

KIC 003849354

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})
003849354-01	OBS	No	0.522867	131.720672	34.7	1.218	10.4	6.3	1.42	6728	0.97	19635.14
003849354-02	OBS	No	3.391599	134.388471	109.2	17.025	8.4	5.0	1.42	6728	1.57	1623.12
003849354-03	OBS	No	128.111260	169.764185	3001.2	16.083	12.9	10.9	1.42	6728	9.31	12.81
003849354-04	OBS	No	189.051520	251.169702	2883.2	5.428	11.4	11.7	1.42	6728	10.05	7.62
003849354-05	OBS	No	96.816220	154.764709	1566.9	6.793	9.7	9.4	1.42	6728	6.74	18.61
003849354-06	OBS	No	115.557551	183.576953	1721.7	17.158	8.1	9.4	1.42	6728	6.87	14.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003849354-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003849354-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV
003849354-03	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
003849354-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003849354-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003849354-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

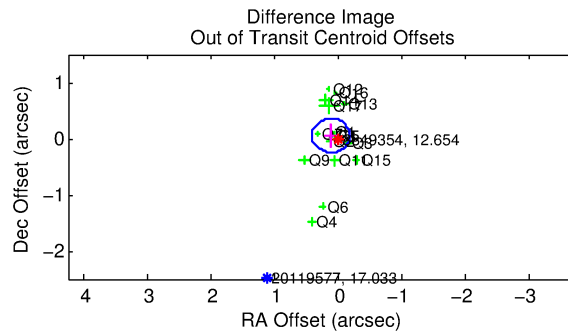
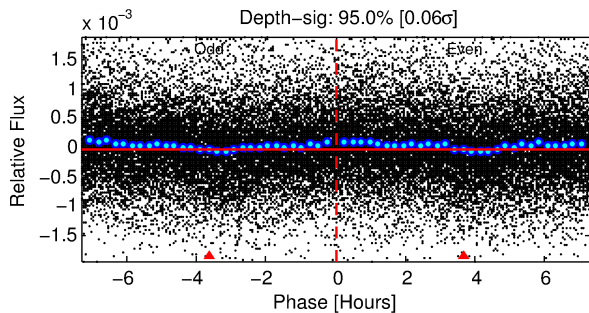
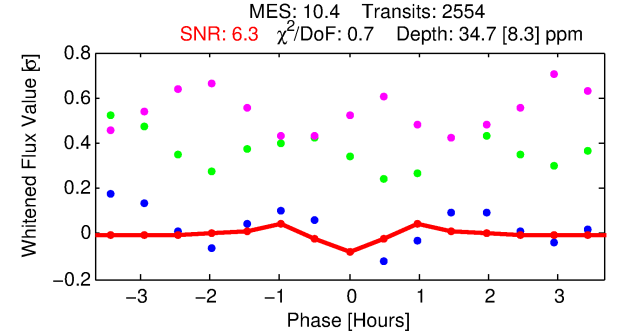
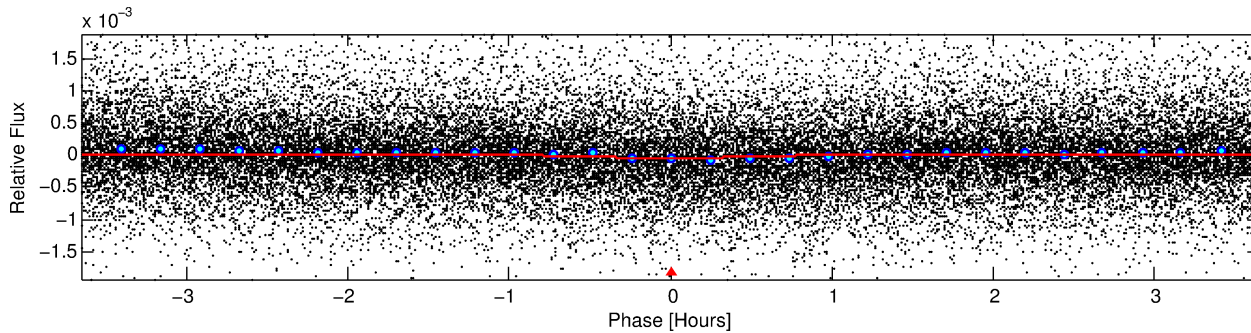
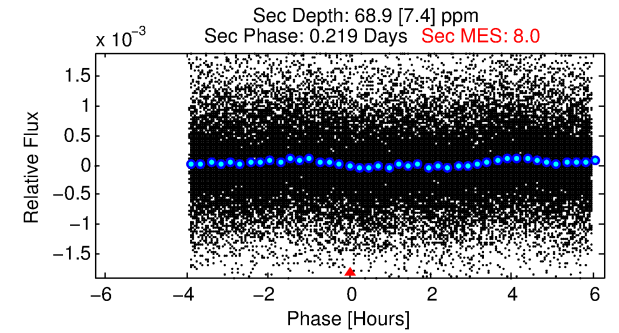
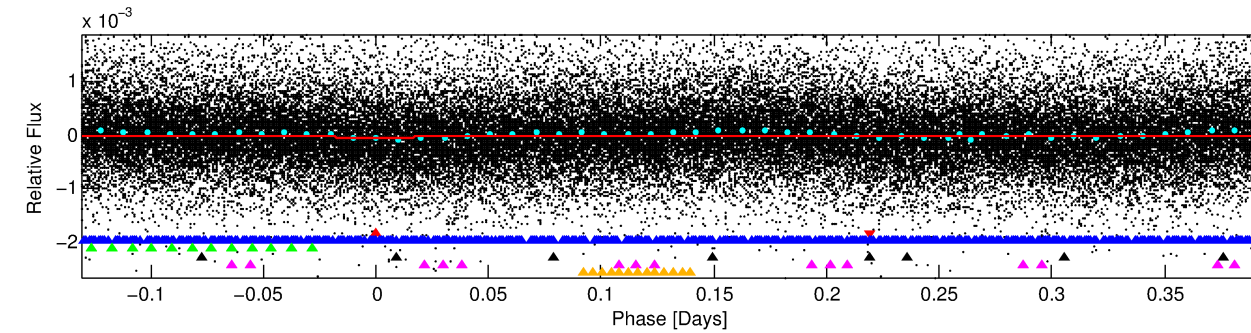
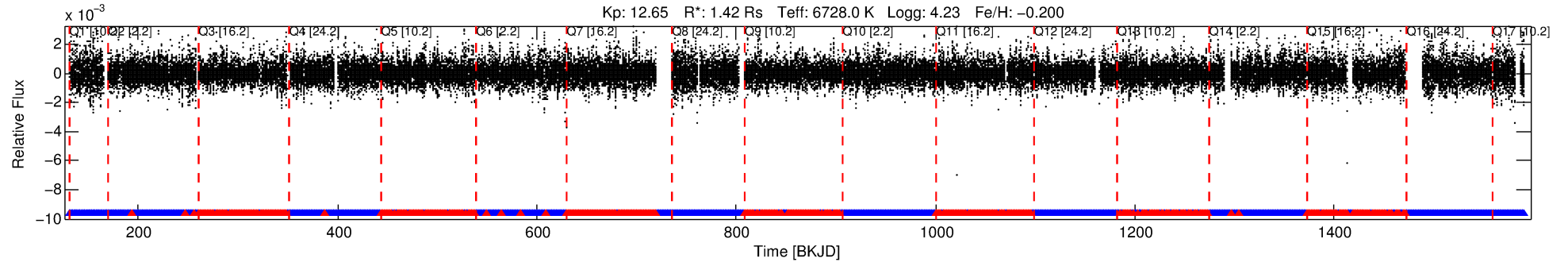
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003849354-01

No Significant Match Found

DV One-Page Summary

KIC: 3849354 Candidate: 1 of 6 Period: 0.523 d



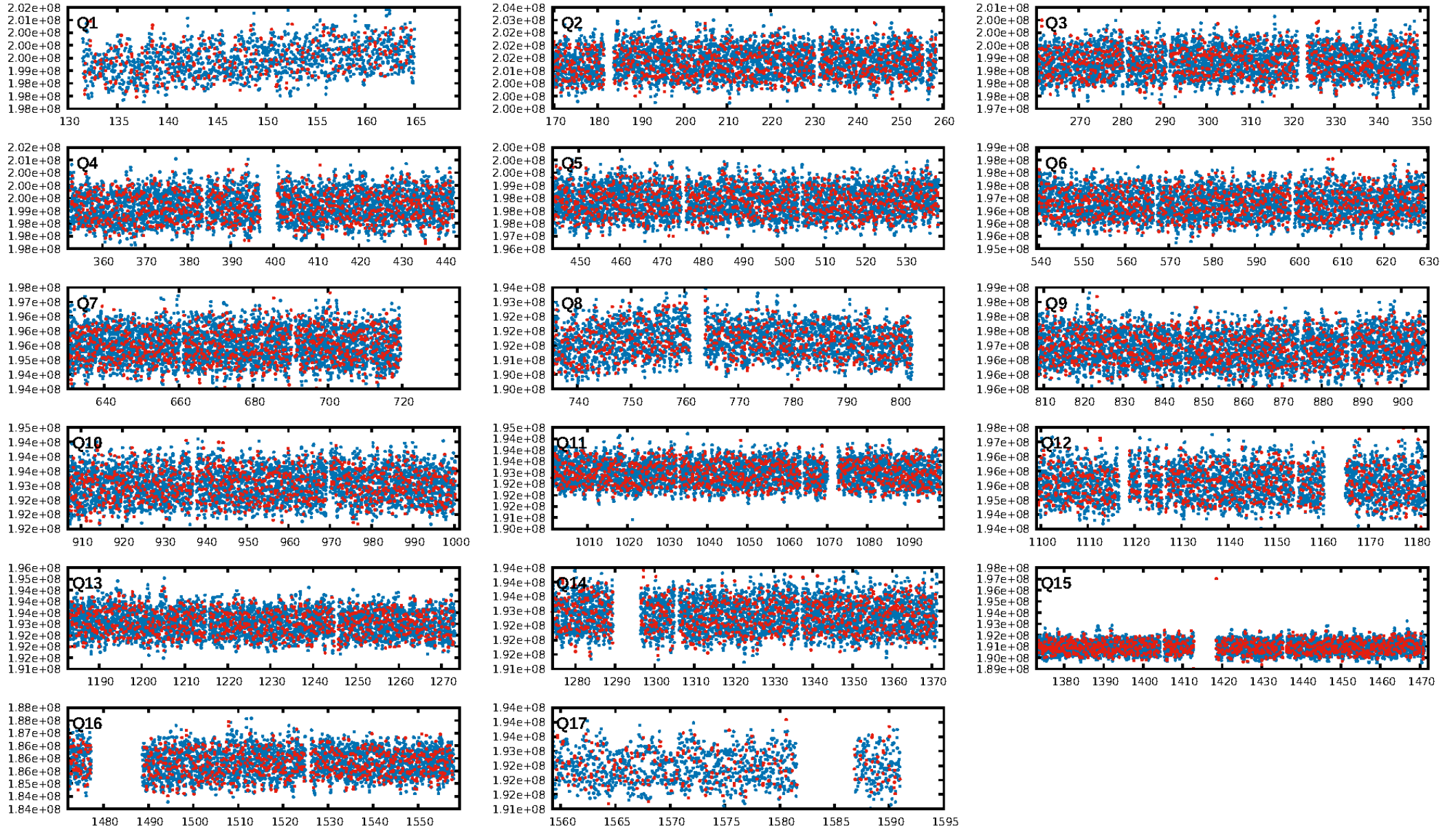
DV Fit Results:

Period = 0.52287 [0.00002] d
Epoch = 131.7207 [0.0018] BKJD
Rp/R* = 0.0063 [0.0015]
a/R* = 1.76 [1.51]
b = 0.90 [0.28]
Seff = 19635.14 [7408.46]
Teq = 3018 [285] K
Rp = 0.97 [0.39] Re
a = 0.0137 [0.0035] AU
Ag = 7.50 [4.57] [1.42σ]
Teffp = 7724 [990] K [4.57σ]

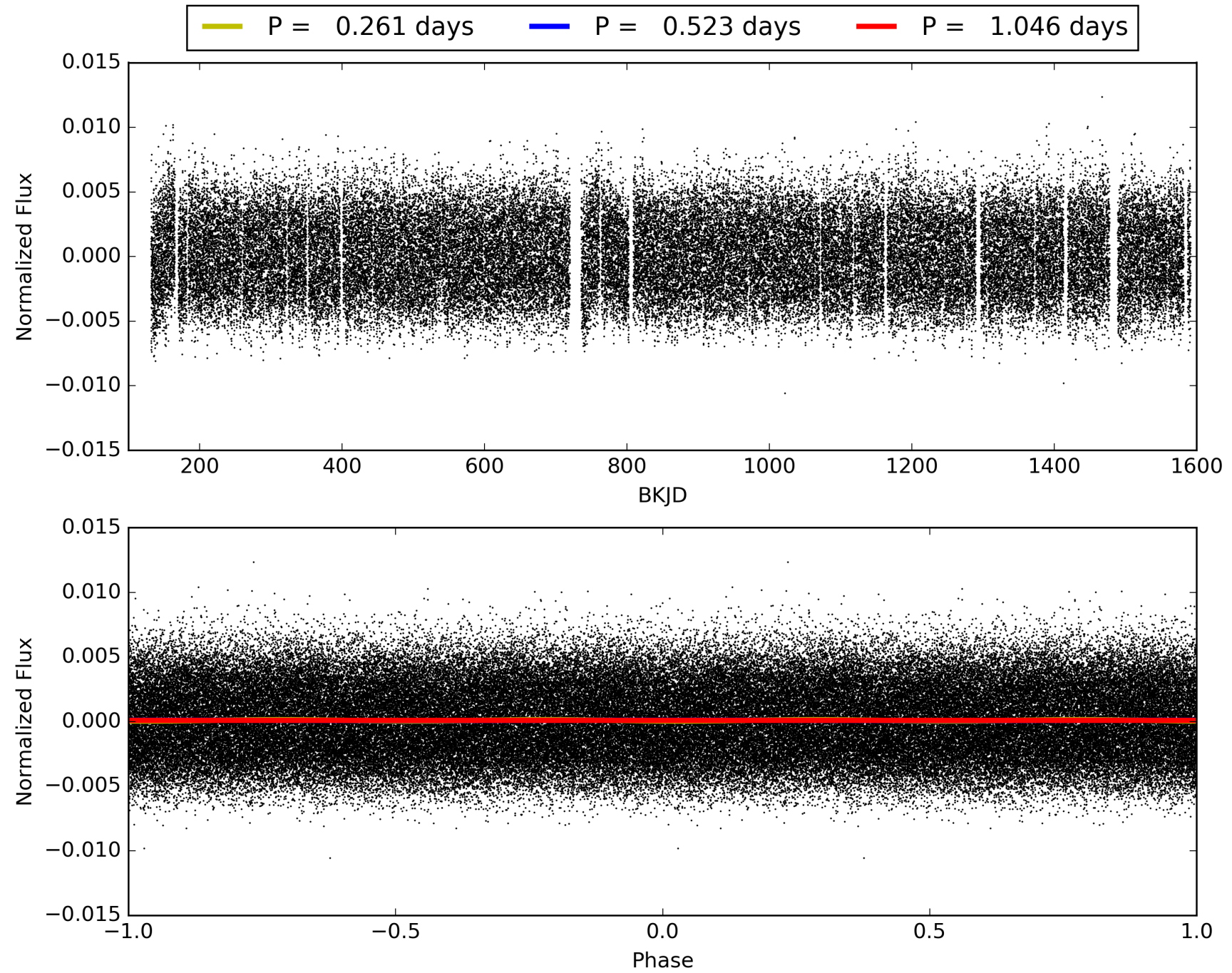
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [4.03σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.71 [1732/2439]
GhostDiagnostic-chr: -2.33
Centroid-sig: 14.5%
Centroid-so: 0.757 arcsec [1.16σ]
OotOffset-rm: 0.131 arcsec [1.31σ]
KicOffset-rm: 0.205 arcsec [1.38σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 003849354-01, PDC Light Curves

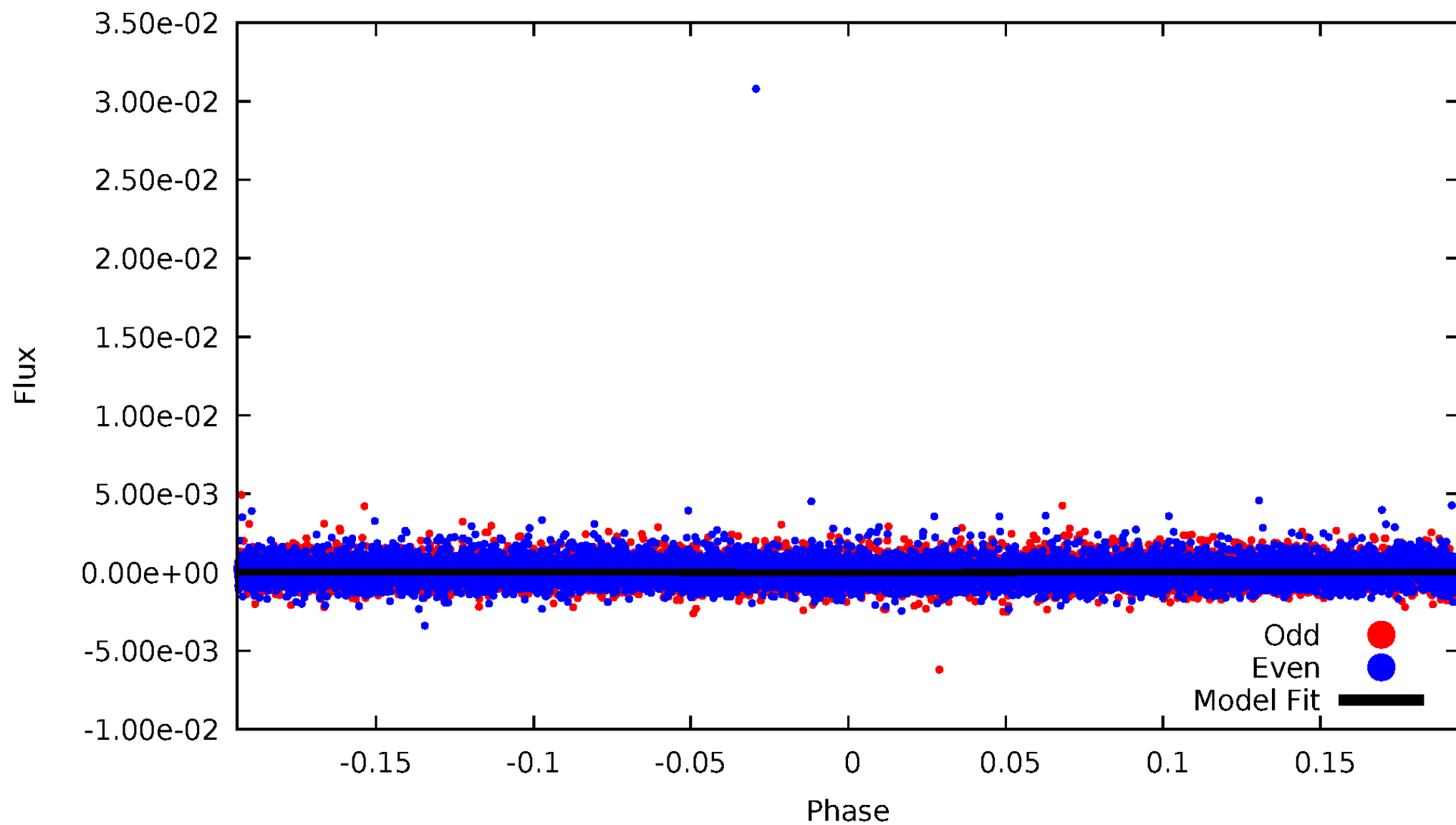


TCE 003849354-01



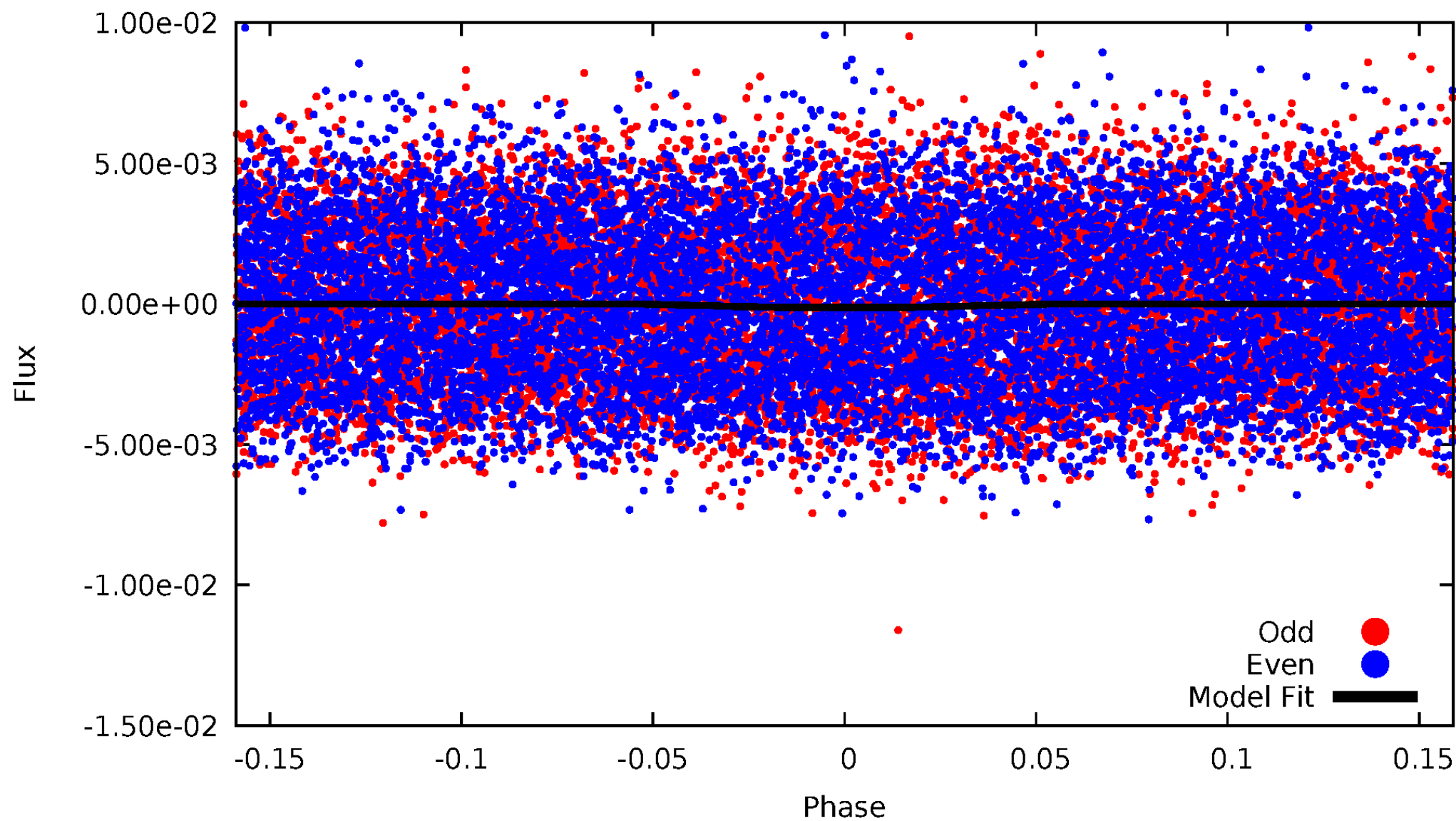
DV Odd/Even

TCE 003849354-01

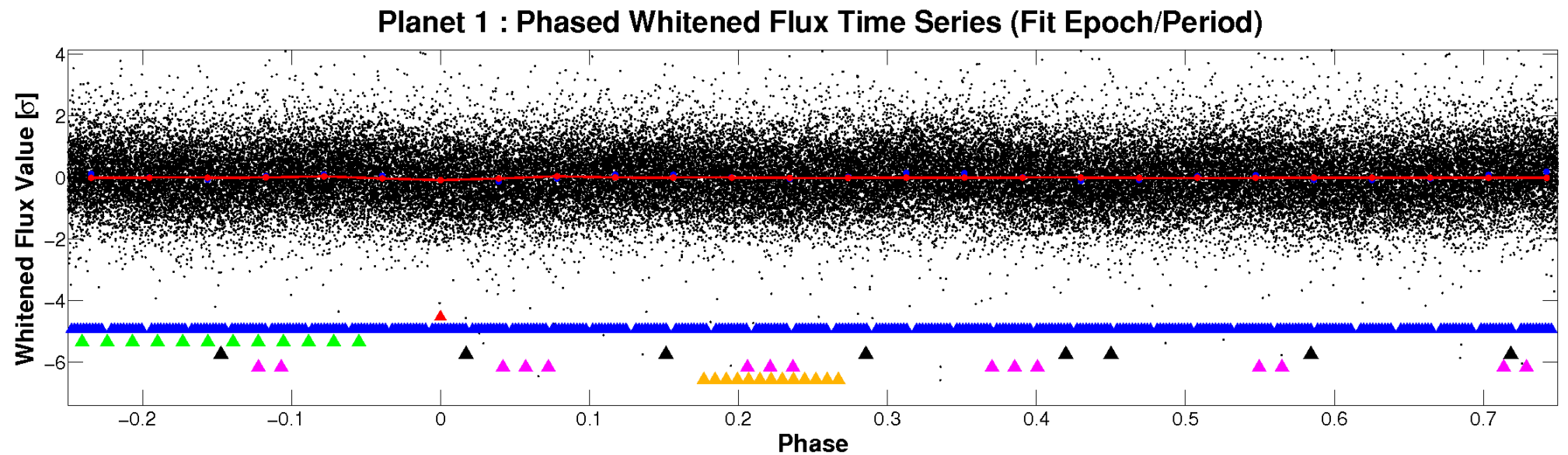
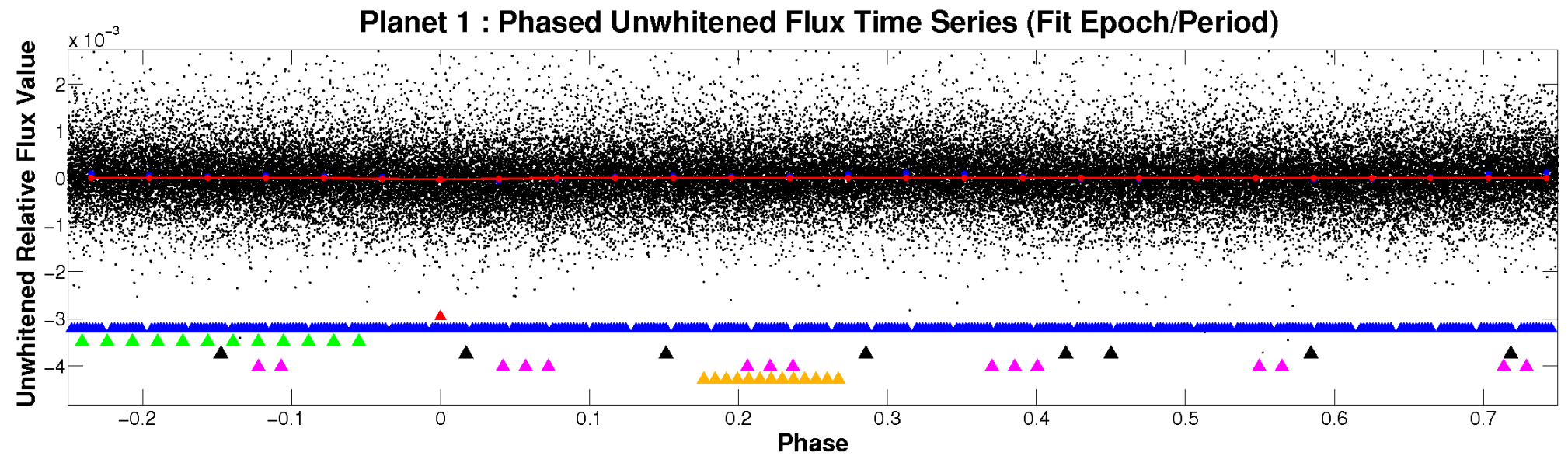


ALT Odd/Even

TCE 003849354-01

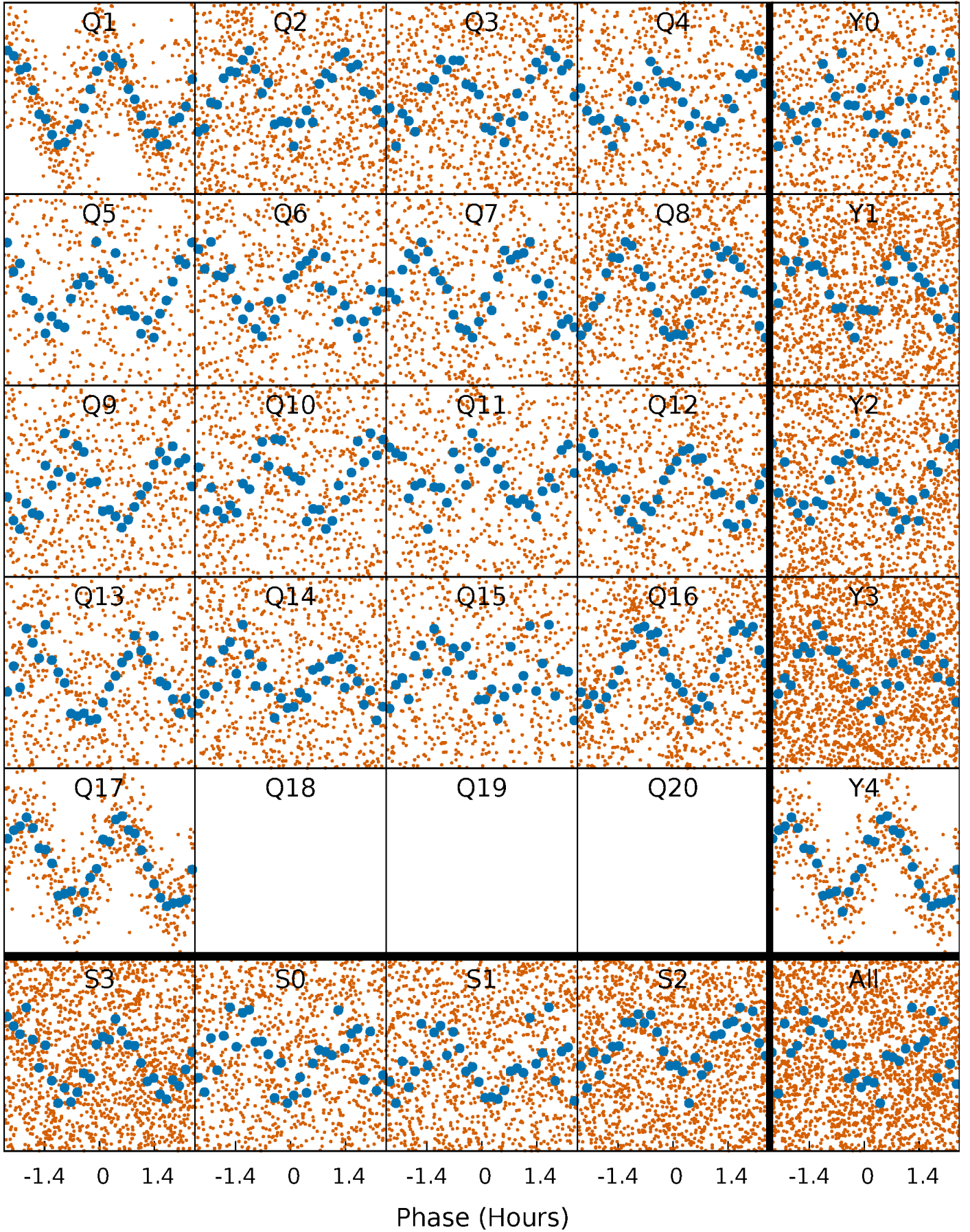


Non-Whitened Vs. Whitened Light Curve



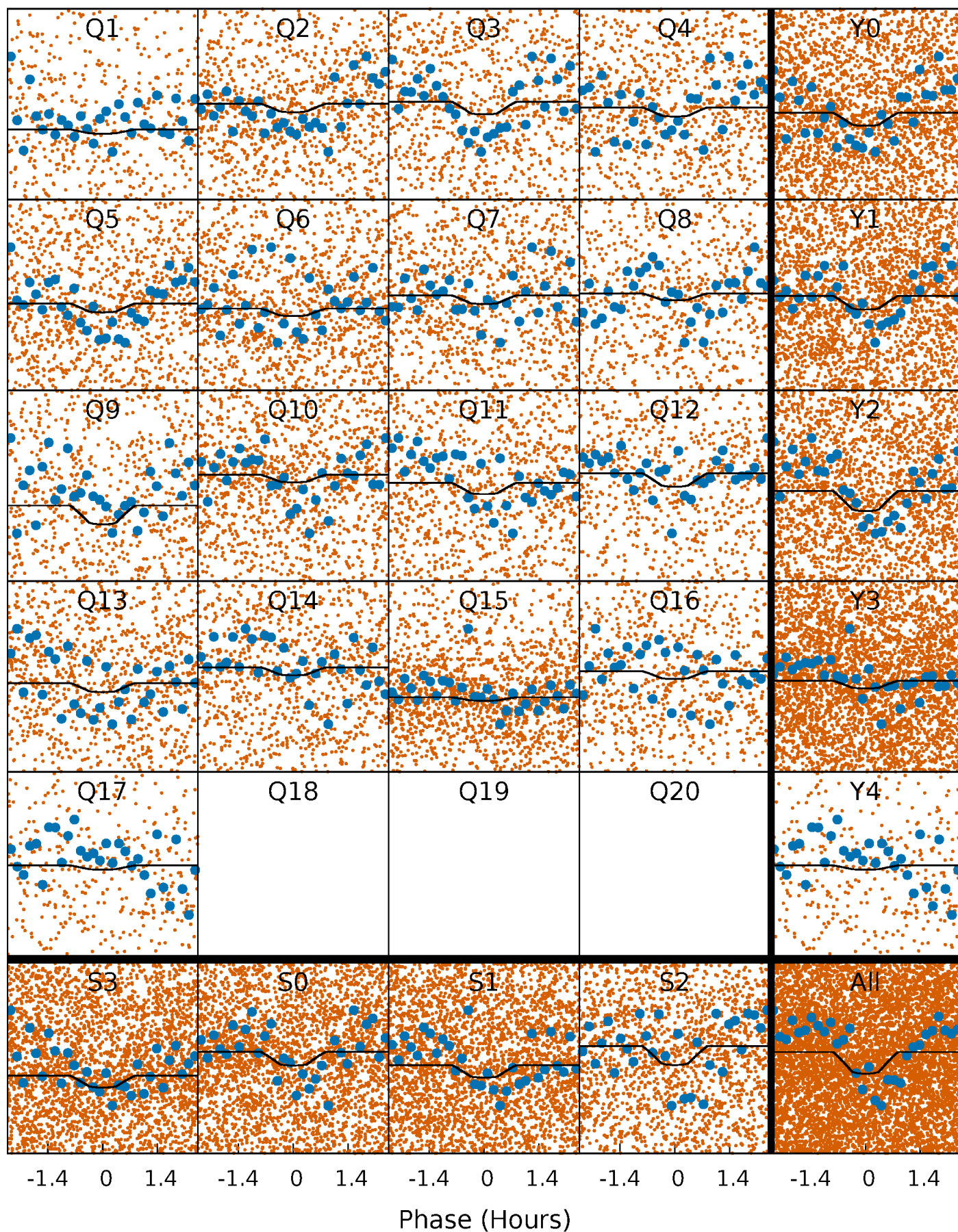
PDC Quarter-Phased Transit Curves

TCE 003849354-01 P= 0.522867 Days $T_0=131.720672$ (BKJD)



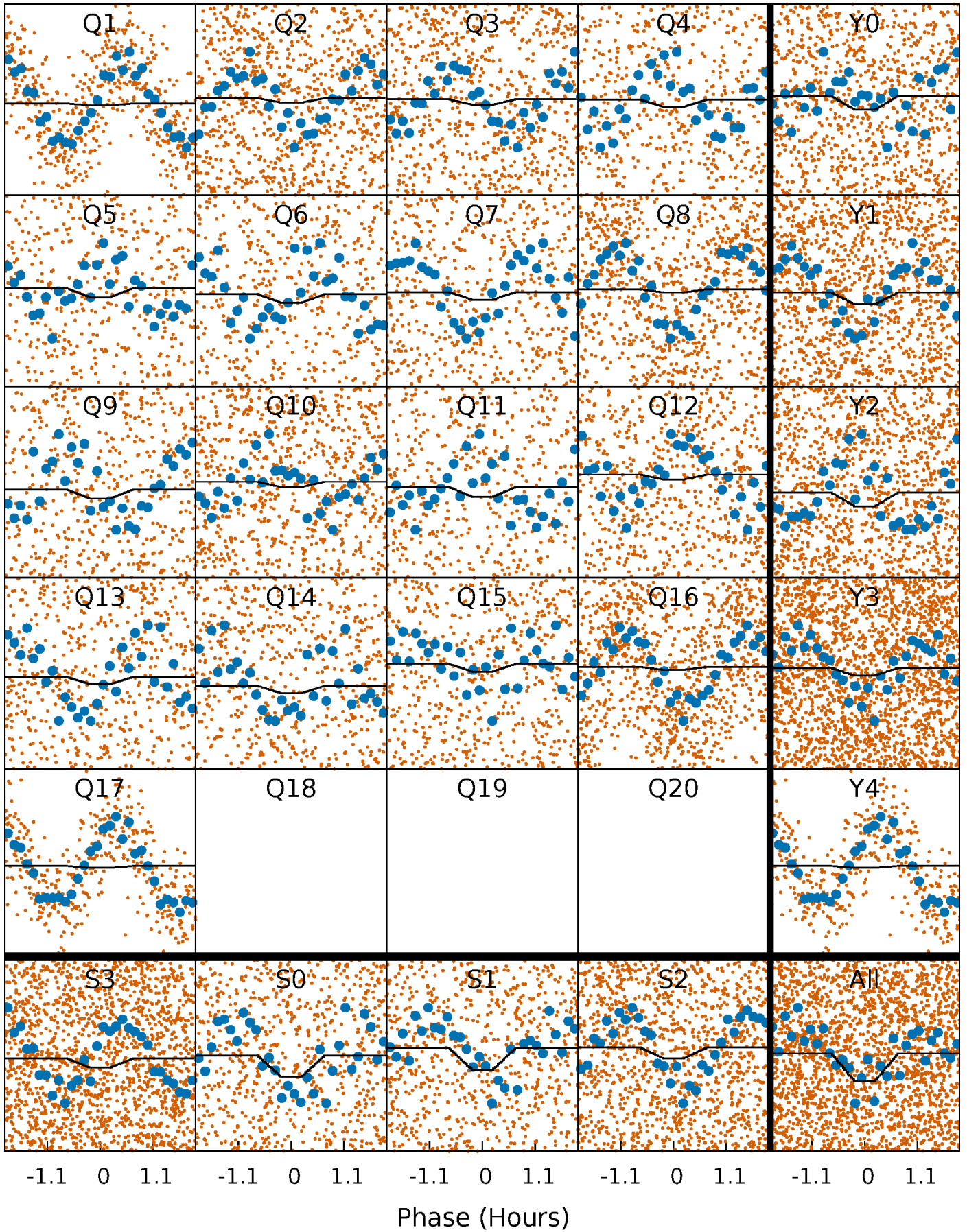
DV Quarter-Phased Transit Curves

TCE 003849354-01 P= 0.522867 Days $T_0=131.720672$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

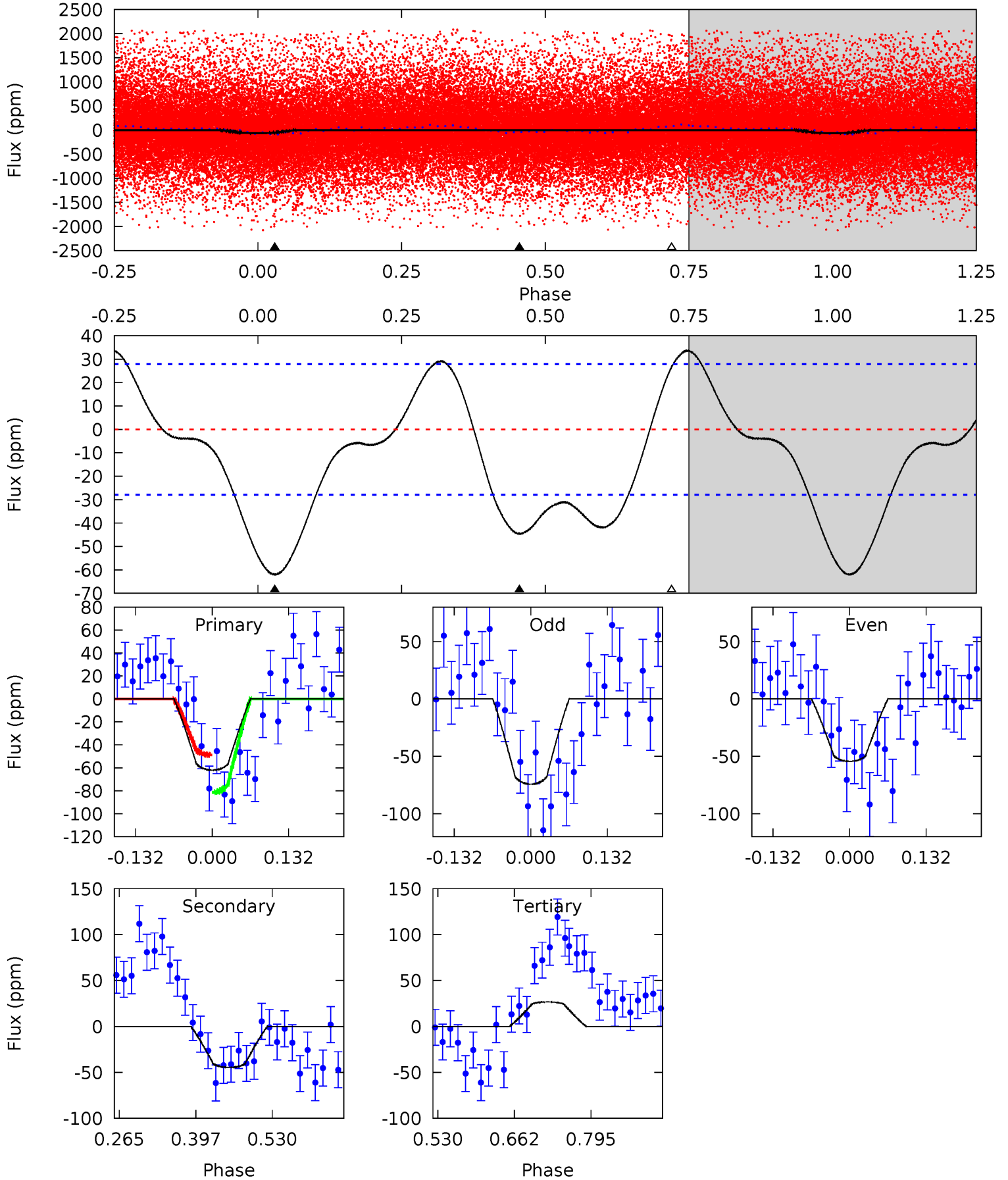
TCE 003849354-01 P= 0.522874 Days $T_0=131.710560$ (BKJD)



DV Model-Shift Uniqueness Test

003849354-01, P = 0.522867 Days, E = 131.197805 Days

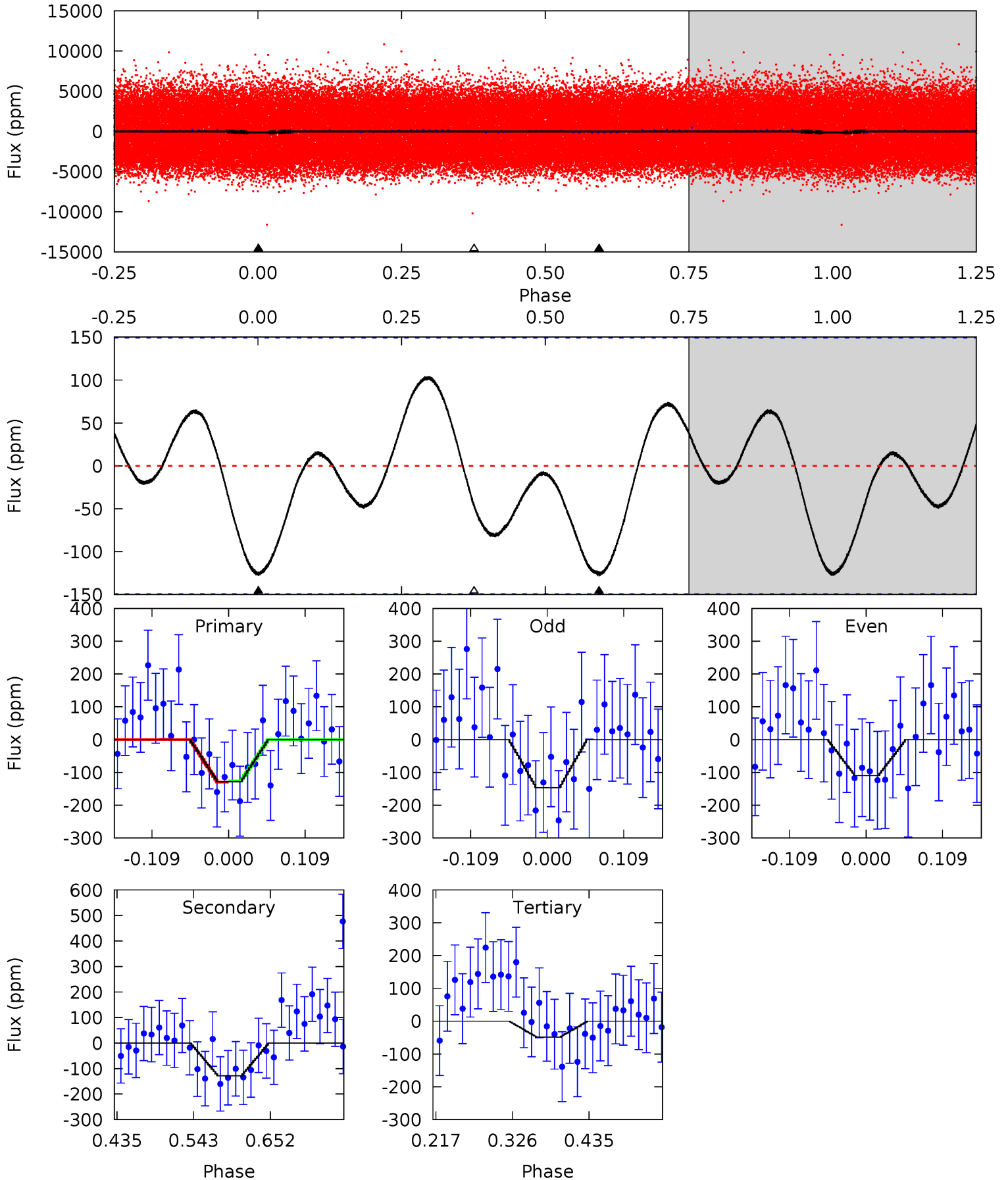
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	7.21	-4.30	0	4.51	1.50	3.37	14.3	10.0	11.5	7.21	1.62	0.60	0.35	2.65



Alt Model-Shift Uniqueness Test

003849354-01, P = 0.522874 Days, E = 131.187686 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.89	3.90	1.47	0	4.55	1.60	1.55	2.42	3.89	2.43	3.90	0.55	0.58	0.45	0.05



Stellar Parameters For KIC 003849354

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6728^{+161}_{-221}	$4.234^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.300}$	$1.418^{+0.444}_{-0.273}$	$1.268^{+0.190}_{-0.190}$	$0.626^{+0.382}_{-0.322}$
	+2%/-3%	+3%/-4%	+125%/-150%	+31%/-19%	+15%/-15%	+61%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003849354-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-45 ± 6	$0.98^{+0.29}_{-0.27}$	4231^{+328}_{-235}	6841^{+1326}_{-868}	$4.820^{+4.166}_{-2.026}$
Alt.	-128 ± 33	$1.76^{+0.40}_{-0.29}$	4246^{+324}_{-274}	6553^{+765}_{-704}	$4.152^{+2.329}_{-1.632}$

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

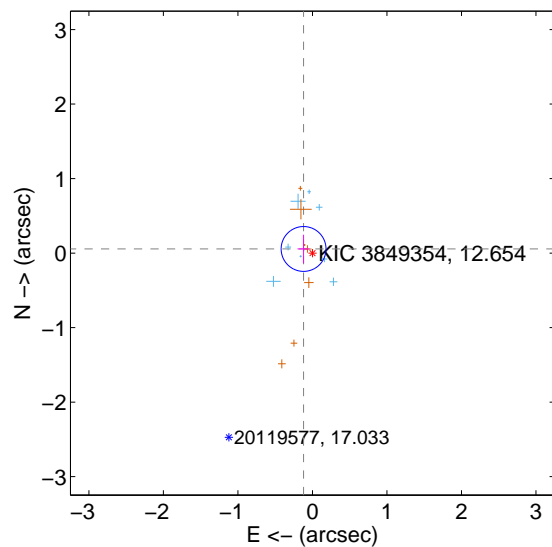
Supplemental centroid analysis for 003849354-01. Kepler magnitude: 12.65. Transit SNR 6.27

There are 9 quarters with good PRF difference image offsets

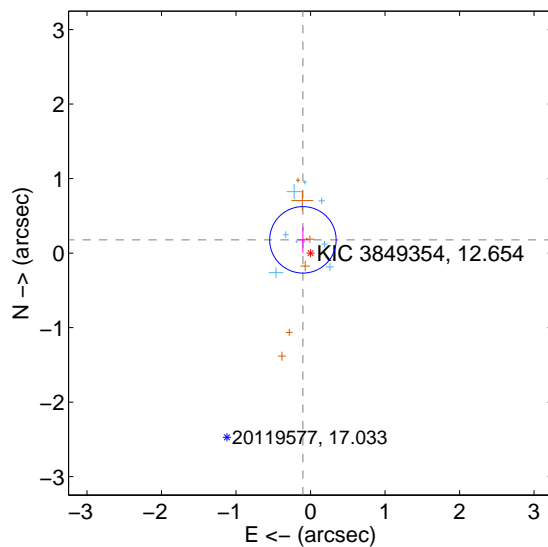
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.131 ± 0.100	1.31	0.119 ± 0.082	0.056 ± 0.191
PRF-fit source offset from KIC position	0.205 ± 0.149	1.38	0.102 ± 0.082	0.178 ± 0.174
photometric centroid source offset	0.76 ± 0.65	1.16	-0.65 ± 0.62	-0.38 ± 0.72

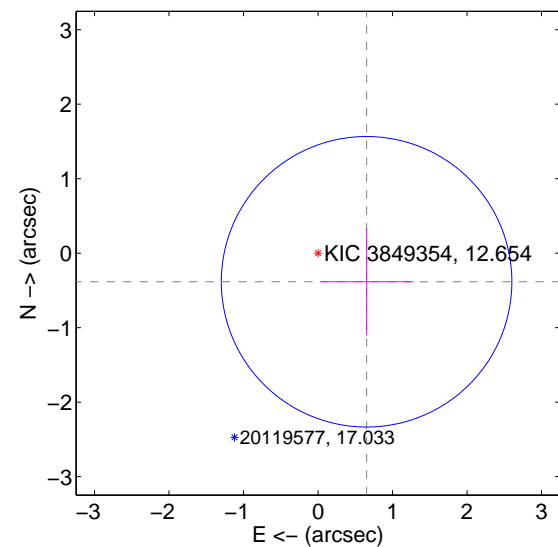
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

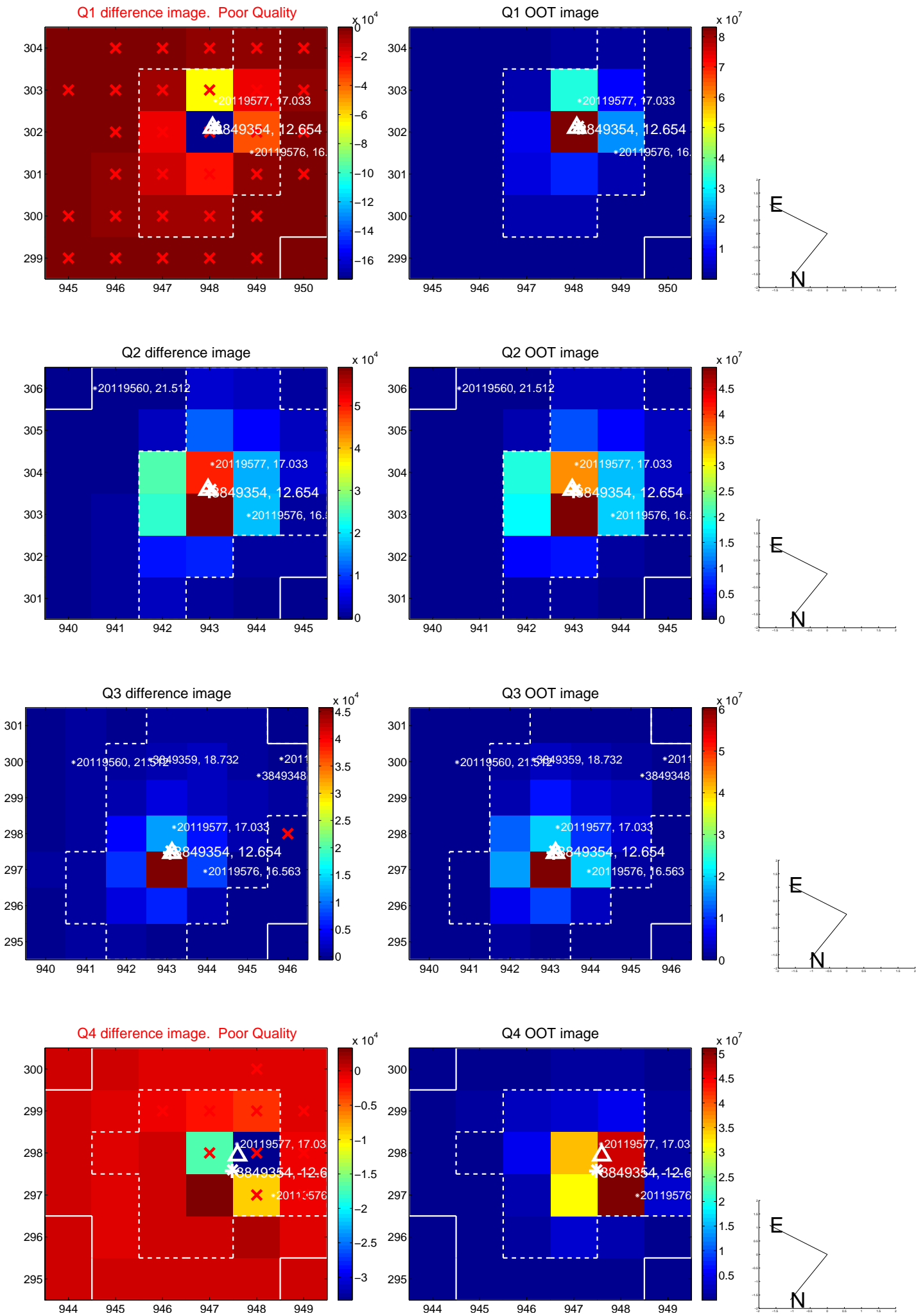


offset from photometric centroids

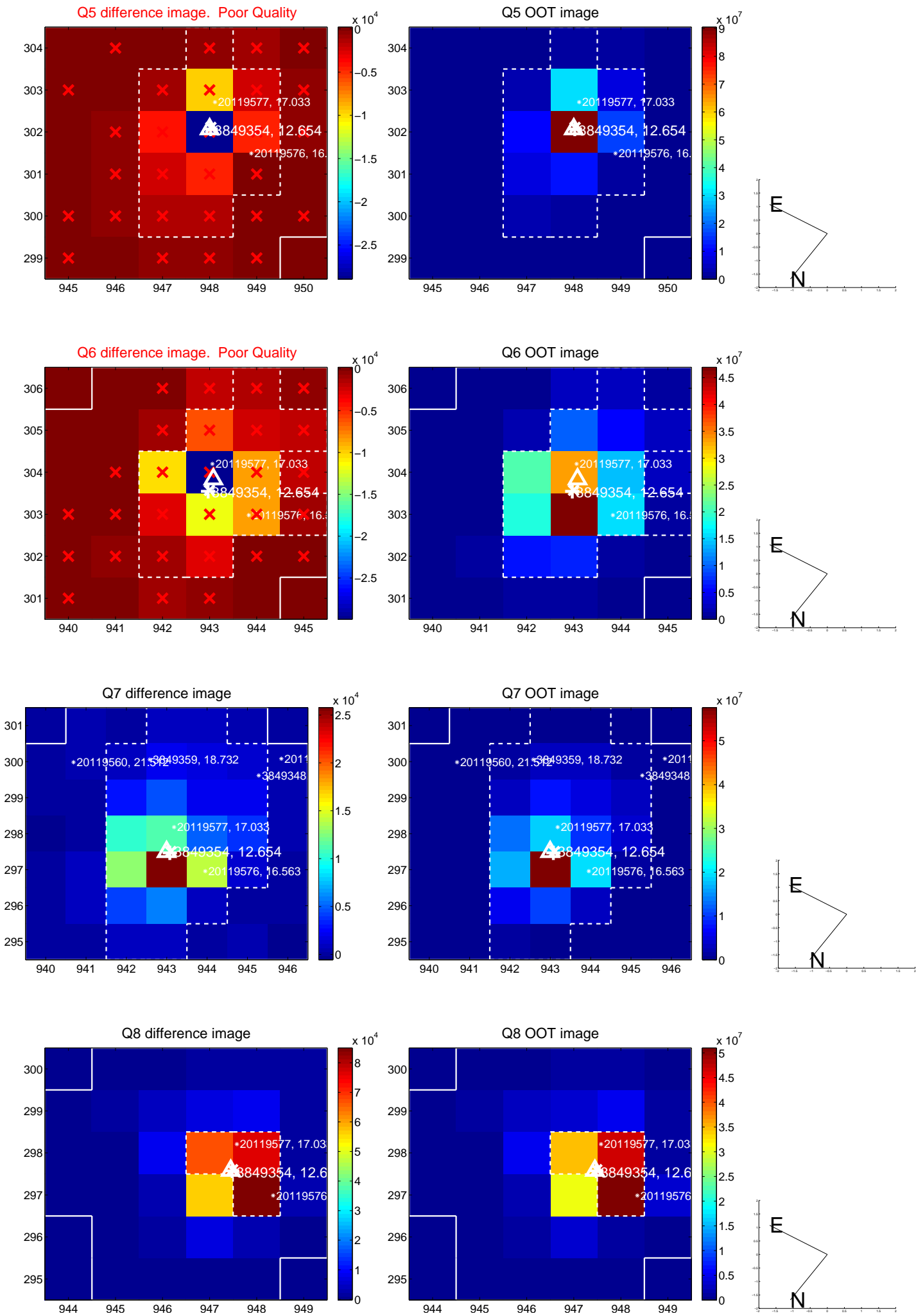


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

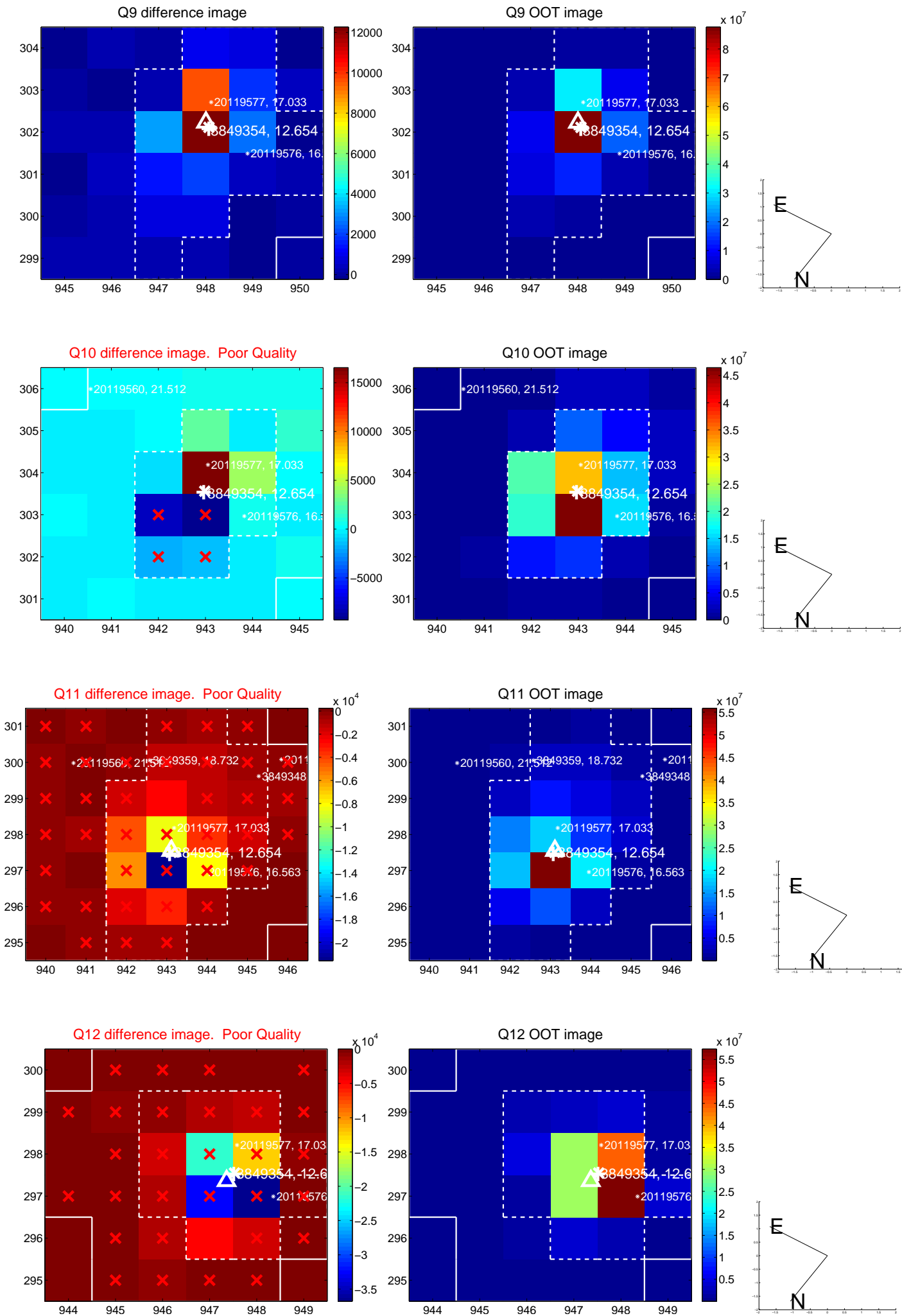
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



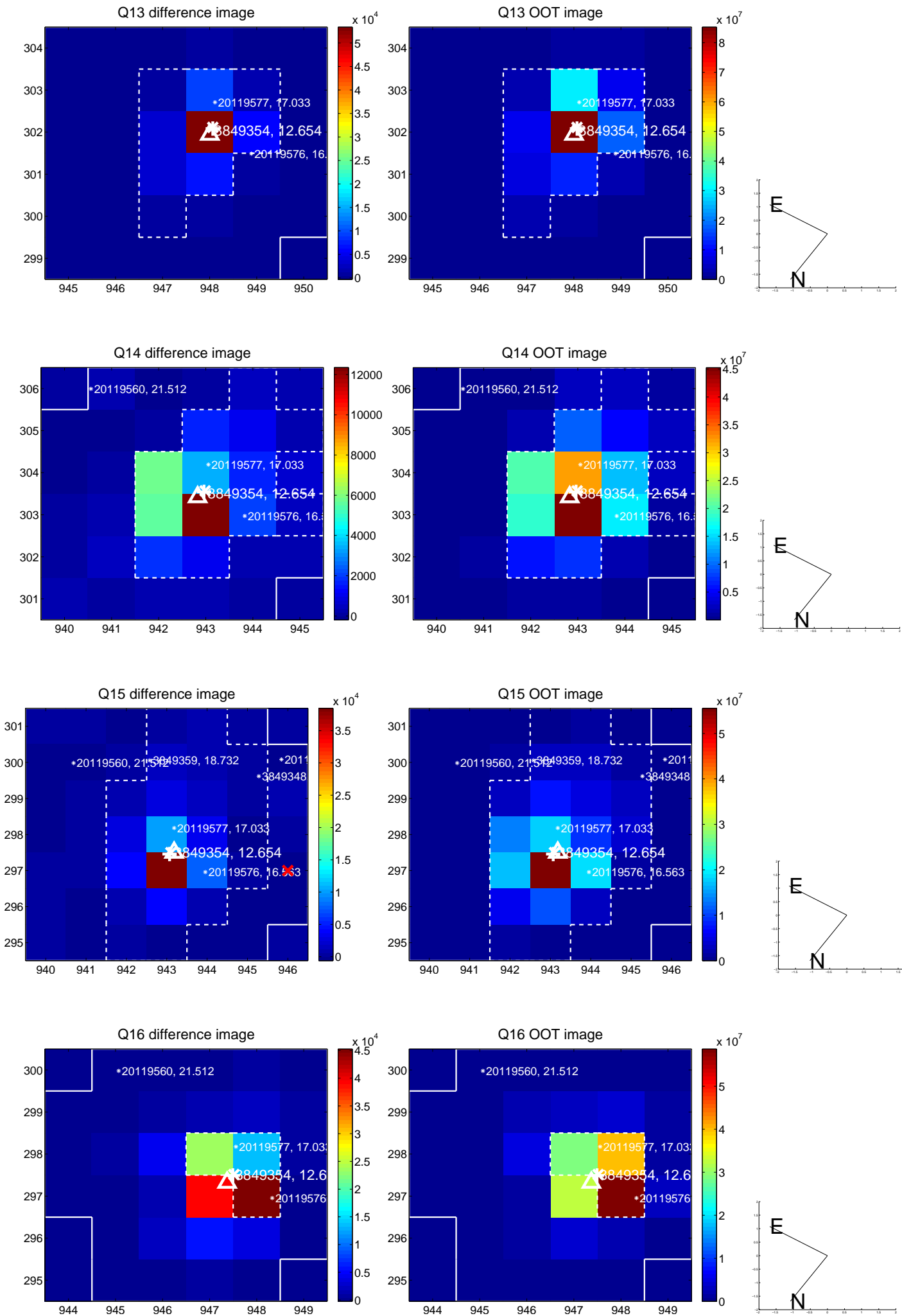
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



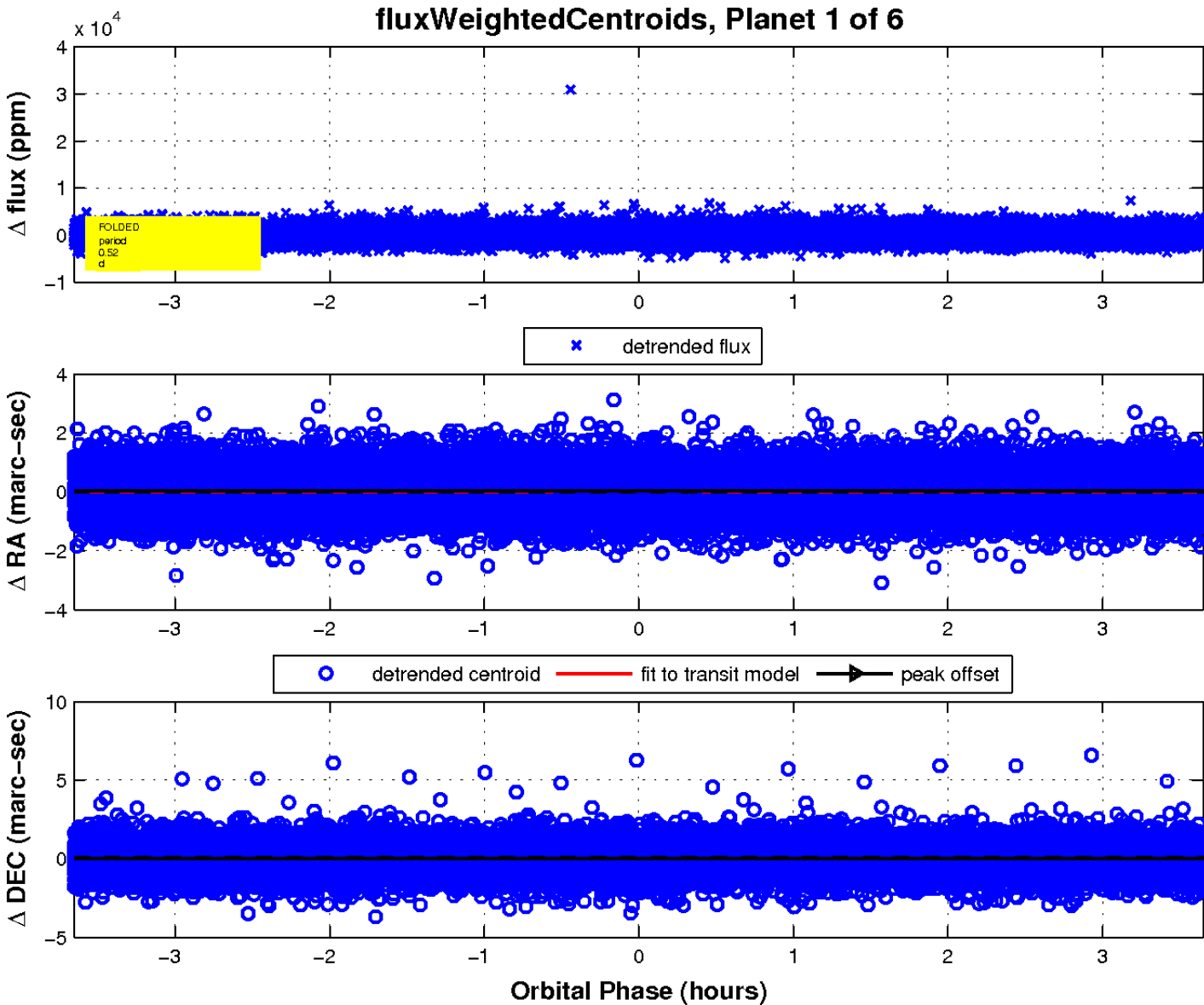
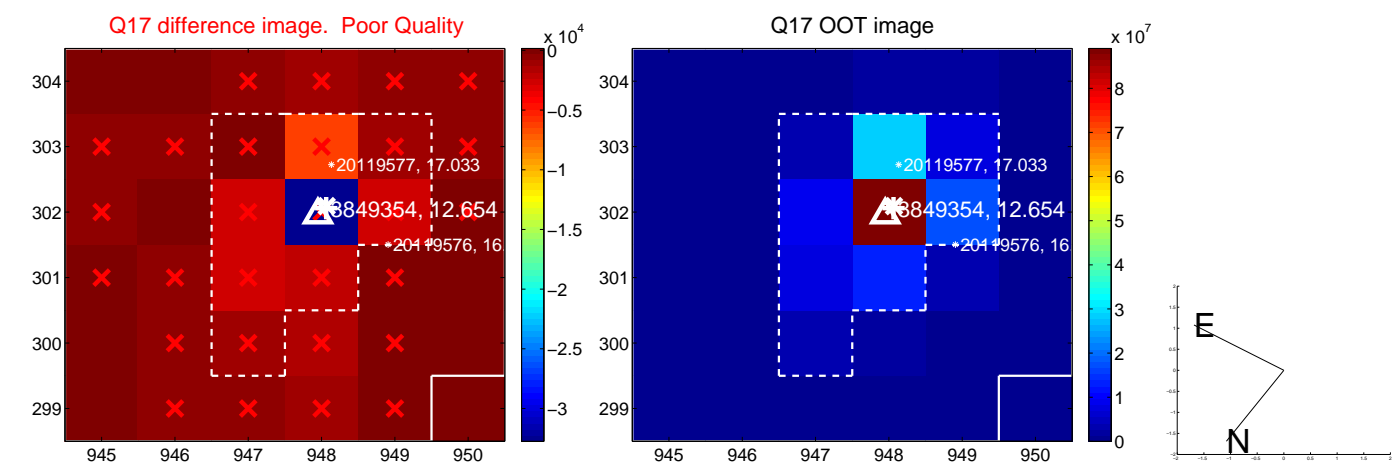
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



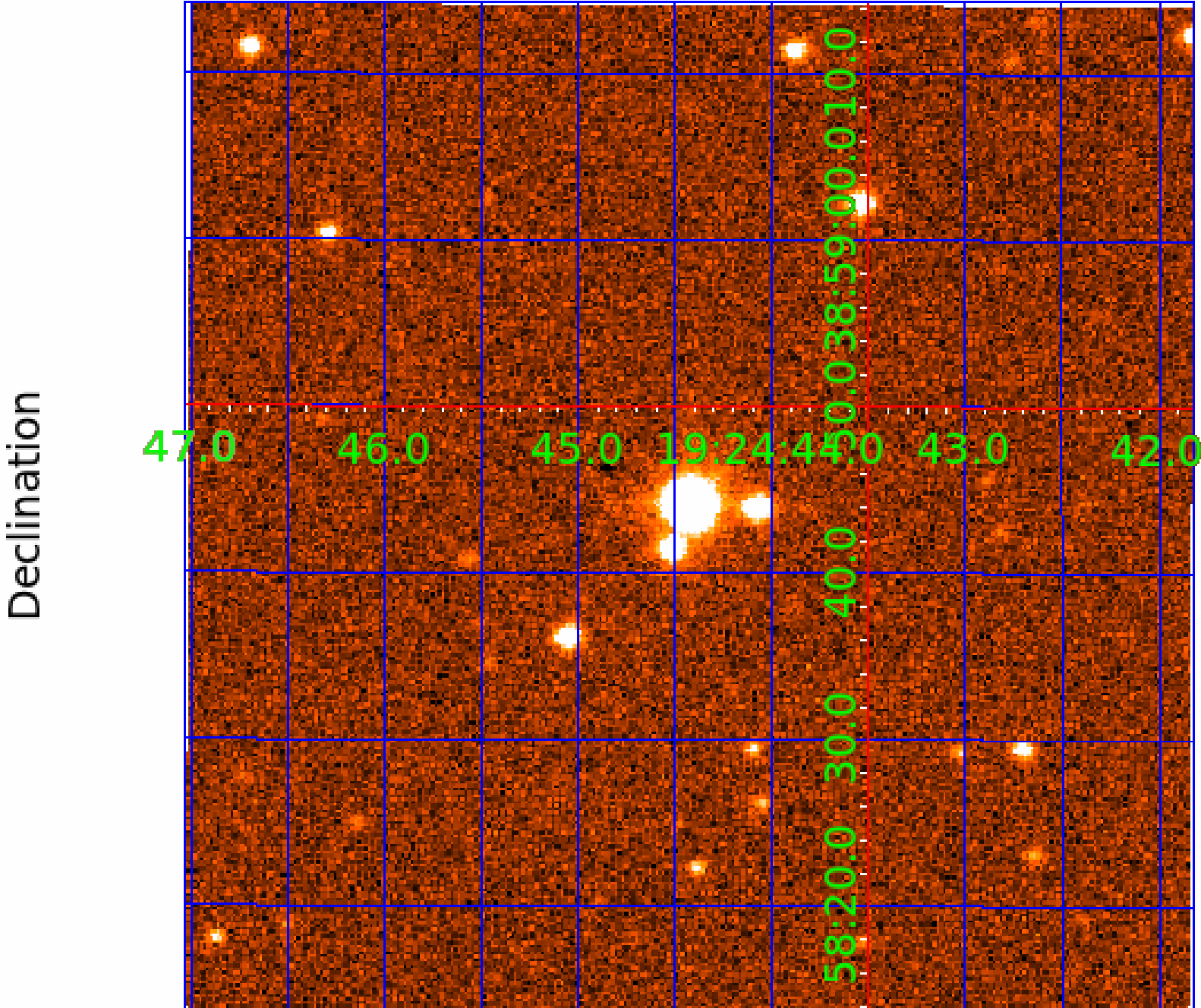
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003849354

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})
003849354-01	OBS	No	0.522867	131.720672	34.7	1.218	10.4	6.3	1.42	6728	0.97	19635.14
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003849354-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003849354-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV
003849354-03	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
003849354-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003849354-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003849354-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

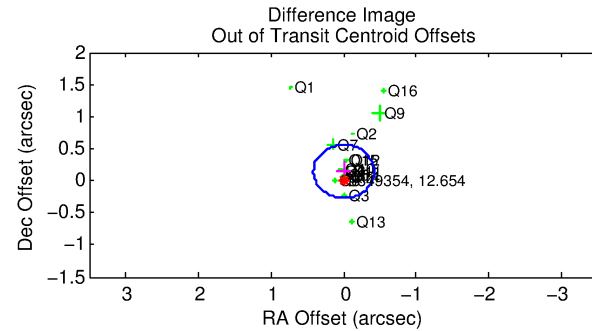
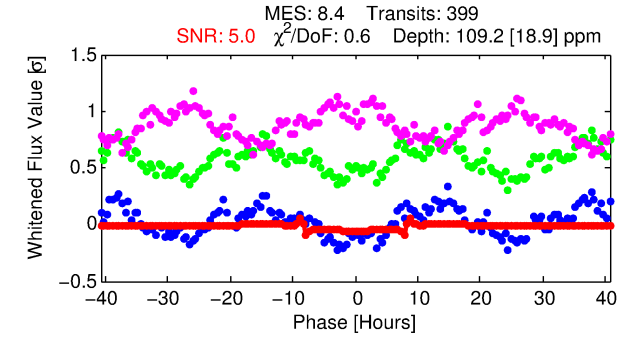
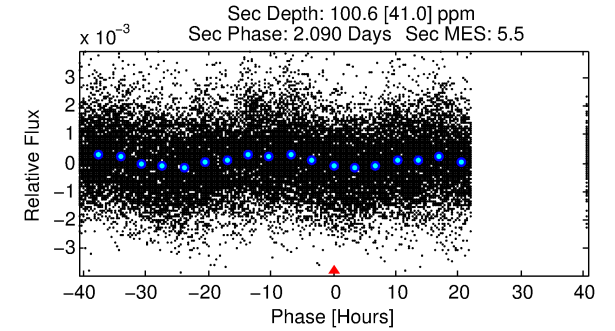
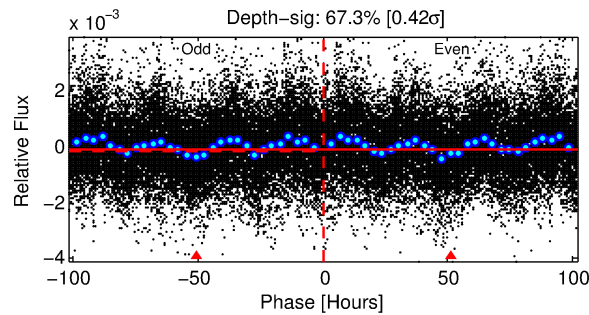
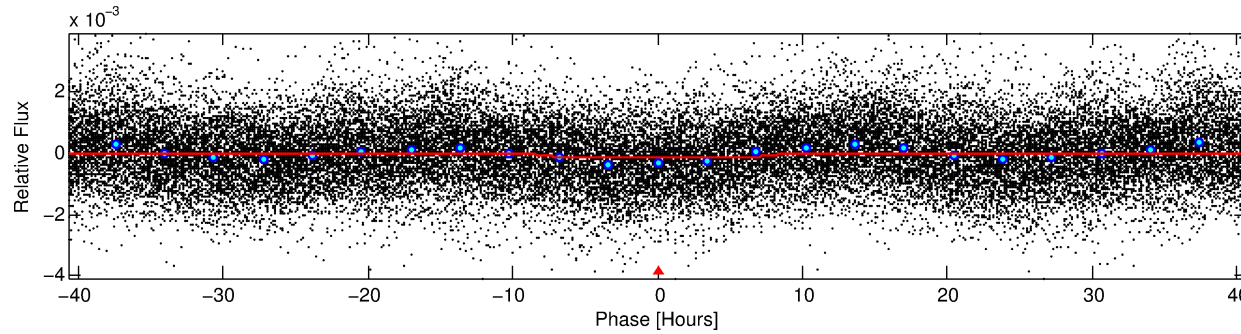
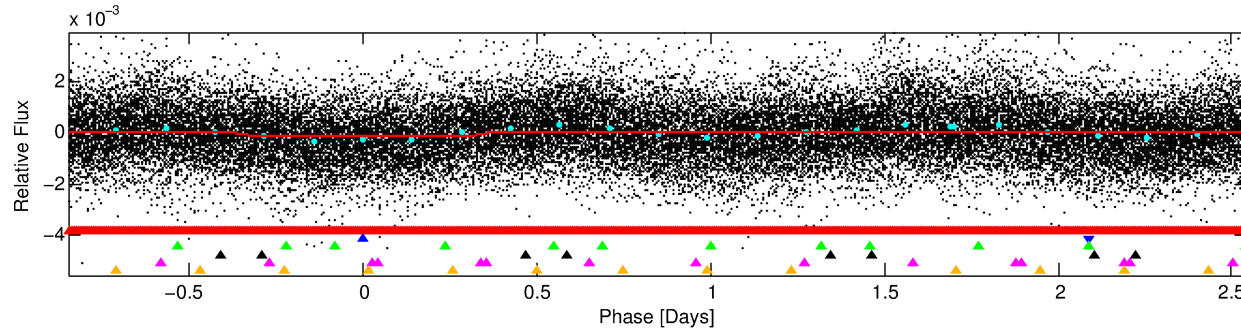
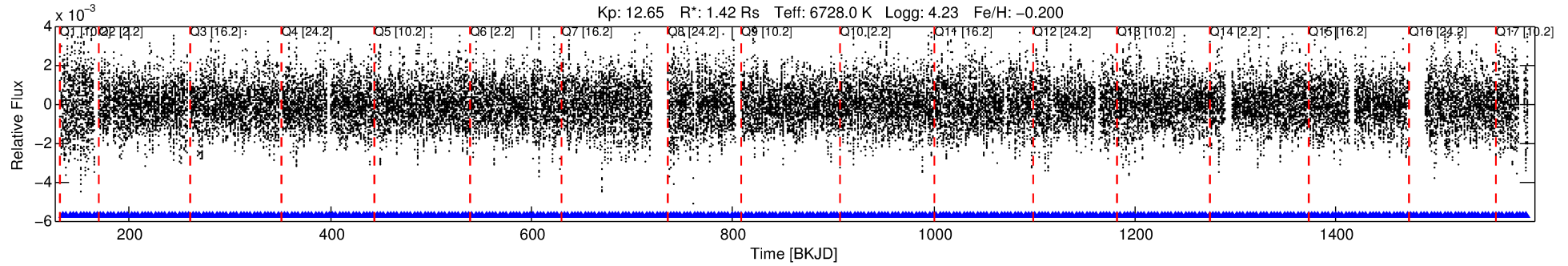
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003849354-02

No Significant Match Found

DV One-Page Summary

KIC: 3849354 Candidate: 2 of 6 Period: 3.392 d



DV Fit Results:

Period = 3.39160 [0.00004] d
Epoch = 134.3885 [0.0052] BKJD
Rp/R* = 0.0102 [0.0020]
a/R* = 1.41 [0.68]
b = 0.67 [0.80]
Seff = 1623.12 [612.41]
Teq = 1619 [153] K
Rp = 1.58 [0.58] Re
a = 0.0477 [0.0121] AU
Ag = 50.71 [33.88] [1.47 σ]
Teffp = 6678 [971] K [5.14 σ]

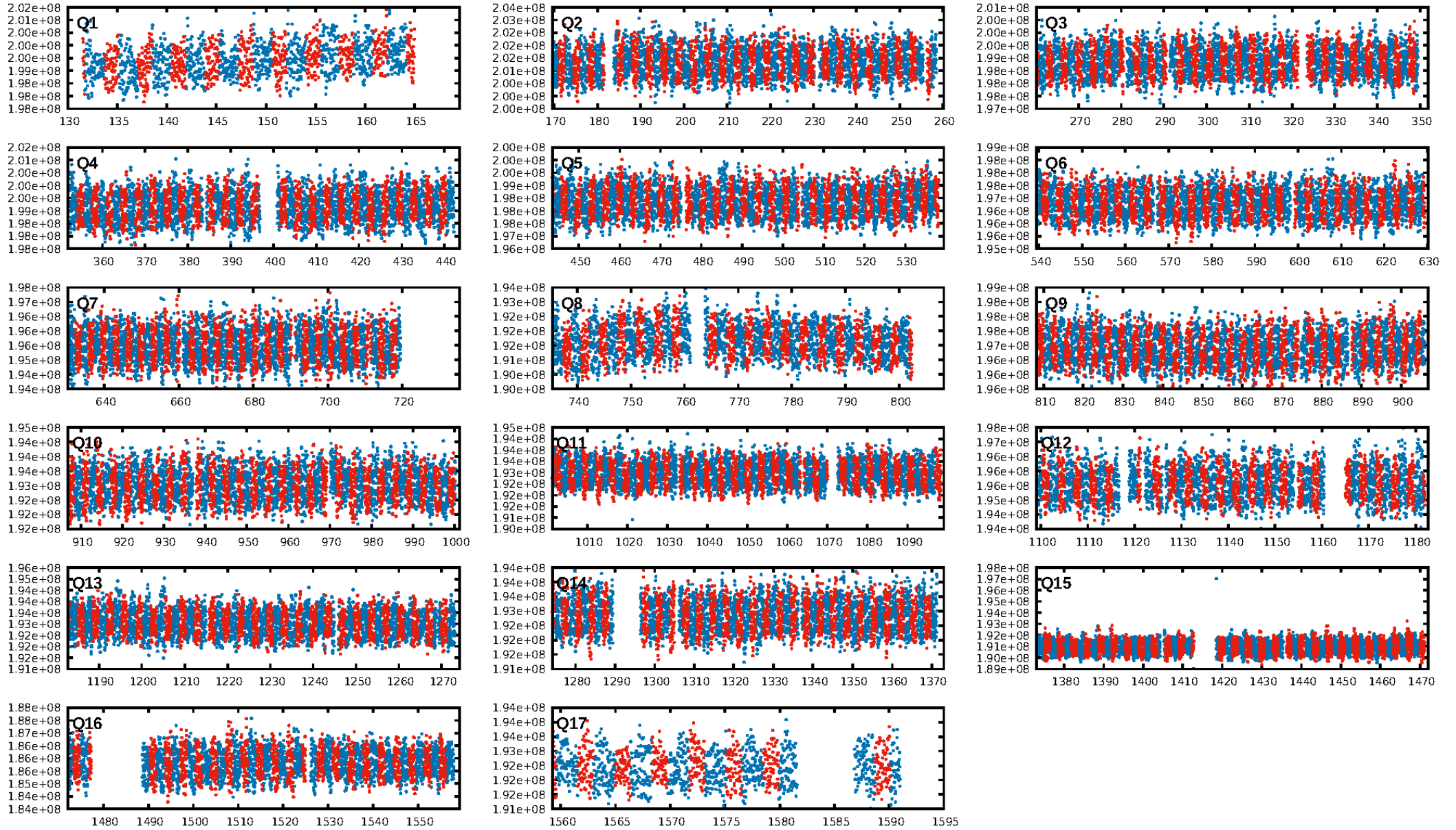
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.03 σ]
LongPeriod-sig: 100.0% [122.33 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [382/382]
GhostDiagnostic-chr: 0.8704
Centroid-sig: 0.0%
Centroid-so: 0.720 arcsec [3.23 σ]
OotOffset-rm: 0.142 arcsec [1.03 σ]
KicOffset-rm: 0.284 arcsec [2.06 σ]
OotOffset-st: 4/4/4/5 [17]
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DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 0.00 [0/17]

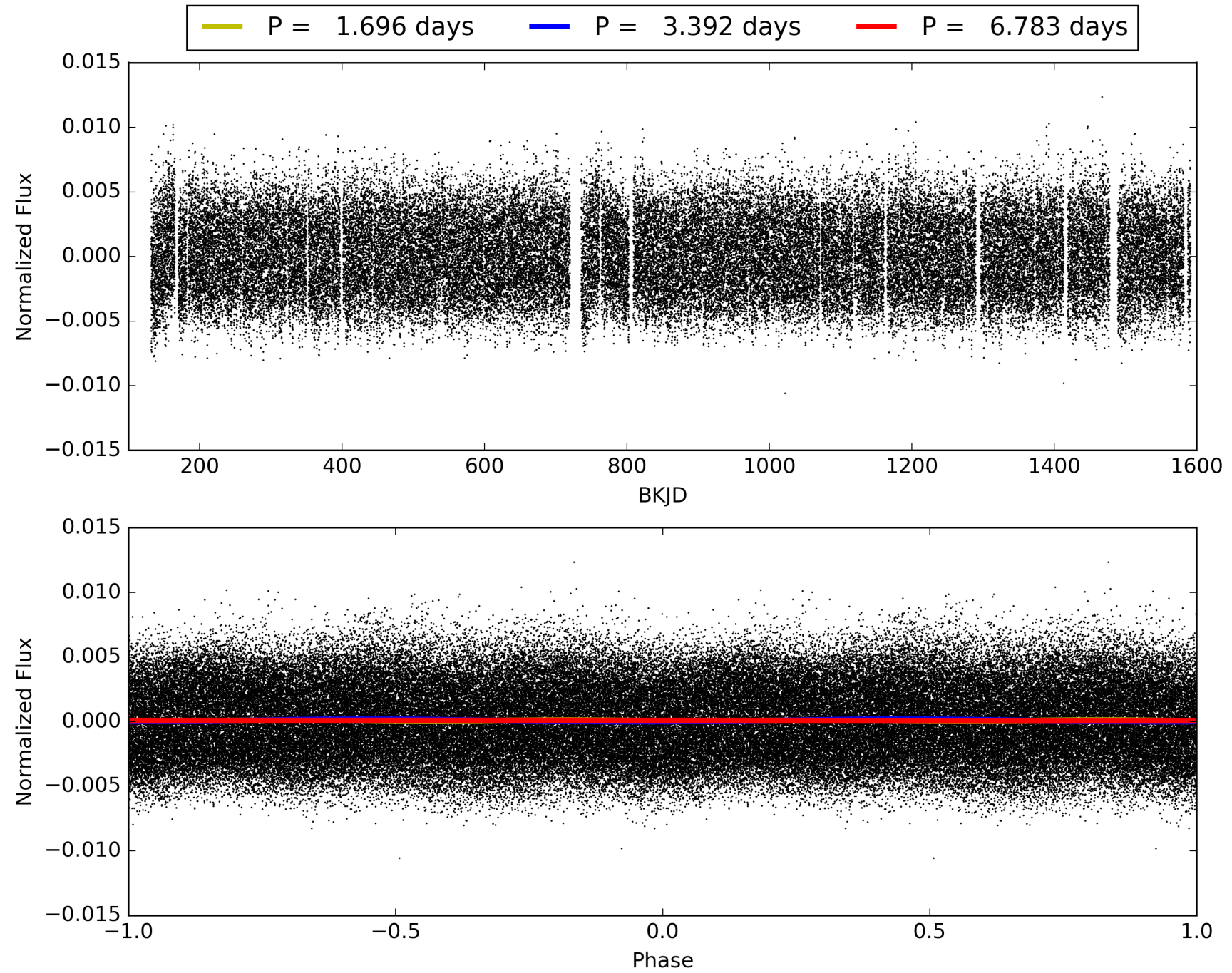
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:50:10 Z

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

TCE 003849354-02, PDC Light Curves

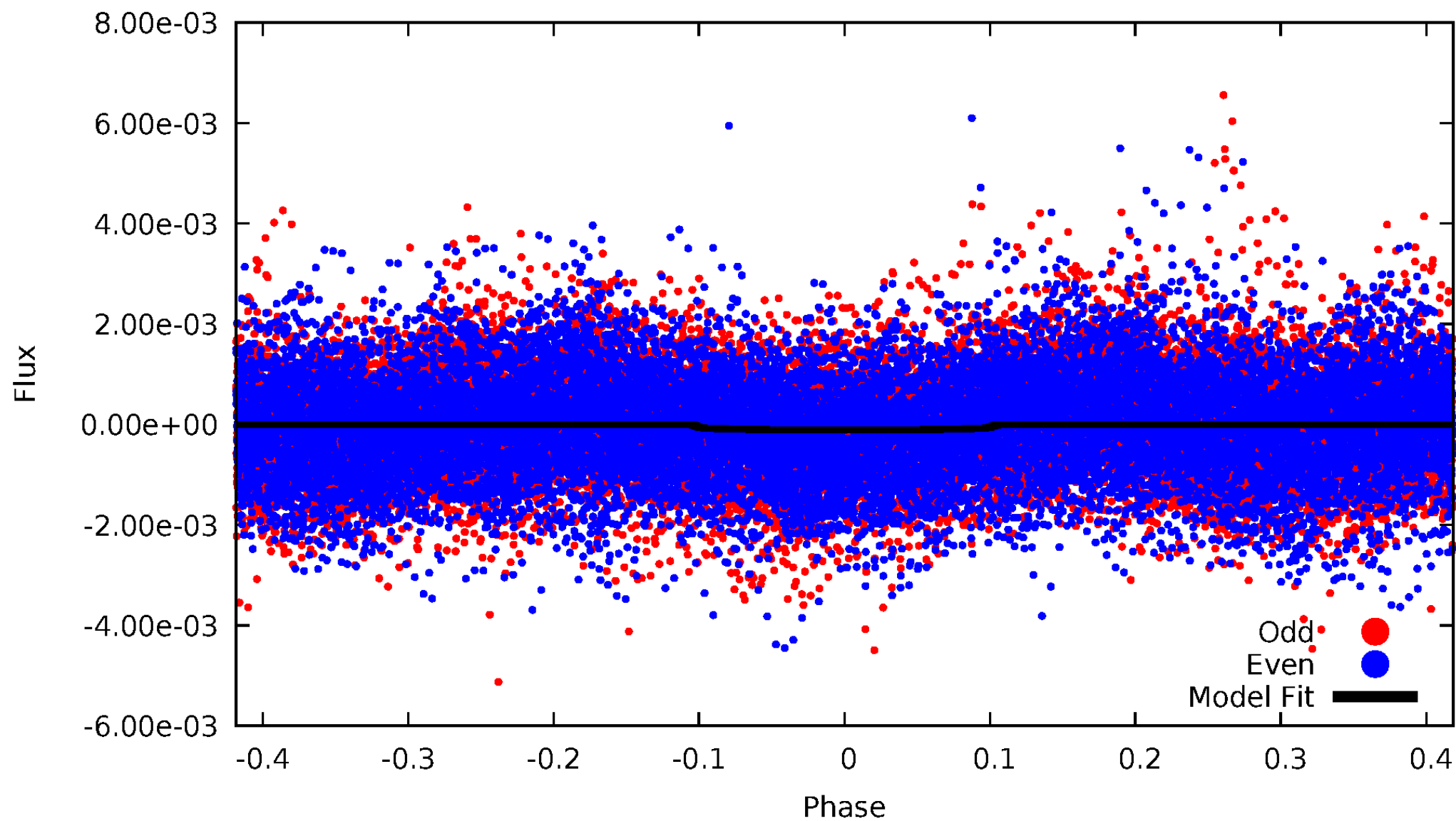


TCE 003849354-02



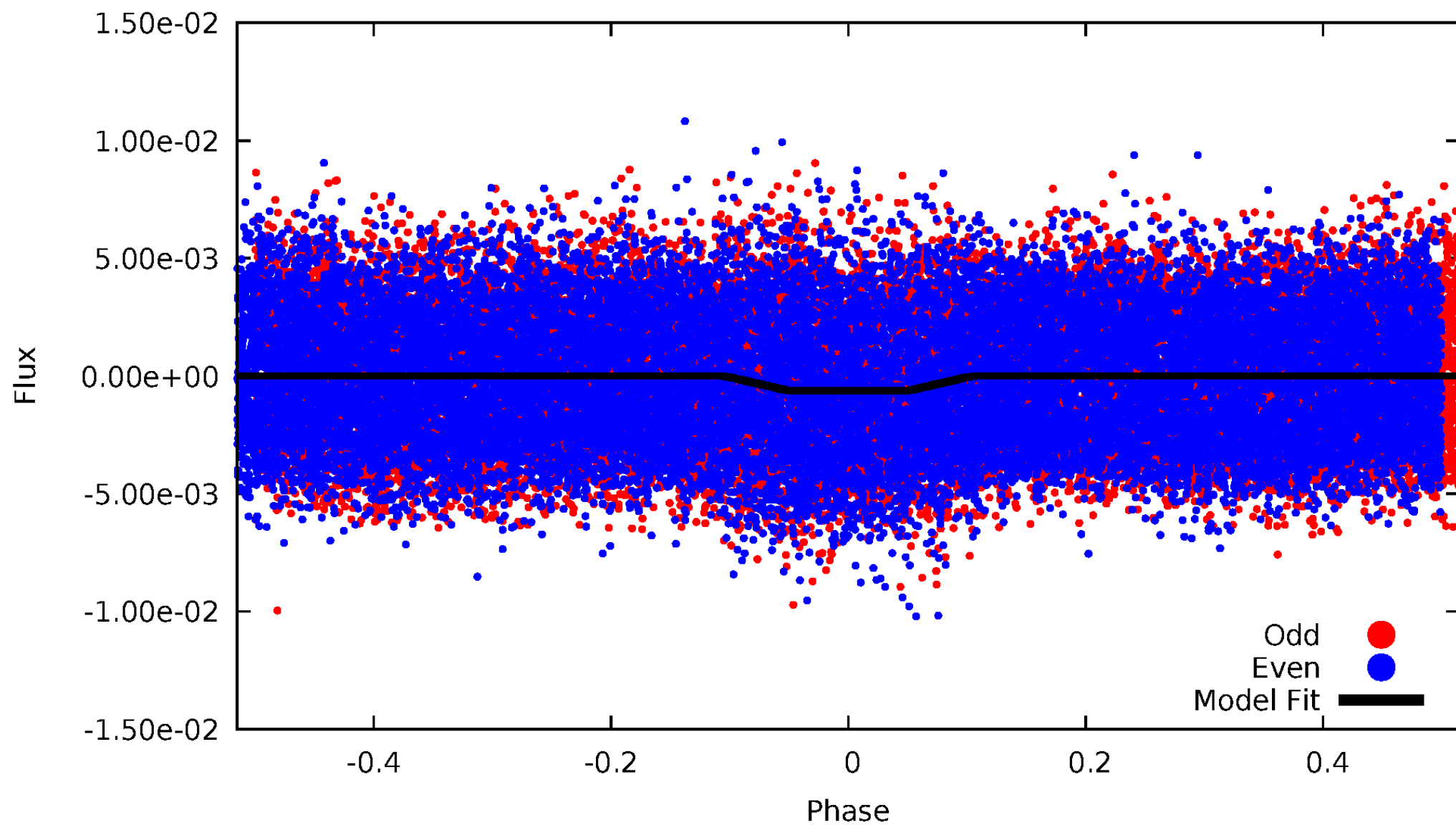
DV Odd/Even

TCE 003849354-02



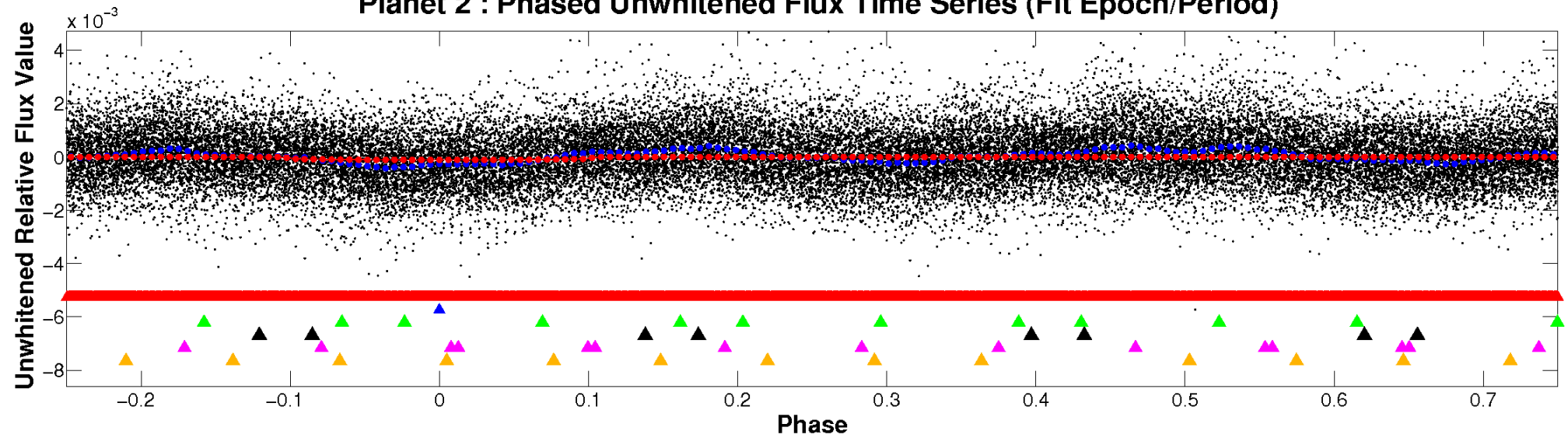
ALT Odd/Even

TCE 003849354-02

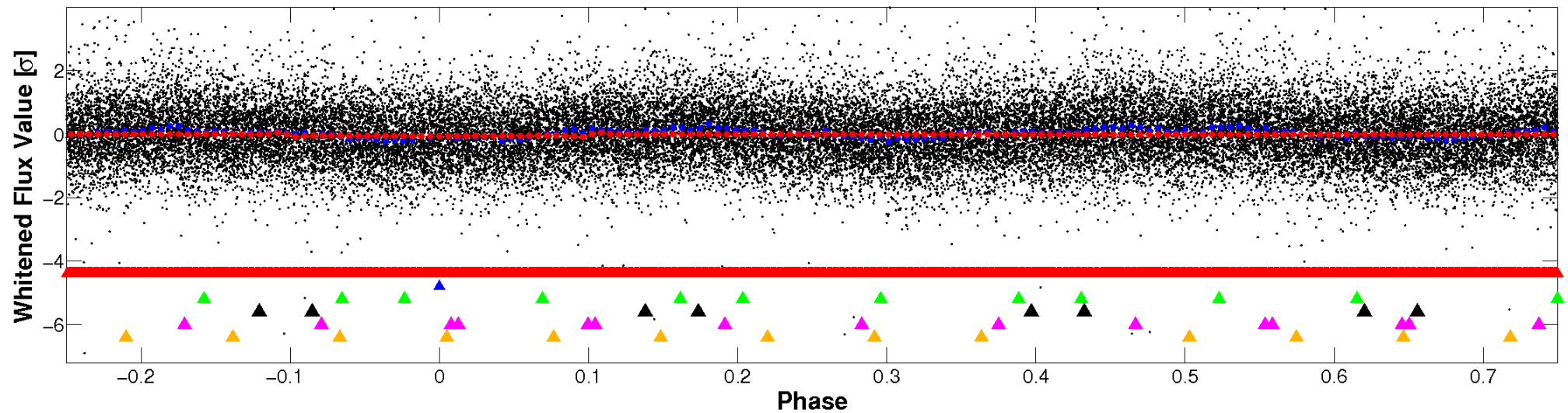


Non-Whitened Vs. Whitened Light Curve

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

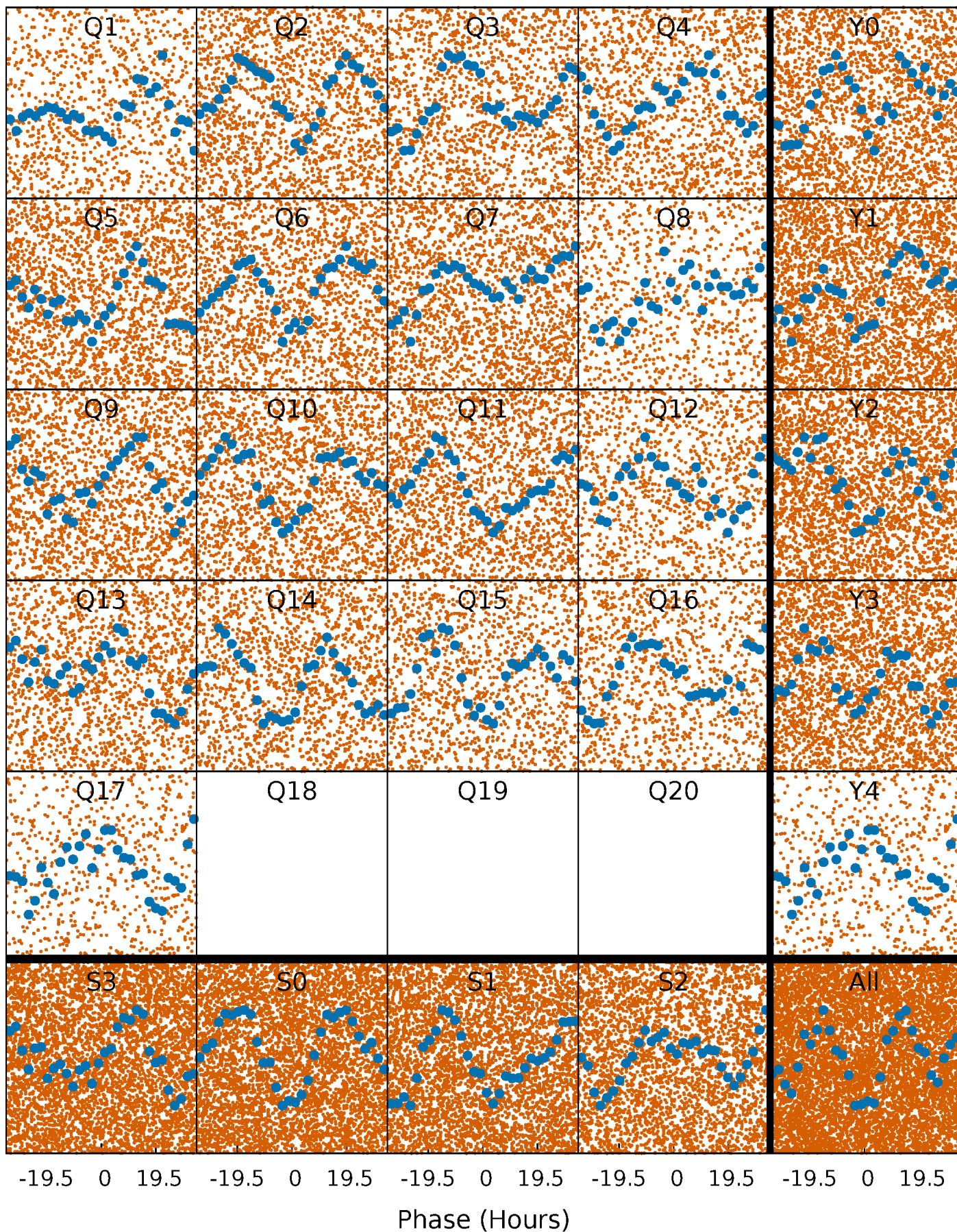


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



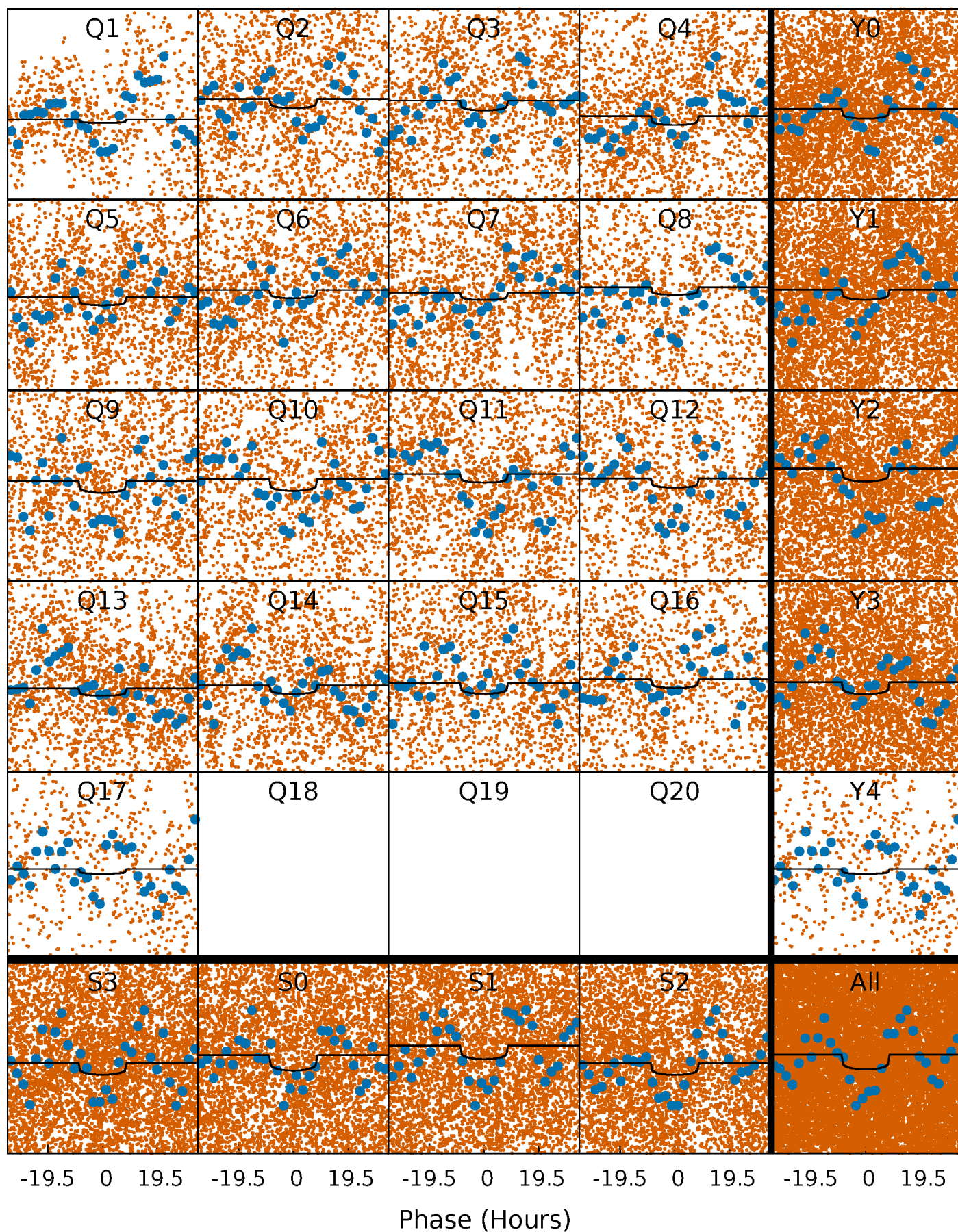
PDC Quarter-Phased Transit Curves

TCE 003849354-02 P= 3.391599 Days $T_0=134.388471$ (BKJD)



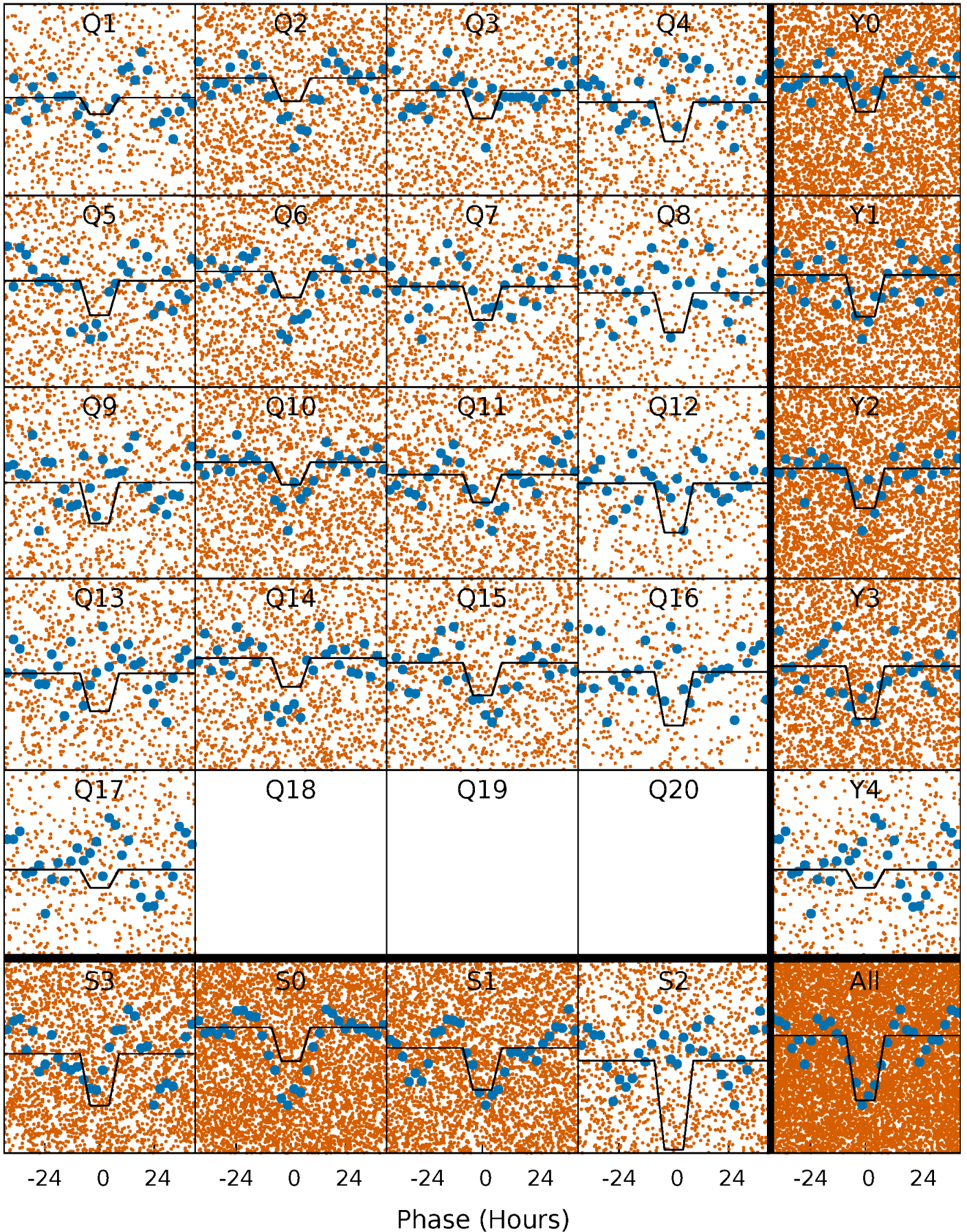
DV Quarter-Phased Transit Curves

TCE 003849354-02 P= 3.391599 Days $T_0=134.388471$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

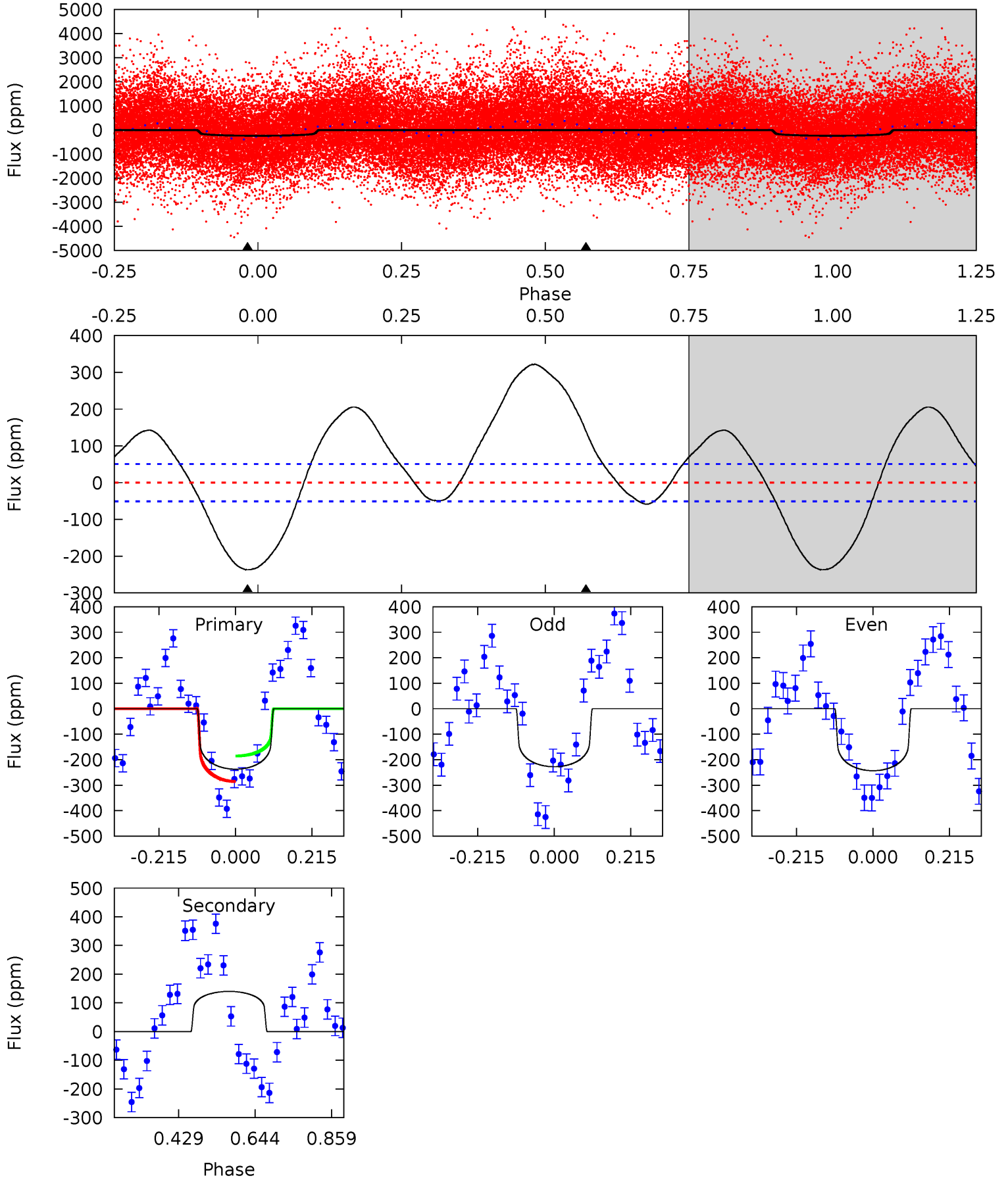
TCE 003849354-02 P= 3.391170 Days $T_0=134.459658$ (BKJD)



DV Model-Shift Uniqueness Test

003849354-02, P = 3.391599 Days, E = 130.996872 Days

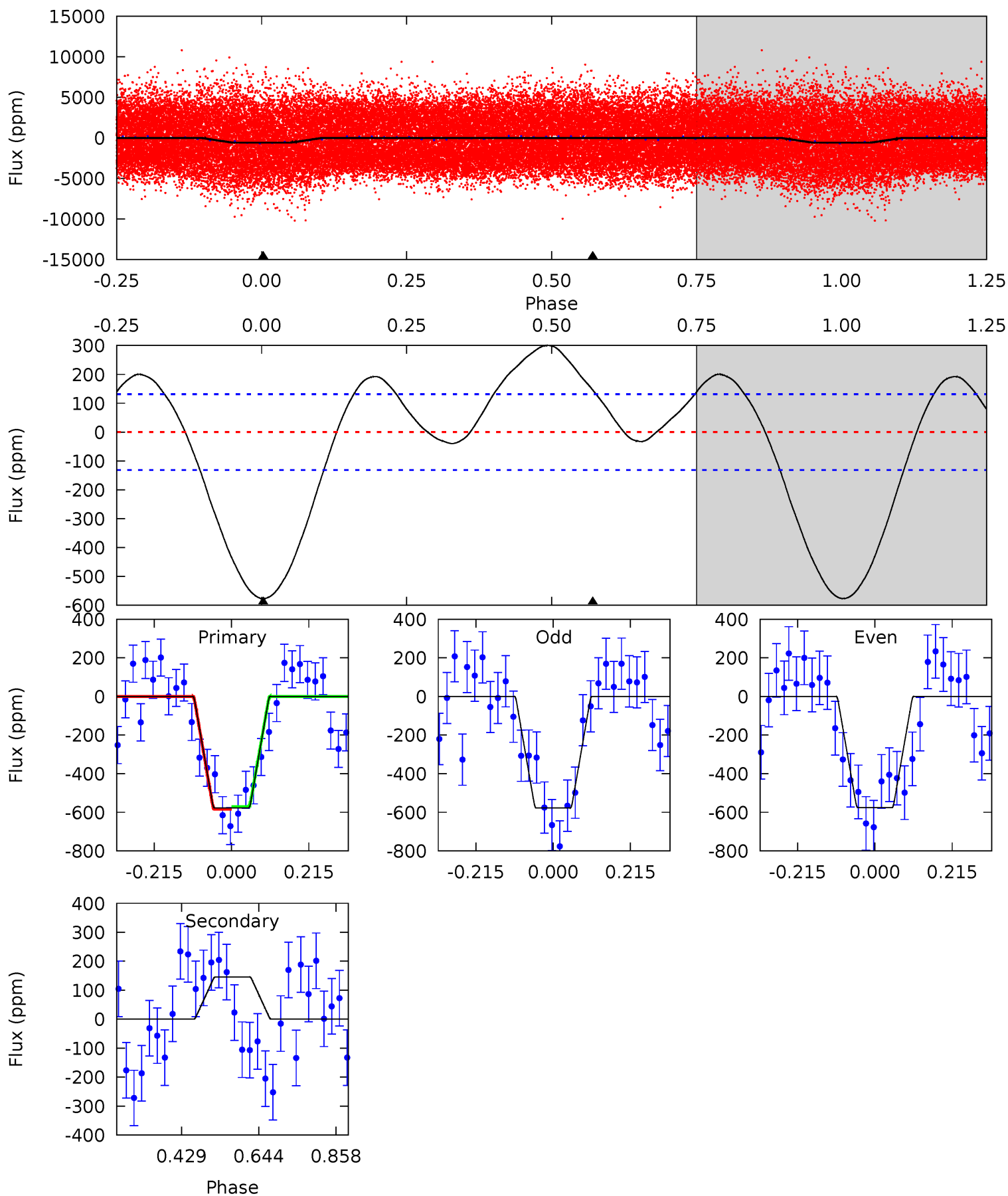
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.6	-12.2	0	0	4.40	1.24	5.78	20.6	20.6	-12.2	-12.2	0.68	1.04	0.58	4.38



Alt Model-Shift Uniqueness Test

003849354-02, P = 3.391170 Days, E = 131.068488 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.3	-4.89	0	0	4.40	1.24	2.26	19.3	19.3	-4.89	-4.89	0.03	0.79	0.34	0.23



Stellar Parameters For KIC 003849354

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6728^{+161}_{-221}	$4.234^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.300}$	$1.418^{+0.444}_{-0.273}$	$1.268^{+0.190}_{-0.190}$	$0.626^{+0.382}_{-0.322}$
	+2%/-3%	+3%/-4%	+125%/-150%	+31%/-19%	+15%/-15%	+61%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003849354-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	140 ± 12	$1.60^{+0.42}_{-0.36}$	2282^{+178}_{-139}	-7349^{+802}_{-1058}	$-68.409^{+25.758}_{-41.389}$
Alt.	146 ± 30	$3.95^{+0.71}_{-0.55}$	2281^{+153}_{-140}	-4792^{+278}_{-269}	$-11.520^{+3.792}_{-4.531}$

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

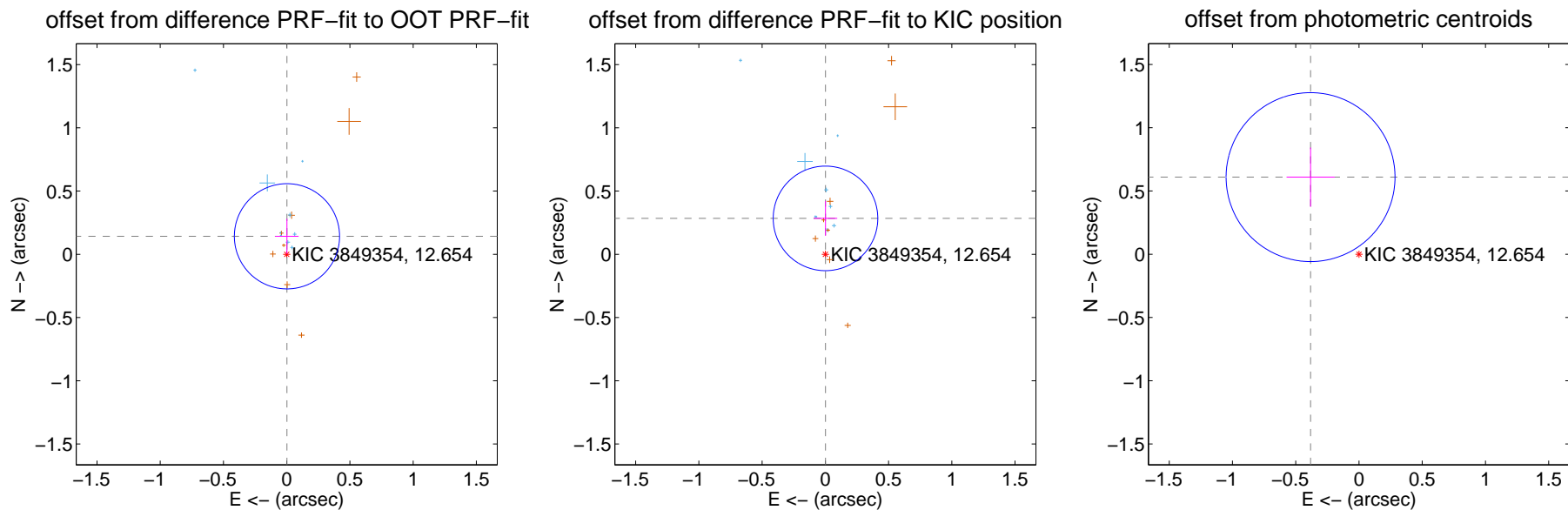
DV Centroid Data

Supplemental centroid analysis for 003849354-02. Kepler magnitude: 12.65. Transit SNR 4.99

There are 9 quarters with good PRF difference image offsets

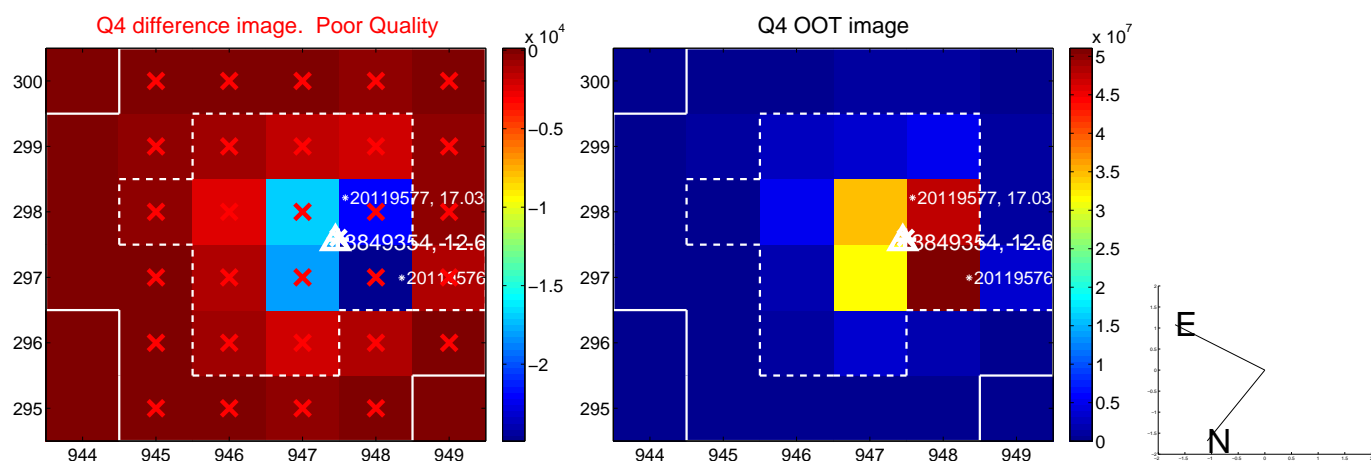
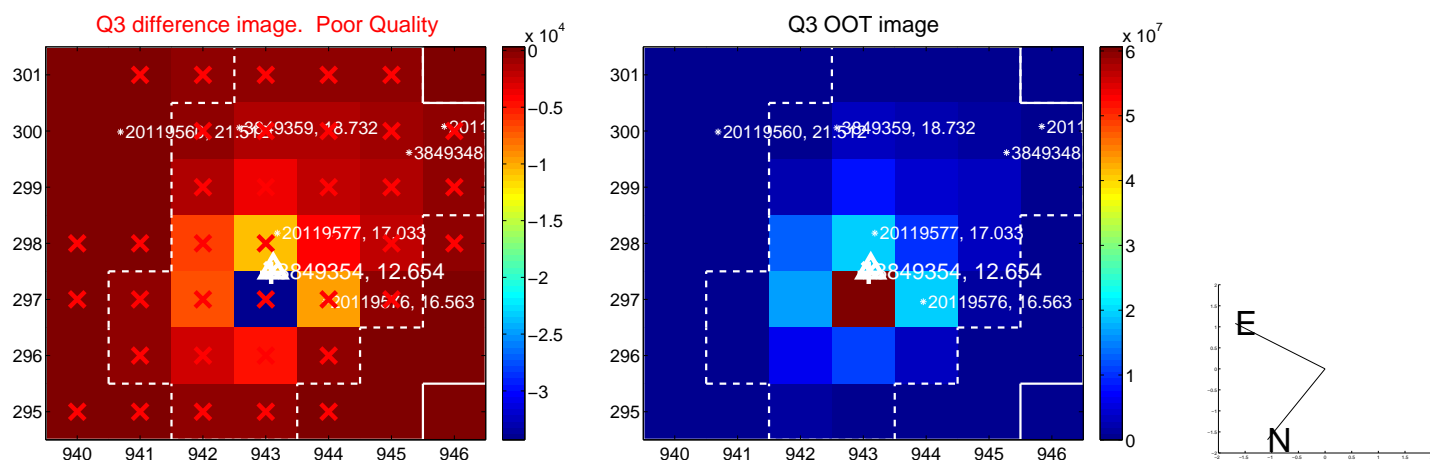
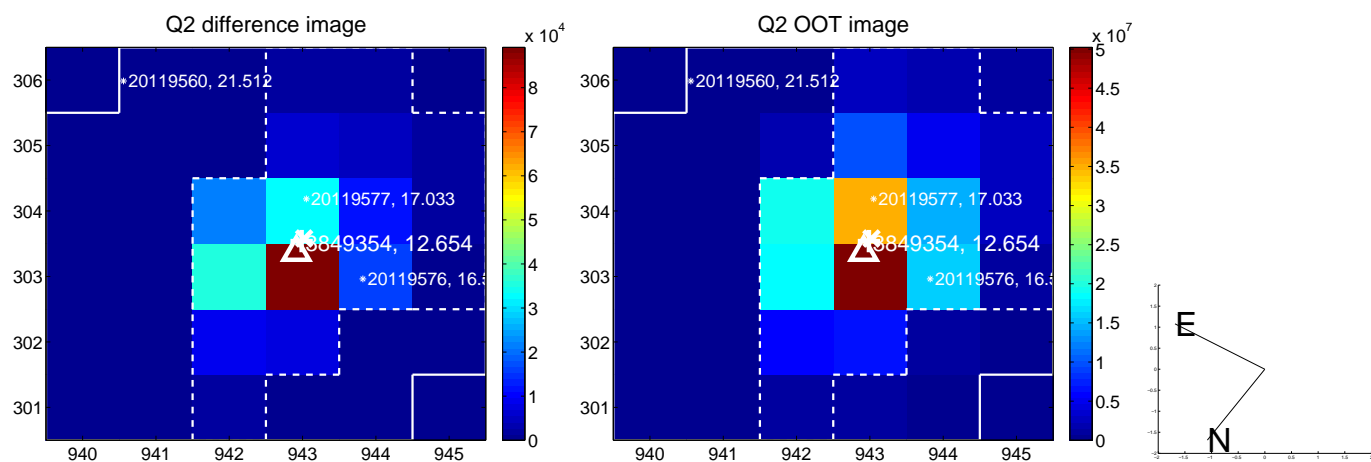
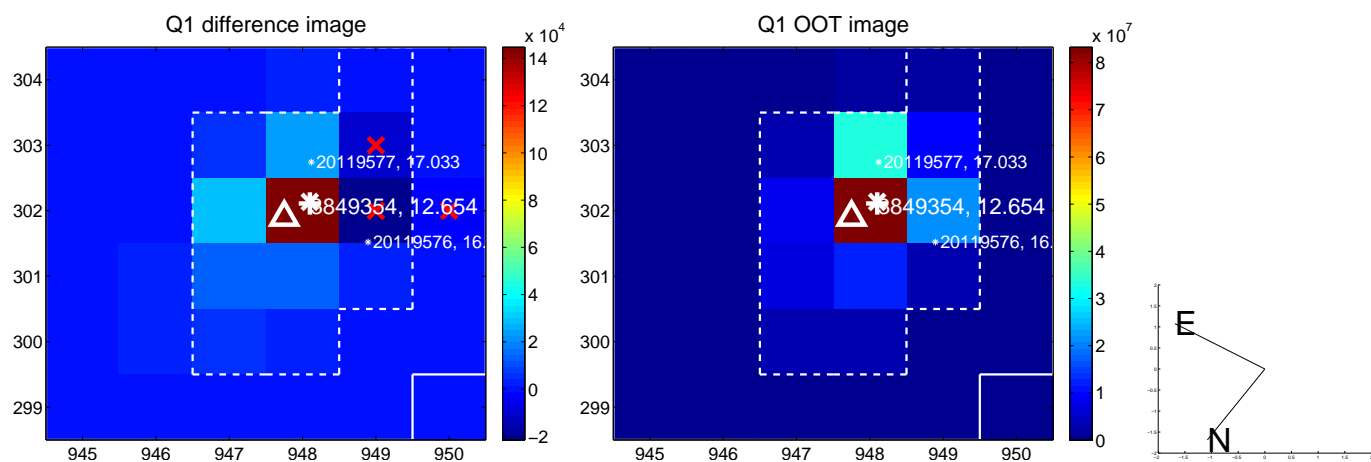
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.142 ± 0.139	1.03	-0.002 ± 0.092	0.142 ± 0.139
PRF-fit source offset from KIC position	0.284 ± 0.138	2.06	-0.001 ± 0.093	0.284 ± 0.138
photometric centroid source offset	0.72 ± 0.22	3.23	0.38 ± 0.19	0.61 ± 0.23

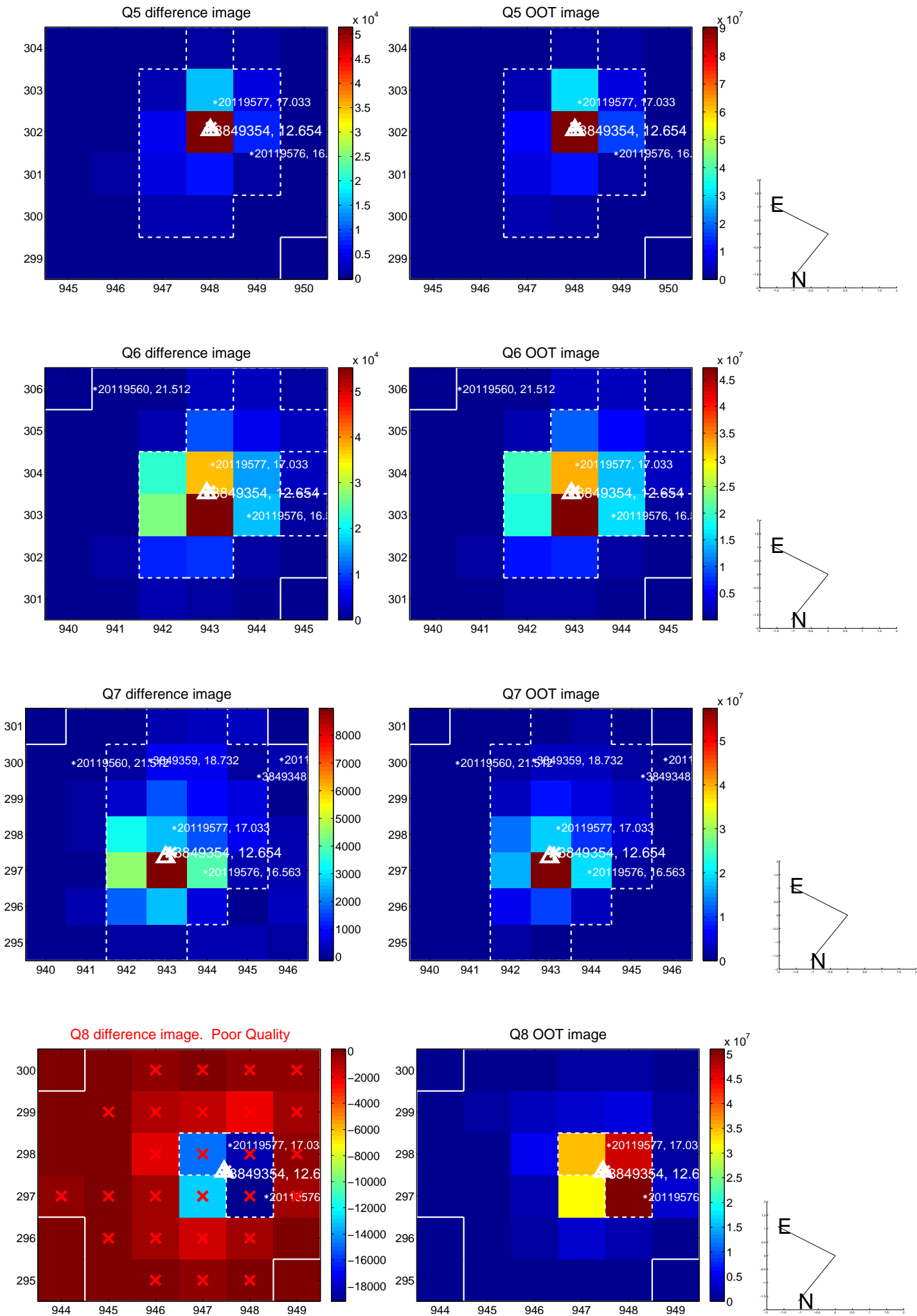


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

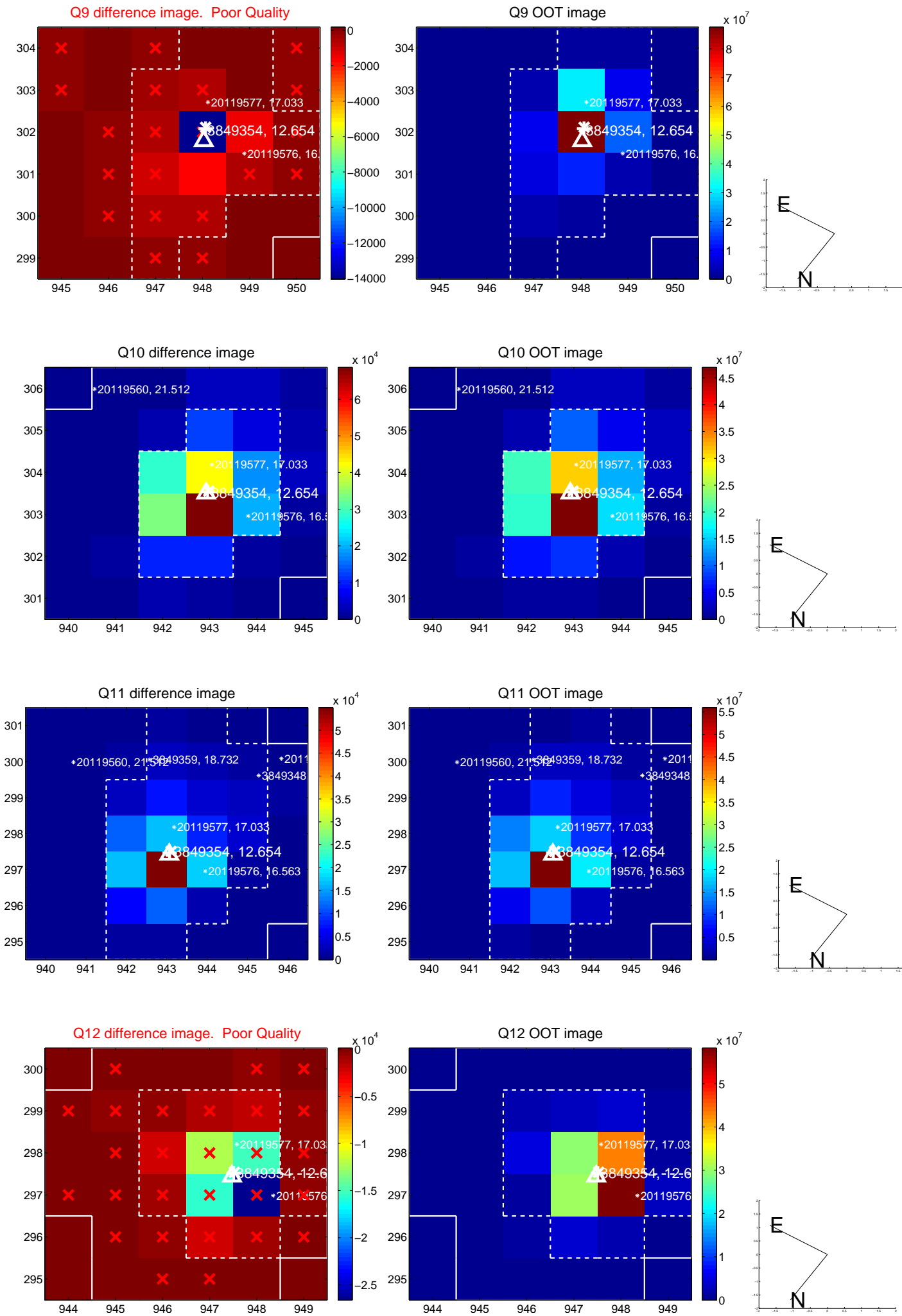
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



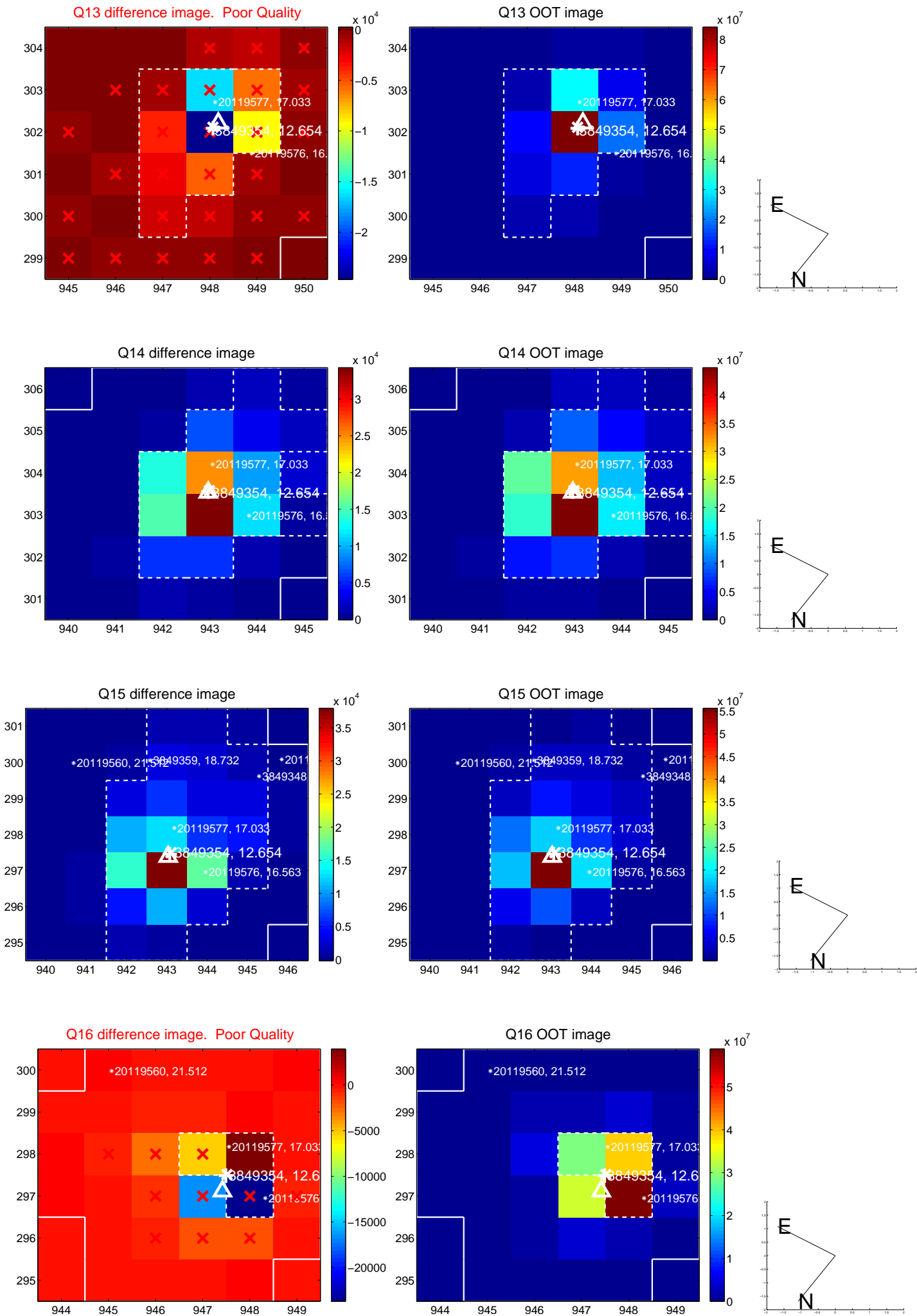
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



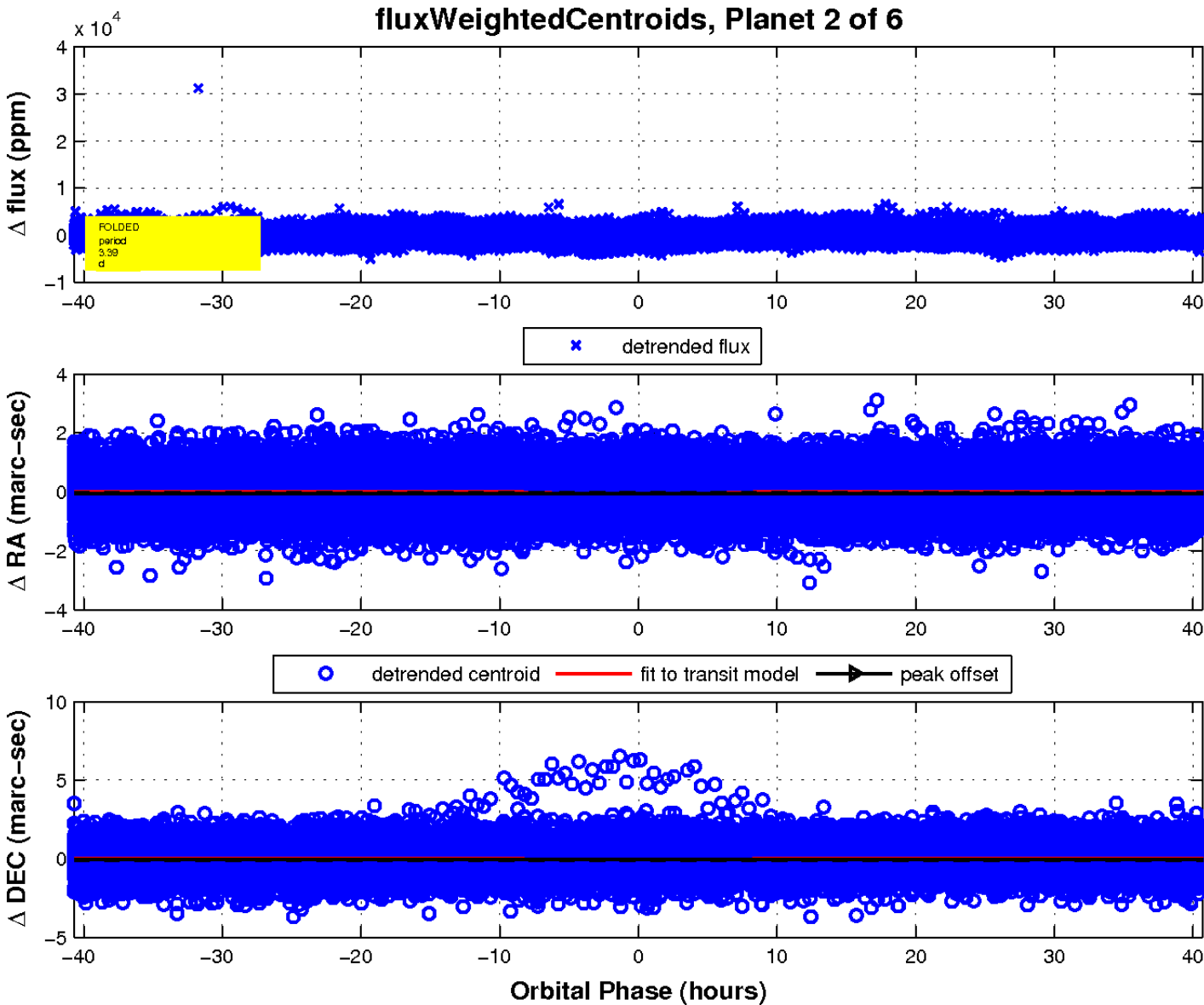
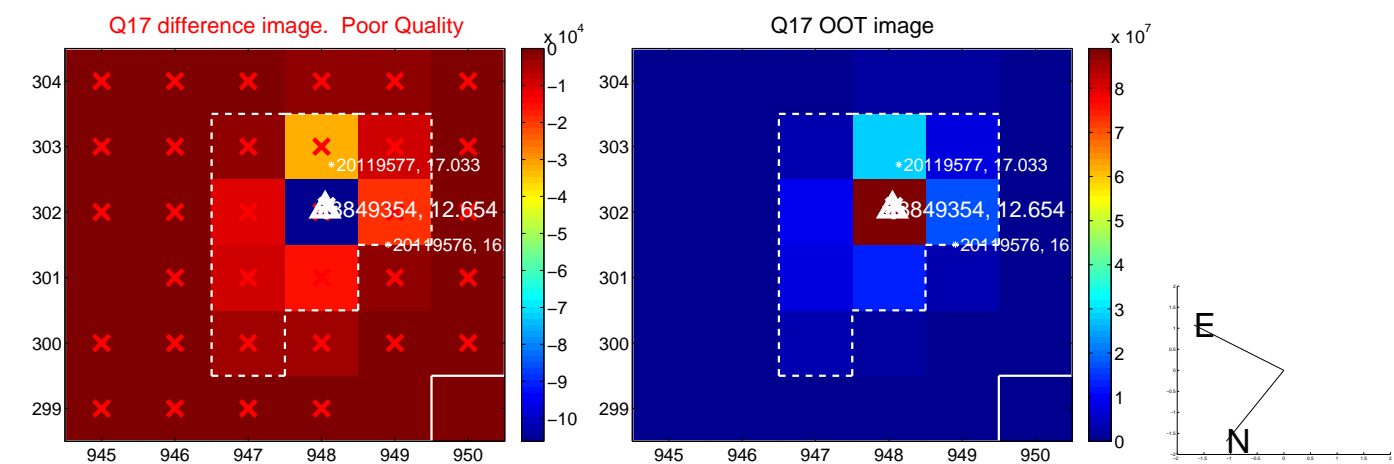
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



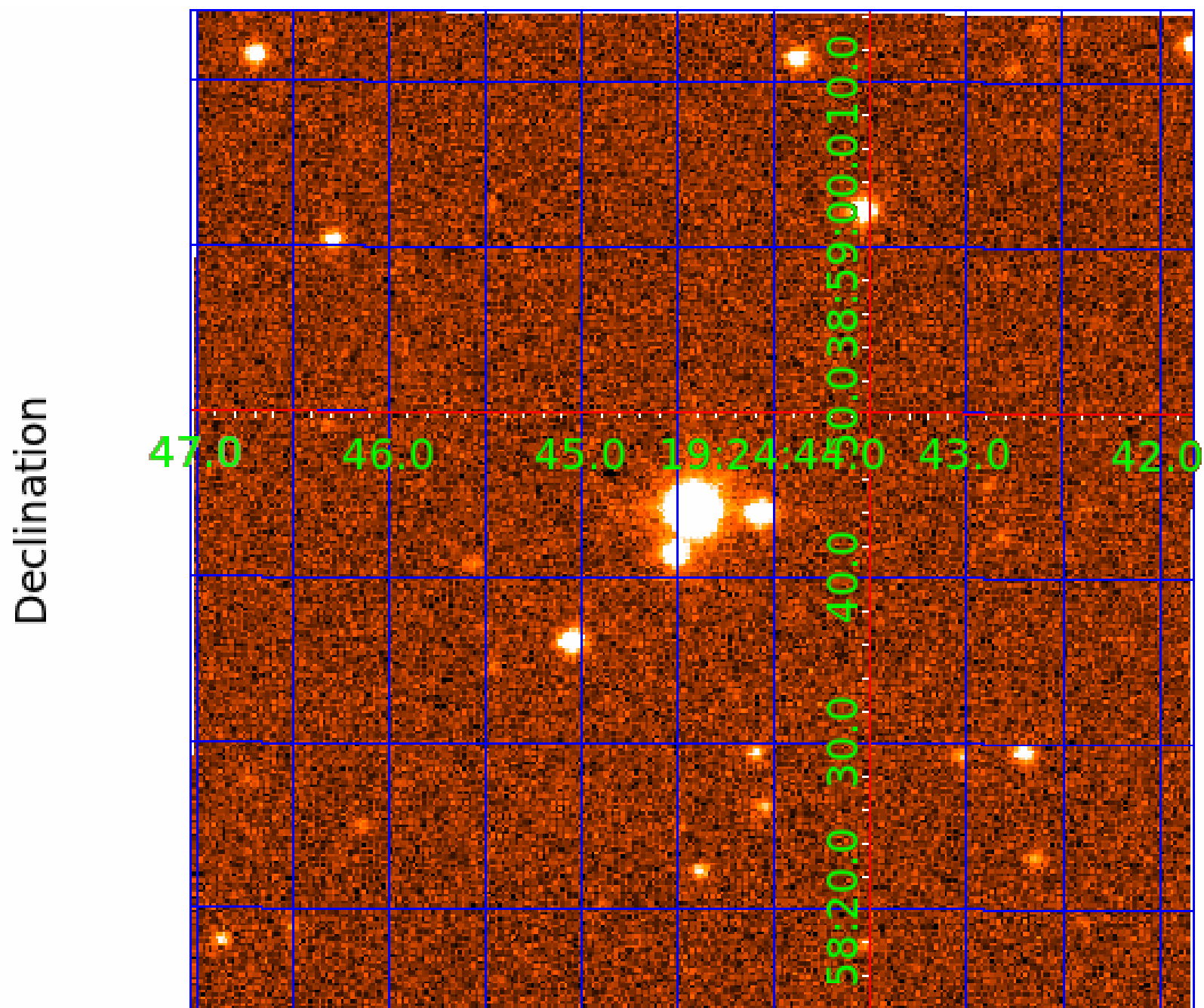
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003849354

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})
003849354-01	OBS	No	0.522867	131.720672	34.7	1.218	10.4	6.3	1.42	6728	0.97	19635.14
003849354-02	OBS	No	3.391599	134.388471	109.2	17.025	8.4	5.0	1.42	6728	1.57	1623.12
003849354-03	OBS	No	128.111260	169.764185	3001.2	16.083	12.9	10.9	1.42	6728	9.31	12.81
003849354-04	OBS	No	189.051520	251.169702	2883.2	5.428	11.4	11.7	1.42	6728	10.05	7.62
003849354-05	OBS	No	96.816220	154.764709	1566.9	6.793	9.7	9.4	1.42	6728	6.74	18.61
003849354-06	OBS	No	115.557551	183.576953	1721.7	17.158	8.1	9.4	1.42	6728	6.87	14.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003849354-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003849354-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV
003849354-03	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
003849354-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003849354-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003849354-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

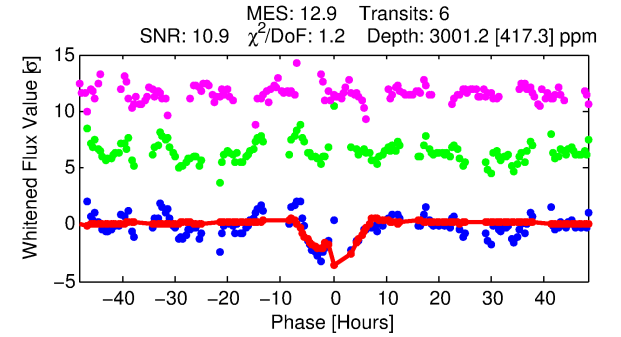
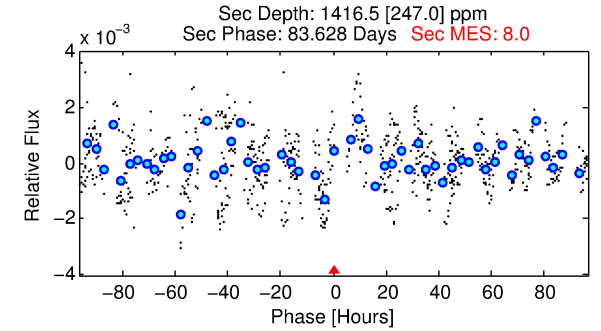
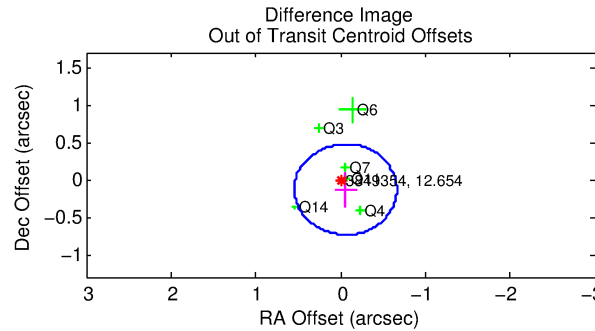
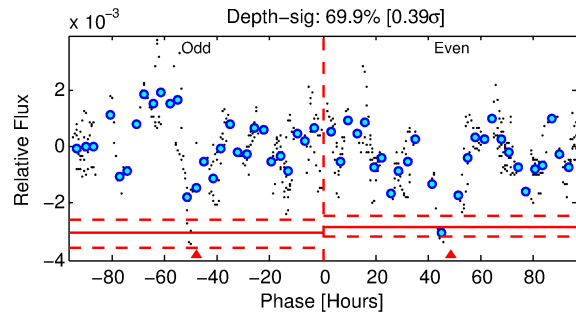
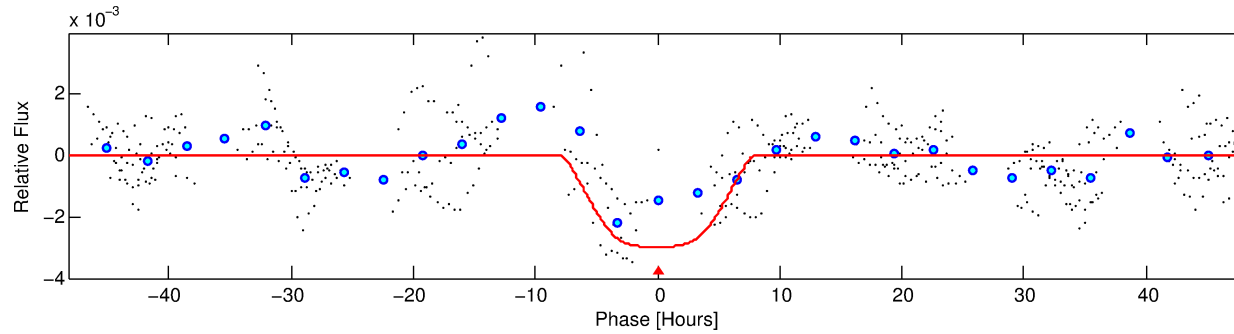
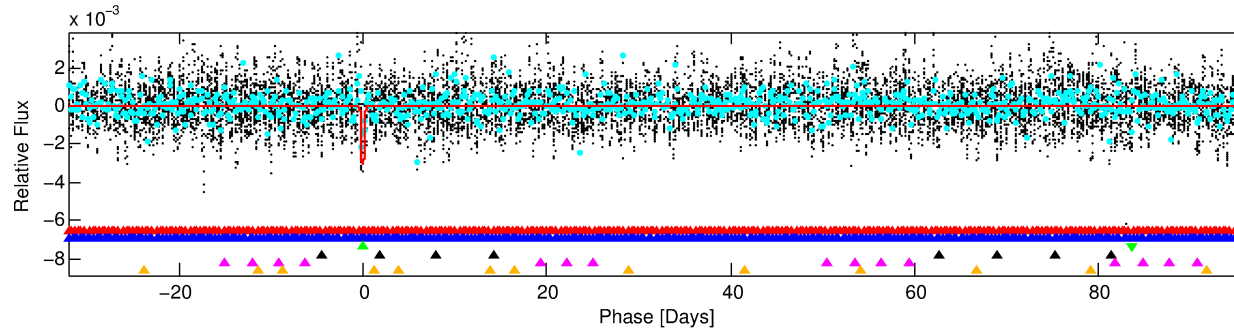
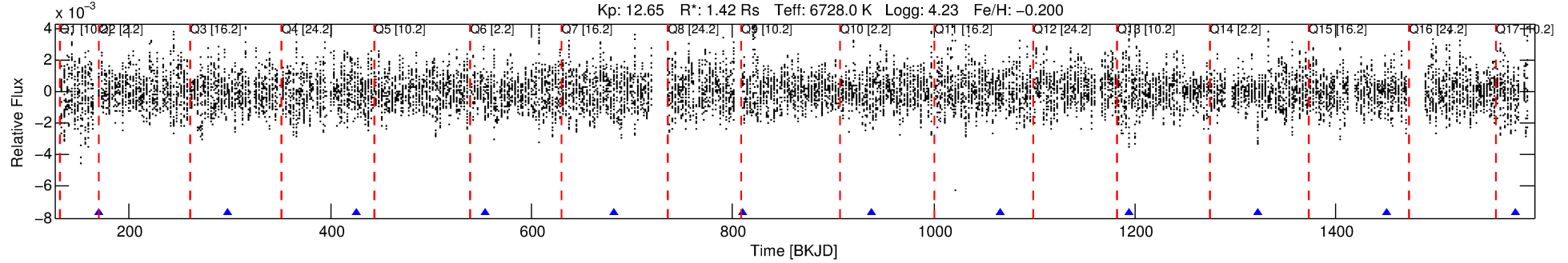
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003849354-03

No Significant Match Found

DV One-Page Summary

KIC: 3849354 Candidate: 3 of 6 Period: 128.111 d



DV Fit Results:

Period = 128.11126 [0.00373] d
Epoch = 169.7642 [0.0252] BKJD
Rp/R* = 0.0602 [0.0052]
a/R* = 31.50 [3.18]
b = 0.93 [0.02]
Seff = 12.81 [4.83]
Teq = 482 [46] K
Rp = 9.31 [3.02] Re
a = 0.5369 [0.1358] AU
Ag = 2590.36 [1113.67] [2.33 σ]
Teffp = 5321 [369] K [13.01 σ]

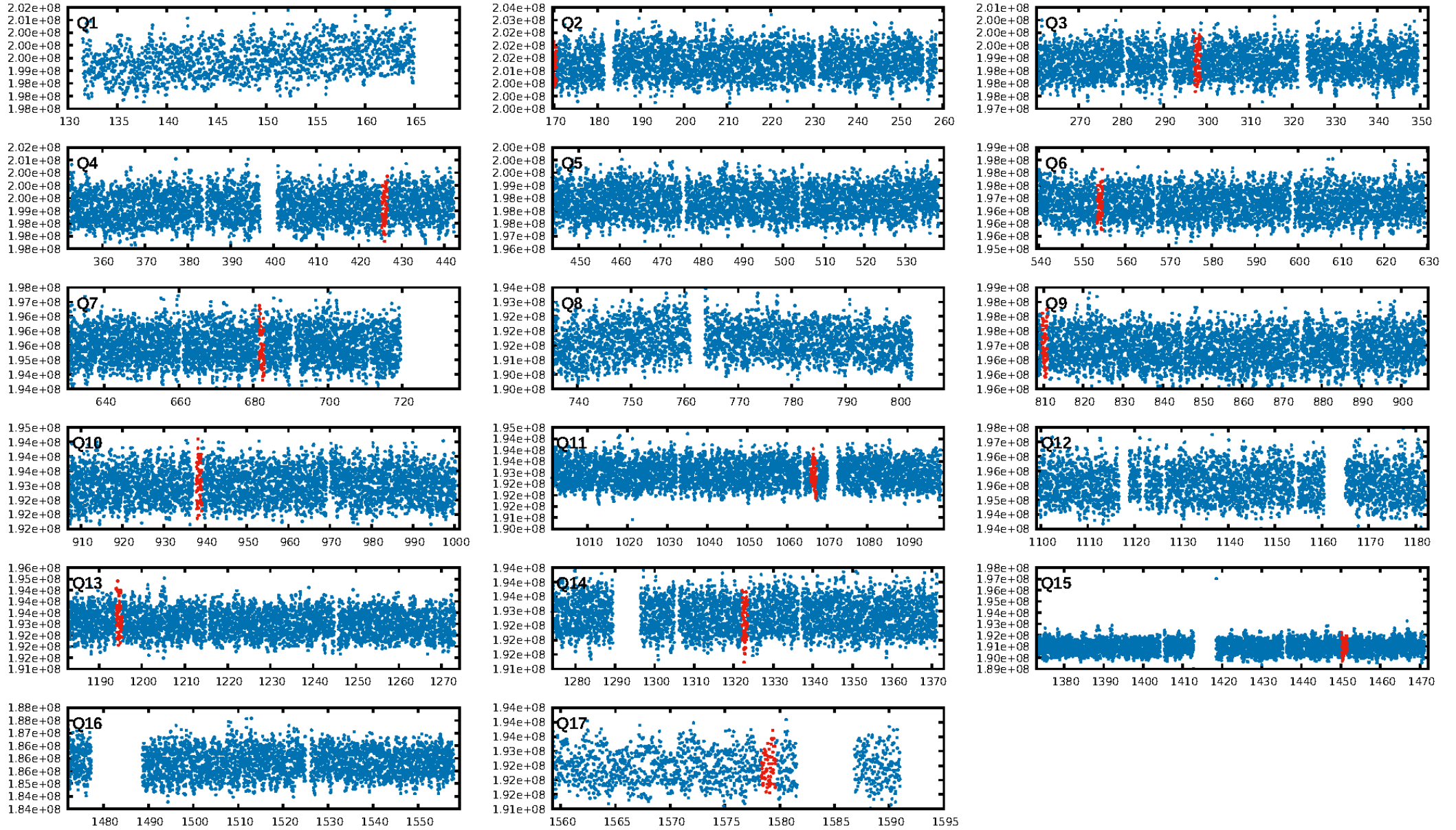
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [12.81 σ]
LongPeriod-sig: 100.0% [86.16 σ]
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -3.392
Centroid-sig: 86.8%
Centroid-so: 0.187 arcsec [2.95 σ]
OotOffset-rm: 0.145 arcsec [0.72 σ]
OotOffset-st: 2/3/1/0 [6]
KicOffset-rm: 0.071 arcsec [0.49 σ]
KicOffset-st: 2/3/1/0 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.00 [0/7]

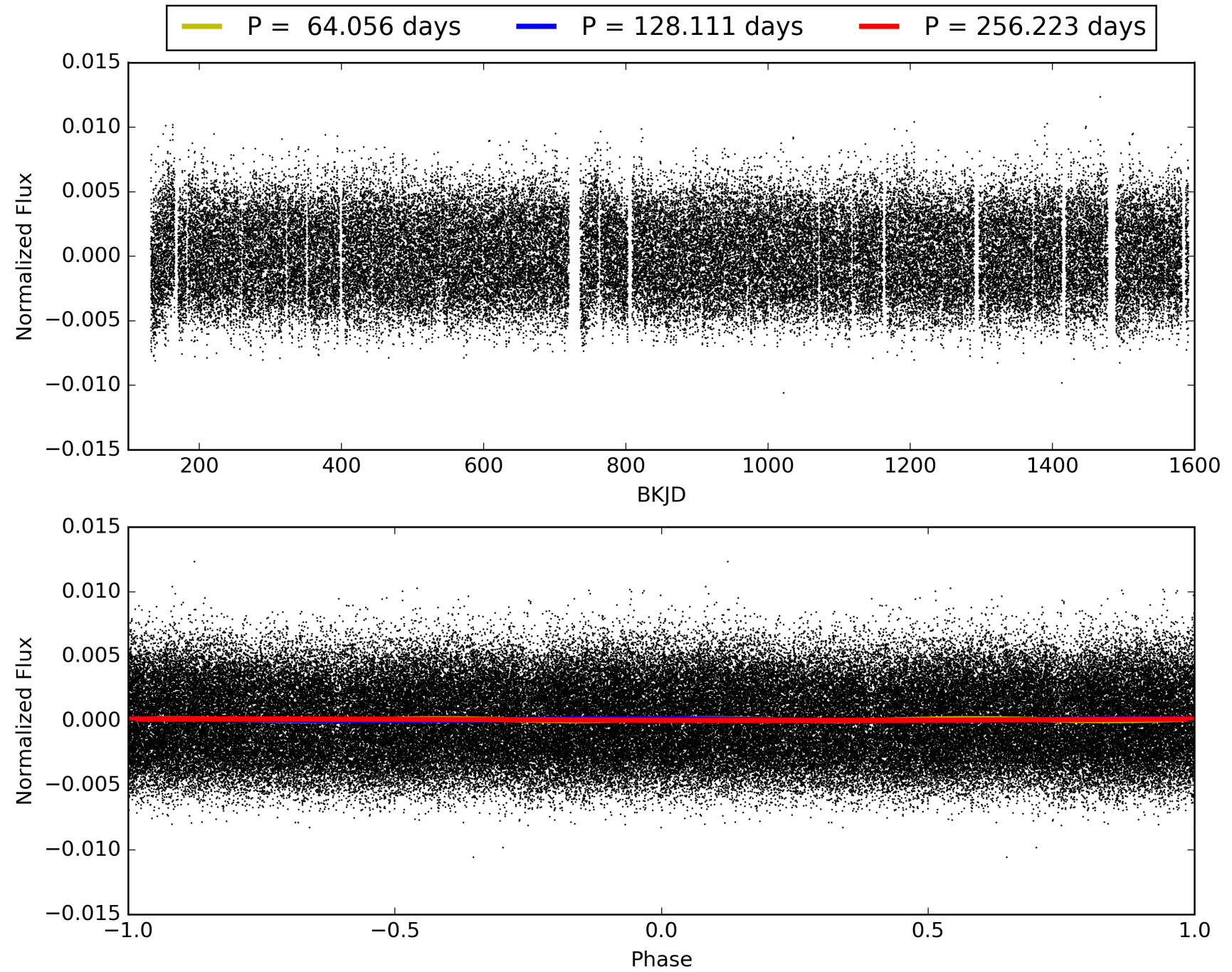
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:50:18 Z

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

TCE 003849354-03, PDC Light Curves

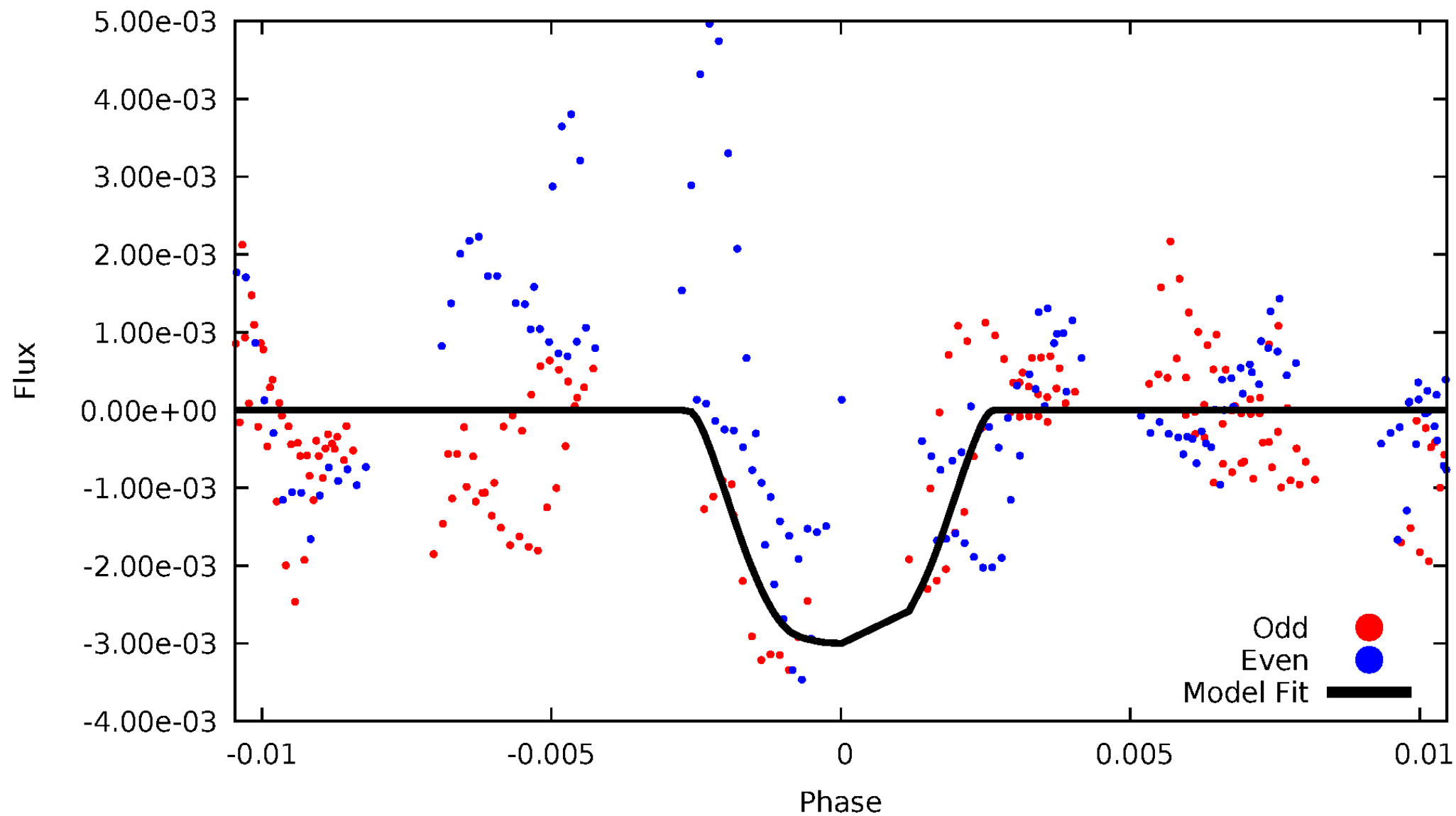


TCE 003849354-03



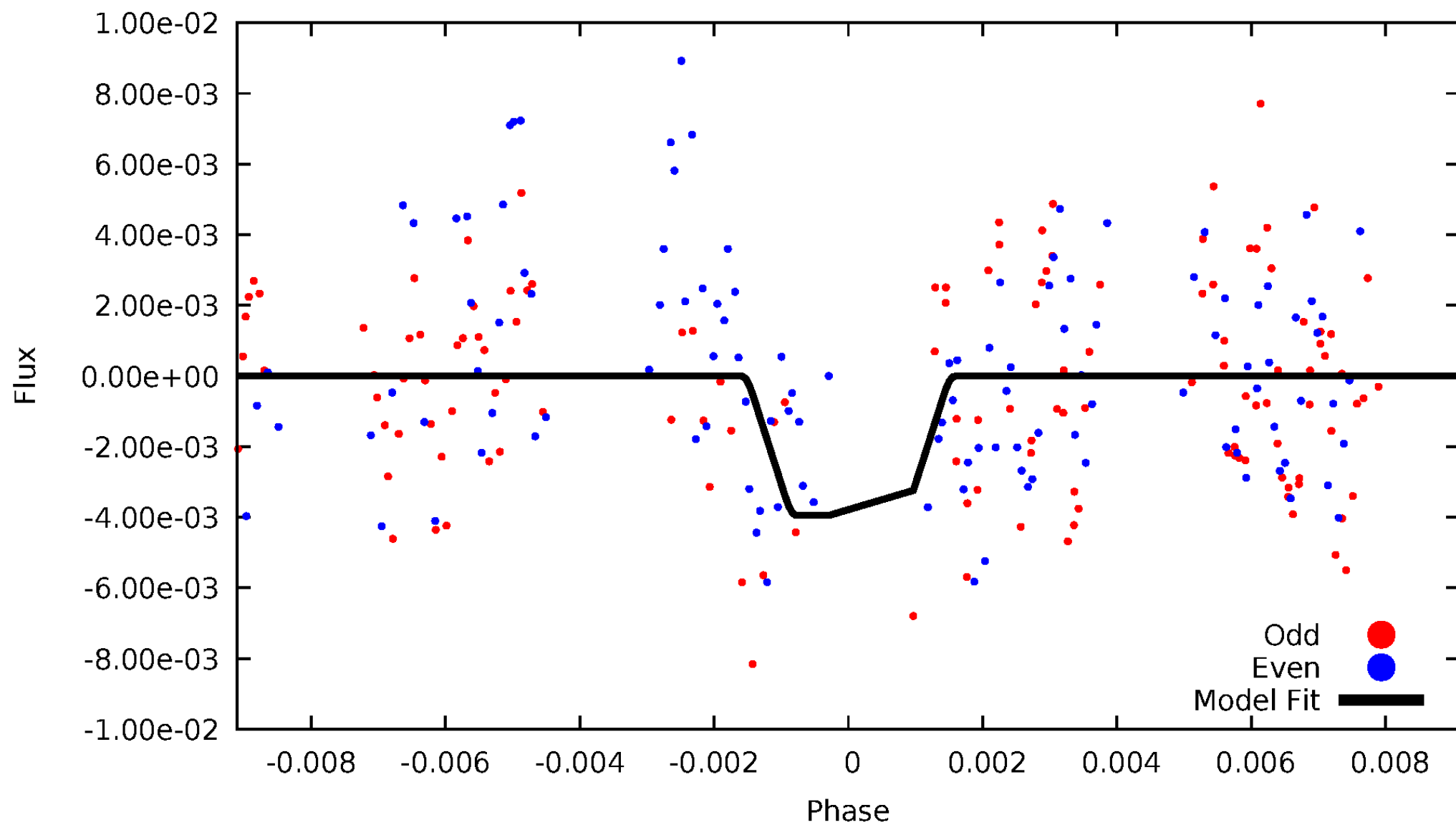
DV Odd/Even

TCE 003849354-03



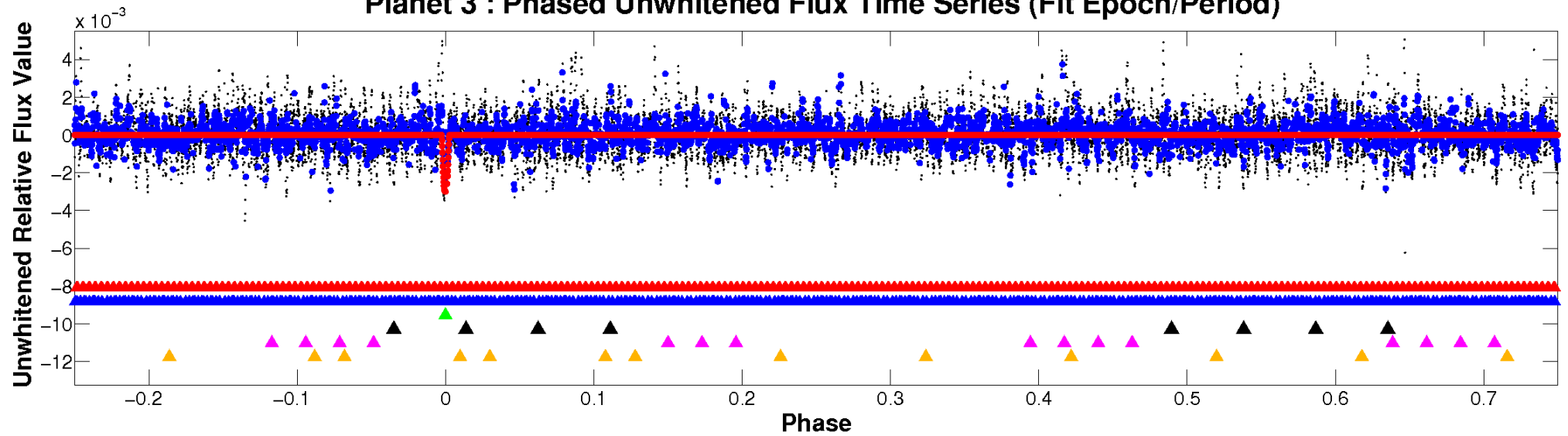
ALT Odd/Even

TCE 003849354-03

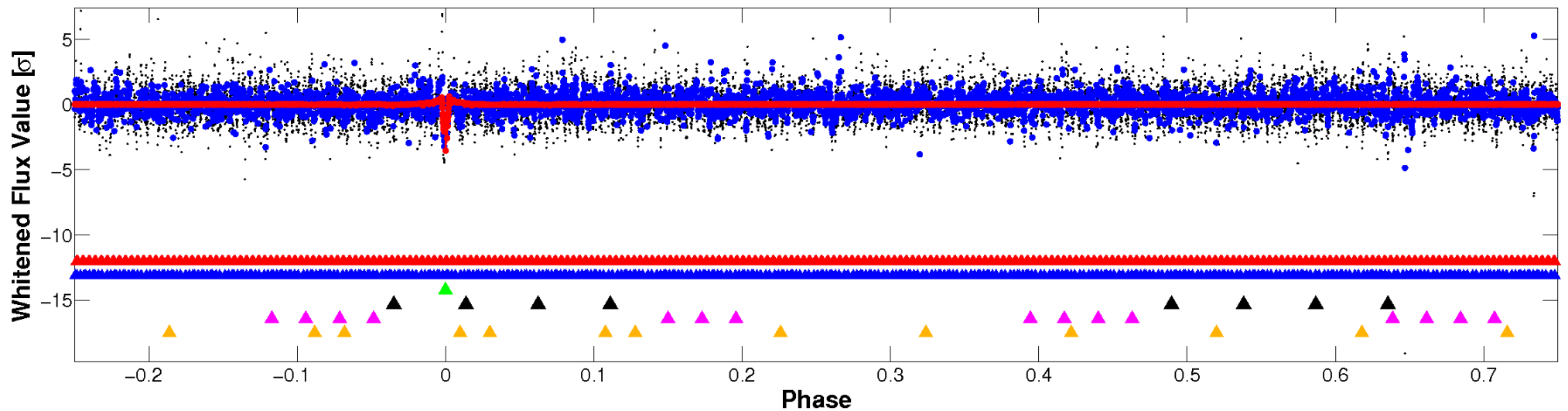


Non-Whitened Vs. Whitened Light Curve

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

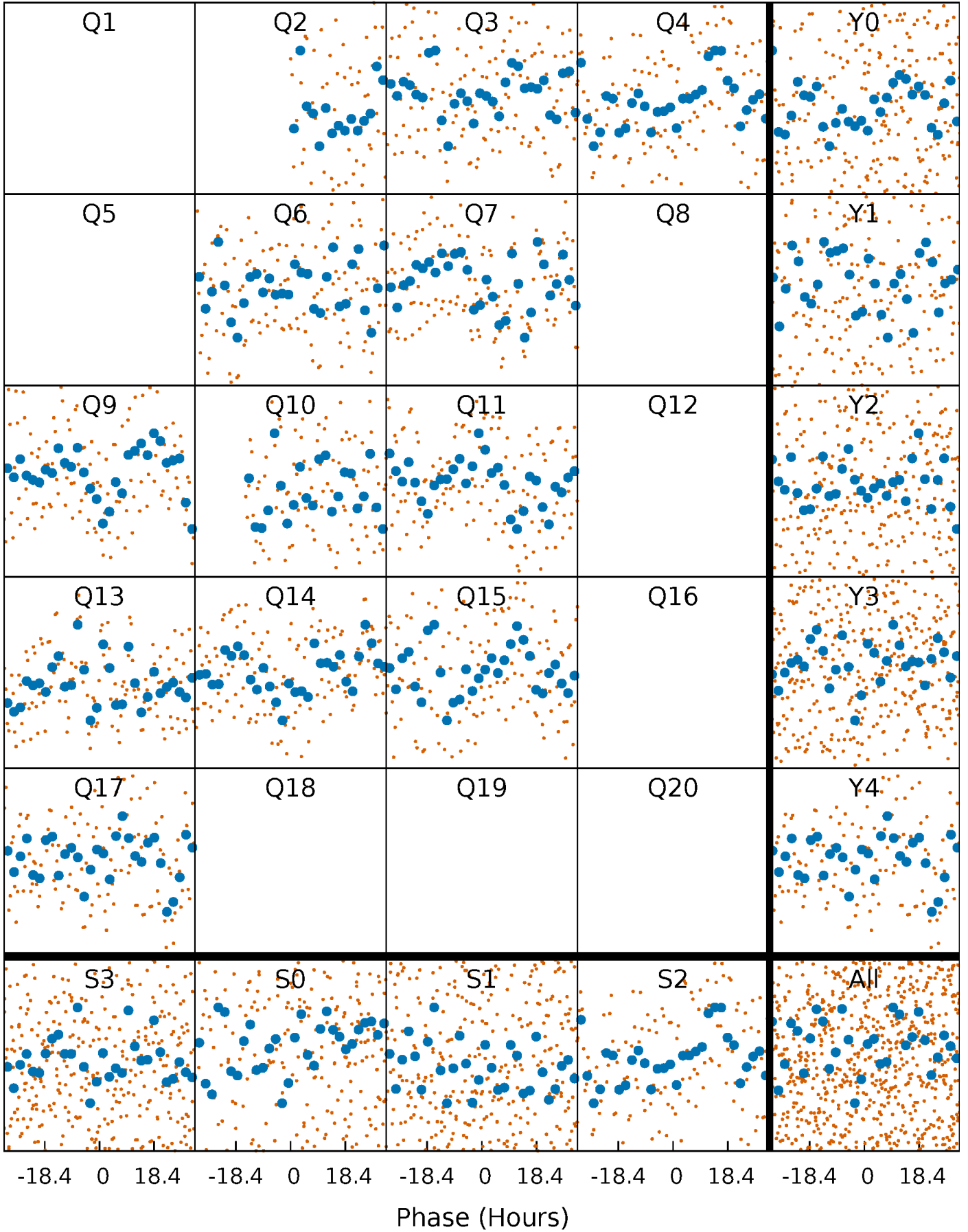


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



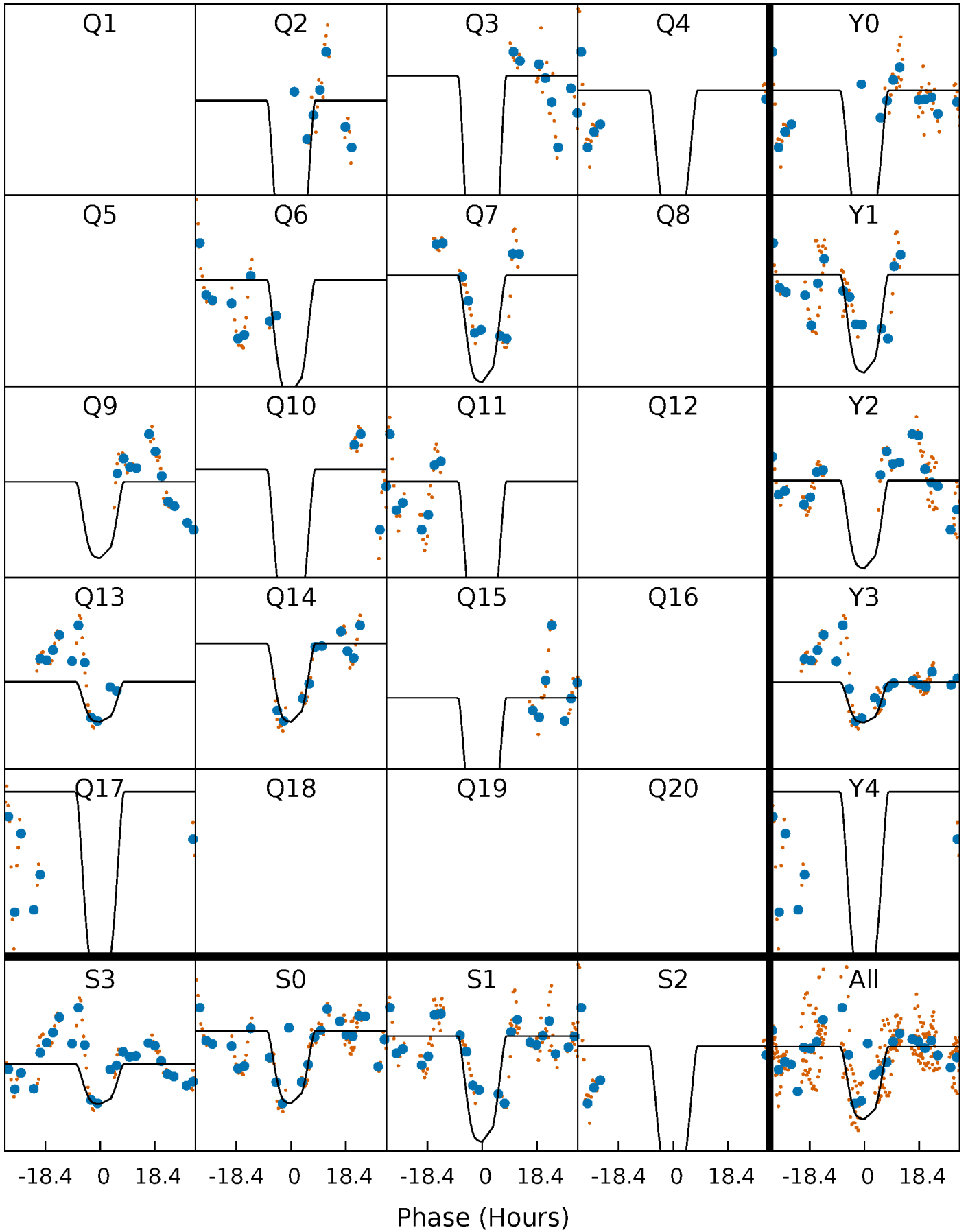
PDC Quarter-Phased Transit Curves

TCE 003849354-03 $P=128.111260$ Days $T_0=169.764185$ (BKJD)



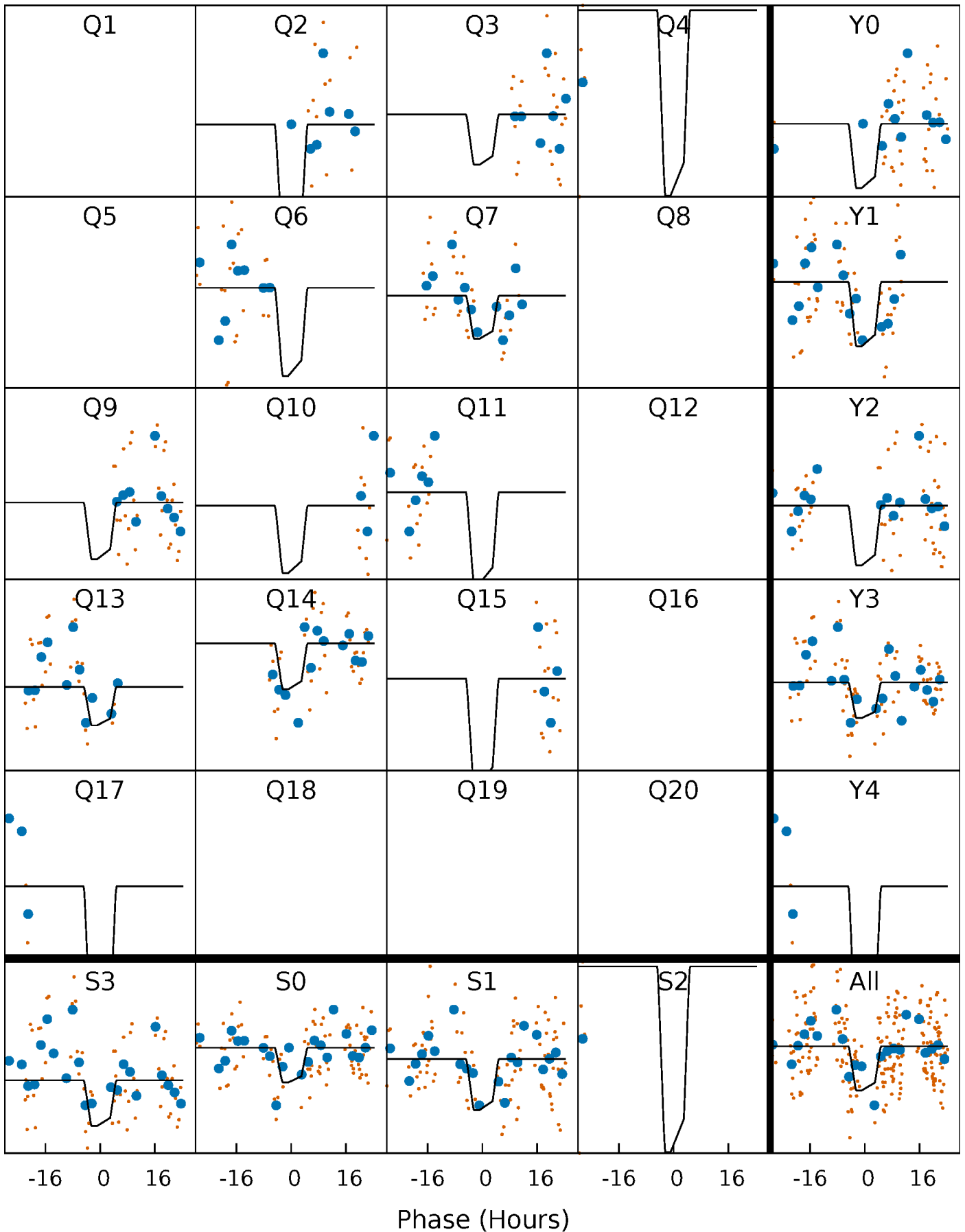
DV Quarter-Phased Transit Curves

TCE 003849354-03 P=128.111260 Days $T_0=169.764185$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

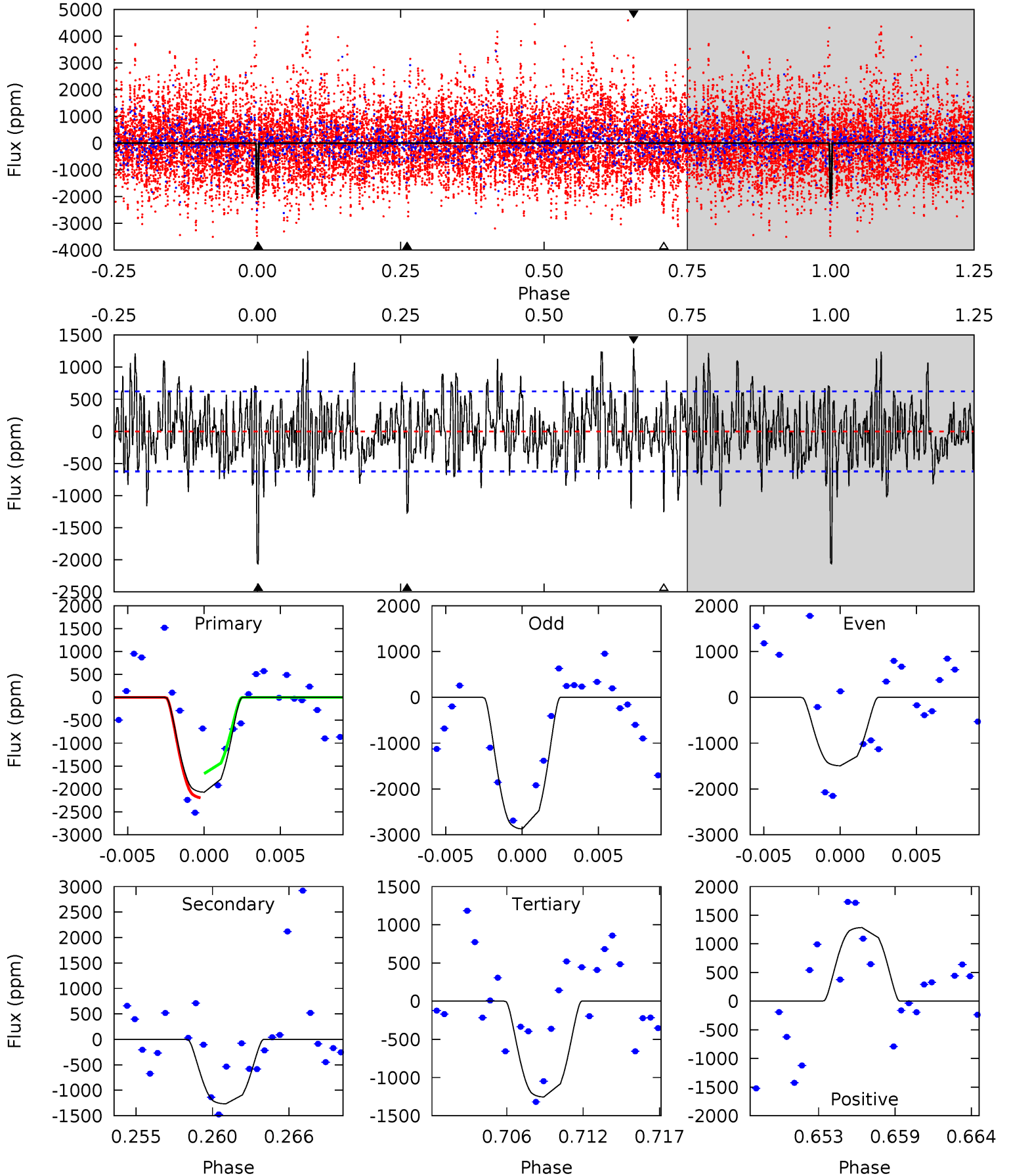
TCE 003849354-03 P=128.109882 Days $T_0=169.803191$ (BKJD)



DV Model-Shift Uniqueness Test

003849354-03, P = 128.111260 Days, E = 41.652925 Days

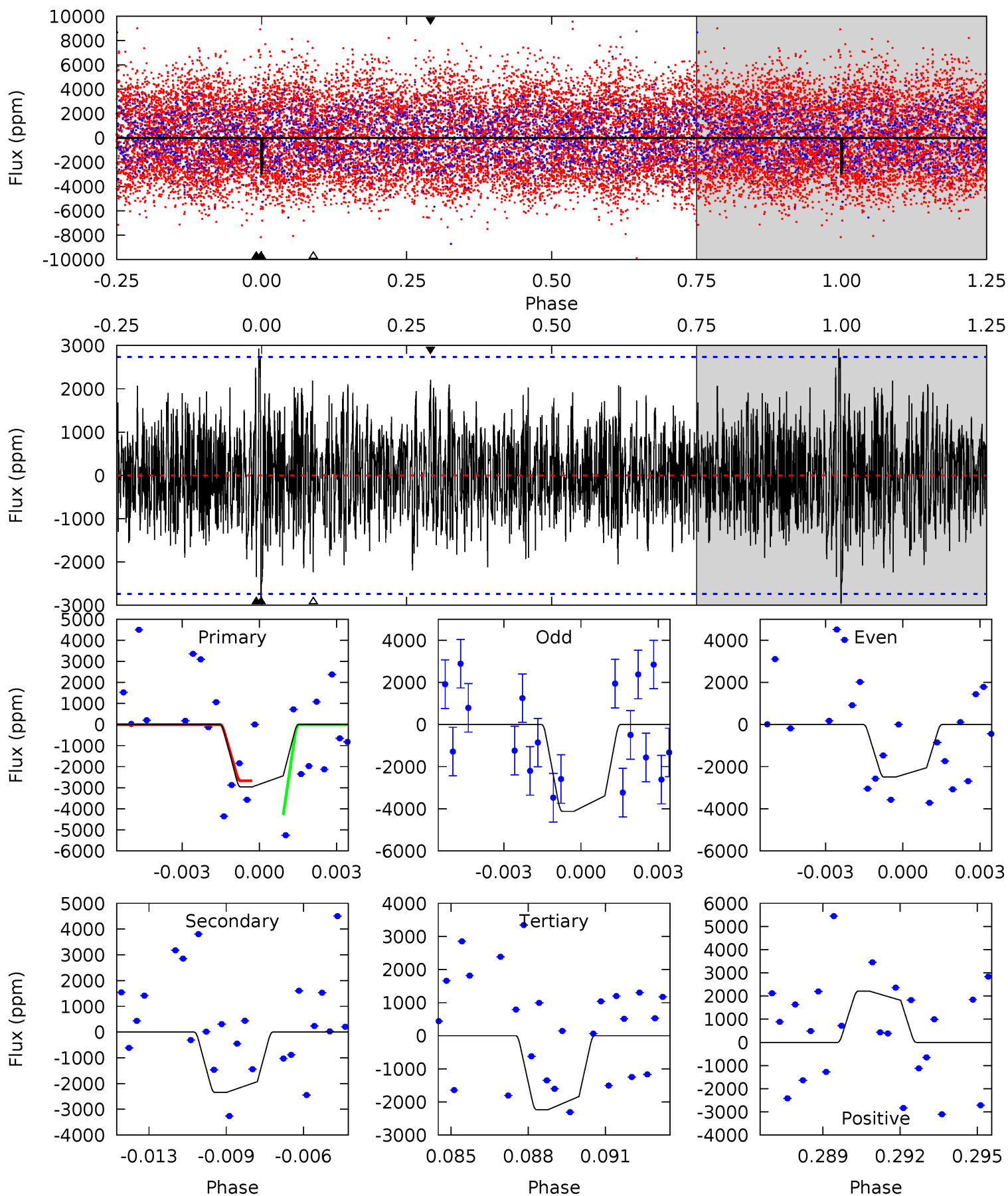
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	10.5	10.4	10.6	5.15	2.79	3.28	6.75	6.50	0.10	-0.16	5.62	1.02	0.38	2.19



Alt Model-Shift Uniqueness Test

003849354-03, P = 128.109882 Days, E = 41.693309 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.68	4.49	4.28	4.23	5.24	2.95	1.44	1.40	1.45	0.21	0.26	1.52	0.13	0.50	1.44



Stellar Parameters For KIC 003849354

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6728^{+161}_{-221}	$4.234^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.300}$	$1.418^{+0.444}_{-0.273}$	$1.268^{+0.190}_{-0.190}$	$0.626^{+0.382}_{-0.322}$
	+2%/-3%	+3%/-4%	+125%/-150%	+31%/-19%	+15%/-15%	+61%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003849354-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1266 ± 121	$9.51^{+1.66}_{-1.29}$	678^{+55}_{-39}	5197^{+289}_{-251}	2182^{+762}_{-590}
Alt.	-2344 ± 522	$9.89^{+1.73}_{-1.39}$	678^{+50}_{-38}	5879^{+440}_{-402}	3709^{+1619}_{-1149}

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 $A_{obs} \gg 1.0$

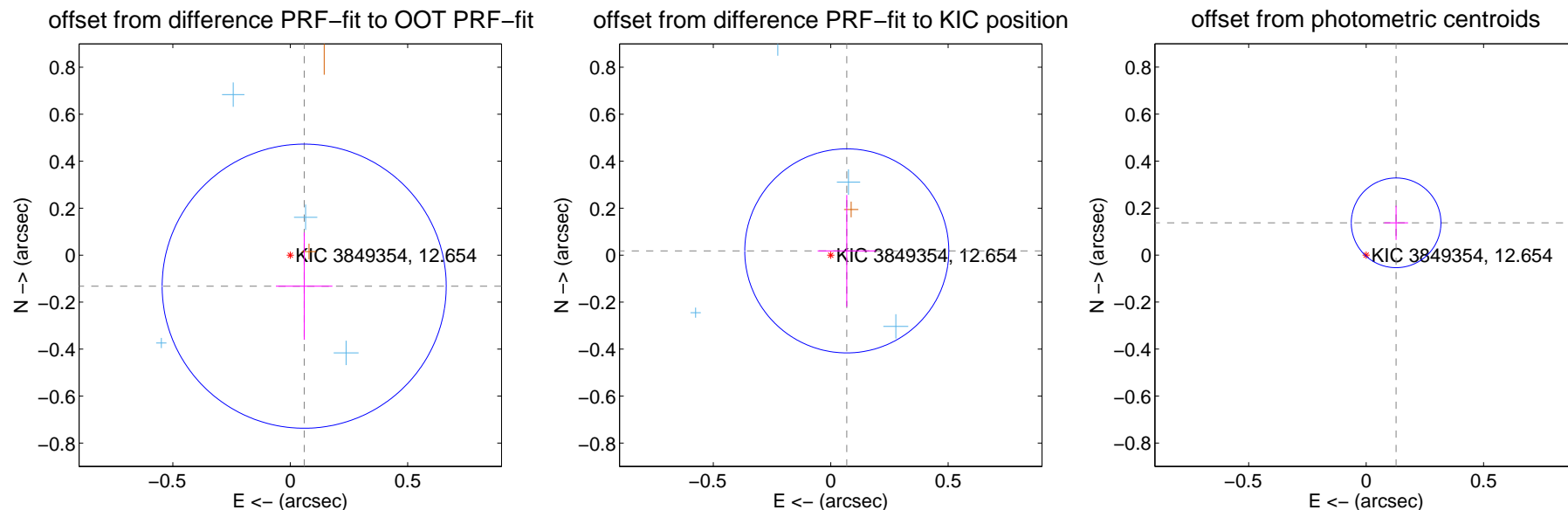
DV Centroid Data

Supplemental centroid analysis for 003849354-03. Kepler magnitude: 12.65. Transit SNR 10.93

There are 4 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	0.145 ± 0.202	0.72	-0.059 ± 0.120	-0.132 ± 0.228
PRF-fit source offset from KIC position	0.071 ± 0.145	0.49	-0.068 ± 0.124	0.018 ± 0.238
photometric centroid source offset	0.19 ± 0.06	2.95	-0.13 ± 0.05	0.14 ± 0.07



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



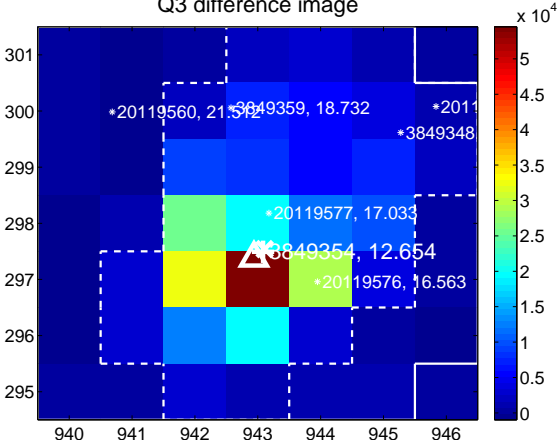
Q2 no difference image



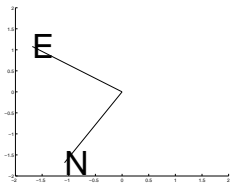
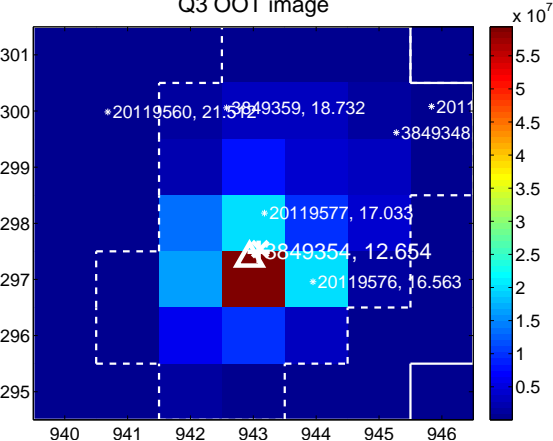
Q2 no OOT image



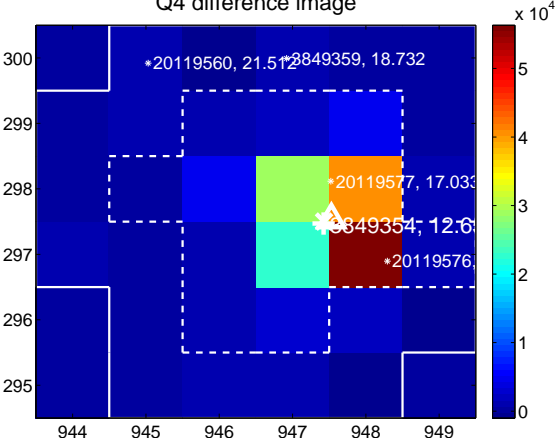
Q3 difference image



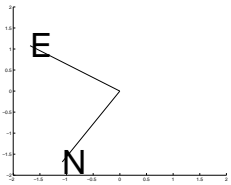
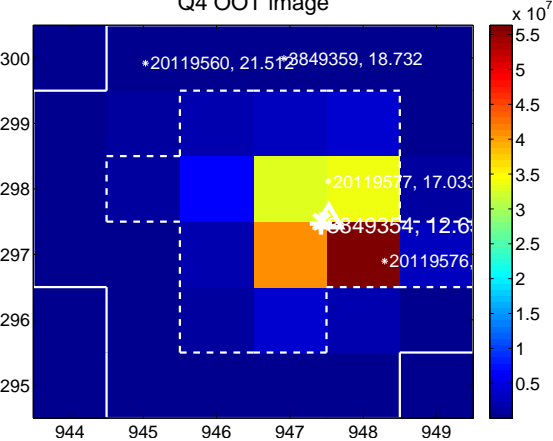
Q3 OOT image



Q4 difference image



Q4 OOT image

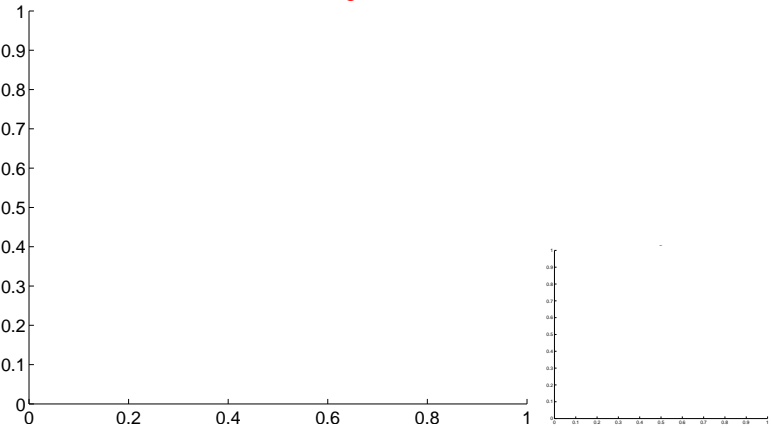


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

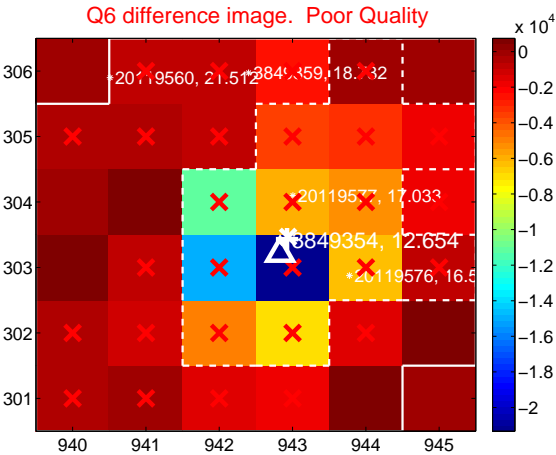
Q5 no difference image



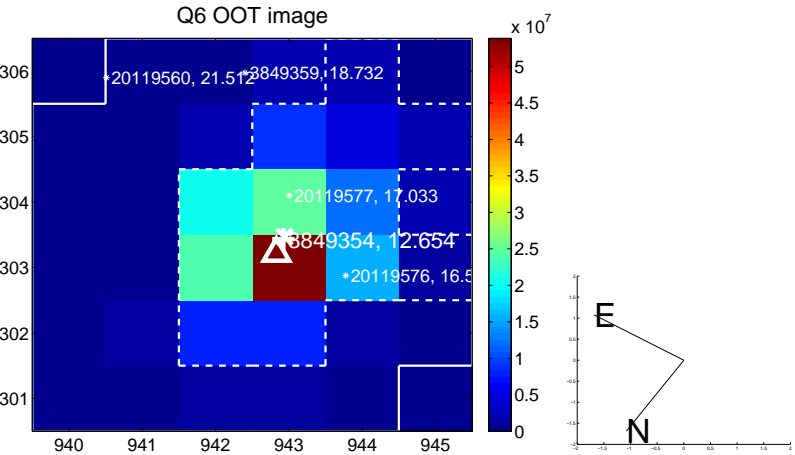
Q5 no OOT image



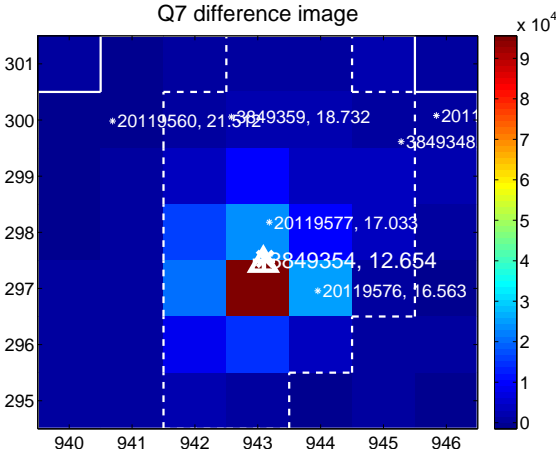
Q6 difference image. Poor Quality



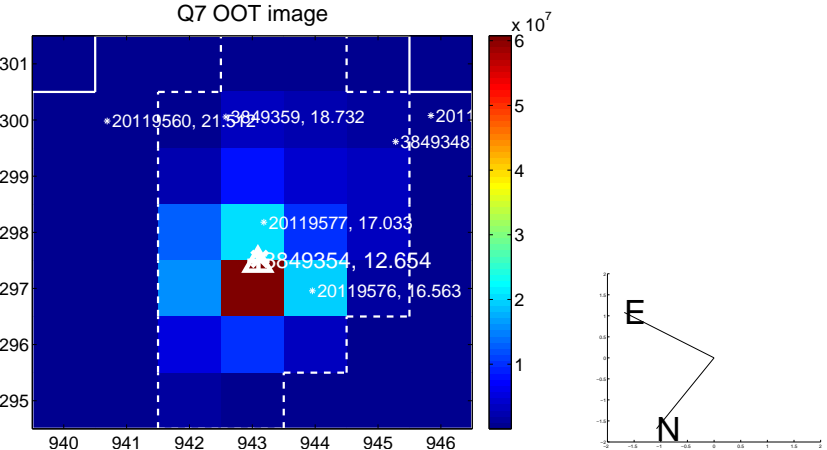
Q6 OOT image



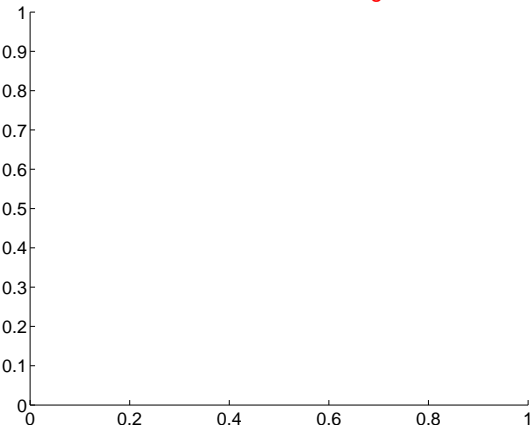
Q7 difference image



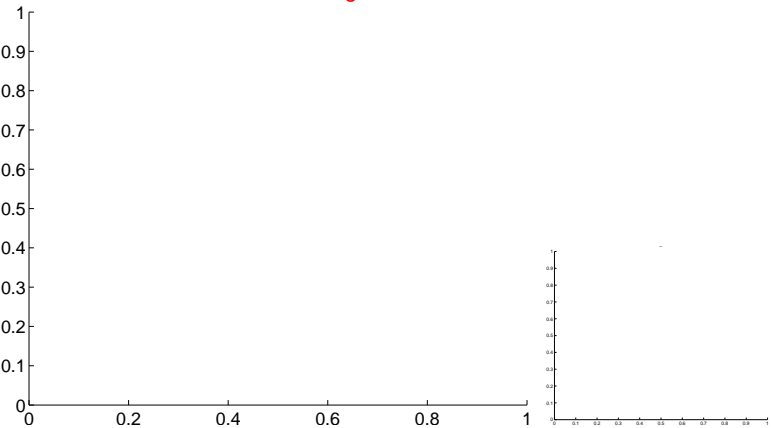
Q7 OOT image



Q8 no difference image



Q8 no OOT image



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

Q9 no difference image



Q9 no OOT image



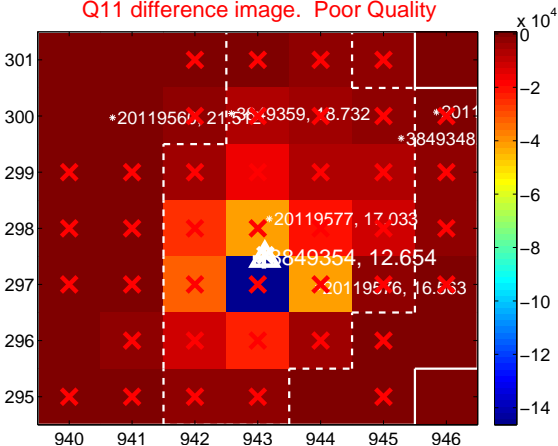
Q10 no difference image



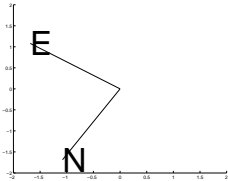
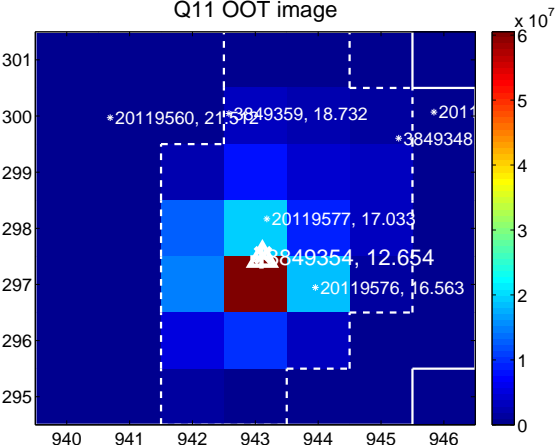
Q10 no OOT image



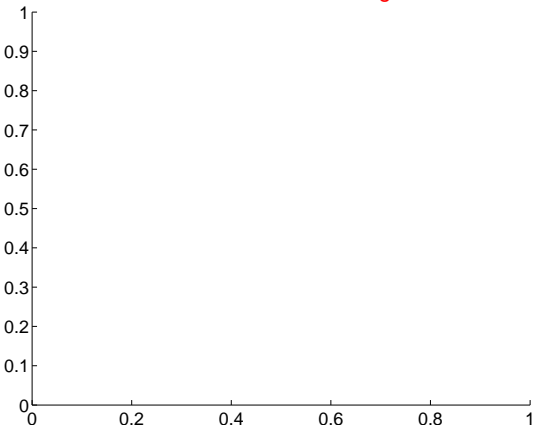
Q11 difference image. Poor Quality



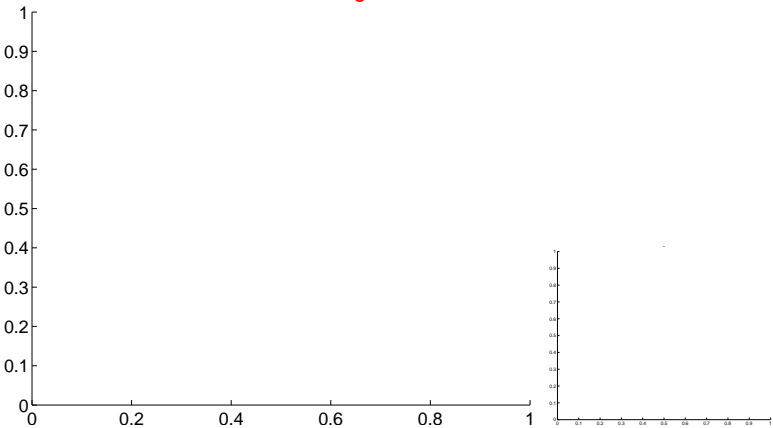
Q11 OOT image



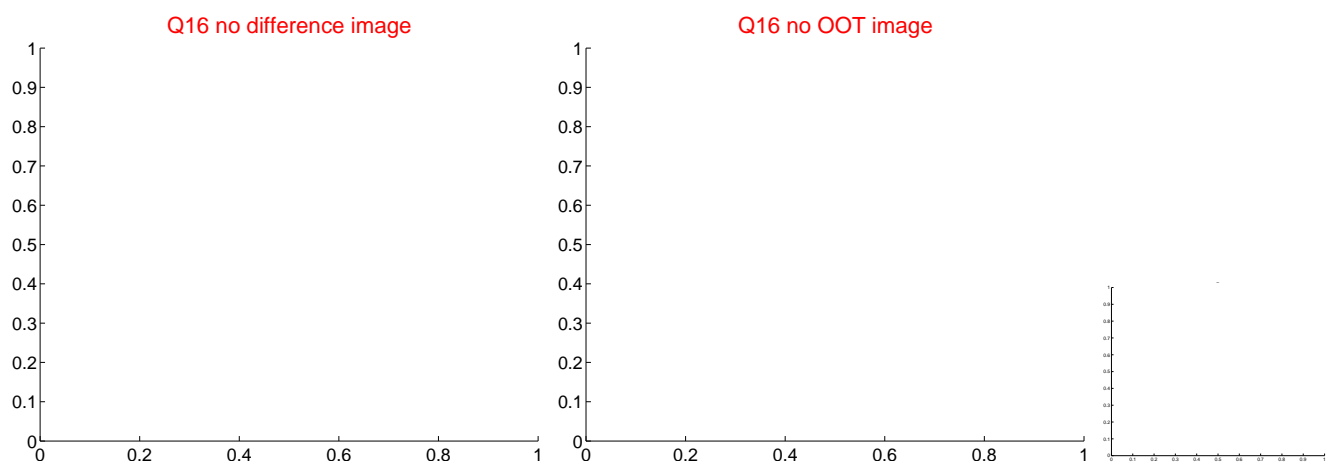
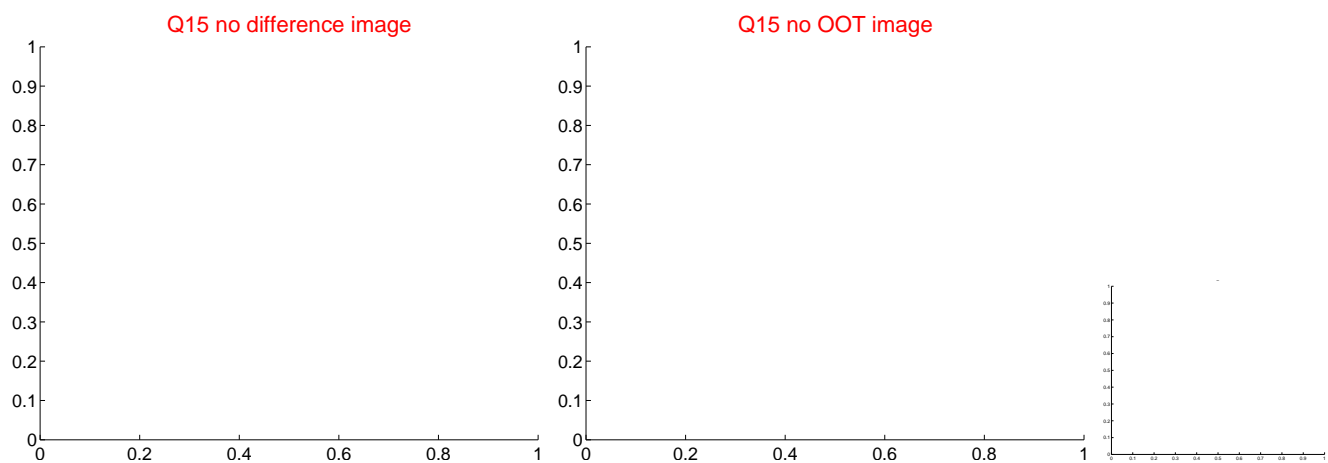
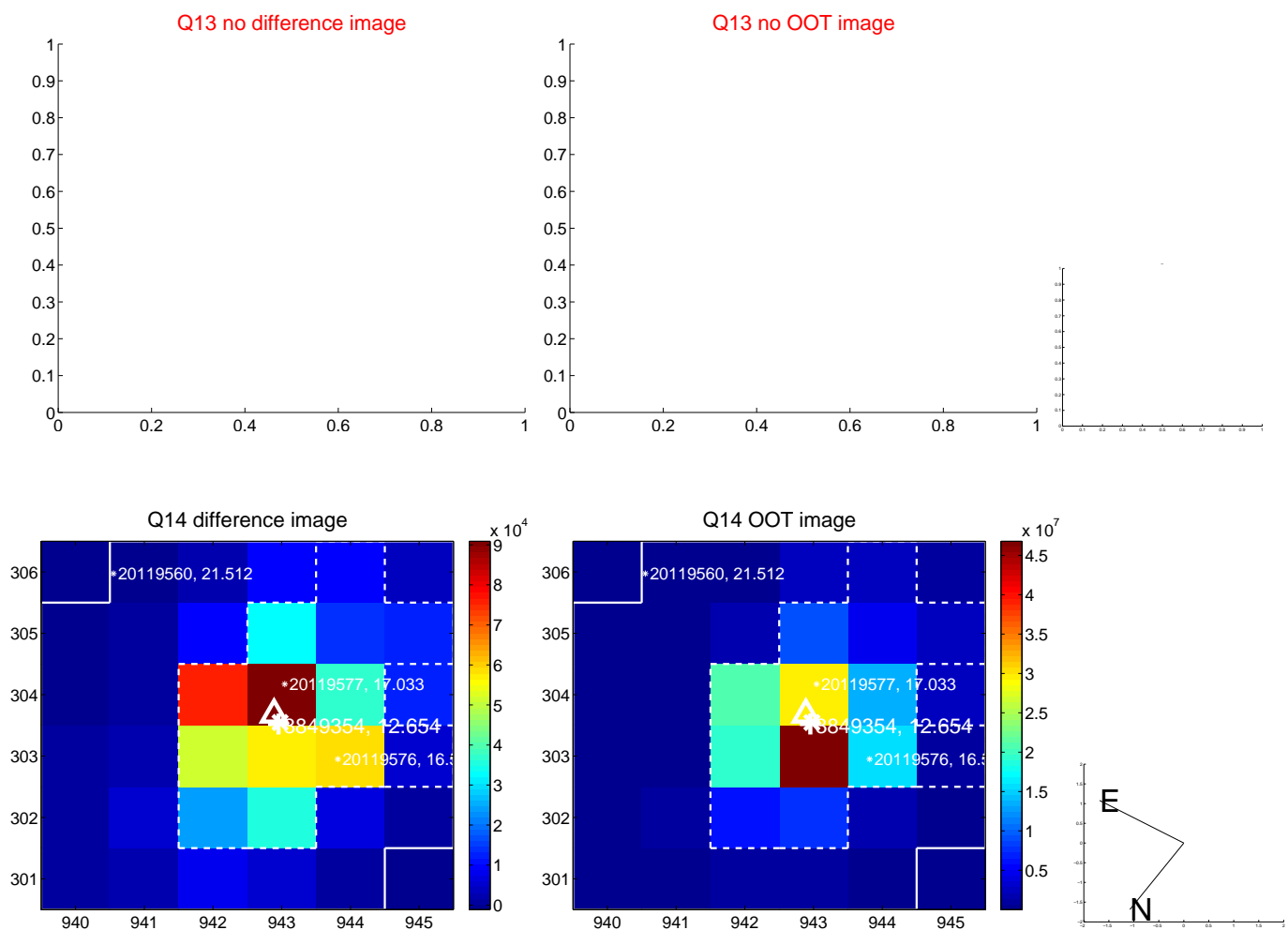
Q12 no difference image



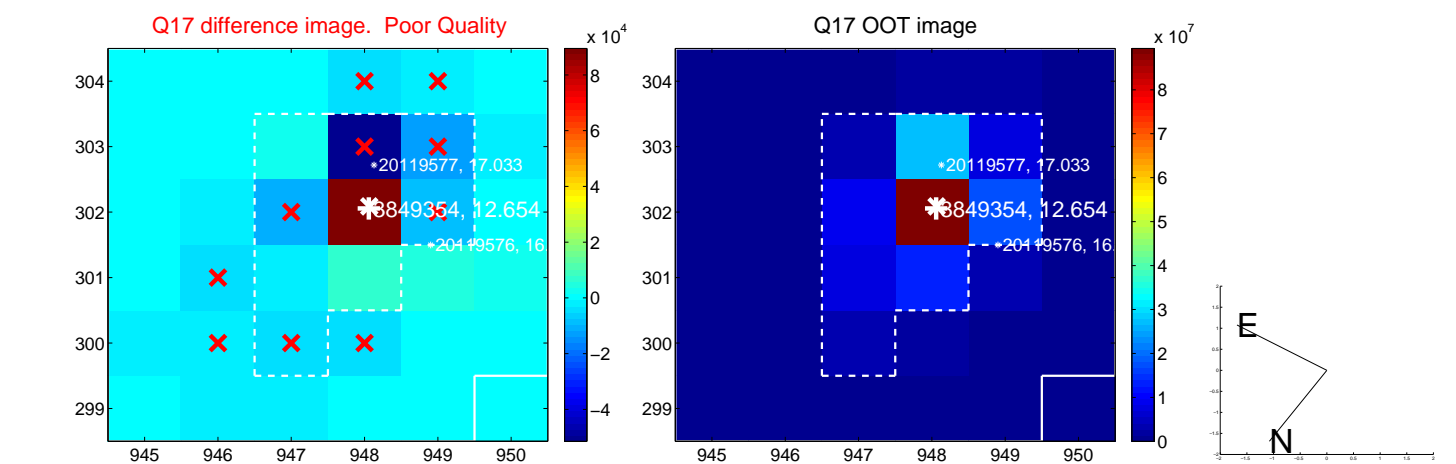
Q12 no OOT image



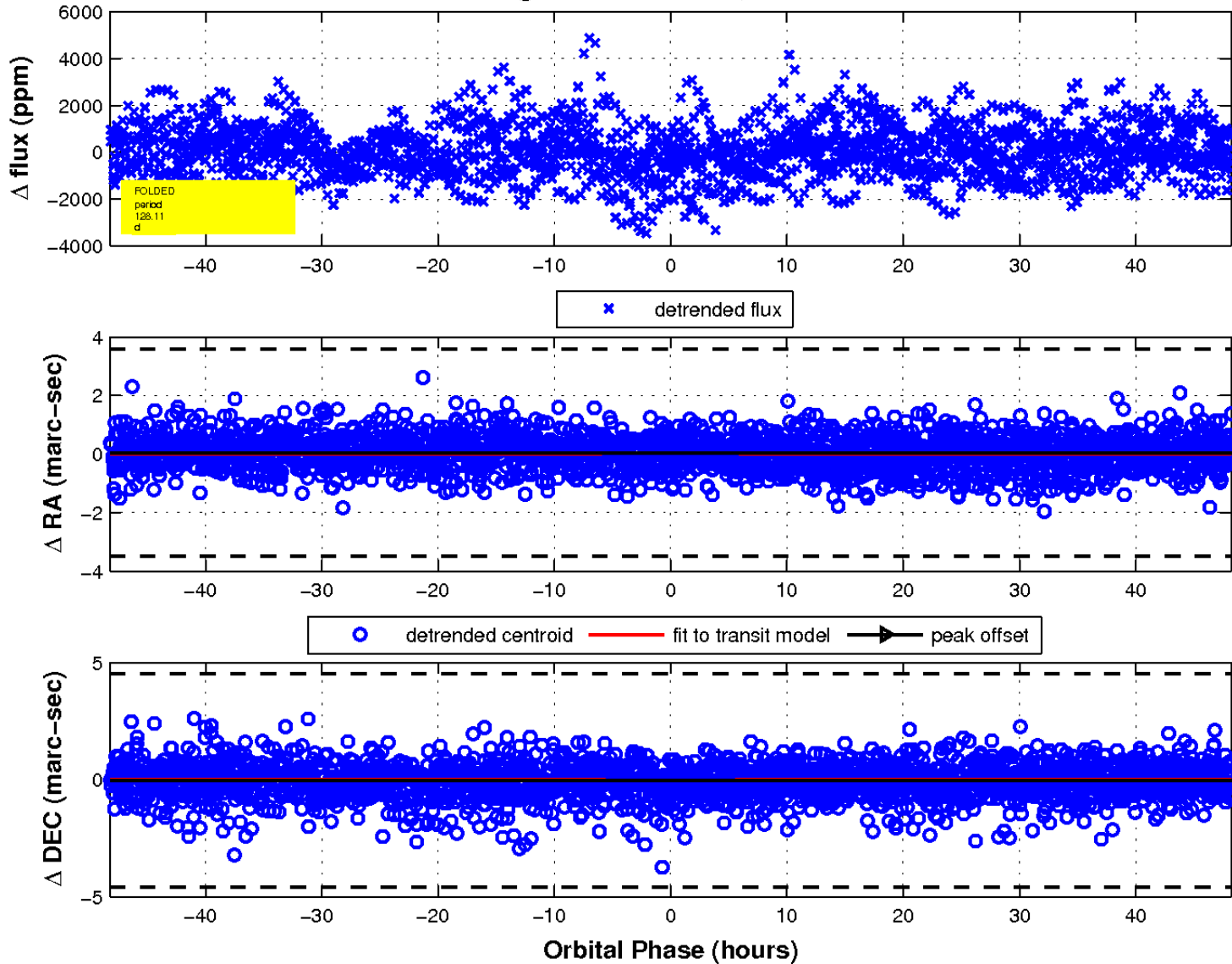
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



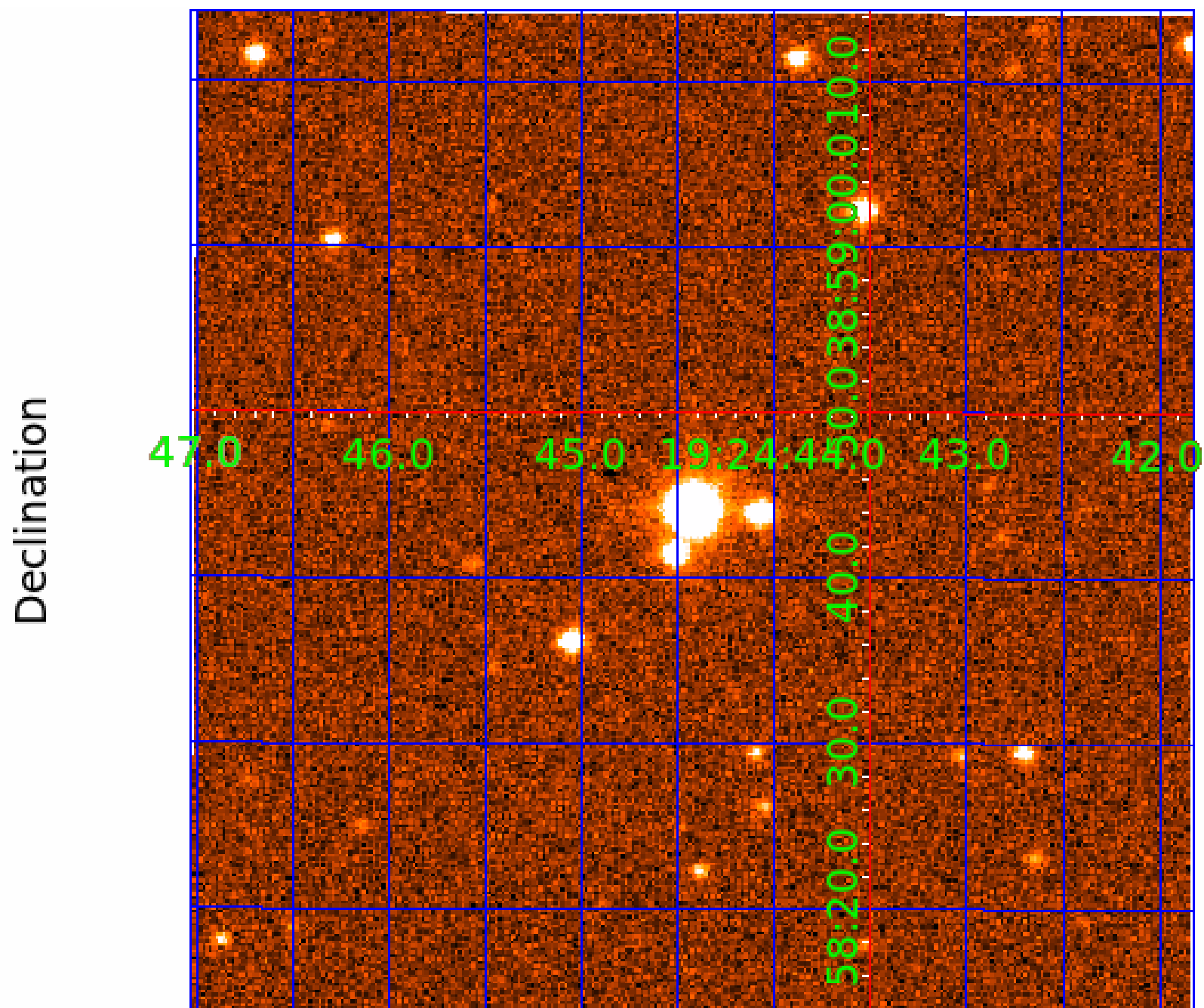
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fluxWeightedCentroids, Planet 3 of 6



UKIRT Image



KIC 003849354

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})
003849354-01	OBS	No	0.522867	131.720672	34.7	1.218	10.4	6.3	1.42	6728	0.97	19635.14
003849354-02	OBS	No	3.391599	134.388471	109.2	17.025	8.4	5.0	1.42	6728	1.57	1623.12
003849354-03	OBS	No	128.111260	169.764185	3001.2	16.083	12.9	10.9	1.42	6728	9.31	12.81
003849354-04	OBS	No	189.051520	251.169702	2883.2	5.428	11.4	11.7	1.42	6728	10.05	7.62
003849354-05	OBS	No	96.816220	154.764709	1566.9	6.793	9.7	9.4	1.42	6728	6.74	18.61
003849354-06	OBS	No	115.557551	183.576953	1721.7	17.158	8.1	9.4	1.42	6728	6.87	14.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003849354-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003849354-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV
003849354-03	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
003849354-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003849354-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003849354-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

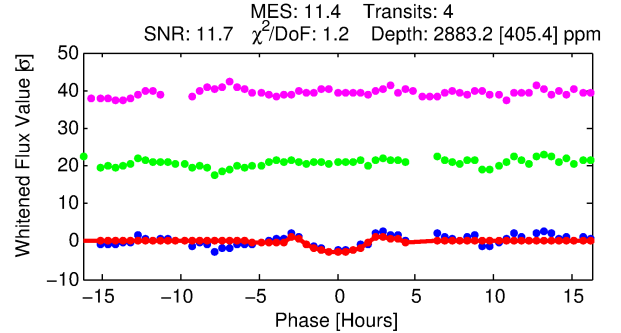
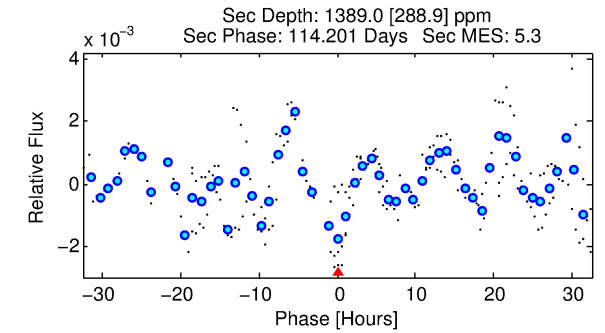
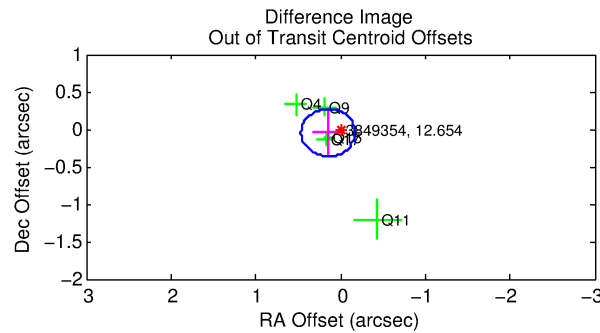
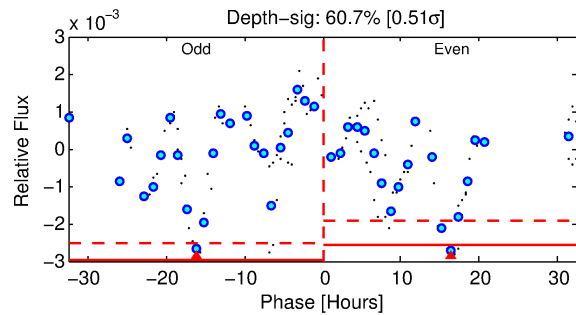
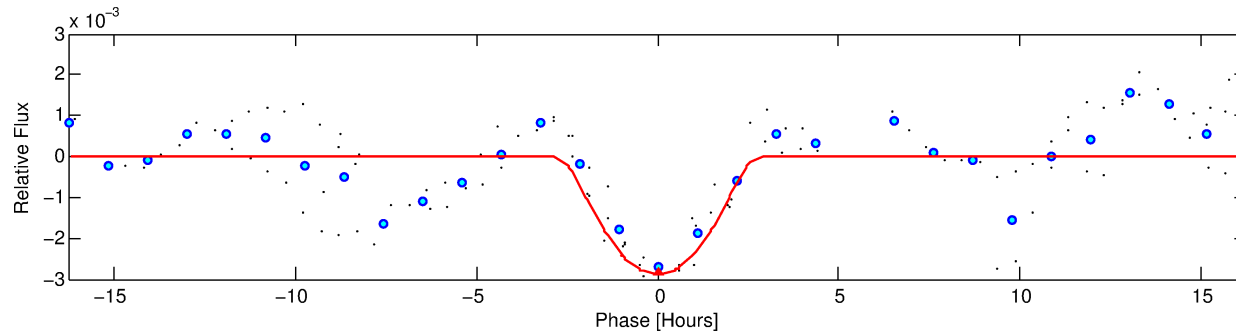
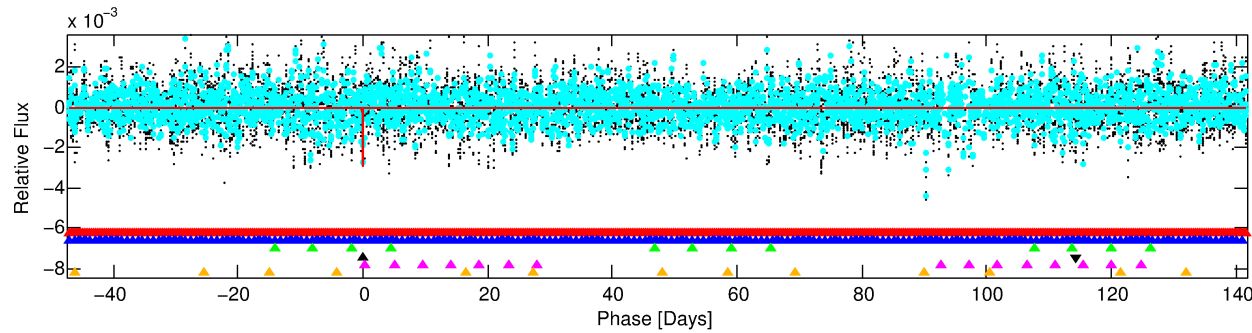
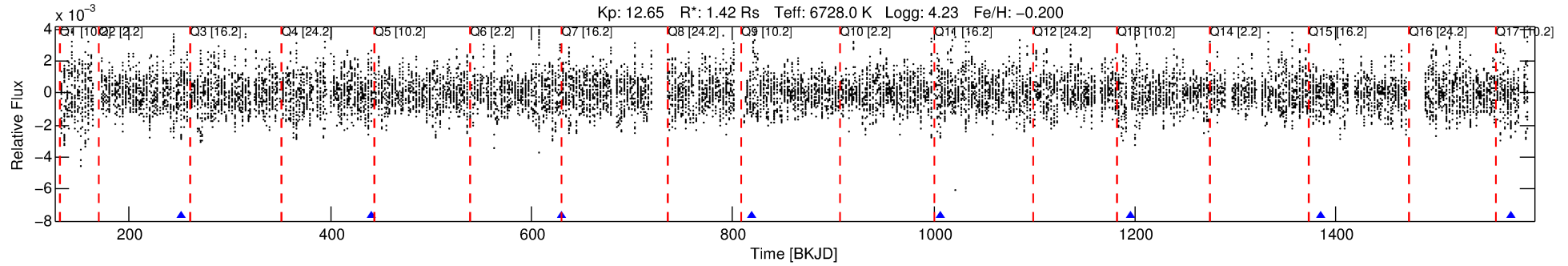
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003849354-04

No Significant Match Found

DV One-Page Summary

KIC: 3849354 Candidate: 4 of 6 Period: 189.052 d



DV Fit Results:

Period = 189.05152 [0.00171] d
Epoch = 251.1697 [0.0066] BKJD
Rp/R* = 0.0649 [0.0266]
a/R* = 124.92 [26.67]
b = 0.96 [0.06]
Seff = 7.62 [2.88]
Teq = 424 [40] K
Rp = 10.05 [5.18] Re
a = 0.6959 [0.1760] AU
Ag = 3664.29 [3354.49] [1.09 σ]
Teffp = 5097 [1089] K [4.29 σ]

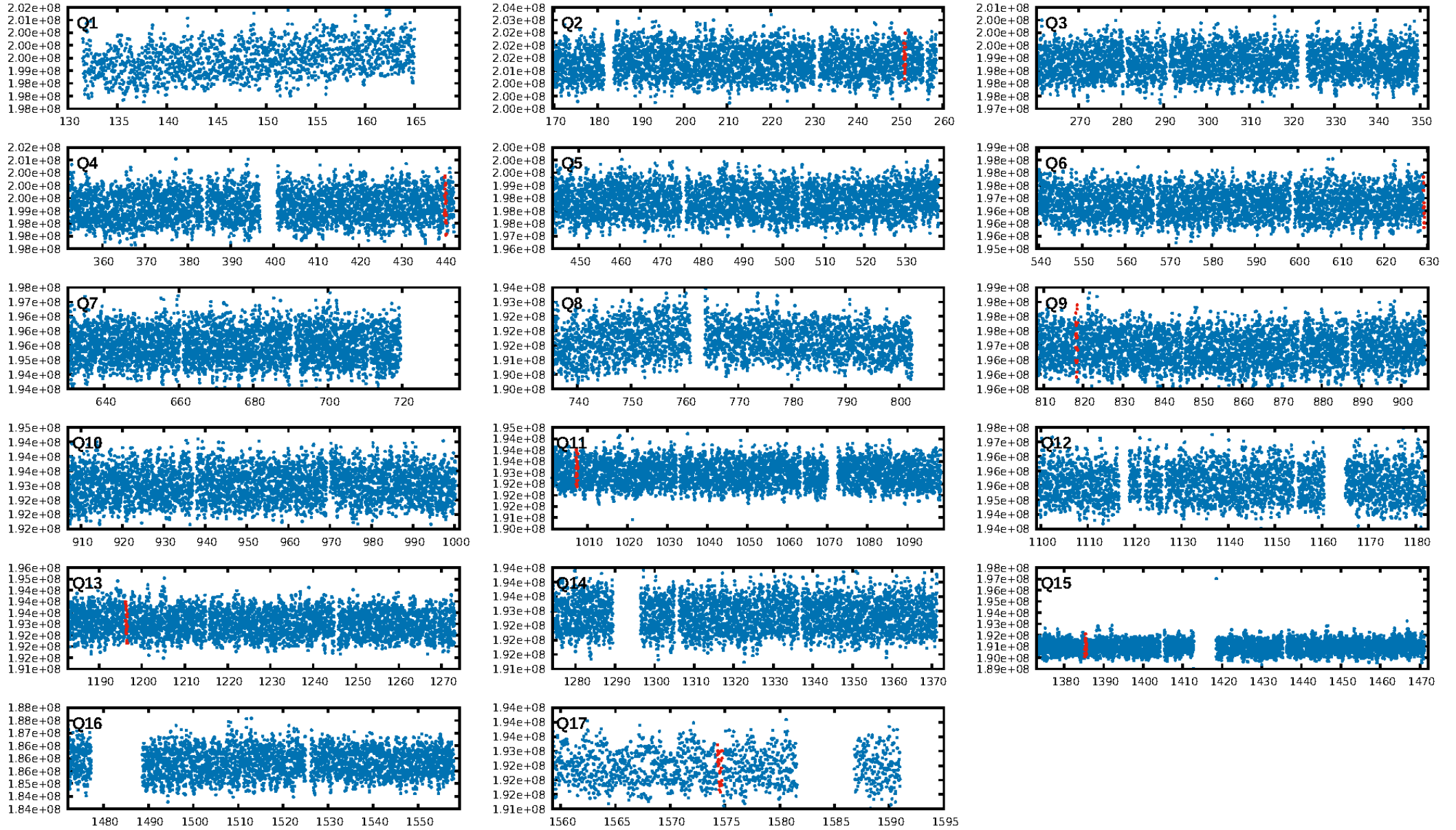
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [86.16 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 33.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.5016
Centroid-sig: 16.9%
Centroid-so: 0.094 arcsec [0.98 σ]
OotOffset-rm: 0.155 arcsec [1.47 σ]
KicOffset-rm: 0.270 arcsec [1.10 σ]
OotOffset-st: 0/2/1/2 [5]
KicOffset-st: 0/2/1/2 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.00 [0/7]

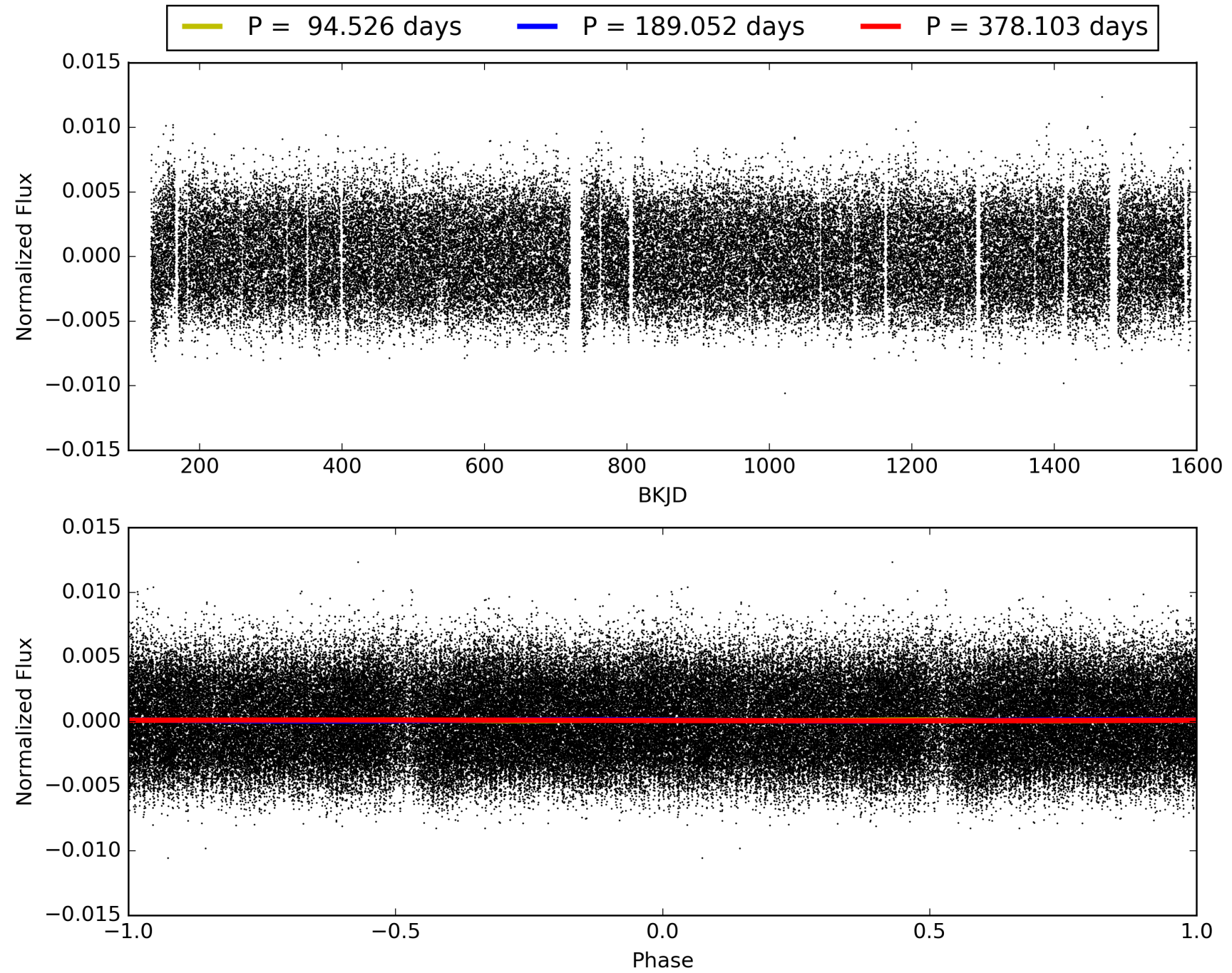
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:50:23 Z

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

TCE 003849354-04, PDC Light Curves

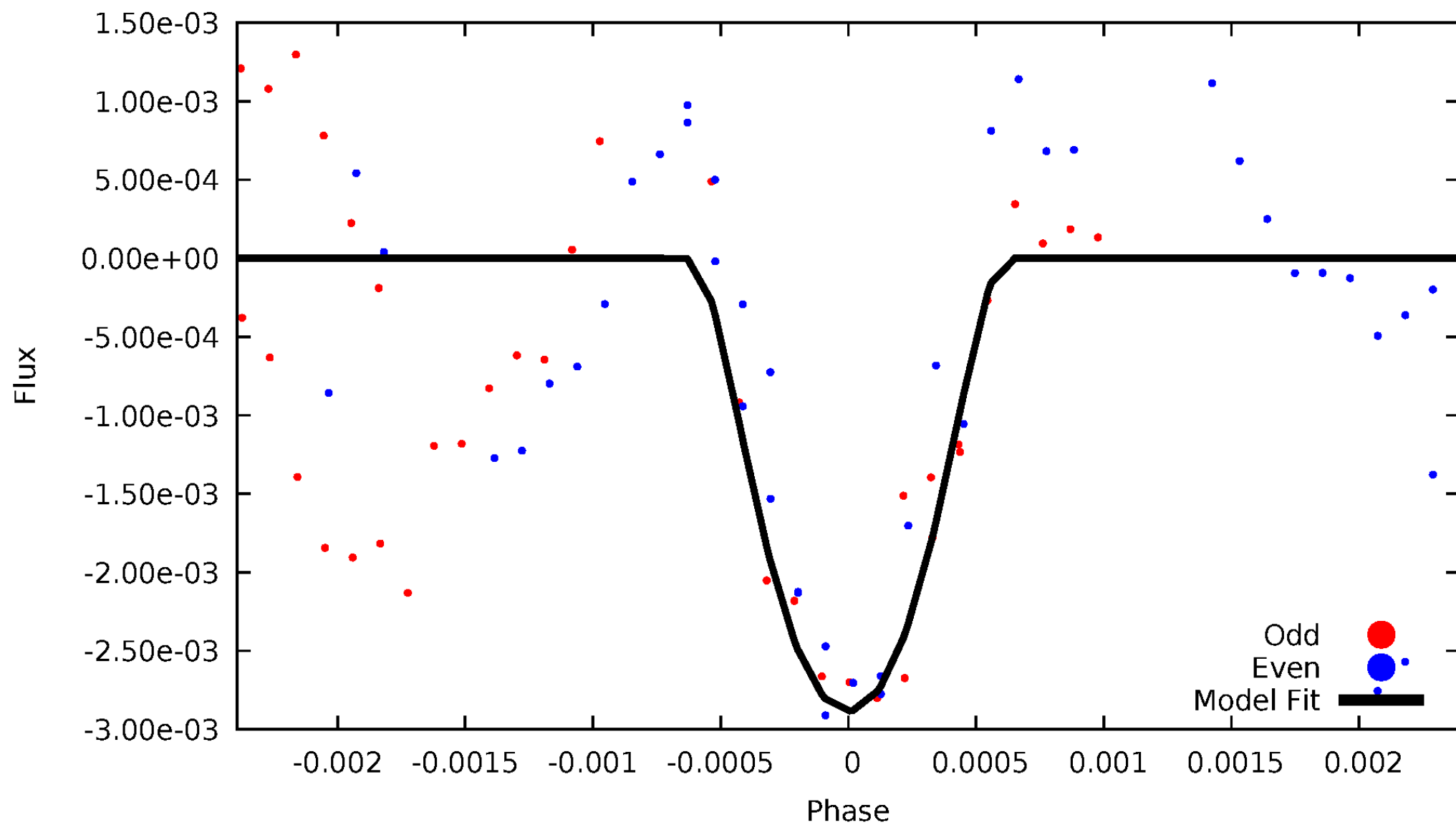


TCE 003849354-04



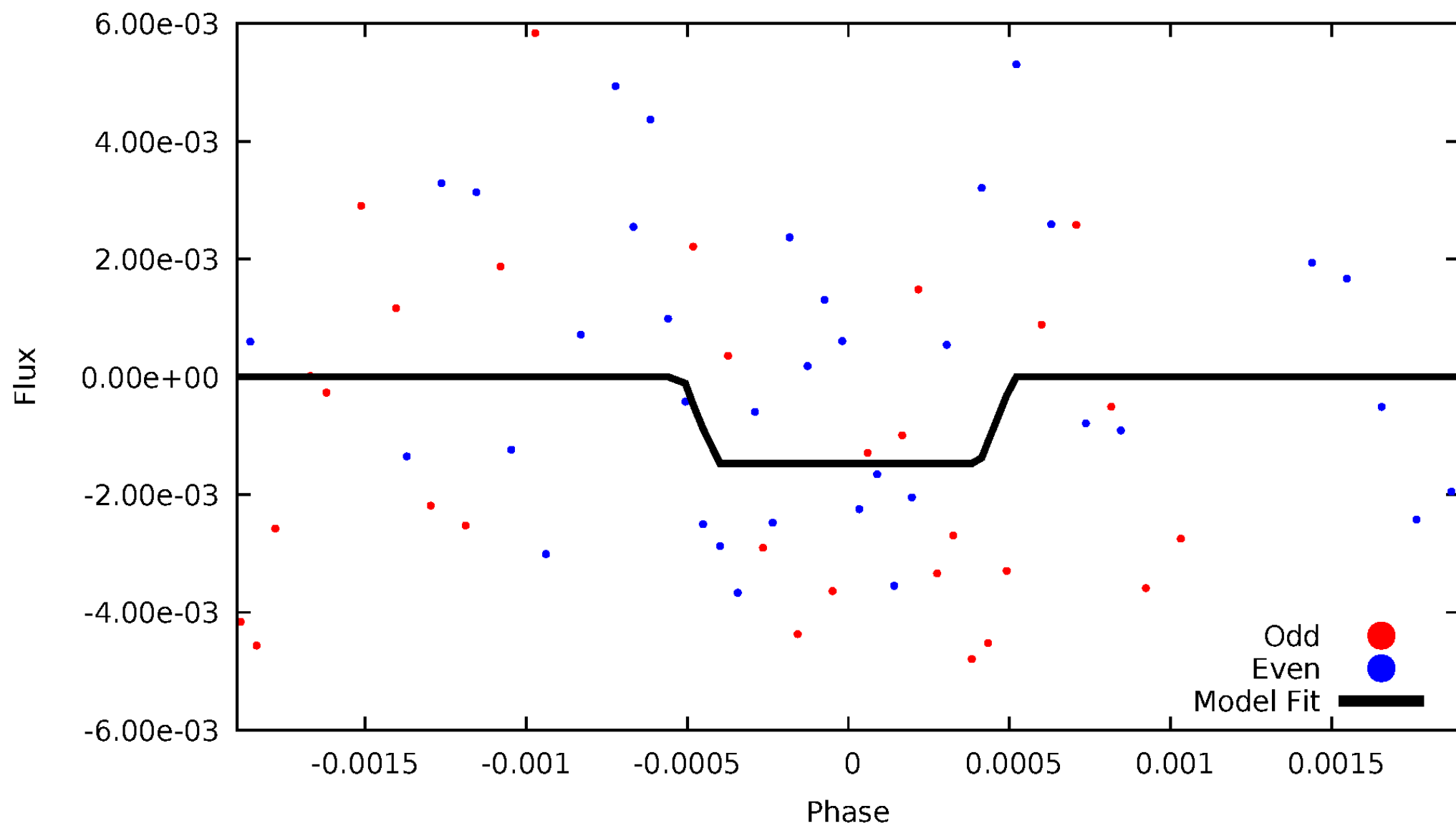
DV Odd/Even

TCE 003849354-04



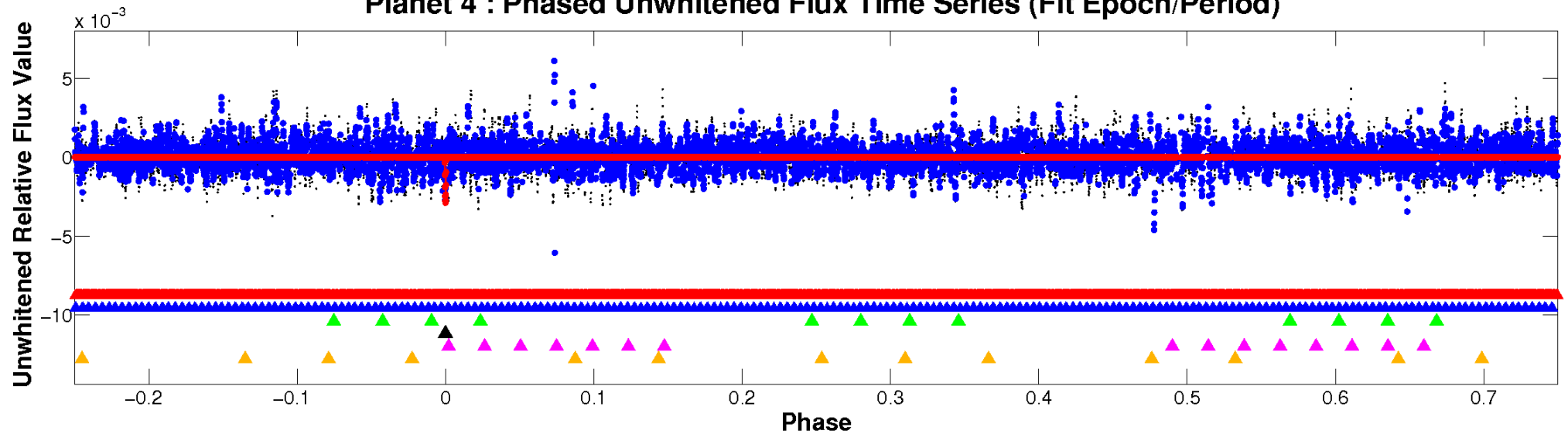
ALT Odd/Even

TCE 003849354-04

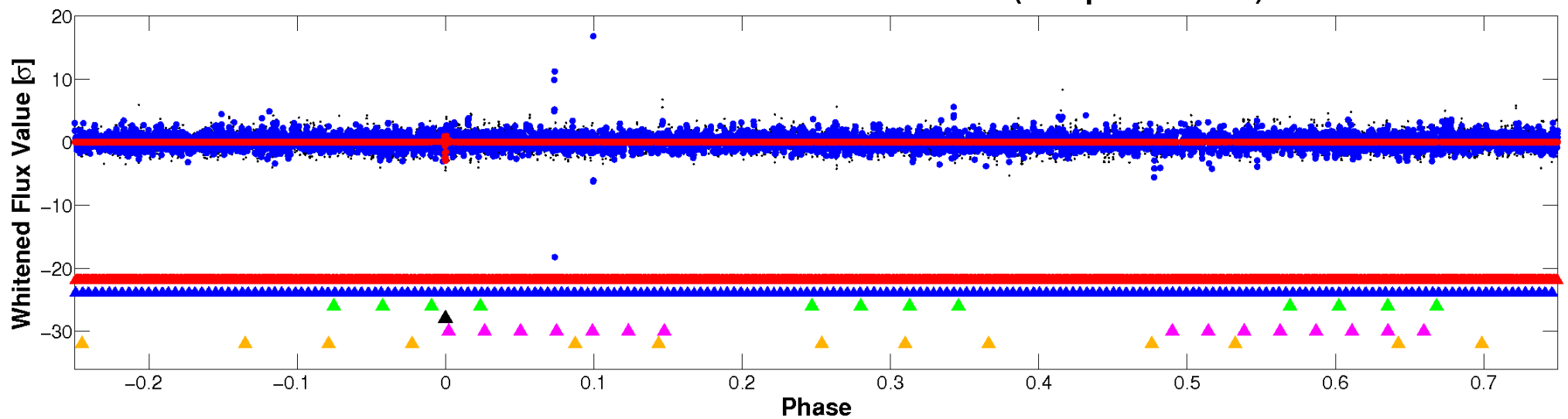


Non-Whitened Vs. Whitened Light Curve

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

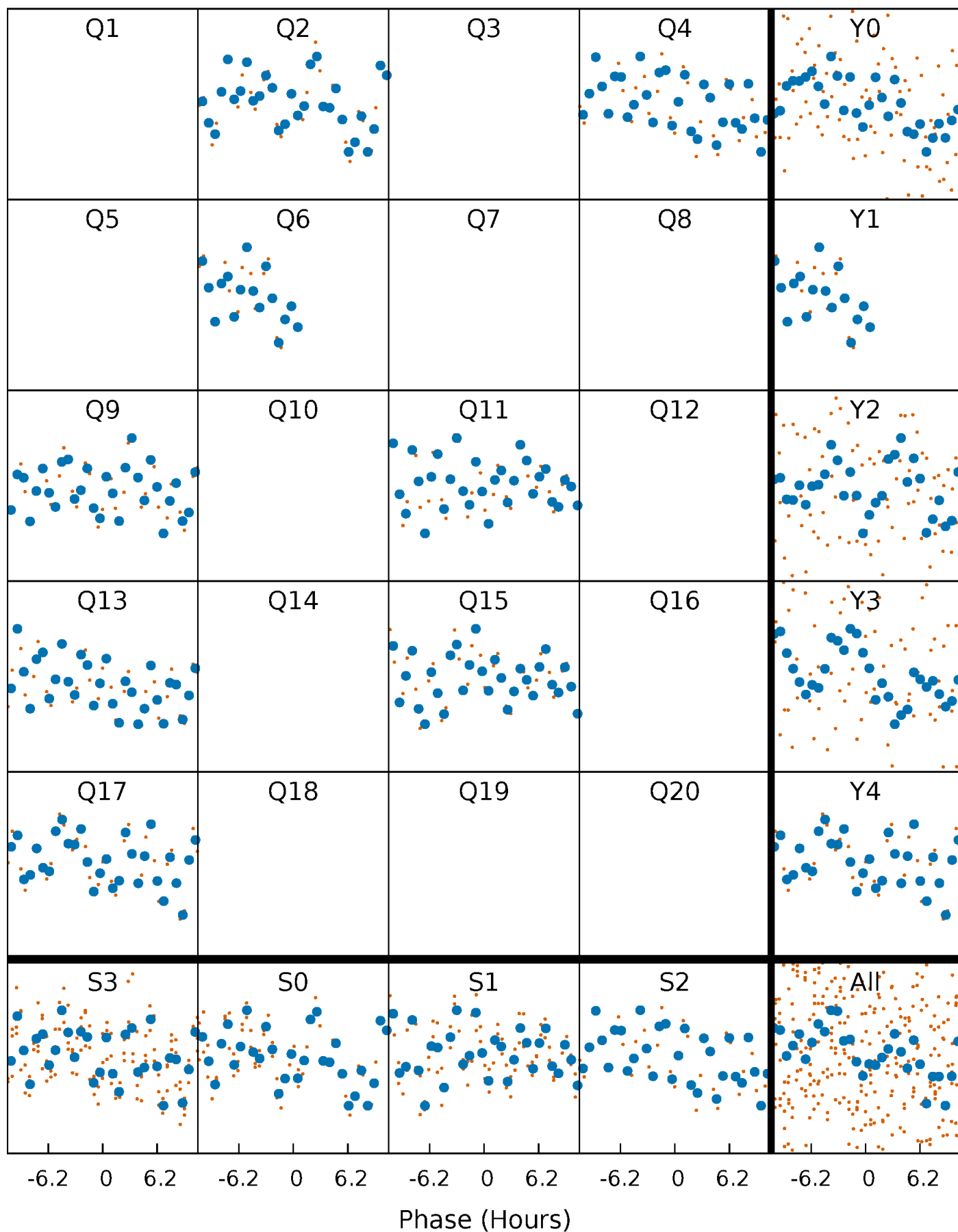


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



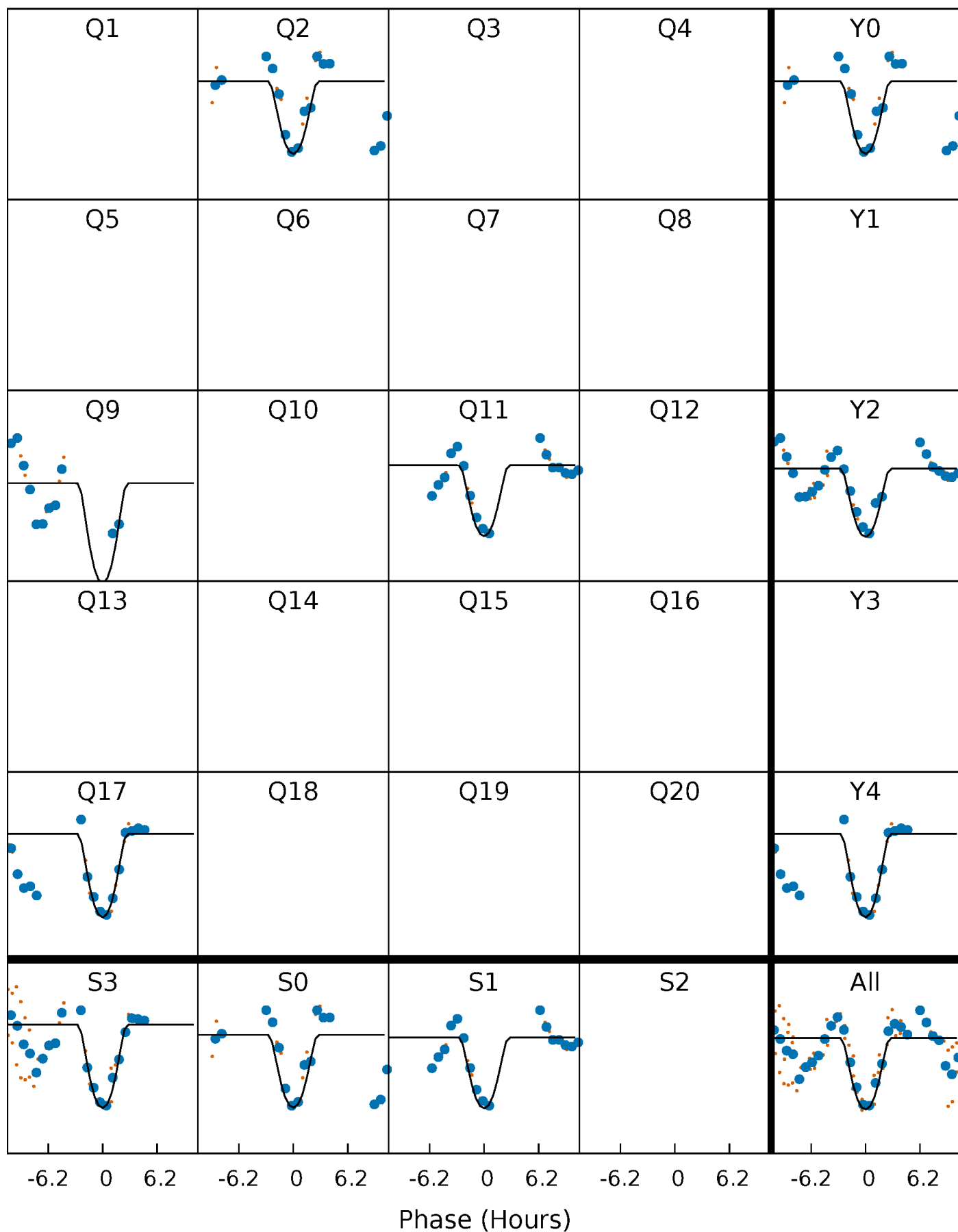
PDC Quarter-Phased Transit Curves

TCE 003849354-04 P=189.051520 Days $T_0=251.169702$ (BKJD)



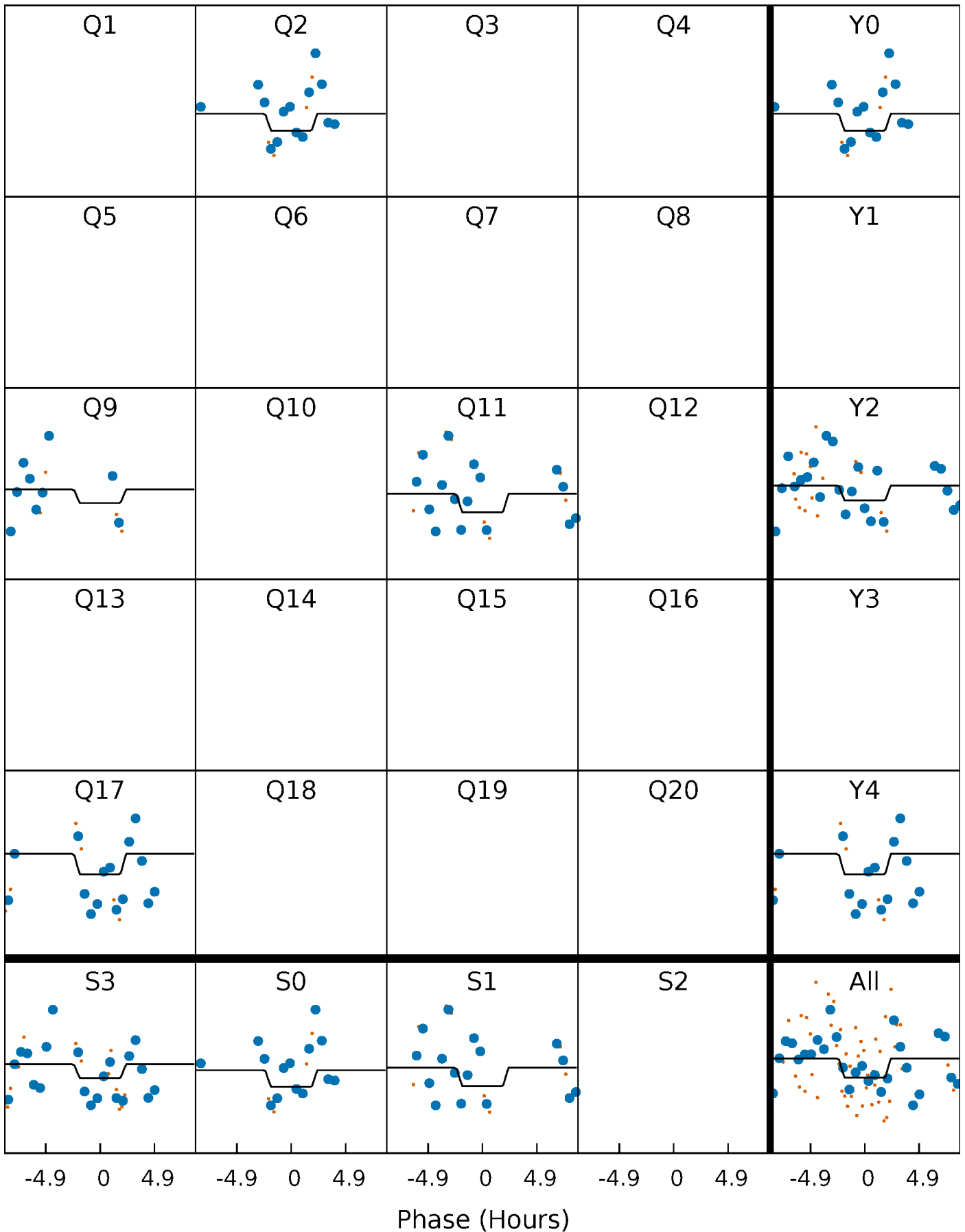
DV Quarter-Phased Transit Curves

TCE 003849354-04 P=189.051520 Days $T_0=251.169702$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

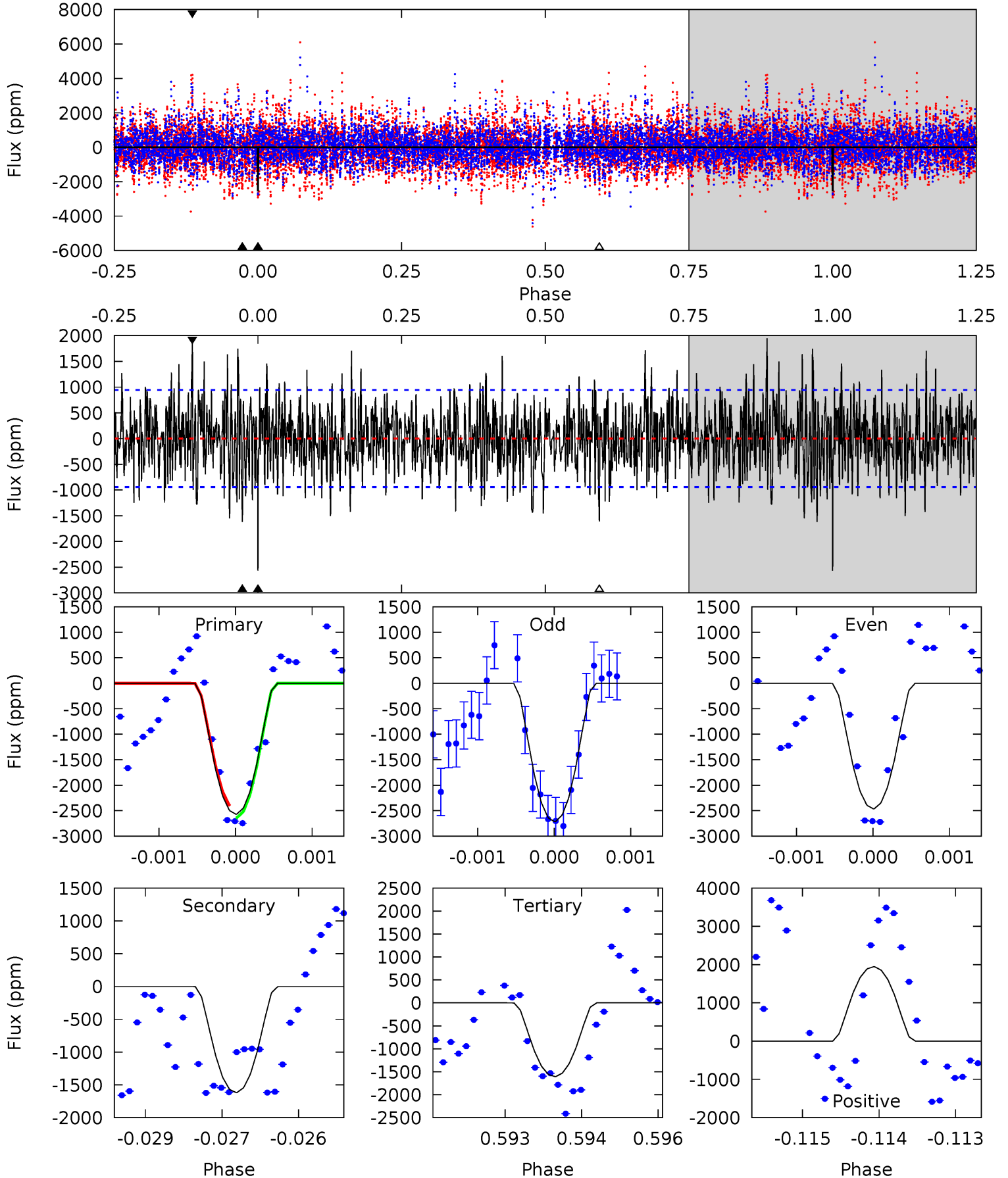
TCE 003849354-04 P=189.049038 Days $T_0=251.176784$ (BKJD)



DV Model-Shift Uniqueness Test

003849354-04, P = 189.051520 Days, E = 62.118182 Days

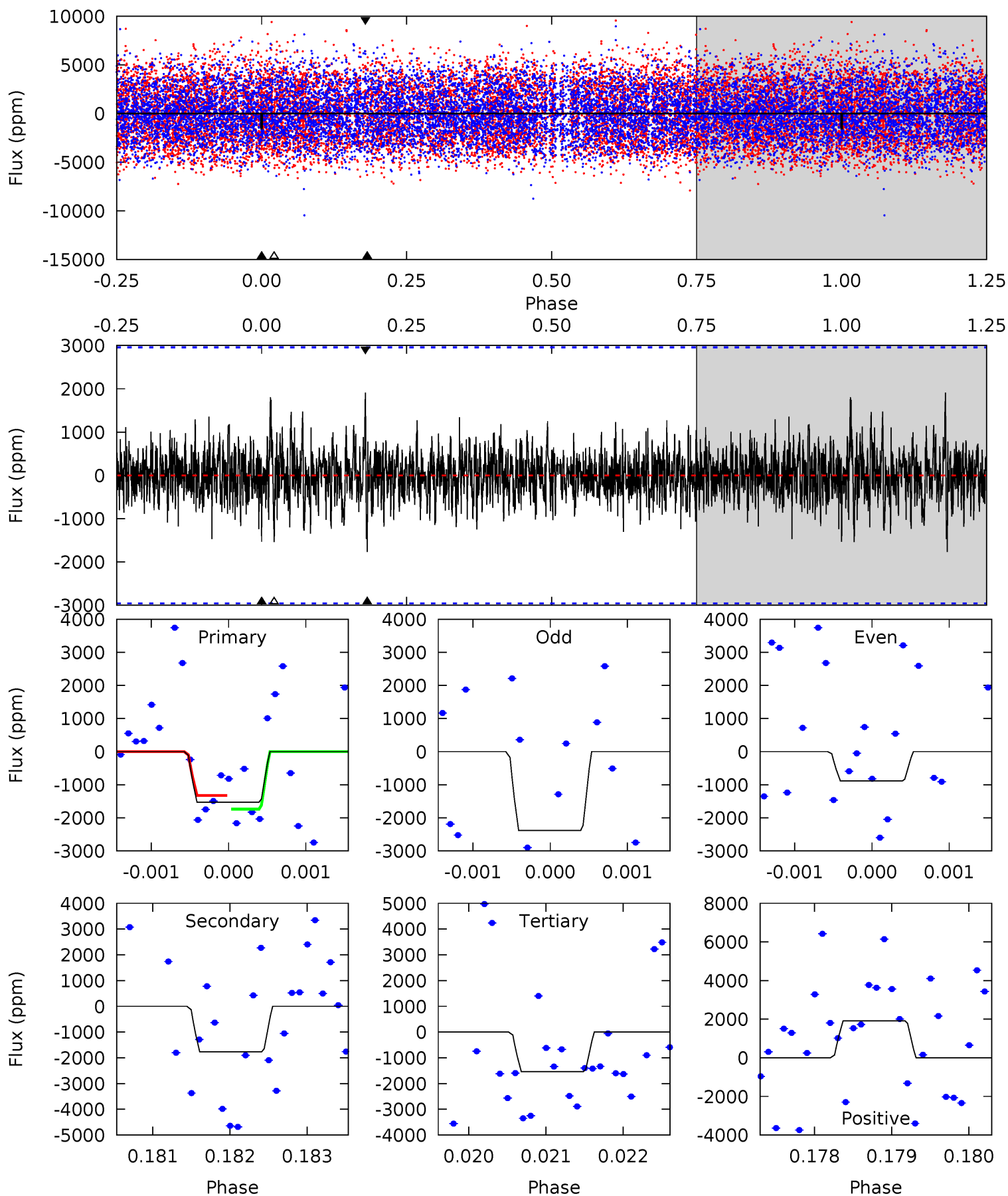
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	9.29	9.22	11.2	5.42	3.24	2.92	5.52	3.57	0.07	-1.88	0.72	1.00	0.43	0.68



Alt Model-Shift Uniqueness Test

003849354-04, P = 189.049038 Days, E = 62.127746 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.83	3.26	2.84	3.53	5.46	3.30	0.79	-0.02	-0.70	0.41	-0.27	1.37	1.13	0.52	0.38



Stellar Parameters For KIC 003849354

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6728^{+161}_{-221}	$4.234^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.300}$	$1.418^{+0.444}_{-0.273}$	$1.268^{+0.190}_{-0.190}$	$0.626^{+0.382}_{-0.322}$
	+2%/-3%	+3%/-4%	+125%/-150%	+31%/-19%	+15%/-15%	+61%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003849354-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1618 ± 174	$10.33^{+4.58}_{-4.46}$	595^{+45}_{-36}	5338^{+1540}_{-769}	3967^{+7474}_{-1999}
Alt.	-1764 ± 542	$6.44^{+4.42}_{-3.55}$	596^{+44}_{-36}	6761^{+5561}_{-1503}	11028^{+50631}_{-7359}

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

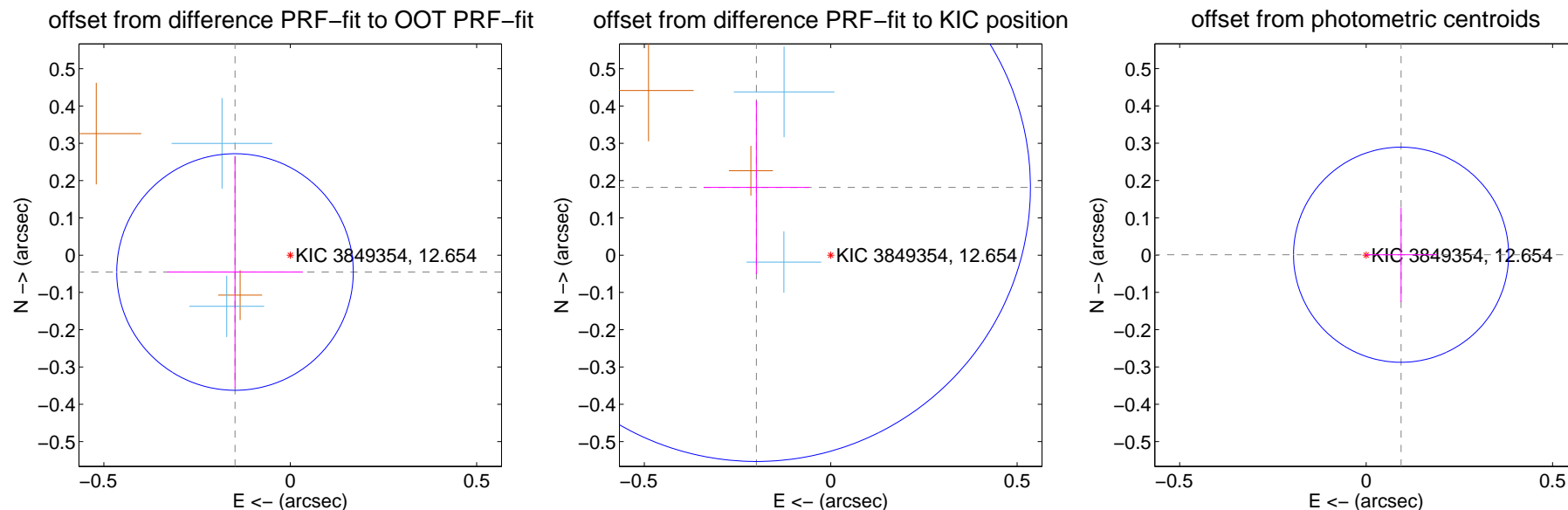
DV Centroid Data

Supplemental centroid analysis for 003849354-04. Kepler magnitude: 12.65. Transit SNR 11.73

There are 3 quarters with good PRF difference image offsets

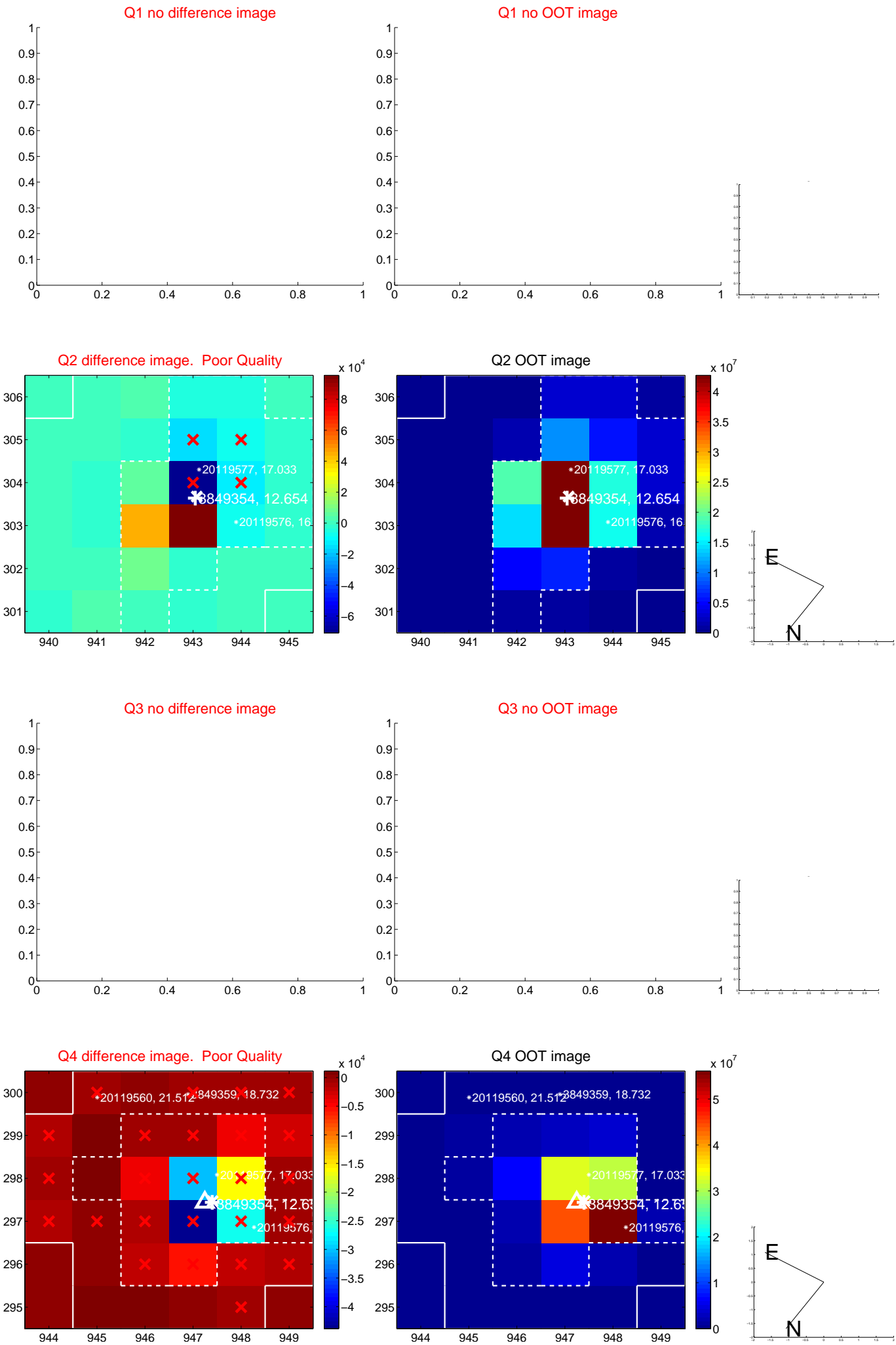
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.155 ± 0.106	1.47	0.148 ± 0.182	-0.045 ± 0.311
PRF-fit source offset from KIC position	0.270 ± 0.245	1.10	0.199 ± 0.142	0.182 ± 0.232
photometric centroid source offset	0.09 ± 0.10	0.98	-0.09 ± 0.10	0.00 ± 0.13



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

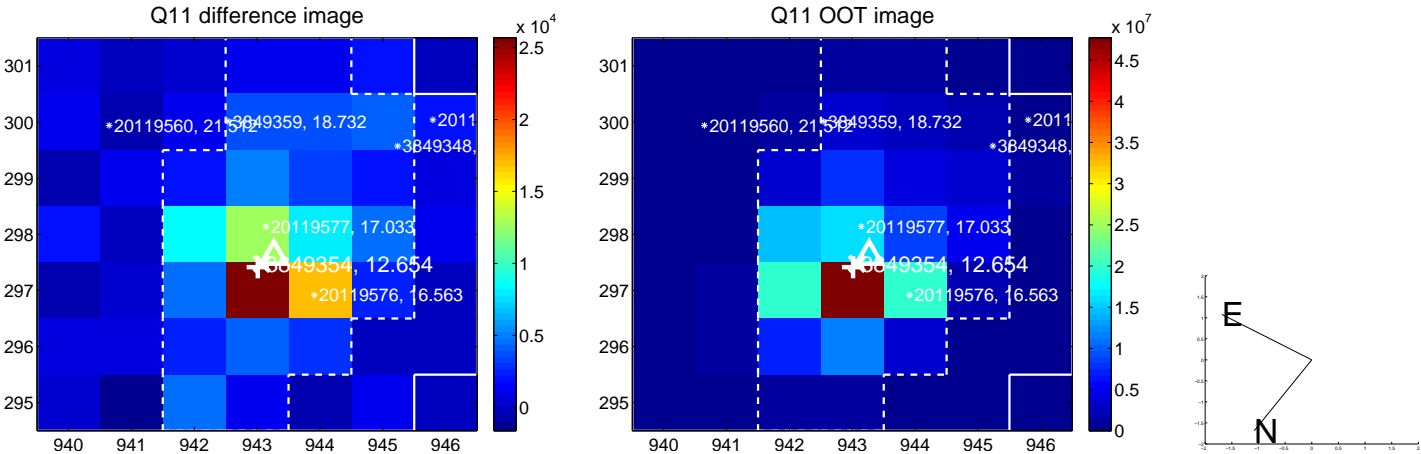
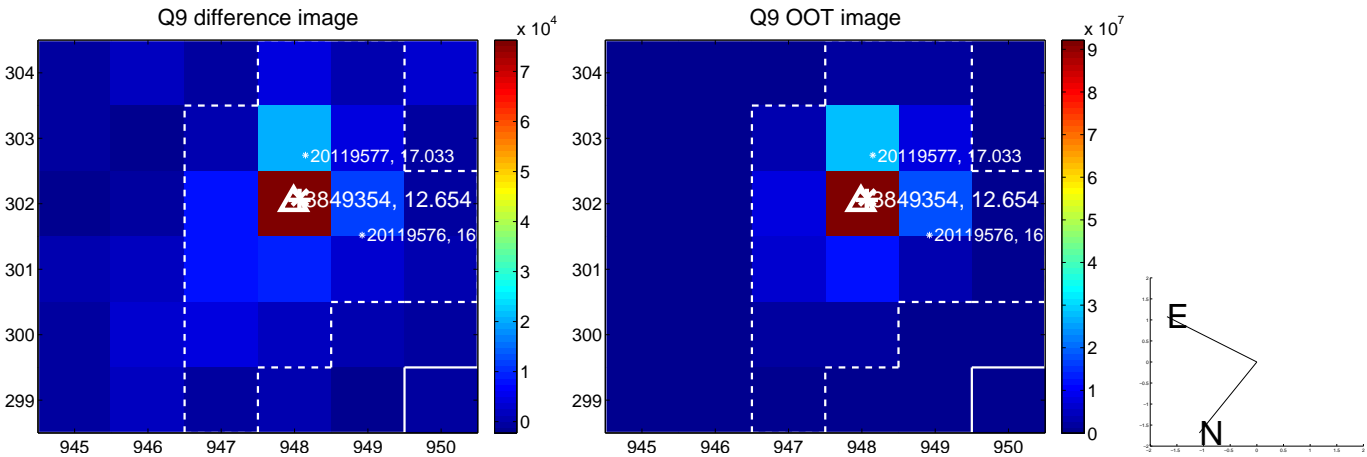
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



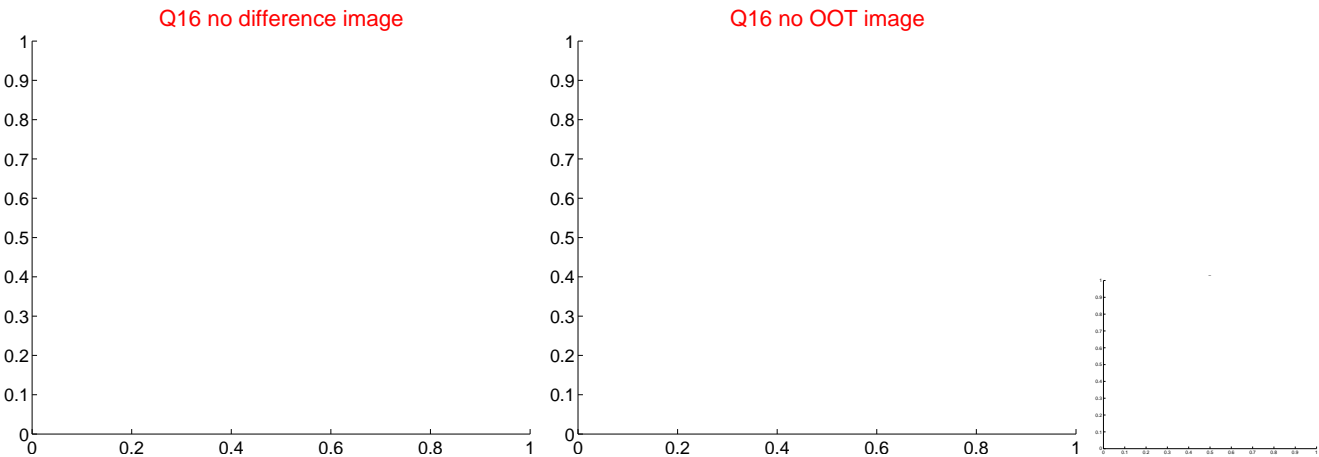
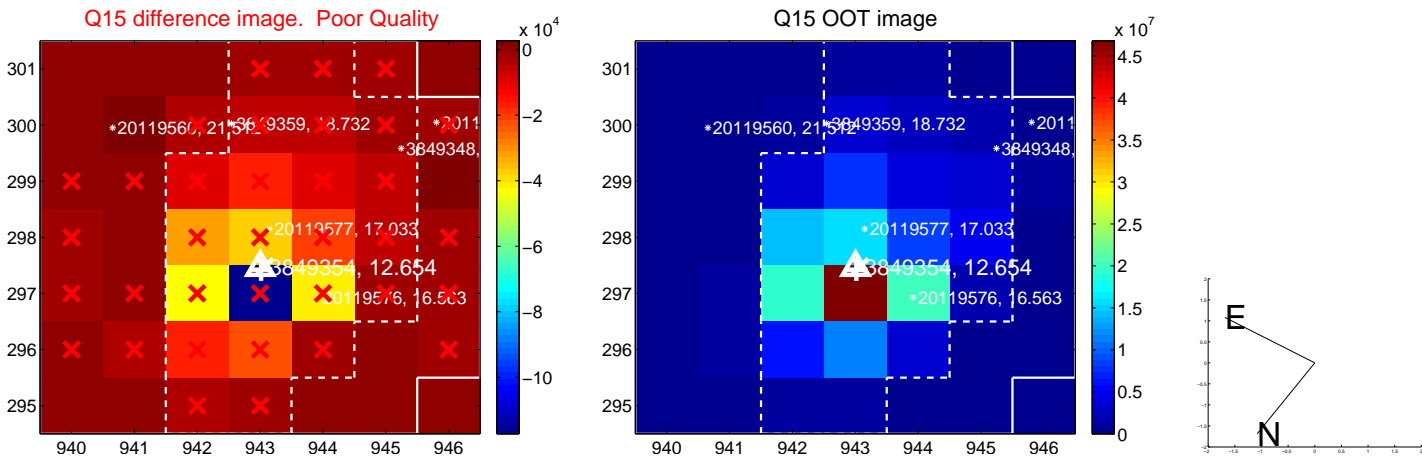
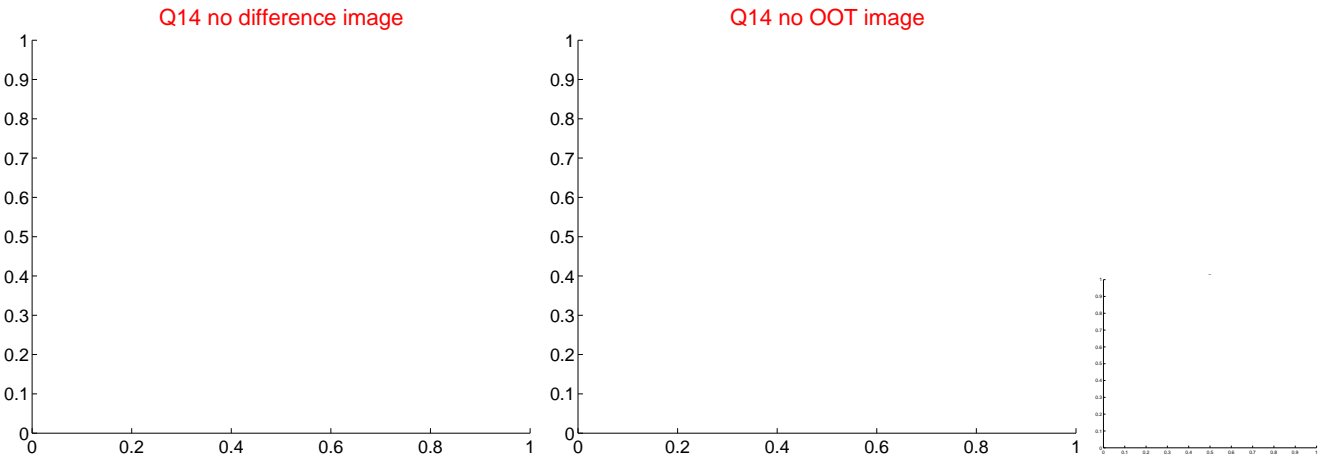
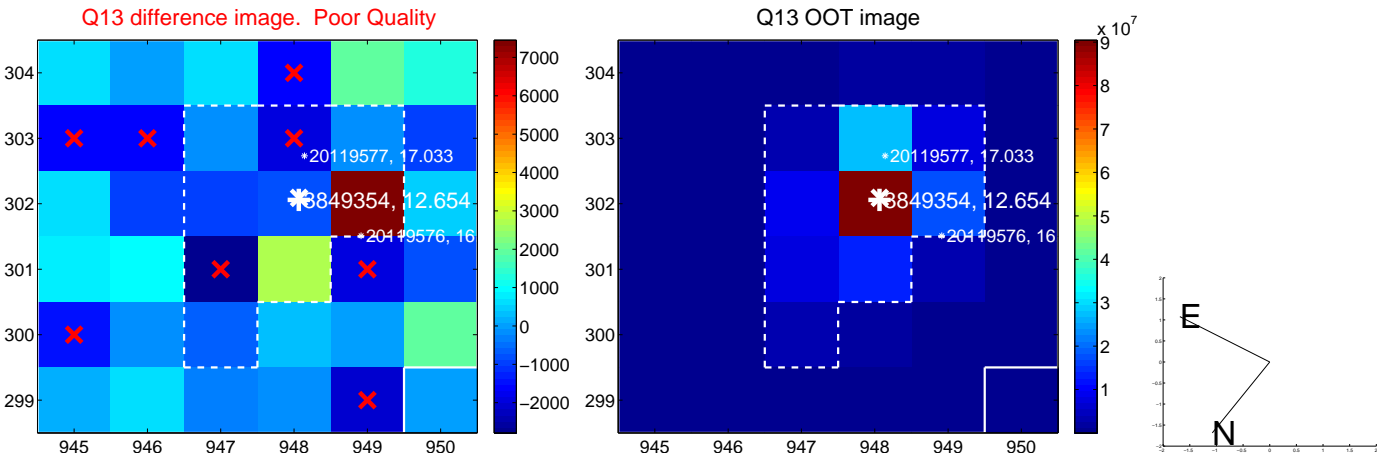
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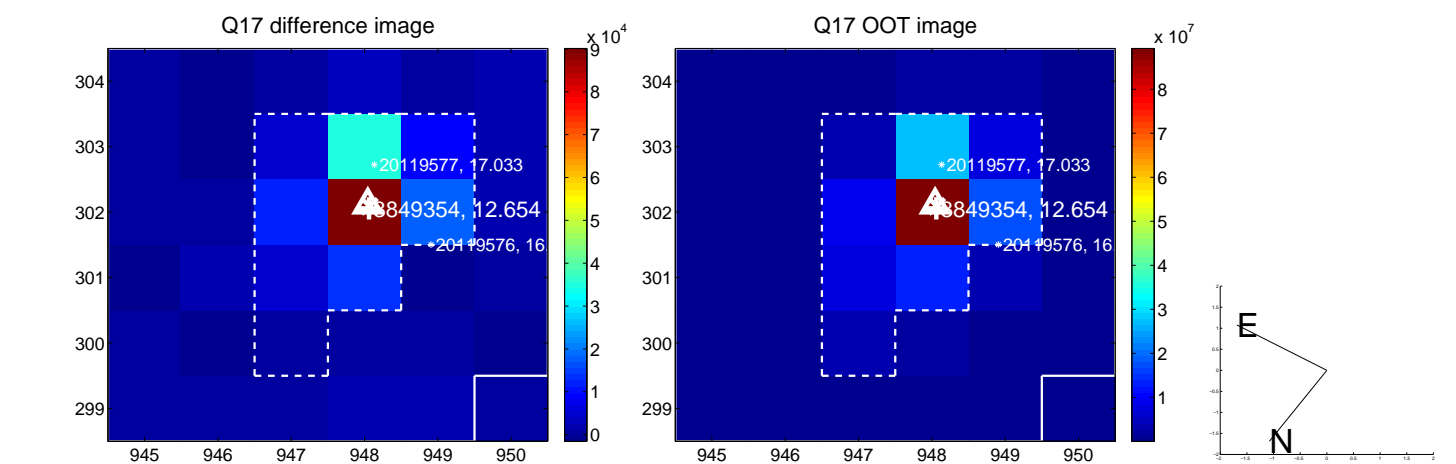
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



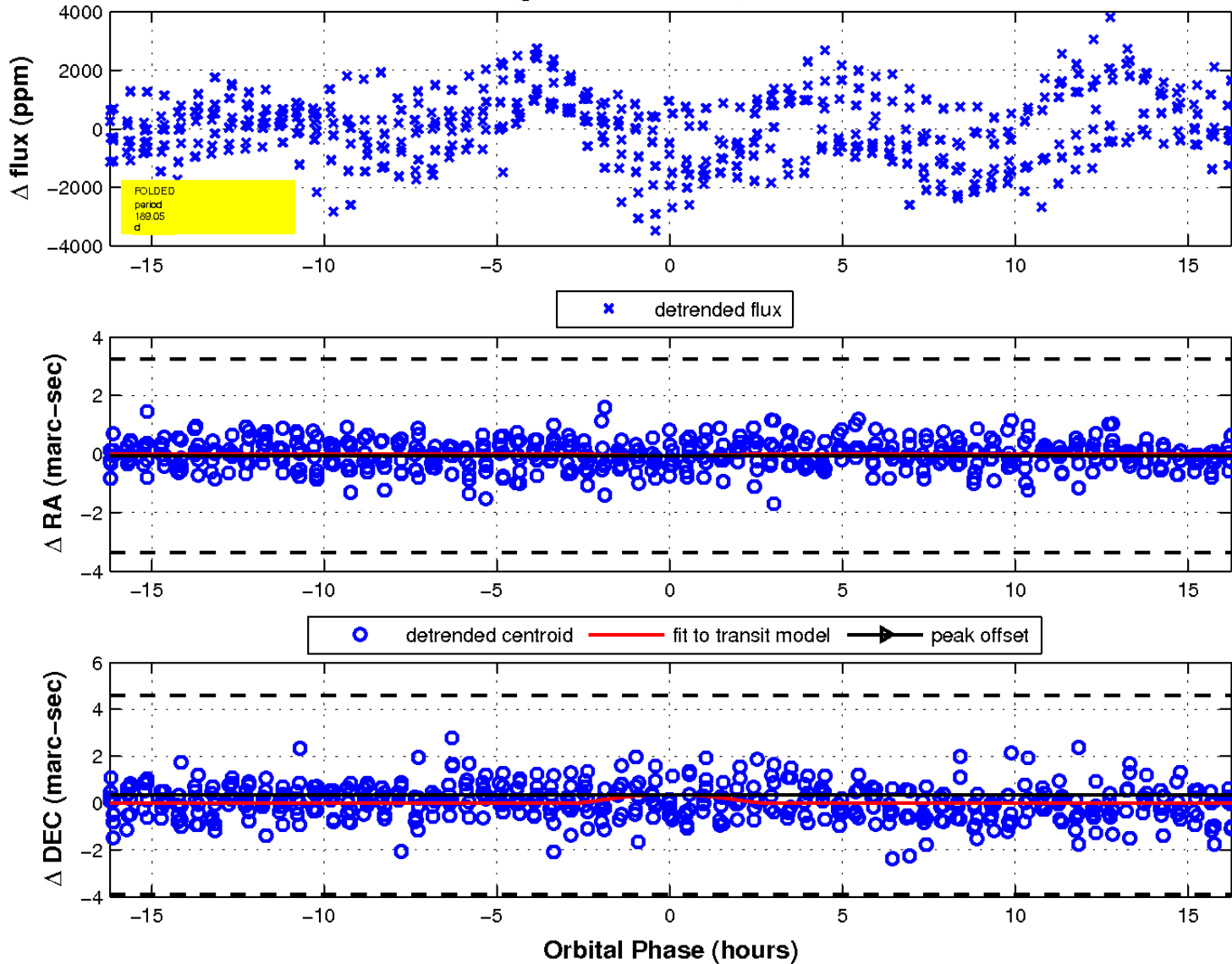
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



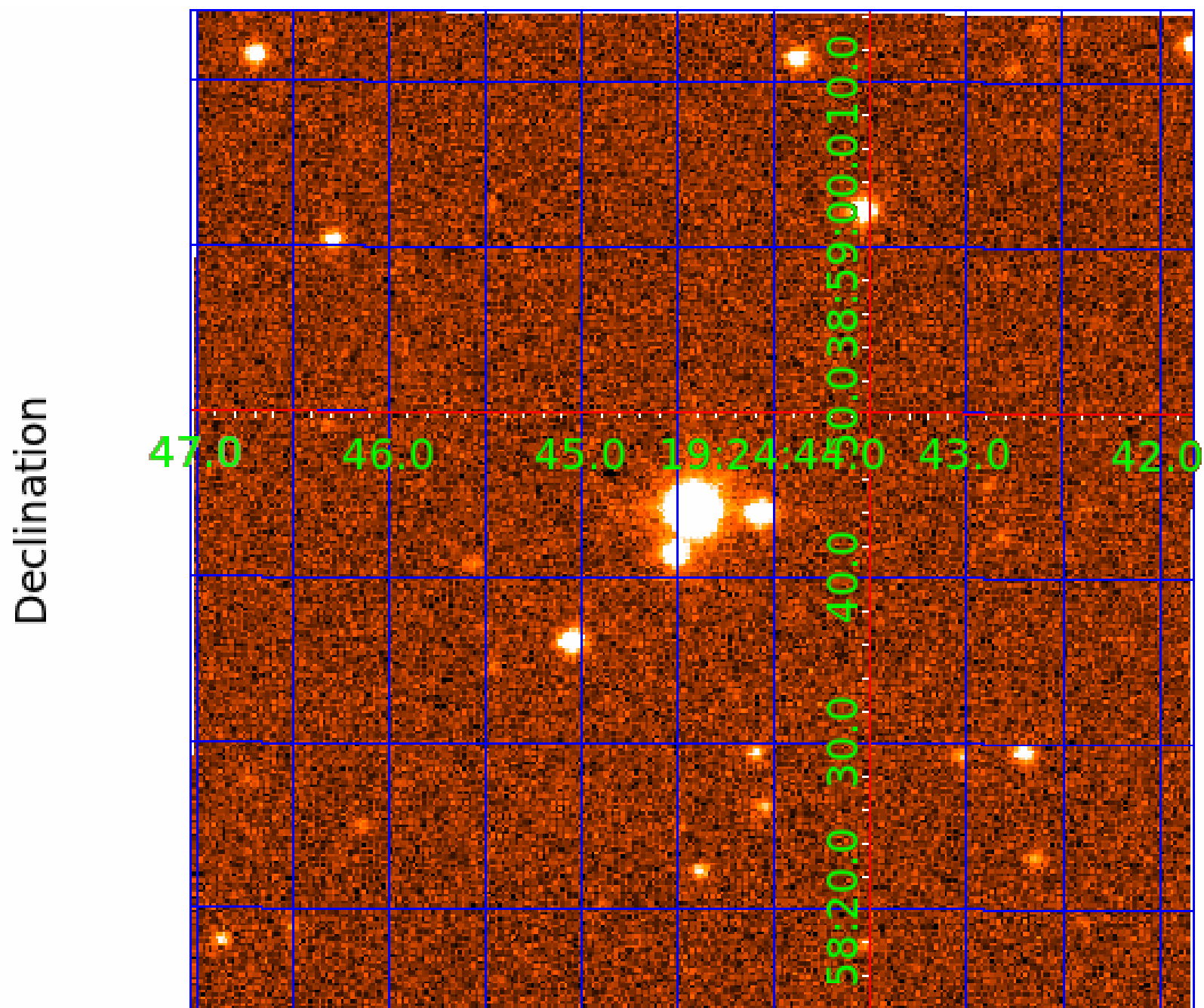
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 4 of 6



UKIRT Image



KIC 003849354

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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003849354-06	OBS	No	115.557551	183.576953	1721.7	17.158	8.1	9.4	1.42	6728	6.87	14.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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003849354-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV
003849354-03	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
003849354-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003849354-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003849354-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

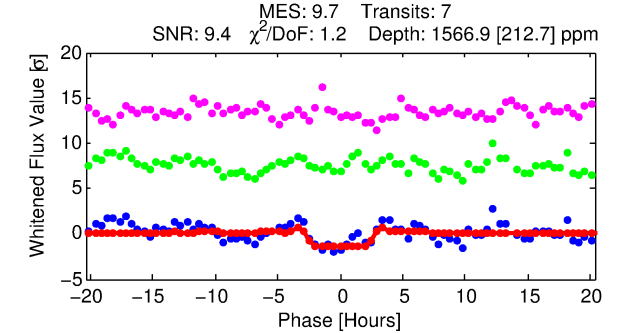
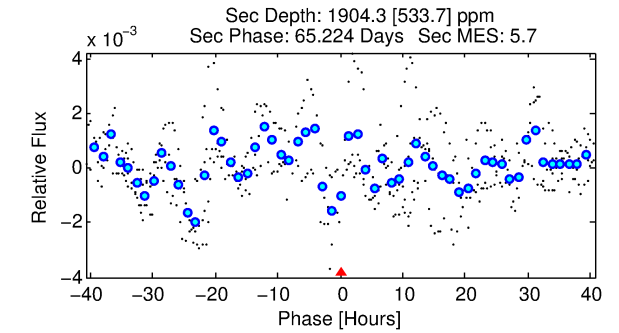
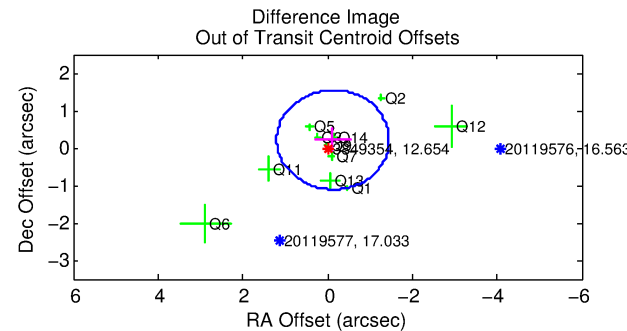
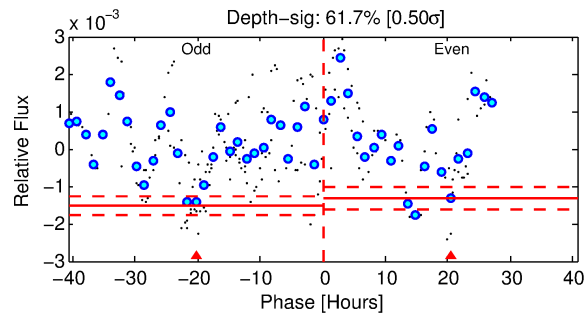
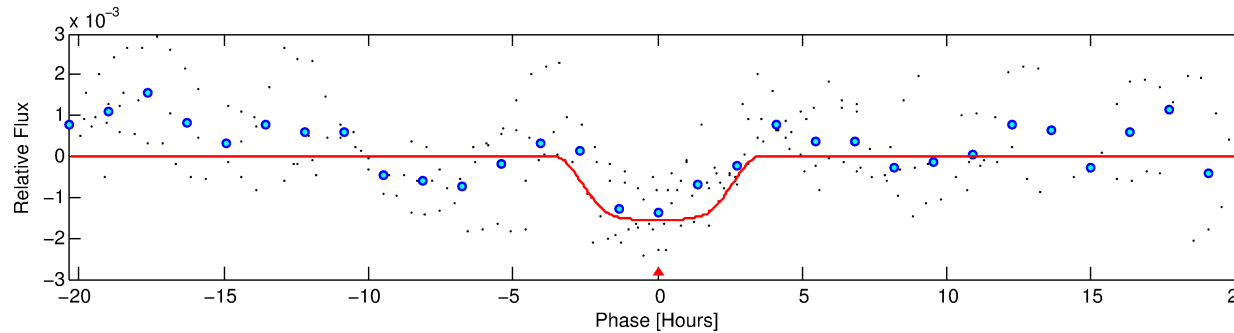
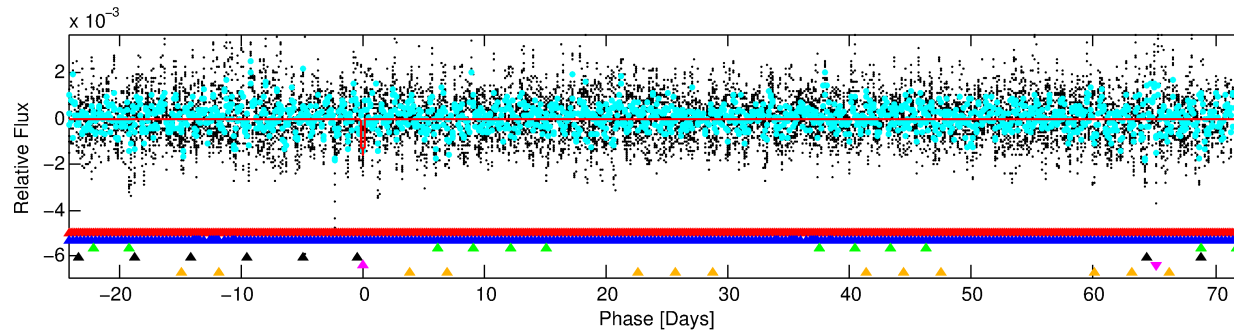
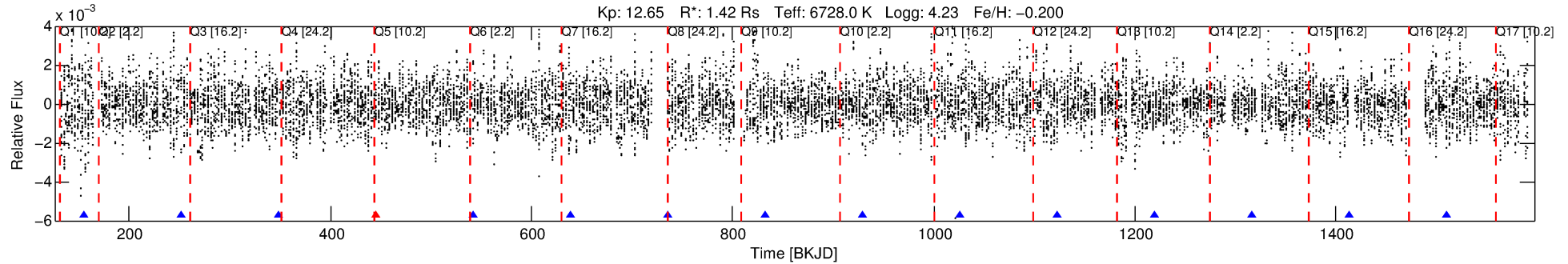
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003849354-05

No Significant Match Found

DV One-Page Summary

KIC: 3849354 Candidate: 5 of 6 Period: 96.816 d



DV Fit Results:

Period = 96.81622 [0.00163] d
Epoch = 154.7647 [0.0146] BKJD
Rp/R* = 0.0435 [0.0035]
a/R* = 51.73 [8.63]
b = 0.93 [0.03]
Seff = 18.60 [7.02]
Teq = 530 [50] K
Rp = 6.74 [2.18] Re
a = 0.4454 [0.1126] AU
Ag = 4579.94 [2196.45] [2.08 σ]
Teffp = 6736 [589] K [10.51 σ]

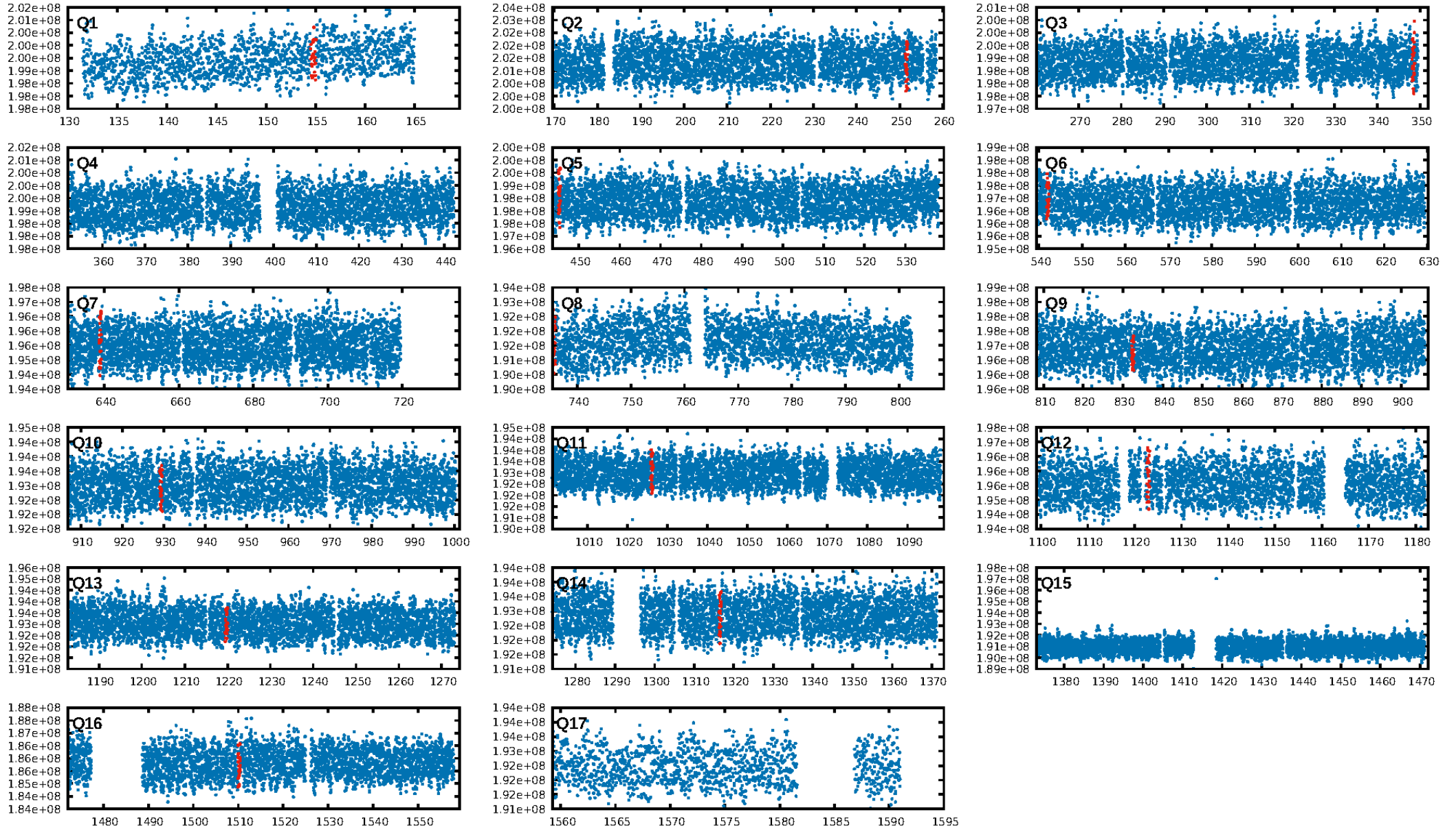
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [122.33 σ]
LongPeriod-sig: 100.0% [24.37 σ]
ModelChiSquare2-sig: 51.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.86 [6/7]
GhostDiagnostic-chr: 0.7266
Centroid-sig: 31.5%
Centroid-so: 0.266 arcsec [2.26 σ]
OotOffset-rm: 0.251 arcsec [0.57 σ]
KicOffset-rm: 0.339 arcsec [0.80 σ]
OotOffset-st: 3/3/1/4 [11]
KicOffset-st: 3/3/1/4 [11]
DiffImageQuality-fgm: 0.82 [9/11]
DiffImageOverlap-fno: 0.00 [0/11]

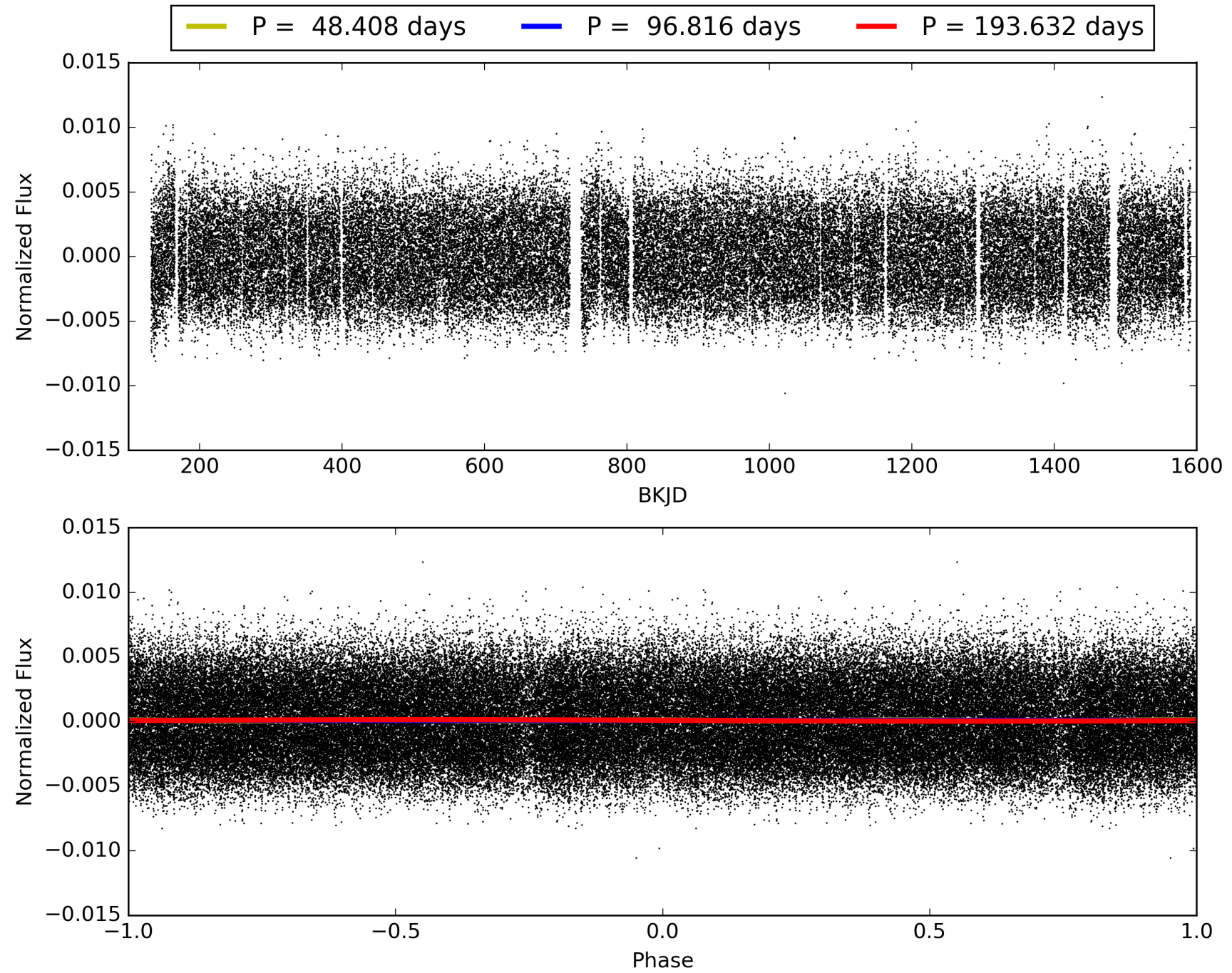
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:50:26 Z

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

TCE 003849354-05, PDC Light Curves

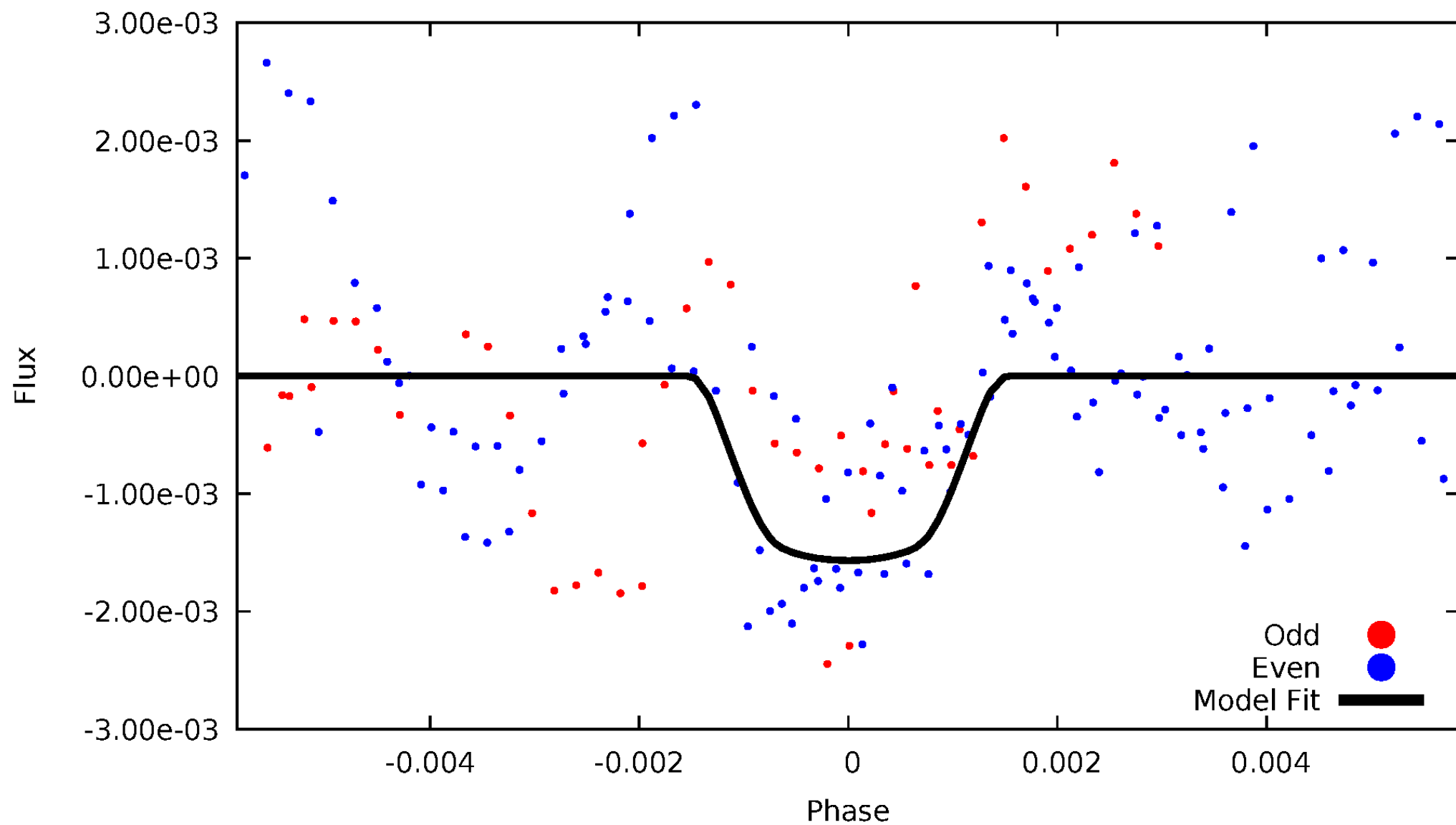


TCE 003849354-05



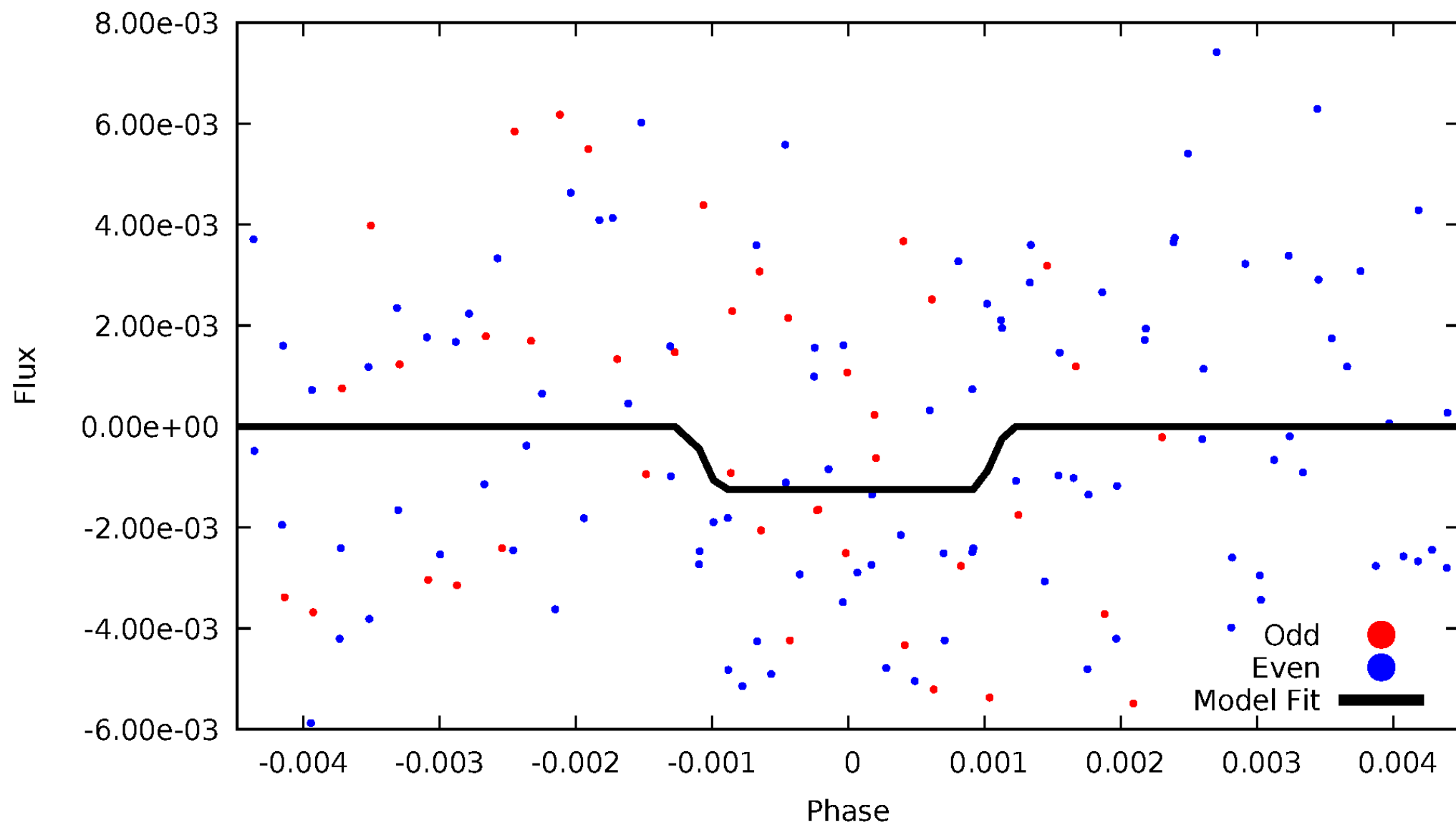
DV Odd/Even

TCE 003849354-05



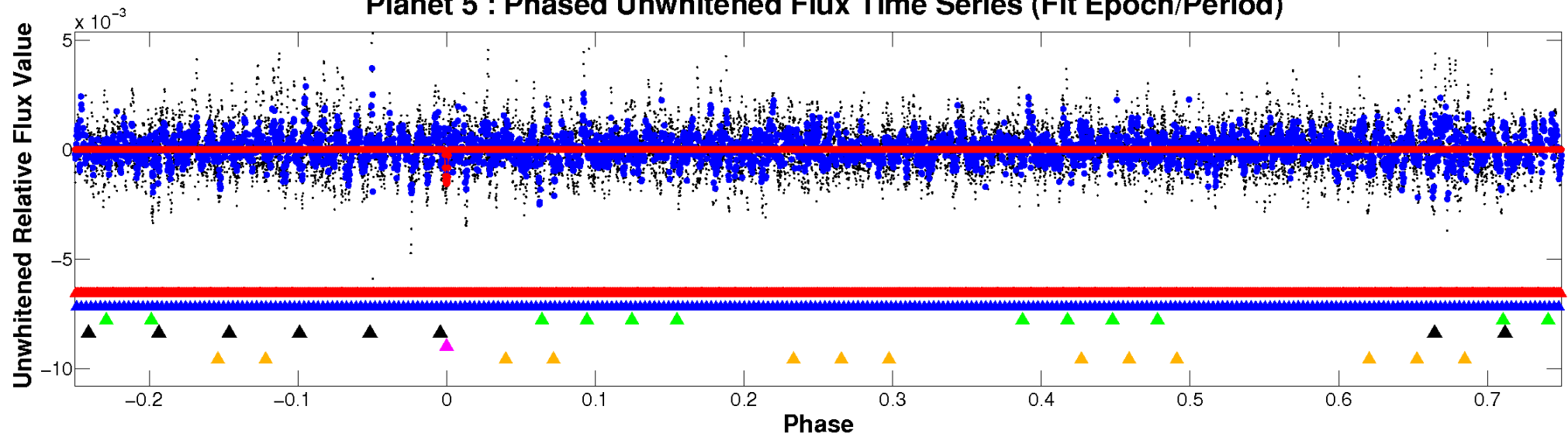
ALT Odd/Even

TCE 003849354-05

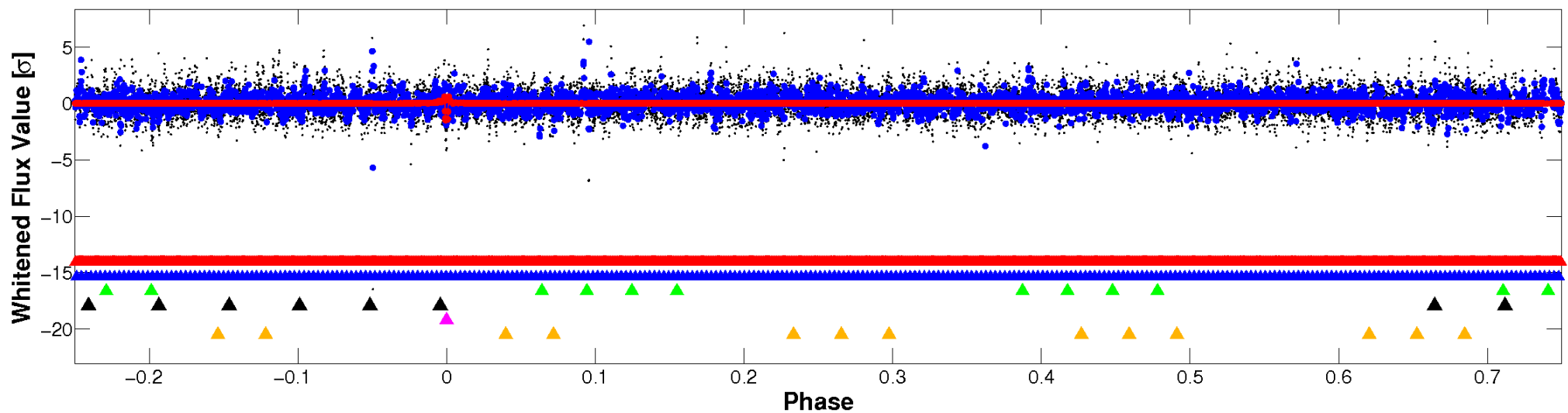


Non-Whitened Vs. Whitened Light Curve

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

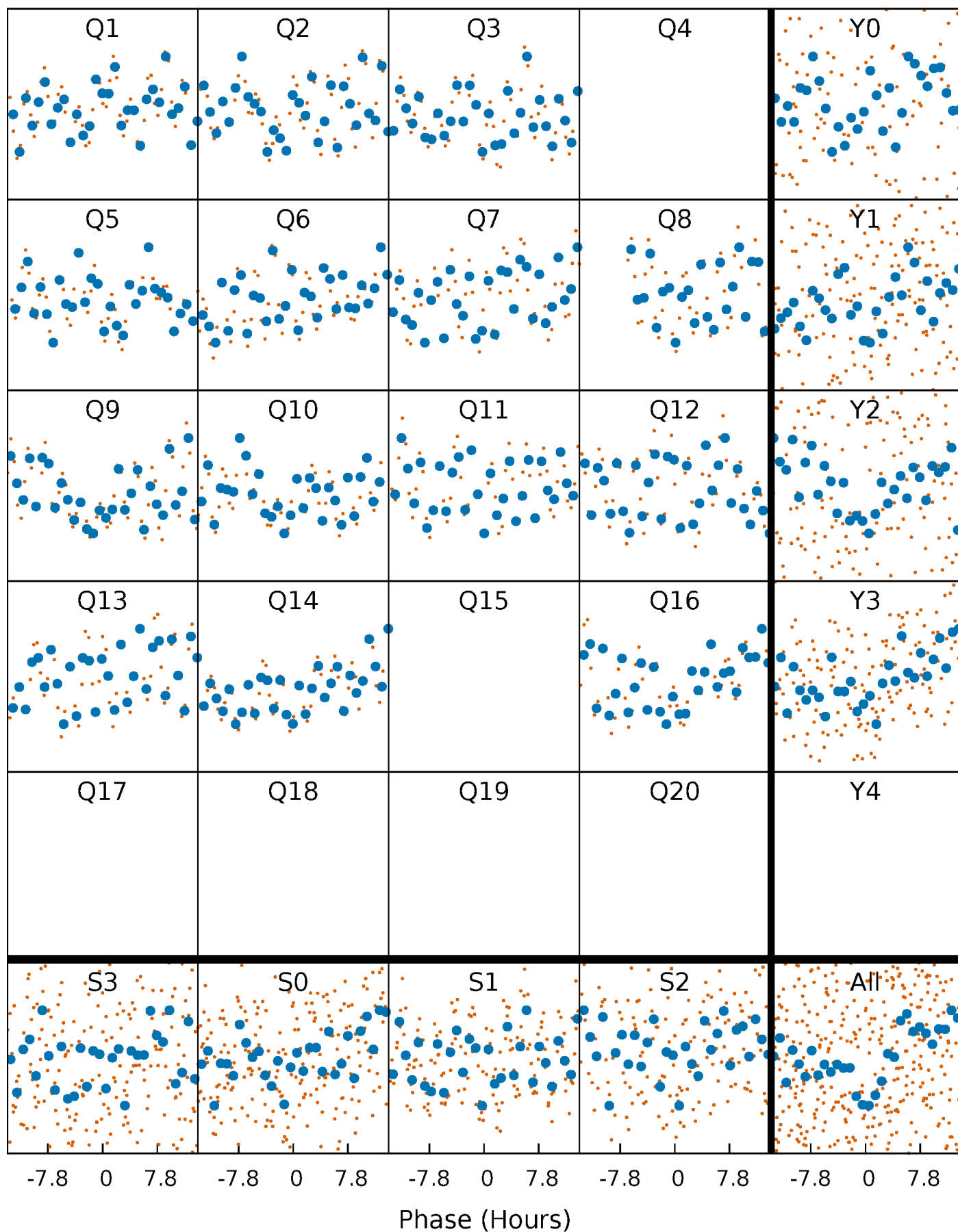


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



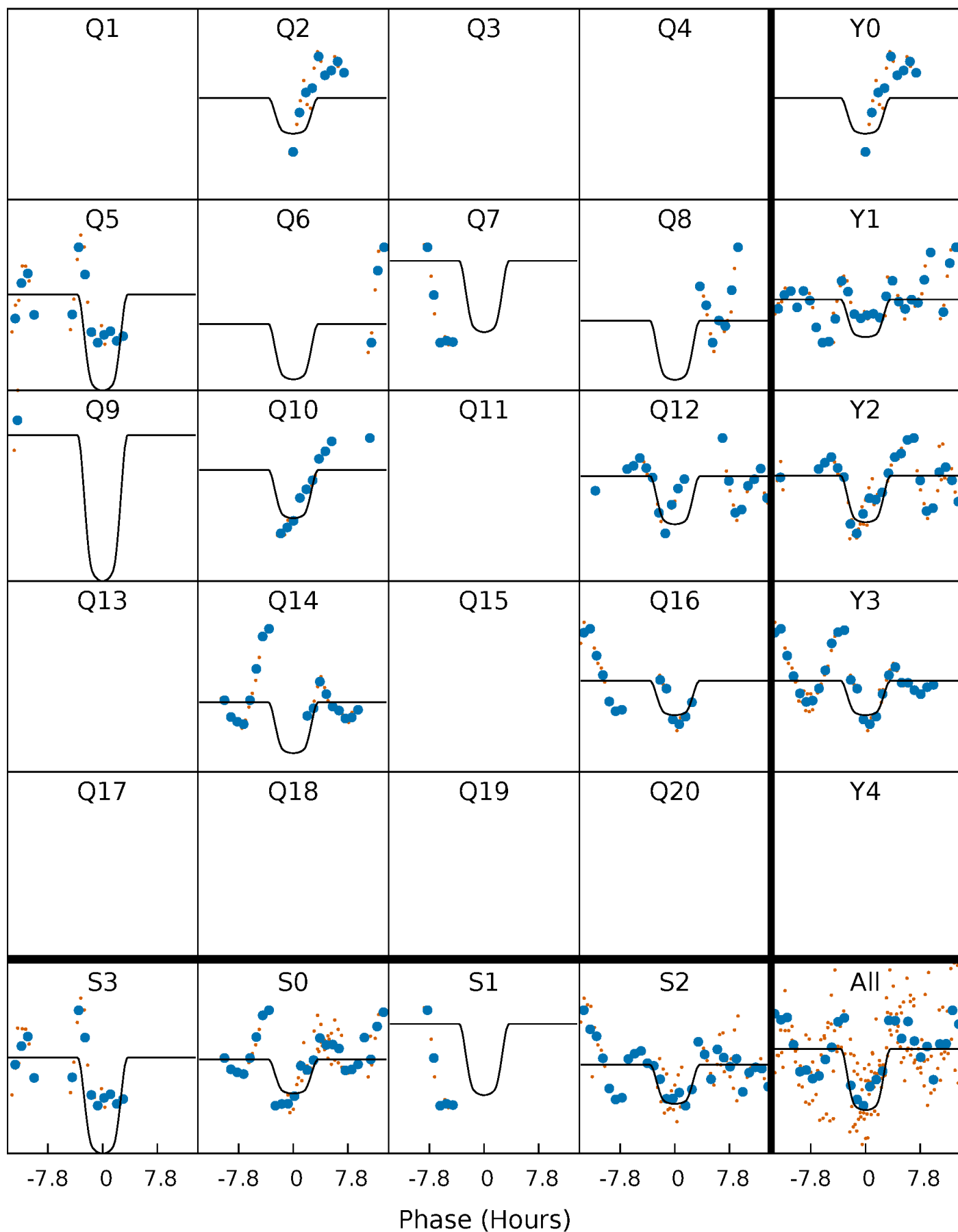
PDC Quarter-Phased Transit Curves

TCE 003849354-05 P= 96.816220 Days $T_0=154.764709$ (BKJD)



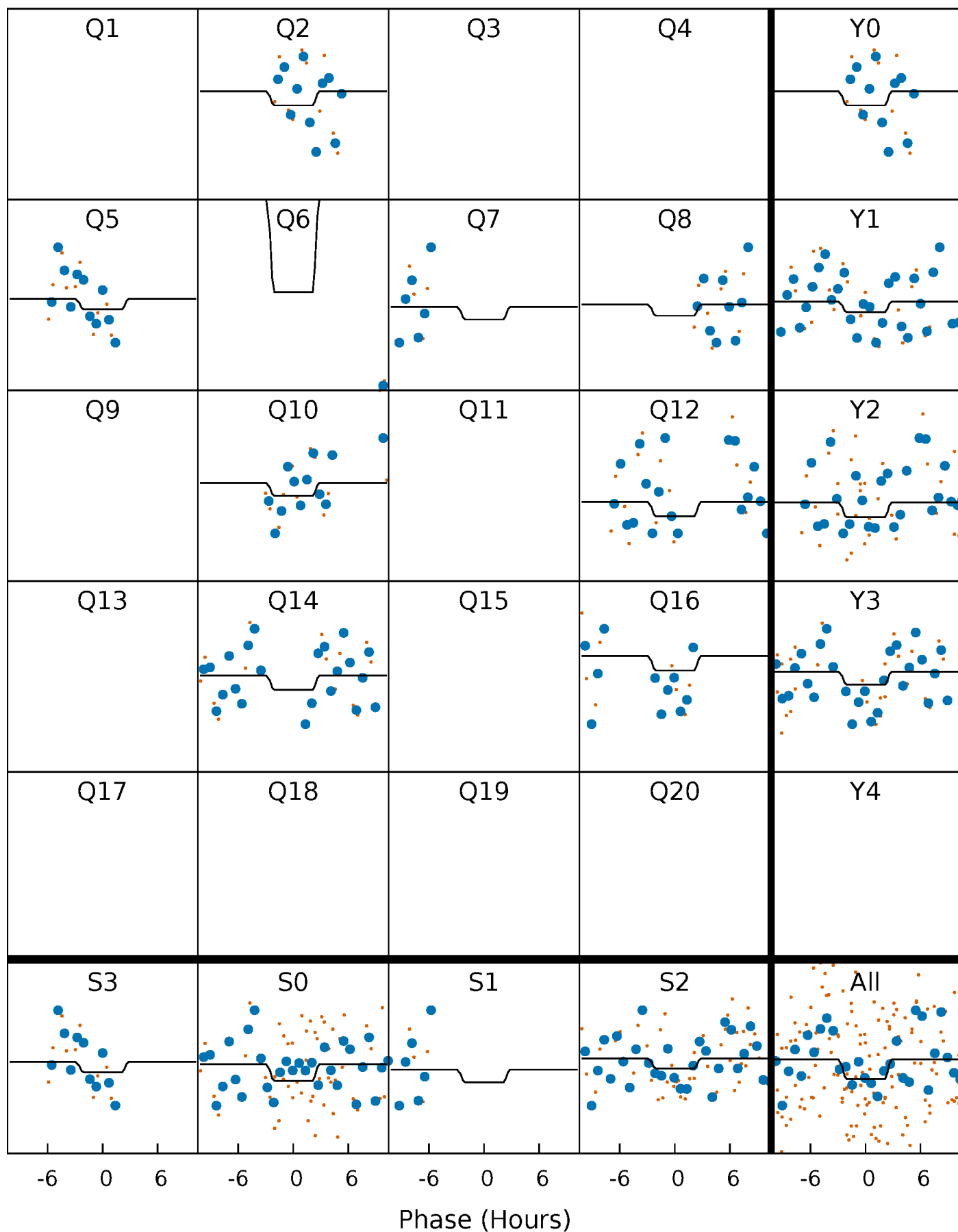
DV Quarter-Phased Transit Curves

TCE 003849354-05 $P = 96.816220$ Days $T_0 = 154.764709$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

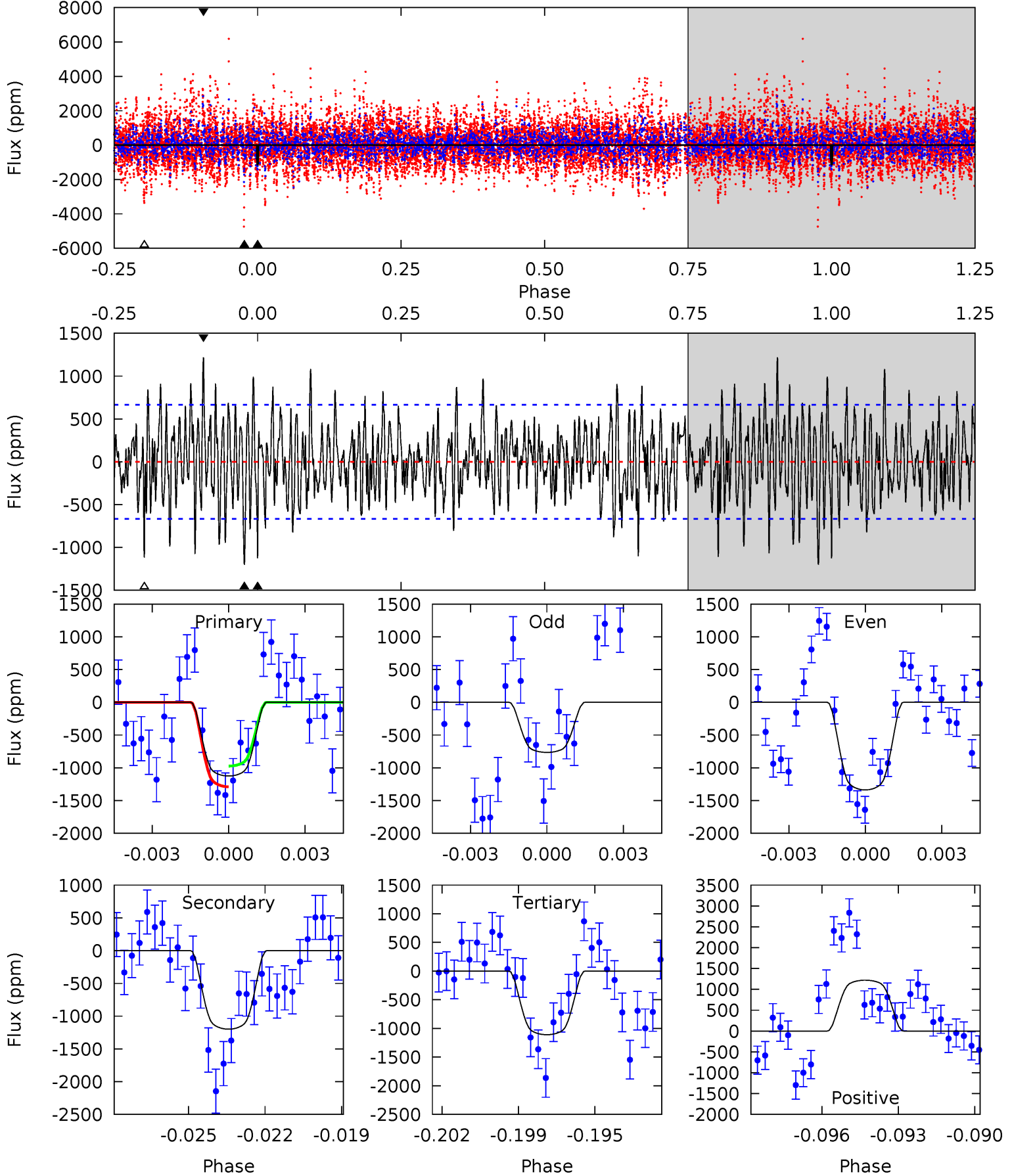
TCE 003849354-05 $P = 96.811786$ Days $T_0 = 154.833203$ (BKJD)



DV Model-Shift Uniqueness Test

003849354-05, P = 96.816220 Days, E = 57.948489 Days

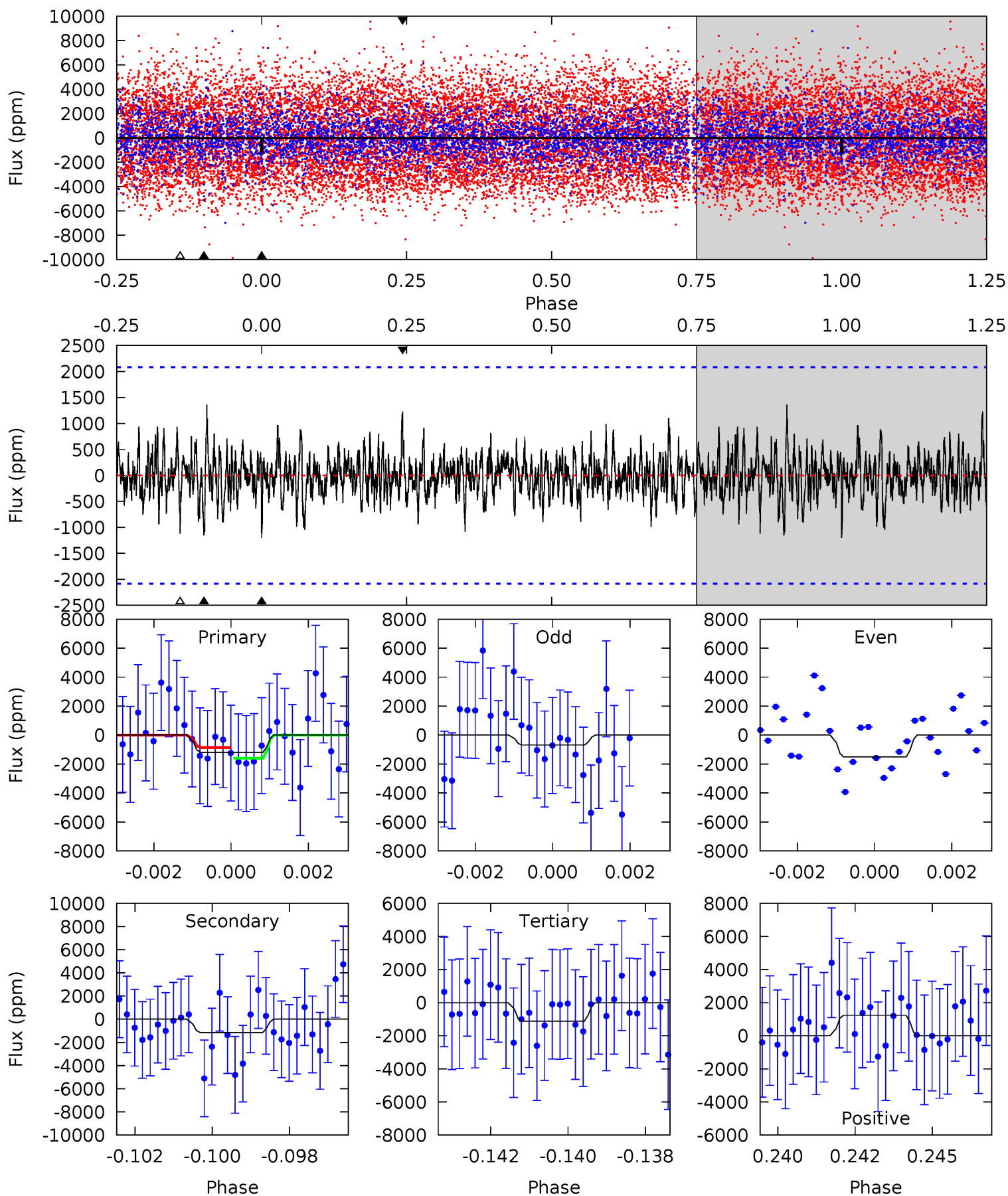
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.87	9.45	8.75	9.61	5.25	2.96	2.80	0.13	-0.74	0.70	-0.16	2.18	-0.40	0.50	1.24



Alt Model-Shift Uniqueness Test

003849354-05, P = 96.811786 Days, E = 58.021417 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.05	2.93	2.85	3.13	5.31	3.06	0.87	0.20	-0.09	0.08	-0.20	1.02	0.94	0.53	0.94



Stellar Parameters For KIC 003849354

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6728^{+161}_{-221}	$4.234^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.300}$	$1.418^{+0.444}_{-0.273}$	$1.268^{+0.190}_{-0.190}$	$0.626^{+0.382}_{-0.322}$
	+2%/-3%	+3%/-4%	+125%/-150%	+31%/-19%	+15%/-15%	+61%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003849354-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1199 ± 127	$6.88^{+1.31}_{-1.00}$	743^{+58}_{-45}	5962^{+349}_{-317}	2733^{+977}_{-718}
Alt.	-1152 ± 393	$5.65^{+1.07}_{-0.91}$	748^{+57}_{-45}	6510^{+734}_{-757}	3833^{+2103}_{-1669}

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 $A_{obs} \gg 1.0$

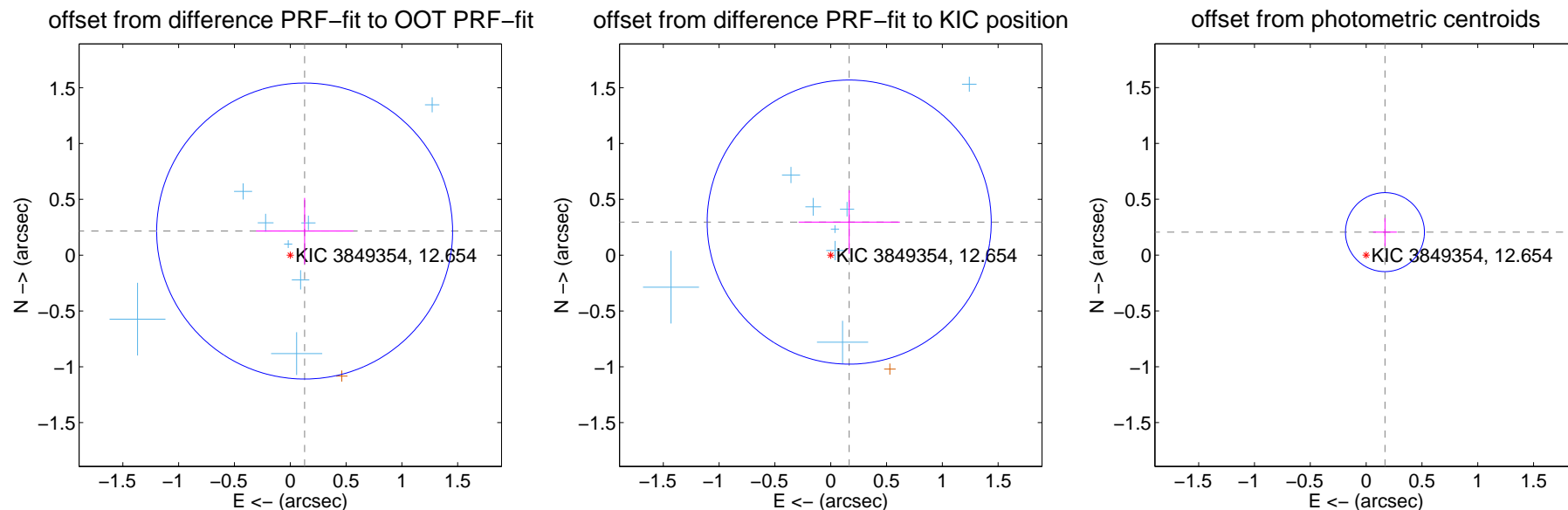
DV Centroid Data

Supplemental centroid analysis for 003849354-05. Kepler magnitude: 12.65. Transit SNR 9.40

There are 9 quarters with good PRF difference image offsets

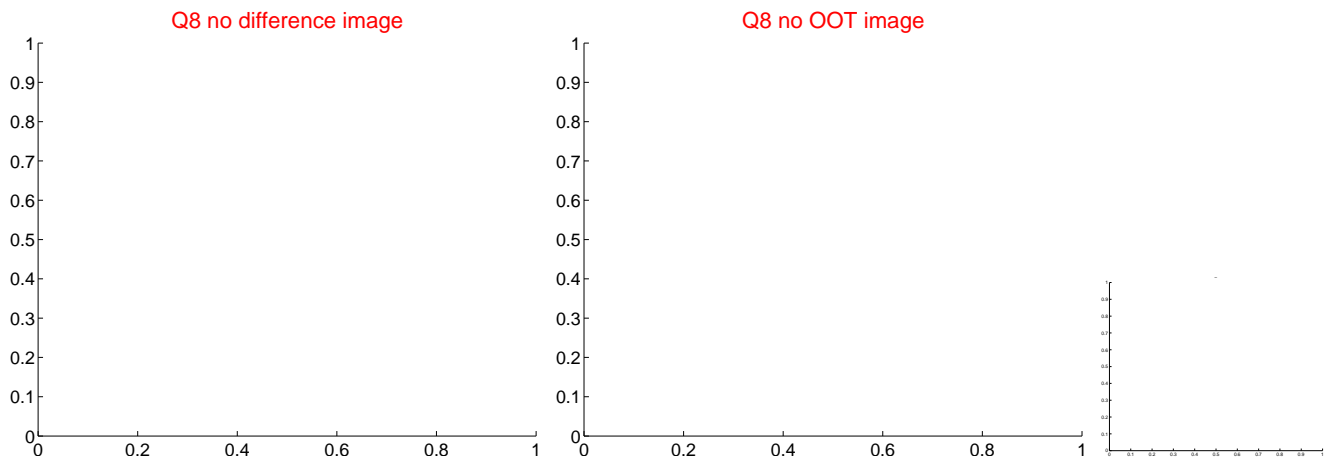
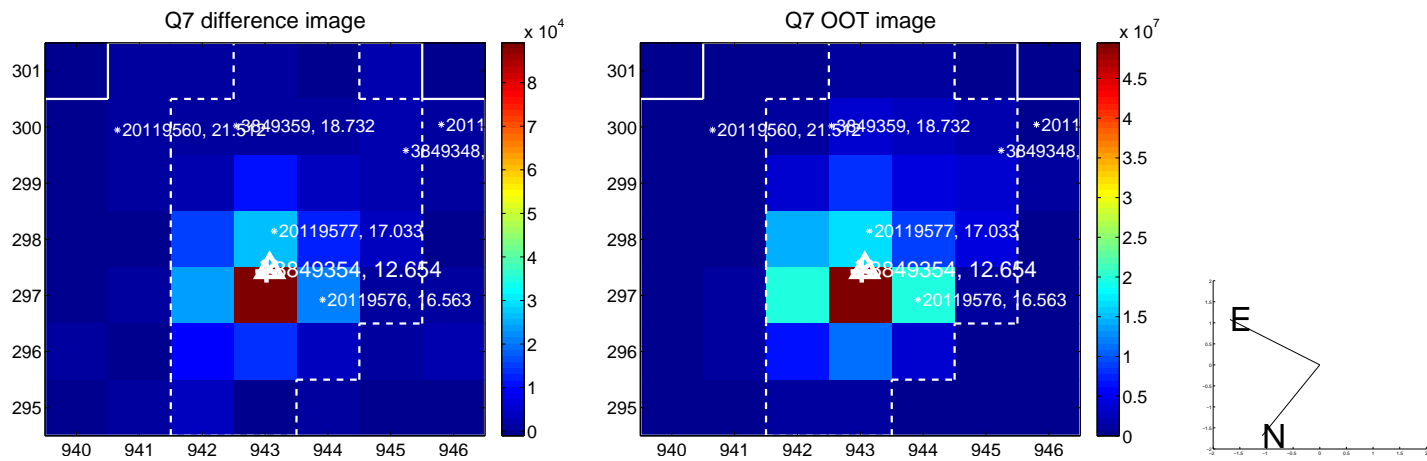
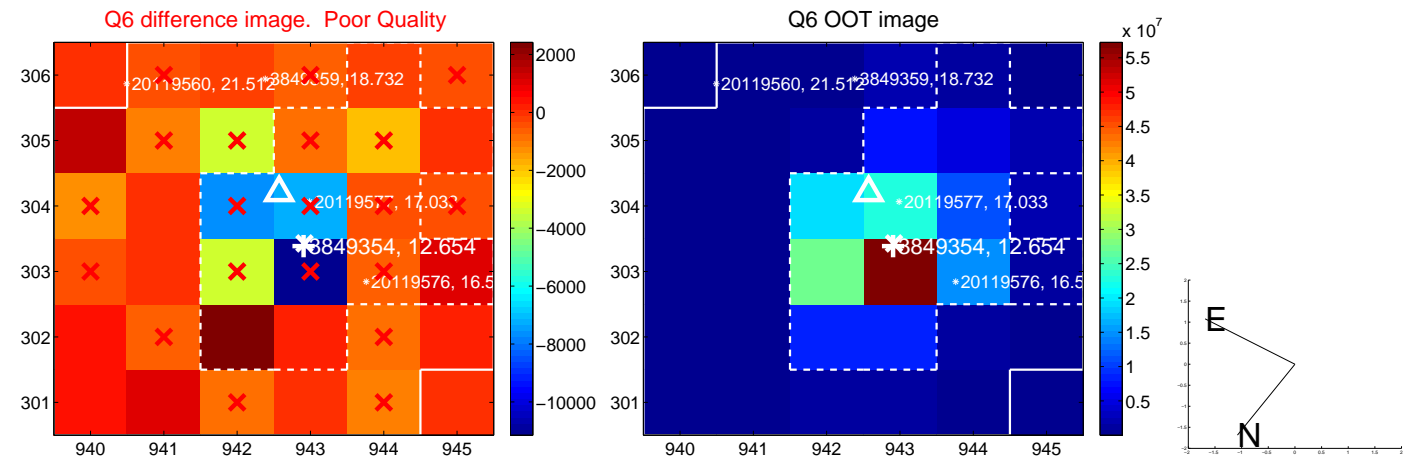
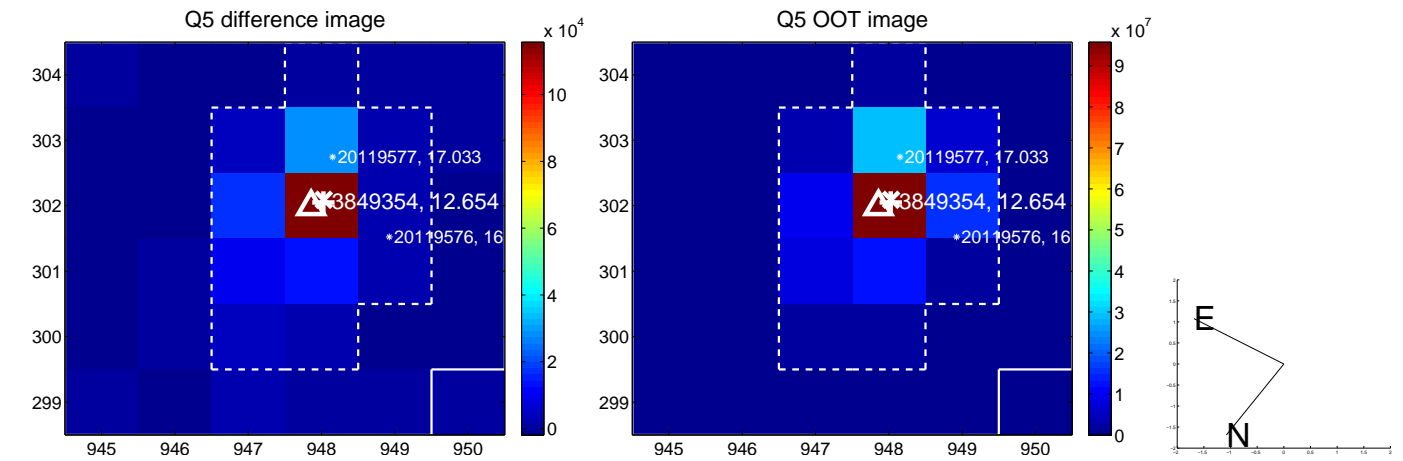
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.251 ± 0.442	0.57	-0.129 ± 0.436	0.216 ± 0.297
PRF-fit source offset from KIC position	0.339 ± 0.424	0.80	-0.165 ± 0.454	0.296 ± 0.284
photometric centroid source offset	0.27 ± 0.12	2.26	-0.17 ± 0.11	0.21 ± 0.13

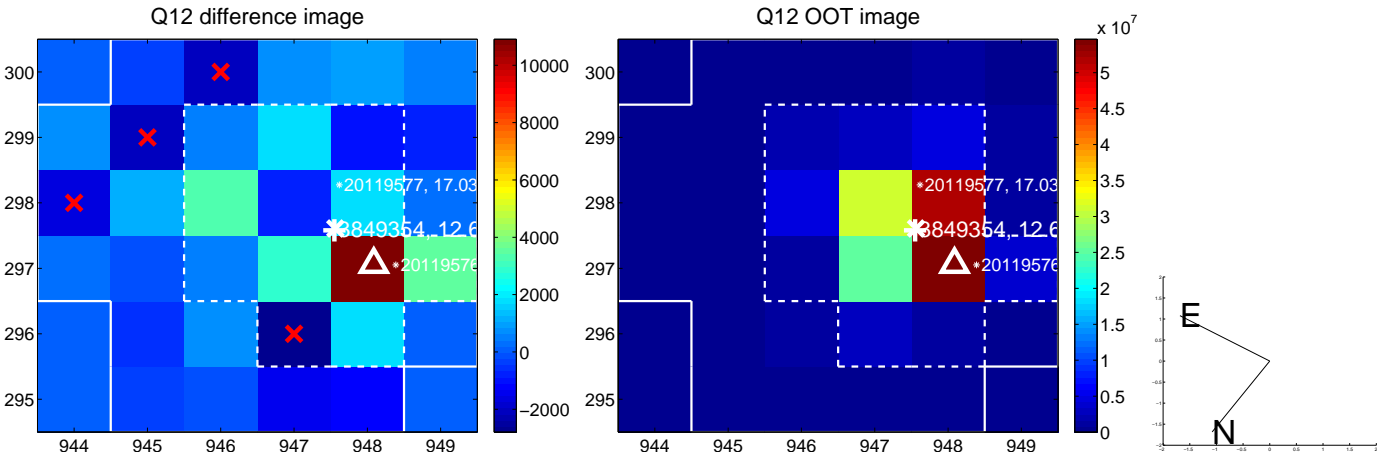
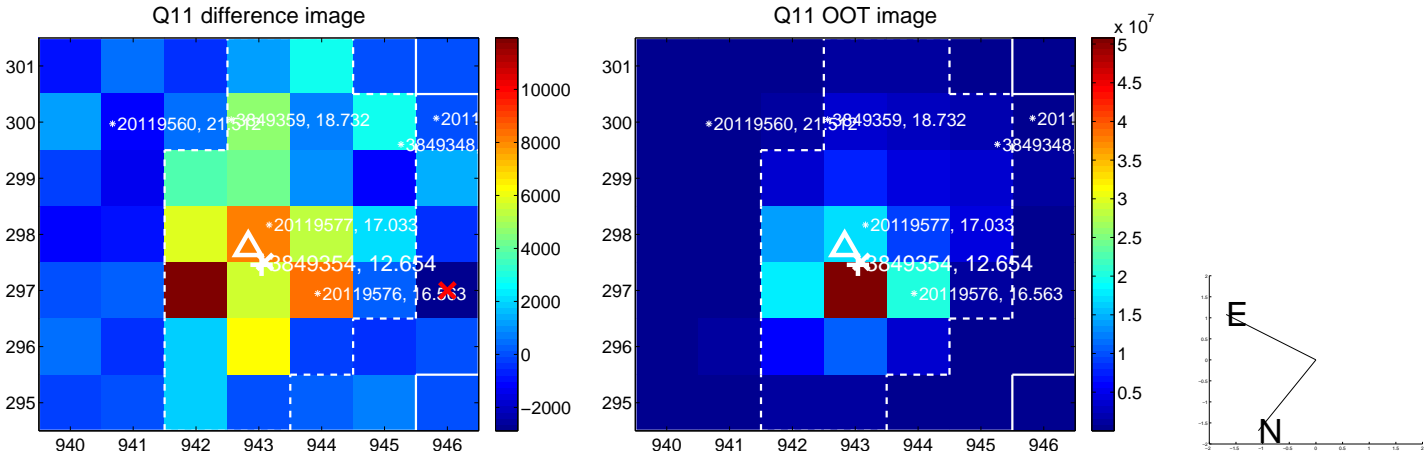
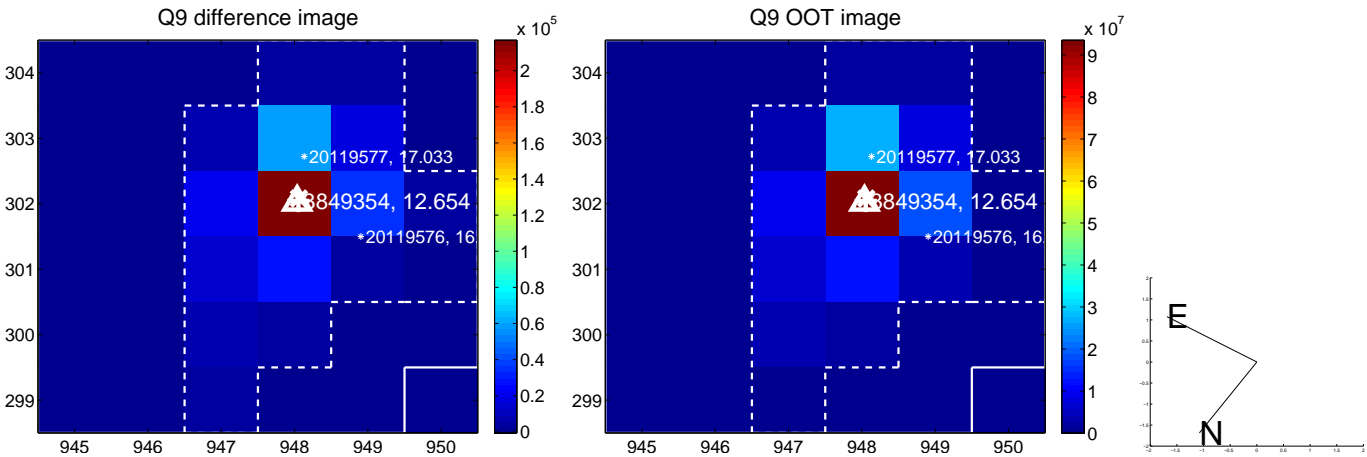


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

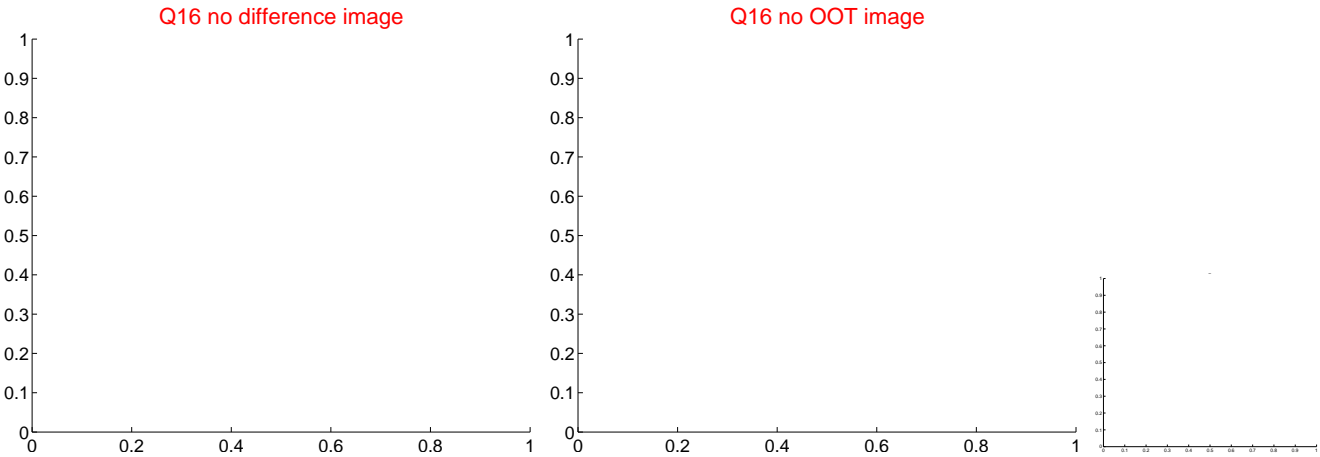
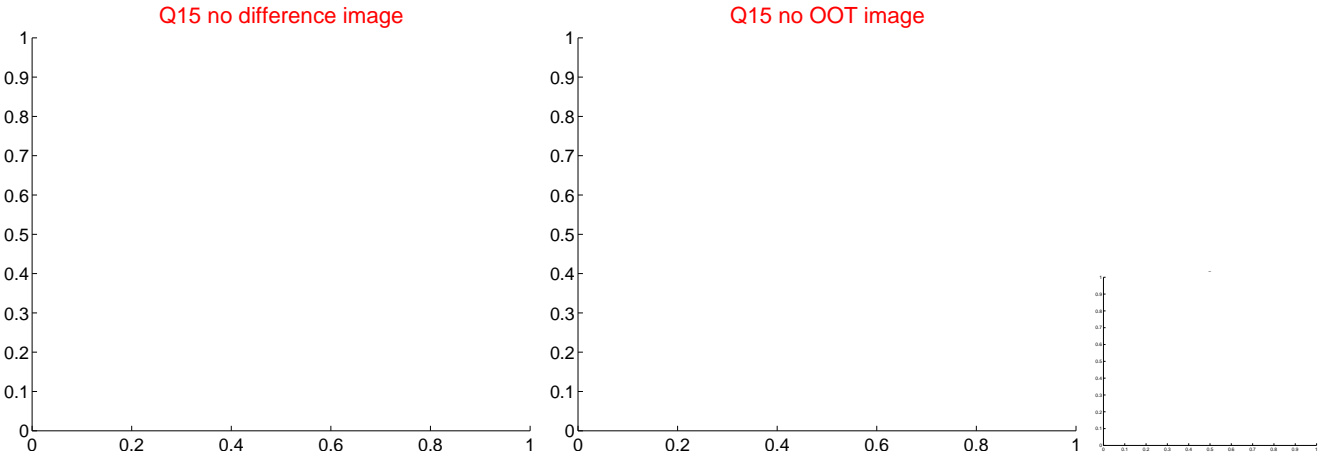
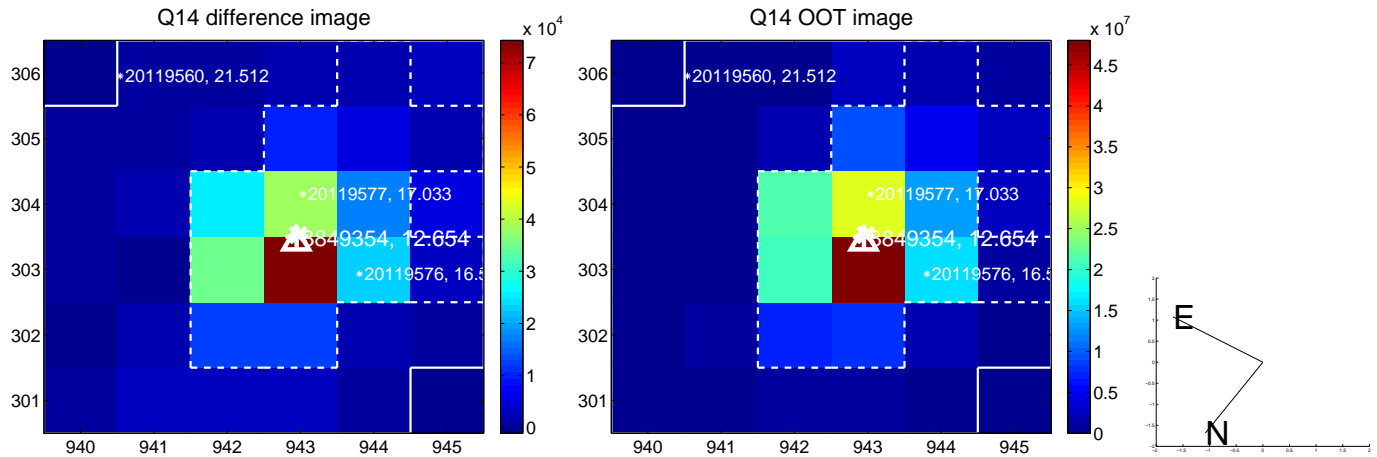
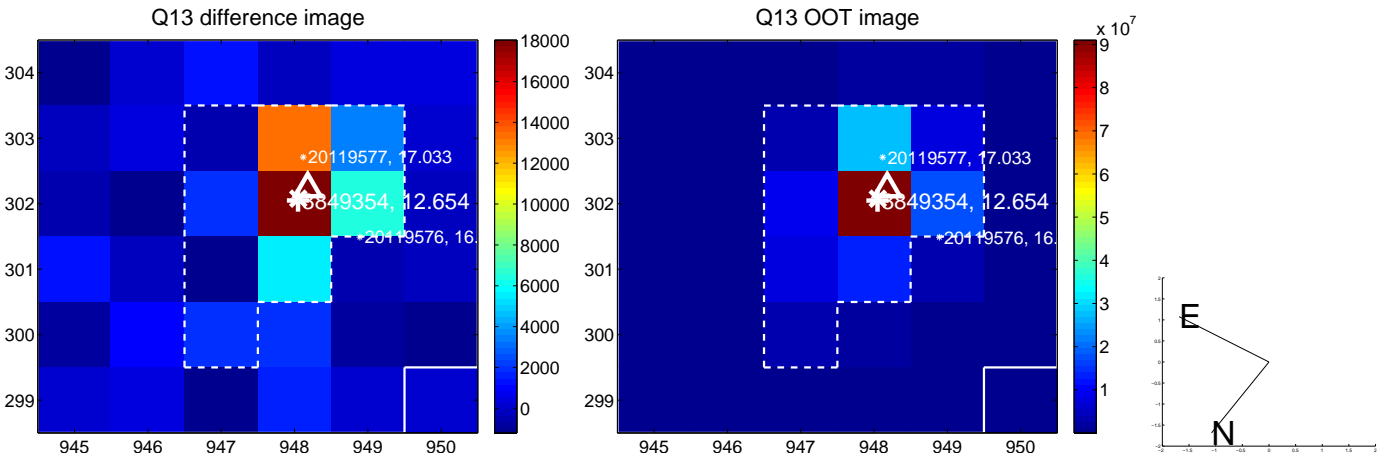
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



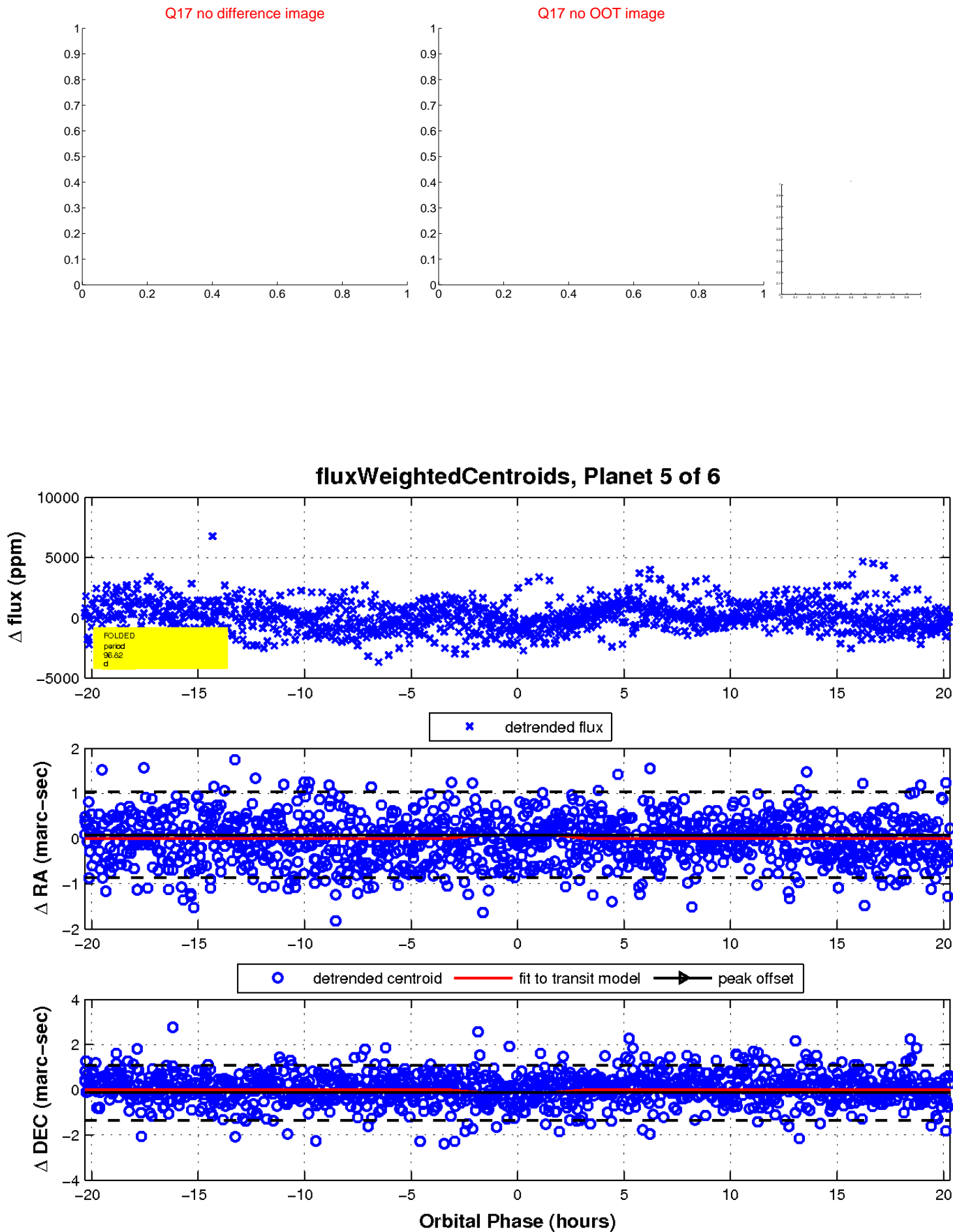
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



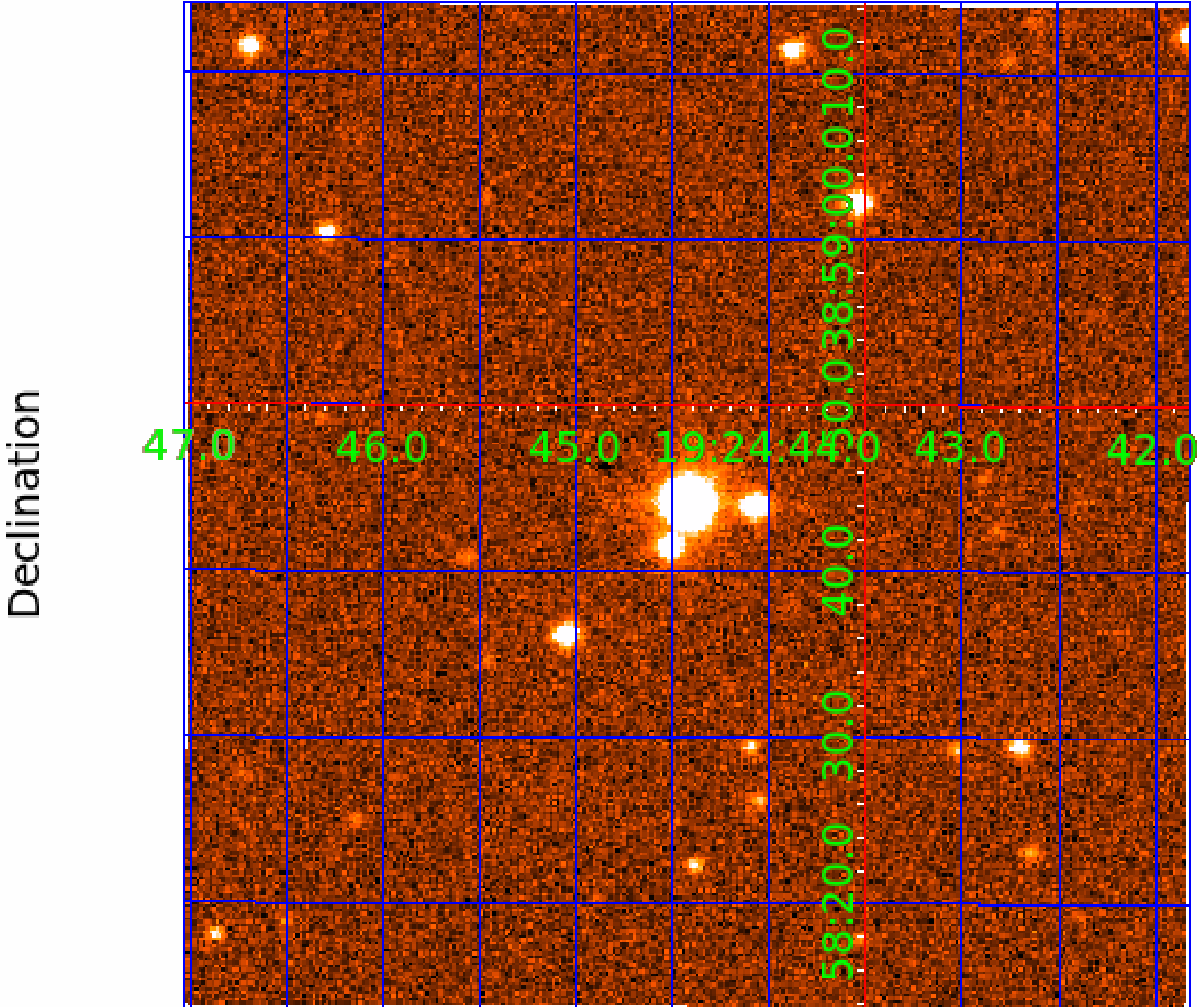
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003849354

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})
003849354-01	OBS	No	0.522867	131.720672	34.7	1.218	10.4	6.3	1.42	6728	0.97	19635.14
003849354-02	OBS	No	3.391599	134.388471	109.2	17.025	8.4	5.0	1.42	6728	1.57	1623.12
003849354-03	OBS	No	128.111260	169.764185	3001.2	16.083	12.9	10.9	1.42	6728	9.31	12.81
003849354-04	OBS	No	189.051520	251.169702	2883.2	5.428	11.4	11.7	1.42	6728	10.05	7.62
003849354-05	OBS	No	96.816220	154.764709	1566.9	6.793	9.7	9.4	1.42	6728	6.74	18.61
003849354-06	OBS	No	115.557551	183.576953	1721.7	17.158	8.1	9.4	1.42	6728	6.87	14.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003849354-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
003849354-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV
003849354-03	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
003849354-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003849354-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003849354-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

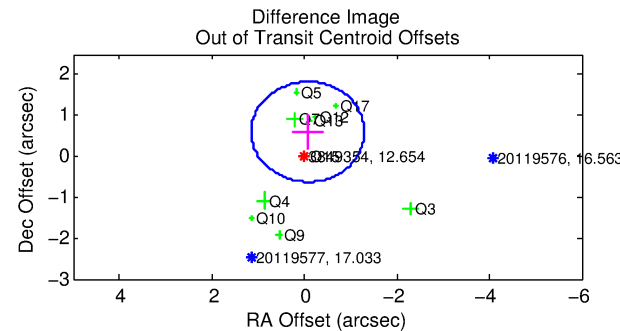
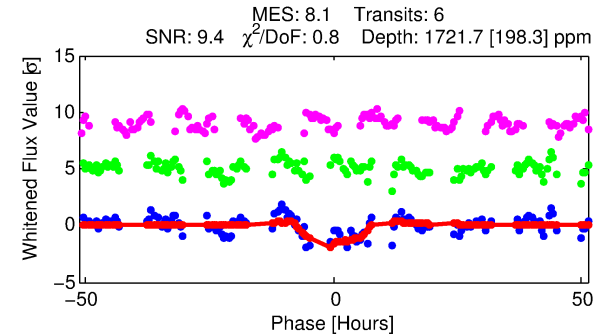
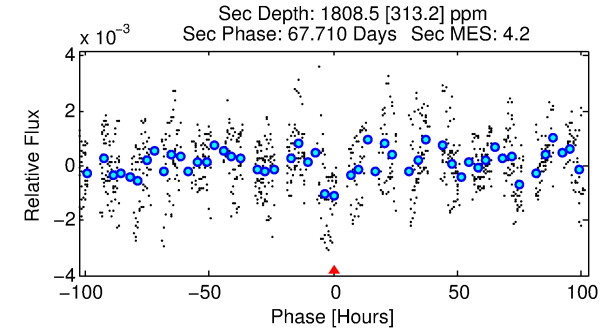
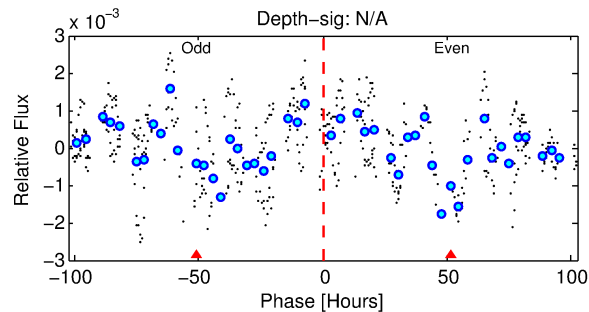
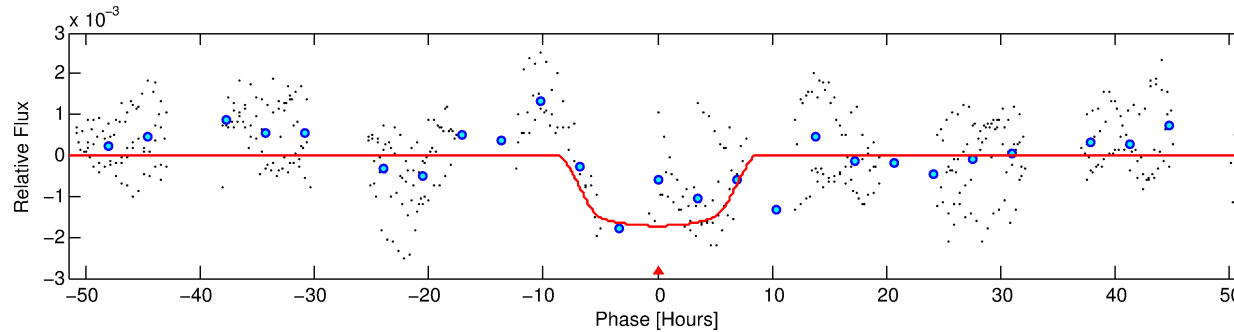
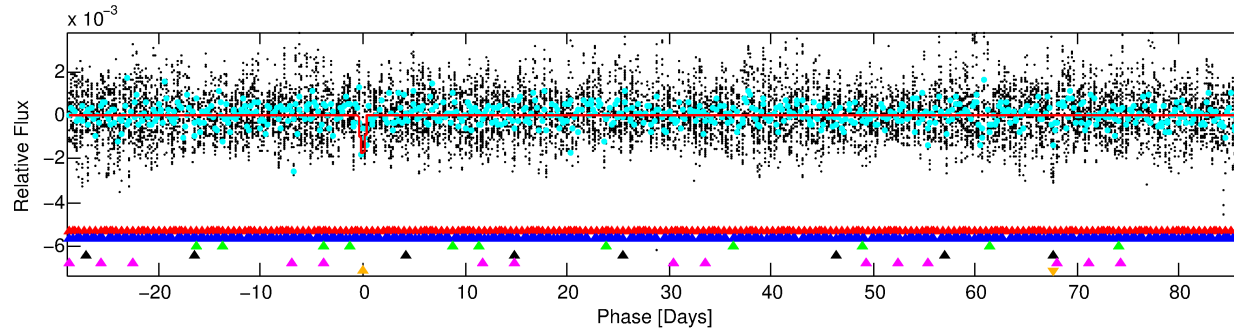
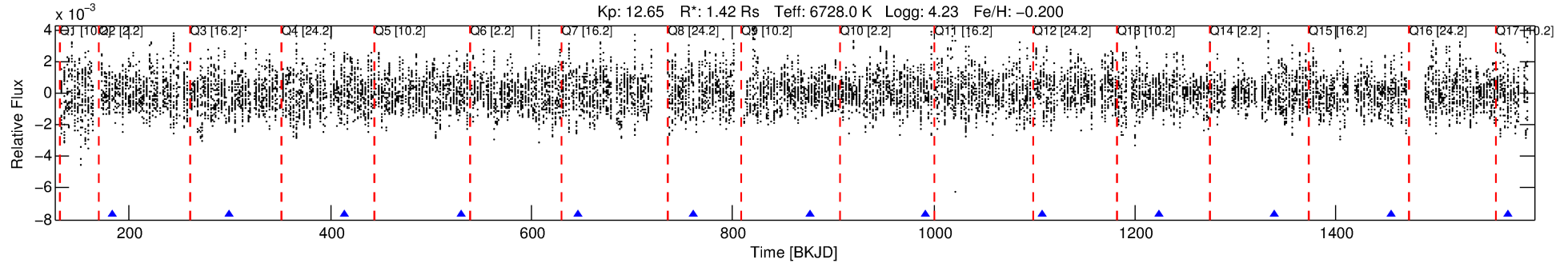
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003849354-06

No Significant Match Found

DV One-Page Summary

KIC: 3849354 Candidate: 6 of 6 Period: 115.558 d



DV Fit Results:

Period = 115.55755 [0.00398] d
Epoch = 183.5770 [0.0215] BKJD
Rp/R* = 0.0444 [0.0030]
a/R* = 27.16 [5.02]
b = 0.90 [0.04]
Seff = 14.69 [5.54]
Teq = 499 [47] K
Rp = 6.87 [2.20] Re
a = 0.5012 [0.1268] AU
Ag = 5293.83 [2205.75] [2.40σ]
Teffp = 6584 [422] K [14.33σ]

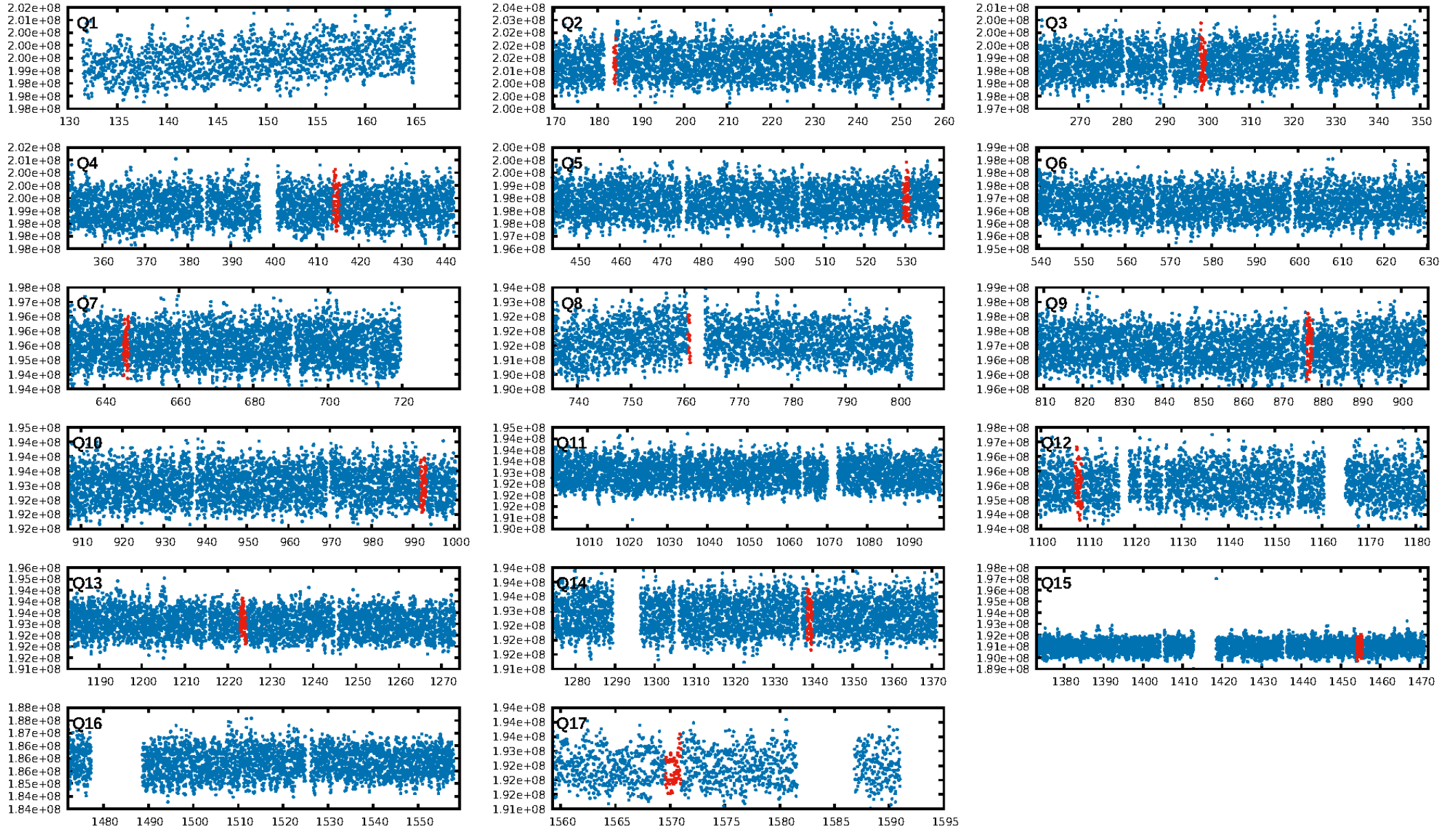
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [24.37σ]
LongPeriod-sig: 100.0% [12.81σ]
ModelChiSquare2-sig: 3.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.7576
Centroid-sig: 0.3%
Centroid-so: 0.360 arcsec [3.64σ]
OotOffset-rm: 0.606 arcsec [1.48σ]
KicOffset-rm: 0.741 arcsec [2.04σ]
OotOffset-st: 1/3/2/4 [10]
KicOffset-st: 1/3/2/4 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 0.00 [0/10]

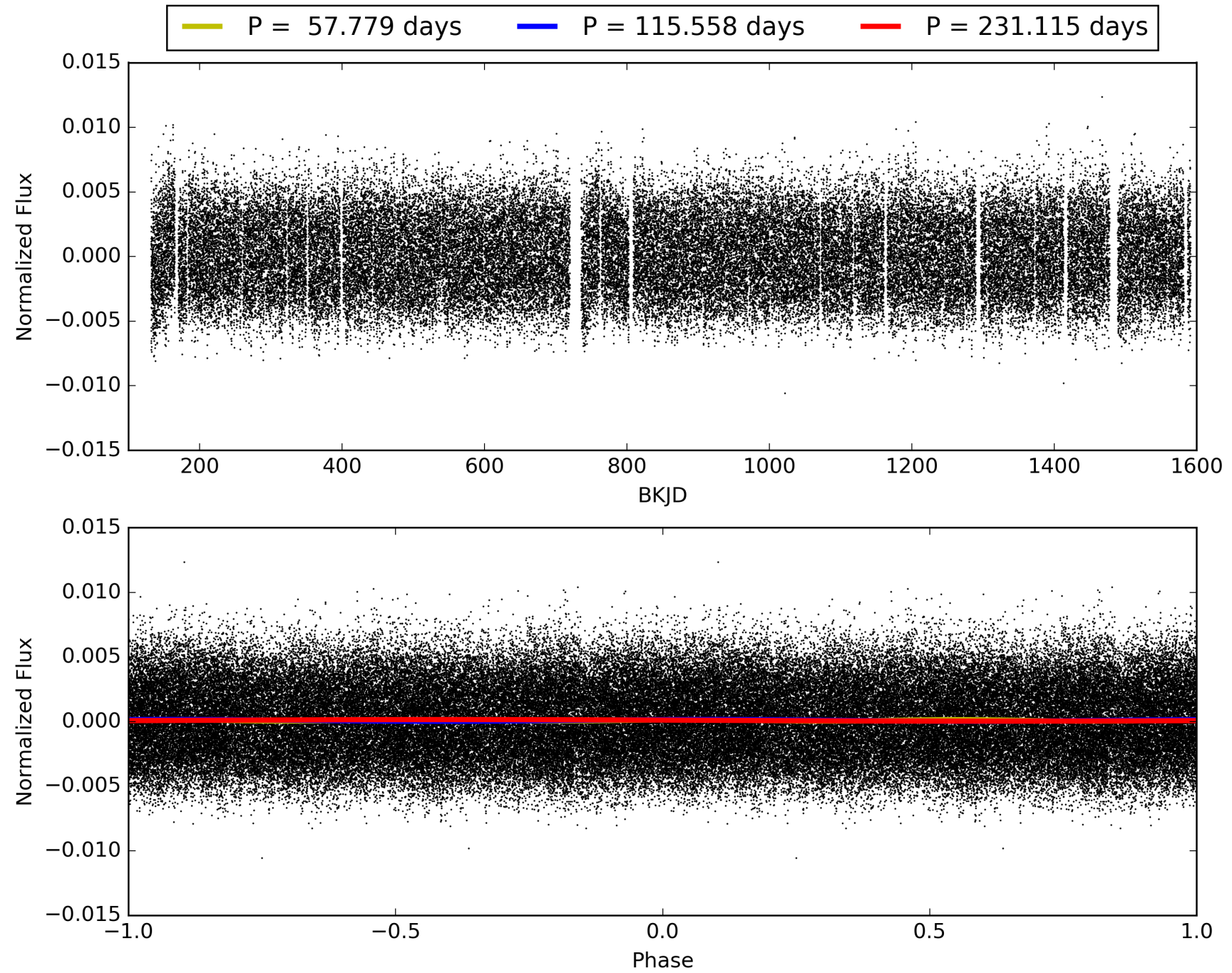
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 06:50:30 Z

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

TCE 003849354-06, PDC Light Curves

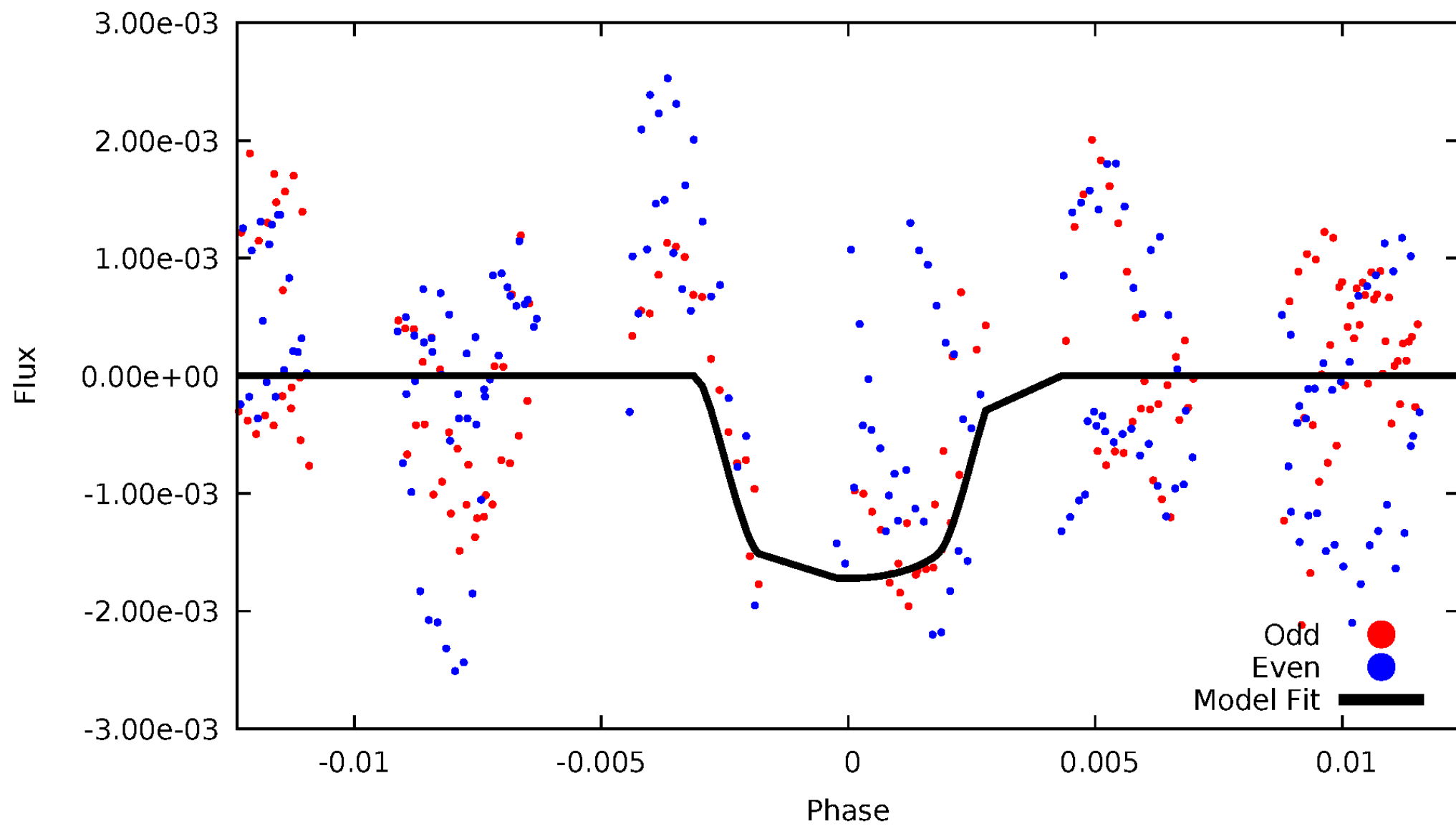


TCE 003849354-06



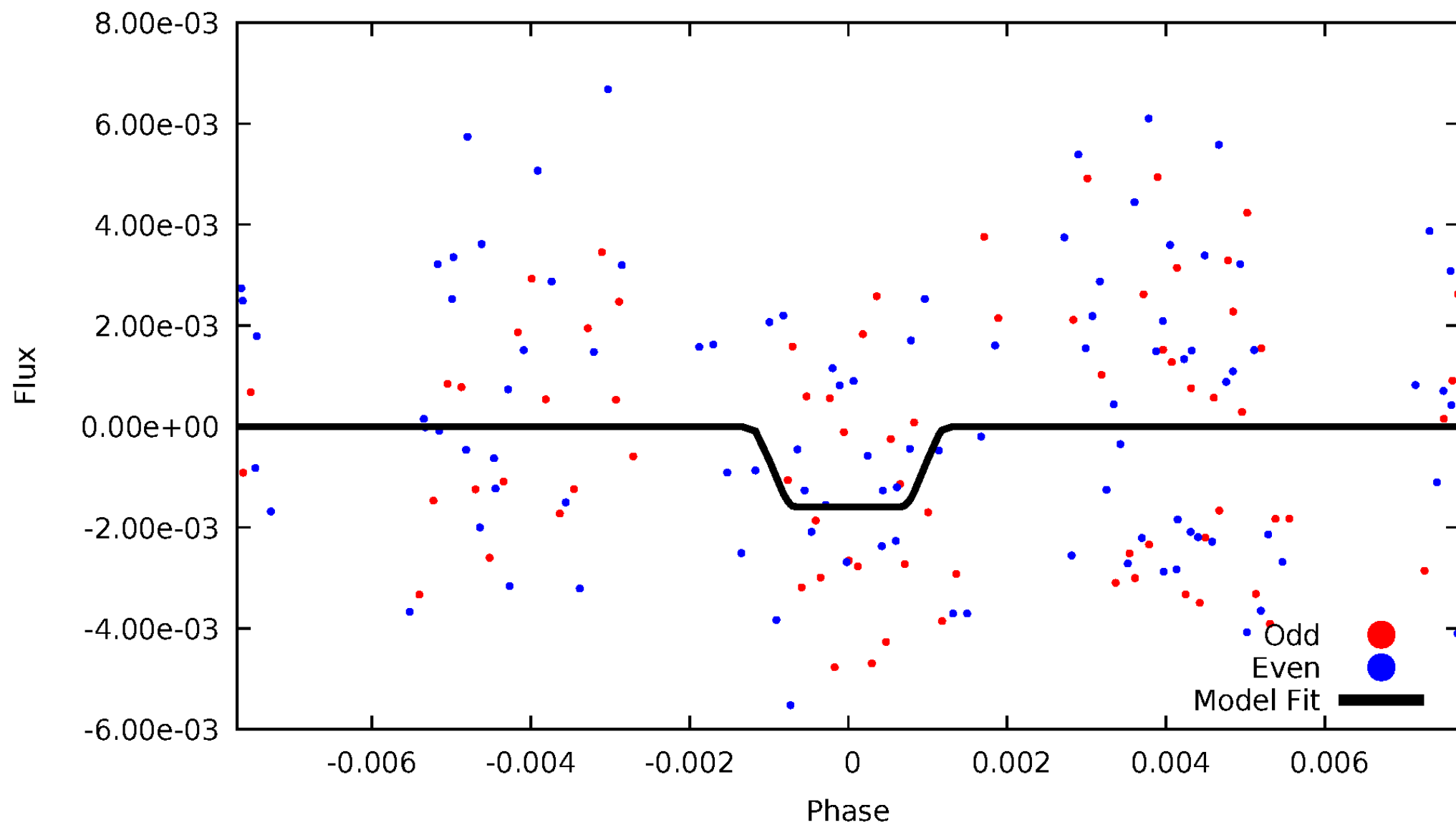
DV Odd/Even

TCE 003849354-06



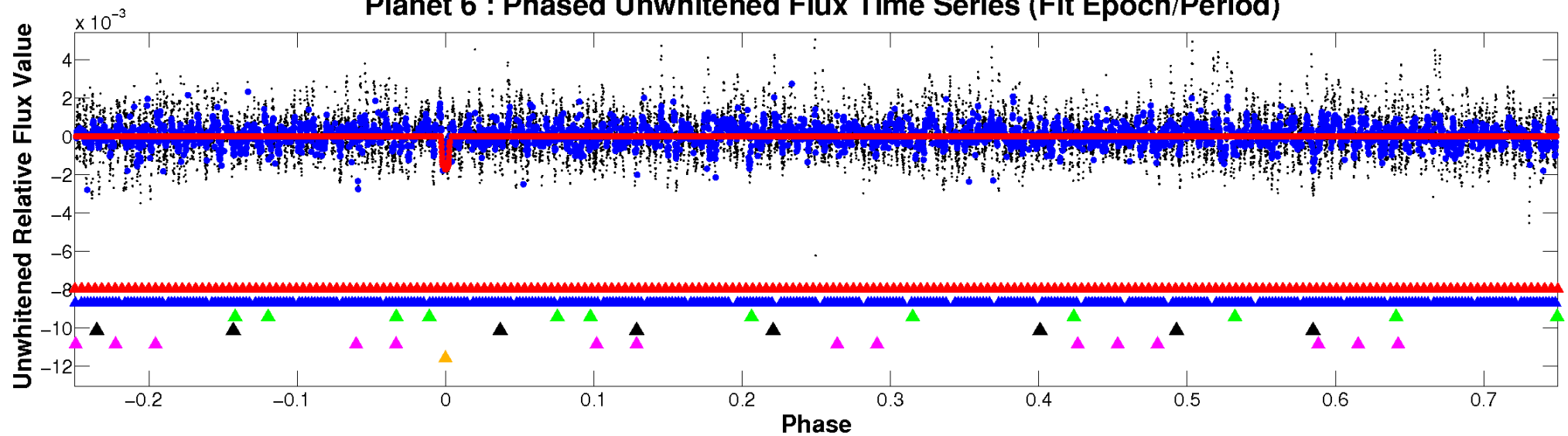
ALT Odd/Even

TCE 003849354-06

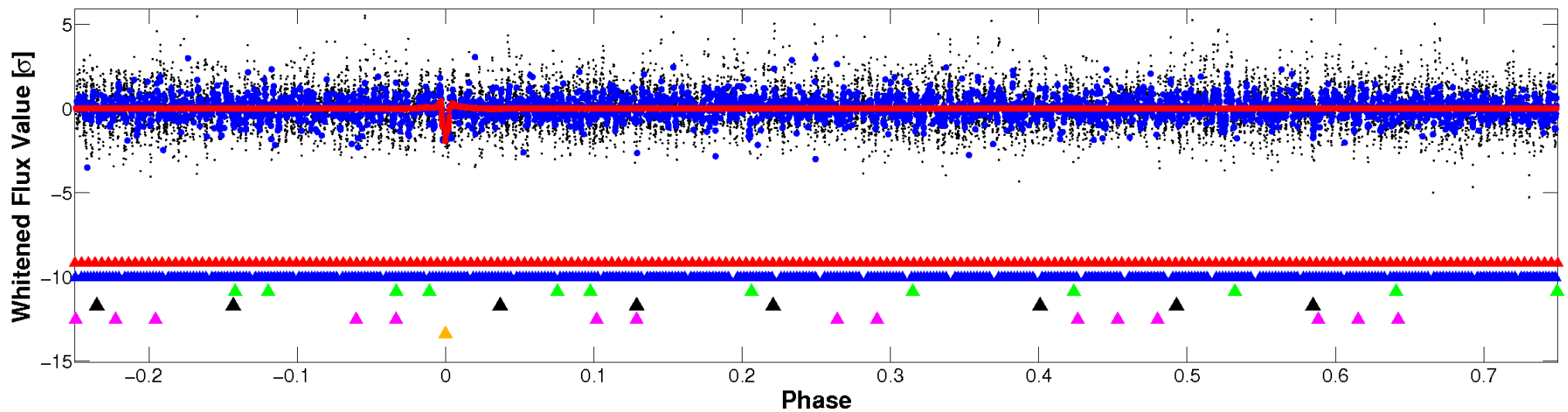


Non-Whitened Vs. Whitened Light Curve

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

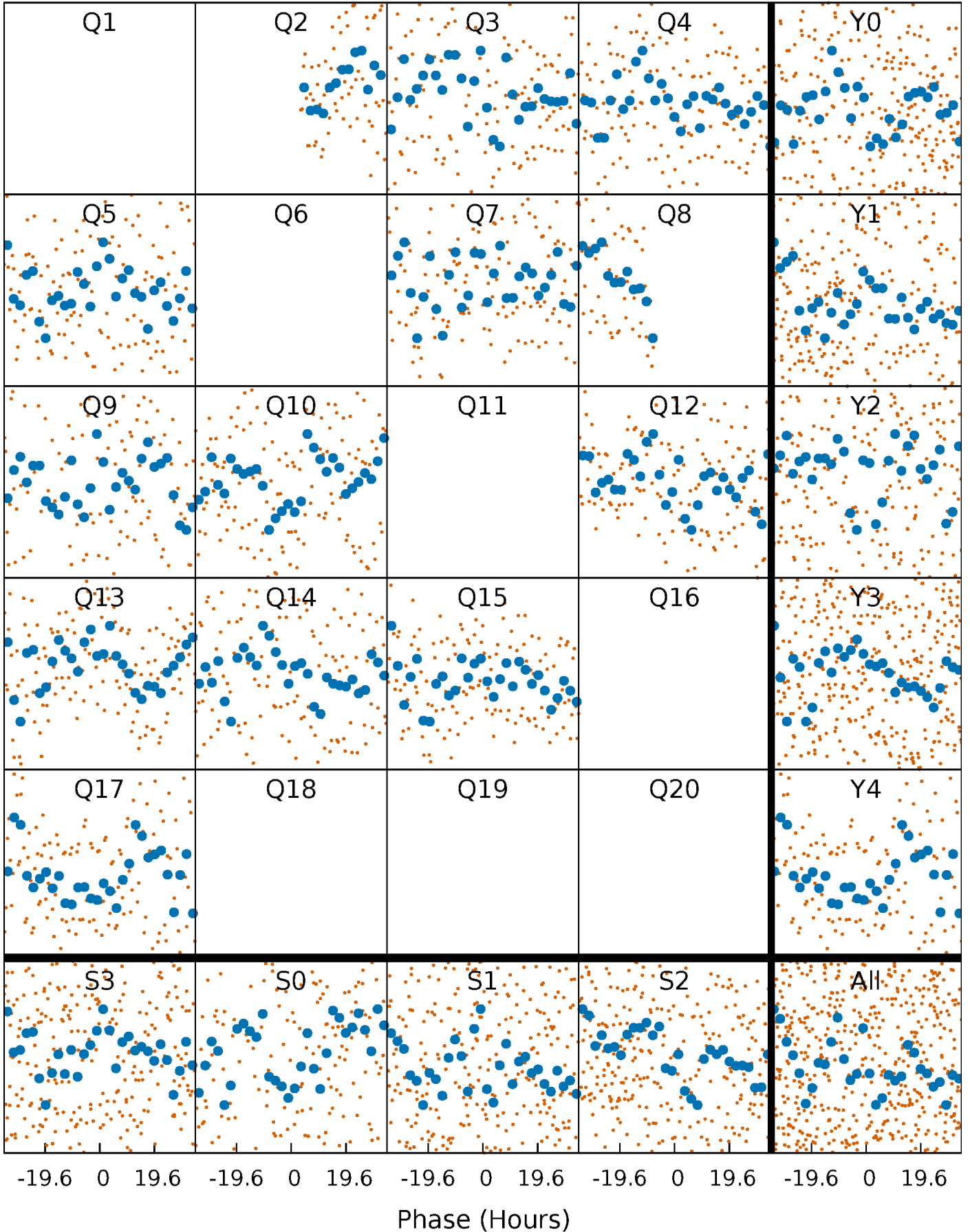


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



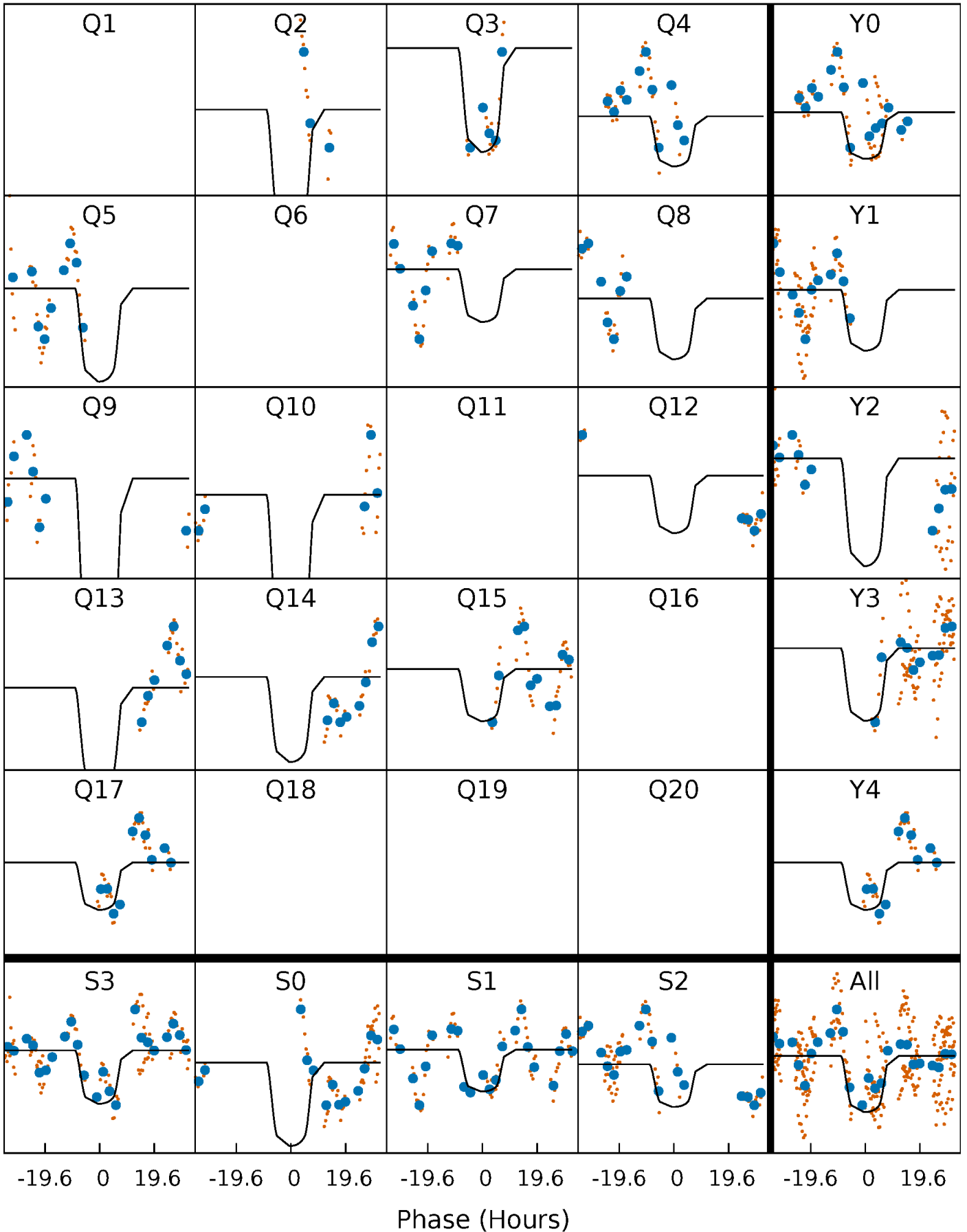
PDC Quarter-Phased Transit Curves

TCE 003849354-06 P=115.557552 Days $T_0=183.576953$ (BKJD)



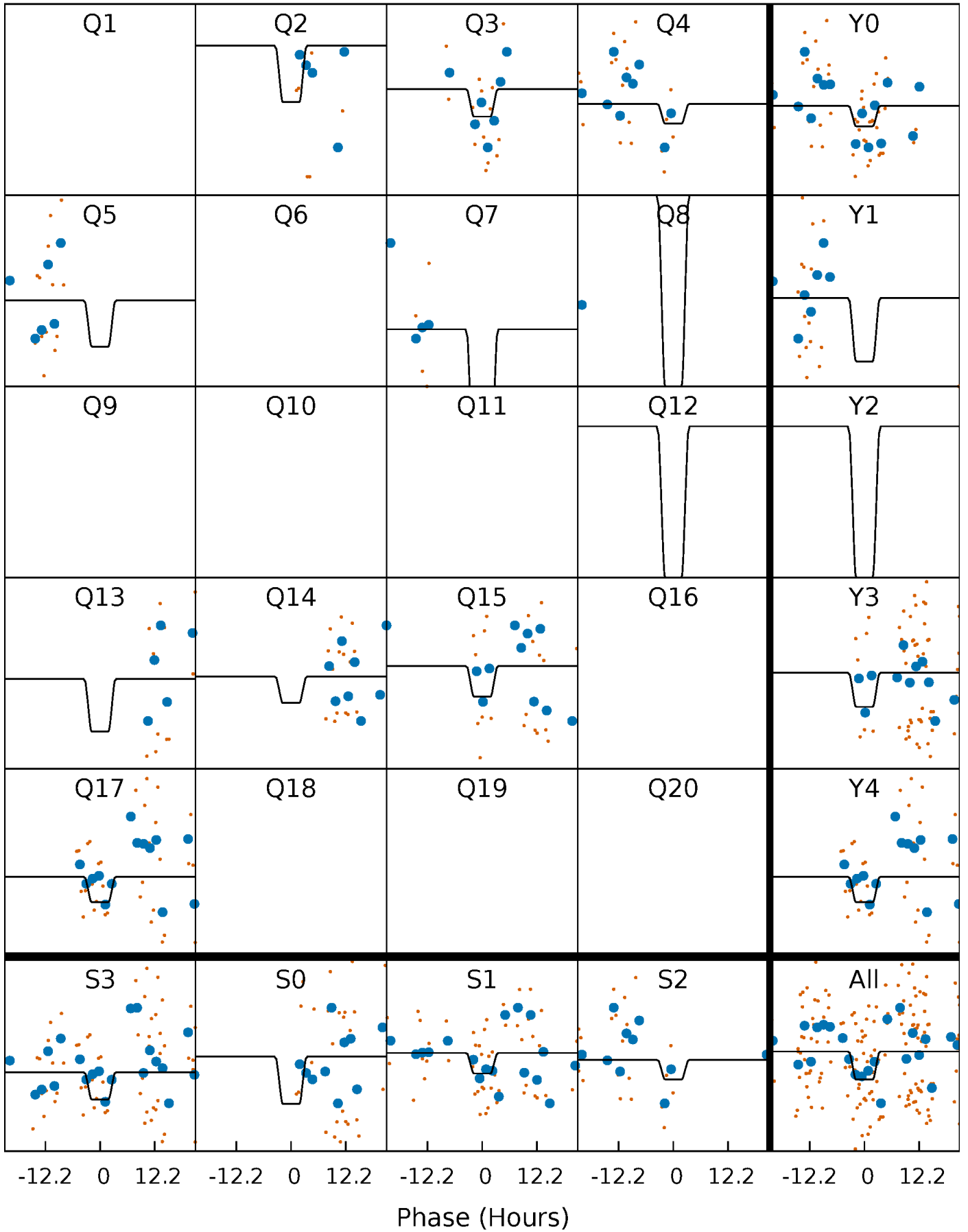
DV Quarter-Phased Transit Curves

TCE 003849354-06 P=115.557552 Days $T_0=183.576953$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

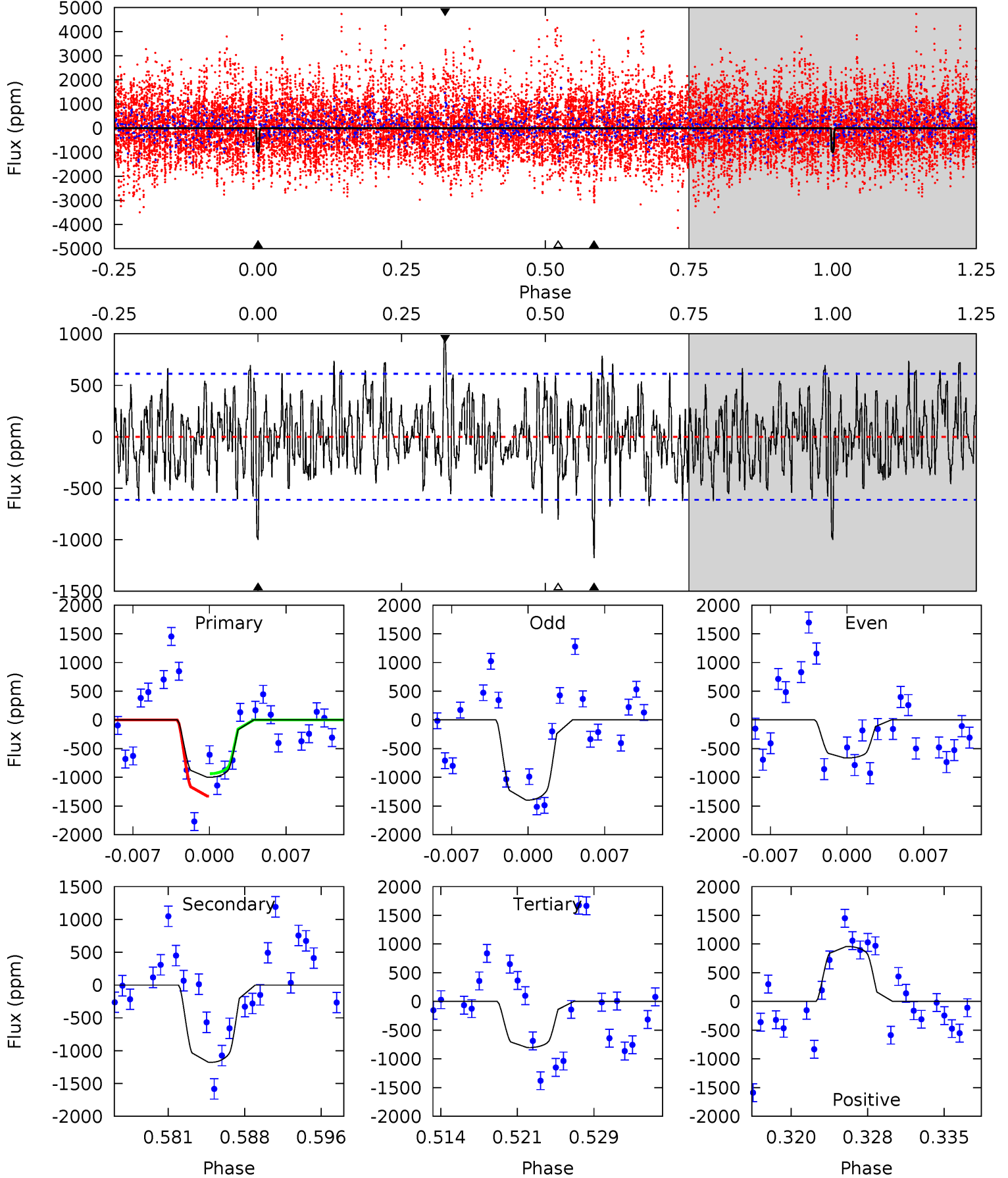
TCE 003849354-06 P=115.565404 Days $T_0=183.672126$ (BKJD)



DV Model-Shift Uniqueness Test

003849354-06, $P = 115.557552$ Days, $E = 68.019401$ Days

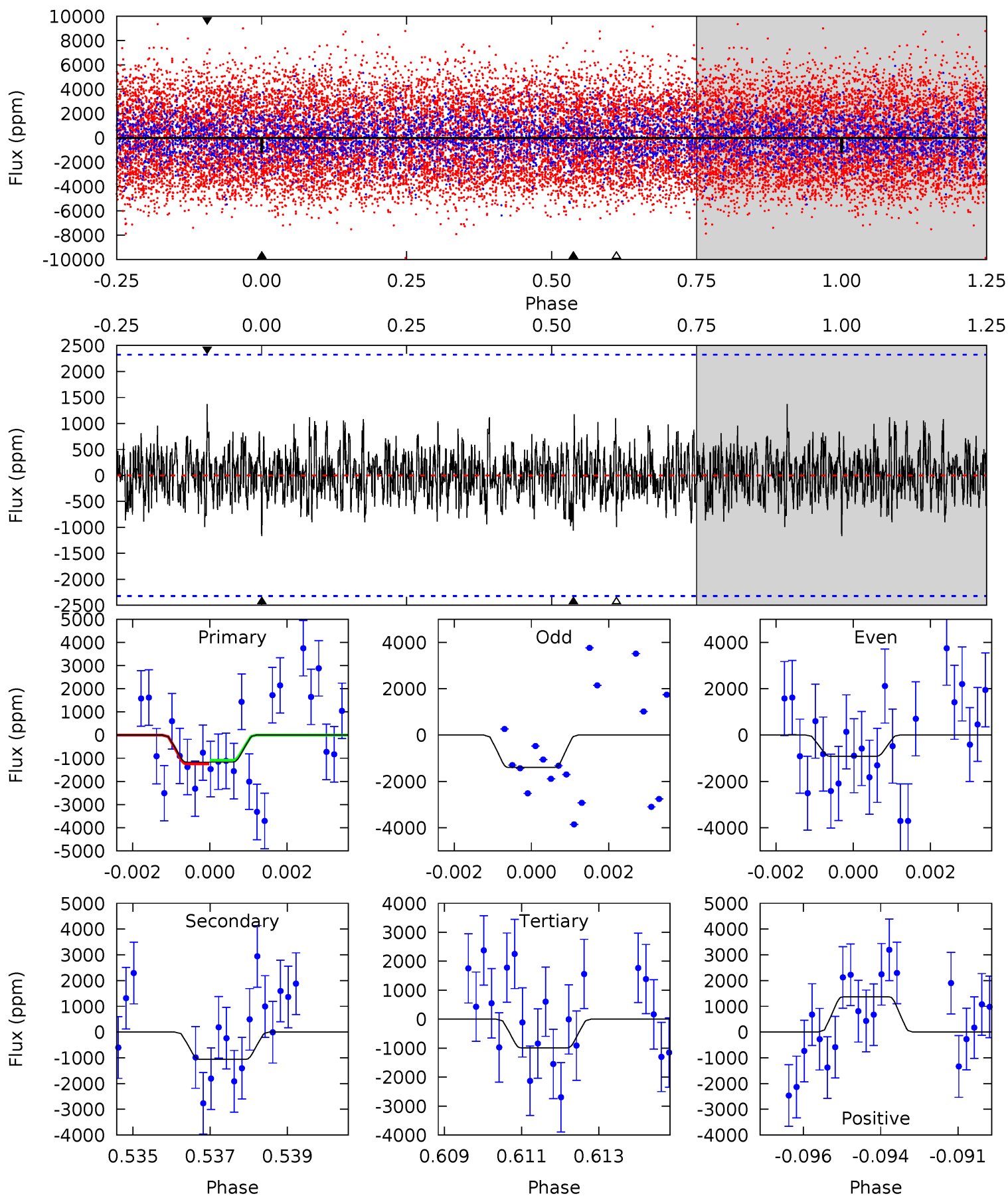
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.31	9.78	6.67	7.94	5.08	2.68	2.30	1.64	0.37	3.11	1.84	3.04	0.70	0.45	1.40



Alt Model-Shift Uniqueness Test

003849354-06, $P = 115.565404$ Days, $E = 68.106722$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.67	2.43	2.27	3.13	5.31	3.07	0.80	0.40	-0.46	0.16	-0.70	0.55	1.49	0.54	0.17



Stellar Parameters For KIC 003849354

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6728^{+161}_{-221}	$4.234^{+0.124}_{-0.186}$	$-0.200^{+0.250}_{-0.300}$	$1.418^{+0.444}_{-0.273}$	$1.268^{+0.190}_{-0.190}$	$0.626^{+0.382}_{-0.322}$
	+2%/-3%	+3%/-4%	+125%/-150%	+31%/-19%	+15%/-15%	+61%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003849354-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1178 ± 120	$6.94^{+1.23}_{-0.92}$	699^{+52}_{-42}	5896^{+282}_{-287}	3358^{+1055}_{-941}
Alt.	-1062 ± 437	$6.27^{+1.11}_{-0.86}$	702^{+55}_{-41}	6072^{+617}_{-806}	3641^{+2119}_{-1647}

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 $A_{obs} \gg 1.0$

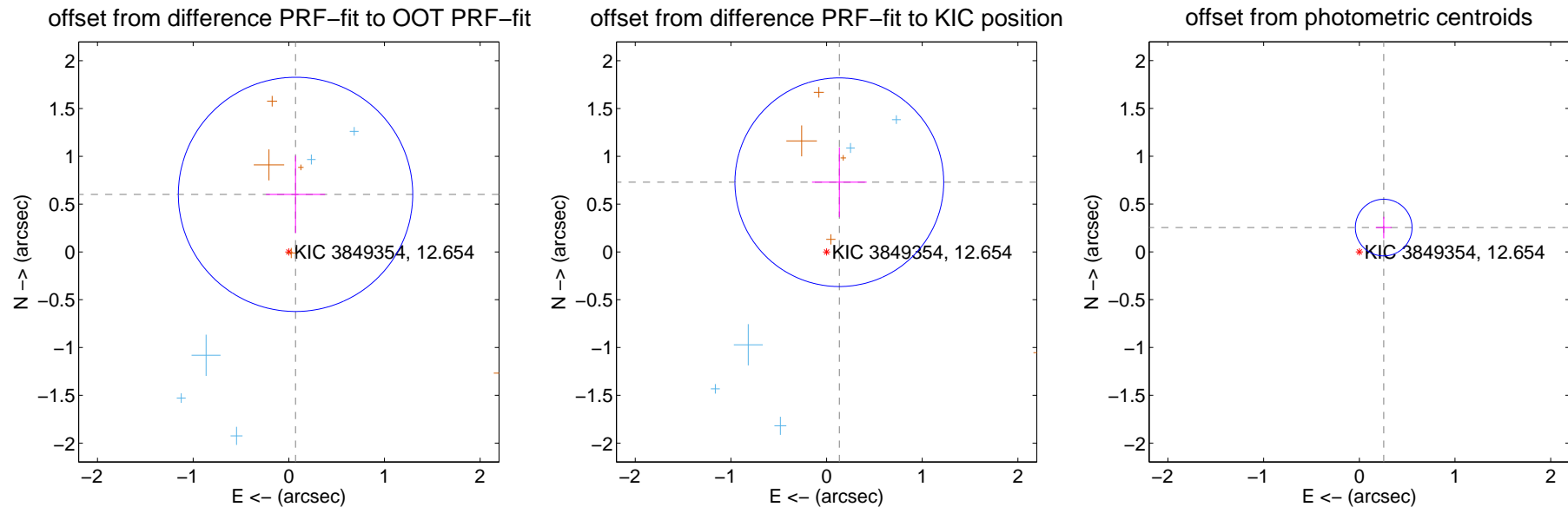
DV Centroid Data

Supplemental centroid analysis for 003849354-06. Kepler magnitude: 12.65. Transit SNR 9.41

There are 5 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.606 ± 0.408	1.48	-0.070 ± 0.309	0.602 ± 0.404
PRF-fit source offset from KIC position	0.741 ± 0.364	2.04	-0.133 ± 0.285	0.729 ± 0.363
photometric centroid source offset	0.36 ± 0.10	3.64	-0.25 ± 0.08	0.25 ± 0.11



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



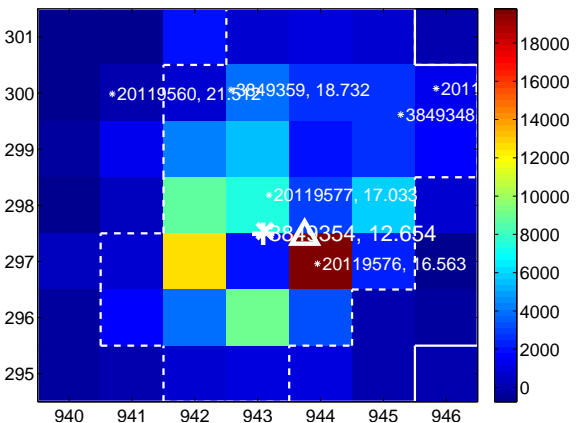
Q2 no difference image



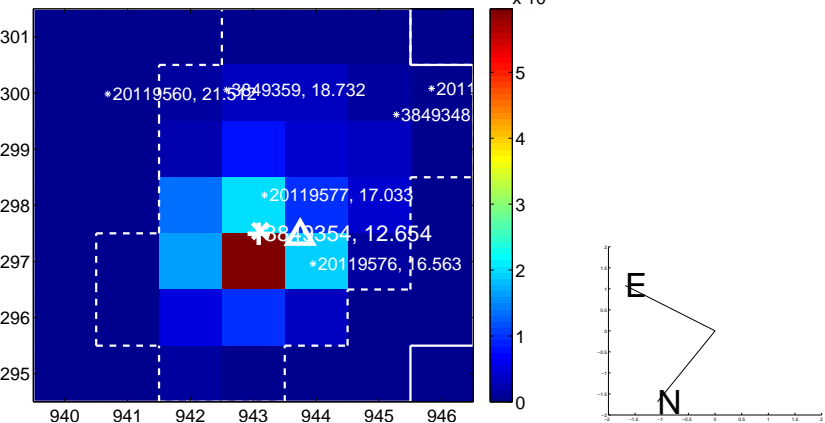
Q2 no OOT image



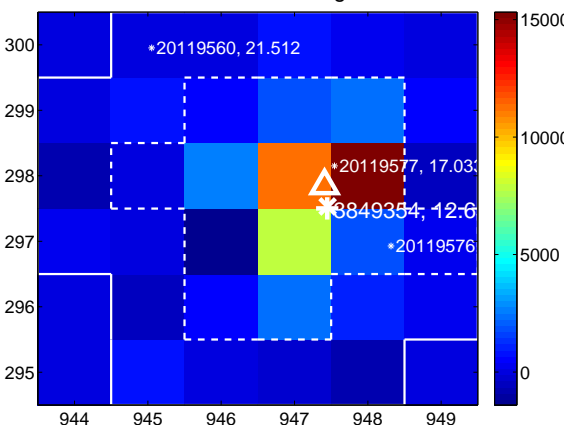
Q3 difference image. Poor Quality



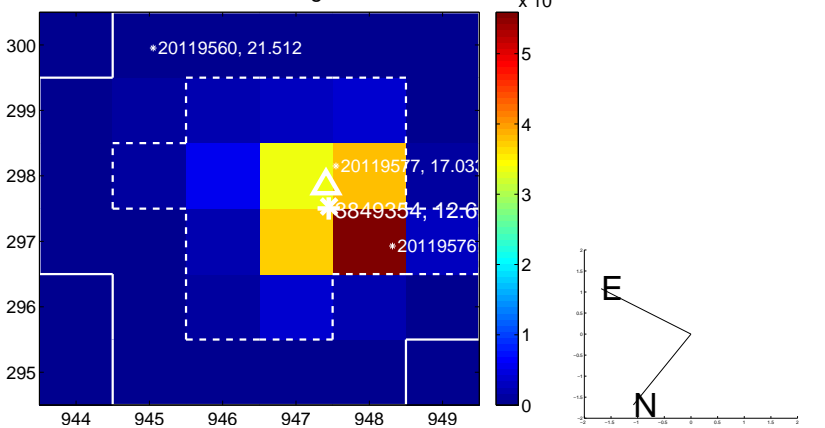
Q3 OOT image



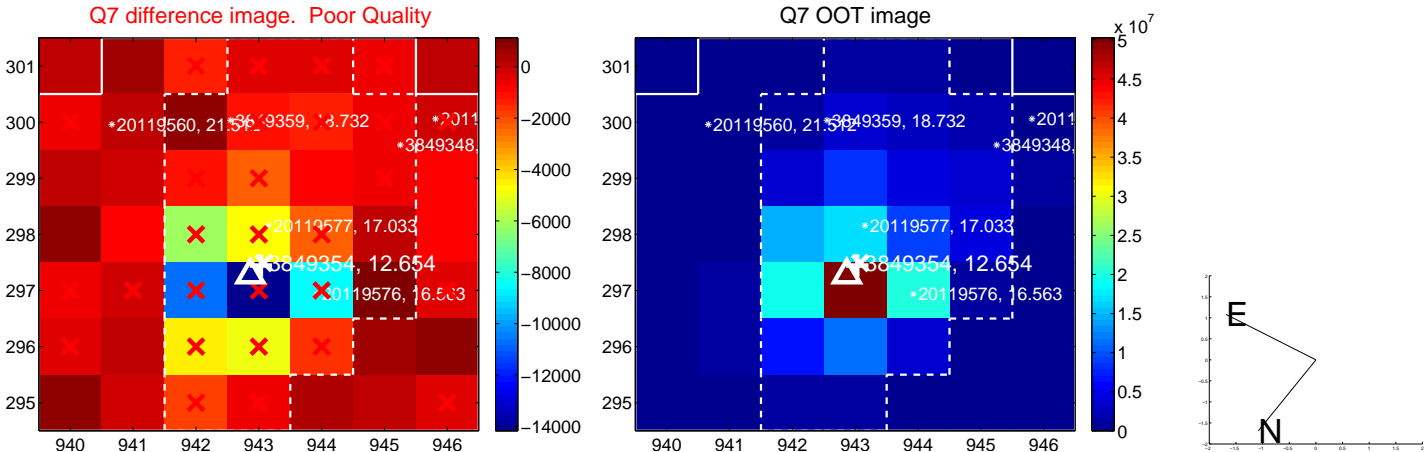
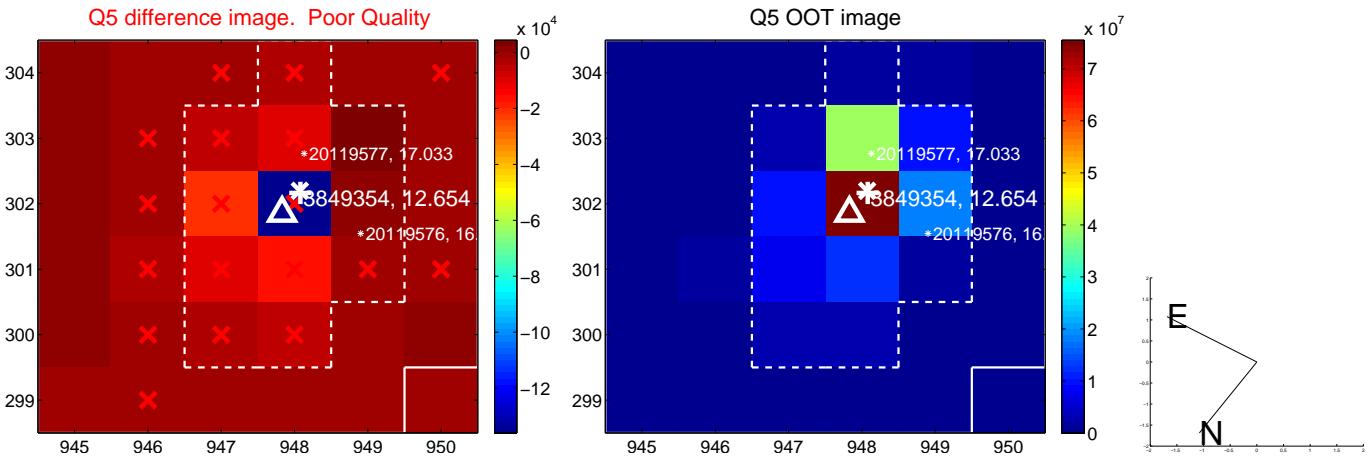
Q4 difference image



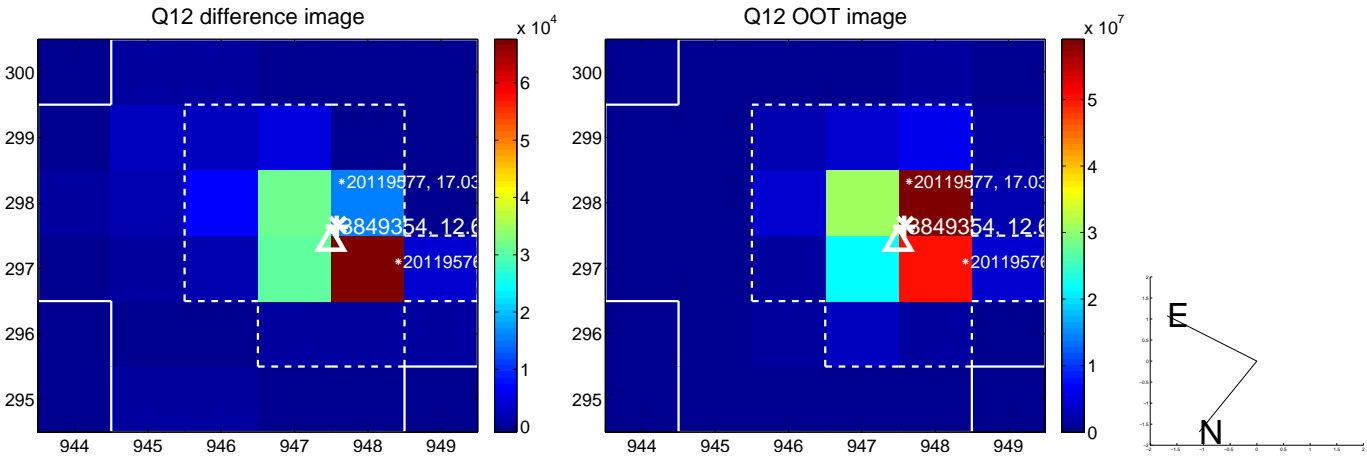
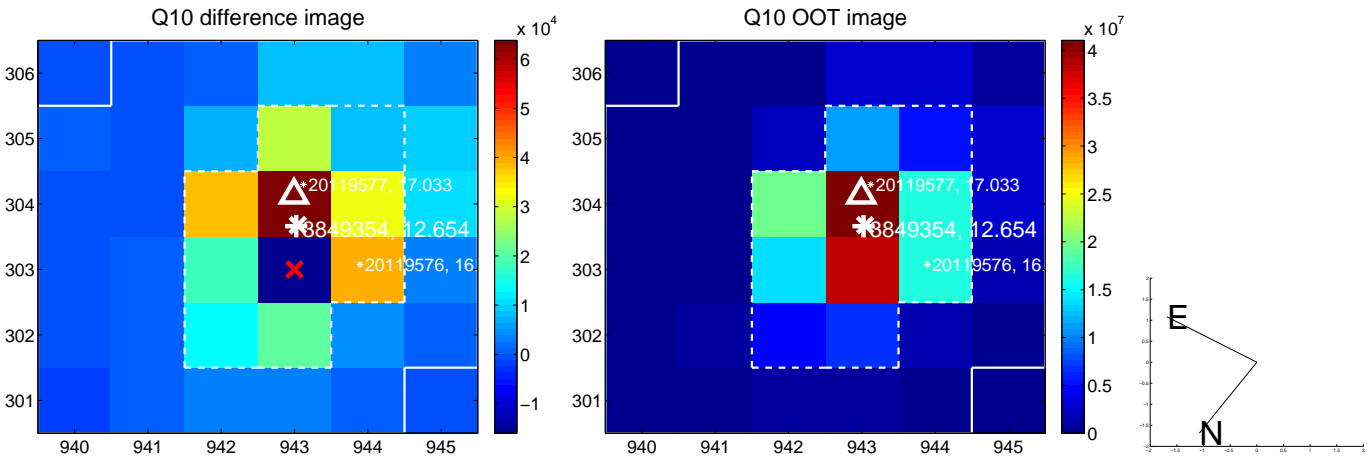
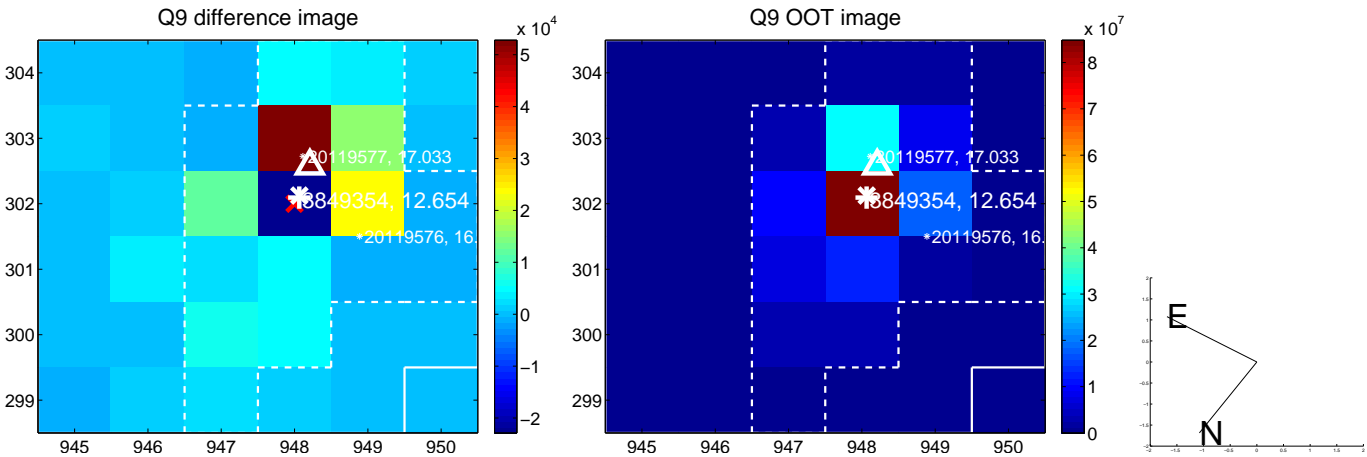
Q4 OOT image



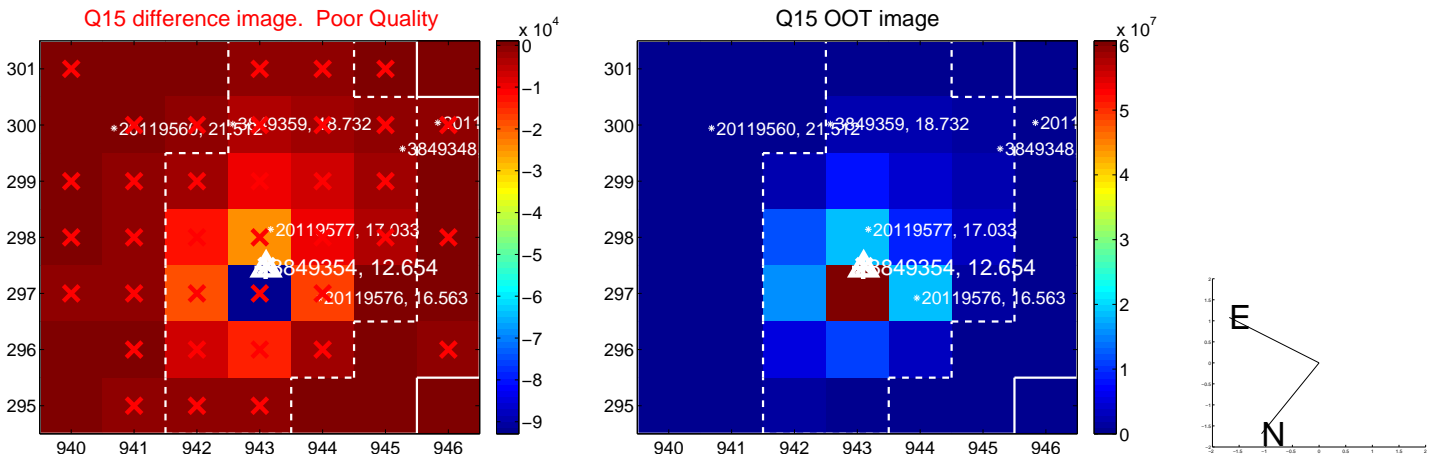
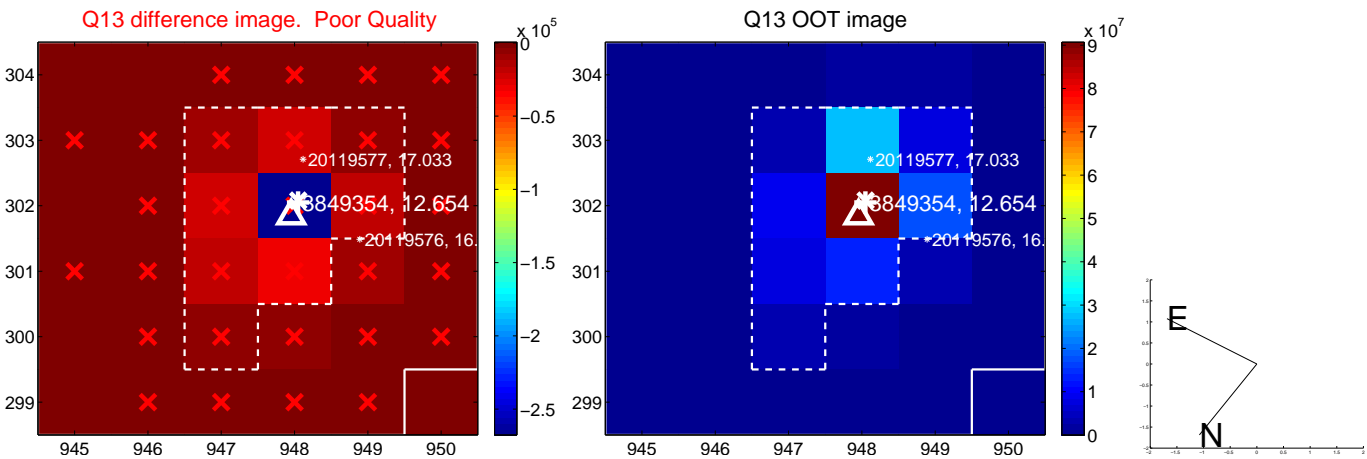
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



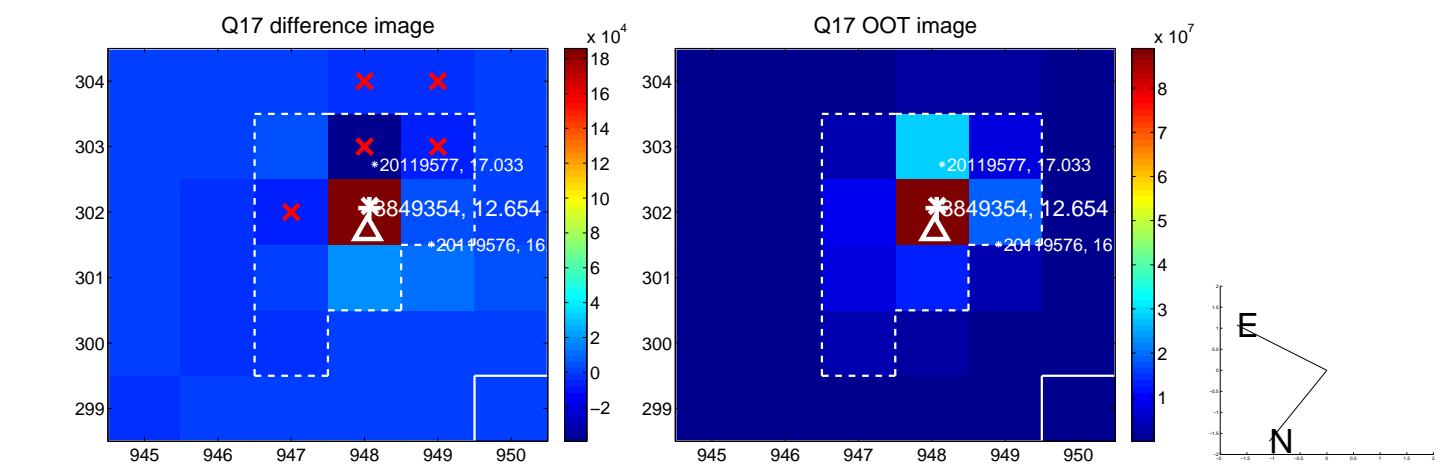
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



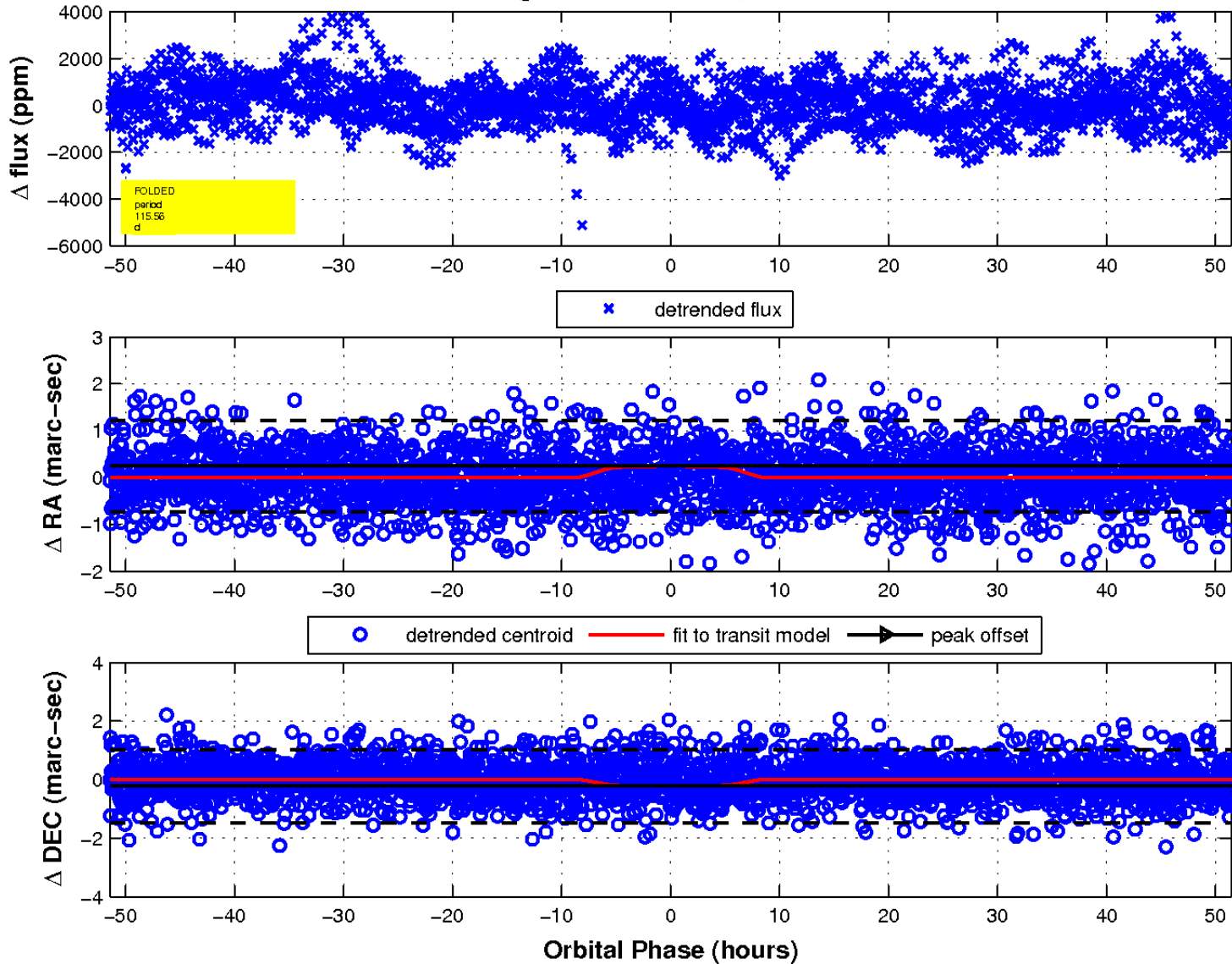
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 6 of 6



UKIRT Image

