

KIC 005372348

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})
005372348-01	OBS	No	0.688711	131.658741	0.0	2.923	7.8	0.0	1.56	7272	0.01	20045.87
005372348-02	OBS	No	1.032775	131.975921	248.3	4.462	10.6	11.7	1.56	7272	4.69	11678.83
005372348-03	OBS	No	122.571419	221.700713	1983.8	6.170	12.0	13.7	1.56	7272	8.57	20.02
005372348-04	OBS	No	74.517762	198.741053	1793.2	4.814	12.0	10.0	1.56	7272	11.22	38.88
005372348-05	OBS	No	79.148608	145.073978	1724.7	6.601	9.5	10.9	1.56	7272	11.85	35.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005372348-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
005372348-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005372348-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—MOD_NONUNIQ_ALT
005372348-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005372348-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

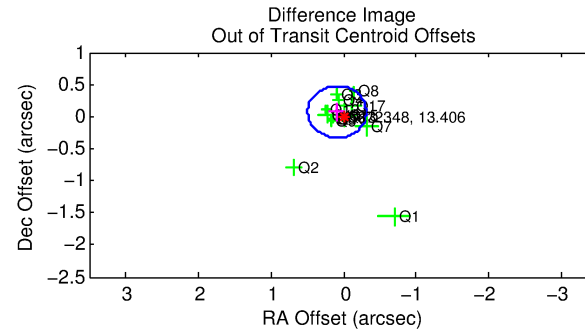
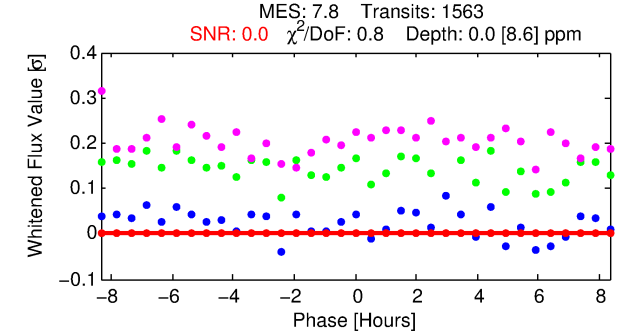
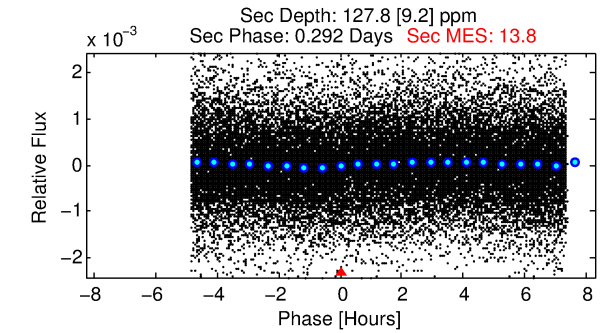
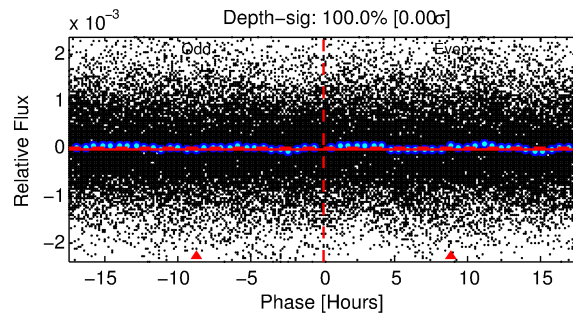
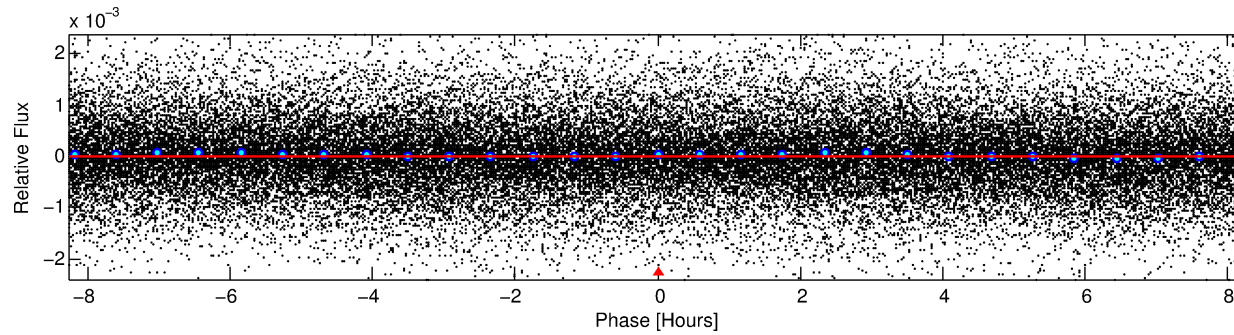
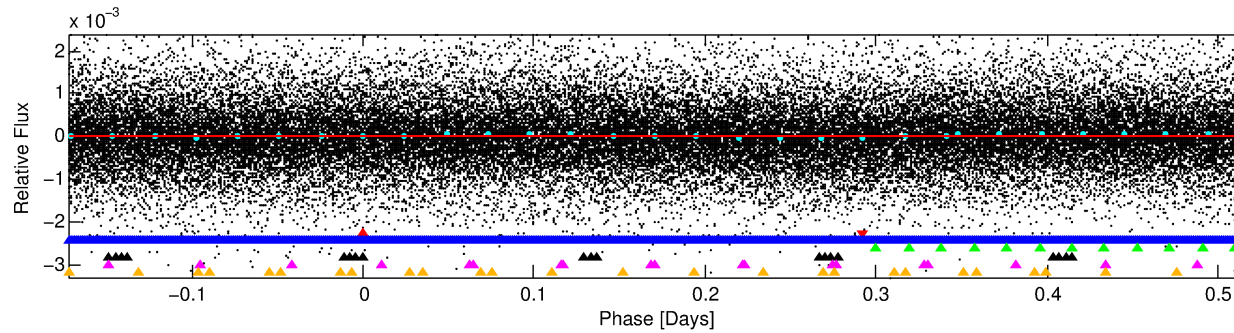
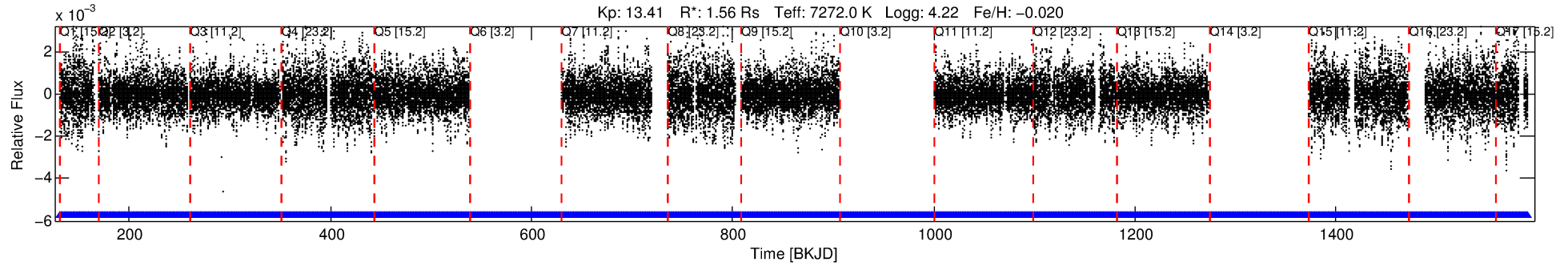
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005372348-01

No Significant Match Found

DV One-Page Summary

KIC: 5372348 Candidate: 1 of 6 Period: 0.689 d



DV Fit Results:

Period = 0.68871 [0.45563] d
Epoch = 131.6587 [58.7201] BKJD
Rp/R* = 0.0000 [0.1217]
a/R* = 1.19 [86.04]
b = 0.92 [79.67]
Seff = 20045.87 [19755.26]
Teq = 3034 [748] K
Rp = 0.01 [20.71] Re
a = 0.0174 [0.0092] AU
Ag = 438902.02 [2605536907.02] [0.00 σ]
Teff = 120744 [179215642] K [0.00 σ]

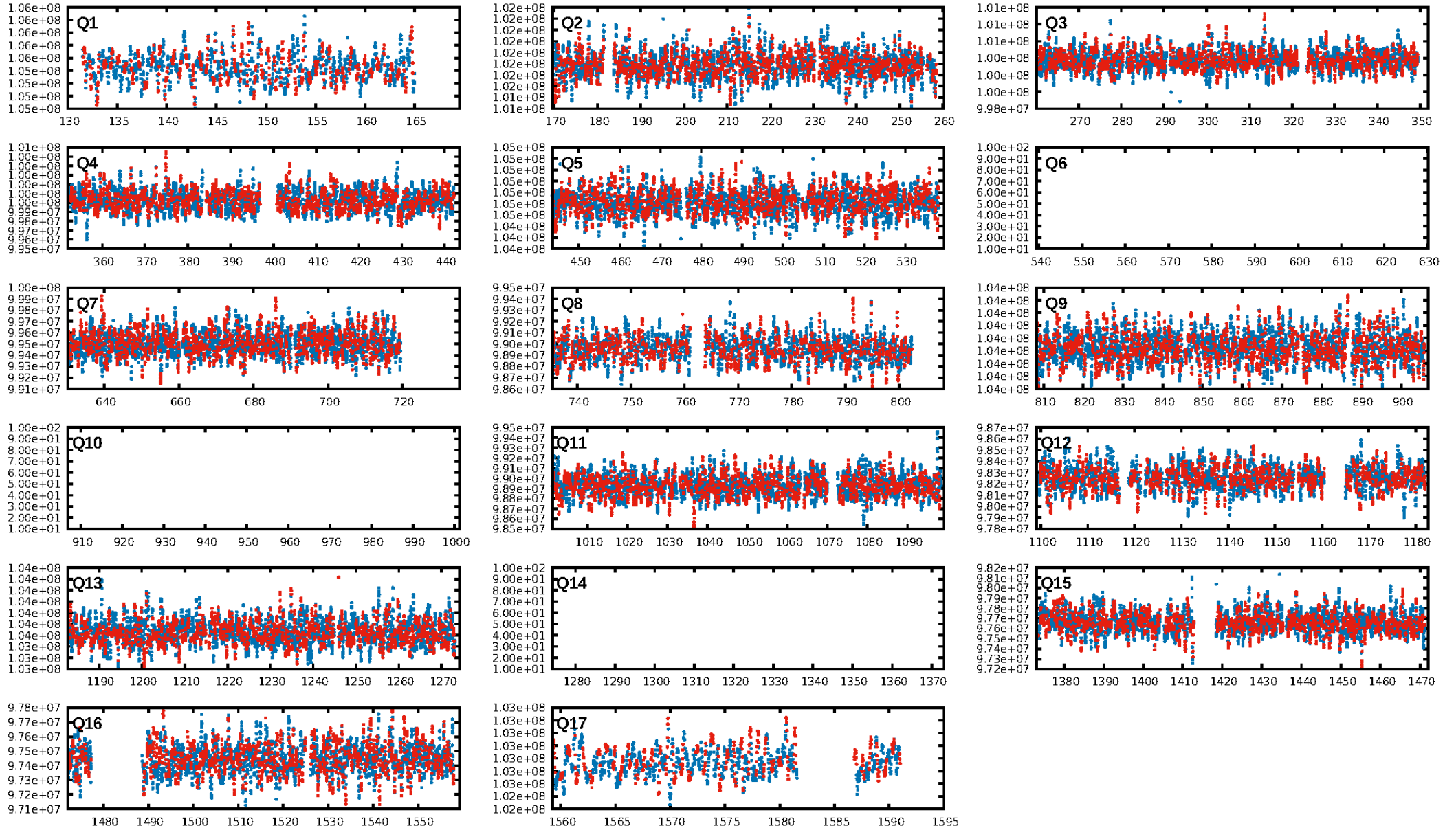
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 87.8% [1.55 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1474/1474]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
QotOffset-rm: 0.114 arcsec [0.85 σ]
KicOffset-rm: 0.262 arcsec [1.83 σ]
QotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.64 [9/14]
DiffImageOverlap-fno: 0.79 [11/14]

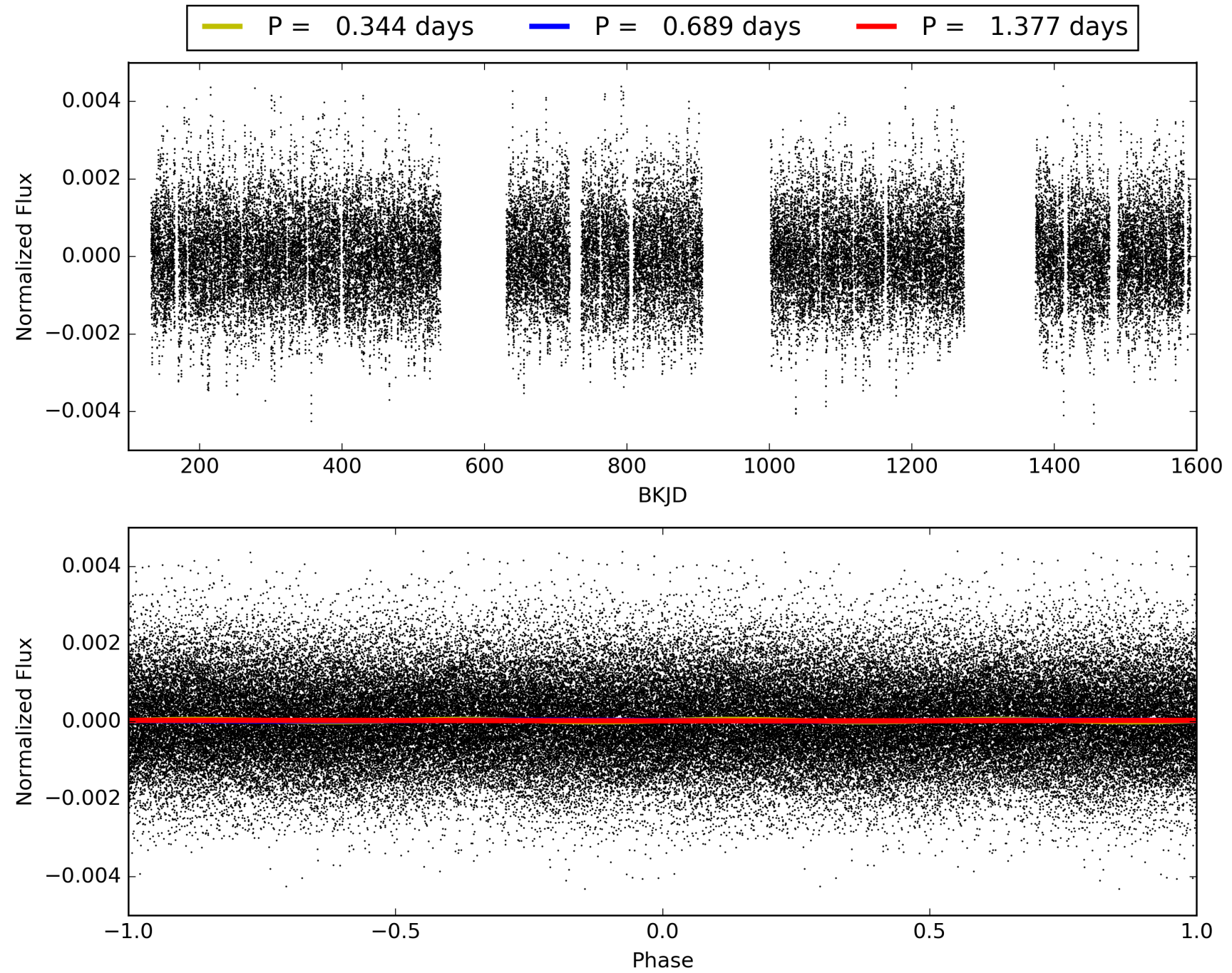
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:17:18 Z

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

TCE 005372348-01, PDC Light Curves

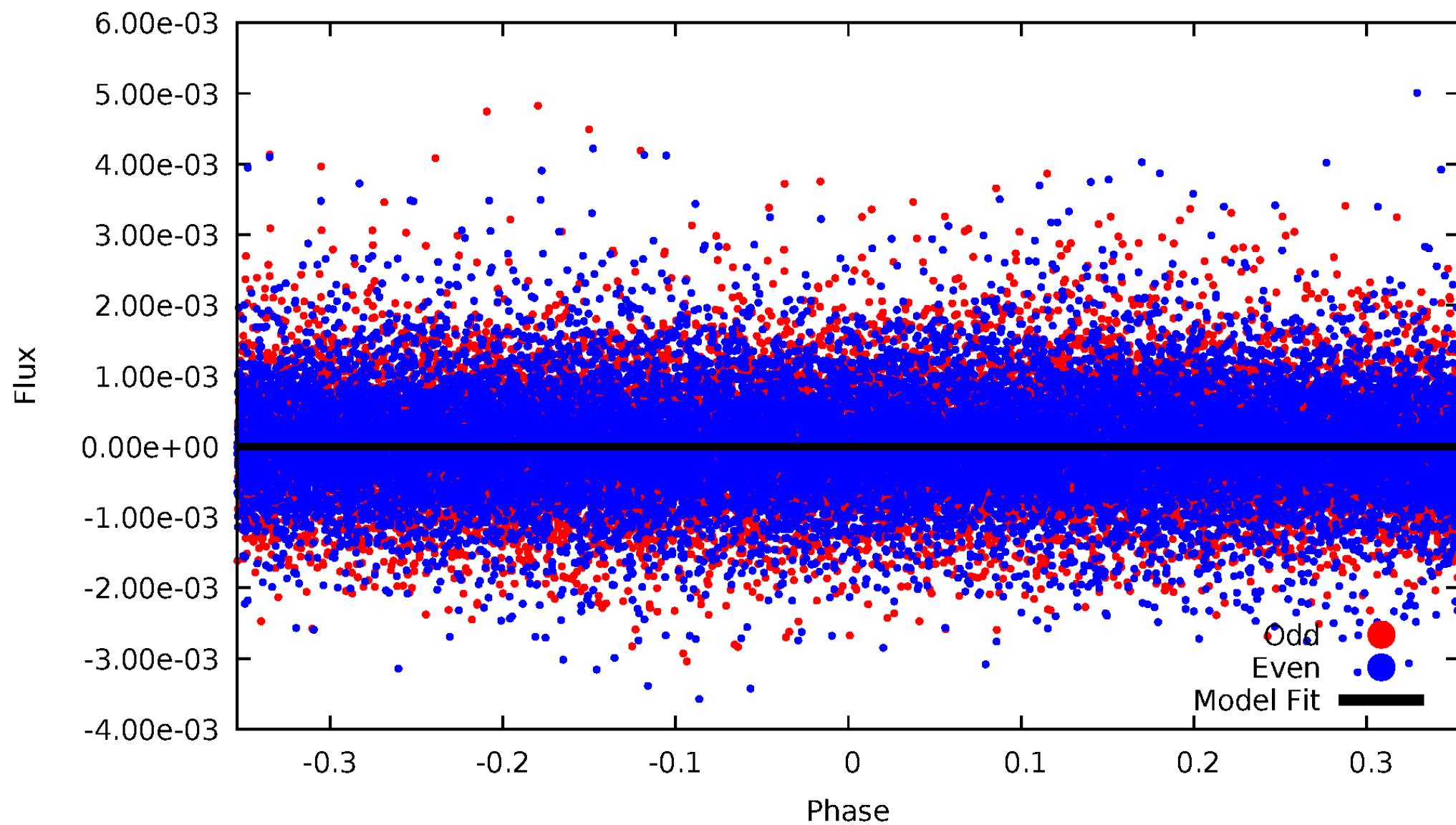


TCE 005372348-01



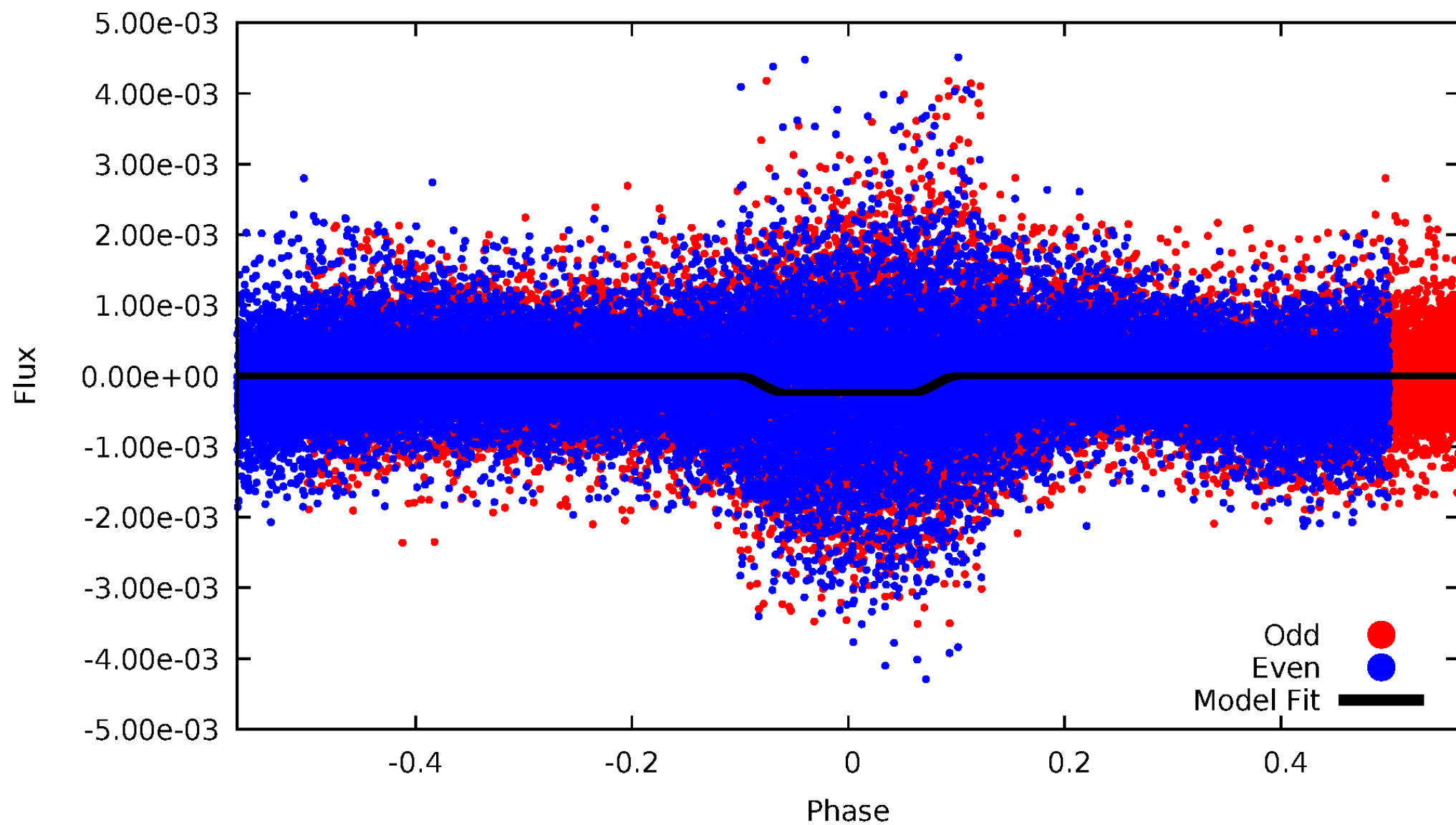
DV Odd/Even

TCE 005372348-01



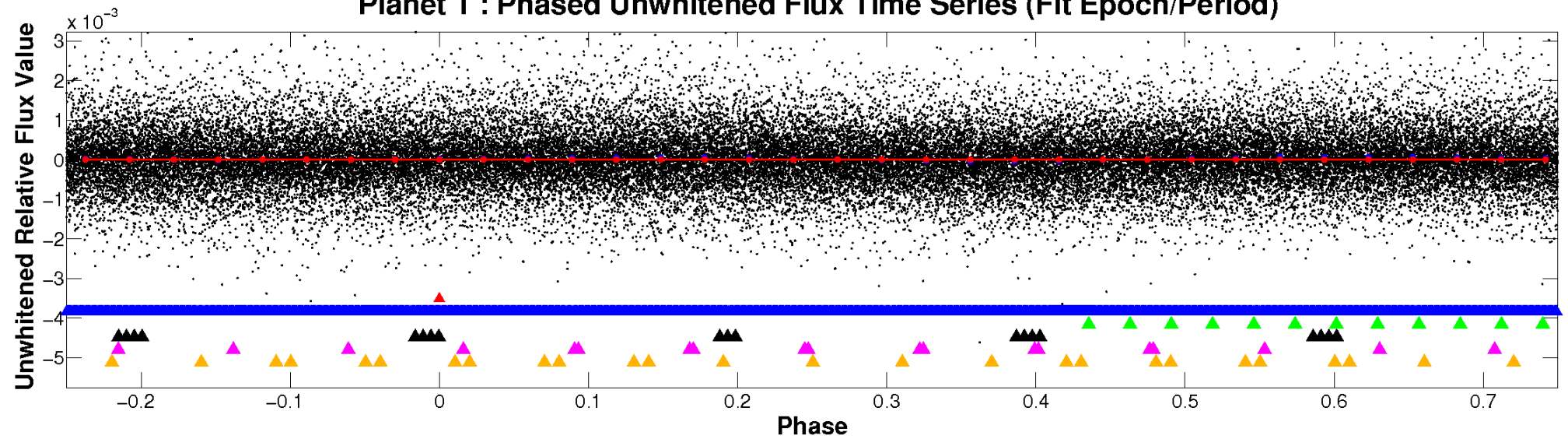
ALT Odd/Even

TCE 005372348-01

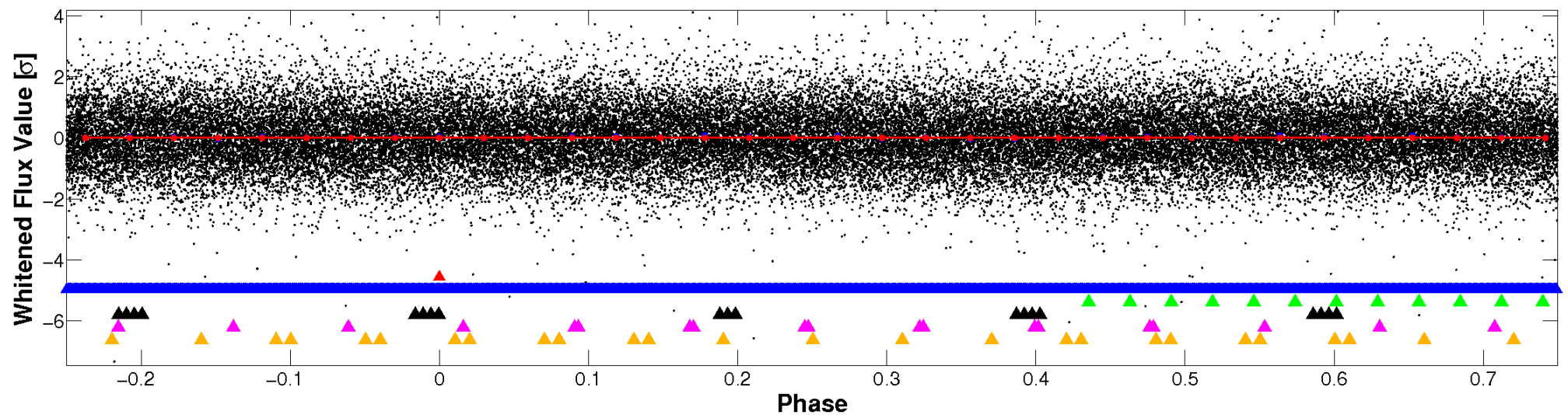


Non-Whitened Vs. Whitened Light Curve

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

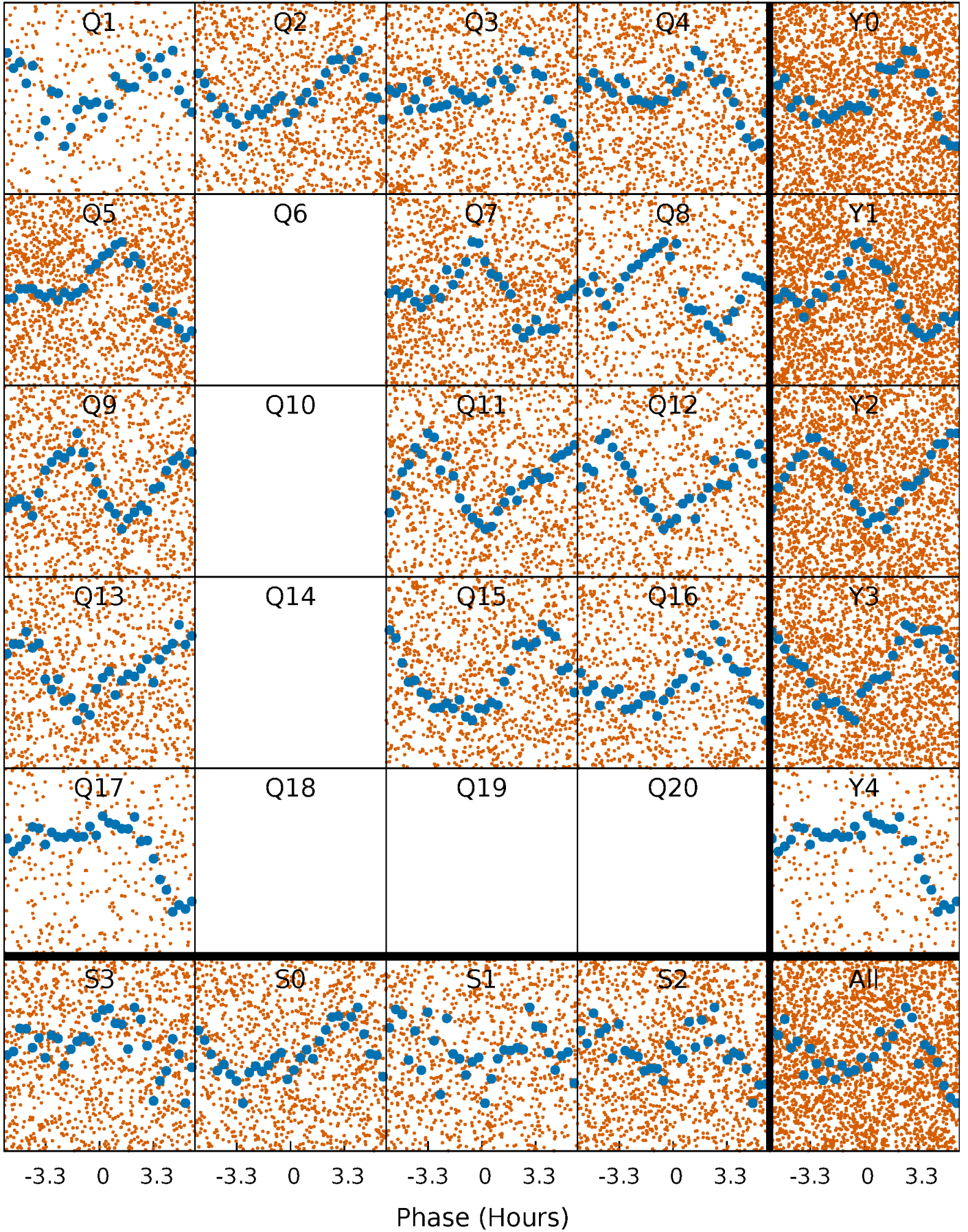


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



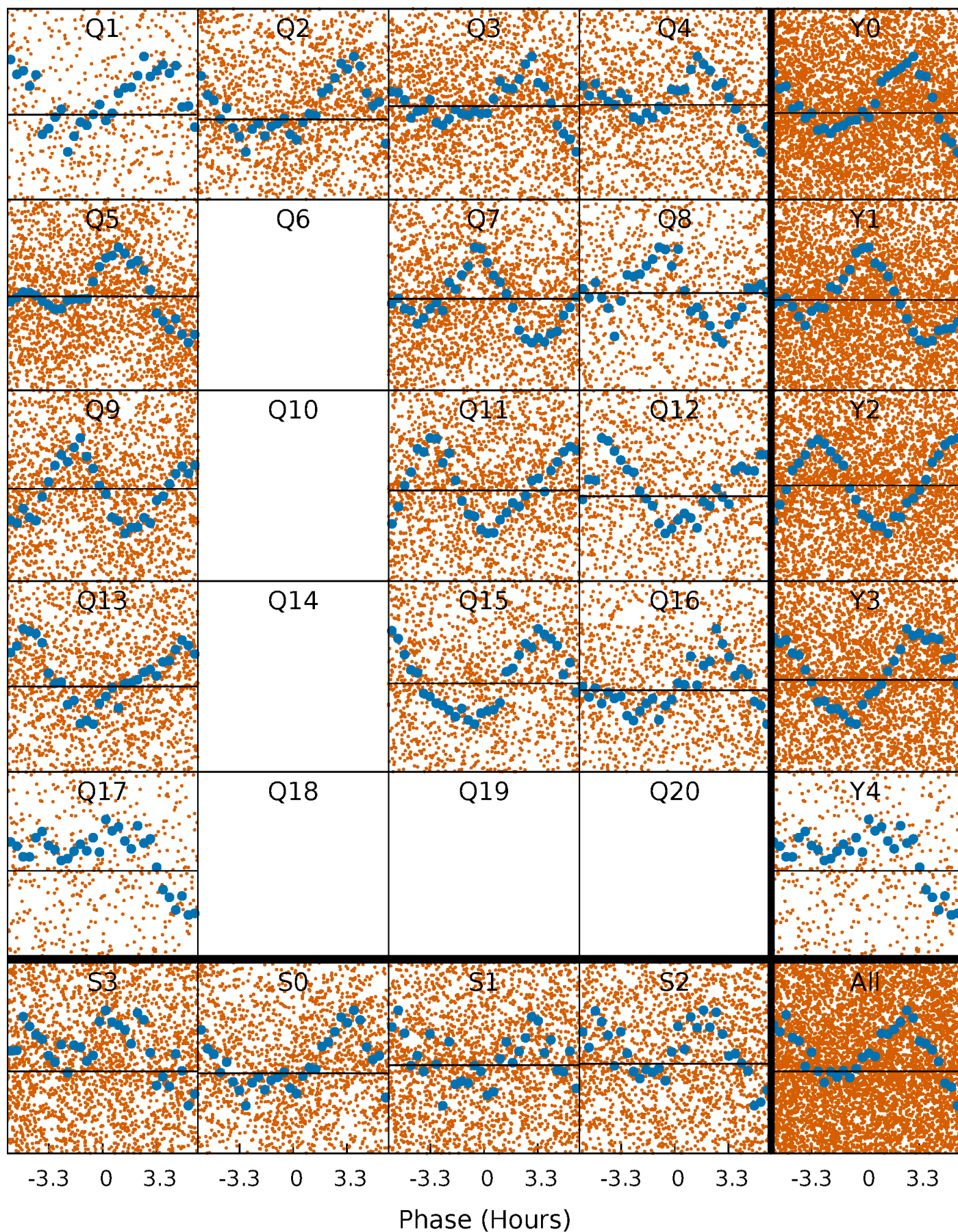
PDC Quarter-Phased Transit Curves

TCE 005372348-01 P= 0.688711 Days $T_0=131.658741$ (BKJD)



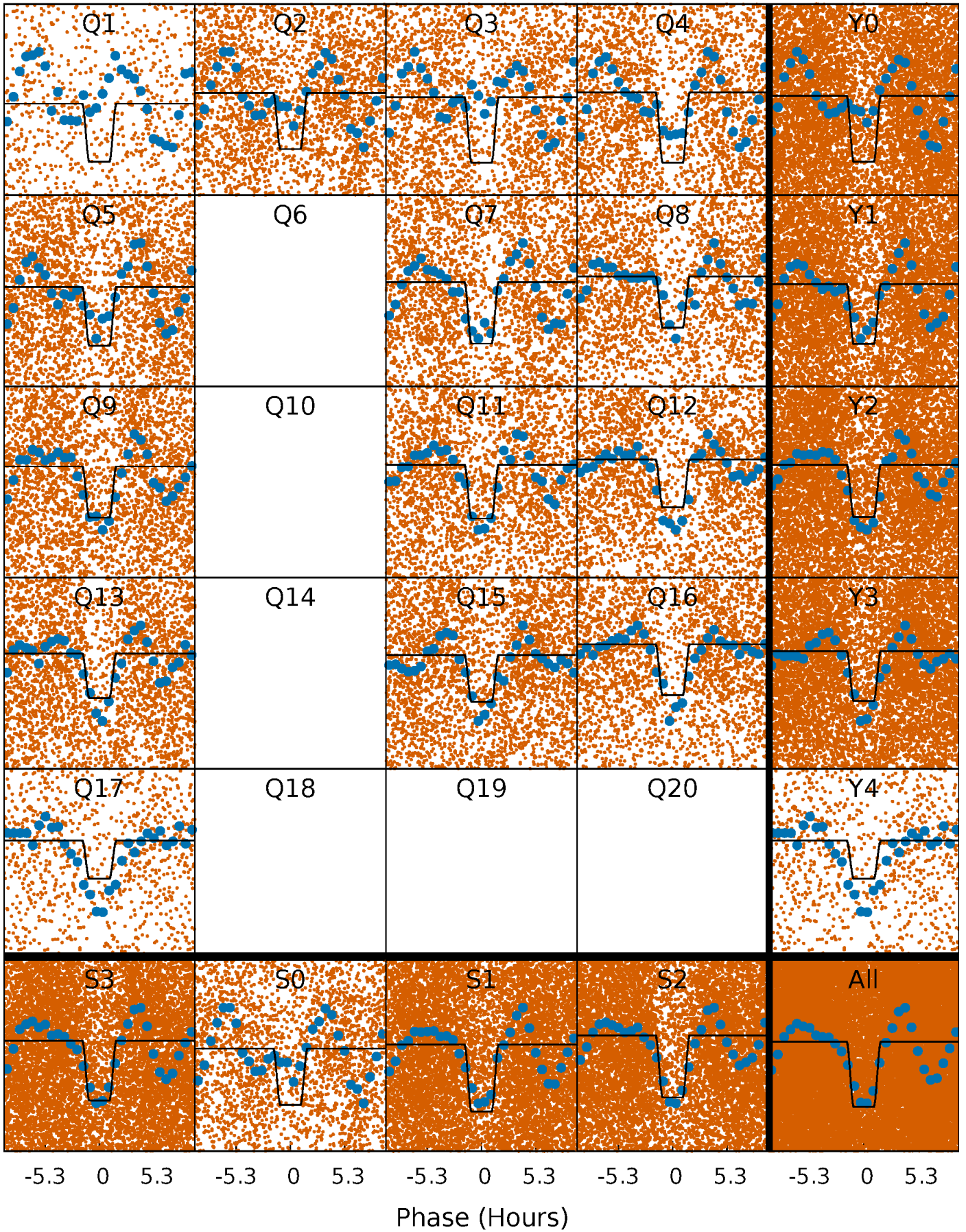
DV Quarter-Phased Transit Curves

TCE 005372348-01 P= 0.688711 Days $T_0=131.658741$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

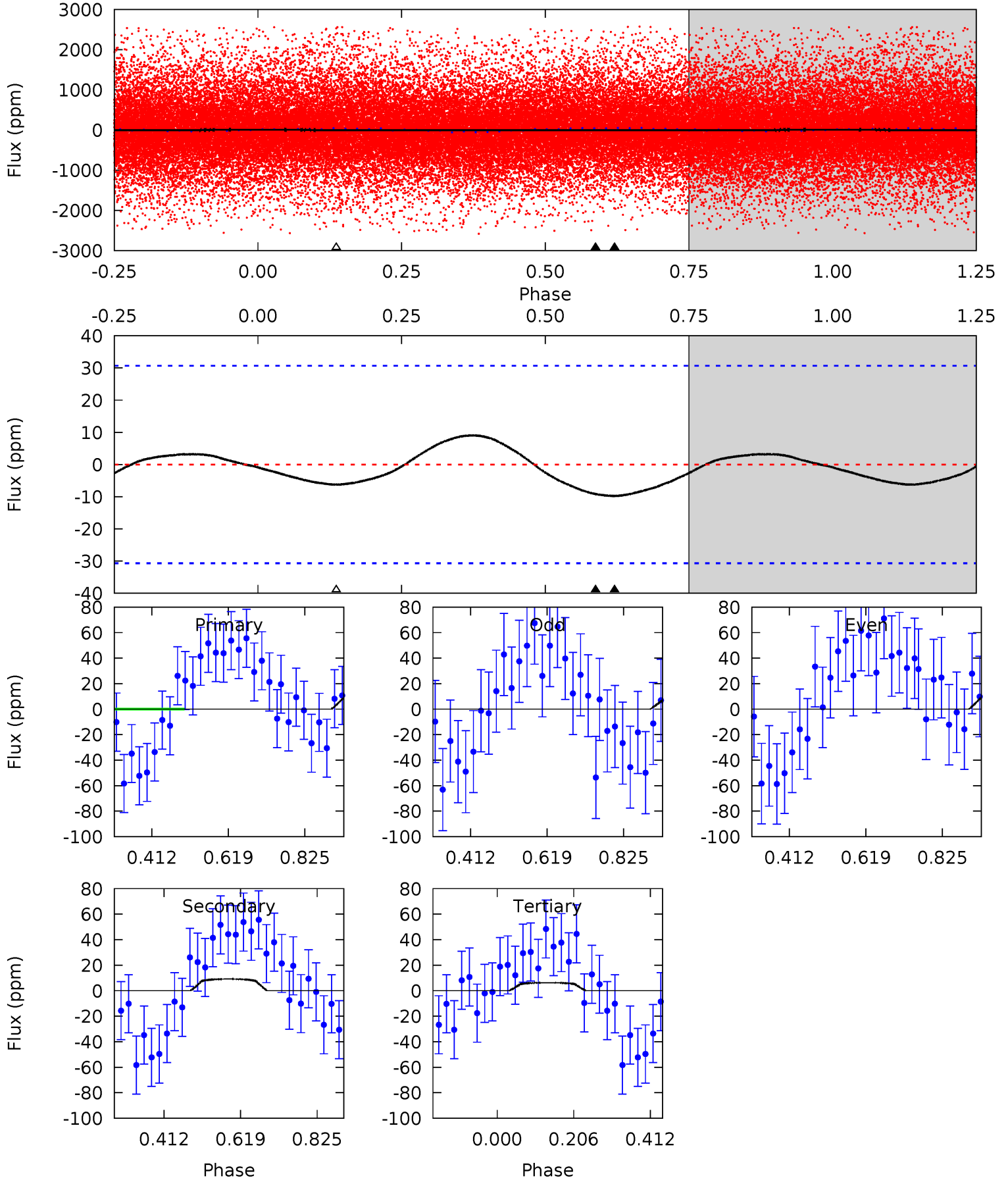
TCE 005372348-01 P= 0.688480 Days $T_0=131.689132$ (BKJD)



DV Model-Shift Uniqueness Test

005372348-01, P = 0.688711 Days, E = 130.970030 Days

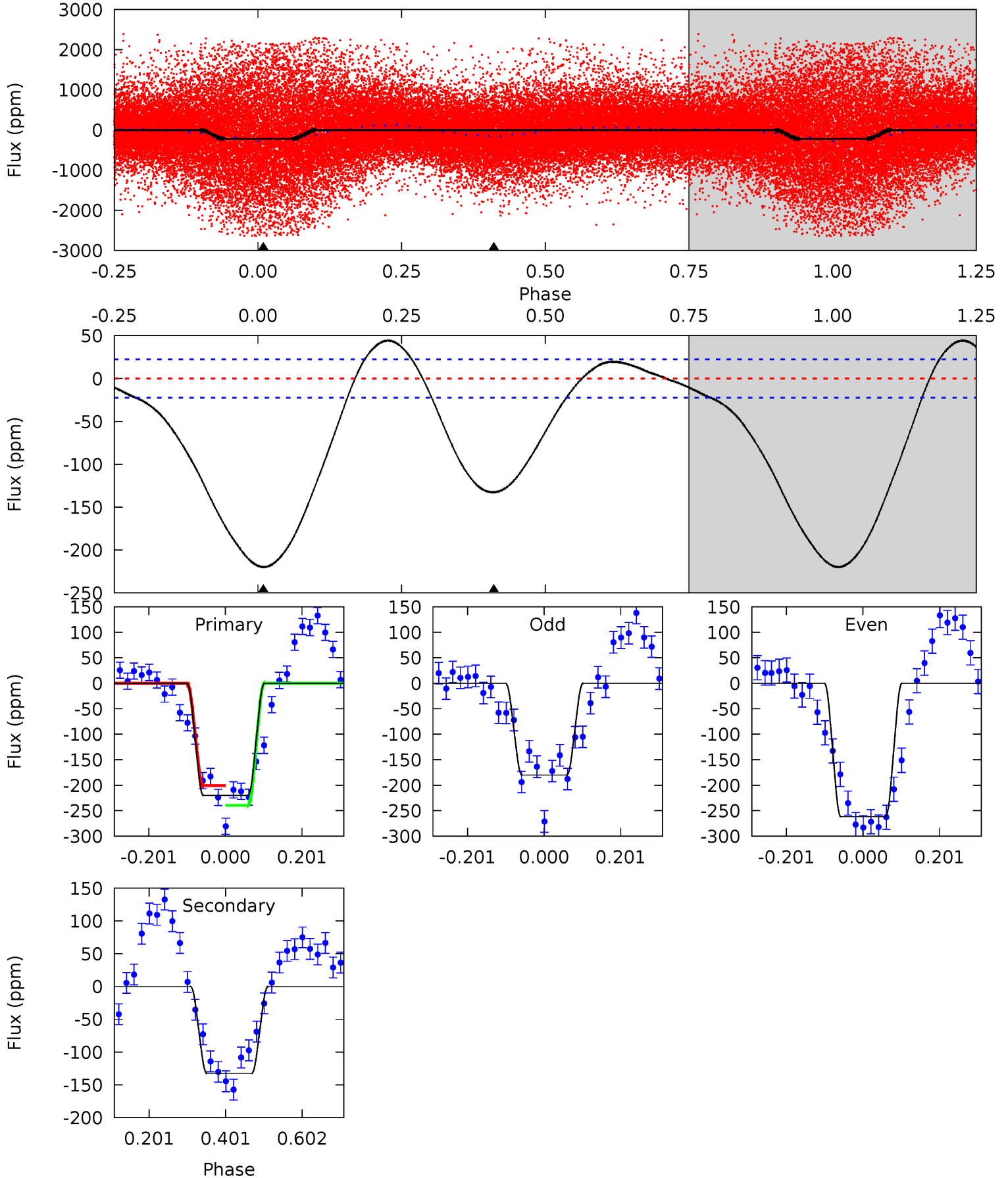
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.41	1.32	0.90	0	4.41	1.26	0.65	0.51	1.41	0.41	1.32	0.17	-5.09	0.48	1.41



Alt Model-Shift Uniqueness Test

005372348-01, P = 0.688480 Days, E = 131.000652 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.4	26.2	0	0	4.42	1.28	2.94	43.4	43.4	26.2	26.2	8.04	0.95	0.17	3.83



Stellar Parameters For KIC 005372348

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7272^{+230}_{-316}	$4.225^{+0.090}_{-0.210}$	$-0.020^{+0.200}_{-0.350}$	$1.559^{+0.568}_{-0.227}$	$1.487^{+0.221}_{-0.221}$	$0.553^{+0.234}_{-0.314}$
	+3%/-4%	+2%/-5%	+1000%/-1750%	+36%/-15%	+15%/-15%	+42%/-57%
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 005372348-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 7	$14.43^{+16.45}_{-10.09}$	4261^{+1320}_{-645}	-3747^{+511}_{-877}	$0.005^{+0.061}_{-0.004}$
Alt.	-133 ± 5	$14.42^{+16.85}_{-10.34}$	4294^{+1320}_{-708}	-3456^{+8095}_{-926}	$0.096^{+1.266}_{-0.081}$

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 $A_{obs} \gg 1.0$

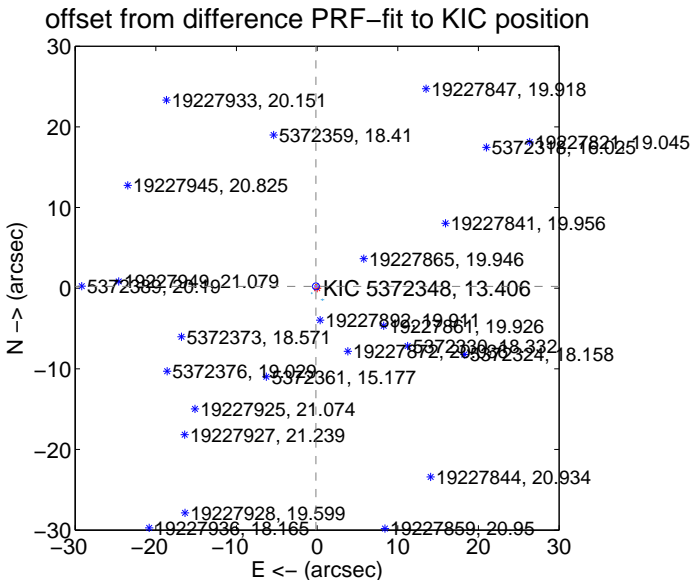
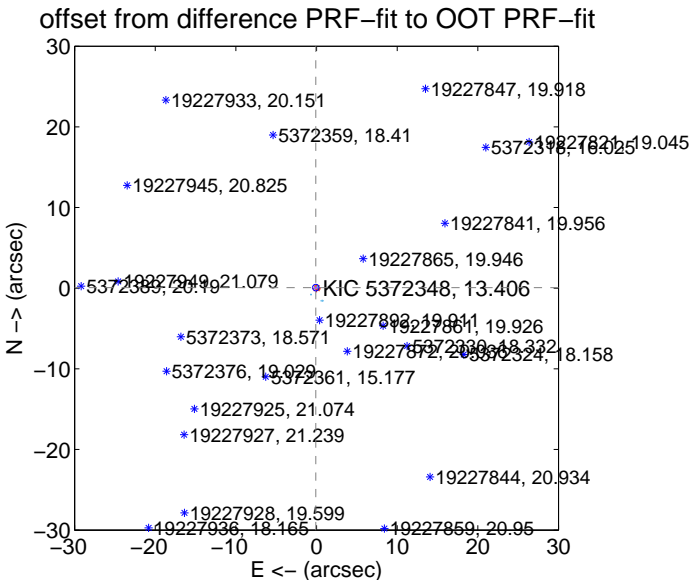
DV Centroid Data

Supplemental centroid analysis for 005372348-01. Kepler magnitude: 13.41. Transit SNR 0.00

There are 9 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

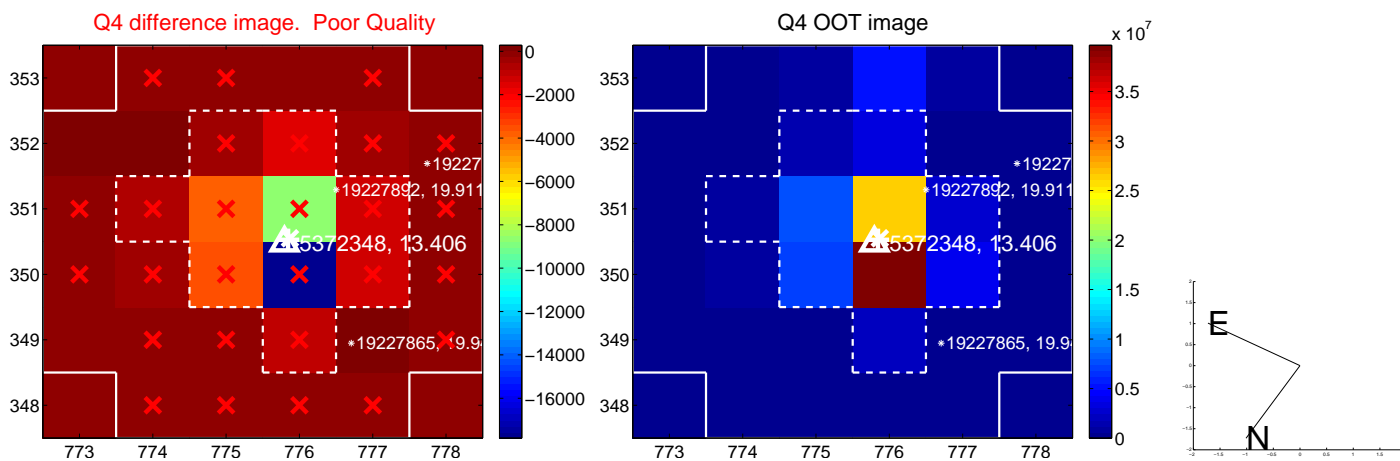
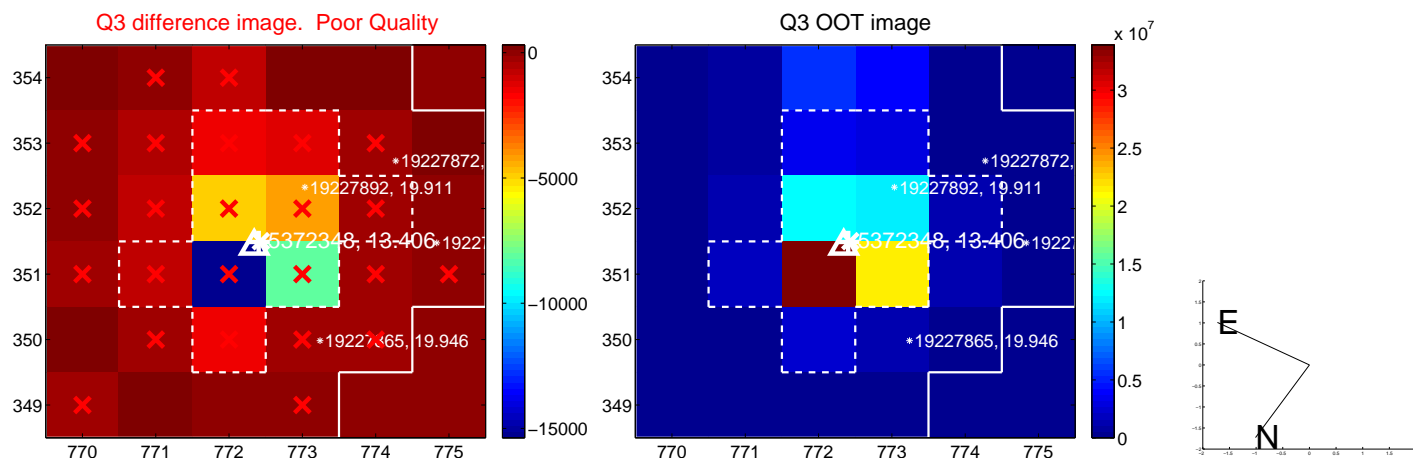
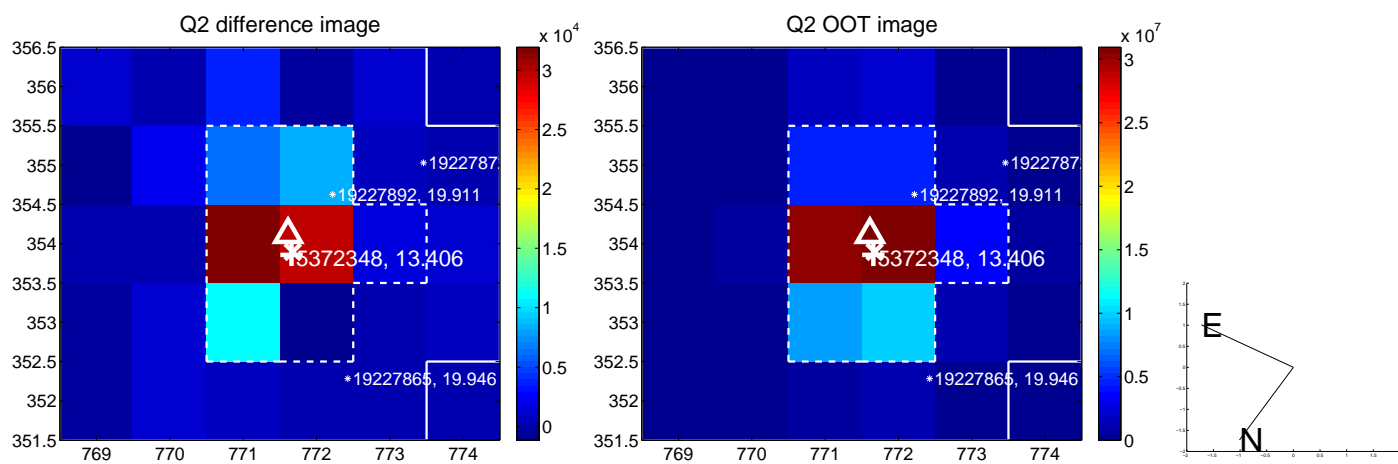
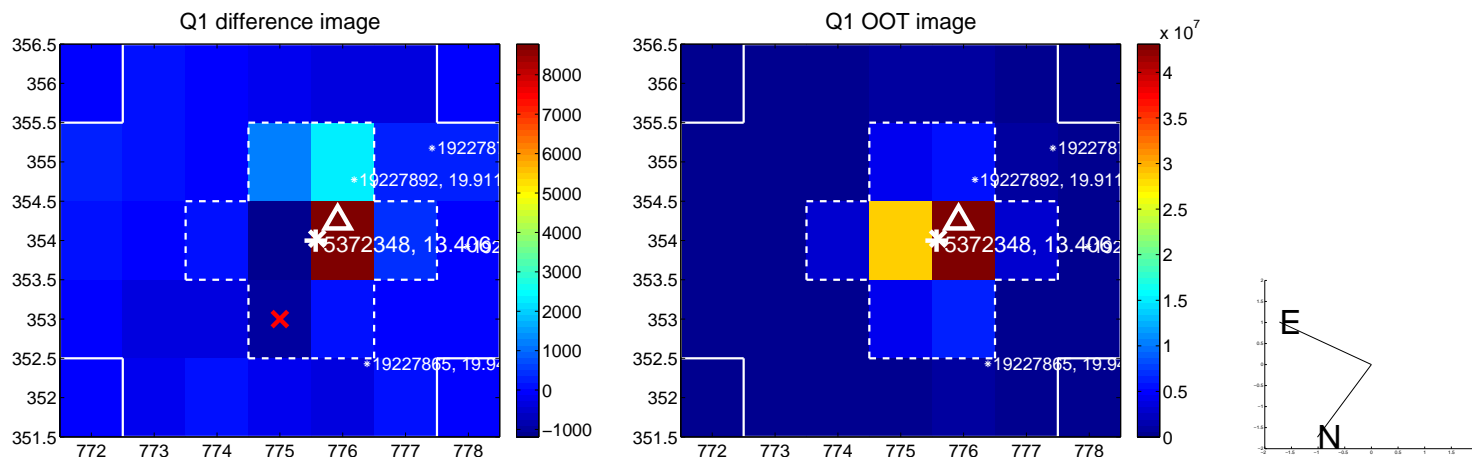
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.114 ± 0.134	0.85	0.090 ± 0.103	0.070 ± 0.140
PRF-fit source offset from KIC position	0.262 ± 0.143	1.83	0.145 ± 0.102	0.218 ± 0.139
photometric centroid source offset	—	—	—	—



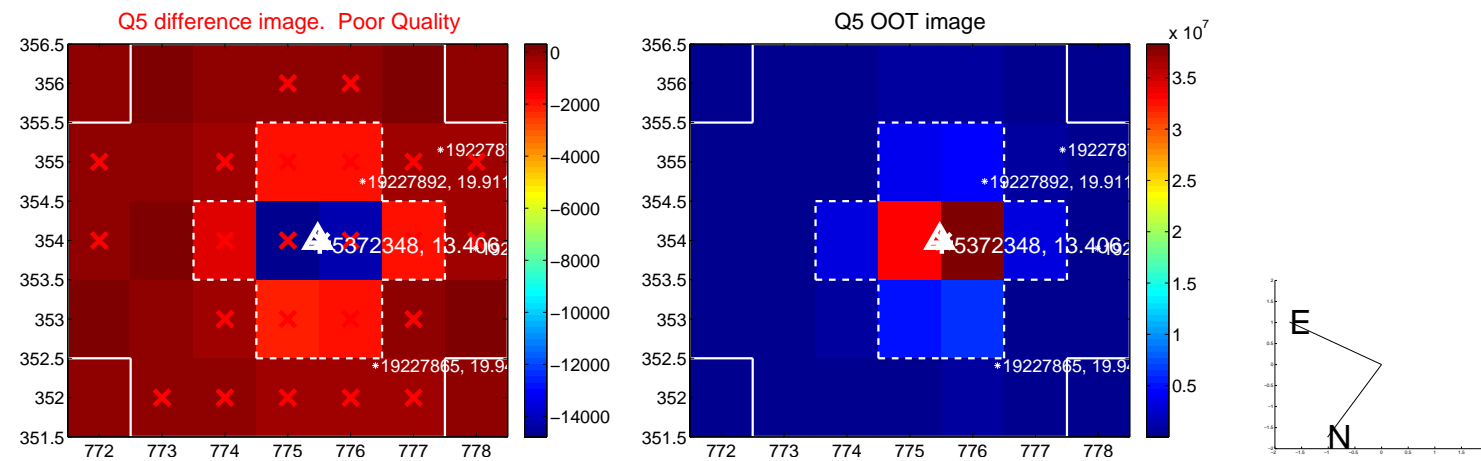
There are no photometric centroids

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.

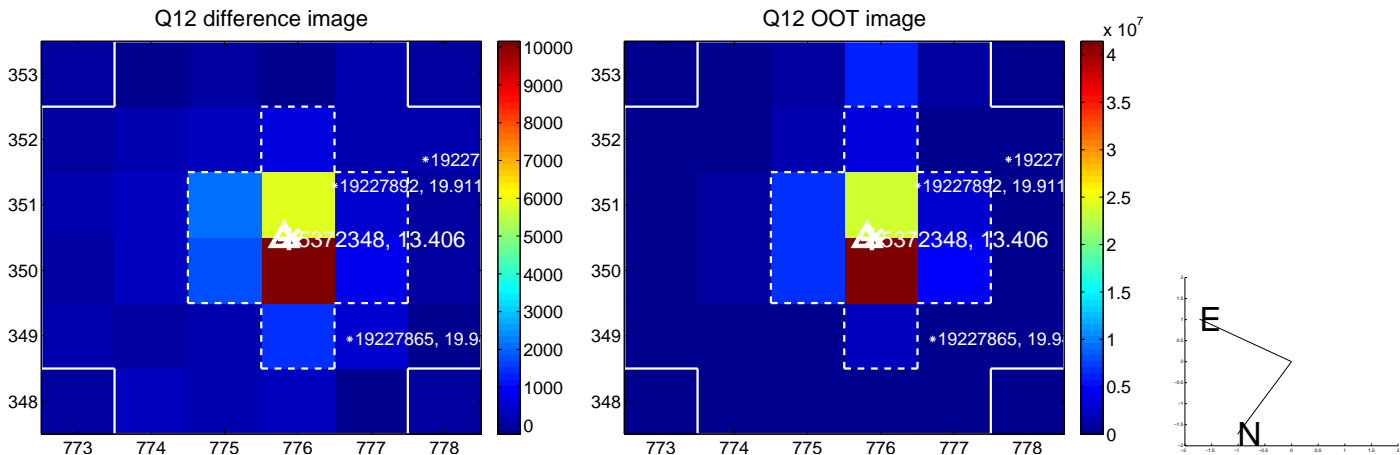
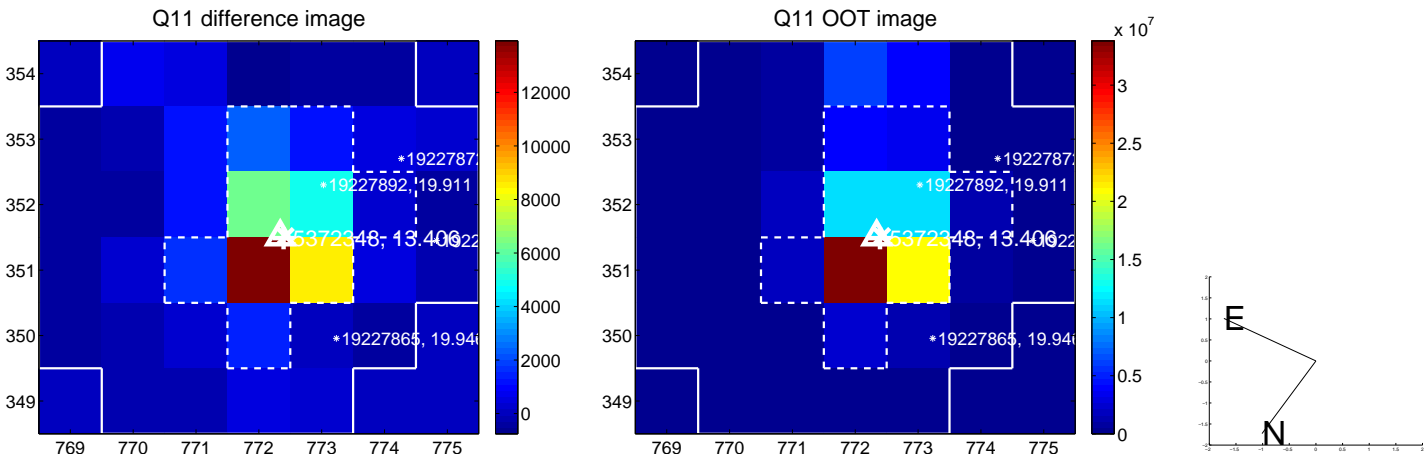
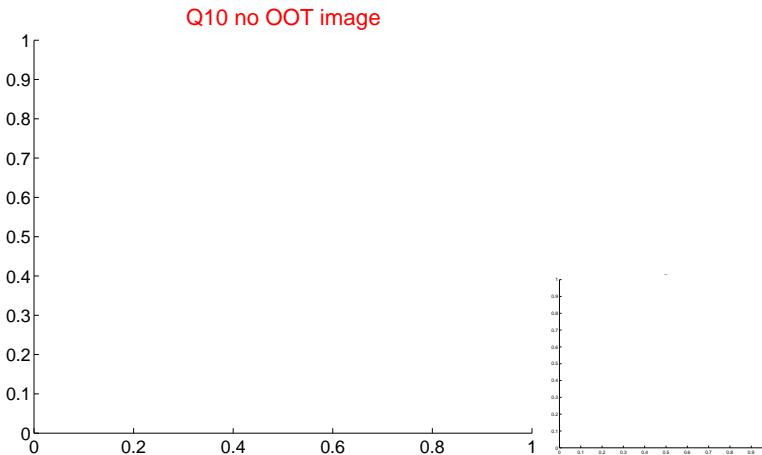
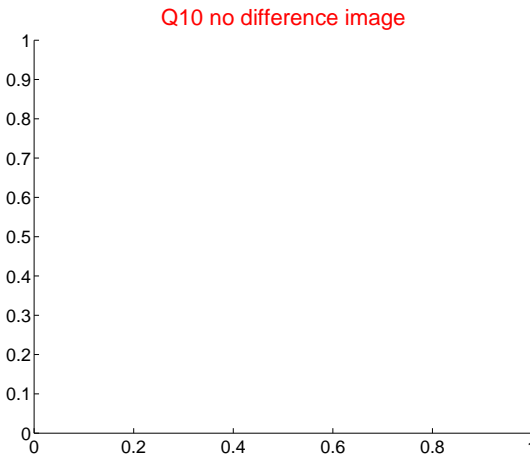
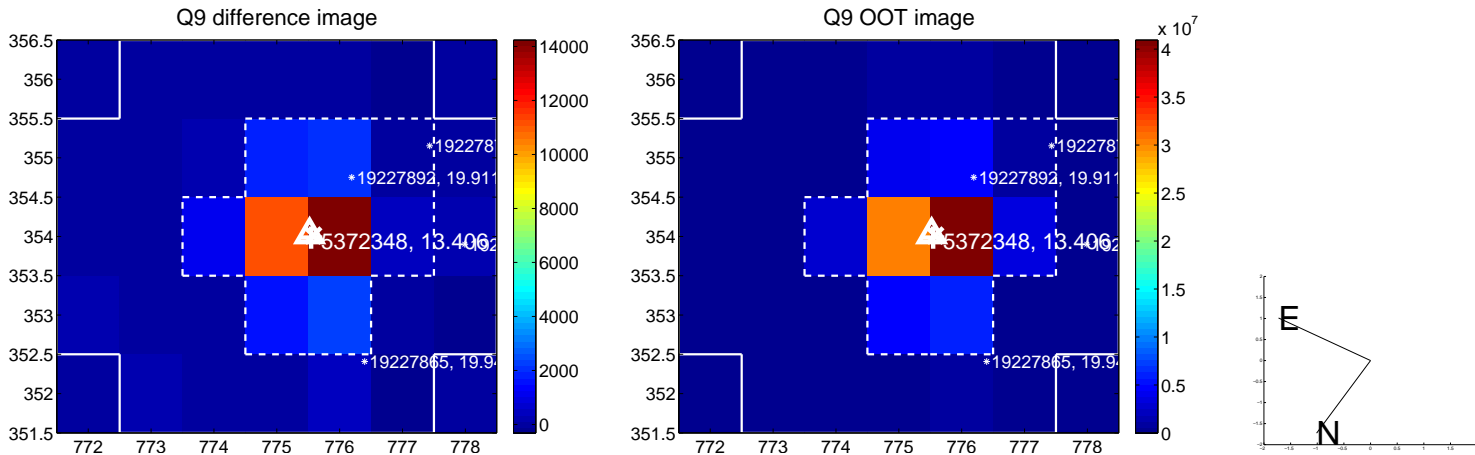
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



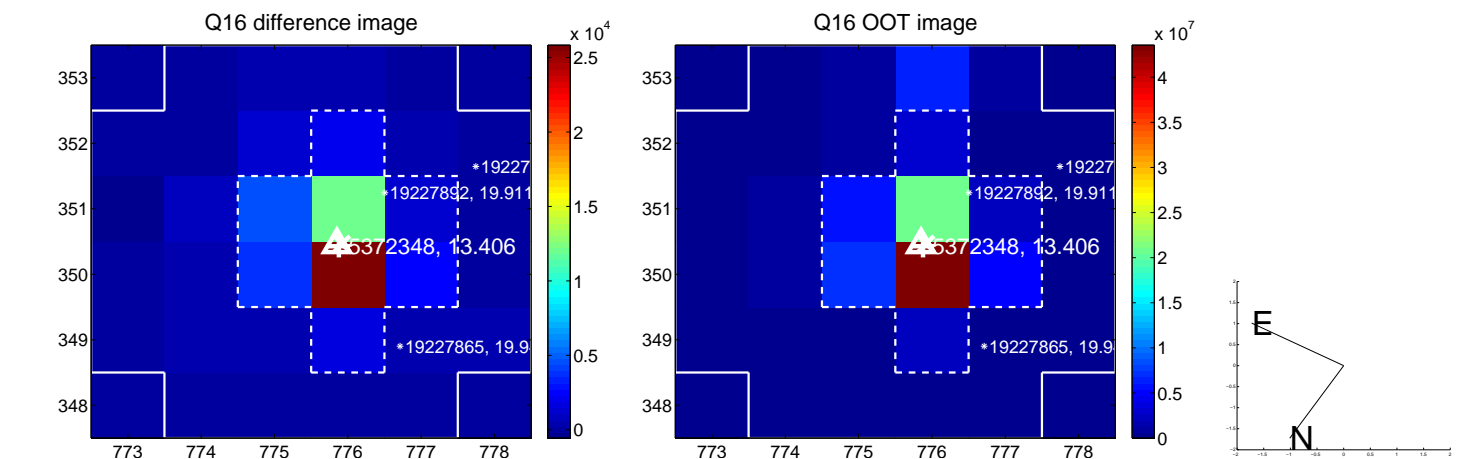
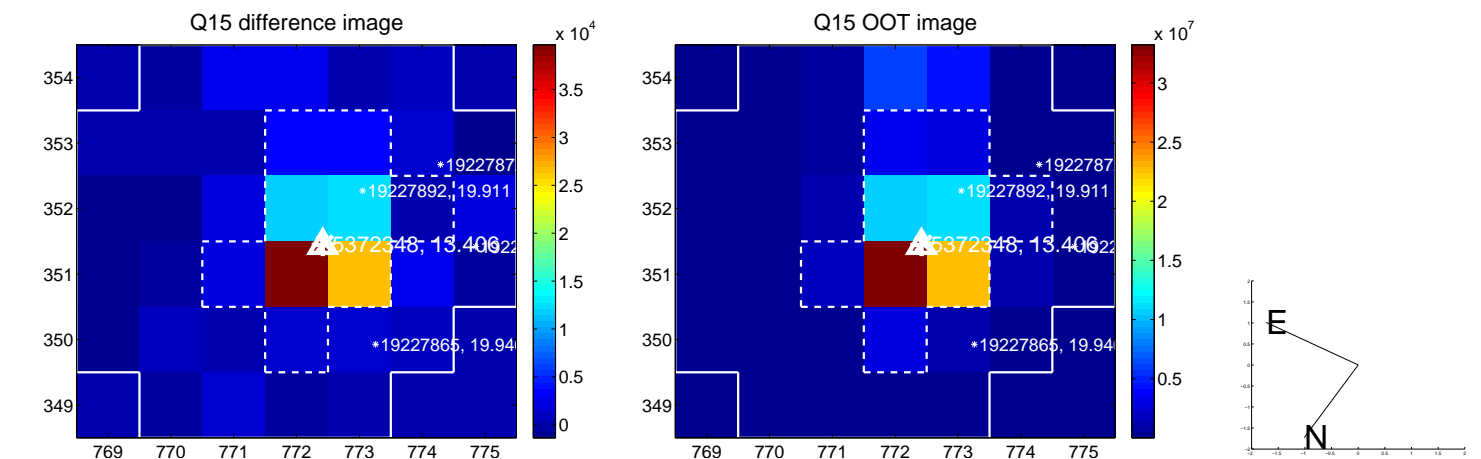
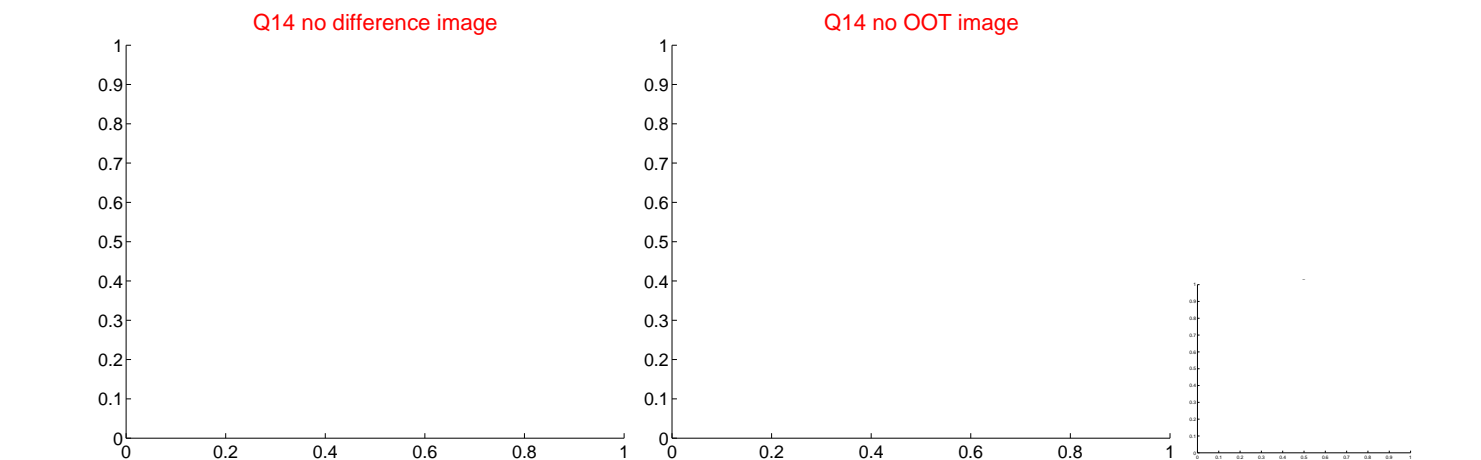
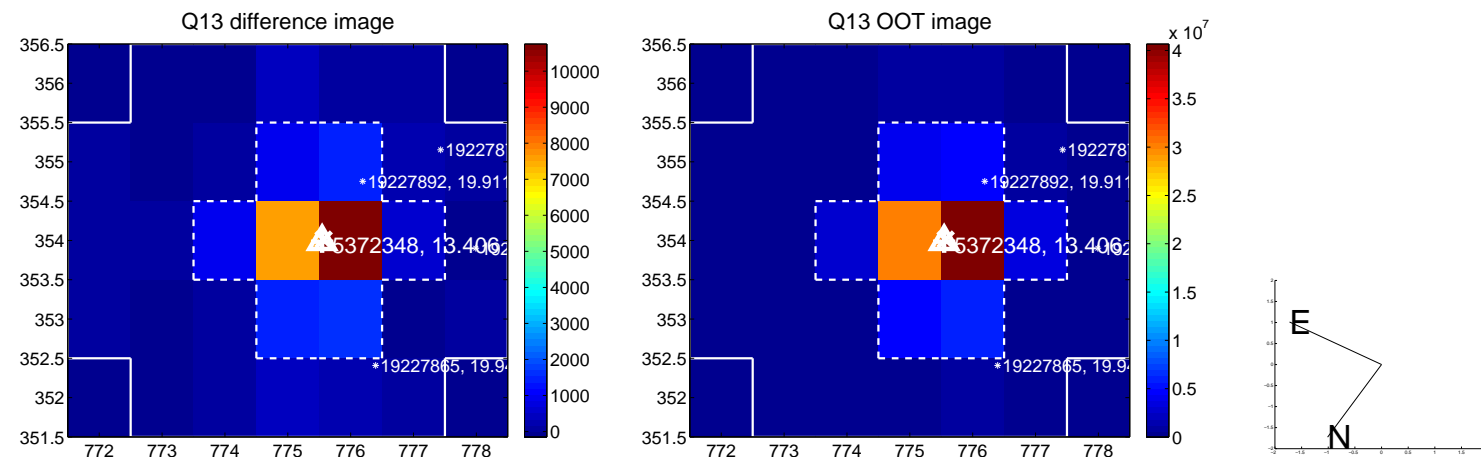
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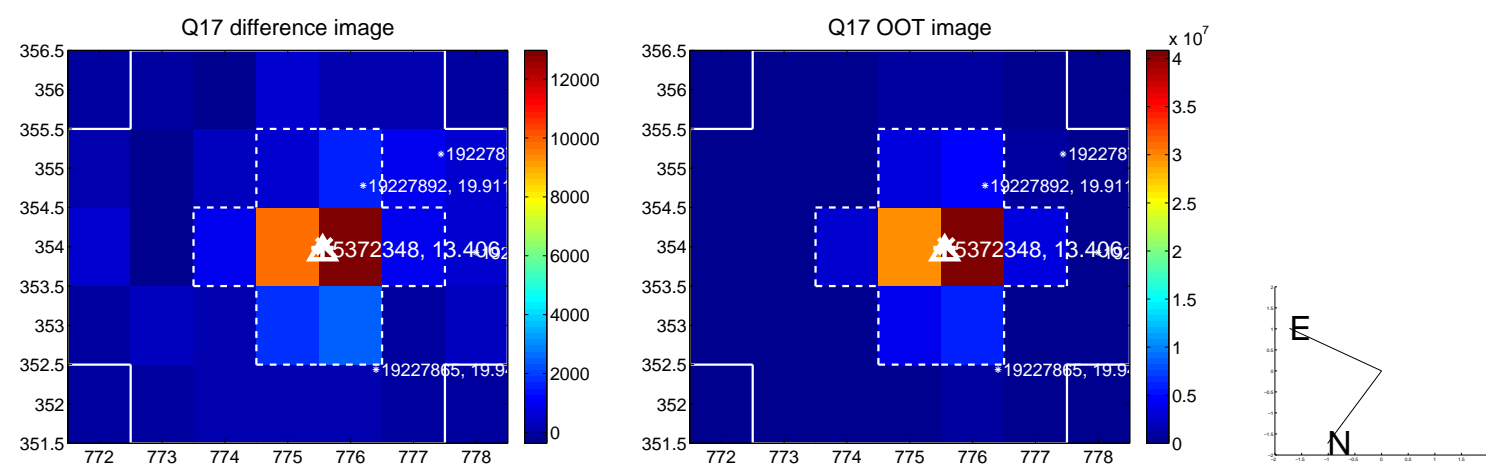
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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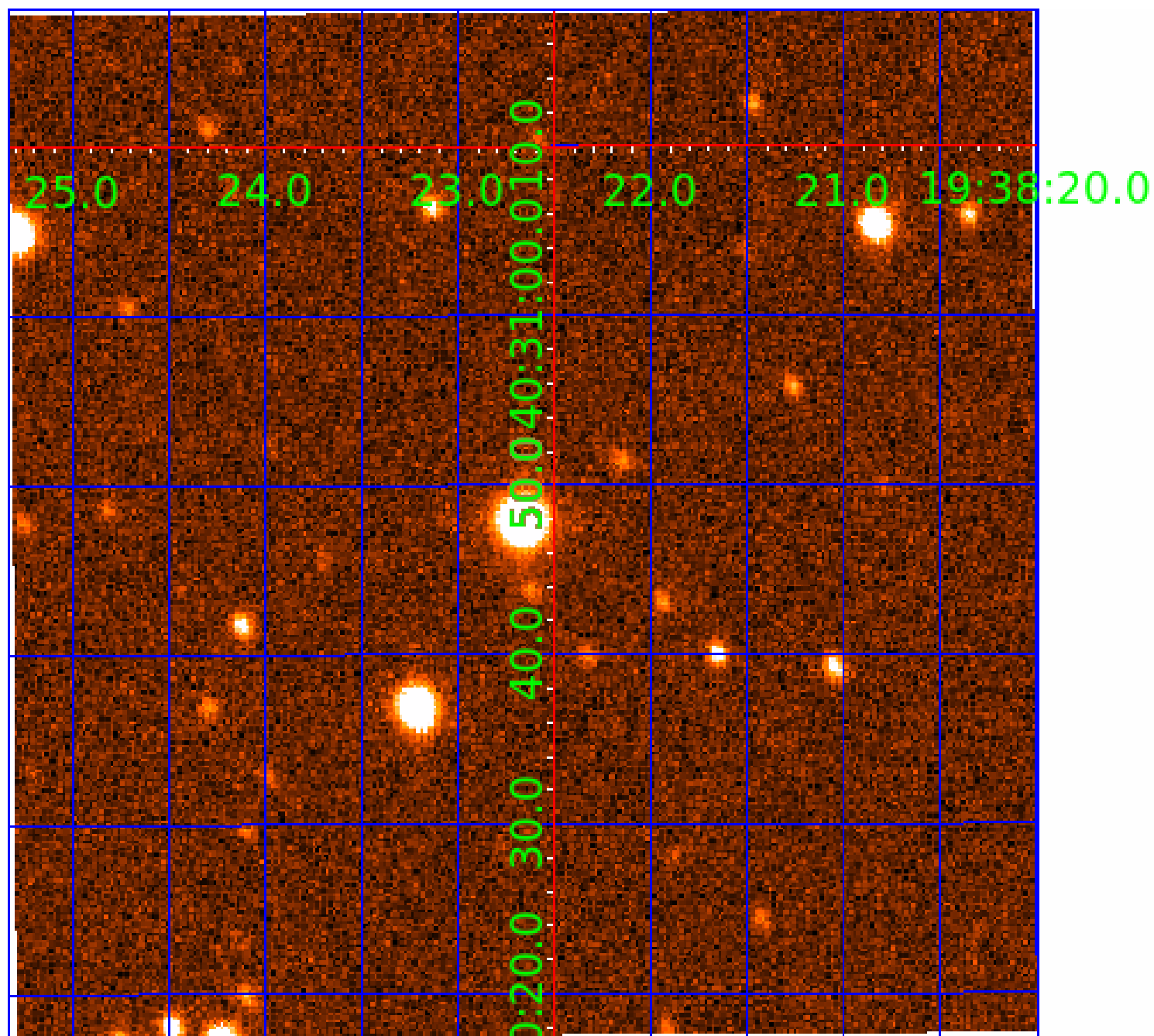
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 005372348

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})
005372348-01	OBS	No	0.688711	131.658741	0.0	2.923	7.8	0.0	1.56	7272	0.01	20045.87
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005372348-04	OBS	No	74.517762	198.741053	1793.2	4.814	12.0	10.0	1.56	7272	11.22	38.88
005372348-05	OBS	No	79.148608	145.073978	1724.7	6.601	9.5	10.9	1.56	7272	11.85	35.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005372348-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
005372348-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005372348-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—MOD_NONUNIQ_ALT
005372348-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005372348-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

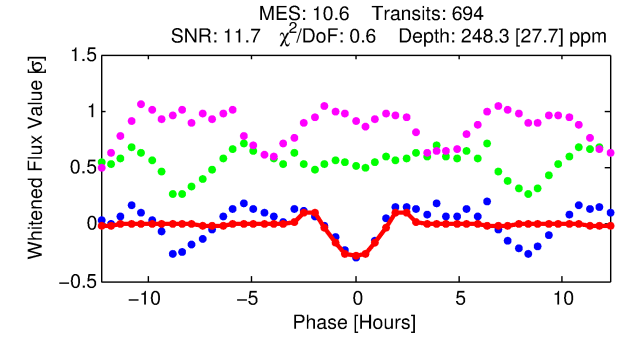
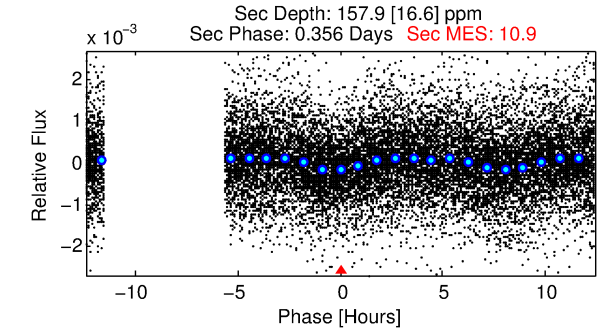
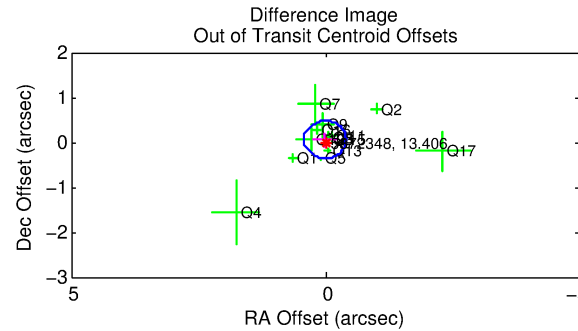
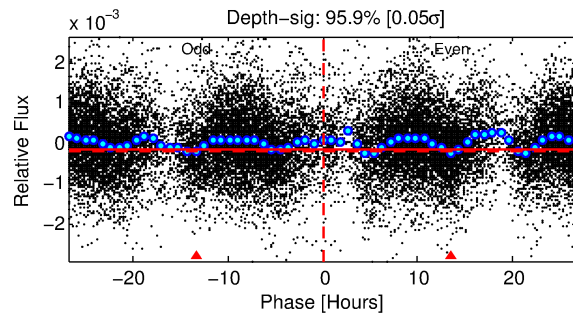
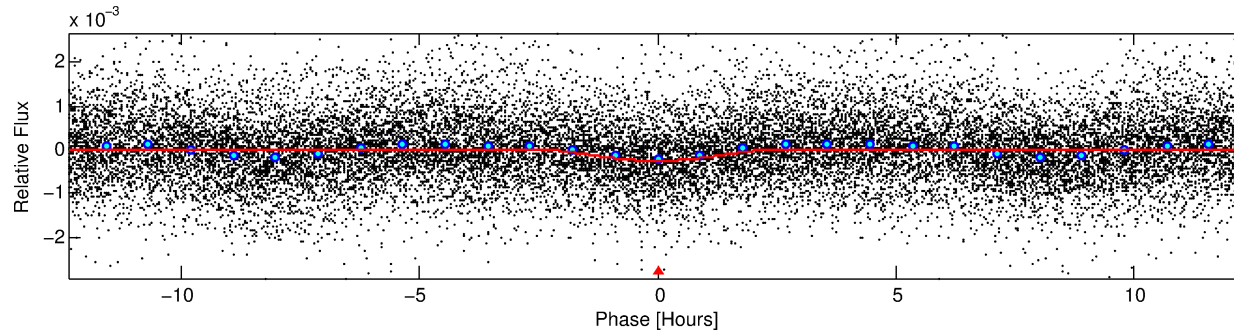
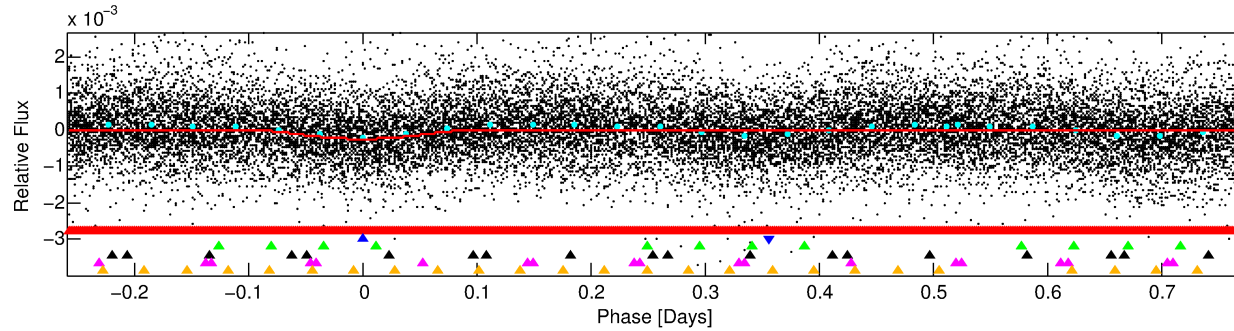
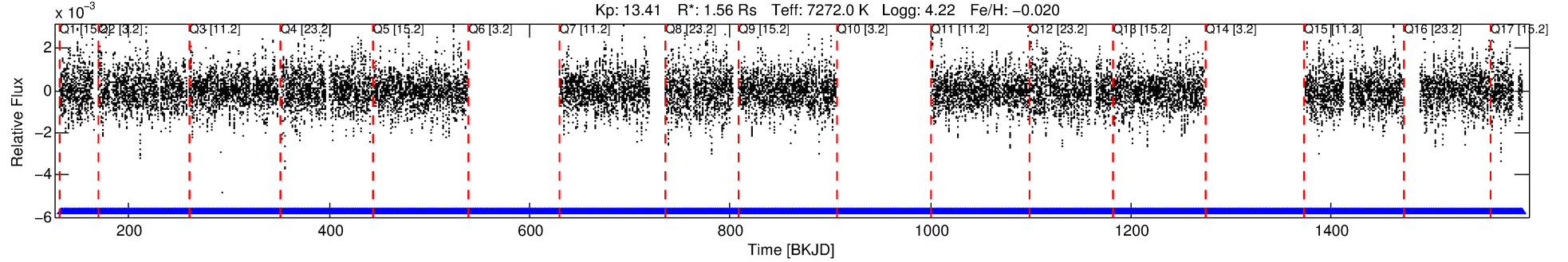
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005372348-02

No Significant Match Found

DV One-Page Summary

KIC: 5372348 Candidate: 2 of 6 Period: 1.033 d



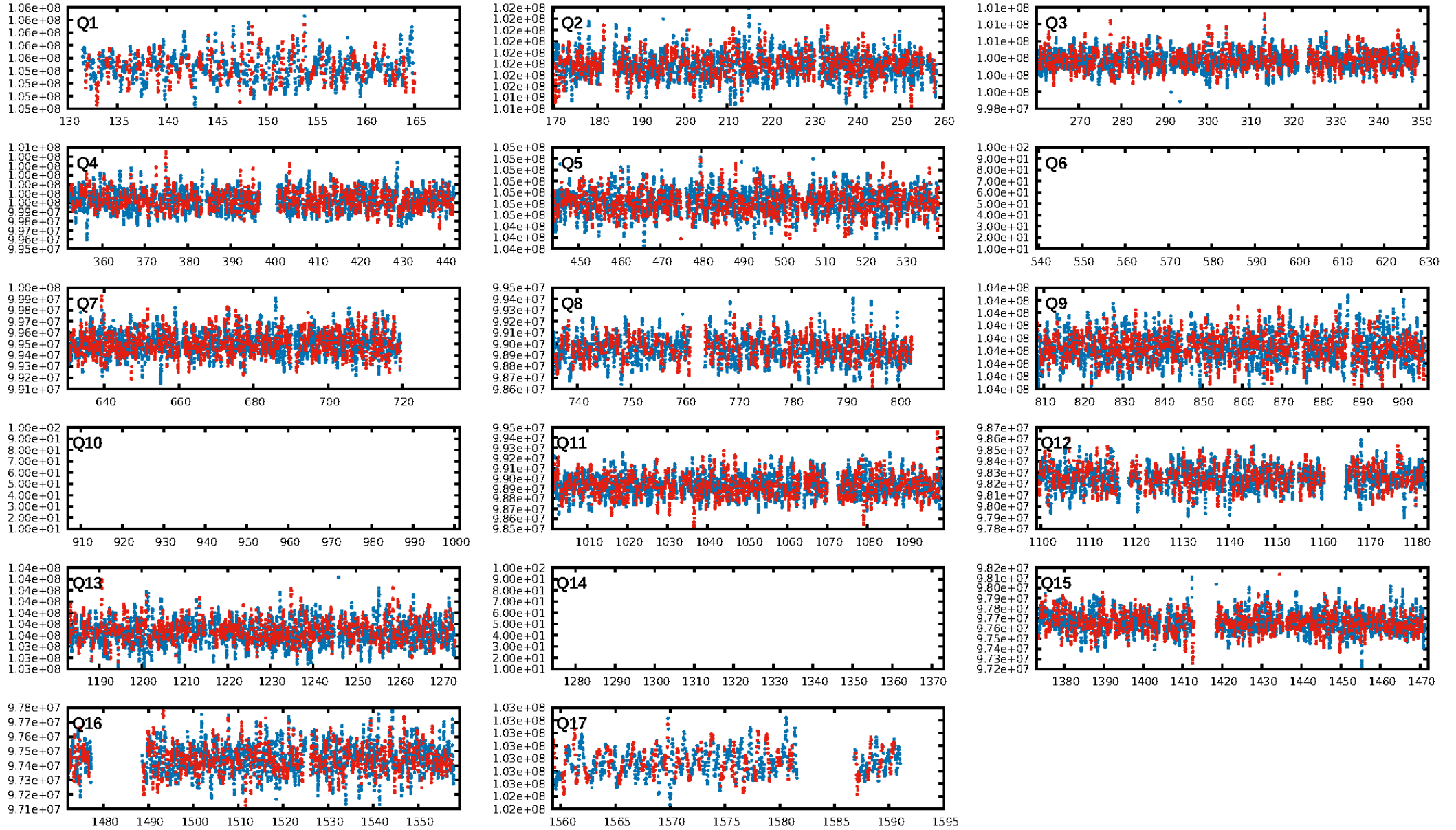
DV Fit Results:

Period = 1.03278 [0.00001] d
Epoch = 131.9759 [0.0026] BKJD
Rp/R* = 0.0276 [0.0238]
a/R* = 1.09 [0.01]
b = 1.00 [0.04]
Seff = 11678.83 [5132.39]
Teff = 2651 [291] K
Rp = 4.69 [4.39] Re
a = 0.0228 [0.0067] AU
Ag = 2.06 [3.65] [0.29 σ]
Teffp = 4909 [2130] K [1.05 σ]

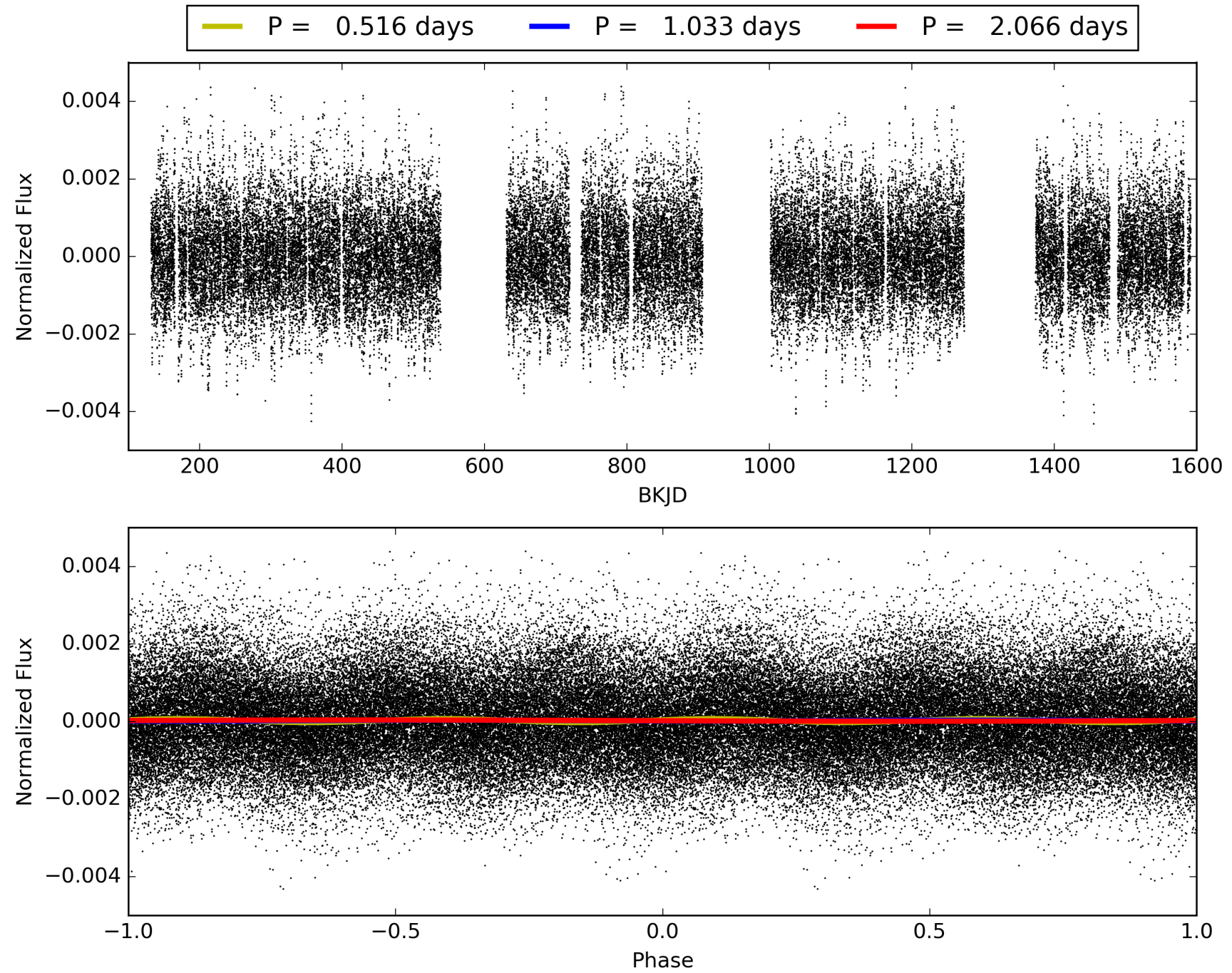
DV Diagnostic Results:

ShortPeriod-sig: 87.8% [1.55 σ]
LongPeriod-sig: 100.0% [153.48 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [664/664]
GhostDiagnostic-chr: 2.51
Centroid-sig: 0.6%
Centroid-so: 0.164 arcsec [1.11 σ]
OotOffset-rm: 0.058 arcsec [0.42 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-rm: 0.211 arcsec [1.44 σ]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 005372348-02, PDC Light Curves

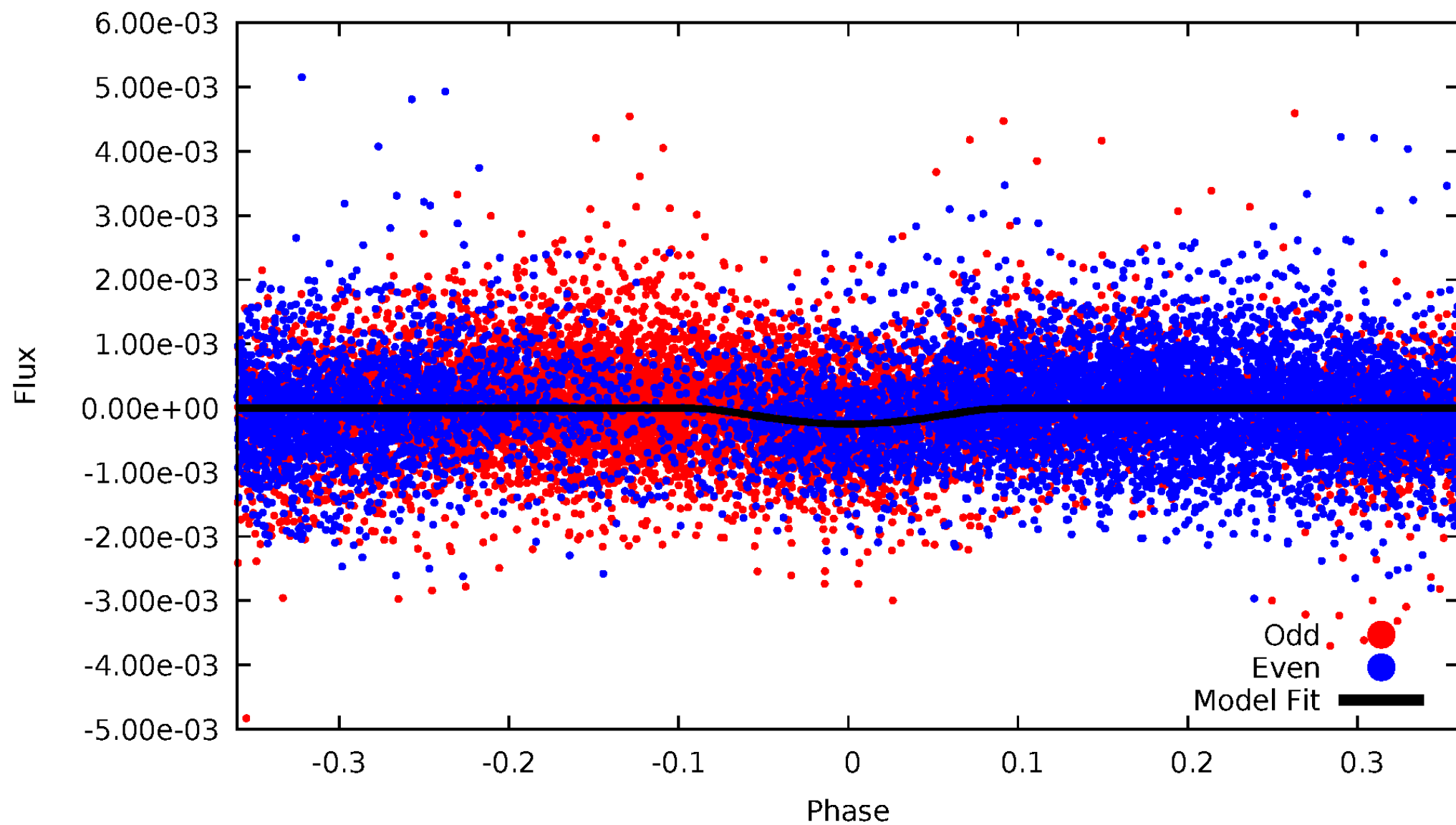


TCE 005372348-02



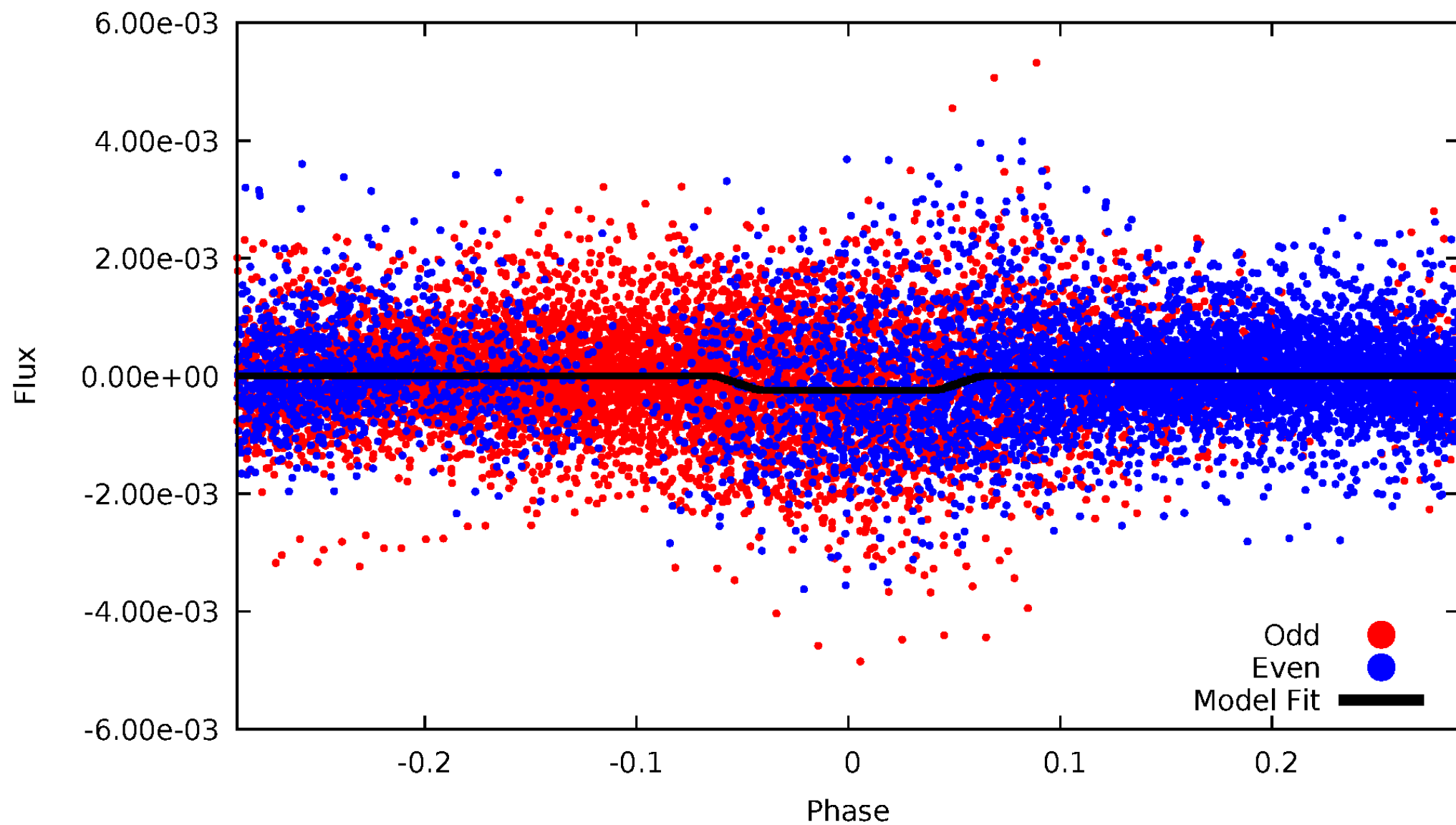
DV Odd/Even

TCE 005372348-02



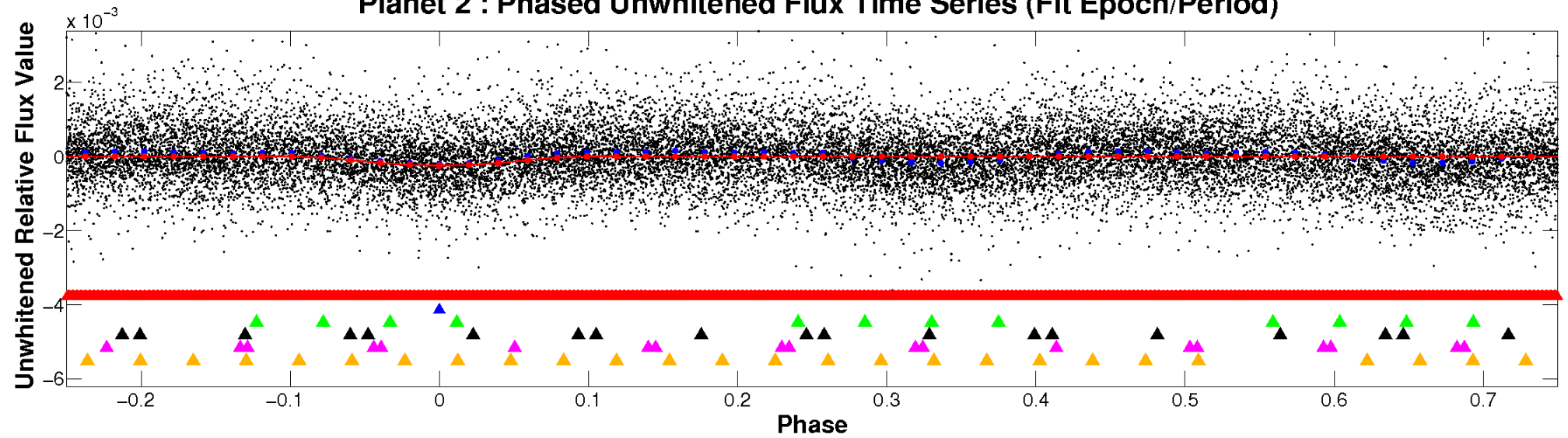
ALT Odd/Even

TCE 005372348-02

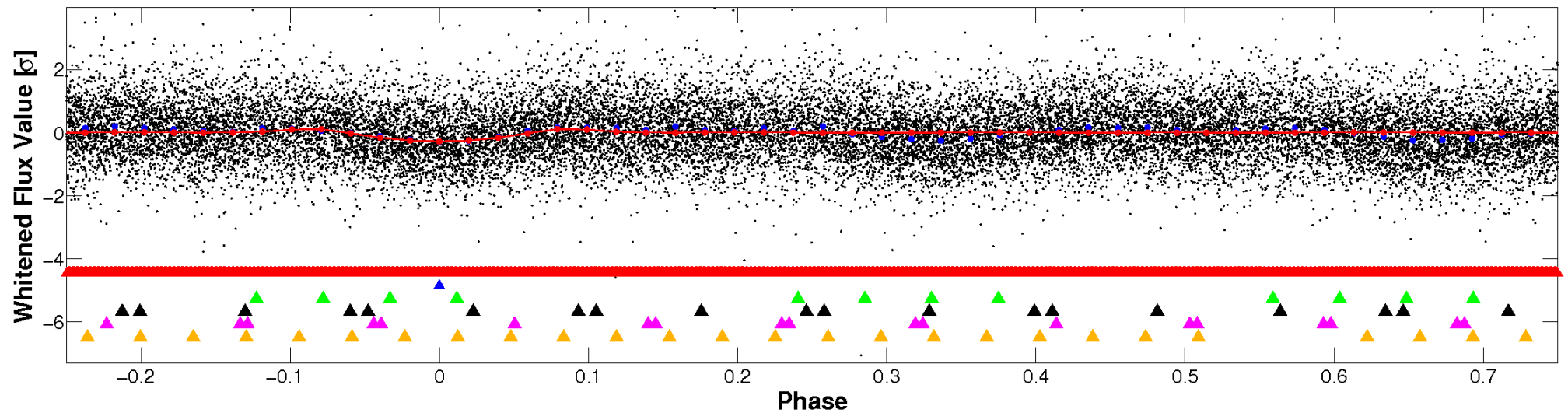


Non-Whitened Vs. Whitened Light Curve

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

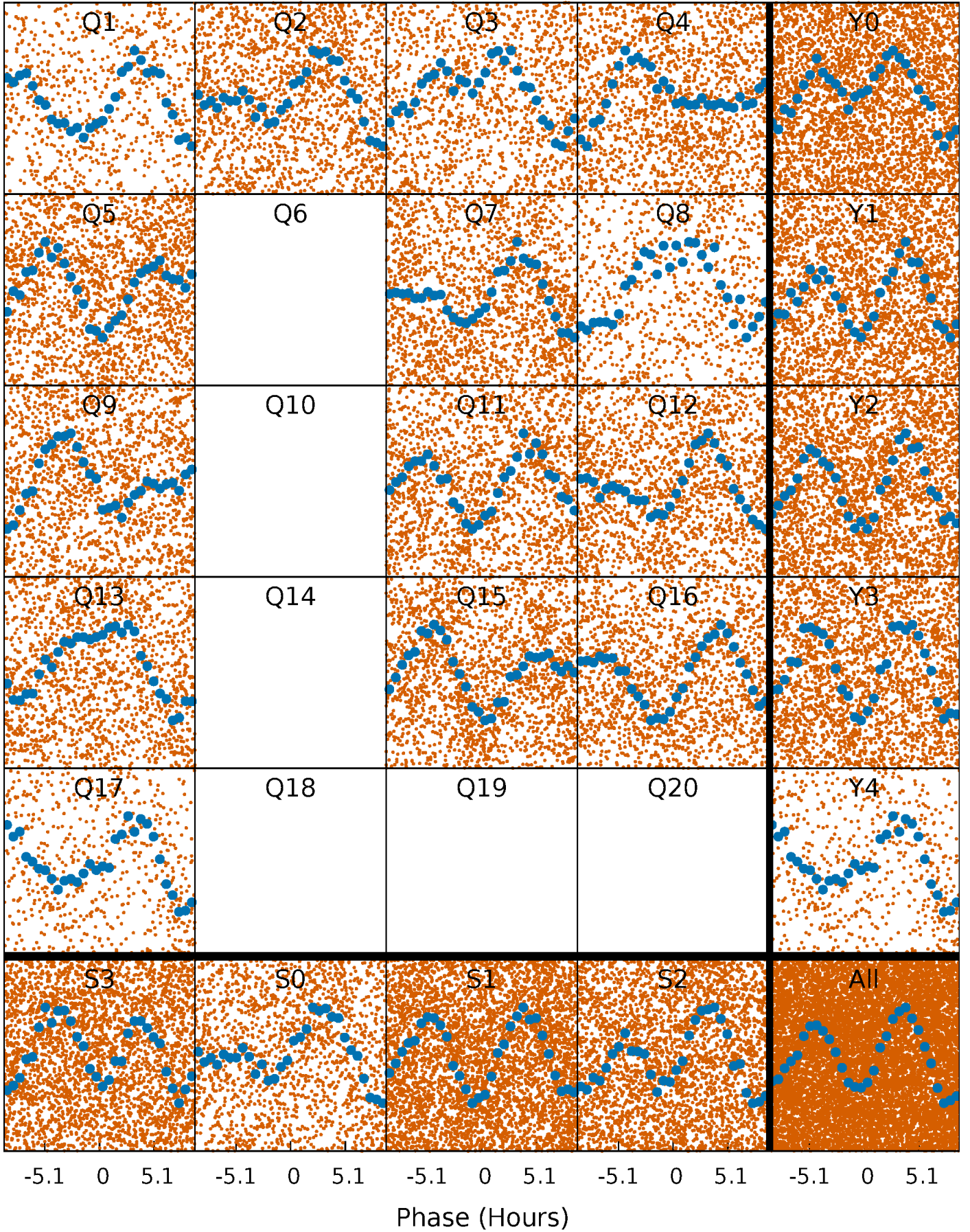


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



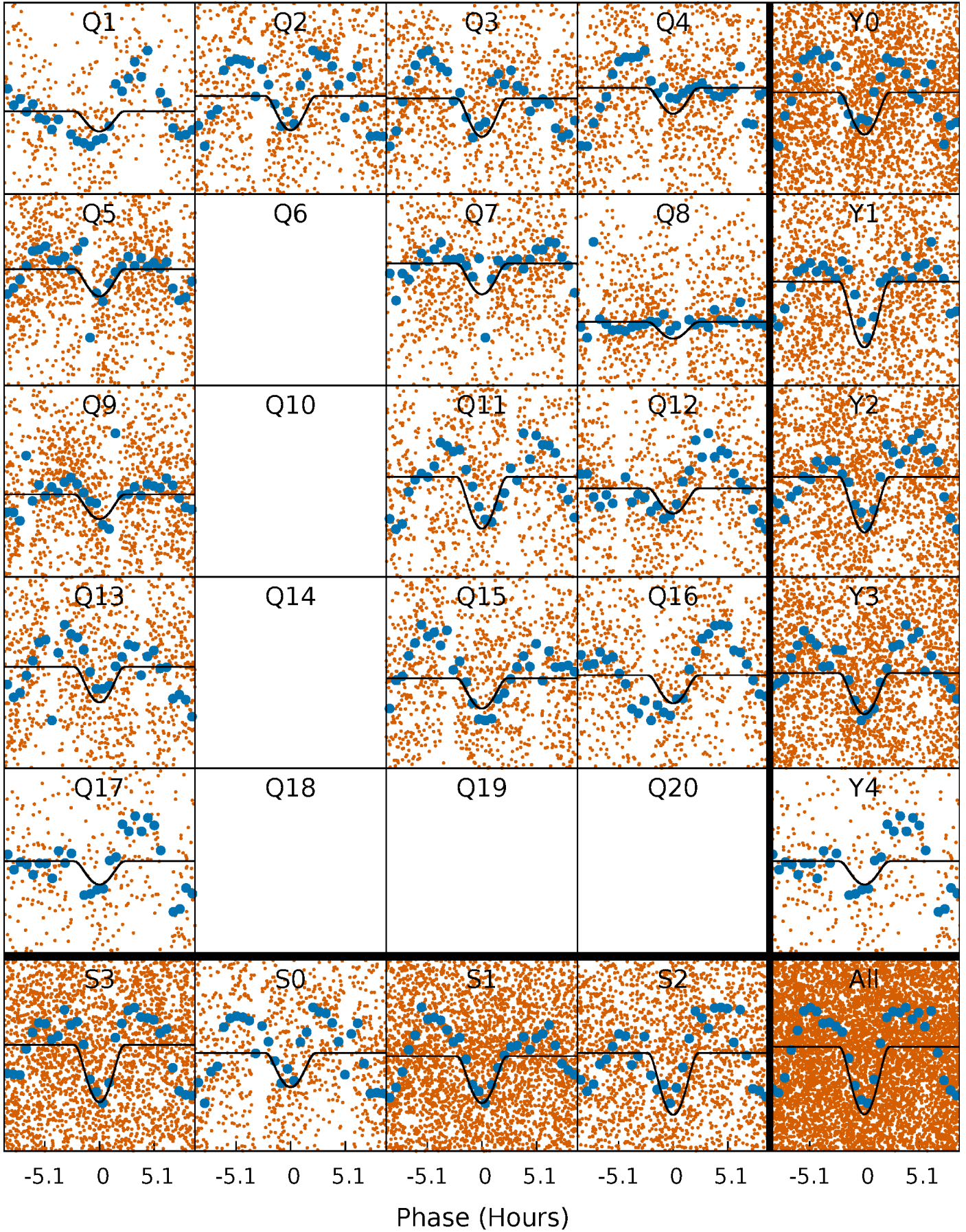
PDC Quarter-Phased Transit Curves

TCE 005372348-02 P= 1.032775 Days $T_0=131.975921$ (BKJD)



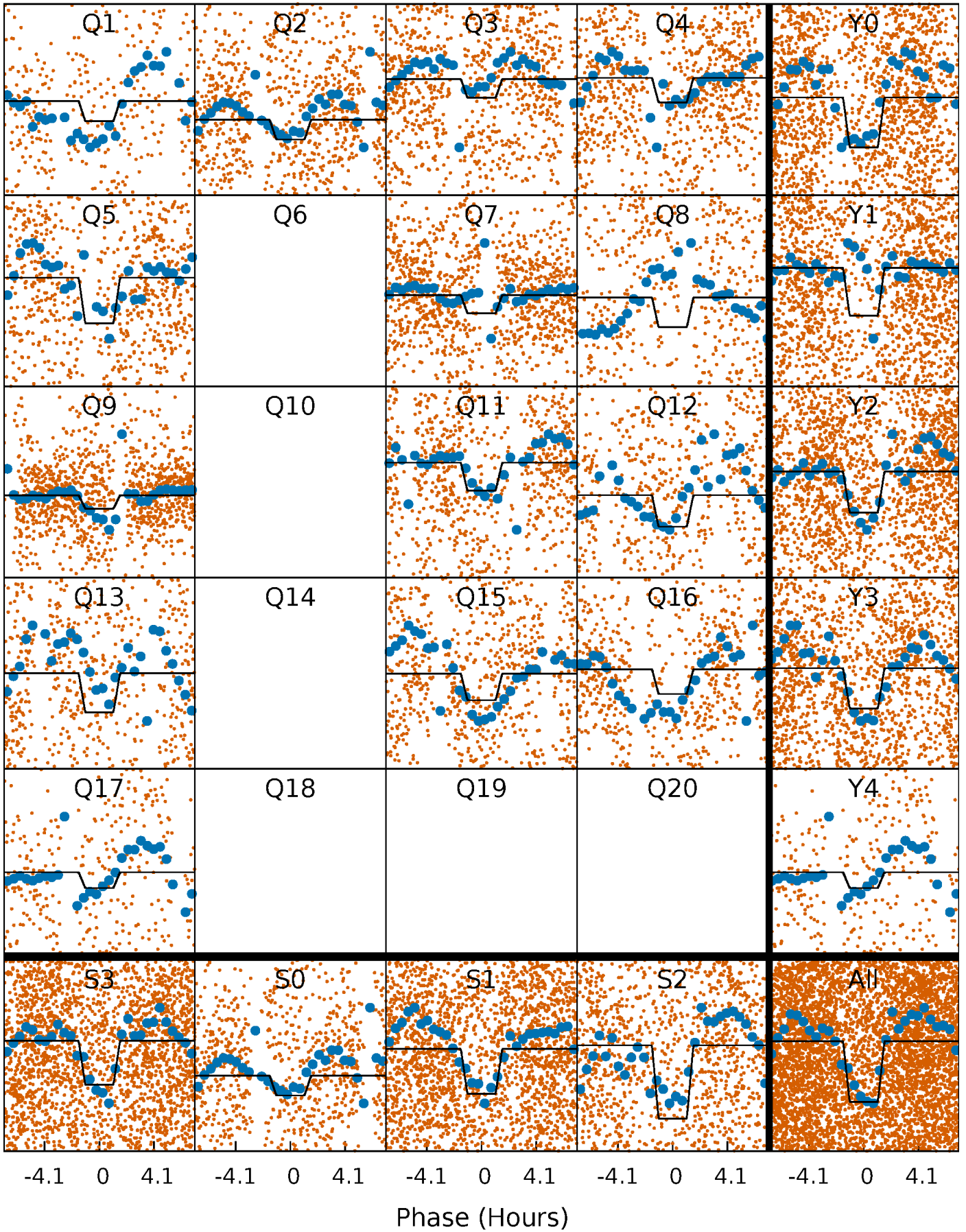
DV Quarter-Phased Transit Curves

TCE 005372348-02 P= 1.032775 Days $T_0=131.975921$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

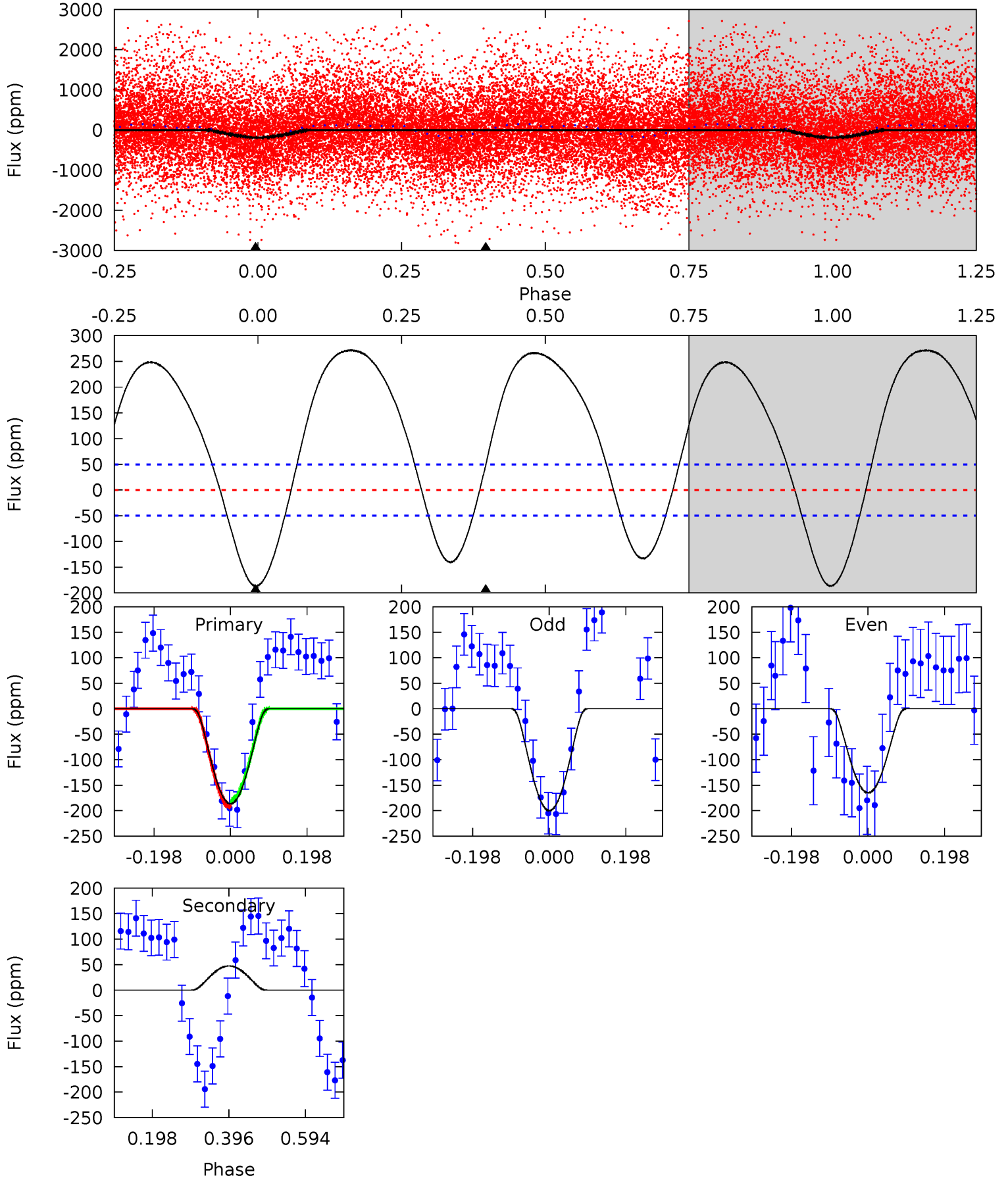
TCE 005372348-02 P= 1.032799 Days $T_0=131.954738$ (BKJD)



DV Model-Shift Uniqueness Test

005372348-02, P = 1.032775 Days, E = 130.943146 Days

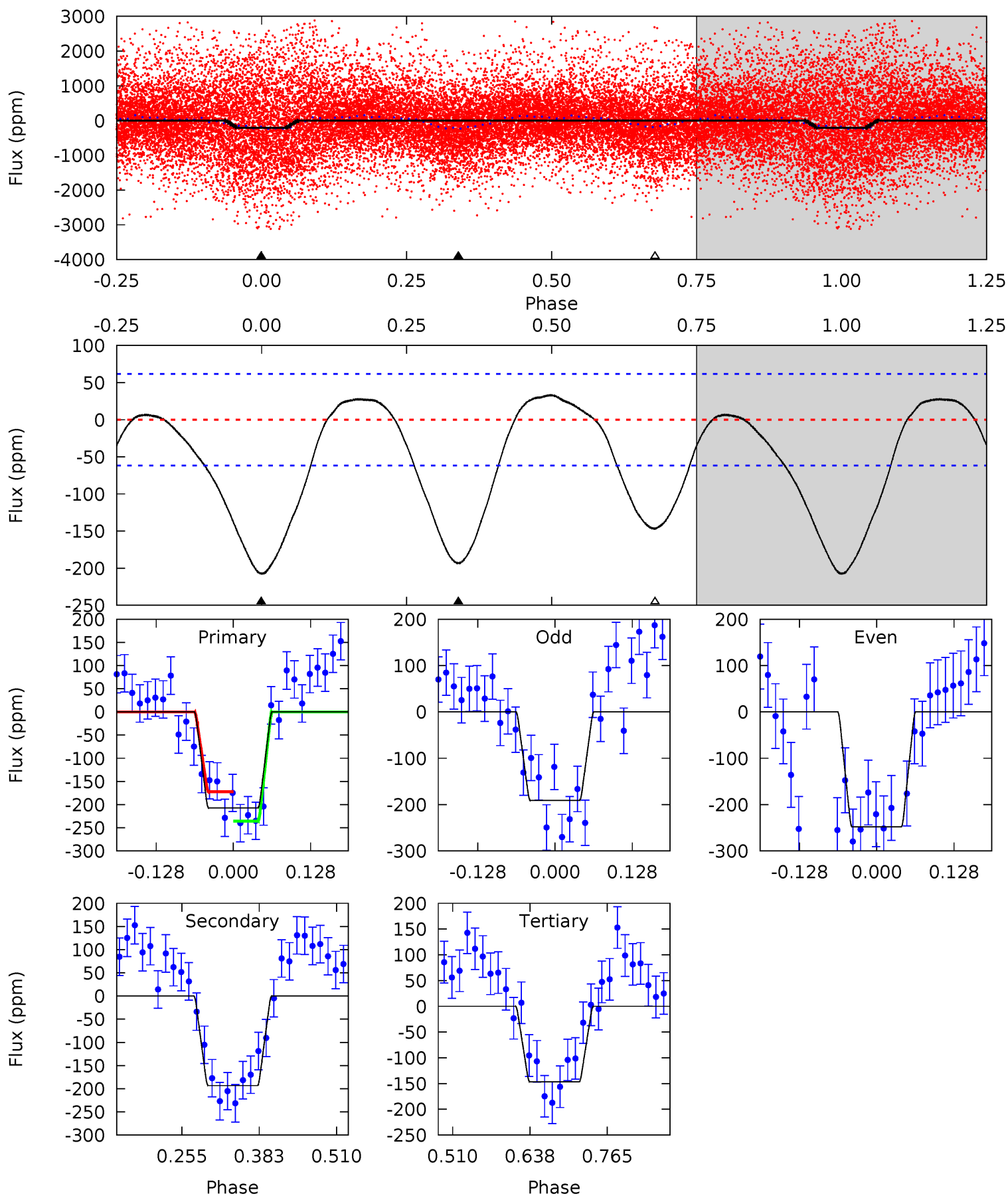
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	-4.20	0	0	4.42	1.29	11.1	16.6	16.6	-4.20	-4.20	1.58	0.85	0.59	0.53



Alt Model-Shift Uniqueness Test

005372348-02, P = 1.032799 Days, E = 130.921939 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	14.1	10.7	0	4.51	1.52	4.28	4.45	15.2	3.41	14.1	1.97	0.82	0.14	2.31



Stellar Parameters For KIC 005372348

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7272^{+230}_{-316}	$4.225^{+0.090}_{-0.210}$	$-0.020^{+0.200}_{-0.350}$	$1.559^{+0.568}_{-0.227}$	$1.487^{+0.221}_{-0.221}$	$0.553^{+0.234}_{-0.314}$
	+3%/-4%	+2%/-5%	+1000%/-1750%	+36%/-15%	+15%/-15%	+42%/-57%
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 005372348-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	47 ± 11	$5.34^{+4.06}_{-3.34}$	3734^{+277}_{-231}	-4129^{+374}_{-1459}	$-0.447^{+0.305}_{-2.848}$
Alt.	-193 ± 14	$4.23^{+3.66}_{-2.85}$	3763^{+294}_{-233}	5335^{+5510}_{-1398}	$3.122^{+24.546}_{-2.210}$

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 $A_{obs} \gg 1.0$

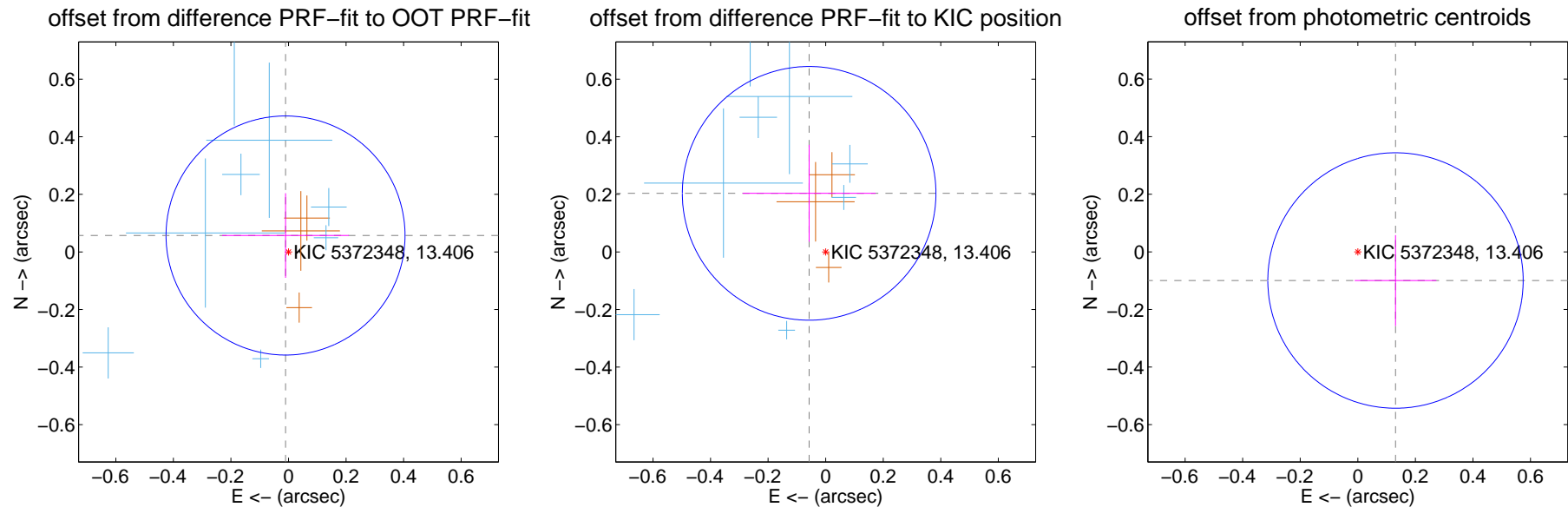
DV Centroid Data

Supplemental centroid analysis for 005372348-02. Kepler magnitude: 13.41. Transit SNR 11.70

There are 8 quarters with good PRF difference image offsets

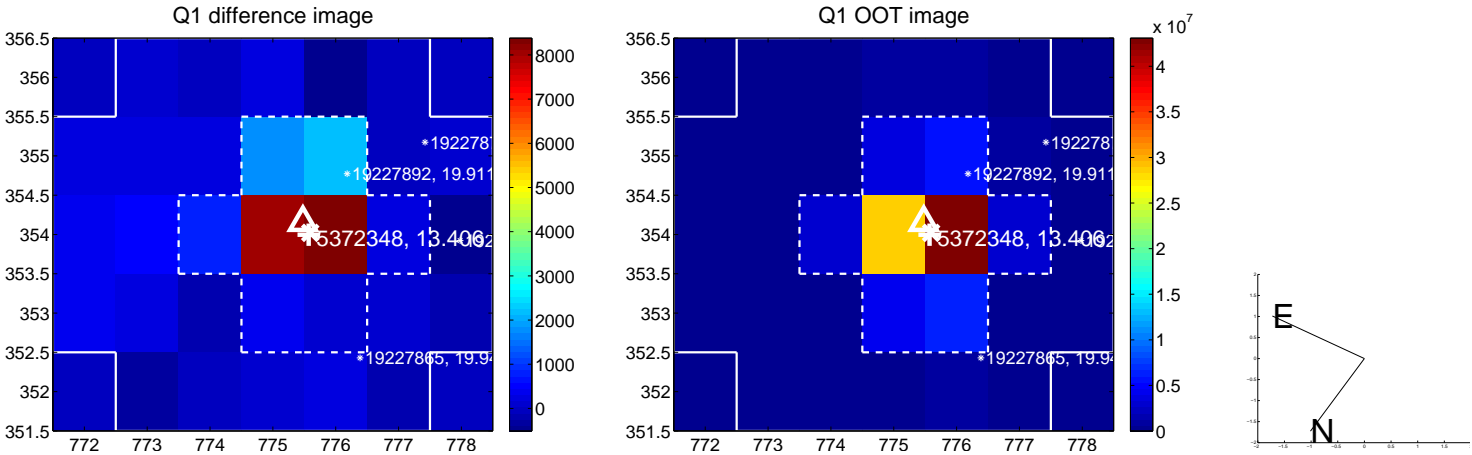
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.058 ± 0.138	0.42	0.010 ± 0.220	0.057 ± 0.147
PRF-fit source offset from KIC position	0.211 ± 0.147	1.44	0.057 ± 0.231	0.203 ± 0.168
photometric centroid source offset	0.16 ± 0.15	1.11	-0.13 ± 0.14	-0.10 ± 0.16

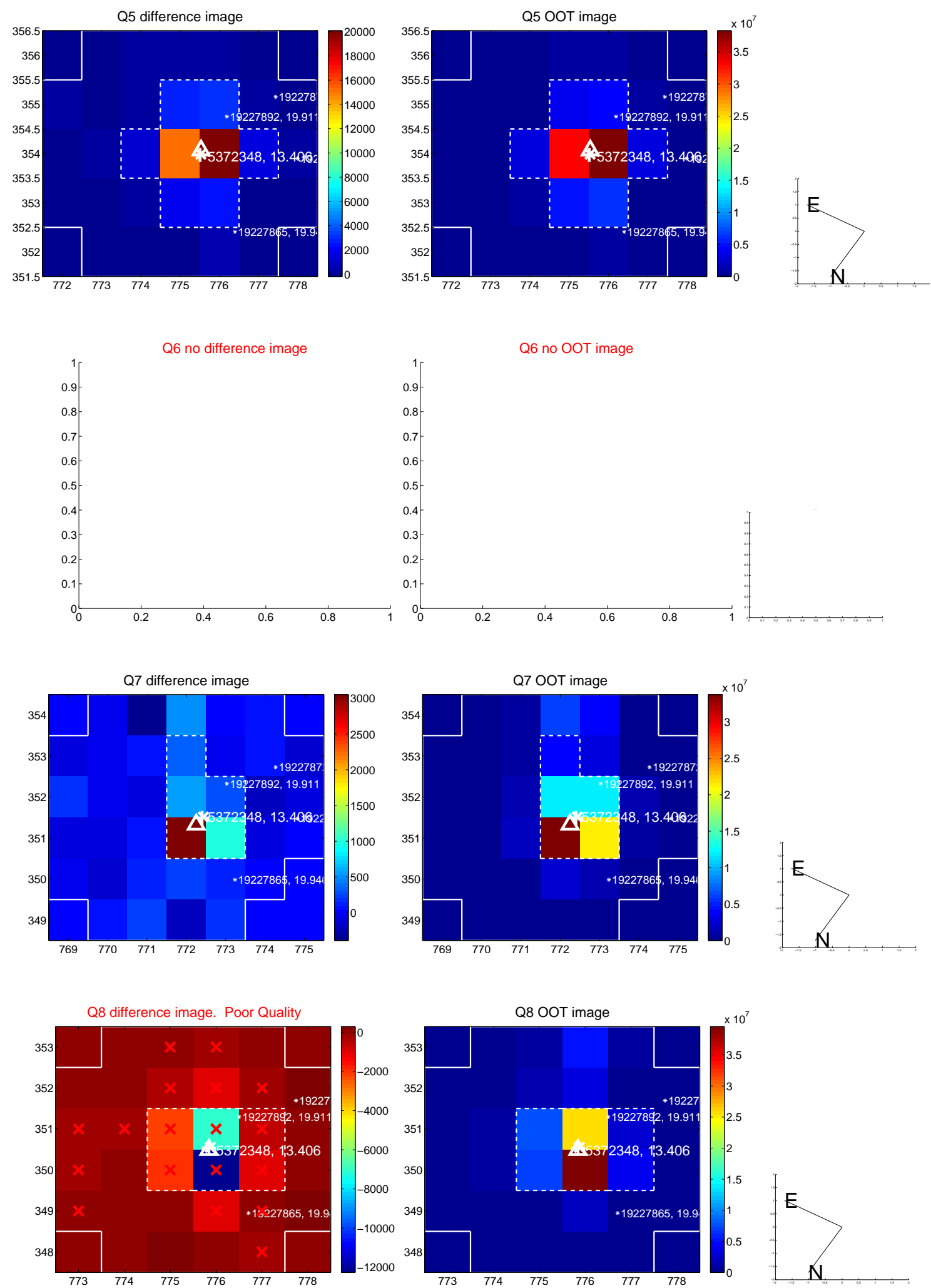


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

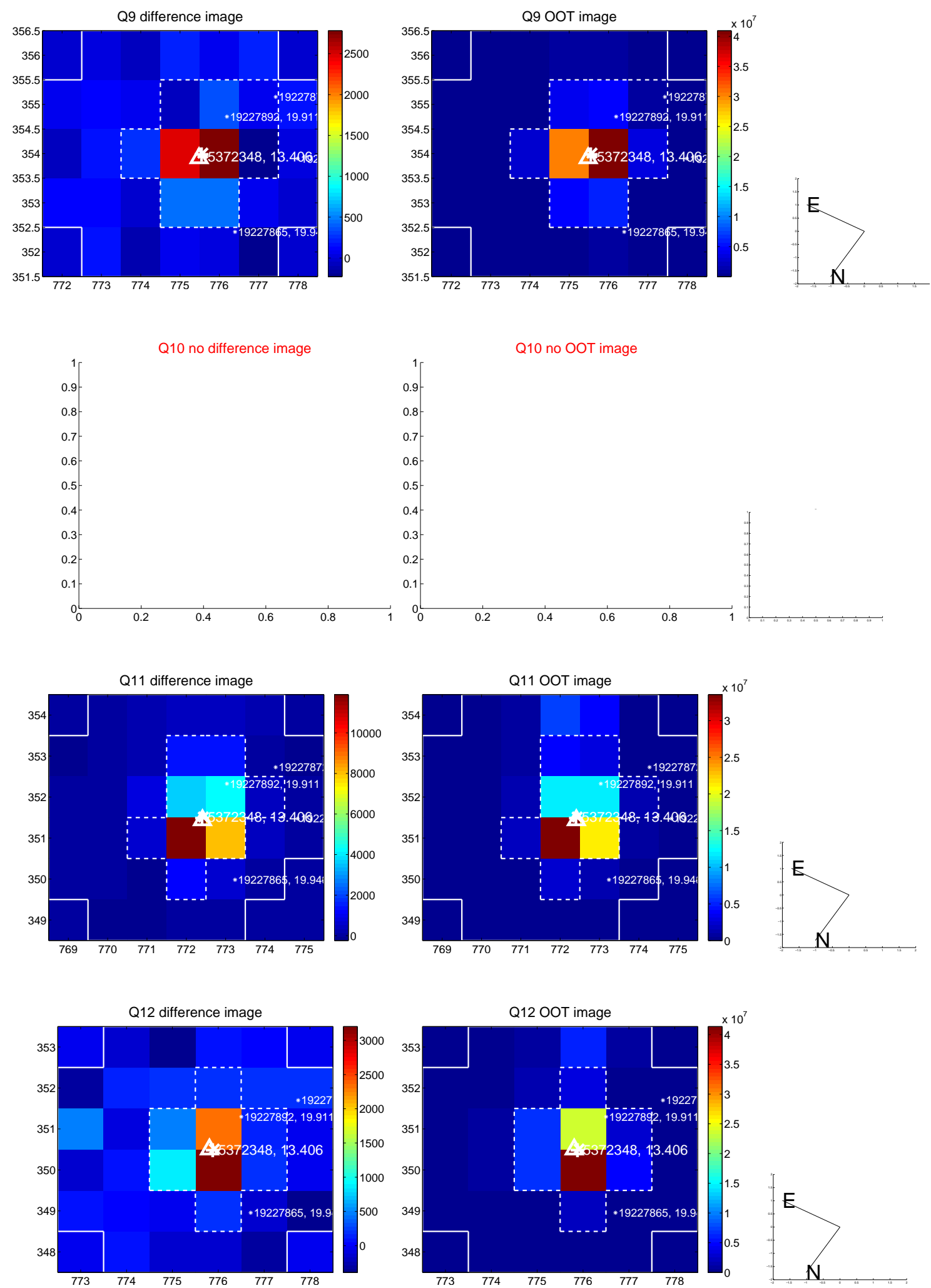
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



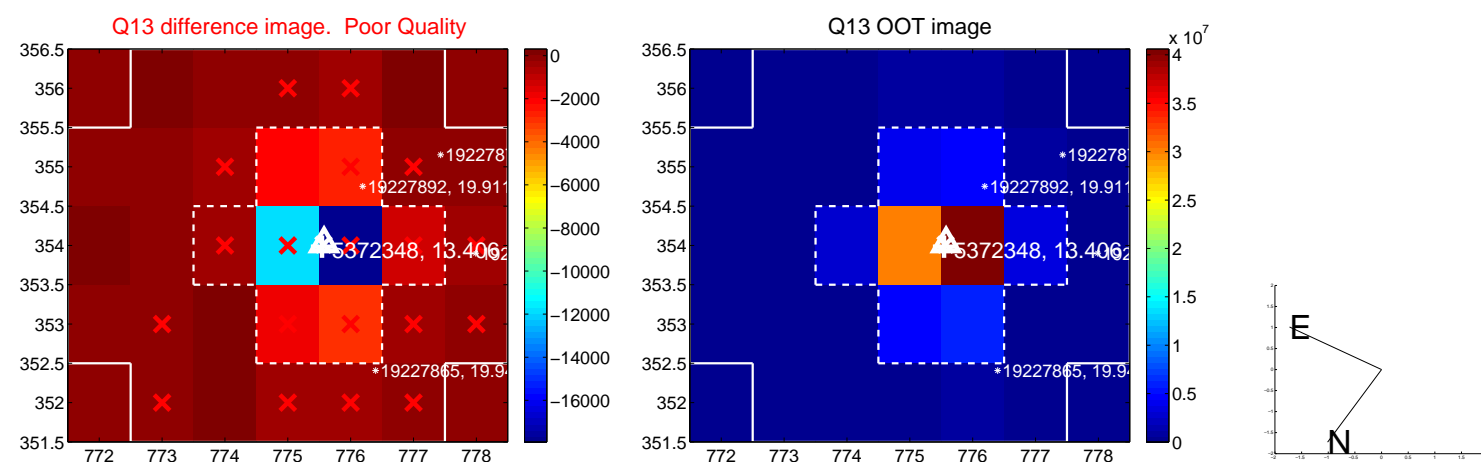
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



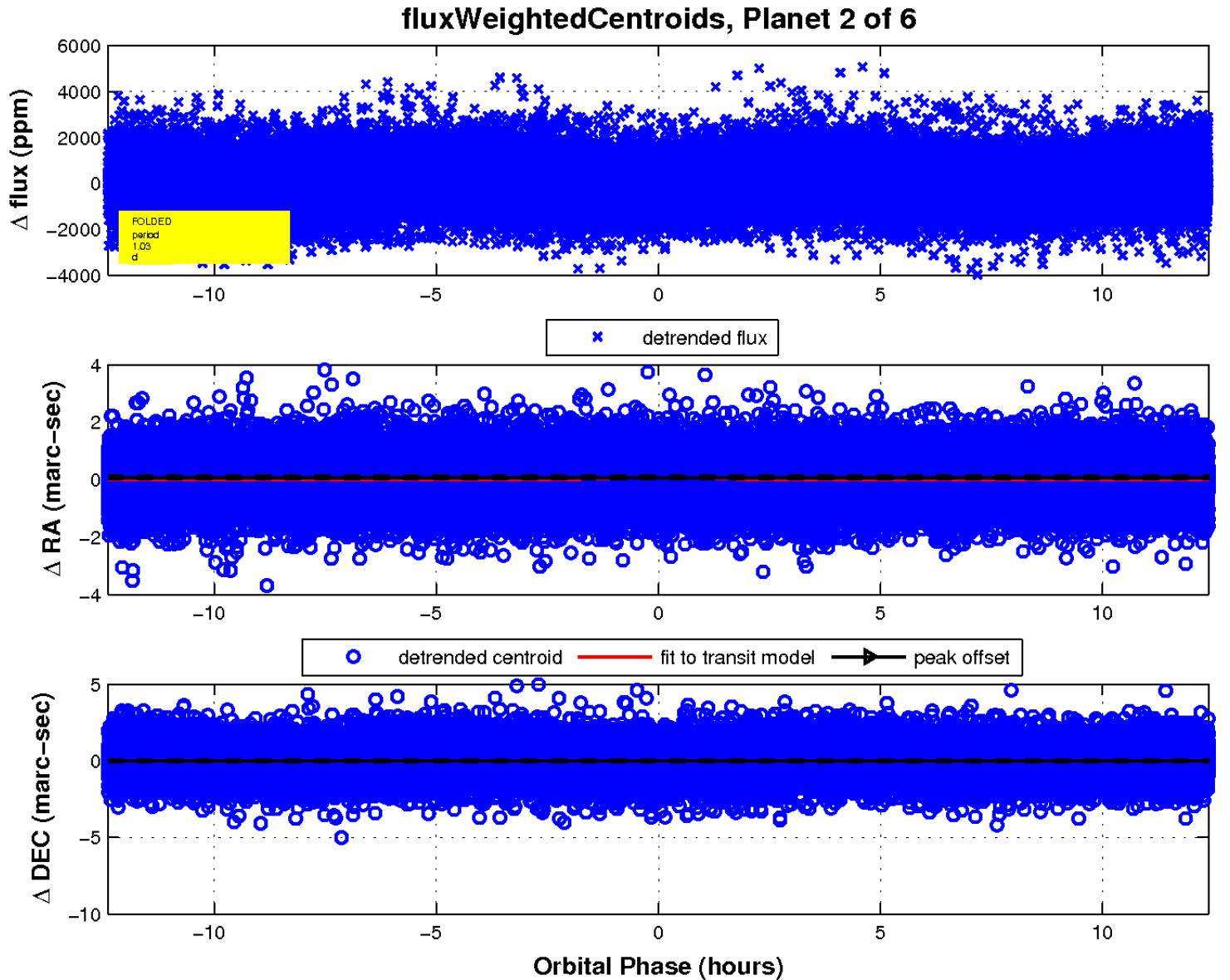
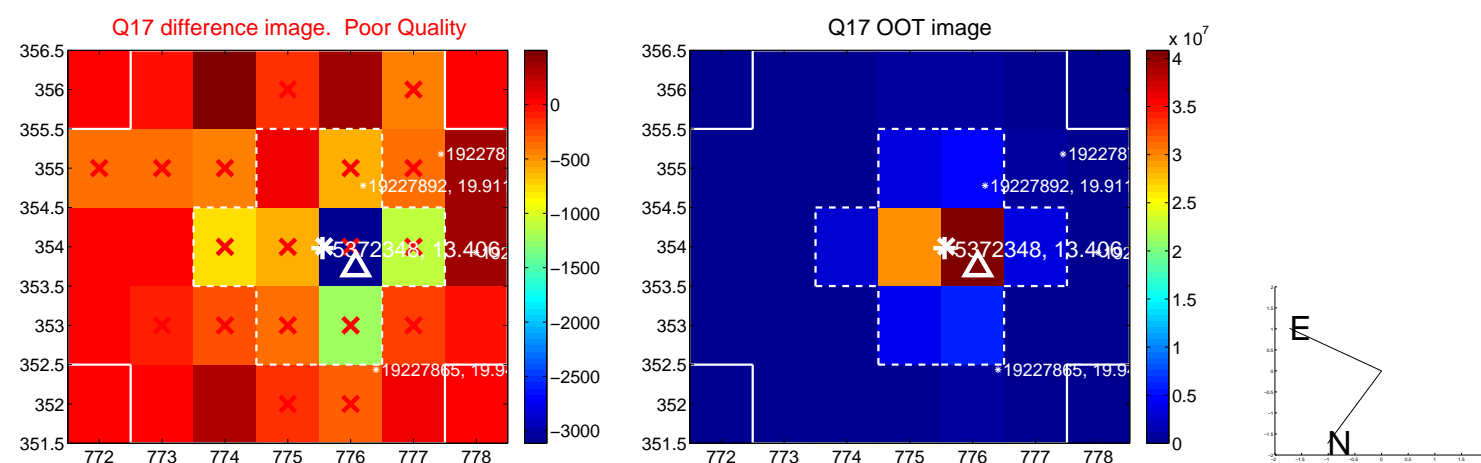
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

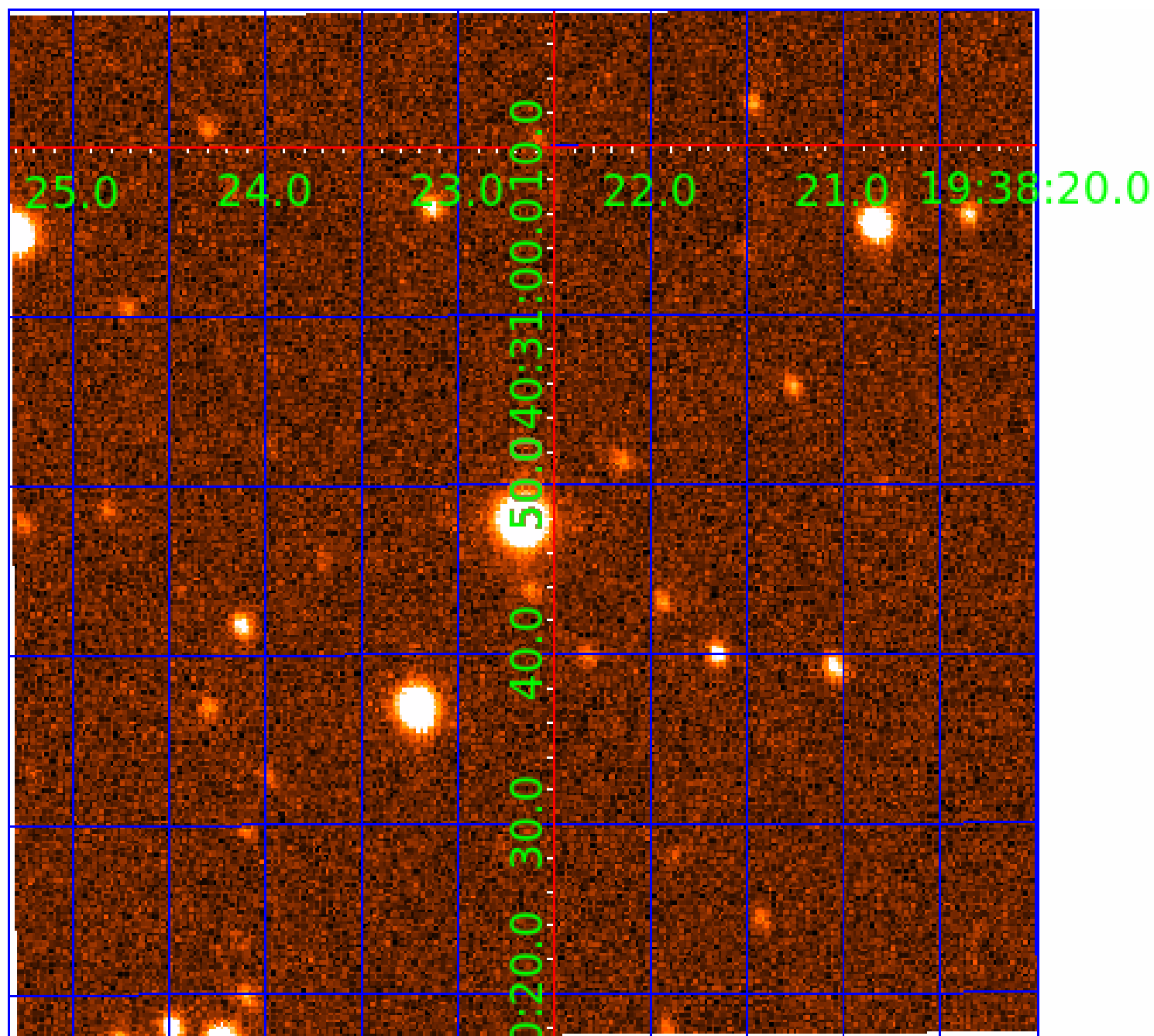


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005372348

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})
005372348-01	OBS	No	0.688711	131.658741	0.0	2.923	7.8	0.0	1.56	7272	0.01	20045.87
005372348-02	OBS	No	1.032775	131.975921	248.3	4.462	10.6	11.7	1.56	7272	4.69	11678.83
005372348-03	OBS	No	122.571419	221.700713	1983.8	6.170	12.0	13.7	1.56	7272	8.57	20.02
005372348-04	OBS	No	74.517762	198.741053	1793.2	4.814	12.0	10.0	1.56	7272	11.22	38.88
005372348-05	OBS	No	79.148608	145.073978	1724.7	6.601	9.5	10.9	1.56	7272	11.85	35.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005372348-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
005372348-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005372348-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—MOD_NONUNIQ_ALT
005372348-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005372348-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

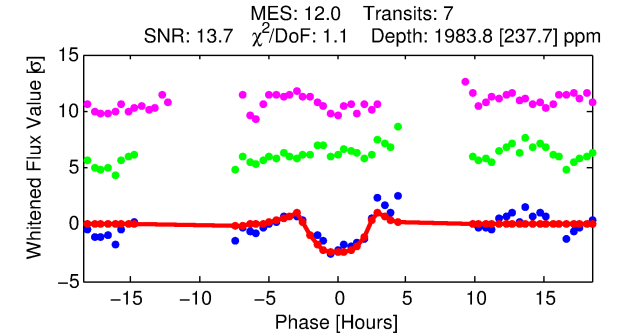
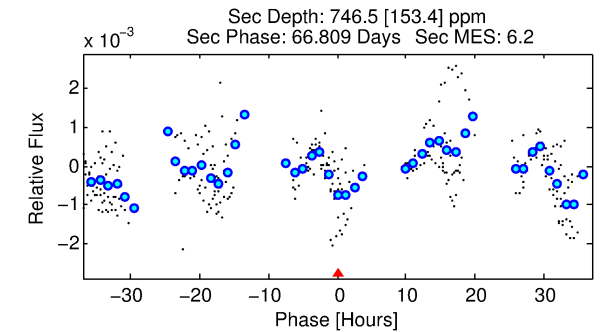
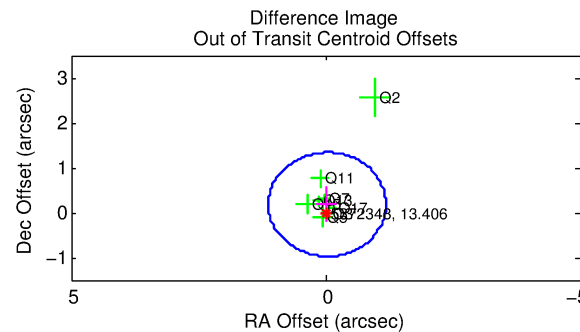
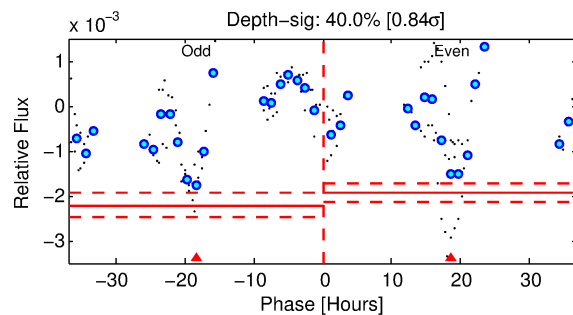
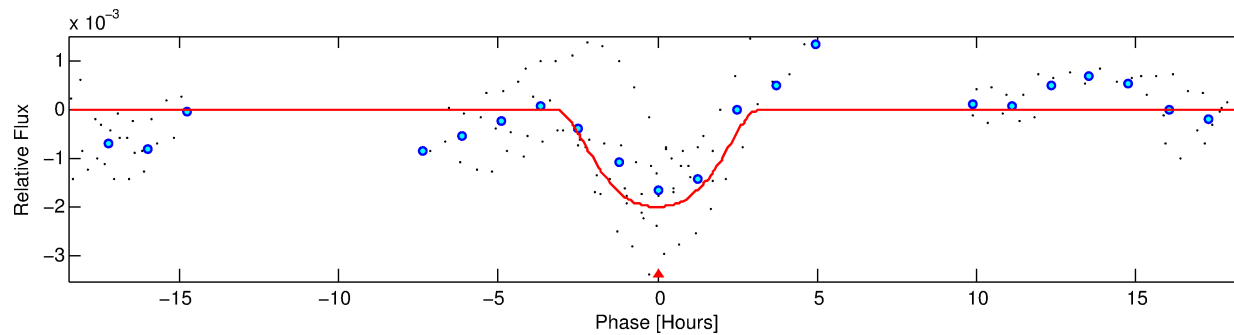
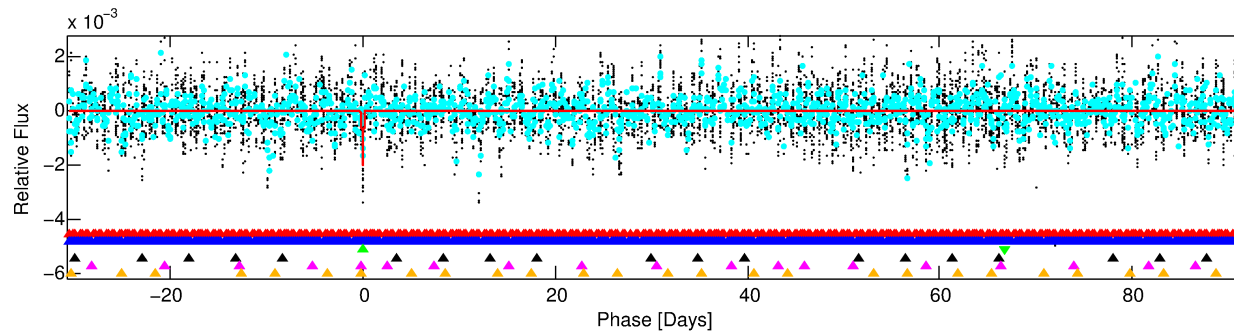
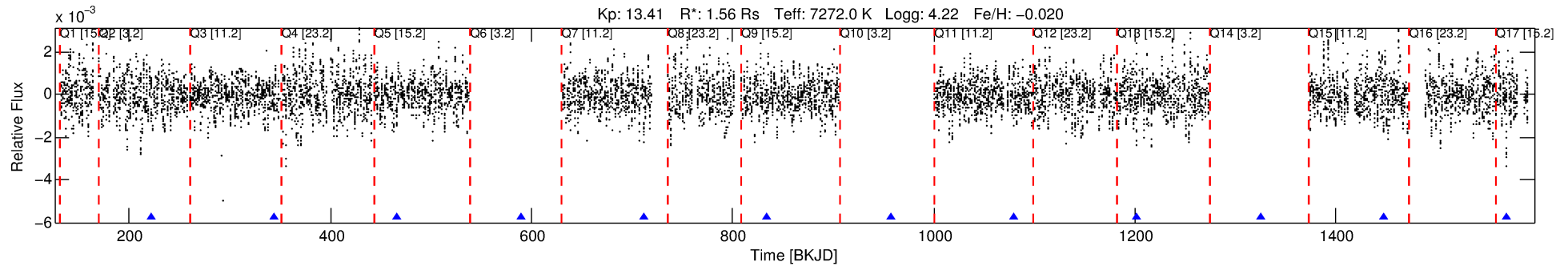
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005372348-03

No Significant Match Found

DV One-Page Summary

KIC: 5372348 Candidate: 3 of 6 Period: 122.571 d



DV Fit Results:

Period = 122.57142 [0.00155] d
Epoch = 221.7007 [0.0125] BKJD
Rp/R* = 0.0504 [0.0046]
a/R* = 67.71 [7.32]
b = 0.95 [0.02]
Seff = 20.02 [8.80]
Teq = 539 [59] K
Rp = 8.57 [3.22] Re
a = 0.5515 [0.1608] AU
Ag = 1698.77 [829.07] [2.05 σ]
Teffp = 5354 [435] K [10.97 σ]

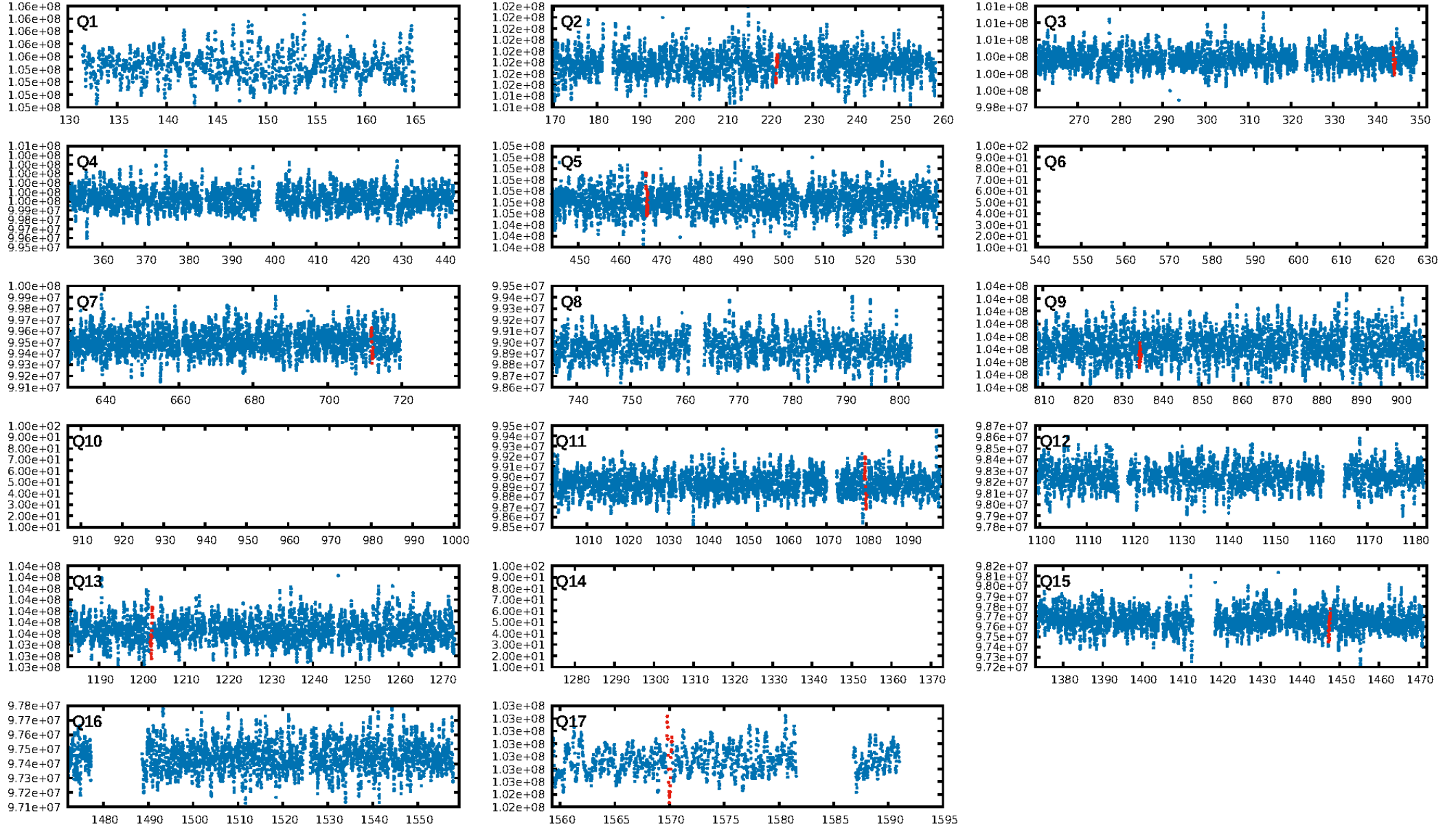
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [115.34 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.025
Centroid-sig: 39.4%
Centroid-so: 0.111 arcsec [0.64 σ]
OotOffset-rm: 0.184 arcsec [0.48 σ]
OotOffset-st: 1/4/0/3 [8]
KicOffset-rm: 0.309 arcsec [1.27 σ]
KicOffset-st: 1/4/0/3 [8]
DiffImageQuality-fgm: 0.75 [6/8]
DiffImageOverlap-fno: 0.00 [0/9]

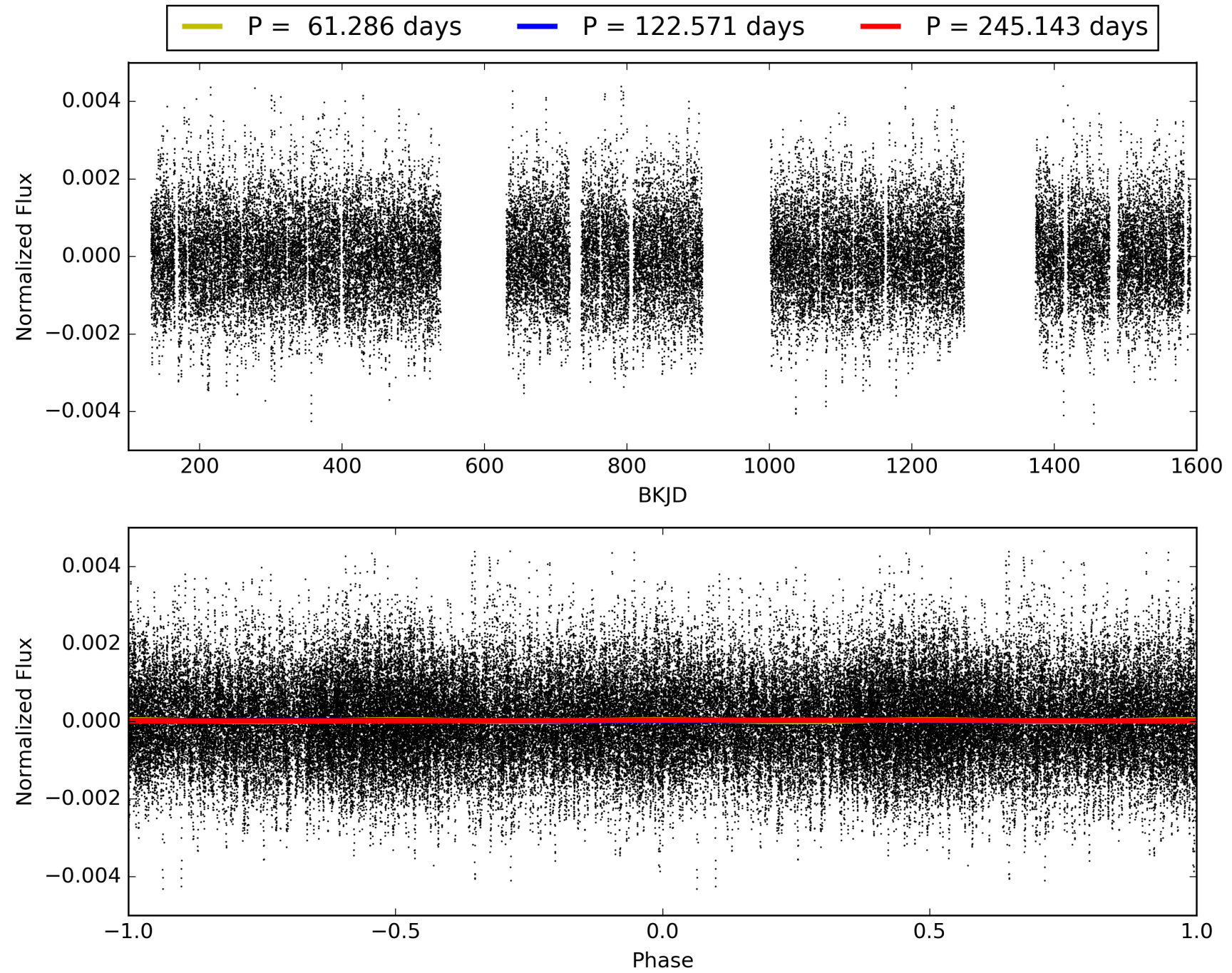
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:17:36 Z

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

TCE 005372348-03, PDC Light Curves

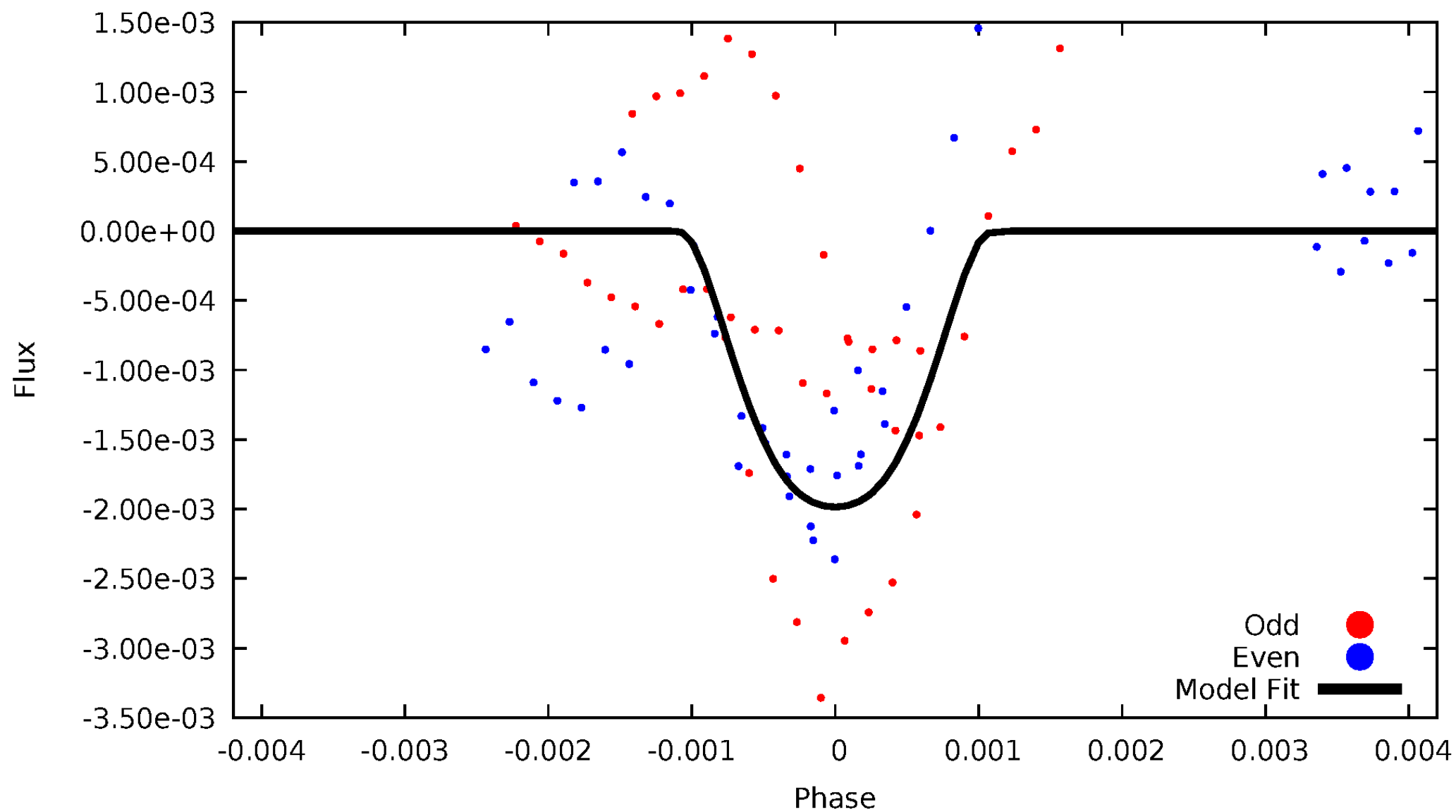


TCE 005372348-03



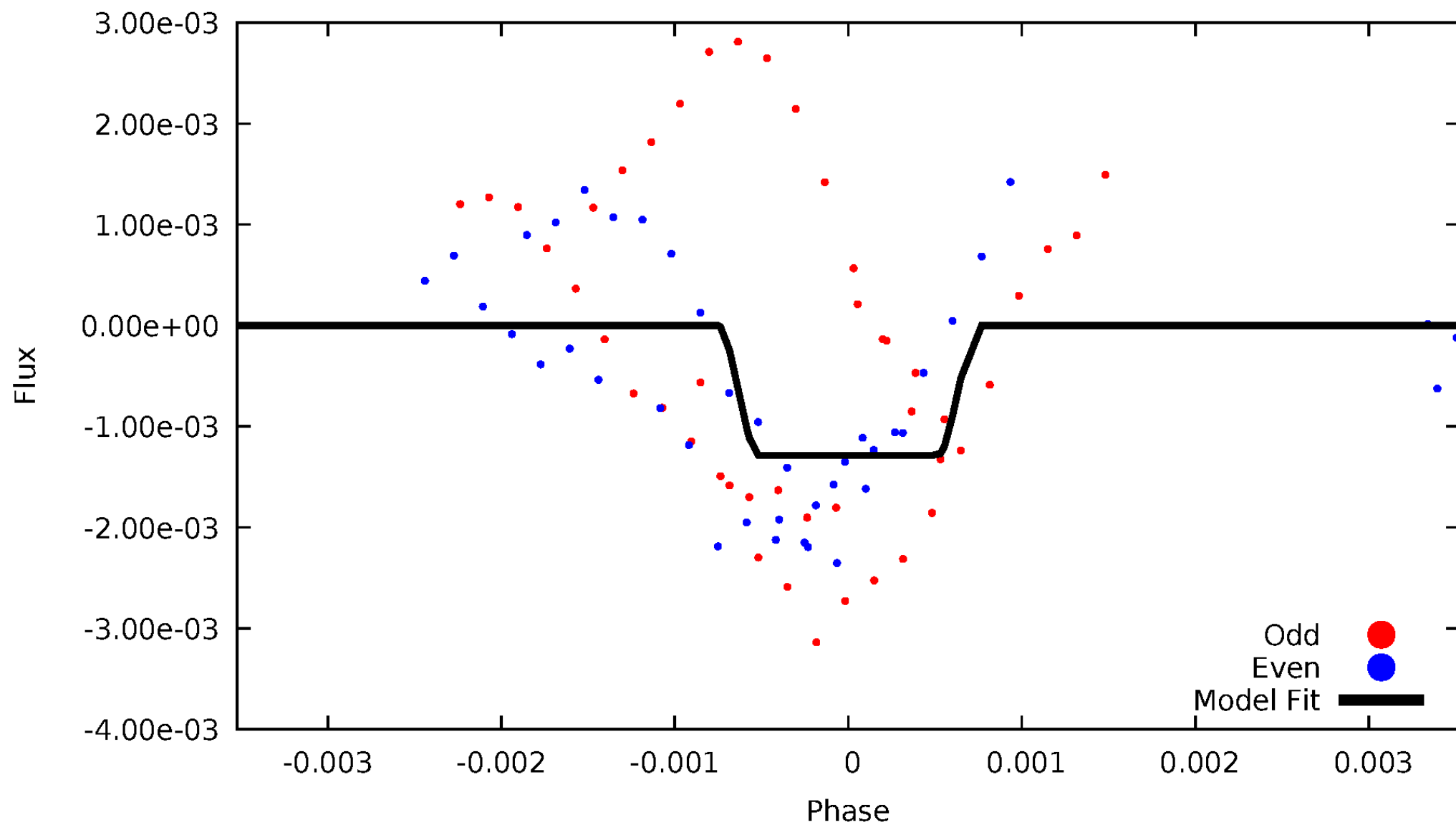
DV Odd/Even

TCE 005372348-03



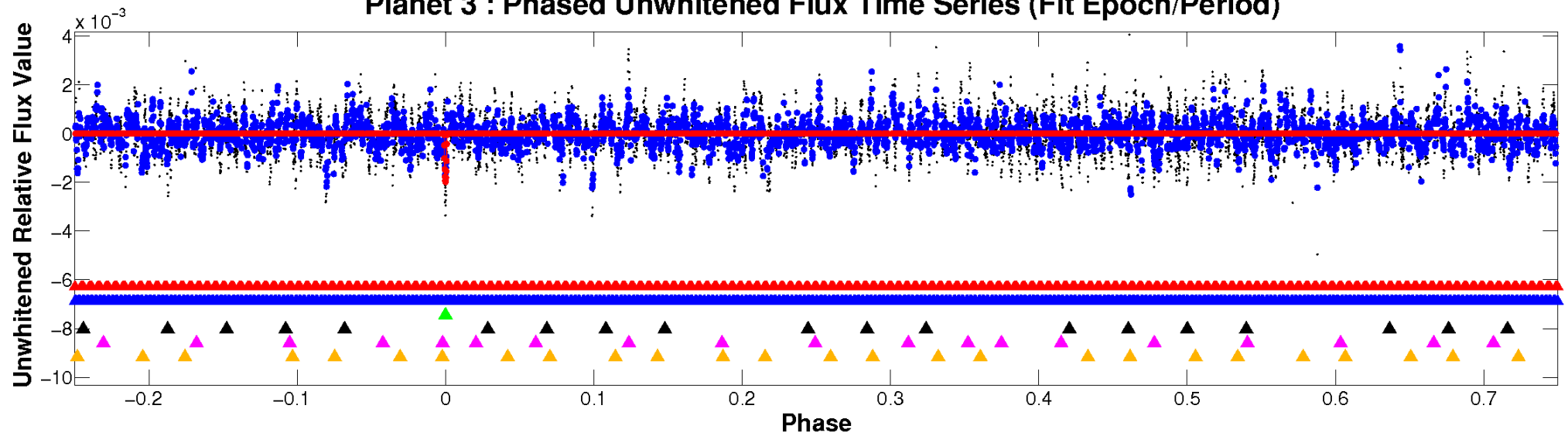
ALT Odd/Even

TCE 005372348-03

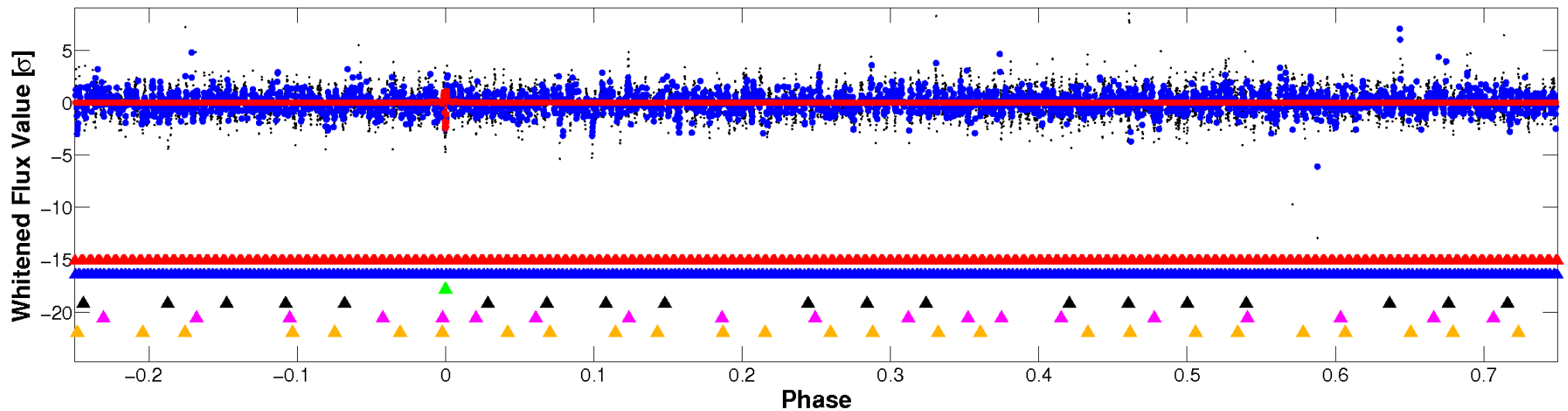


Non-Whitened Vs. Whitened Light Curve

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

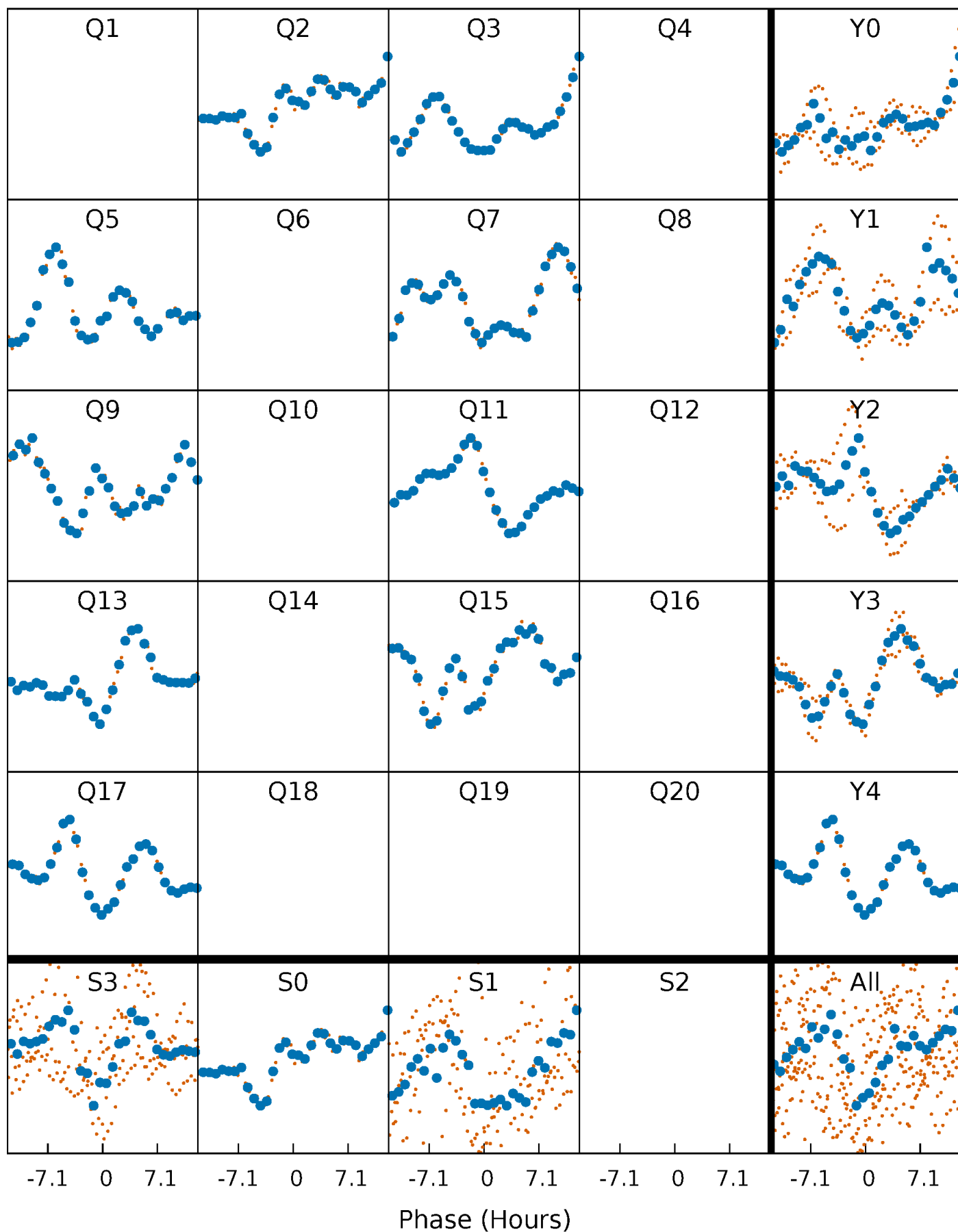


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



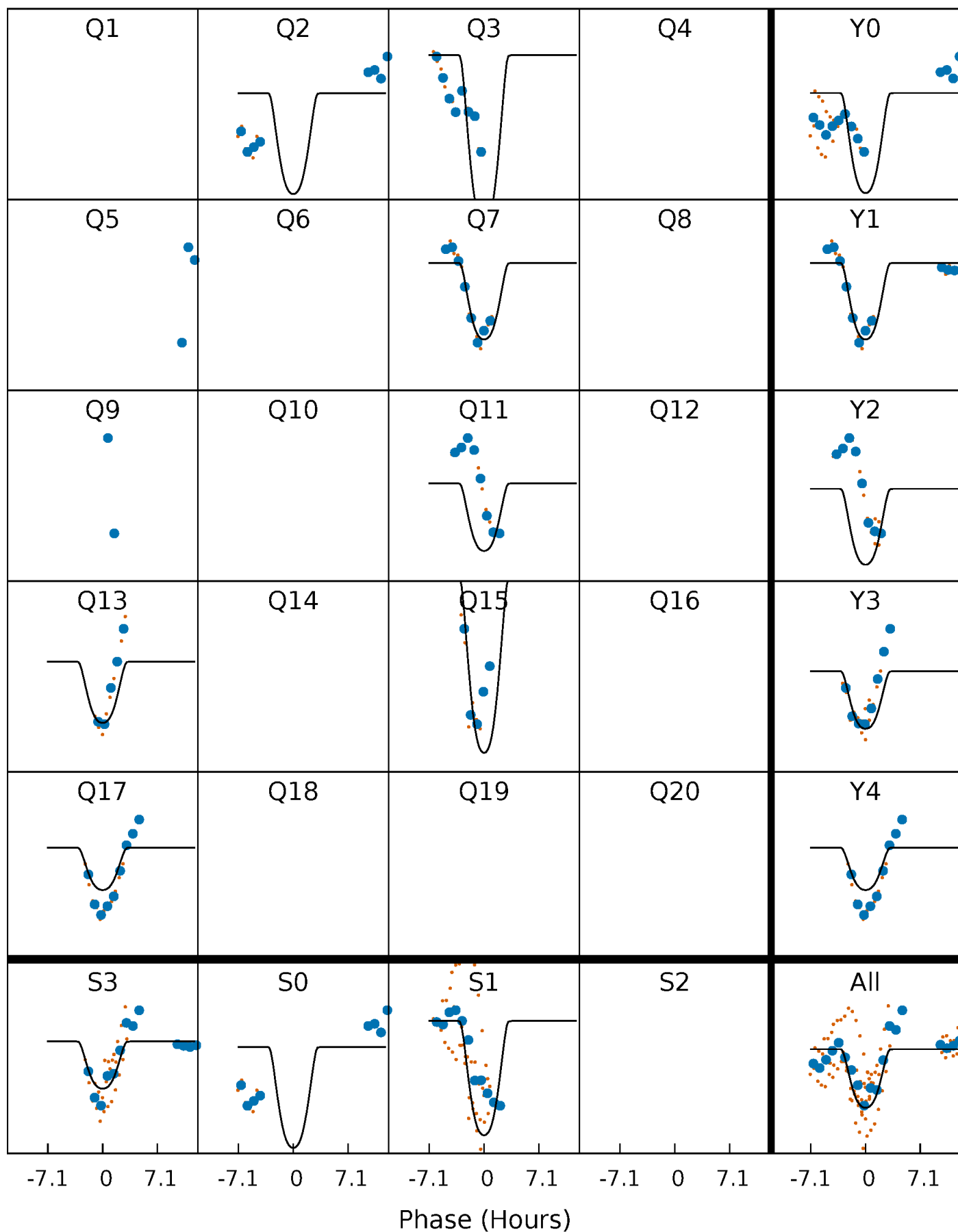
PDC Quarter-Phased Transit Curves

TCE 005372348-03 P=122.571419 Days $T_0=221.700713$ (BKJD)



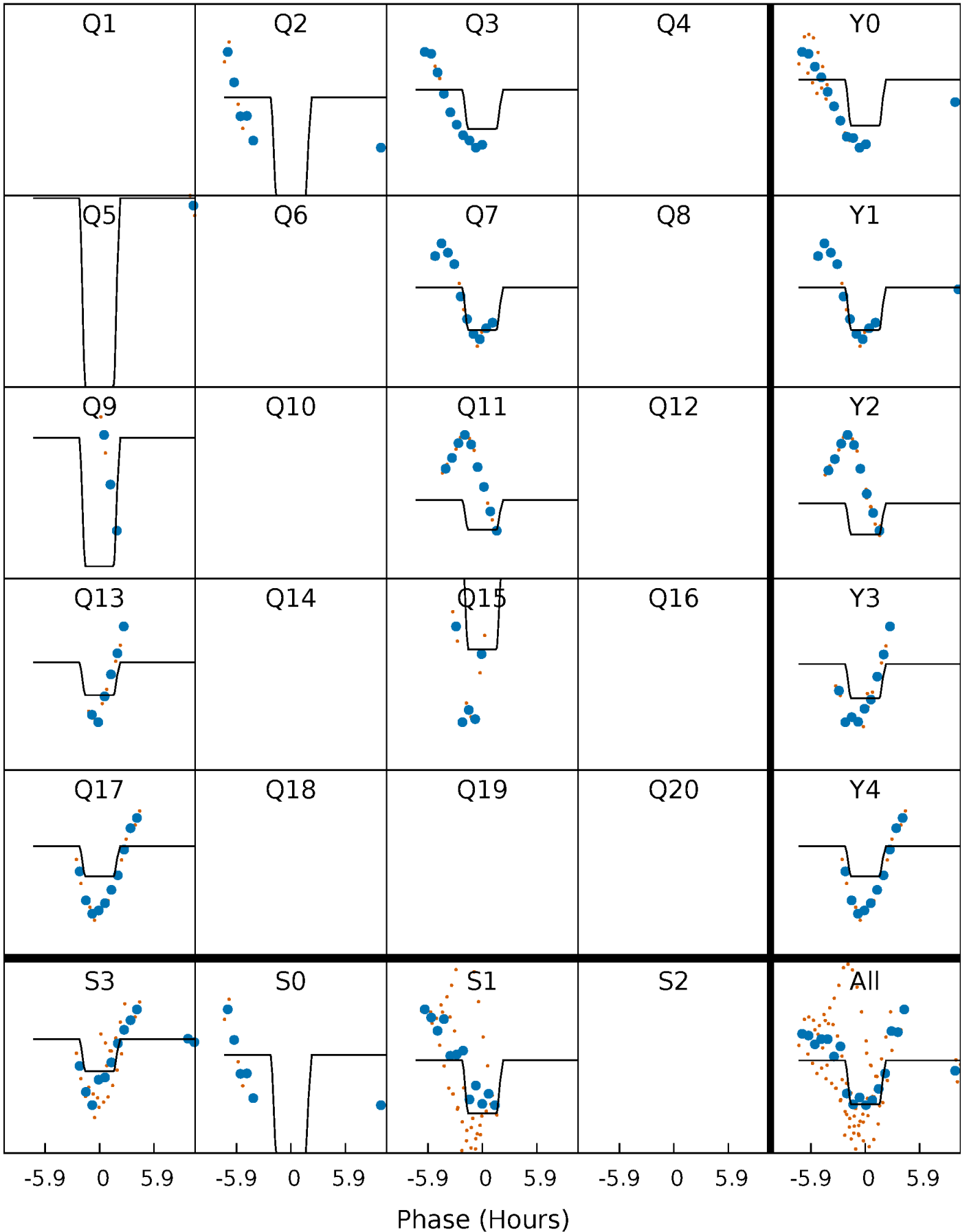
DV Quarter-Phased Transit Curves

TCE 005372348-03 P=122.571419 Days $T_0=221.700713$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

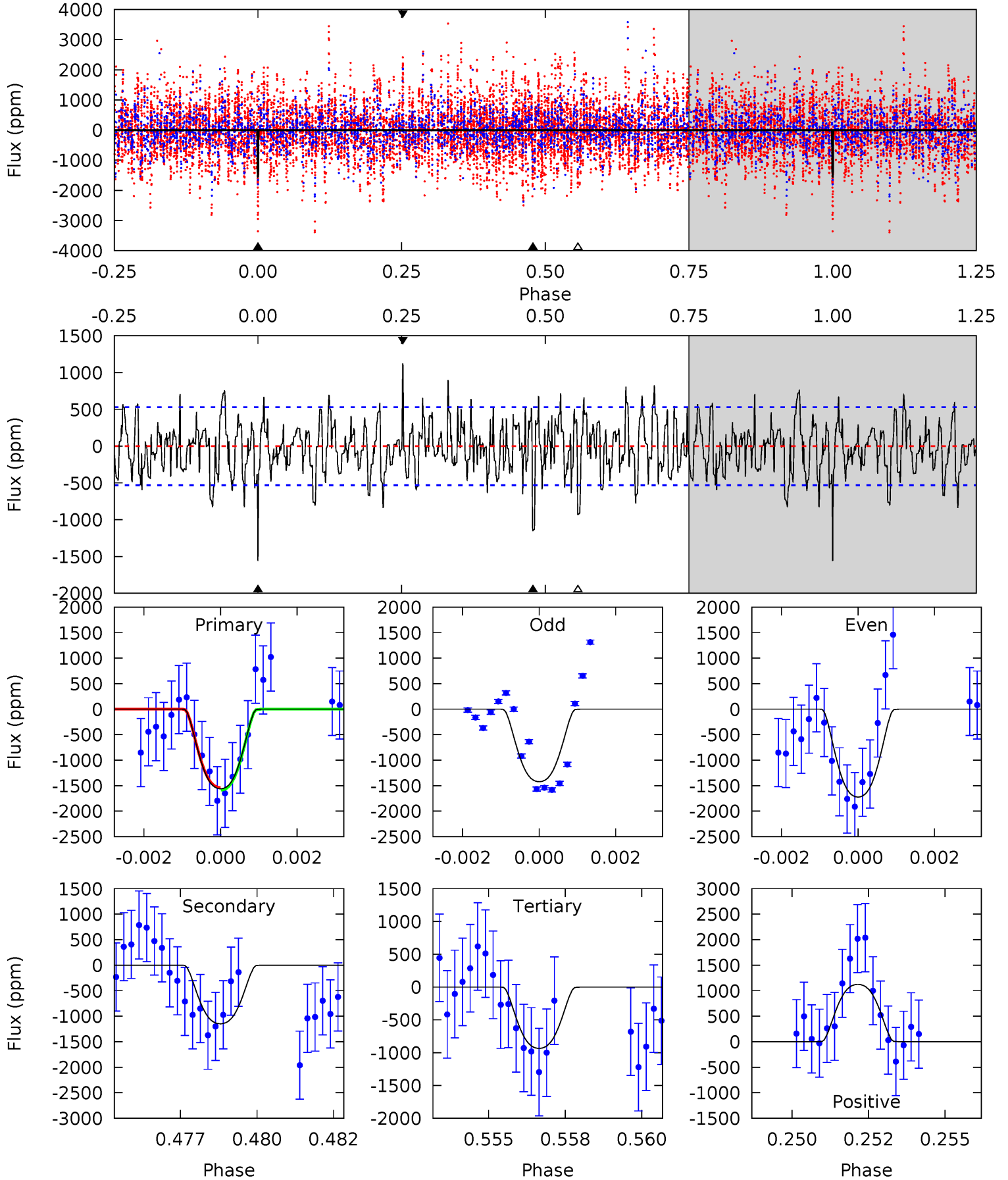
TCE 005372348-03 P=122.572334 Days $T_0=221.701077$ (BKJD)



DV Model-Shift Uniqueness Test

005372348-03, P = 122.571419 Days, E = 99.129294 Days

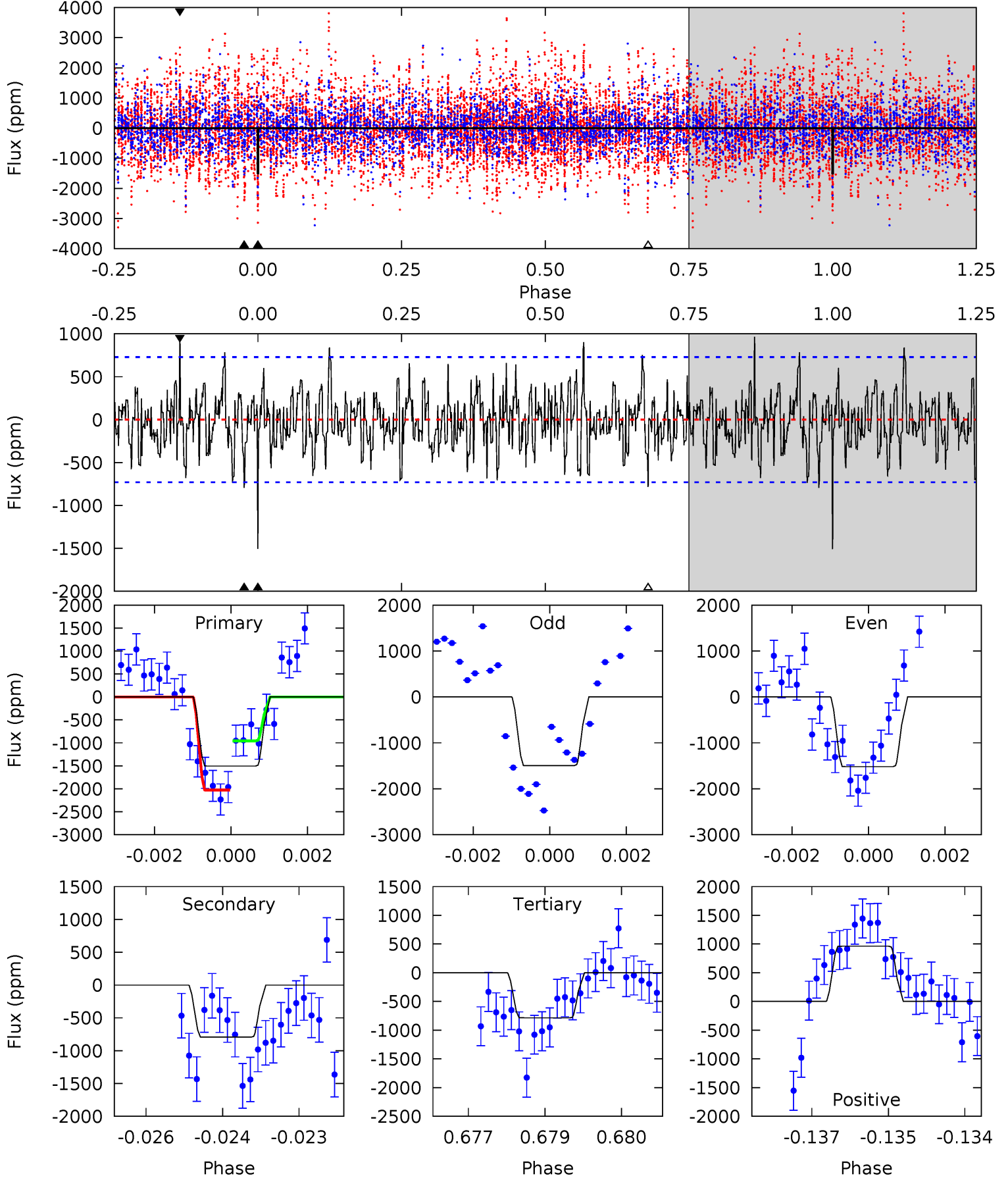
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	11.5	9.32	11.2	5.30	3.05	3.21	6.25	4.36	2.13	0.25	1.49	0.92	0.42	0.25



Alt Model-Shift Uniqueness Test

005372348-03, P = 122.572334 Days, E = 99.128743 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	5.84	5.78	7.10	5.38	3.17	1.95	5.32	4.00	0.06	-1.26	0.08	0.82	0.39	3.95



Stellar Parameters For KIC 005372348

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7272^{+230}_{-316}	$4.225^{+0.090}_{-0.210}$	$-0.020^{+0.200}_{-0.350}$	$1.559^{+0.568}_{-0.227}$	$1.487^{+0.221}_{-0.221}$	$0.553^{+0.234}_{-0.314}$
	+3%/-4%	+2%/-5%	+1000%/-1750%	+36%/-15%	+15%/-15%	+42%/-57%
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 005372348-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1148 ± 100	$8.75^{+1.61}_{-1.08}$	762^{+64}_{-46}	5877^{+360}_{-314}	2442^{+762}_{-691}
Alt.	-793 ± 136	$6.25^{+1.29}_{-1.01}$	762^{+58}_{-46}	6324^{+609}_{-511}	3254^{+1468}_{-1055}

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 $A_{obs} \gg 1.0$

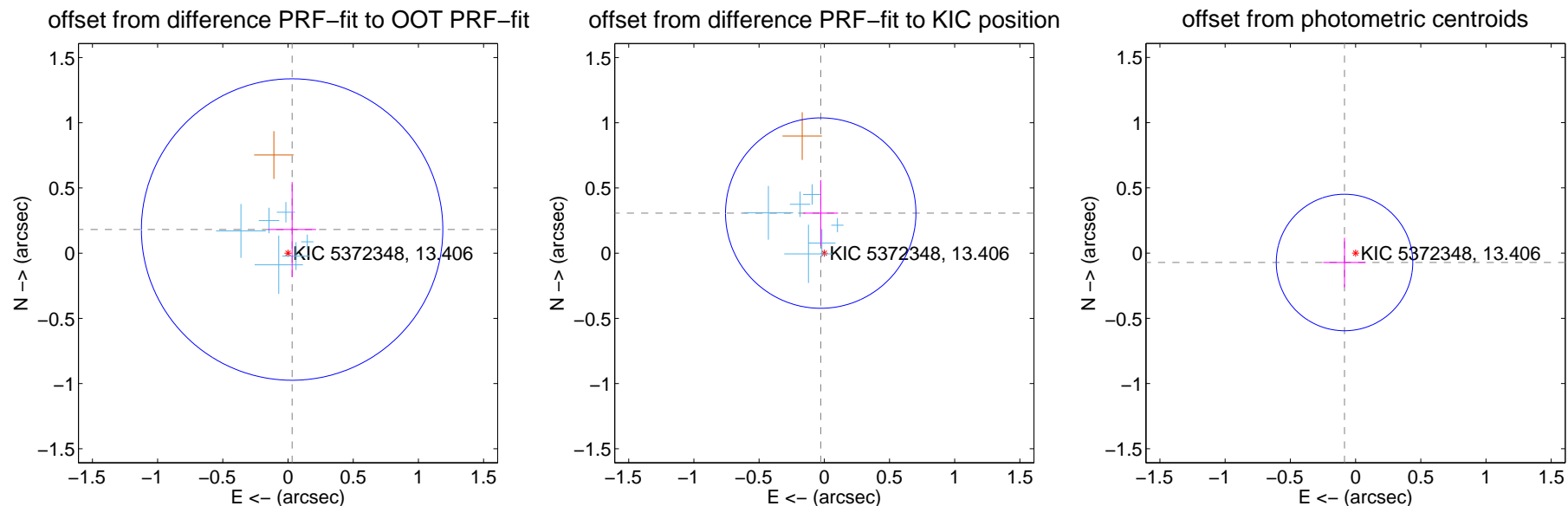
DV Centroid Data

Supplemental centroid analysis for 005372348-03. Kepler magnitude: 13.41. Transit SNR 13.73

There are 6 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.184 ± 0.385	0.48	-0.031 ± 0.183	0.181 ± 0.364
PRF-fit source offset from KIC position	0.309 ± 0.243	1.27	0.027 ± 0.133	0.307 ± 0.253
photometric centroid source offset	0.11 ± 0.17	0.64	0.08 ± 0.16	-0.07 ± 0.19



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.

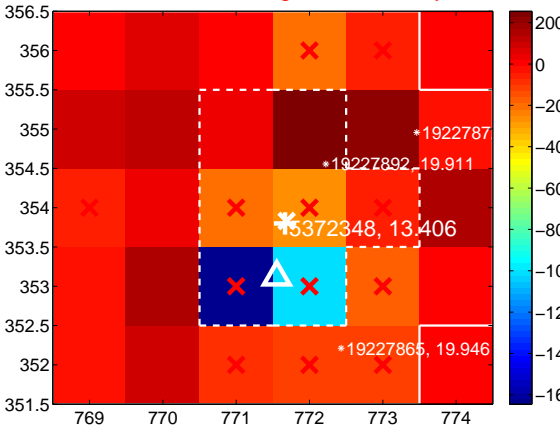
Q1 no difference image



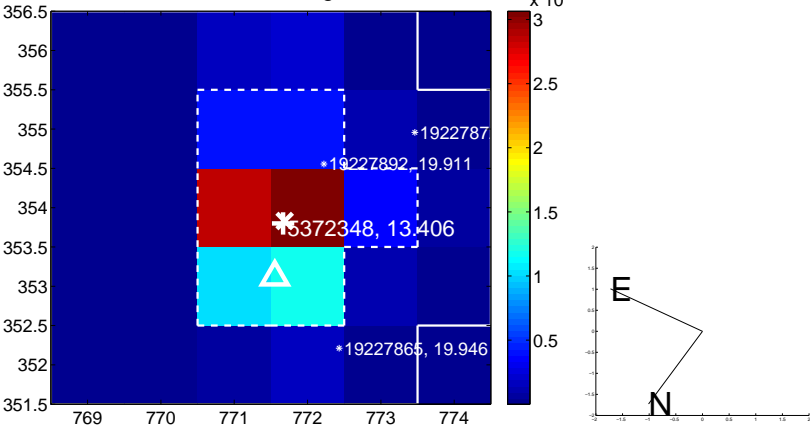
Q1 no OOT image



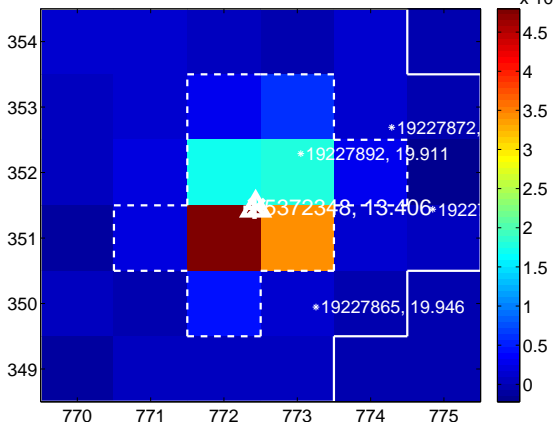
Q2 difference image. Poor Quality



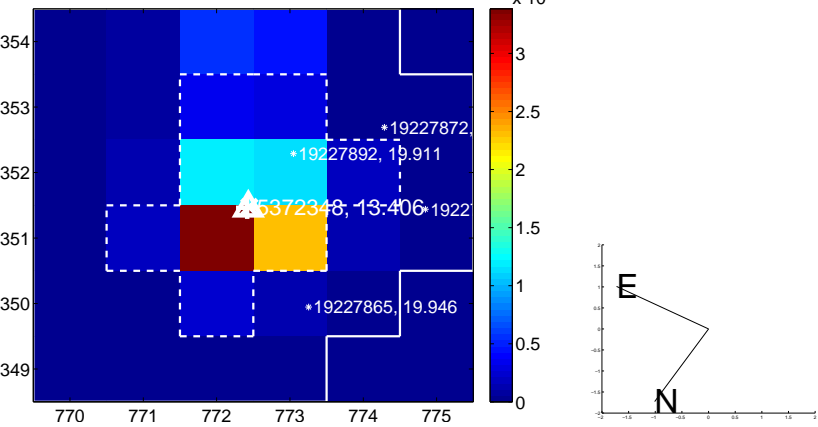
Q2 OOT image



Q3 difference image



Q3 OOT image



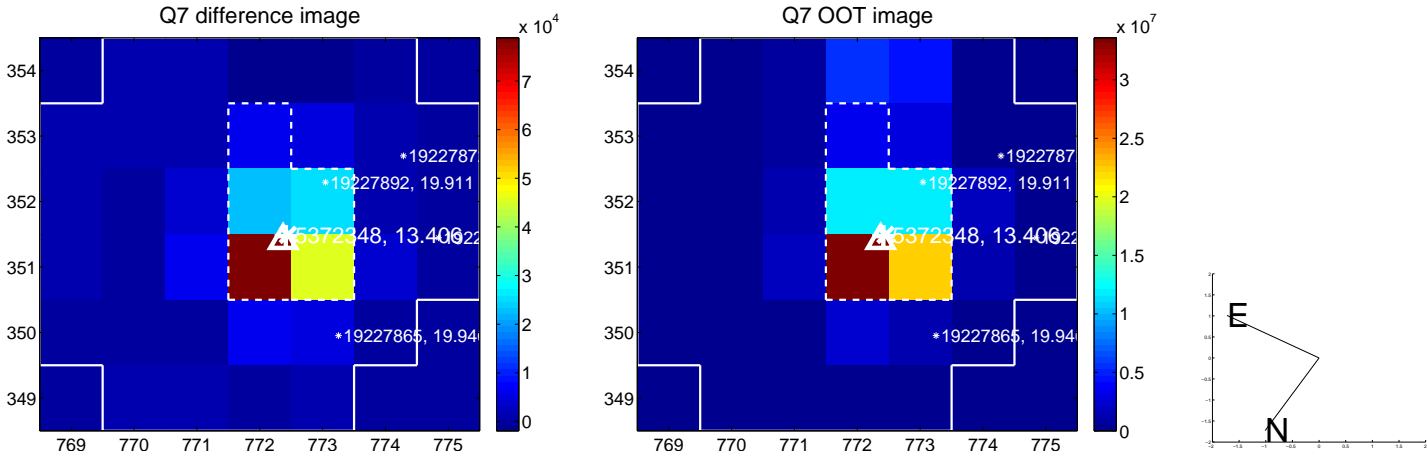
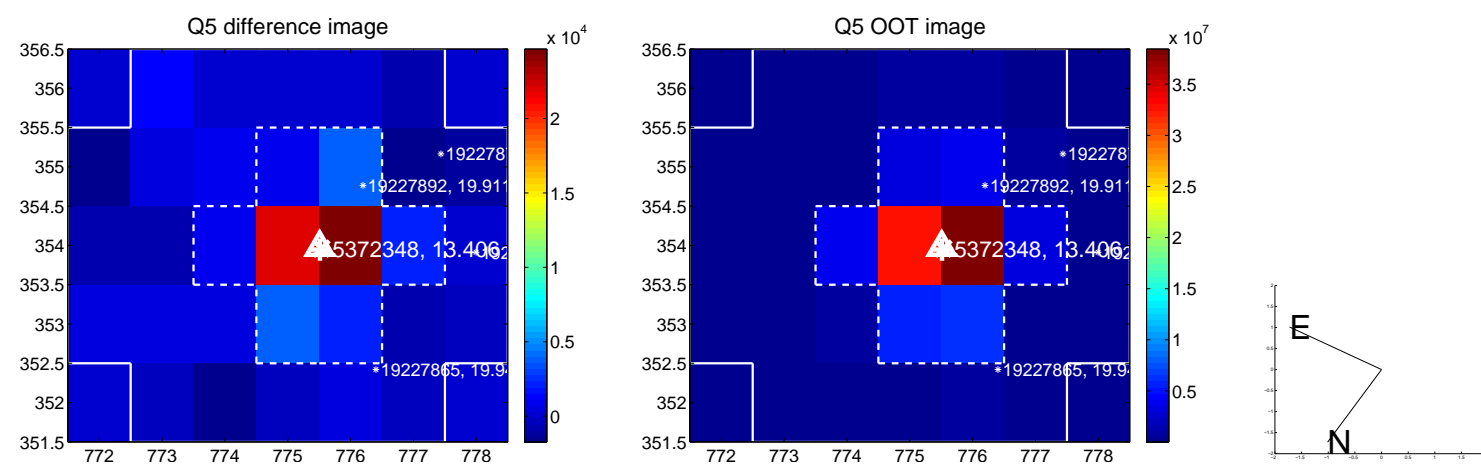
Q4 no difference image



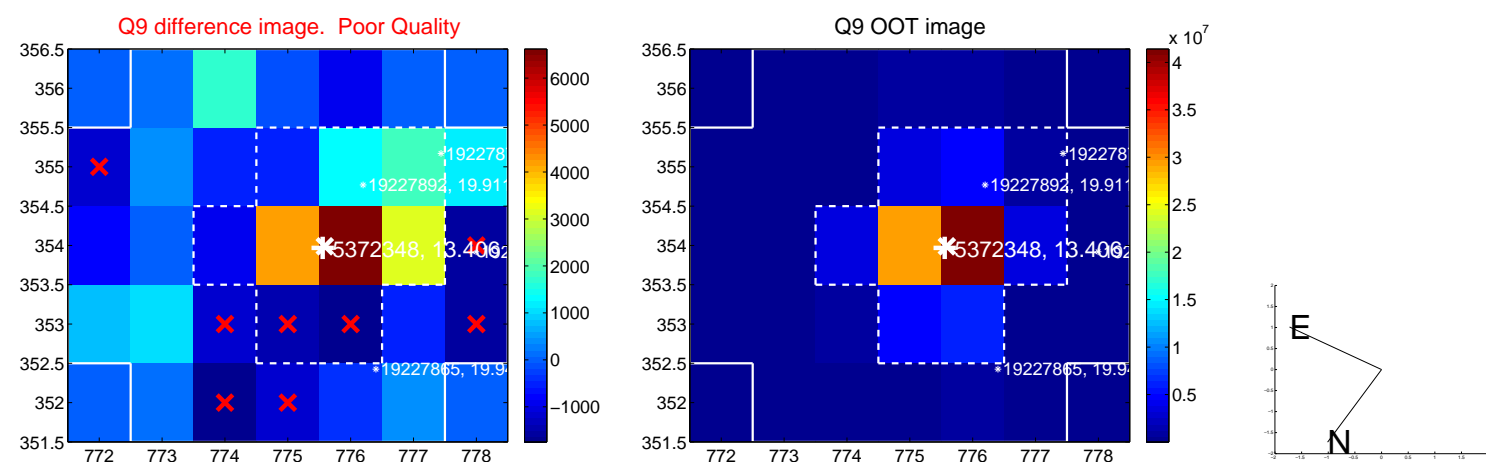
Q4 no OOT image



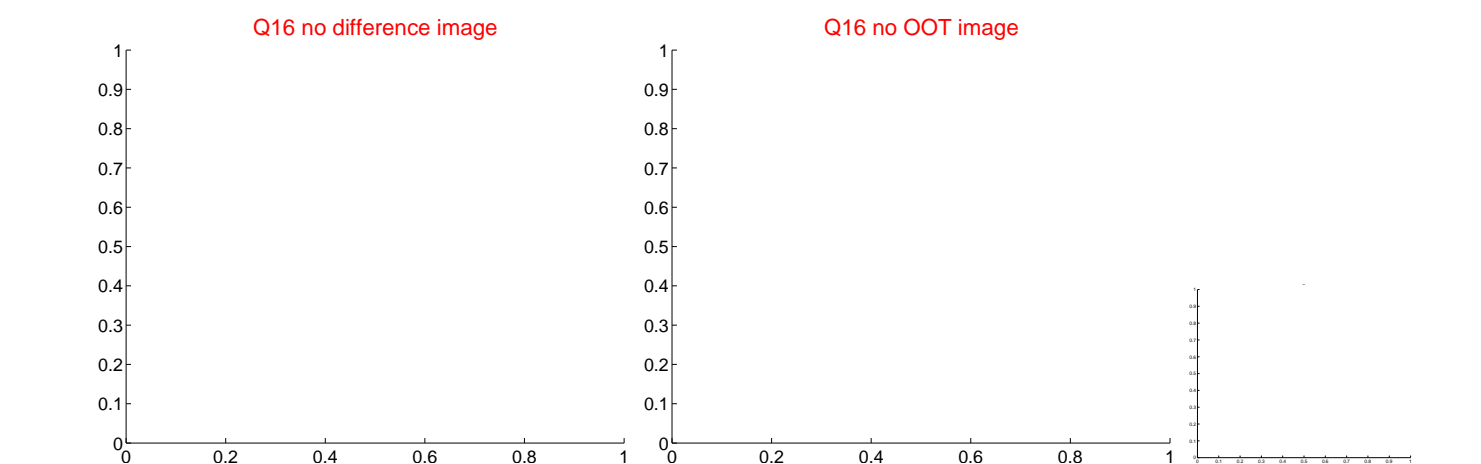
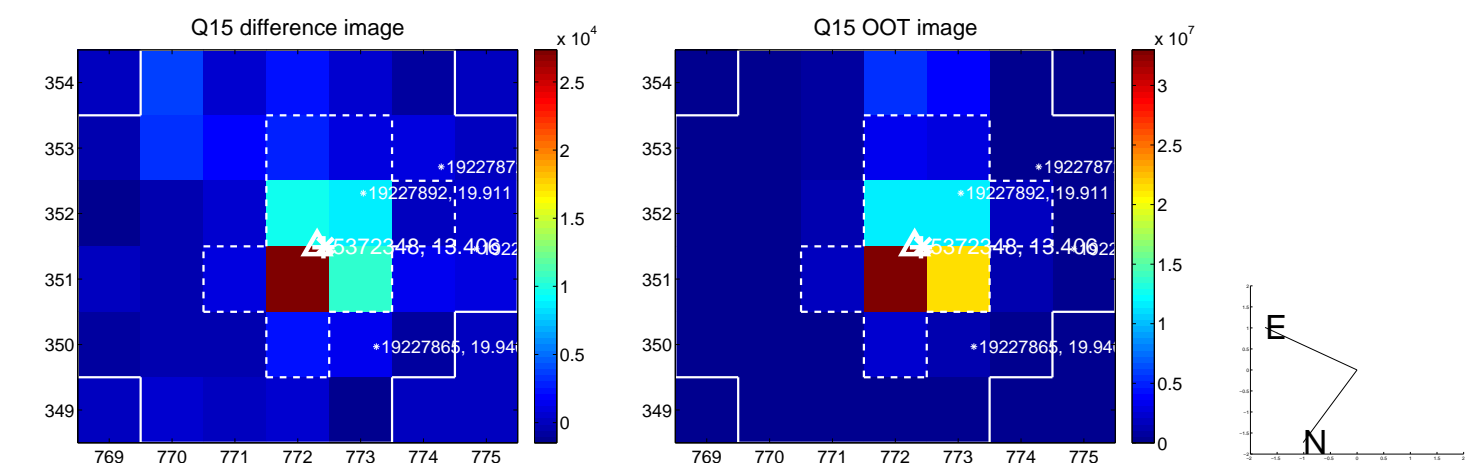
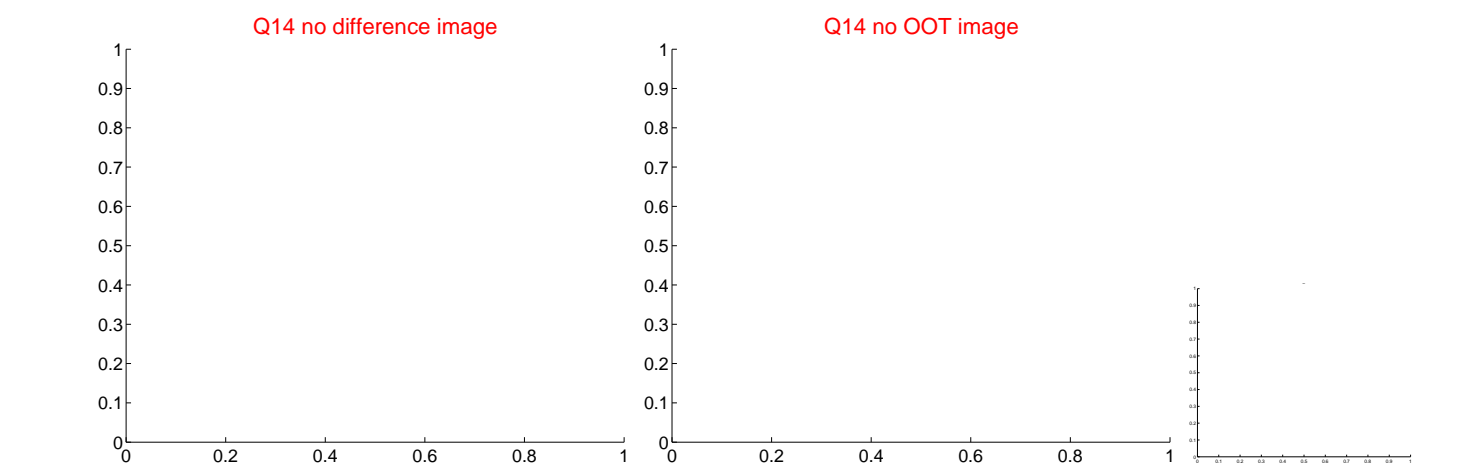
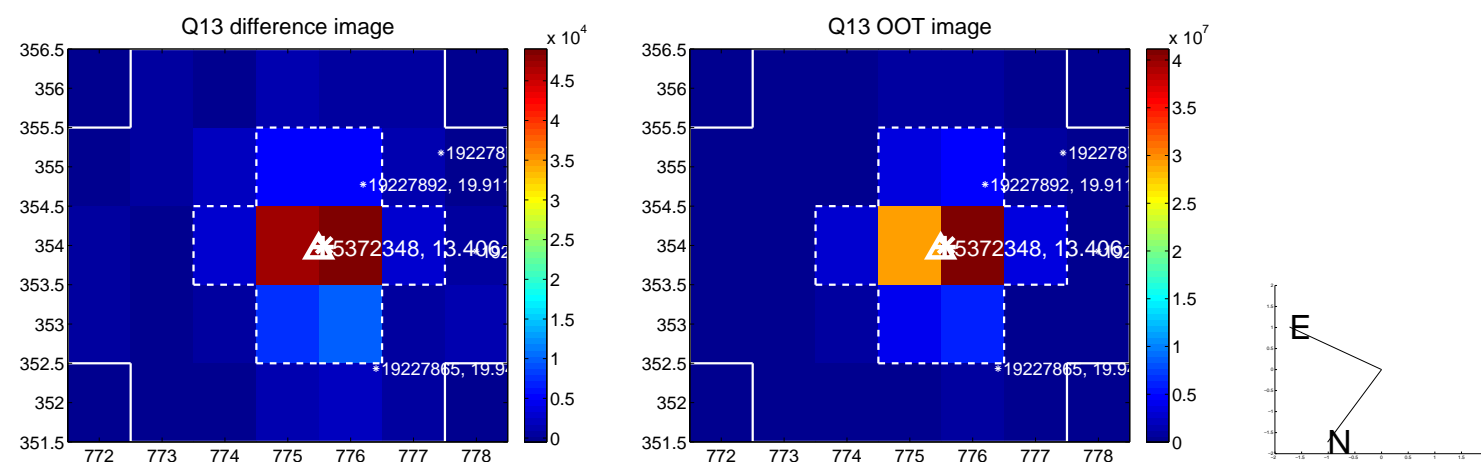
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



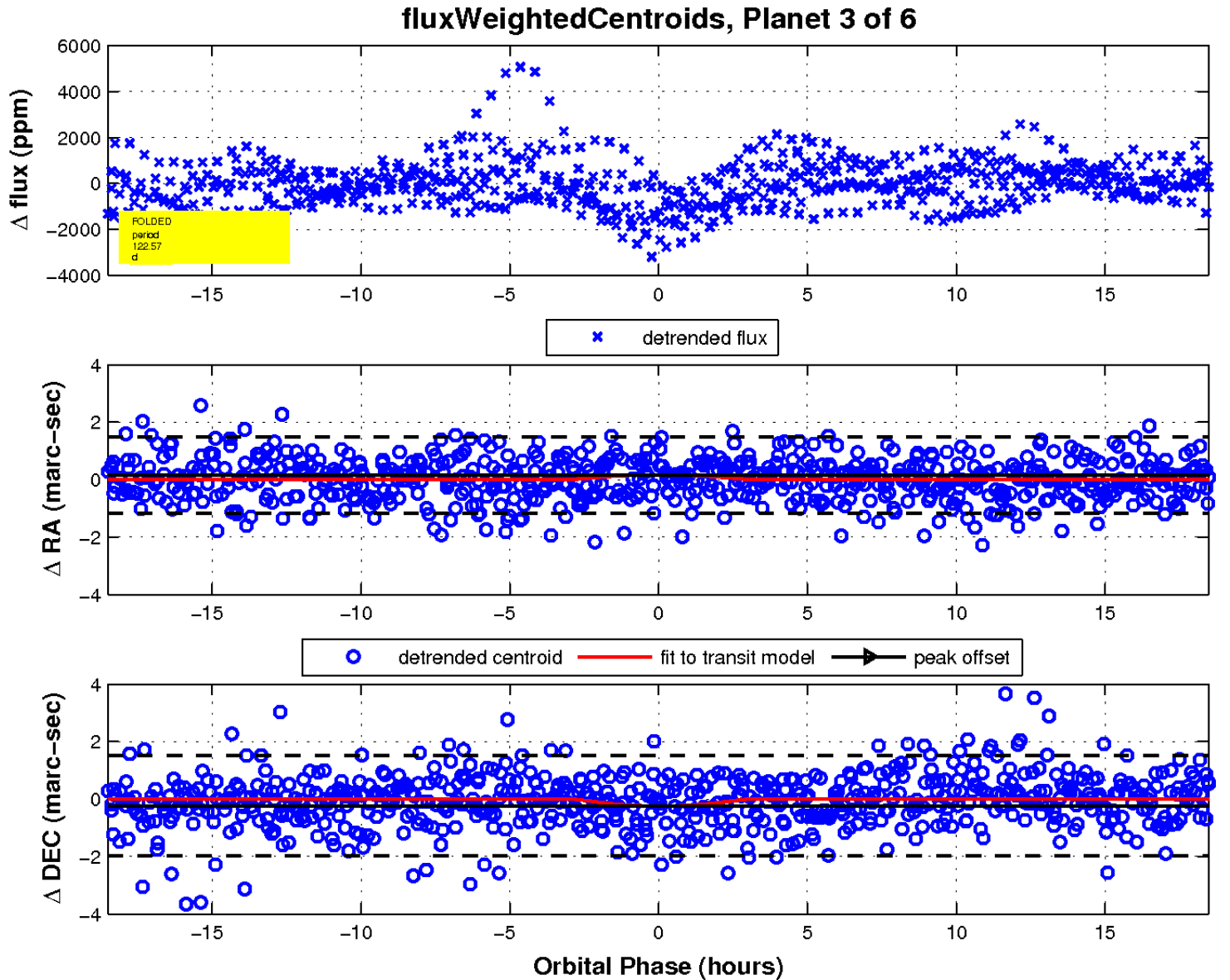
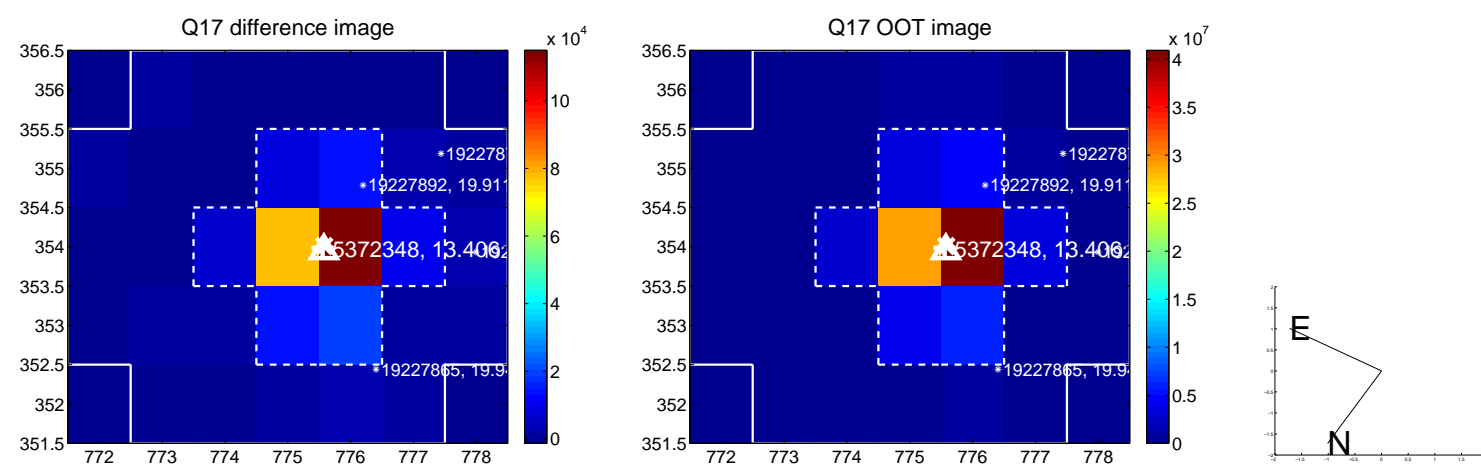
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

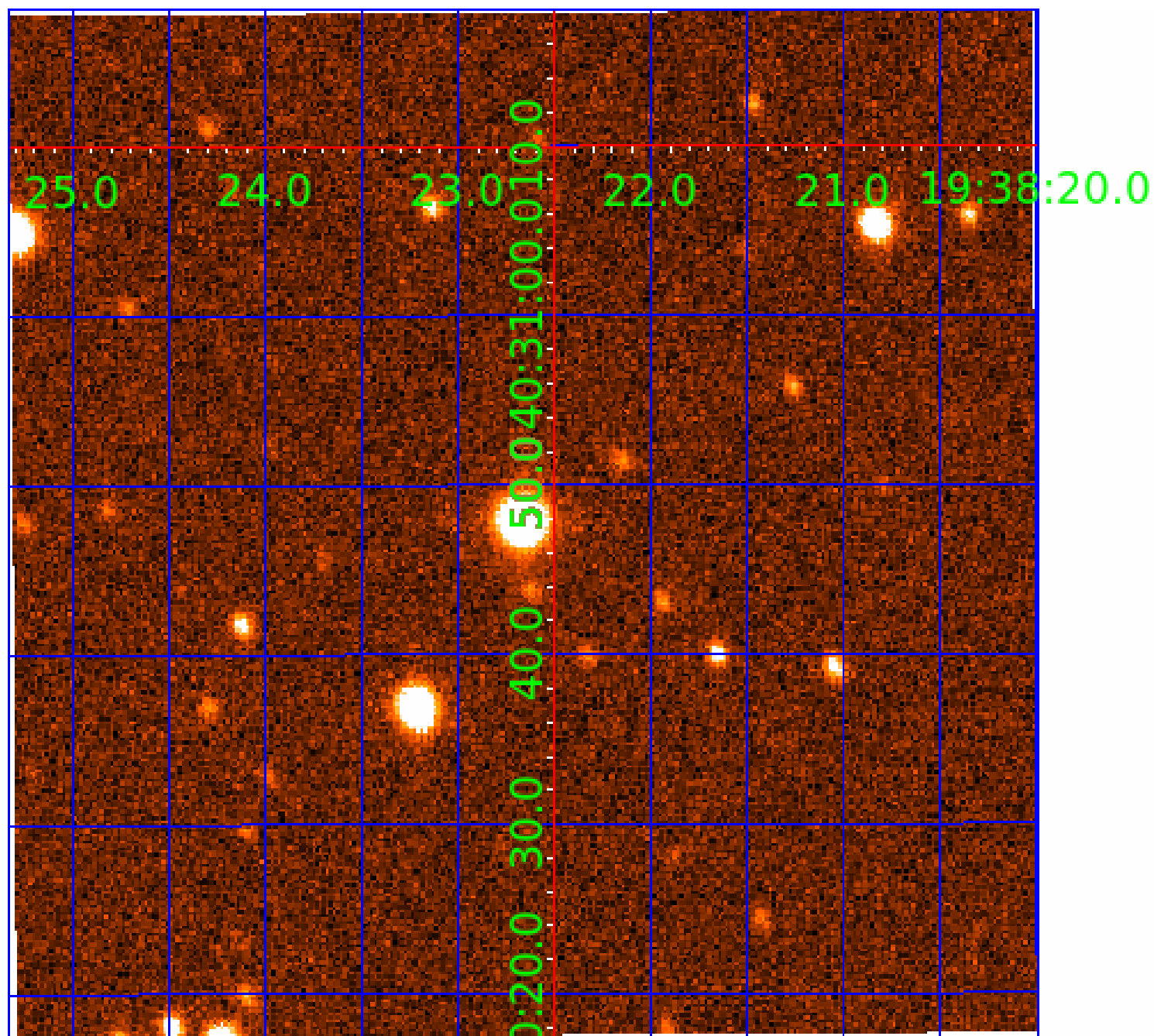


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005372348

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})
005372348-01	OBS	No	0.688711	131.658741	0.0	2.923	7.8	0.0	1.56	7272	0.01	20045.87
005372348-02	OBS	No	1.032775	131.975921	248.3	4.462	10.6	11.7	1.56	7272	4.69	11678.83
005372348-03	OBS	No	122.571419	221.700713	1983.8	6.170	12.0	13.7	1.56	7272	8.57	20.02
005372348-04	OBS	No	74.517762	198.741053	1793.2	4.814	12.0	10.0	1.56	7272	11.22	38.88
005372348-05	OBS	No	79.148608	145.073978	1724.7	6.601	9.5	10.9	1.56	7272	11.85	35.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005372348-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
005372348-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005372348-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—MOD_NONUNIQ_ALT
005372348-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005372348-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

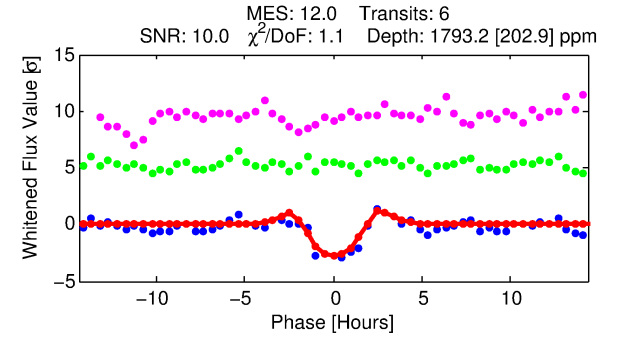
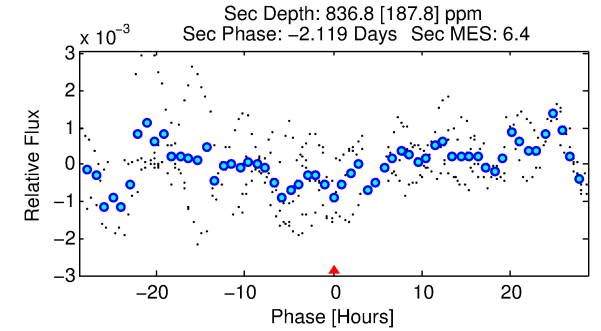
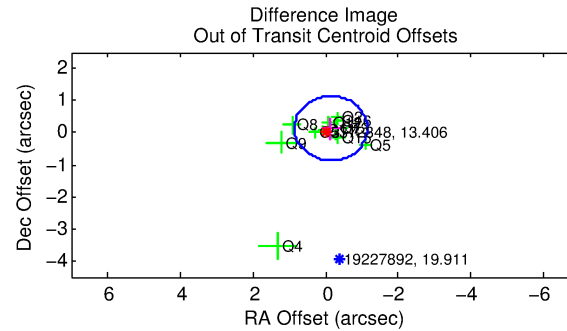
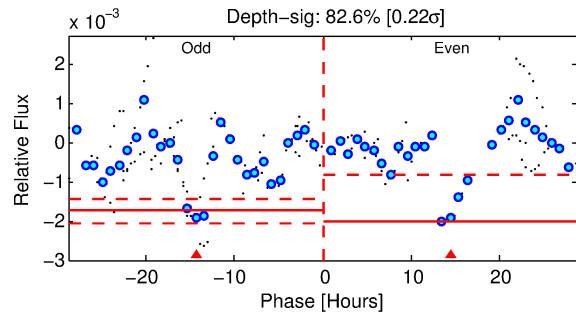
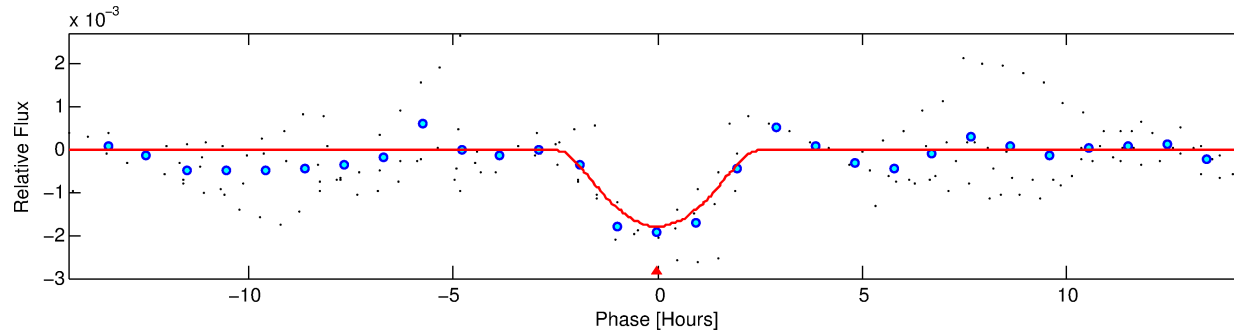
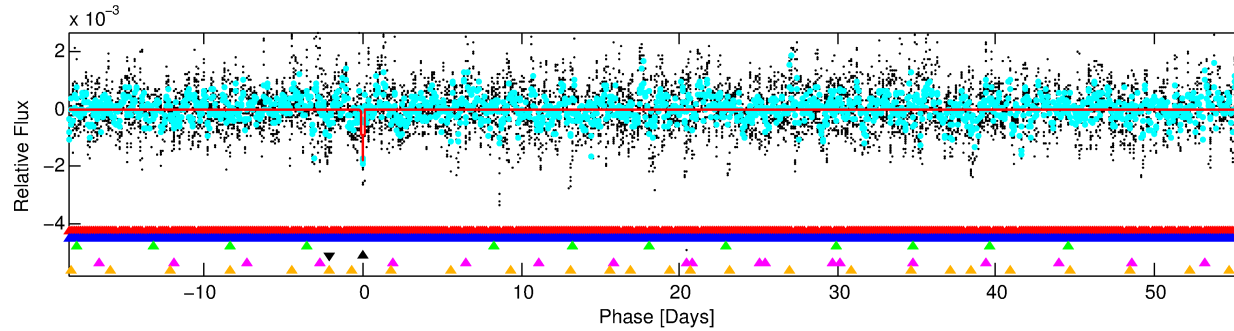
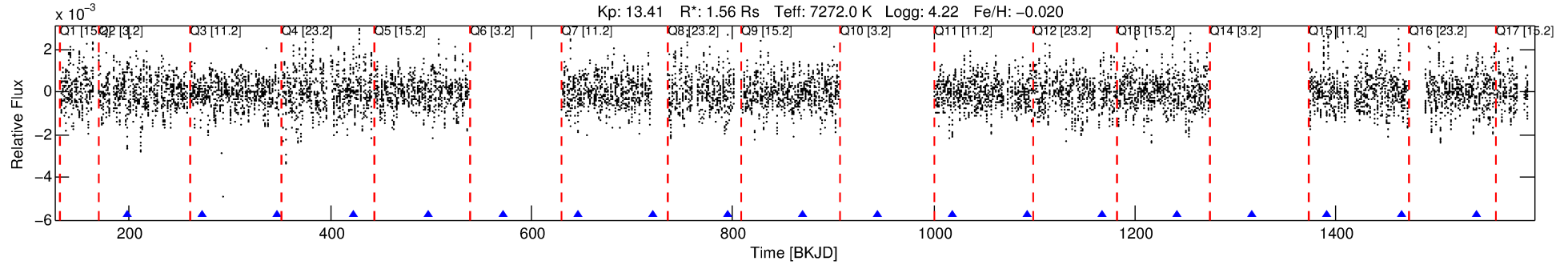
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005372348-04

No Significant Match Found

DV One-Page Summary

KIC: 5372348 Candidate: 4 of 6 Period: 74.518 d



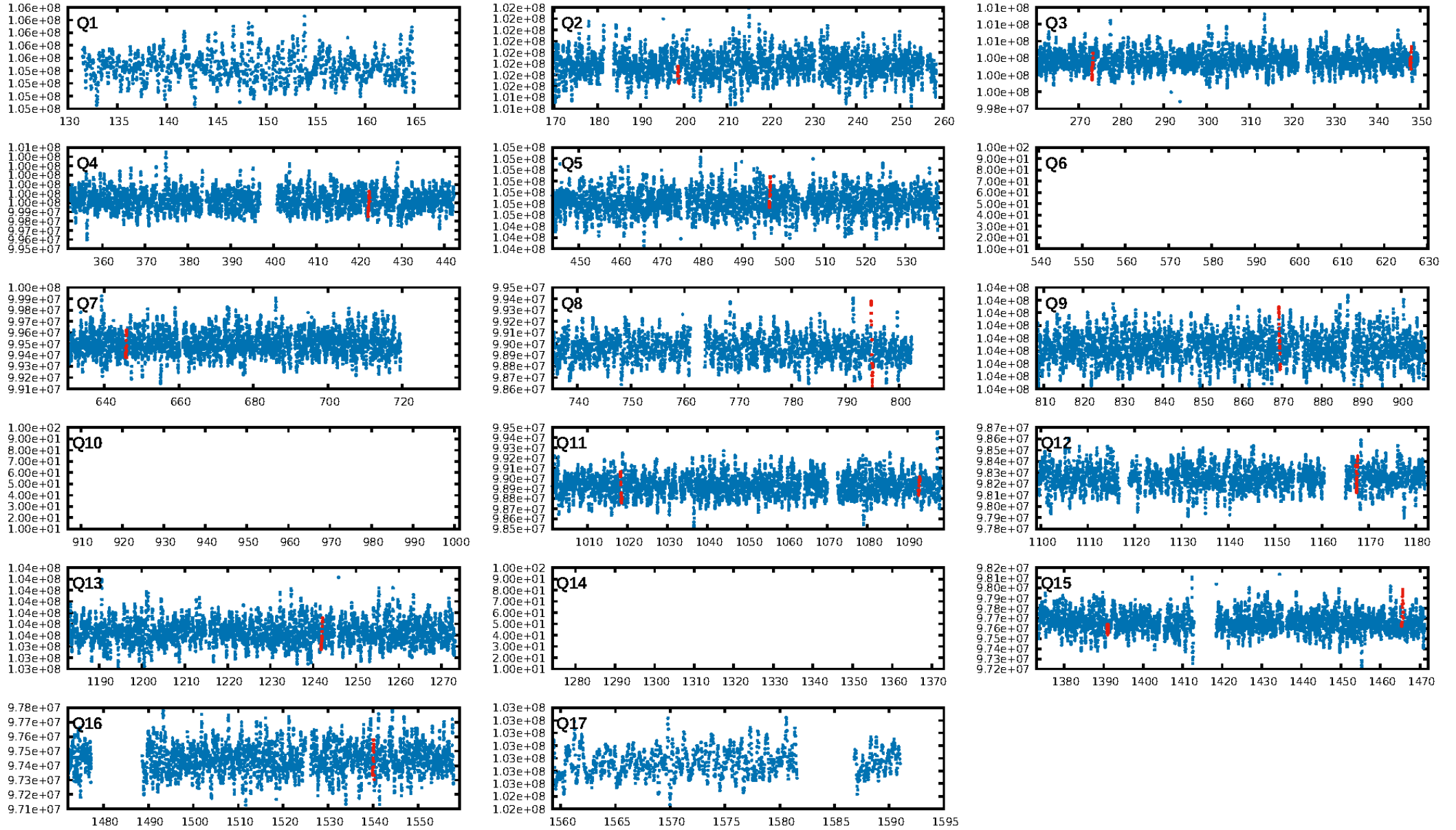
DV Fit Results:

Period = 74.51776 [0.00119] d
Epoch = 198.7411 [0.0091] BKJD
Rp/R* = 0.0659 [0.1311]
a/R* = 46.05 [23.81]
b = 0.99 [0.20]
Seff = 38.88 [17.09]
Teq = 637 [70] K
Rp = 11.22 [22.67] Re
a = 0.3958 [0.1154] AU
Ag = 572.80 [2292.27] [0.25 σ]
Teffp = 4816 [4798] K [0.87 σ]

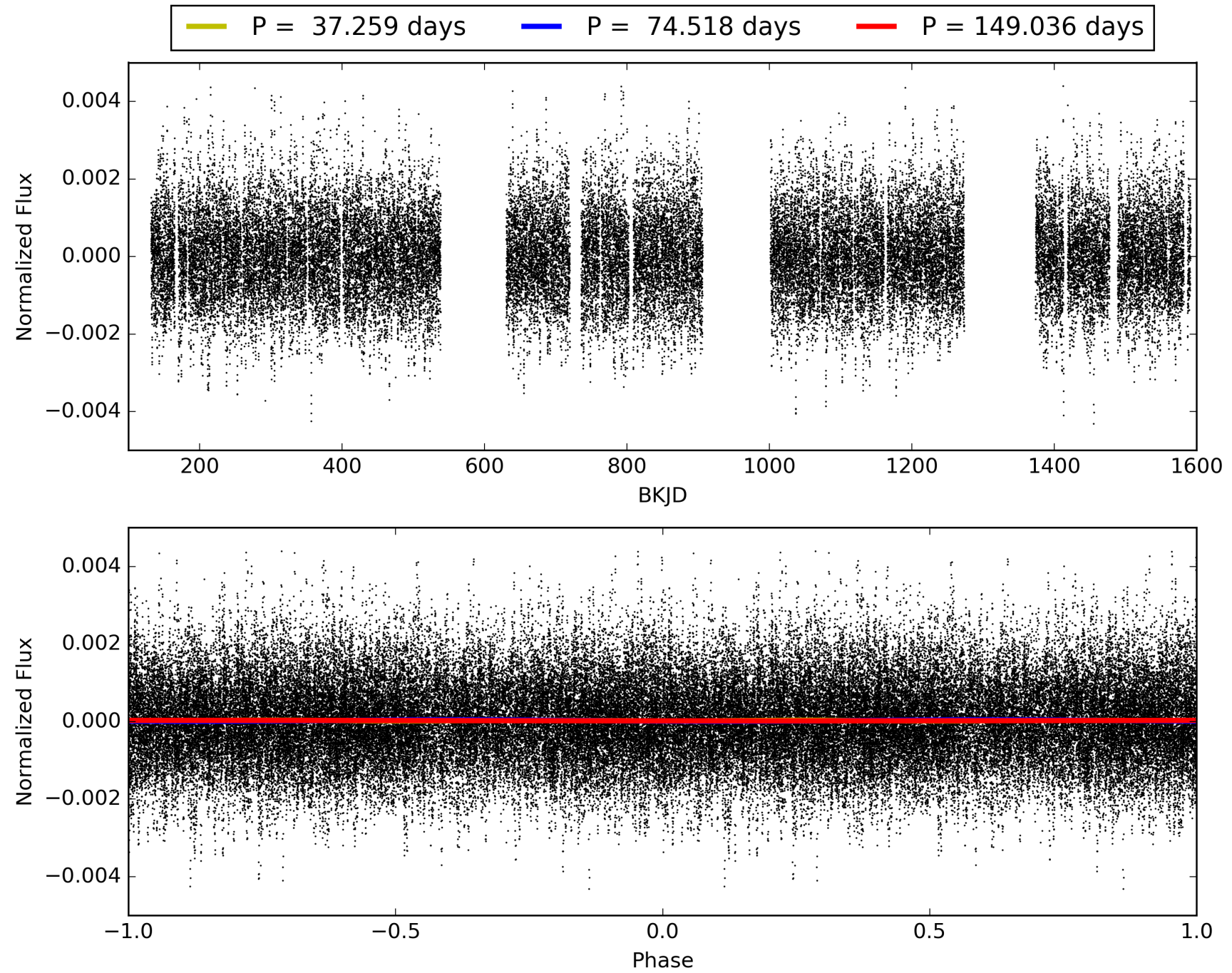
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [47.61 σ]
LongPeriod-sig: 100.0% [13.60 σ]
ModelChiSquare2-sig: 90.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 2922
Centroid-sig: 9.8%
Centroid-so: 0.242 arcsec [1.19 σ]
OotOffset-rm: 0.195 arcsec [0.58 σ]
KicOffset-rm: 0.296 arcsec [1.00 σ]
OotOffset-st: 1/4/4/3 [12]
KicOffset-st: 1/4/4/3 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 0.00 [0/12]

TCE 005372348-04, PDC Light Curves

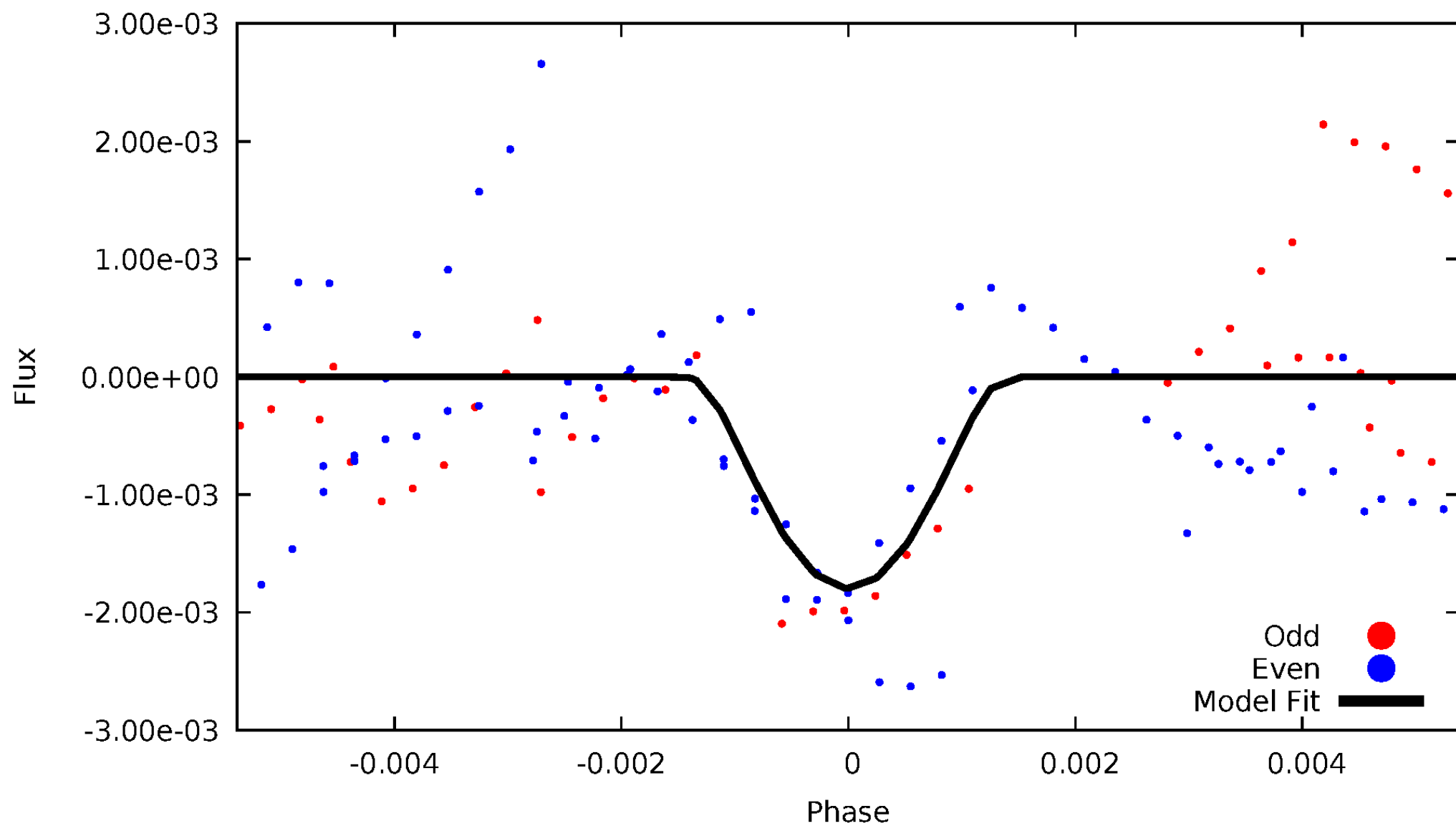


TCE 005372348-04



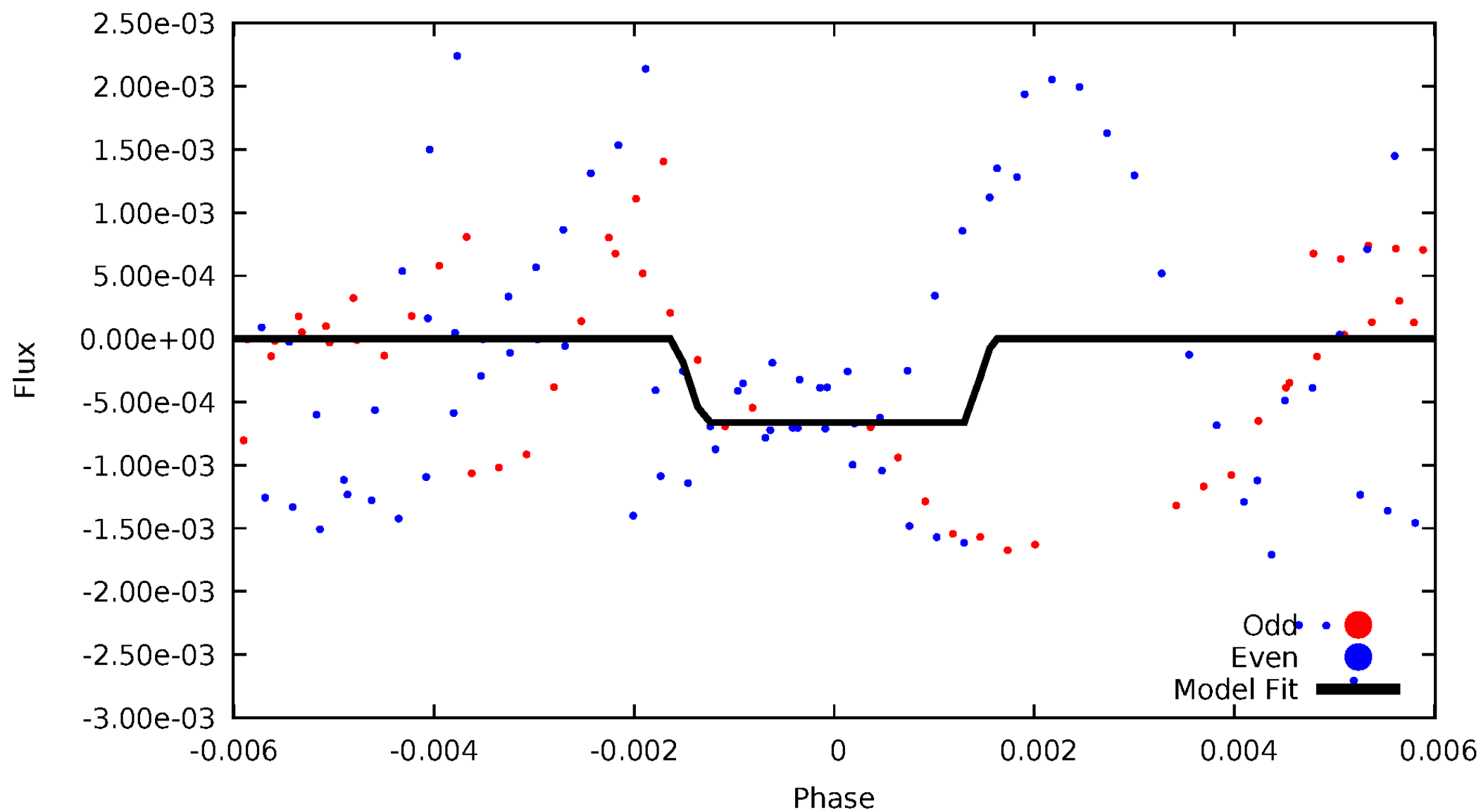
DV Odd/Even

TCE 005372348-04



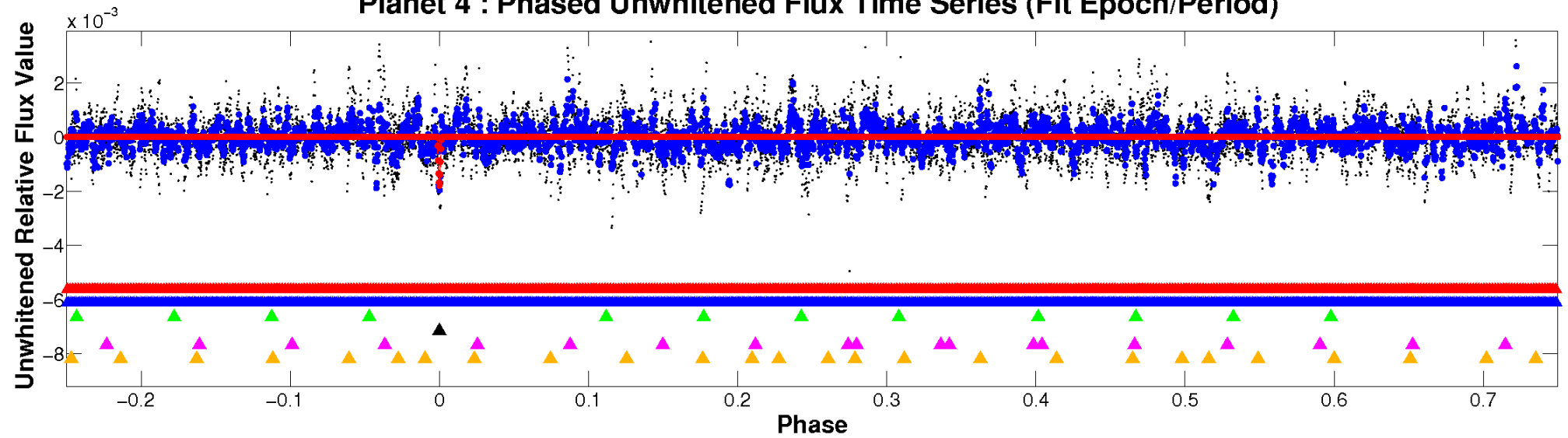
ALT Odd/Even

TCE 005372348-04

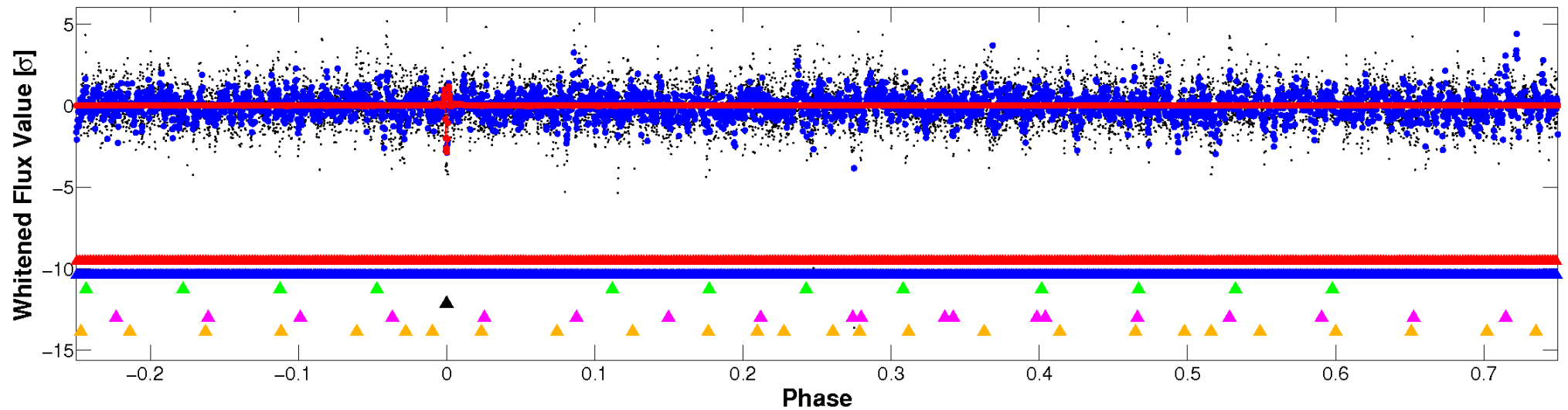


Non-Whitened Vs. Whitened Light Curve

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

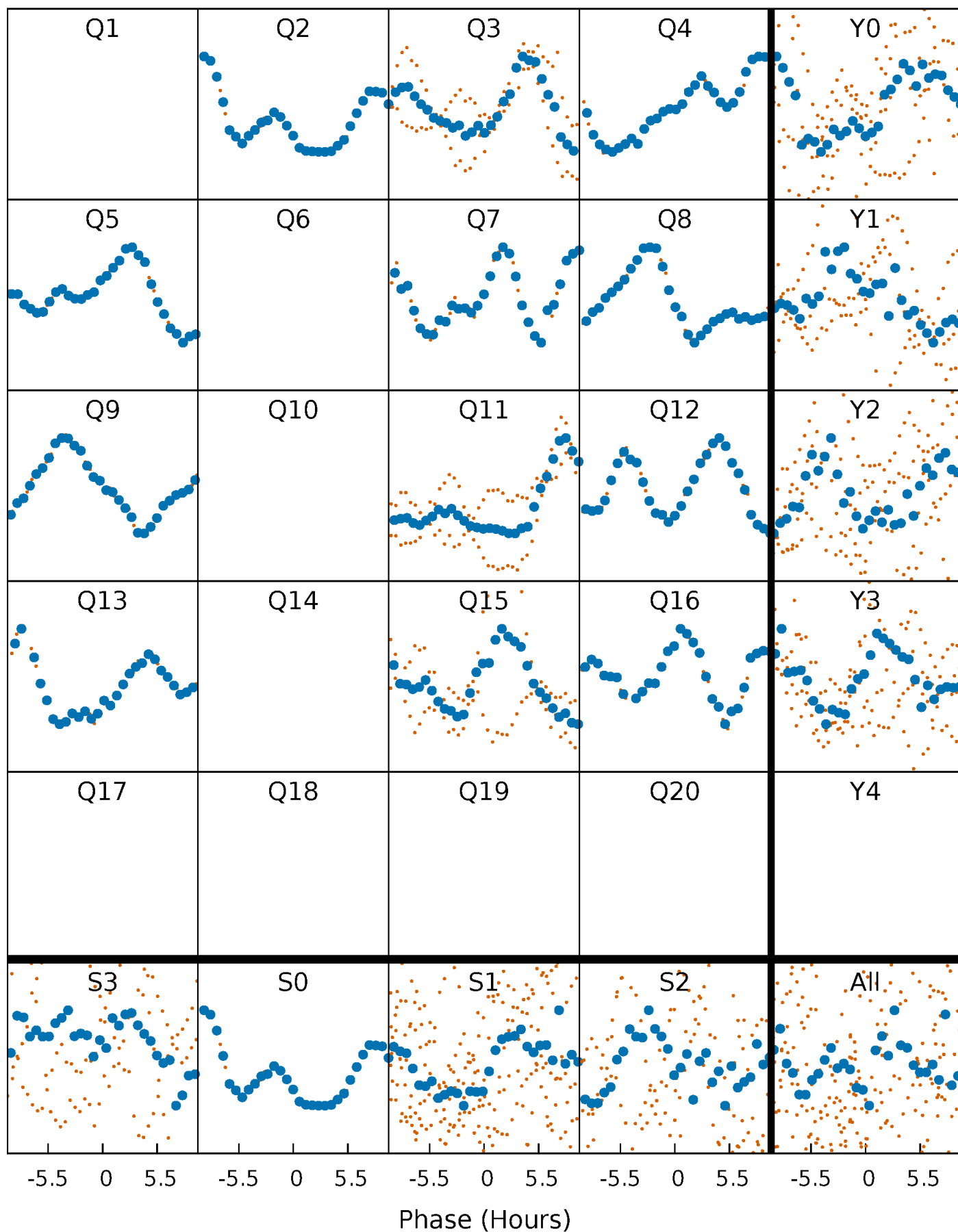


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



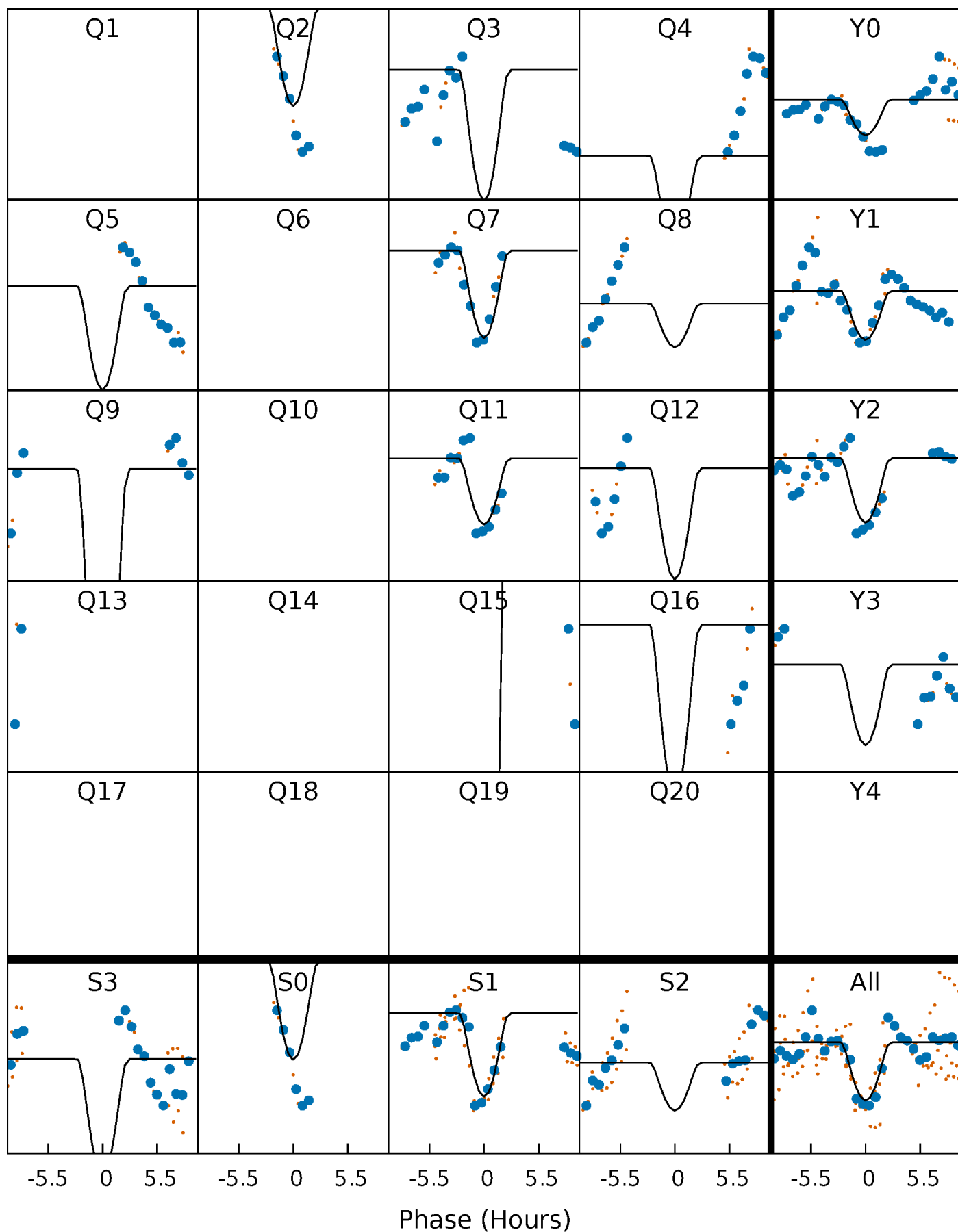
PDC Quarter-Phased Transit Curves

TCE 005372348-04 P= 74.517762 Days $T_0=198.741053$ (BKJD)



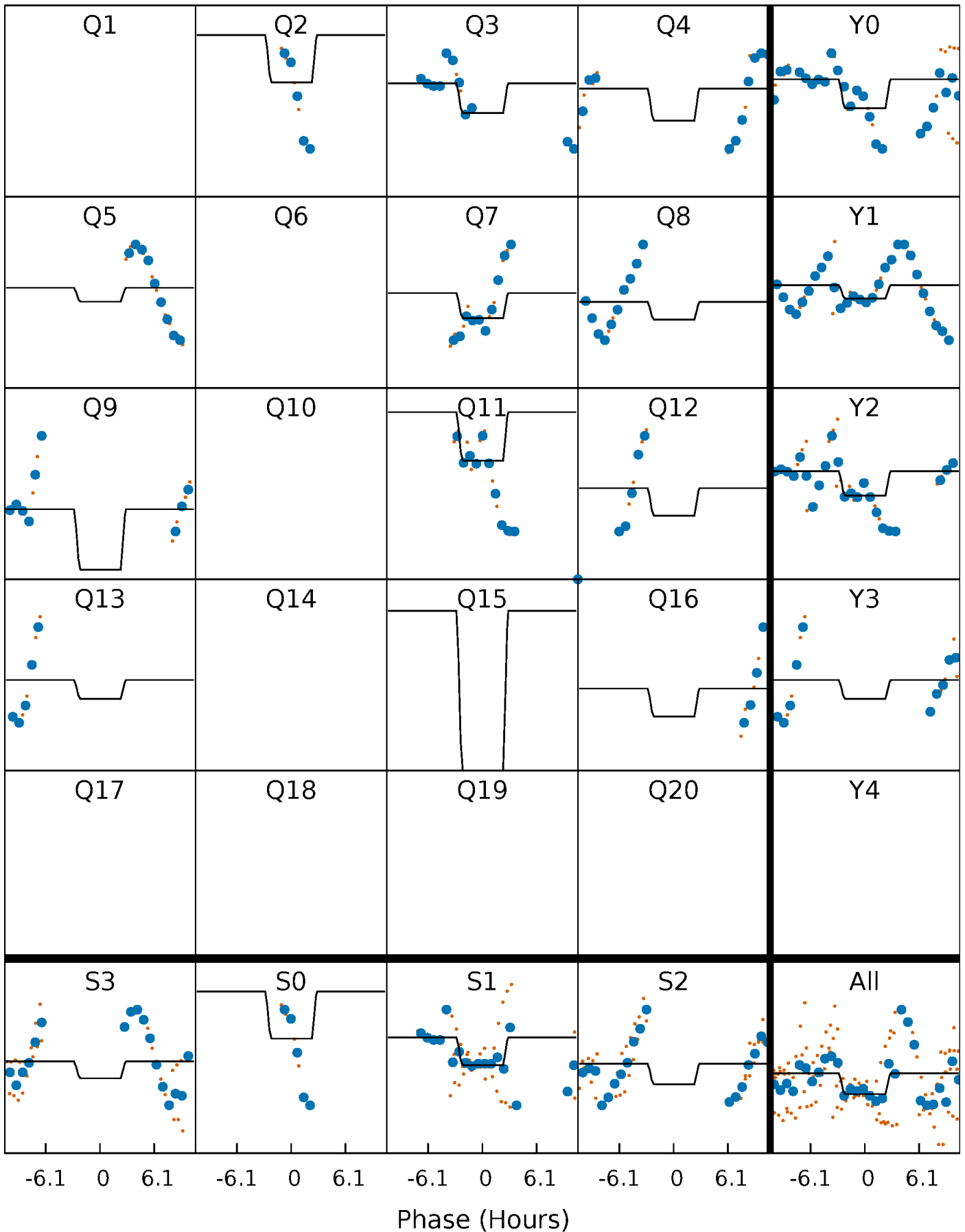
DV Quarter-Phased Transit Curves

TCE 005372348-04 P= 74.517762 Days $T_0=198.741053$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

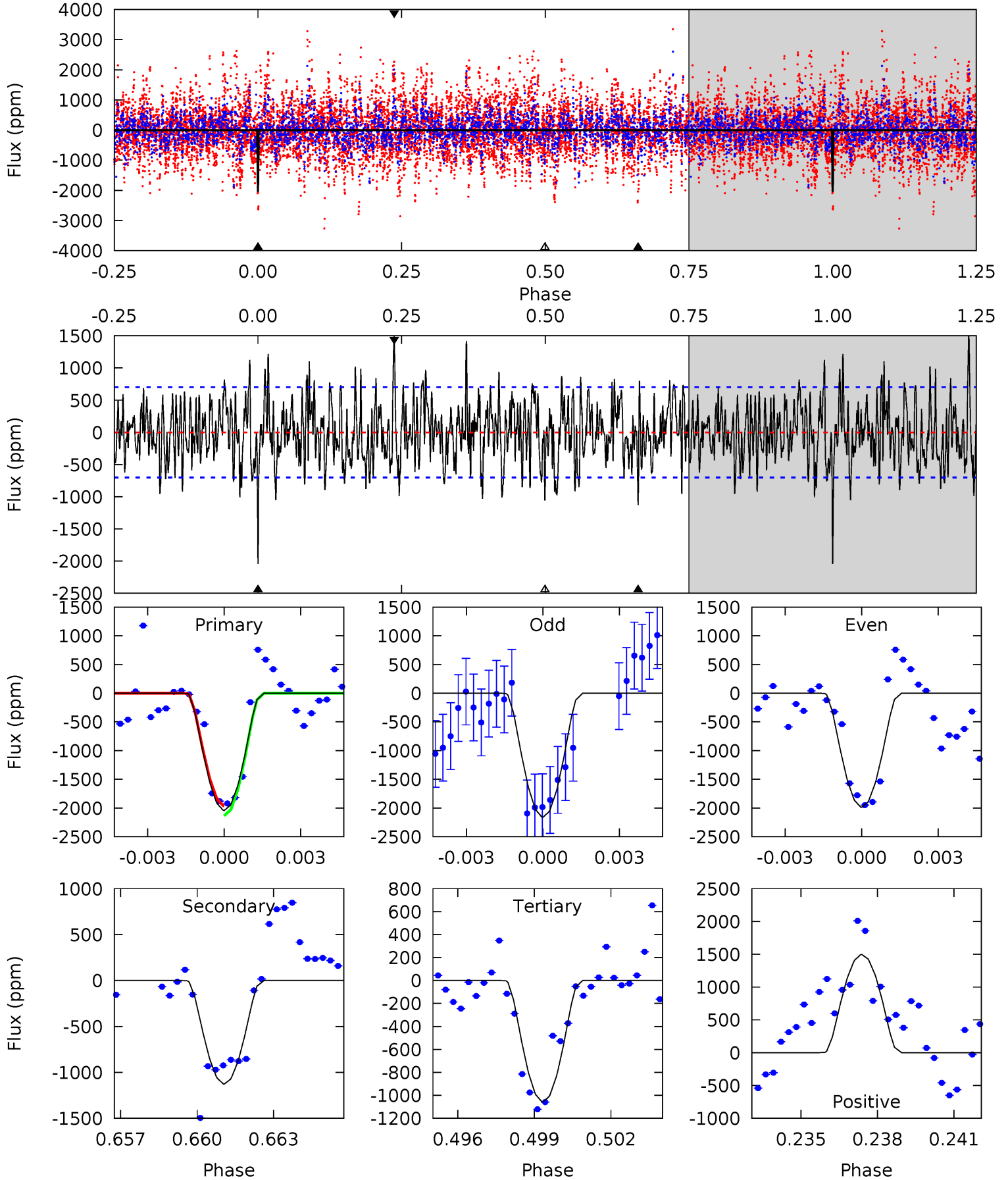
TCE 005372348-04 P= 74.514575 Days $T_0=198.705462$ (BKJD)



DV Model-Shift Uniqueness Test

005372348-04, P = 74.517762 Days, E = 124.223291 Days

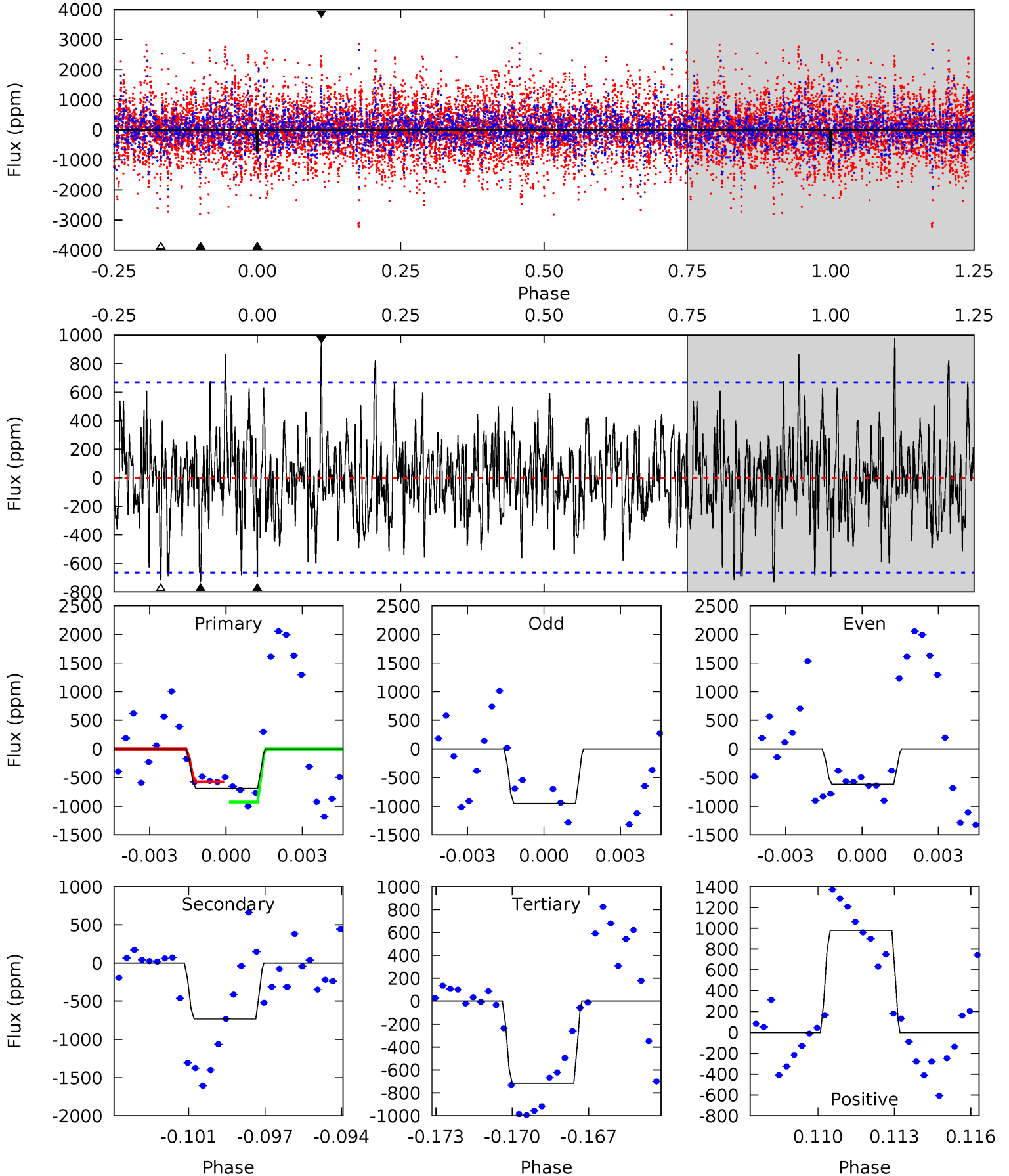
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	8.44	7.92	11.2	5.26	2.97	2.97	7.37	4.09	0.52	-2.77	0.58	0.31	0.42	0.64



Alt Model-Shift Uniqueness Test

005372348-04, $P = 74.514575$ Days, $E = 124.190887$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.46	5.78	5.66	7.72	5.24	2.95	1.83	-0.20	-2.26	0.12	-1.93	1.13	1.34	0.57	1.38



Stellar Parameters For KIC 005372348

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7272^{+230}_{-316}	$4.225^{+0.090}_{-0.210}$	$-0.020^{+0.200}_{-0.350}$	$1.559^{+0.568}_{-0.227}$	$1.487^{+0.221}_{-0.221}$	$0.553^{+0.234}_{-0.314}$
	+3%/-4%	+2%/-5%	+1000%/-1750%	+36%/-15%	+15%/-15%	+42%/-57%
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 005372348-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1128 ± 134	$21.13^{+19.67}_{-14.63}$	903^{+72}_{-56}	4128^{+2588}_{-840}	217^{+1947}_{-161}
Alt.	-733 ± 127	$17.04^{+17.15}_{-11.89}$	898^{+74}_{-59}	4079^{+3010}_{-858}	214^{+2118}_{-161}

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

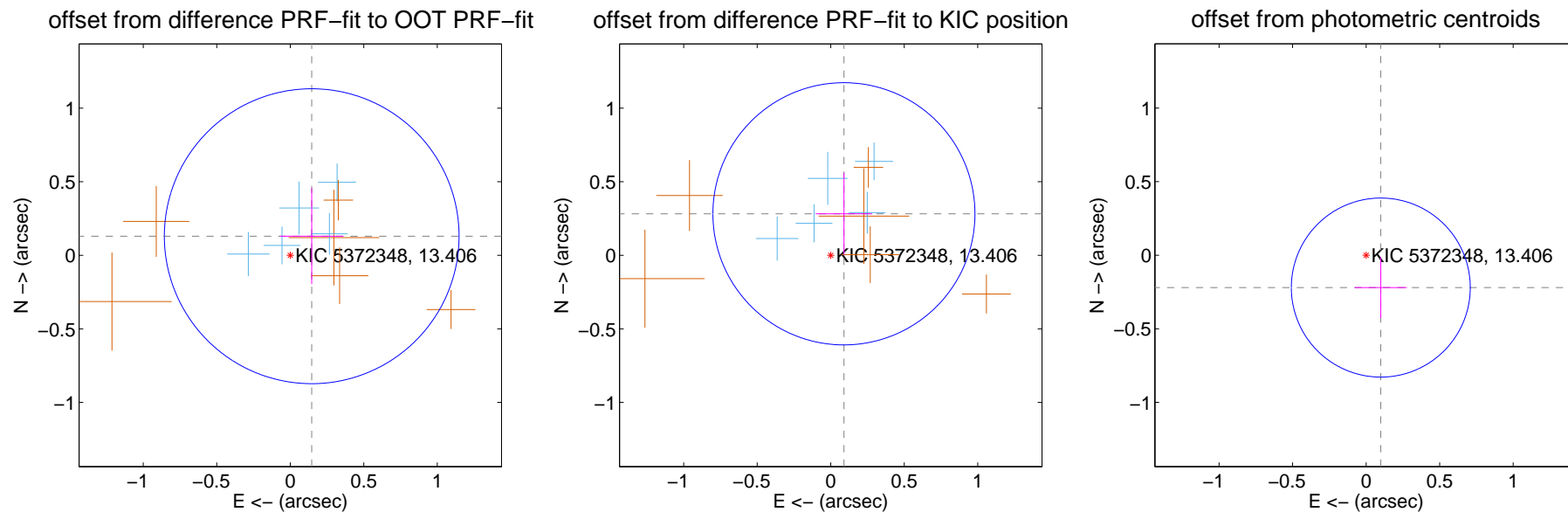
DV Centroid Data

Supplemental centroid analysis for 005372348-04. Kepler magnitude: 13.41. Transit SNR 10.01

There are 5 quarters with good PRF difference image offsets

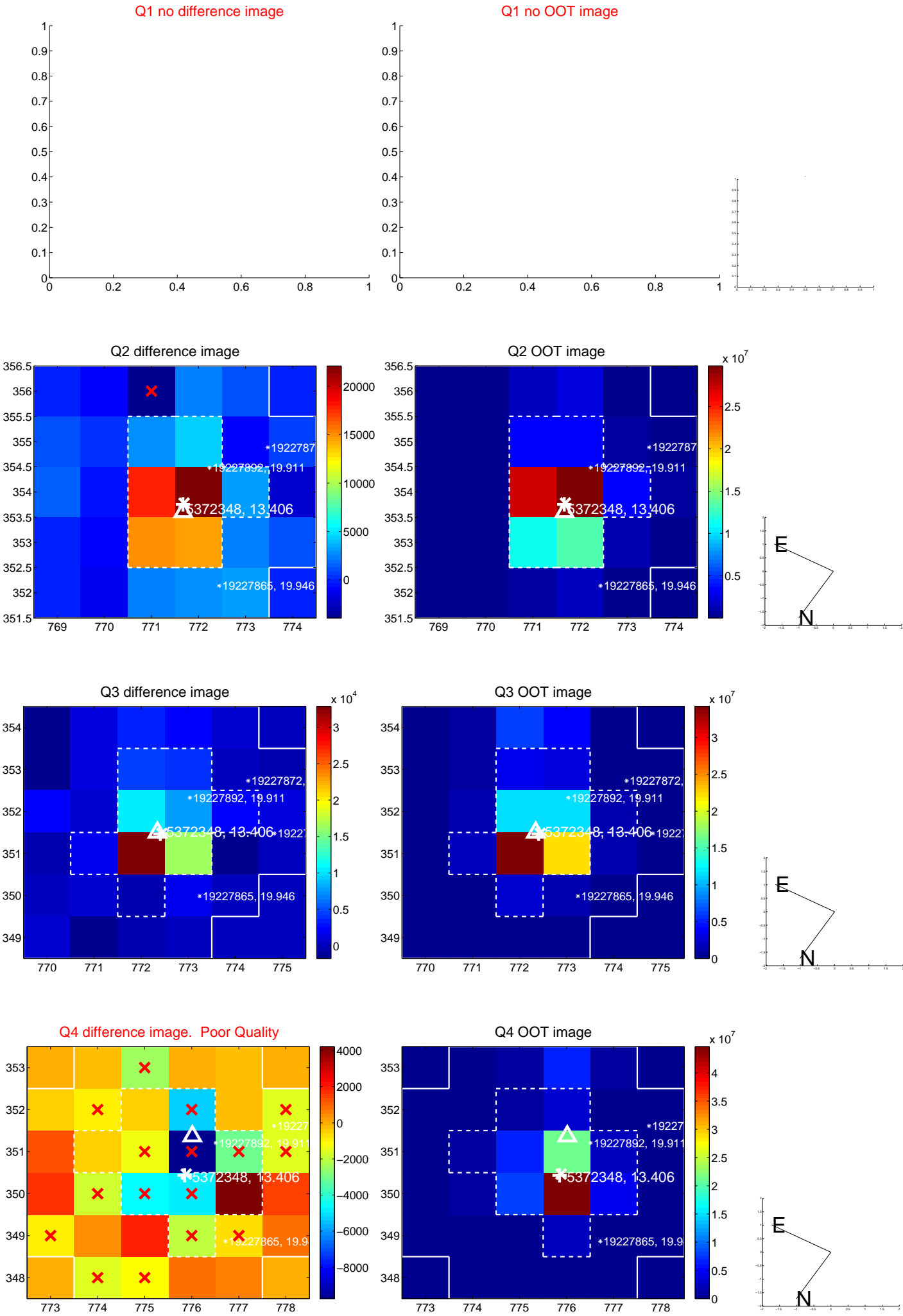
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.195 ± 0.334	0.58	-0.146 ± 0.216	0.130 ± 0.326
PRF-fit source offset from KIC position	0.296 ± 0.297	1.00	-0.090 ± 0.192	0.282 ± 0.279
photometric centroid source offset	0.24 ± 0.20	1.19	-0.10 ± 0.18	-0.22 ± 0.21

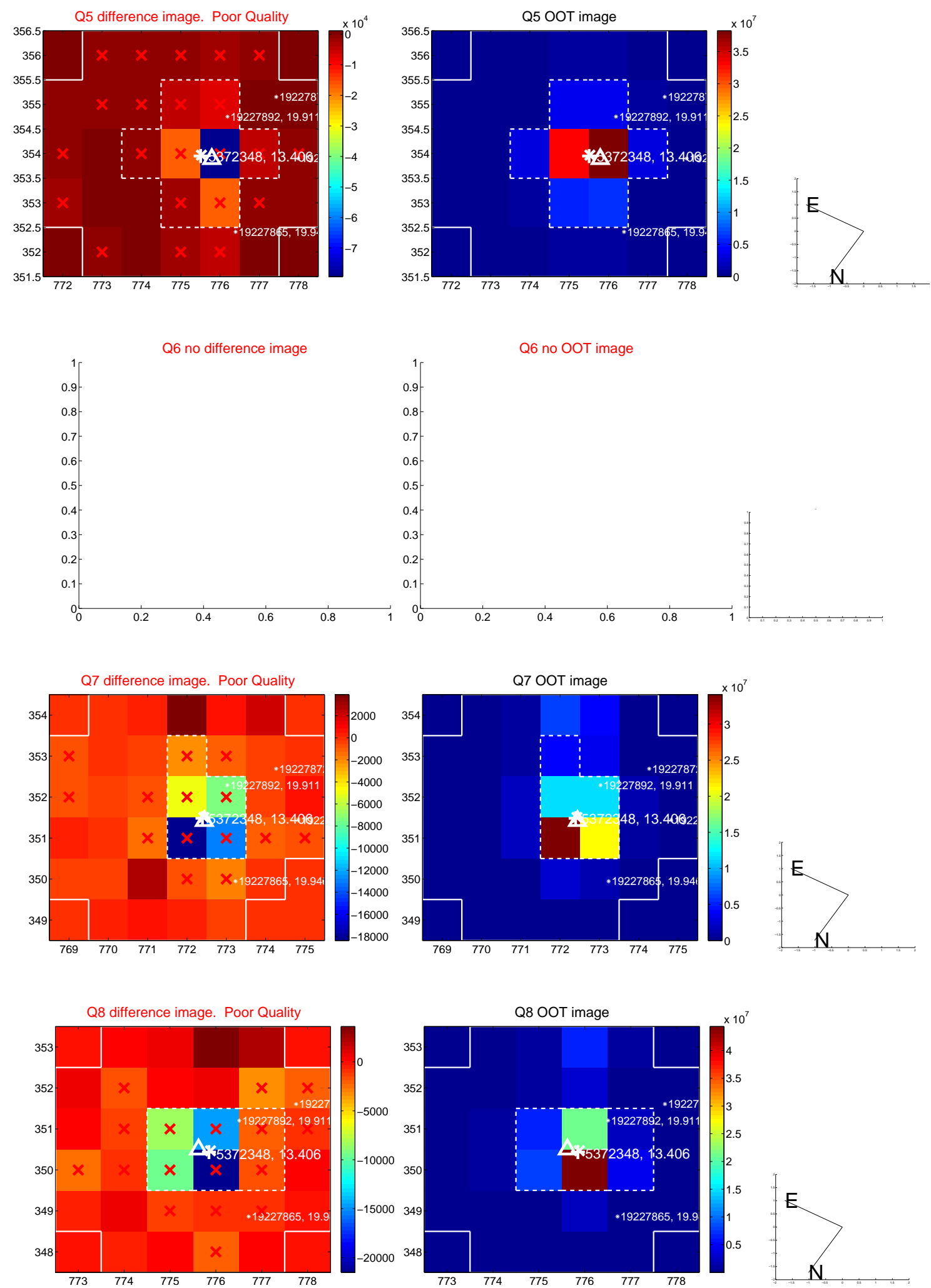


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

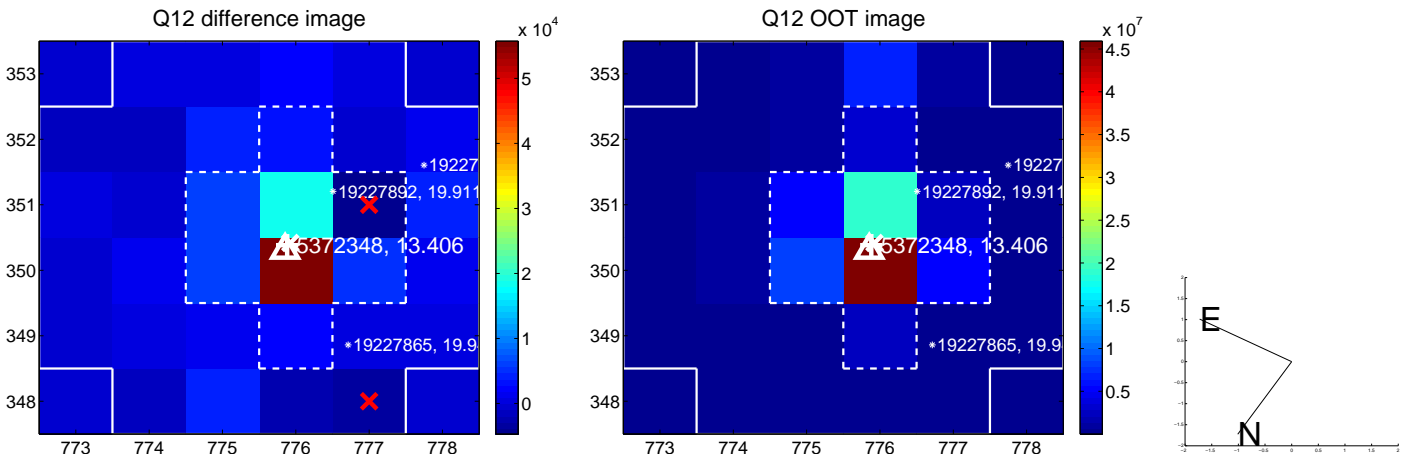
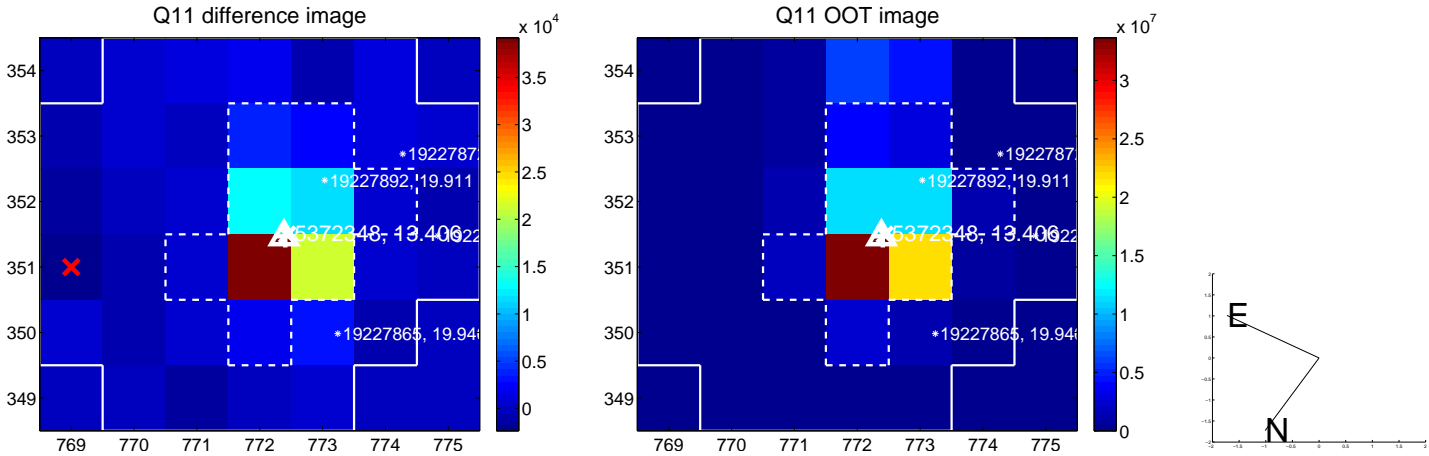
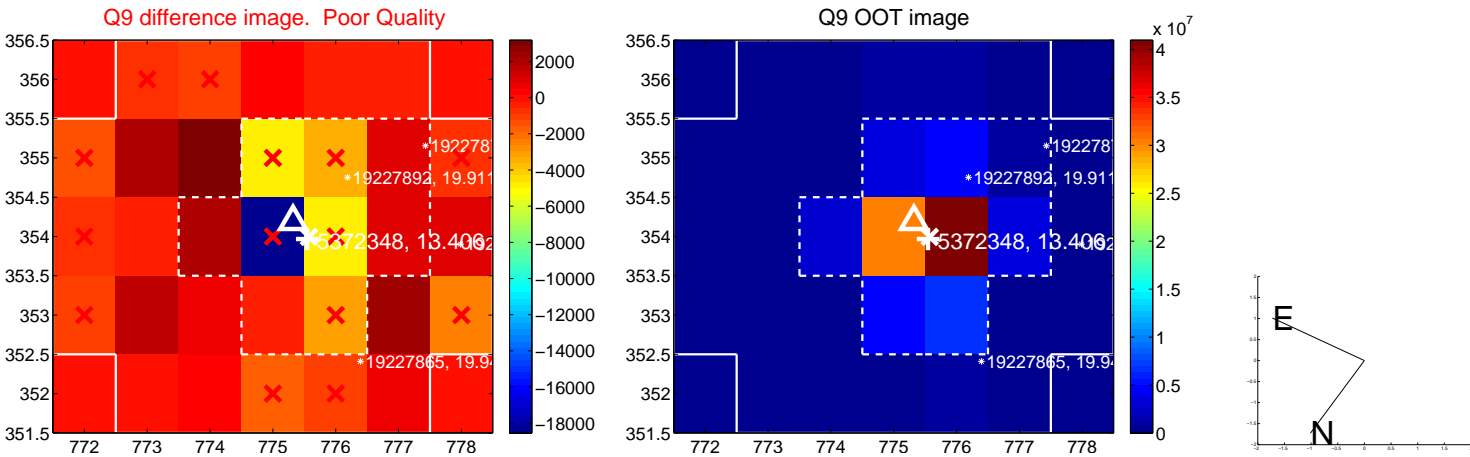
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



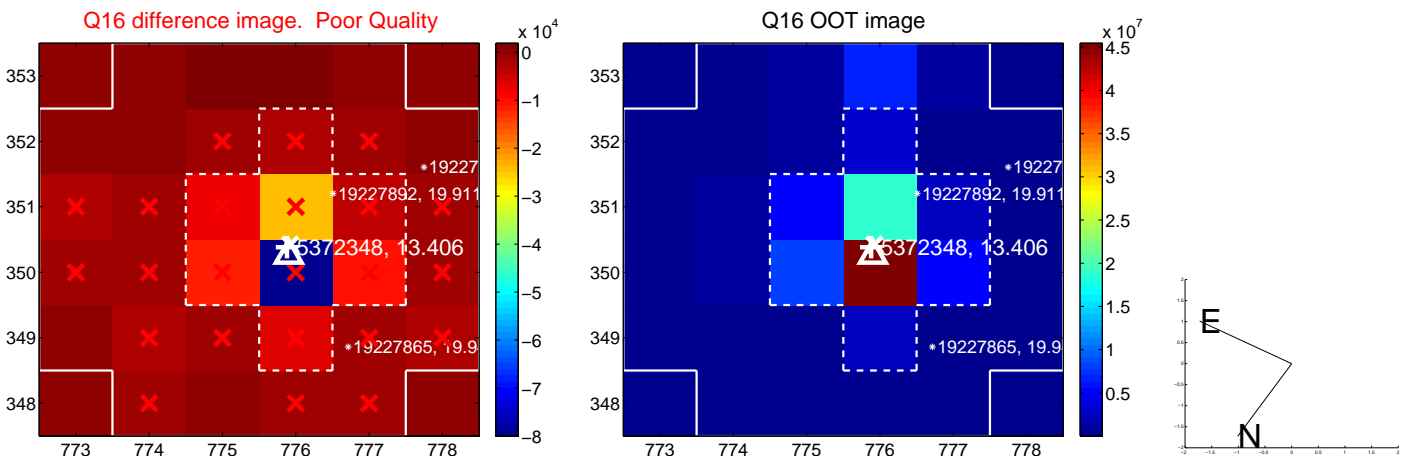
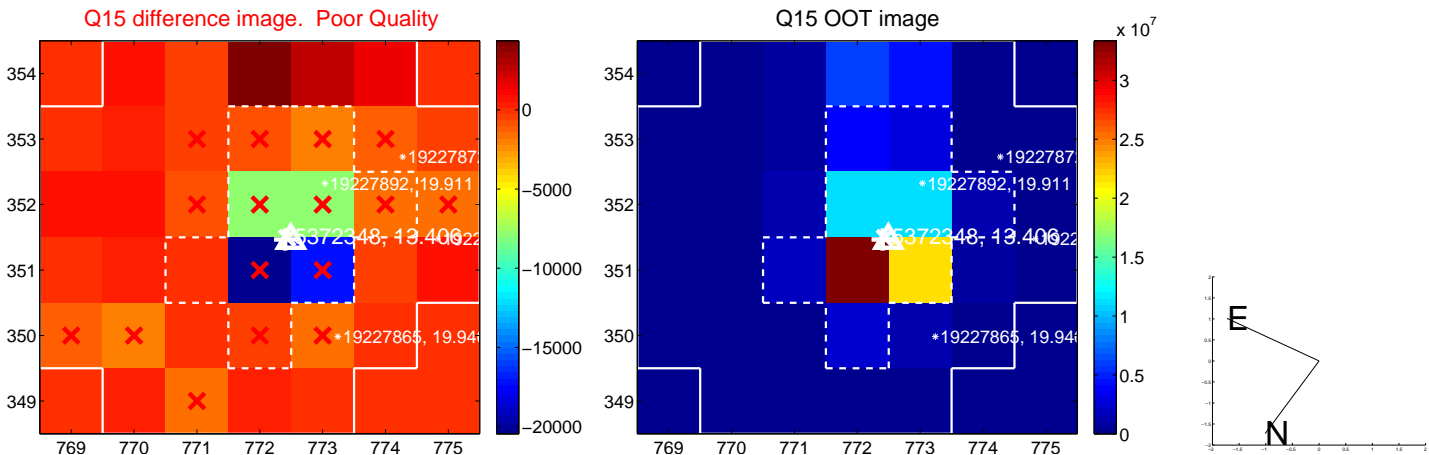
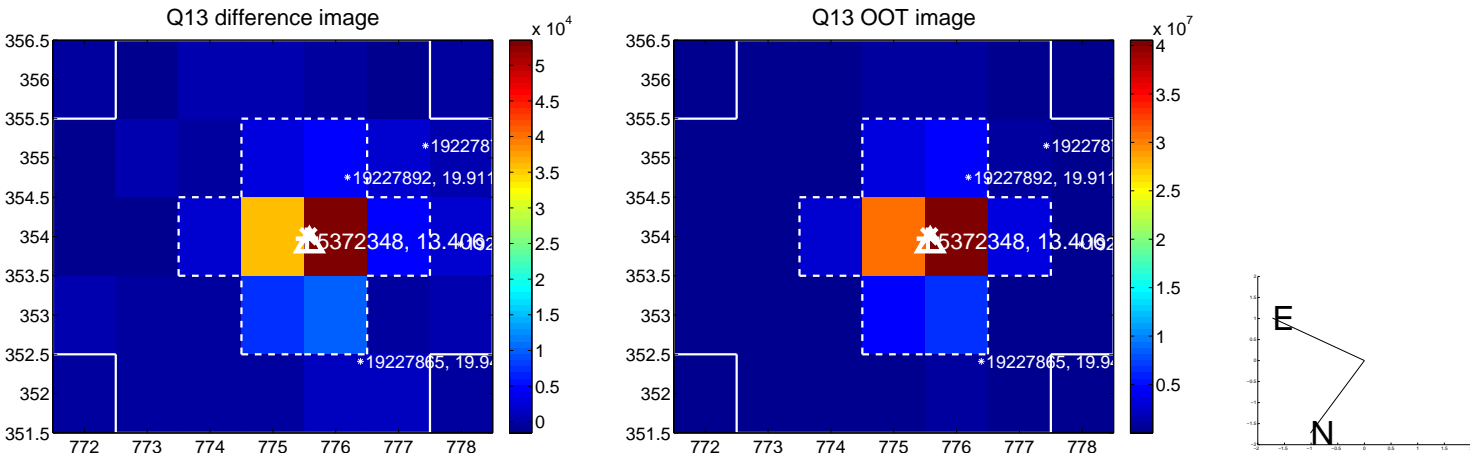
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



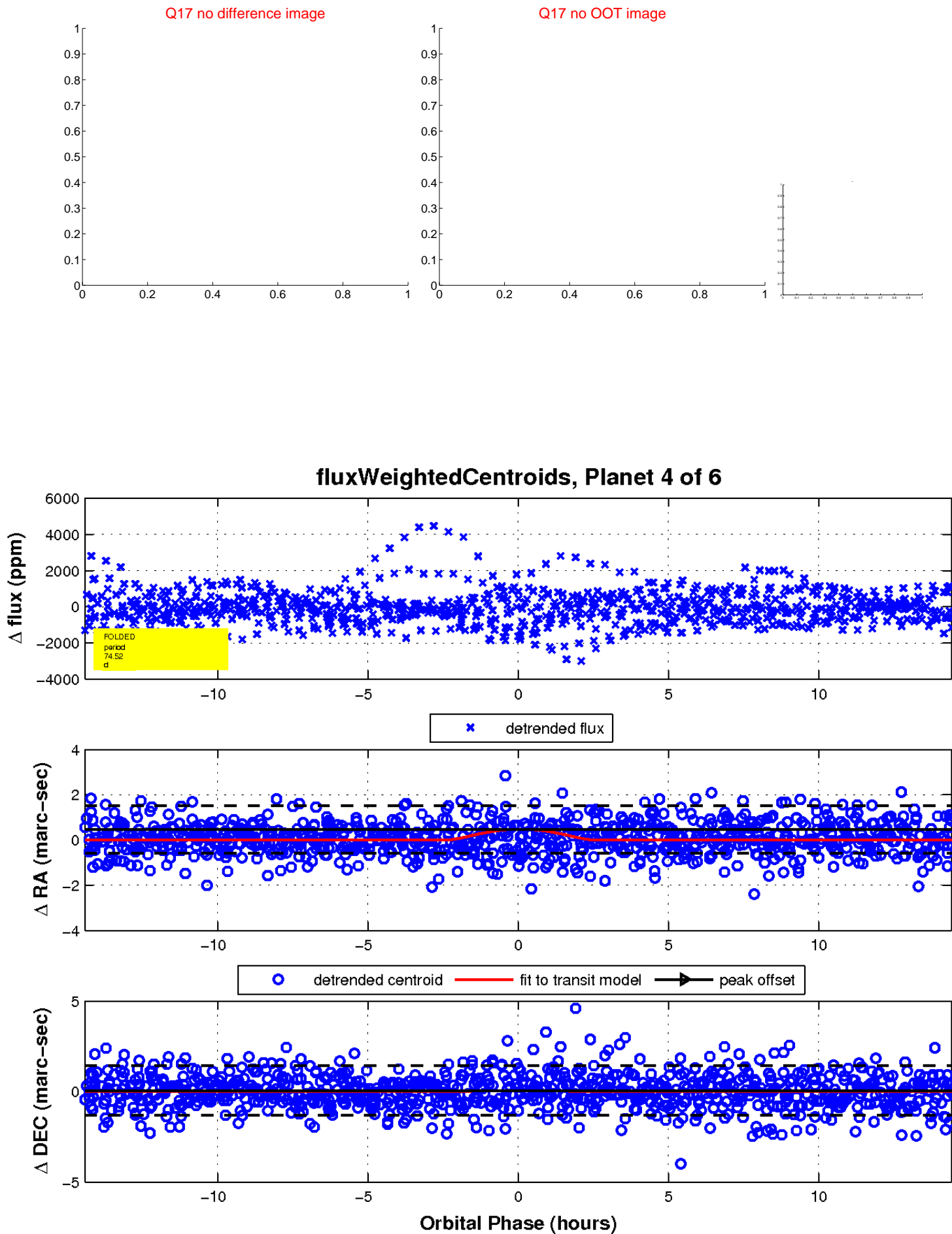
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

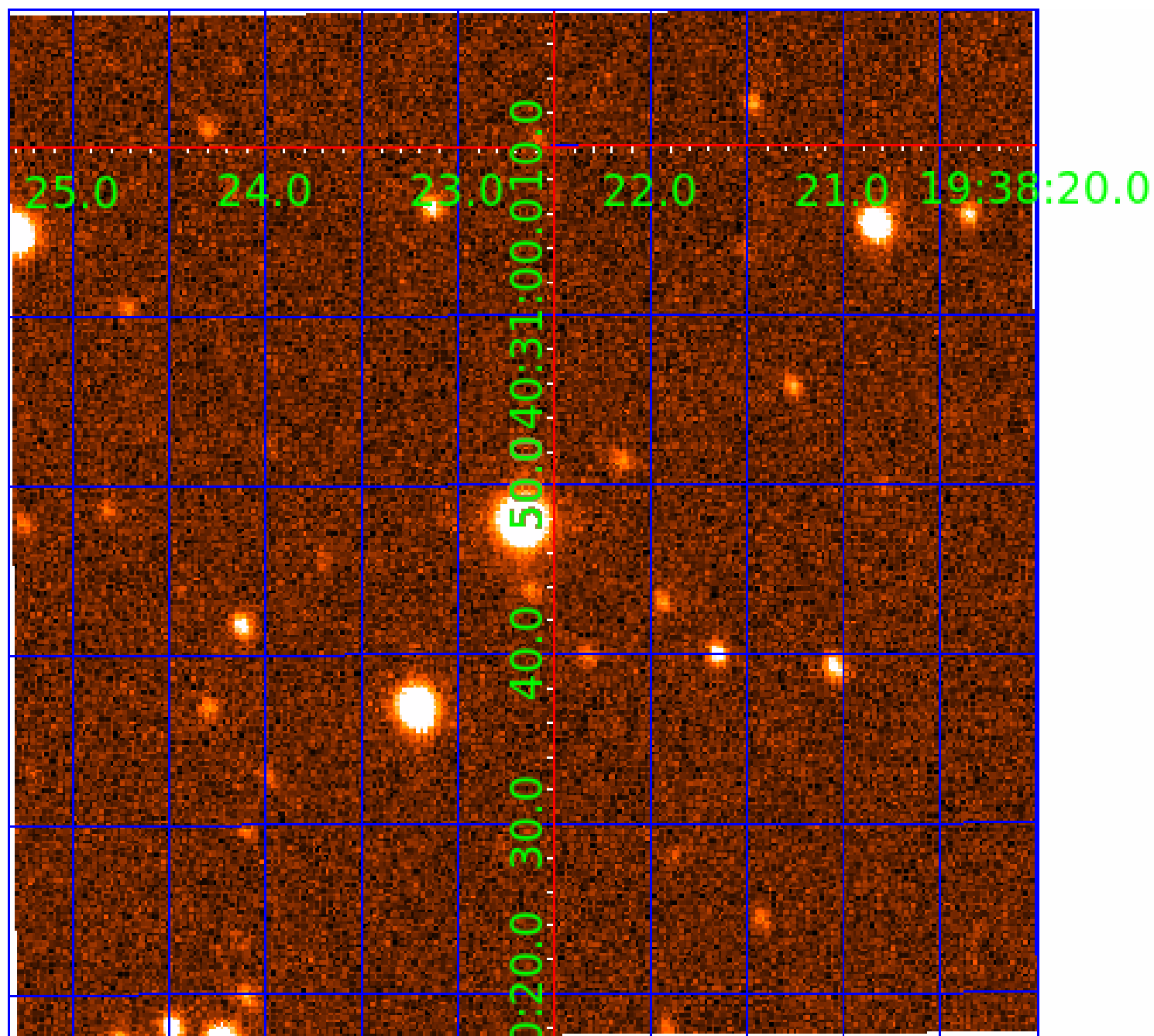


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005372348

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})
005372348-01	OBS	No	0.688711	131.658741	0.0	2.923	7.8	0.0	1.56	7272	0.01	20045.87
005372348-02	OBS	No	1.032775	131.975921	248.3	4.462	10.6	11.7	1.56	7272	4.69	11678.83
005372348-03	OBS	No	122.571419	221.700713	1983.8	6.170	12.0	13.7	1.56	7272	8.57	20.02
005372348-04	OBS	No	74.517762	198.741053	1793.2	4.814	12.0	10.0	1.56	7272	11.22	38.88
005372348-05	OBS	No	79.148608	145.073978	1724.7	6.601	9.5	10.9	1.56	7272	11.85	35.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005372348-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
005372348-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005372348-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—MOD_NONUNIQ_ALT
005372348-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
005372348-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

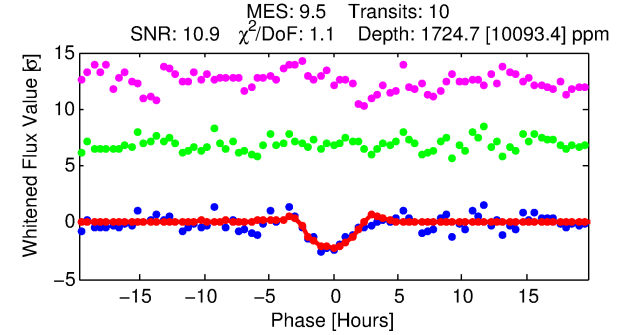
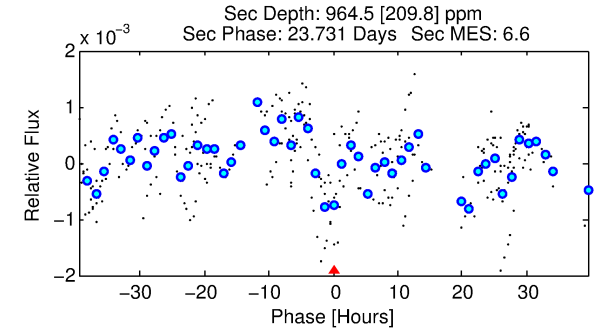
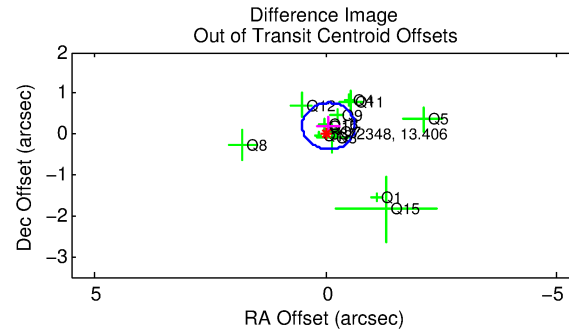
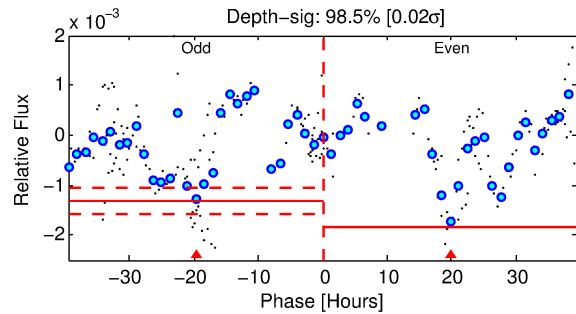
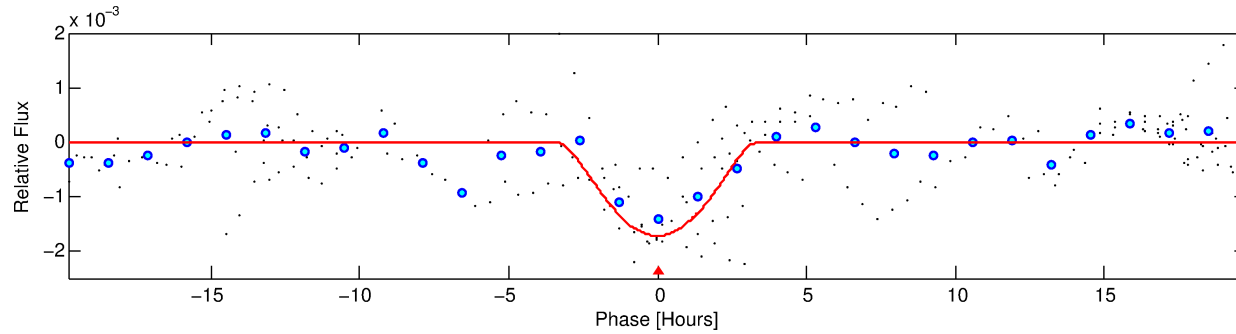
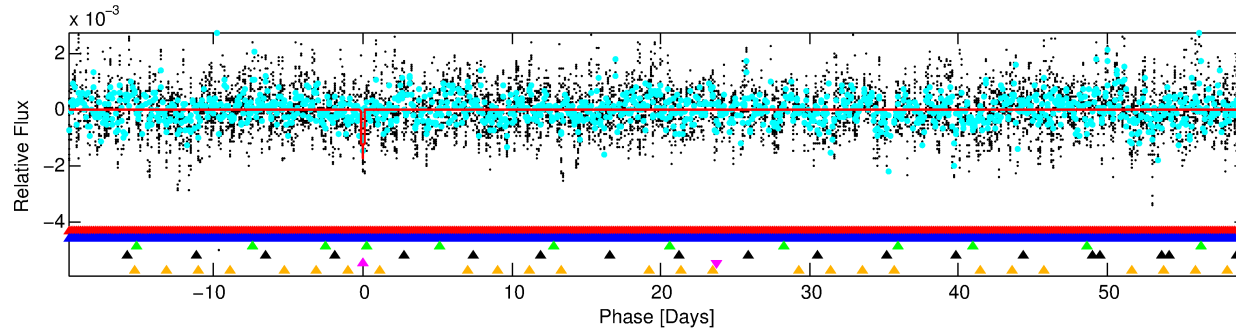
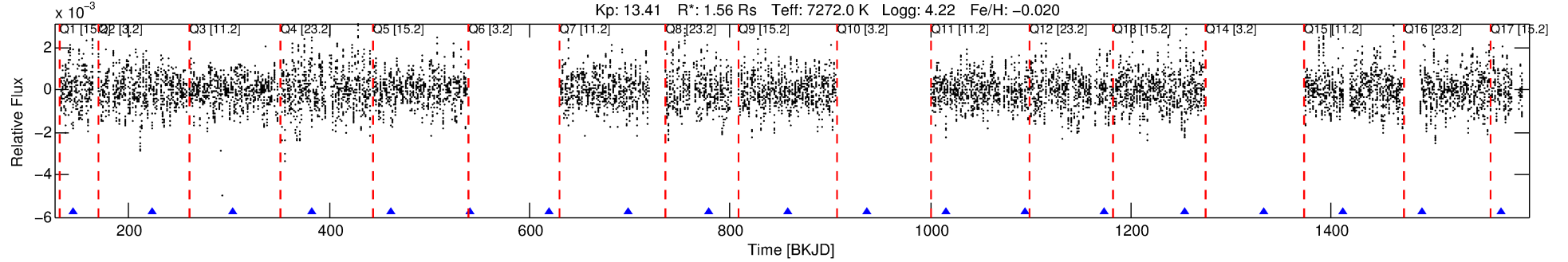
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005372348-05

No Significant Match Found

DV One-Page Summary

KIC: 5372348 Candidate: 5 of 6 Period: 79.149 d



DV Fit Results:

Period = 79.14861 [0.00104] d
Epoch = 145.0740 [0.0095] BKJD
Rp/R* = 0.0696 [0.1160]
a/R* = 34.79 [13.36]
b = 1.00 [0.11]
Seff = 35.88 [15.77]
Teq = 624 [69] K
Rp = 11.85 [20.21] Re
a = 0.4120 [0.1201] AU
Ag = 641.91 [2159.88] [0.30σ]
Teffp = 4857 [4061] K [1.04σ]

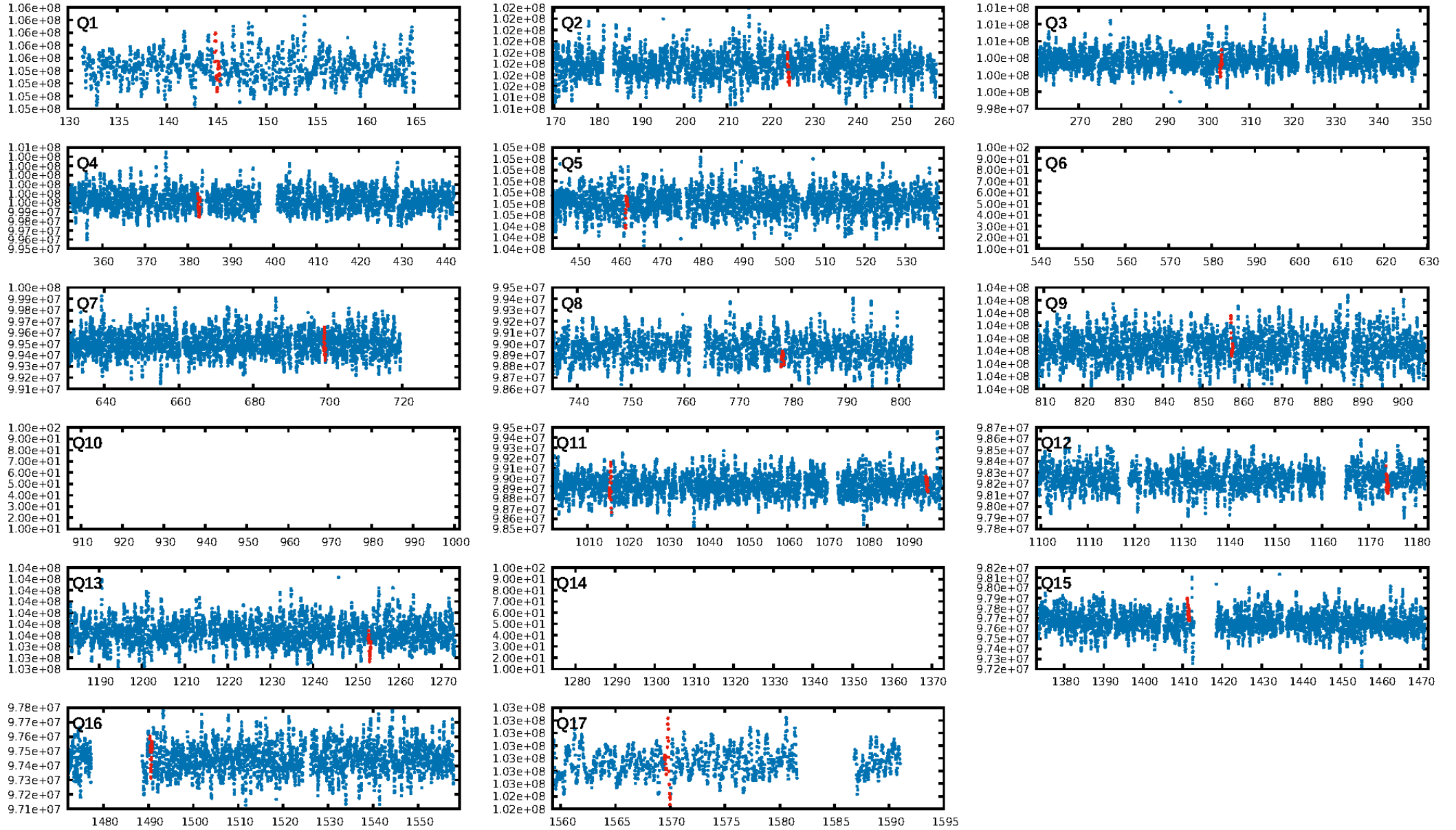
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [13.60σ]
LongPeriod-sig: 100.0% [115.34σ]
ModelChiSquare2-sig: 35.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -0.9032
Centroid-sig: 4.1%
Centroid-so: 0.074 arcsec [0.44σ]
OotOffset-rm: 0.203 arcsec [1.07σ]
OotOffset-st: 0/4/4/5 [13]
KicOffset-rm: 0.334 arcsec [1.42σ]
KicOffset-st: 0/4/4/5 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 0.00 [0/13]

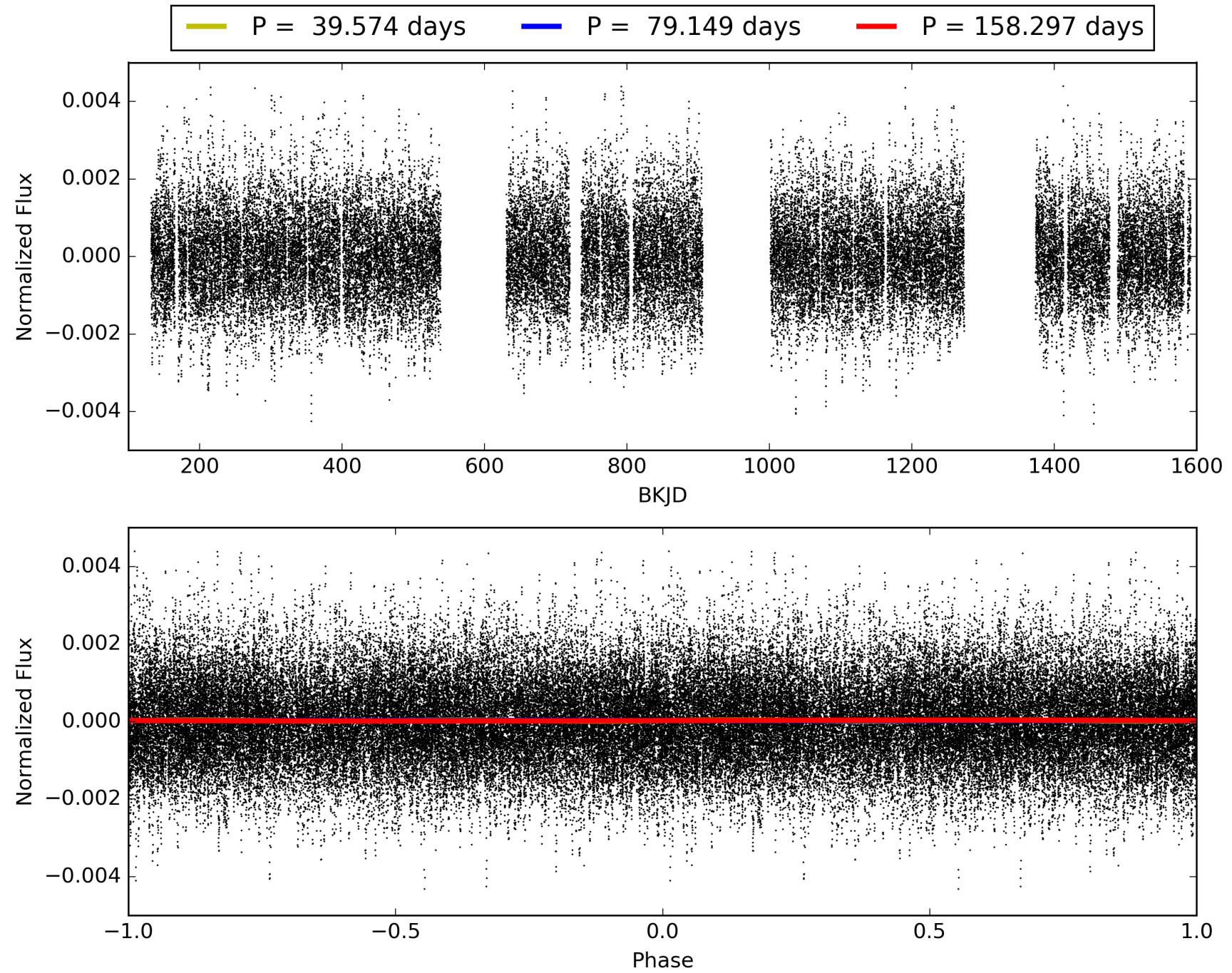
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:17:43 Z

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

TCE 005372348-05, PDC Light Curves

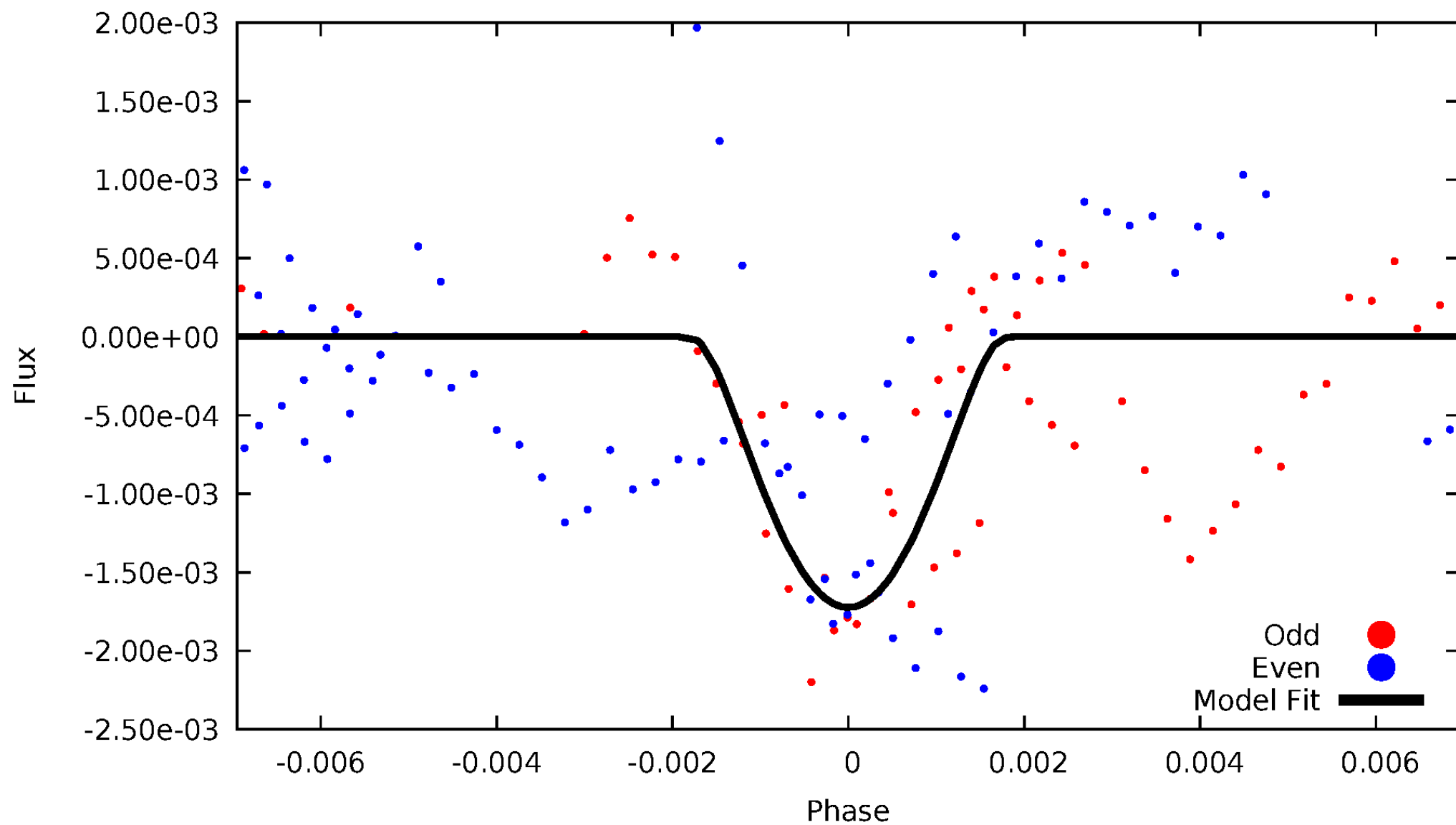


TCE 005372348-05



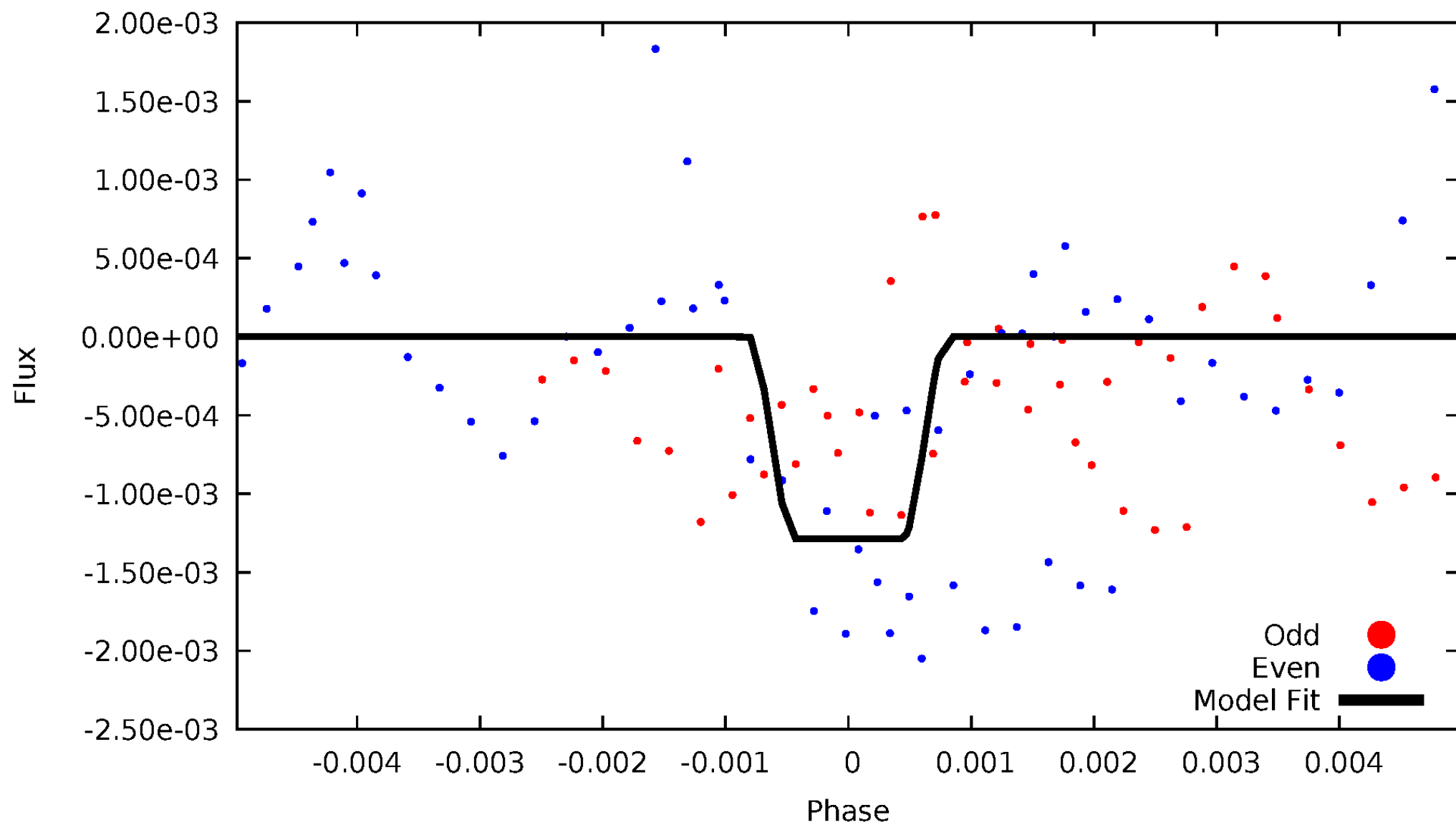
DV Odd/Even

TCE 005372348-05



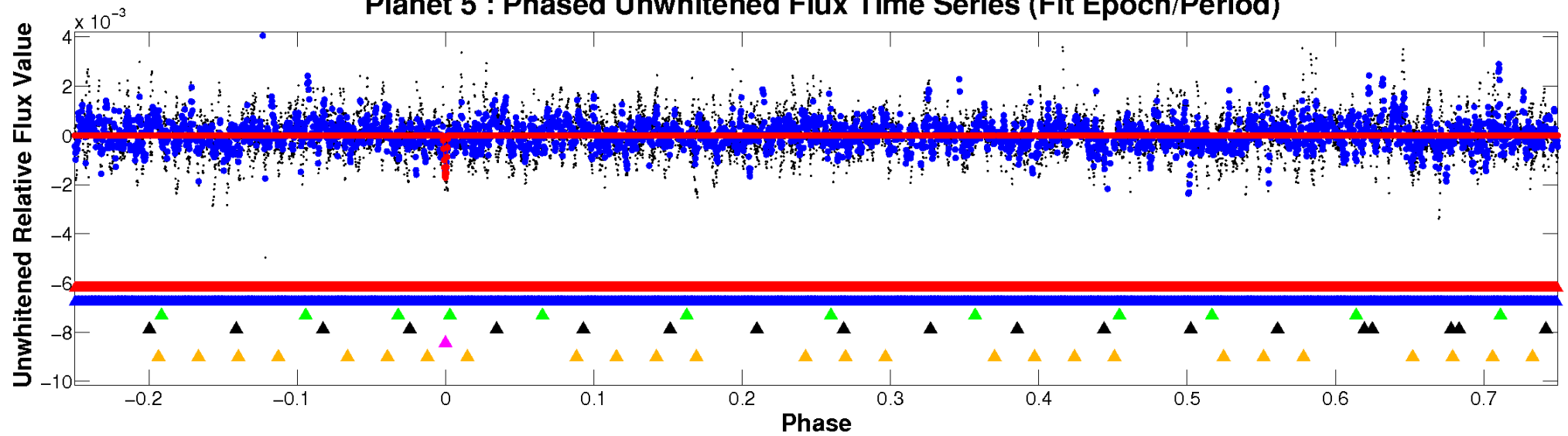
ALT Odd/Even

TCE 005372348-05

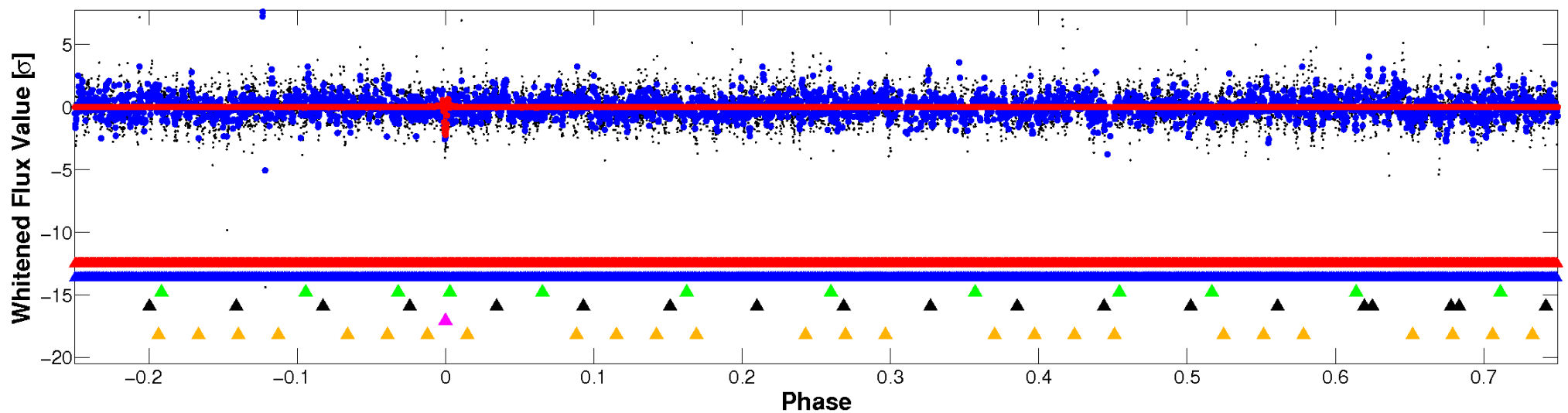


Non-Whitened Vs. Whitened Light Curve

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

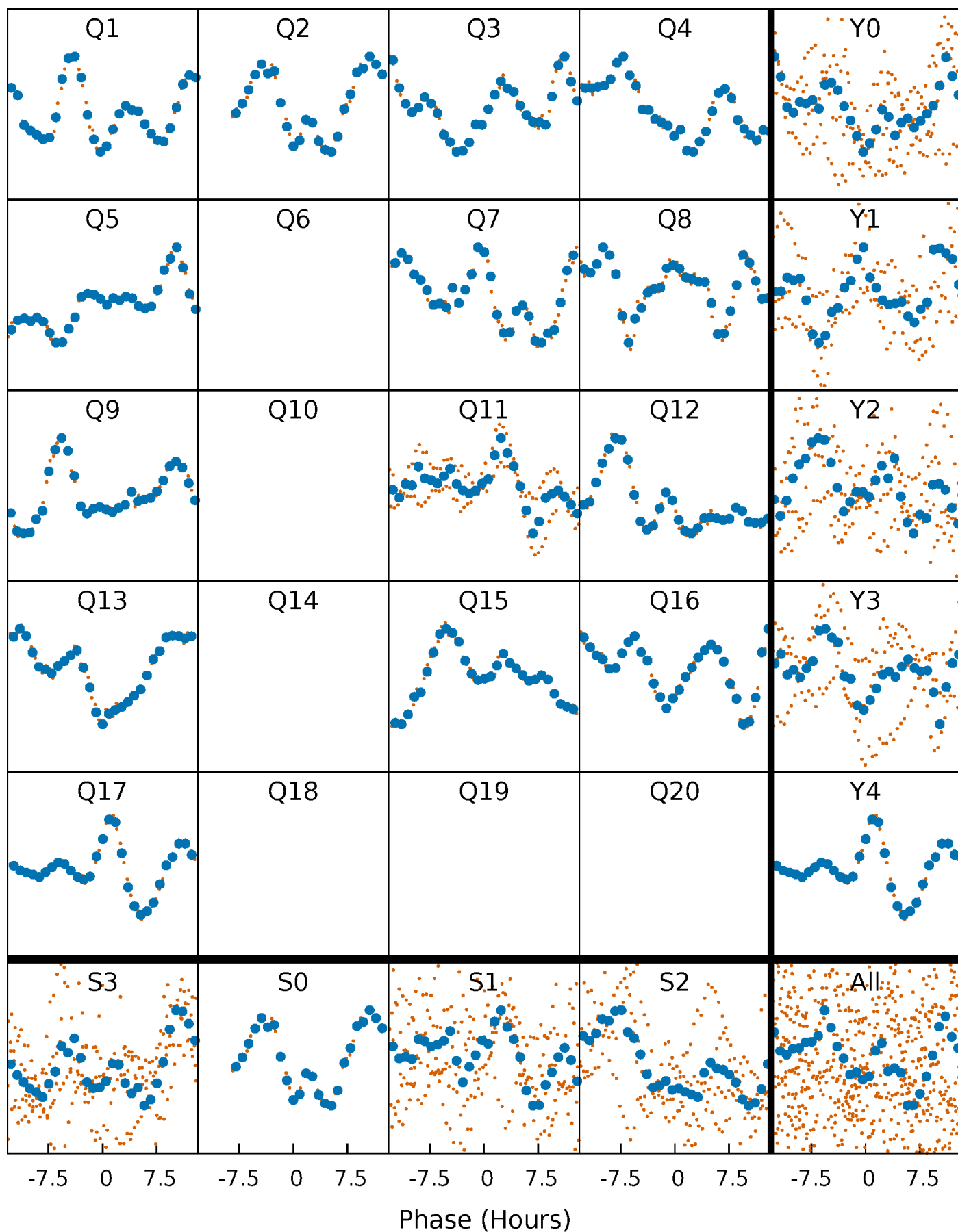


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



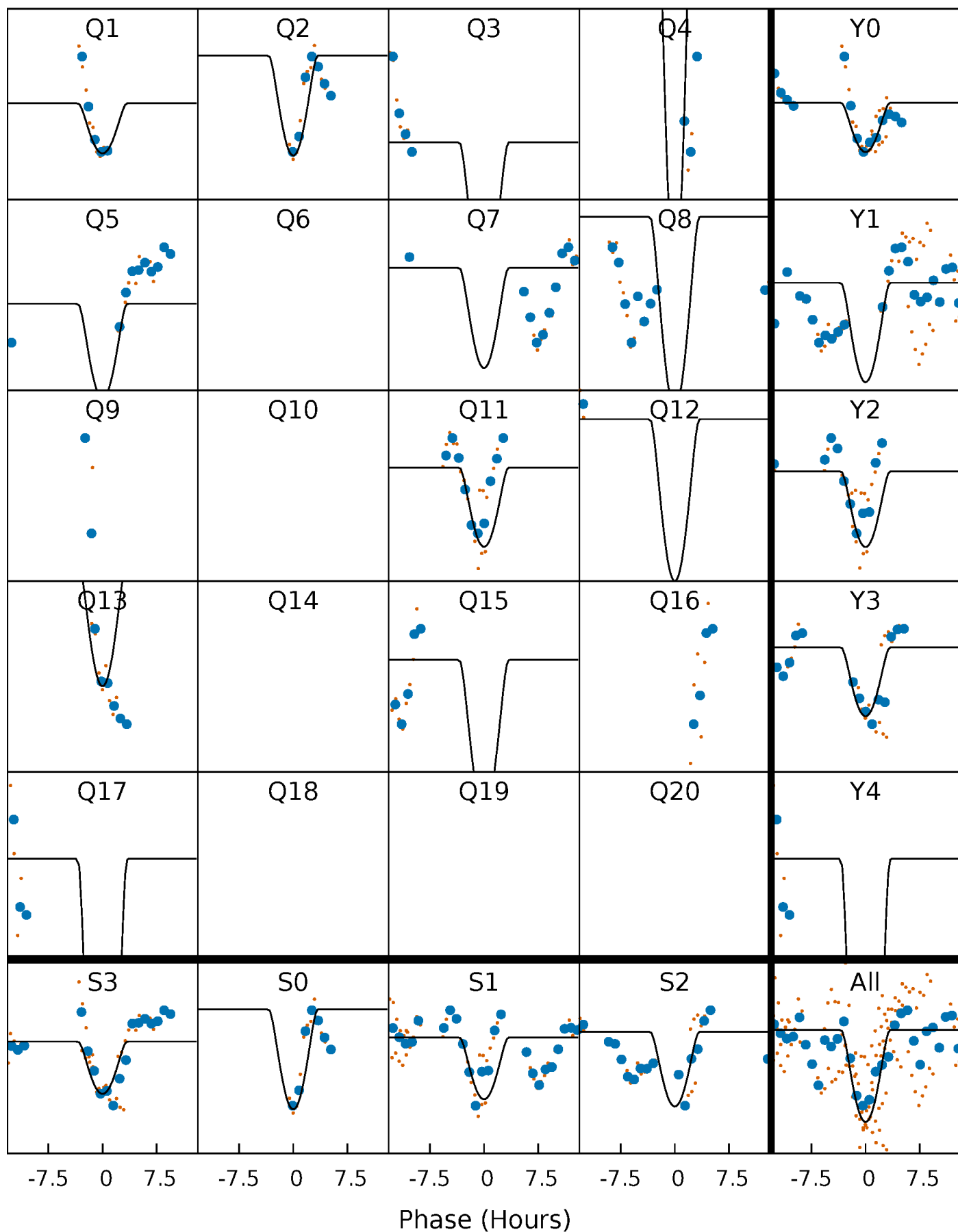
PDC Quarter-Phased Transit Curves

TCE 005372348-05 $P = 79.148608$ Days $T_0 = 145.073978$ (BKJD)



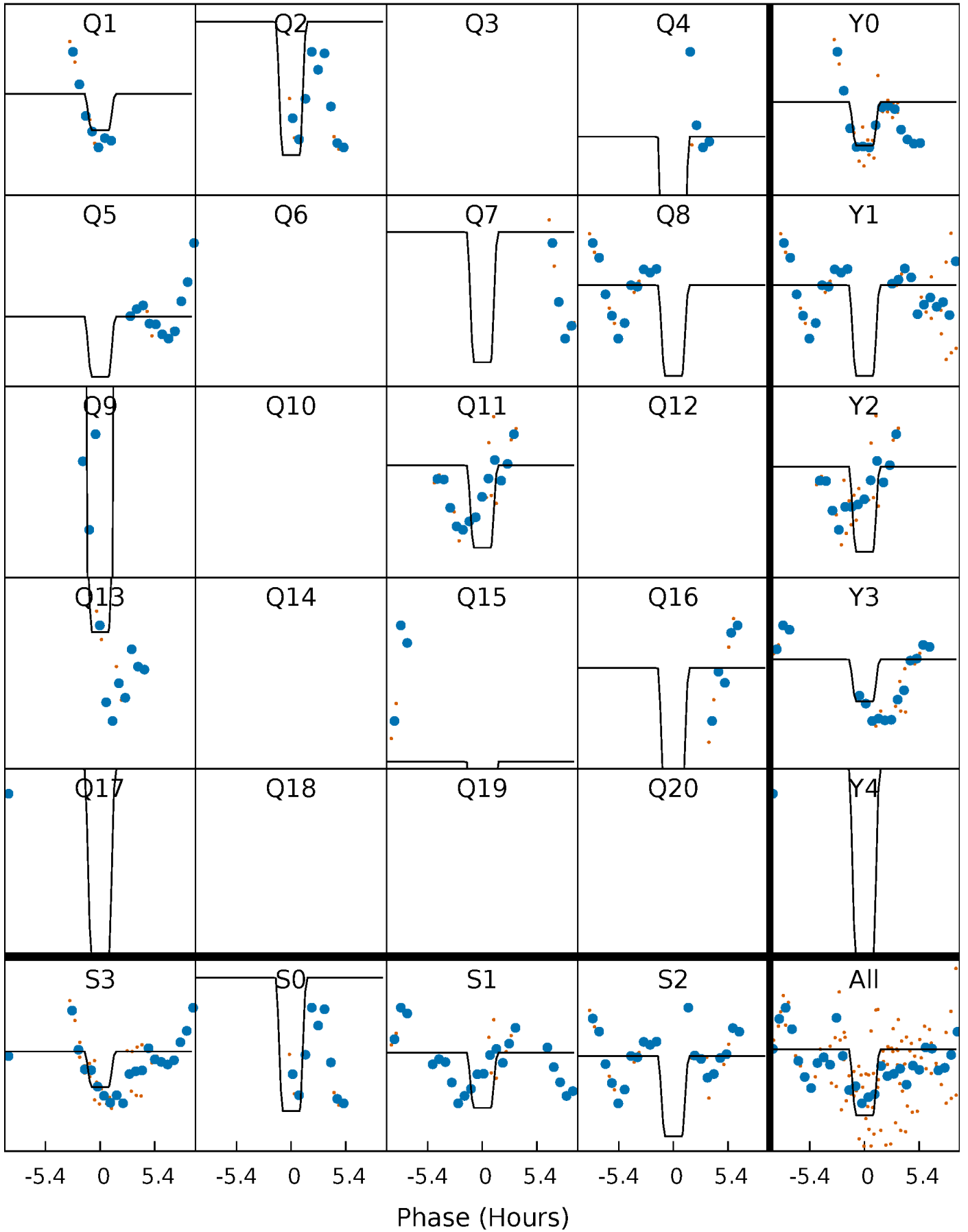
DV Quarter-Phased Transit Curves

TCE 005372348-05 P= 79.148608 Days $T_0=145.073978$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

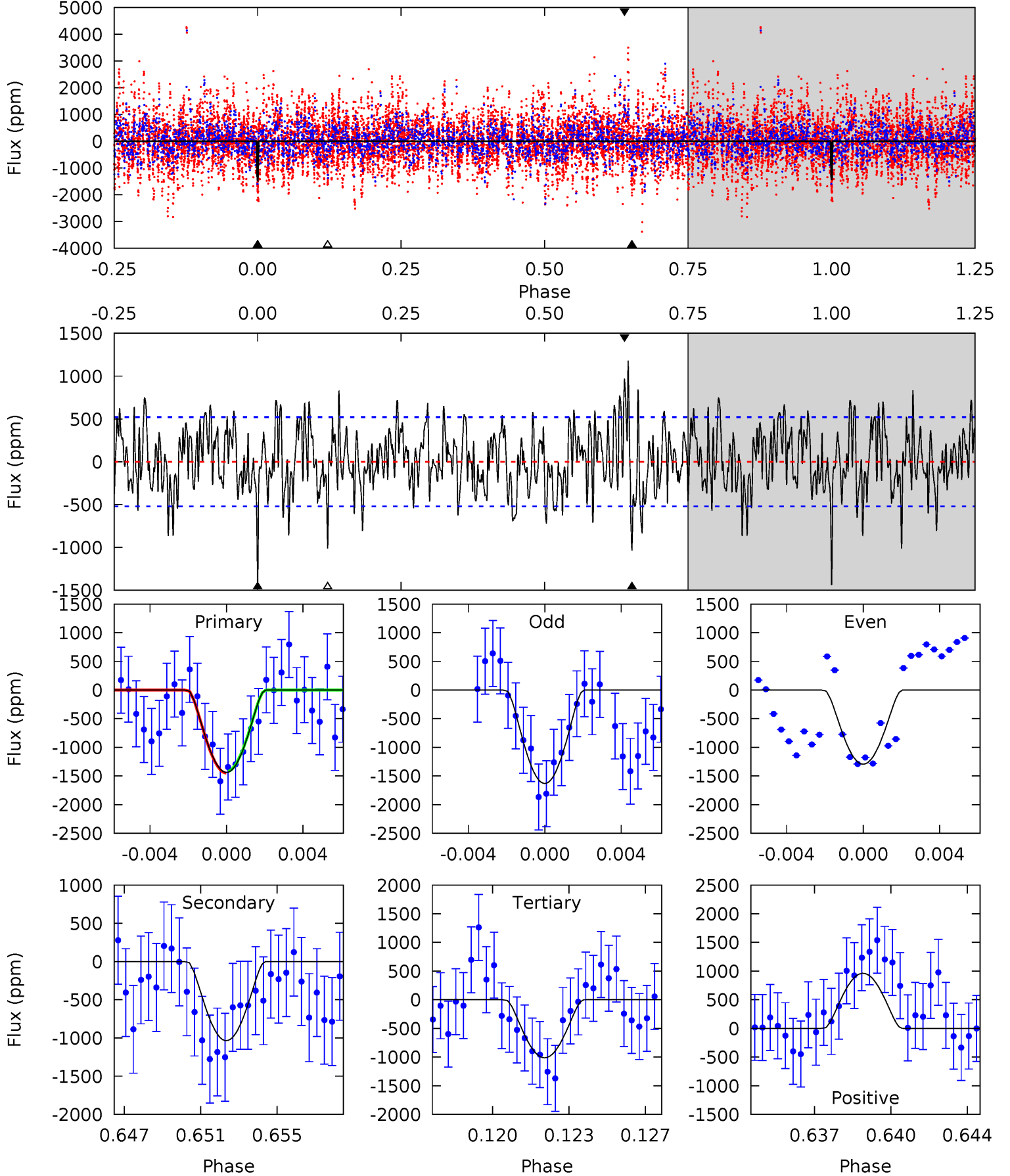
TCE 005372348-05 P= 79.146024 Days $T_0=145.062069$ (BKJD)



DV Model-Shift Uniqueness Test

005372348-05, P = 79.148608 Days, E = 65.925370 Days

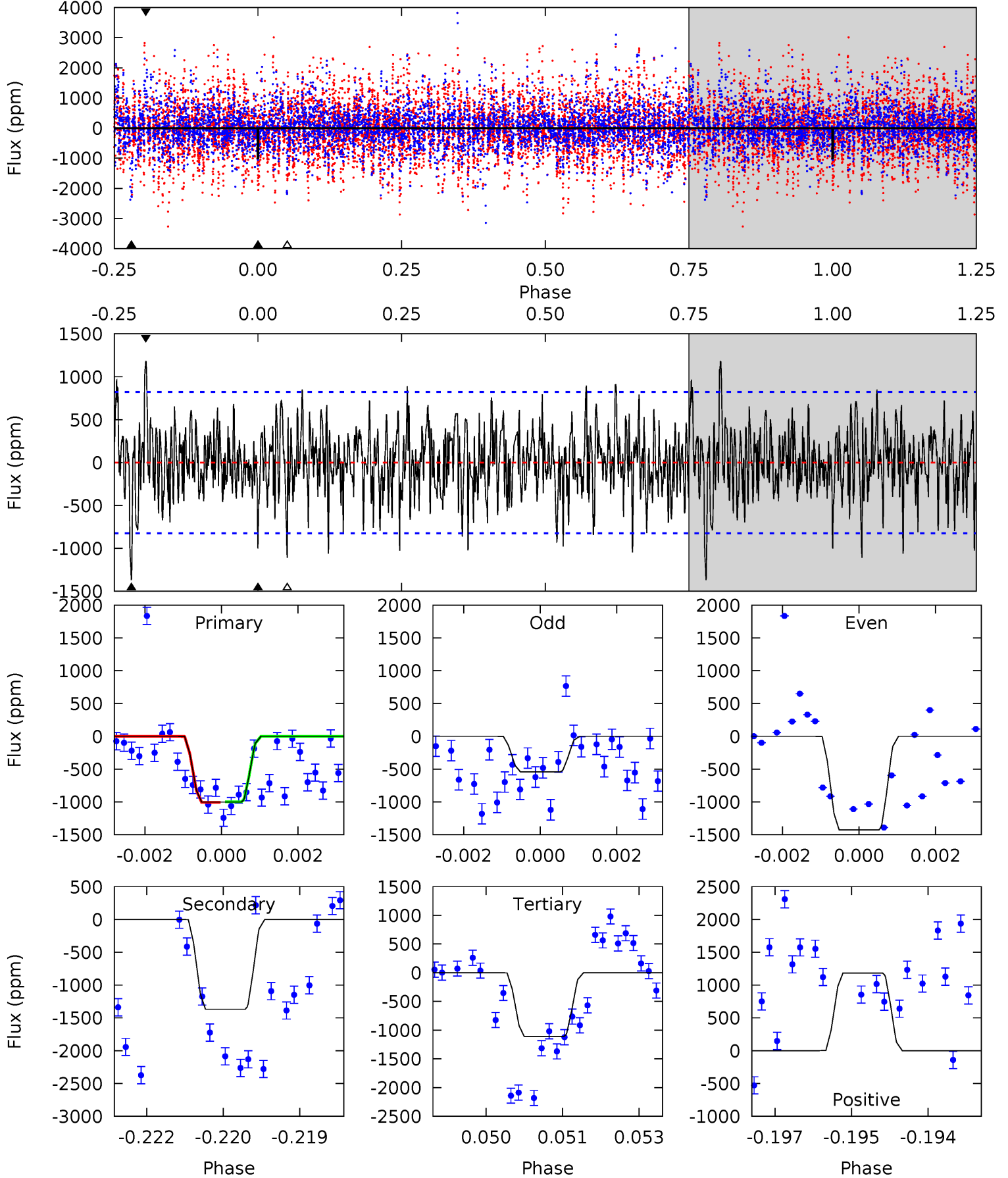
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.4	10.4	10.1	9.63	5.22	2.92	3.20	4.26	4.77	0.23	0.73	1.68	1.03	0.45	0.15



Alt Model-Shift Uniqueness Test

005372348-05, P = 79.146024 Days, E = 65.916045 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.52	8.91	7.22	7.70	5.36	3.15	2.10	-0.70	-1.18	1.69	1.21	2.82	1.19	0.46	0.03



Stellar Parameters For KIC 005372348

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7272^{+230}_{-316}	$4.225^{+0.090}_{-0.210}$	$-0.020^{+0.200}_{-0.350}$	$1.559^{+0.568}_{-0.227}$	$1.487^{+0.221}_{-0.221}$	$0.553^{+0.234}_{-0.314}$
	+3%/-4%	+2%/-5%	+1000%/-1750%	+36%/-15%	+15%/-15%	+42%/-57%
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 005372348-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1035 ± 100	$18.66^{+18.10}_{-11.76}$	881^{+77}_{-53}	4192^{+2378}_{-852}	277^{+1742}_{-208}
Alt.	-1369 ± 154	$16.59^{+16.37}_{-11.80}$	886^{+72}_{-53}	4672^{+3912}_{-1039}	430^{+4853}_{-317}

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 $A_{obs} \gg 1.0$

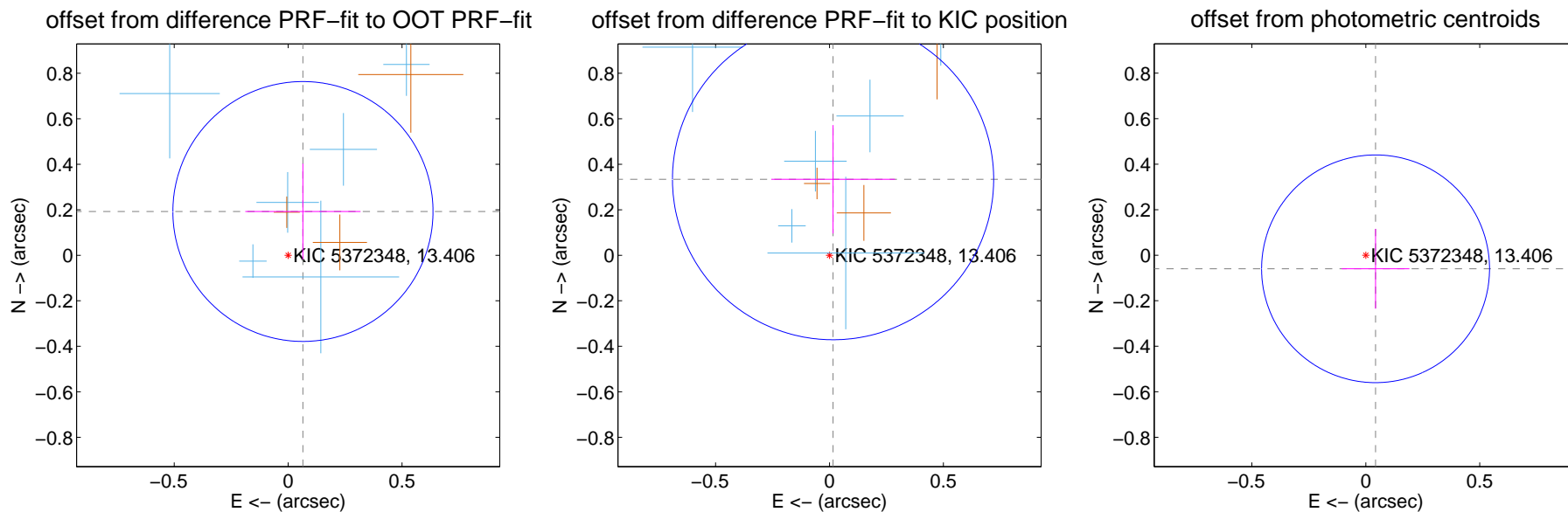
DV Centroid Data

Supplemental centroid analysis for 005372348-05. Kepler magnitude: 13.41. Transit SNR 10.87

There are 7 quarters with good PRF difference image offsets

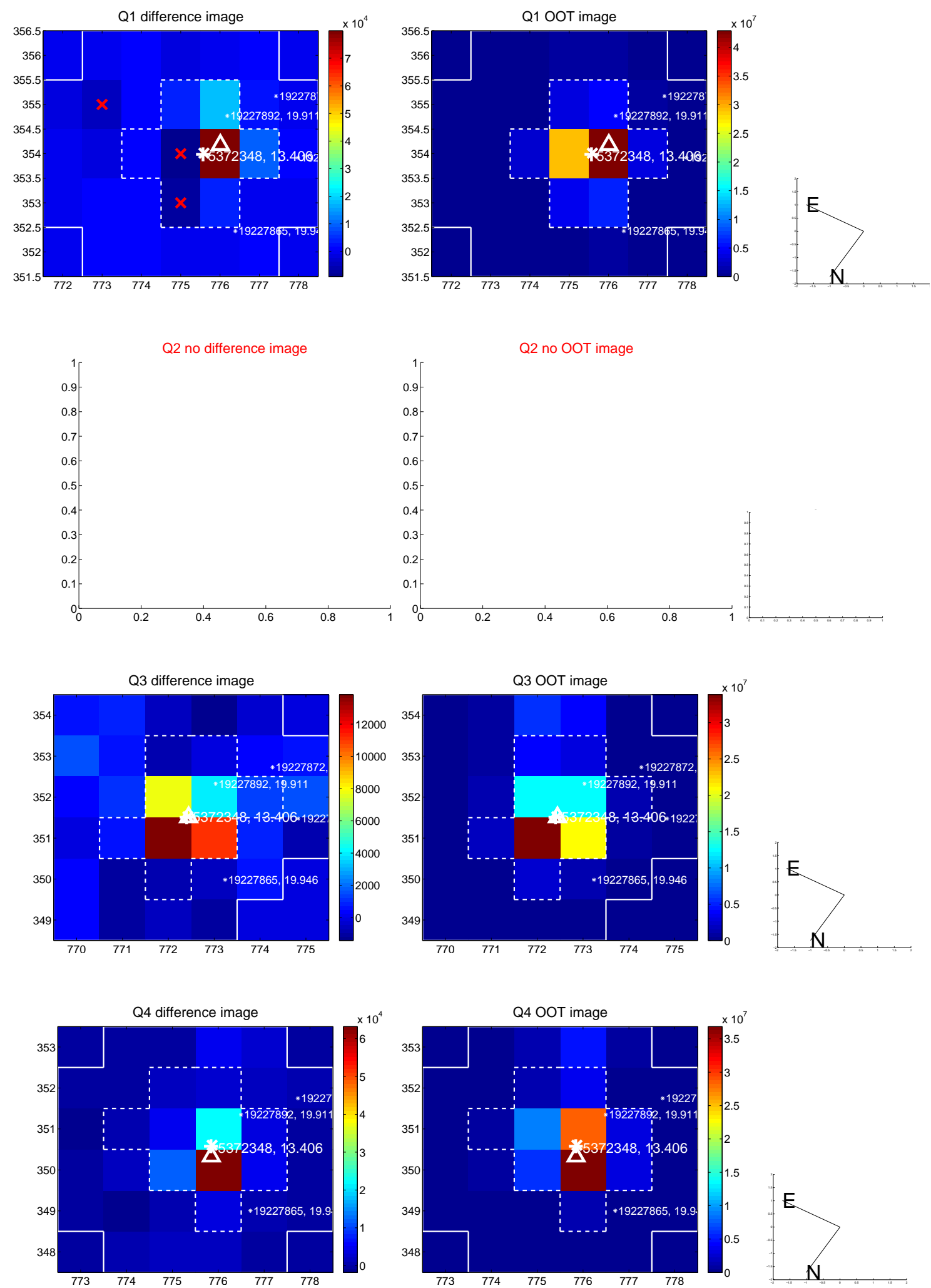
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.203 ± 0.190	1.07	-0.065 ± 0.253	0.192 ± 0.210
PRF-fit source offset from KIC position	0.334 ± 0.235	1.42	-0.016 ± 0.271	0.334 ± 0.238
photometric centroid source offset	0.07 ± 0.17	0.44	-0.04 ± 0.15	-0.06 ± 0.18

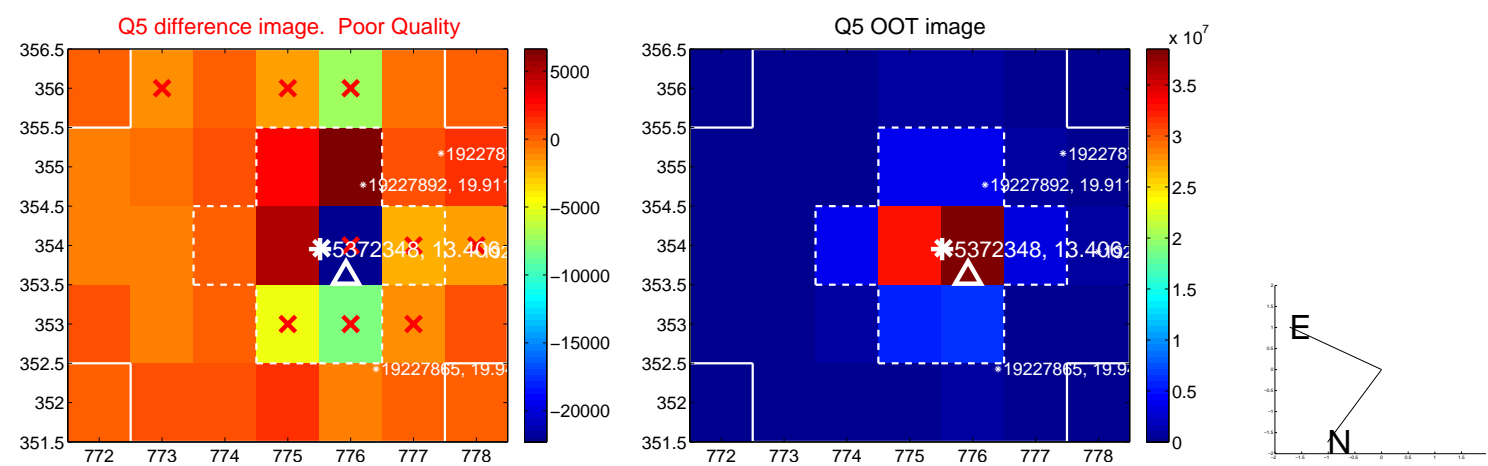


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

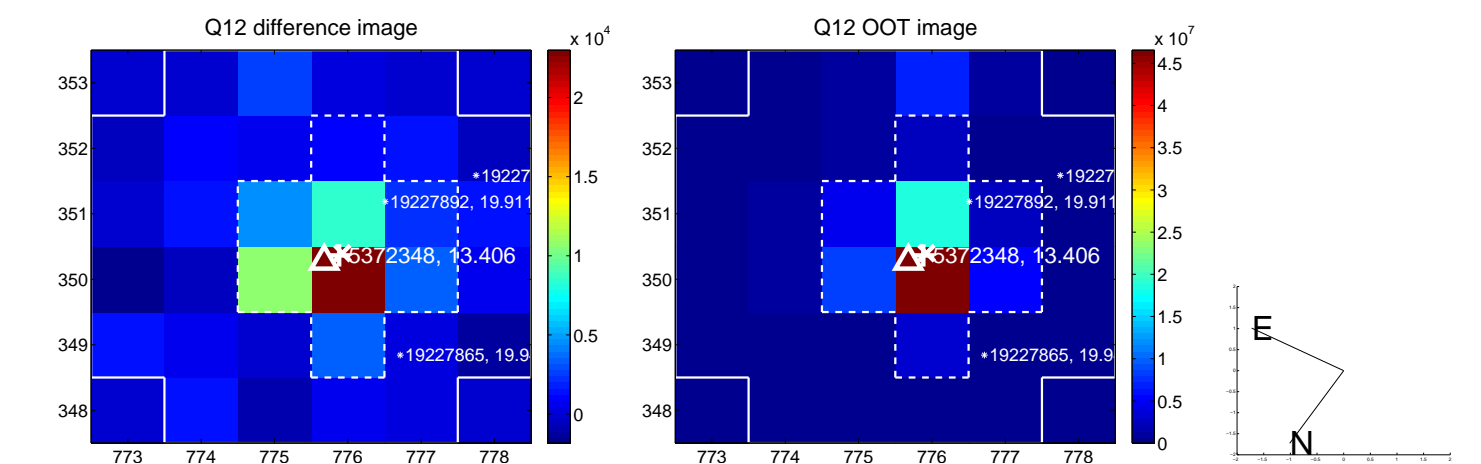
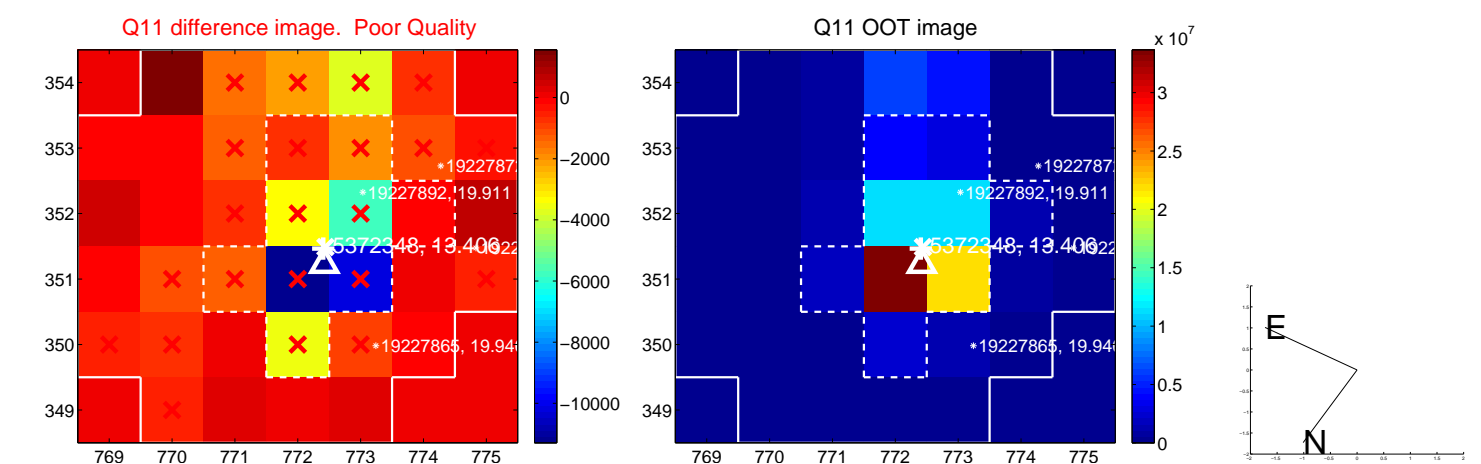
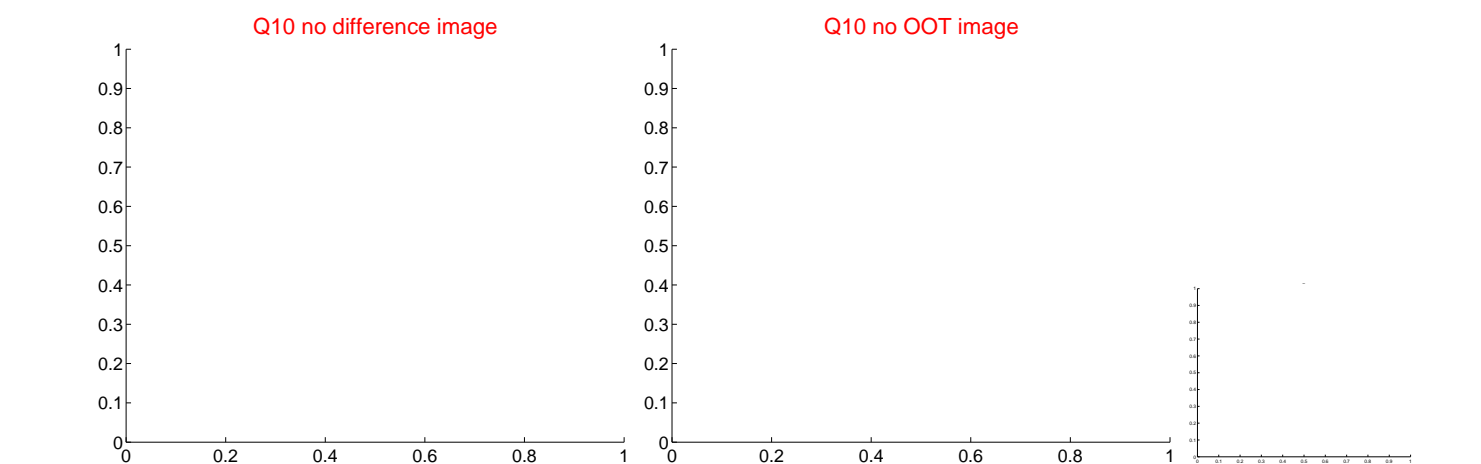
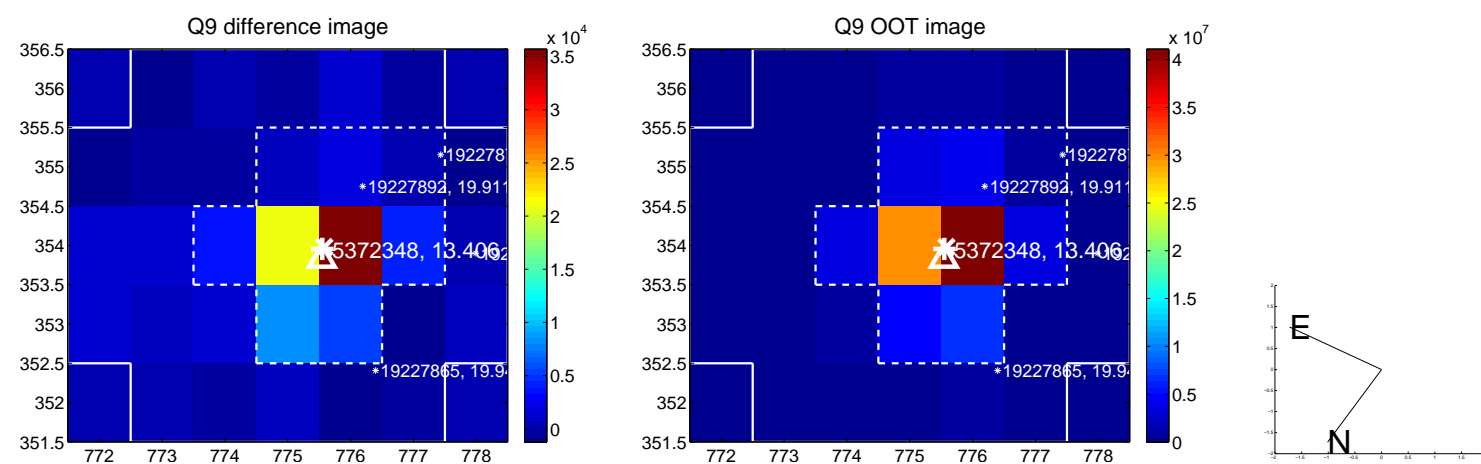
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



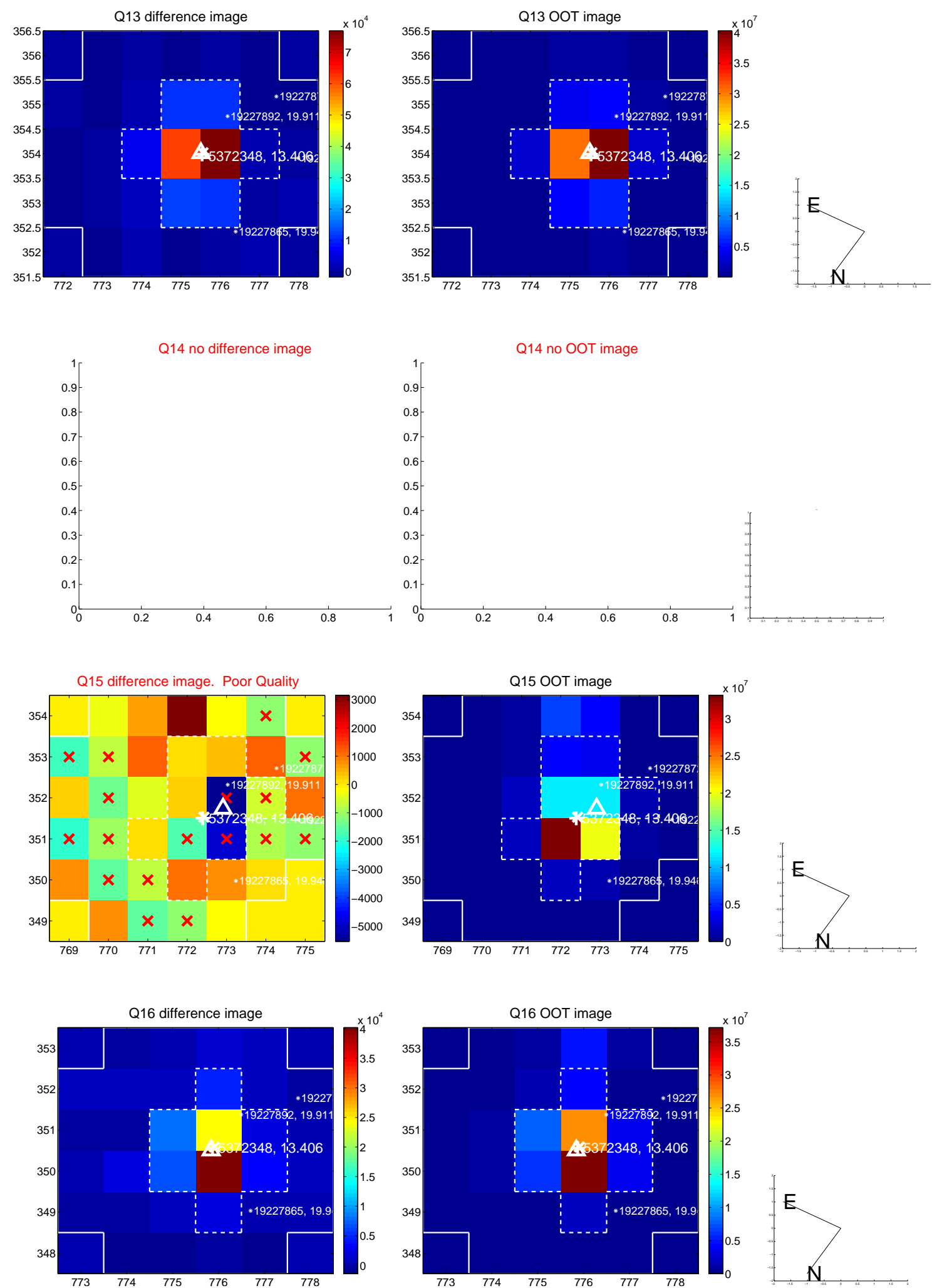
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



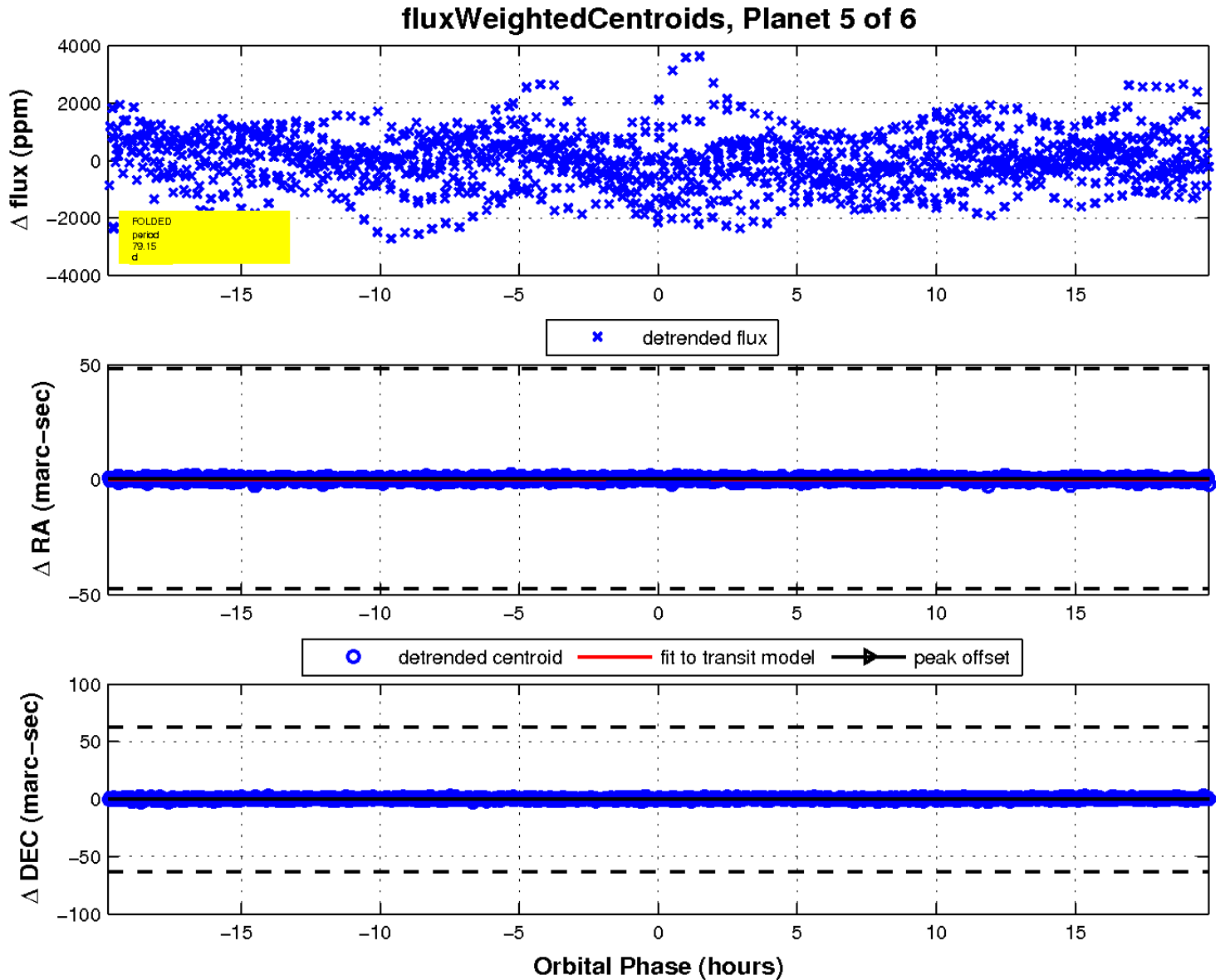
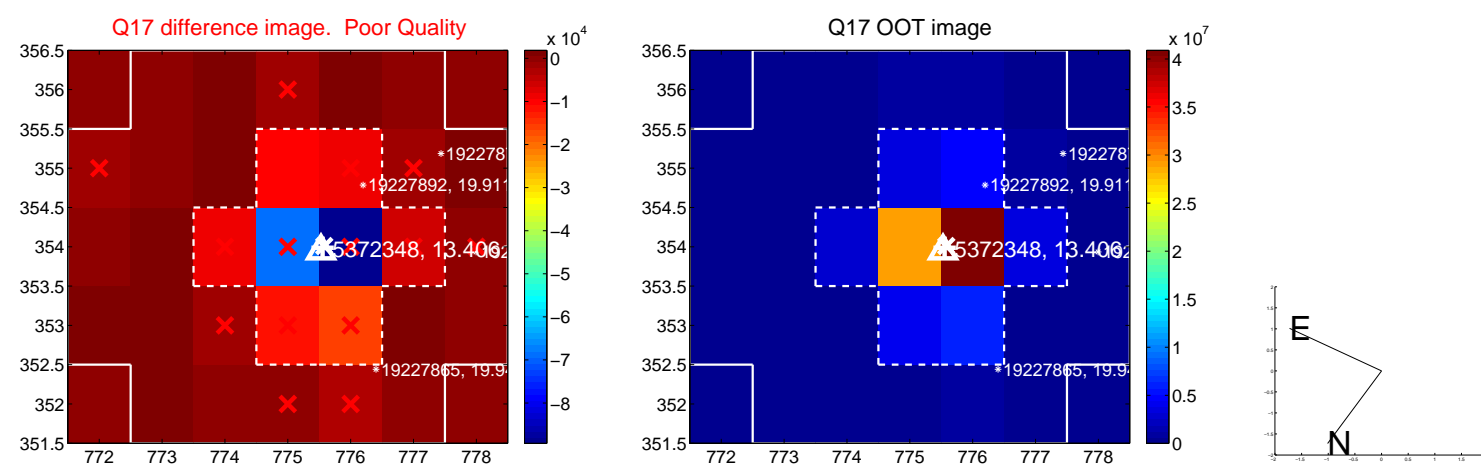
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

