

KIC 004764523

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})
004764523-01	OBS	No	6.562120	136.874301	44.6	19.147	10.1	8.2	1.73	6526	1.38	862.55
004764523-02	OBS	No	6.560038	132.411105	74.1	11.885	11.2	13.4	1.73	6526	1.75	862.92
004764523-03	OBS	No	13.137846	135.542624	201.1	33.134	7.4	8.4	1.73	6526	4.84	341.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004764523-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004764523-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
004764523-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

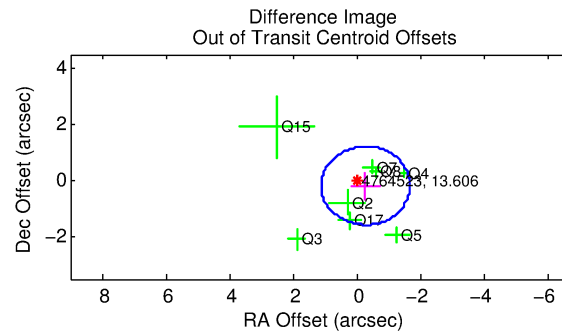
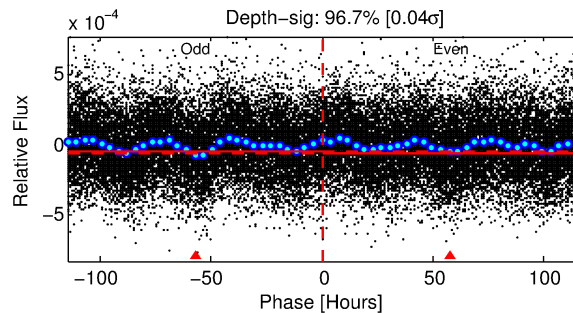
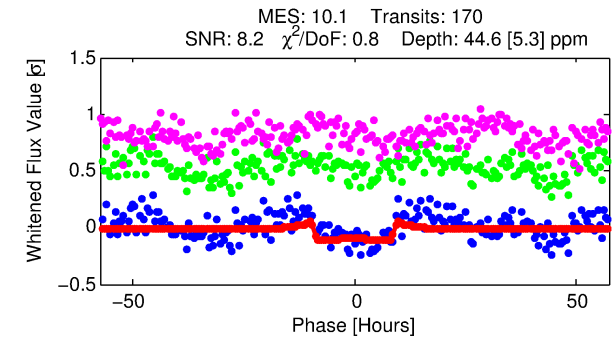
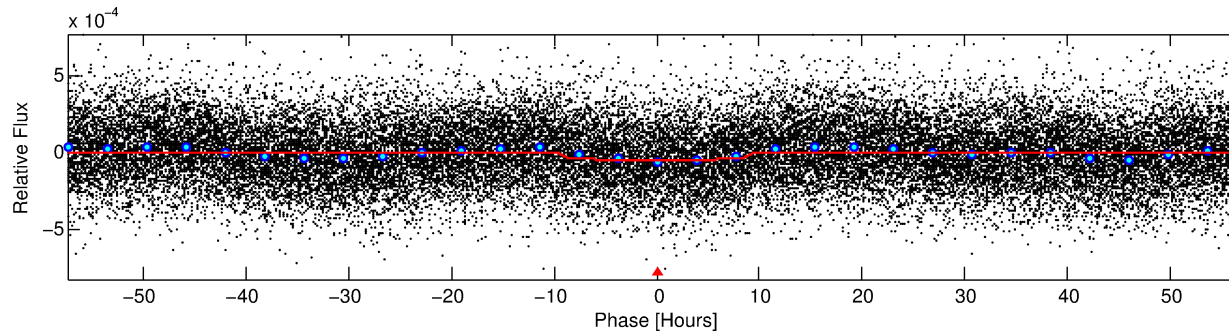
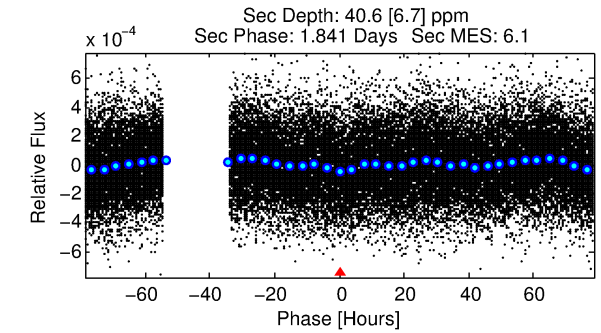
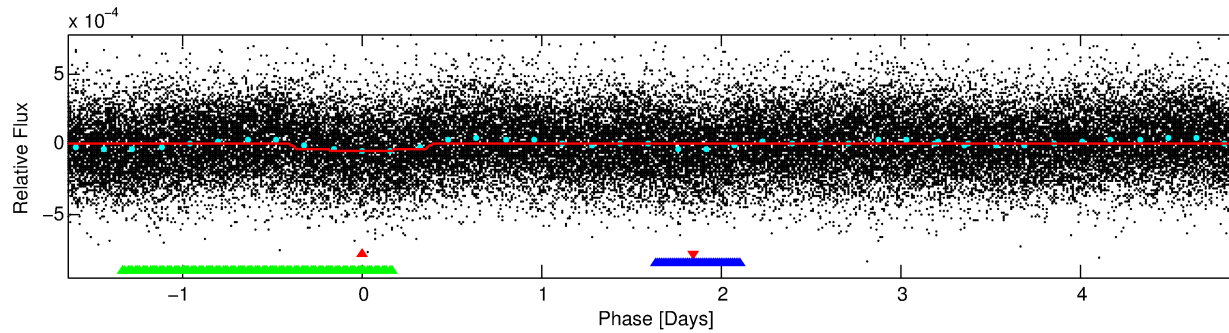
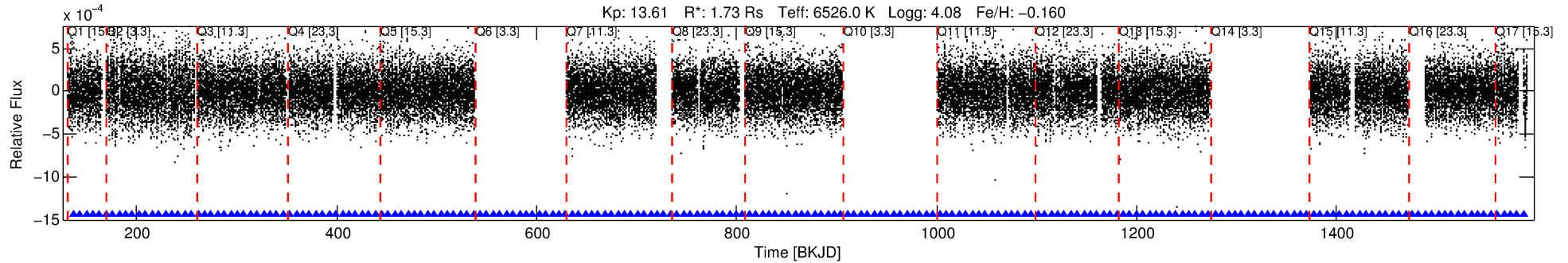
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004764523-01

No Significant Match Found

DV One-Page Summary

KIC: 4764523 Candidate: 1 of 3 Period: 6.562 d



DV Fit Results:

Period = 6.56212 [0.00015] d
Epoch = 136.8743 [0.0175] BKJD
Rp/R* = 0.0073 [0.0007]
a/R* = 1.42 [0.33]
b = 0.92 [0.07]
Seff = 862.55 [256.22]
Teq = 1382 [103] K
Rp = 1.38 [0.32] Re
a = 0.0750 [0.0143] AU
Ag = 66.26 [25.99] [2.51σ]
Teffp = 6096 [403] K [11.32σ]

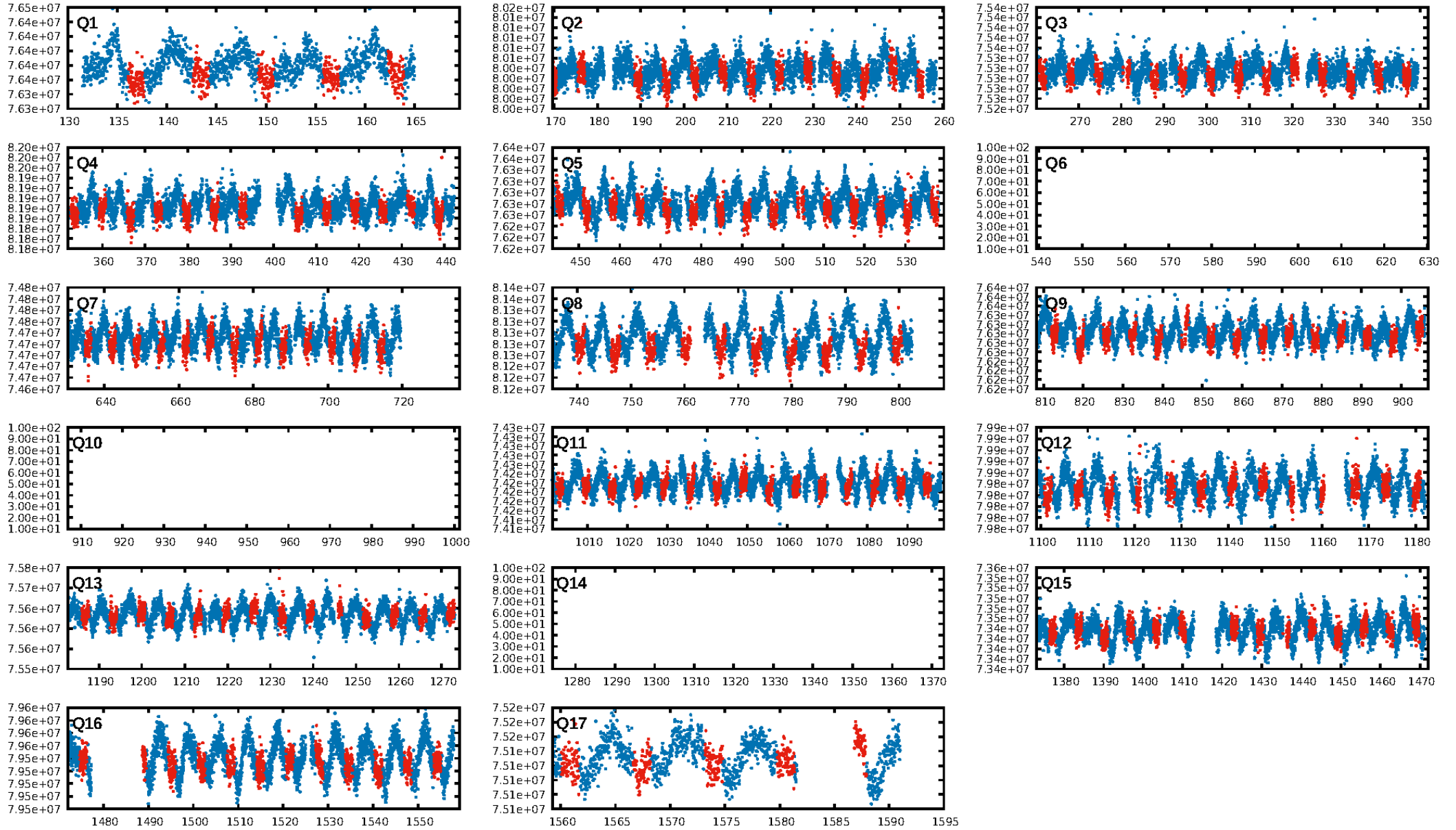
DV Diagnostic Results:

ShortPeriod-sig: 0.2% [0.00σ]
LongPeriod-sig: 100.0% [4.12σ]
ModelChiSquare2-sig: 98.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.82e-19
RollingBand-fgt: 1.00 [160/160]
GhostDiagnostic-chr: 8.378
Centroid-sig: 9.5%
Centroid-so: 1.250 arcsec [1.12σ]
OotOffset-rm: 0.333 arcsec [0.71σ]
OotOffset-st: 1/3/2/2 [8]
KicOffset-rm: 0.308 arcsec [0.49σ]
KicOffset-st: 1/3/2/2 [8]
DiffImageQuality-fgm: 0.88 [7/8]
DiffImageOverlap-fno: 1.00 [14/14]

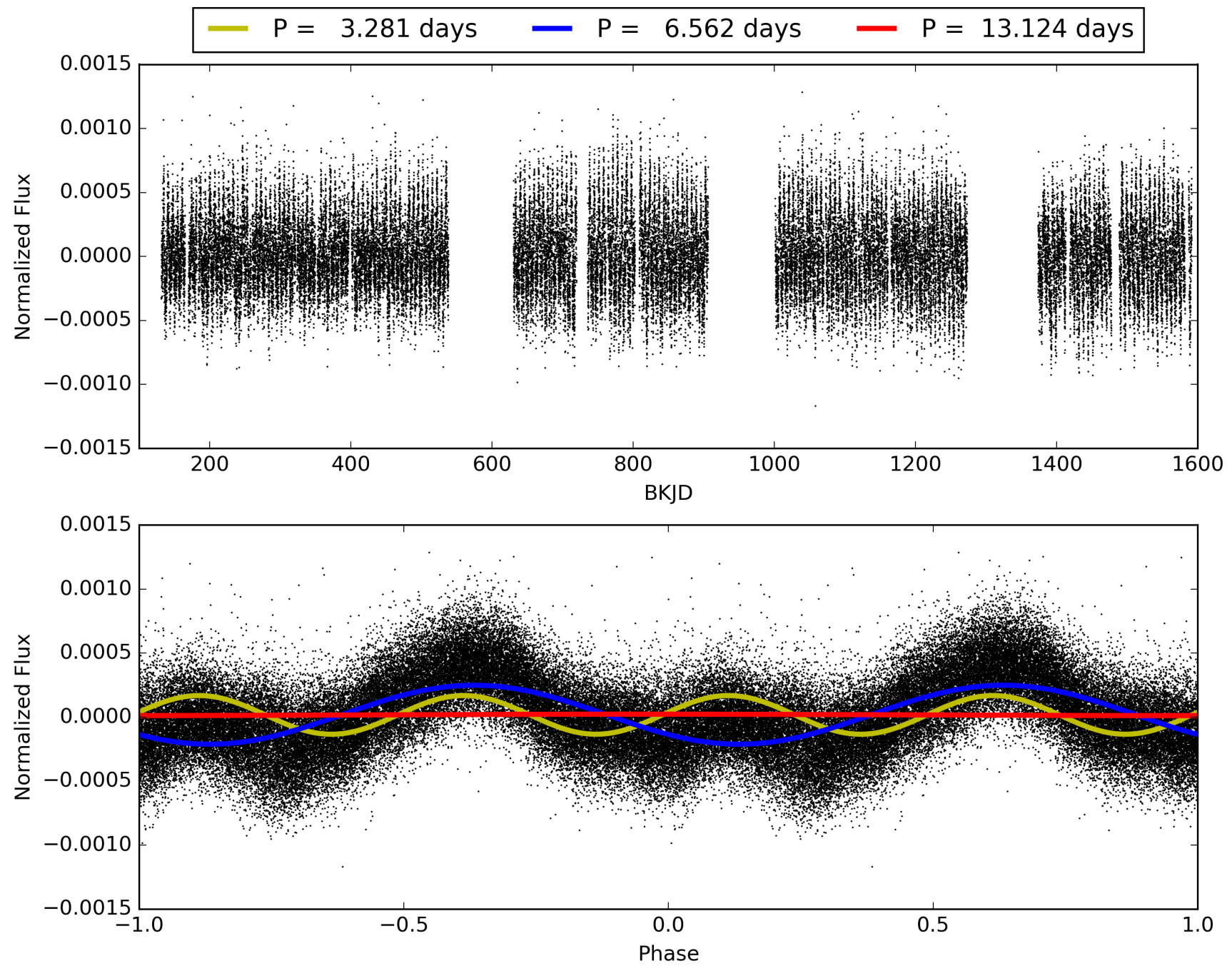
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:12:16 Z

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

TCE 004764523-01, PDC Light Curves

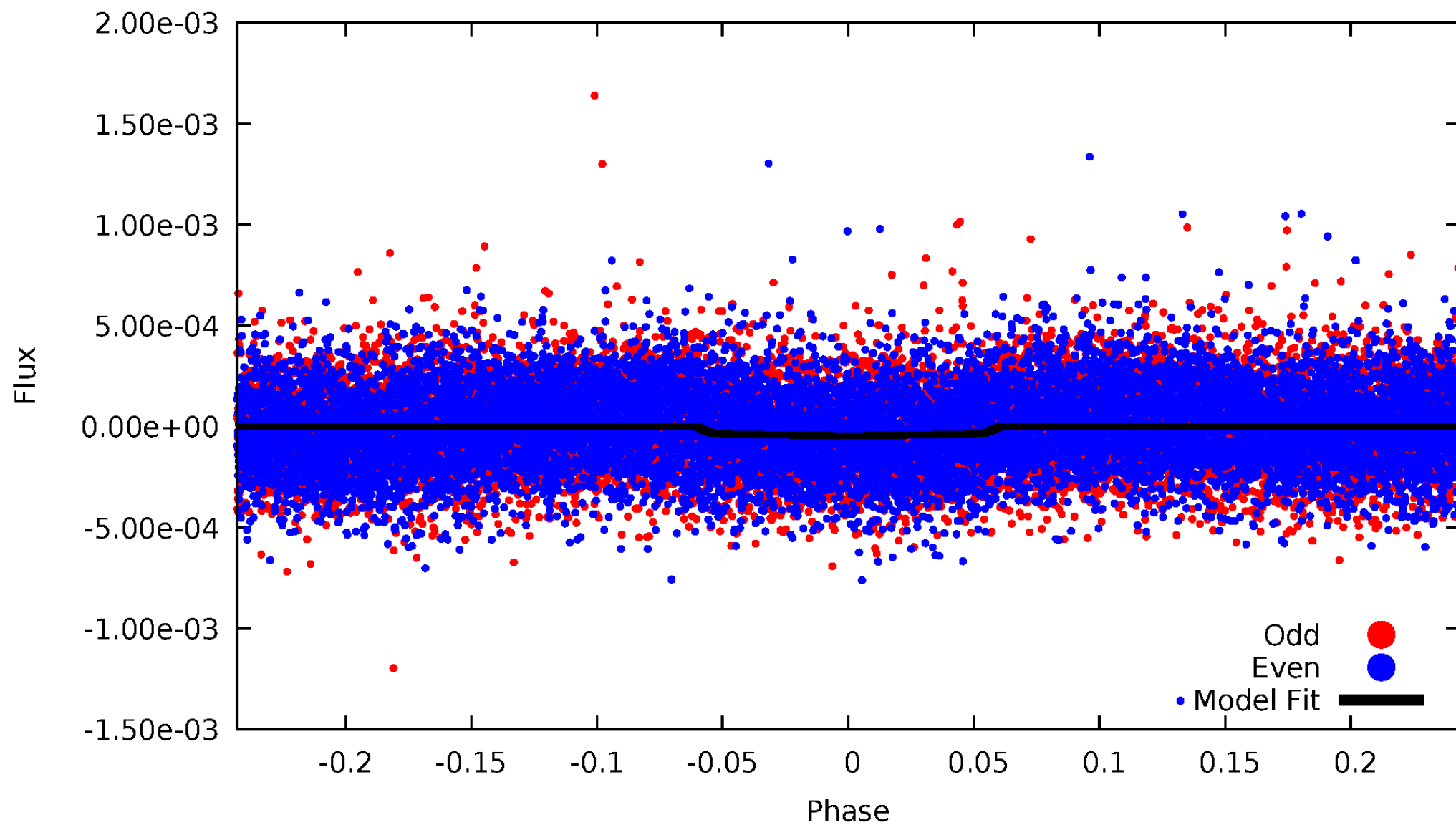


TCE 004764523-01



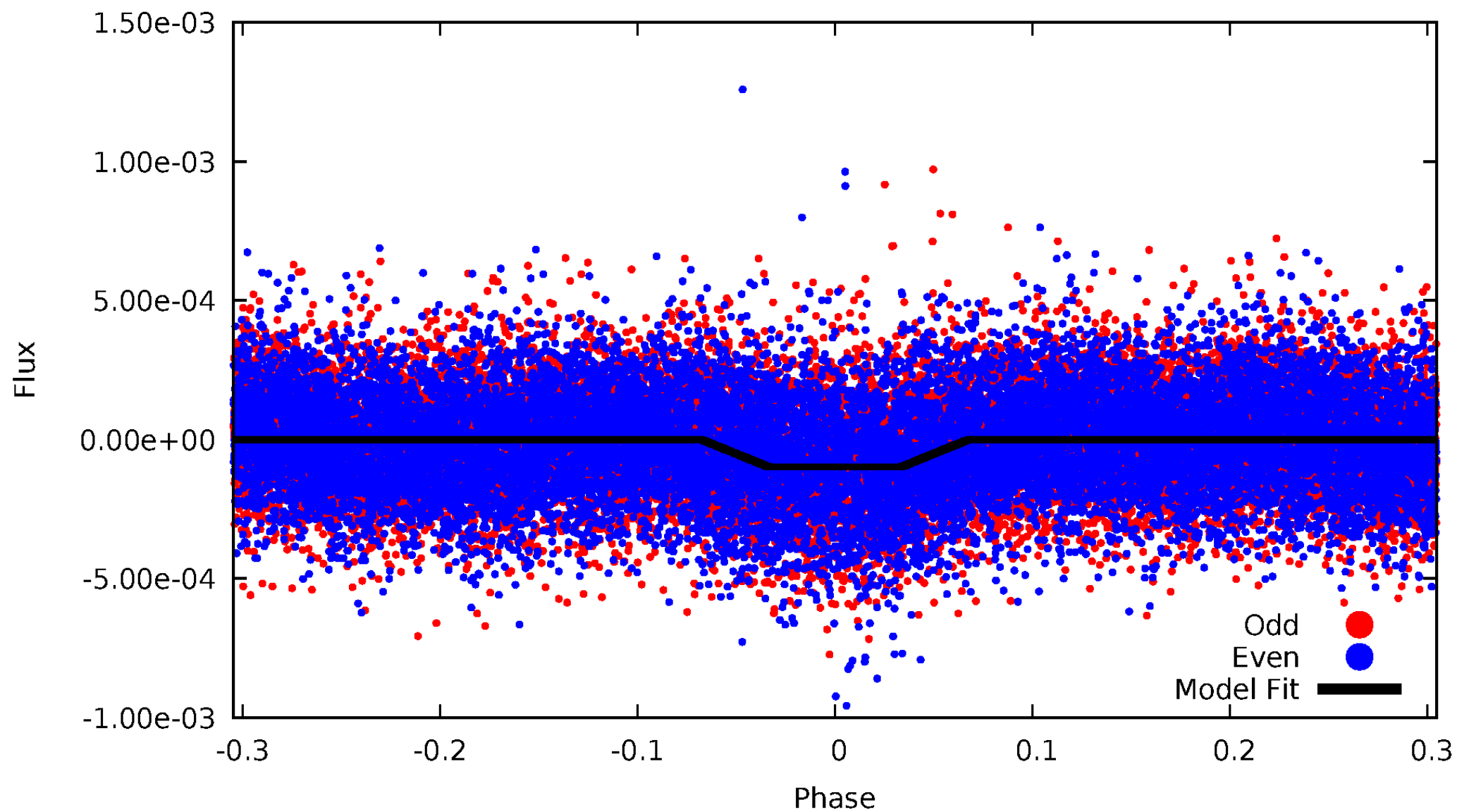
DV Odd/Even

TCE 004764523-01



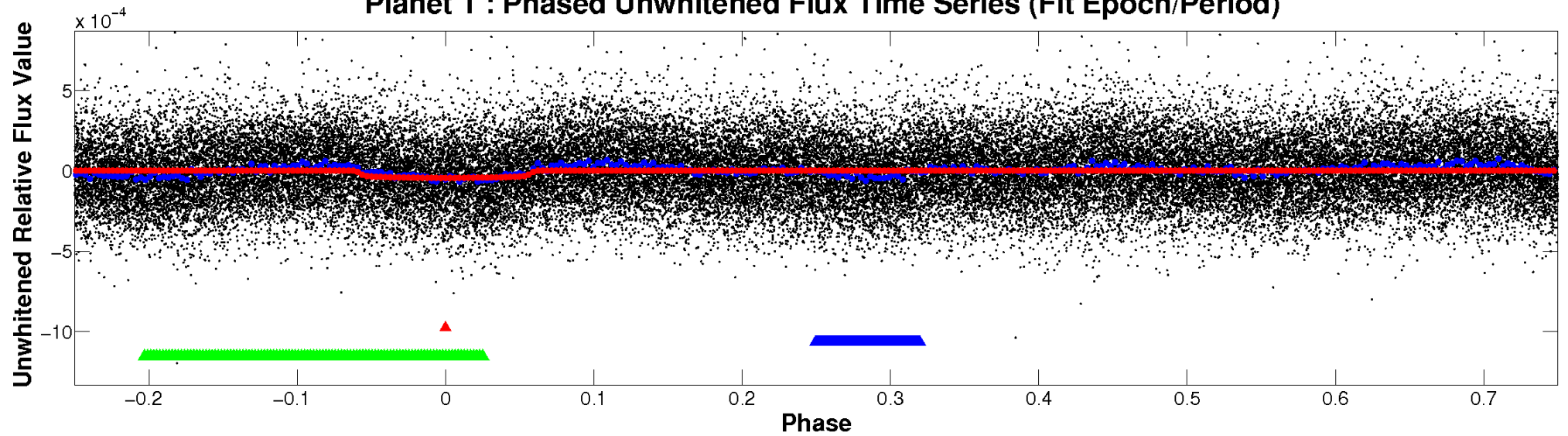
ALT Odd/Even

TCE 004764523-01

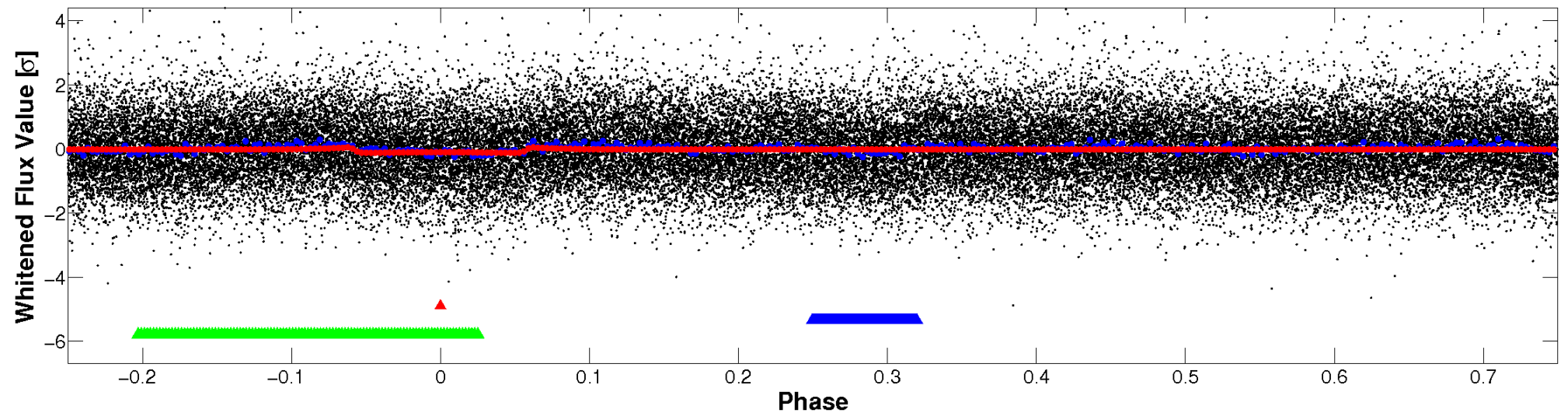


Non-Whitened Vs. Whitened Light Curve

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

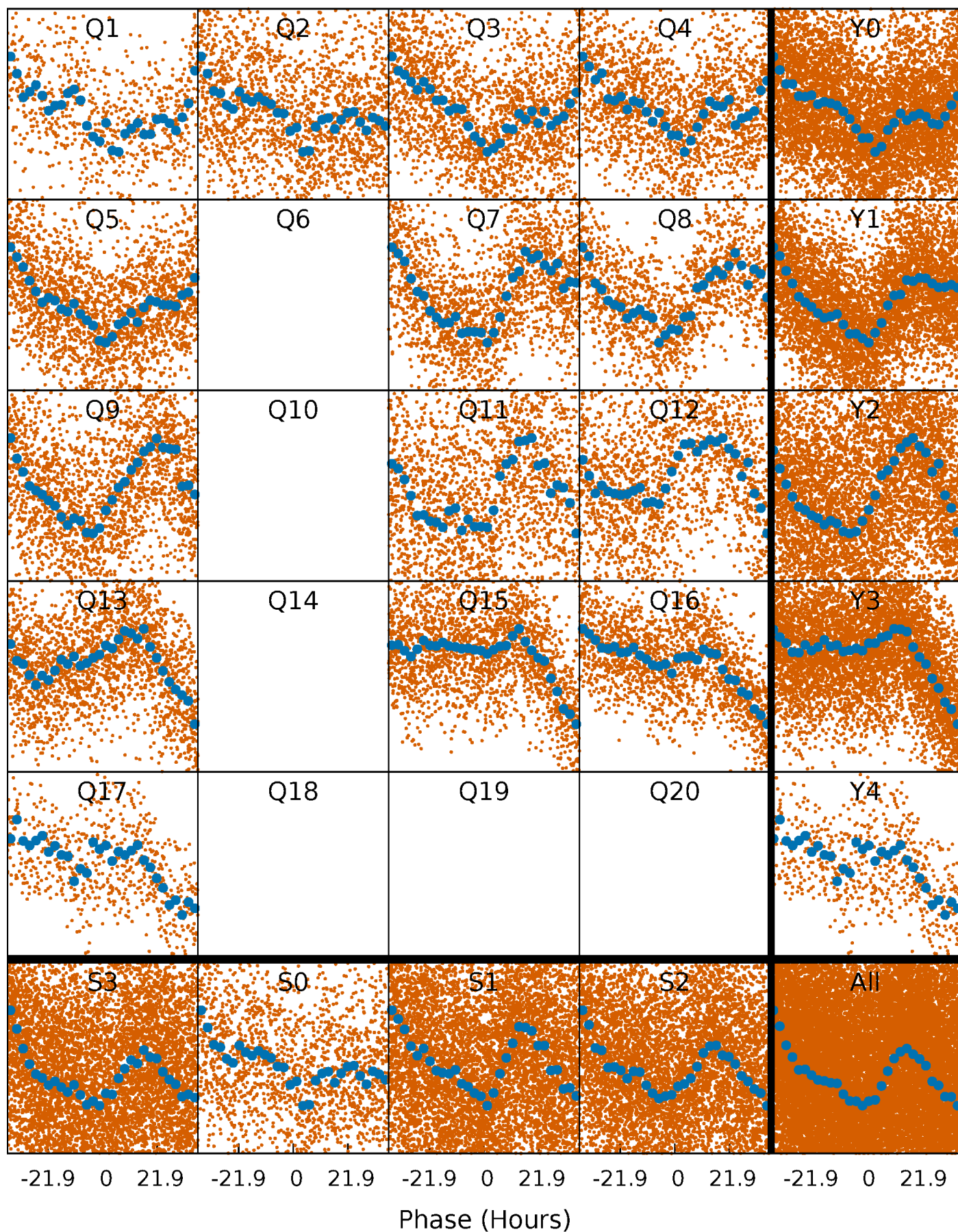


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



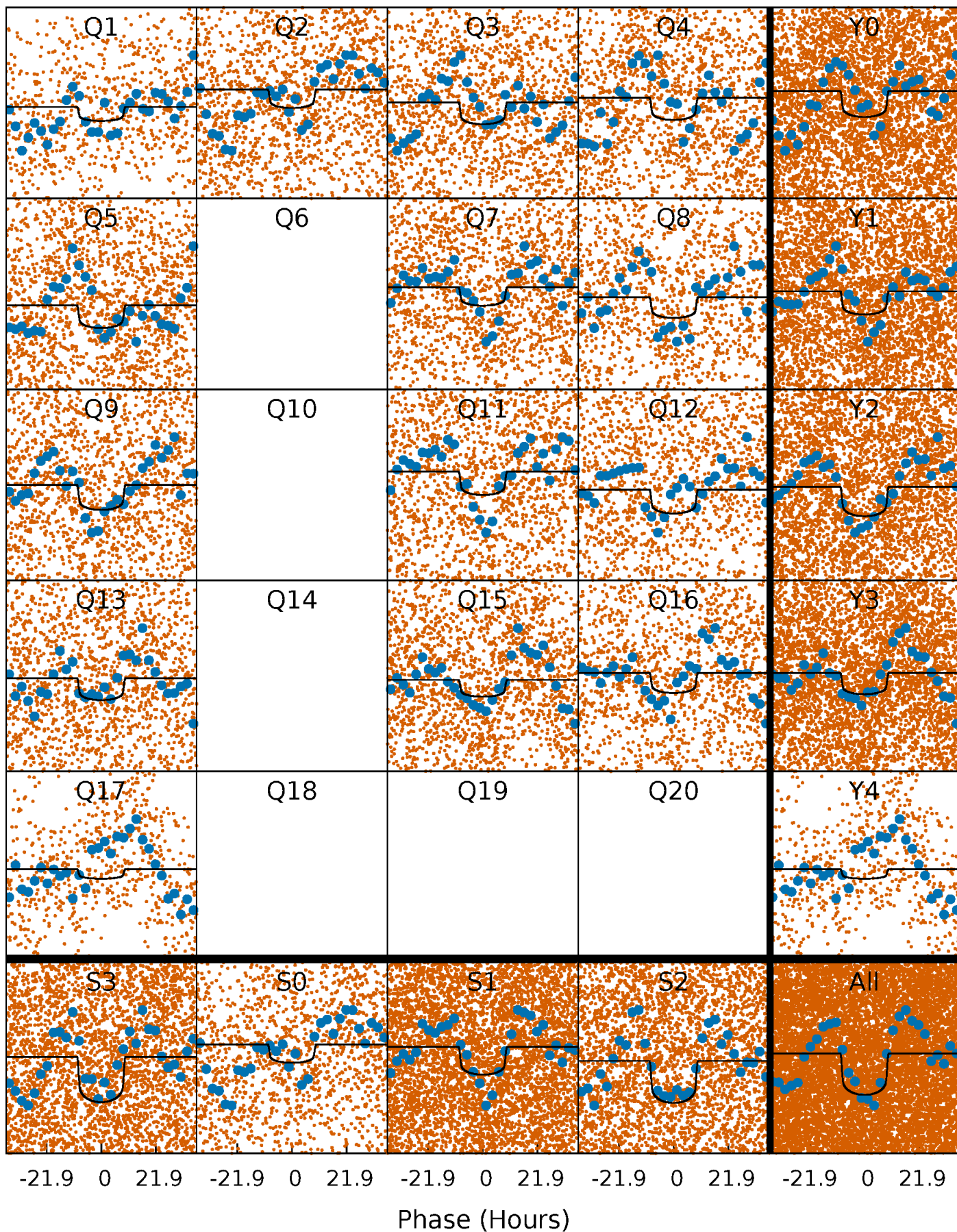
PDC Quarter-Phased Transit Curves

TCE 004764523-01 P= 6.562120 Days $T_0=136.874301$ (BKJD)



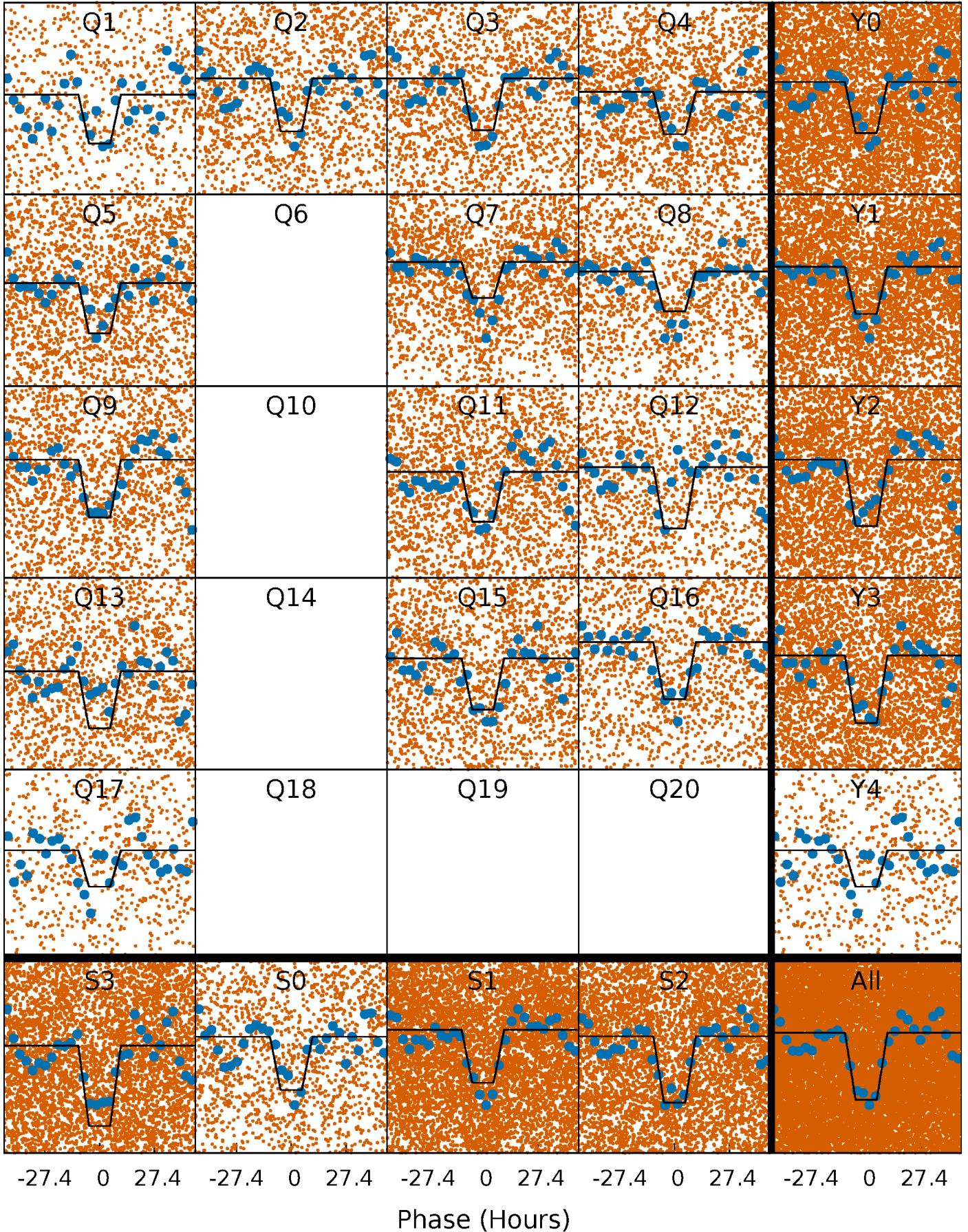
DV Quarter-Phased Transit Curves

TCE 004764523-01 P= 6.562120 Days $T_0=136.874301$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

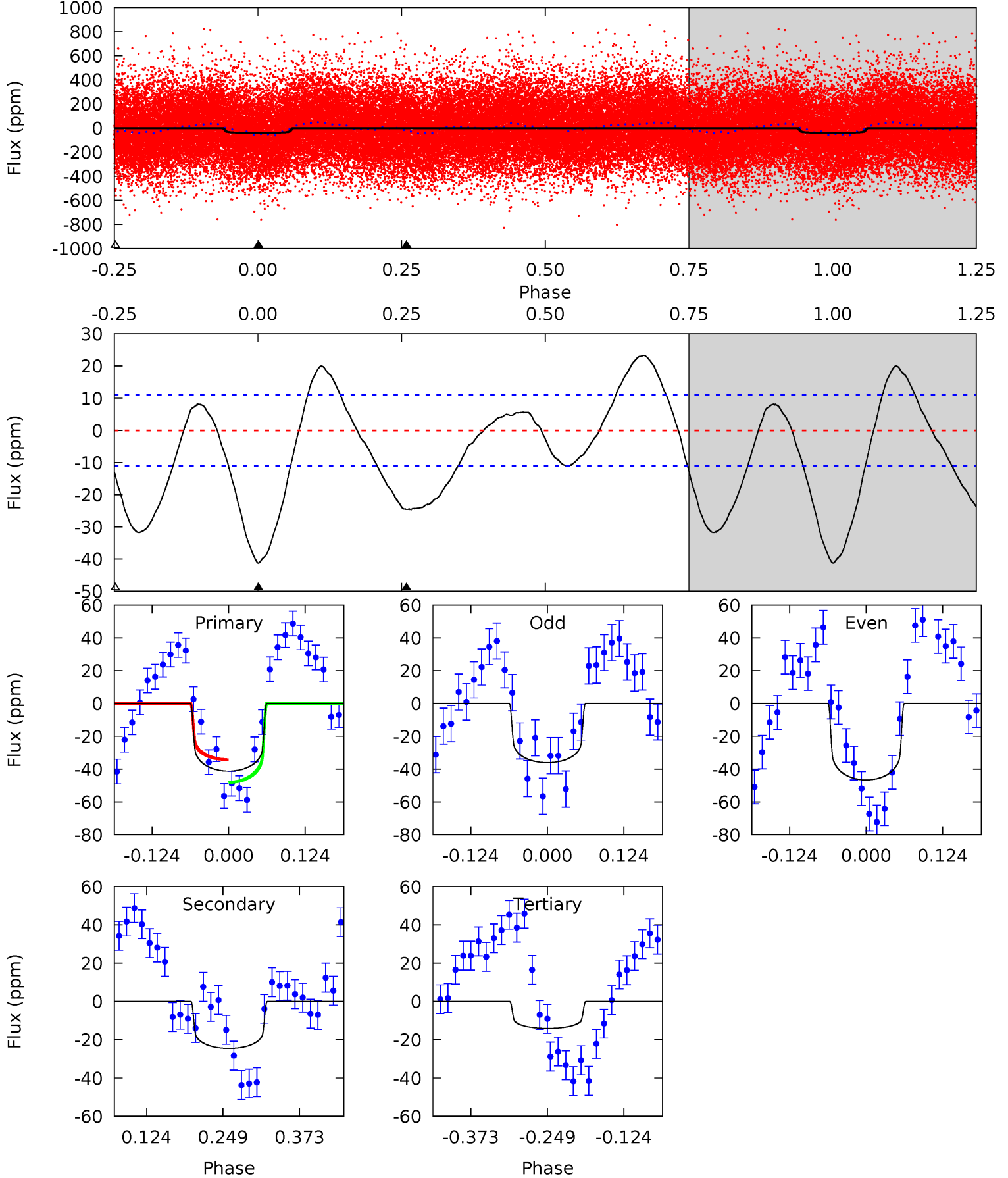
TCE 004764523-01 P= 6.561185 Days $T_0=136.978365$ (BKJD)



DV Model-Shift Uniqueness Test

004764523-01, P = 6.562120 Days, E = 130.312181 Days

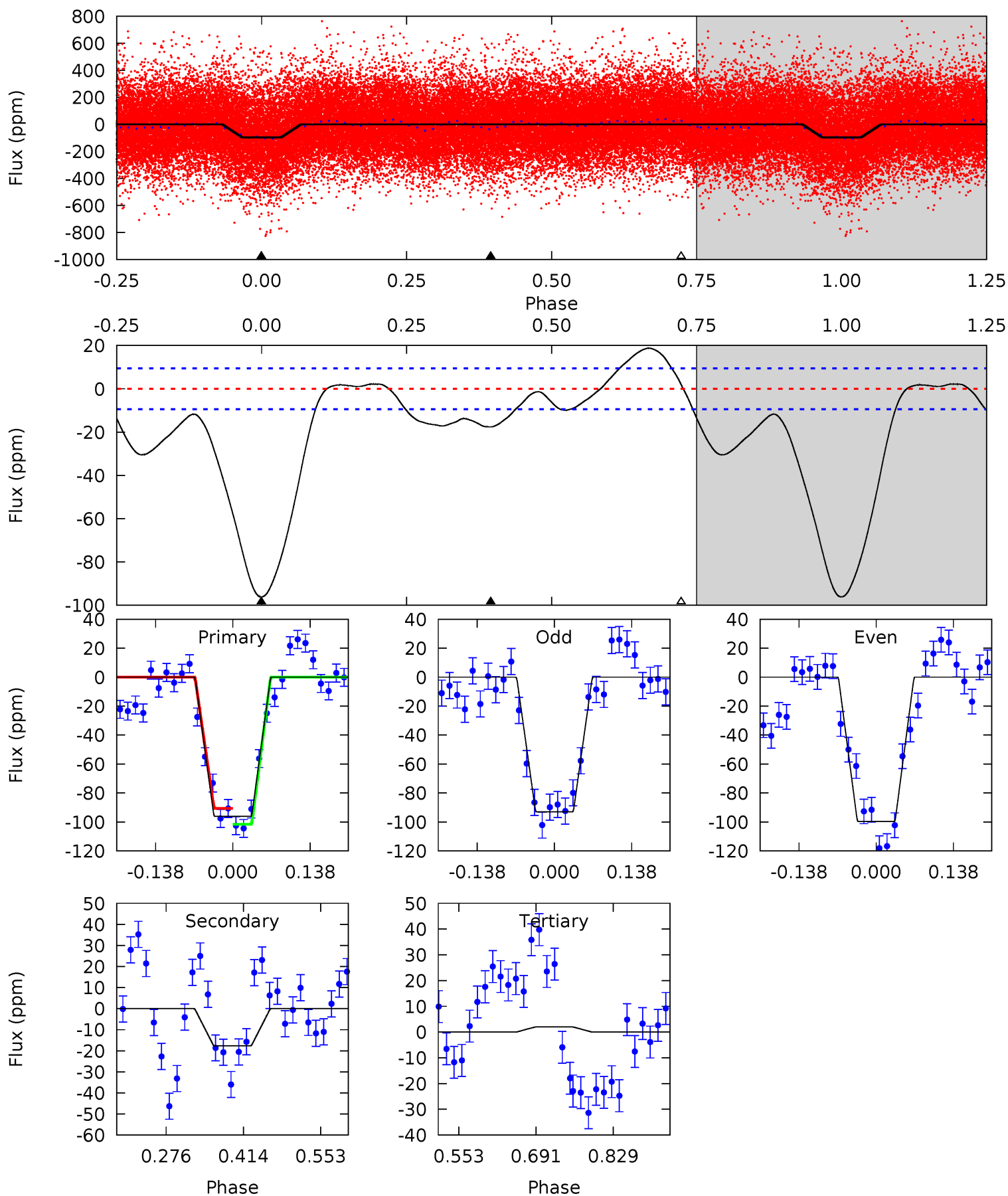
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	10.0	5.74	0	4.52	1.54	5.97	11.1	16.8	4.26	10.0	2.14	0.85	0.36	2.81



Alt Model-Shift Uniqueness Test

004764523-01, P = 6.561185 Days, E = 130.417180 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.0	8.42	-0.95	0	4.50	1.48	6.81	46.9	46.0	9.37	8.42	1.59	1.09	0.16	2.65



Stellar Parameters For KIC 004764523

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6526^{+77}_{-77}	$4.079^{+0.168}_{-0.112}$	$-0.160^{+0.150}_{-0.150}$	$1.728^{+0.329}_{-0.362}$	$1.315^{+0.109}_{-0.145}$	$0.359^{+0.325}_{-0.126}$
	+1%/-1%	+4%/-3%	+94%/-94%	+19%/-21%	+8%/-11%	+91%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004764523-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-25 ± 2	$1.35^{+0.21}_{-0.20}$	1918^{+91}_{-96}	5391^{+309}_{-266}	41^{+15}_{-11}
Alt.	-18 ± 2	$1.85^{+0.24}_{-0.25}$	1924^{+96}_{-105}	4421^{+166}_{-163}	16^{+5}_{-4}

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 $A_{obs} \gg 1.0$

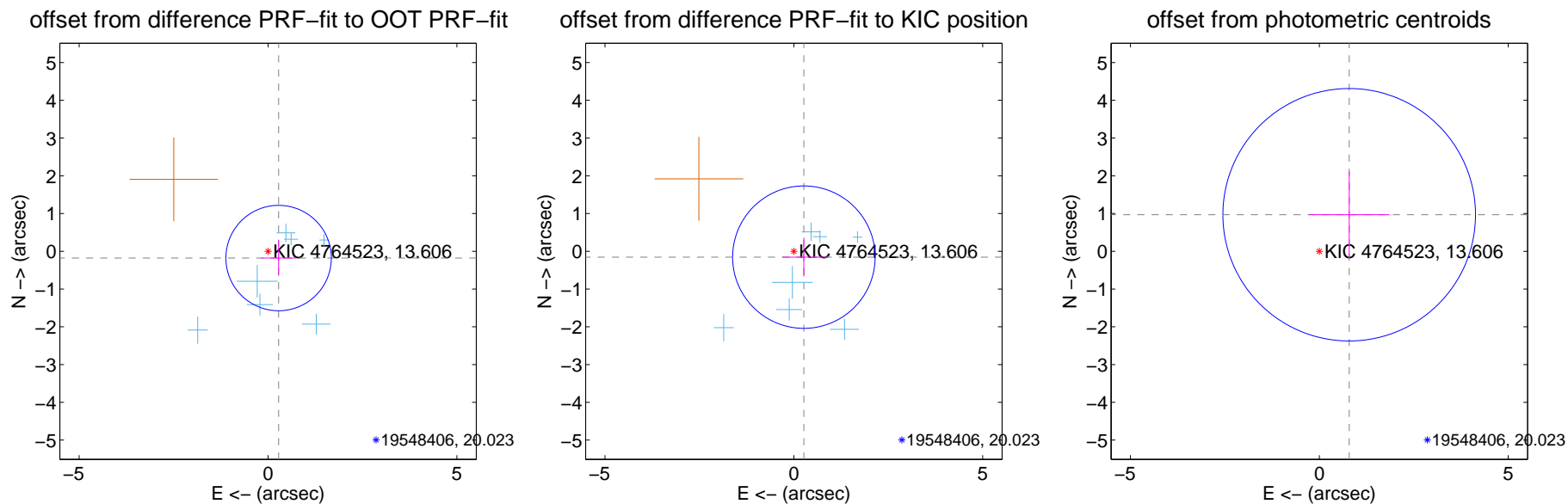
DV Centroid Data

Supplemental centroid analysis for 004764523-01. Kepler magnitude: 13.61. Transit SNR 8.18

There are 7 quarters with good PRF difference image offsets

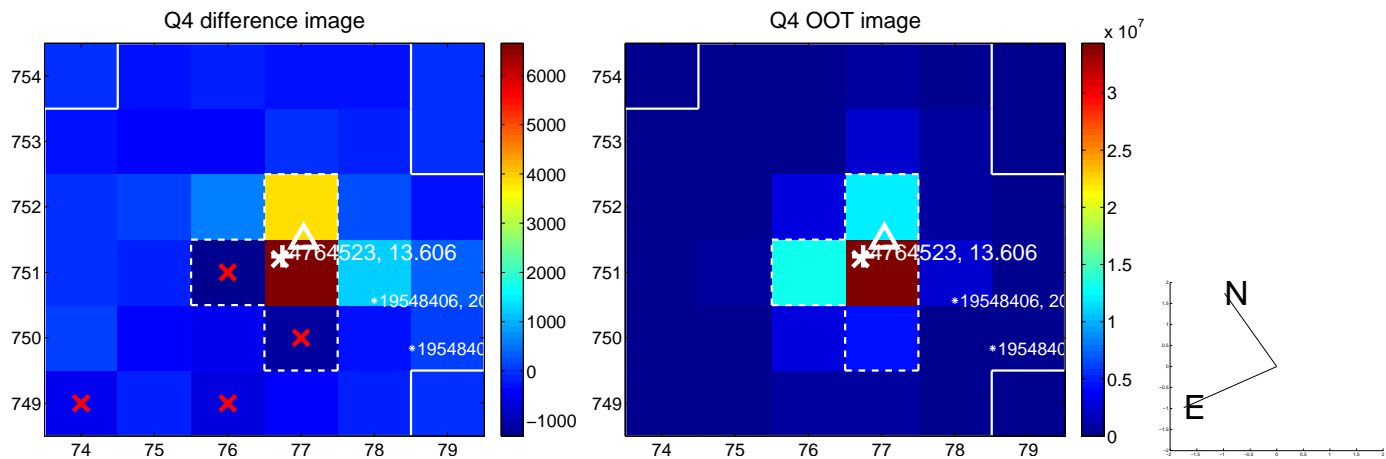
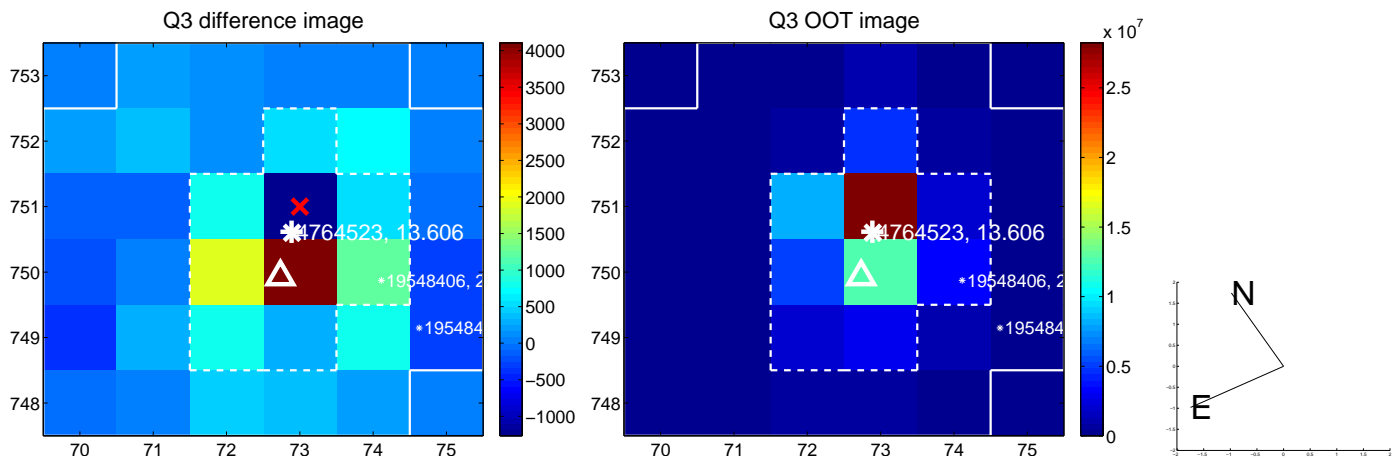
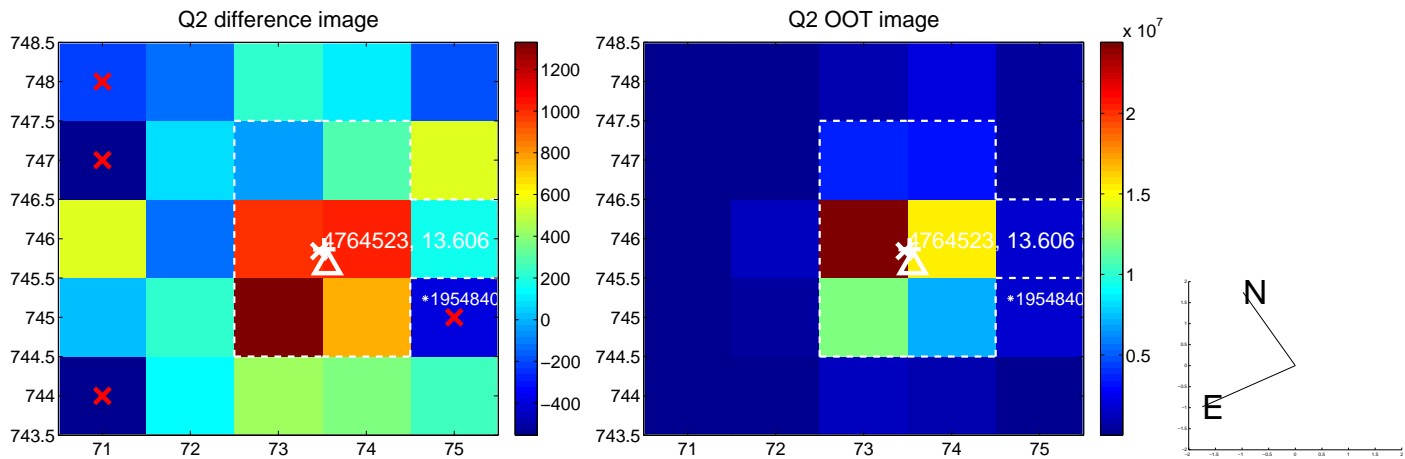
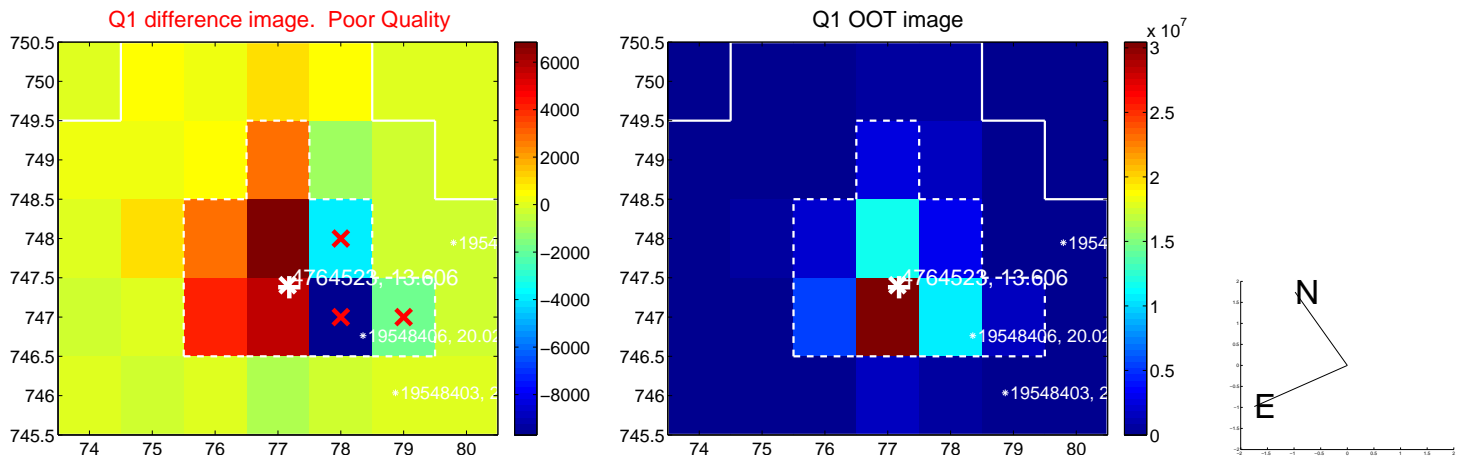
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.333 ± 0.465	0.71	-0.280 ± 0.452	-0.179 ± 0.469
PRF-fit source offset from KIC position	0.308 ± 0.629	0.49	-0.266 ± 0.570	-0.155 ± 0.515
photometric centroid source offset	1.25 ± 1.11	1.12	-0.79 ± 1.07	0.97 ± 1.14

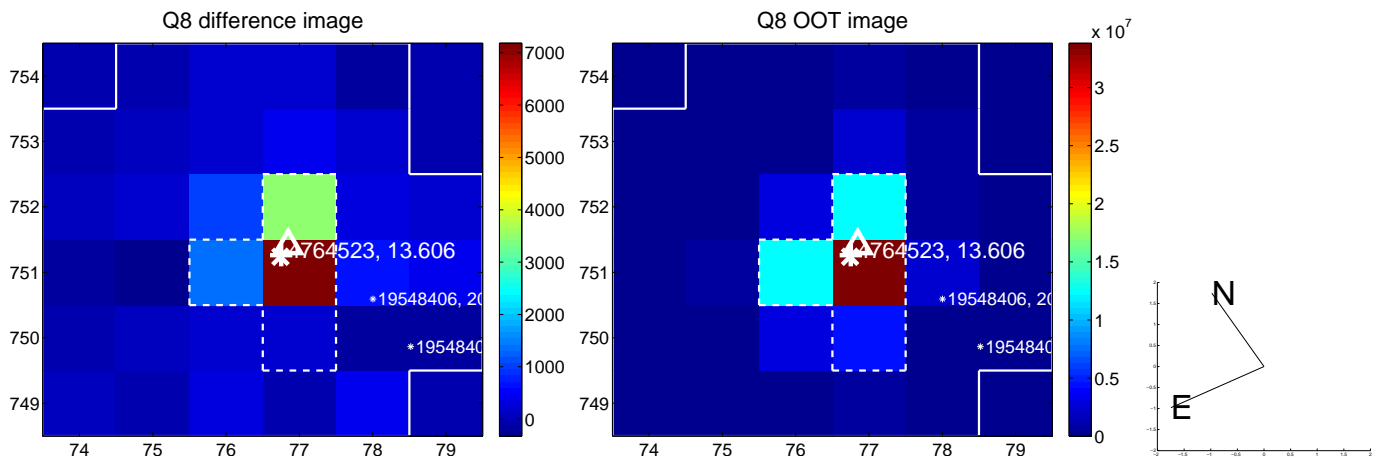
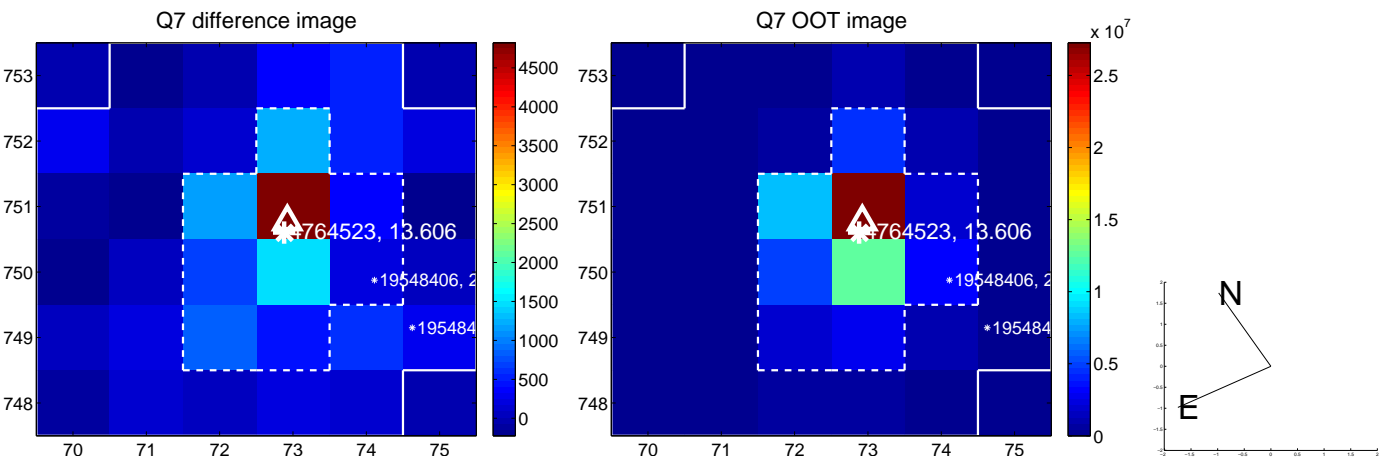
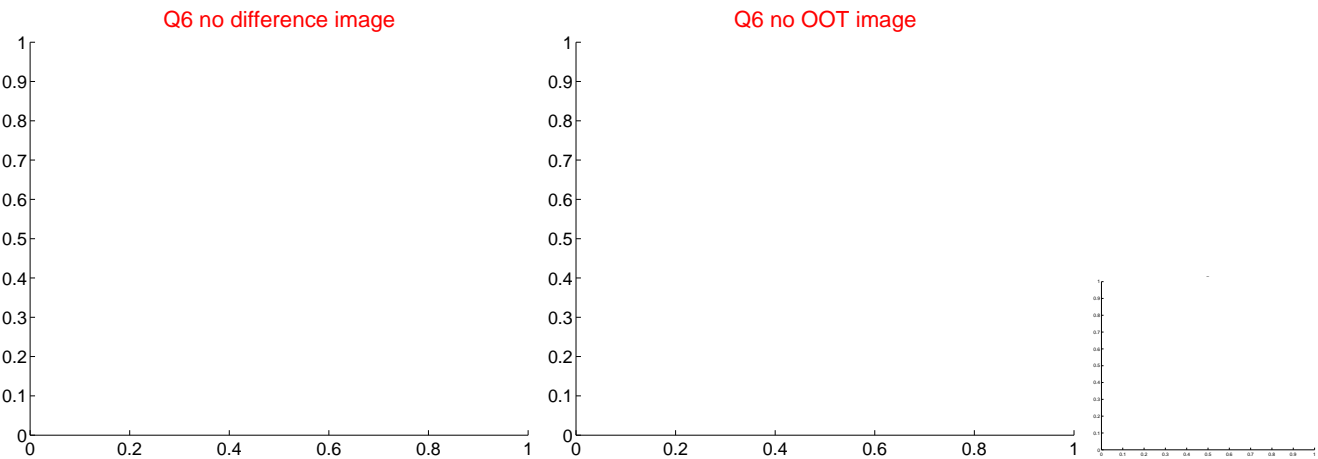
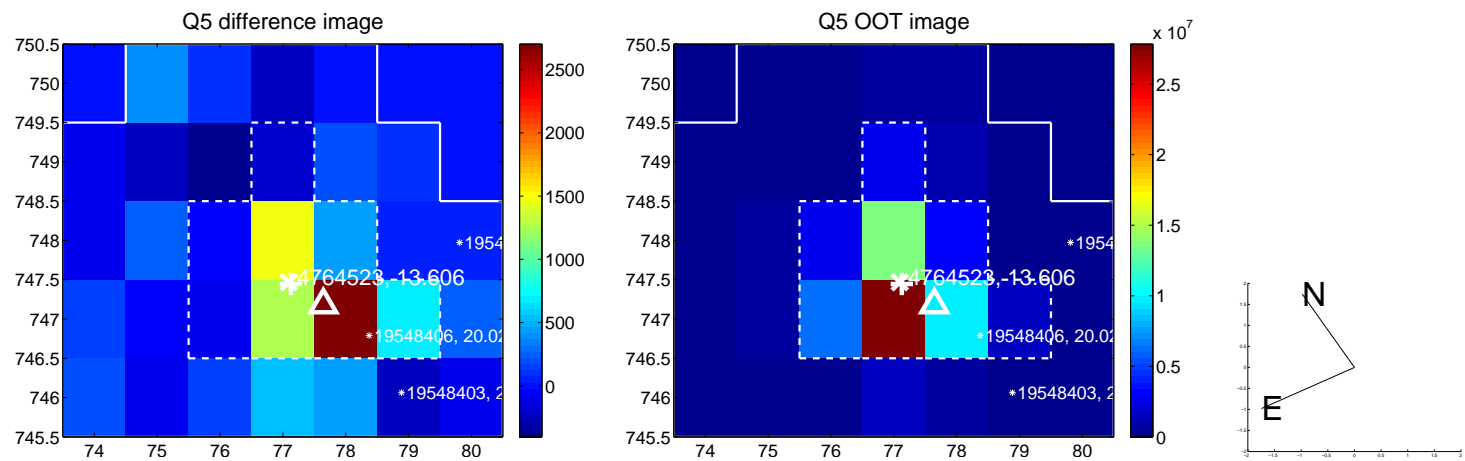


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

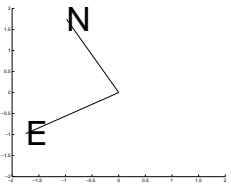
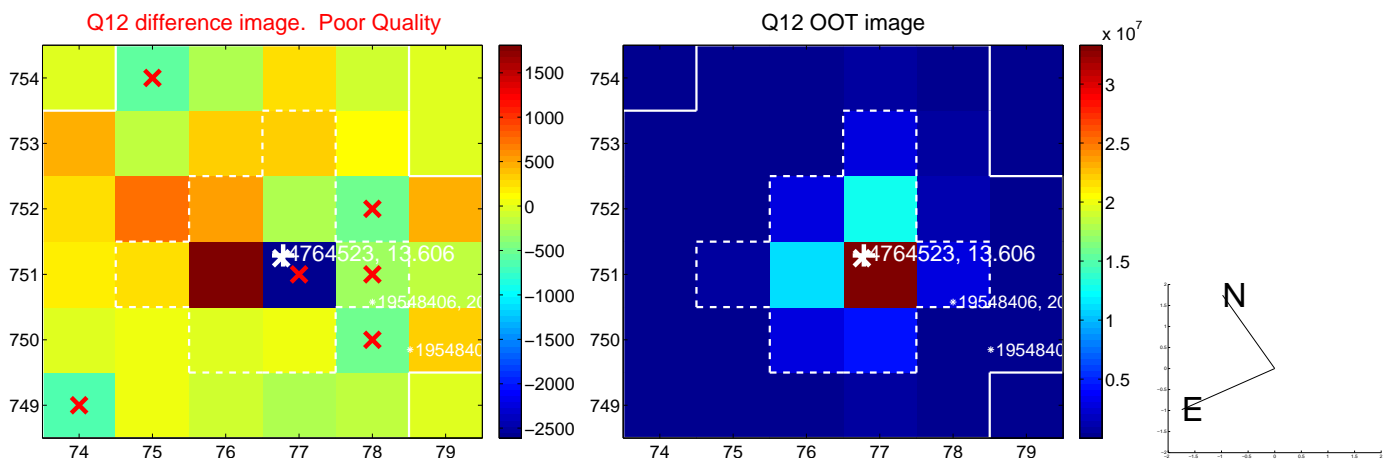
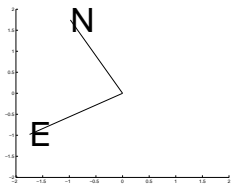
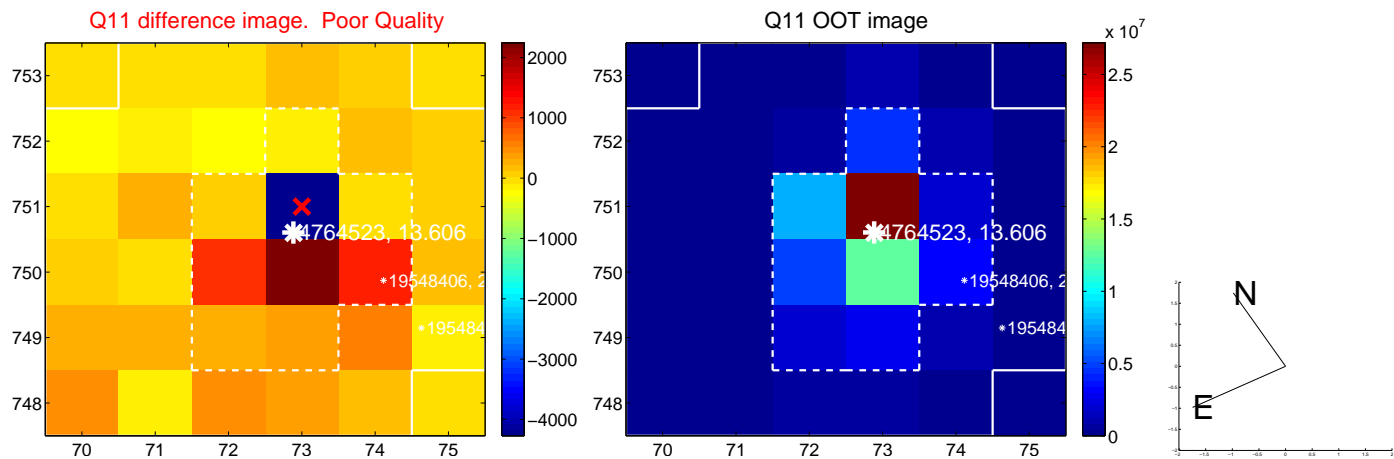
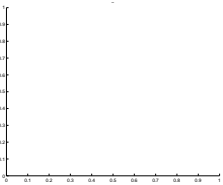
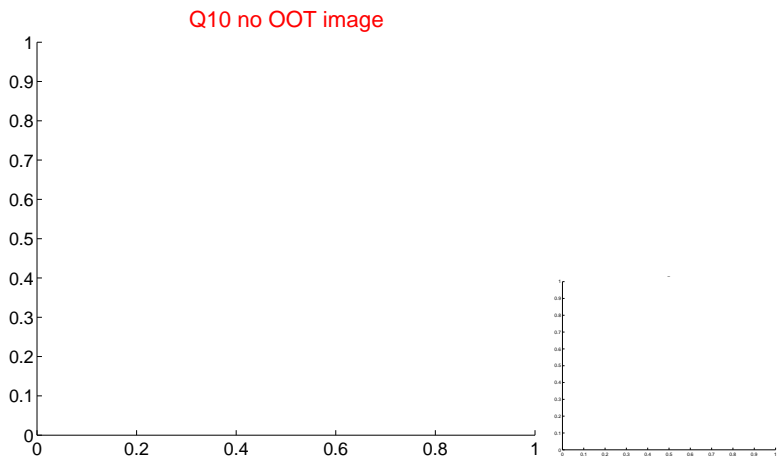
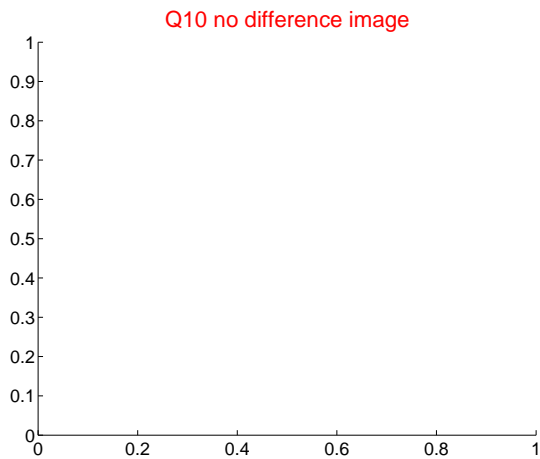
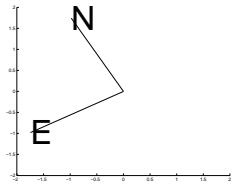
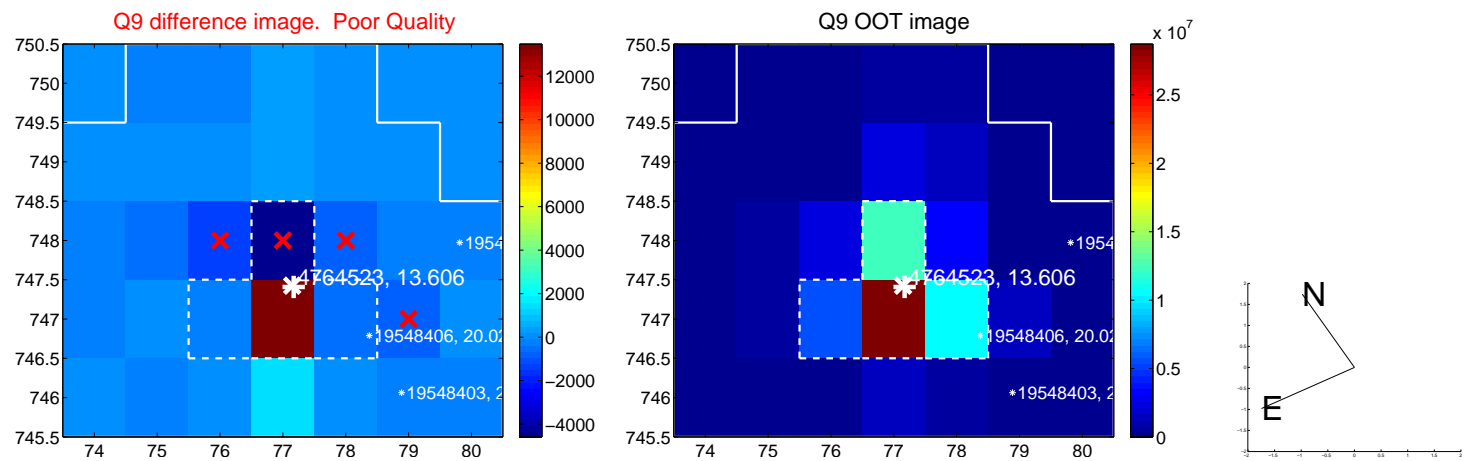
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



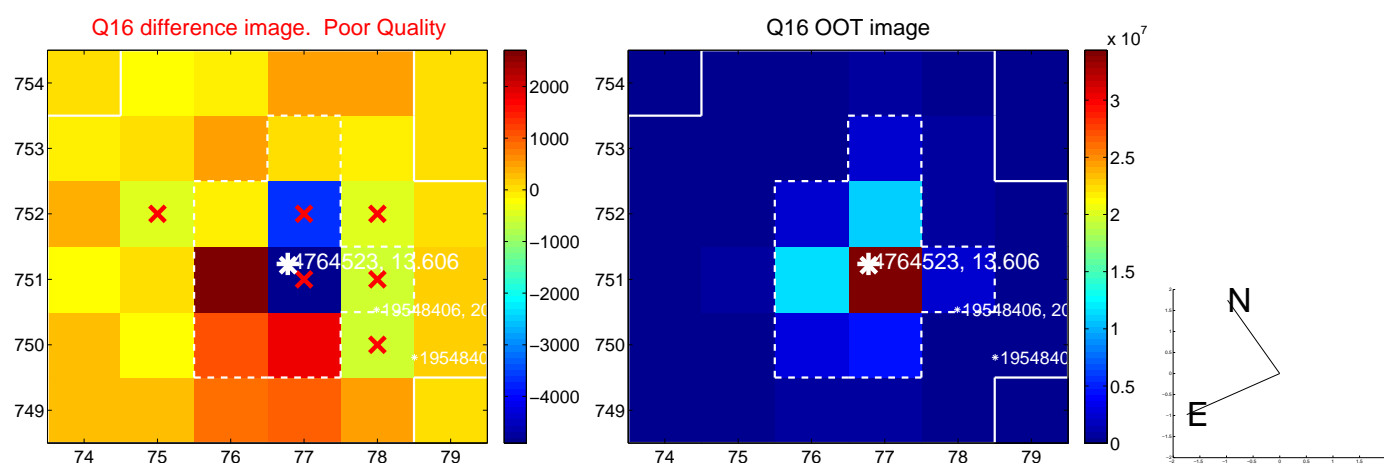
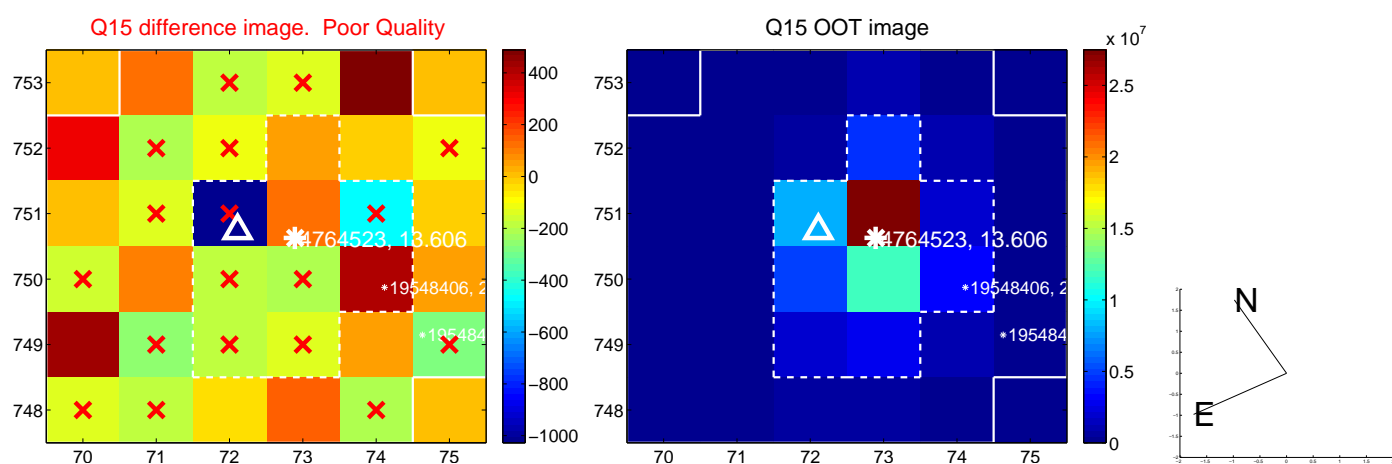
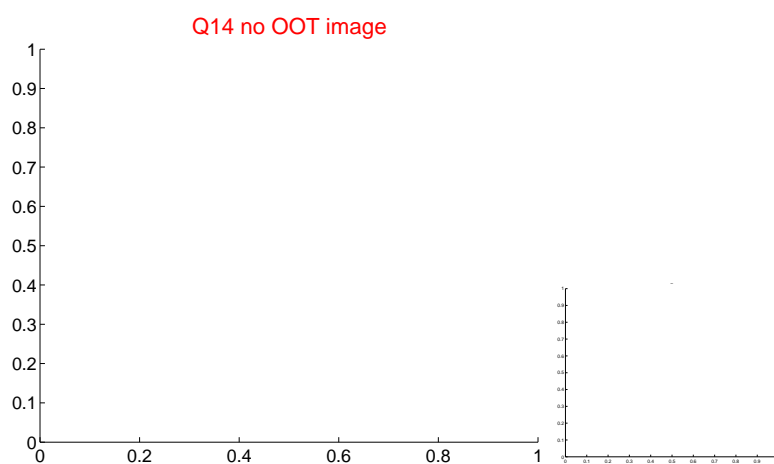
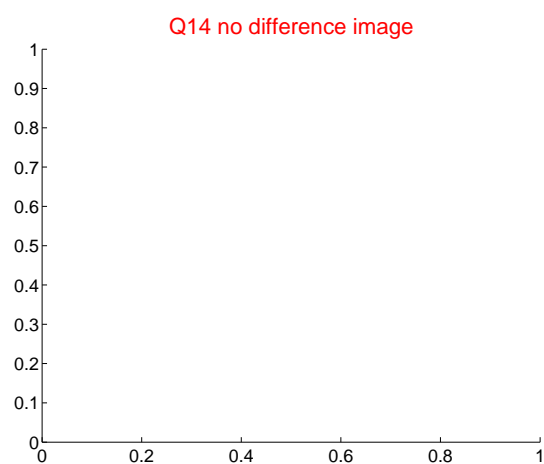
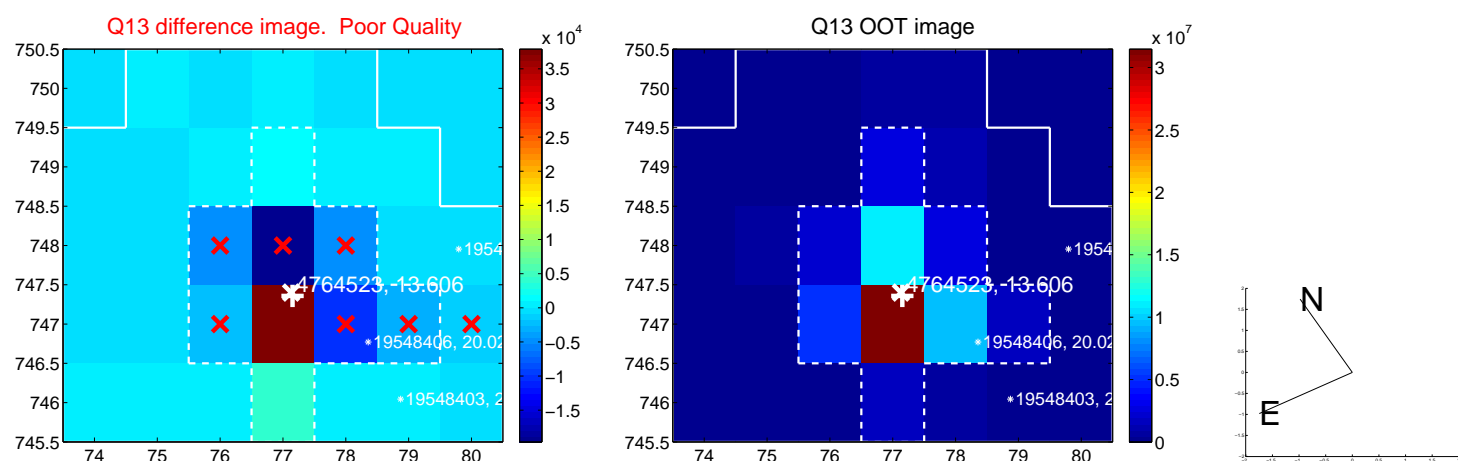
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



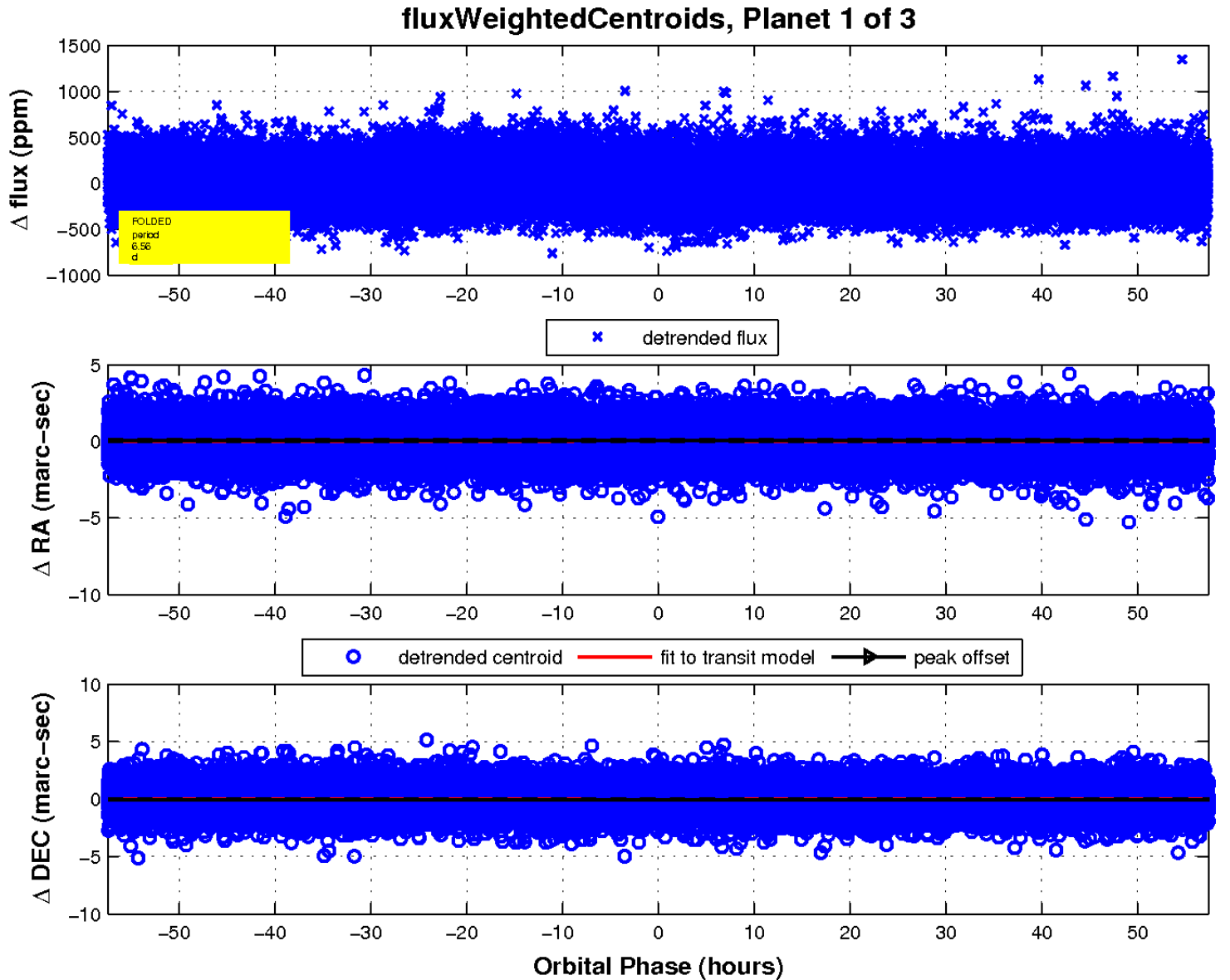
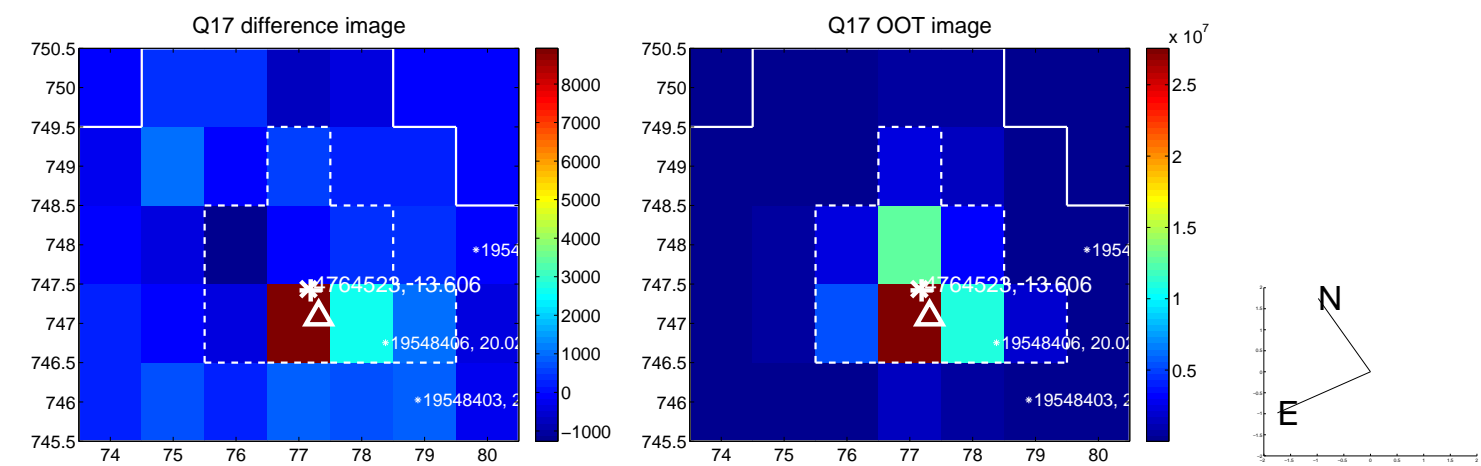
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

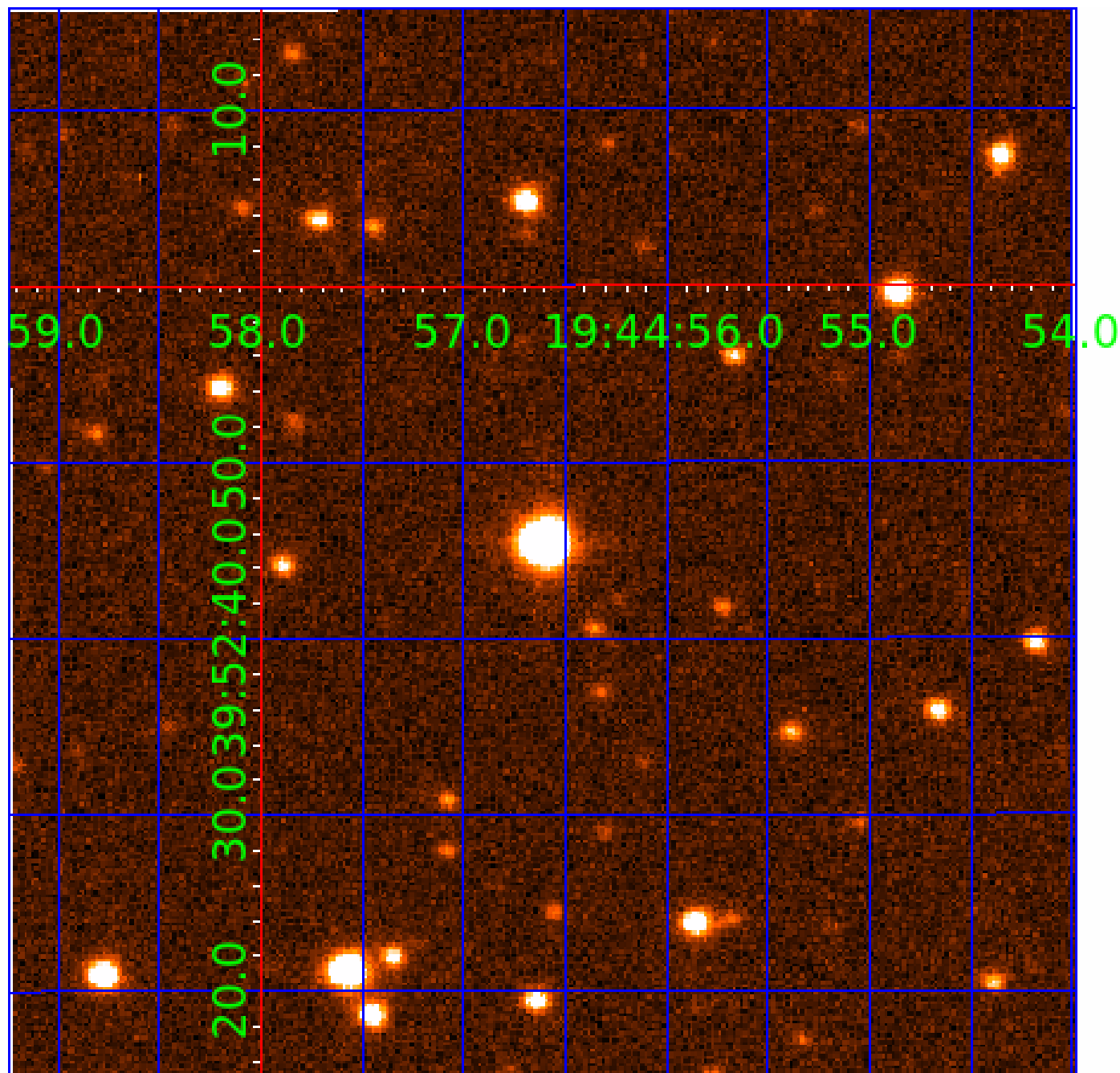


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004764523

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})
004764523-01	OBS	No	6.562120	136.874301	44.6	19.147	10.1	8.2	1.73	6526	1.38	862.55
004764523-02	OBS	No	6.560038	132.411105	74.1	11.885	11.2	13.4	1.73	6526	1.75	862.92
004764523-03	OBS	No	13.137846	135.542624	201.1	33.134	7.4	8.4	1.73	6526	4.84	341.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004764523-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004764523-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
004764523-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

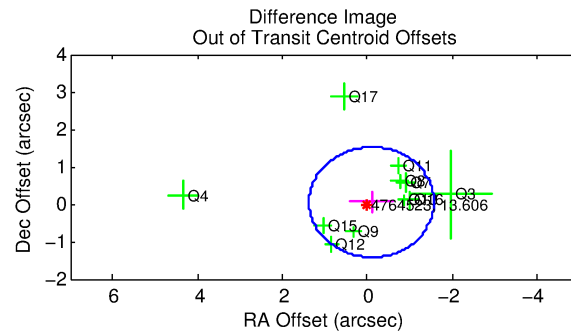
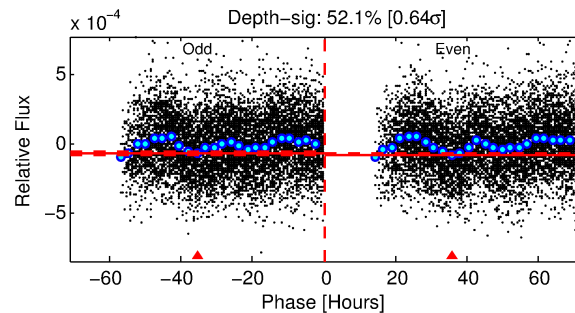
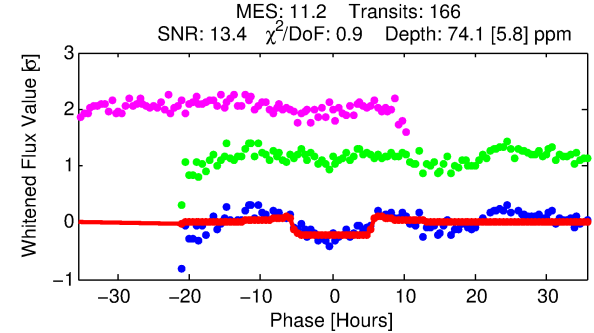
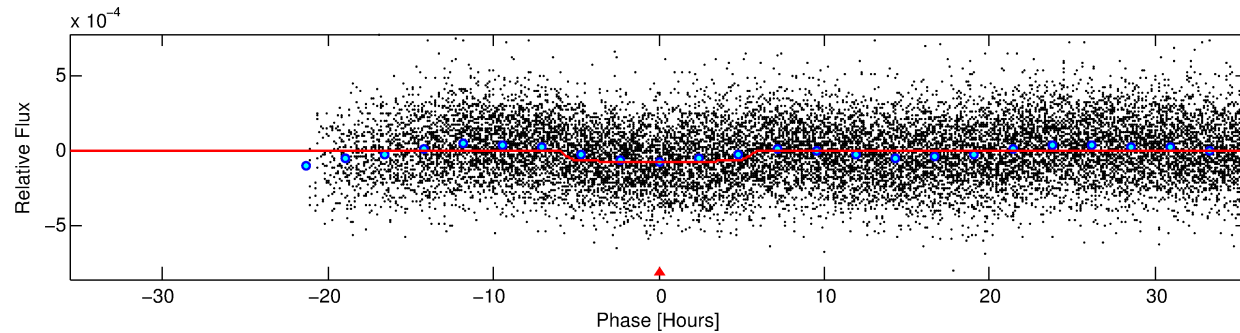
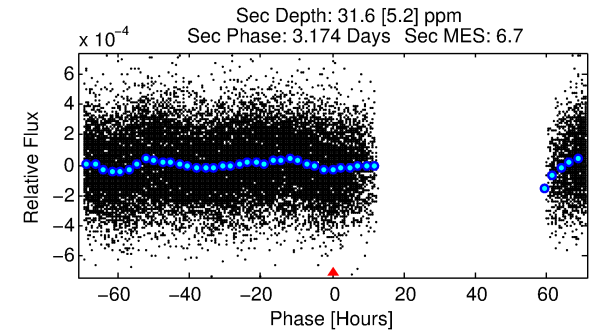
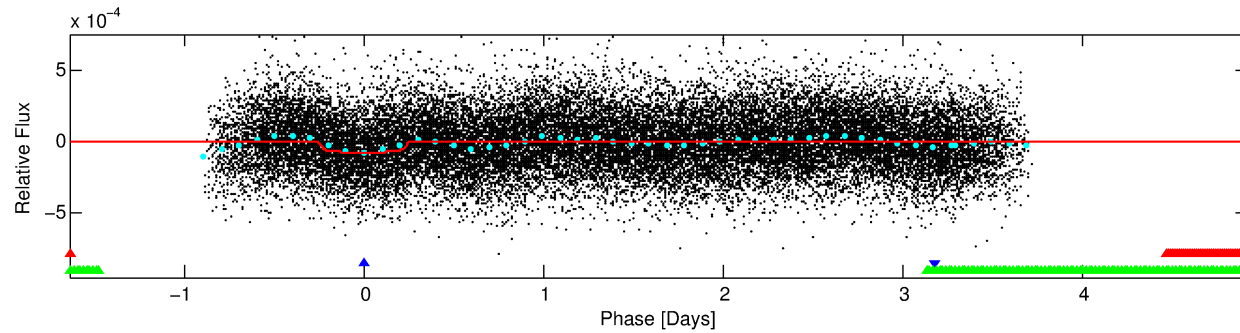
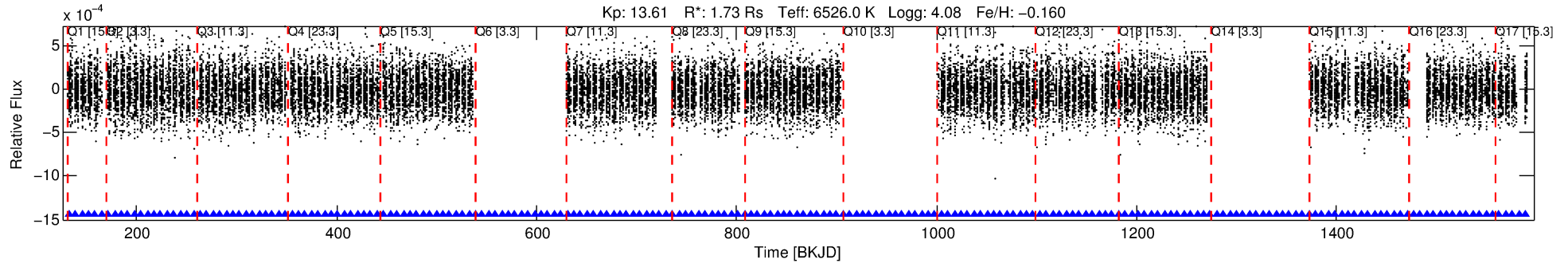
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004764523-02

No Significant Match Found

DV One-Page Summary

KIC: 4764523 Candidate: 2 of 3 Period: 6.560 d



DV Fit Results:

Period = 6.56004 [0.00007] d
Epoch = 132.4111 [0.0081] BKJD
Rp/R* = 0.0093 [0.0009]
a/R* = 2.08 [0.75]
b = 0.91 [0.09]
Seff = 862.92 [256.33]
Teq = 1382 [103] K
Rp = 1.75 [0.40] Re
a = 0.0750 [0.0143] AU
Ag = 32.01 [12.28] [2.53σ]
Teffp = 5082 [320] K [11.02σ]

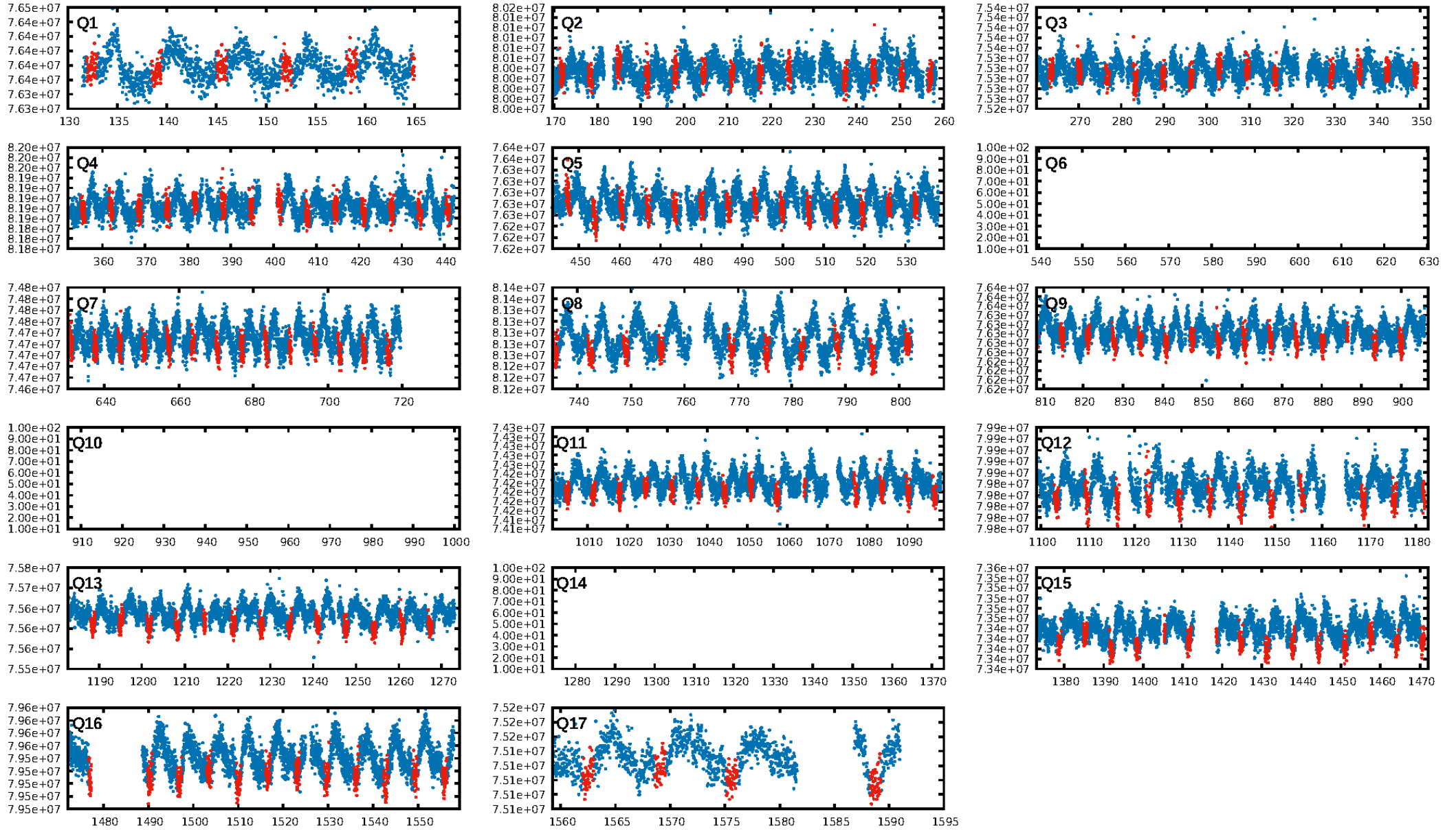
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.2% [0.00σ]
ModelChiSquare2-sig: 48.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.68e-21
RollingBand-fgt: 1.00 [156/156]
GhostDiagnostic-chr: 1.143
Centroid-sig: 0.9%
Centroid-so: 1.469 arcsec [1.88σ]
OotOffset-rm: 0.116 arcsec [0.24σ]
KicOffset-rm: 0.152 arcsec [0.34σ]
OotOffset-st: 0/4/4/3 [11]
KicOffset-st: 0/4/4/3 [11]
DiffImageQuality-fgm: 0.82 [9/11]
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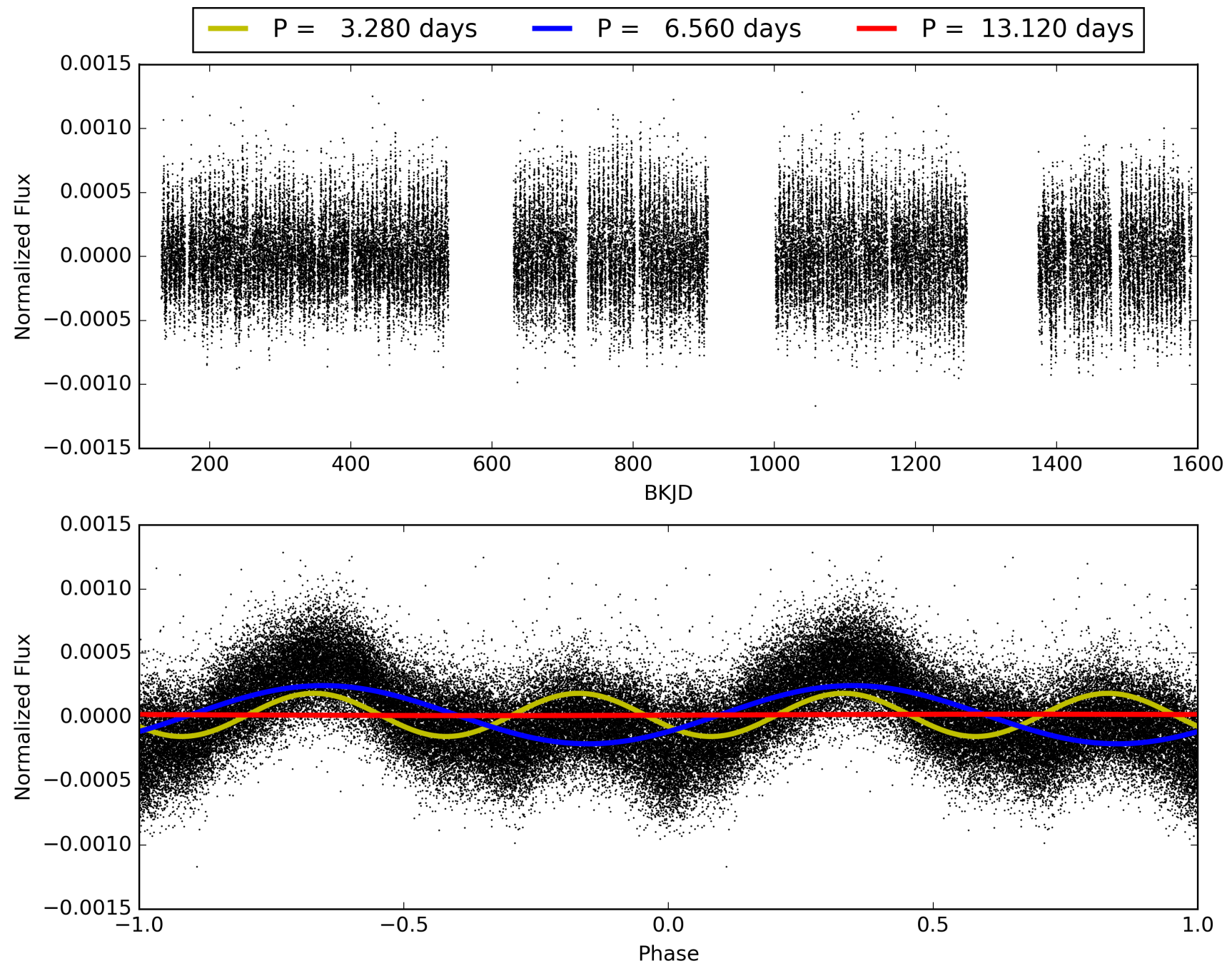
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:12:26 Z

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

TCE 004764523-02, PDC Light Curves

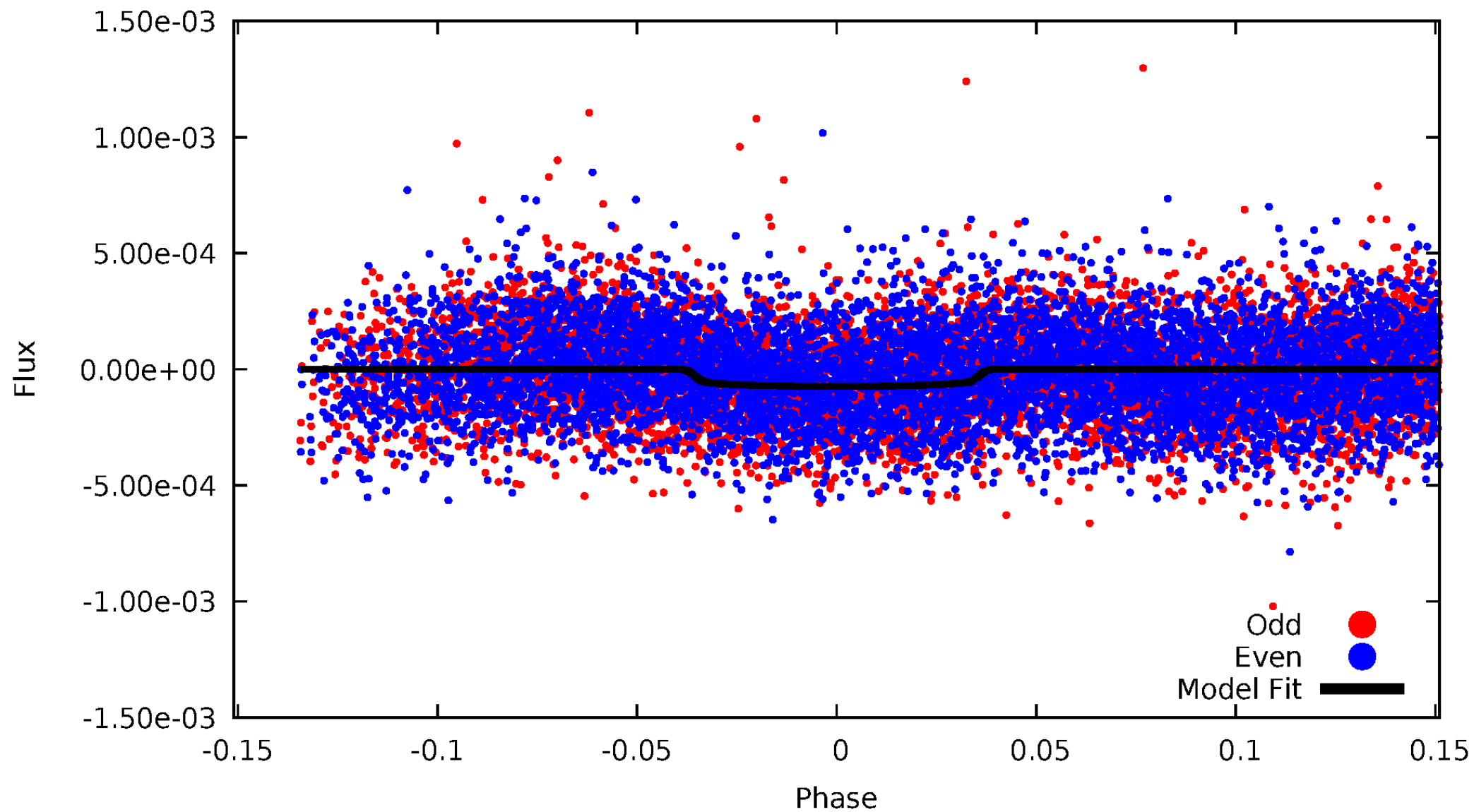


TCE 004764523-02



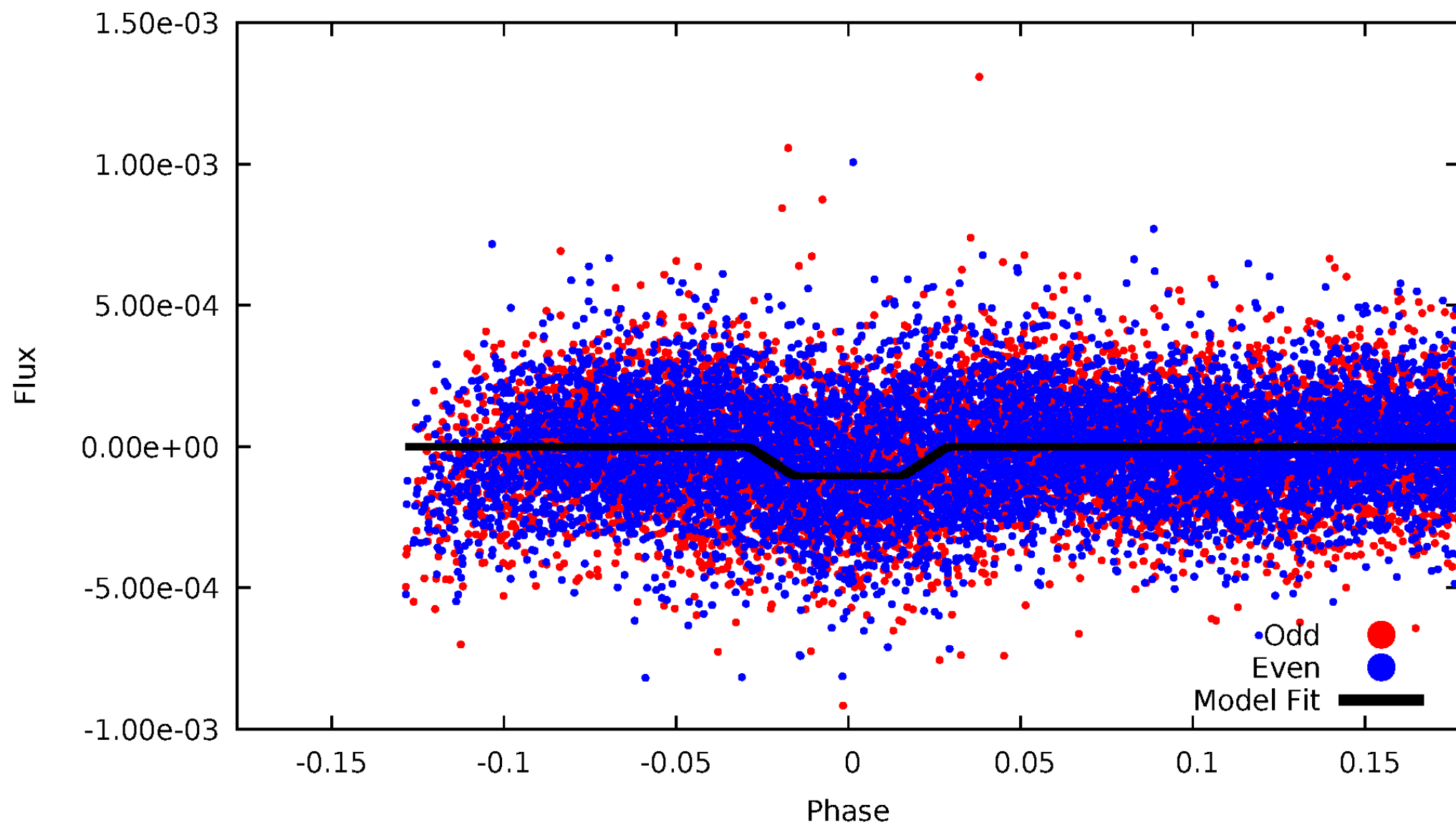
DV Odd/Even

TCE 004764523-02



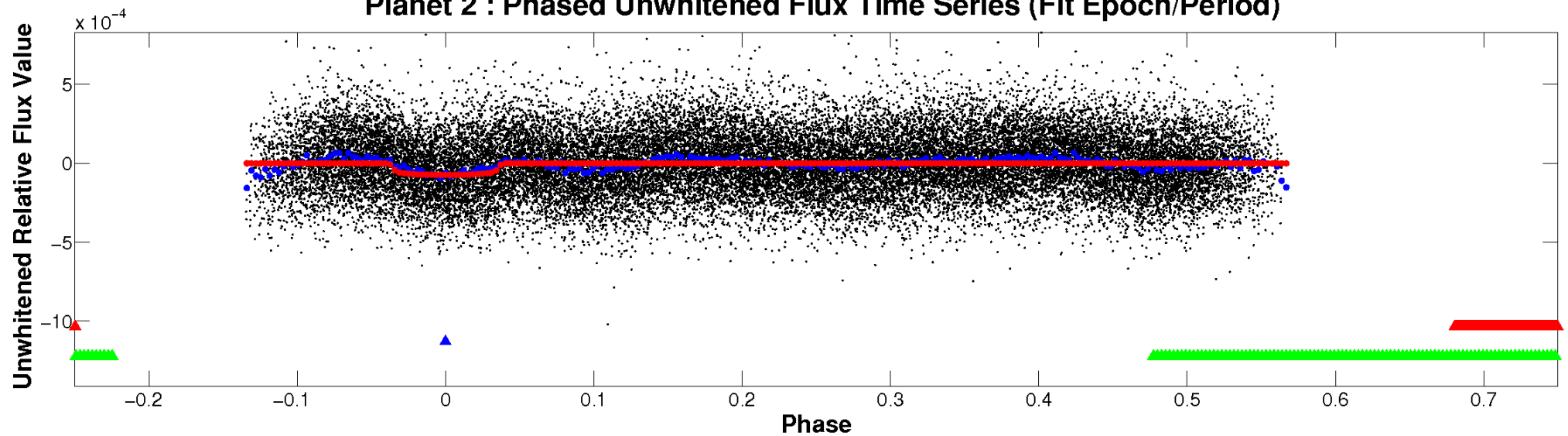
ALT Odd/Even

TCE 004764523-02

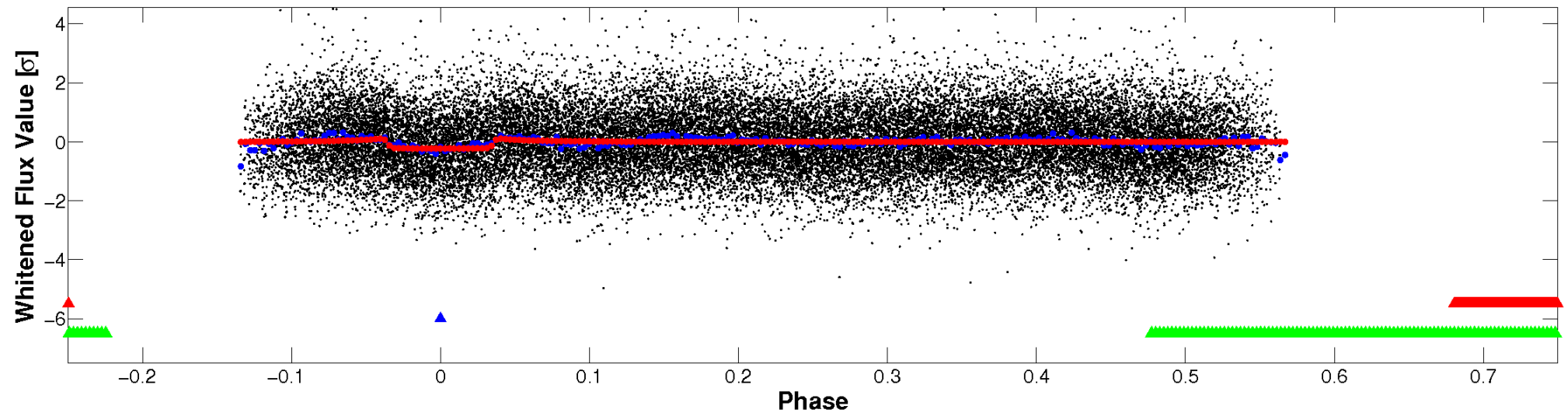


Non-Whitened Vs. Whitened Light Curve

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

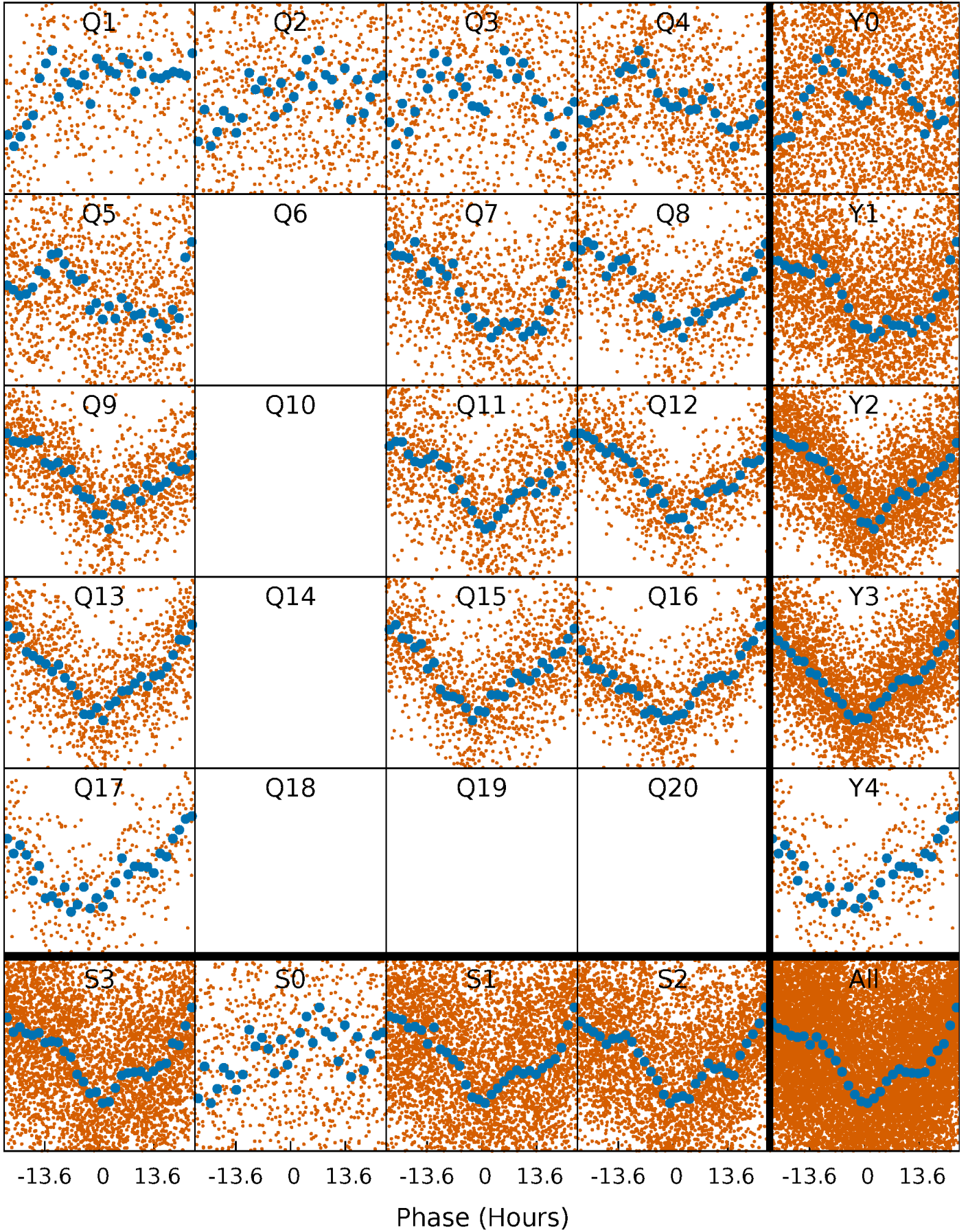


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



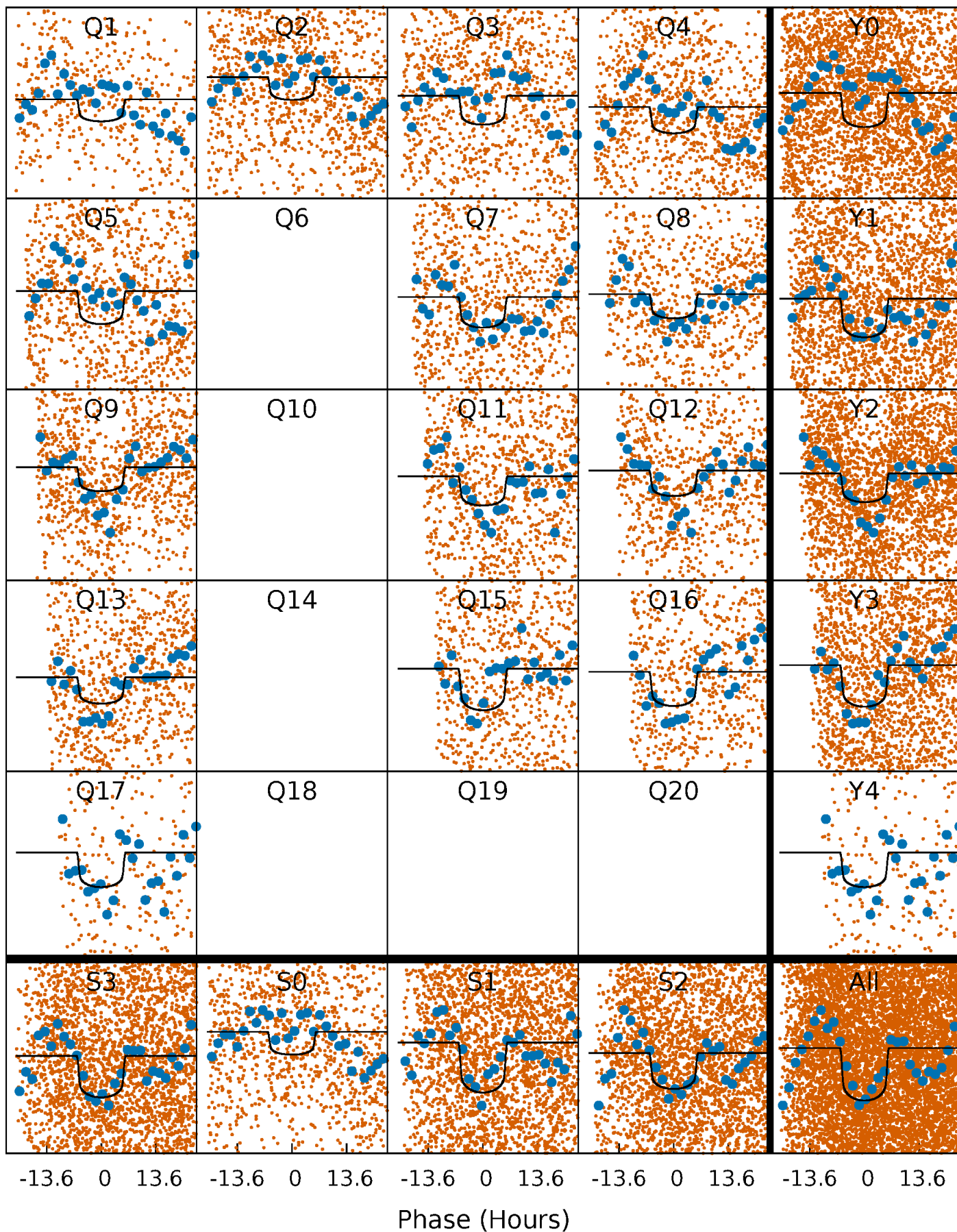
PDC Quarter-Phased Transit Curves

TCE 004764523-02 P= 6.560038 Days $T_0=132.411104$ (BKJD)



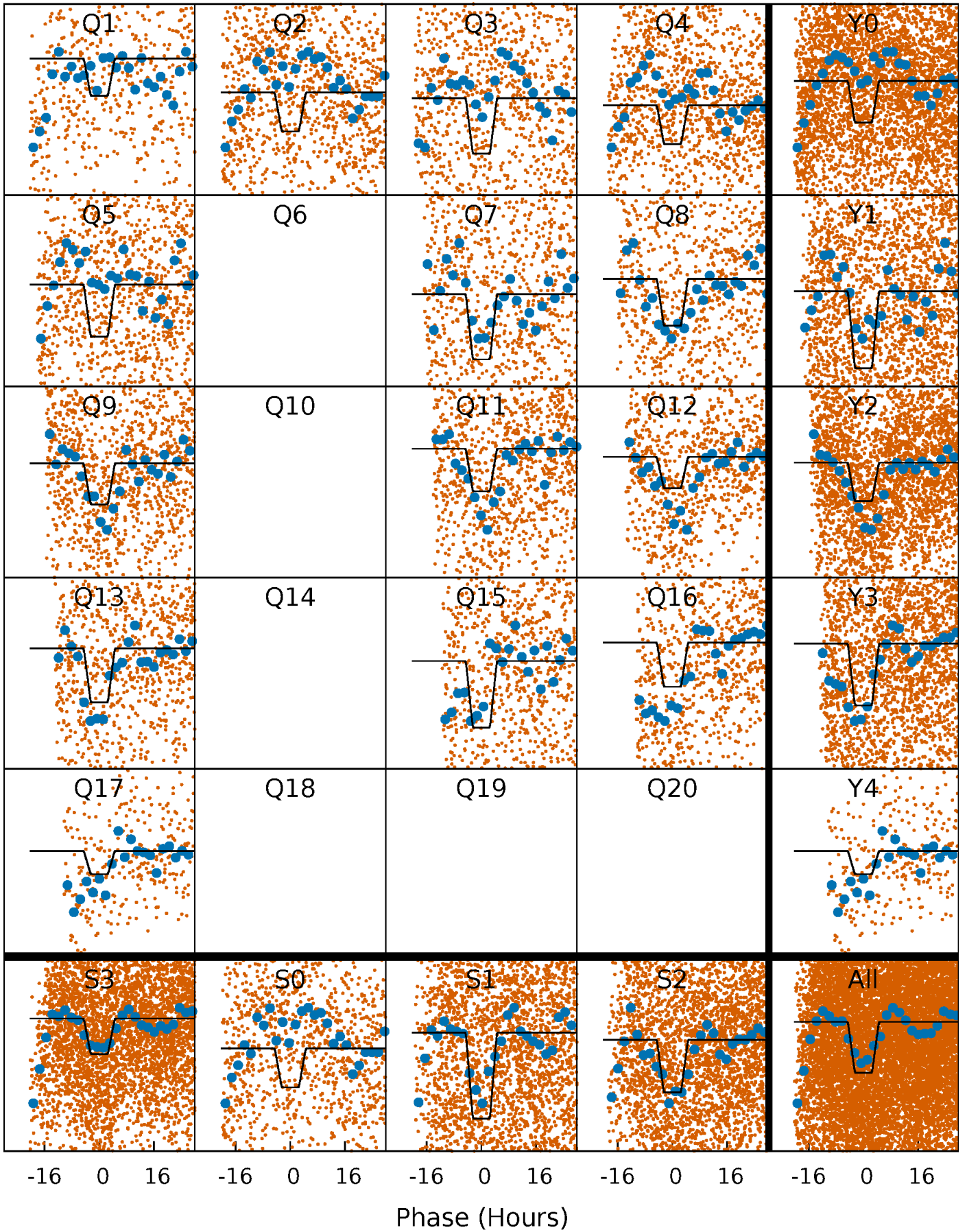
DV Quarter-Phased Transit Curves

TCE 004764523-02 P= 6.560038 Days $T_0=132.411104$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

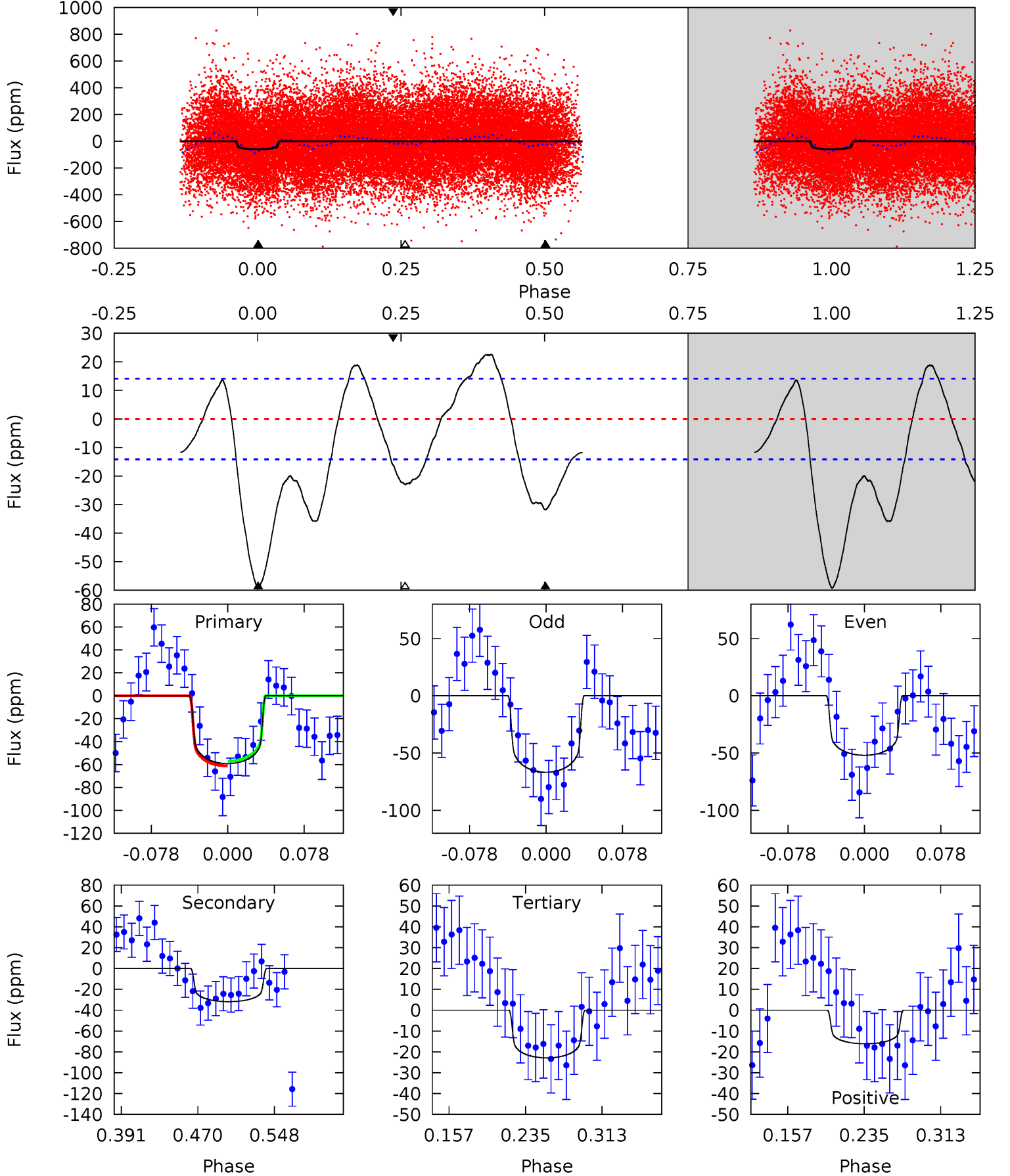
TCE 004764523-02 P= 6.560182 Days $T_0=132.372103$ (BKJD)



DV Model-Shift Uniqueness Test

004764523-02, P = 6.560038 Days, E = 125.851066 Days

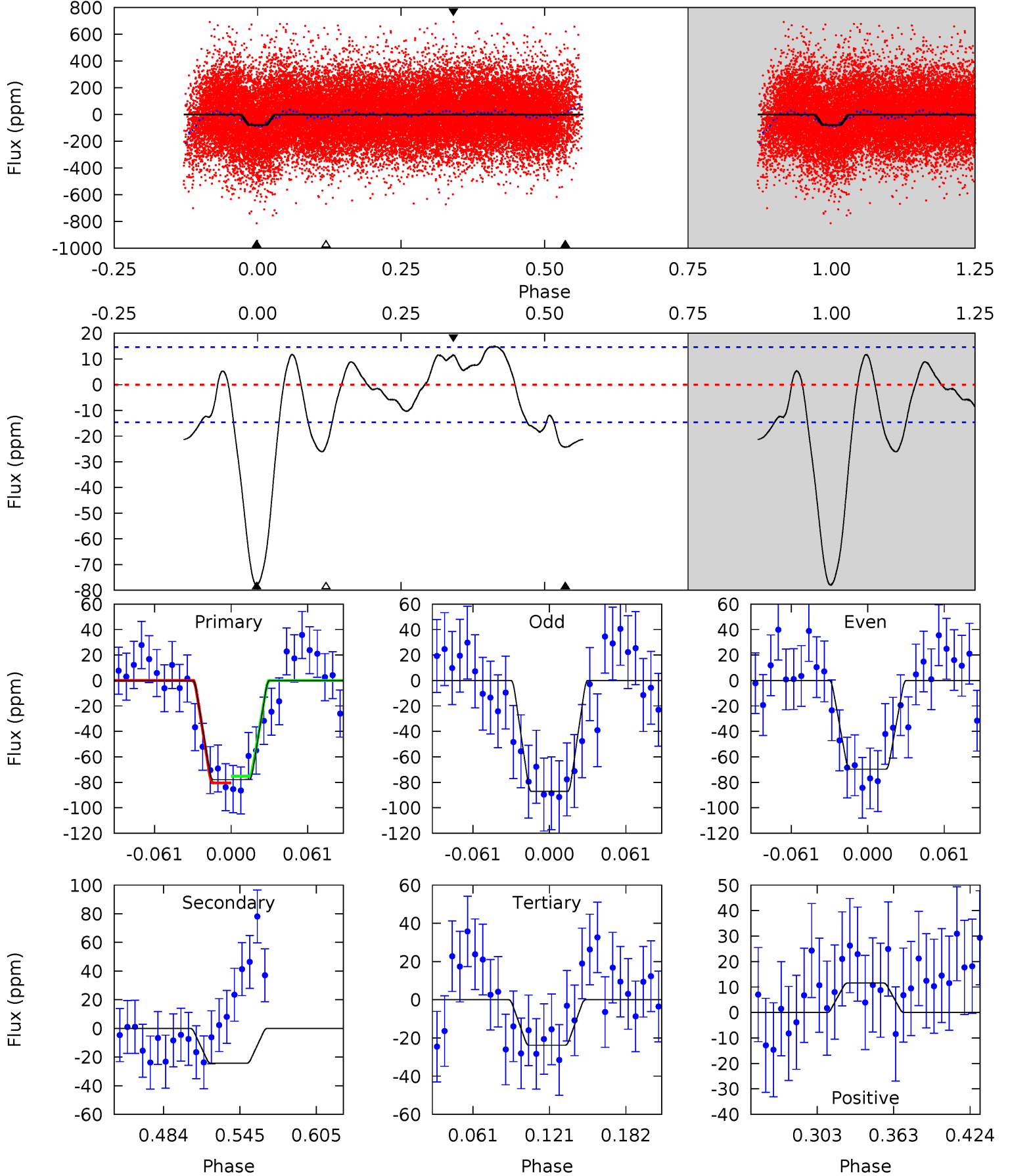
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.3	10.4	7.47	-5.27	4.62	1.76	5.57	11.9	24.6	2.92	15.7	2.42	1.00	0.28	0.66



Alt Model-Shift Uniqueness Test

004764523-02, P = 6.560182 Days, E = 125.811921 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.9	7.76	7.60	3.69	4.67	1.88	3.45	17.3	21.2	0.16	4.07	2.77	1.31	0.16	0.82



Stellar Parameters For KIC 004764523

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6526^{+77}_{-77}	$4.079^{+0.168}_{-0.112}$	$-0.160^{+0.150}_{-0.150}$	$1.728^{+0.329}_{-0.362}$	$1.315^{+0.109}_{-0.145}$	$0.359^{+0.325}_{-0.126}$
	+1%/-1%	+4%/-3%	+94%/-94%	+19%/-21%	+8%/-11%	+91%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004764523-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-32 ± 3	$1.71^{+0.27}_{-0.22}$	1919^{+100}_{-110}	5123^{+247}_{-206}	33^{+11}_{-8}
Alt.	-24 ± 3	$1.90^{+0.26}_{-0.27}$	1920^{+100}_{-101}	4669^{+223}_{-199}	21^{+8}_{-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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

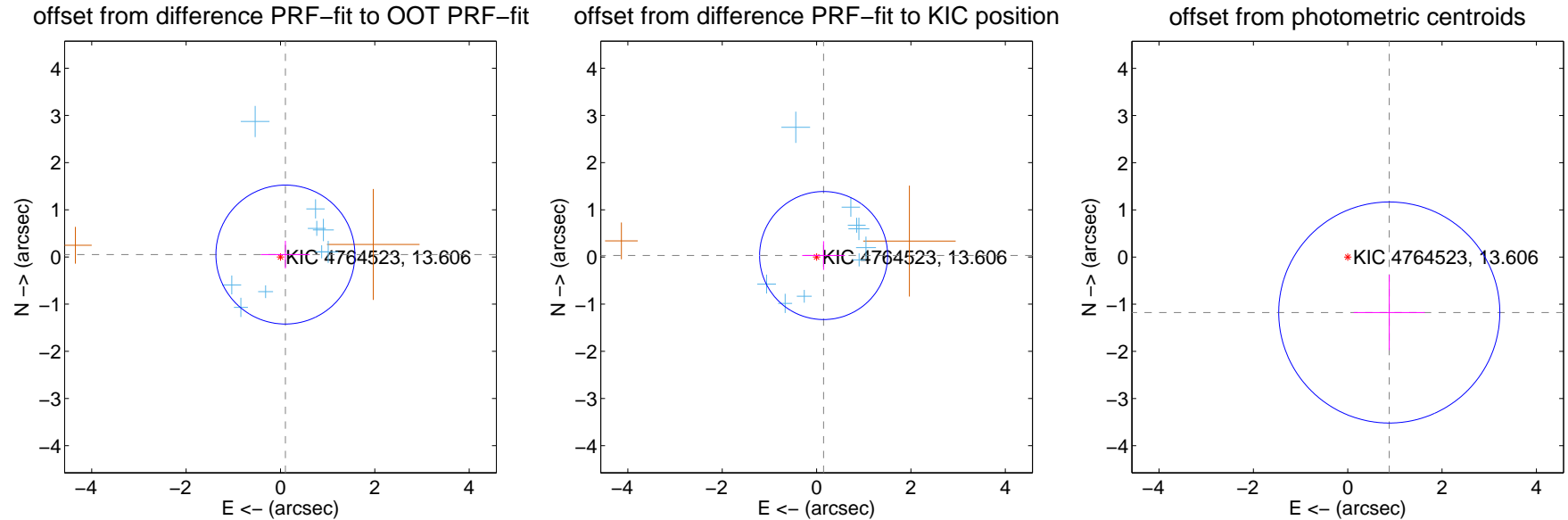
DV Centroid Data

Supplemental centroid analysis for 004764523-02. Kepler magnitude: 13.61. Transit SNR 13.42

There are 9 quarters with good PRF difference image offsets

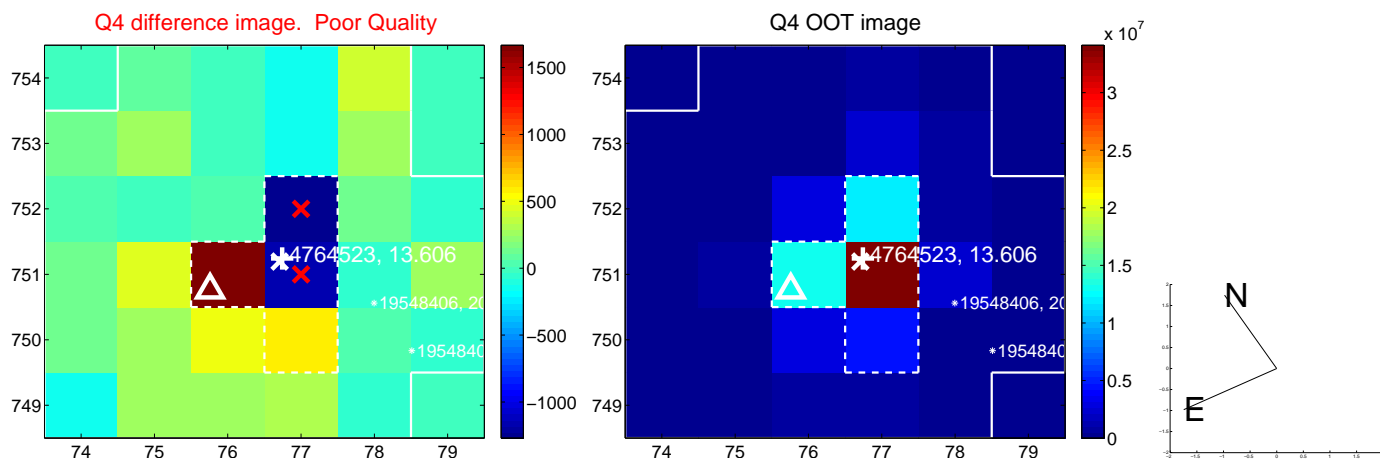
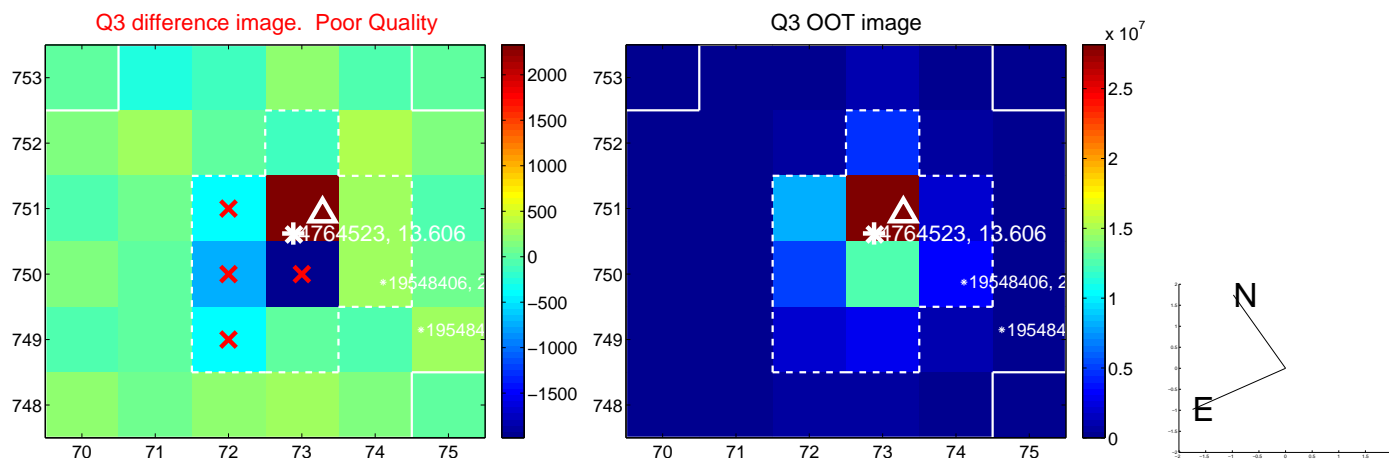
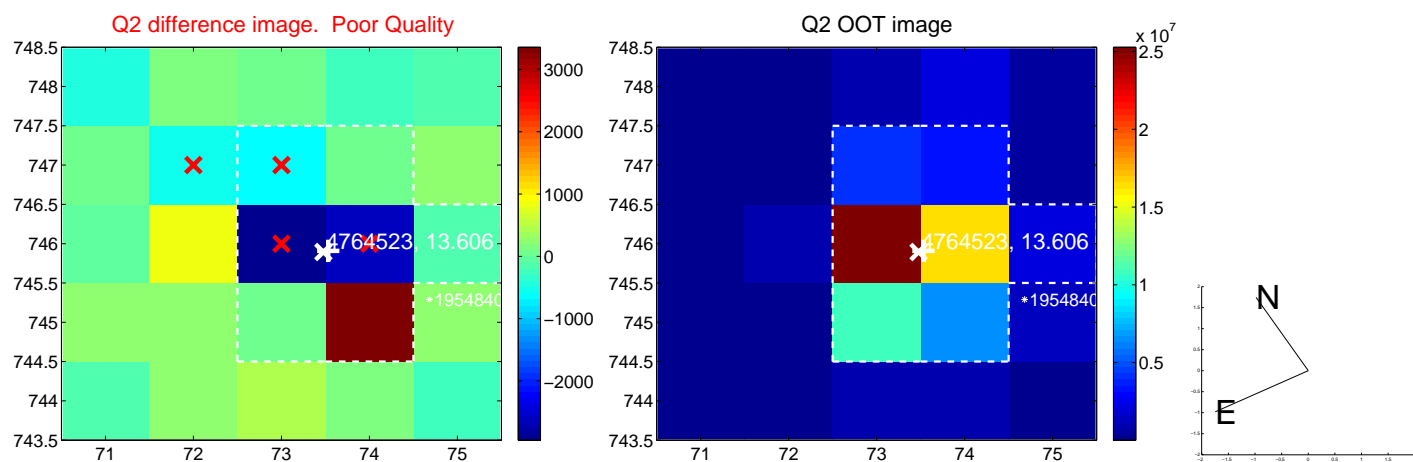
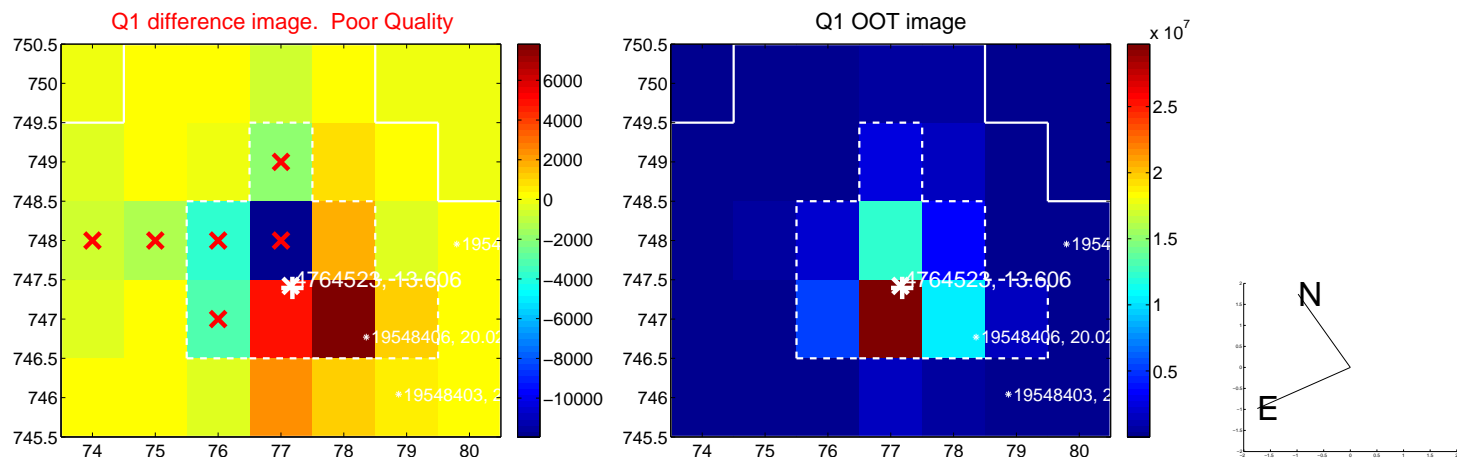
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.116 ± 0.491	0.24	-0.105 ± 0.514	0.051 ± 0.292
PRF-fit source offset from KIC position	0.152 ± 0.452	0.34	-0.149 ± 0.452	0.030 ± 0.304
photometric centroid source offset	1.47 ± 0.78	1.88	-0.88 ± 0.75	-1.18 ± 0.80

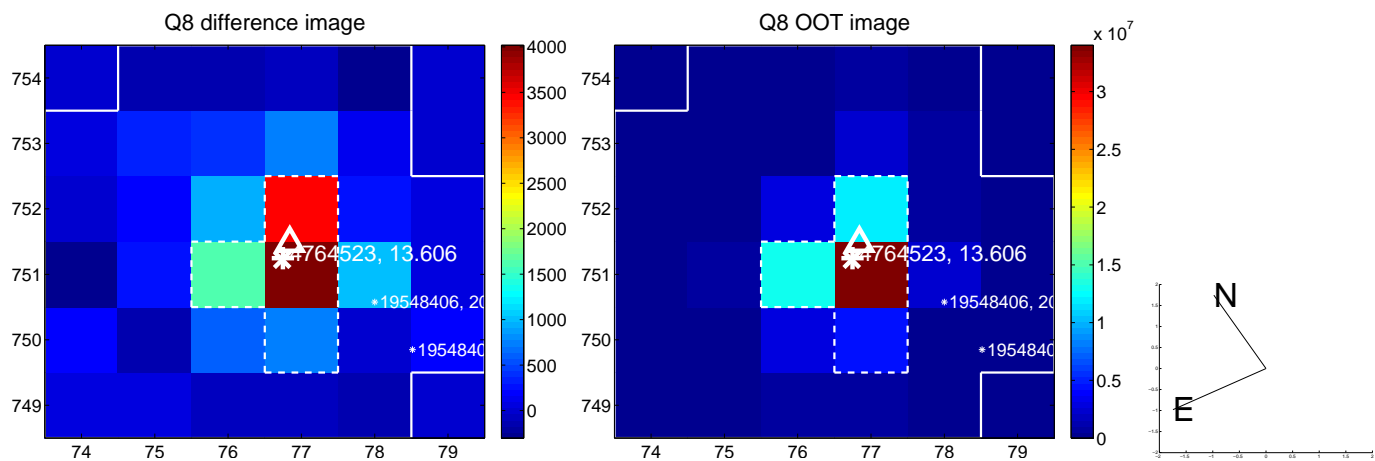
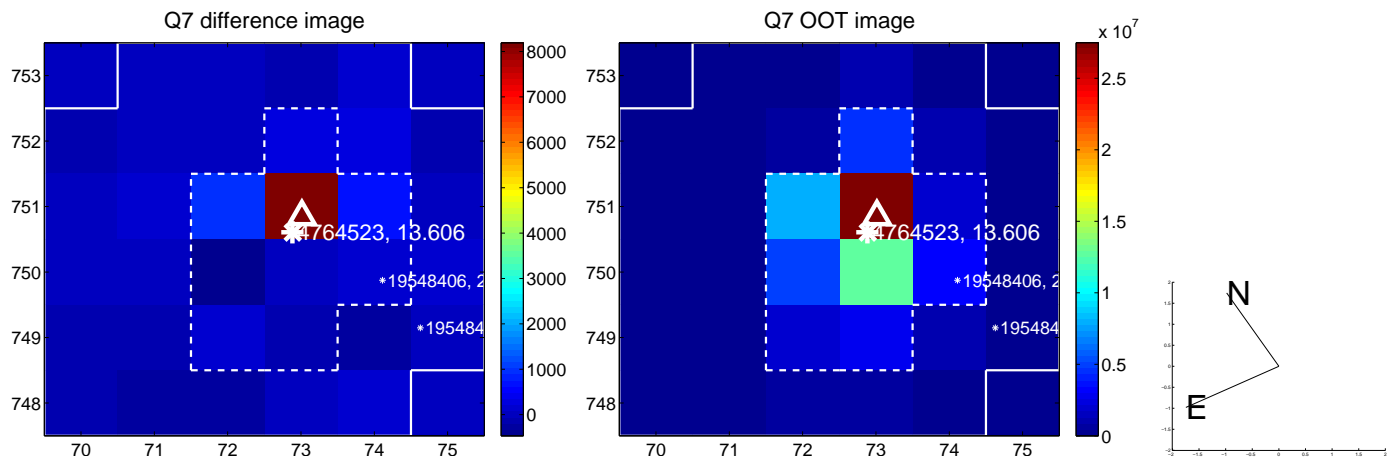
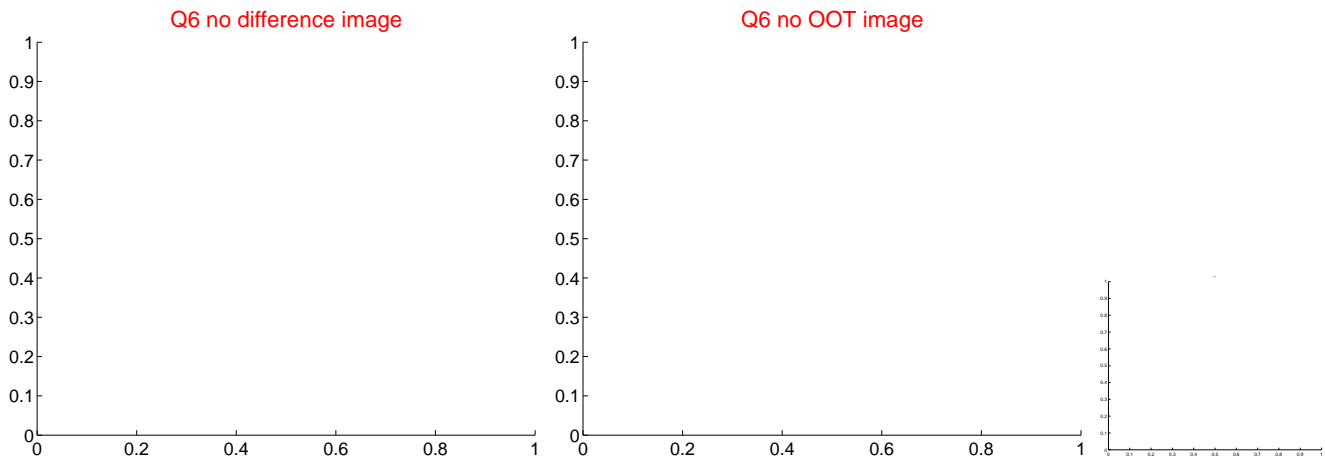
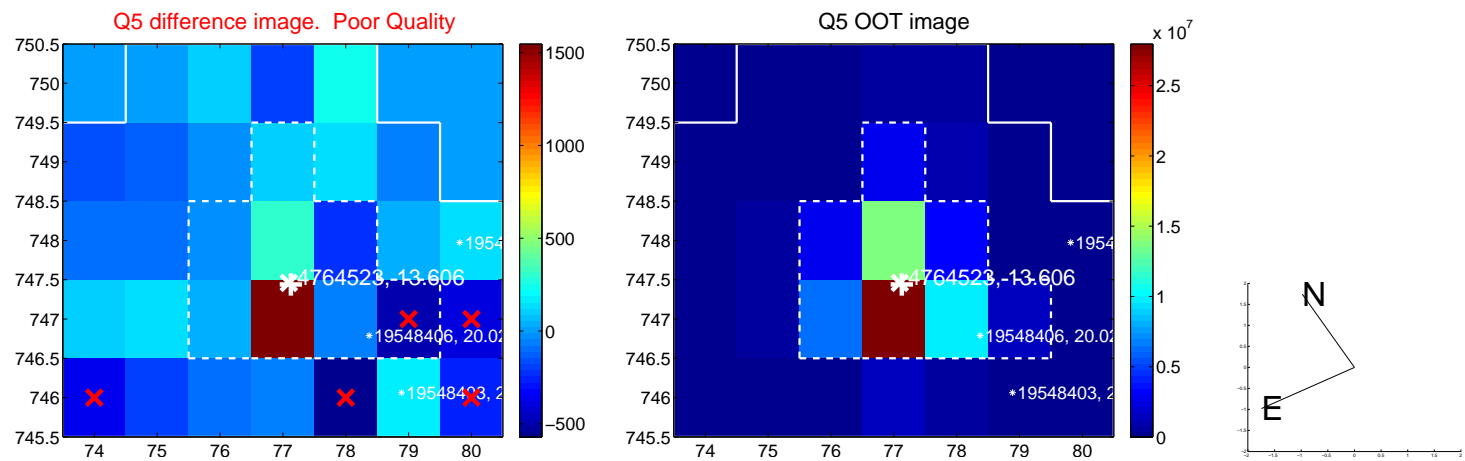


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

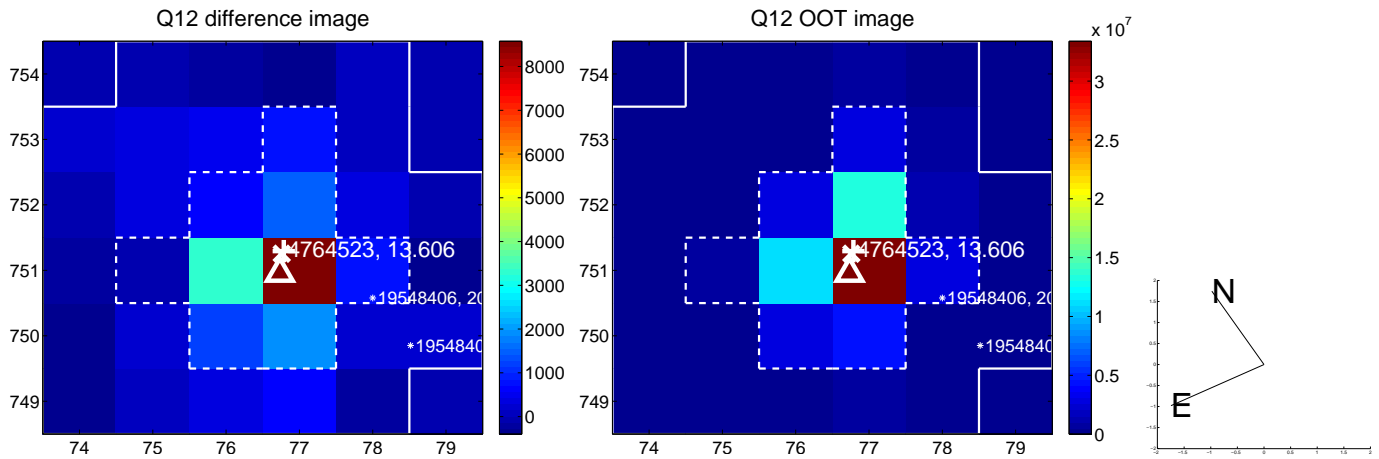
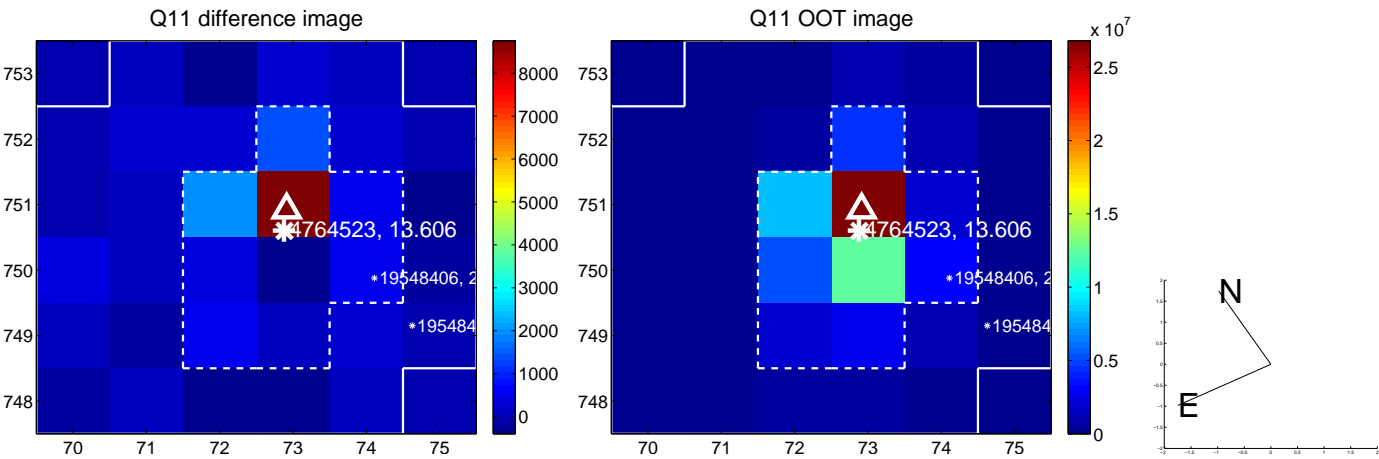
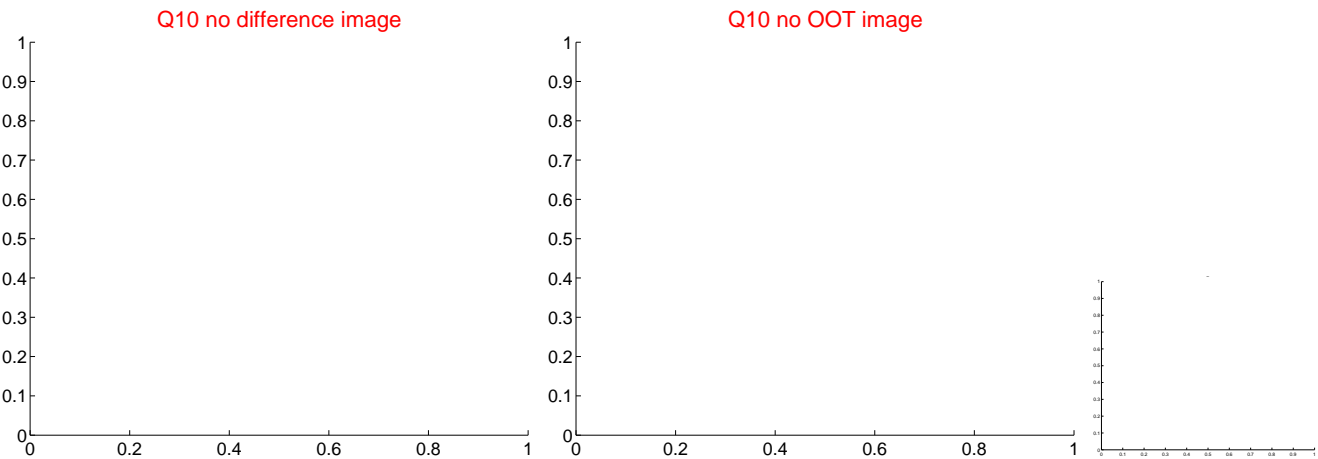
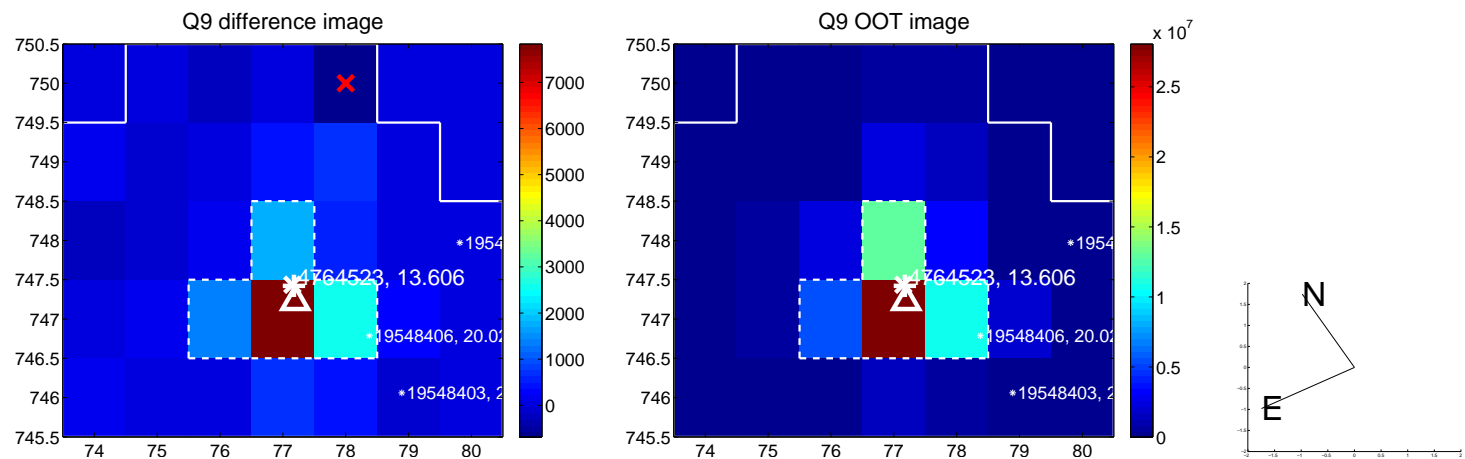
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



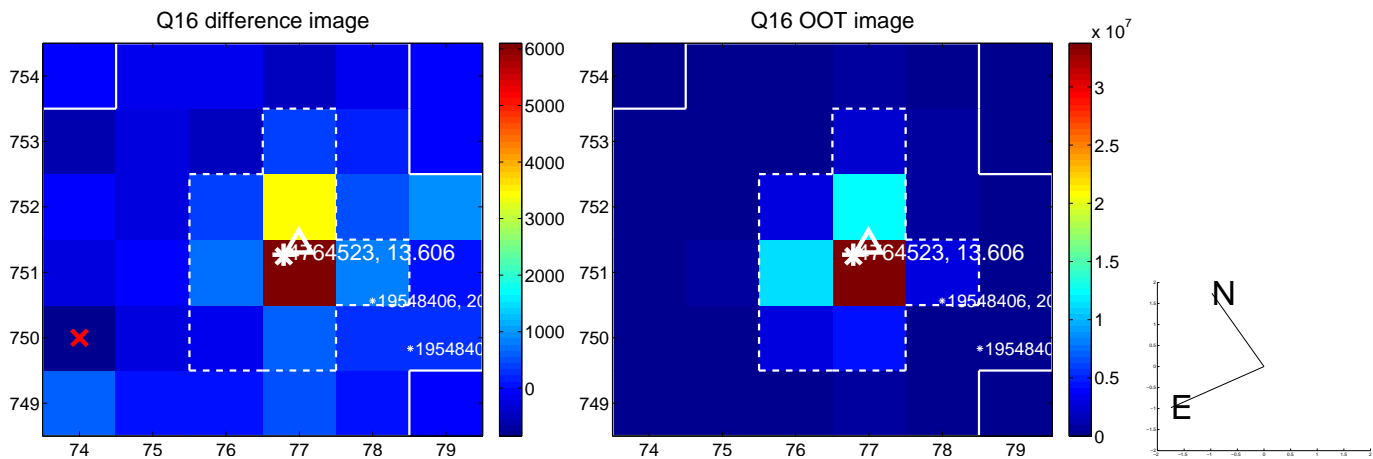
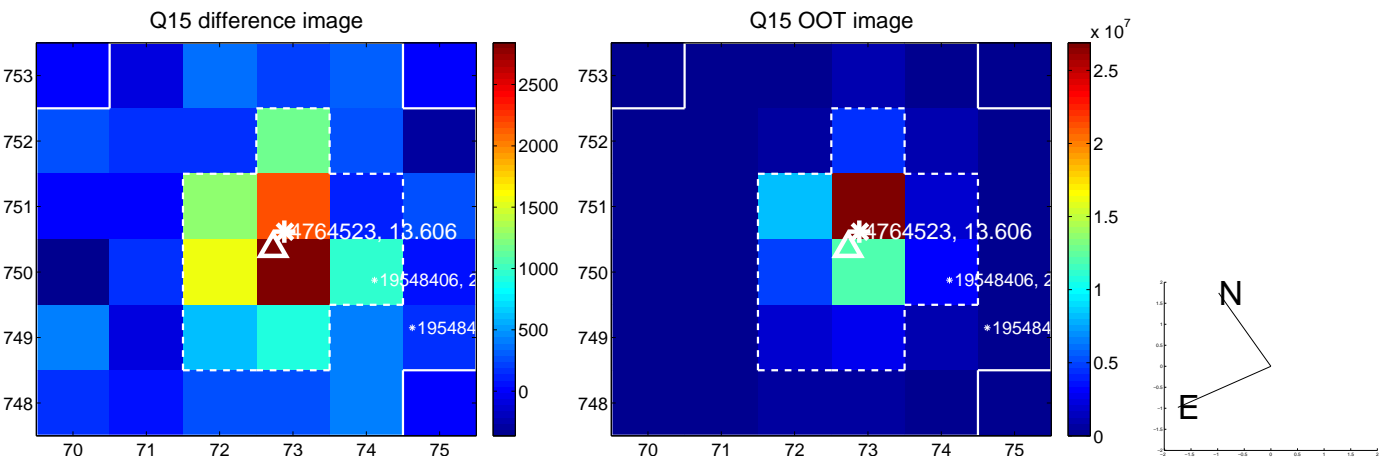
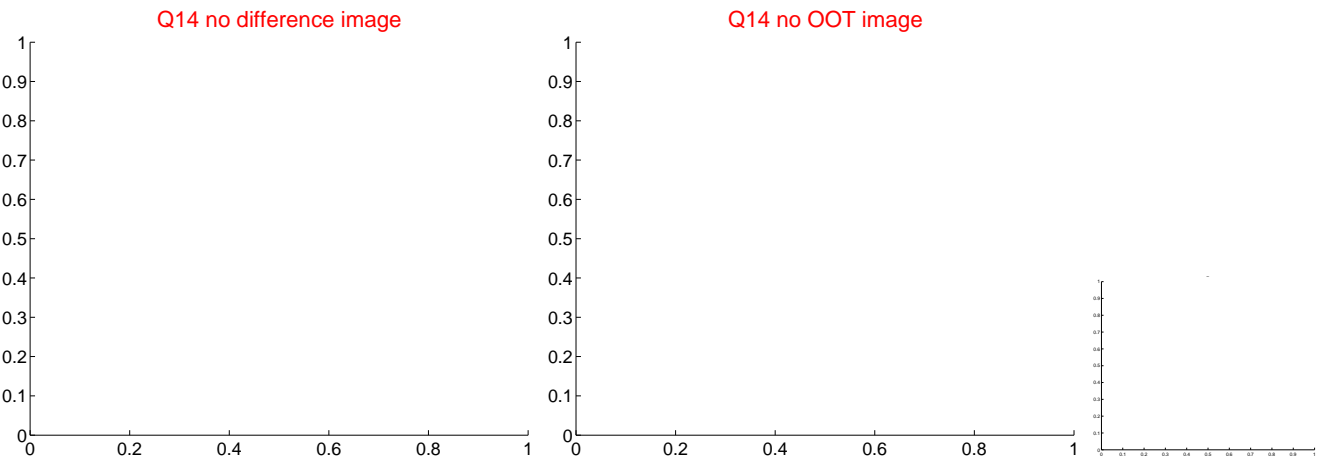
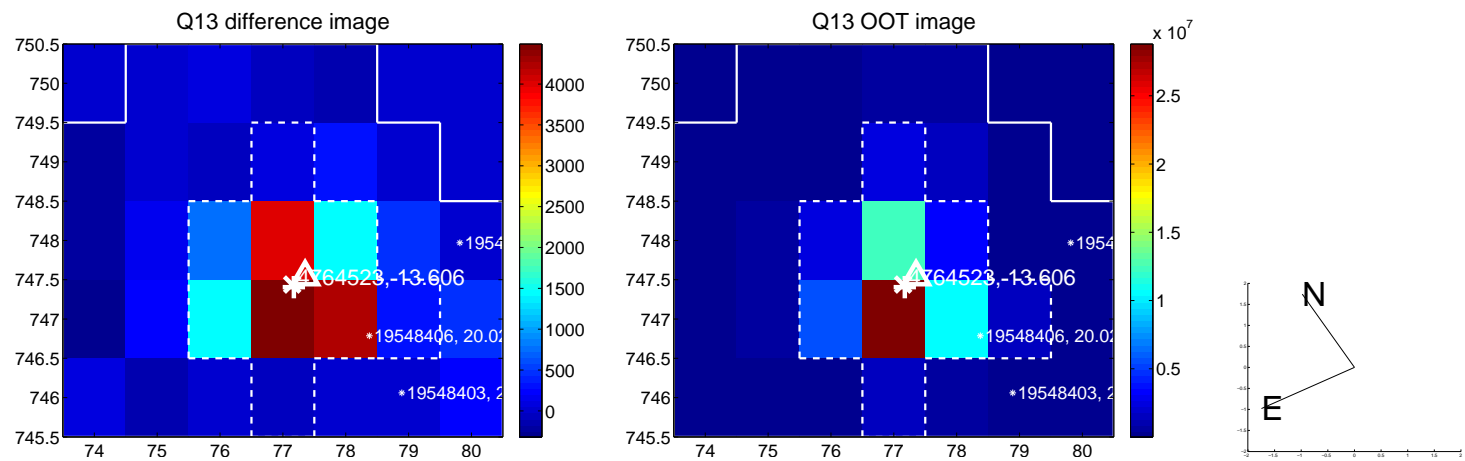
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



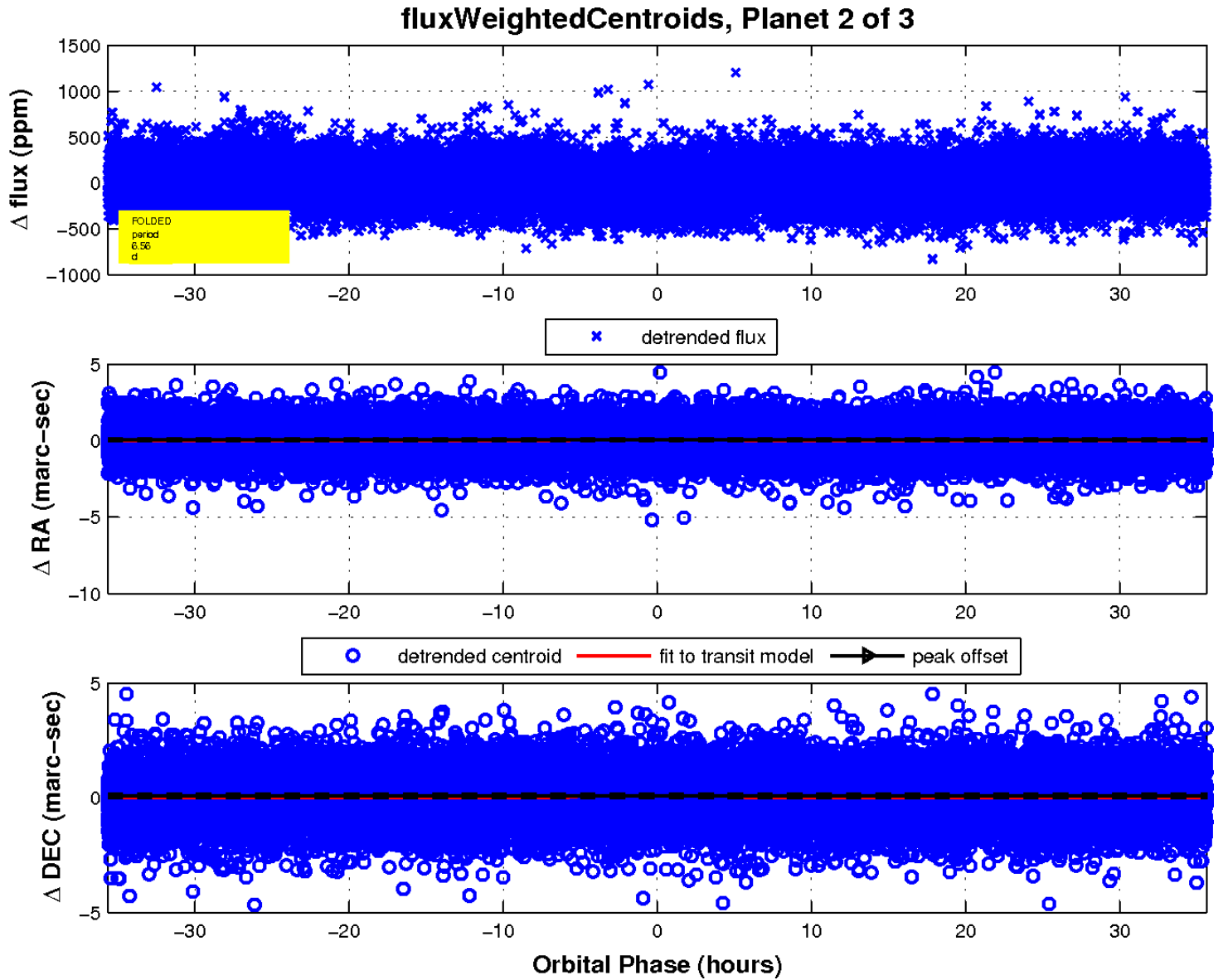
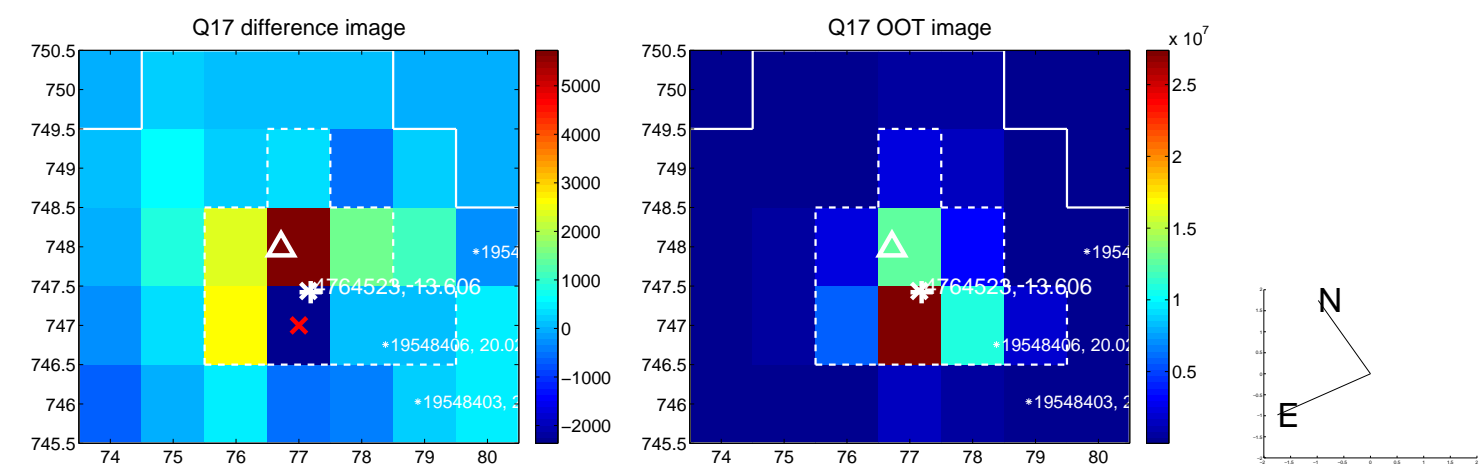
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

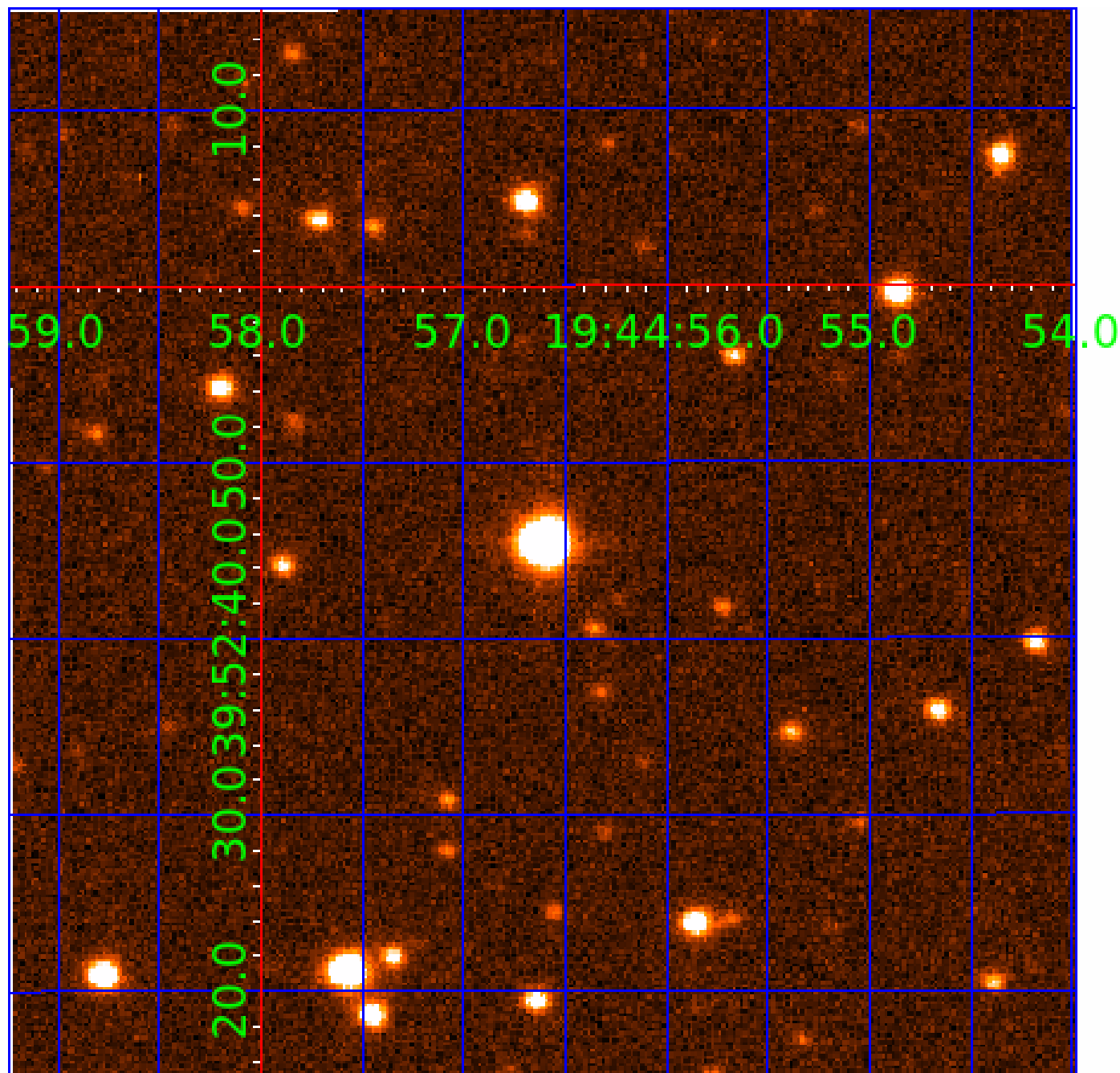


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004764523

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})
004764523-01	OBS	No	6.562120	136.874301	44.6	19.147	10.1	8.2	1.73	6526	1.38	862.55
004764523-02	OBS	No	6.560038	132.411105	74.1	11.885	11.2	13.4	1.73	6526	1.75	862.92
004764523-03	OBS	No	13.137846	135.542624	201.1	33.134	7.4	8.4	1.73	6526	4.84	341.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004764523-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004764523-02	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
004764523-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

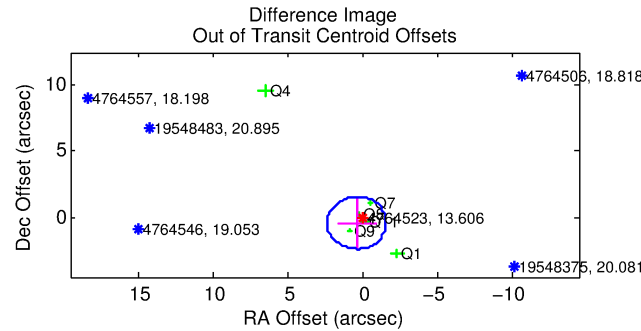
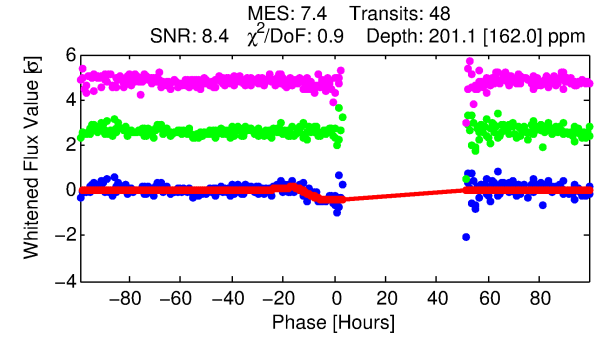
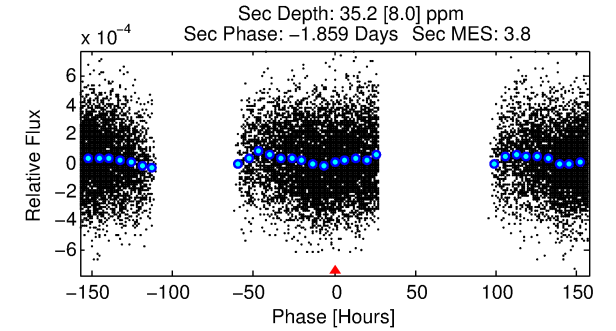
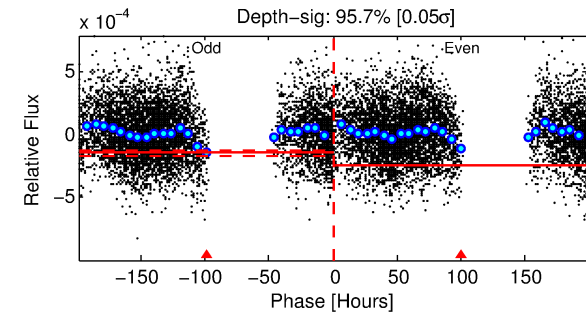
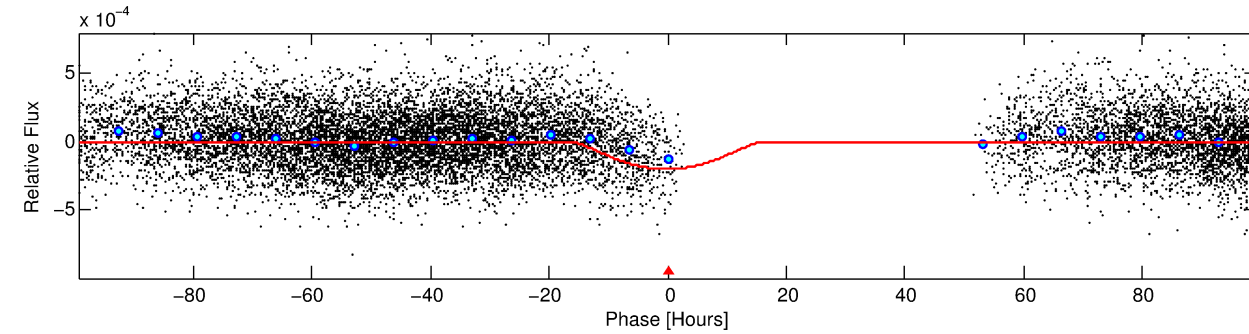
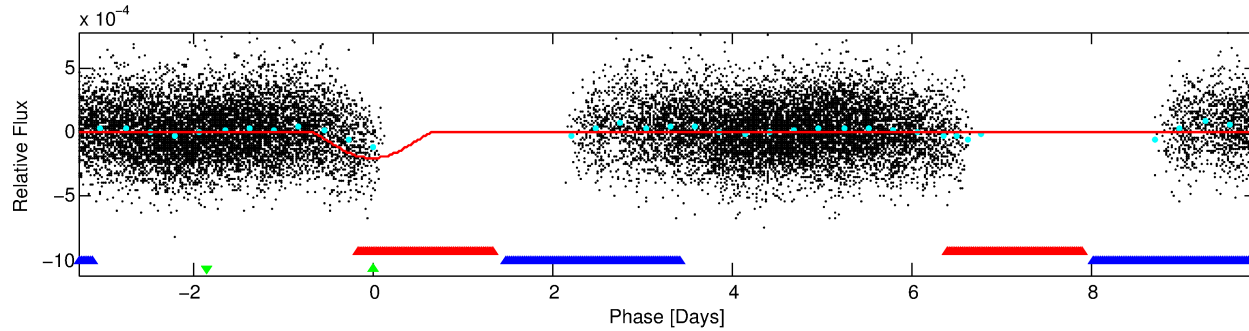
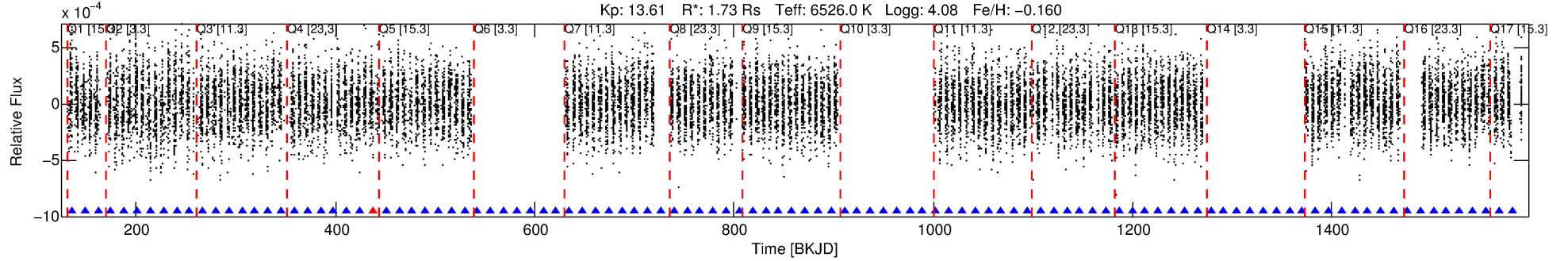
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004764523-03

No Significant Match Found

DV One-Page Summary

KIC: 4764523 Candidate: 3 of 3 Period: 13.138 d



DV Fit Results:

Period = 13.13785 [0.00216] d
Epoch = 135.5426 [0.1197] BKJD
Rp/R* = 0.0257 [0.0538]
a/R* = 1.22 [0.15]
b = 1.00 [0.06]
Seff = 341.83 [101.54]
Teq = 1096 [81] K
Rp = 4.84 [10.19] Re
a = 0.1191 [0.0226] AU
Ag = 11.73 [49.41] [0.22 σ]
Teffp = 3138 [3295] K [0.62 σ]

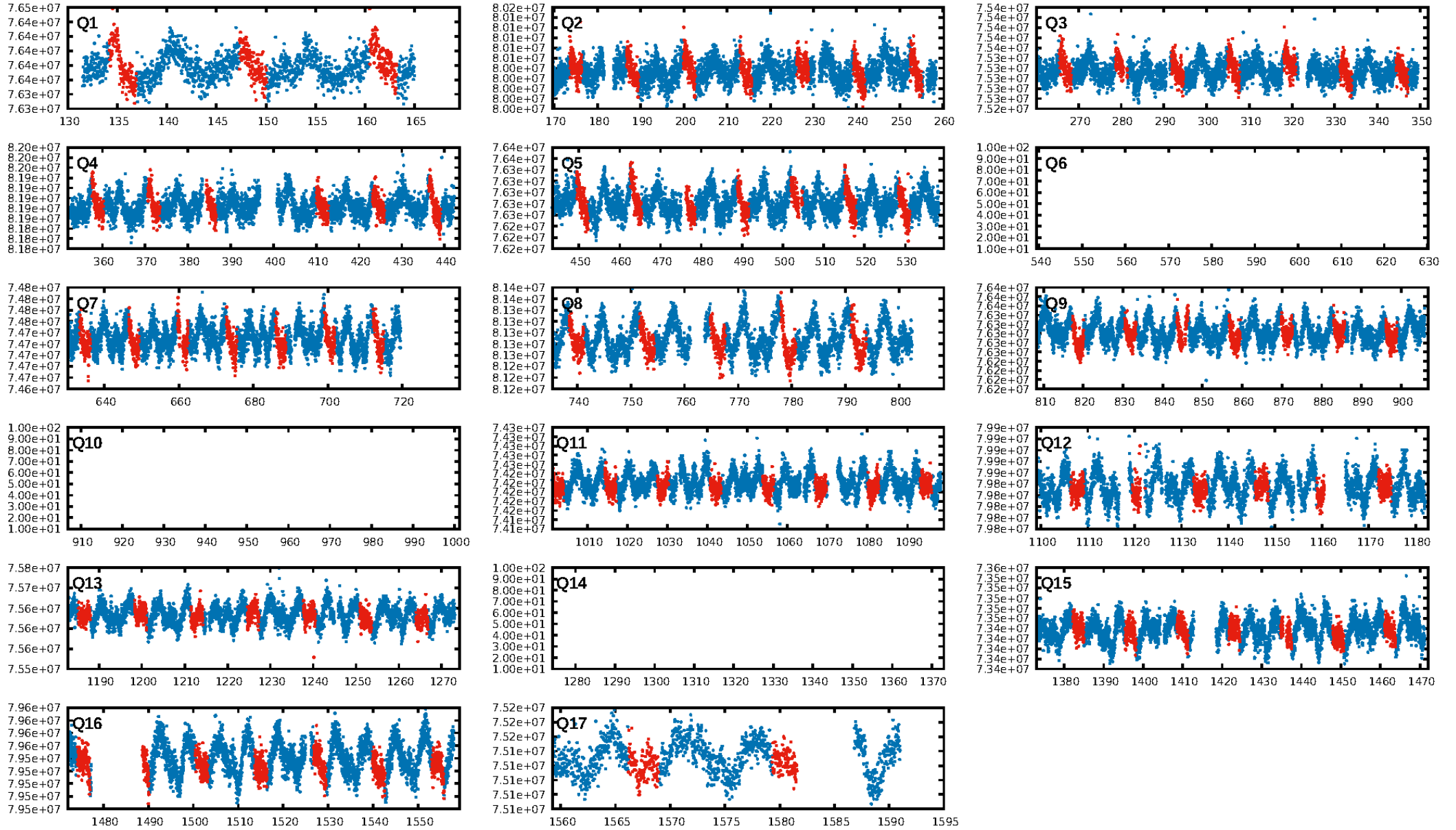
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.12 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 38.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 9.12e-11
RollingBand-fgt: 0.98 [44/45]
GhostDiagnostic-chr: 2.457
Centroid-sig: 3.9%
Centroid-so: 0.442 arcsec [1.12 σ]
OotOffset-rm: 0.535 arcsec [0.81 σ]
OotOffset-st: 0/2/2/2 [6]
KicOffset-rm: 0.535 arcsec [0.80 σ]
KicOffset-st: 0/2/2/2 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 0.00 [0/14]

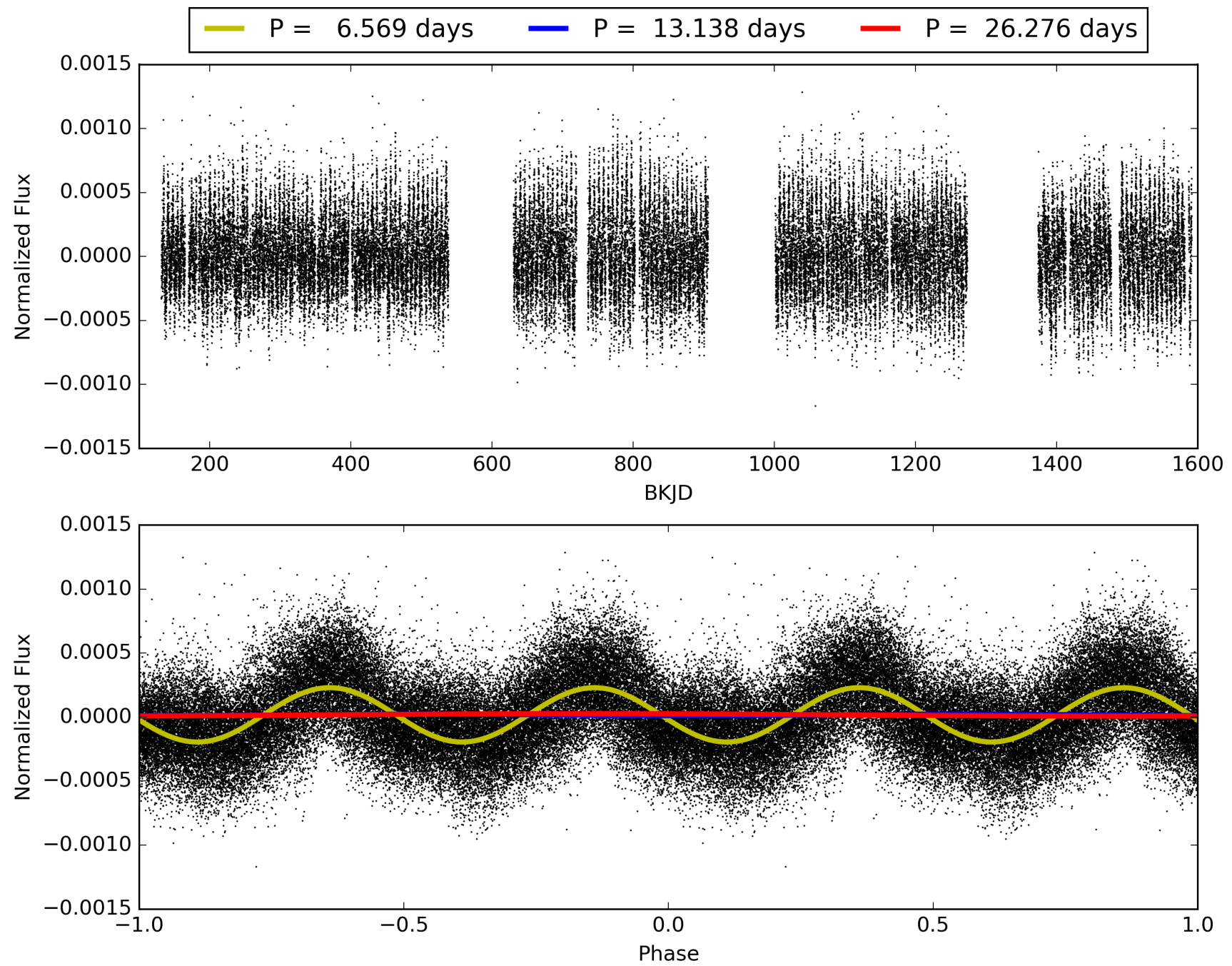
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 06:12:41 Z

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

TCE 004764523-03, PDC Light Curves

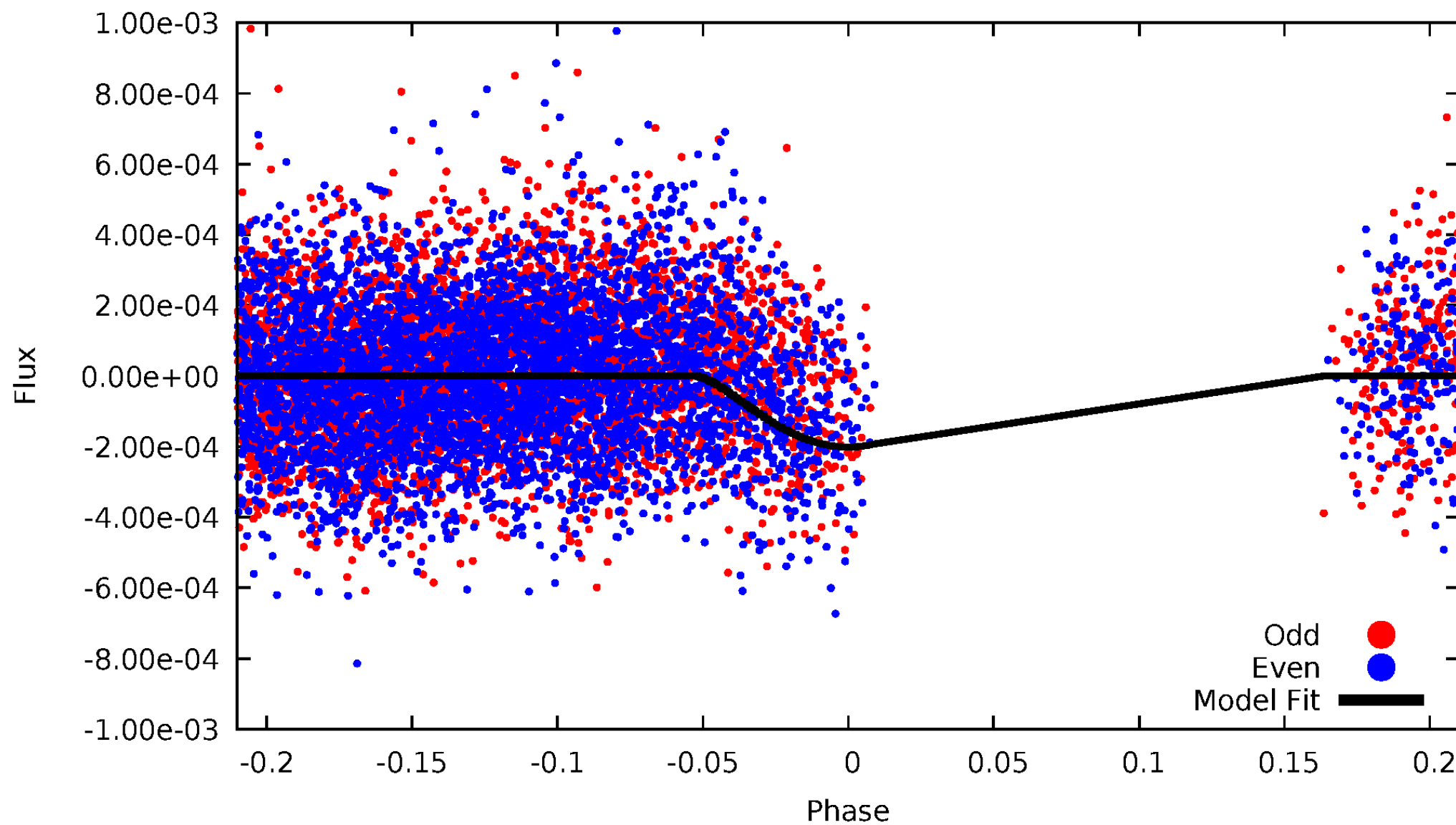


TCE 004764523-03



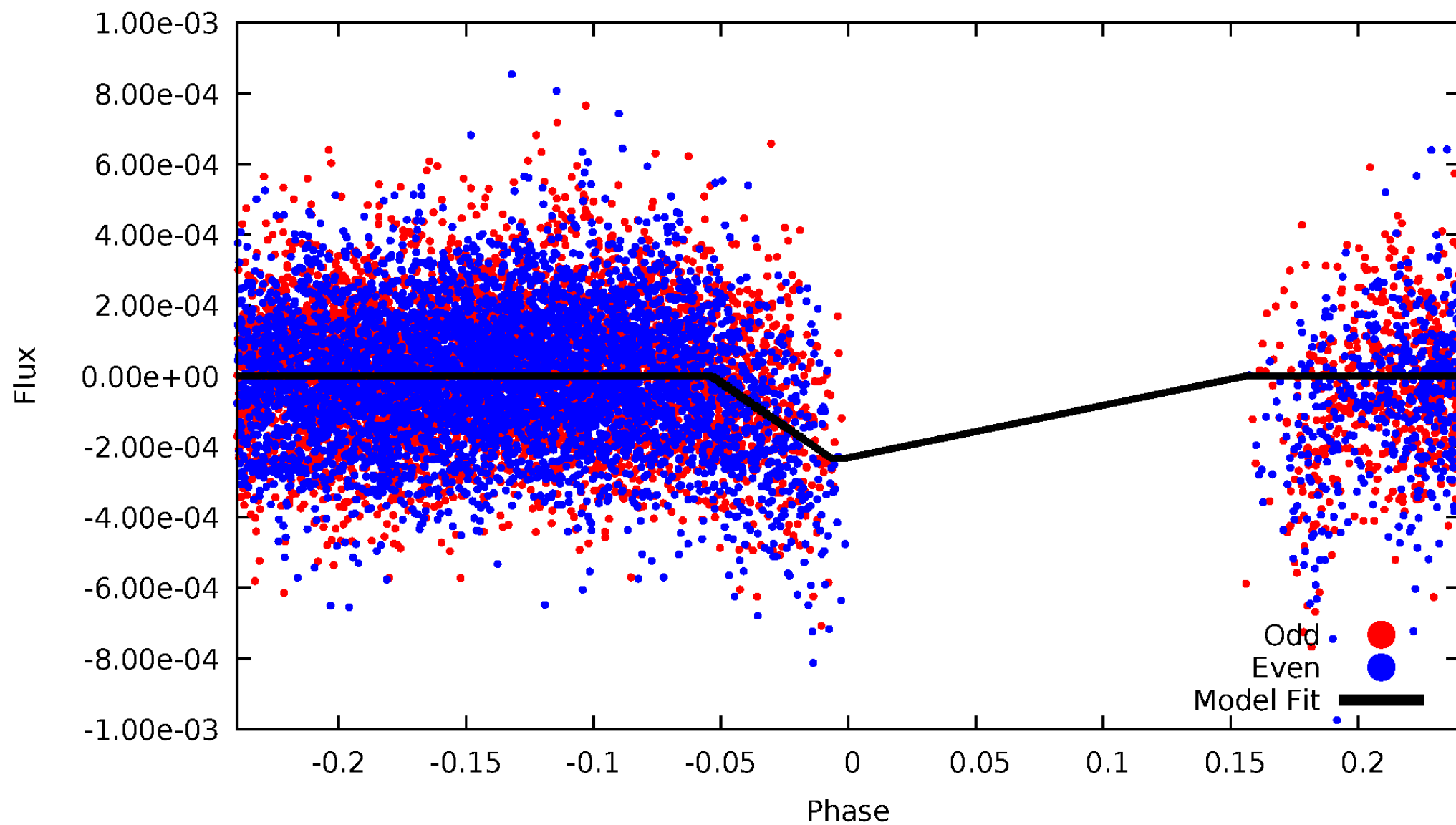
DV Odd/Even

TCE 004764523-03



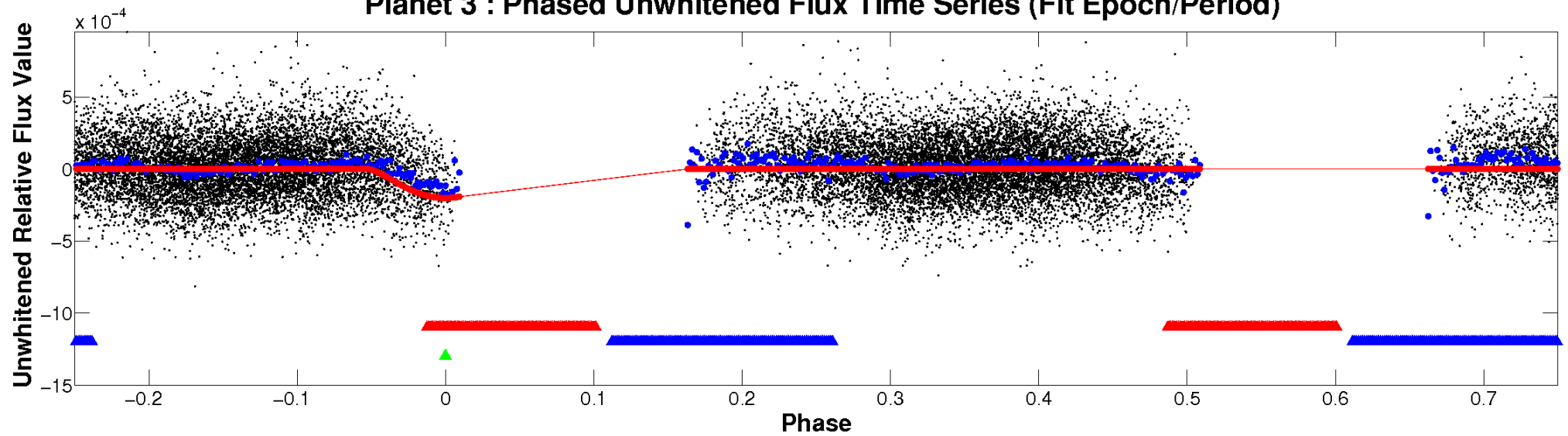
ALT Odd/Even

TCE 004764523-03

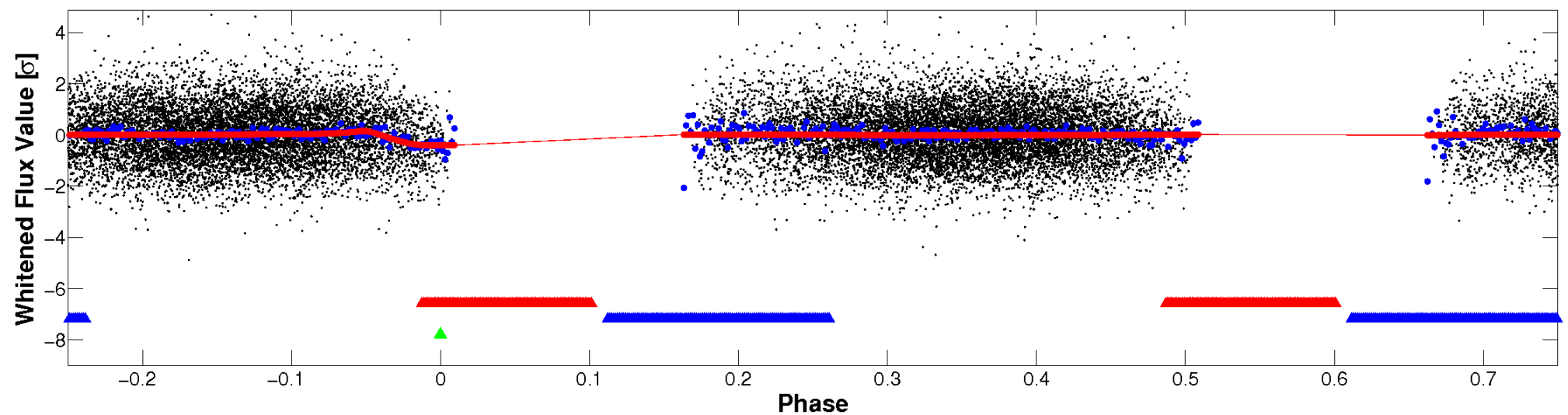


Non-Whitened Vs. Whitened Light Curve

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

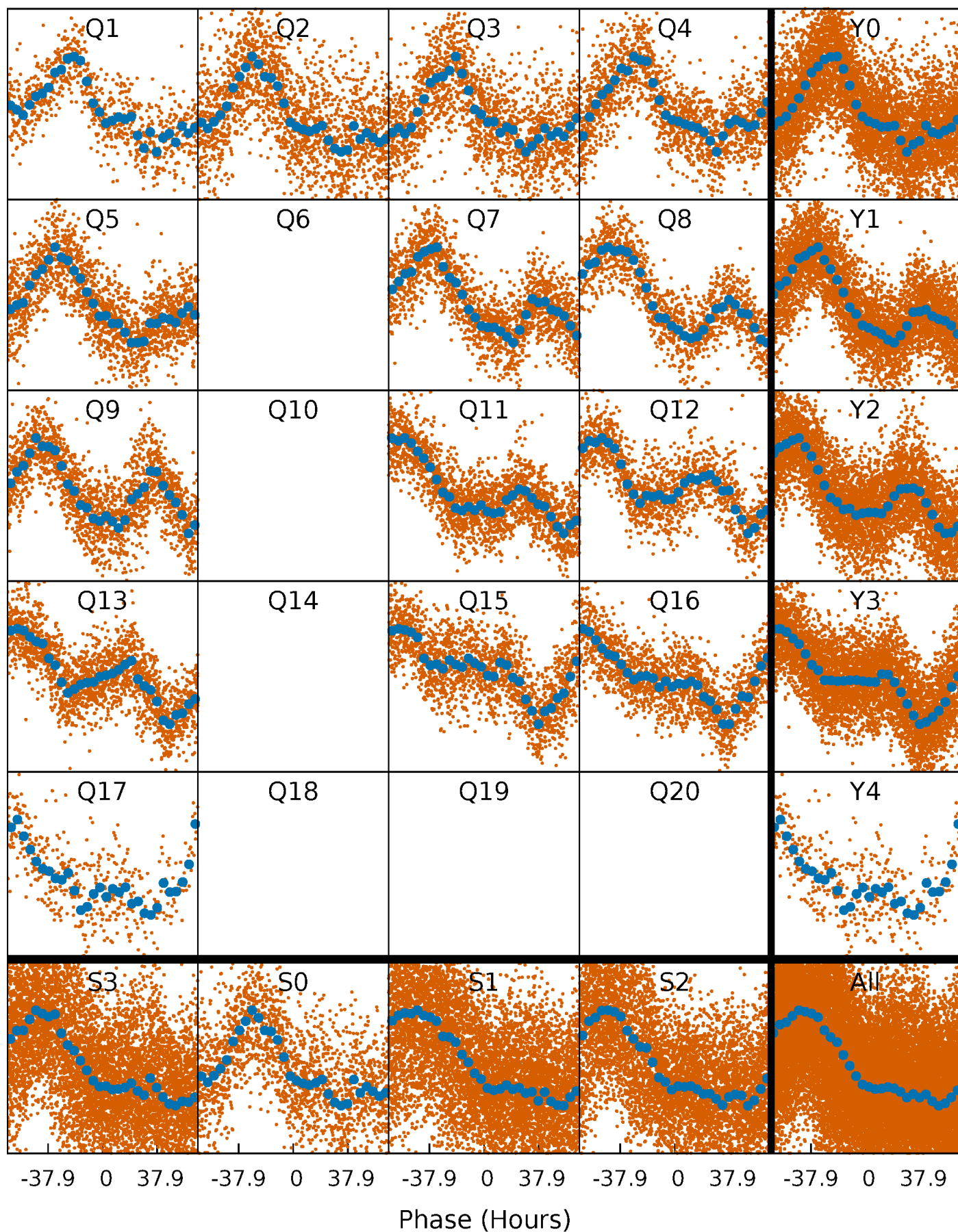


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



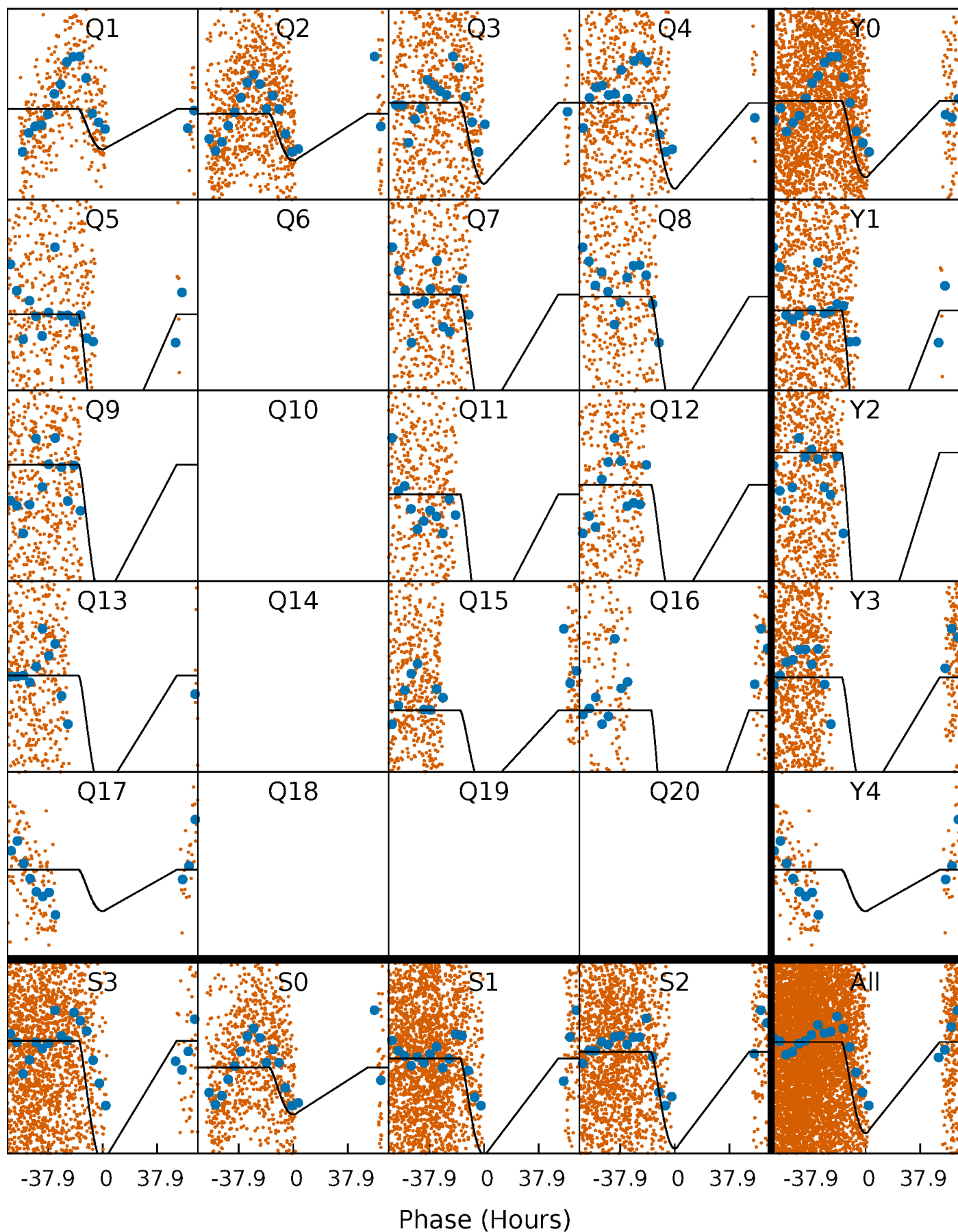
PDC Quarter-Phased Transit Curves

TCE 004764523-03 P= 13.137846 Days $T_0=135.542624$ (BKJD)



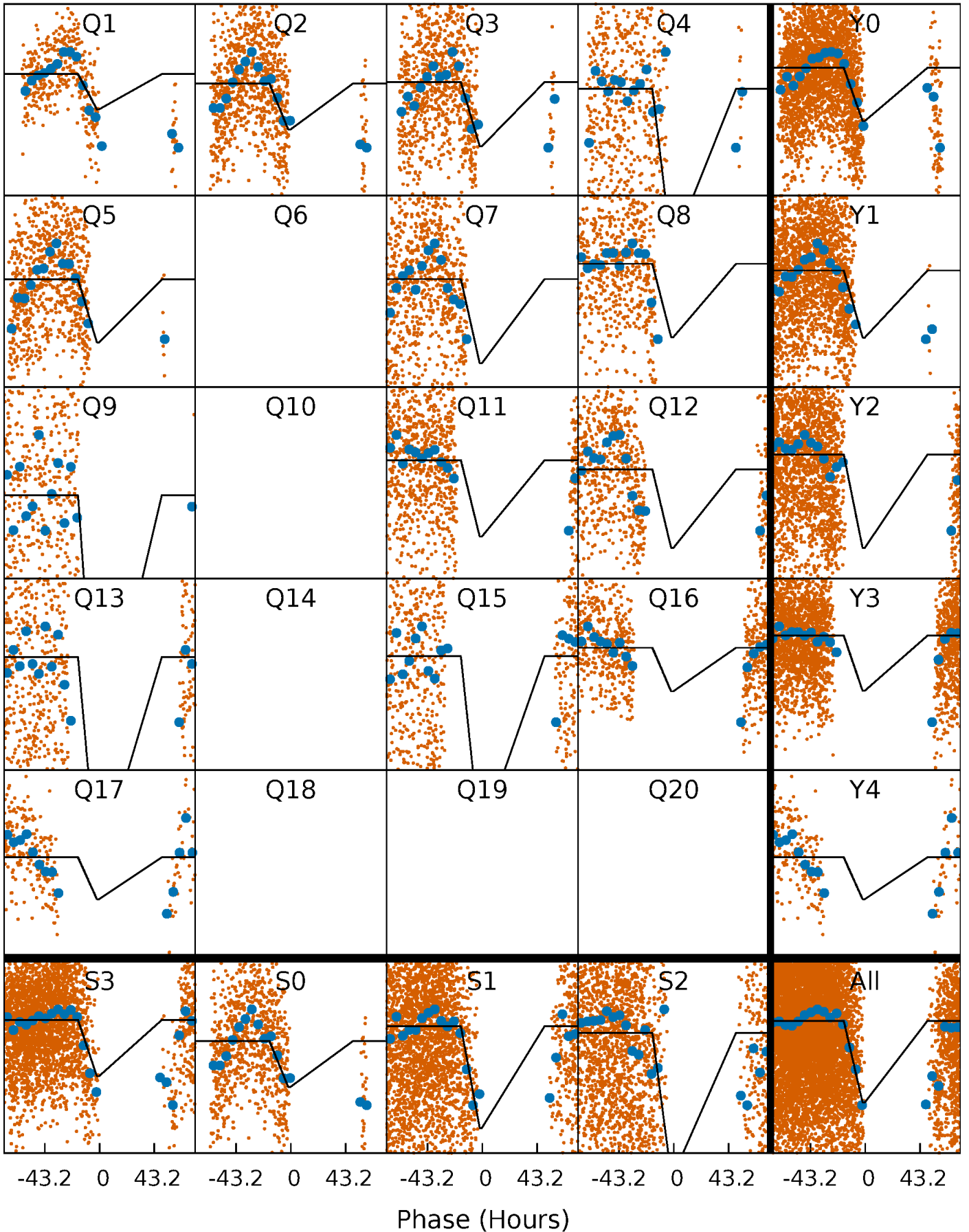
DV Quarter-Phased Transit Curves

TCE 004764523-03 P= 13.137846 Days $T_0=135.542624$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

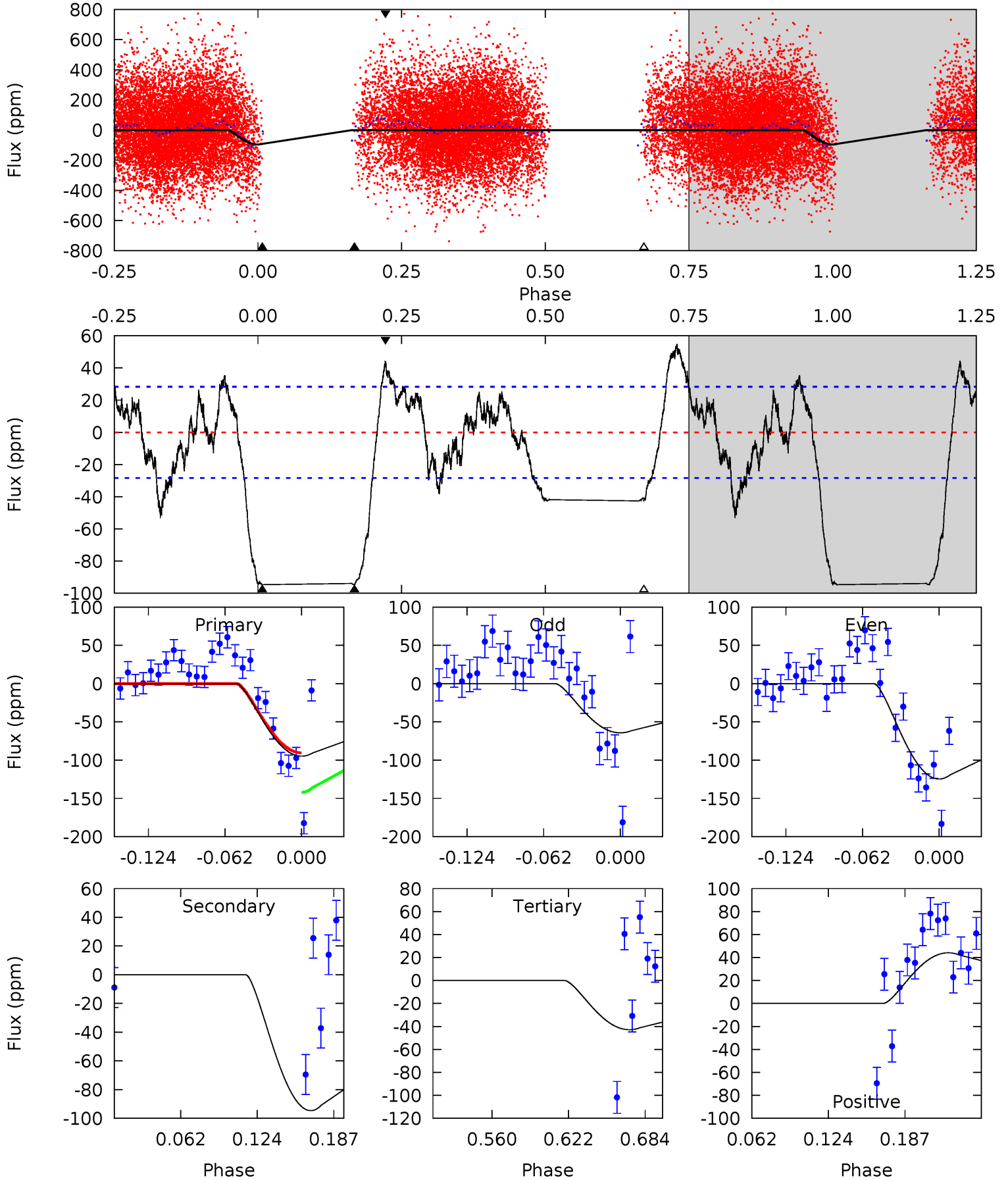
TCE 004764523-03 P= 13.136639 Days $T_0=135.677492$ (BKJD)



DV Model-Shift Uniqueness Test

004764523-03, P = 13.137846 Days, E = 122.404778 Days

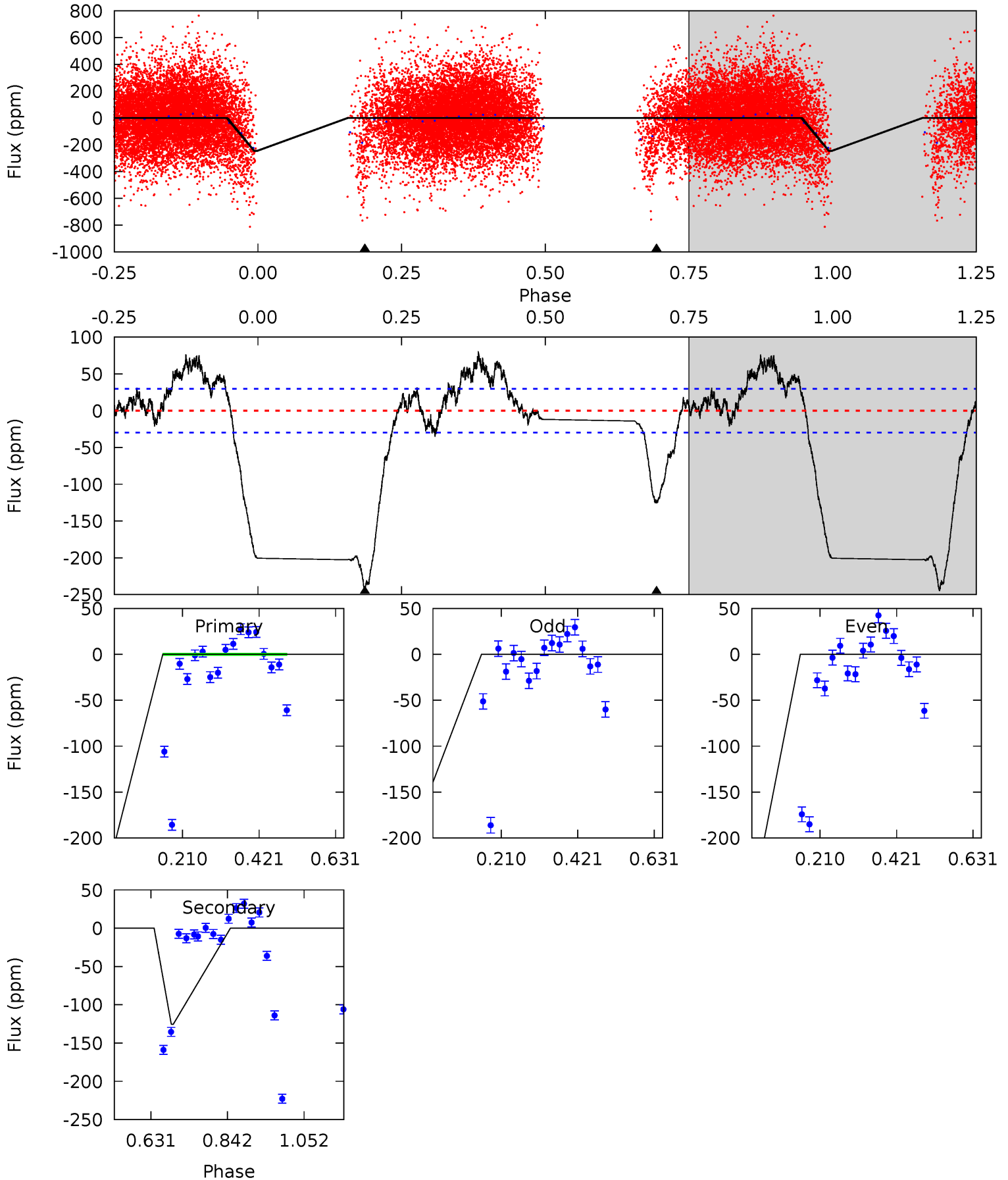
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.6	15.6	7.05	7.26	4.66	1.86	3.59	8.55	8.34	8.53	8.32	4.97	2.40	0.37	1.43



Alt Model-Shift Uniqueness Test

004764523-03, P = 13.136639 Days, E = 122.540853 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.4	18.7	0	0	4.41	1.25	7.98	36.4	36.4	18.7	18.7	11.7	0	0.25	0



Stellar Parameters For KIC 004764523

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6526^{+77}_{-77}	$4.079^{+0.168}_{-0.112}$	$-0.160^{+0.150}_{-0.150}$	$1.728^{+0.329}_{-0.362}$	$1.315^{+0.109}_{-0.145}$	$0.359^{+0.325}_{-0.126}$
	+1%/-1%	+4%/-3%	+94%/-94%	+19%/-21%	+8%/-11%	+91%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004764523-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-95 ± 6	$8.75^{+8.60}_{-5.81}$	1522^{+78}_{-85}	3437^{+1788}_{-636}	$9.651^{+77.115}_{-7.177}$
Alt.	-126 ± 7	$8.01^{+8.05}_{-6.02}$	1523^{+68}_{-89}	3710^{+2802}_{-739}	15^{+219}_{-11}

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

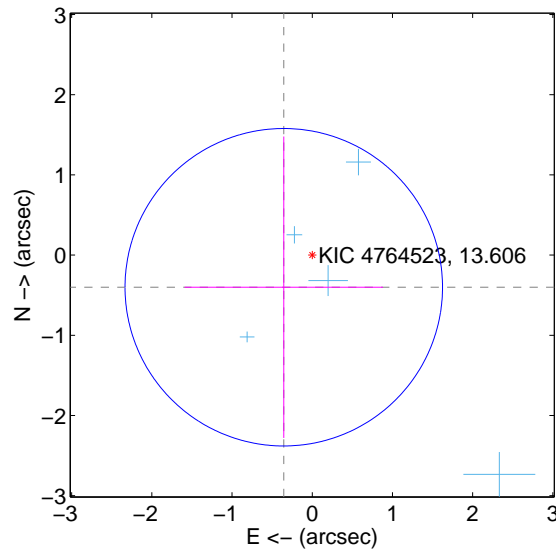
Supplemental centroid analysis for 004764523-03. Kepler magnitude: 13.61. Transit SNR 8.38

There are 5 quarters with good PRF difference image offsets

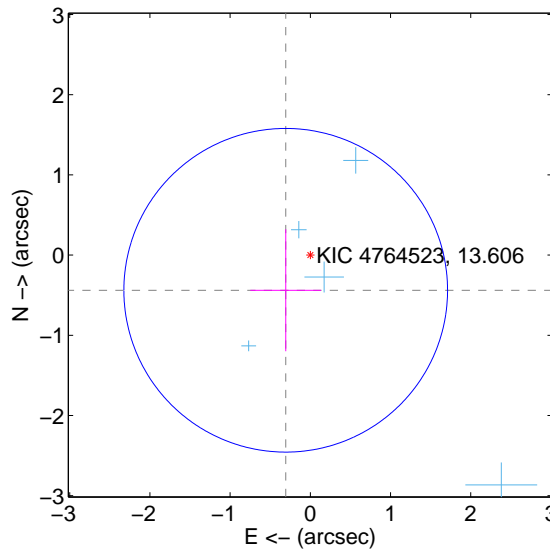
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.535 ± 0.660	0.81	0.355 ± 1.236	-0.401 ± 1.879
PRF-fit source offset from KIC position	0.535 ± 0.673	0.80	0.307 ± 0.440	-0.439 ± 0.761
photometric centroid source offset	0.44 ± 0.40	1.12	0.23 ± 0.37	0.38 ± 0.40

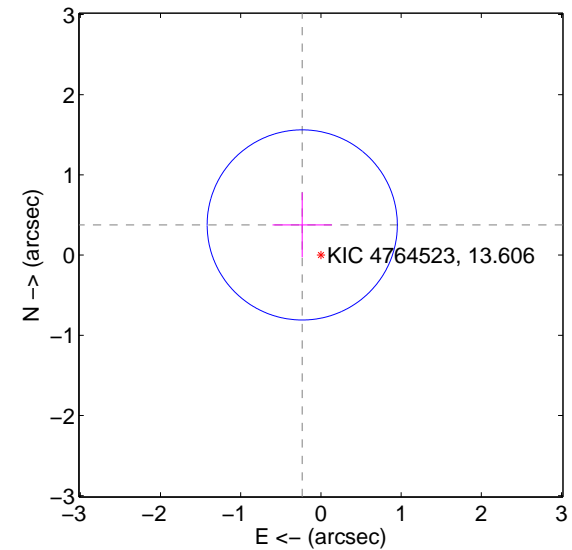
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

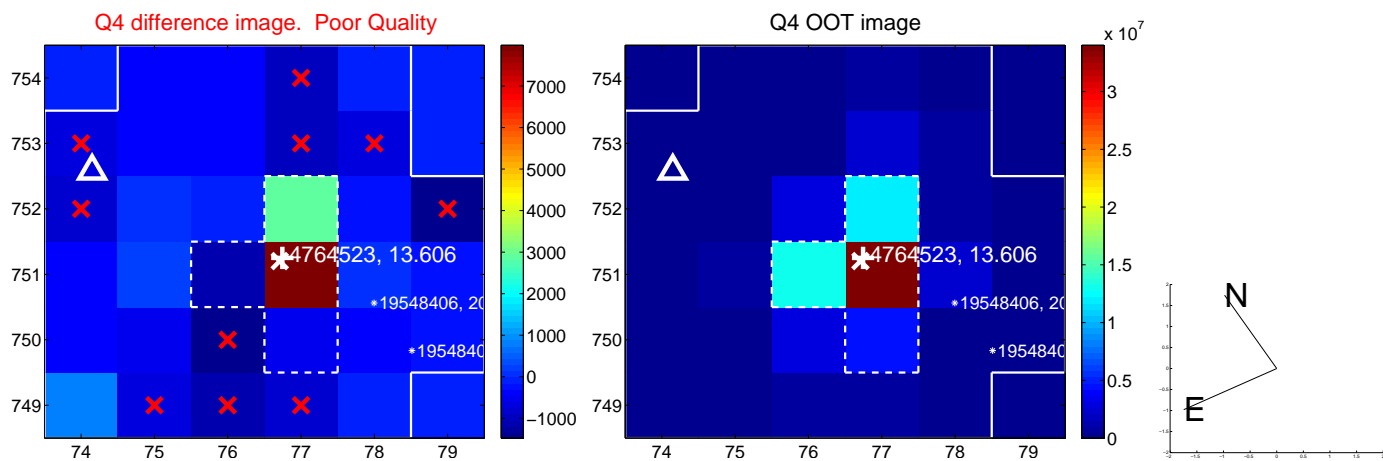
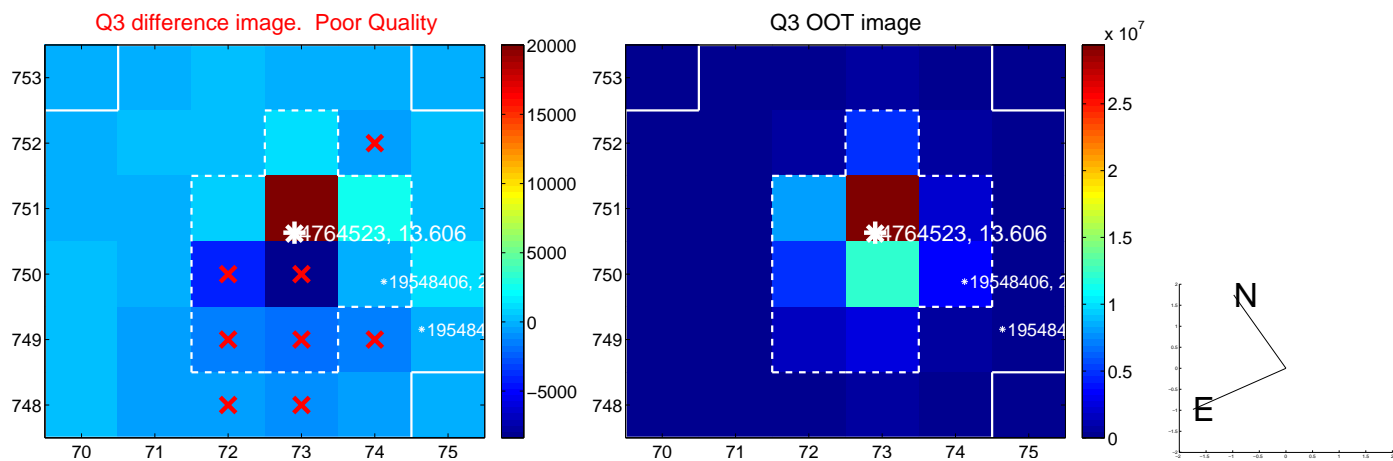
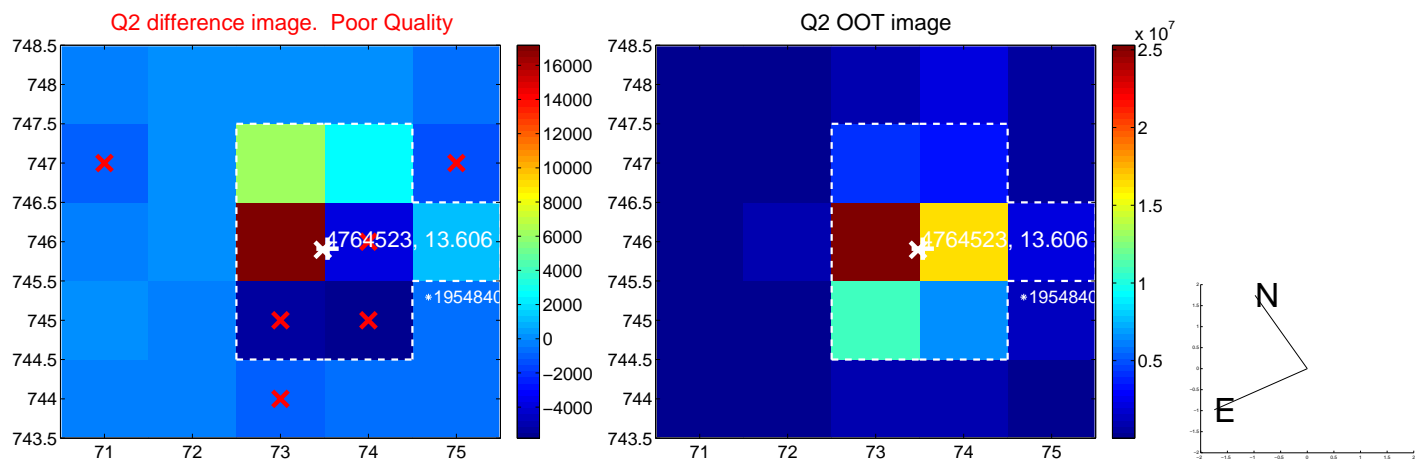
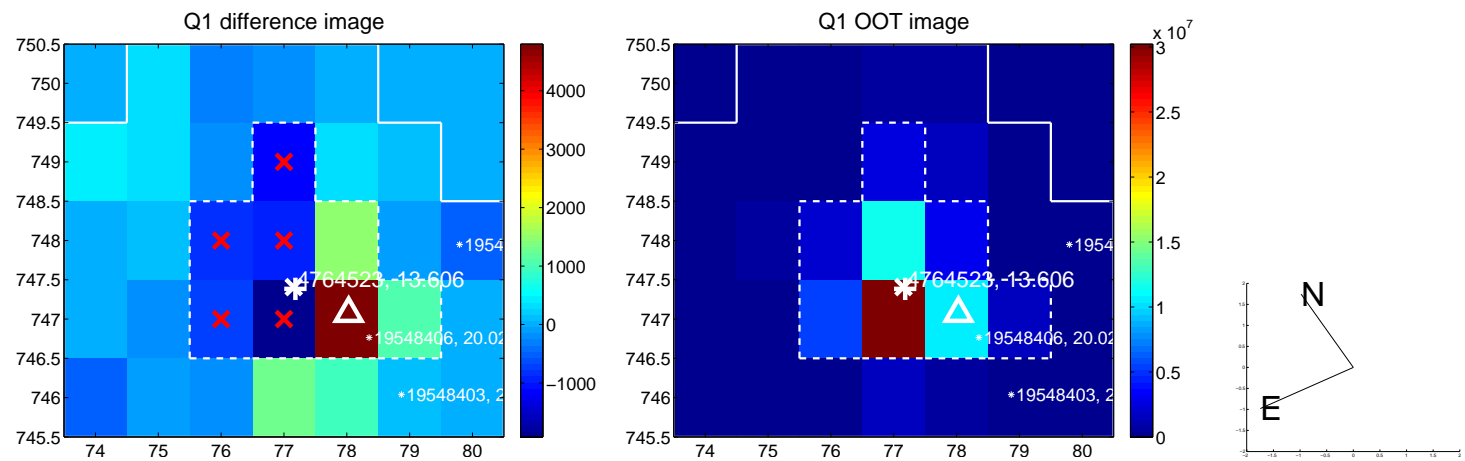


offset from photometric centroids

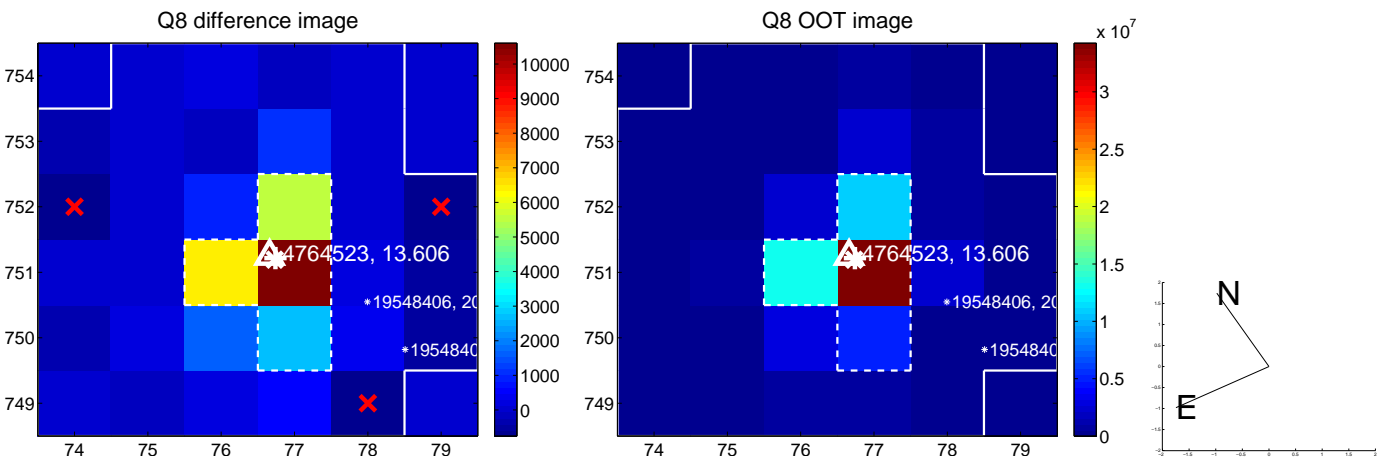
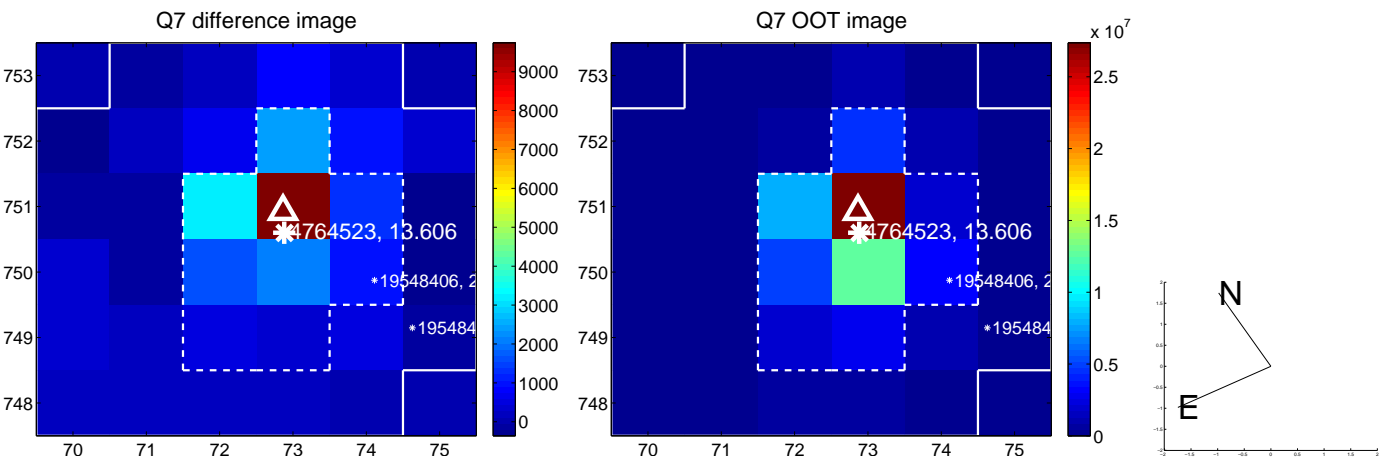
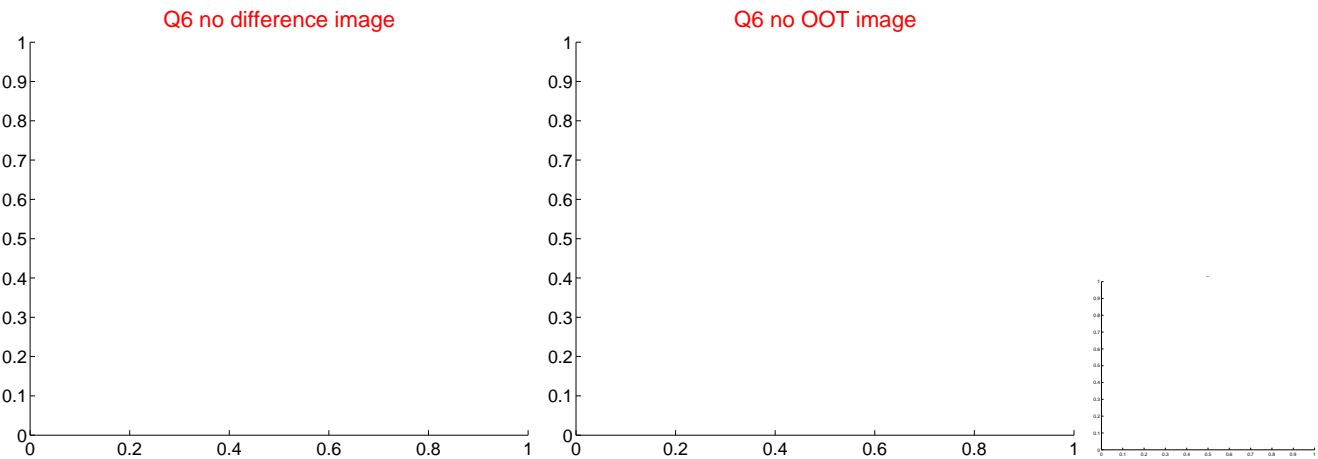
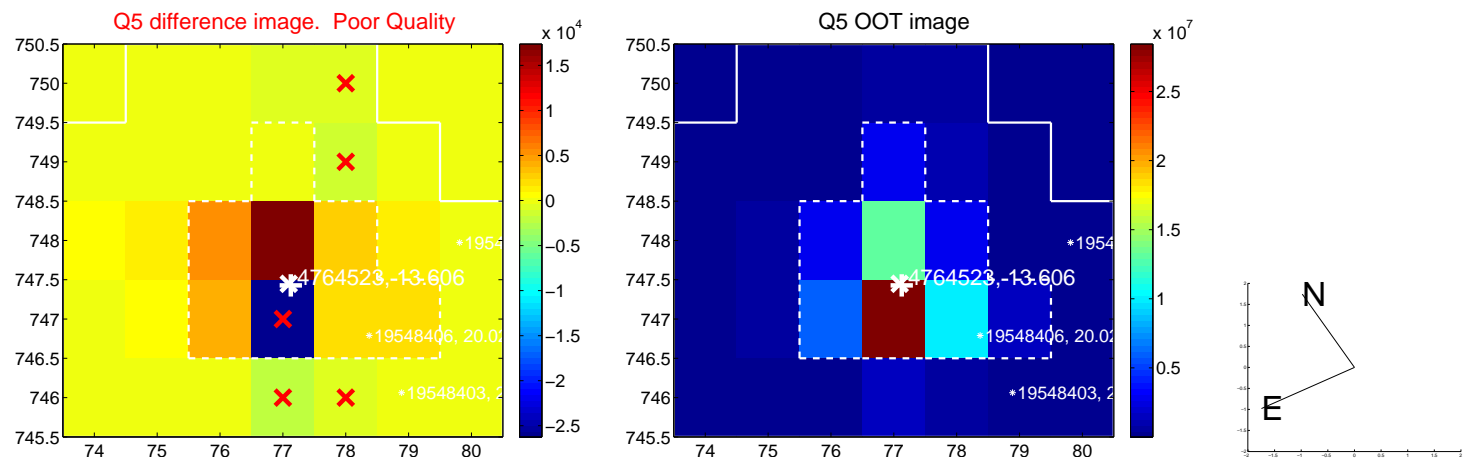


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

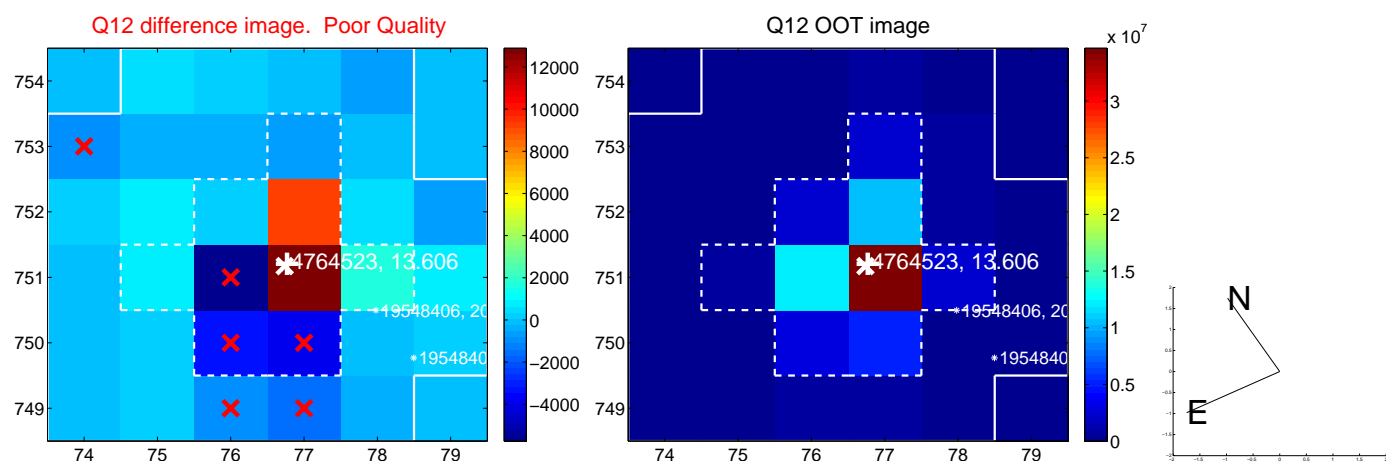
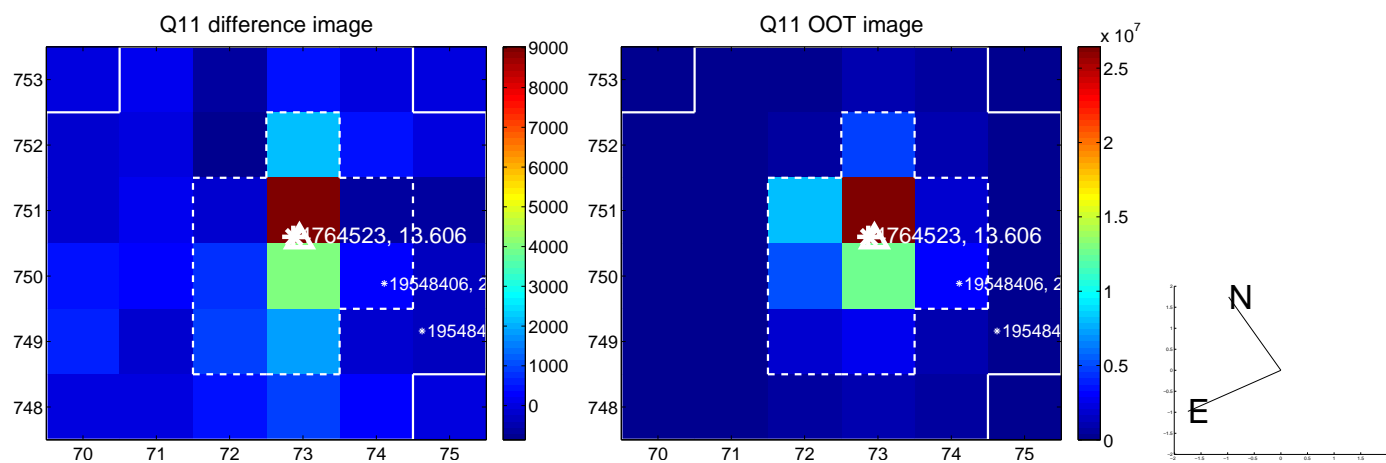
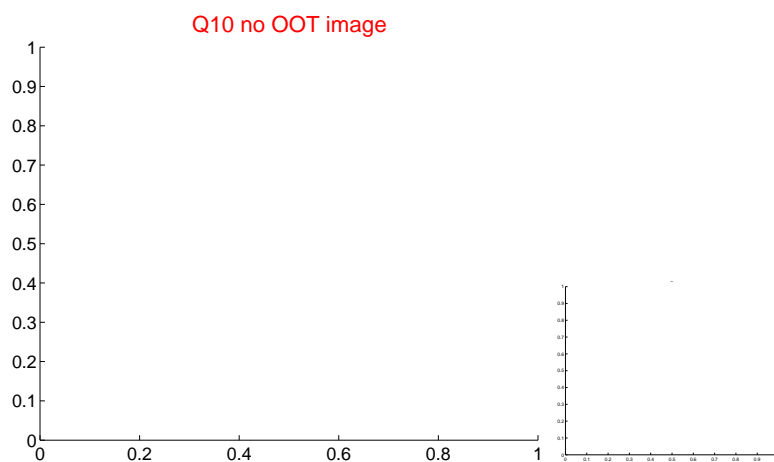
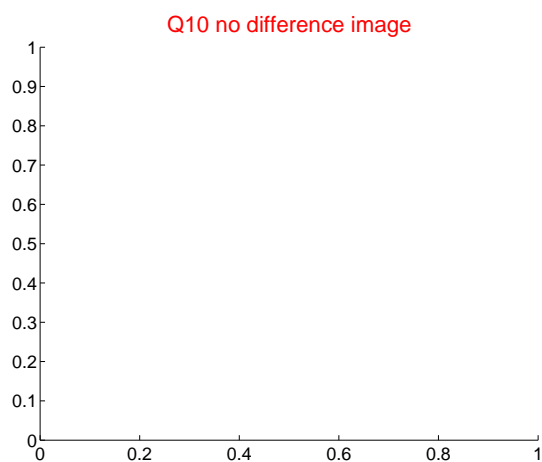
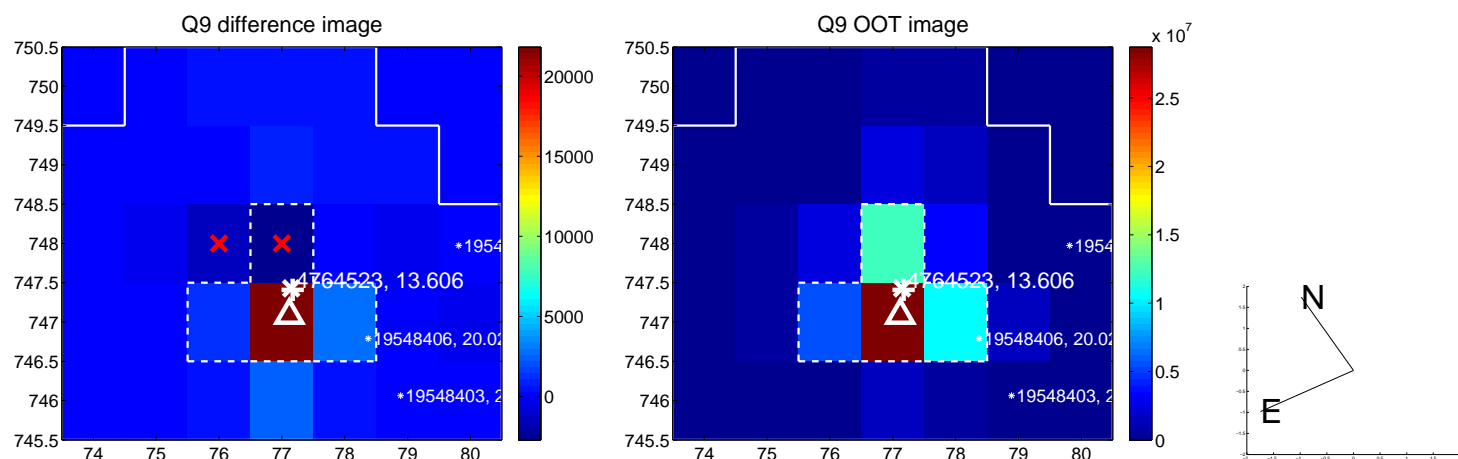
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



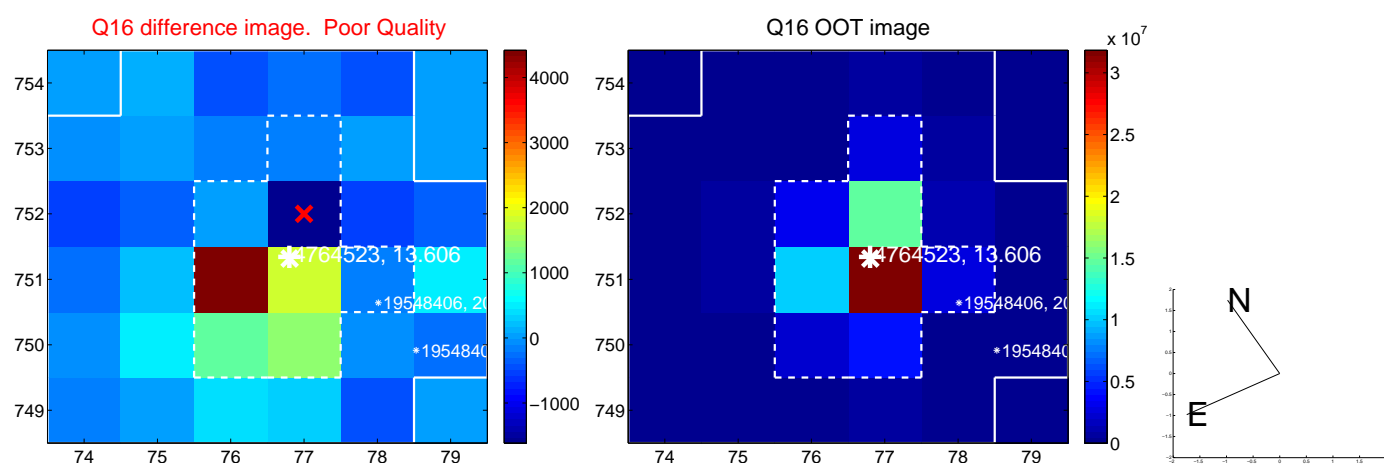
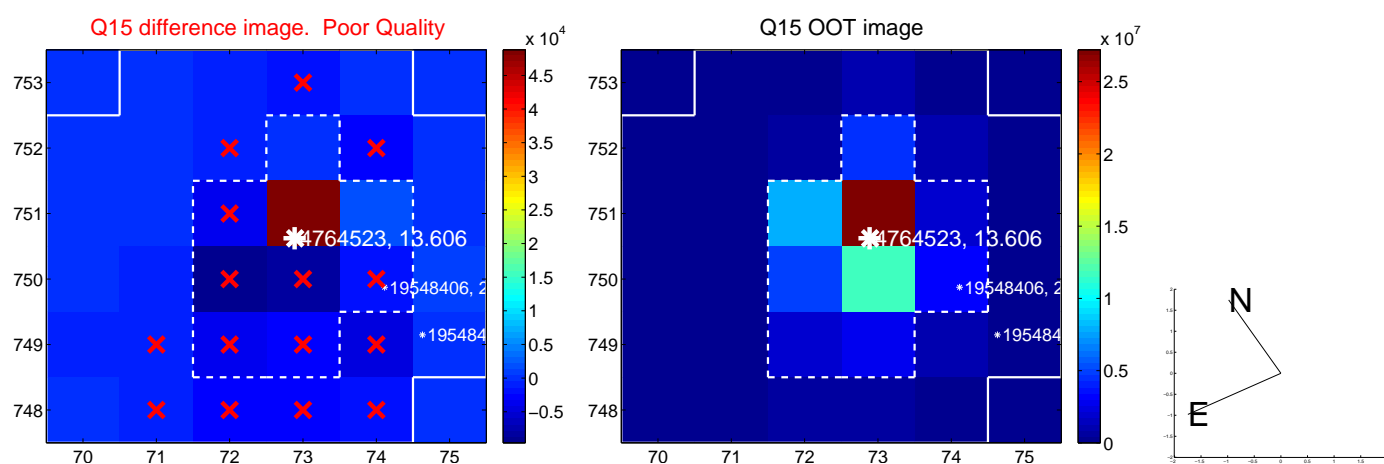
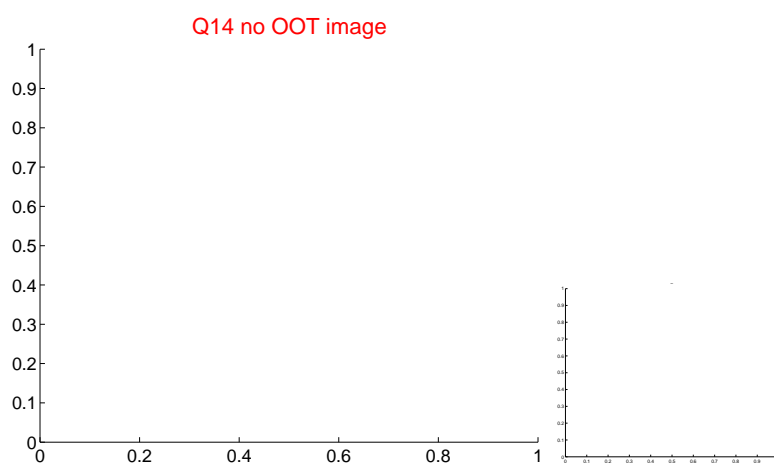
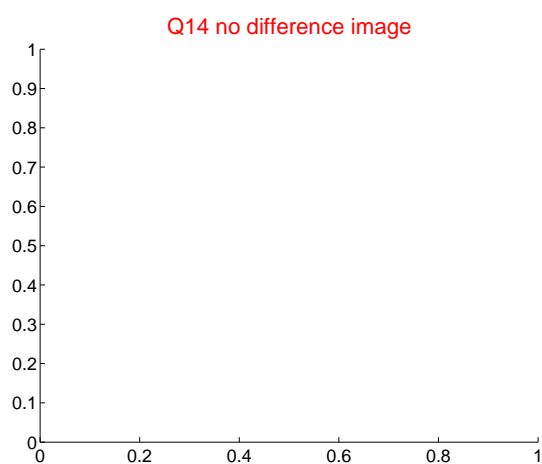
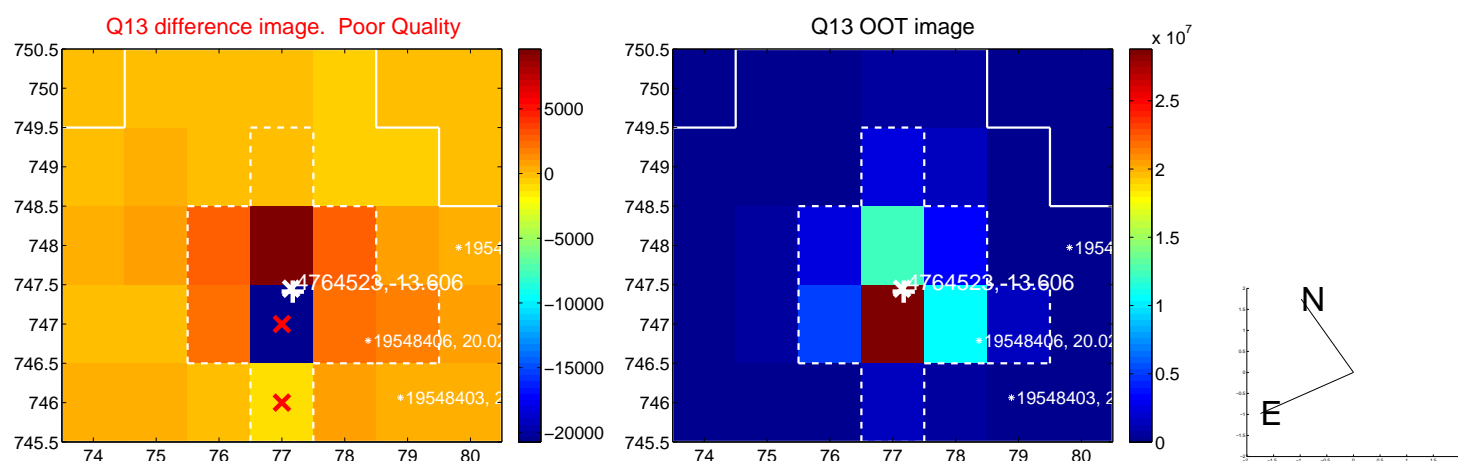
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



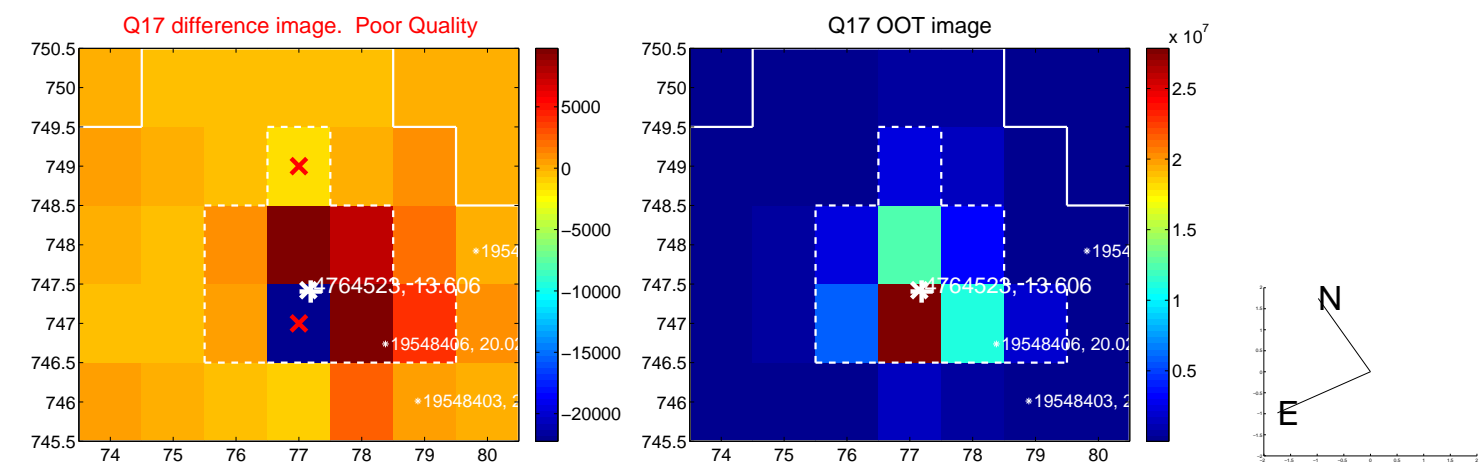
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



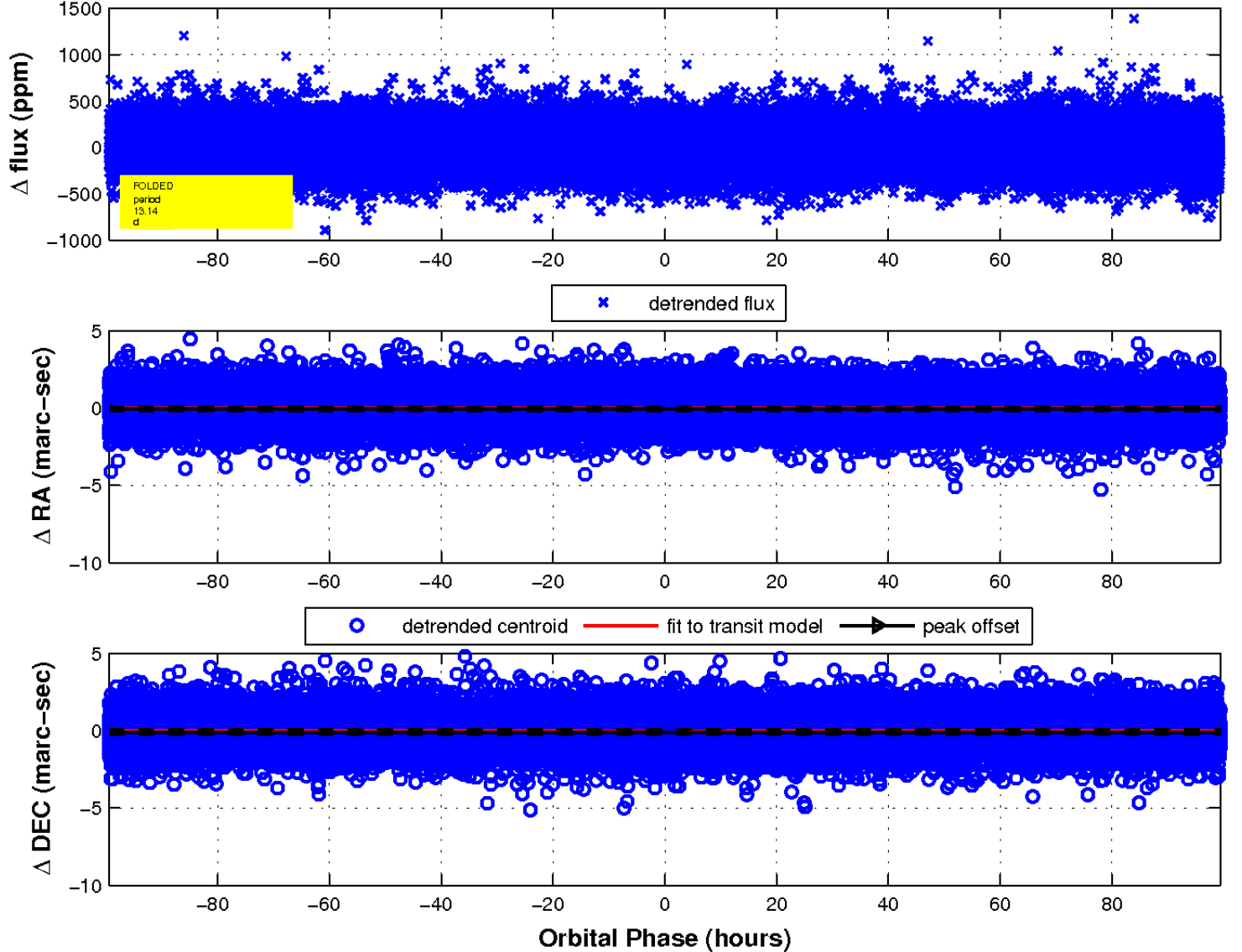
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

