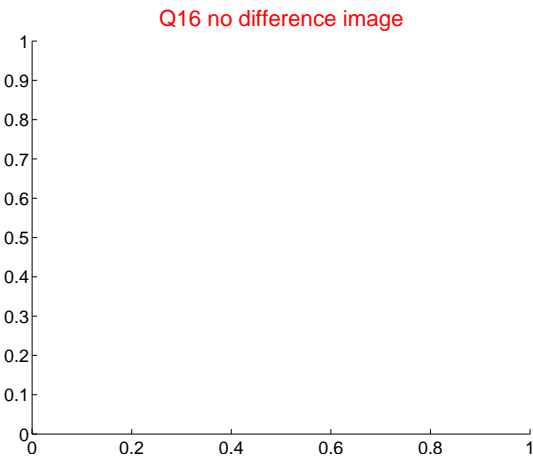
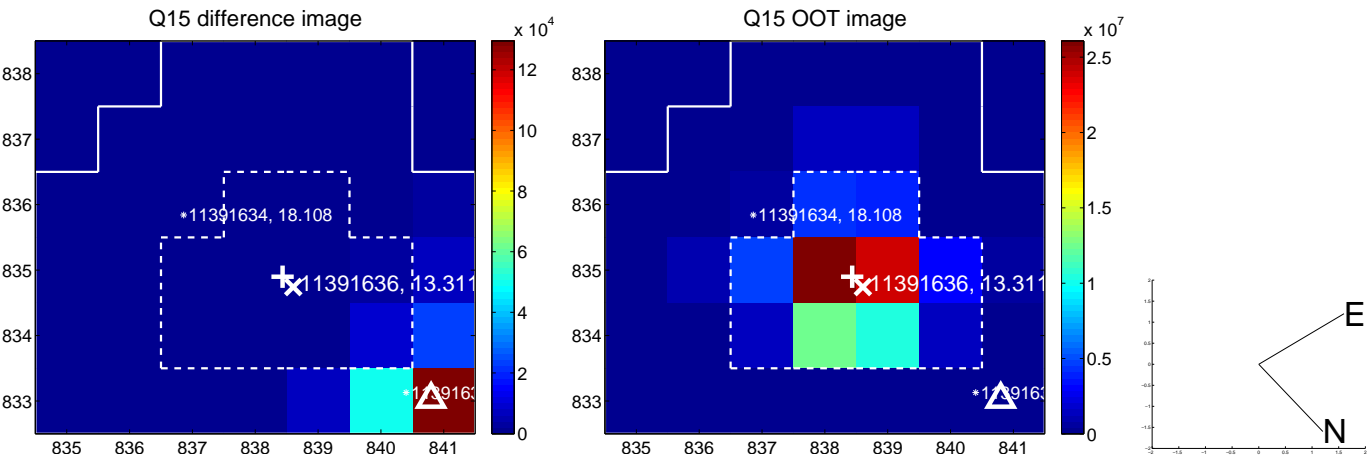
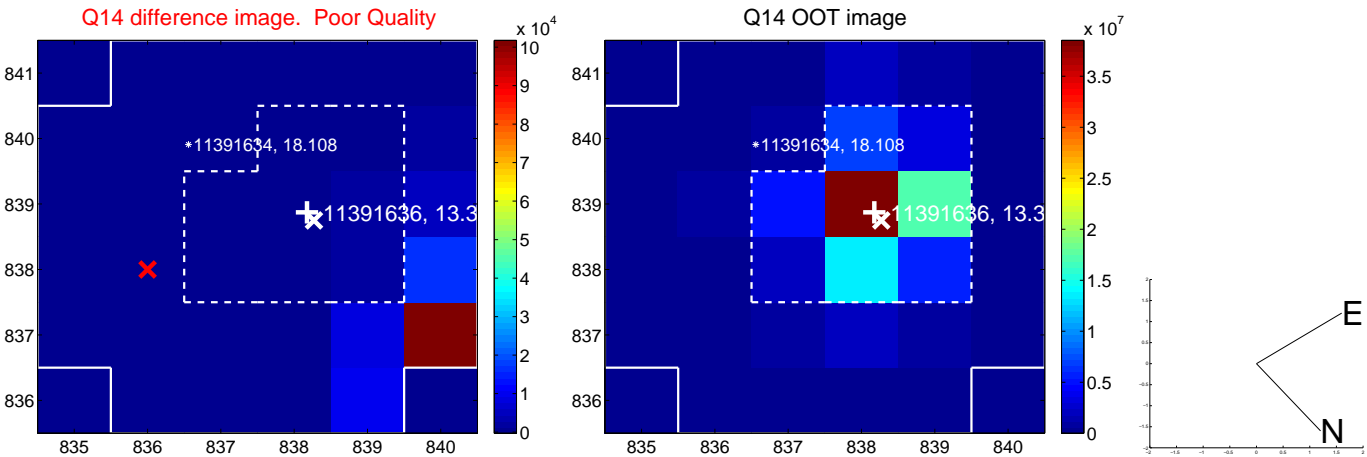
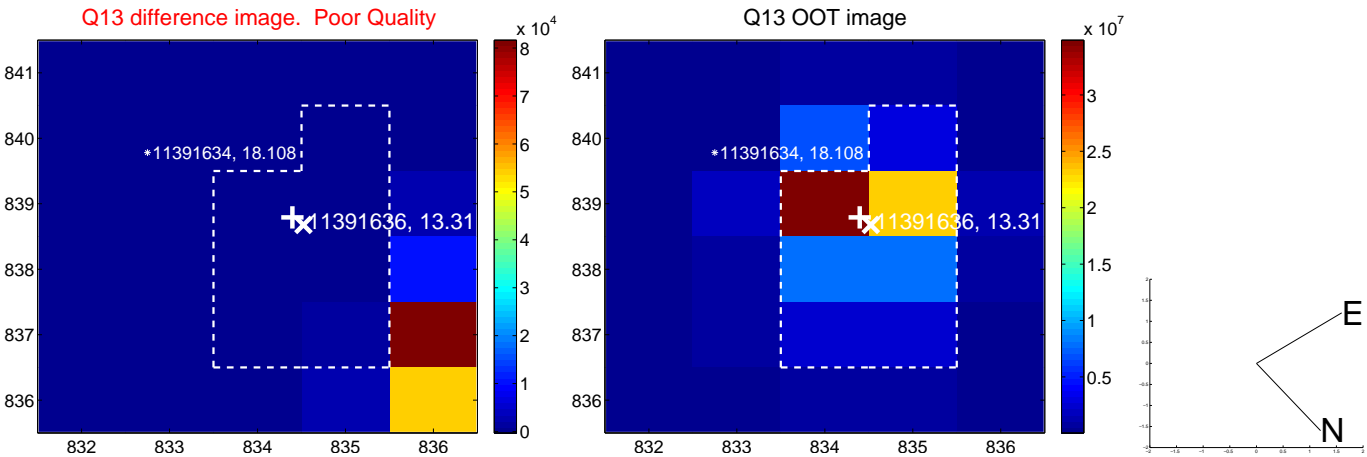
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



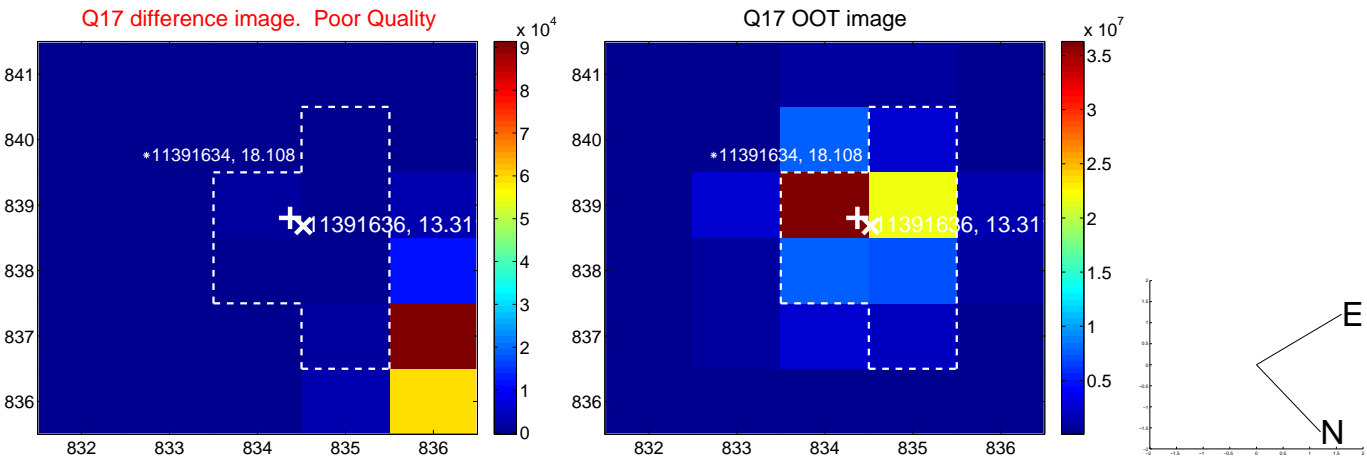
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

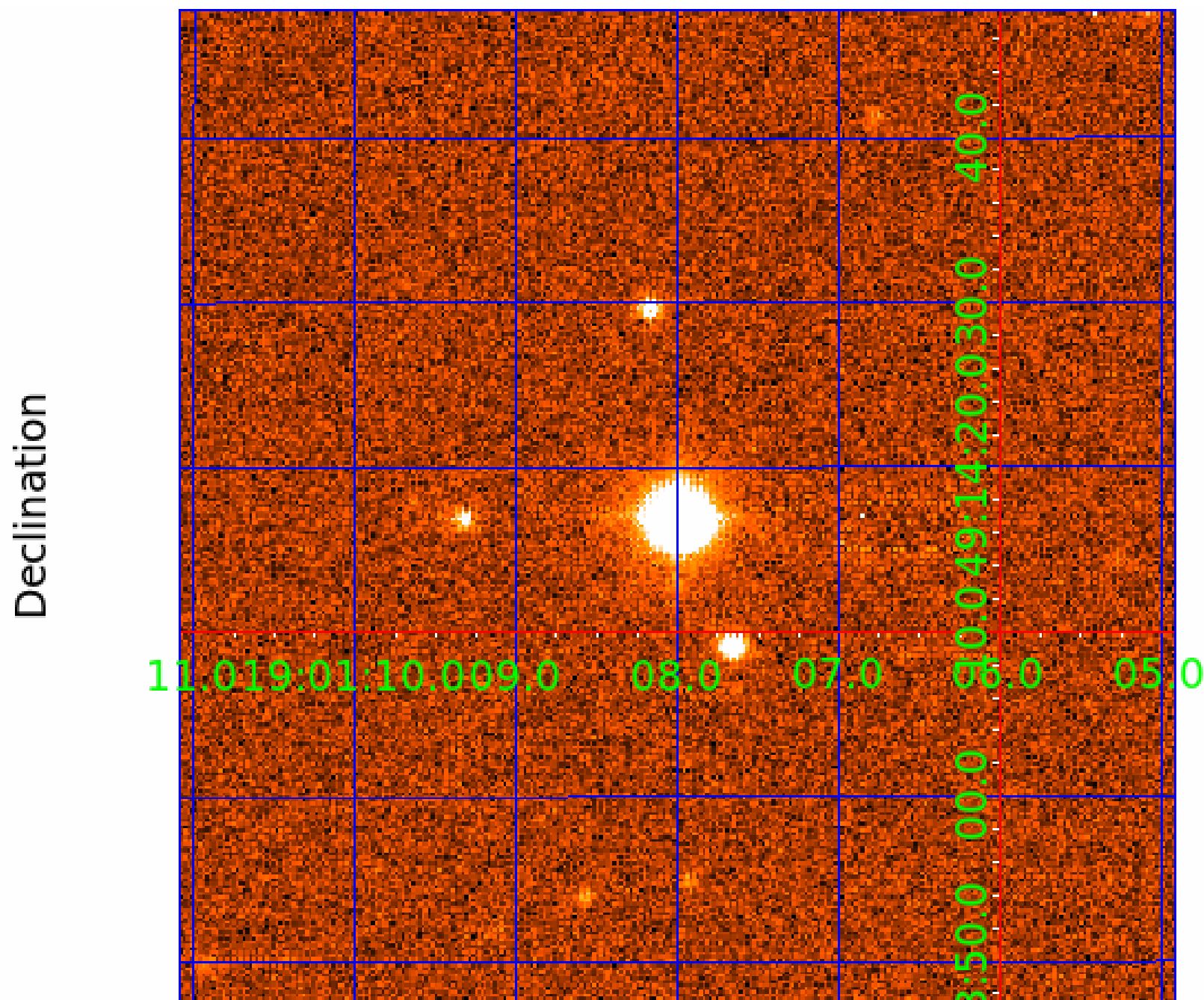


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image



KIC 011391636

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})
011391636-01	OBS	No	0.542537	131.926162	7.0	2.936	10.1	3.9	0.82	4922	0.26	2457.47
011391636-02	OBS	No	80.685317	156.491362	315.5	2.659	10.3	7.8	0.82	4922	1.75	3.12

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011391636-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—CENT_RESOLVED_OFFSET
011391636-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

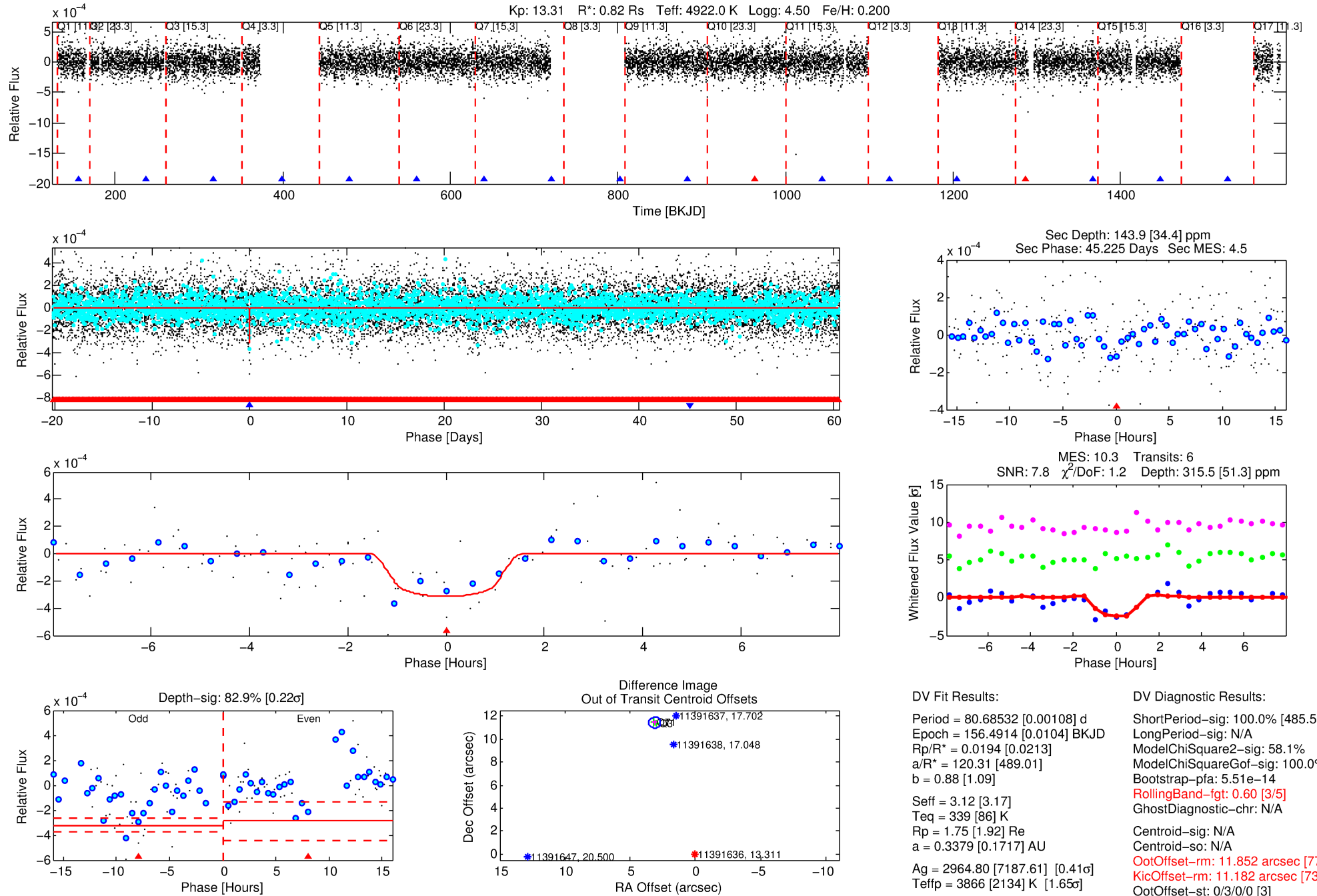
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011391636-02

No Significant Match Found

DV One-Page Summary

KIC: 11391636 Candidate: 2 of 2 Period: 80.685 d



DV Fit Results:

Period = 80.68532 [0.00108] d
Epoch = 156.4914 [0.0104] BKJD
Rp/R* = 0.0194 [0.0213]
a/R* = 120.31 [489.01]
b = 0.88 [1.09]
Seff = 3.12 [3.17]
Teq = 339 [86] K
Rp = 1.75 [1.92] Re
a = 0.3379 [0.1717] AU
Ag = 2964.80 [7187.61] [0.41σ]
Teff = 3866 [2134] K [1.65σ]

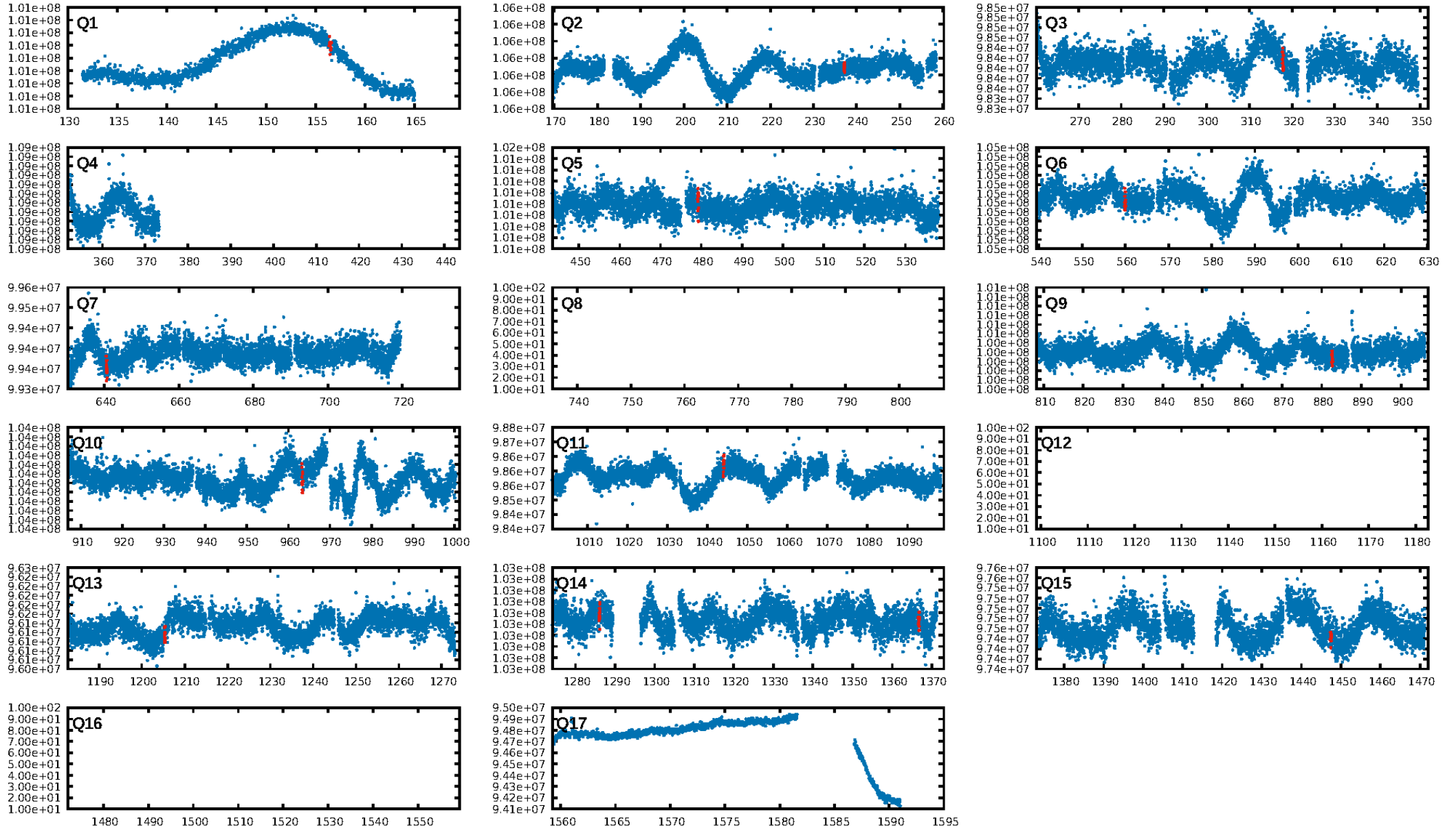
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [485.53σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 58.1%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 5.51e-14
RollingBand-fgt: 0.60 [3/5]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 11.852 arcsec [77.35σ]
KicOffset-rm: 11.182 arcsec [73.02σ]
OotOffset-st: 0/3/0/0 [3]
KicOffset-st: 0/3/0/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/12]

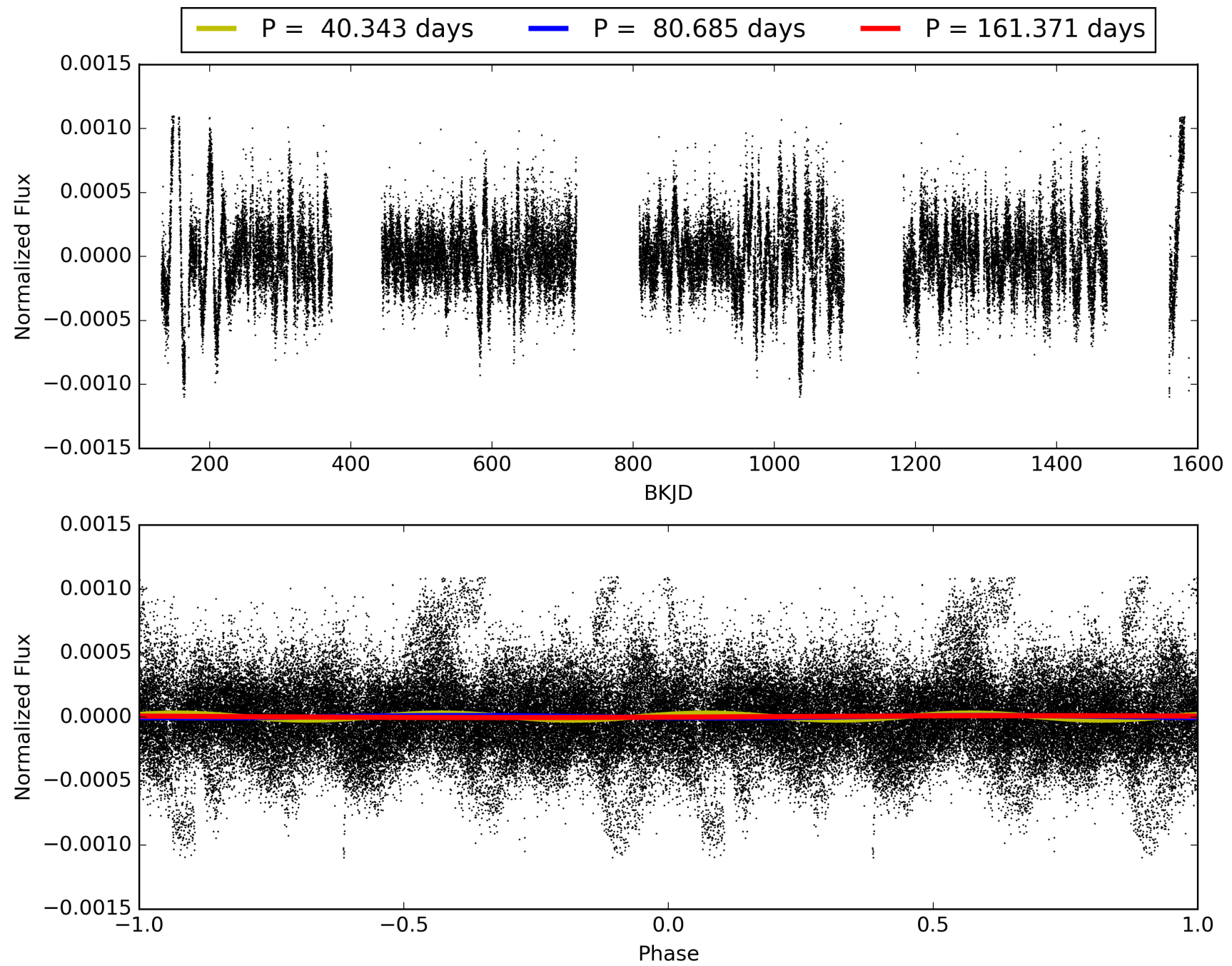
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:41:56 Z

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

TCE 011391636-02, PDC Light Curves

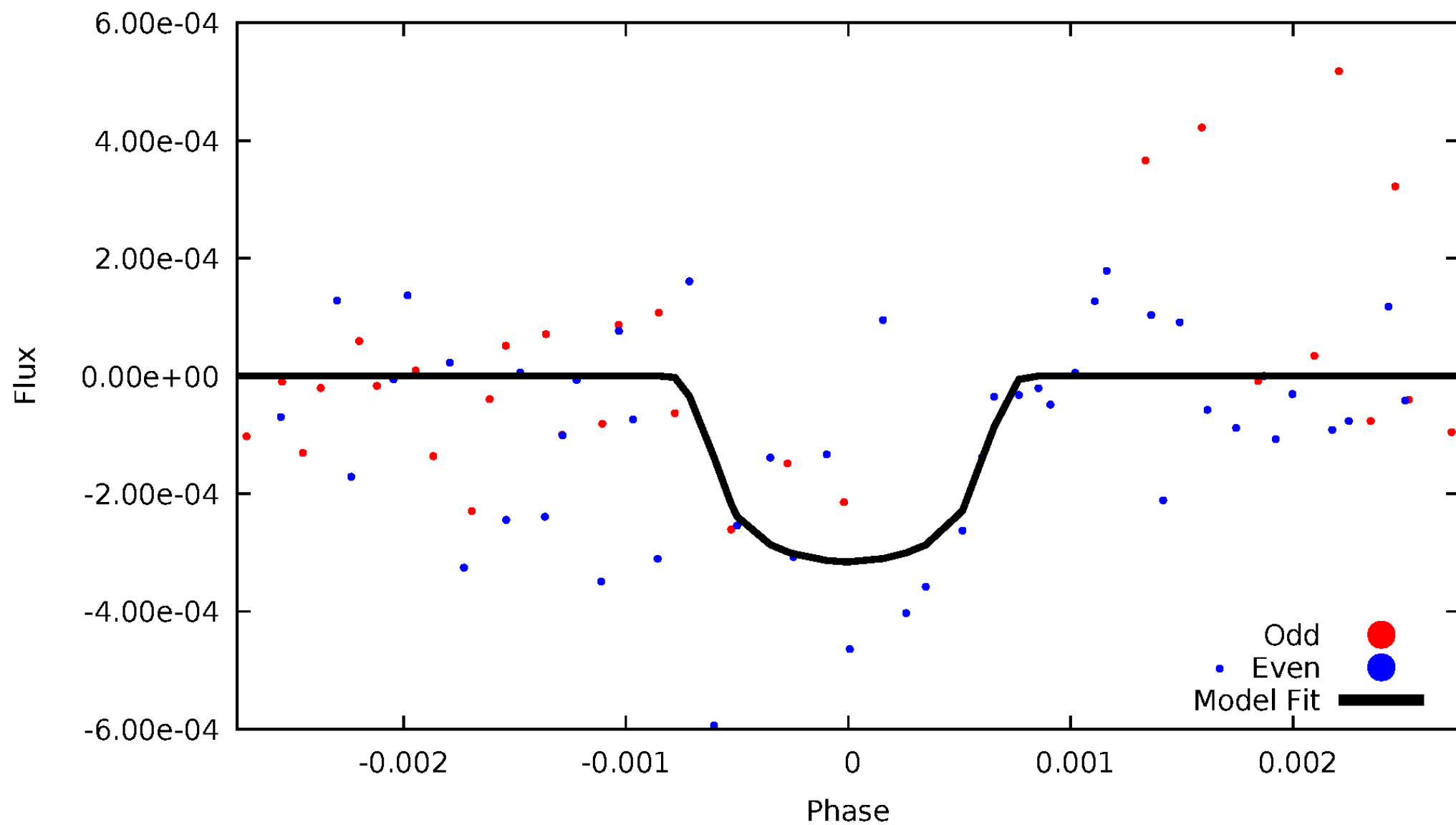


TCE 011391636-02



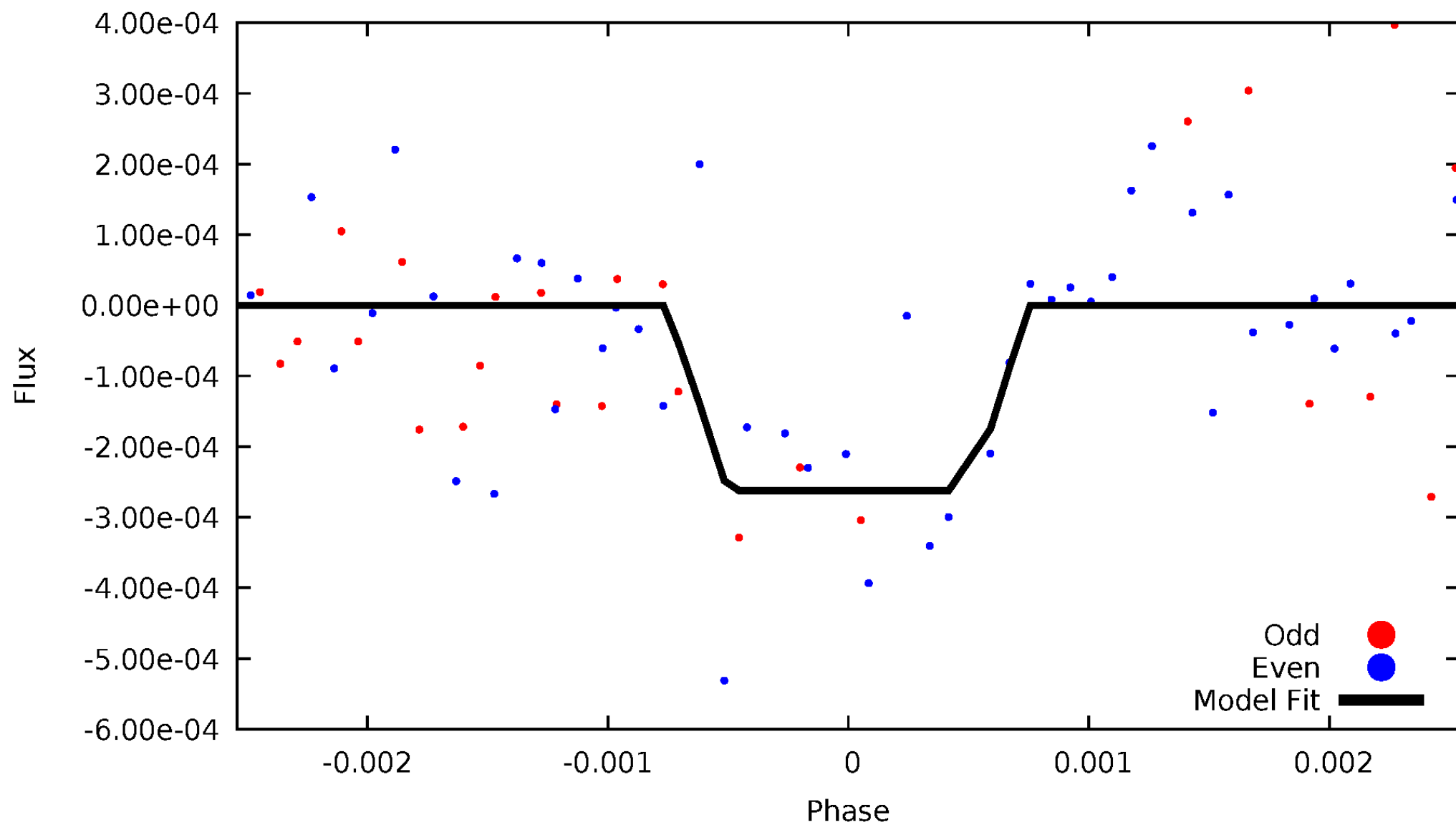
DV Odd/Even

TCE 011391636-02



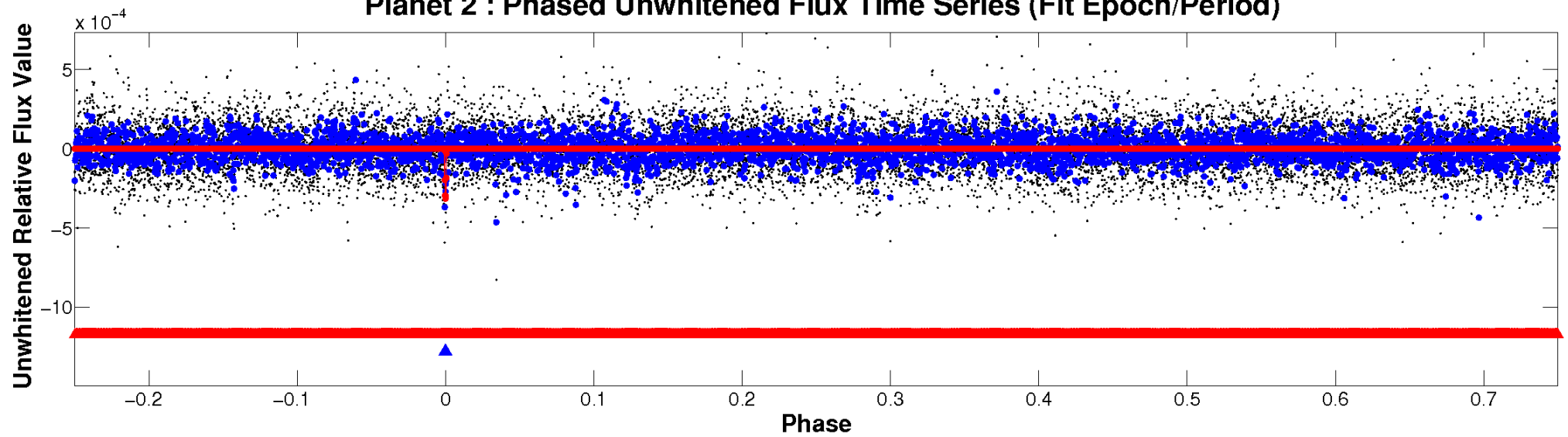
ALT Odd/Even

TCE 011391636-02

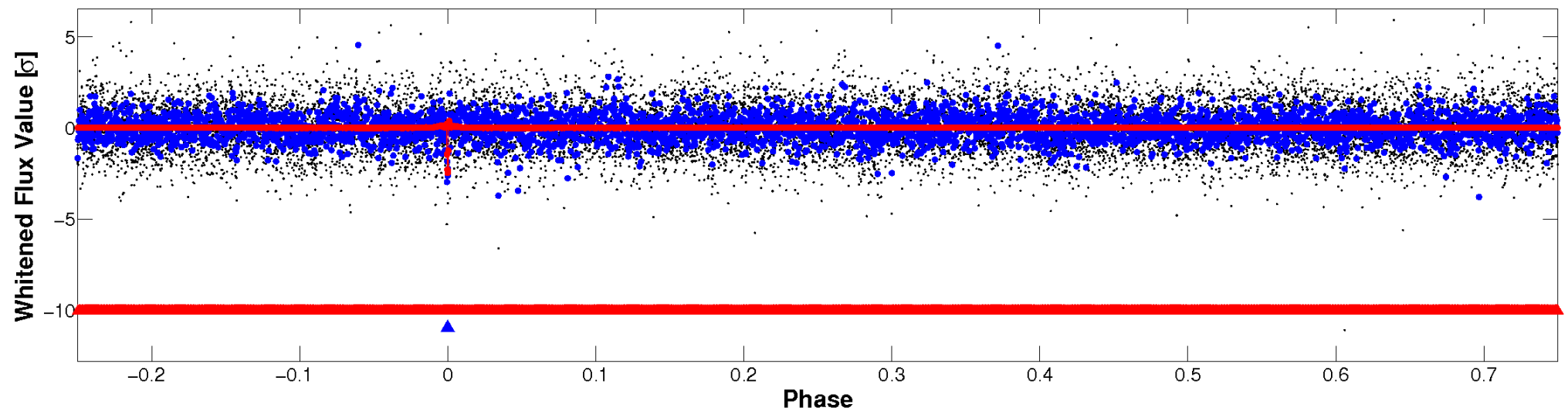


Non-Whitened Vs. Whitened Light Curve

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

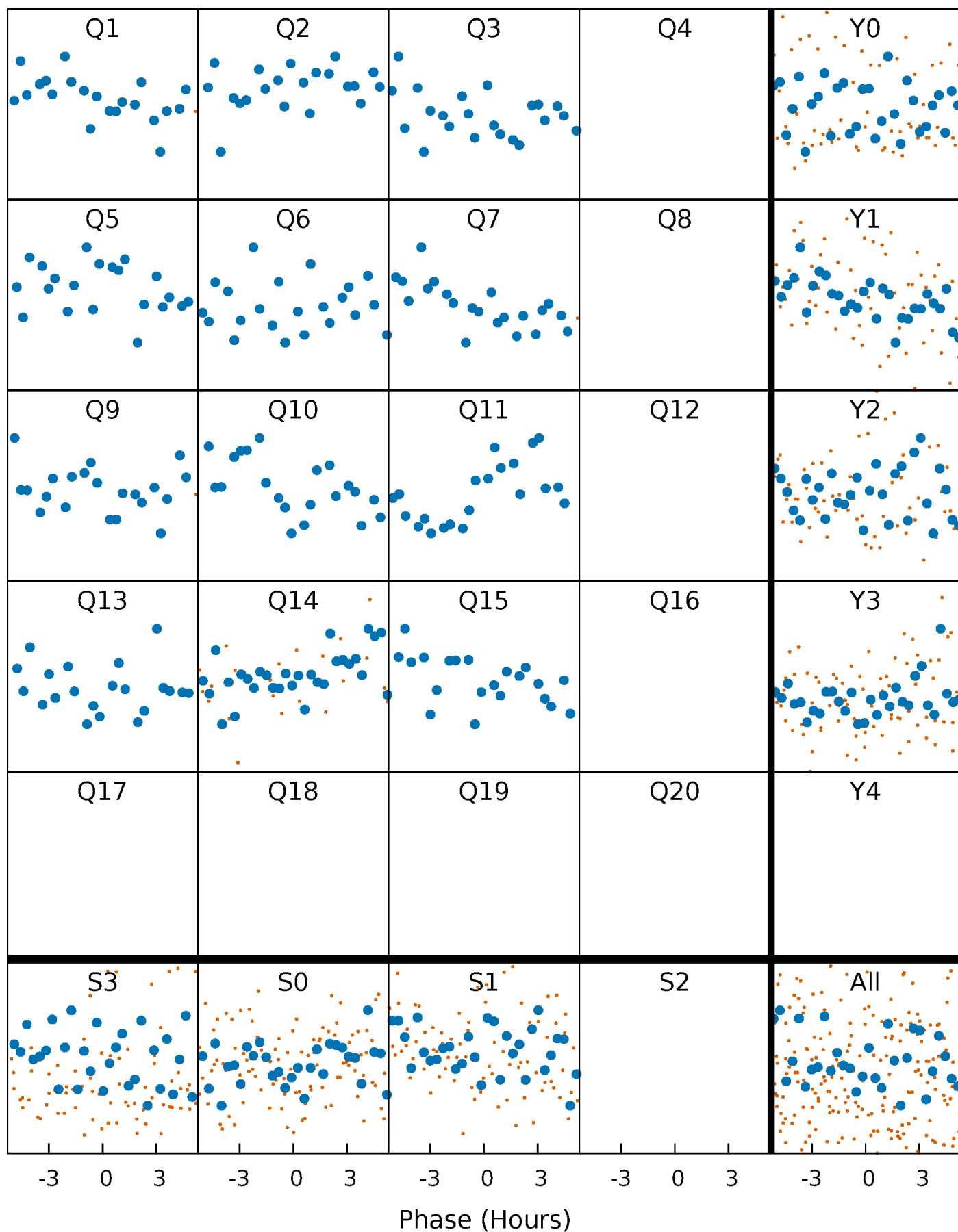


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



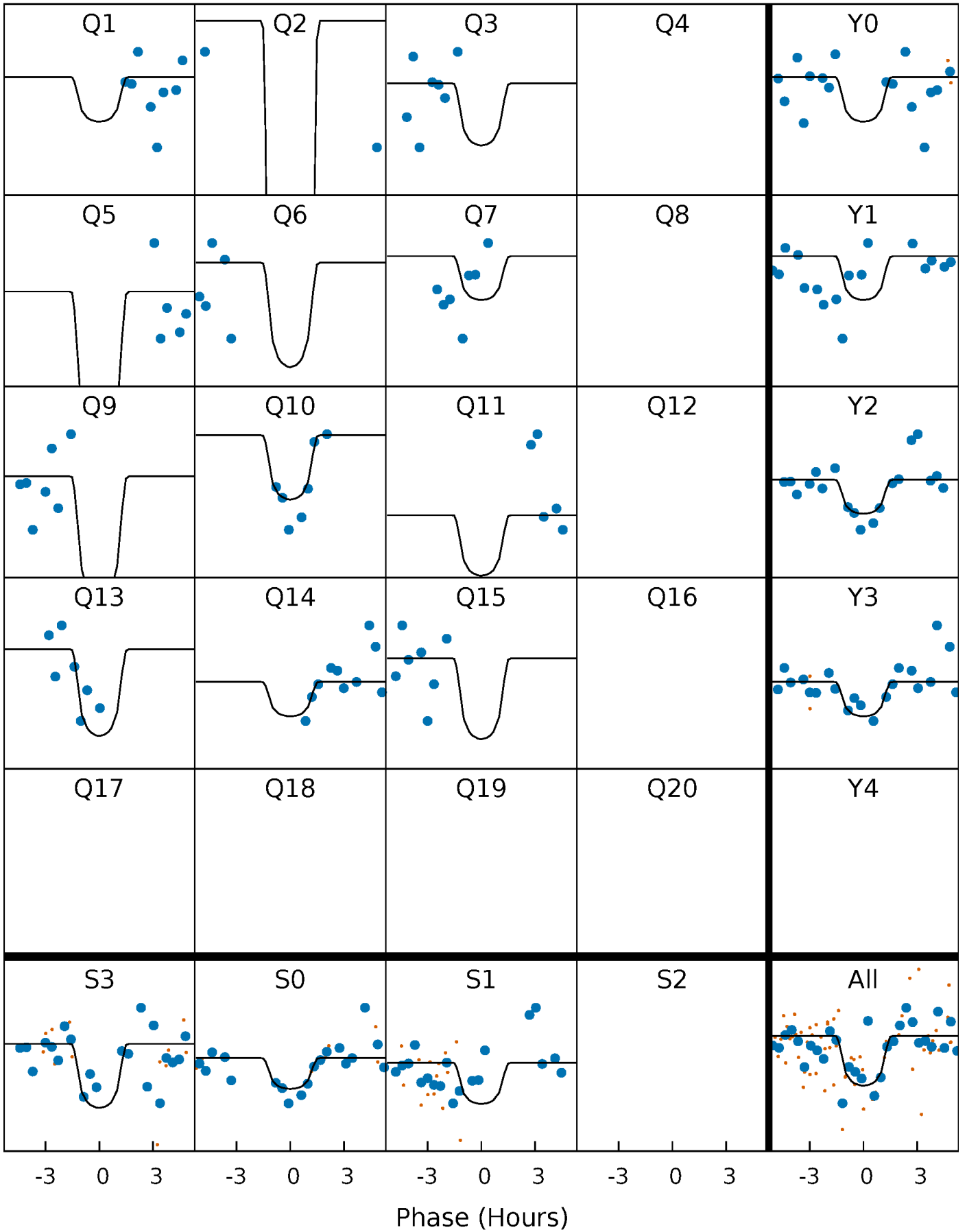
PDC Quarter-Phased Transit Curves

TCE 011391636-02 P= 80.685317 Days $T_0=156.491362$ (BKJD)



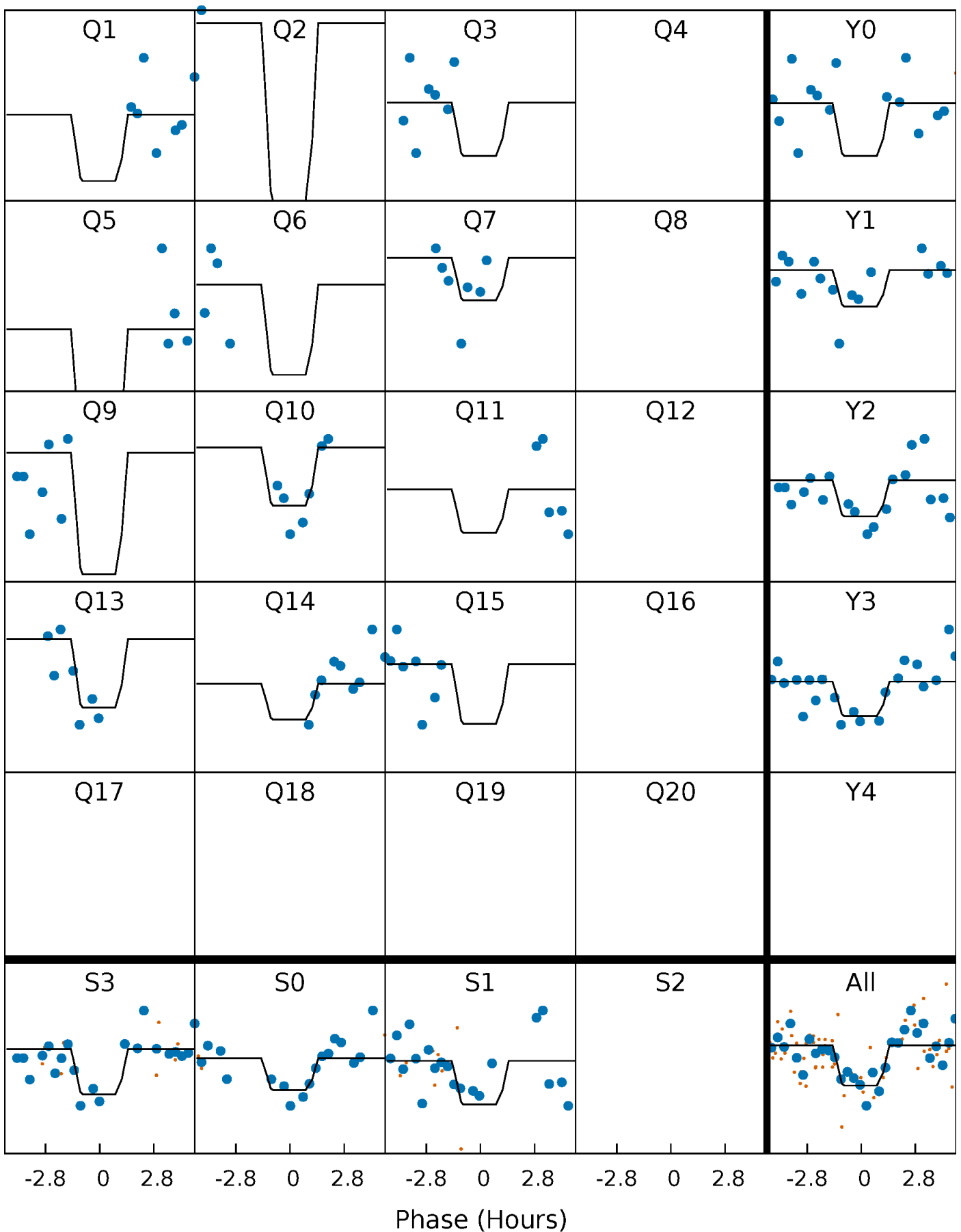
DV Quarter-Phased Transit Curves

TCE 011391636-02 P= 80.685317 Days $T_0=156.491362$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

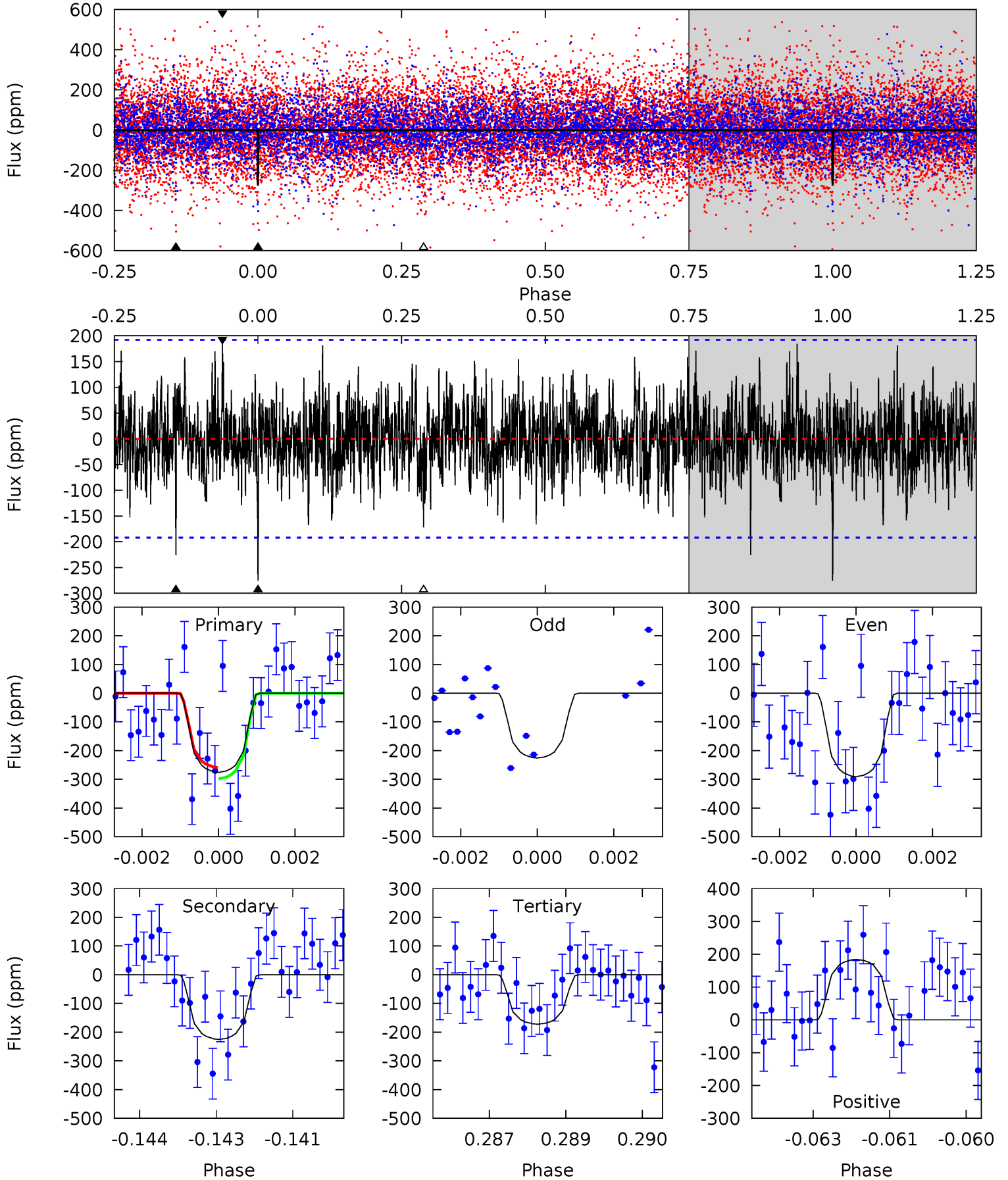
TCE 011391636-02 P= 80.685498 Days $T_0=156.483220$ (BKJD)



DV Model-Shift Uniqueness Test

011391636-02, P = 80.685317 Days, E = 75.806045 Days

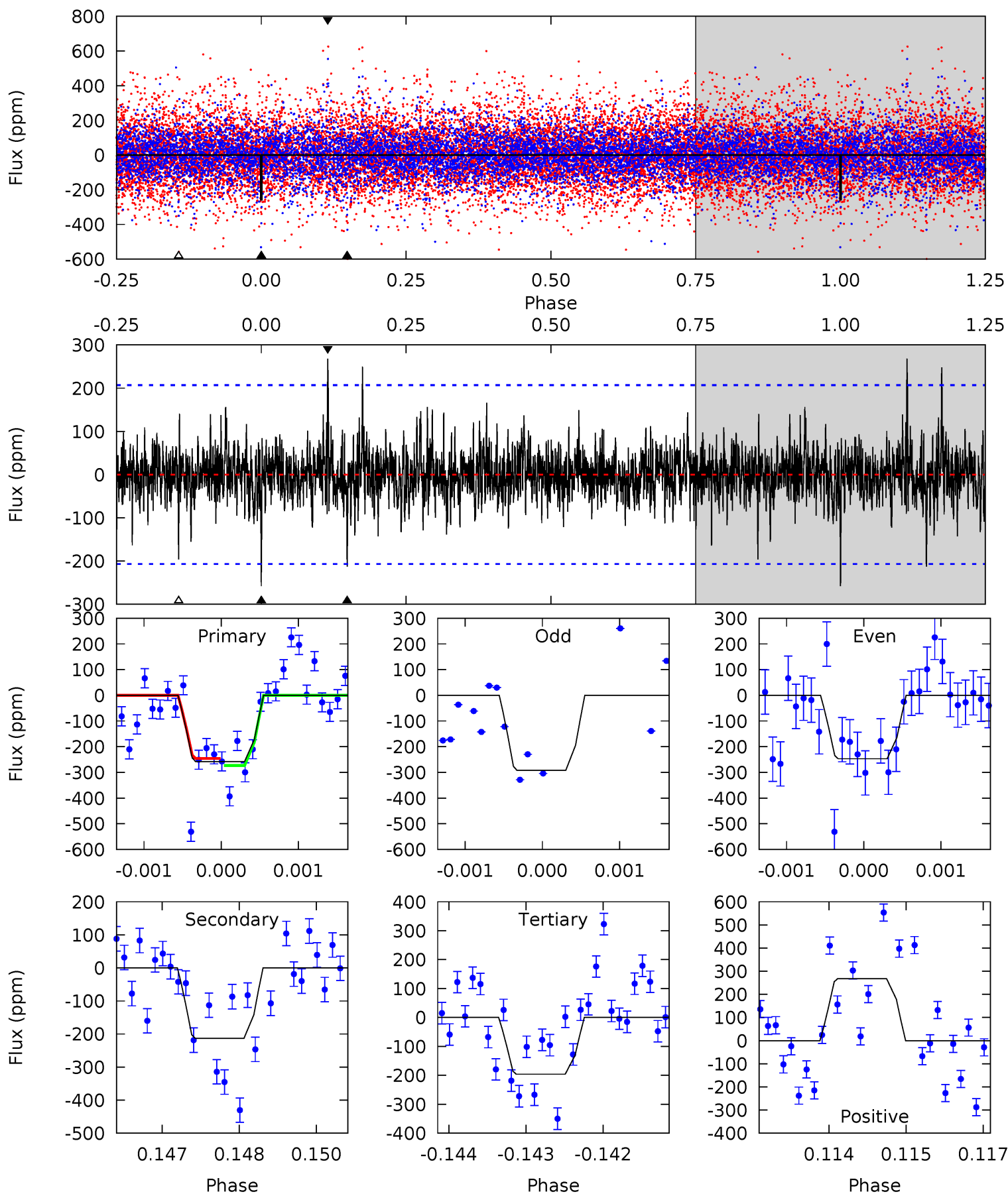
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.72	6.30	4.81	5.15	5.37	3.16	1.45	2.90	2.57	1.48	1.15	0.71	0.94	0.40	0.55



Alt Model-Shift Uniqueness Test

011391636-02, P = 80.685498 Days, E = 75.797722 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.73	5.56	5.12	7.00	5.39	3.20	1.17	1.61	-0.28	0.44	-1.44	0.48	0.96	0.51	0.36



Stellar Parameters For KIC 011391636

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4922^{+148}_{-133}	$4.505^{+0.103}_{-0.655}$	$0.200^{+0.200}_{-0.250}$	$0.823^{+0.090}_{-0.082}$	$0.790^{+0.073}_{-0.055}$	$1.996^{+0.661}_{-0.673}$
	+3%/-3%	+2%/-15%	+100%/-125%	+11%/-10%	+9%/-7%	+33%/-34%
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 011391636-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-225 ± 36	$2.25^{+1.79}_{-1.41}$	480^{+26}_{-21}	4099^{+2113}_{-720}	2750^{+17266}_{-1912}
Alt.	-213 ± 38	$2.07^{+1.72}_{-1.33}$	480^{+25}_{-23}	4145^{+2426}_{-764}	3119^{+22096}_{-2248}

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 $A_{obs} \gg 1.0$

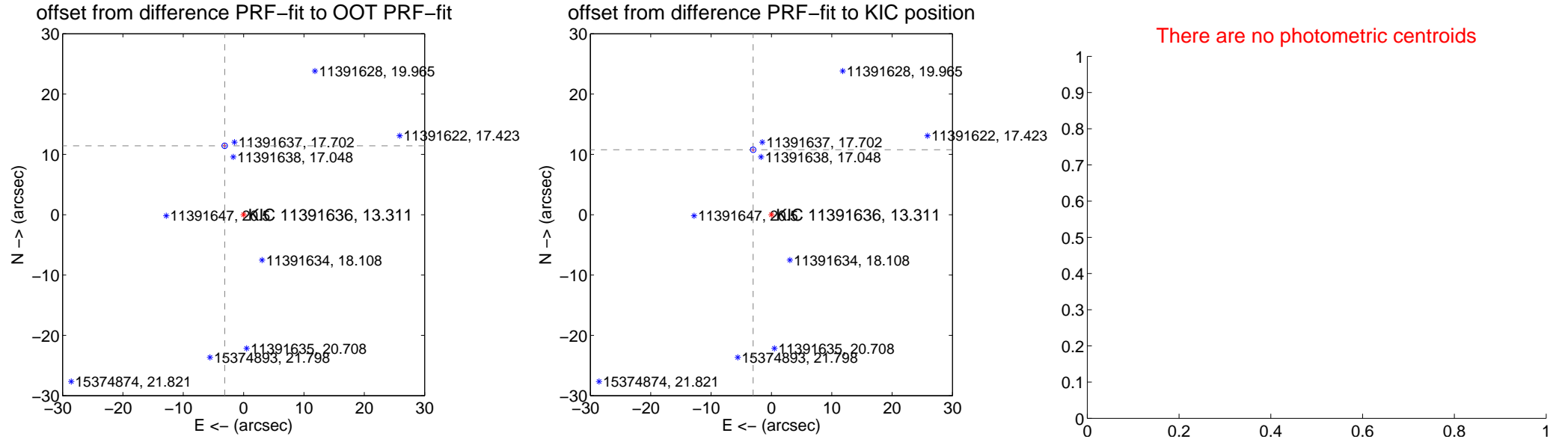
DV Centroid Data

Supplemental centroid analysis for 011391636-02. Kepler magnitude: 13.31. Transit SNR 7.76

There are 2 quarters with good PRF difference image offsets

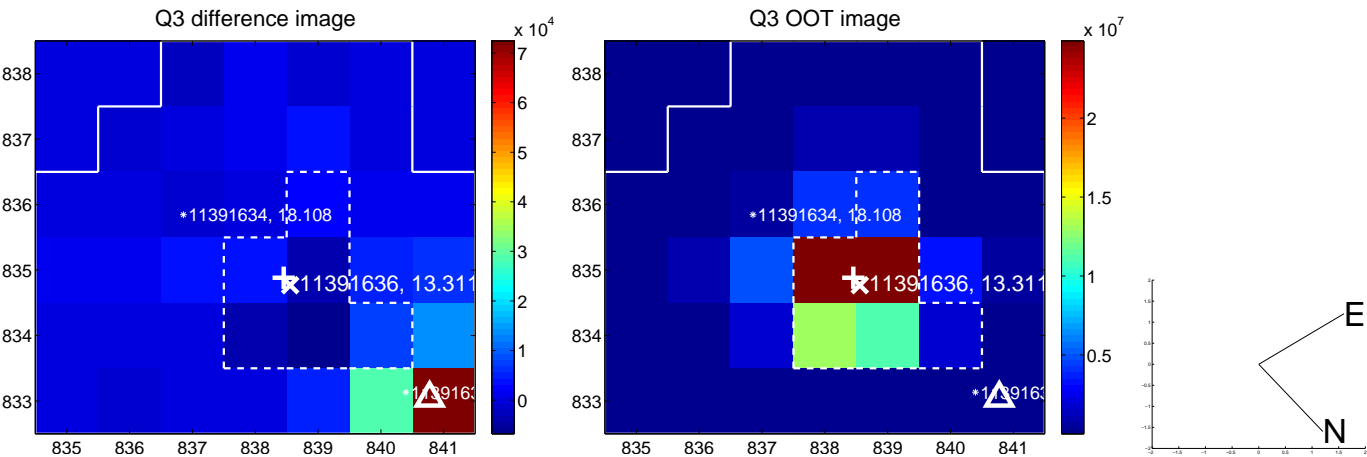
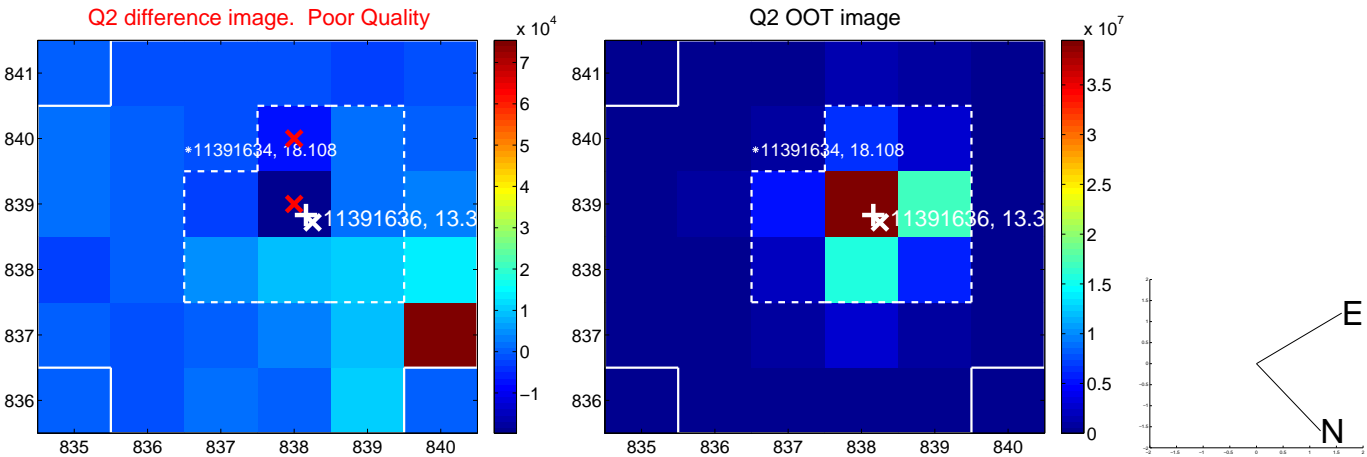
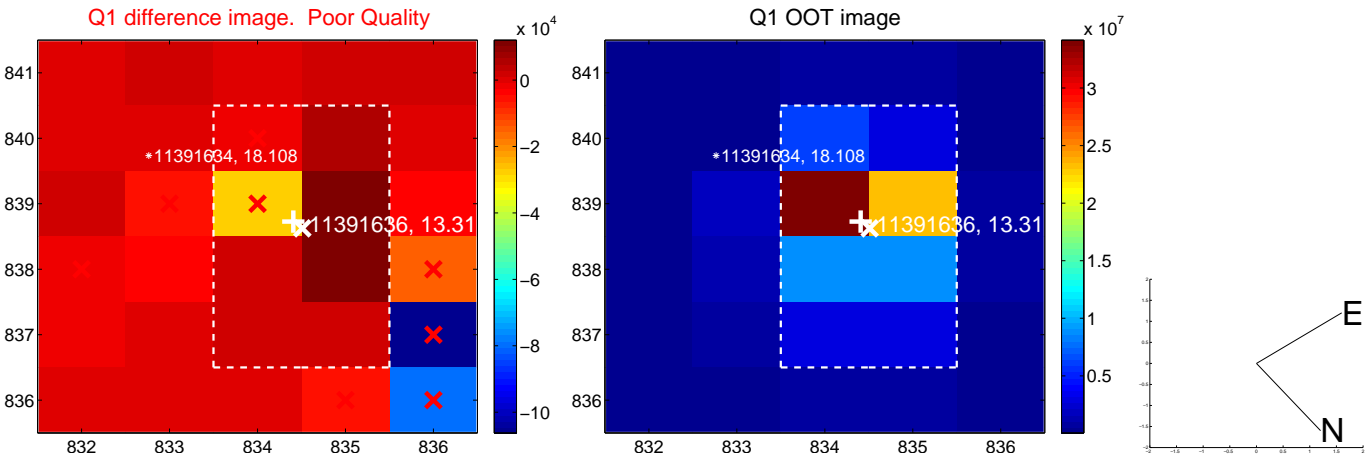
The direct PRF centroid is offset from the target star catalog position by about 0.78 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	11.852 \pm 0.153	77.35	3.137 \pm 0.124	11.429 \pm 0.155
PRF-fit source offset from KIC position	11.182 \pm 0.153	73.02	3.026 \pm 0.124	10.765 \pm 0.155
photometric centroid source offset	—	—	—	—

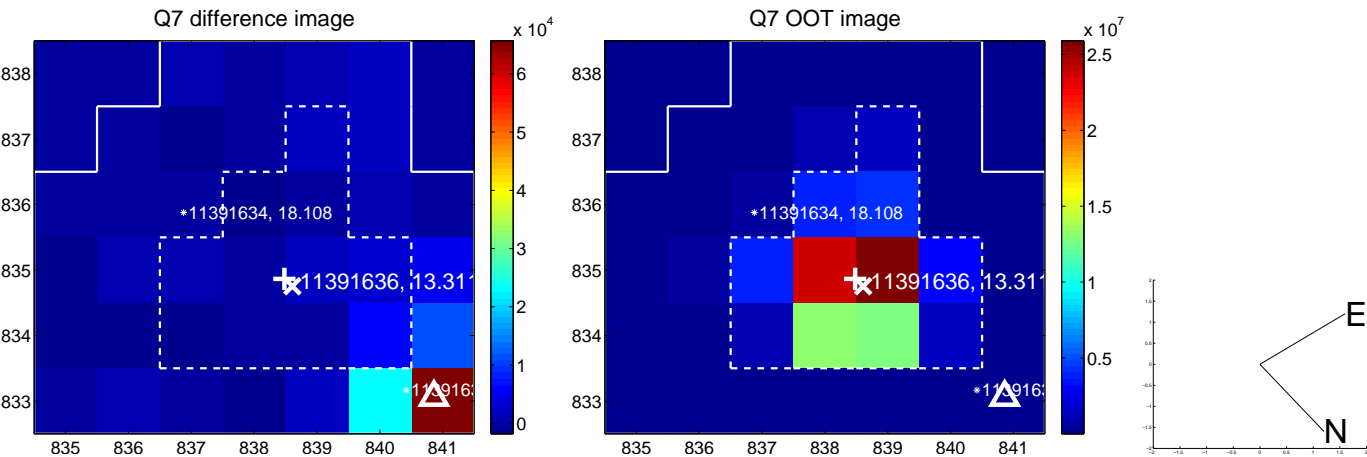
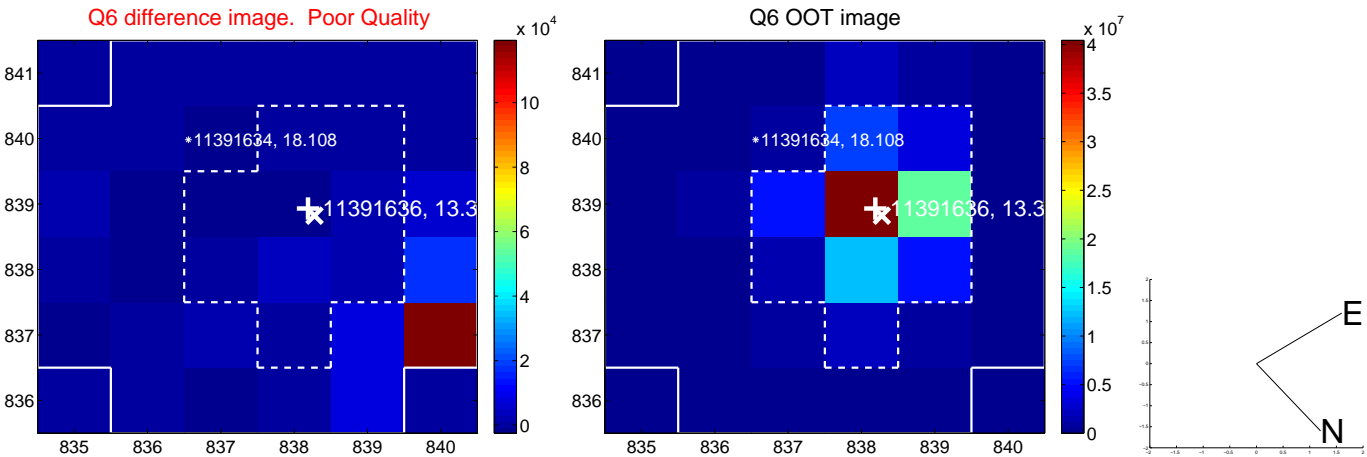
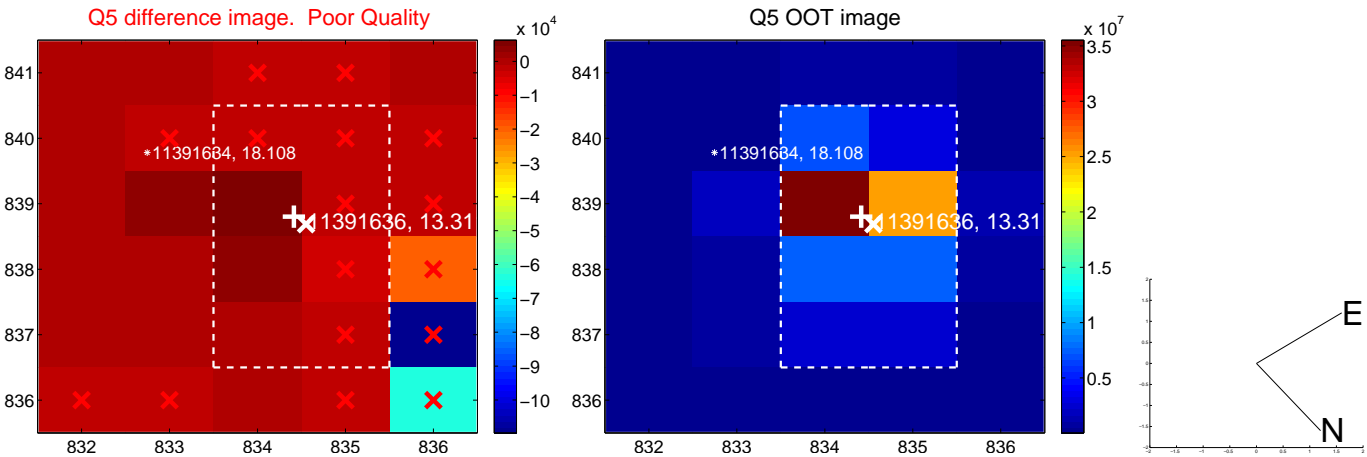


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

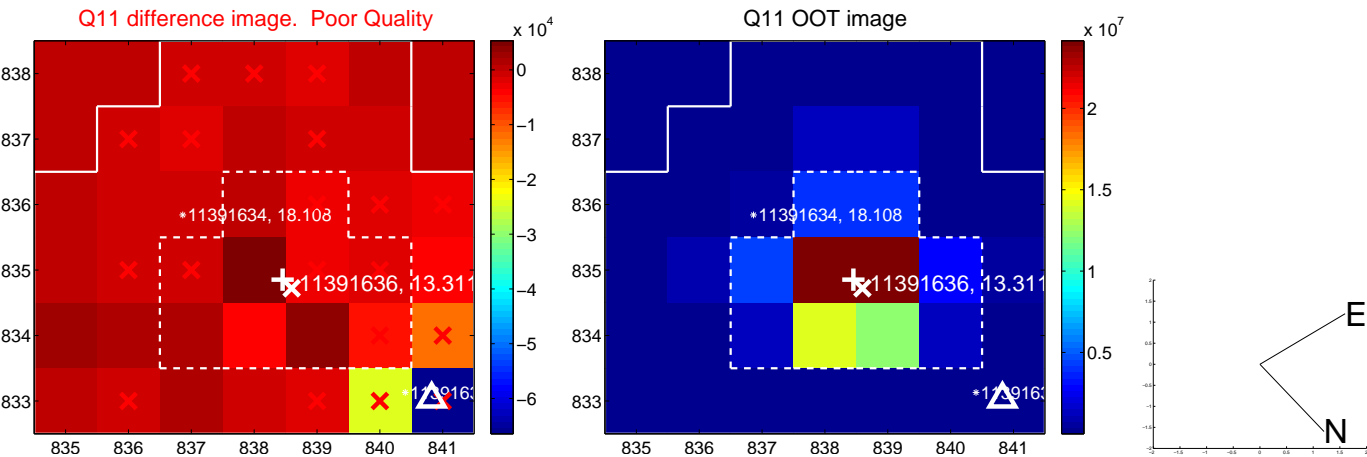
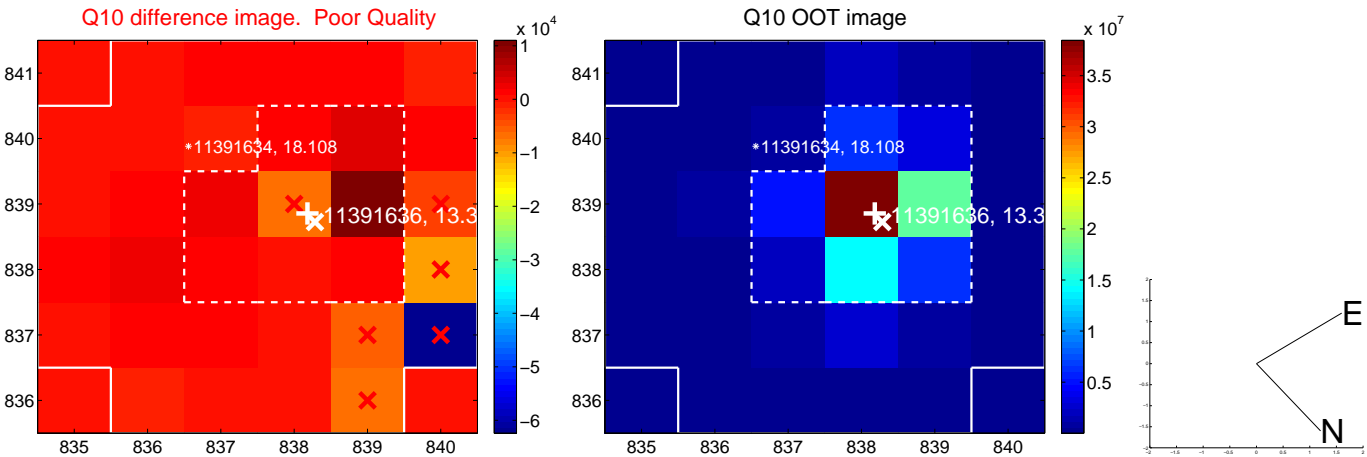
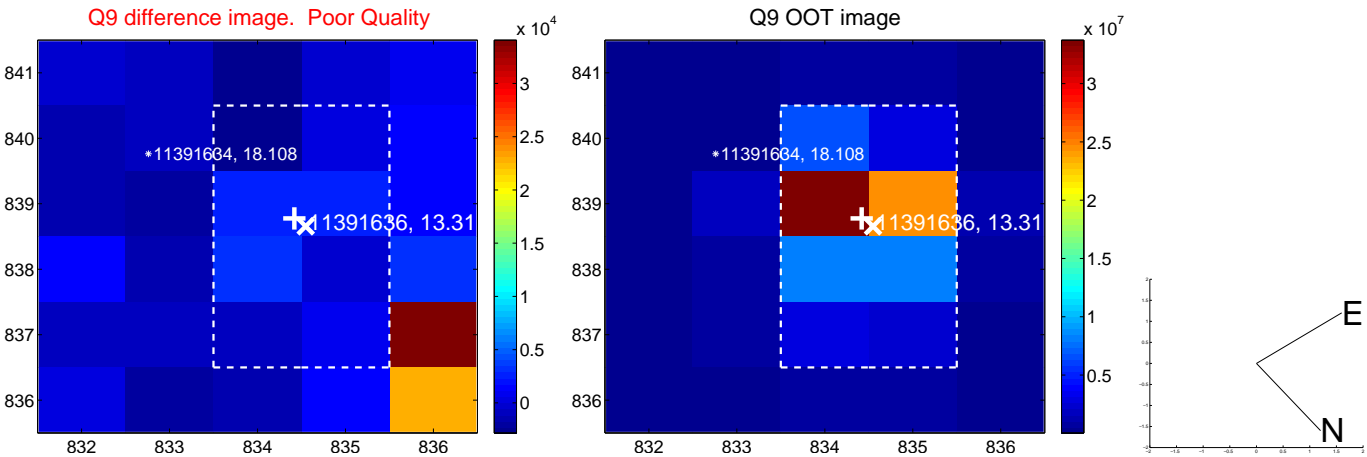
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



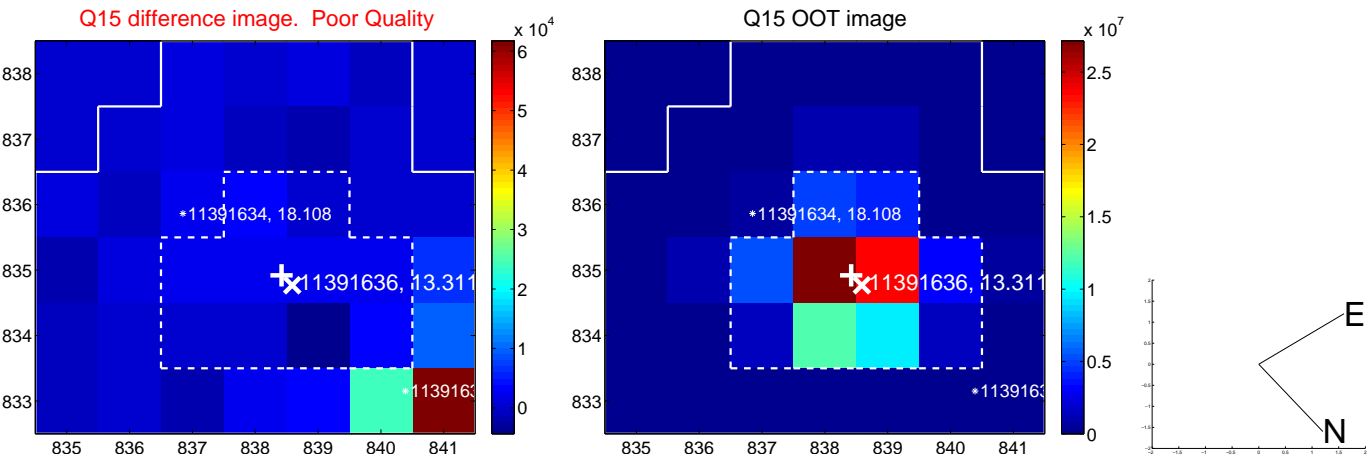
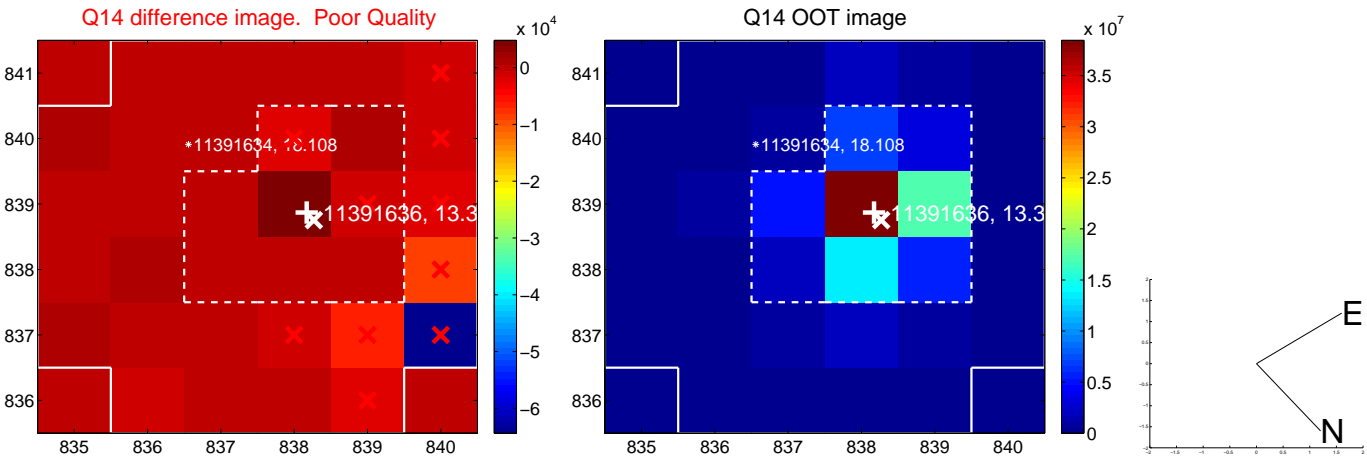
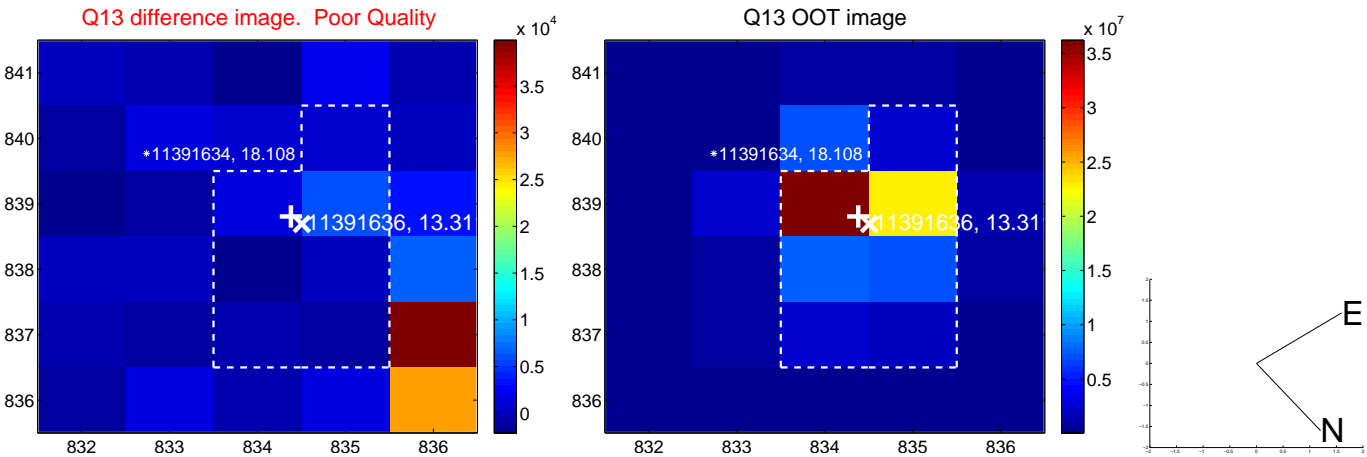
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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folded centroid time series figure for this object.

UKIRT Image

