

KIC 008619436

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})
008619436-01	OBS	No	1.566671	132.821400	17.6	8.683	12.9	12.4	4.38	10894	1.93	158194.18
008619436-03	OBS	No	225.450279	189.072332	125.8	15.000	14.5	-1.0	4.38	10894	5.05	209.78
008619436-04	OBS	No	529.333385	226.137478	93.7	6.513	11.6	4.3	4.38	10894	4.45	67.22
008619436-05	OBS	No	147.826524	226.428423	66.2	25.440	11.7	3.4	4.38	10894	4.01	368.26
008619436-06	OBS	No	310.283609	172.684617	70.7	10.500	7.7	-1.0	4.38	10894	3.79	137.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008619436-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
008619436-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS—HALO_GHOST
008619436-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008619436-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
008619436-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

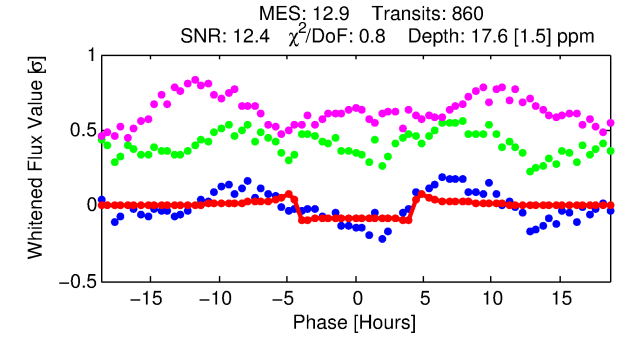
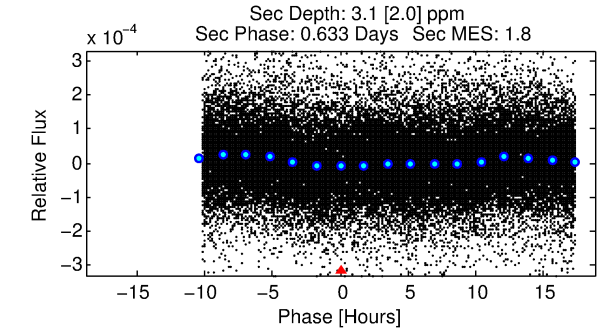
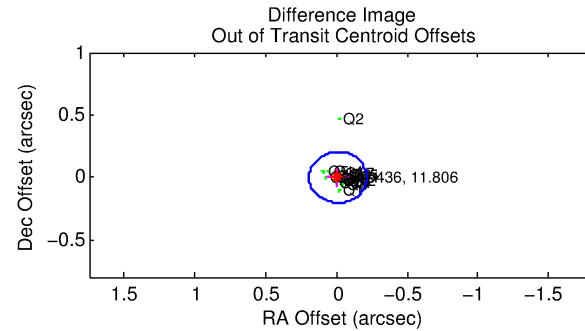
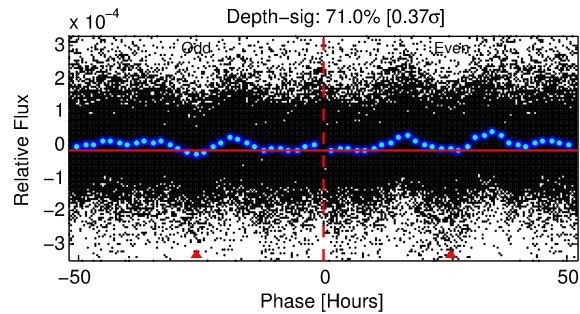
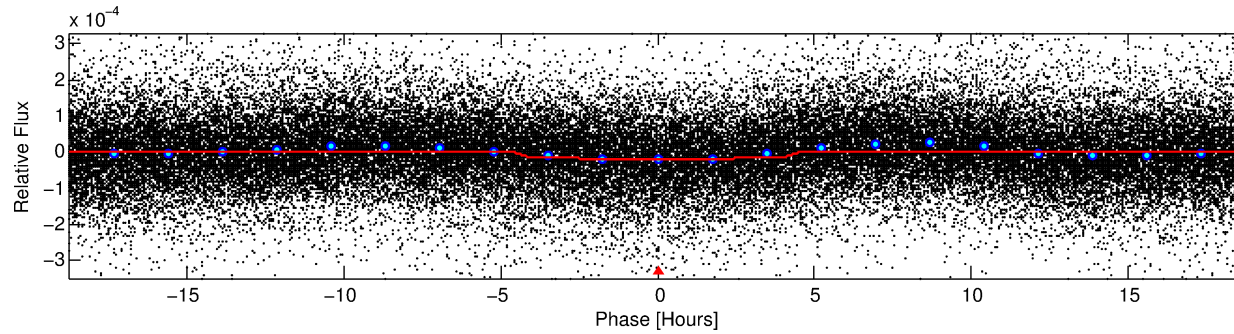
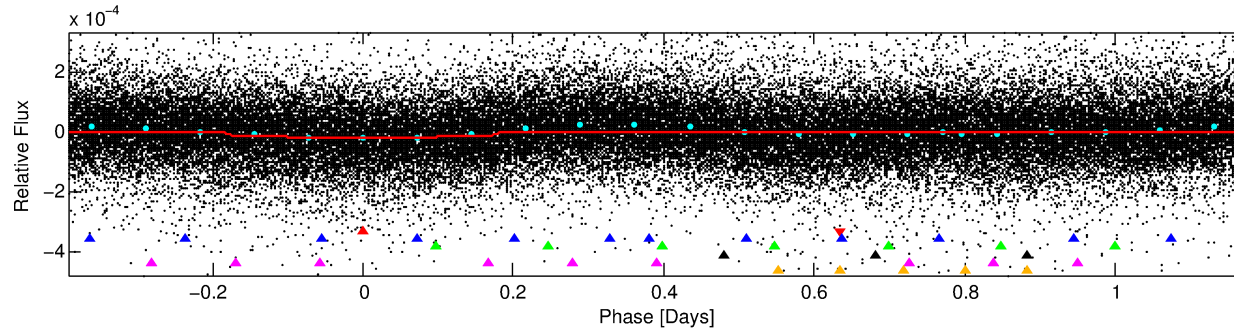
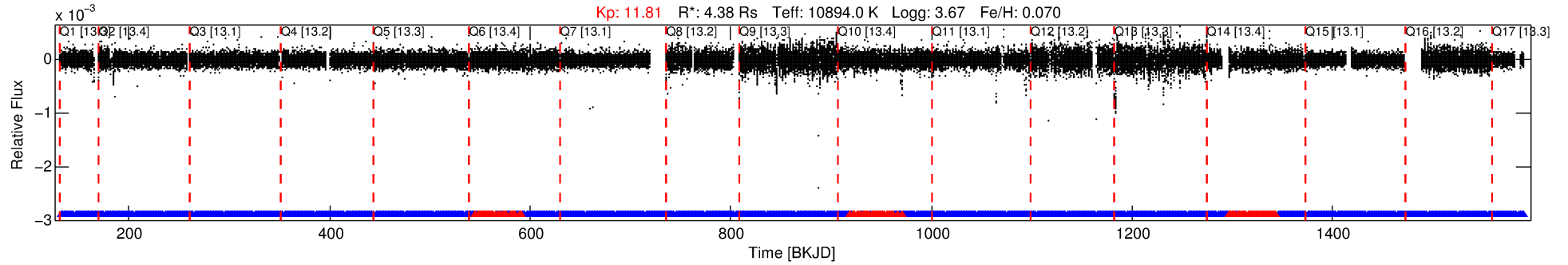
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008619436-01

No Significant Match Found

DV One-Page Summary

KIC: 8619436 Candidate: 1 of 6 Period: 1.567 d



DV Fit Results:

Period = 1.56667 [0.00001] d
Epoch = 132.8214 [0.0028] BKJD
Rp/R* = 0.0040 [0.0007]
a/R* = 1.41 [0.96]
b = 0.49 [2.17]
Seff = 158194.18 [103235.17]
Teq = 5085 [830] K
Rp = 1.93 [0.85] Re
a = 0.0391 [0.0152] AU
Ag = 0.70 [0.67] [-0.45 σ]
Teffp = 7192 [1356] K [1.32 σ]

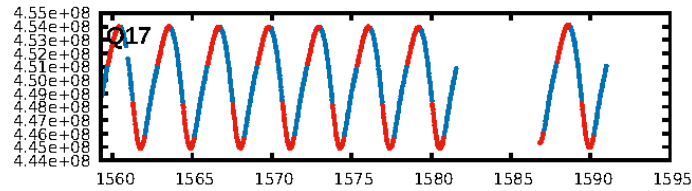
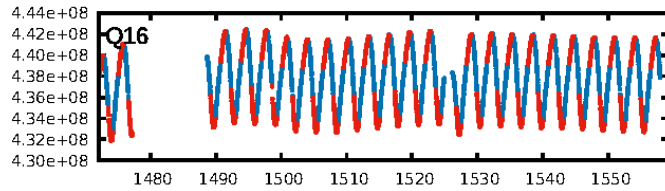
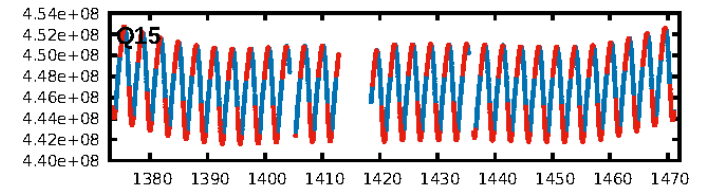
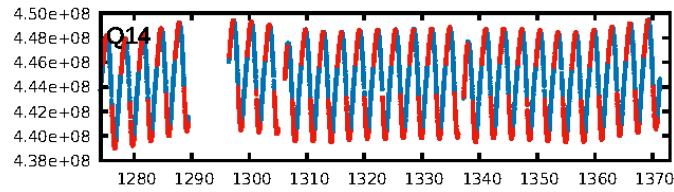
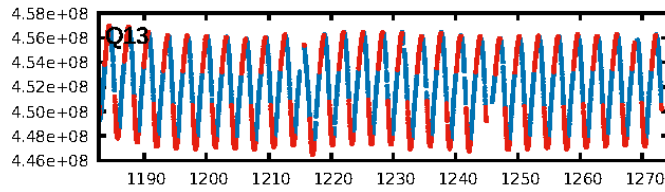
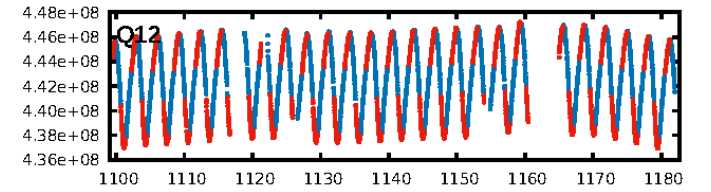
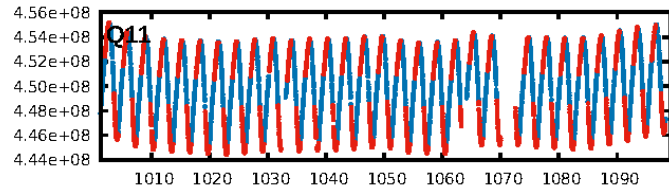
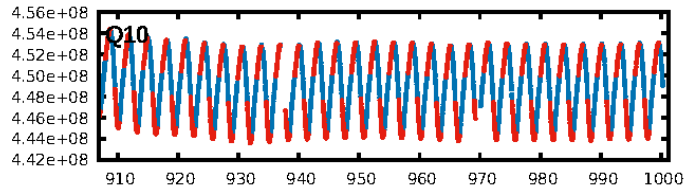
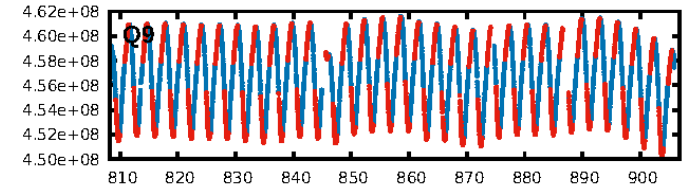
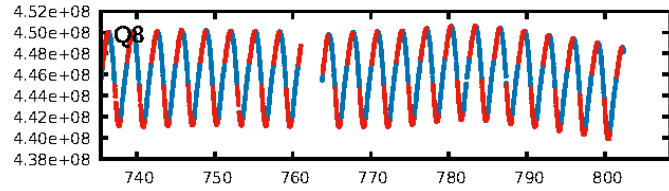
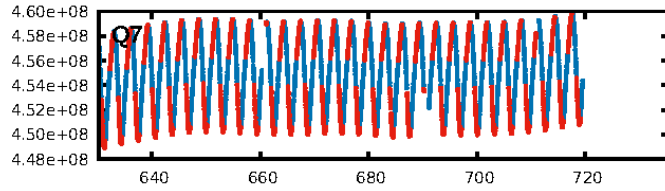
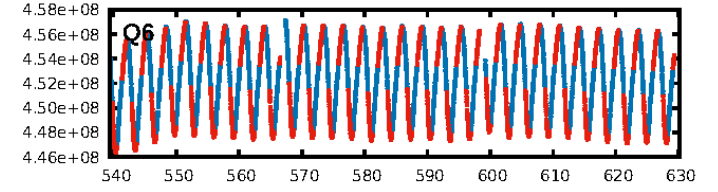
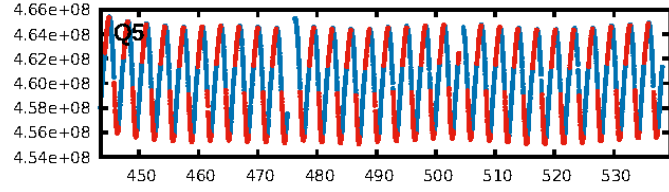
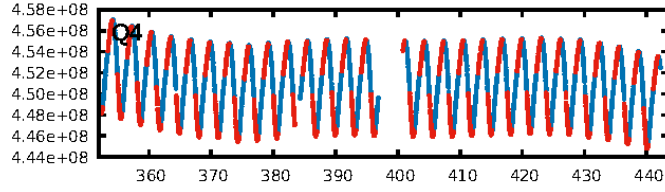
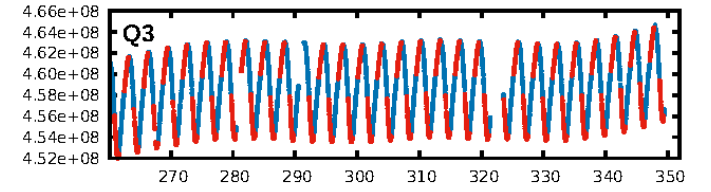
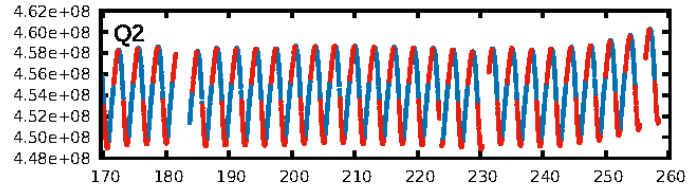
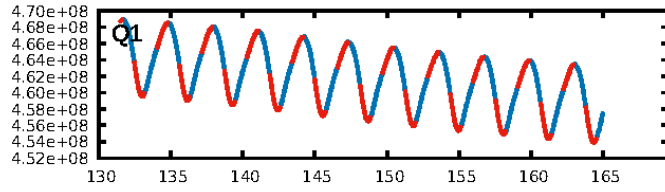
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [49.81 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.73e-22
RollingBand-fgt: 0.90 [741/822]
GhostDiagnostic-chr: 0.4305
Centroid-sig: 0.2%
Centroid-so: 3.003 arcsec [1.92 σ]
OotOffset-rm: 0.010 arcsec [0.15 σ]
KicOffset-rm: 0.023 arcsec [0.33 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

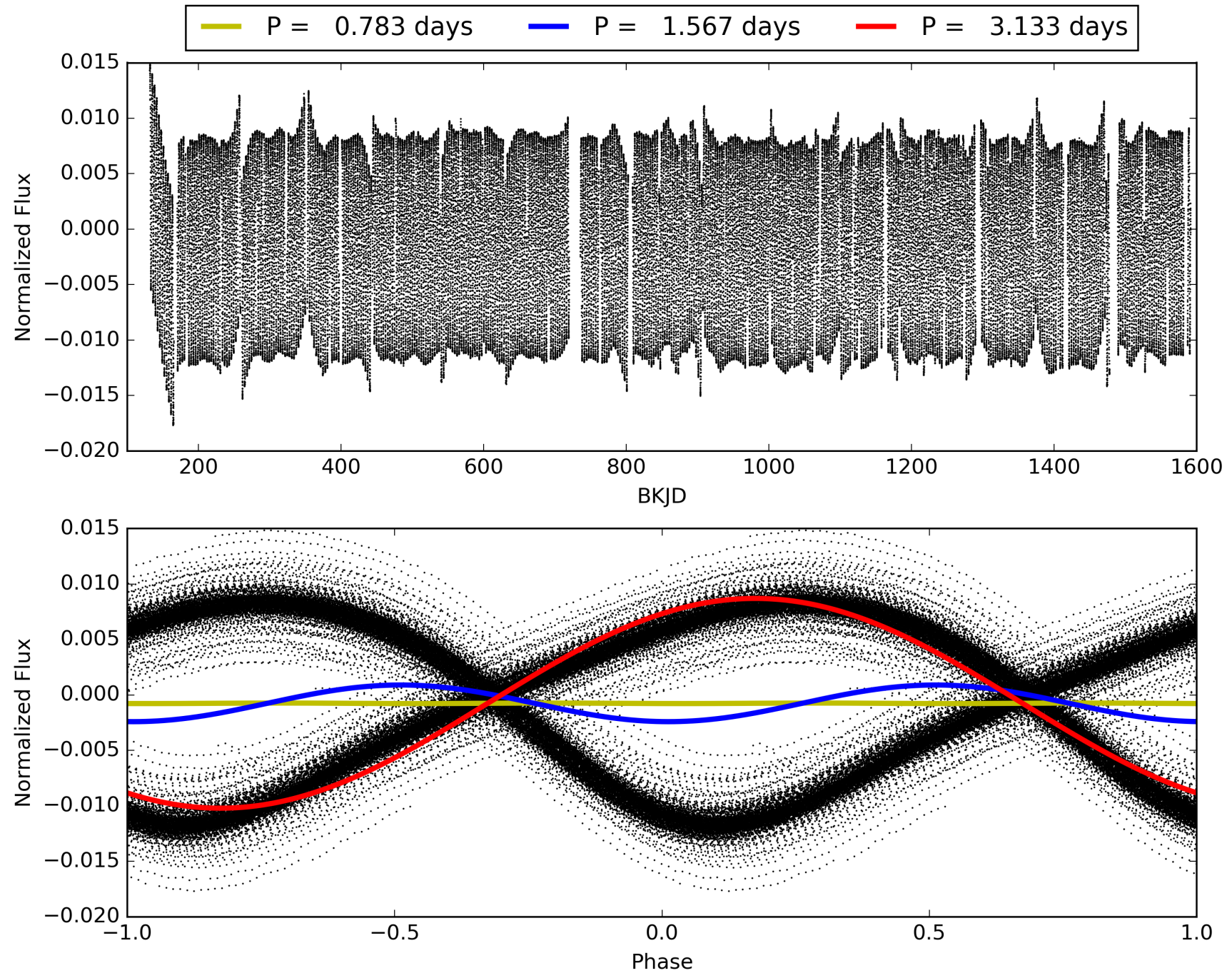
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:54:59 Z

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

TCE 008619436-01, PDC Light Curves

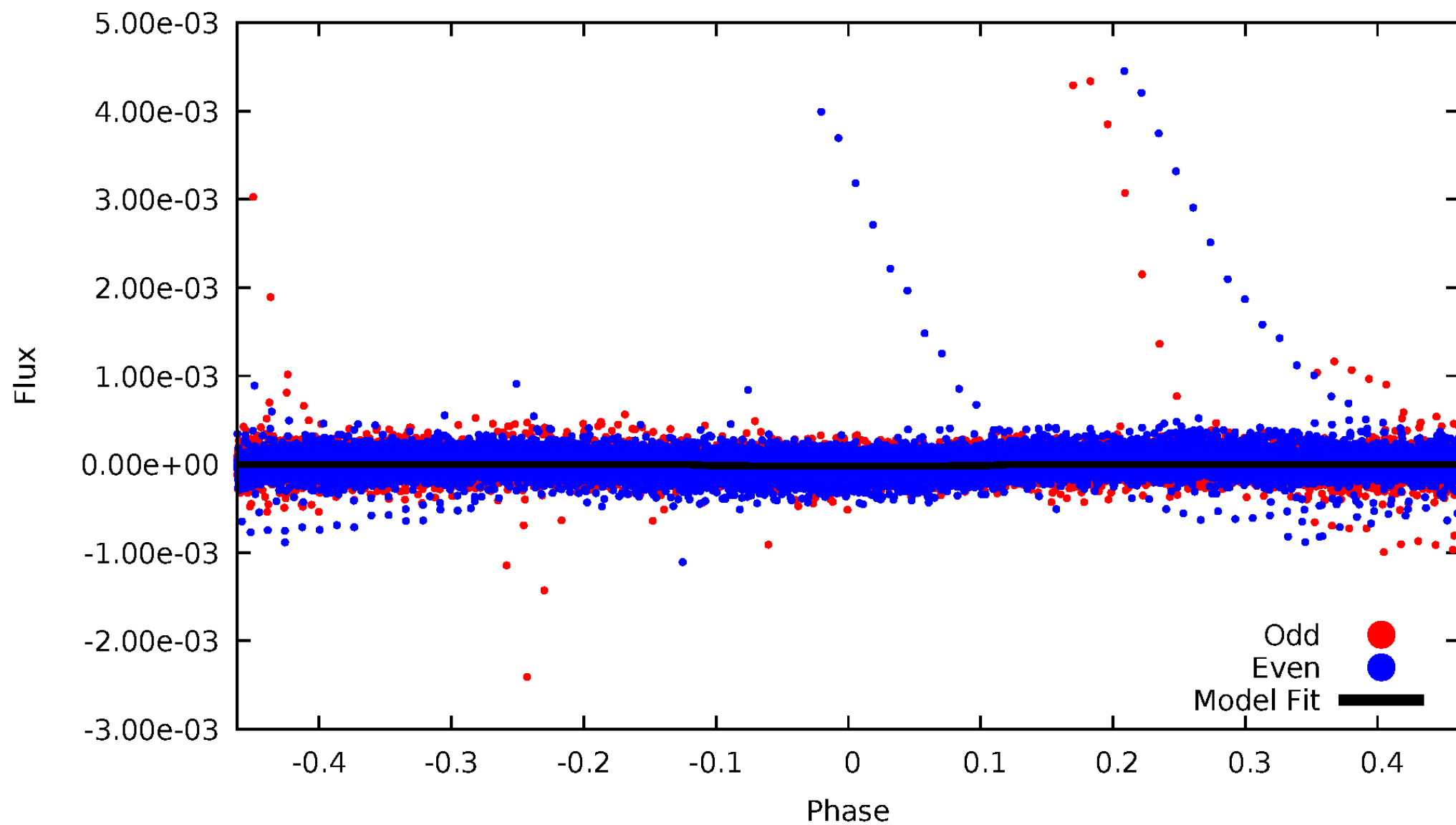


TCE 008619436-01



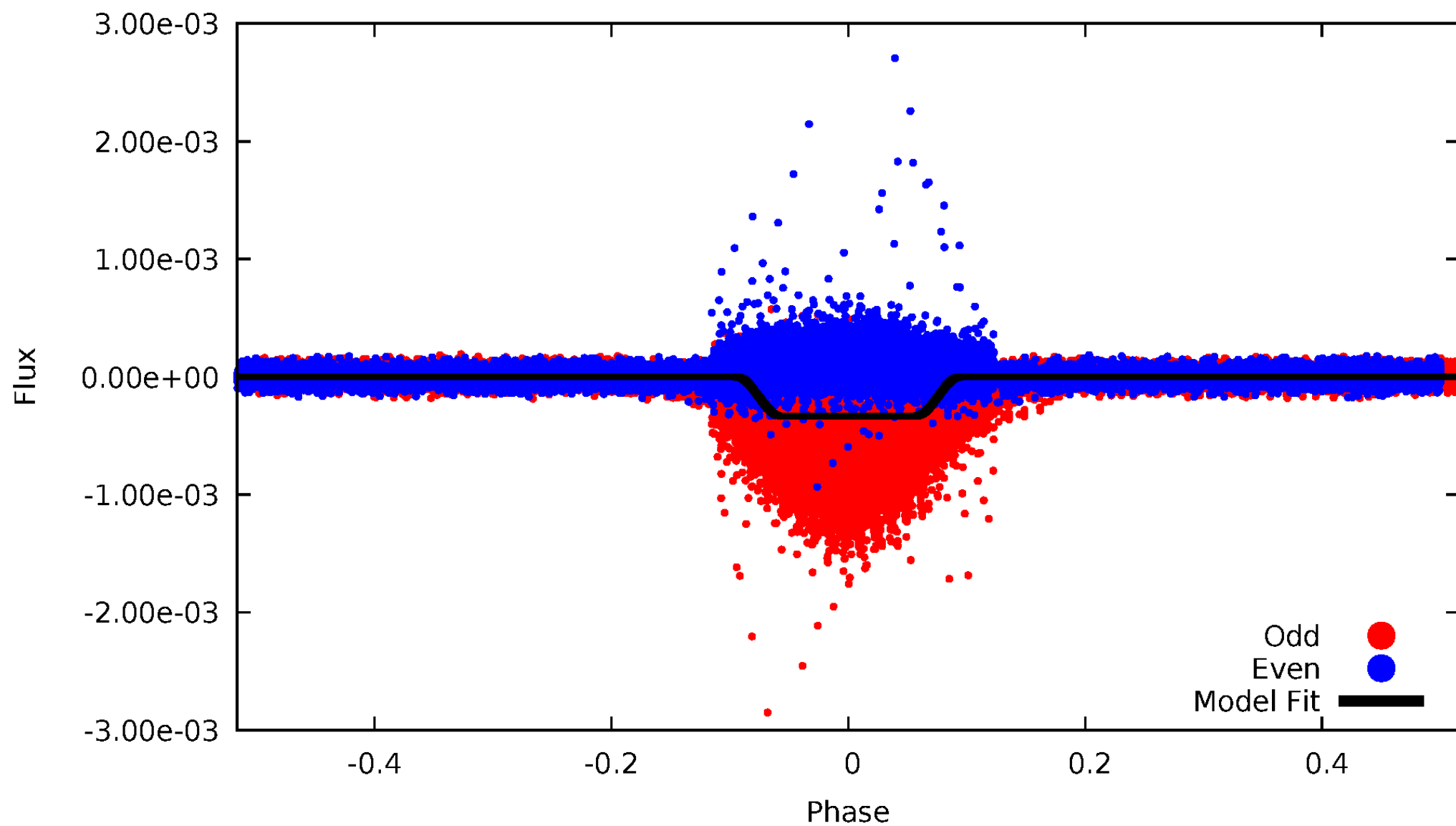
DV Odd/Even

TCE 008619436-01



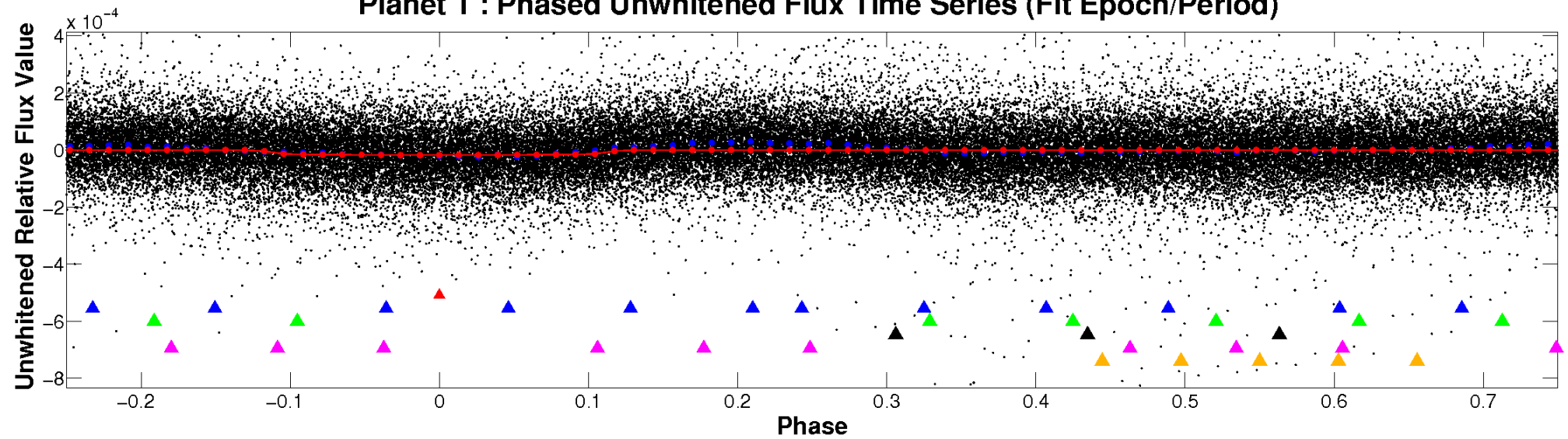
ALT Odd/Even

TCE 008619436-01

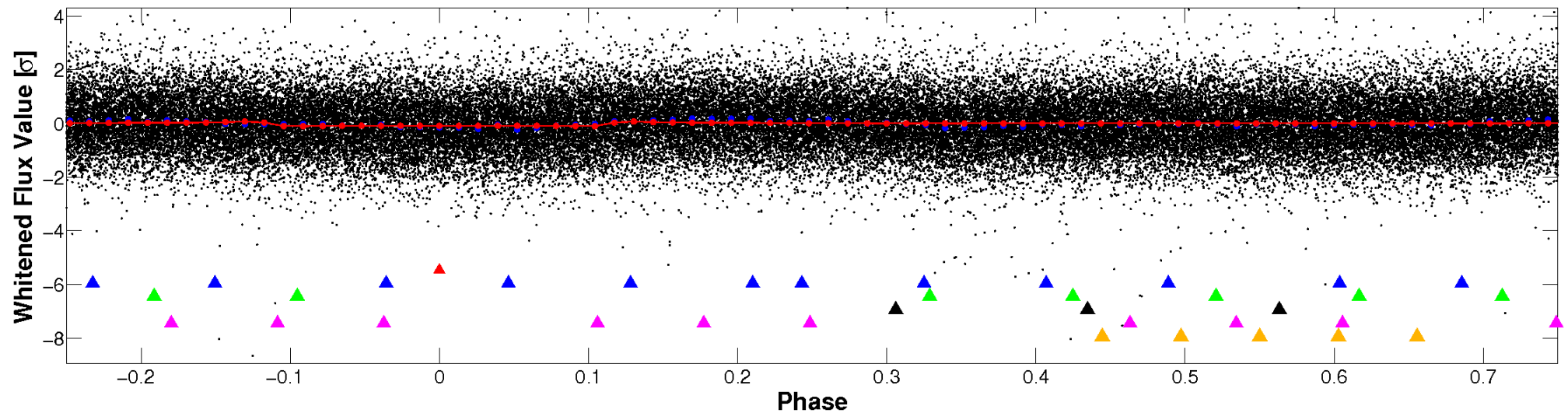


Non-Whitened Vs. Whitened Light Curve

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

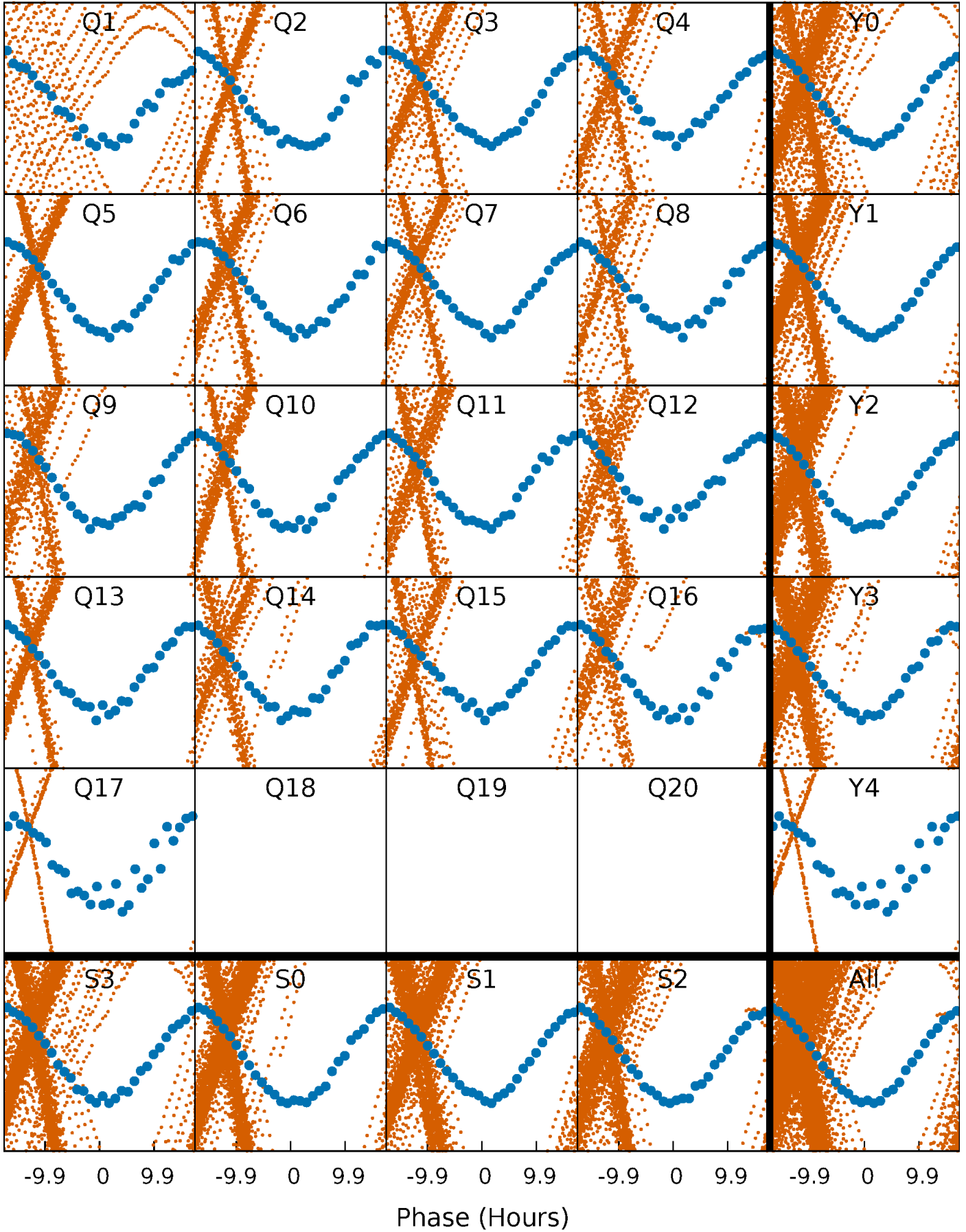


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



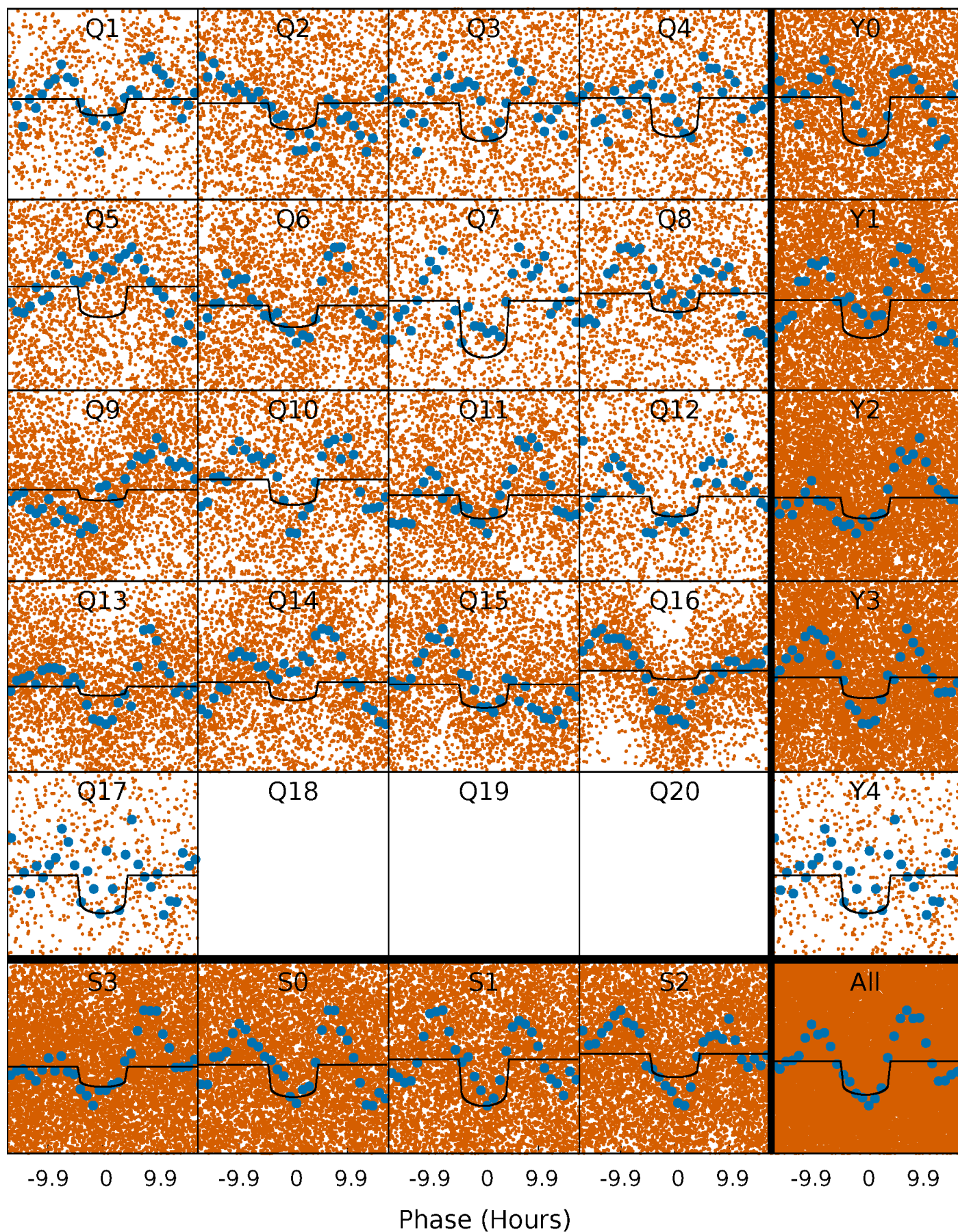
PDC Quarter-Phased Transit Curves

TCE 008619436-01 P= 1.566671 Days $T_0=132.821400$ (BKJD)



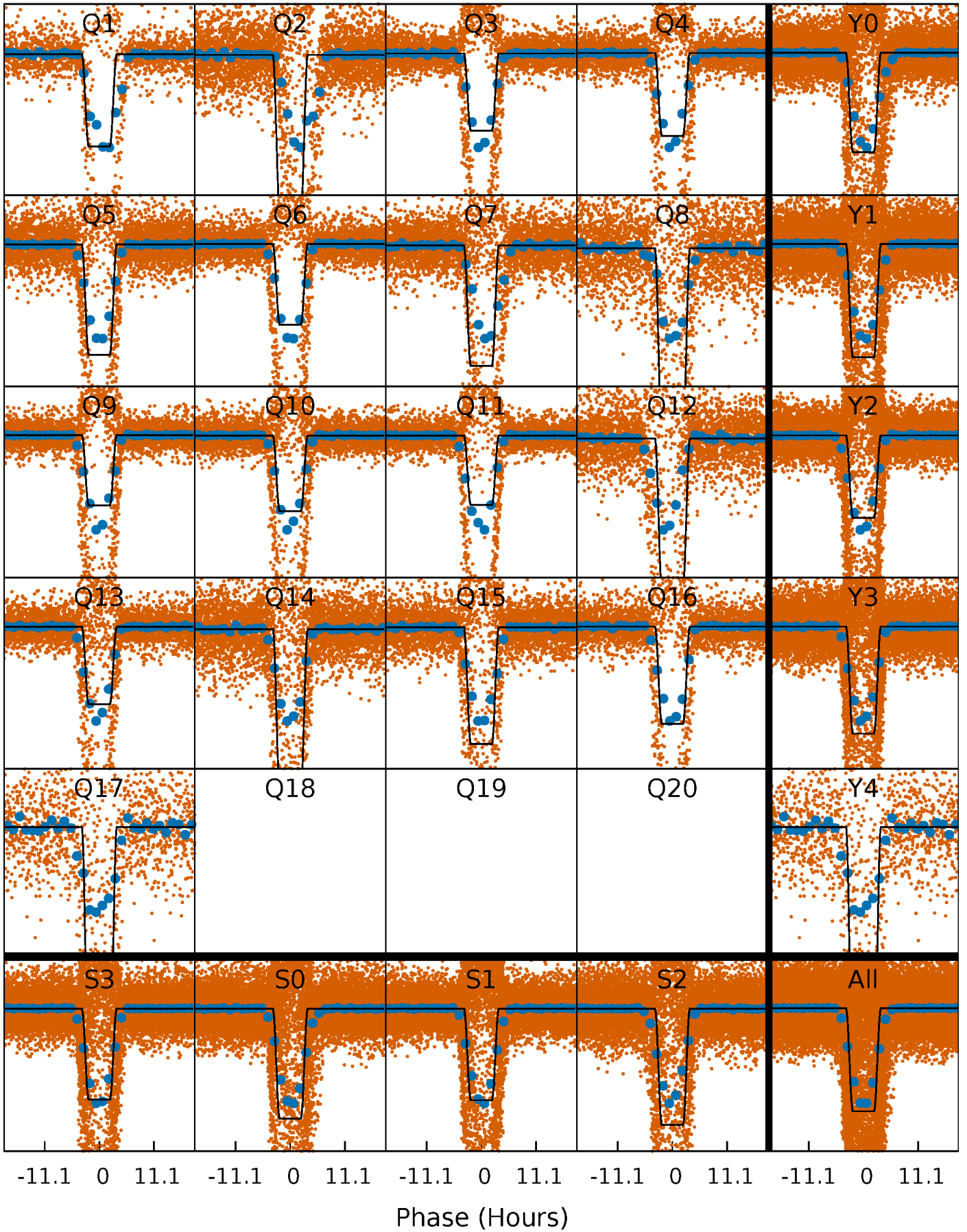
DV Quarter-Phased Transit Curves

TCE 008619436-01 P= 1.566671 Days $T_0=132.821400$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

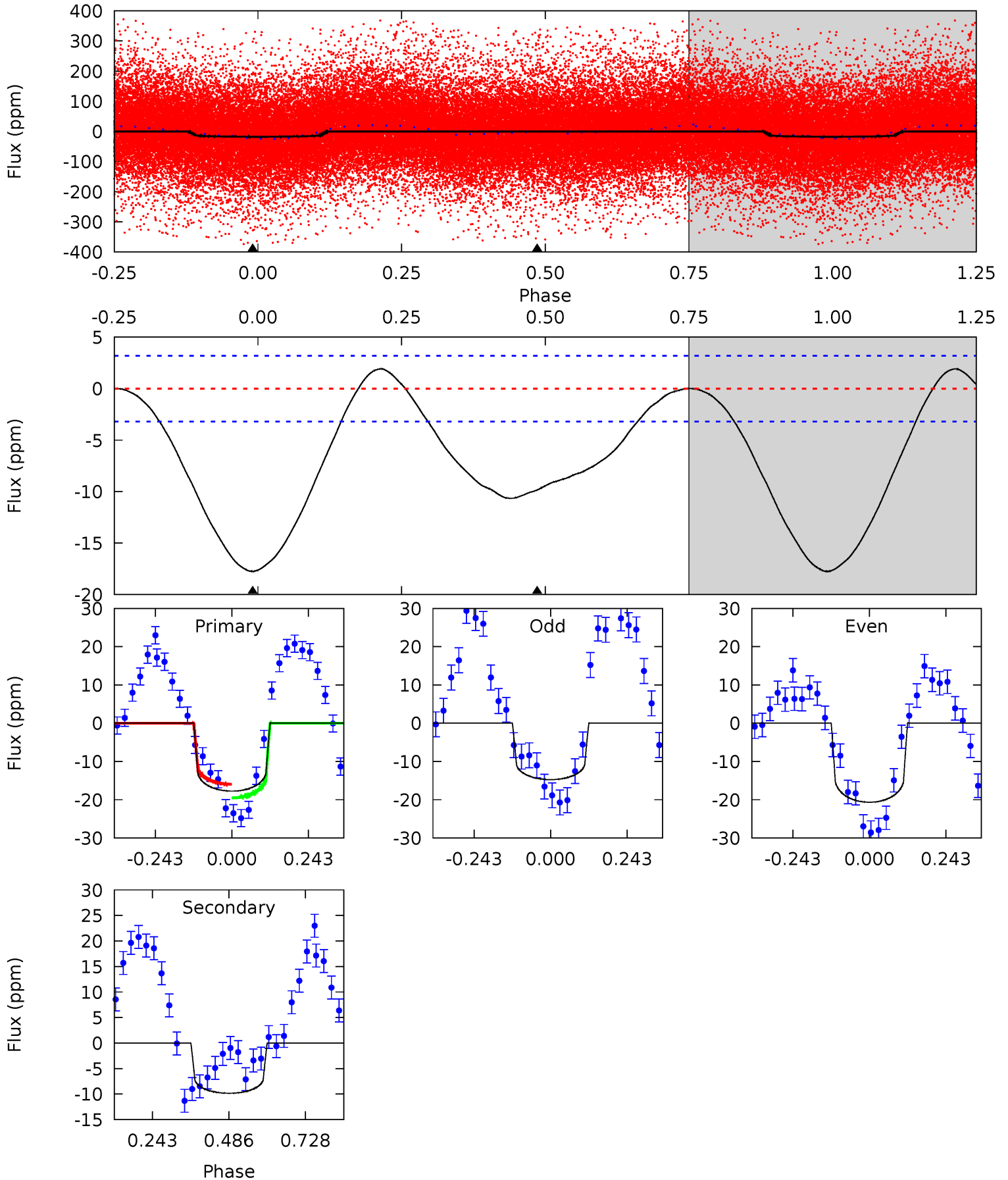
TCE 008619436-01 P= 1.566571 Days $T_0=132.895613$ (BKJD)



DV Model-Shift Uniqueness Test

008619436-01, P = 1.566671 Days, E = 131.254729 Days

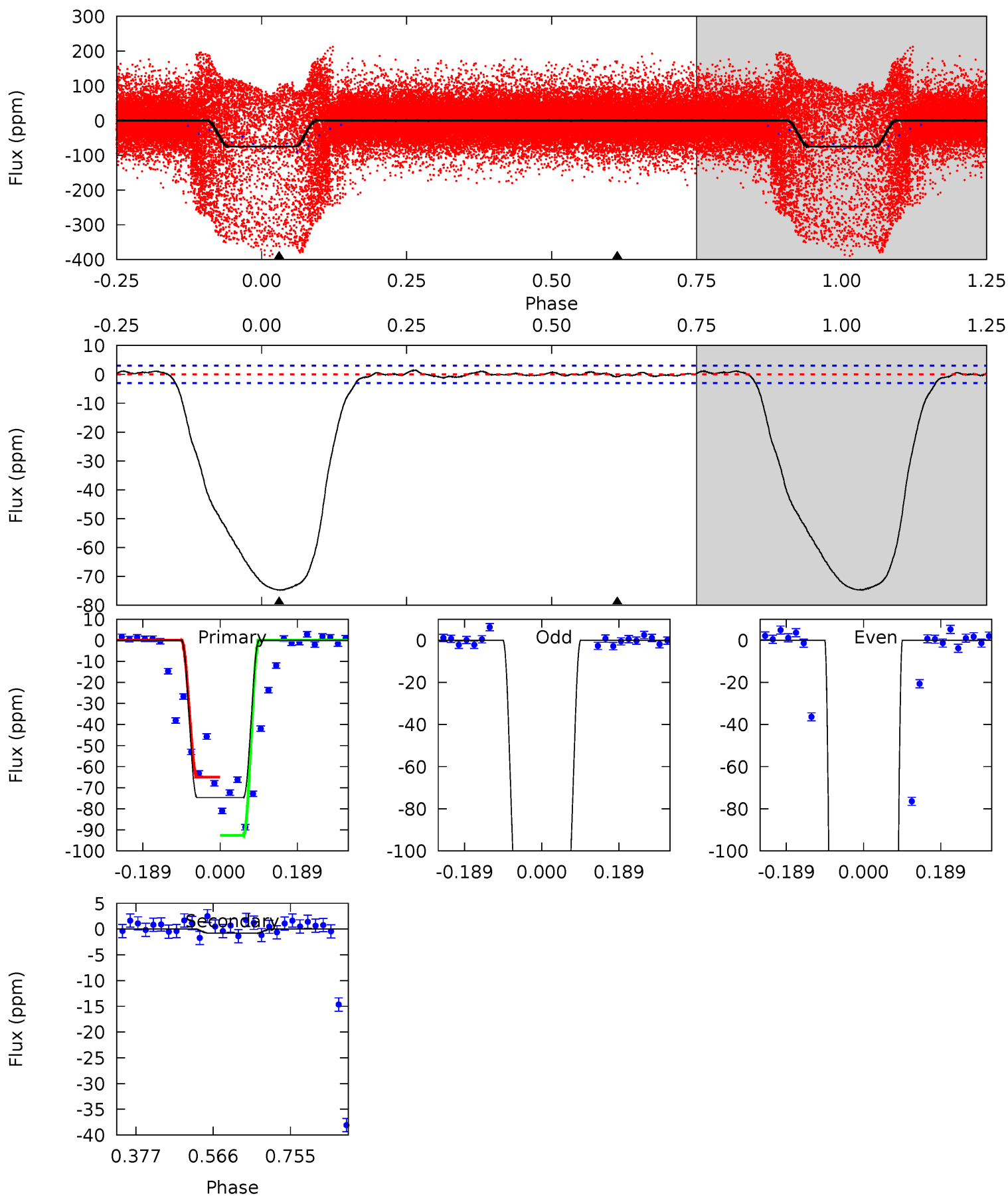
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.3	13.5	0	0	4.38	1.17	1.02	24.3	24.3	13.5	13.5	4.04	1.17	0.10	2.46



Alt Model-Shift Uniqueness Test

008619436-01, P = 1.566571 Days, E = 131.329042 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
110.3	1.21	0	0	4.43	1.31	0.99	110.3	110.3	1.21	1.21	567.7	2.29	0.02	0



Stellar Parameters For KIC 008619436

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10894^{+210}_{-506}	$3.667^{+0.368}_{-0.092}$	$0.070^{+0.050}_{-0.600}$	$4.378^{+0.471}_{-1.765}$	$3.249^{+0.076}_{-0.685}$	$0.055^{+0.156}_{-0.016}$
	+2%/-5%	+10%/-3%	+71%/-857%	+11%/-40%	+2%/-21%	+287%/-29%
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 008619436-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 1	$1.80^{+0.43}_{-0.47}$	6920^{+434}_{-774}	8576^{+1415}_{-1035}	$2.482^{+1.990}_{-0.844}$
Alt.	-1 ± 1	$8.39^{+0.99}_{-1.81}$	6889^{+442}_{-678}	-5108^{+435}_{-250}	$0.010^{+0.009}_{-0.008}$

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

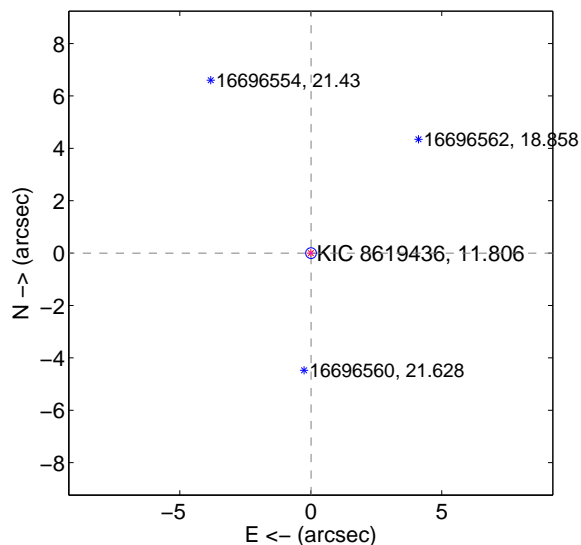
Supplemental centroid analysis for 008619436-01. **Kepler magnitude: 11.81.** Transit SNR 12.43

There are 17 quarters with good PRF difference image offsets

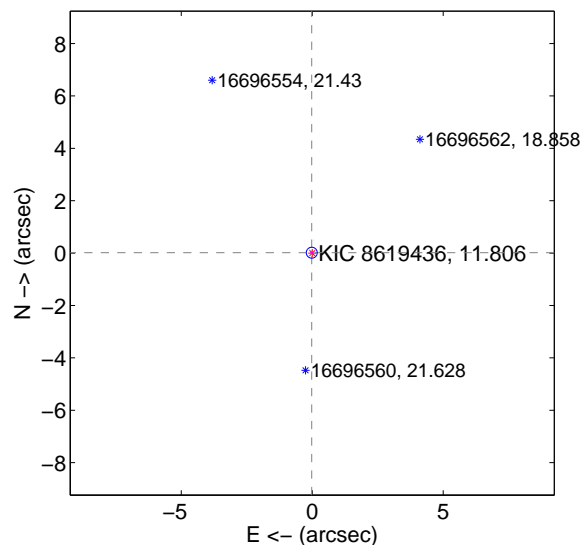
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.010 ± 0.068	0.15	-0.010 ± 0.068	-0.001 ± 0.068
PRF-fit source offset from KIC position	0.023 ± 0.070	0.33	0.018 ± 0.068	0.015 ± 0.074
photometric centroid source offset	3.00 ± 1.57	1.92	-3.00 ± 1.57	-0.03 ± 0.84

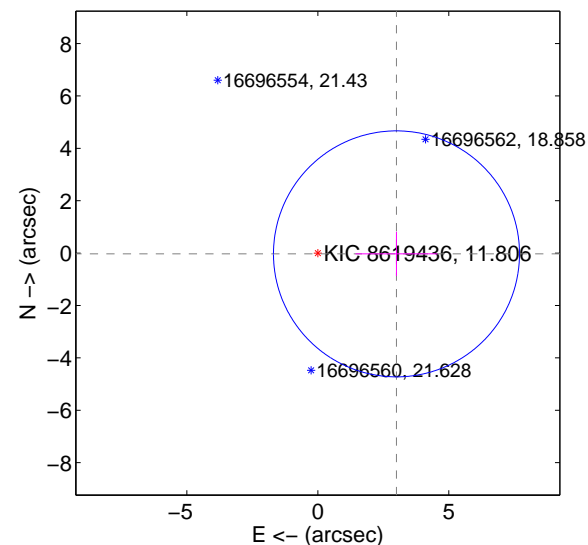
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

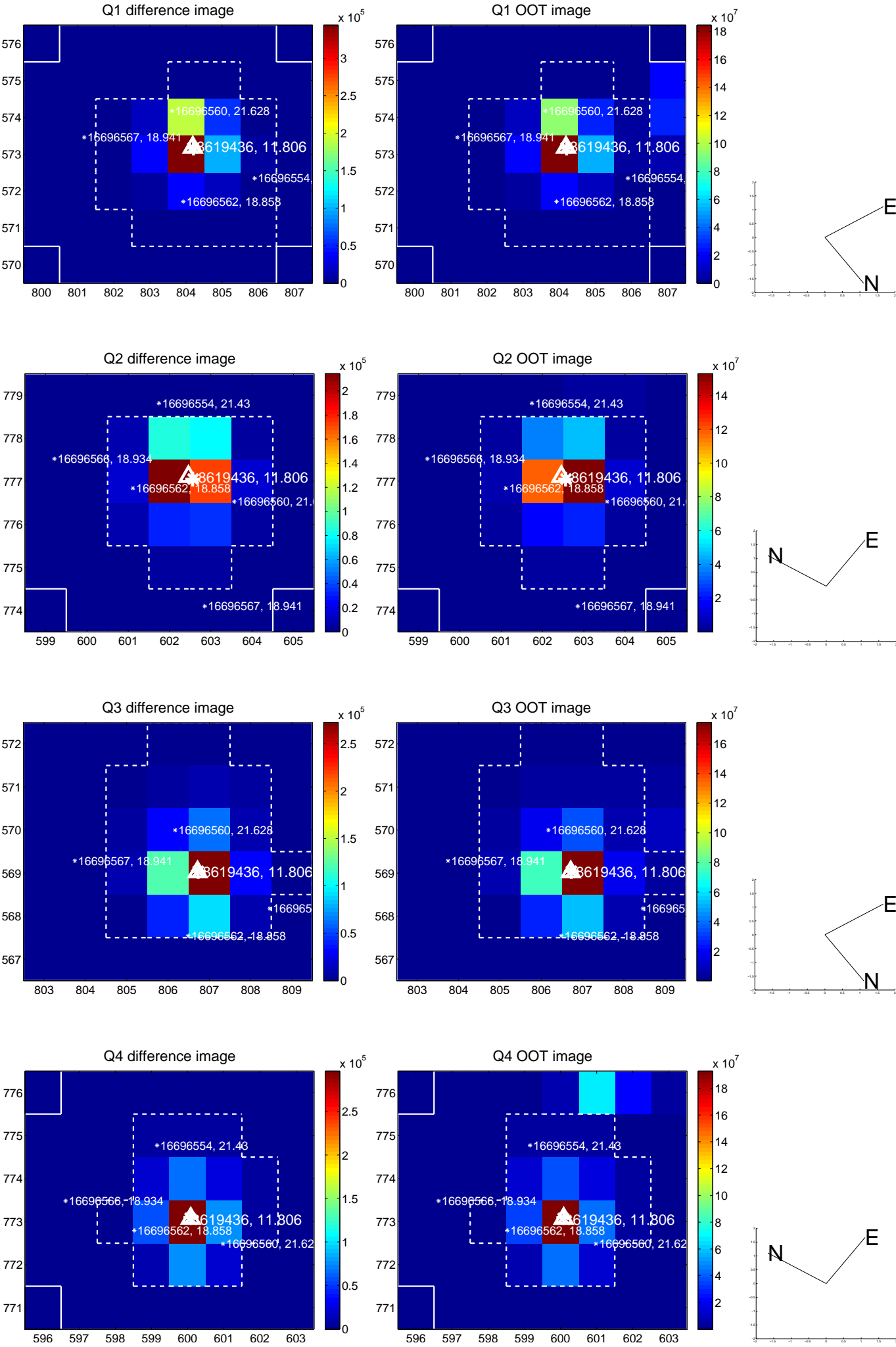


offset from photometric centroids

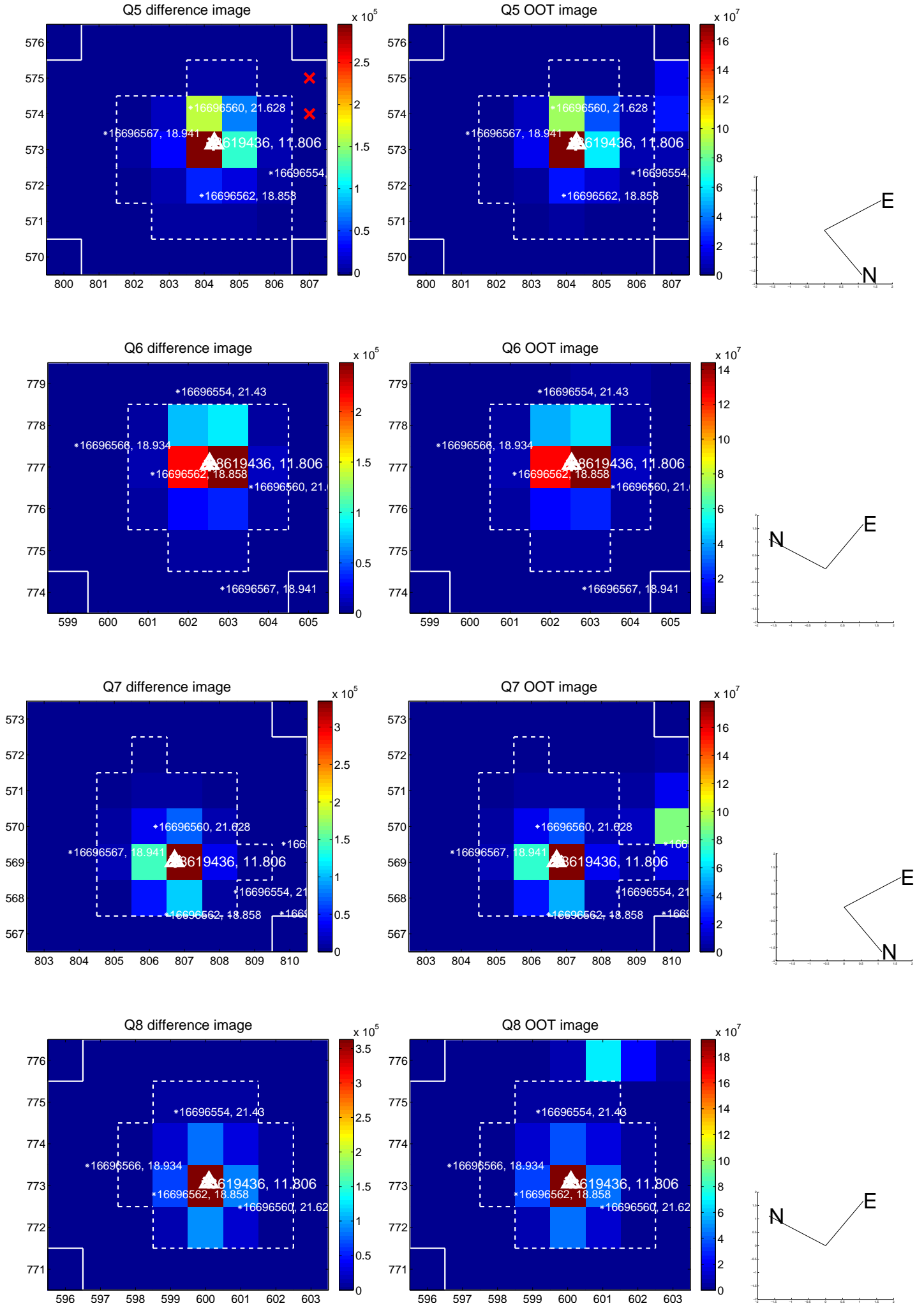


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

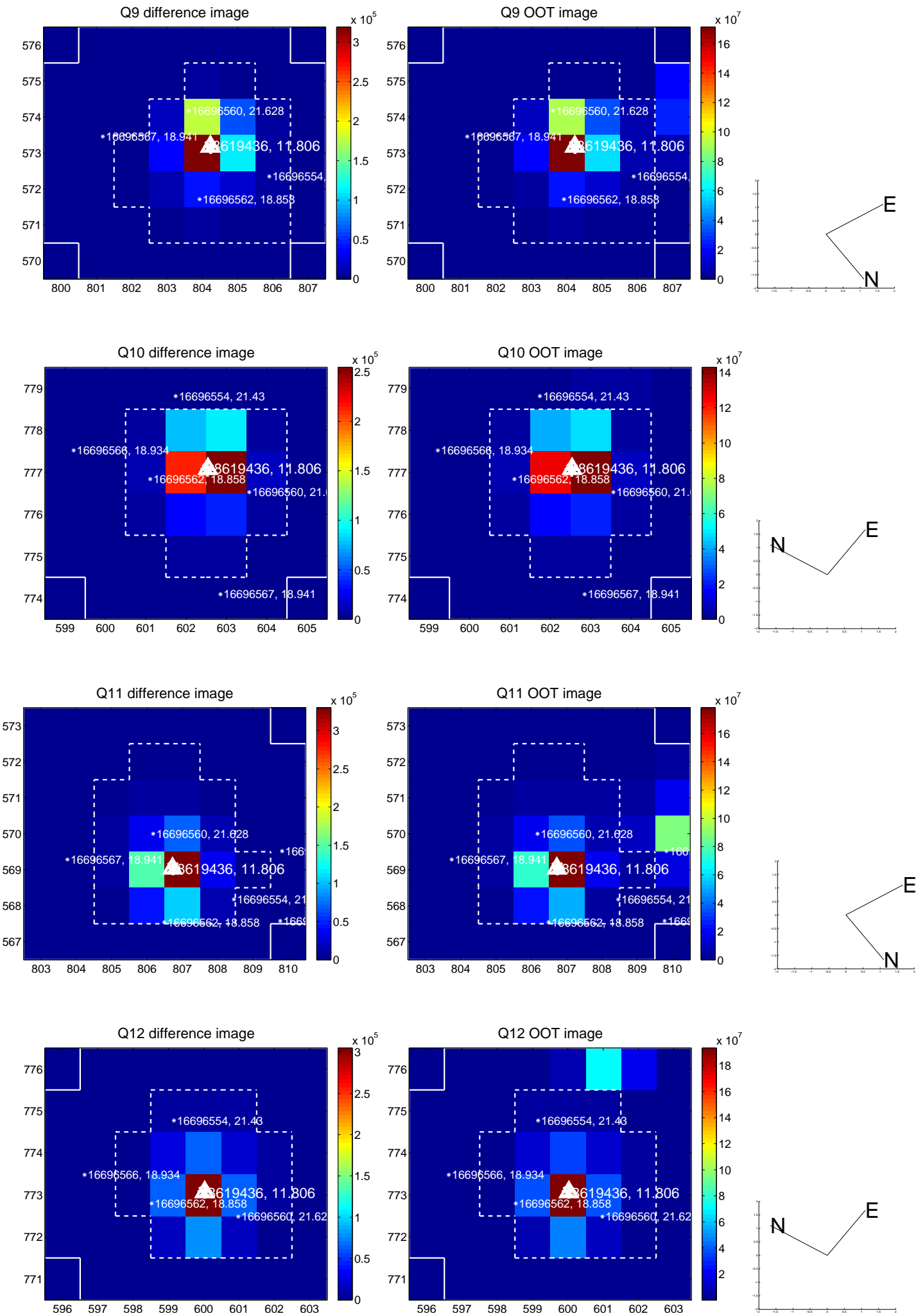
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



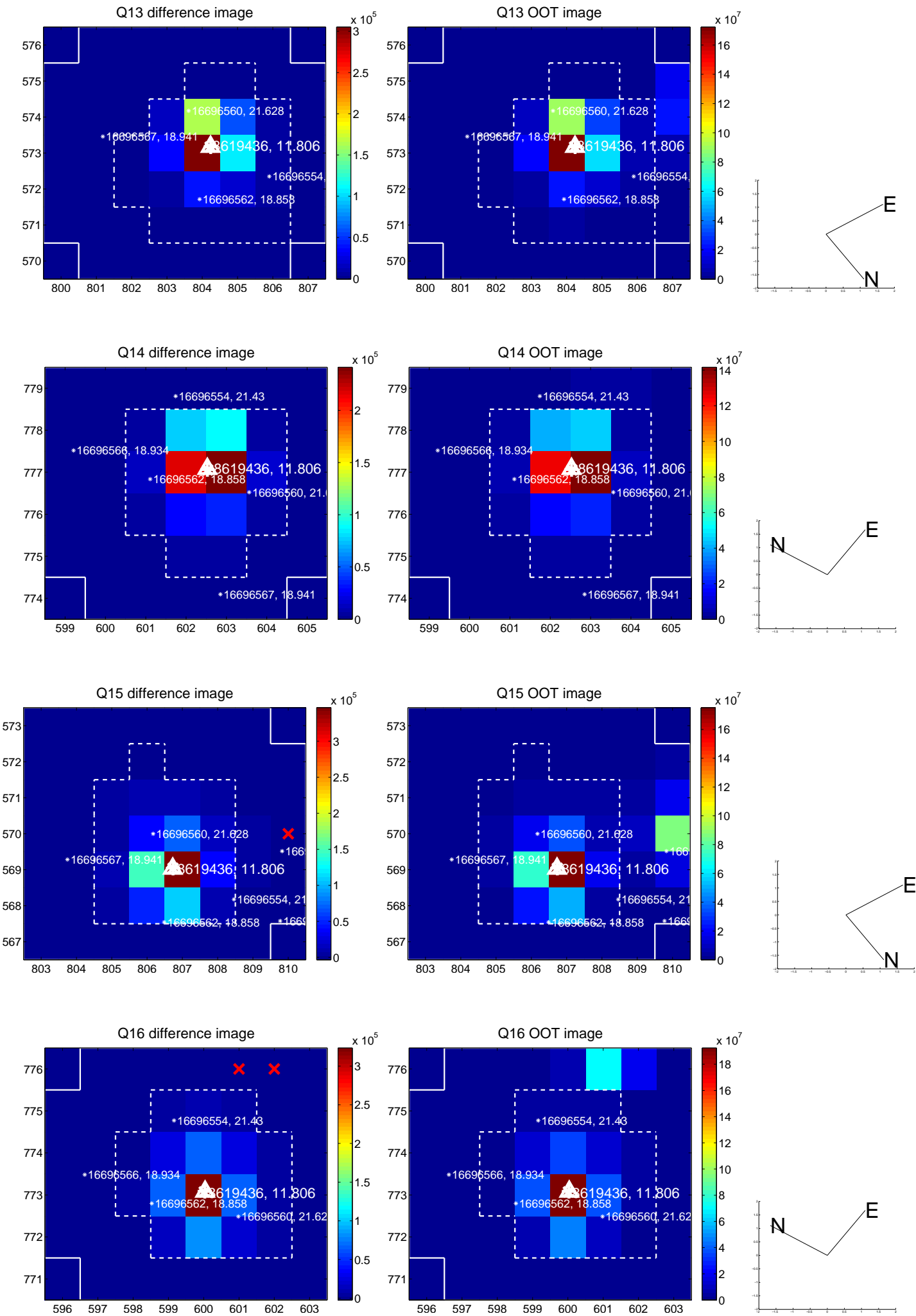
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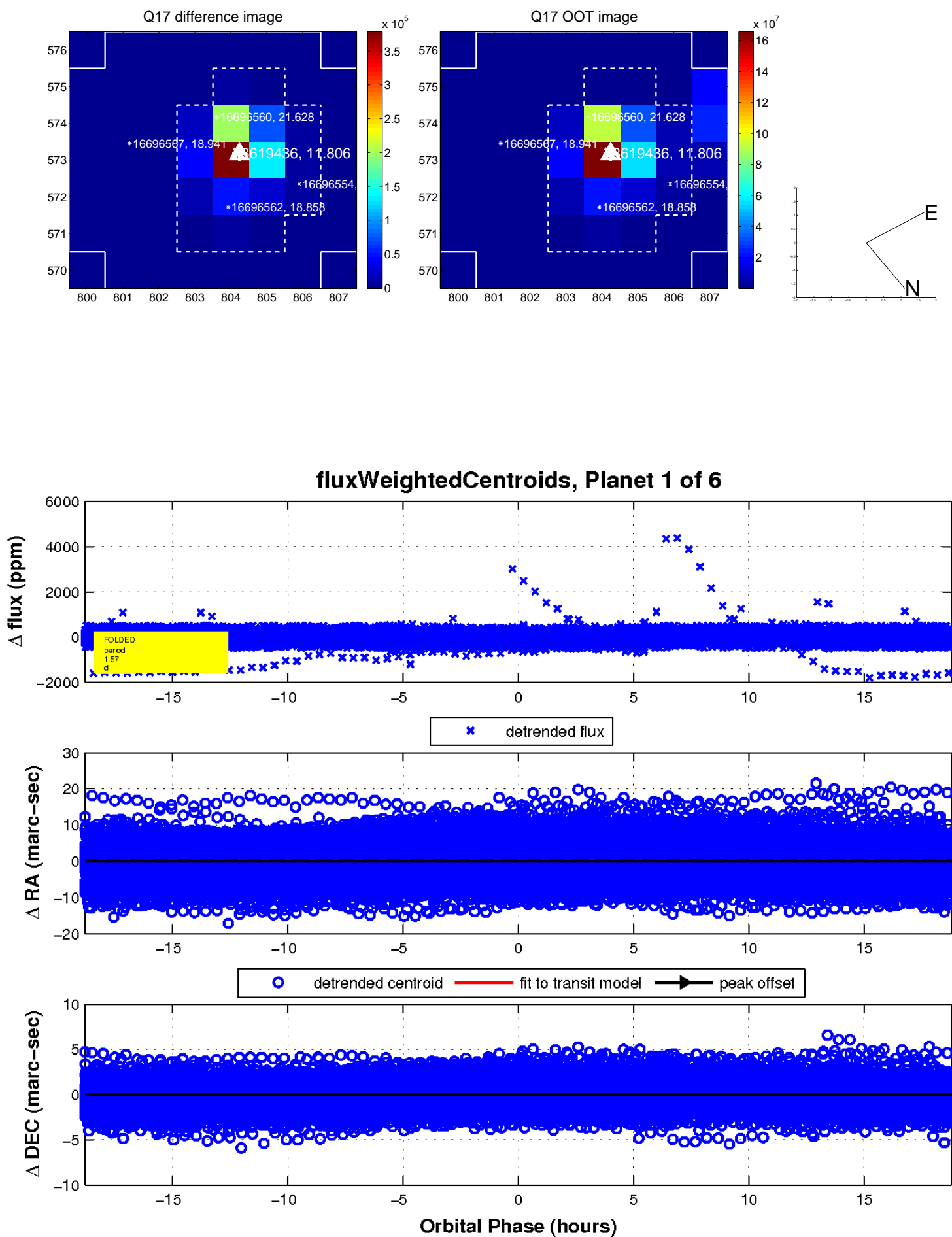
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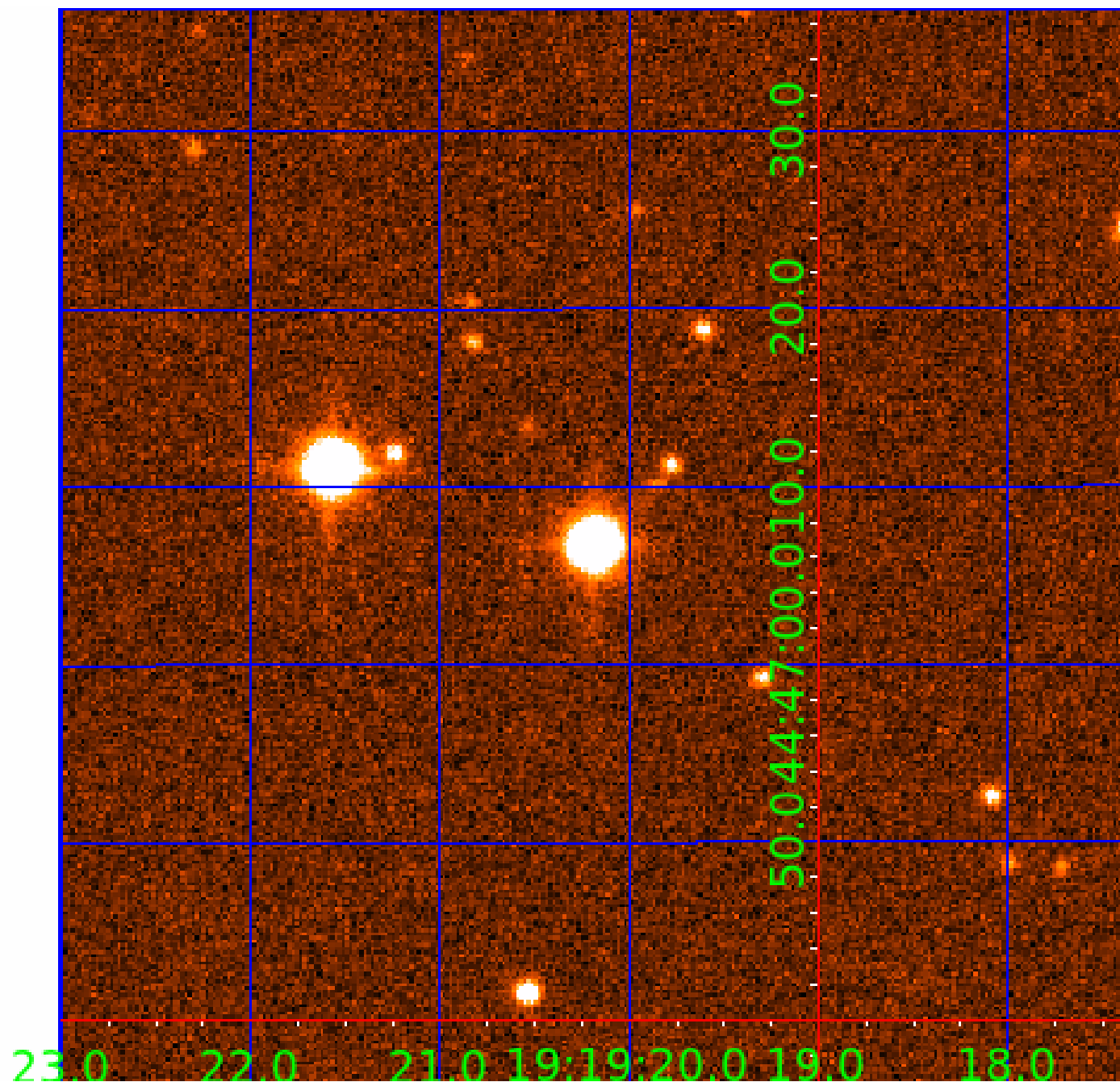


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008619436

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})
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Robovetter Results

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008619436-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS—HALO_GHOST
008619436-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008619436-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
008619436-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

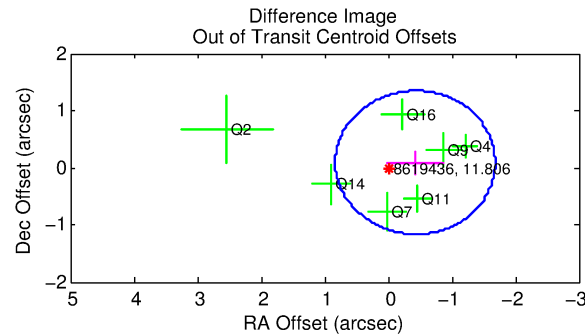
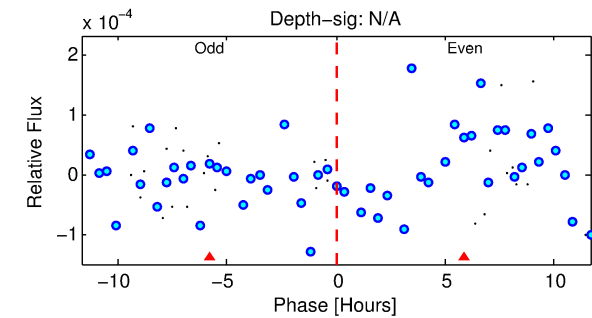
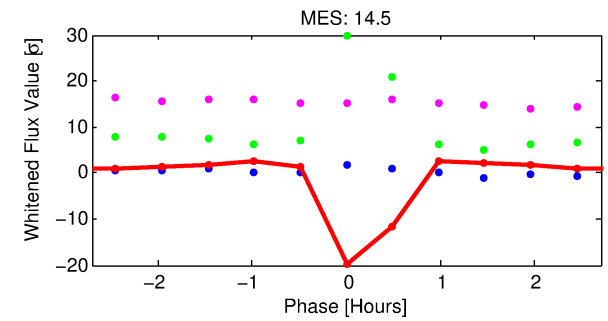
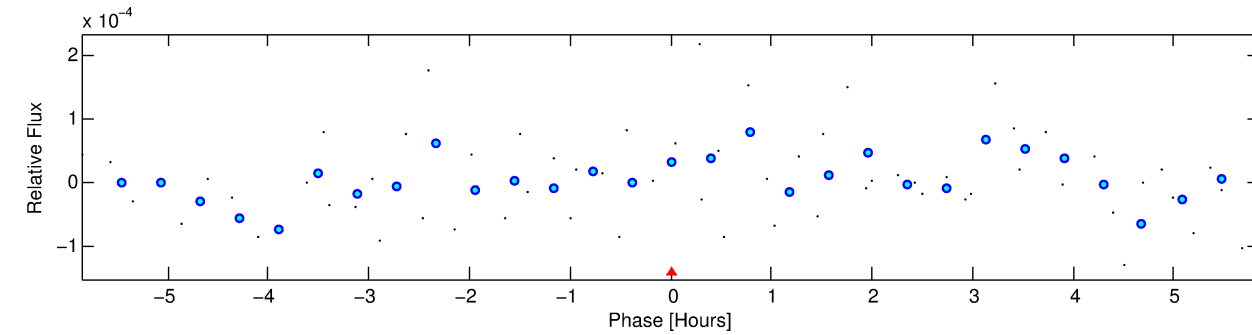
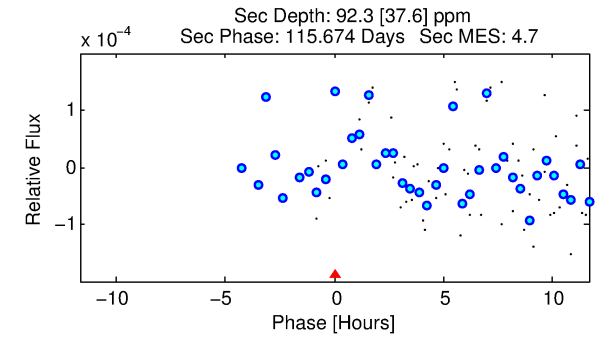
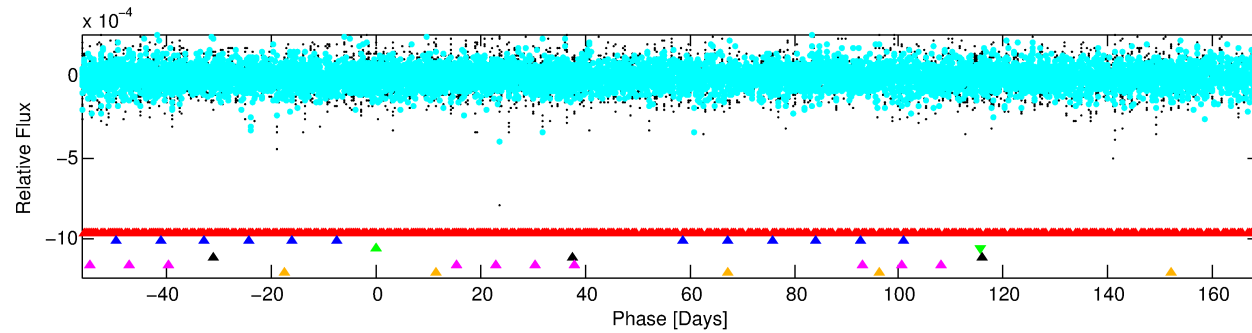
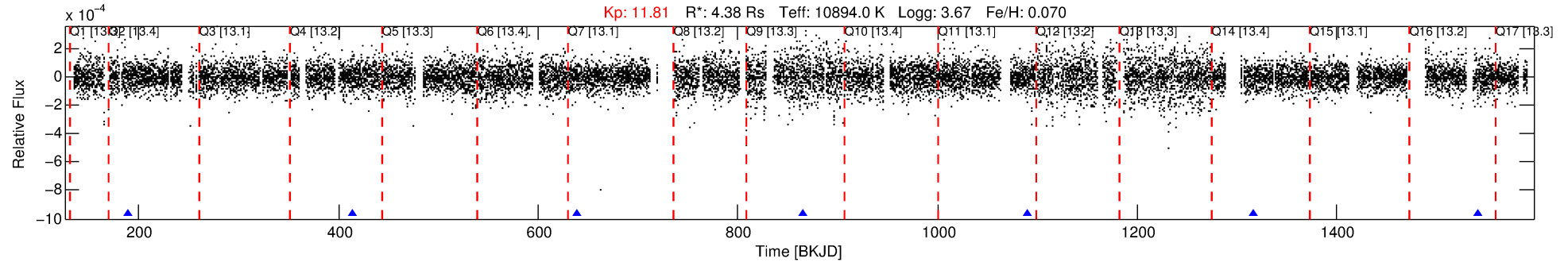
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008619436-03

No Significant Match Found

DV One-Page Summary

KIC: 8619436 Candidate: 3 of 6 Period: 225.450 d



TPS TCE Results:

Period = 225.45028 d
Epoch = 189.0723 BKJD

DV fit results are unavailable

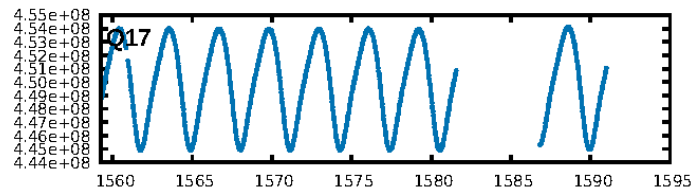
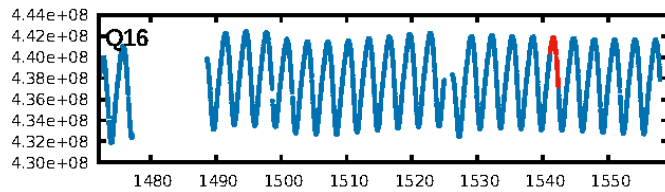
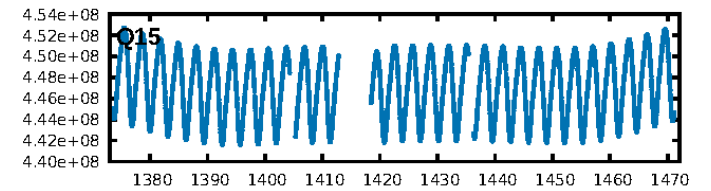
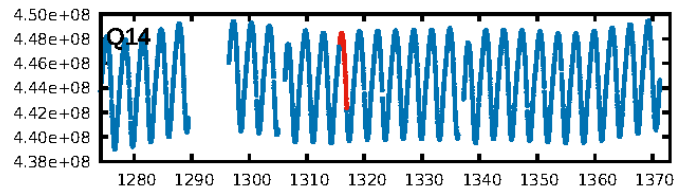
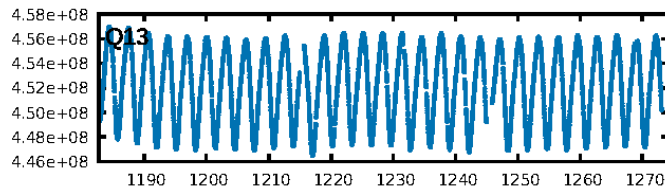
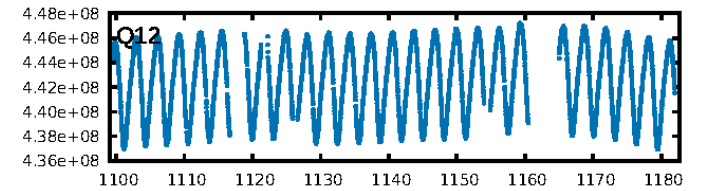
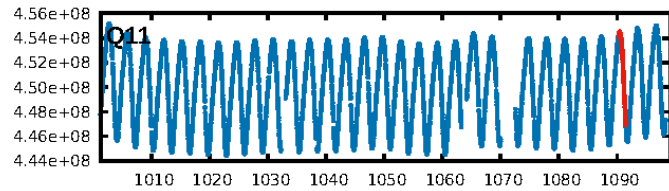
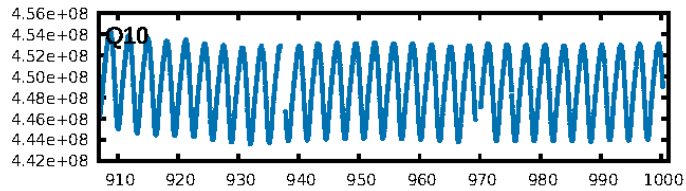
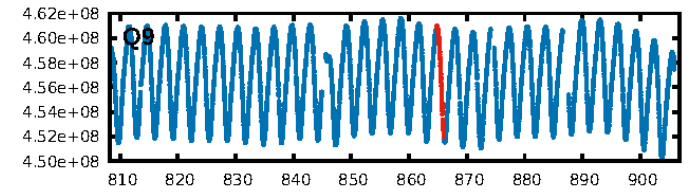
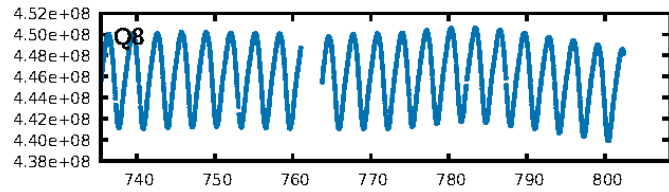
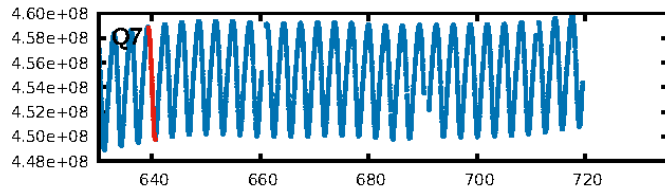
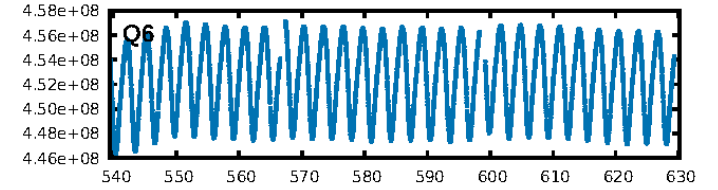
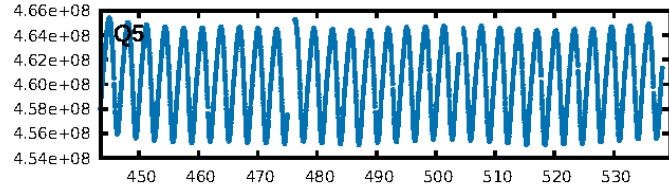
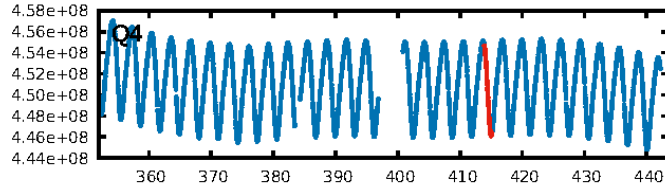
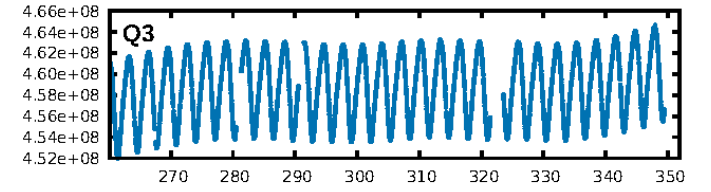
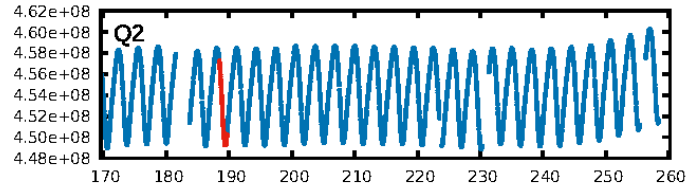
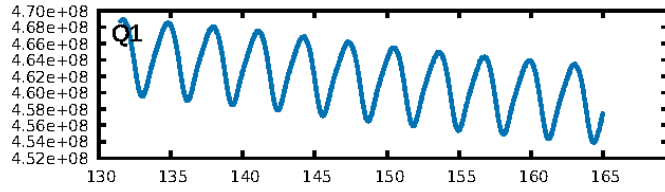
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [63.08σ]
LongPeriod-sig: 100.0% [111.20σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.30e-24
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.2351
Centroid-sig: 94.8%
Centroid-so: 1.227 arcsec [2.41σ]
OotOffset-rm: 0.435 arcsec [1.04σ]
KicOffset-rm: 0.418 arcsec [1.04σ]
OotOffset-st: 2/2/2/1 [7]
KicOffset-st: 2/2/2/1 [7]
DiffImageQuality-fgm: 0.00 [0/7]
DiffImageOverlap-fno: 0.57 [4/7]

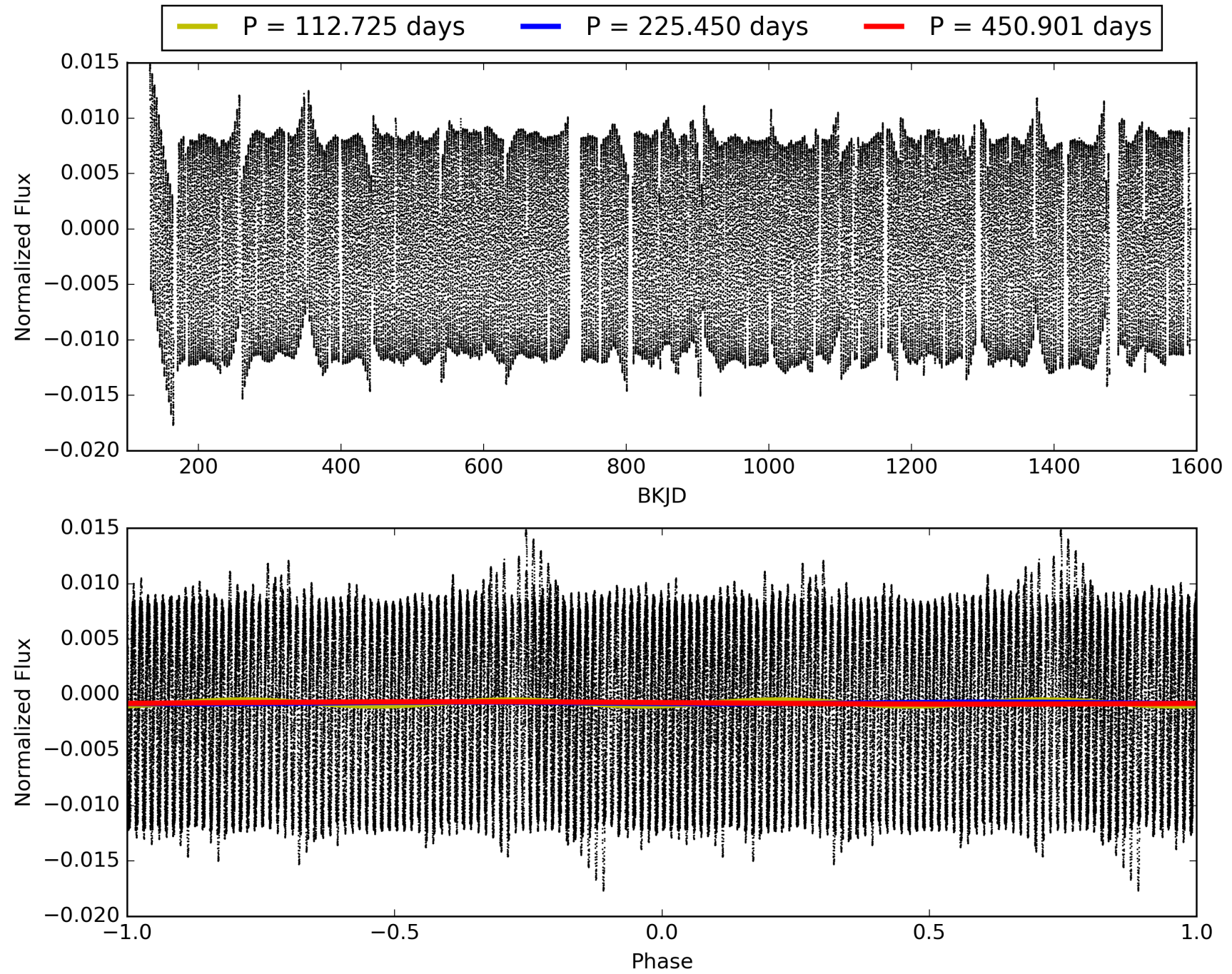
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:55:19 Z

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

TCE 008619436-03, PDC Light Curves

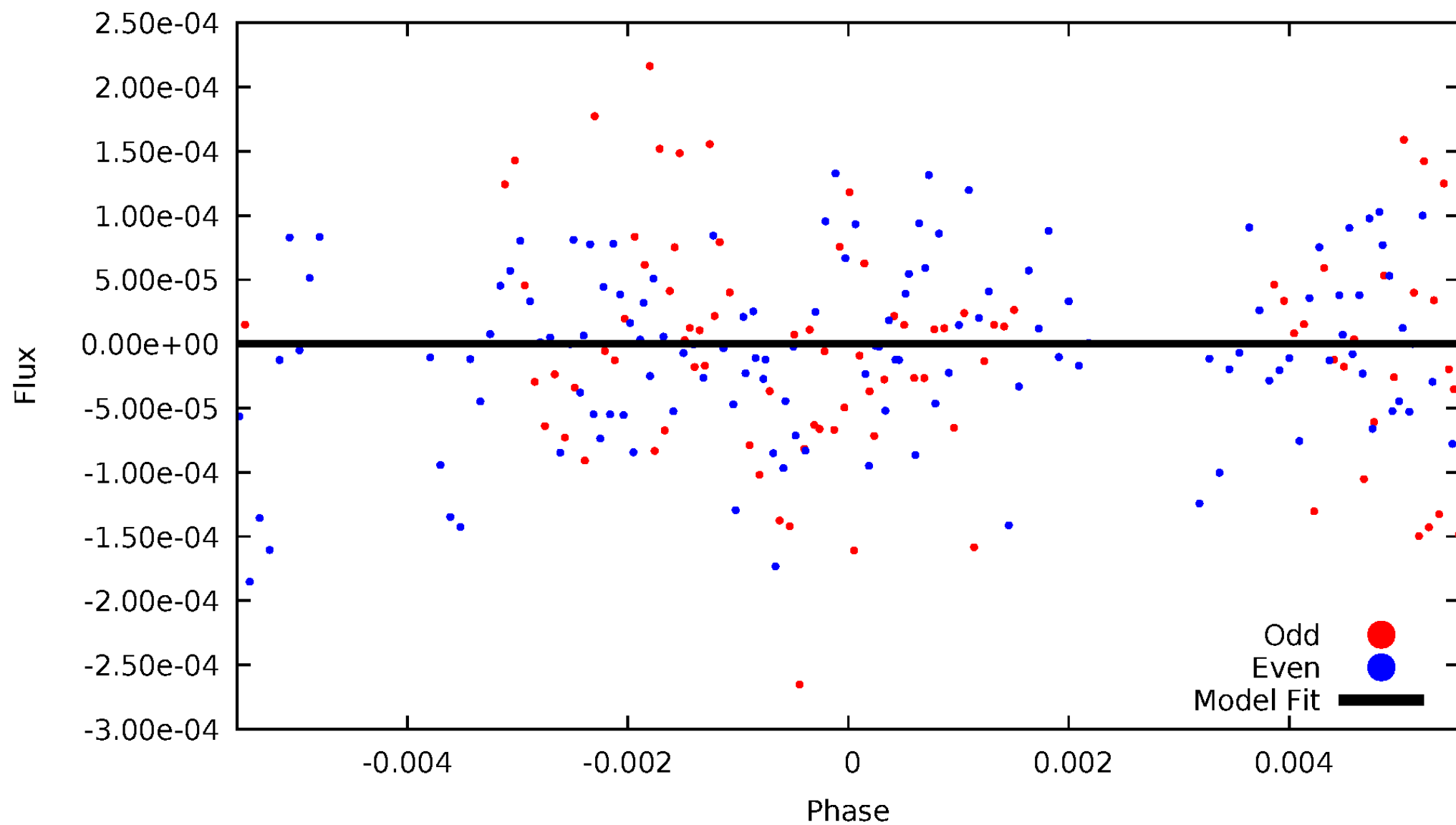


TCE 008619436-03



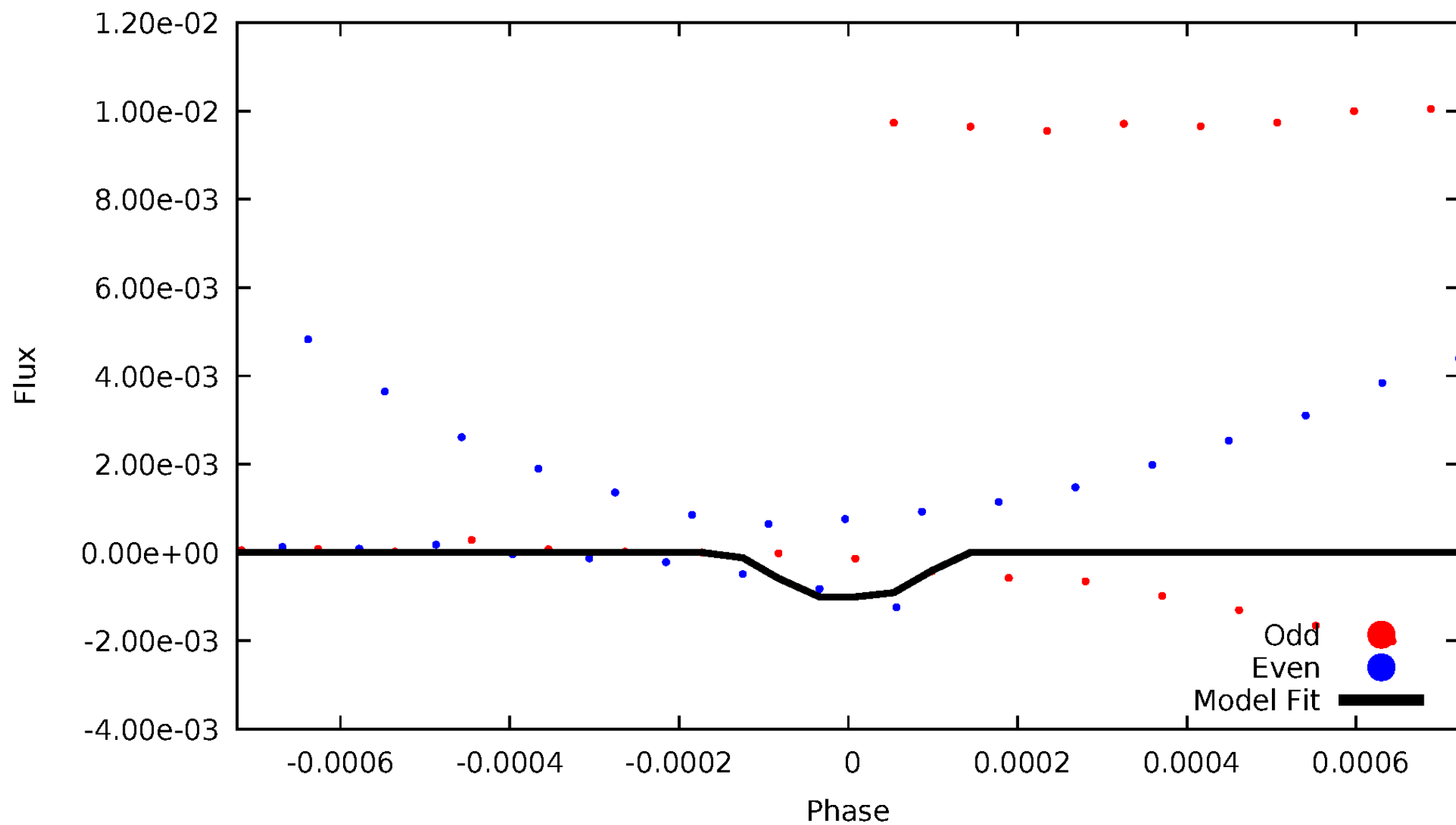
DV Odd/Even

TCE 008619436-03



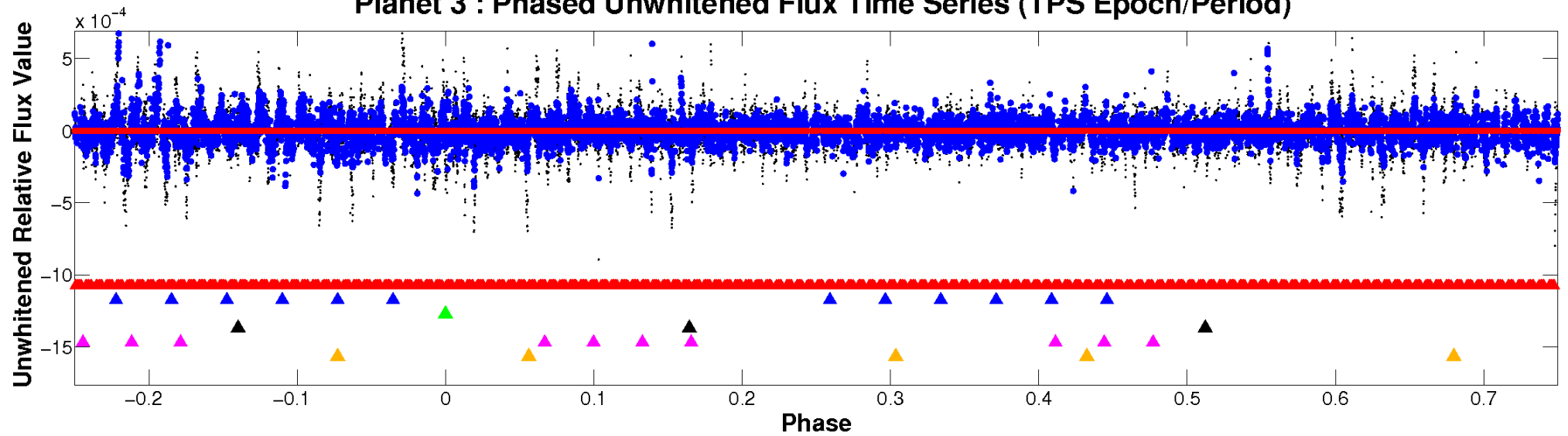
ALT Odd/Even

TCE 008619436-03

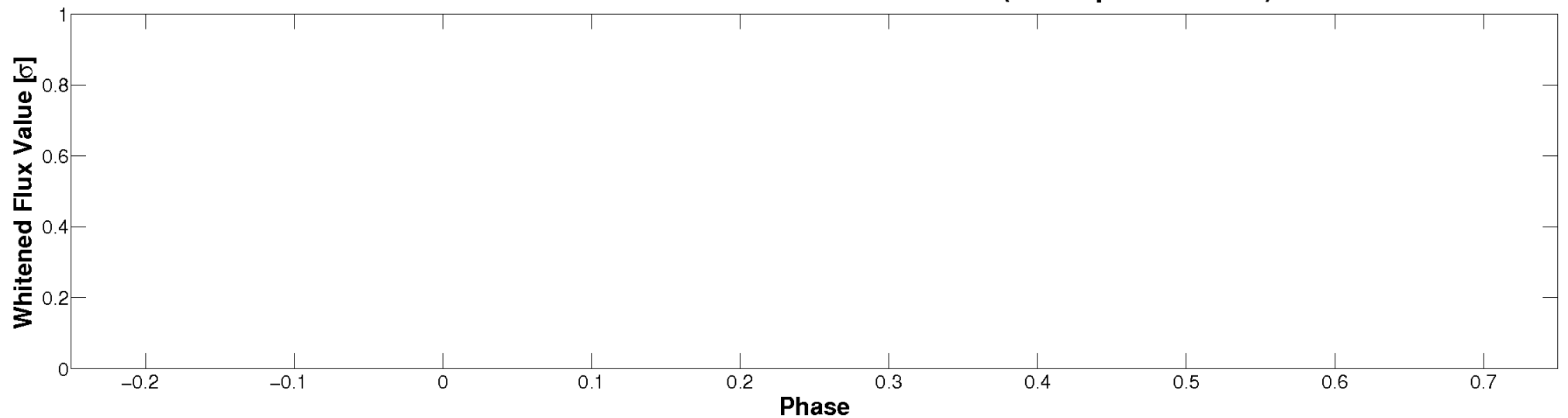


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

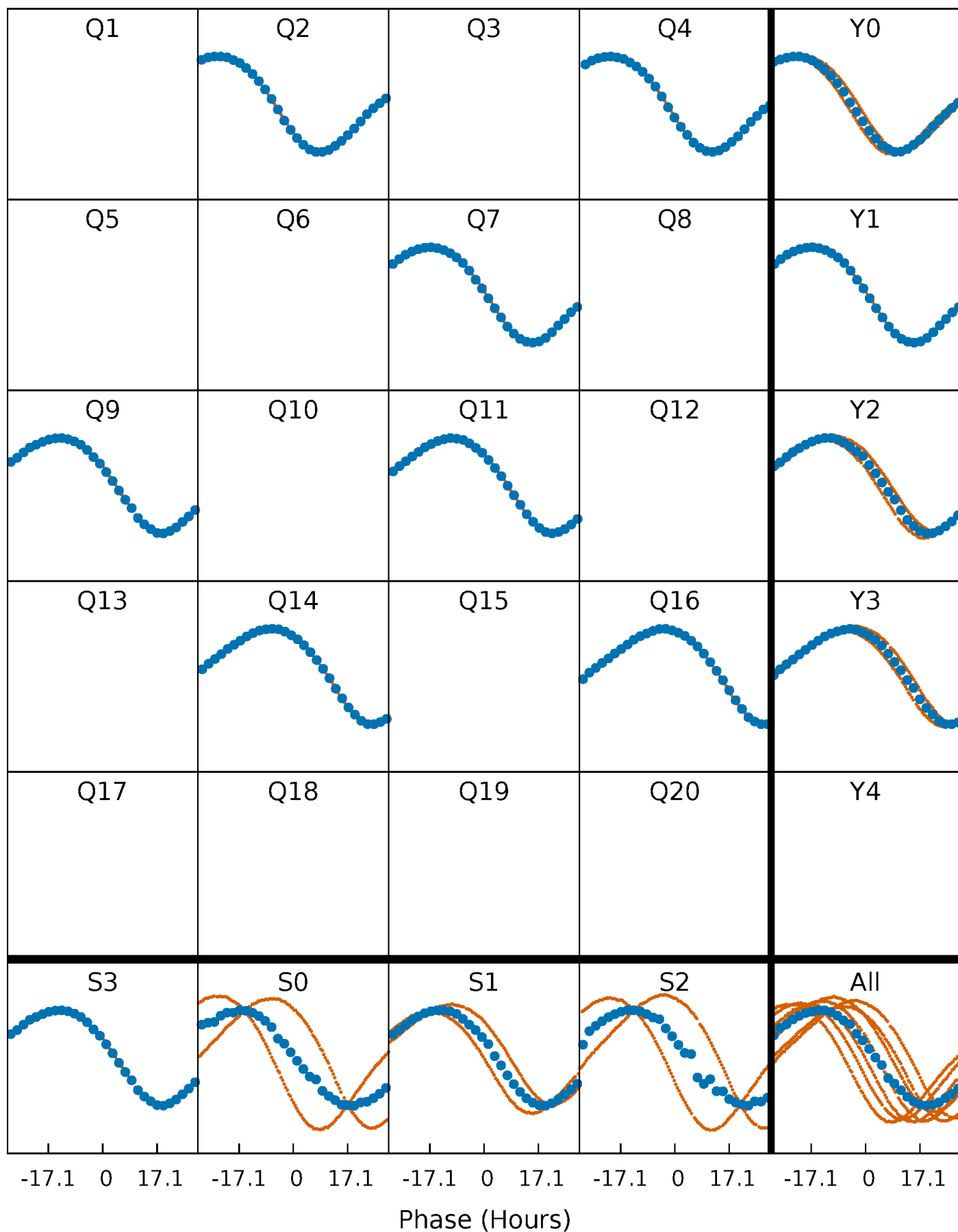


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



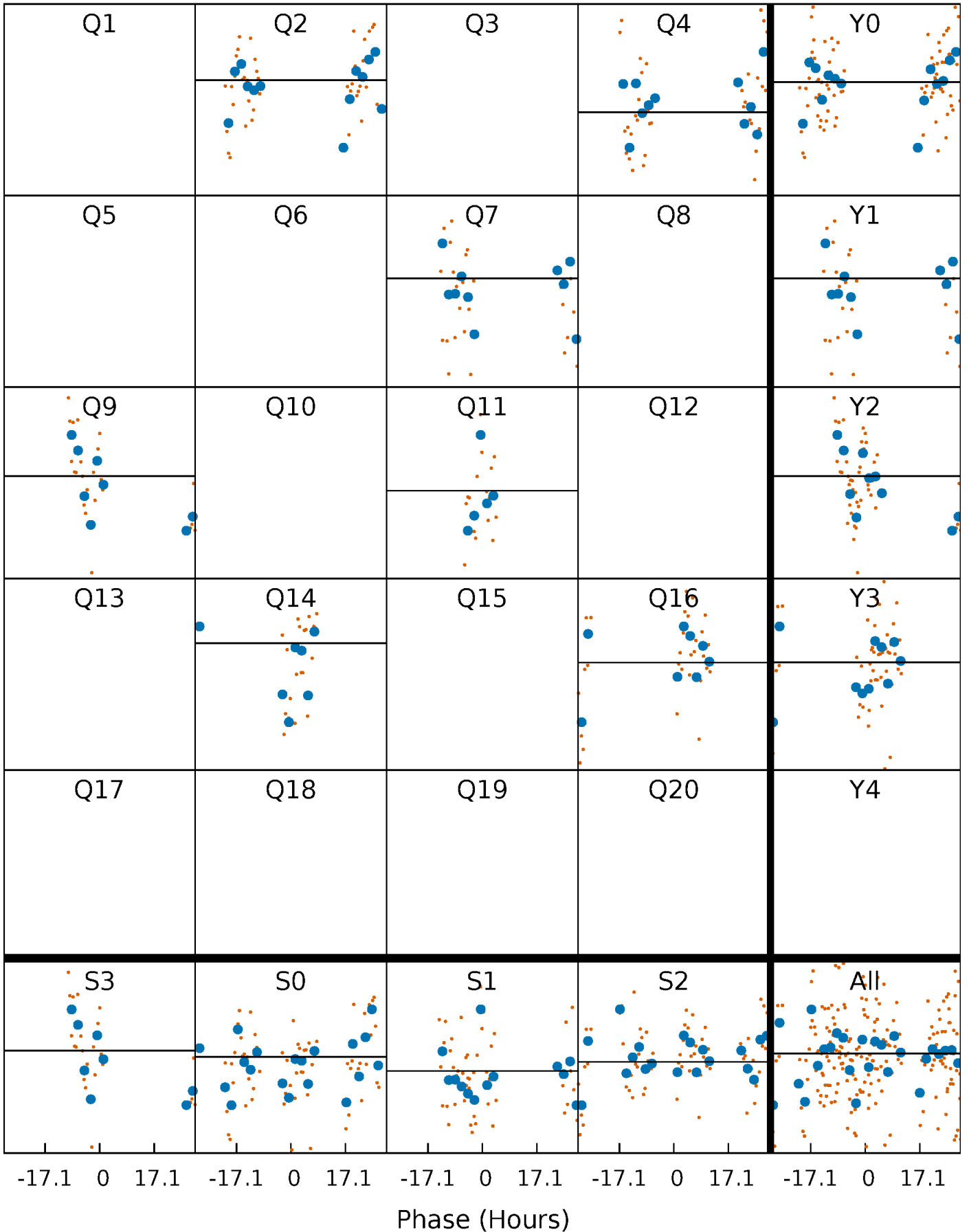
PDC Quarter-Phased Transit Curves

TCE 008619436-03 P=225.450279 Days $T_0=189.072332$ (BKJD)



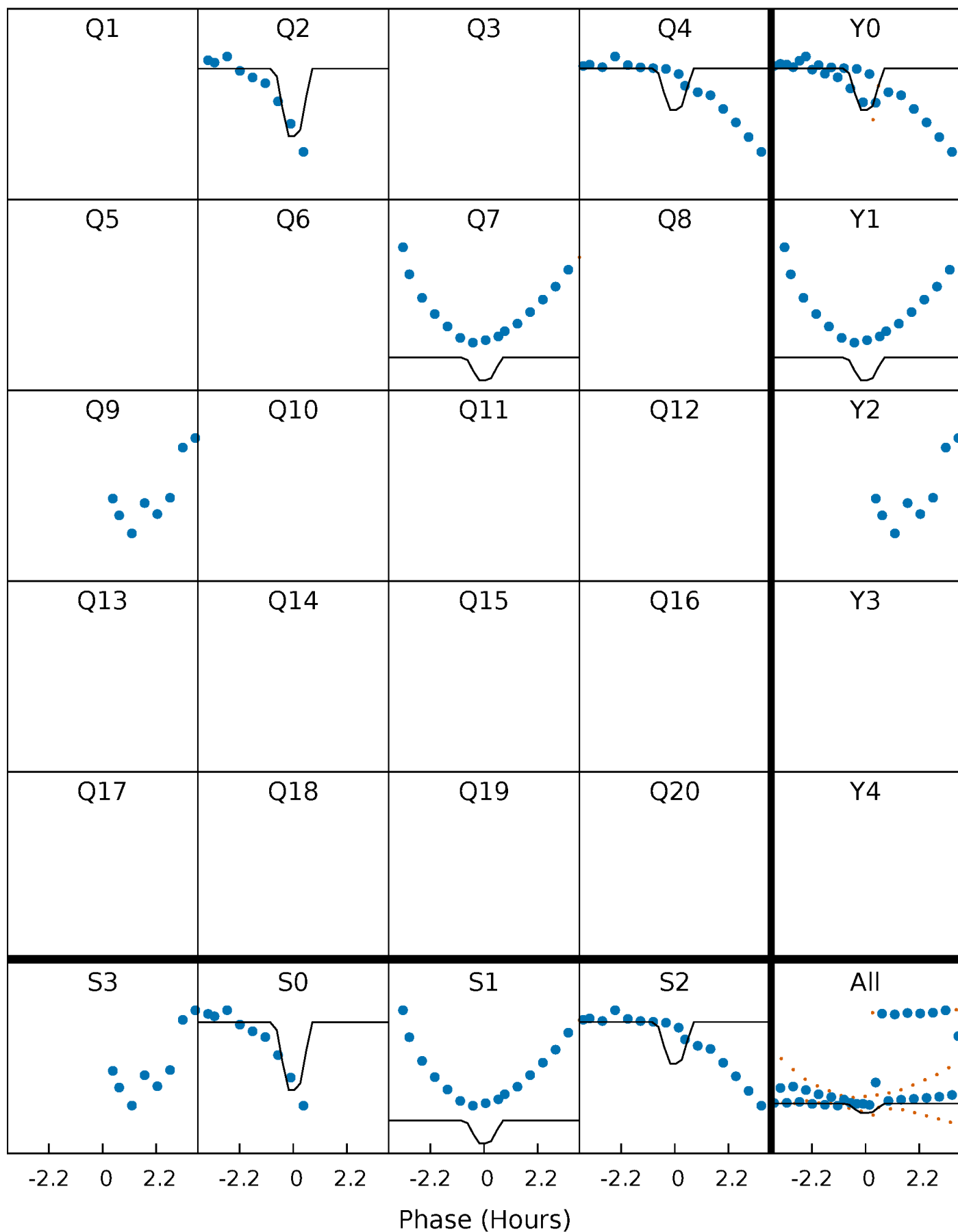
DV Quarter-Phased Transit Curves

TCE 008619436-03 P=225.450279 Days $T_0=189.072332$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

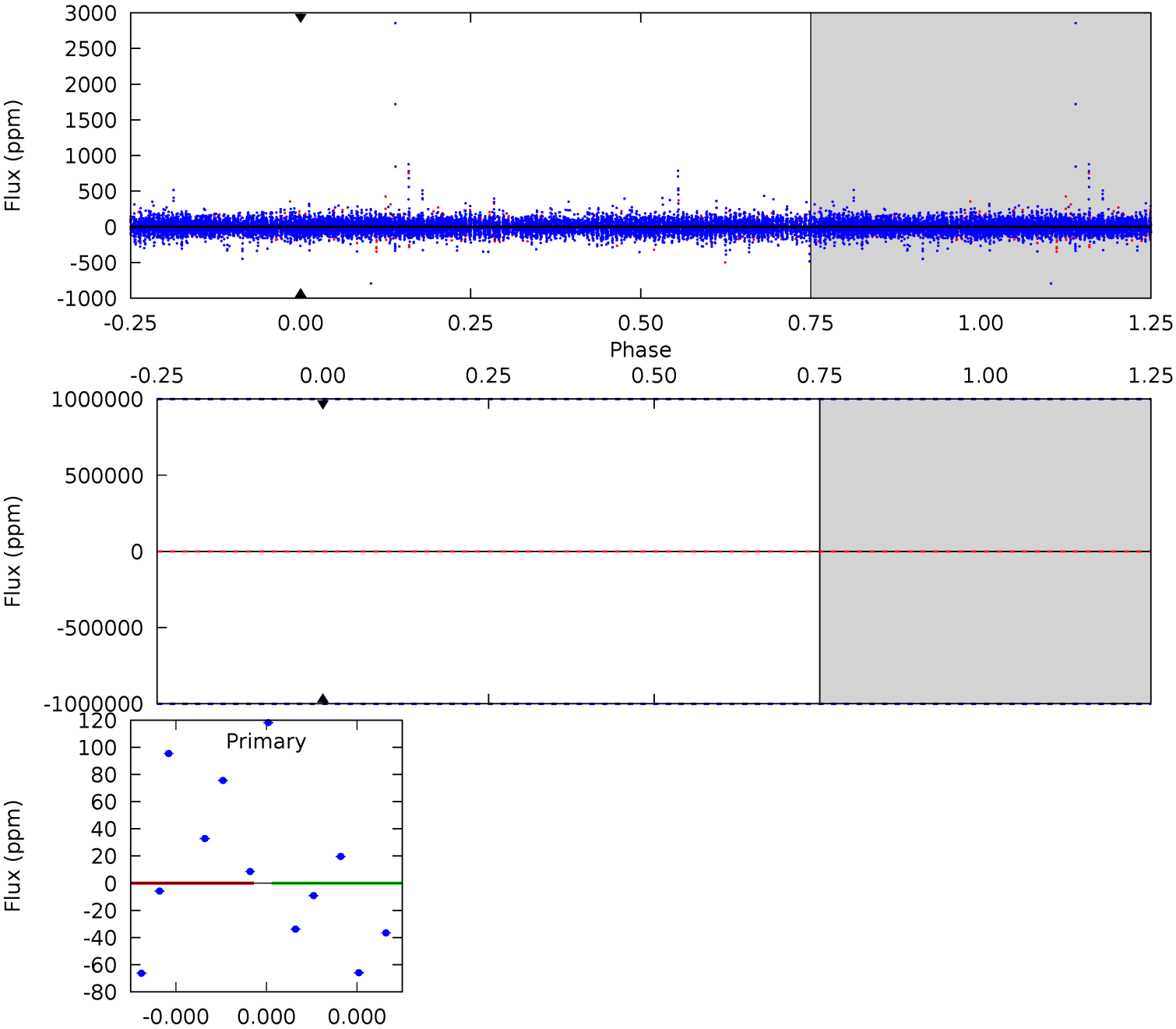
TCE 008619436-03 P=225.450279 Days $T_0=188.654022$ (BKJD)



DV Model-Shift Uniqueness Test

008619436-03, P = 225.450279 Days, E = 189.072332 Days

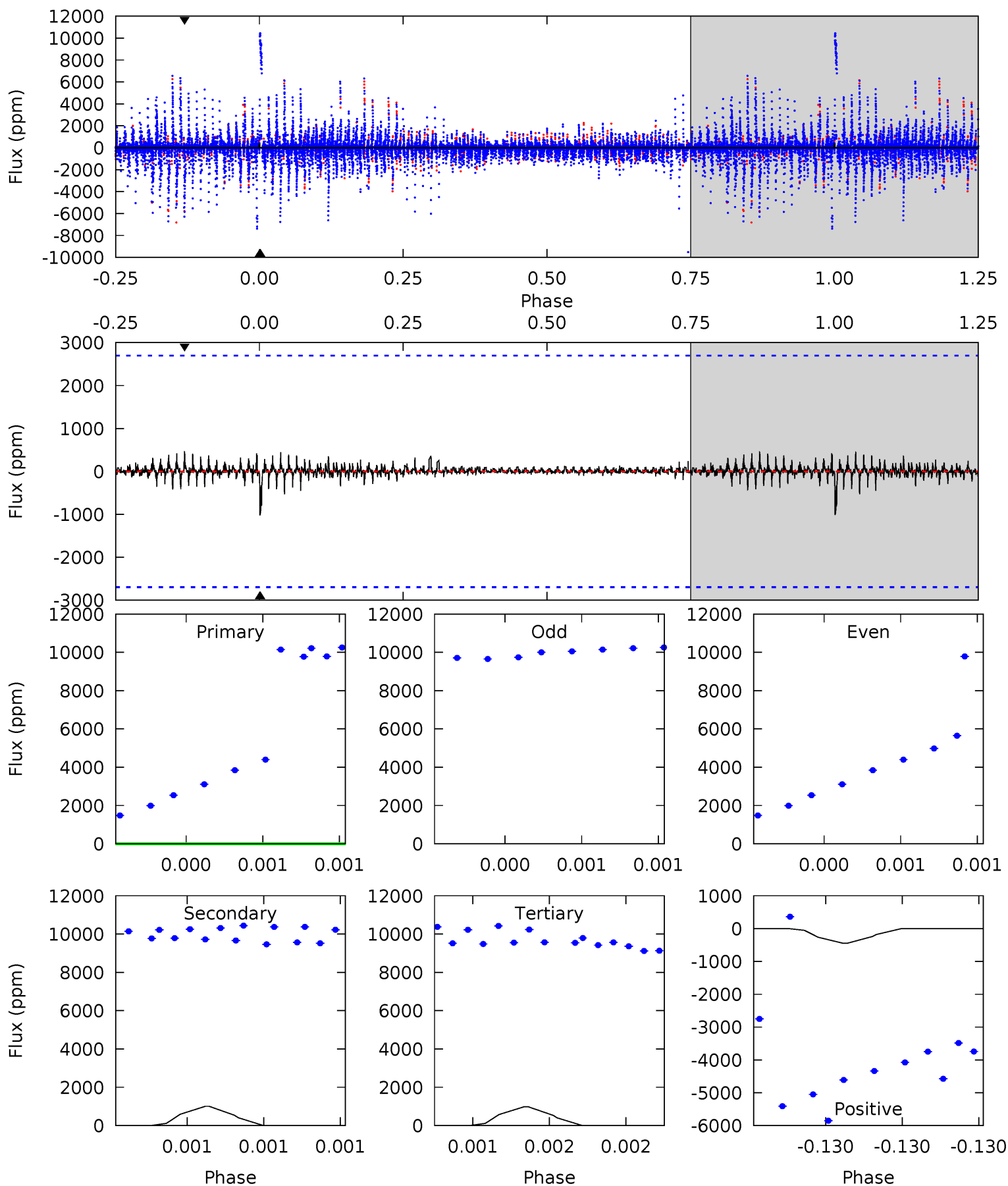
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008619436-03, P = 225.450279 Days, E = 188.654022 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.83	2.12	2.08	0.95	5.70	3.67	0.18	-1.26	-0.12	0.04	1.17	0	0.43	0.31	0.07



Stellar Parameters For KIC 008619436

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	10894^{+210}_{-506}	$3.667^{+0.368}_{-0.092}$	$0.070^{+0.050}_{-0.600}$	$4.378^{+0.471}_{-1.765}$	$3.249^{+0.076}_{-0.685}$	$0.055^{+0.156}_{-0.016}$
	+2%/-5%	+10%/-3%	+71%/-857%	+11%/-40%	+2%/-21%	+287%/-29%
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 008619436-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$31.06^{+34.61}_{-21.78}$	1326^{+80}_{-127}	$-4825^{+116463}_{-92496}$	$-250.393^{+117244.250}_{-110599.452}$
Alt.	-1005 ± 473	$36.90^{+32.15}_{-25.80}$	1320^{+79}_{-142}	5957^{+6706}_{-1691}	447^{+5057}_{-348}

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 $A_{obs} \gg 1.0$

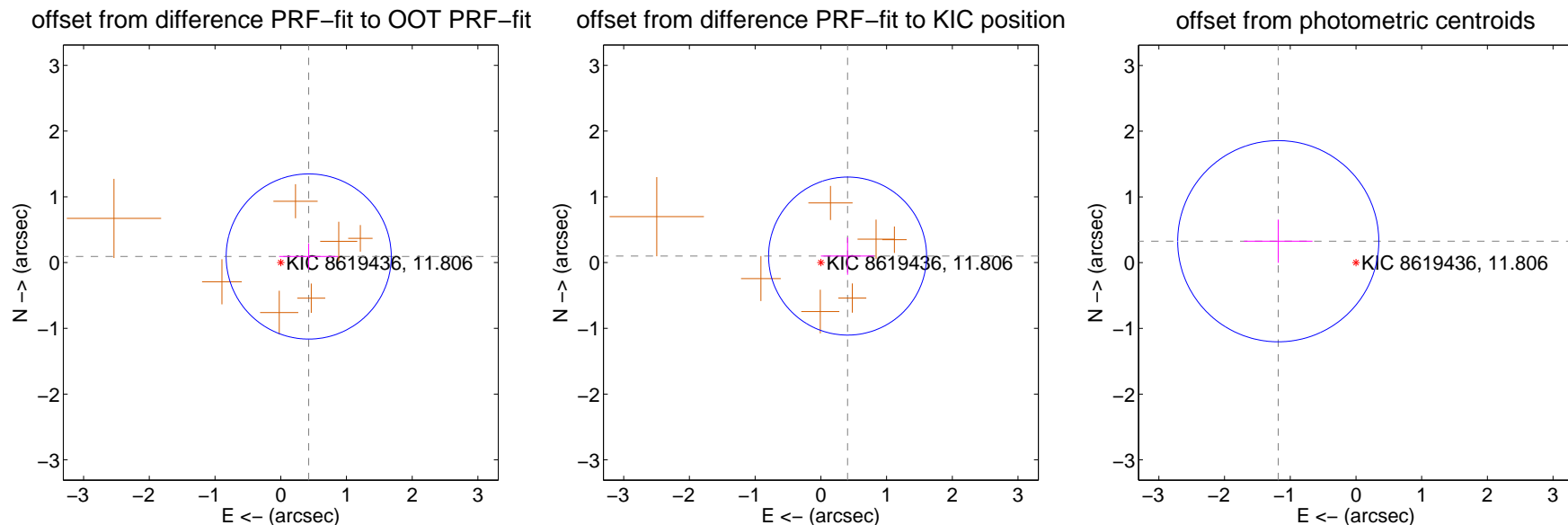
DV Centroid Data

Supplemental centroid analysis for 008619436-03. **Kepler magnitude: 11.81.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

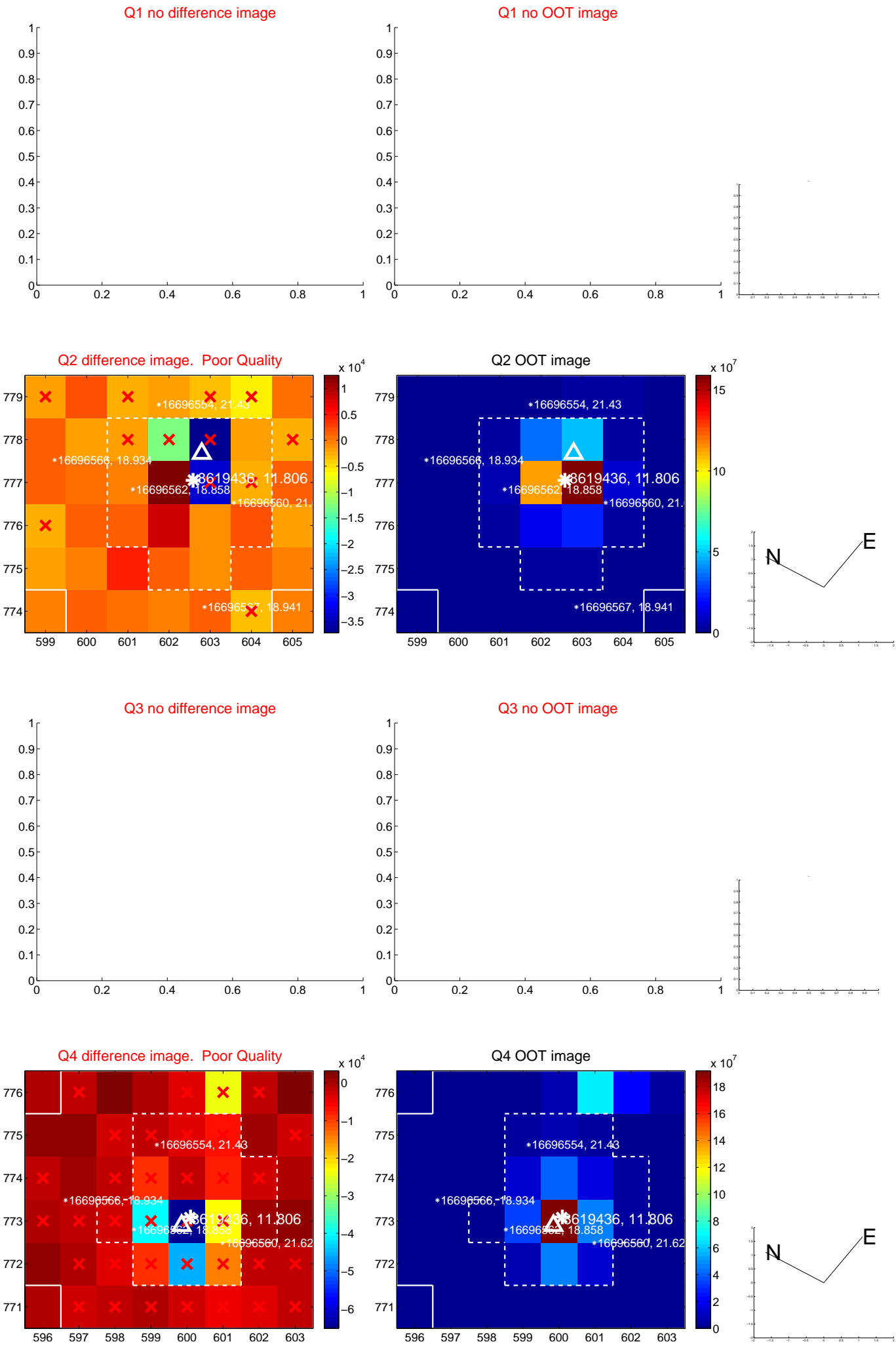
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.435 ± 0.419	1.04	-0.426 ± 0.449	0.093 ± 0.198
PRF-fit source offset from KIC position	0.418 ± 0.401	1.04	-0.407 ± 0.406	0.099 ± 0.285
photometric centroid source offset	1.23 ± 0.51	2.41	1.18 ± 0.52	0.33 ± 0.33



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.

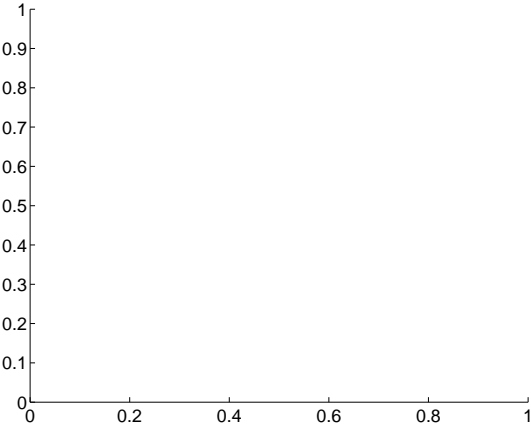
Q5 no difference image



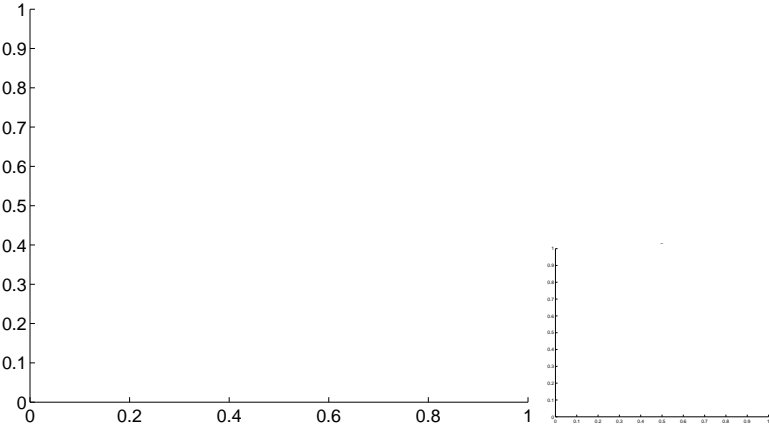
Q5 no OOT image



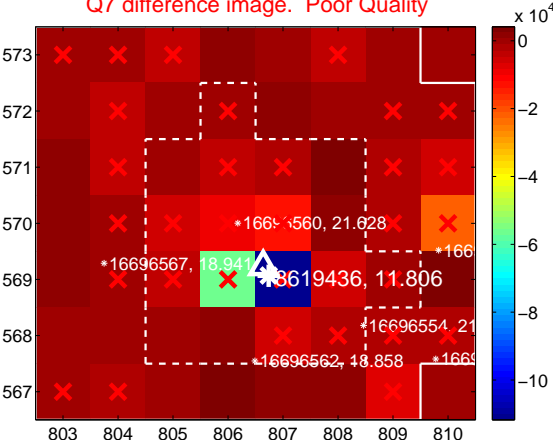
Q6 no difference image



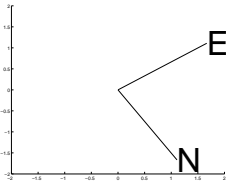
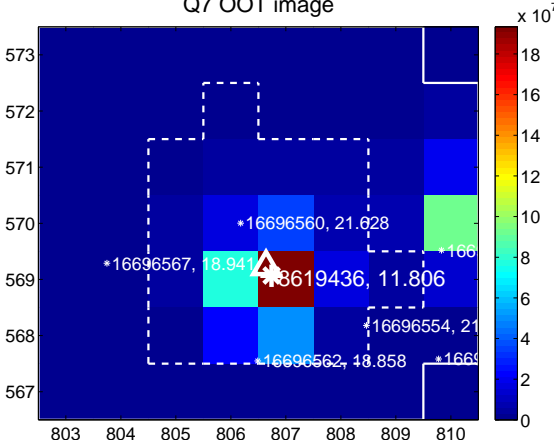
Q6 no OOT image



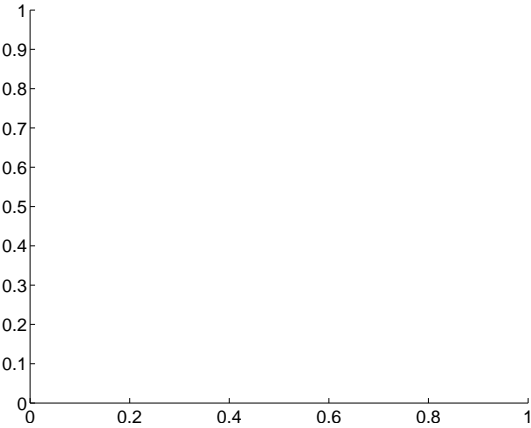
Q7 difference image. Poor Quality



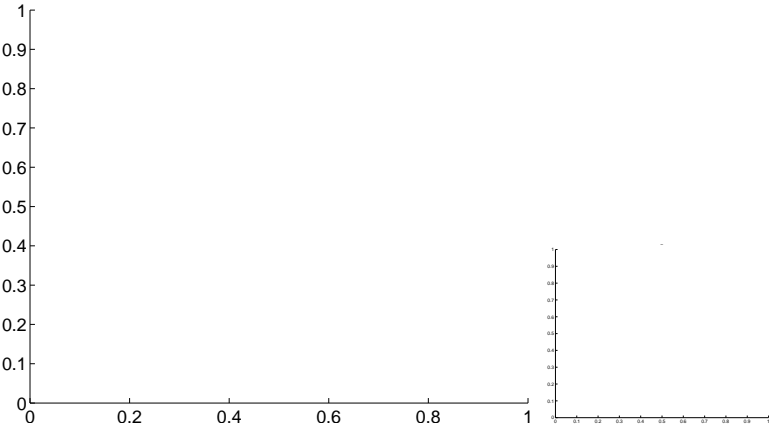
Q7 OOT image



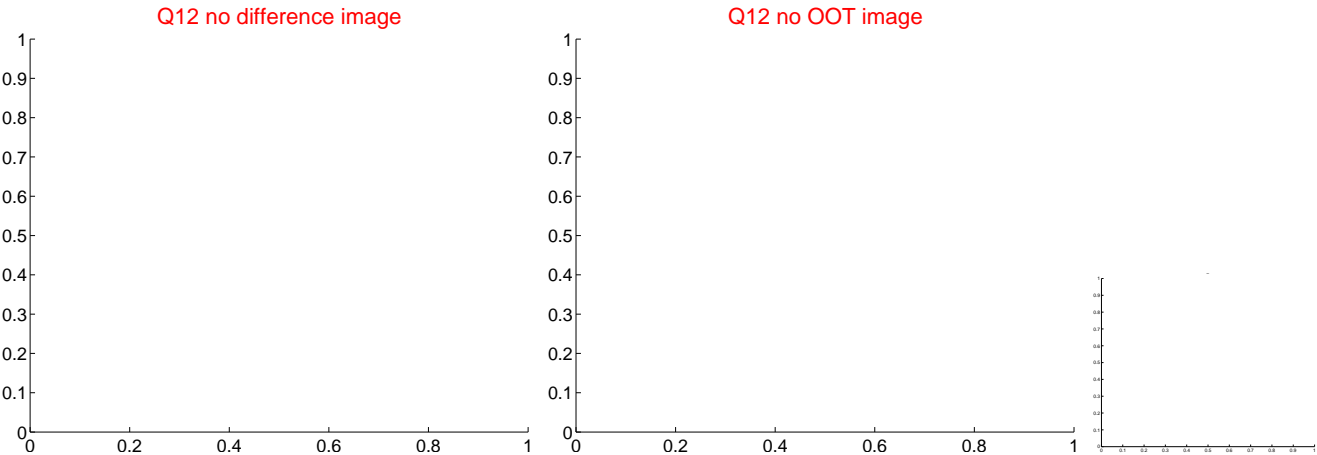
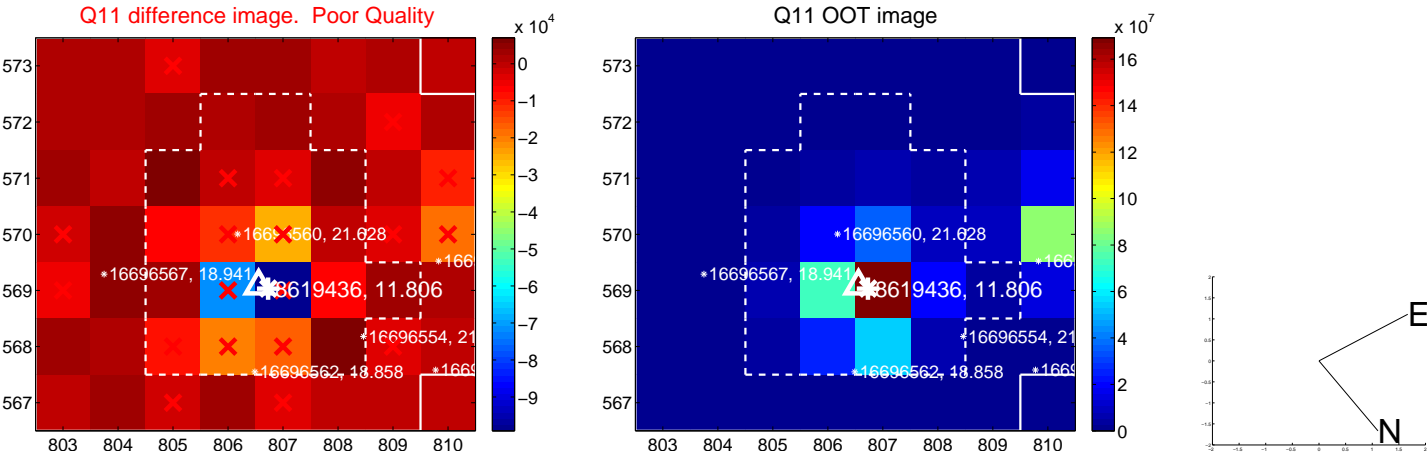
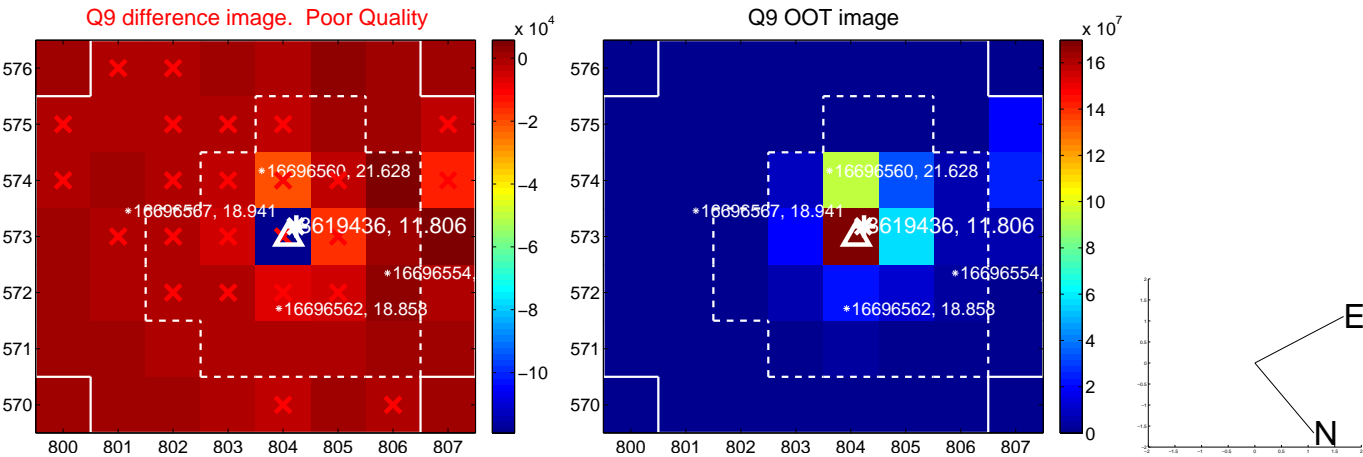
Q8 no difference image



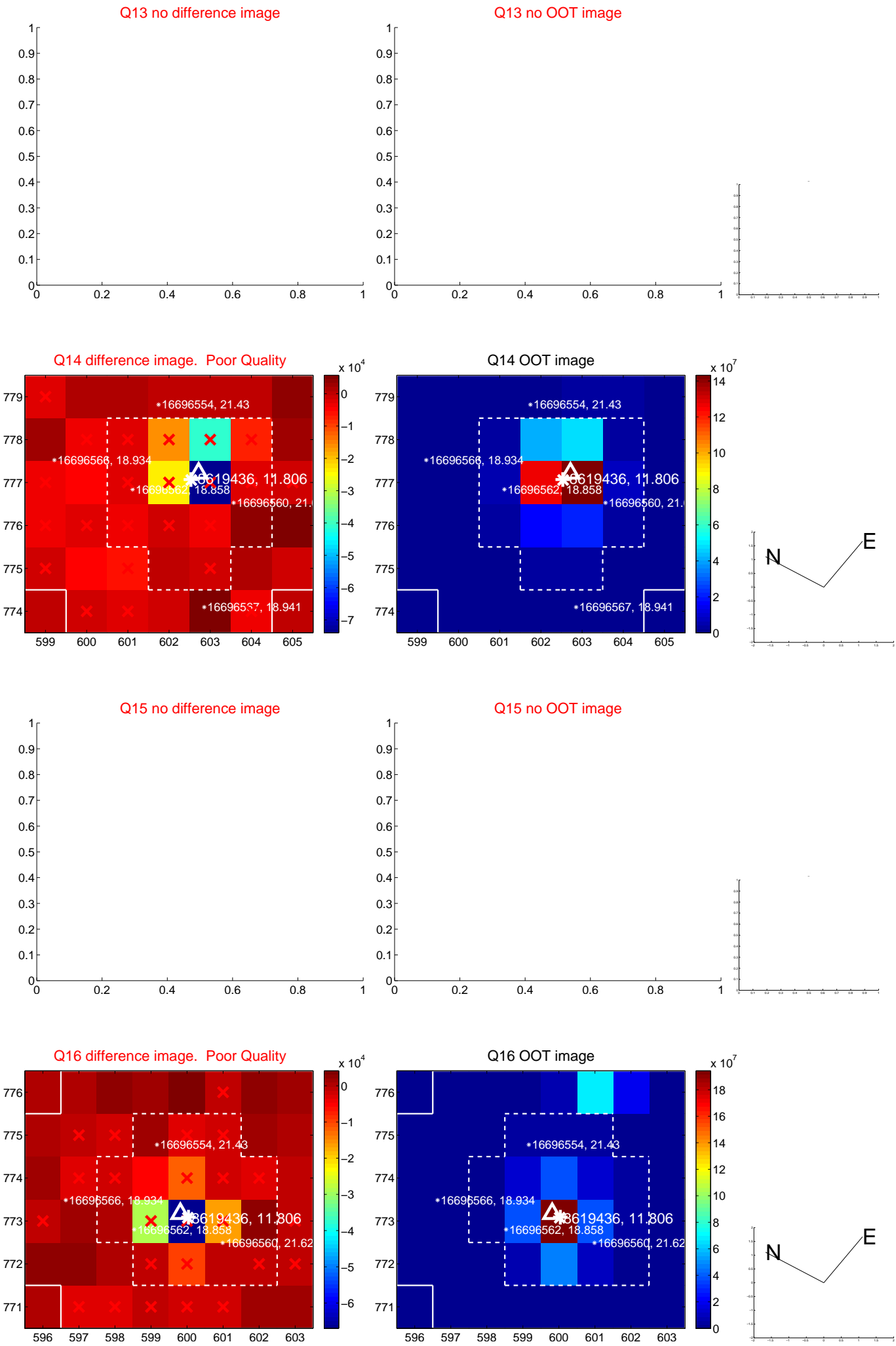
Q8 no OOT image



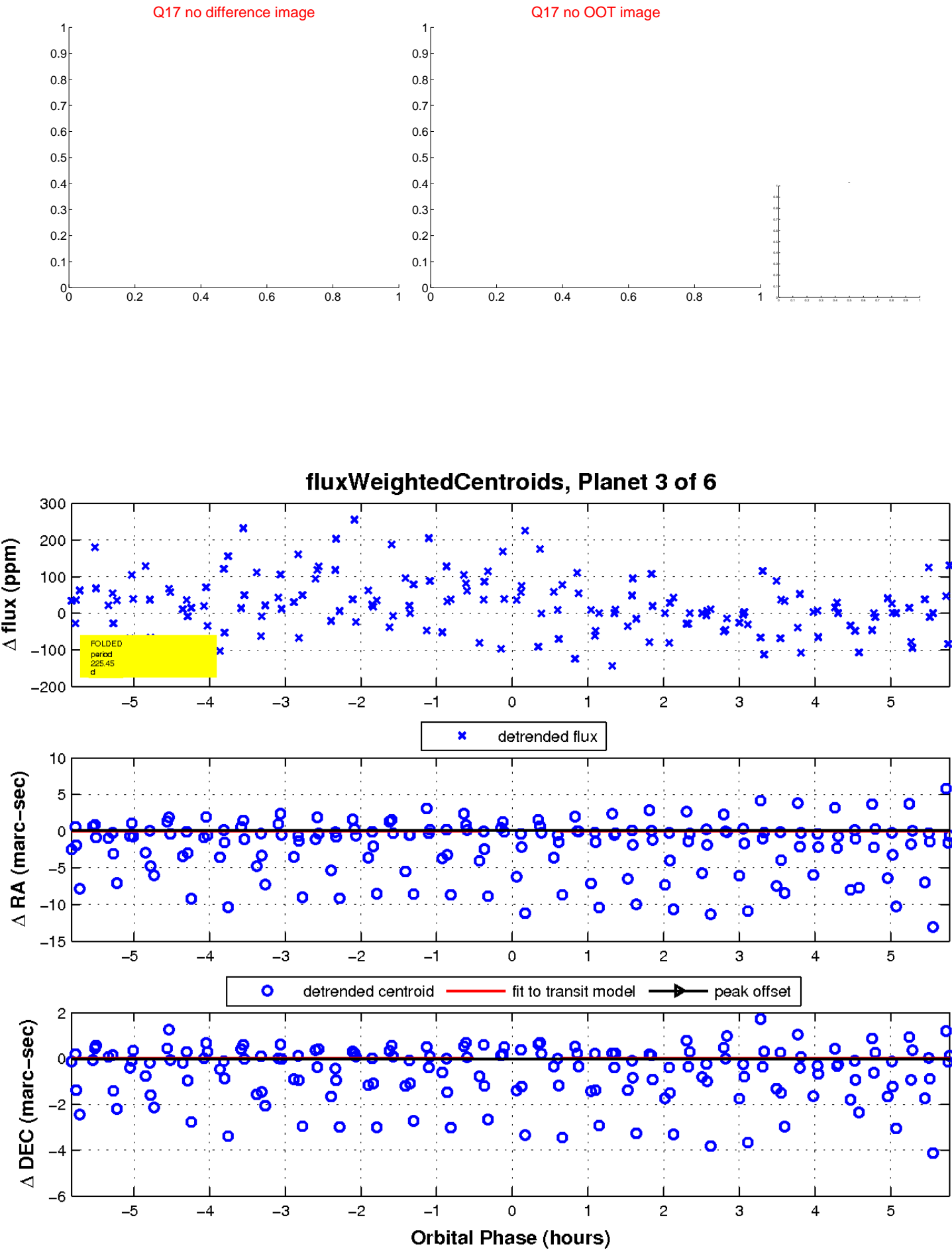
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

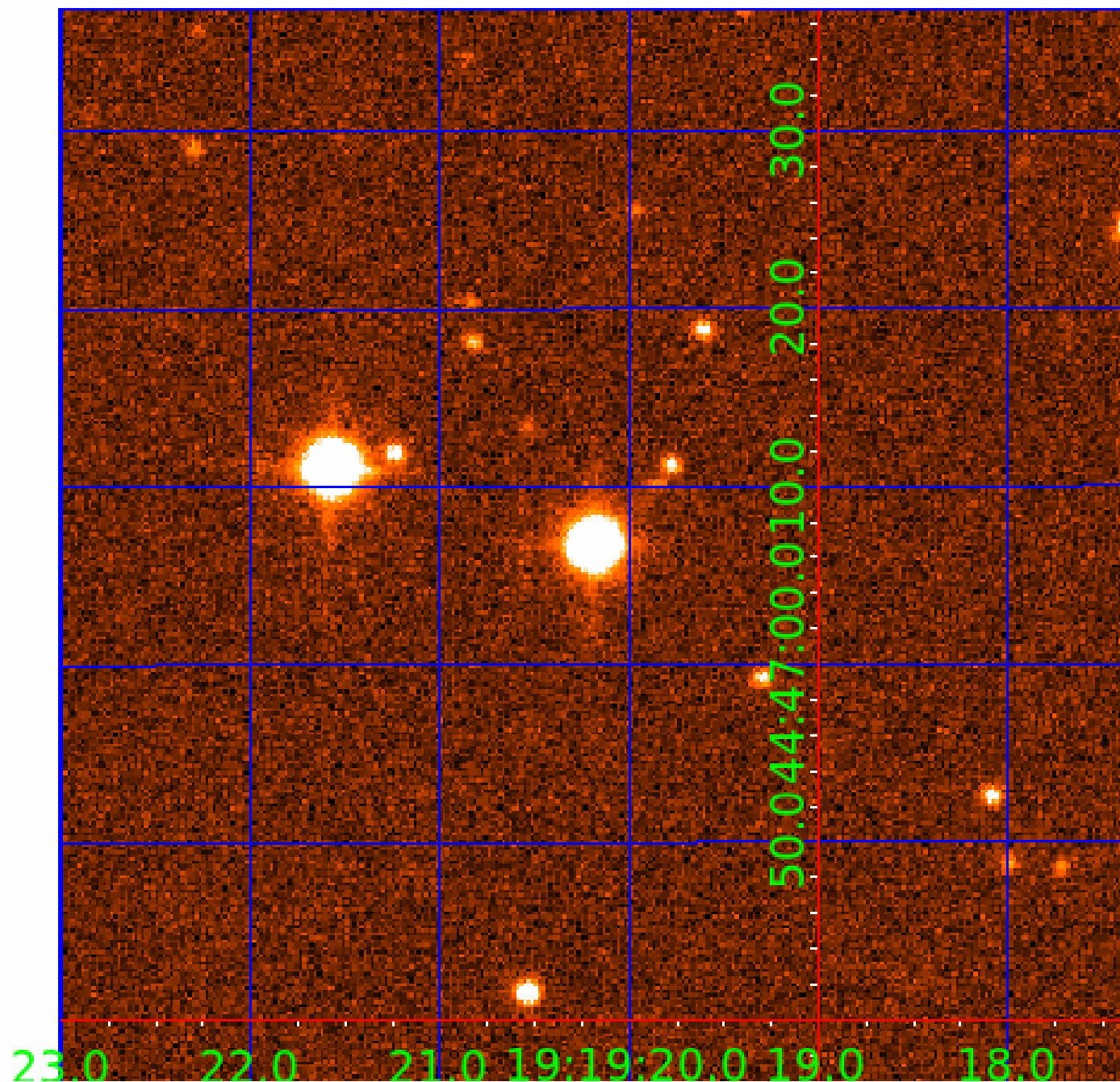


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008619436

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})
008619436-01	OBS	No	1.566671	132.821400	17.6	8.683	12.9	12.4	4.38	10894	1.93	158194.18
008619436-03	OBS	No	225.450279	189.072332	125.8	15.000	14.5	-1.0	4.38	10894	5.05	209.78
008619436-04	OBS	No	529.333385	226.137478	93.7	6.513	11.6	4.3	4.38	10894	4.45	67.22
008619436-05	OBS	No	147.826524	226.428423	66.2	25.440	11.7	3.4	4.38	10894	4.01	368.26
008619436-06	OBS	No	310.283609	172.684617	70.7	10.500	7.7	-1.0	4.38	10894	3.79	137.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008619436-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
008619436-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS—HALO_GHOST
008619436-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS— CENT_FEW_DIFFS
008619436-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
008619436-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

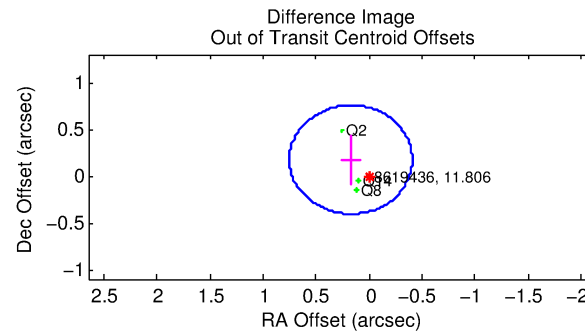
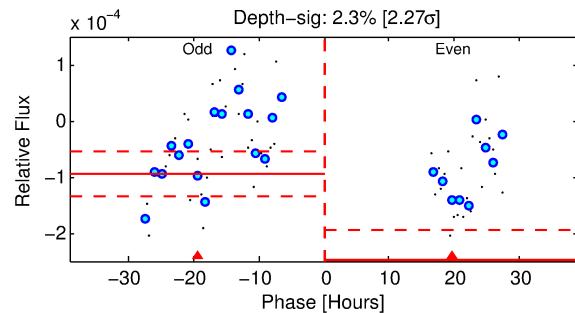
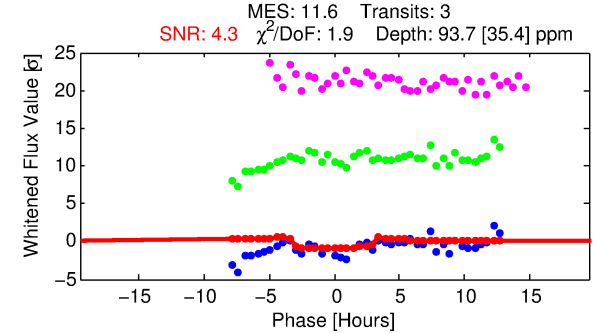
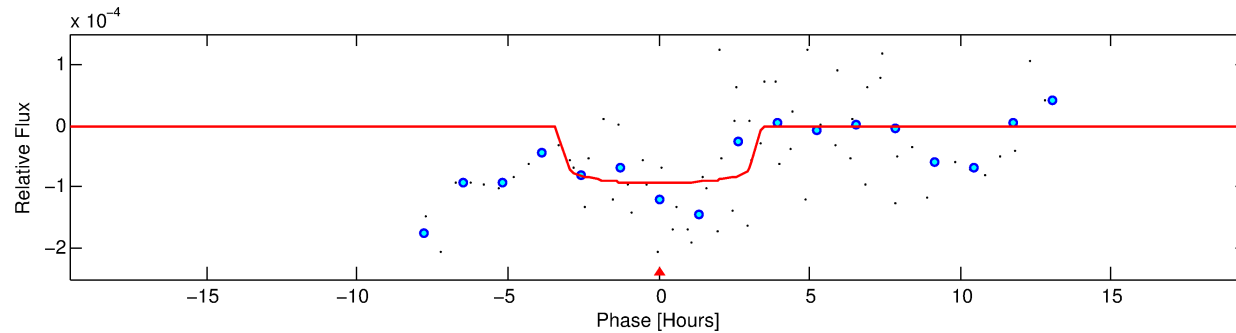
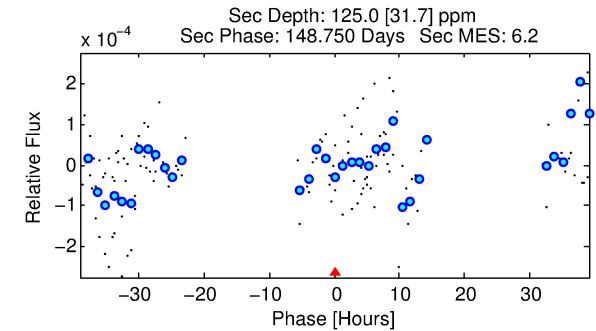
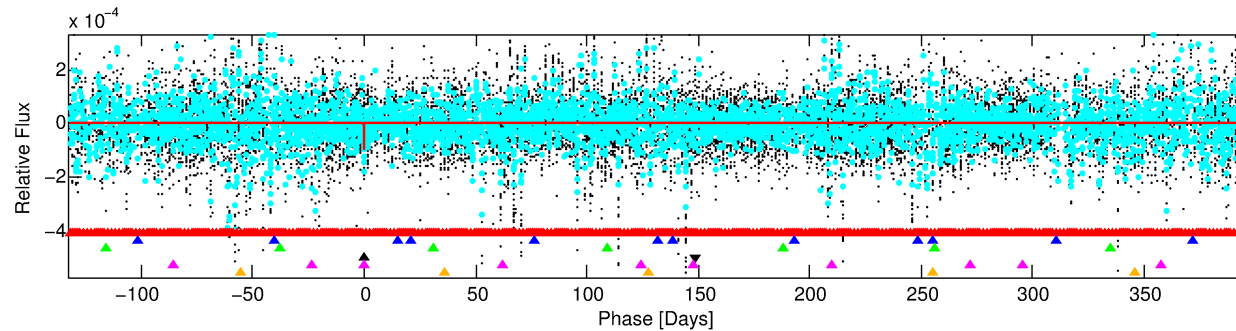
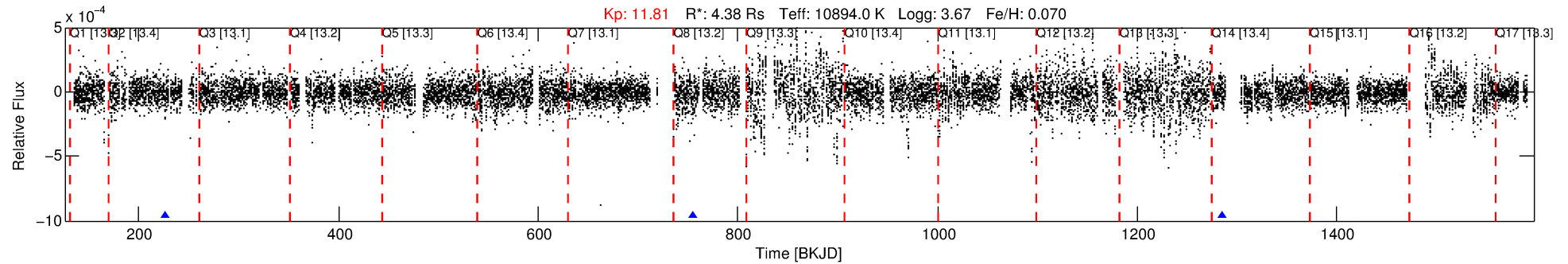
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008619436-04

No Significant Match Found

DV One-Page Summary

KIC: 8619436 Candidate: 4 of 6 Period: 529.333 d



DV Fit Results:

Period = 529.33338 [0.01854] d
Epoch = 226.1375 [0.0158] BKJD
Rp/R* = 0.0093 [0.0203]
a/R* = 543.62 [9297.10]
b = 0.50 [25.41]
Seff = 67.22 [43.87]
Teq = 730 [119] K
Rp = 4.45 [9.88] Re
a = 1.8969 [0.7396] AU
Ag = 12525.50 [55387.91] [0.23σ]
Teffp = 11943 [13081] K [0.86σ]

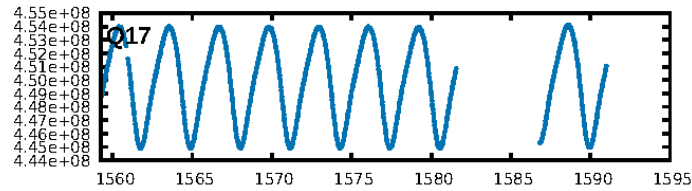
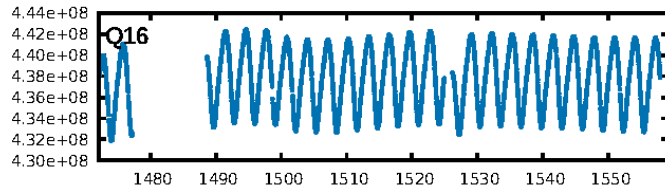
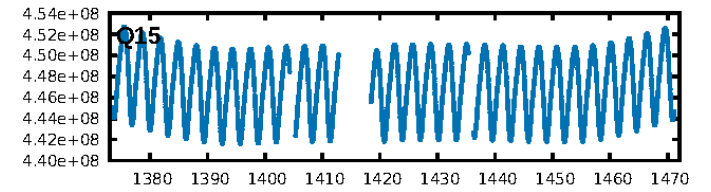
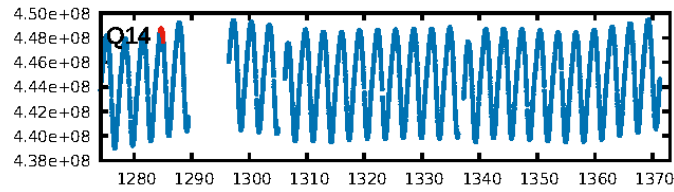
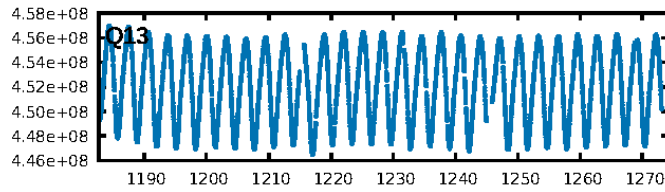
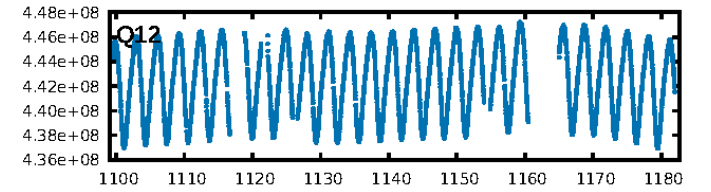
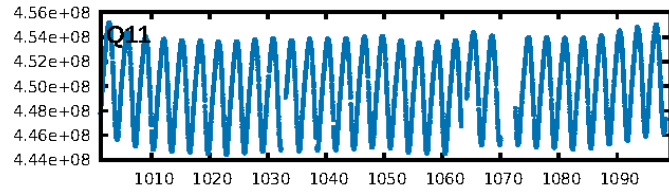
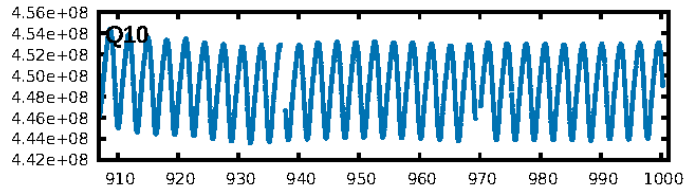
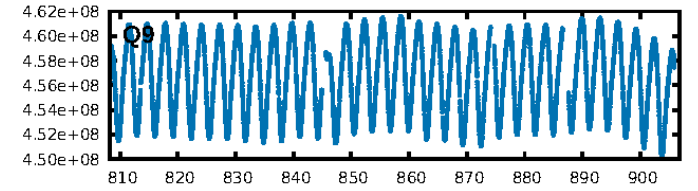
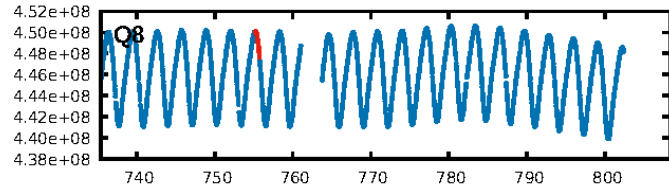
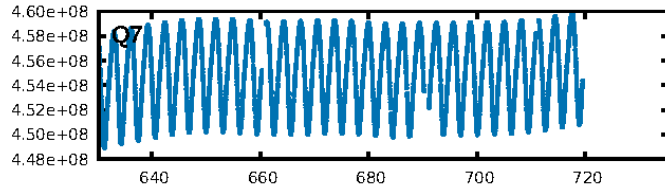
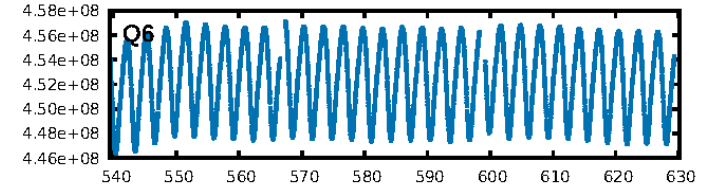
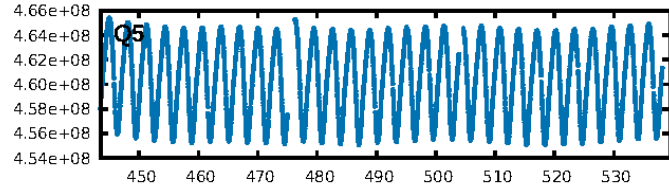
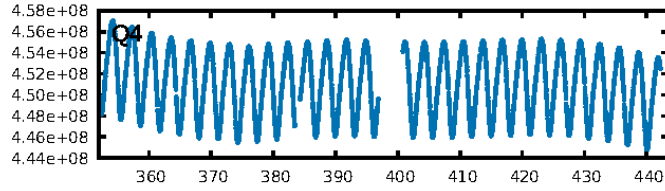
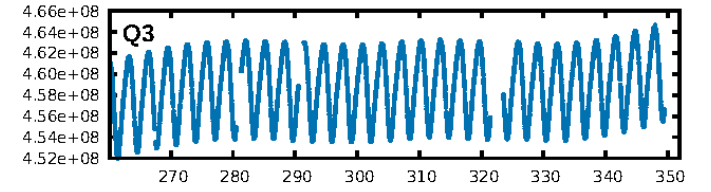
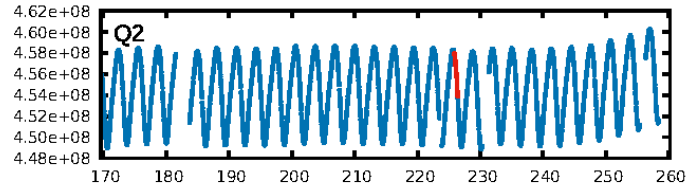
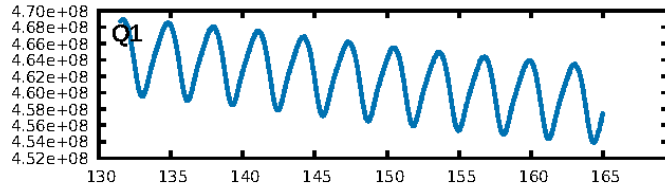
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [425.48σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 73.9%
Bootstrap-pfa: 3.58e-18
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.977
Centroid-sig: 27.0%
Centroid-so: 3.137 arcsec [0.83σ]
OotOffset-rm: 0.246 arcsec [1.27σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-rm: 0.274 arcsec [1.42σ]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.00 [0/3]

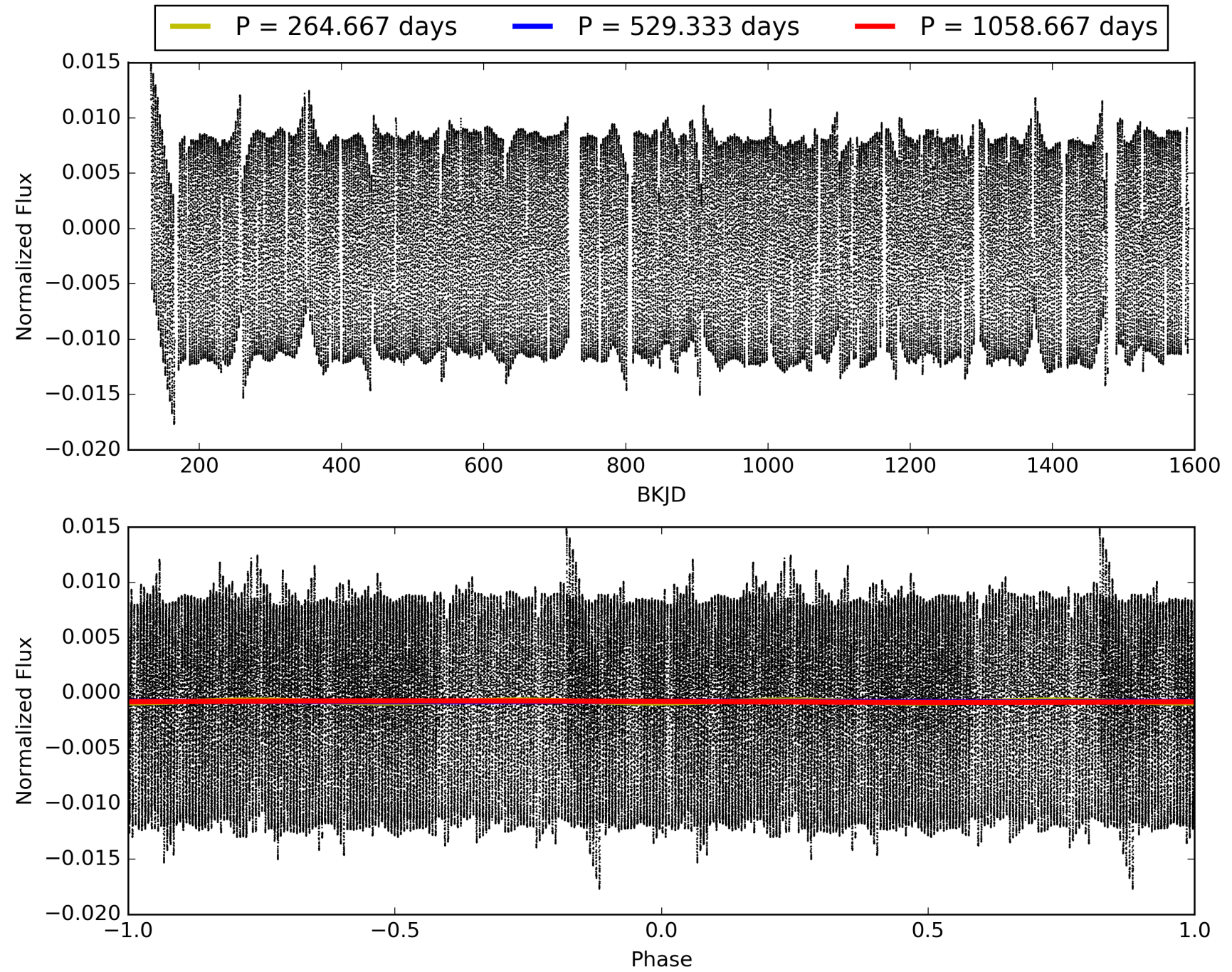
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:55:25 Z

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

TCE 008619436-04, PDC Light Curves

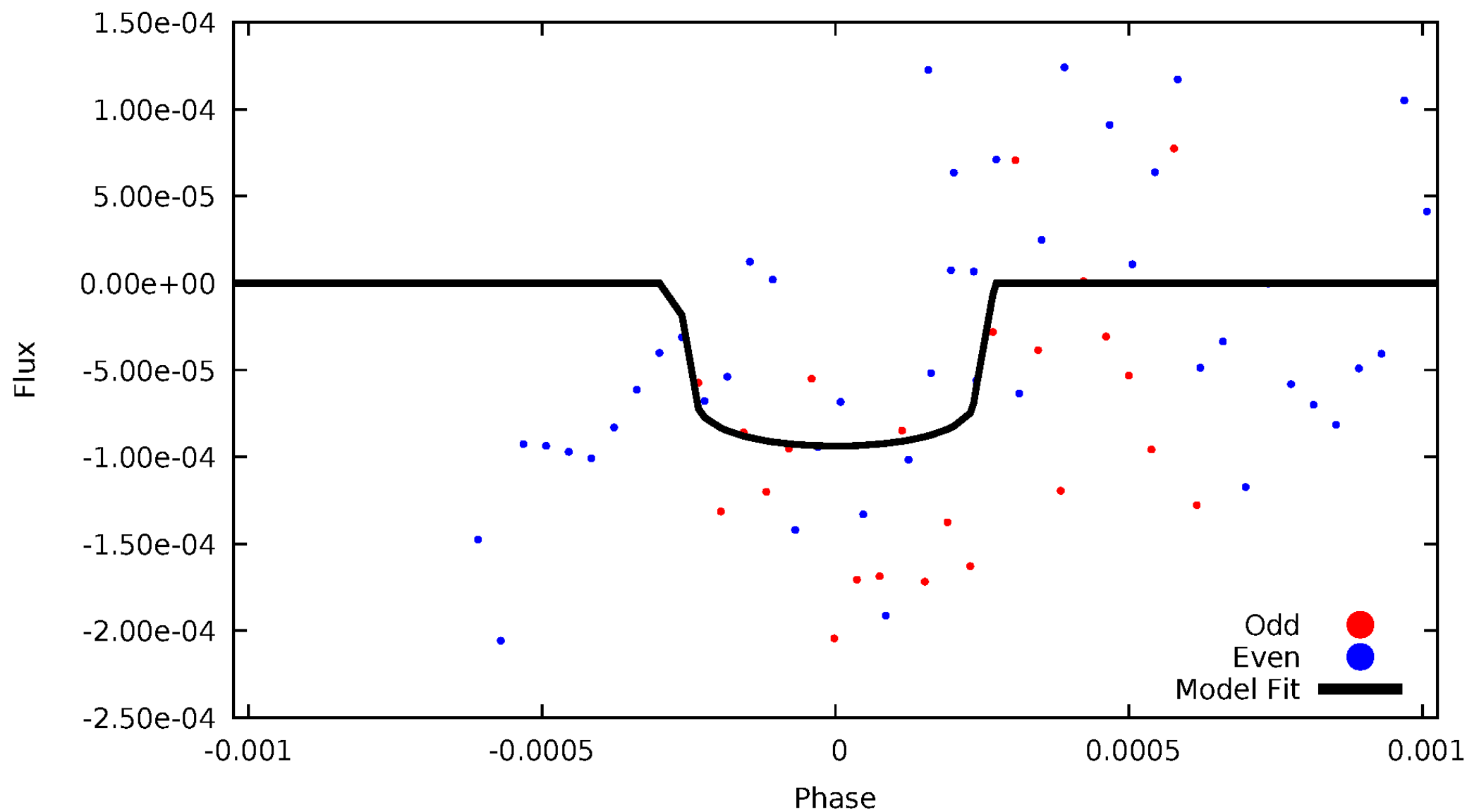


TCE 008619436-04



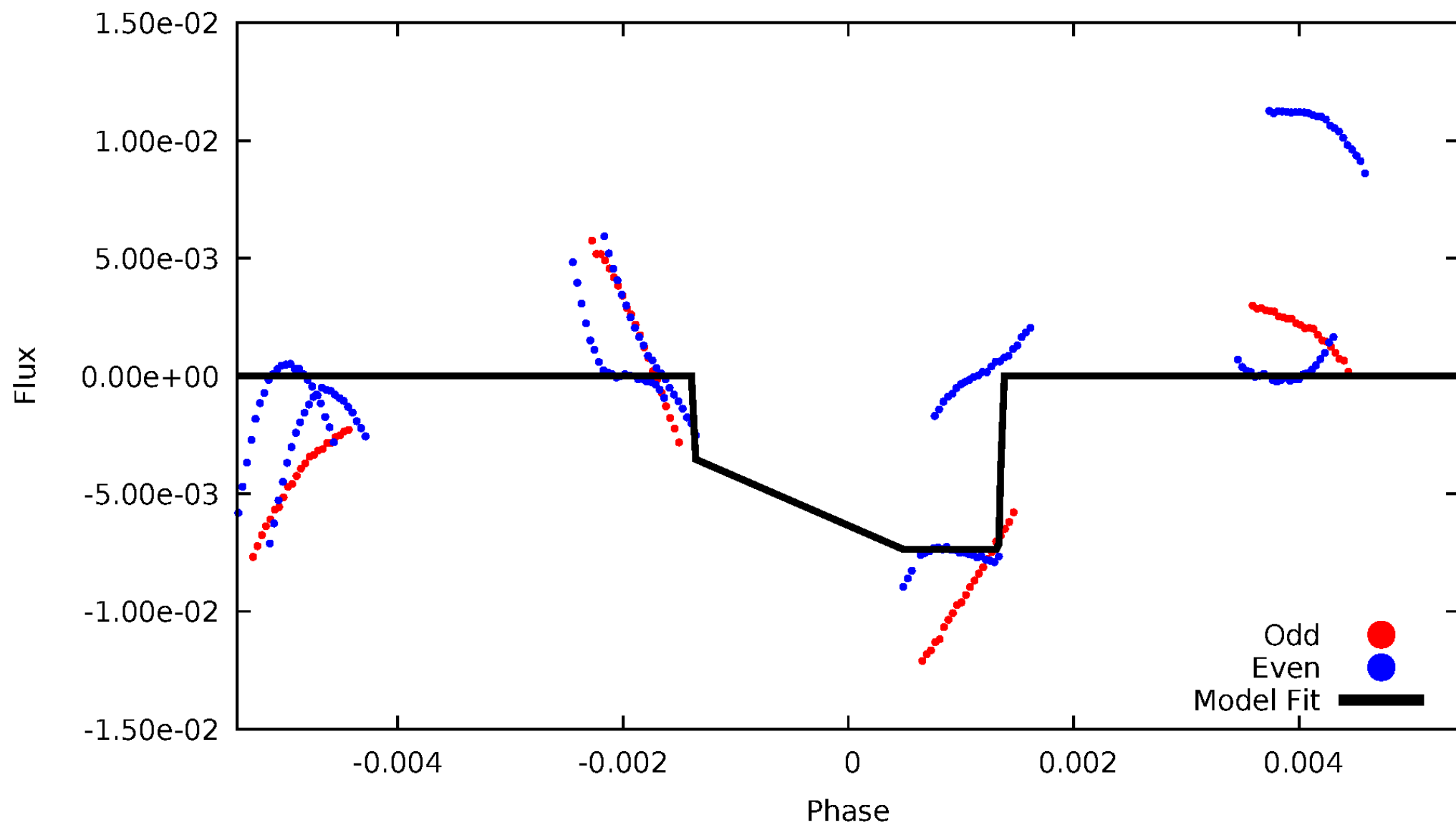
DV Odd/Even

TCE 008619436-04



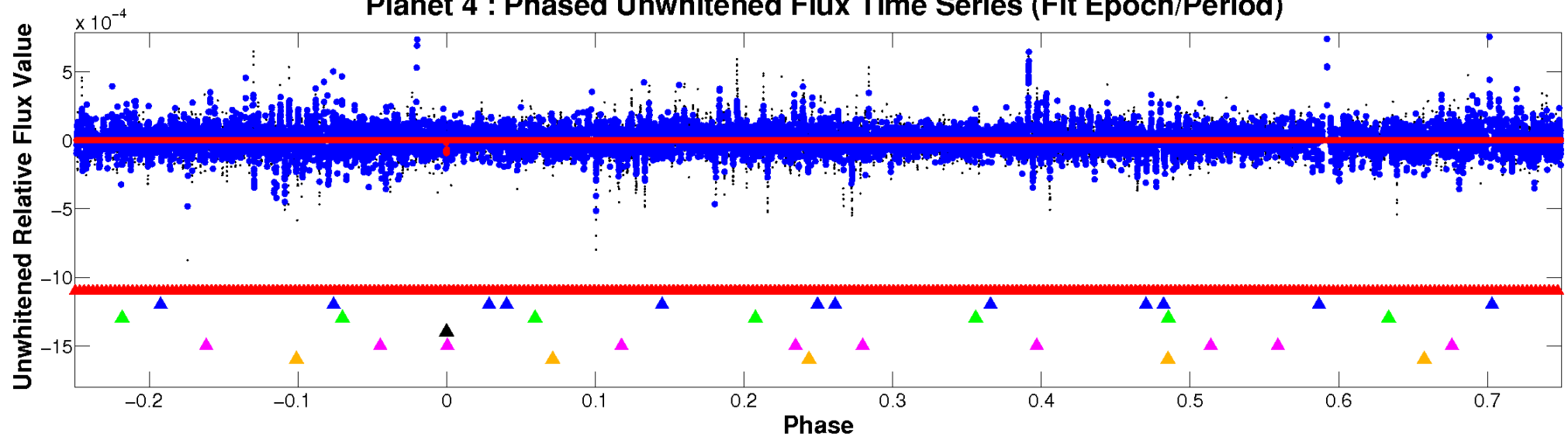
ALT Odd/Even

TCE 008619436-04

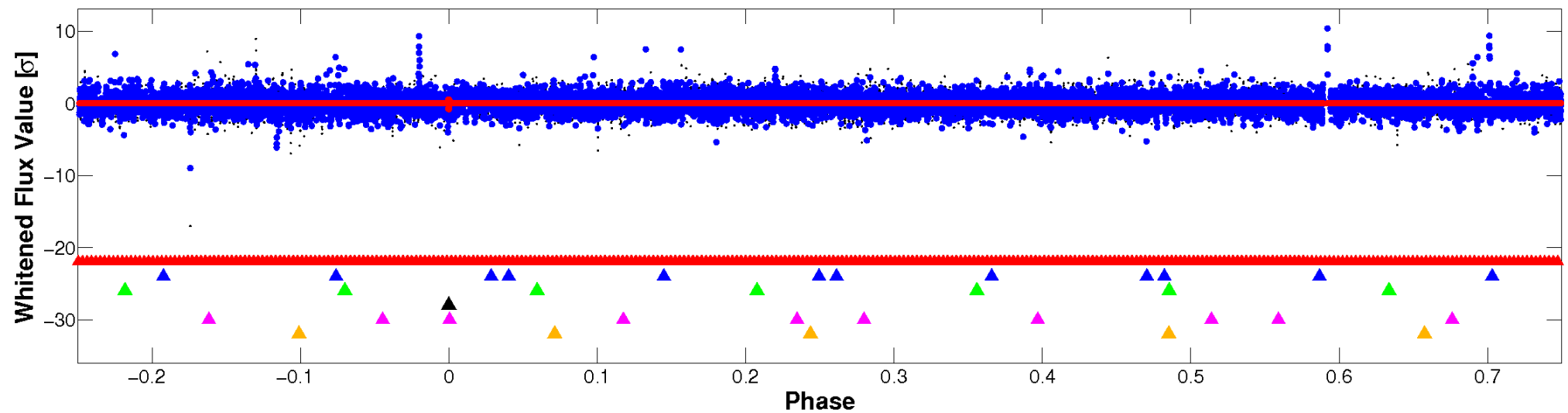


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

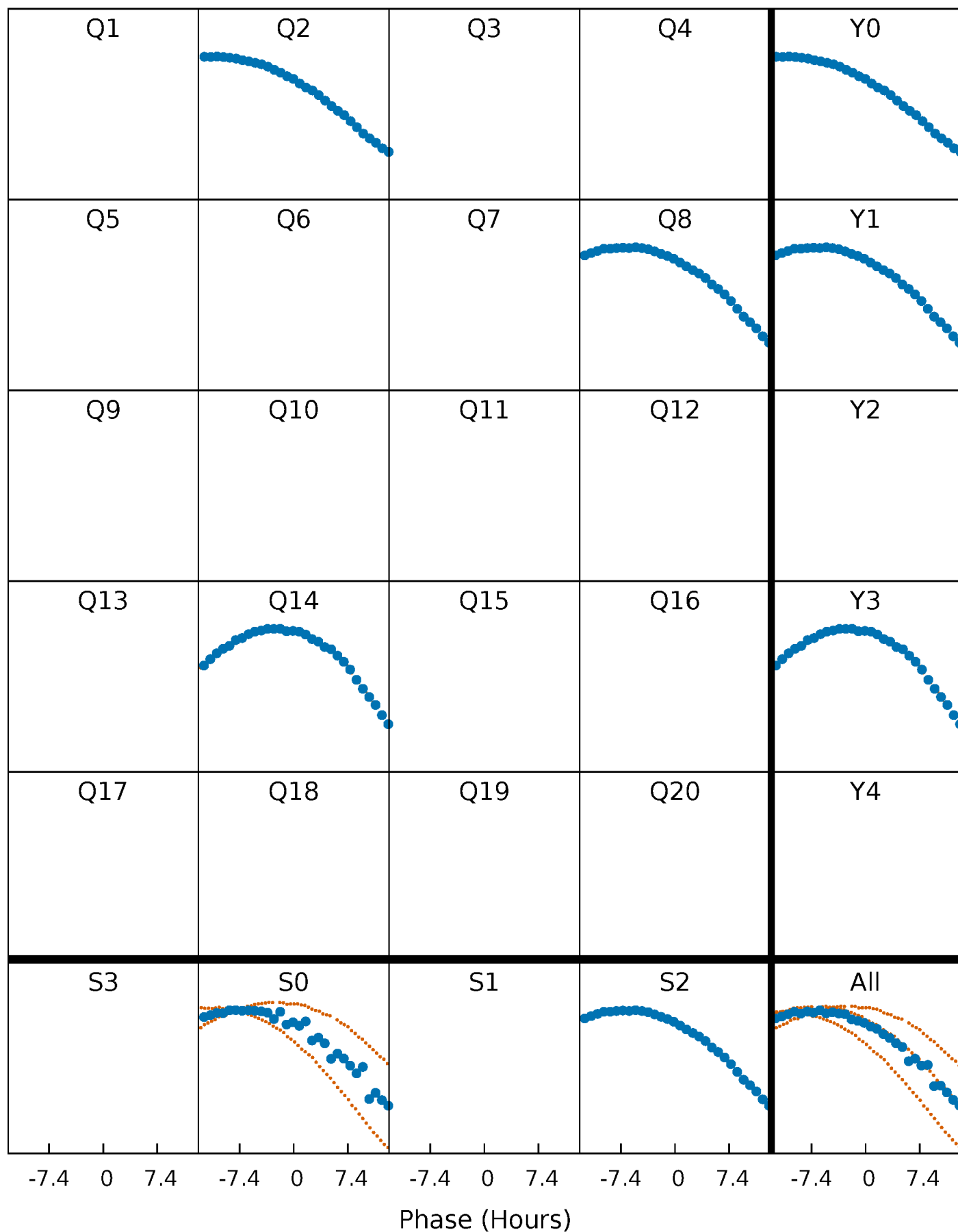


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



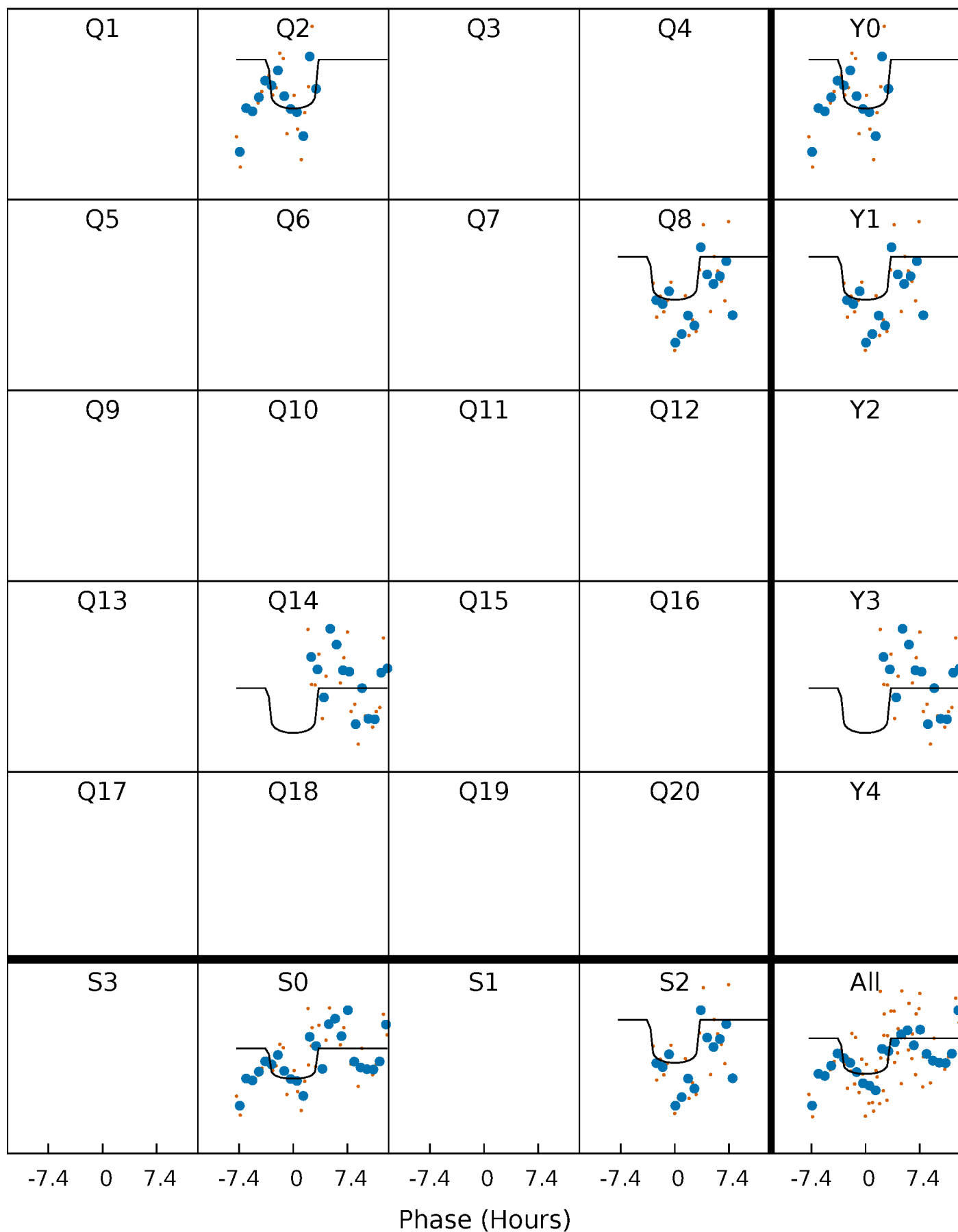
PDC Quarter-Phased Transit Curves

TCE 008619436-04 P=529.333385 Days $T_0=226.137478$ (BKJD)



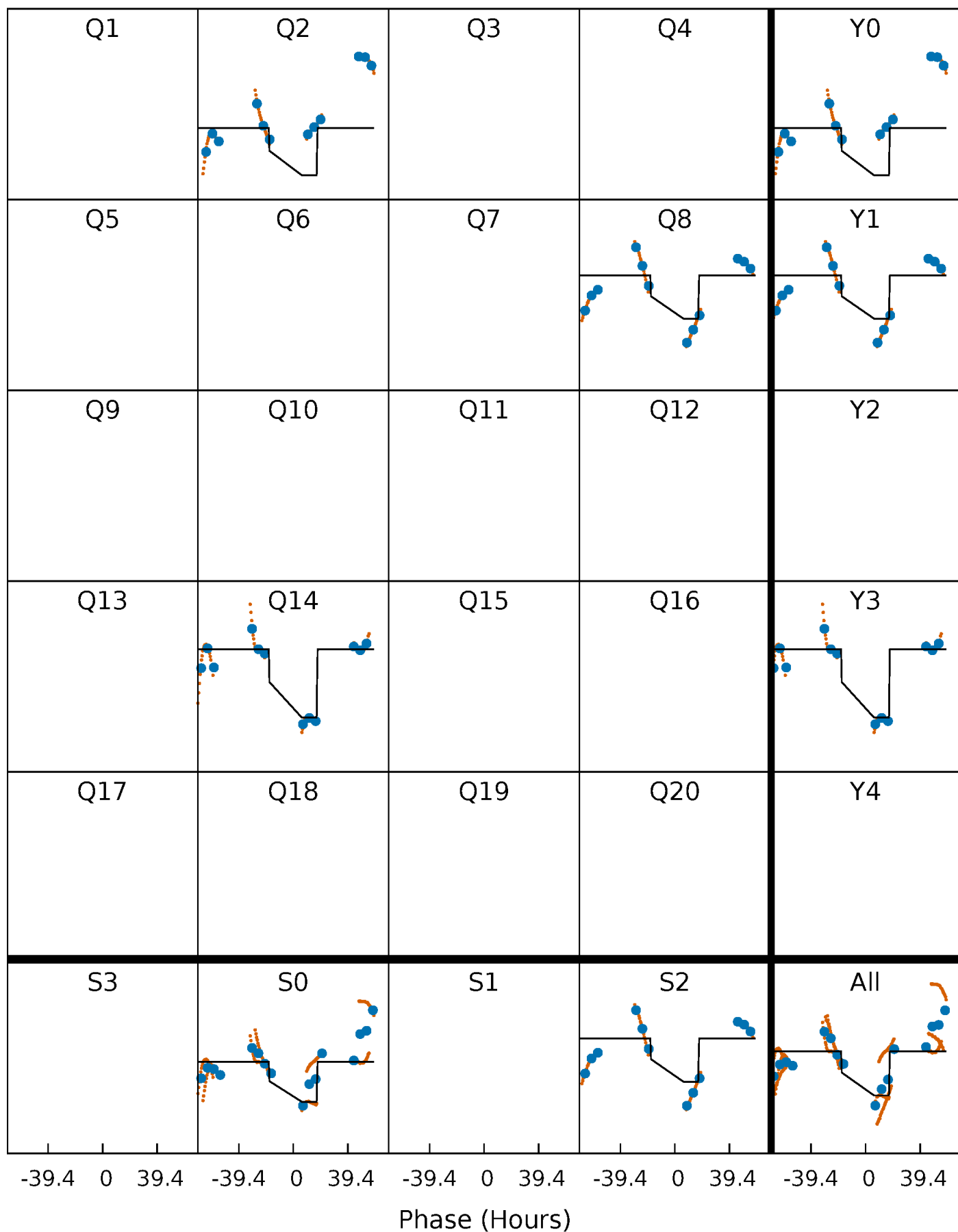
DV Quarter-Phased Transit Curves

TCE 008619436-04 P=529.333385 Days $T_0=226.137478$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

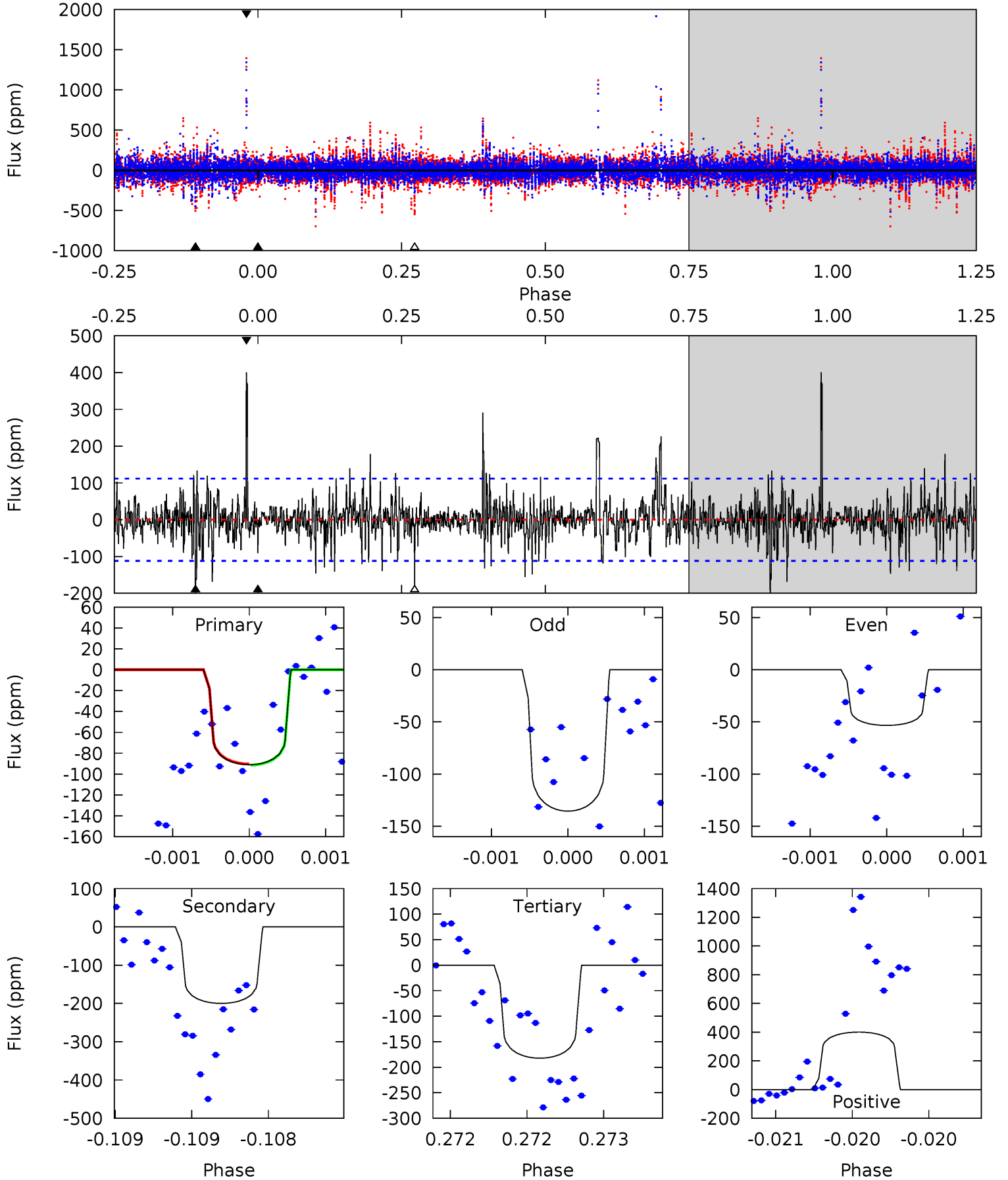
TCE 008619436-04 P=529.610630 Days $T_0=223.835495$ (BKJD)



DV Model-Shift Uniqueness Test

008619436-04, P = 529.333385 Days, E = 226.137478 Days

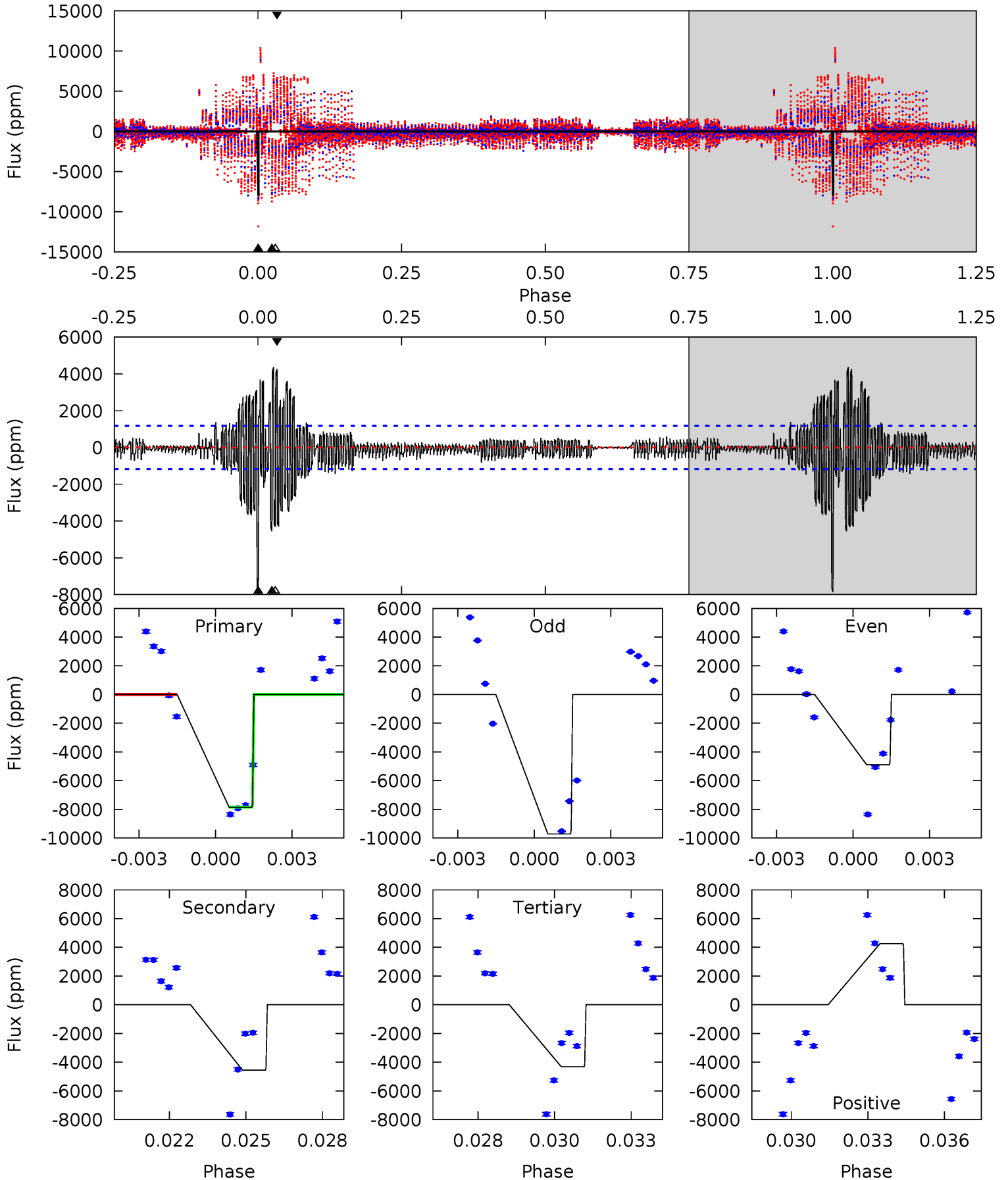
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.53	9.95	9.07	19.9	5.57	3.48	2.21	-4.54	-15.4	0.88	-9.98	2.01	0.68	0.67	0.03



Alt Model-Shift Uniqueness Test

008619436-04, P = 529.610630 Days, E = 223.835495 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.3	20.4	19.4	19.1	5.27	2.99	3.04	15.9	16.2	1.06	1.32	11.4	0.77	0.36	0



Stellar Parameters For KIC 008619436

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10894^{+210}_{-506}	$3.667^{+0.368}_{-0.092}$	$0.070^{+0.050}_{-0.600}$	$4.378^{+0.471}_{-1.765}$	$3.249^{+0.076}_{-0.685}$	$0.055^{+0.156}_{-0.016}$
	+2%/-5%	+10%/-3%	+71%/-857%	+11%/-40%	+2%/-21%	+287%/-29%
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 008619436-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-200 ± 20	$7.38^{+8.59}_{-5.09}$	994^{+57}_{-100}	9444^{+18488}_{-3381}	7205^{+65401}_{-5690}
Alt.	-4551 ± 223	$37.01^{+12.01}_{-10.43}$	994^{+58}_{-106}	9104^{+2072}_{-1140}	6421^{+5948}_{-2689}

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

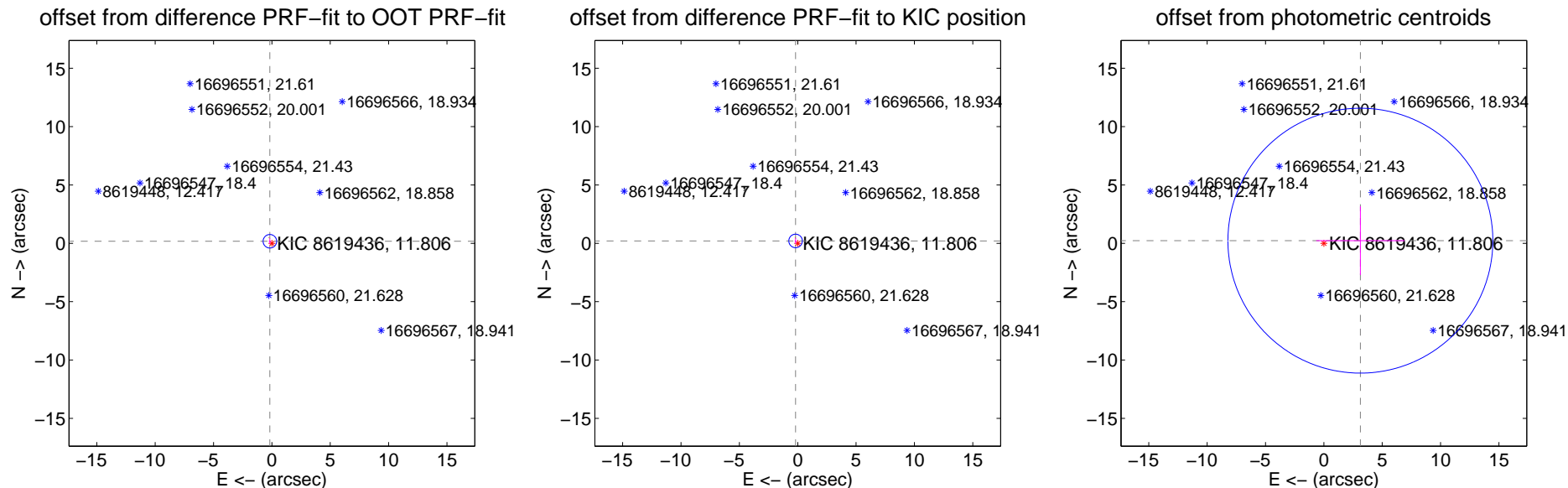
DV Centroid Data

Supplemental centroid analysis for 008619436-04. **Kepler magnitude: 11.81.** Transit SNR 4.32

There are 0 quarters with good PRF difference image offsets

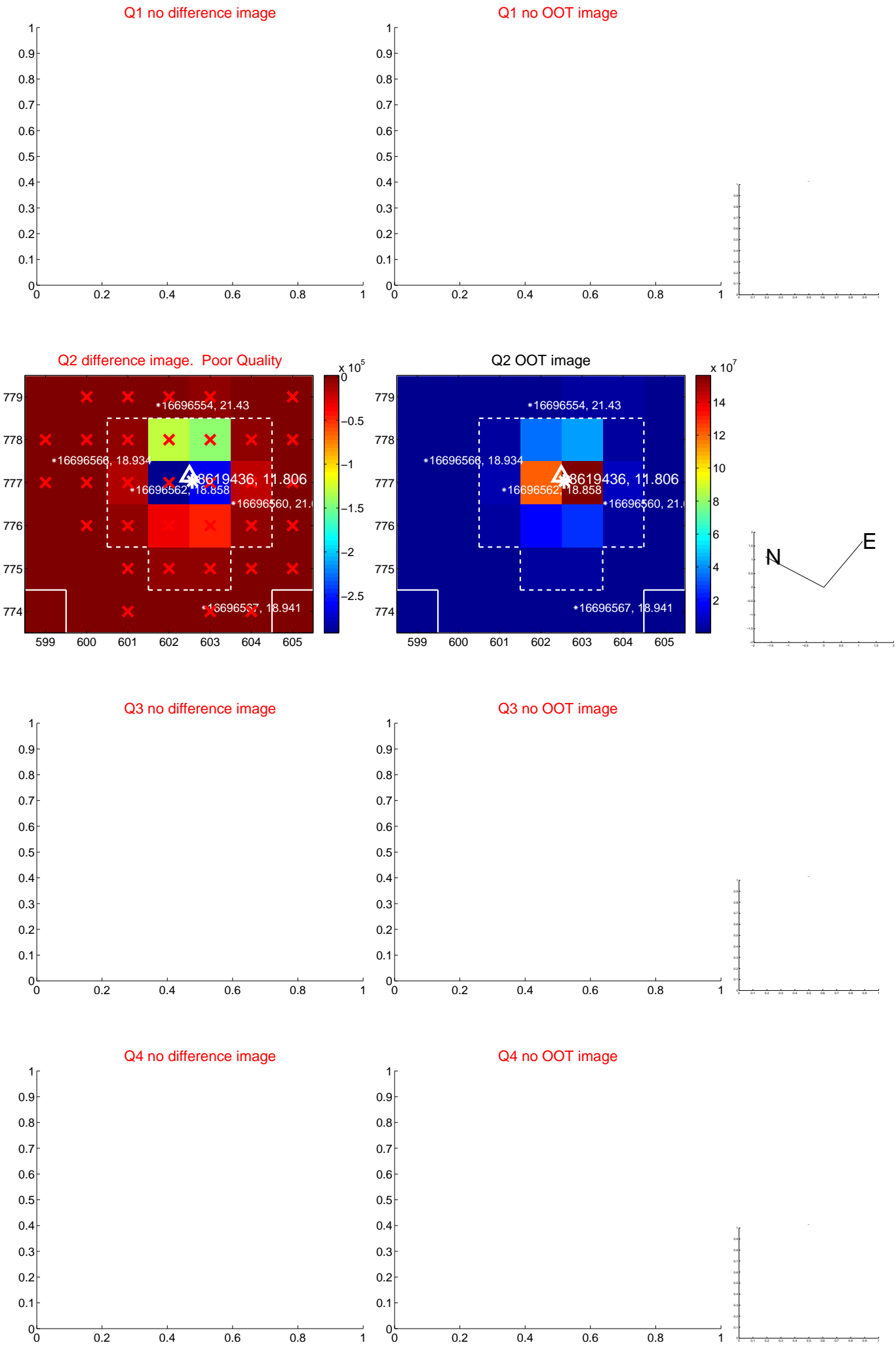
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.246 ± 0.193	1.27	0.173 ± 0.090	0.175 ± 0.257
PRF-fit source offset from KIC position	0.274 ± 0.193	1.42	0.183 ± 0.076	0.203 ± 0.251
photometric centroid source offset	3.14 ± 3.78	0.83	-3.13 ± 3.79	0.23 ± 2.94

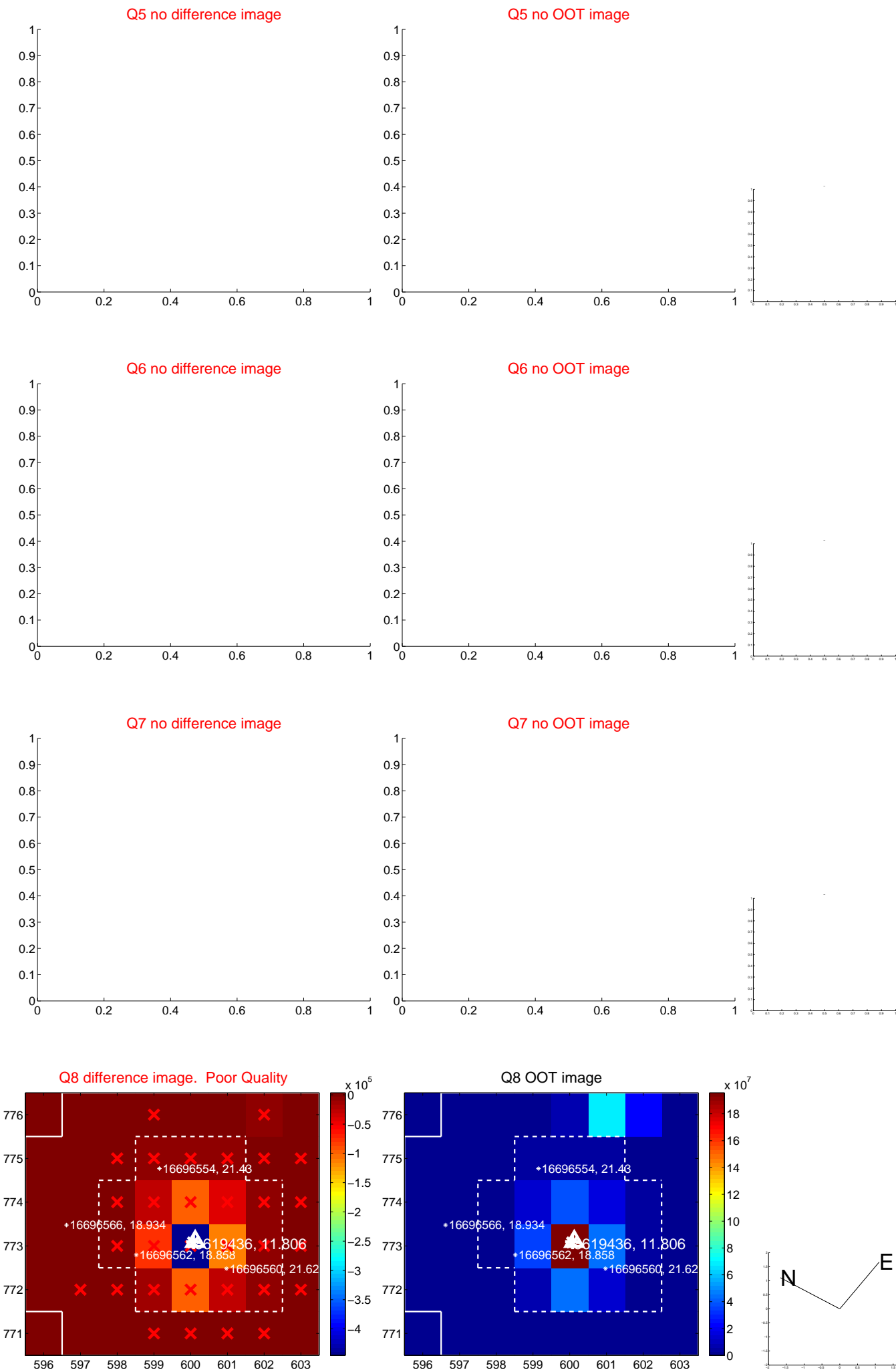


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



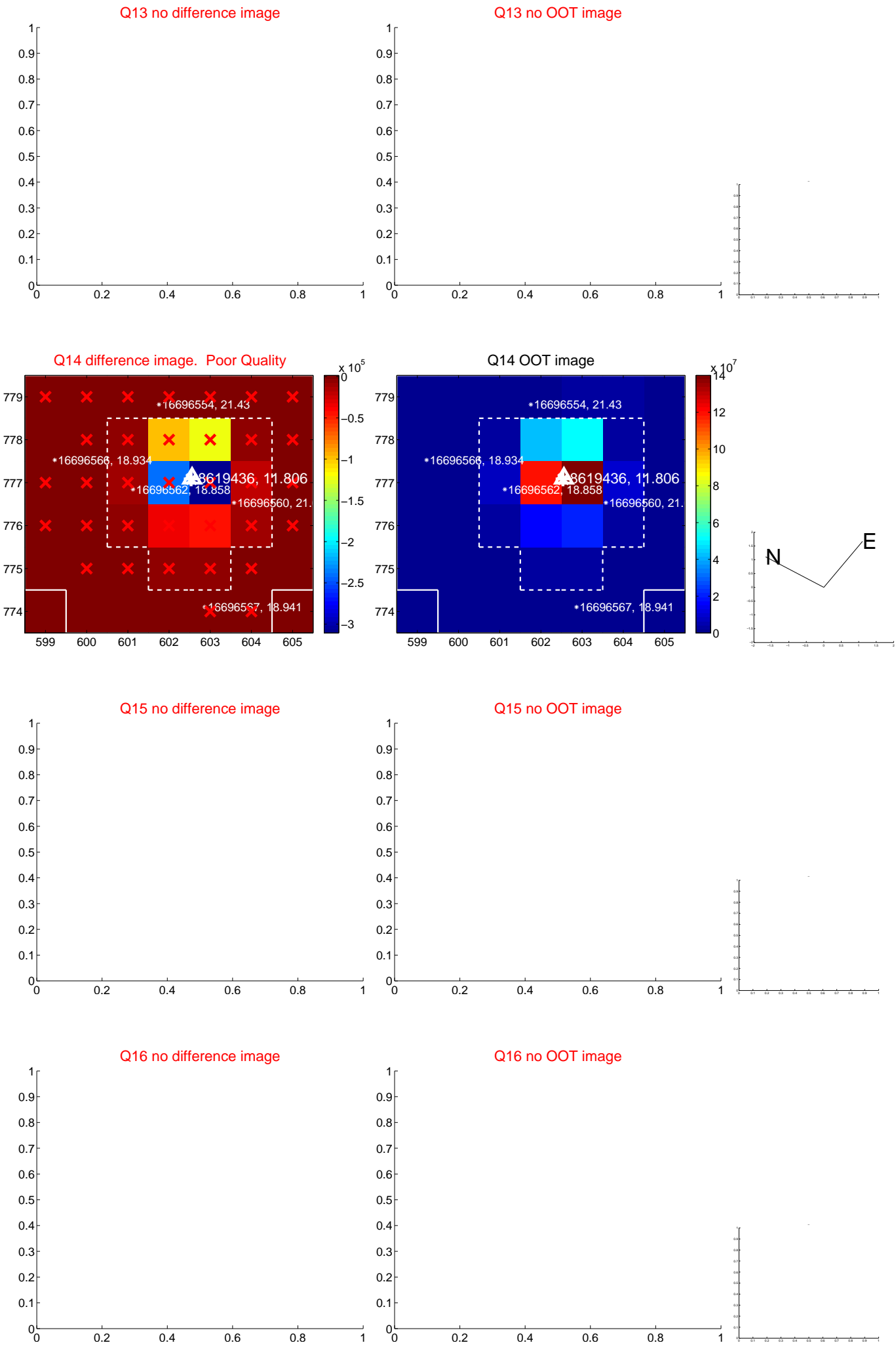
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



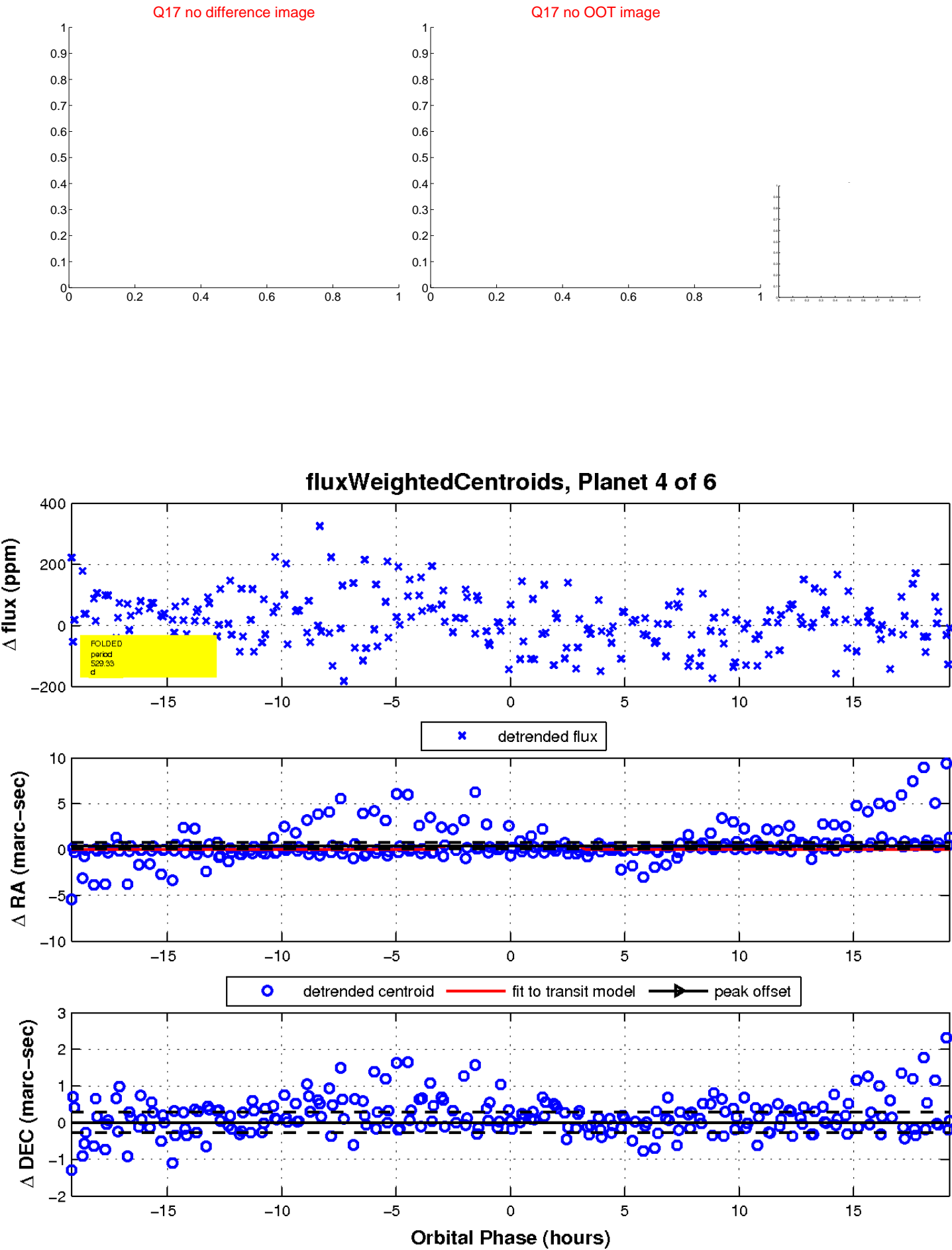
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

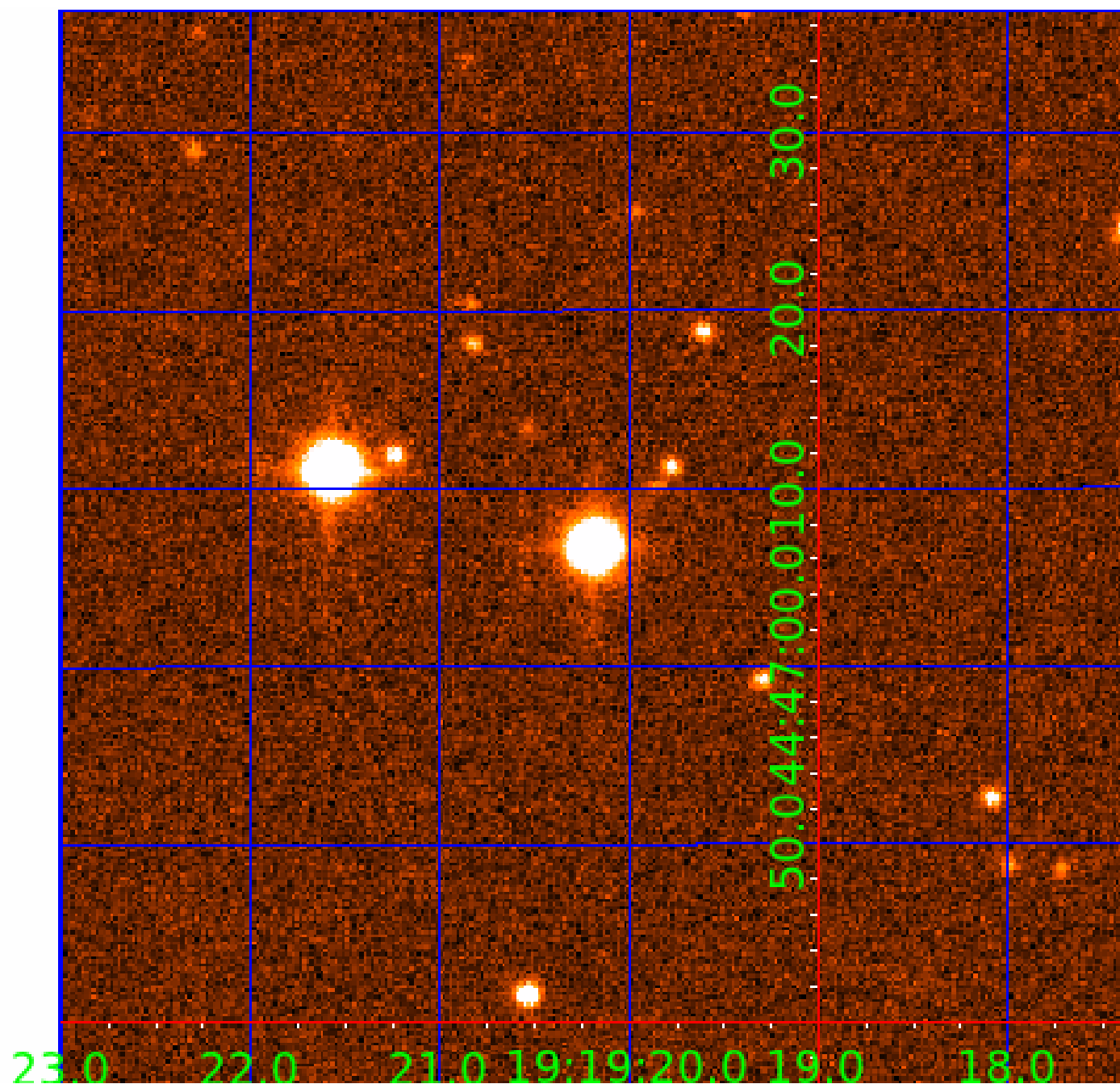


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008619436

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})
008619436-01	OBS	No	1.566671	132.821400	17.6	8.683	12.9	12.4	4.38	10894	1.93	158194.18
008619436-03	OBS	No	225.450279	189.072332	125.8	15.000	14.5	-1.0	4.38	10894	5.05	209.78
008619436-04	OBS	No	529.333385	226.137478	93.7	6.513	11.6	4.3	4.38	10894	4.45	67.22
008619436-05	OBS	No	147.826524	226.428423	66.2	25.440	11.7	3.4	4.38	10894	4.01	368.26
008619436-06	OBS	No	310.283609	172.684617	70.7	10.500	7.7	-1.0	4.38	10894	3.79	137.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008619436-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
008619436-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS—HALO_GHOST
008619436-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS— CENT_FEW_DIFFS
008619436-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
008619436-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

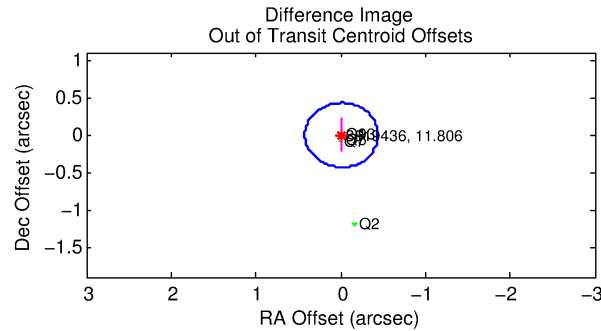
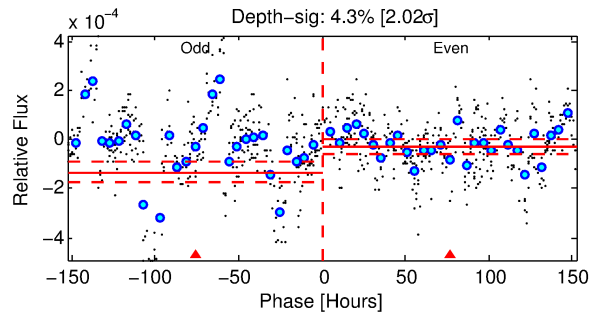
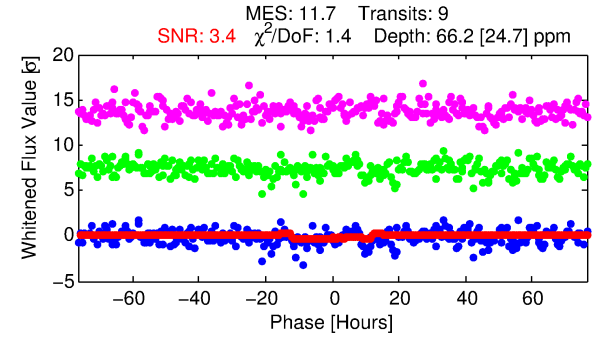
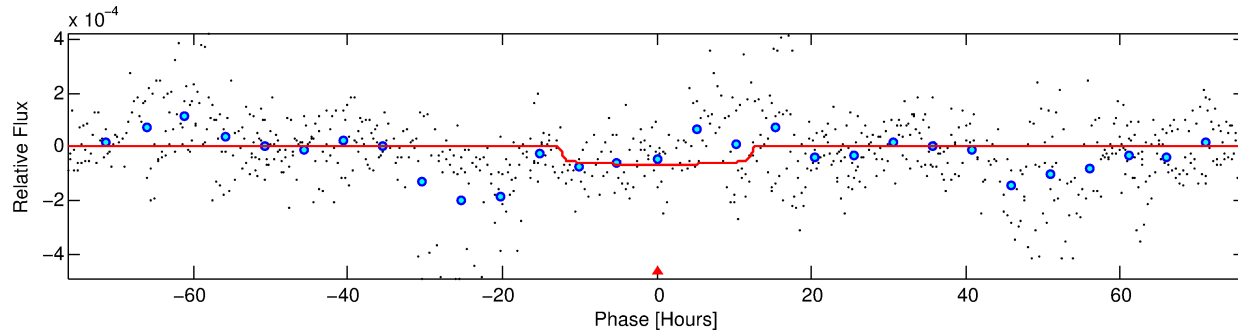
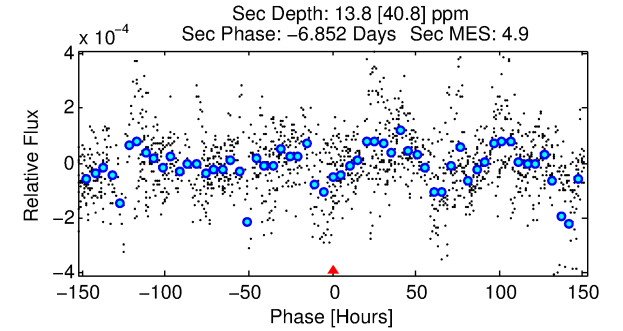
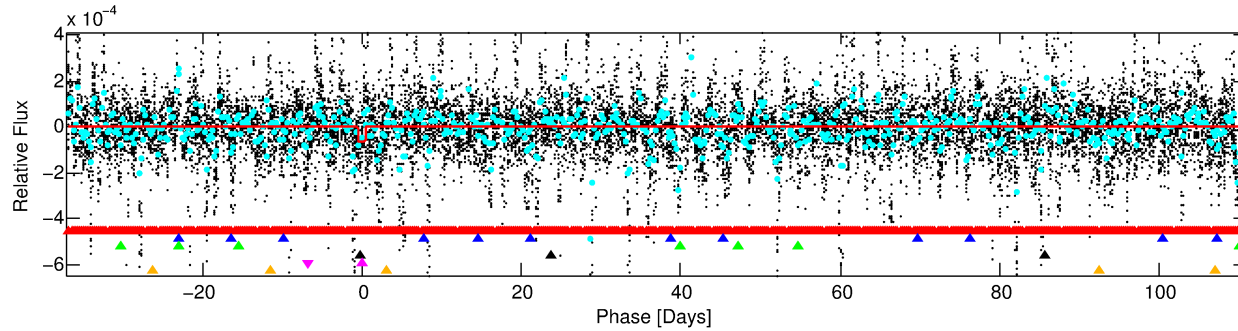
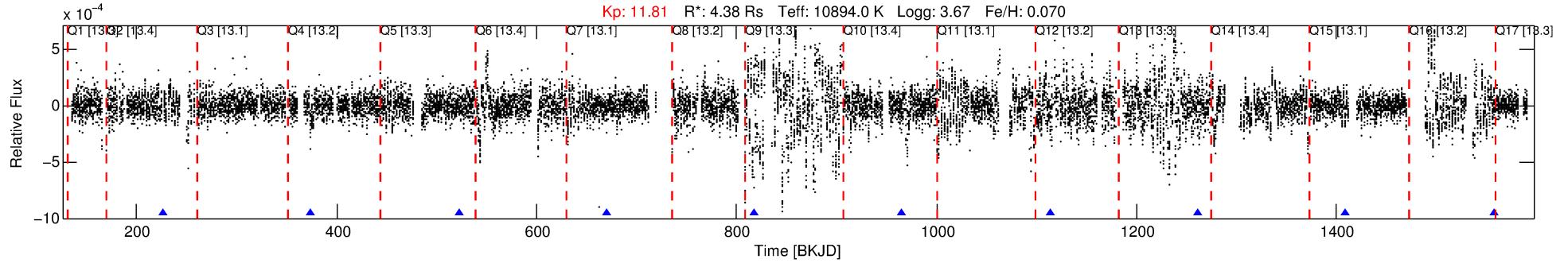
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008619436-05

No Significant Match Found

DV One-Page Summary

KIC: 8619436 Candidate: 5 of 6 Period: 147.827 d



DV Fit Results:

Period = 147.82652 [0.00792] d
Epoch = 226.4284 [0.0405] BKJD
Rp/R* = 0.0084 [0.0018]
a/R* = 22.69 [15.42]
b = 0.87 [0.19]
Seff = 368.26 [240.32]
Teq = 1117 [182] K
Rp = 4.01 [1.83] Re
a = 0.8104 [0.3160] AU
Ag = 311.03 [947.92] [0.33σ]
Teffp = 7253 [5419] K [1.13σ]

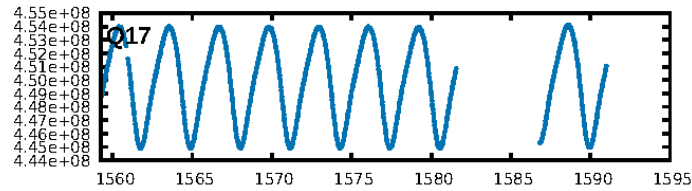
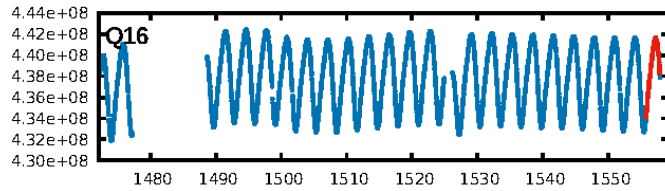
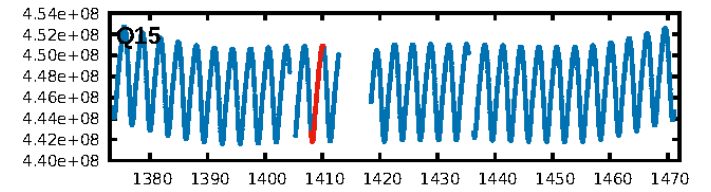
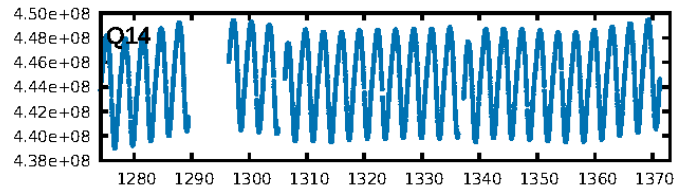
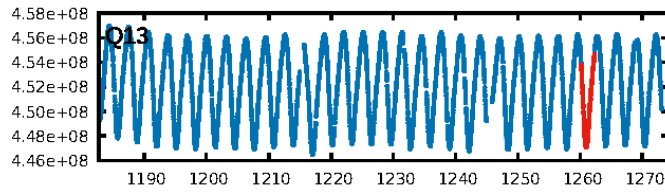
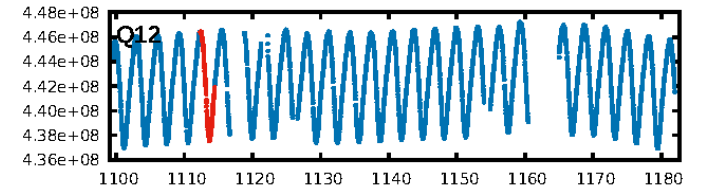
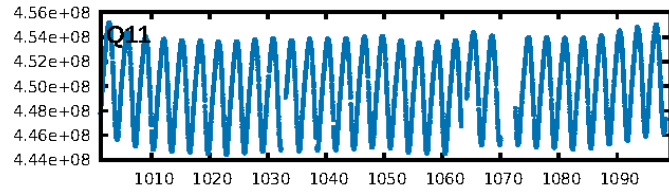
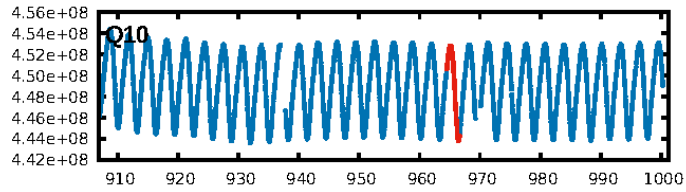
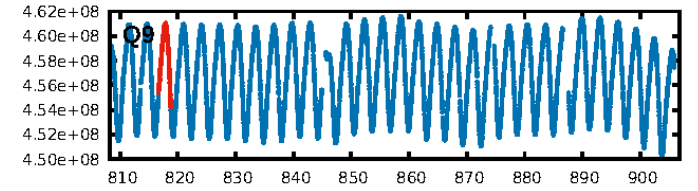
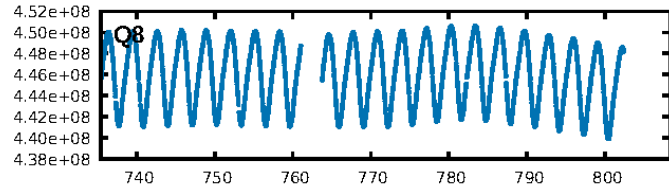
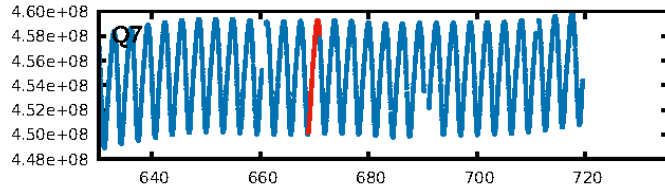
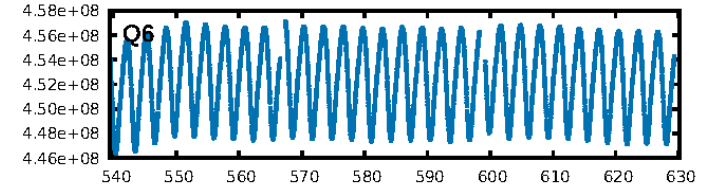
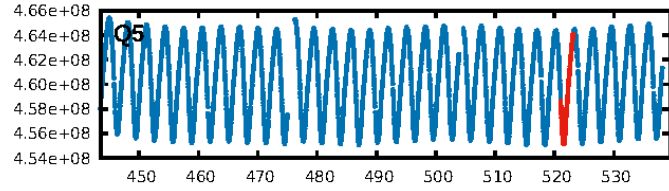
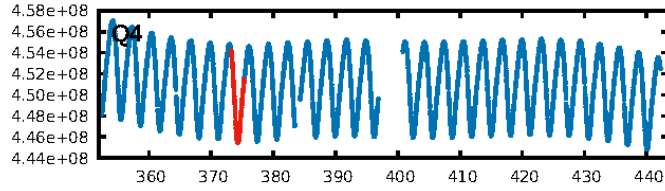
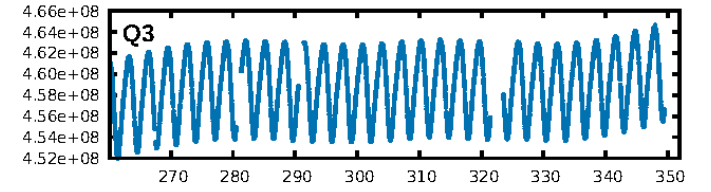
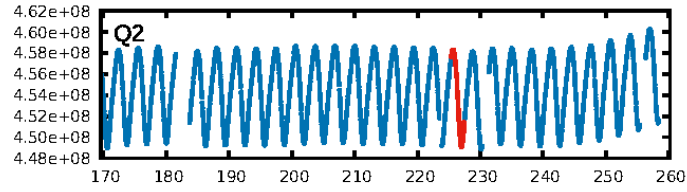
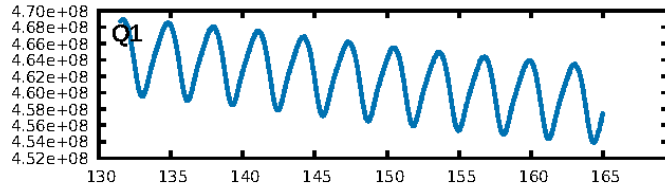
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.25σ]
LongPeriod-sig: 100.0% [63.08σ]
ModelChiSquare2-sig: 2.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.91e-17
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -36.66
Centroid-sig: 61.6%
Centroid-so: 2.374 arcsec [0.50σ]
OotOffset-rm: 0.010 arcsec [0.07σ]
OotOffset-st: 1/1/0/3 [5]
KicOffset-rm: 0.033 arcsec [0.19σ]
KicOffset-st: 1/1/0/3 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.00 [0/5]

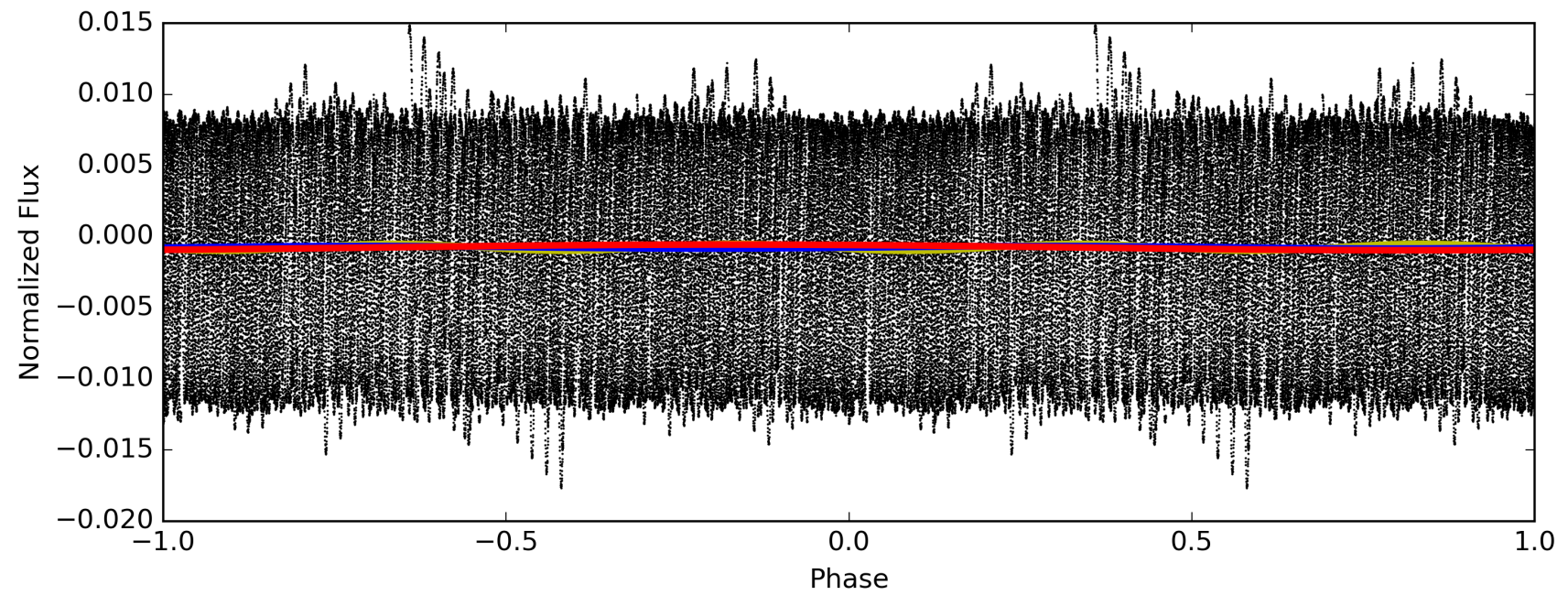
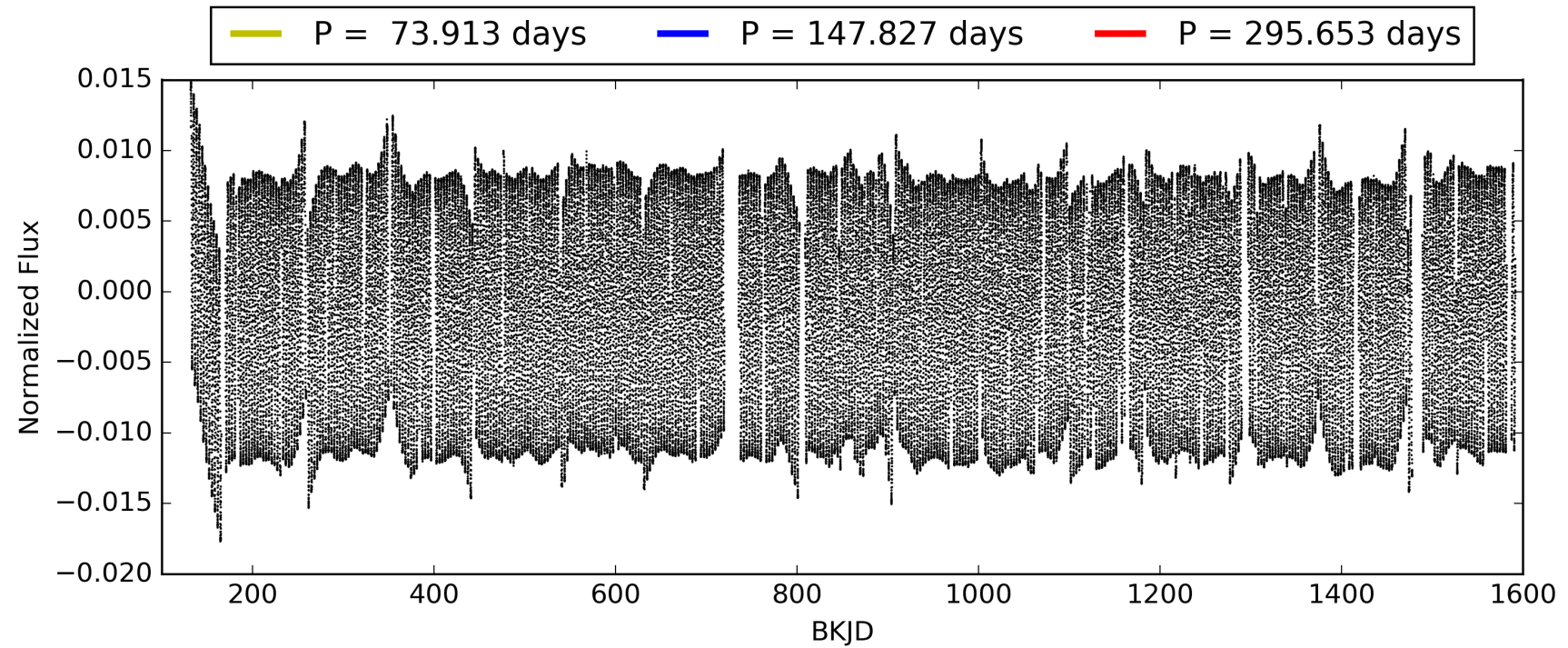
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:55:30 Z

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

TCE 008619436-05, PDC Light Curves

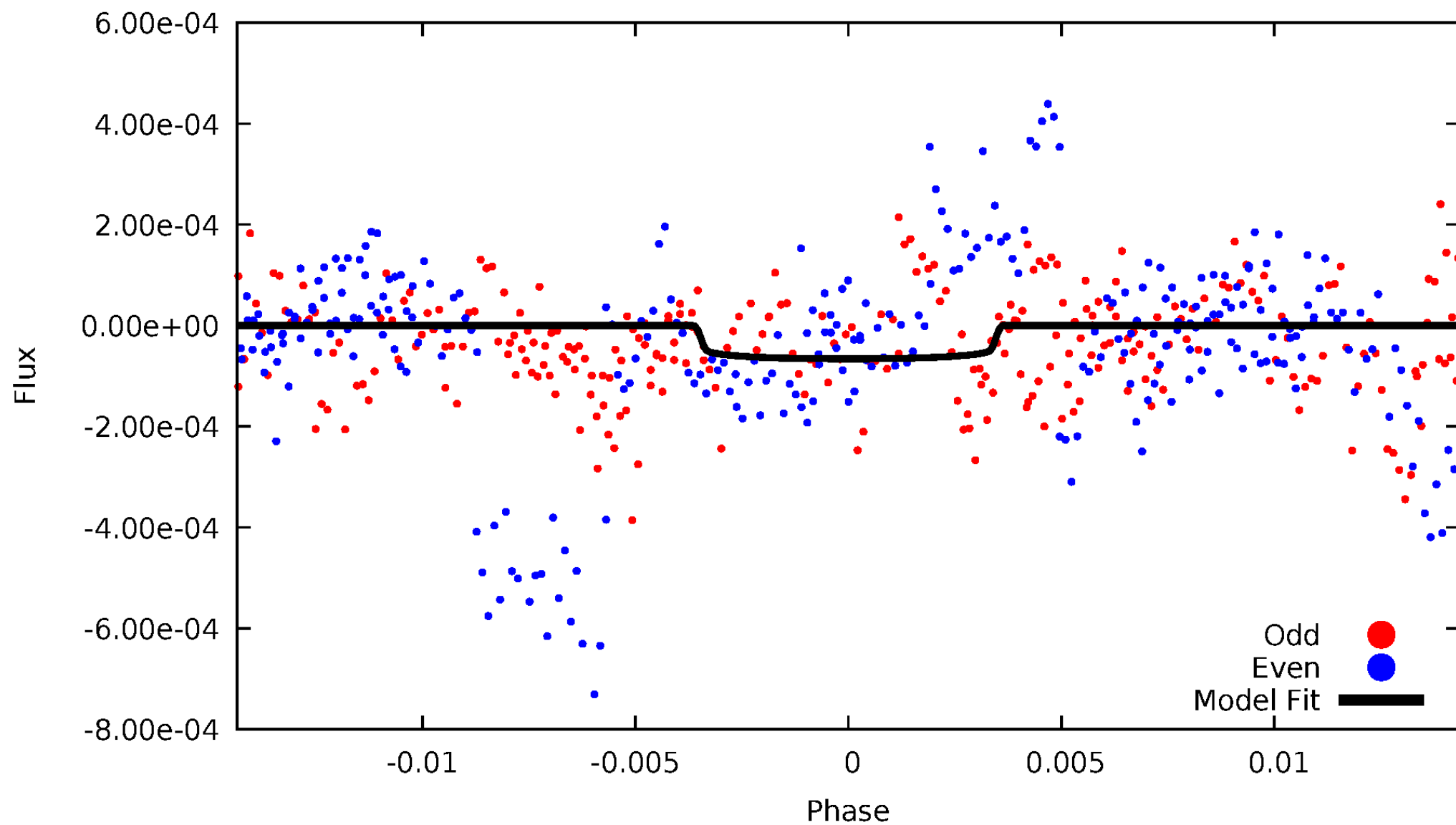


TCE 008619436-05



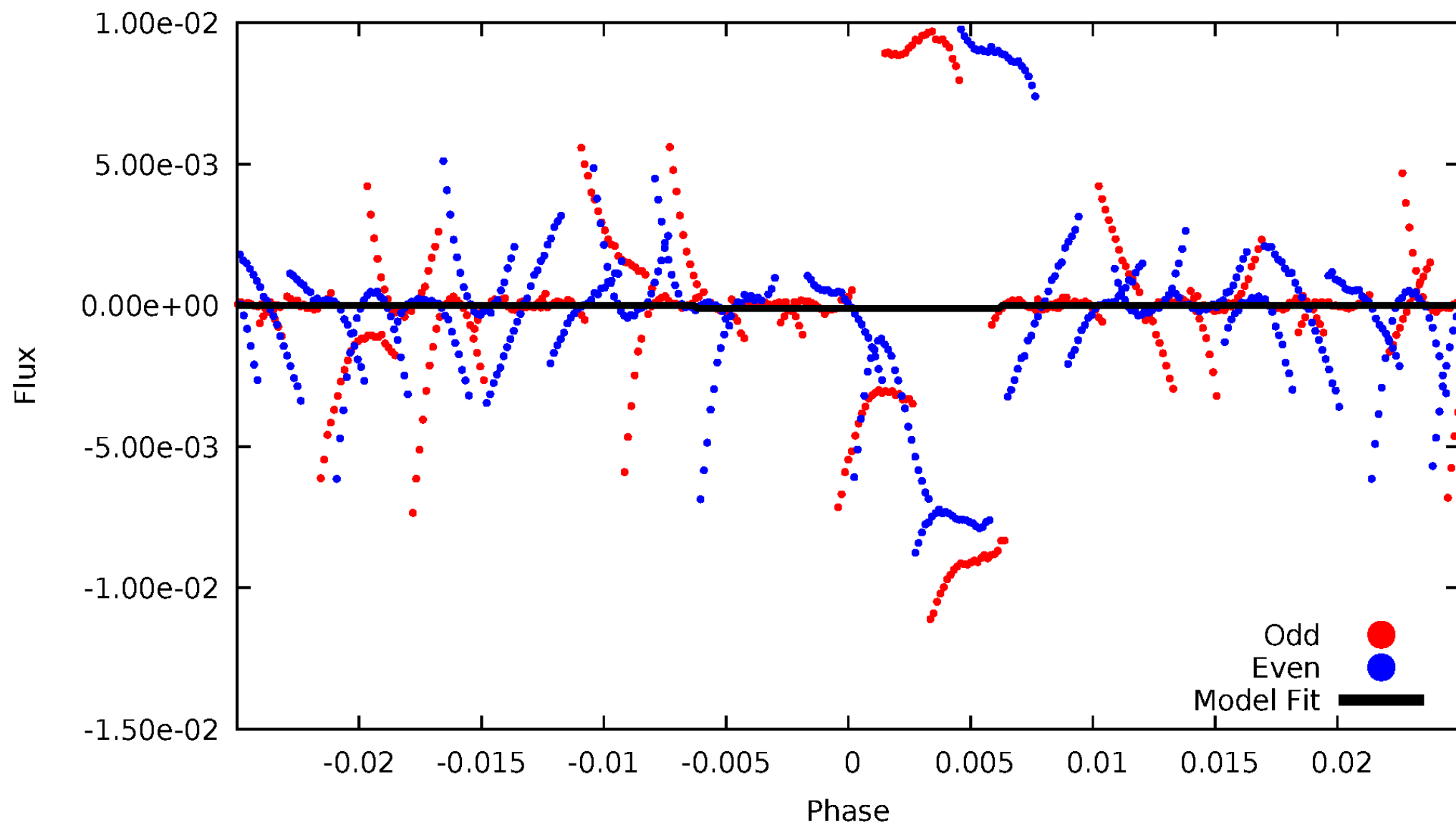
DV Odd/Even

TCE 008619436-05



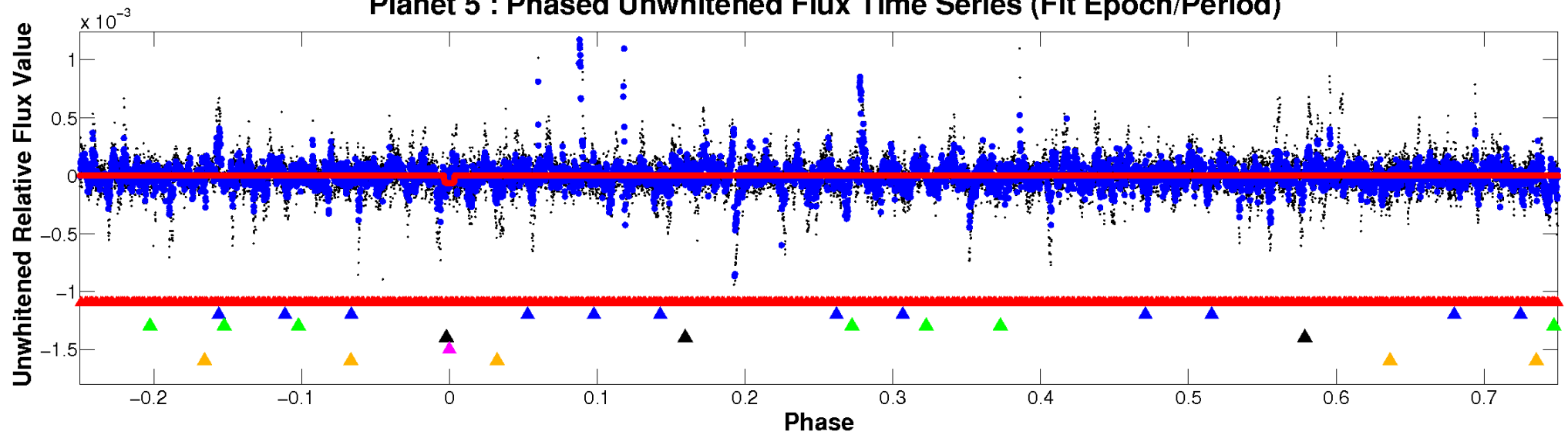
ALT Odd/Even

TCE 008619436-05

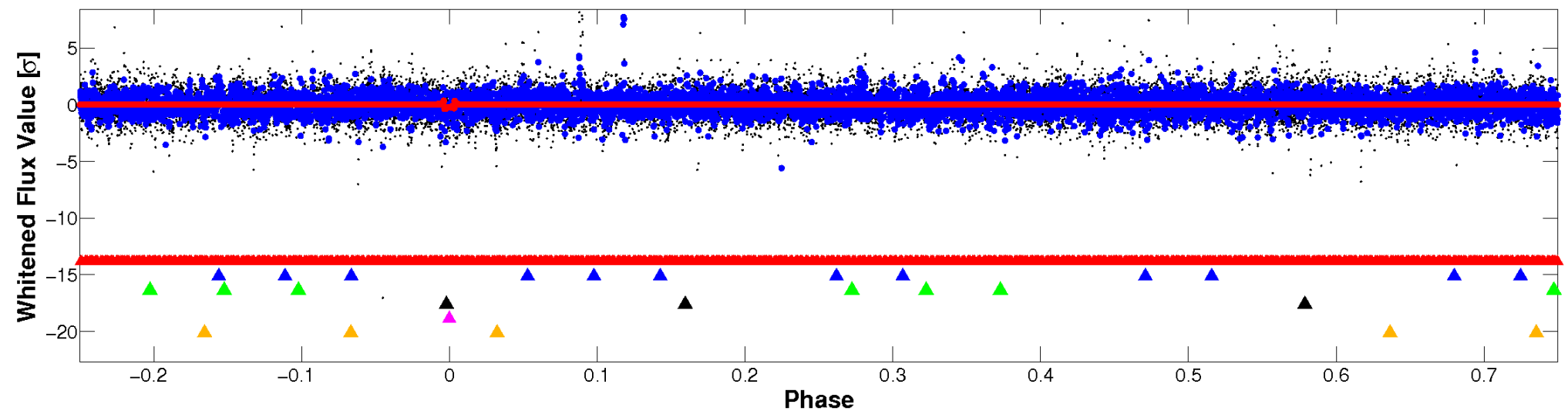


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

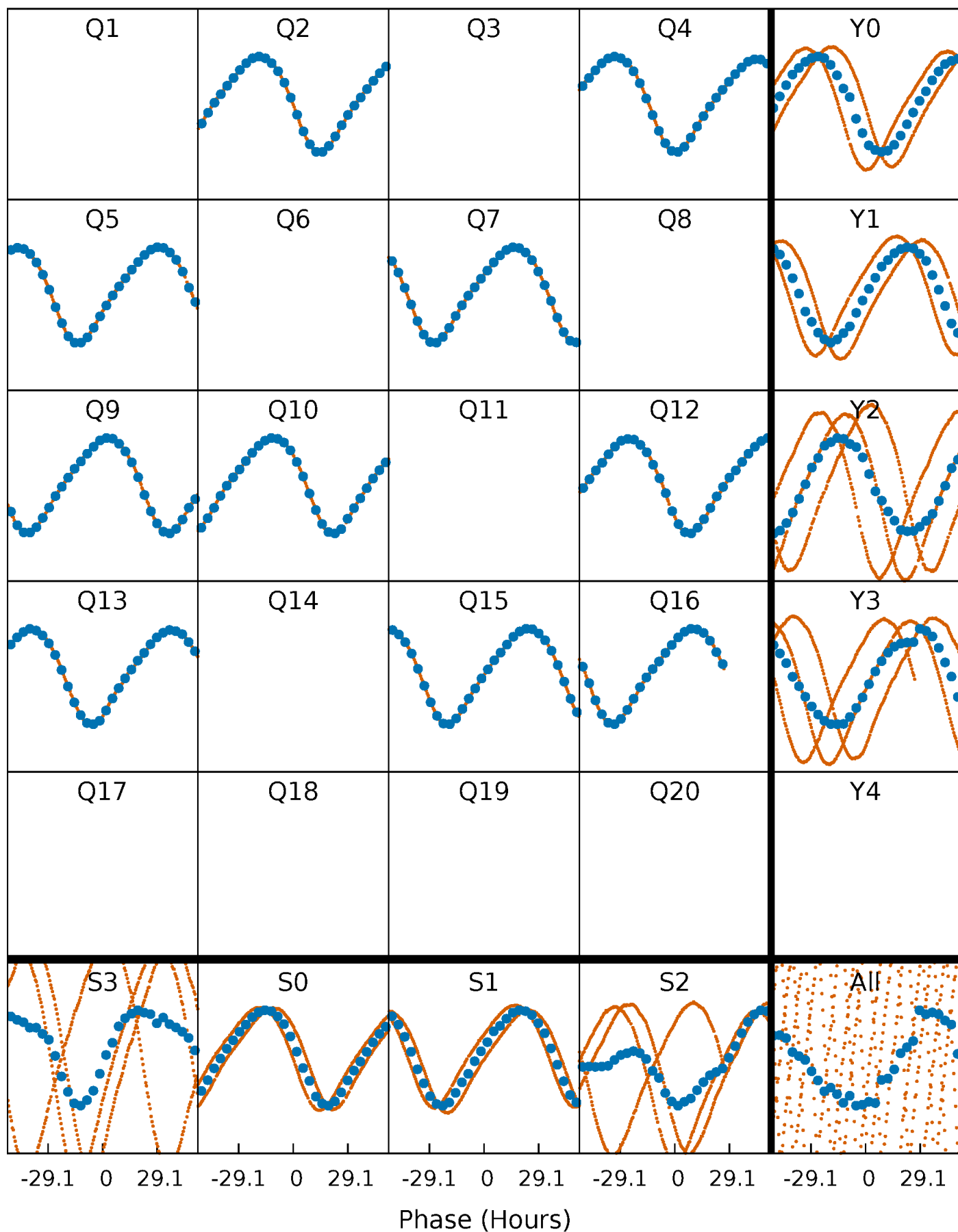


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



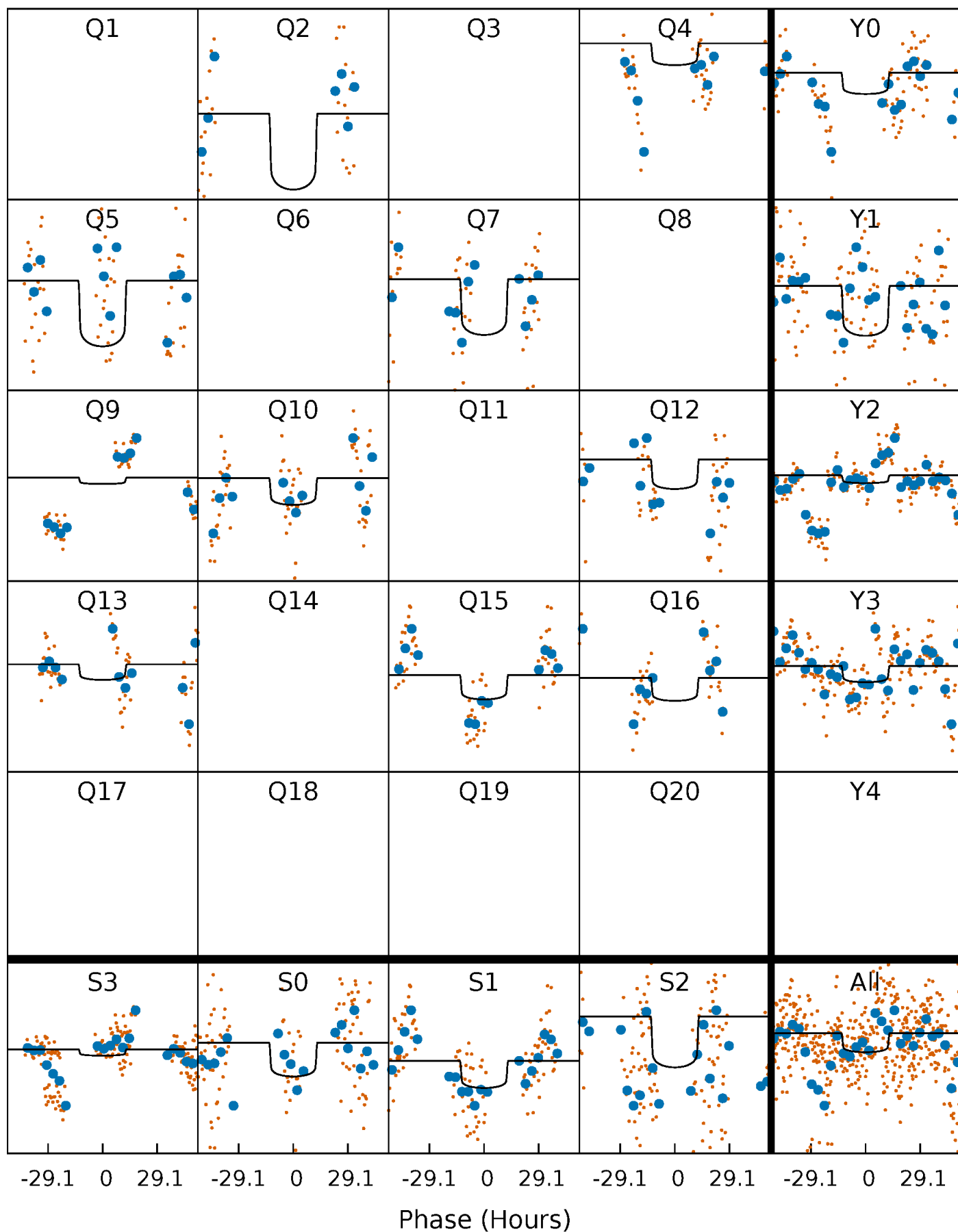
PDC Quarter-Phased Transit Curves

TCE 008619436-05 $P=147.826524$ Days $T_0=226.428423$ (BKJD)



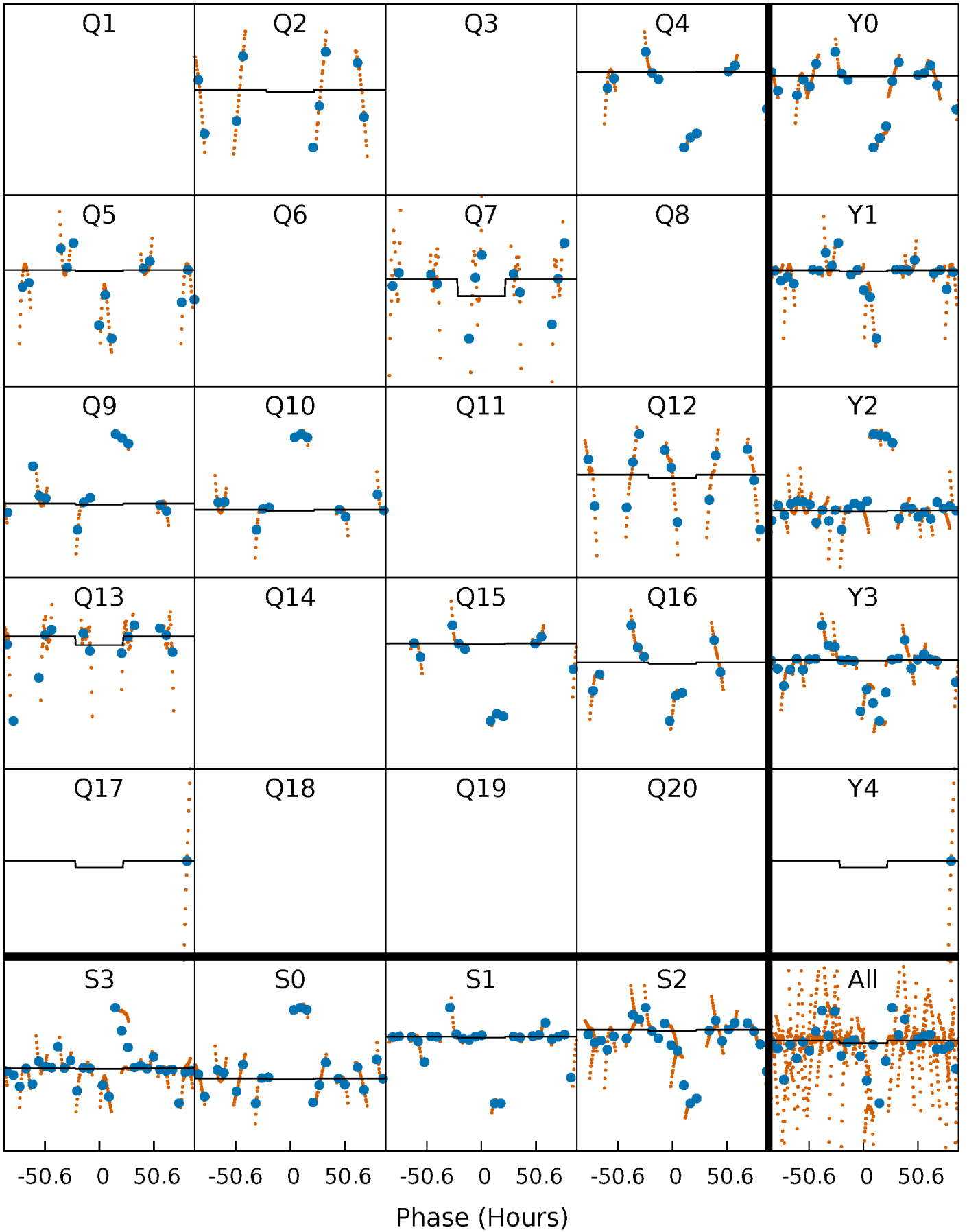
DV Quarter-Phased Transit Curves

TCE 008619436-05 P=147.826524 Days $T_0=226.428423$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

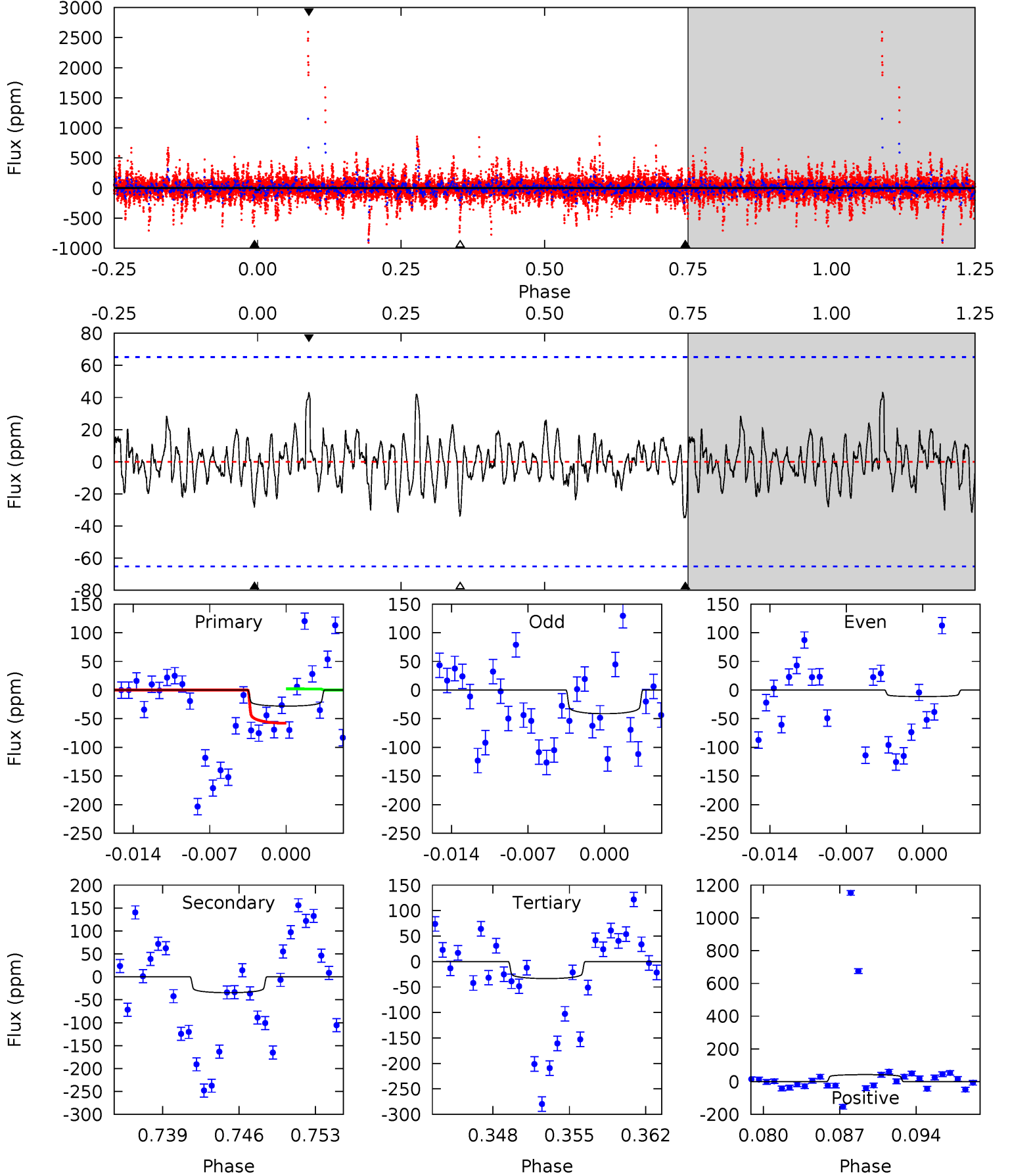
TCE 008619436-05 $P=147.727828$ Days $T_0=226.426205$ (BKJD)



DV Model-Shift Uniqueness Test

008619436-05, $P = 147.826524$ Days, $E = 78.601899$ Days

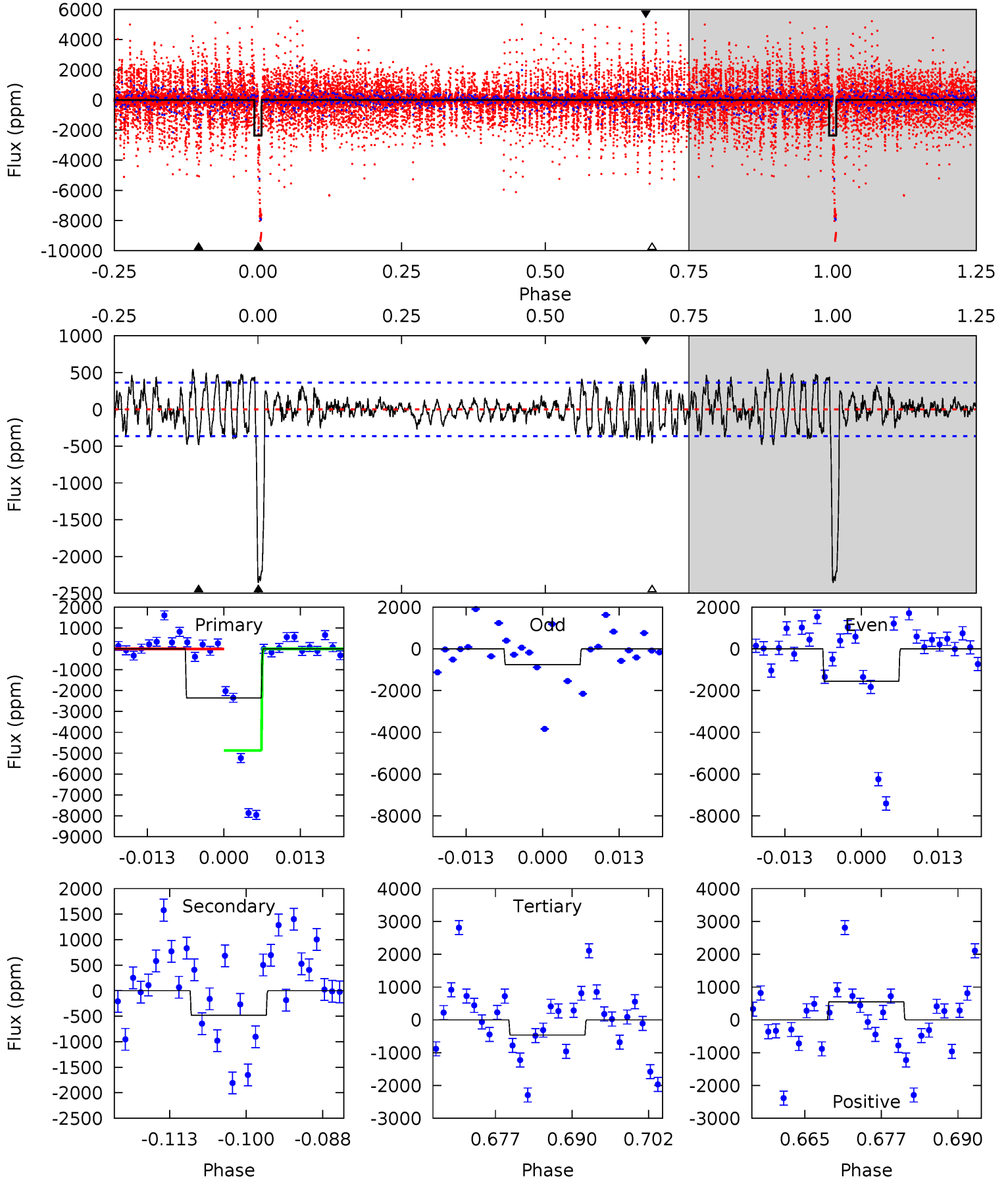
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.19	2.70	2.61	3.35	5.09	2.69	0.87	-0.42	-1.16	0.09	-0.65	1.13	0.58	0.55	2.31



Alt Model-Shift Uniqueness Test

008619436-05, P = 147.727828 Days, E = 78.698377 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
32.2	6.59	6.30	7.51	4.98	2.50	2.47	25.9	24.7	0.29	-0.91	4.79	4.26	0.19	33.3



Stellar Parameters For KIC 008619436

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	10894^{+210}_{-506}	$3.667^{+0.368}_{-0.092}$	$0.070^{+0.050}_{-0.600}$	$4.378^{+0.471}_{-1.765}$	$3.249^{+0.076}_{-0.685}$	$0.055^{+0.156}_{-0.016}$
	+2%/-5%	+10%/-3%	+71%/-857%	+11%/-40%	+2%/-21%	+287%/-29%
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 008619436-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-35 ± 13	$3.73^{+1.10}_{-1.06}$	1524^{+94}_{-157}	8346^{+1973}_{-1342}	861^{+849}_{-421}
Alt.	-483 ± 73	$4.70^{+1.14}_{-1.15}$	1524^{+88}_{-161}	21498^{+6475}_{-3810}	7561^{+6030}_{-2591}

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

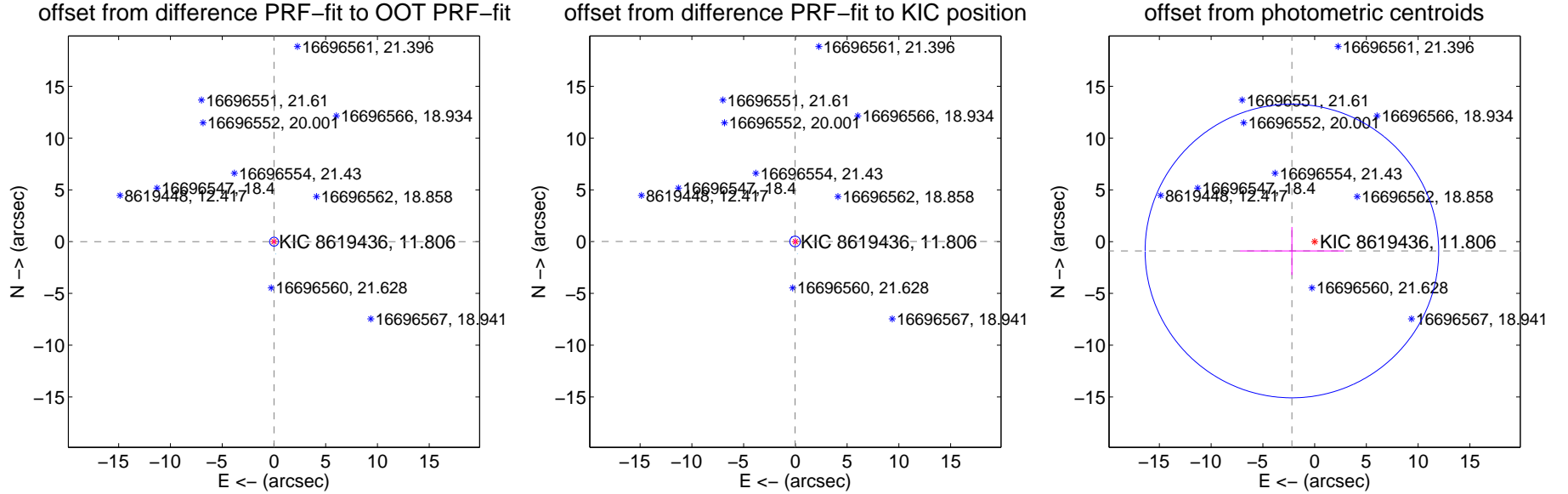
DV Centroid Data

Supplemental centroid analysis for 008619436-05. **Kepler magnitude: 11.81.** Transit SNR 3.44

There are 3 quarters with good PRF difference image offsets

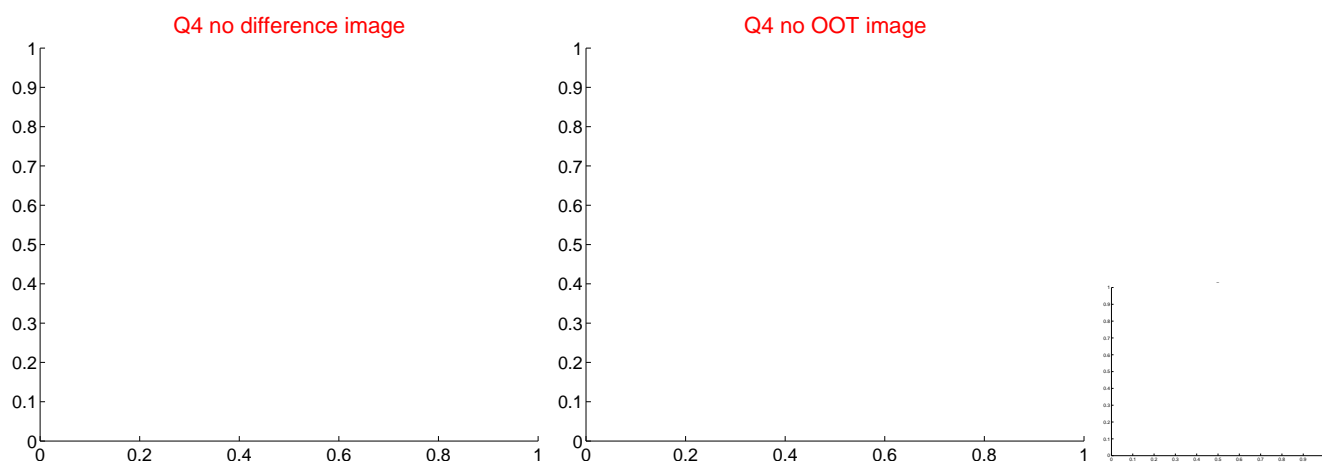
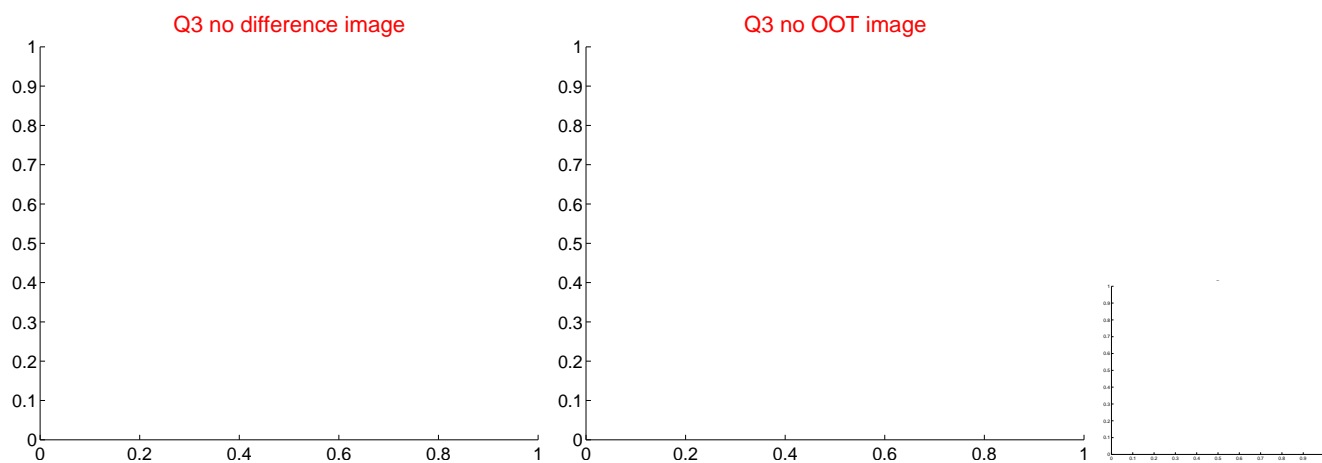
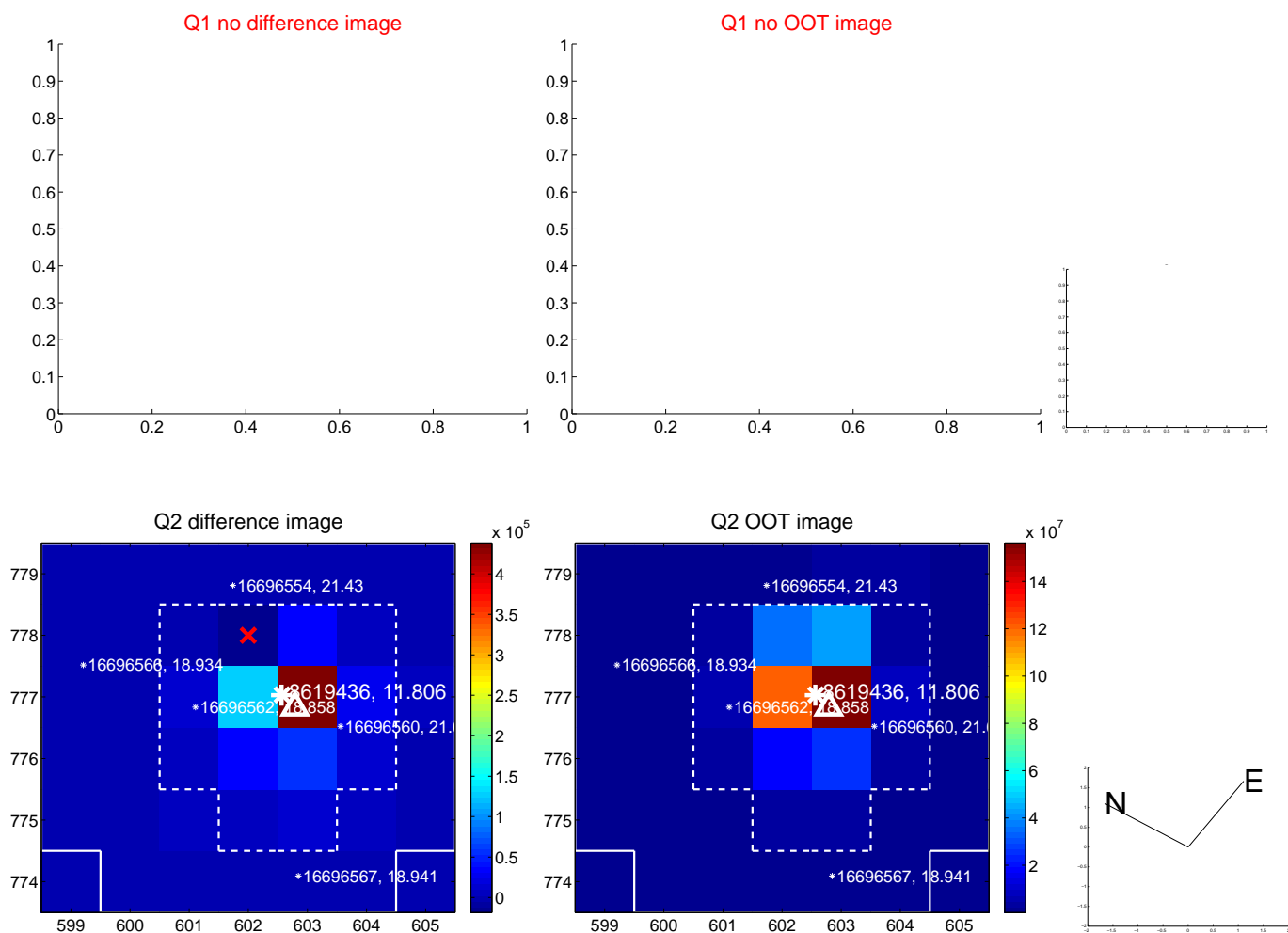
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.010 ± 0.144	0.07	-0.008 ± 0.071	-0.005 ± 0.215
PRF-fit source offset from KIC position	0.033 ± 0.171	0.19	0.029 ± 0.081	0.015 ± 0.258
photometric centroid source offset	2.37 ± 4.73	0.50	2.20 ± 5.02	-0.90 ± 2.32

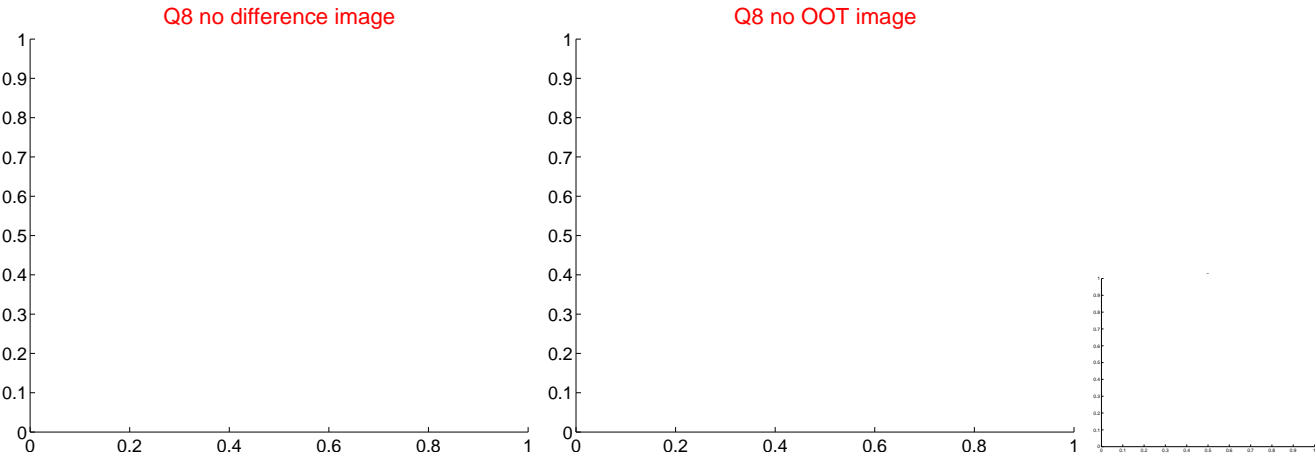
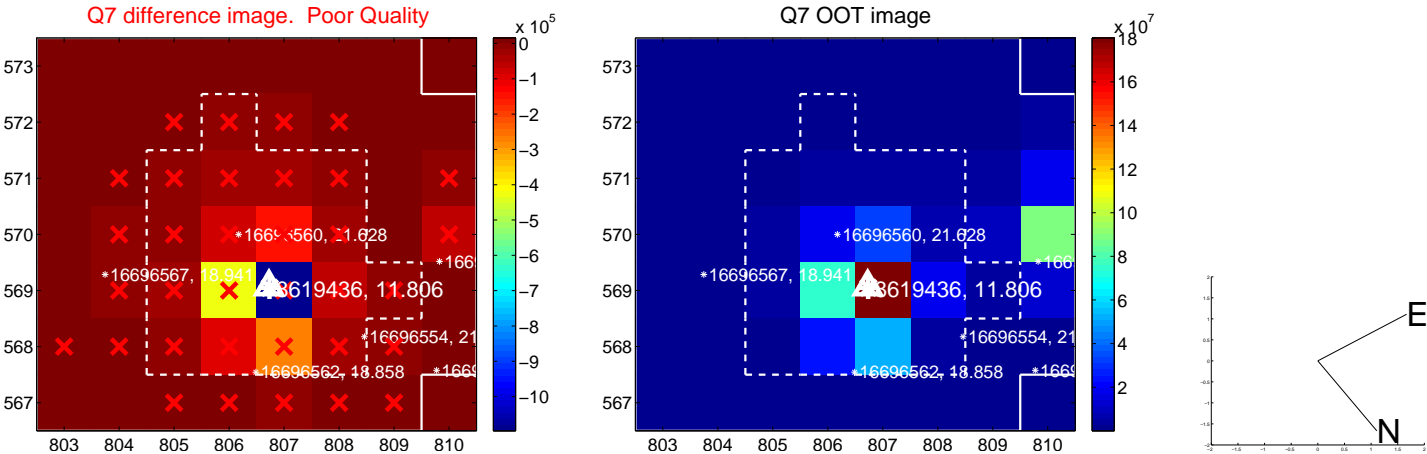
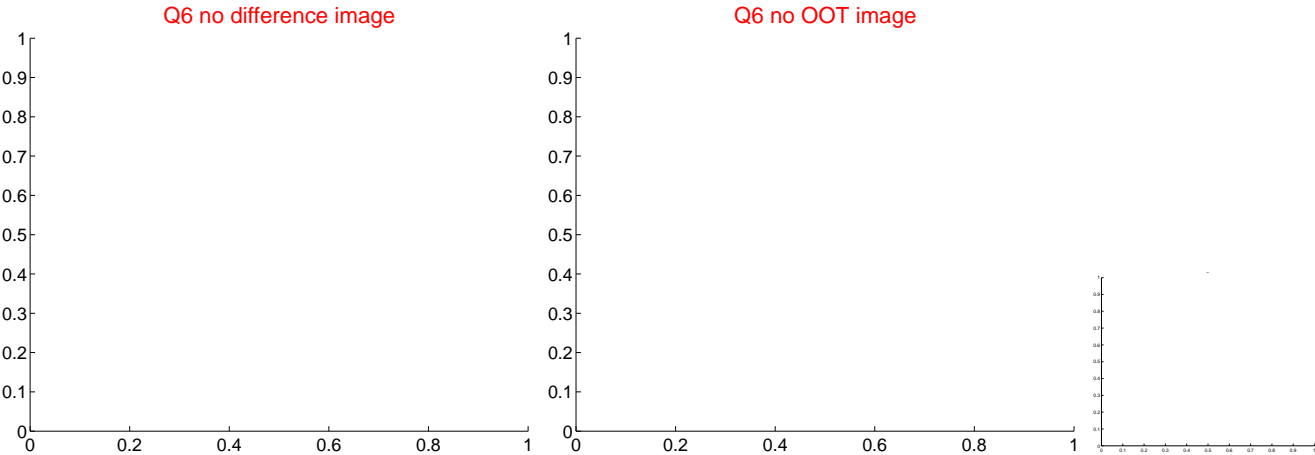
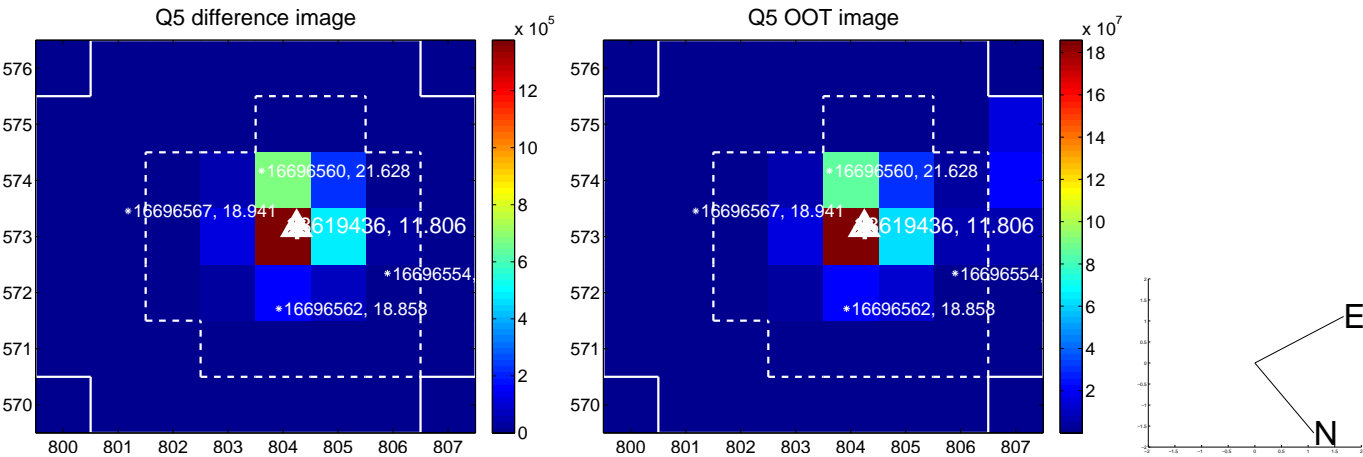


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

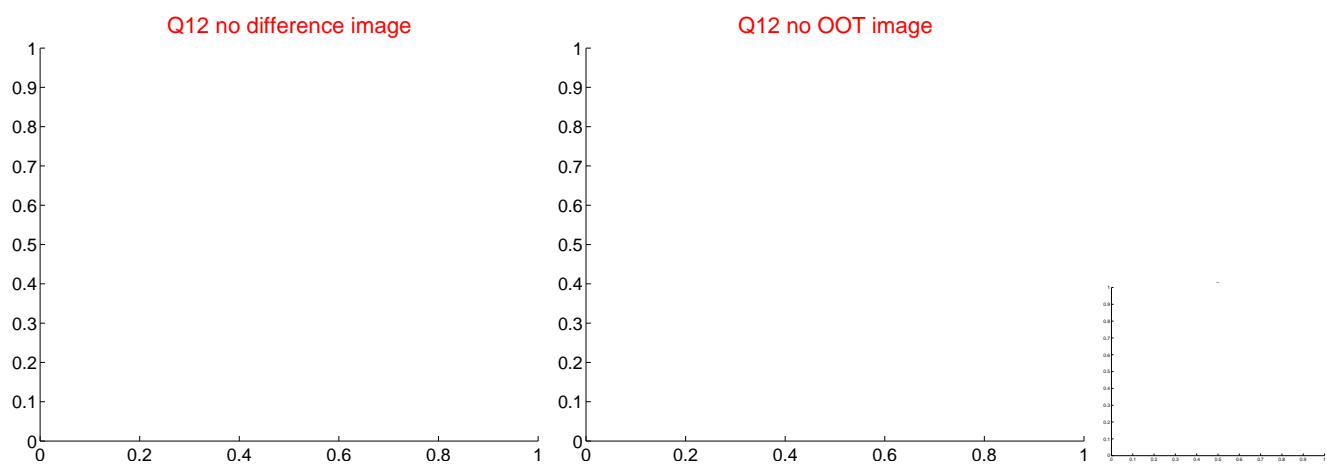
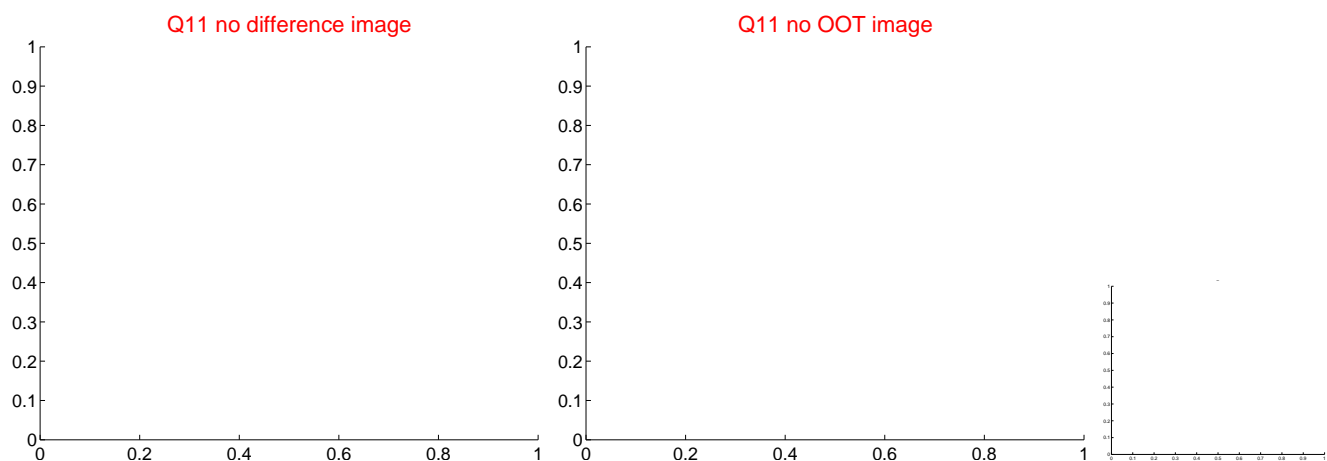
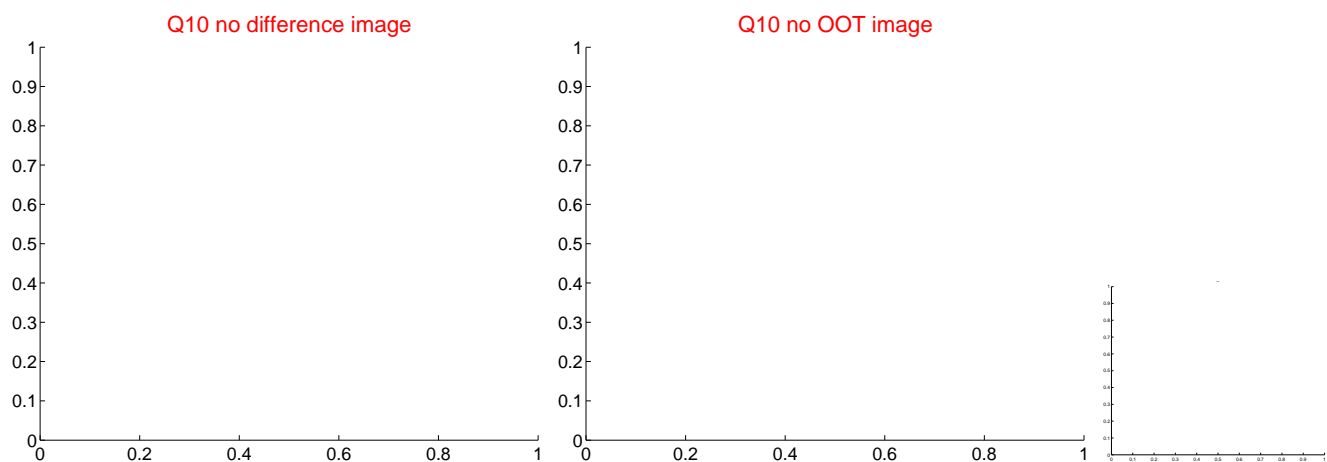
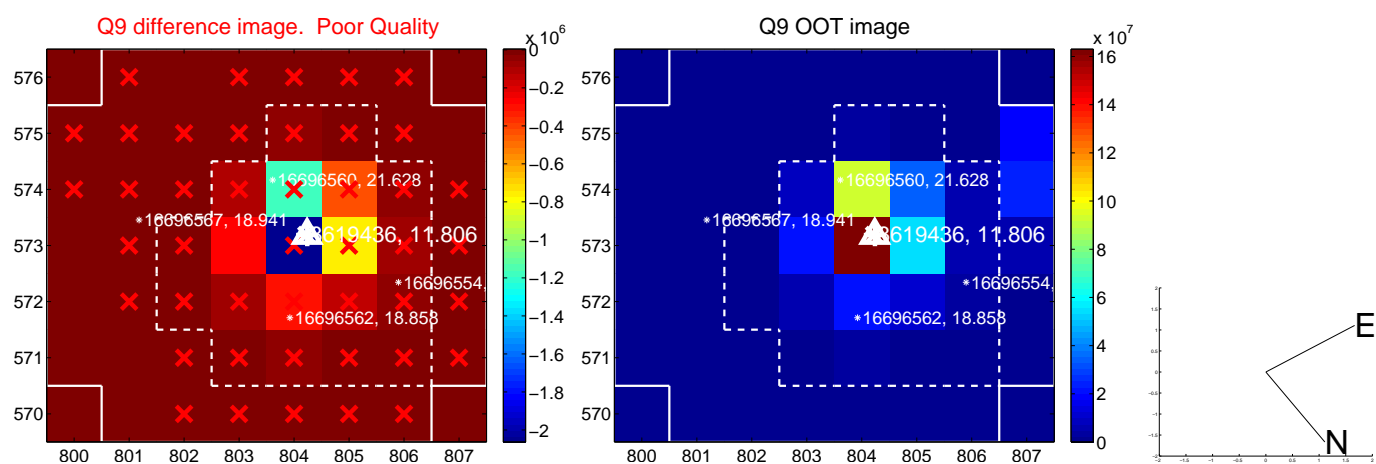
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



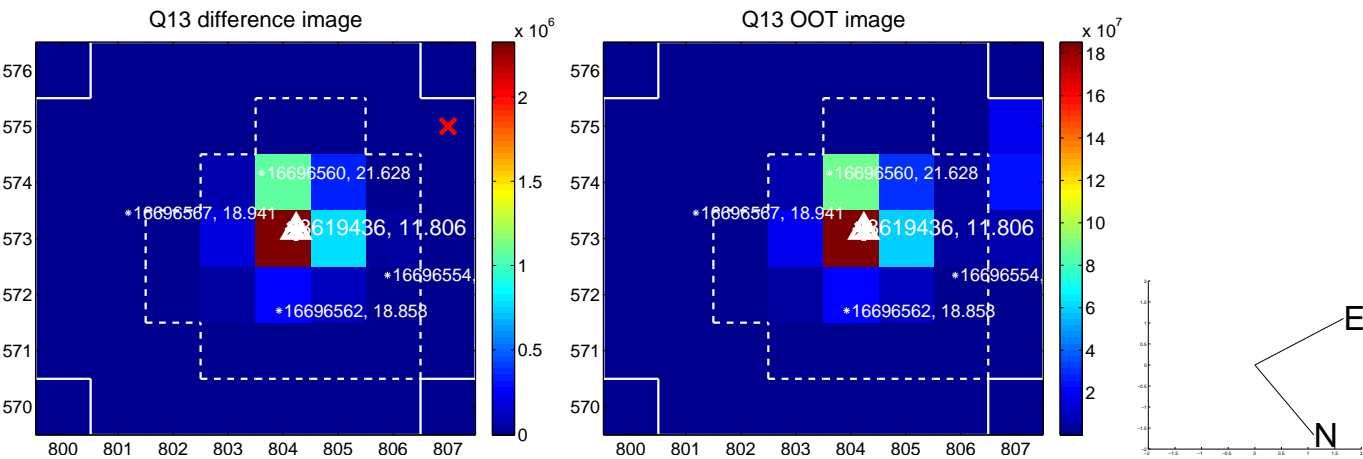
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



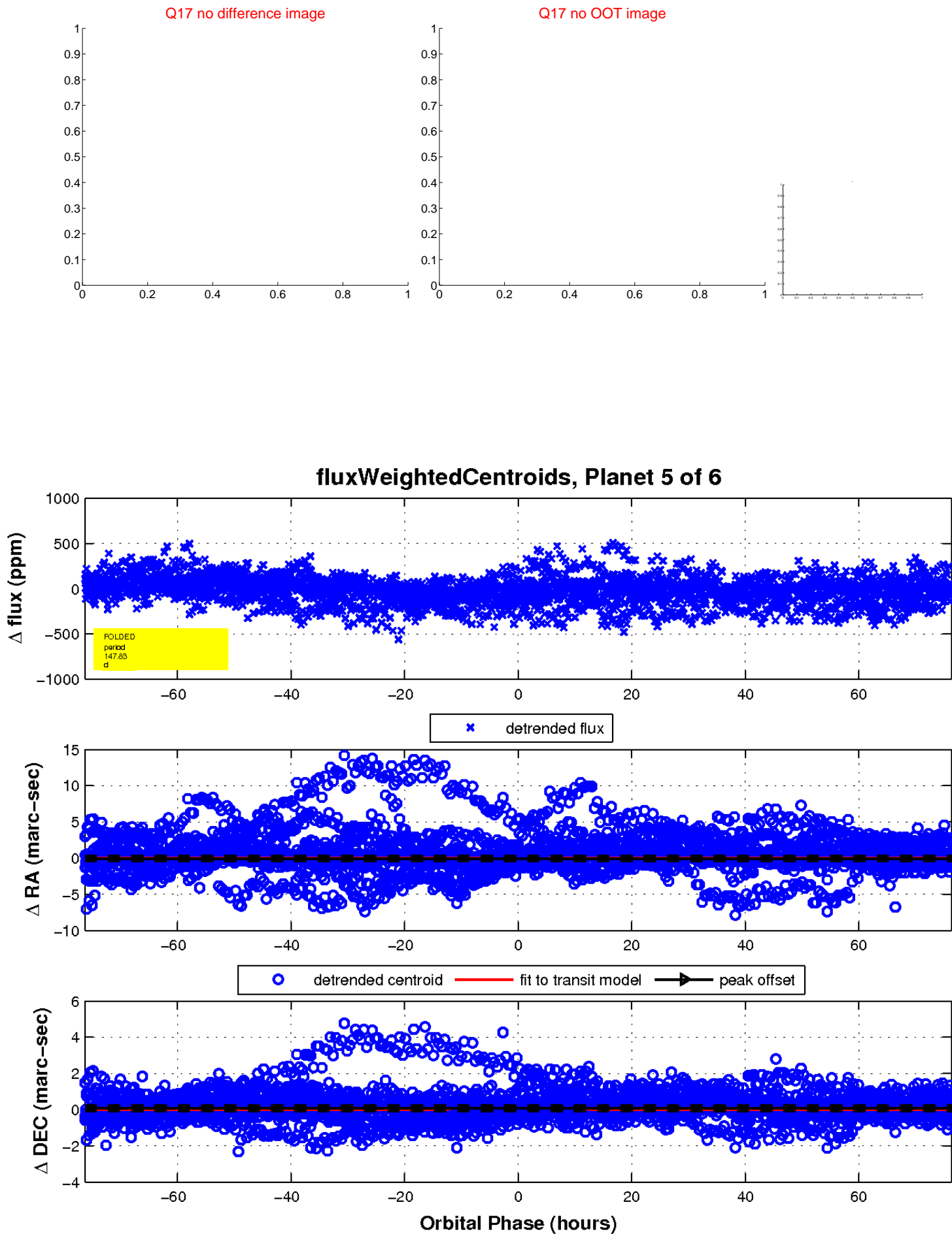
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

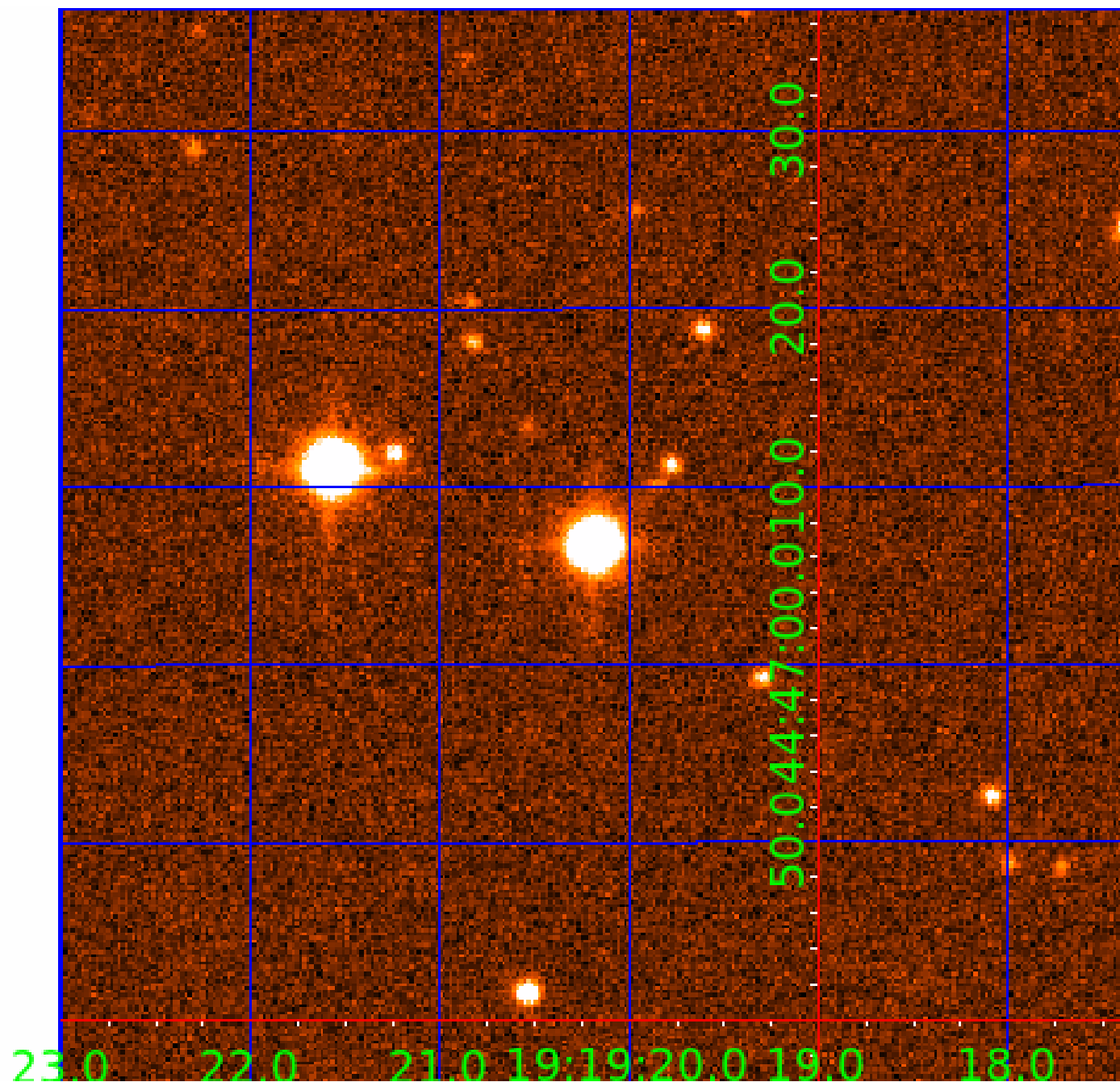


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008619436

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})
008619436-01	OBS	No	1.566671	132.821400	17.6	8.683	12.9	12.4	4.38	10894	1.93	158194.18
008619436-03	OBS	No	225.450279	189.072332	125.8	15.000	14.5	-1.0	4.38	10894	5.05	209.78
008619436-04	OBS	No	529.333385	226.137478	93.7	6.513	11.6	4.3	4.38	10894	4.45	67.22
008619436-05	OBS	No	147.826524	226.428423	66.2	25.440	11.7	3.4	4.38	10894	4.01	368.26
008619436-06	OBS	No	310.283609	172.684617	70.7	10.500	7.7	-1.0	4.38	10894	3.79	137.03

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008619436-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
008619436-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS—HALO_GHOST
008619436-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008619436-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV
008619436-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

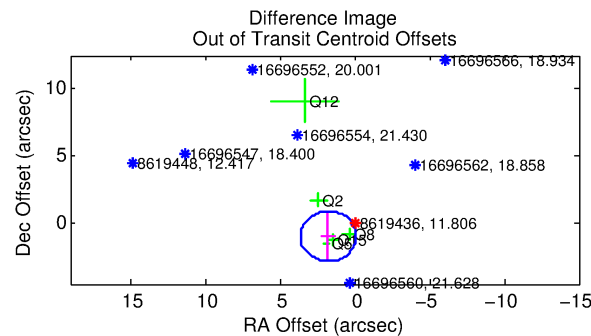
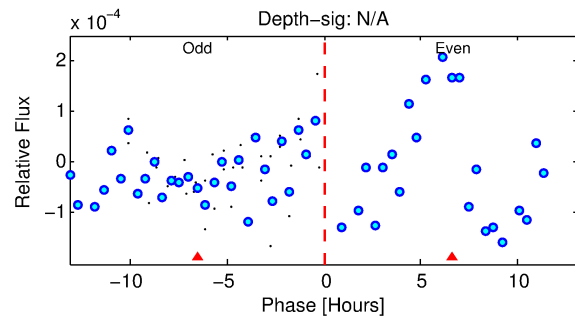
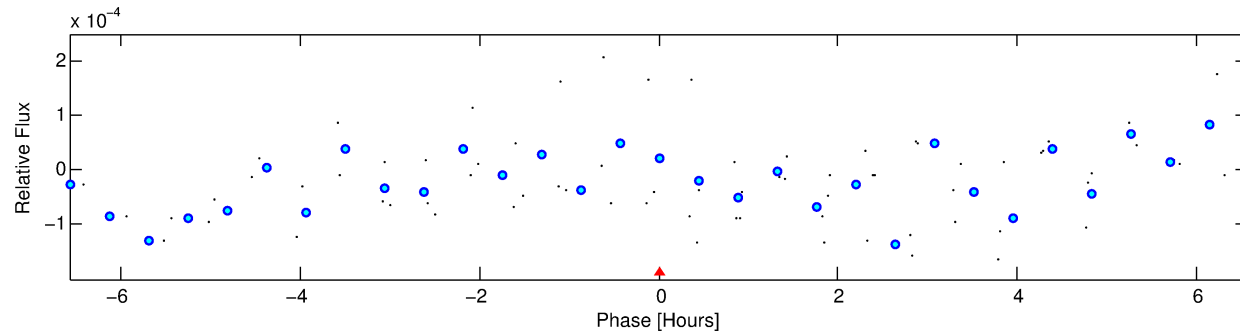
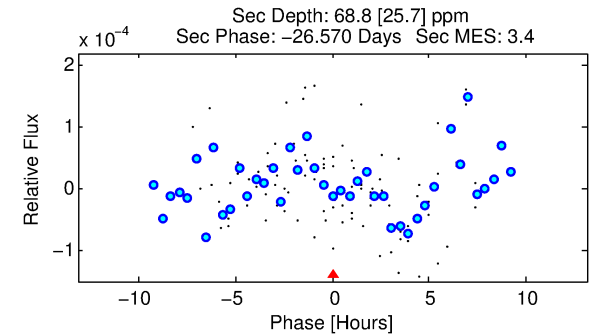
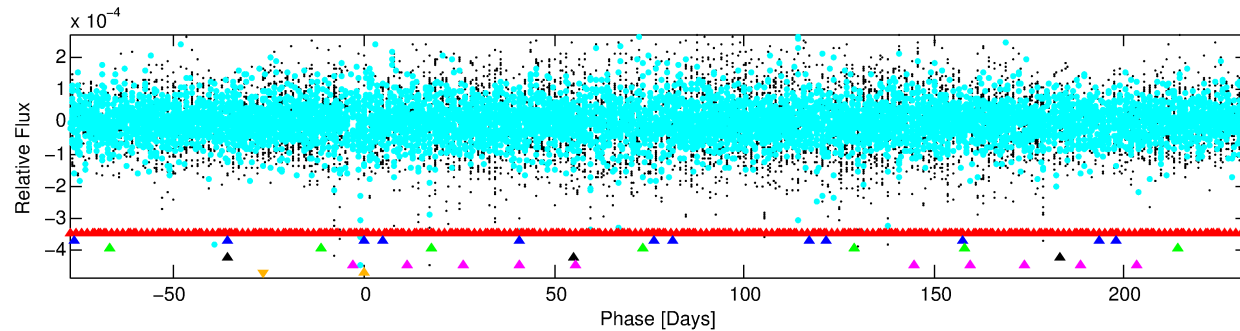
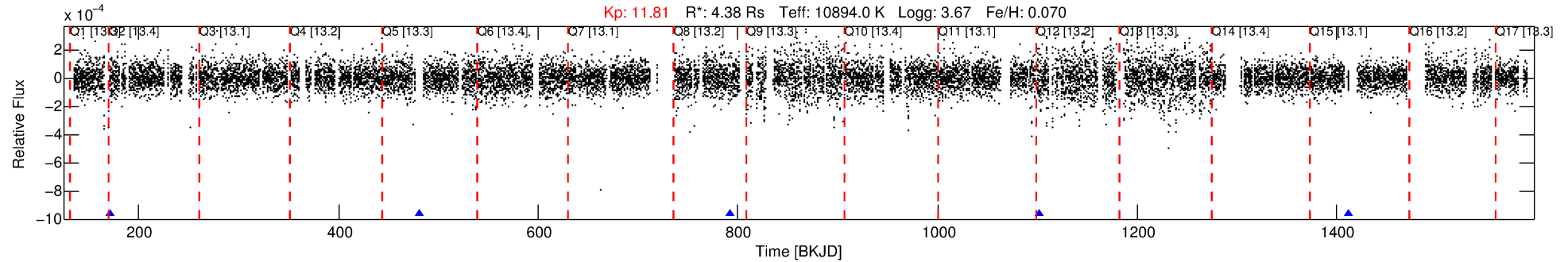
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008619436-06

No Significant Match Found

DV One-Page Summary

KIC: 8619436 Candidate: 6 of 6 Period: 310.284 d



TPS TCE Results:

Period = 310.28361 d
Epoch = 172.6846 BKJD

DV fit results are unavailable

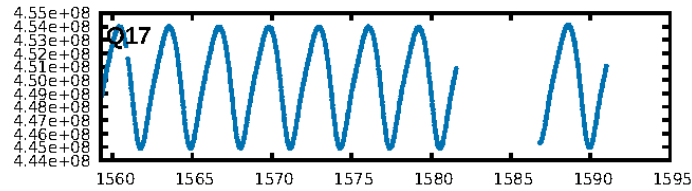
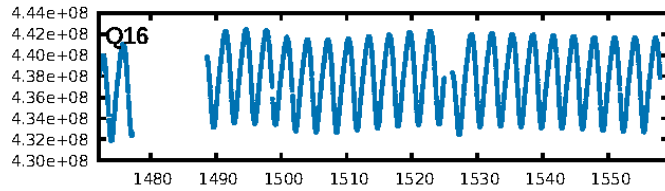
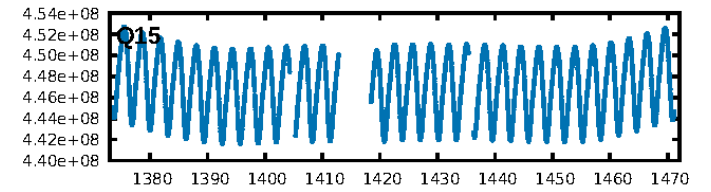
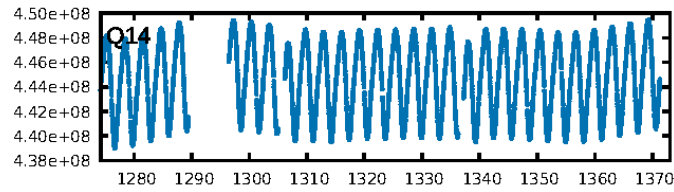
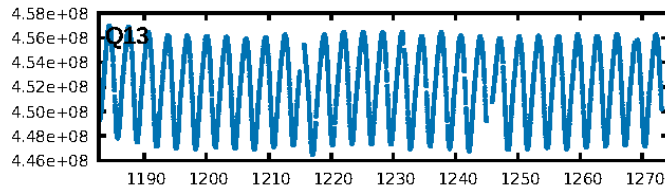
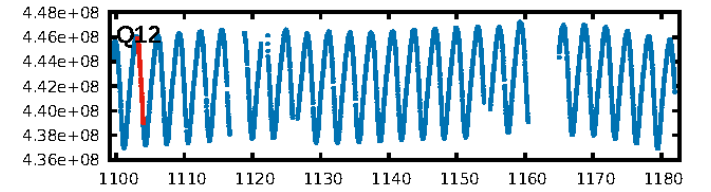
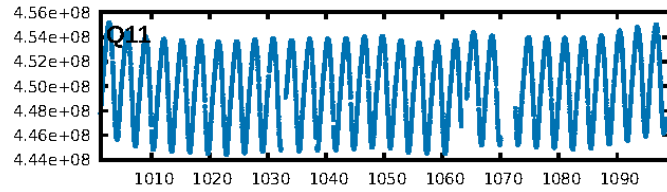
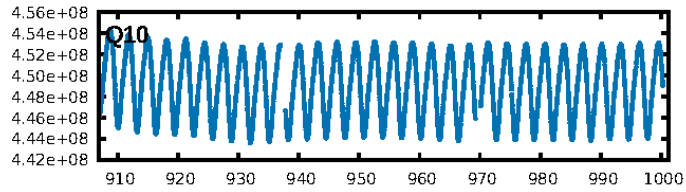
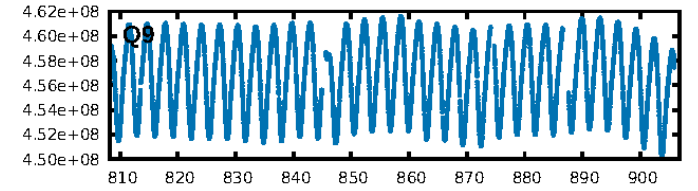
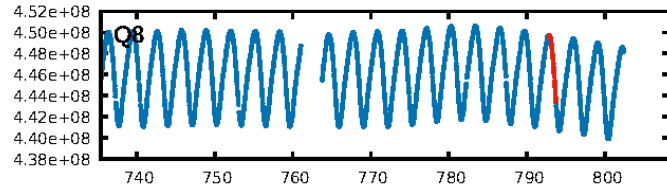
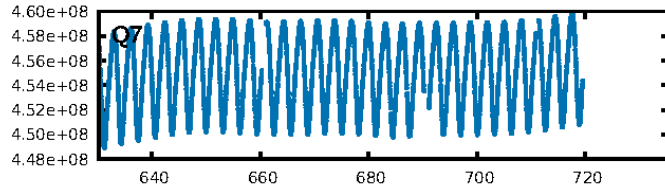
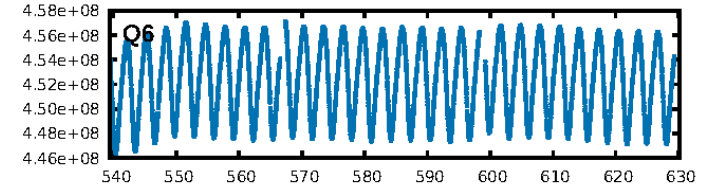
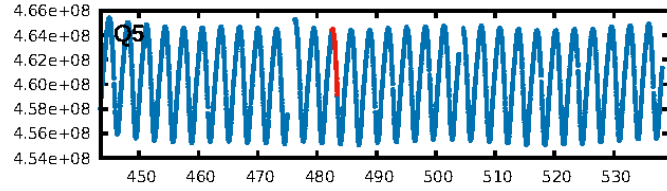
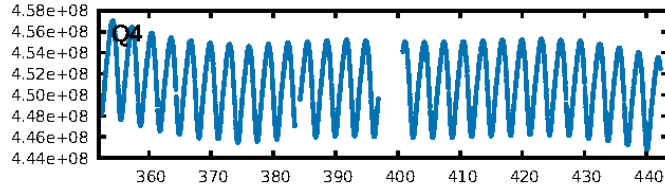
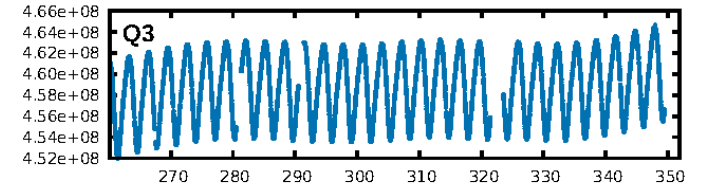
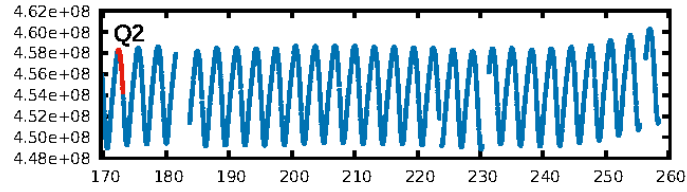
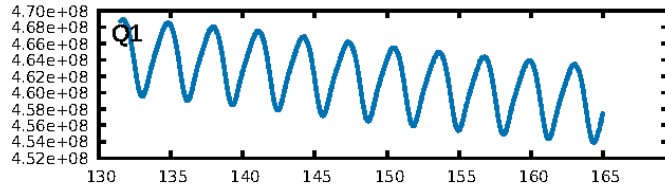
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [111.20 σ]
LongPeriod-sig: 100.0% [425.48 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.84e-07
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.856
Centroid-sig: 33.4%
Centroid-so: 3.883 arcsec [0.81 σ]
OotOffset-rm: 1.997 arcsec [3.22 σ]
KicOffset-rm: 1.993 arcsec [3.17 σ]
OotOffset-st: 1/1/2/1 [5]
KicOffset-st: 1/1/2/1 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 0.80 [4/5]

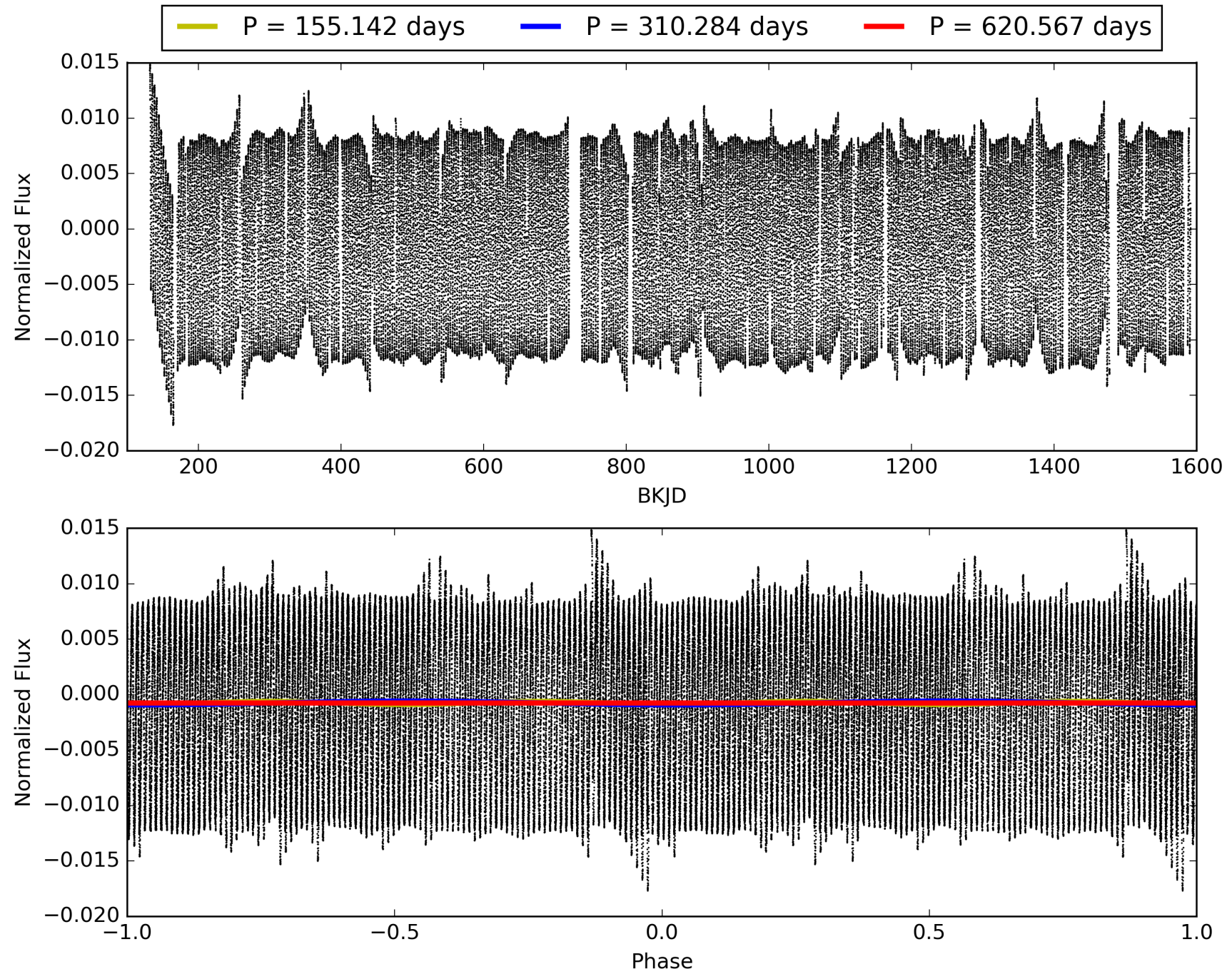
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:55:38 Z

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

TCE 008619436-06, PDC Light Curves

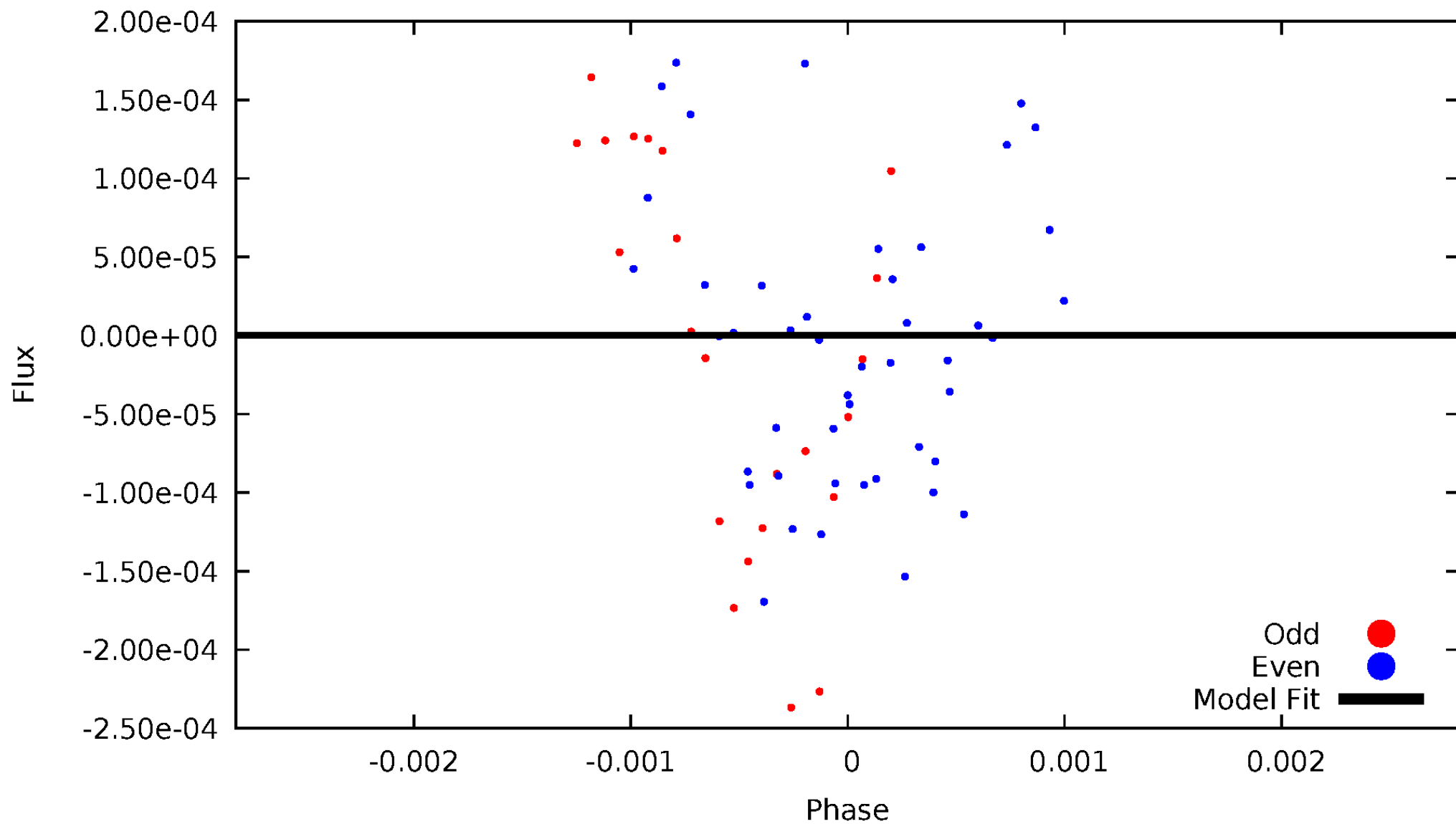


TCE 008619436-06



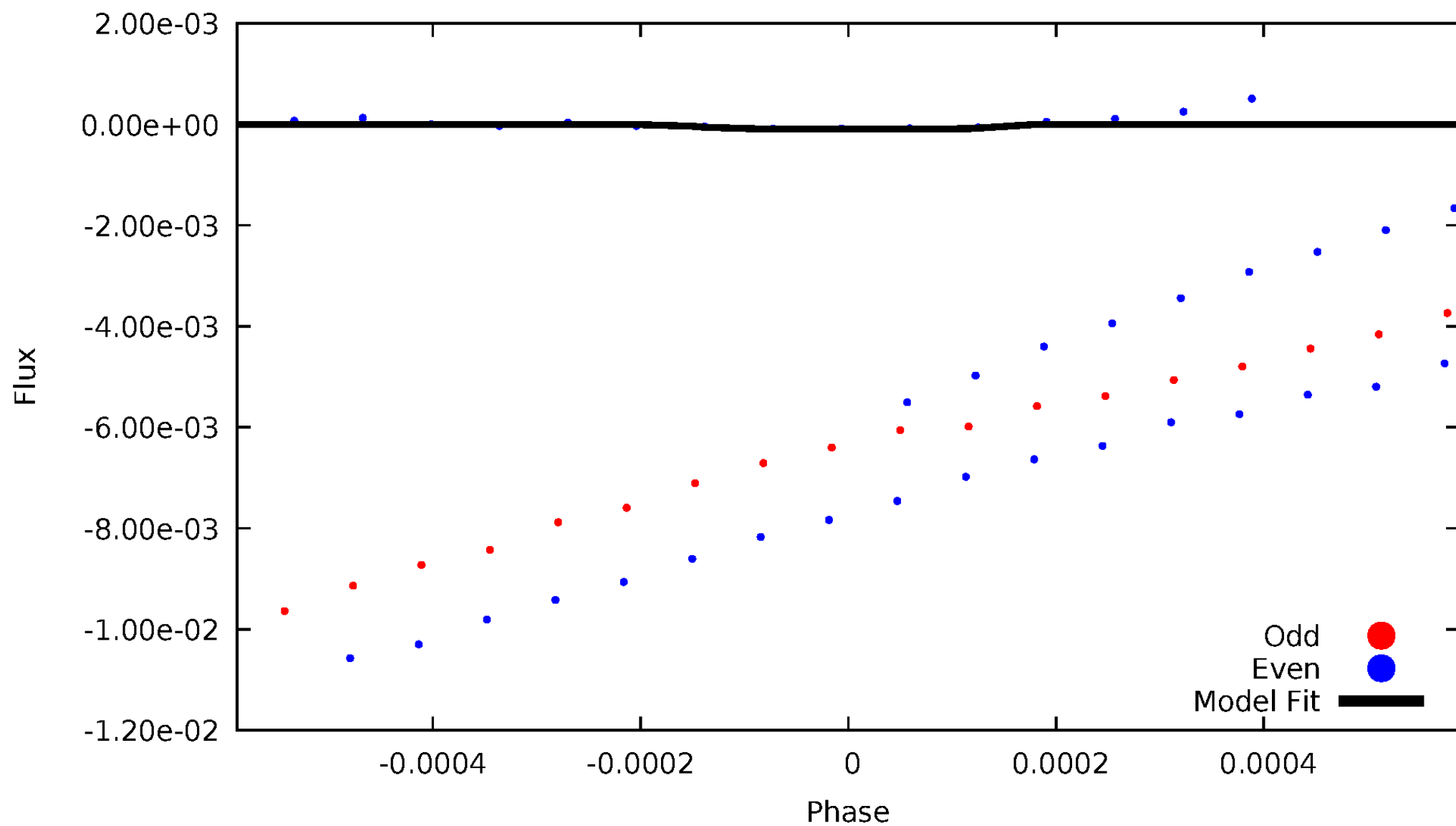
DV Odd/Even

TCE 008619436-06



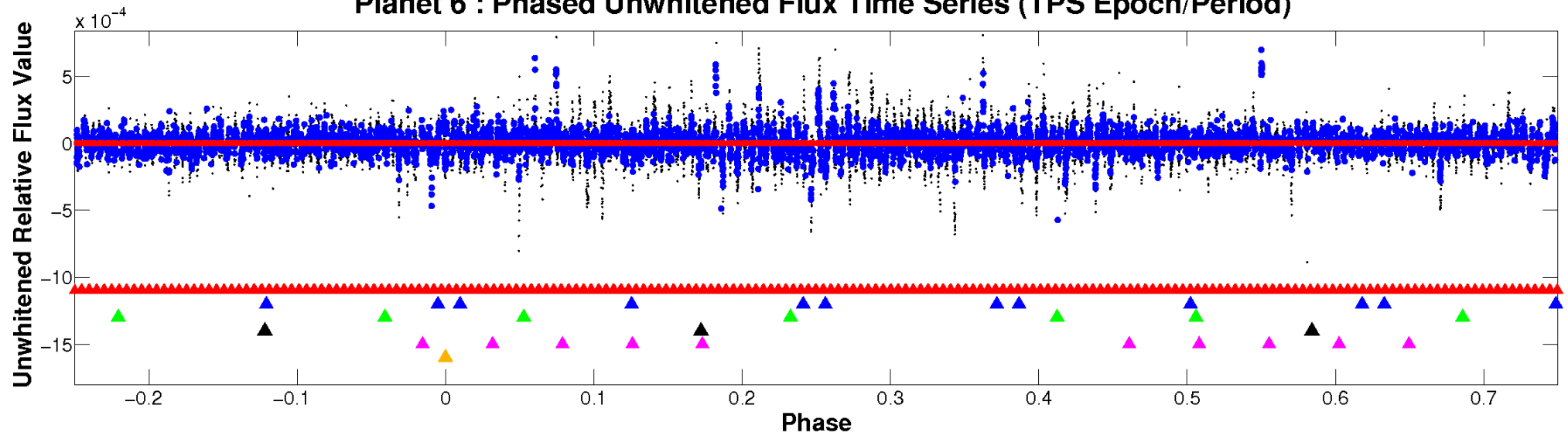
ALT Odd/Even

TCE 008619436-06

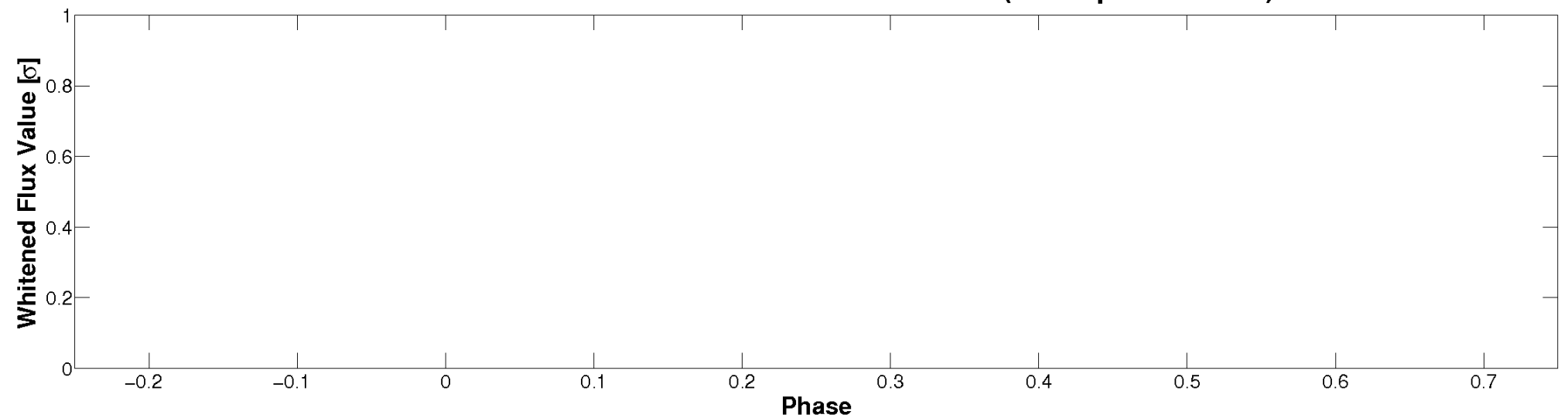


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

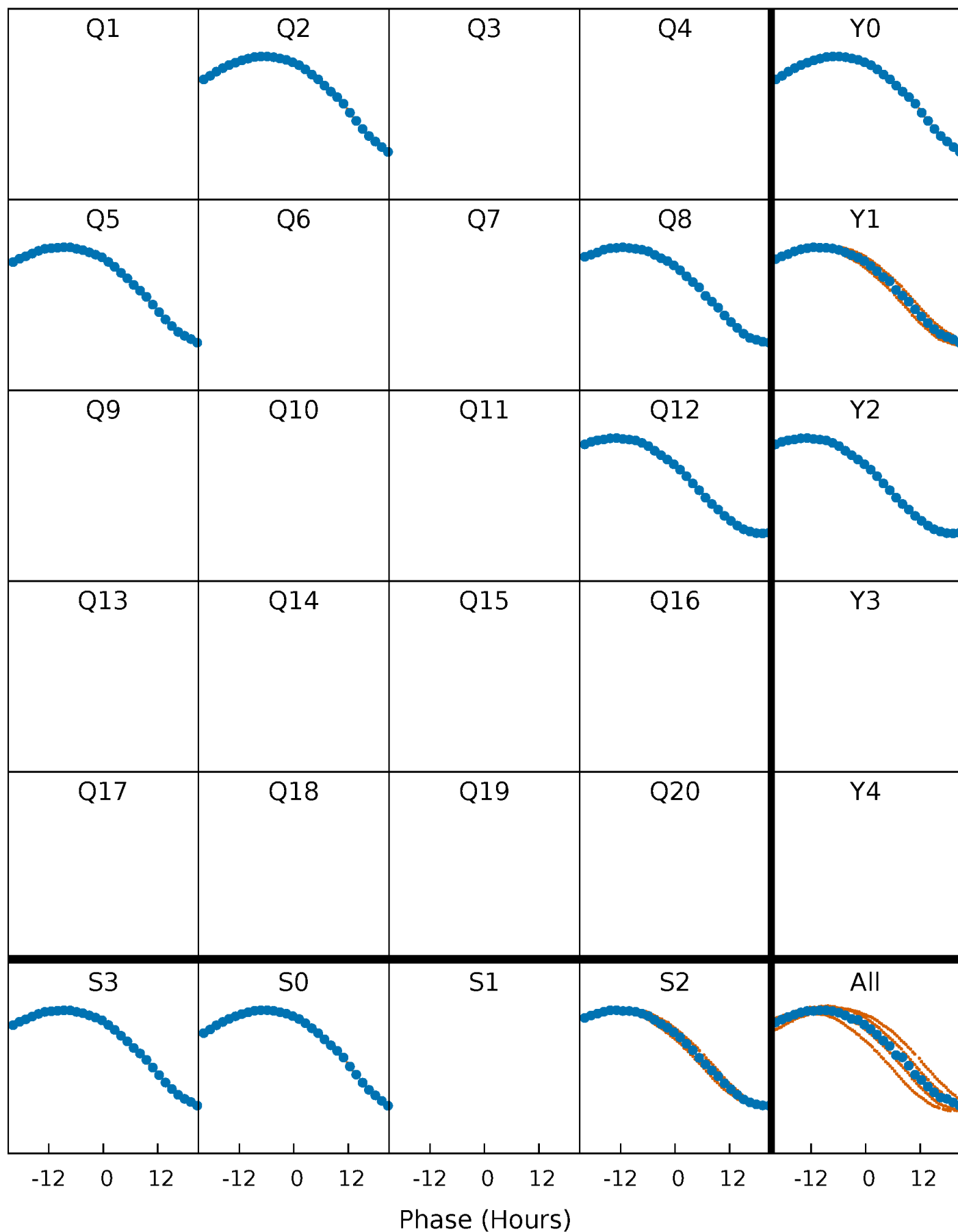


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



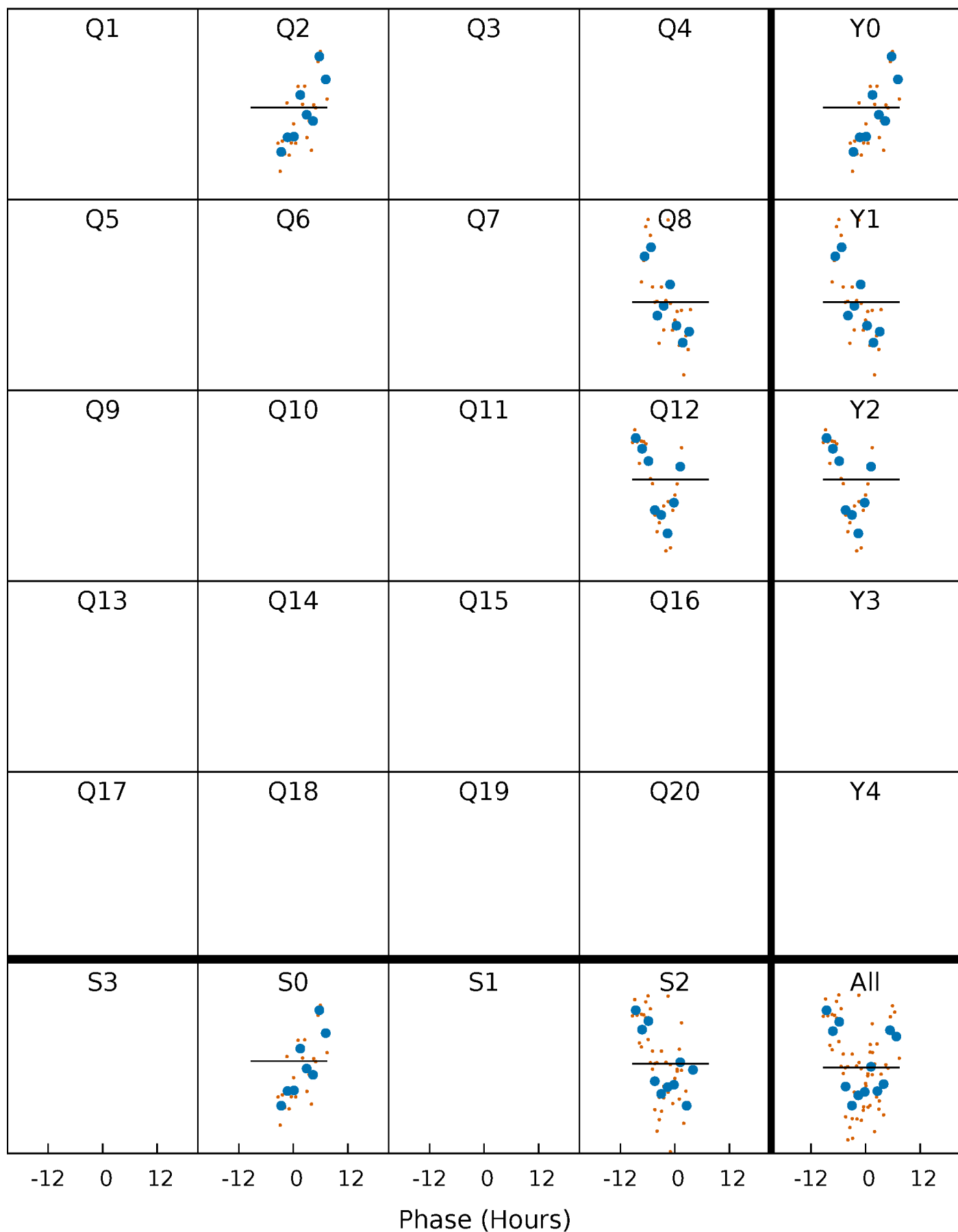
PDC Quarter-Phased Transit Curves

TCE 008619436-06 P=310.283609 Days $T_0=172.684617$ (BKJD)



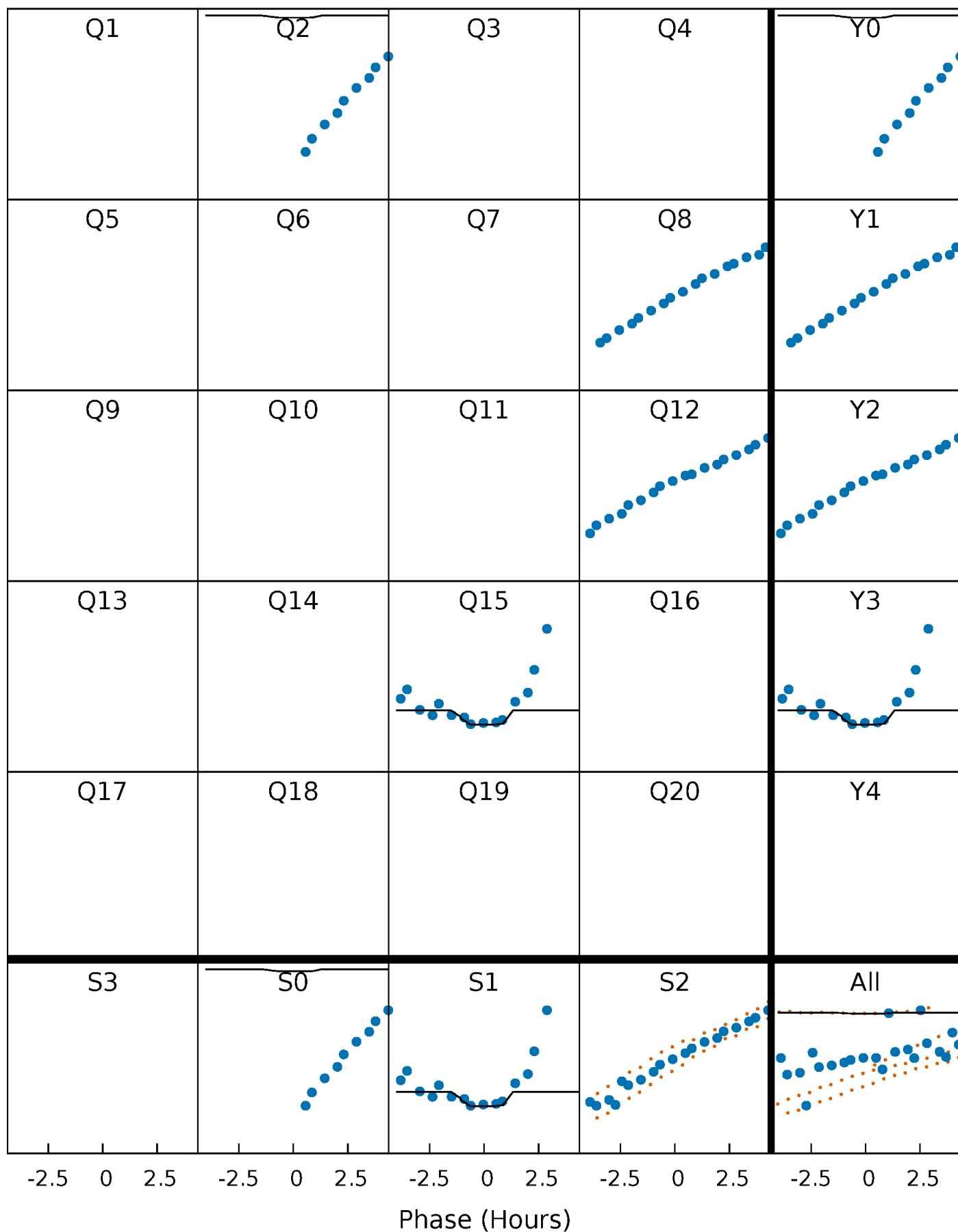
DV Quarter-Phased Transit Curves

TCE 008619436-06 P=310.283609 Days $T_0=172.684617$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

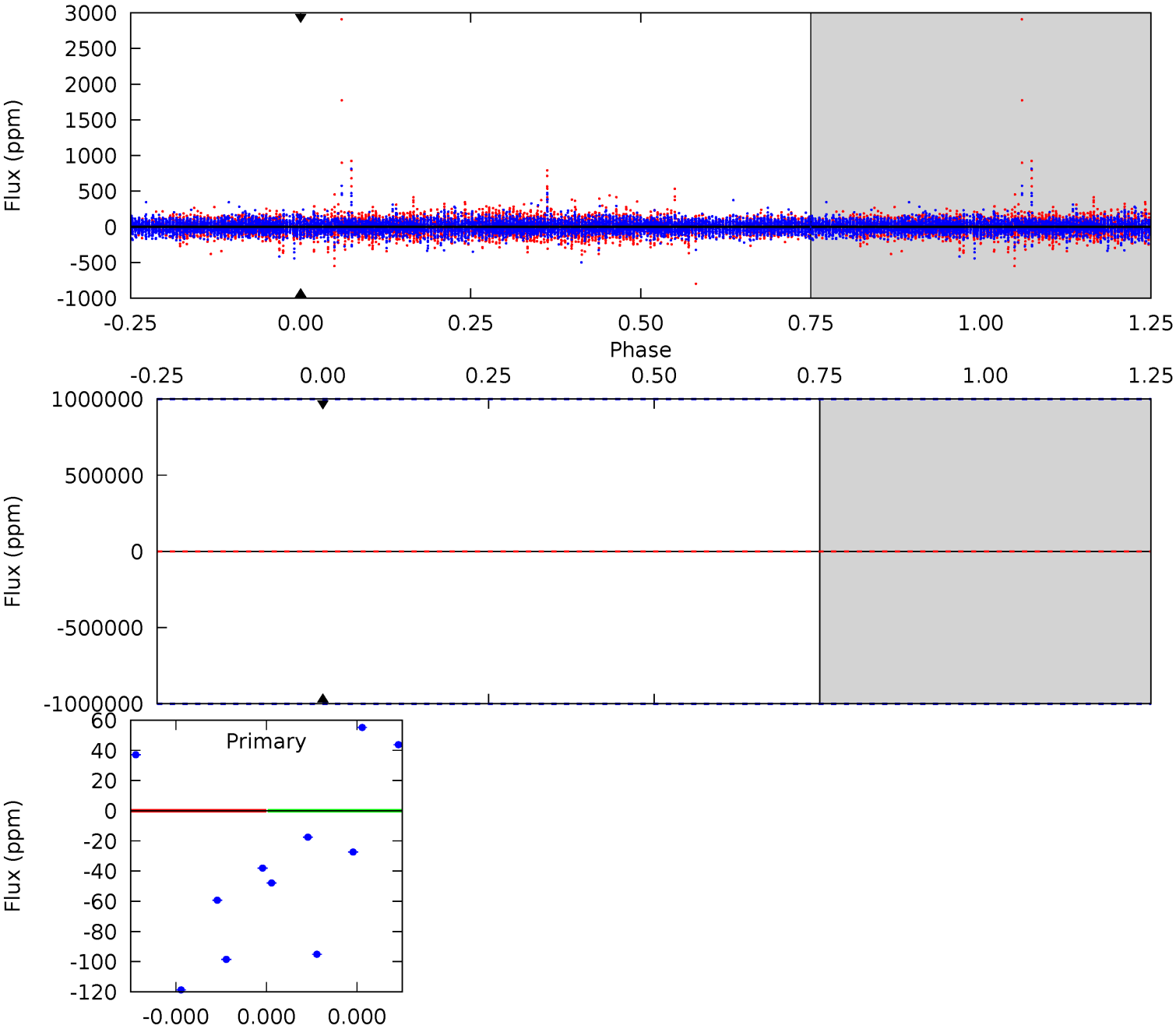
TCE 008619436-06 P=310.283609 Days $T_0=170.973816$ (BKJD)



DV Model-Shift Uniqueness Test

008619436-06, P = 310.283609 Days, E = 172.684617 Days

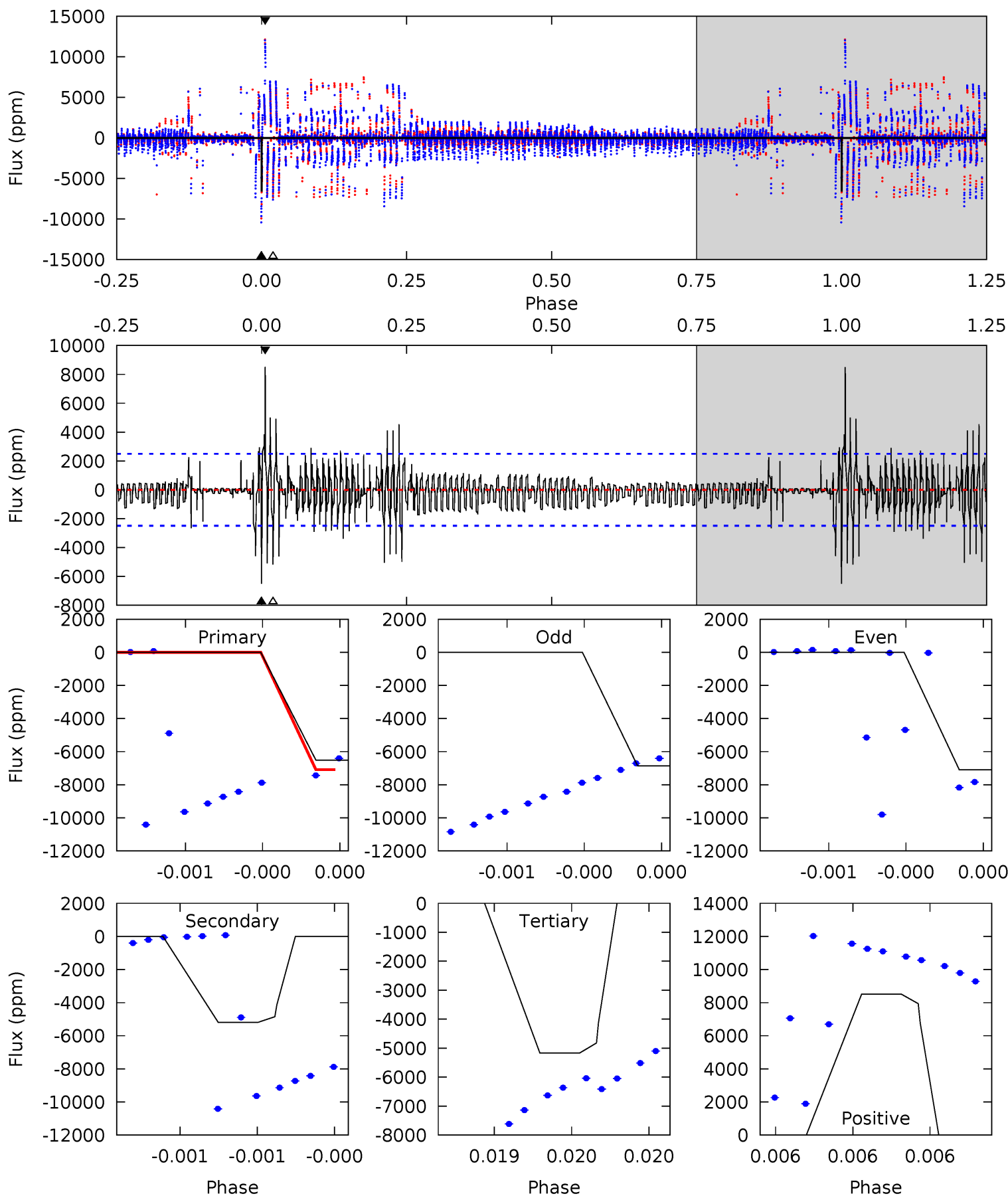
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008619436-06, P = 310.283609 Days, E = 170.973816 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	11.8	11.8	19.4	5.68	3.64	1.63	3.07	-4.55	0.06	-7.56	0.23	0.83	0.57	0



Stellar Parameters For KIC 008619436

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	10894^{+210}_{-506}	$3.667^{+0.368}_{-0.092}$	$0.070^{+0.050}_{-0.600}$	$4.378^{+0.471}_{-1.765}$	$3.249^{+0.076}_{-0.685}$	$0.055^{+0.156}_{-0.016}$
	+2%/-5%	+10%/-3%	+71%/-857%	+11%/-40%	+2%/-21%	+287%/-29%
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 008619436-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$30.45^{+36.40}_{-21.02}$	1191^{+74}_{-130}	$4383^{+109251}_{-90842}$	$124^{+209579}_{-143130}$
Alt.	-5193 ± 438	$30.88^{+32.47}_{-21.14}$	1186^{+77}_{-129}	11017^{+27488}_{-4065}	5220^{+47750}_{-4017}

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 $A_{obs} \gg 1.0$

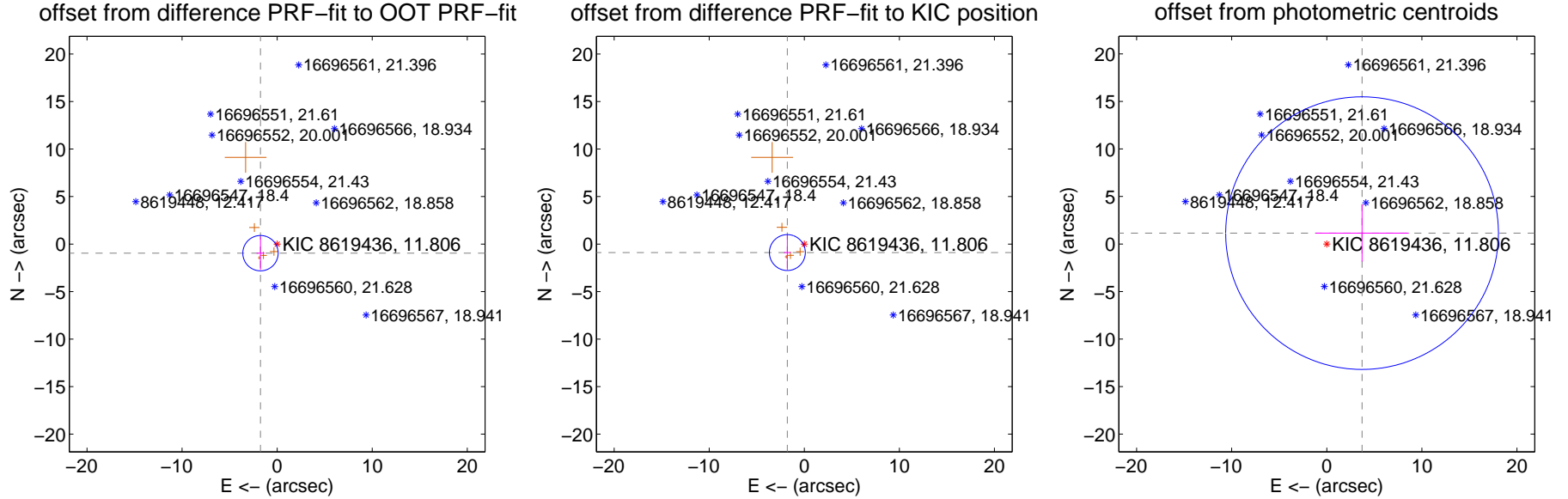
DV Centroid Data

Supplemental centroid analysis for 008619436-06. **Kepler magnitude: 11.81.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

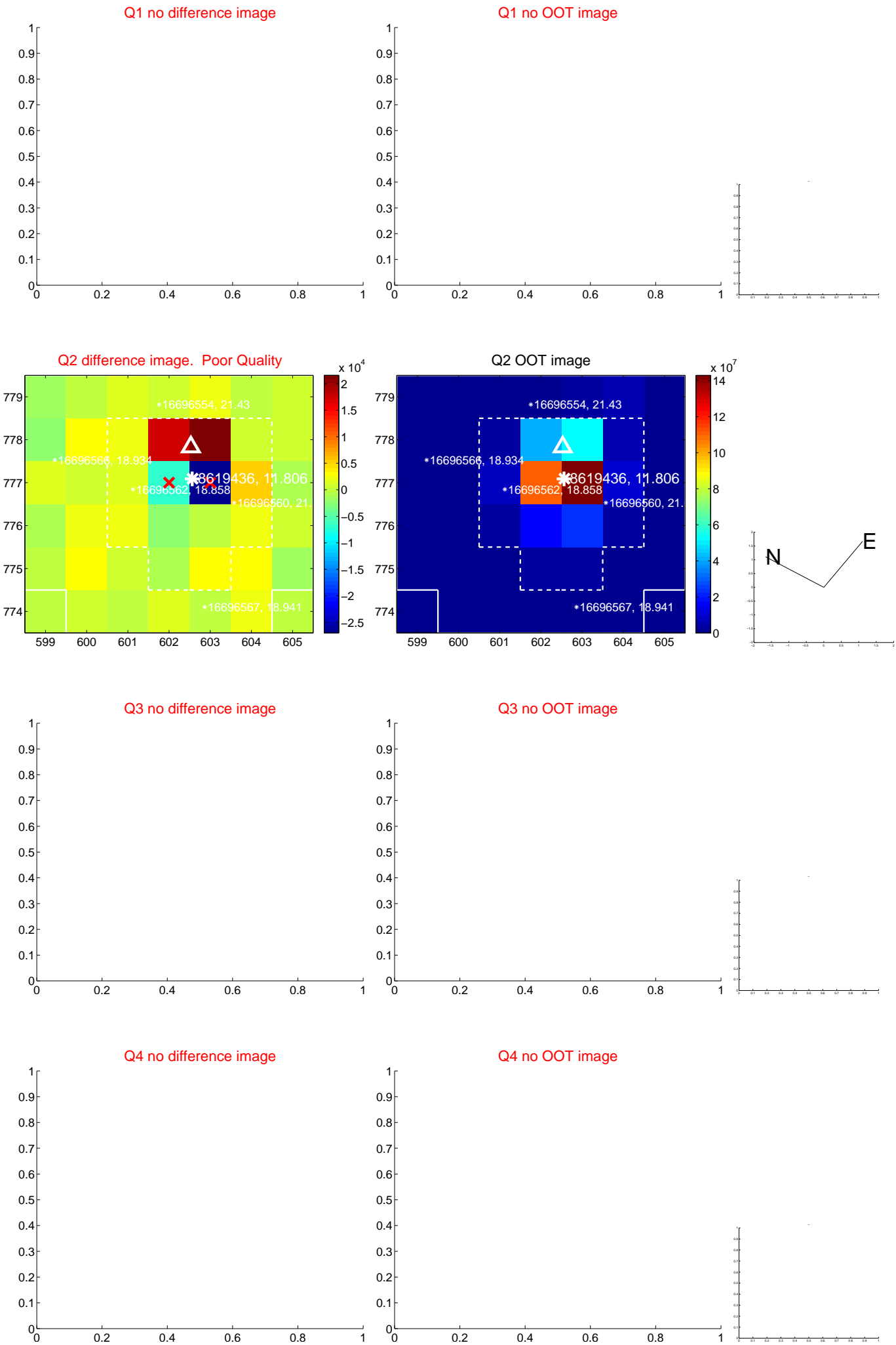
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.997 ± 0.620	3.22	1.752 ± 0.417	-0.957 ± 1.752
PRF-fit source offset from KIC position	1.993 ± 0.629	3.17	1.781 ± 0.354	-0.893 ± 1.822
photometric centroid source offset	3.88 ± 4.78	0.81	-3.71 ± 4.92	1.14 ± 3.01

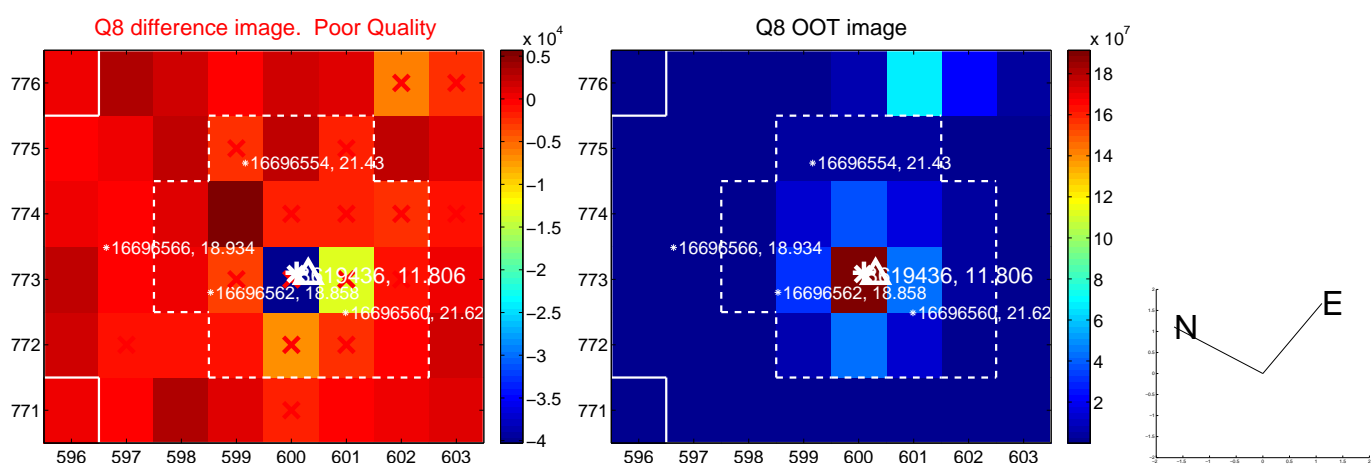
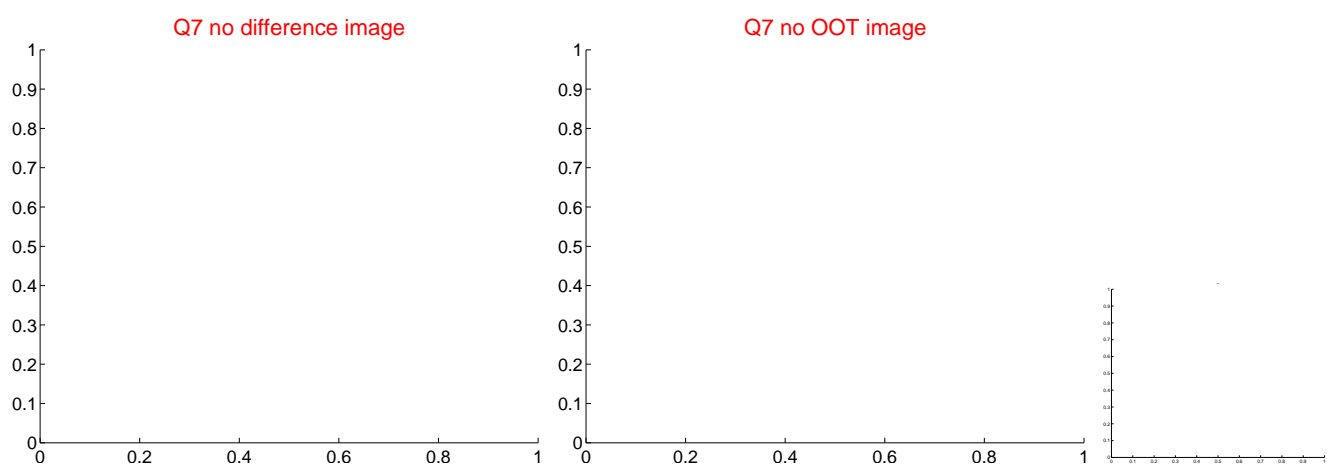
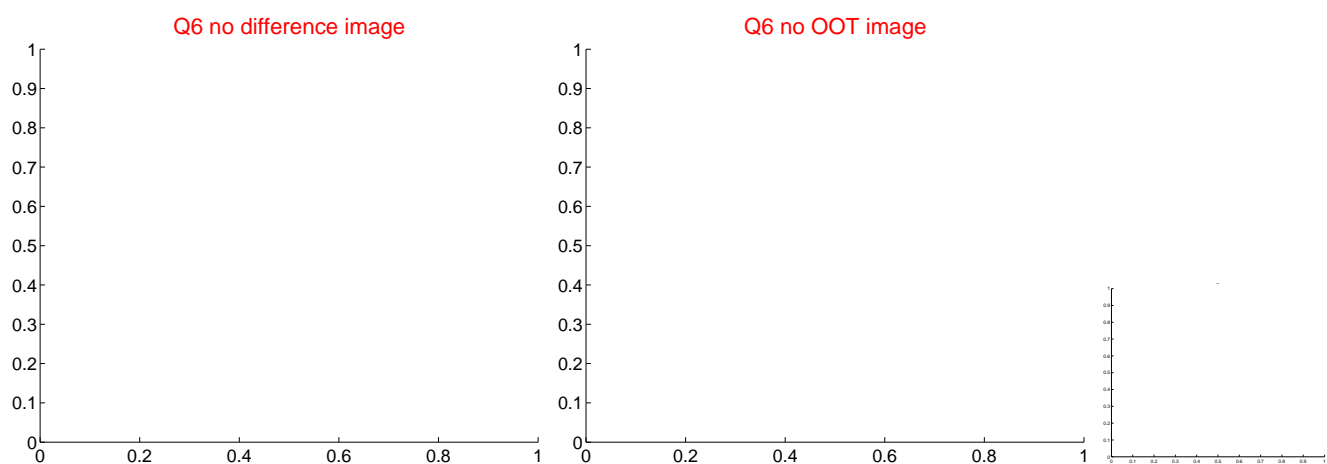
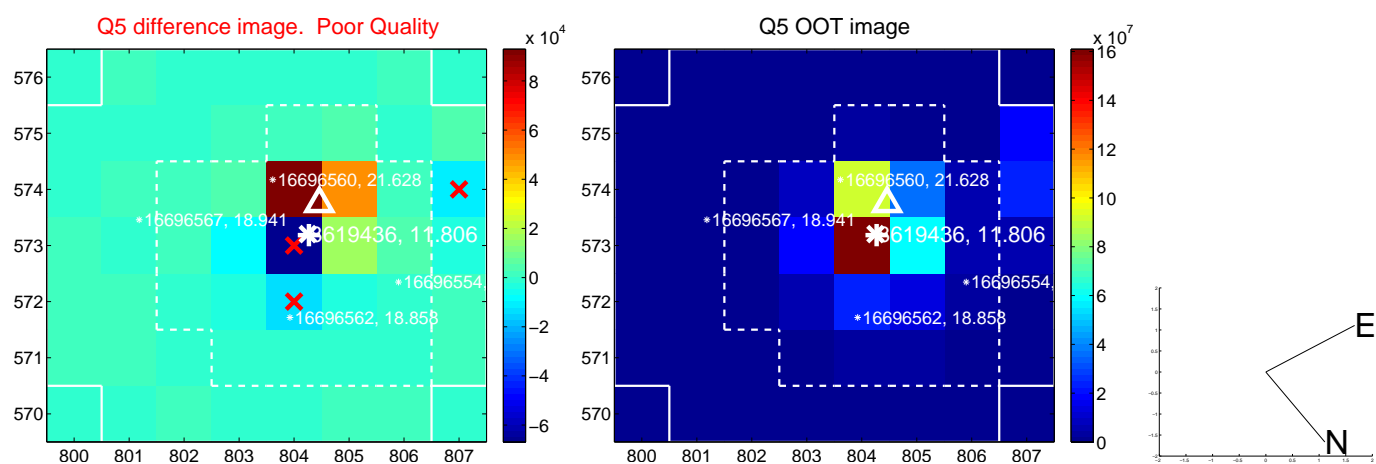


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

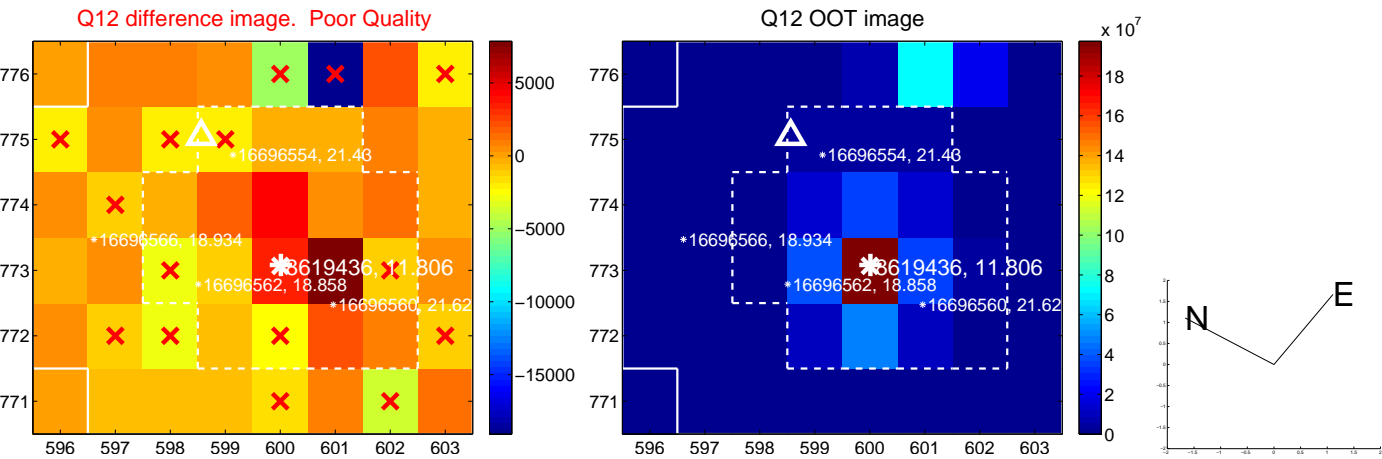
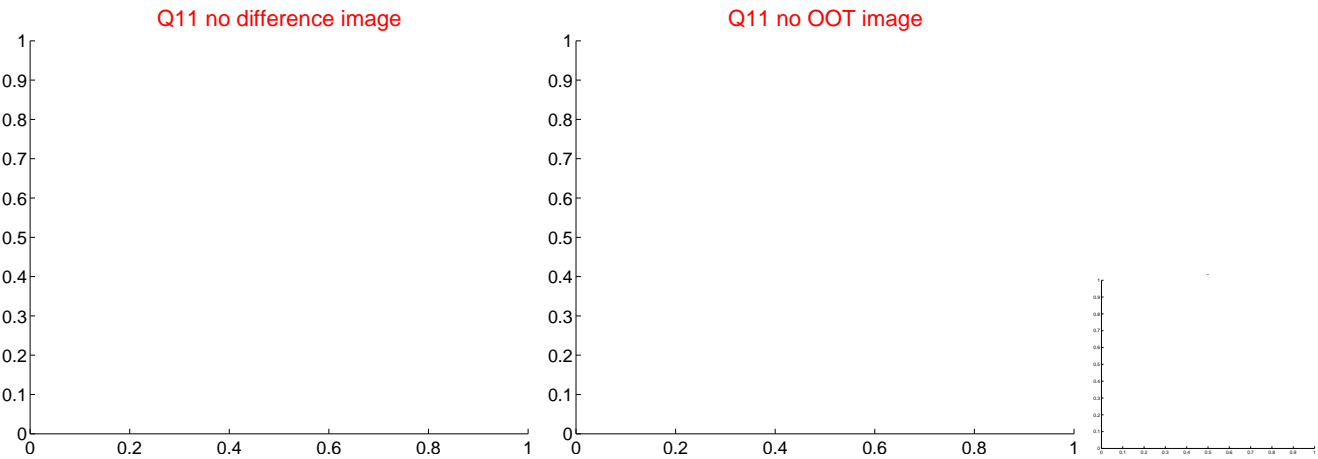
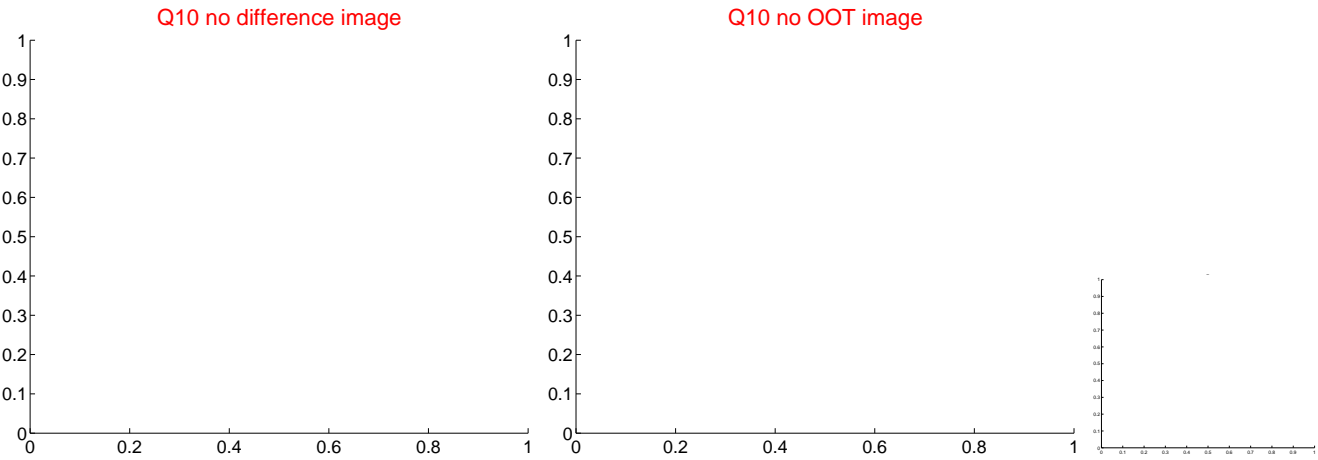
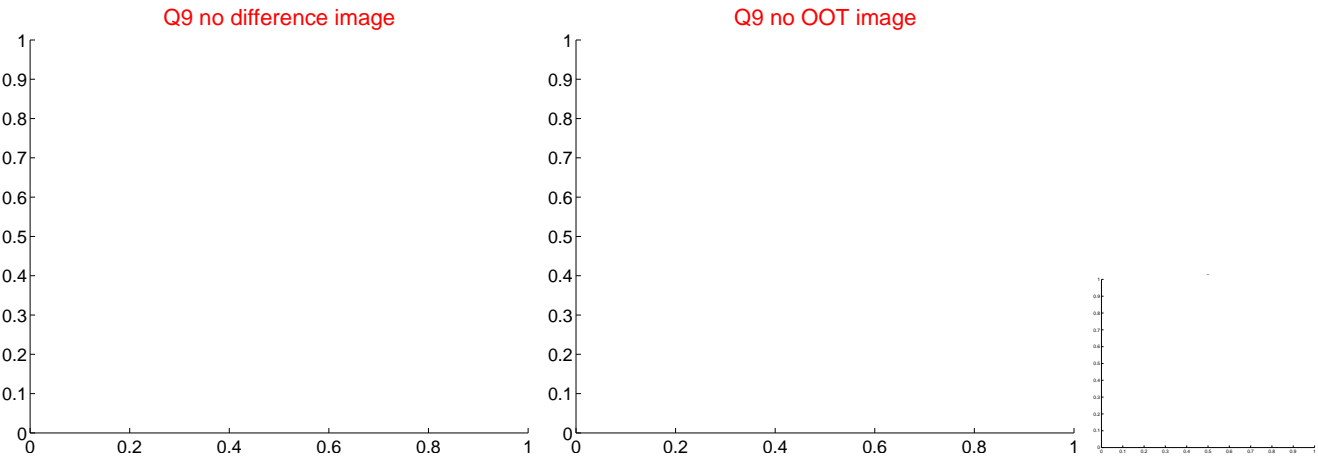
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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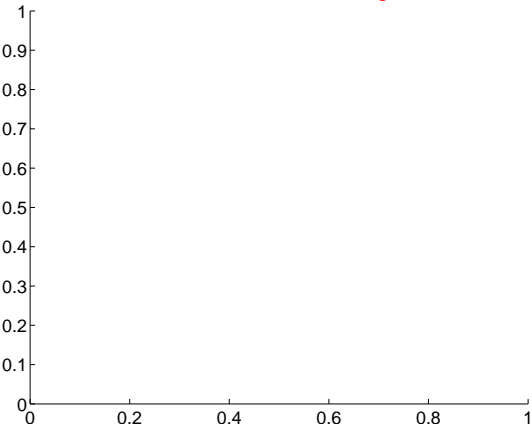


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

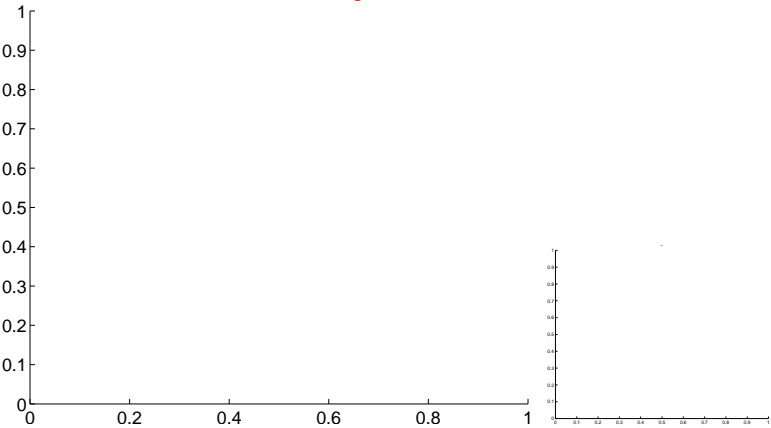


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

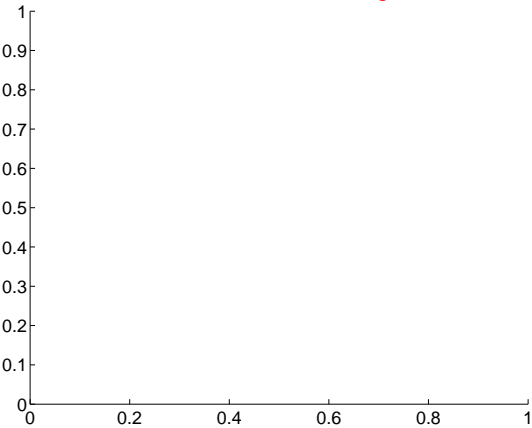
Q13 no difference image



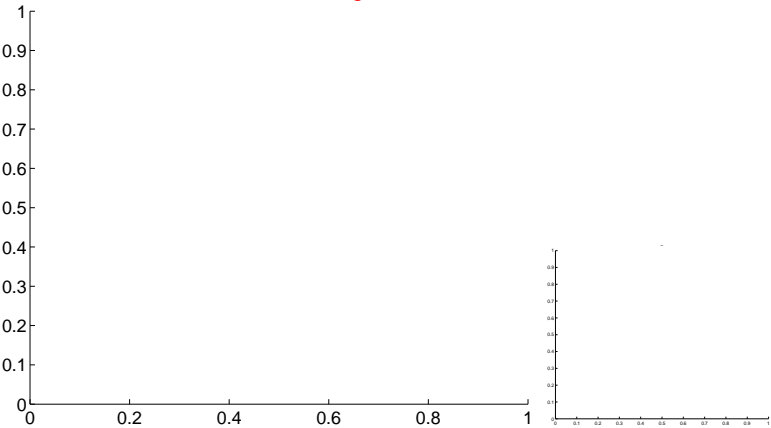
Q13 no OOT image



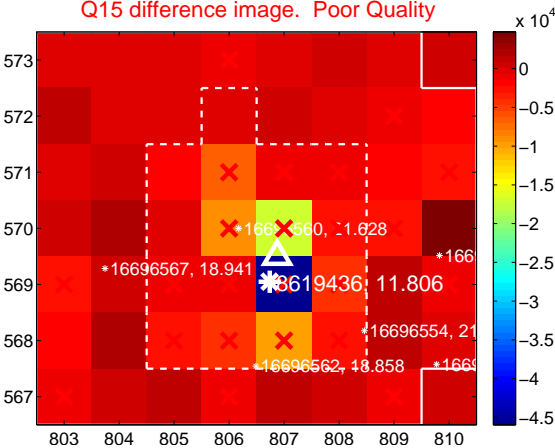
Q14 no difference image



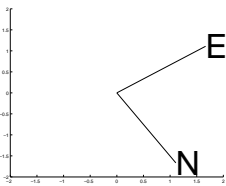
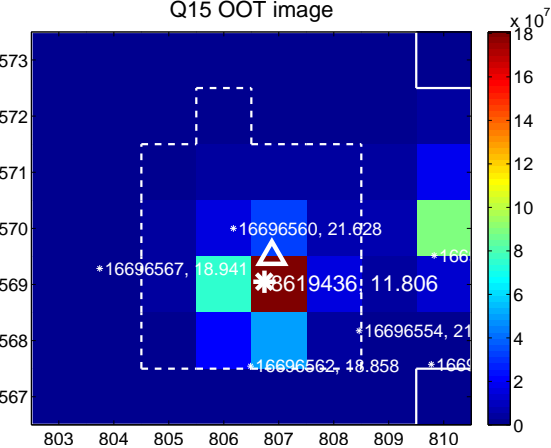
Q14 no OOT image



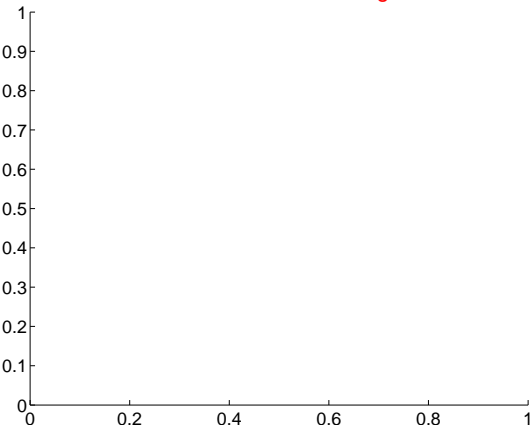
Q15 difference image. Poor Quality



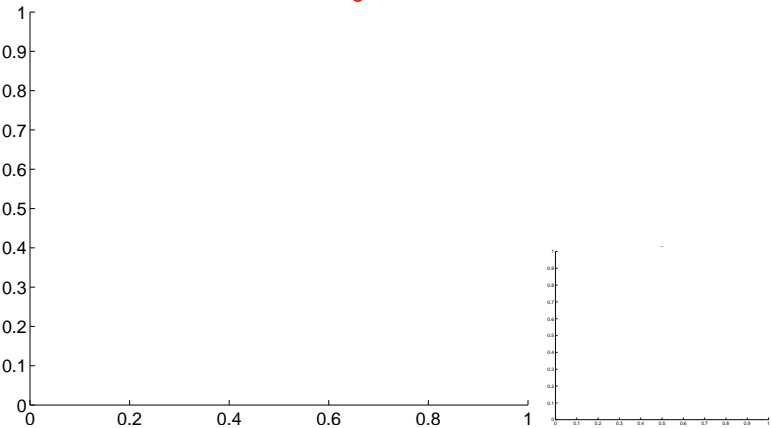
Q15 OOT image



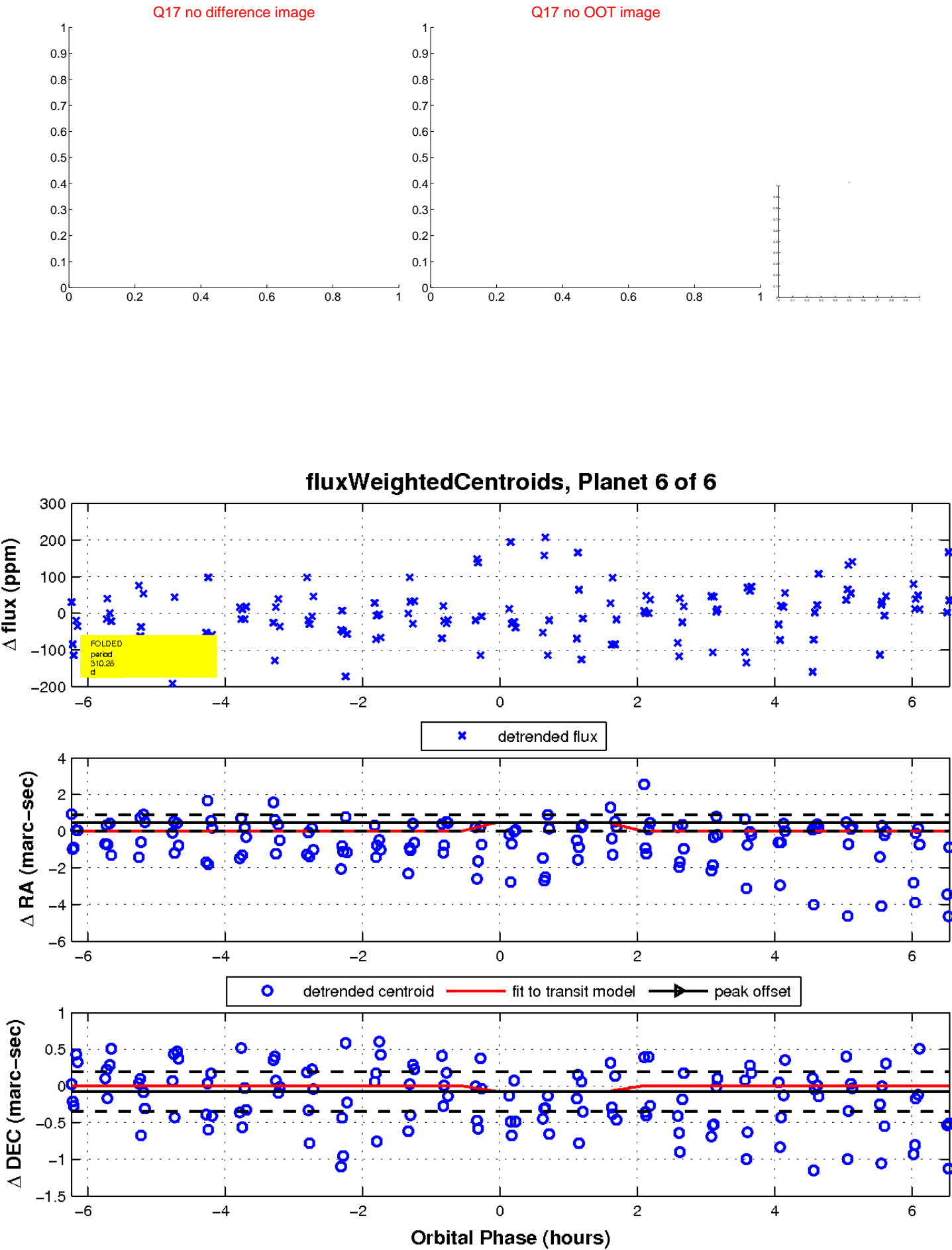
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

