

KIC 008653134

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})
008653134-01	OBS	6186.01	5.342613	134.383407	728.4	2.646	39.5	47.2	0.67	5101	2.10	96.66
008653134-02	OBS	No	216.645061	222.140758	962.8	4.988	14.8	7.7	0.67	5101	2.05	0.69
008653134-03	OBS	No	420.353795	461.662403	633.2	12.019	14.4	2.8	0.67	5101	1.68	0.29
008653134-04	OBS	No	398.688495	485.668898	240.3	2.289	13.2	1.9	0.67	5101	1.18	0.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008653134-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008653134-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_MEAS
008653134-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008653134-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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.

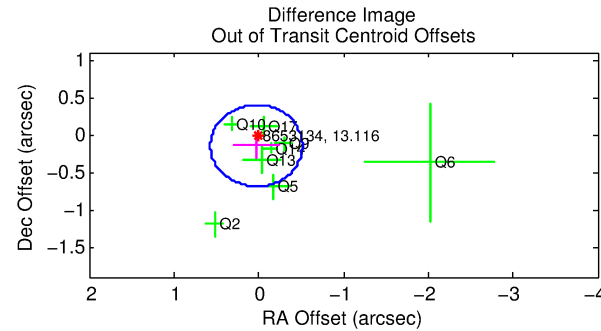
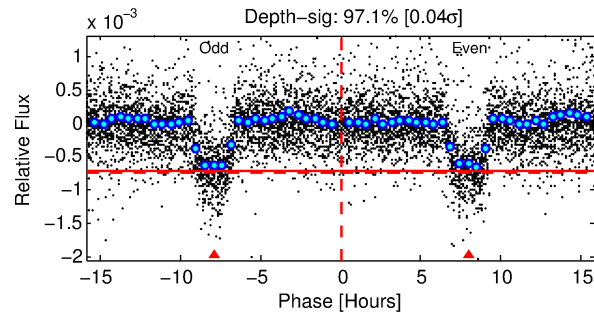
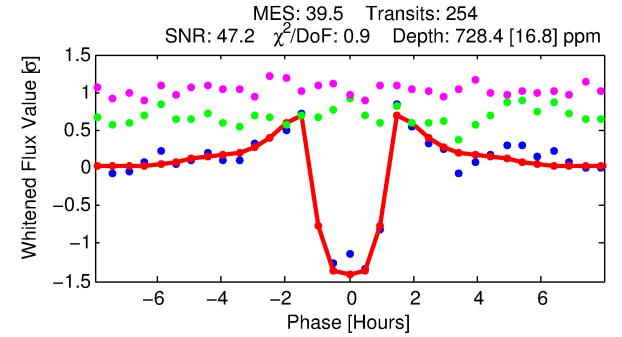
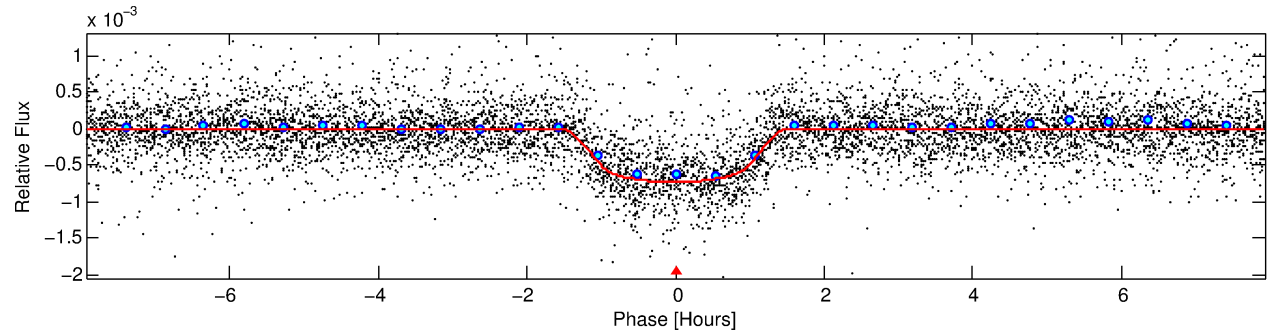
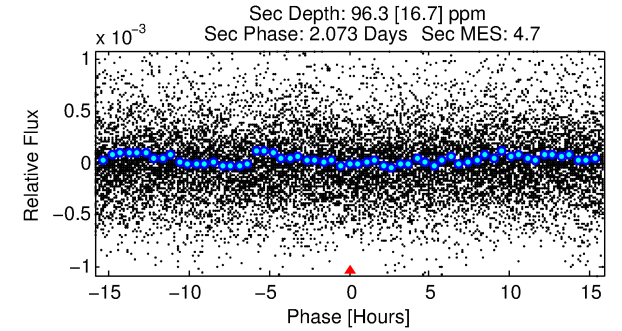
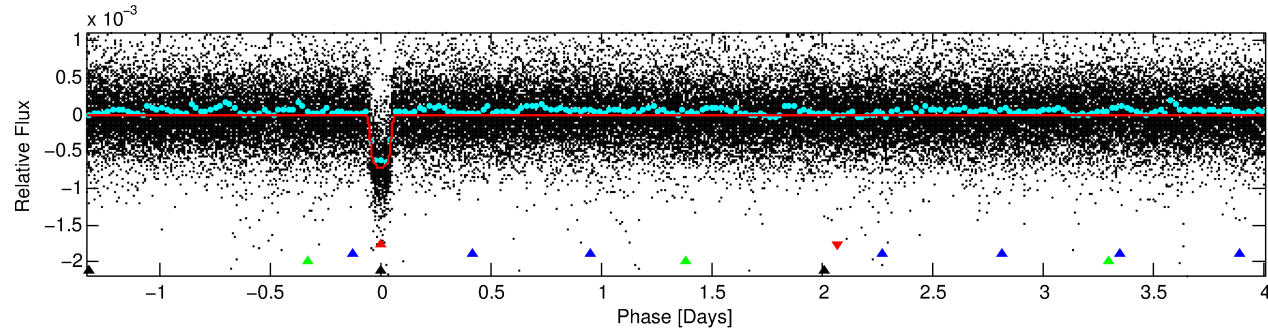
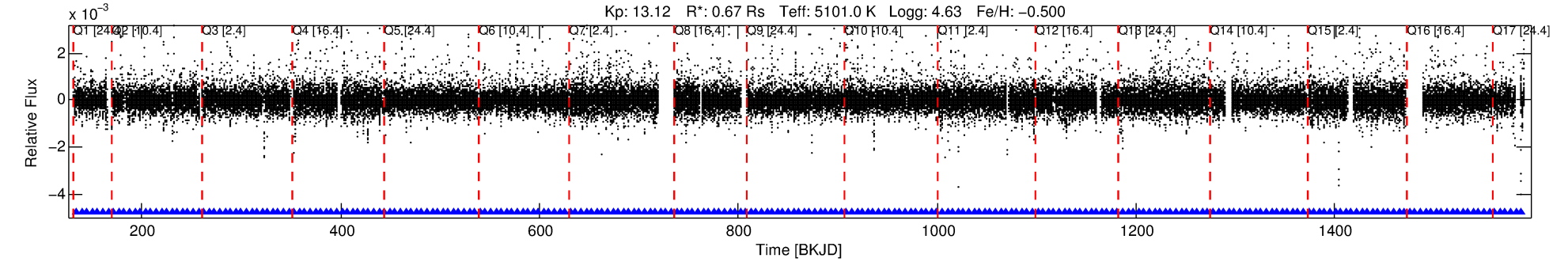
Ephemeris Match Information For 008653134-01

No Significant Match Found

DV One-Page Summary

KIC: 8653134 Candidate: 1 of 4 Period: 5.343 d

KOI: K06186.01 Corr: 0.953



DV Fit Results:

Period = 5.34261 [0.00001] d
Epoch = 134.3834 [0.0007] BKJD
Rp/R* = 0.0287 [0.0024]
a/R* = 8.78 [2.76]
b = 0.86 [0.10]
Seff = 96.66 [18.25]
Teq = 800 [38] K
Rp = 2.10 [0.30] Re
a = 0.0531 [0.0049] AU
Ag = 33.82 [9.07] [3.62σ]
Teffp = 2981 [208] K [10.32σ]

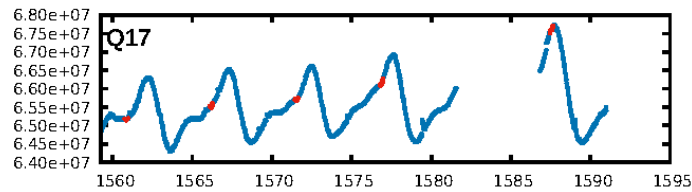
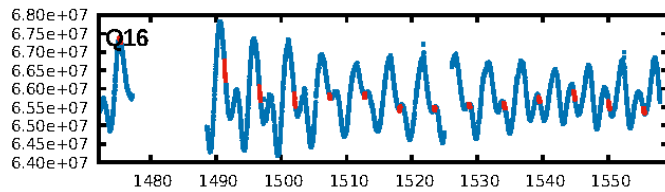
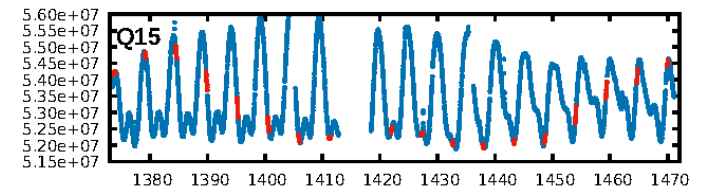
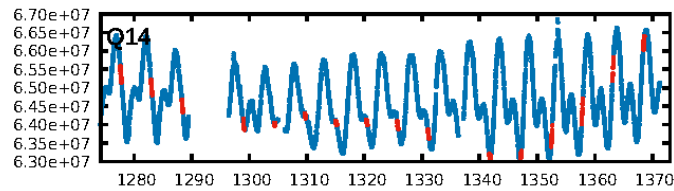
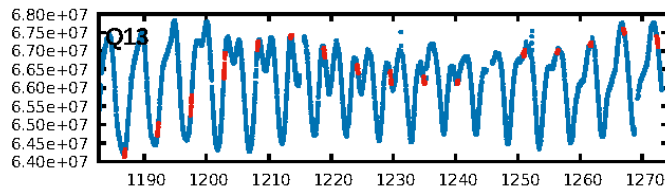
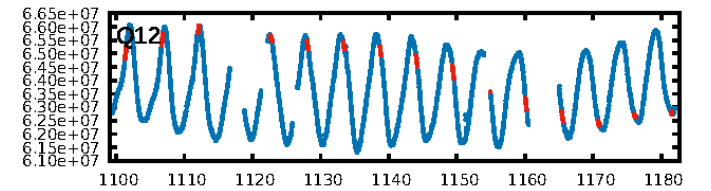
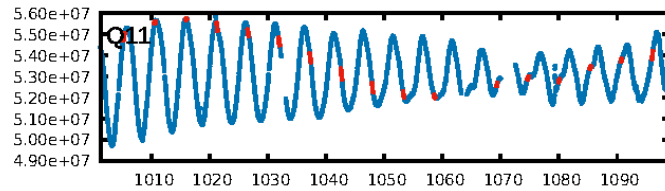
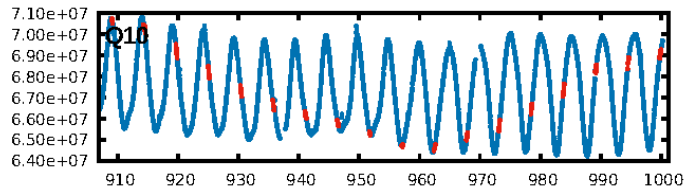
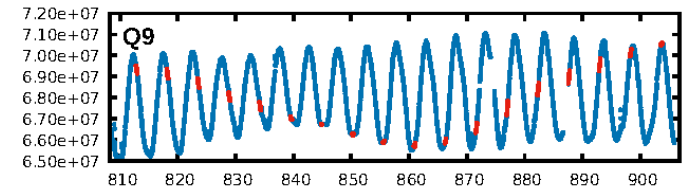
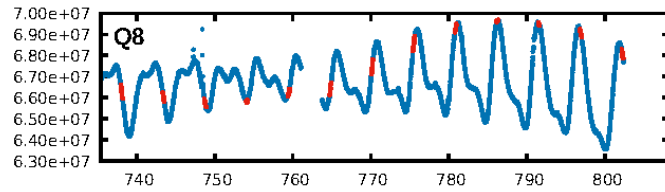
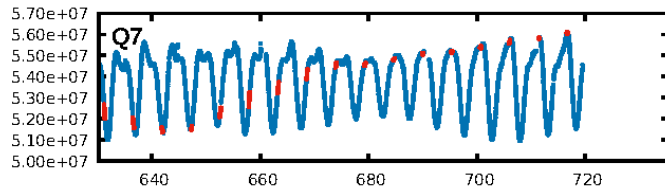
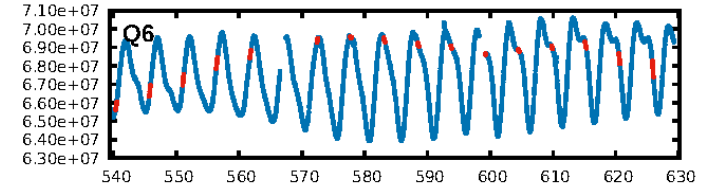
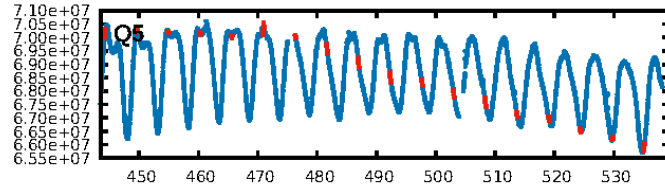
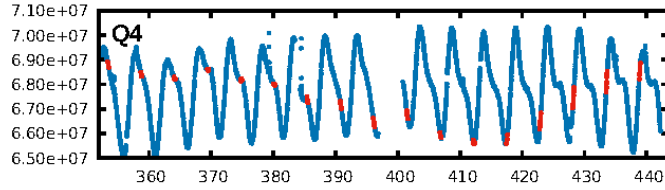
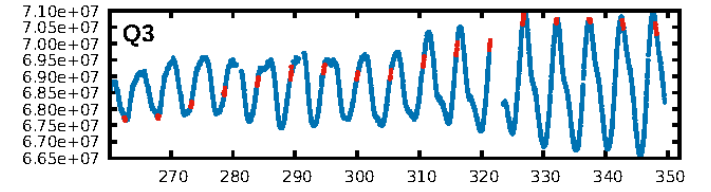
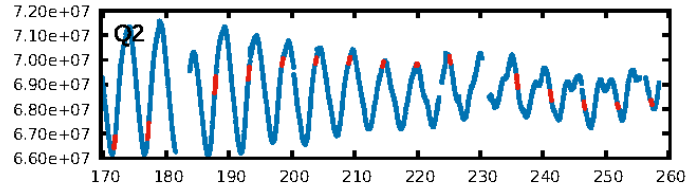
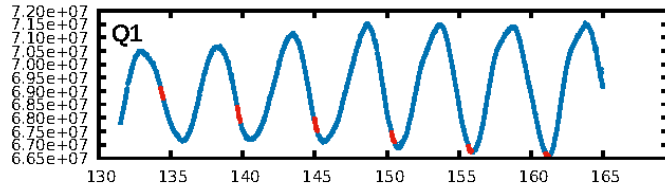
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [898.17σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.30e-201
RollingBand-fgt: 1.00 [243/243]
GhostDiagnostic-chr: 1.543
Centroid-sig: 0.0%
Centroid-so: 0.988 arcsec [4.43σ]
OotOffset-rm: 0.150 arcsec [0.83σ]
KicOffset-rm: 0.164 arcsec [0.76σ]
OotOffset-st: 4/0/0/4 [8]
KicOffset-st: 4/0/2/5 [11]
DiffImageQuality-fgm: 0.82 [9/11]
DiffImageOverlap-fno: 1.00 [17/17]

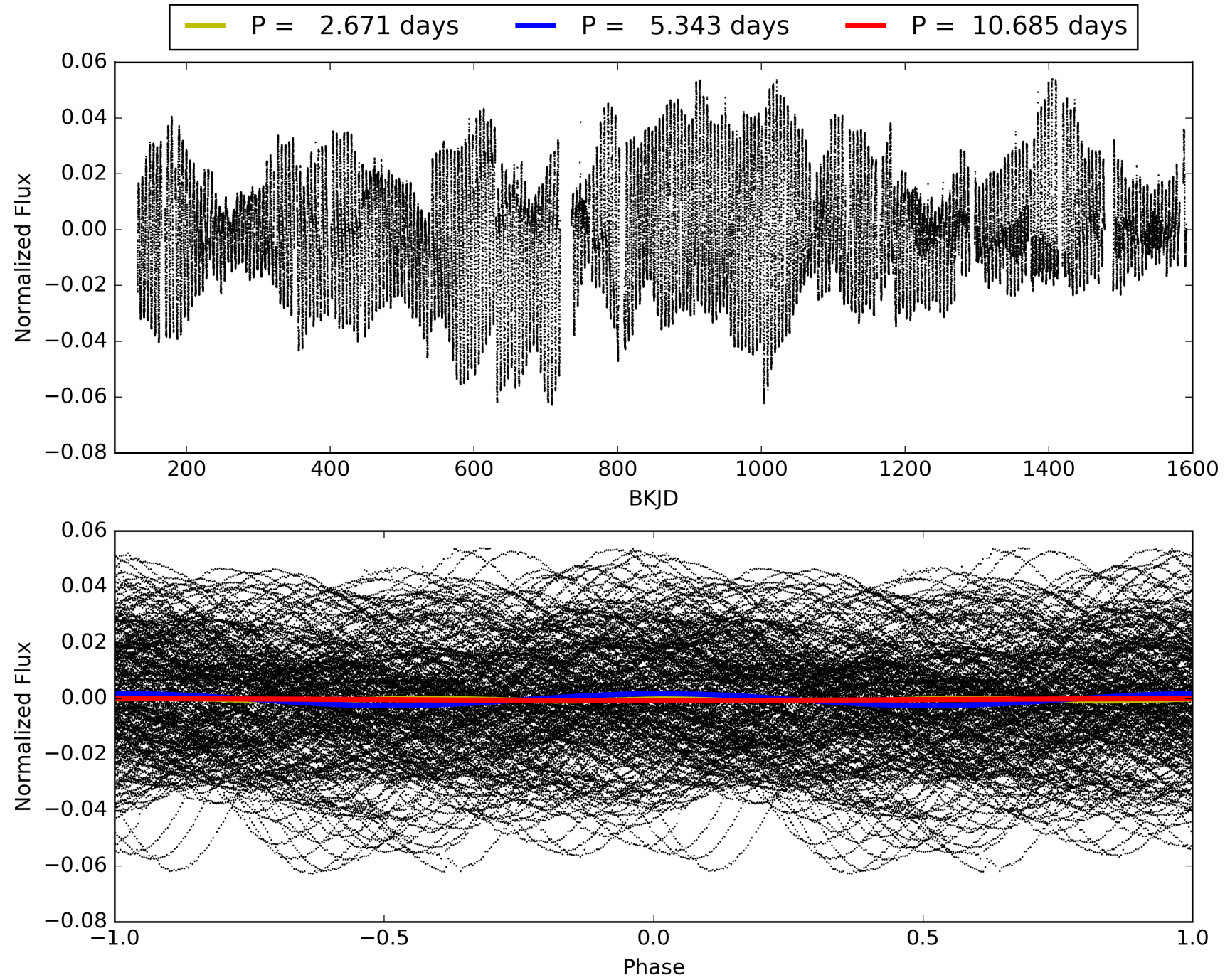
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008653134-01, PDC Light Curves

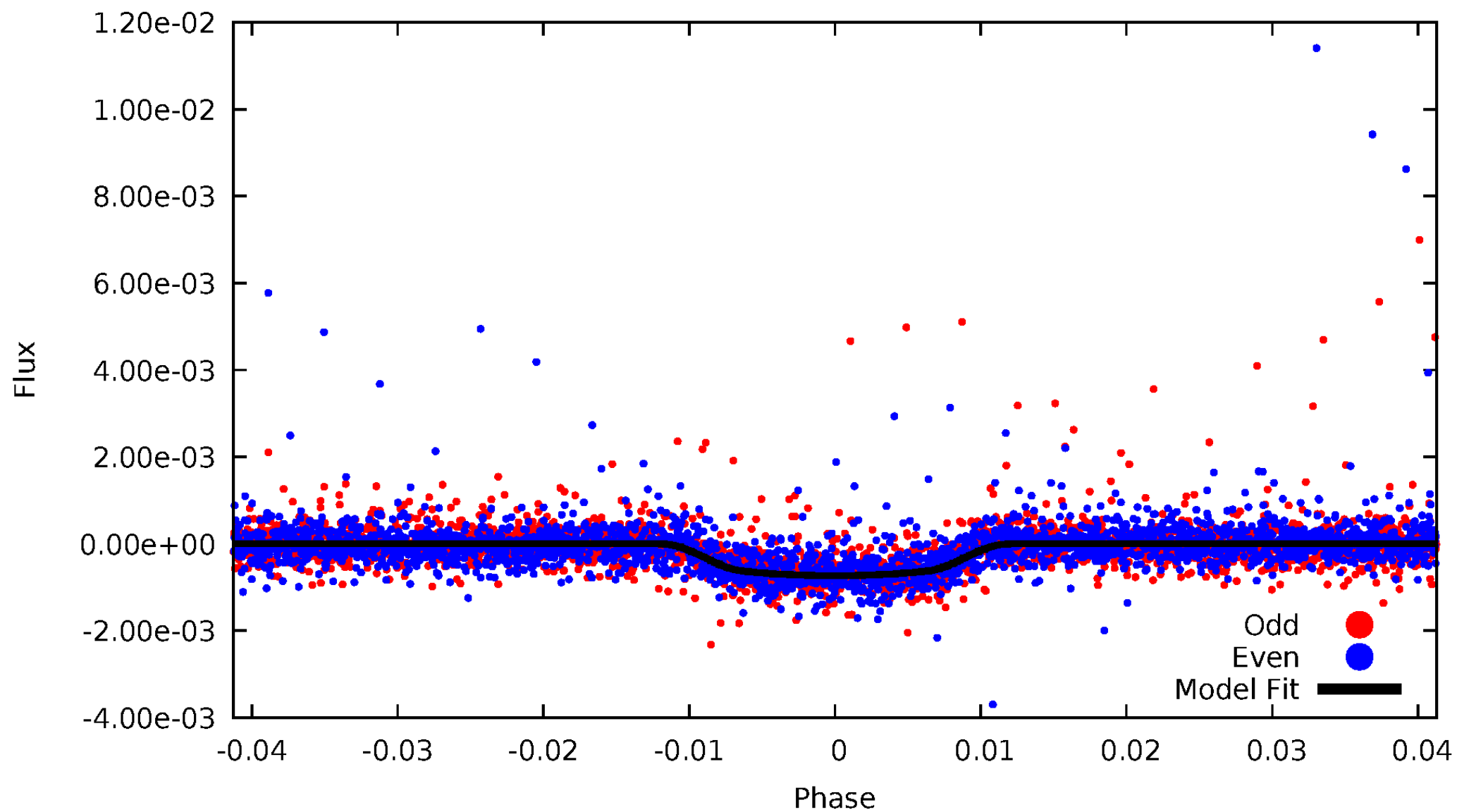


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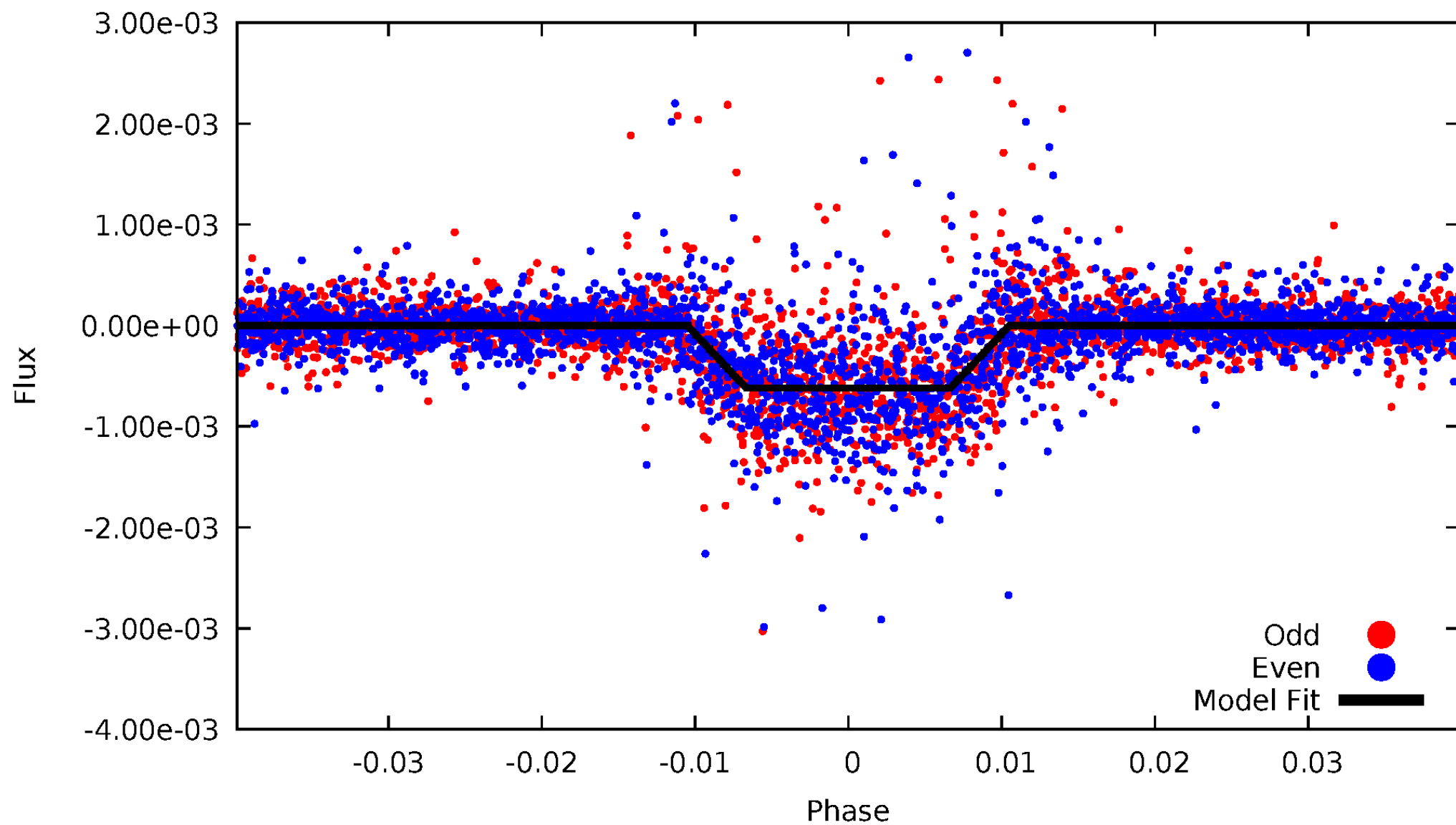
DV Odd/Even

TCE 008653134-01



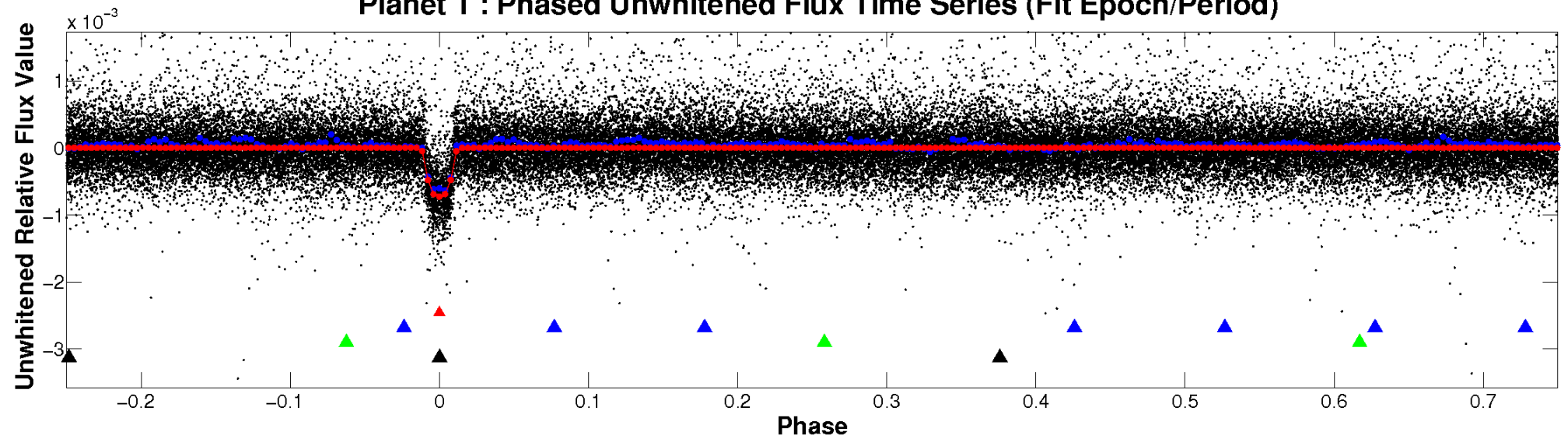
ALT Odd/Even

TCE 008653134-01

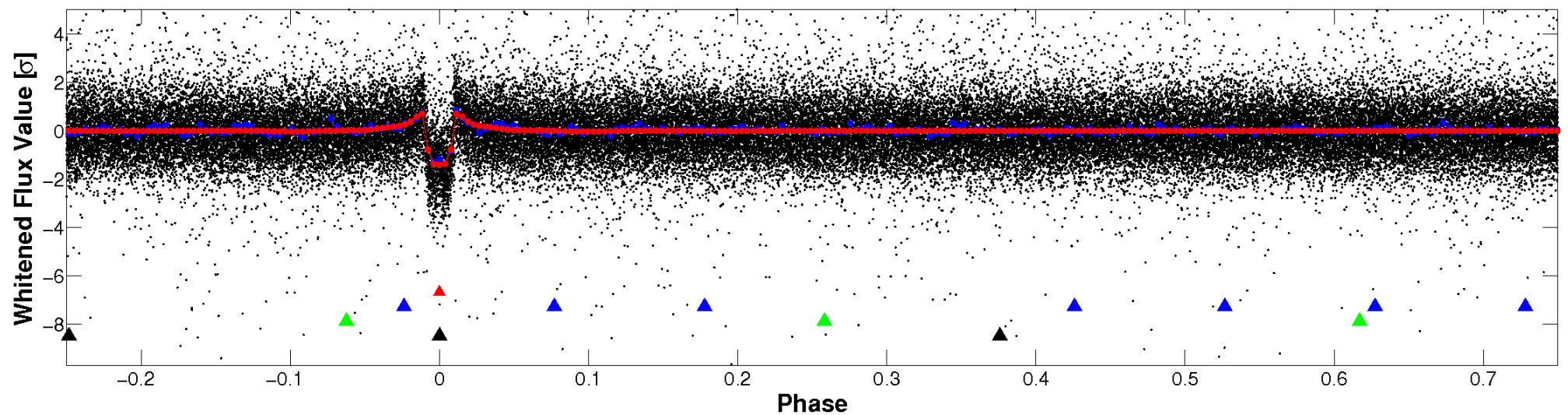


Non-Whitened Vs. Whitened Light Curve

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

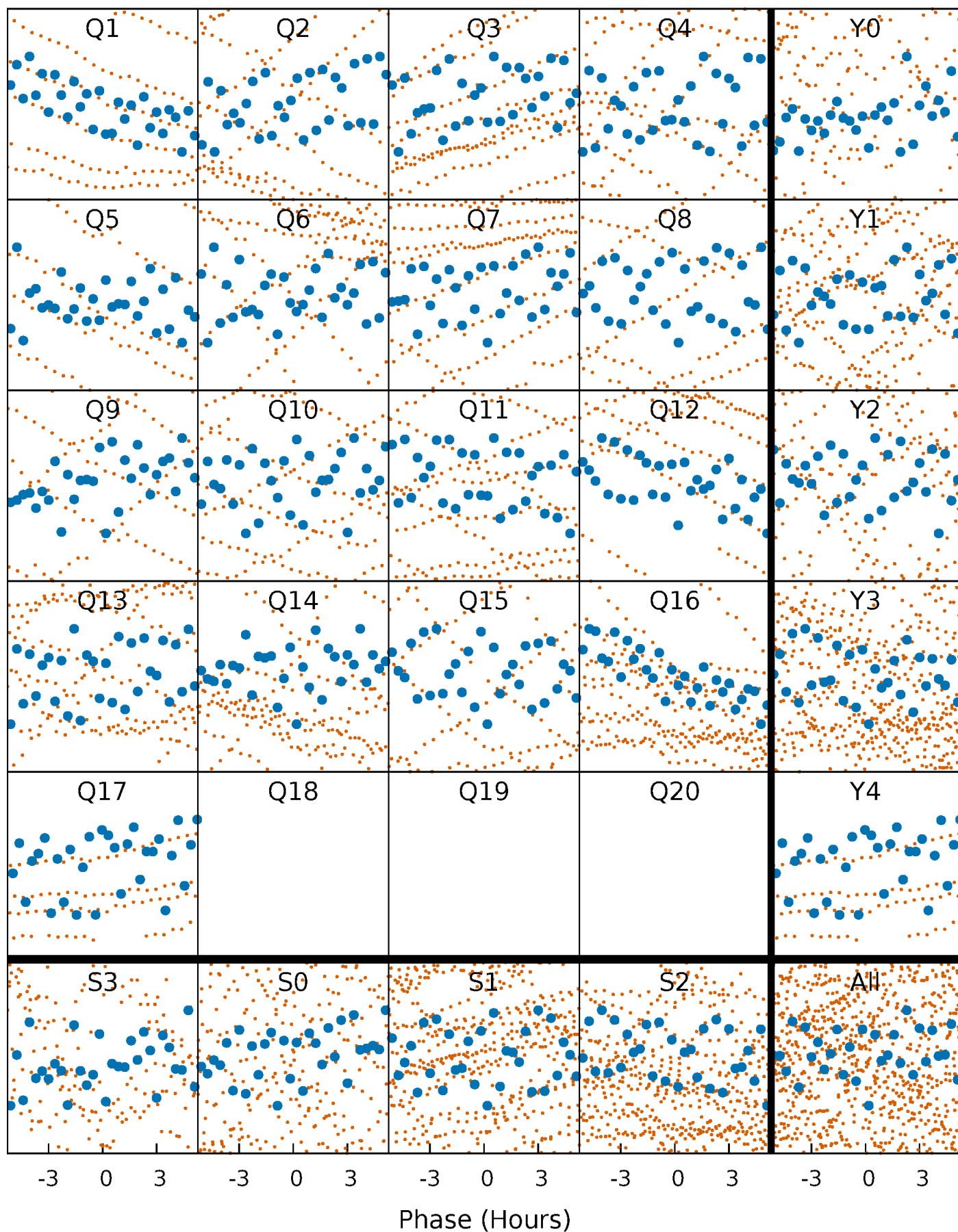


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



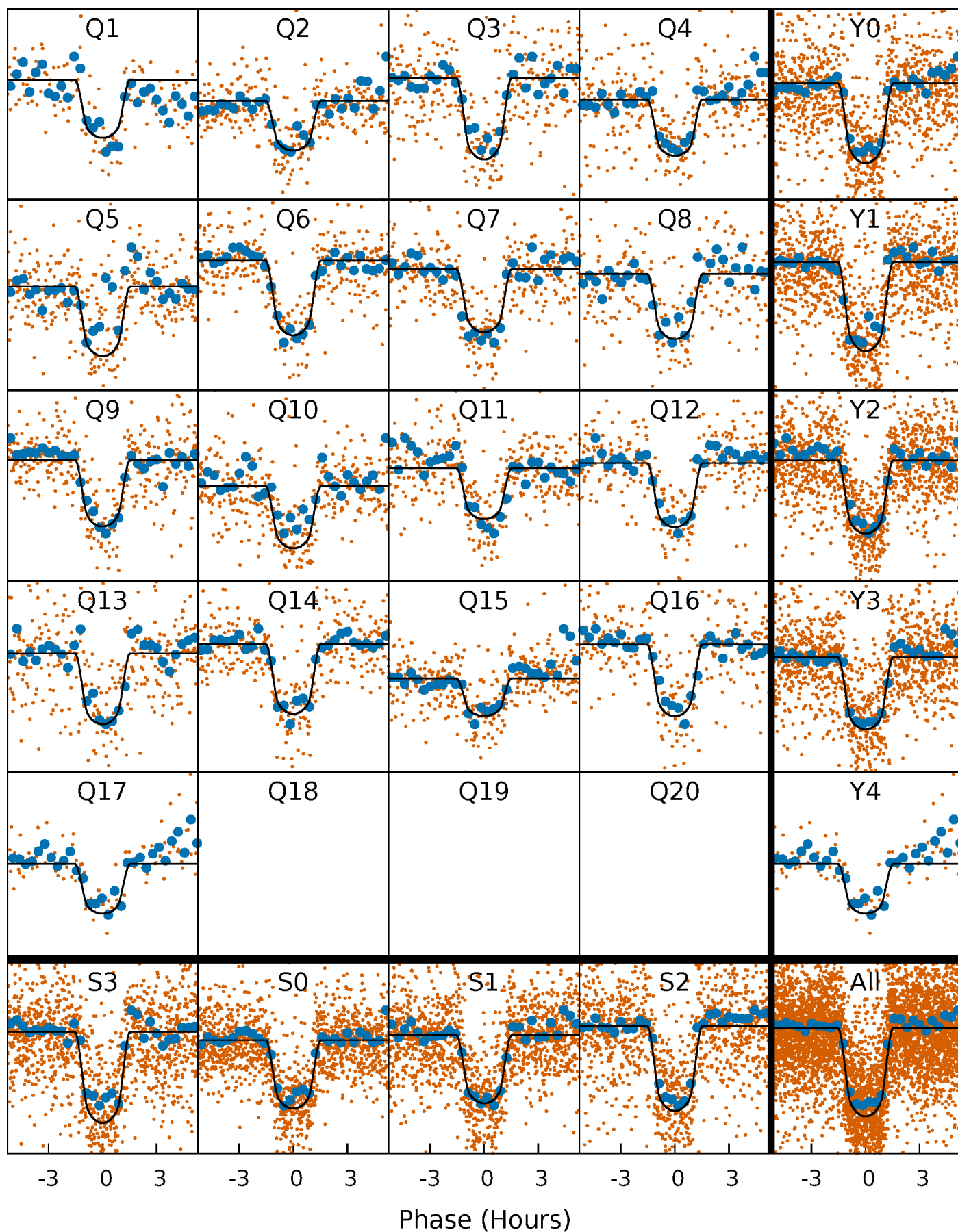
PDC Quarter-Phased Transit Curves

TCE 008653134-01 P= 5.342613 Days $T_0=134.383407$ (BKJD)



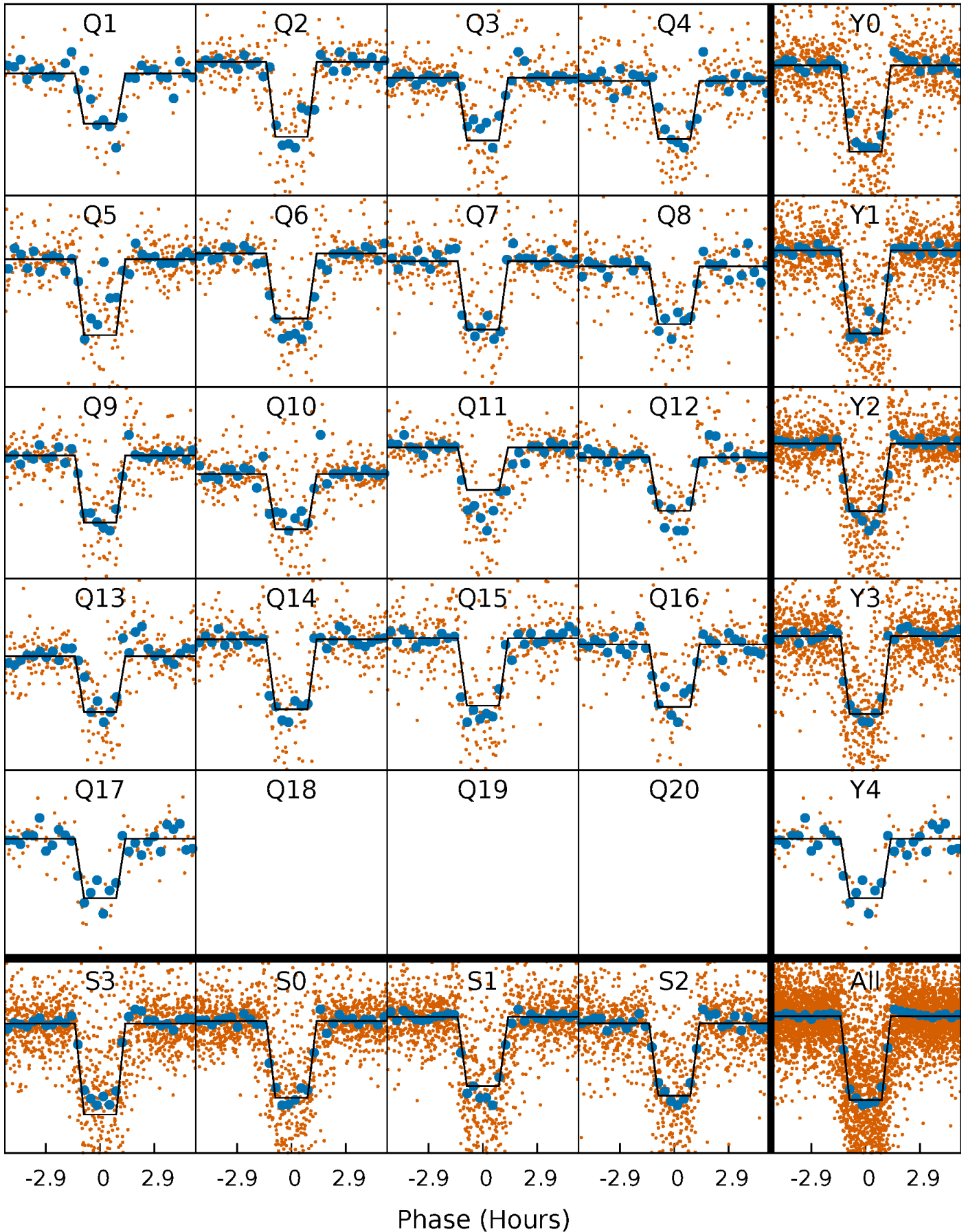
DV Quarter-Phased Transit Curves

TCE 008653134-01 P= 5.342613 Days $T_0=134.383407$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

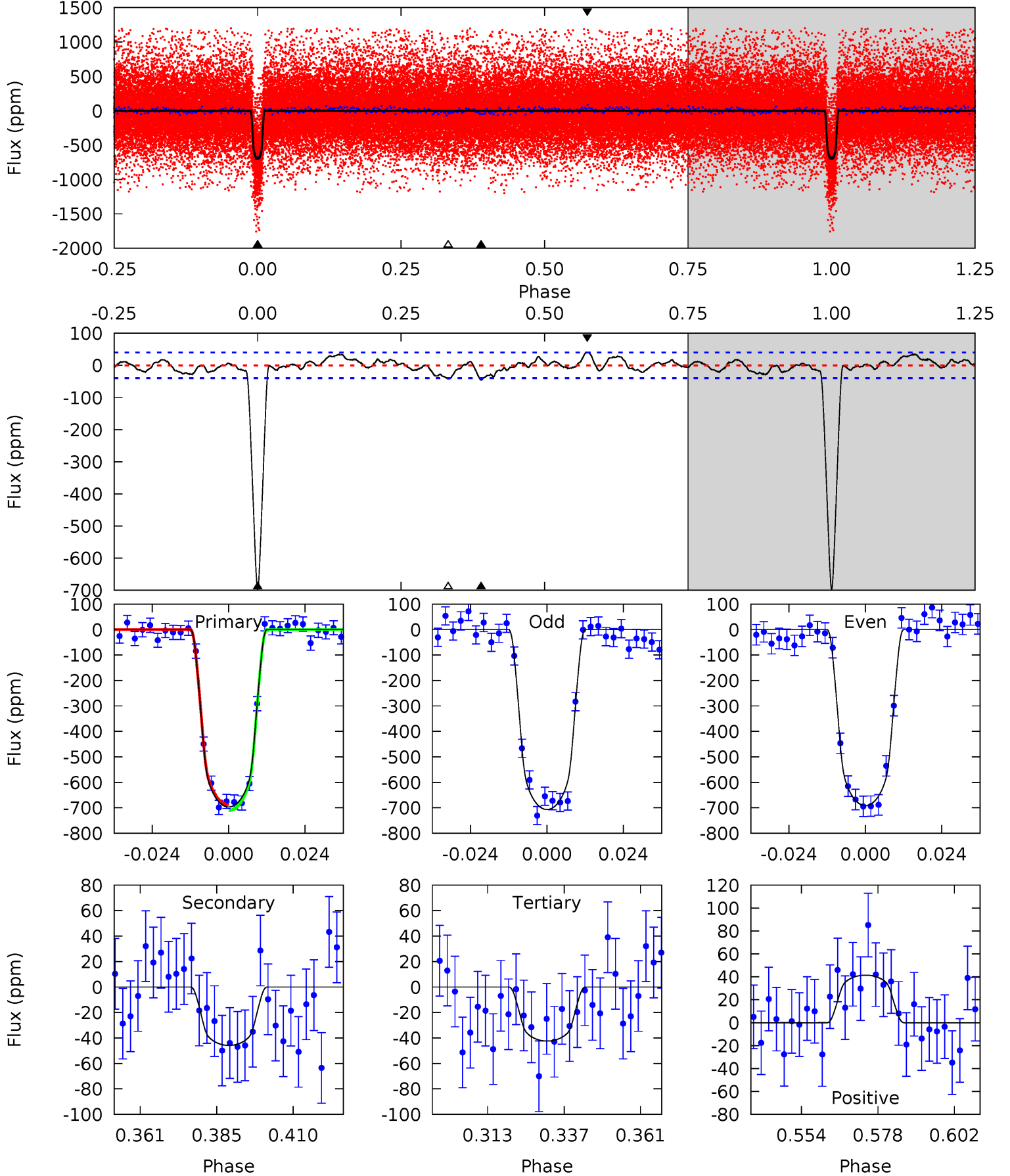
TCE 008653134-01 P= 5.342686 Days $T_0=134.373521$ (BKJD)



DV Model-Shift Uniqueness Test

008653134-01, P = 5.342613 Days, E = 129.040794 Days

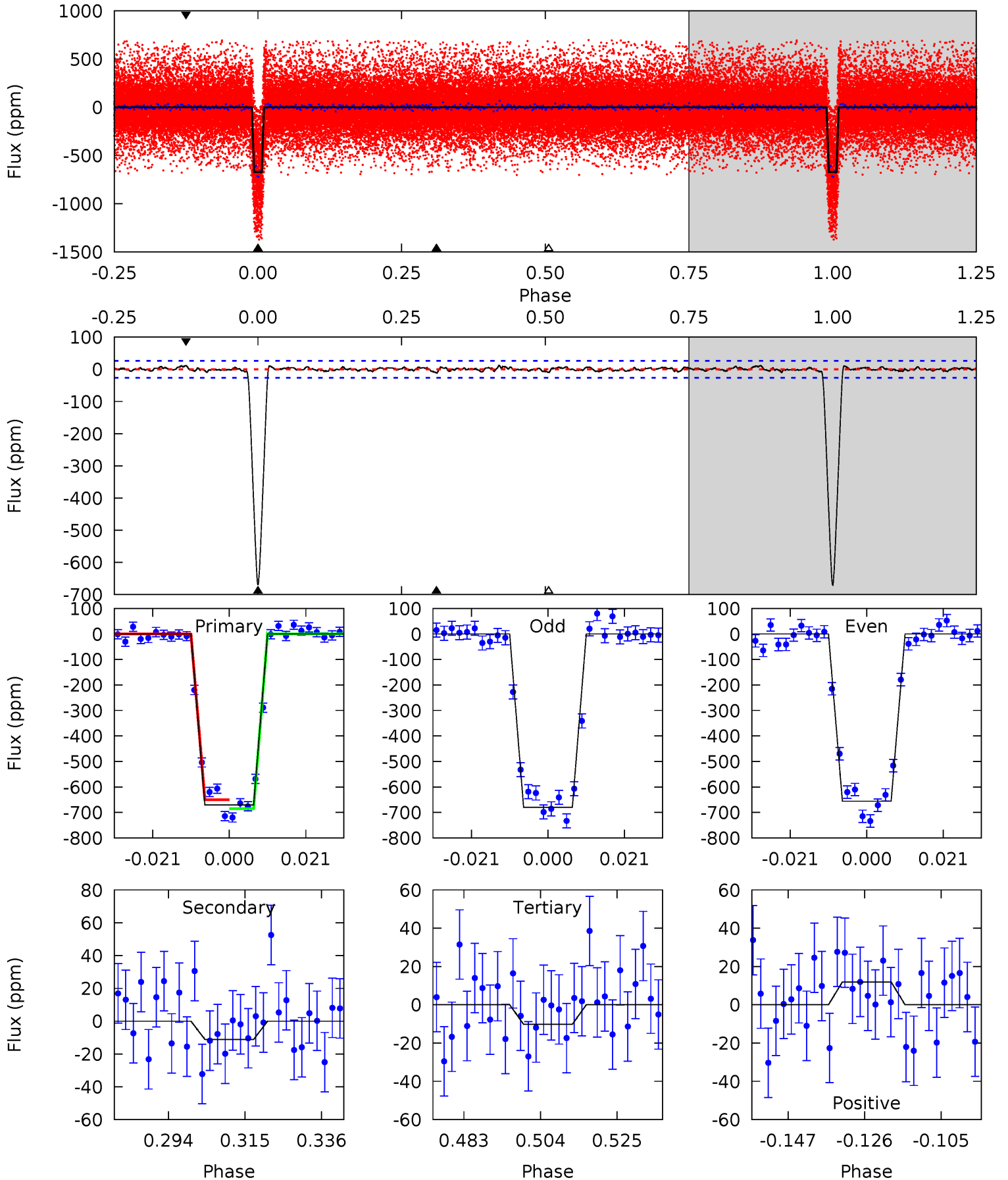
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
84.4	5.55	5.14	5.03	4.85	2.26	1.87	79.3	79.4	0.42	0.53	0.95	0.95	0.06	1.40



Alt Model-Shift Uniqueness Test

008653134-01, P = 5.342686 Days, E = 129.030835 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
123.5	2.05	1.88	2.20	4.88	2.31	0.71	121.7	121.3	0.17	-0.14	2.20	1.01	0.02	3.20



Stellar Parameters For KIC 008653134

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5101^{+184}_{-184}	$4.630^{+0.045}_{-0.060}$	$-0.500^{+0.300}_{-0.300}$	$0.670^{+0.080}_{-0.053}$	$0.699^{+0.076}_{-0.055}$	$3.275^{+0.633}_{-0.764}$
	+4%/-4%	+1%/-1%	+60%/-60%	+12%/-8%	+11%/-8%	+19%/-23%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008653134-01 / KOI 6186.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-46 ± 8	$2.12^{+0.21}_{-0.20}$	1121^{+45}_{-49}	3059^{+140}_{-124}	16^{+5}_{-3}
Alt.	-11 ± 5	$1.82^{+0.23}_{-0.20}$	1122^{+45}_{-52}	2615^{+177}_{-232}	$5.048^{+2.854}_{-2.482}$

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 $A_{obs} \gg 1.0$

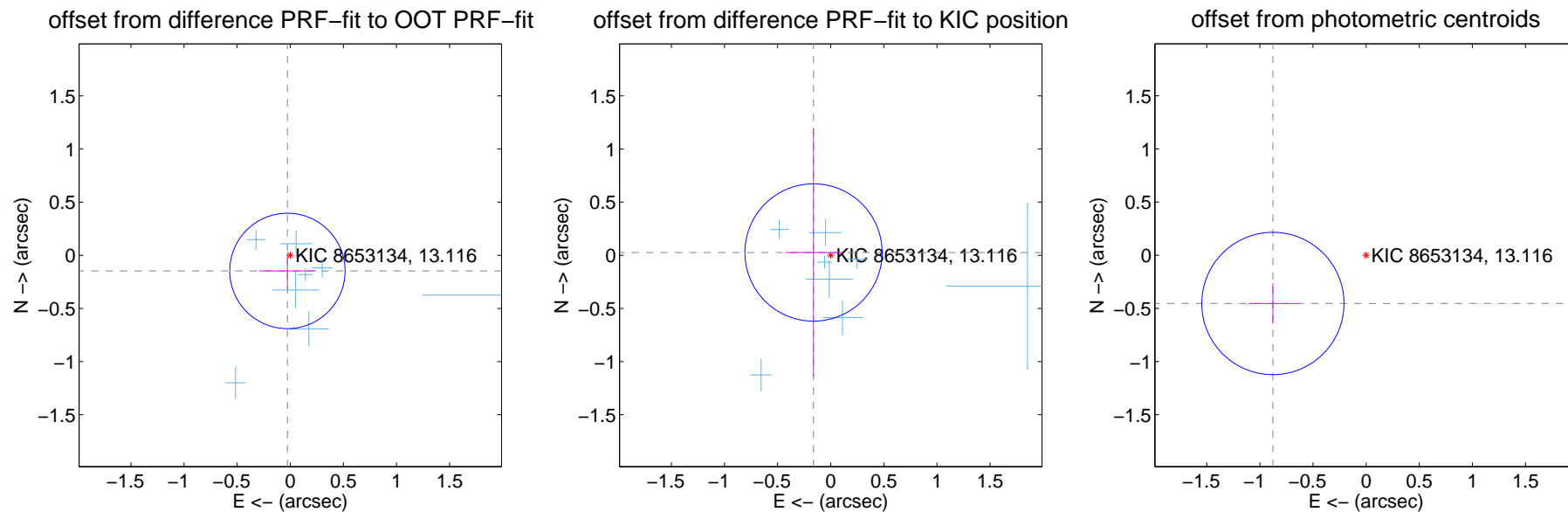
DV Centroid Data

Supplemental centroid analysis for 008653134-01. Kepler magnitude: 13.12. Transit SNR 47.16

There are 9 quarters with good PRF difference image offsets

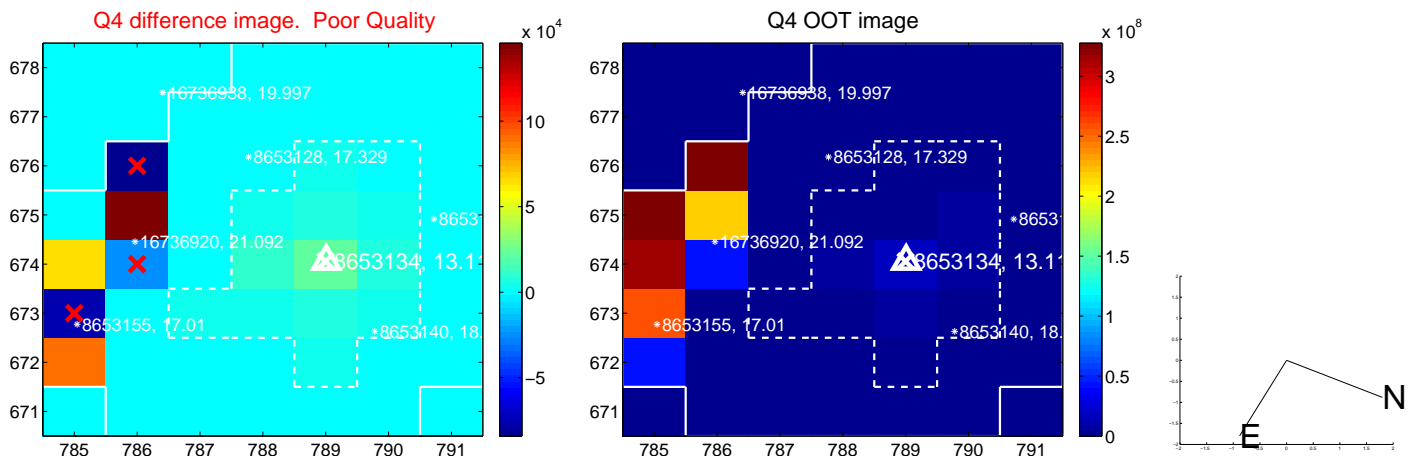
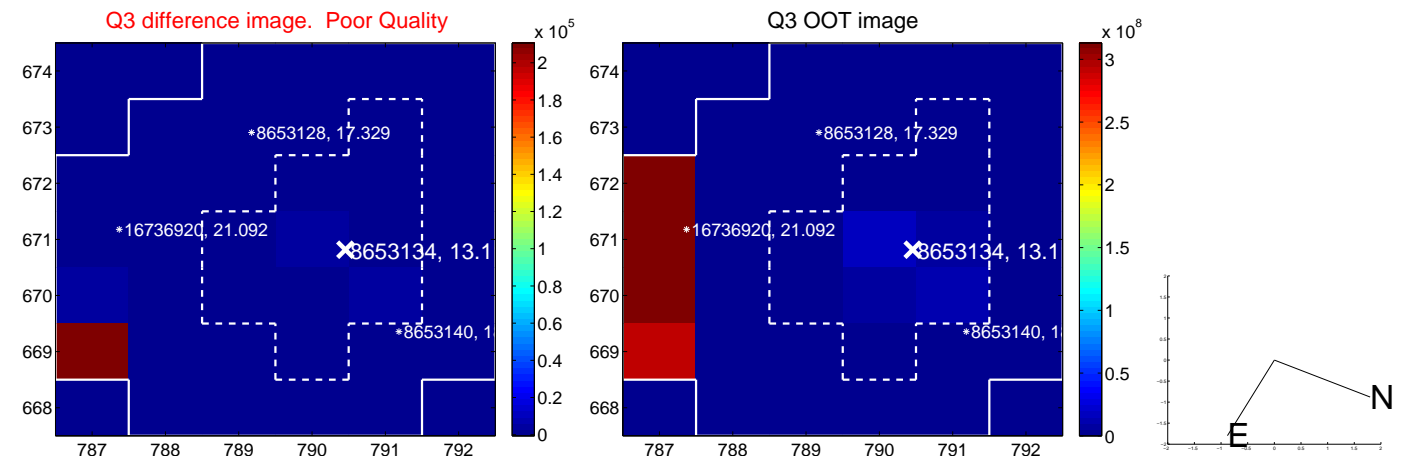
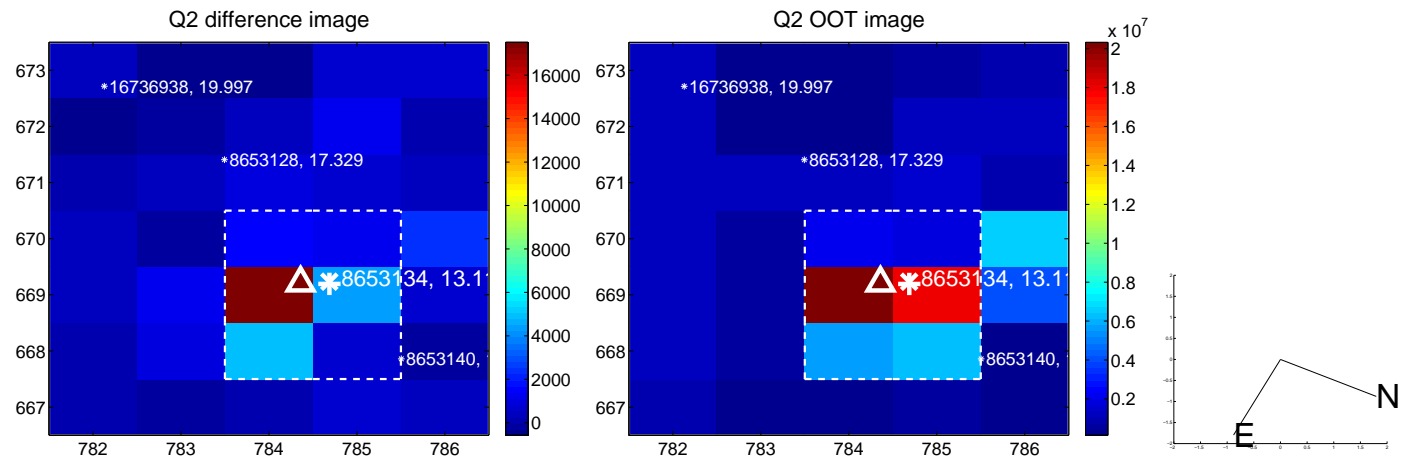
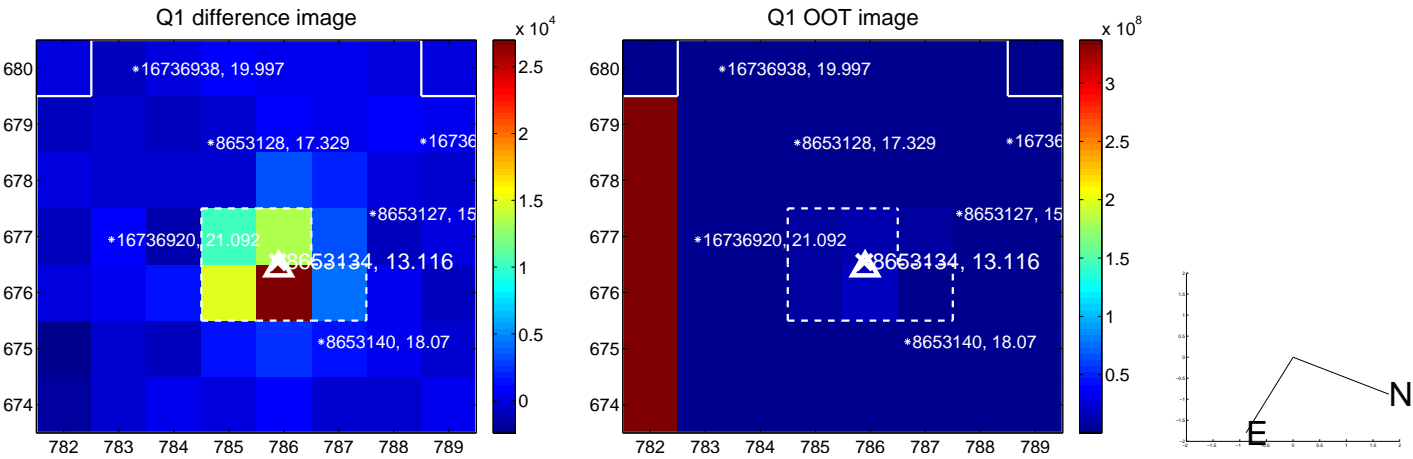
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.150 ± 0.181	0.83	0.027 ± 0.267	-0.147 ± 0.171
PRF-fit source offset from KIC position	0.164 ± 0.215	0.76	0.162 ± 0.266	0.026 ± 1.166
photometric centroid source offset	0.99 ± 0.22	4.43	0.88 ± 0.23	-0.45 ± 0.19

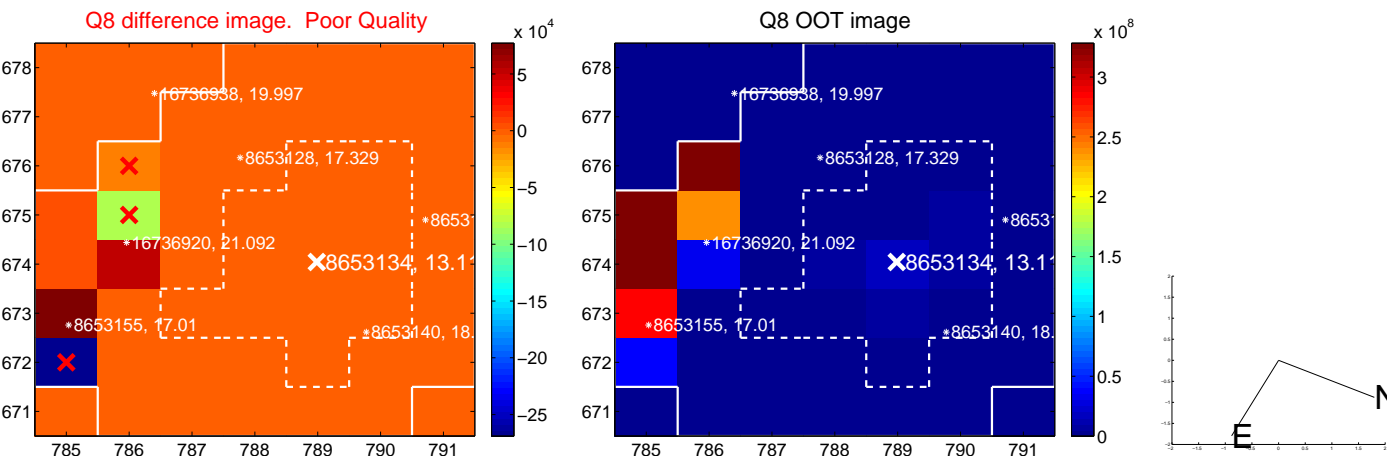
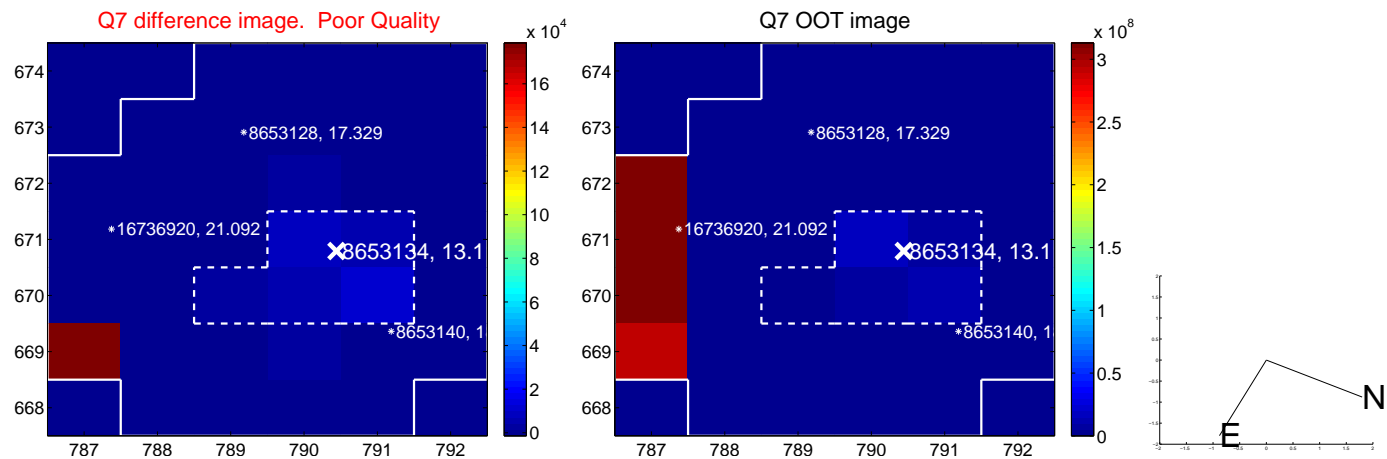
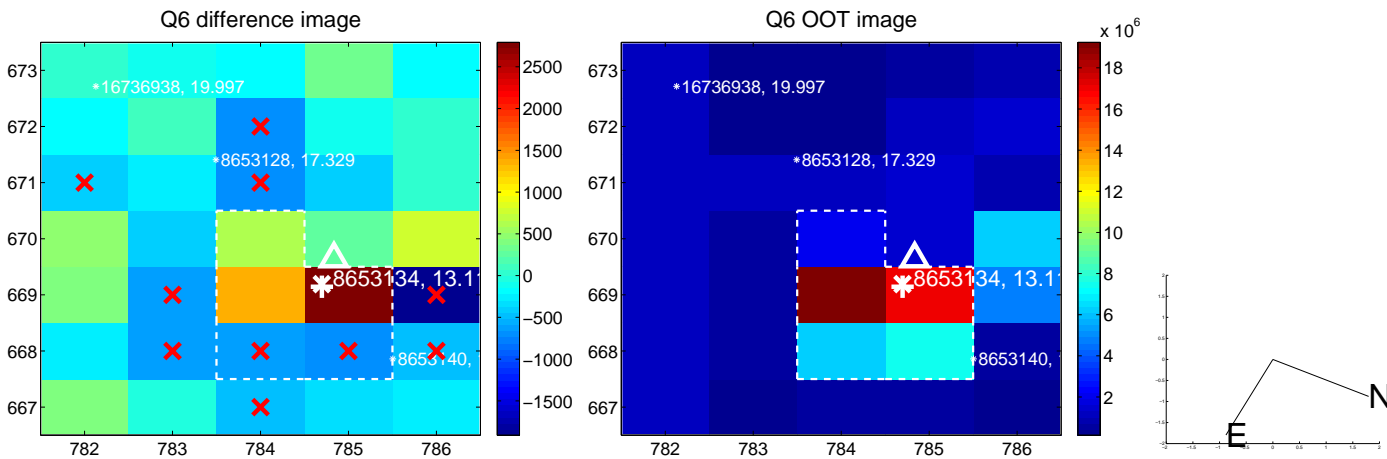
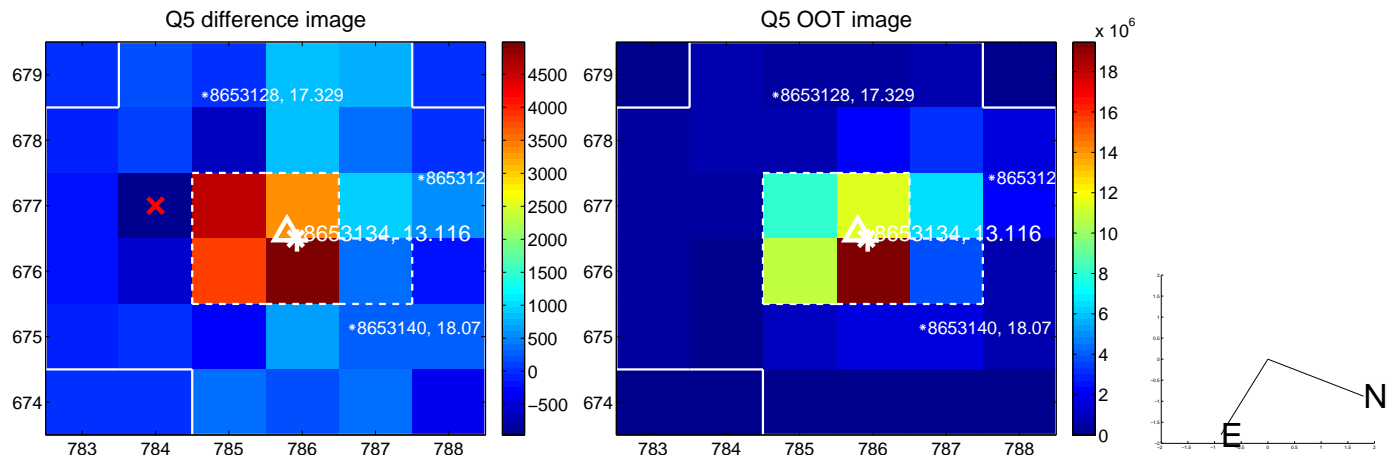


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

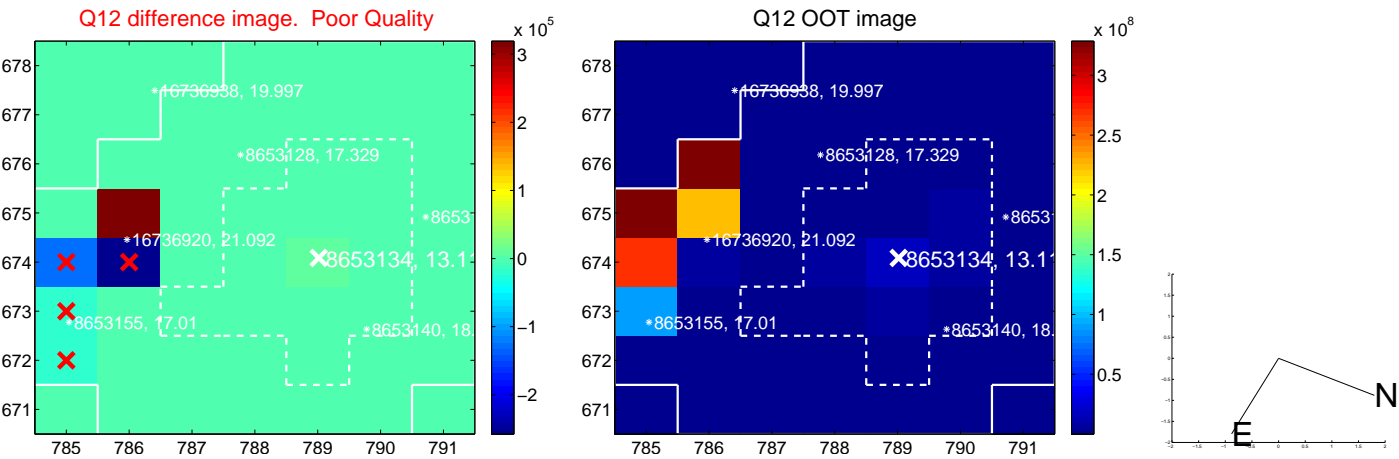
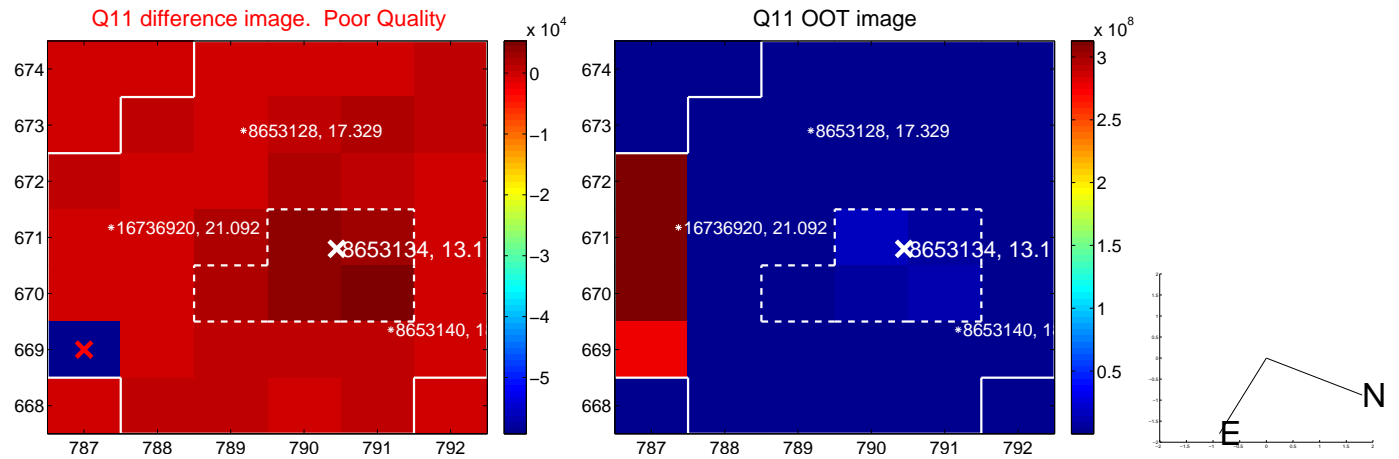
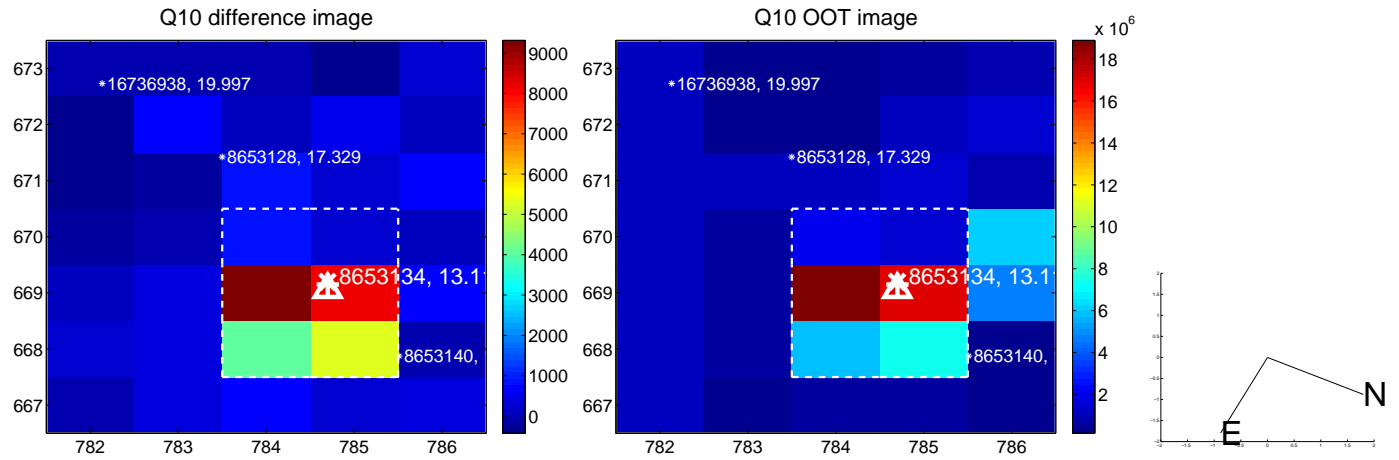
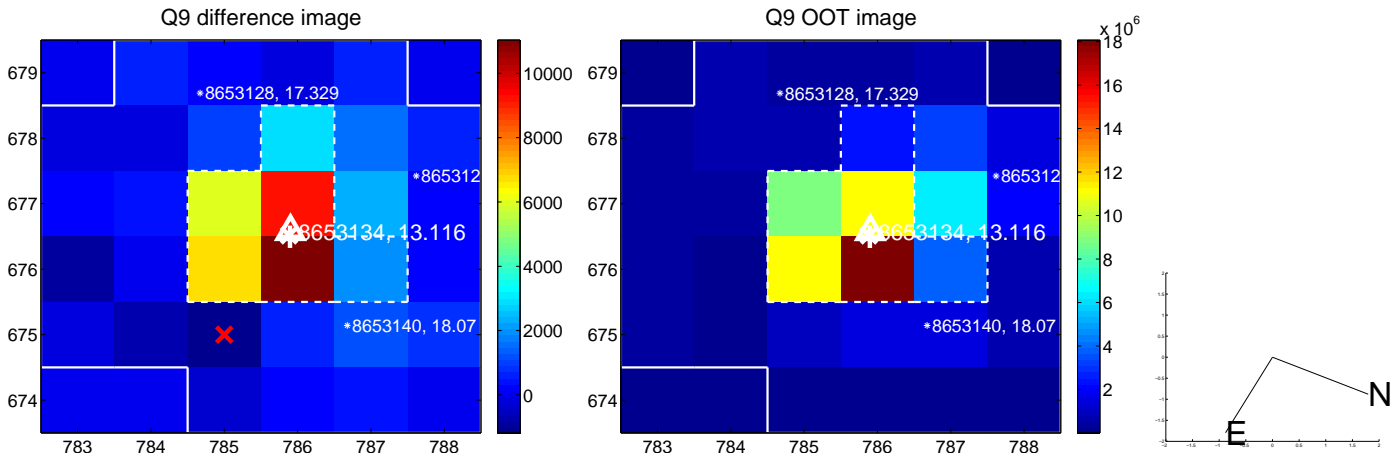
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



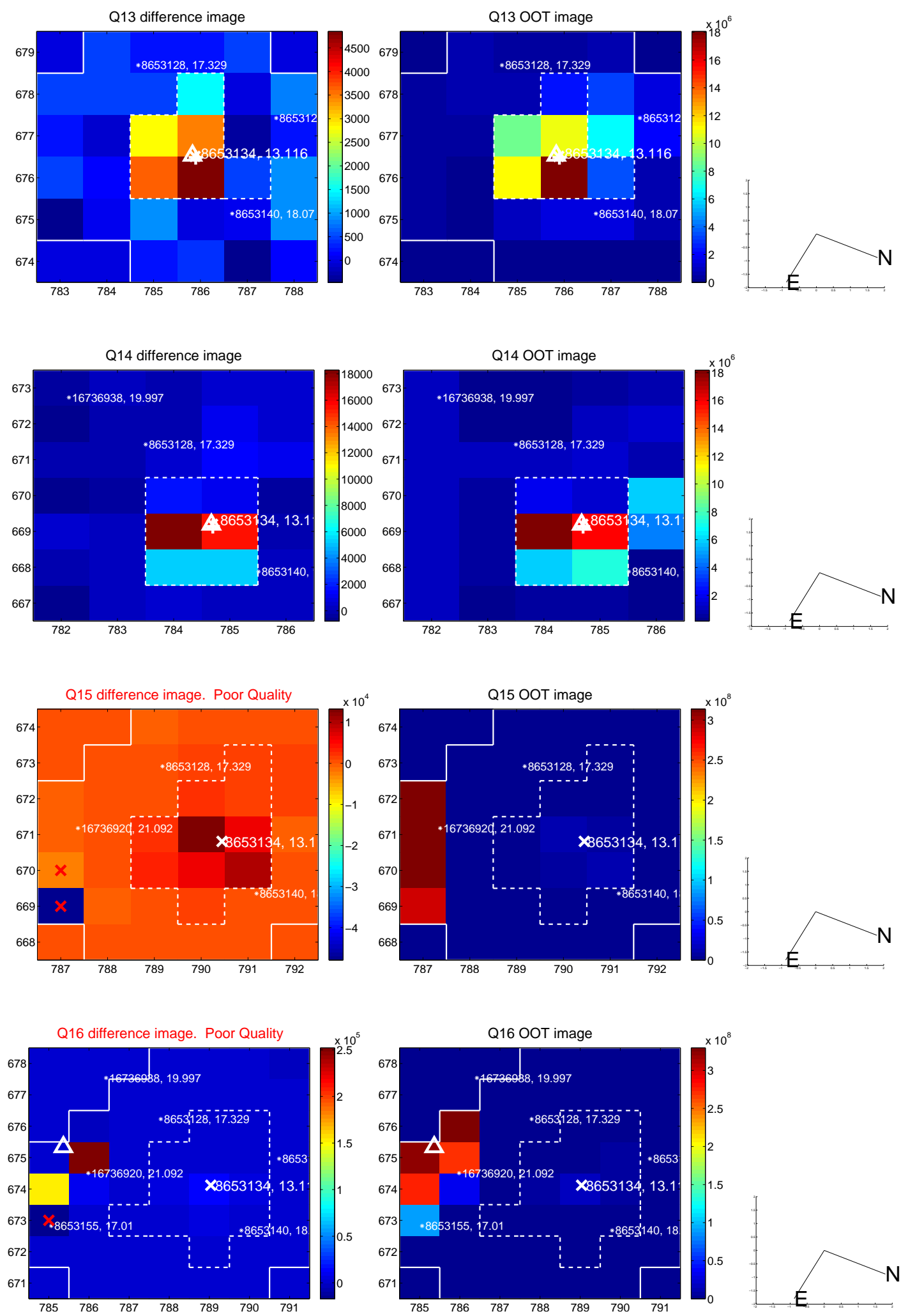
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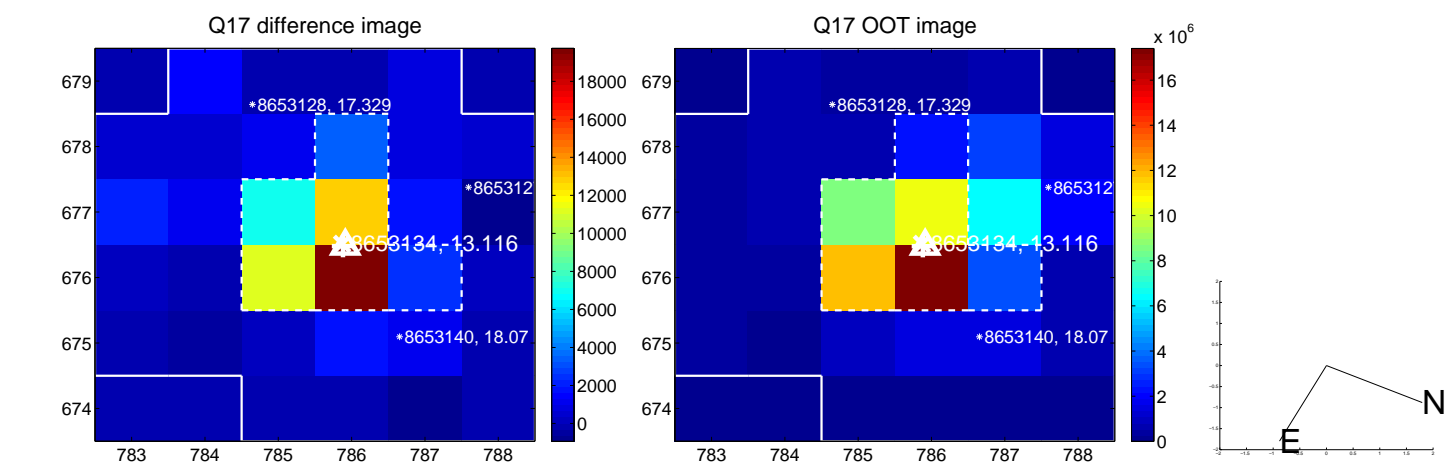
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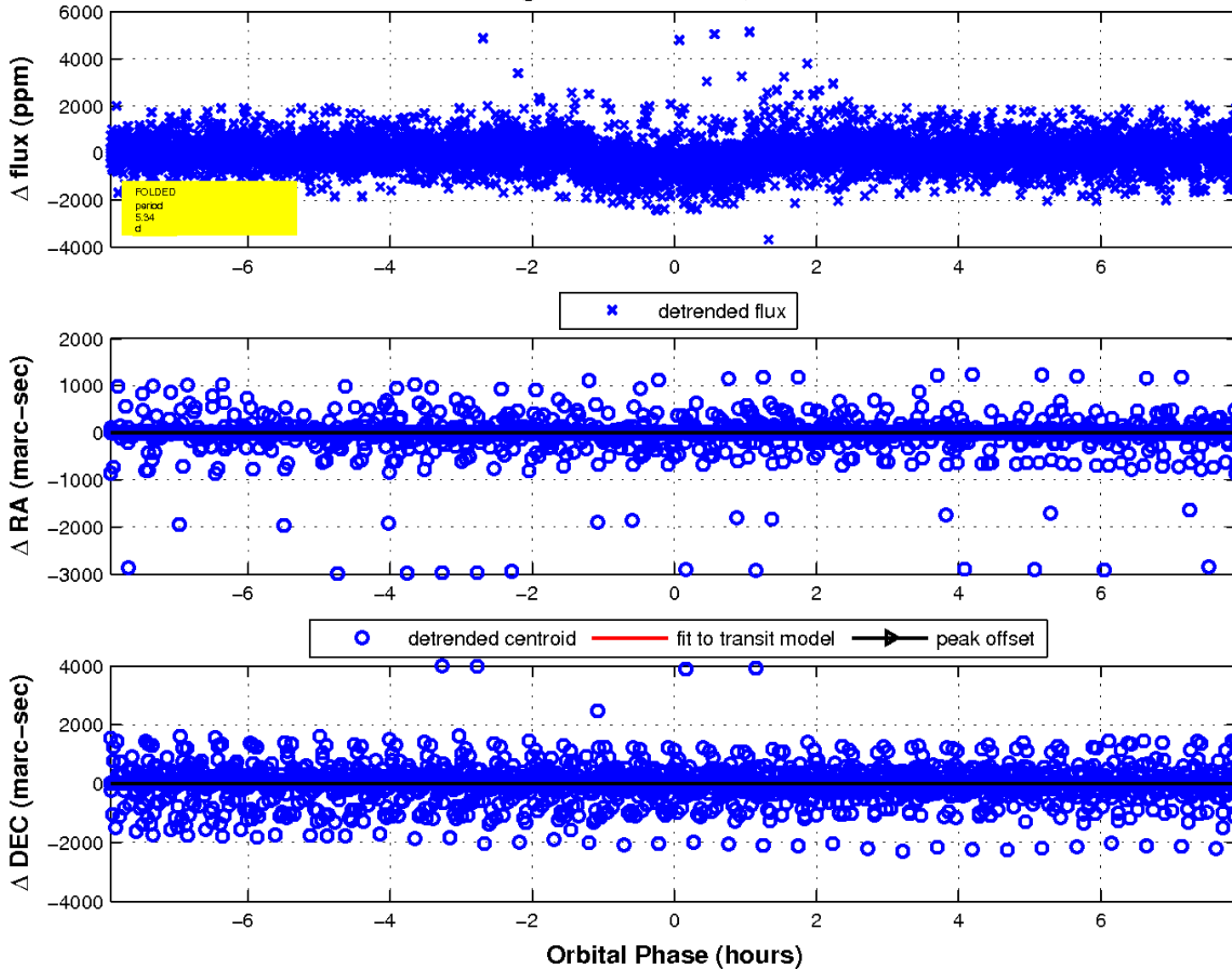
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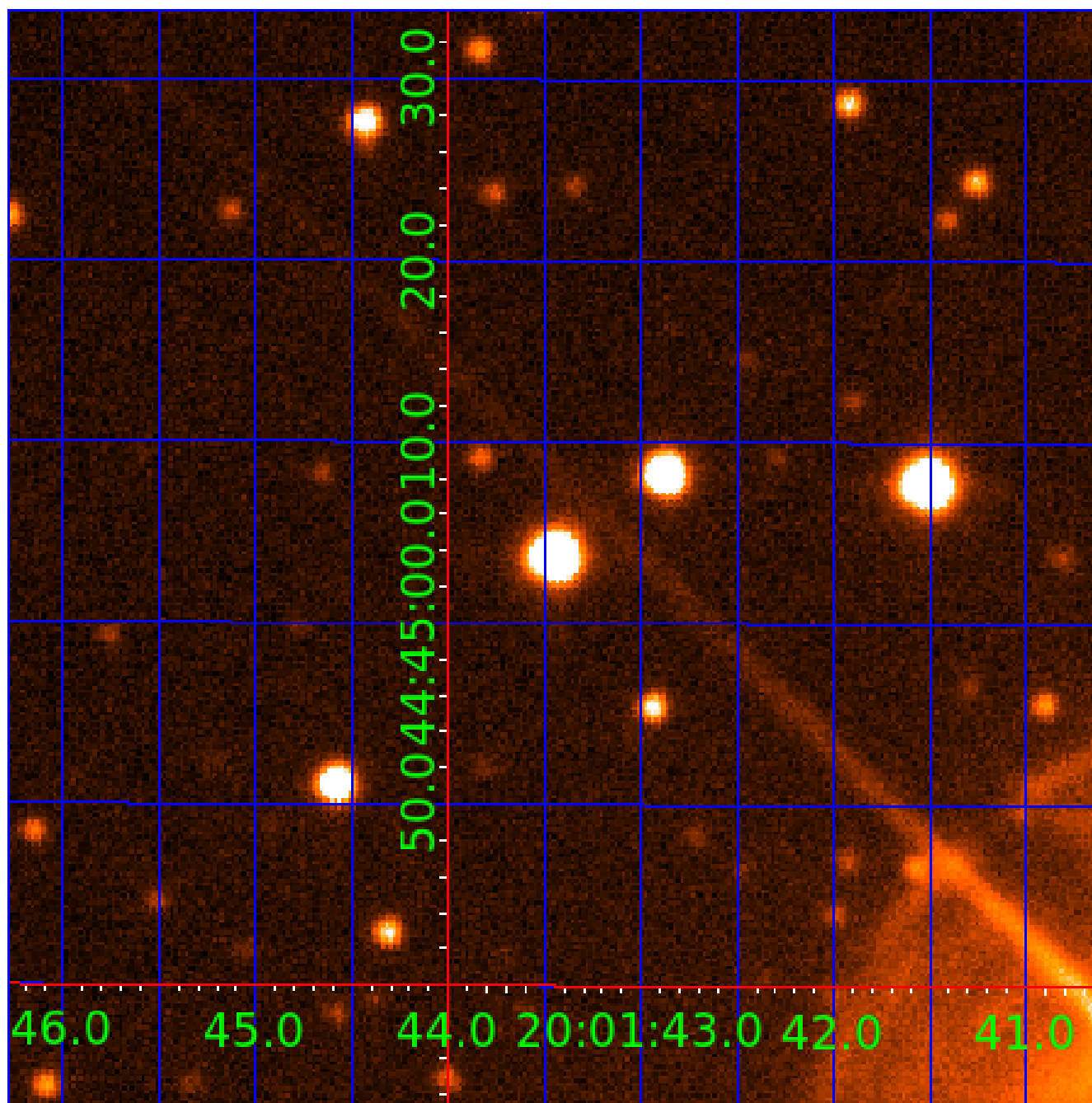


fluxWeightedCentroids, Planet 1 of 4



UKIRT Image

Declination



KIC 008653134

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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Robovetter Results

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008653134-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
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See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

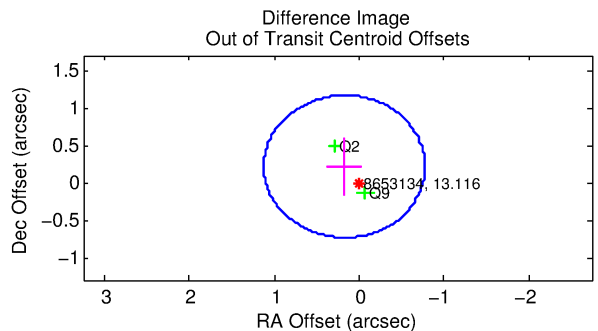
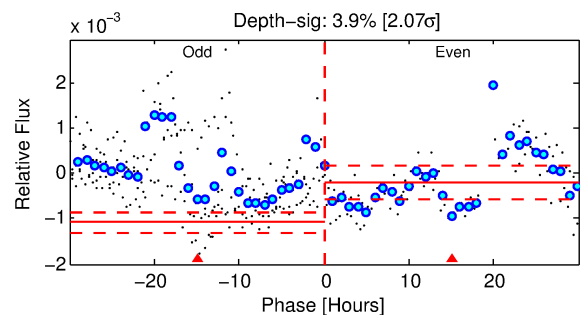
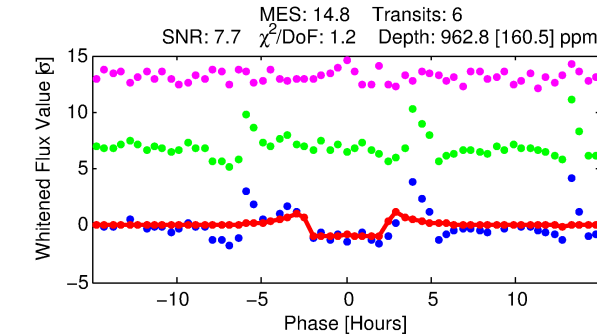
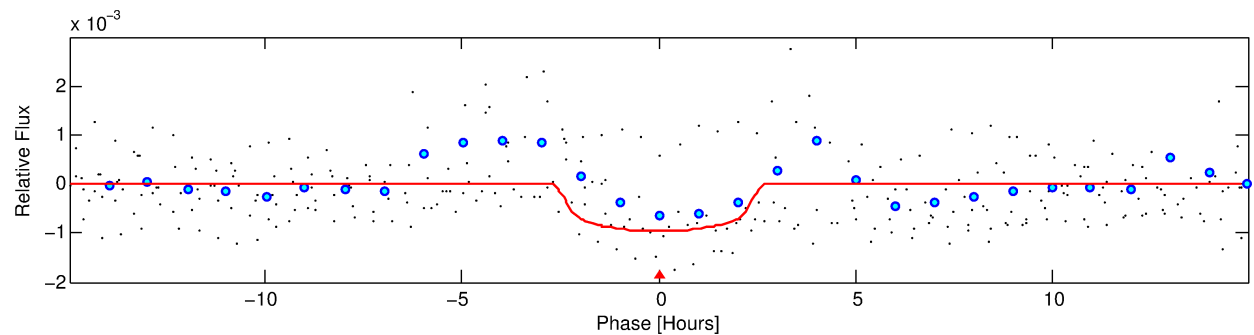
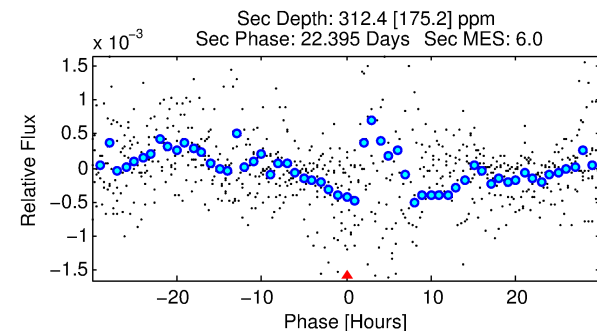
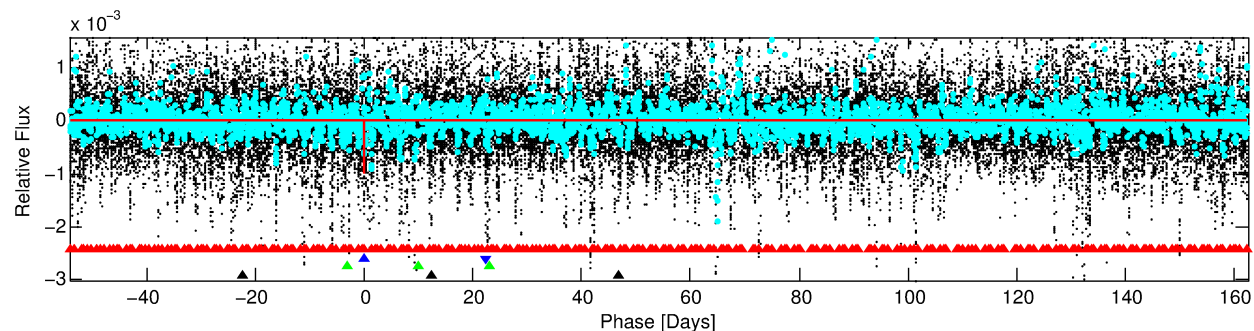
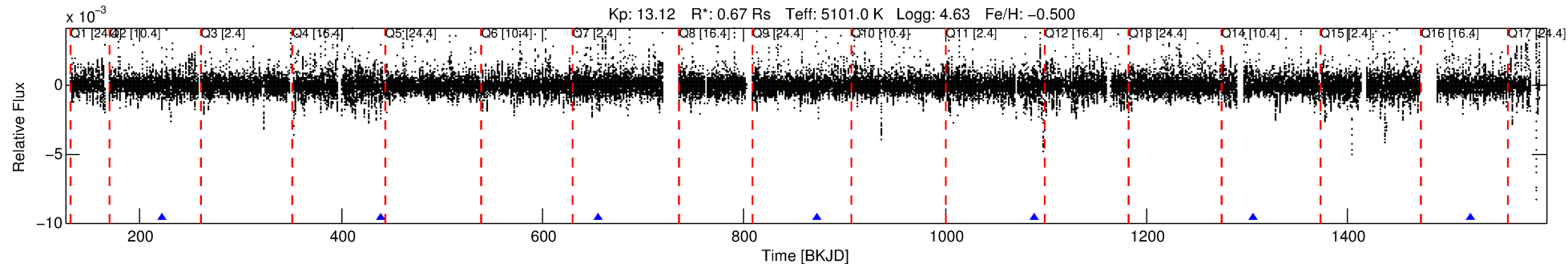
Ephemeris Match Information For 008653134-02

No Significant Match Found

DV One-Page Summary

KIC: 8653134 Candidate: 2 of 4 Period: 216.645 d
KOI: K06186 Corr: No Ephemeris Match

Kp: 13.12 R*: 0.67 Rs Teff: 5101.0 K Logg: 4.63 Fe/H: -0.500



DV Fit Results:

Period = 216.64506 [0.00184] d
Epoch = 222.1408 [0.0063] BKJD
Rp/R* = 0.0281 [0.0491]
a/R* = 328.41 [2171.55]
b = 0.28 [22.14]
Seff = 0.69 [0.13]
Teq = 233 [11] K
Rp = 2.05 [3.60] Re
a = 0.6265 [0.0576] AU
Ag = 16023.37 [56789.81] [0.28σ]
Teffp = 4048 [3588] K [1.06σ]

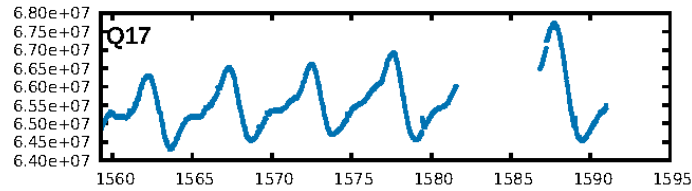
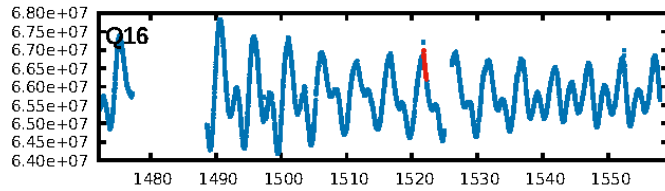
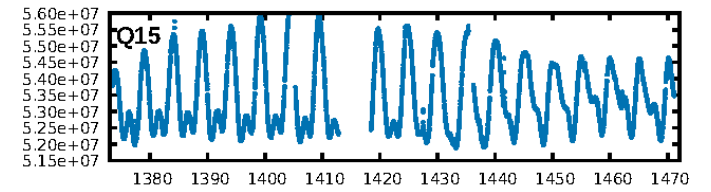
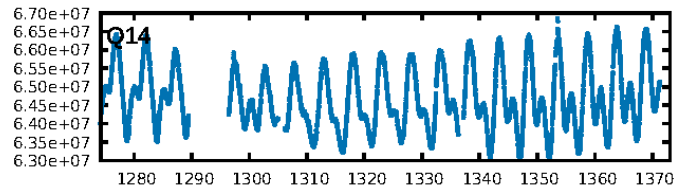
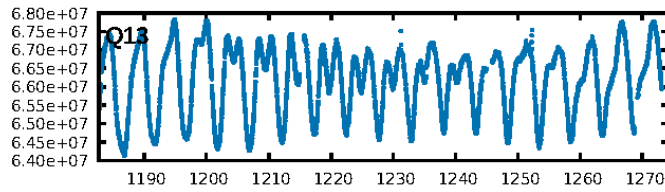
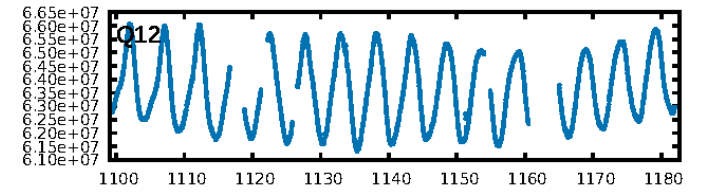
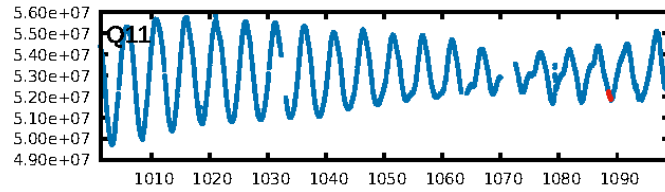
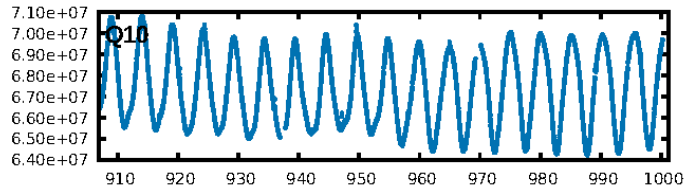
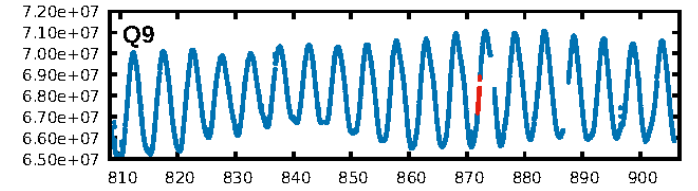
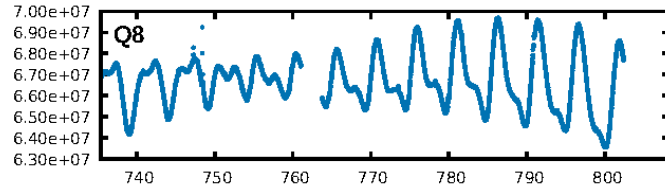
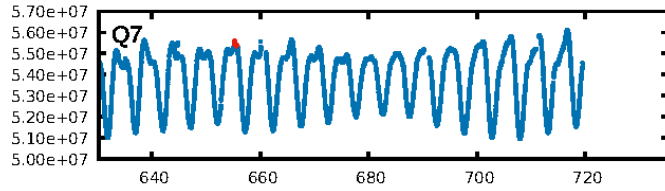
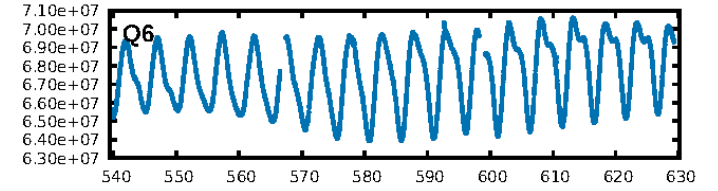
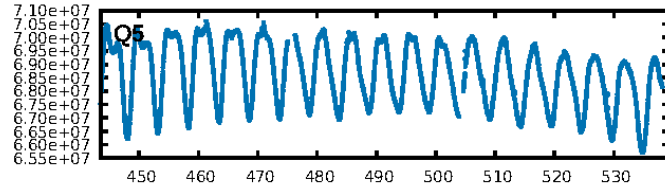
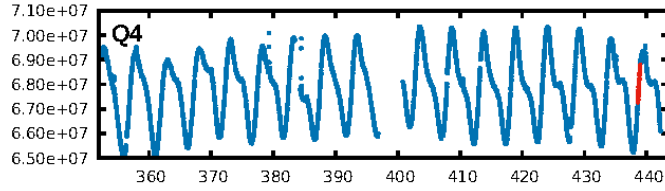
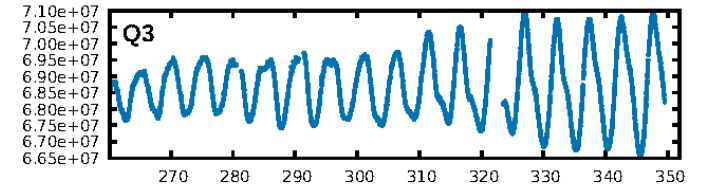
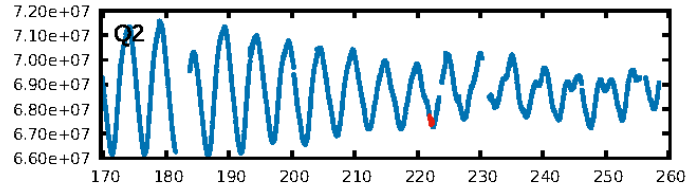
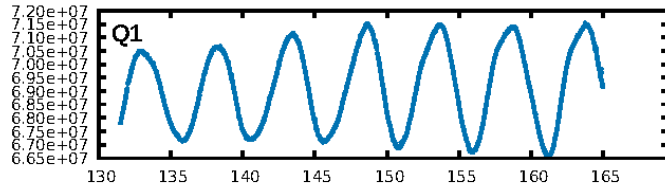
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [898.17σ]
LongPeriod-sig: 100.0% [796.05σ]
ModelChiSquare2-sig: 2.2%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 2.20e-13
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.808
Centroid-sig: 30.9%
Centroid-so: 1.195 arcsec [1.09σ]
OotOffset-rm: 0.274 arcsec [0.86σ]
OotOffset-st: 1/0/0/1 [2]
KicOffset-rm: 0.261 arcsec [0.86σ]
KicOffset-st: 1/1/0/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.67 [4/6]

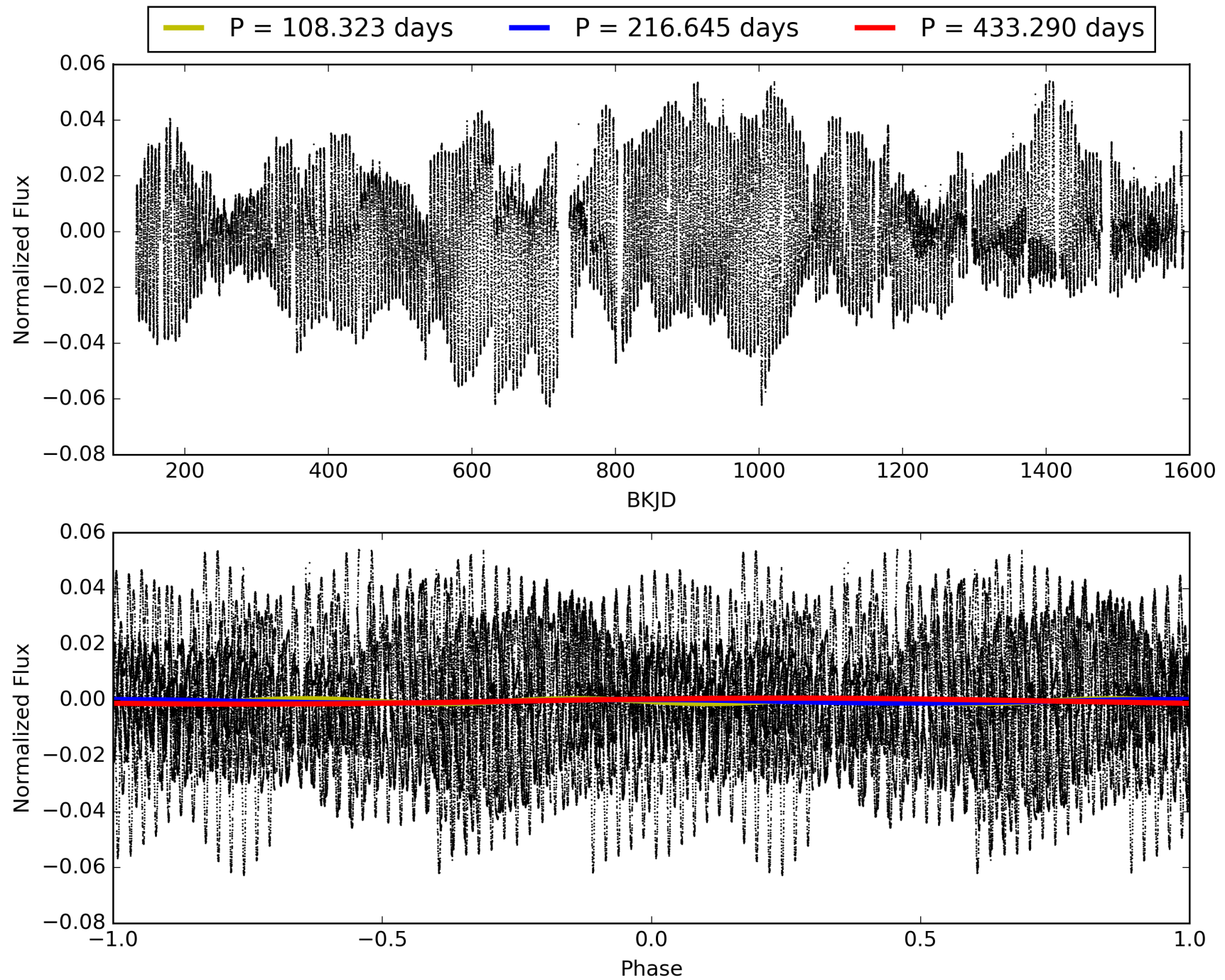
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:53:09 Z

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

TCE 008653134-02, PDC Light Curves

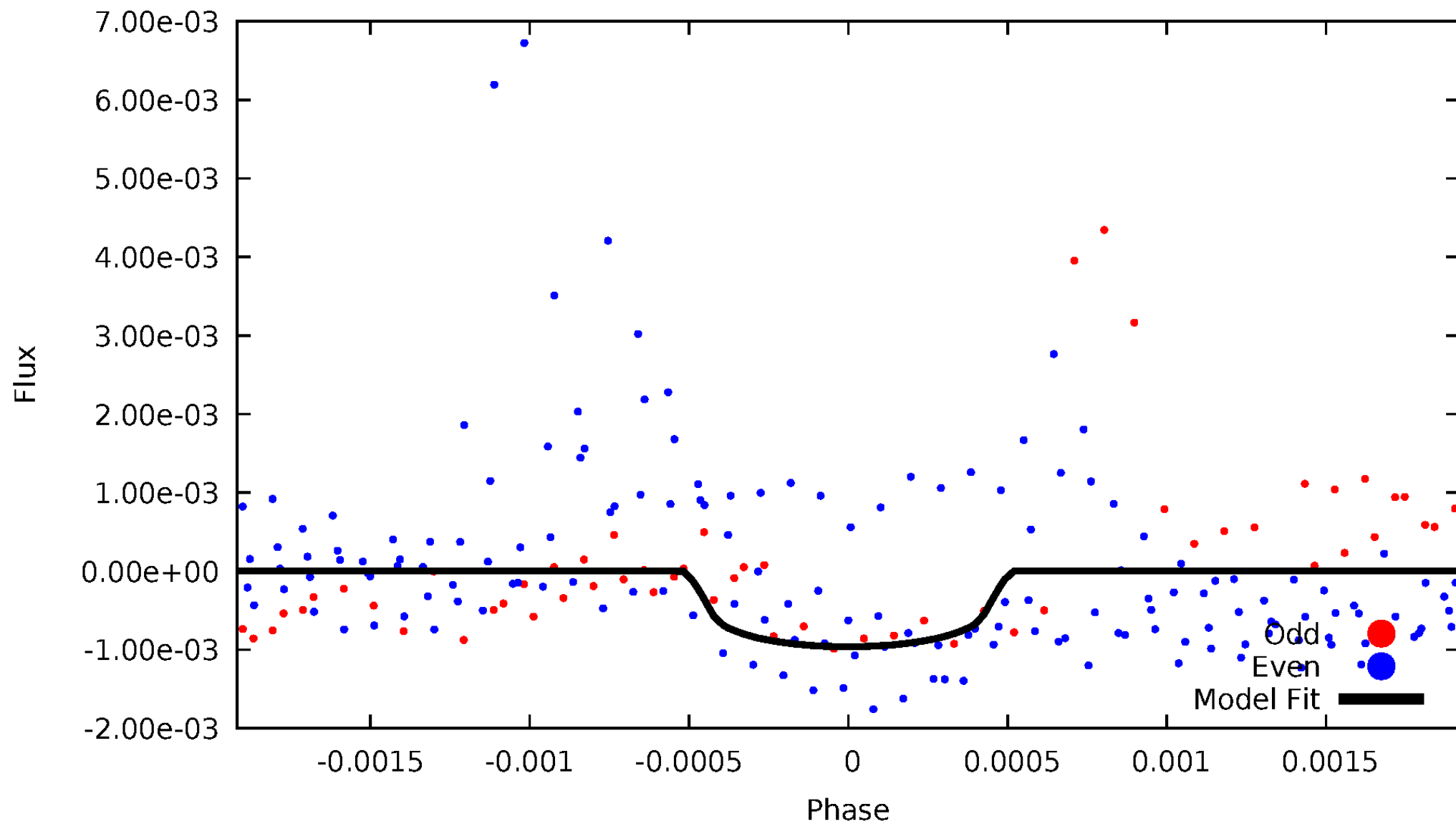


TCE 008653134-02



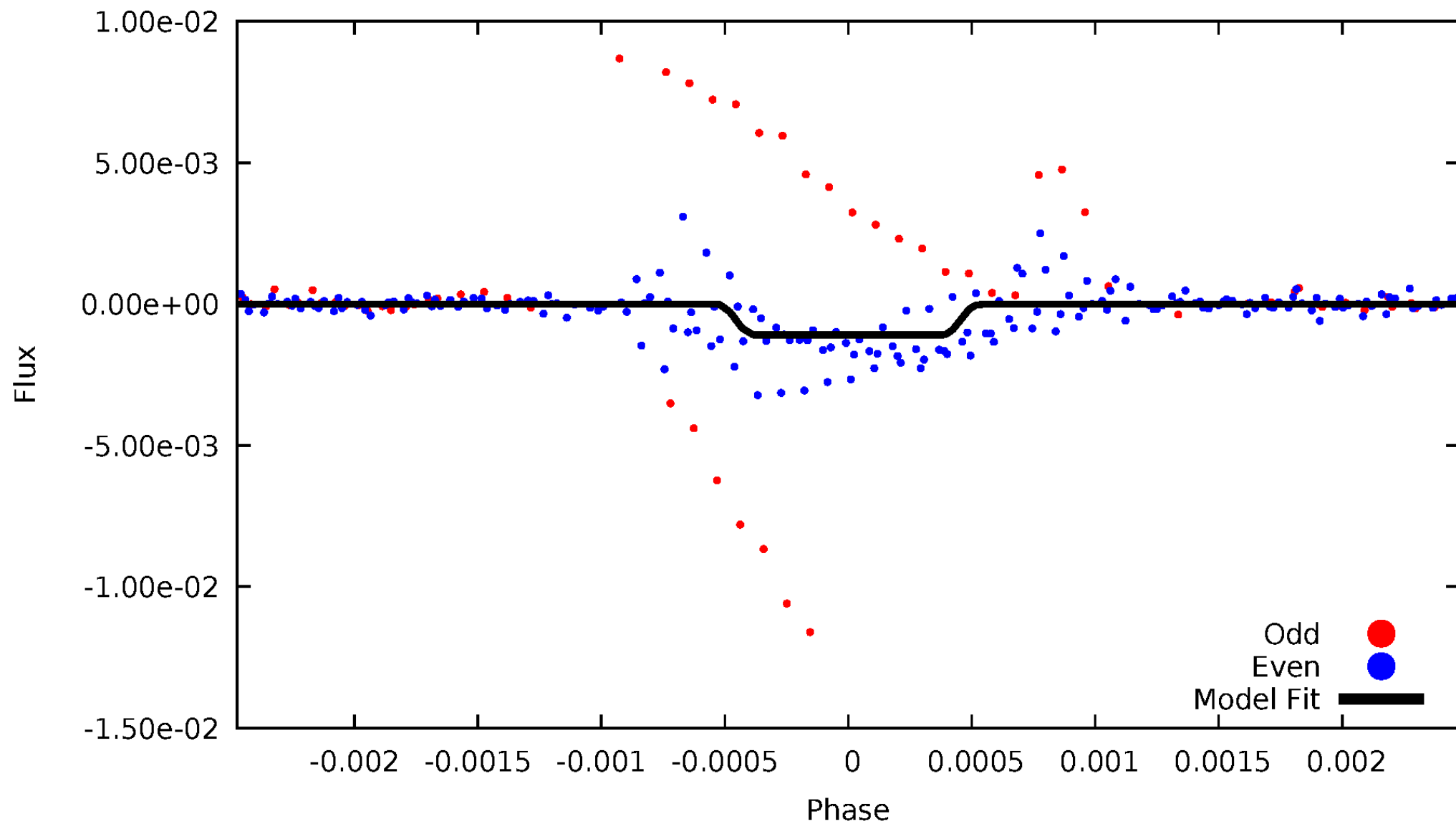
DV Odd/Even

TCE 008653134-02



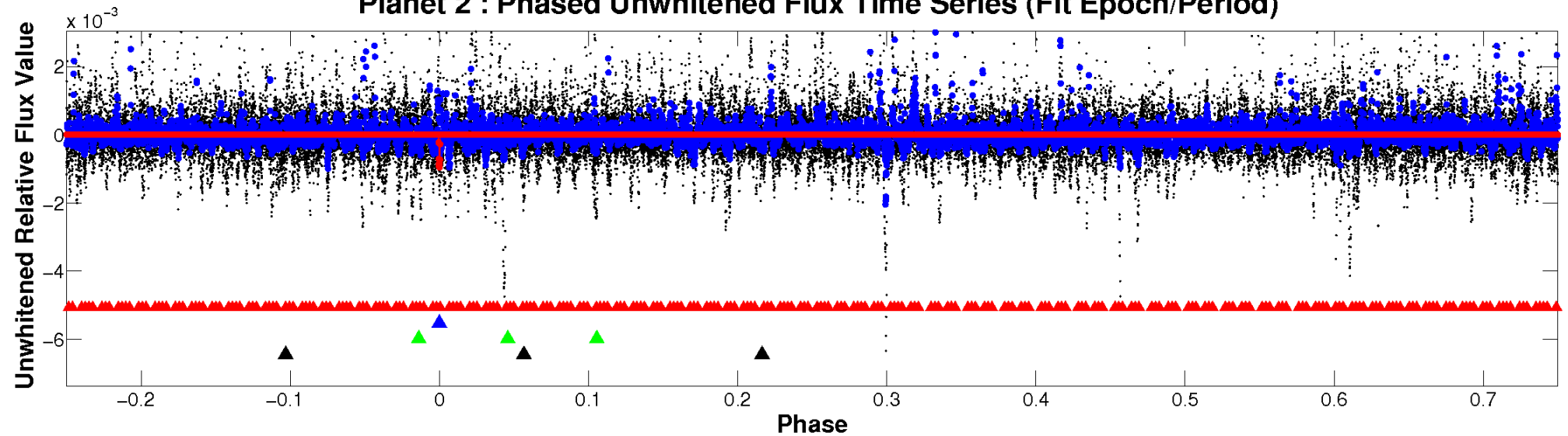
ALT Odd/Even

TCE 008653134-02

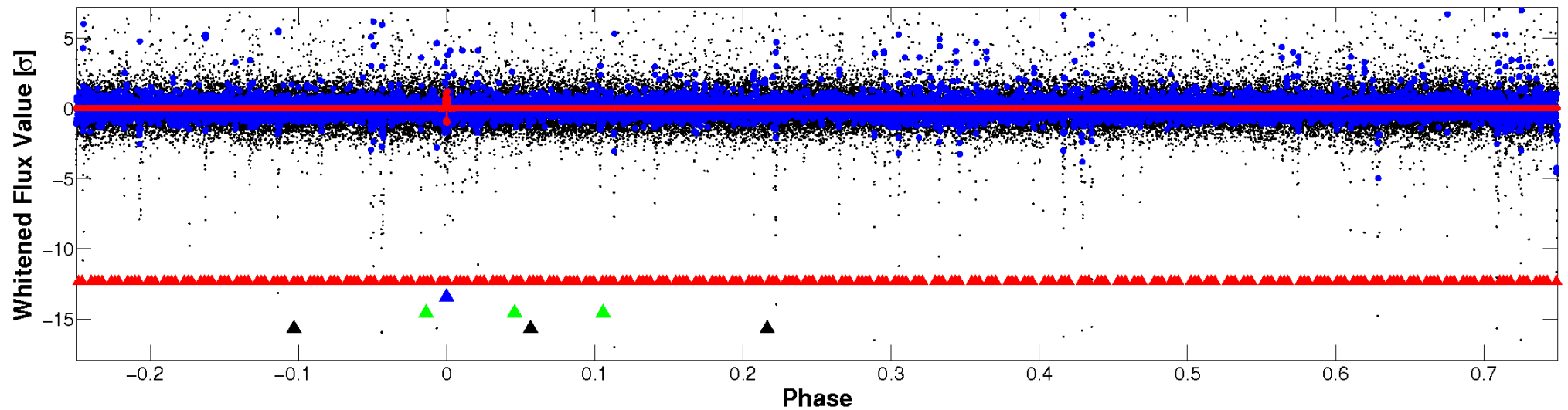


Non-Whitened Vs. Whitened Light Curve

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

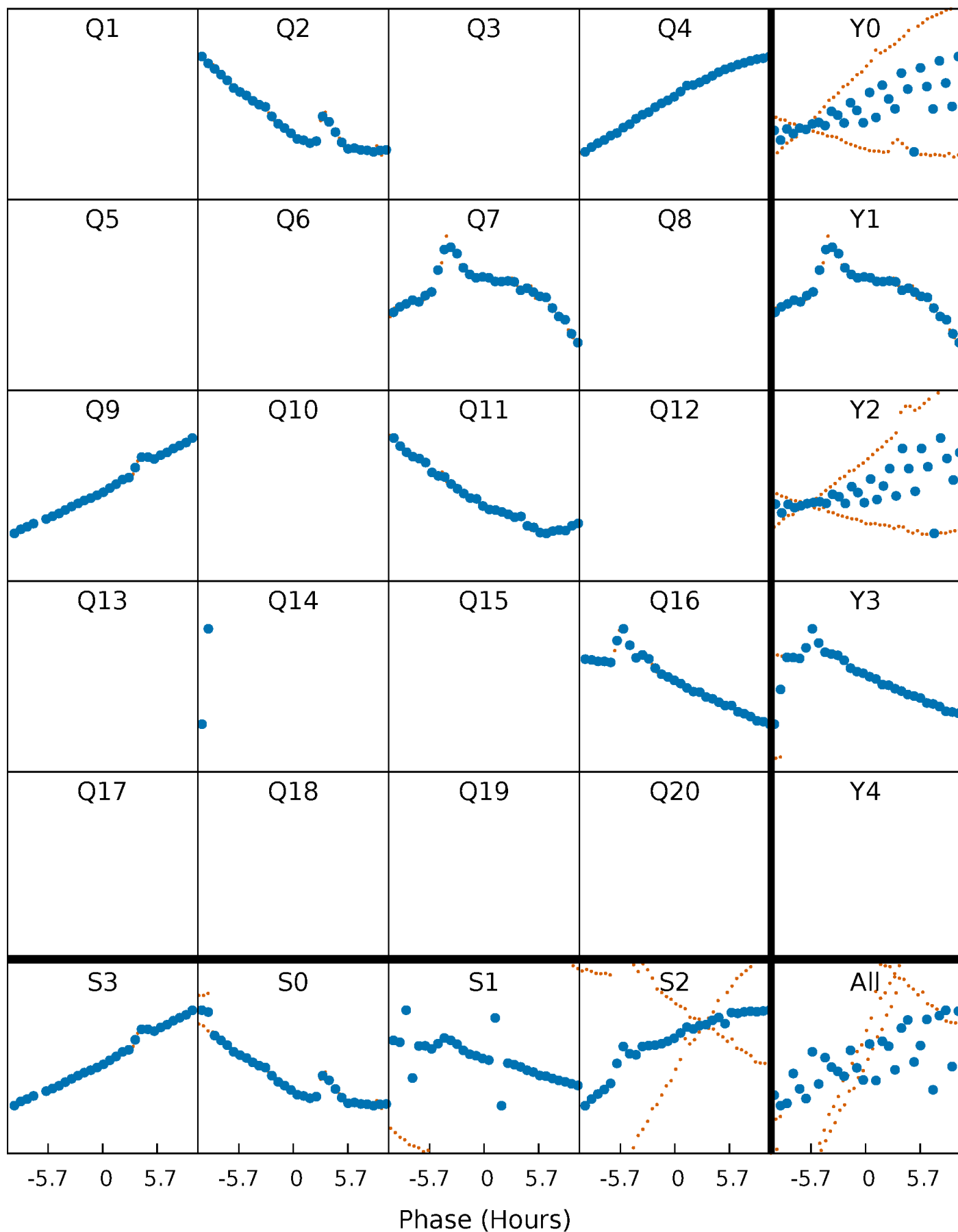


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



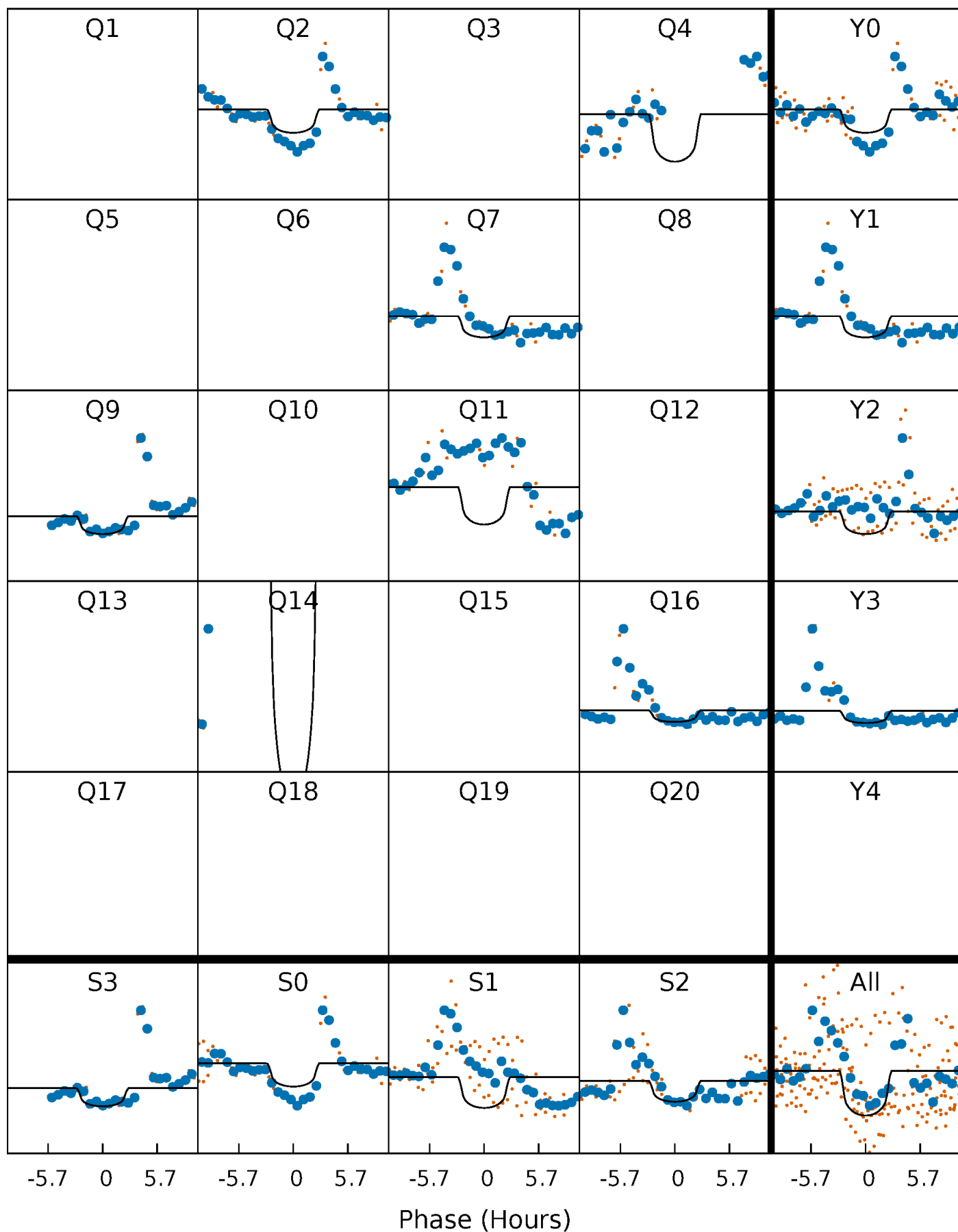
PDC Quarter-Phased Transit Curves

TCE 008653134-02 P=216.645061 Days $T_0=222.140758$ (BKJD)



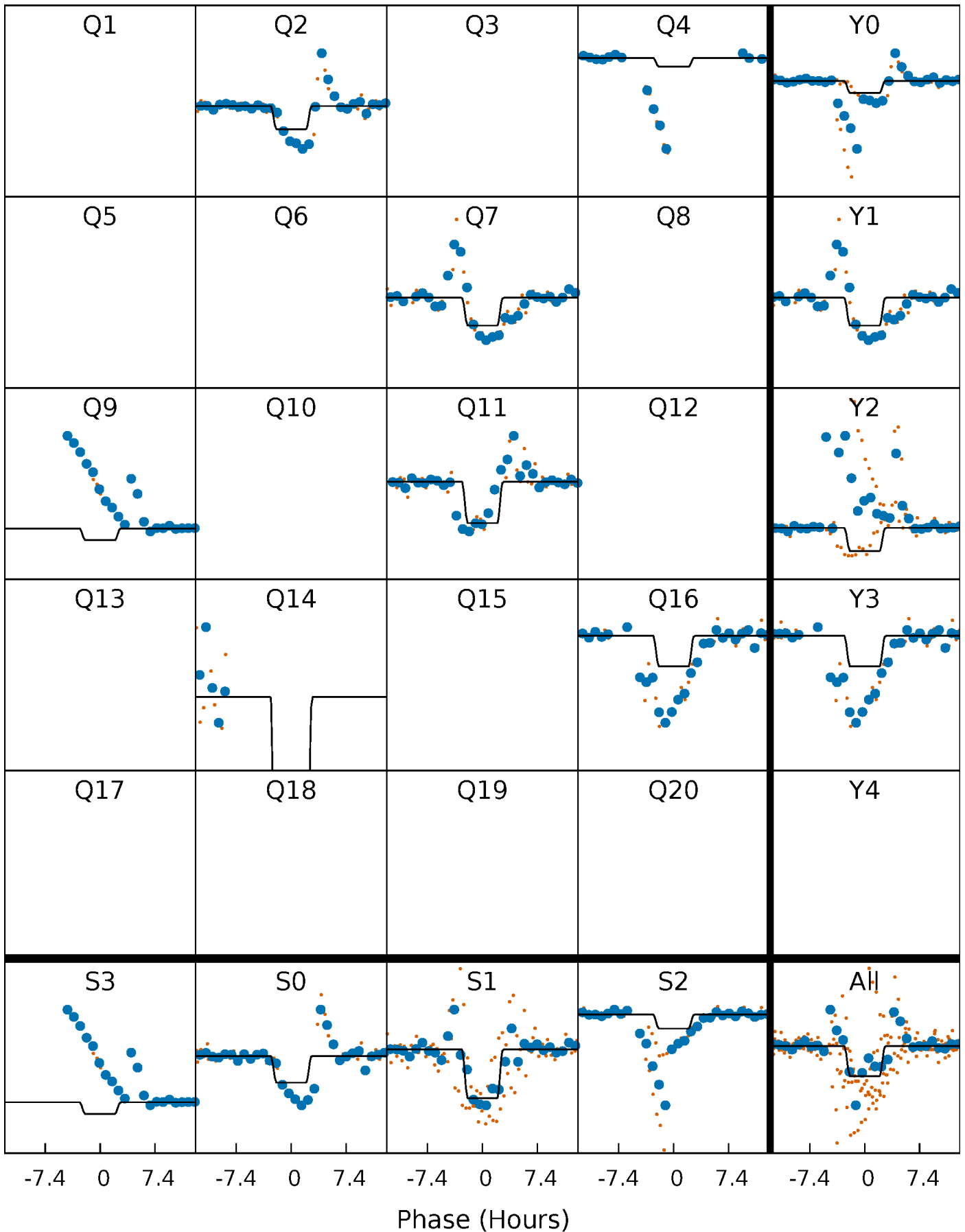
DV Quarter-Phased Transit Curves

TCE 008653134-02 P=216.645061 Days $T_0=222.140758$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

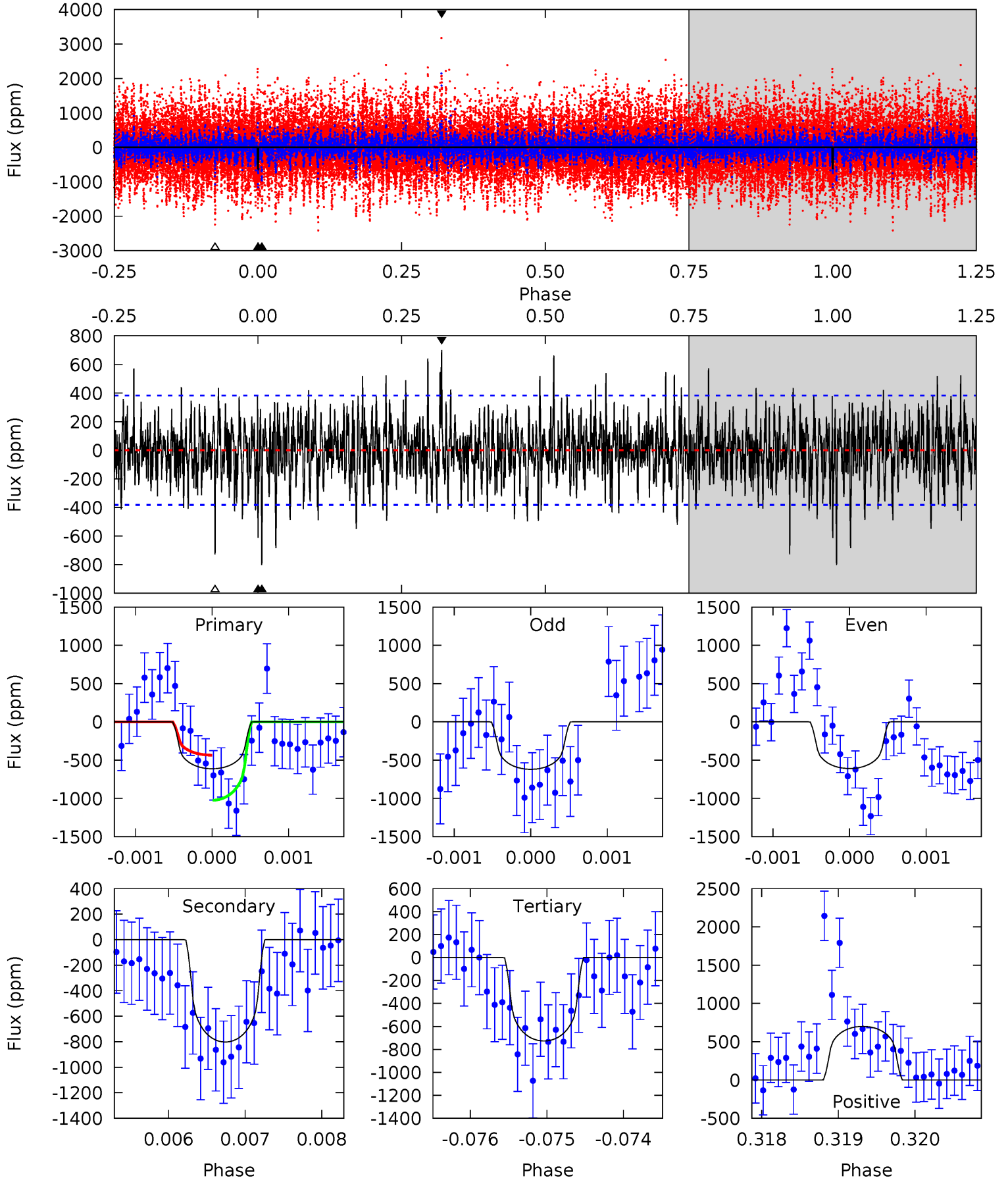
TCE 008653134-02 P=216.650226 Days $T_0=222.111895$ (BKJD)



DV Model-Shift Uniqueness Test

008653134-02, P = 216.645061 Days, E = 5.495697 Days

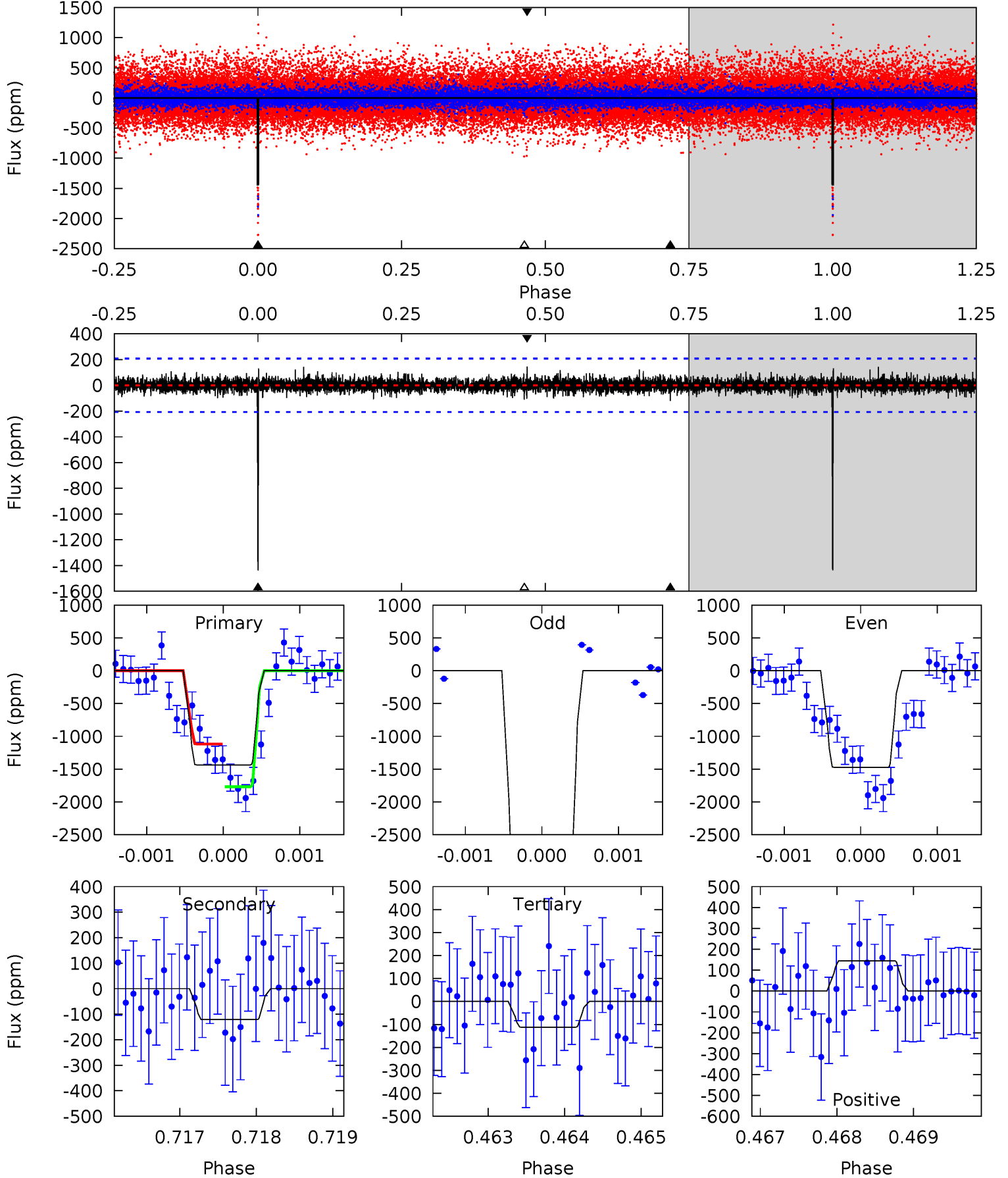
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.73	11.4	10.4	9.98	5.45	3.29	2.42	-1.63	-1.26	1.07	1.45	0.06	0.67	0.47	4.15



Alt Model-Shift Uniqueness Test

008653134-02, P = 216.650226 Days, E = 5.461669 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
37.8	3.18	2.95	3.80	5.44	3.28	0.75	34.8	34.0	0.24	-0.62	21.3	1.52	0.09	8.54



Stellar Parameters For KIC 008653134

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5101^{+184}_{-184}	$4.630^{+0.045}_{-0.060}$	$-0.500^{+0.300}_{-0.300}$	$0.670^{+0.080}_{-0.053}$	$0.699^{+0.076}_{-0.055}$	$3.275^{+0.633}_{-0.764}$
	+4%/-4%	+1%/-1%	+60%/-60%	+12%/-8%	+11%/-8%	+19%/-23%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008653134-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-802 ± 70	$3.45^{+3.16}_{-2.34}$	326^{+14}_{-13}	4158^{+2747}_{-792}	$13820^{+126902}_{-9923}$
Alt.	-121 ± 38	$3.48^{+3.41}_{-2.26}$	326^{+14}_{-14}	3031^{+1271}_{-503}	1987^{+15778}_{-1496}

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 $A_{obs} \gg 1.0$

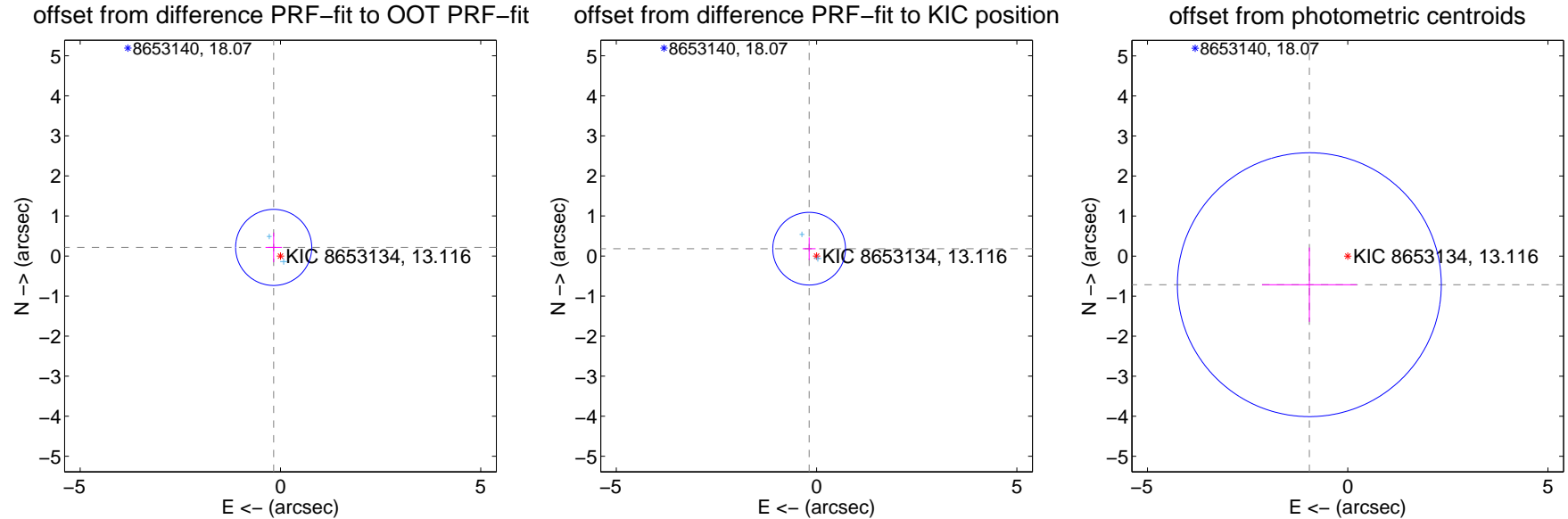
DV Centroid Data

Supplemental centroid analysis for 008653134-02. Kepler magnitude: 13.12. Transit SNR 7.75

There are 2 quarters with good PRF difference image offsets

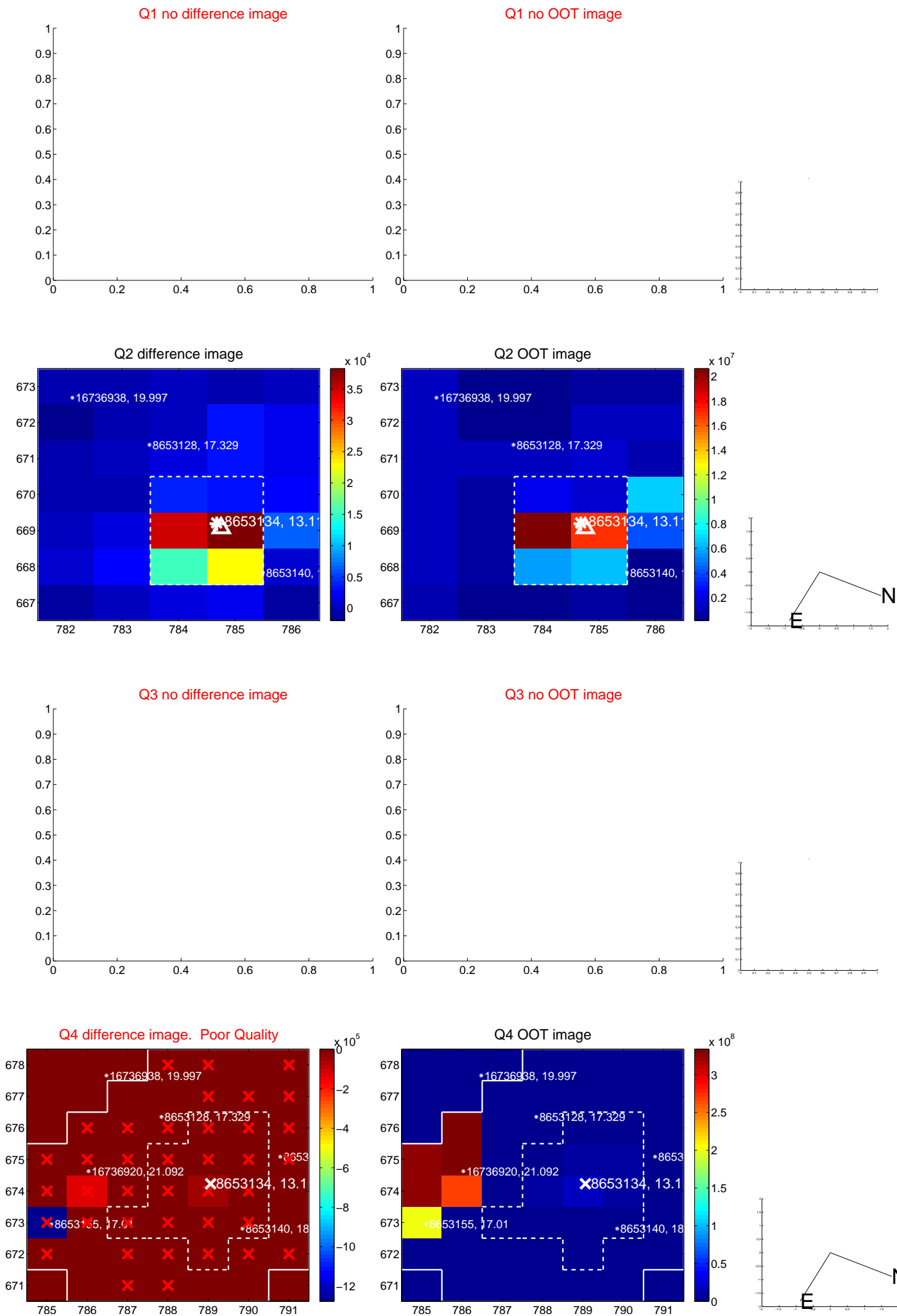
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.274 ± 0.317	0.86	0.169 ± 0.205	0.215 ± 0.369
PRF-fit source offset from KIC position	0.261 ± 0.303	0.86	0.186 ± 0.162	0.183 ± 0.280
photometric centroid source offset	1.20 ± 1.10	1.09	0.96 ± 1.18	-0.71 ± 0.93

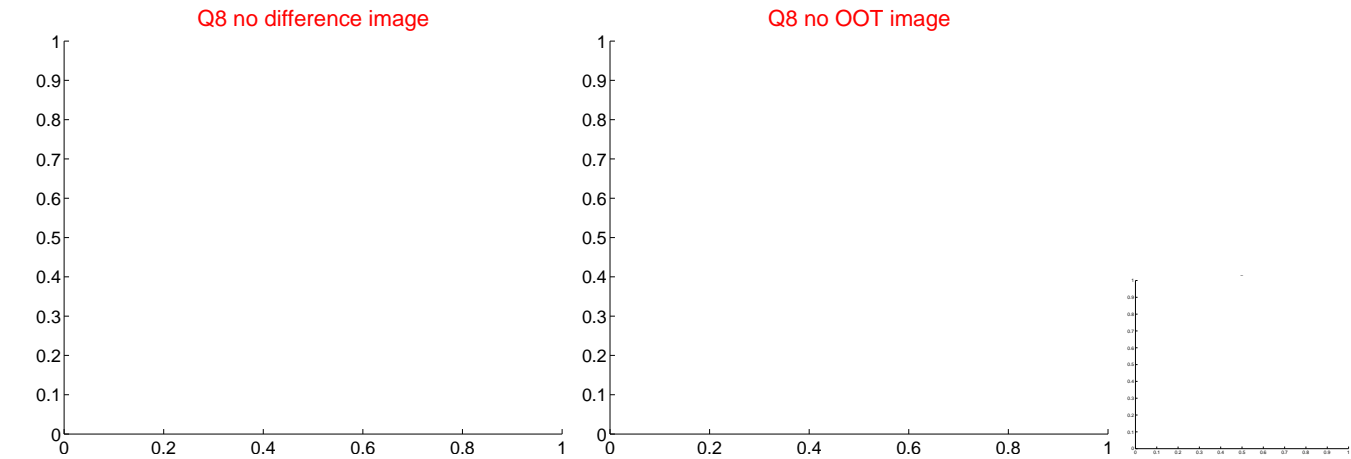
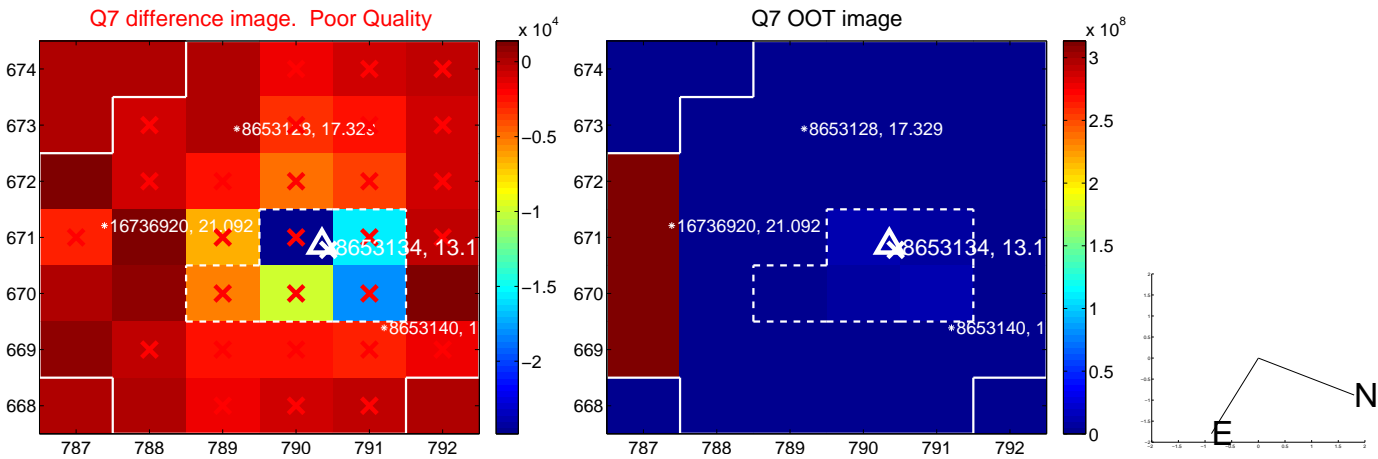
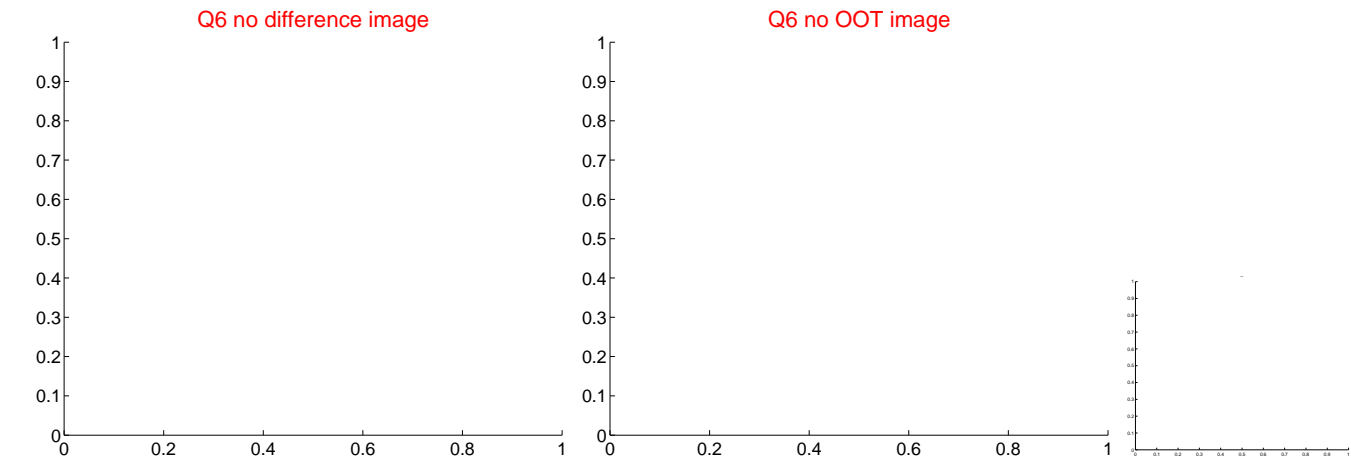
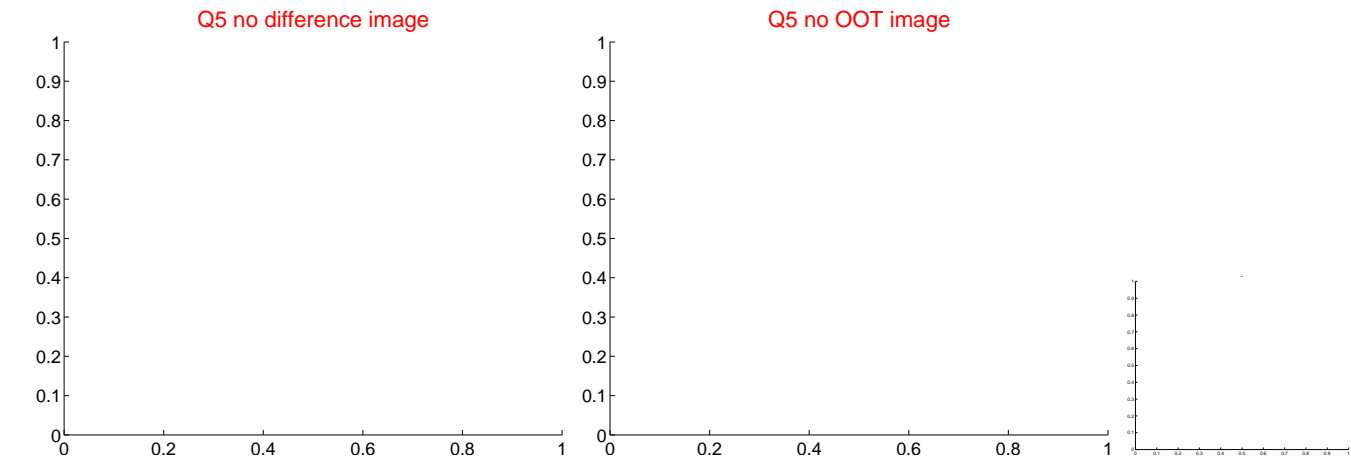


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

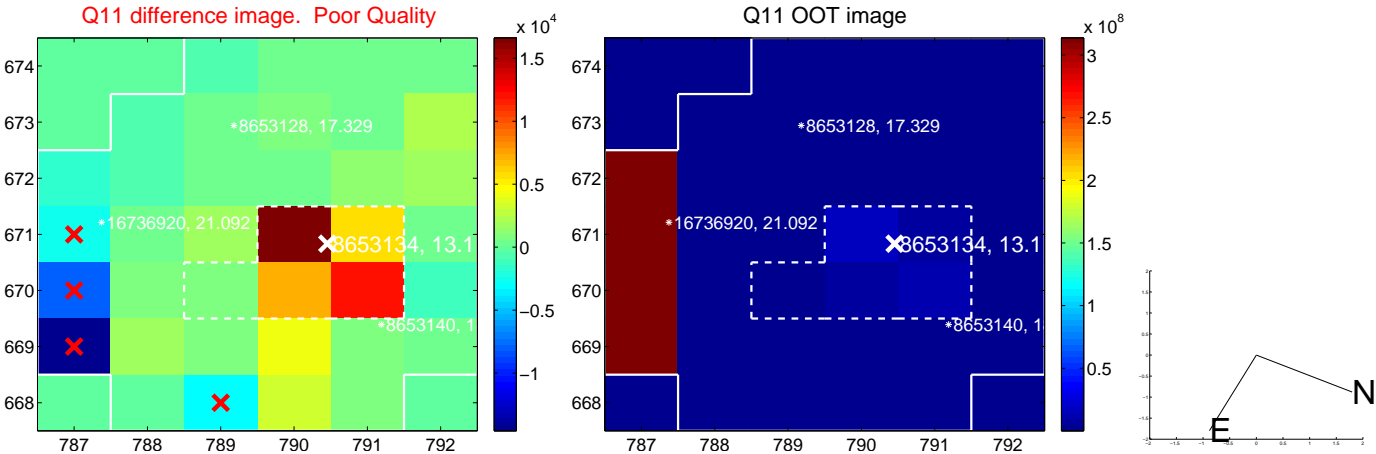
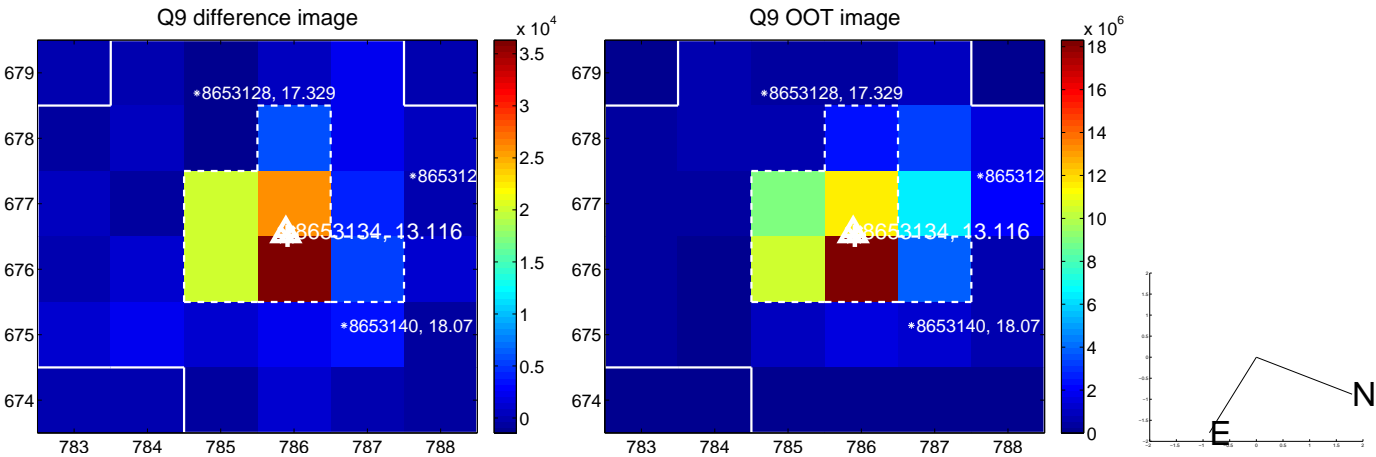
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



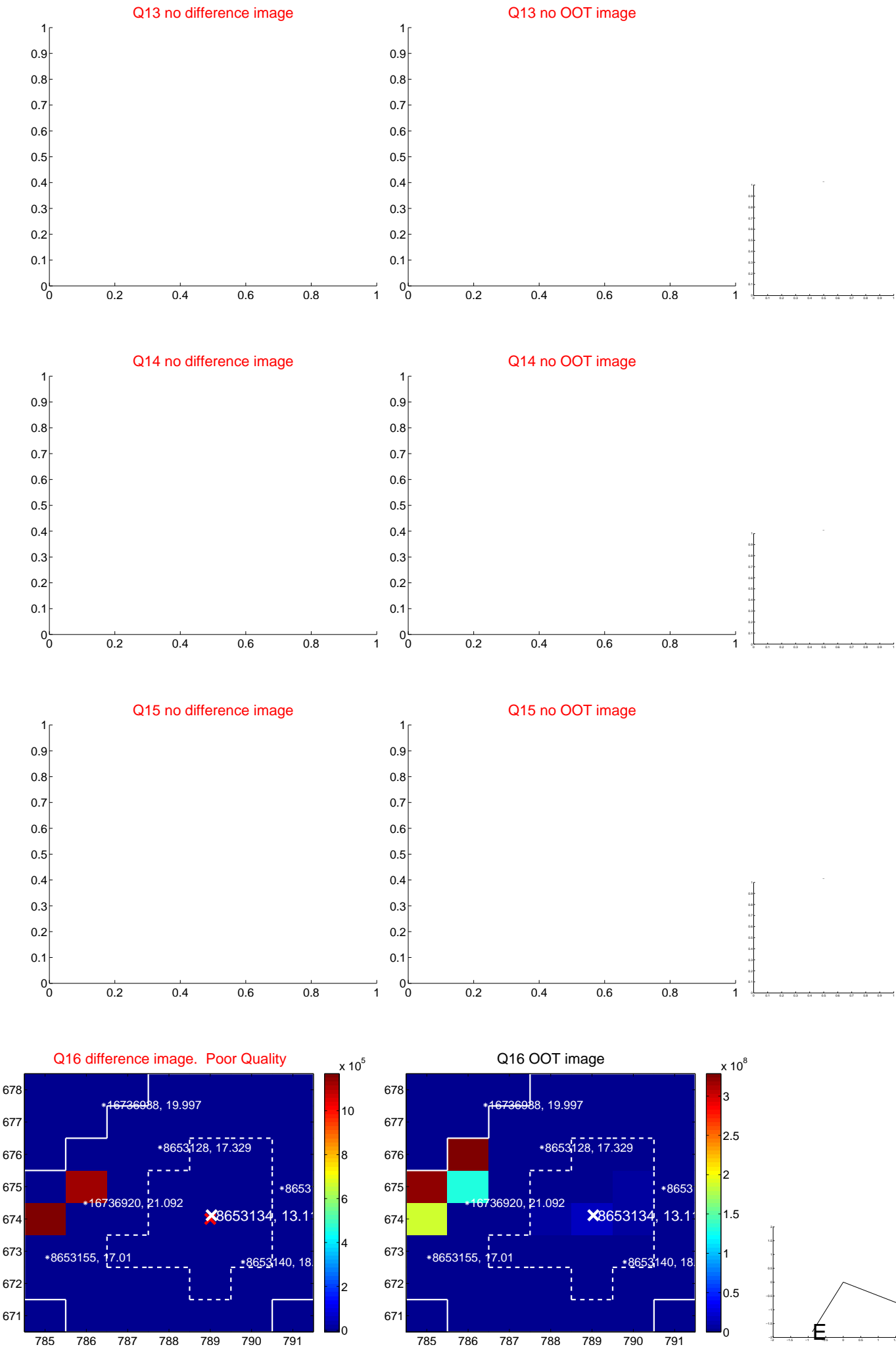
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



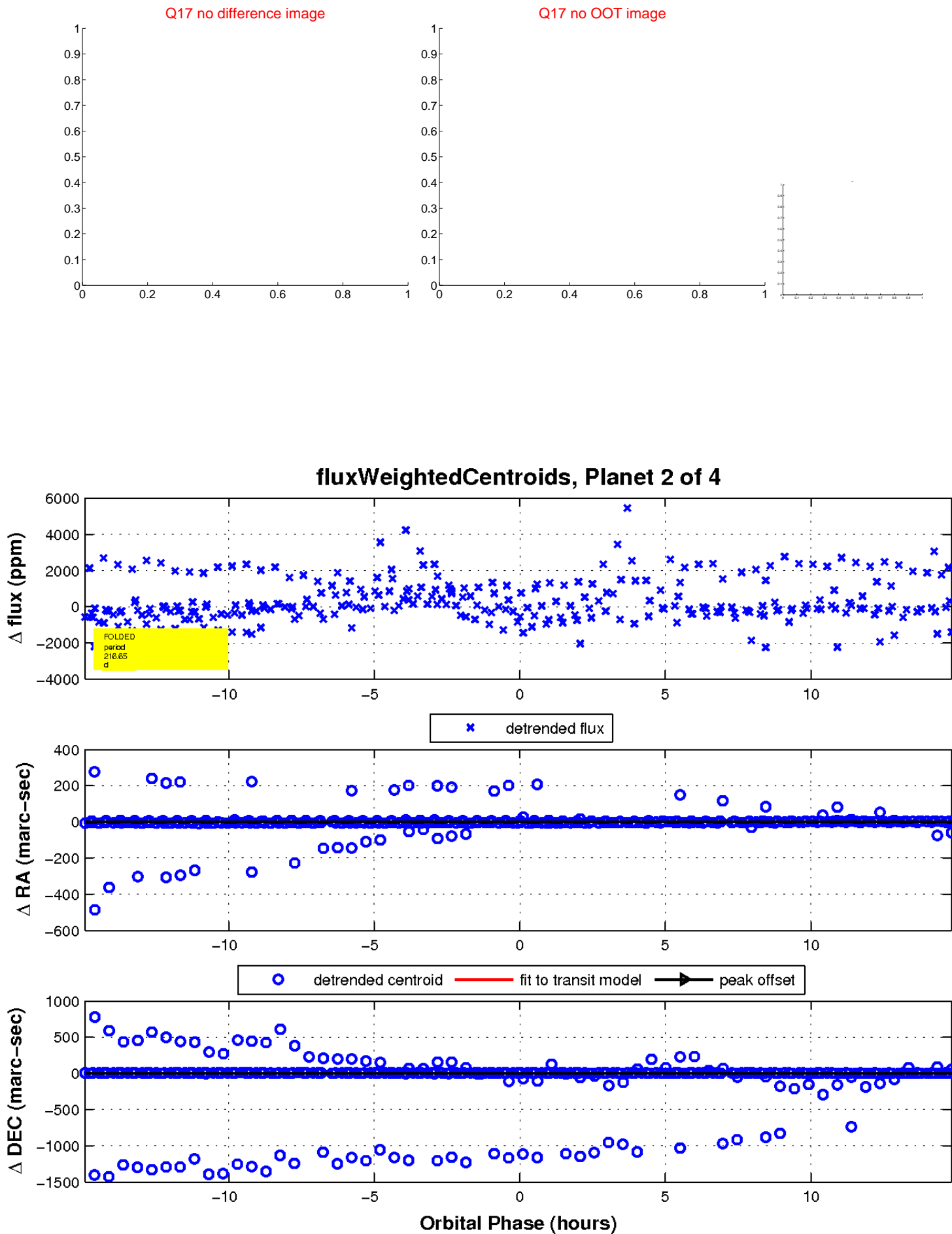
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

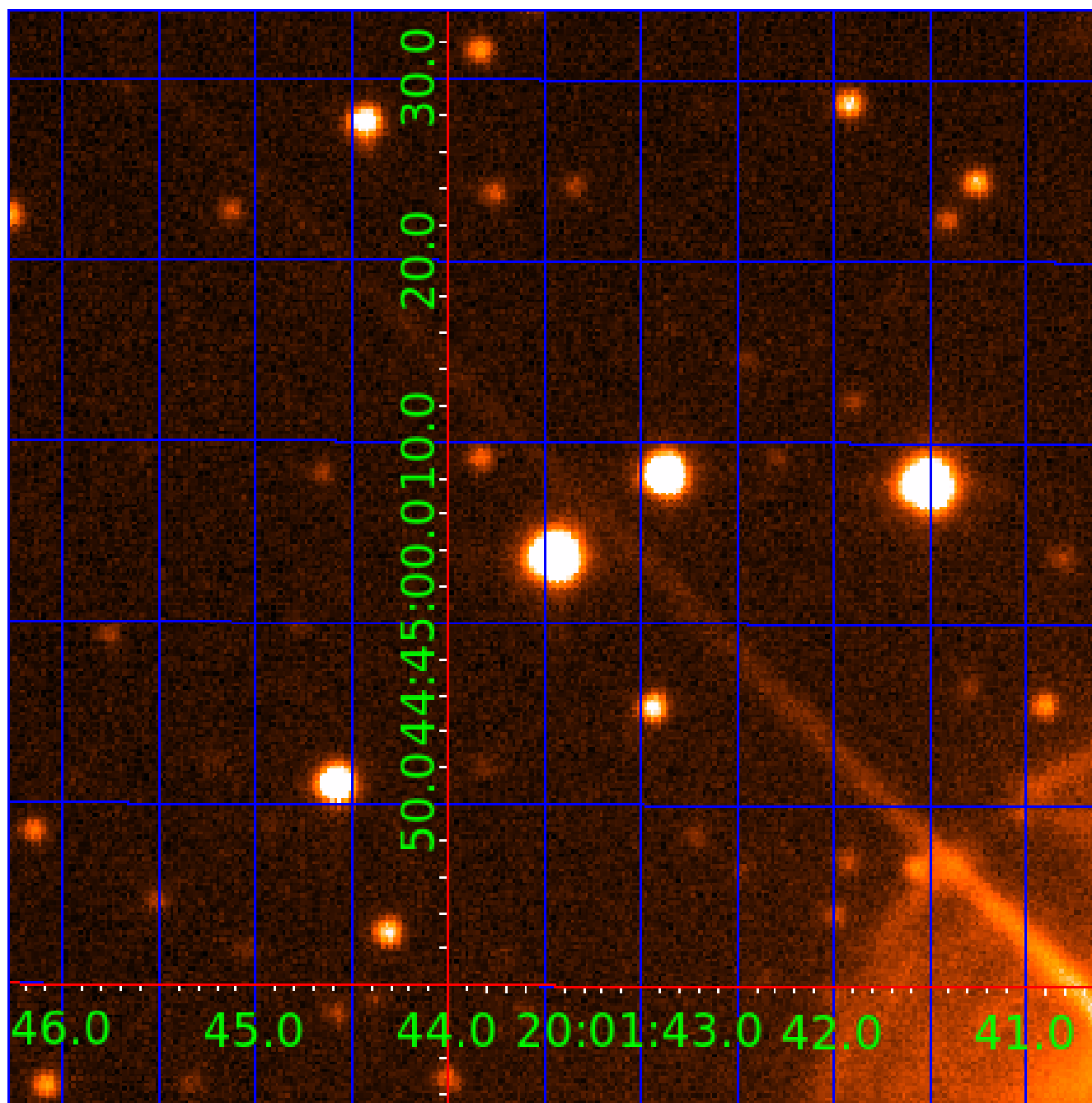


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008653134

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})
008653134-01	OBS	6186.01	5.342613	134.383407	728.4	2.646	39.5	47.2	0.67	5101	2.10	96.66
008653134-02	OBS	No	216.645061	222.140758	962.8	4.988	14.8	7.7	0.67	5101	2.05	0.69
008653134-03	OBS	No	420.353795	461.662403	633.2	12.019	14.4	2.8	0.67	5101	1.68	0.29
008653134-04	OBS	No	398.688495	485.668898	240.3	2.289	13.2	1.9	0.67	5101	1.18	0.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008653134-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008653134-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_MEAS
008653134-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008653134-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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 008653134-03

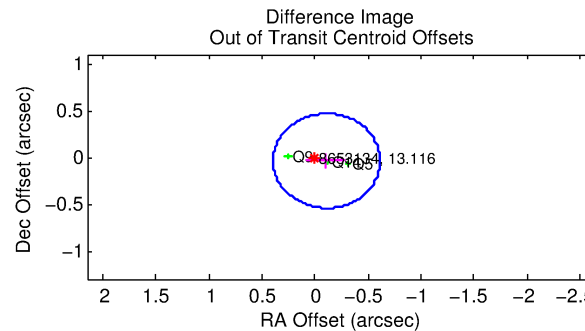
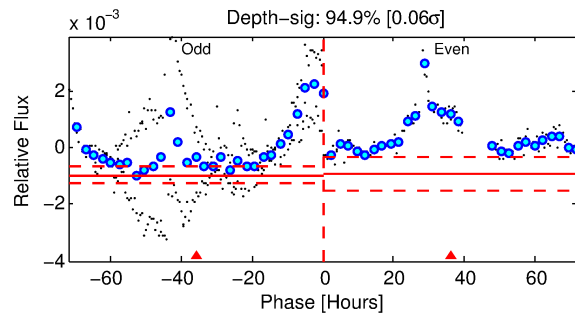
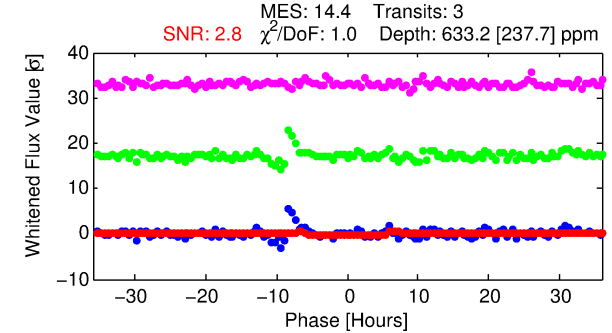
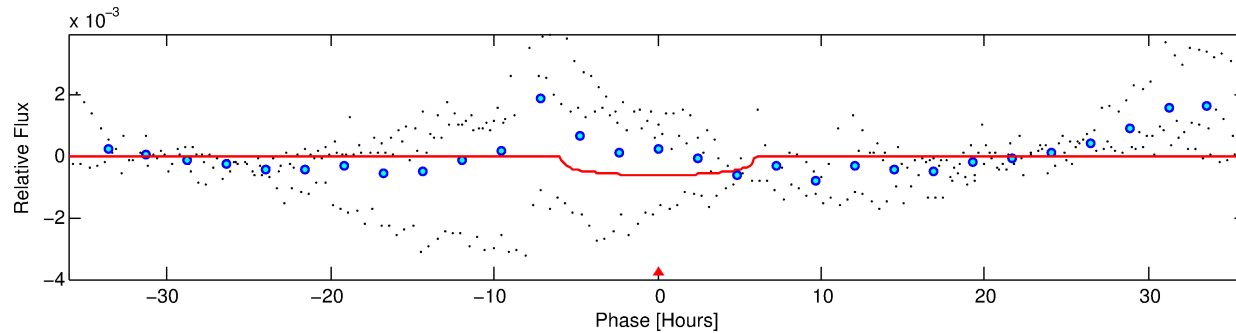
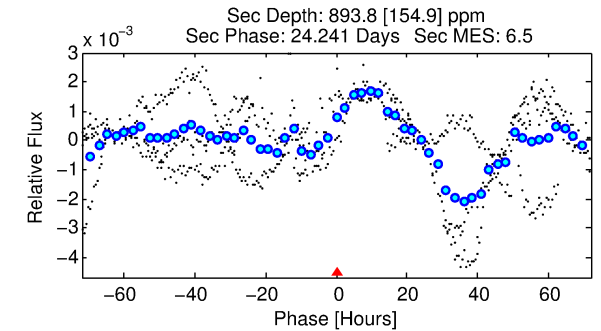
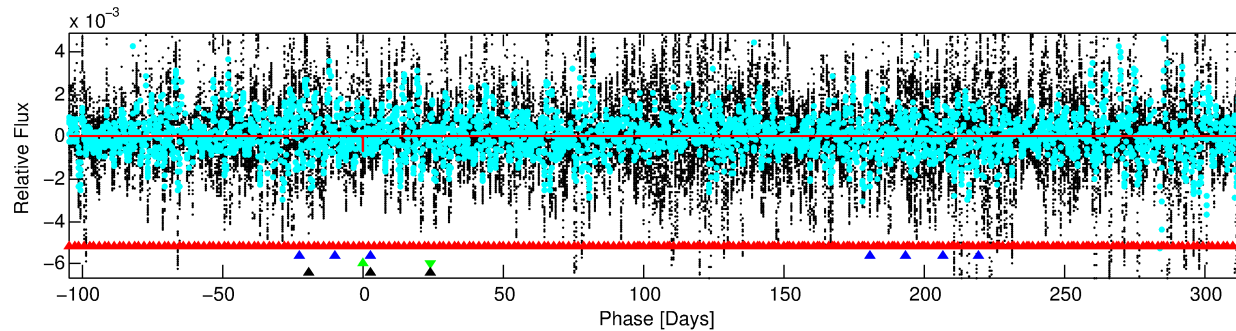
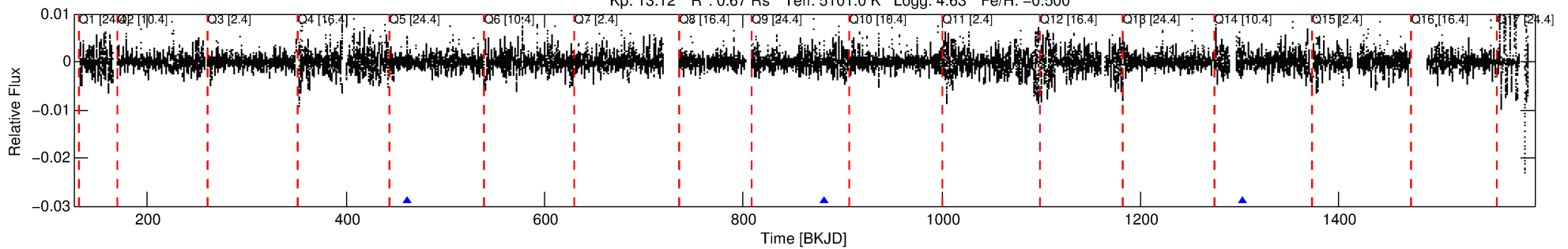
No Significant Match Found

DV One-Page Summary

KIC: 8653134 Candidate: 3 of 4 Period: 420.354 d

KOI: K06186 Corr: No Ephemeris Match

Kp: 13.12 R*: 0.67 Rs Teff: 5101.0 K Logg: 4.63 Fe/H: -0.500



DV Fit Results:

Period = 420.35379 [0.01781] d
Epoch = 461.6624 [0.0160] BKJD
Rp/R* = 0.0230 [0.0222]
a/R* = 252.00 [878.07]
b = 0.40 [7.49]
Seff = 0.29 [0.05]
Teff = 187 [9] K
Rp = 1.68 [1.64] Re
a = 0.9746 [0.0896] AU
Ag = 164917.40 [320152.45] [0.52σ]
Teffp = 5813 [2824] K [1.99σ]

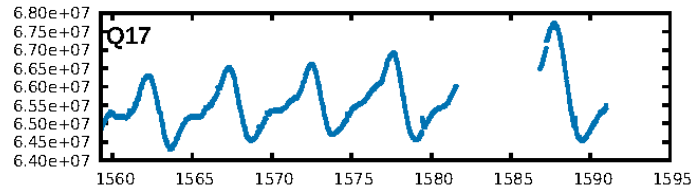
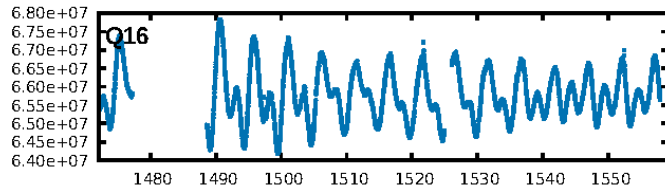
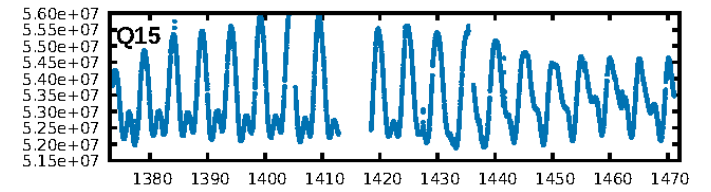
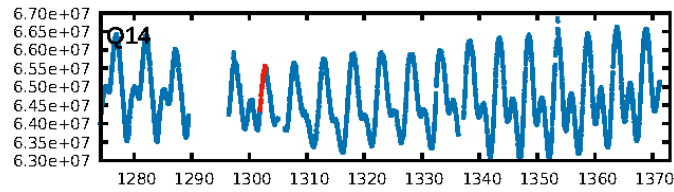
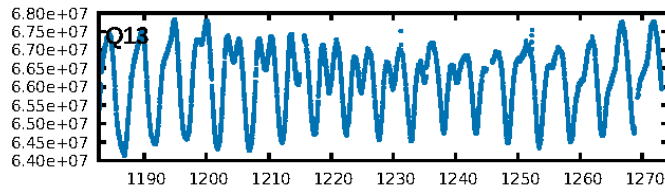
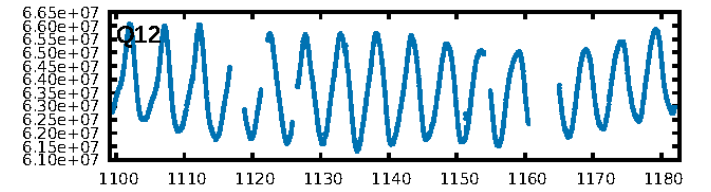
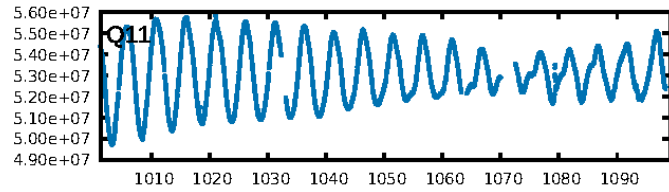
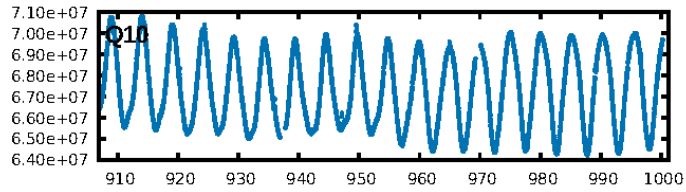
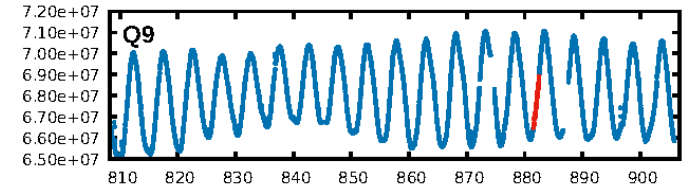
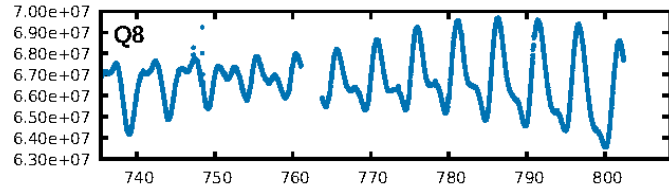
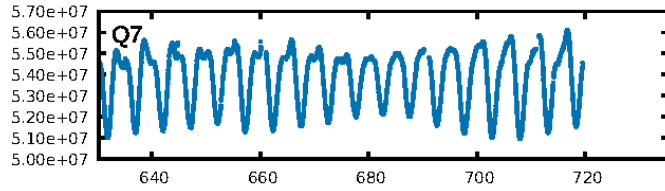
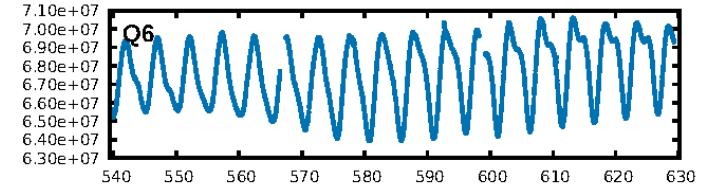
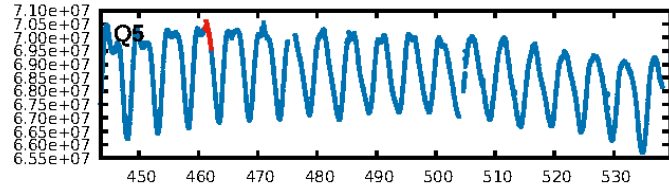
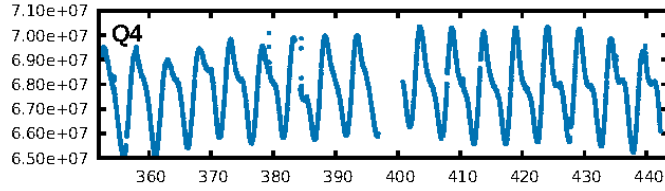
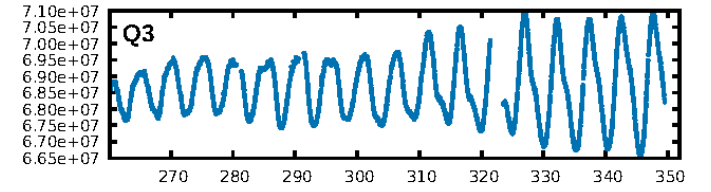
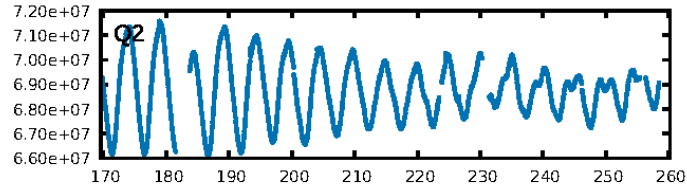
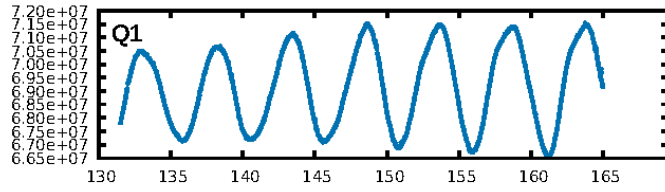
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [42.50σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 6.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 1.38e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.5328
Centroid-sig: 42.9%
Centroid-so: 1.905 arcsec [1.01σ]
OotOffset-rm: 0.114 arcsec [0.68σ]
KicOffset-rm: 0.051 arcsec [0.71σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.67 [2/3]

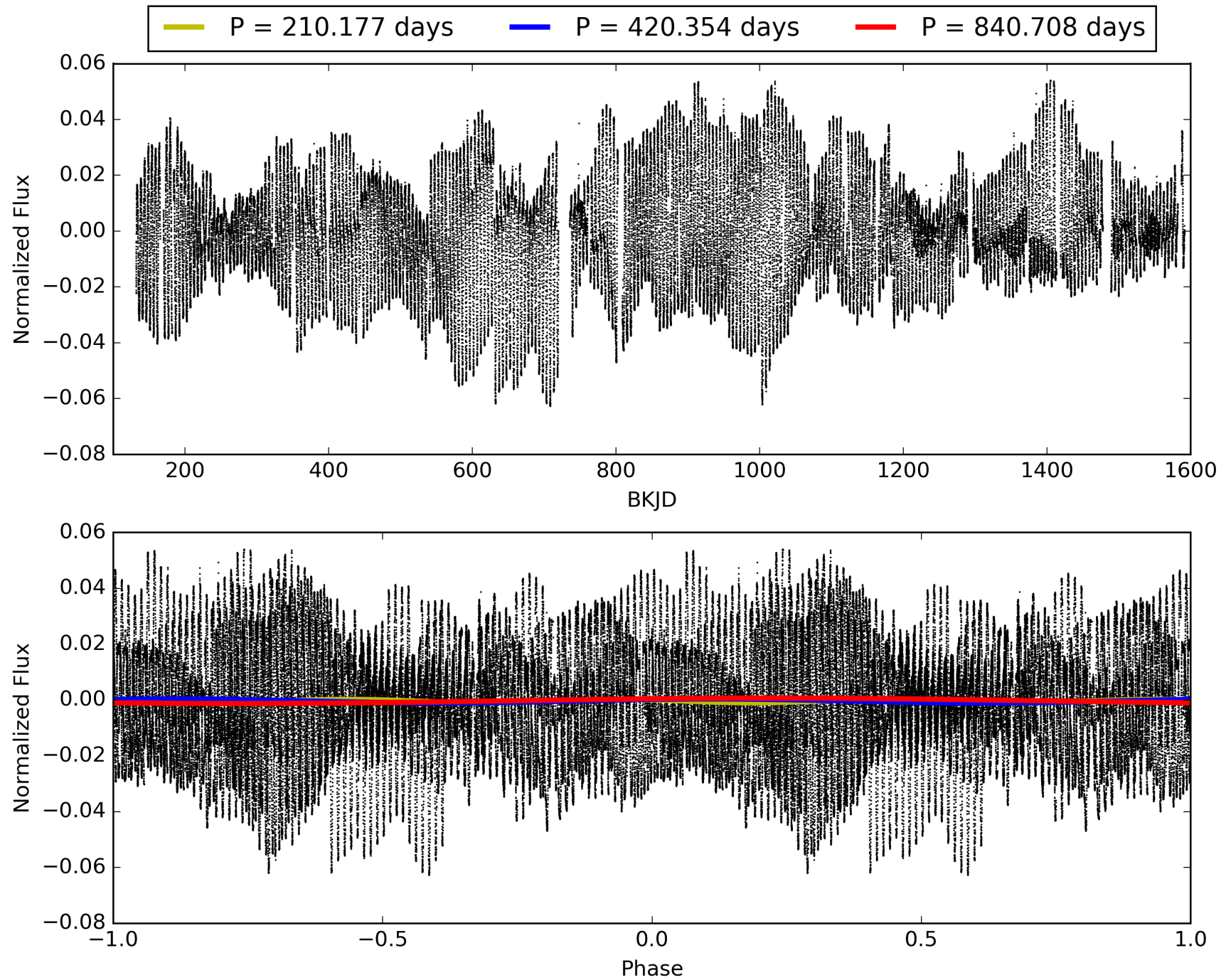
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:53:18 Z

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

TCE 008653134-03, PDC Light Curves

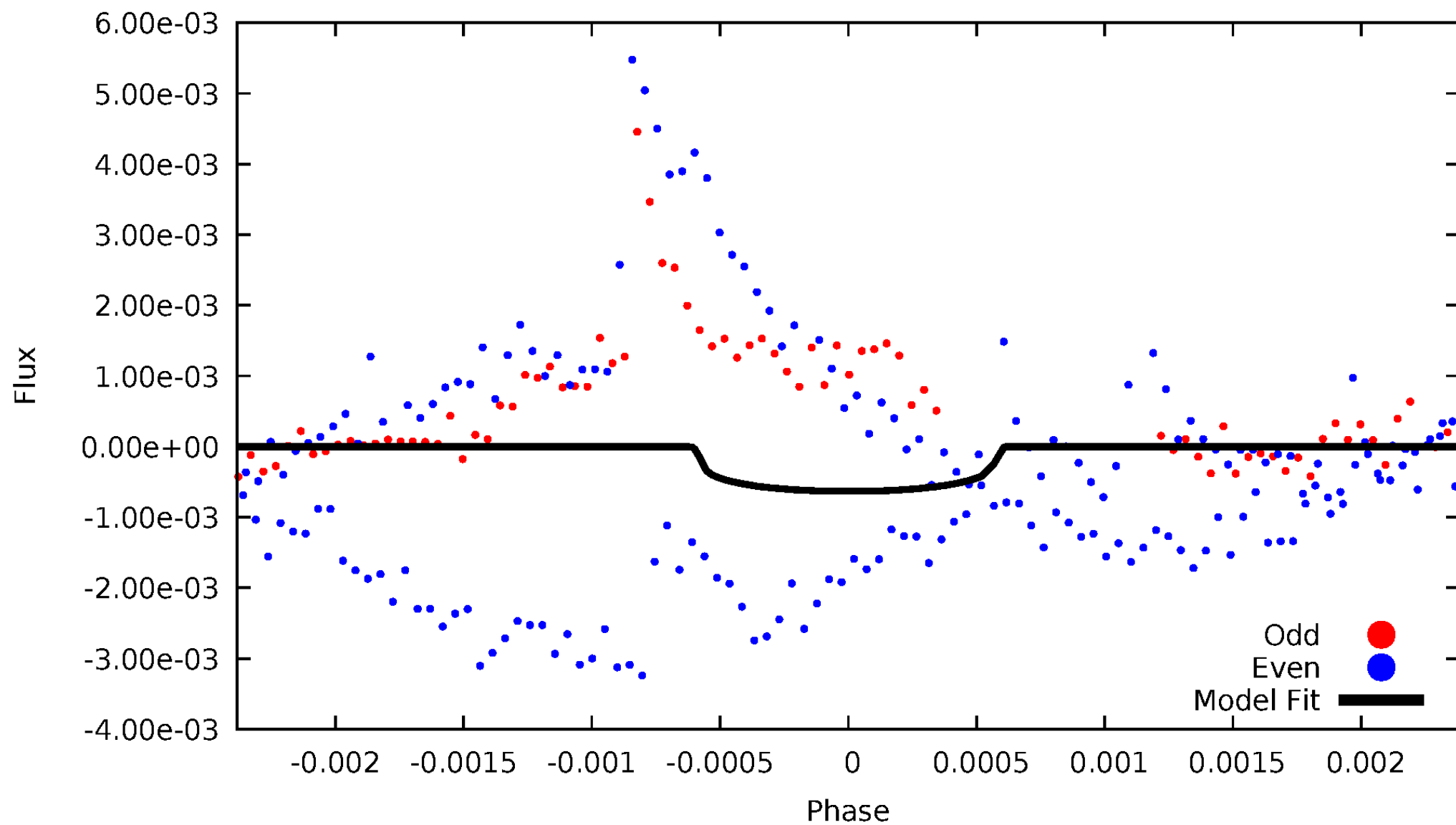


TCE 008653134-03



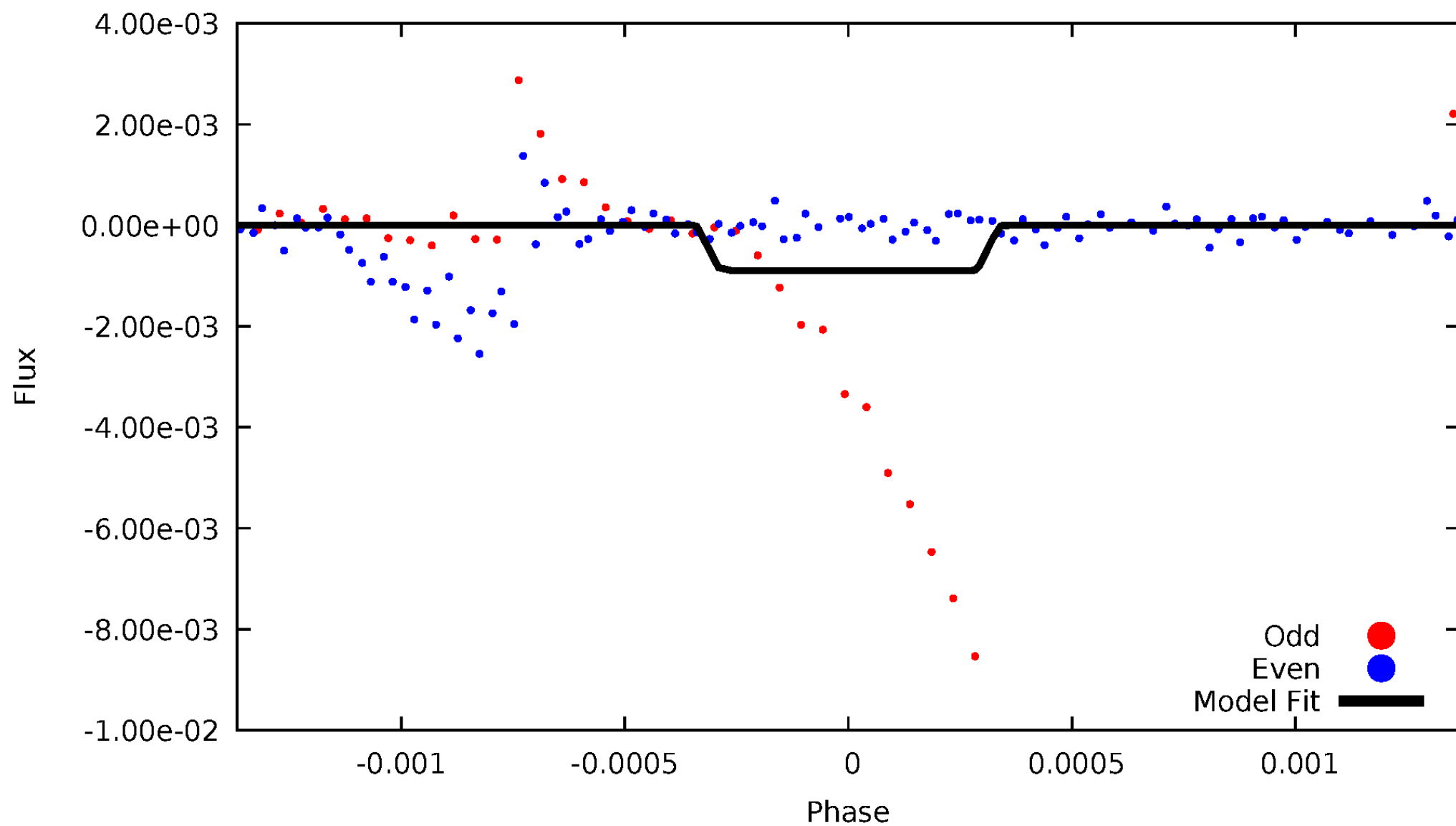
DV Odd/Even

TCE 008653134-03

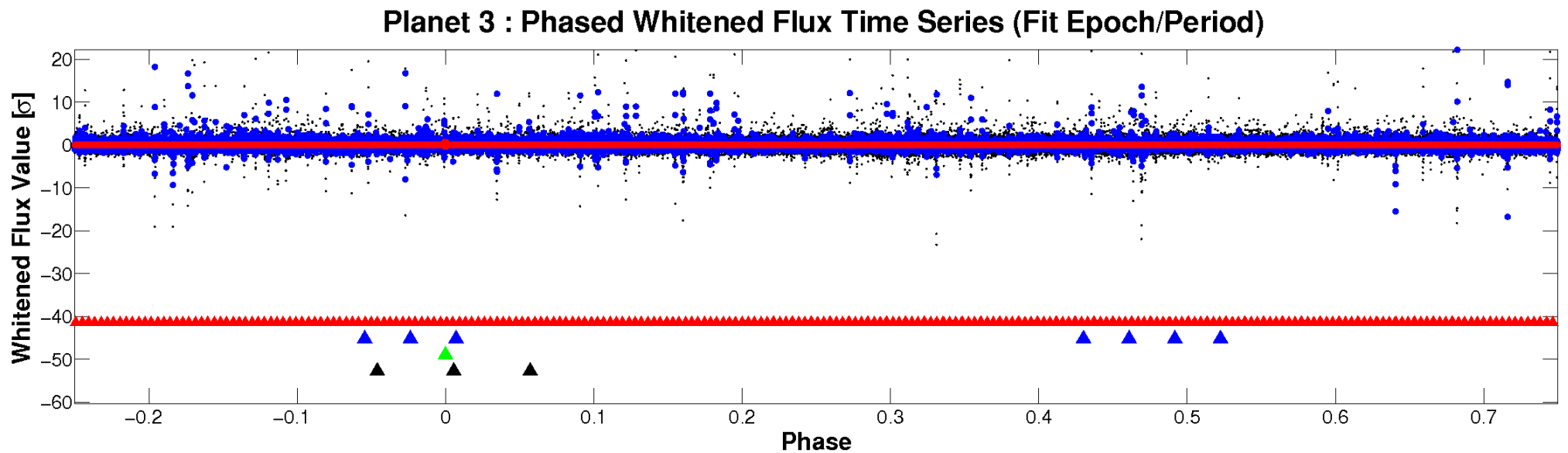
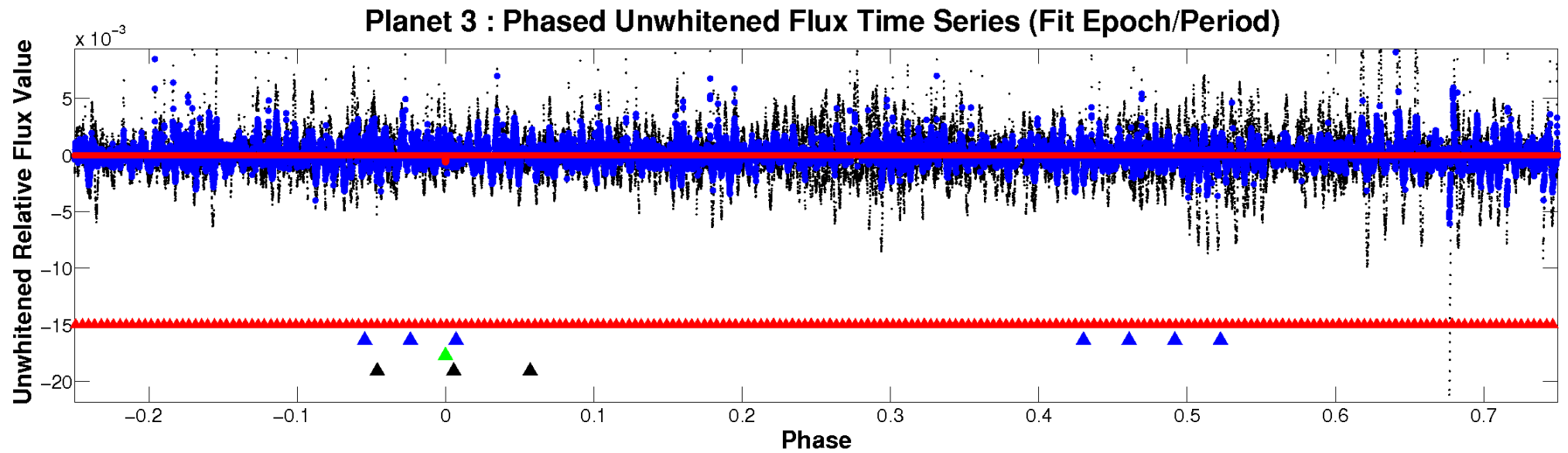


ALT Odd/Even

TCE 008653134-03

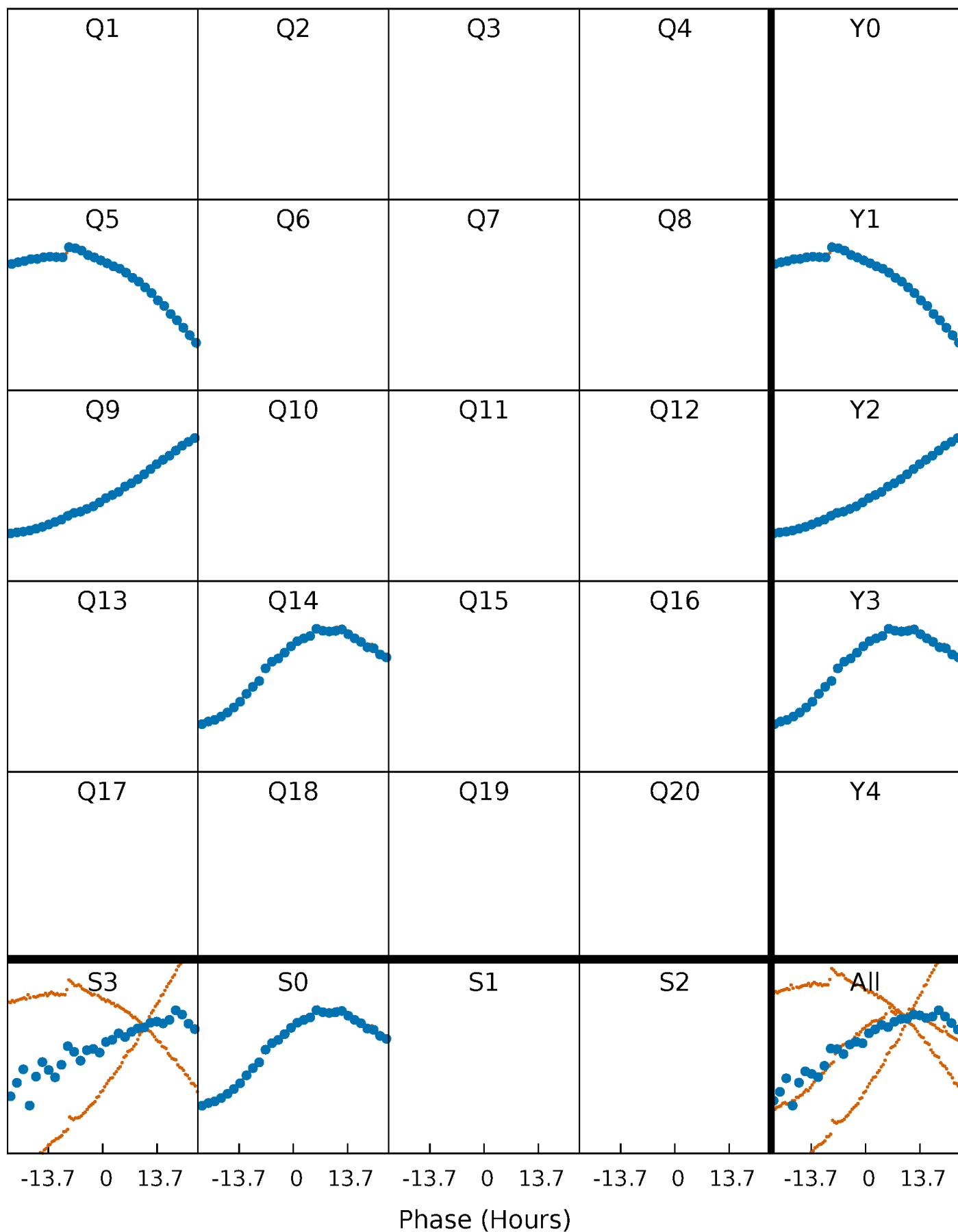


Non-Whitened Vs. Whitened Light Curve



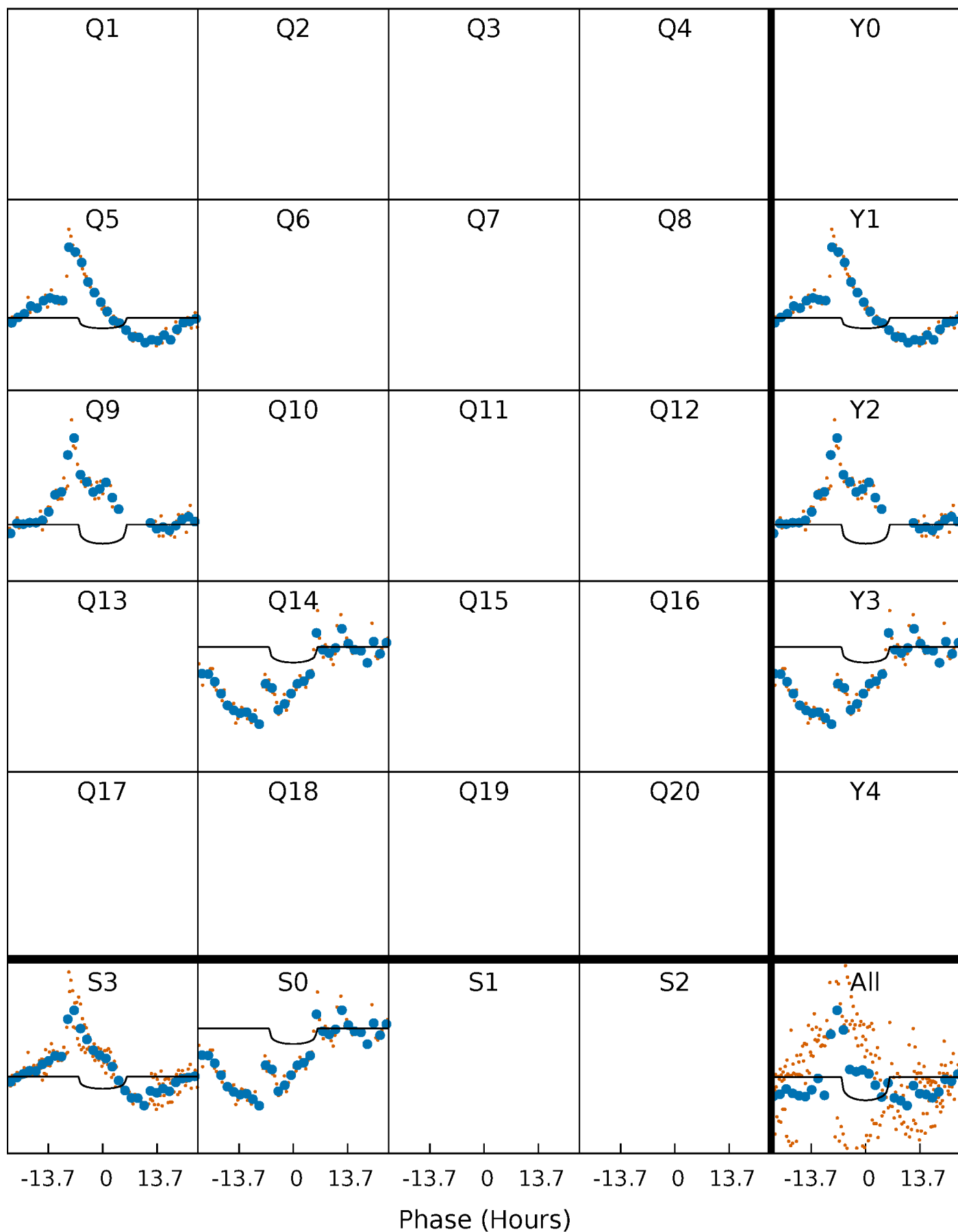
PDC Quarter-Phased Transit Curves

TCE 008653134-03 P=420.353795 Days $T_0=461.662403$ (BKJD)



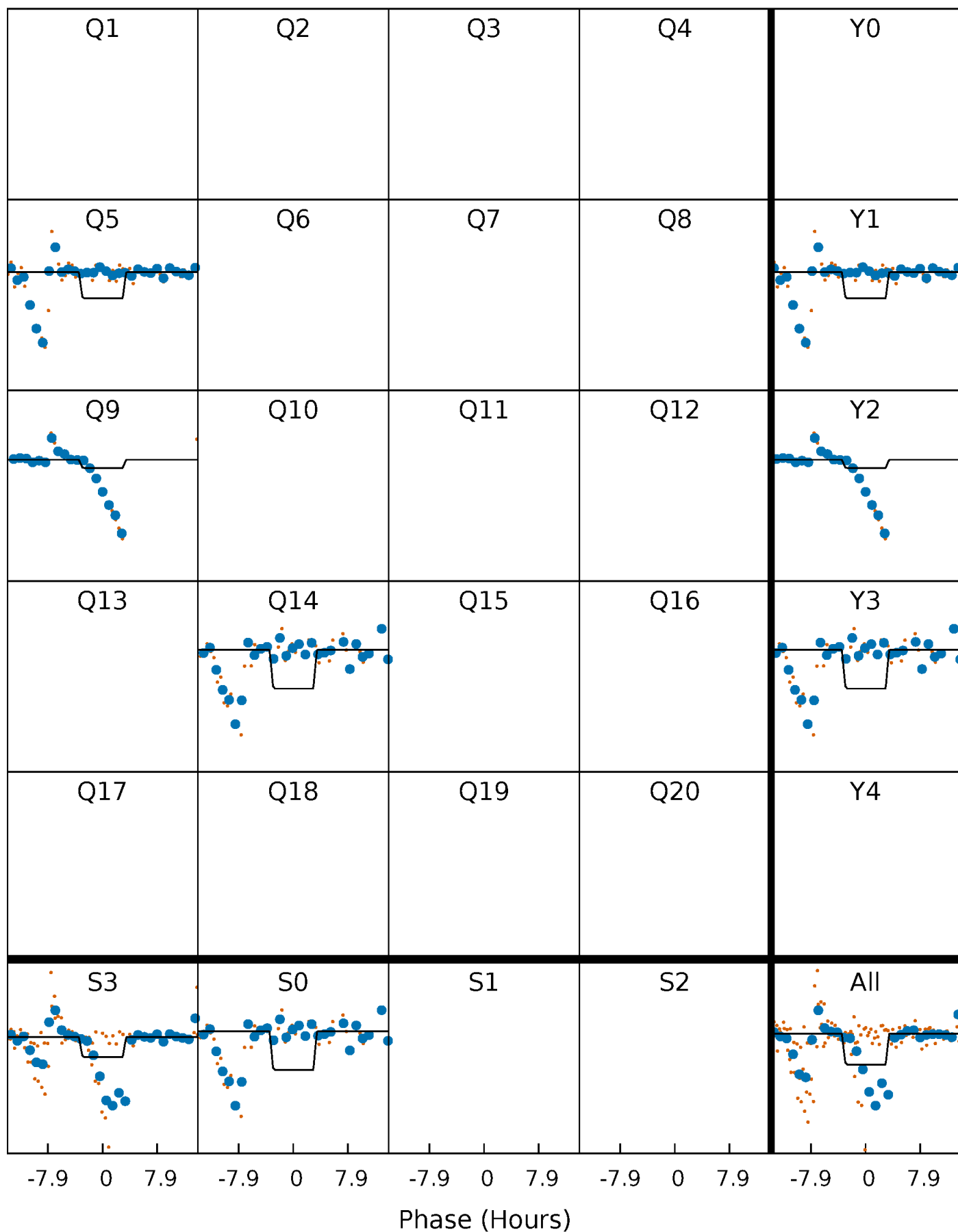
DV Quarter-Phased Transit Curves

TCE 008653134-03 $P=420.353795$ Days $T_0=461.662403$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

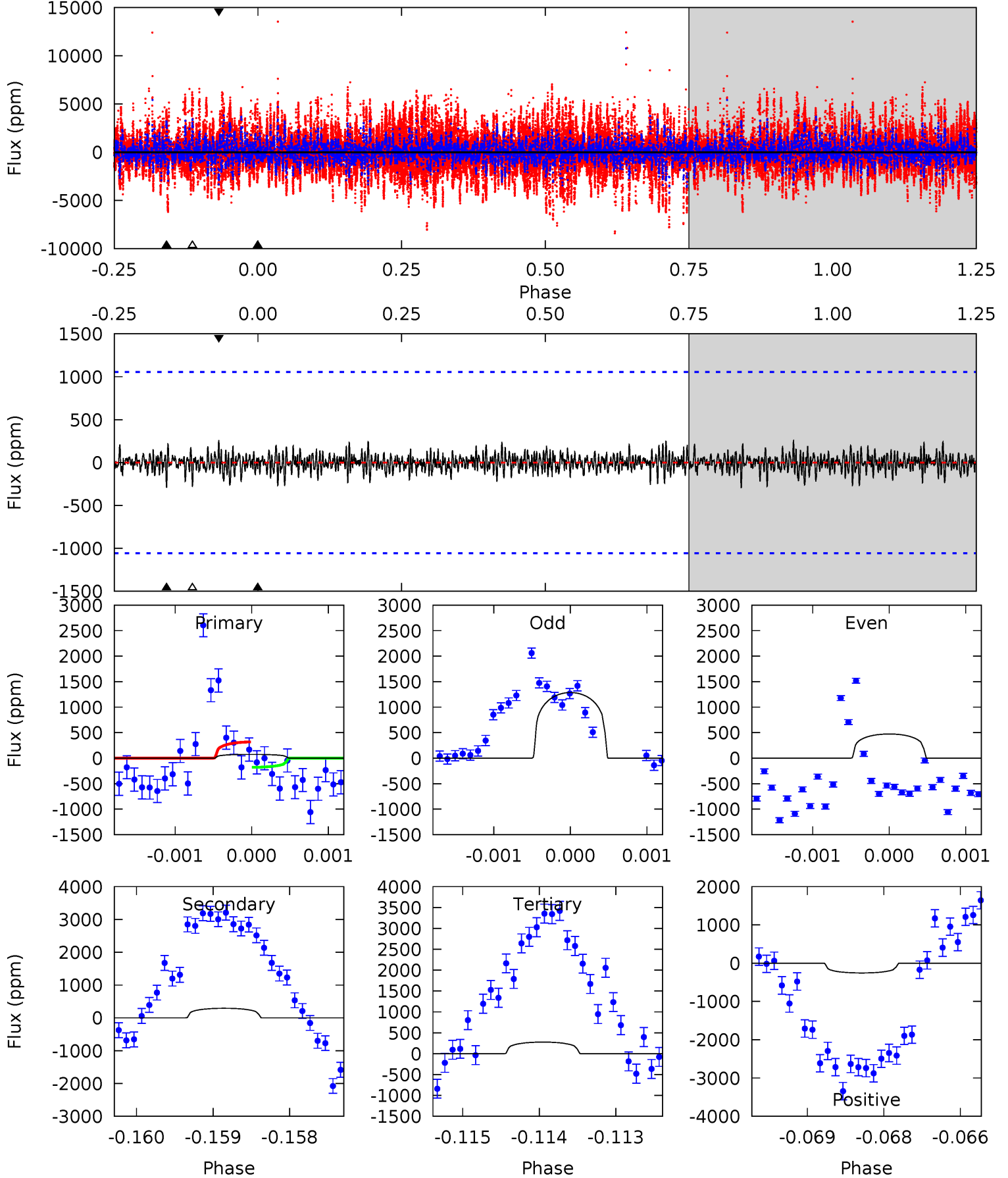
TCE 008653134-03 P=420.366008 Days $T_0=461.614236$ (BKJD)



DV Model-Shift Uniqueness Test

008653134-03, $P = 420.353795$ Days, $E = 41.308608$ Days

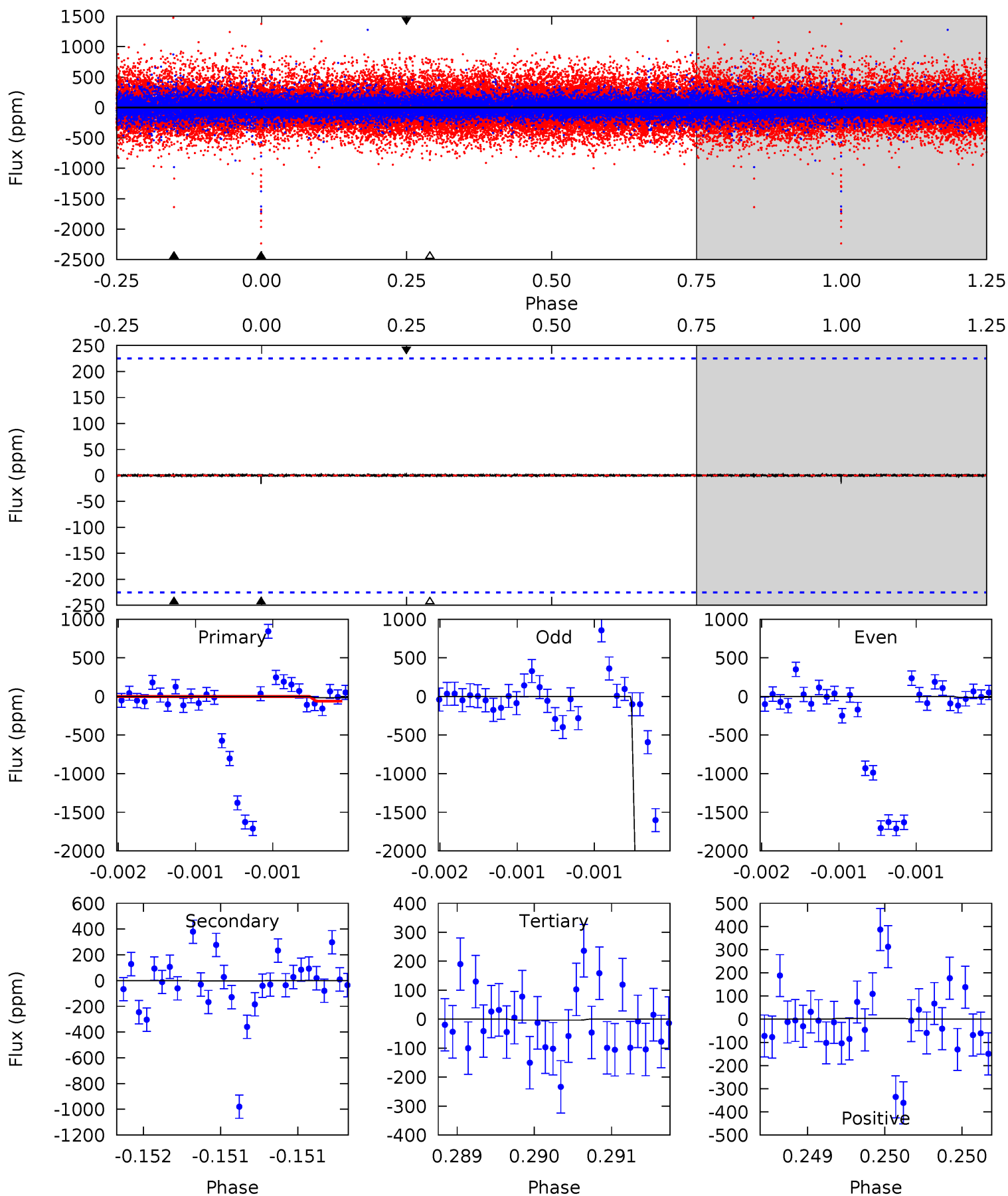
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.38	1.50	1.42	1.31	5.41	3.23	0.40	-1.04	-0.93	0.08	0.18	1.65	0.13	0.47	0.36



Alt Model-Shift Uniqueness Test

008653134-03, P = 420.366008 Days, E = 41.248228 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.40	0.08	0.08	0.08	5.53	3.41	0.01	0.32	0.32	0.00	0.00	41.2	424.0	0.17	0



Stellar Parameters For KIC 008653134

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5101^{+184}_{-184}	$4.630^{+0.045}_{-0.060}$	$-0.500^{+0.300}_{-0.300}$	$0.670^{+0.080}_{-0.053}$	$0.699^{+0.076}_{-0.055}$	$3.275^{+0.633}_{-0.764}$
	+4%/-4%	+1%/-1%	+60%/-60%	+12%/-8%	+11%/-8%	+19%/-23%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008653134-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-292 ± 195	$1.85^{+1.56}_{-1.18}$	262^{+11}_{-10}	4217^{+2285}_{-1010}	$34969^{+238652}_{-28137}$
Alt.	-3 ± 41	$2.37^{+1.70}_{-1.33}$	262^{+11}_{-11}	2029^{+1162}_{-5029}	190^{+6066}_{-4713}

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 $A_{obs} \gg 1.0$

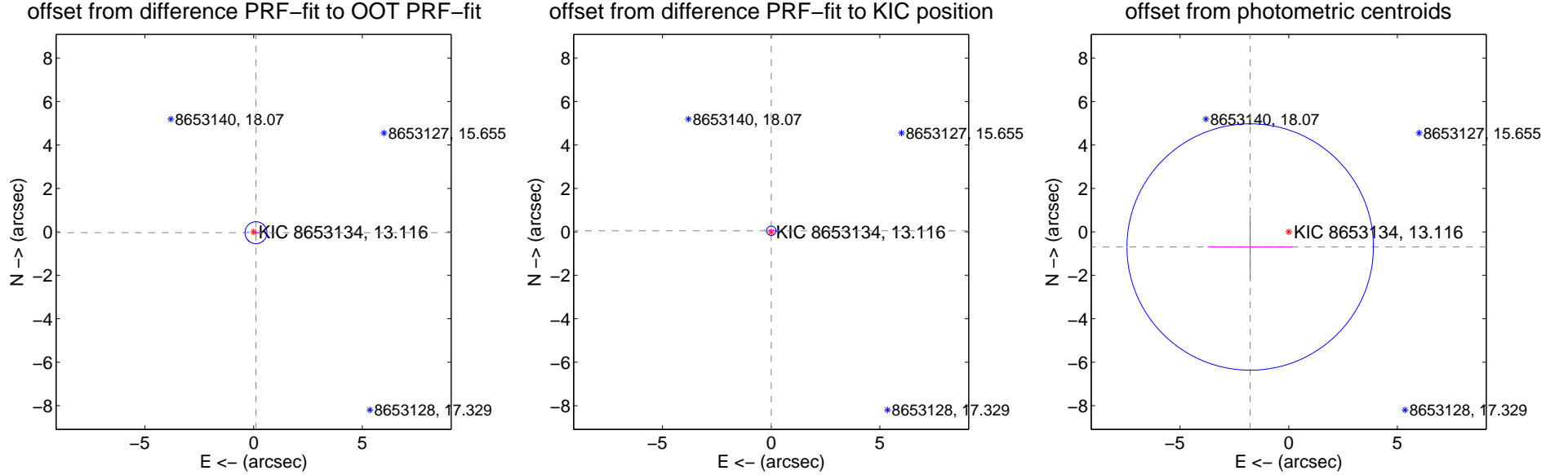
DV Centroid Data

Supplemental centroid analysis for 008653134-03. Kepler magnitude: 13.12. Transit SNR 2.81

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.114 ± 0.168	0.68	-0.108 ± 0.177	-0.039 ± 0.071
PRF-fit source offset from KIC position	0.051 ± 0.072	0.71	-0.004 ± 0.180	0.051 ± 0.071
photometric centroid source offset	1.91 ± 1.89	1.01	1.77 ± 1.95	-0.70 ± 1.48

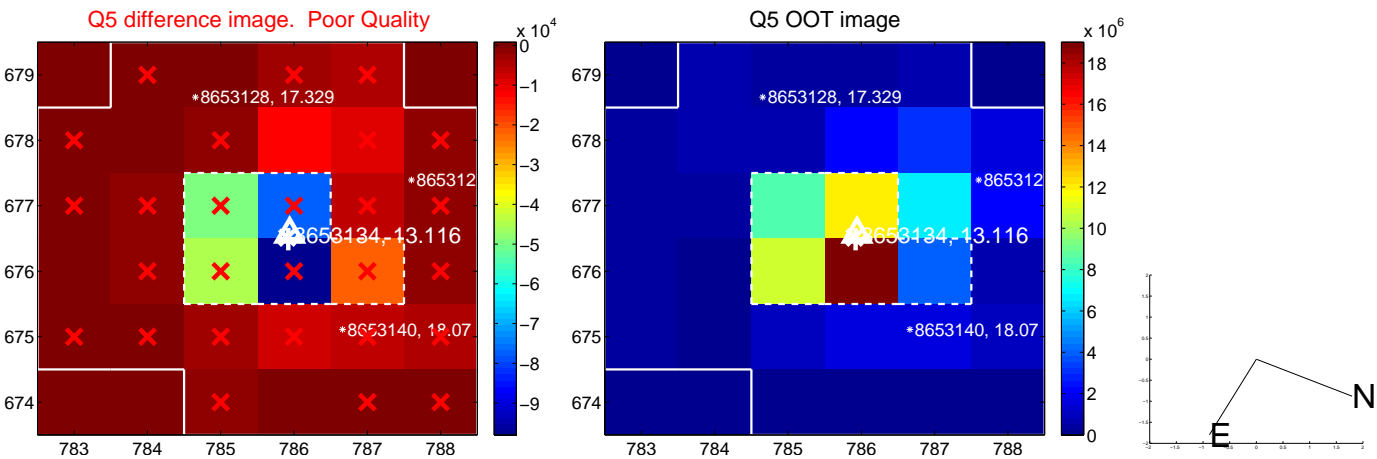


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

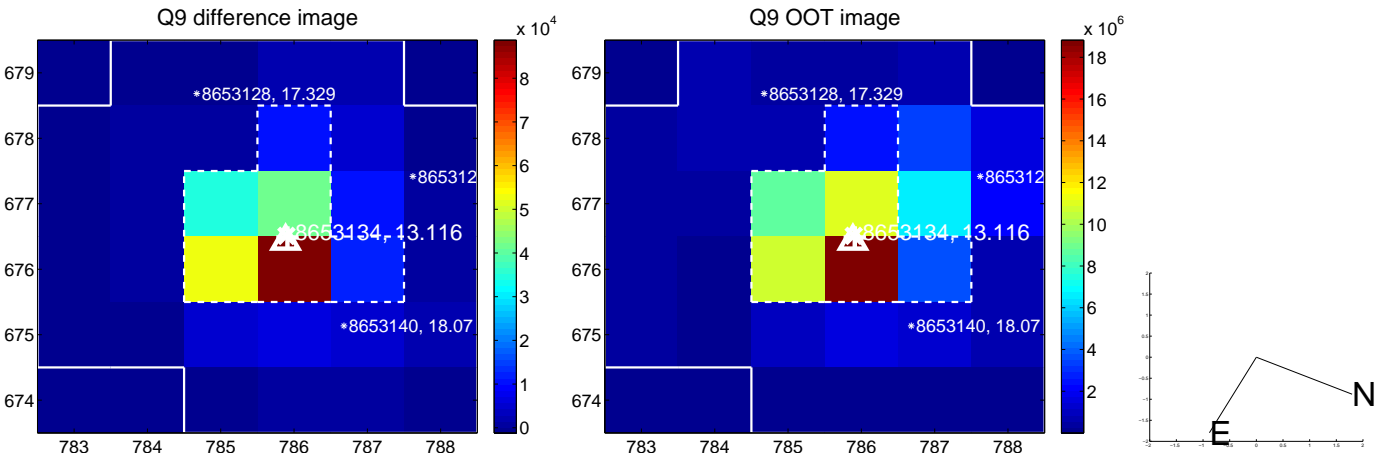
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



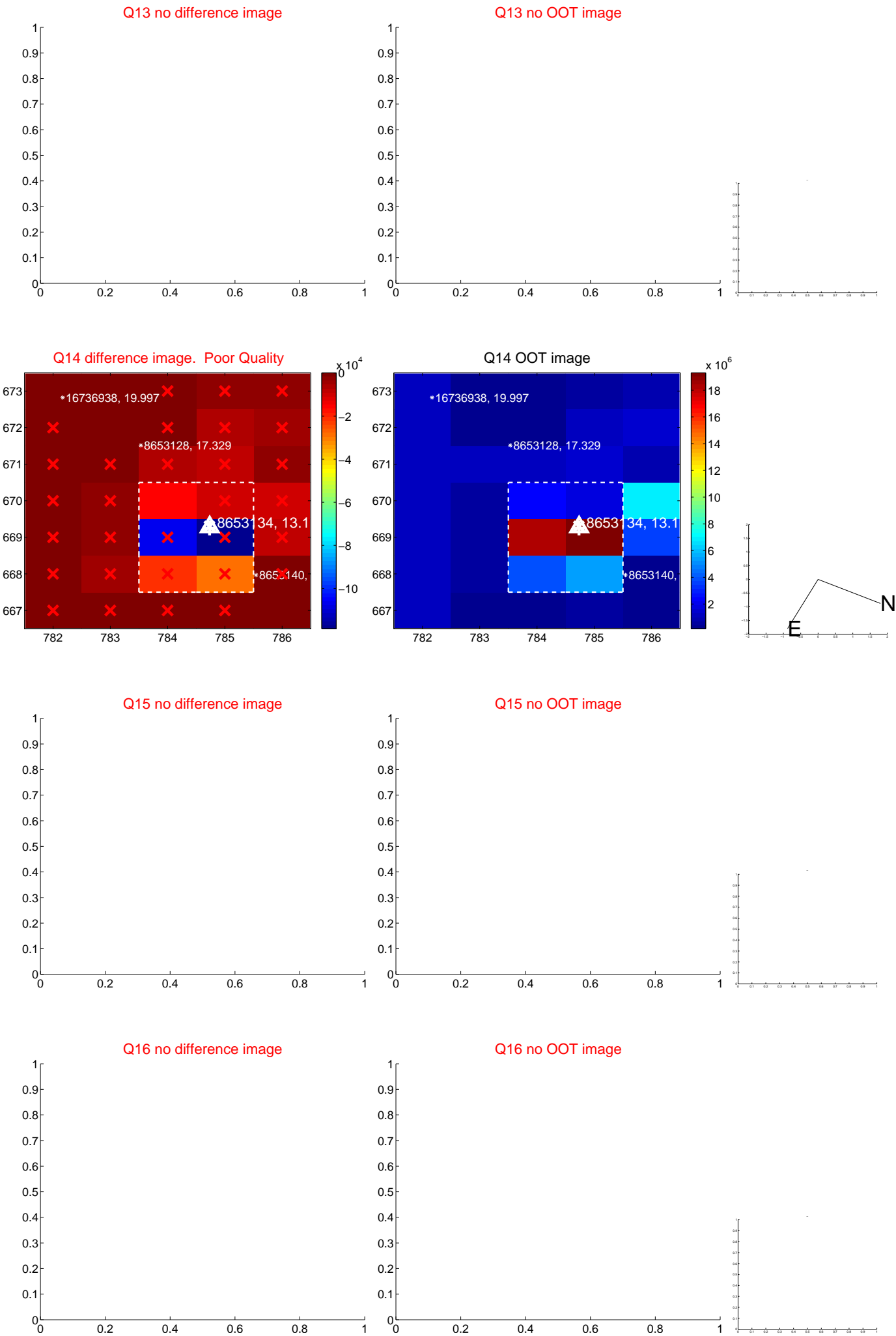
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



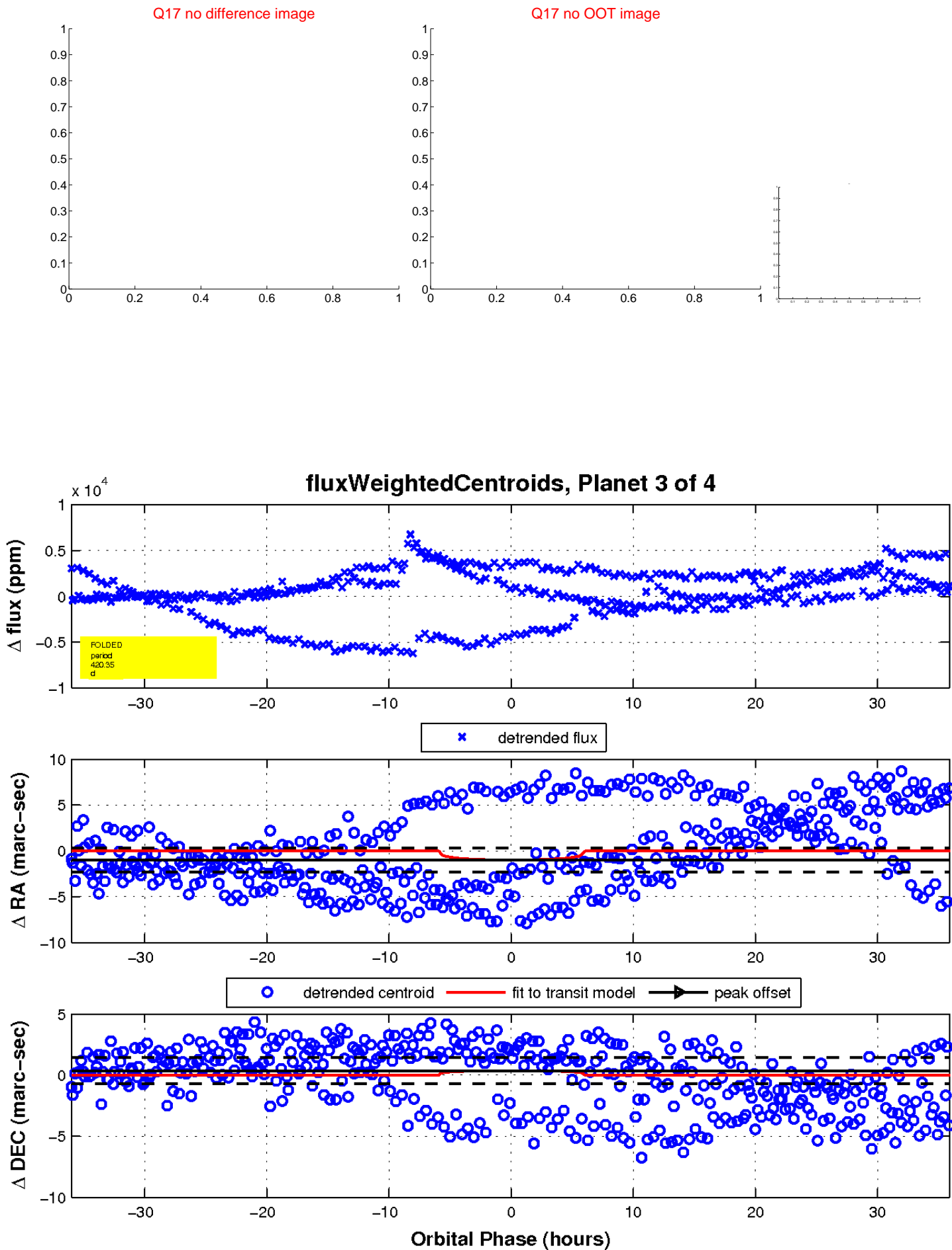
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

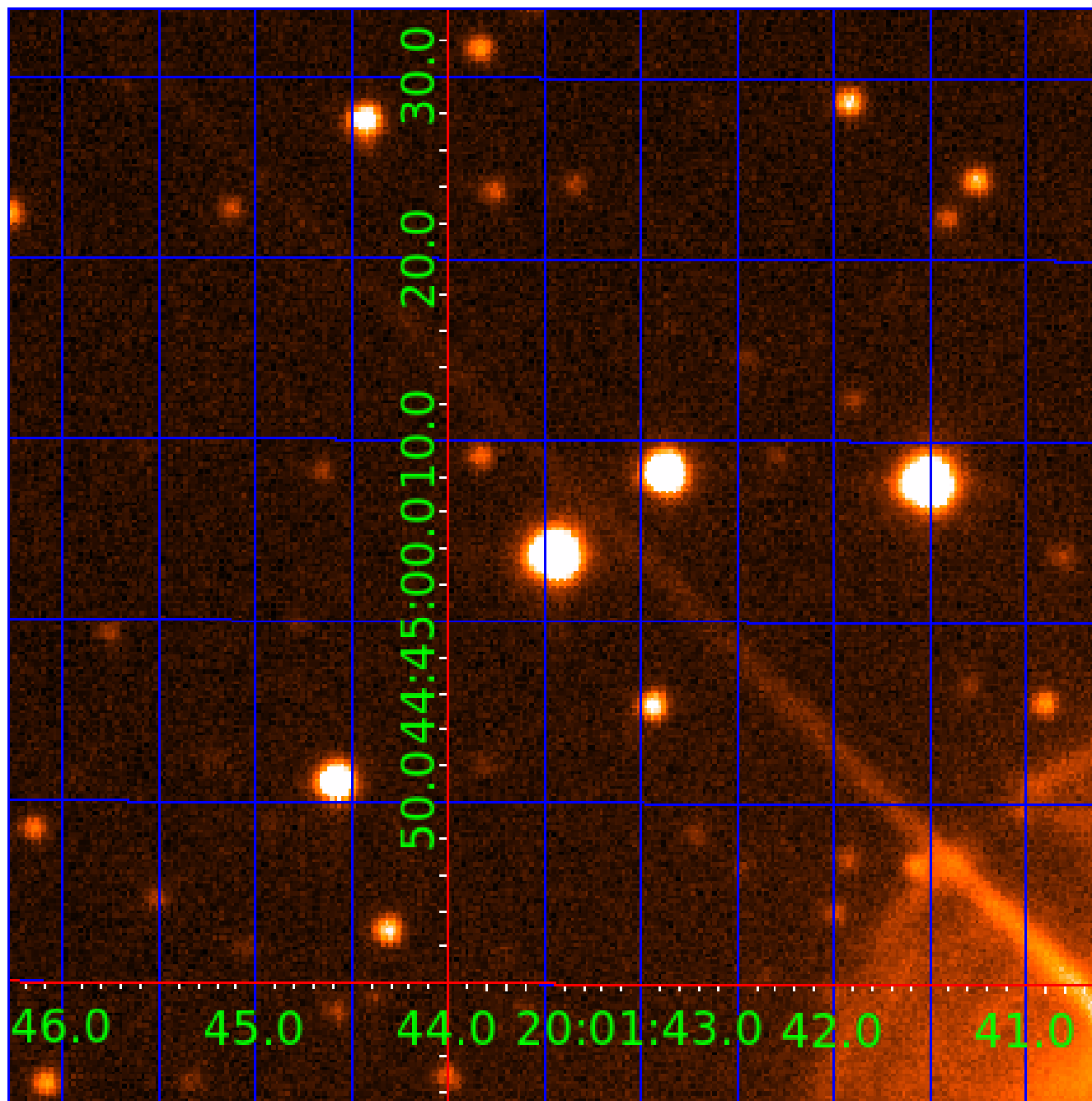


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008653134

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})
008653134-01	OBS	6186.01	5.342613	134.383407	728.4	2.646	39.5	47.2	0.67	5101	2.10	96.66
008653134-02	OBS	No	216.645061	222.140758	962.8	4.988	14.8	7.7	0.67	5101	2.05	0.69
008653134-03	OBS	No	420.353795	461.662403	633.2	12.019	14.4	2.8	0.67	5101	1.68	0.29
008653134-04	OBS	No	398.688495	485.668898	240.3	2.289	13.2	1.9	0.67	5101	1.18	0.31

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008653134-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008653134-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_MEAS
008653134-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_TRACKER—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008653134-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS

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.

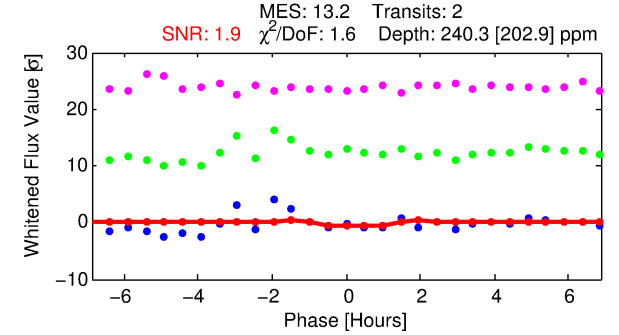
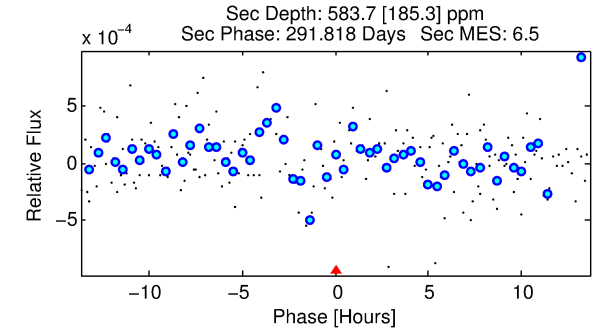
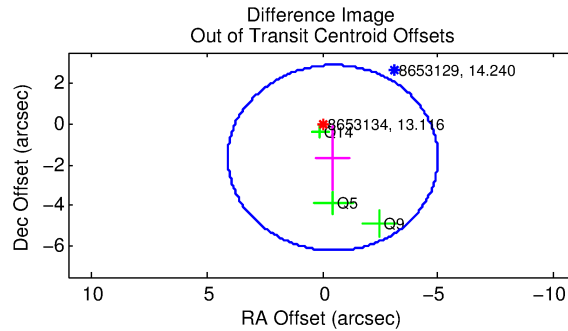
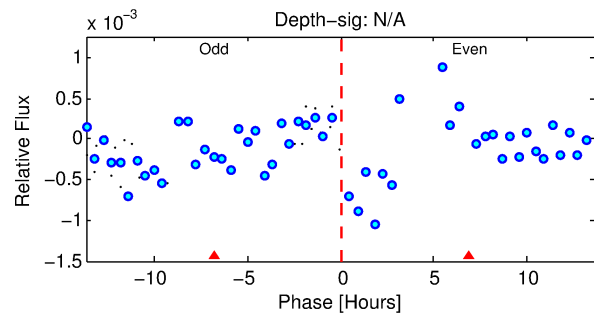
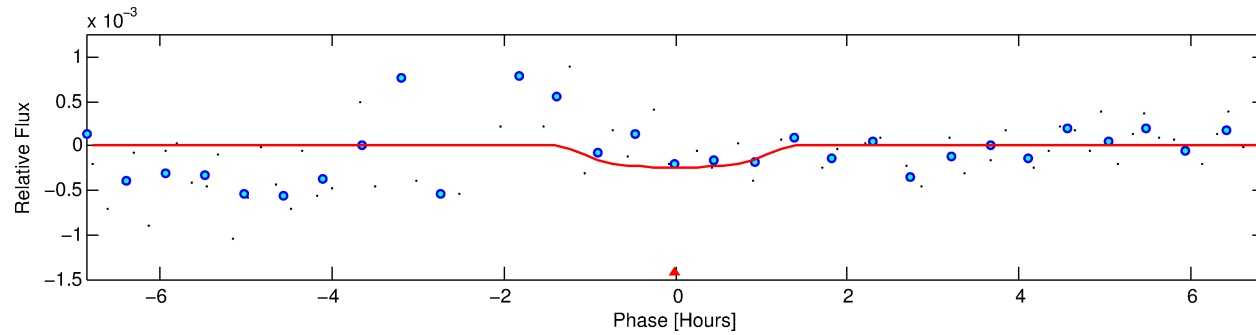
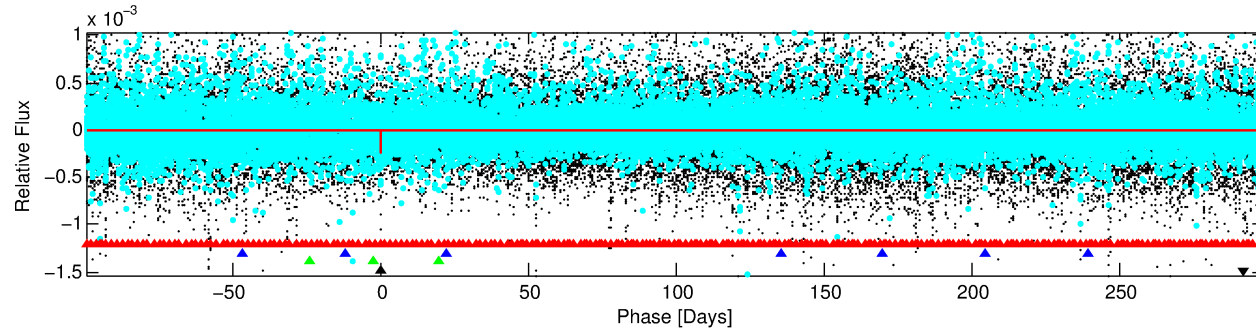
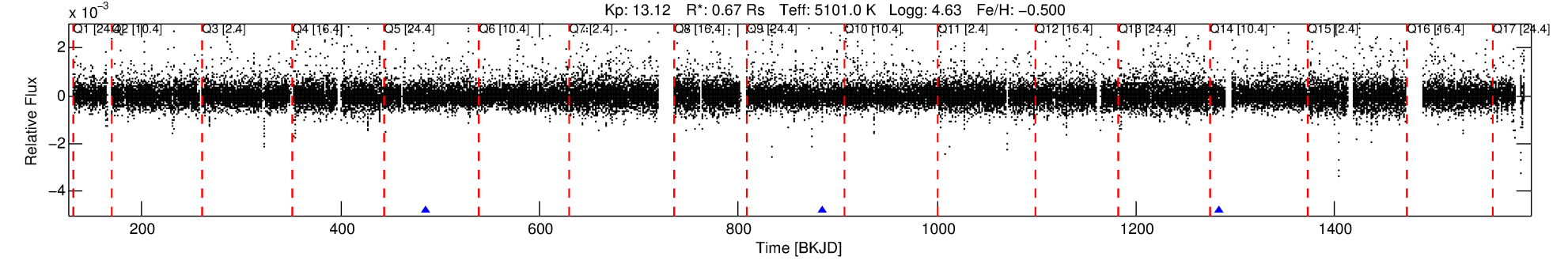
Ephemeris Match Information For 008653134-04

No Significant Match Found

DV One-Page Summary

KIC: 8653134 Candidate: 4 of 4 Period: 398.688 d
KOI: K06186 Corr: No Ephemeris Match

Kp: 13.12 R*: 0.67 Rs Teff: 5101.0 K Logg: 4.63 Fe/H: -0.500



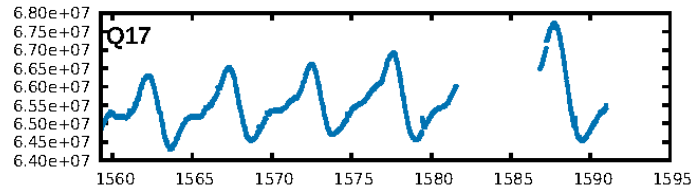
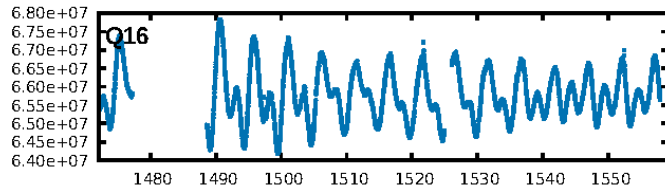
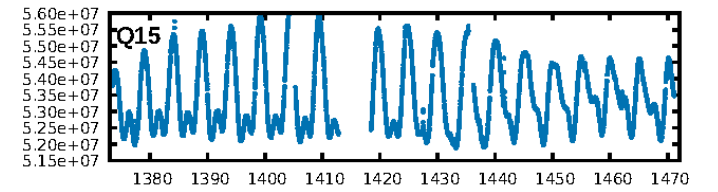
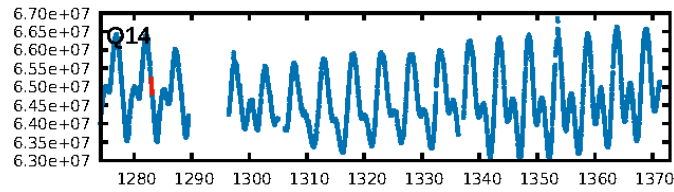
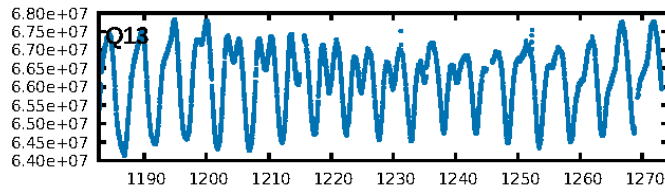
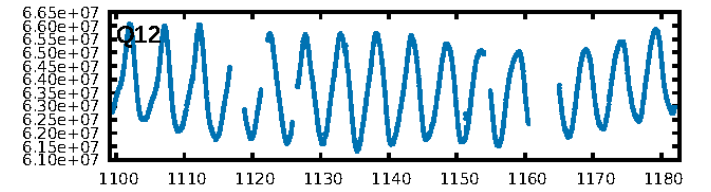
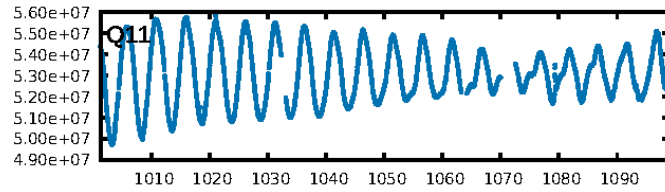
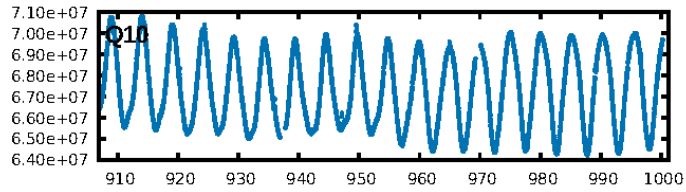
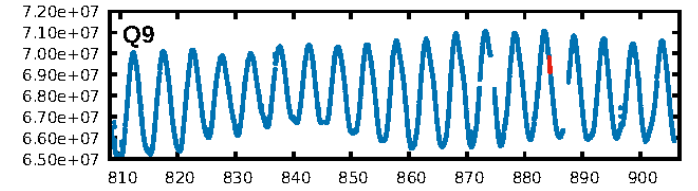
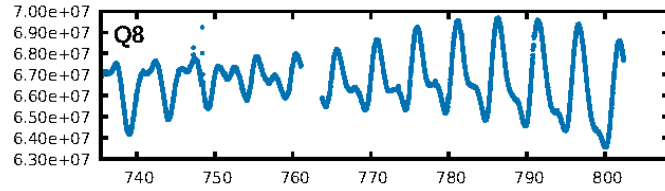
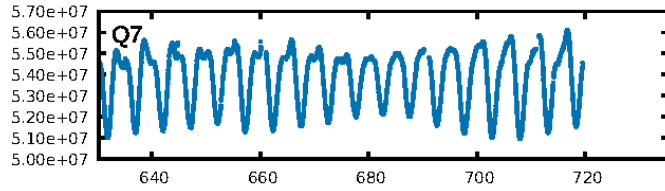
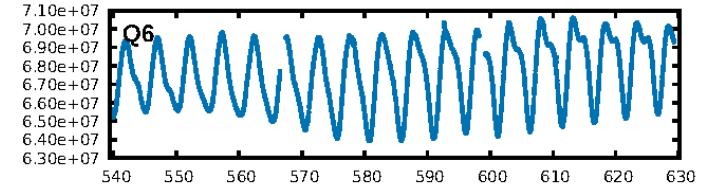
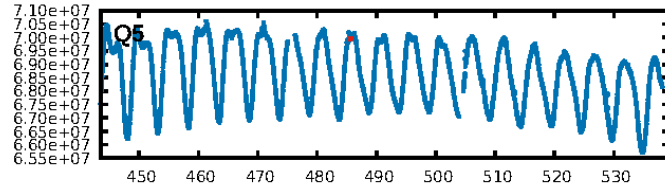
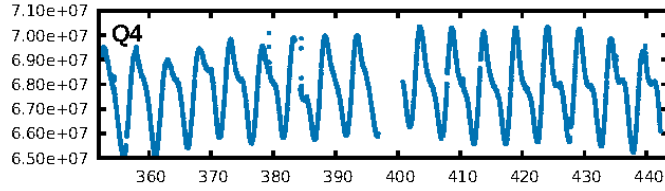
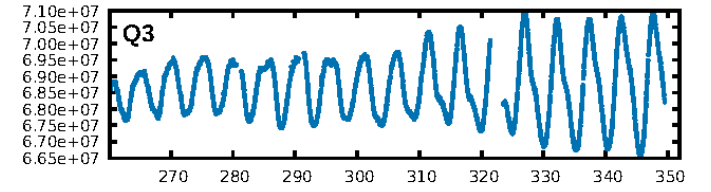
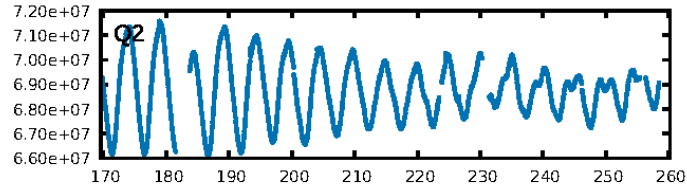
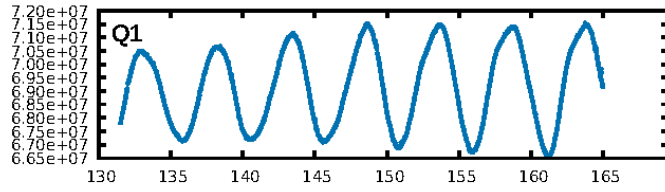
DV Fit Results:

Period = 398.68849 [0.03838] d
Epoch = 485.6689 [0.0299] BKJD
Rp/R* = 0.0161 [0.1825]
a/R* = 796.29 [36103.24]
b = 0.82 [18.45]
Seff = 0.31 [0.06]
Teq = 190 [9] K
Rp = 1.18 [13.35] Re
a = 0.9408 [0.0865] AU
Ag = 205817.29 [4675033.48] [0.04σ]
Teffp = 6254 [35514] K [0.17σ]

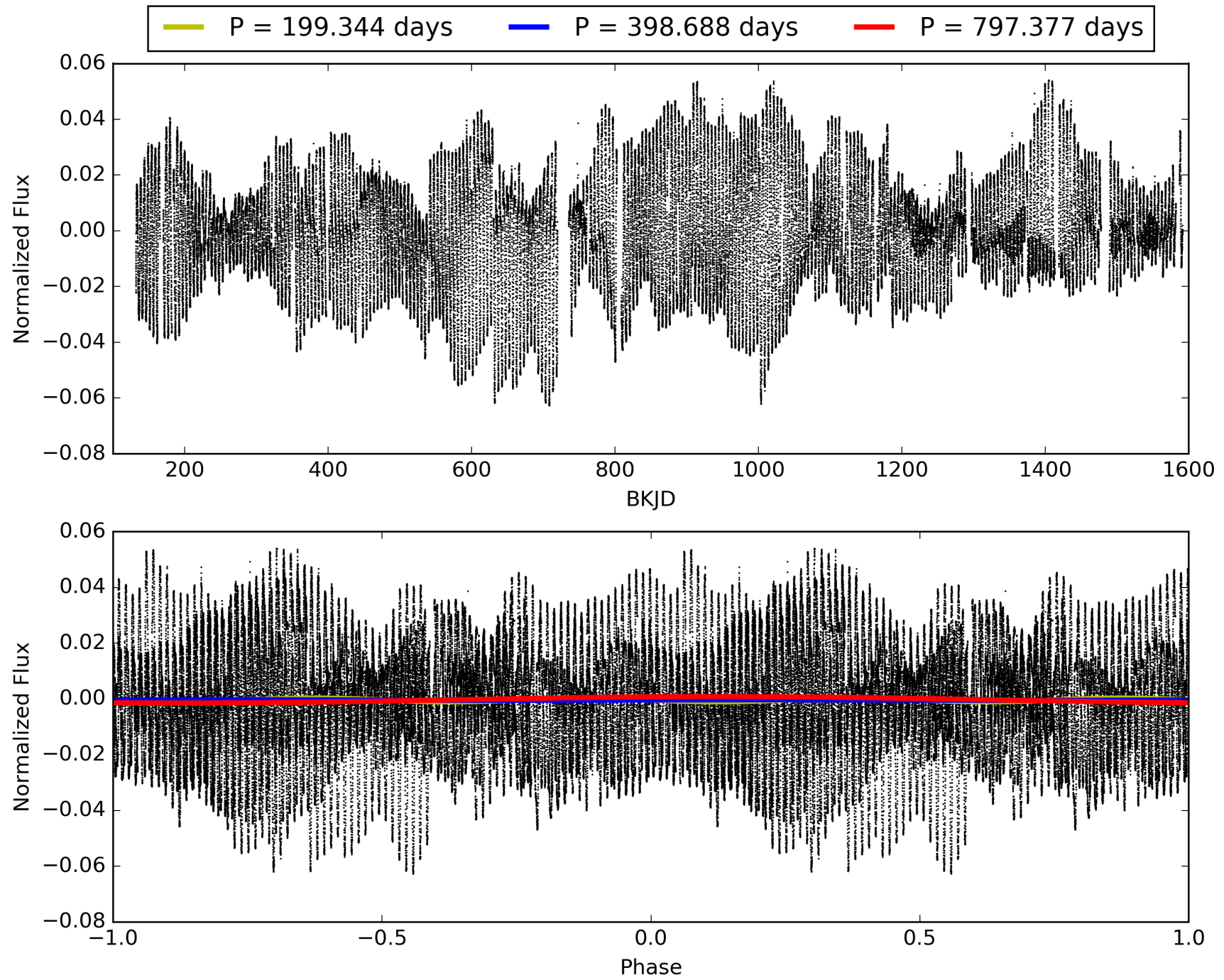
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [796.05σ]
LongPeriod-sig: 100.0% [42.50σ]
ModelChiSquare2-sig: 38.9%
ModelChiSquareGof-sig: 93.9%
Bootstrap-pfa: 1.76e-09
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 0.5979
Centroid-sig: 63.5%
Centroid-so: 2.347 arcsec [0.52σ]
OotOffset-rm: 1.728 arcsec [1.14σ]
OotOffset-st: 1/0/0/2 [3]
KicOffset-rm: 1.622 arcsec [1.05σ]
KicOffset-st: 1/0/0/2 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.67 [2/3]

TCE 008653134-04, PDC Light Curves

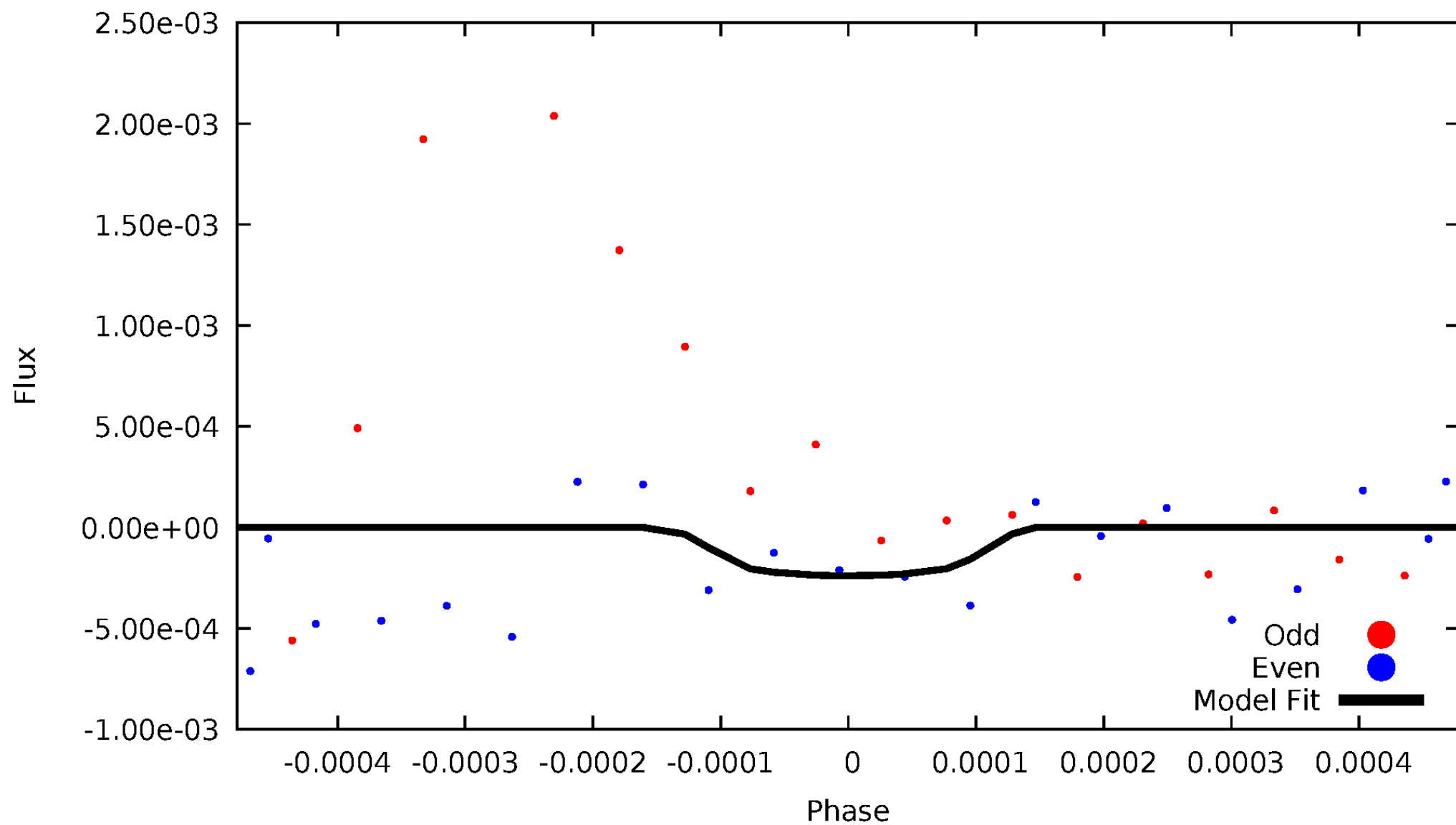


TCE 008653134-04



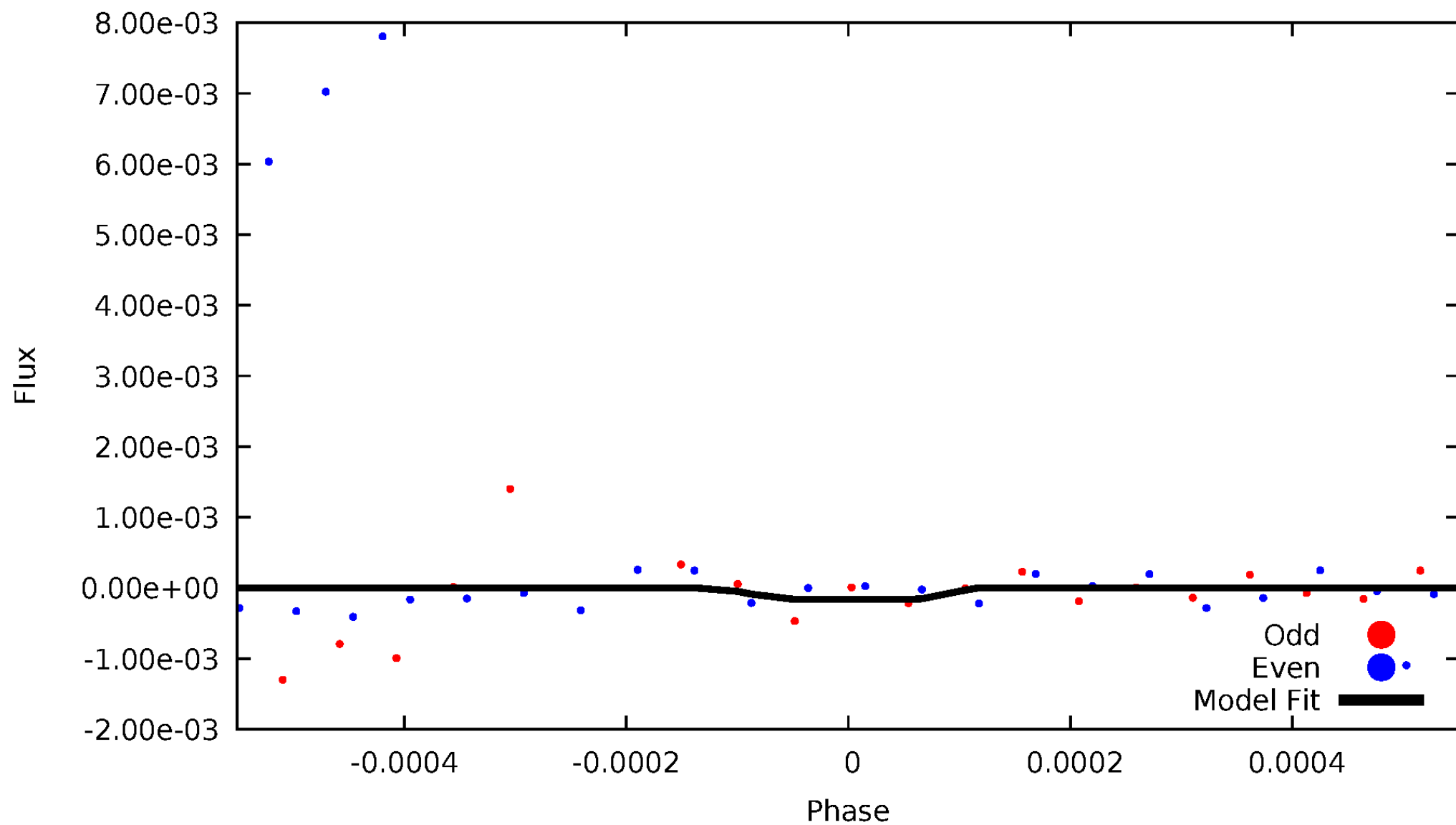
DV Odd/Even

TCE 008653134-04



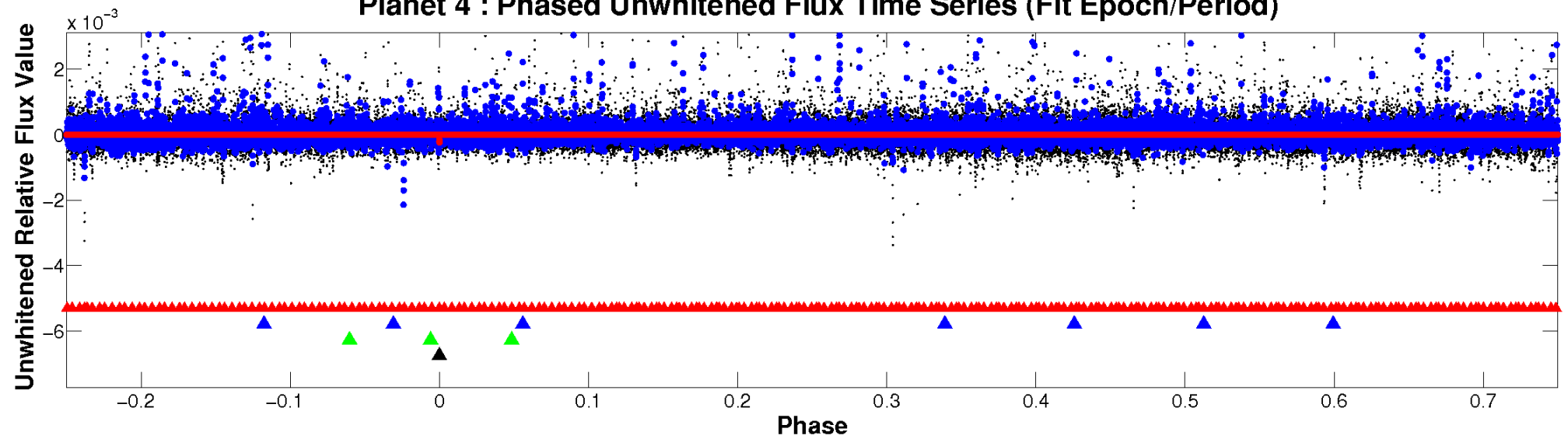
ALT Odd/Even

TCE 008653134-04

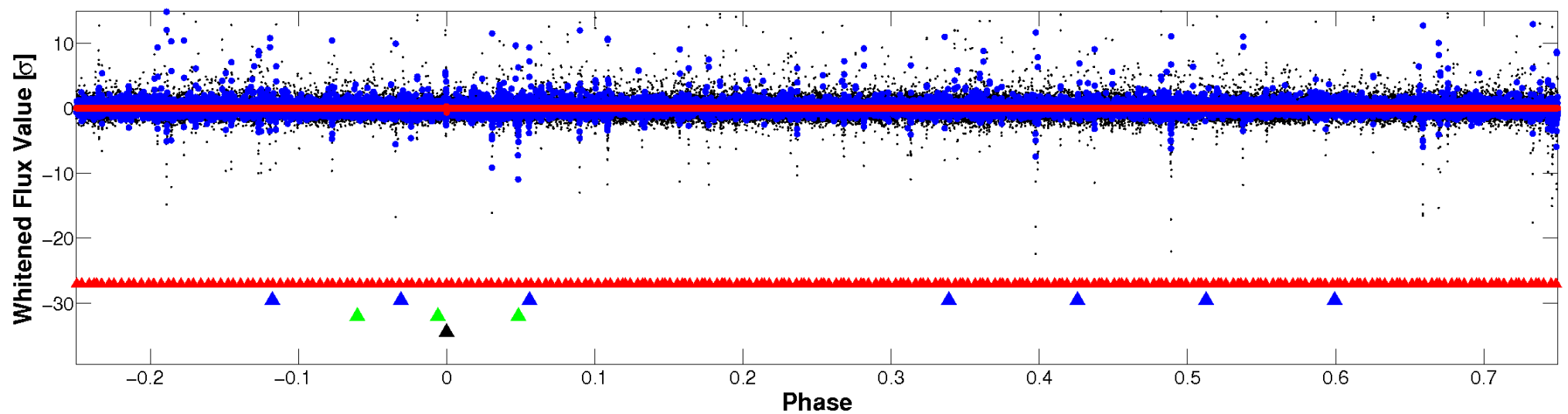


Non-Whitened Vs. Whitened Light Curve

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

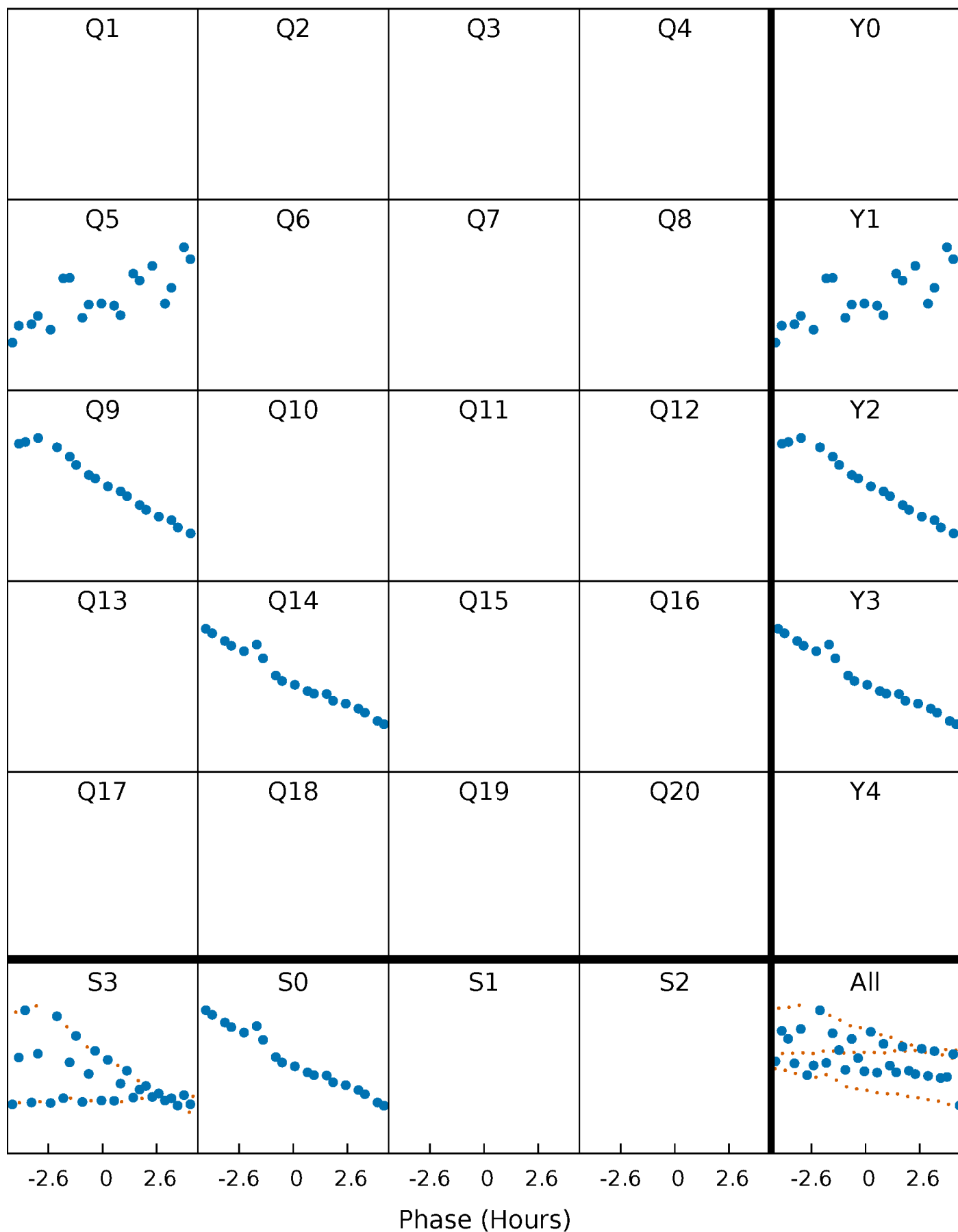


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



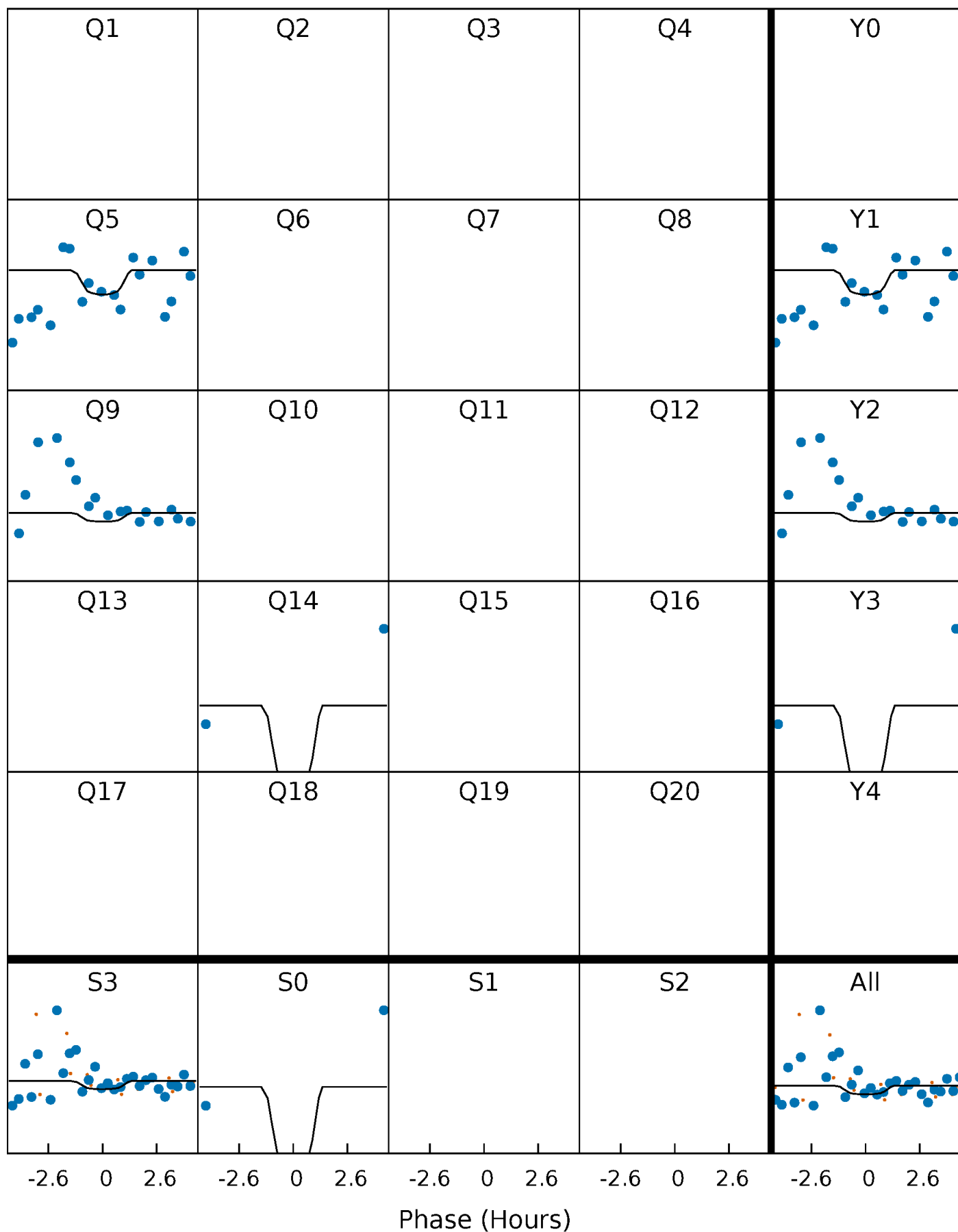
PDC Quarter-Phased Transit Curves

TCE 008653134-04 $P=398.688494$ Days $T_0=485.668898$ (BKJD)



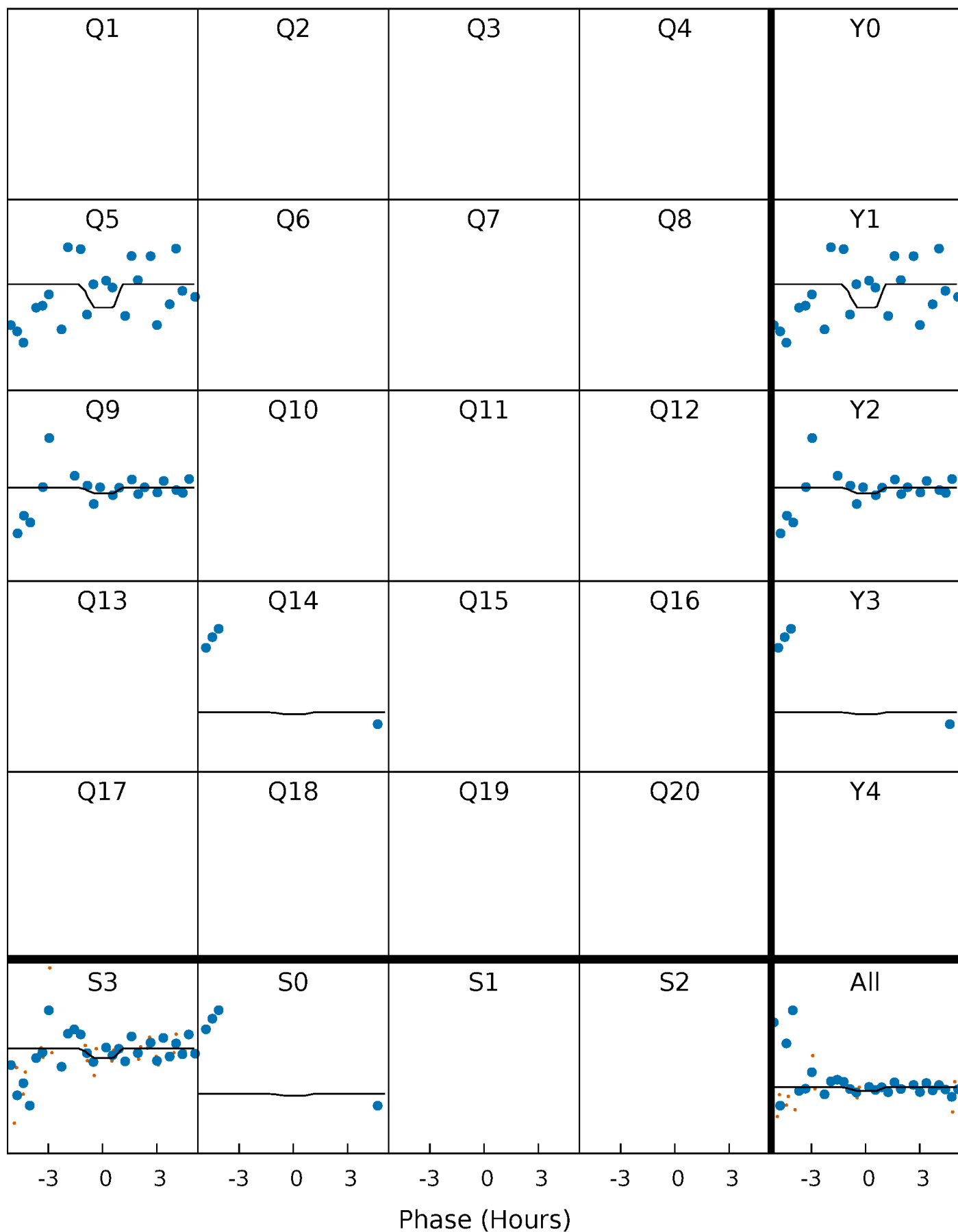
DV Quarter-Phased Transit Curves

TCE 008653134-04 $P=398.688494$ Days $T_0=485.668898$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

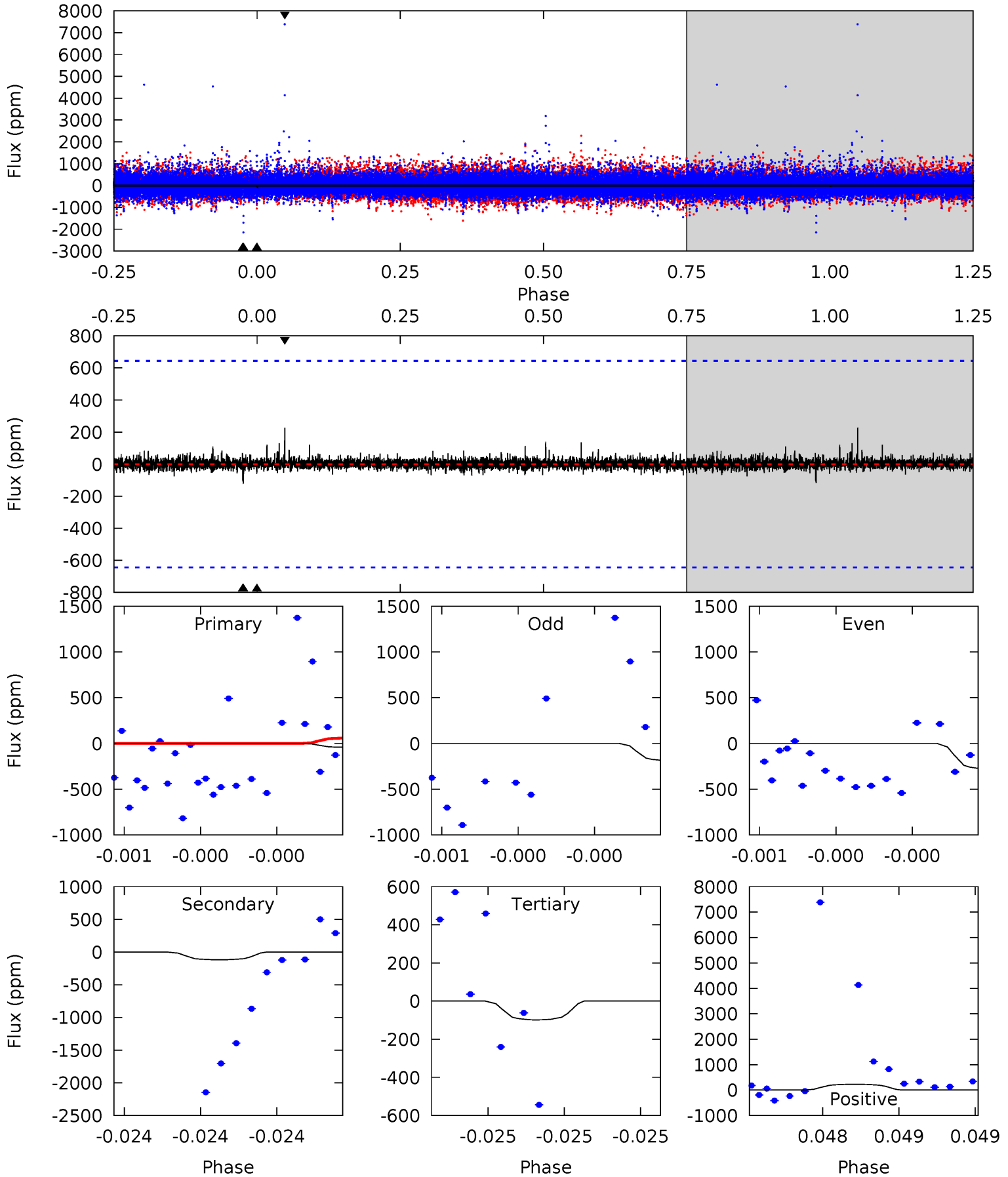
TCE 008653134-04 $P=398.686000$ Days $T_0=485.660065$ (BKJD)



DV Model-Shift Uniqueness Test

008653134-04, P = 398.688494 Days, E = 86.980404 Days

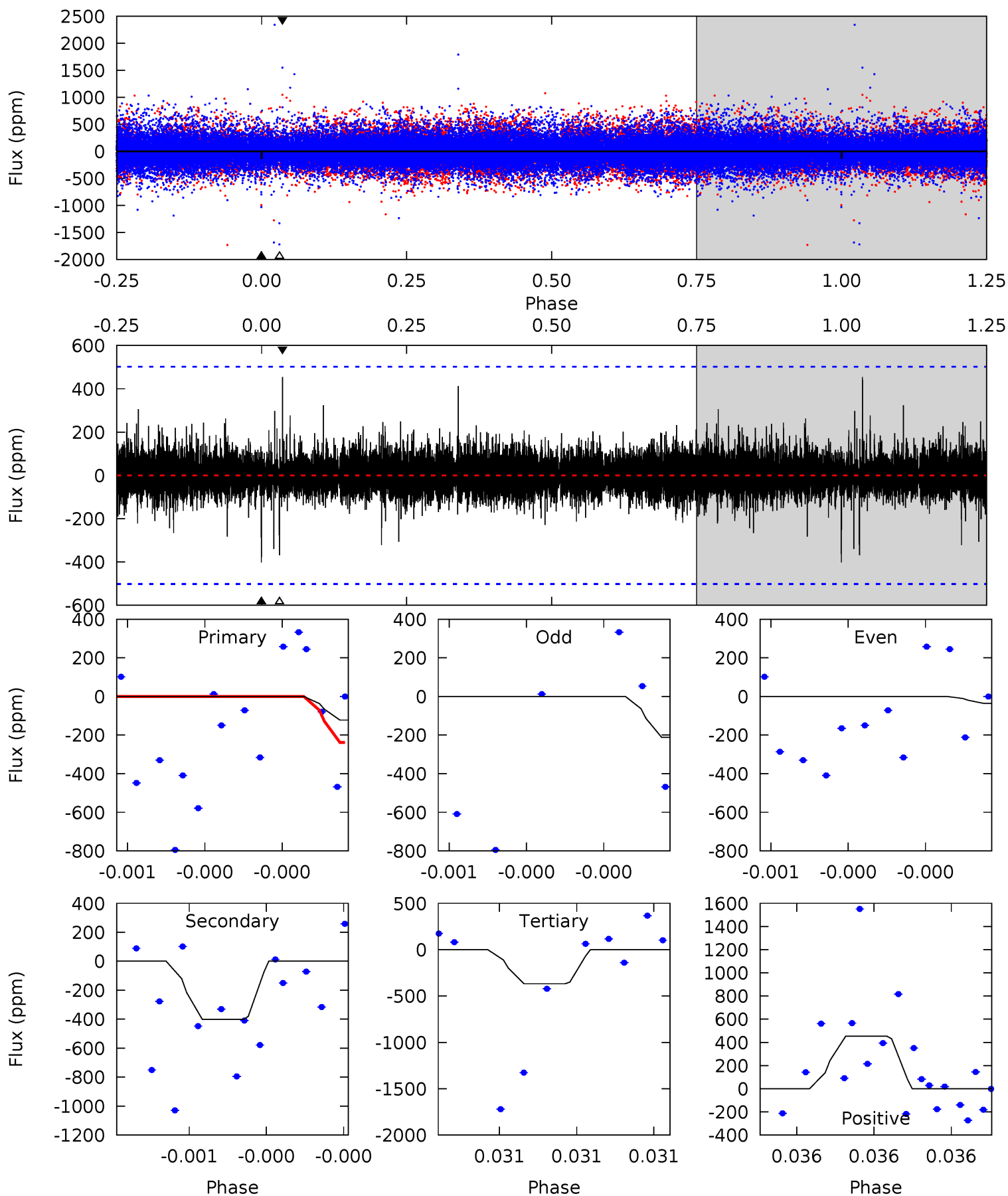
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.38	1.04	0.88	2.01	5.70	3.68	0.16	-0.50	-1.63	0.17	-0.96	0.33	1.00	0.66	0.47



Alt Model-Shift Uniqueness Test

008653134-04, P = 398.686000 Days, E = 86.974065 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.40	4.59	4.22	5.19	5.74	3.73	0.62	-2.82	-3.79	0.38	-0.60	1.00	1.00	0.53	1.00



Stellar Parameters For KIC 008653134

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5101^{+184}_{-184}	$4.630^{+0.045}_{-0.060}$	$-0.500^{+0.300}_{-0.300}$	$0.670^{+0.080}_{-0.053}$	$0.699^{+0.076}_{-0.055}$	$3.275^{+0.633}_{-0.764}$
	+4%/-4%	+1%/-1%	+60%/-60%	+12%/-8%	+11%/-8%	+19%/-23%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 008653134-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-118 ± 113	$9.19^{+10.71}_{-6.63}$	266^{+12}_{-11}	2269^{+962}_{-984}	459^{+6511}_{-458}
Alt.	-401 ± 87	$8.99^{+10.77}_{-6.37}$	266^{+12}_{-11}	2785^{+1309}_{-477}	2455^{+24595}_{-1957}

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

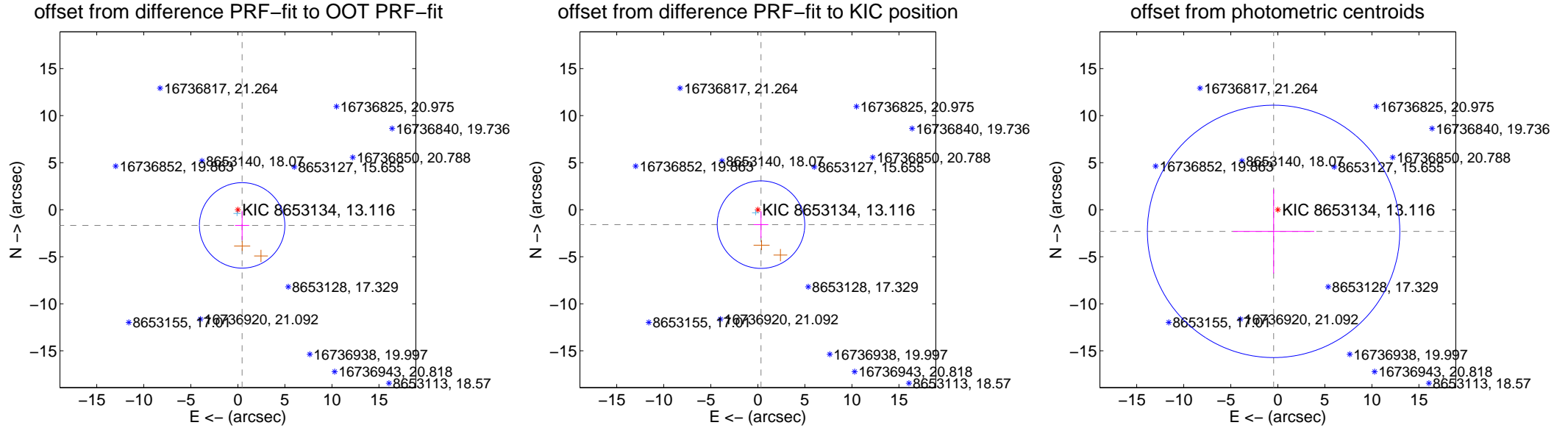
DV Centroid Data

Supplemental centroid analysis for 008653134-04. Kepler magnitude: 13.12. Transit SNR 1.86

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.728 ± 1.514	1.14	-0.454 ± 0.751	-1.667 ± 1.556
PRF-fit source offset from KIC position	1.622 ± 1.551	1.05	-0.336 ± 0.781	-1.586 ± 1.438
photometric centroid source offset	2.35 ± 4.47	0.52	0.45 ± 4.32	-2.30 ± 4.48

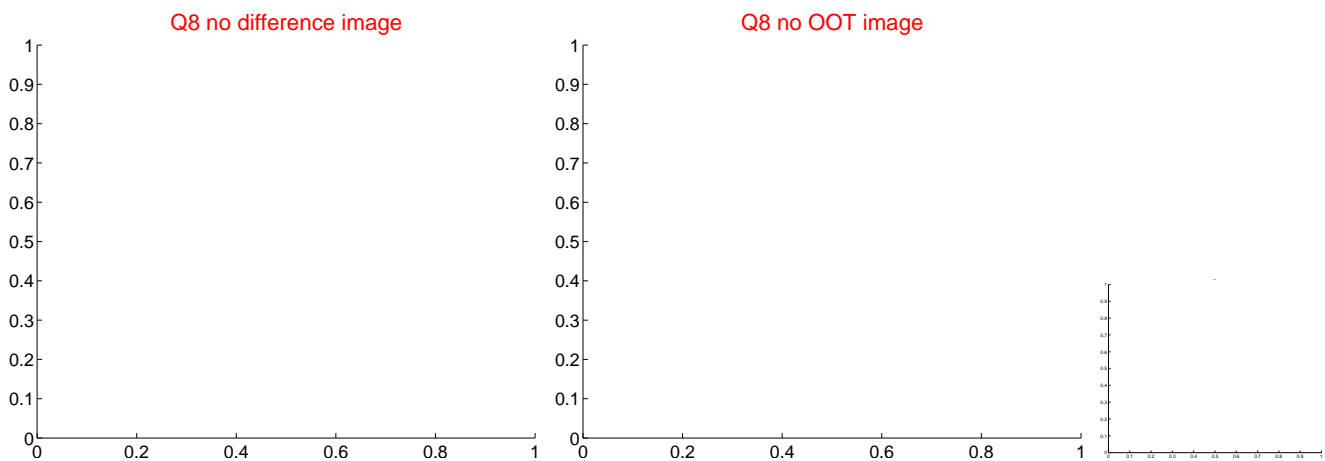
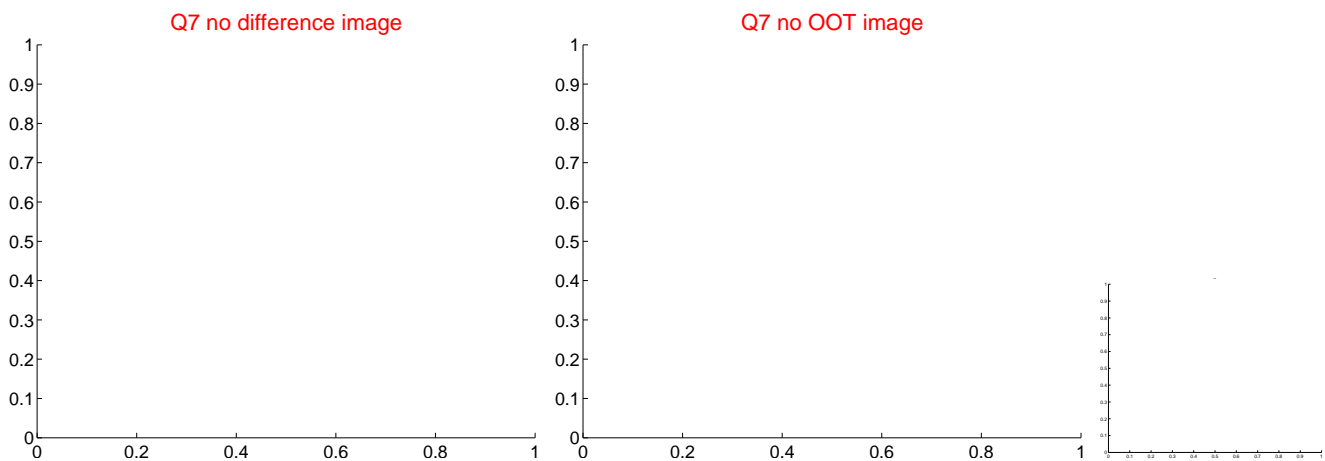
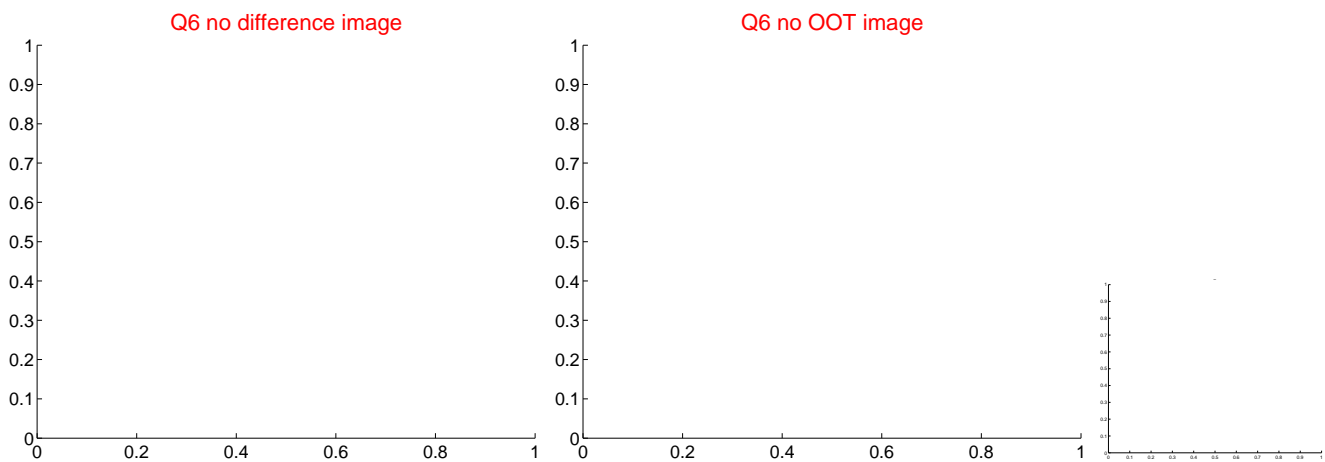
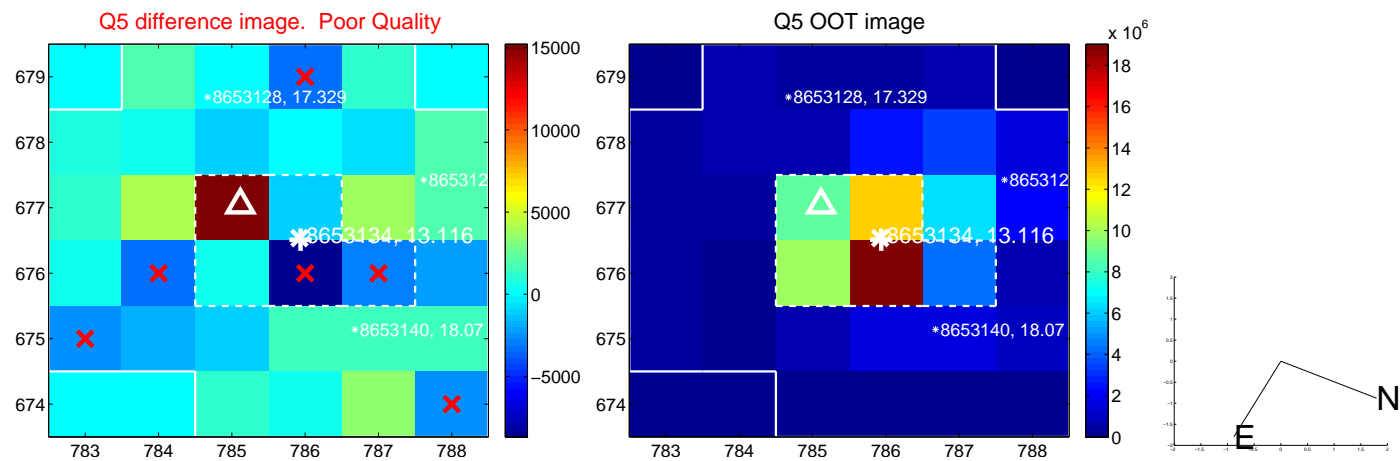


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

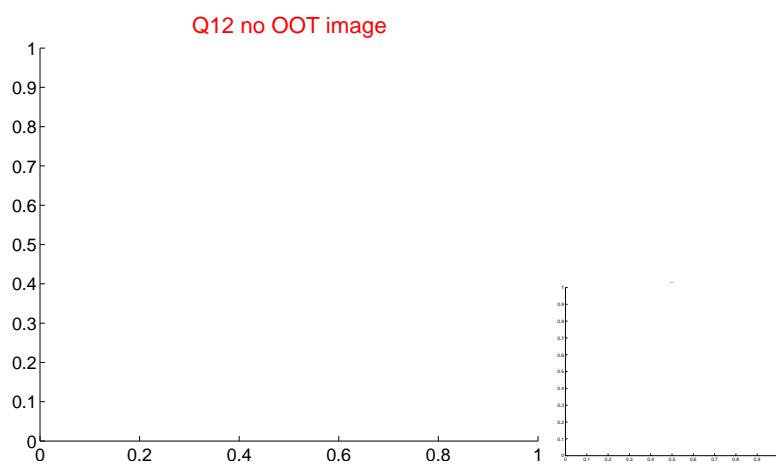
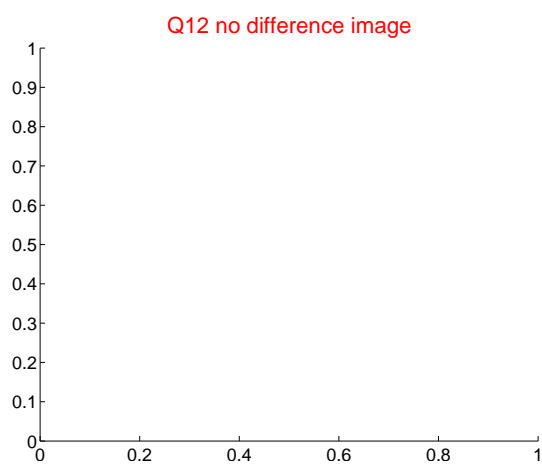
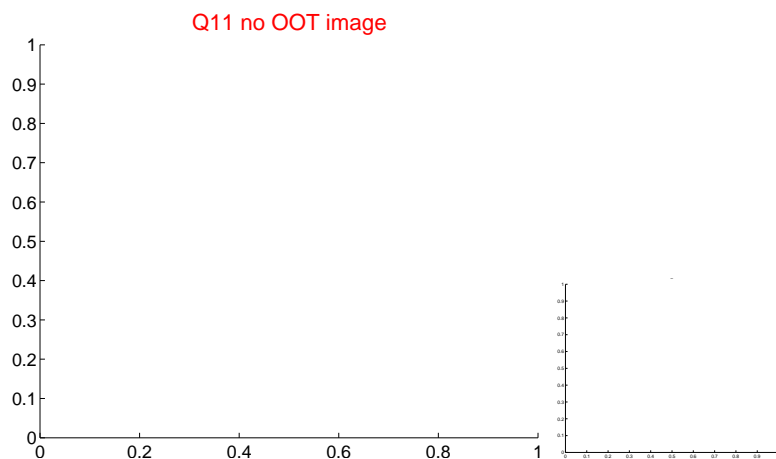
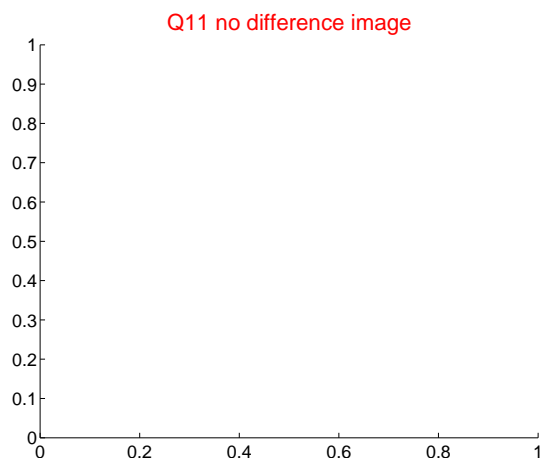
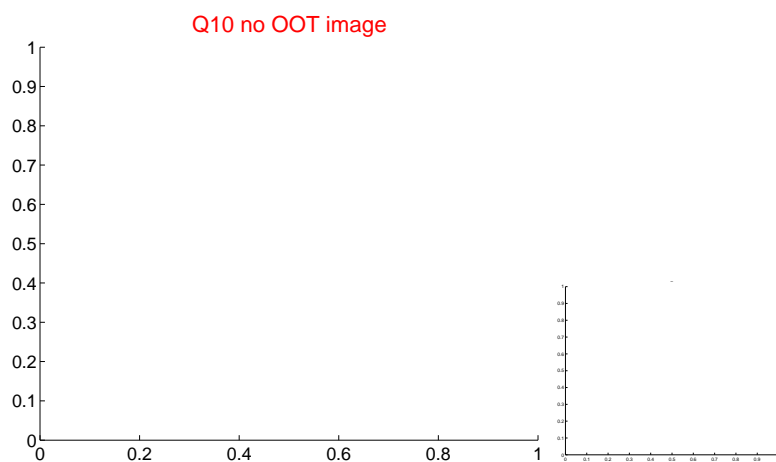
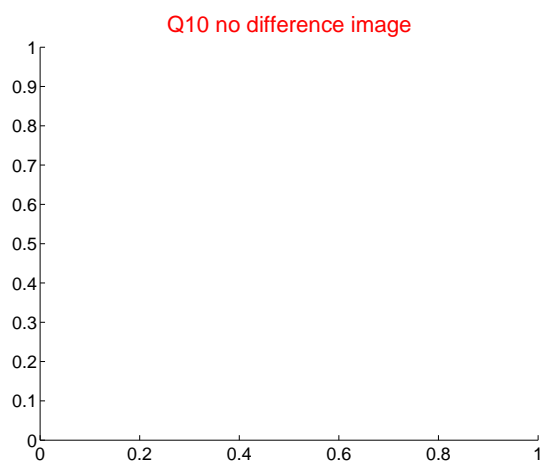
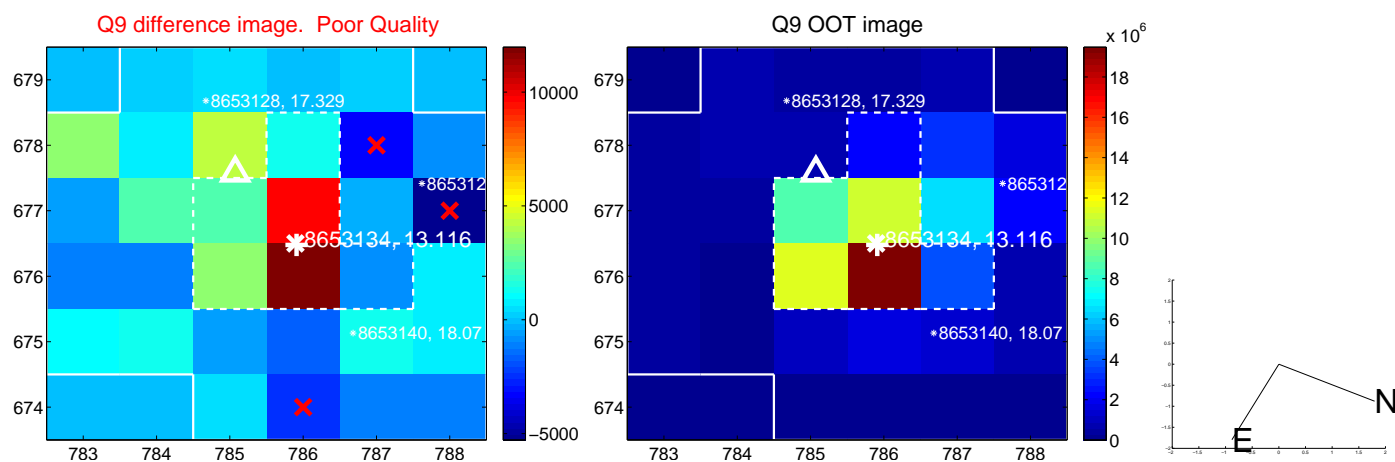
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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

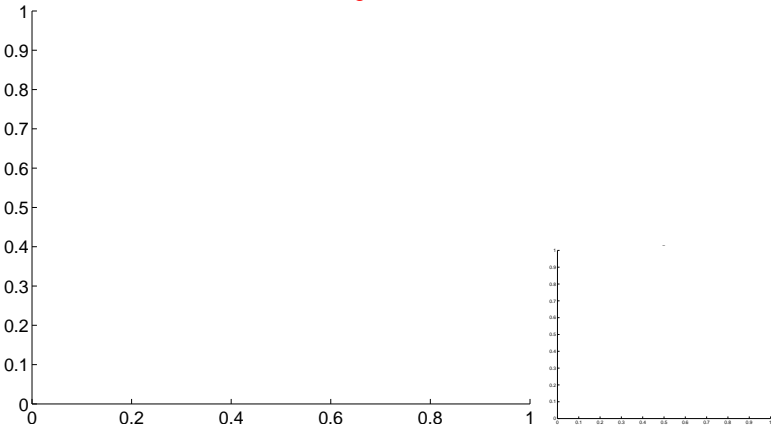


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

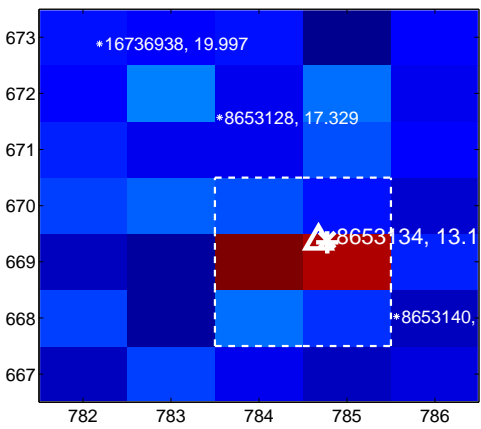
Q13 no difference image



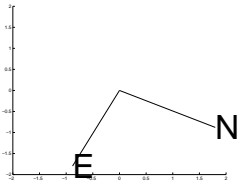
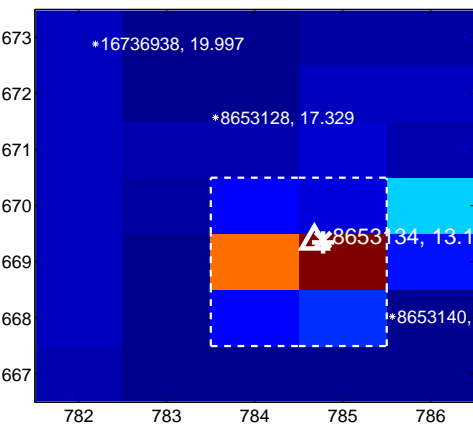
Q13 no OOT image



Q14 difference image



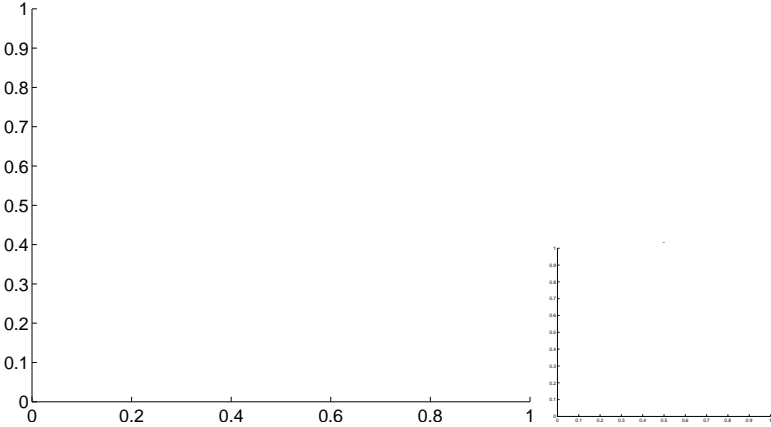
Q14 OOT image



Q15 no difference image



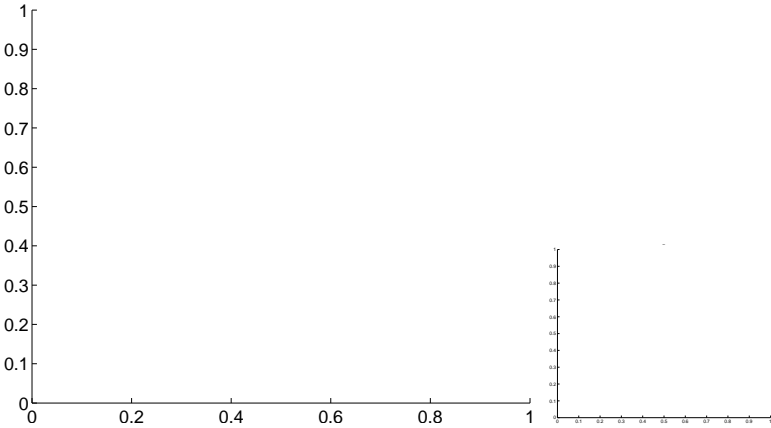
Q15 no OOT image



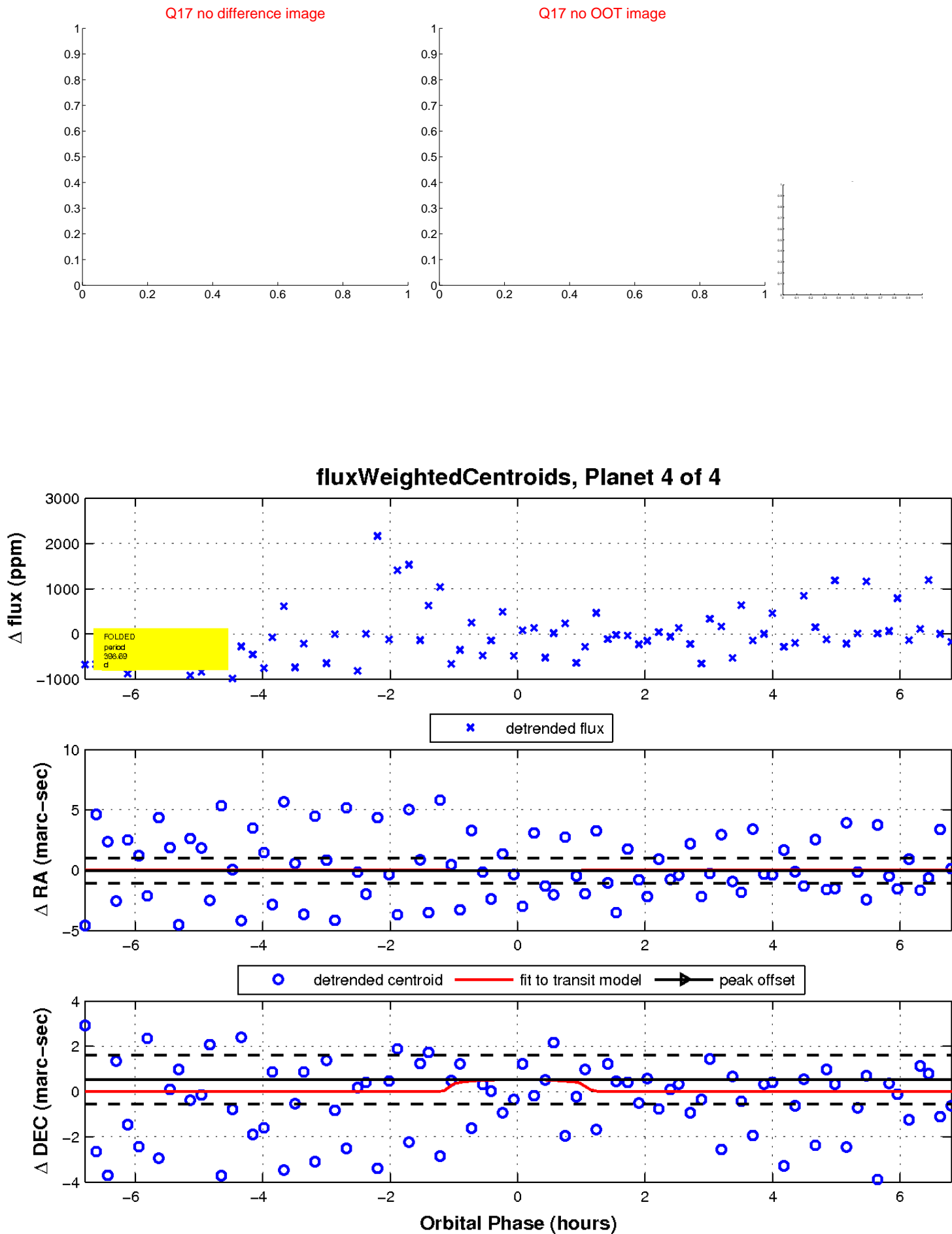
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

