

KIC 008113154

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})
008113154-01	OBS	1542.01	2.586855	133.820687	8747.9	5.375	118.7	103.3	1.17	6812	11.76	1823.54
008113154-02	OBS	No	3.107657	133.850046	917.9	10.580	10.1	9.6	1.17	6812	4.37	1427.91
008113154-03	OBS	No	3.883097	134.971415	1239.1	10.339	11.7	11.0	1.17	6812	5.02	1060.98
008113154-04	OBS	No	245.481349	303.328230	6697.9	12.160	11.4	10.5	1.17	6812	9.68	4.21
008113154-05	OBS	No	159.164892	270.188320	10187.9	23.811	9.8	11.0	1.17	6812	14.39	7.51
008113154-06	OBS	No	164.837529	280.199199	146.1	12.500	9.8	-1.0	1.17	6812	1.43	7.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008113154-01	OBS	FP	0.00	0	1	0	0	SWEET_EB
008113154-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
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008113154-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

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

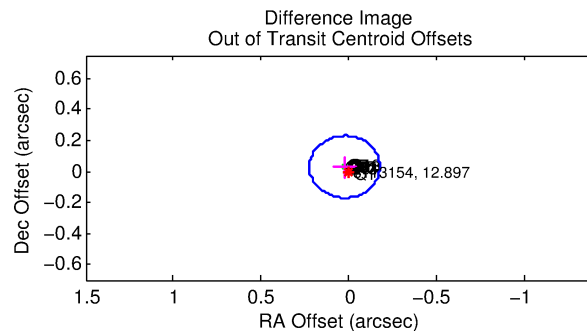
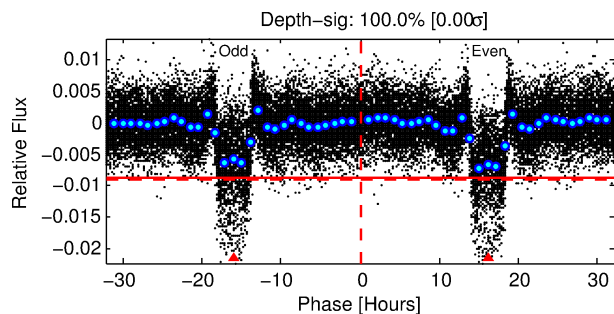
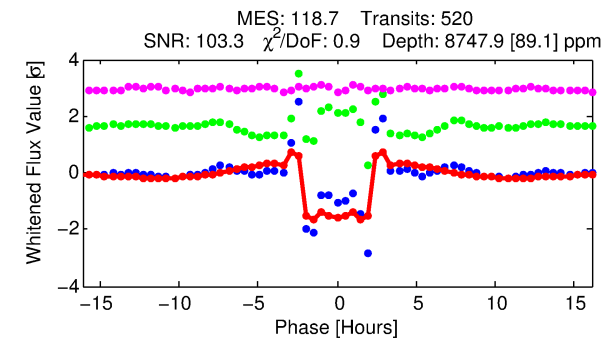
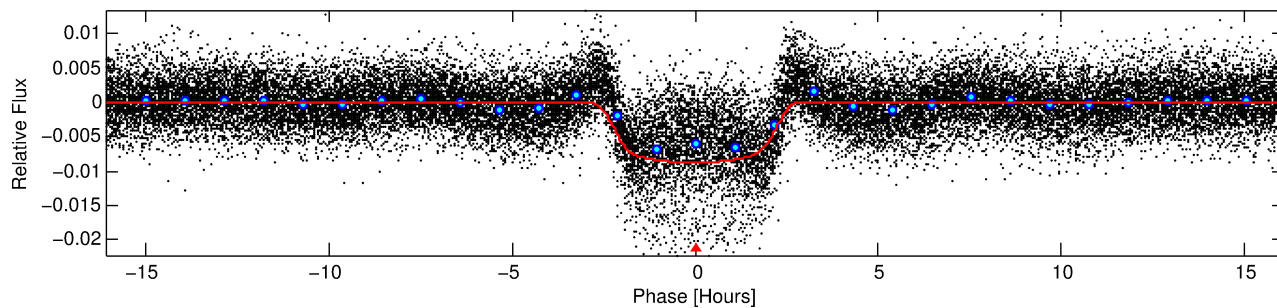
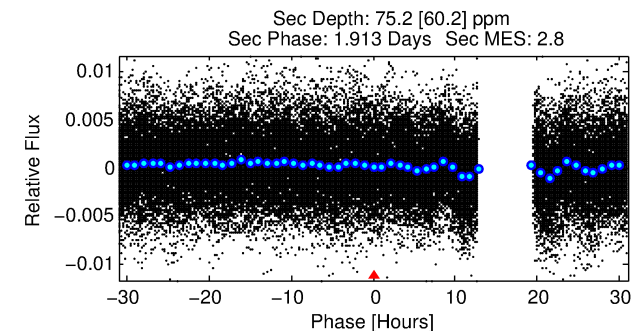
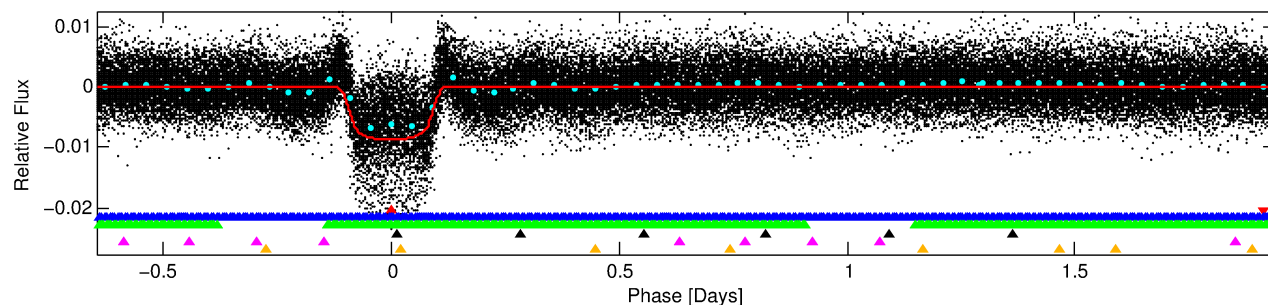
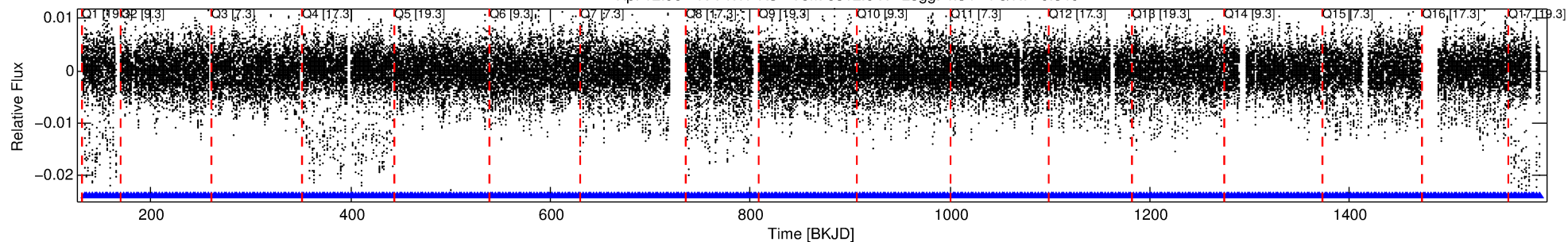
Ephemeris Match Information For 008113154-01

No Significant Match Found

DV One-Page Summary

KIC: 8113154 Candidate: 1 of 6 Period: 2.587 d
KOI: K01542.01 Corr: 0.957

Kp: 12.90 R*: 1.17 Rs Teff: 6812.0 K Logg: 4.34 Fe/H: -0.540



DV Fit Results:

Period = 2.58685 [0.00000] d
Epoch = 133.8207 [0.0003] BKJD
Rp/R* = 0.0919 [0.0005]
a/R* = 3.20 [0.04]
b = 0.70 [0.01]
Seff = 1823.54 [673.18]
Teq = 1666 [154] K
Rp = 11.76 [3.49] Re
a = 0.0381 [0.0092] AU
Ag = 0.43 [0.38] [-1.49σ]
Teff = 2092 [425] K [0.94σ]

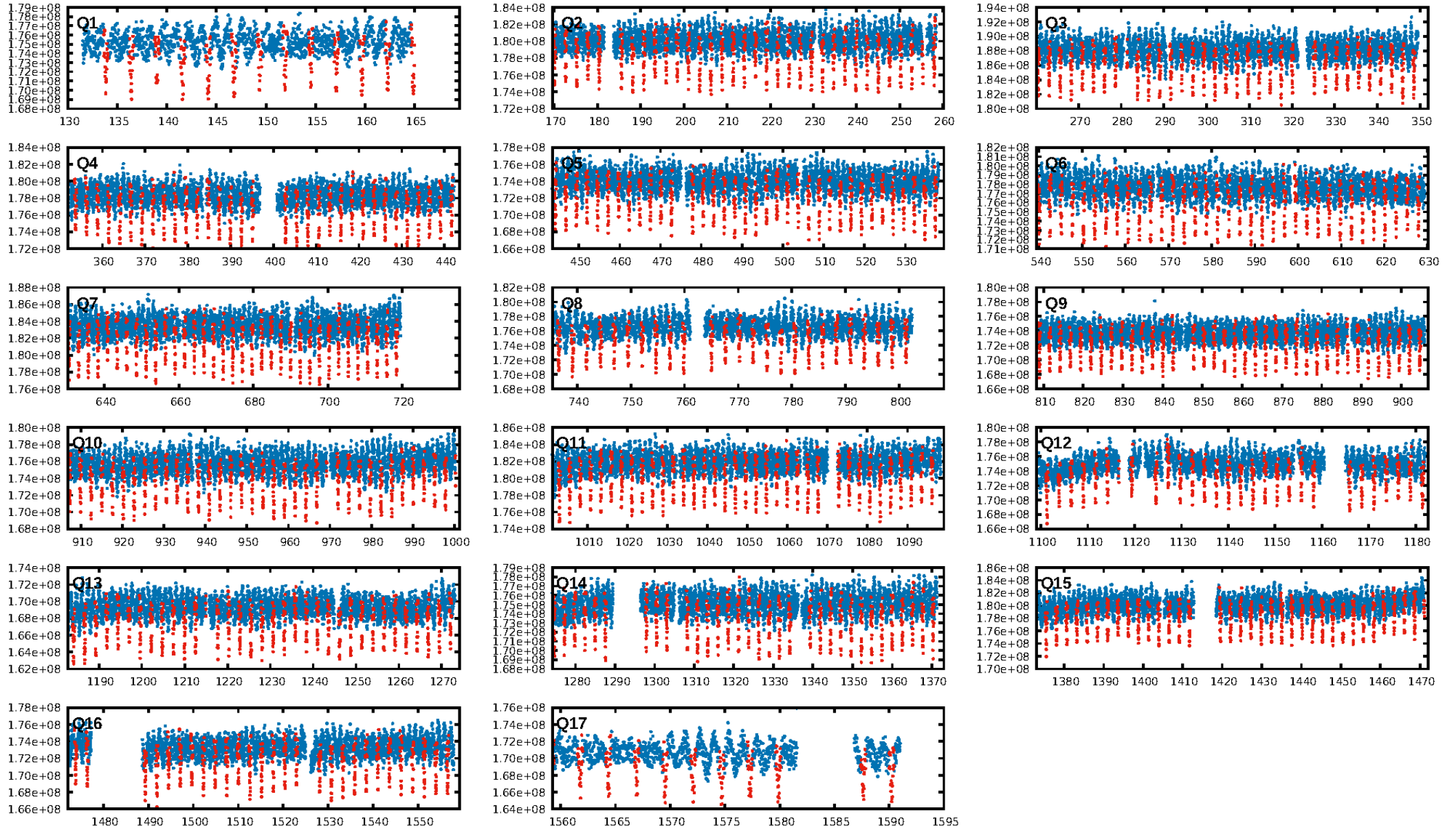
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 70.8% [1.05σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [496/496]
GhostDiagnostic-chr: 1.46
Centroid-sig: 0.0%
Centroid-so: 0.068 arcsec [17.90σ]
OotOffset-rm: 0.039 arcsec [0.59σ]
KicOffset-rm: 0.047 arcsec [0.70σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:55:53 Z

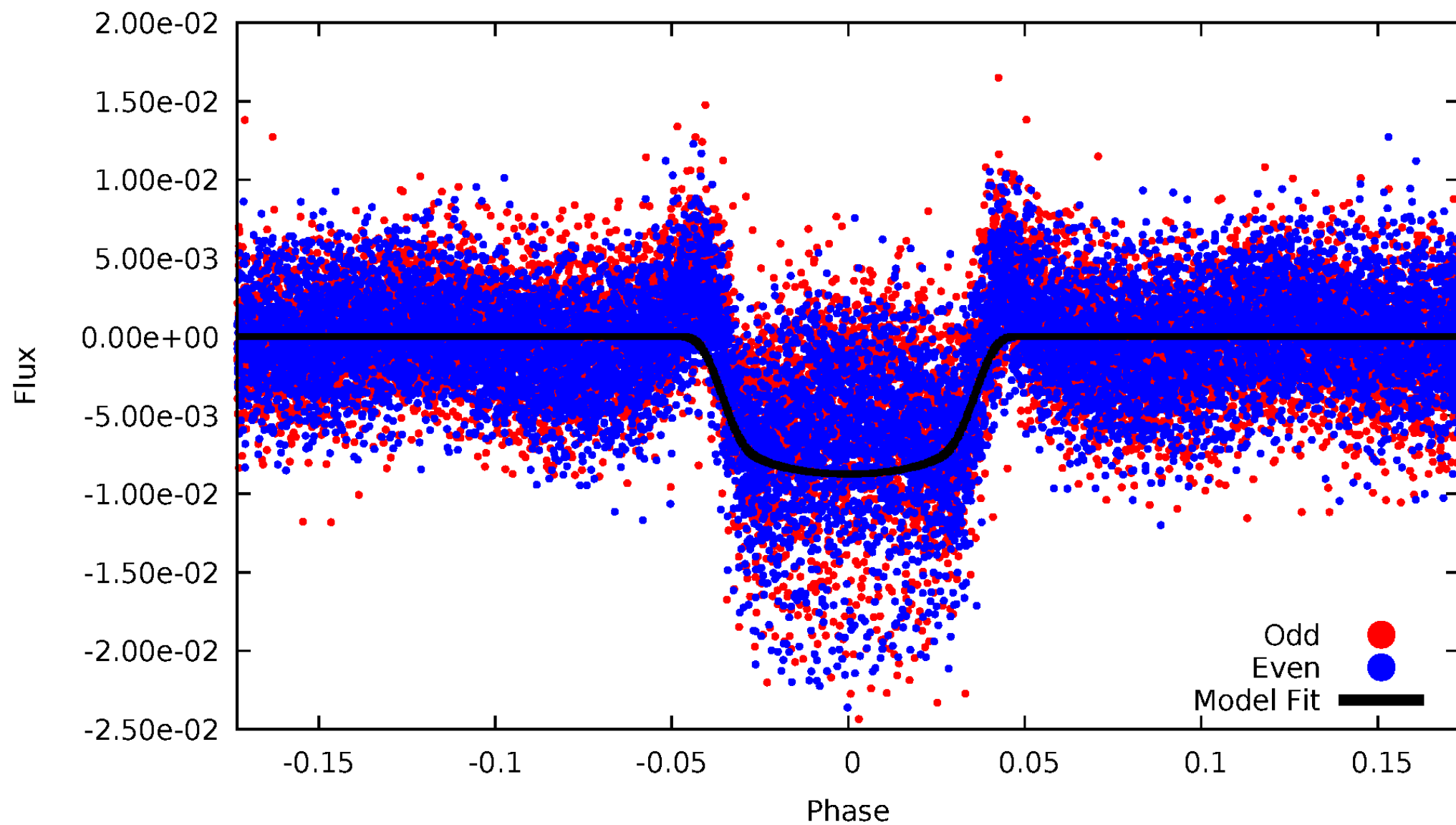
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008113154-01, PDC Light Curves



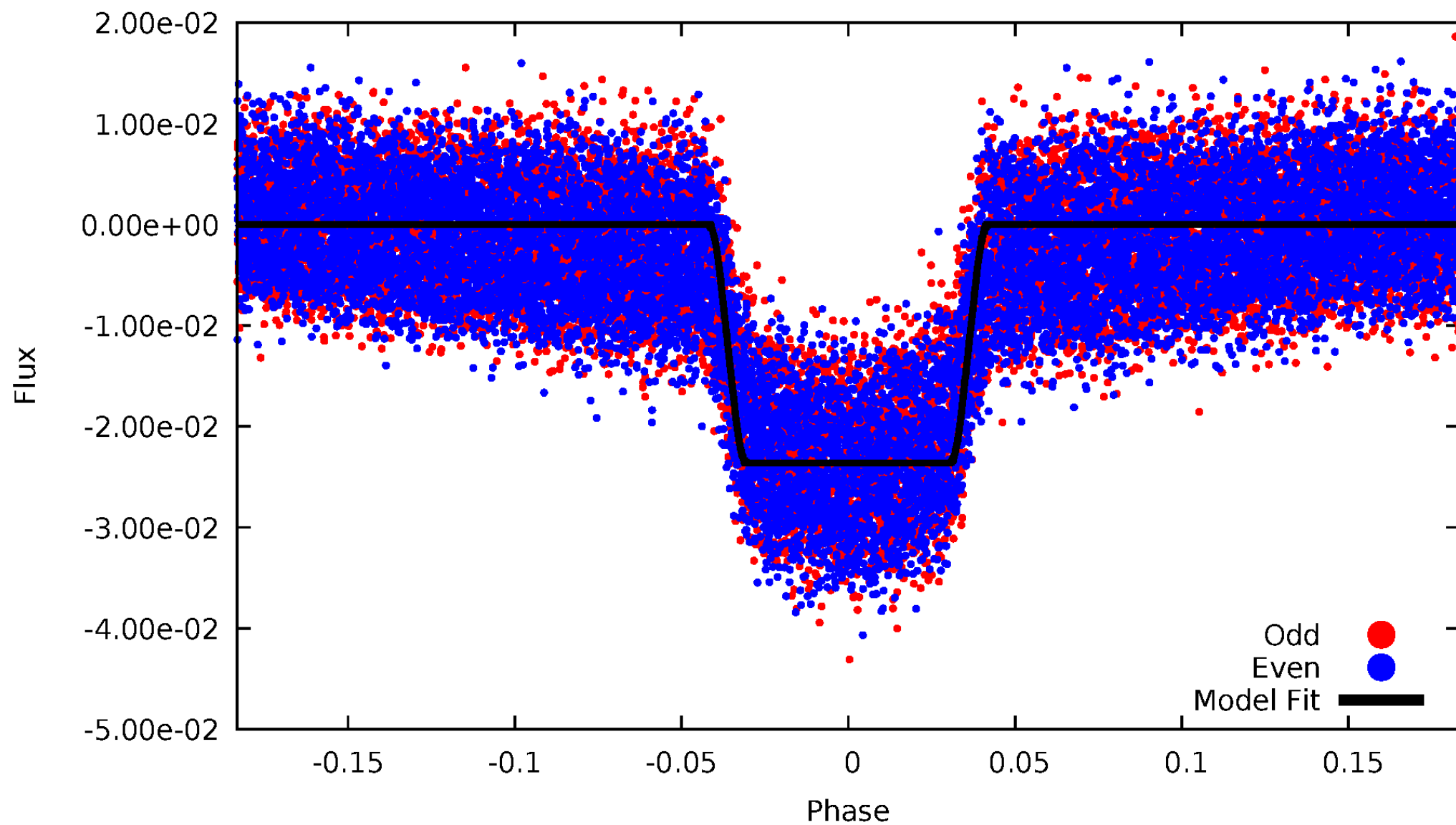
DV Odd/Even

TCE 008113154-01



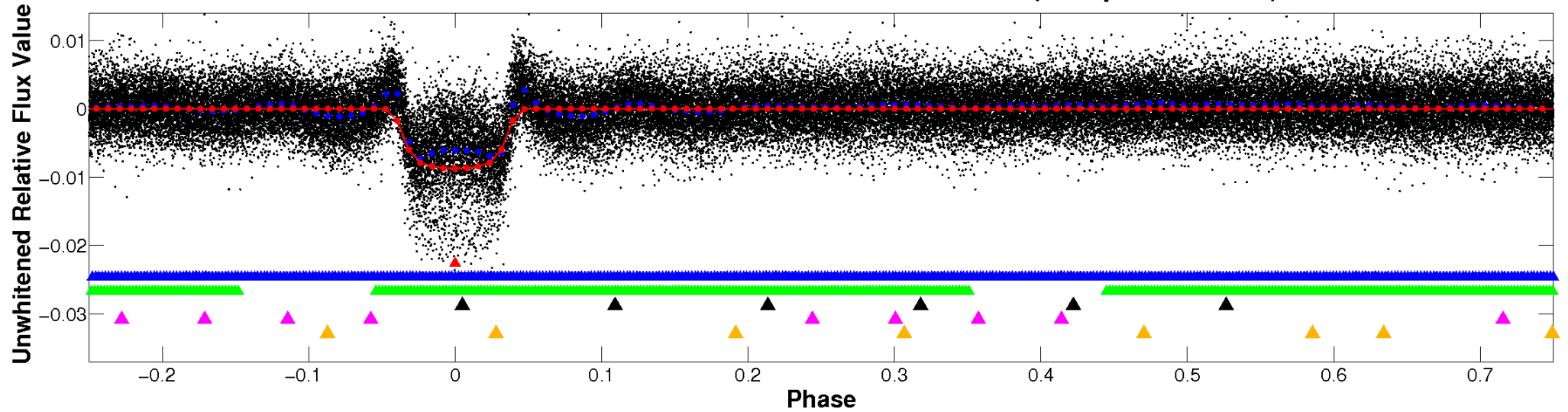
ALT Odd/Even

TCE 008113154-01

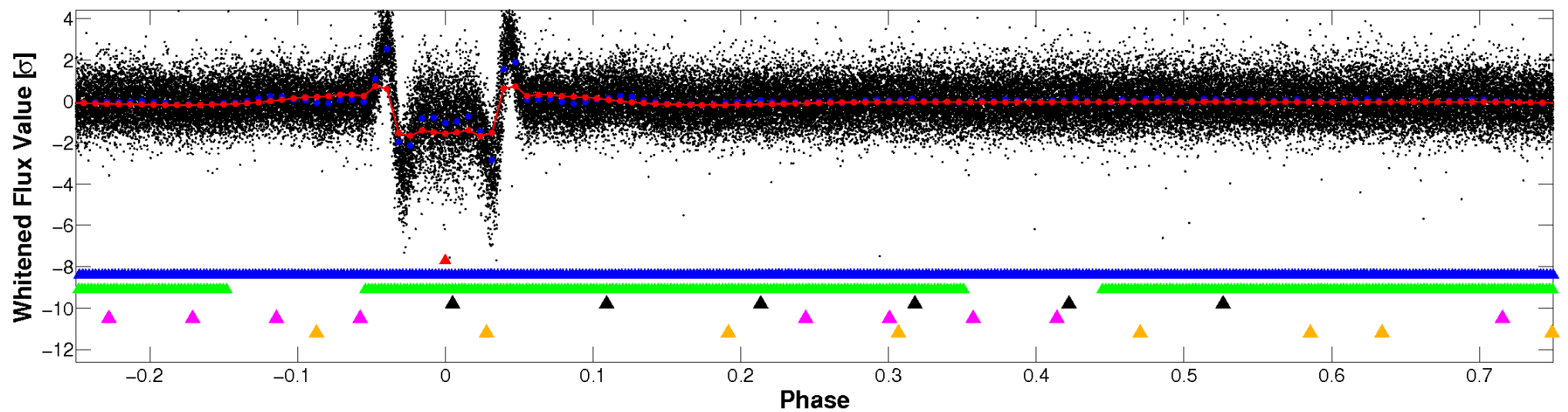


Non-Whitened Vs. Whitened Light Curve

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

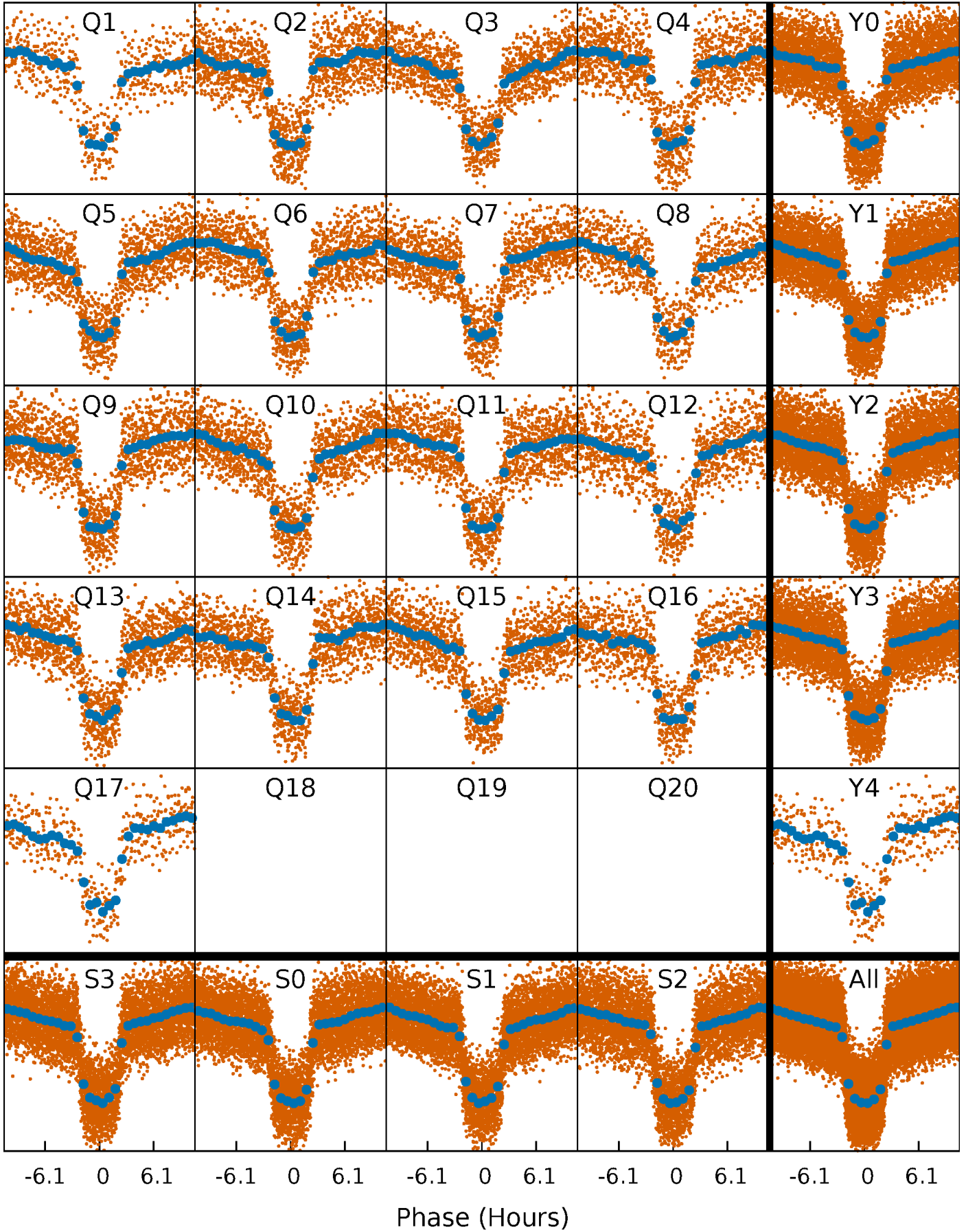


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



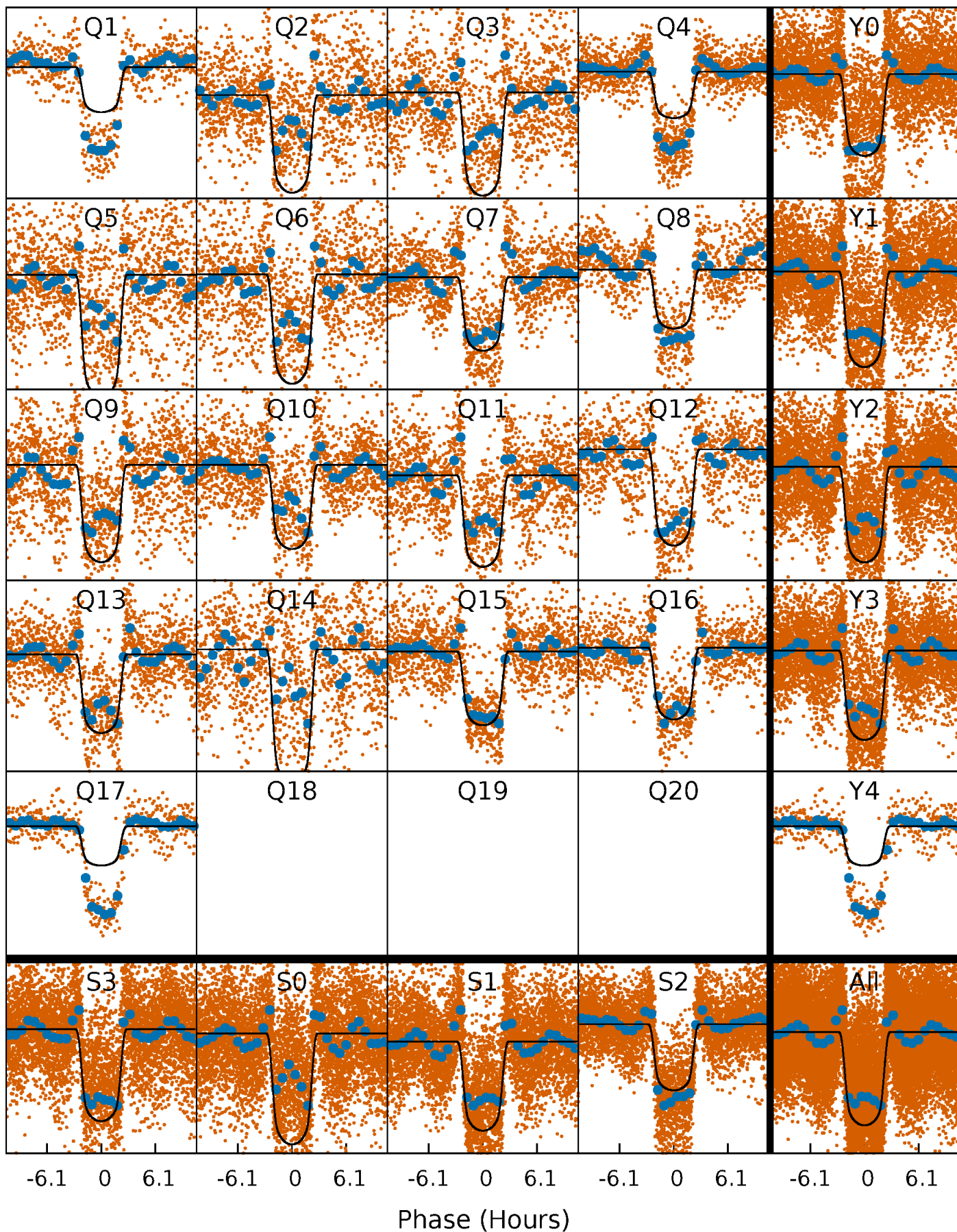
PDC Quarter-Phased Transit Curves

TCE 008113154-01 P= 2.586855 Days $T_0=133.820687$ (BKJD)



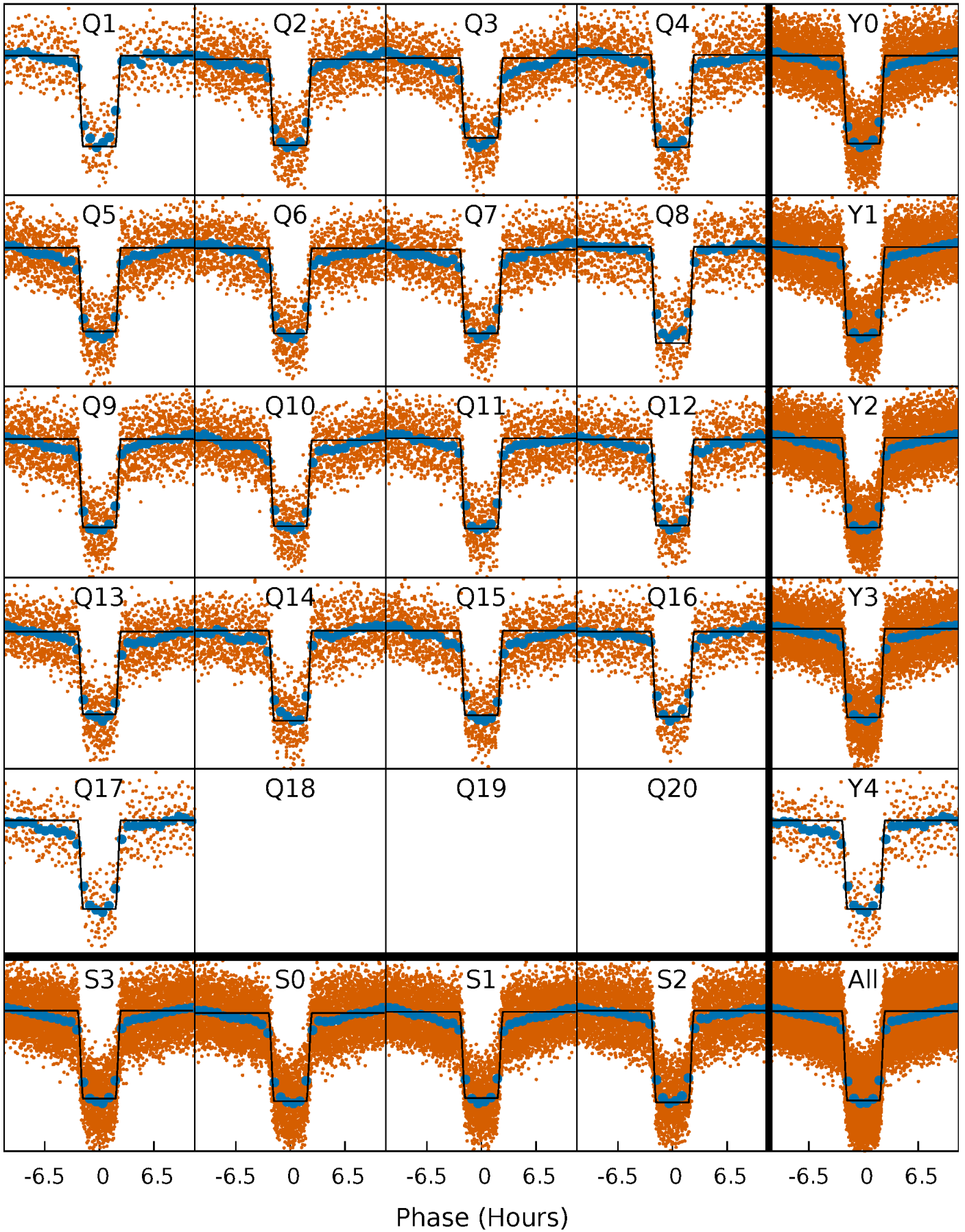
DV Quarter-Phased Transit Curves

TCE 008113154-01 P= 2.586855 Days $T_0=133.820687$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

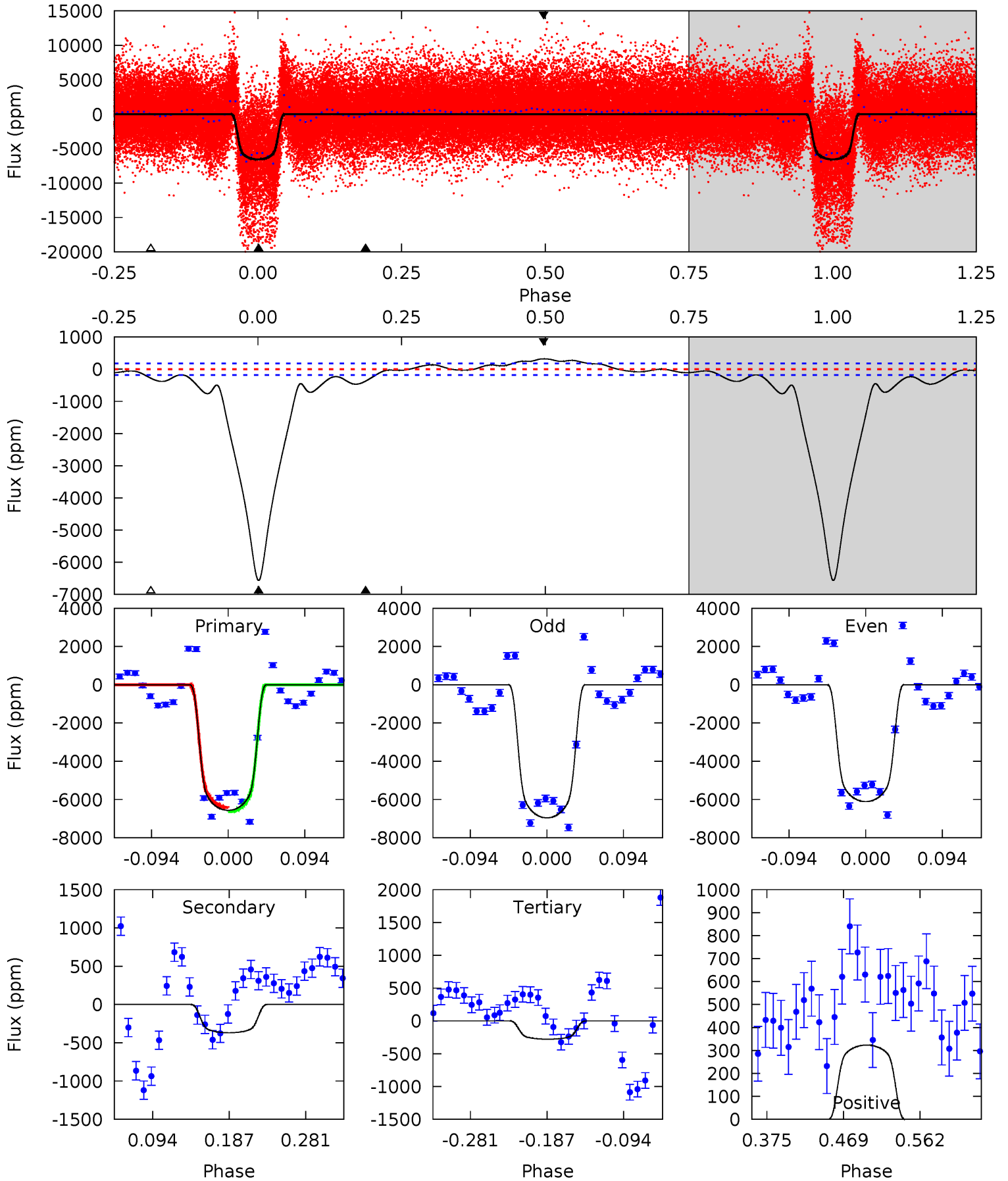
TCE 008113154-01 P= 2.586872 Days $T_0=133.819028$ (BKJD)



DV Model-Shift Uniqueness Test

008113154-01, P = 2.586855 Days, E = 131.233832 Days

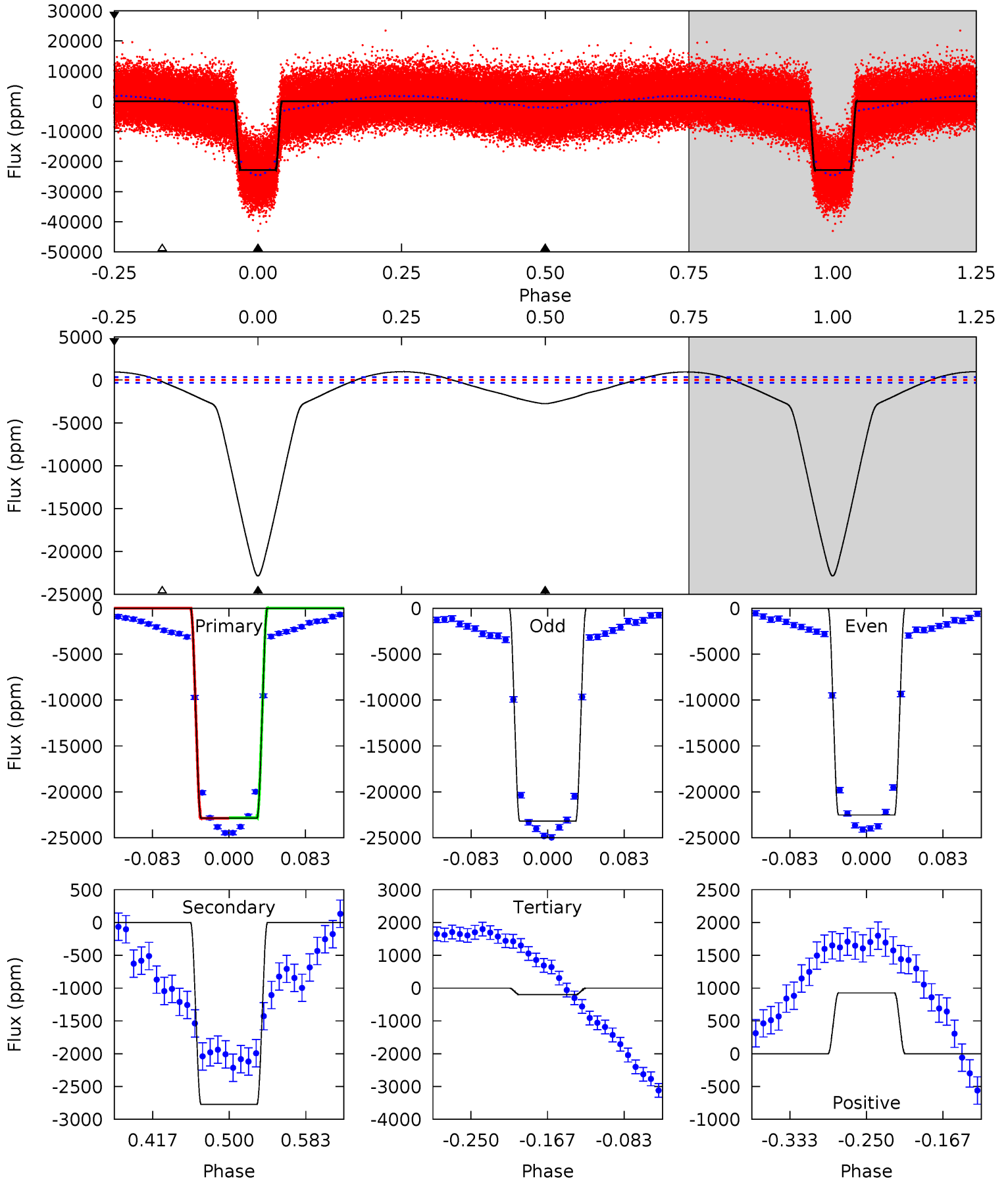
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
168.3	9.46	7.16	8.29	4.58	1.68	5.21	161.2	160.0	2.30	1.17	10.9	1.04	0.05	2.82



Alt Model-Shift Uniqueness Test

008113154-01, P = 2.586872 Days, E = 131.232156 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
319.9	38.8	2.81	13.0	4.60	1.73	13.8	317.1	307.0	36.0	25.9	4.73	1.00	0.04	0.34



Stellar Parameters For KIC 008113154

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6812^{+165}_{-235}	$4.343^{+0.084}_{-0.182}$	$-0.540^{+0.250}_{-0.300}$	$1.172^{+0.348}_{-0.149}$	$1.103^{+0.157}_{-0.128}$	$0.965^{+0.420}_{-0.502}$
	+2%/-3%	+2%/-4%	+46%/-56%	+30%/-13%	+14%/-12%	+44%/-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 008113154-01 / KOI 1542.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-369 ± 39	$11.80^{+1.84}_{-0.86}$	2340^{+151}_{-113}	3464^{+95}_{-107}	$2.043^{+0.432}_{-0.485}$
Alt.	-2772 ± 71	$19.81^{+3.22}_{-1.53}$	2350^{+173}_{-120}	4176^{+81}_{-92}	$5.567^{+0.871}_{-1.322}$

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

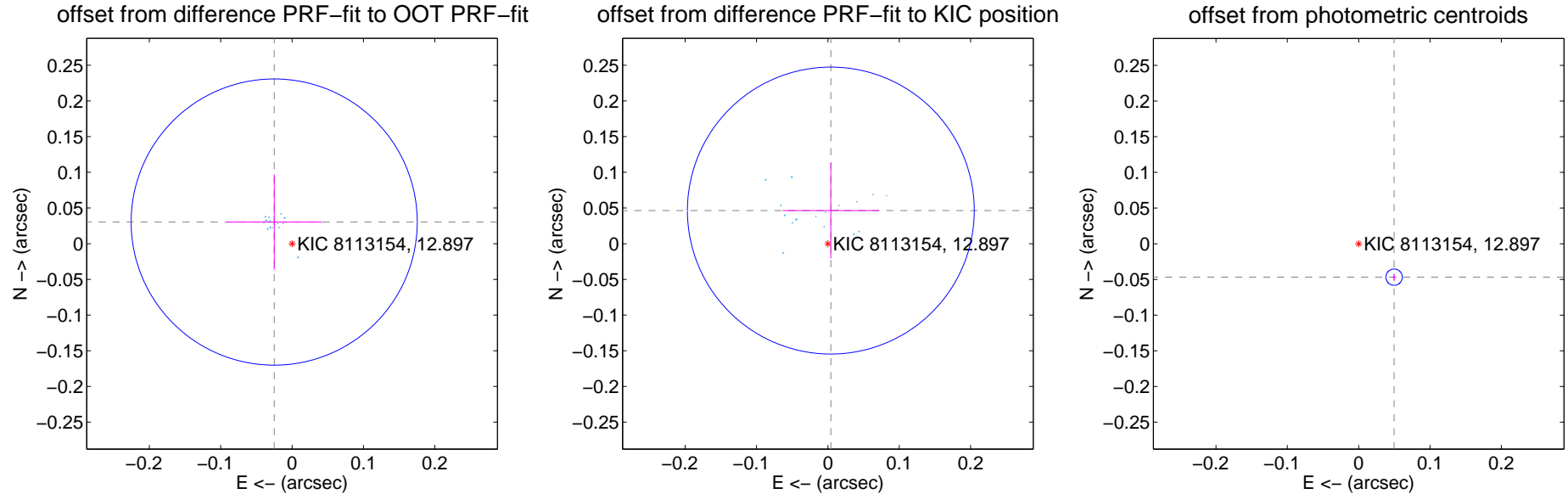
DV Centroid Data

Supplemental centroid analysis for 008113154-01. Kepler magnitude: 12.90. Transit SNR 103.26

There are 17 quarters with good PRF difference image offsets

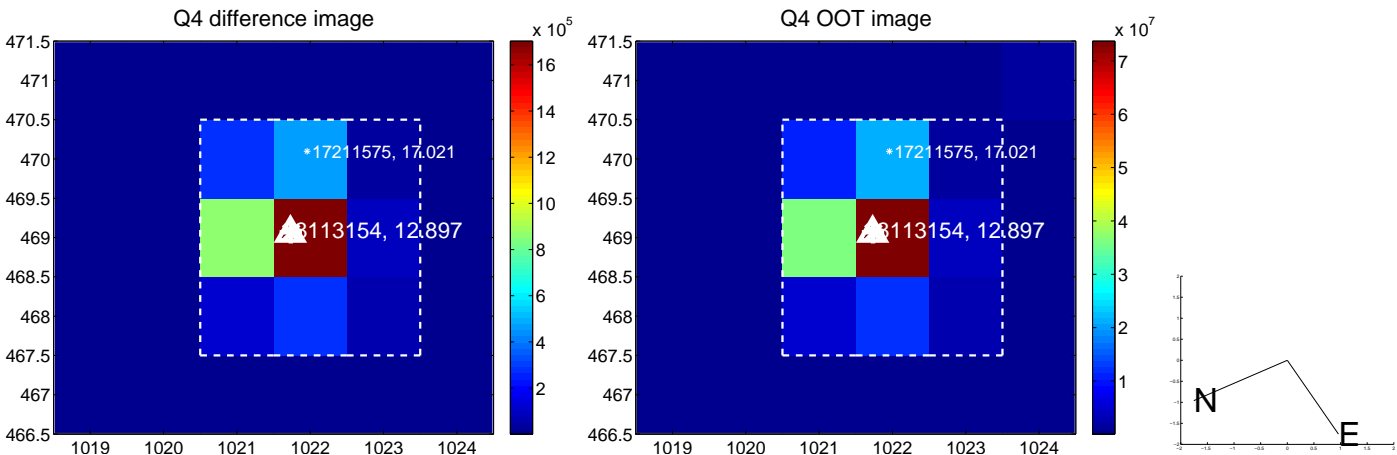
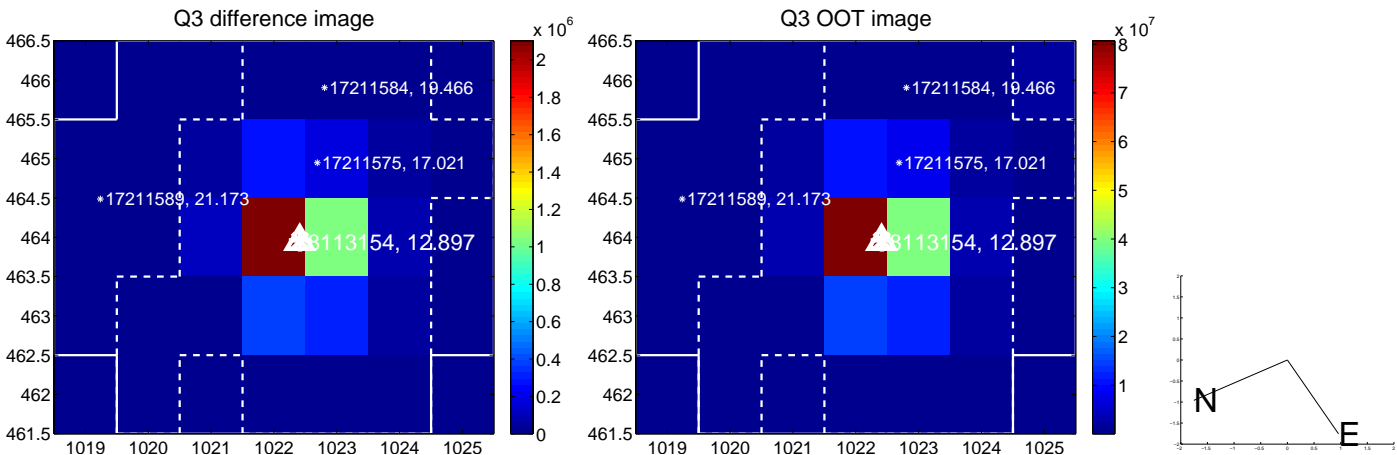
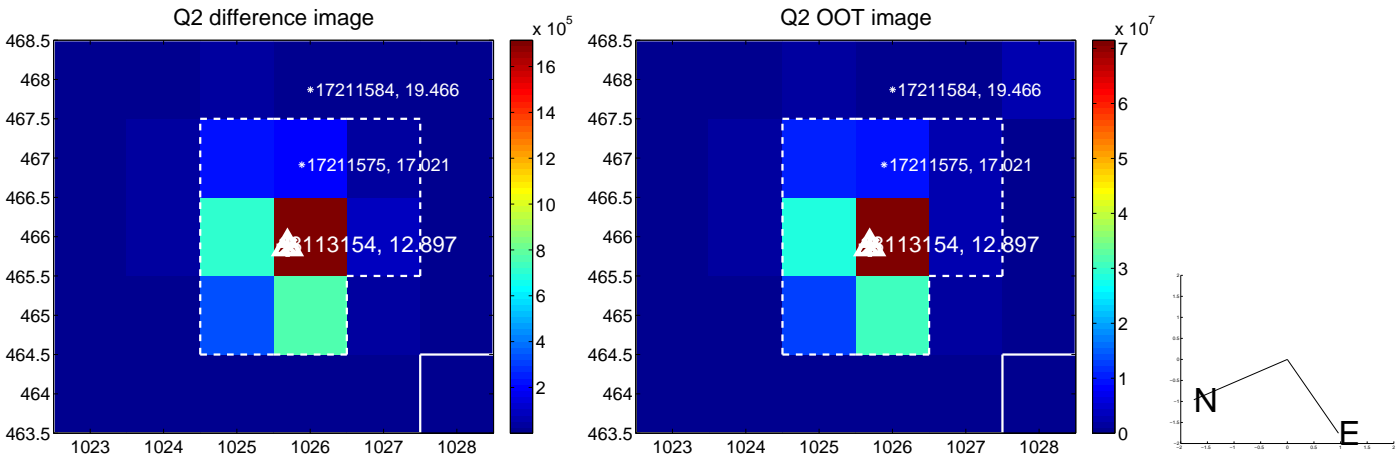
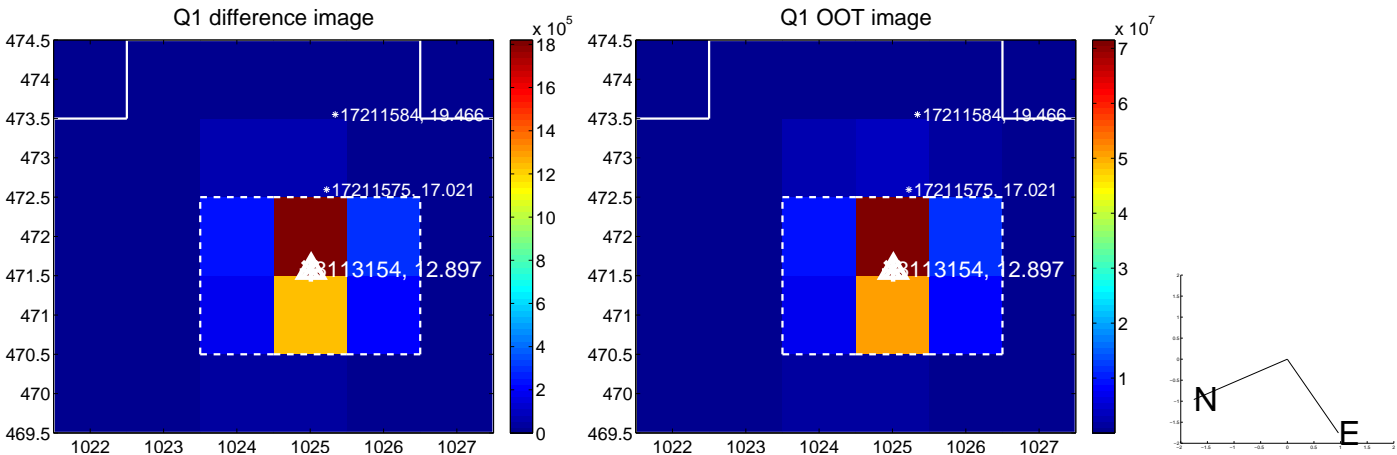
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.039 ± 0.067	0.59	0.025 ± 0.067	0.030 ± 0.067
PRF-fit source offset from KIC position	0.047 ± 0.067	0.70	-0.004 ± 0.068	0.046 ± 0.067
photometric centroid source offset	0.07 ± 0.00	17.90	-0.05 ± 0.00	-0.05 ± 0.00

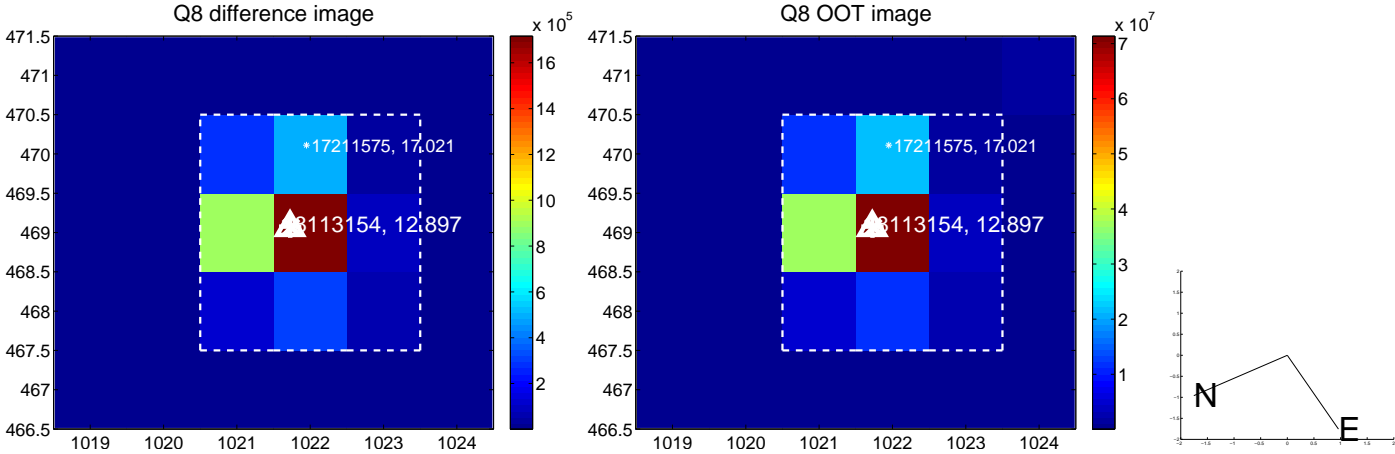
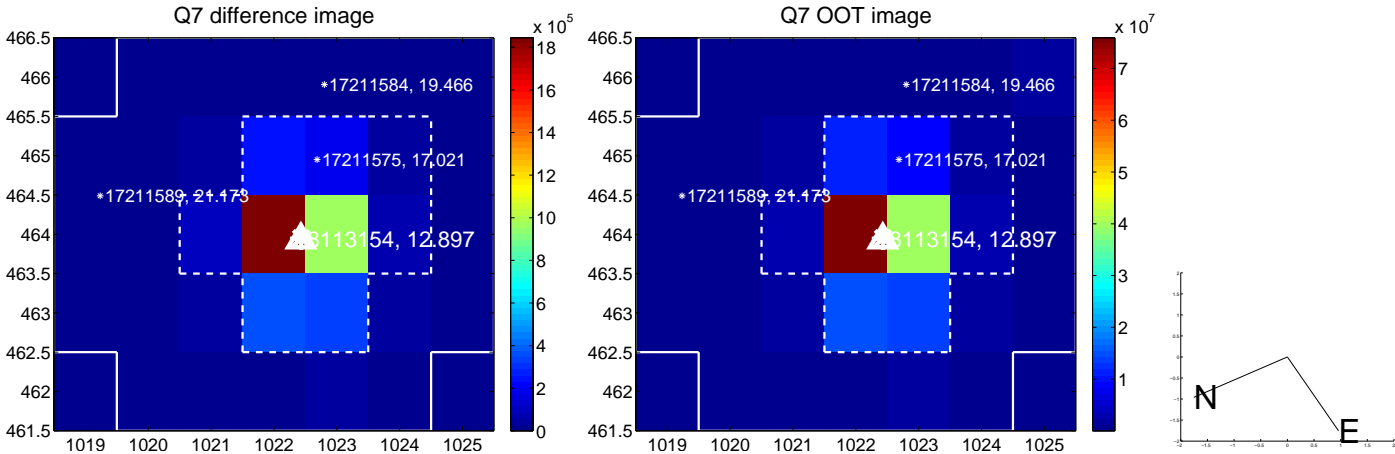
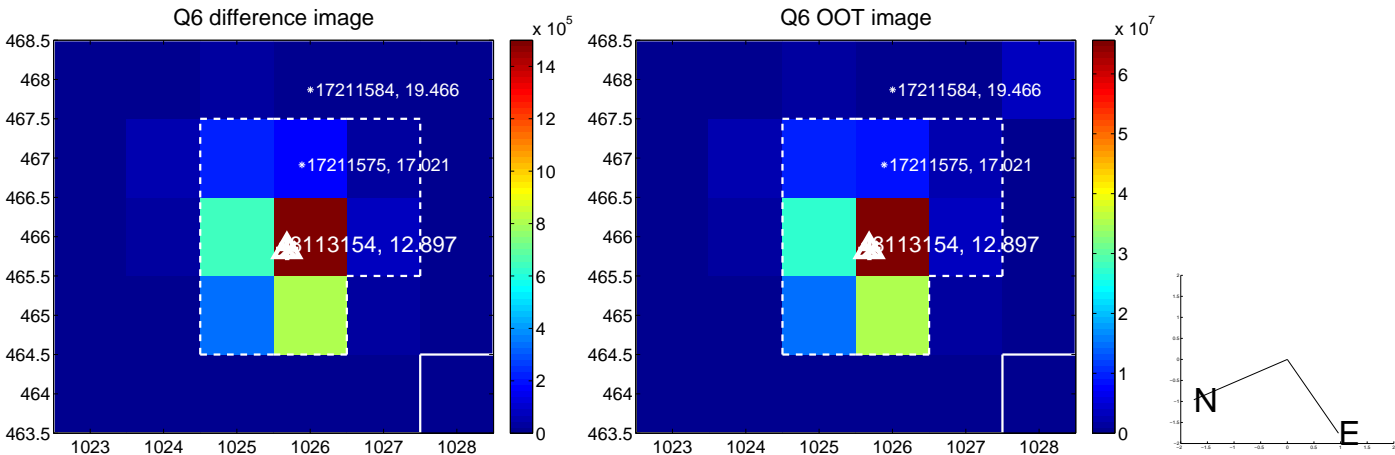
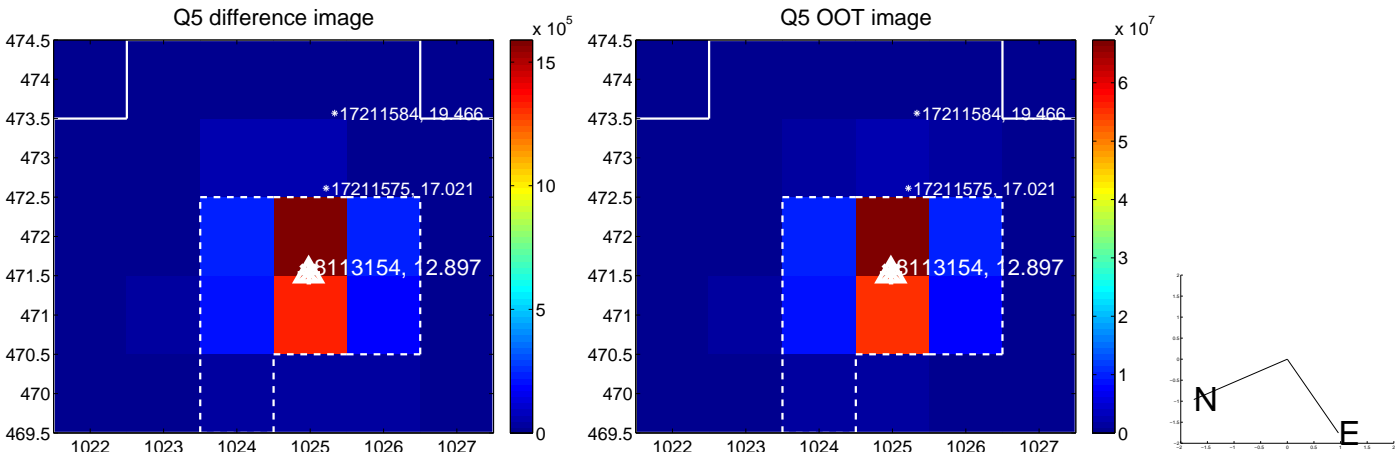


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

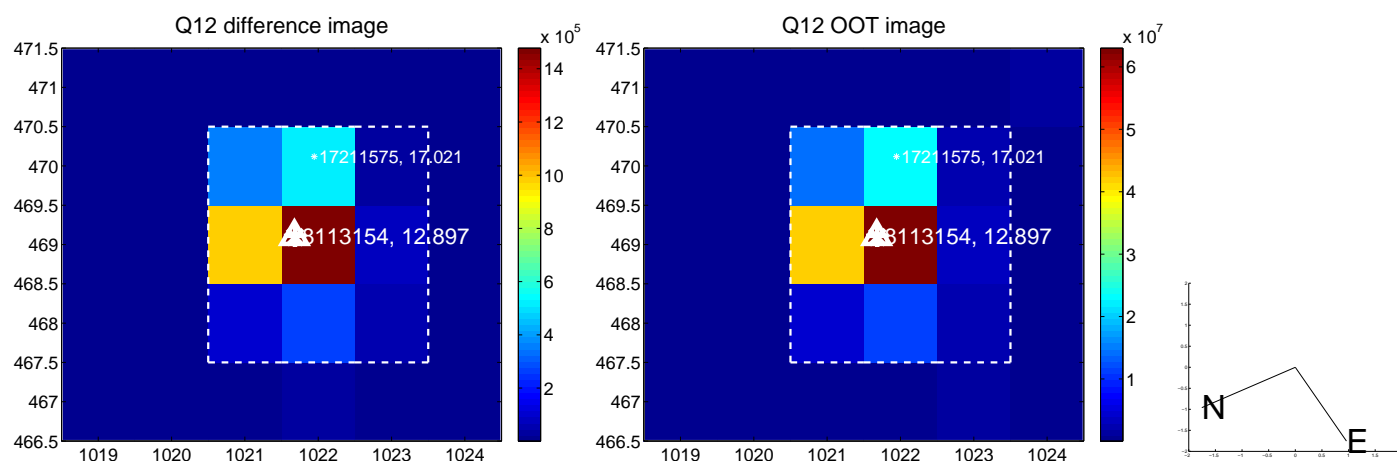
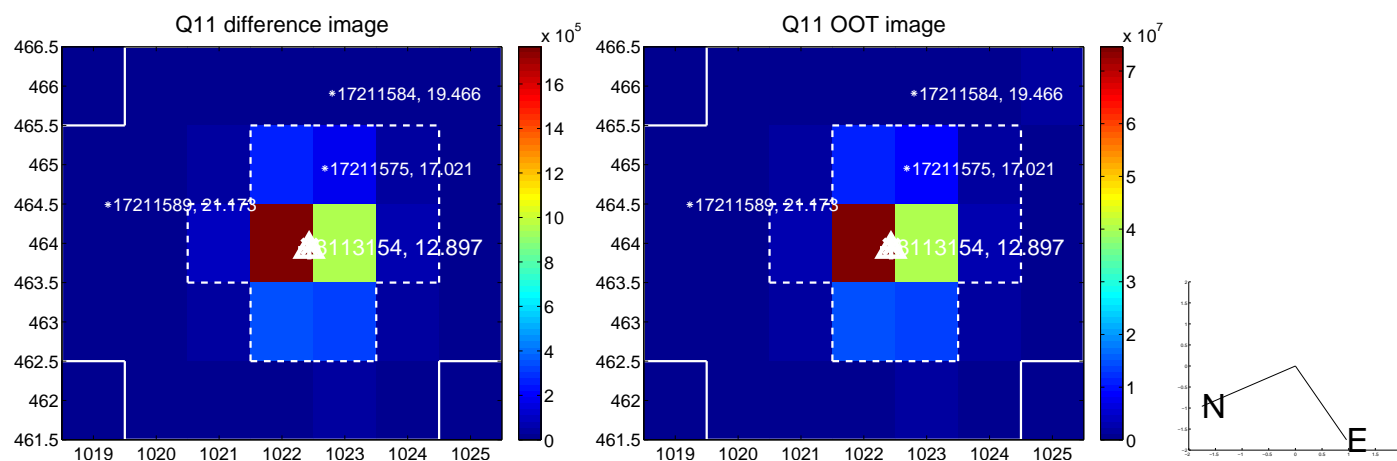
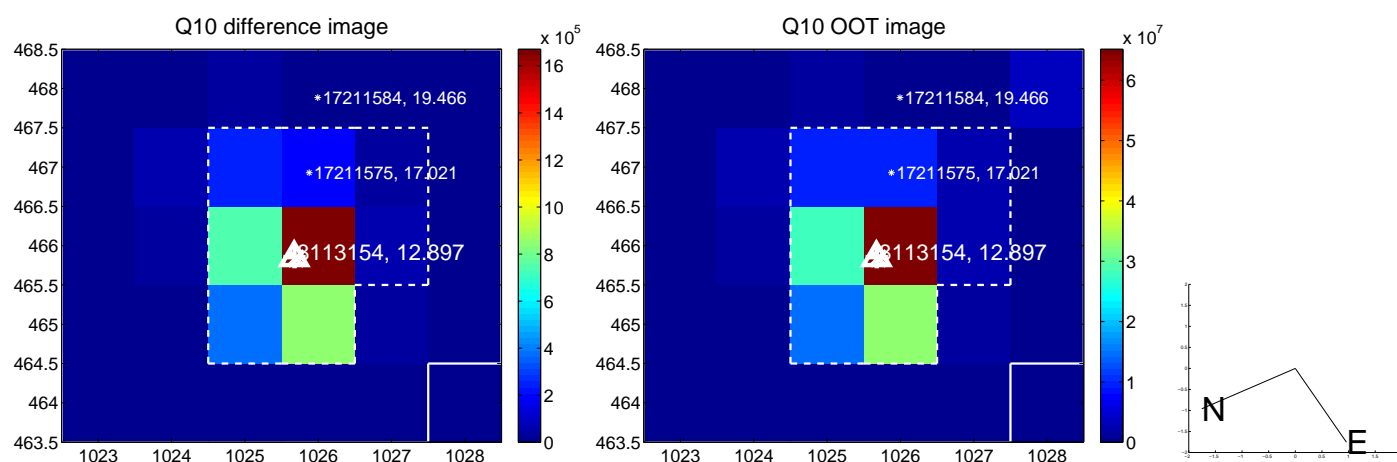
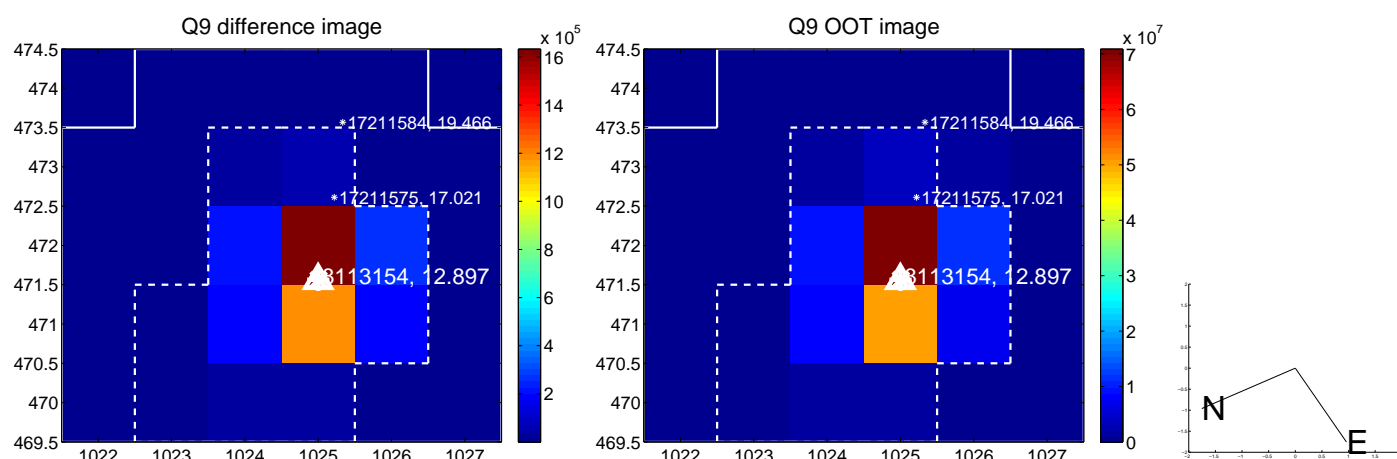
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



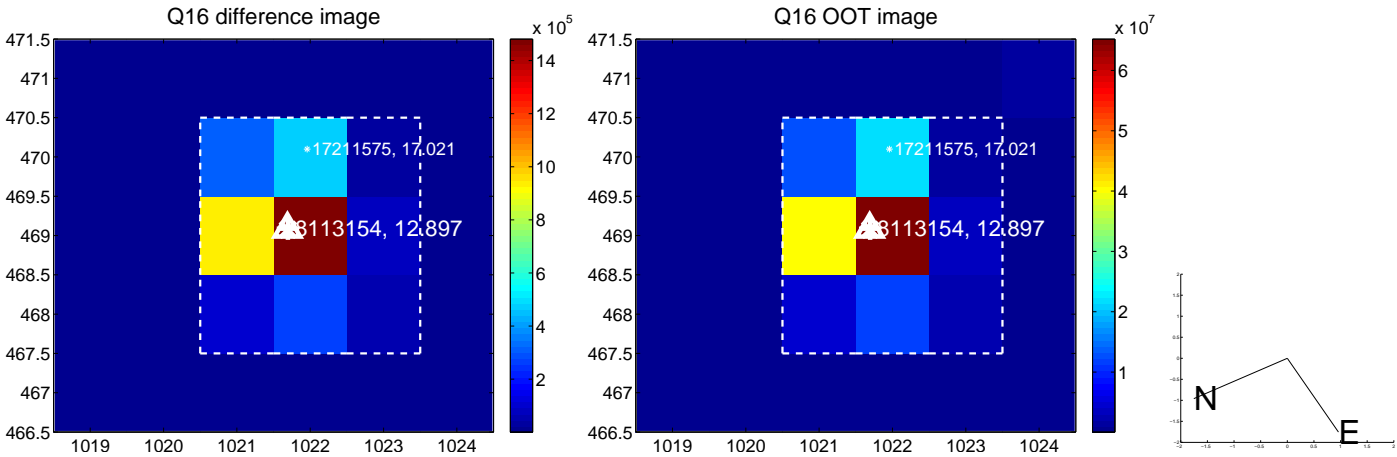
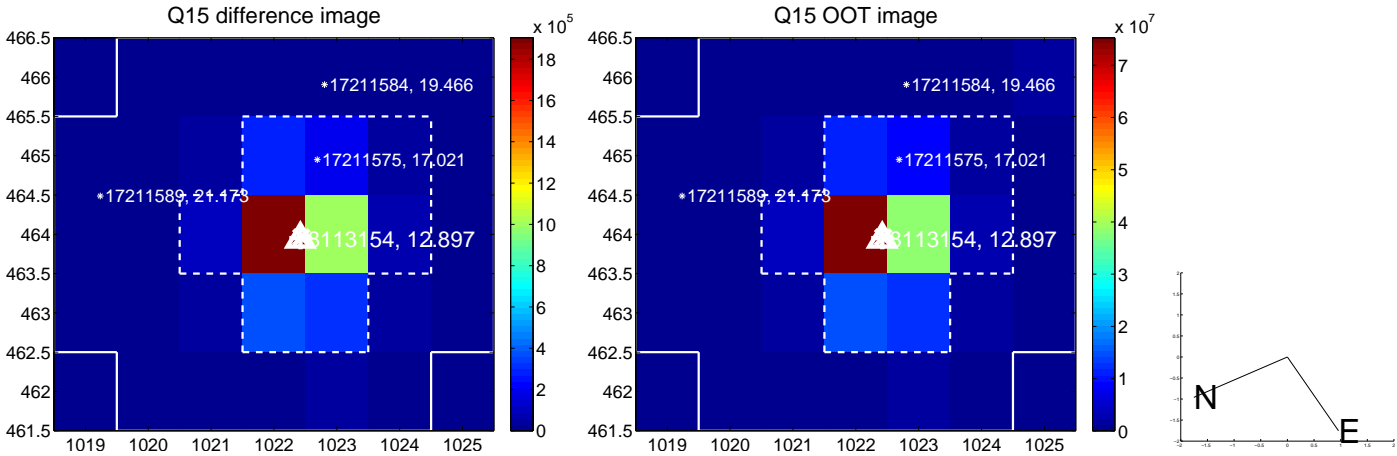
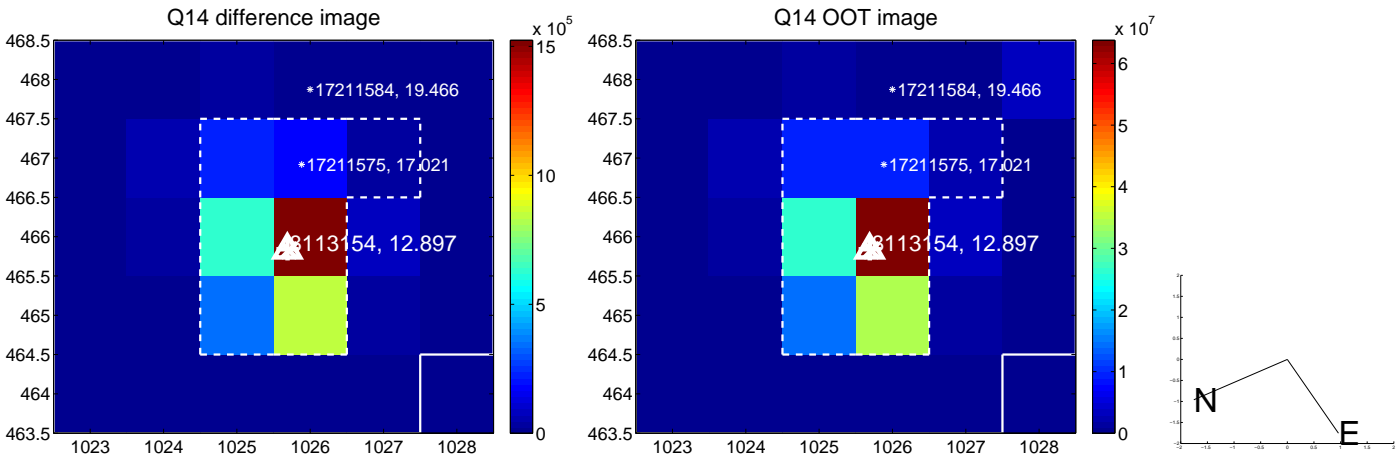
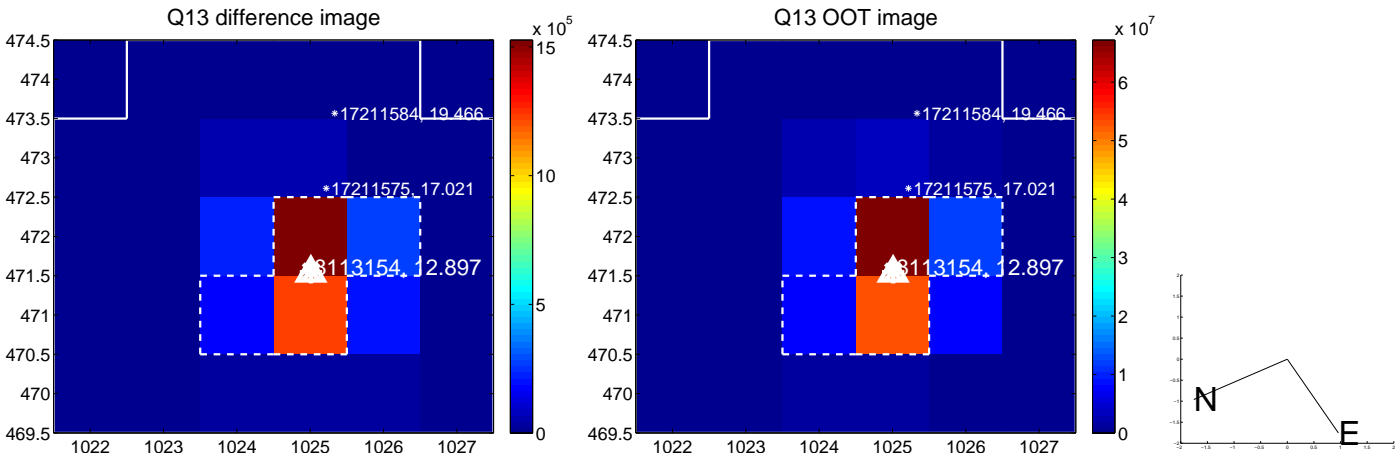
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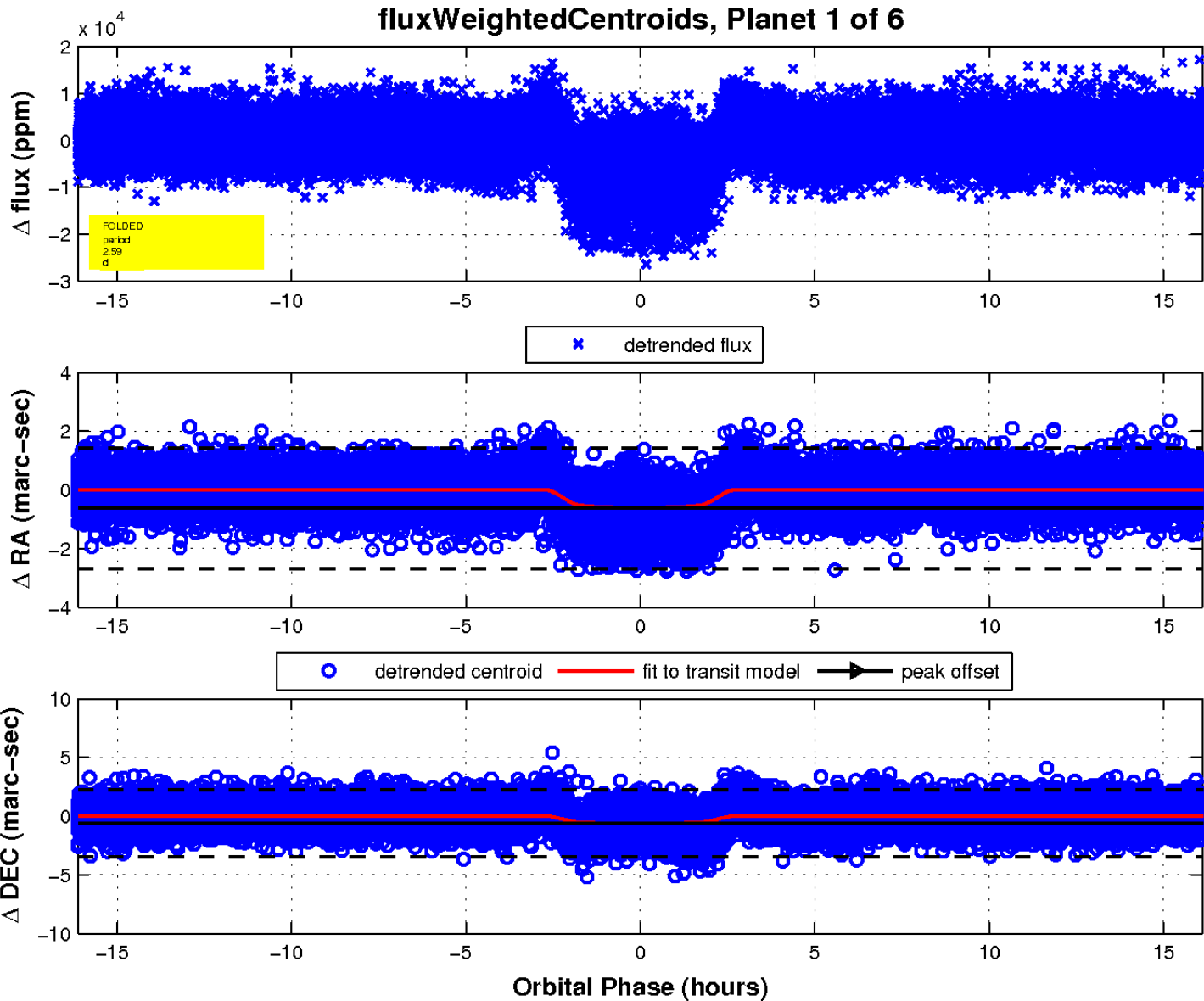
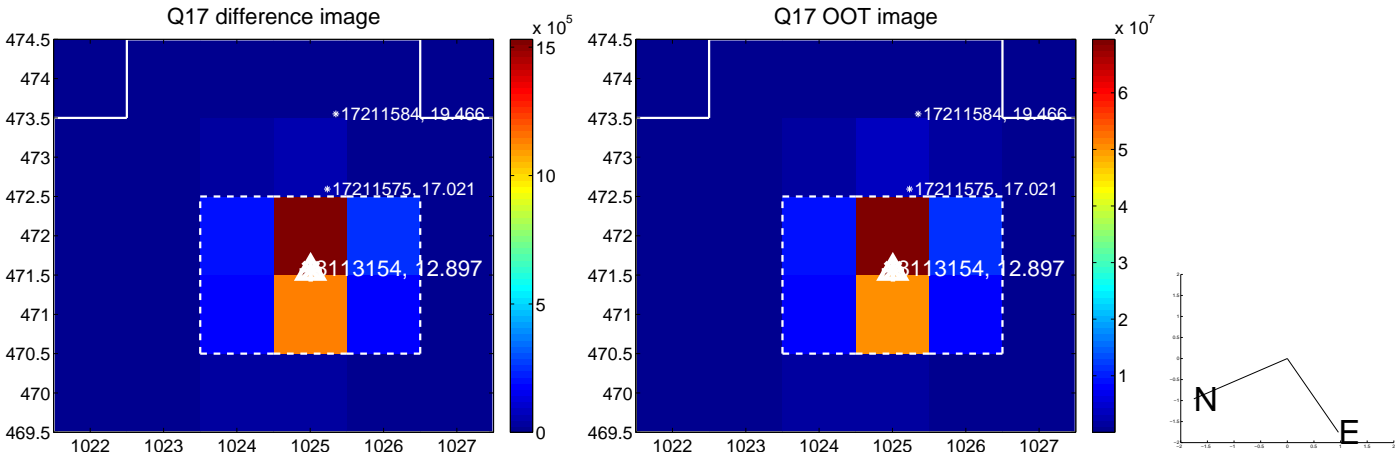
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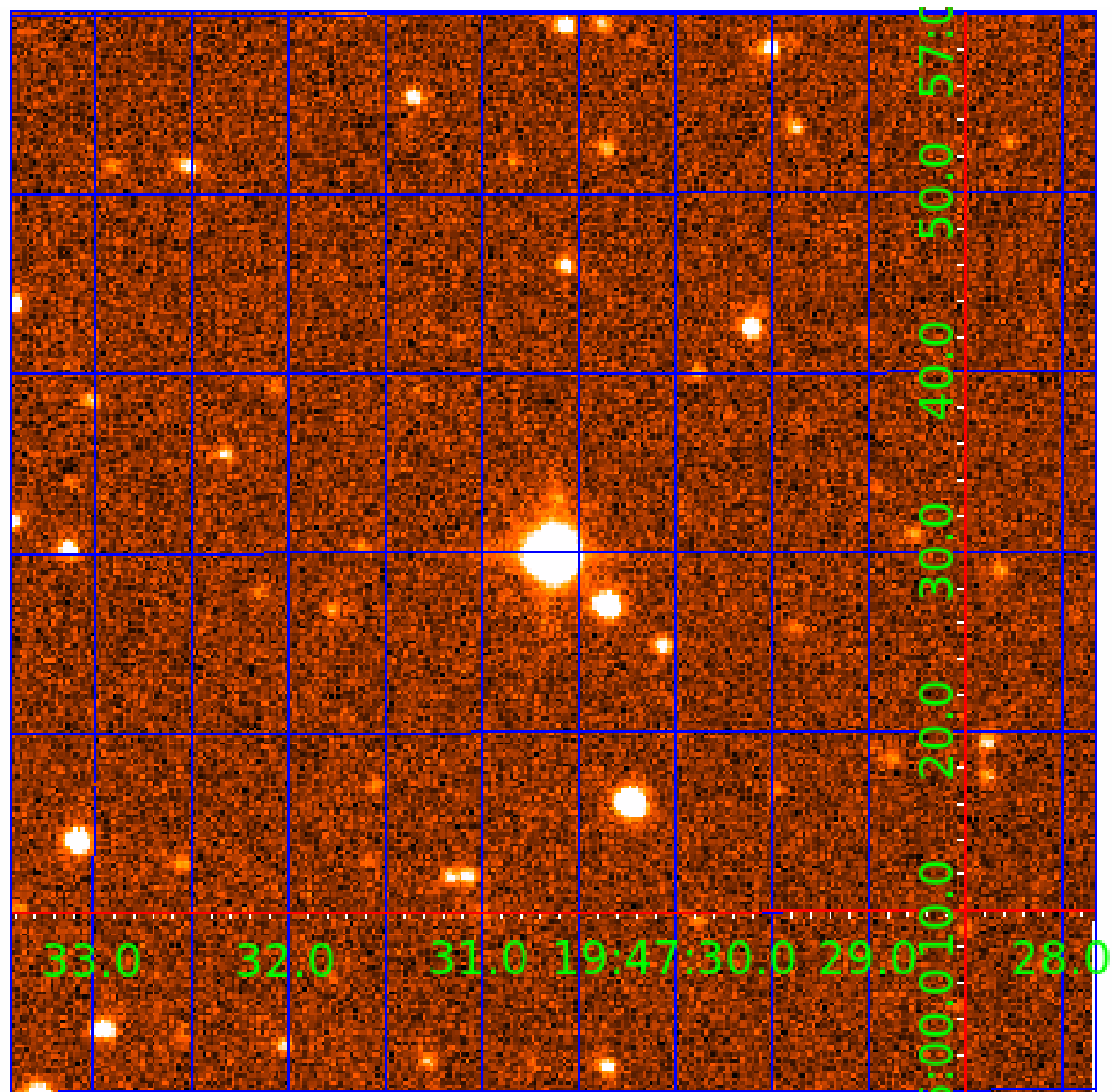


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008113154

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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008113154-05	OBS	No	159.164892	270.188320	10187.9	23.811	9.8	11.0	1.17	6812	14.39	7.51
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Robovetter Results

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008113154-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008113154-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

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

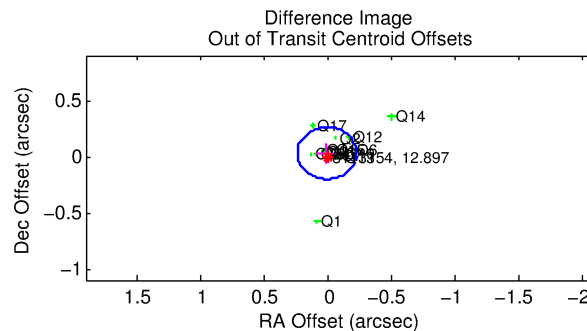
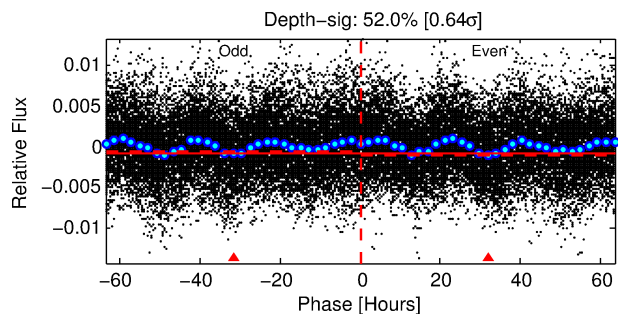
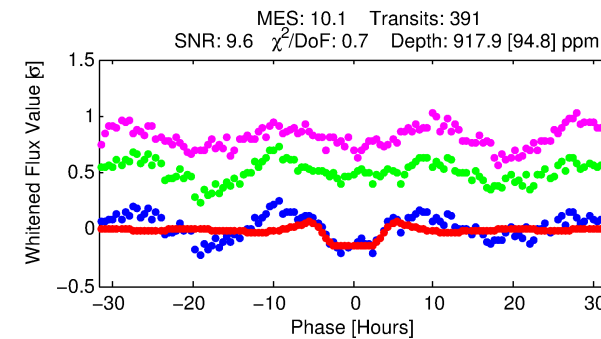
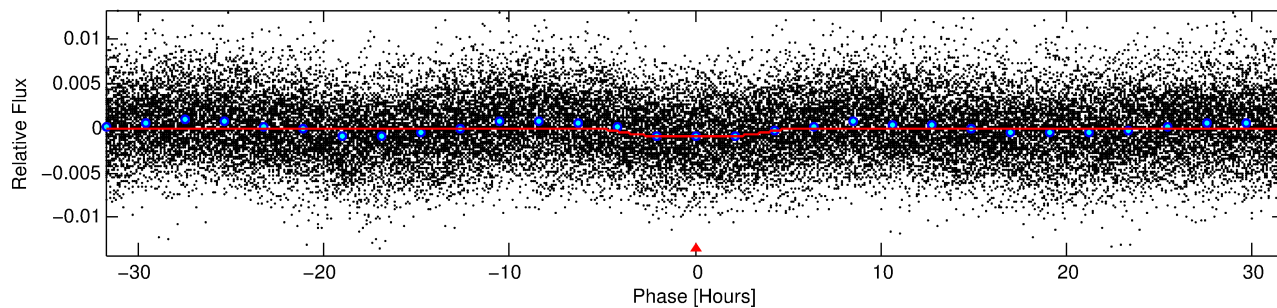
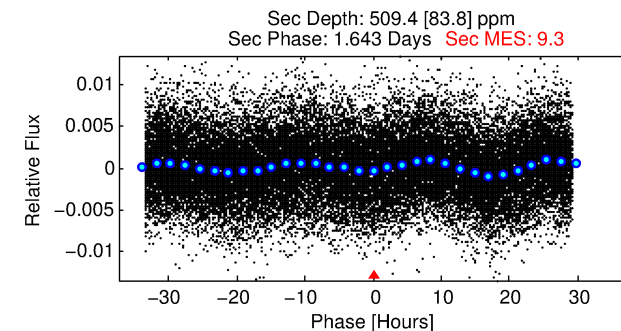
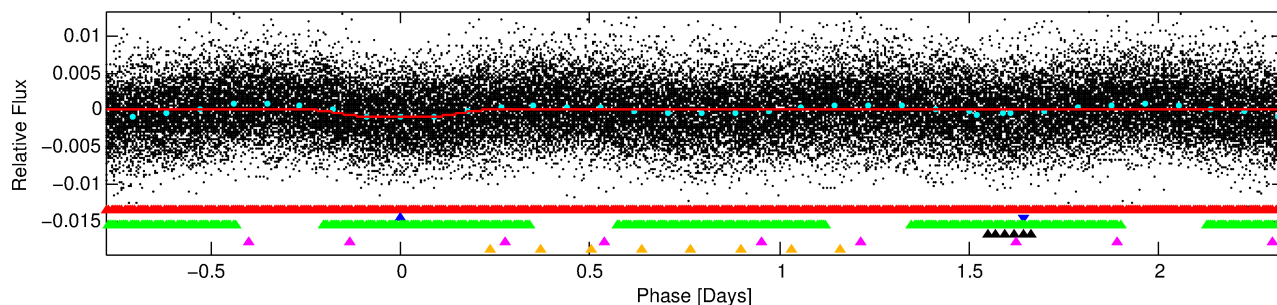
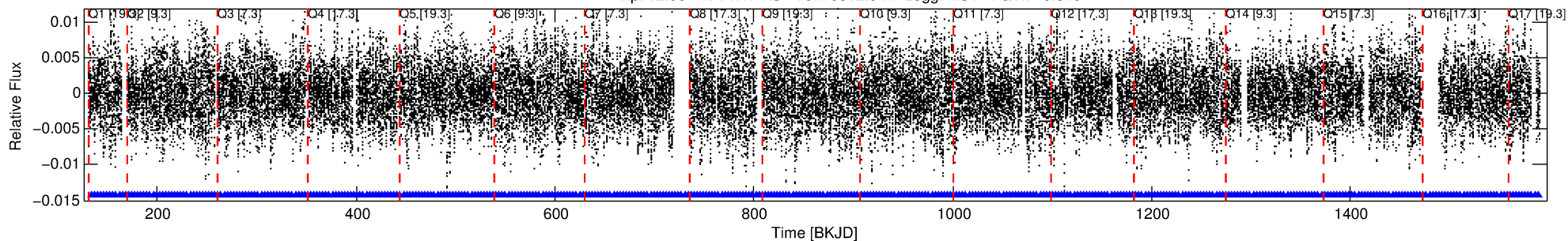
Ephemeris Match Information For 008113154-02

No Significant Match Found

DV One-Page Summary

KIC: 8113154 Candidate: 2 of 6 Period: 3.108 d
KOI: K01542 Corr: No Ephemeris Match

Kp: 12.90 R*: 1.17 Rs Teff: 6812.0 K Logg: 4.34 Fe/H: -0.540



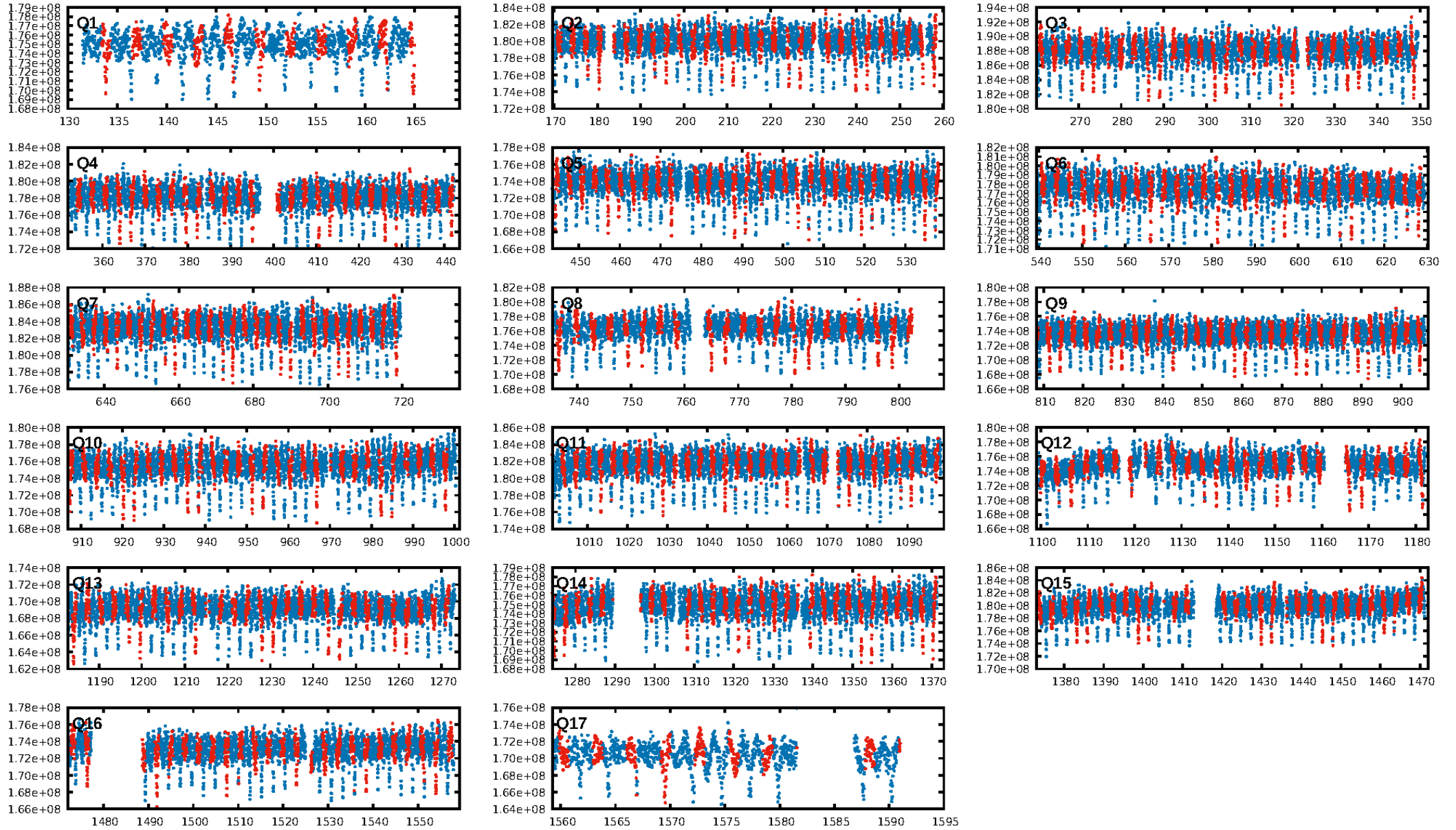
DV Fit Results:

Period = 3.10766 [0.00005] d
Epoch = 133.8500 [0.0129] BKJD
Rp/R* = 0.0342 [0.0020]
a/R* = 1.34 [0.06]
b = 0.95 [0.01]
Seff = 1427.91 [527.13]
Teff = 1567 [145] K
Rp = 4.37 [1.32] Re
a = 0.0431 [0.0104] AU
Ag = 27.22 [10.81] [2.43σ]
Teff = 5536 [338] K [10.80σ]

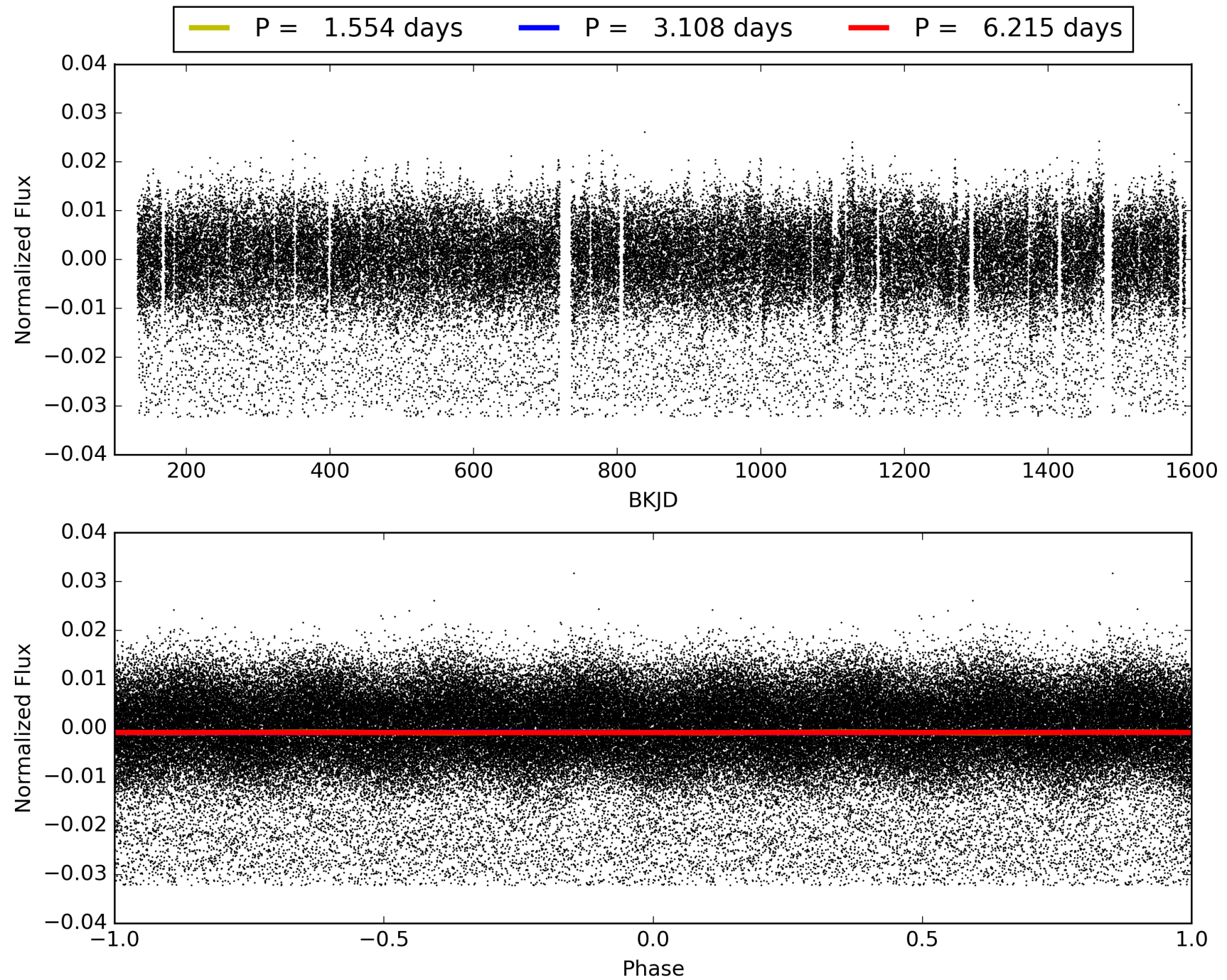
DV Diagnostic Results:

ShortPeriod-sig: 70.8% [1.05σ]
LongPeriod-sig: 79.2% [1.26σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [376/376]
GhostDiagnostic-chr: 1.108
Centroid-sig: 3.7%
Centroid-so: 0.113 arcsec [3.21σ]
OotOffset-rm: 0.030 arcsec [0.39σ]
KicOffset-rm: 0.039 arcsec [0.48σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.71 [12/17]

TCE 008113154-02, PDC Light Curves

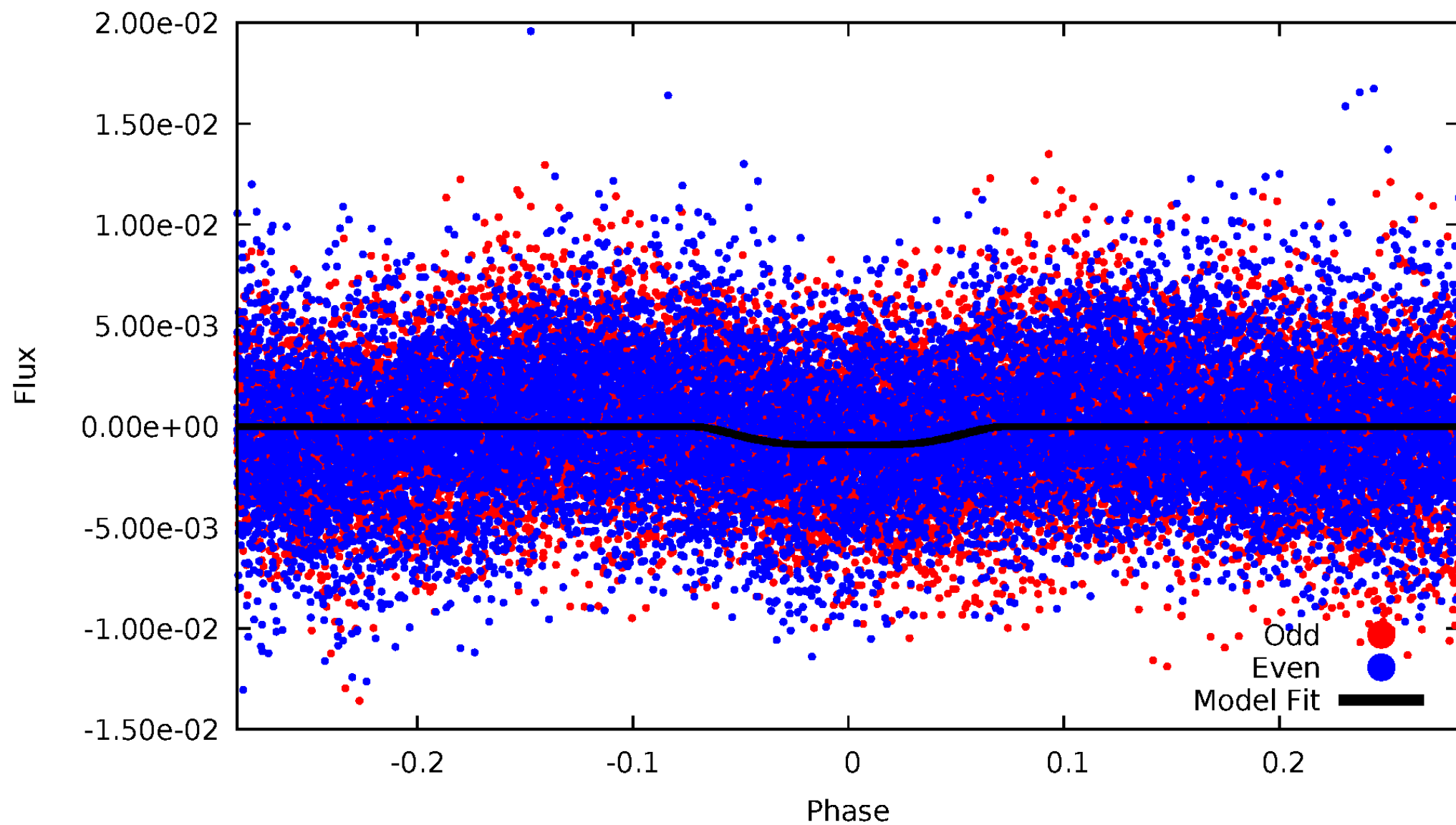


TCE 008113154-02



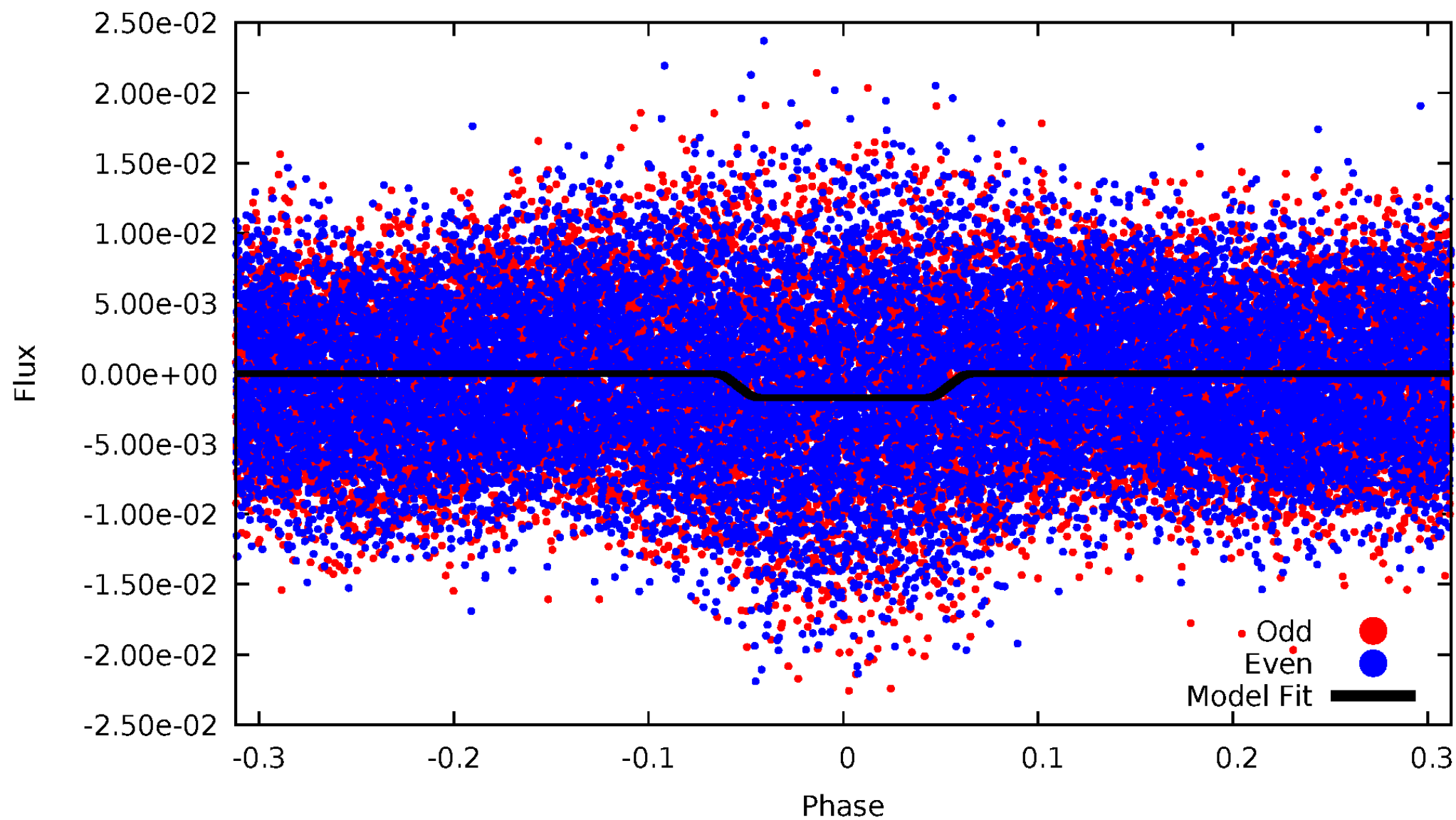
DV Odd/Even

TCE 008113154-02



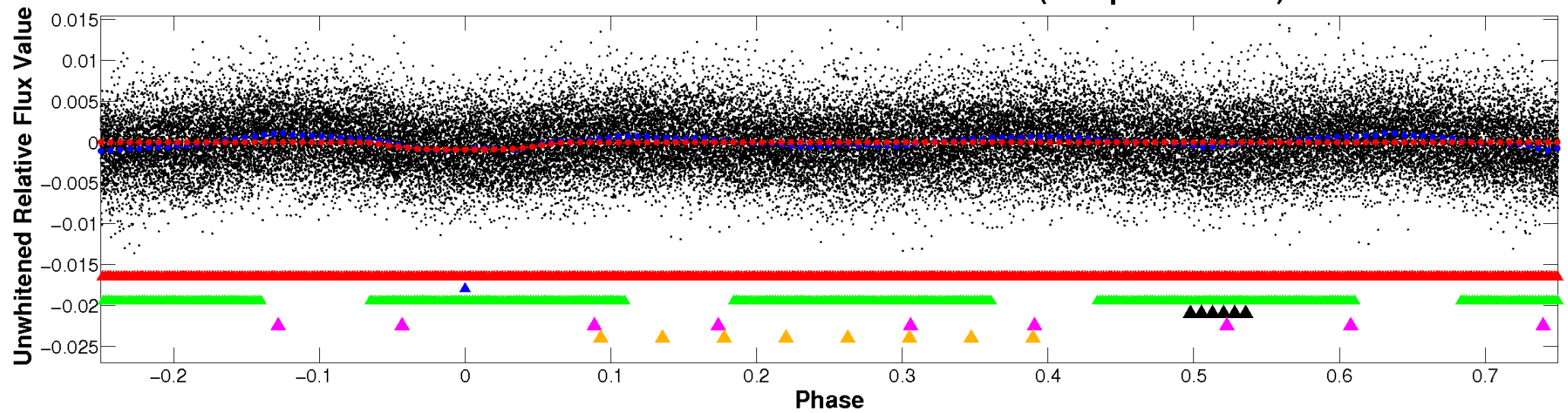
ALT Odd/Even

TCE 008113154-02

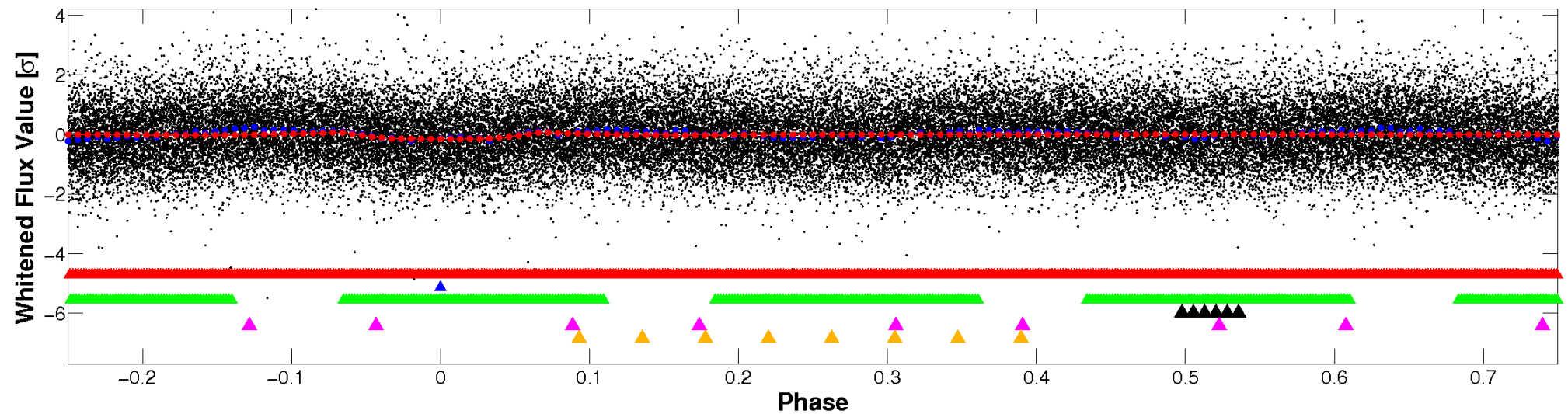


Non-Whitened Vs. Whitened Light Curve

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

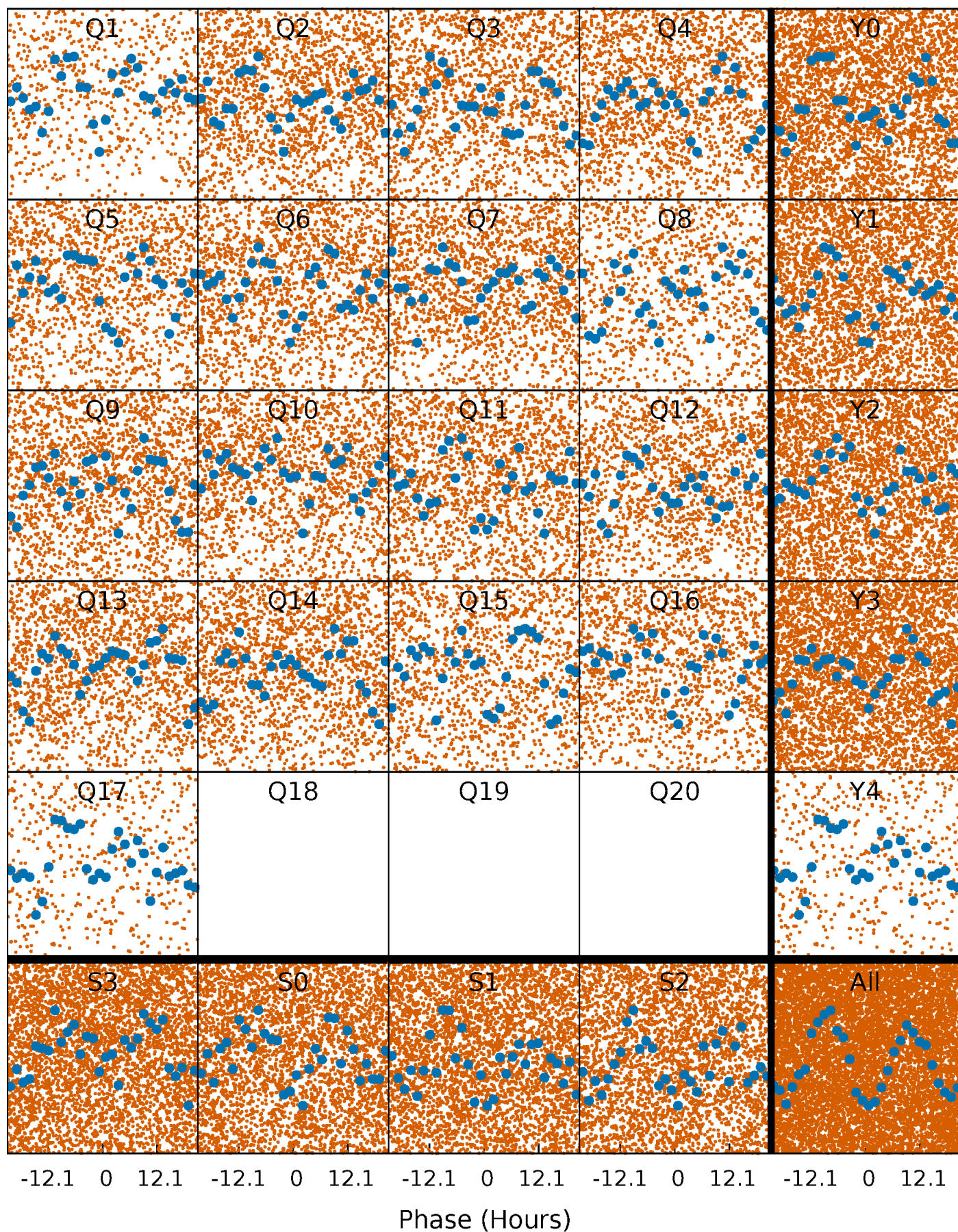


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



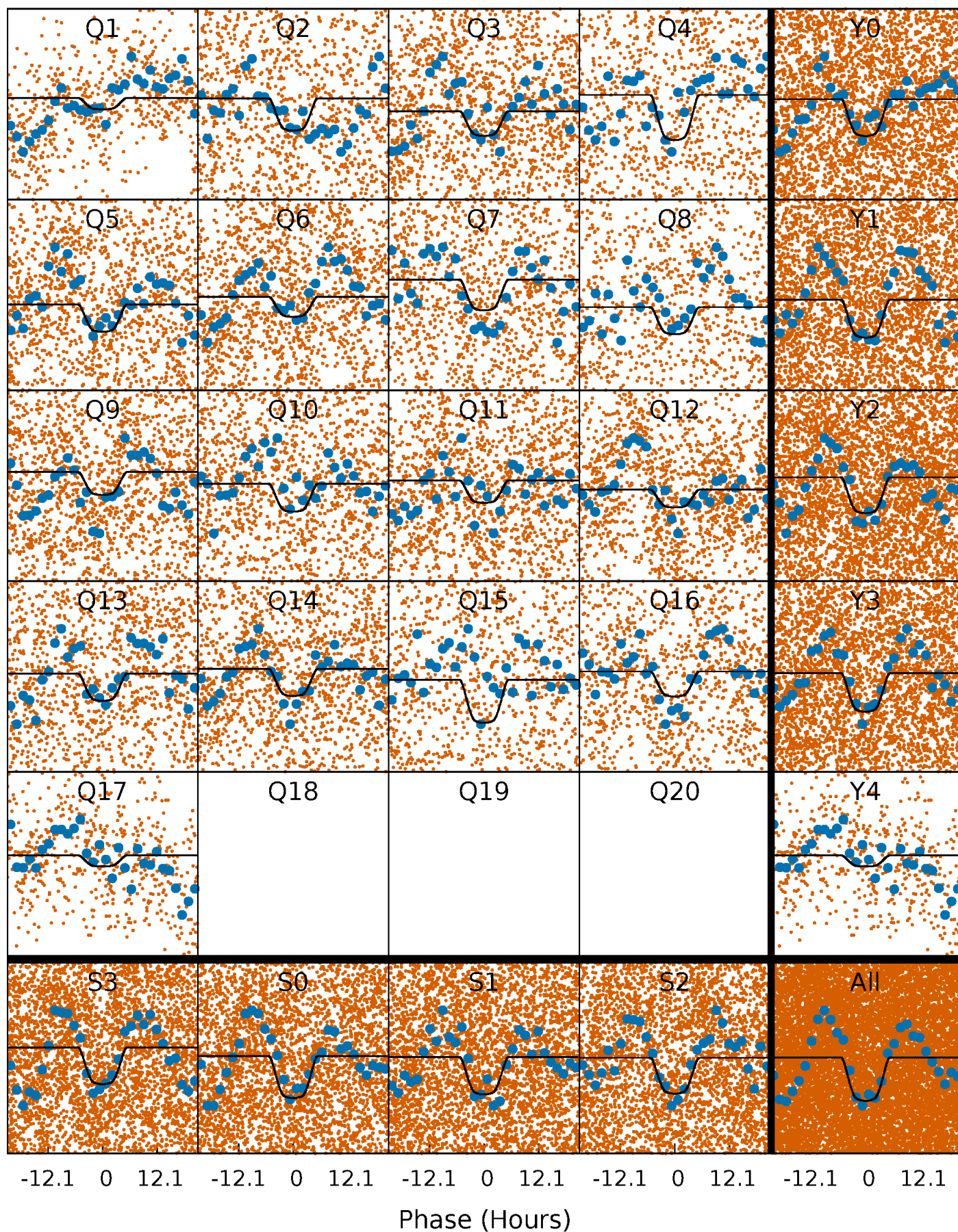
PDC Quarter-Phased Transit Curves

TCE 008113154-02 P= 3.107657 Days $T_0=133.850046$ (BKJD)



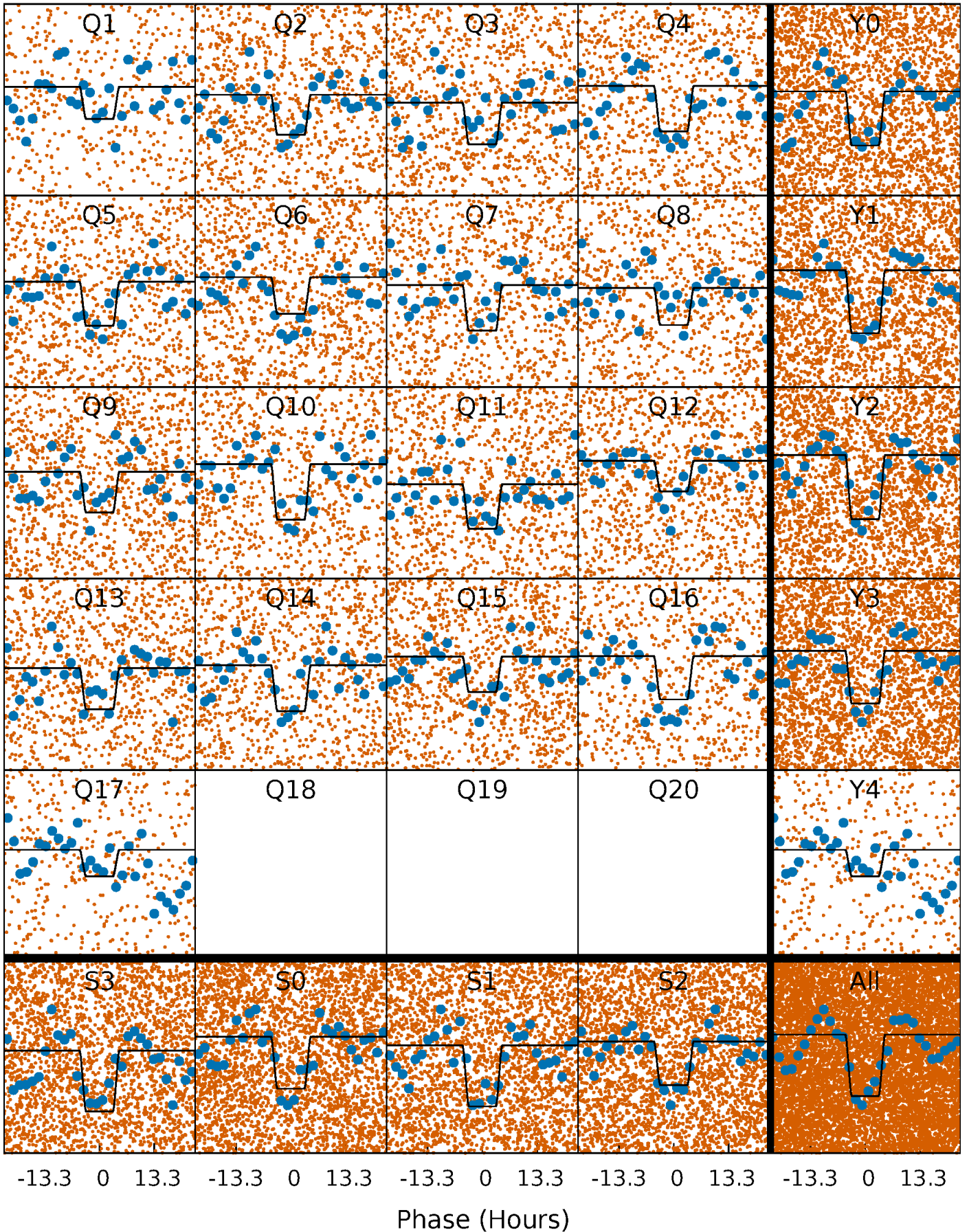
DV Quarter-Phased Transit Curves

TCE 008113154-02 P= 3.107657 Days $T_0=133.850046$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

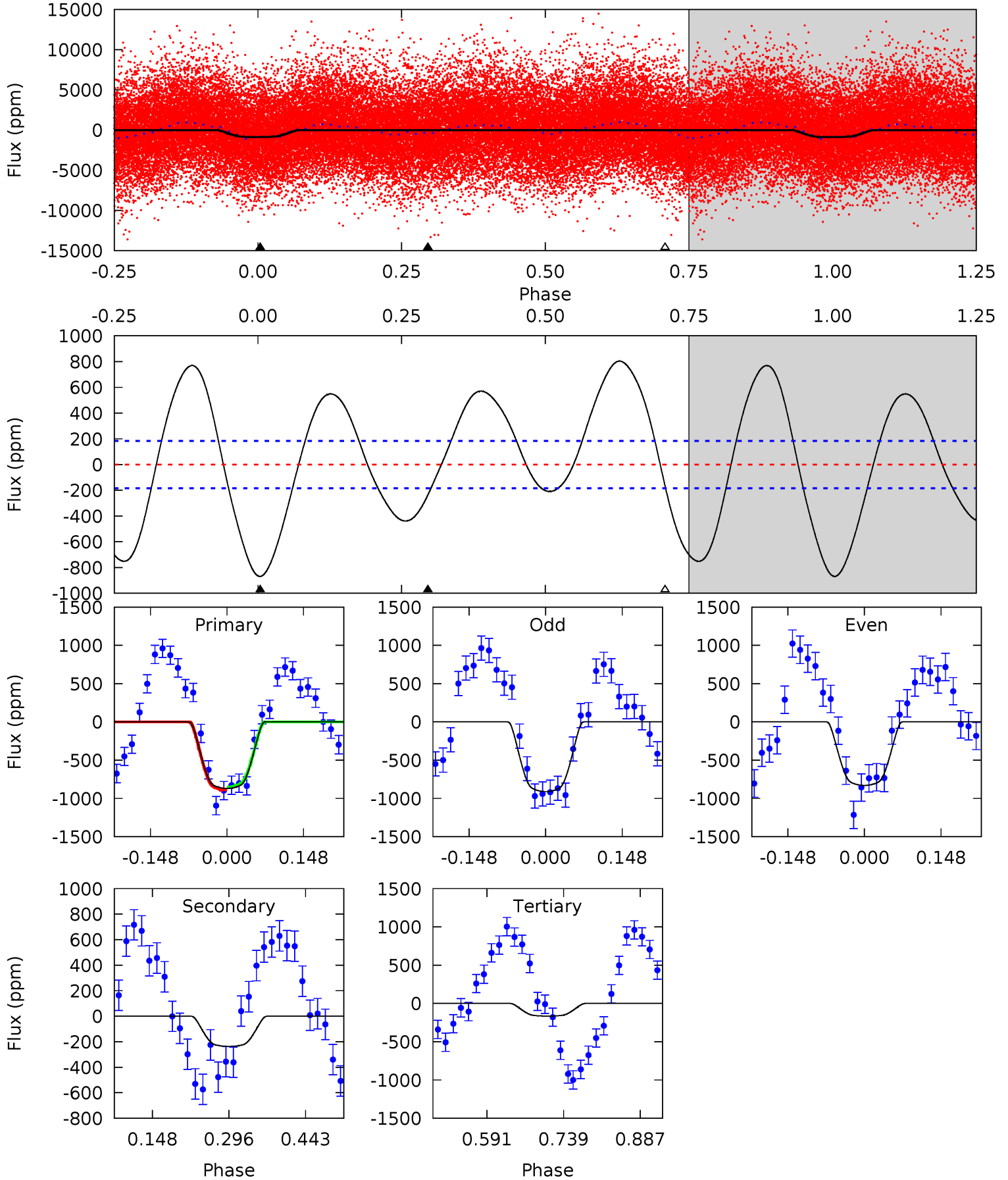
TCE 008113154-02 P= 3.107776 Days $T_0=133.850198$ (BKJD)



DV Model-Shift Uniqueness Test

008113154-02, P = 3.107657 Days, E = 130.742389 Days

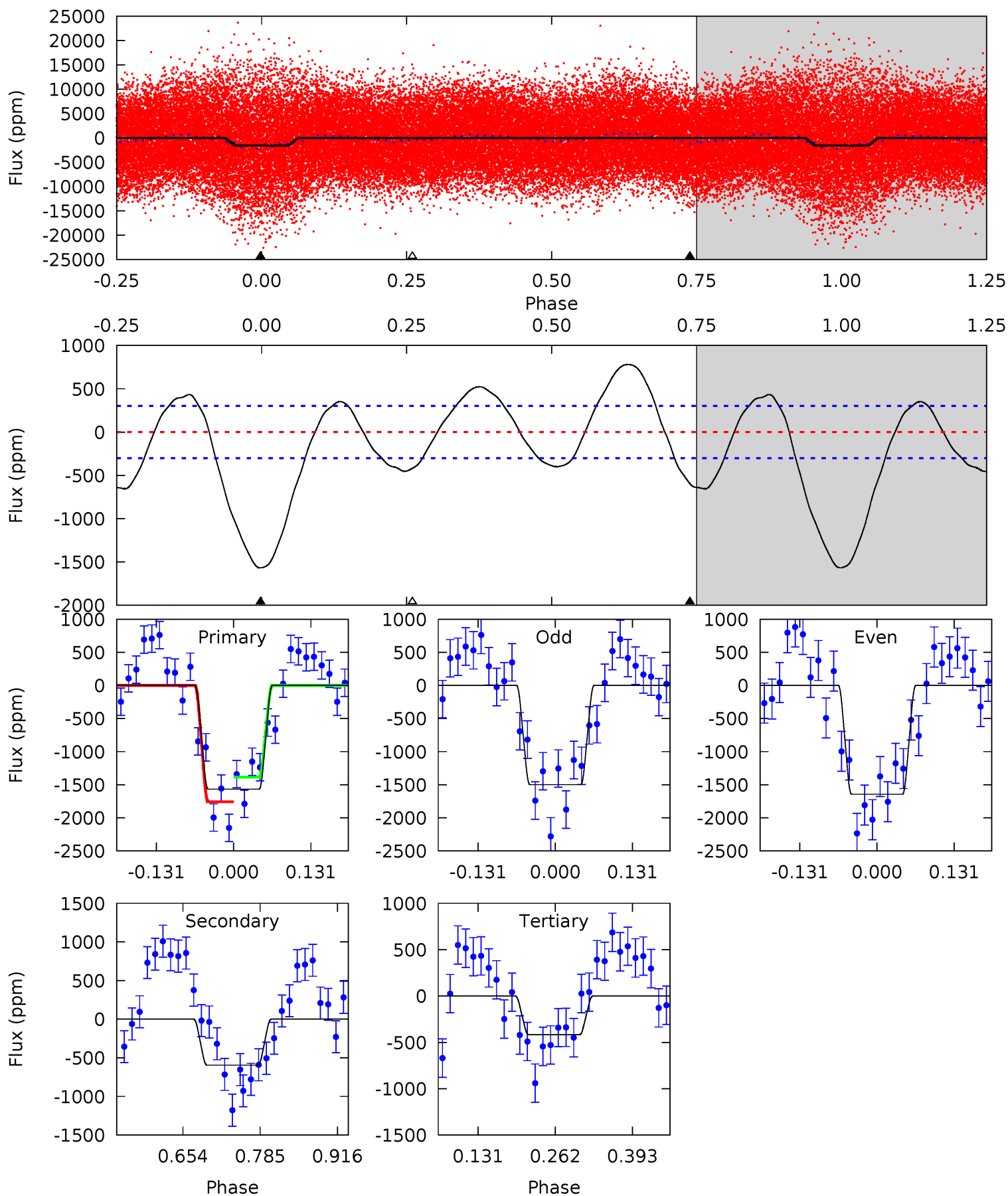
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.2	5.76	4.02	0	4.48	1.45	11.4	17.2	21.2	1.74	5.76	0.98	0.92	0.48	0.42



Alt Model-Shift Uniqueness Test

008113154-02, P = 3.107776 Days, E = 130.742422 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.4	8.90	6.24	0	4.51	1.51	4.94	17.2	23.4	2.65	8.90	1.08	0.89	0.33	2.78



Stellar Parameters For KIC 008113154

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6812^{+165}_{-235}	$4.343^{+0.084}_{-0.182}$	$-0.540^{+0.250}_{-0.300}$	$1.172^{+0.348}_{-0.149}$	$1.103^{+0.157}_{-0.128}$	$0.965^{+0.420}_{-0.502}$
	+2%/-3%	+2%/-4%	+46%/-56%	+30%/-13%	+14%/-12%	+44%/-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 008113154-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-236 ± 41	$4.42^{+0.77}_{-0.45}$	2208^{+156}_{-105}	4659^{+228}_{-218}	12^{+4}_{-3}
Alt.	-596 ± 67	$5.34^{+0.85}_{-0.53}$	2214^{+147}_{-113}	5242^{+228}_{-223}	20^{+5}_{-5}

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

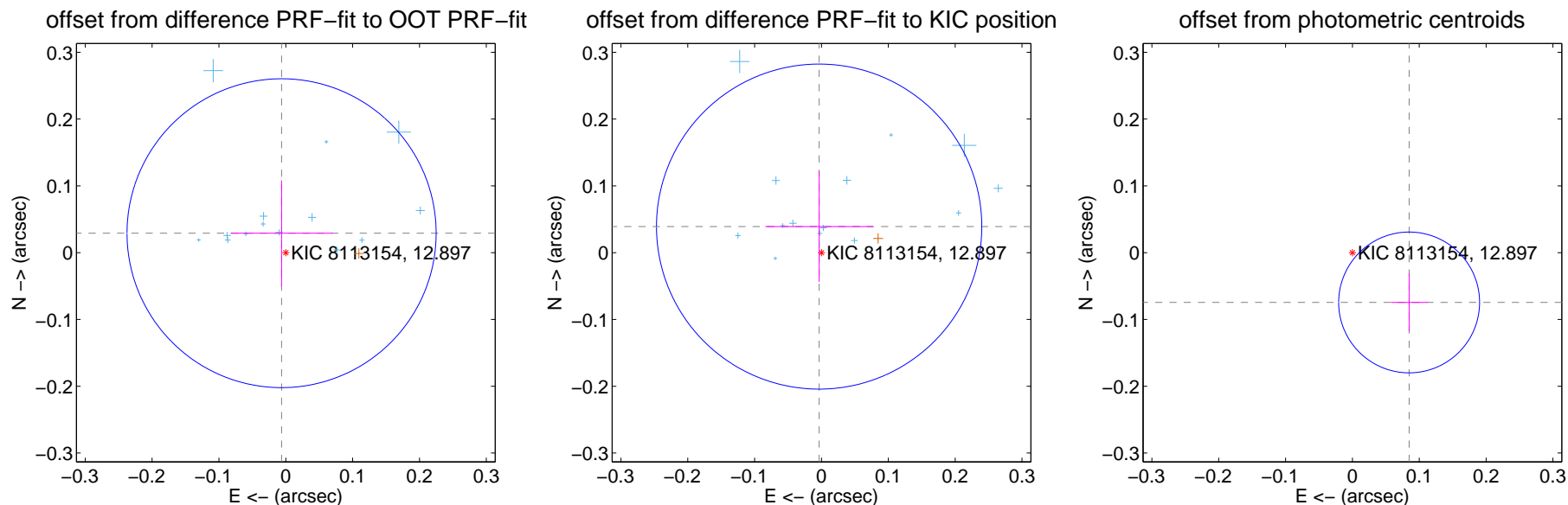
DV Centroid Data

Supplemental centroid analysis for 008113154-02. Kepler magnitude: 12.90. Transit SNR 9.59

There are 16 quarters with good PRF difference image offsets

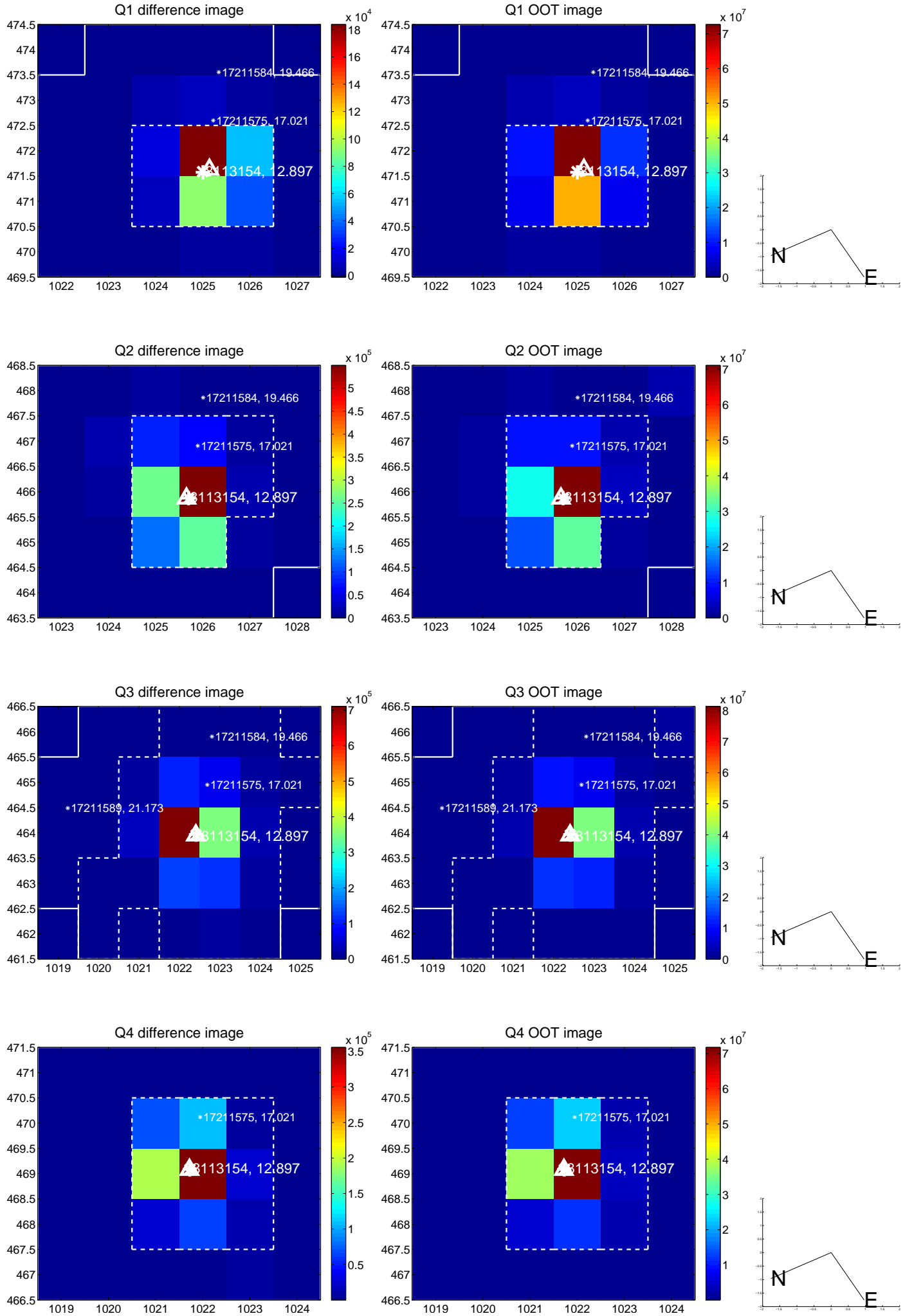
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.030 ± 0.077	0.39	0.006 ± 0.076	0.029 ± 0.079
PRF-fit source offset from KIC position	0.039 ± 0.081	0.48	0.003 ± 0.081	0.039 ± 0.083
photometric centroid source offset	0.11 ± 0.04	3.21	-0.08 ± 0.03	-0.07 ± 0.04

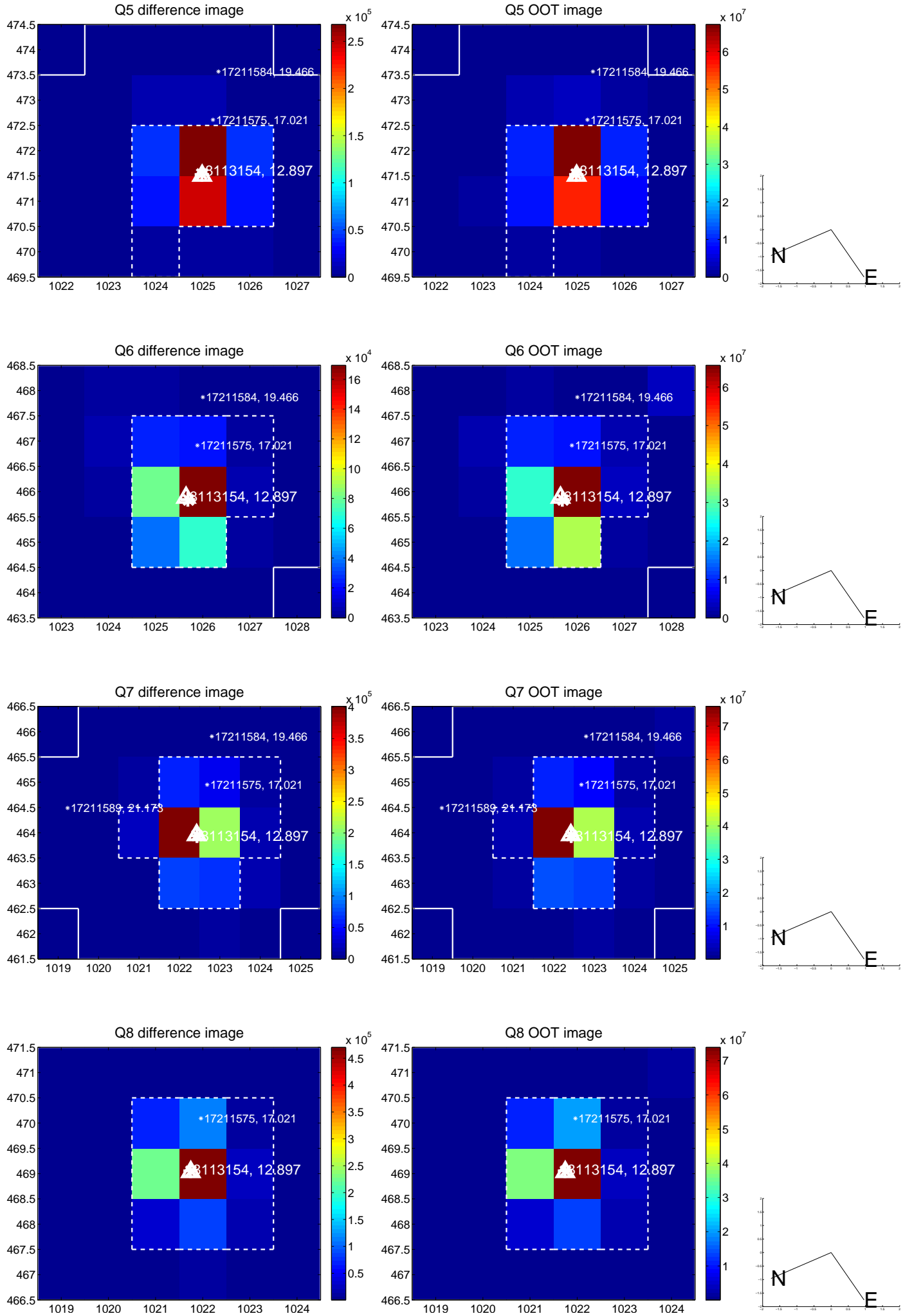


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

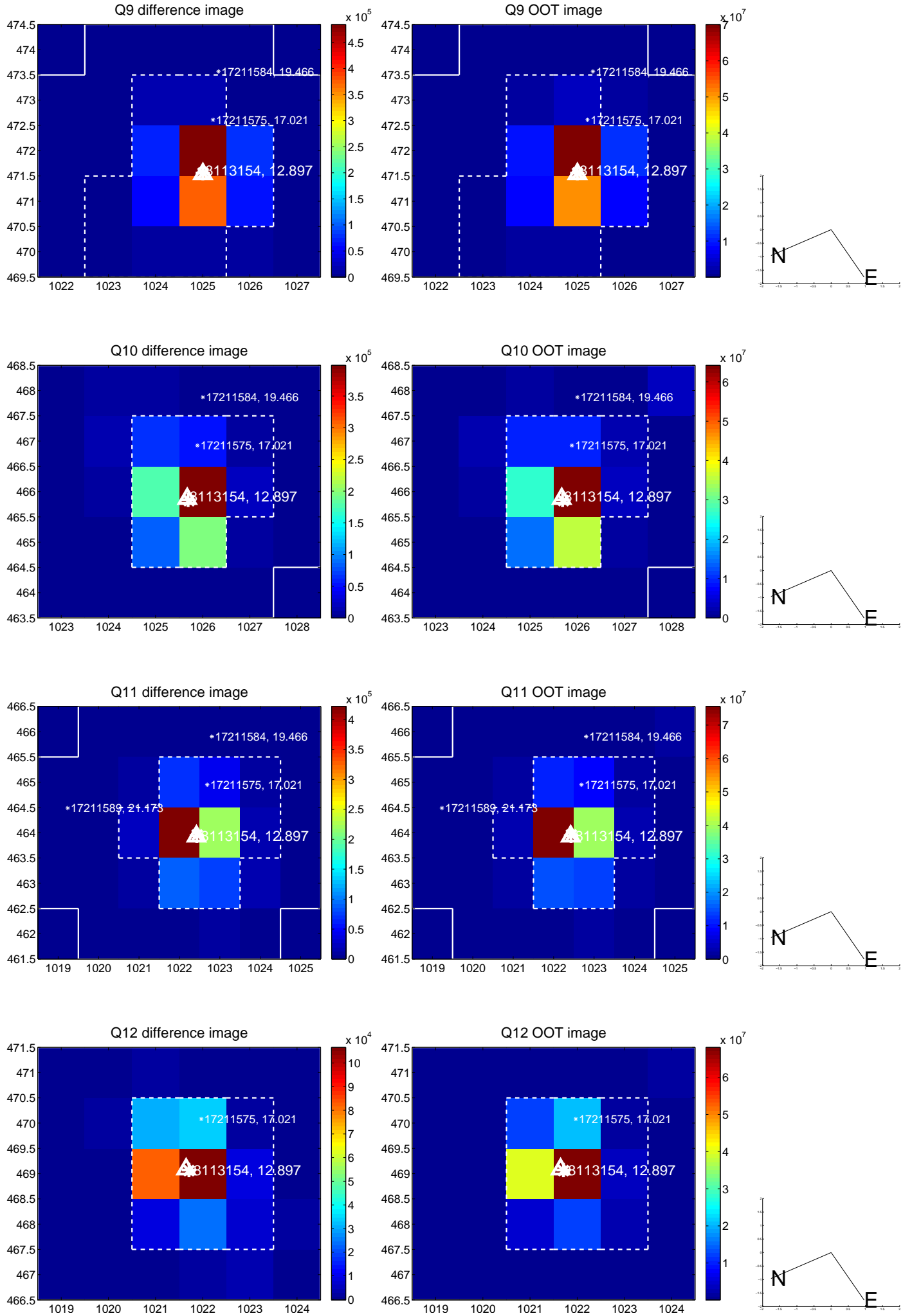
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



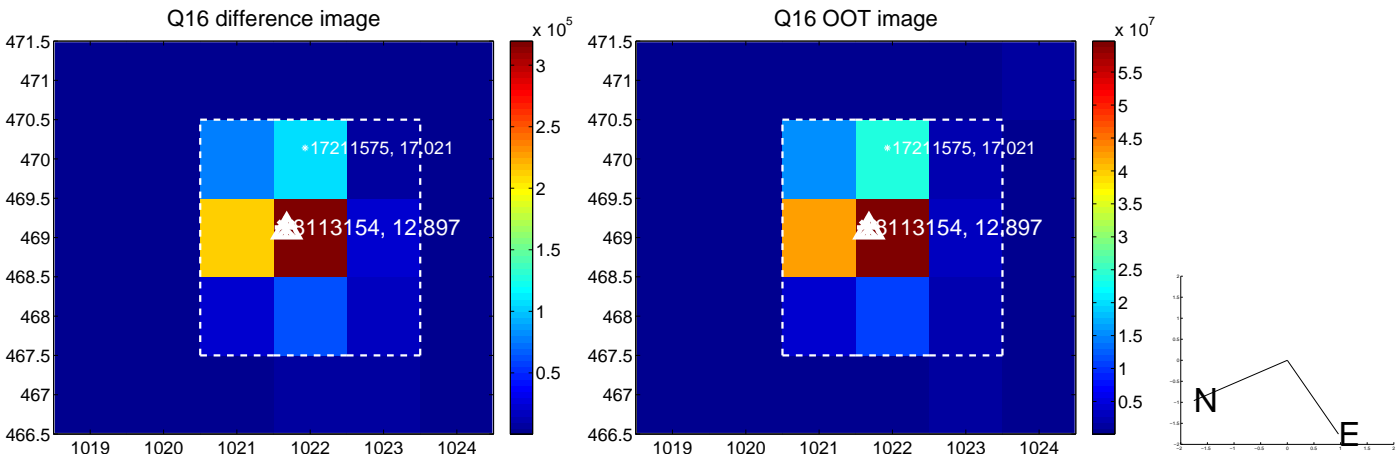
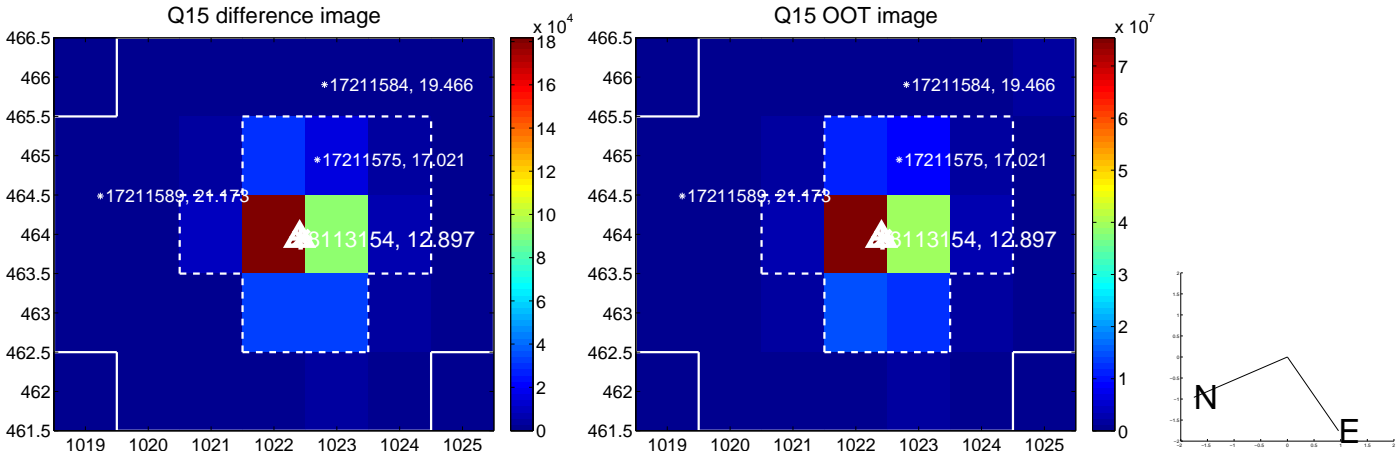
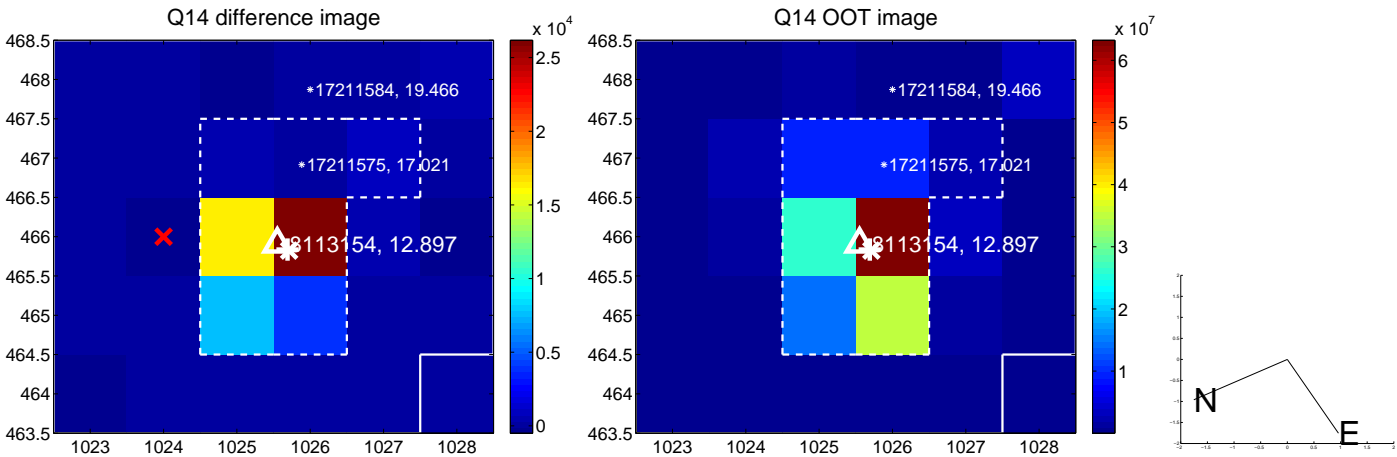
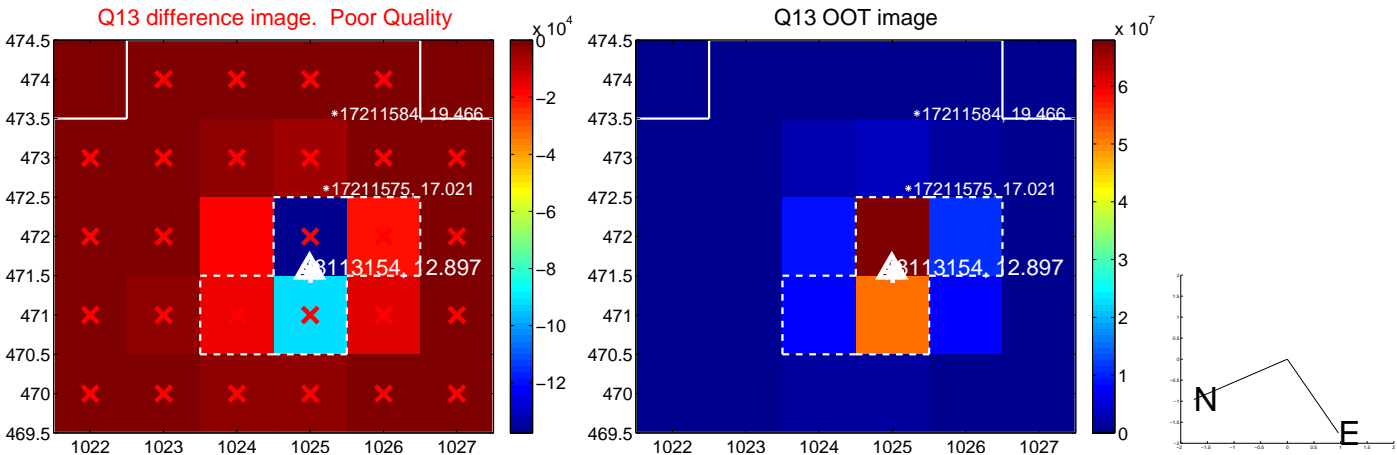
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



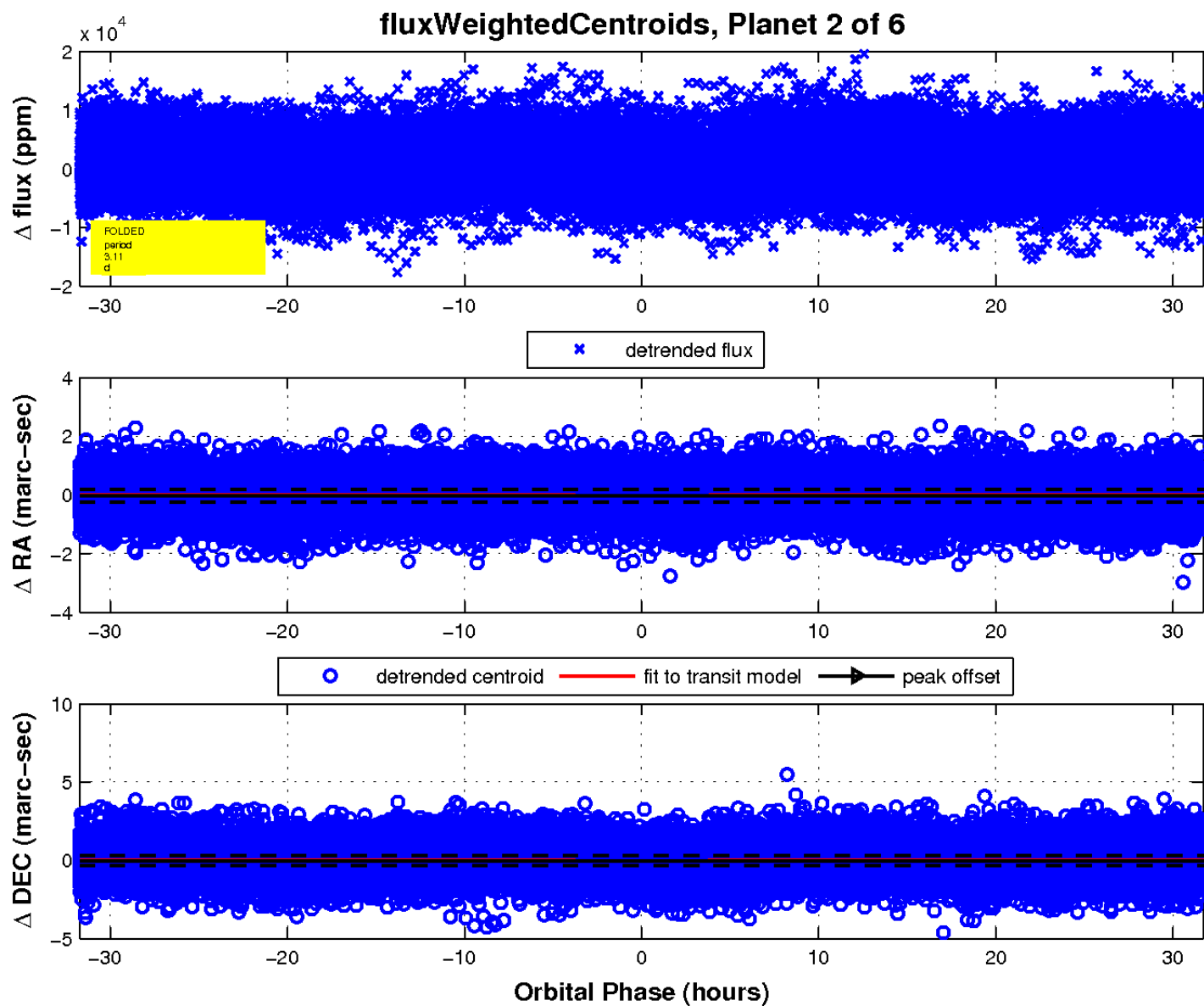
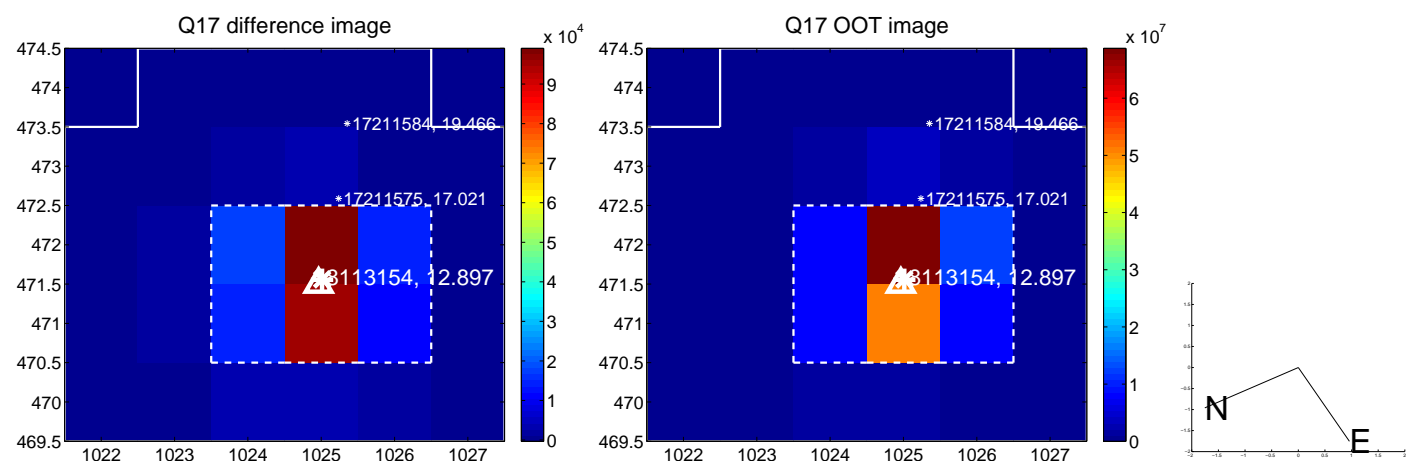
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

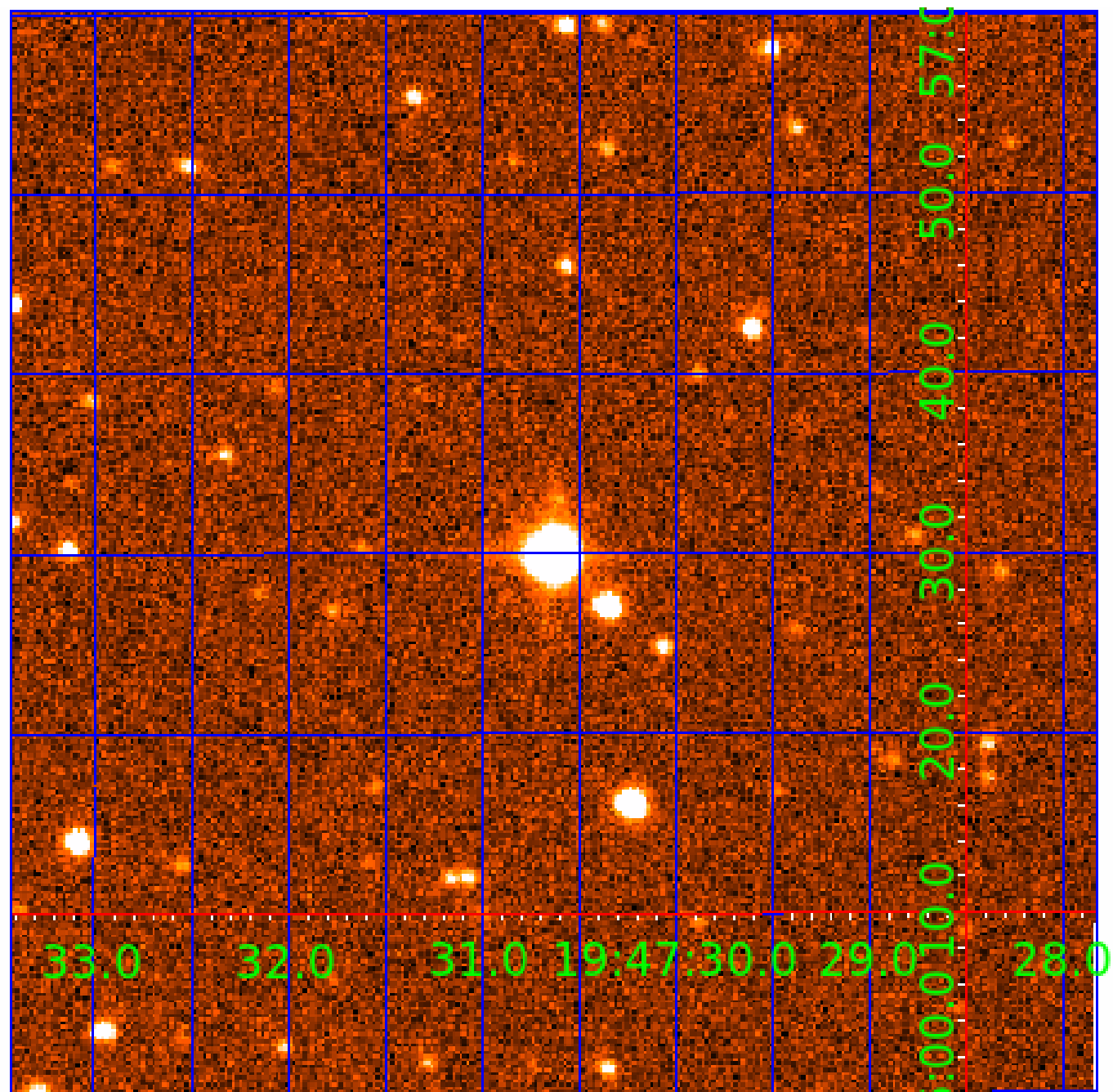


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008113154

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})
008113154-01	OBS	1542.01	2.586855	133.820687	8747.9	5.375	118.7	103.3	1.17	6812	11.76	1823.54
008113154-02	OBS	No	3.107657	133.850046	917.9	10.580	10.1	9.6	1.17	6812	4.37	1427.91
008113154-03	OBS	No	3.883097	134.971415	1239.1	10.339	11.7	11.0	1.17	6812	5.02	1060.98
008113154-04	OBS	No	245.481349	303.328230	6697.9	12.160	11.4	10.5	1.17	6812	9.68	4.21
008113154-05	OBS	No	159.164892	270.188320	10187.9	23.811	9.8	11.0	1.17	6812	14.39	7.51
008113154-06	OBS	No	164.837529	280.199199	146.1	12.500	9.8	-1.0	1.17	6812	1.43	7.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008113154-01	OBS	FP	0.00	0	1	0	0	SWEET_EB
008113154-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008113154-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

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

Ephemeris Match Information For 008113154-03

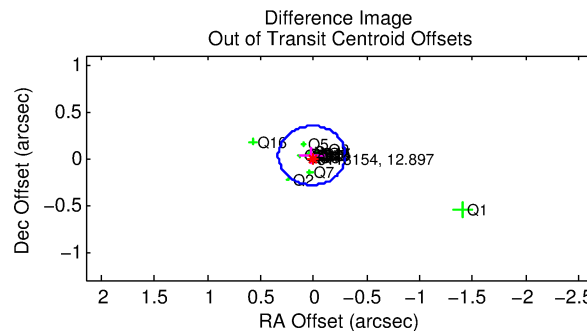
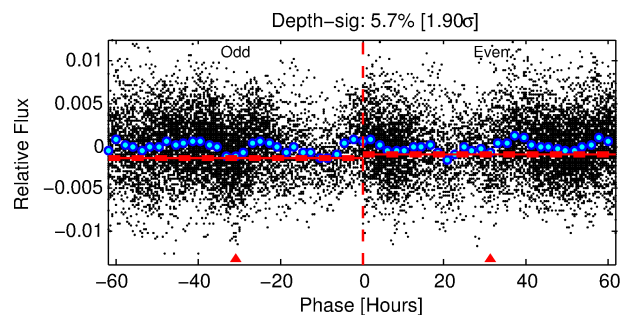
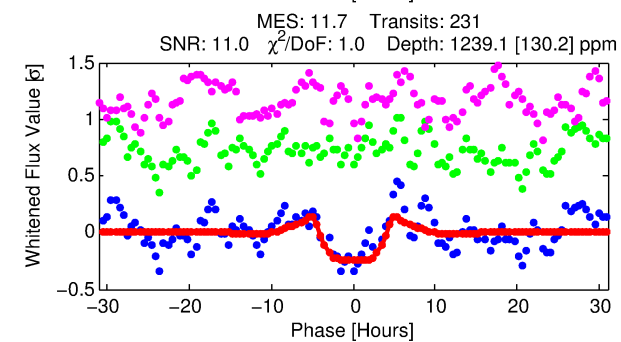
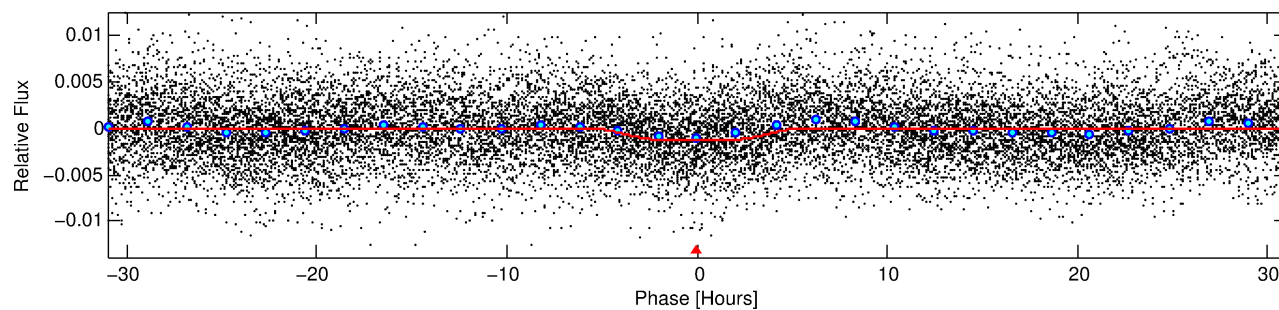
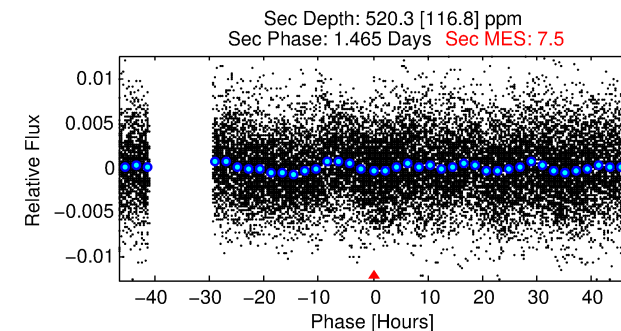
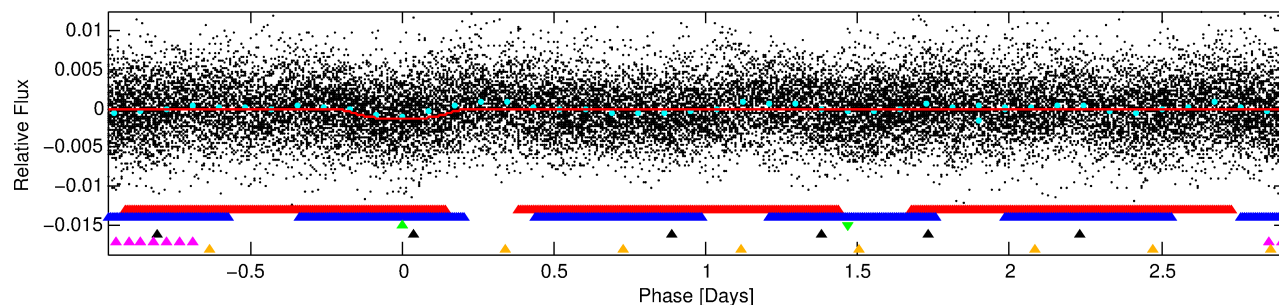
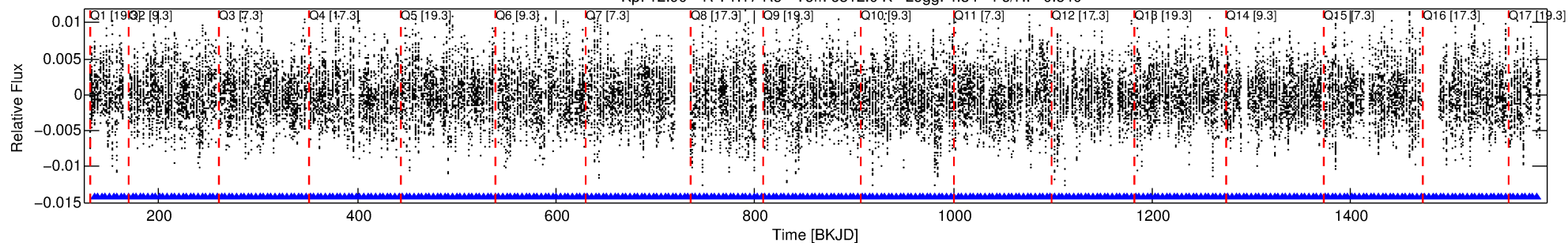
No Significant Match Found

DV One-Page Summary

KIC: 8113154 Candidate: 3 of 6 Period: 3.883 d

KOI: K01542 Corr: No Ephemeris Match

Kp: 12.90 R*: 1.17 Rs Teff: 6812.0 K Logg: 4.34 Fe/H: -0.540



DV Fit Results:

Period = 3.88310 [0.00007] d
Epoch = 134.9714 [0.0154] BKJD
Rp/R* = 0.0392 [0.0024]
a/R* = 1.60 [0.12]
b = 0.94 [0.02]
Seff = 1060.98 [391.67]
Teq = 1455 [134] K
Rp = 5.02 [1.52] Re
a = 0.0500 [0.0121] AU
Ag = 28.40 [12.12] [2.26σ]
Teff = 5194 [376] K [9.36σ]

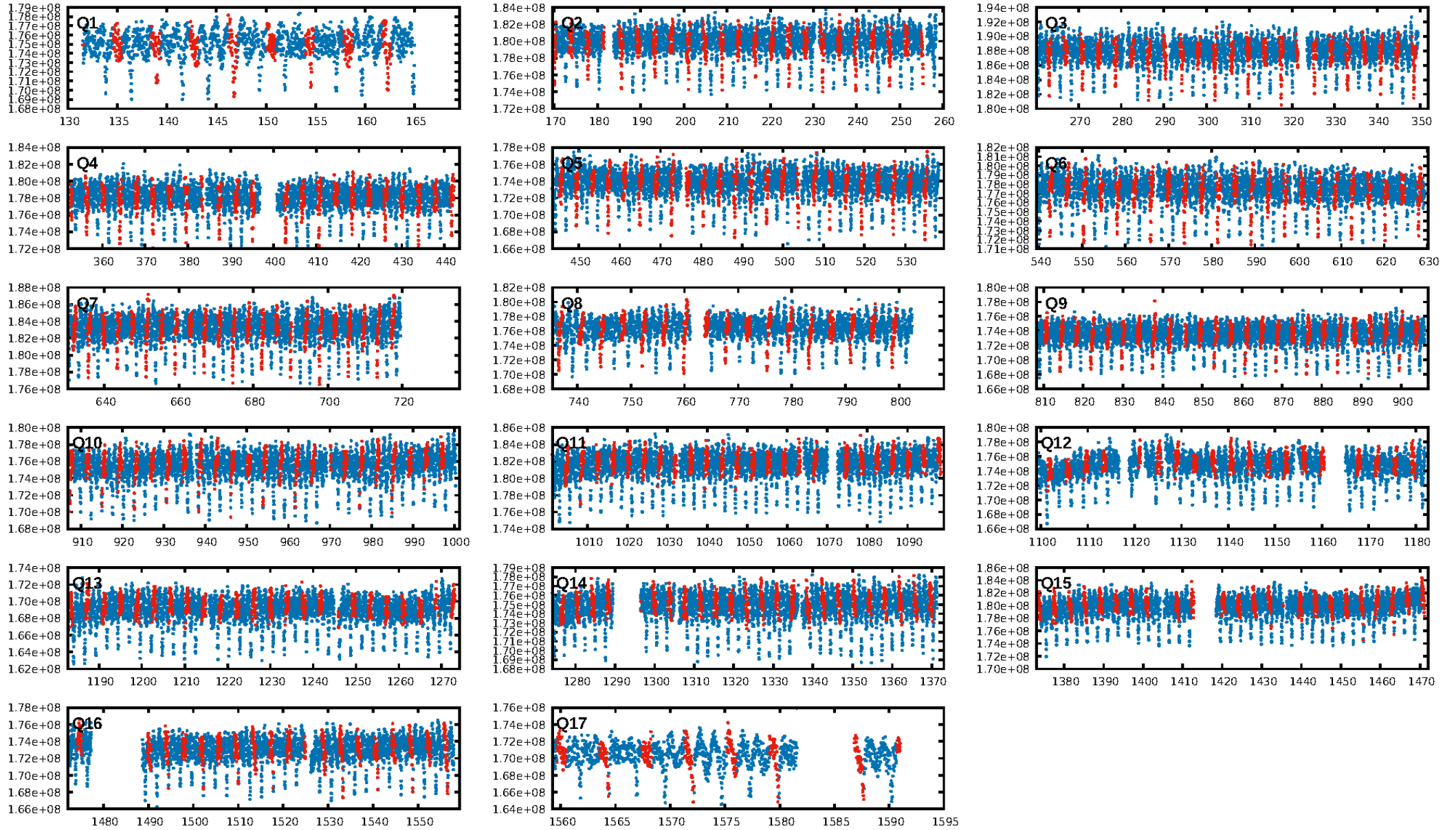
DV Diagnostic Results:

ShortPeriod-sig: 79.2% [1.26σ]
LongPeriod-sig: 100.0% [143.57σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [225/225]
GhostDiagnostic-chr: 1.512
Centroid-sig: 24.0%
Centroid-so: 0.154 arcsec [5.47σ]
OotOffset-rm: 0.036 arcsec [0.34σ]
KicOffset-rm: 0.068 arcsec [0.94σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 0.41 [7/17]

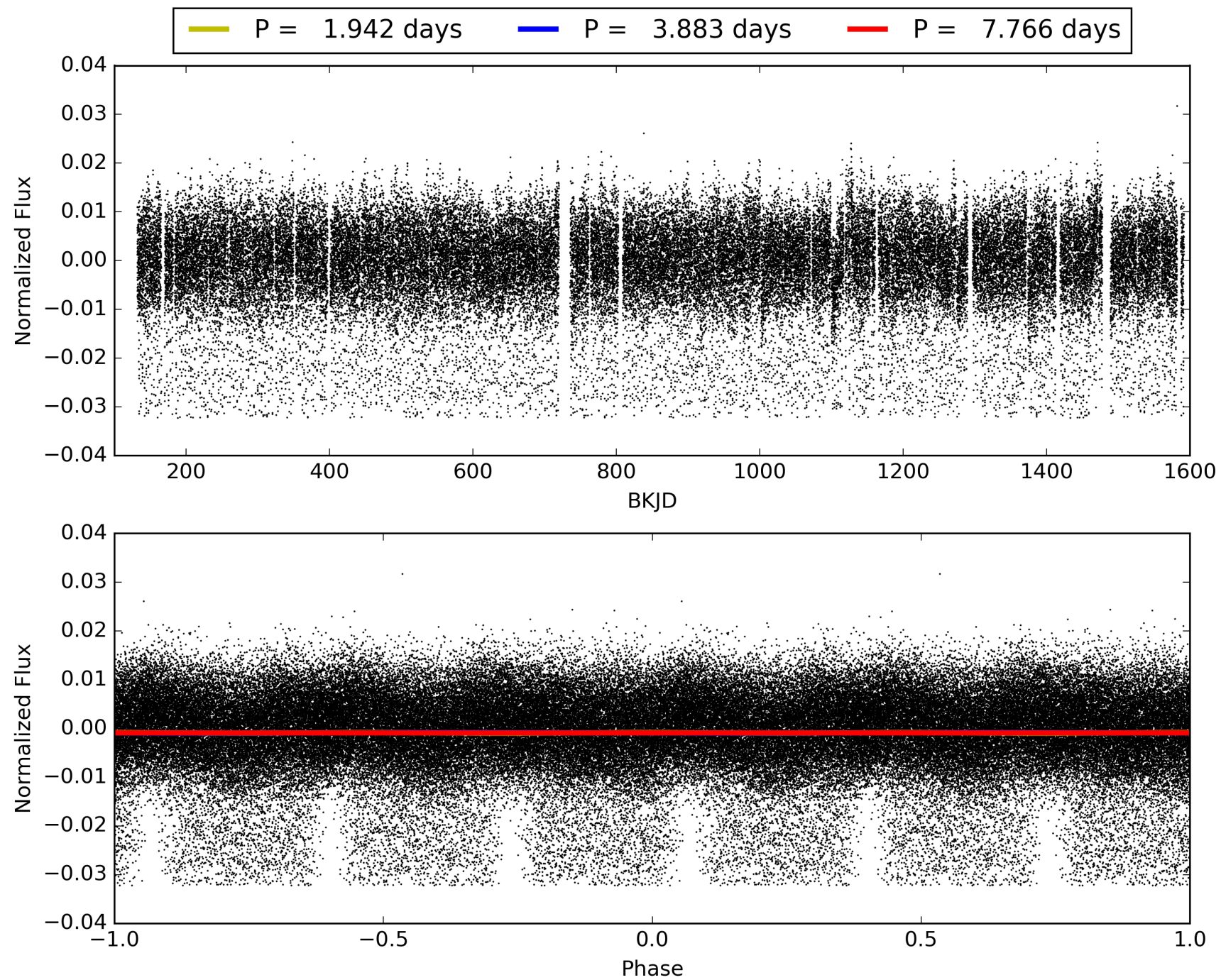
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:56:14 Z

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

TCE 008113154-03, PDC Light Curves

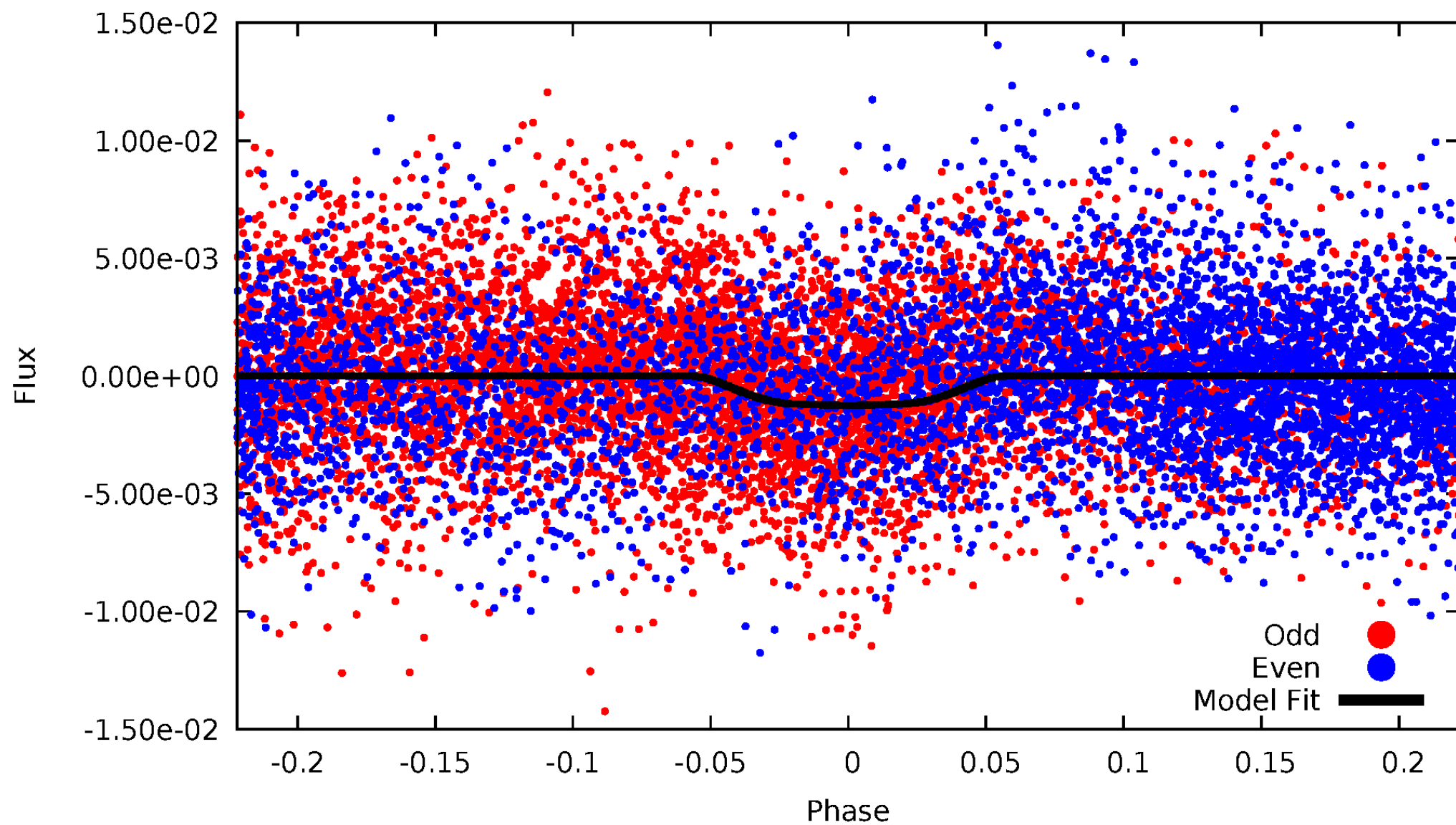


TCE 008113154-03



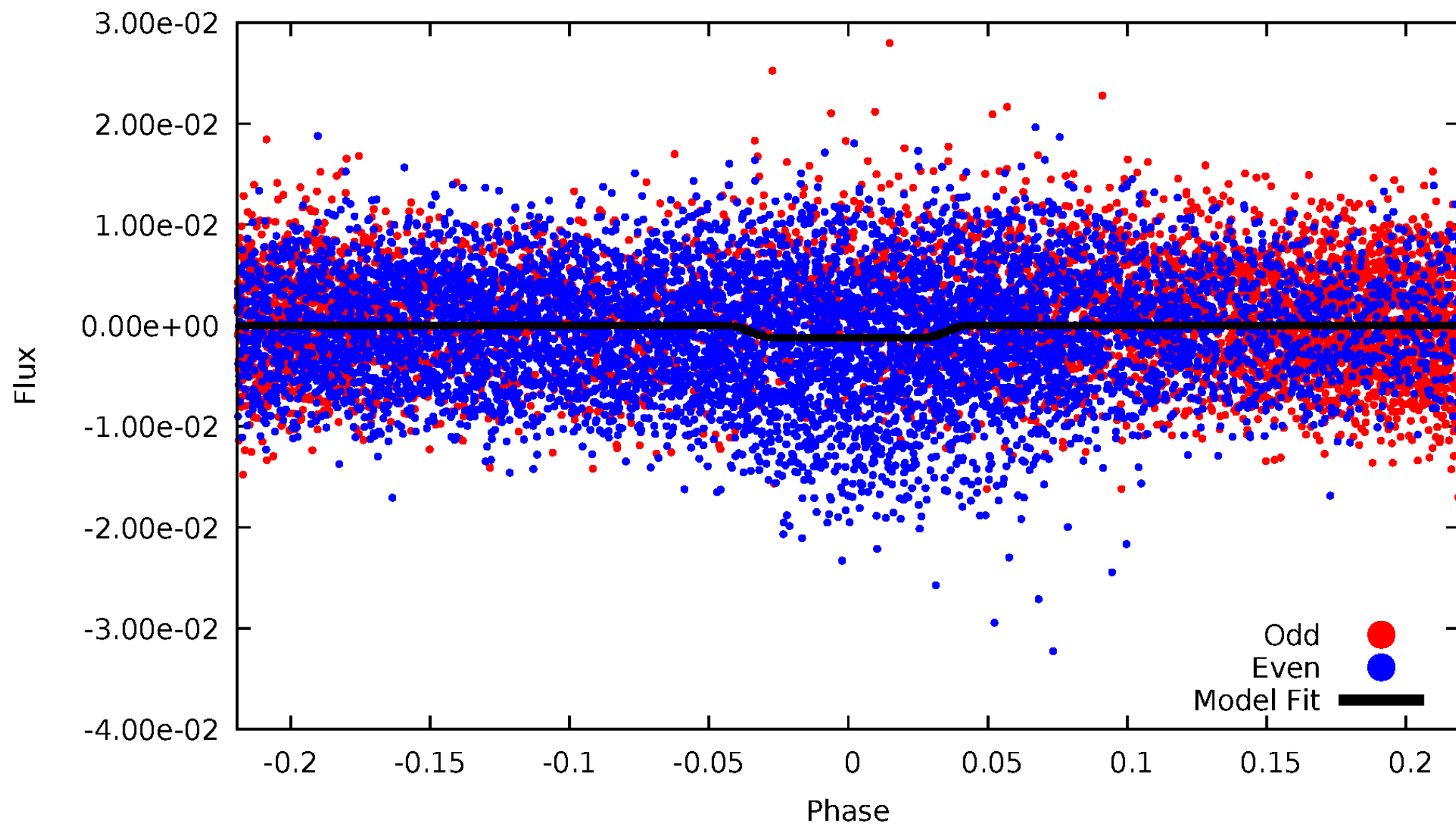
DV Odd/Even

TCE 008113154-03



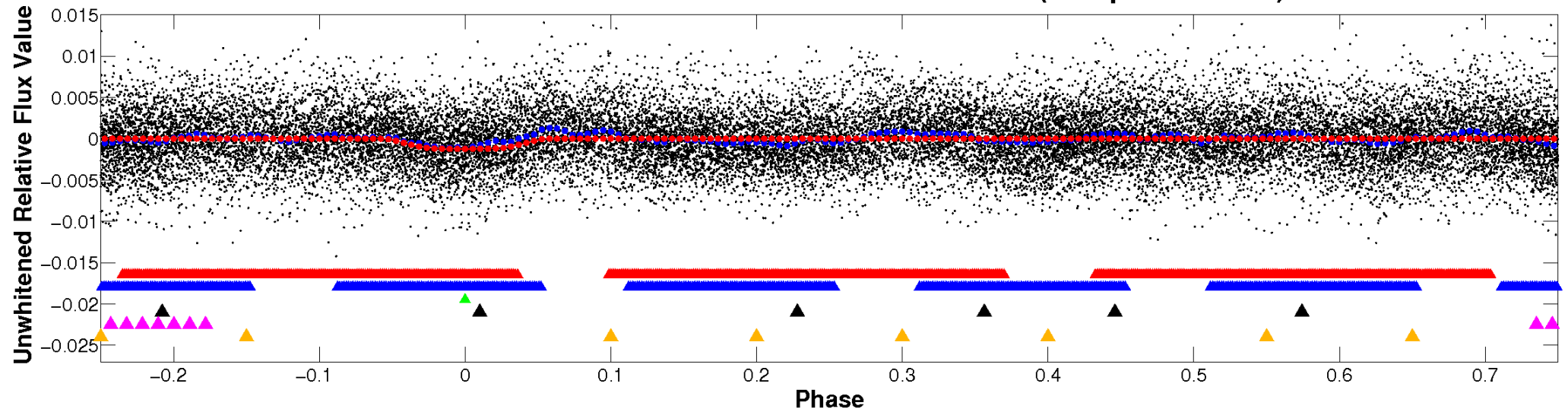
ALT Odd/Even

TCE 008113154-03

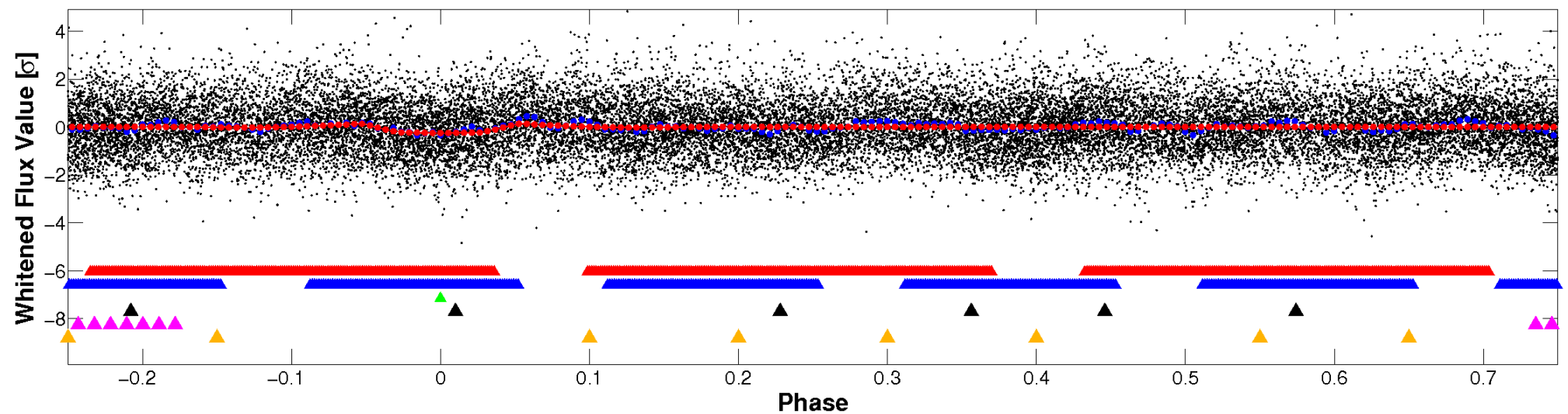


Non-Whitened Vs. Whitened Light Curve

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

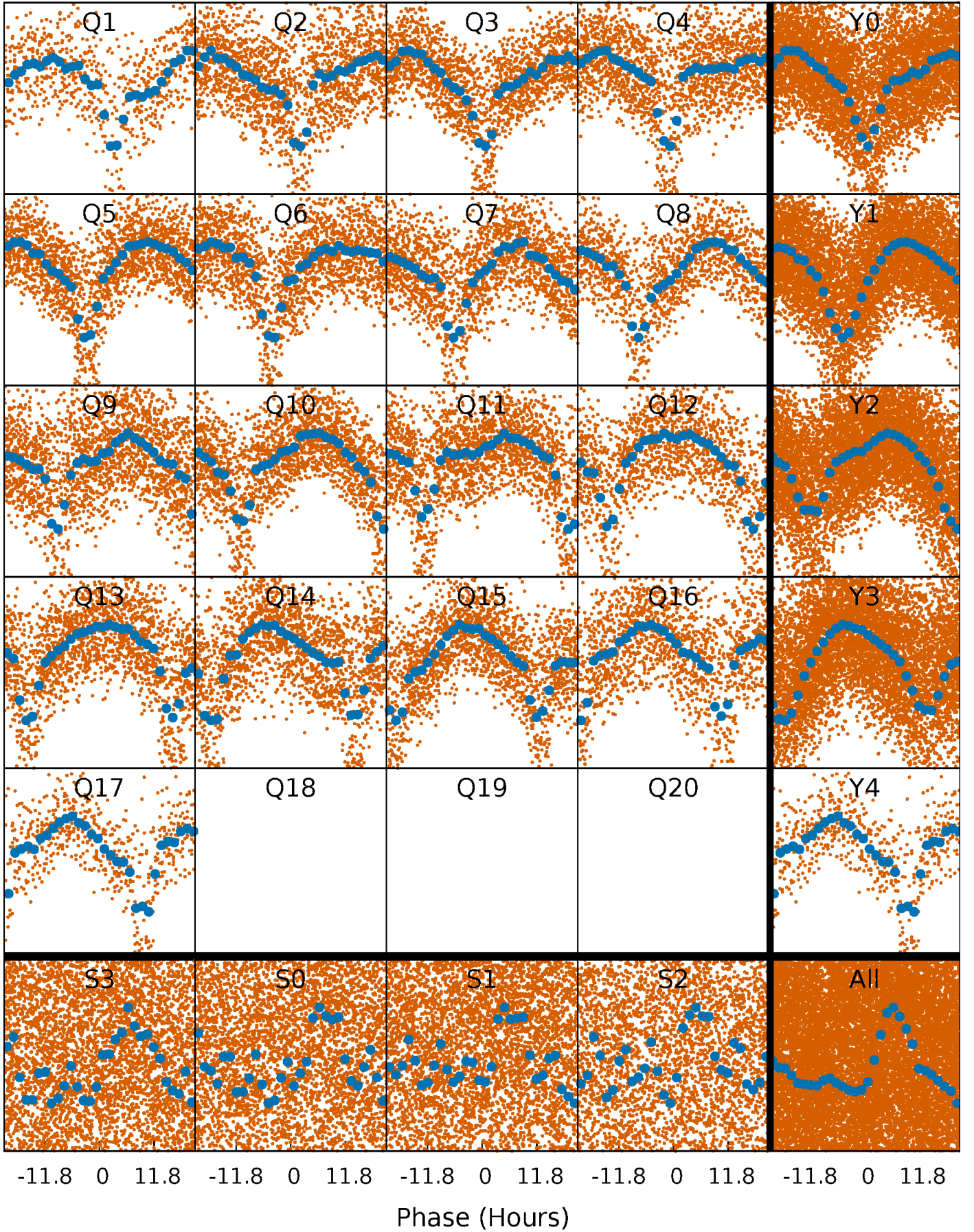


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



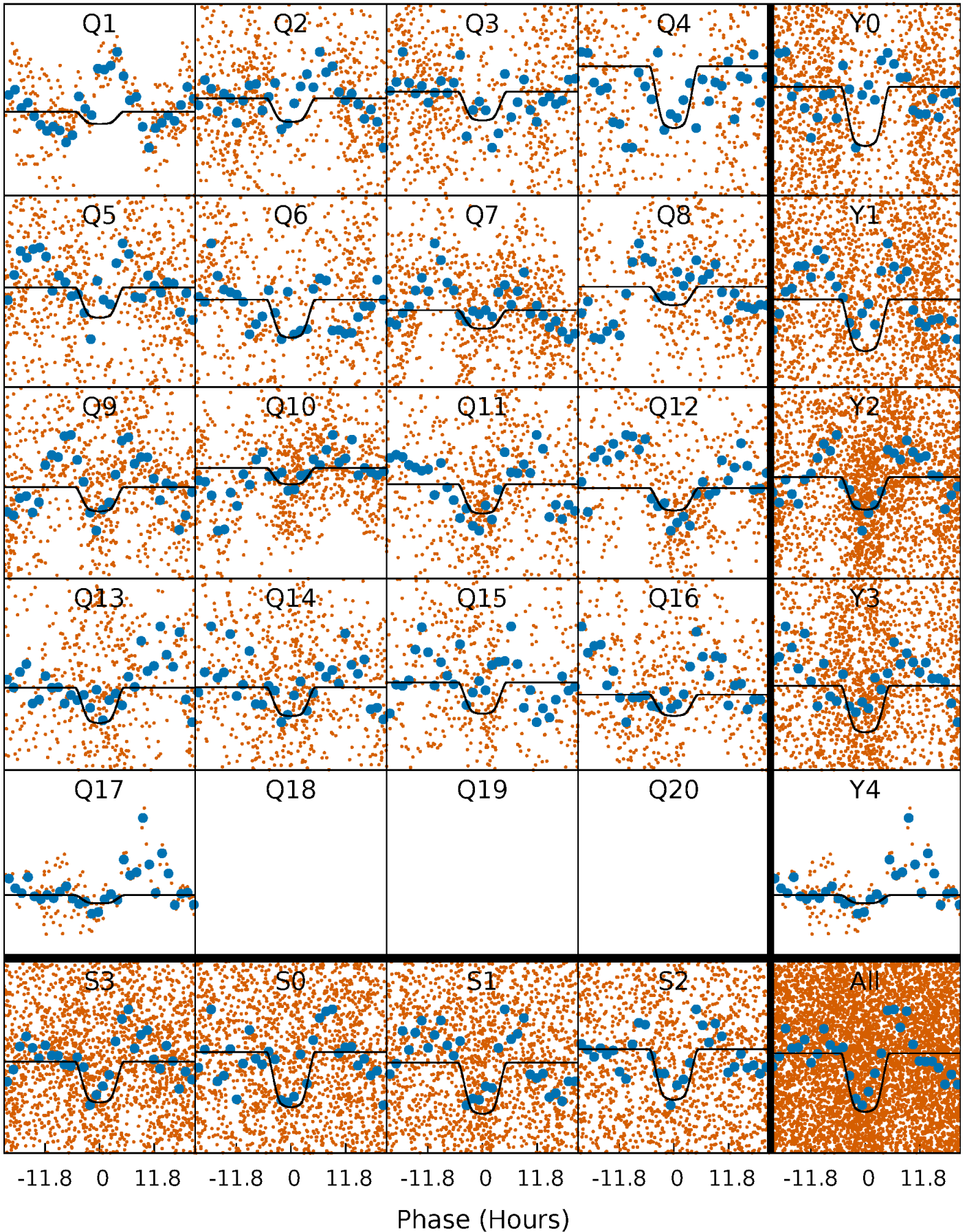
PDC Quarter-Phased Transit Curves

TCE 008113154-03 P= 3.883097 Days $T_0=134.971415$ (BKJD)



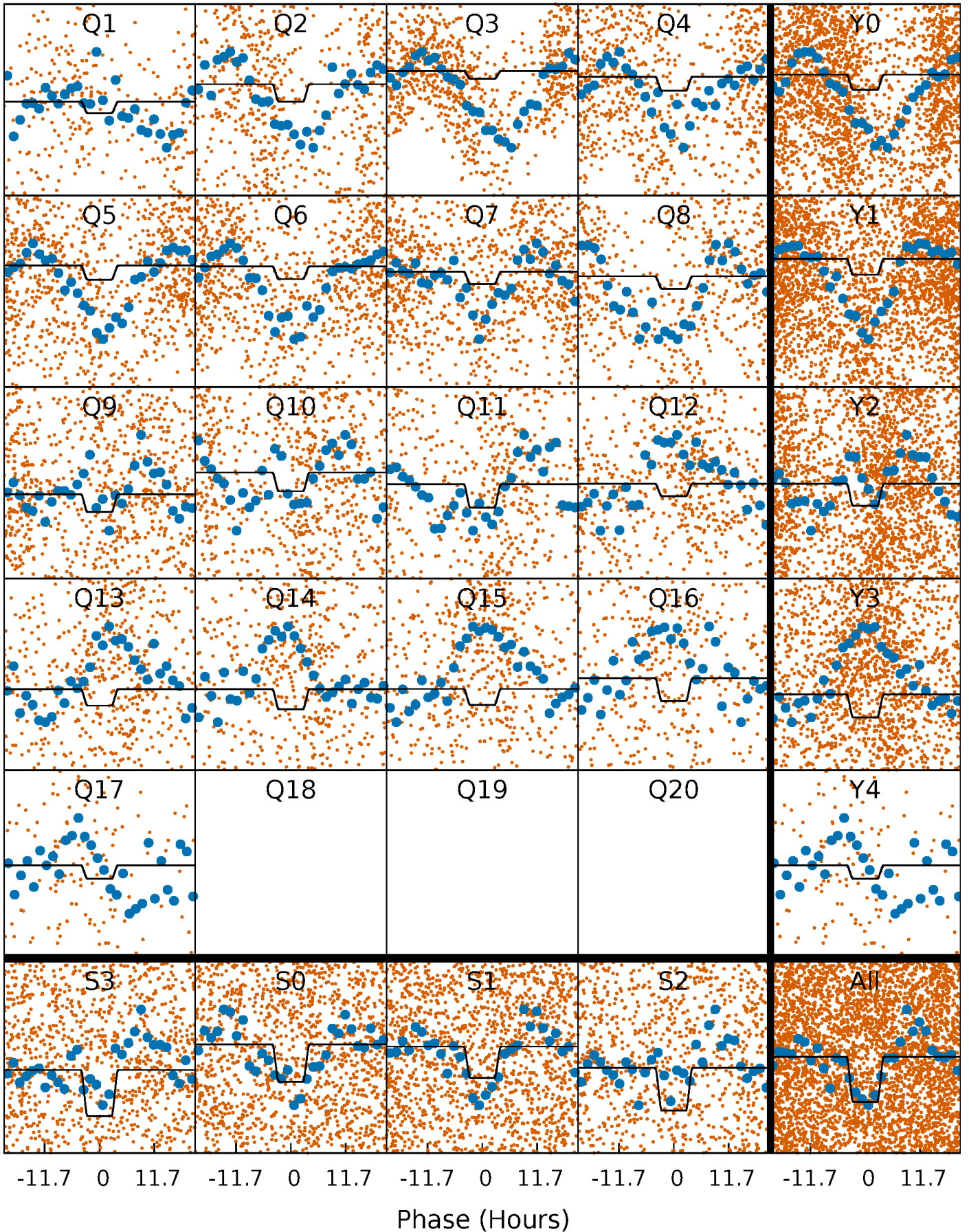
DV Quarter-Phased Transit Curves

TCE 008113154-03 P= 3.883097 Days $T_0=134.971415$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

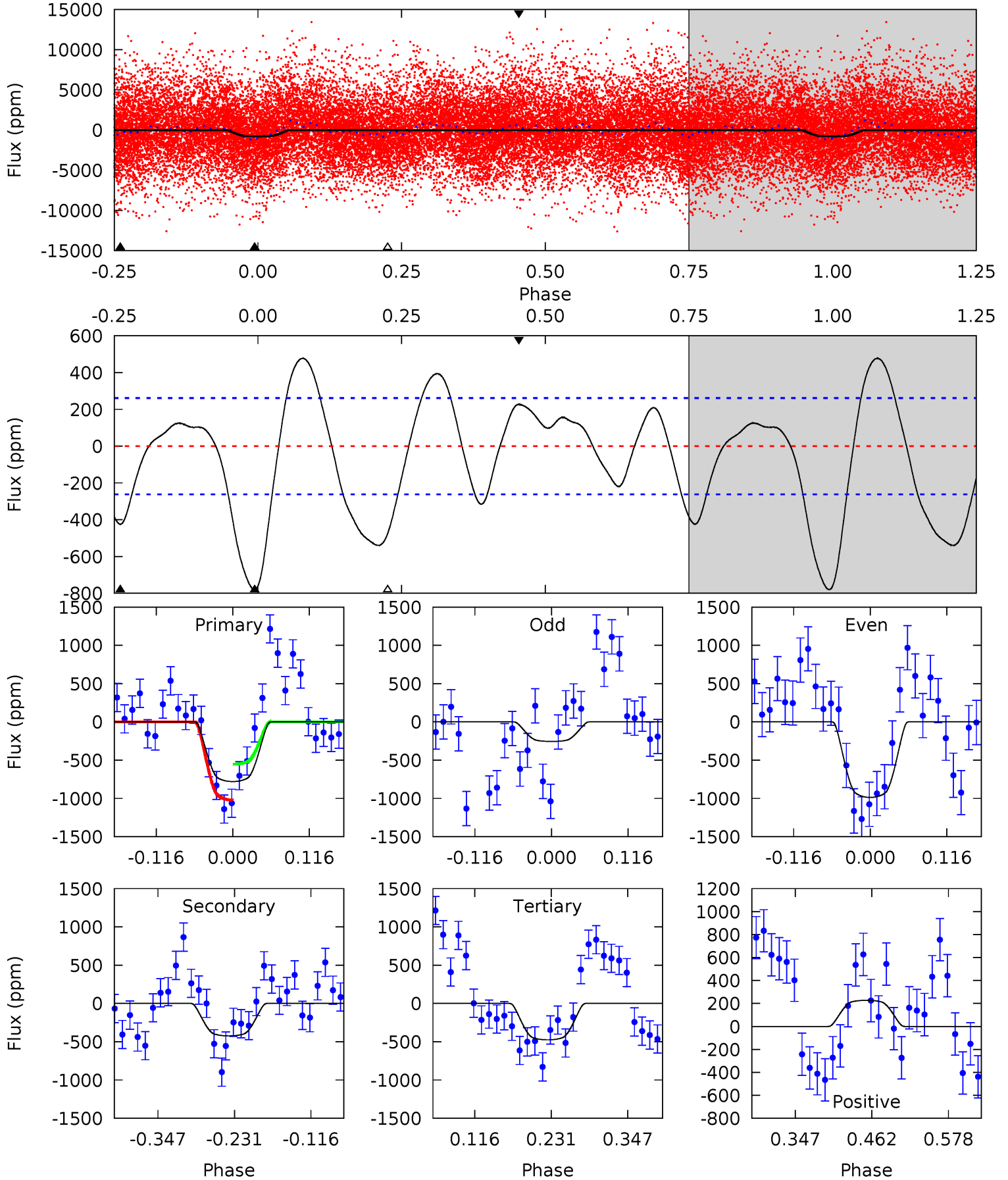
TCE 008113154-03 P= 3.883185 Days $T_0=134.812187$ (BKJD)



DV Model-Shift Uniqueness Test

008113154-03, P = 3.883097 Days, E = 131.088318 Days

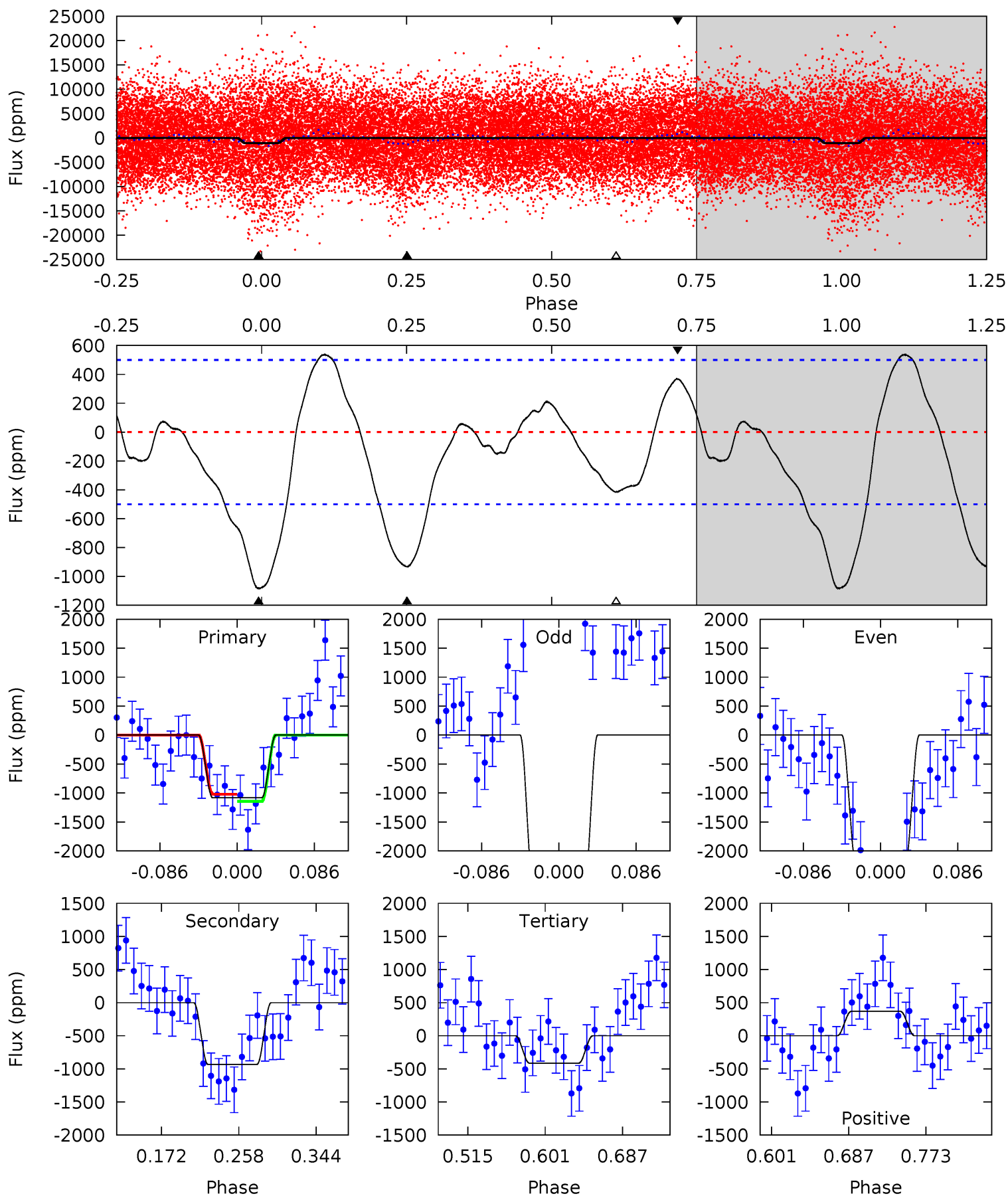
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	7.34	8.22	3.94	4.53	1.57	4.21	5.28	9.56	-0.88	3.40	5.68	1.06	0.38	3.99



Alt Model-Shift Uniqueness Test

008113154-03, P = 3.883185 Days, E = 130.929002 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.96	8.58	3.82	3.39	4.60	1.72	2.14	6.14	6.57	4.76	5.19	2.58	1.02	0.33	0.56



Stellar Parameters For KIC 008113154

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6812^{+165}_{-235}	$4.343^{+0.084}_{-0.182}$	$-0.540^{+0.250}_{-0.300}$	$1.172^{+0.348}_{-0.149}$	$1.103^{+0.157}_{-0.128}$	$0.965^{+0.420}_{-0.502}$
	+2%/-3%	+2%/-4%	+46%/-56%	+30%/-13%	+14%/-12%	+44%/-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 008113154-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-424 ± 58	$5.10^{+0.83}_{-0.59}$	2053^{+138}_{-110}	4972^{+223}_{-225}	22^{+6}_{-6}
Alt.	-933 ± 109	$4.47^{+0.71}_{-0.46}$	2048^{+130}_{-100}	6350^{+357}_{-326}	62^{+17}_{-15}

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 $A_{obs} \gg 1.0$

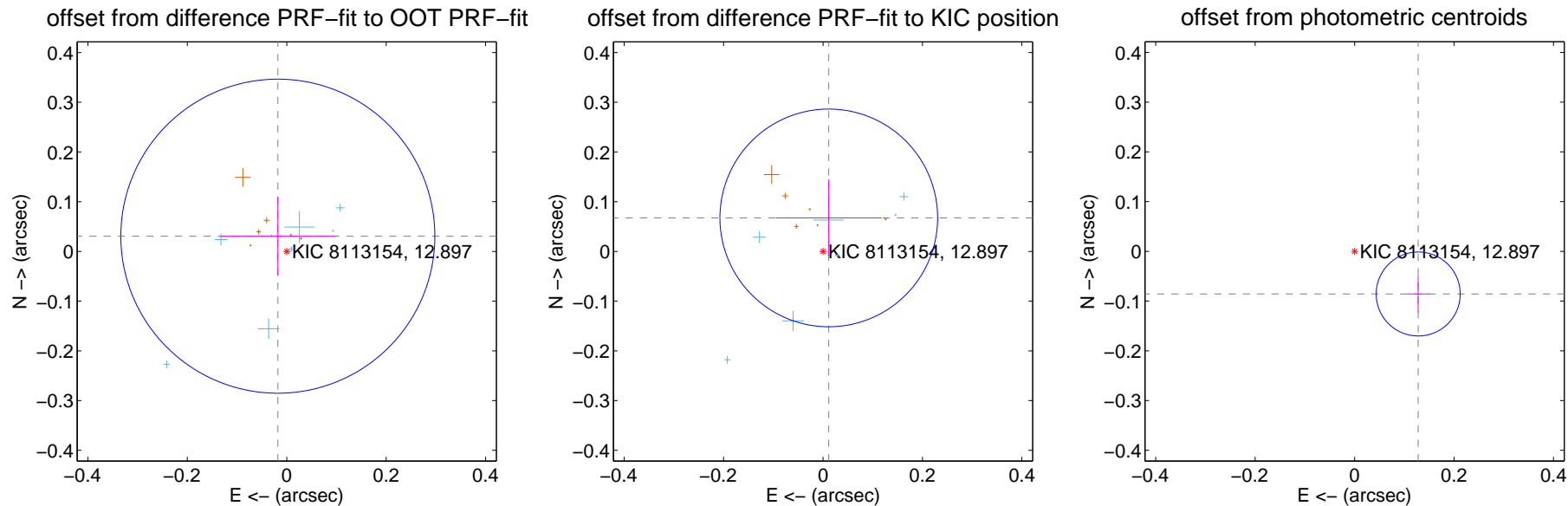
DV Centroid Data

Supplemental centroid analysis for 008113154-03. Kepler magnitude: 12.90. Transit SNR 11.00

There are 8 quarters with good PRF difference image offsets

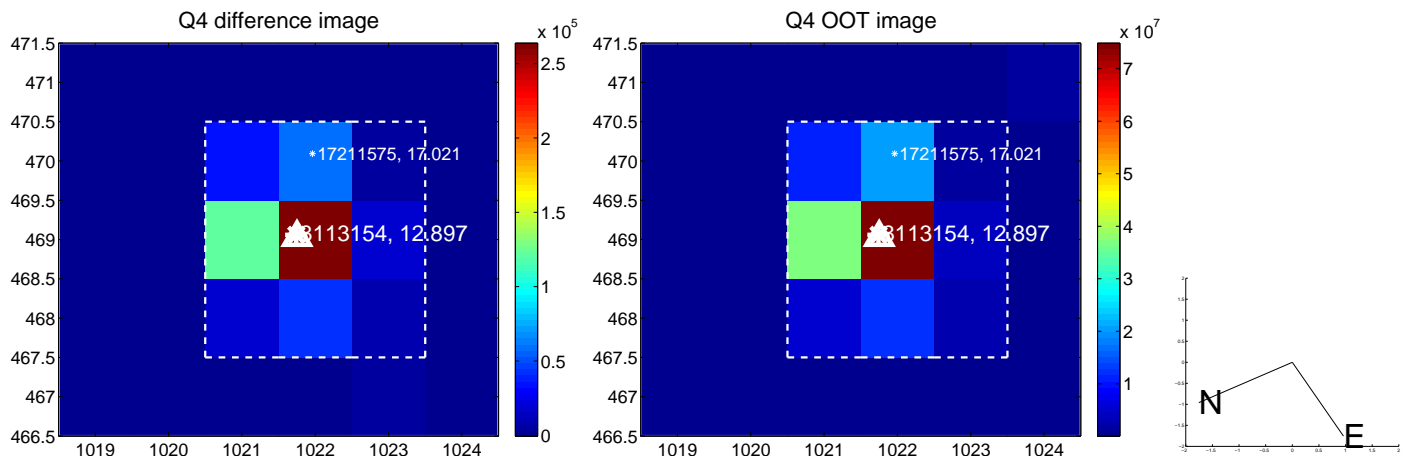
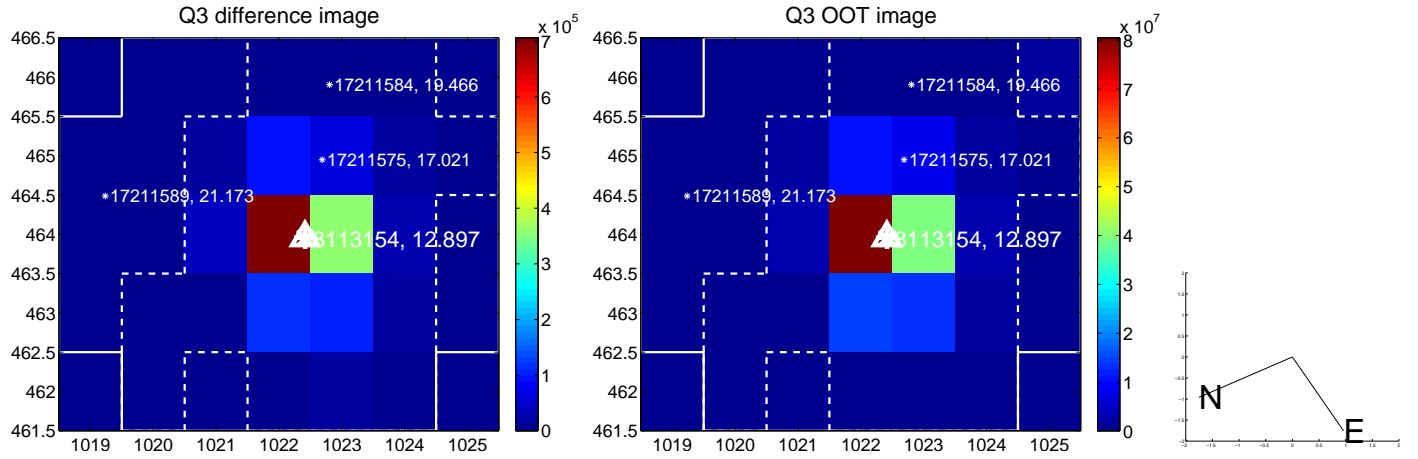
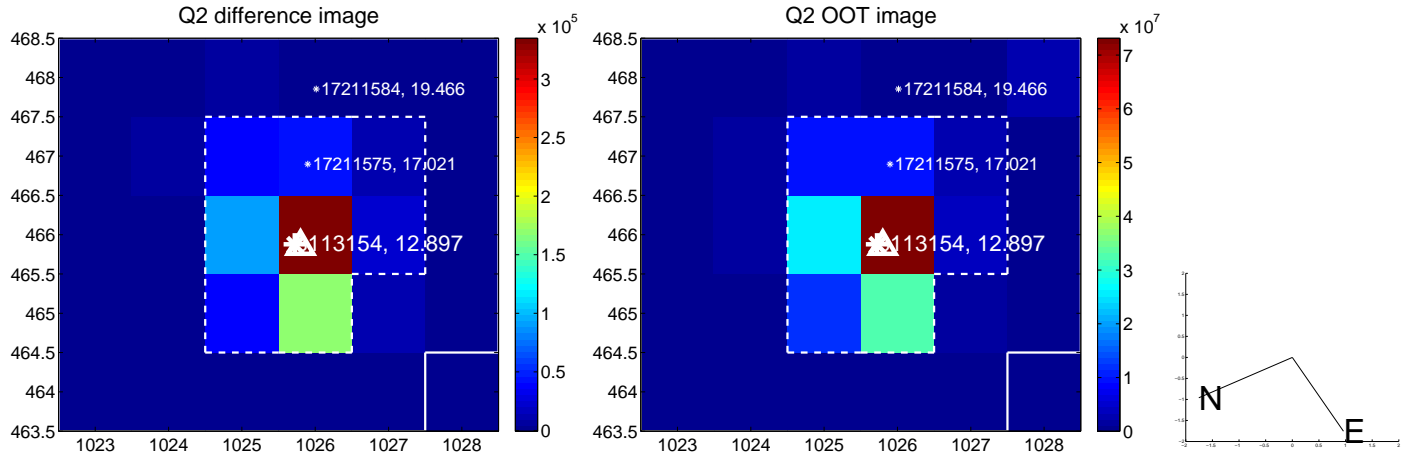
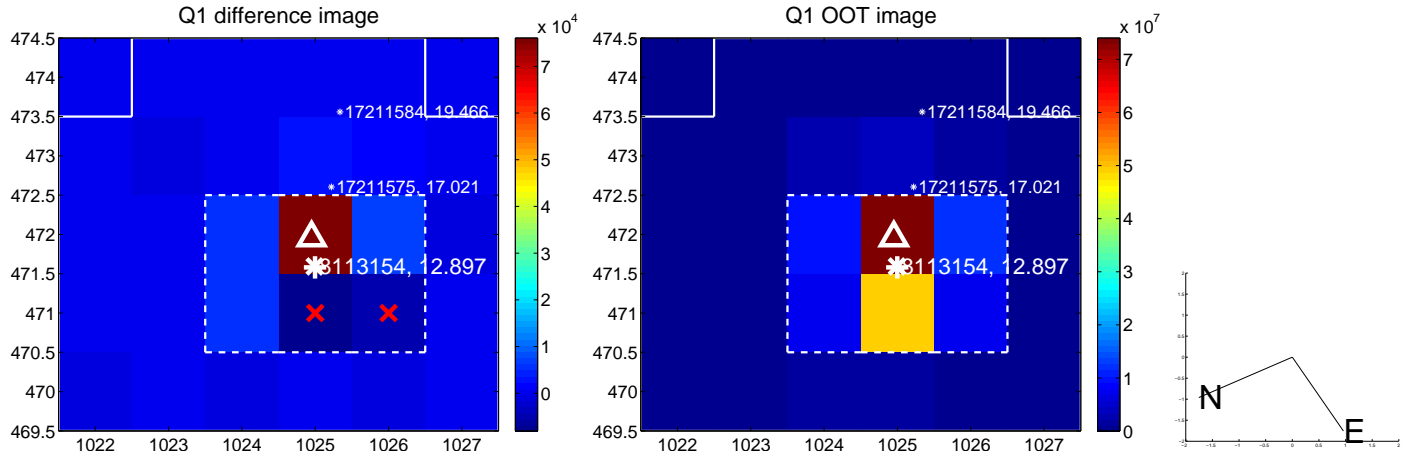
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.036 ± 0.105	0.34	0.018 ± 0.116	0.031 ± 0.080
PRF-fit source offset from KIC position	0.068 ± 0.073	0.94	-0.012 ± 0.106	0.067 ± 0.078
photometric centroid source offset	0.15 ± 0.03	5.47	-0.13 ± 0.02	-0.09 ± 0.04

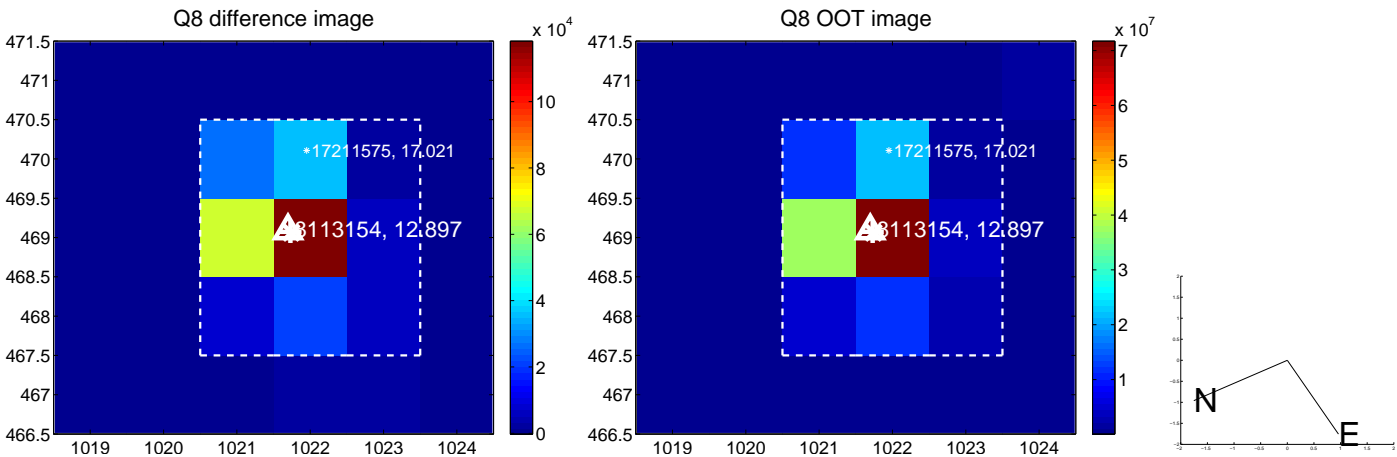
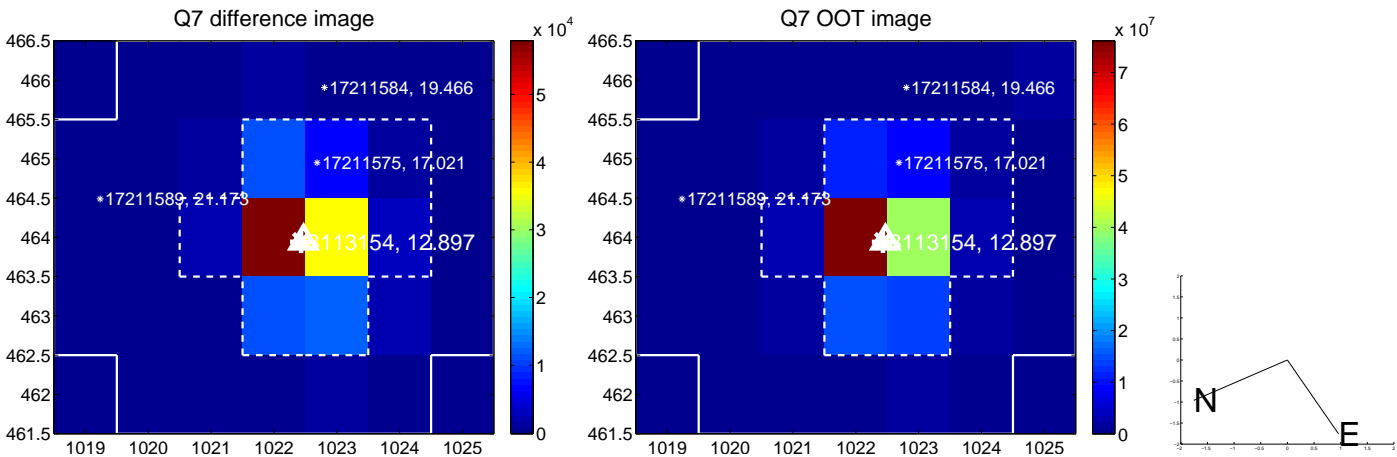
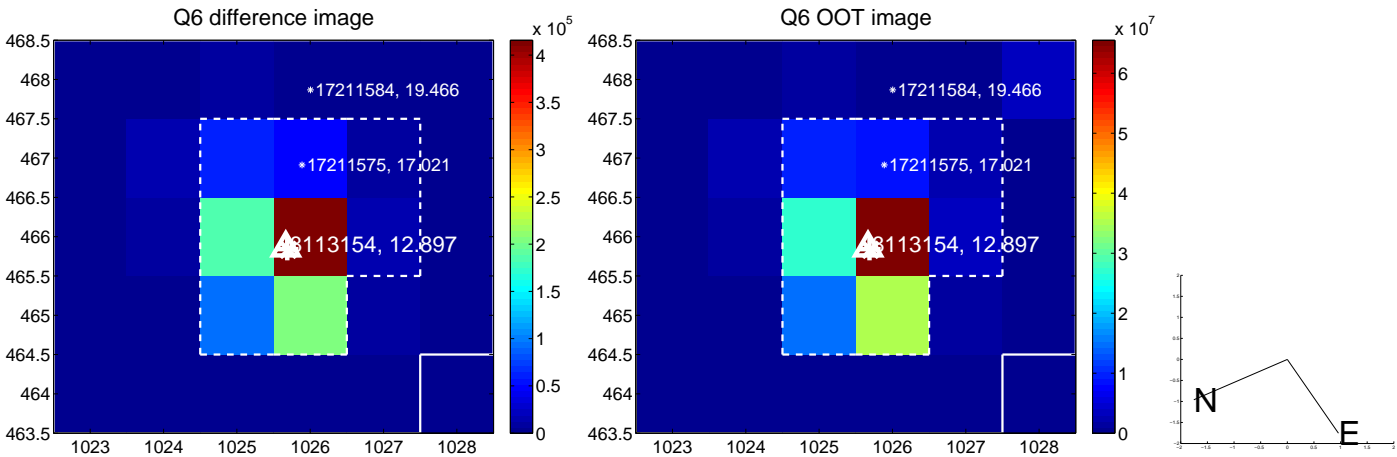
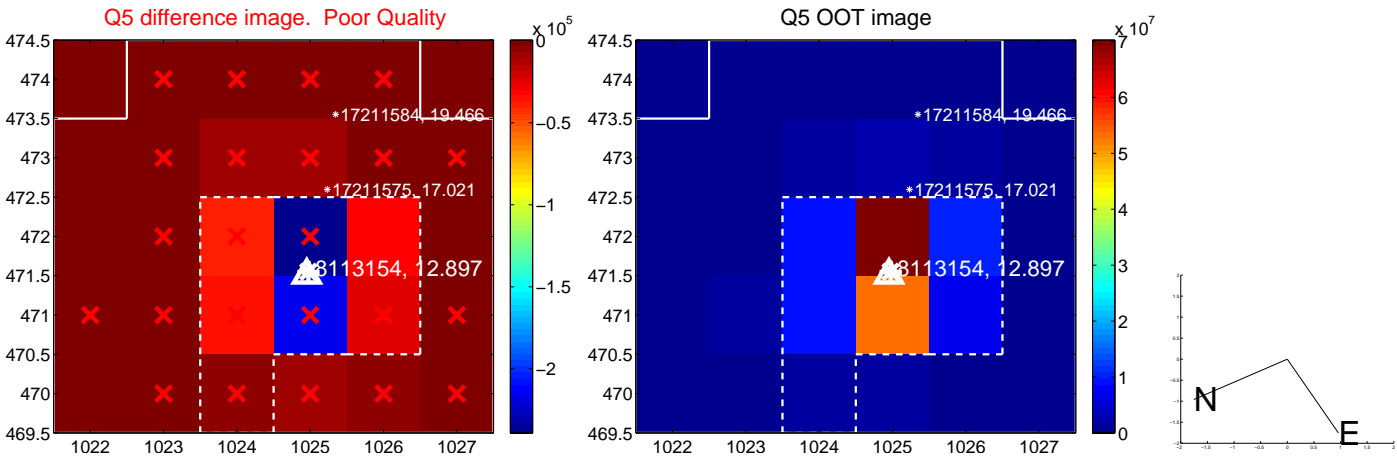


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

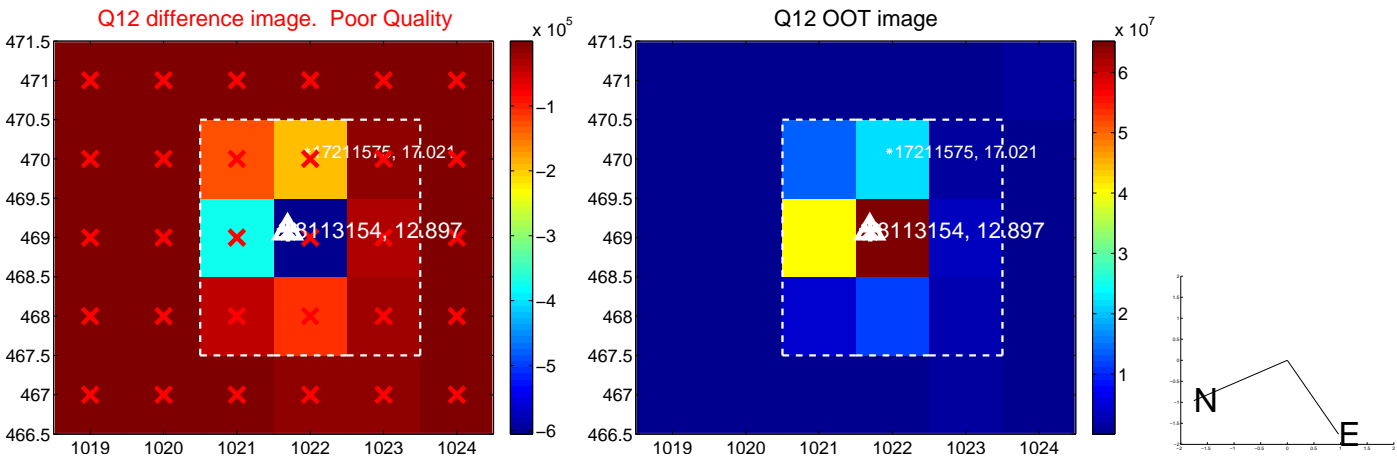
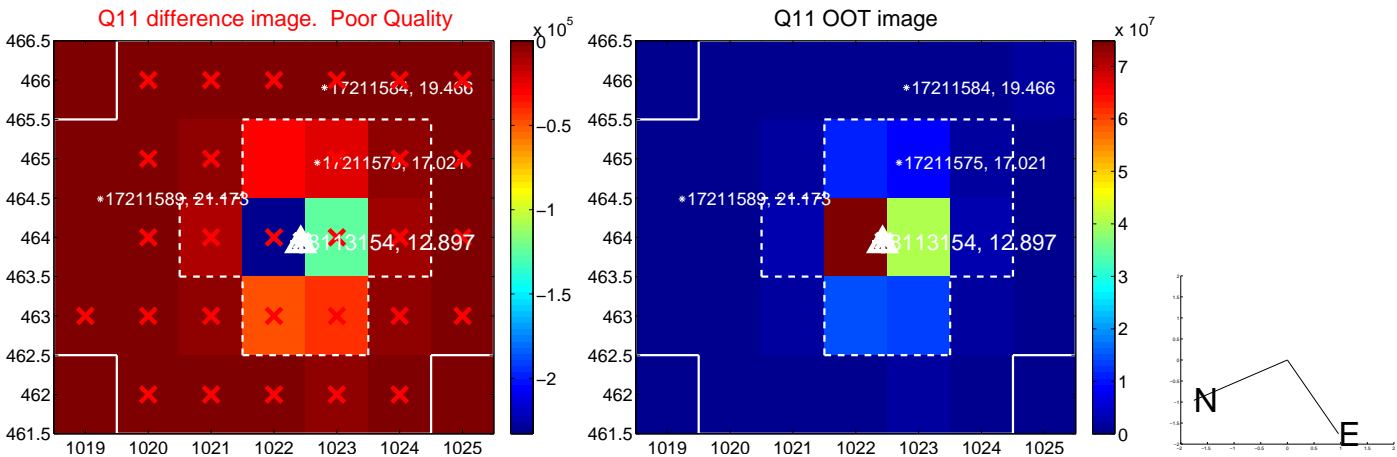
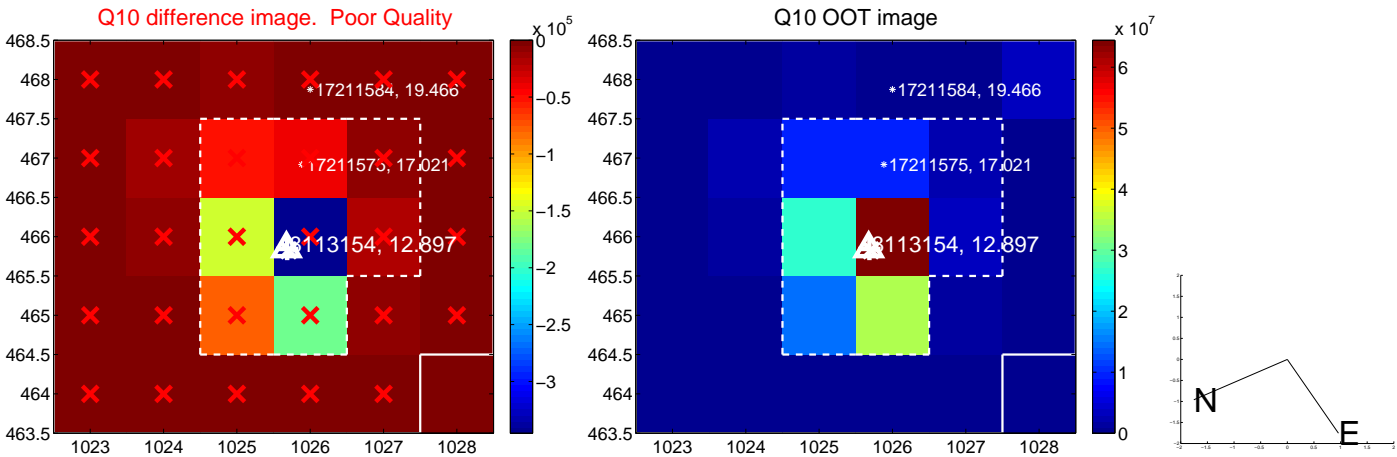
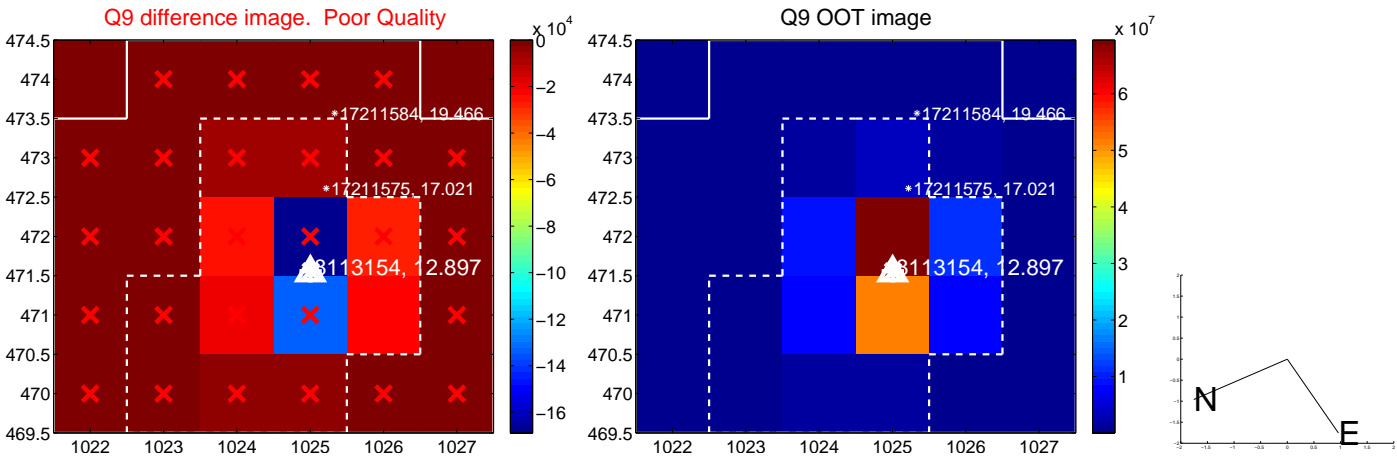
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



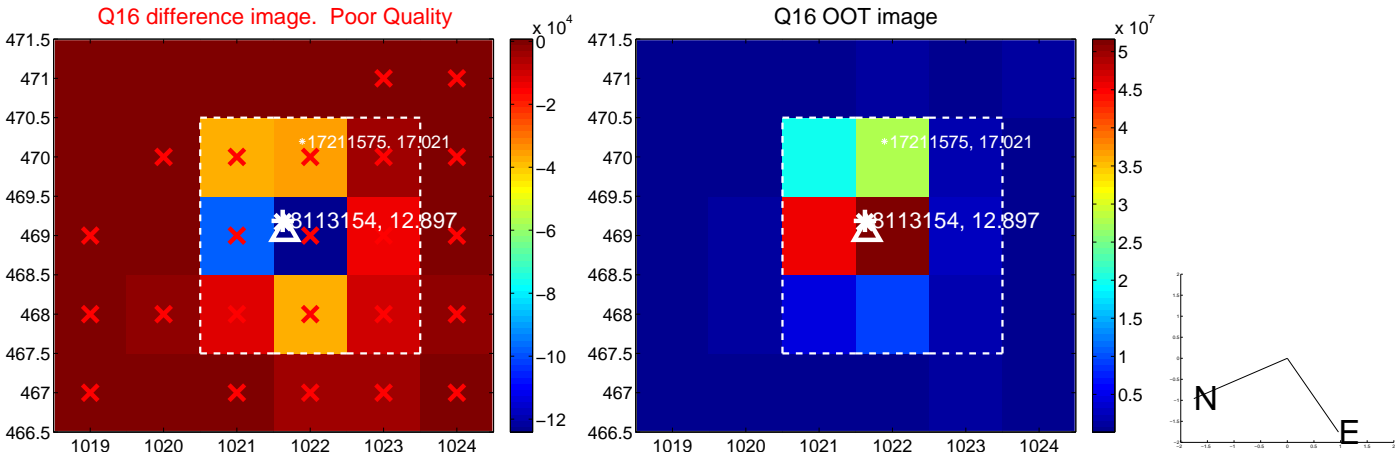
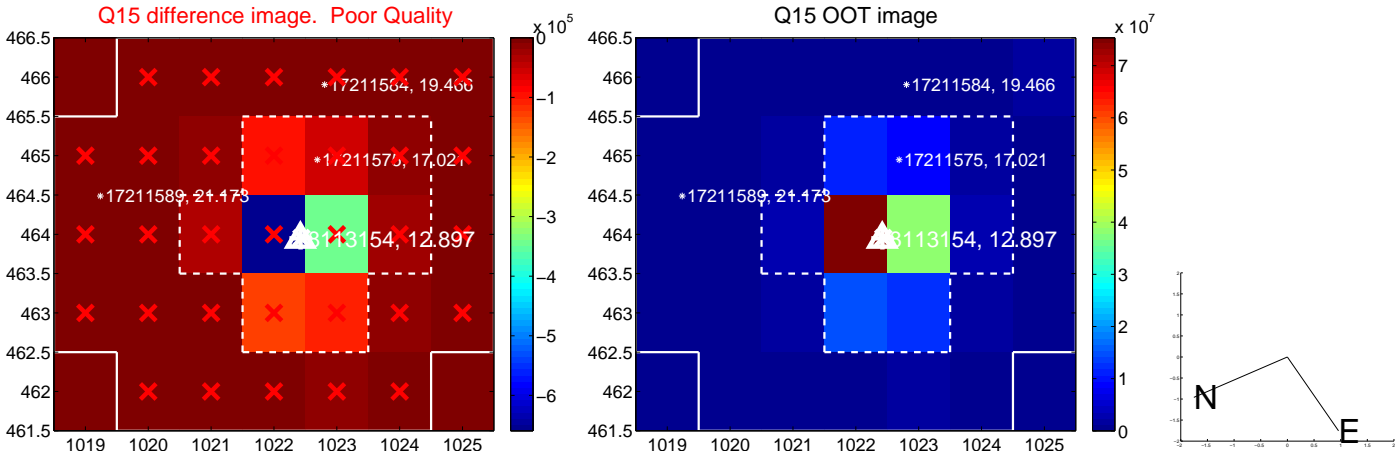
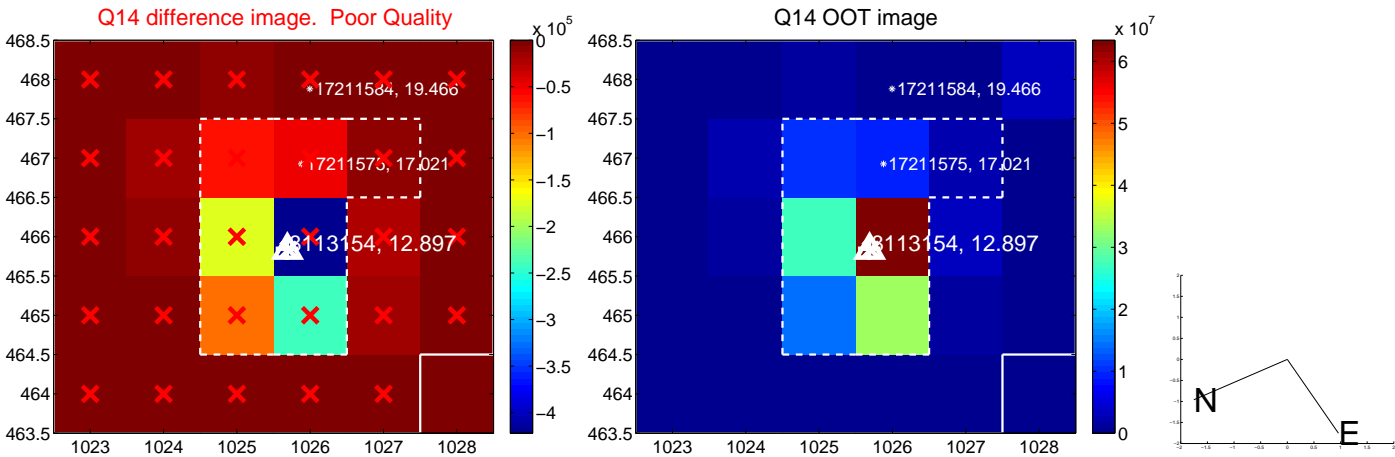
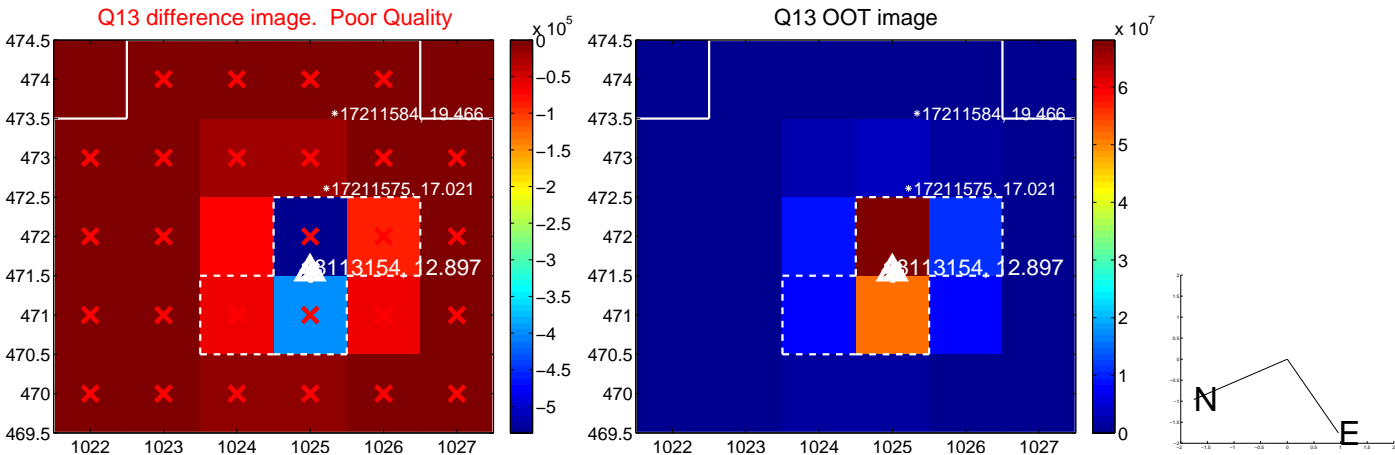
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



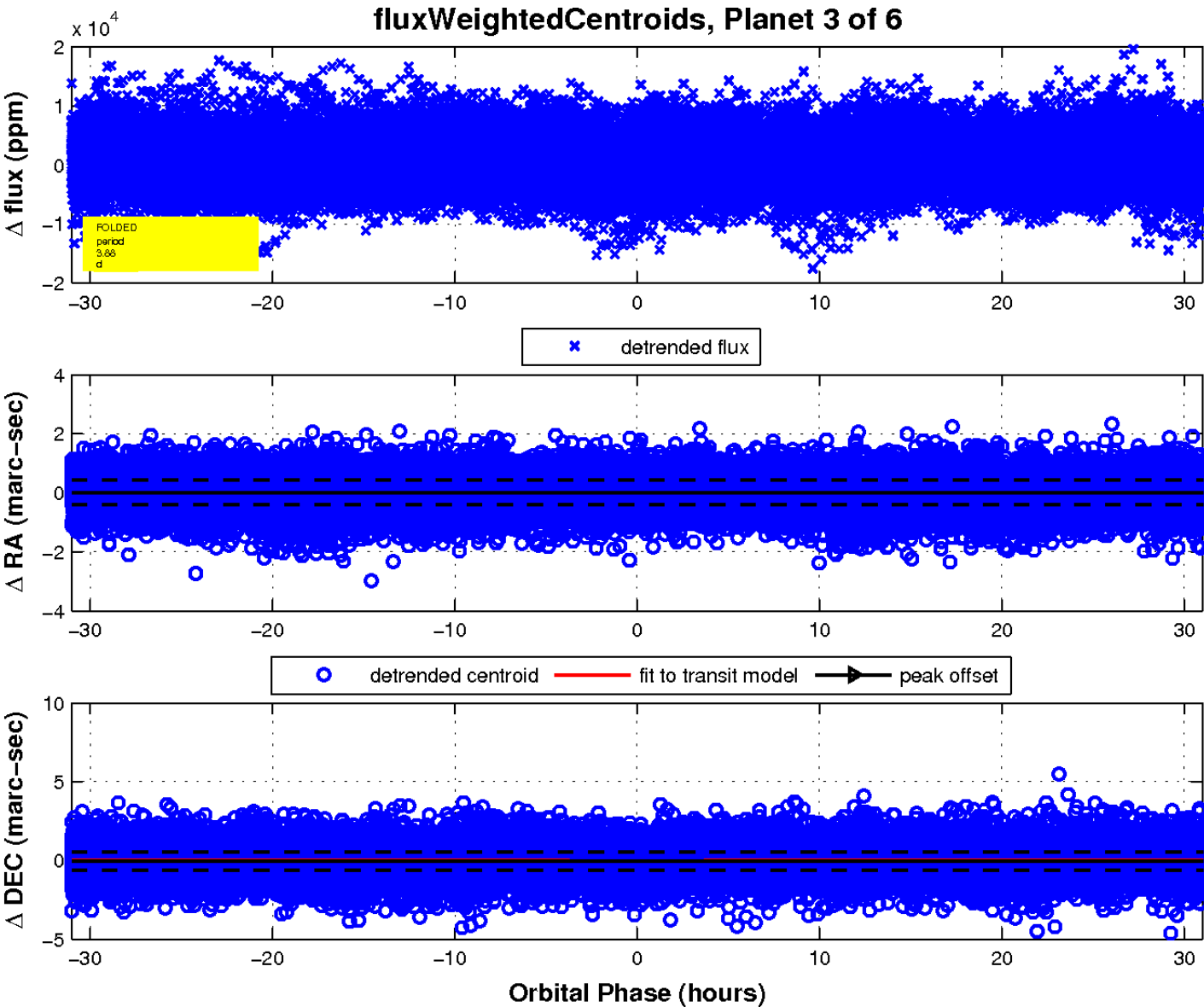
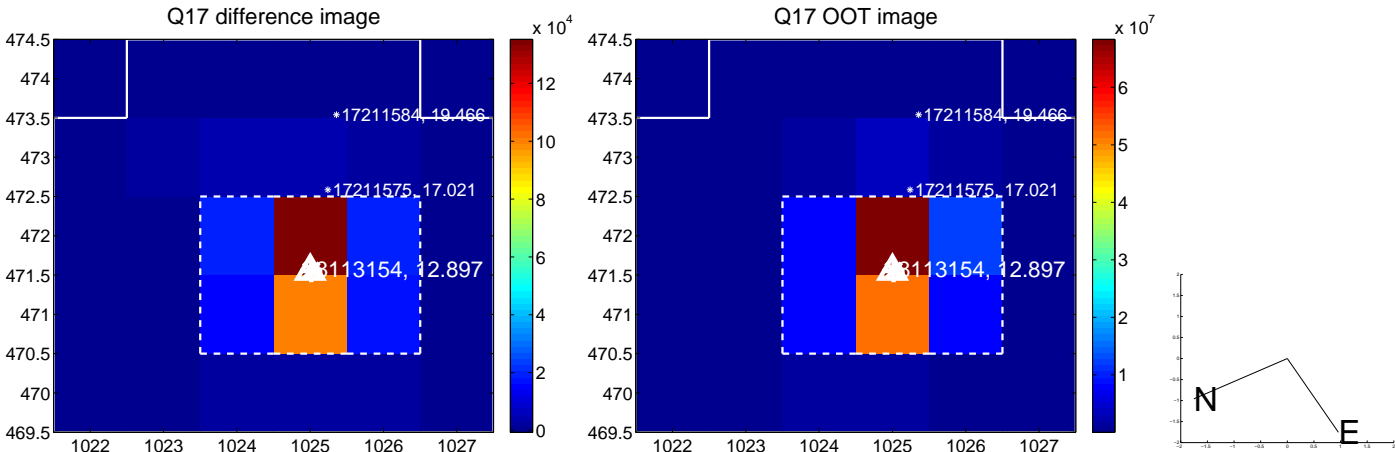
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

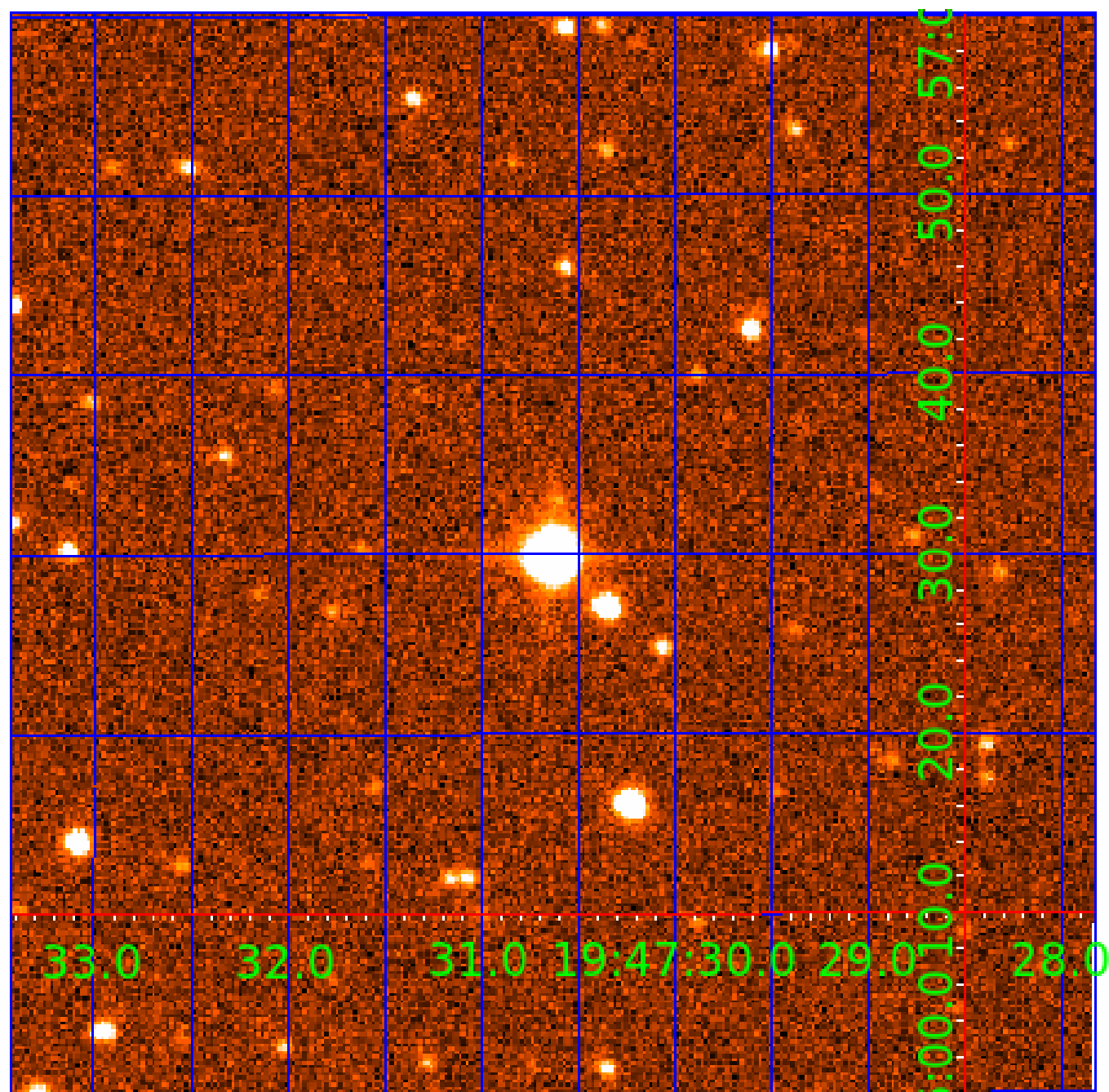


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008113154

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})
008113154-01	OBS	1542.01	2.586855	133.820687	8747.9	5.375	118.7	103.3	1.17	6812	11.76	1823.54
008113154-02	OBS	No	3.107657	133.850046	917.9	10.580	10.1	9.6	1.17	6812	4.37	1427.91
008113154-03	OBS	No	3.883097	134.971415	1239.1	10.339	11.7	11.0	1.17	6812	5.02	1060.98
008113154-04	OBS	No	245.481349	303.328230	6697.9	12.160	11.4	10.5	1.17	6812	9.68	4.21
008113154-05	OBS	No	159.164892	270.188320	10187.9	23.811	9.8	11.0	1.17	6812	14.39	7.51
008113154-06	OBS	No	164.837529	280.199199	146.1	12.500	9.8	-1.0	1.17	6812	1.43	7.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008113154-01	OBS	FP	0.00	0	1	0	0	SWEET_EB
008113154-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008113154-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

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

Ephemeris Match Information For 008113154-04

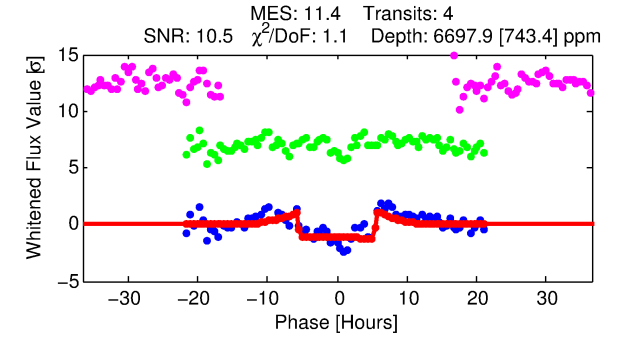
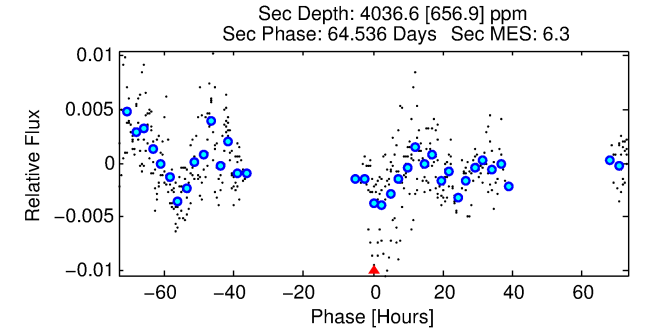
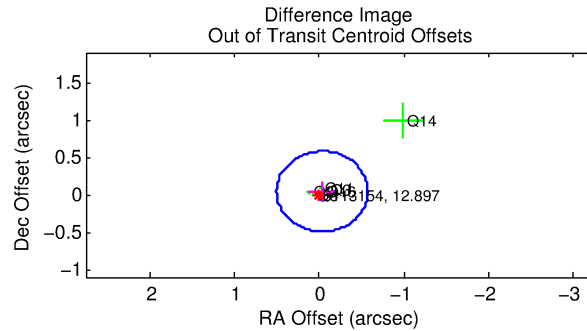
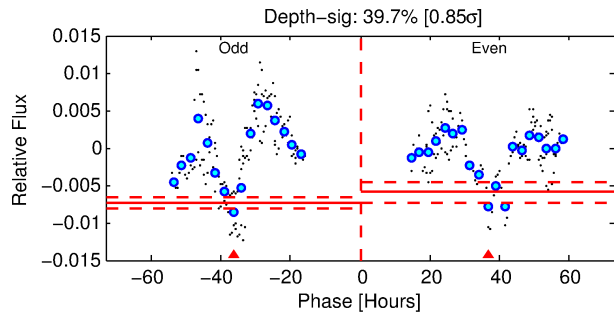
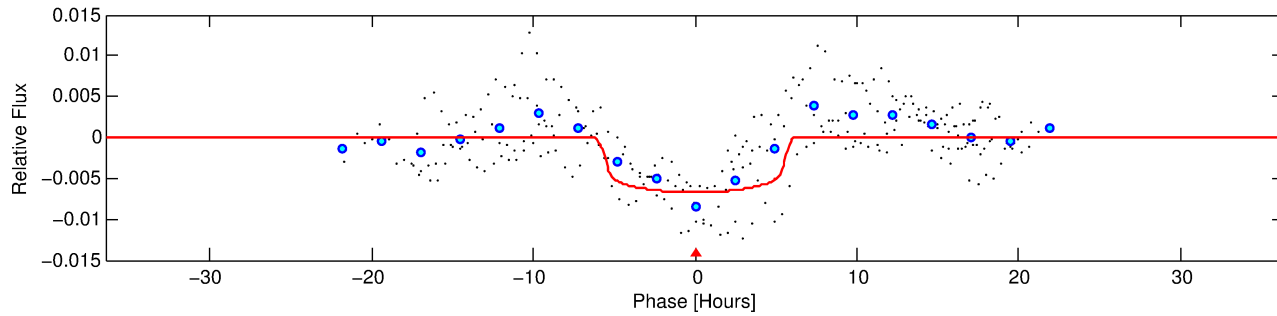
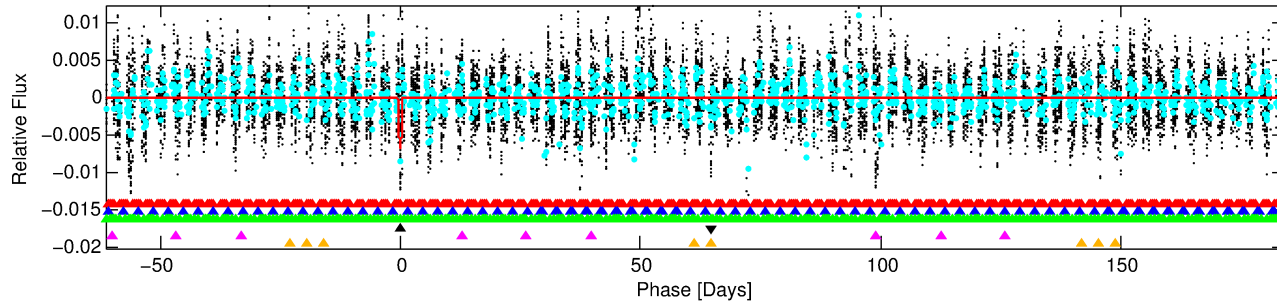
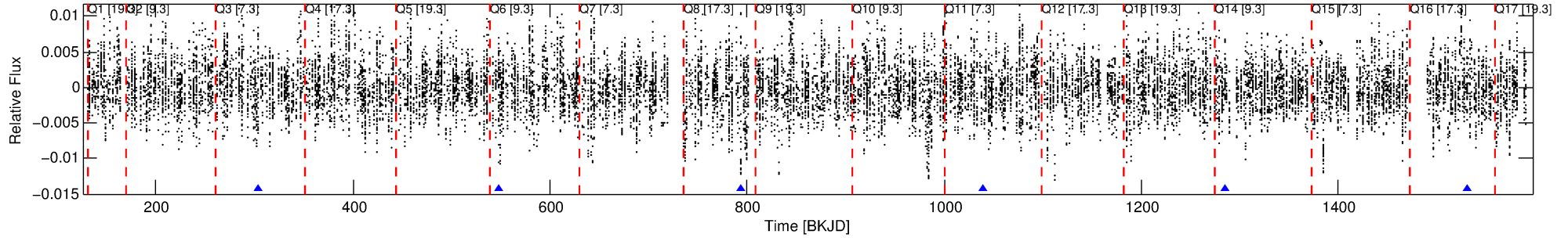
No Significant Match Found

DV One-Page Summary

KIC: 8113154 Candidate: 4 of 6 Period: 245.481 d

KOI: K01542 Corr: No Ephemeris Match

Kp: 12.90 R*: 1.17 Rs Teff: 6812.0 K Logg: 4.34 Fe/H: -0.540



DV Fit Results:

Period = 245.48135 [0.00379] d
Epoch = 303.3282 [0.0068] BKJD
Rp/R* = 0.0757 [0.0066]
a/R* = 165.89 [54.44]
b = 0.01 [37.53]
Seff = 4.21 [1.56]
Teq = 365 [34] K
Rp = 9.68 [3.00] Re
a = 0.7931 [0.1922] AU
Ag = 14919.01 [6231.07] [2.39σ]
Teff = 6242 [431] K [13.60σ]

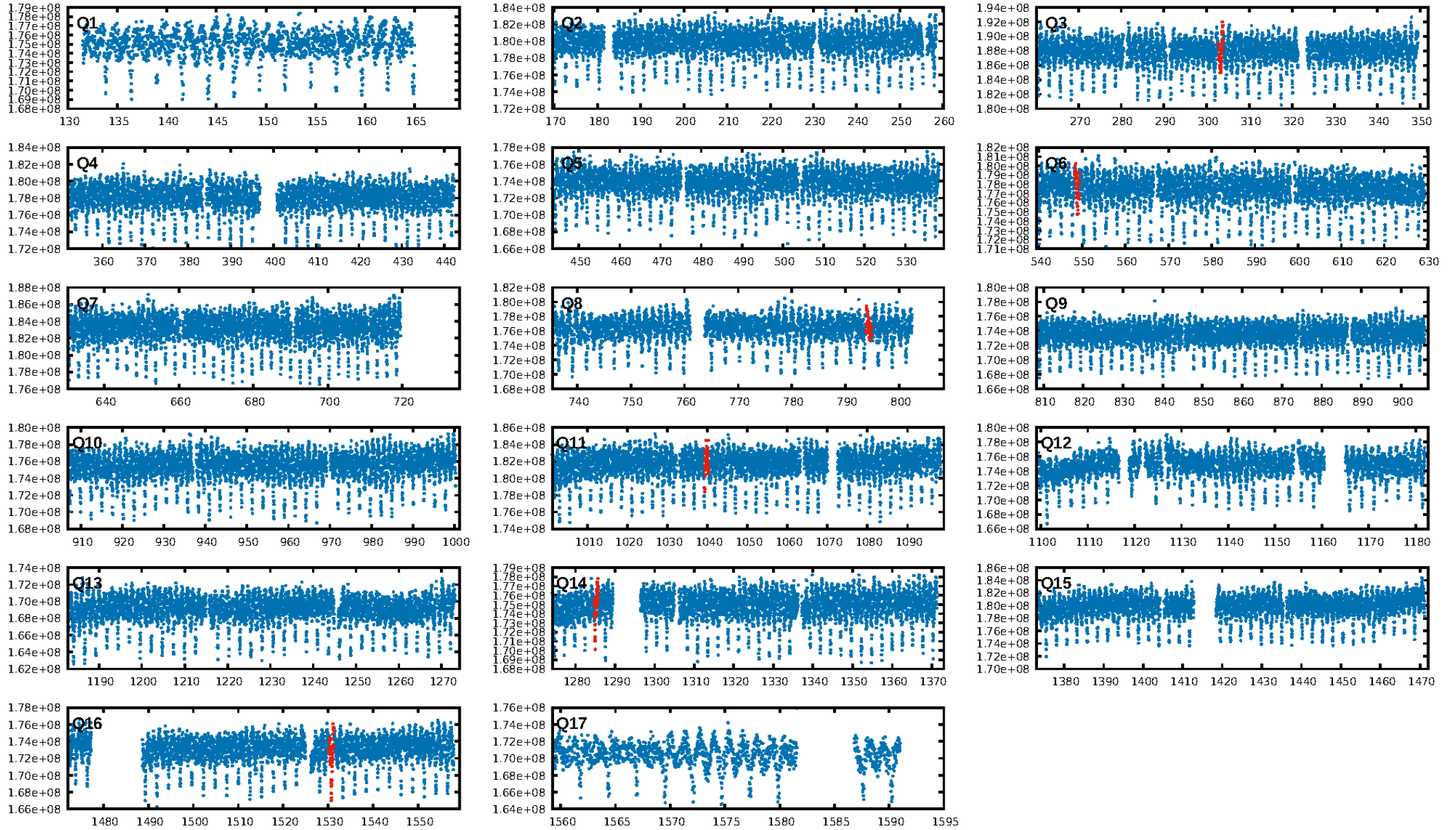
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [110.99σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.9%
ModelChiSquareGof-sig: 98.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.404
Centroid-sig: 8.0%
Centroid-so: 0.111 arcsec [2.76σ]
OotOffset-rm: 0.056 arcsec [0.31σ]
KicOffset-rm: 0.076 arcsec [0.37σ]
OotOffset-st: 2/2/2/0 [6]
KicOffset-st: 2/2/2/0 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.33 [2/6]

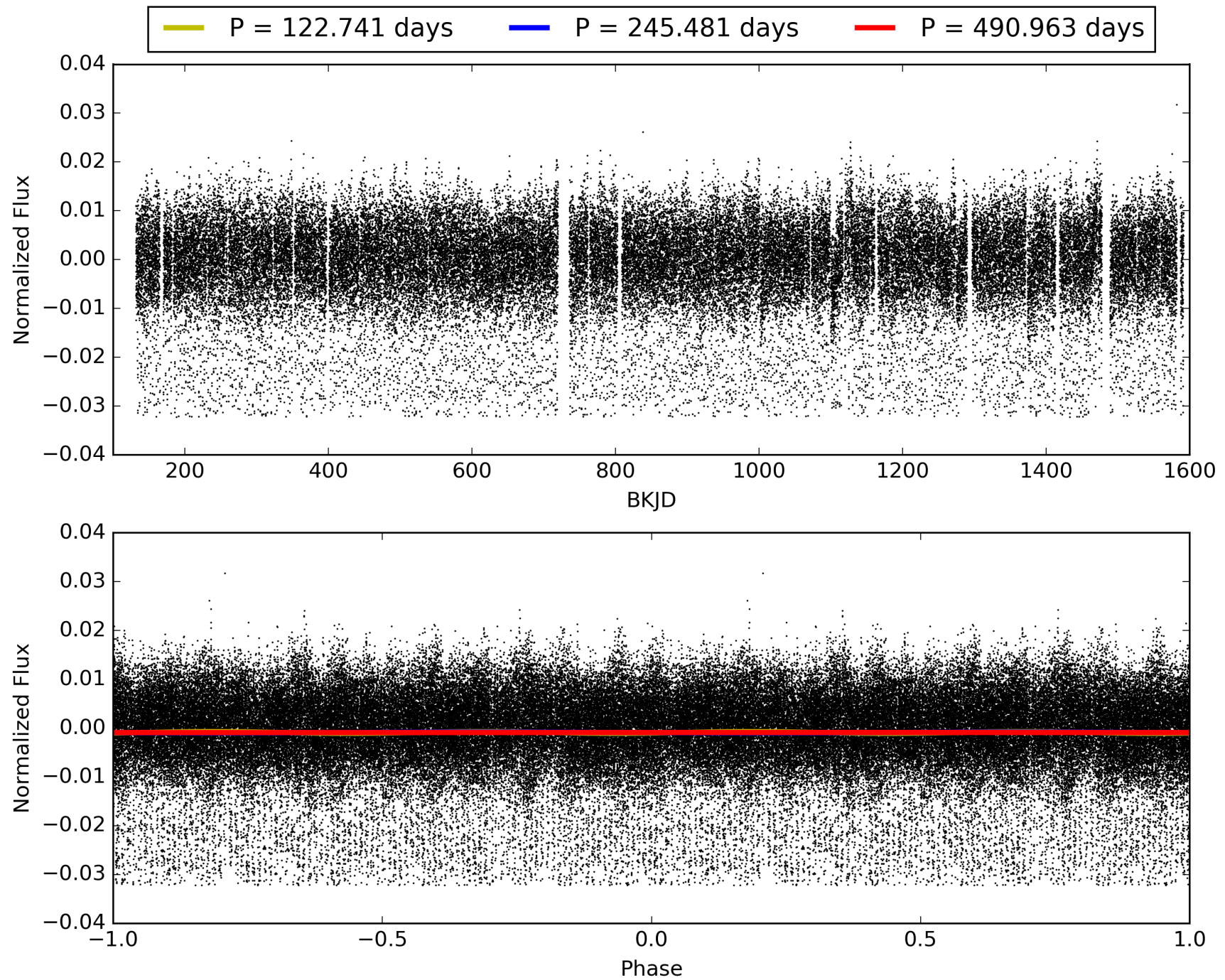
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:56:21 Z

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

TCE 008113154-04, PDC Light Curves

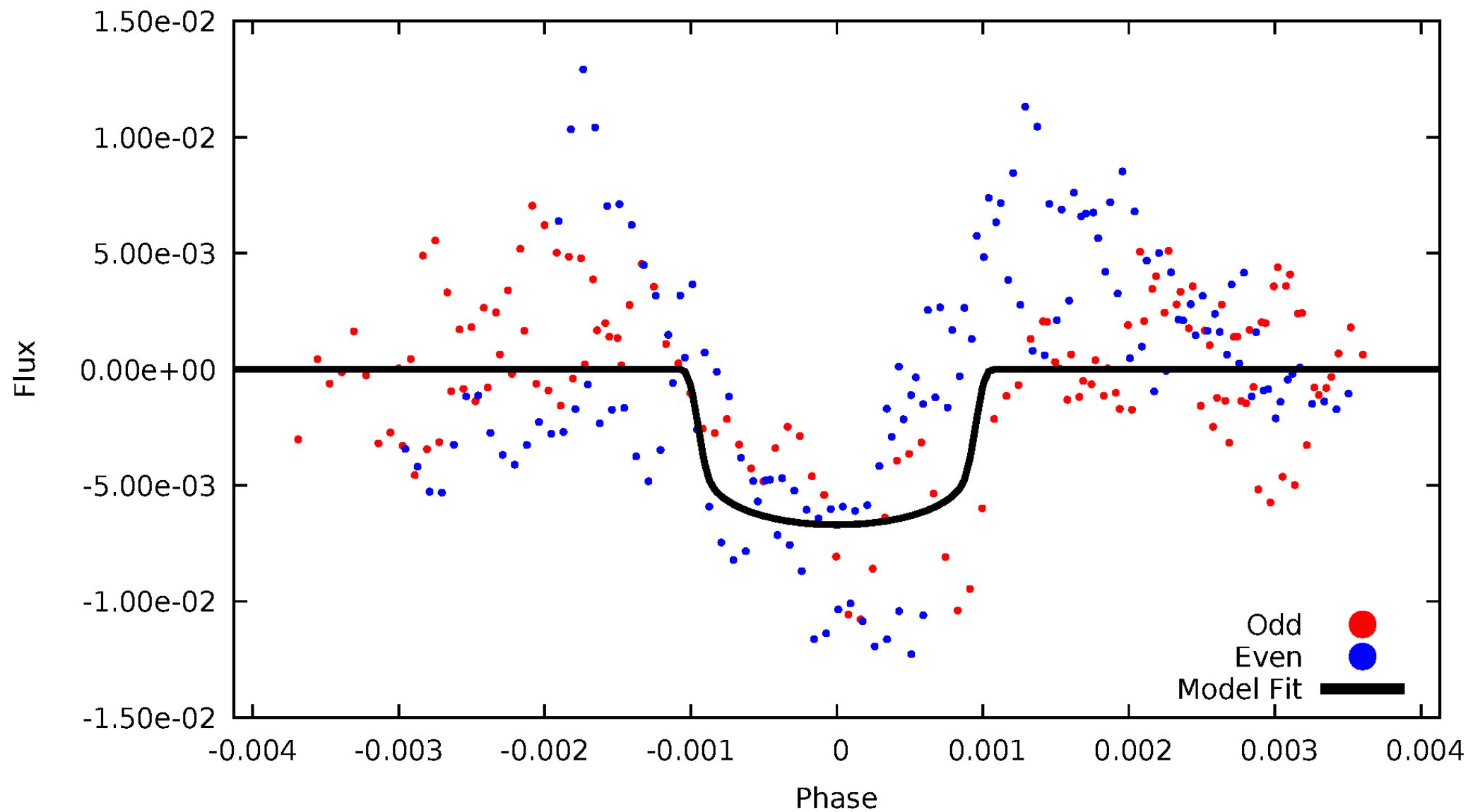


TCE 008113154-04



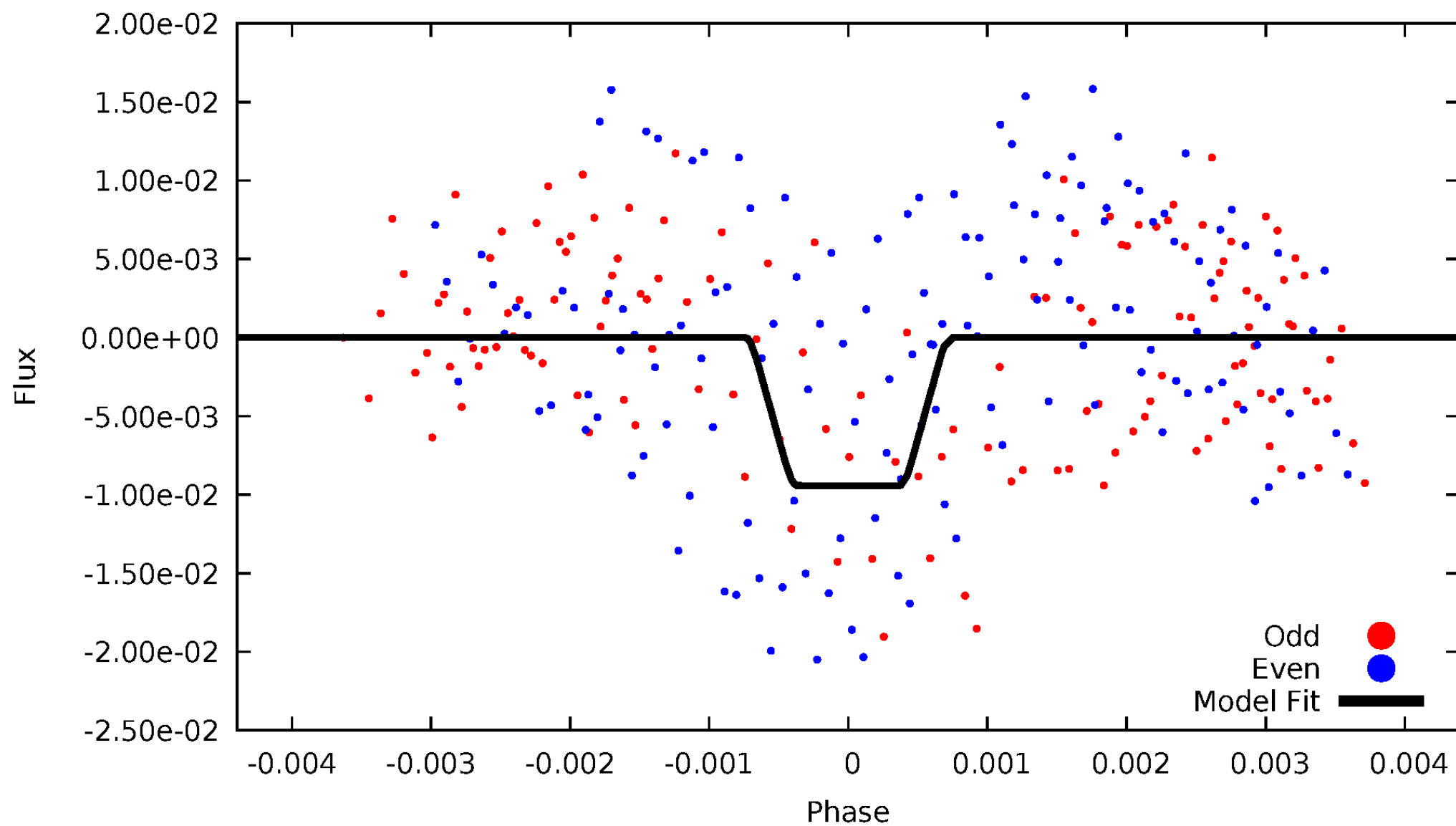
DV Odd/Even

TCE 008113154-04



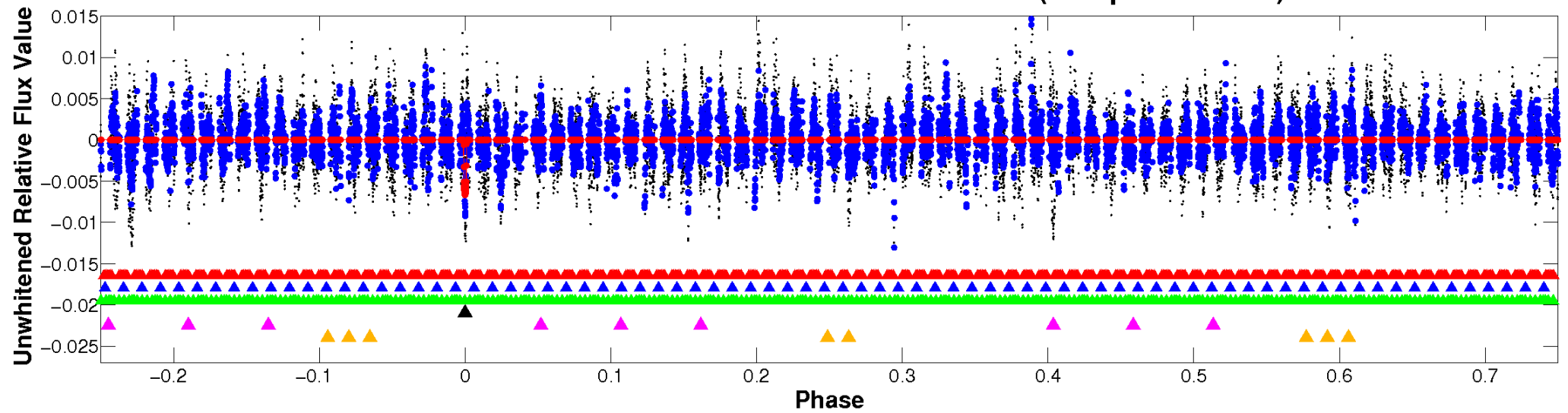
ALT Odd/Even

TCE 008113154-04

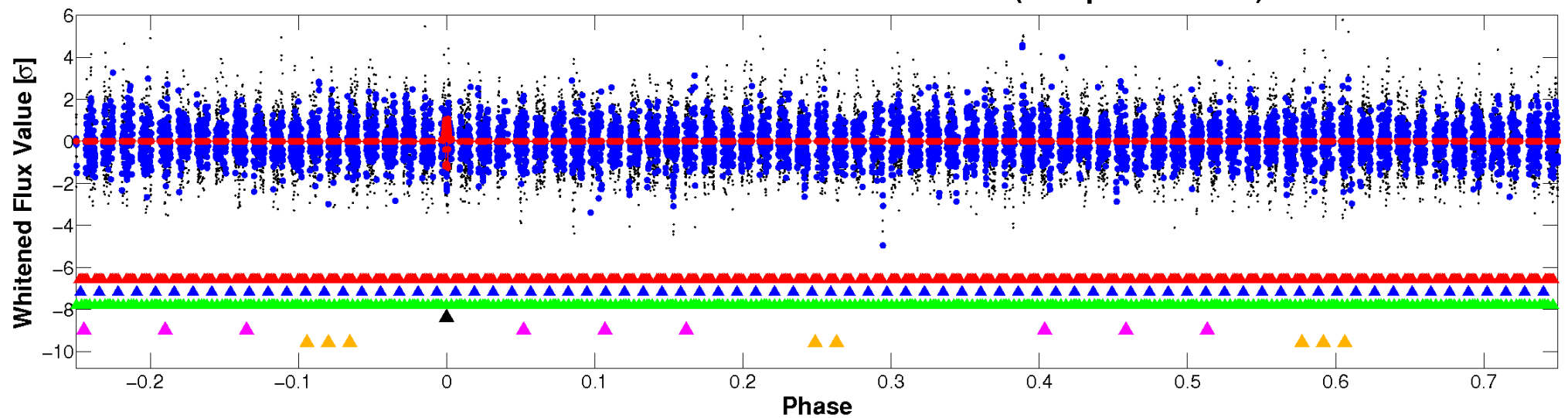


Non-Whitened Vs. Whitened Light Curve

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

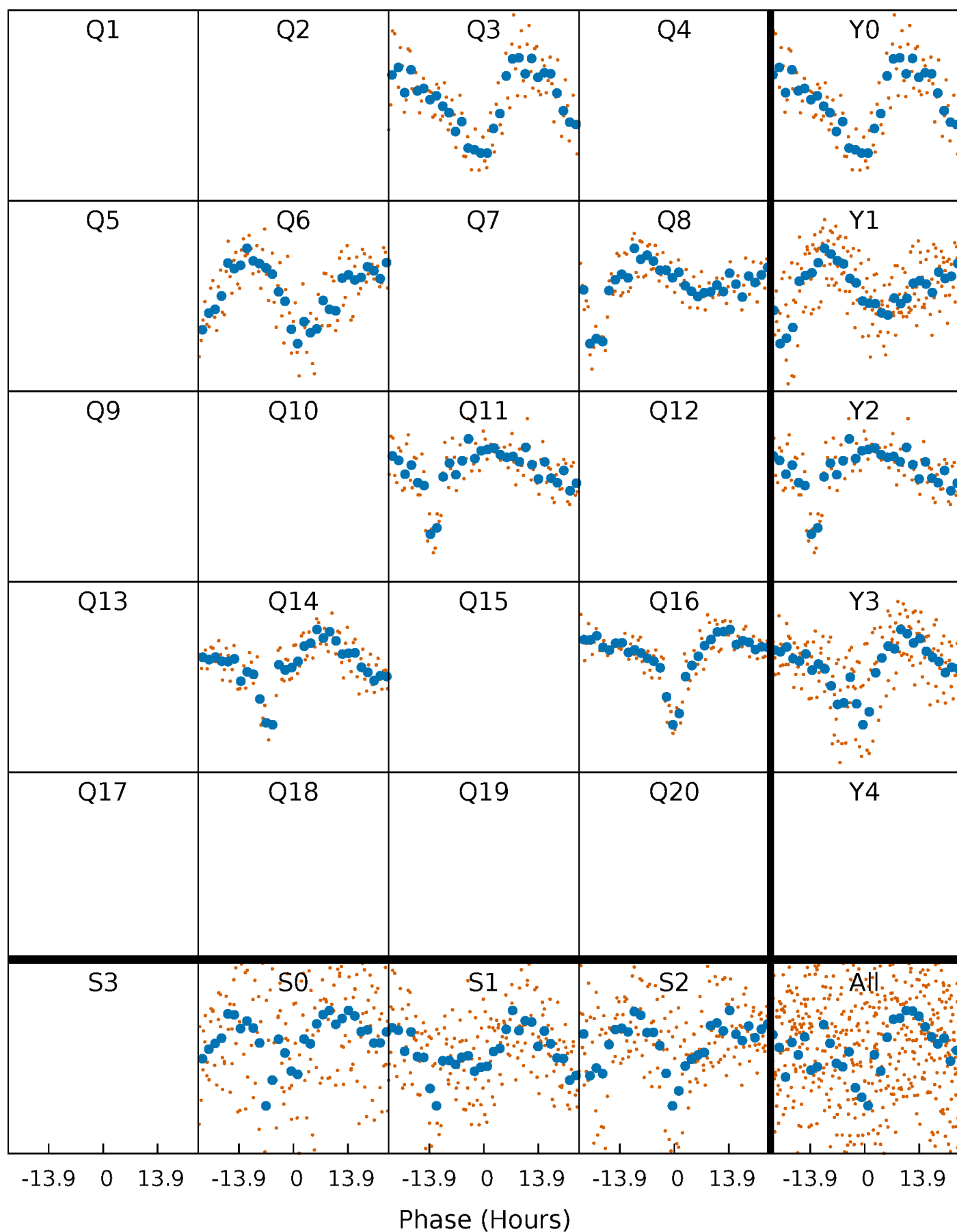


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



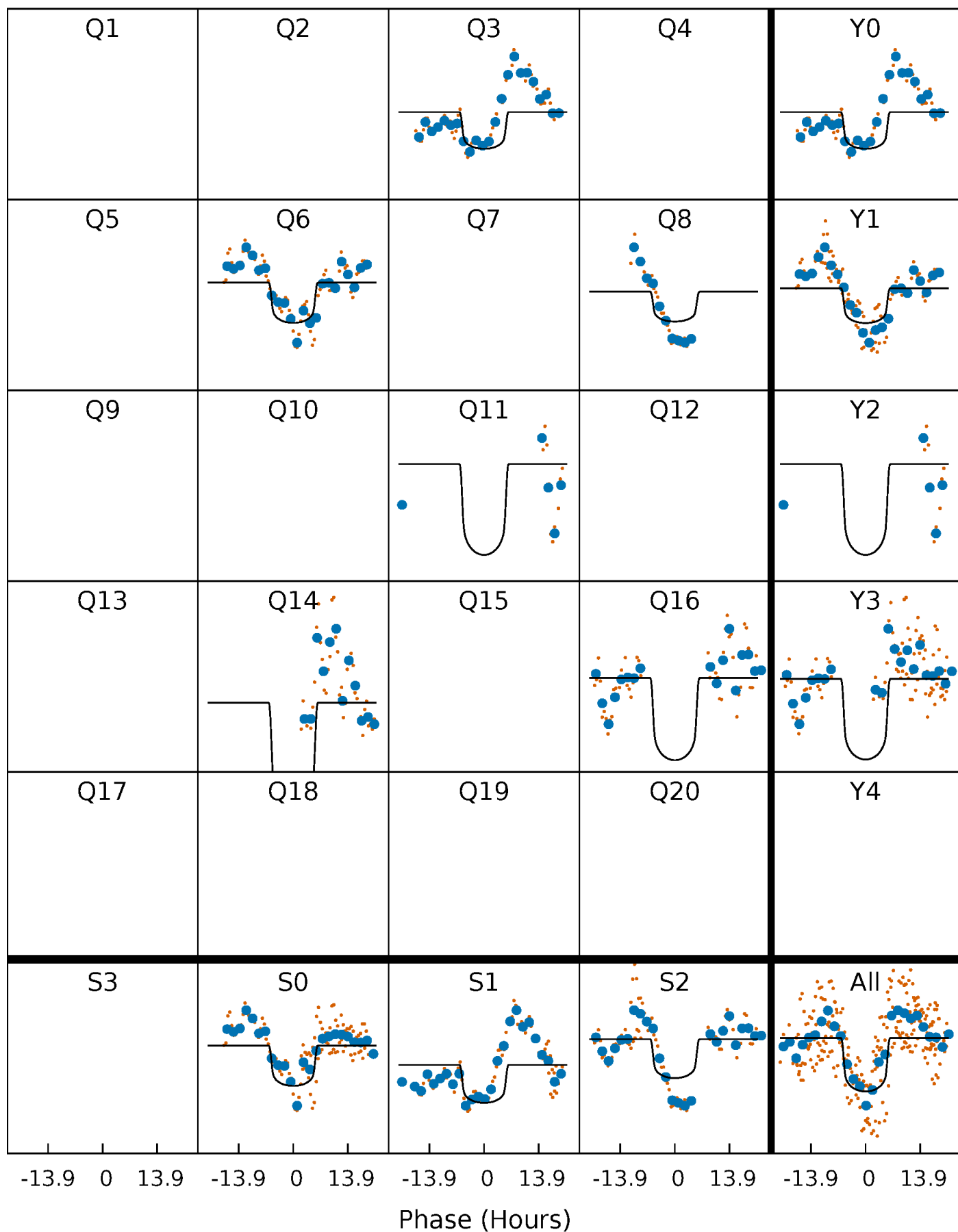
PDC Quarter-Phased Transit Curves

TCE 008113154-04 P=245.481349 Days $T_0=303.328230$ (BKJD)



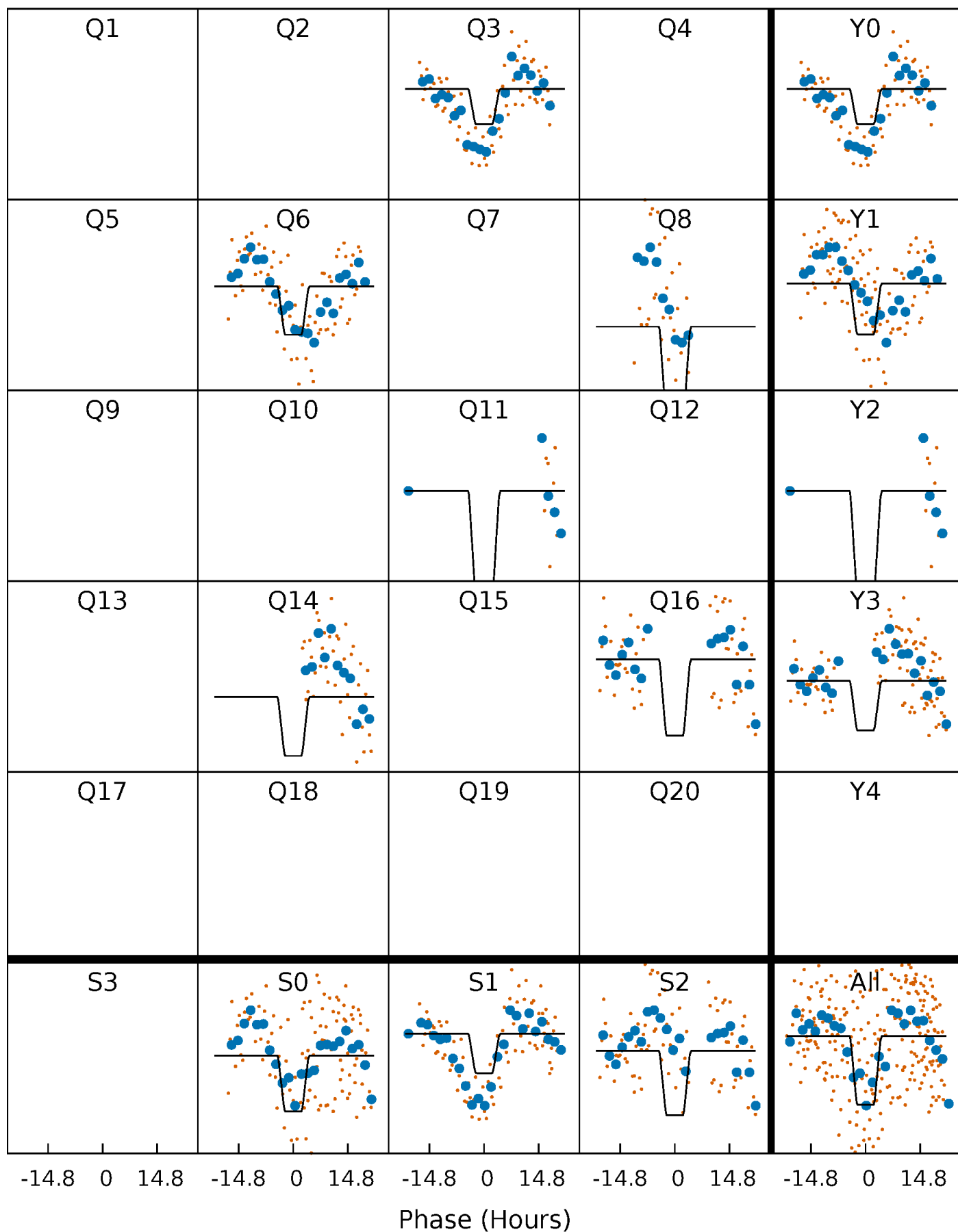
DV Quarter-Phased Transit Curves

TCE 008113154-04 P=245.481349 Days $T_0=303.328230$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

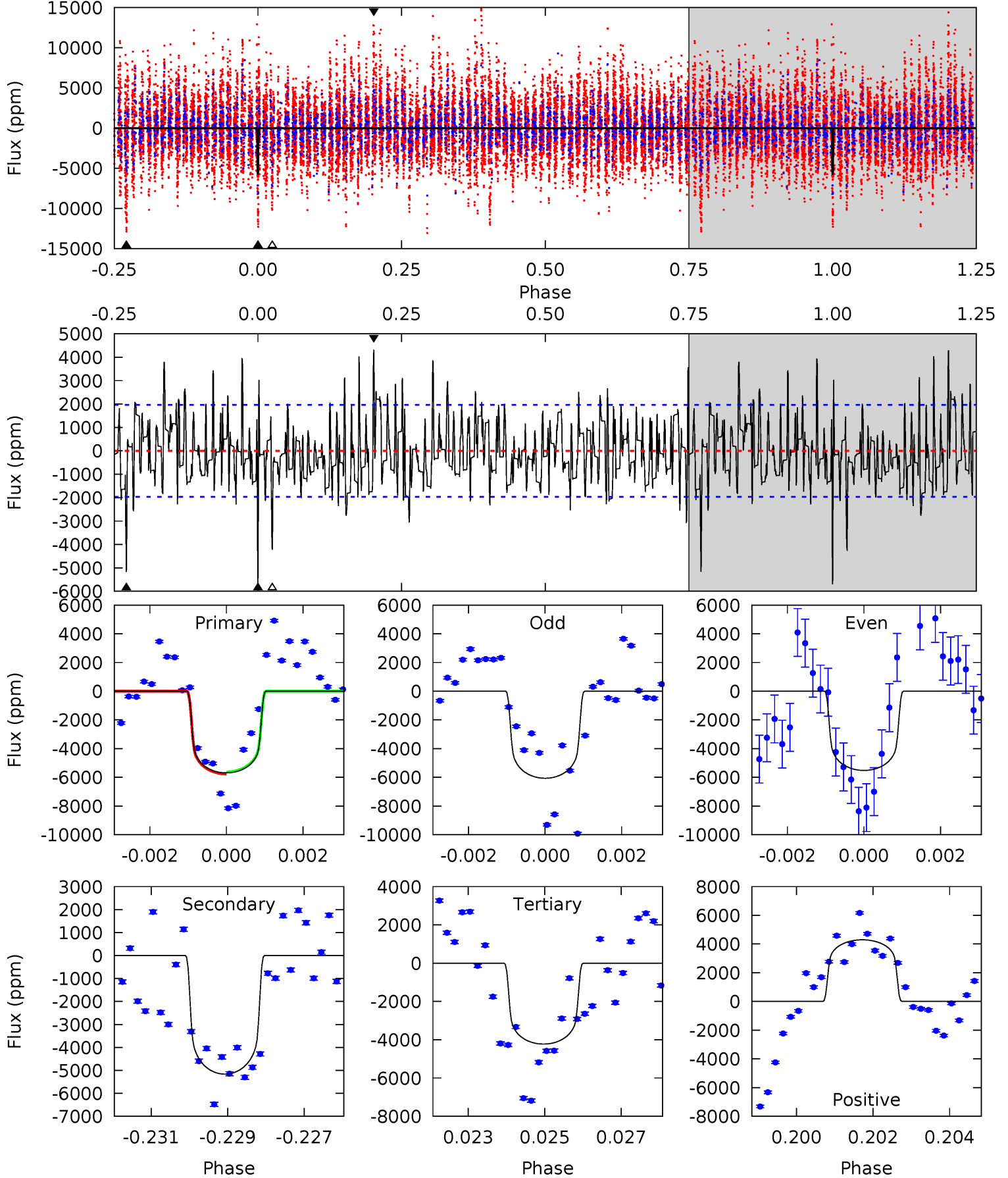
TCE 008113154-04 P=245.475167 Days $T_0=303.332097$ (BKJD)



DV Model-Shift Uniqueness Test

008113154-04, P = 245.481349 Days, E = 57.846881 Days

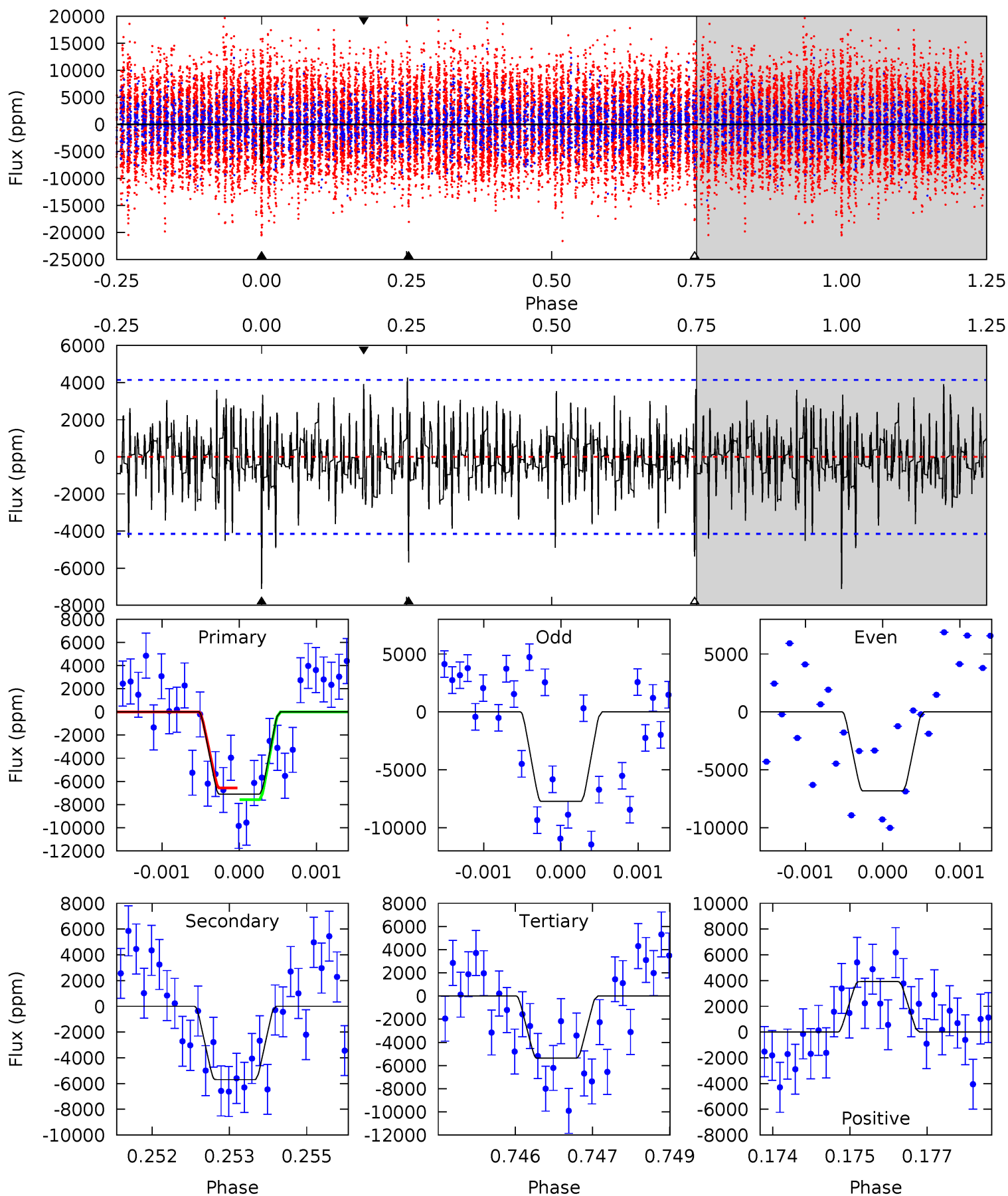
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	14.0	11.5	11.6	5.32	3.08	3.35	3.97	3.79	2.54	2.35	0.68	0.96	0.43	0.19



Alt Model-Shift Uniqueness Test

008113154-04, P = 245.475167 Days, E = 57.856930 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.23	7.40	6.97	5.09	5.39	3.19	1.85	2.26	4.15	0.43	2.31	0.56	0.96	0.37	0.66



Stellar Parameters For KIC 008113154

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6812^{+165}_{-235}	$4.343^{+0.084}_{-0.182}$	$-0.540^{+0.250}_{-0.300}$	$1.172^{+0.348}_{-0.149}$	$1.103^{+0.157}_{-0.128}$	$0.965^{+0.420}_{-0.502}$
	+2%/-3%	+2%/-4%	+46%/-56%	+30%/-13%	+14%/-12%	+44%/-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 008113154-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5163 ± 369	$9.95^{+1.65}_{-1.24}$	518^{+32}_{-31}	6611^{+391}_{-389}	17803^{+5430}_{-4438}
Alt.	-5690 ± 769	$12.64^{+2.10}_{-1.53}$	516^{+35}_{-25}	5979^{+341}_{-330}	12055^{+3832}_{-3146}

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

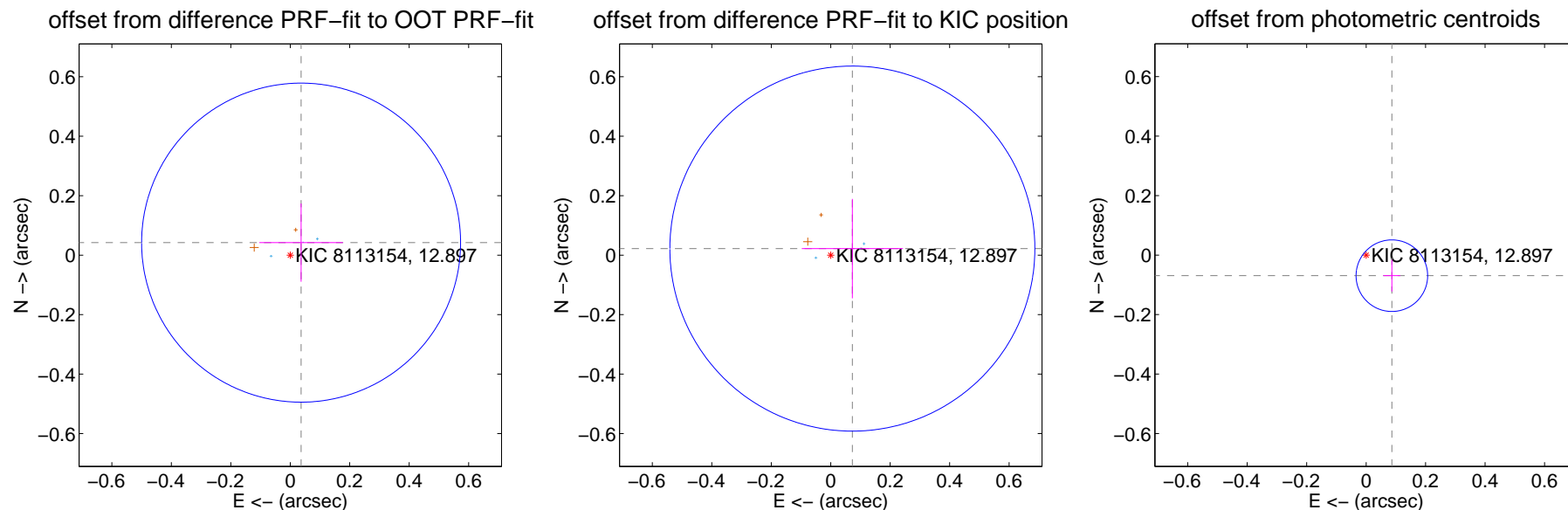
DV Centroid Data

Supplemental centroid analysis for 008113154-04. Kepler magnitude: 12.90. Transit SNR 10.47

There are 4 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.056 ± 0.179	0.31	-0.036 ± 0.140	0.042 ± 0.131
PRF-fit source offset from KIC position	0.076 ± 0.205	0.37	-0.073 ± 0.170	0.022 ± 0.167
photometric centroid source offset	0.11 ± 0.04	2.76	-0.09 ± 0.03	-0.07 ± 0.05



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



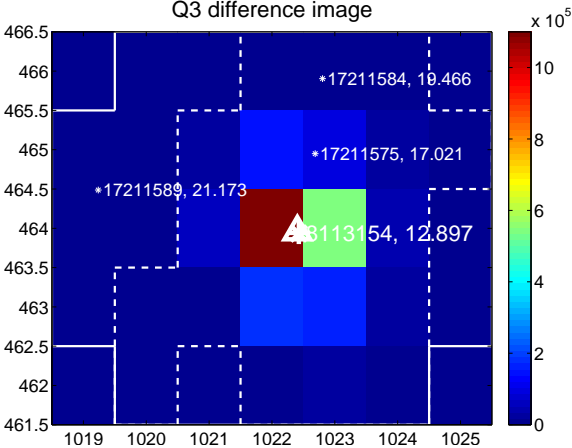
Q2 no difference image



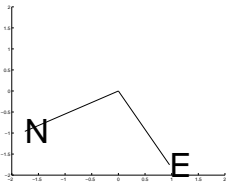
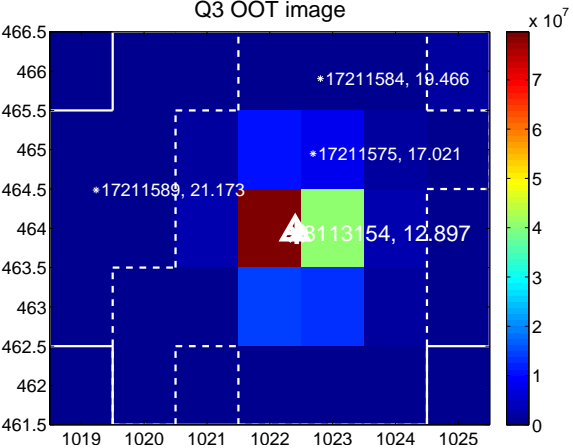
Q2 no OOT image



Q3 difference image



Q3 OOT image



Q4 no difference image



Q4 no OOT image



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

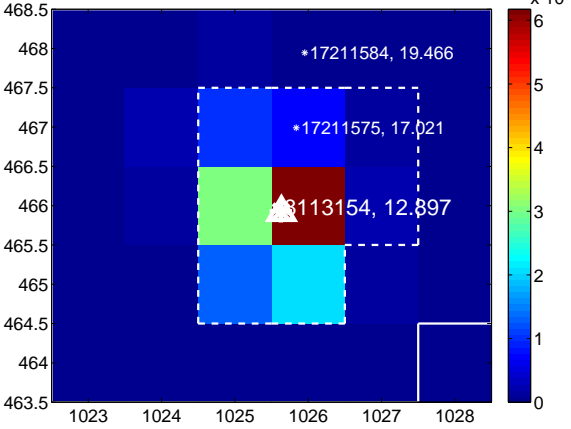
Q5 no difference image



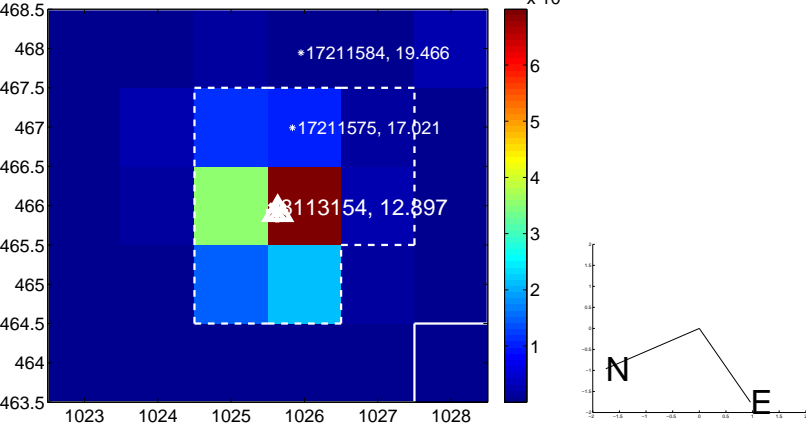
Q5 no OOT image



Q6 difference image



Q6 OOT image



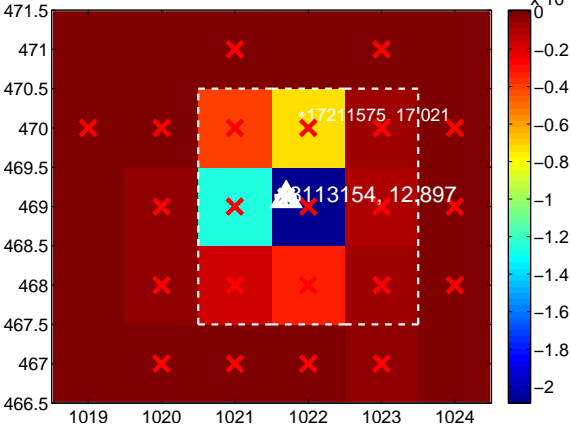
Q7 no difference image



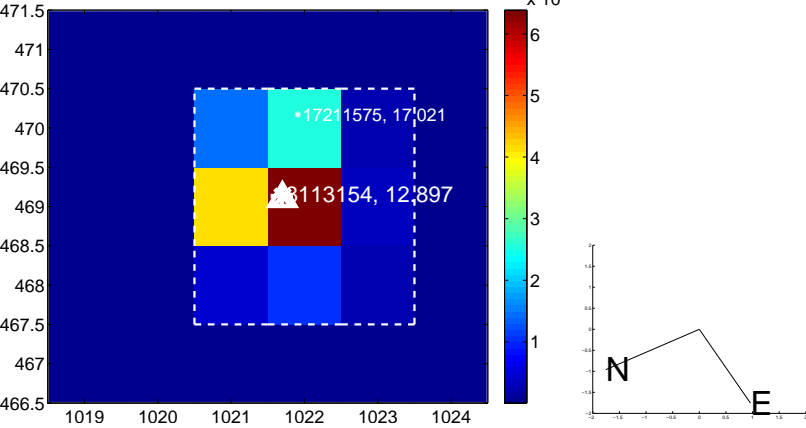
Q7 no OOT image



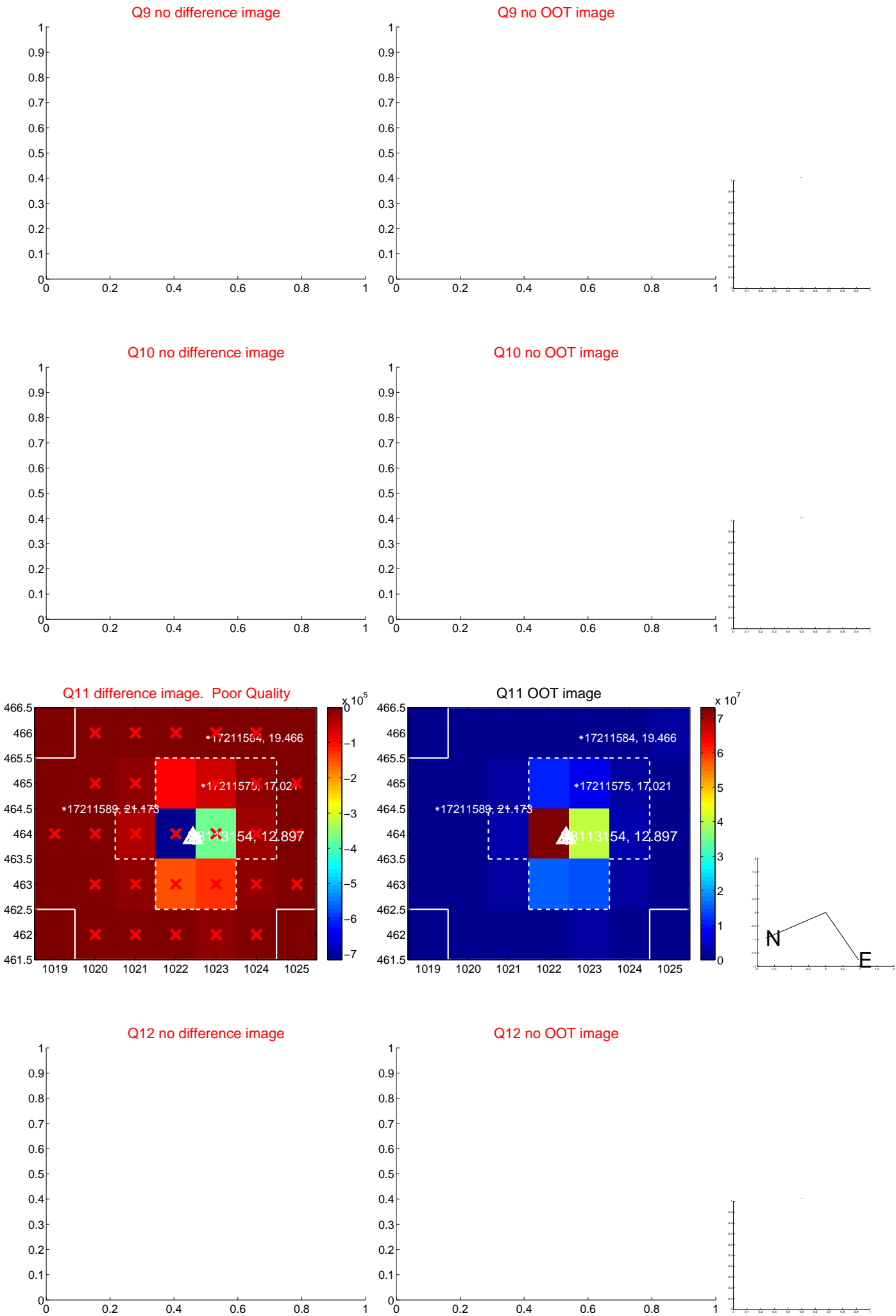
Q8 difference image. Poor Quality



Q8 OOT image

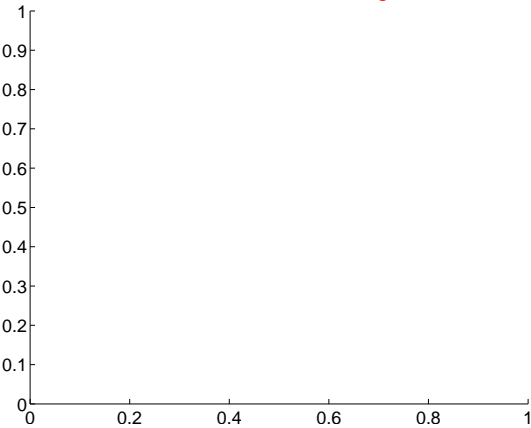


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

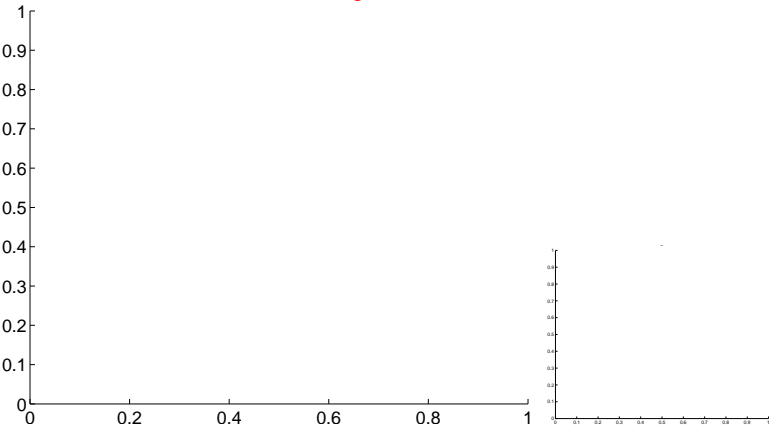


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

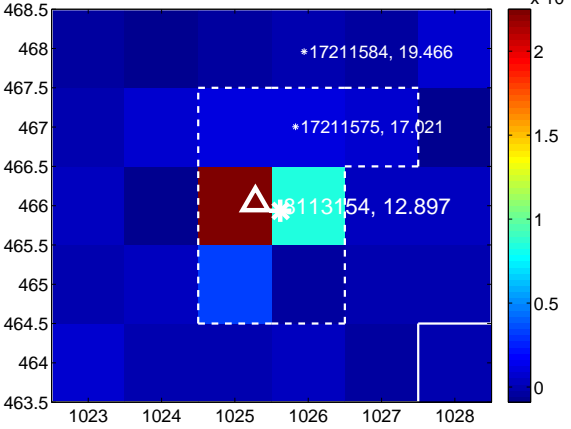
Q13 no difference image



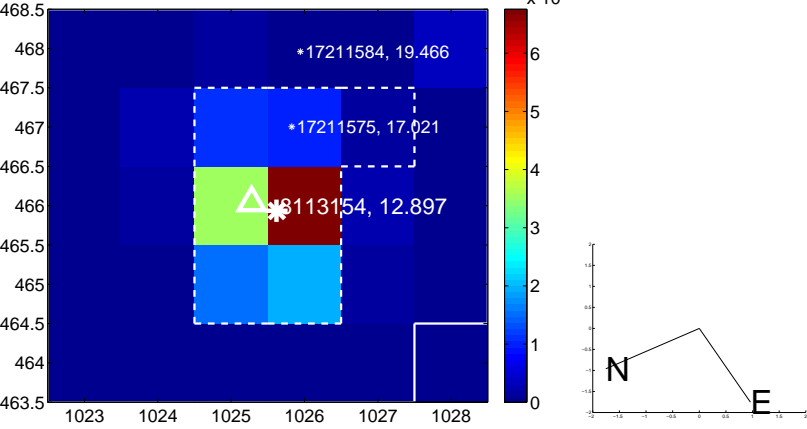
Q13 no OOT image



Q14 difference image



Q14 OOT image



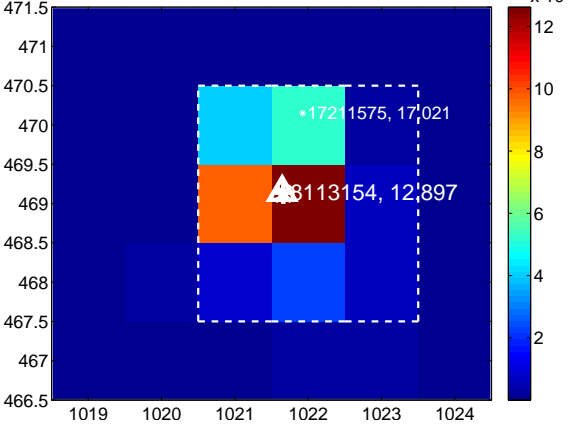
Q15 no difference image



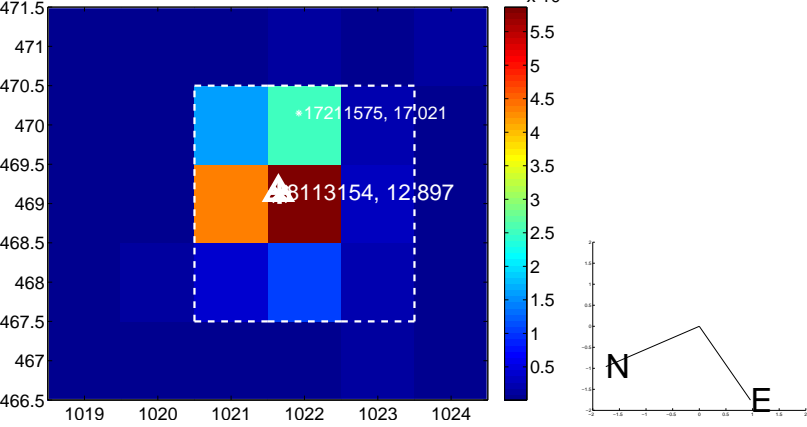
Q15 no OOT image



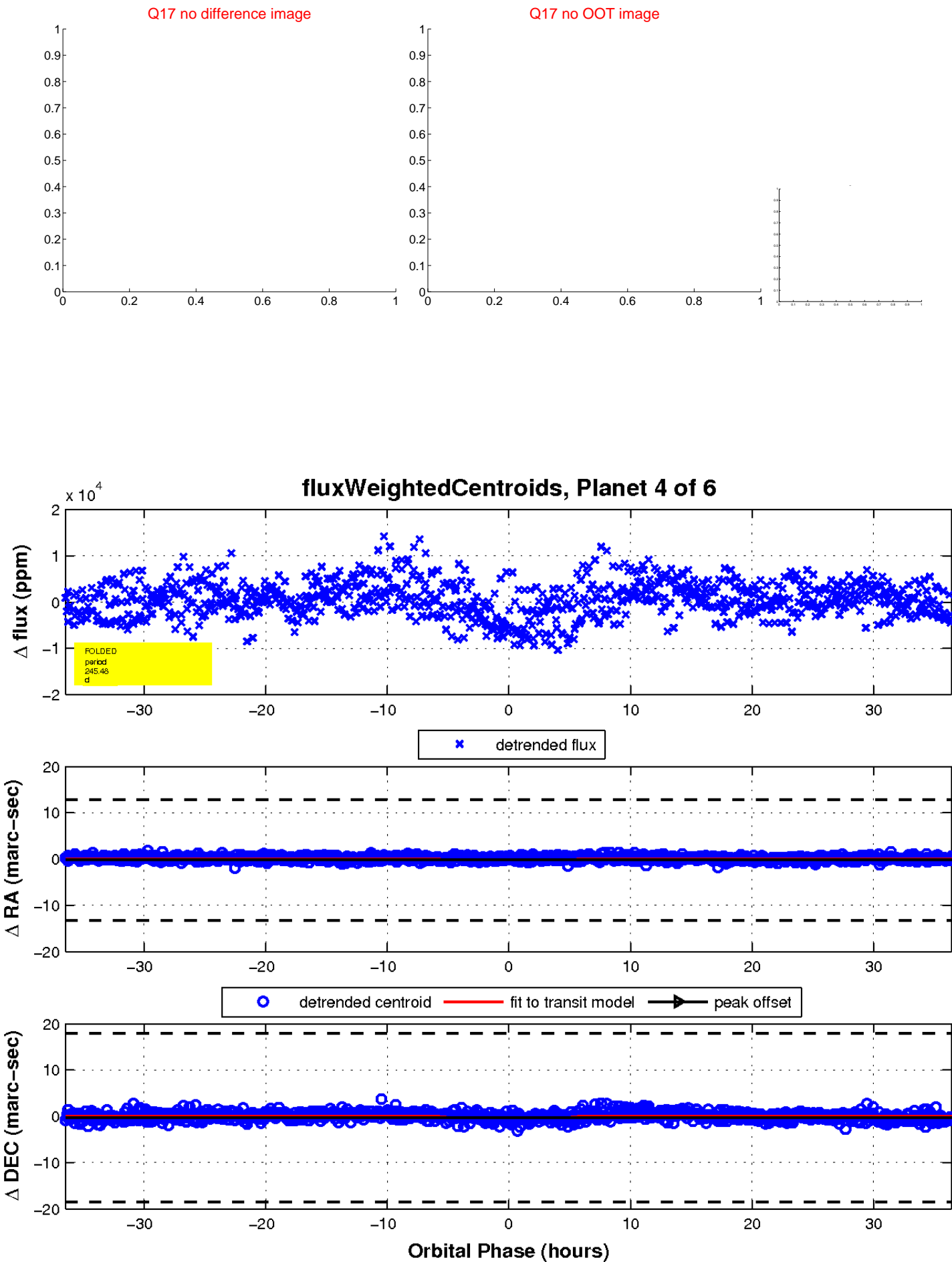
Q16 difference image



Q16 OOT image

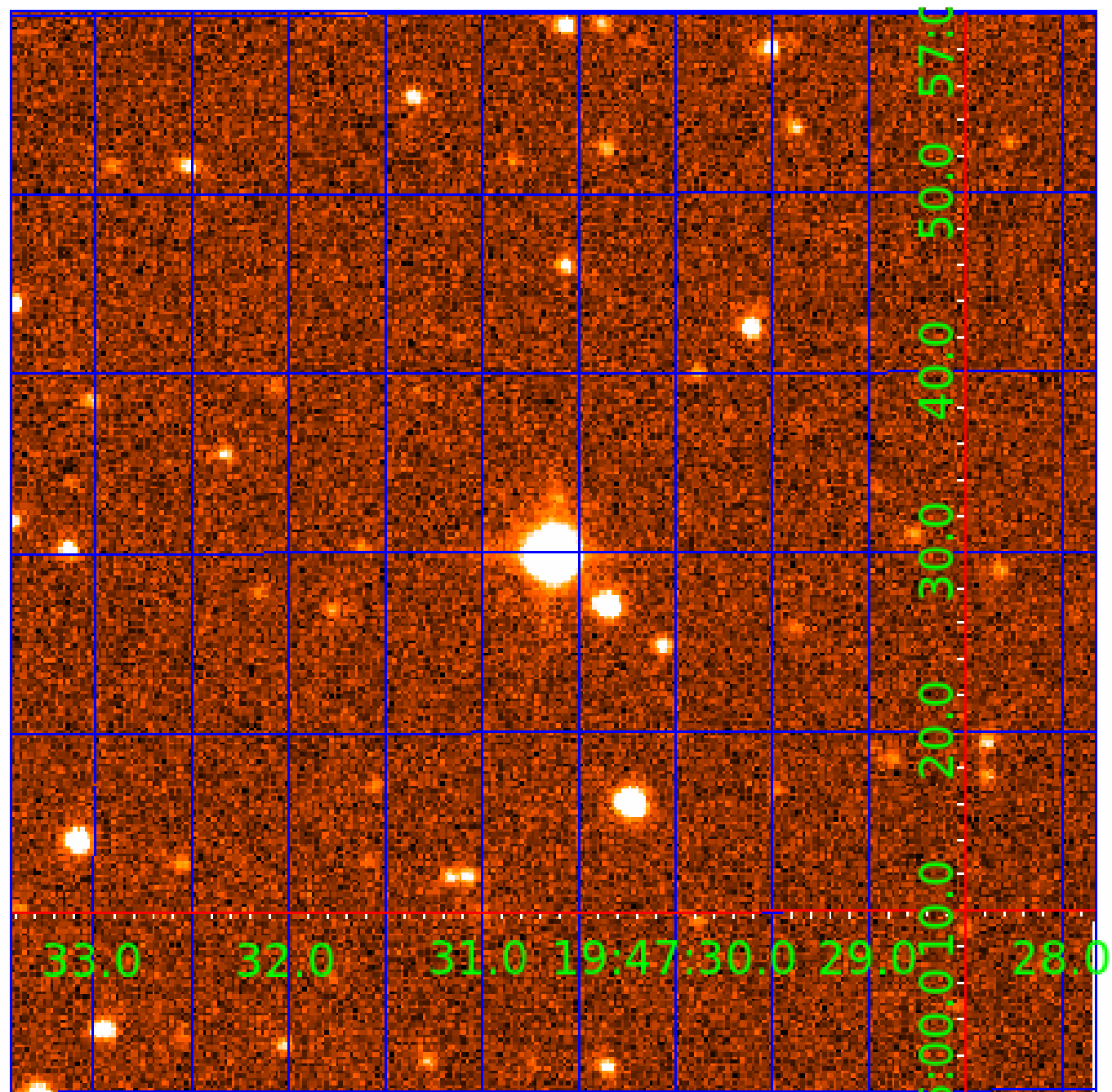


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008113154

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})
008113154-01	OBS	1542.01	2.586855	133.820687	8747.9	5.375	118.7	103.3	1.17	6812	11.76	1823.54
008113154-02	OBS	No	3.107657	133.850046	917.9	10.580	10.1	9.6	1.17	6812	4.37	1427.91
008113154-03	OBS	No	3.883097	134.971415	1239.1	10.339	11.7	11.0	1.17	6812	5.02	1060.98
008113154-04	OBS	No	245.481349	303.328230	6697.9	12.160	11.4	10.5	1.17	6812	9.68	4.21
008113154-05	OBS	No	159.164892	270.188320	10187.9	23.811	9.8	11.0	1.17	6812	14.39	7.51
008113154-06	OBS	No	164.837529	280.199199	146.1	12.500	9.8	-1.0	1.17	6812	1.43	7.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008113154-01	OBS	FP	0.00	0	1	0	0	SWEET_EB
008113154-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008113154-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

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

Ephemeris Match Information For 008113154-05

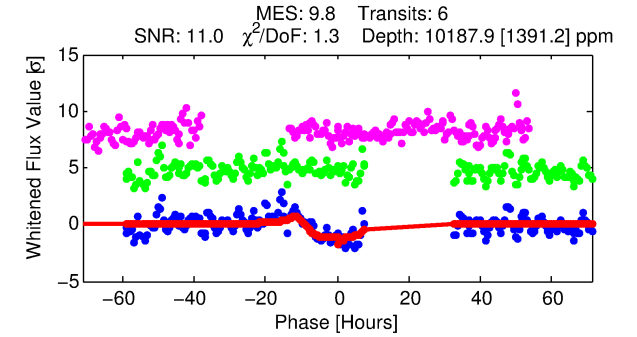
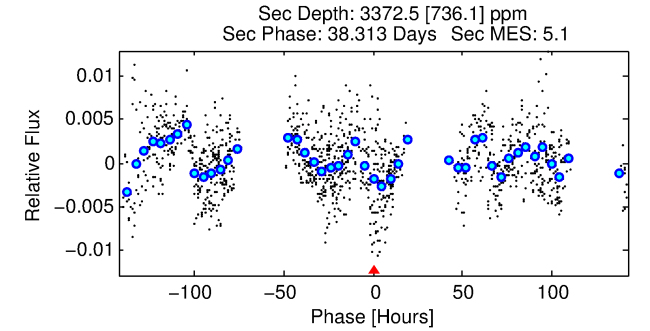
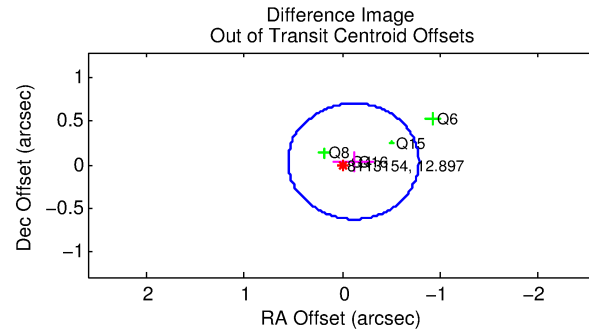
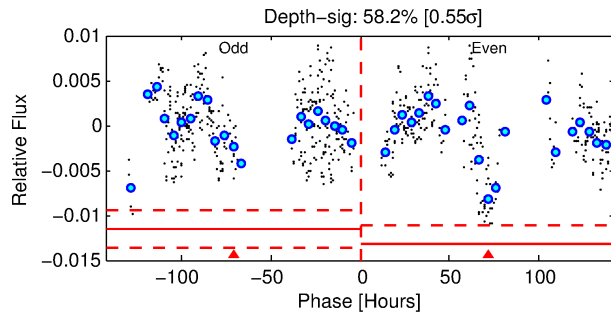
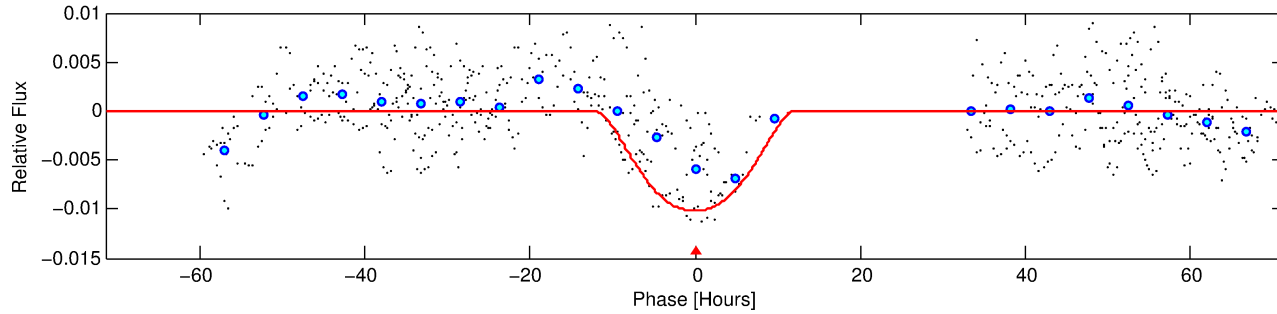
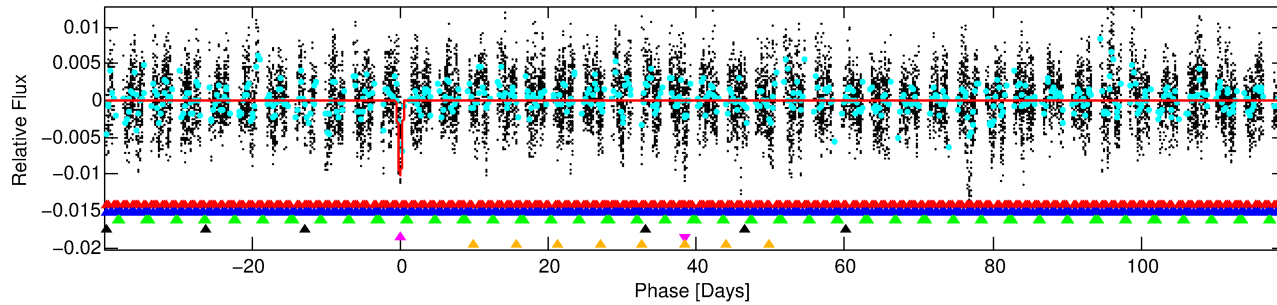
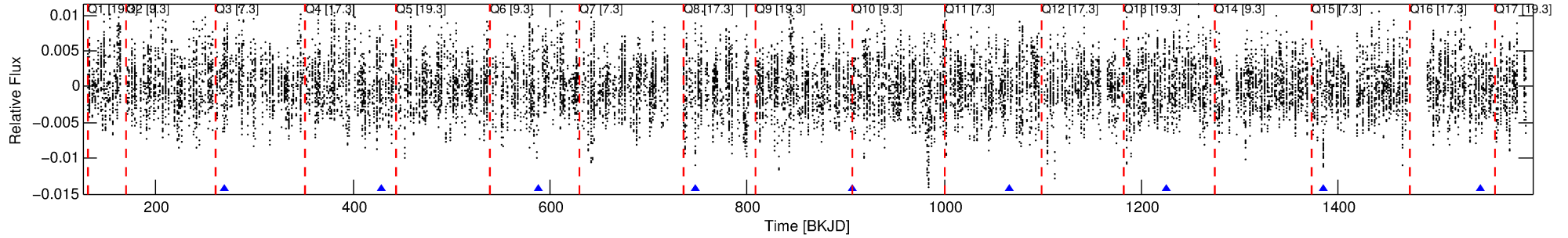
No Significant Match Found

DV One-Page Summary

KIC: 8113154 Candidate: 5 of 6 Period: 159.165 d

KOI: K01542 Corr: No Ephemeris Match

Kp: 12.90 R*: 1.17 Rs Teff: 6812.0 K Logg: 4.34 Fe/H: -0.540



DV Fit Results:

Period = 159.16489 [0.00702] d
Epoch = 270.1883 [0.0598] BKJD
Rp/R* = 0.1125 [0.0233]
a/R* = 32.77 [5.39]
b = 0.91 [0.06]
Seff = 7.51 [2.77]
Teq = 422 [39] K
Rp = 14.39 [5.21] Re
a = 0.5941 [0.1439] AU
Ag = 3163.26 [1835.39] [1.72σ]
Teff = 4894 [597] K [7.47σ]

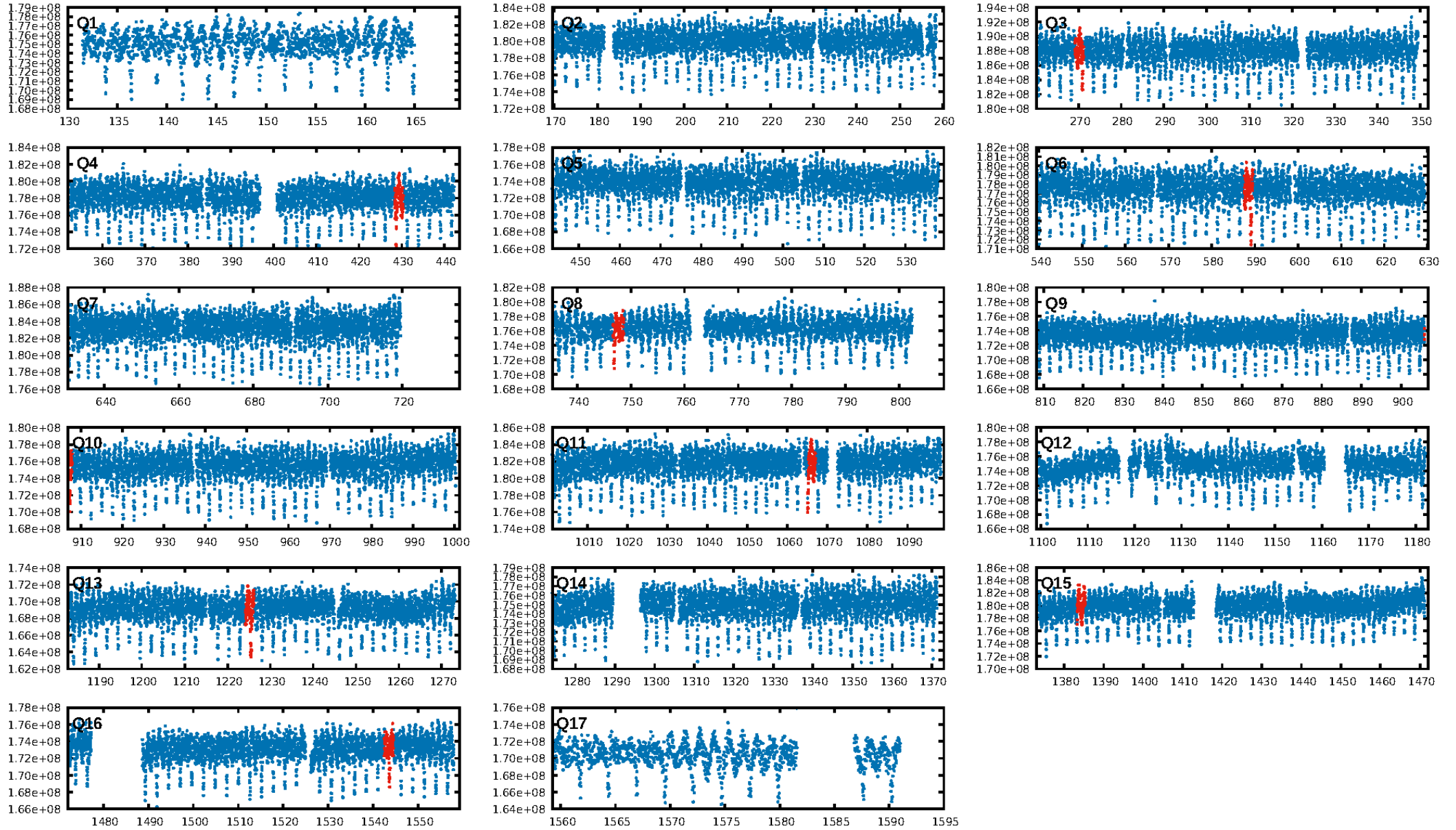
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [143.57σ]
LongPeriod-sig: 100.0% [5.06σ]
ModelChiSquare2-sig: 1.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.7294
Centroid-sig: 25.7%
Centroid-so: 0.184 arcsec [8.94σ]
OotOffset-rm: 0.122 arcsec [0.55σ]
KicOffset-rm: 0.163 arcsec [0.84σ]
OotOffset-st: 1/1/3/0 [5]
KicOffset-st: 1/1/3/0 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 0.00 [0/5]

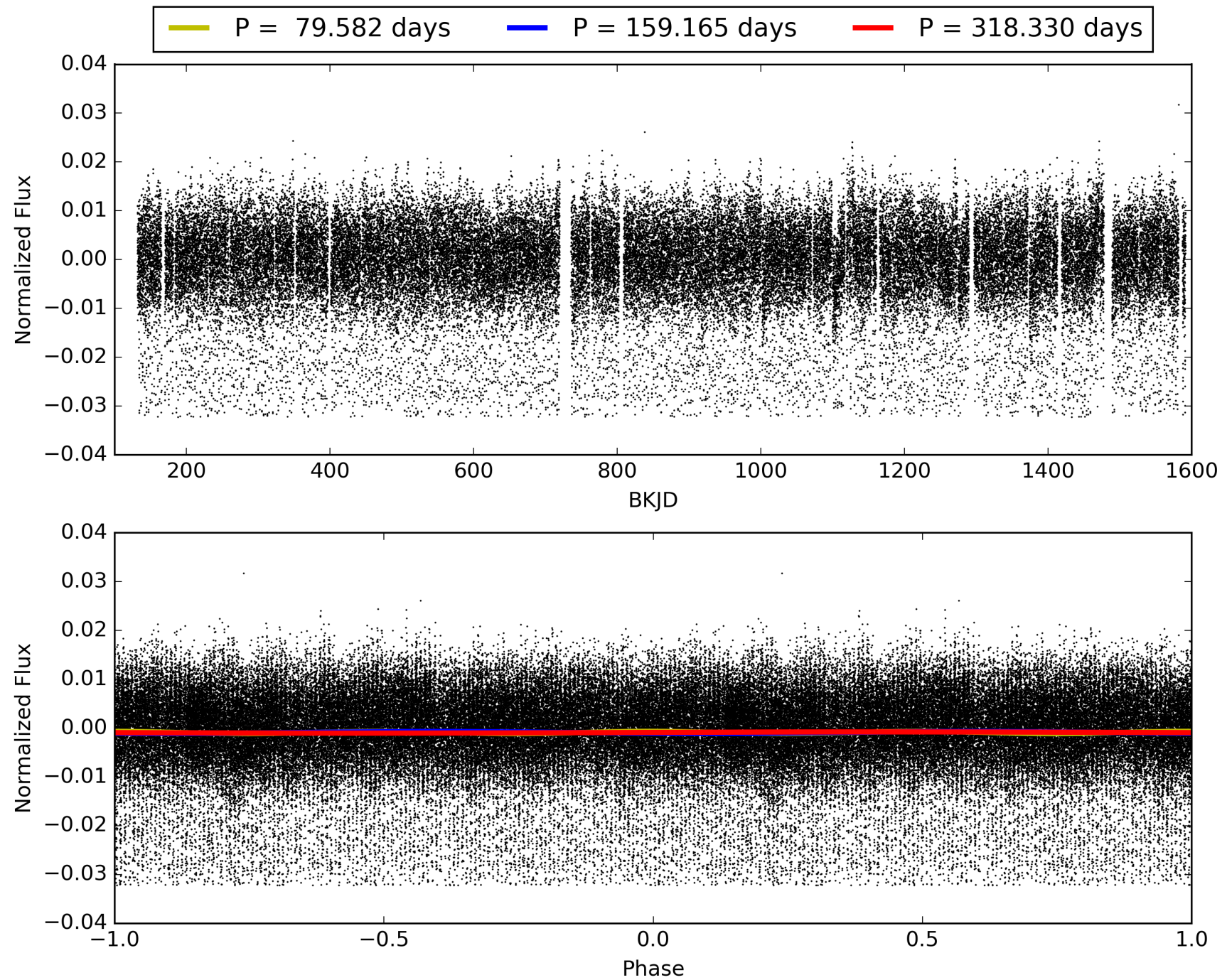
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:56:25 Z

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

TCE 008113154-05, PDC Light Curves

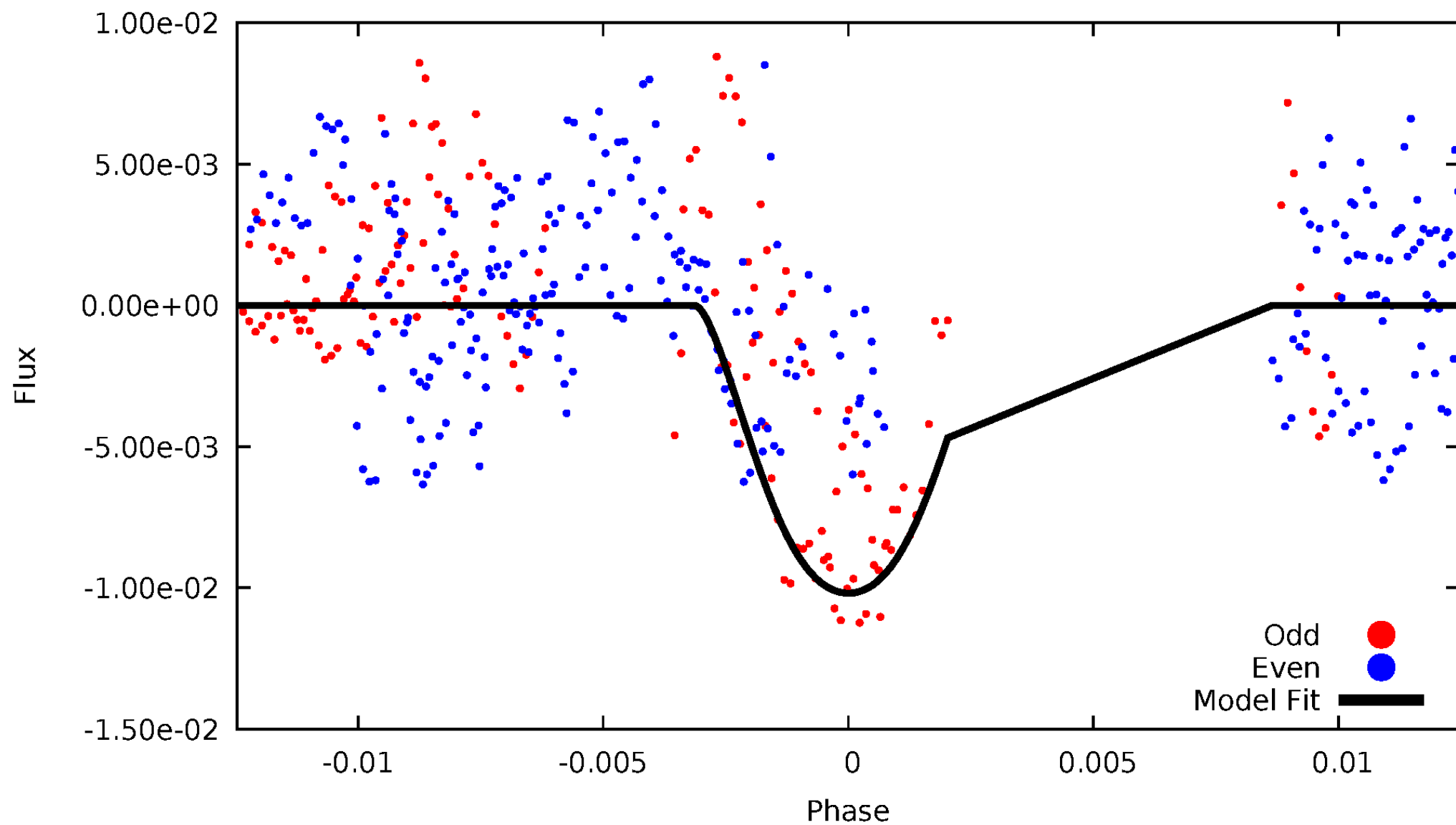


TCE 008113154-05



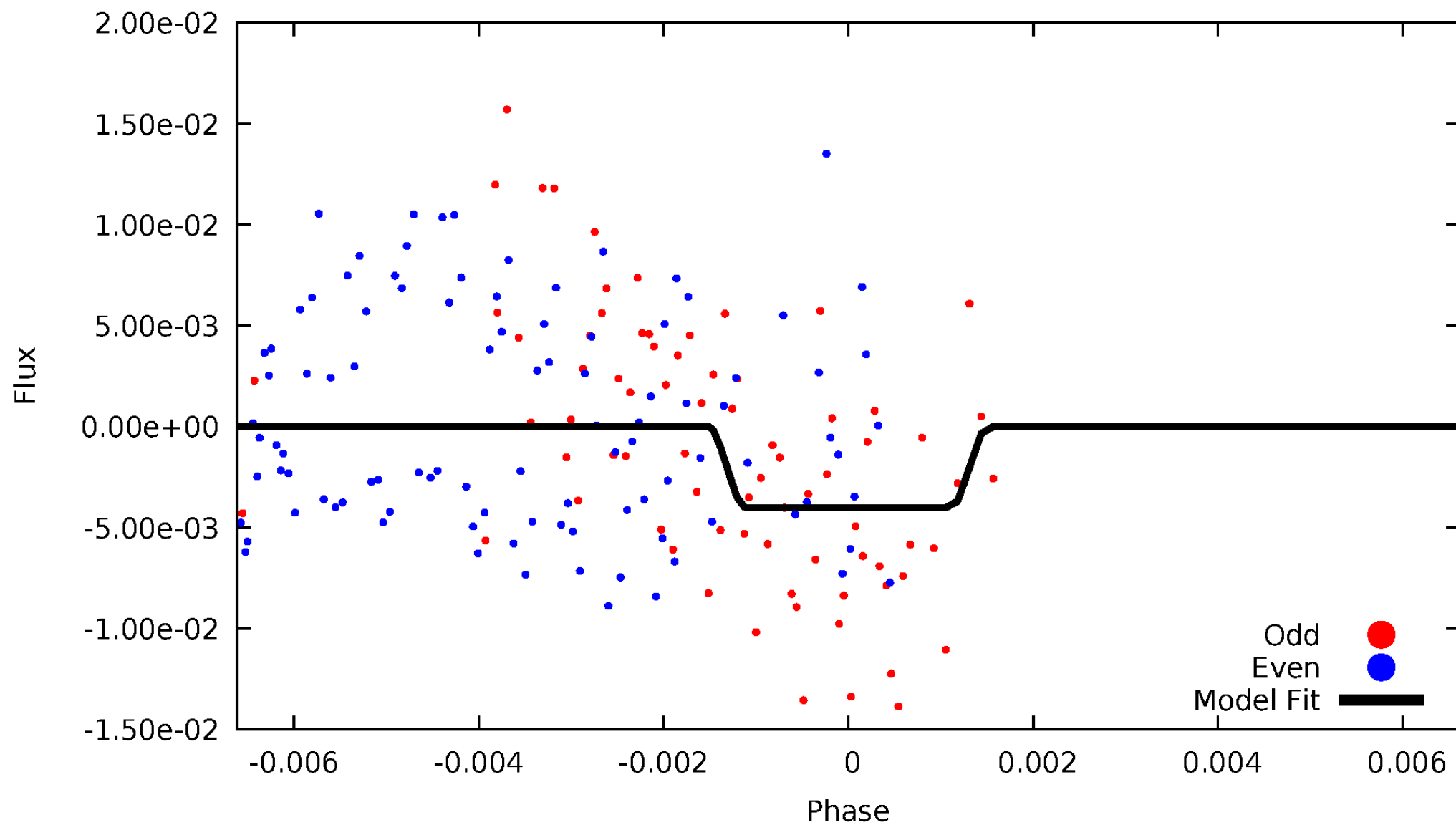
DV Odd/Even

TCE 008113154-05



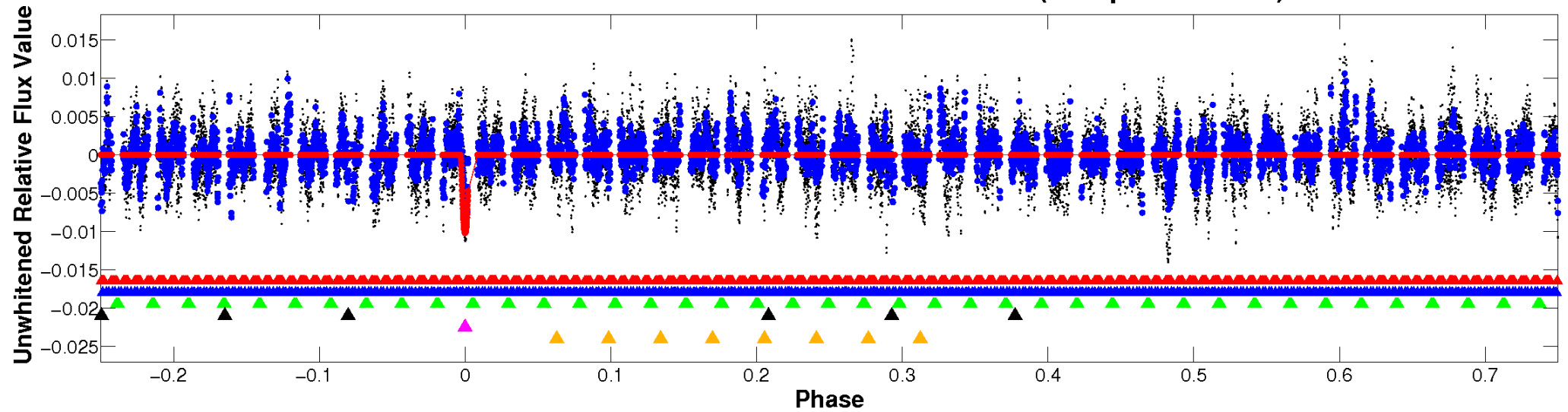
ALT Odd/Even

TCE 008113154-05

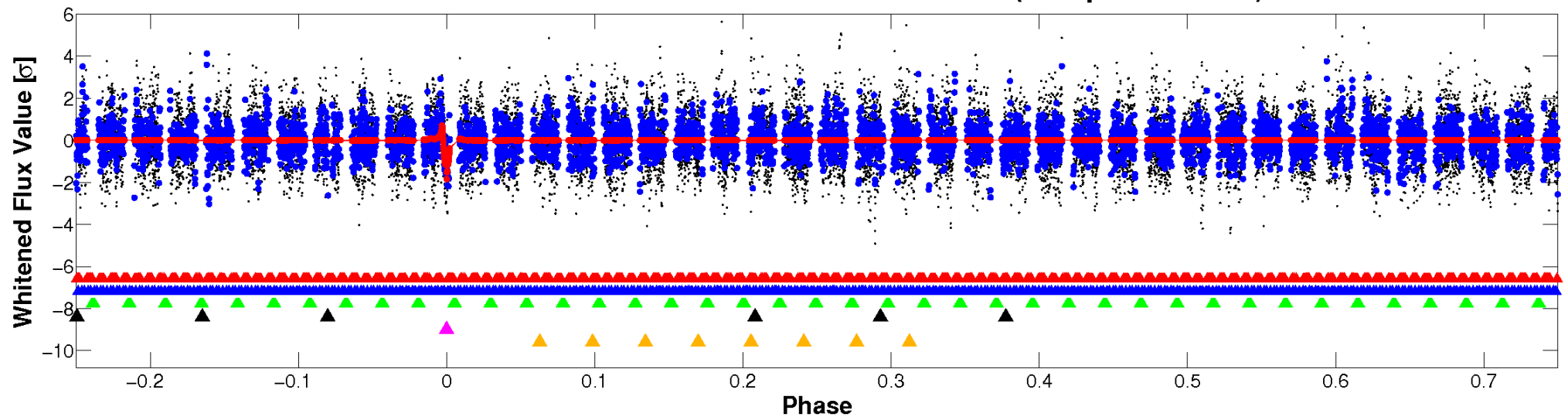


Non-Whitened Vs. Whitened Light Curve

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

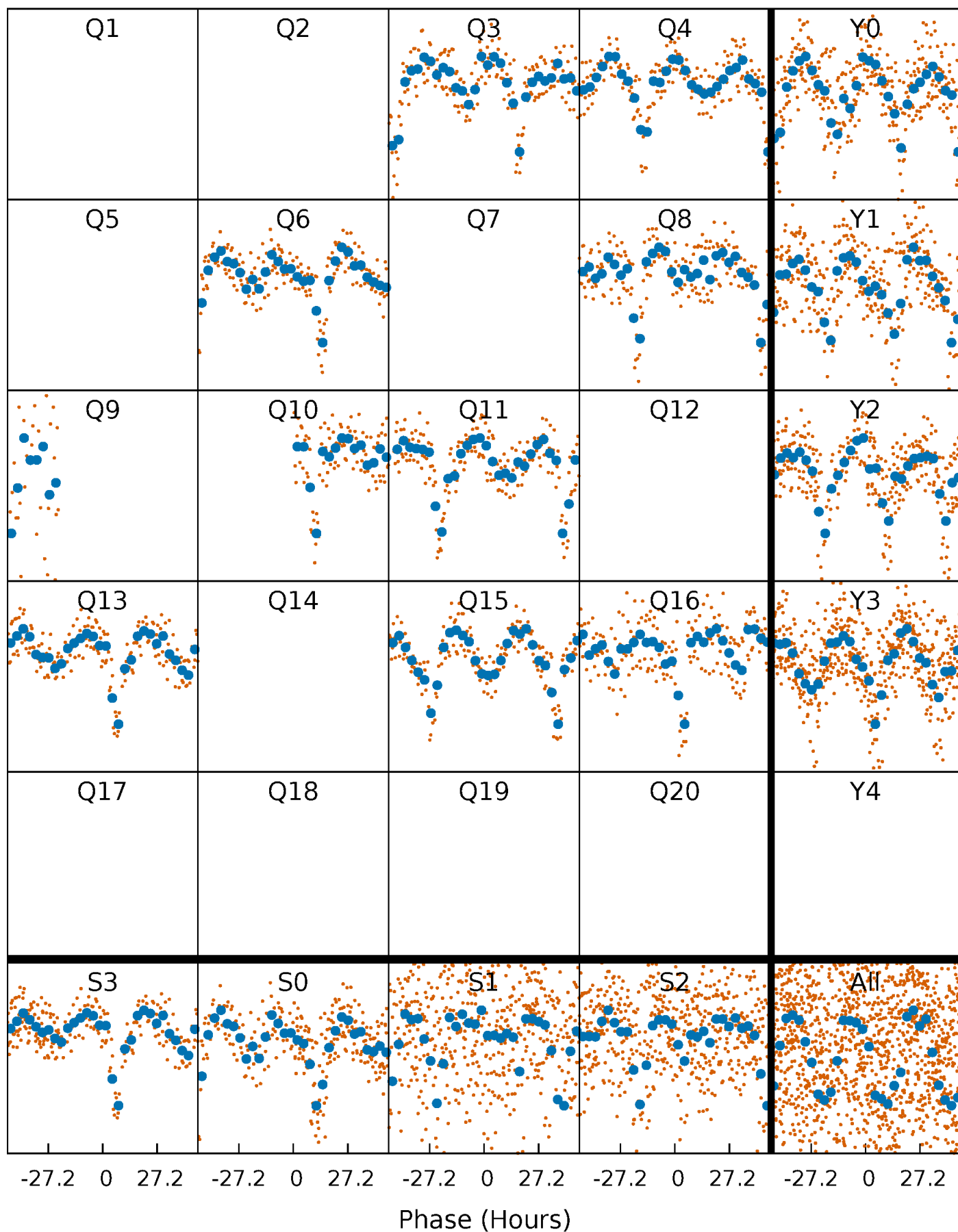


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



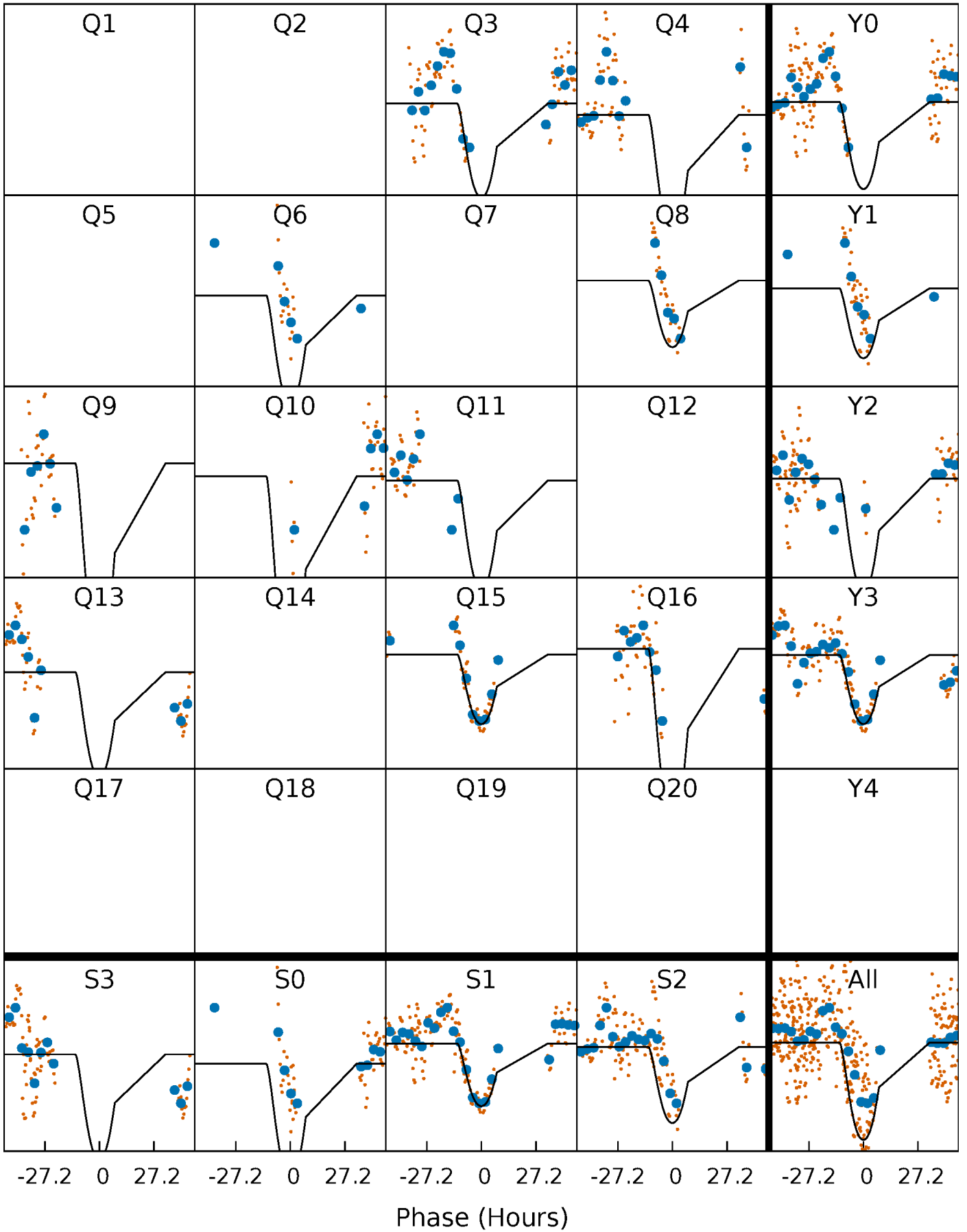
PDC Quarter-Phased Transit Curves

TCE 008113154-05 $P=159.164892$ Days $T_0=270.188320$ (BKJD)



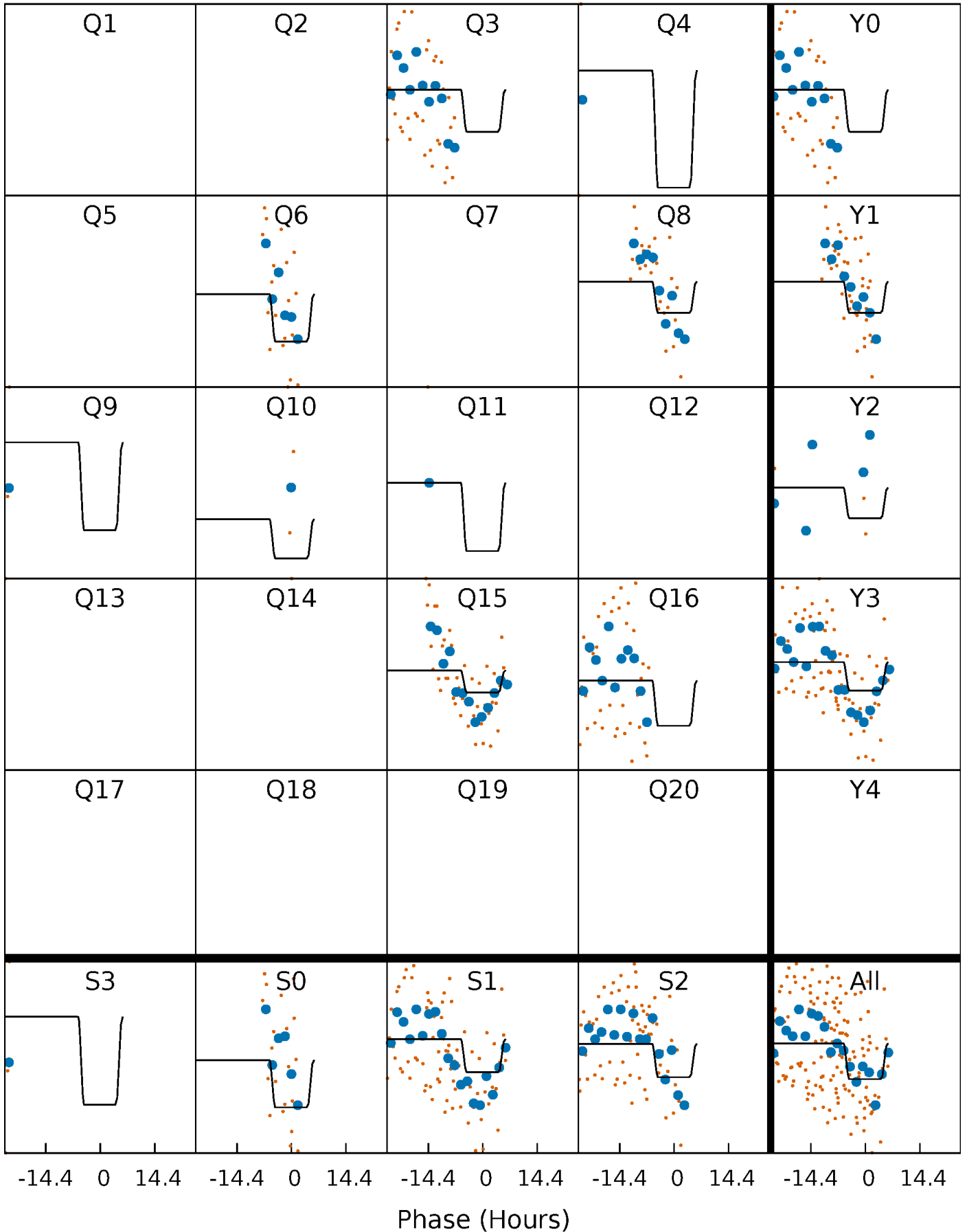
DV Quarter-Phased Transit Curves

TCE 008113154-05 P=159.164892 Days $T_0=270.188320$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

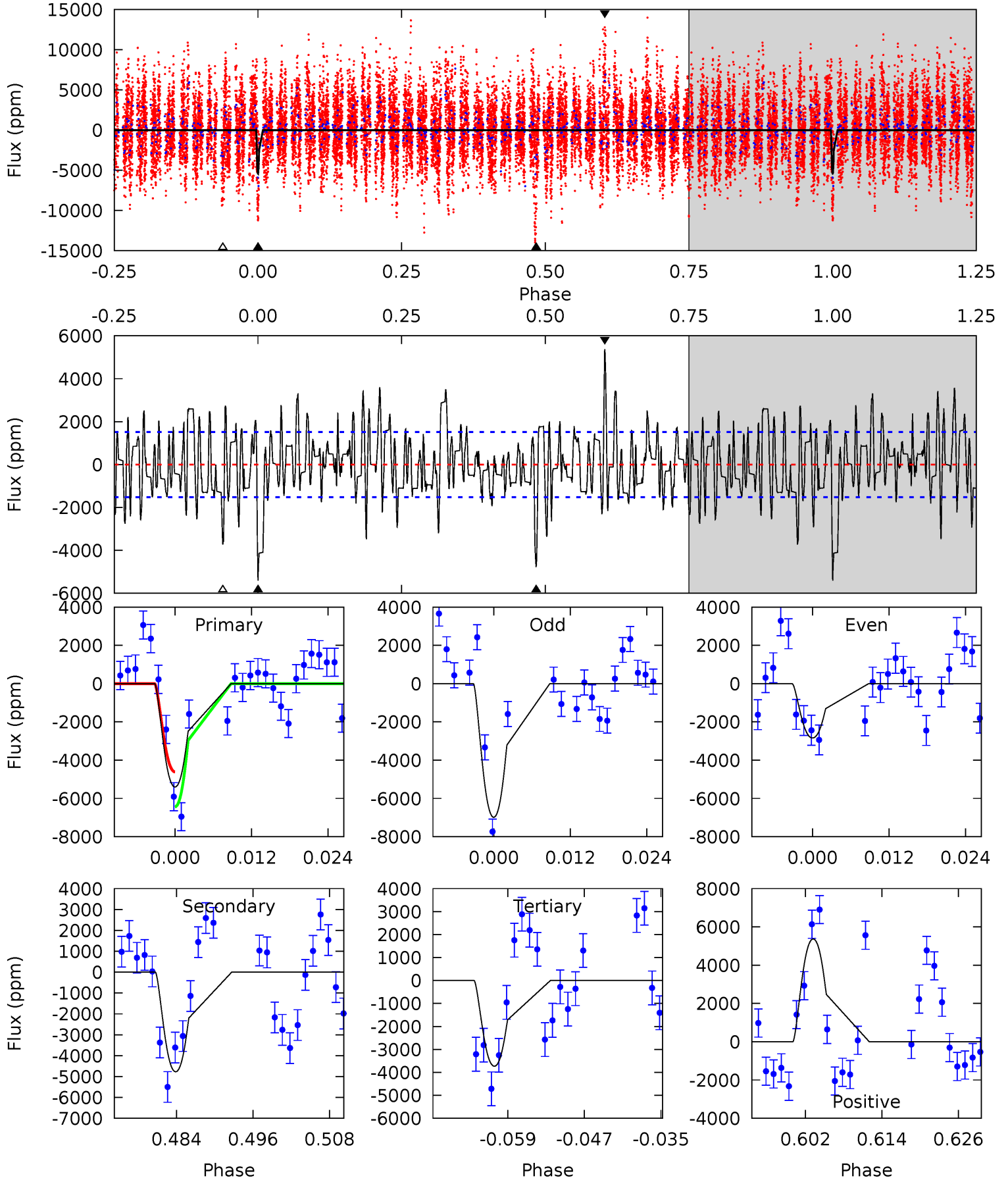
TCE 008113154-05 P=159.170621 Days $T_0=270.221476$ (BKJD)



DV Model-Shift Uniqueness Test

008113154-05, P = 159.164892 Days, E = 111.023428 Days

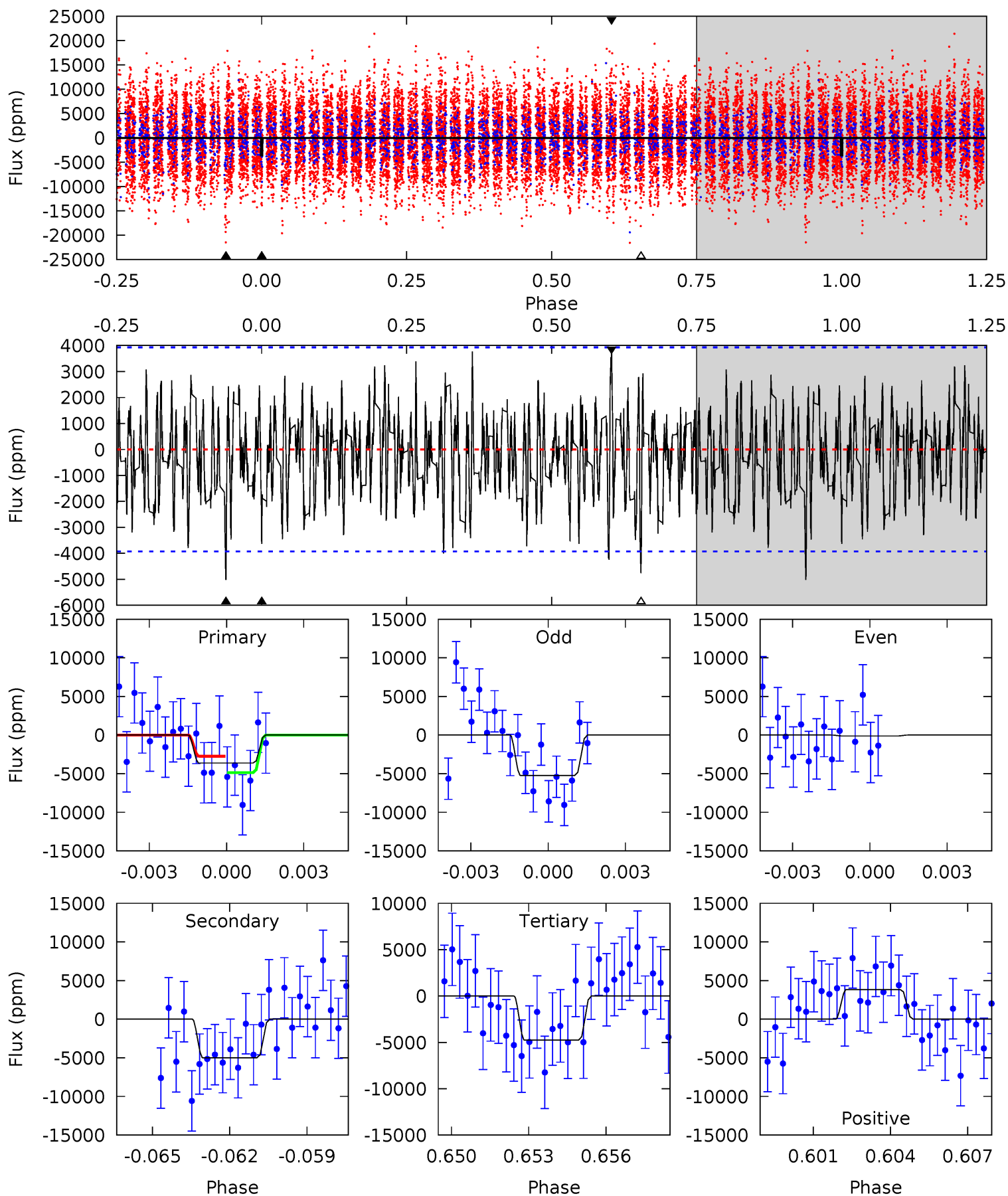
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.8	15.7	12.3	17.7	4.99	2.52	4.30	5.49	0.11	3.42	-1.96	6.67	1.23	0.50	2.70



Alt Model-Shift Uniqueness Test

008113154-05, P = 159.170621 Days, E = 111.050855 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.85	6.69	6.36	5.12	5.25	2.96	1.79	-1.51	-0.27	0.33	1.57	3.17	0.84	0.43	1.39



Stellar Parameters For KIC 008113154

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6812^{+165}_{-235}	$4.343^{+0.084}_{-0.182}$	$-0.540^{+0.250}_{-0.300}$	$1.172^{+0.348}_{-0.149}$	$1.103^{+0.157}_{-0.128}$	$0.965^{+0.420}_{-0.502}$
	+2%/-3%	+2%/-4%	+46%/-56%	+30%/-13%	+14%/-12%	+44%/-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 008113154-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-4771 ± 304	$14.99^{+3.93}_{-3.49}$	596^{+41}_{-33}	5317^{+667}_{-426}	4116^{+2841}_{-1456}
Alt.	-5005 ± 748	$8.38^{+3.20}_{-3.20}$	594^{+38}_{-30}	7232^{+2436}_{-1188}	13924^{+21428}_{-6765}

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

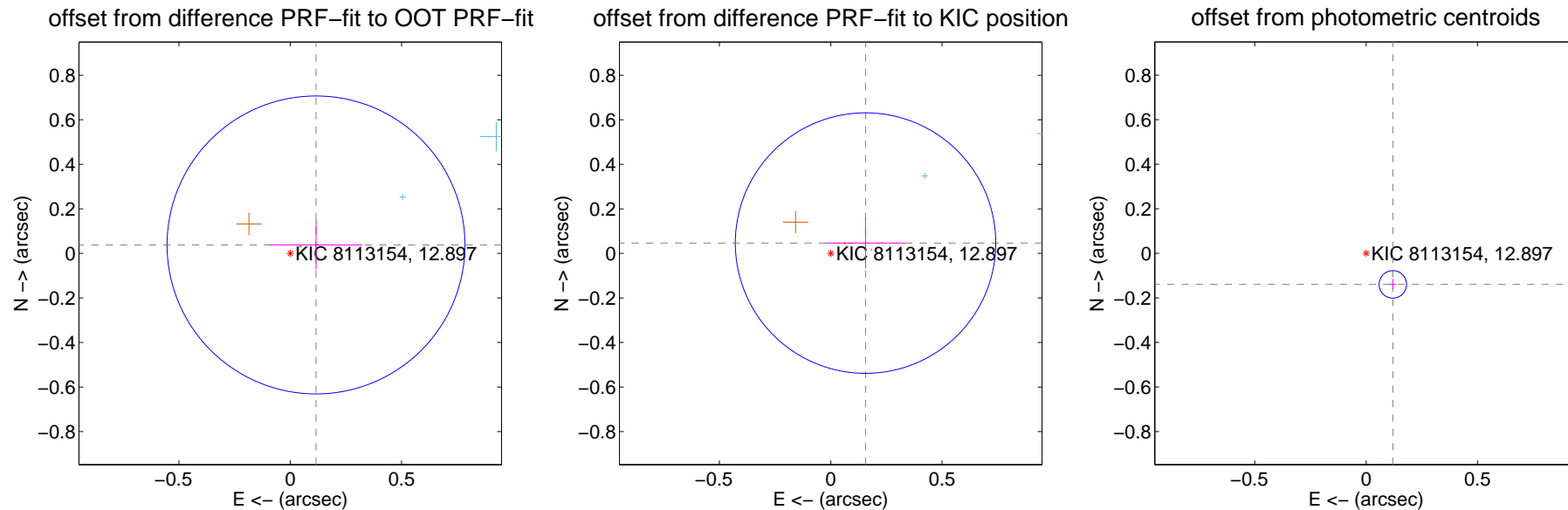
DV Centroid Data

Supplemental centroid analysis for 008113154-05. Kepler magnitude: 12.90. Transit SNR 11.04

There are 3 quarters with good PRF difference image offsets

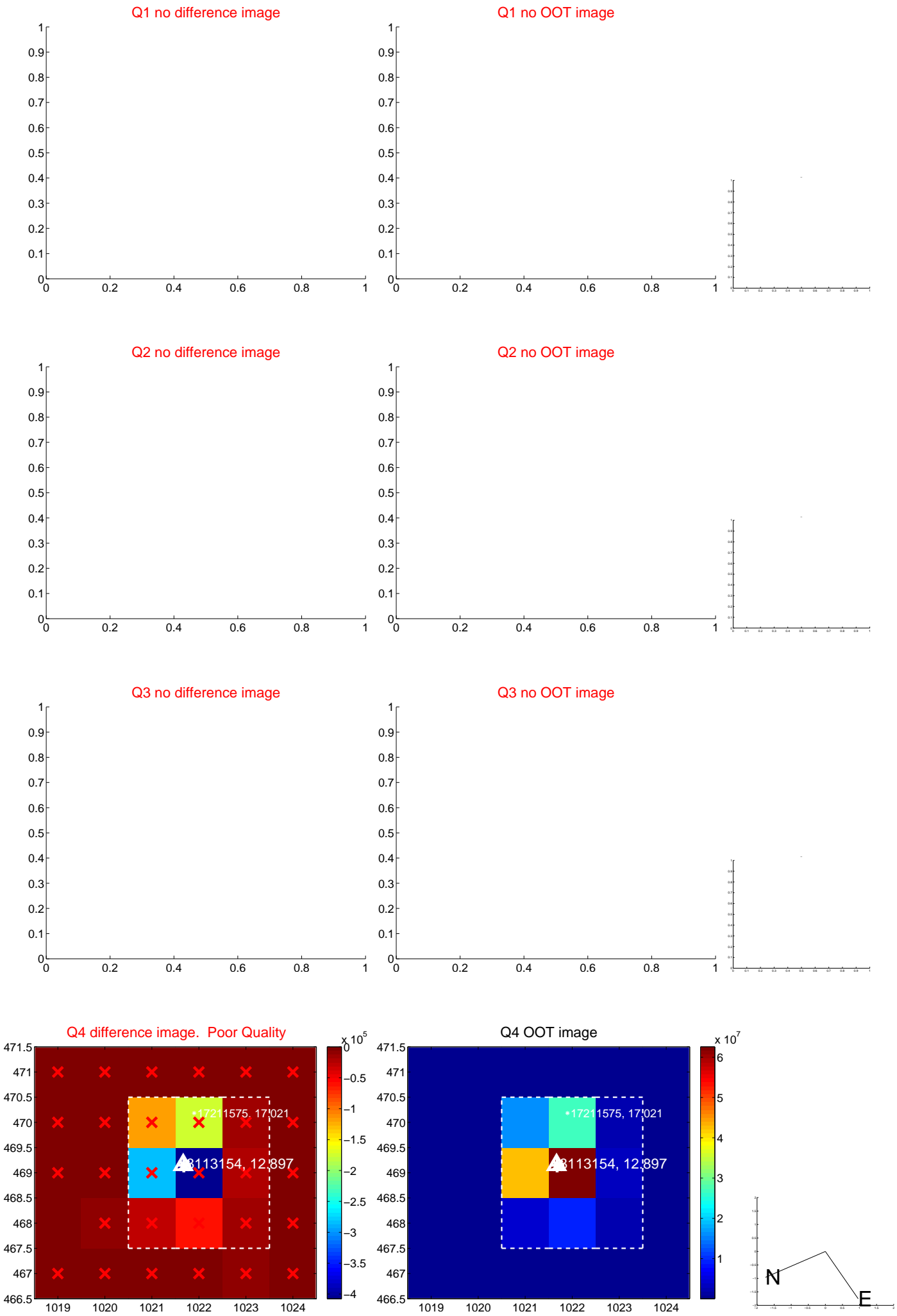
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.122 ± 0.223	0.55	-0.116 ± 0.207	0.038 ± 0.111
PRF-fit source offset from KIC position	0.163 ± 0.195	0.84	-0.156 ± 0.180	0.046 ± 0.113
photometric centroid source offset	0.18 ± 0.02	8.94	-0.12 ± 0.02	-0.14 ± 0.02

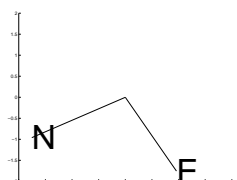
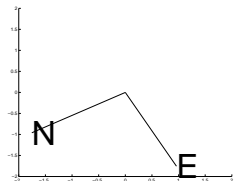
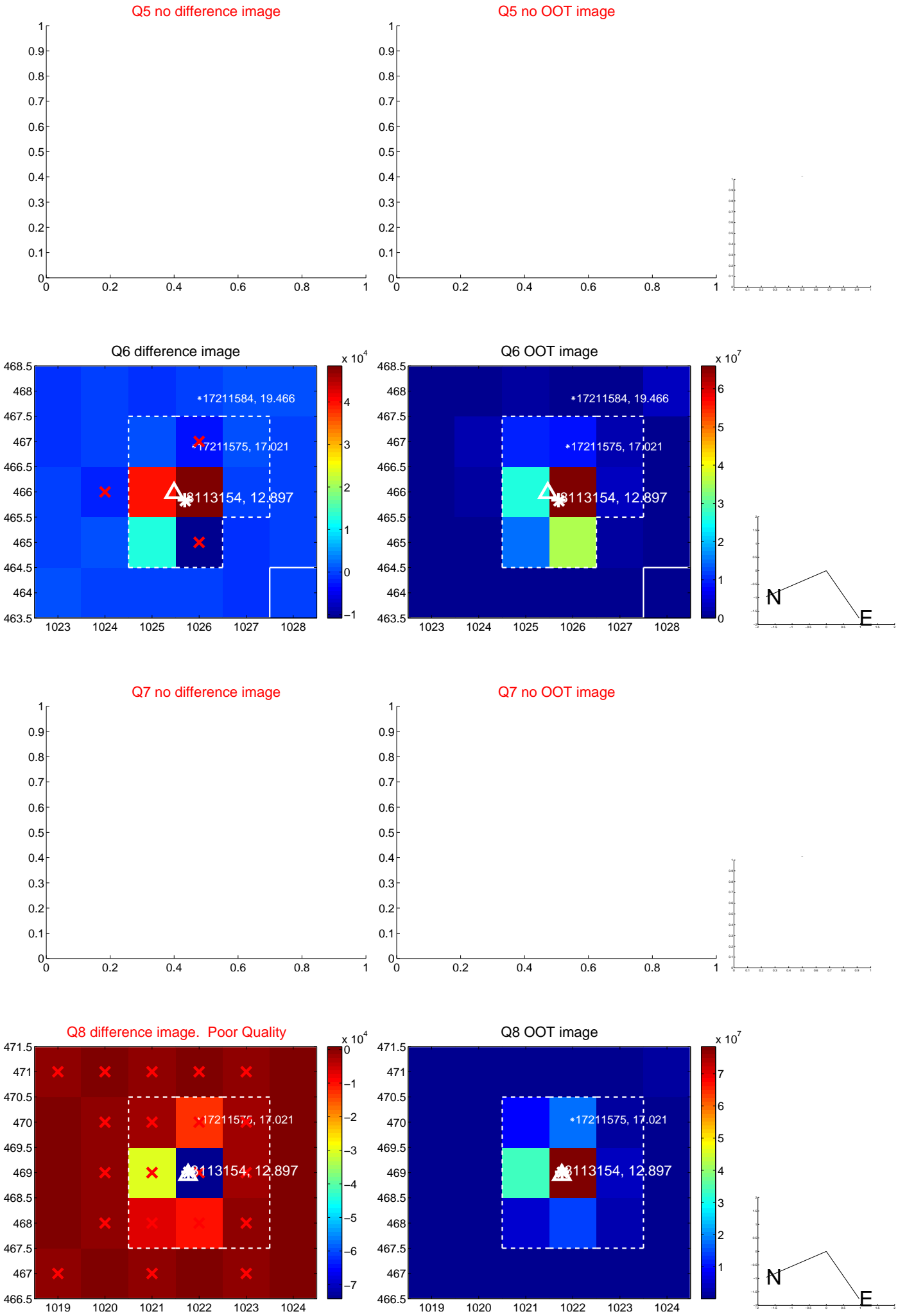


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

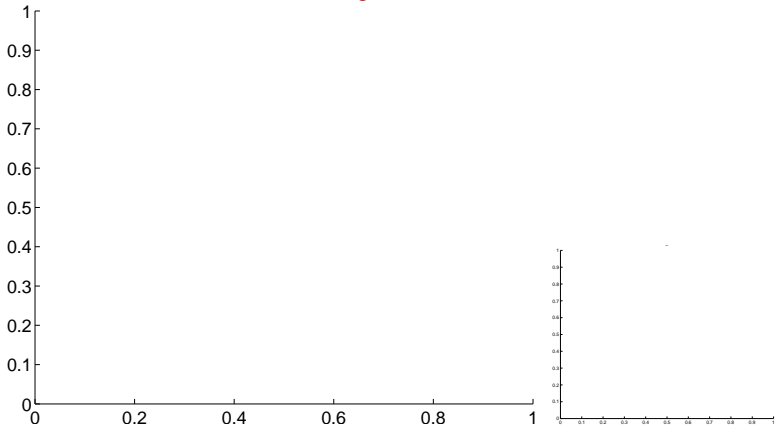


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

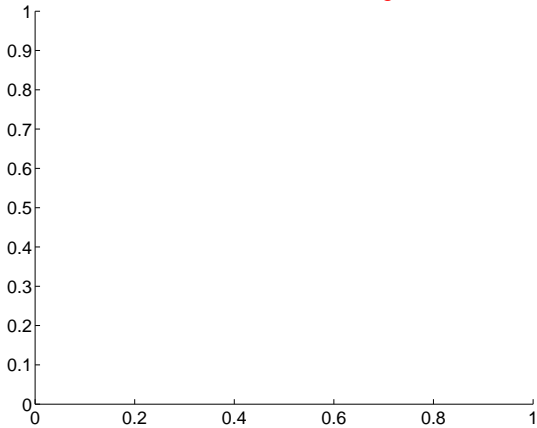
Q13 no difference image



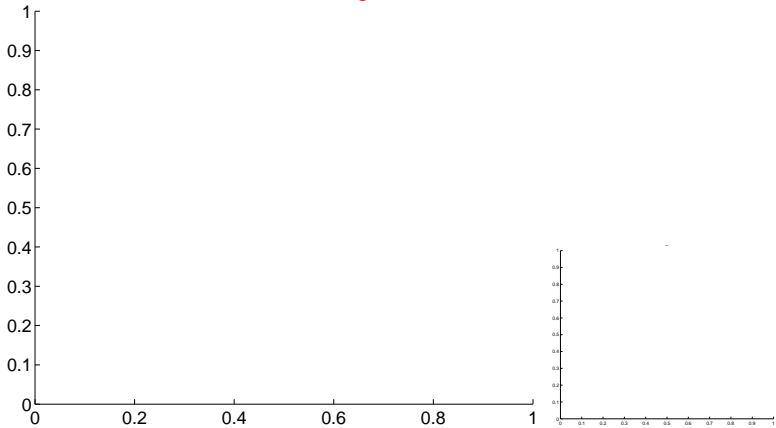
Q13 no OOT image



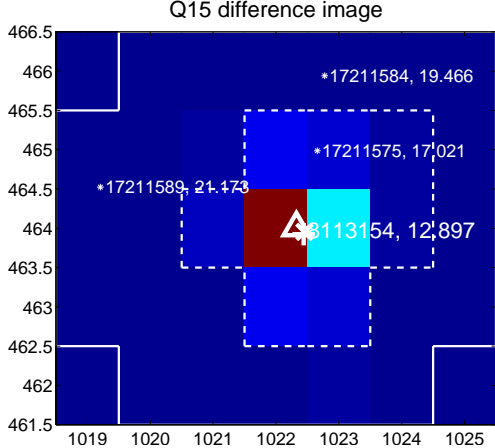
Q14 no difference image



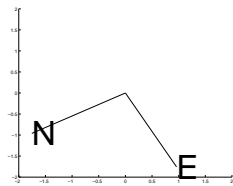
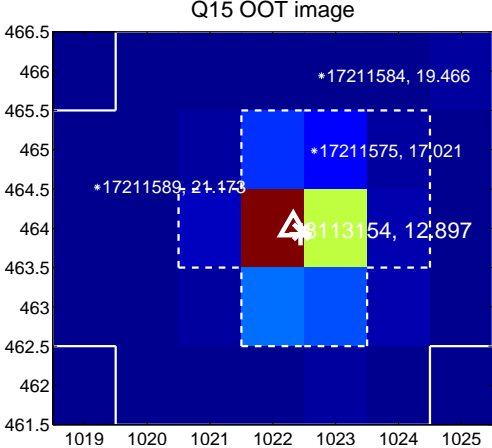
Q14 no OOT image



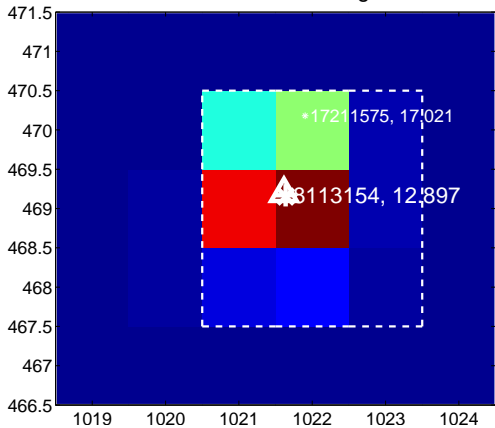
Q15 difference image



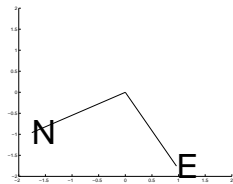
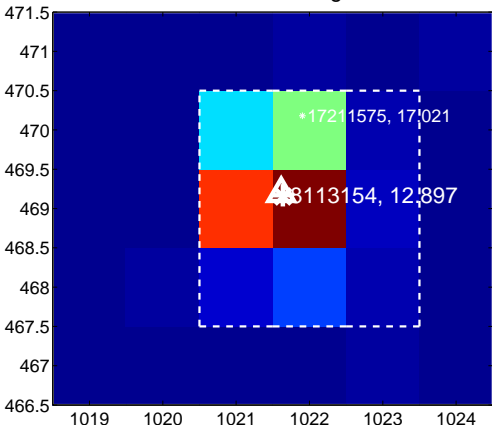
Q15 OOT image



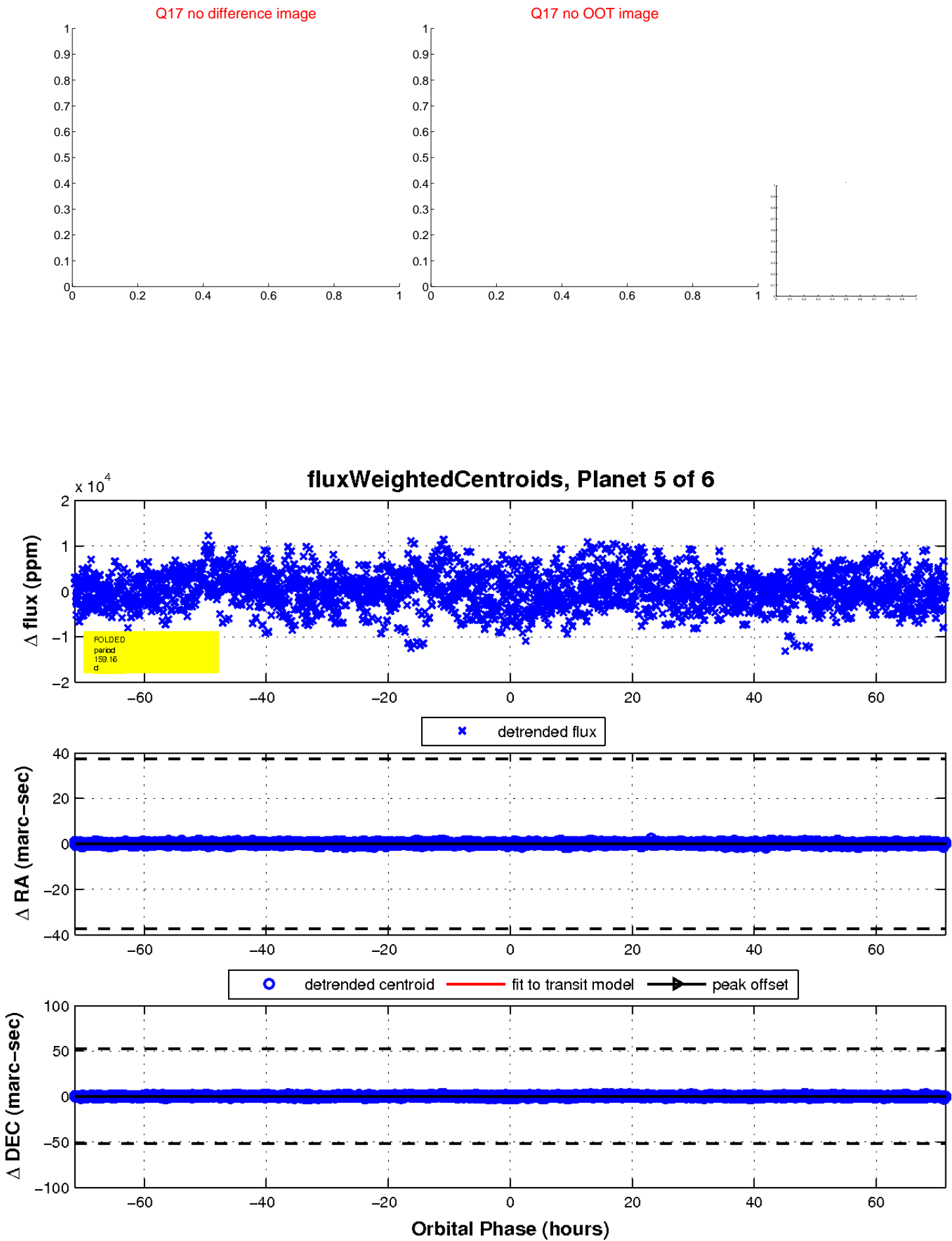
Q16 difference image



Q16 OOT image

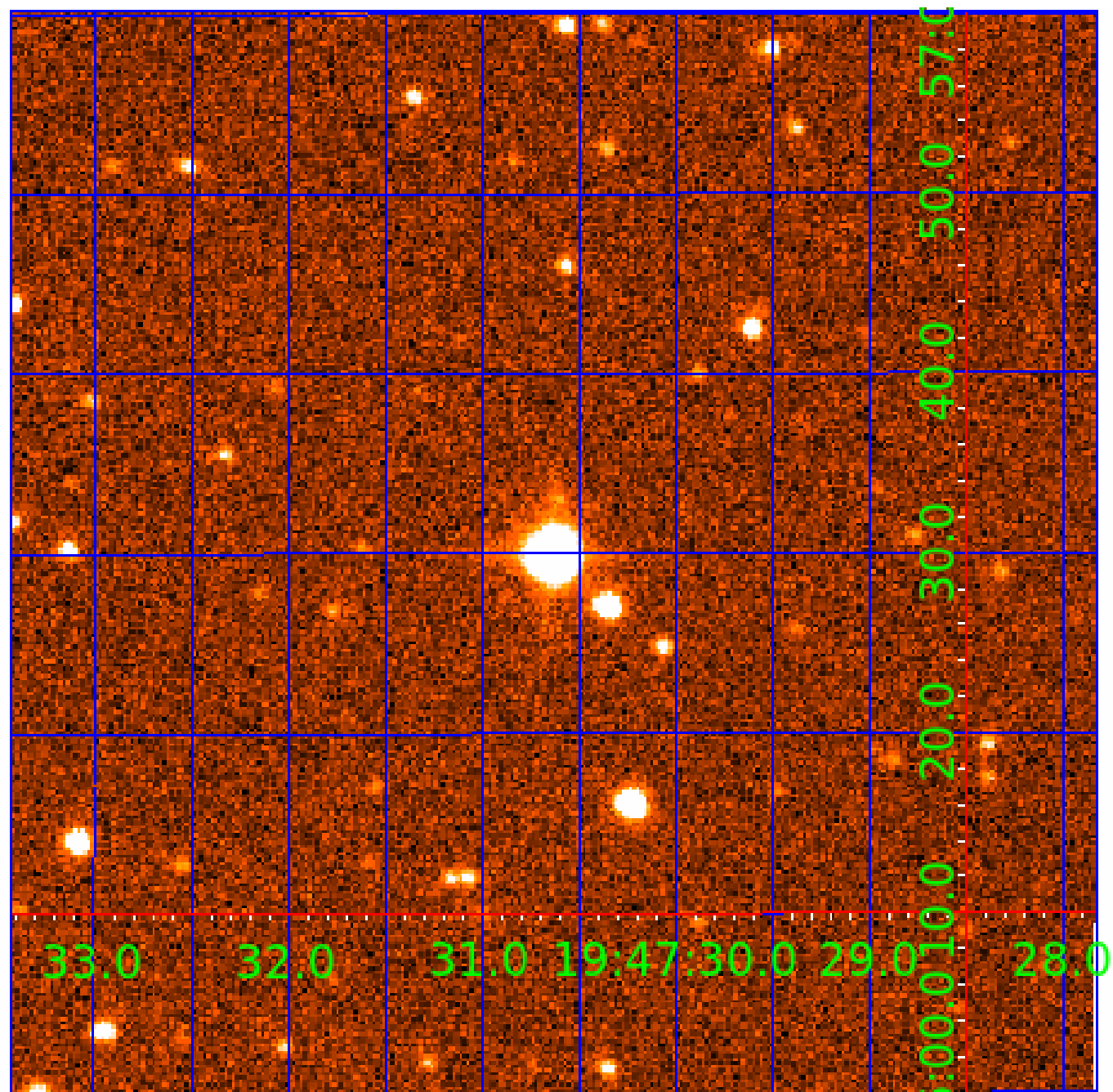


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008113154

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})
008113154-01	OBS	1542.01	2.586855	133.820687	8747.9	5.375	118.7	103.3	1.17	6812	11.76	1823.54
008113154-02	OBS	No	3.107657	133.850046	917.9	10.580	10.1	9.6	1.17	6812	4.37	1427.91
008113154-03	OBS	No	3.883097	134.971415	1239.1	10.339	11.7	11.0	1.17	6812	5.02	1060.98
008113154-04	OBS	No	245.481349	303.328230	6697.9	12.160	11.4	10.5	1.17	6812	9.68	4.21
008113154-05	OBS	No	159.164892	270.188320	10187.9	23.811	9.8	11.0	1.17	6812	14.39	7.51
008113154-06	OBS	No	164.837529	280.199199	146.1	12.500	9.8	-1.0	1.17	6812	1.43	7.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008113154-01	OBS	FP	0.00	0	1	0	0	SWEET_EB
008113154-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008113154-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008113154-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_NOFITS

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

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

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

Ephemeris Match Information For 008113154-06

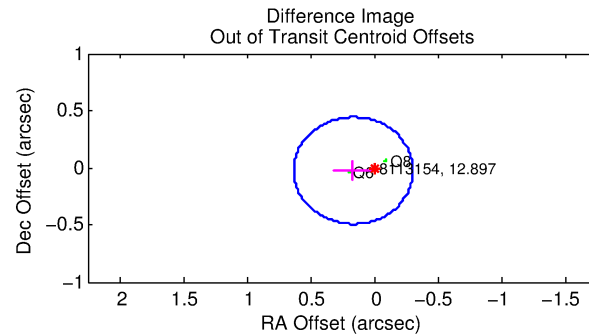
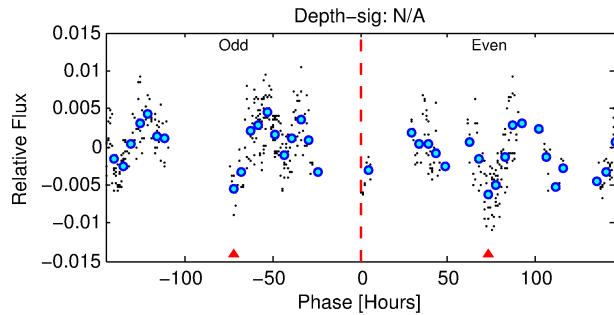
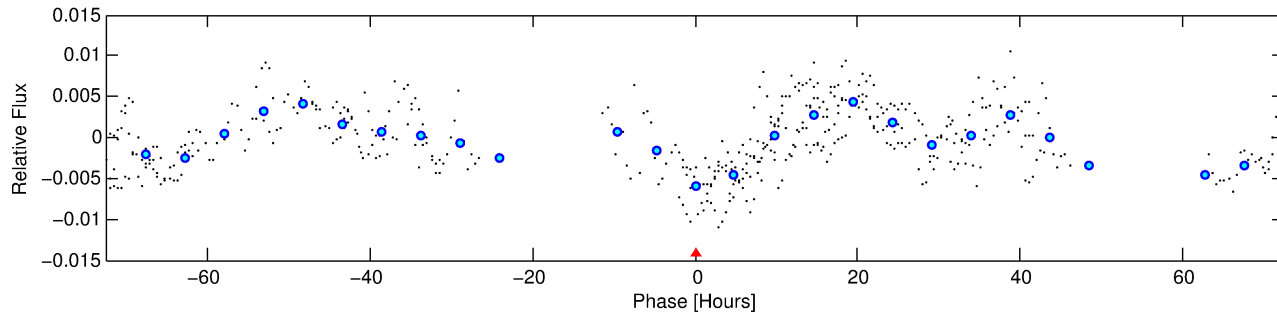
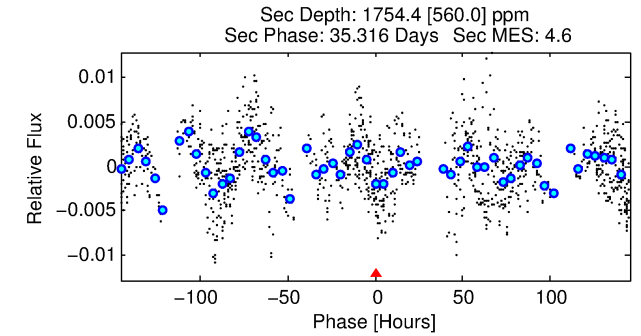
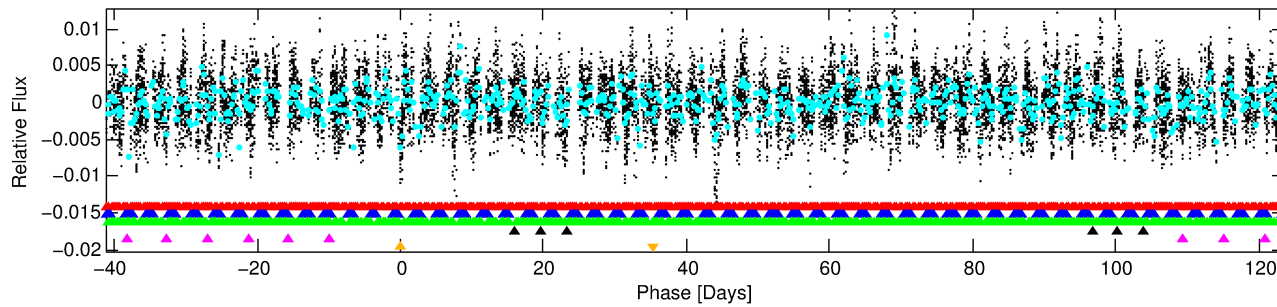
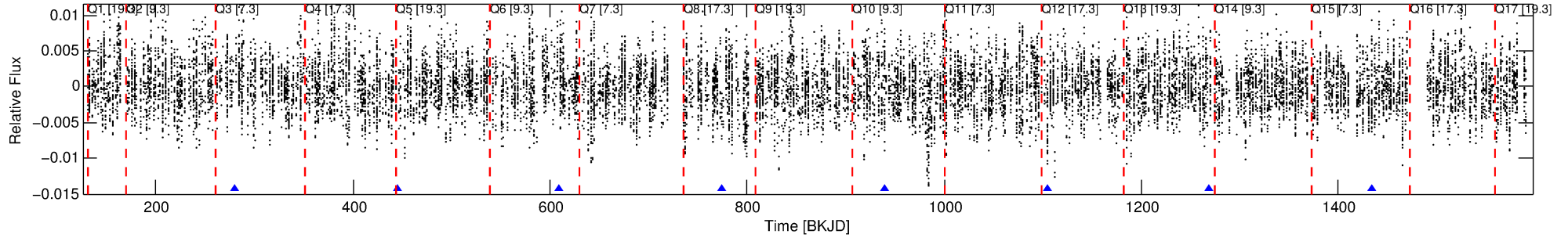
No Significant Match Found

DV One-Page Summary

KIC: 8113154 Candidate: 6 of 6 Period: 164.838 d

KOI: K01542 Corr: No Ephemeris Match

Kp: 12.90 R*: 1.17 Rs Teff: 6812.0 K Logg: 4.34 Fe/H: -0.540



TPS TCE Results:

Period = 164.83753 d
Epoch = 280.1992 BKJD

DV fit results are unavailable

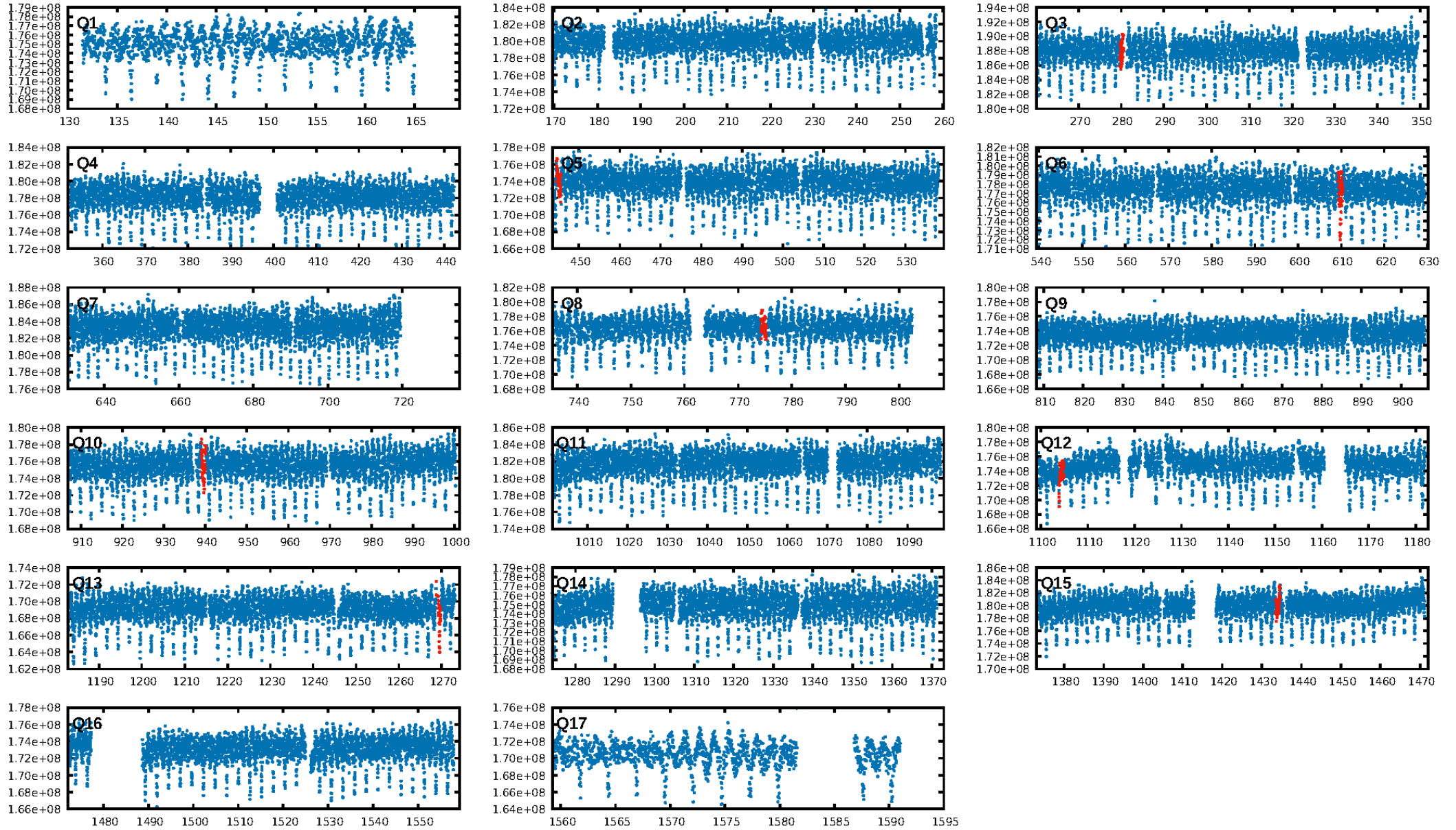
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.06 σ]
LongPeriod-sig: 100.0% [110.99 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.3551
Centroid-sig: 76.8%
Centroid-so: 0.180 arcsec [5.77 σ]
OotOffset-rm: 0.165 arcsec [1.06 σ]
KicOffset-rm: 0.095 arcsec [0.85 σ]
OotOffset-st: 1/0/1/0 [2]
KicOffset-st: 1/0/1/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/2]

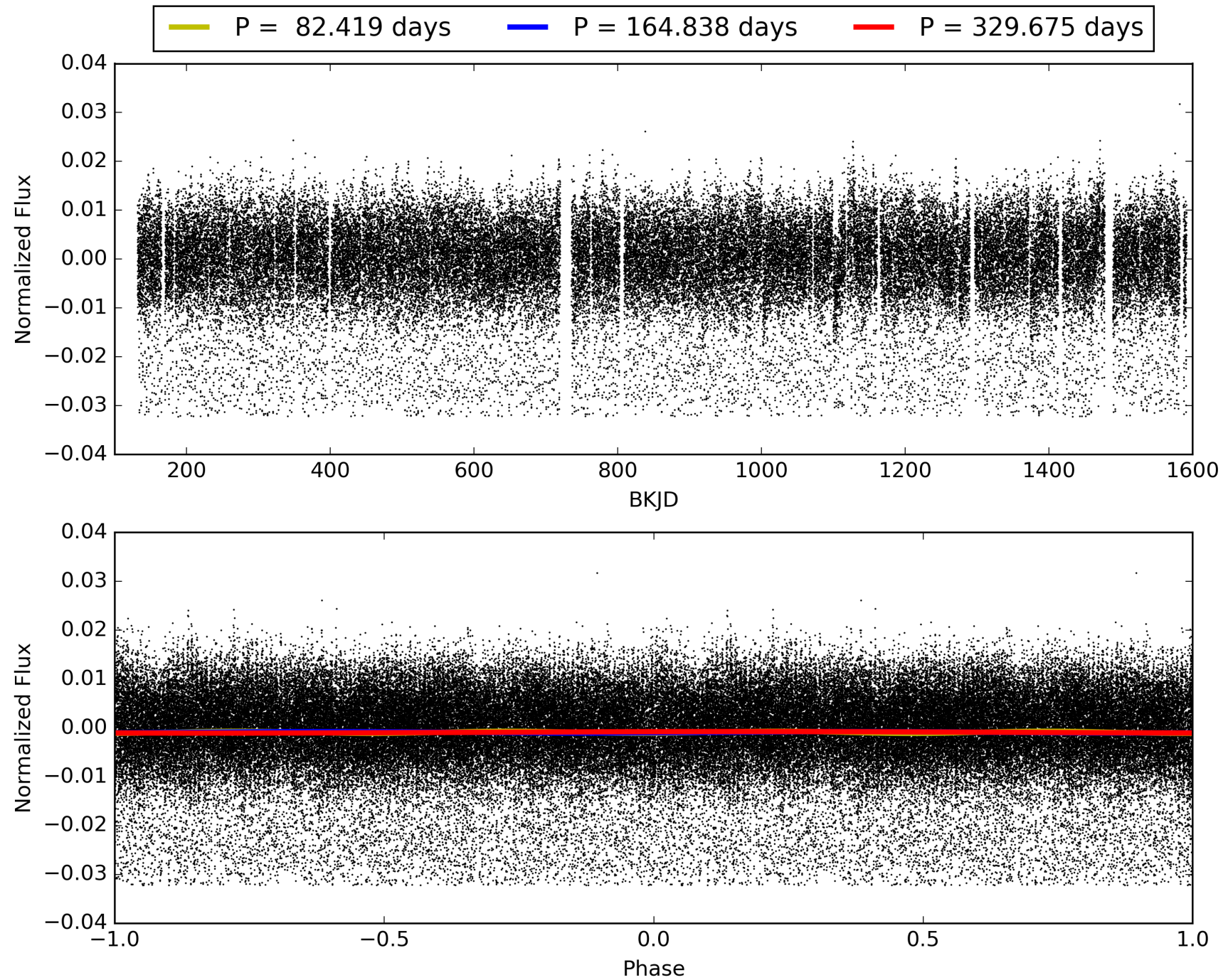
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:56:30 Z

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

TCE 008113154-06, PDC Light Curves

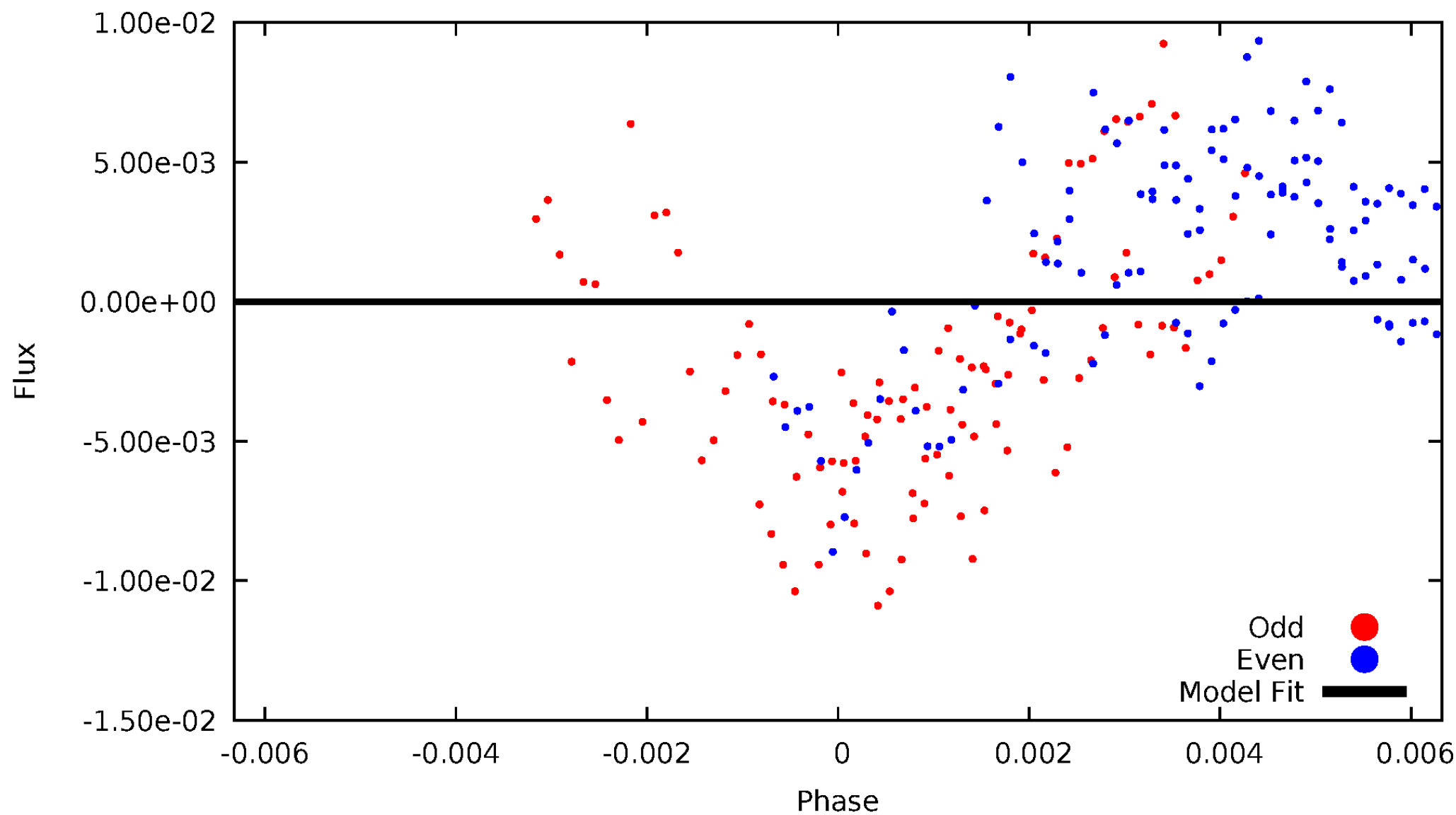


TCE 008113154-06



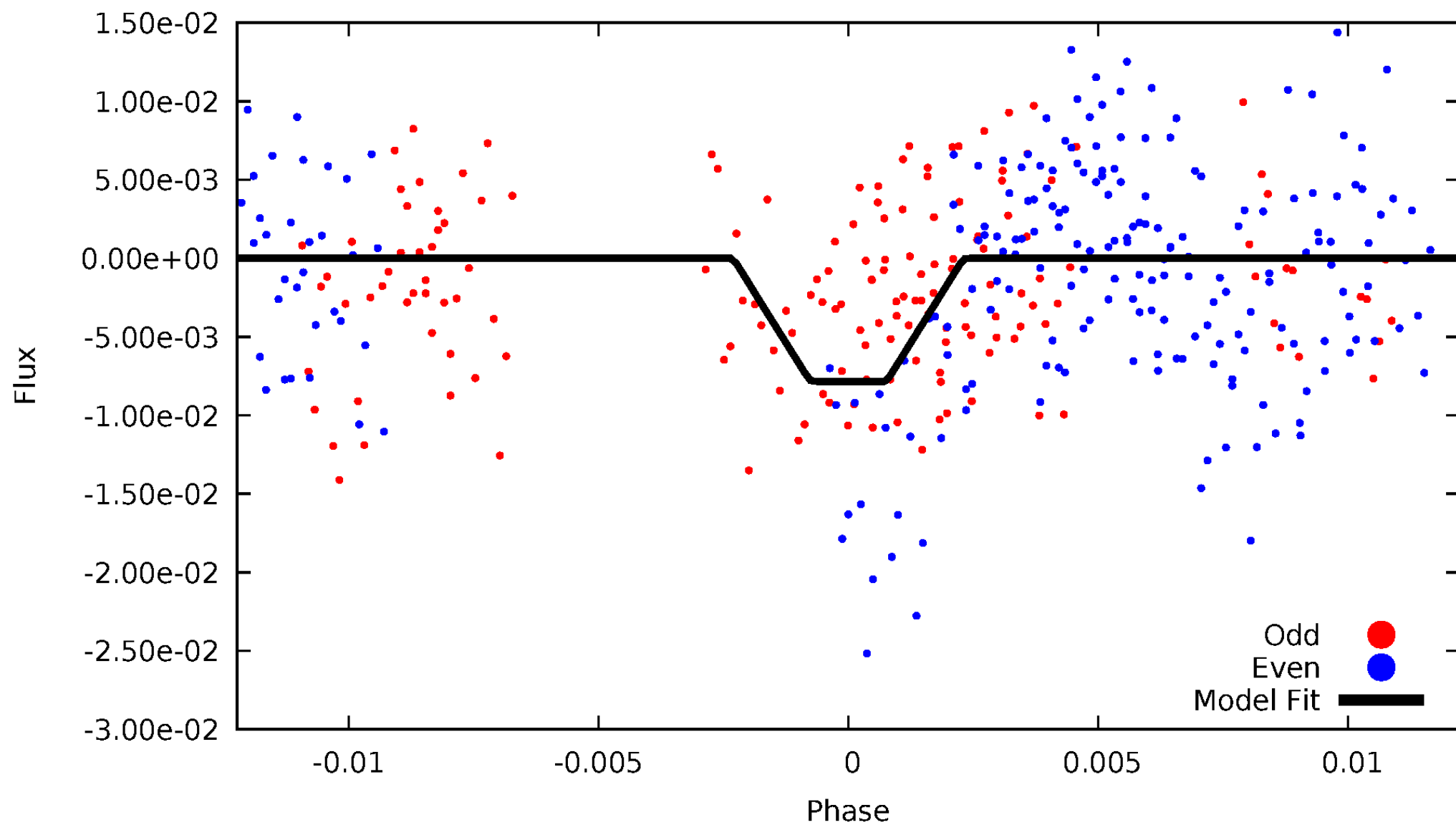
DV Odd/Even

TCE 008113154-06



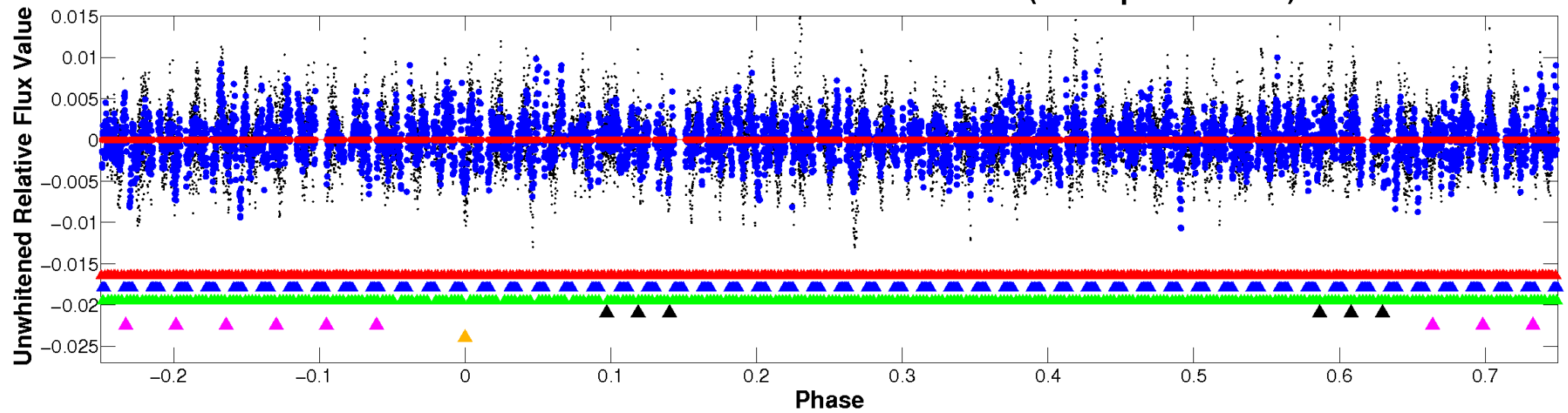
ALT Odd/Even

TCE 008113154-06

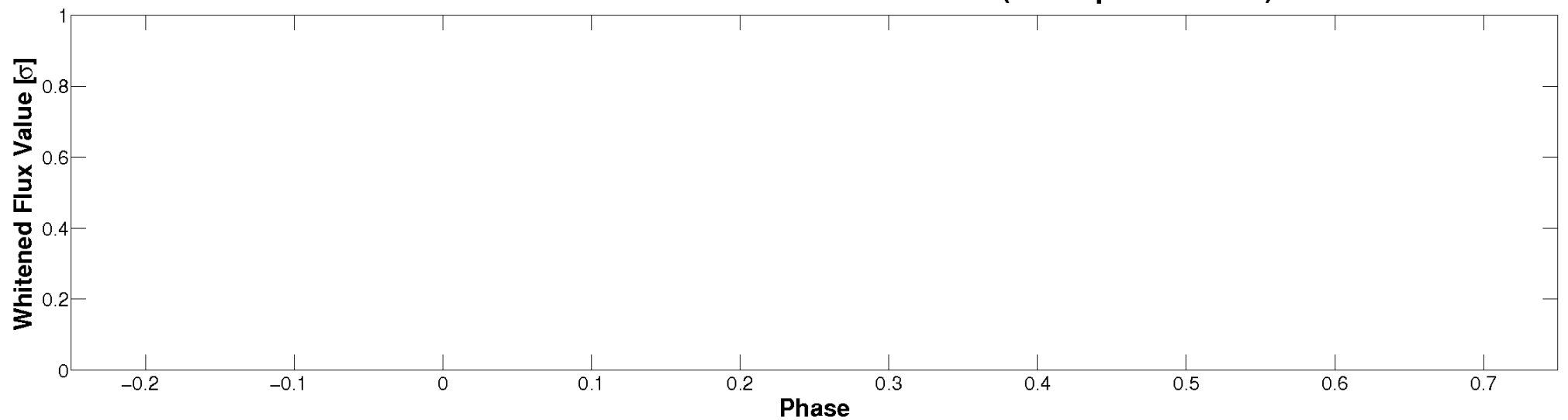


Non-Whitened Vs. Whitened Light Curve

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

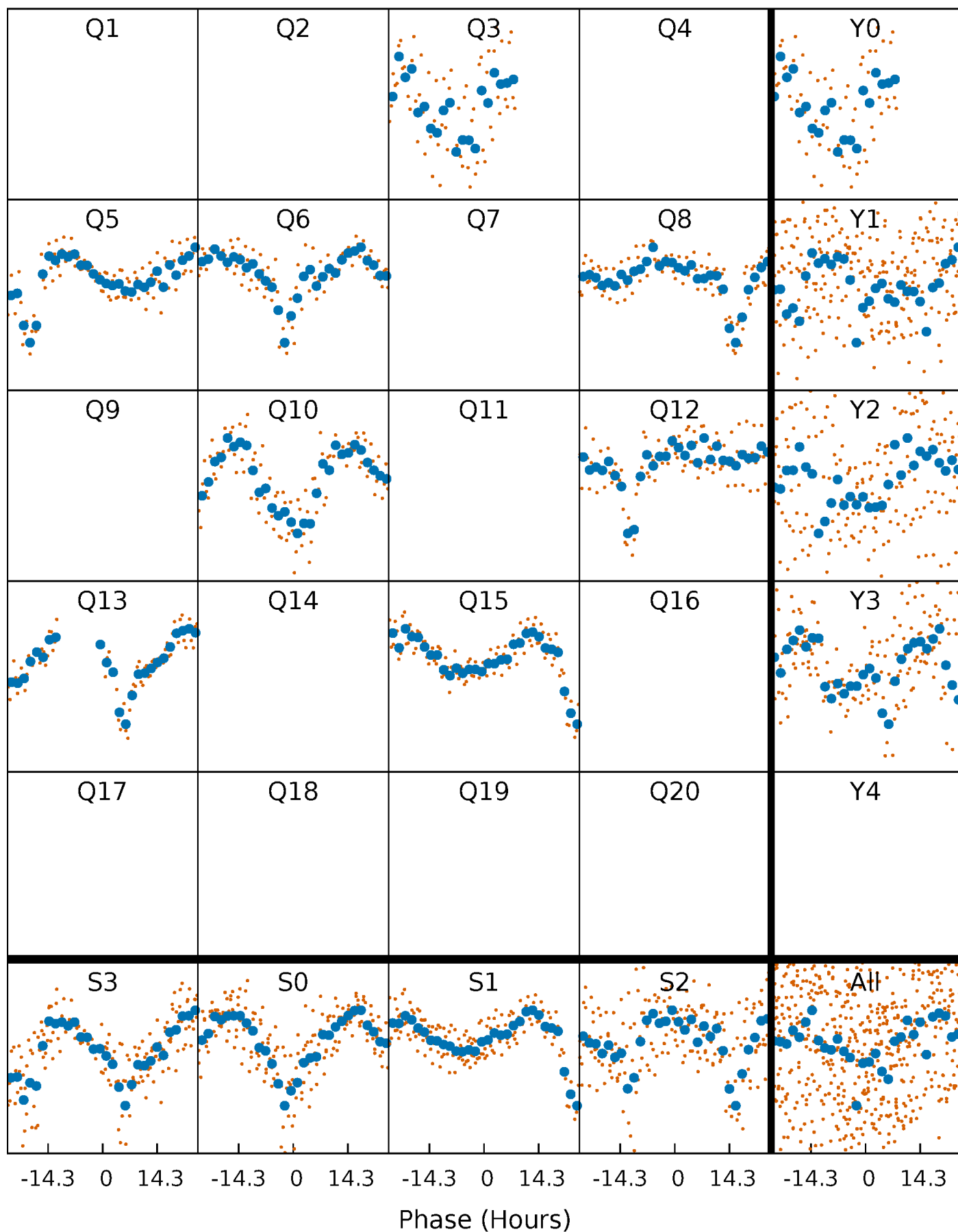


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 008113154-06 P=164.837528 Days $T_0=280.199199$ (BKJD)



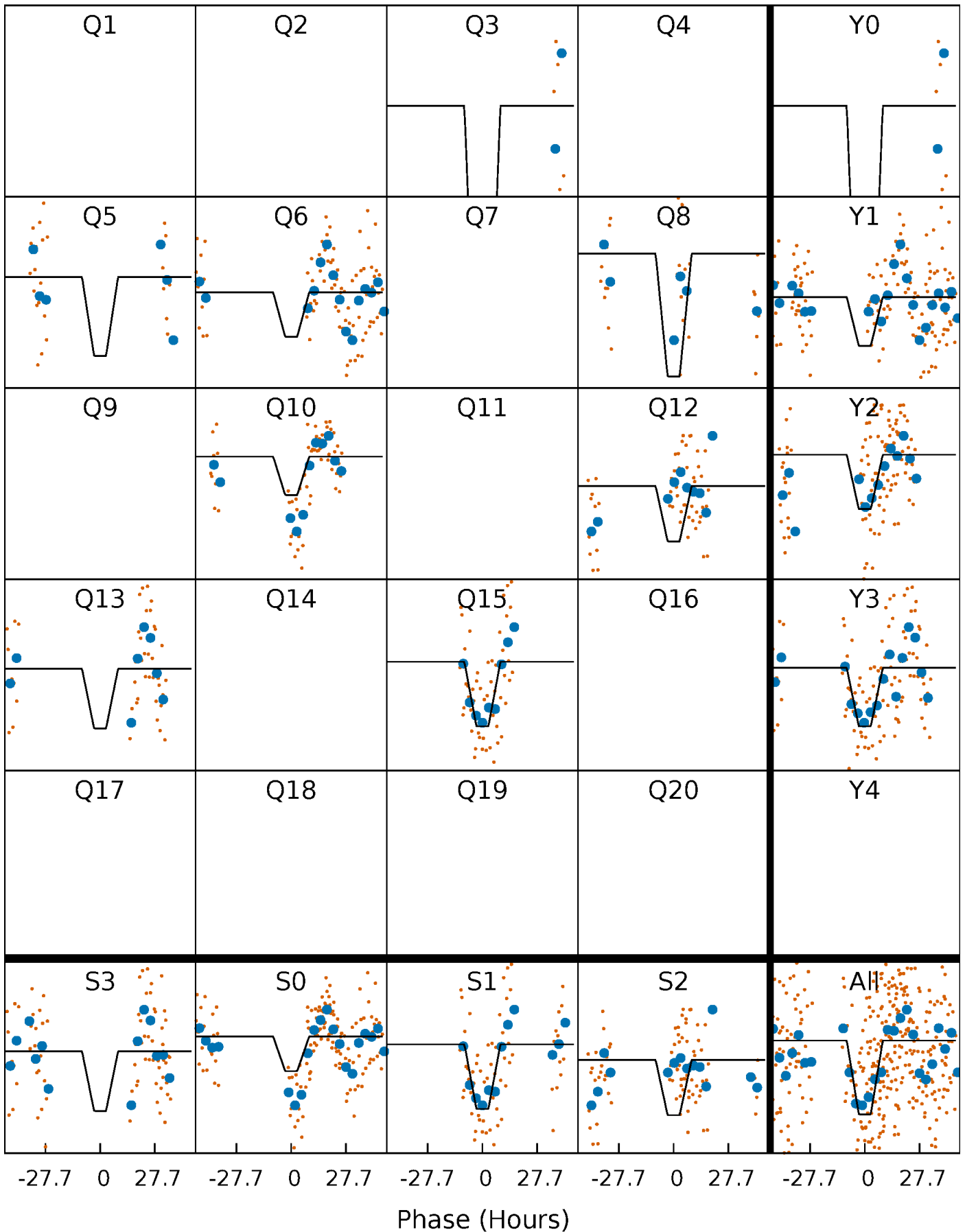
DV Quarter-Phased Transit Curves

TCE 008113154-06 P=164.837528 Days $T_0=280.199199$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

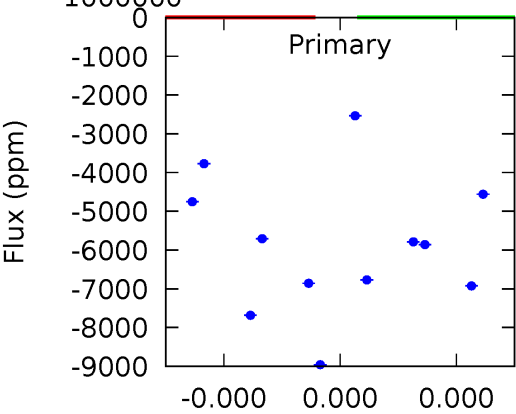
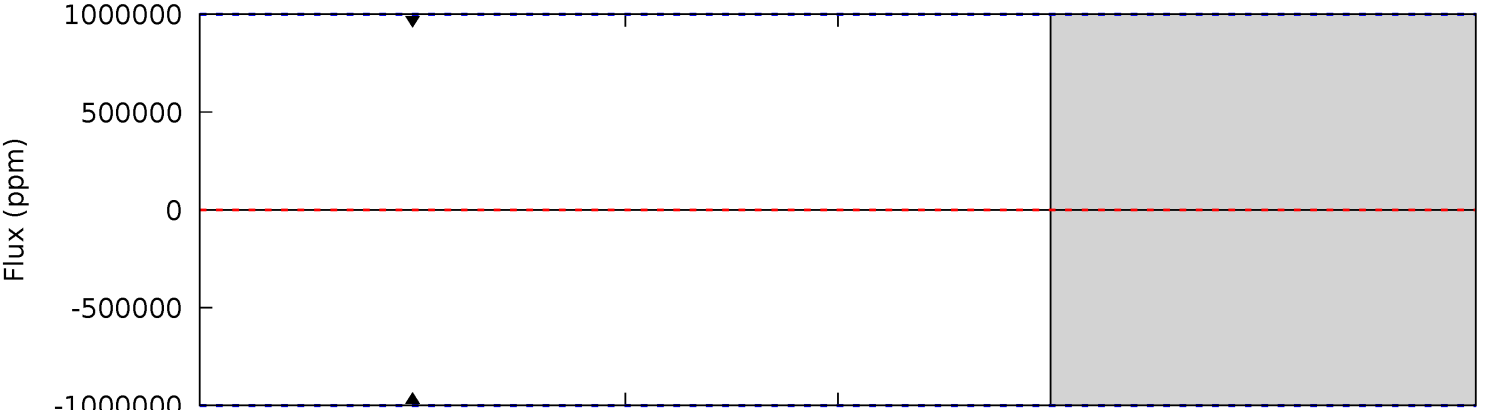
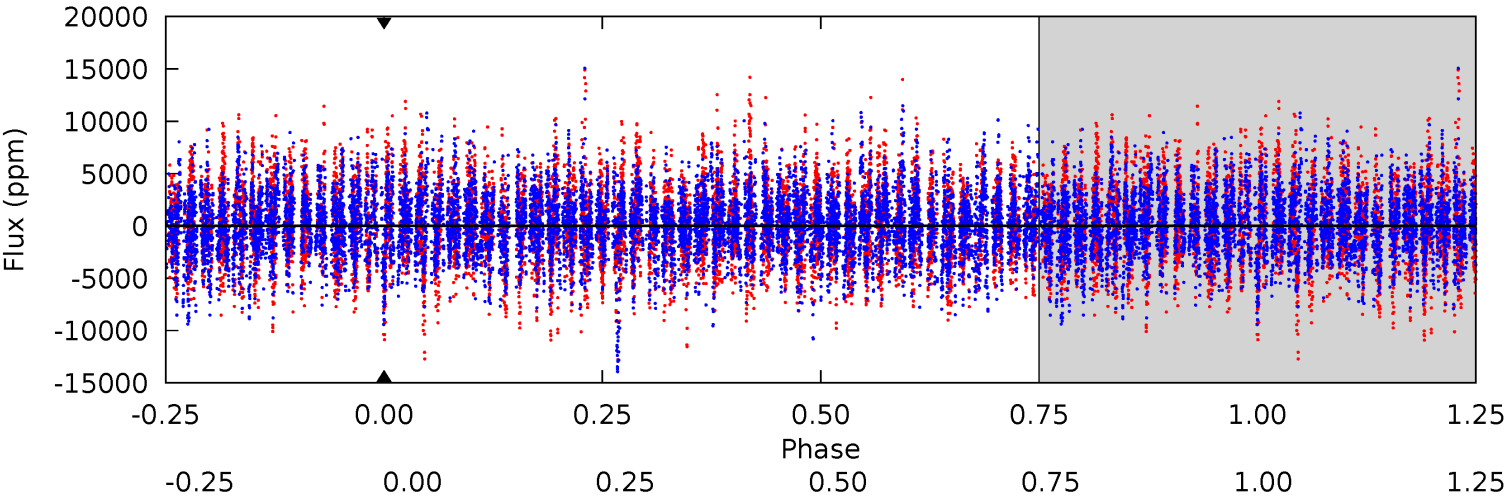
TCE 008113154-06 P=164.837528 Days $T_0=280.149100$ (BKJD)



DV Model-Shift Uniqueness Test

008113154-06, P = 164.837528 Days, E = 115.361671 Days

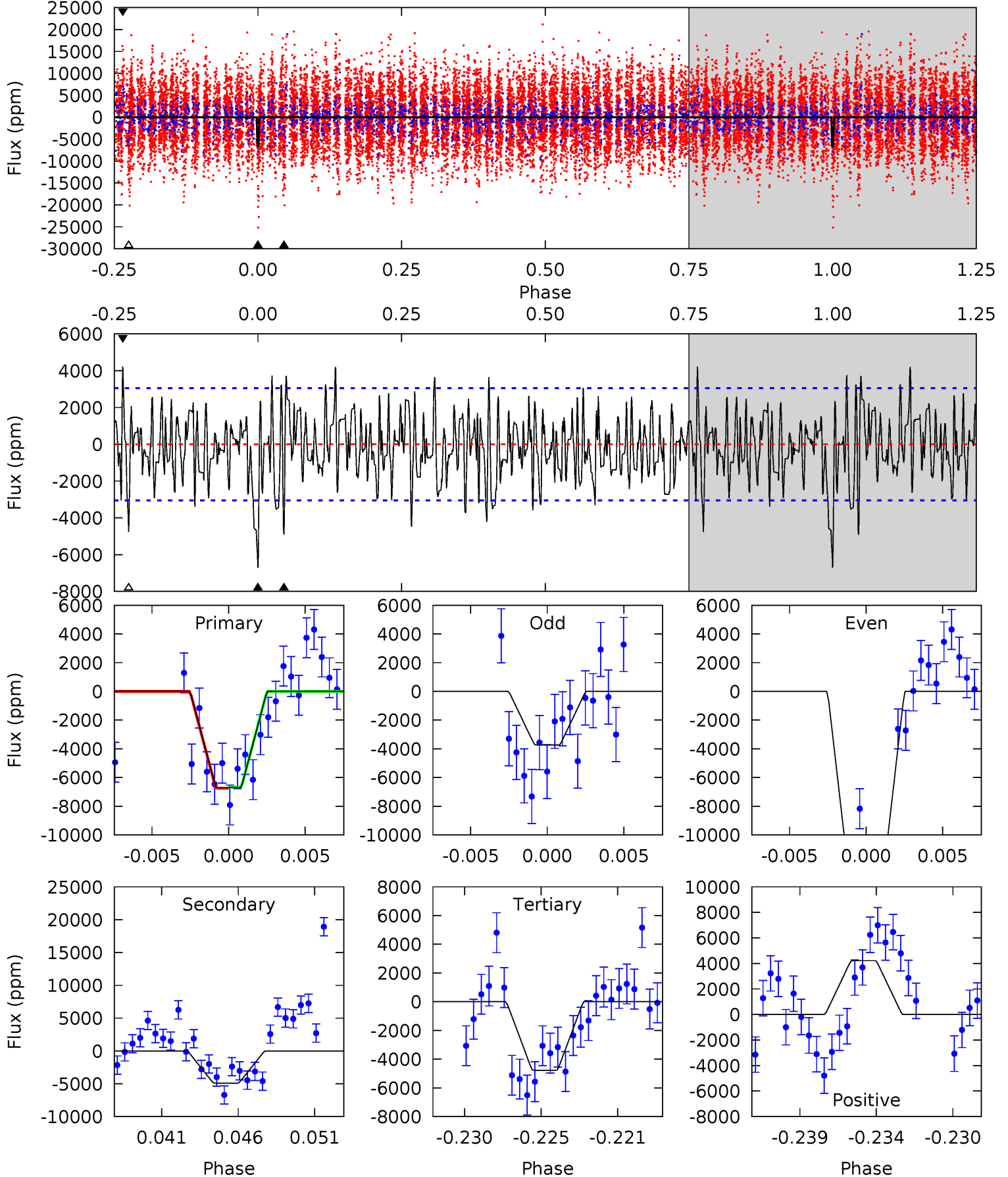
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008113154-06, P = 164.837528 Days, E = 115.311572 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	8.32	8.09	7.15	5.17	2.83	2.45	3.27	4.22	0.22	1.17	8.70	0.89	0.39	0.06



Stellar Parameters For KIC 008113154

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6812^{+165}_{-235}	$4.343^{+0.084}_{-0.182}$	$-0.540^{+0.250}_{-0.300}$	$1.172^{+0.348}_{-0.149}$	$1.103^{+0.157}_{-0.128}$	$0.965^{+0.420}_{-0.502}$
	+2%/-3%	+2%/-4%	+46%/-56%	+30%/-13%	+14%/-12%	+44%/-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 008113154-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$9.19^{+11.09}_{-6.42}$	587^{+41}_{-28}	-5977^{+36077}_{-32719}	$-7047.033^{+340495.013}_{-498858.035}$
Alt.	-4904 ± 590	$14.71^{+12.34}_{-9.39}$	589^{+39}_{-29}	5390^{+4428}_{-1153}	4692^{+29870}_{-3357}

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

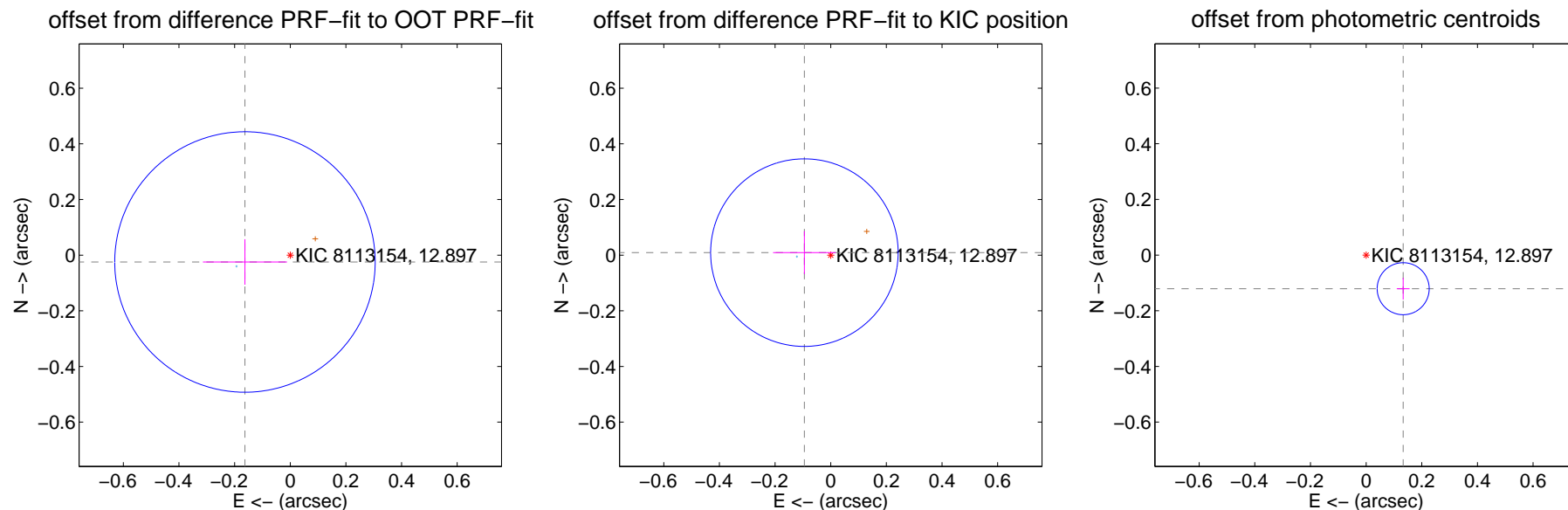
DV Centroid Data

Supplemental centroid analysis for 008113154-06. Kepler magnitude: 12.90. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.165 ± 0.156	1.06	0.163 ± 0.151	-0.025 ± 0.082
PRF-fit source offset from KIC position	0.095 ± 0.112	0.85	0.095 ± 0.113	0.009 ± 0.077
photometric centroid source offset	0.18 ± 0.03	5.77	-0.13 ± 0.02	-0.12 ± 0.04

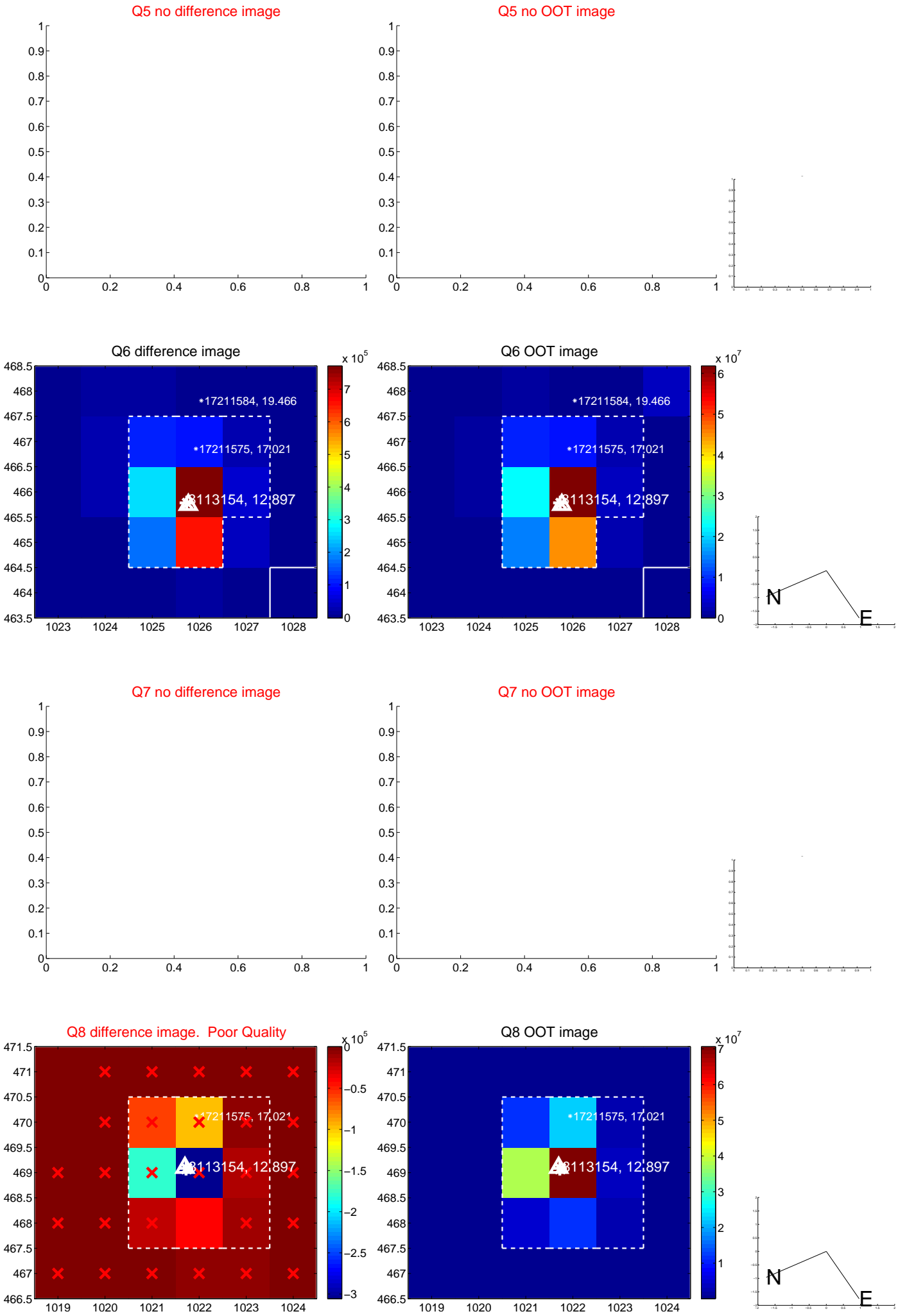


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



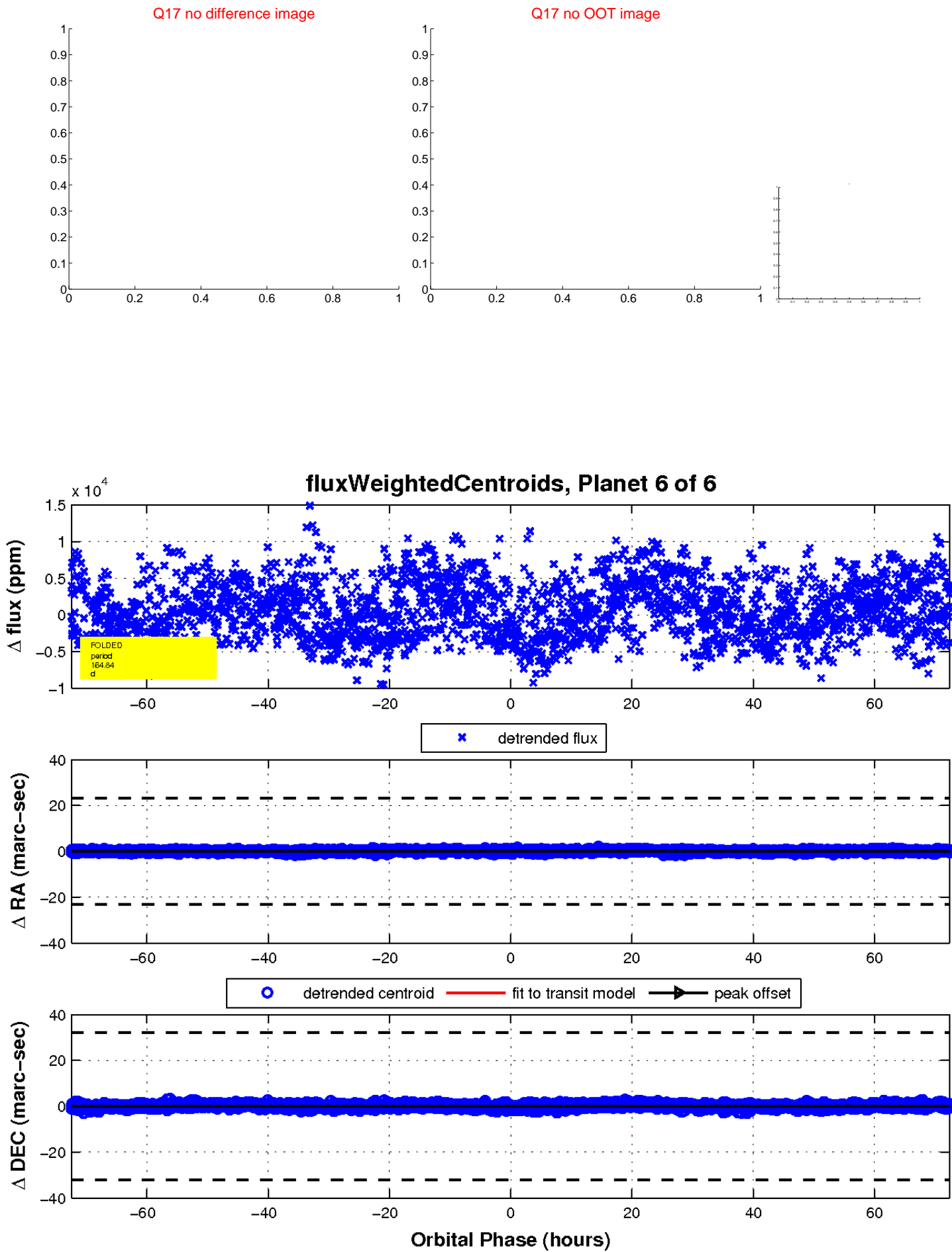
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

