

KIC 010482774

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})
010482774-01	OBS	No	0.502754	131.538692	7.2	3.469	8.2	6.2	1.93	7530	0.56	50501.61
010482774-02	OBS	No	29.800889	146.825635	155.1	1.739	11.9	9.2	1.93	7530	2.59	218.51
010482774-03	OBS	No	5.995822	133.296986	107.8	1.065	10.6	11.0	1.93	7530	2.32	1853.45
010482774-04	OBS	No	19.936665	141.845865	111.4	2.271	9.1	8.4	1.93	7530	2.25	373.46
010482774-05	OBS	No	19.516261	143.715102	221.6	0.950	10.3	11.5	1.93	7530	3.10	384.22
010482774-06	OBS	No	12.800680	138.105698	205.4	1.126	10.1	13.1	1.93	7530	3.19	674.22
010482774-07	OBS	No	20.967424	143.285997	325.0	1.500	9.6	-1.0	1.93	7530	3.55	349.18
010482774-08	OBS	No	30.577010	149.721461	200.3	1.866	9.4	9.7	1.93	7530	3.02	211.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010482774-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS
010482774-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010482774-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010482774-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010482774-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010482774-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
010482774-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
010482774-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV

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

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

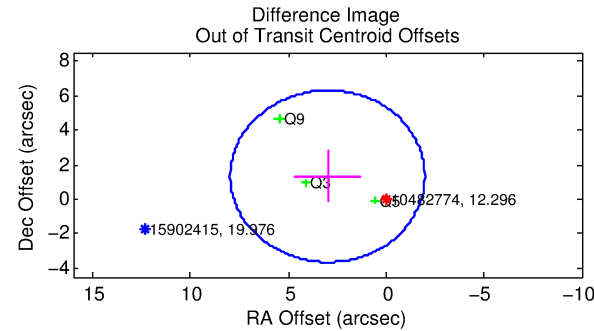
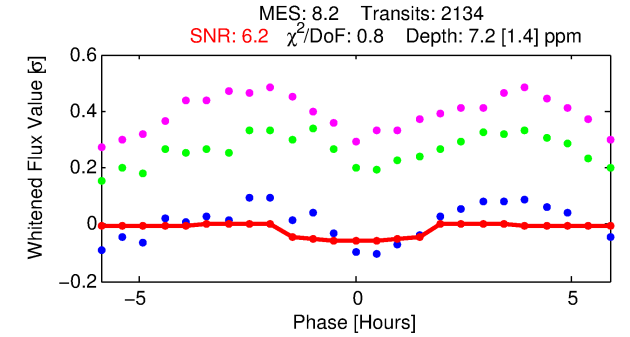
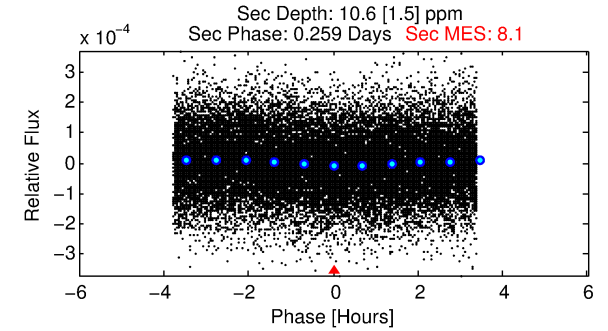
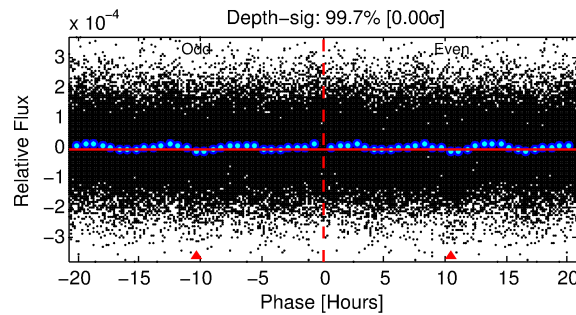
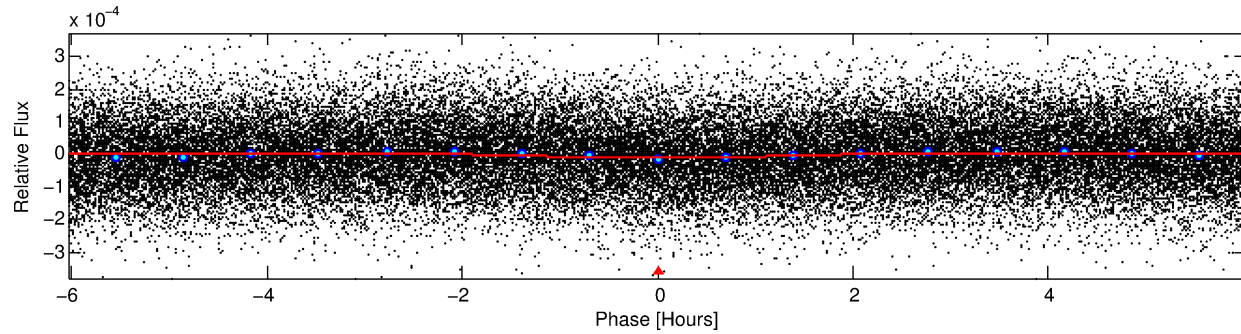
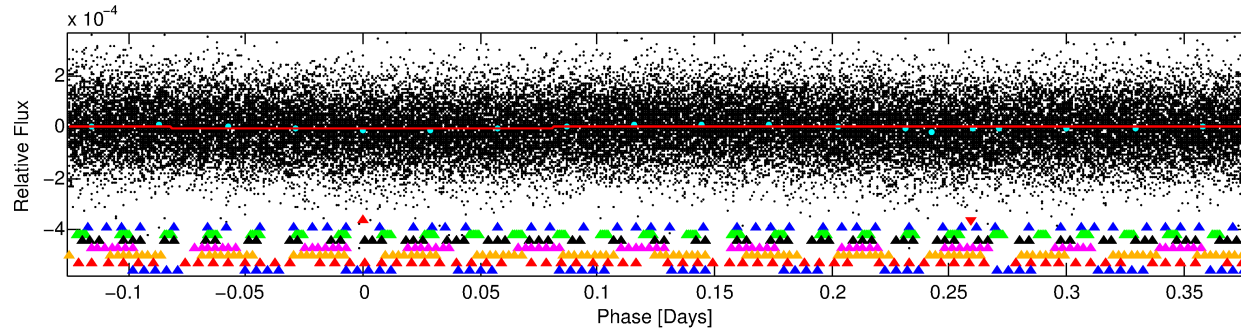
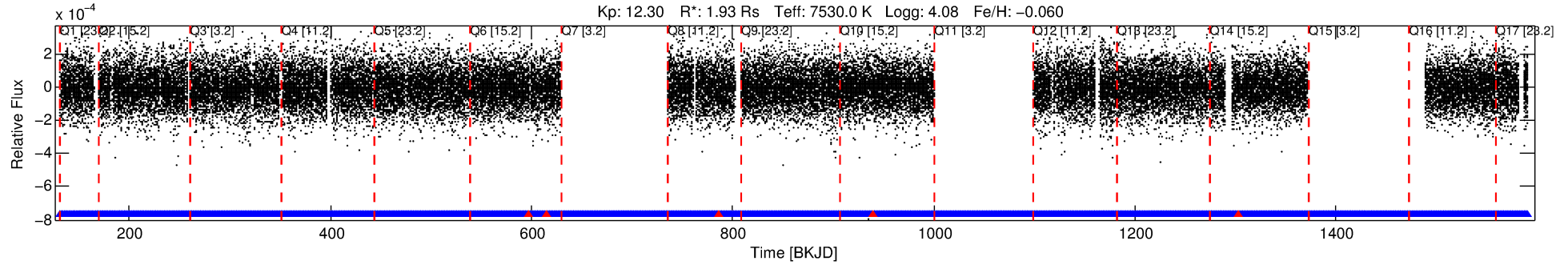
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010482774-01

No Significant Match Found

DV One-Page Summary

KIC: 10482774 Candidate: 1 of 8 Period: 0.503 d



DV Fit Results:

Period = 0.50275 [0.00002] d
Epoch = 131.5387 [0.0052] BKJD
Rp/R* = 0.0027 [0.0010]
a/R* = 1.14 [0.66]
b = 0.72 [1.64]
Seff = 50501.61 [18526.83]
Teq = 3823 [351] K
Rp = 0.56 [0.27] Re
a = 0.0146 [0.0033] AU
Ag = 3.95 [3.41] [0.87σ]
Teffp = 8333 [1697] K [2.60σ]

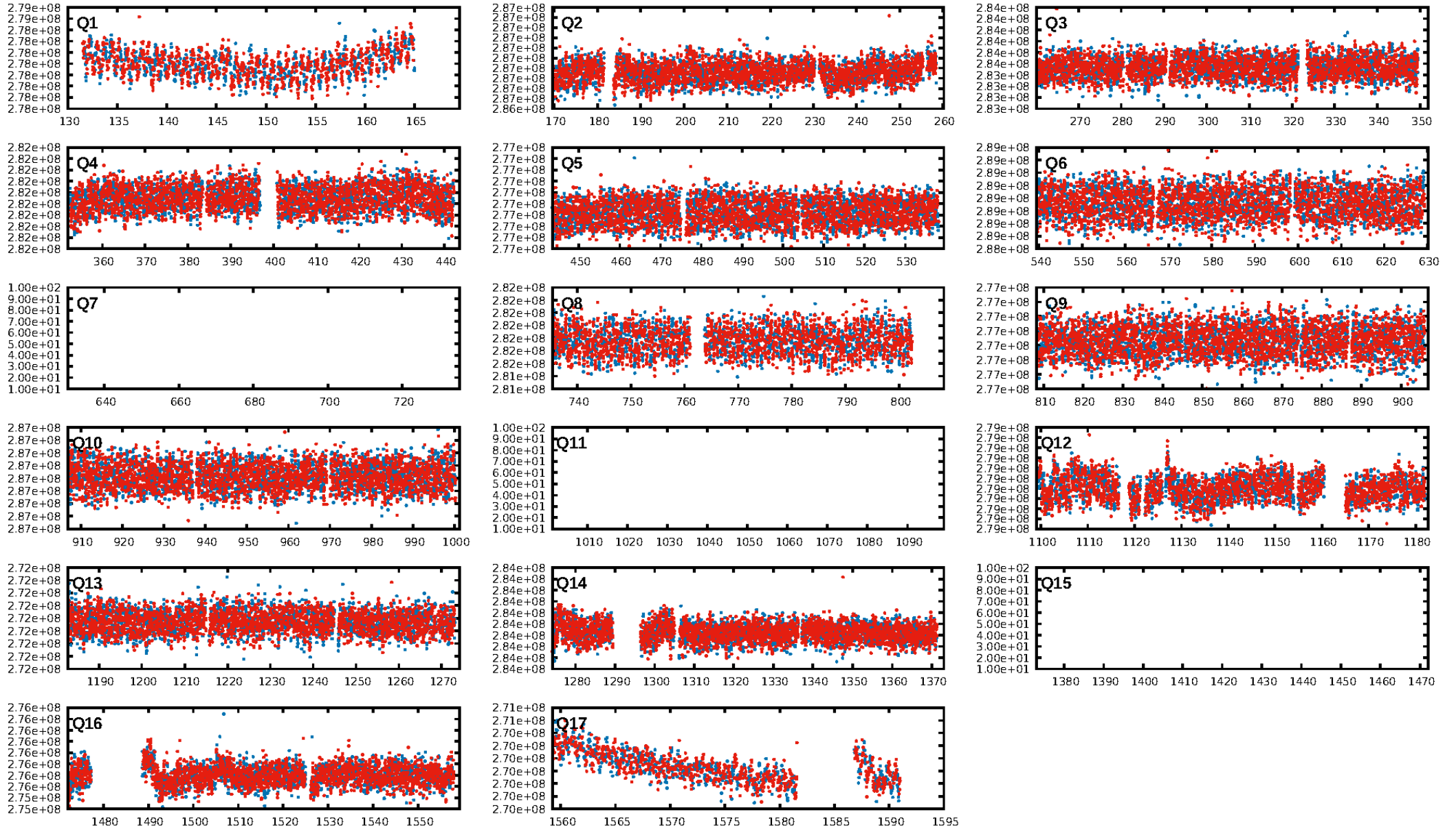
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [36.33σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.04e-05
RollingBand-fgt: 1.00 [2008/2013]
GhostDiagnostic-chr: 0.2578
Centroid-sig: 0.6%
Centroid-so: 2.134 arcsec [1.72σ]
OotOffset-rm: 3.278 arcsec [1.98σ]
KicOffset-rm: 3.287 arcsec [1.97σ]
OotOffset-st: 0/1/0/2 [3]
KicOffset-st: 0/1/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [14/14]

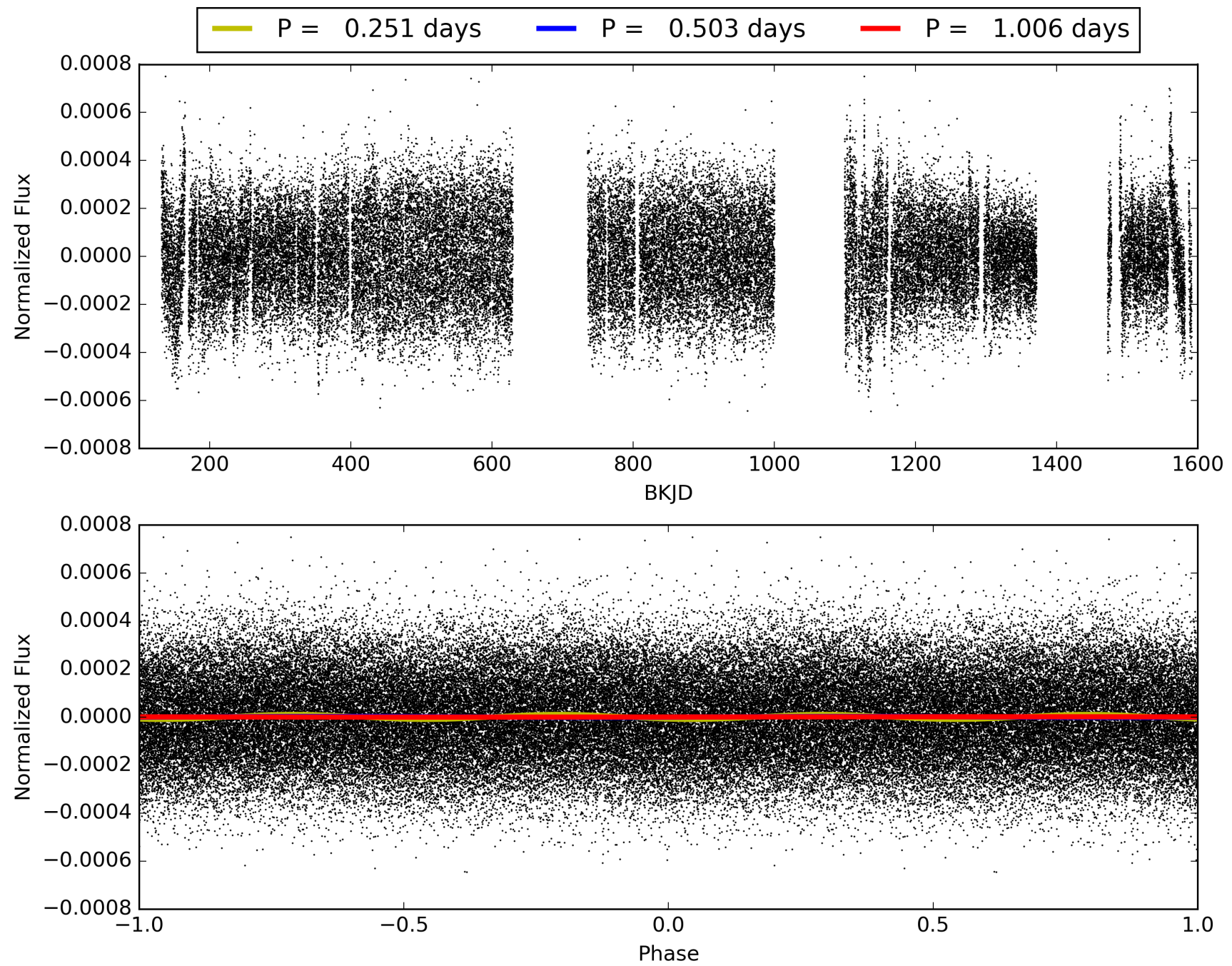
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 010482774-01, PDC Light Curves

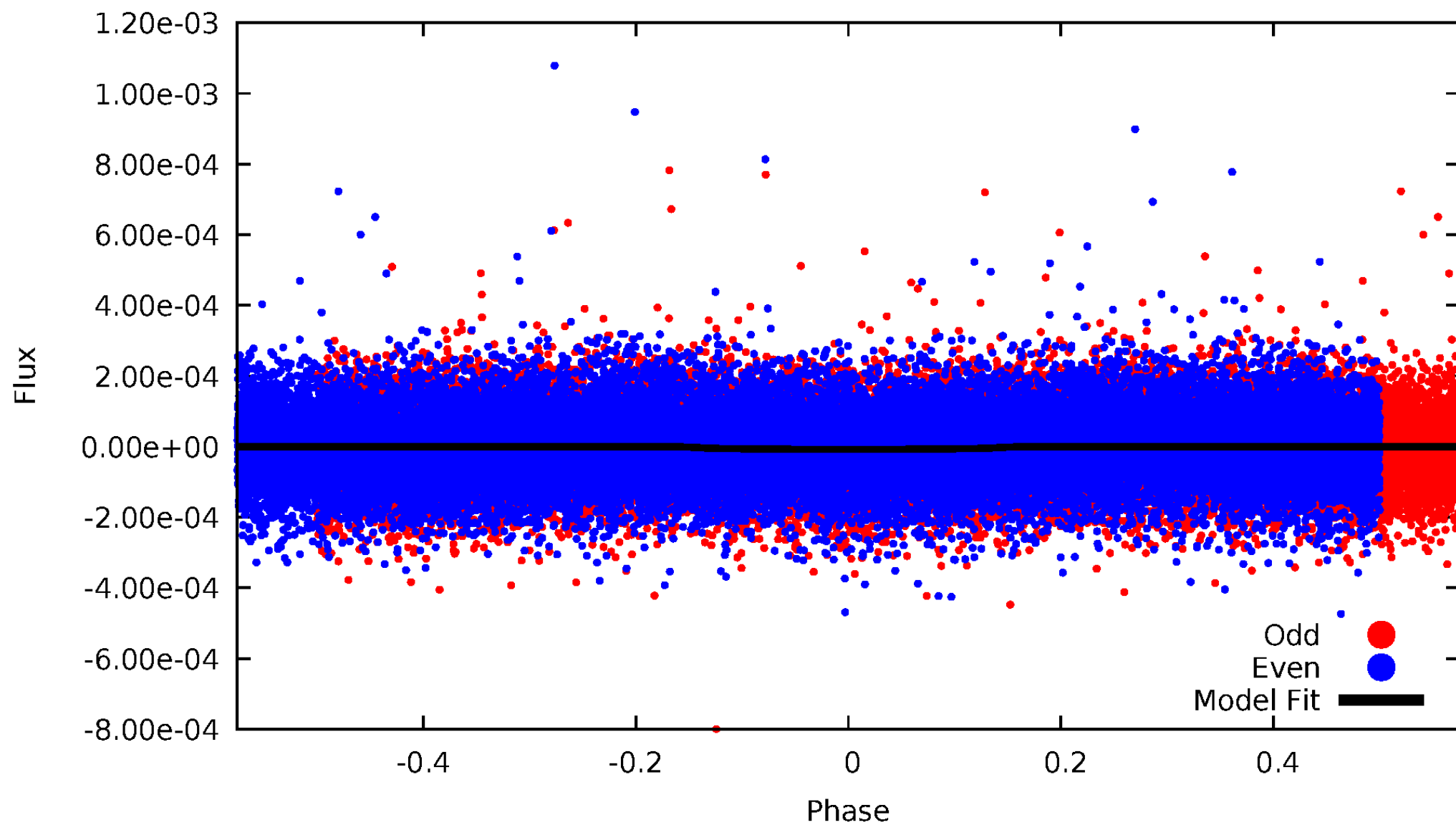


TCE 010482774-01



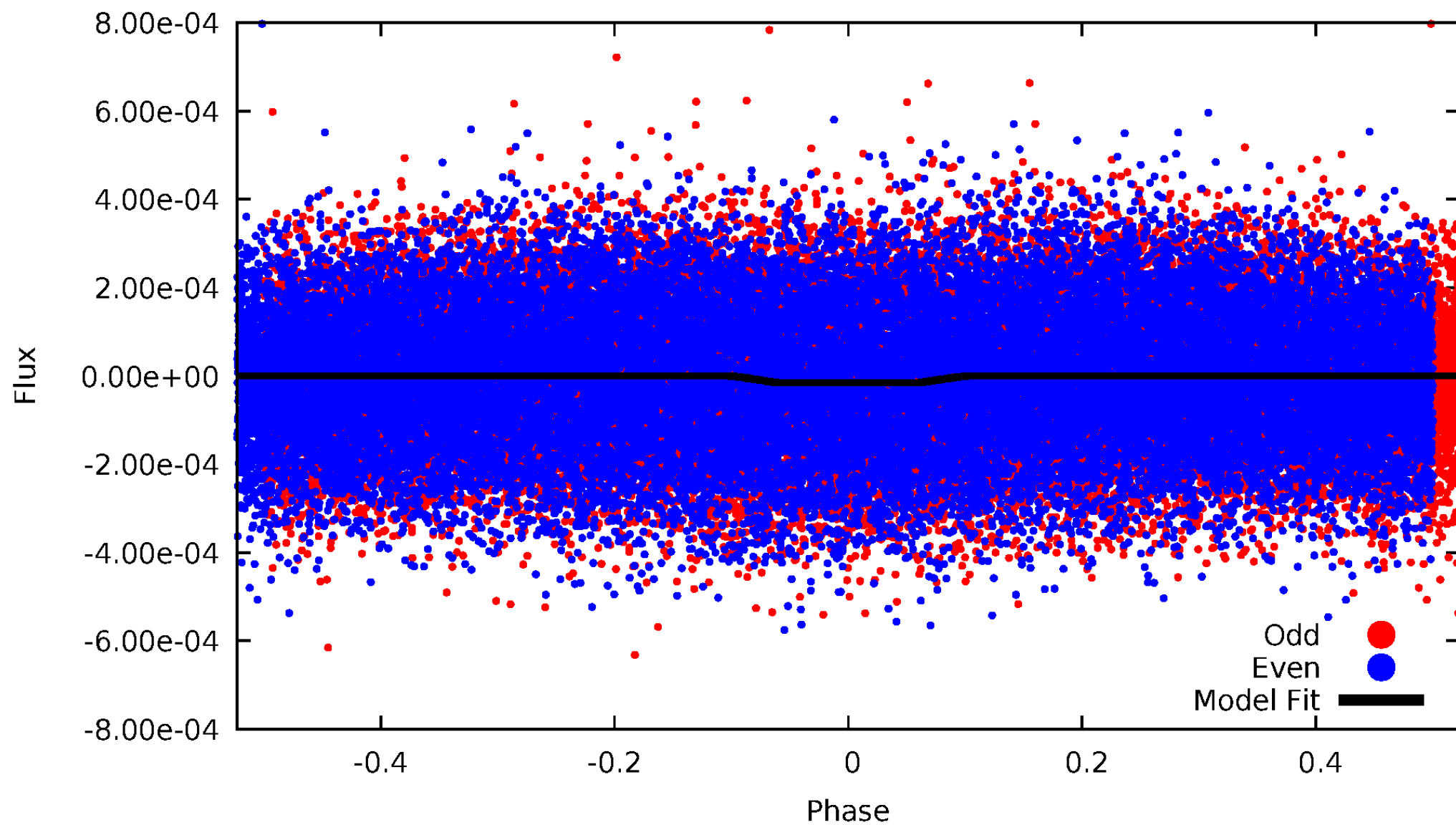
DV Odd/Even

TCE 010482774-01

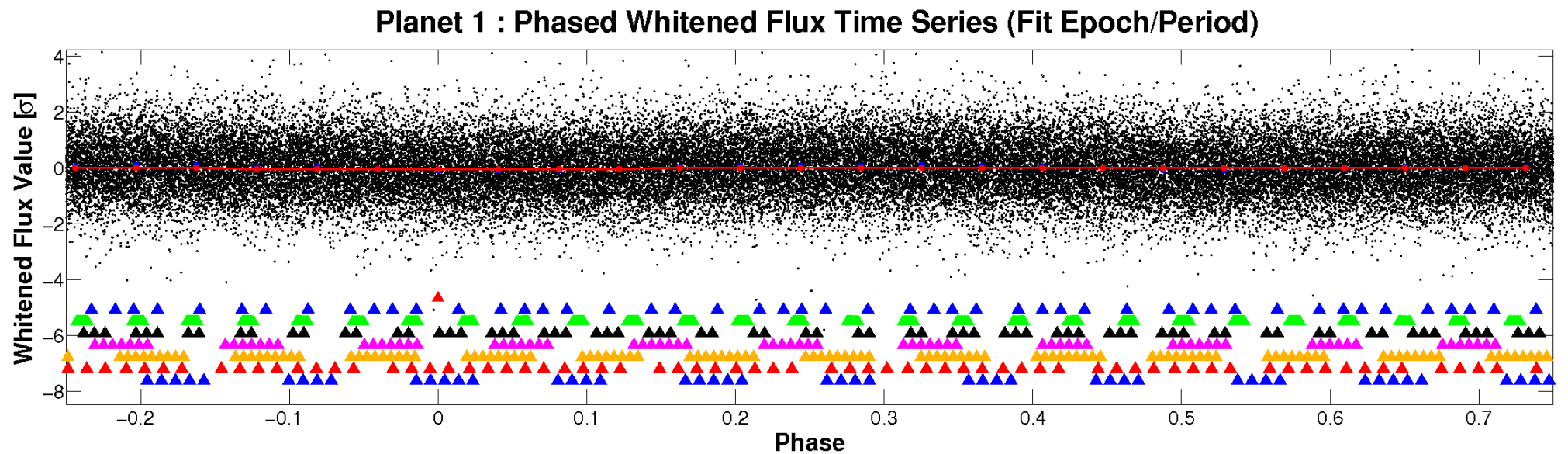
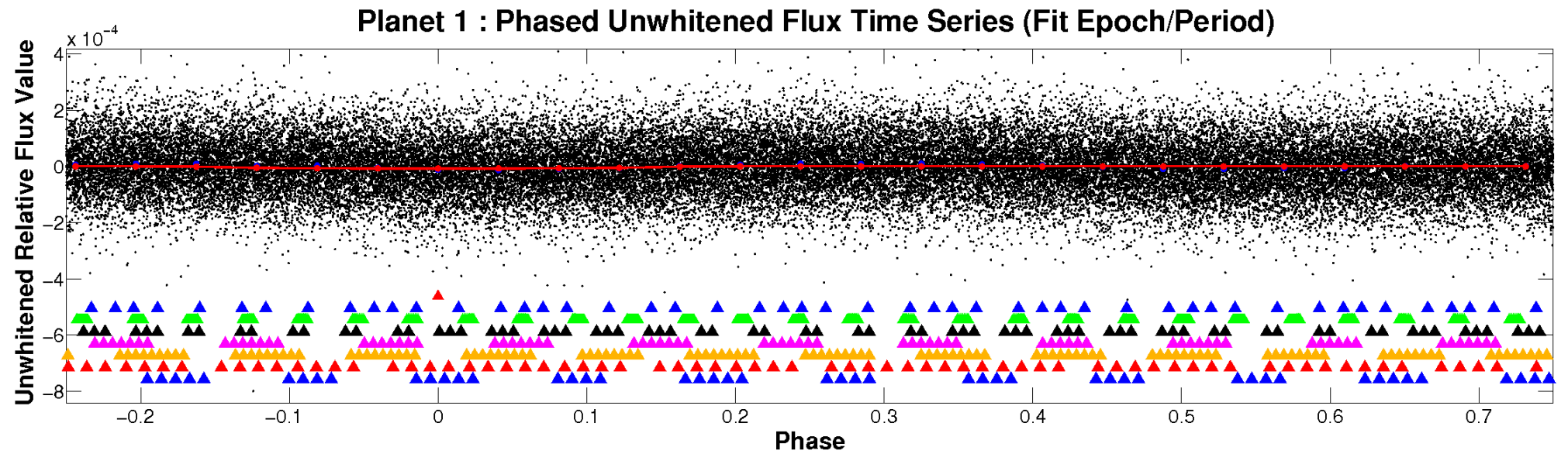


ALT Odd/Even

TCE 010482774-01

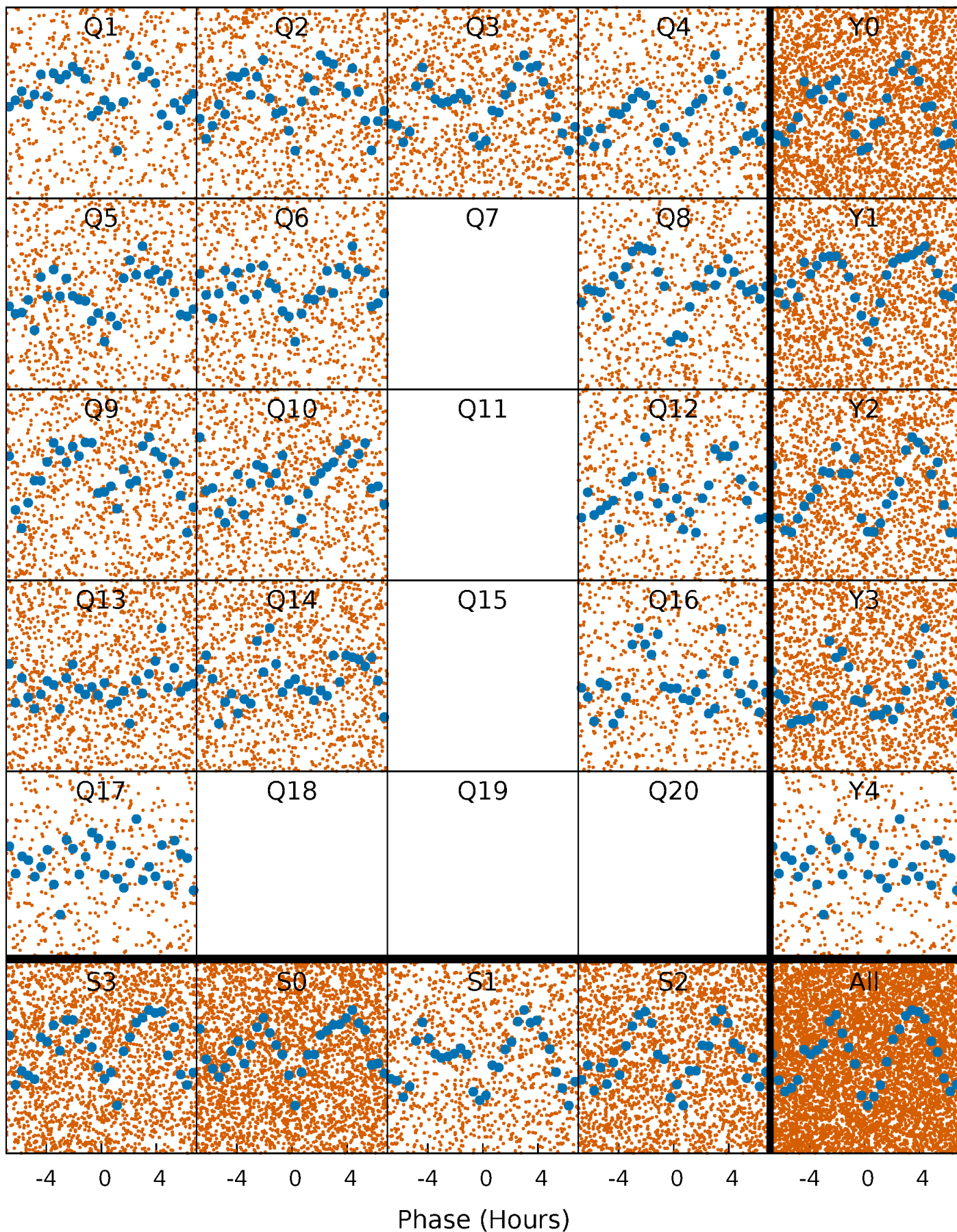


Non-Whitened Vs. Whitened Light Curve



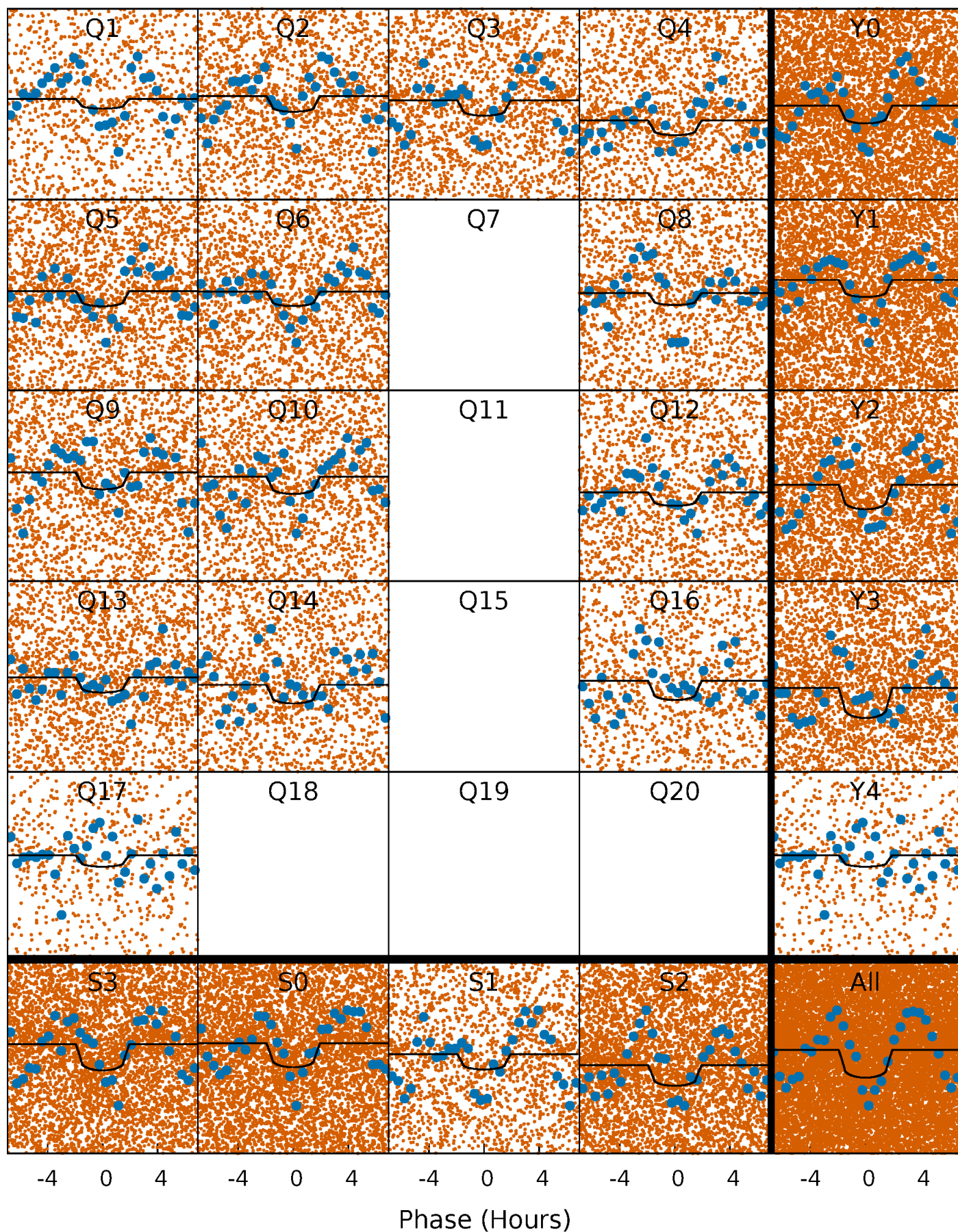
PDC Quarter-Phased Transit Curves

TCE 010482774-01 P= 0.502754 Days $T_0=131.538692$ (BKJD)



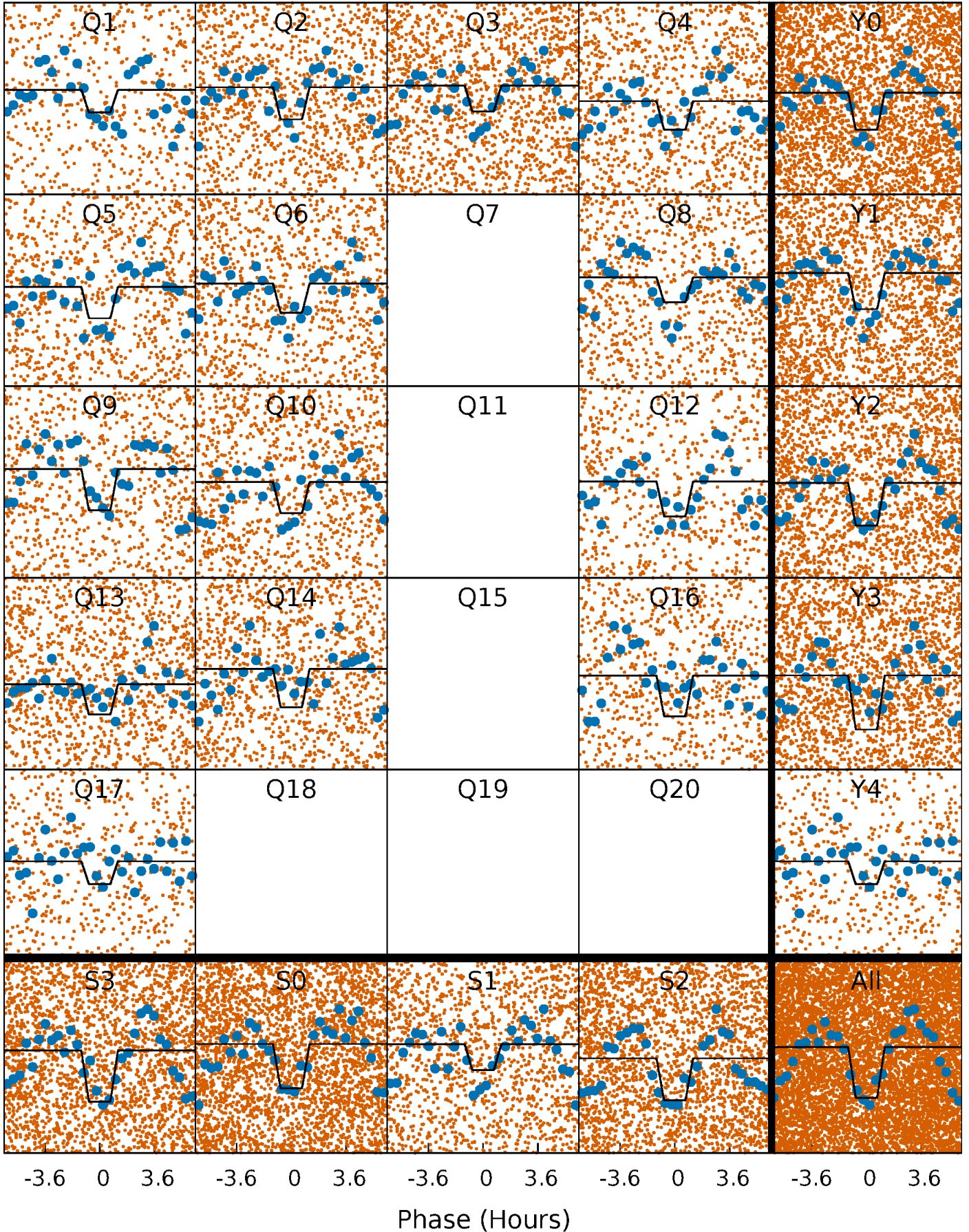
DV Quarter-Phased Transit Curves

TCE 010482774-01 P= 0.502754 Days $T_0=131.538692$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

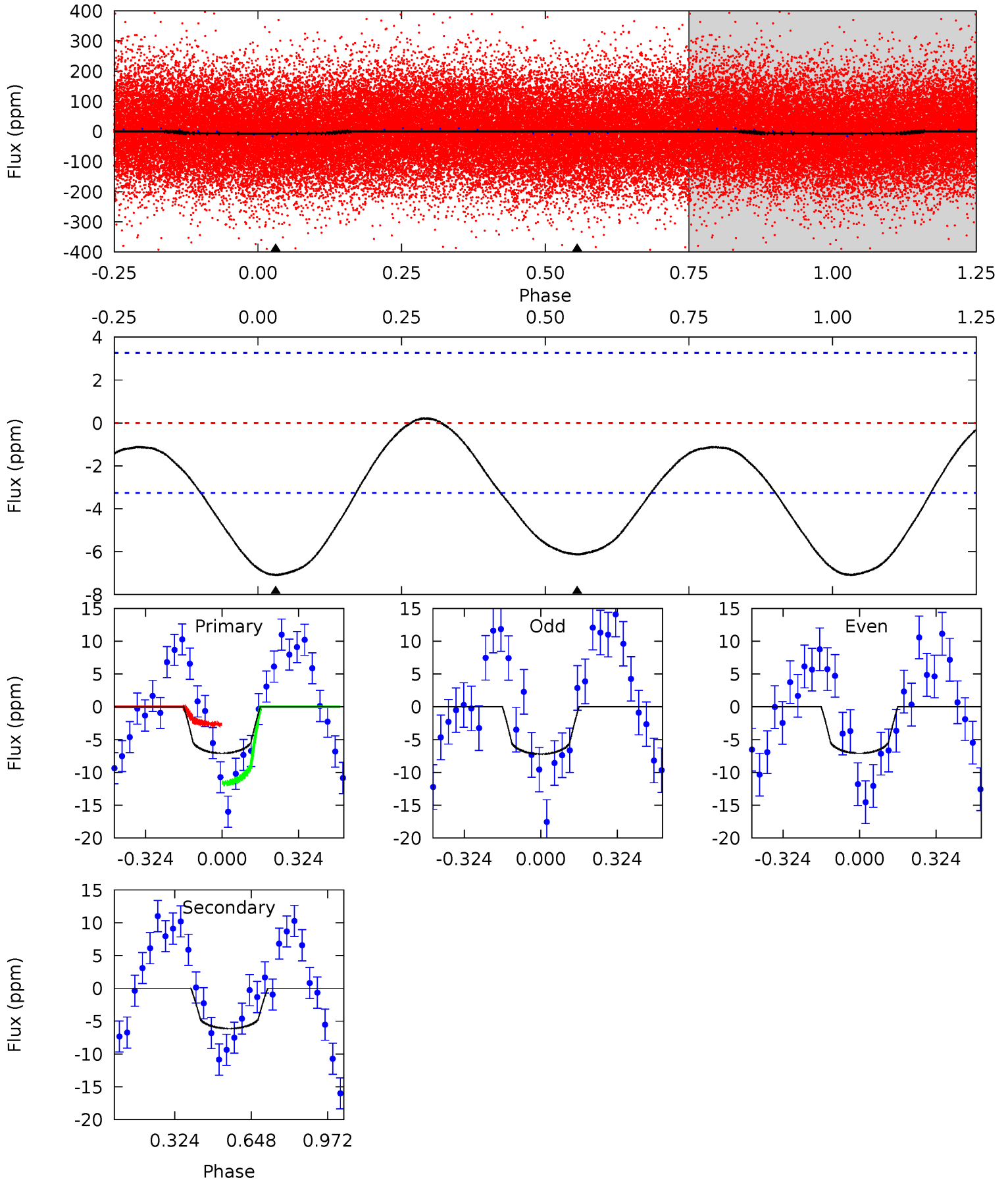
TCE 010482774-01 P= 0.502774 Days $T_0=131.536574$ (BKJD)



DV Model-Shift Uniqueness Test

010482774-01, P = 0.502754 Days, E = 131.035938 Days

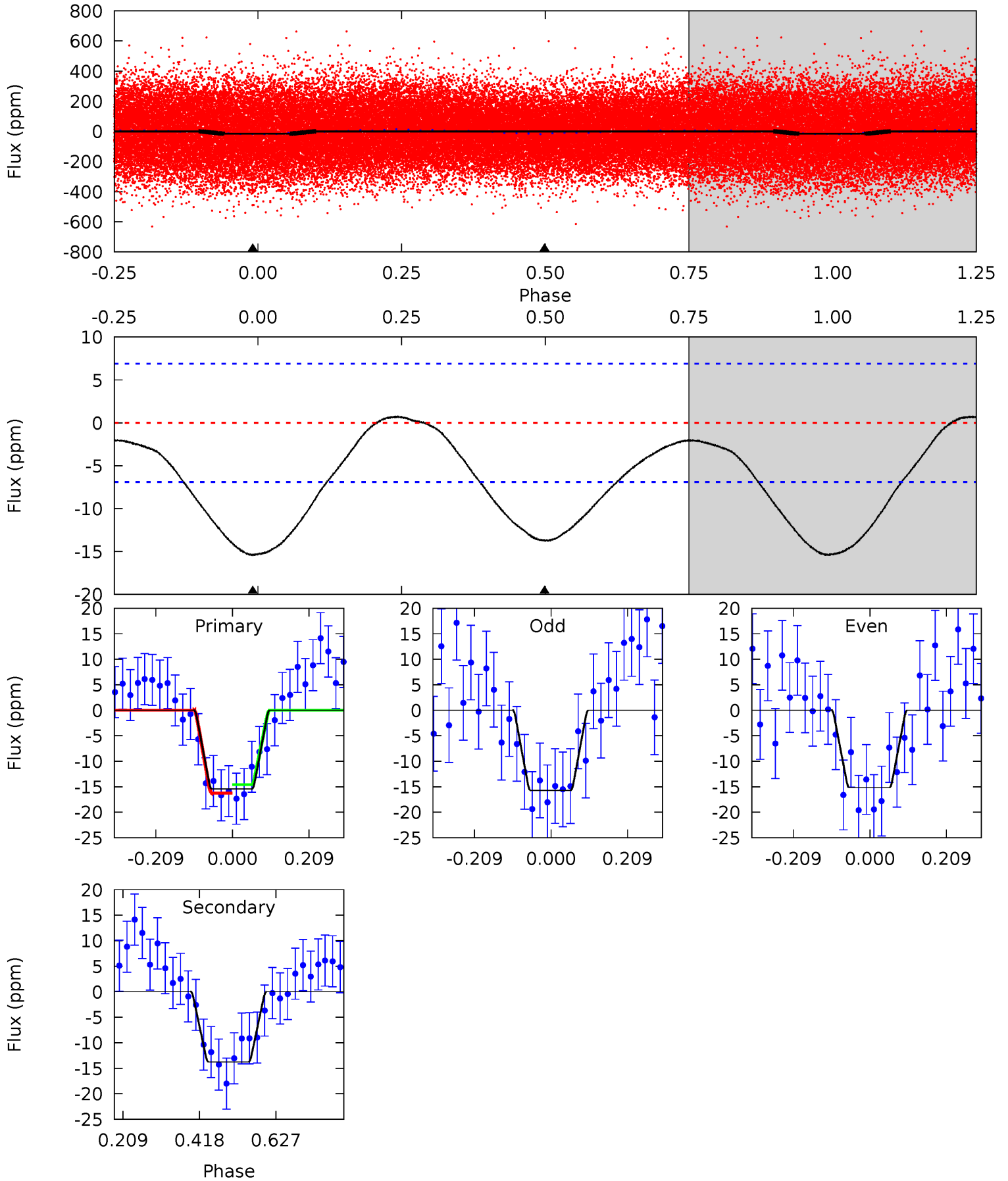
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.35	8.09	0	0	4.31	0.99	0.72	9.35	9.35	8.09	8.09	0.07	1.00	0.03	5.97



Alt Model-Shift Uniqueness Test

010482774-01, P = 0.502774 Days, E = 131.033800 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.86	8.79	0	0	4.41	1.26	0.86	9.86	9.86	8.79	8.79	0.17	1.25	0.05	0.53



Stellar Parameters For KIC 010482774

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7530^{+209}_{-314}	$4.080^{+0.144}_{-0.176}$	$-0.060^{+0.200}_{-0.350}$	$1.930^{+0.532}_{-0.387}$	$1.633^{+0.212}_{-0.259}$	$0.320^{+0.270}_{-0.147}$
	+3%/-4%	+4%/-4%	+333%/-583%	+28%/-20%	+13%/-16%	+84%/-46%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010482774-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-6 ± 1	$0.58^{+0.24}_{-0.25}$	5354^{+418}_{-352}	6841^{+3117}_{-1333}	$2.162^{+4.553}_{-1.112}$
Alt.	-14 ± 2	$0.85^{+0.24}_{-0.24}$	5344^{+380}_{-349}	6886^{+1579}_{-943}	$2.213^{+2.154}_{-0.881}$

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 $A_{obs} \gg 1.0$

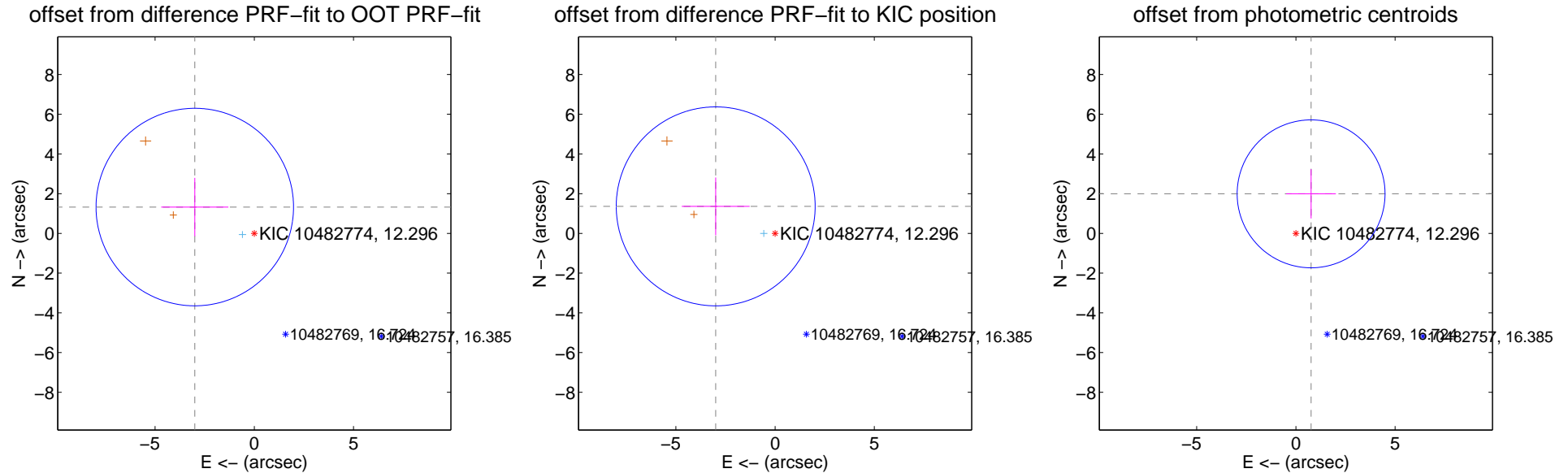
DV Centroid Data

Supplemental centroid analysis for 010482774-01. Kepler magnitude: 12.30. Transit SNR 6.23

There are 1 quarters with good PRF difference image offsets

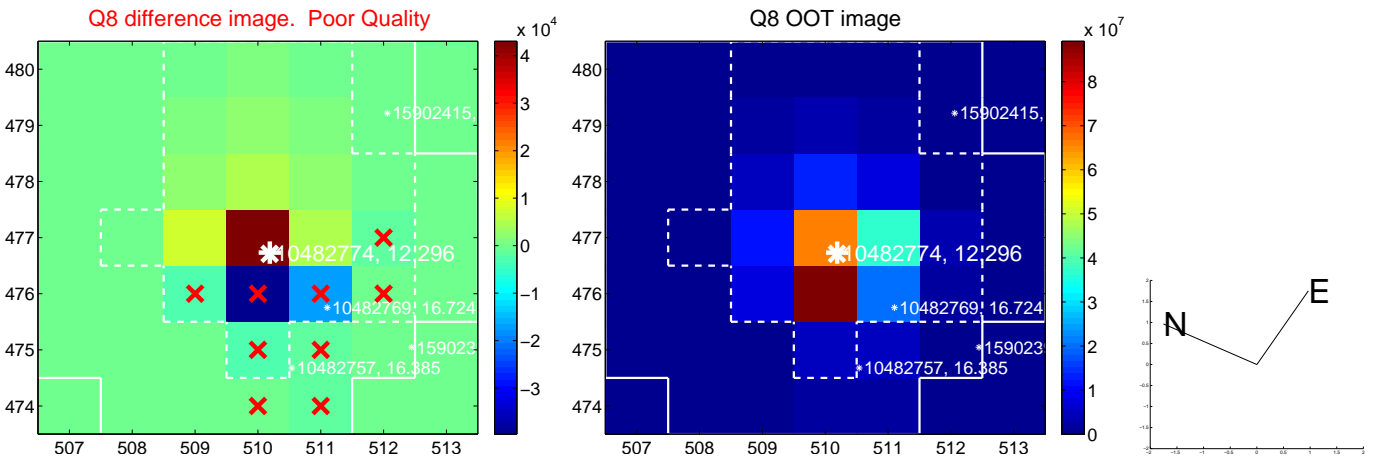
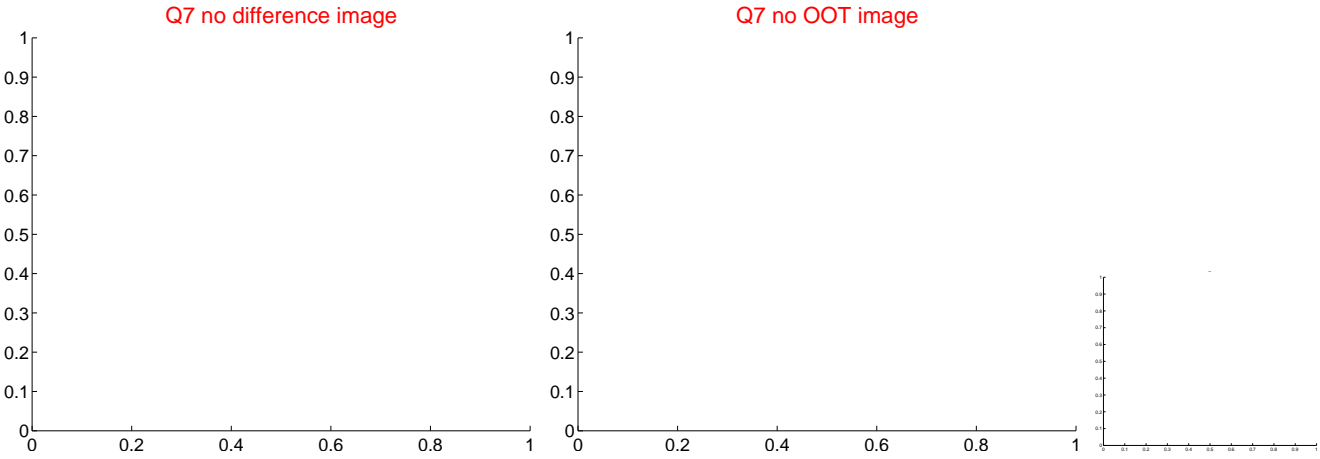
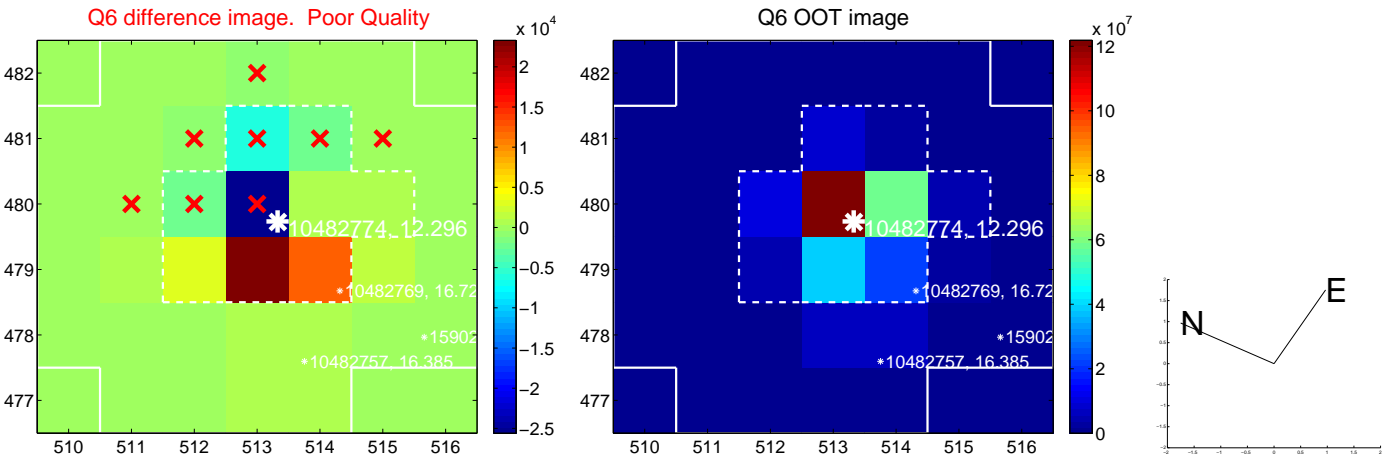
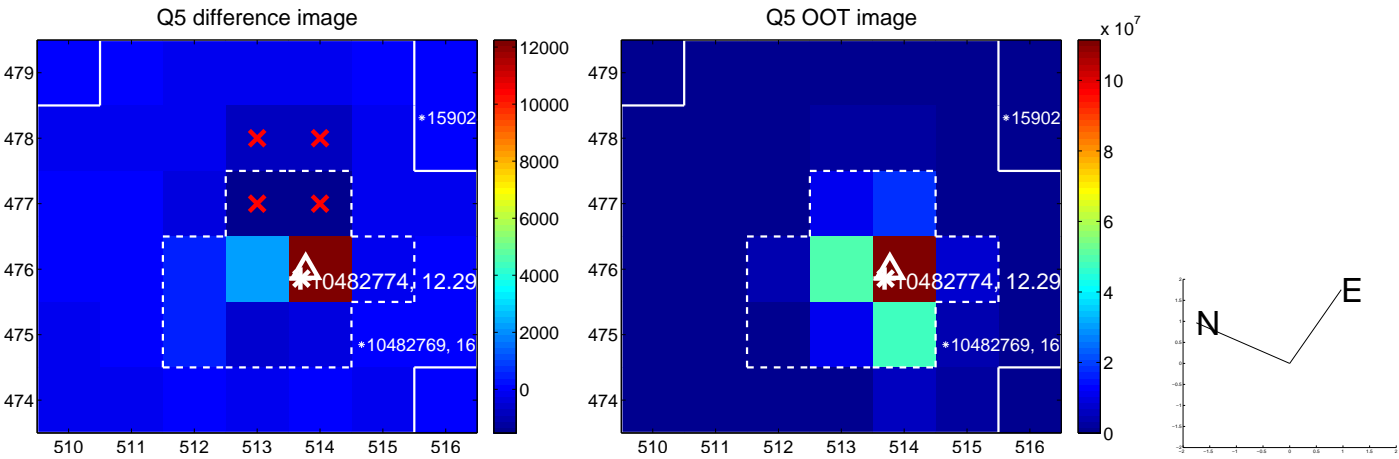
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.278 ± 1.658	1.98	2.998 ± 1.692	1.326 ± 1.470
PRF-fit source offset from KIC position	3.287 ± 1.670	1.97	2.992 ± 1.711	1.361 ± 1.455
photometric centroid source offset	2.13 ± 1.24	1.72	-0.77 ± 1.25	1.99 ± 1.24

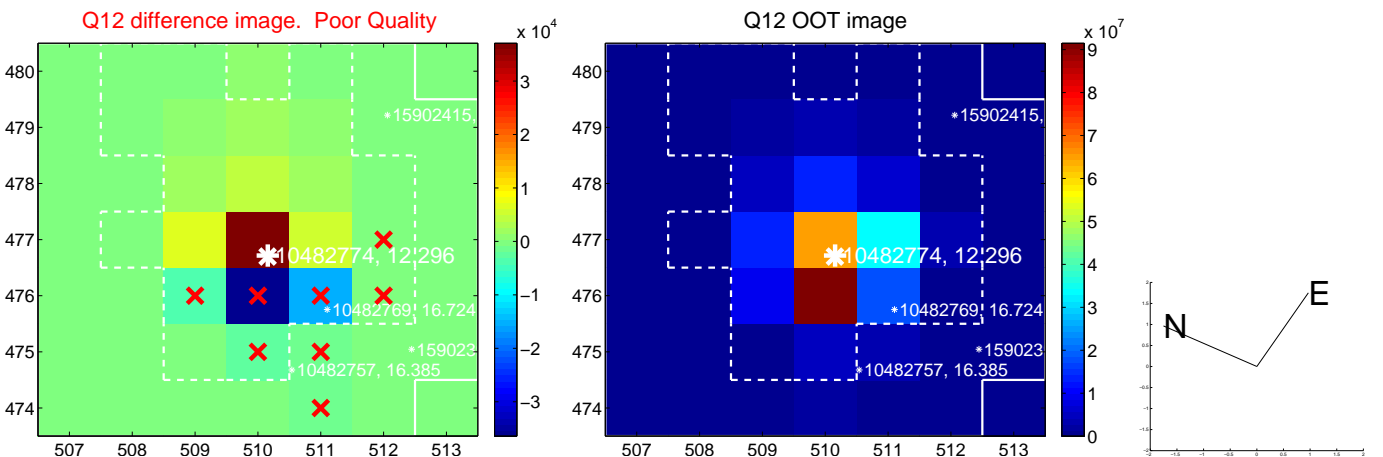
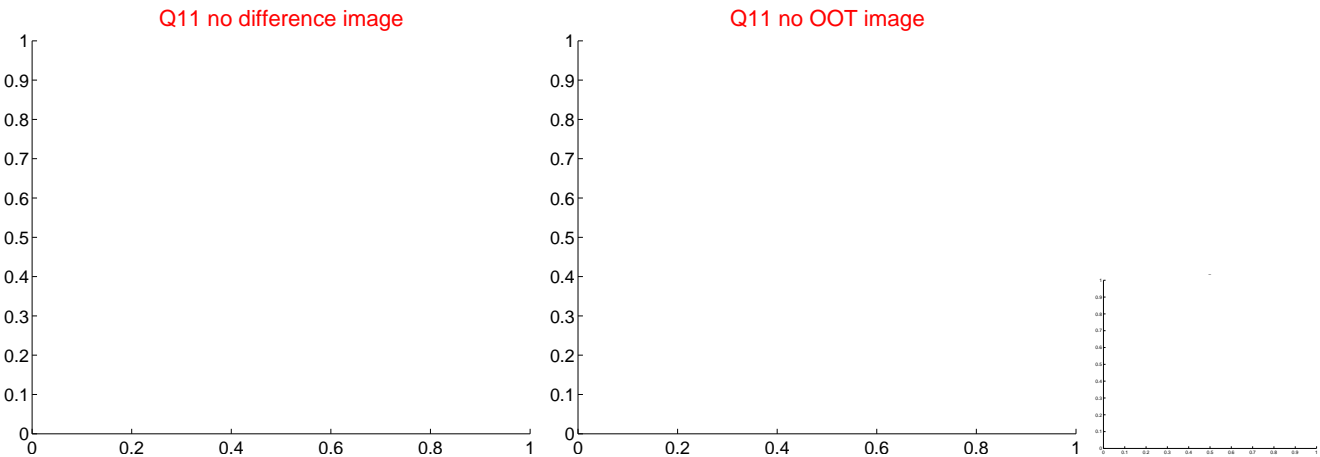
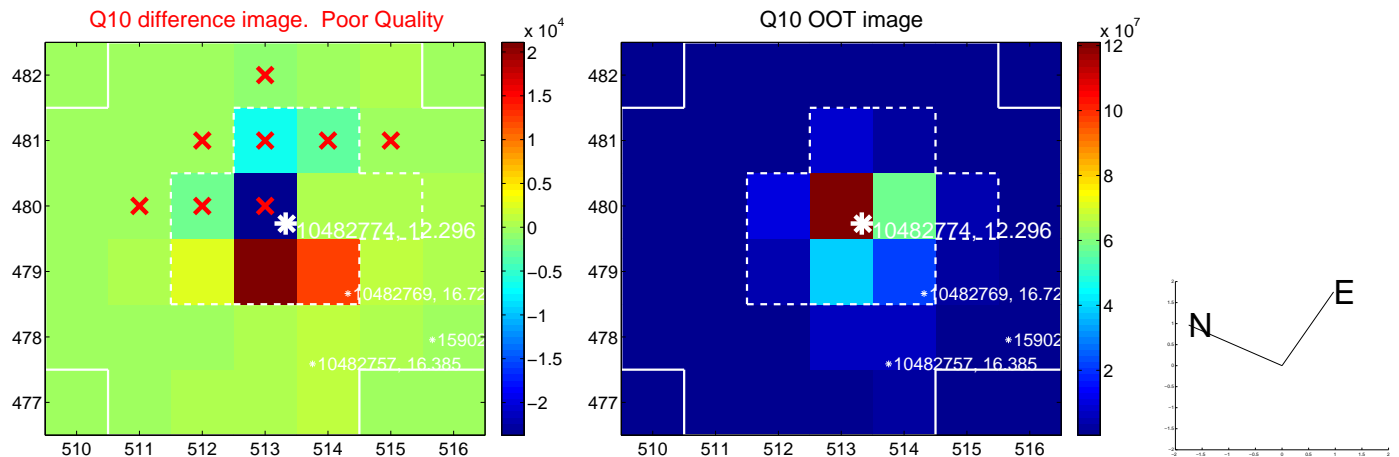
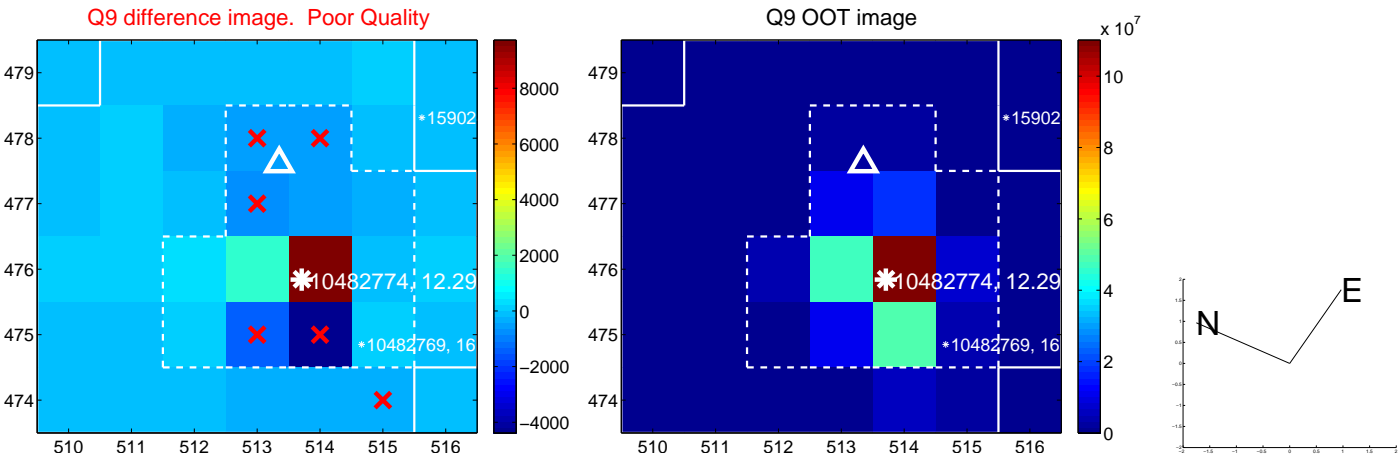


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

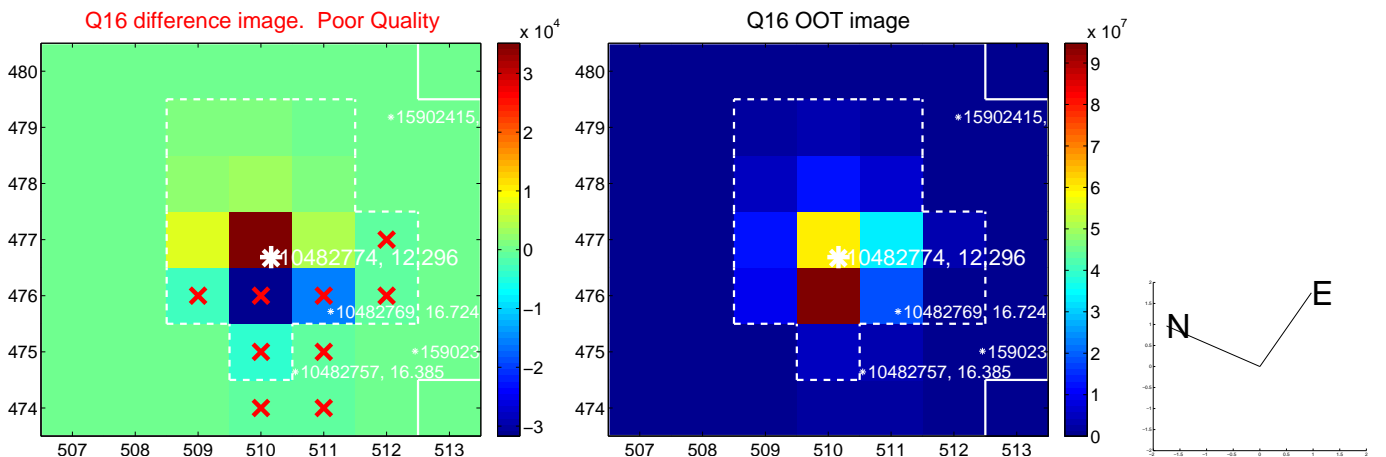
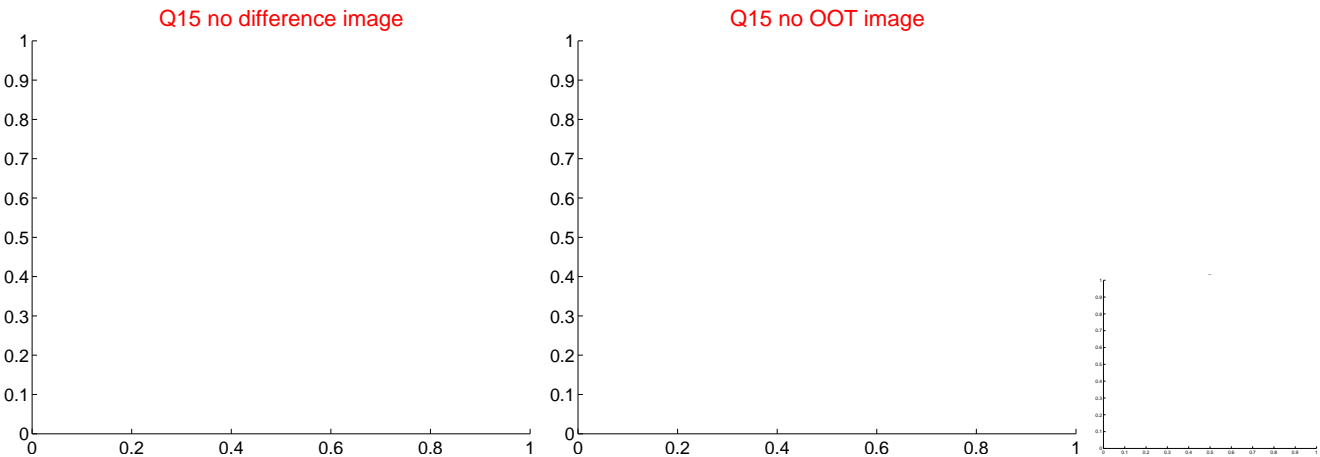
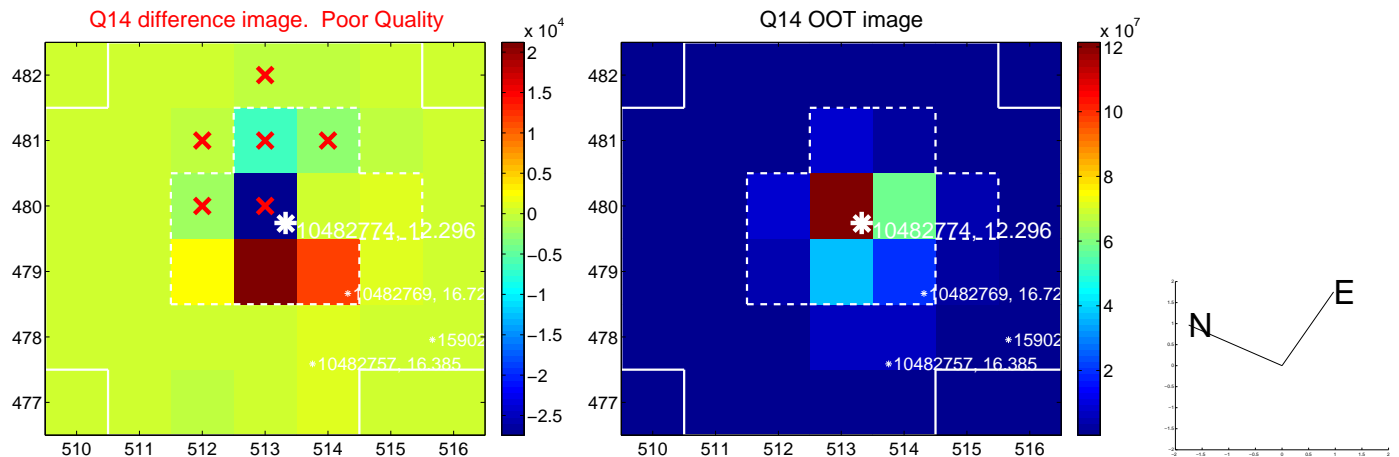
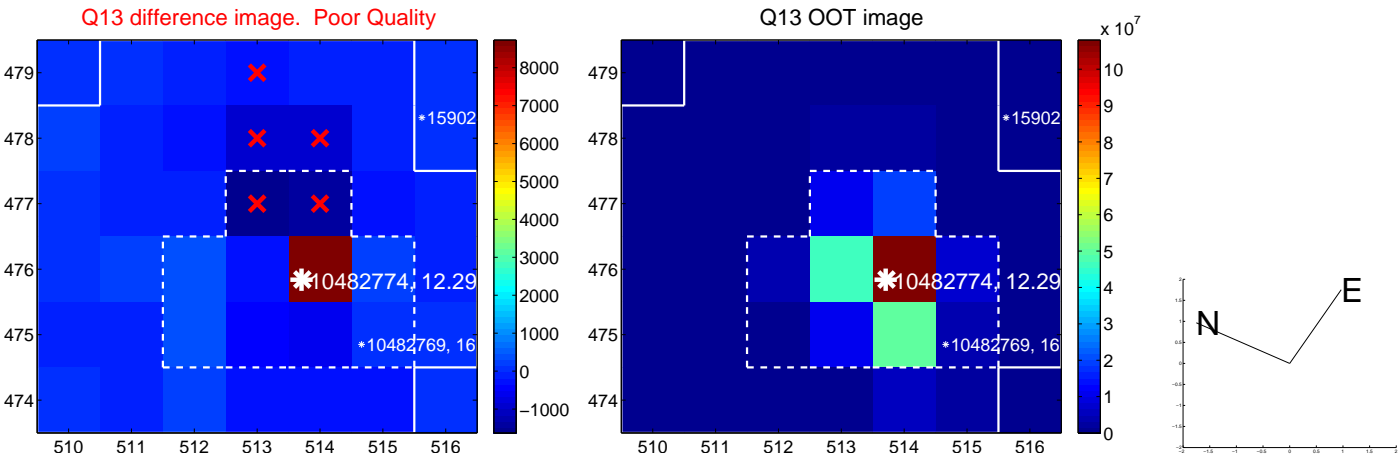
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



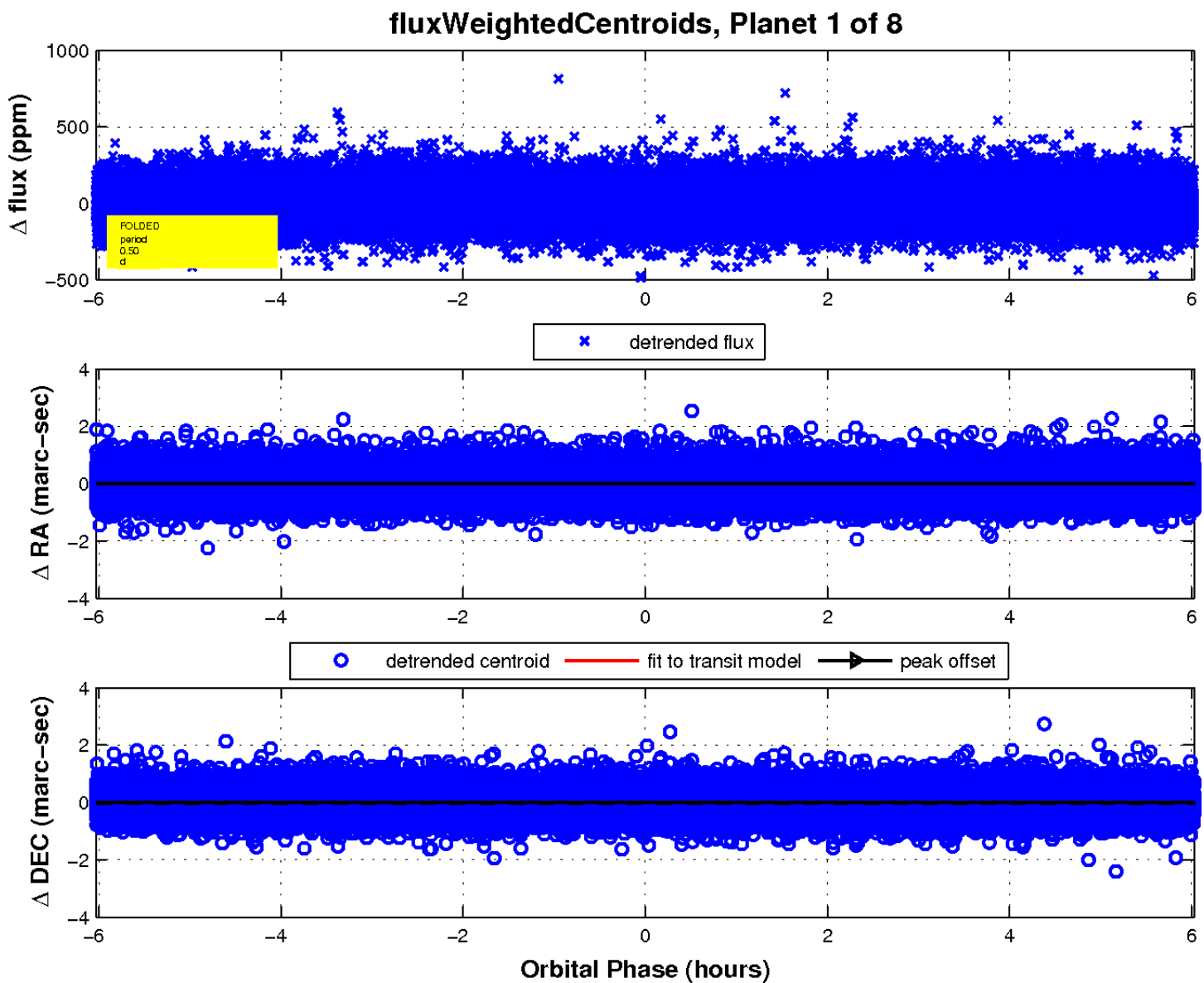
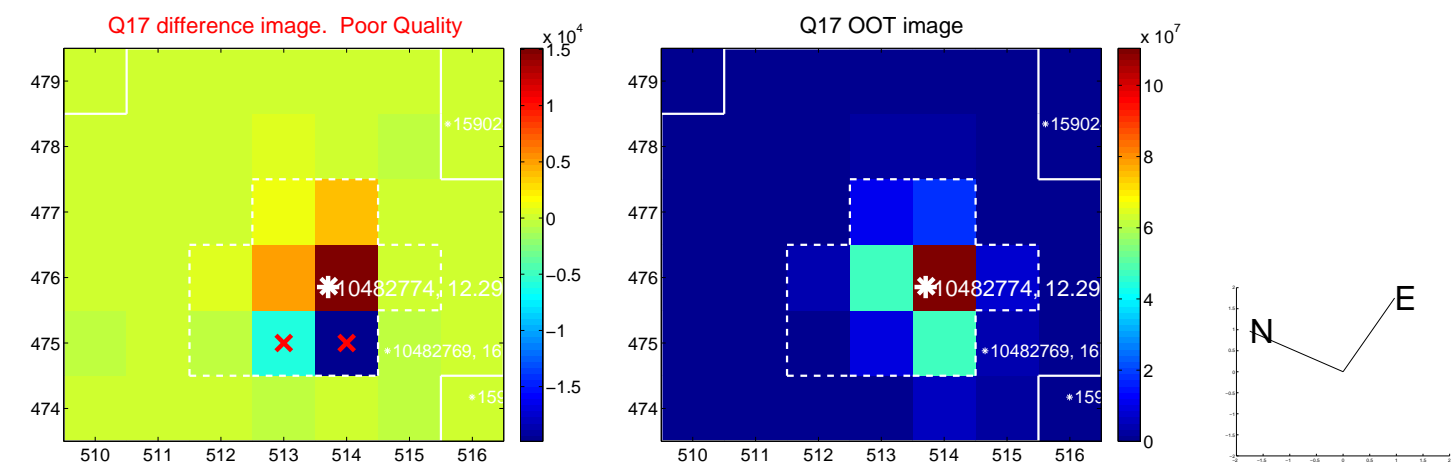
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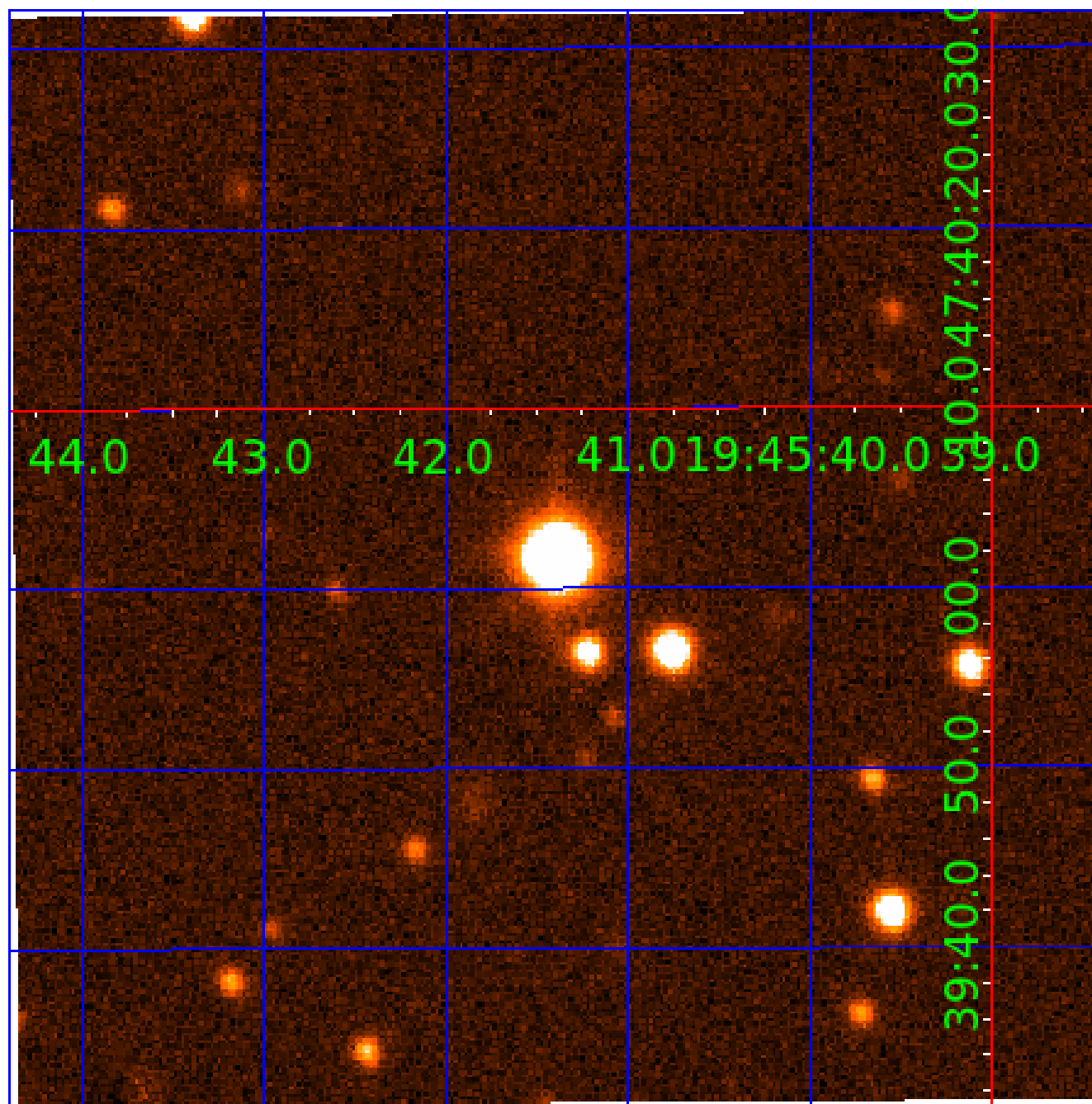


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010482774

Q1-17 DR25 TCE Parameters

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010482774-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010482774-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010482774-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010482774-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010482774-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
010482774-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
010482774-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV

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

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

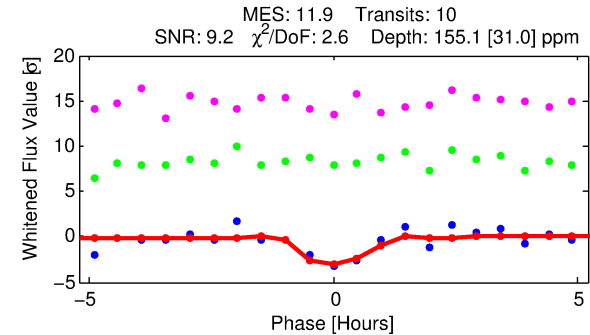
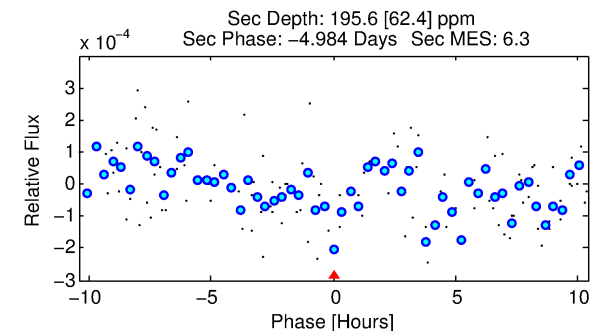
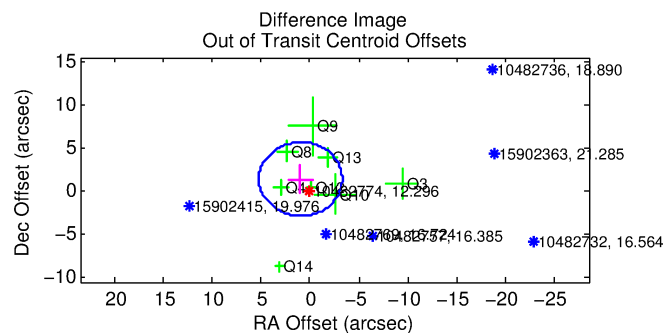
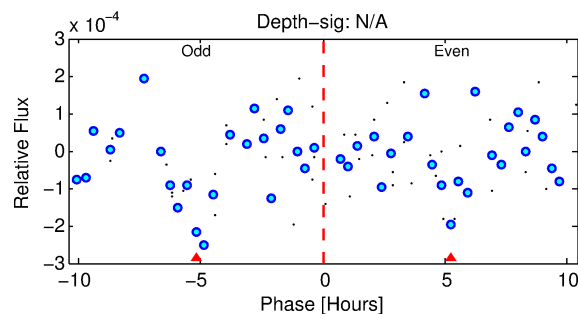
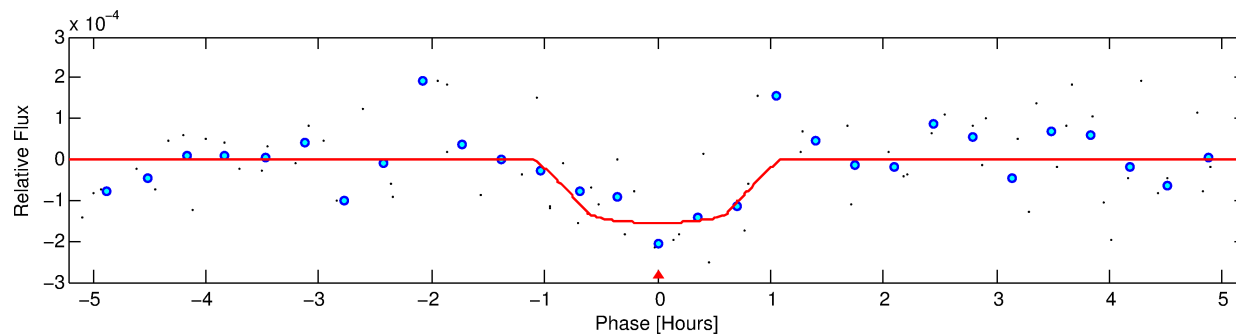
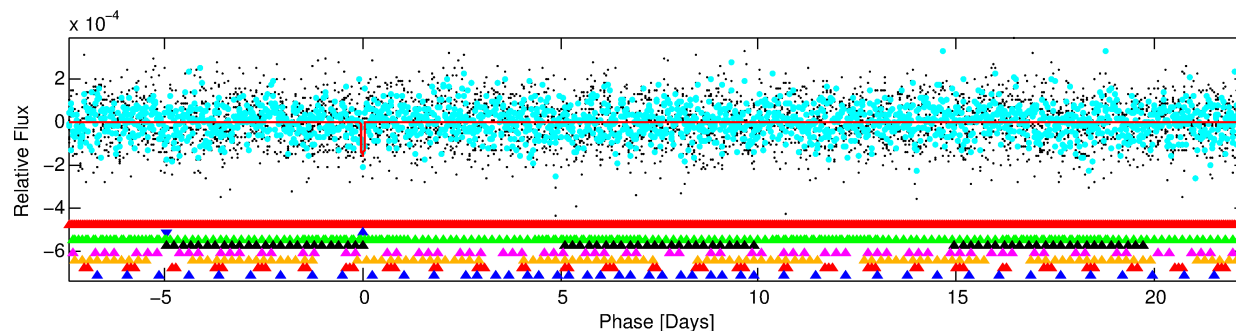
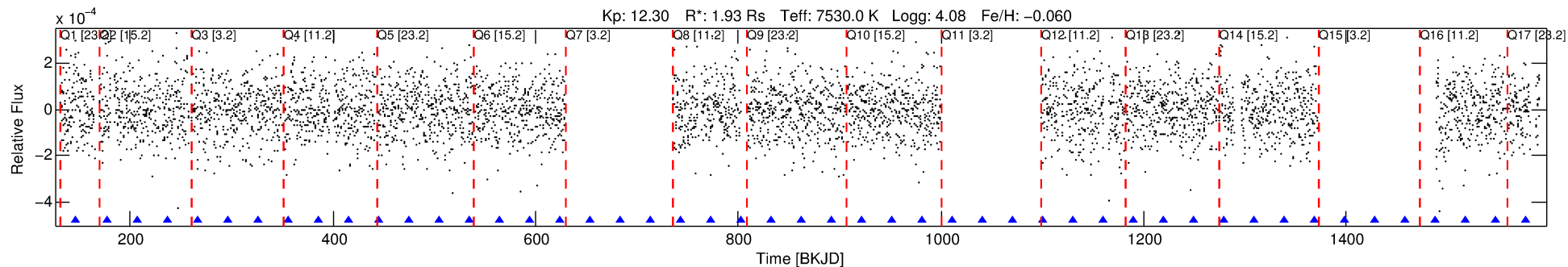
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010482774-02

No Significant Match Found

DV One-Page Summary

KIC: 10482774 Candidate: 2 of 8 Period: 29.801 d



DV Fit Results:

Period = 29.80089 [0.00033] d
Epoch = 146.8256 [0.0094] BKJD
Rp/R* = 0.0123 [0.0090]
a/R* = 93.47 [442.36]
b = 0.72 [3.22]
Seff = 218.51 [80.16]
Teq = 980 [90] K
Rp = 2.59 [2.03] Re
a = 0.2216 [0.0505] AU
Ag = 786.30 [1208.65] [0.65σ]
Teffp = 8027 [3033] K [2.32σ]

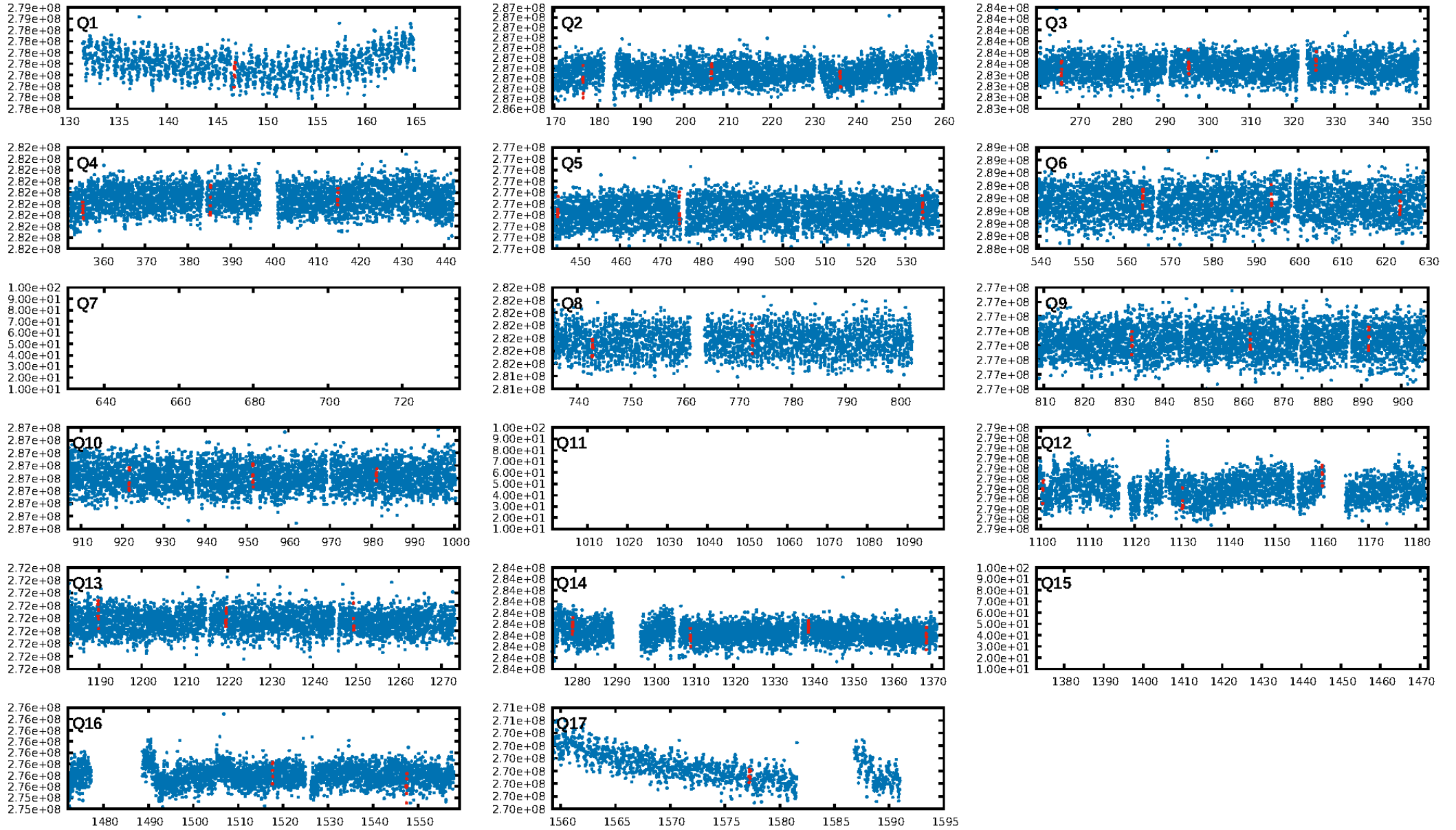
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [92.30σ]
LongPeriod-sig: 100.0% [7.30σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 54.0%
Bootstrap-pfa: 1.56e-11
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 0.2687
Centroid-sig: 80.8%
Centroid-so: 0.250 arcsec [0.41σ]
OotOffset-rm: 1.717 arcsec [1.21σ]
OotOffset-st: 2/1/3/2 [8]
KicOffset-rm: 1.758 arcsec [1.24σ]
KicOffset-st: 2/1/3/2 [8]
DiffImageQuality-fgm: 0.00 [0/8]
DiffImageOverlap-fno: 0.00 [0/14]

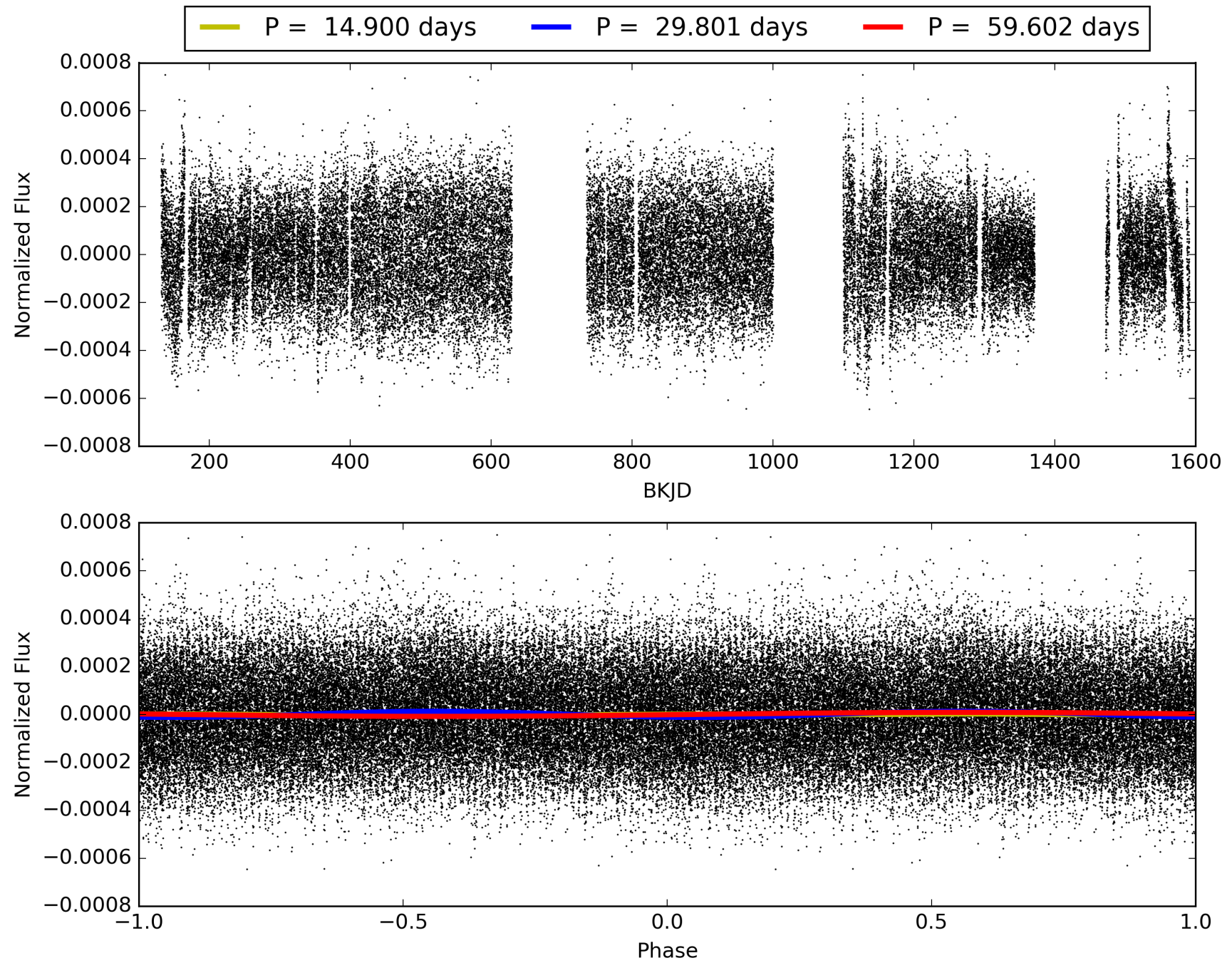
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:54:38 Z

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

TCE 010482774-02, PDC Light Curves

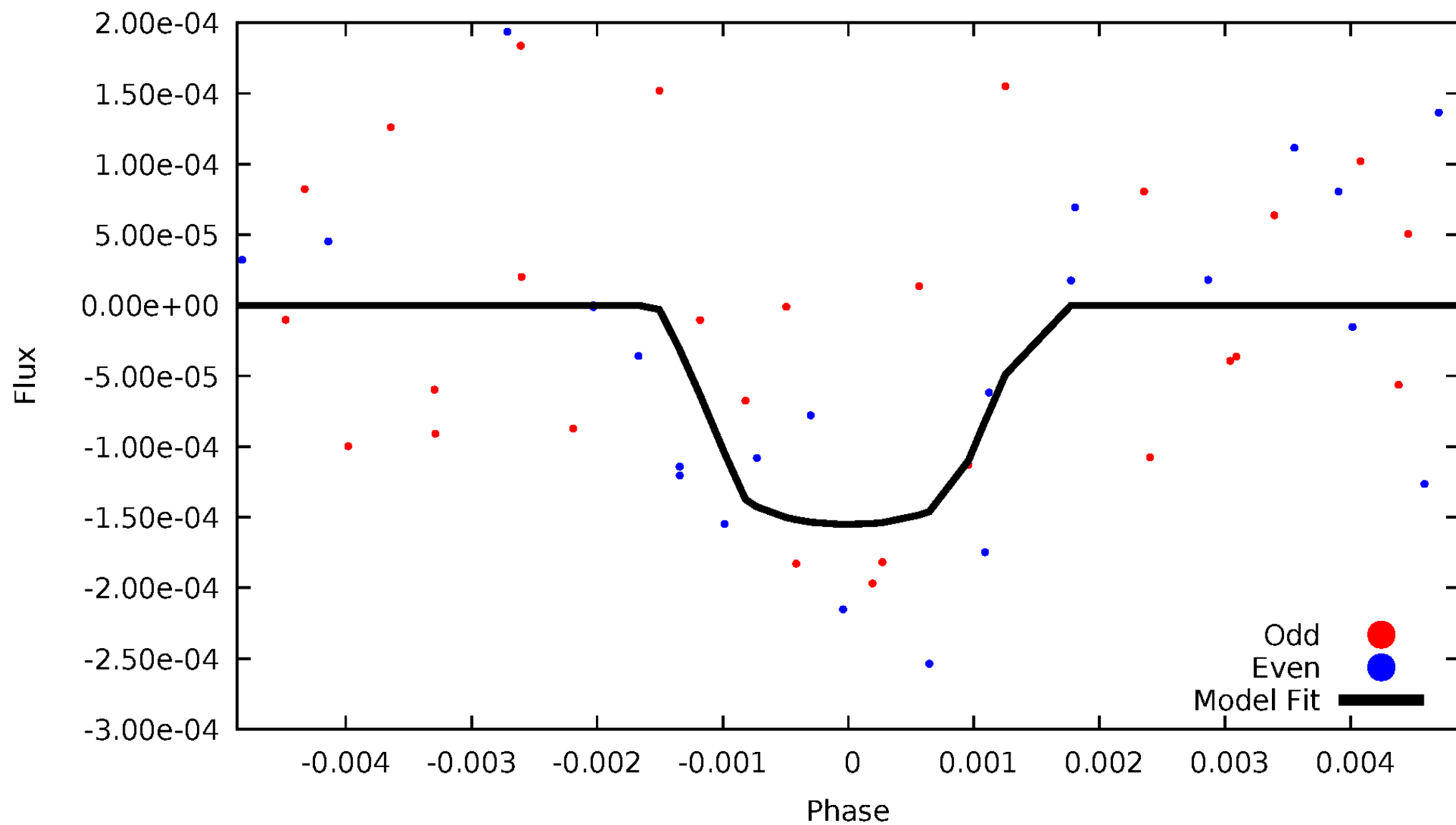


TCE 010482774-02



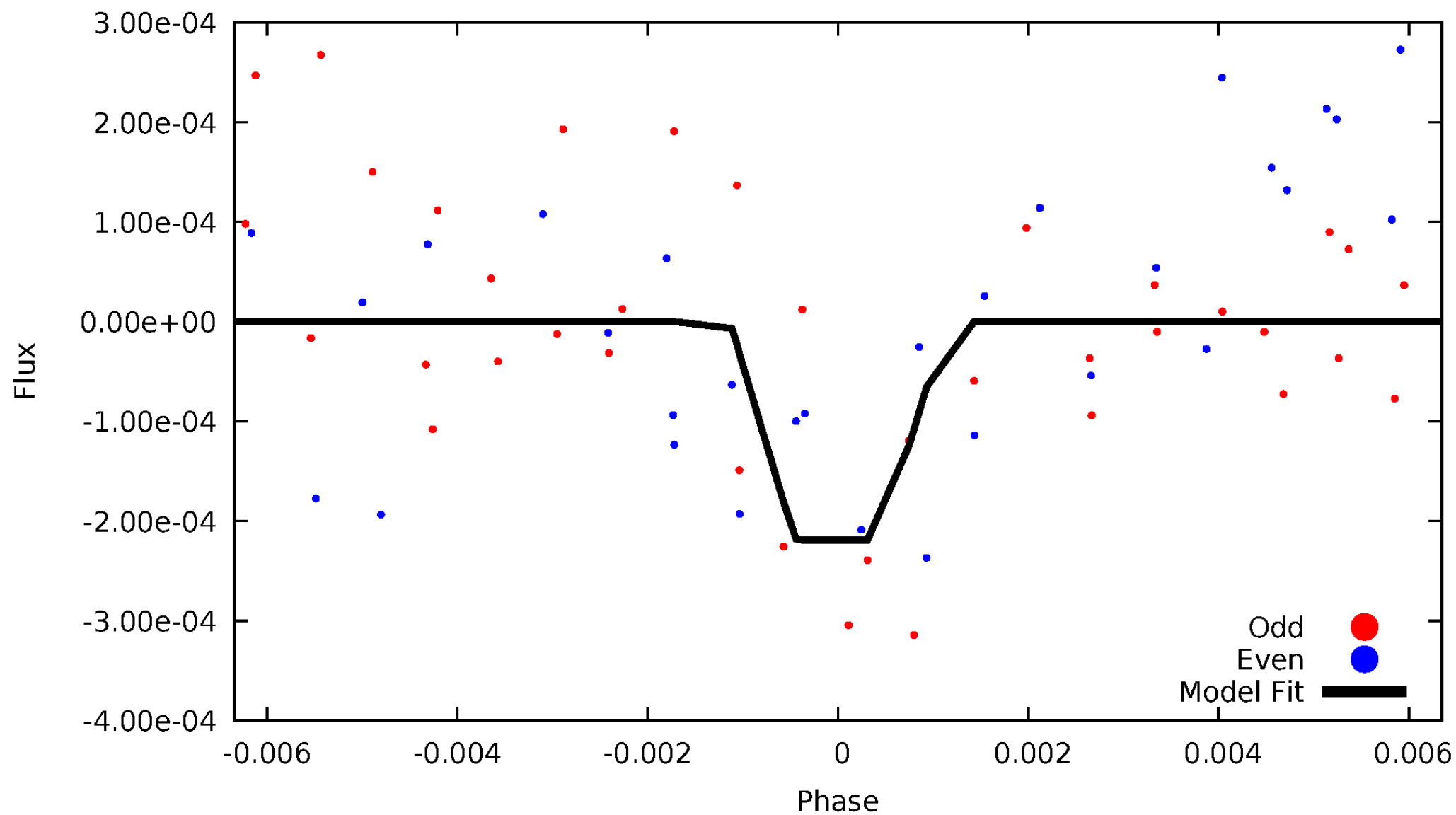
DV Odd/Even

TCE 010482774-02



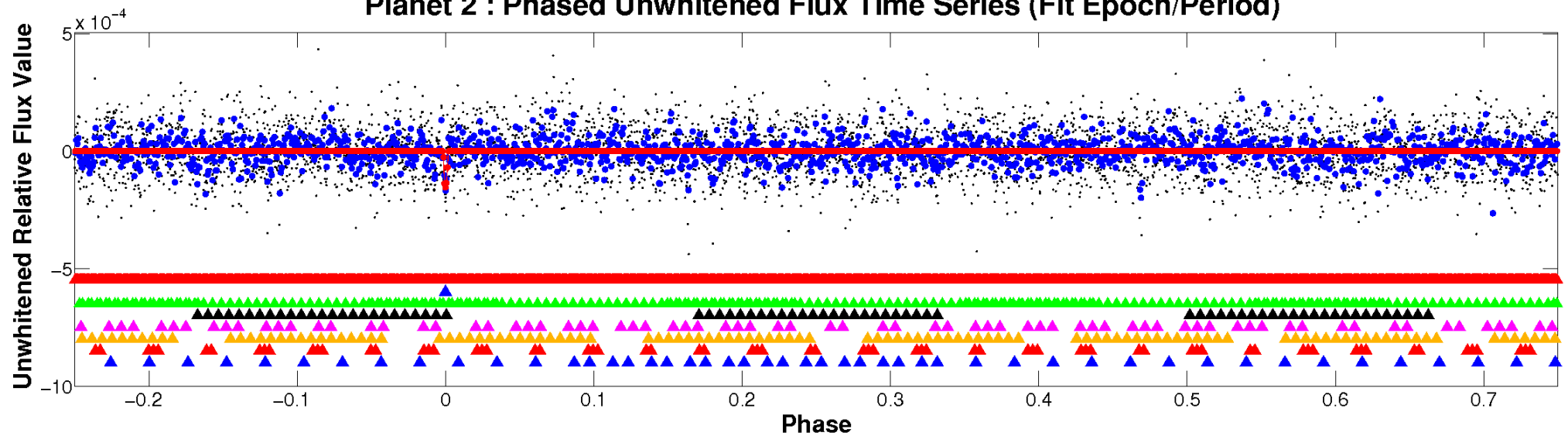
ALT Odd/Even

TCE 010482774-02

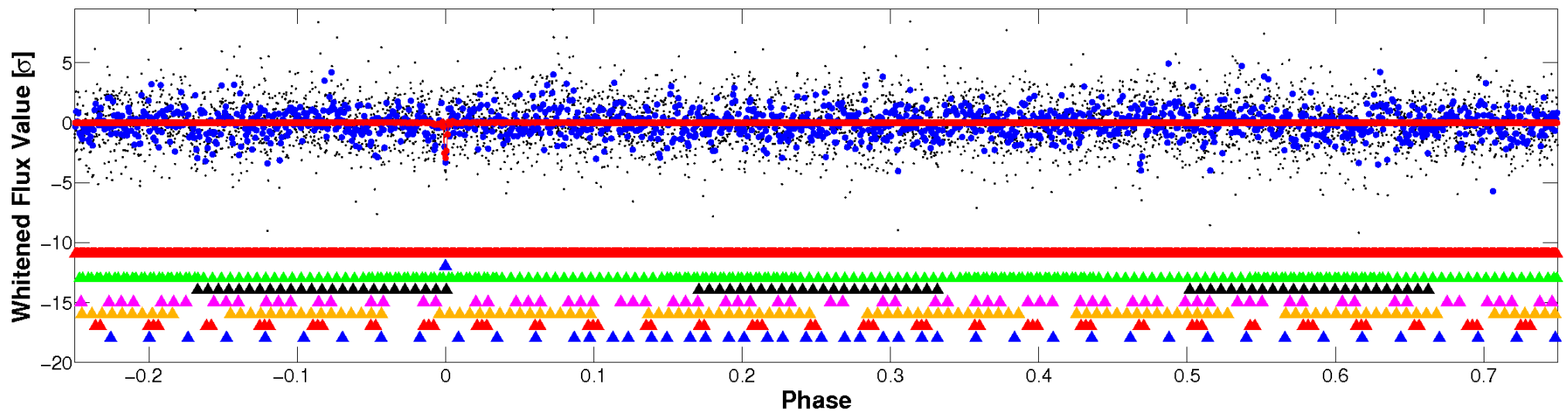


Non-Whitened Vs. Whitened Light Curve

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

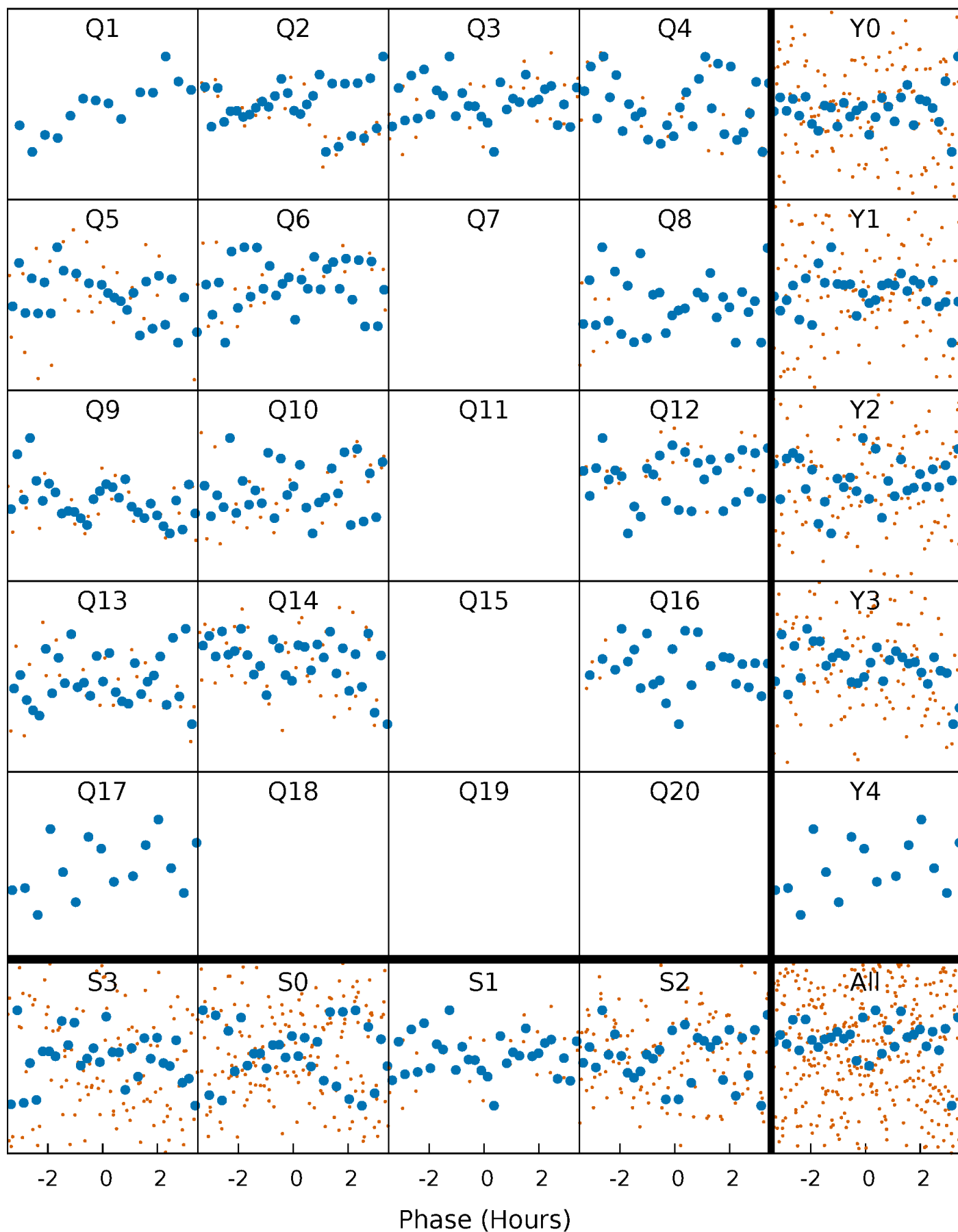


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



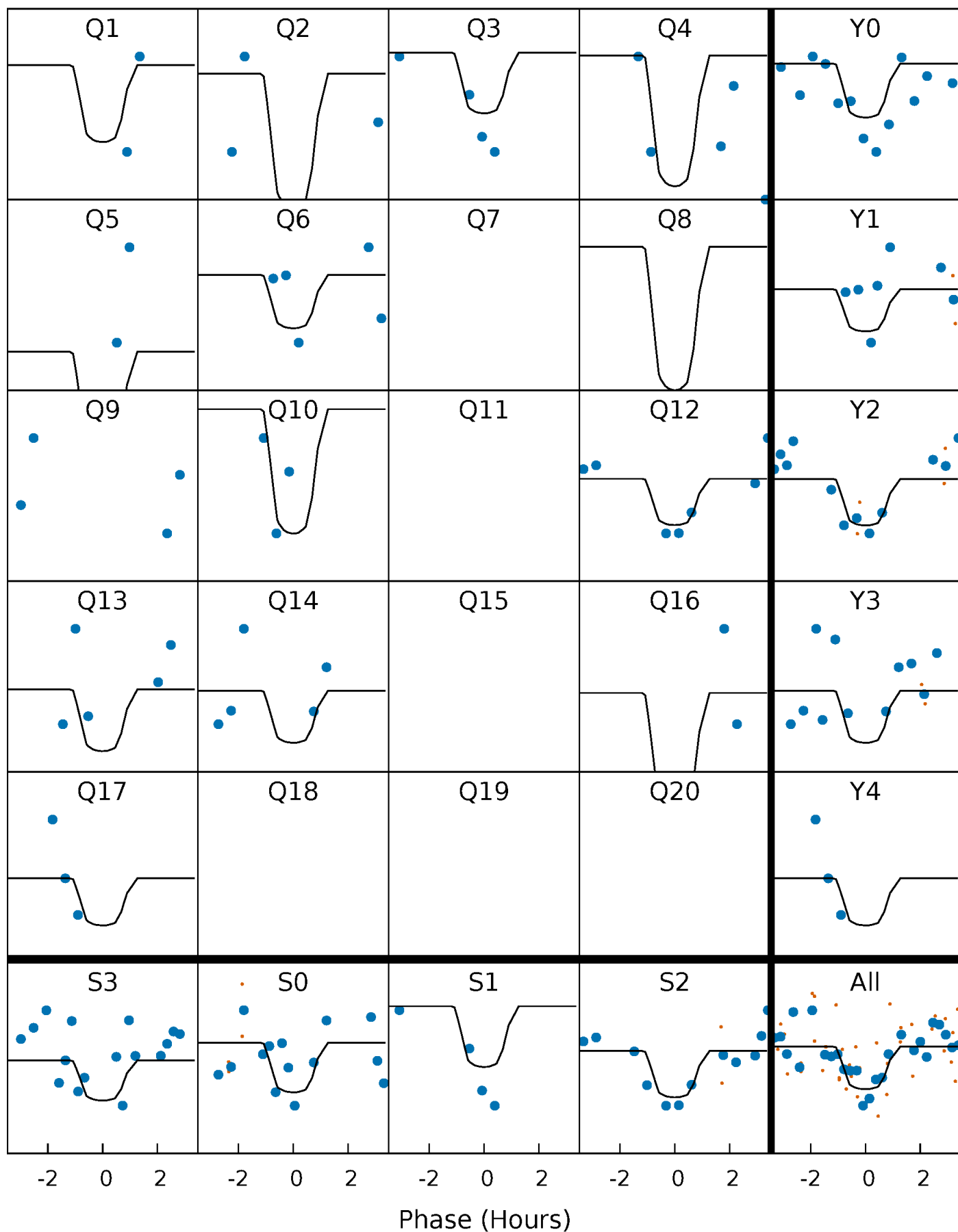
PDC Quarter-Phased Transit Curves

TCE 010482774-02 $P = 29.800889$ Days $T_0 = 146.825635$ (BKJD)



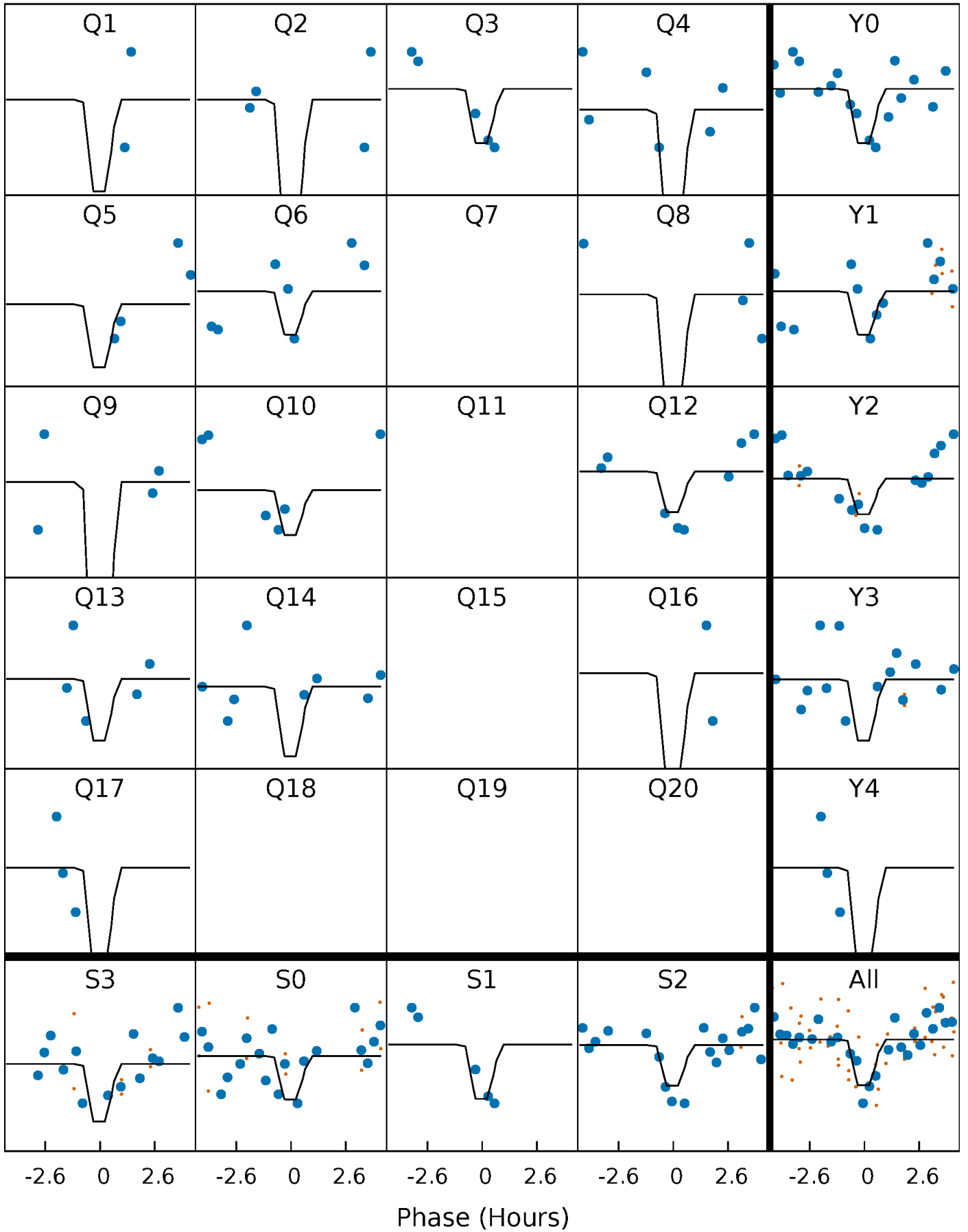
DV Quarter-Phased Transit Curves

TCE 010482774-02 $P = 29.800889$ Days $T_0 = 146.825635$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

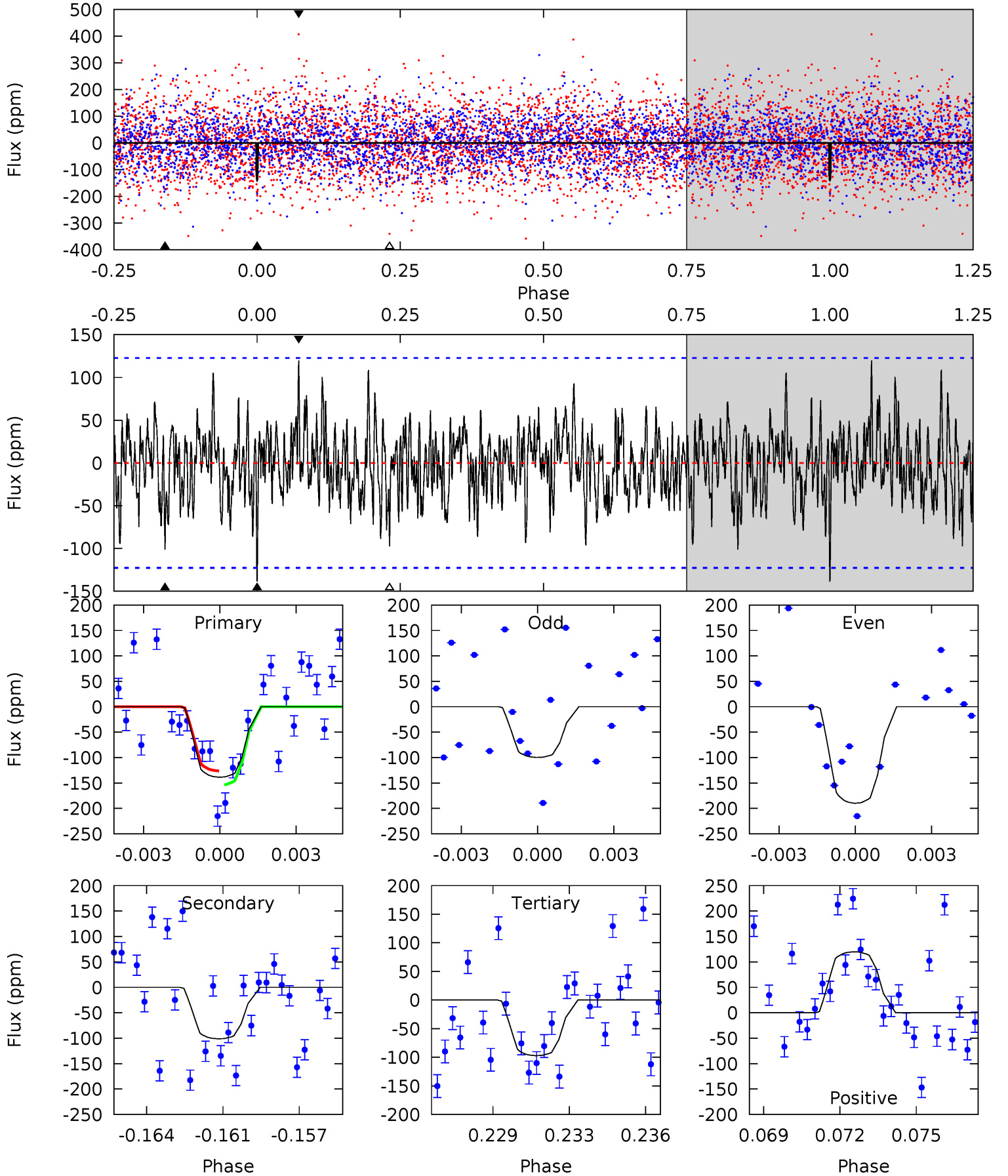
TCE 010482774-02 P= 29.801347 Days $T_0=146.815236$ (BKJD)



DV Model-Shift Uniqueness Test

010482774-02, $P = 29.800889$ Days, $E = 117.024746$ Days

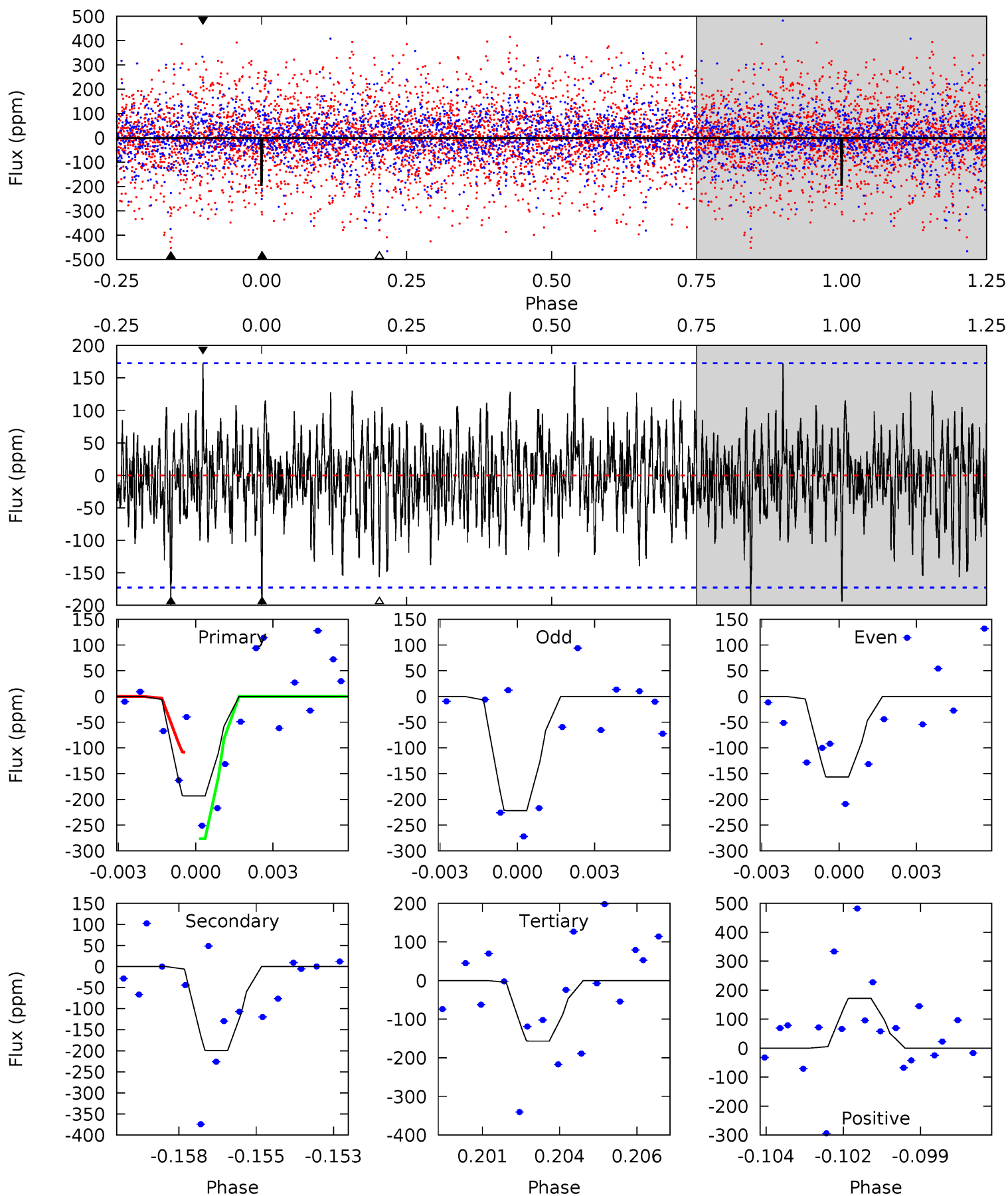
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.91	4.32	4.15	5.11	5.24	2.94	1.45	1.77	0.80	0.17	-0.80	1.93	0.92	0.46	0.58



Alt Model-Shift Uniqueness Test

010482774-02, P = 29.801347 Days, E = 117.013889 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.91	6.10	4.79	5.26	5.28	3.02	1.51	1.12	0.65	1.31	0.84	0.95	1.23	0.46	2.58



Stellar Parameters For KIC 010482774

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7530^{+209}_{-314}	$4.080^{+0.144}_{-0.176}$	$-0.060^{+0.200}_{-0.350}$	$1.930^{+0.532}_{-0.387}$	$1.633^{+0.212}_{-0.259}$	$0.320^{+0.270}_{-0.147}$
	+3%/-4%	+4%/-4%	+333%/-583%	+28%/-20%	+13%/-16%	+84%/-46%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010482774-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-101 ± 23	$2.93^{+1.93}_{-1.78}$	1368^{+105}_{-92}	6420^{+4834}_{-1479}	322^{+1649}_{-216}
Alt.	-200 ± 33	$3.36^{+1.83}_{-1.69}$	1374^{+100}_{-96}	7012^{+4021}_{-1452}	473^{+1467}_{-291}

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 $A_{obs} \gg 1.0$

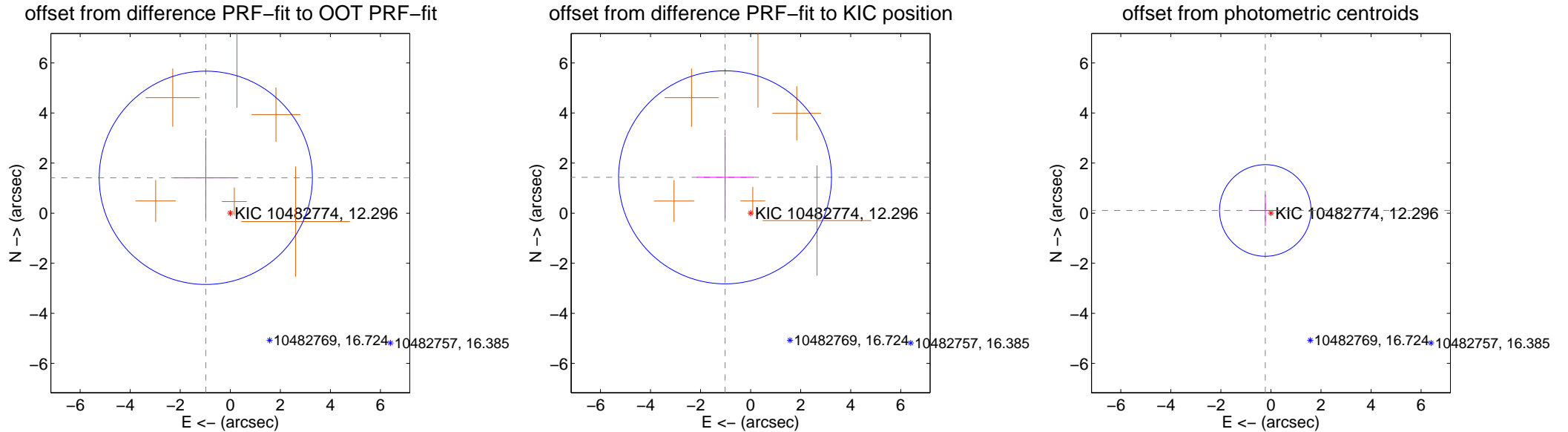
DV Centroid Data

Supplemental centroid analysis for 010482774-02. Kepler magnitude: 12.30. Transit SNR 9.21

There are 0 quarters with good PRF difference image offsets

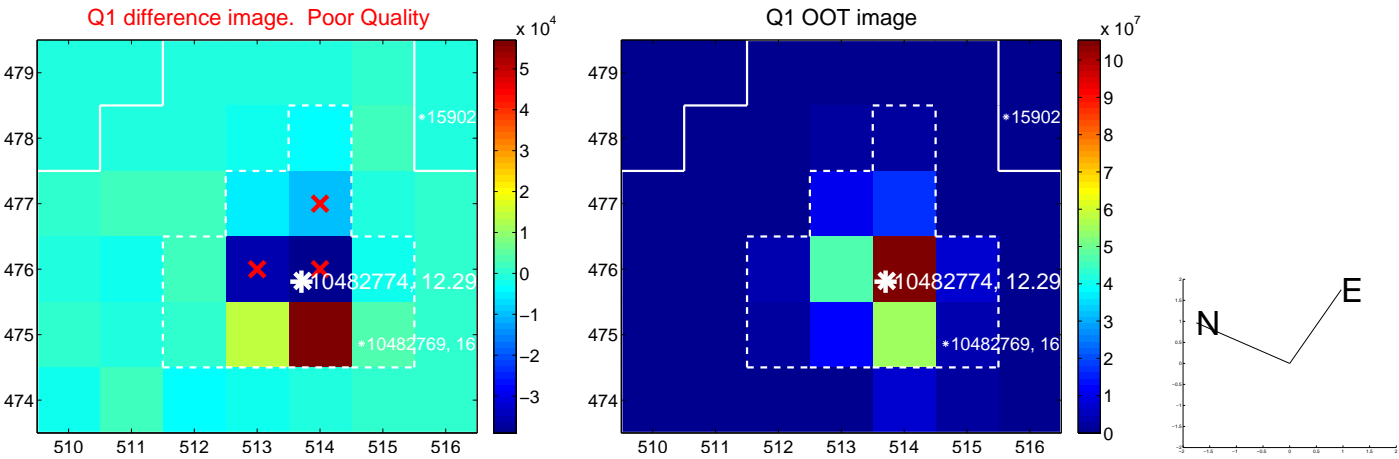
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.717 ± 1.420	1.21	0.978 ± 1.256	1.411 ± 1.596
PRF-fit source offset from KIC position	1.758 ± 1.418	1.24	1.021 ± 1.130	1.431 ± 1.634
photometric centroid source offset	0.25 ± 0.61	0.41	0.23 ± 0.61	0.11 ± 0.63

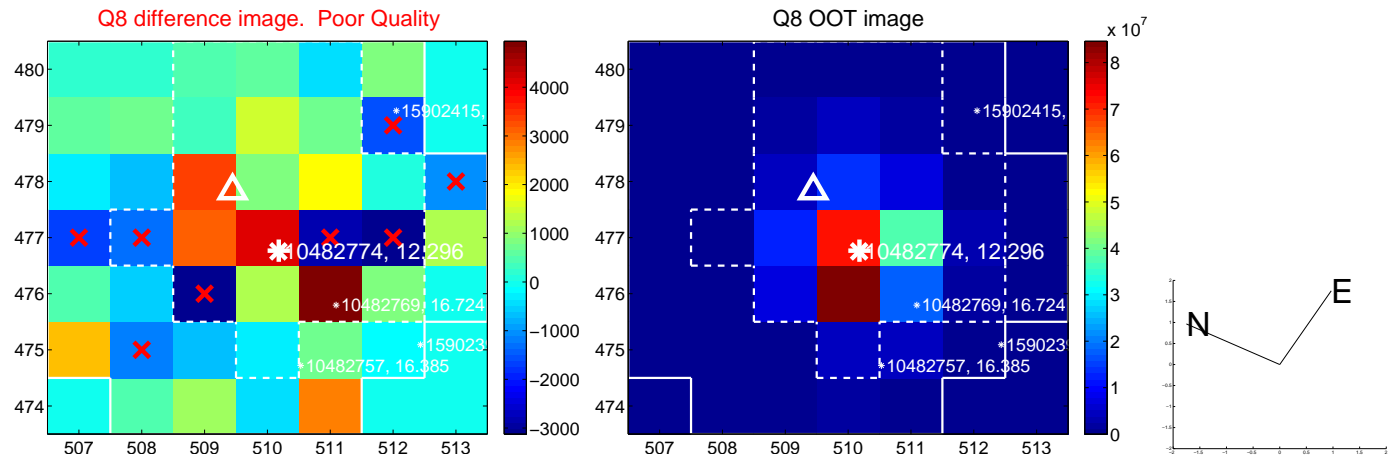
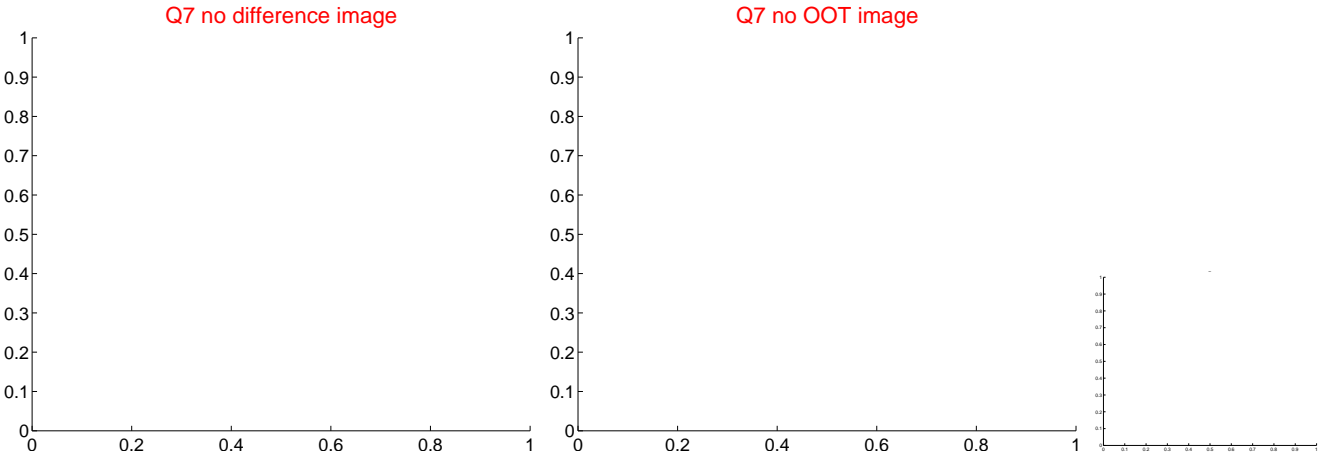
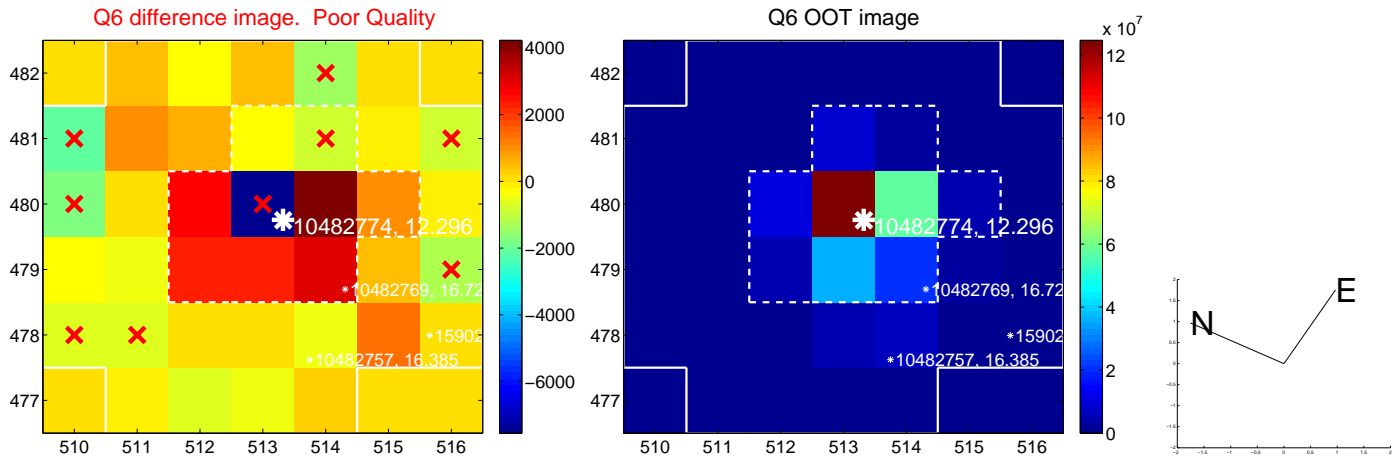
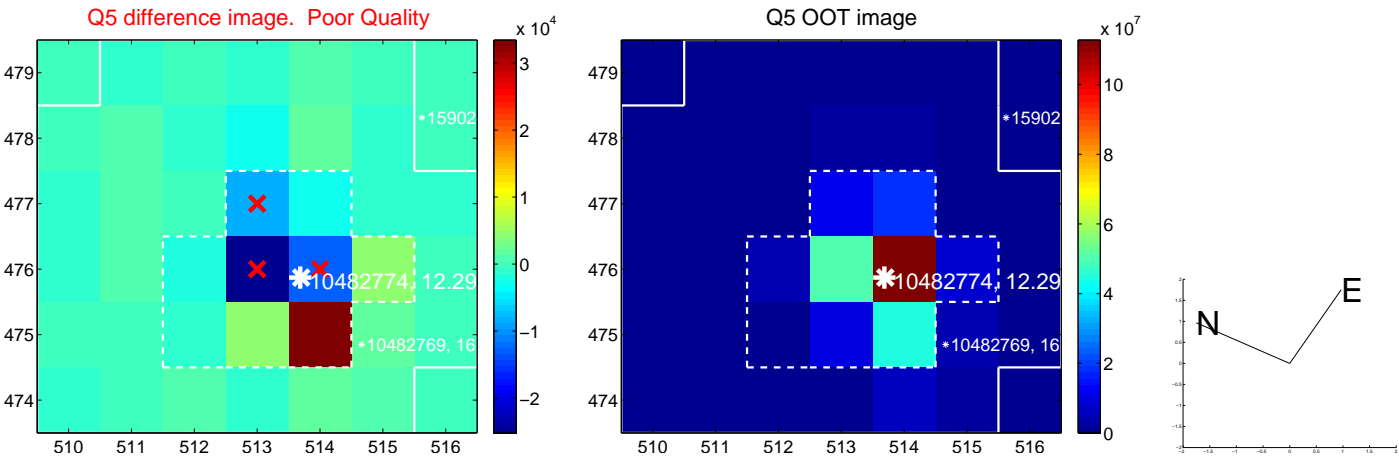


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

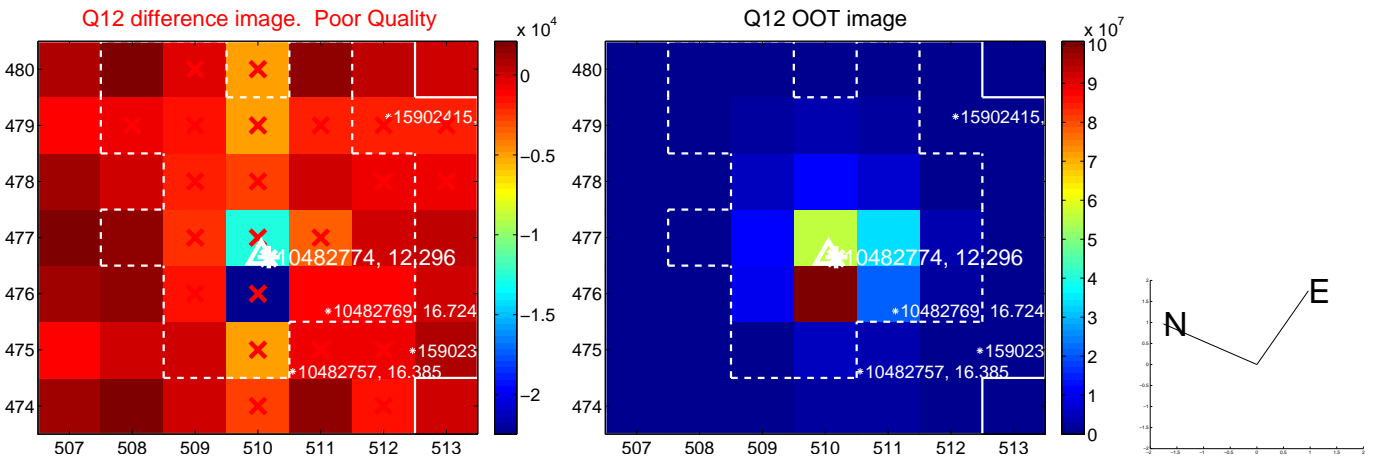
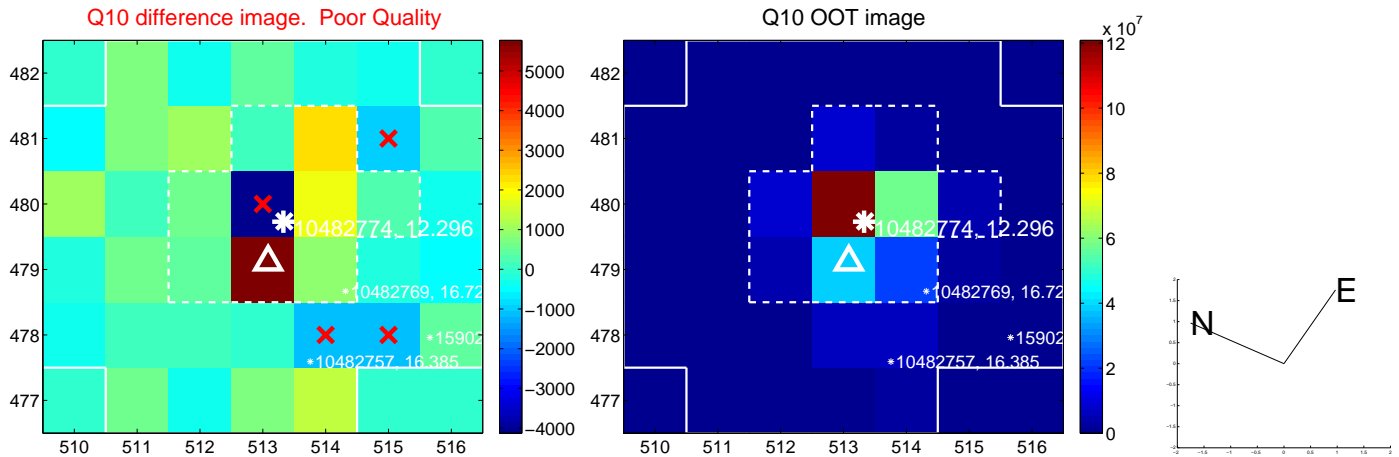
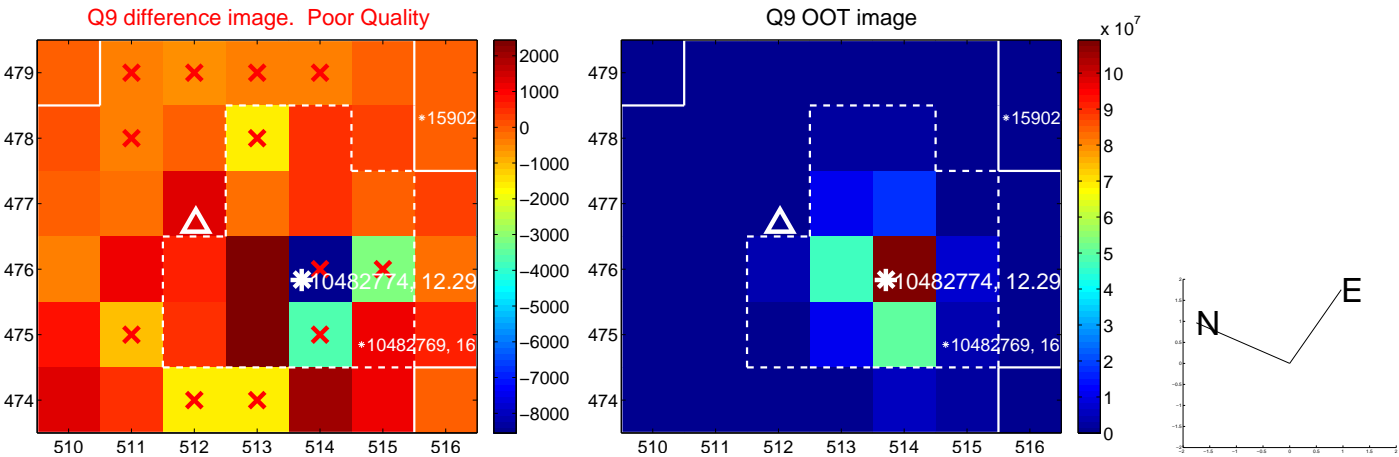
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



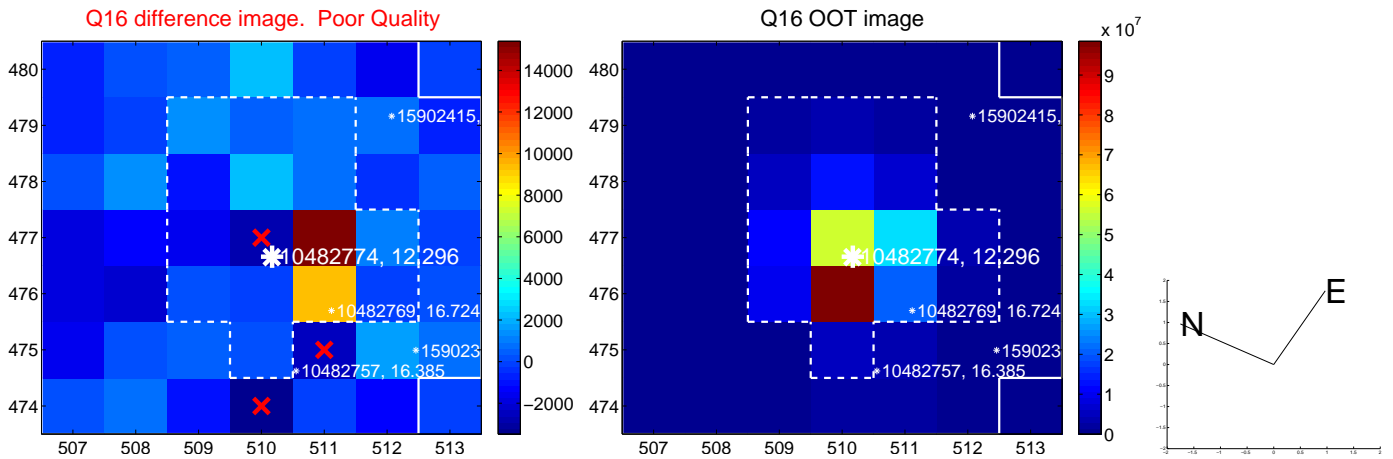
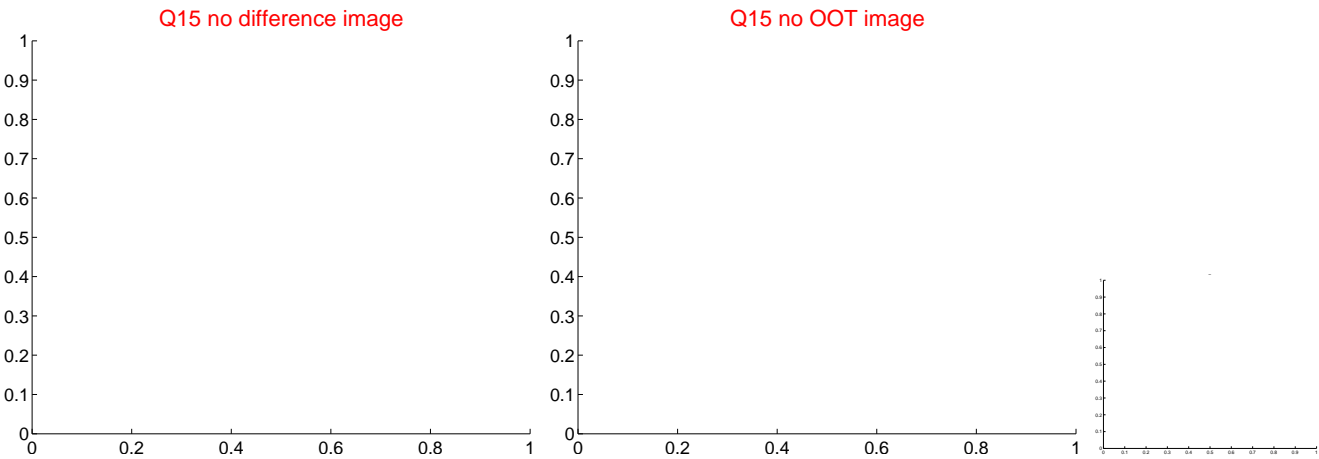
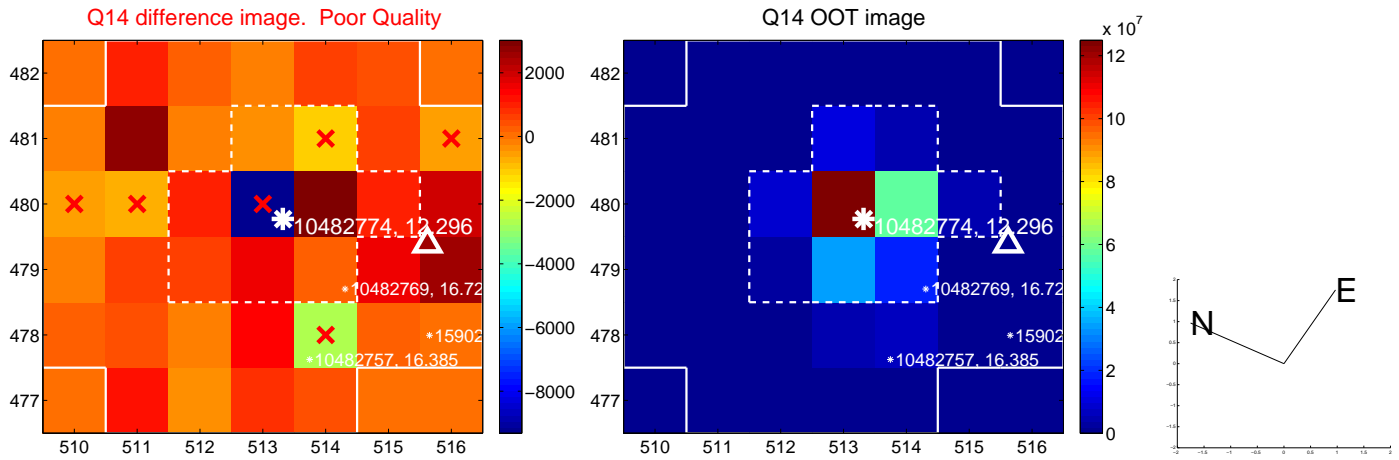
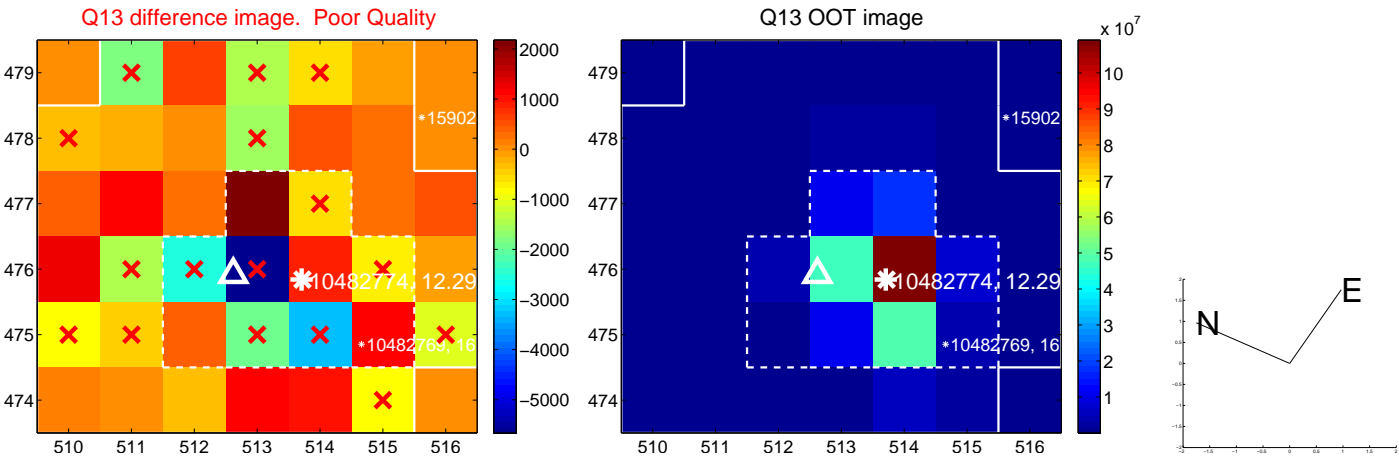
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



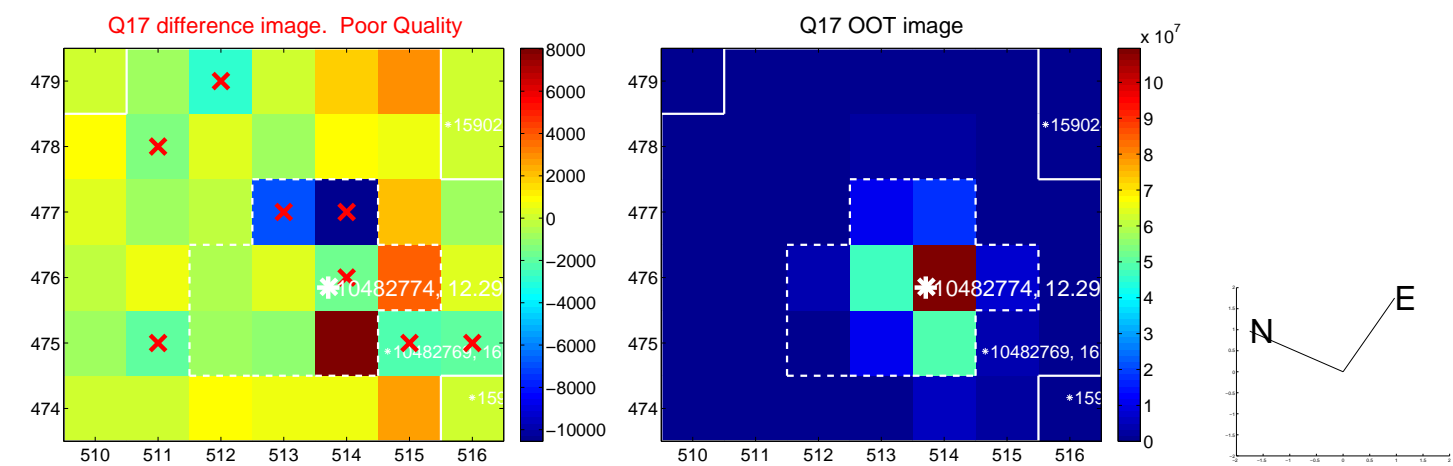
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



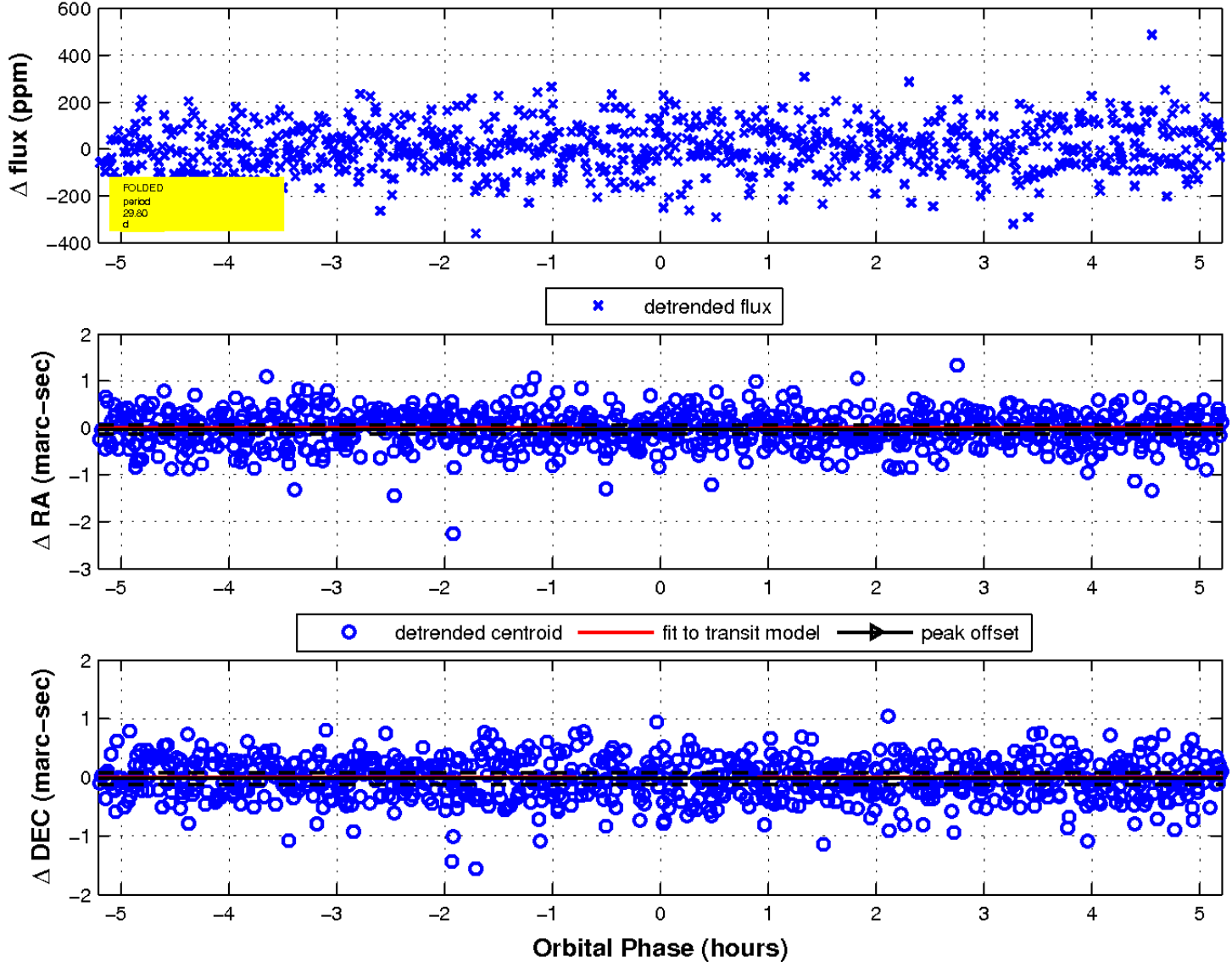
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

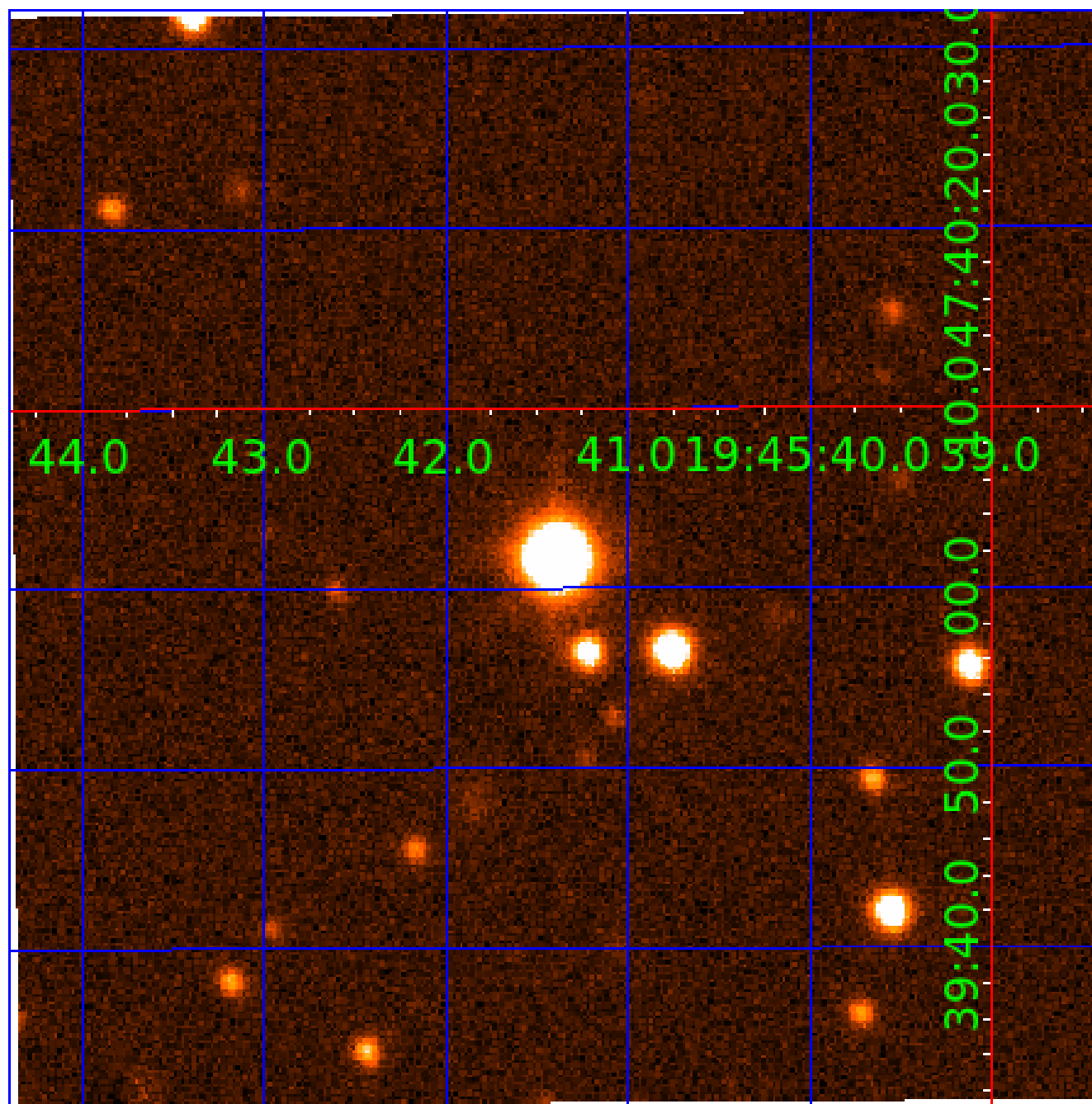


fluxWeightedCentroids, Planet 2 of 8



UKIRT Image

Declination



KIC 010482774

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})
010482774-01	OBS	No	0.502754	131.538692	7.2	3.469	8.2	6.2	1.93	7530	0.56	50501.61
010482774-02	OBS	No	29.800889	146.825635	155.1	1.739	11.9	9.2	1.93	7530	2.59	218.51
010482774-03	OBS	No	5.995822	133.296986	107.8	1.065	10.6	11.0	1.93	7530	2.32	1853.45
010482774-04	OBS	No	19.936665	141.845865	111.4	2.271	9.1	8.4	1.93	7530	2.25	373.46
010482774-05	OBS	No	19.516261	143.715102	221.6	0.950	10.3	11.5	1.93	7530	3.10	384.22
010482774-06	OBS	No	12.800680	138.105698	205.4	1.126	10.1	13.1	1.93	7530	3.19	674.22
010482774-07	OBS	No	20.967424	143.285997	325.0	1.500	9.6	-1.0	1.93	7530	3.55	349.18
010482774-08	OBS	No	30.577010	149.721461	200.3	1.866	9.4	9.7	1.93	7530	3.02	211.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010482774-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS
010482774-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010482774-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010482774-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010482774-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010482774-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
010482774-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
010482774-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV

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

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

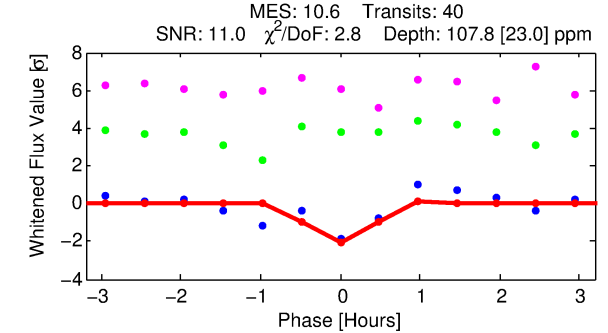
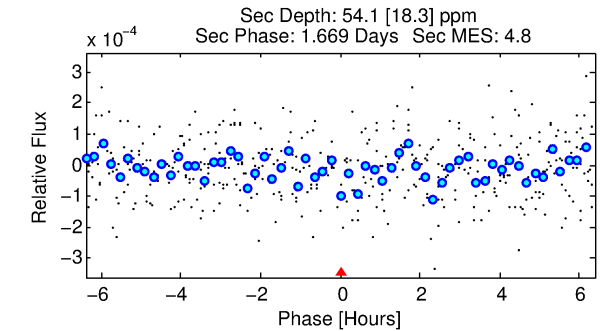
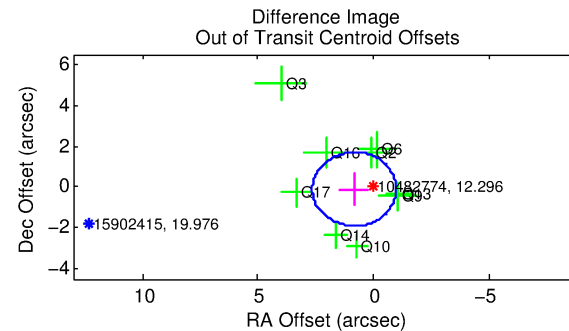
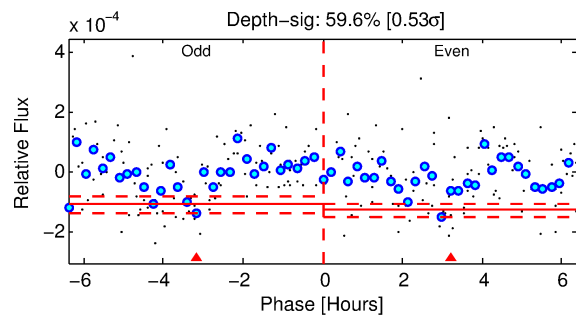
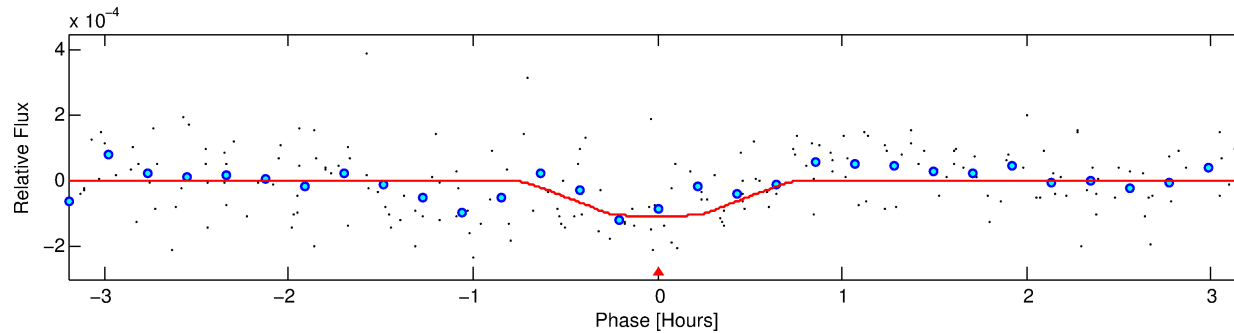
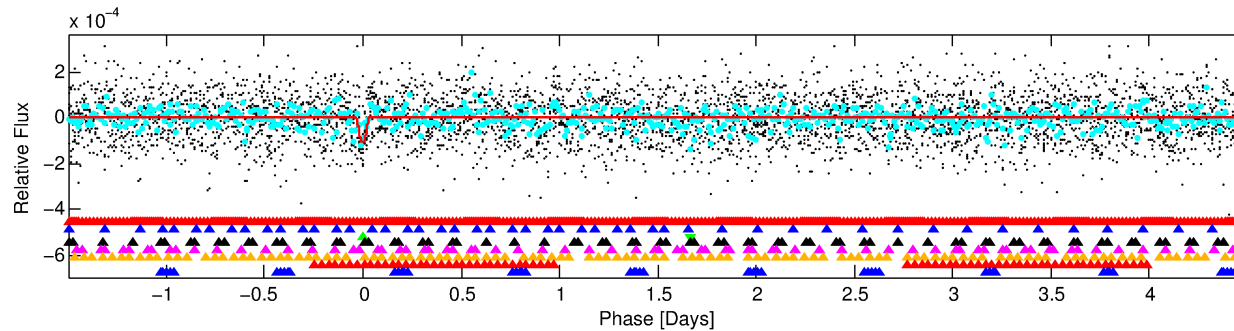
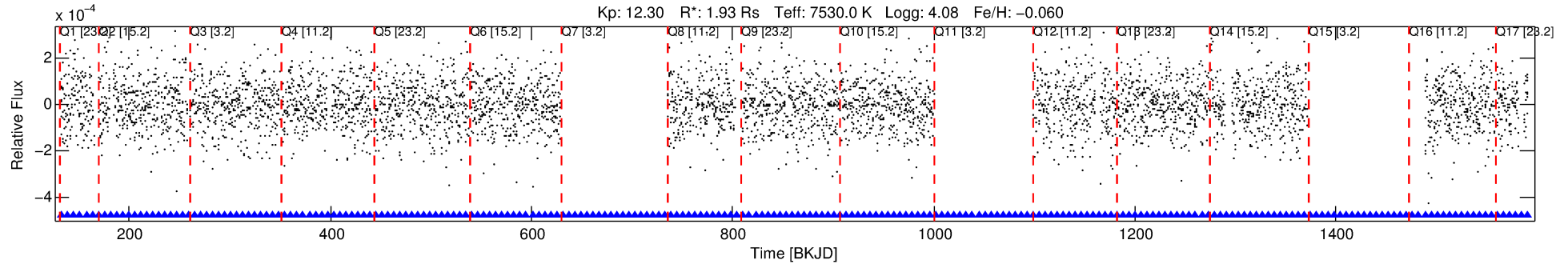
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010482774-03

No Significant Match Found

DV One-Page Summary

KIC: 10482774 Candidate: 3 of 8 Period: 5.996 d



DV Fit Results:

Period = 5.99582 [0.00004] d
Epoch = 133.2970 [0.0039] BKJD
Rp/R* = 0.0110 [0.0078]
a/R* = 20.42 [94.99]
b = 0.89 [1.07]
Seff = 1853.45 [679.95]
Teq = 1673 [153] K
Rp = 2.32 [1.76] Re
a = 0.0761 [0.0174] AU
Ag = 32.04 [47.76] [0.65 σ]
Teffp = 6155 [2252] K [1.99 σ]

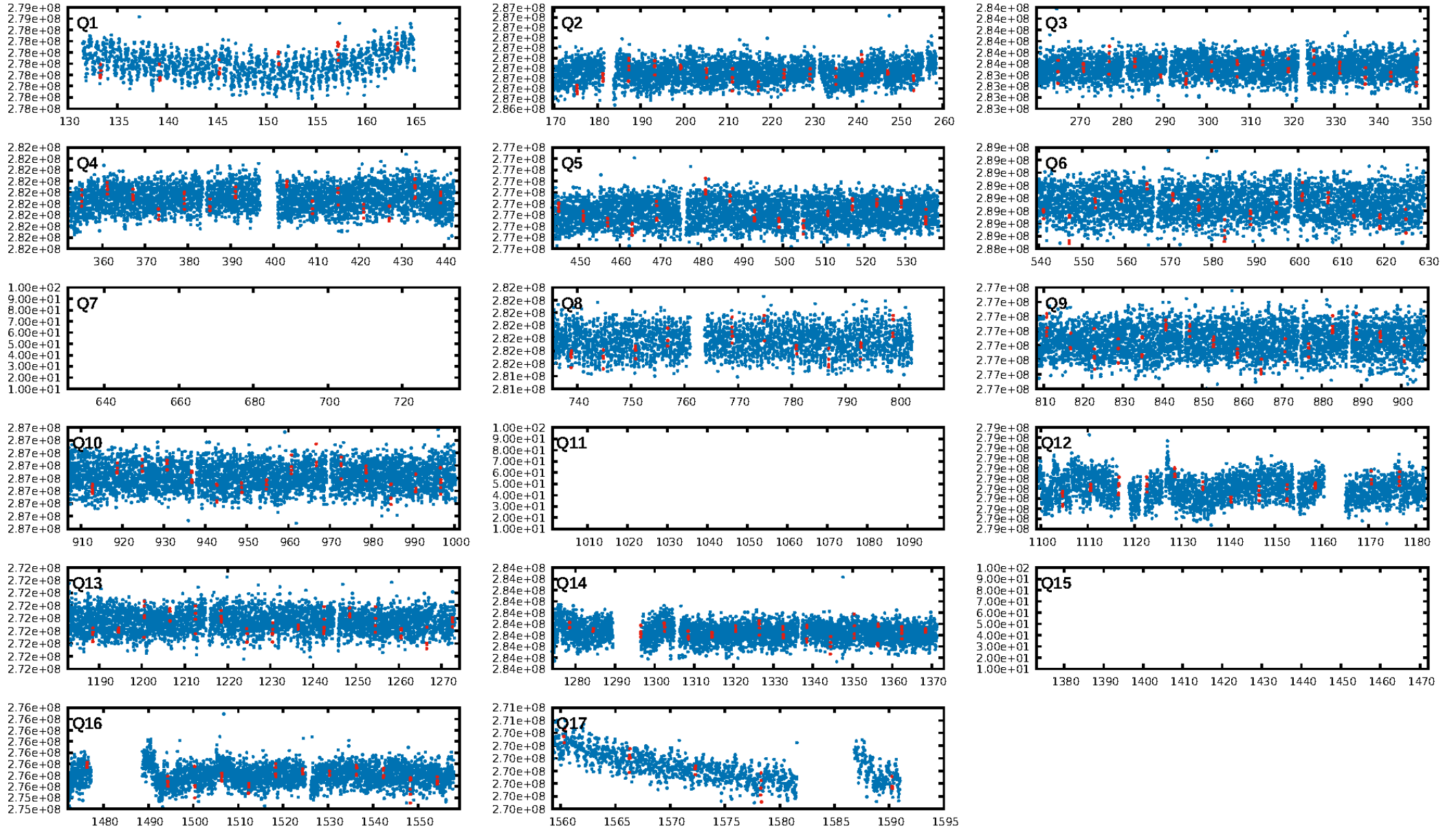
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [36.33 σ]
LongPeriod-sig: 100.0% [105.41 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 70.8%
Bootstrap-pfa: 1.58e-09
RollingBand-fgt: 1.00 [37/37]
GhostDiagnostic-chr: -26.24
Centroid-sig: 1.1%
Centroid-so: 1.183 arcsec [2.26 σ]
OotOffset-rm: 0.853 arcsec [1.42 σ]
OotOffset-st: 4/1/1/3 [9]
KicOffset-rm: 0.849 arcsec [1.42 σ]
KicOffset-st: 4/1/1/3 [9]
DiffImageQuality-fgm: 0.78 [7/9]
DiffImageOverlap-fno: 0.00 [0/14]

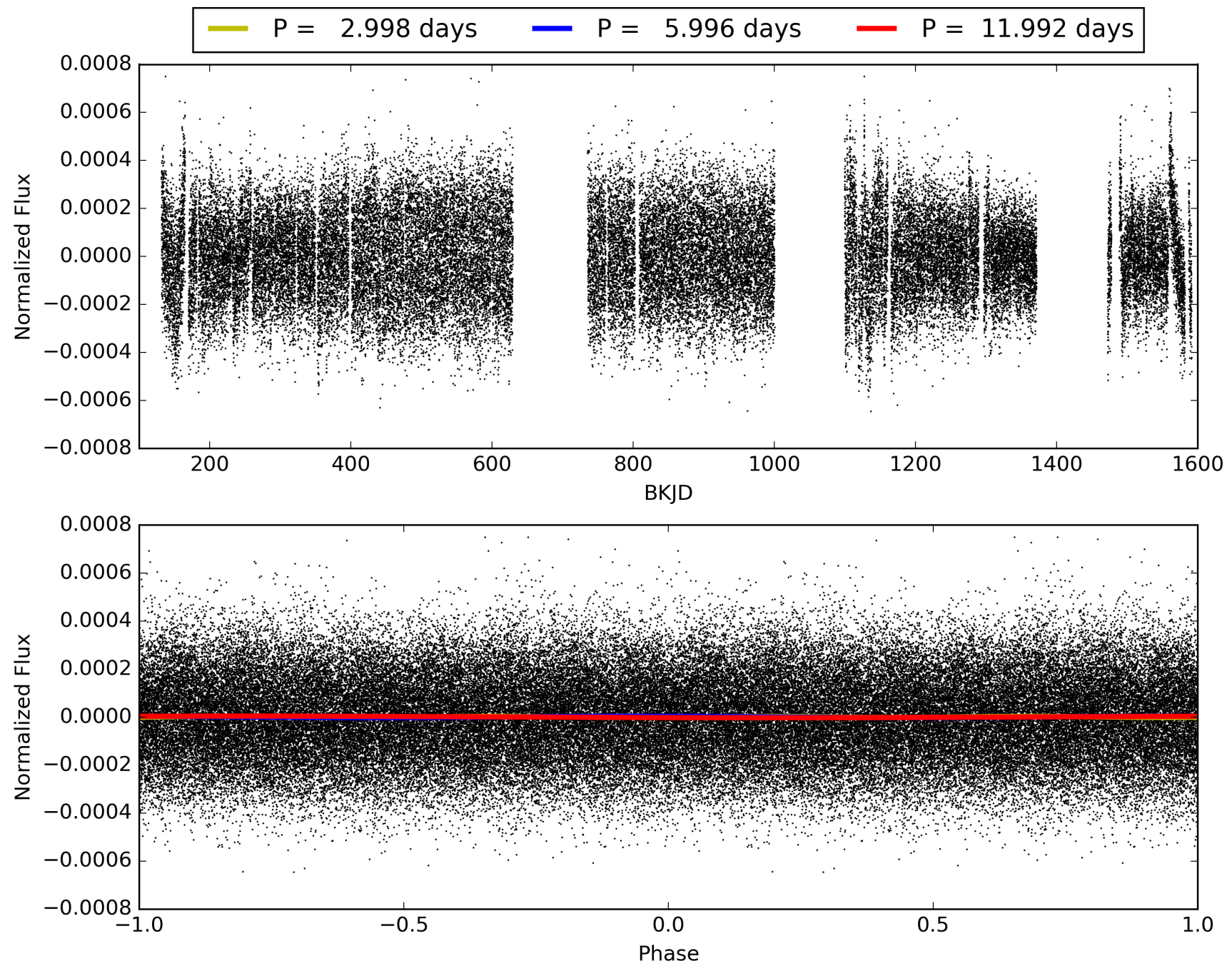
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:54:41 Z

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

TCE 010482774-03, PDC Light Curves

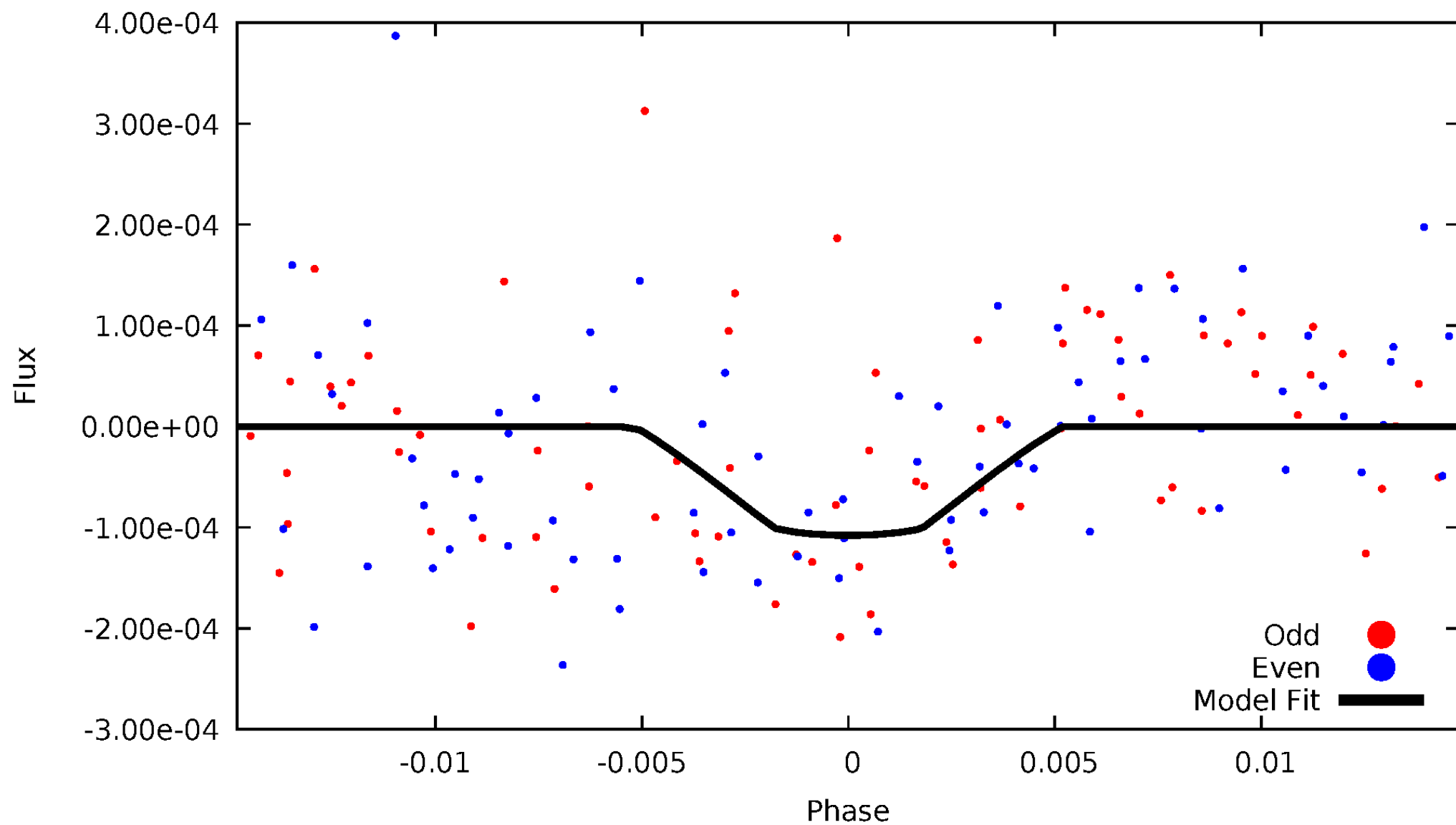


TCE 010482774-03



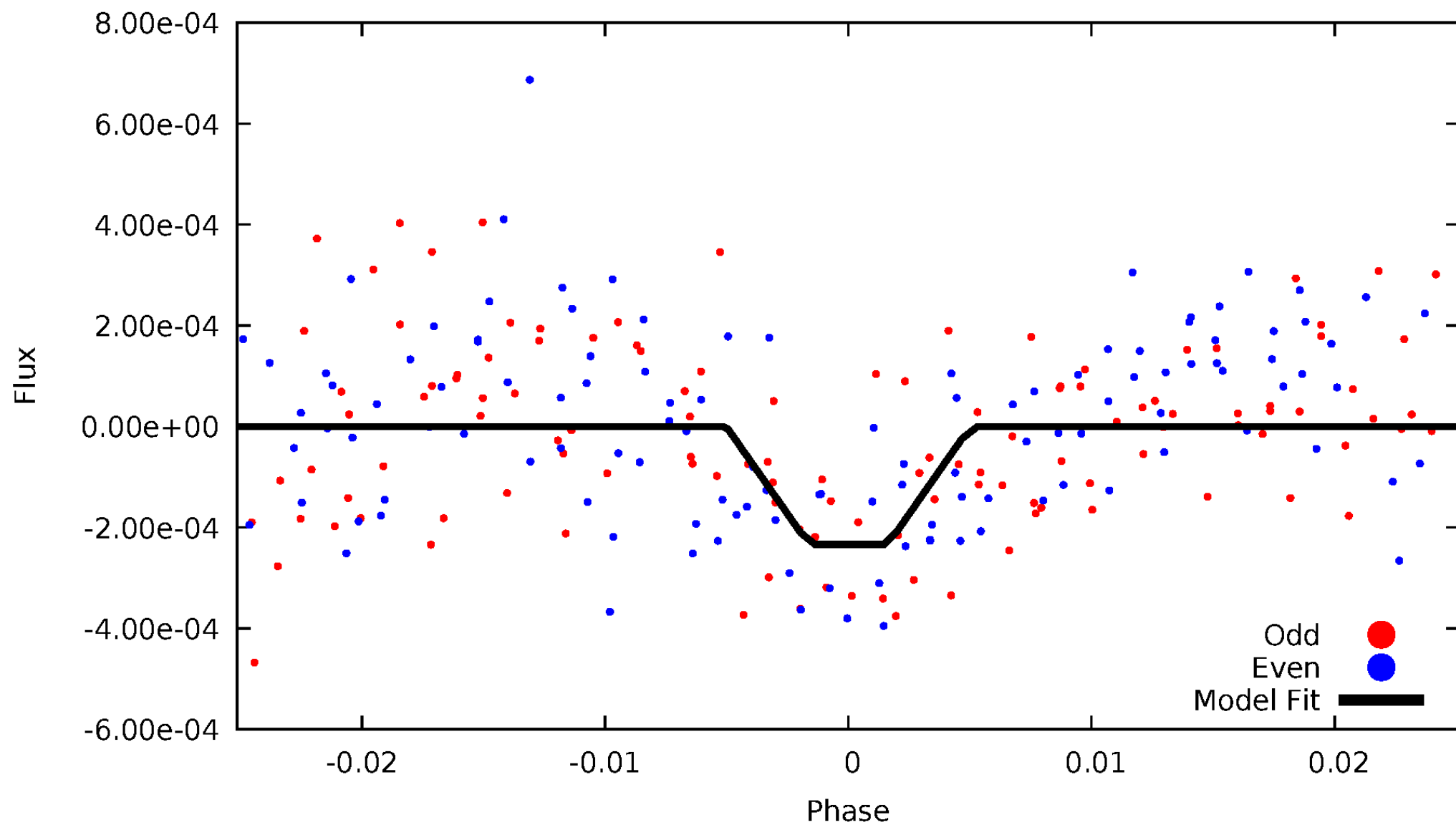
DV Odd/Even

TCE 010482774-03



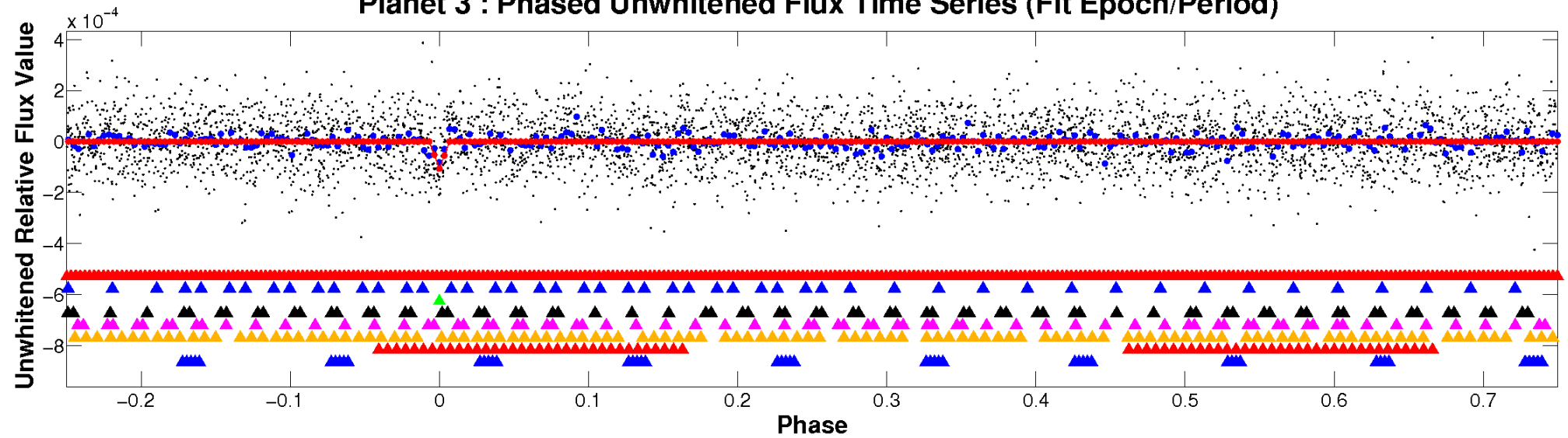
ALT Odd/Even

TCE 010482774-03

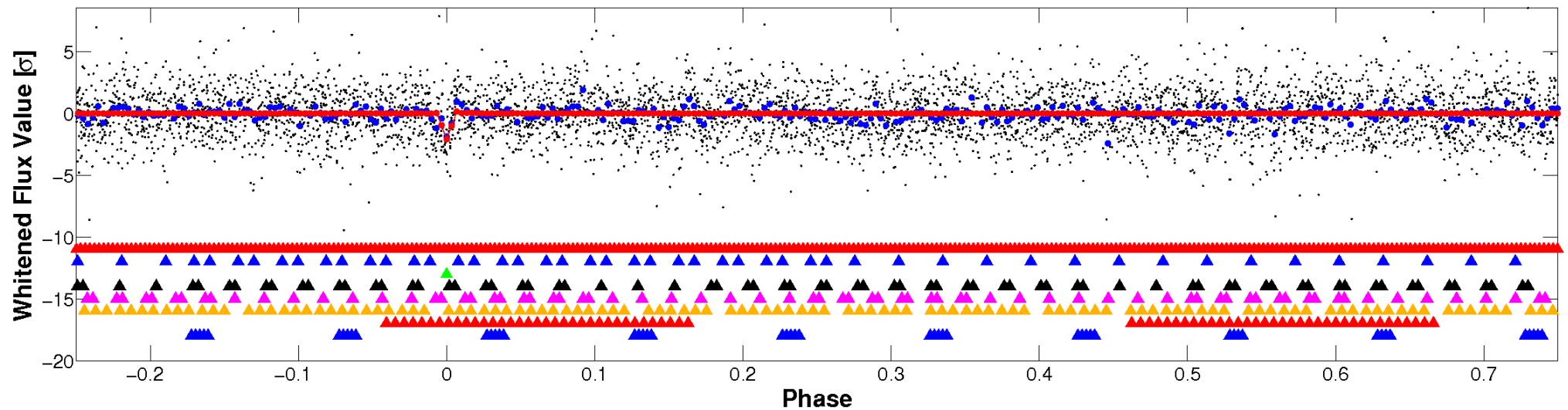


Non-Whitened Vs. Whitened Light Curve

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

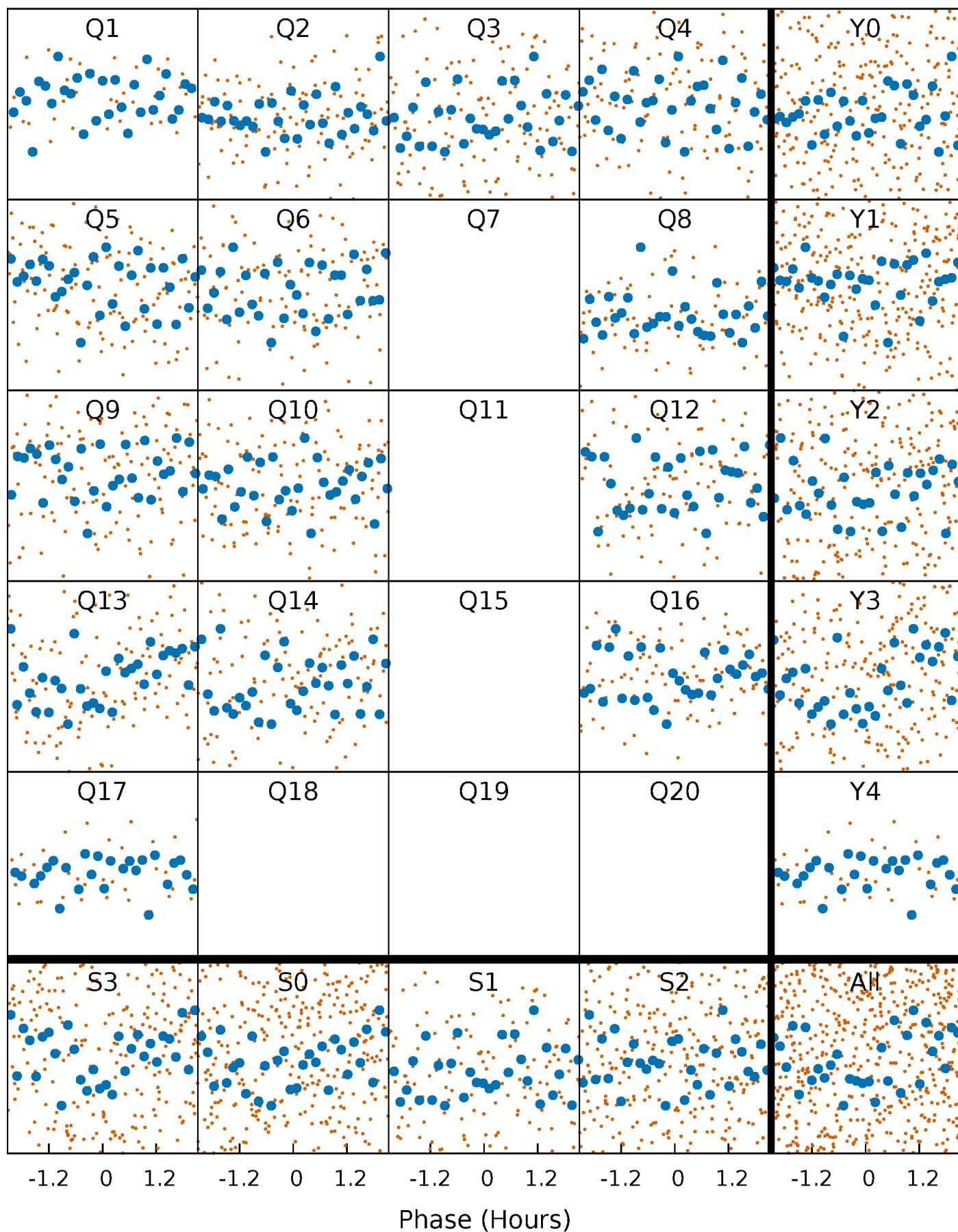


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



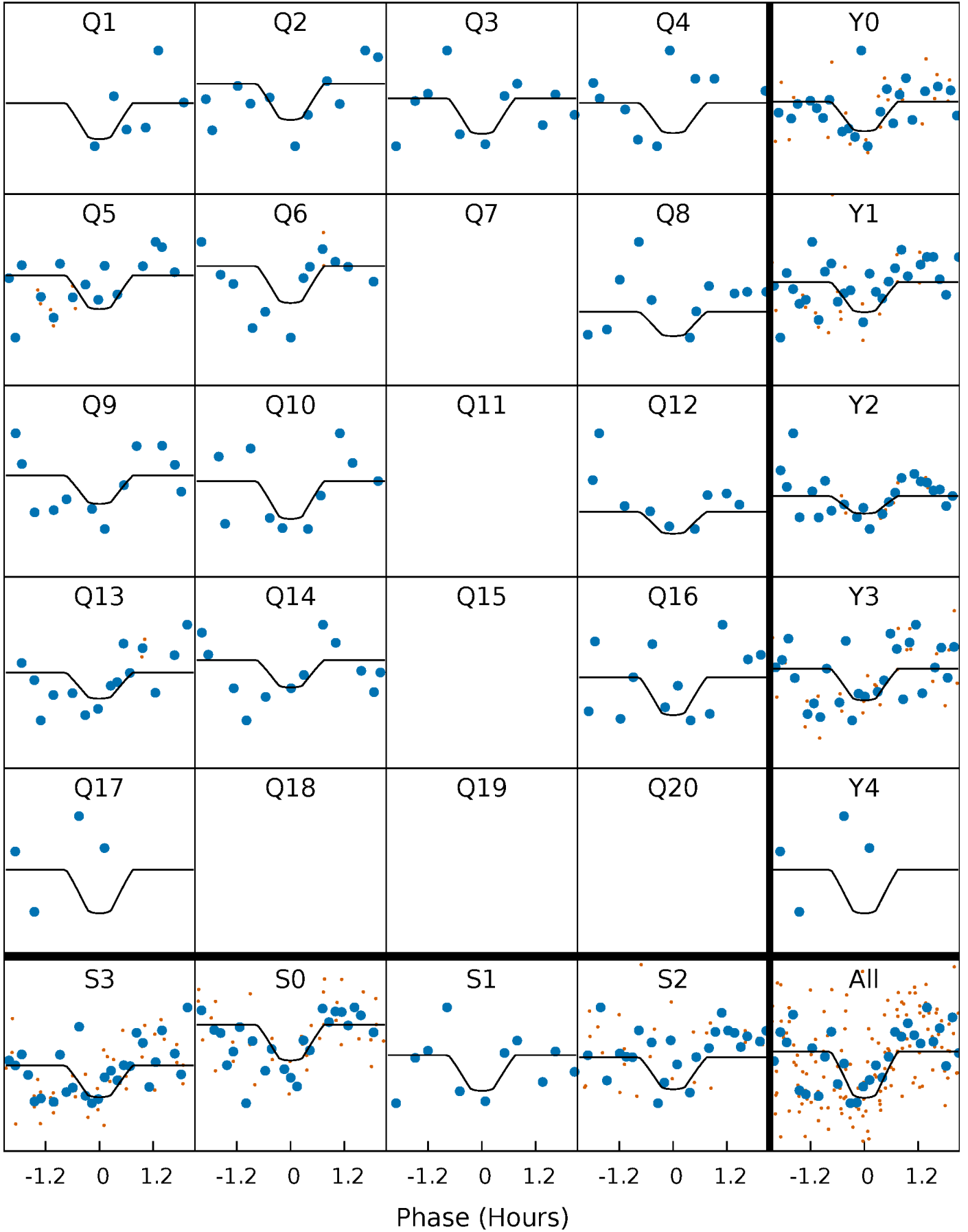
PDC Quarter-Phased Transit Curves

TCE 010482774-03 P= 5.995822 Days $T_0=133.296986$ (BKJD)



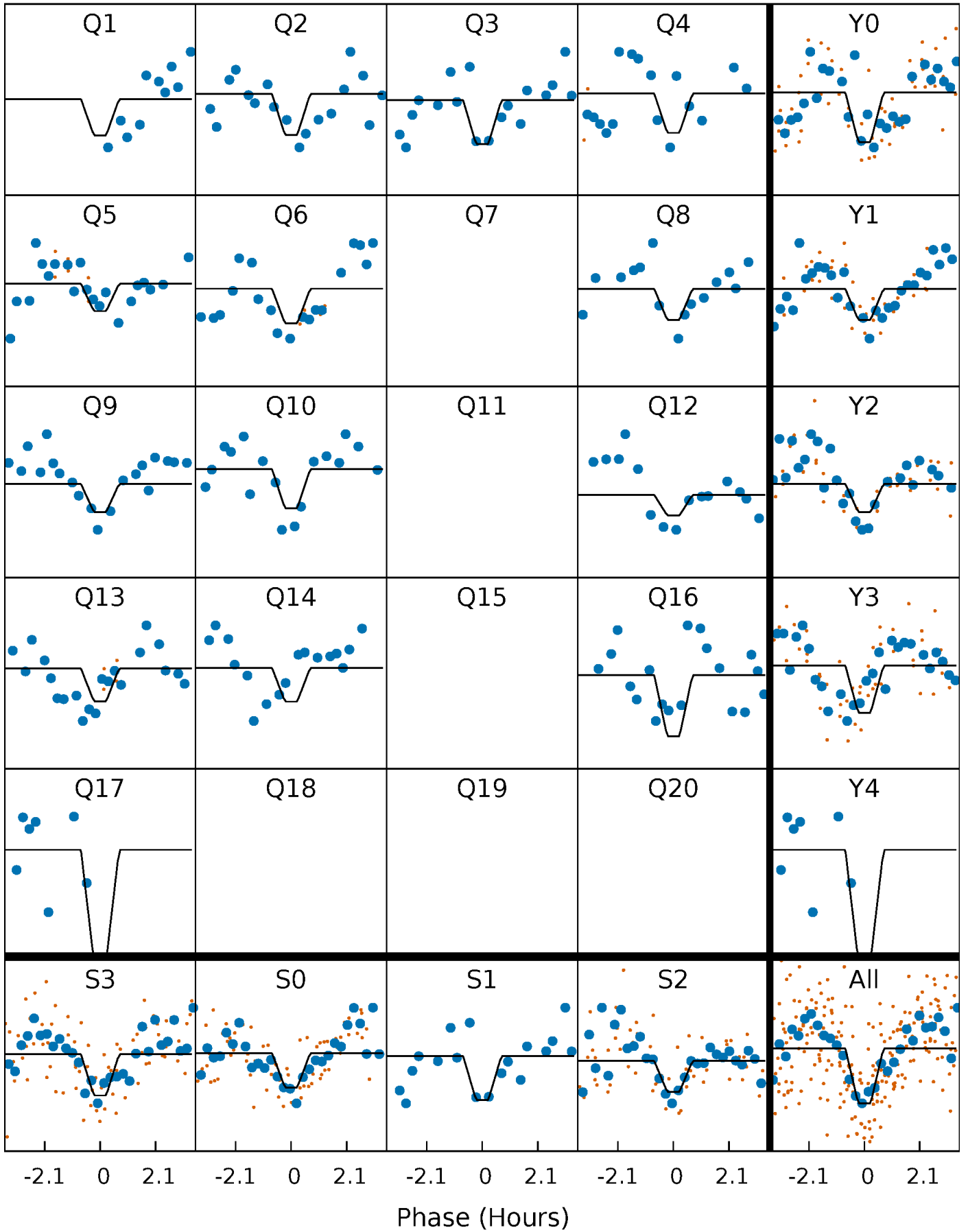
DV Quarter-Phased Transit Curves

TCE 010482774-03 P= 5.995822 Days $T_0=133.296986$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

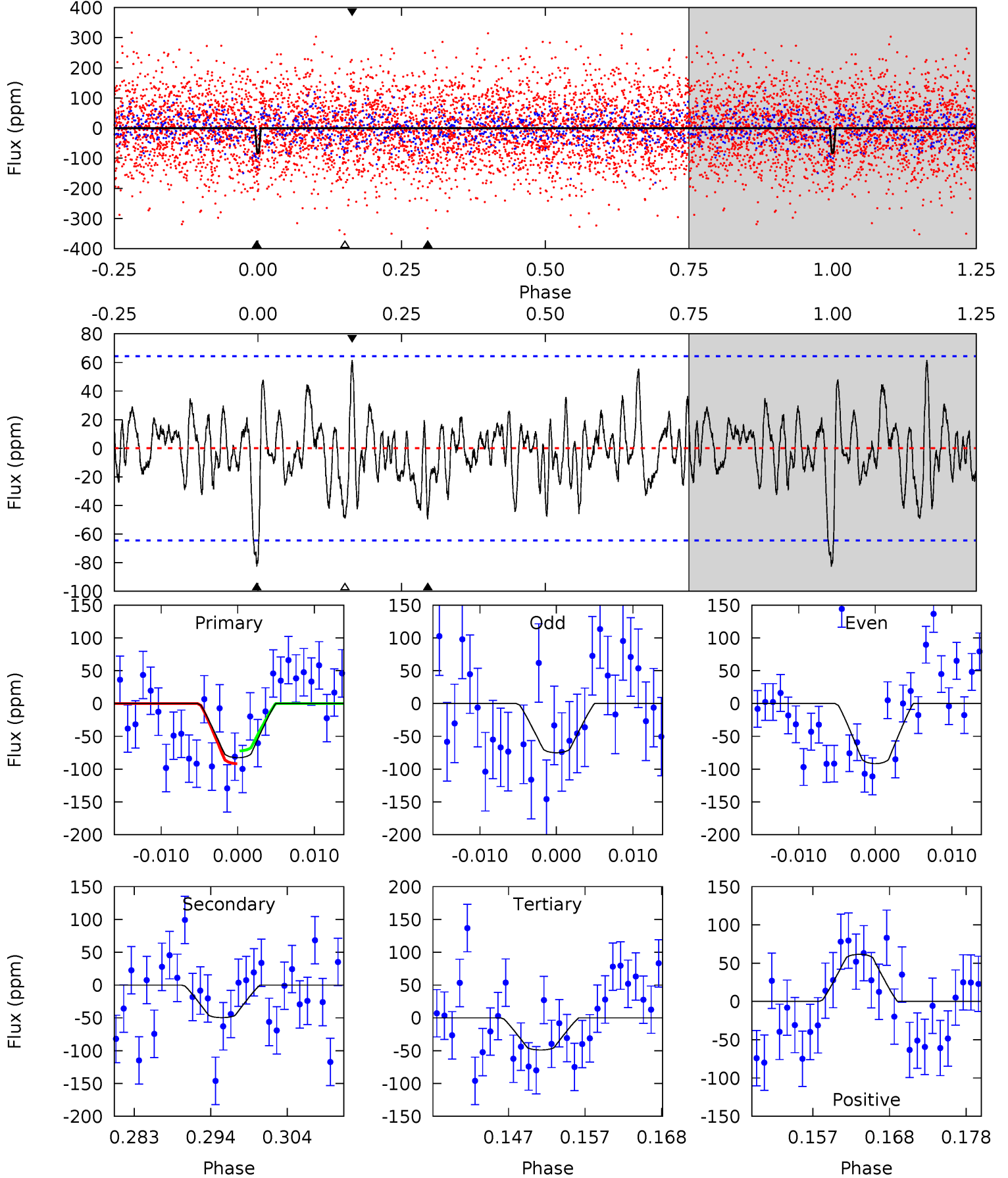
TCE 010482774-03 $P = 5.995982$ Days $T_0 = 133.282025$ (BKJD)



DV Model-Shift Uniqueness Test

010482774-03, P = 5.995822 Days, E = 127.301164 Days

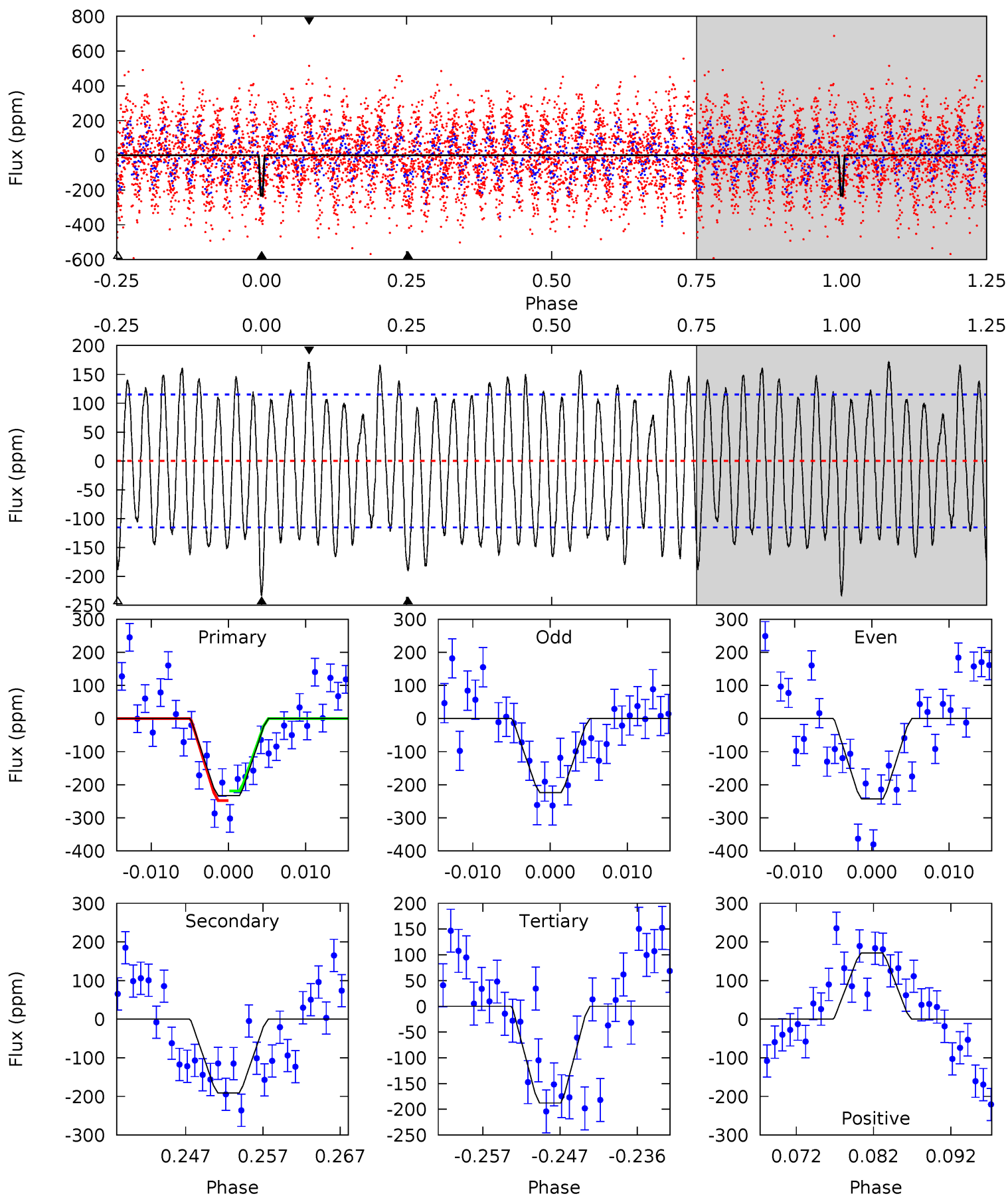
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.45	3.87	3.81	4.80	5.02	2.56	1.42	2.63	1.65	0.06	-0.93	0.65	0.67	0.43	0.76



Alt Model-Shift Uniqueness Test

010482774-03, P = 5.995982 Days, E = 127.286043 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	8.32	8.19	7.48	5.02	2.57	4.22	1.97	2.68	0.13	0.84	0.43	0.97	0.42	0.64



Stellar Parameters For KIC 010482774

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7530^{+209}_{-314}	$4.080^{+0.144}_{-0.176}$	$-0.060^{+0.200}_{-0.350}$	$1.930^{+0.532}_{-0.387}$	$1.633^{+0.212}_{-0.259}$	$0.320^{+0.270}_{-0.147}$
	+3%/-4%	+4%/-4%	+333%/-583%	+28%/-20%	+13%/-16%	+84%/-46%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010482774-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-50 ± 13	$2.46^{+1.76}_{-1.42}$	2344^{+180}_{-160}	5720^{+3414}_{-1197}	25^{+118}_{-17}
Alt.	-191 ± 23	$3.33^{+1.73}_{-1.61}$	2342^{+167}_{-153}	6886^{+3840}_{-1285}	54^{+148}_{-31}

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

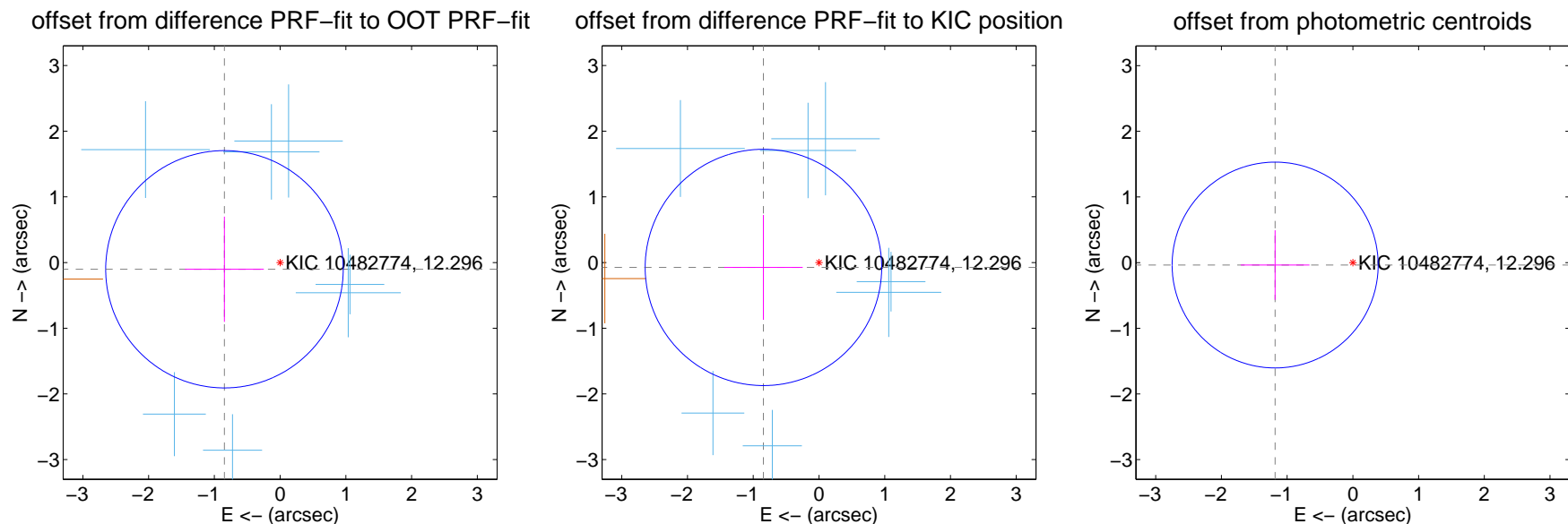
DV Centroid Data

Supplemental centroid analysis for 010482774-03. Kepler magnitude: 12.30. Transit SNR 11.01

There are 7 quarters with good PRF difference image offsets

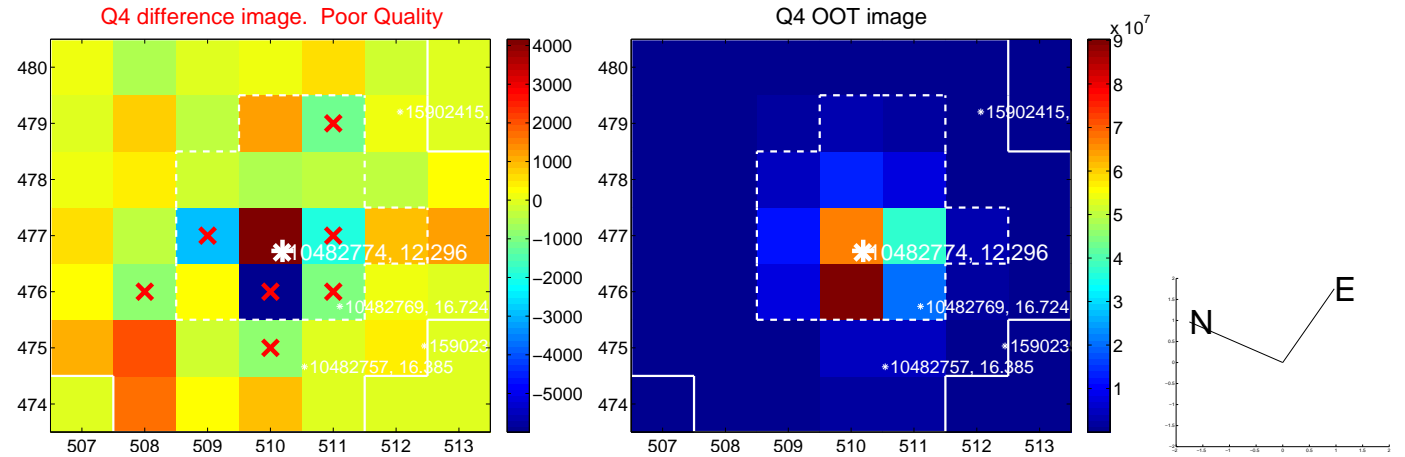
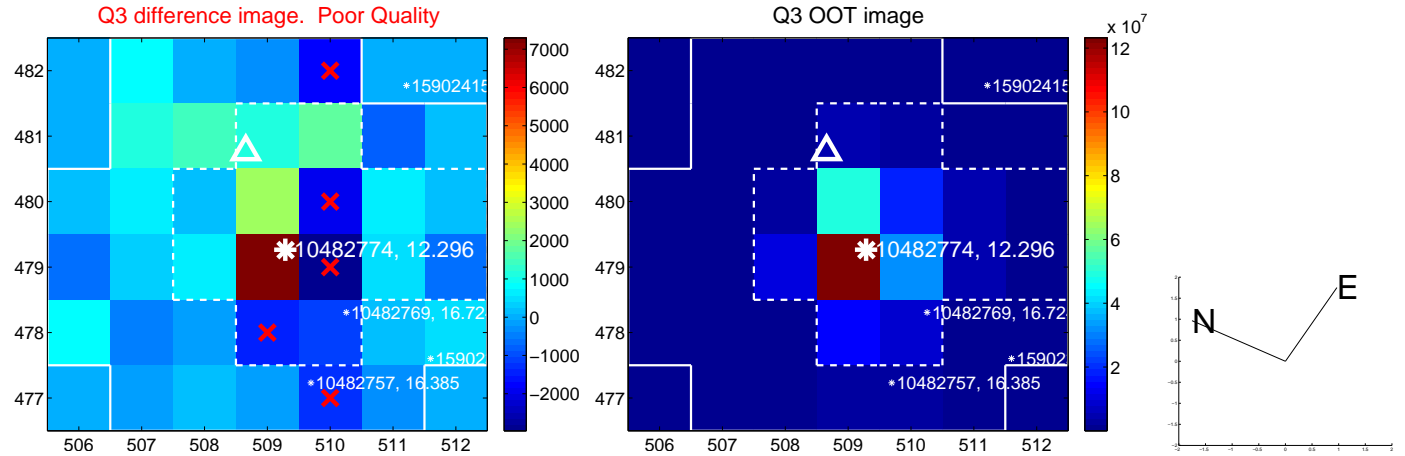
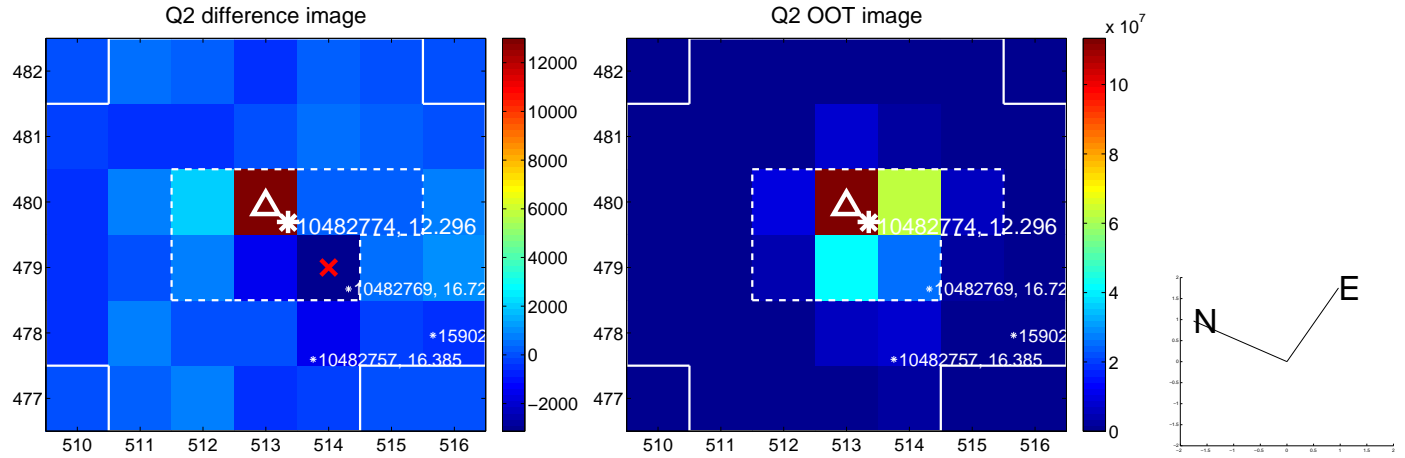
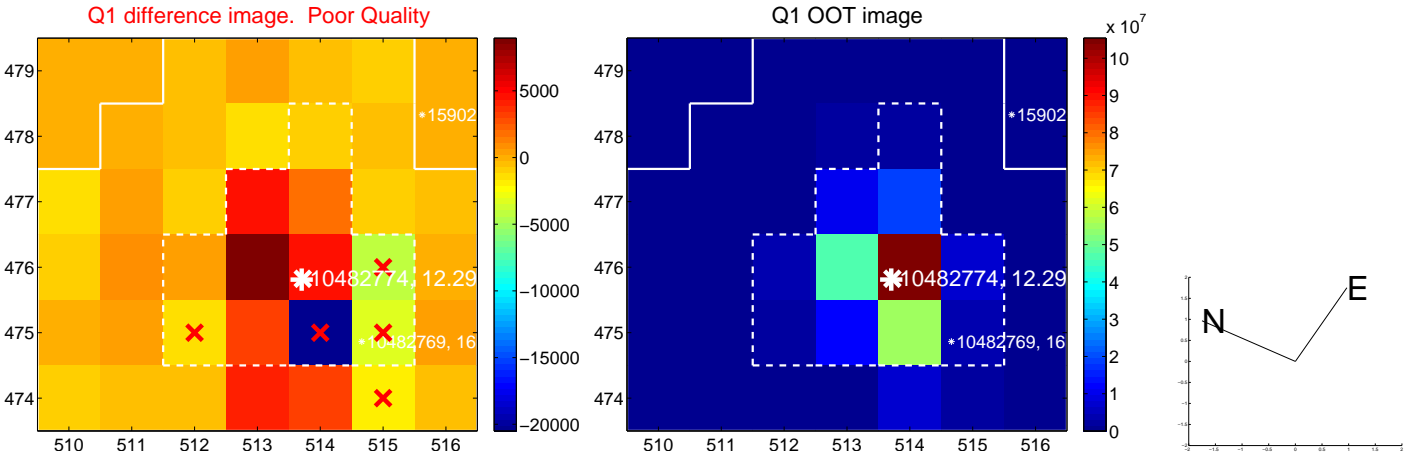
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.853 ± 0.602	1.42	0.847 ± 0.599	-0.102 ± 0.801
PRF-fit source offset from KIC position	0.849 ± 0.600	1.42	0.845 ± 0.598	-0.074 ± 0.798
photometric centroid source offset	1.18 ± 0.52	2.26	1.18 ± 0.52	-0.04 ± 0.53

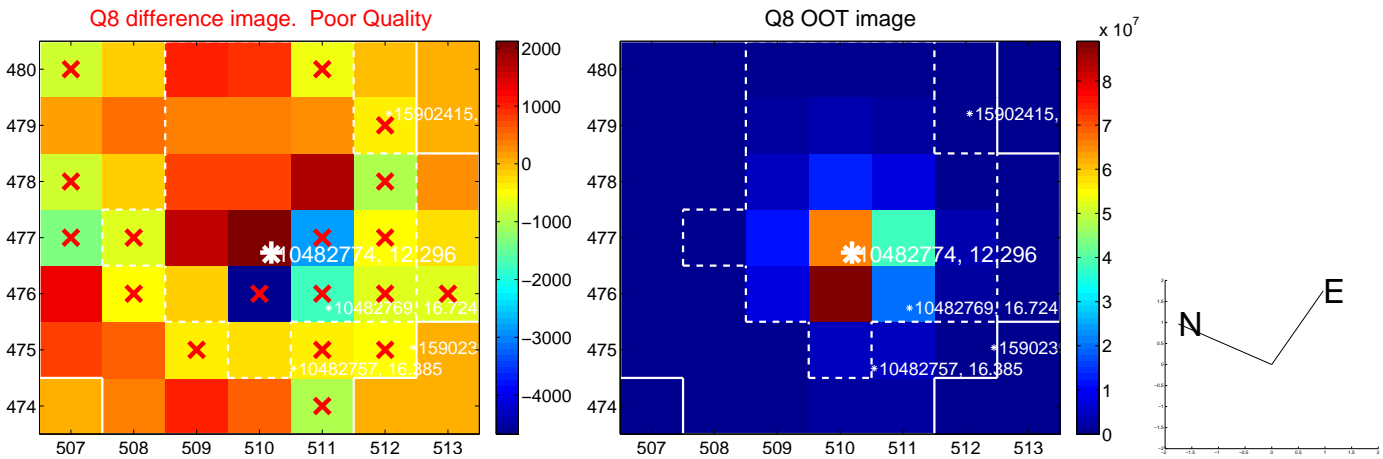
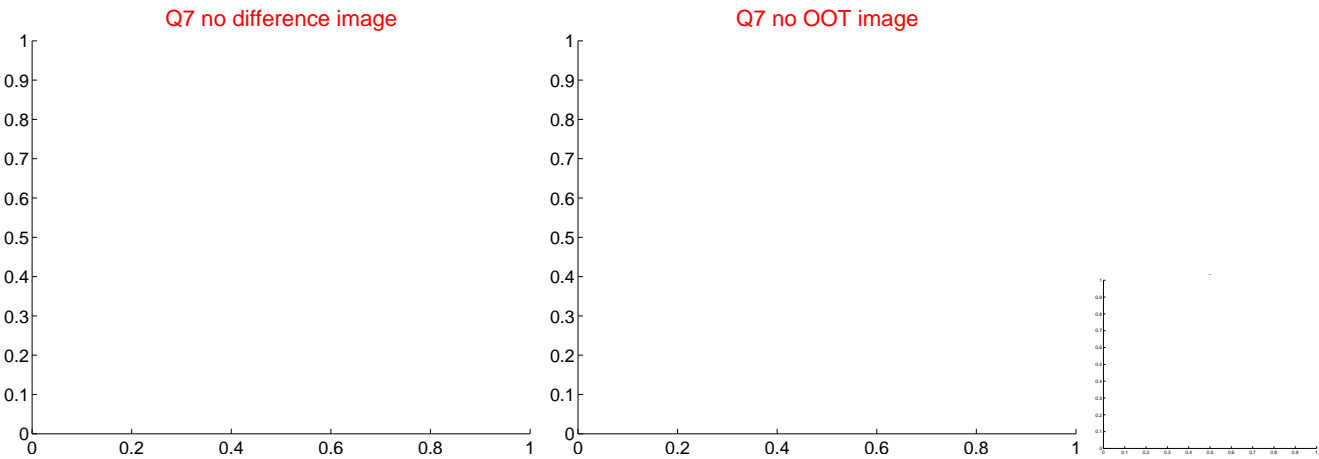
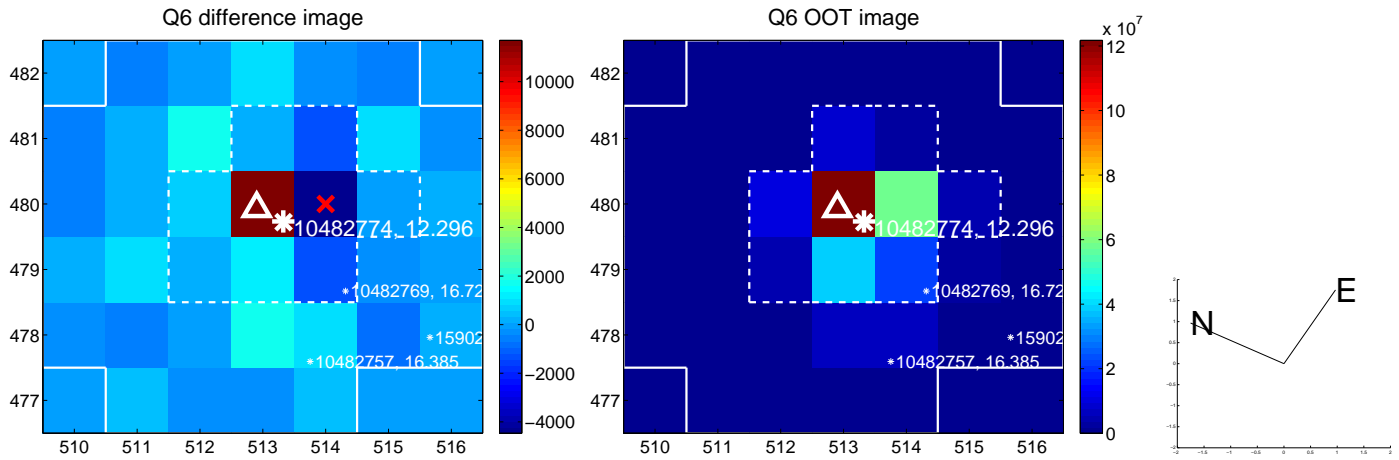
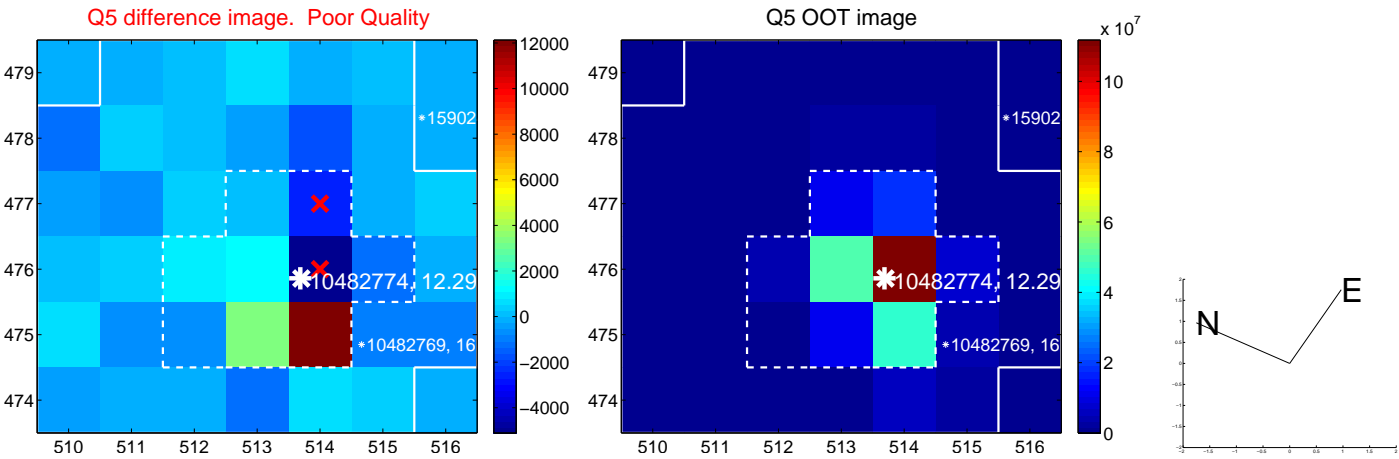


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

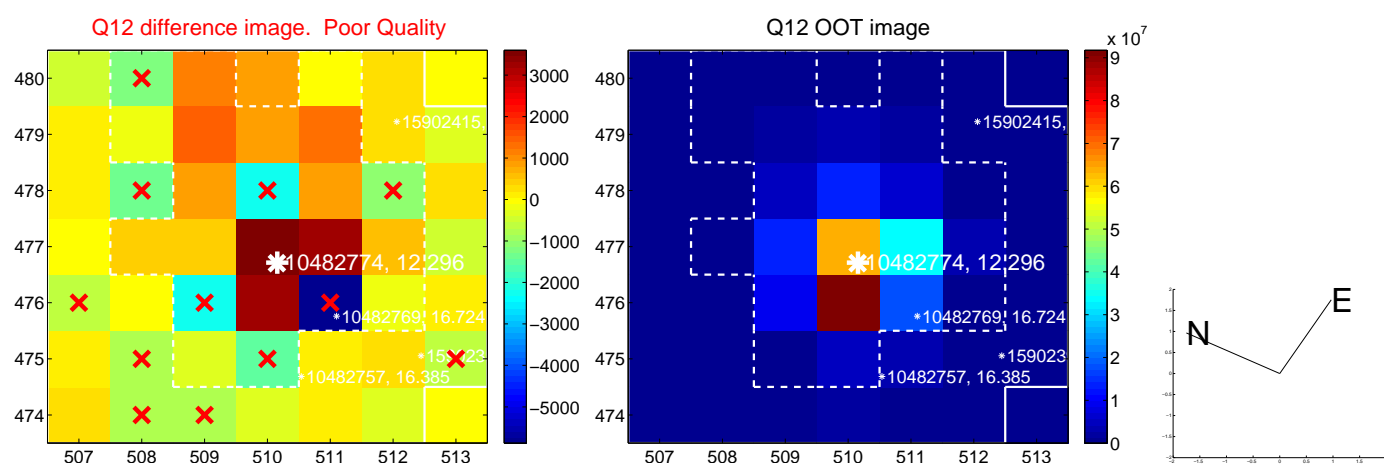
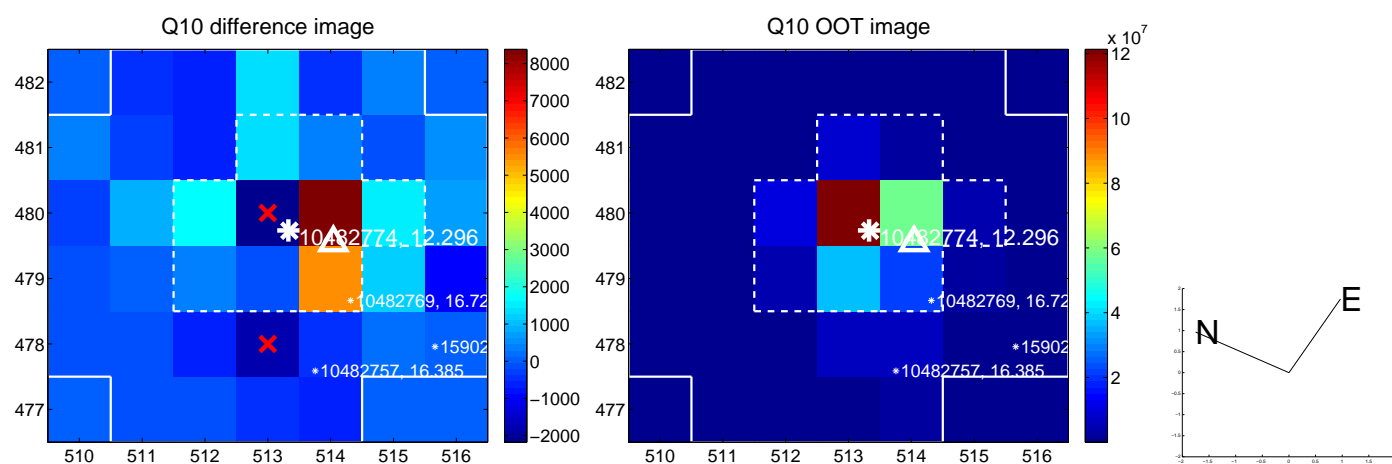
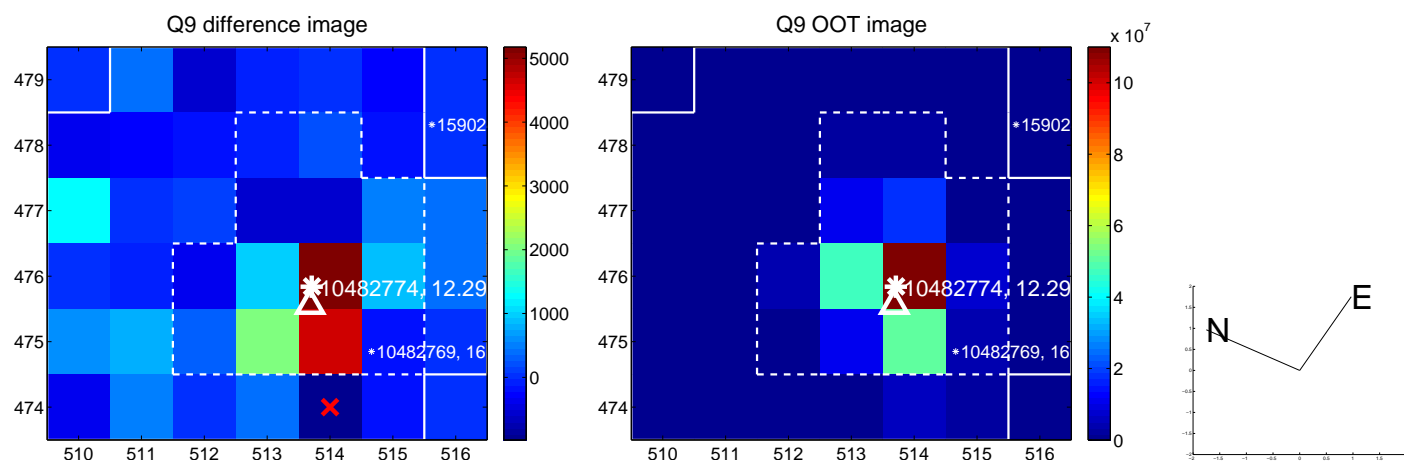
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



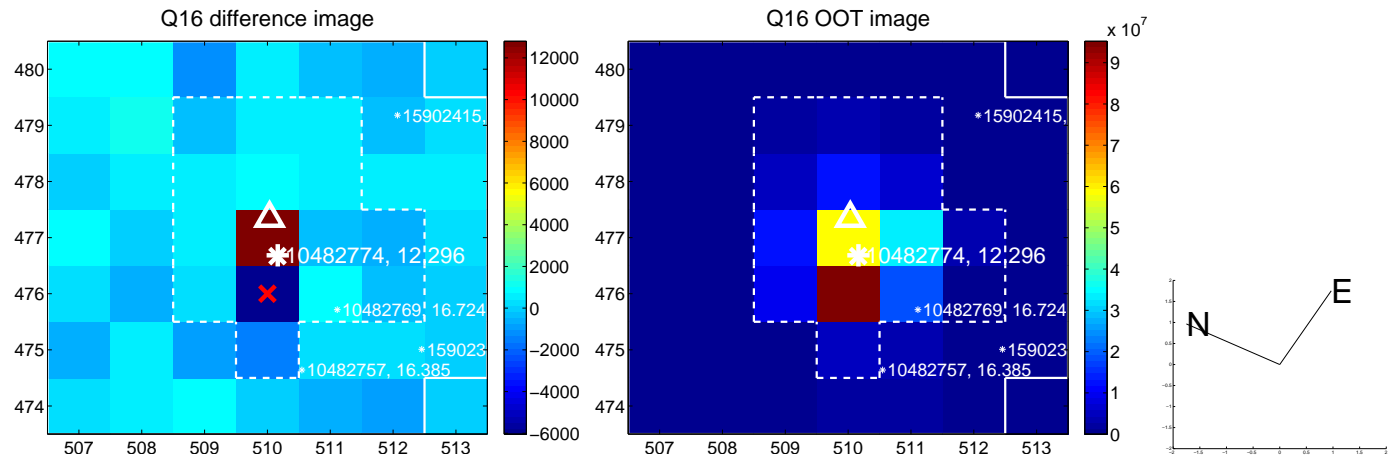
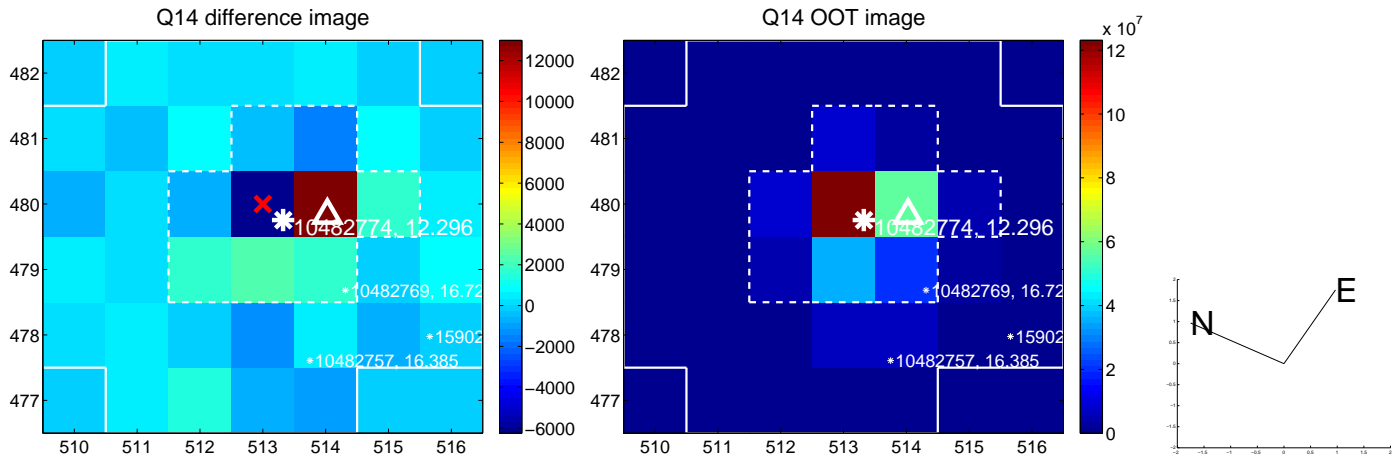
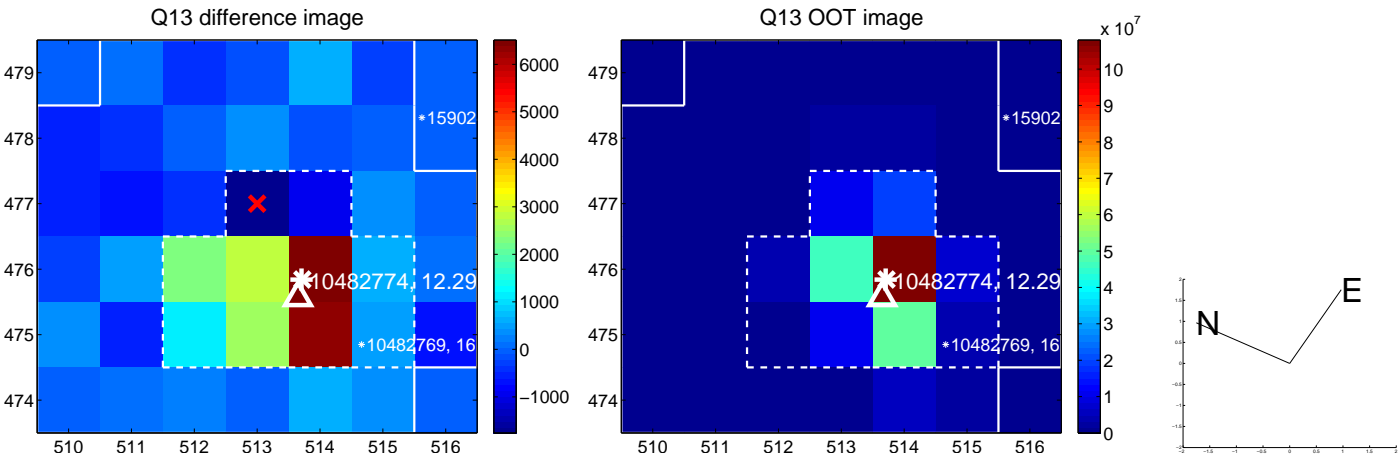
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



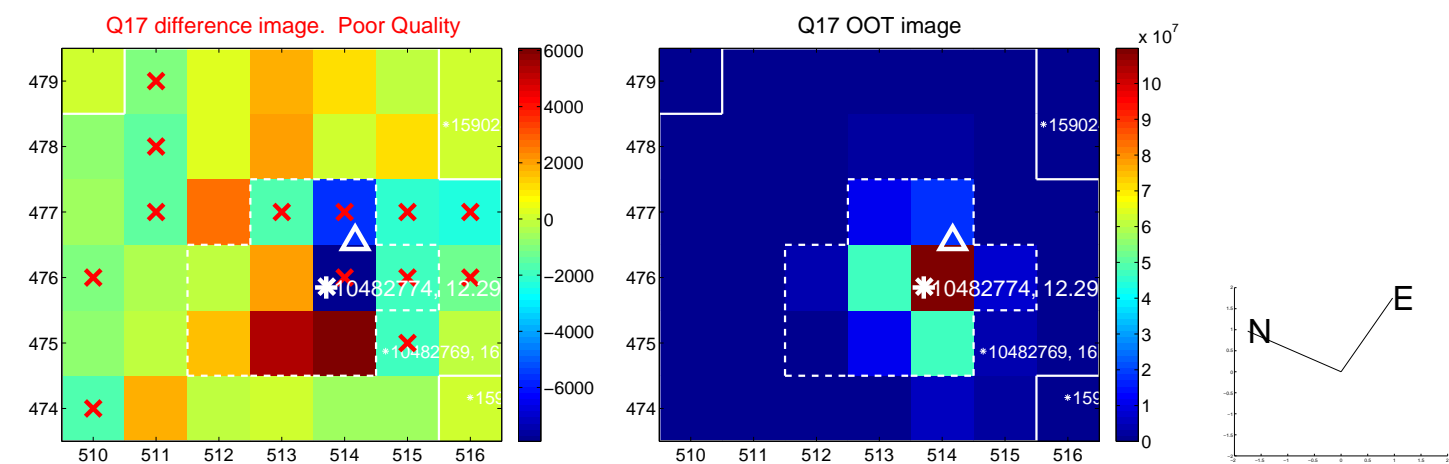
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



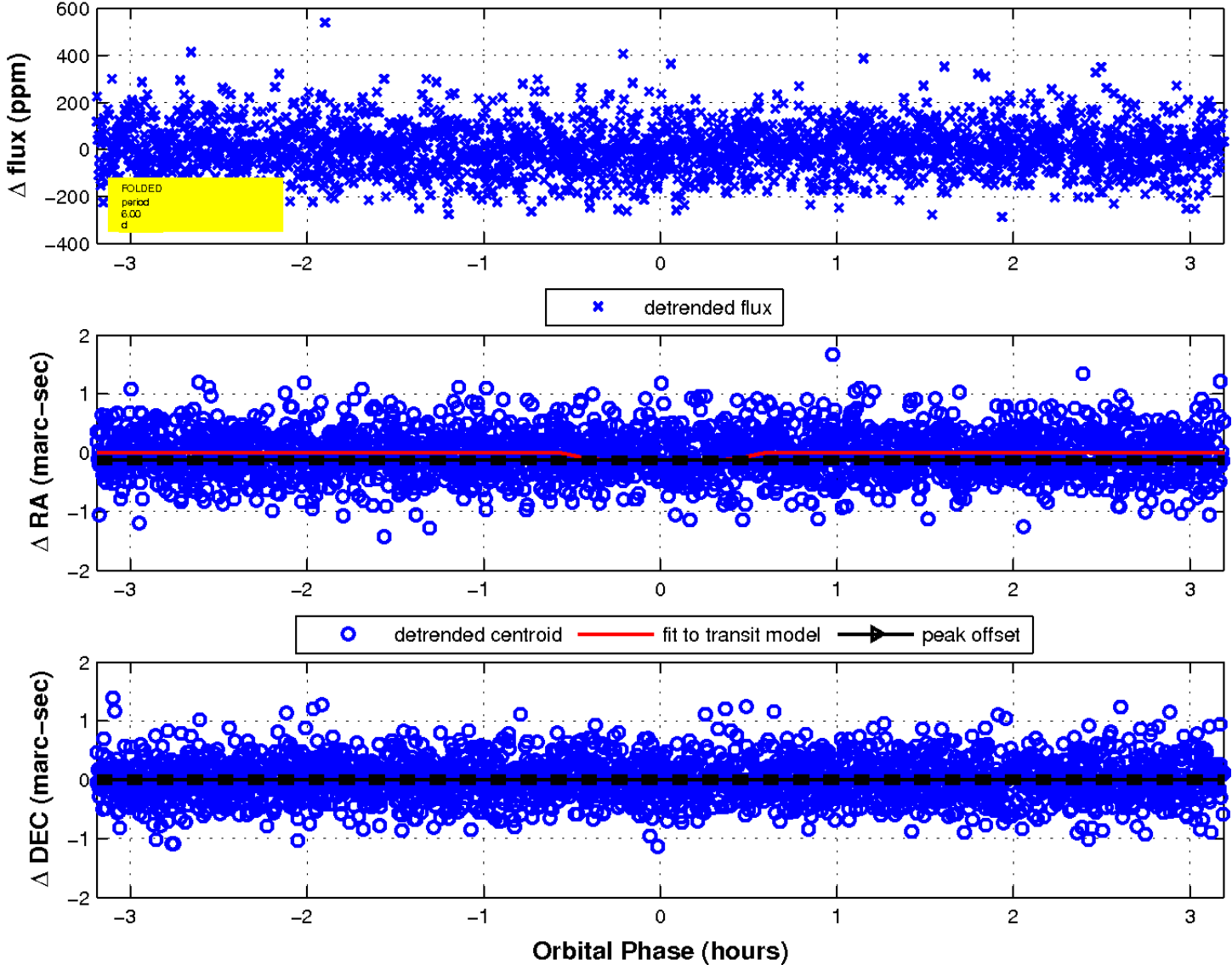
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

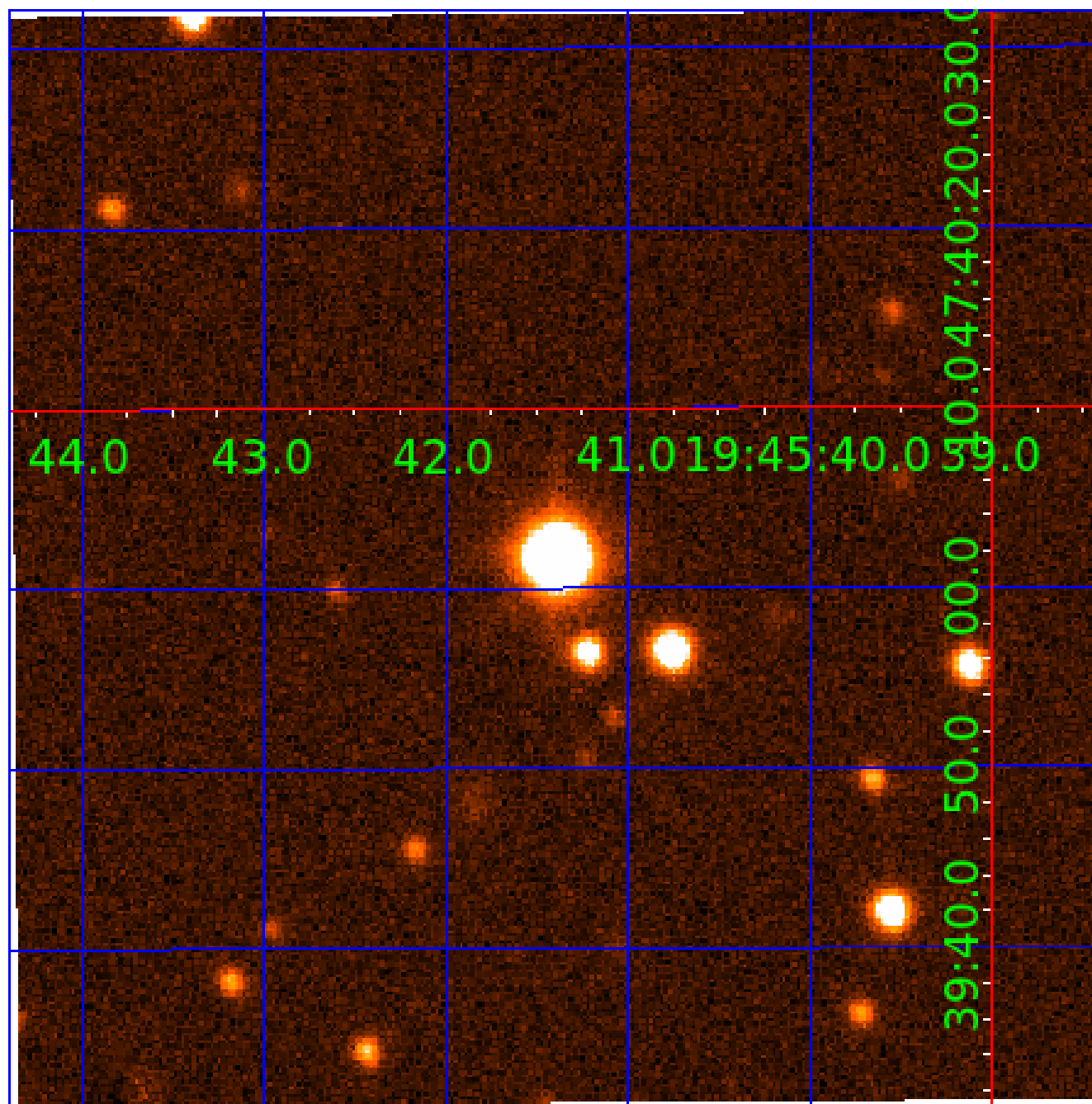


fluxWeightedCentroids, Planet 3 of 8



UKIRT Image

Declination



KIC 010482774

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})
010482774-01	OBS	No	0.502754	131.538692	7.2	3.469	8.2	6.2	1.93	7530	0.56	50501.61
010482774-02	OBS	No	29.800889	146.825635	155.1	1.739	11.9	9.2	1.93	7530	2.59	218.51
010482774-03	OBS	No	5.995822	133.296986	107.8	1.065	10.6	11.0	1.93	7530	2.32	1853.45
010482774-04	OBS	No	19.936665	141.845865	111.4	2.271	9.1	8.4	1.93	7530	2.25	373.46
010482774-05	OBS	No	19.516261	143.715102	221.6	0.950	10.3	11.5	1.93	7530	3.10	384.22
010482774-06	OBS	No	12.800680	138.105698	205.4	1.126	10.1	13.1	1.93	7530	3.19	674.22
010482774-07	OBS	No	20.967424	143.285997	325.0	1.500	9.6	-1.0	1.93	7530	3.55	349.18
010482774-08	OBS	No	30.577010	149.721461	200.3	1.866	9.4	9.7	1.93	7530	3.02	211.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010482774-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS
010482774-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010482774-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010482774-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010482774-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010482774-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
010482774-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
010482774-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV

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

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

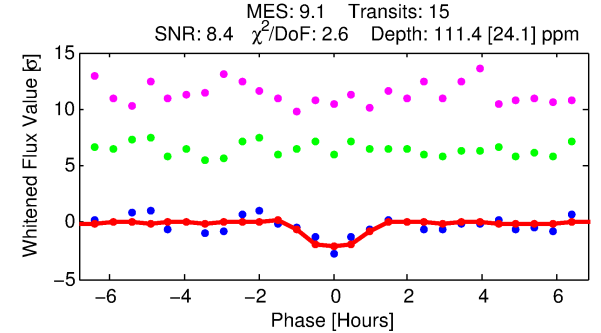
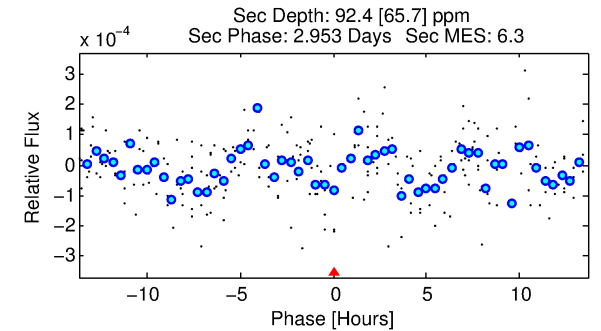
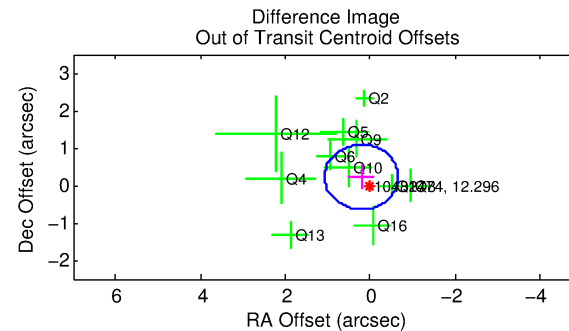
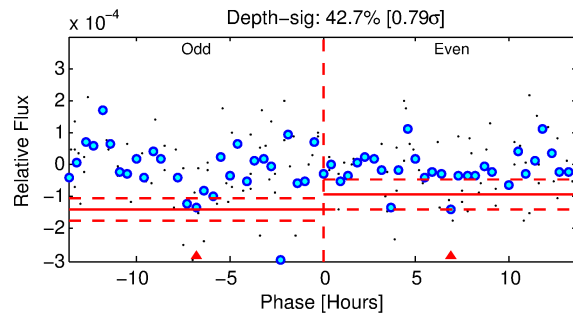
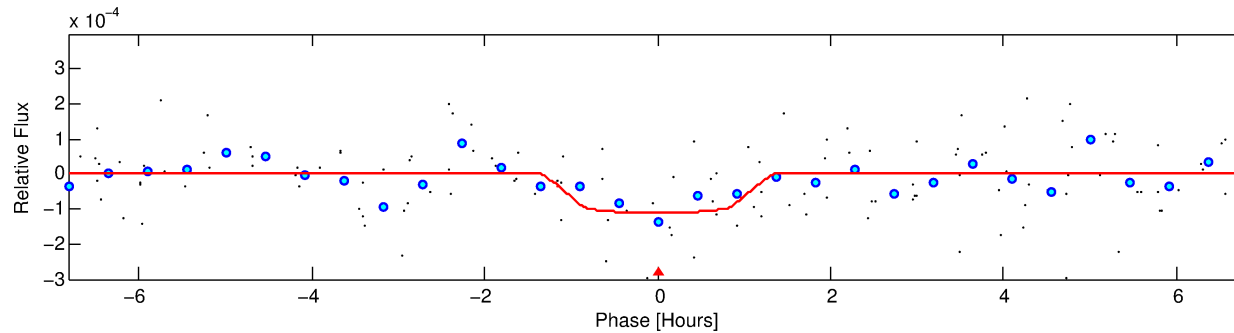
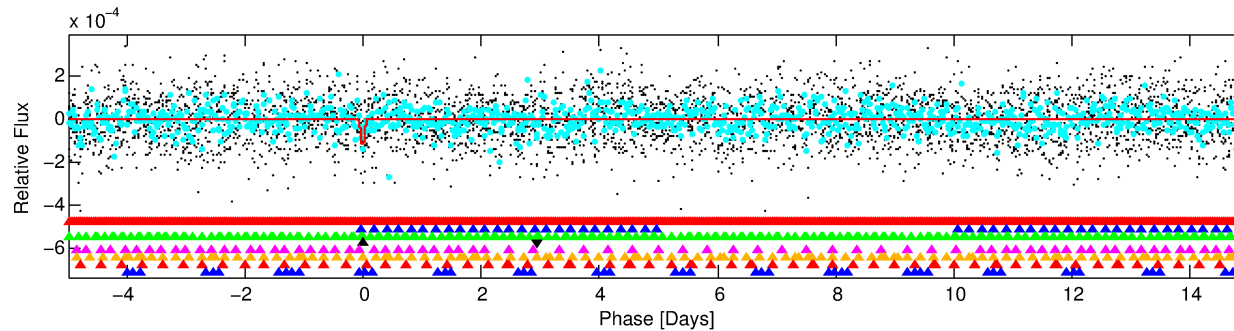
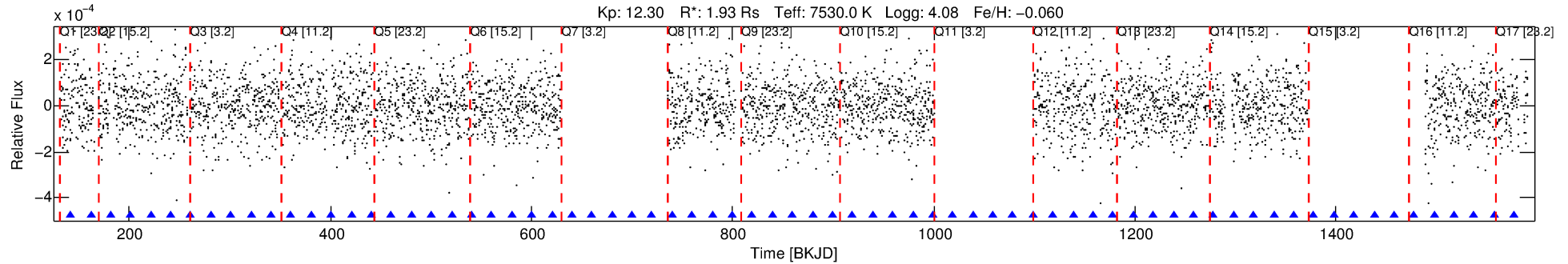
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010482774-04

No Significant Match Found

DV One-Page Summary

KIC: 10482774 Candidate: 4 of 8 Period: 19.937 d



DV Fit Results:

Period = 19.93666 [0.00046] d
Epoch = 141.8459 [0.0131] BKJD
Rp/R* = 0.0107 [0.0109]
a/R* = 40.66 [269.01]
b = 0.81 [2.84]
Seff = 373.46 [137.01]
Teq = 1121 [103] K
Rp = 2.25 [2.38] Re
a = 0.1695 [0.0387] AU
Ag = 287.69 [627.23] [0.46 σ]
Teffp = 7138 [3858] K [1.56 σ]

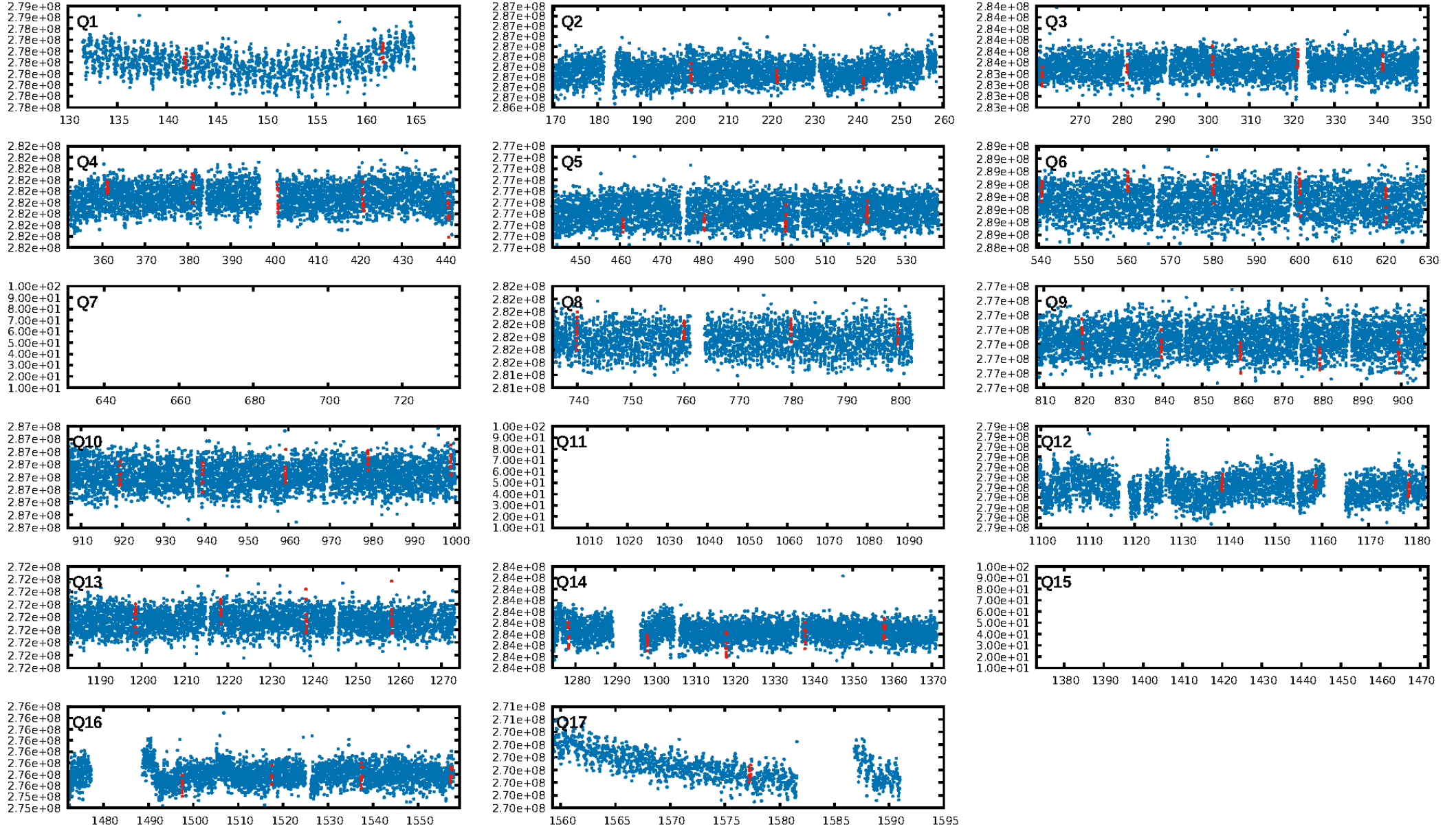
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.10 σ]
LongPeriod-sig: 100.0% [9.09 σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.61e-07
RollingBand-fgt: 1.00 [14/14]
GhostDiagnostic-chr: 0.4401
Centroid-sig: 6.5%
Centroid-so: 0.845 arcsec [1.35 σ]
OotOffset-rm: 0.303 arcsec [1.05 σ]
KicOffset-rm: 0.369 arcsec [1.26 σ]
OotOffset-st: 4/0/4/3 [11]
KicOffset-st: 4/0/4/3 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.00 [0/14]

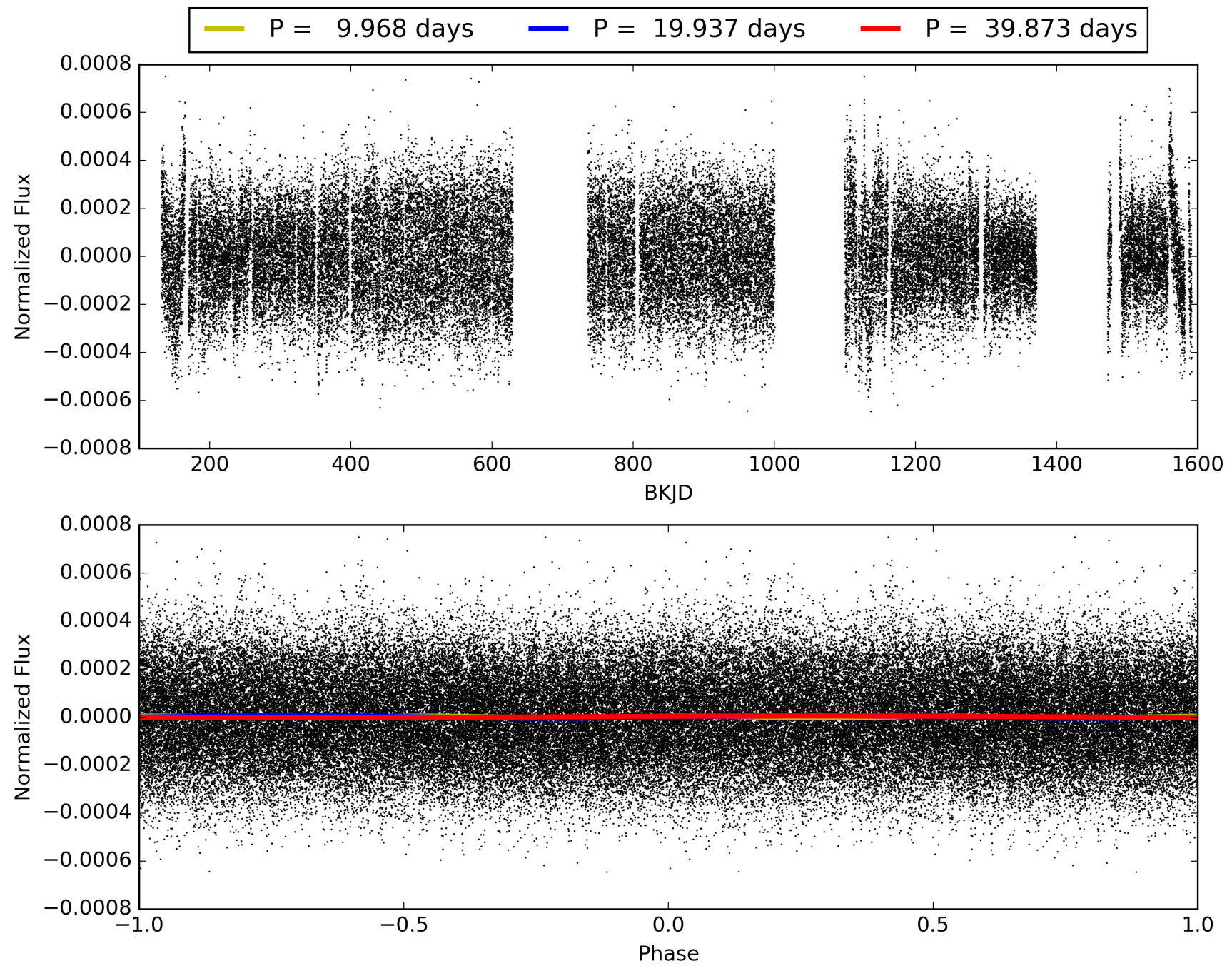
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:54:44 Z

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

TCE 010482774-04, PDC Light Curves

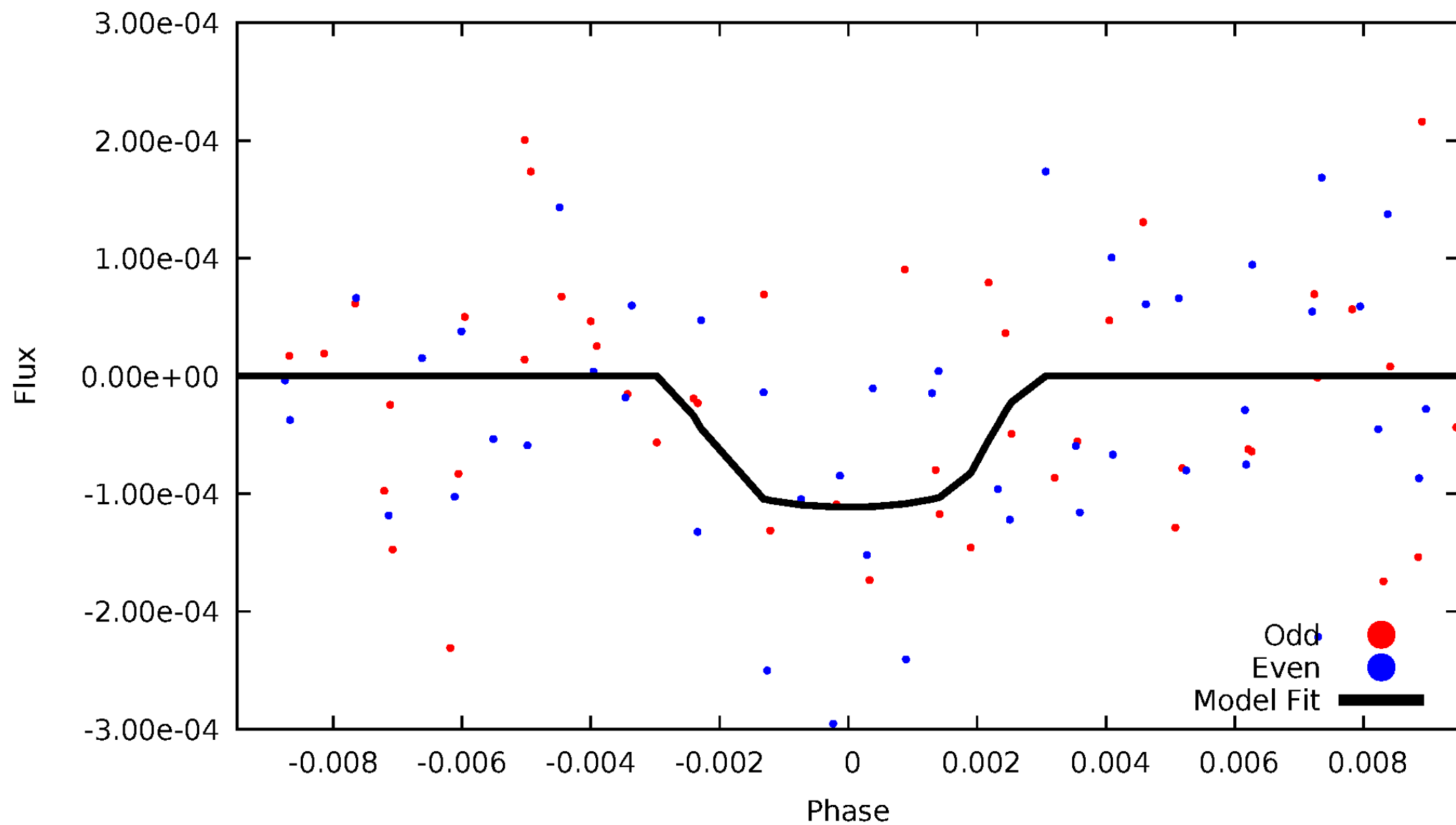


TCE 010482774-04



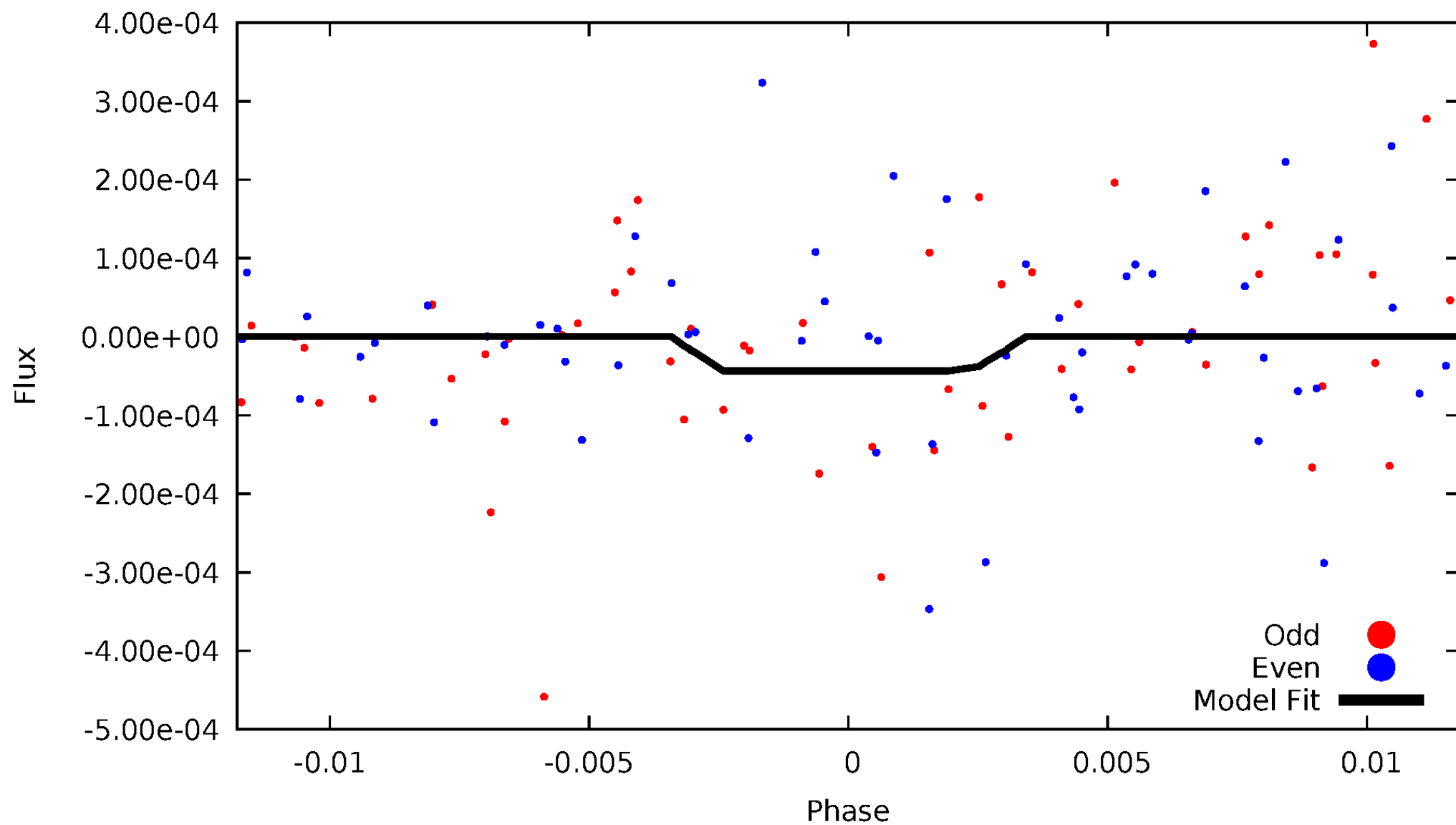
DV Odd/Even

TCE 010482774-04



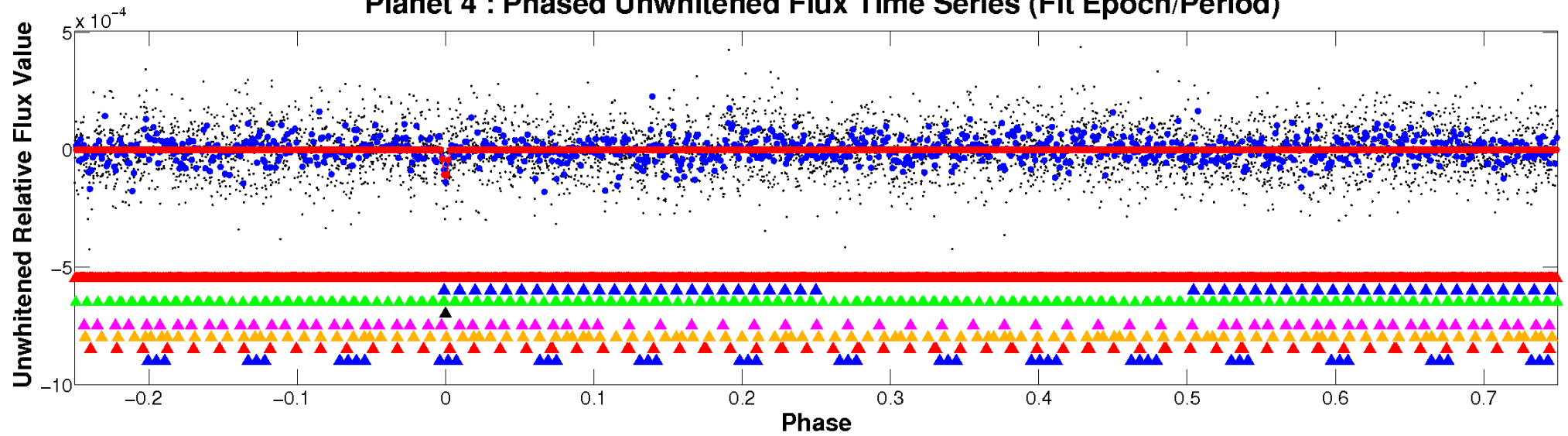
ALT Odd/Even

TCE 010482774-04

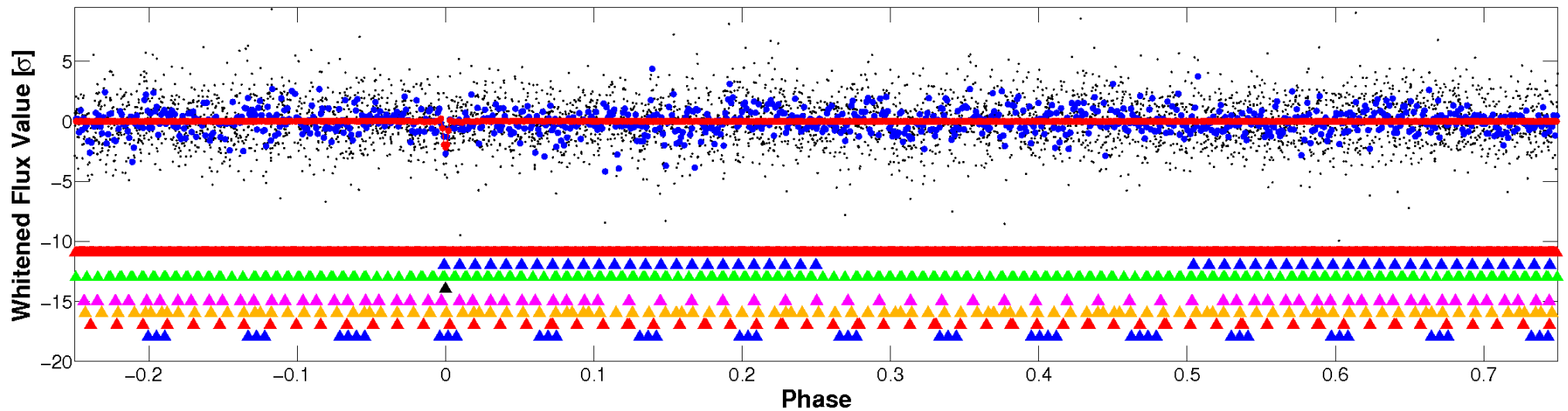


Non-Whitened Vs. Whitened Light Curve

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

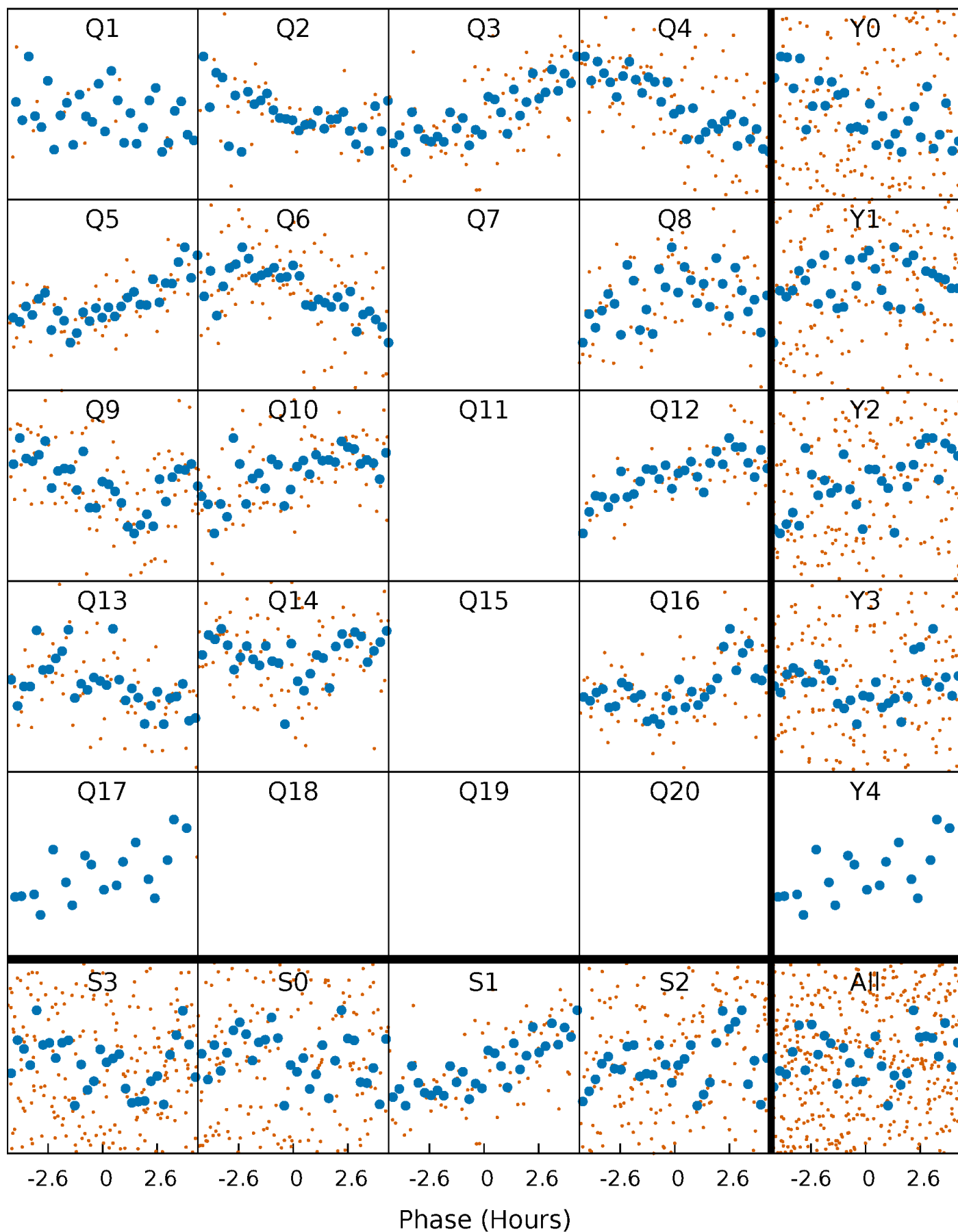


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



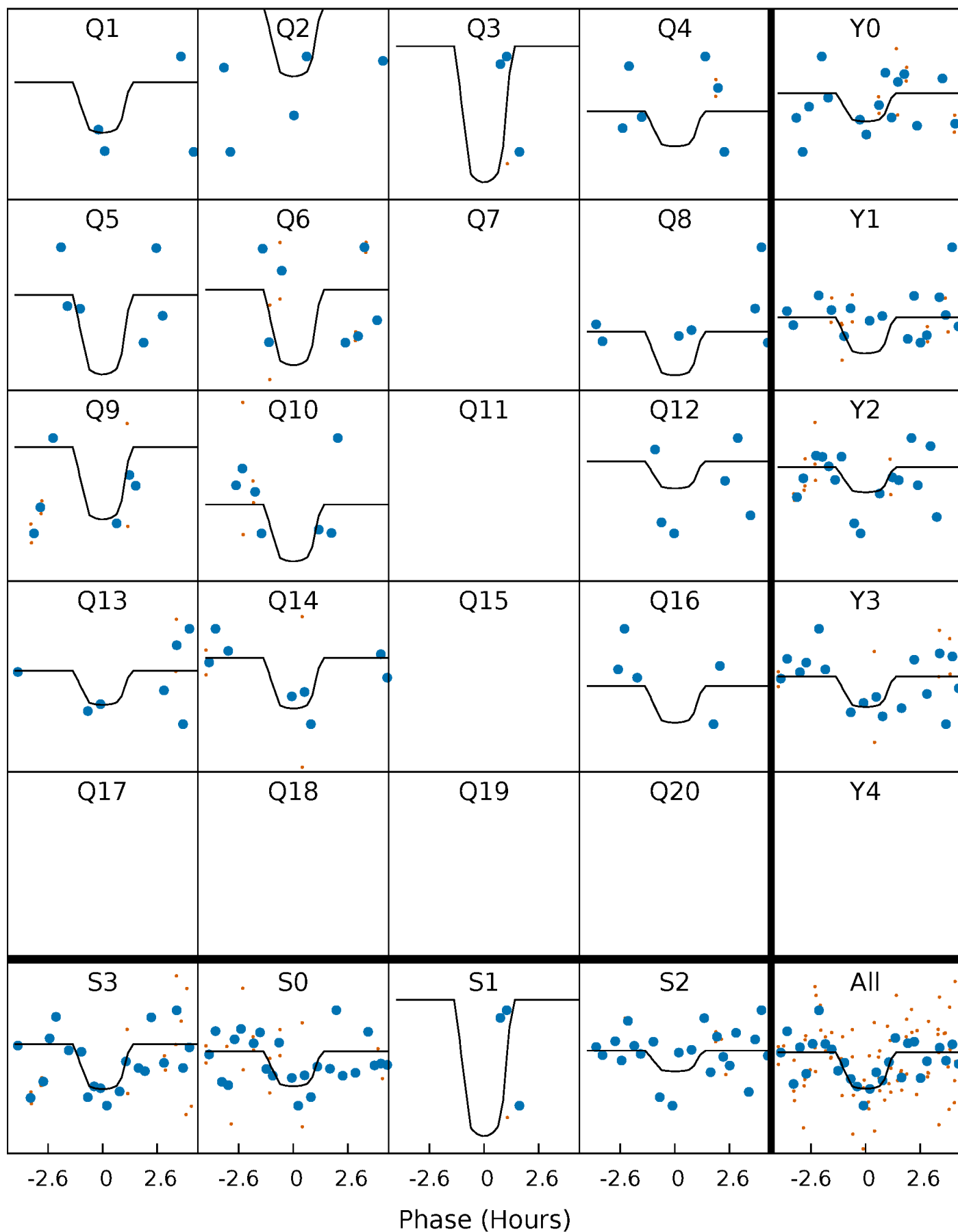
PDC Quarter-Phased Transit Curves

TCE 010482774-04 P= 19.936665 Days $T_0=141.845865$ (BKJD)



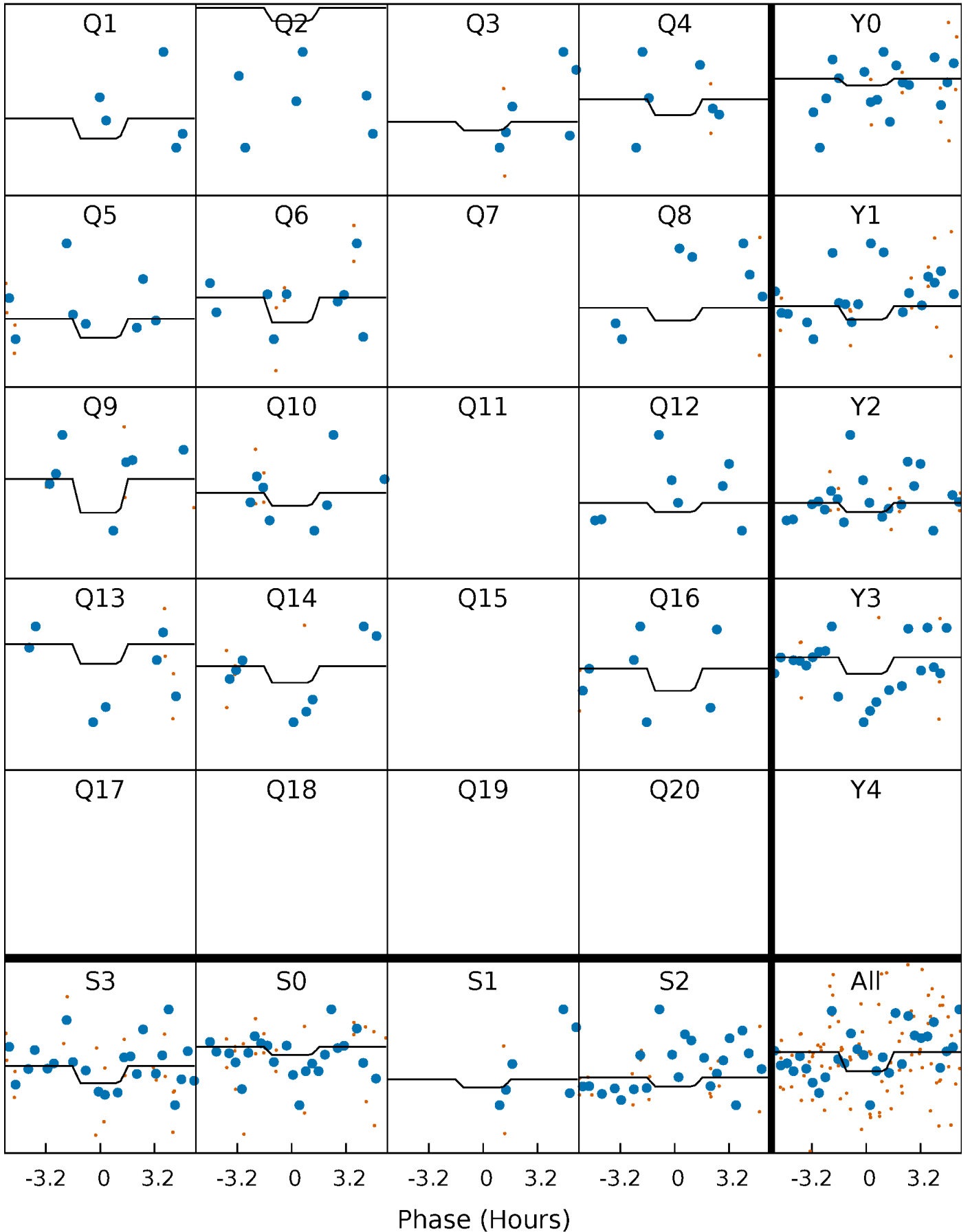
DV Quarter-Phased Transit Curves

TCE 010482774-04 P= 19.936665 Days $T_0=141.845865$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

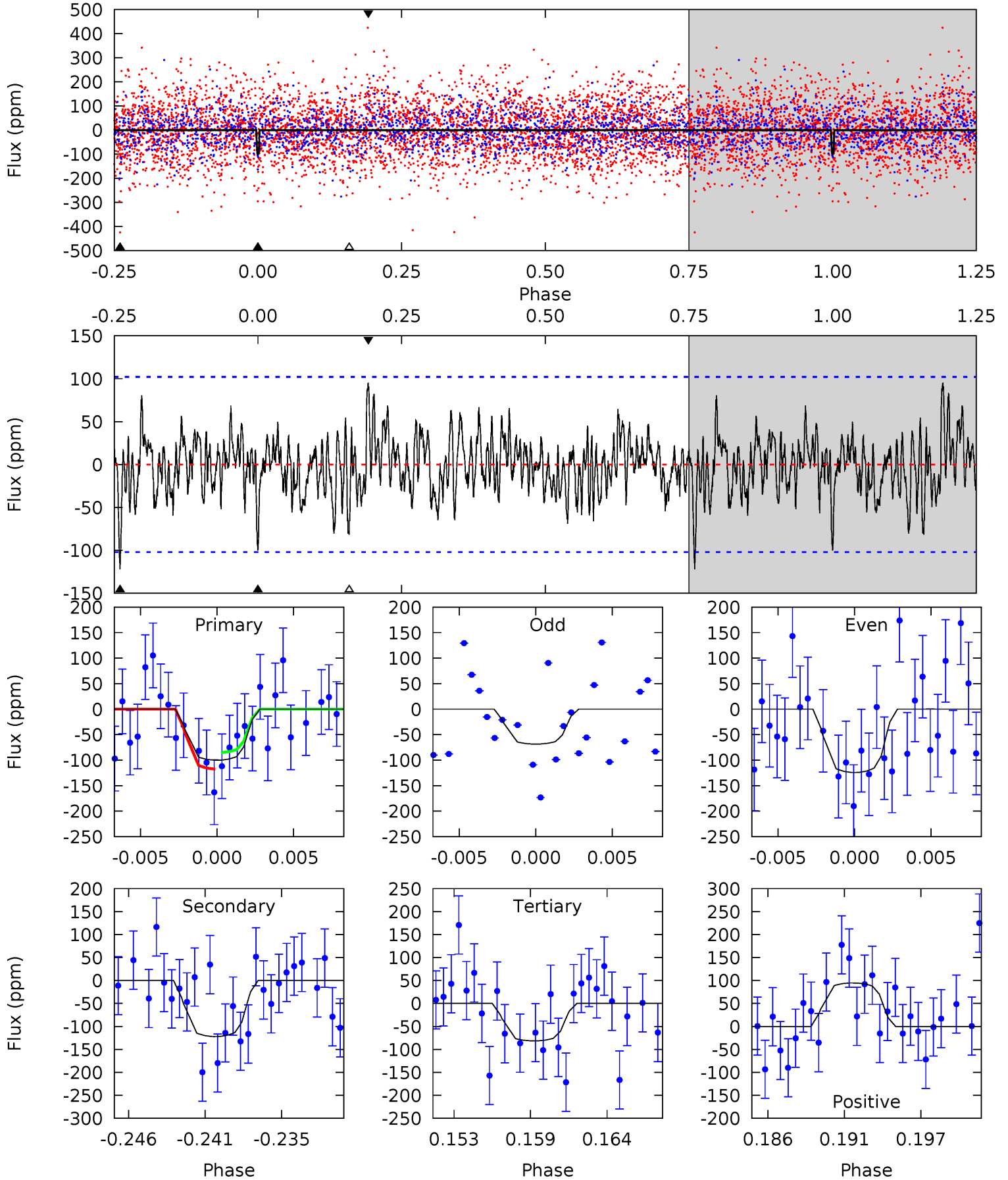
TCE 010482774-04 P= 19.936532 Days $T_0=141.840241$ (BKJD)



DV Model-Shift Uniqueness Test

010482774-04, $P = 19.936665$ Days, $E = 121.909200$ Days

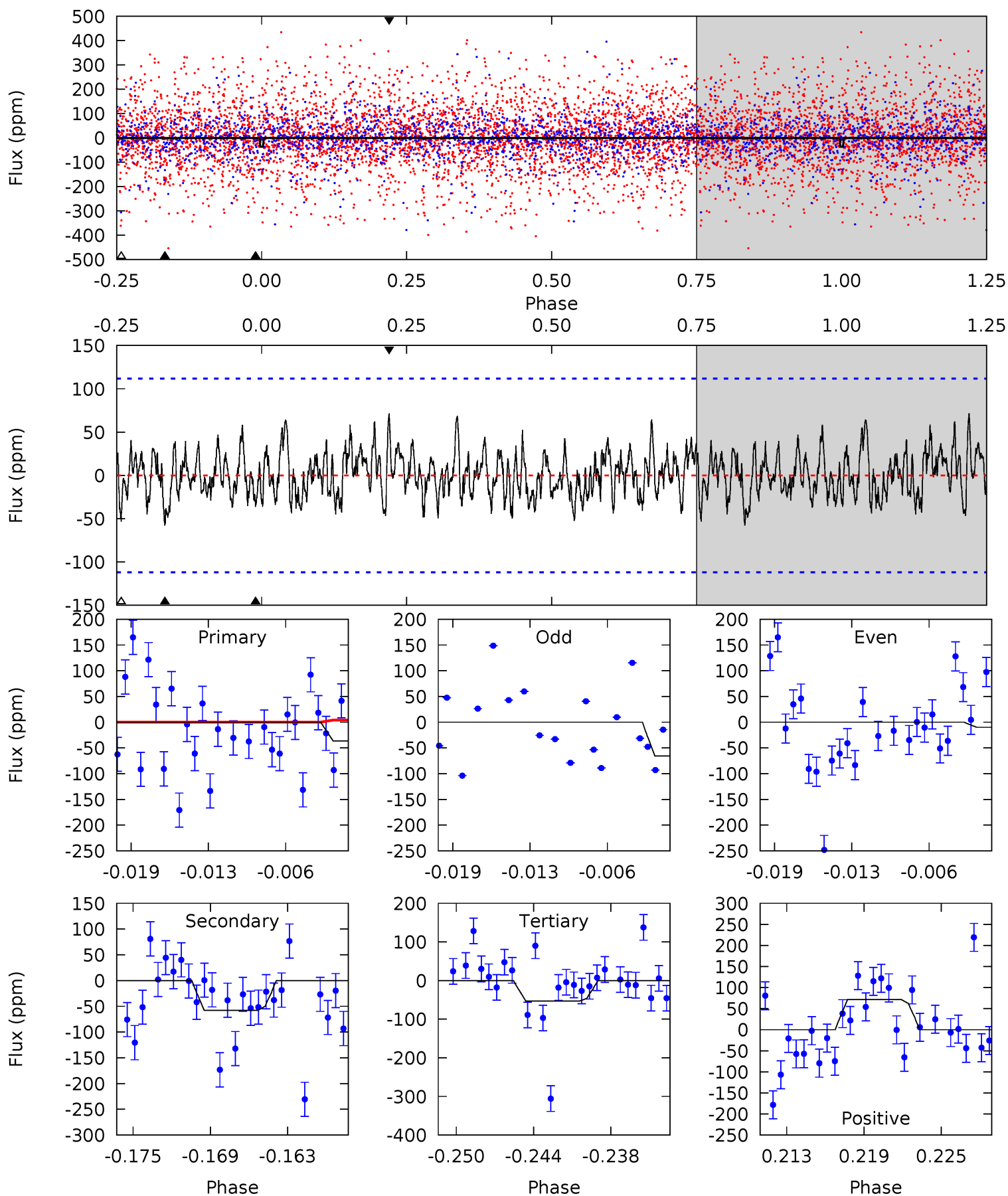
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.04	6.15	4.11	4.77	5.14	2.78	1.41	0.94	0.27	2.05	1.38	1.40	0.83	0.44	0.81



Alt Model-Shift Uniqueness Test

010482774-04, P = 19.936532 Days, E = 121.903709 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.67	2.64	2.44	3.28	5.12	2.73	1.06	-0.78	-1.61	0.20	-0.63	1.25	2.68	0.55	1.44



Stellar Parameters For KIC 010482774

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7530^{+209}_{-314}	$4.080^{+0.144}_{-0.176}$	$-0.060^{+0.200}_{-0.350}$	$1.930^{+0.532}_{-0.387}$	$1.633^{+0.212}_{-0.259}$	$0.320^{+0.270}_{-0.147}$
	+3%/-4%	+4%/-4%	+333%/-583%	+28%/-20%	+13%/-16%	+84%/-46%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010482774-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-122 ± 20	$2.74^{+2.14}_{-1.69}$	1572^{+117}_{-109}	6893^{+6135}_{-1657}	255^{+1500}_{-176}
Alt.	-58 ± 22	$2.08^{+1.92}_{-1.41}$	1563^{+122}_{-98}	6405^{+7859}_{-1728}	197^{+1853}_{-151}

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 $A_{obs} \gg 1.0$

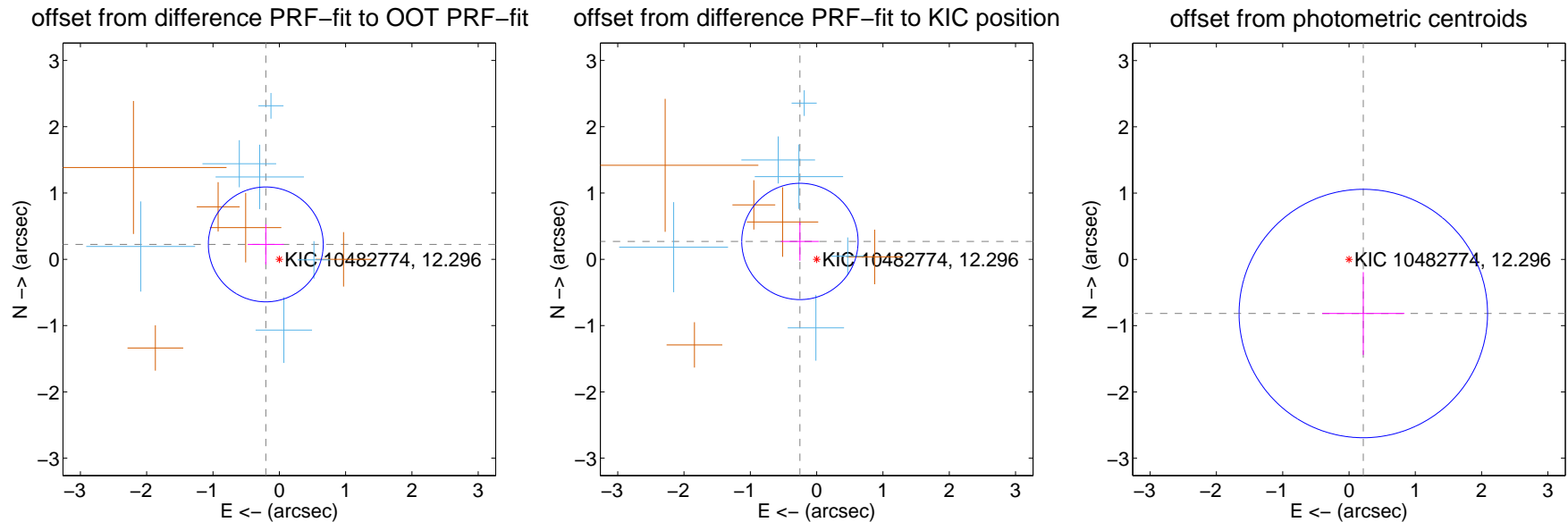
DV Centroid Data

Supplemental centroid analysis for 010482774-04. Kepler magnitude: 12.30. Transit SNR 8.43

There are 6 quarters with good PRF difference image offsets

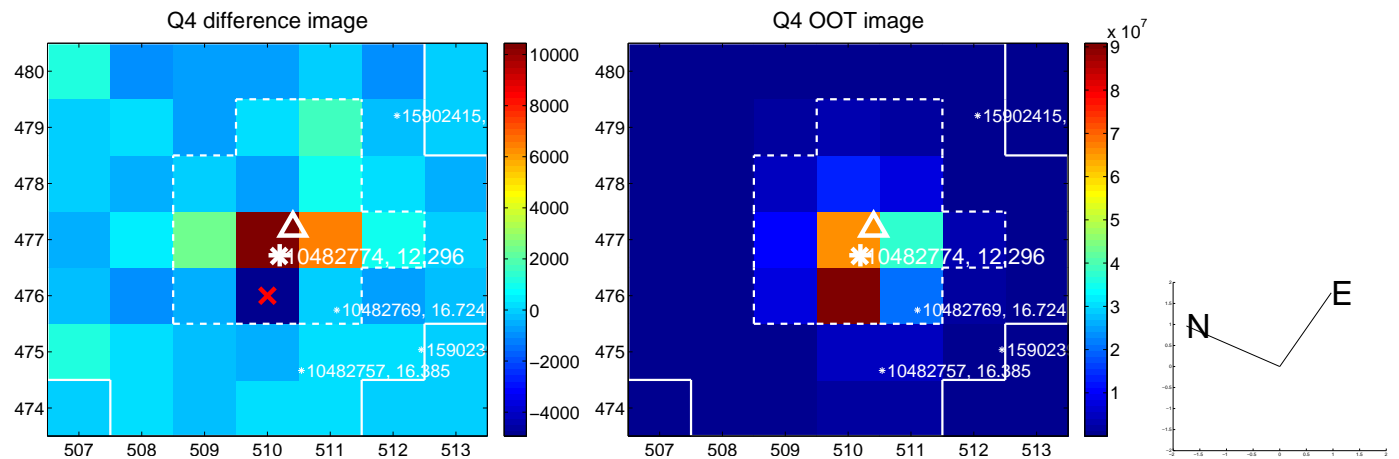
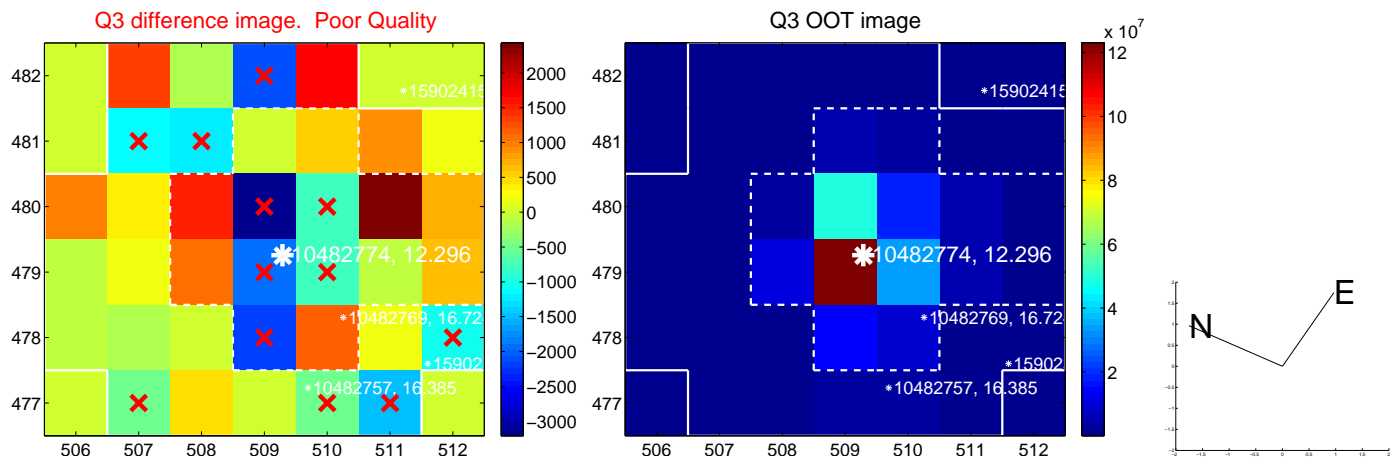
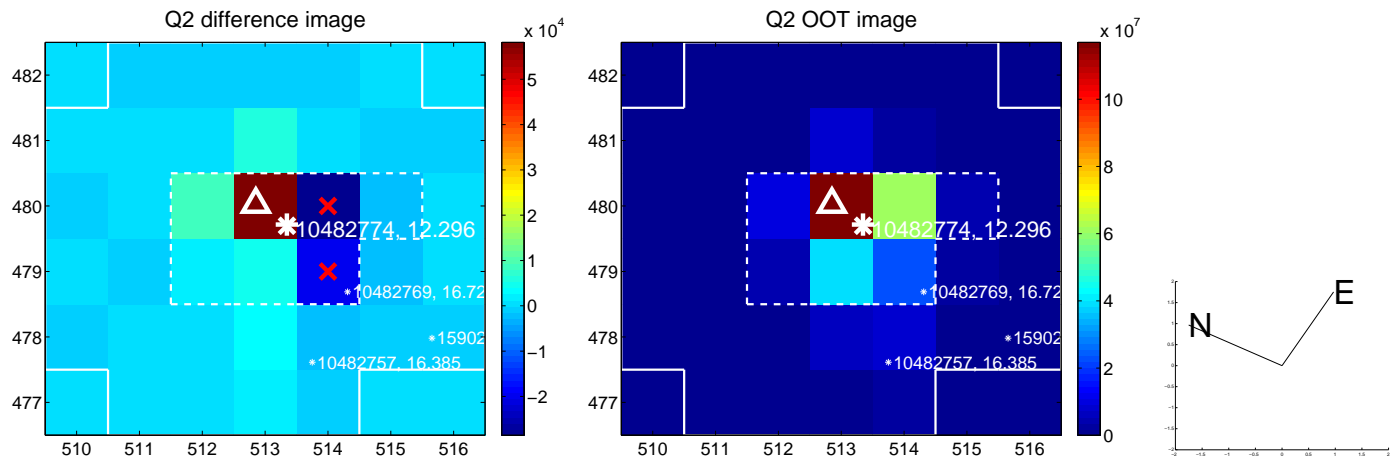
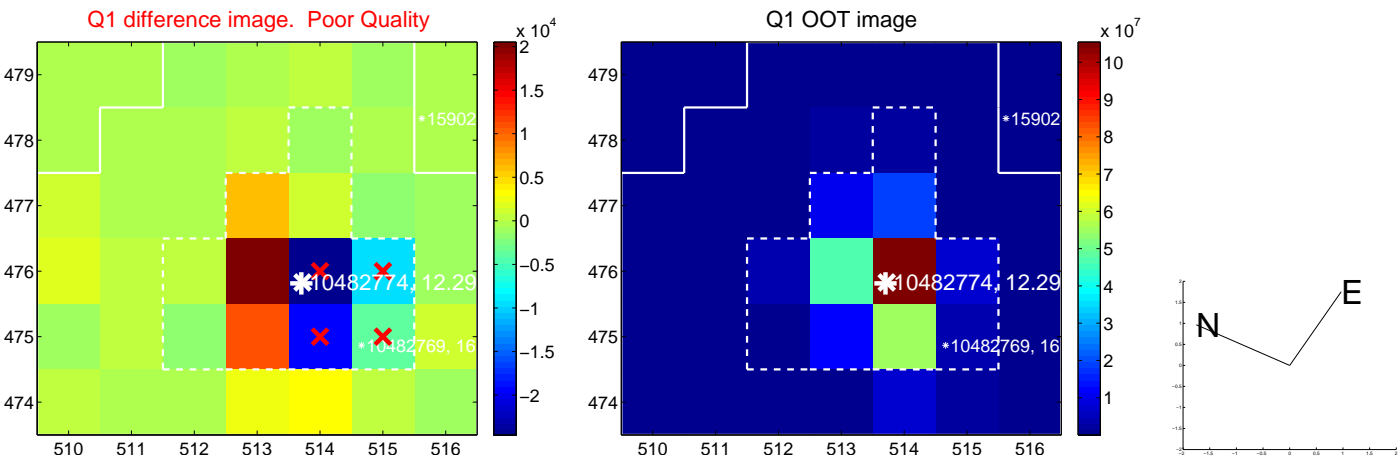
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.303 ± 0.289	1.05	0.204 ± 0.272	0.225 ± 0.302
PRF-fit source offset from KIC position	0.369 ± 0.292	1.26	0.252 ± 0.284	0.269 ± 0.291
photometric centroid source offset	0.84 ± 0.62	1.35	-0.22 ± 0.62	-0.82 ± 0.63

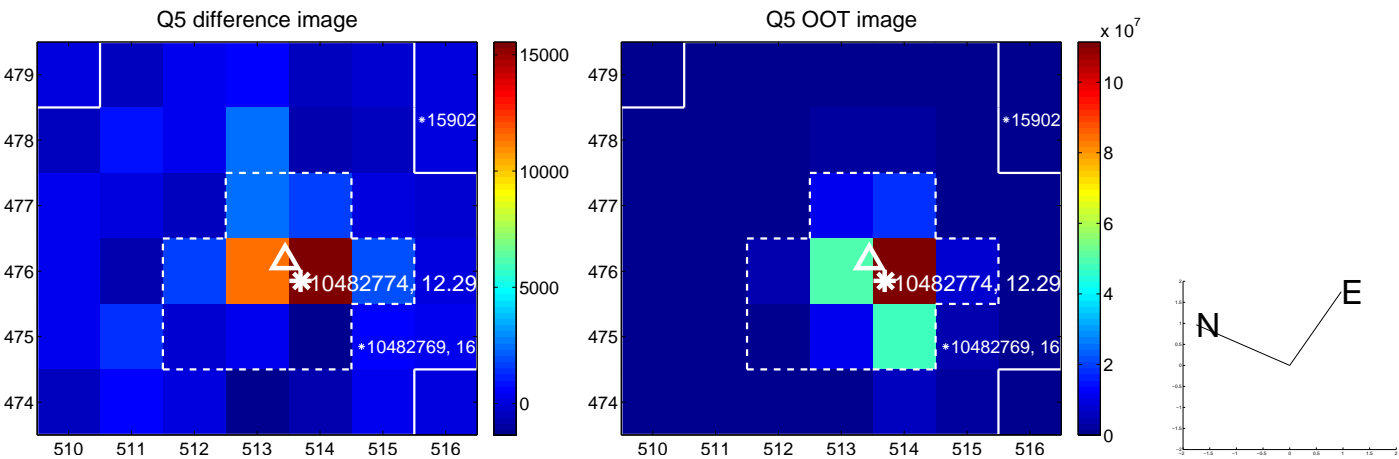


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

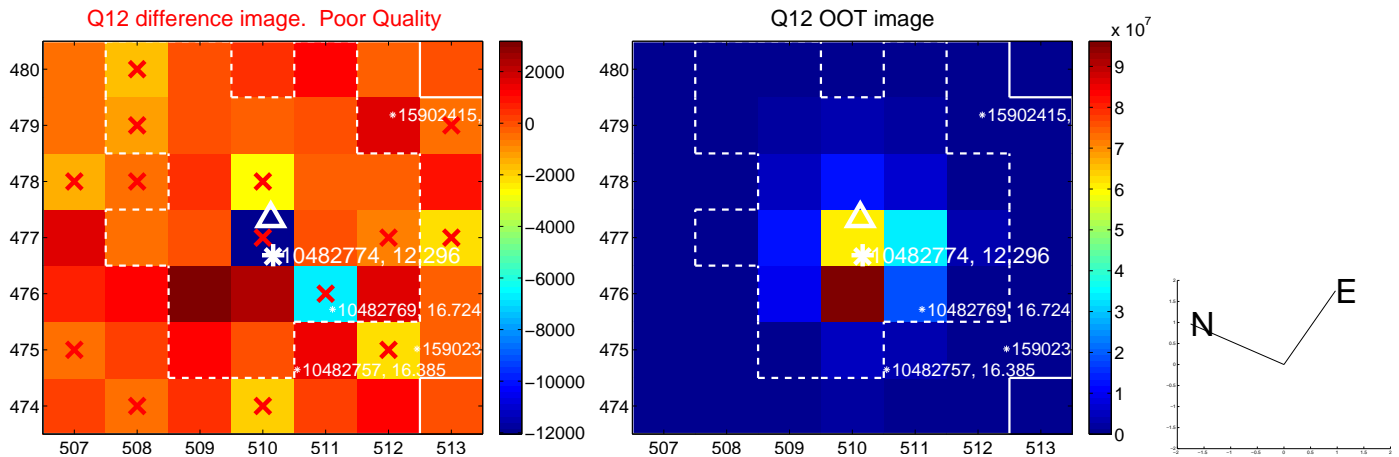
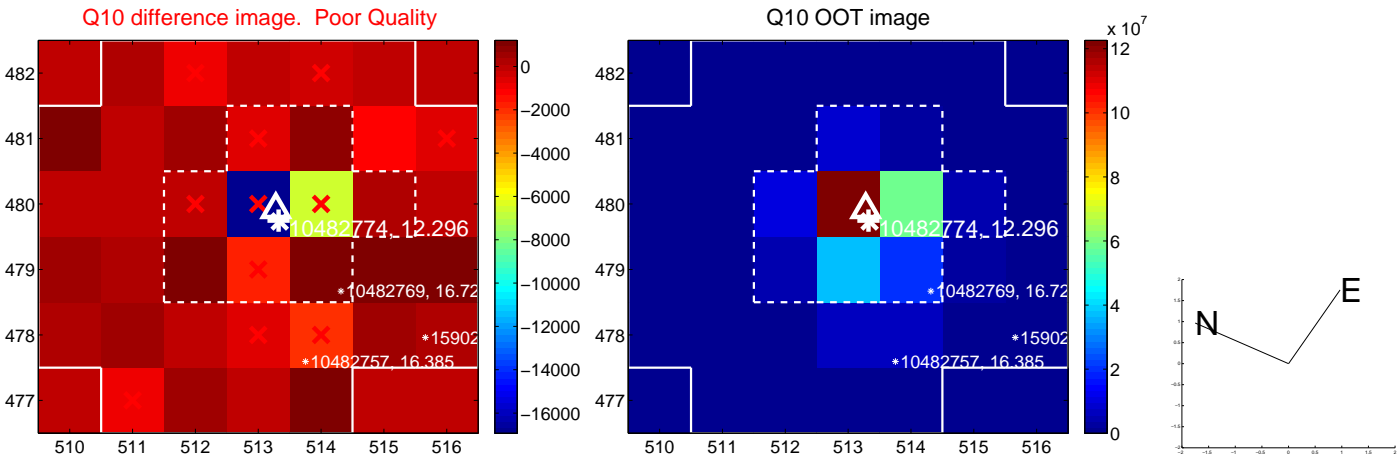
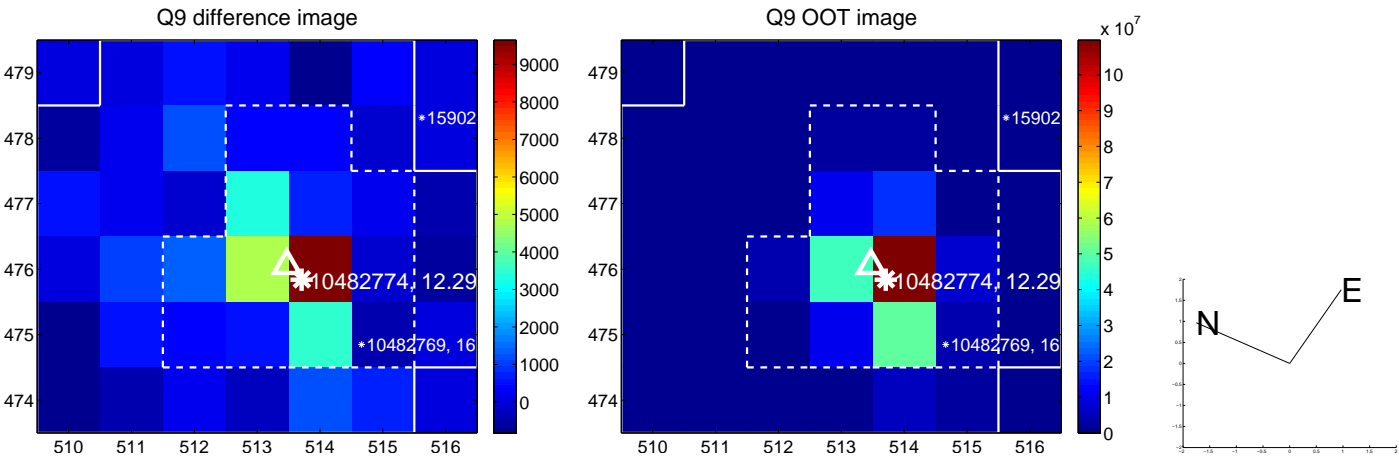
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



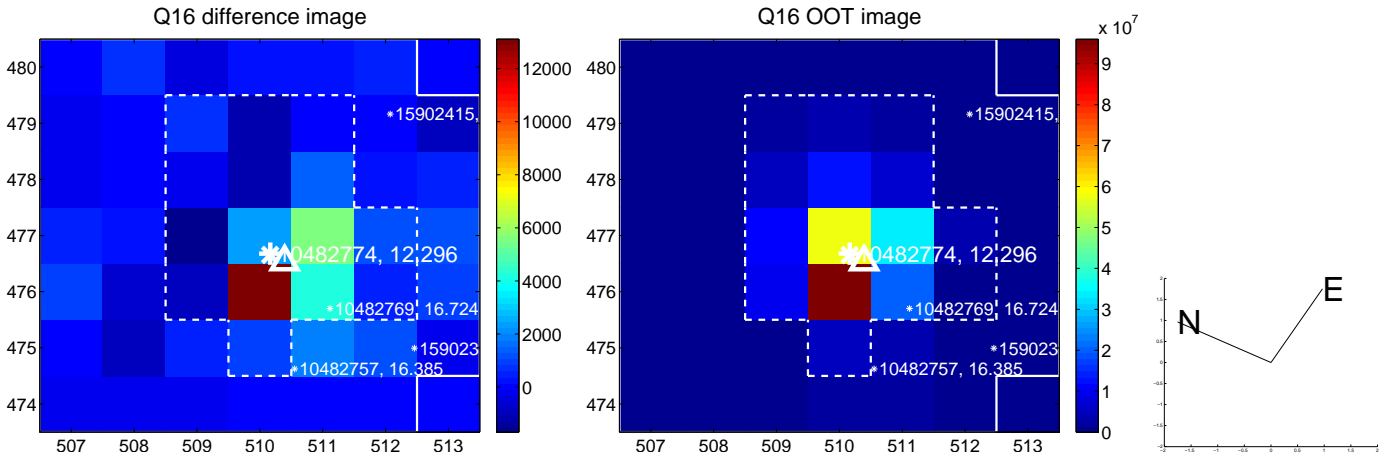
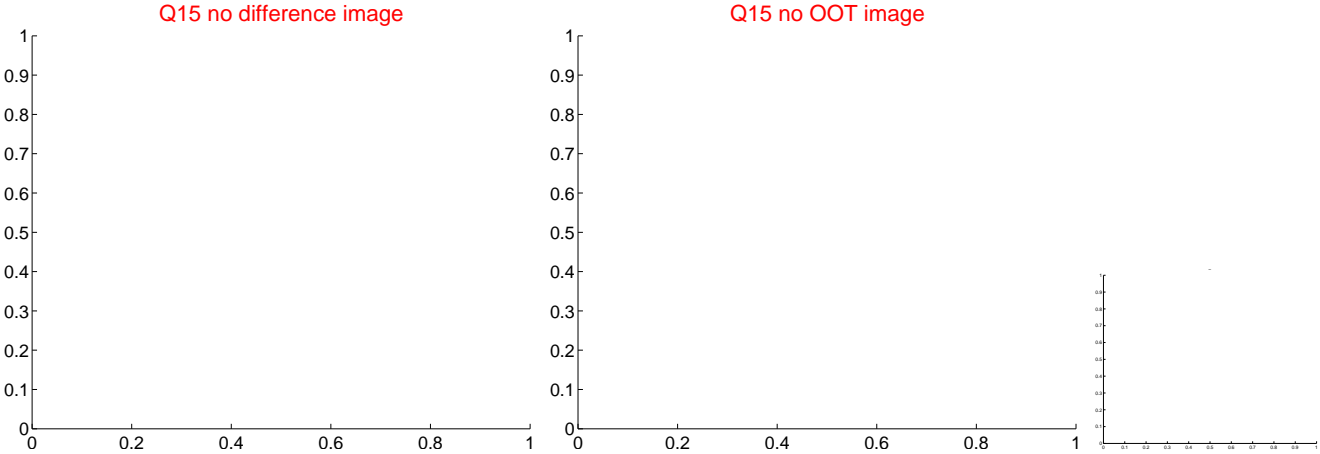
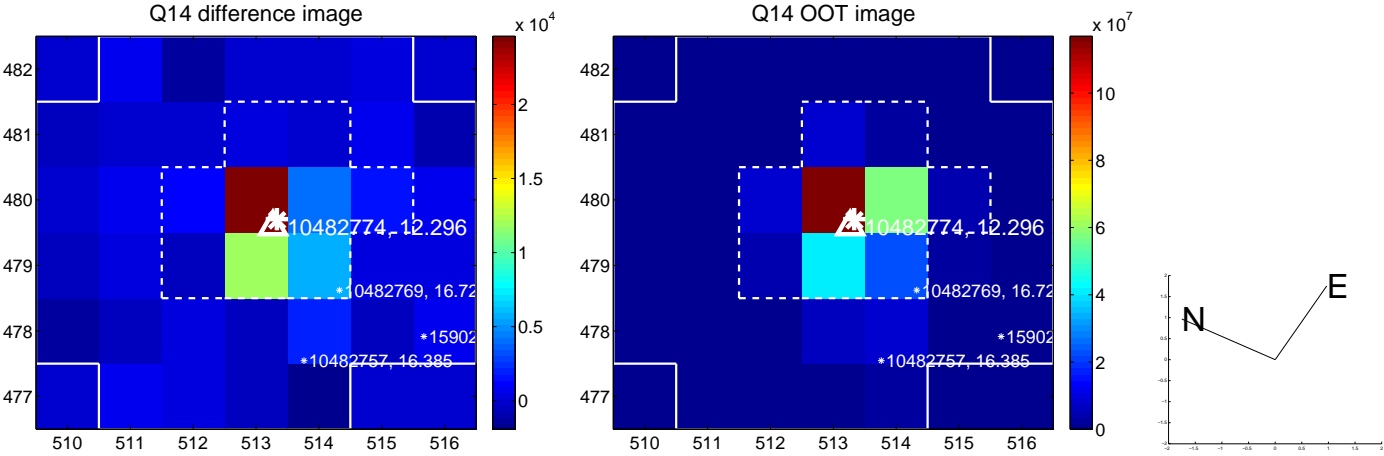
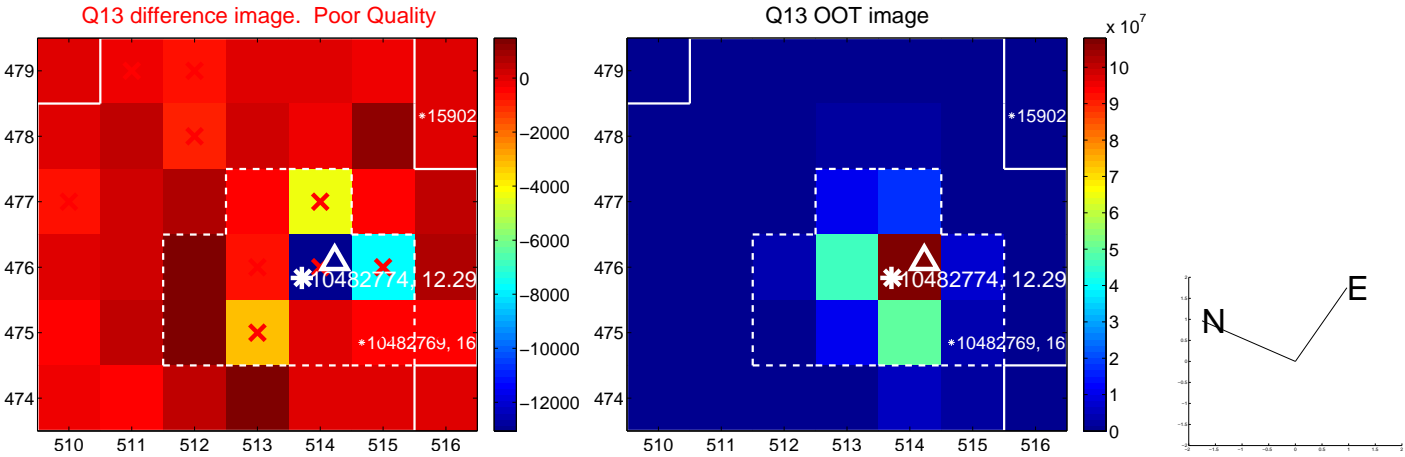
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



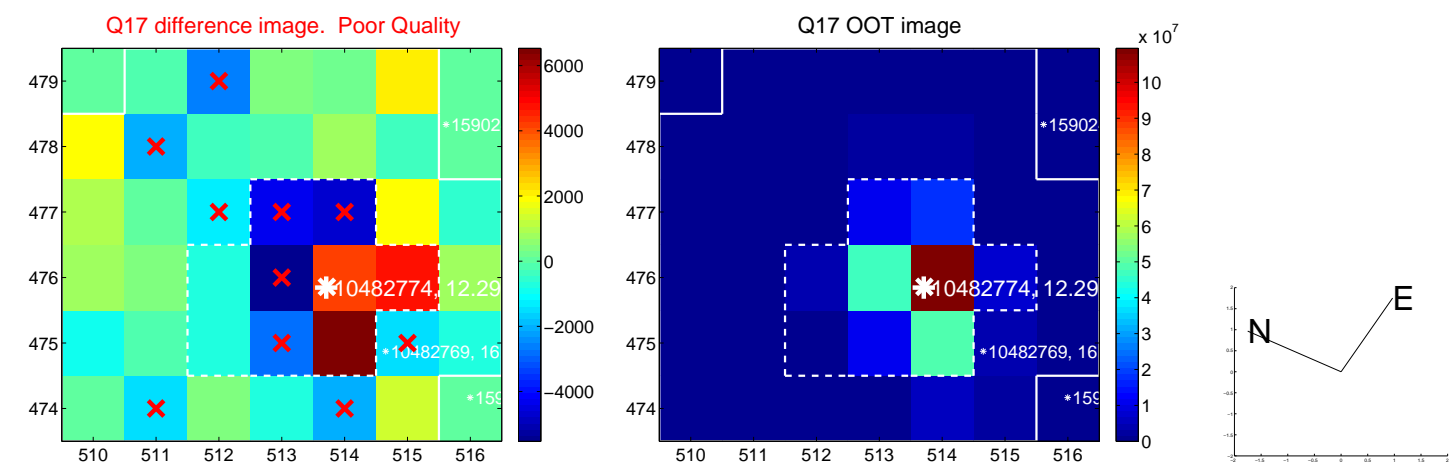
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



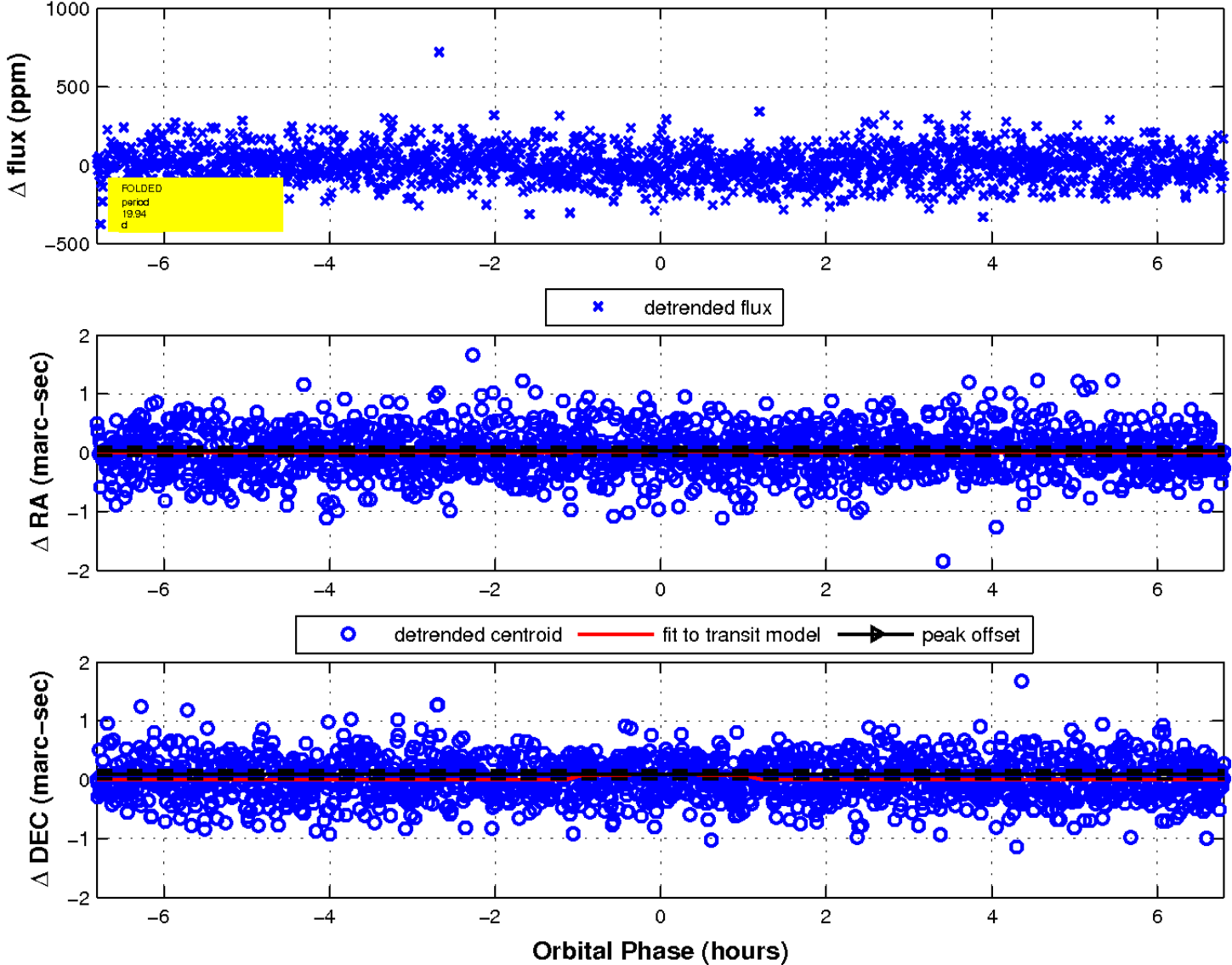
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

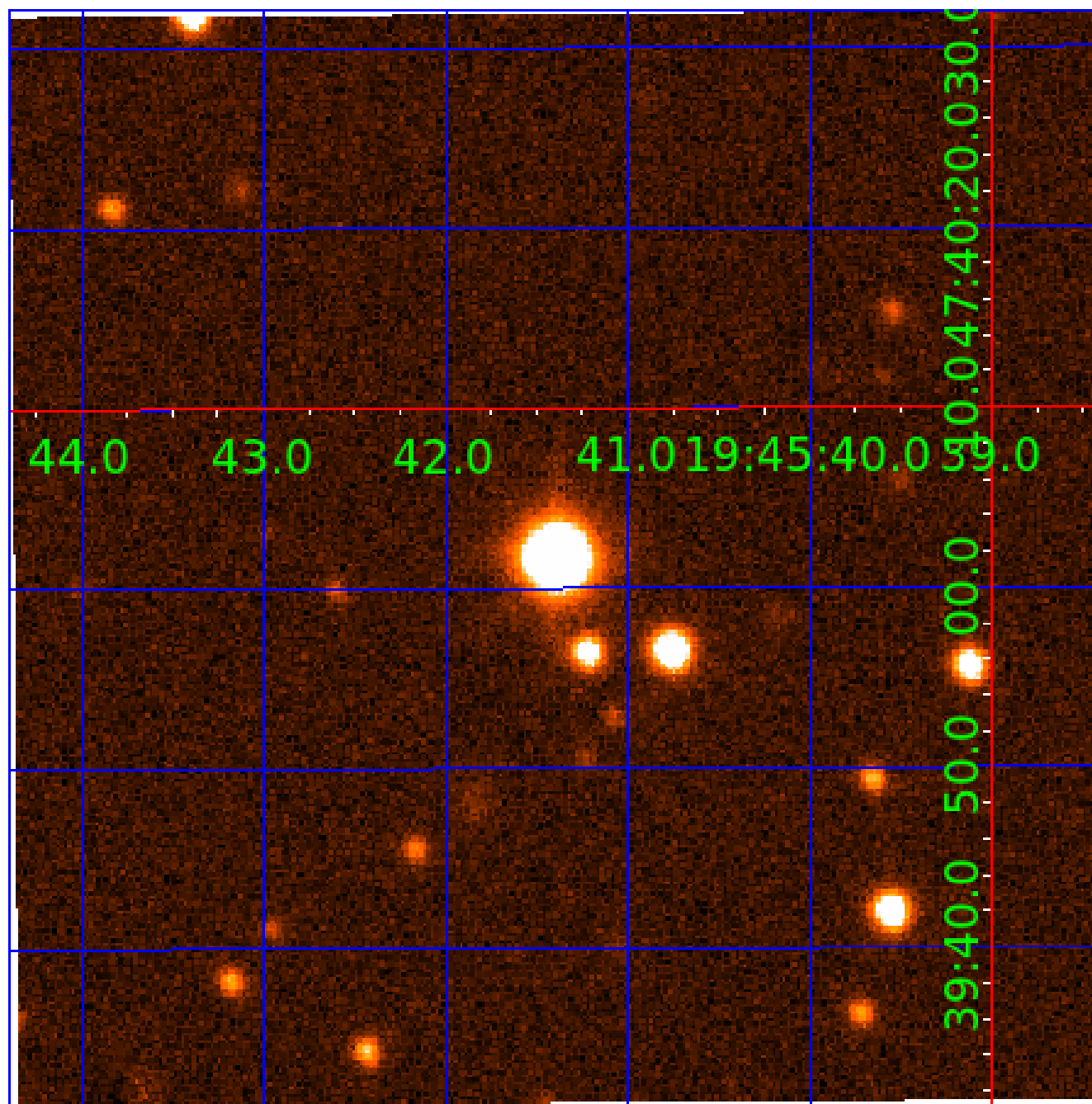


fluxWeightedCentroids, Planet 4 of 8



UKIRT Image

Declination



KIC 010482774

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})
010482774-01	OBS	No	0.502754	131.538692	7.2	3.469	8.2	6.2	1.93	7530	0.56	50501.61
010482774-02	OBS	No	29.800889	146.825635	155.1	1.739	11.9	9.2	1.93	7530	2.59	218.51
010482774-03	OBS	No	5.995822	133.296986	107.8	1.065	10.6	11.0	1.93	7530	2.32	1853.45
010482774-04	OBS	No	19.936665	141.845865	111.4	2.271	9.1	8.4	1.93	7530	2.25	373.46
010482774-05	OBS	No	19.516261	143.715102	221.6	0.950	10.3	11.5	1.93	7530	3.10	384.22
010482774-06	OBS	No	12.800680	138.105698	205.4	1.126	10.1	13.1	1.93	7530	3.19	674.22
010482774-07	OBS	No	20.967424	143.285997	325.0	1.500	9.6	-1.0	1.93	7530	3.55	349.18
010482774-08	OBS	No	30.577010	149.721461	200.3	1.866	9.4	9.7	1.93	7530	3.02	211.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010482774-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS
010482774-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010482774-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010482774-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010482774-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010482774-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
010482774-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
010482774-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV

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

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

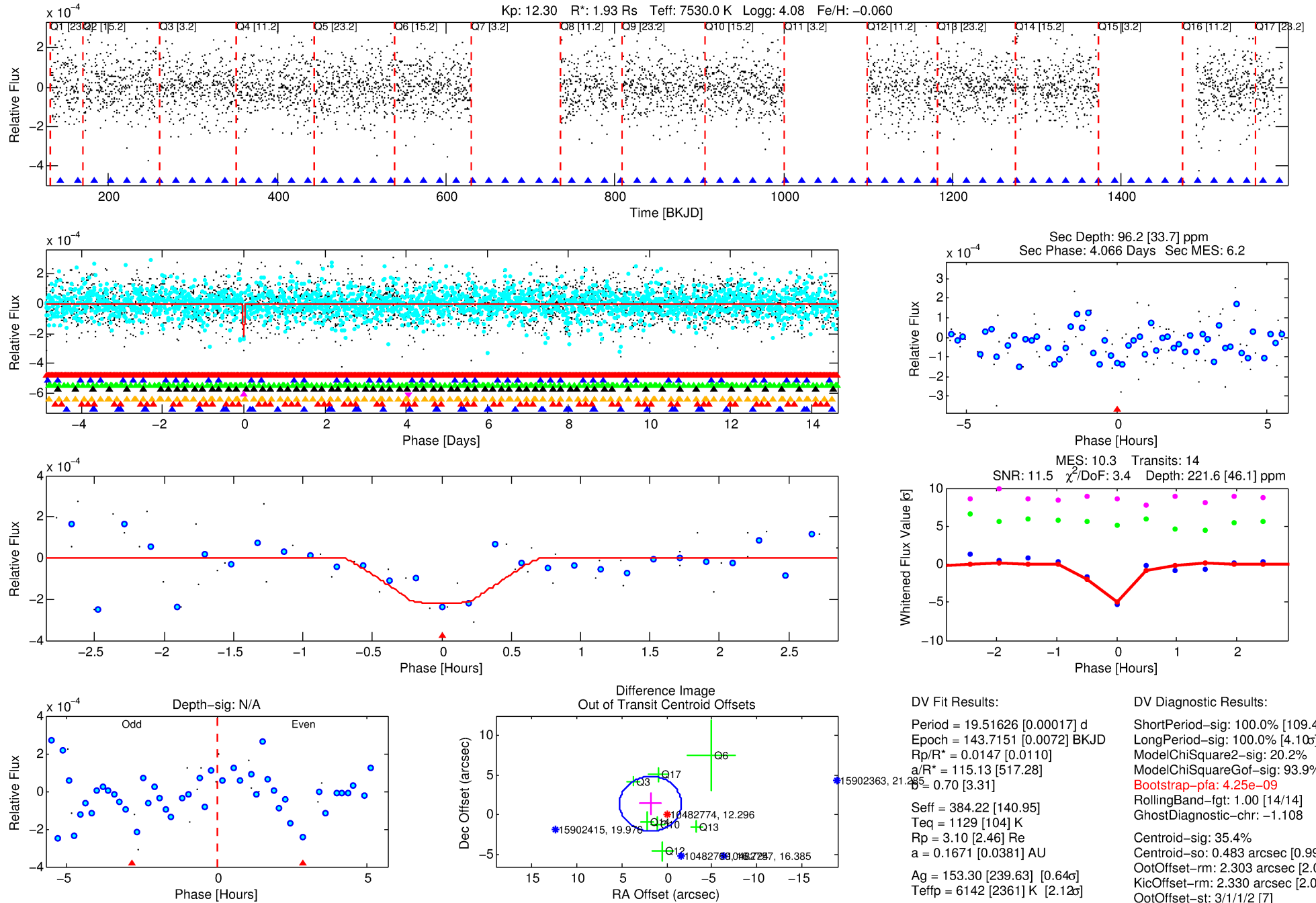
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010482774-05

No Significant Match Found

DV One-Page Summary

KIC: 10482774 Candidate: 5 of 8 Period: 19.516 d



DV Fit Results:

Period = 19.51626 [0.00017] d
Epoch = 143.7151 [0.0072] BKJD
Rp/R* = 0.0147 [0.0110]
a/R* = 115.13 [517.28]
b = 0.70 [3.31]
Seff = 384.22 [140.95]
Teq = 1129 [104] K
Rp = 3.10 [2.46] Re
a = 0.1671 [0.0381] AU
Ag = 153.30 [239.63] [0.64σ]
Teffp = 6142 [2361] K [2.12σ]

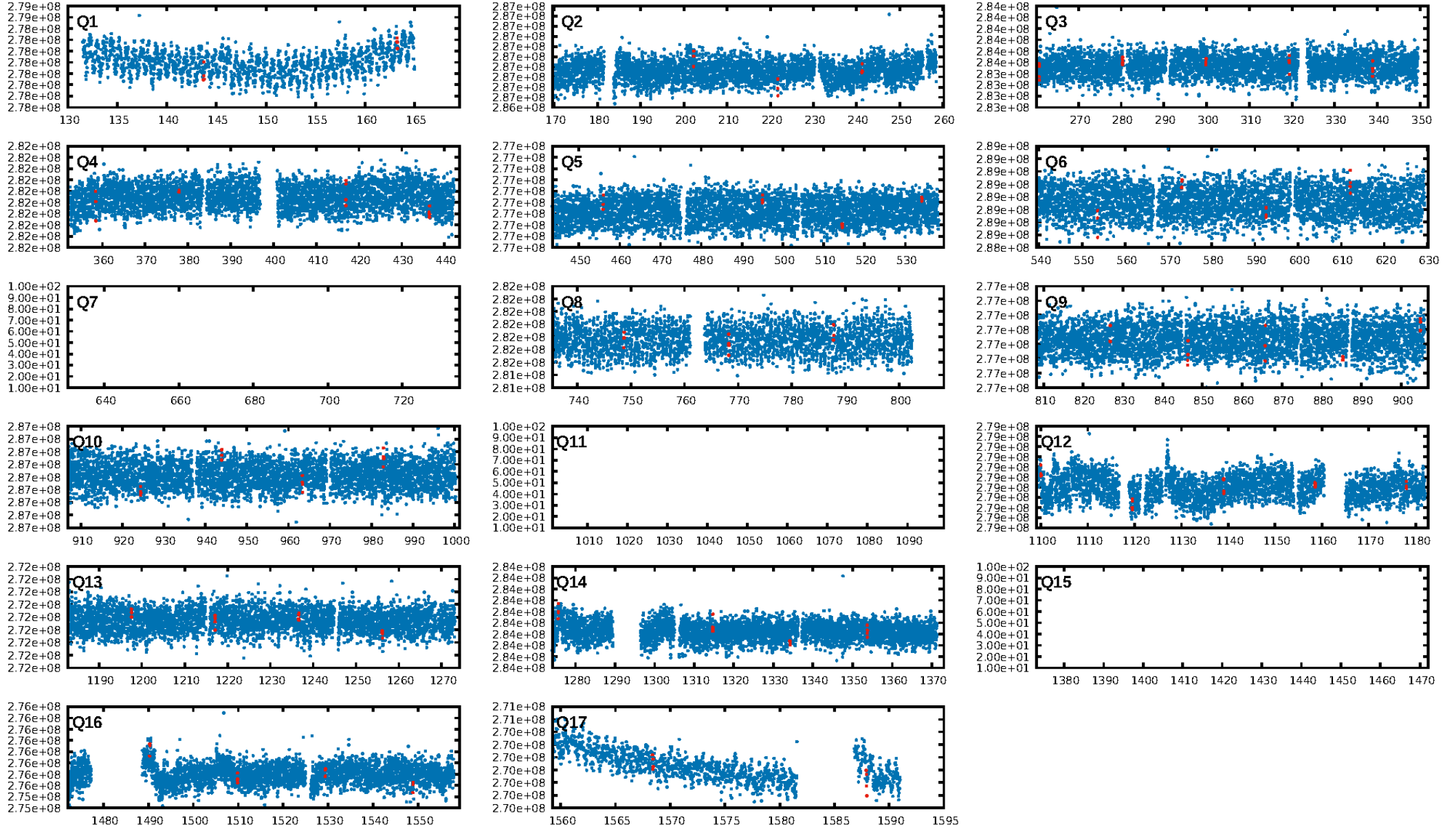
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [109.41σ]
LongPeriod-sig: 100.0% [4.10σ]
ModelChiSquare2-sig: 20.2%
ModelChiSquareGof-sig: 93.9%
Bootstrap-pfa: 4.25e-09
RollingBand-fgt: 1.00 [14/14]
GhostDiagnostic-chr: -1.108
Centroid-sig: 35.4%
Centroid-so: 0.483 arcsec [0.99σ]
OotOffset-rm: 2.303 arcsec [2.01σ]
OotOffset-st: 3/1/1/2 [7]
KicOffset-rm: 2.330 arcsec [2.09σ]
KicOffset-st: 3/1/1/2 [7]
DiffImageQuality-fgm: 0.14 [1/7]
DiffImageOverlap-fno: 0.00 [0/14]

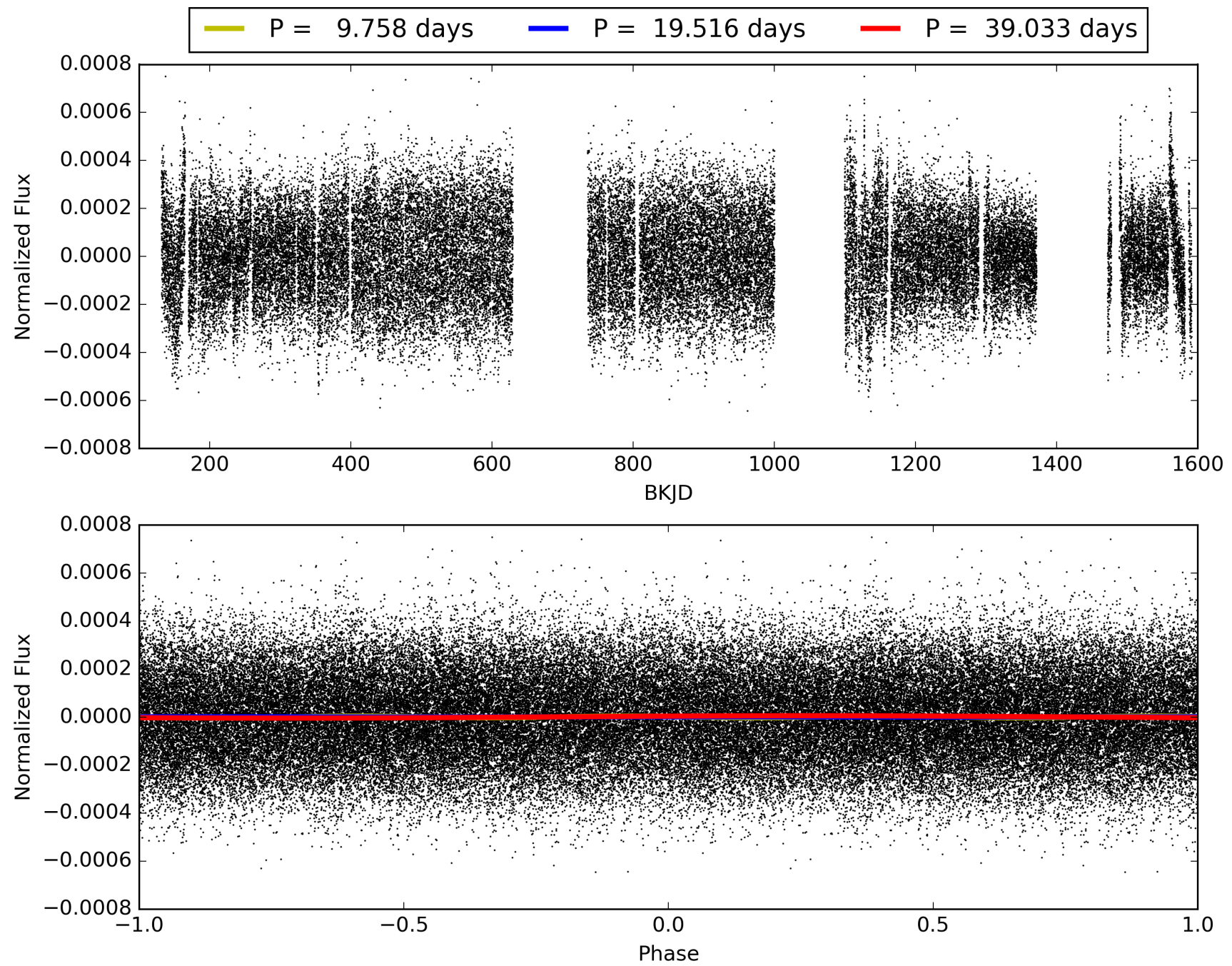
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:54:47 Z

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

TCE 010482774-05, PDC Light Curves

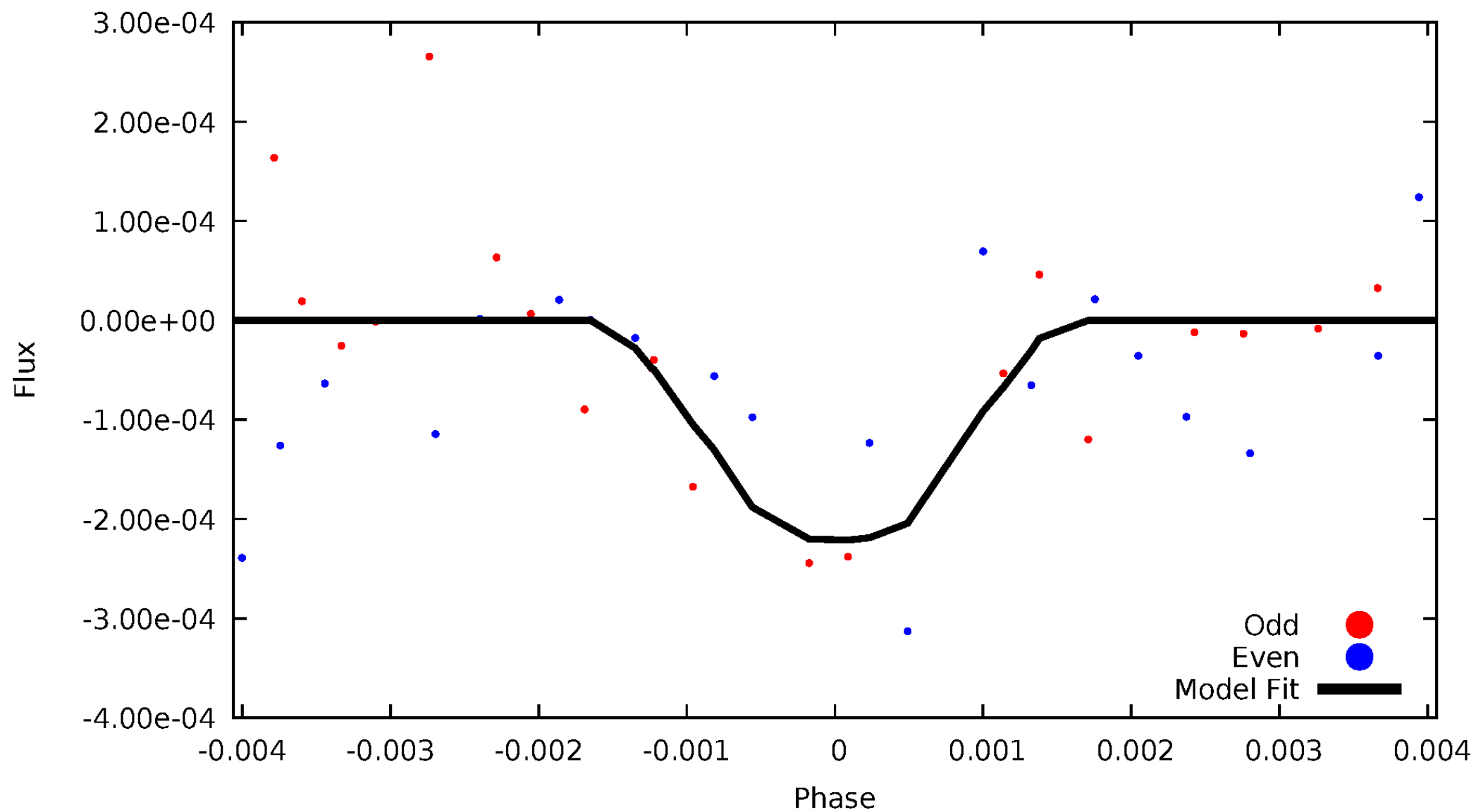


TCE 010482774-05



DV Odd/Even

TCE 010482774-05

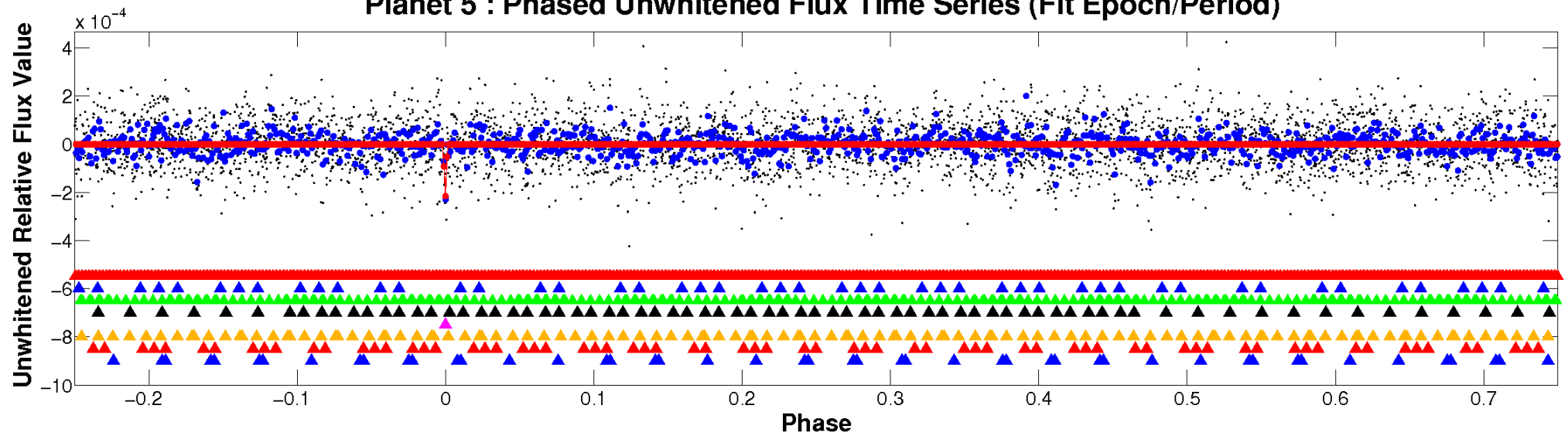


ALT Odd/Even

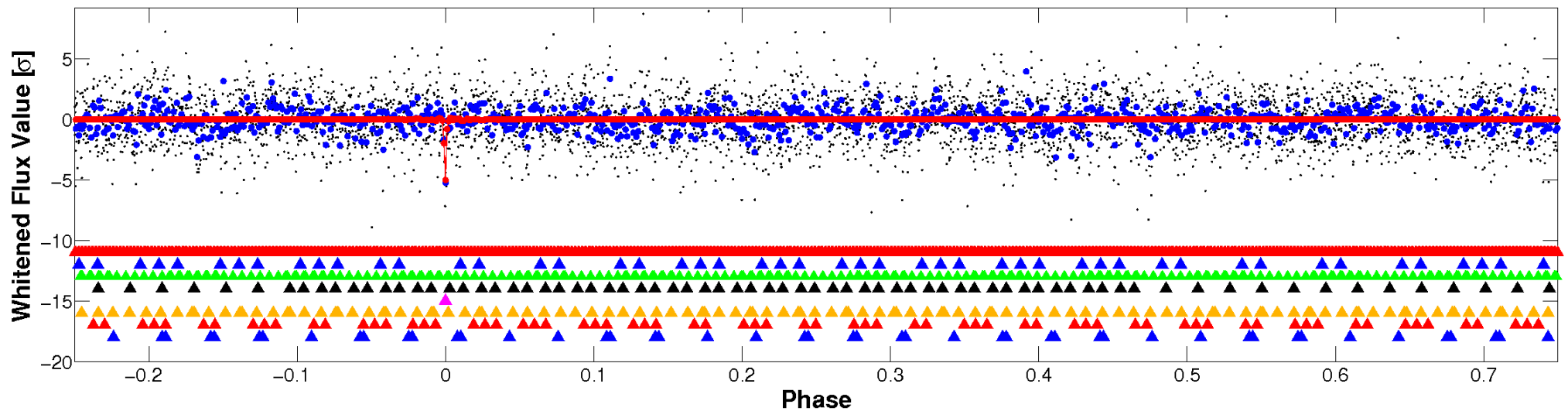
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

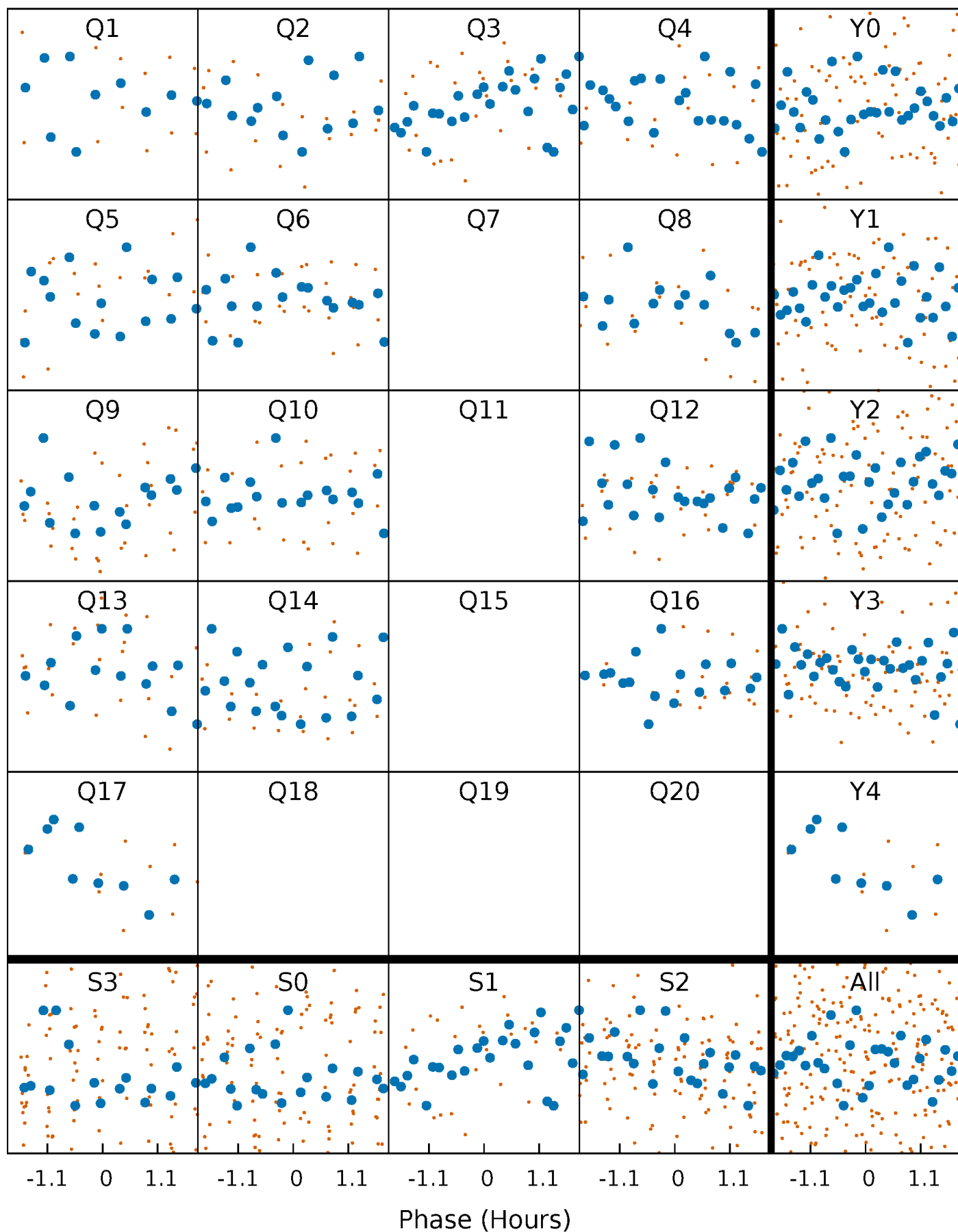


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



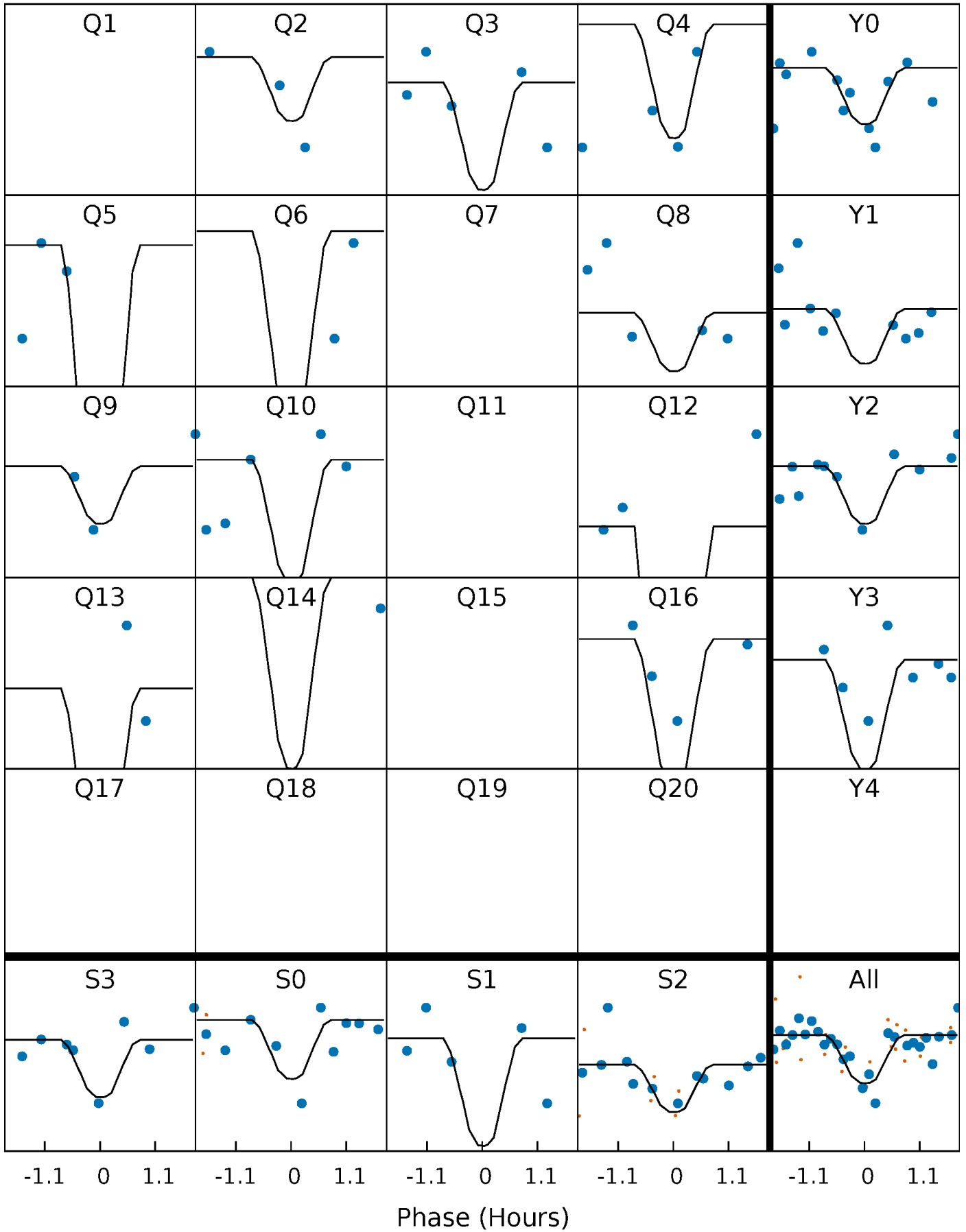
PDC Quarter-Phased Transit Curves

TCE 010482774-05 P= 19.516261 Days $T_0=143.715102$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010482774-05 P= 19.516261 Days $T_0=143.715102$ (BKJD)

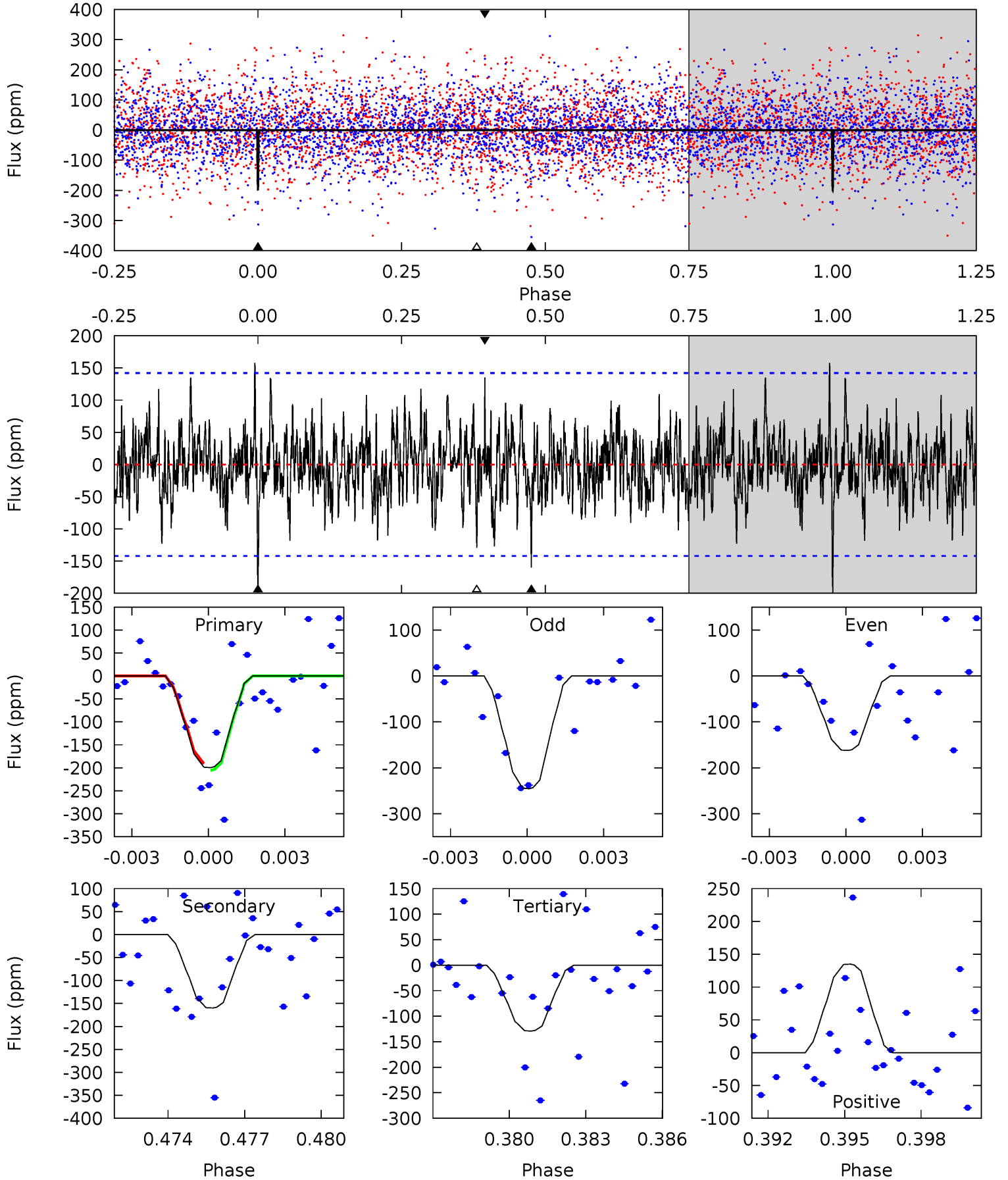


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

010482774-05, P = 19.516261 Days, E = 124.198841 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.39	5.92	4.77	5.00	5.26	2.97	1.54	2.61	2.39	1.14	0.92	1.54	0.89	0.44	0.27



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 010482774

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7530^{+209}_{-314}	$4.080^{+0.144}_{-0.176}$	$-0.060^{+0.200}_{-0.350}$	$1.930^{+0.532}_{-0.387}$	$1.633^{+0.212}_{-0.259}$	$0.320^{+0.270}_{-0.147}$
	+3%/-4%	+4%/-4%	+333%/-583%	+28%/-20%	+13%/-16%	+84%/-46%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010482774-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-160 ± 27	$3.34^{+2.48}_{-1.96}$	1577^{+119}_{-96}	6650^{+4697}_{-1498}	216^{+1013}_{-142}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

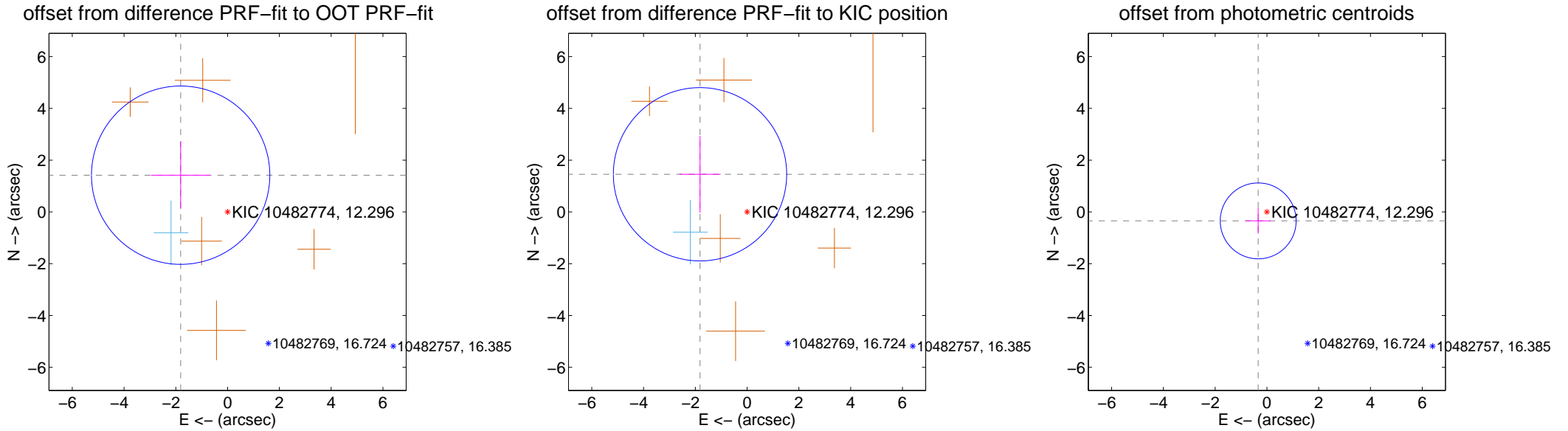
DV Centroid Data

Supplemental centroid analysis for 010482774-05. Kepler magnitude: 12.30. Transit SNR 11.46

There are 1 quarters with good PRF difference image offsets

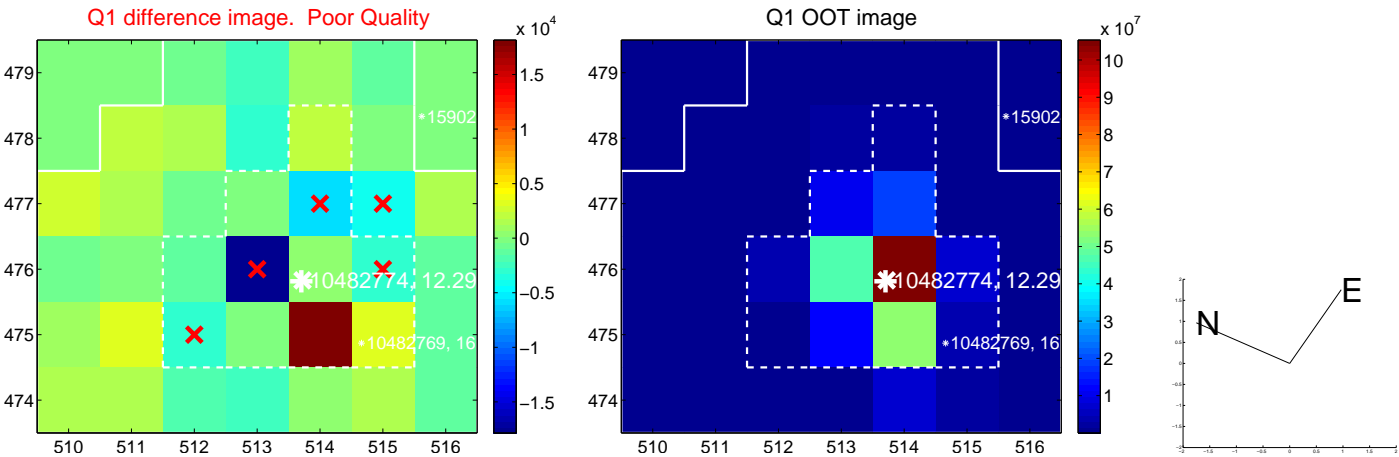
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.303 ± 1.148	2.01	1.814 ± 1.141	1.420 ± 1.301
PRF-fit source offset from KIC position	2.330 ± 1.116	2.09	1.819 ± 0.795	1.455 ± 1.484
photometric centroid source offset	0.48 ± 0.49	0.99	0.34 ± 0.48	-0.35 ± 0.49

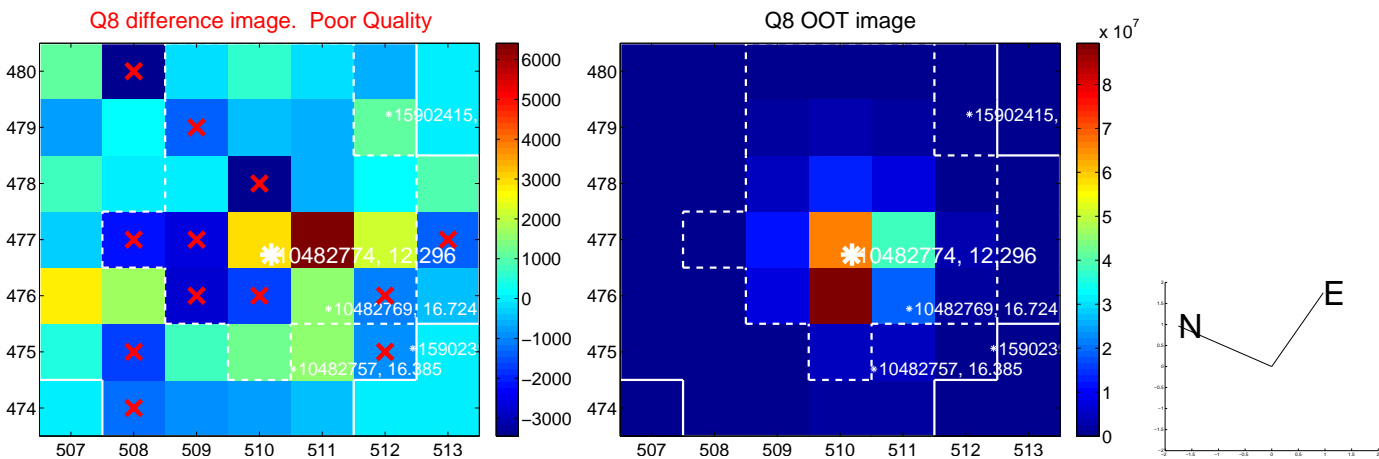
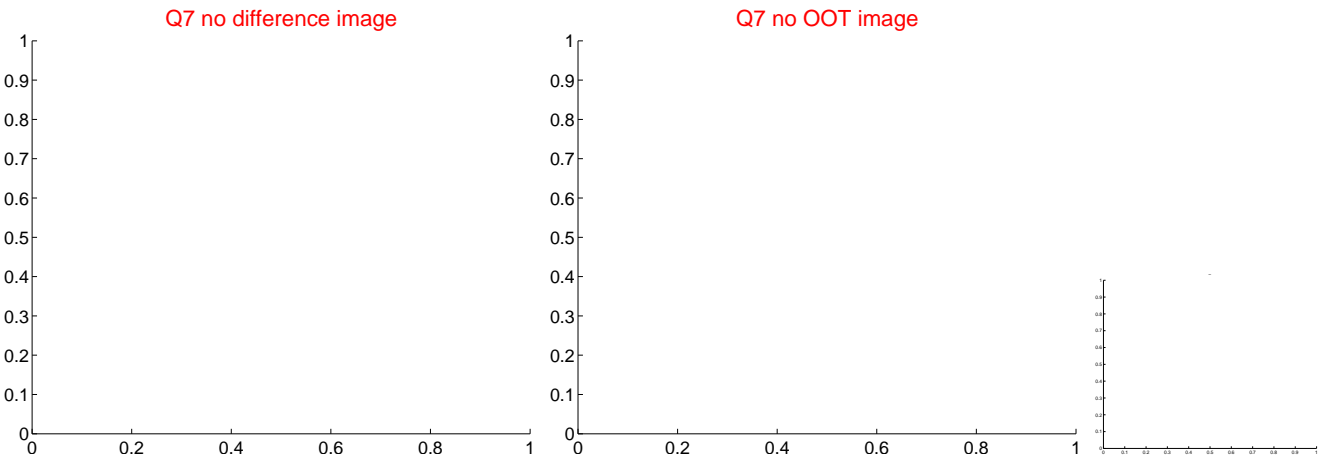
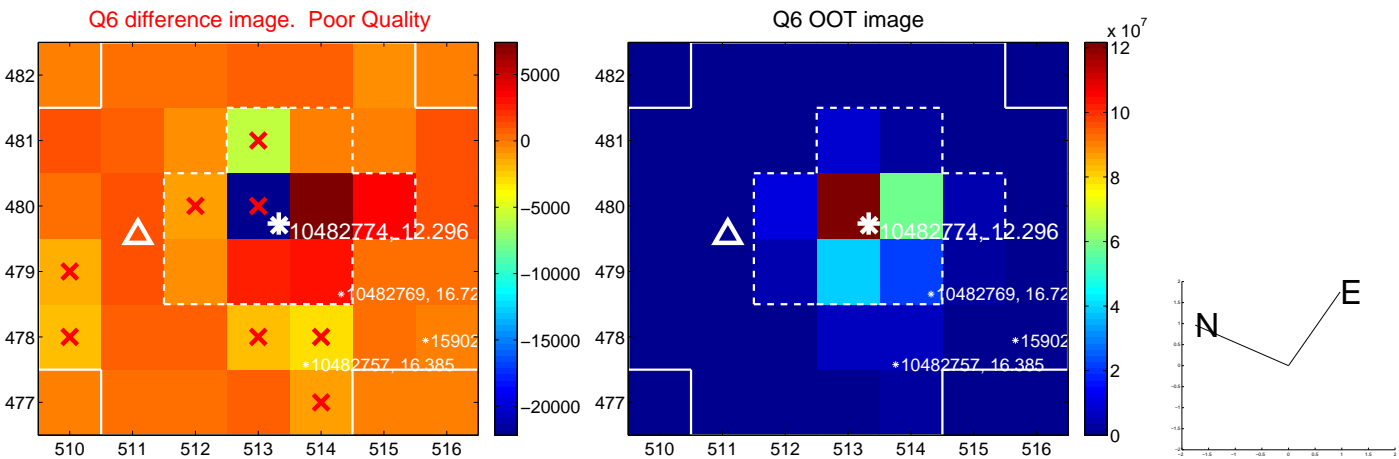
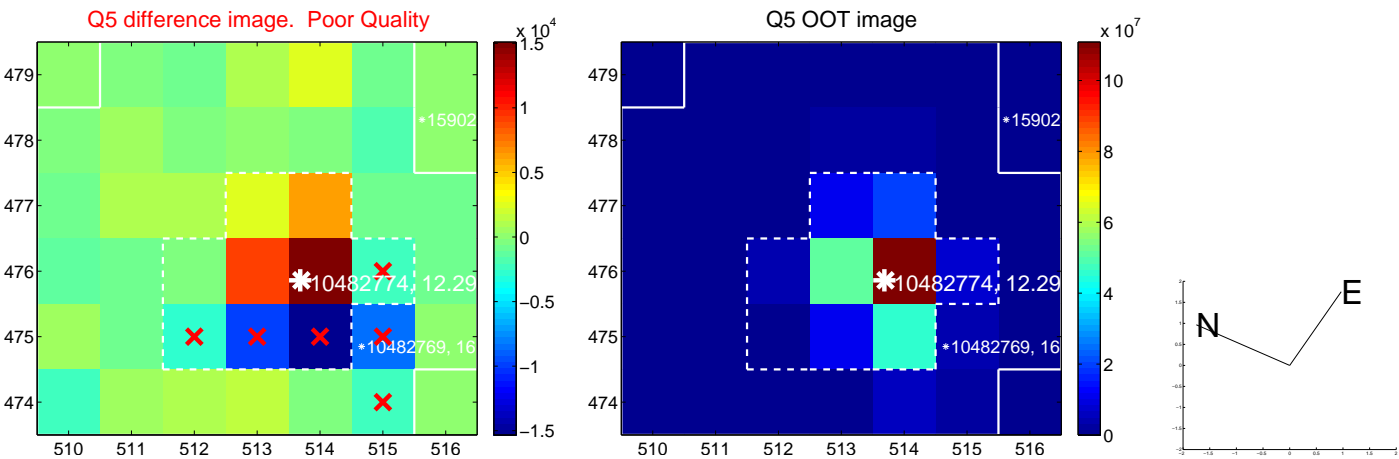


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

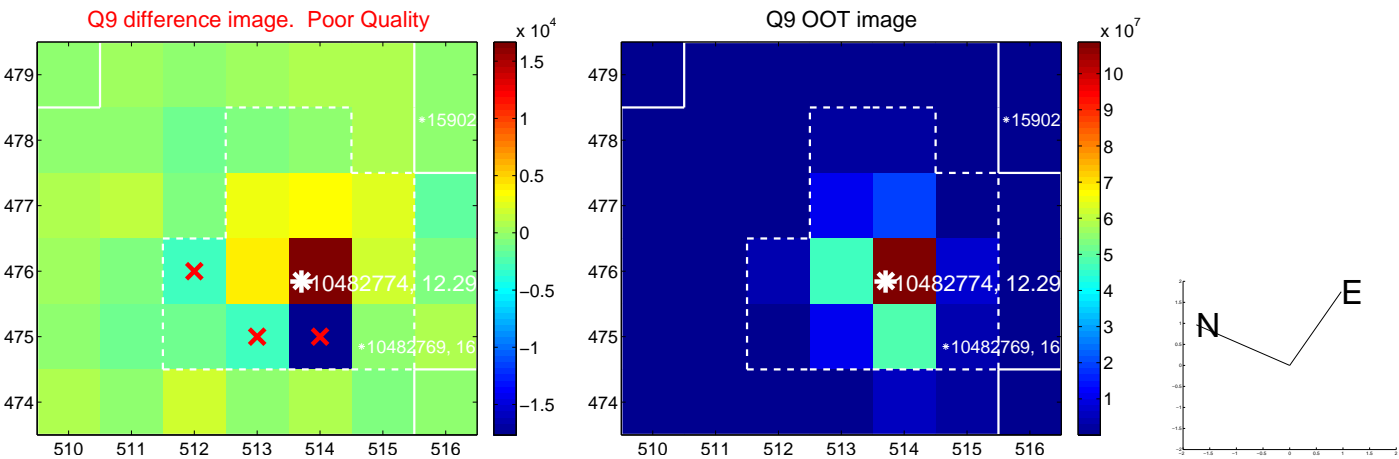
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



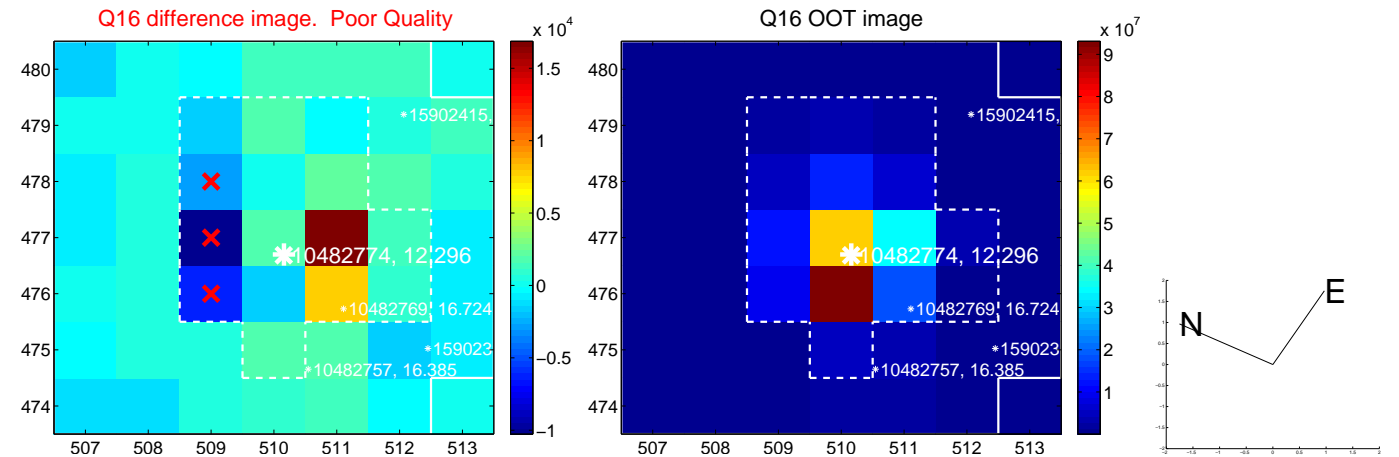
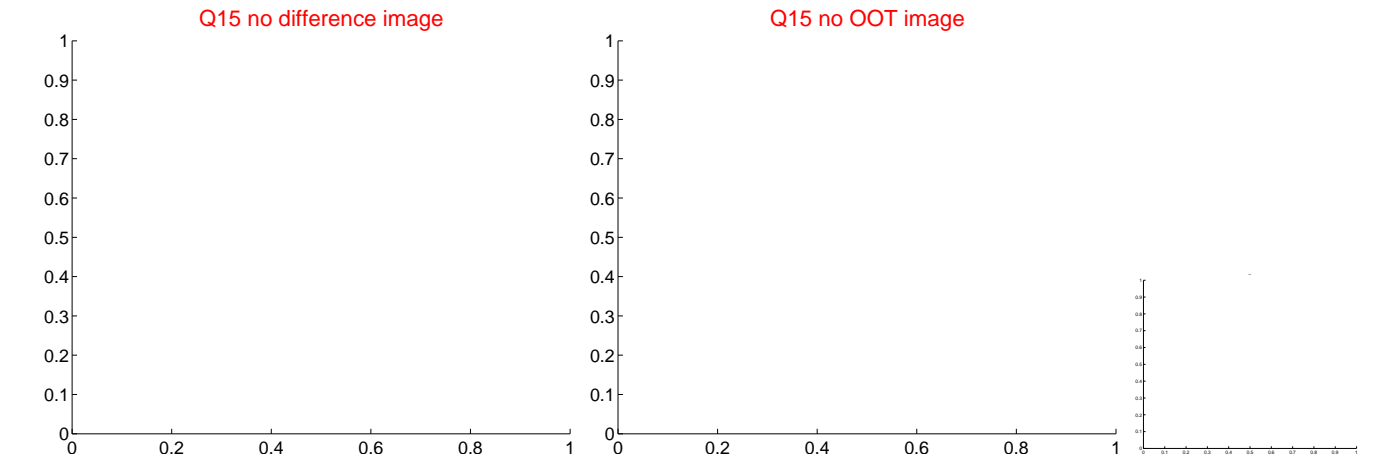
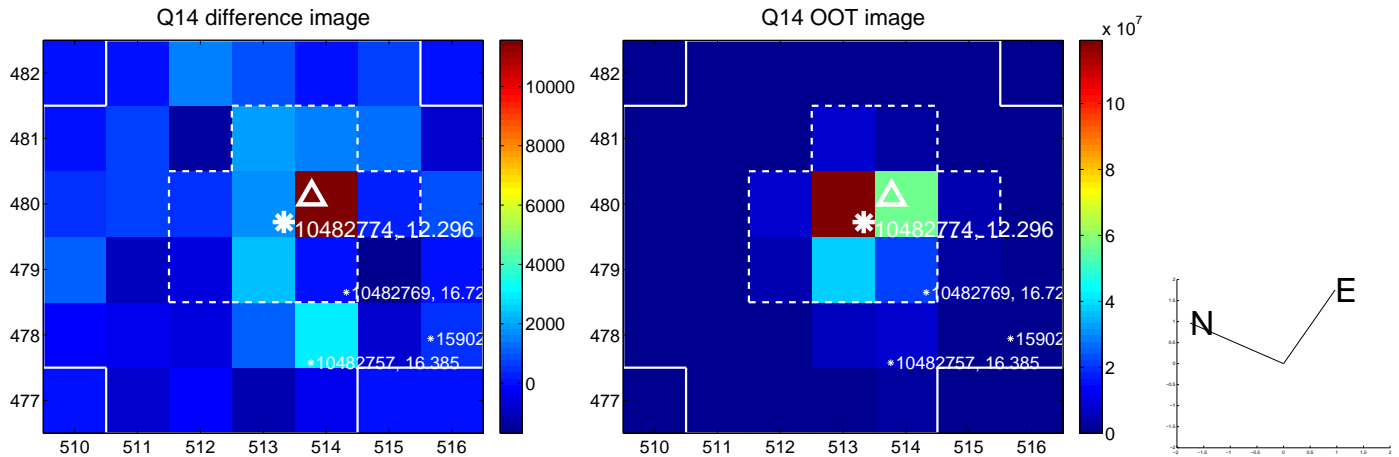
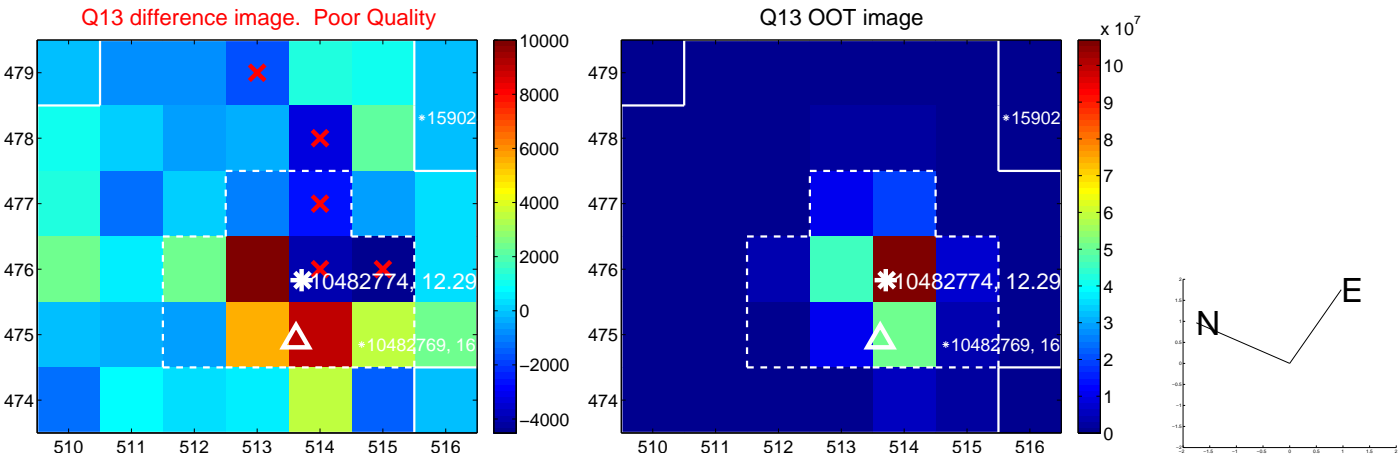
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



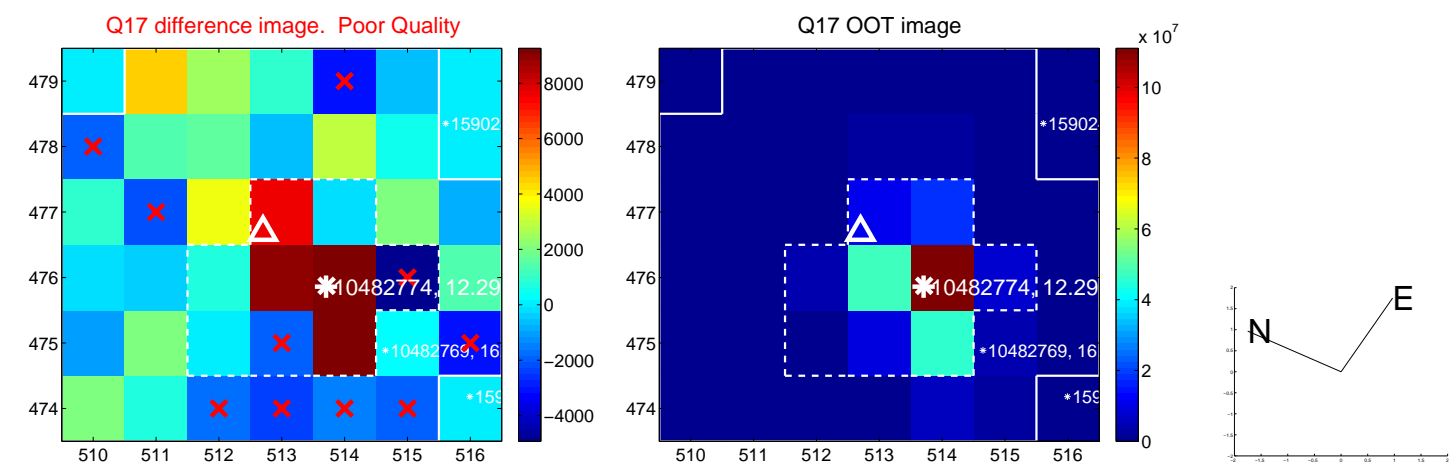
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



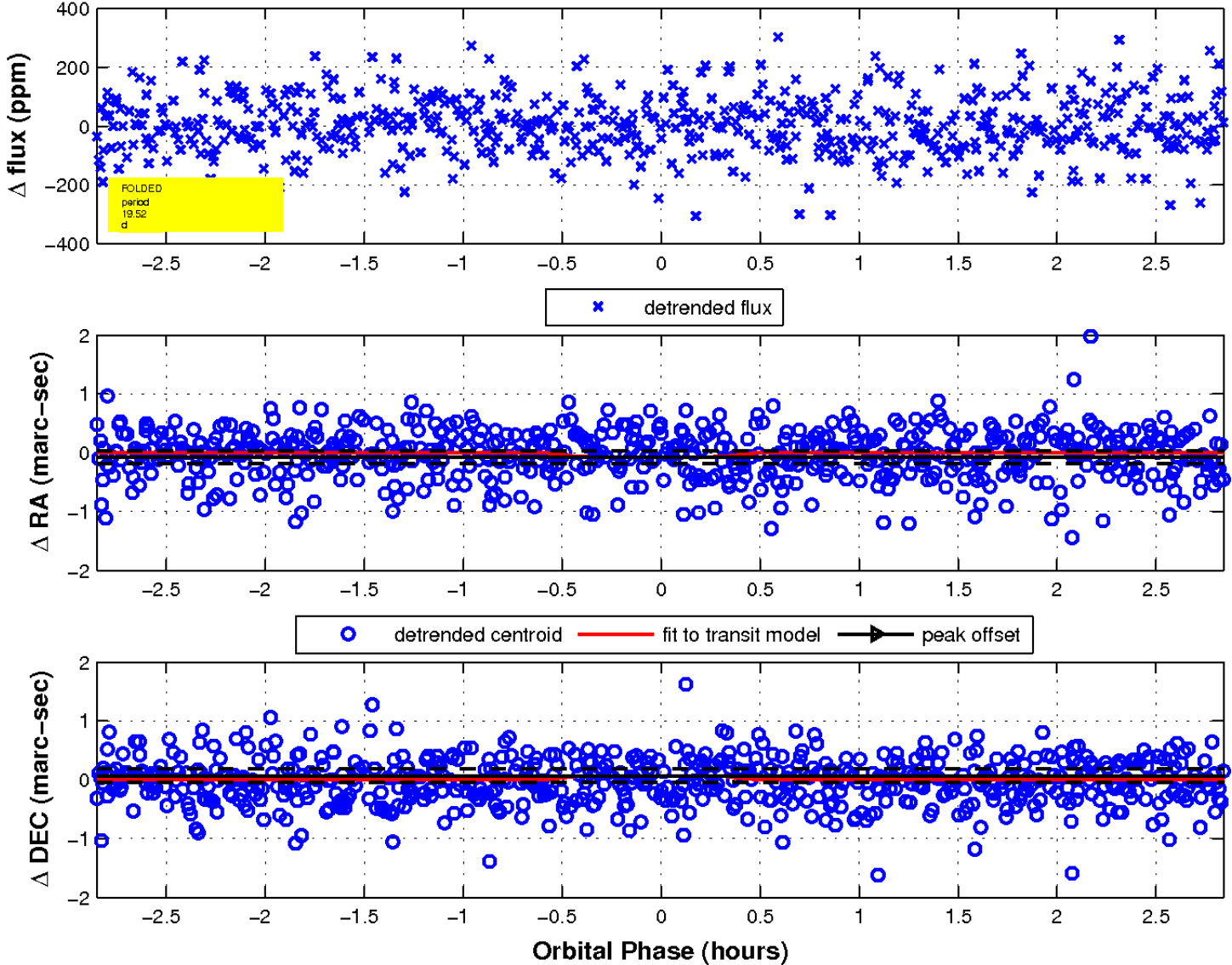
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

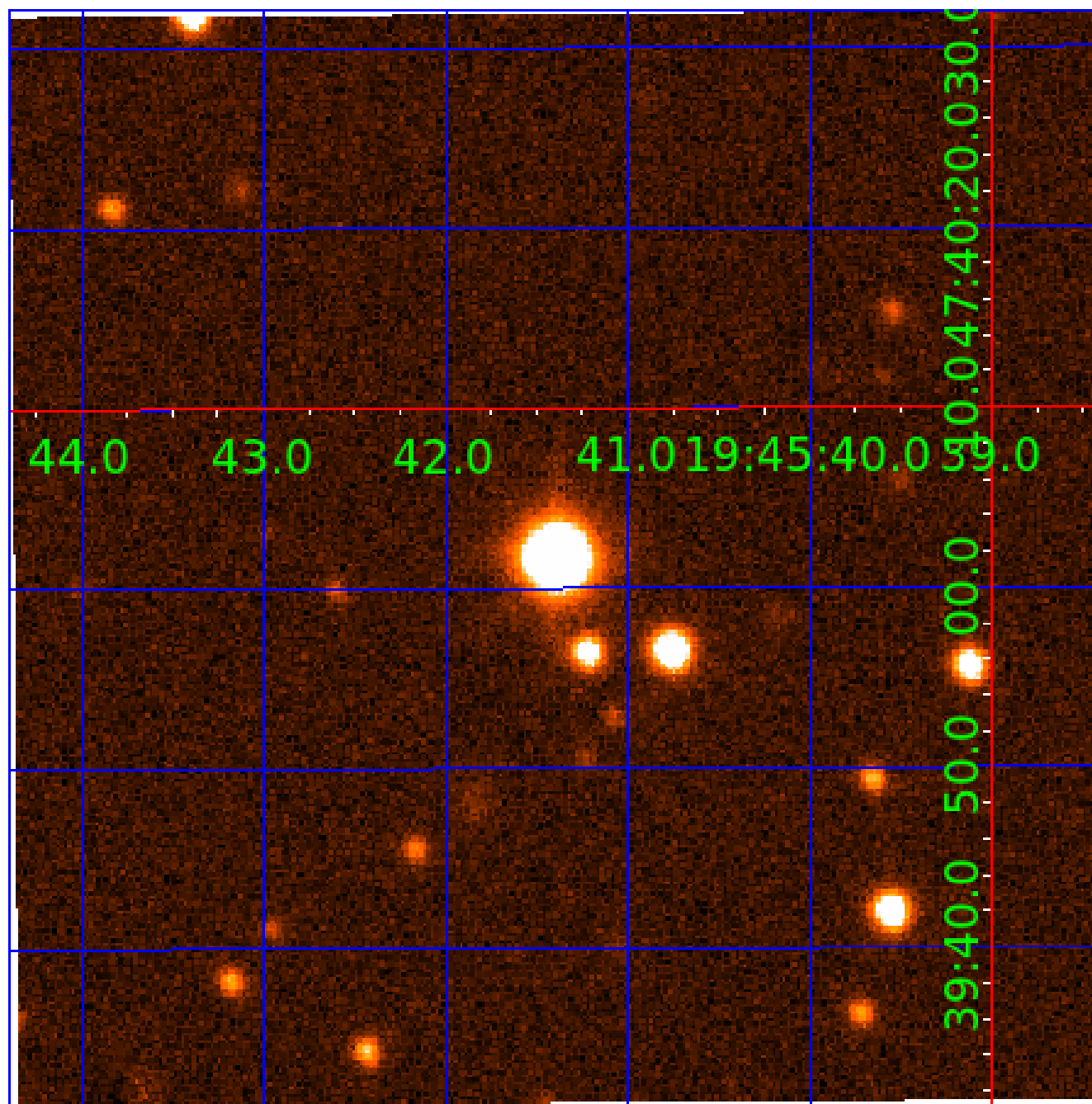


fluxWeightedCentroids, Planet 5 of 8



UKIRT Image

Declination



KIC 010482774

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})
010482774-01	OBS	No	0.502754	131.538692	7.2	3.469	8.2	6.2	1.93	7530	0.56	50501.61
010482774-02	OBS	No	29.800889	146.825635	155.1	1.739	11.9	9.2	1.93	7530	2.59	218.51
010482774-03	OBS	No	5.995822	133.296986	107.8	1.065	10.6	11.0	1.93	7530	2.32	1853.45
010482774-04	OBS	No	19.936665	141.845865	111.4	2.271	9.1	8.4	1.93	7530	2.25	373.46
010482774-05	OBS	No	19.516261	143.715102	221.6	0.950	10.3	11.5	1.93	7530	3.10	384.22
010482774-06	OBS	No	12.800680	138.105698	205.4	1.126	10.1	13.1	1.93	7530	3.19	674.22
010482774-07	OBS	No	20.967424	143.285997	325.0	1.500	9.6	-1.0	1.93	7530	3.55	349.18
010482774-08	OBS	No	30.577010	149.721461	200.3	1.866	9.4	9.7	1.93	7530	3.02	211.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010482774-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS
010482774-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010482774-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010482774-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010482774-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010482774-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
010482774-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
010482774-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV

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

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

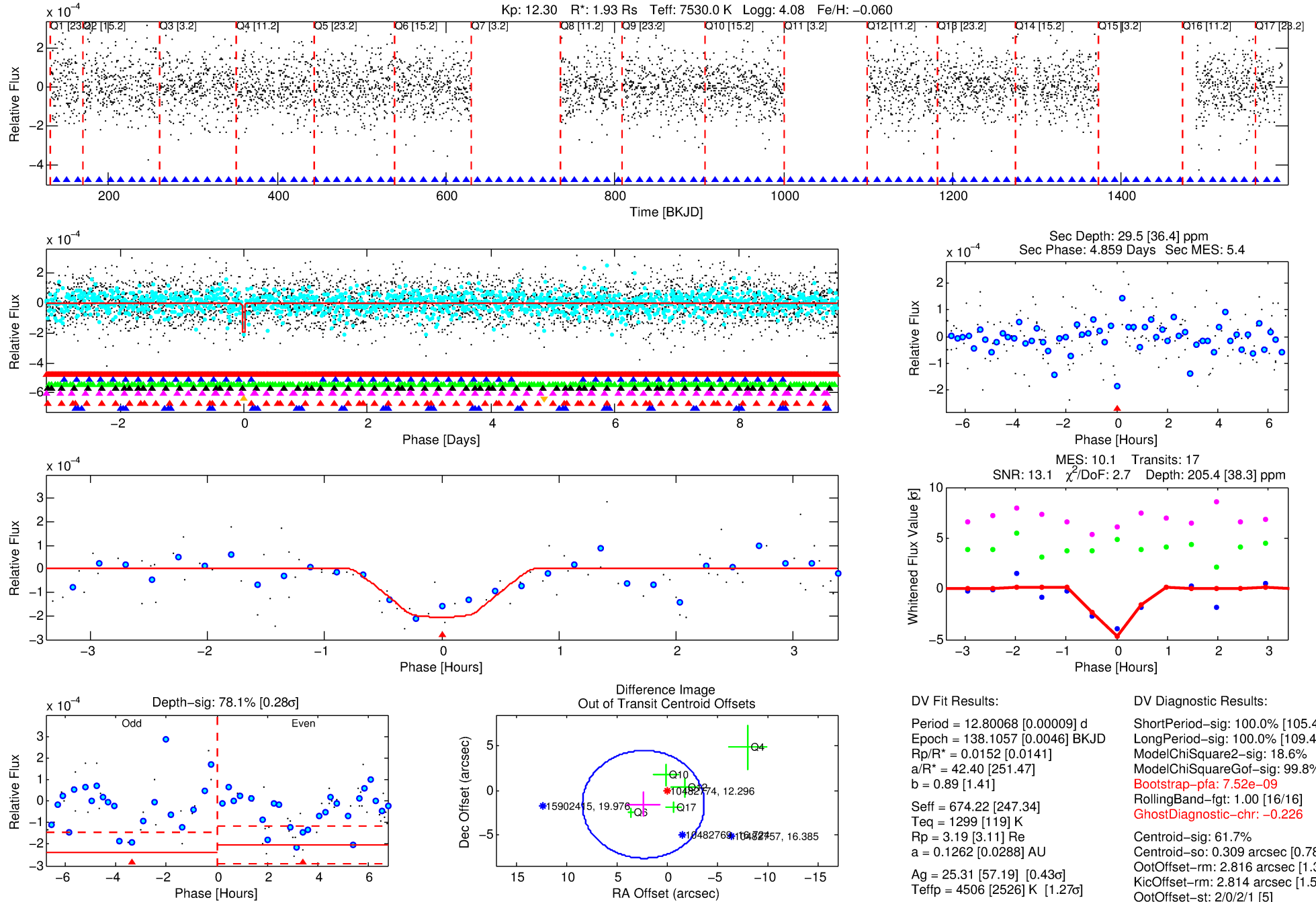
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010482774-06

No Significant Match Found

DV One-Page Summary

KIC: 10482774 Candidate: 6 of 8 Period: 12.801 d



DV Fit Results:

Period = 12.80068 [0.00009] d
Epoch = 138.1057 [0.0046] BKJD
Rp/R* = 0.0152 [0.0141]
a/R* = 42.40 [251.47]
b = 0.89 [1.41]
Seff = 674.22 [247.34]
Teff = 1299 [119] K
Rp = 3.19 [3.11] Re
a = 0.1262 [0.0288] AU
Ag = 25.31 [57.19] [0.43 σ]
Teffp = 4506 [2526] K [1.27 σ]

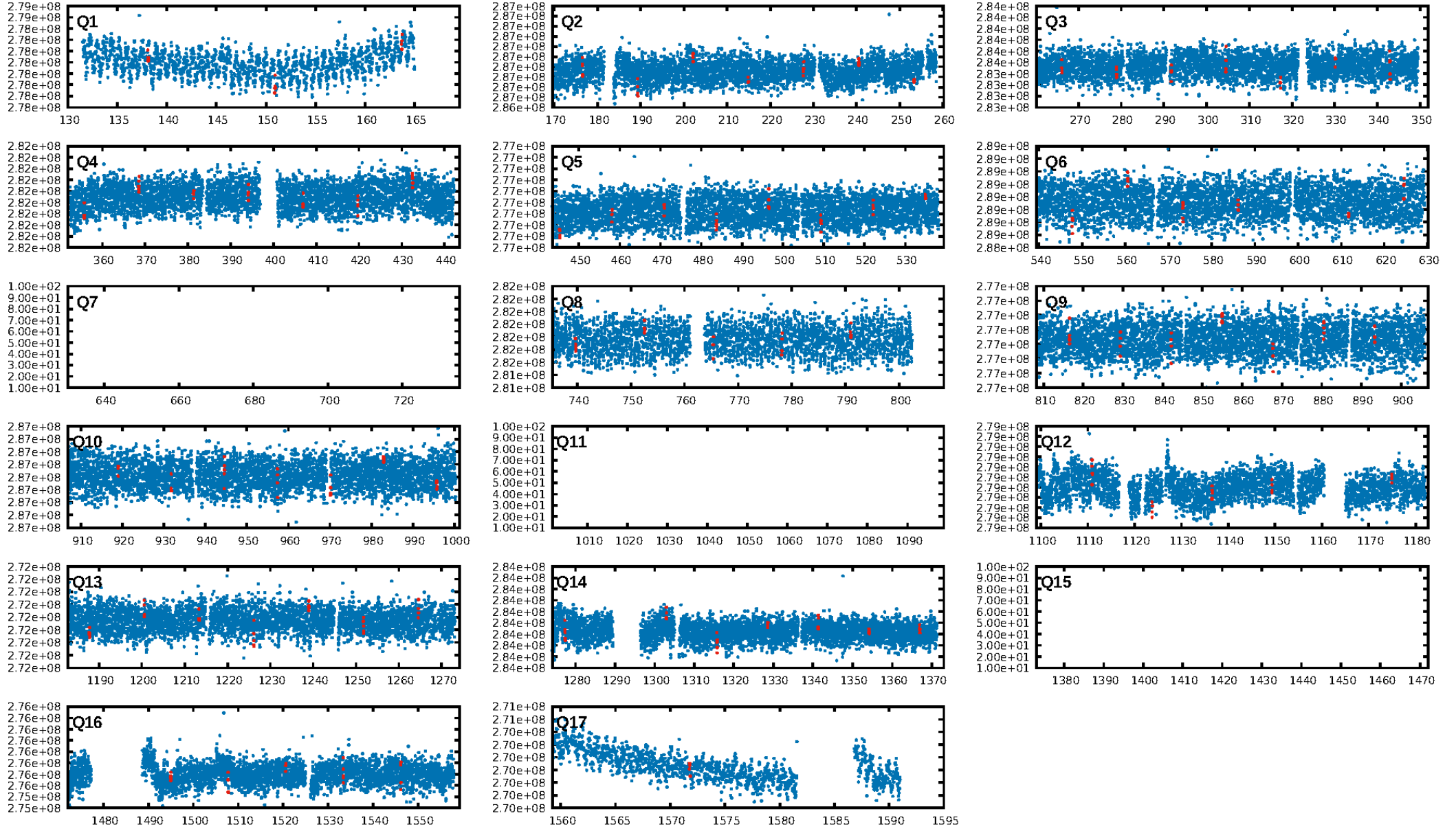
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [105.41 σ]
LongPeriod-sig: 100.0% [109.41 σ]
ModelChiSquare2-sig: 18.6%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 7.52e-09
RollingBand-fgt: 1.00 [16/16]
GhostDiagnostic-chr: -0.226
Centroid-sig: 61.7%
Centroid-so: 0.309 arcsec [0.78 σ]
OotOffset-rm: 2.816 arcsec [1.39 σ]
KicOffset-rm: 2.814 arcsec [1.52 σ]
OotOffset-st: 2/0/2/1 [5]
KicOffset-st: 2/0/2/1 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 0.00 [0/14]

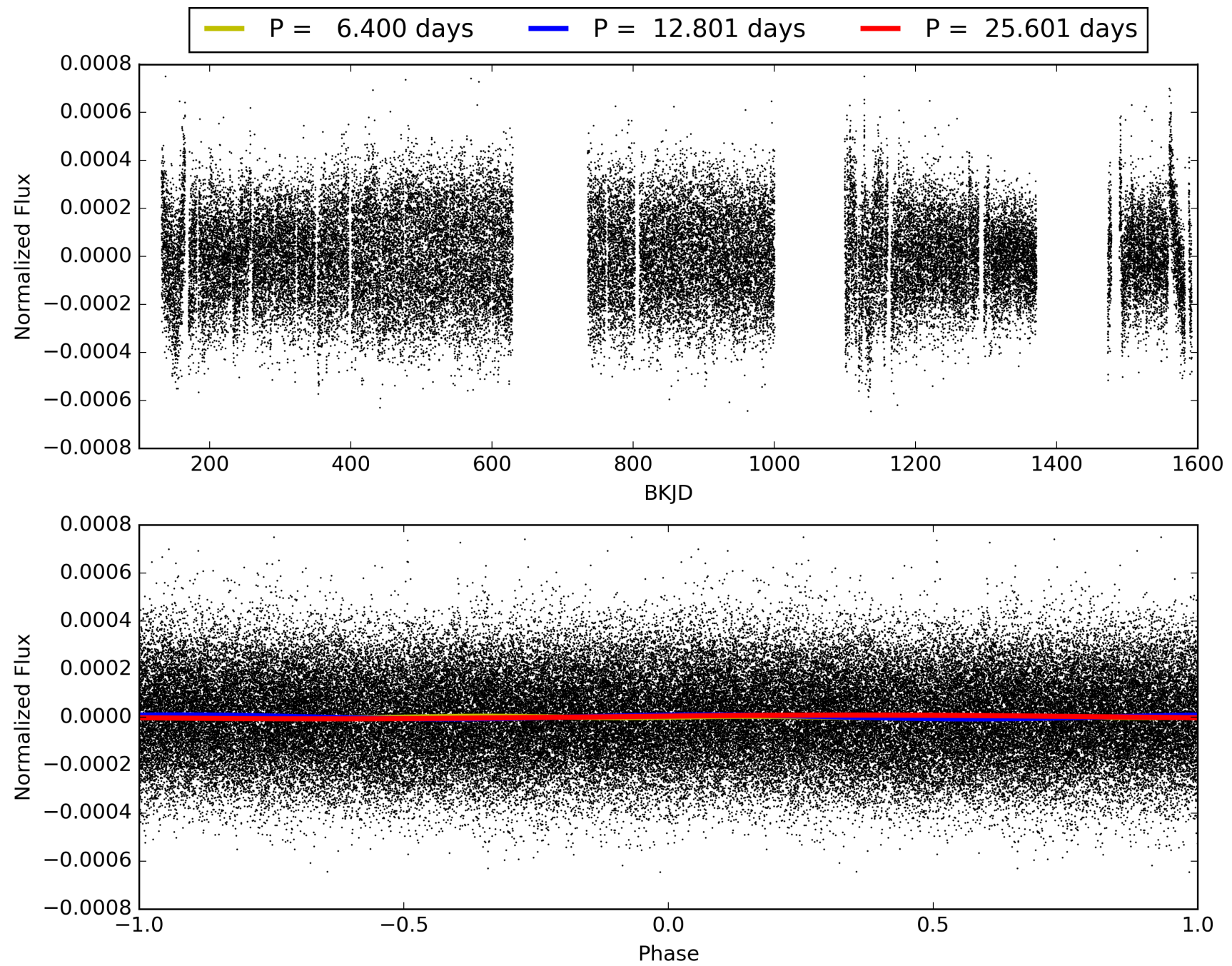
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:54:50 Z

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

TCE 010482774-06, PDC Light Curves

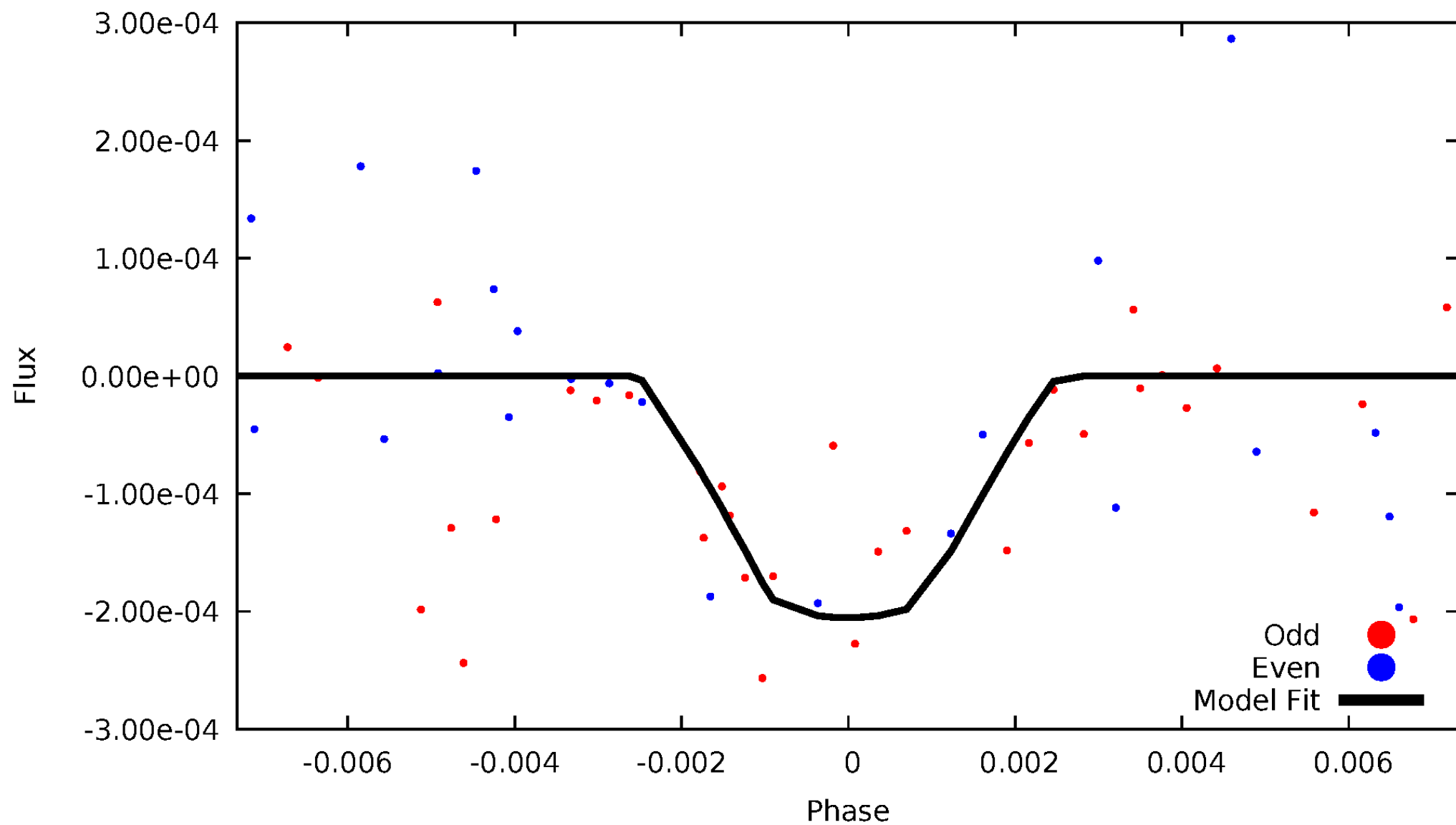


TCE 010482774-06



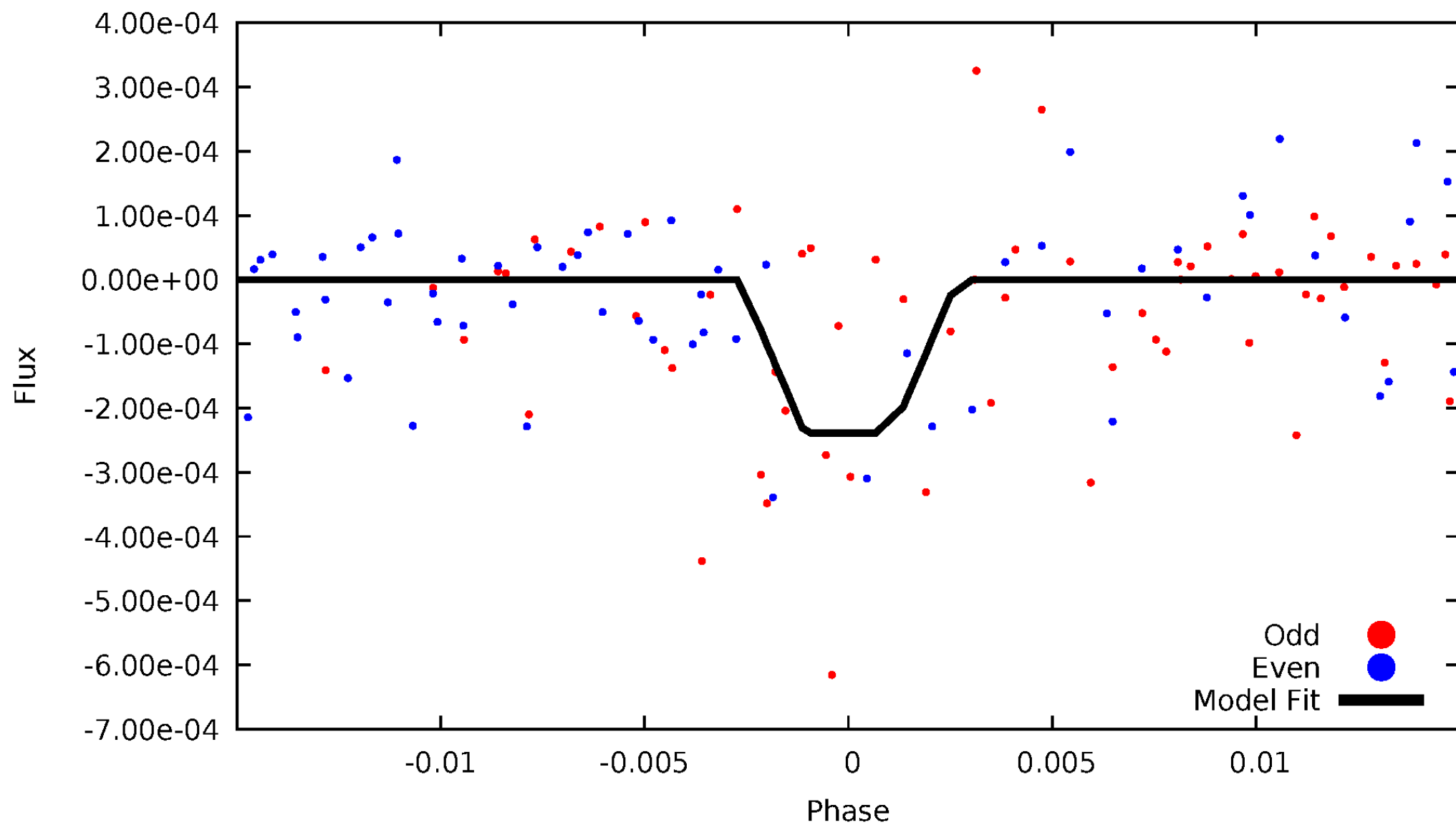
DV Odd/Even

TCE 010482774-06



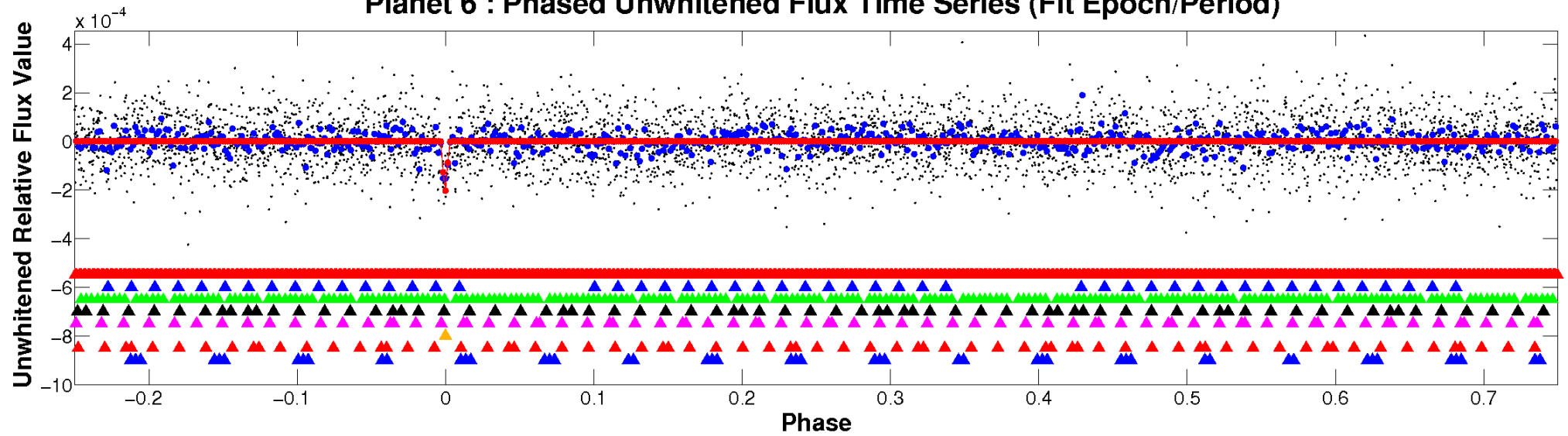
ALT Odd/Even

TCE 010482774-06

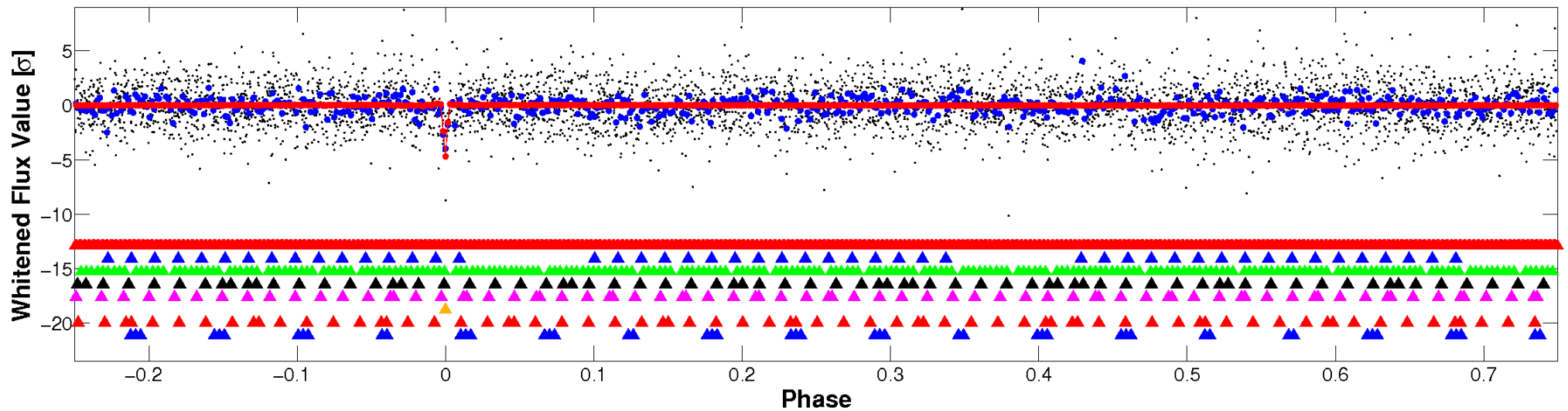


Non-Whitened Vs. Whitened Light Curve

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

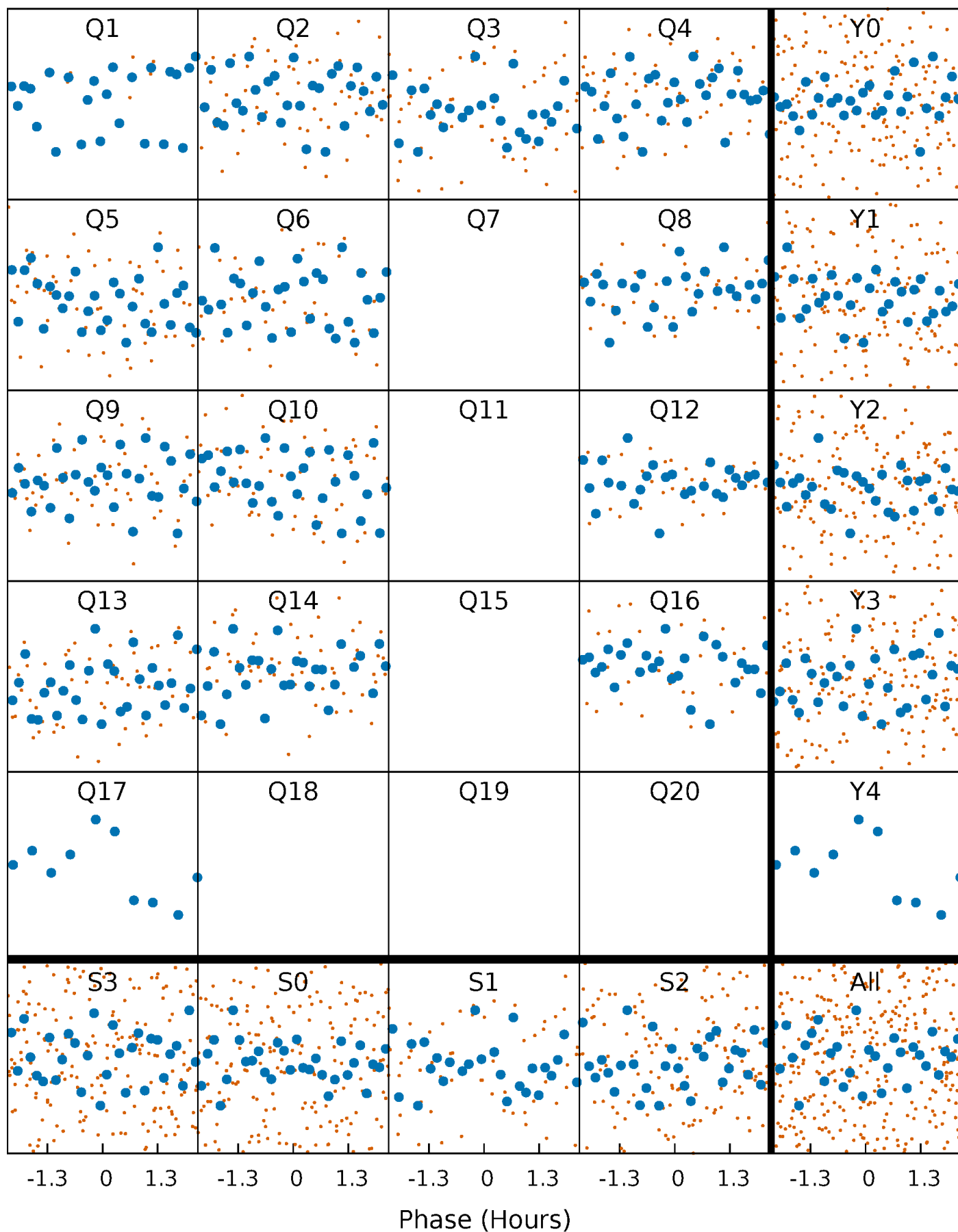


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



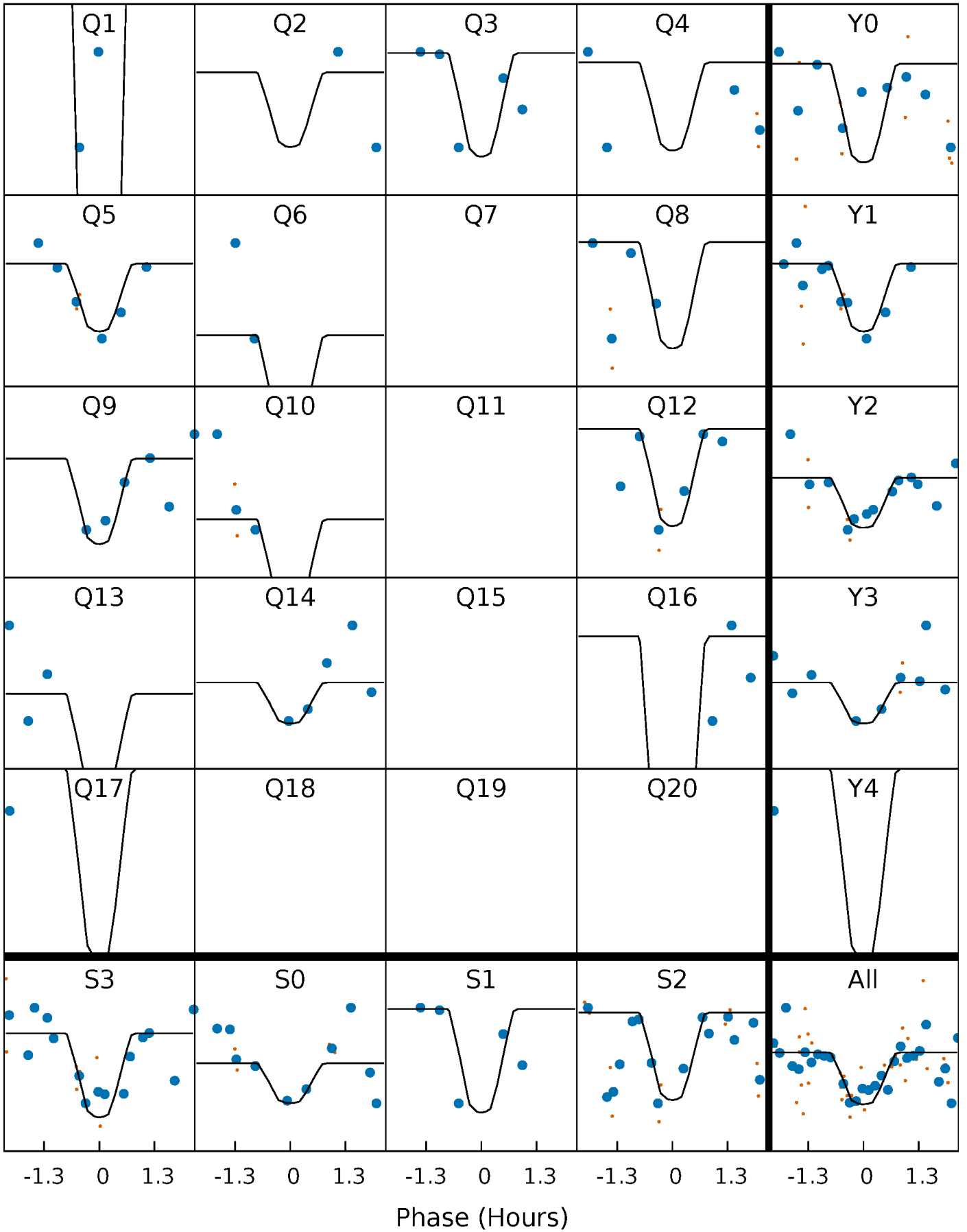
PDC Quarter-Phased Transit Curves

TCE 010482774-06 P= 12.800680 Days $T_0=138.105698$ (BKJD)



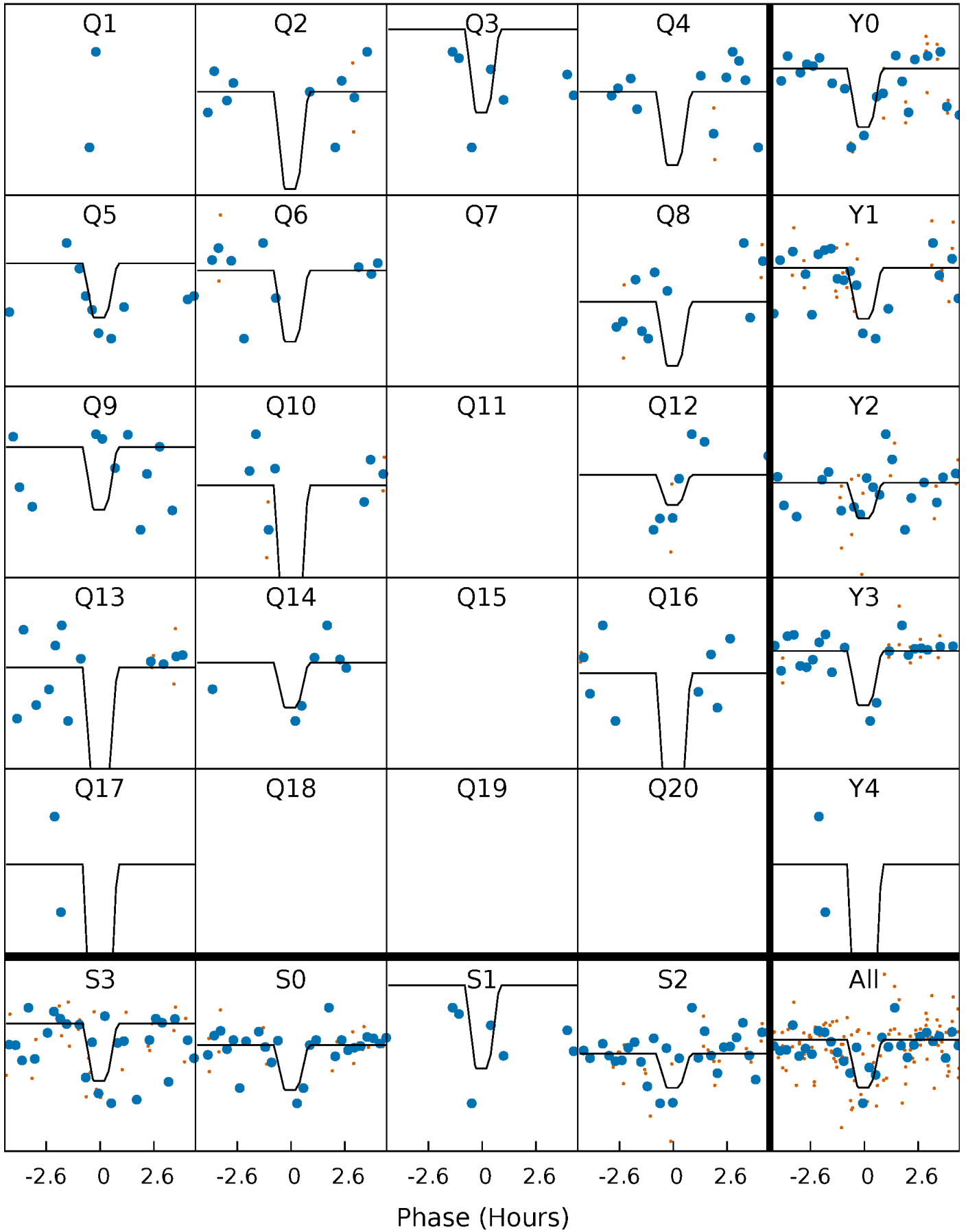
DV Quarter-Phased Transit Curves

TCE 010482774-06 P= 12.800680 Days $T_0=138.105698$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

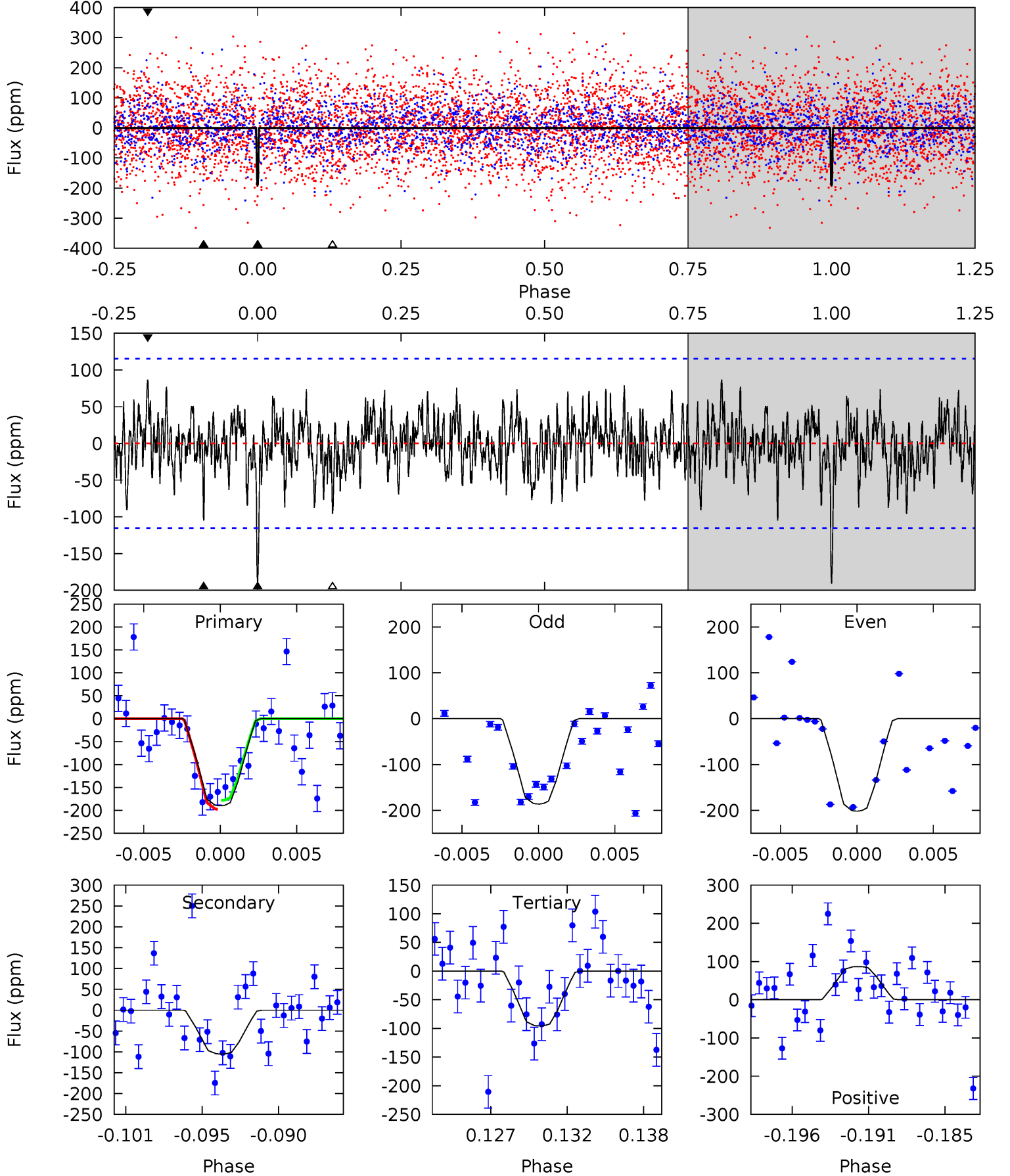
TCE 010482774-06 P= 12.800511 Days $T_0=138.110584$ (BKJD)



DV Model-Shift Uniqueness Test

010482774-06, $P = 12.800680$ Days, $E = 125.305018$ Days

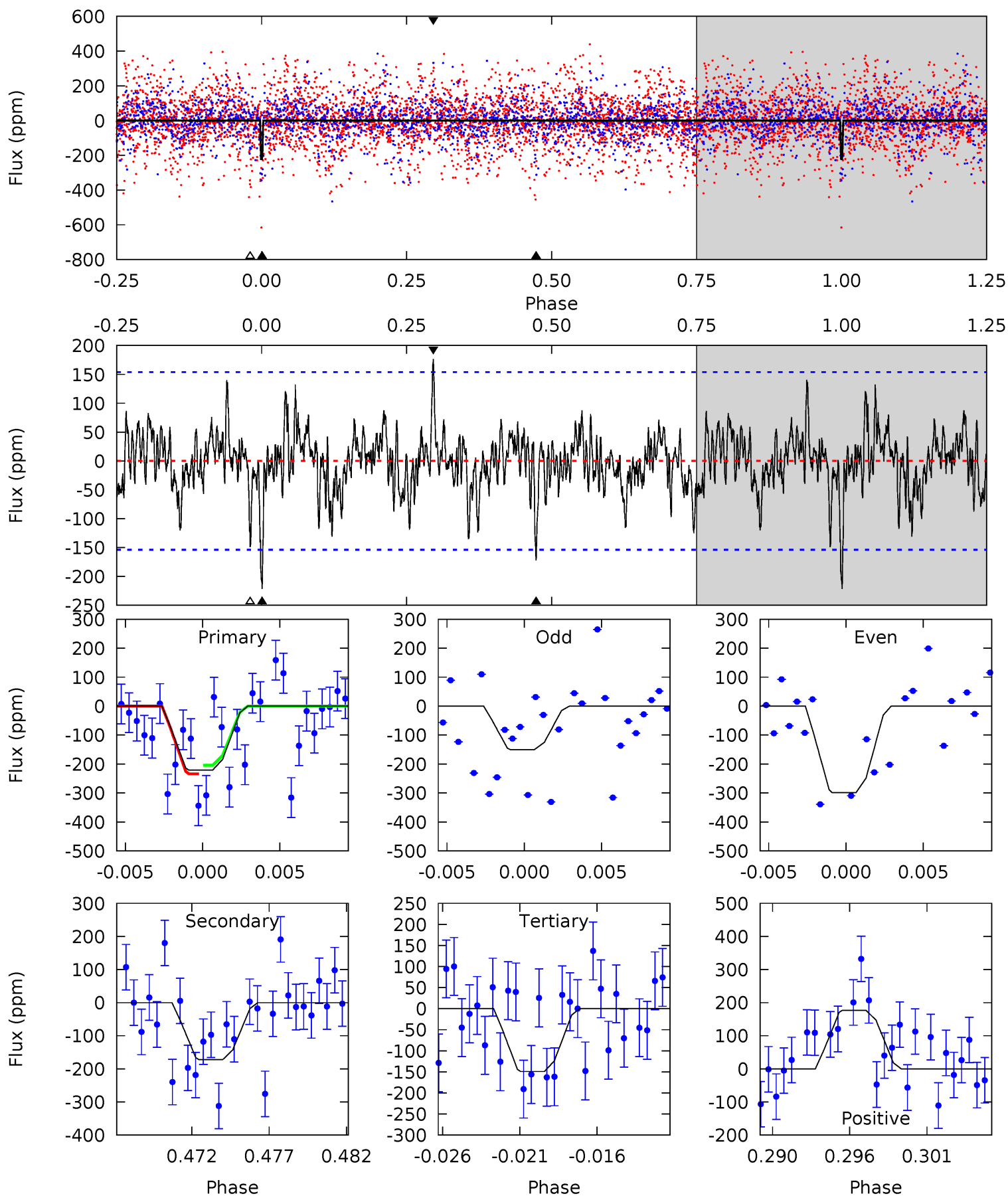
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.48	4.69	4.27	3.88	5.15	2.79	1.34	4.21	4.61	0.42	0.82	0.29	0.91	0.31	0.43



Alt Model-Shift Uniqueness Test

010482774-06, P = 12.800511 Days, E = 125.310073 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.41	5.77	5.00	5.92	5.15	2.80	1.42	2.41	1.49	0.77	-0.15	2.20	0.86	0.44	0.49



Stellar Parameters For KIC 010482774

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7530^{+209}_{-314}	$4.080^{+0.144}_{-0.176}$	$-0.060^{+0.200}_{-0.350}$	$1.930^{+0.532}_{-0.387}$	$1.633^{+0.212}_{-0.259}$	$0.320^{+0.270}_{-0.147}$
	+3%/-4%	+4%/-4%	+333%/-583%	+28%/-20%	+13%/-16%	+84%/-46%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010482774-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-105 ± 22	$3.80^{+2.85}_{-2.43}$	1815^{+125}_{-127}	5559^{+4660}_{-1196}	65^{+425}_{-45}
Alt.	-172 ± 30	$3.67^{+2.93}_{-2.27}$	1818^{+140}_{-121}	6307^{+5795}_{-1448}	107^{+666}_{-74}

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 $A_{obs} \gg 1.0$

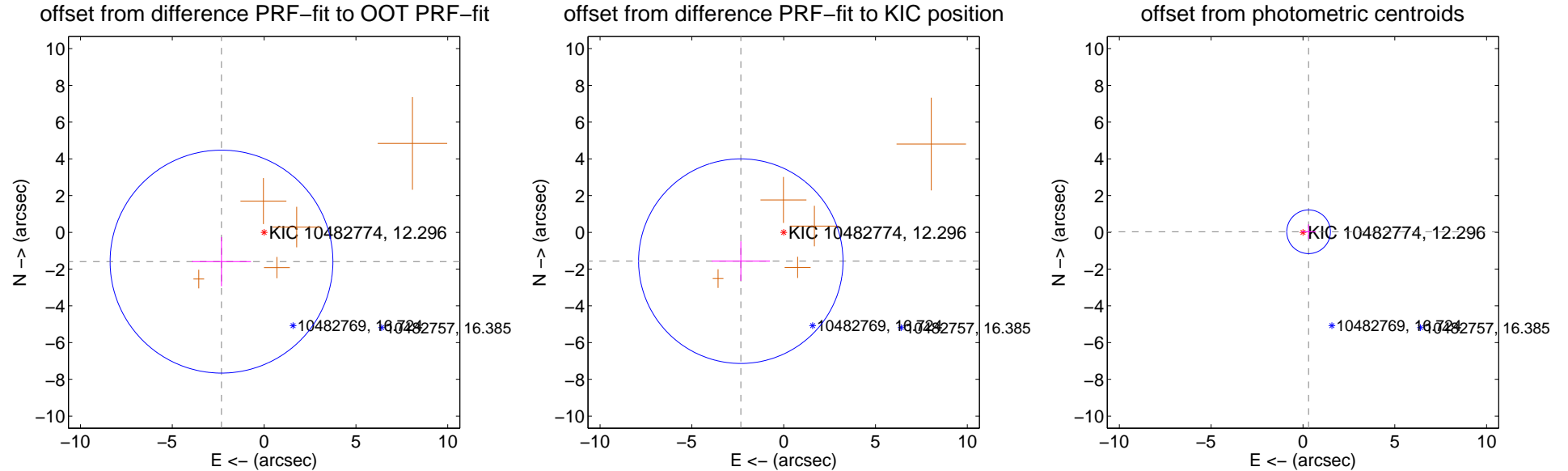
DV Centroid Data

Supplemental centroid analysis for 010482774-06. Kepler magnitude: 12.30. Transit SNR 13.13

There are 0 quarters with good PRF difference image offsets

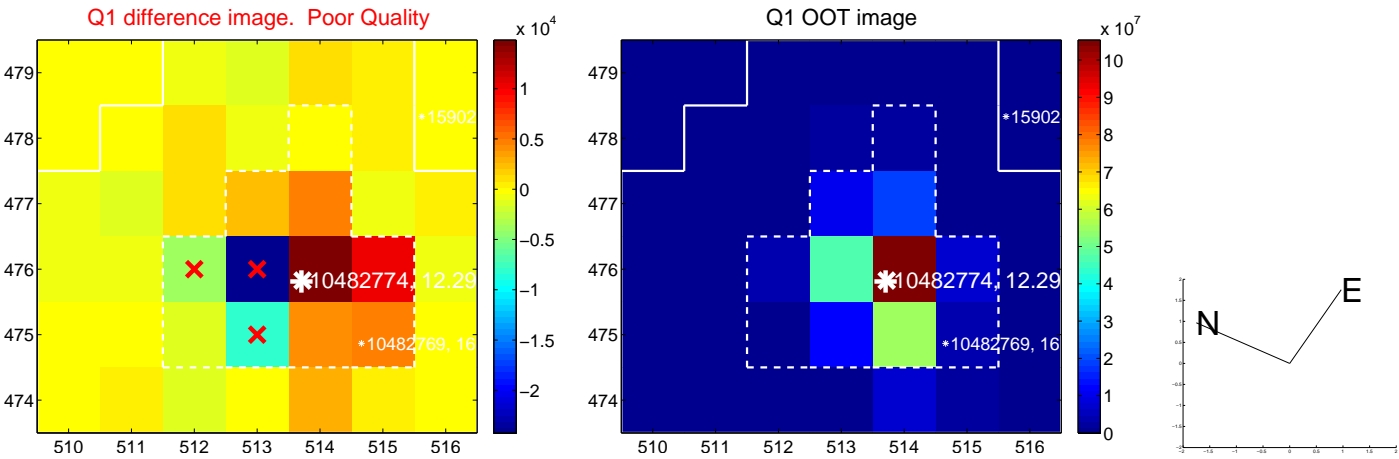
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.816 ± 2.023	1.39	2.322 ± 1.610	-1.593 ± 1.340
PRF-fit source offset from KIC position	2.814 ± 1.856	1.52	2.336 ± 1.587	-1.569 ± 1.075
photometric centroid source offset	0.31 ± 0.40	0.78	-0.31 ± 0.40	0.03 ± 0.40

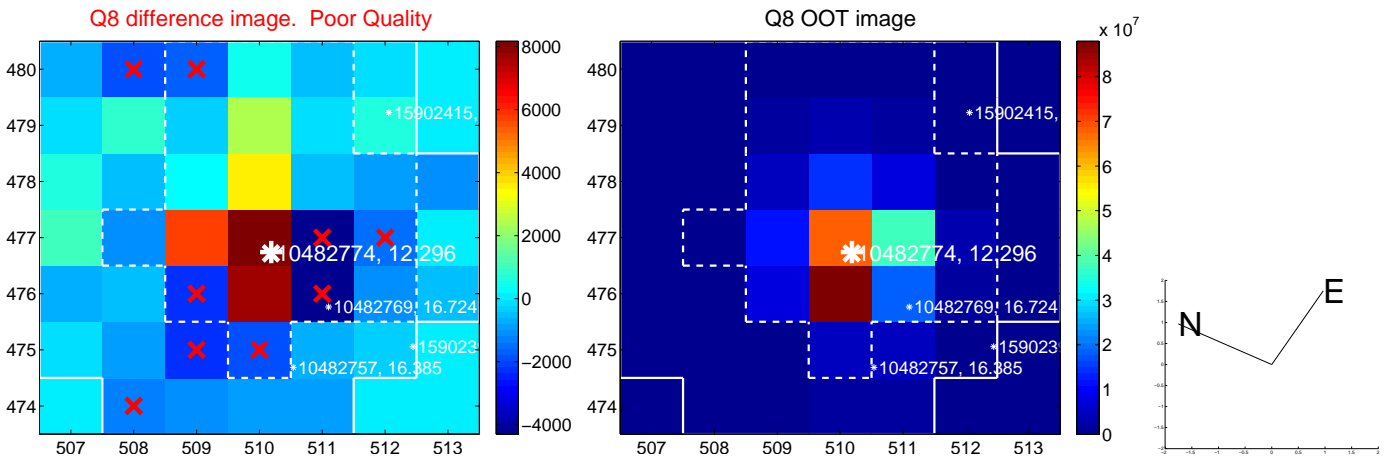
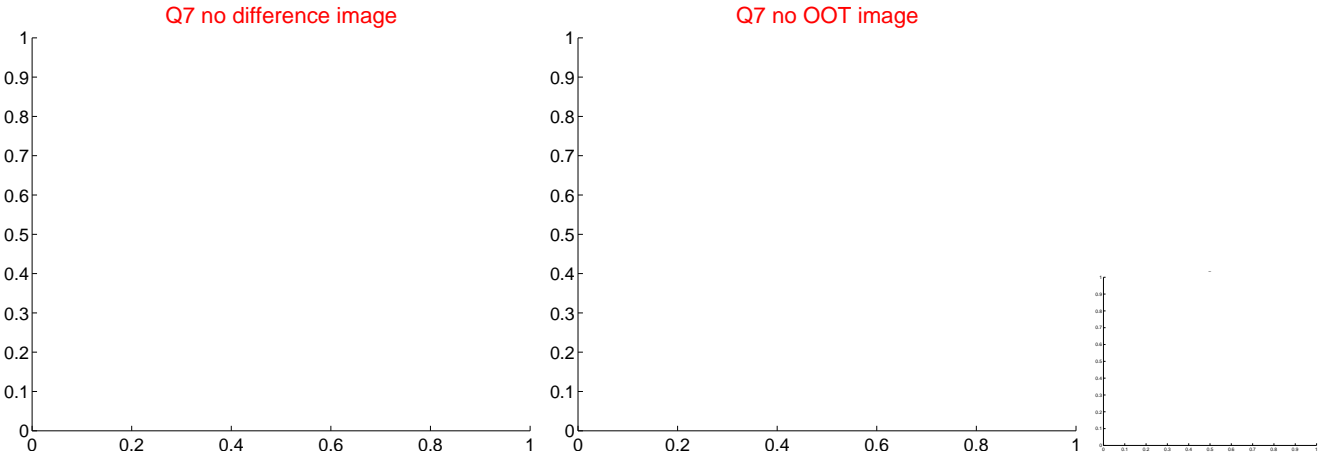
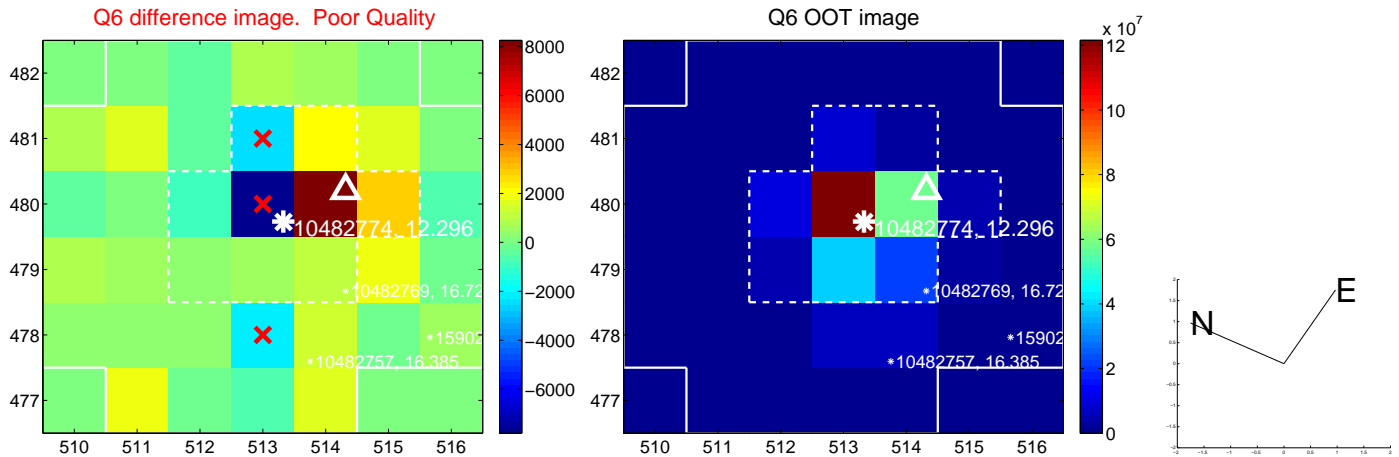
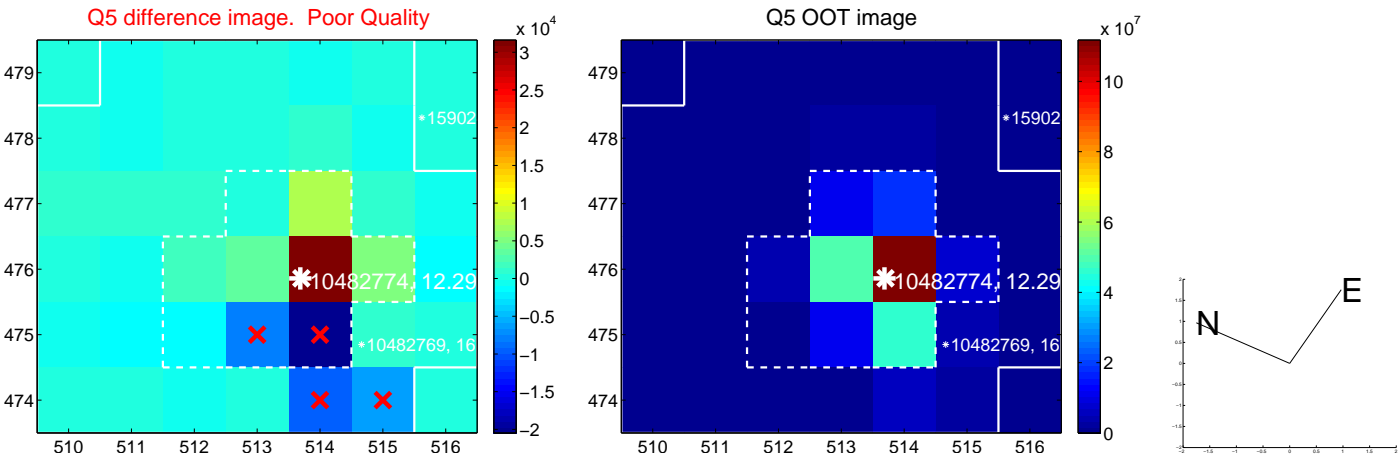


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

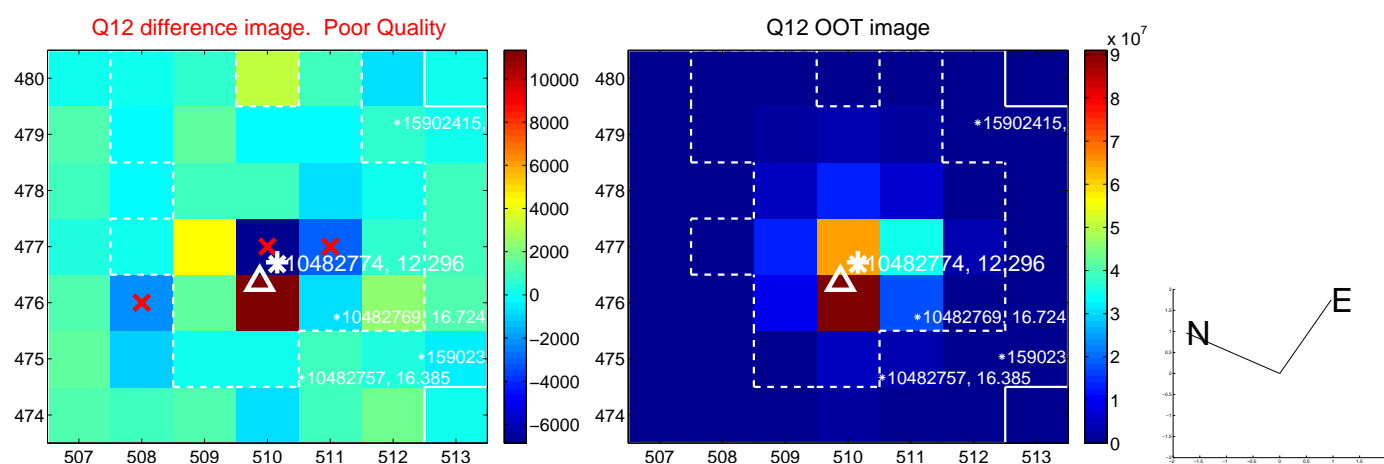
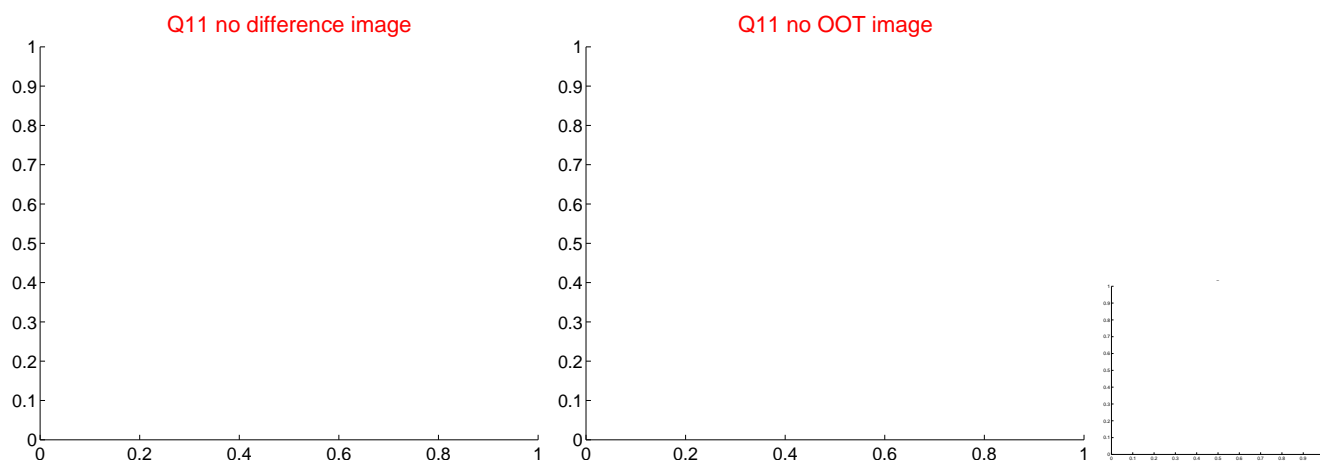
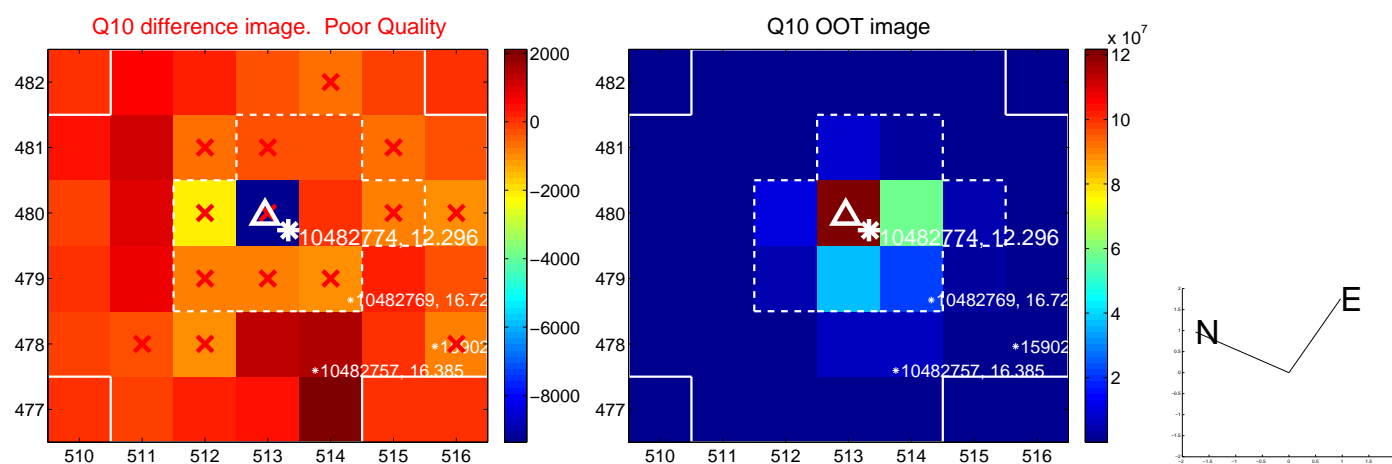
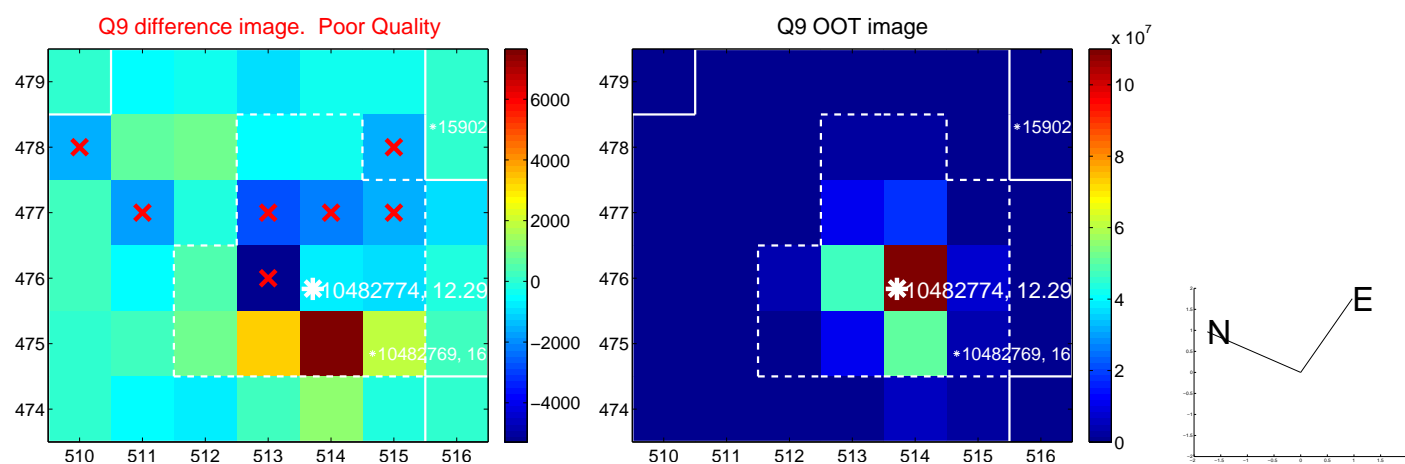
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



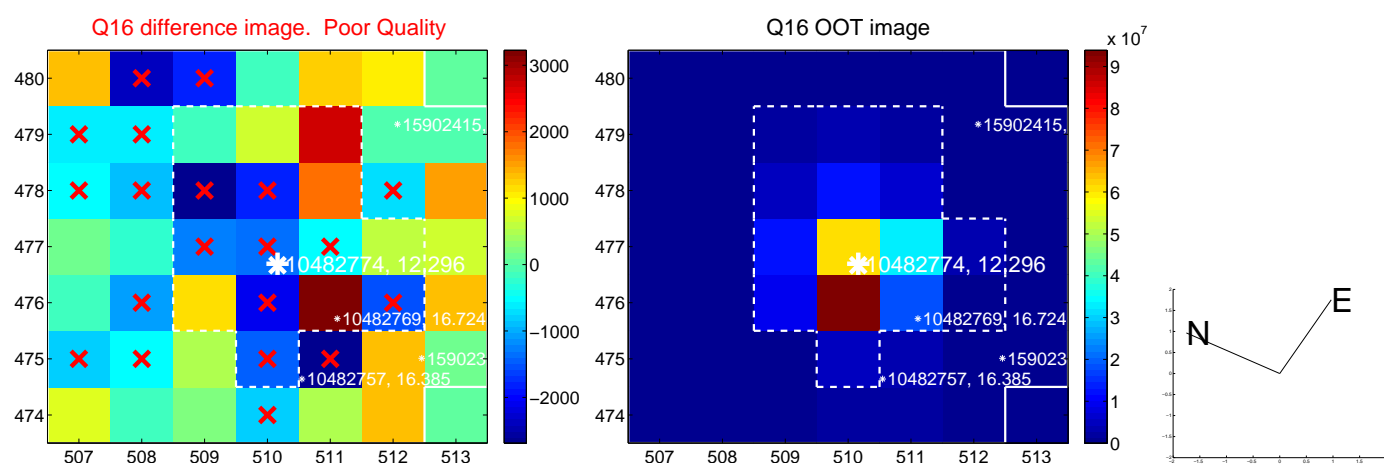
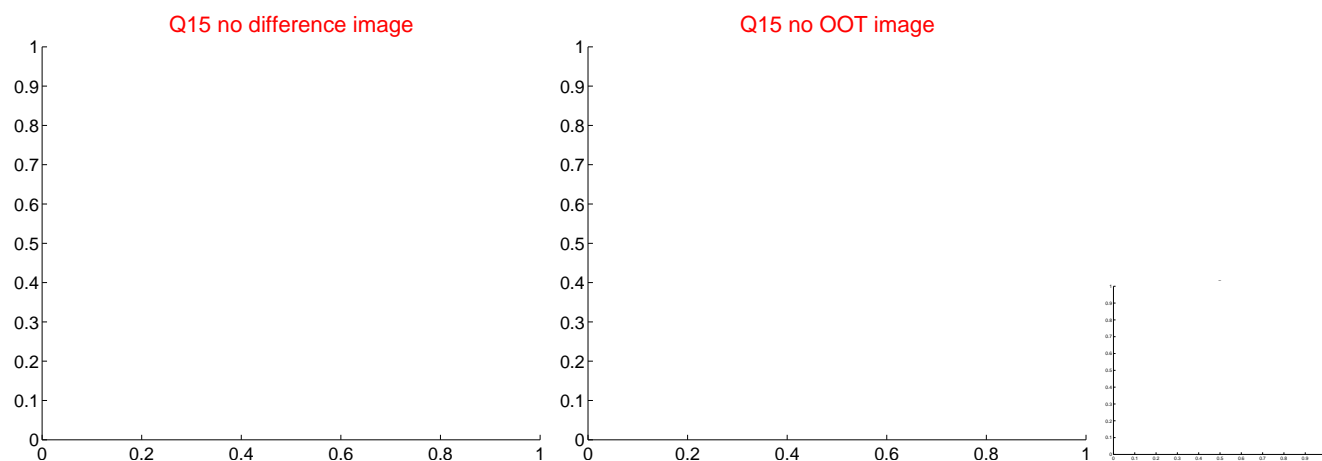
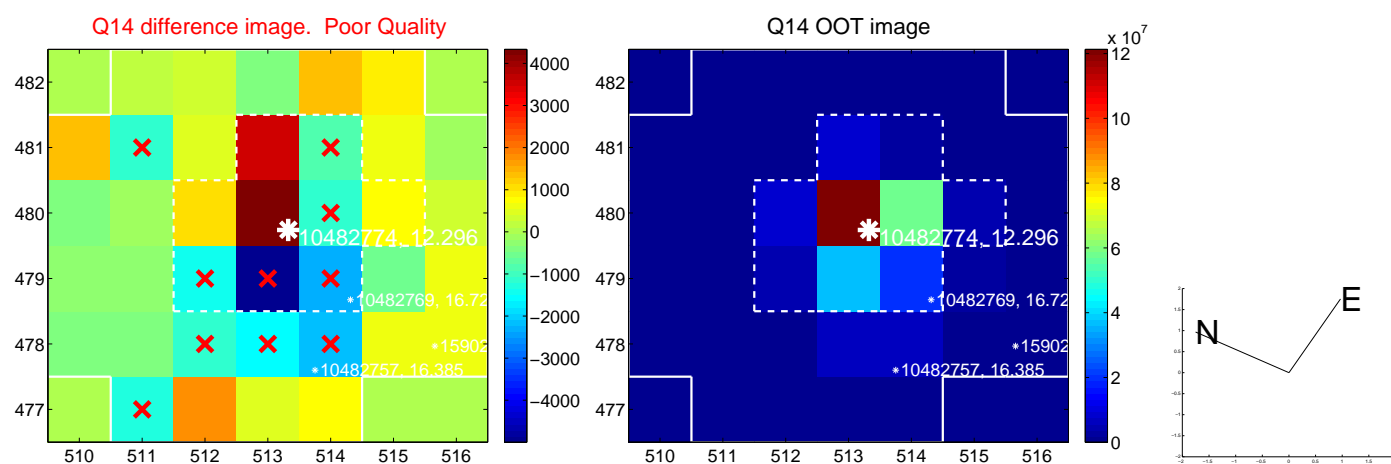
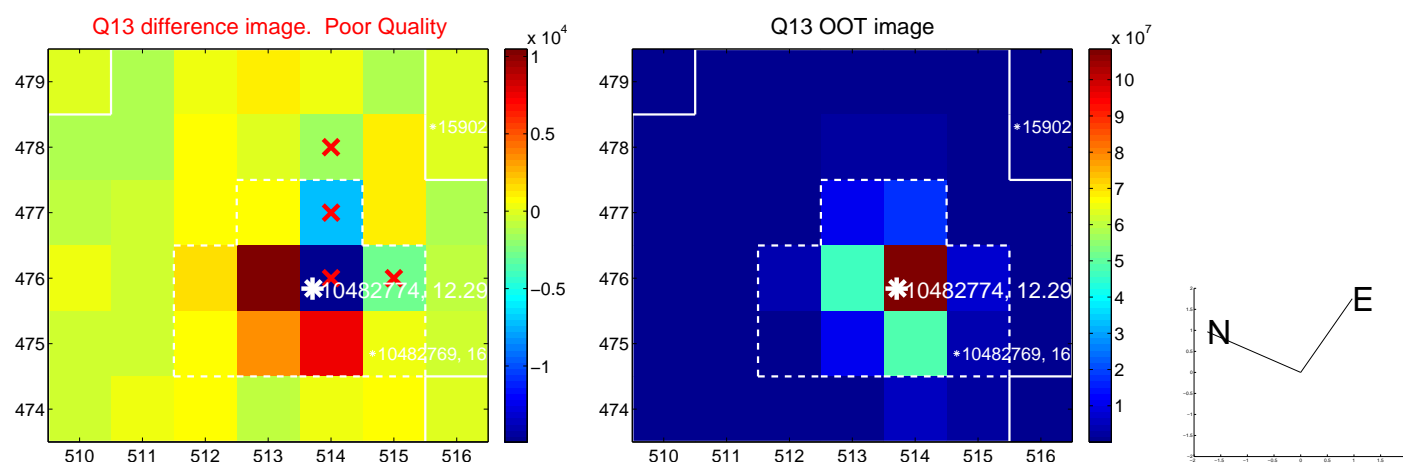
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



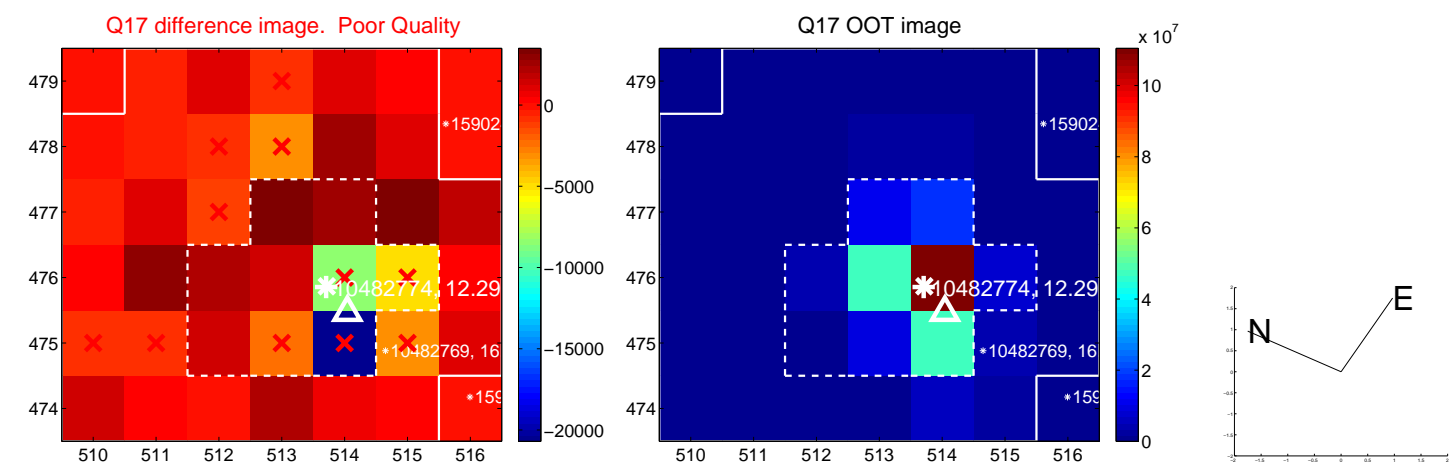
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



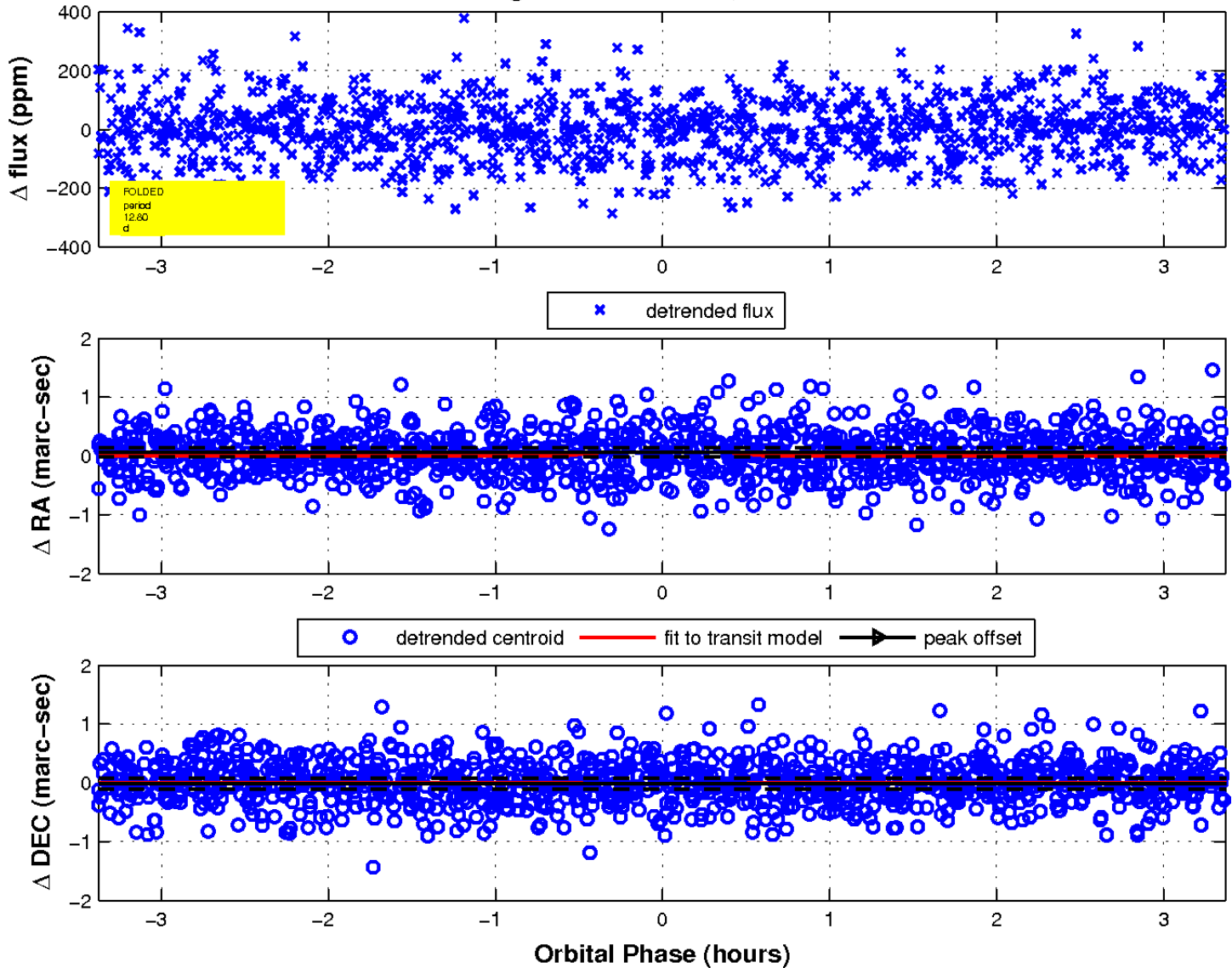
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

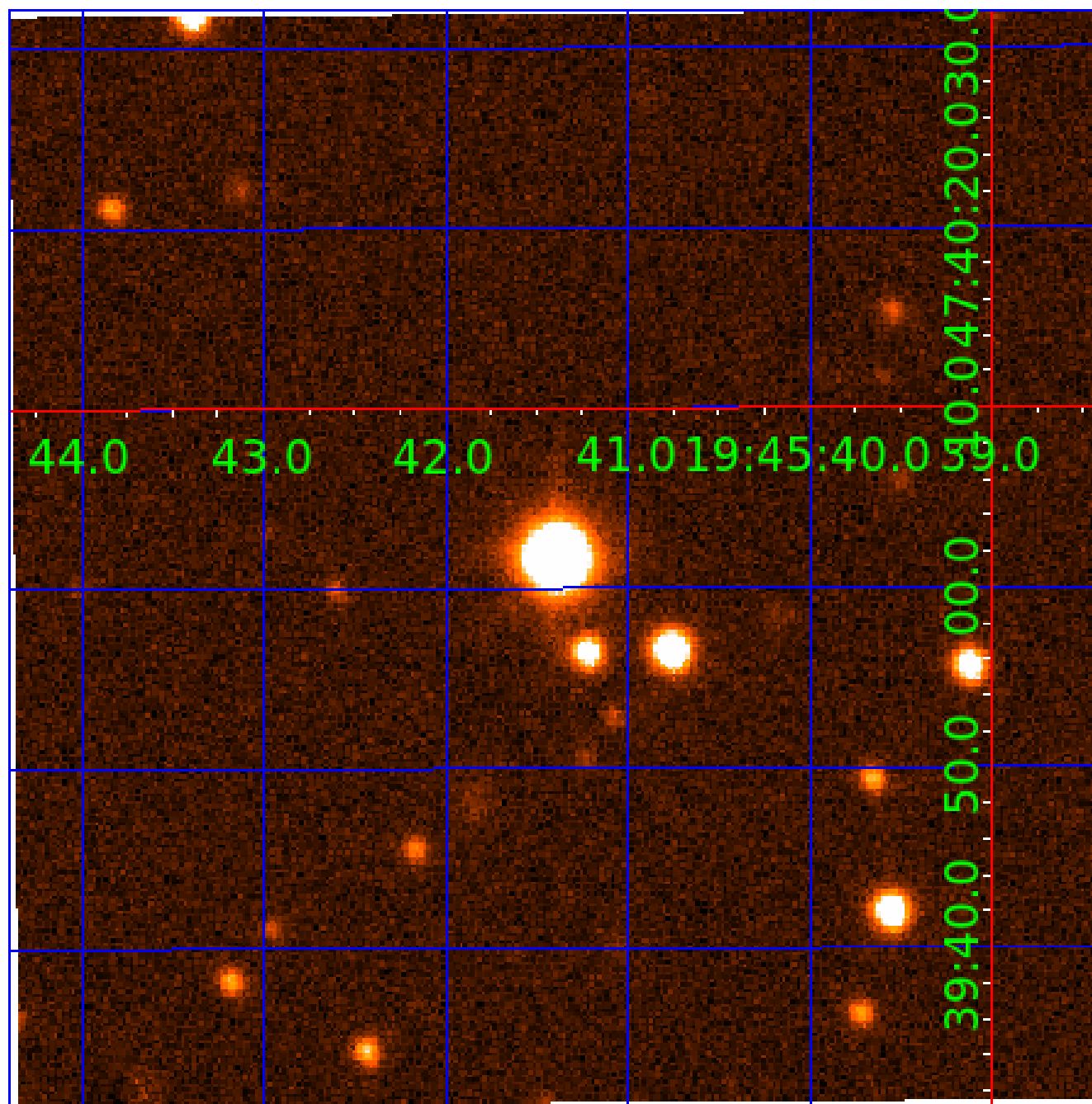


fluxWeightedCentroids, Planet 6 of 8



UKIRT Image

Declination



KIC 010482774

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})
010482774-01	OBS	No	0.502754	131.538692	7.2	3.469	8.2	6.2	1.93	7530	0.56	50501.61
010482774-02	OBS	No	29.800889	146.825635	155.1	1.739	11.9	9.2	1.93	7530	2.59	218.51
010482774-03	OBS	No	5.995822	133.296986	107.8	1.065	10.6	11.0	1.93	7530	2.32	1853.45
010482774-04	OBS	No	19.936665	141.845865	111.4	2.271	9.1	8.4	1.93	7530	2.25	373.46
010482774-05	OBS	No	19.516261	143.715102	221.6	0.950	10.3	11.5	1.93	7530	3.10	384.22
010482774-06	OBS	No	12.800680	138.105698	205.4	1.126	10.1	13.1	1.93	7530	3.19	674.22
010482774-07	OBS	No	20.967424	143.285997	325.0	1.500	9.6	-1.0	1.93	7530	3.55	349.18
010482774-08	OBS	No	30.577010	149.721461	200.3	1.866	9.4	9.7	1.93	7530	3.02	211.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010482774-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS
010482774-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010482774-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010482774-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010482774-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010482774-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
010482774-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
010482774-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV

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

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

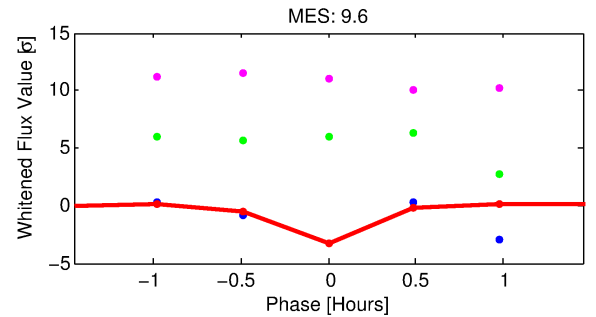
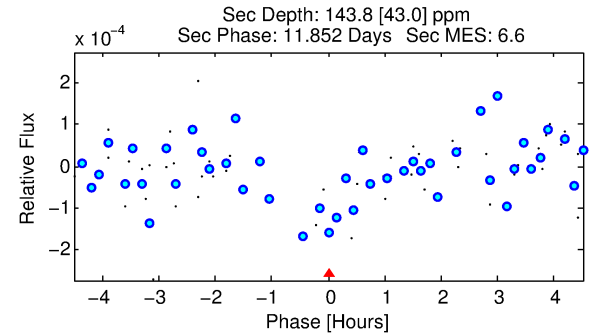
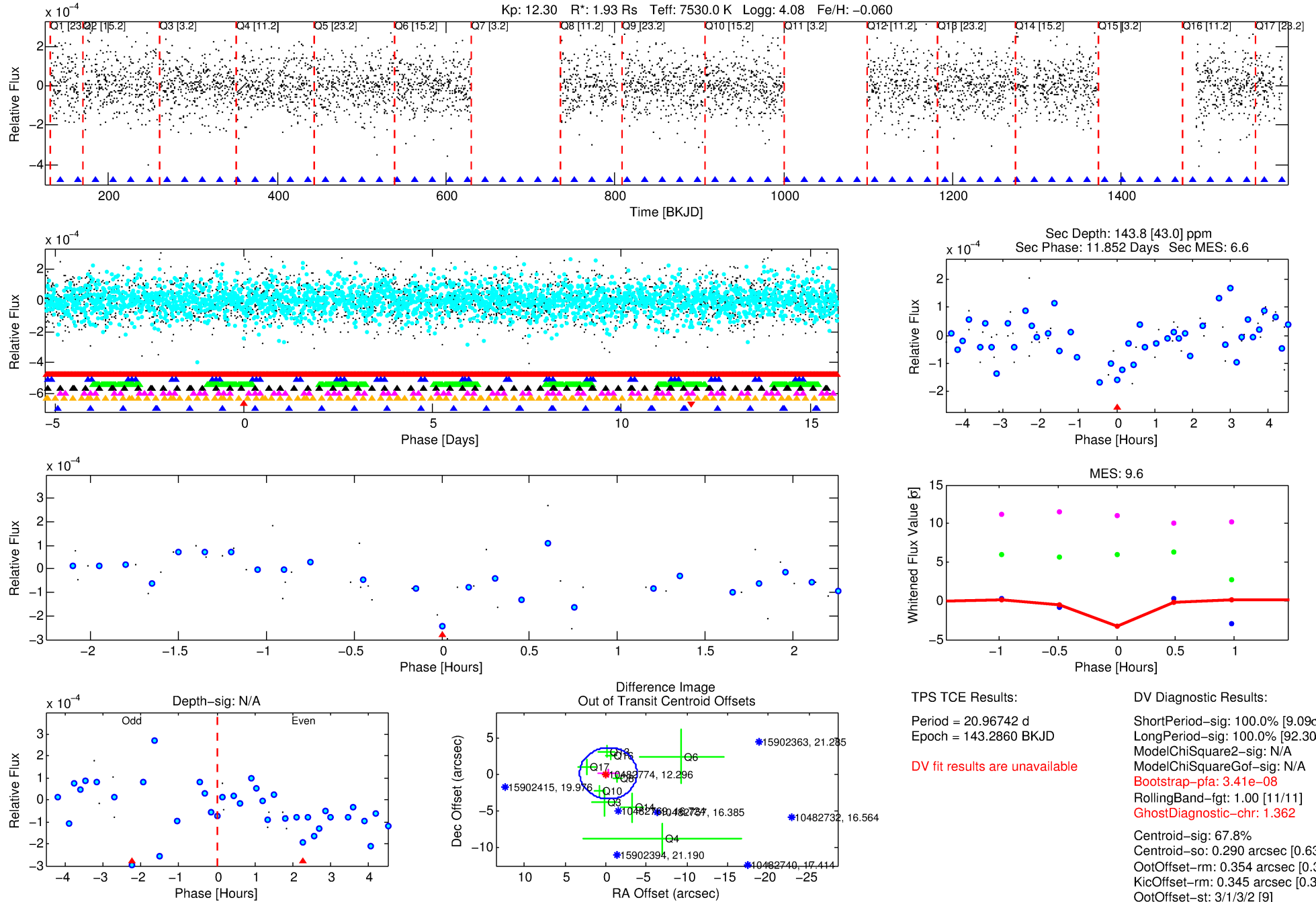
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010482774-07

No Significant Match Found

DV One-Page Summary

KIC: 10482774 Candidate: 7 of 8 Period: 20.967 d



TPS TCE Results:

Period = 20.96742 d
Epoch = 143.2860 BKJD

DV fit results are unavailable

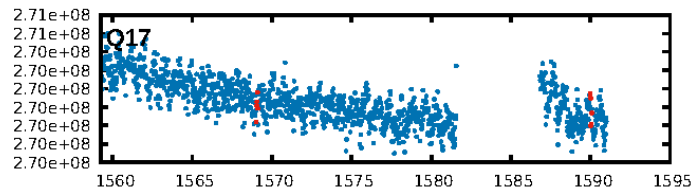
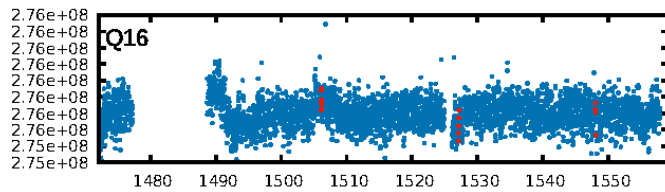
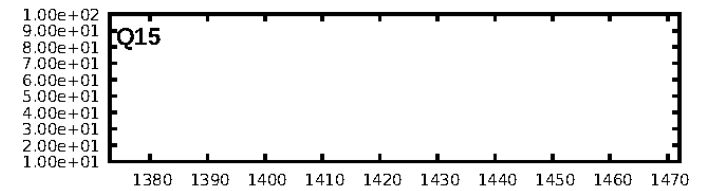
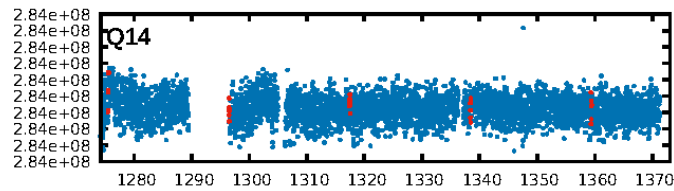
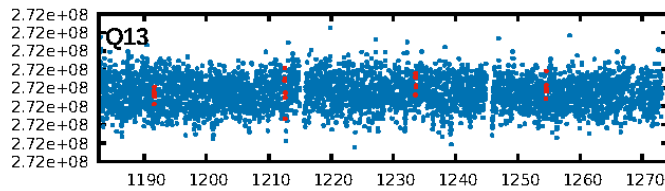
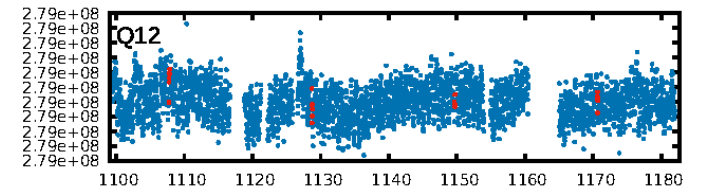
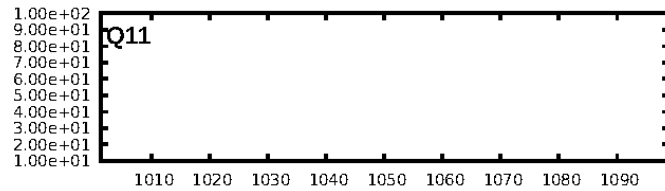
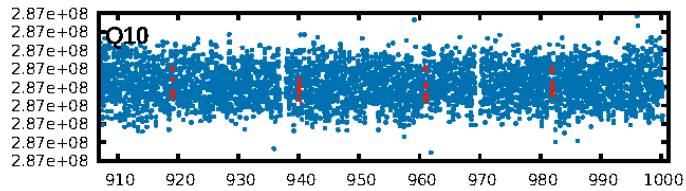
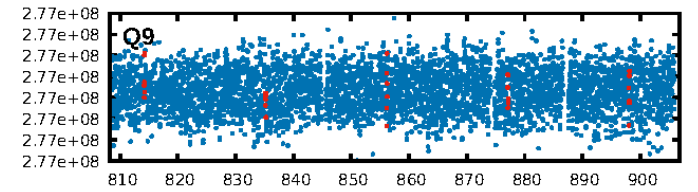
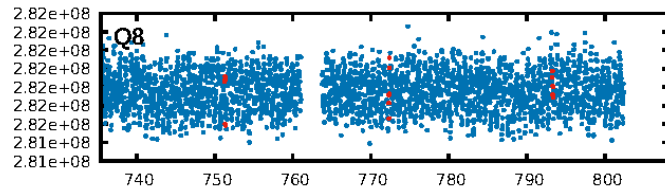
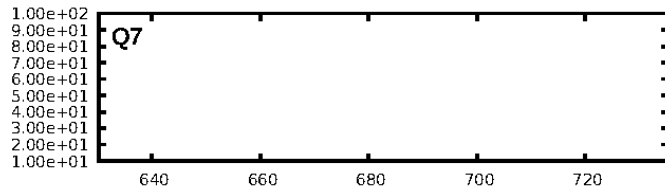
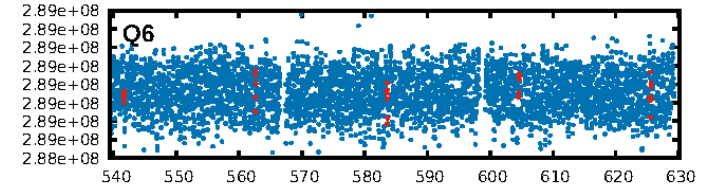
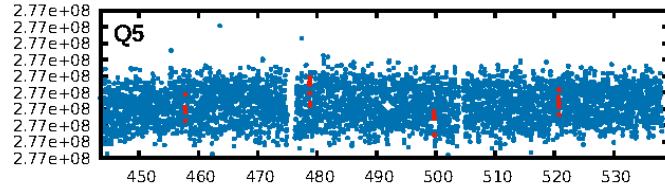
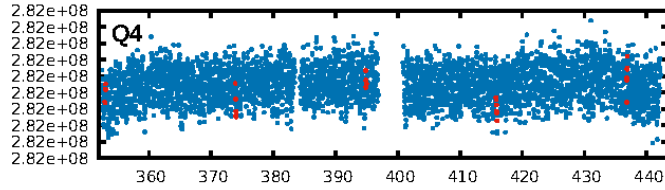
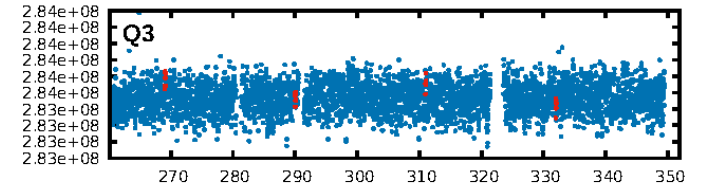
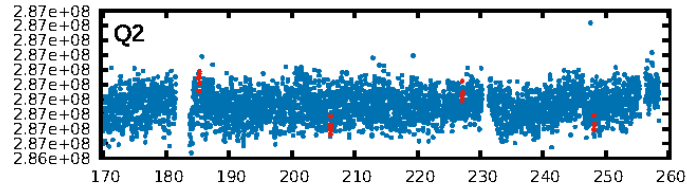
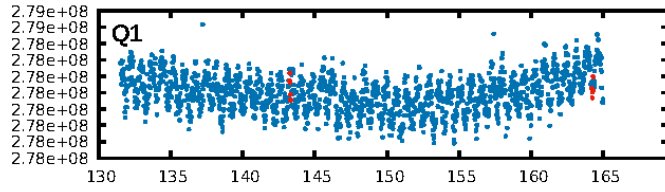
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.09σ]
LongPeriod-sig: 100.0% [92.30σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.41e-08
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: 1.362
Centroid-sig: 67.8%
Centroid-so: 0.290 arcsec [0.63σ]
OotOffset-rm: 0.354 arcsec [0.30σ]
OotOffset-st: 3/1/3/2 [9]
KicOffset-rm: 0.345 arcsec [0.31σ]
KicOffset-st: 3/1/3/2 [9]
DiffImageQuality-fgm: 0.22 [2/9]
DiffImageOverlap-fno: 0.00 [0/14]

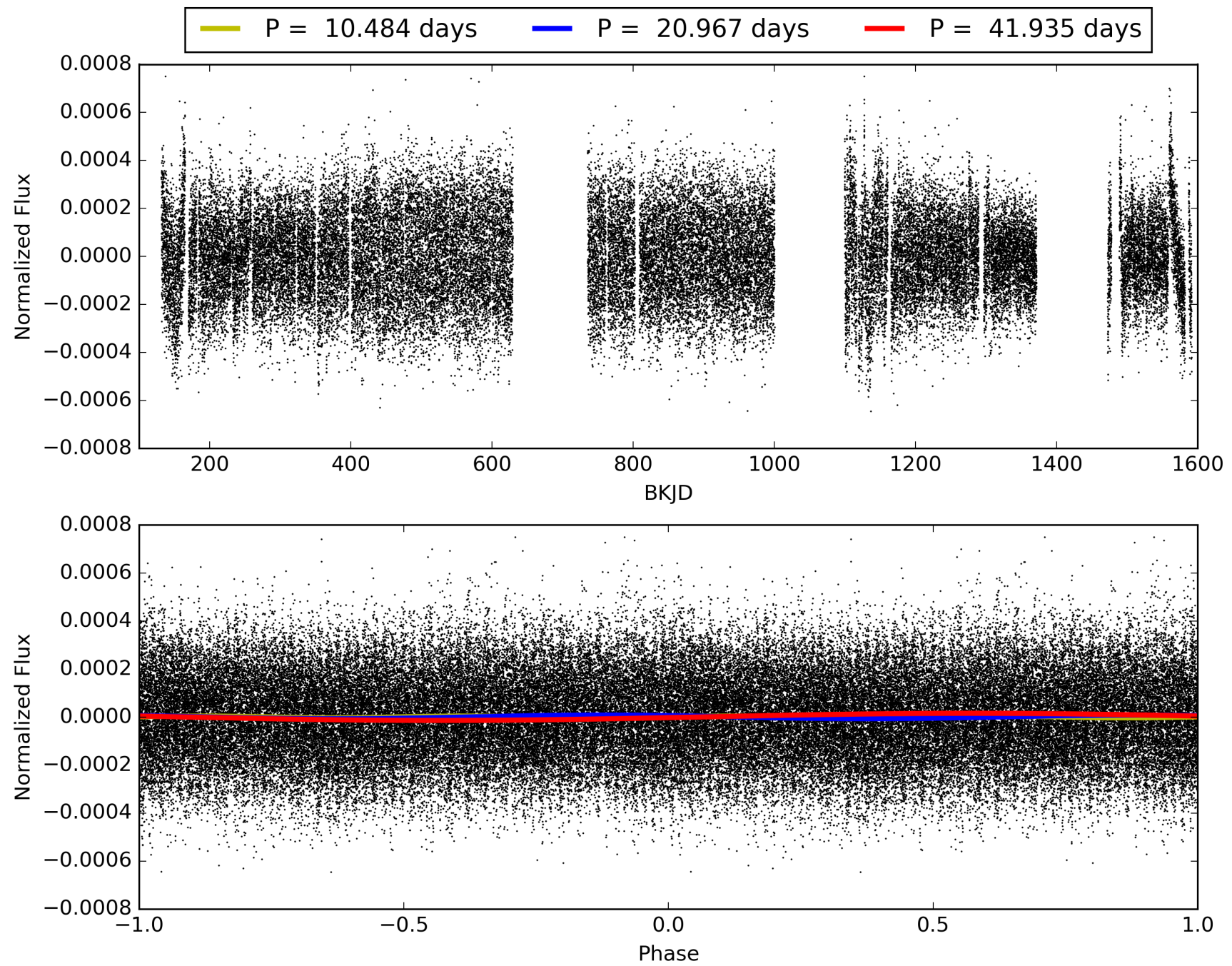
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:54:54 Z

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

TCE 010482774-07, PDC Light Curves

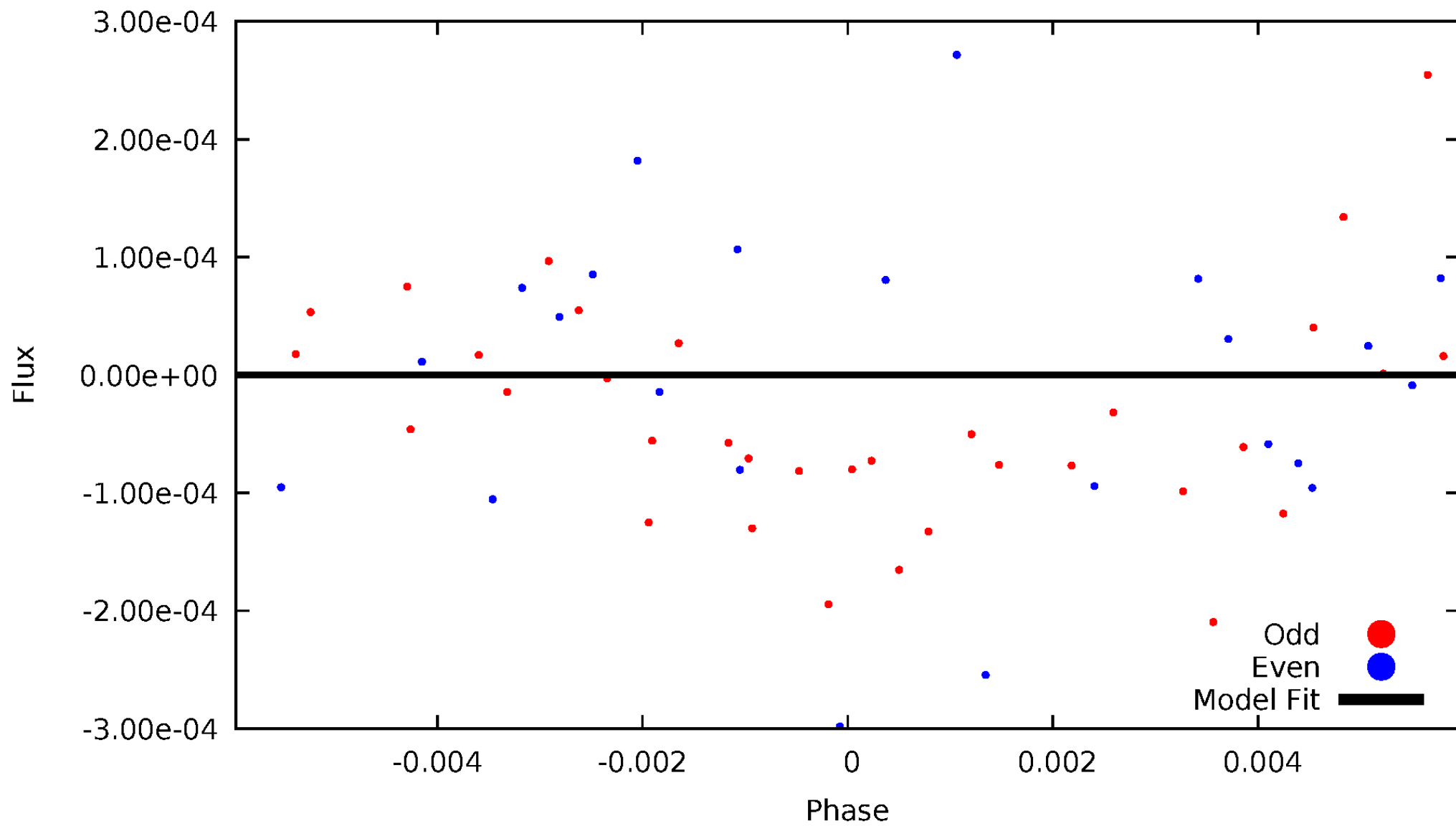


TCE 010482774-07



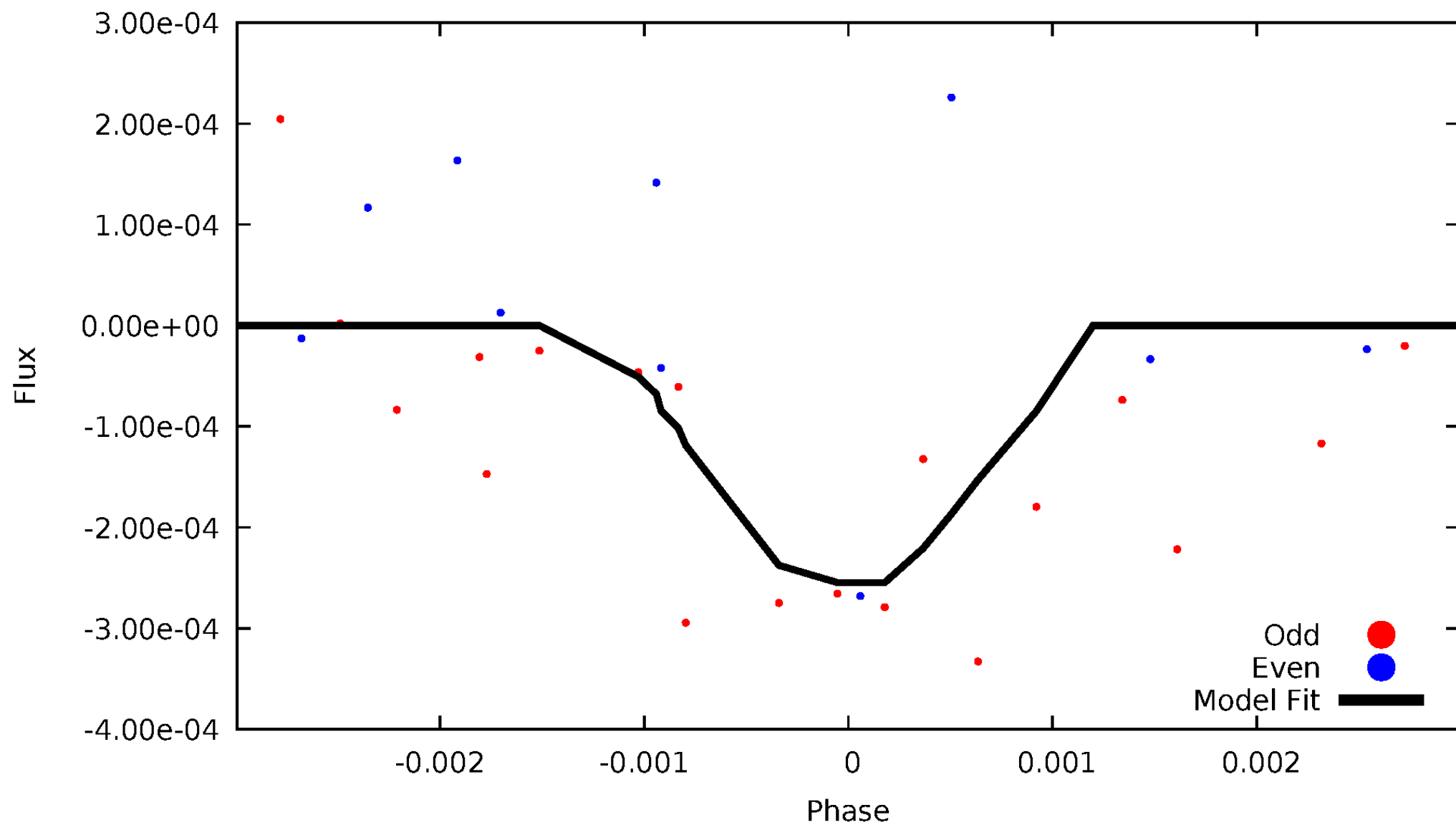
DV Odd/Even

TCE 010482774-07

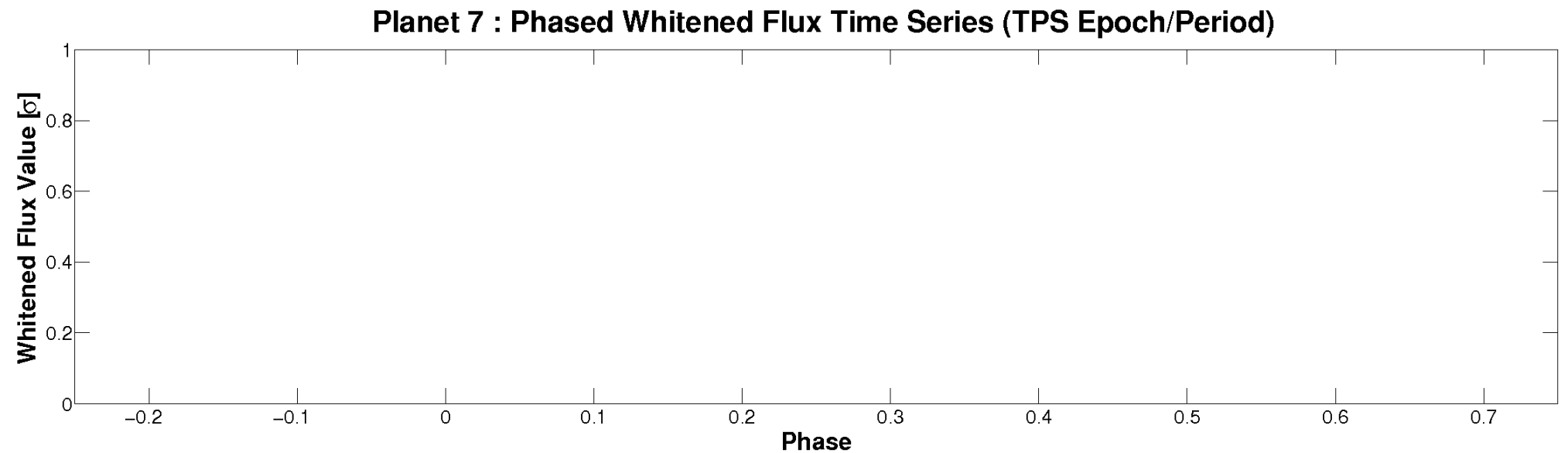
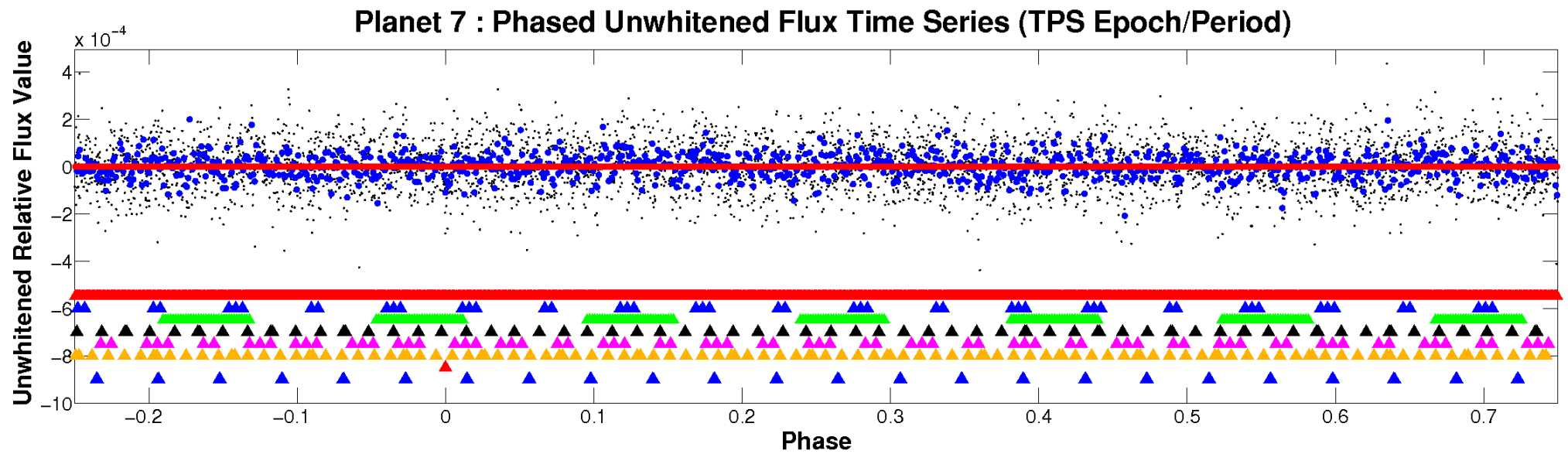


ALT Odd/Even

TCE 010482774-07

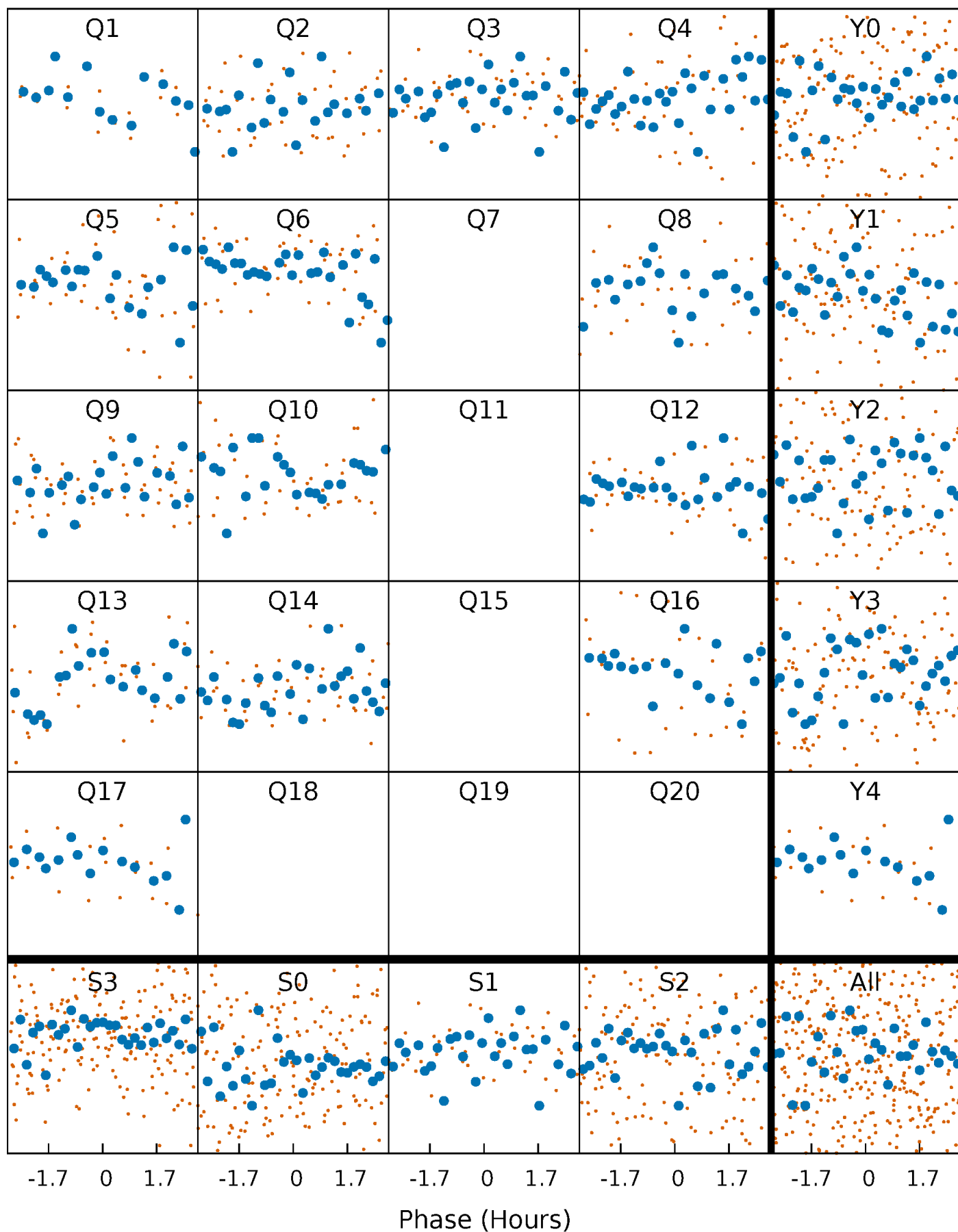


Non-Whitened Vs. Whitened Light Curve



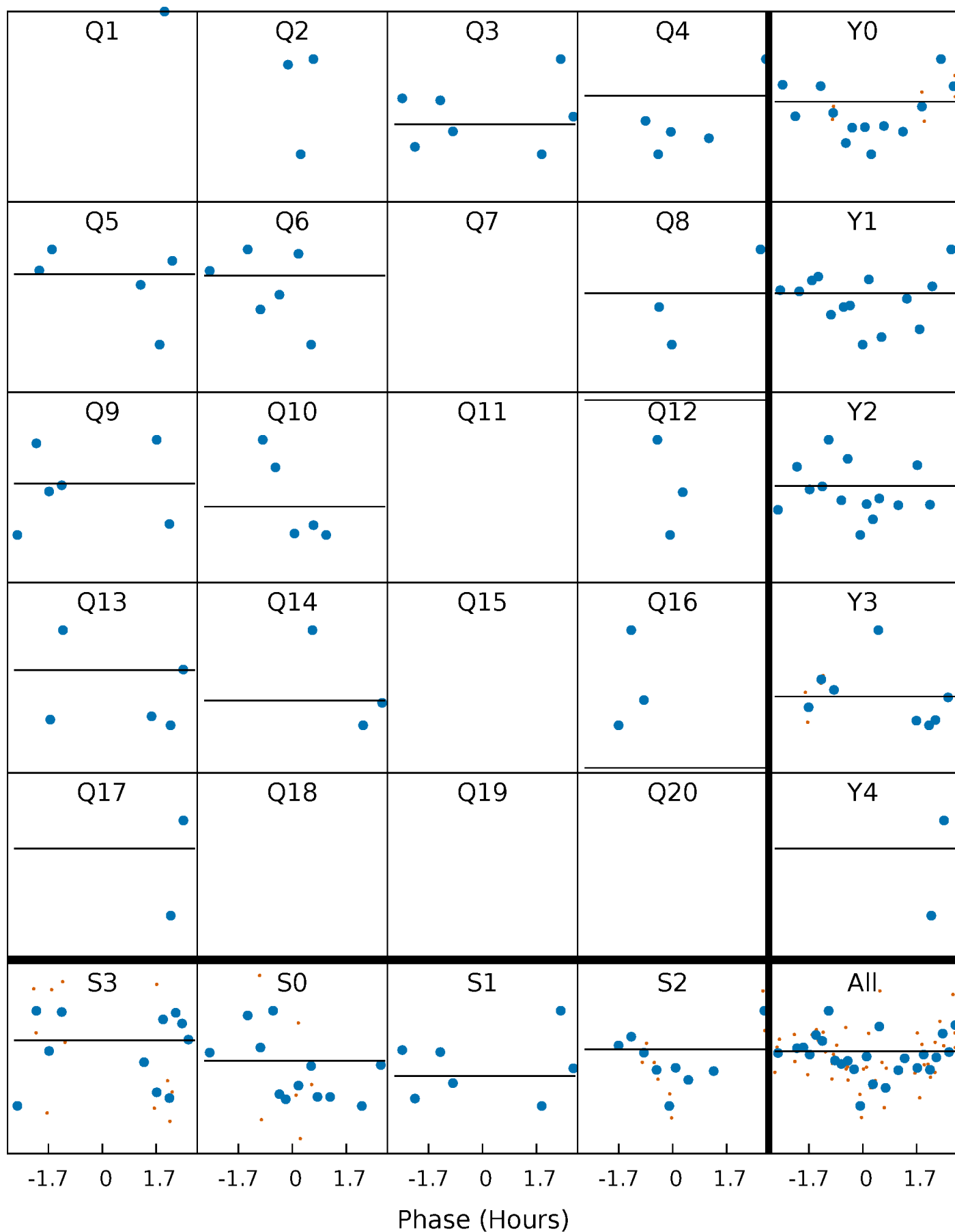
PDC Quarter-Phased Transit Curves

TCE 010482774-07 $P = 20.967424$ Days $T_0 = 143.285997$ (BKJD)



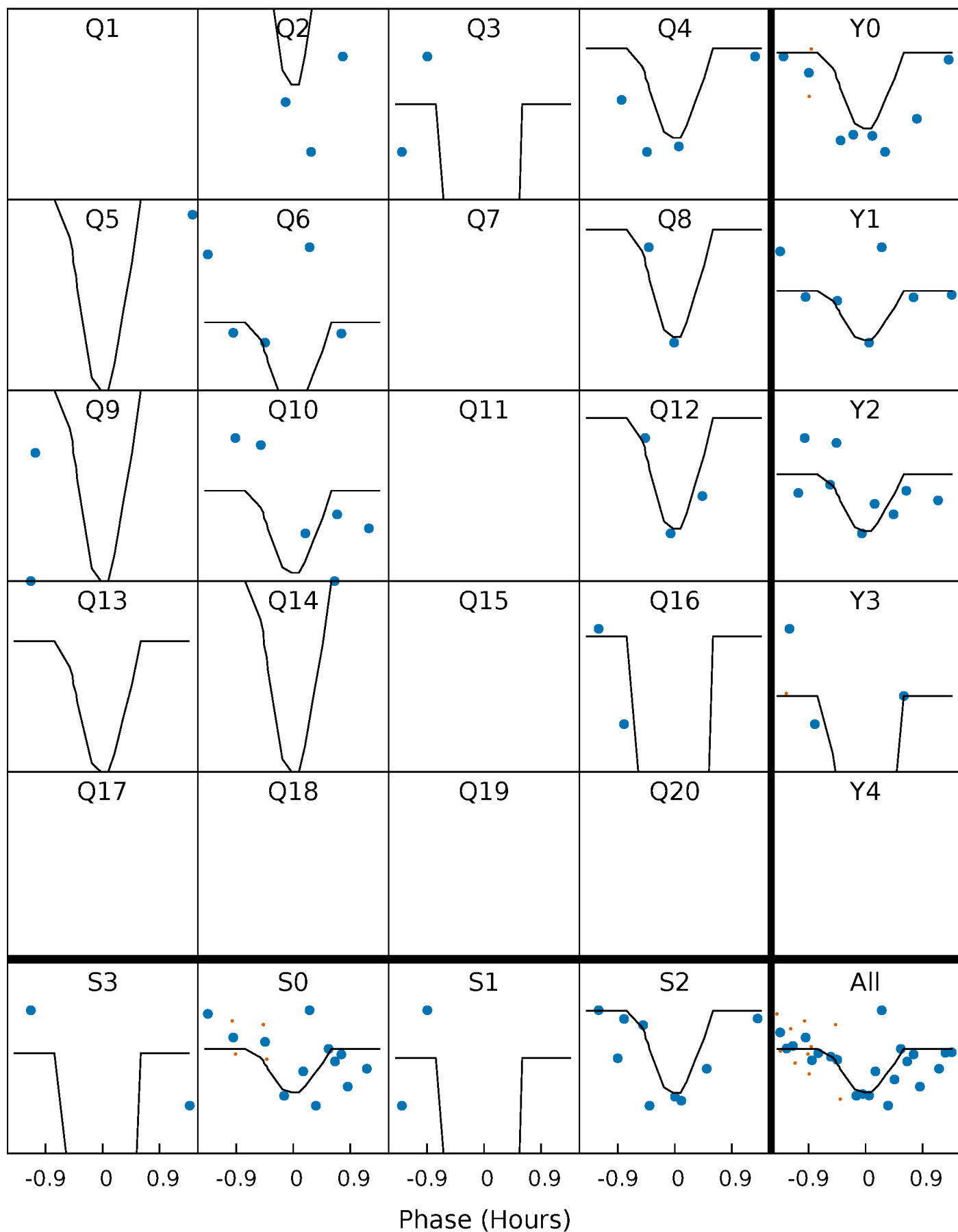
DV Quarter-Phased Transit Curves

TCE 010482774-07 $P = 20.967424$ Days $T_0 = 143.285997$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

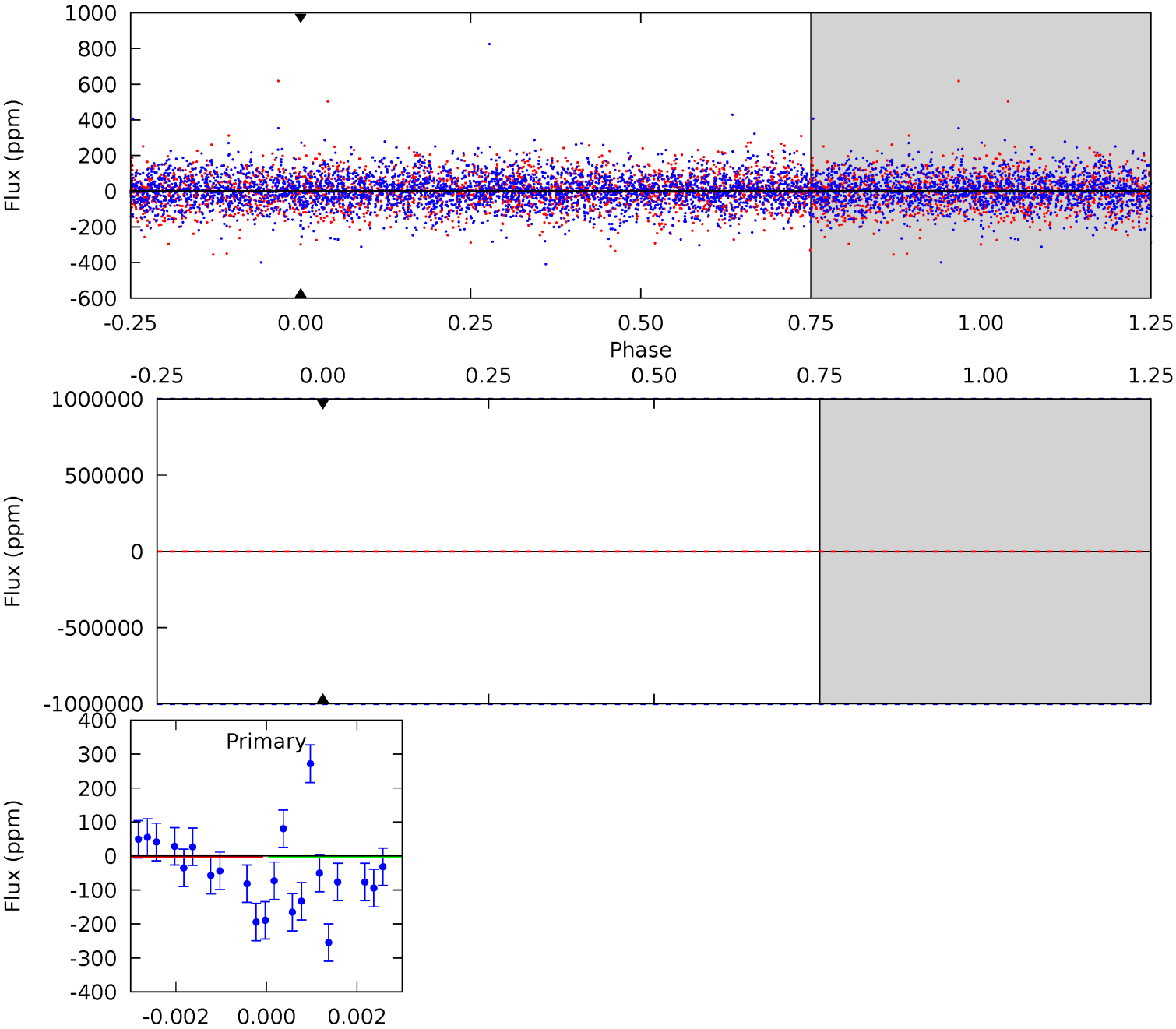
TCE 010482774-07 P= 20.967424 Days $T_0=143.283173$ (BKJD)



DV Model-Shift Uniqueness Test

010482774-07, P = 20.967424 Days, E = 122.318573 Days

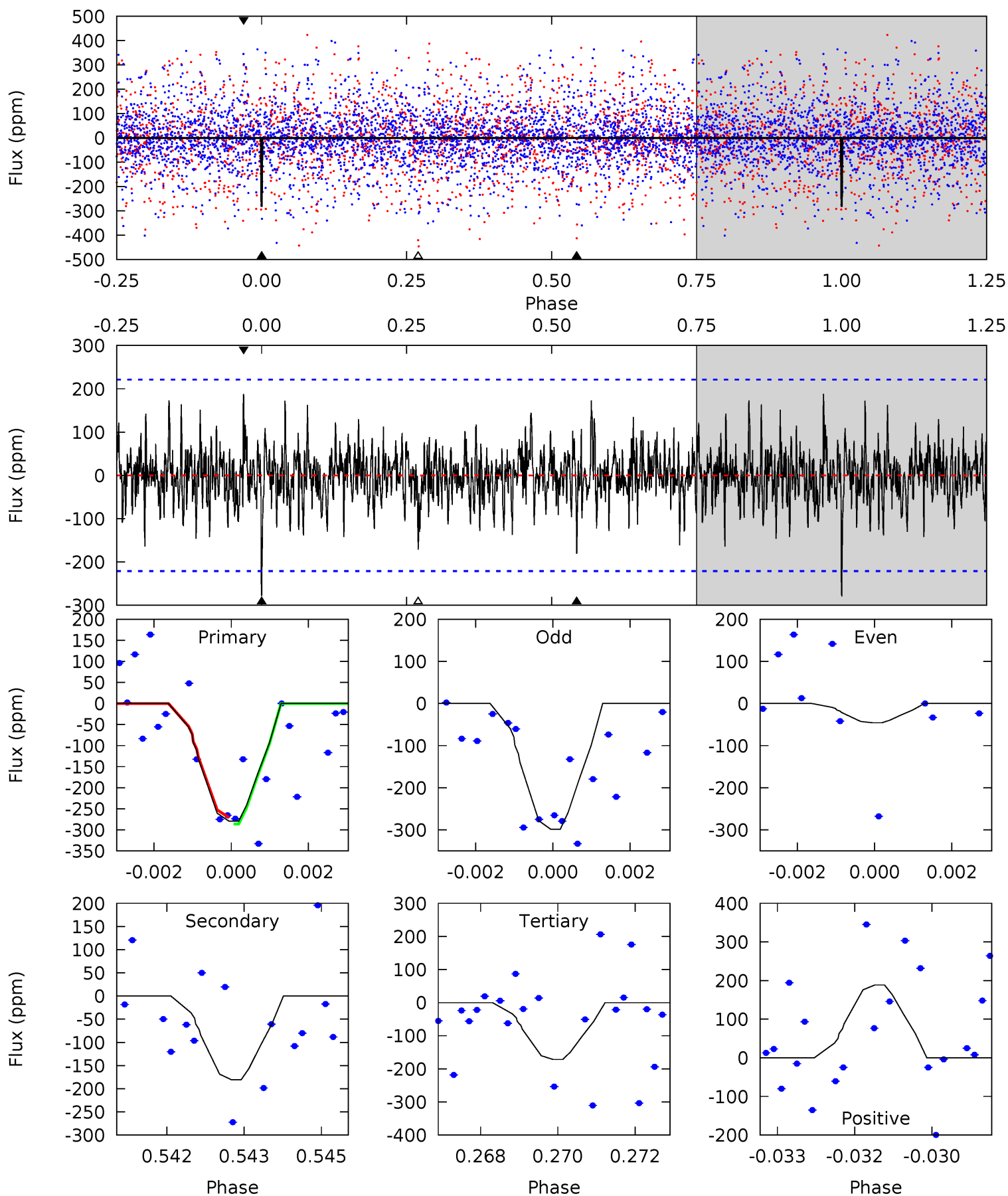
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

010482774-07, P = 20.967424 Days, E = 122.315749 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.75	4.36	4.15	4.55	5.34	3.11	1.20	2.60	2.19	0.22	-0.19	2.94	0.99	0.40	0.18



Stellar Parameters For KIC 010482774

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7530^{+209}_{-314}	$4.080^{+0.144}_{-0.176}$	$-0.060^{+0.200}_{-0.350}$	$1.930^{+0.532}_{-0.387}$	$1.633^{+0.212}_{-0.259}$	$0.320^{+0.270}_{-0.147}$
	+3%/-4%	+4%/-4%	+333%/-583%	+28%/-20%	+13%/-16%	+84%/-46%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010482774-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$16.30^{+16.19}_{-11.14}$	1542^{+109}_{-103}	4418^{+31355}_{-46025}	32^{+10131}_{-12557}
Alt.	-181 ± 41	$16.35^{+16.36}_{-11.55}$	1546^{+118}_{-110}	3546^{+2117}_{-728}	12^{+115}_{-9}

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 $A_{obs} \gg 1.0$

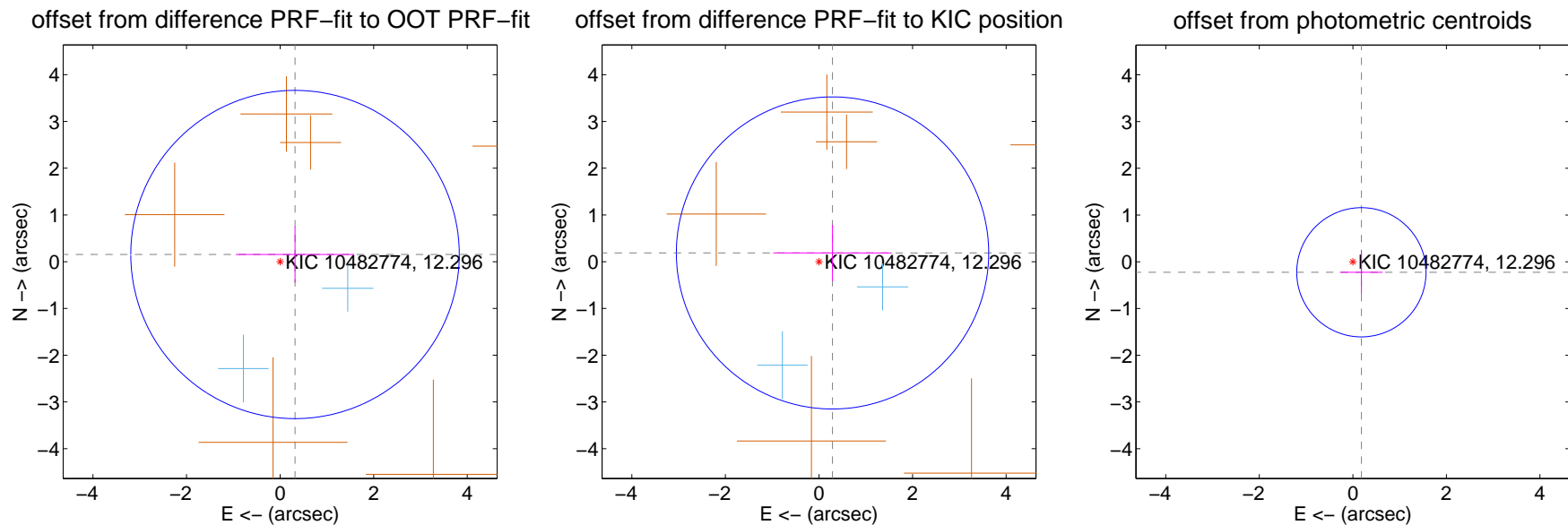
DV Centroid Data

Supplemental centroid analysis for 010482774-07. Kepler magnitude: 12.30. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

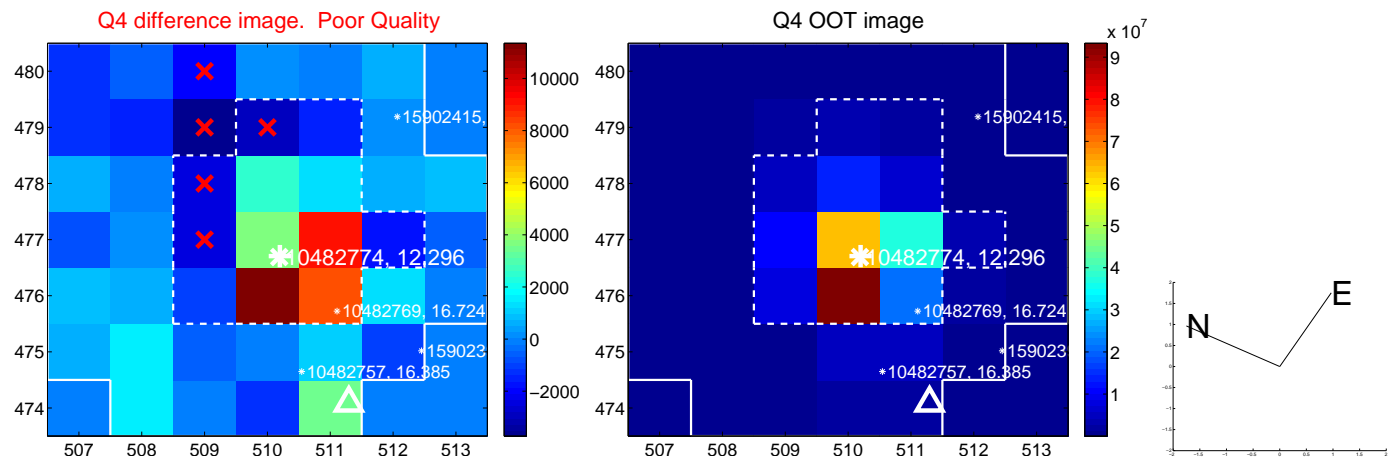
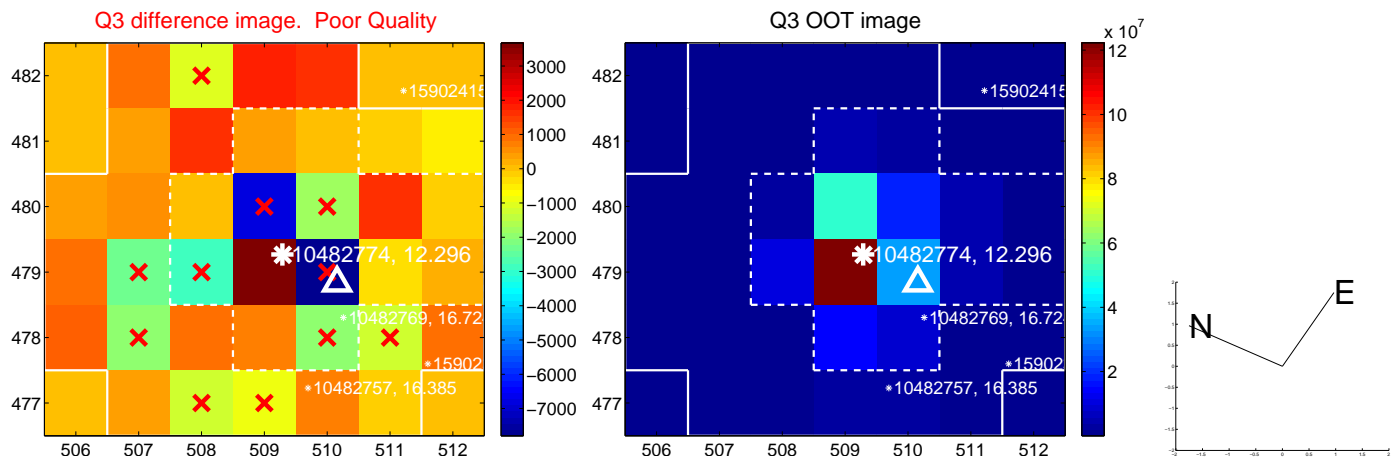
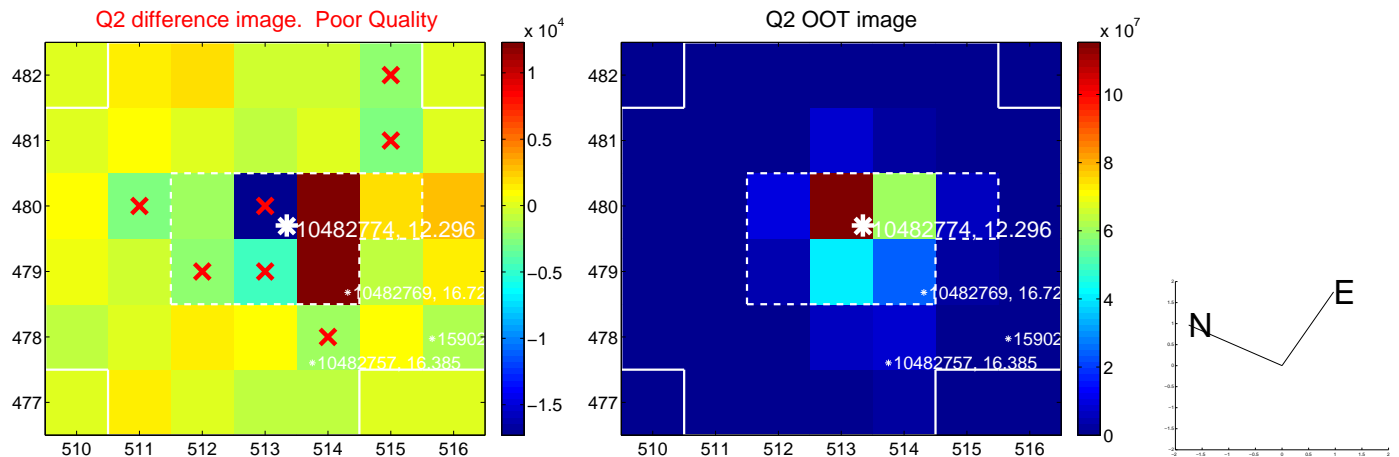
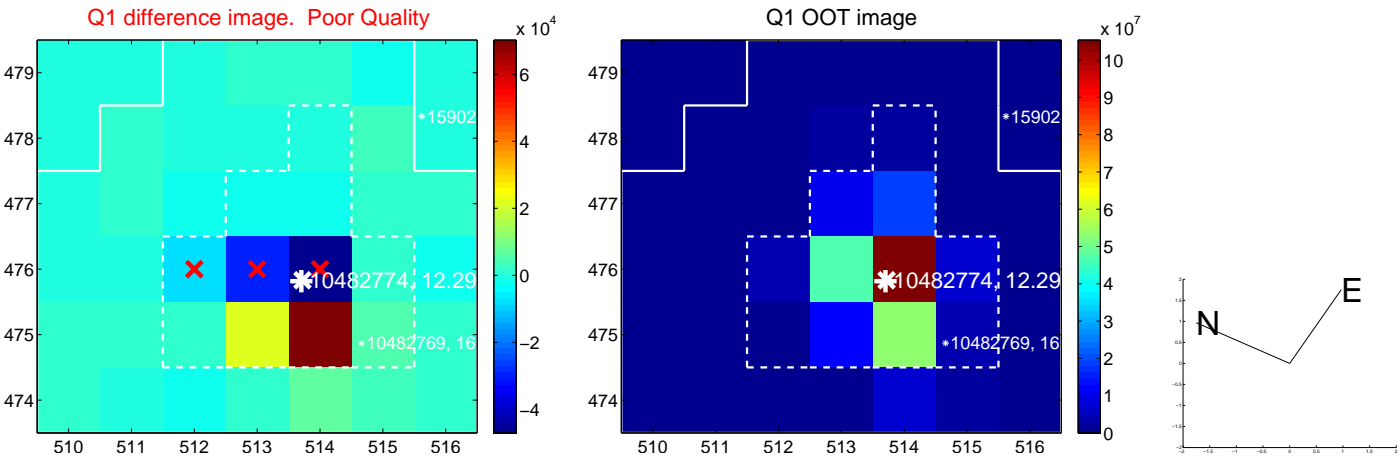
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.354 ± 1.170	0.30	-0.319 ± 1.266	0.154 ± 0.600
PRF-fit source offset from KIC position	0.345 ± 1.113	0.31	-0.290 ± 1.266	0.187 ± 0.600
photometric centroid source offset	0.29 ± 0.46	0.63	-0.18 ± 0.46	-0.22 ± 0.46

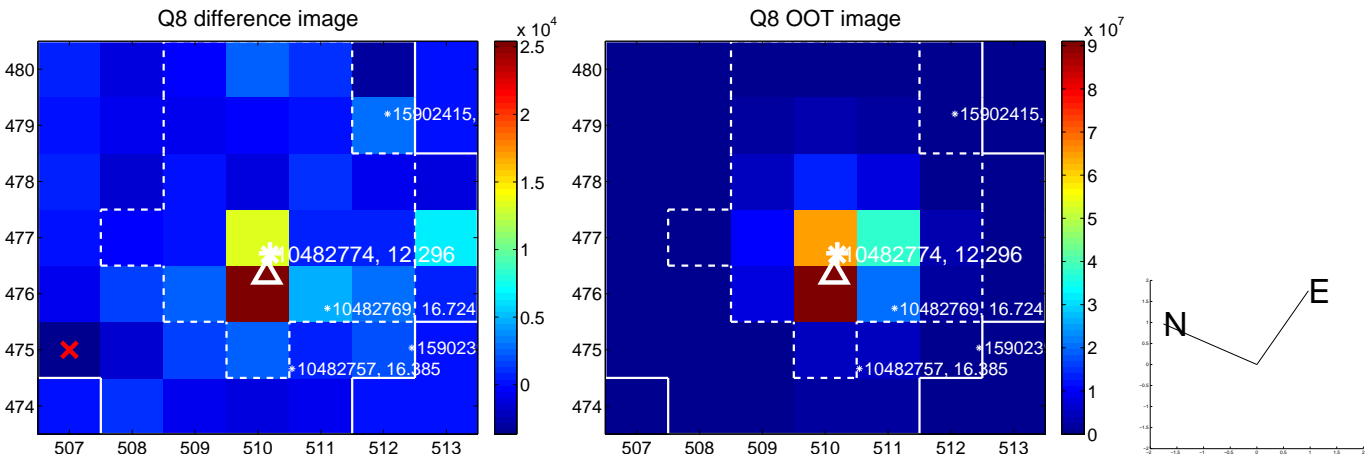
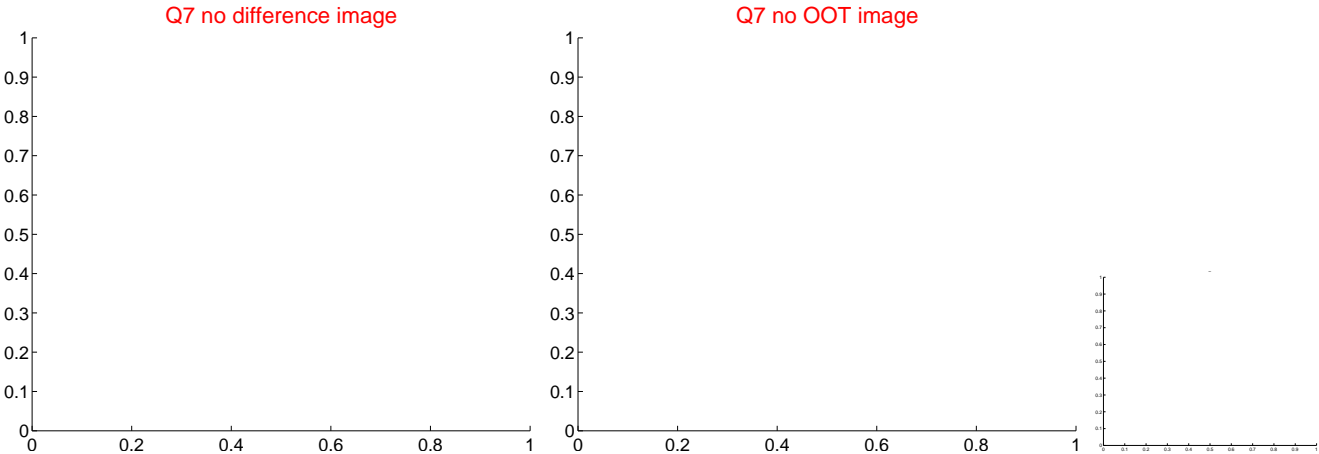
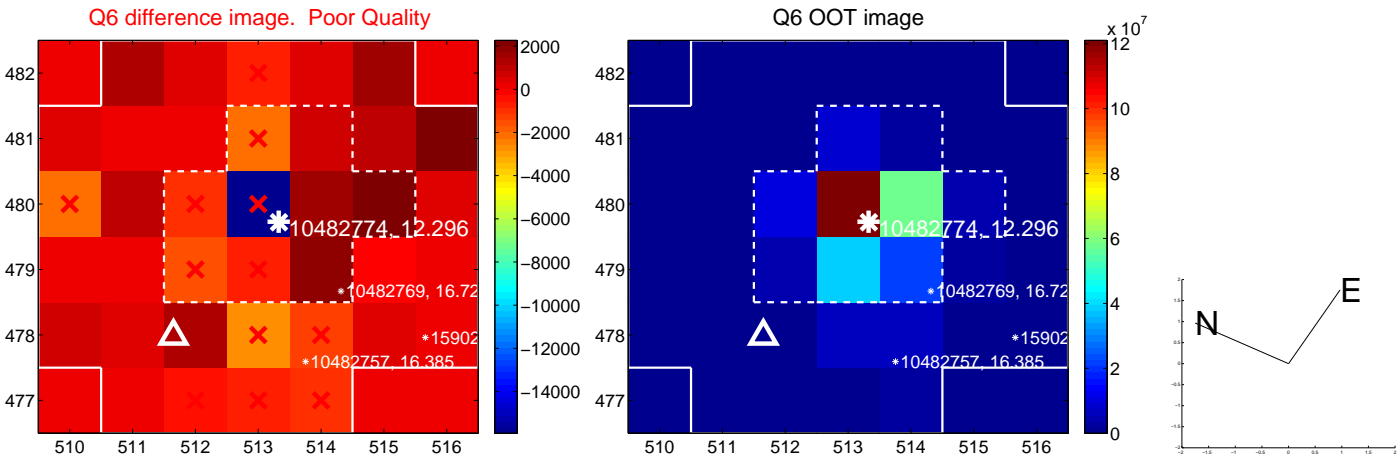
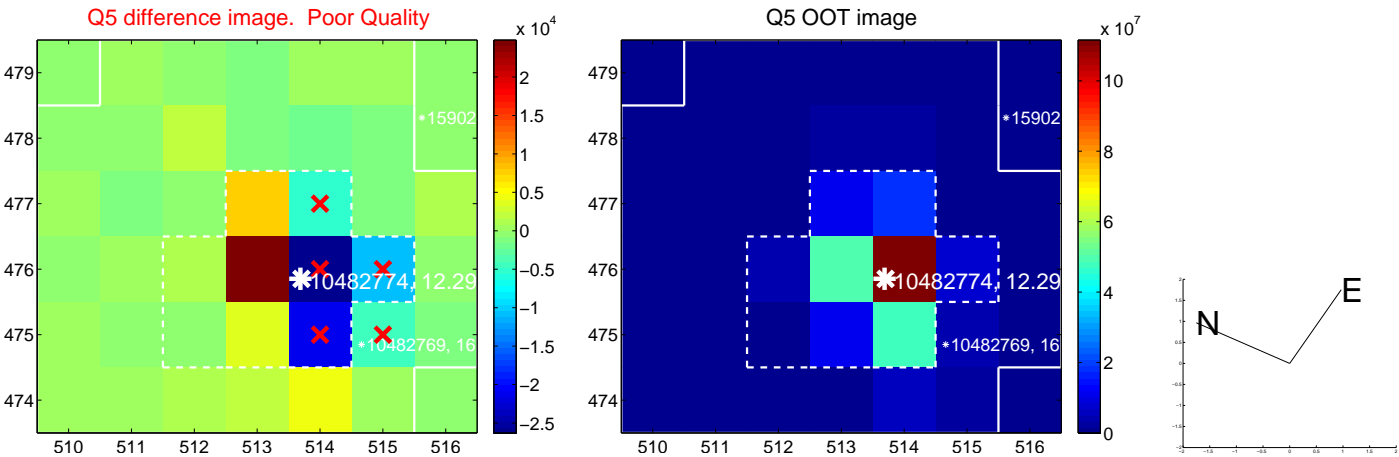


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

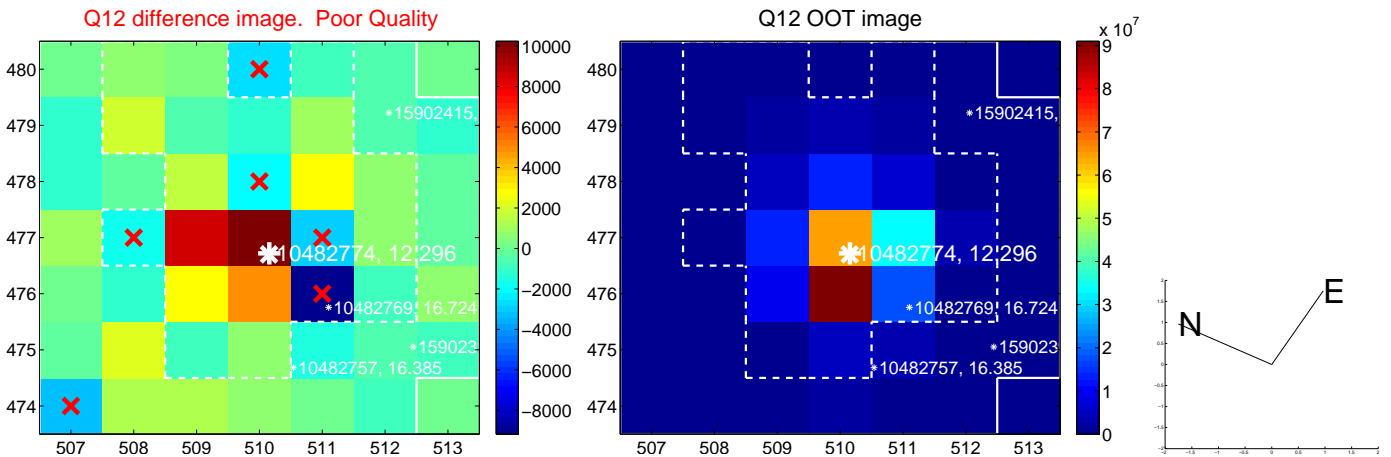
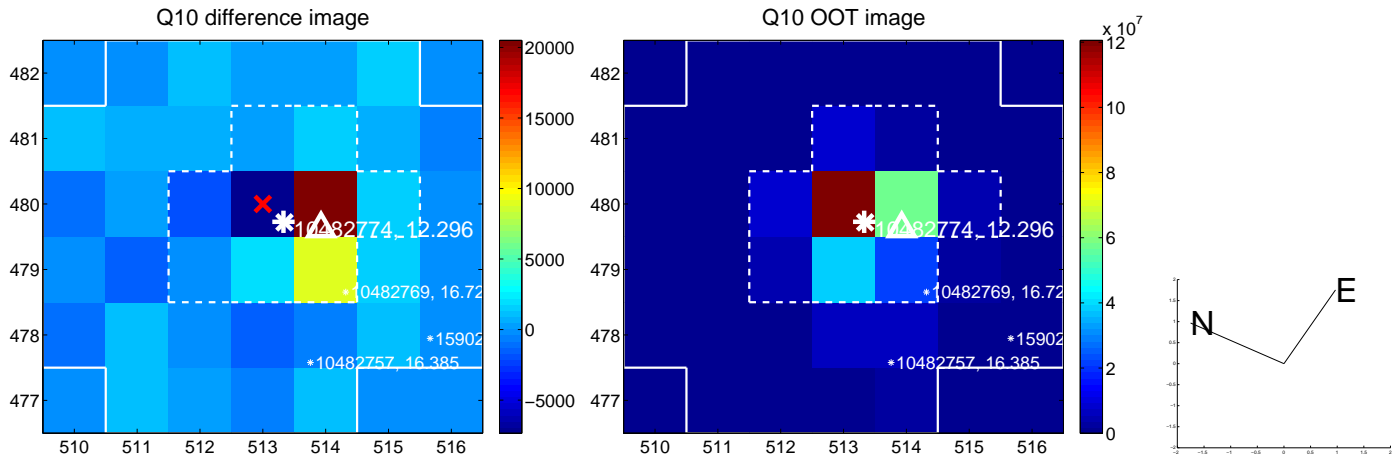
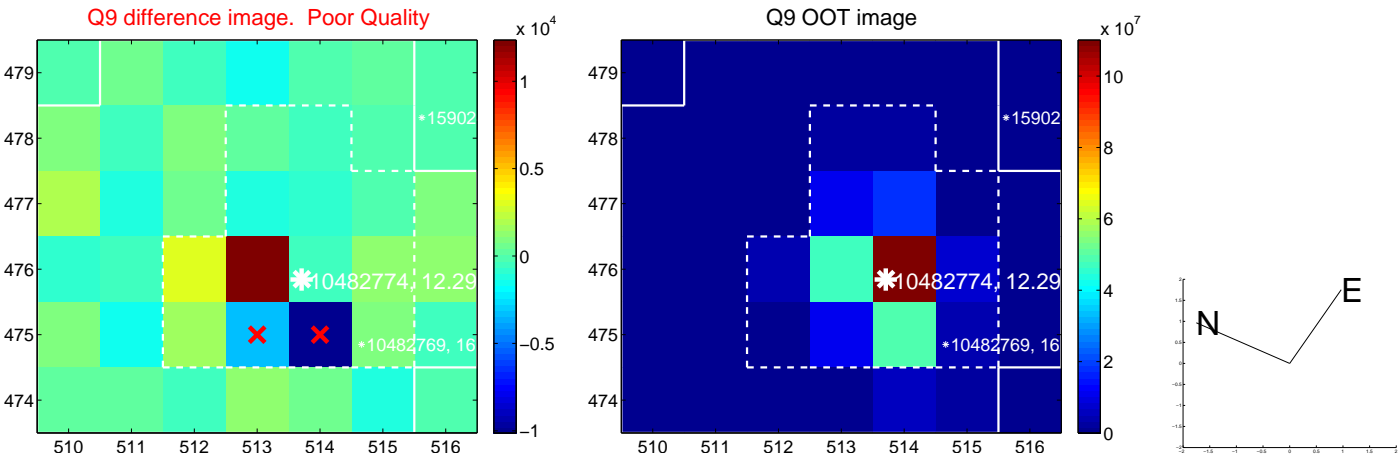
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



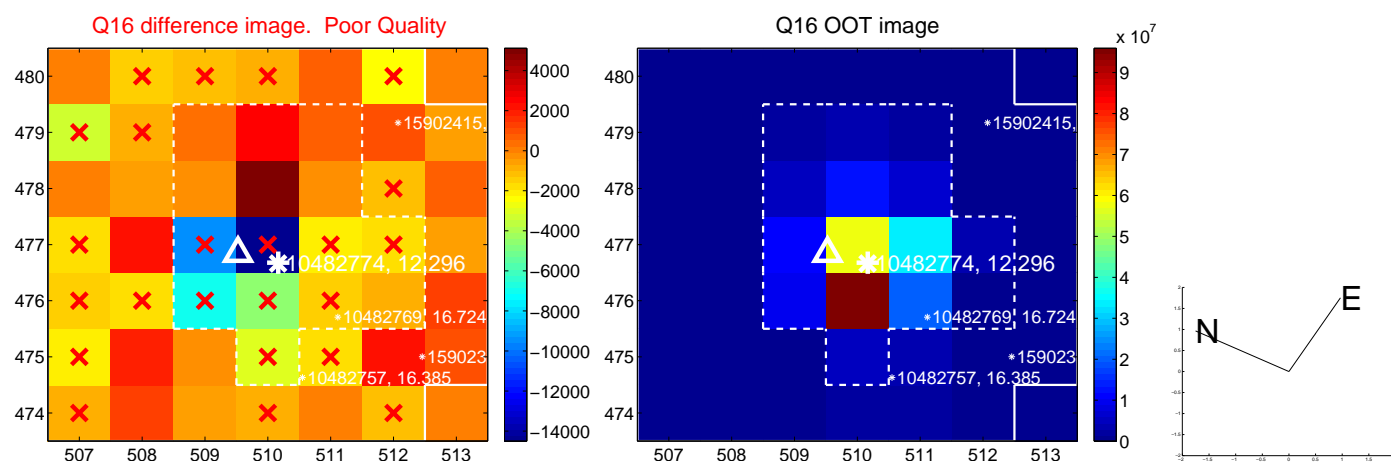
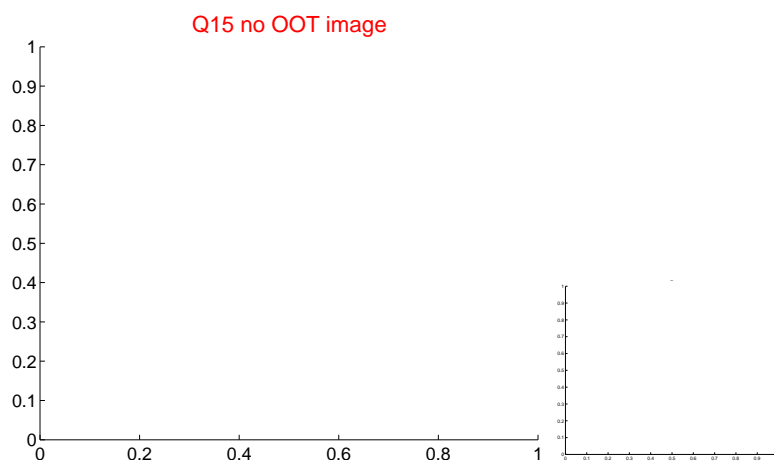
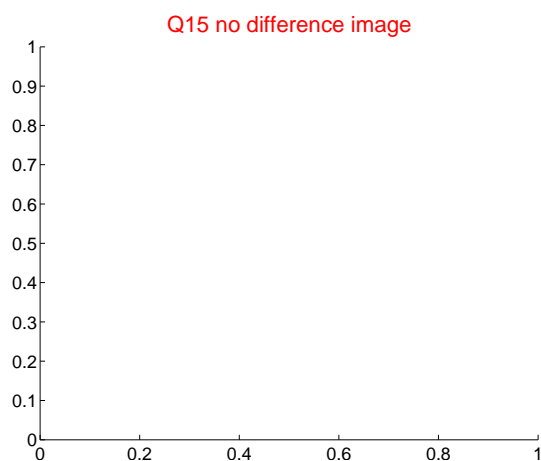
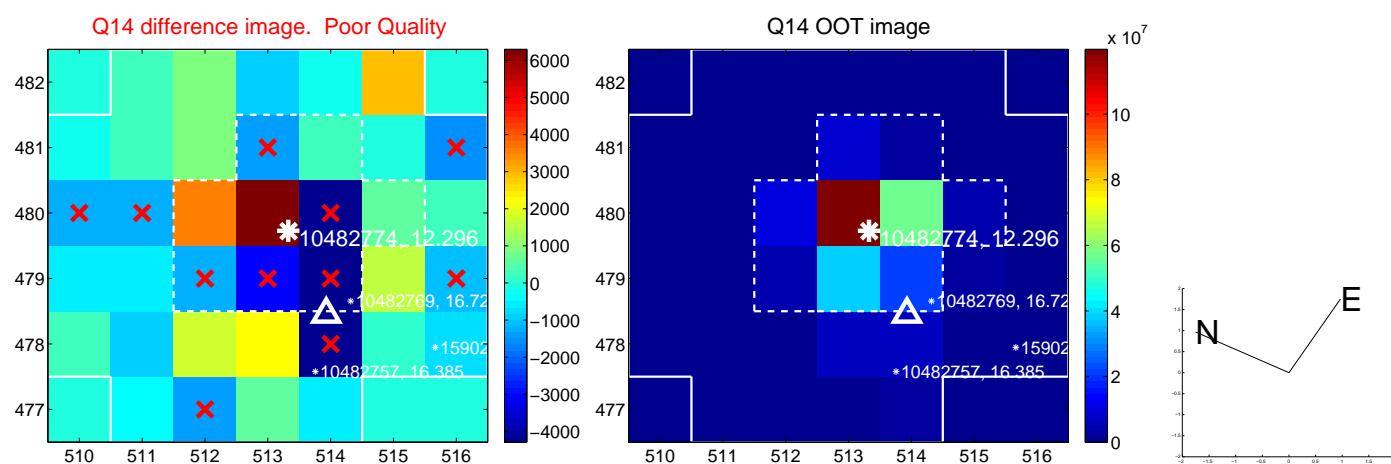
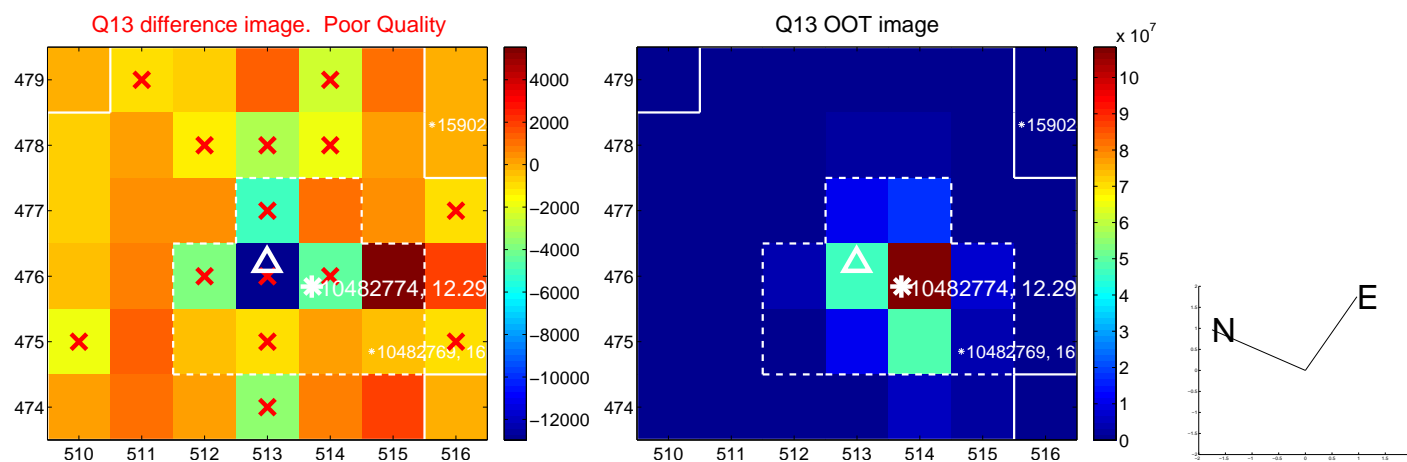
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



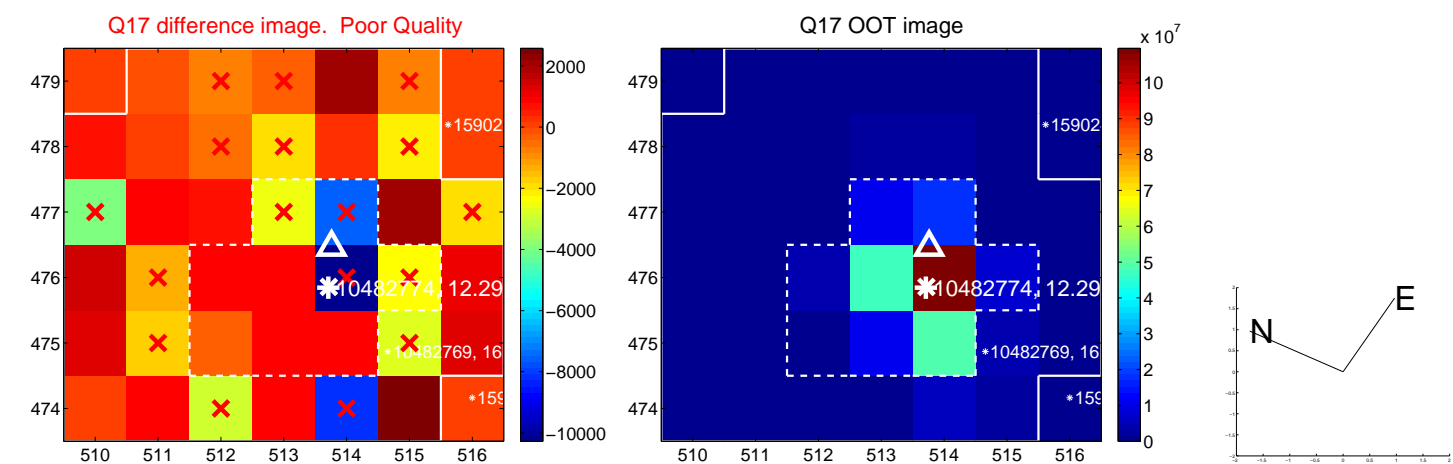
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



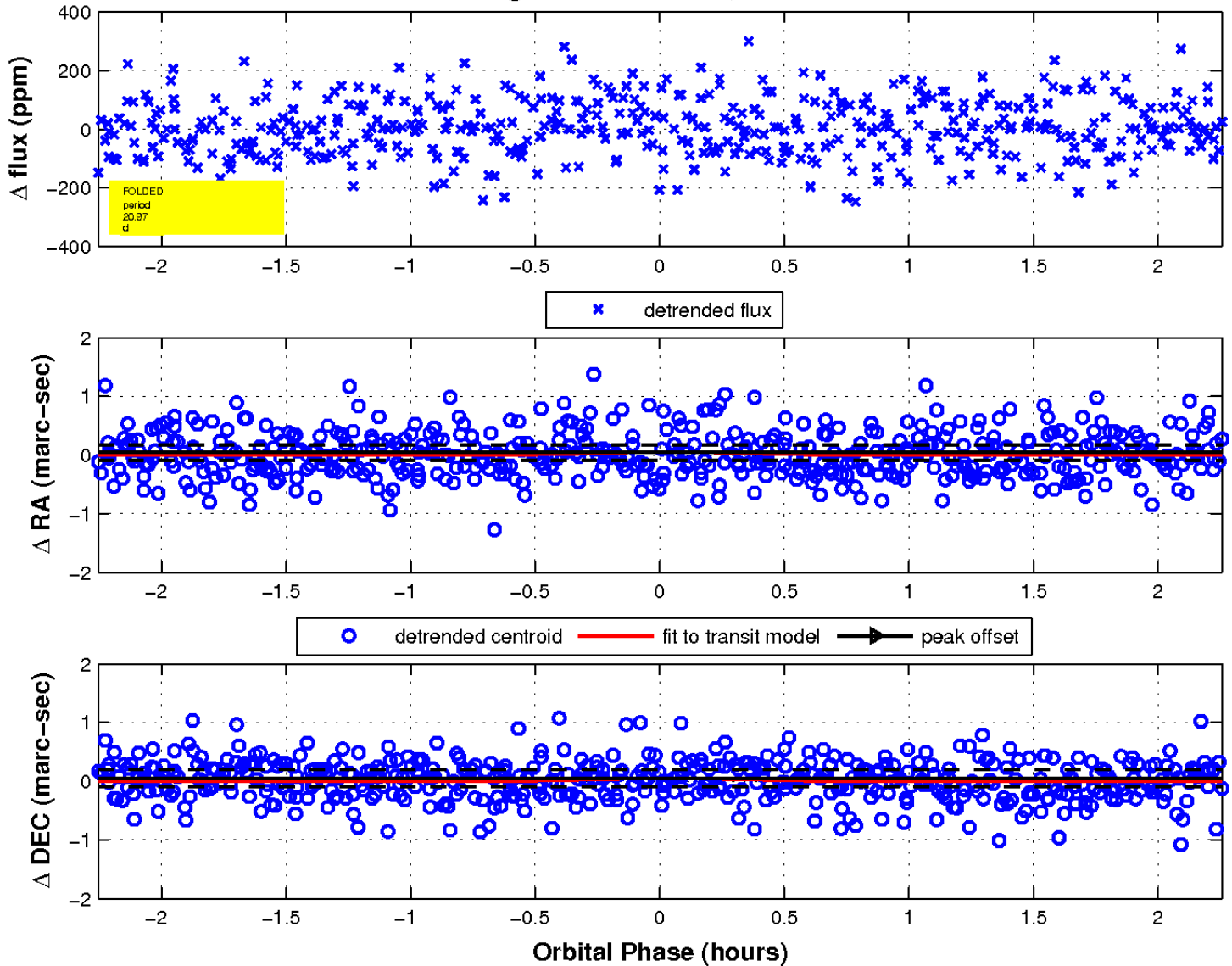
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

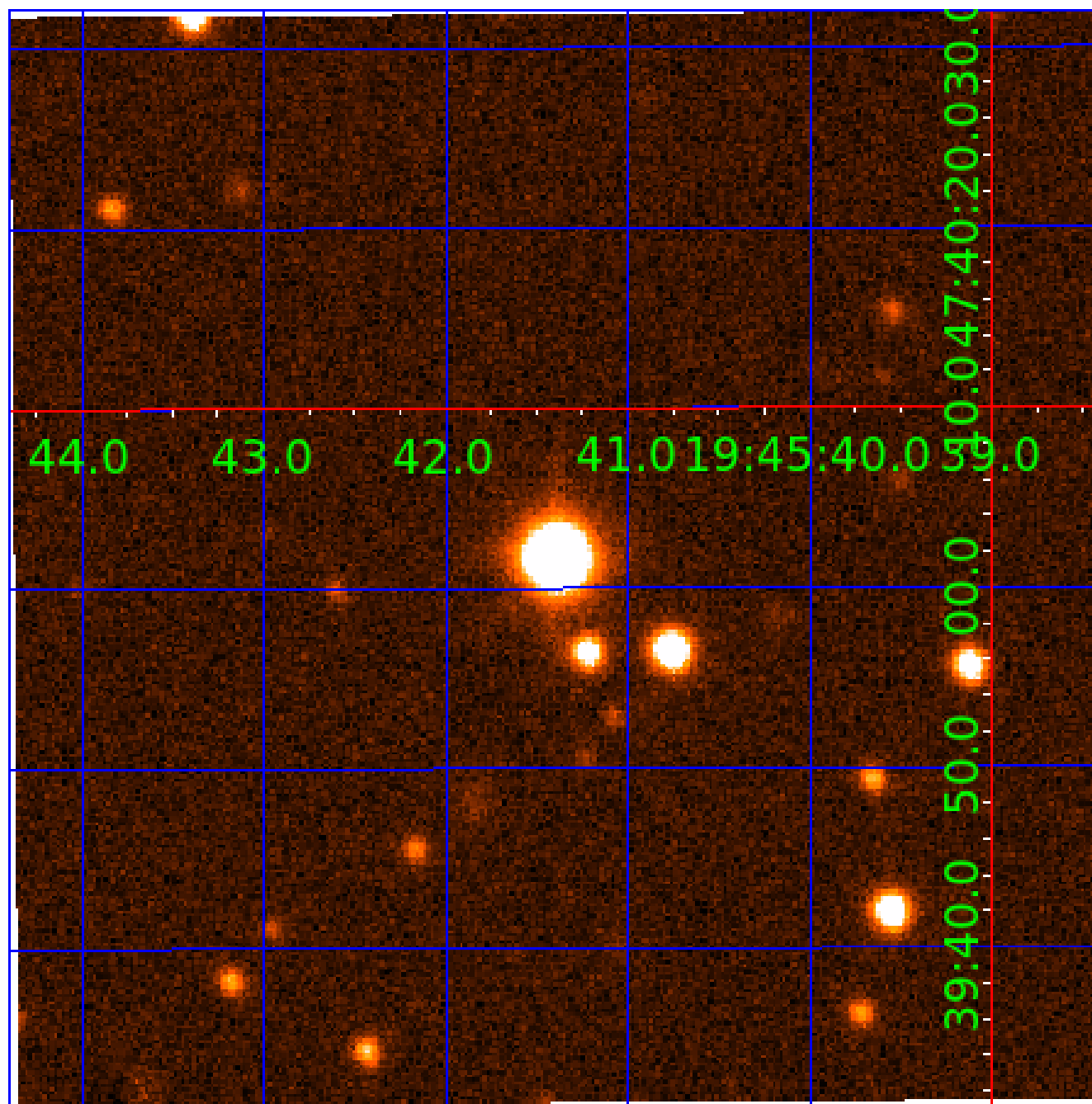


fluxWeightedCentroids, Planet 7 of 8



UKIRT Image

Declination



KIC 010482774

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})
010482774-01	OBS	No	0.502754	131.538692	7.2	3.469	8.2	6.2	1.93	7530	0.56	50501.61
010482774-02	OBS	No	29.800889	146.825635	155.1	1.739	11.9	9.2	1.93	7530	2.59	218.51
010482774-03	OBS	No	5.995822	133.296986	107.8	1.065	10.6	11.0	1.93	7530	2.32	1853.45
010482774-04	OBS	No	19.936665	141.845865	111.4	2.271	9.1	8.4	1.93	7530	2.25	373.46
010482774-05	OBS	No	19.516261	143.715102	221.6	0.950	10.3	11.5	1.93	7530	3.10	384.22
010482774-06	OBS	No	12.800680	138.105698	205.4	1.126	10.1	13.1	1.93	7530	3.19	674.22
010482774-07	OBS	No	20.967424	143.285997	325.0	1.500	9.6	-1.0	1.93	7530	3.55	349.18
010482774-08	OBS	No	30.577010	149.721461	200.3	1.866	9.4	9.7	1.93	7530	3.02	211.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010482774-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS
010482774-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
010482774-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
010482774-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
010482774-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—CENT_FEW_MEAS
010482774-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
010482774-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
010482774-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV

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

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

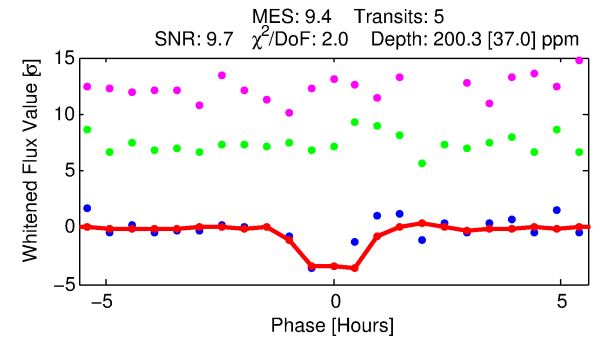
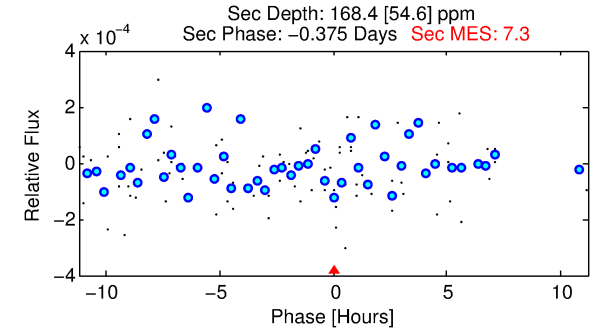
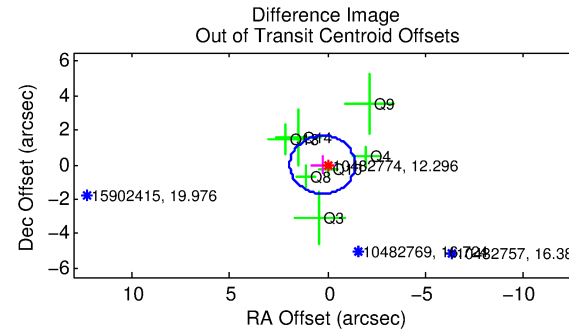
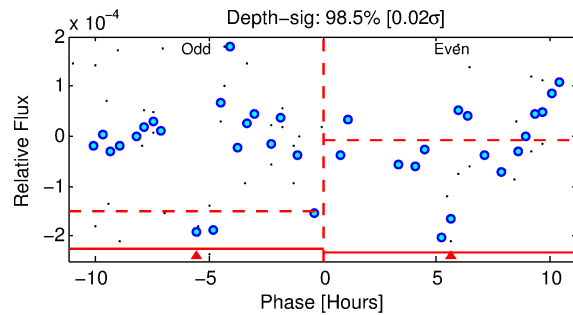
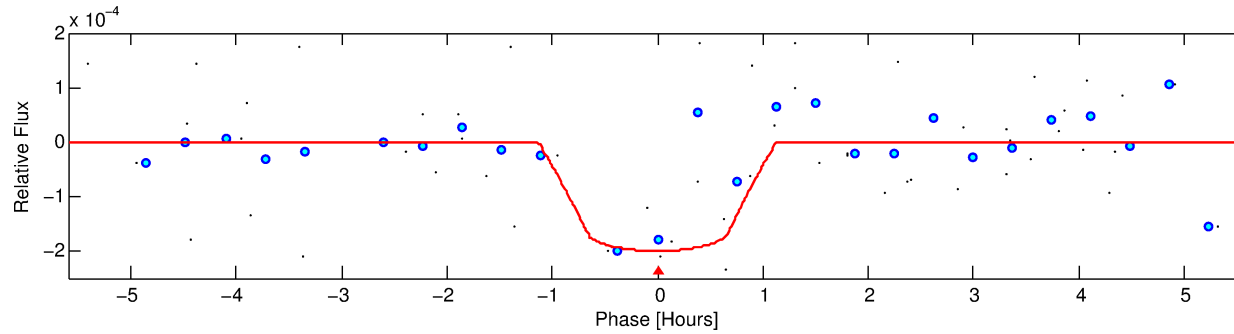
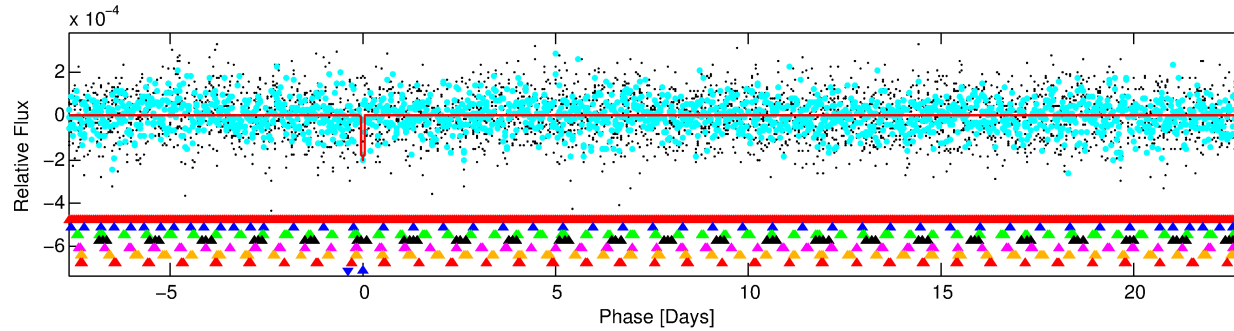
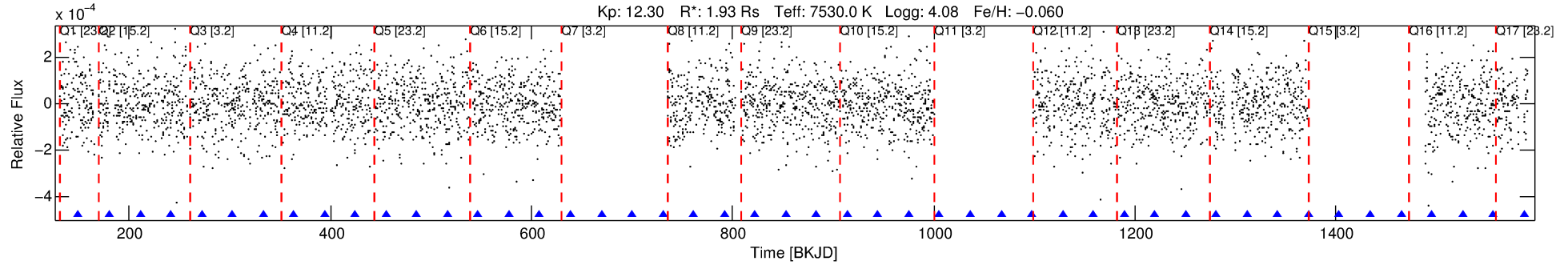
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010482774-08

No Significant Match Found

DV One-Page Summary

KIC: 10482774 Candidate: 8 of 8 Period: 30.577 d



DV Fit Results:

Period = 30.57701 [0.00052] d
Epoch = 149.7215 [0.0092] BKJD
Rp/R* = 0.0144 [0.0180]
a/R* = 76.54 [622.23]
b = 0.81 [3.45]
Seff = 211.15 [77.46]
Teq = 972 [89] K
Rp = 3.02 [3.88] Re
a = 0.2254 [0.0514] AU
Ag = 514.83 [1313.42] [0.39σ]
Teffp = 7159 [4538] K [1.36σ]

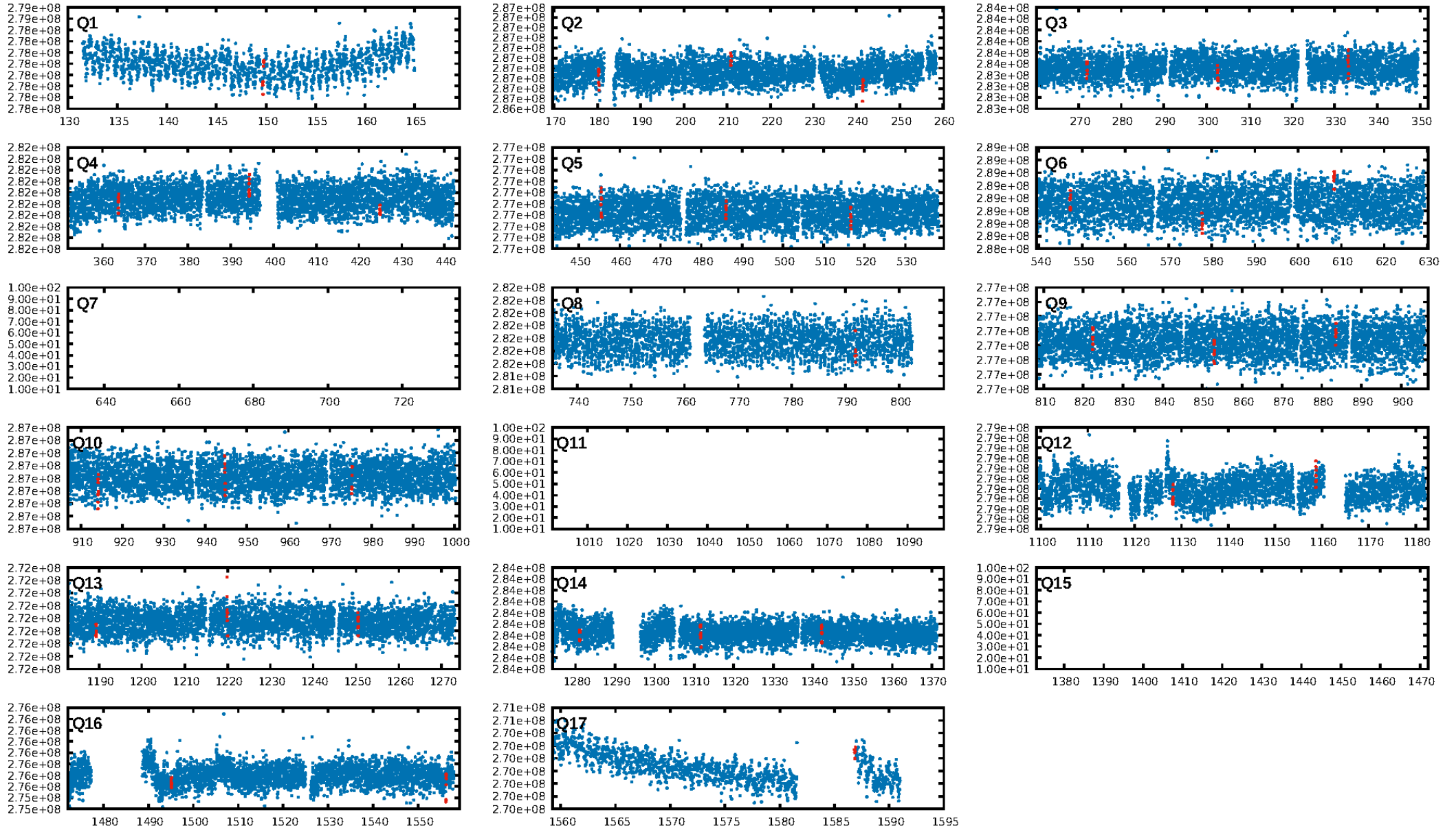
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [7.30σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 24.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 8.79e-08
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -4.021
Centroid-sig: 54.9%
Centroid-so: 0.247 arcsec [0.51σ]
OotOffset-rm: 0.261 arcsec [0.47σ]
KicOffset-rm: 0.297 arcsec [0.51σ]
OotOffset-st: 2/1/2/2 [7]
KicOffset-st: 2/1/2/2 [7]
DiffImageQuality-fgm: 0.71 [5/7]
DiffImageOverlap-fno: 0.00 [0/13]

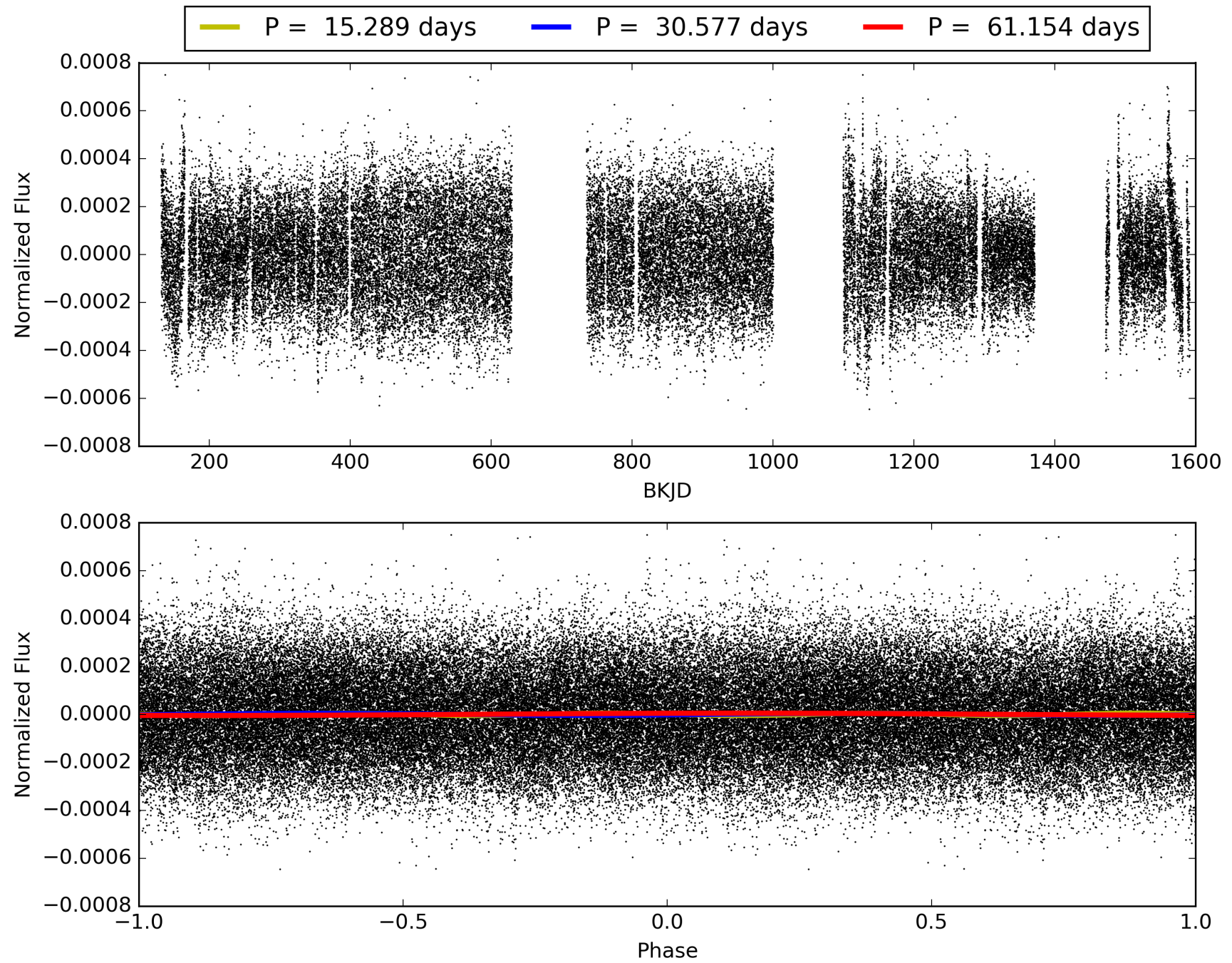
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:54:57 Z

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

TCE 010482774-08, PDC Light Curves

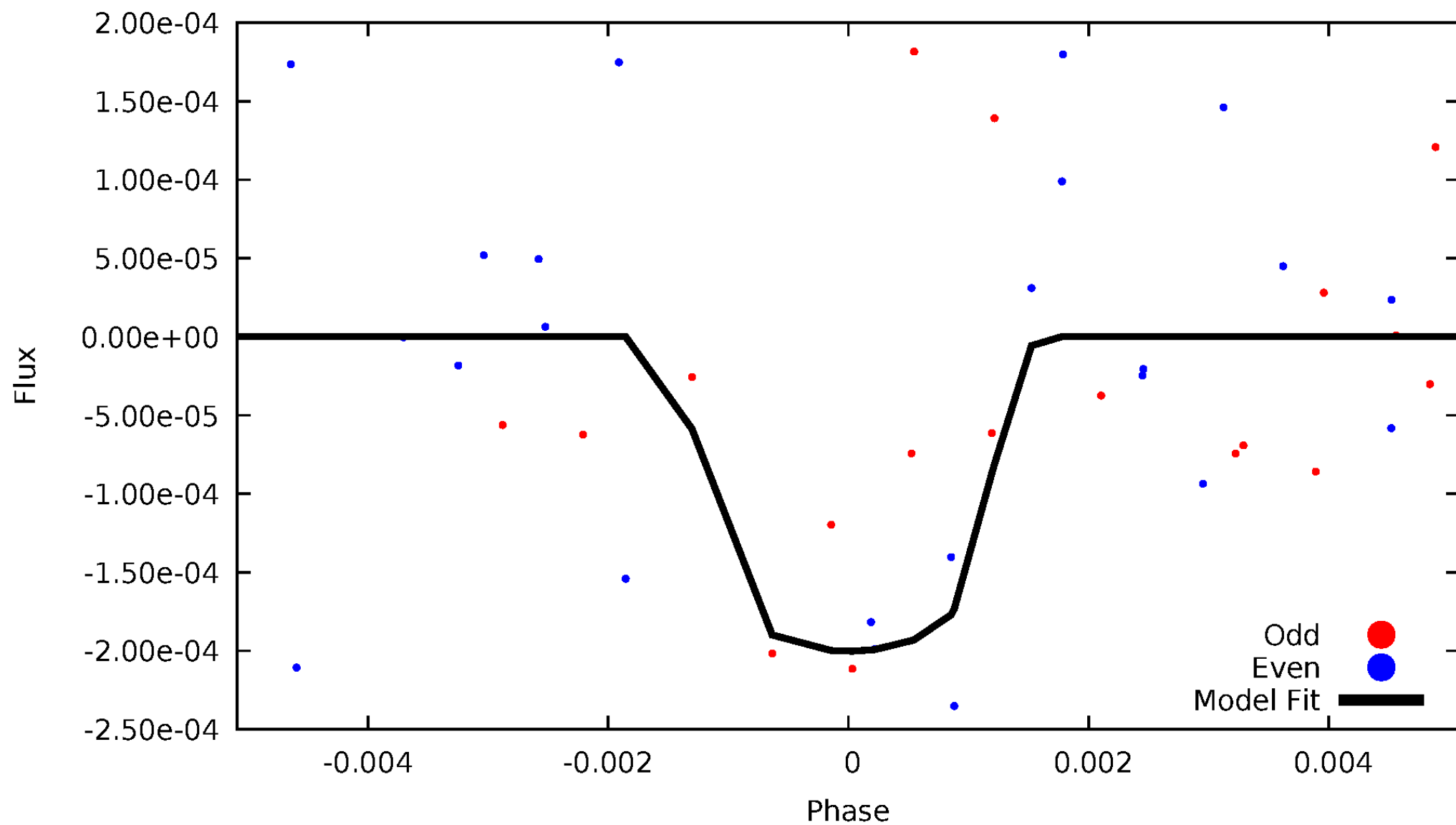


TCE 010482774-08



DV Odd/Even

TCE 010482774-08

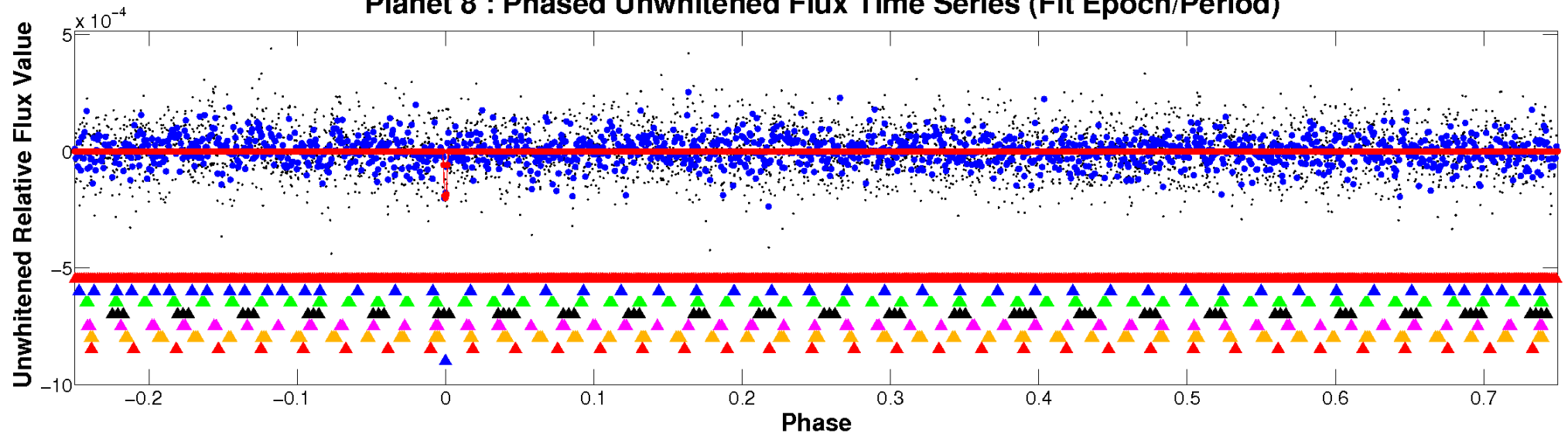


ALT Odd/Even

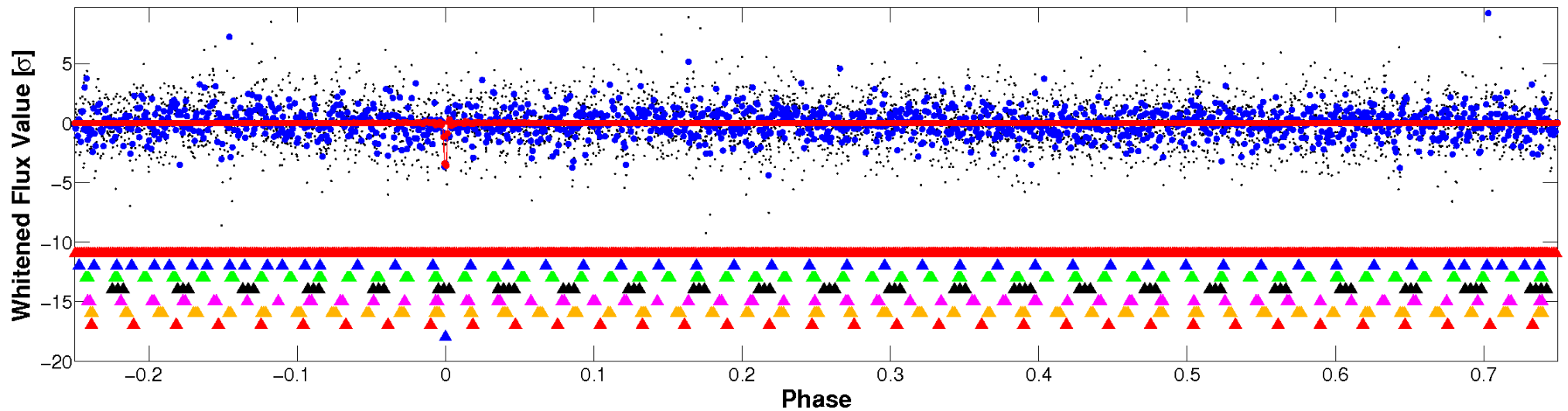
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

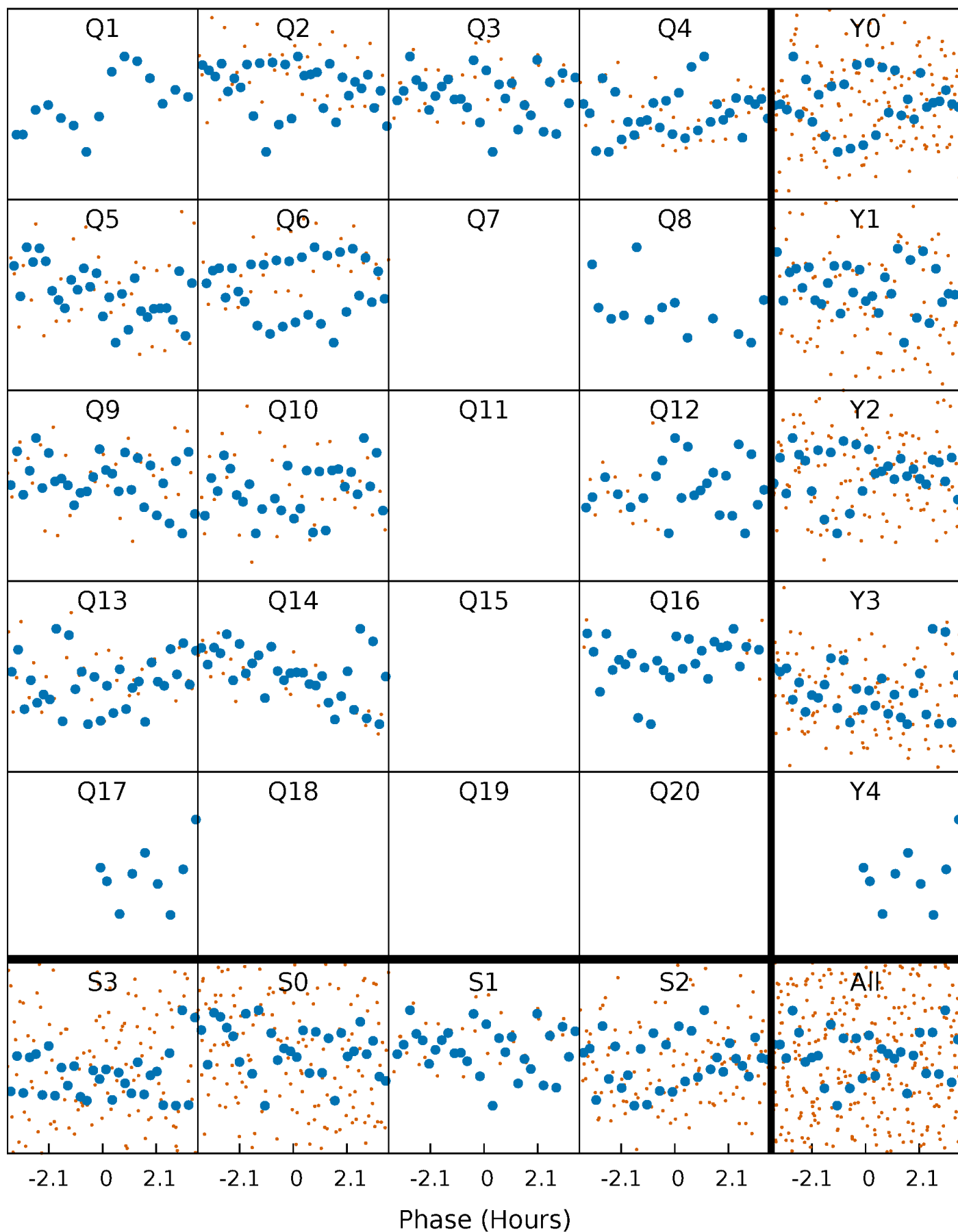


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



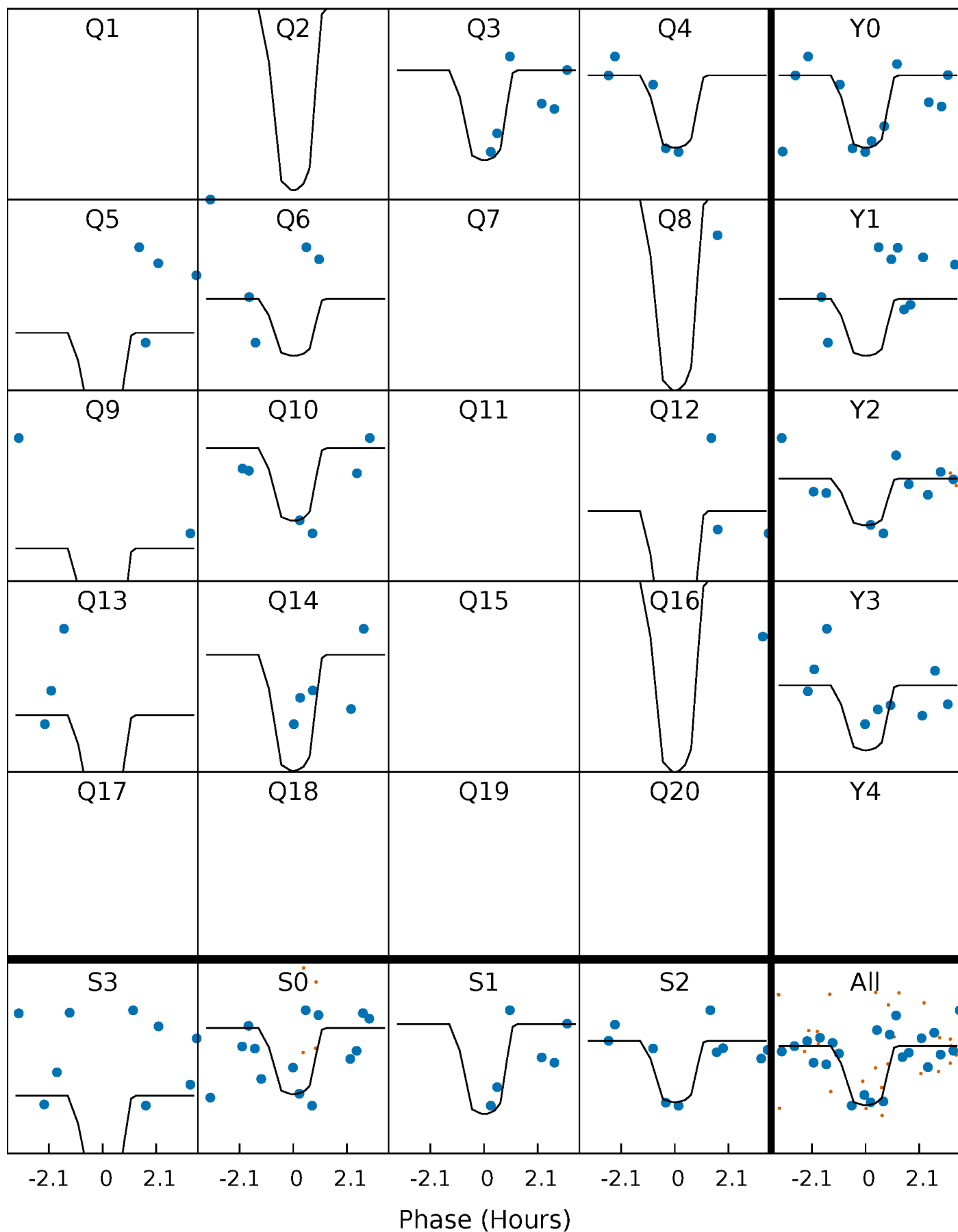
PDC Quarter-Phased Transit Curves

TCE 010482774-08 P= 30.577010 Days $T_0=149.721461$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 010482774-08 P= 30.577010 Days $T_0=149.721461$ (BKJD)

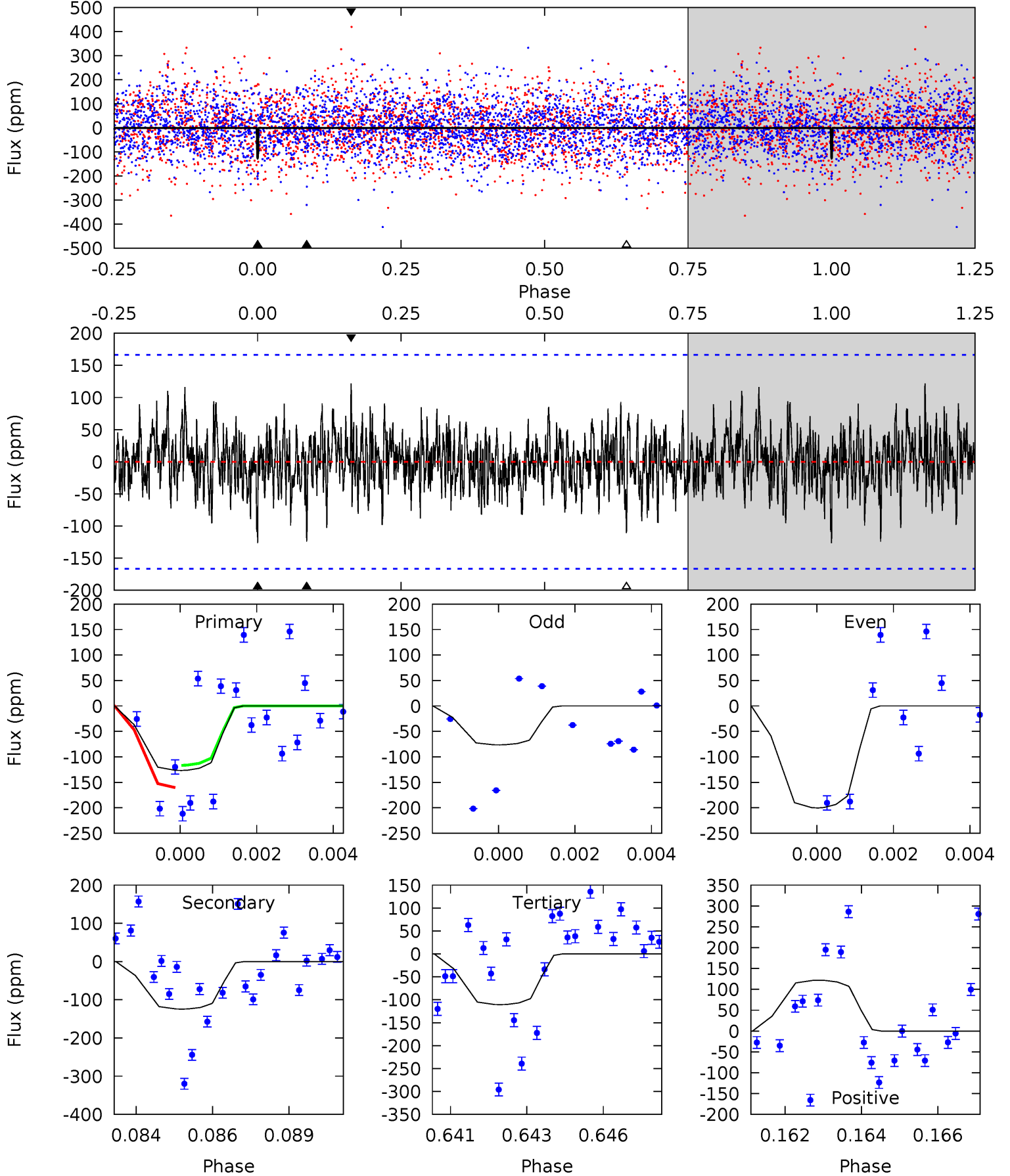


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

010482774-08, P = 30.577010 Days, E = 119.144451 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.04	3.97	3.53	3.88	5.31	3.07	1.11	0.51	0.16	0.44	0.08	1.93	0.58	0.49	0.42



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 010482774

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7530^{+209}_{-314}	$4.080^{+0.144}_{-0.176}$	$-0.060^{+0.200}_{-0.350}$	$1.930^{+0.532}_{-0.387}$	$1.633^{+0.212}_{-0.259}$	$0.320^{+0.270}_{-0.147}$
	+3%/-4%	+4%/-4%	+333%/-583%	+28%/-20%	+13%/-16%	+84%/-46%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 010482774-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-124 ± 31	$3.99^{+3.55}_{-2.47}$	1369^{+92}_{-91}	5648^{+4409}_{-1301}	212^{+1363}_{-154}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

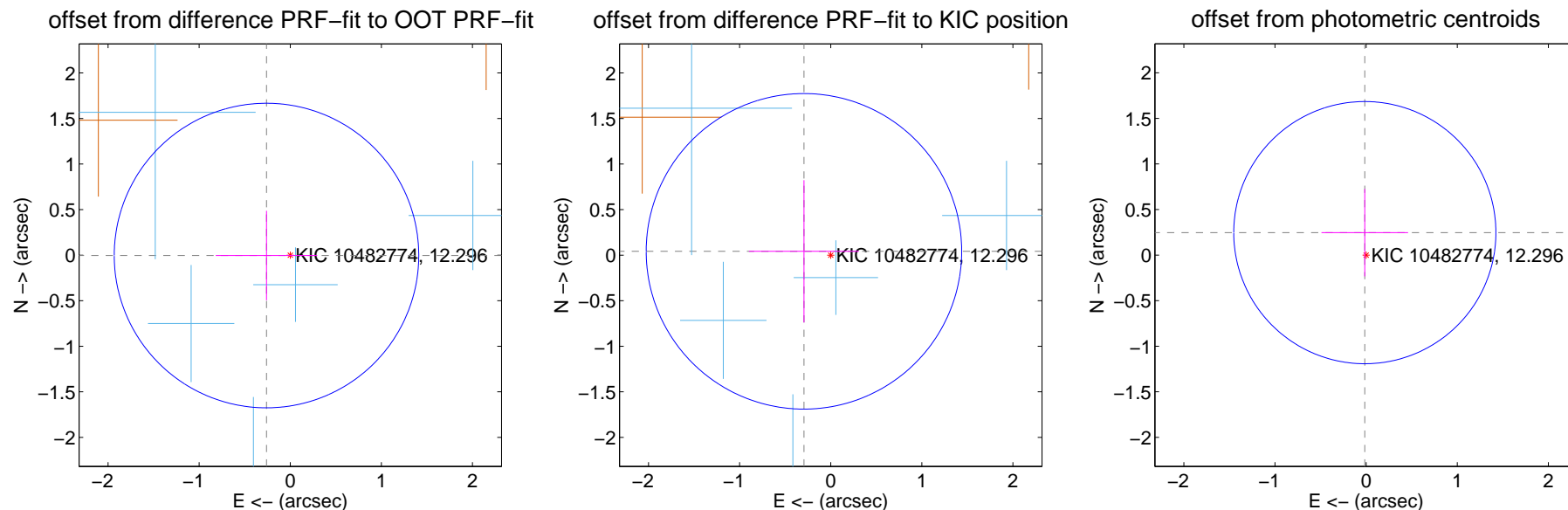
DV Centroid Data

Supplemental centroid analysis for 010482774-08. Kepler magnitude: 12.30. Transit SNR 9.73

There are 5 quarters with good PRF difference image offsets

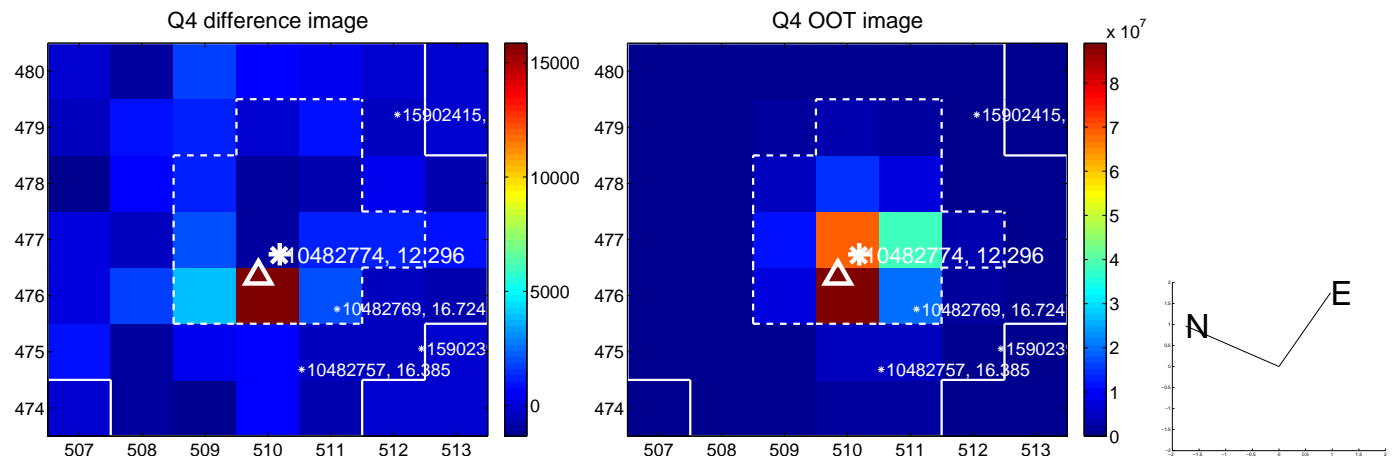
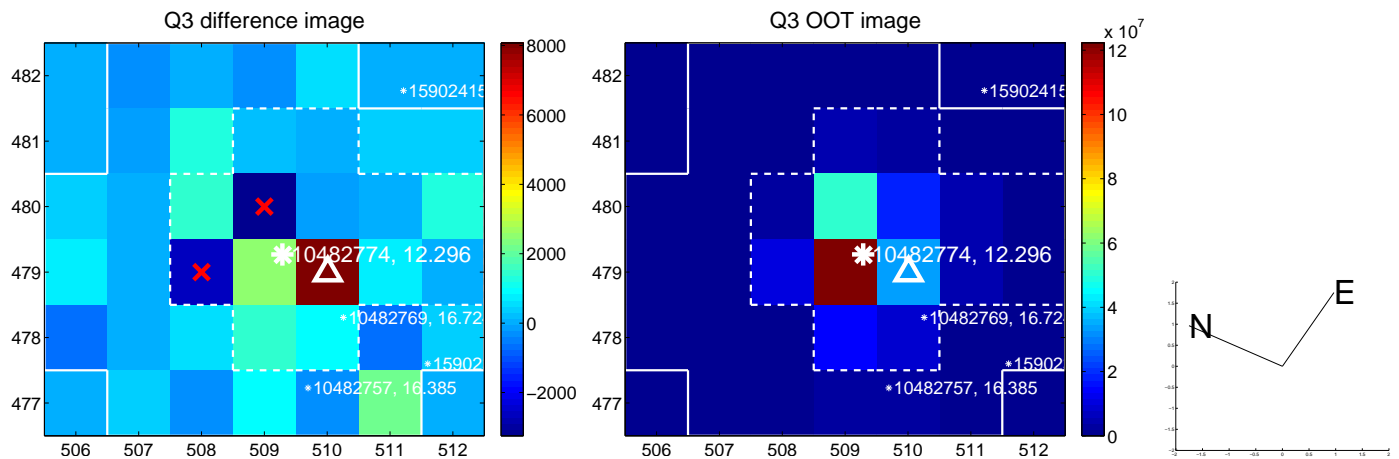
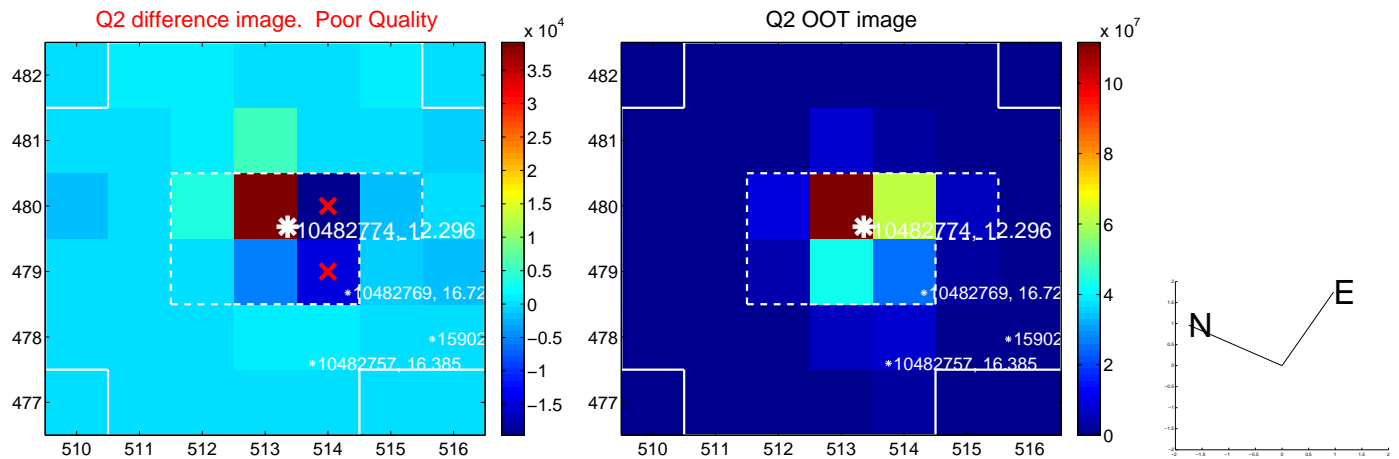
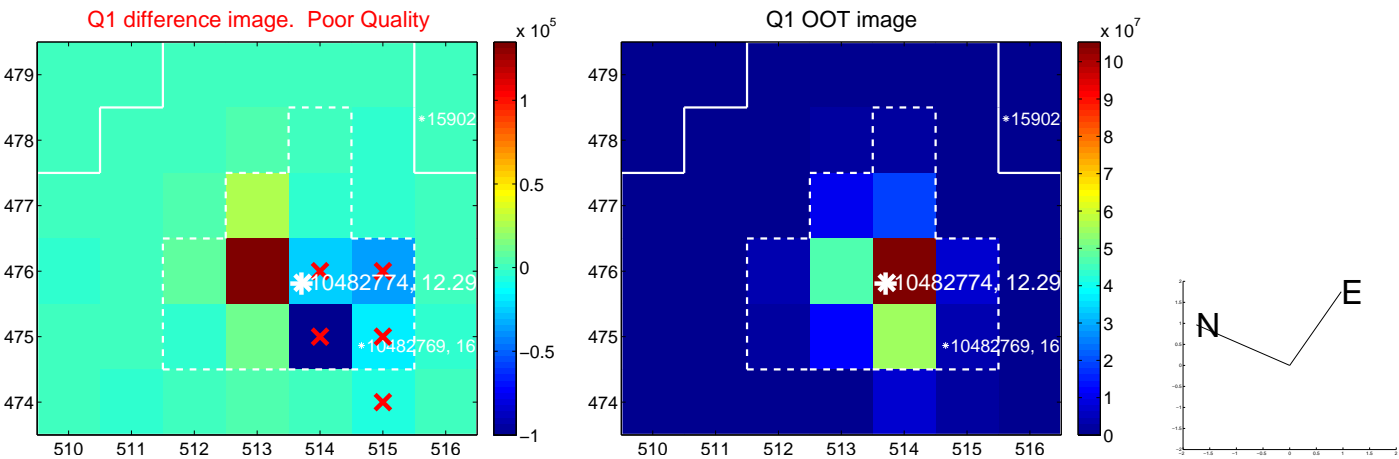
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.261 ± 0.557	0.47	0.261 ± 0.557	-0.004 ± 0.491
PRF-fit source offset from KIC position	0.297 ± 0.577	0.51	0.294 ± 0.603	0.042 ± 0.781
photometric centroid source offset	0.25 ± 0.48	0.51	0.01 ± 0.48	0.25 ± 0.48

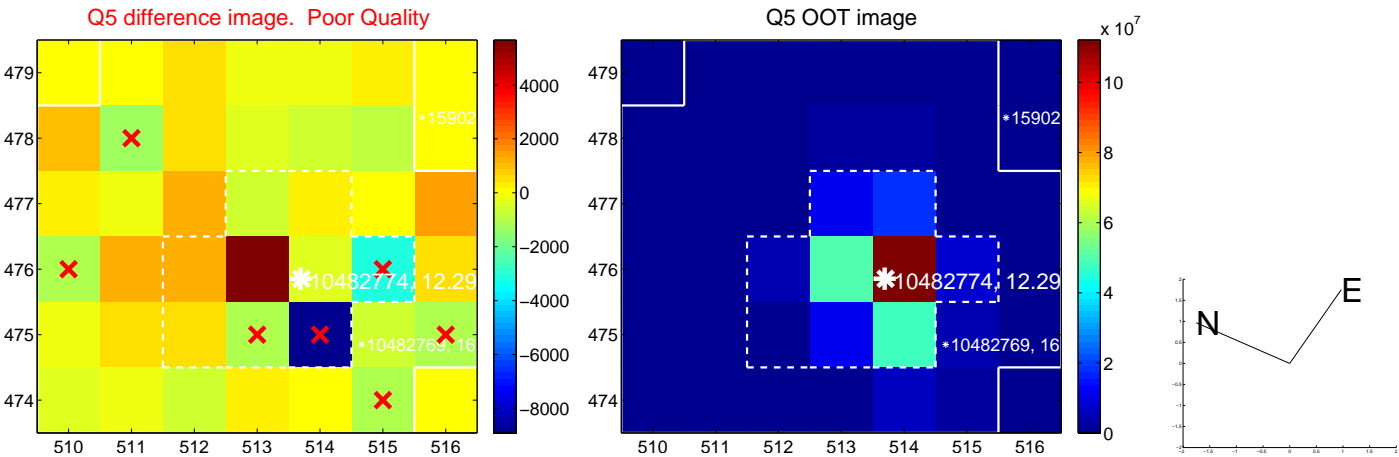


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

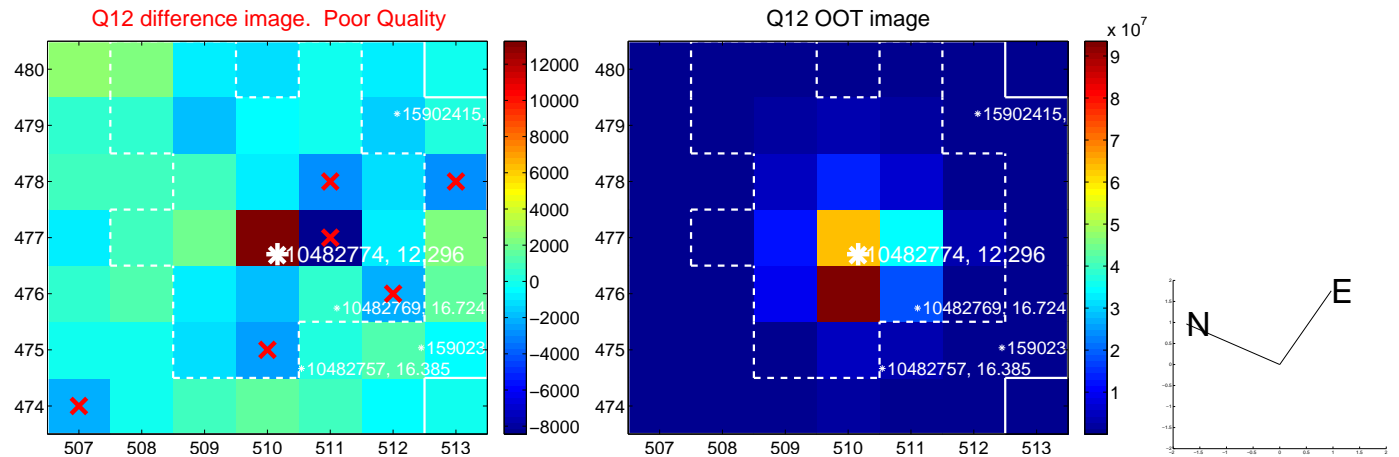
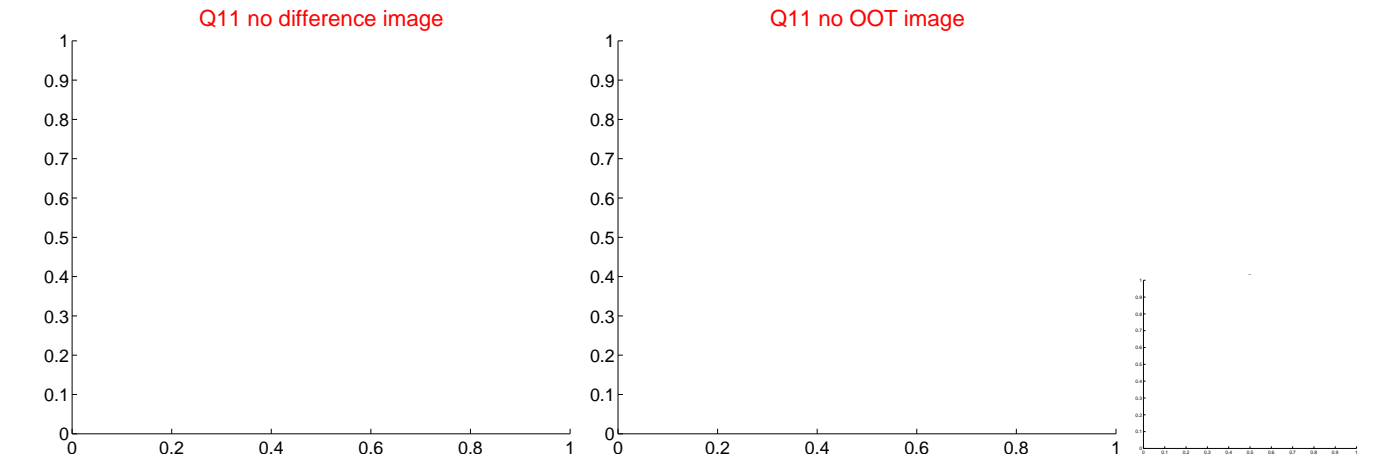
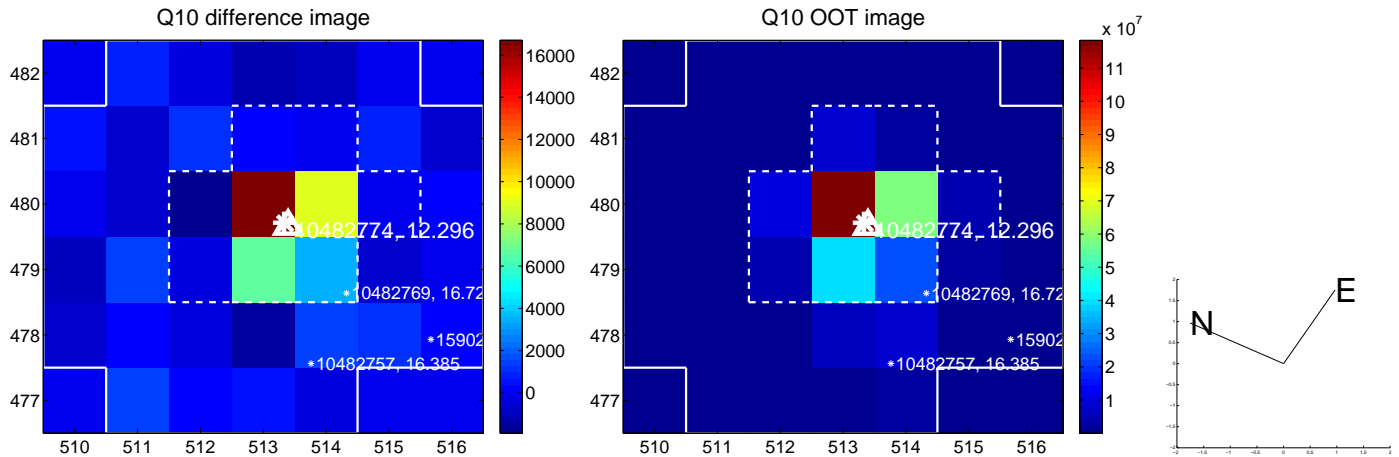
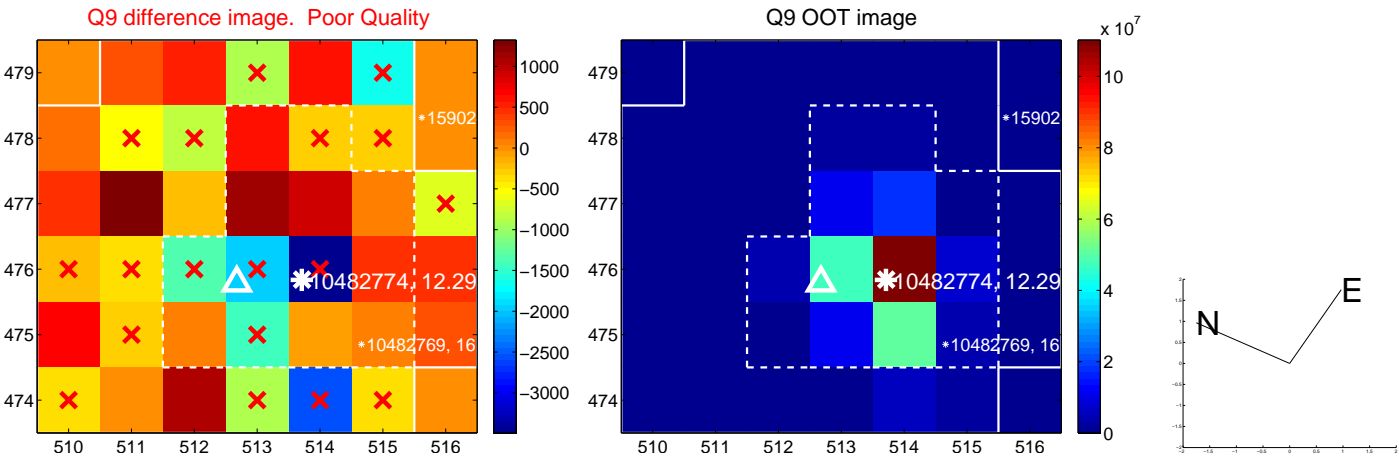
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



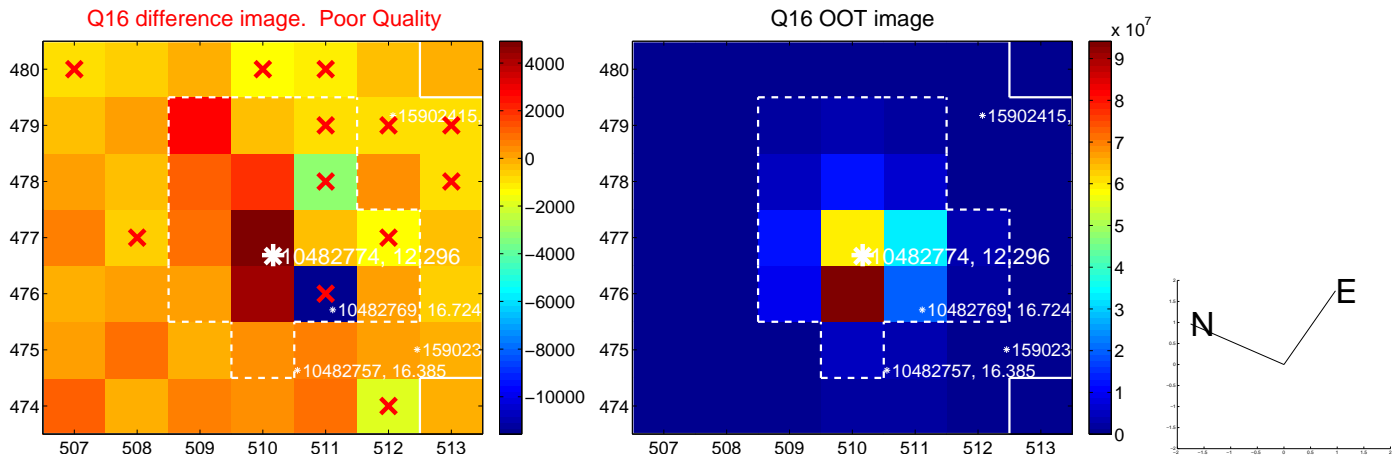
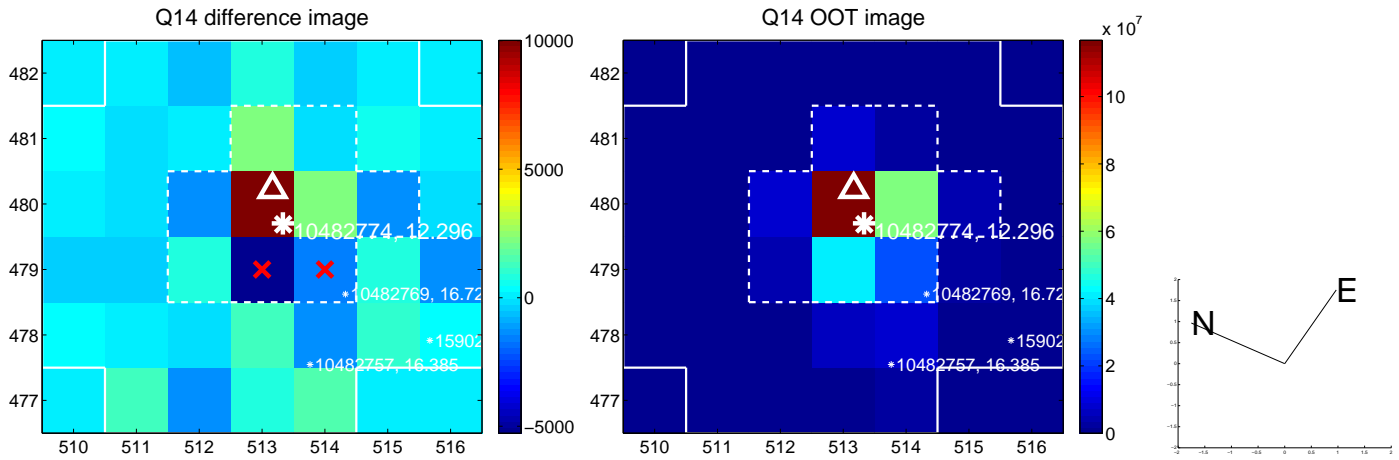
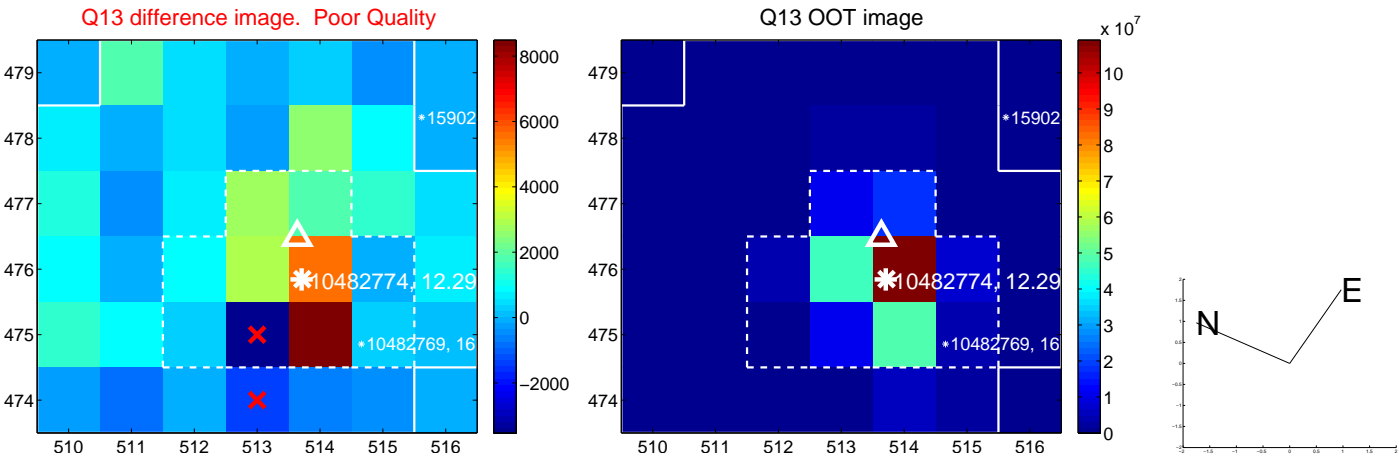
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



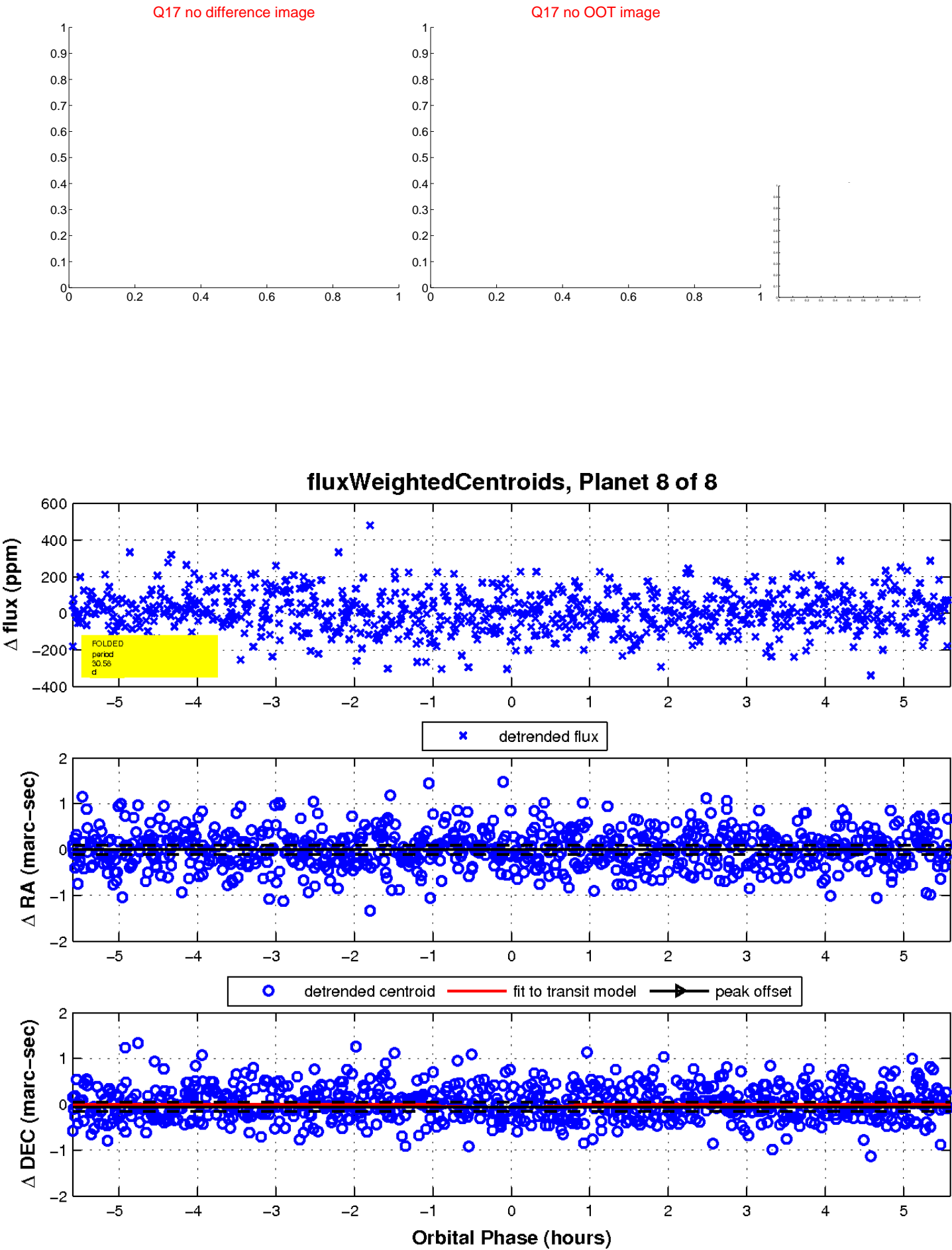
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

