

KIC 011236745

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})
011236745-01	OBS	No	1.510716	133.033299	26.5	4.563	9.5	8.8	1.35	6706	0.81	4460.60
011236745-02	OBS	No	337.183832	341.934958	326.5	2.637	9.9	8.7	1.35	6706	2.54	3.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011236745-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011236745-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

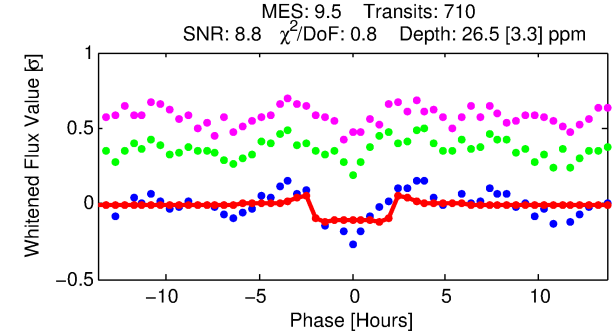
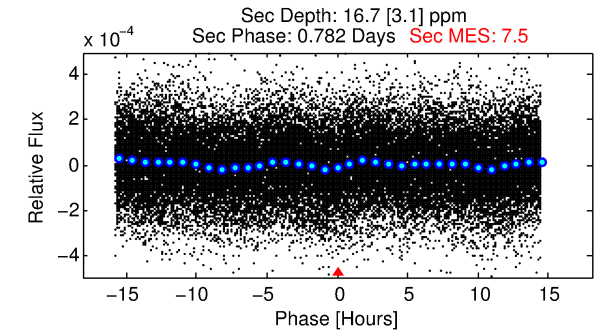
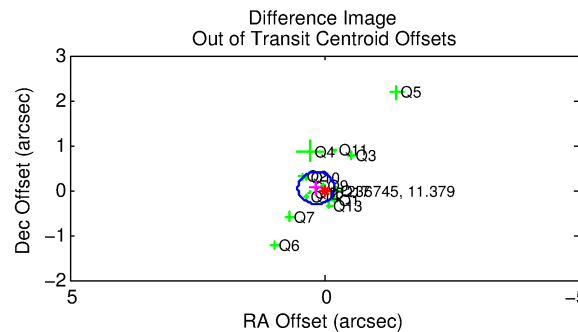
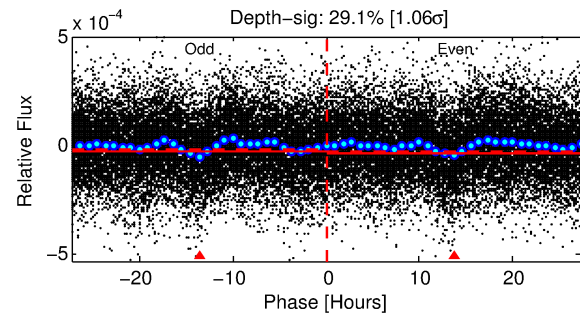
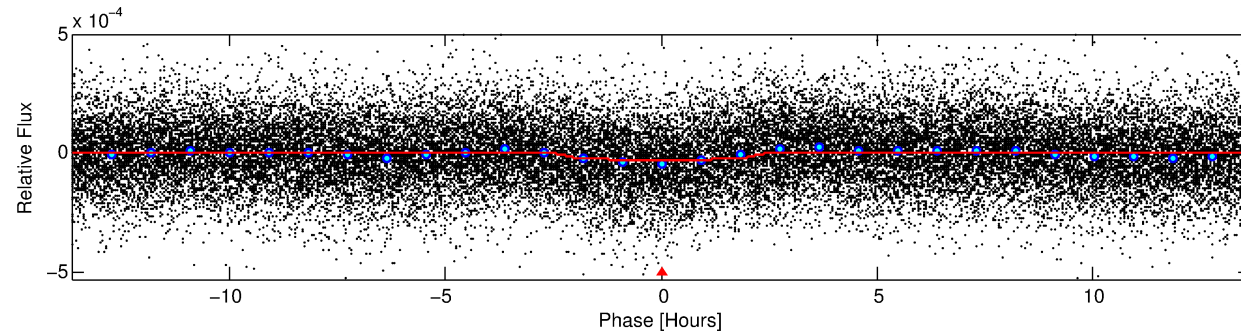
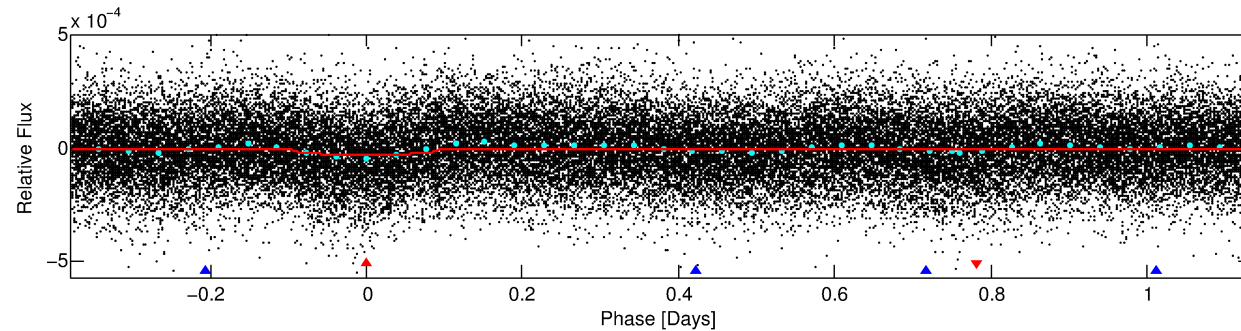
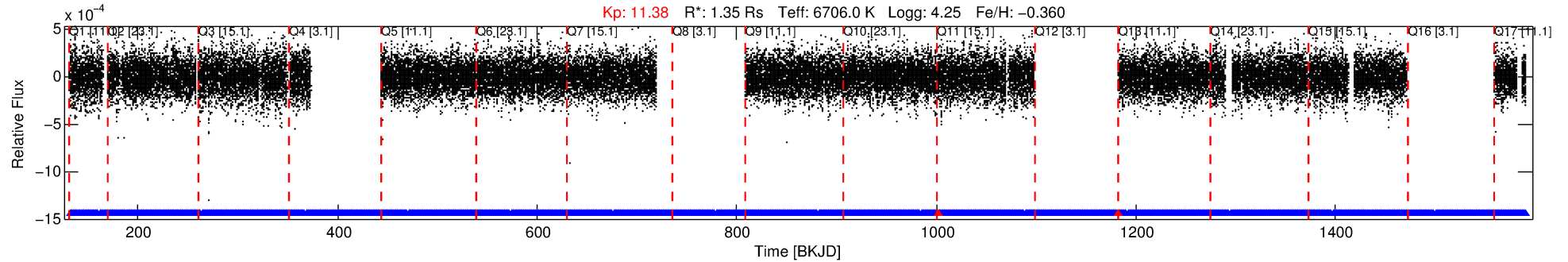
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011236745-01

No Significant Match Found

DV One-Page Summary

KIC: 11236745 Candidate: 1 of 2 Period: 1.511 d



DV Fit Results:

Period = 1.51072 [0.00001] d
Epoch = 133.0333 [0.0028] BKJD
Rp/R* = 0.0055 [0.0011]
a/R* = 1.47 [0.88]
b = 0.90 [0.24]
Seff = 4460.61 [1648.91]
Teq = 2084 [193] K
Rp = 0.81 [0.29] Re
a = 0.0272 [0.0065] AU
Ag = 10.40 [5.69] [1.65σ]
Teffp = 5786 [665] K [5.35σ]

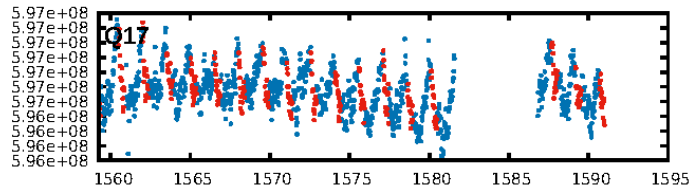
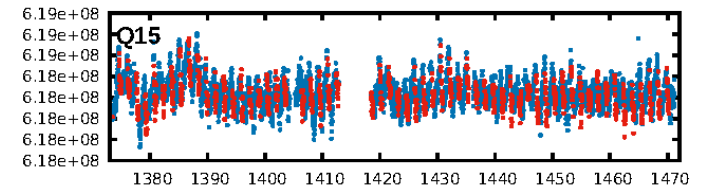
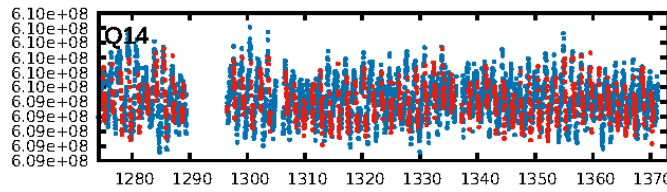
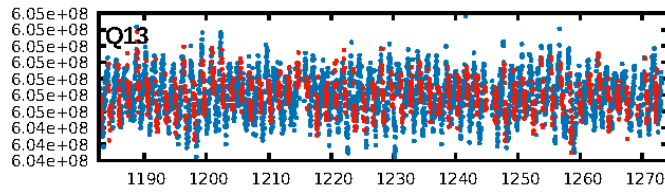
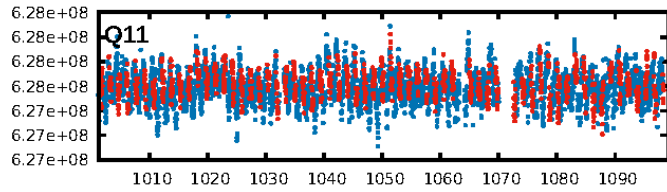
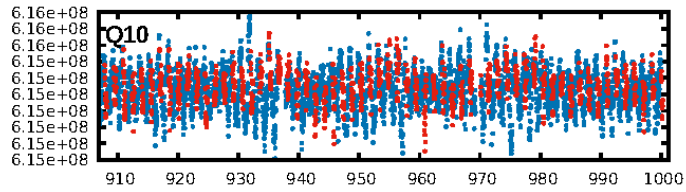
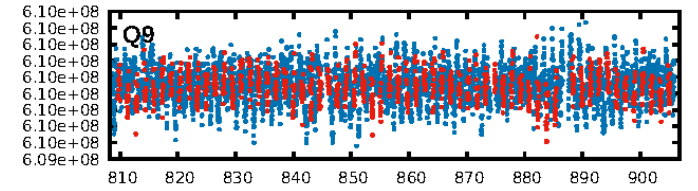
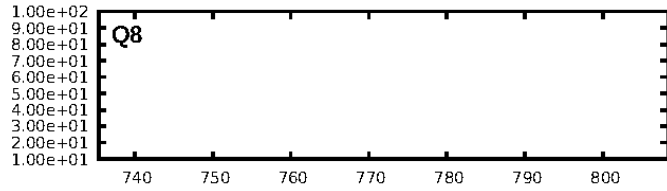
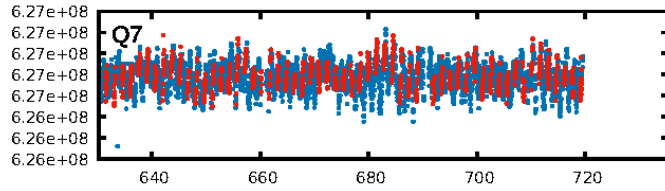
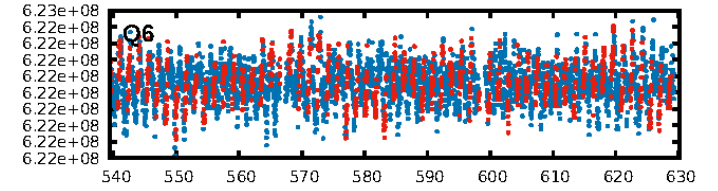
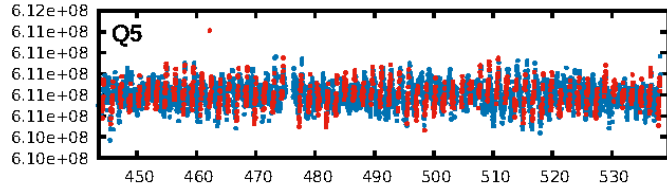
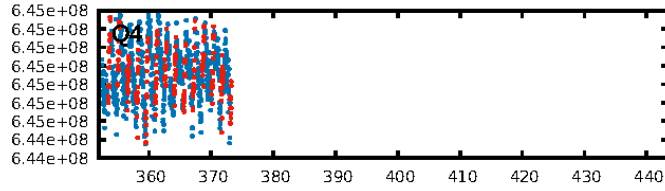
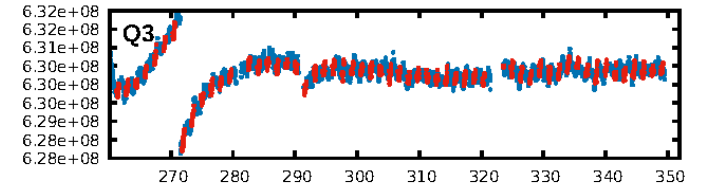
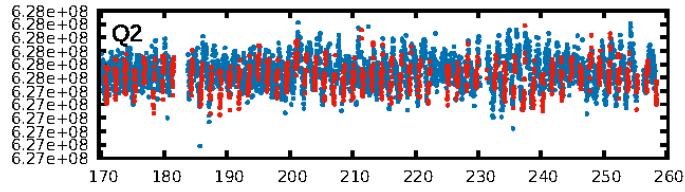
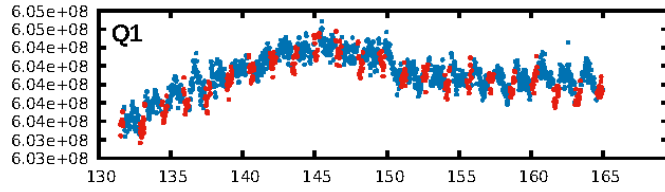
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1528.60σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.69e-15
RollingBand-fgt: 1.00 [653/655]
GhostDiagnostic-chr: 0.256
Centroid-sig: 0.4%
Centroid-so: 0.724 arcsec [1.86σ]
OotOffset-rm: 0.170 arcsec [1.43σ]
OotOffset-st: 4/4/1/5 [14]
KicOffset-rm: 0.052 arcsec [0.42σ]
KicOffset-st: 4/4/1/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

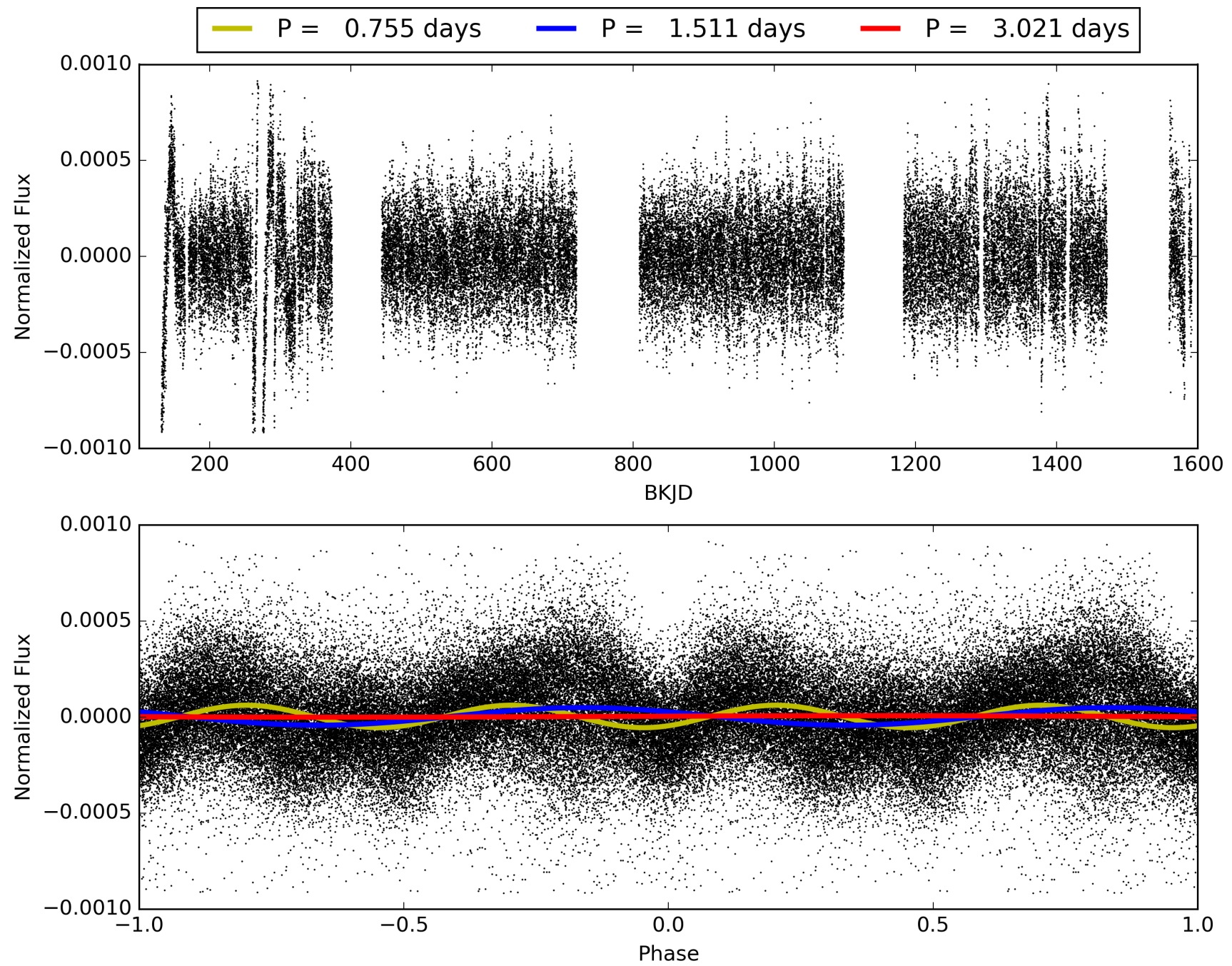
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:23:58 Z

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

TCE 011236745-01, PDC Light Curves

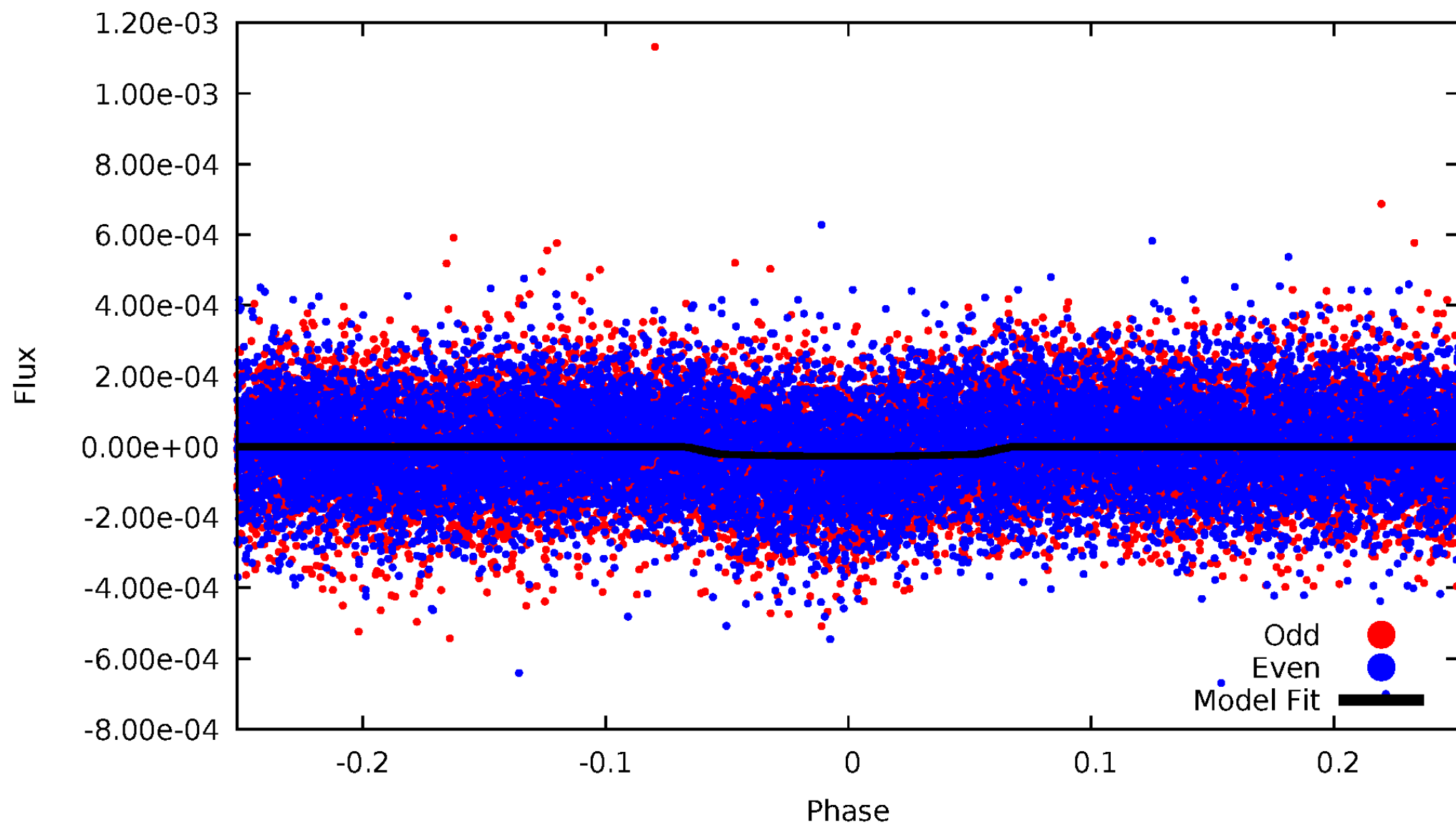


TCE 011236745-01



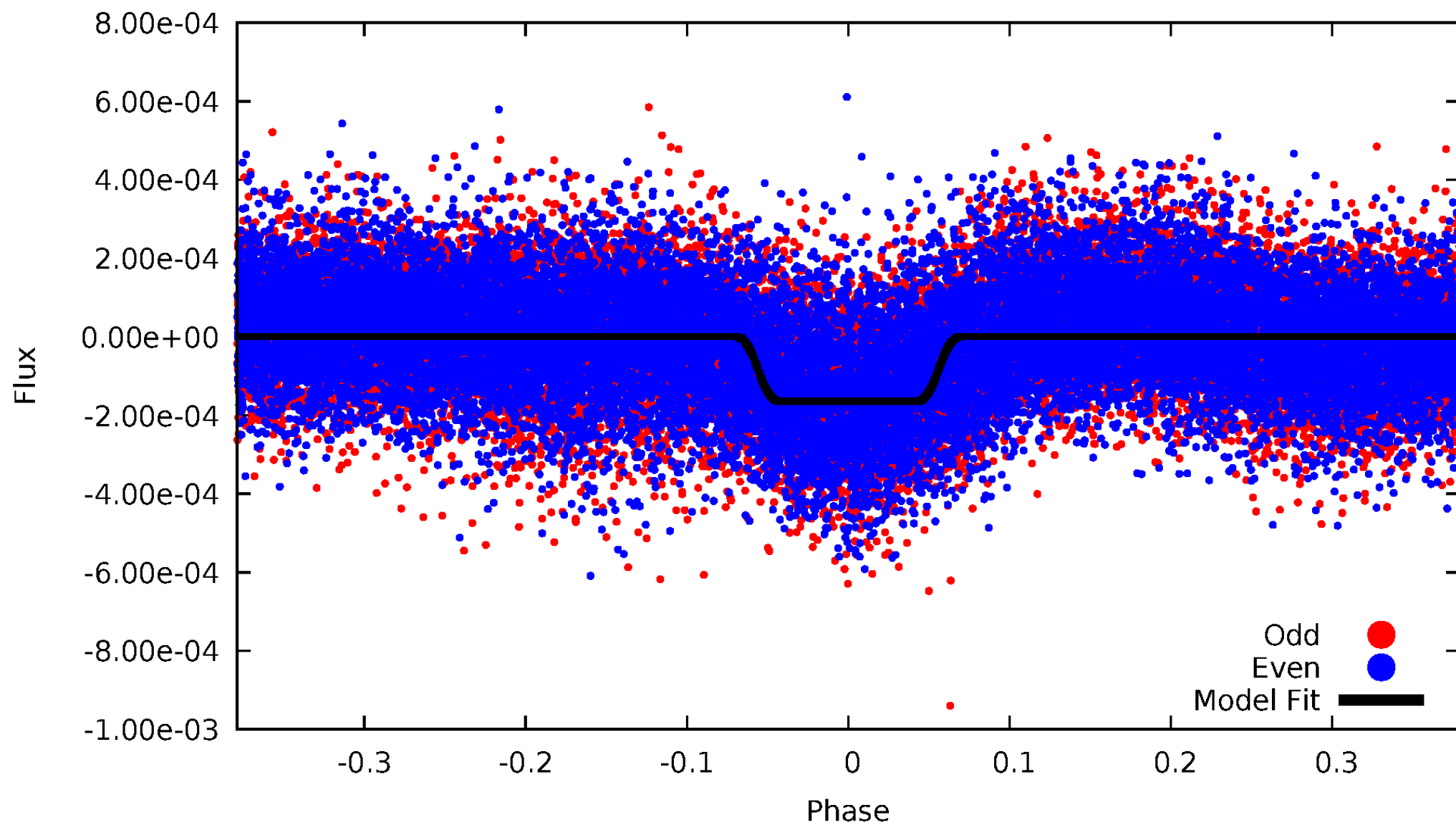
DV Odd/Even

TCE 011236745-01



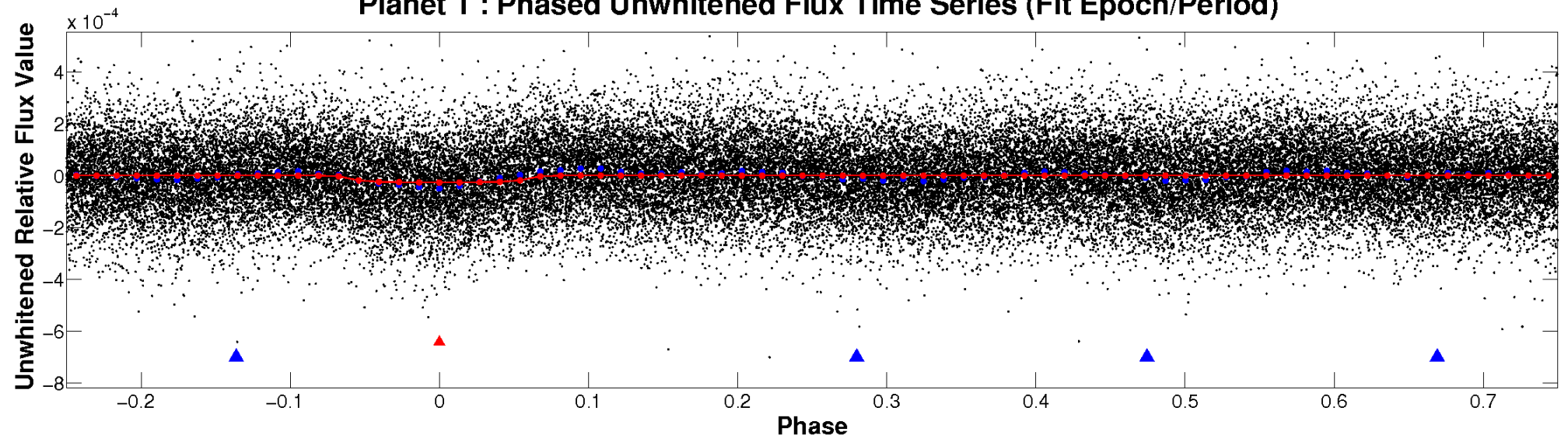
ALT Odd/Even

TCE 011236745-01

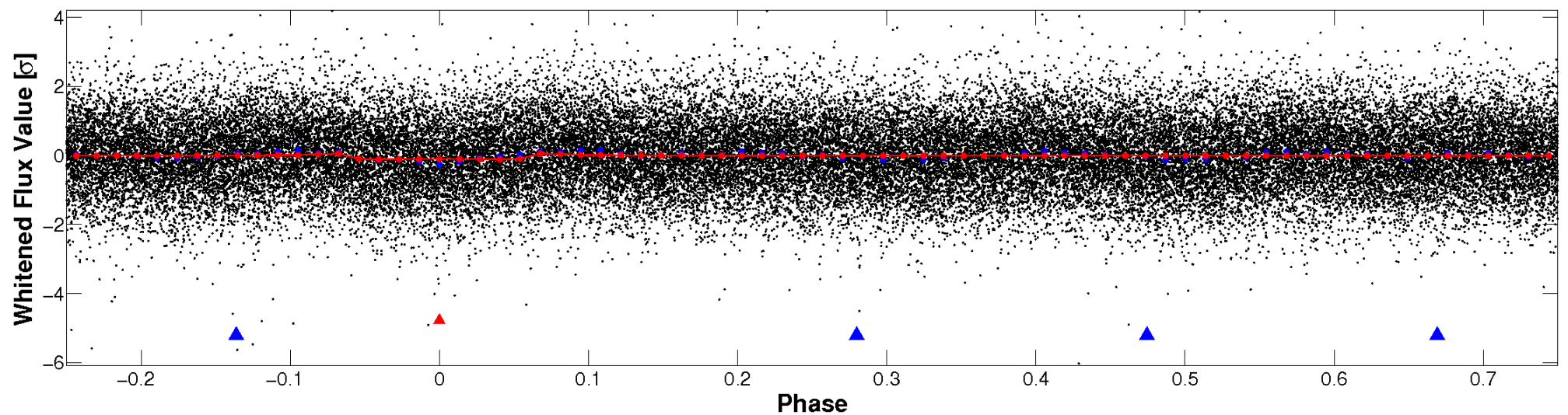


Non-Whitened Vs. Whitened Light Curve

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

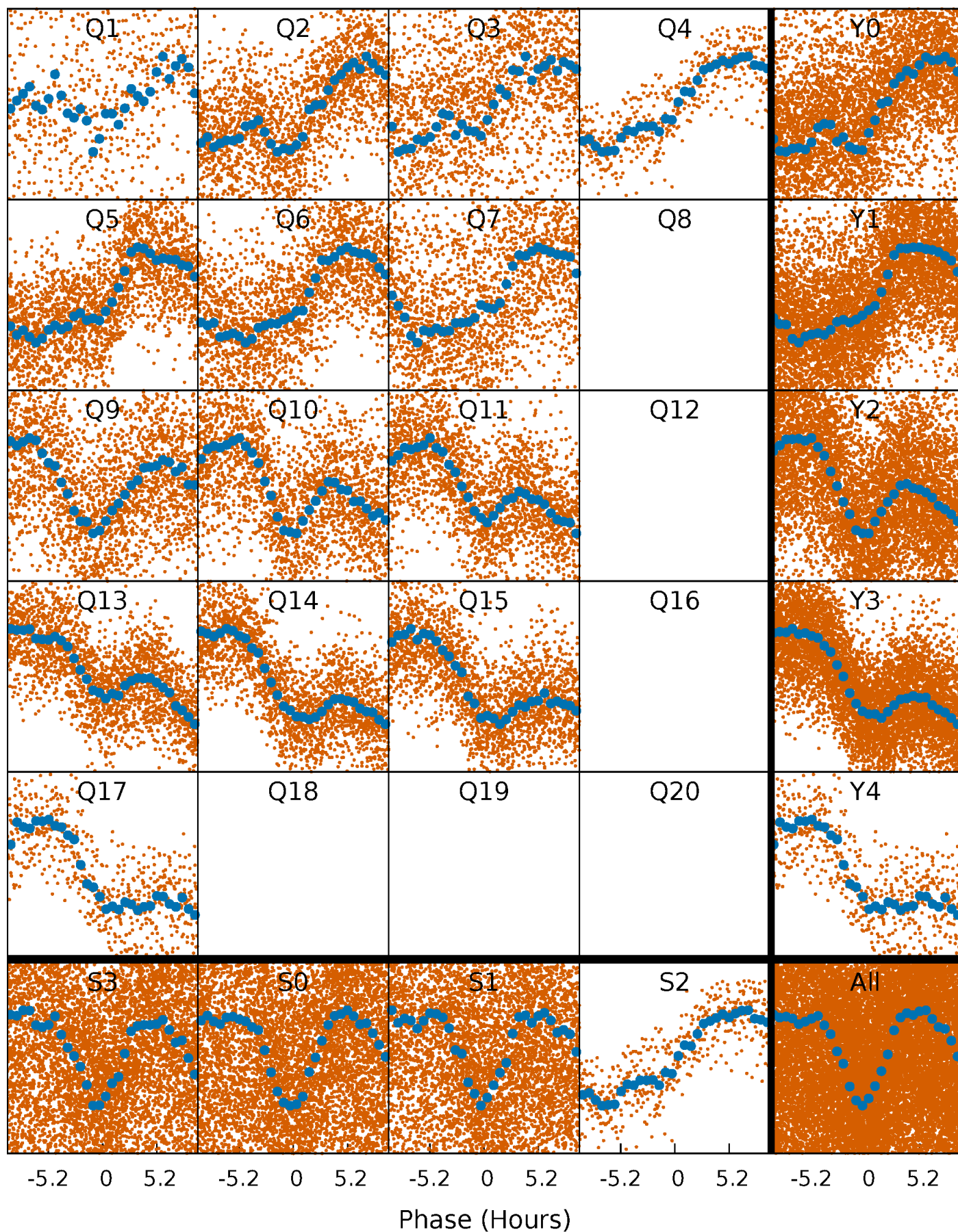


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



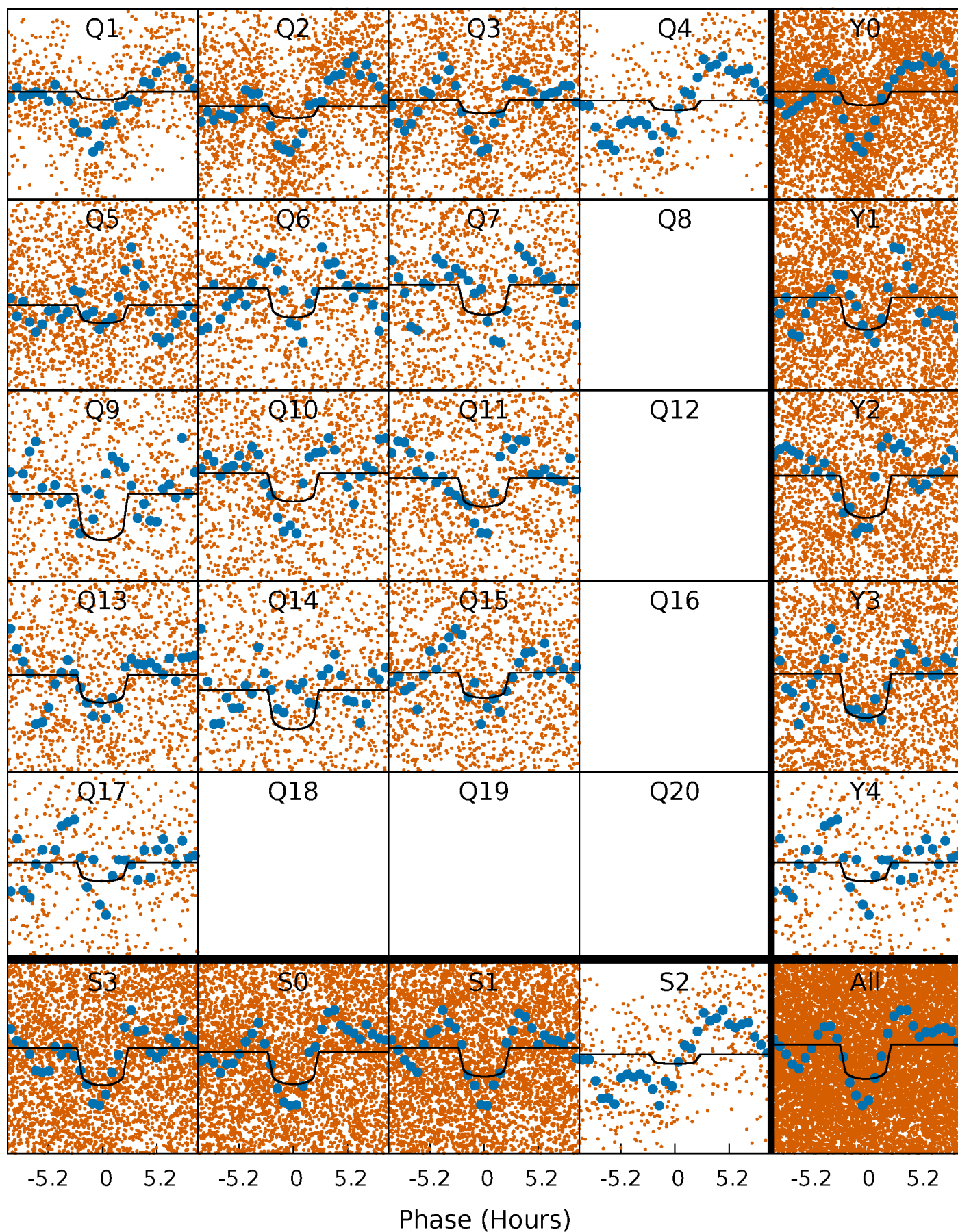
PDC Quarter-Phased Transit Curves

TCE 011236745-01 P= 1.510716 Days $T_0=133.033299$ (BKJD)



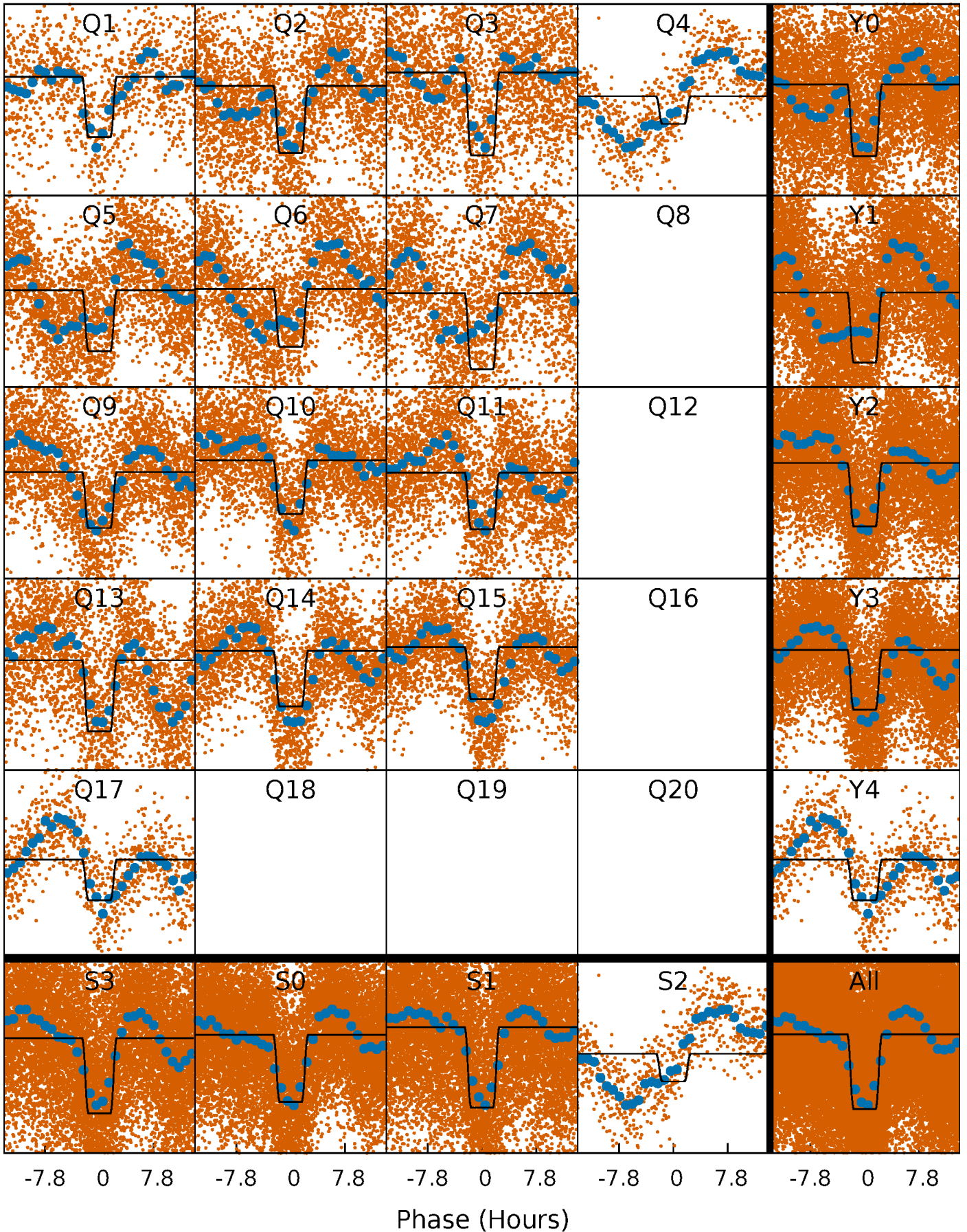
DV Quarter-Phased Transit Curves

TCE 011236745-01 P= 1.510716 Days $T_0=133.033299$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

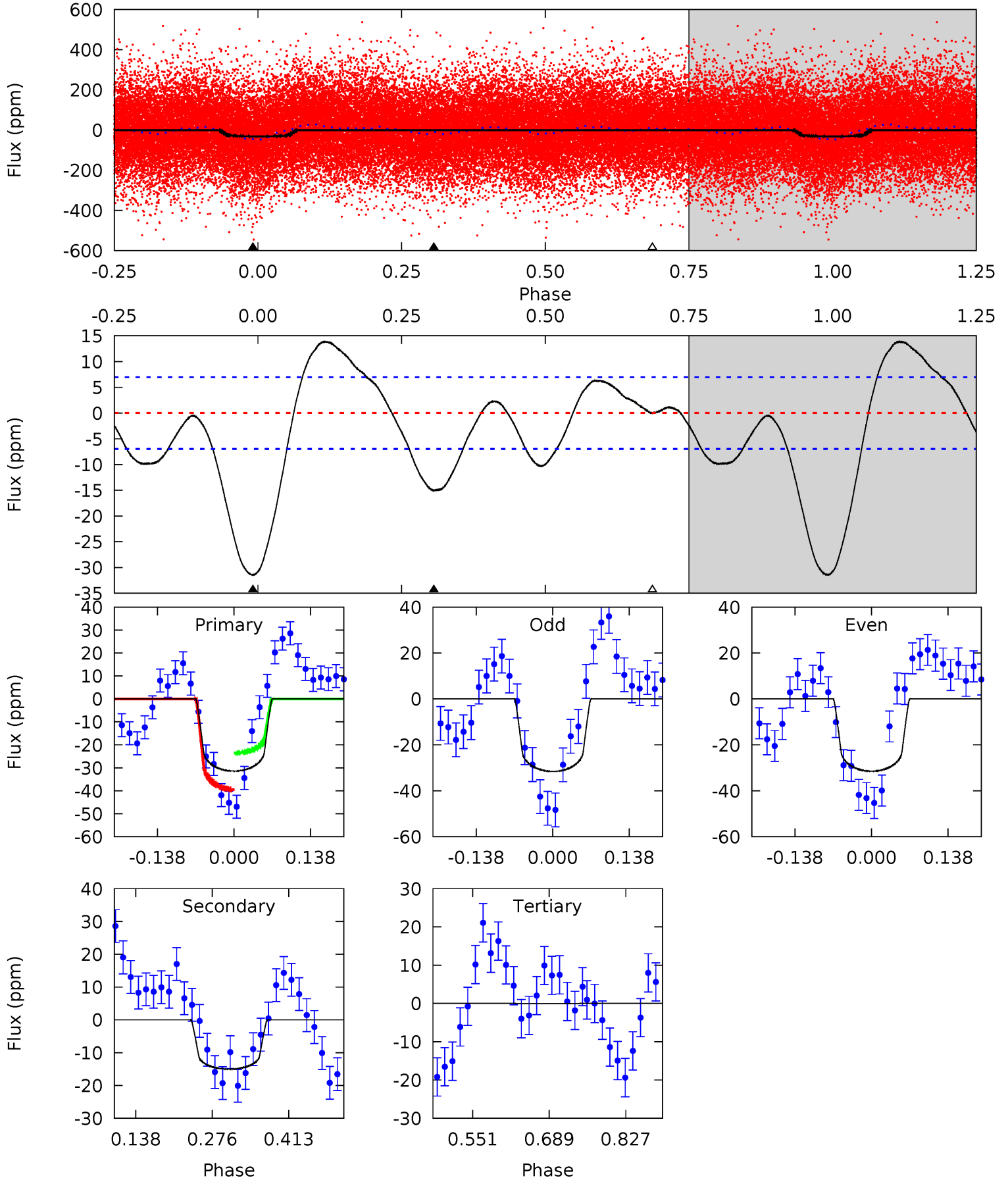
TCE 011236745-01 P= 1.510730 Days $T_0=133.013467$ (BKJD)



DV Model-Shift Uniqueness Test

011236745-01, P = 1.510716 Days, E = 130.011867 Days

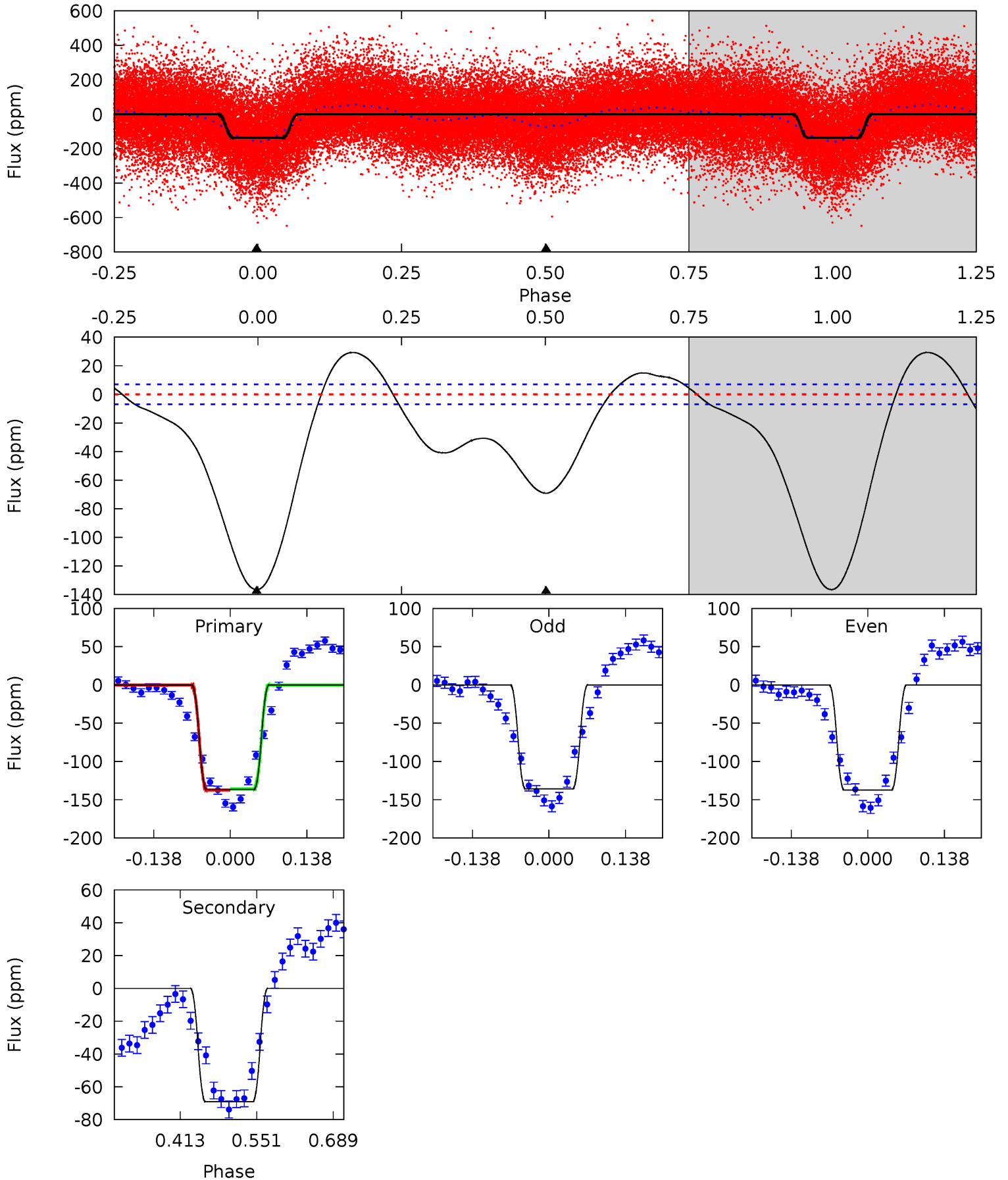
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	9.69	0.01	0	4.50	1.48	4.23	20.2	20.3	9.67	9.69	0.03	1.14	0.31	5.17



Alt Model-Shift Uniqueness Test

011236745-01, P = 1.510730 Days, E = 131.502737 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
87.9	44.5	0	0	4.50	1.48	14.1	87.9	87.9	44.5	44.5	0.54	1.02	0.18	0.52



Stellar Parameters For KIC 011236745

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6706^{+189}_{-260}	$4.248^{+0.144}_{-0.176}$	$-0.360^{+0.250}_{-0.300}$	$1.350^{+0.403}_{-0.268}$	$1.183^{+0.175}_{-0.175}$	$0.678^{+0.482}_{-0.326}$
	+3%/-4%	+3%/-4%	+69%/-83%	+30%/-20%	+15%/-15%	+71%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 011236745-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-15 ± 2	$0.80^{+0.21}_{-0.16}$	2904^{+232}_{-170}	5583^{+647}_{-464}	$9.542^{+5.481}_{-3.517}$
Alt.	-69 ± 2	$1.91^{+0.32}_{-0.26}$	2916^{+214}_{-192}	5366^{+258}_{-265}	$7.786^{+2.290}_{-2.082}$

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

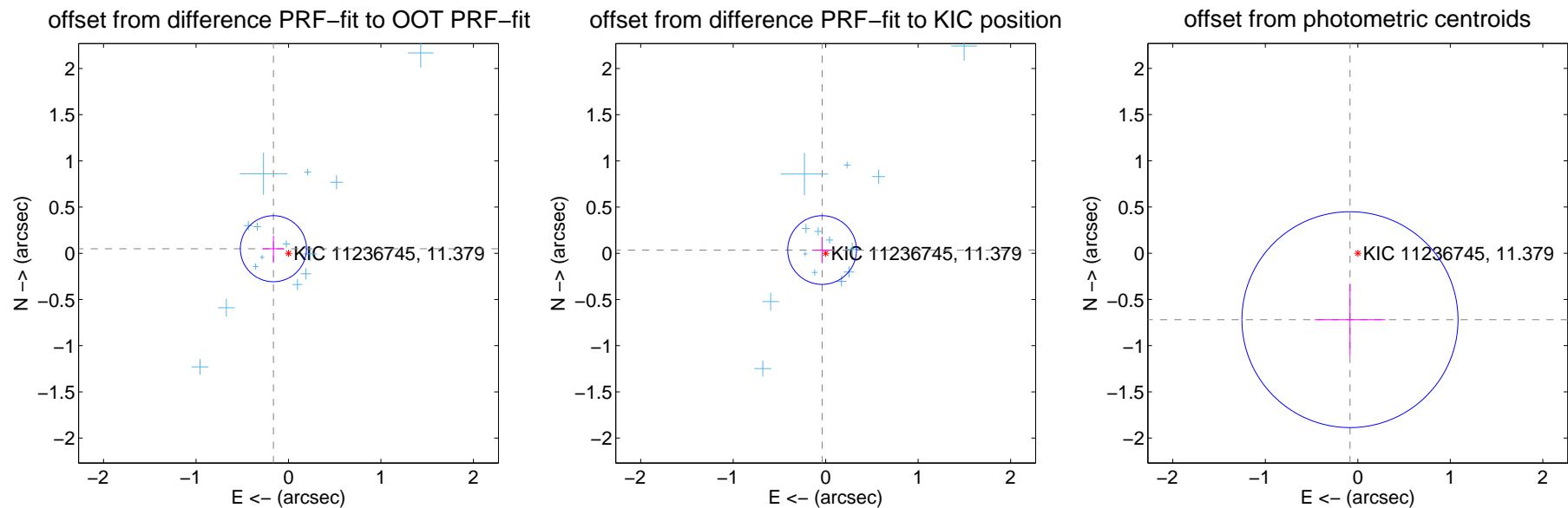
DV Centroid Data

Supplemental centroid analysis for 011236745-01. **Kepler magnitude: 11.38.** Transit SNR 8.80

There are 14 quarters with good PRF difference image offsets

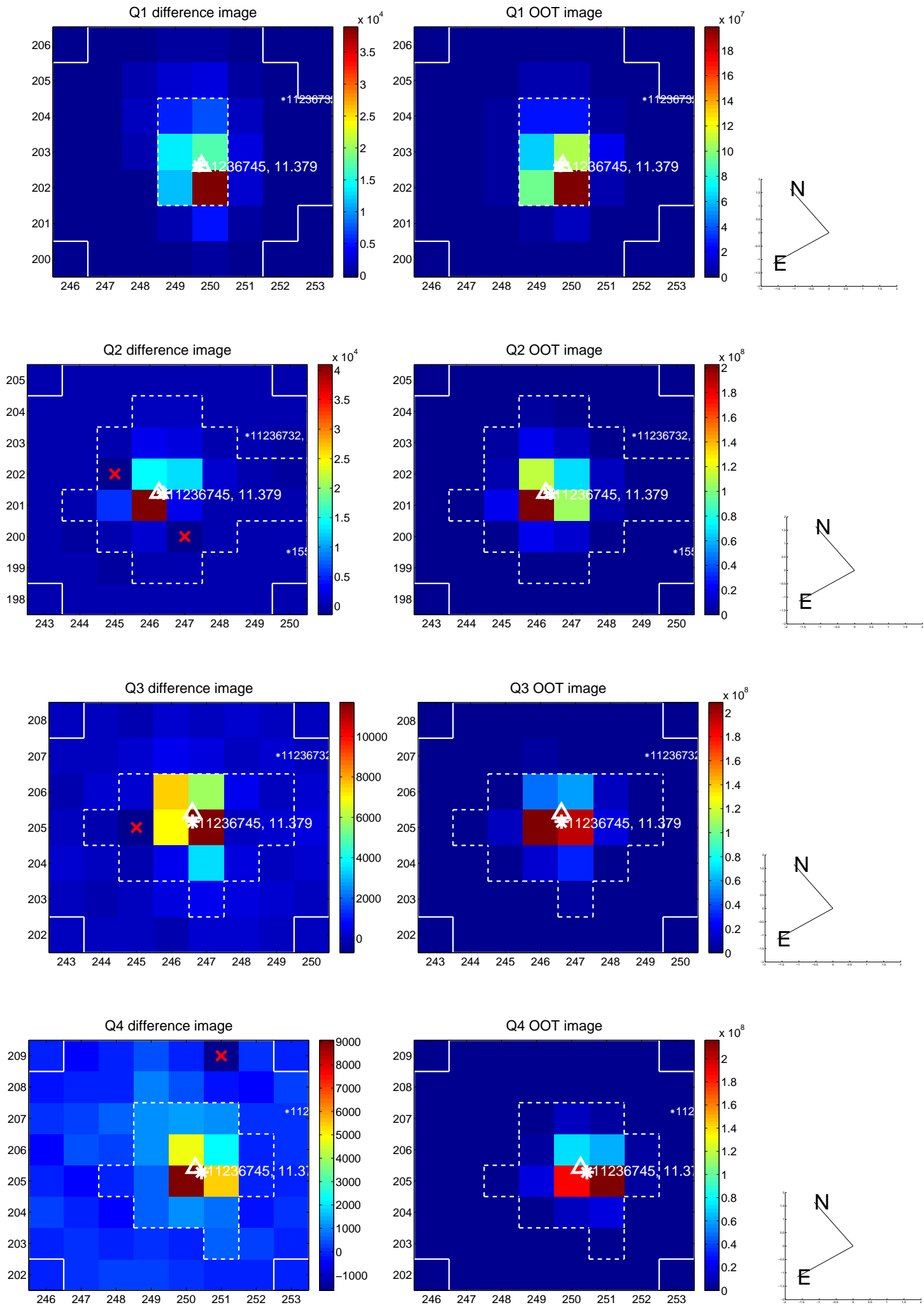
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.170 ± 0.119	1.43	0.163 ± 0.117	0.049 ± 0.142
PRF-fit source offset from KIC position	0.052 ± 0.124	0.42	0.039 ± 0.106	0.035 ± 0.142
photometric centroid source offset	0.72 ± 0.39	1.86	0.08 ± 0.38	-0.72 ± 0.39

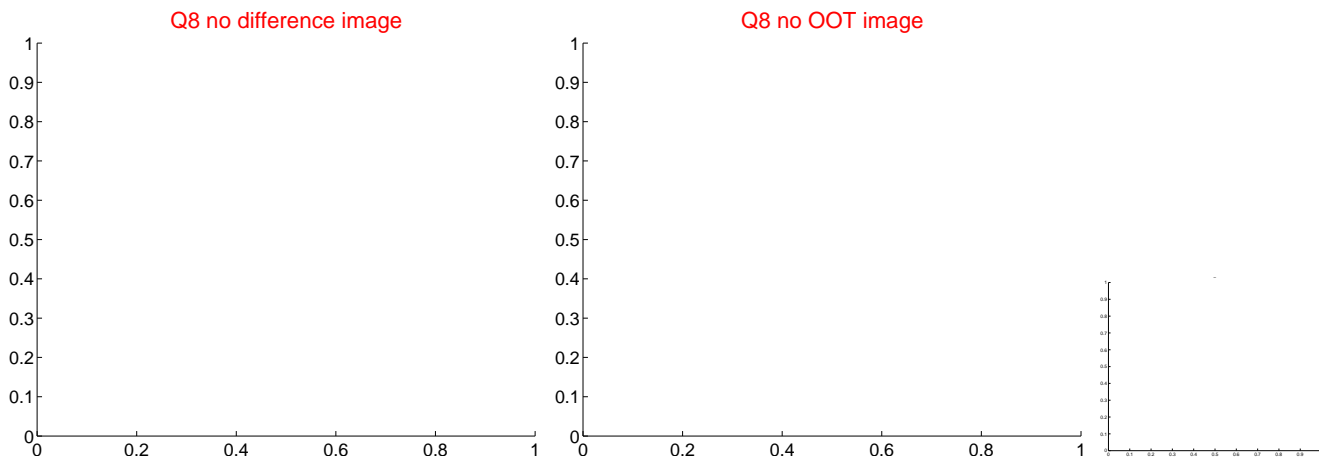
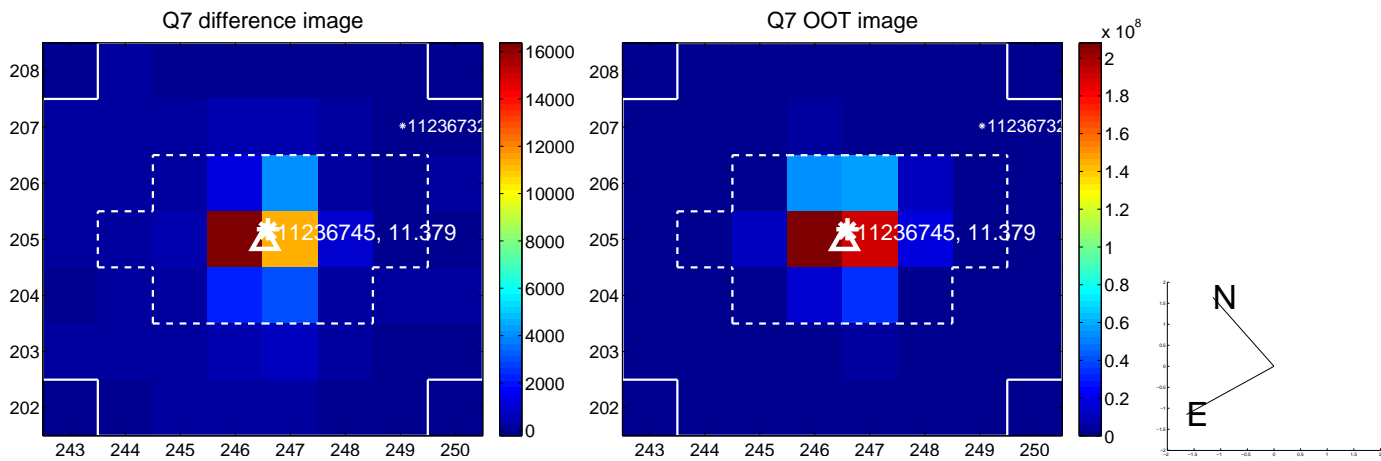
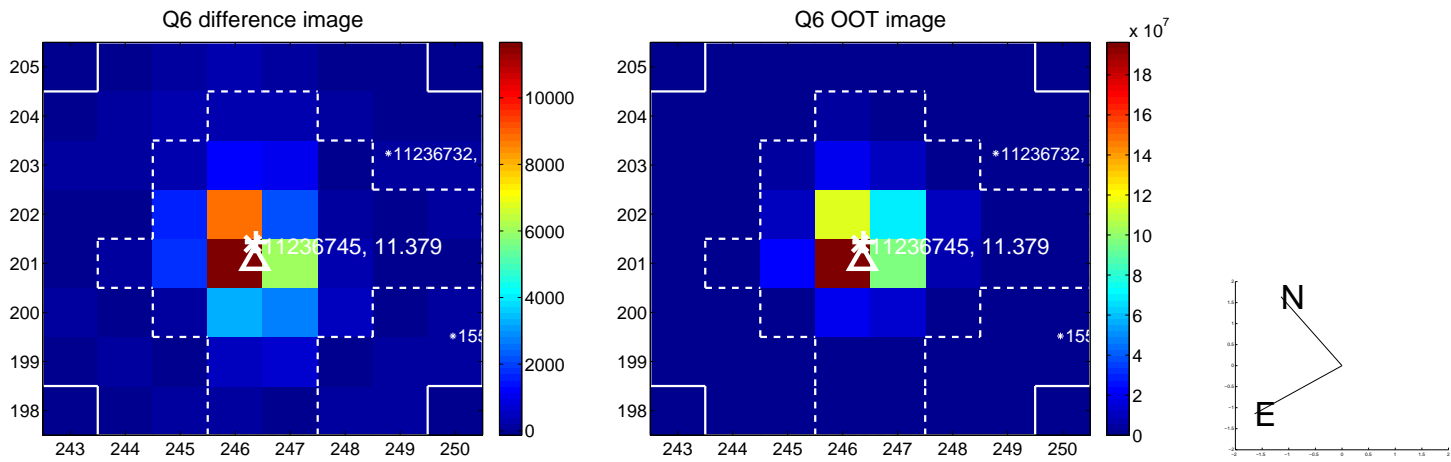
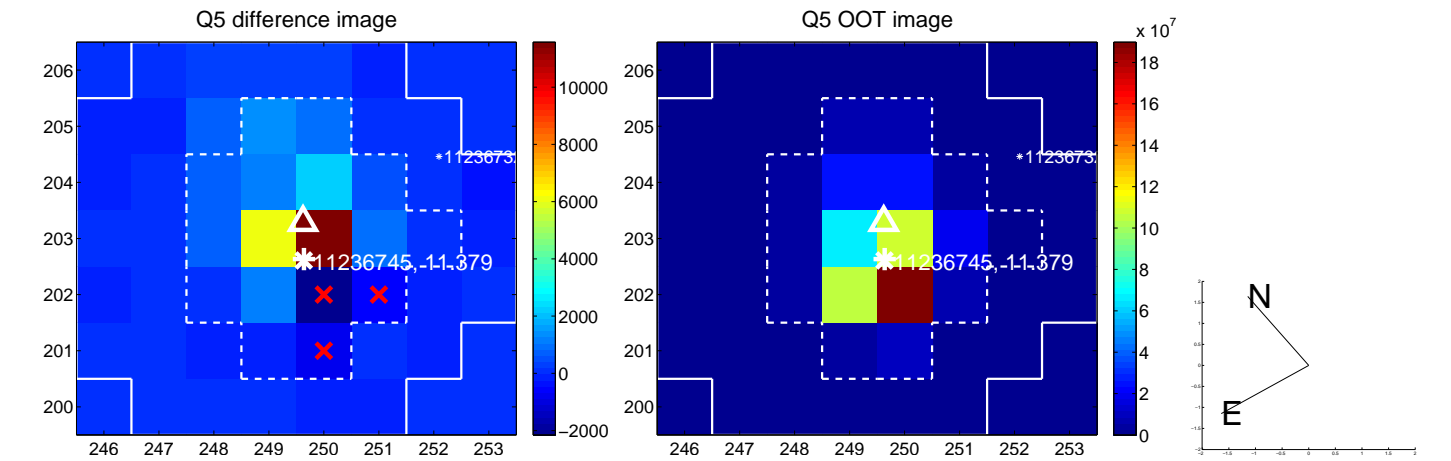


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

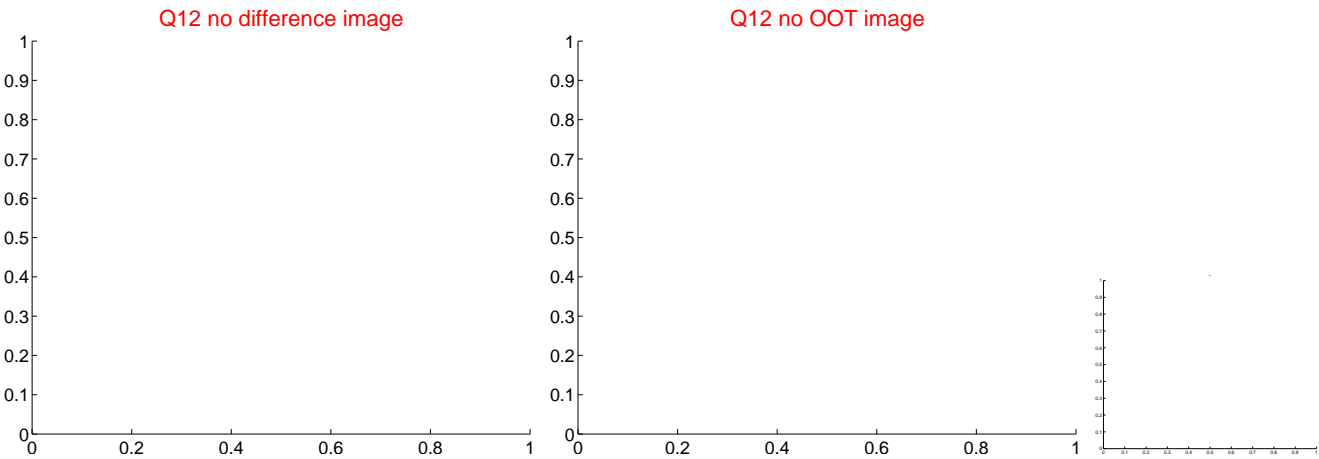
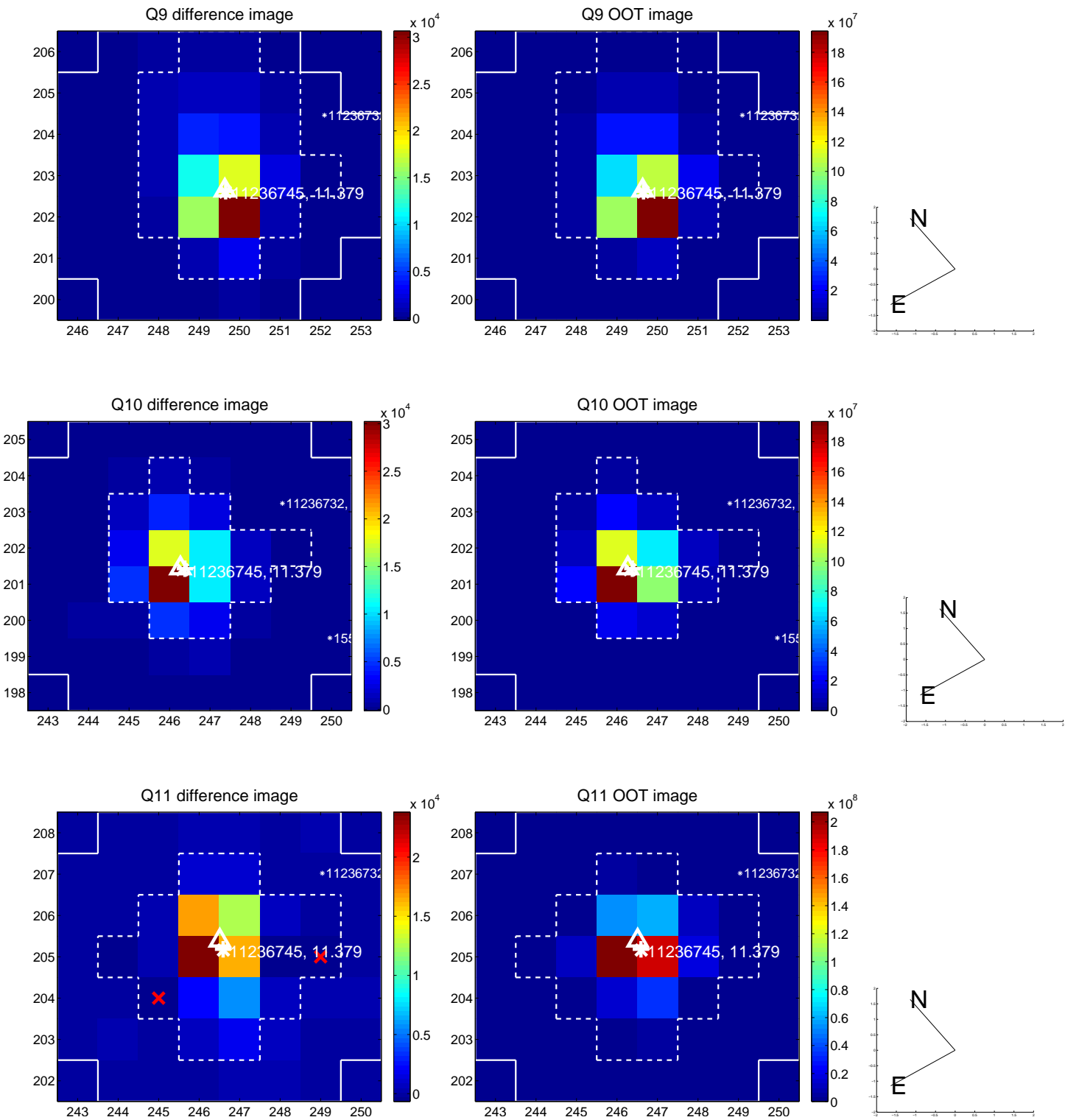
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



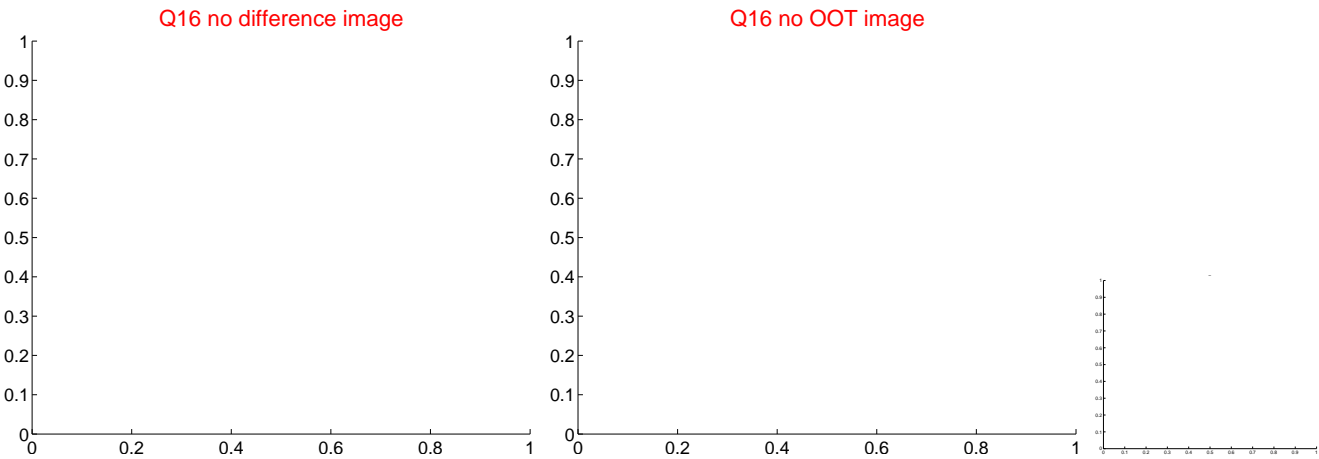
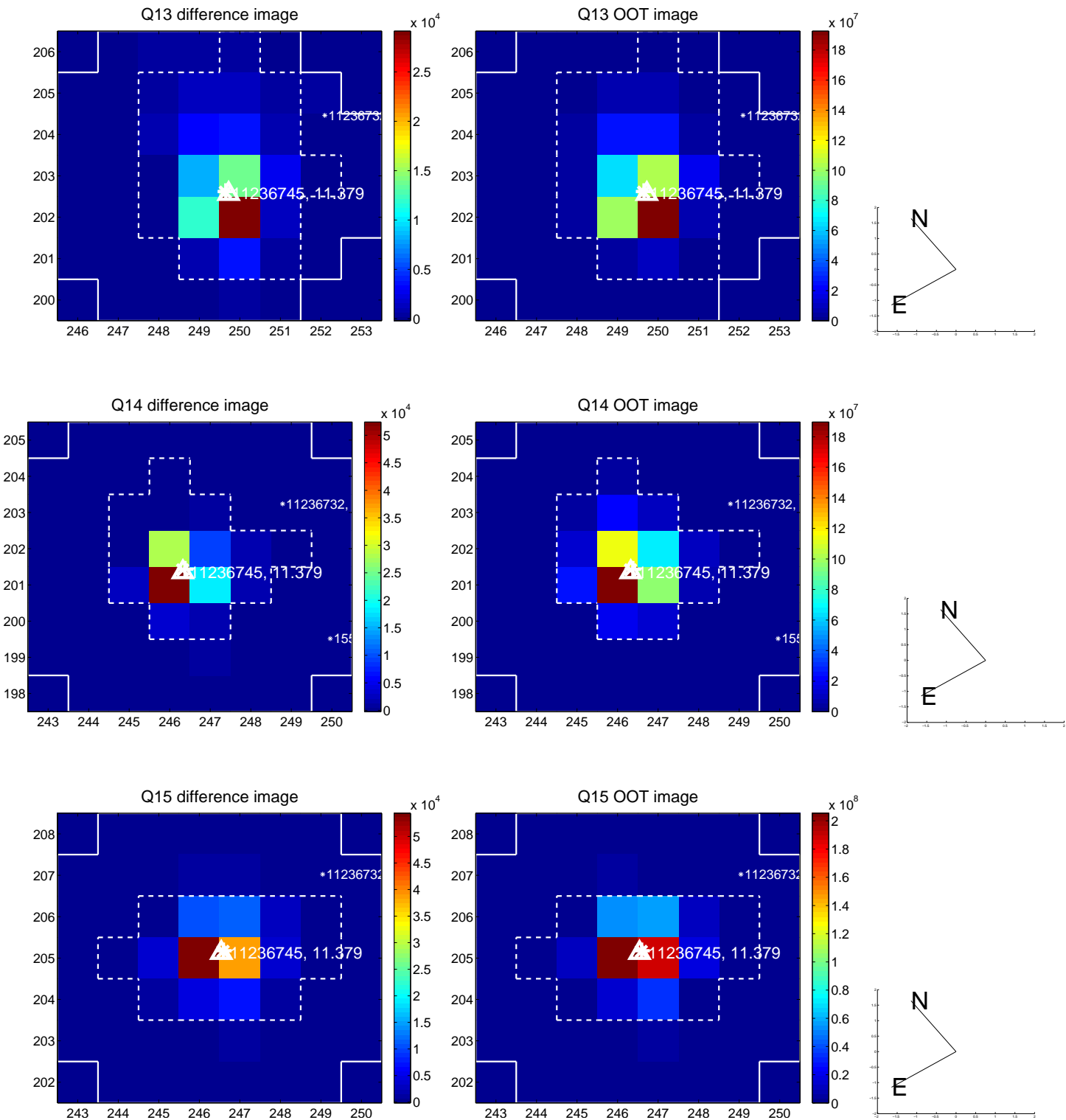
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



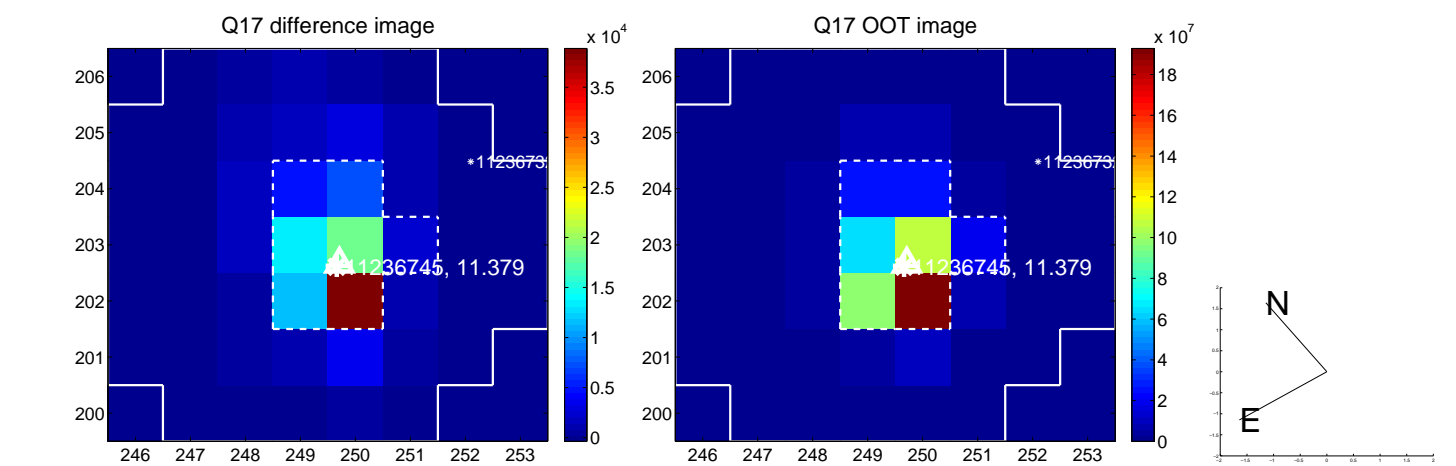
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



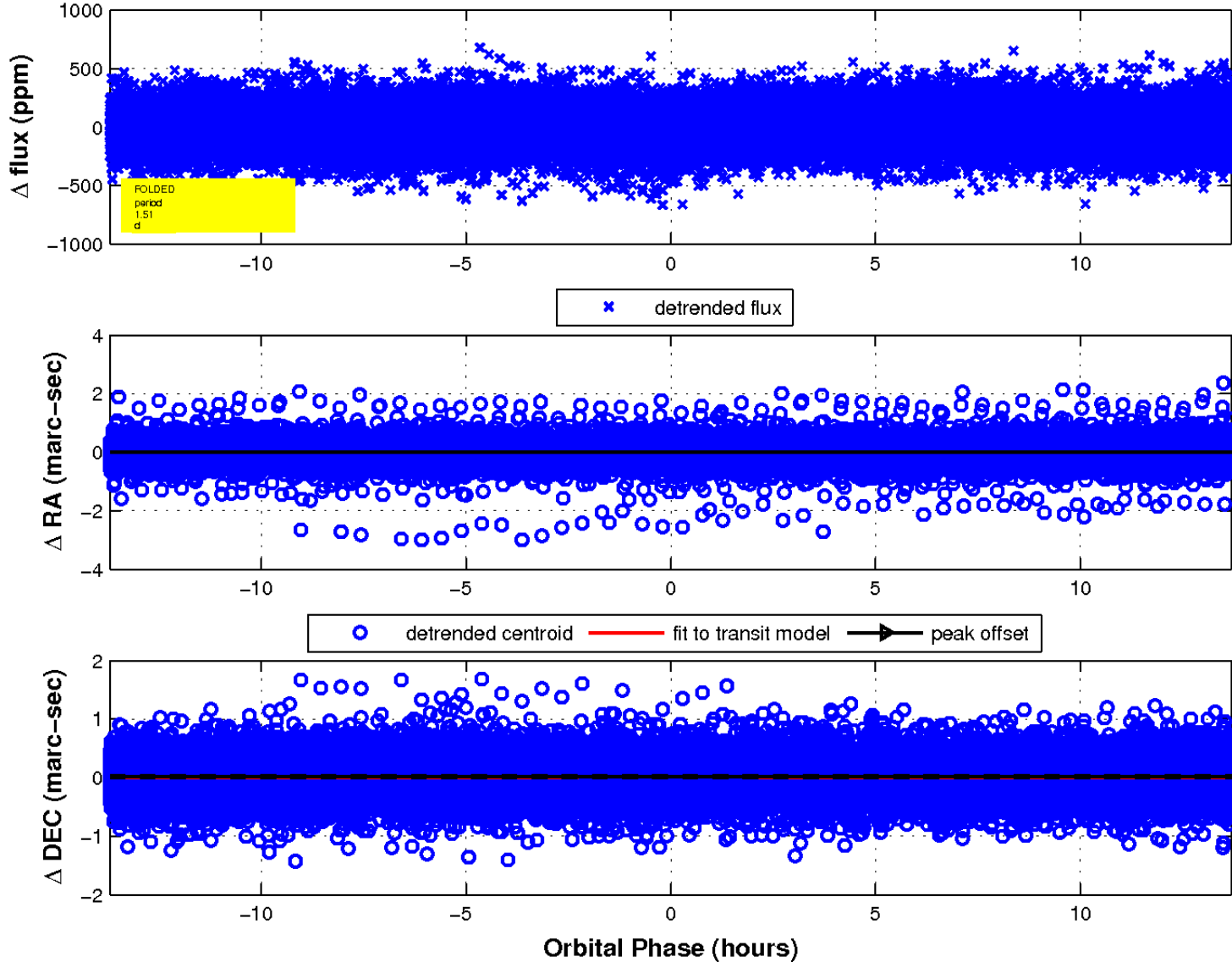
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

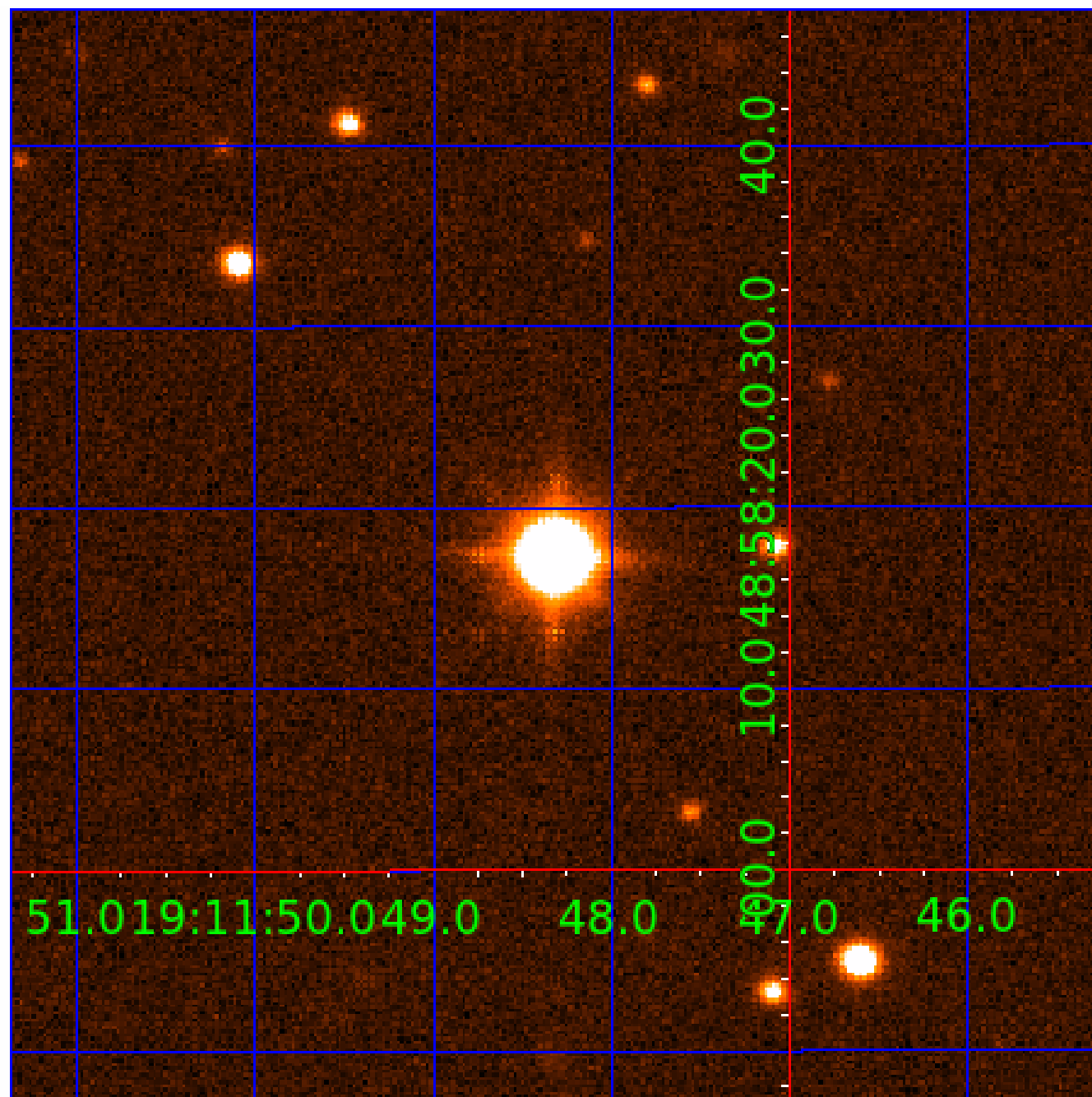


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 011236745

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})
011236745-01	OBS	No	1.510716	133.033299	26.5	4.563	9.5	8.8	1.35	6706	0.81	4460.60
011236745-02	OBS	No	337.183832	341.934958	326.5	2.637	9.9	8.7	1.35	6706	2.54	3.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011236745-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_SATURATED
011236745-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_SATURATED

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

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

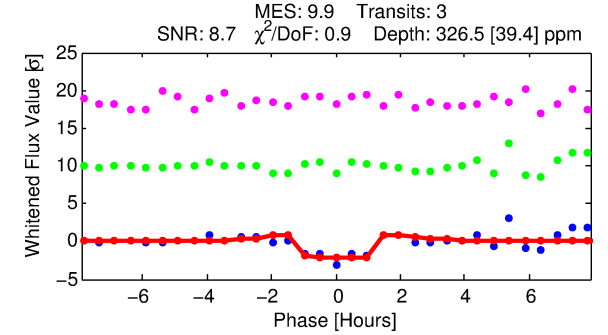
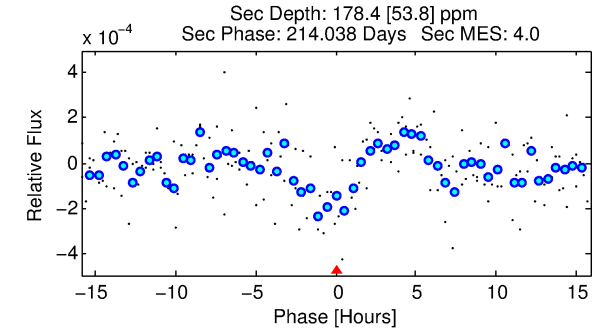
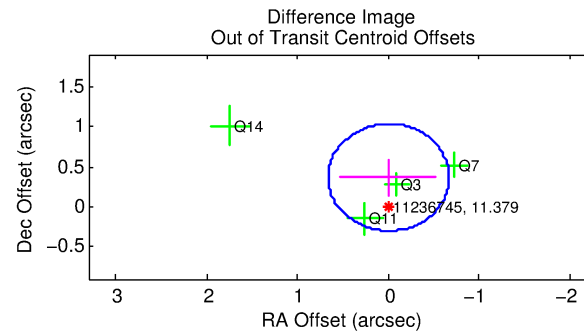
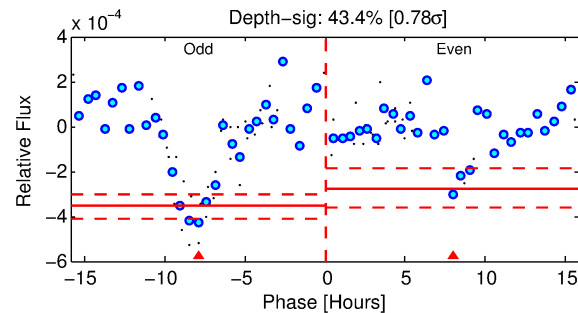
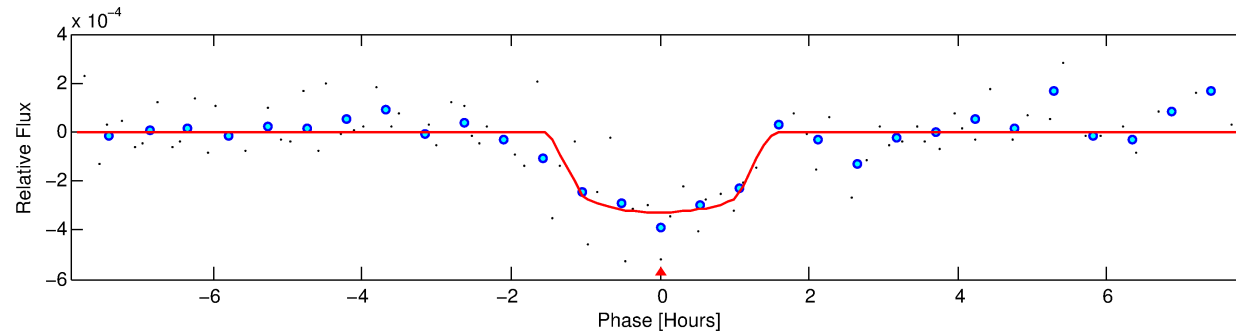
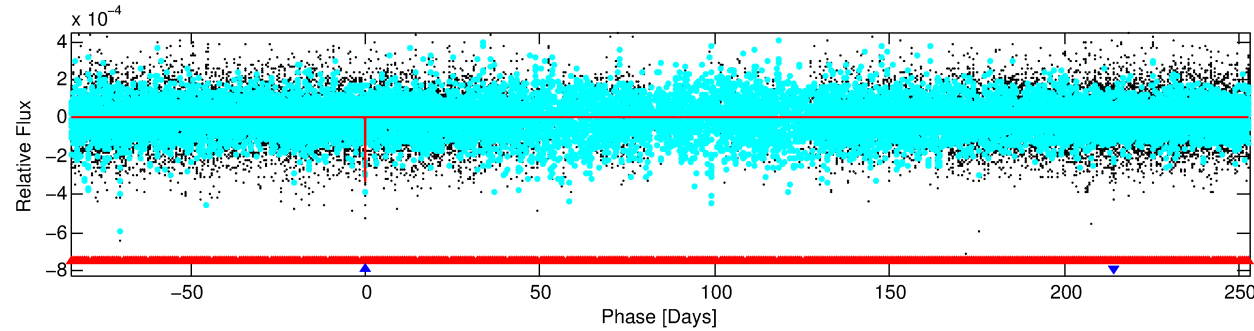
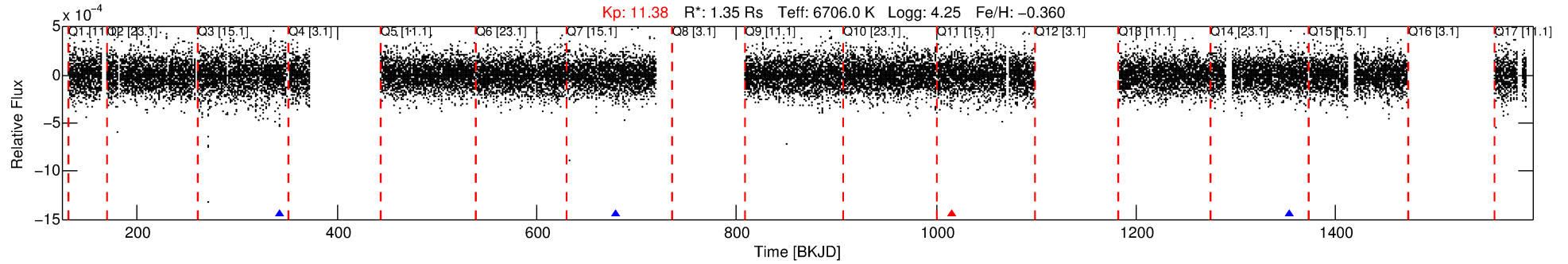
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011236745-02

No Significant Match Found

DV One-Page Summary

KIC: 11236745 Candidate: 2 of 2 Period: 337.184 d



DV Fit Results:

Period = 337.18383 [0.00370] d
Epoch = 341.9350 [0.0050] BKJD
Rp/R* = 0.0173 [0.0172]
a/R* = 832.41 [4565.85]
b = 0.56 [6.91]
Seff = 3.29 [1.22]
Teq = 344 [32] K
Rp = 2.55 [2.65] Re
a = 1.0011 [0.2408] AU
Ag = 15186.97 [31044.89] [0.49σ]
Teffp = 5896 [2981] K [1.86σ]

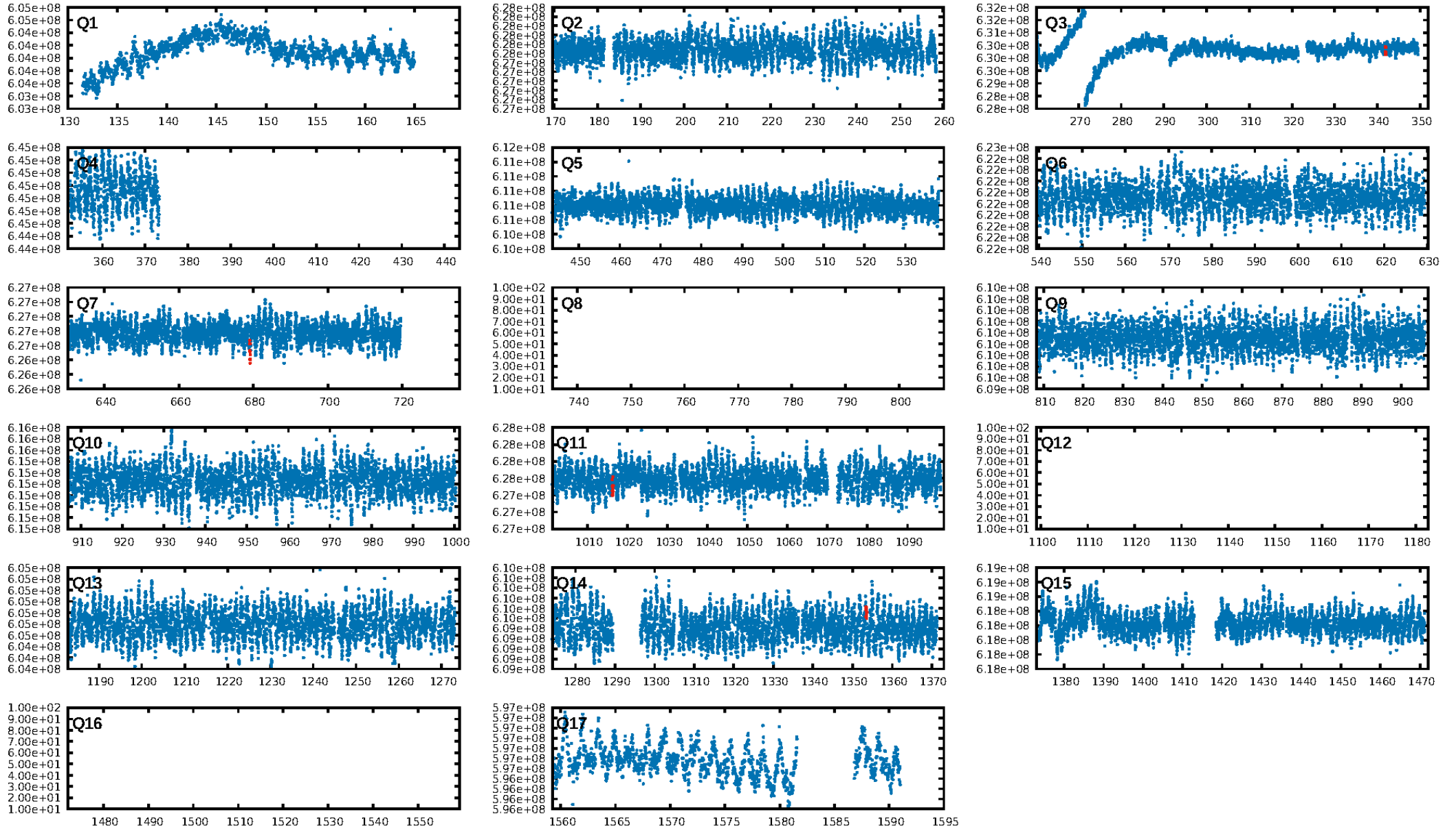
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1528.60σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 12.2%
ModelChiSquareGof-sig: 96.7%
Bootstrap-pfa: 6.89e-17
RollingBand-fgt: 0.67 [2/3]
GhostDiagnostic-chr: 1.411
Centroid-sig: 30.4%
Centroid-so: 0.554 arcsec [1.03σ]
OotOffset-rm: 0.366 arcsec [1.65σ]
KicOffset-rm: 0.422 arcsec [1.96σ]
OotOffset-st: 1/3/0/0 [4]
KicOffset-st: 1/3/0/0 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.75 [3/4]

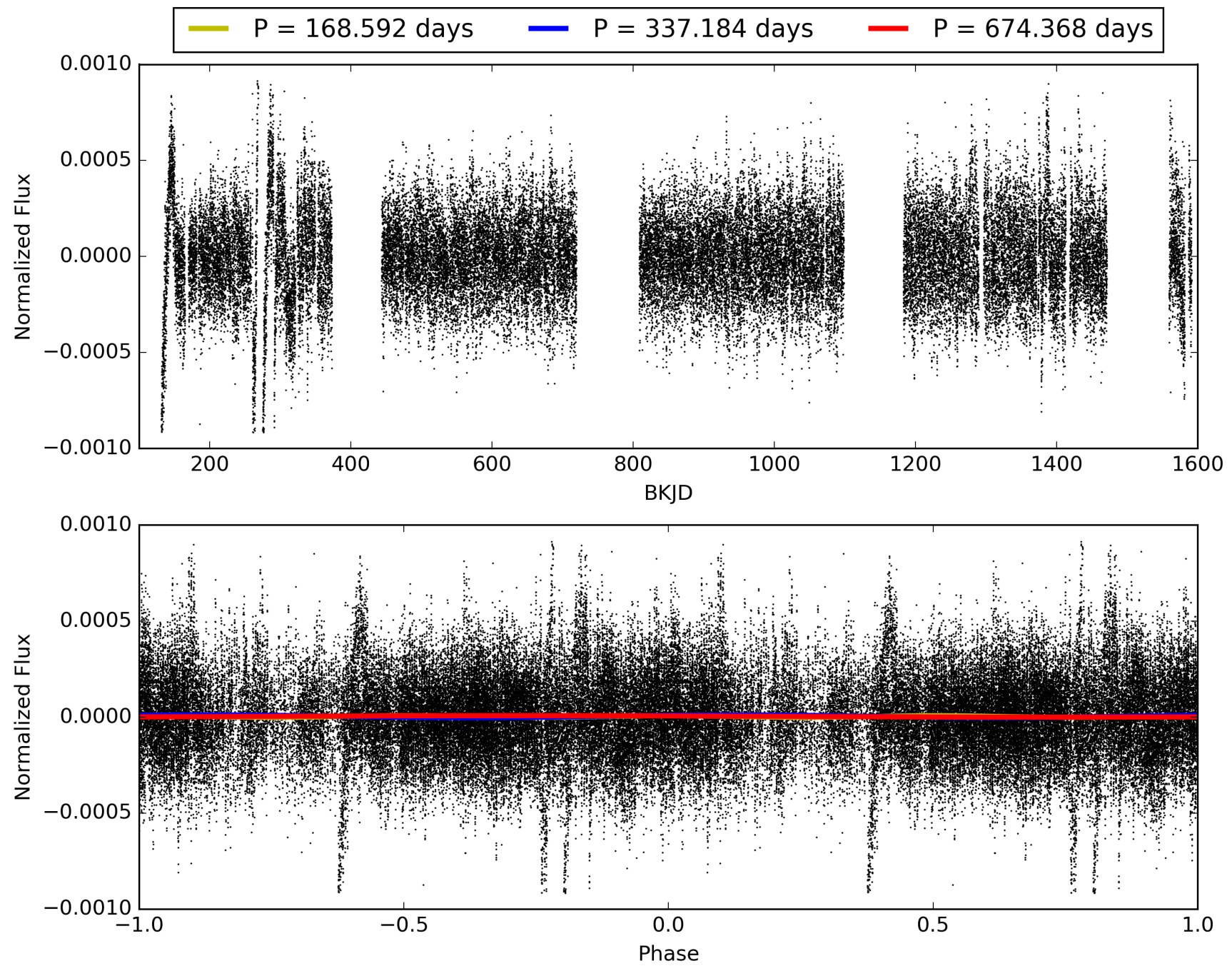
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:24:13 Z

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

TCE 011236745-02, PDC Light Curves

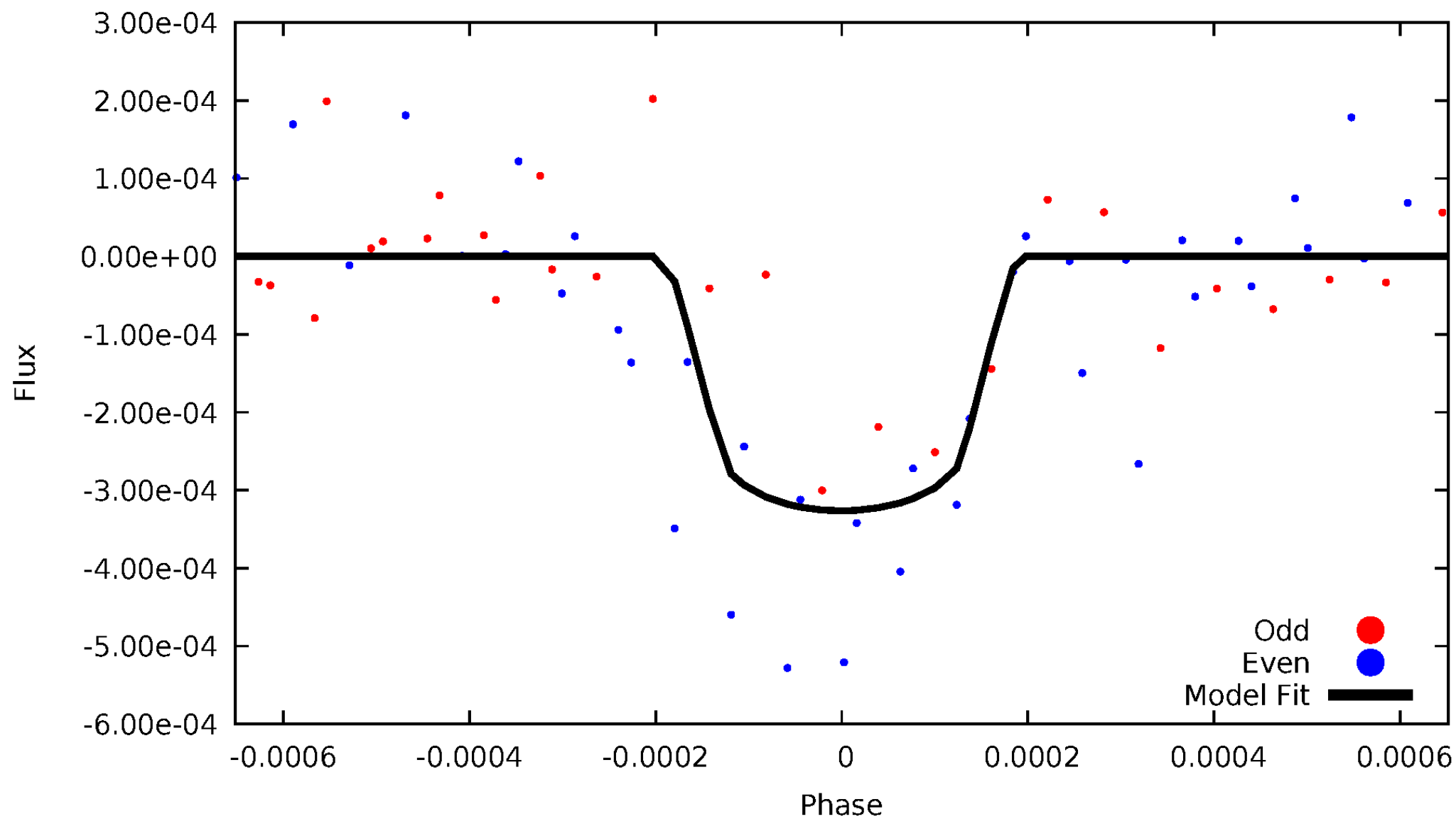


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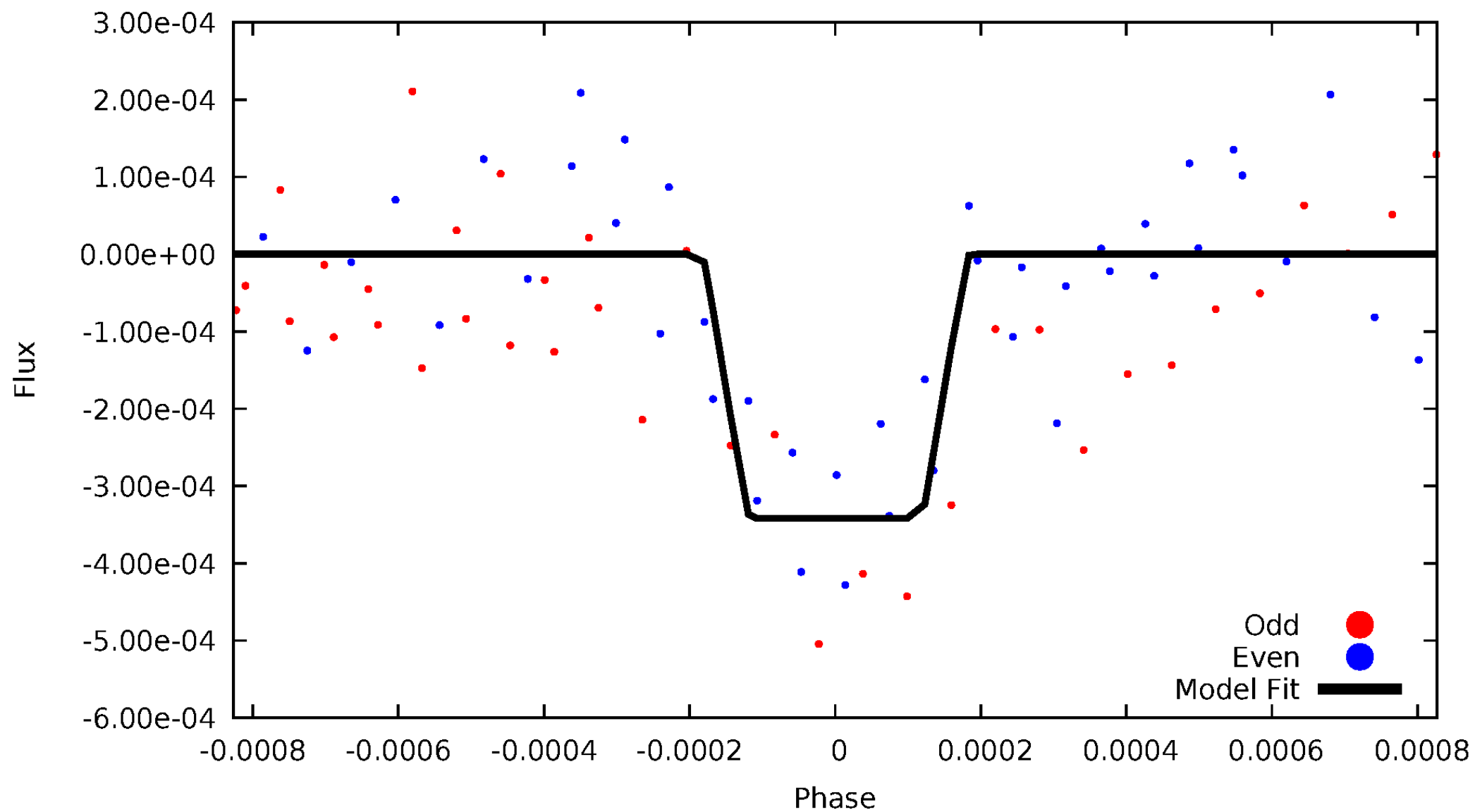
DV Odd/Even

TCE 011236745-02



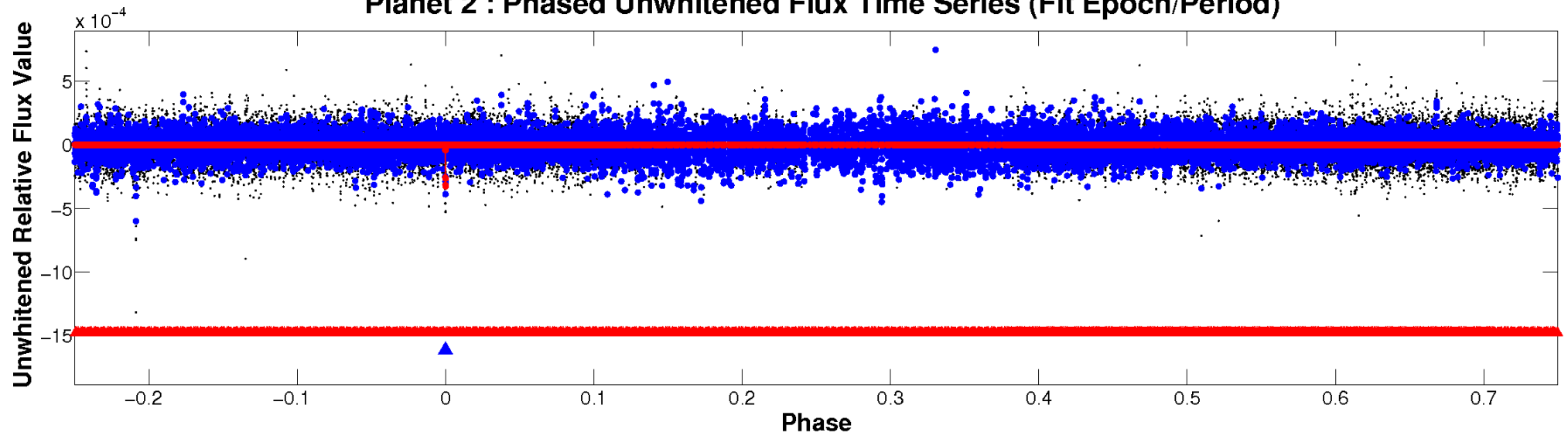
ALT Odd/Even

TCE 011236745-02

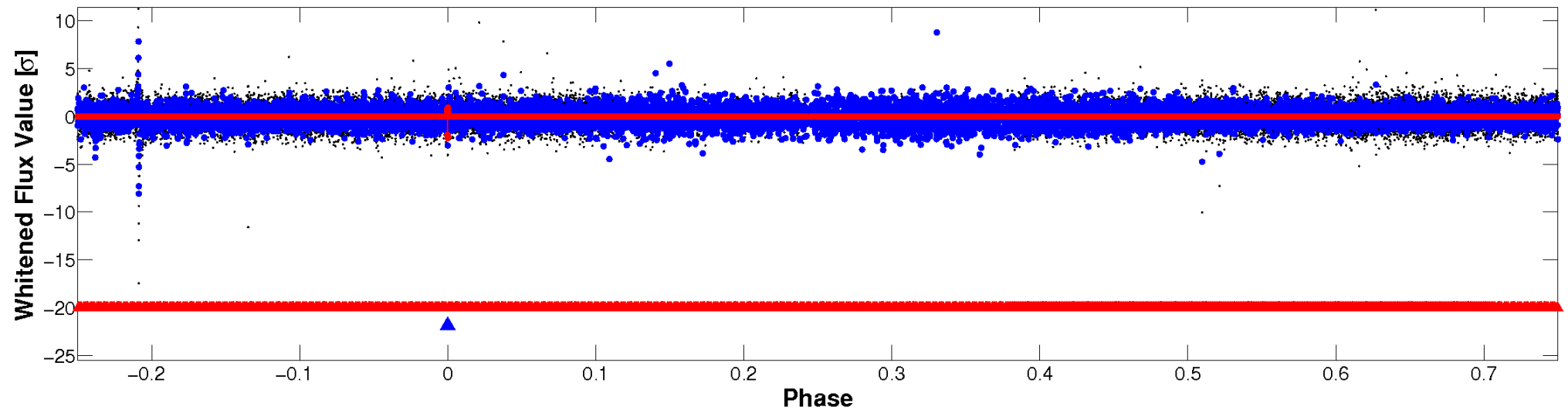


Non-Whitened Vs. Whitened Light Curve

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

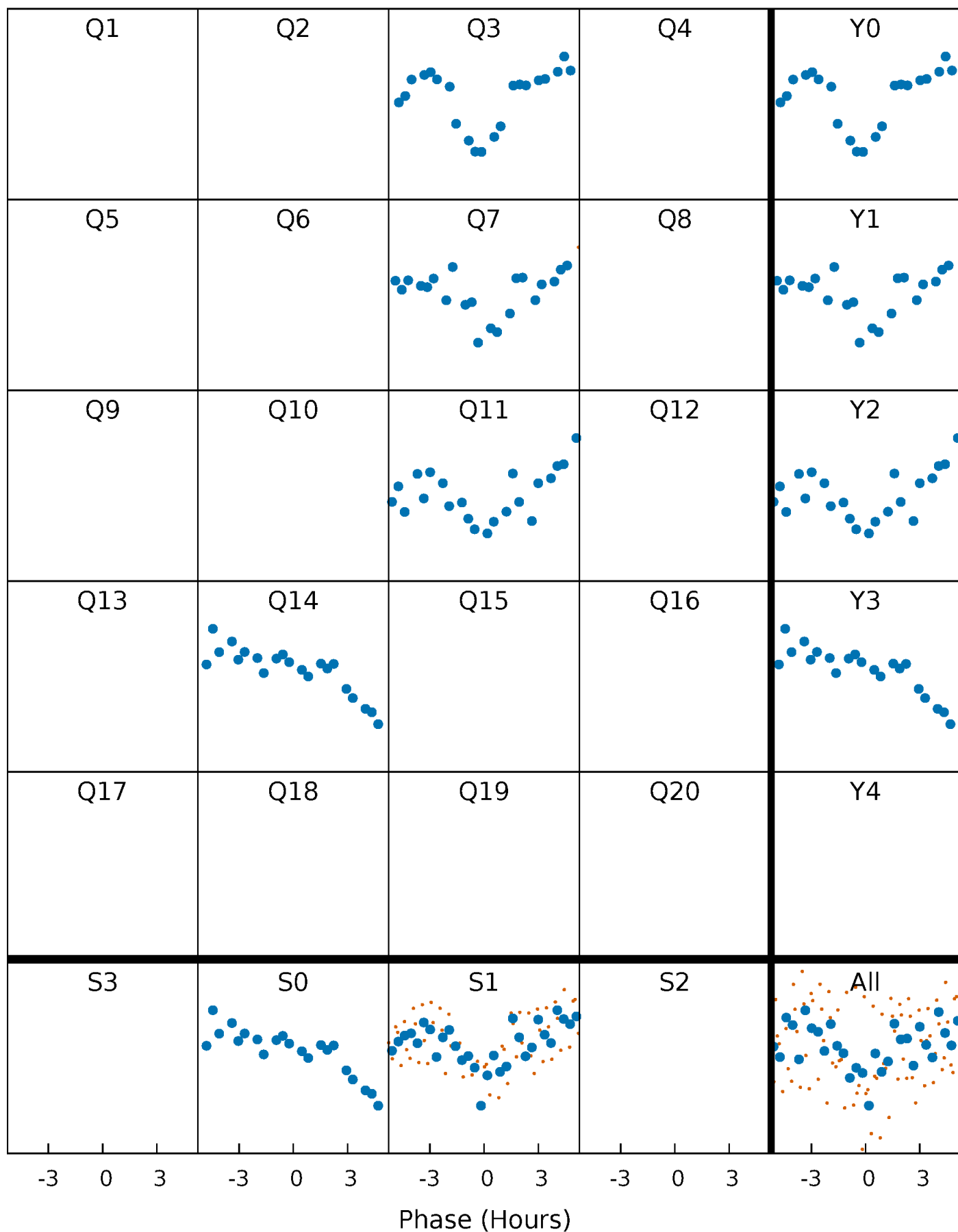


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



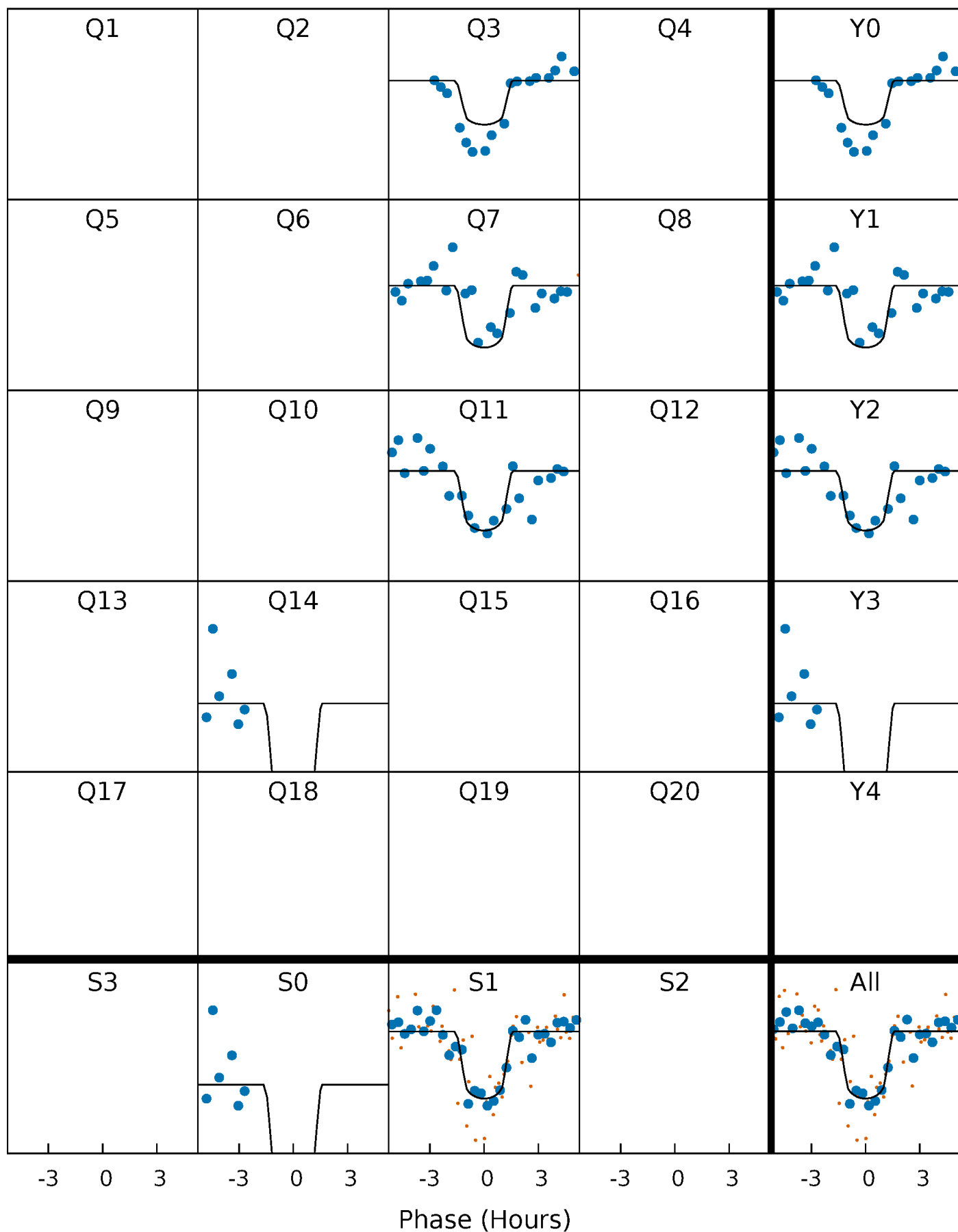
PDC Quarter-Phased Transit Curves

TCE 011236745-02 P=337.183832 Days $T_0=341.934958$ (BKJD)



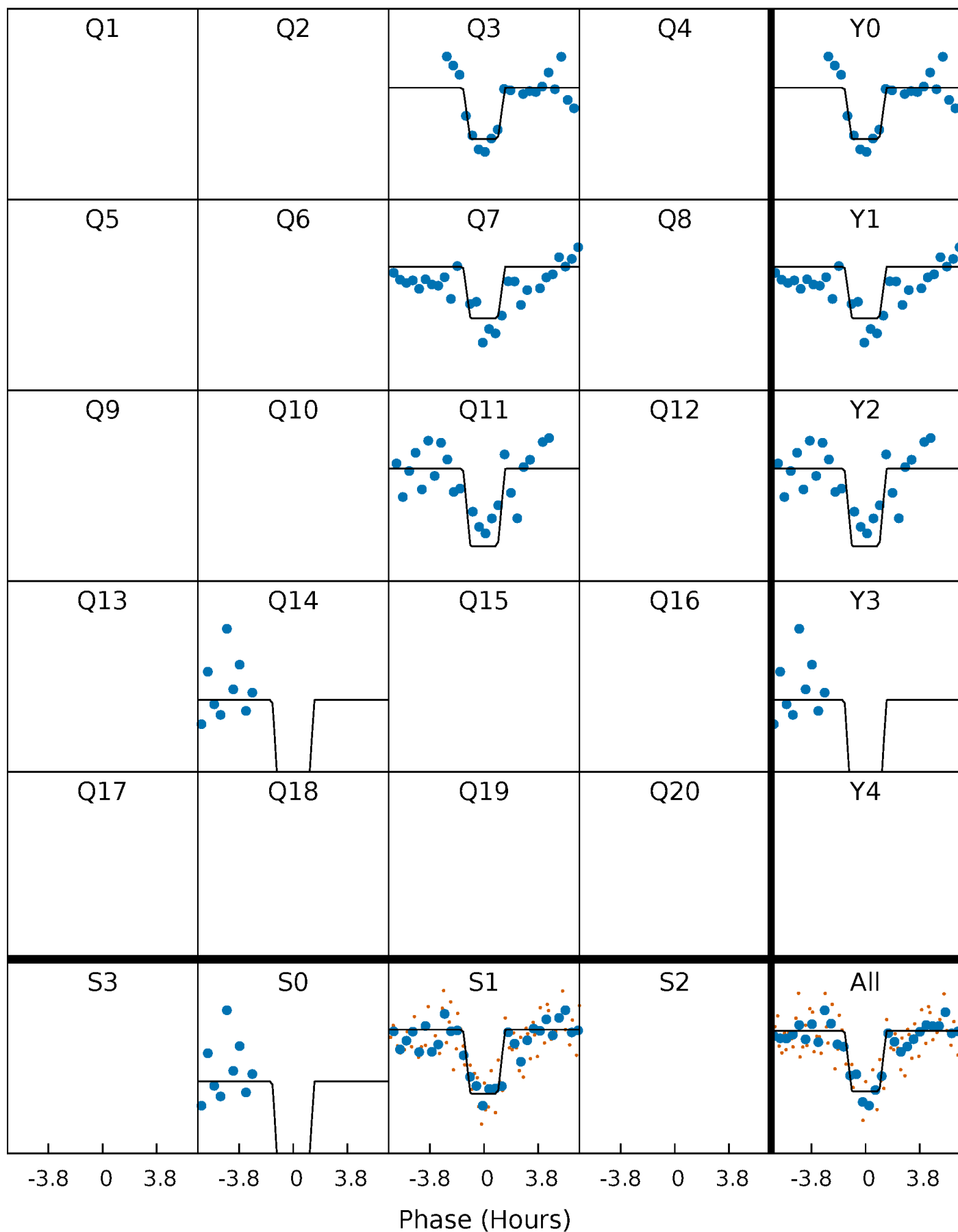
DV Quarter-Phased Transit Curves

TCE 011236745-02 $P=337.183832$ Days $T_0=341.934958$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

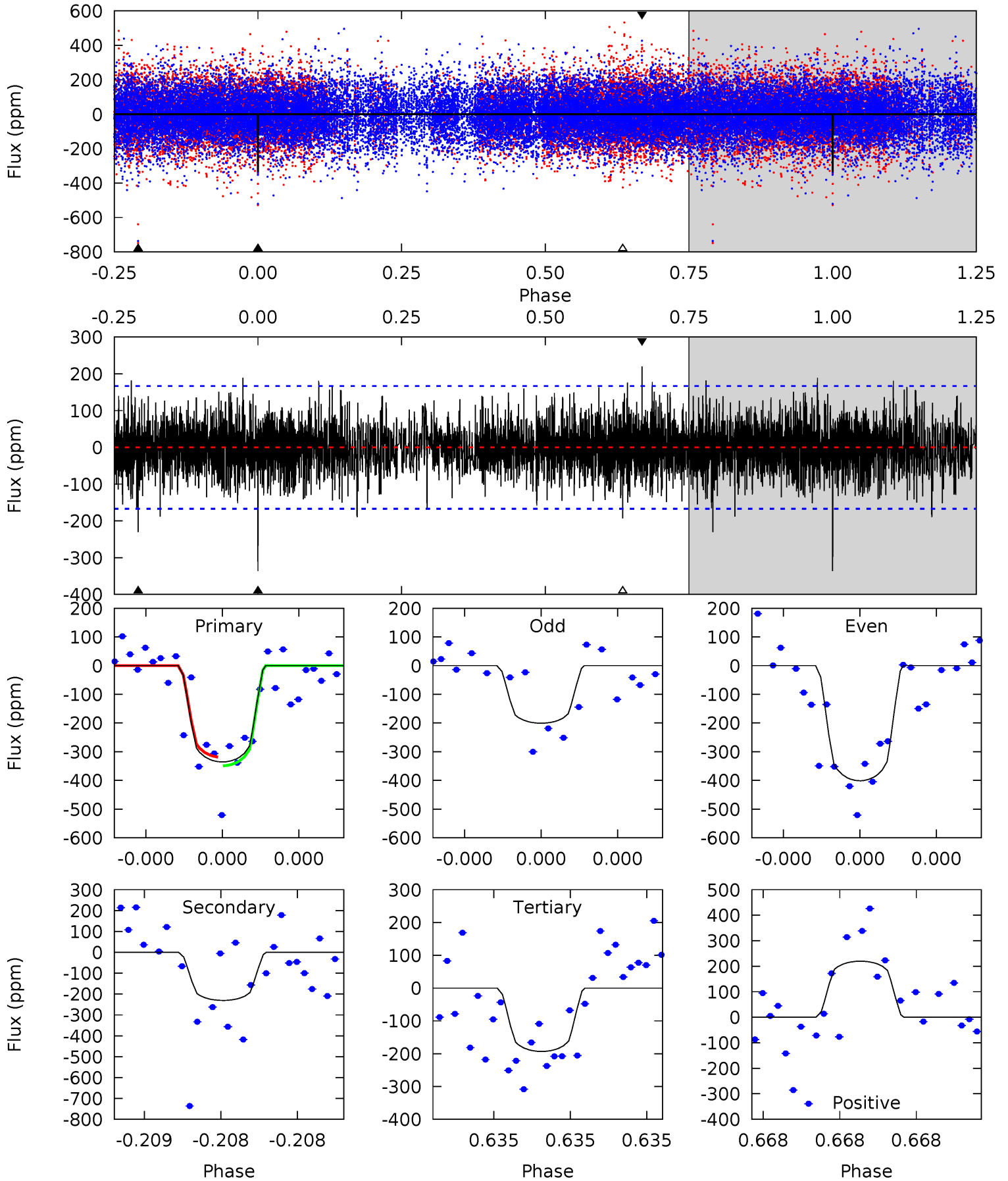
TCE 011236745-02 P=337.188180 Days $T_0=341.931059$ (BKJD)



DV Model-Shift Uniqueness Test

011236745-02, P = 337.183832 Days, E = 4.751126 Days

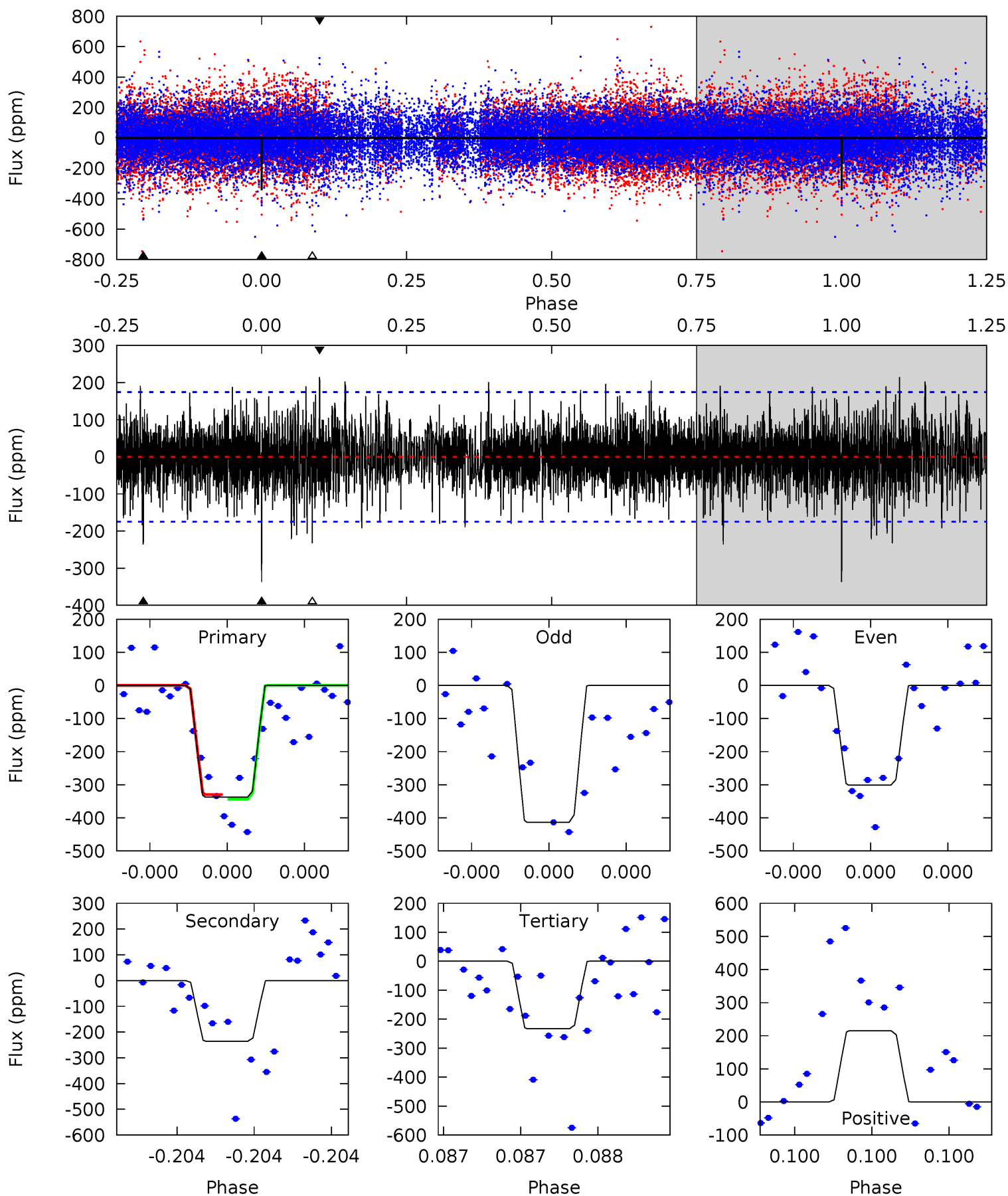
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	7.79	6.52	7.42	5.64	3.58	1.78	4.82	3.91	1.27	0.36	3.36	1.08	0.40	0.51



Alt Model-Shift Uniqueness Test

011236745-02, P = 337.188180 Days, E = 4.742879 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	7.58	7.50	6.91	5.62	3.56	1.77	3.36	3.95	0.08	0.67	1.75	0.90	0.39	0.22



Stellar Parameters For KIC 011236745

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6706^{+189}_{-260}	$4.248^{+0.144}_{-0.176}$	$-0.360^{+0.250}_{-0.300}$	$1.350^{+0.403}_{-0.268}$	$1.183^{+0.175}_{-0.175}$	$0.678^{+0.482}_{-0.326}$
	+3%/-4%	+3%/-4%	+69%/-83%	+30%/-20%	+15%/-15%	+71%/-48%
Source	PHO54	PHO54	PHO54	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 011236745-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-231 ± 30	$2.98^{+2.55}_{-1.84}$	480^{+37}_{-32}	5860^{+4329}_{-1412}	14399^{+80202}_{-10355}
Alt.	-235 ± 31	$3.15^{+2.44}_{-2.04}$	479^{+36}_{-31}	5652^{+4801}_{-1217}	13651^{+91451}_{-9525}

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

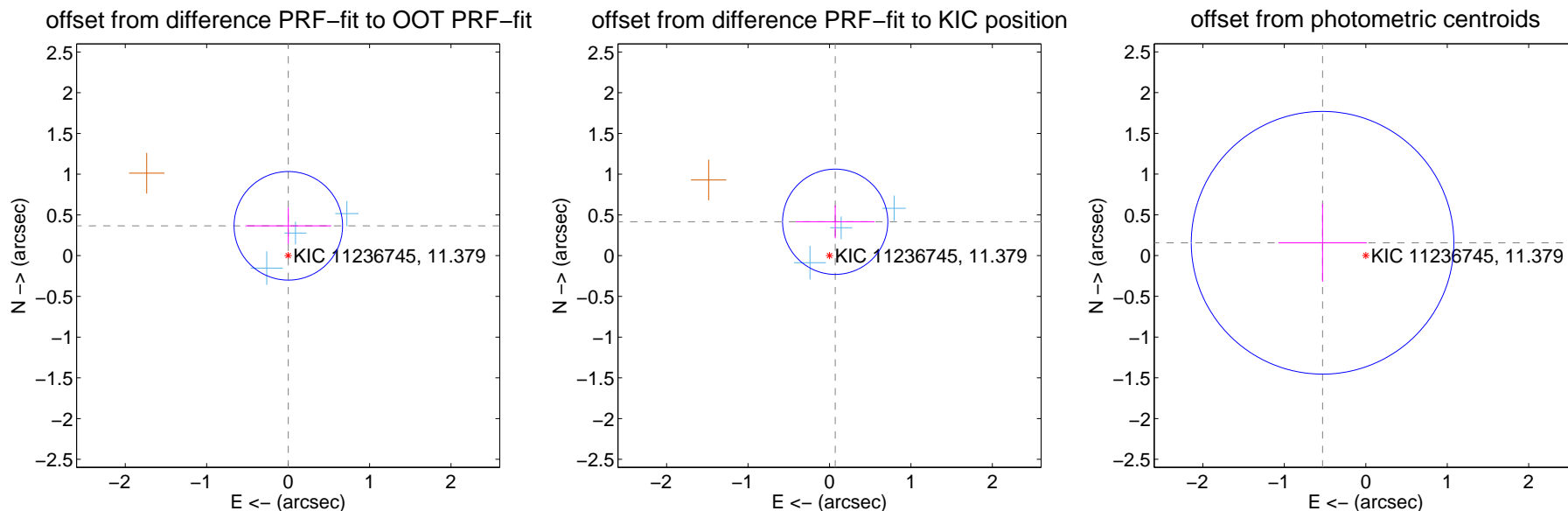
DV Centroid Data

Supplemental centroid analysis for 011236745-02. **Kepler magnitude: 11.38.** Transit SNR 8.70

There are 3 quarters with good PRF difference image offsets

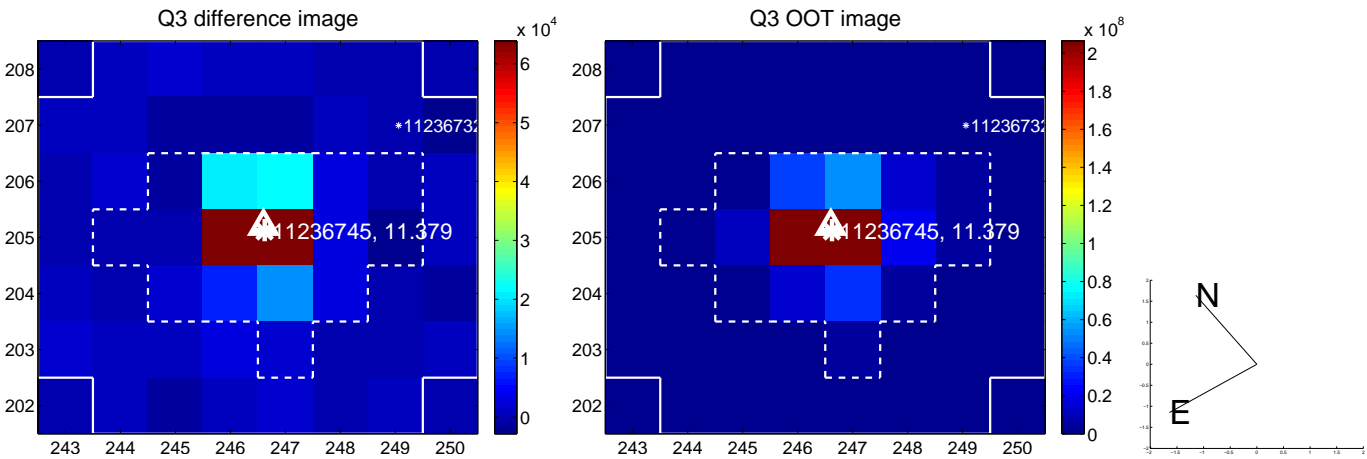
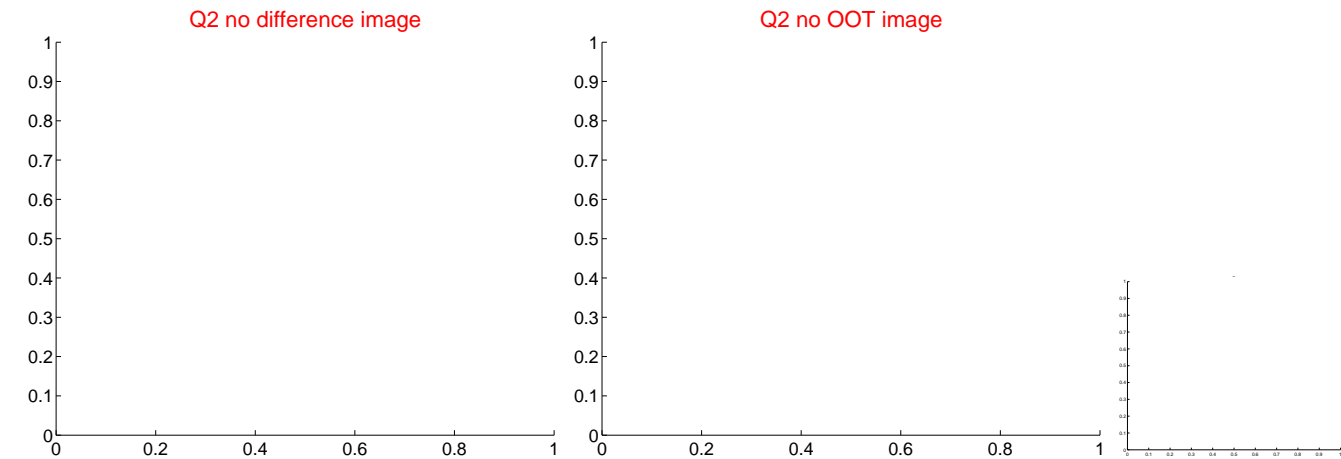
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.366 ± 0.222	1.65	-0.002 ± 0.525	0.366 ± 0.222
PRF-fit source offset from KIC position	0.422 ± 0.215	1.96	-0.070 ± 0.482	0.416 ± 0.203
photometric centroid source offset	0.55 ± 0.54	1.03	0.53 ± 0.54	0.16 ± 0.48

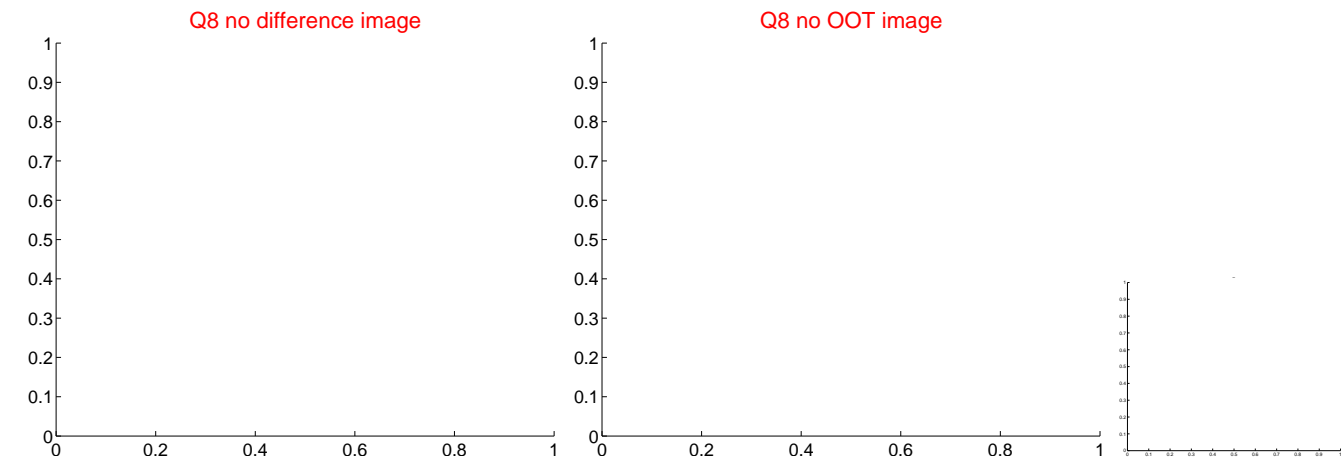
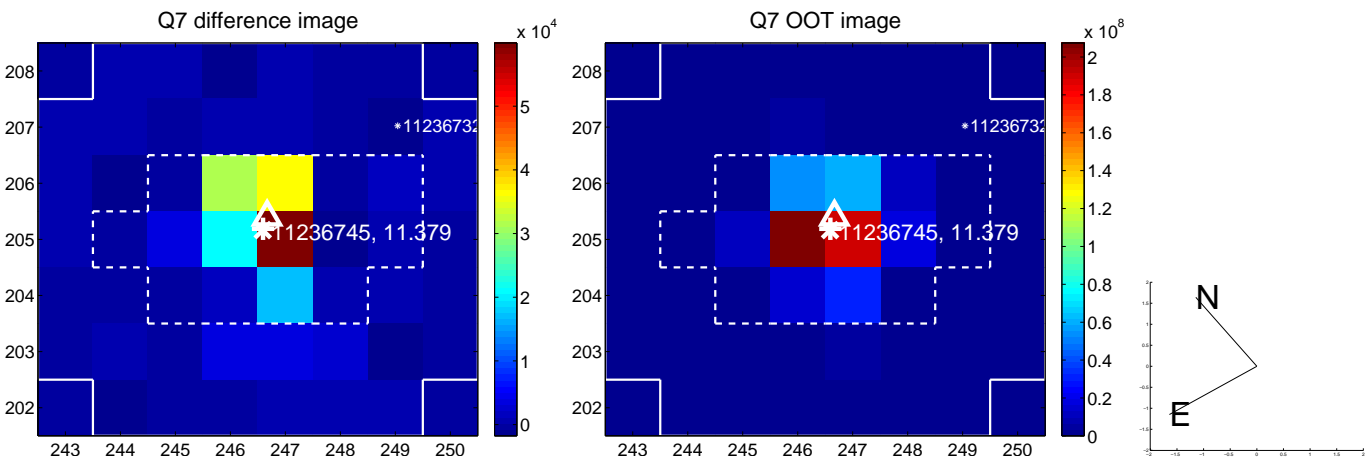
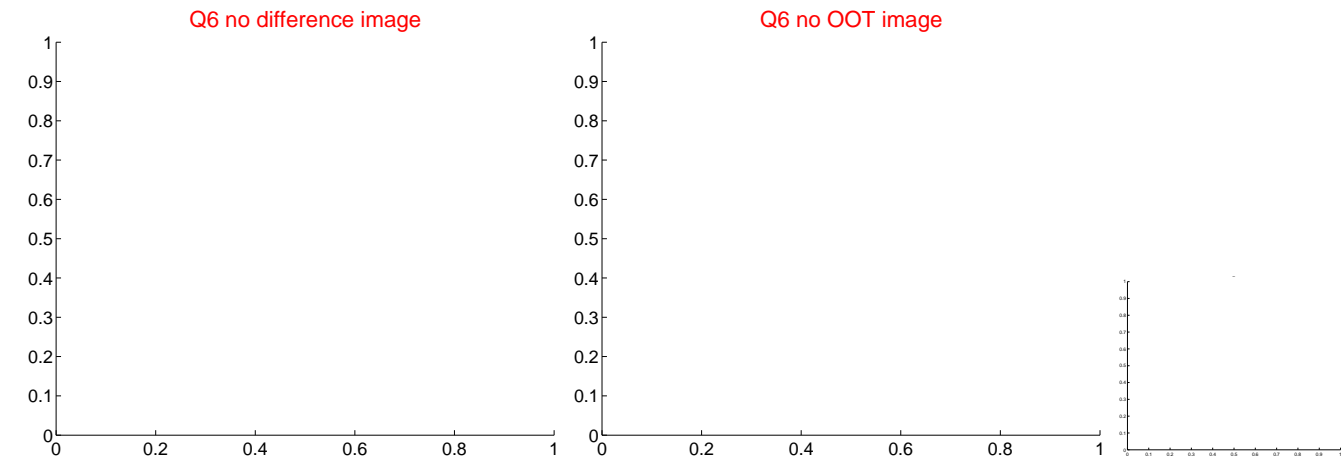


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

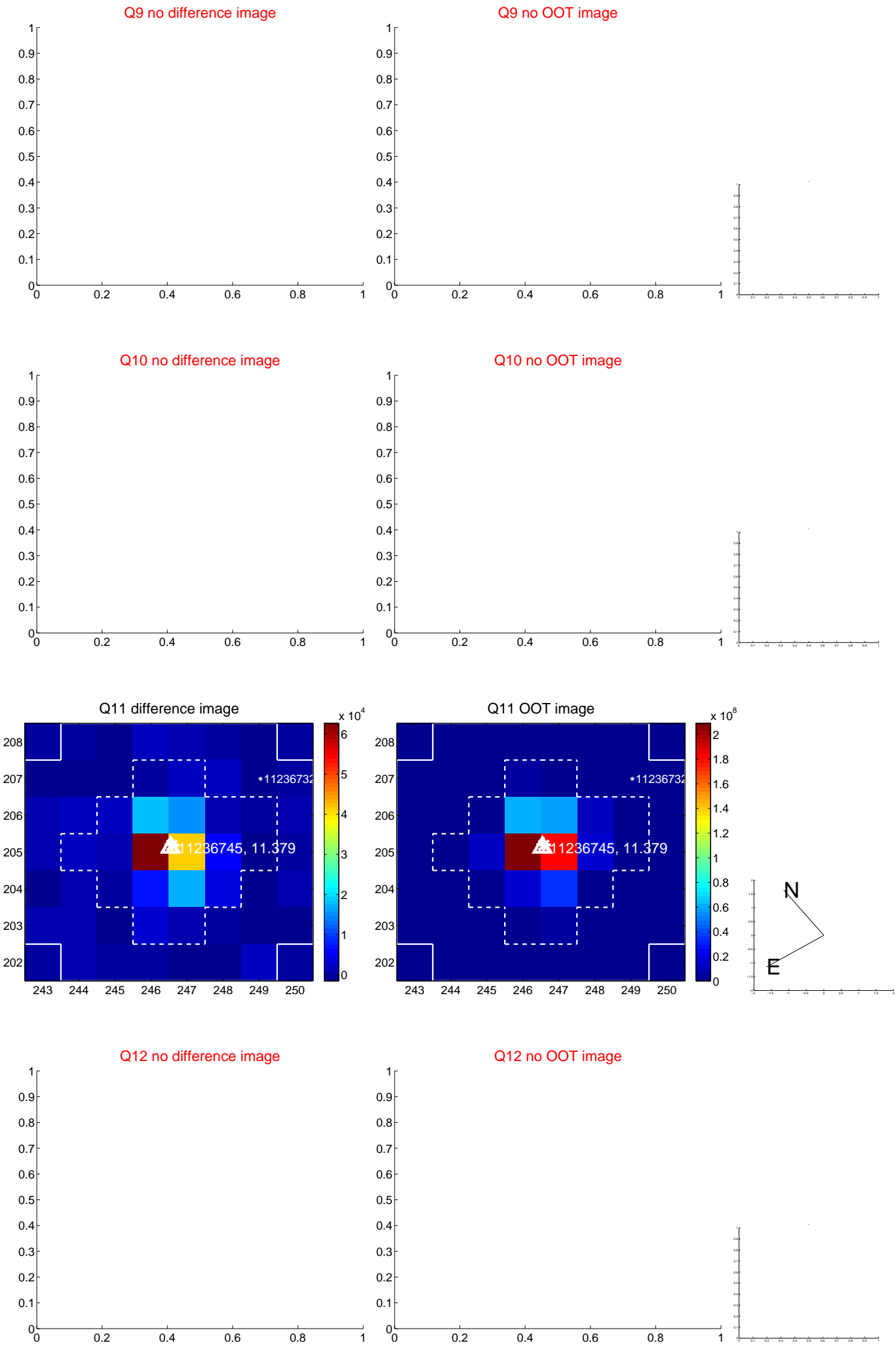
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

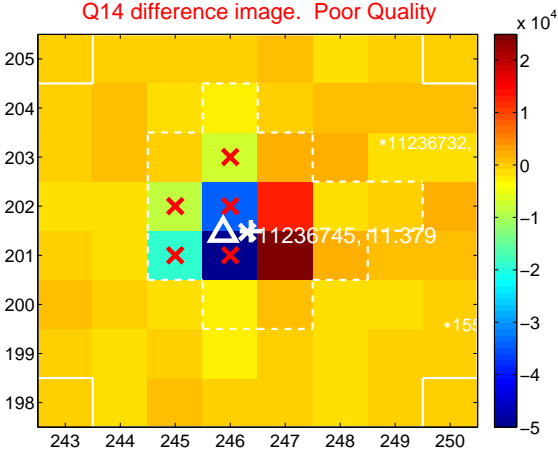
Q13 no difference image



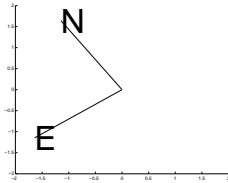
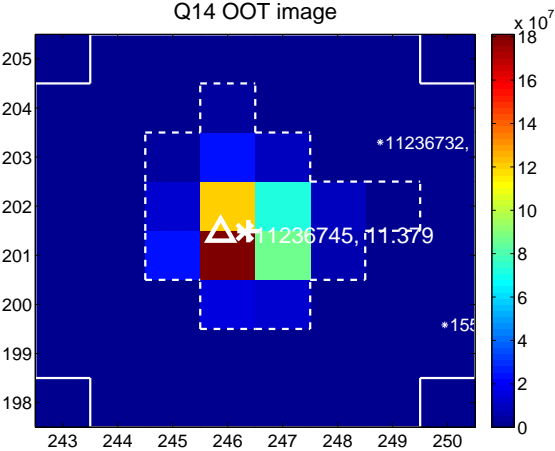
Q13 no OOT image



Q14 difference image. Poor Quality



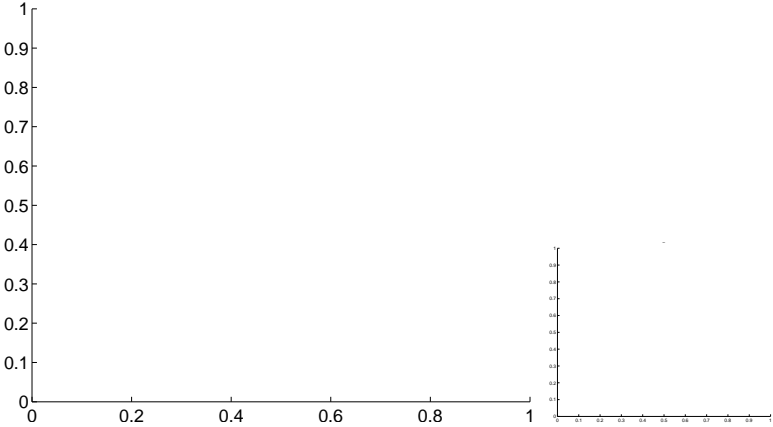
Q14 OOT image



Q15 no difference image



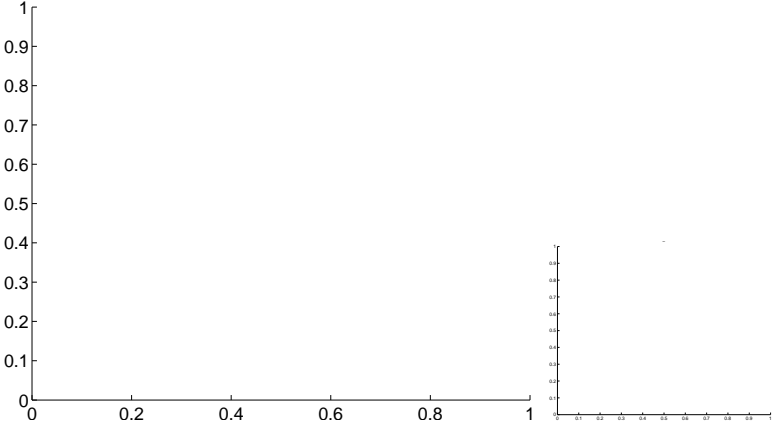
Q15 no OOT image



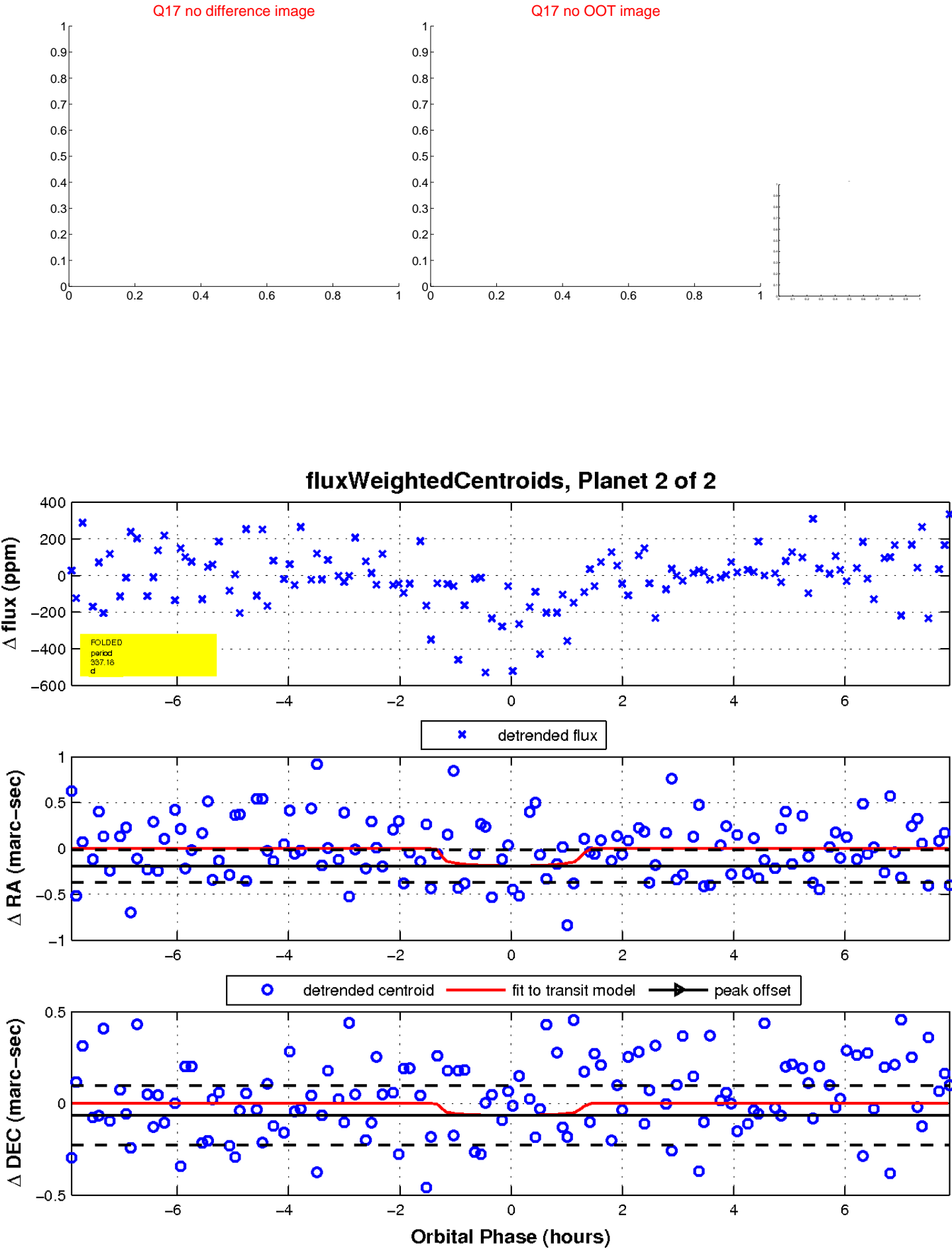
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

