

KIC 007698258

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})
007698258-01	OBS	No	1.288234	131.913121	26.6	9.265	7.3	5.1	1.04	6184	0.57	2462.89
007698258-02	OBS	No	22.665436	144.949457	154.4	2.056	12.6	2.5	1.04	6184	1.30	53.82
007698258-03	OBS	No	44.360633	163.825473	299.5	4.245	11.8	4.3	1.04	6184	2.09	21.98
007698258-04	OBS	No	22.679279	144.149726	429.0	6.374	12.4	7.9	1.04	6184	2.50	53.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007698258-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—HALO_GHOST
007698258-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698258-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698258-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

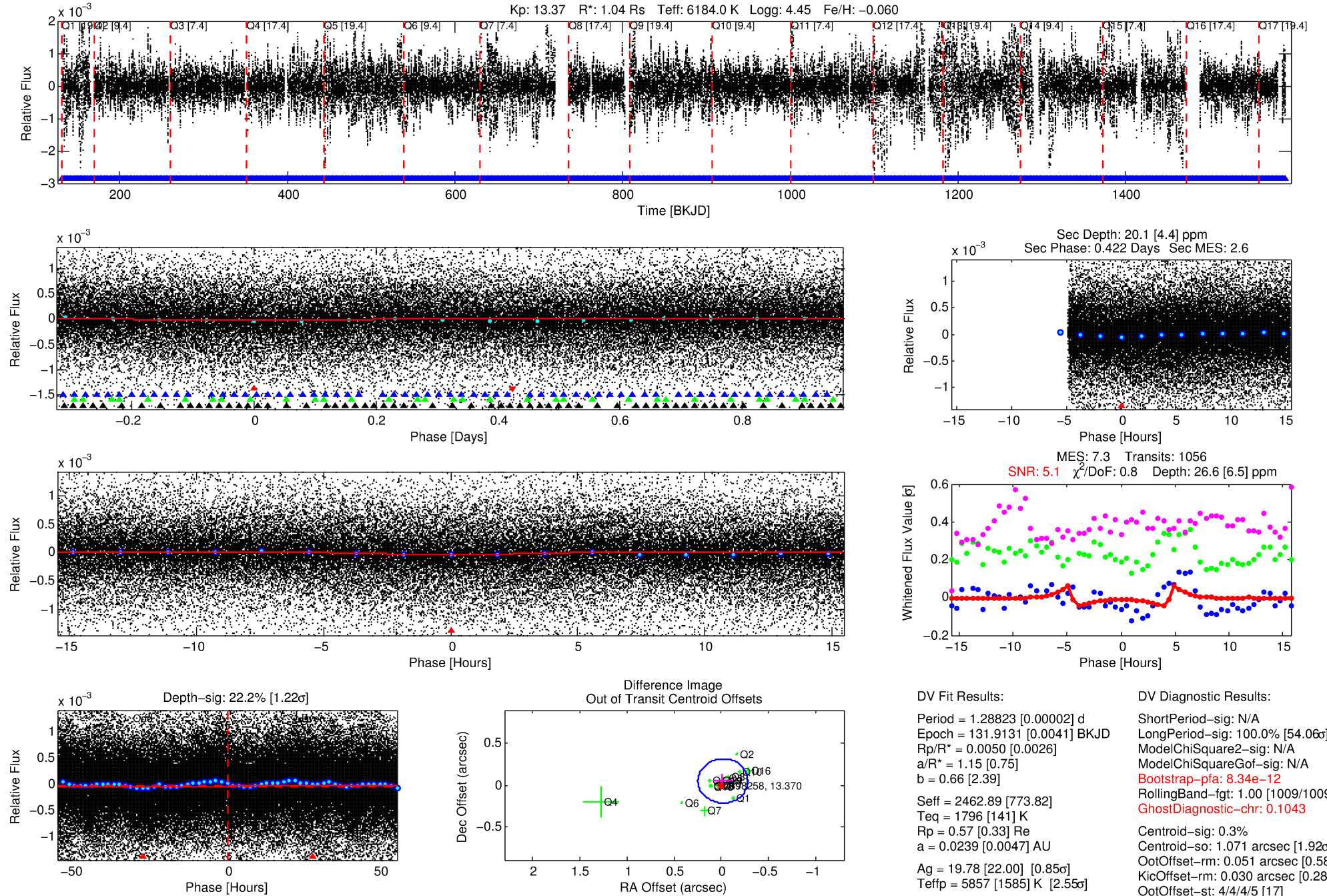
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007698258-01

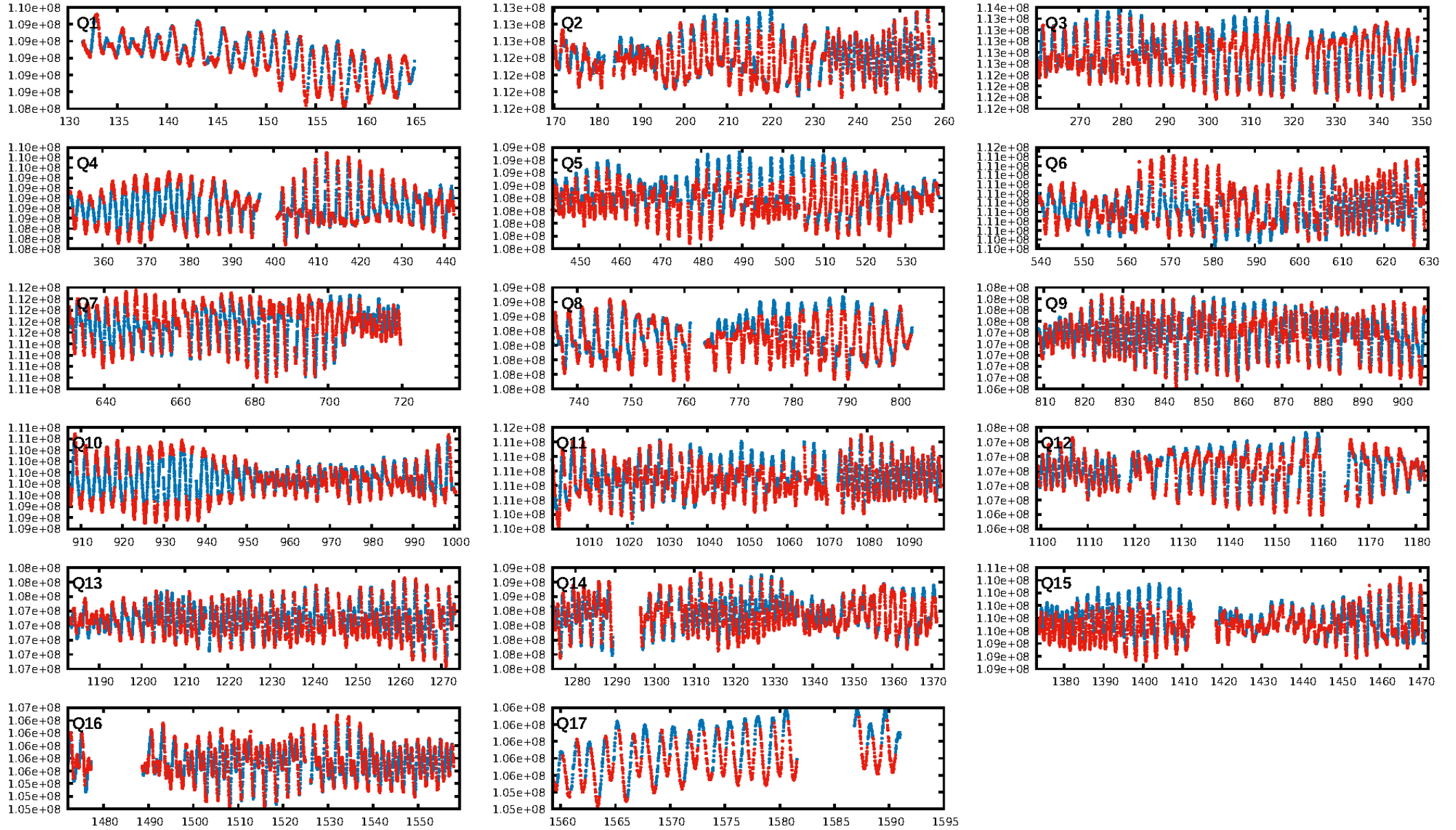
No Significant Match Found

DV One-Page Summary

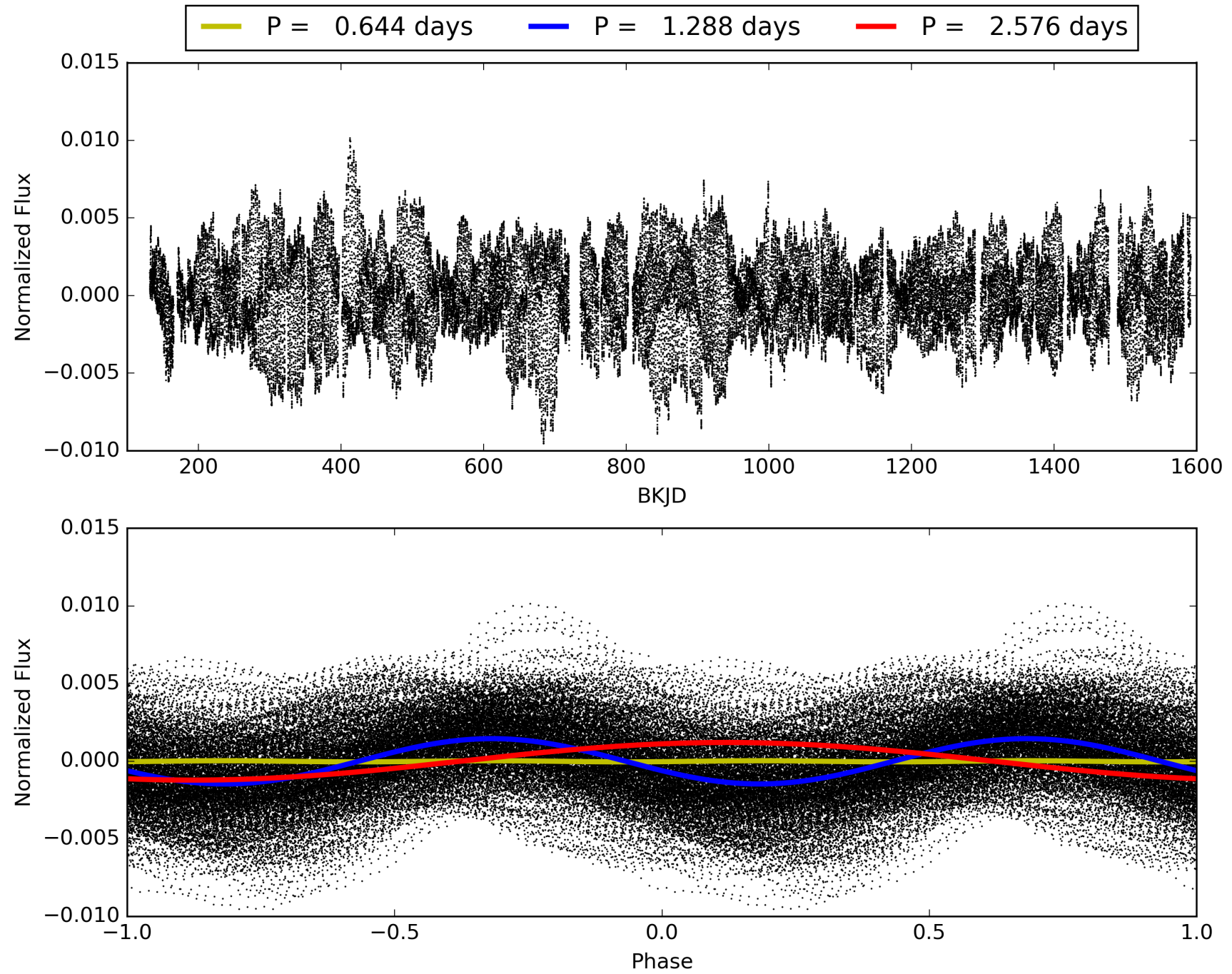
KIC: 7698258 Candidate: 1 of 4 Period: 1.288 d



TCE 007698258-01, PDC Light Curves

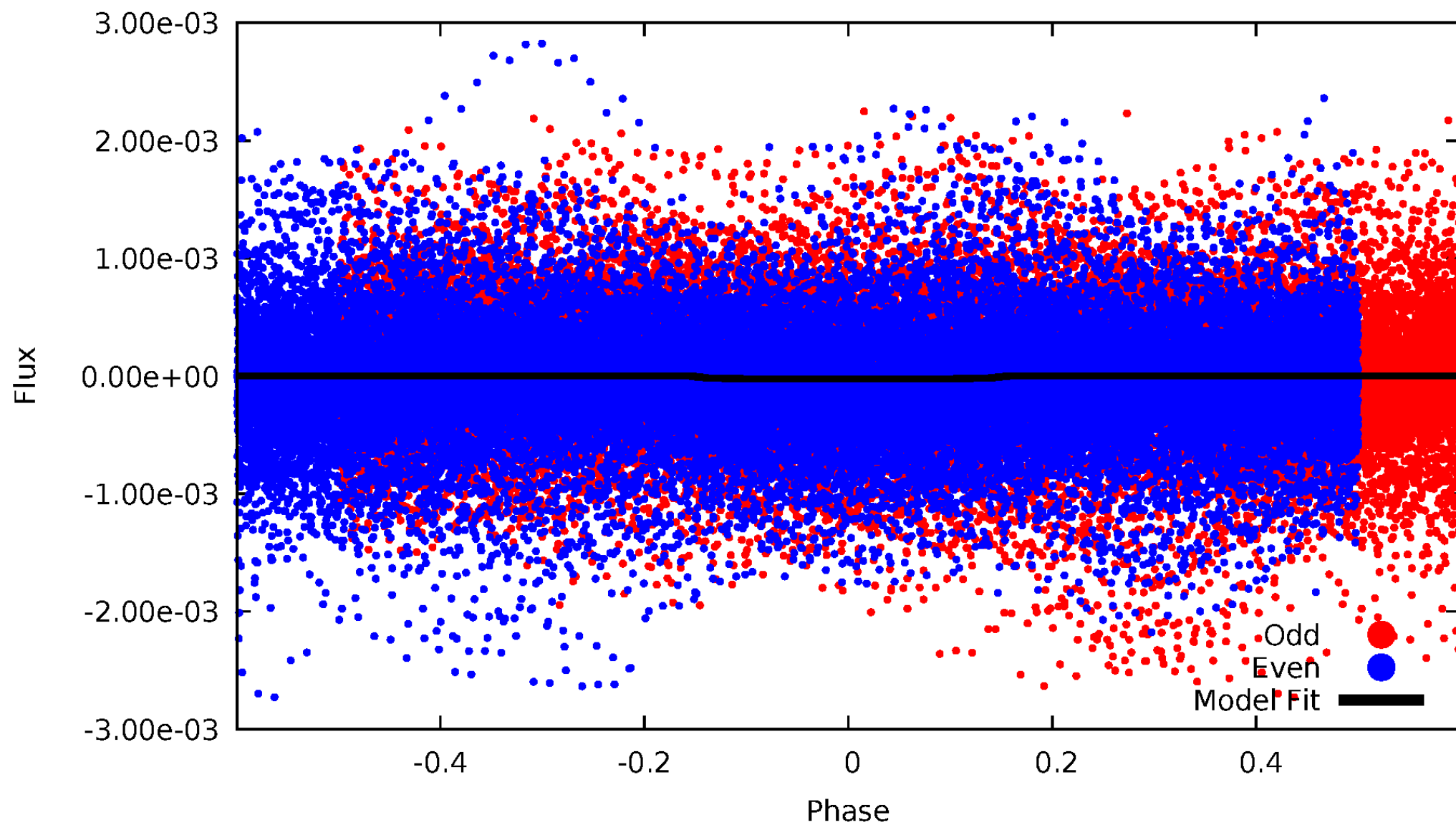


TCE 007698258-01



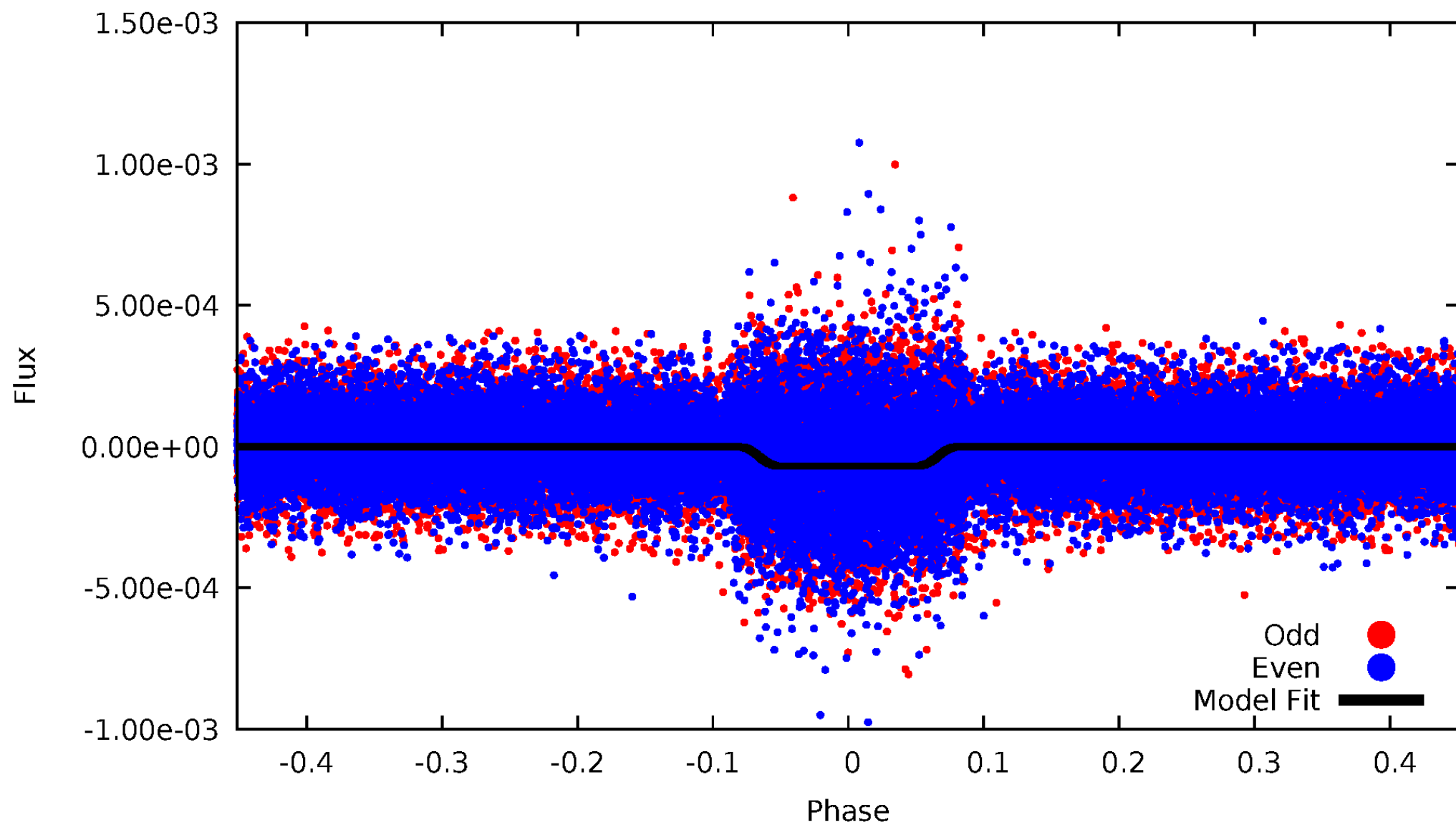
DV Odd/Even

TCE 007698258-01

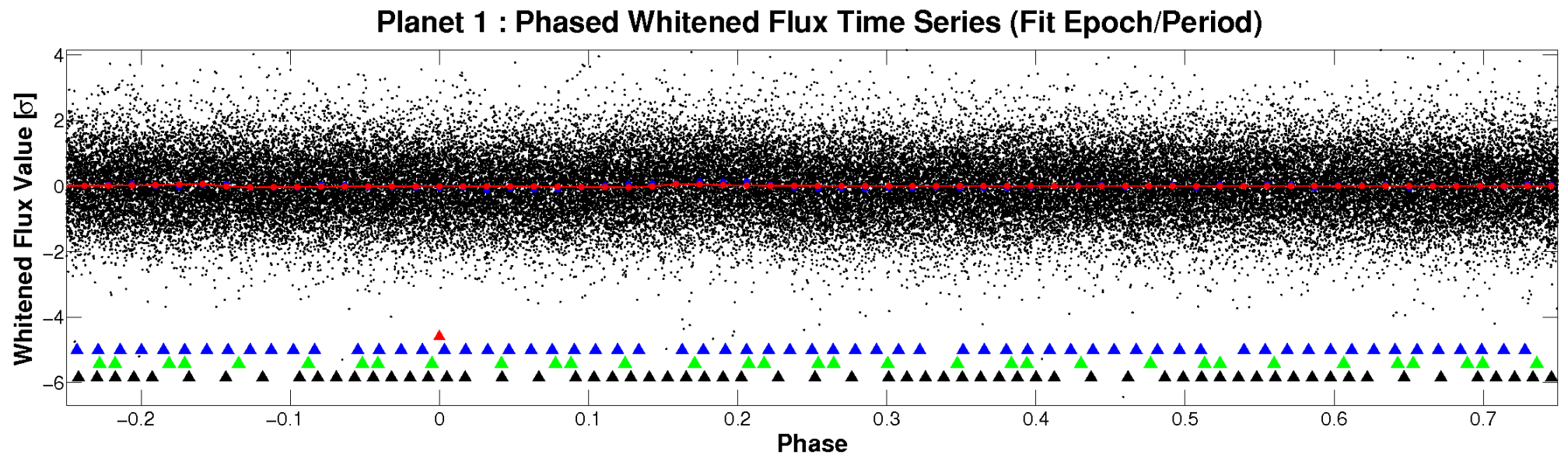
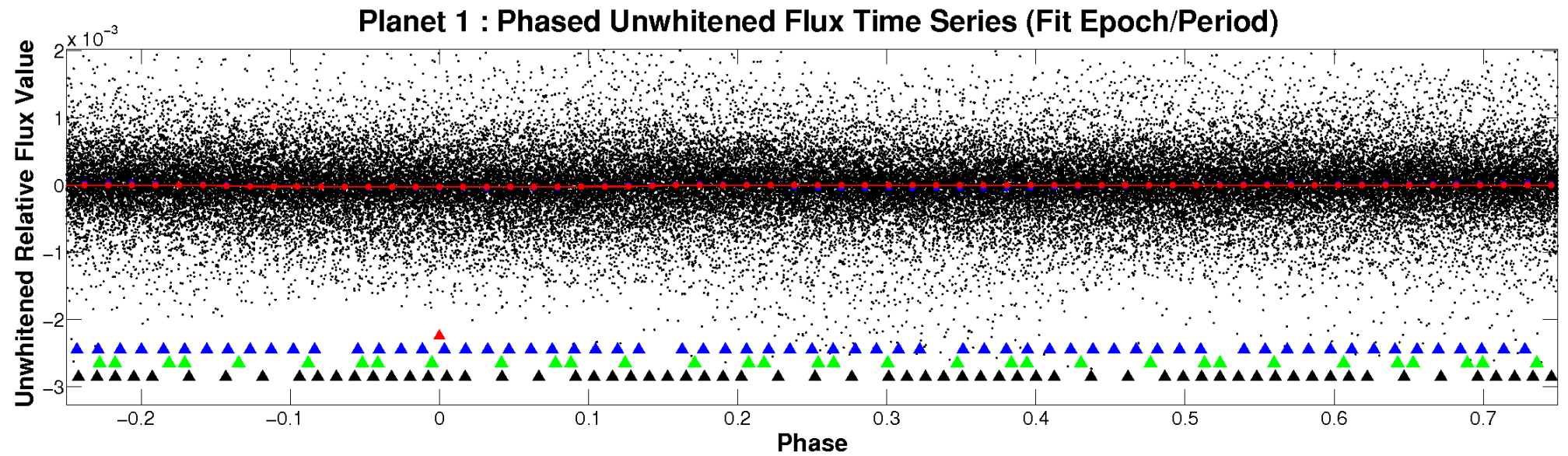


ALT Odd/Even

TCE 007698258-01

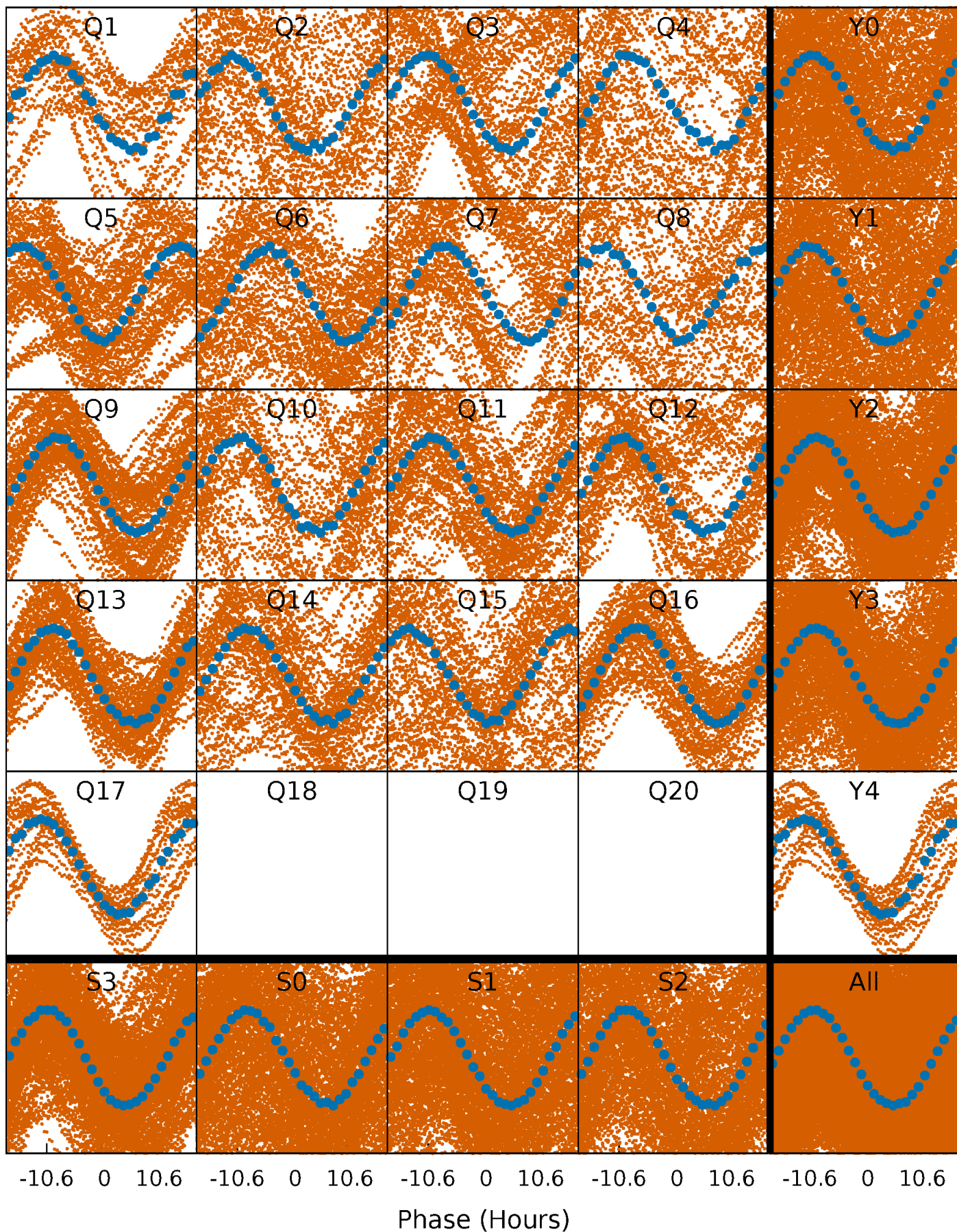


Non-Whitened Vs. Whitened Light Curve



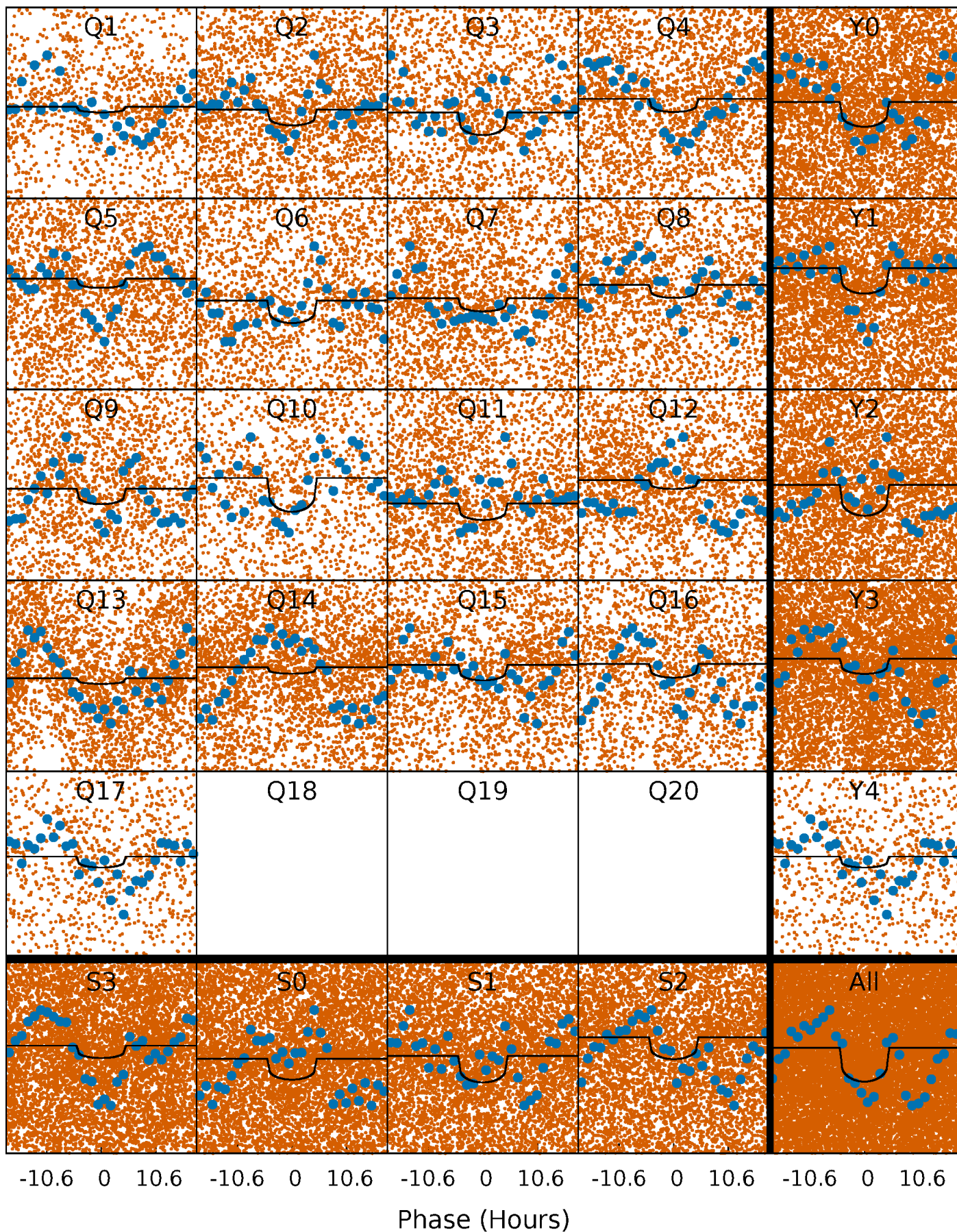
PDC Quarter-Phased Transit Curves

TCE 007698258-01 P= 1.288234 Days $T_0=131.913121$ (BKJD)



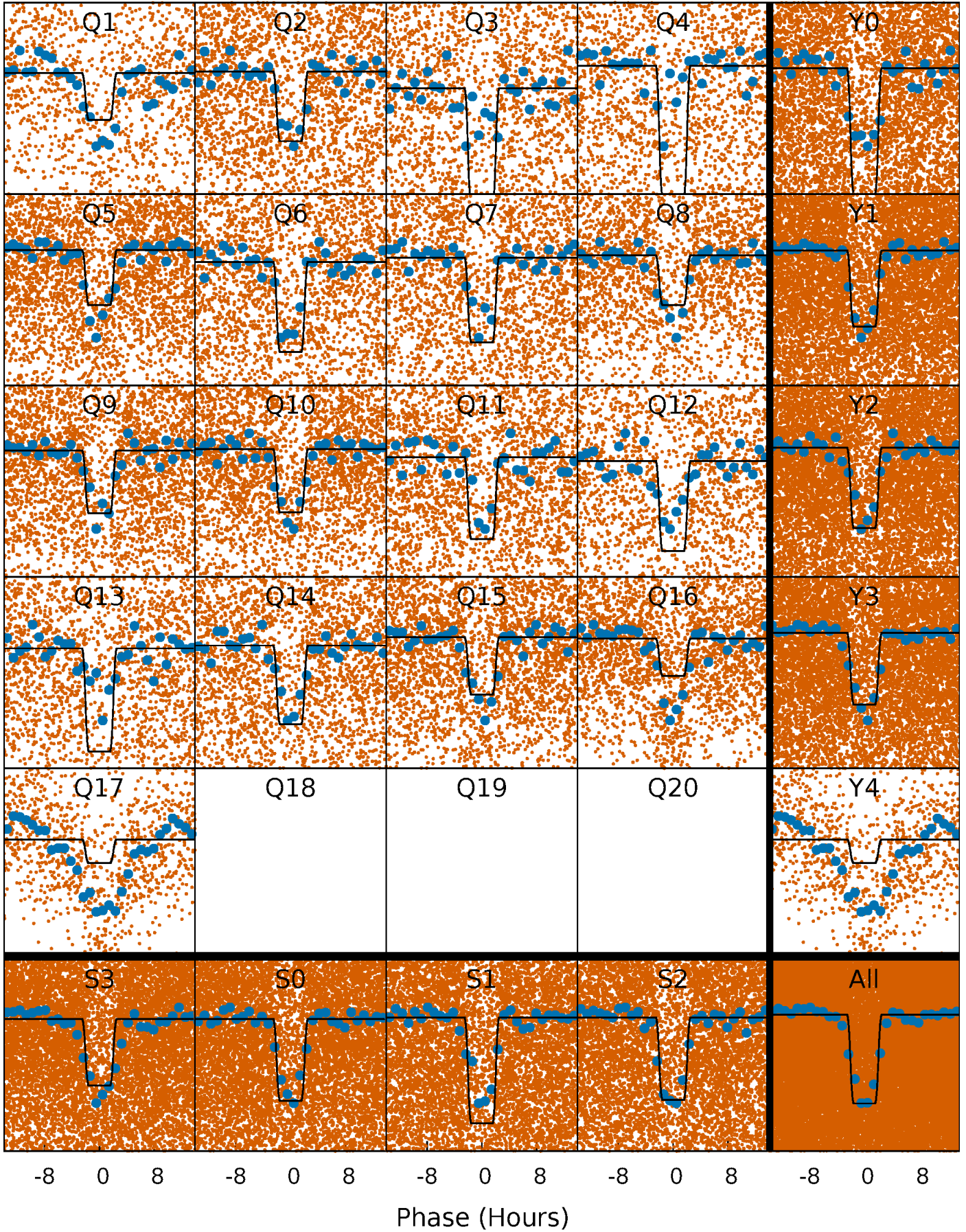
DV Quarter-Phased Transit Curves

TCE 007698258-01 P= 1.288234 Days $T_0=131.913121$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

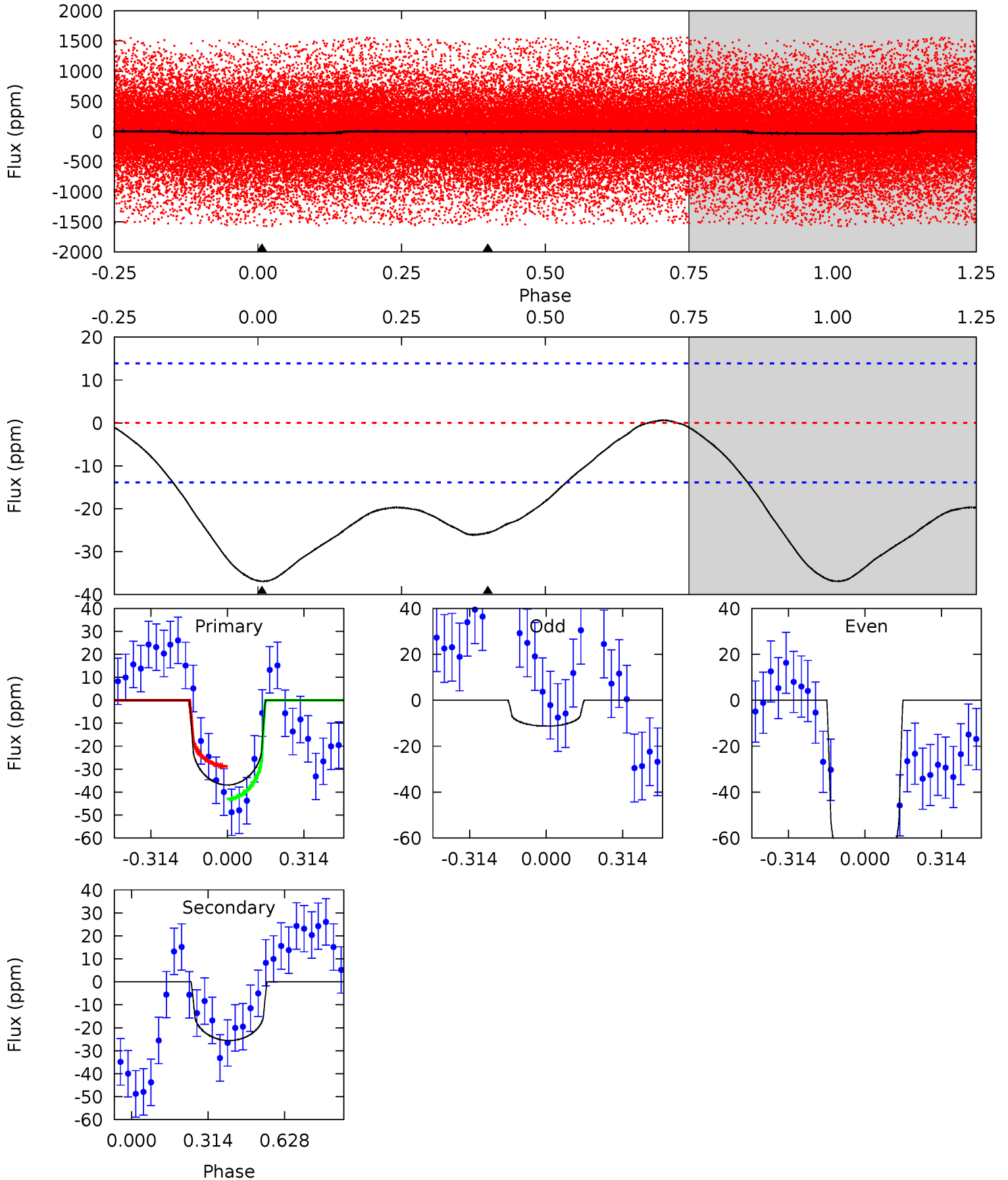
TCE 007698258-01 P= 1.288294 Days $T_0=131.939559$ (BKJD)



DV Model-Shift Uniqueness Test

007698258-01, P = 1.288234 Days, E = 130.624887 Days

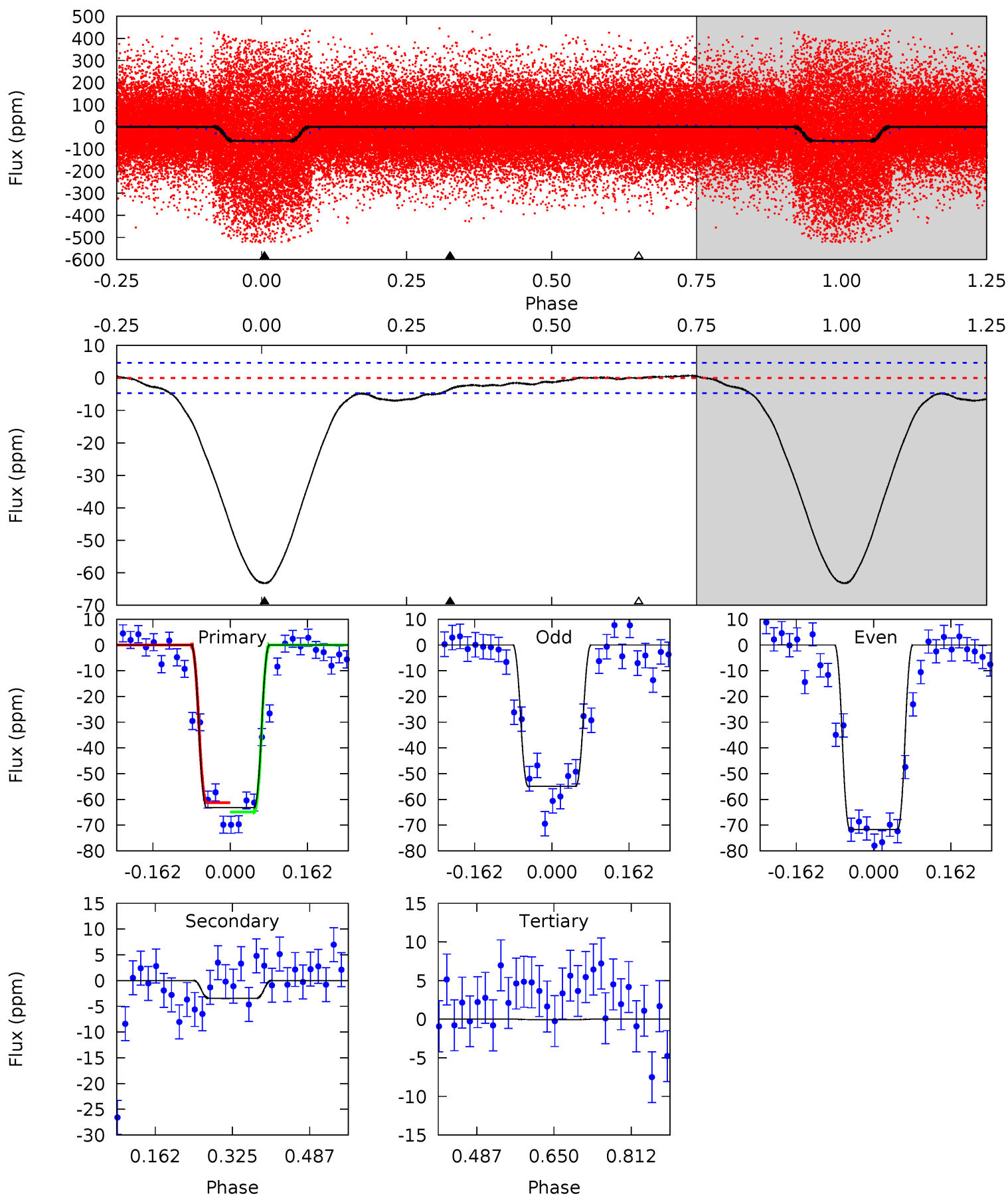
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	7.97	0	0	4.32	1.01	0.19	11.5	11.5	7.97	7.97	11.4	1.65	0.02	2.18



Alt Model-Shift Uniqueness Test

007698258-01, P = 1.288294 Days, E = 130.651265 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
60.2	3.28	0.05	0	4.46	1.40	1.11	60.2	60.2	3.23	3.28	7.98	1.20	0.01	1.73



Stellar Parameters For KIC 007698258

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6184^{+147}_{-202}	$4.448^{+0.052}_{-0.157}$	$-0.060^{+0.250}_{-0.350}$	$1.038^{+0.239}_{-0.119}$	$1.100^{+0.115}_{-0.140}$	$1.387^{+0.384}_{-0.605}$
	+2%/-3%	+1%/-4%	+417%/-583%	+23%/-11%	+10%/-13%	+28%/-44%
Source	PHO1	FLK73	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 007698258-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 3	$0.61^{+0.31}_{-0.30}$	2557^{+139}_{-124}	6067^{+2978}_{-1081}	22^{+64}_{-13}
Alt.	-3 ± 1	$0.97^{+0.32}_{-0.31}$	2542^{+139}_{-112}	3265^{+543}_{-473}	$1.139^{+1.332}_{-0.577}$

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

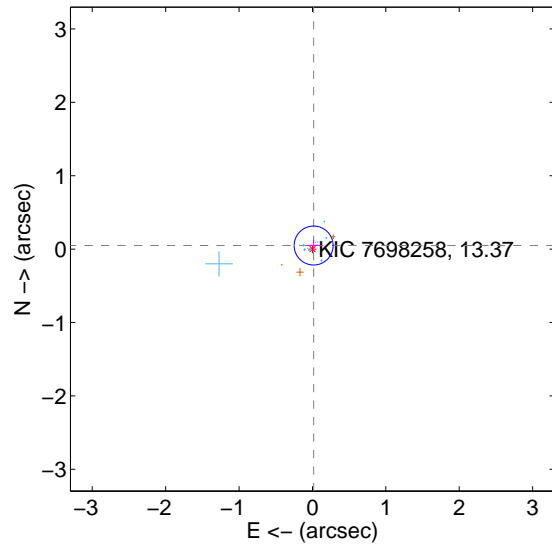
Supplemental centroid analysis for 007698258-01. Kepler magnitude: 13.37. Transit SNR 5.13

There are 14 quarters with good PRF difference image offsets

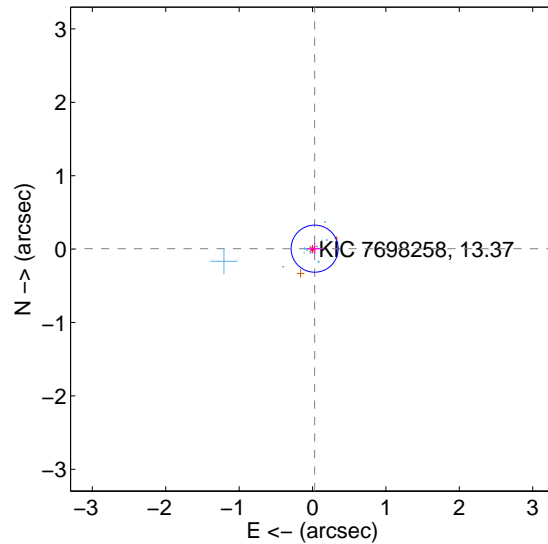
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.051 ± 0.088	0.58	-0.016 ± 0.105	0.049 ± 0.078
PRF-fit source offset from KIC position	0.030 ± 0.107	0.28	-0.029 ± 0.105	0.006 ± 0.078
photometric centroid source offset	1.07 ± 0.56	1.92	-0.78 ± 0.56	0.74 ± 0.56

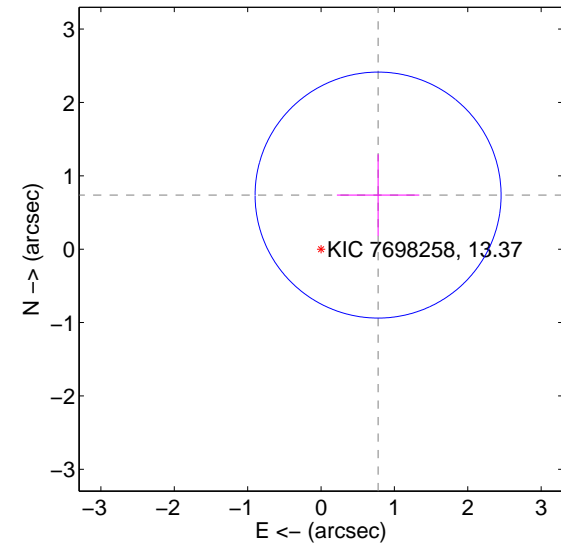
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

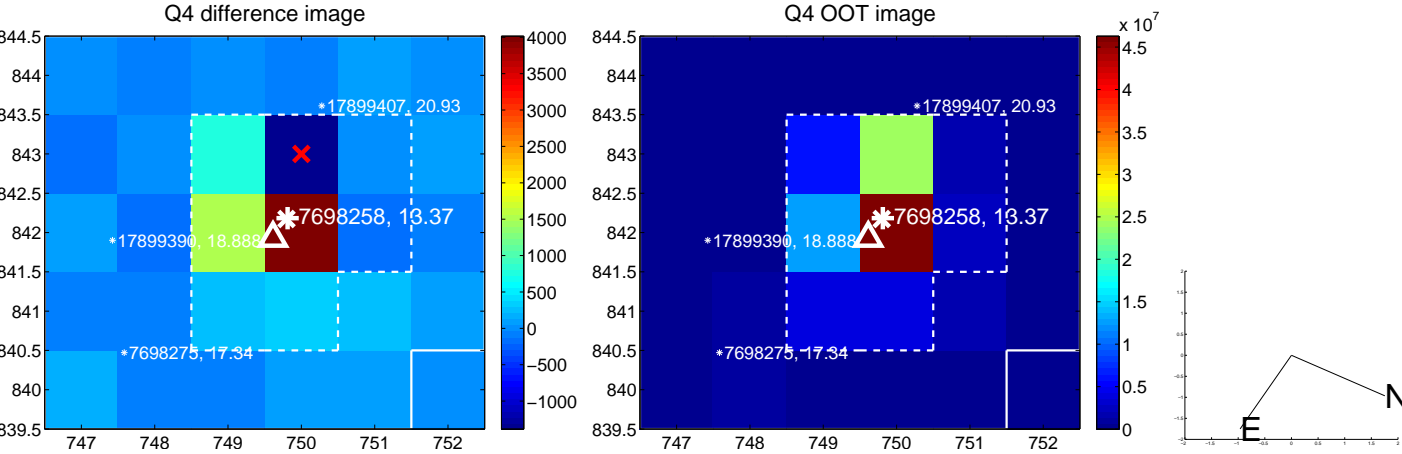
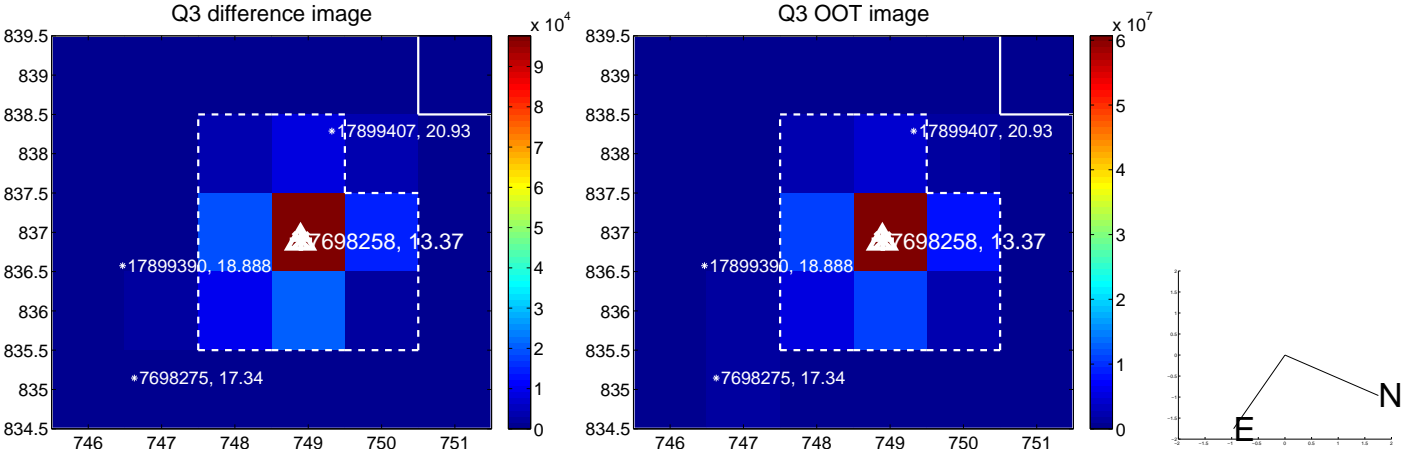
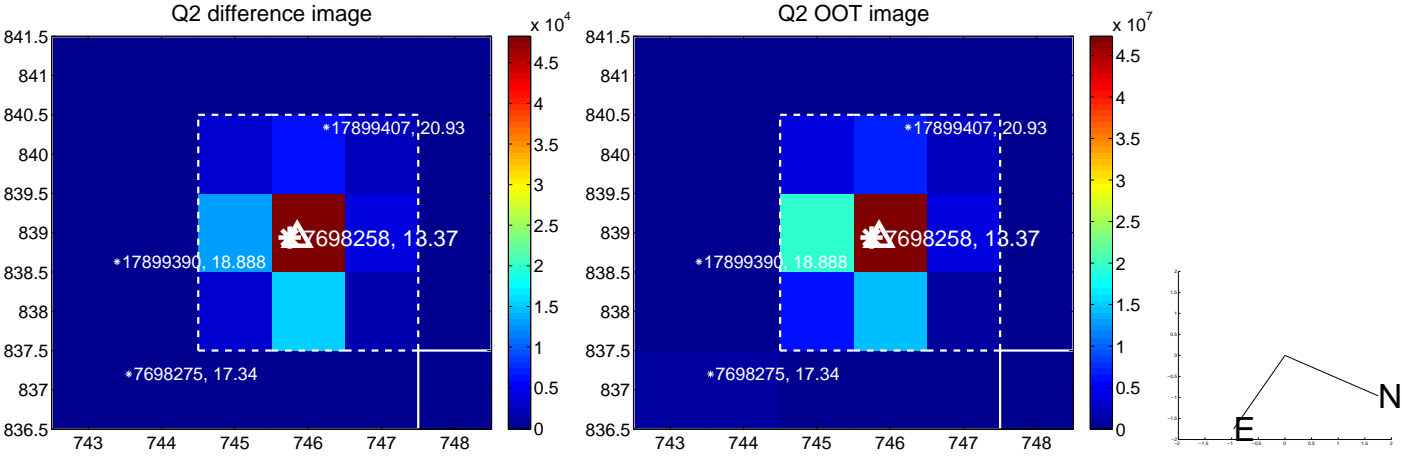
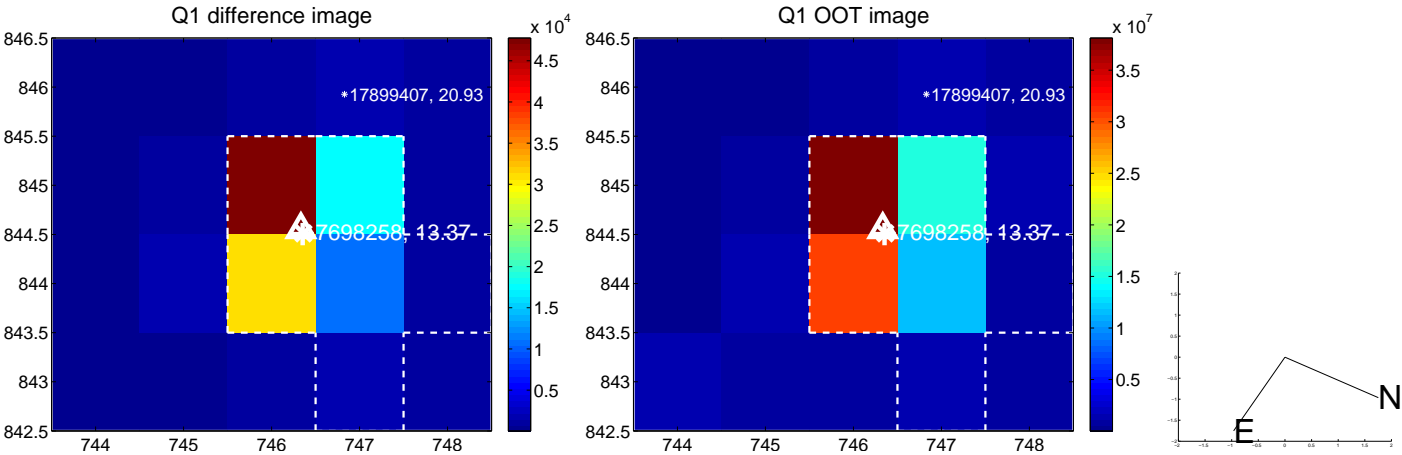


offset from photometric centroids

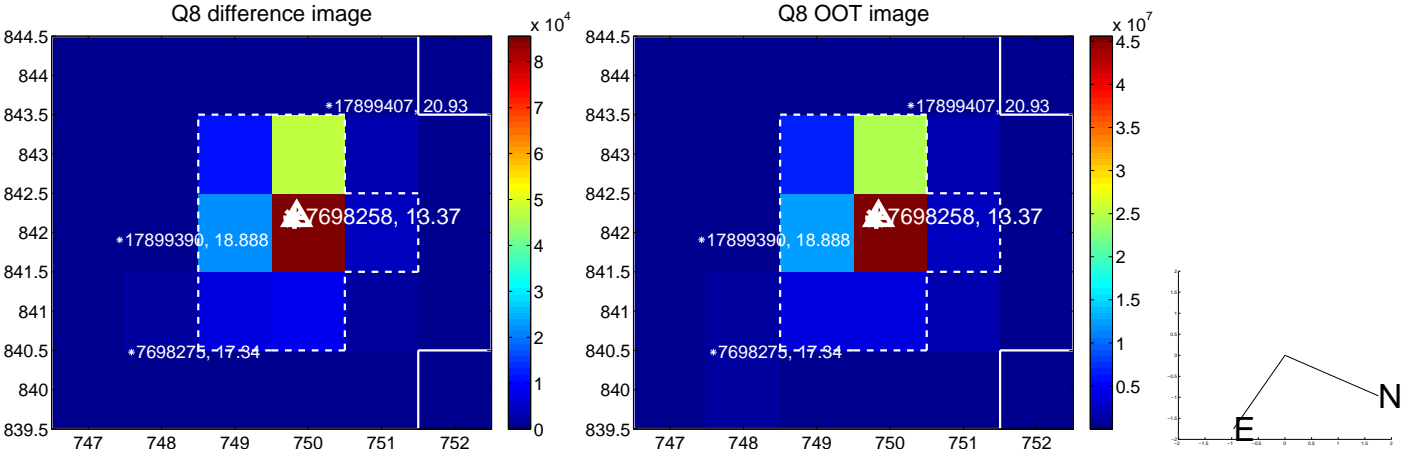
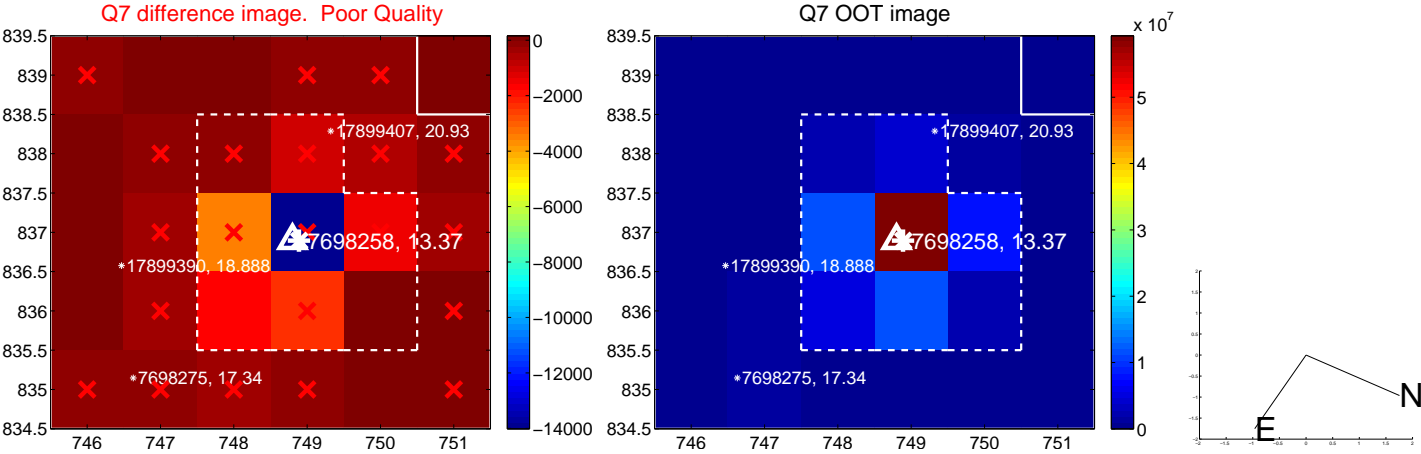
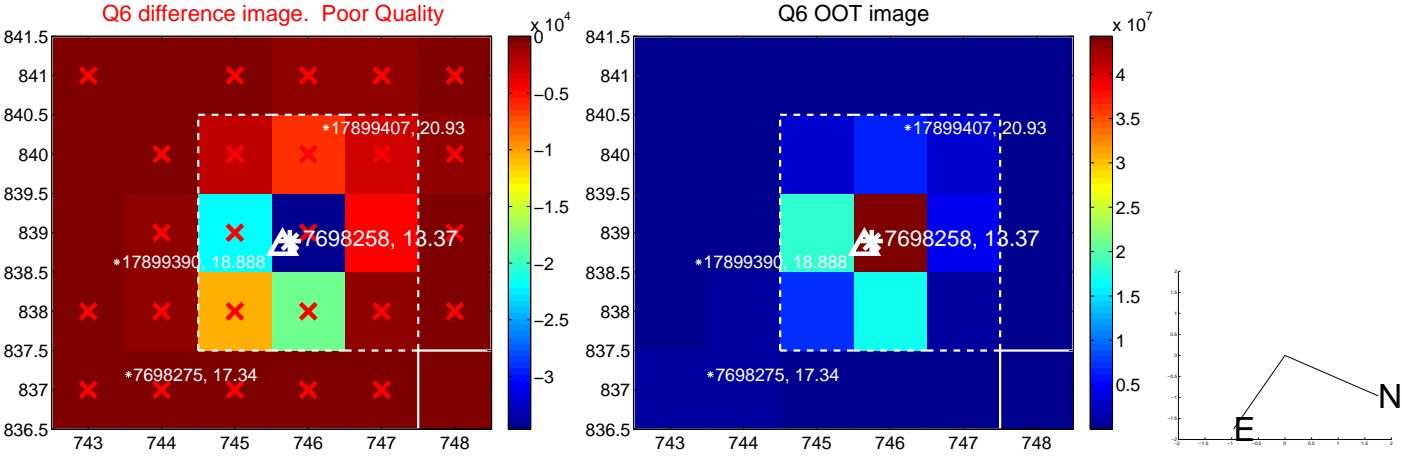
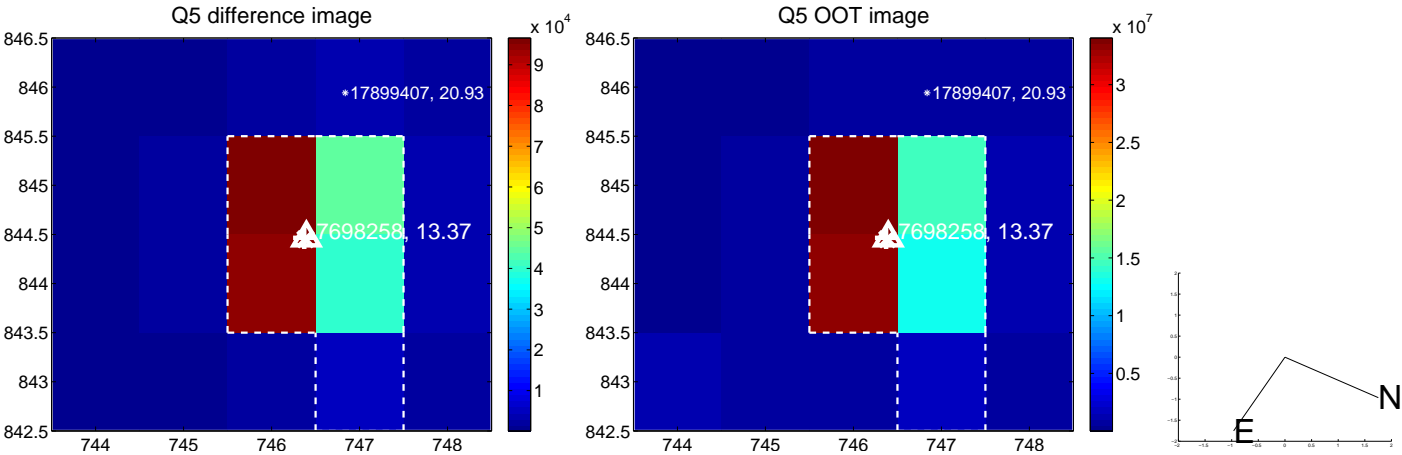


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

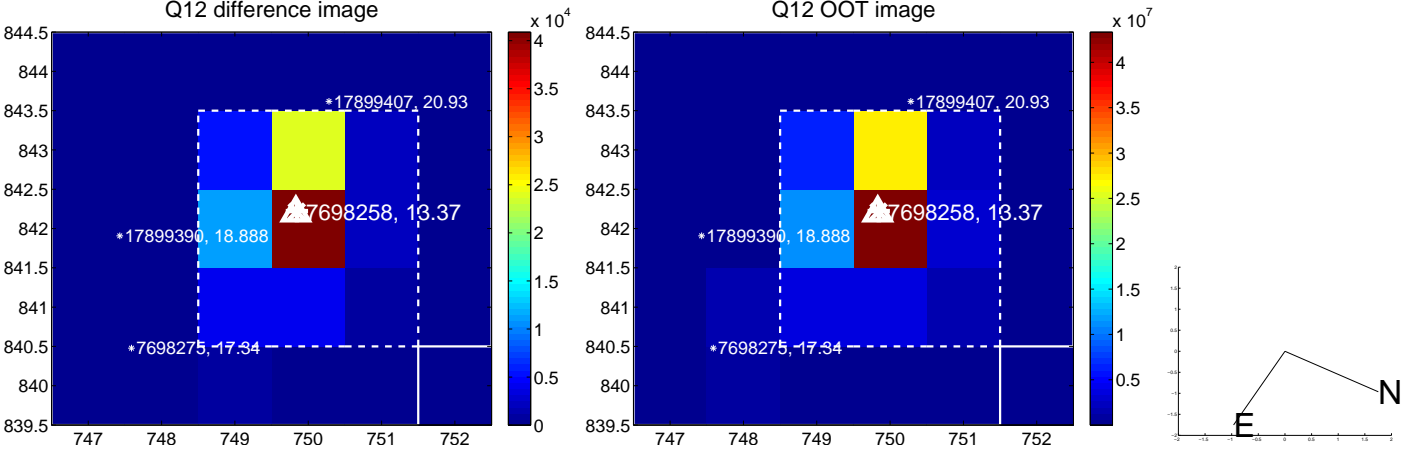
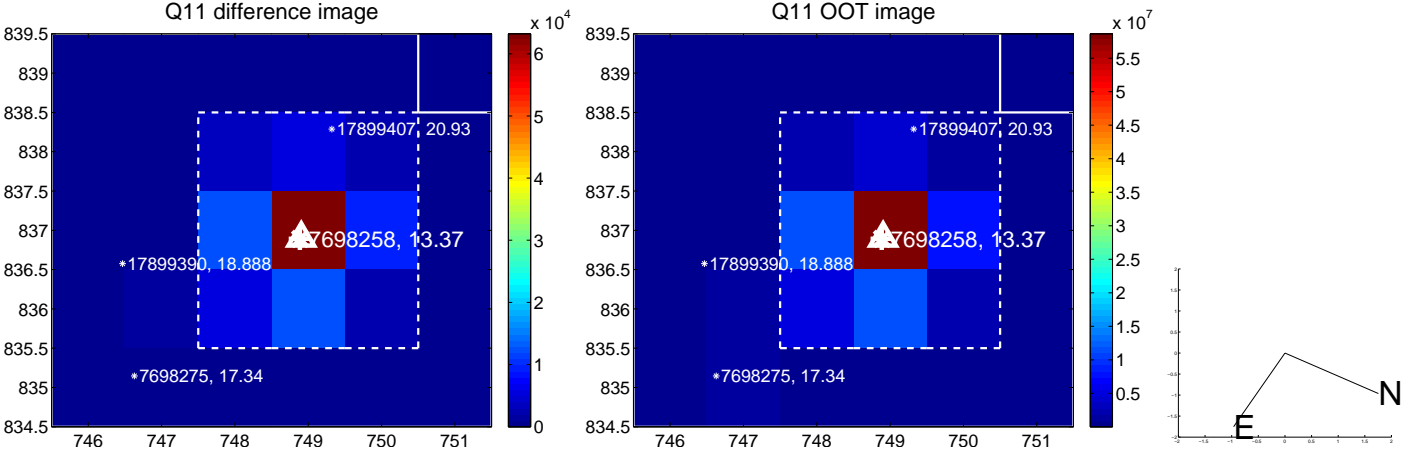
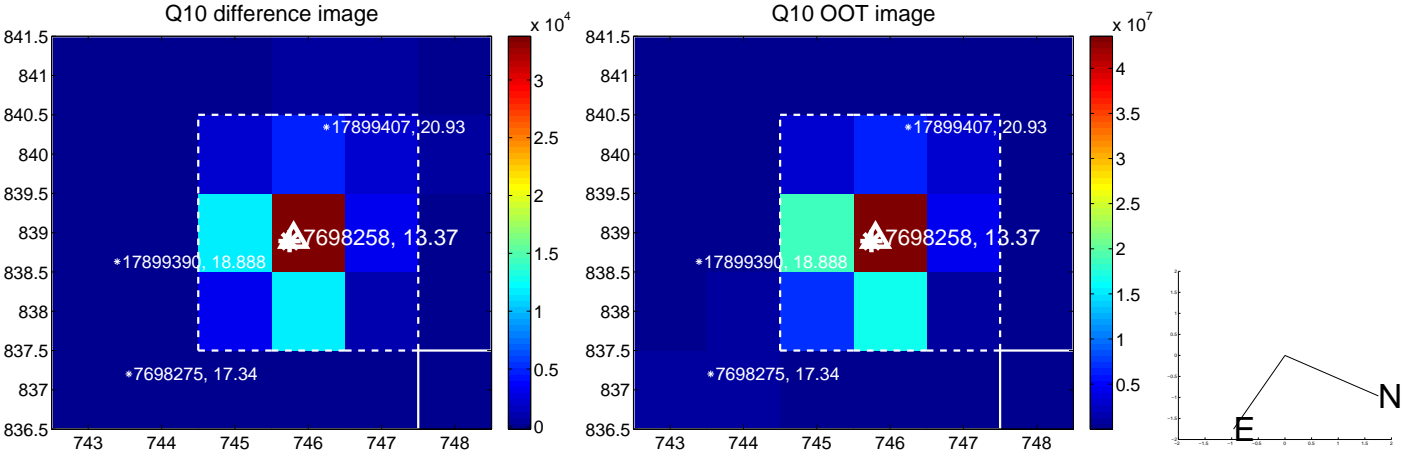
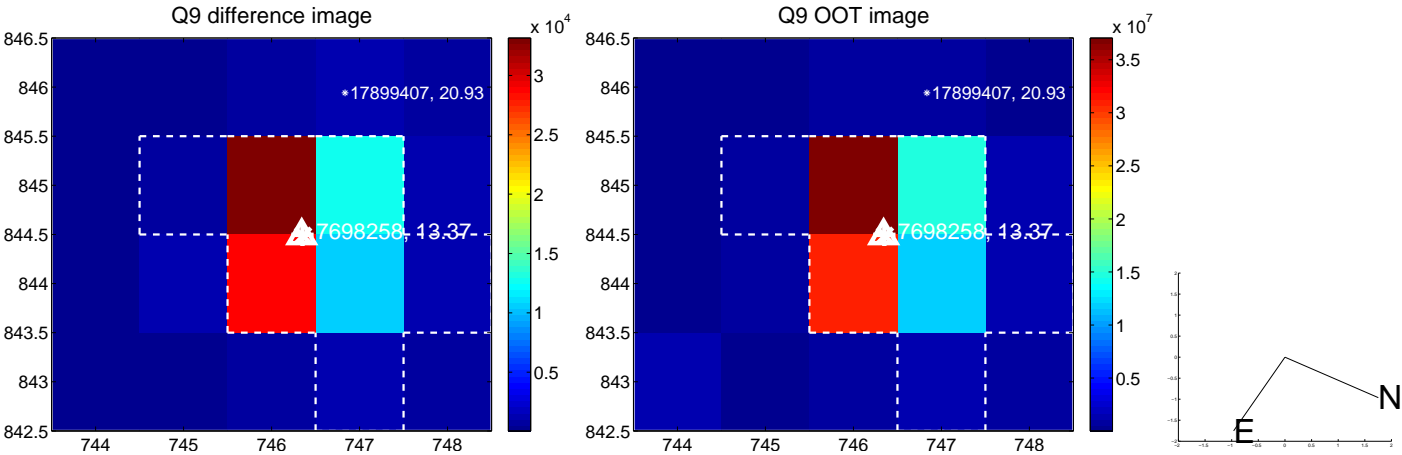
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



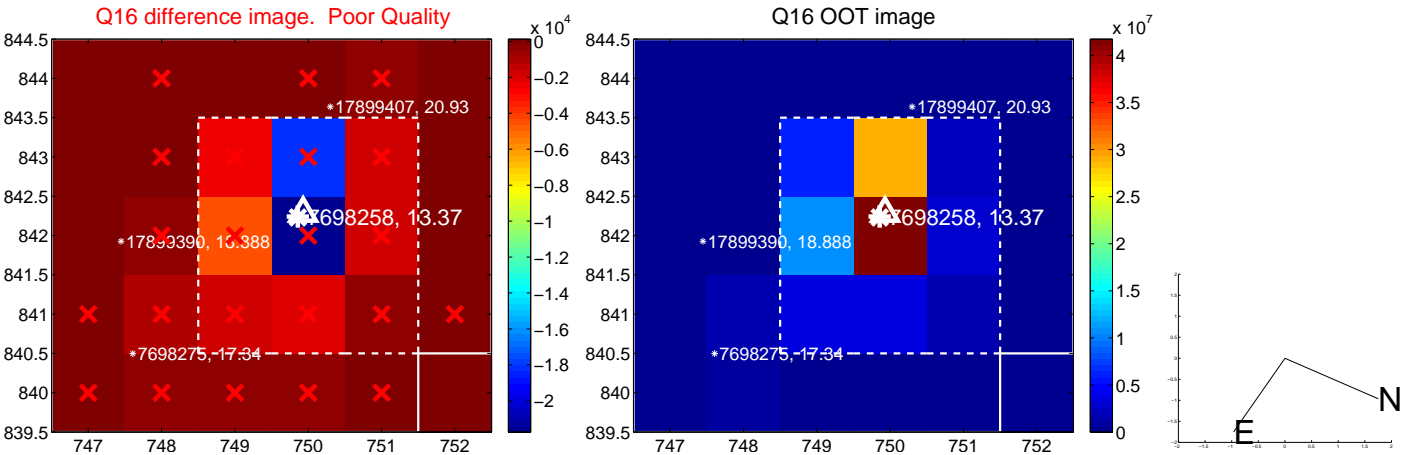
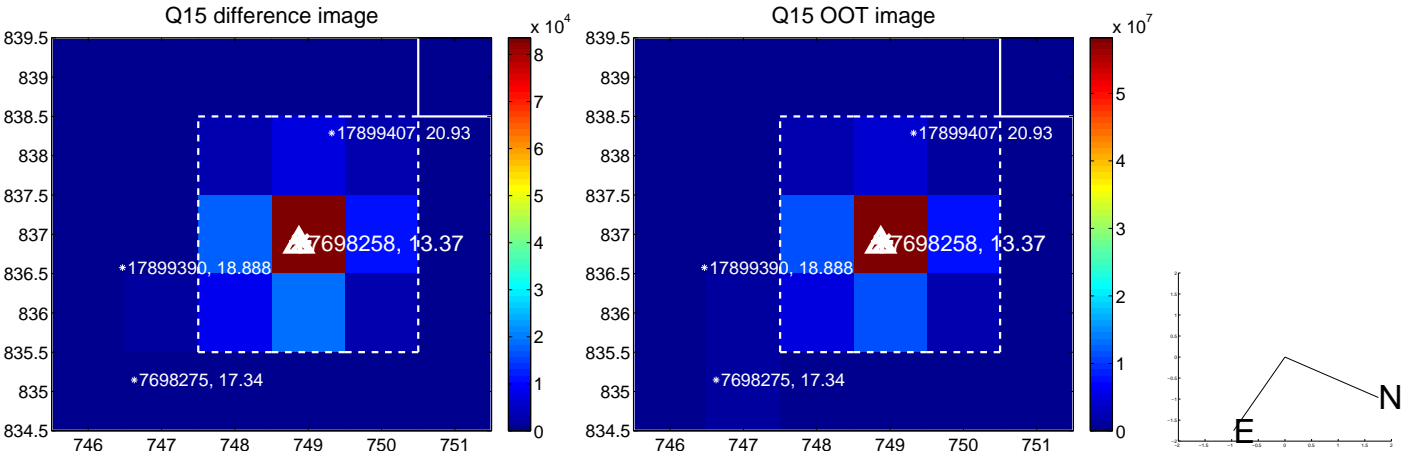
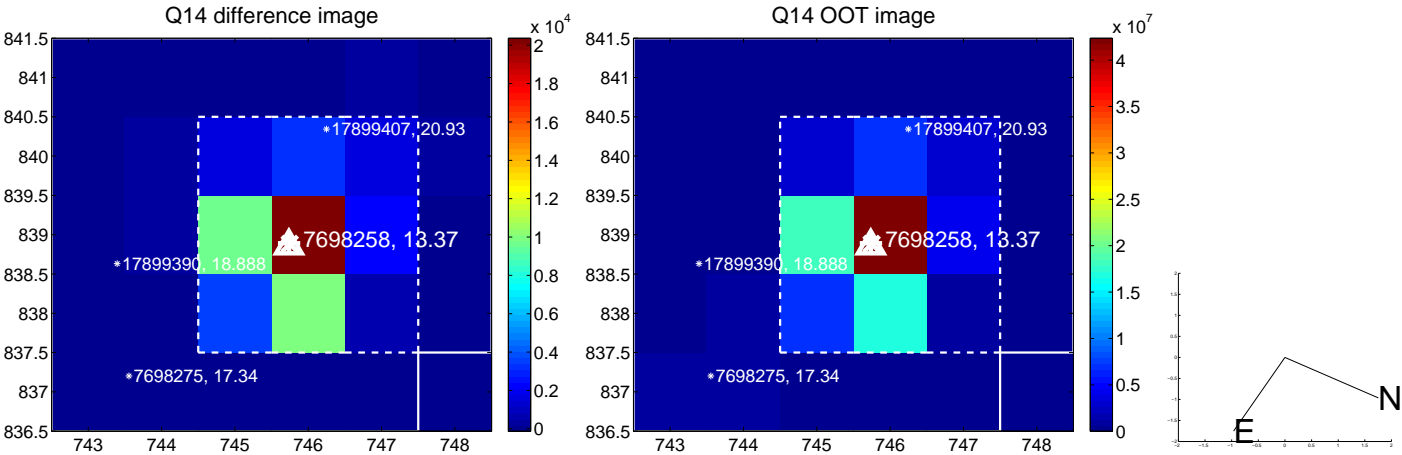
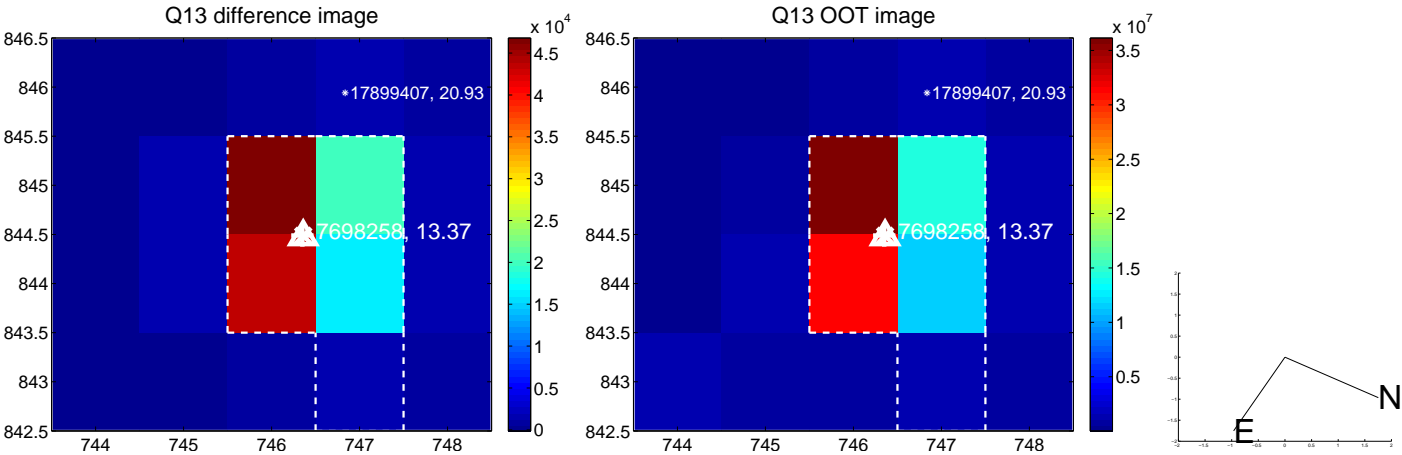
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



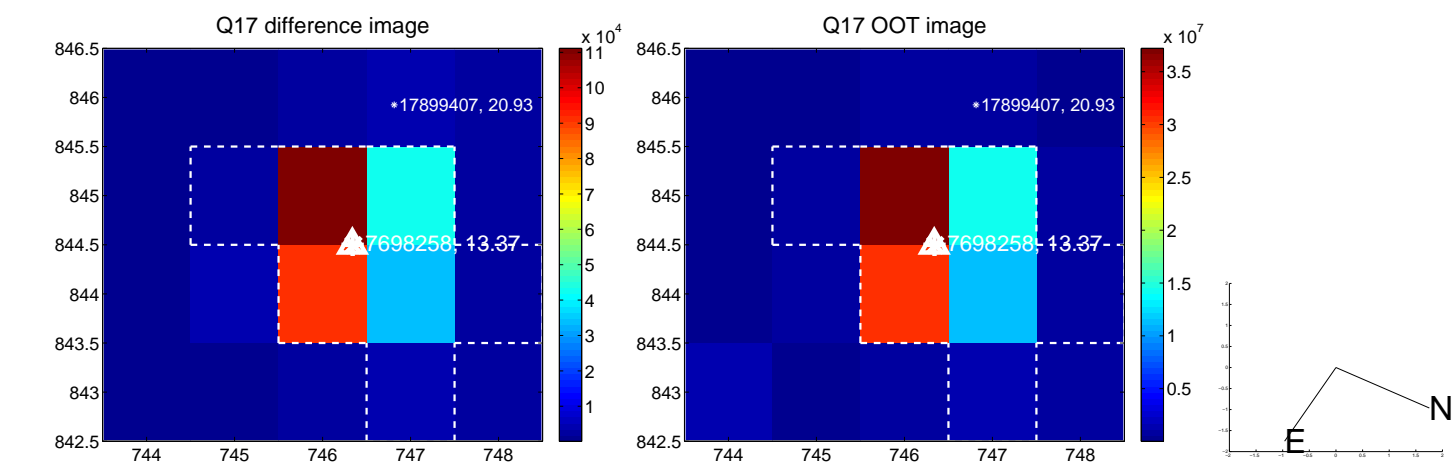
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



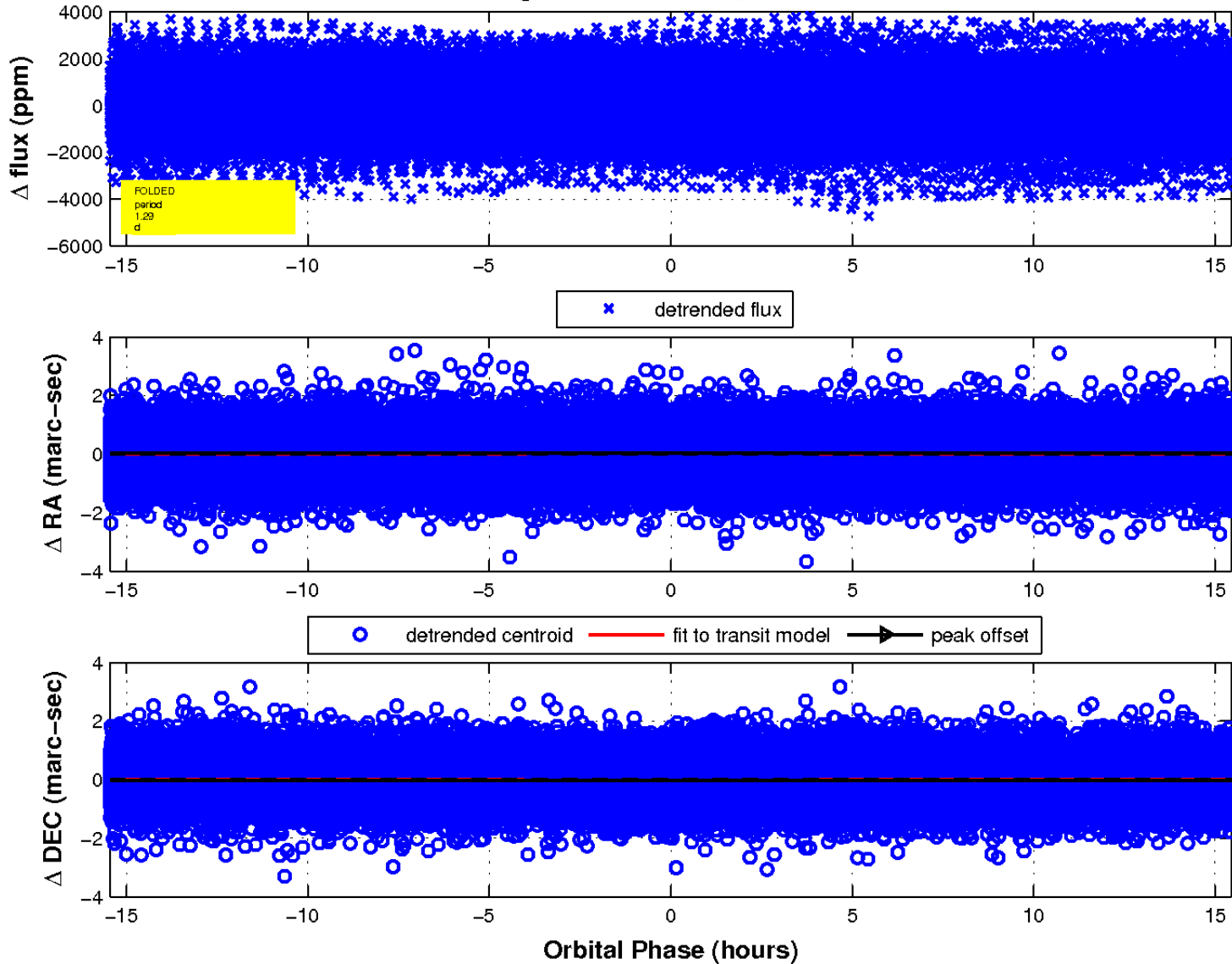
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



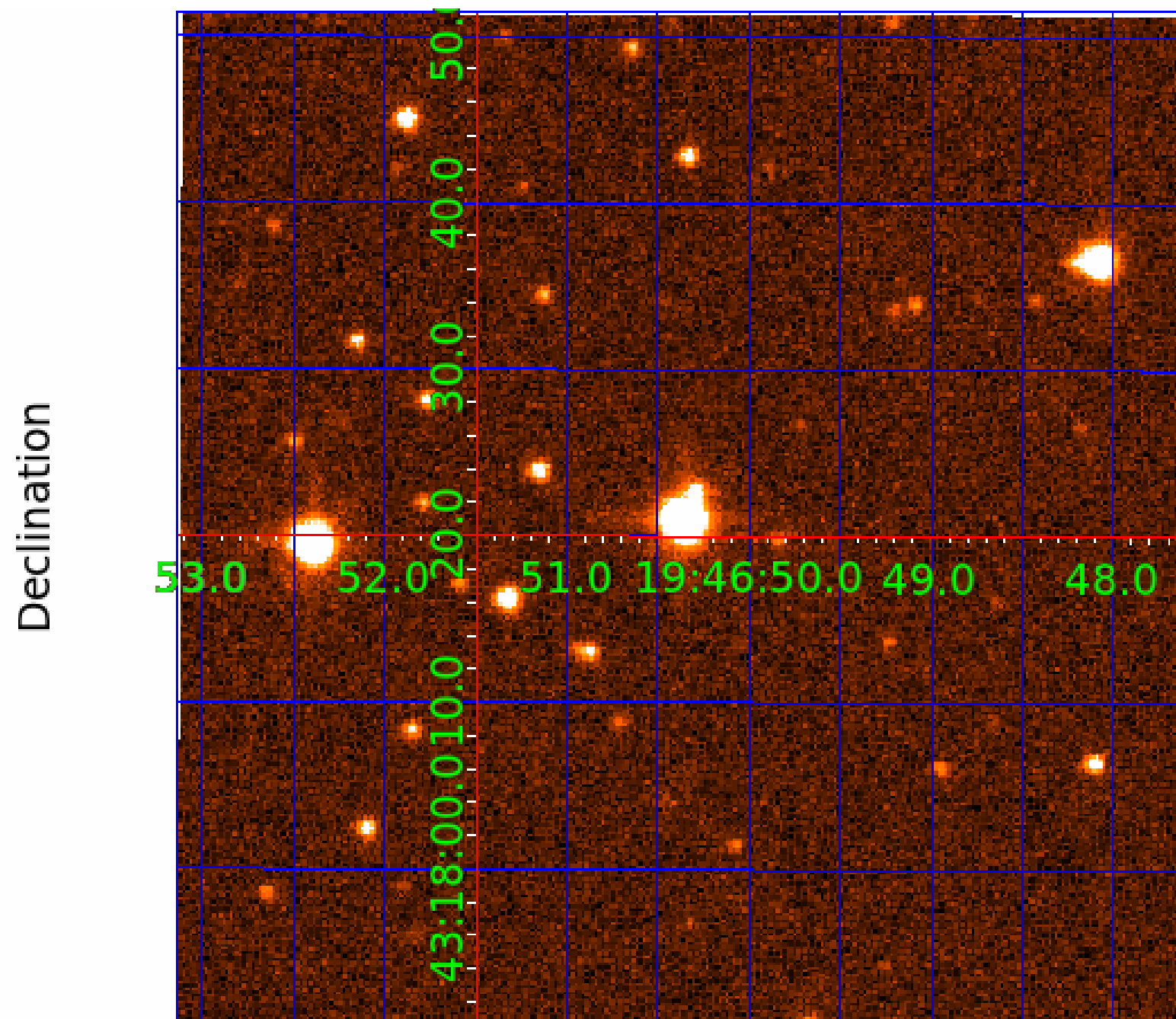
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 4



UKIRT Image



KIC 007698258

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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007698258-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698258-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

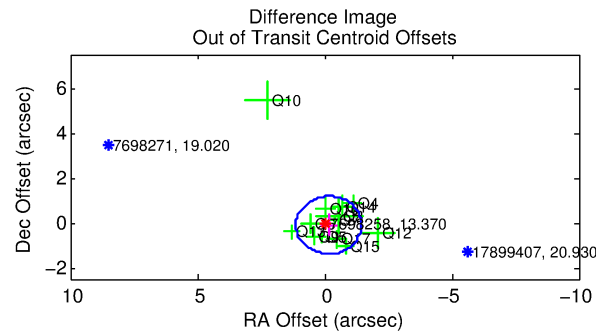
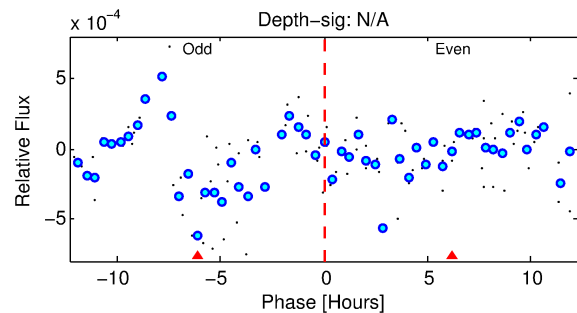
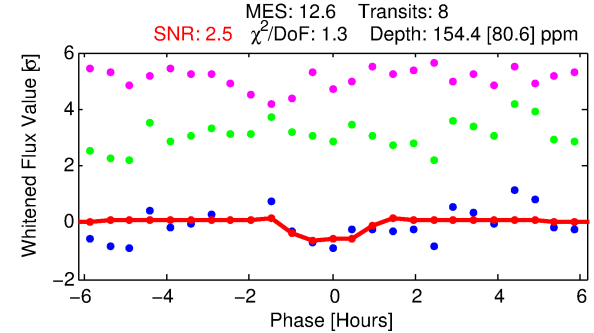
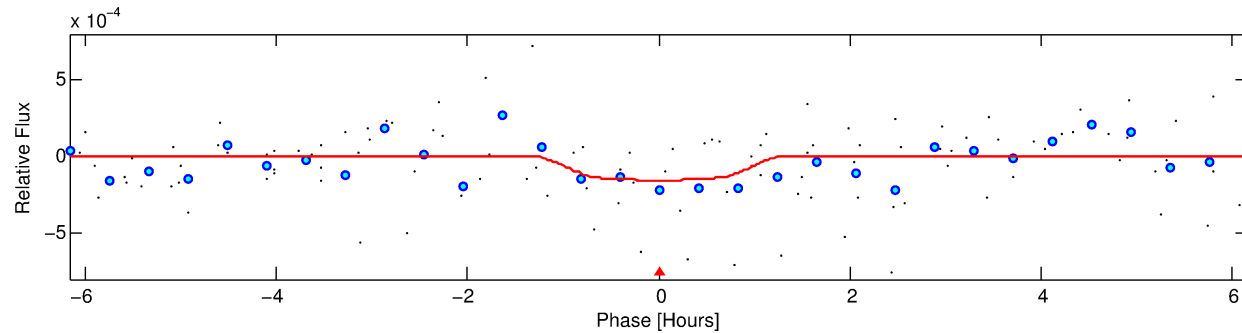
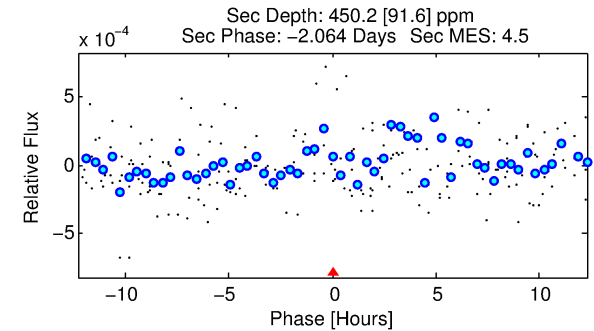
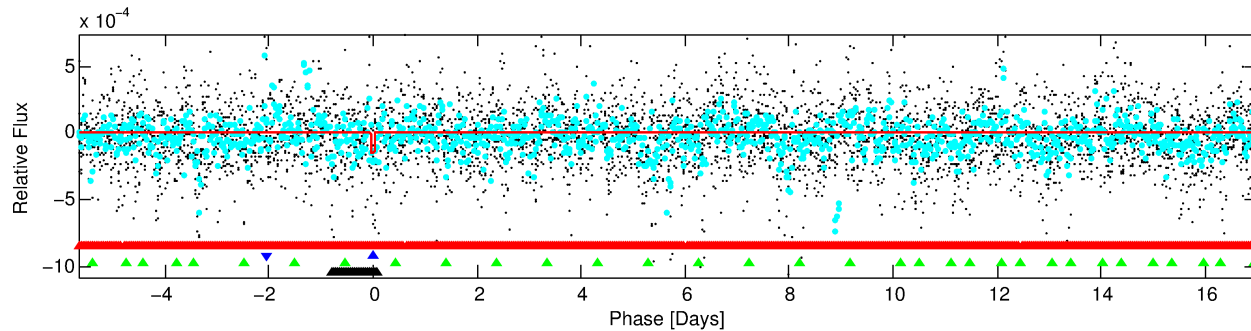
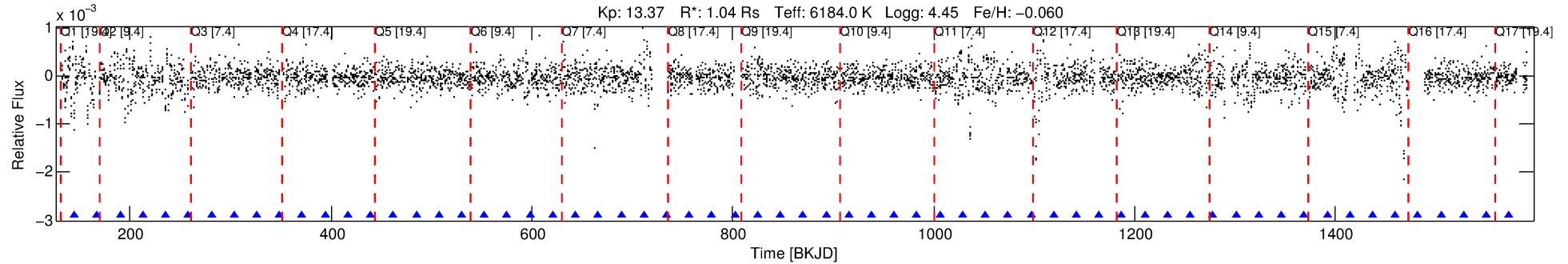
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007698258-02

No Significant Match Found

DV One-Page Summary

KIC: 7698258 Candidate: 2 of 4 Period: 22.665 d



DV Fit Results:

Period = 22.66544 [0.00099] d
Epoch = 144.9495 [0.0293] BKJD
Rp/R* = 0.0115 [0.1180]
a/R* = 82.64 [4174.09]
b = 0.25 [193.72]
Seff = 53.82 [16.91]
Teq = 691 [54] K
Rp = 1.30 [13.37] Re
a = 0.1620 [0.0316] AU
Ag = 3852.84 [79335.51] [0.05σ]
Teffp = 8413 [43306] K [0.18σ]

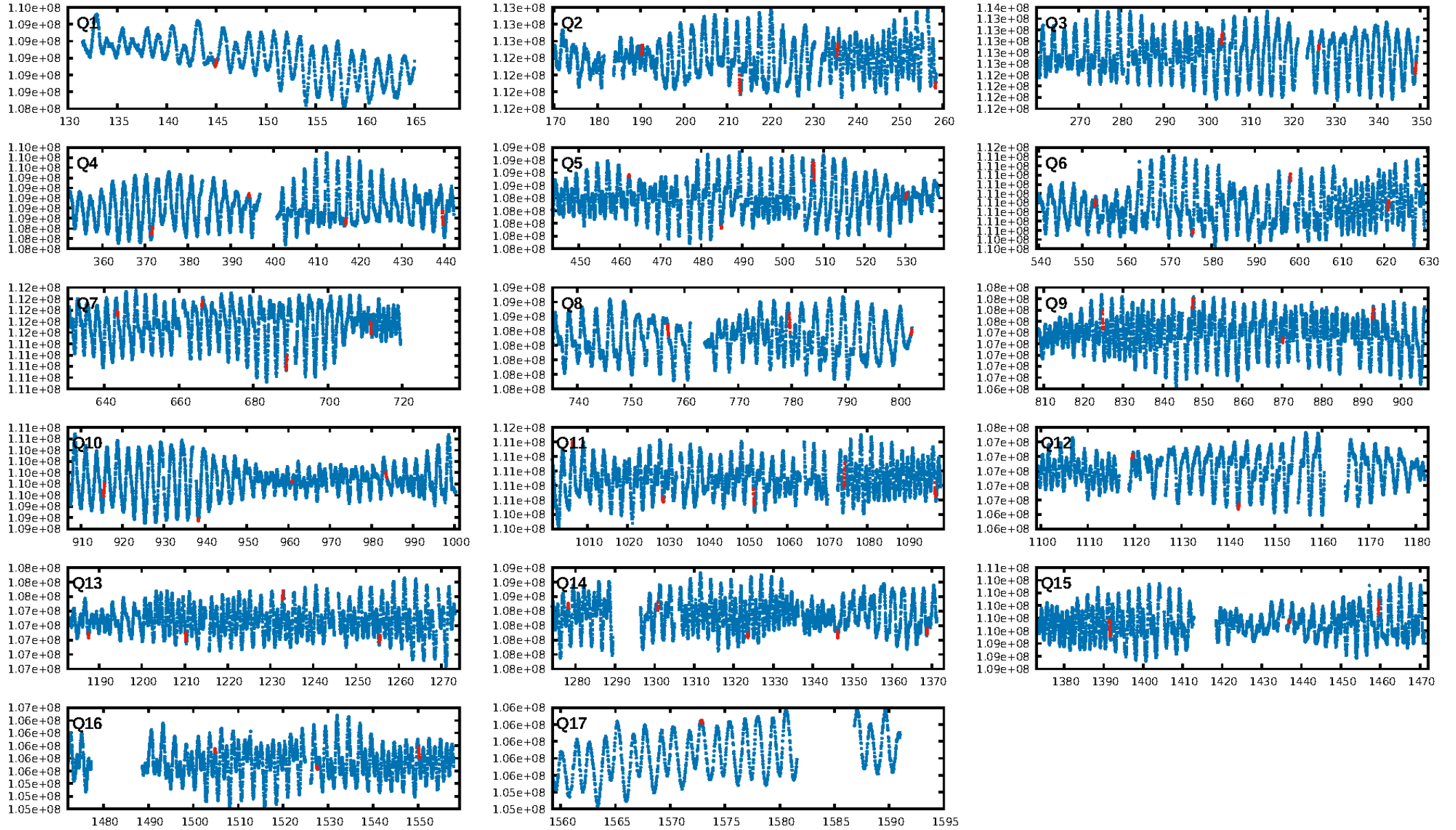
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [54.06σ]
LongPeriod-sig: 4.0% [0.05σ]
ModelChiSquare2-sig: 2.9%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 8.86e-86
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: 0.3863
Centroid-sig: 72.1%
Centroid-so: 0.465 arcsec [0.59σ]
OotOffset-rm: 0.187 arcsec [0.44σ]
KicOffset-rm: 0.229 arcsec [0.51σ]
OotOffset-st: 3/3/3/4 [13]
KicOffset-st: 3/3/3/4 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 0.29 [5/17]

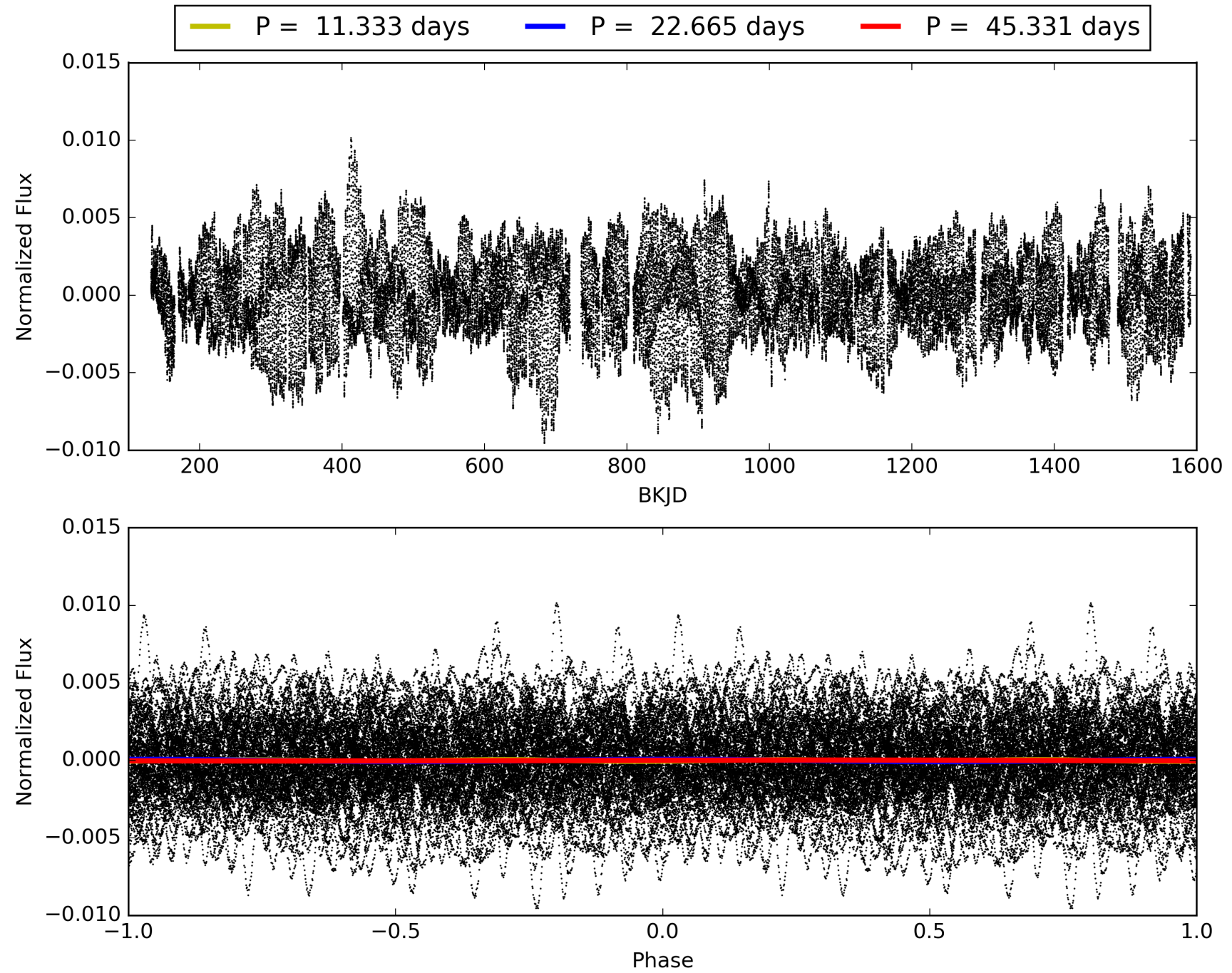
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:18:56 Z

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

TCE 007698258-02, PDC Light Curves

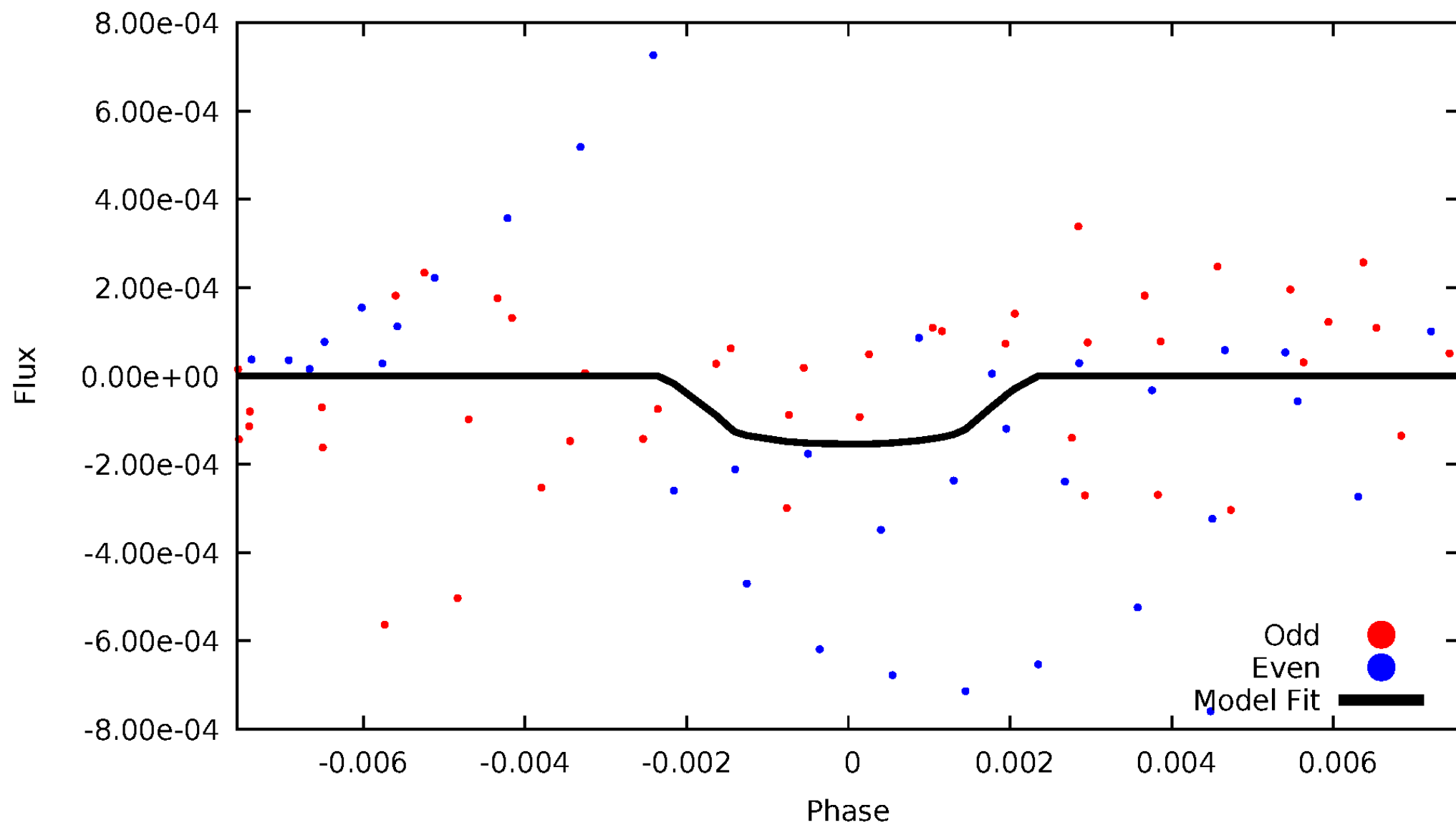


TCE 007698258-02



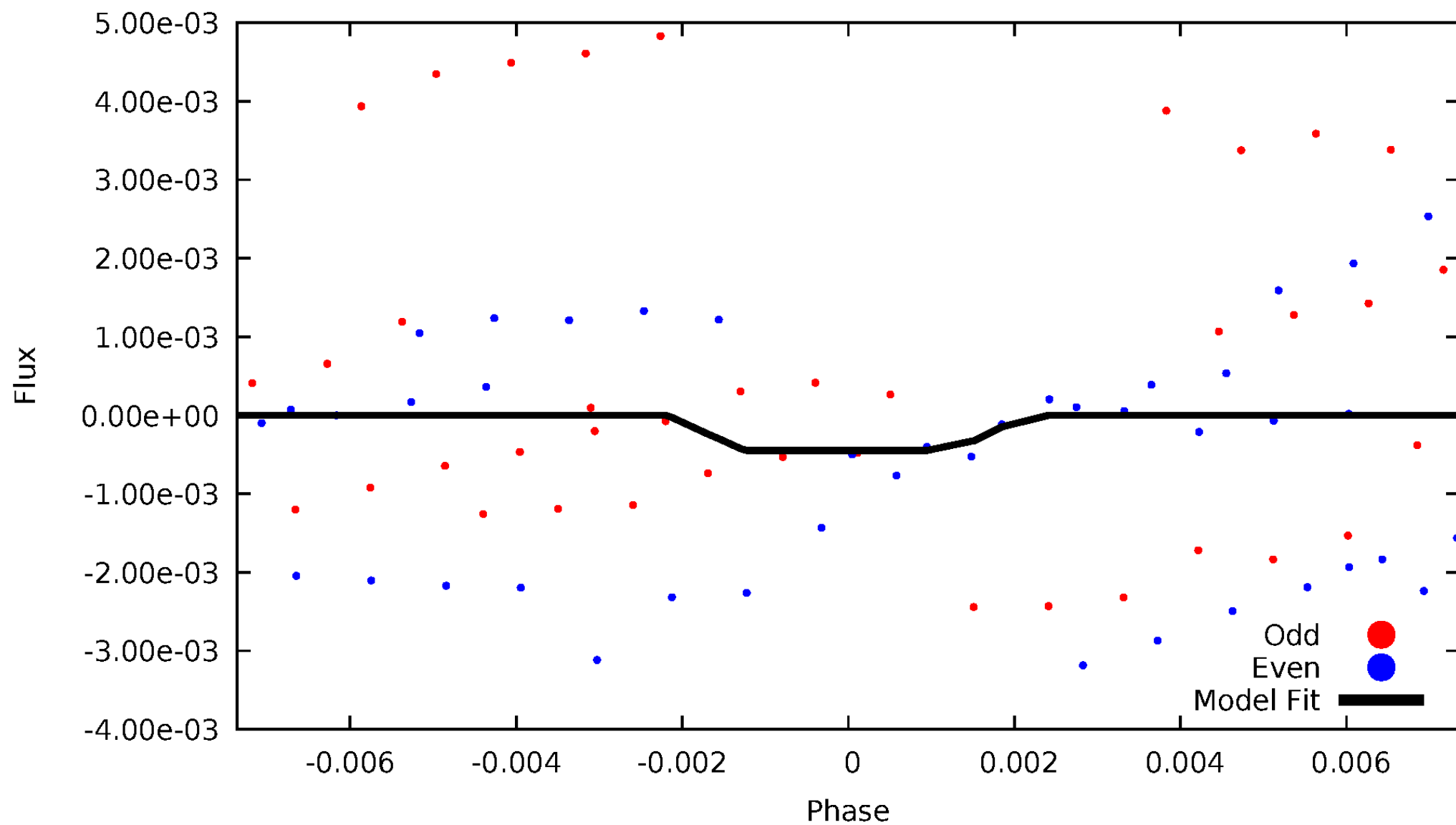
DV Odd/Even

TCE 007698258-02



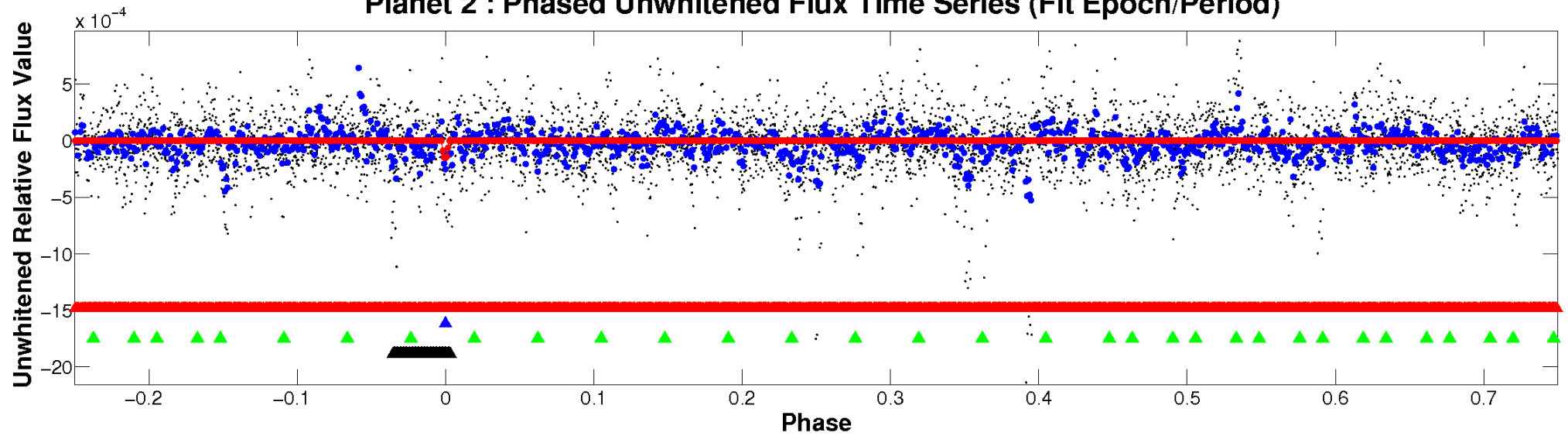
ALT Odd/Even

TCE 007698258-02

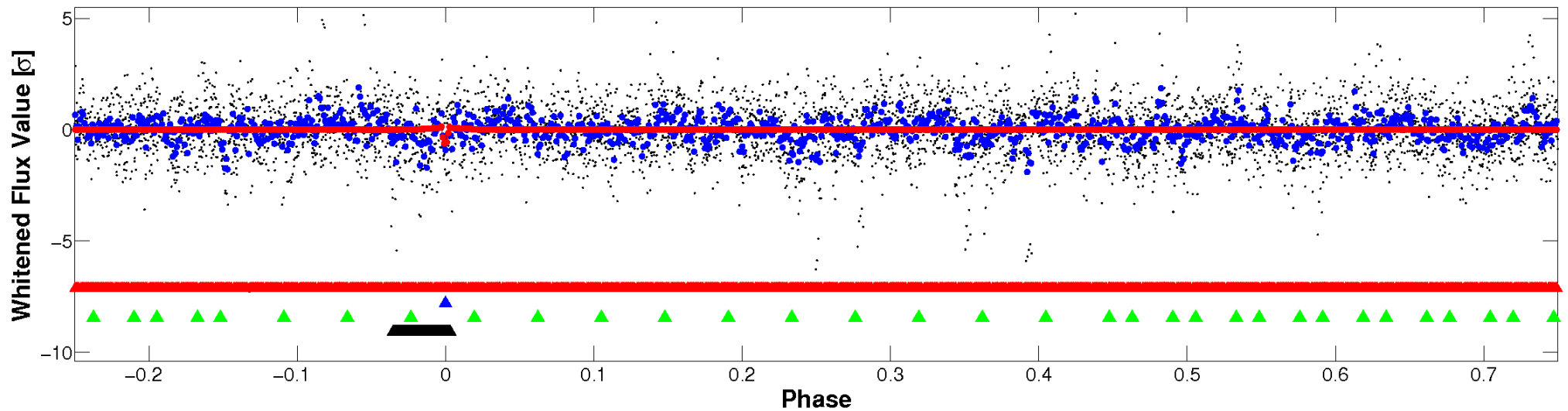


Non-Whitened Vs. Whitened Light Curve

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

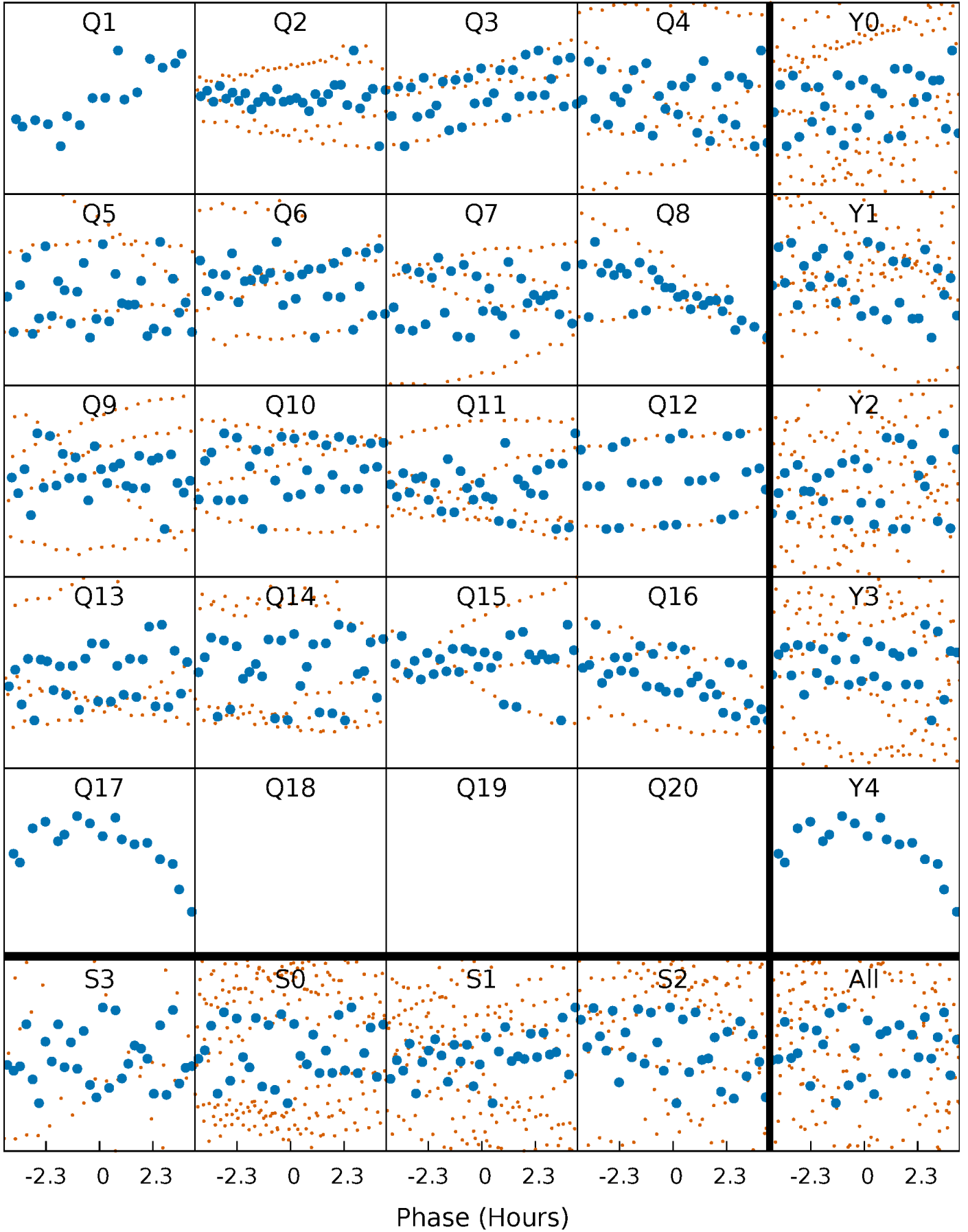


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



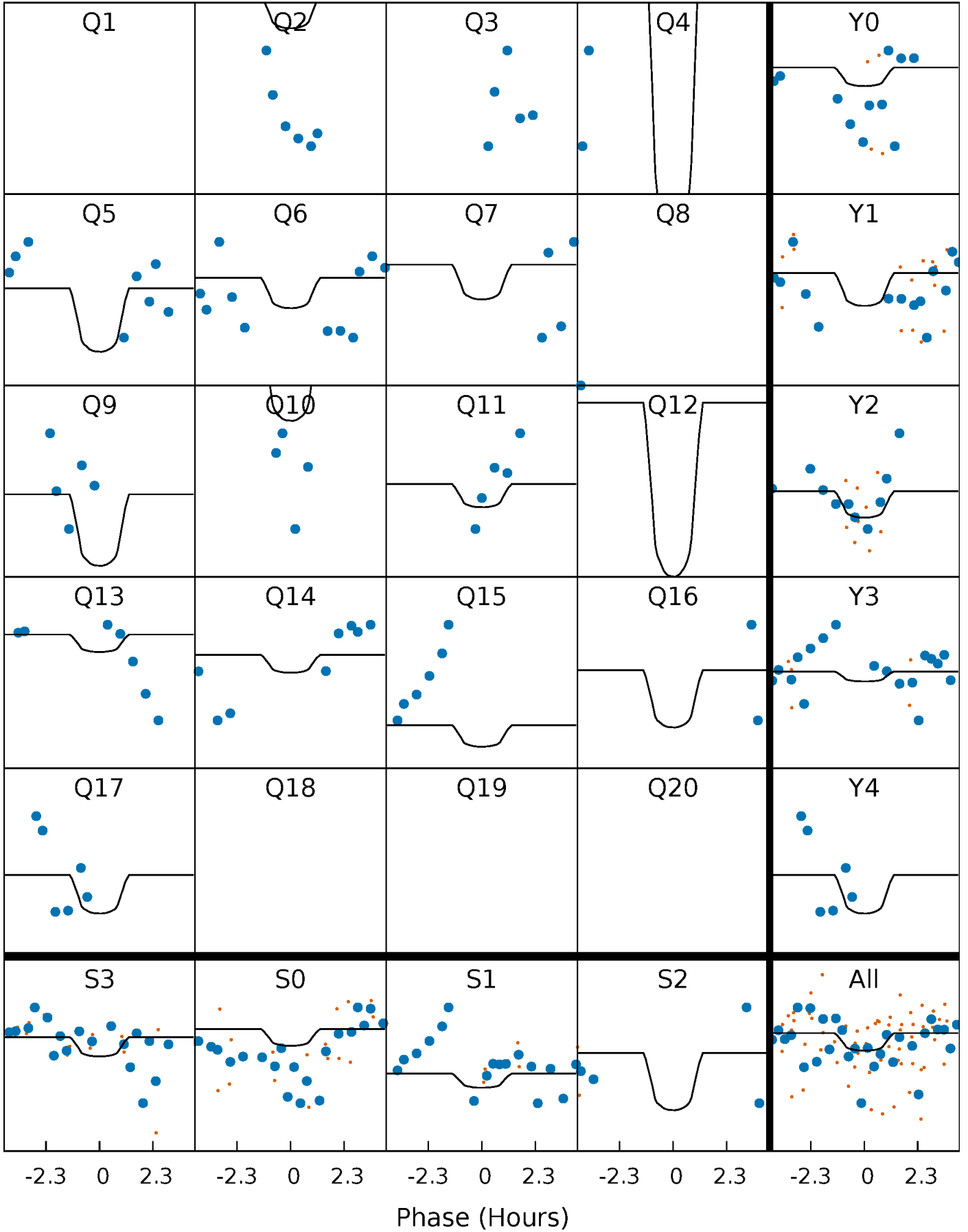
PDC Quarter-Phased Transit Curves

TCE 007698258-02 P= 22.665436 Days $T_0=144.949457$ (BKJD)



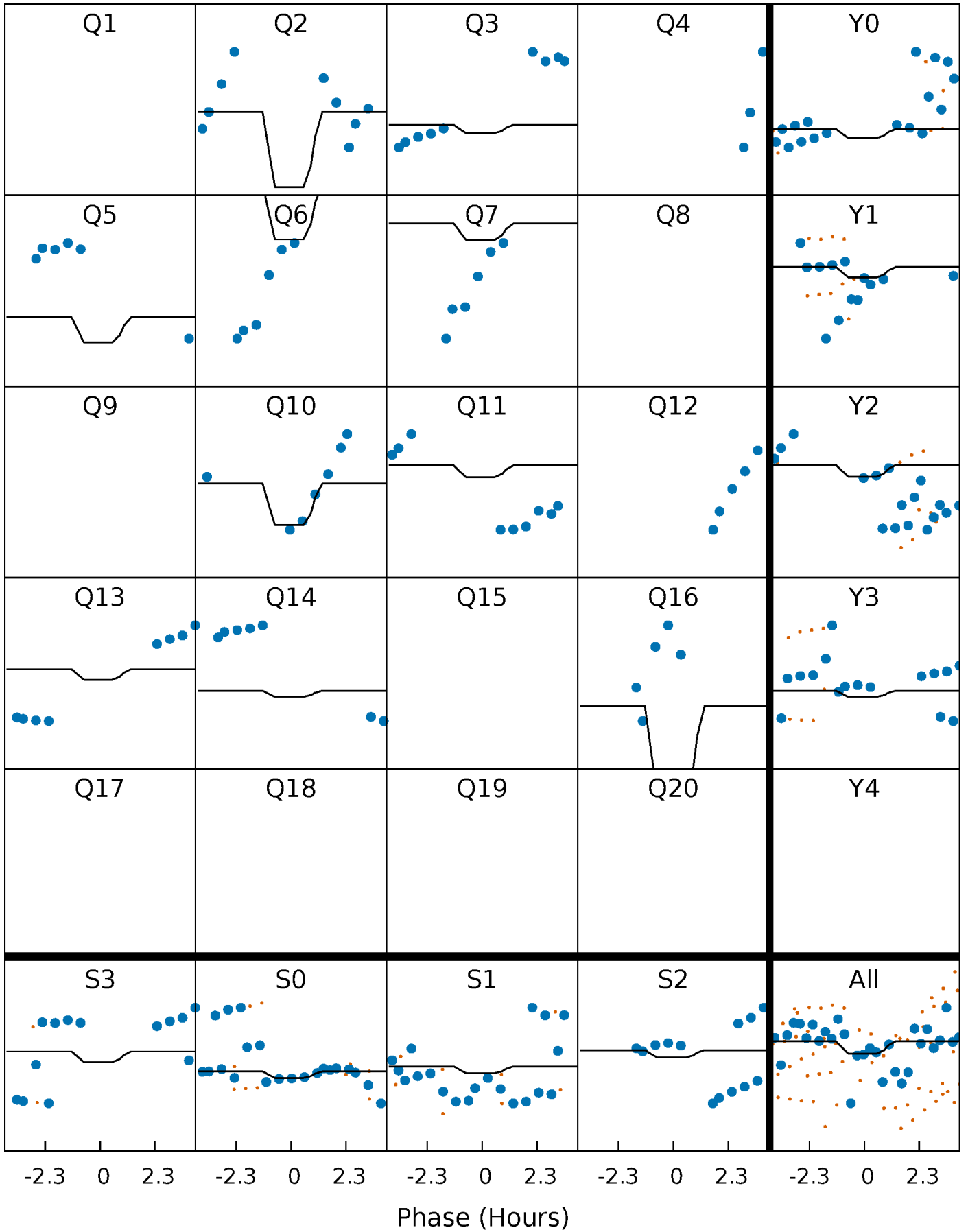
DV Quarter-Phased Transit Curves

TCE 007698258-02 P= 22.665436 Days $T_0=144.949457$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

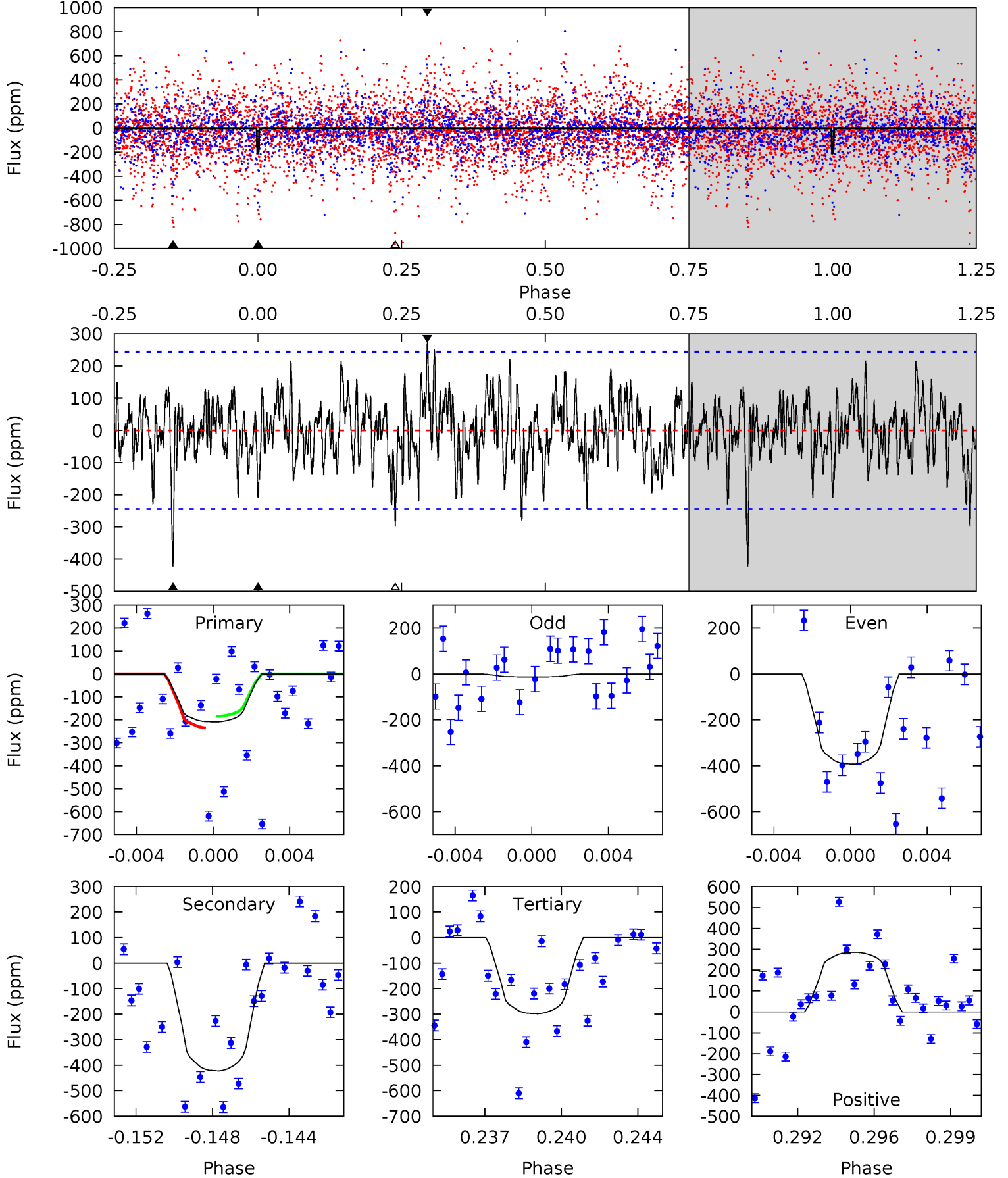
TCE 007698258-02 P= 22.666361 Days $T_0=145.097894$ (BKJD)



DV Model-Shift Uniqueness Test

007698258-02, P = 22.665436 Days, E = 122.284021 Days

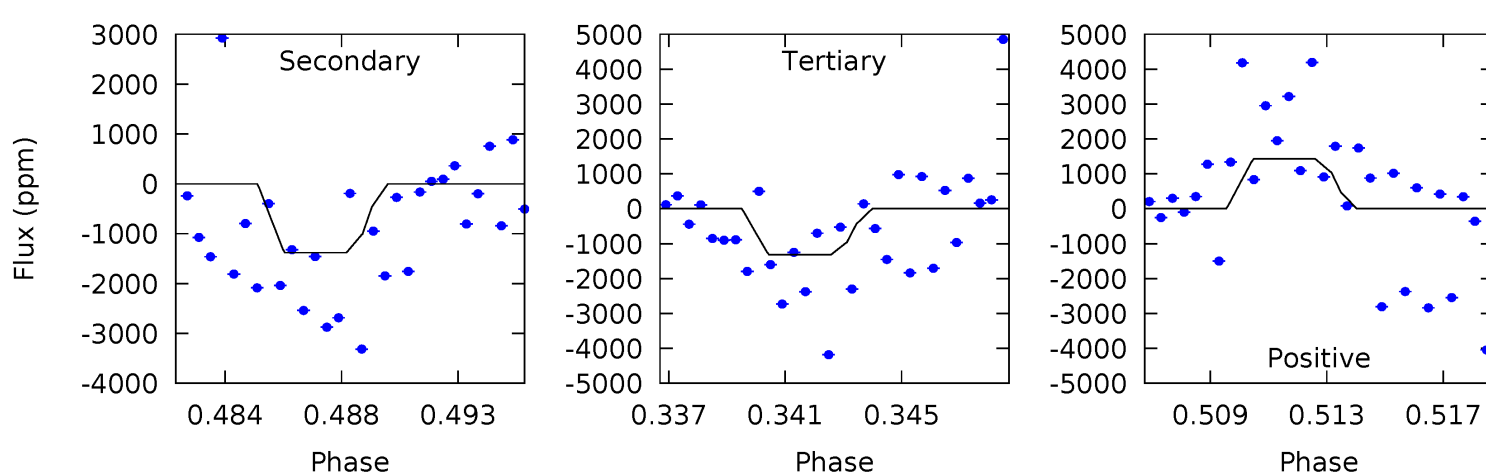
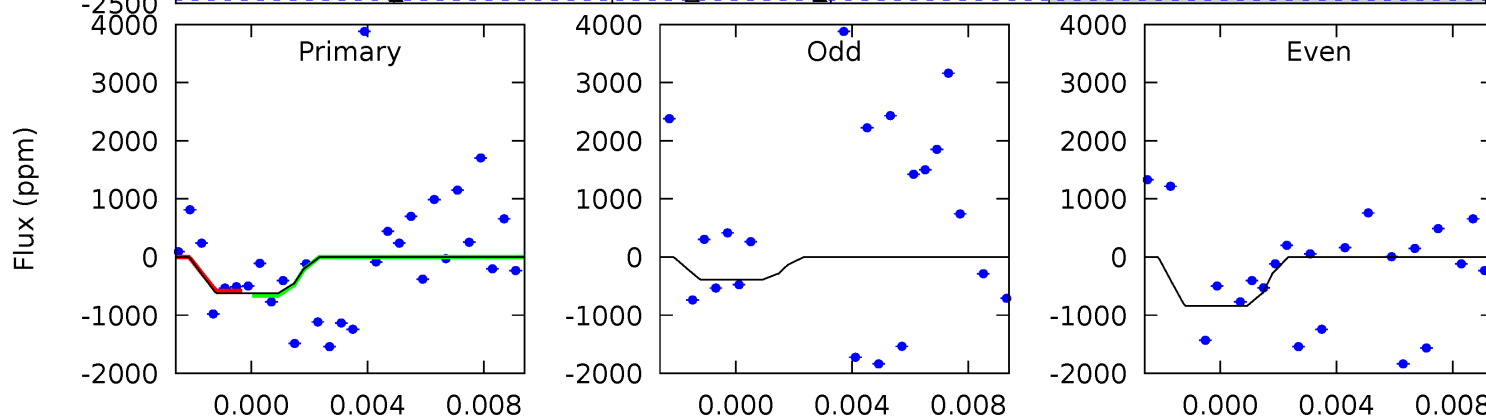
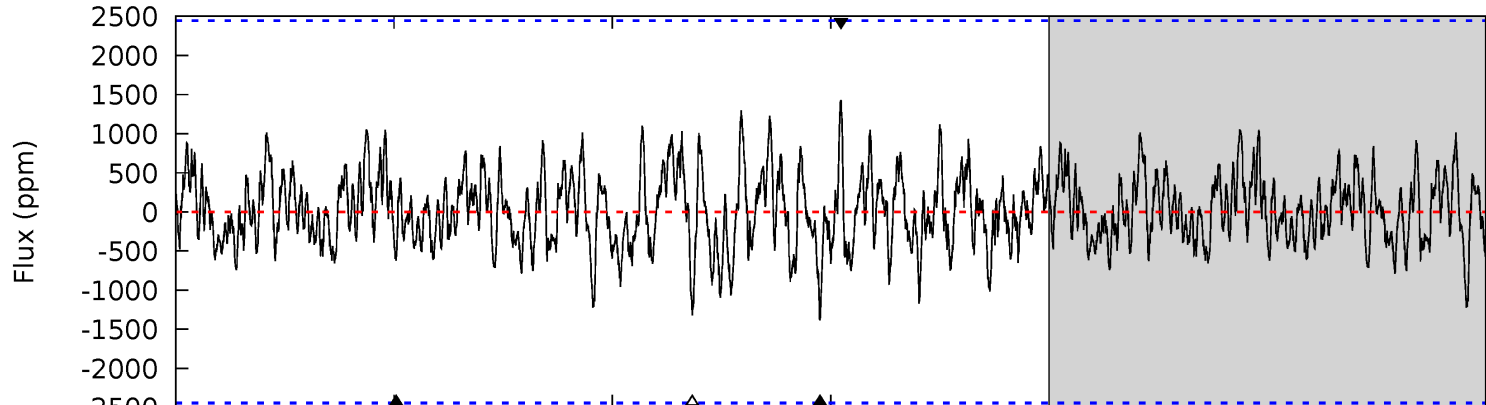
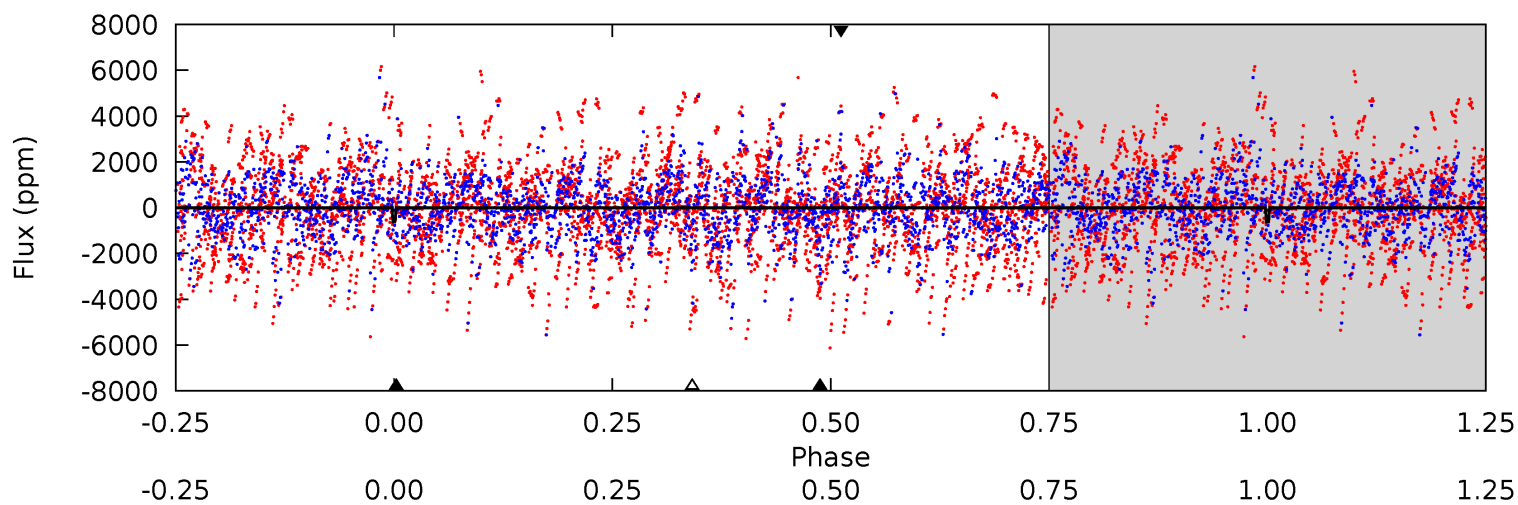
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.46	9.01	6.37	6.10	5.21	2.90	1.84	-1.91	-1.64	2.65	2.91	3.92	2.30	0.40	0.53



Alt Model-Shift Uniqueness Test

007698258-02, P = 22.666361 Days, E = 122.431533 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.32	2.94	2.81	3.03	5.19	2.87	0.92	-1.48	-1.71	0.13	-0.09	0.47	1.01	0.51	0.09



Stellar Parameters For KIC 007698258

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6184^{+147}_{-202}	$4.448^{+0.052}_{-0.157}$	$-0.060^{+0.250}_{-0.350}$	$1.038^{+0.239}_{-0.119}$	$1.100^{+0.115}_{-0.140}$	$1.387^{+0.384}_{-0.605}$
	+2%/-3%	+1%/-4%	+417%/-583%	+23%/-11%	+10%/-13%	+28%/-44%
Source	PHO1	FLK73	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 007698258-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-422 ± 47	$9.55^{+10.53}_{-6.47}$	977^{+52}_{-42}	3556^{+1815}_{-710}	65^{+550}_{-50}
Alt.	-1383 ± 470	$10.07^{+10.75}_{-6.72}$	979^{+56}_{-43}	4225^{+2892}_{-923}	181^{+1576}_{-140}

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

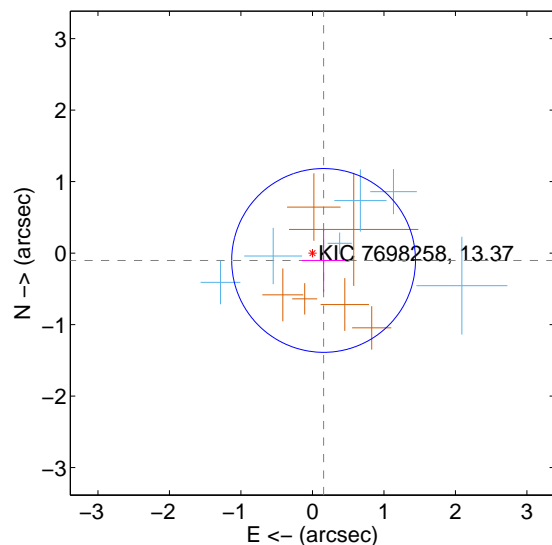
Supplemental centroid analysis for 007698258-02. Kepler magnitude: 13.37. Transit SNR 2.48

There are 6 quarters with good PRF difference image offsets

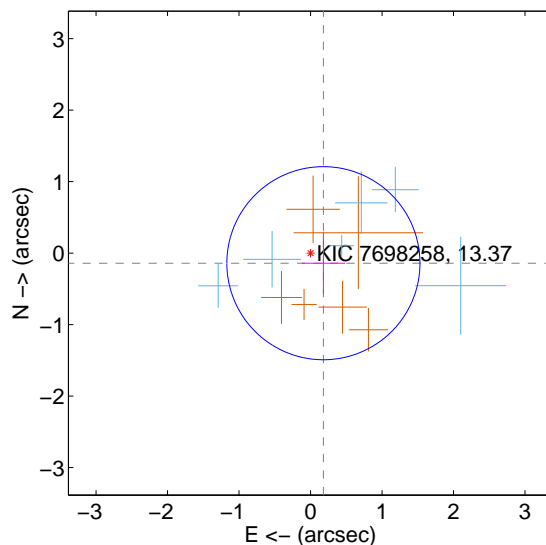
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.187 ± 0.428	0.44	-0.156 ± 0.301	-0.103 ± 0.440
PRF-fit source offset from KIC position	0.229 ± 0.450	0.51	-0.180 ± 0.303	-0.141 ± 0.431
photometric centroid source offset	0.46 ± 0.79	0.59	-0.45 ± 0.78	-0.10 ± 0.81

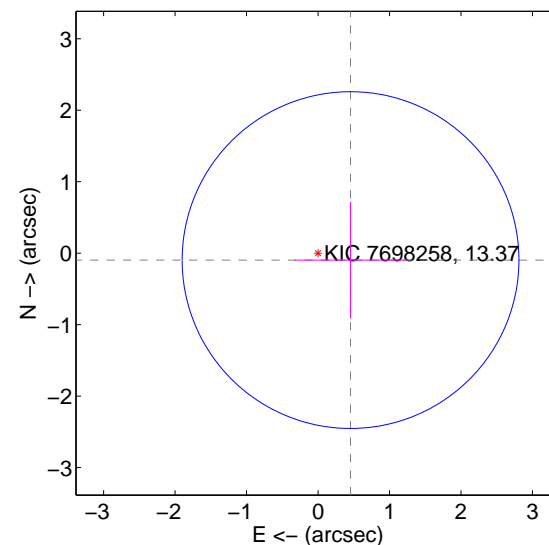
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

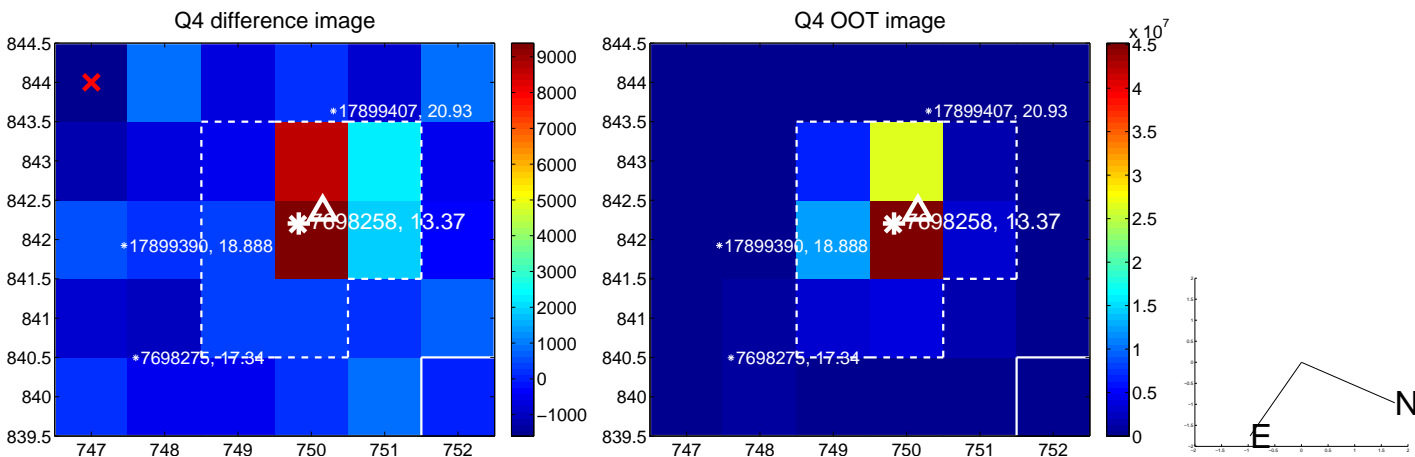
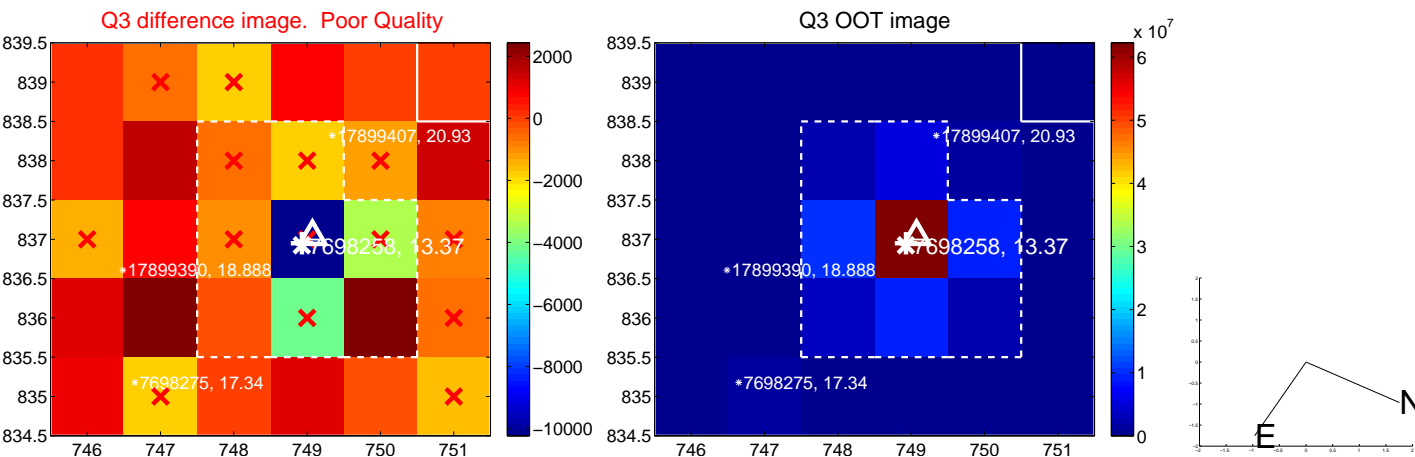
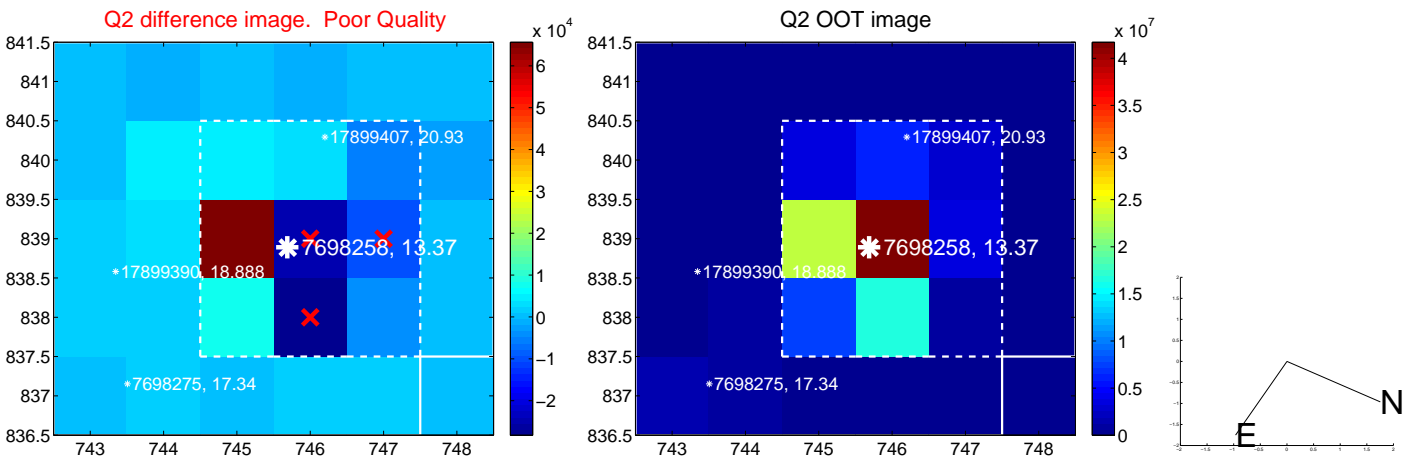
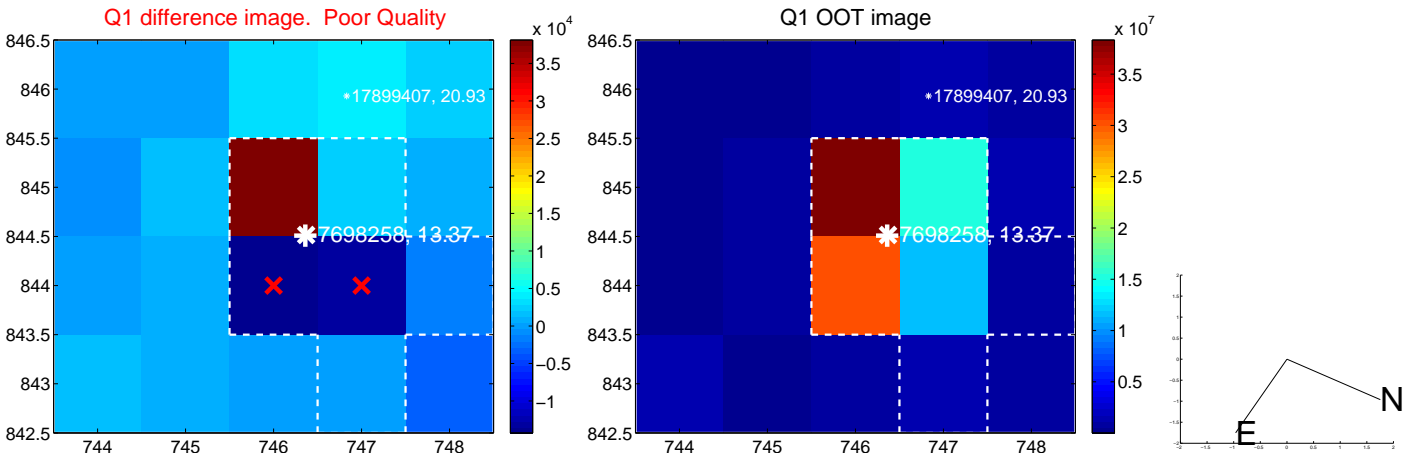


offset from photometric centroids

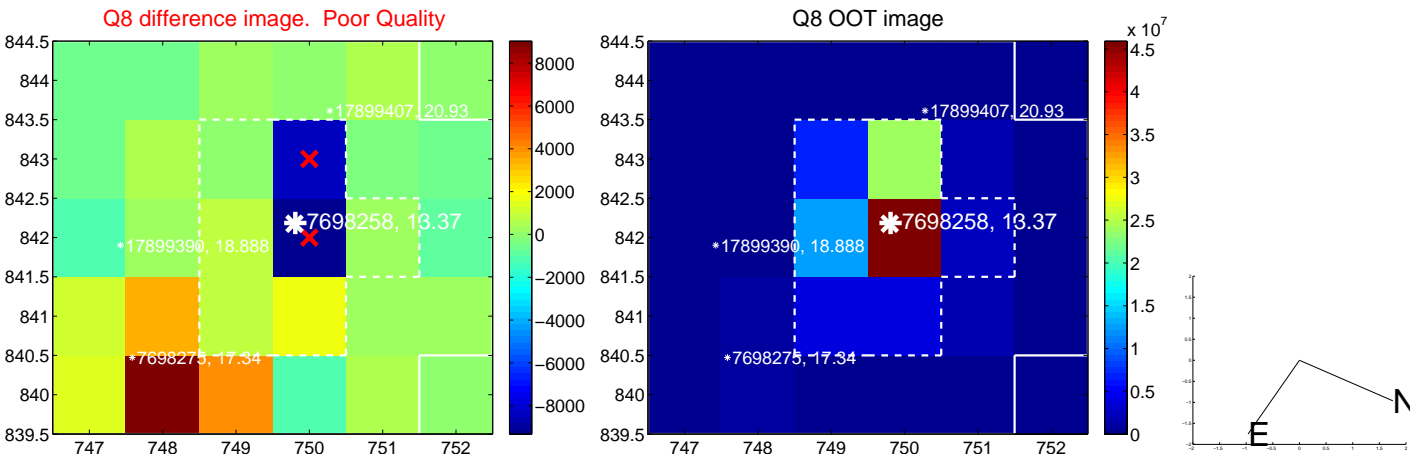
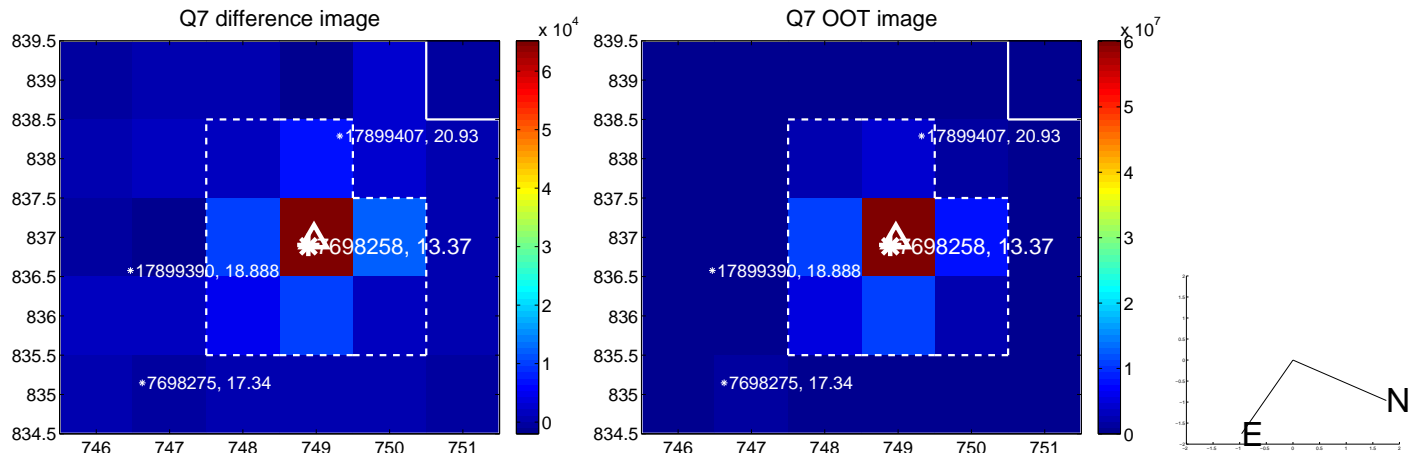
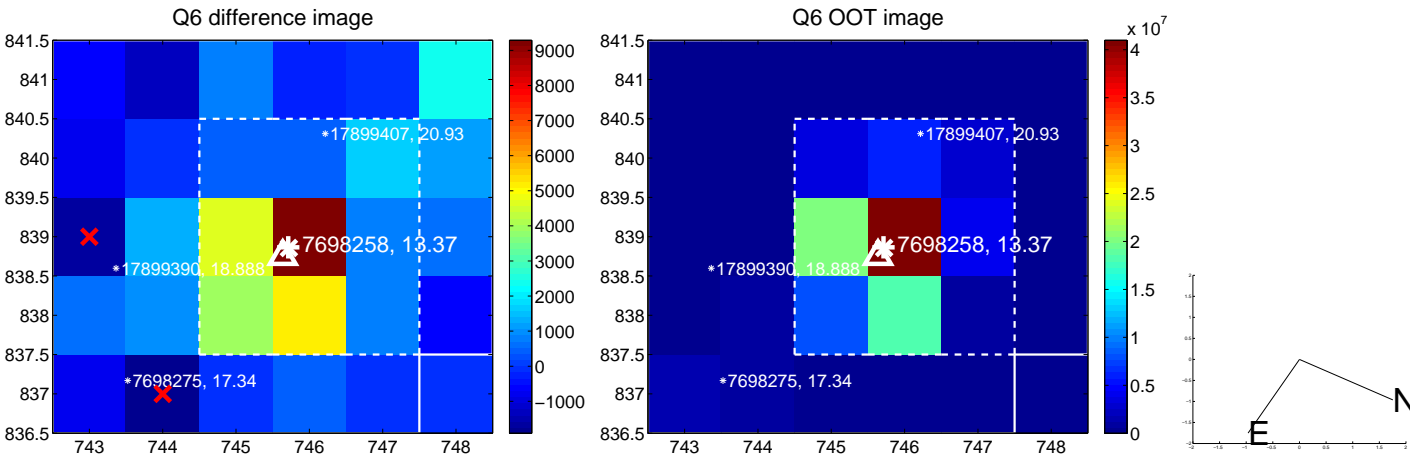
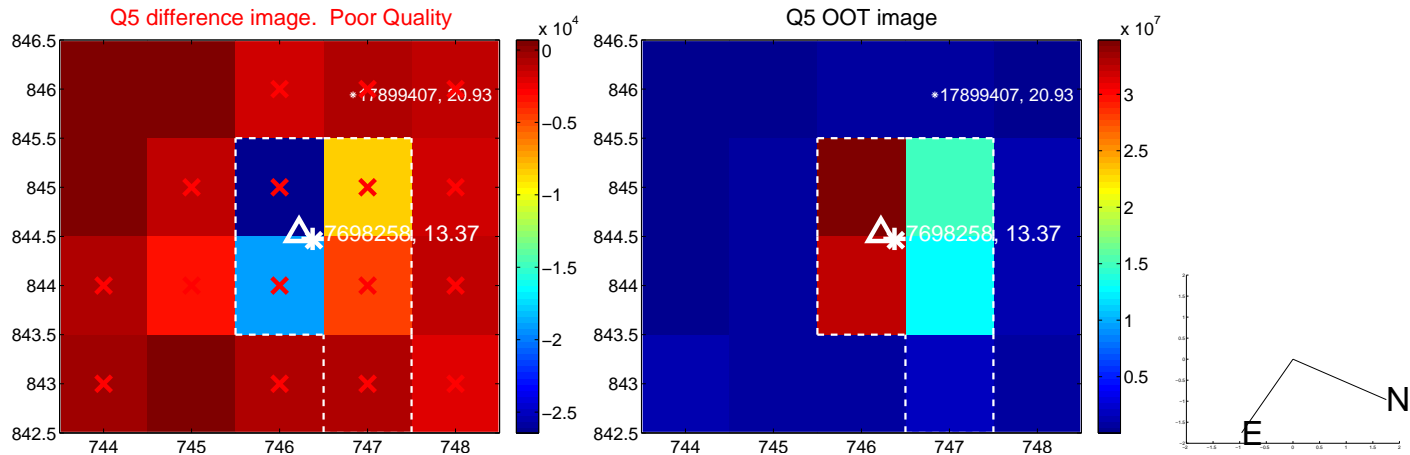


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

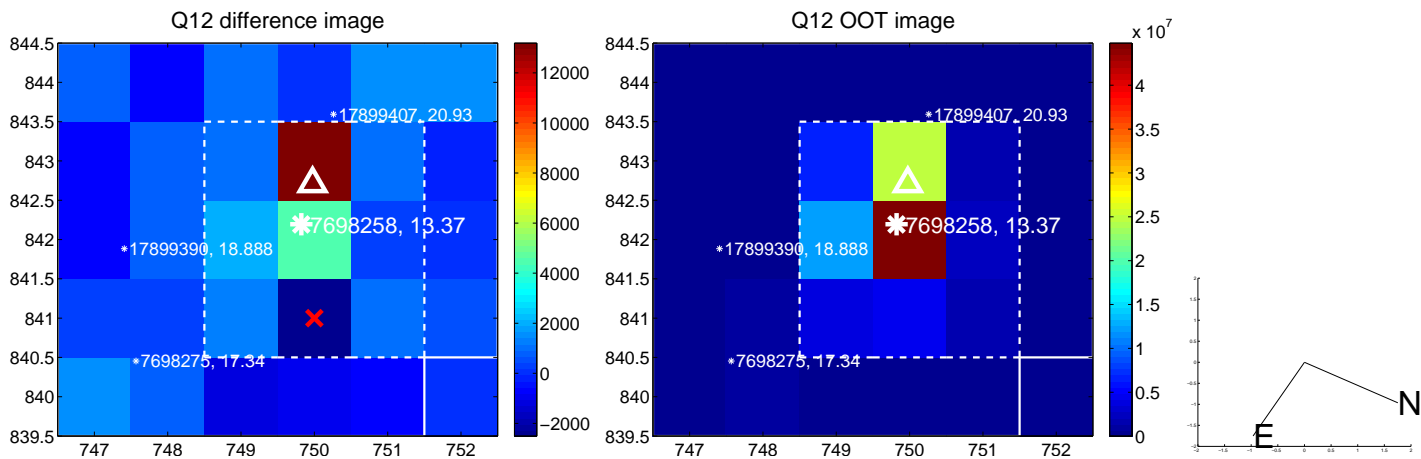
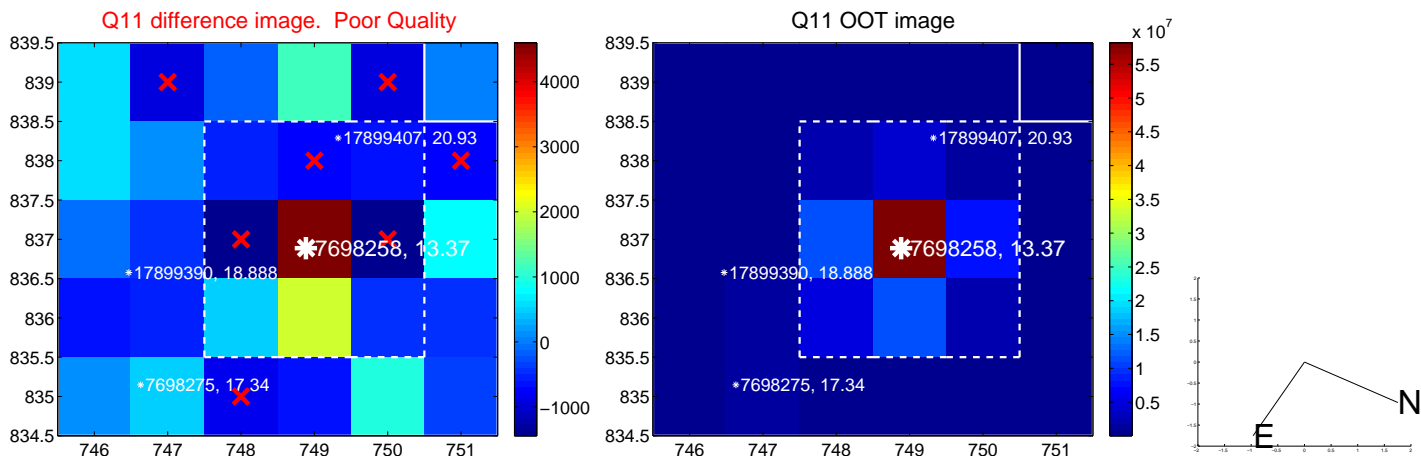
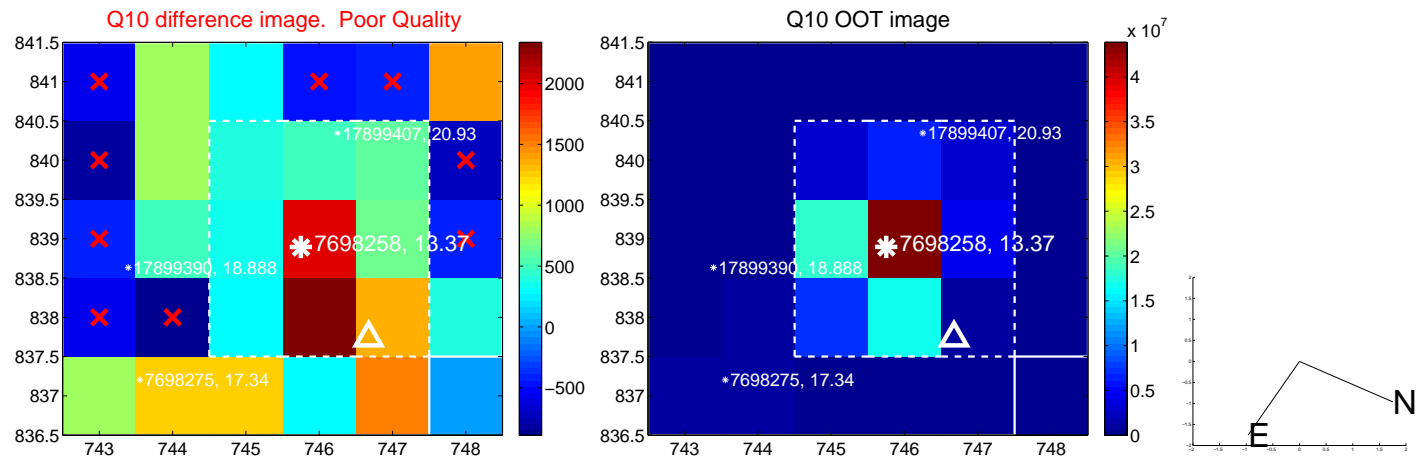
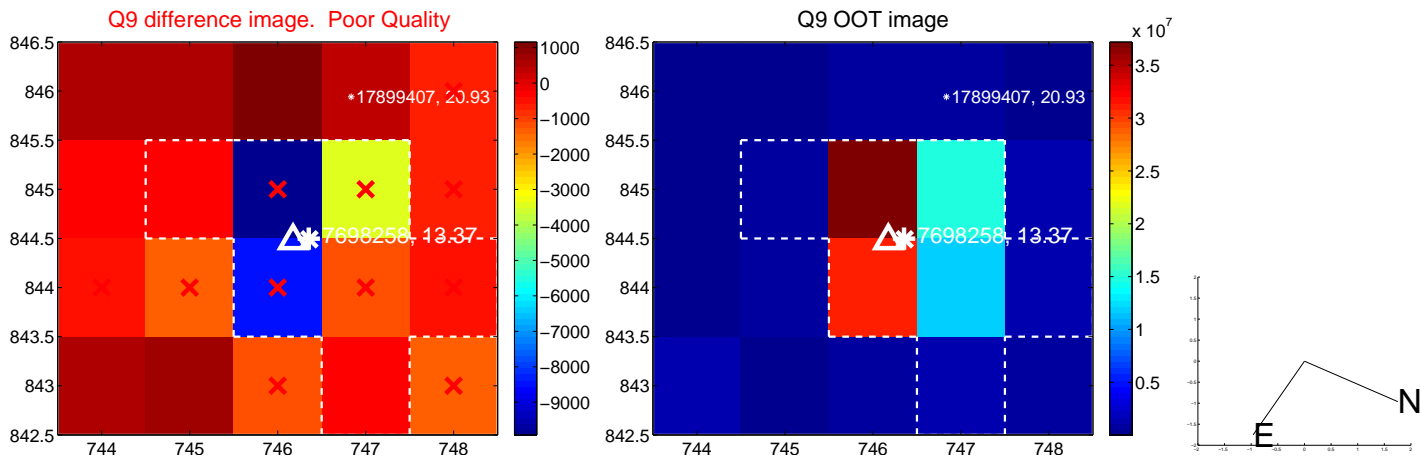
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



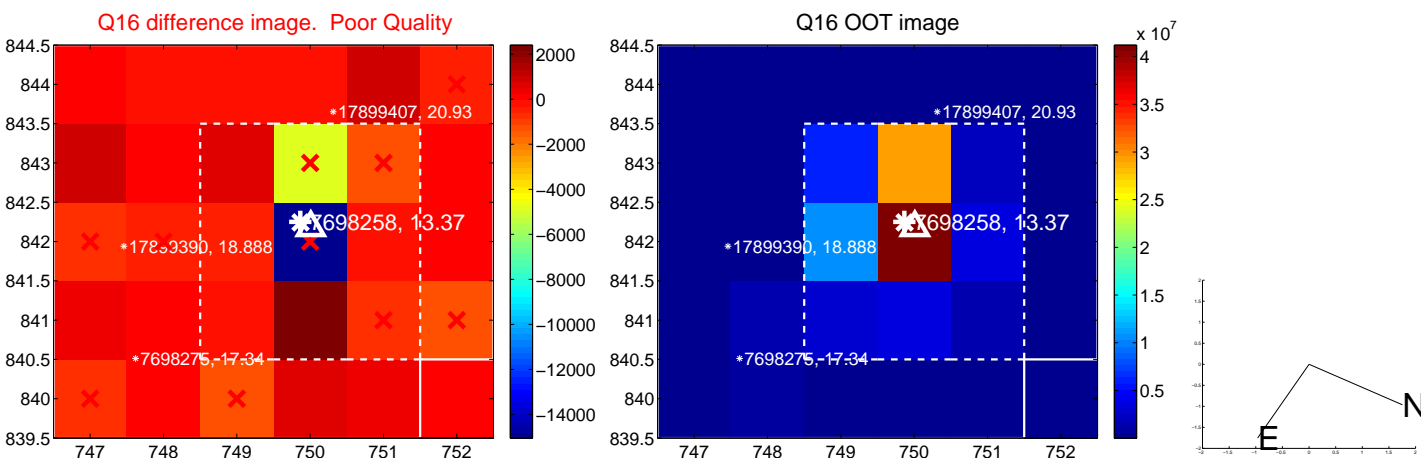
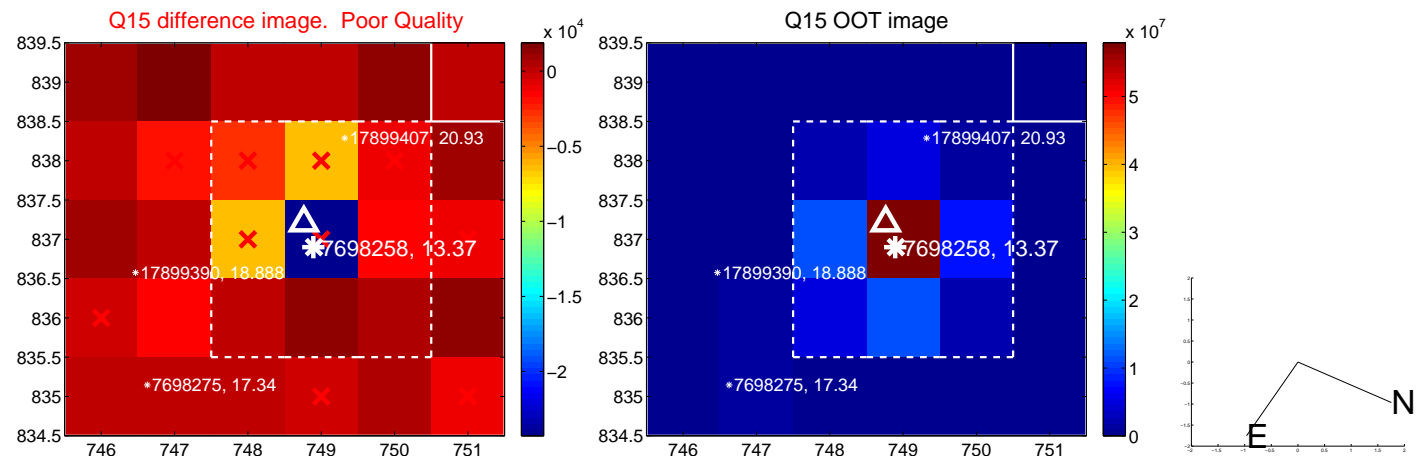
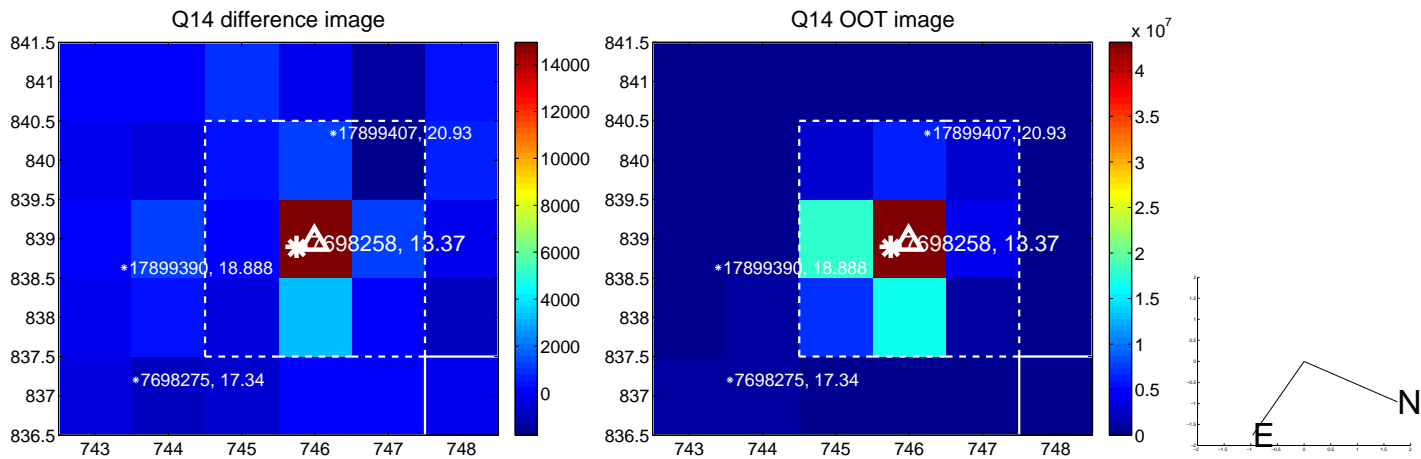
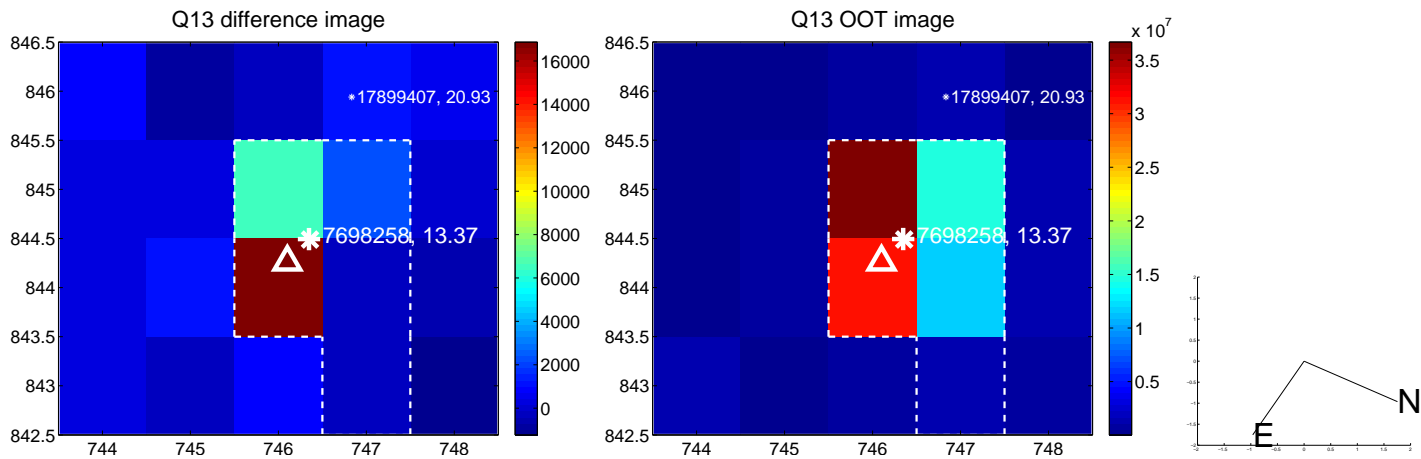
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



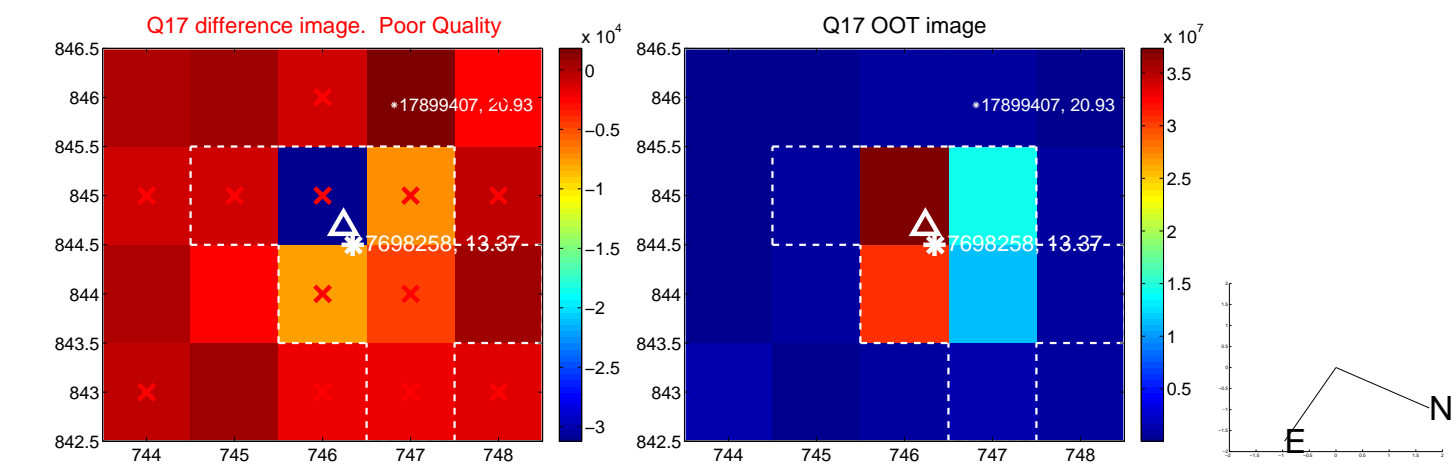
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



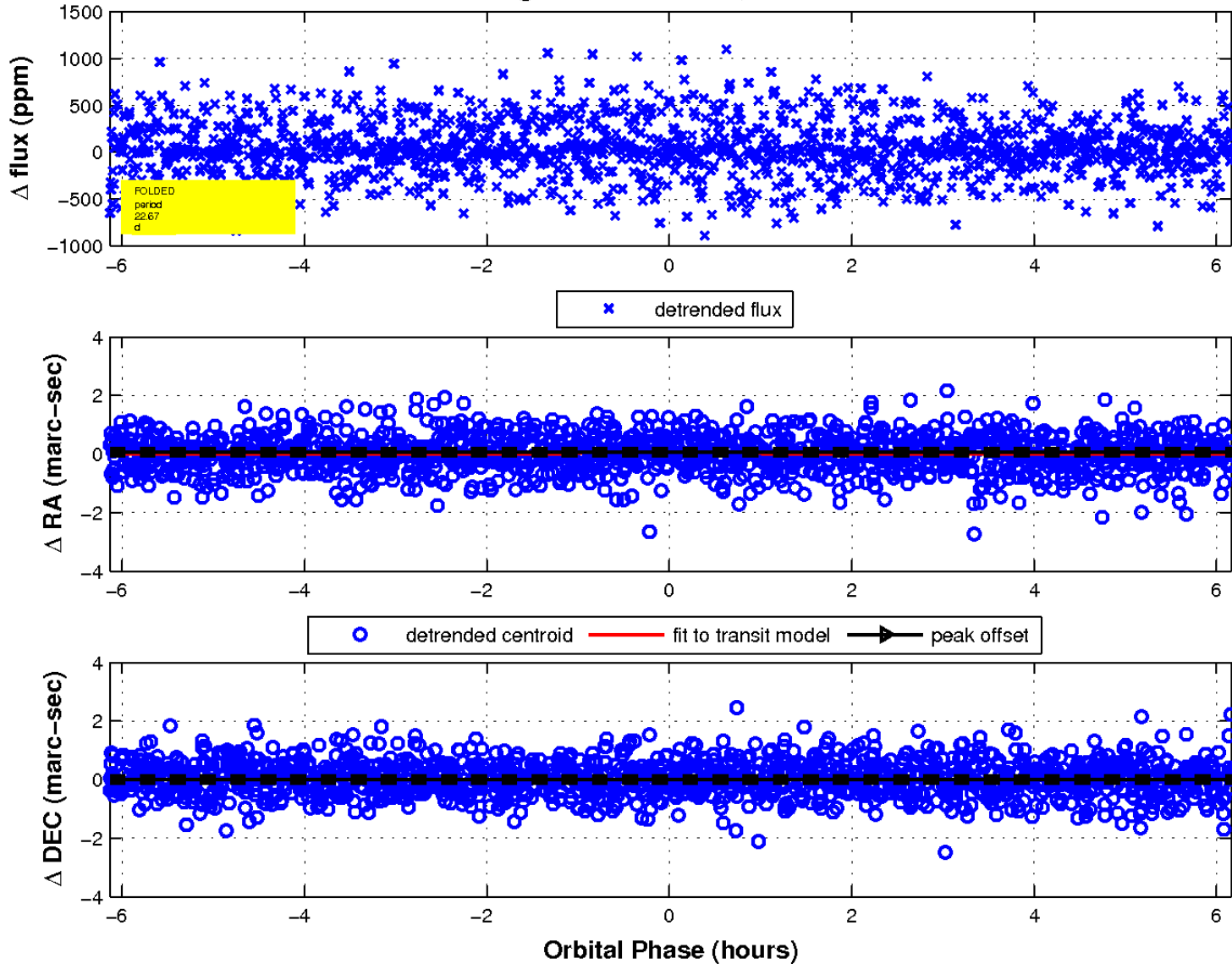
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



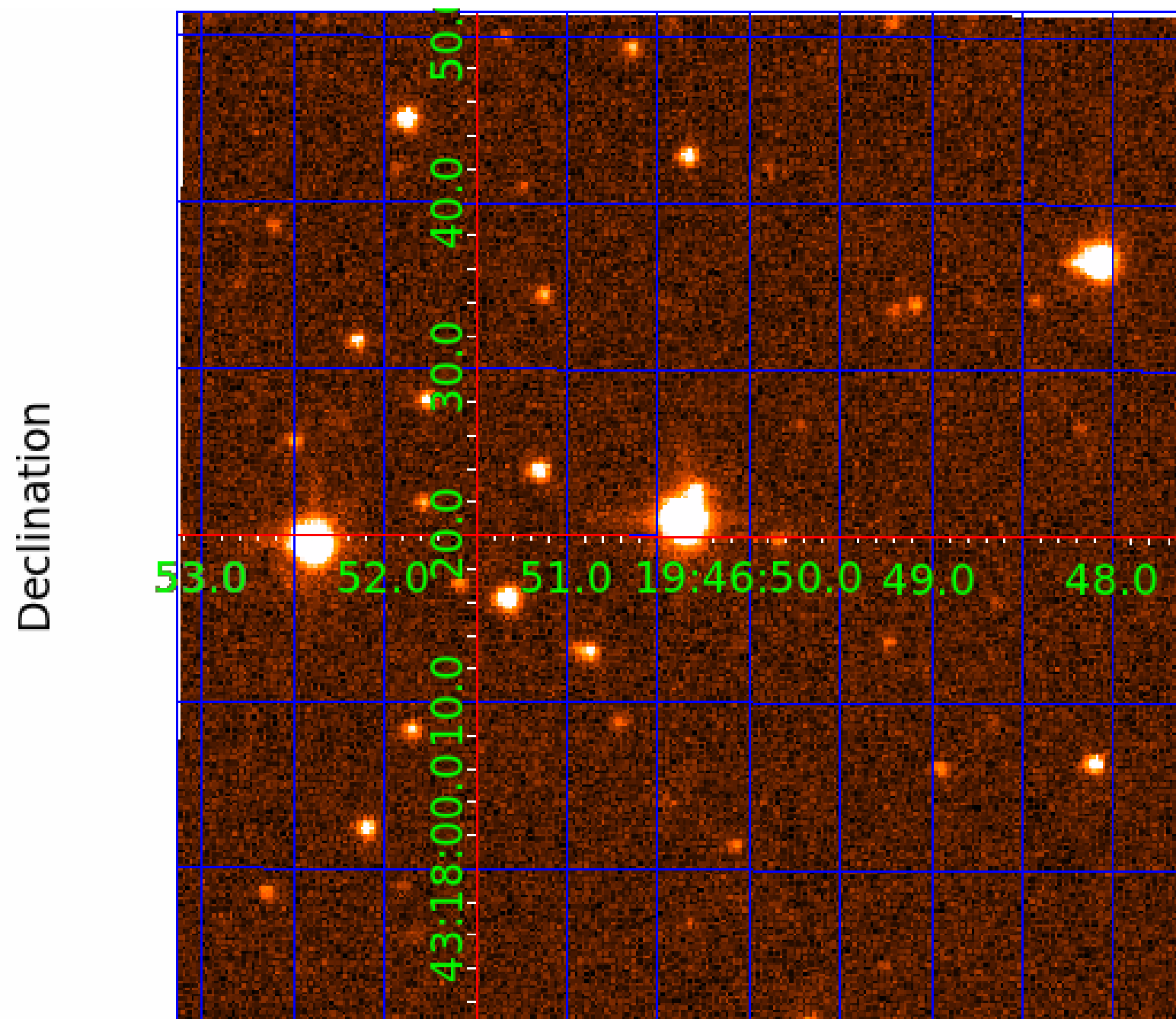
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 4



UKIRT Image



KIC 007698258

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})
007698258-01	OBS	No	1.288234	131.913121	26.6	9.265	7.3	5.1	1.04	6184	0.57	2462.89
007698258-02	OBS	No	22.665436	144.949457	154.4	2.056	12.6	2.5	1.04	6184	1.30	53.82
007698258-03	OBS	No	44.360633	163.825473	299.5	4.245	11.8	4.3	1.04	6184	2.09	21.98
007698258-04	OBS	No	22.679279	144.149726	429.0	6.374	12.4	7.9	1.04	6184	2.50	53.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007698258-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—HALO_GHOST
007698258-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698258-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698258-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

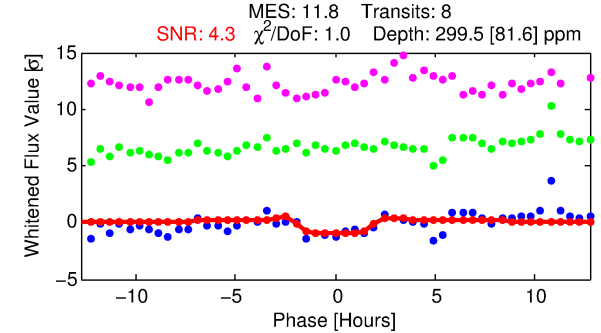
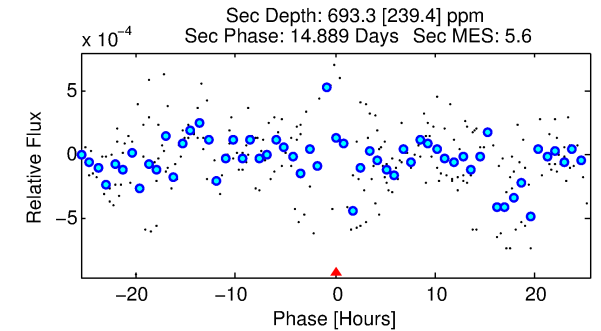
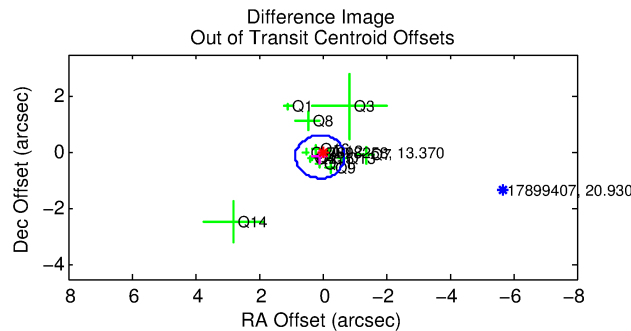
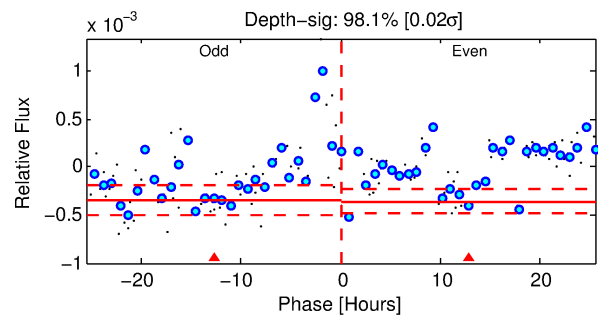
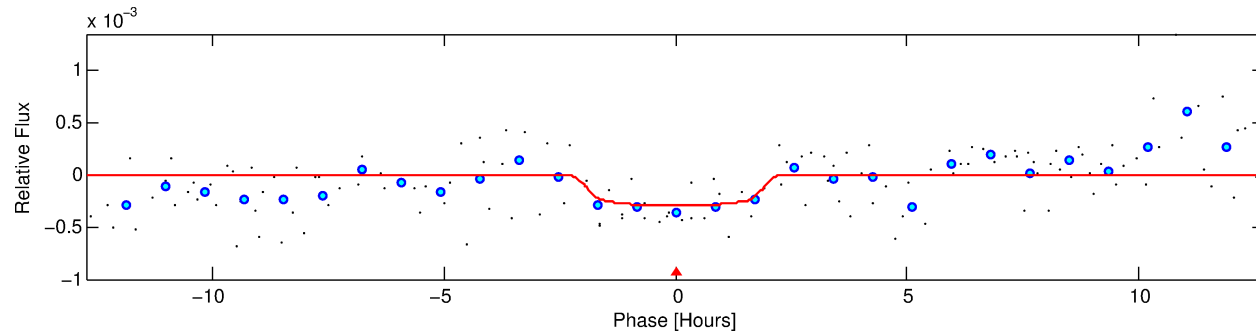
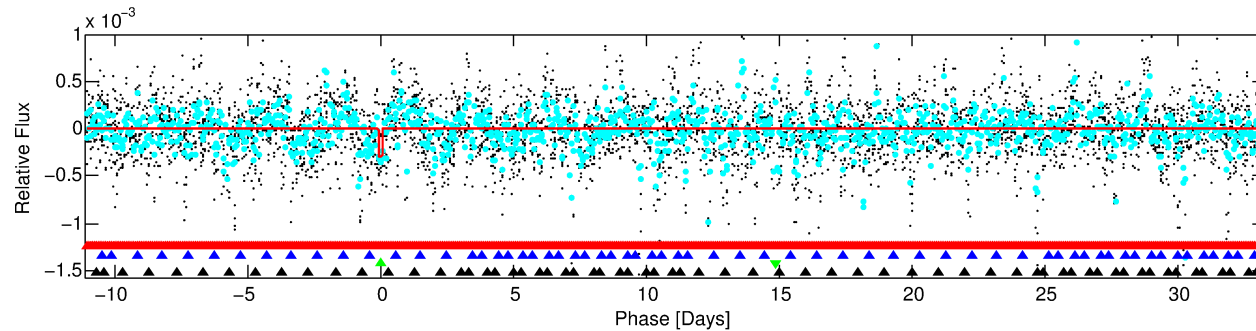
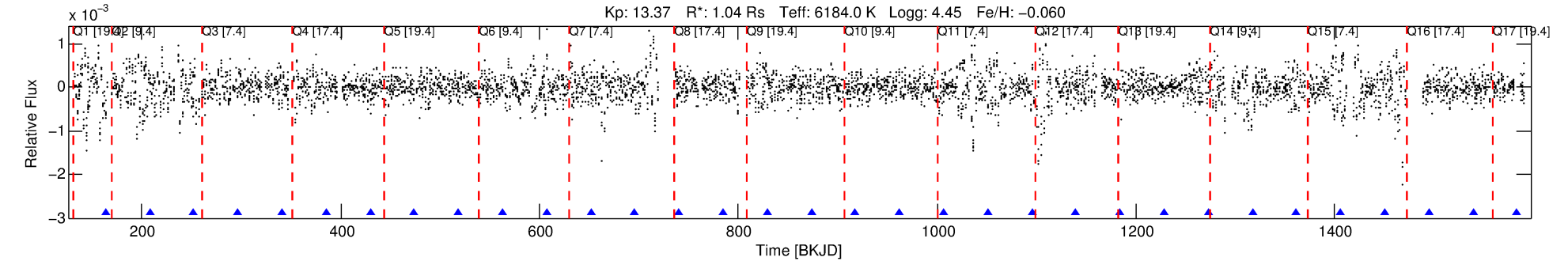
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007698258-03

No Significant Match Found

DV One-Page Summary

KIC: 7698258 Candidate: 3 of 4 Period: 44.361 d



DV Fit Results:

Period = 44.36063 [0.00191] d
Epoch = 163.8255 [0.0274] BKJD
Rp/R* = 0.0185 [0.0138]
a/R* = 39.92 [149.45]
b = 0.89 [0.91]
Seff = 21.98 [6.91]
Teq = 552 [43] K
Rp = 2.09 [1.64] Re
a = 0.2534 [0.0495] AU
Ag = 5602.45 [8763.92] [0.64 σ]
Teffp = 7386 [2850] K [2.40 σ]

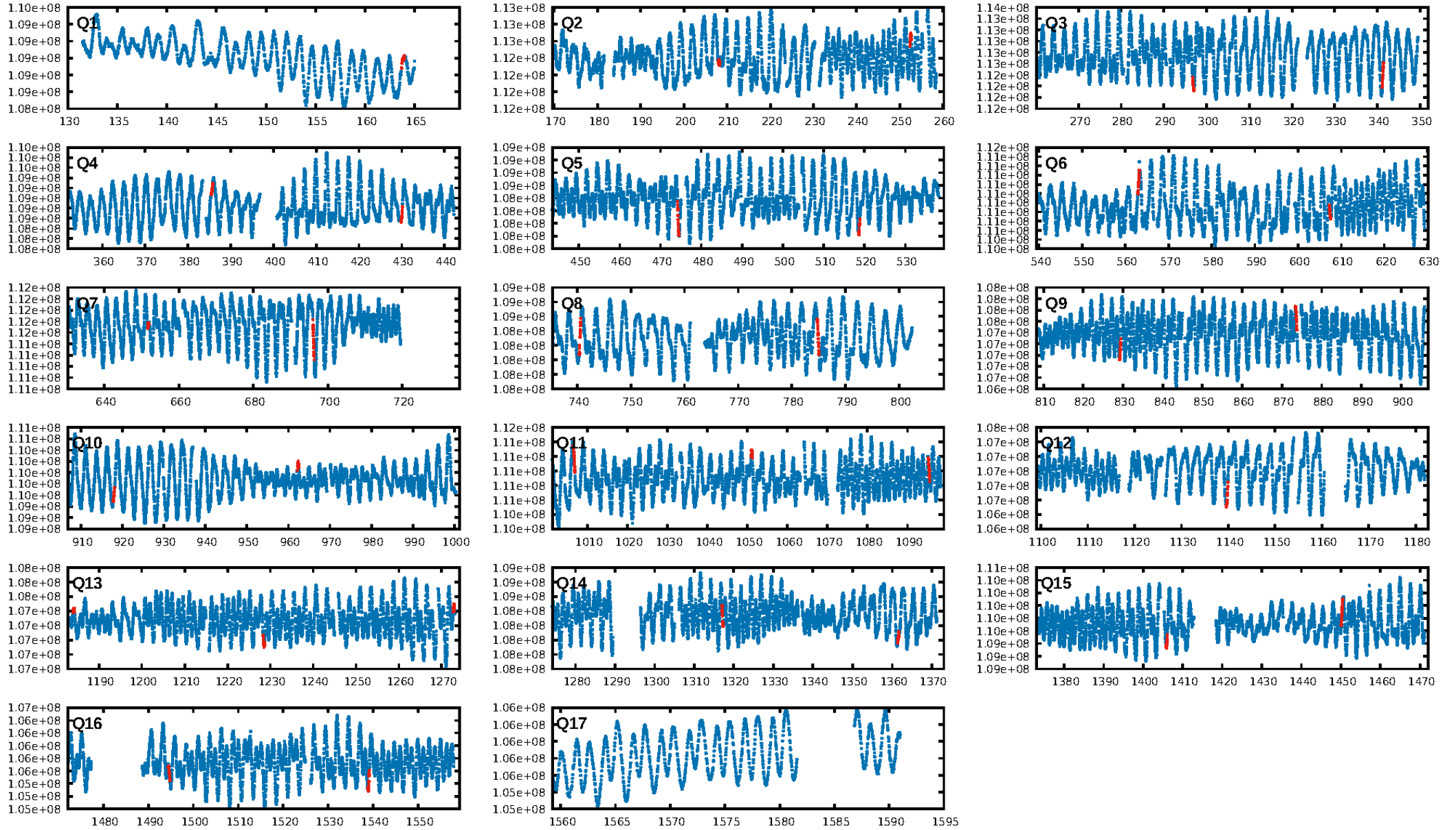
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [67.95 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 65.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.19e-61
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -3.496
Centroid-sig: 20.1%
Centroid-so: 0.388 arcsec [0.95 σ]
OotOffset-rm: 0.163 arcsec [0.64 σ]
KicOffset-rm: 0.177 arcsec [0.54 σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 0.43 [6/14]
DiffImageOverlap-fno: 0.13 [2/15]

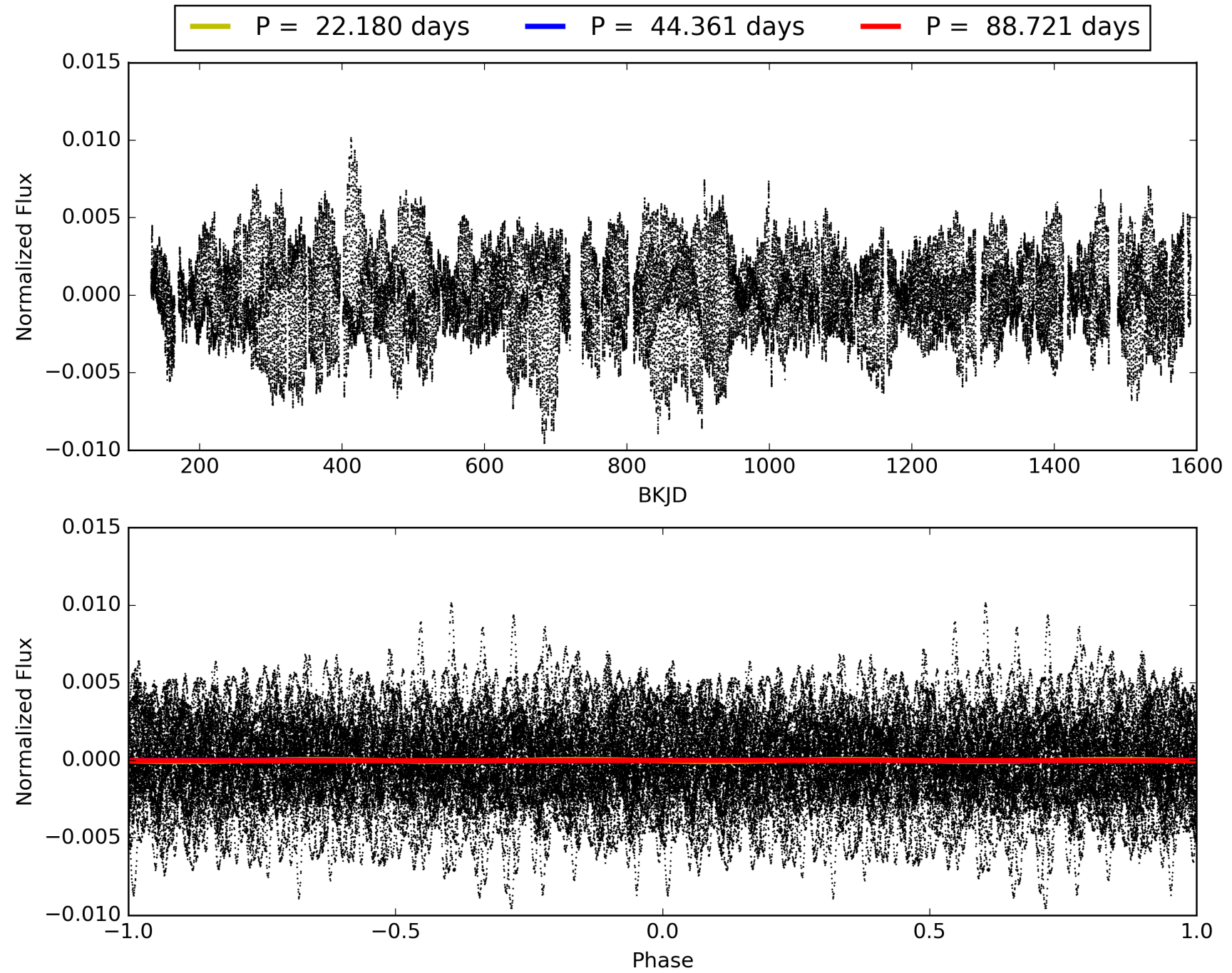
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:18:59 Z

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

TCE 007698258-03, PDC Light Curves

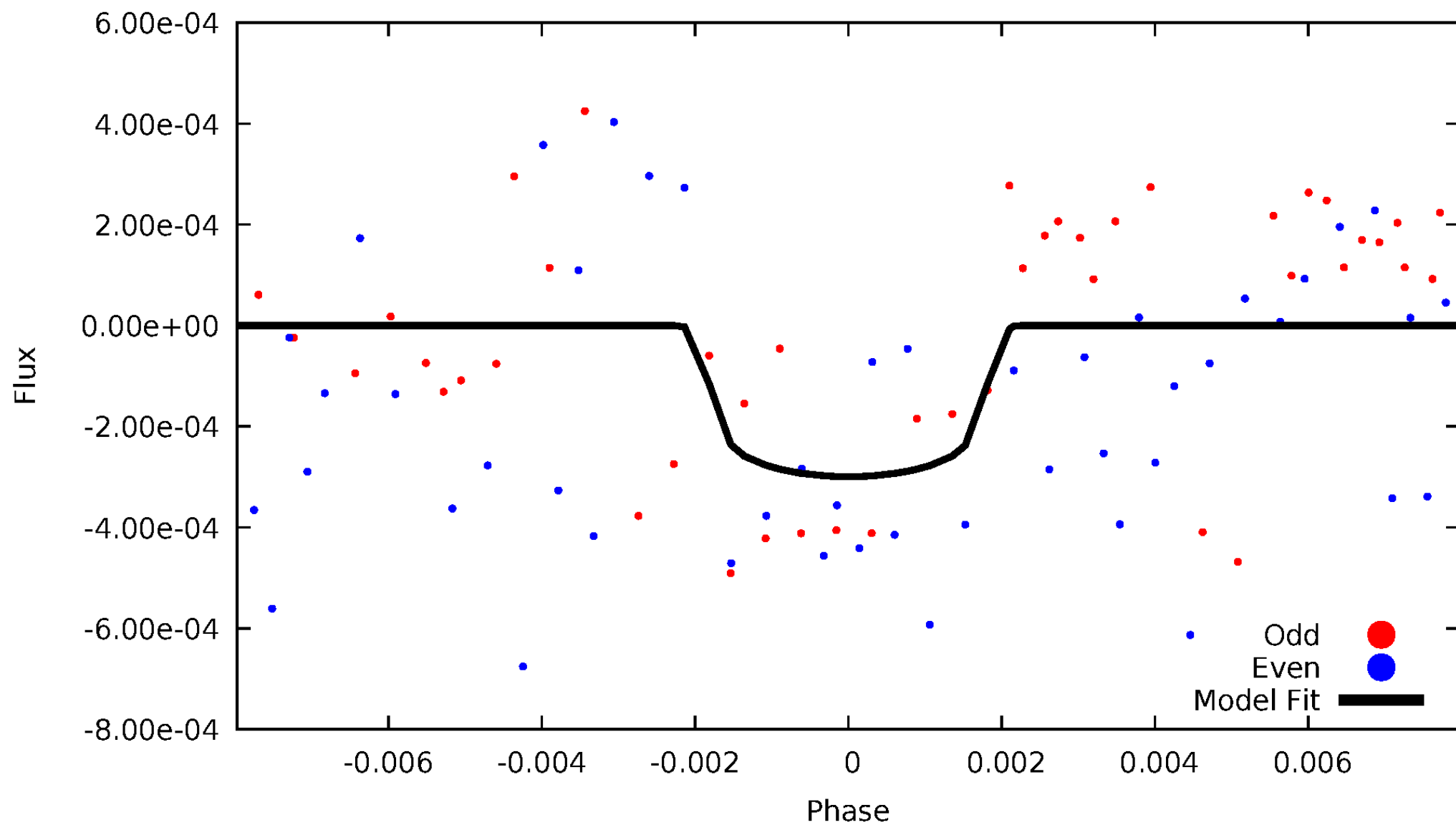


TCE 007698258-03



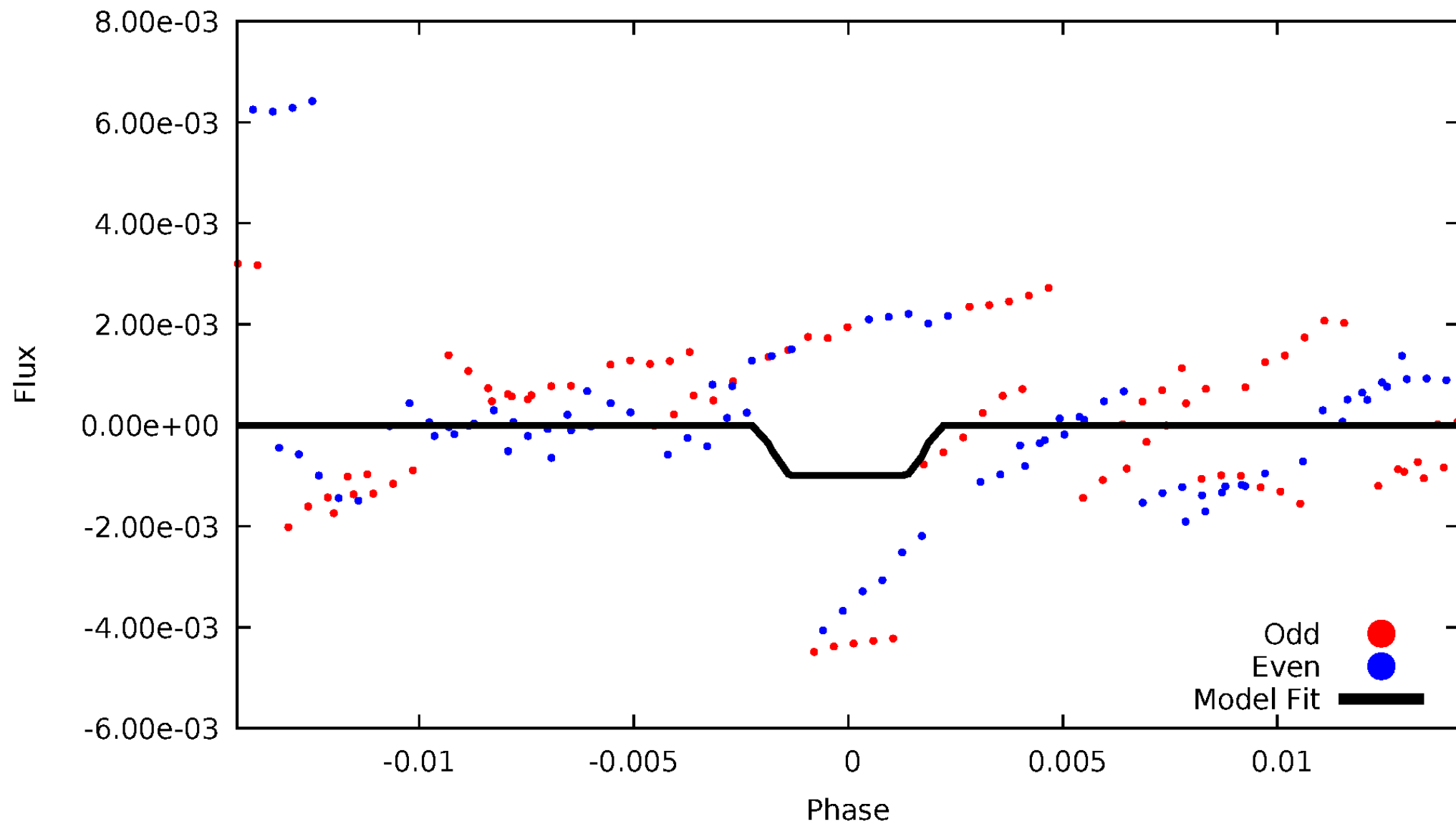
DV Odd/Even

TCE 007698258-03



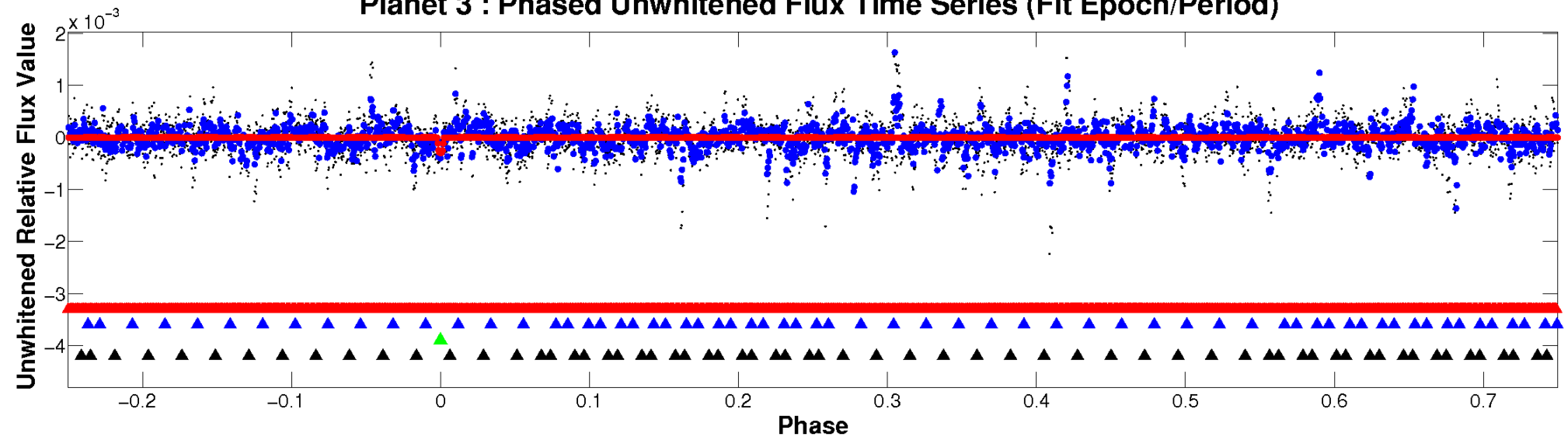
ALT Odd/Even

TCE 007698258-03

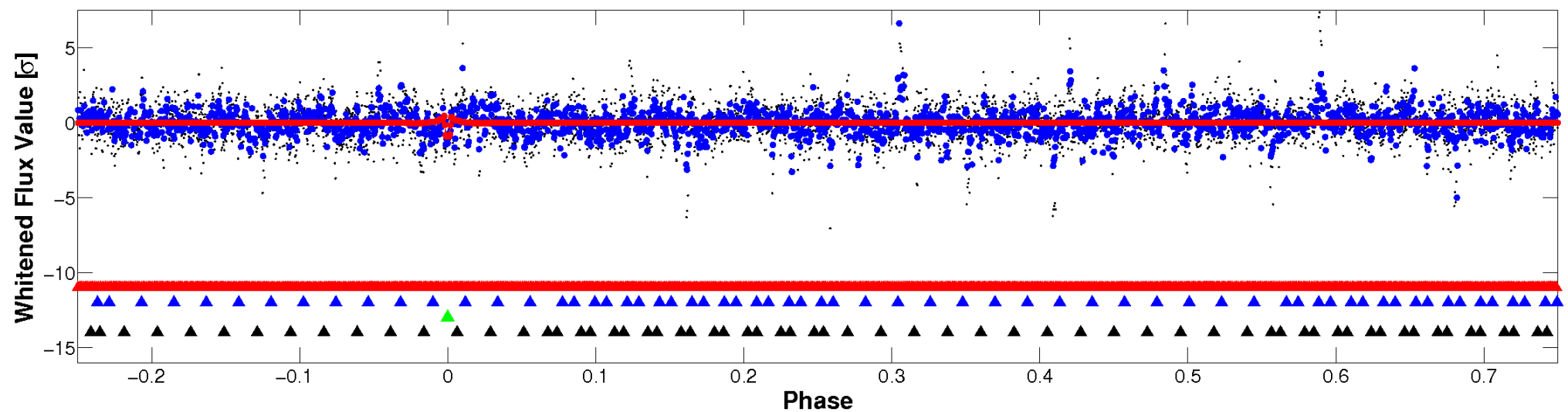


Non-Whitened Vs. Whitened Light Curve

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

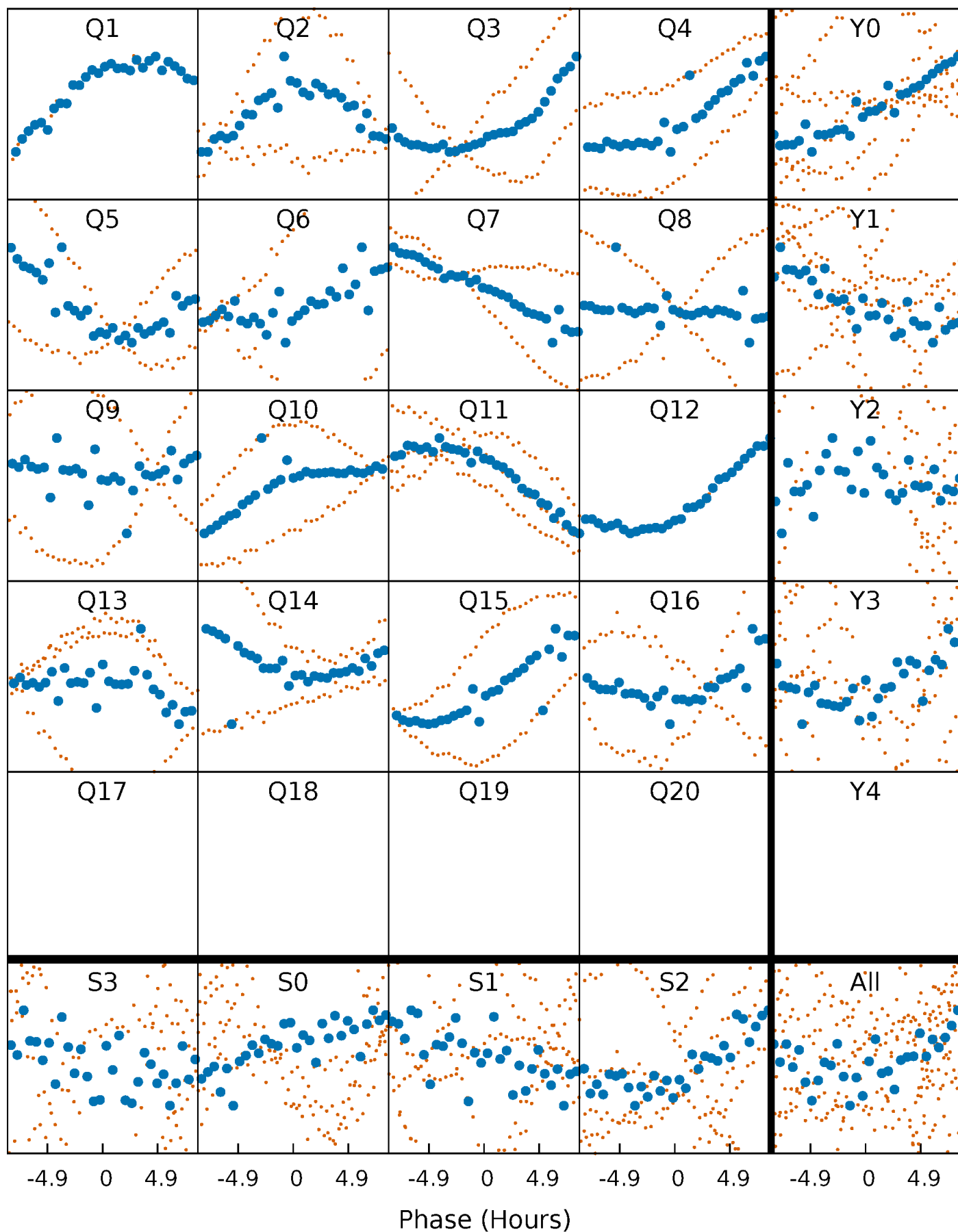


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



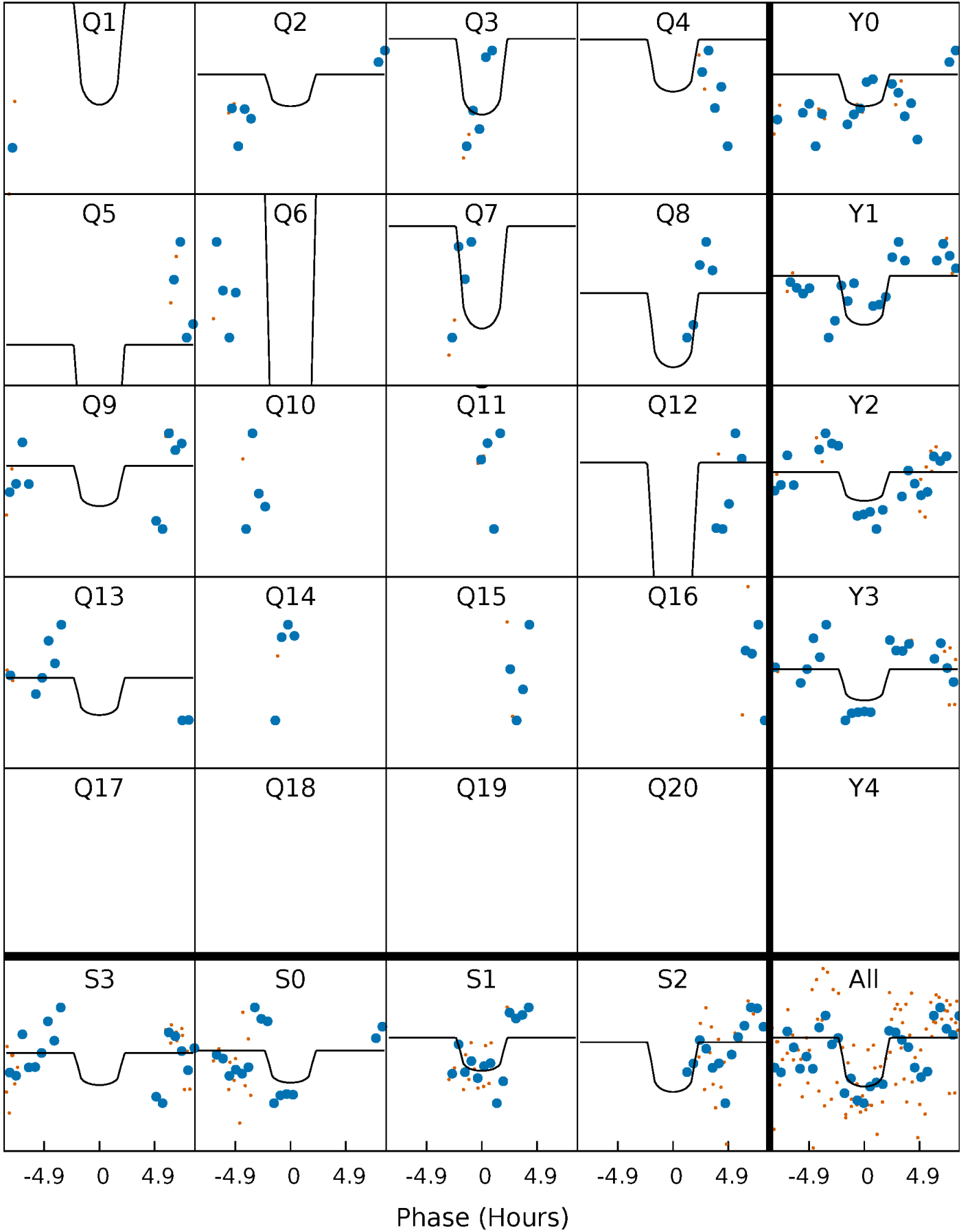
PDC Quarter-Phased Transit Curves

TCE 007698258-03 P= 44.360633 Days $T_0=163.825473$ (BKJD)



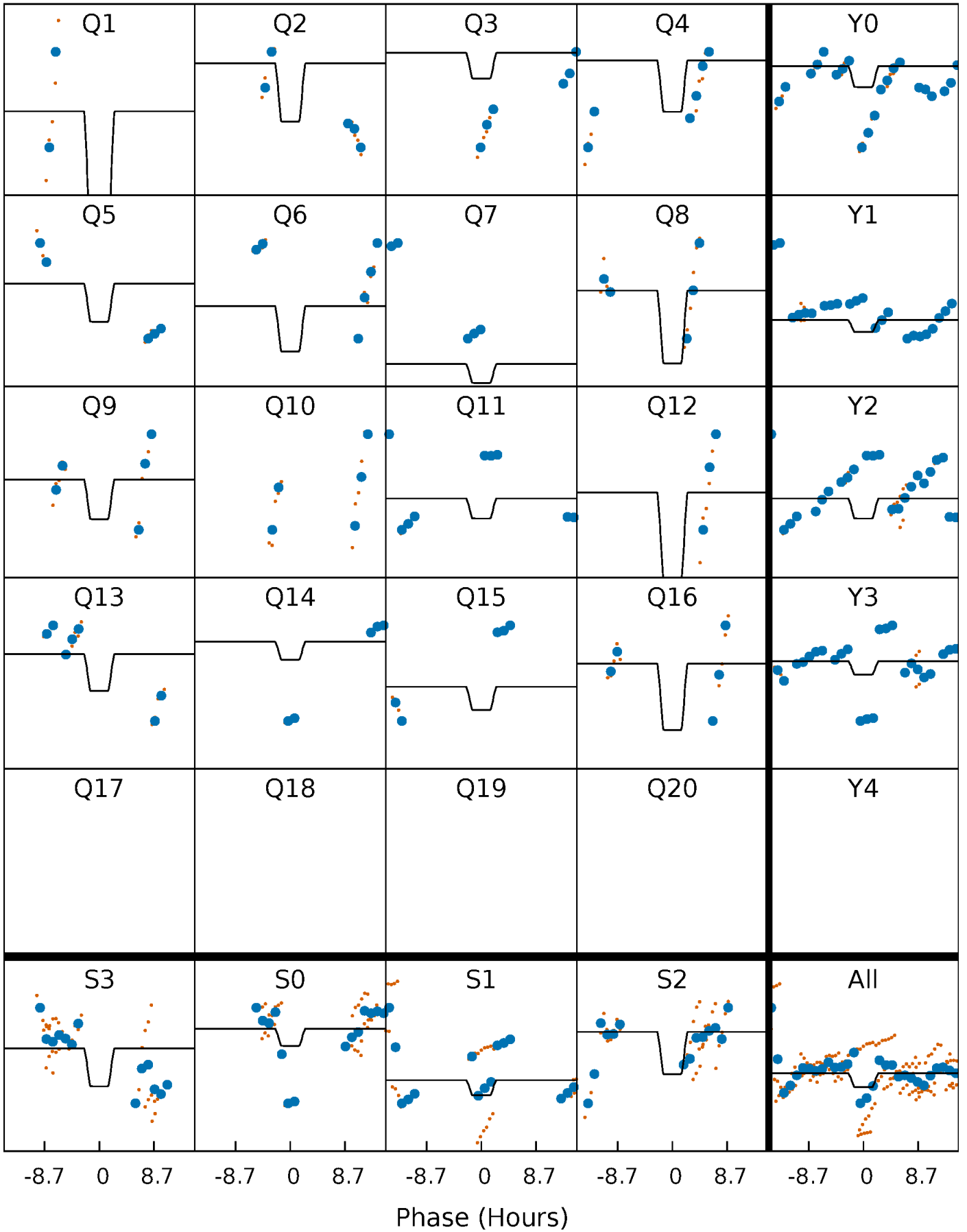
DV Quarter-Phased Transit Curves

TCE 007698258-03 P= 44.360633 Days $T_0=163.825473$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

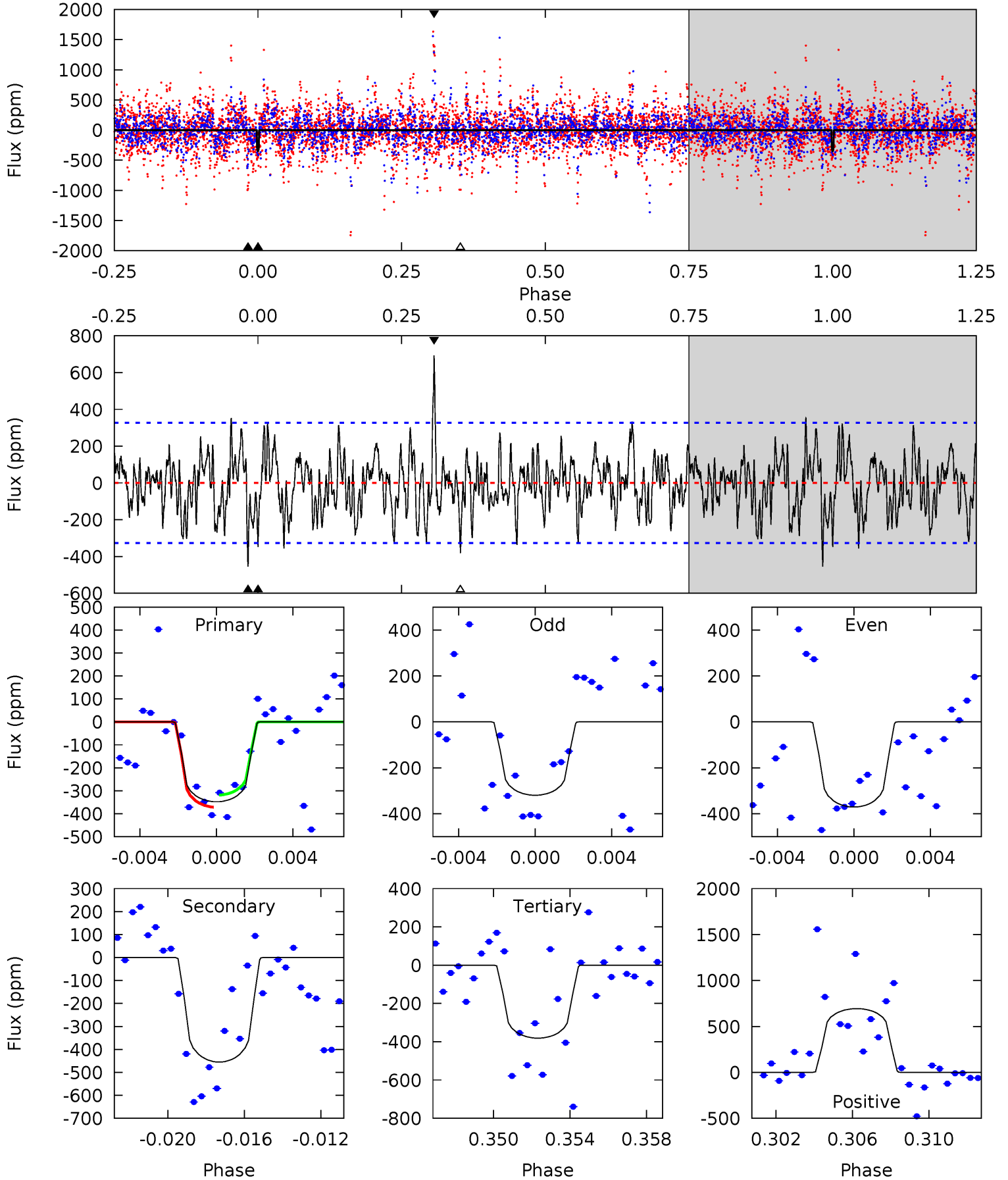
TCE 007698258-03 P= 44.361022 Days $T_0=163.782226$ (BKJD)



DV Model-Shift Uniqueness Test

007698258-03, P = 44.360633 Days, E = 119.464840 Days

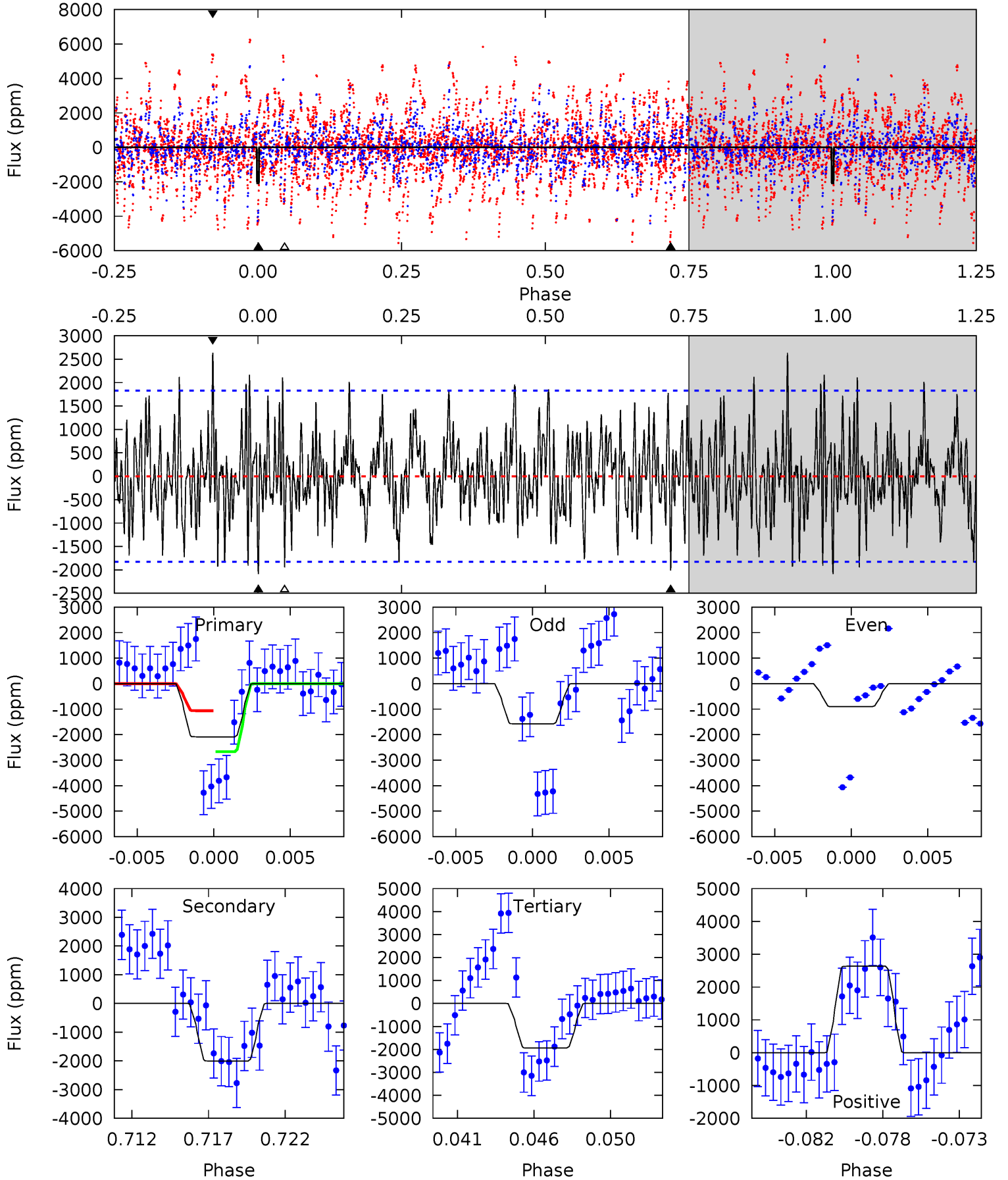
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.53	7.23	6.06	11.0	5.20	2.88	2.06	-0.53	-5.50	1.17	-3.79	0.39	1.12	0.60	0.42



Alt Model-Shift Uniqueness Test

007698258-03, $P = 44.361022$ Days, $E = 119.421204$ 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	5.69	5.50	7.47	5.17	2.84	2.00	0.42	-1.55	0.19	-1.78	1.05	-3.38	0.56	2.37



Stellar Parameters For KIC 007698258

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6184^{+147}_{-202}	$4.448^{+0.052}_{-0.157}$	$-0.060^{+0.250}_{-0.350}$	$1.038^{+0.239}_{-0.119}$	$1.100^{+0.115}_{-0.140}$	$1.387^{+0.384}_{-0.605}$
	+2%/-3%	+1%/-4%	+417%/-583%	+23%/-11%	+10%/-13%	+28%/-44%
Source	PHO1	FLK73	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 007698258-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-455 ± 63	$2.38^{+1.47}_{-1.30}$	784^{+44}_{-35}	6264^{+4121}_{-1186}	2726^{+10505}_{-1679}
Alt.	-2010 ± 353	$3.71^{+1.71}_{-1.65}$	782^{+43}_{-36}	7491^{+3398}_{-1476}	5059^{+11543}_{-2797}

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 $A_{obs} \gg 1.0$

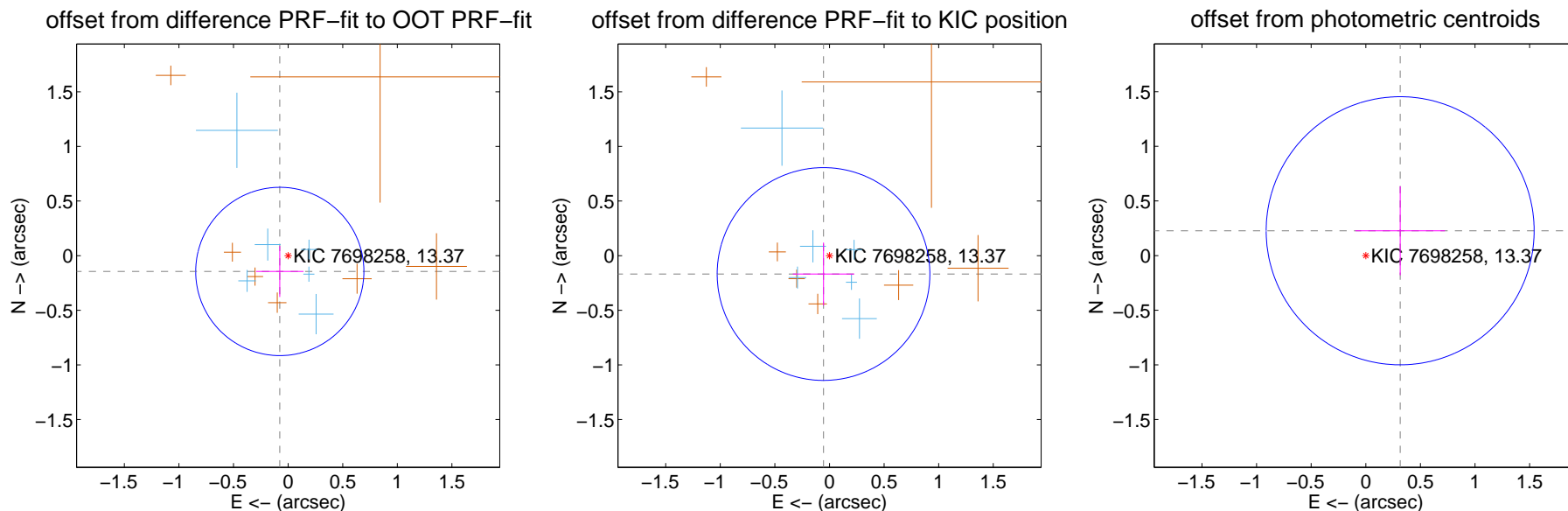
DV Centroid Data

Supplemental centroid analysis for 007698258-03. Kepler magnitude: 13.37. Transit SNR 4.27

There are 6 quarters with good PRF difference image offsets

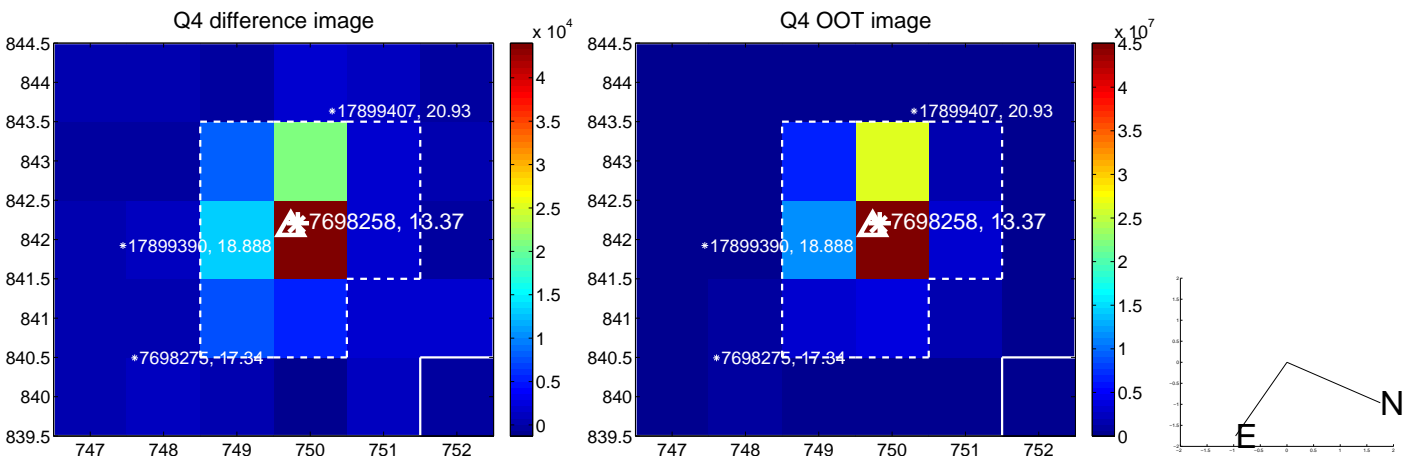
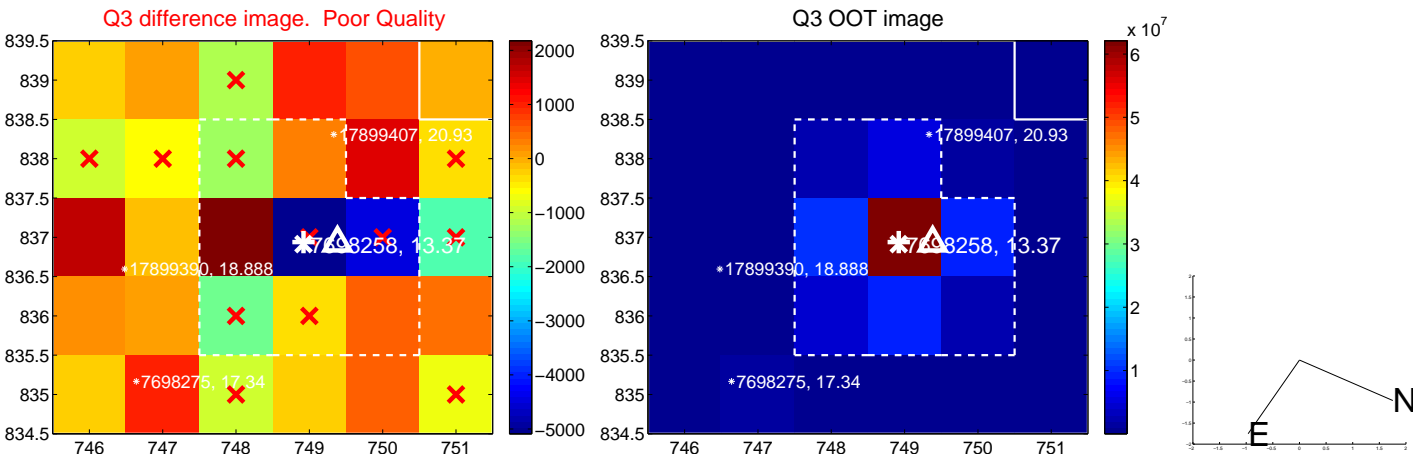
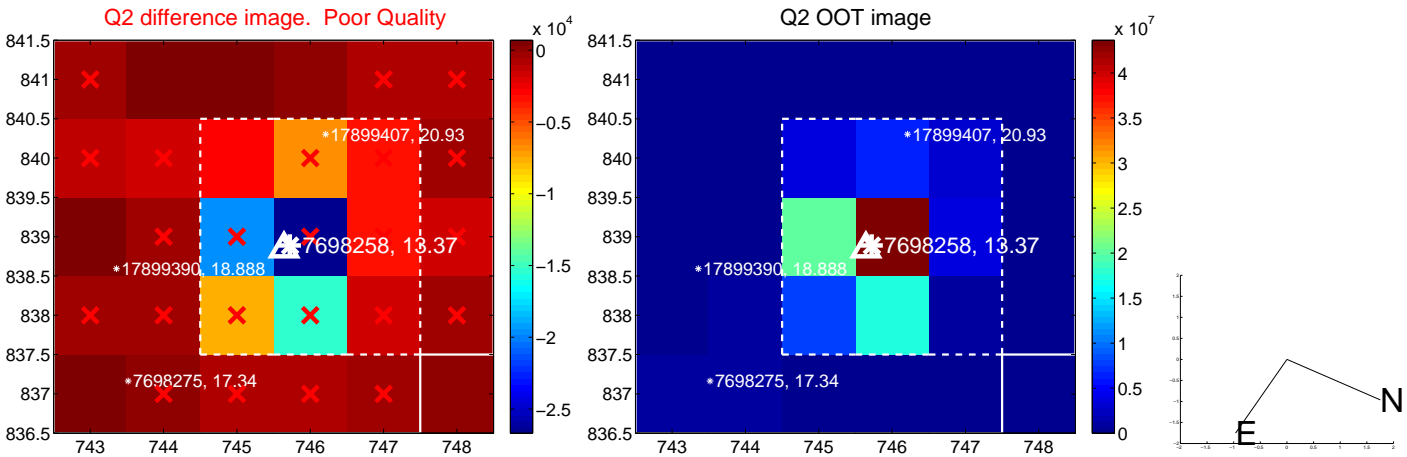
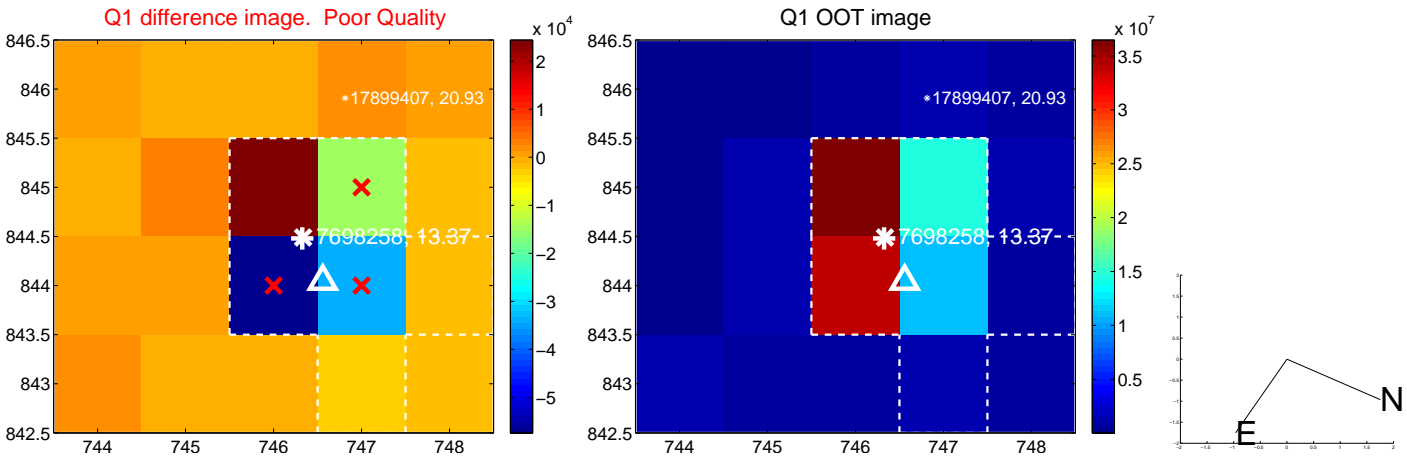
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.163 ± 0.257	0.64	0.076 ± 0.218	-0.145 ± 0.234
PRF-fit source offset from KIC position	0.177 ± 0.325	0.54	0.055 ± 0.282	-0.168 ± 0.288
photometric centroid source offset	0.39 ± 0.41	0.95	-0.31 ± 0.41	0.23 ± 0.41

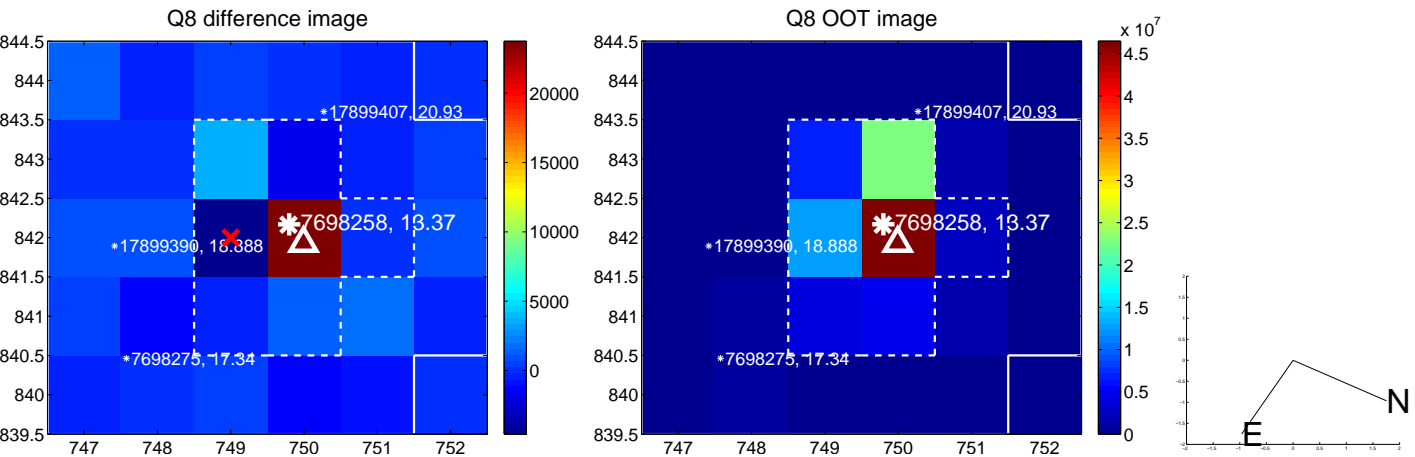
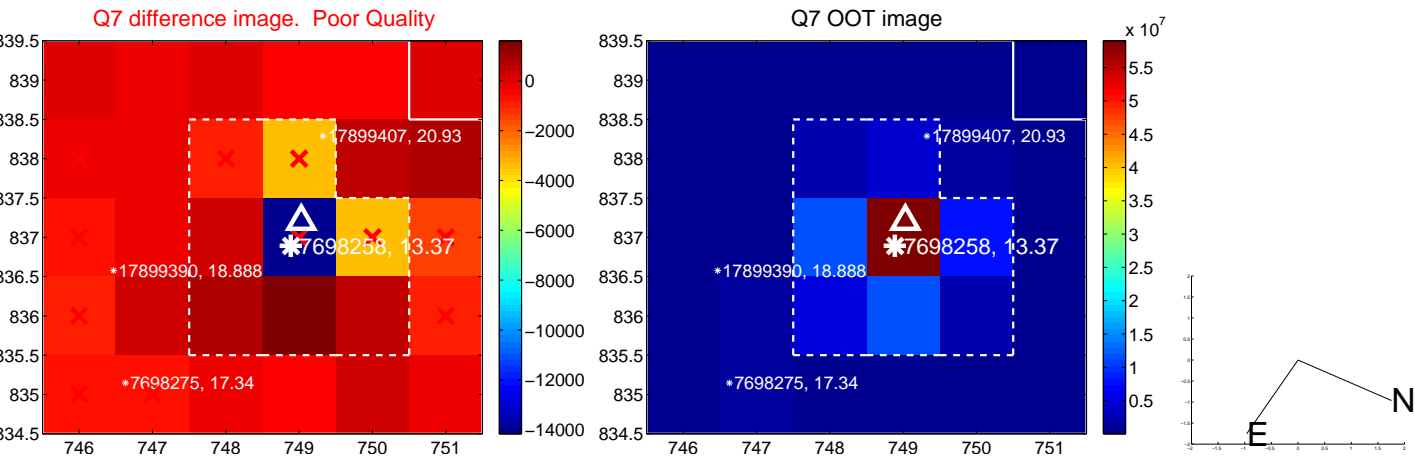
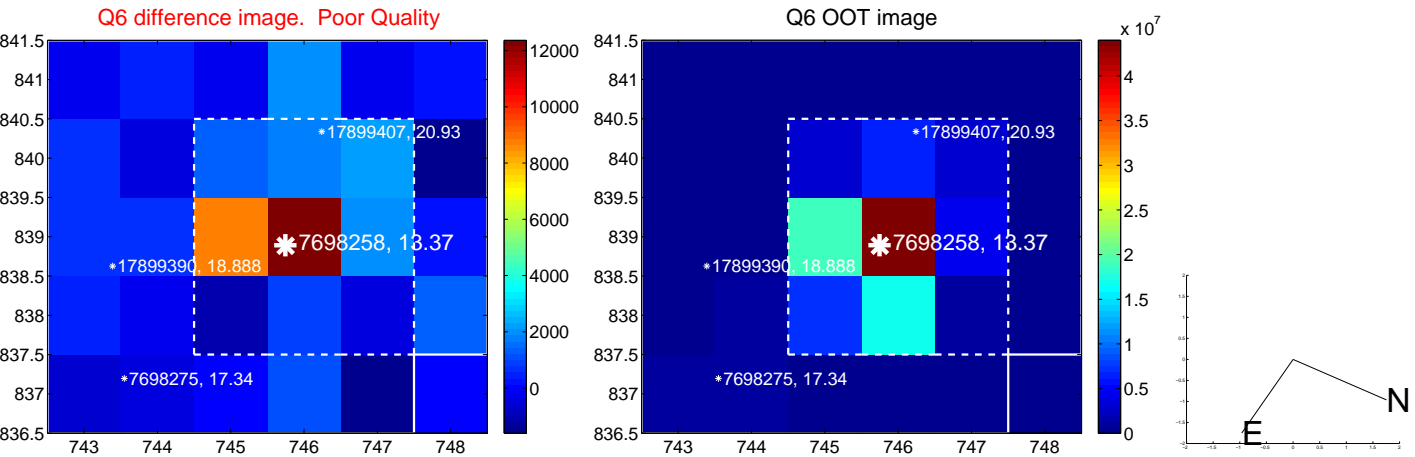
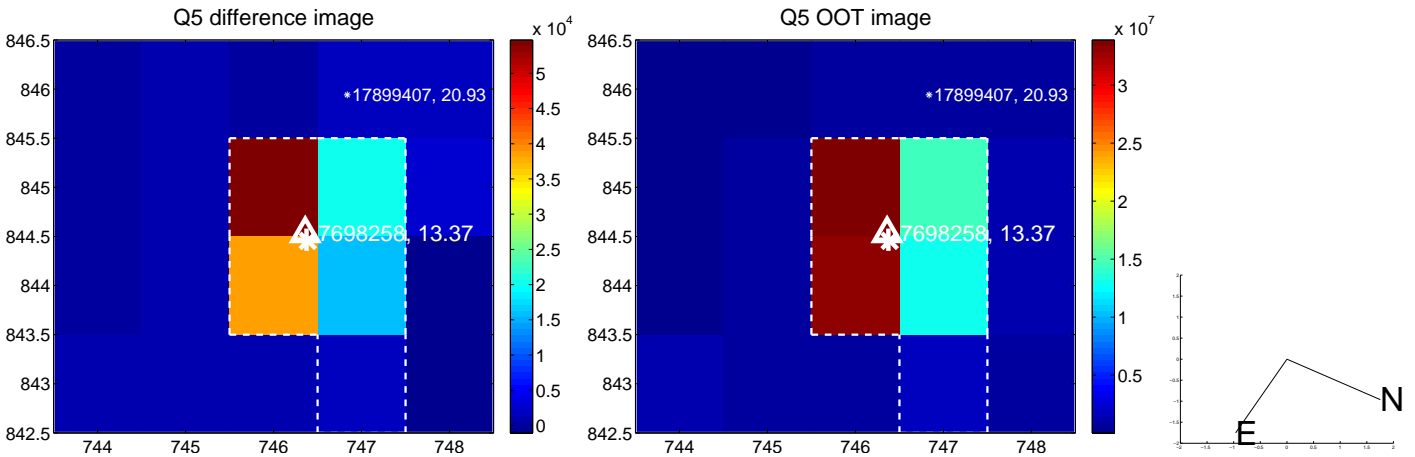


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

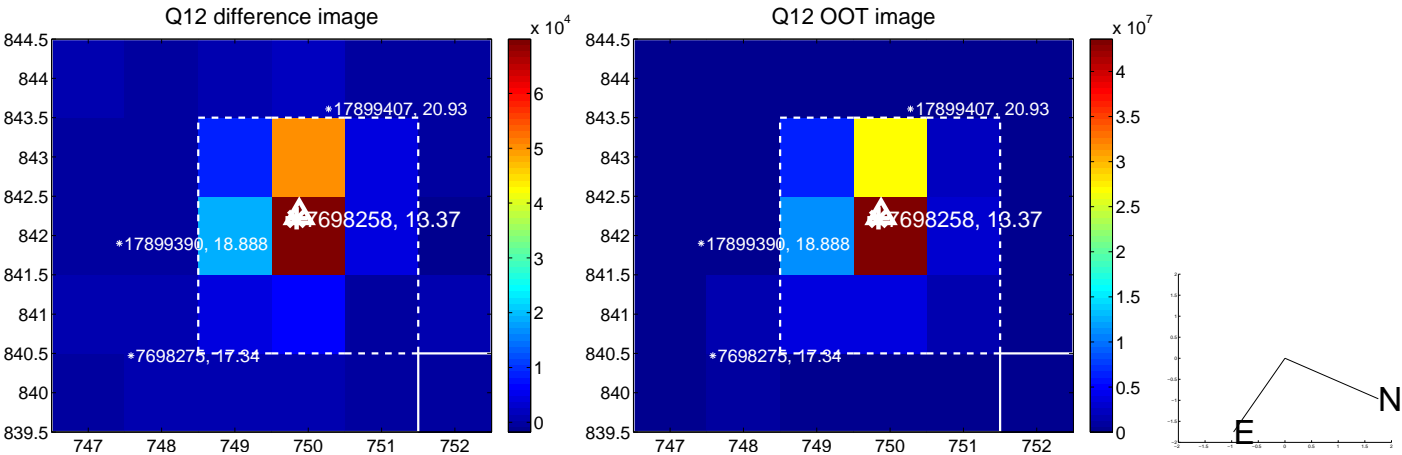
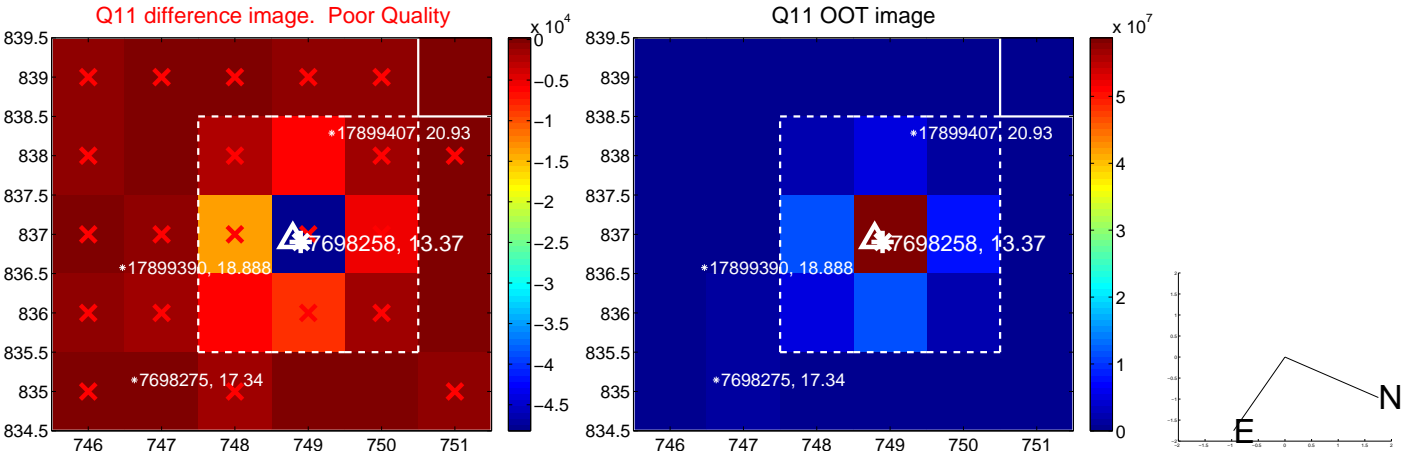
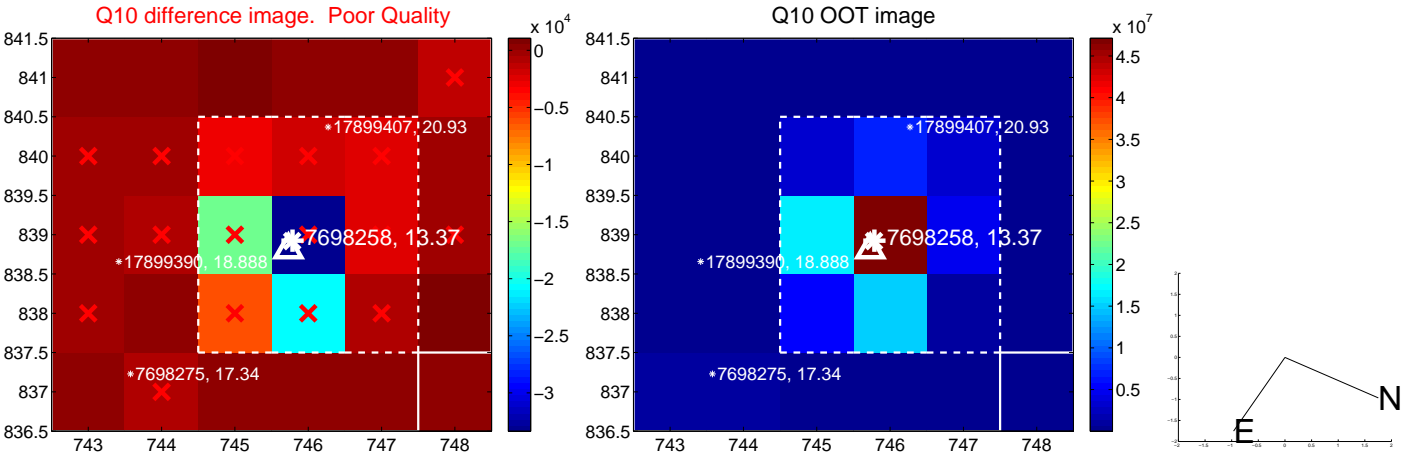
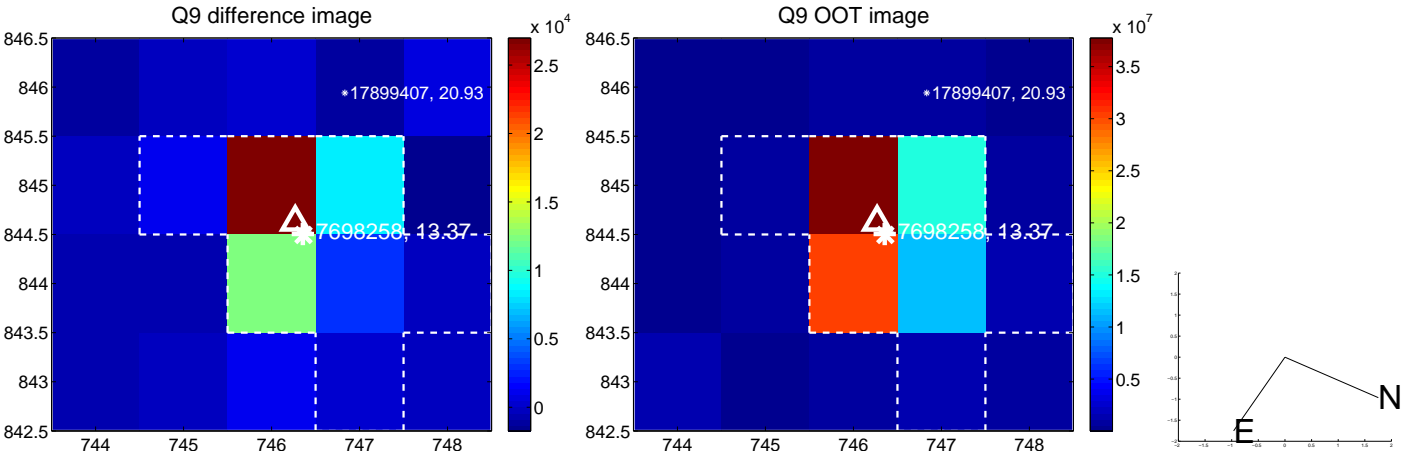
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



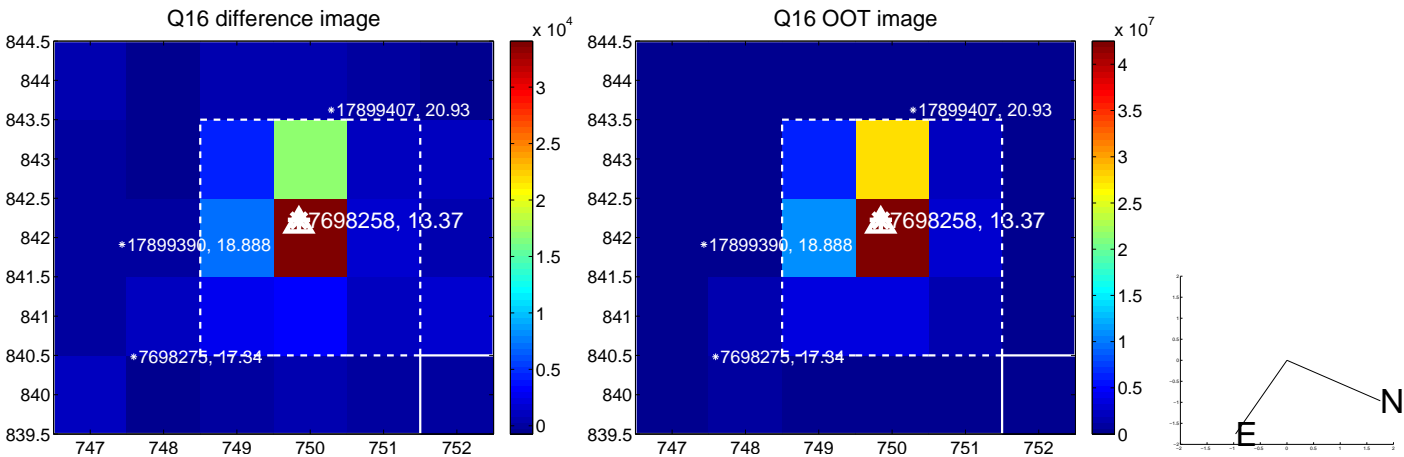
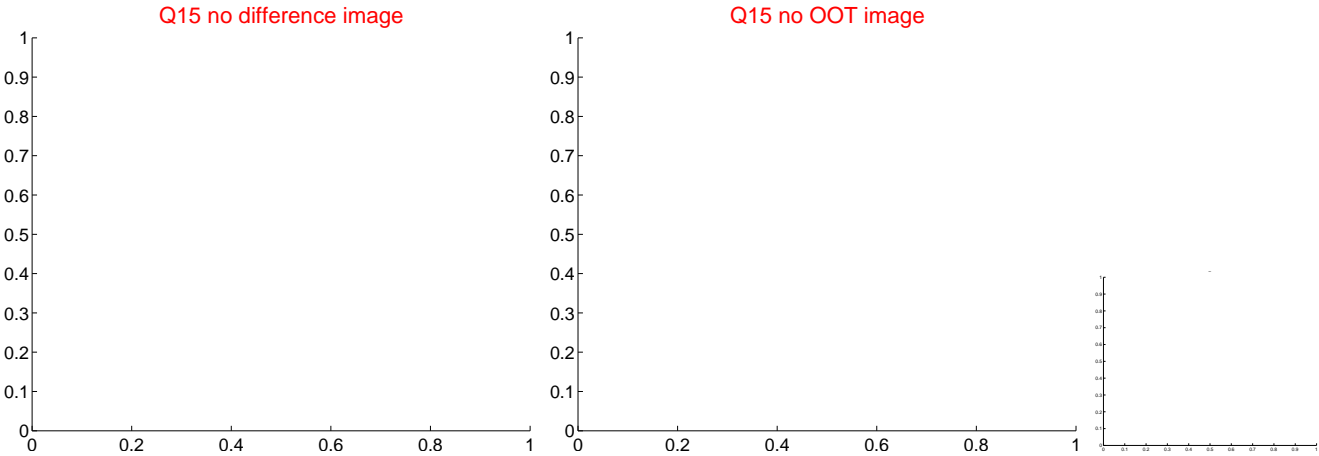
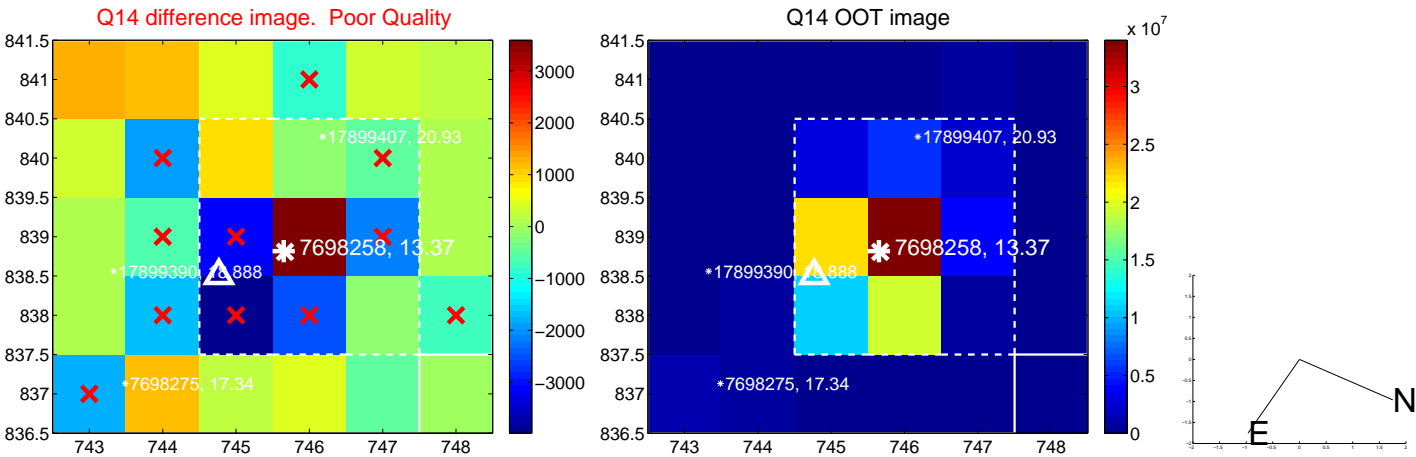
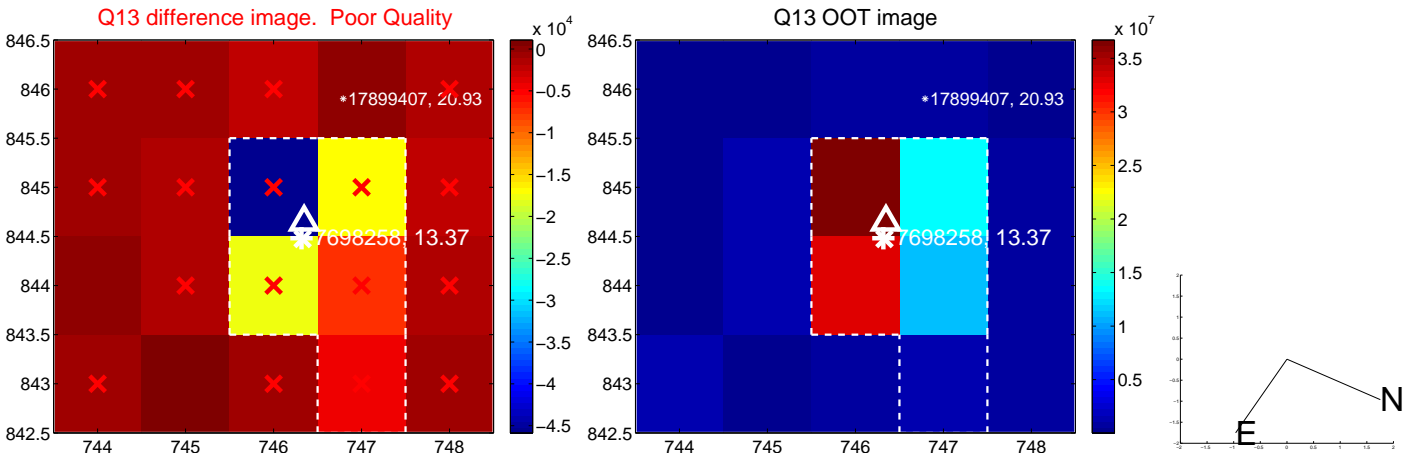
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



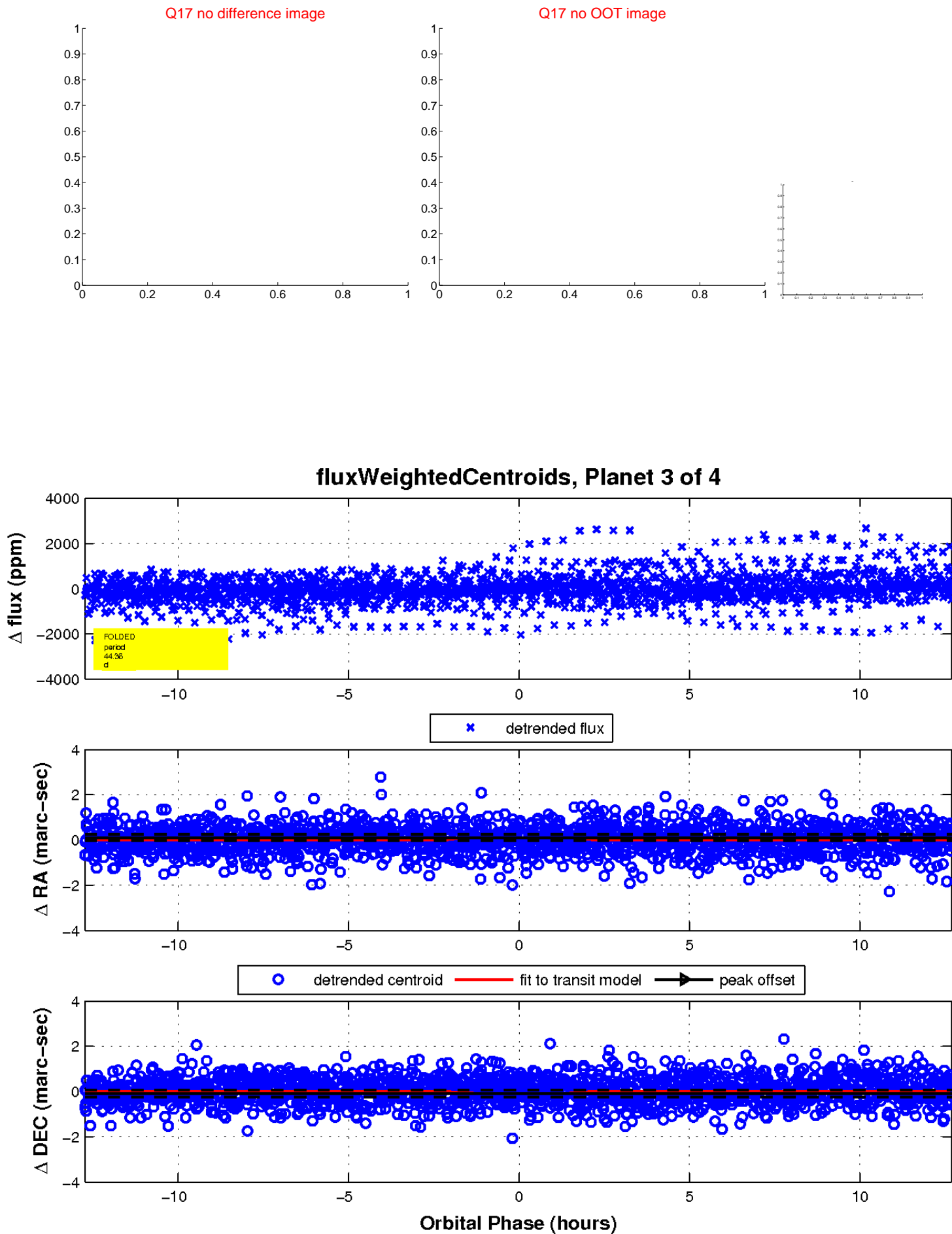
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



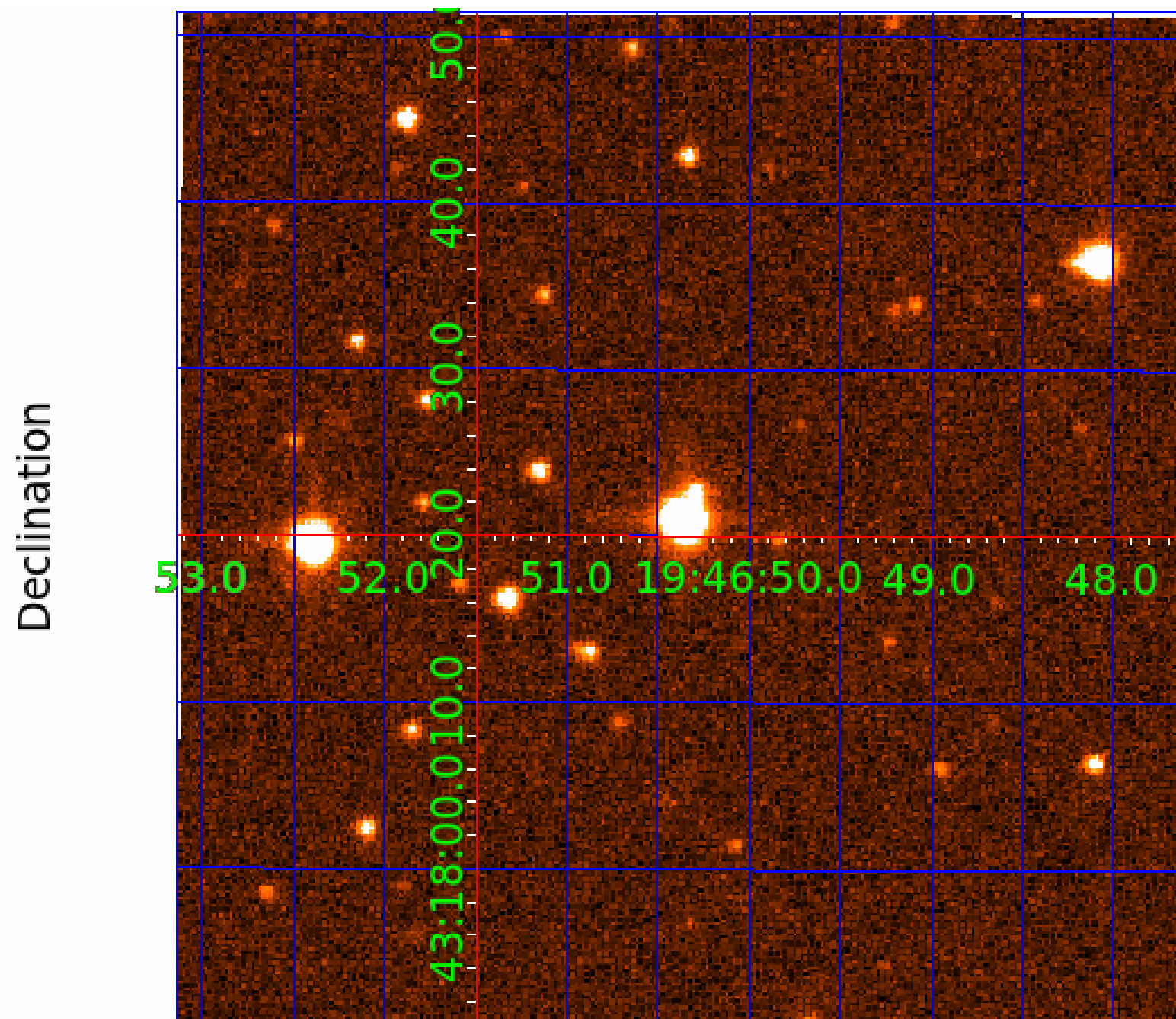
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007698258

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})
007698258-01	OBS	No	1.288234	131.913121	26.6	9.265	7.3	5.1	1.04	6184	0.57	2462.89
007698258-02	OBS	No	22.665436	144.949457	154.4	2.056	12.6	2.5	1.04	6184	1.30	53.82
007698258-03	OBS	No	44.360633	163.825473	299.5	4.245	11.8	4.3	1.04	6184	2.09	21.98
007698258-04	OBS	No	22.679279	144.149726	429.0	6.374	12.4	7.9	1.04	6184	2.50	53.78

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007698258-01	OBS	FP	0.00	1	0	1	0	SWEET_NTL—LPP_DV—HALO_GHOST
007698258-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698258-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007698258-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

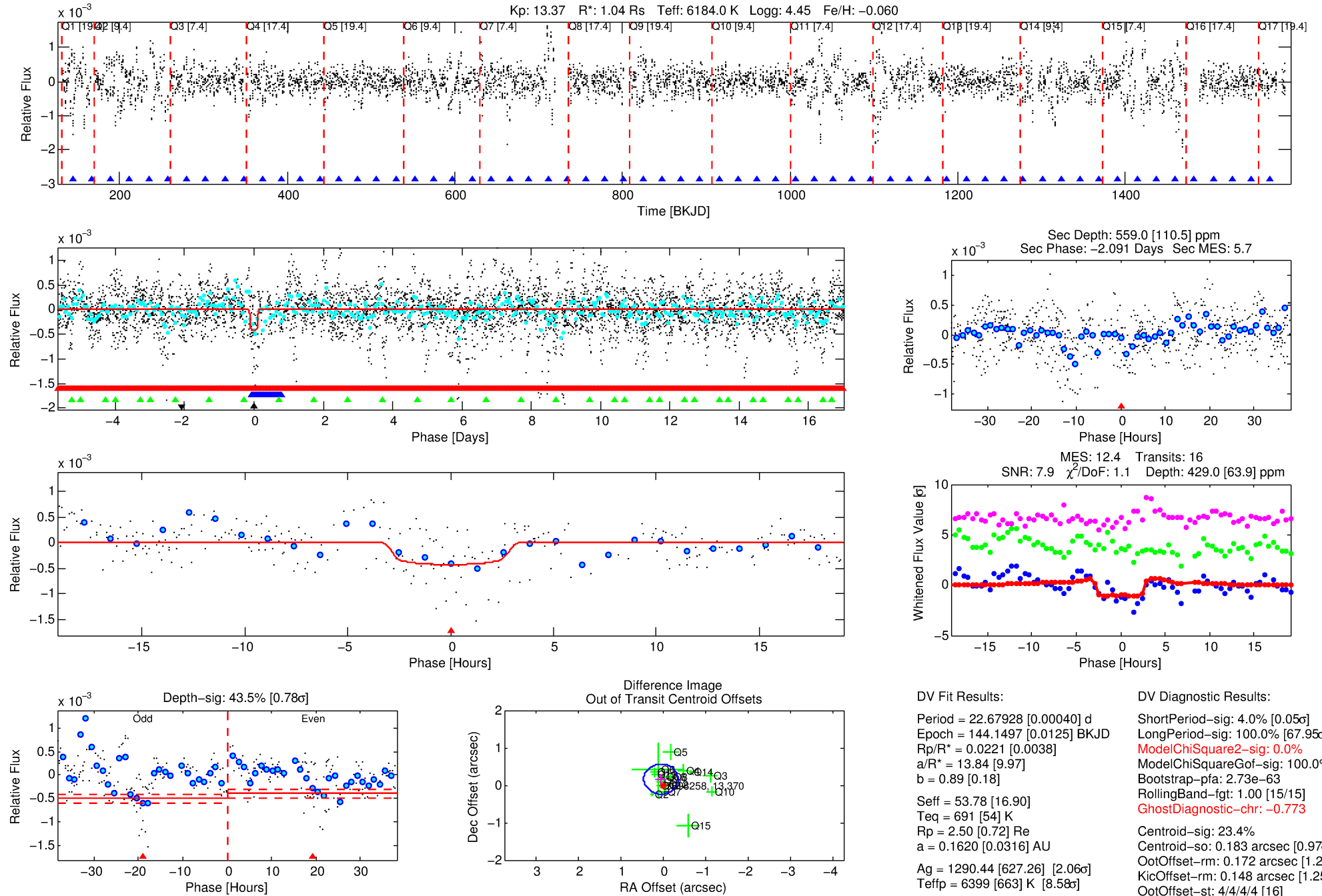
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007698258-04

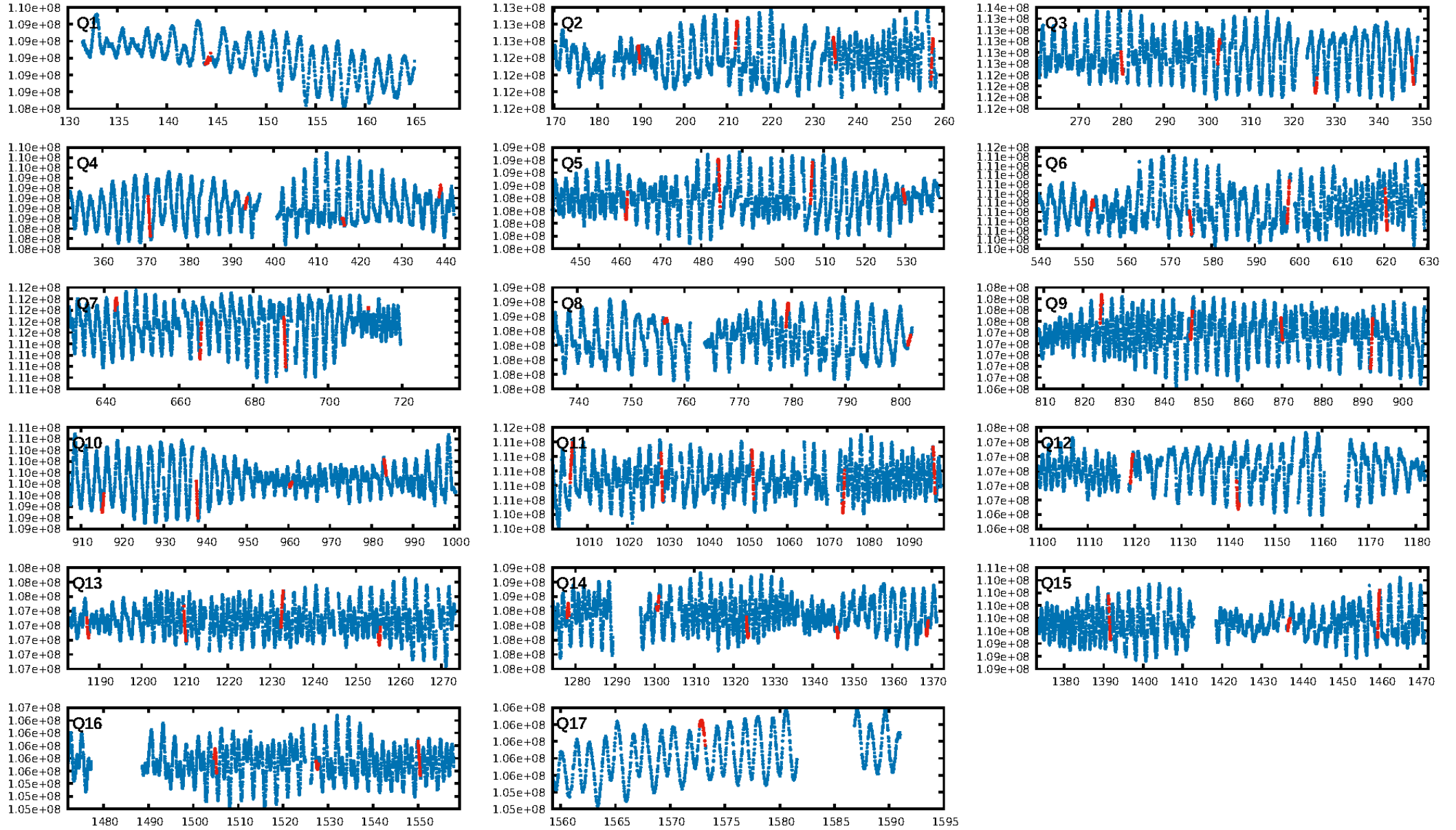
No Significant Match Found

DV One-Page Summary

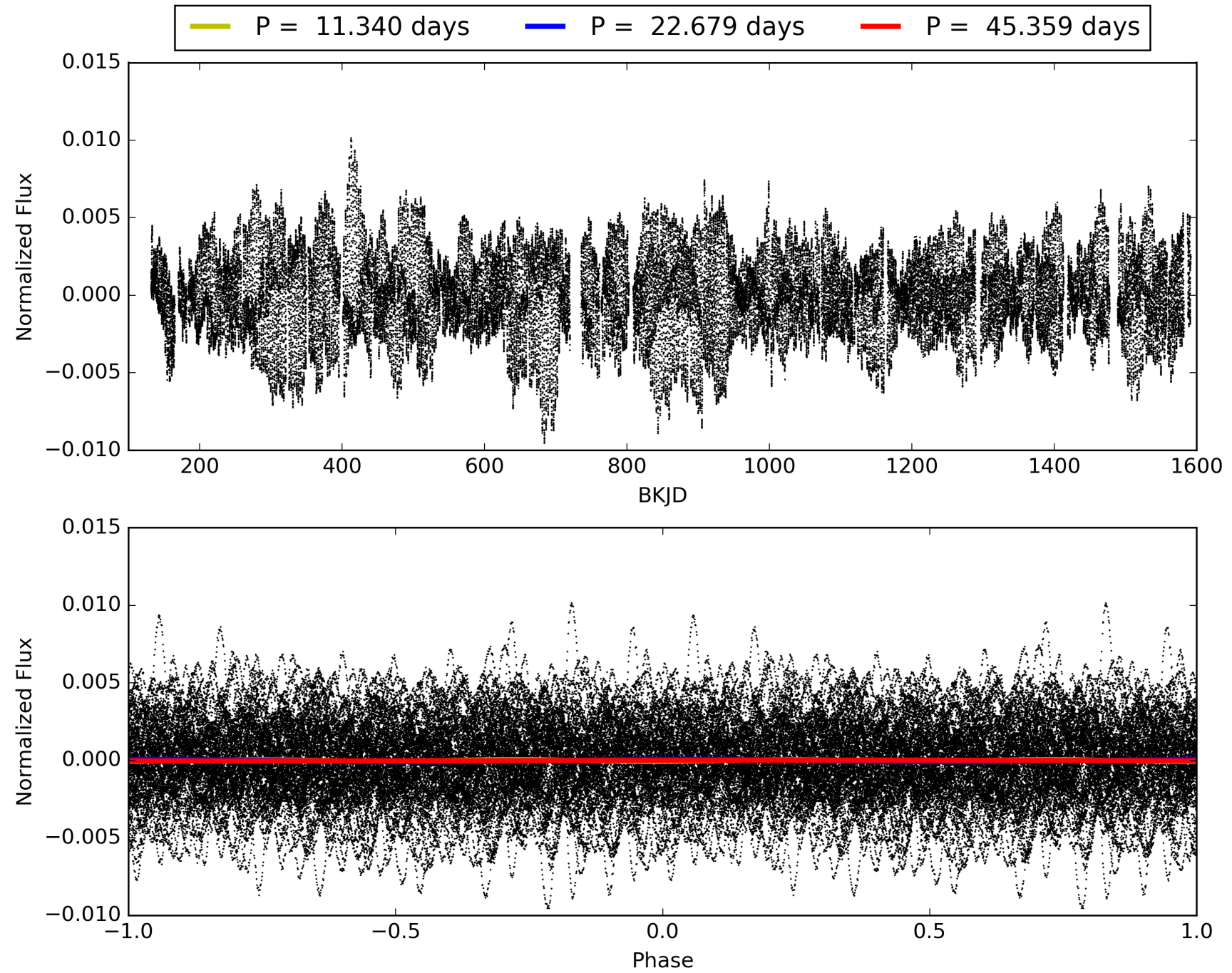
KIC: 7698258 Candidate: 4 of 4 Period: 22.679 d



TCE 007698258-04, PDC Light Curves

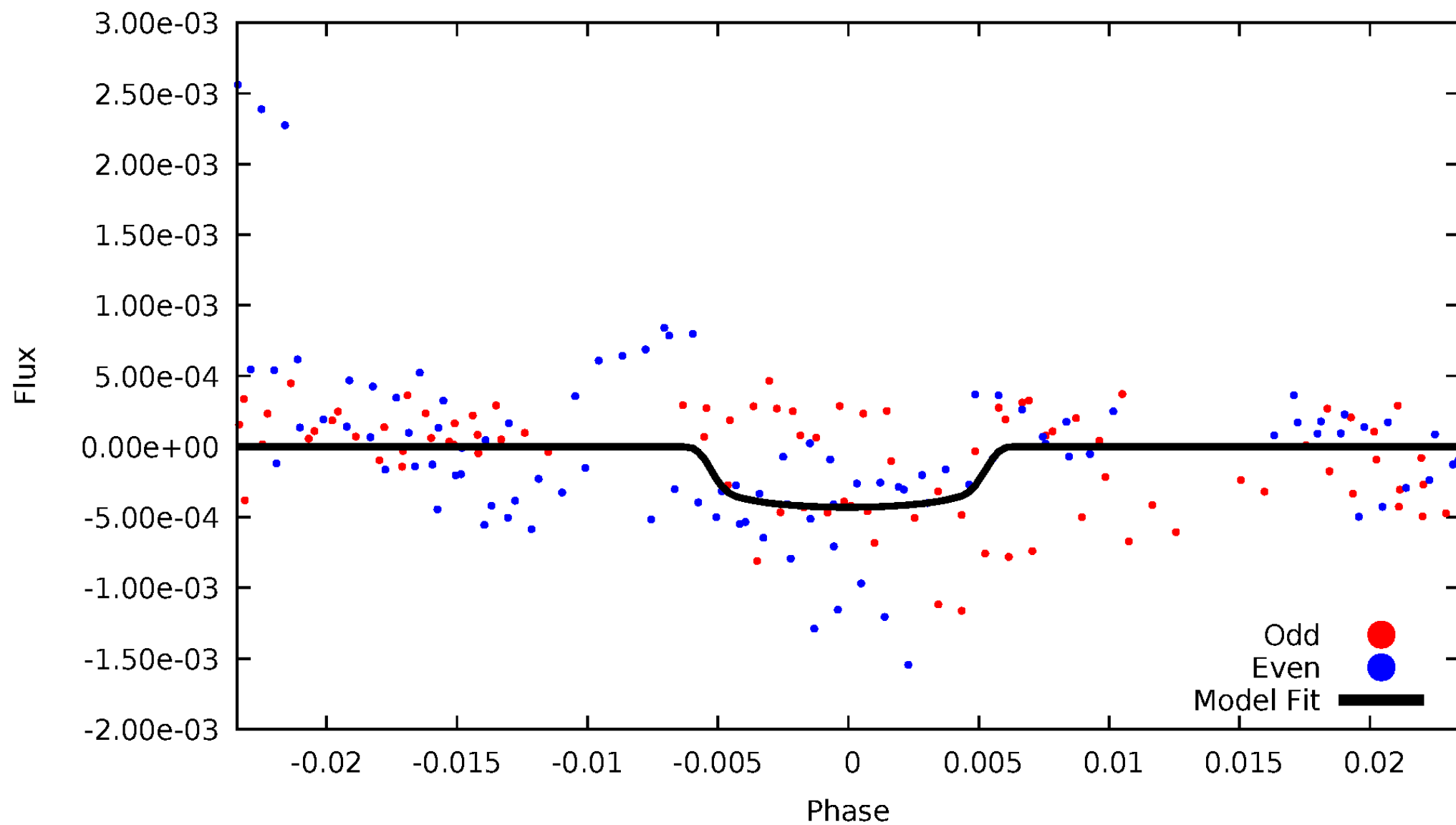


TCE 007698258-04



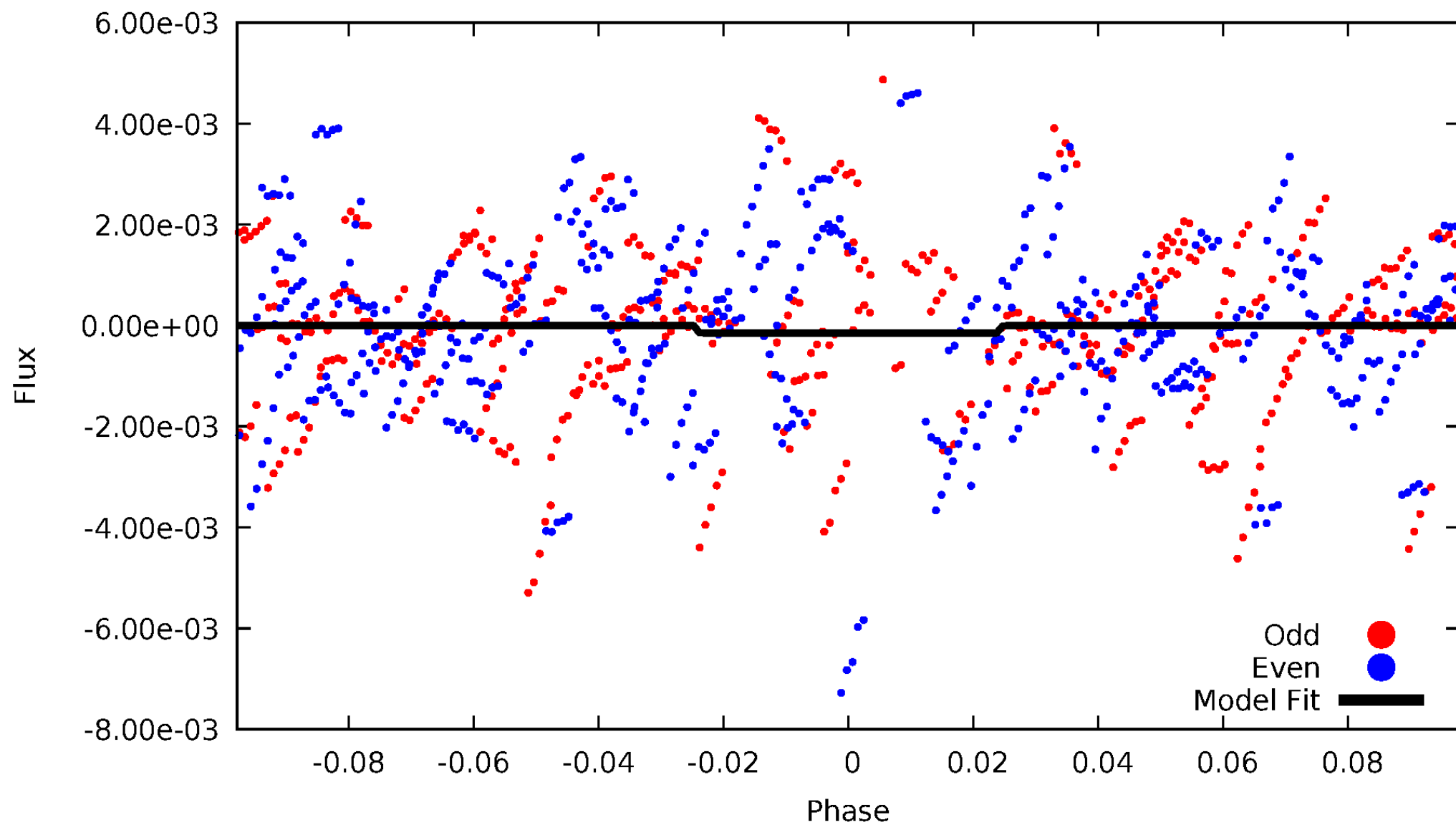
DV Odd/Even

TCE 007698258-04



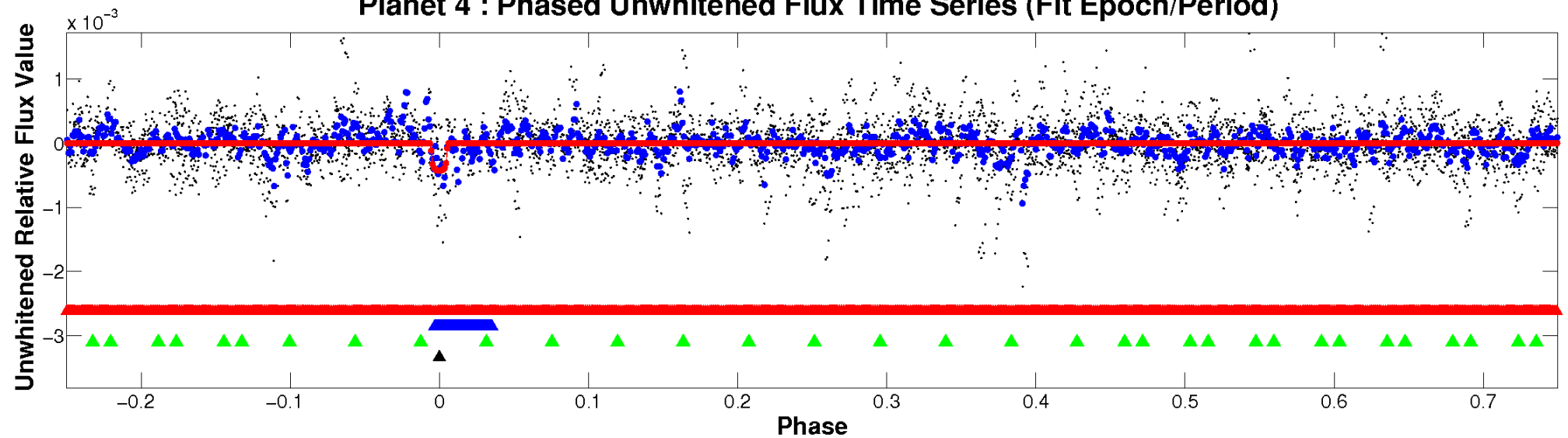
ALT Odd/Even

TCE 007698258-04

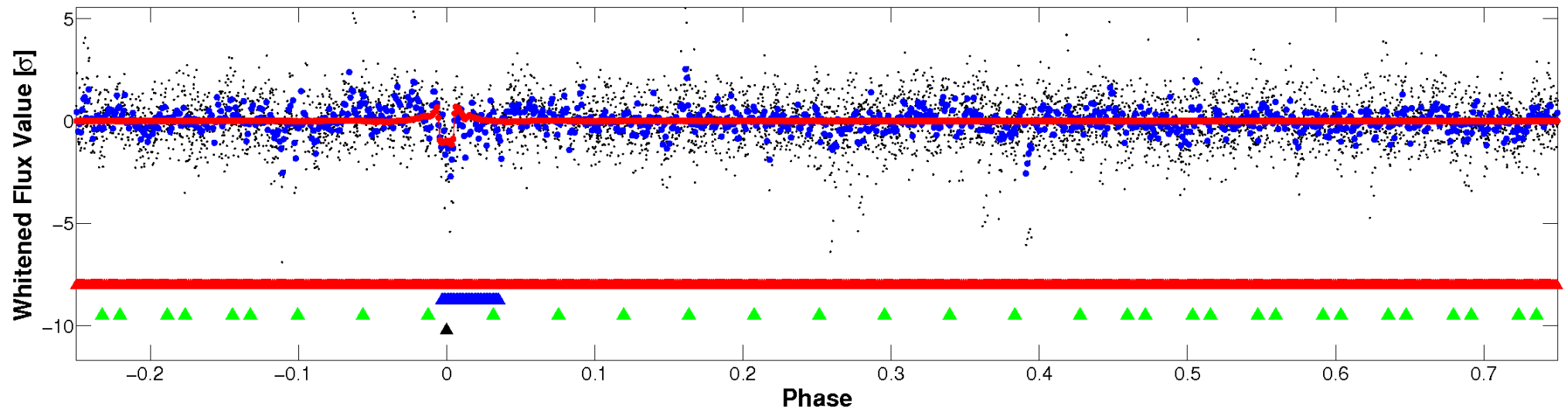


Non-Whitened Vs. Whitened Light Curve

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

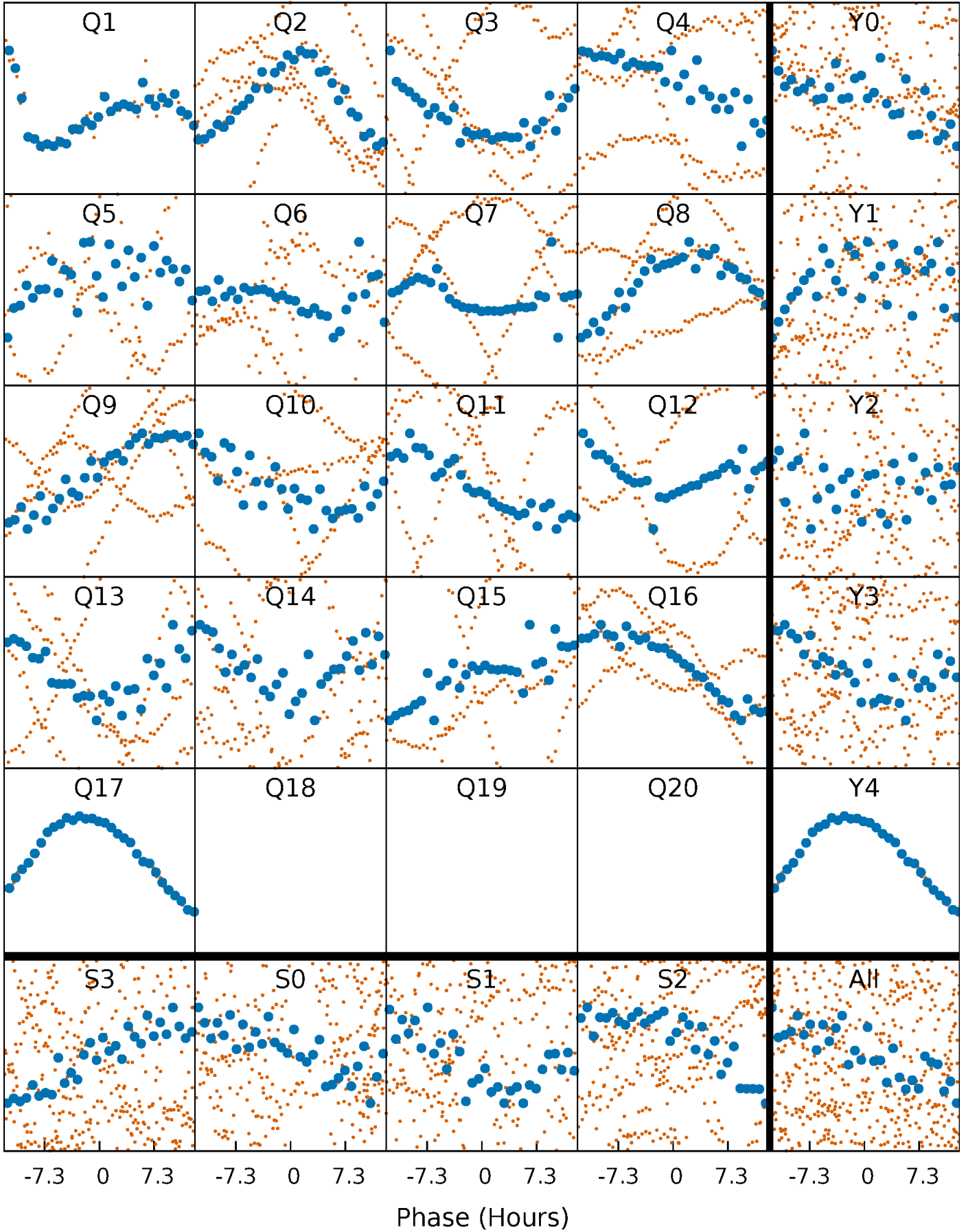


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



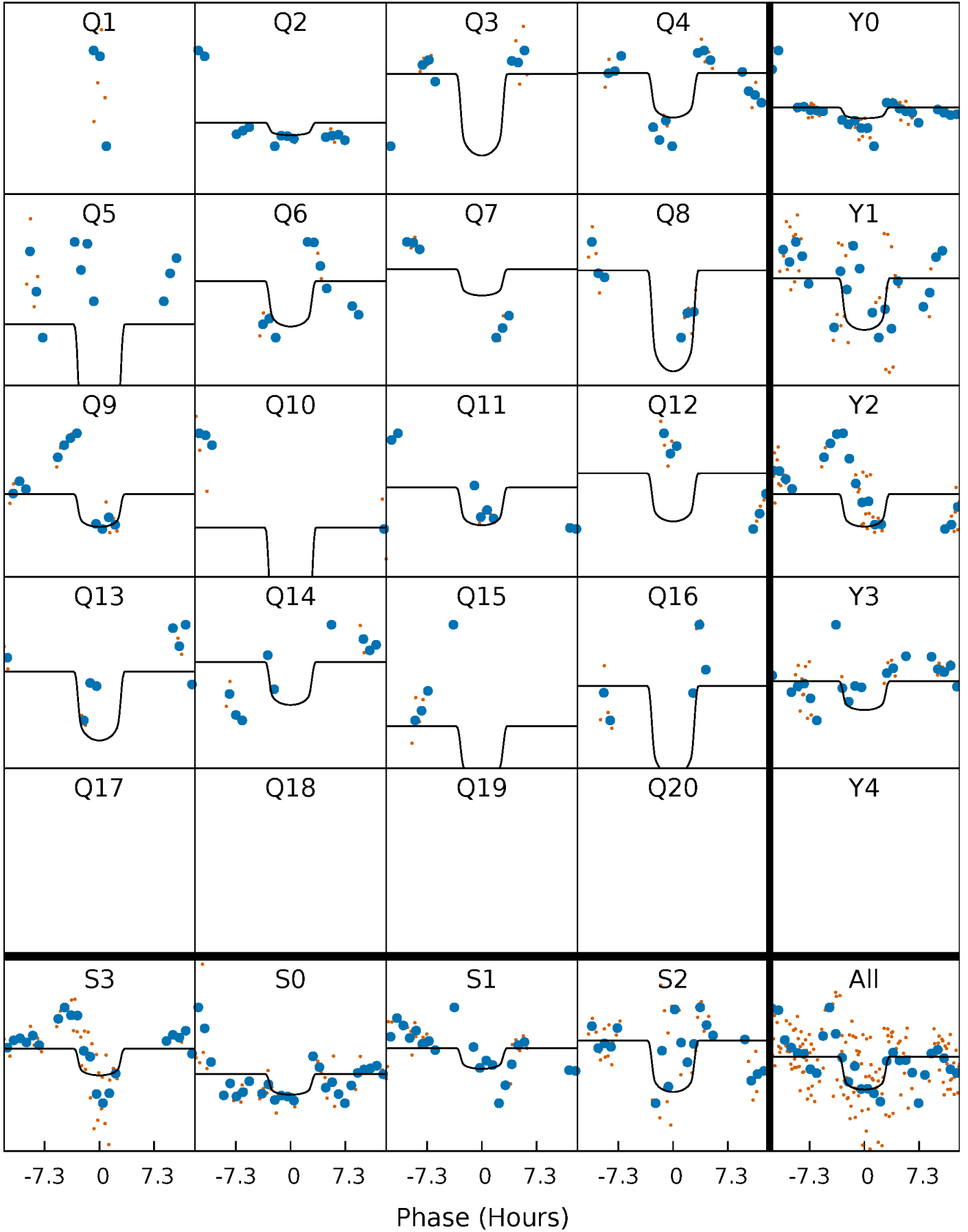
PDC Quarter-Phased Transit Curves

TCE 007698258-04 P= 22.679279 Days $T_0=144.149726$ (BKJD)



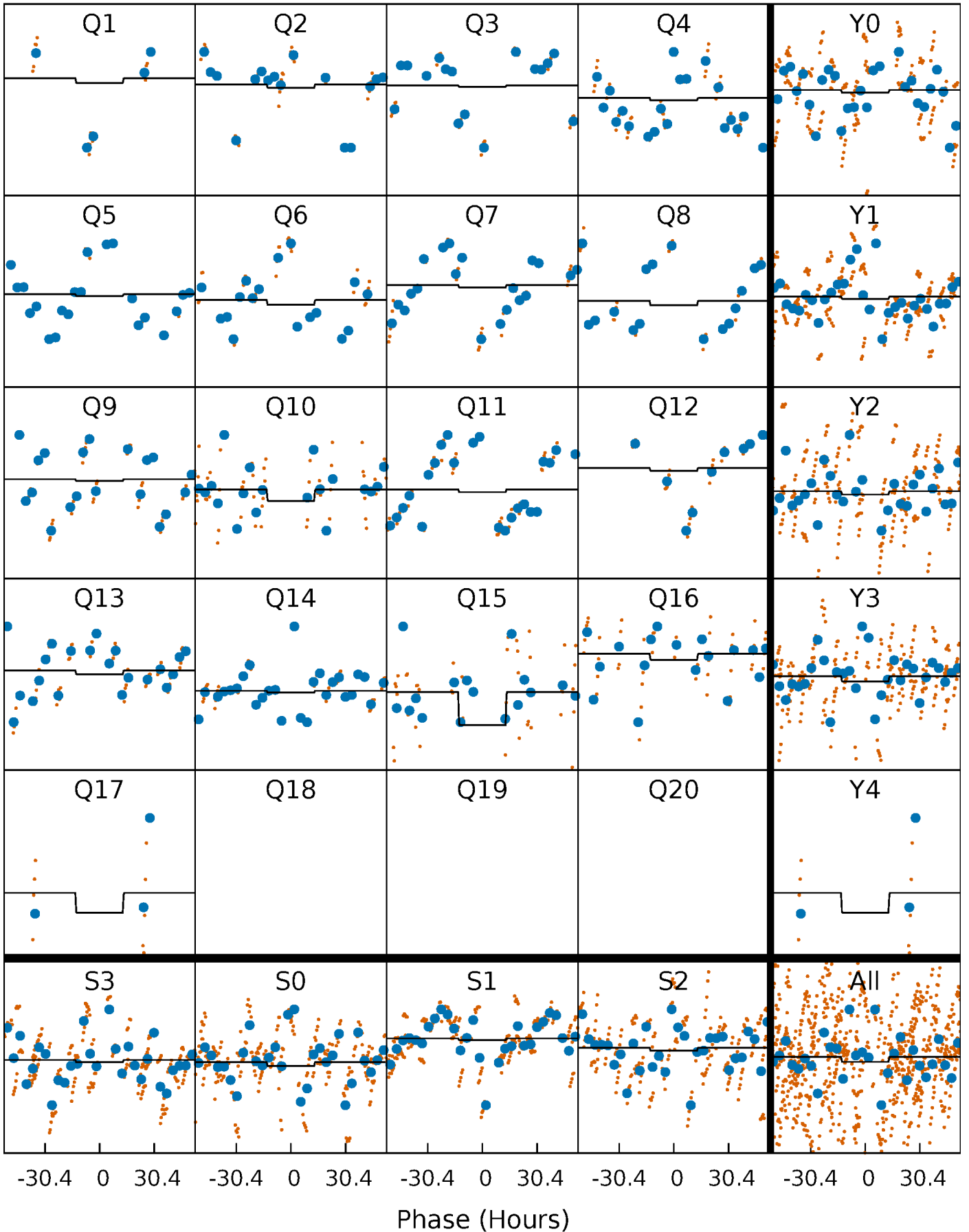
DV Quarter-Phased Transit Curves

TCE 007698258-04 P= 22.679279 Days $T_0=144.149726$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

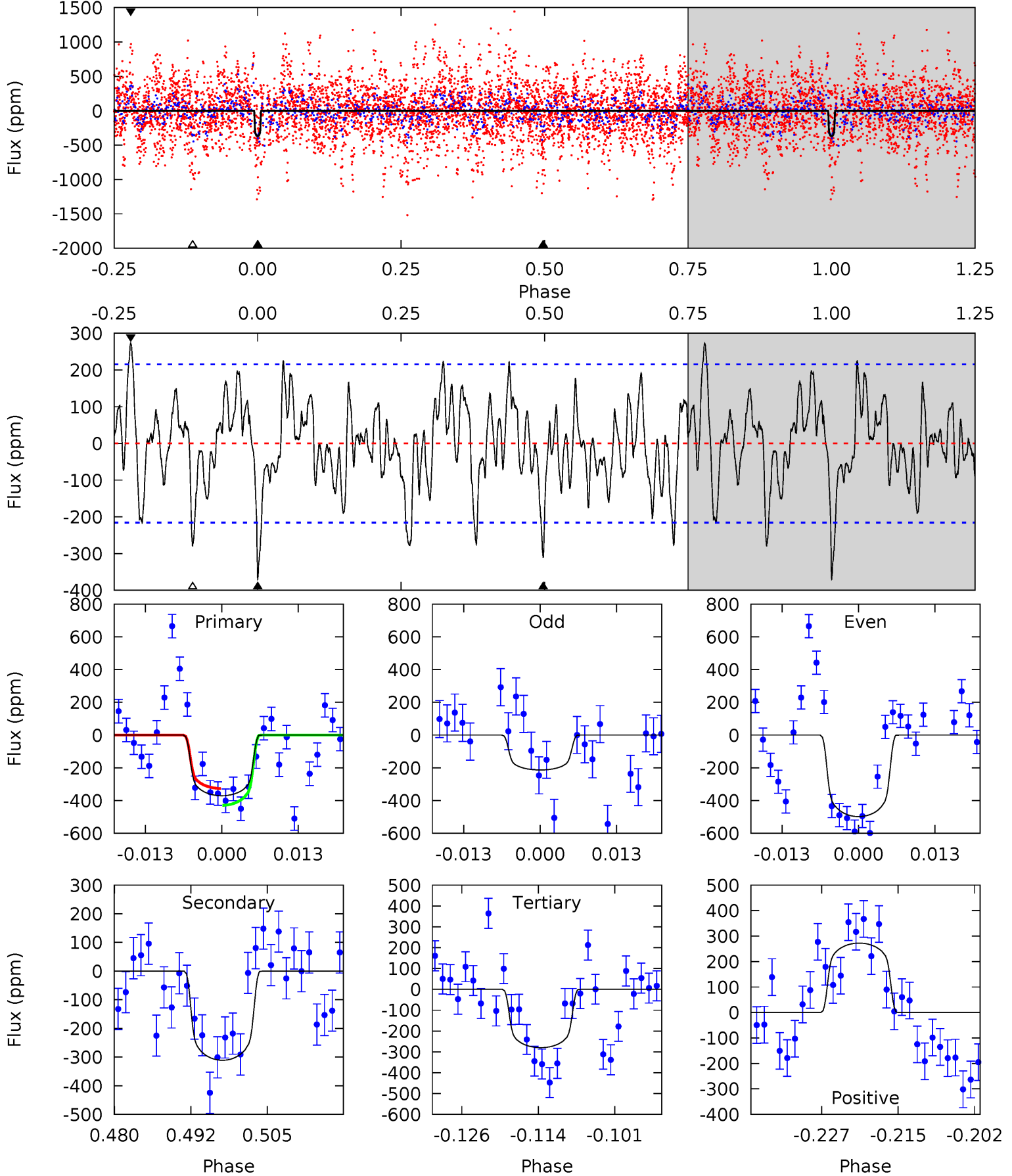
TCE 007698258-04 $P = 22.677357$ Days $T_0 = 144.360090$ (BKJD)



DV Model-Shift Uniqueness Test

007698258-04, P = 22.679279 Days, E = 121.470447 Days

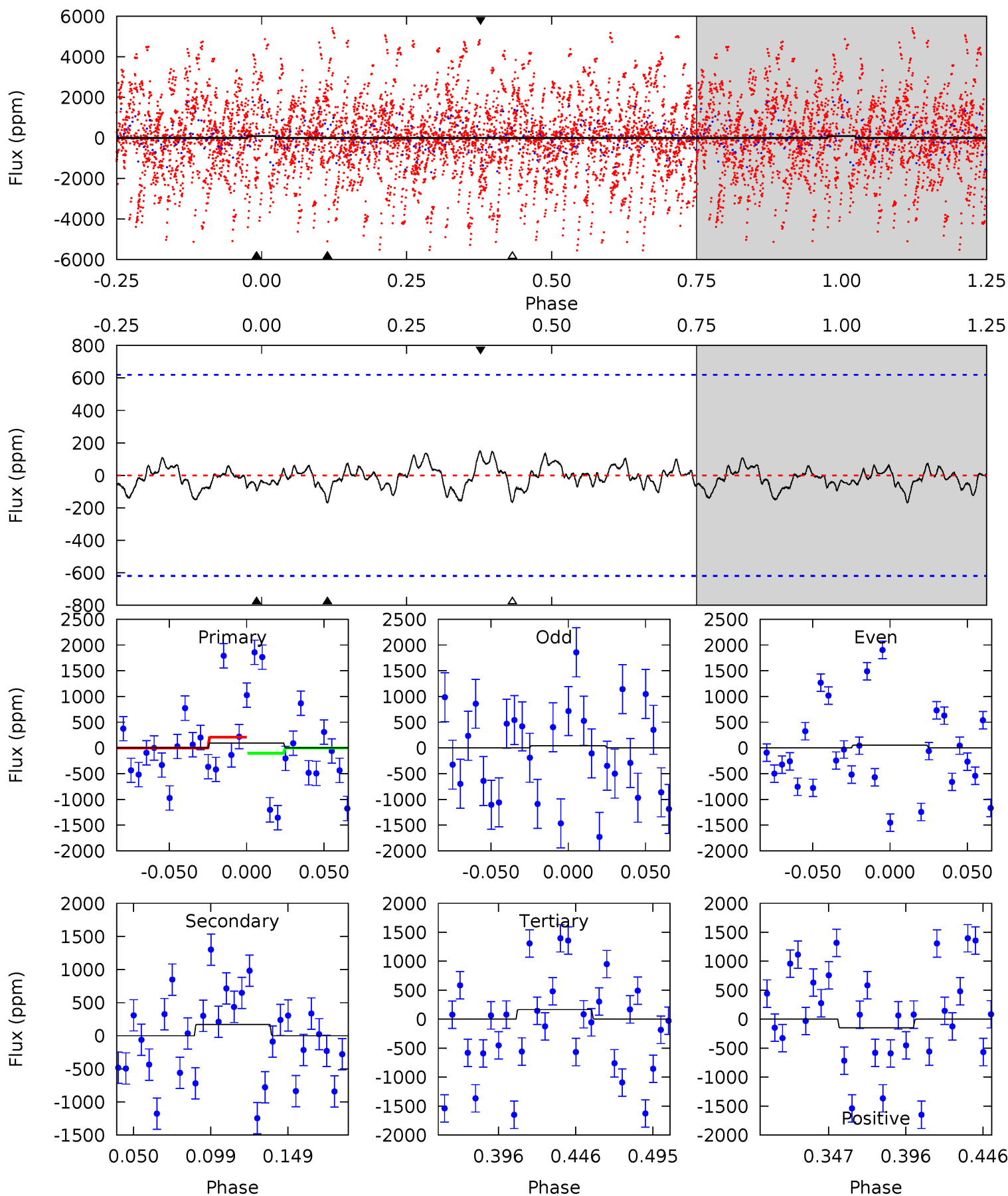
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.57	7.20	6.48	6.30	4.98	2.49	2.35	2.10	2.27	0.72	0.90	3.24	1.12	0.42	1.20



Alt Model-Shift Uniqueness Test

007698258-04, P = 22.677357 Days, E = 121.682733 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.72	1.31	1.26	1.14	4.71	1.96	0.51	-0.53	-0.42	0.05	0.16	0.04	-159.0	0.47	0.38



Stellar Parameters For KIC 007698258

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6184^{+147}_{-202}	$4.448^{+0.052}_{-0.157}$	$-0.060^{+0.250}_{-0.350}$	$1.038^{+0.239}_{-0.119}$	$1.100^{+0.115}_{-0.140}$	$1.387^{+0.384}_{-0.605}$
	+2%/-3%	+1%/-4%	+417%/-583%	+23%/-11%	+10%/-13%	+28%/-44%
Source	PHO1	FLK73	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 007698258-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-311 ± 43	$2.58^{+0.54}_{-0.51}$	980^{+58}_{-42}	5538^{+587}_{-441}	661^{+366}_{-221}
Alt.	-172 ± 131	$1.41^{+0.46}_{-0.44}$	981^{+51}_{-44}	6346^{+1940}_{-1789}	1165^{+1845}_{-899}

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 $A_{obs} \gg 1.0$

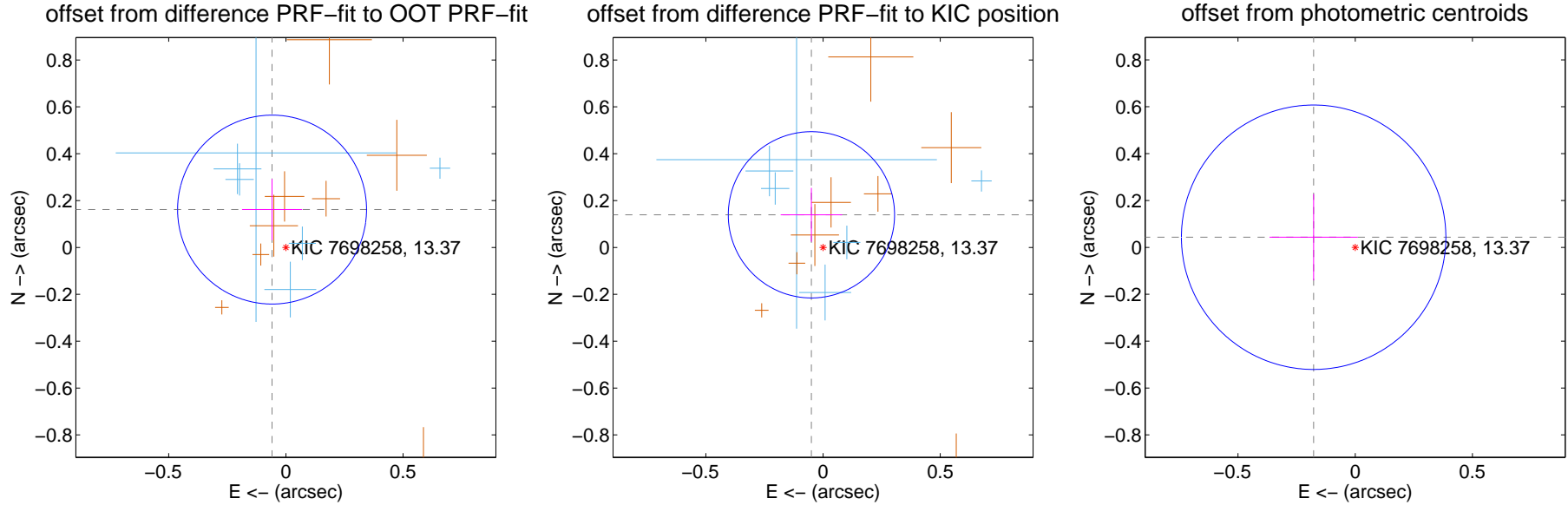
DV Centroid Data

Supplemental centroid analysis for 007698258-04. Kepler magnitude: 13.37. Transit SNR 7.92

There are 8 quarters with good PRF difference image offsets

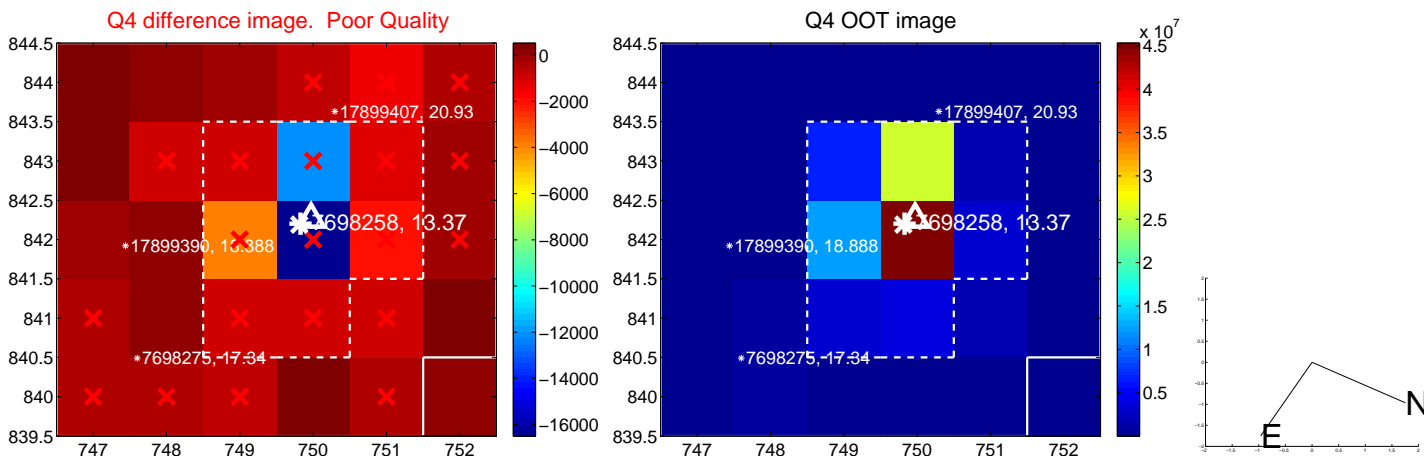
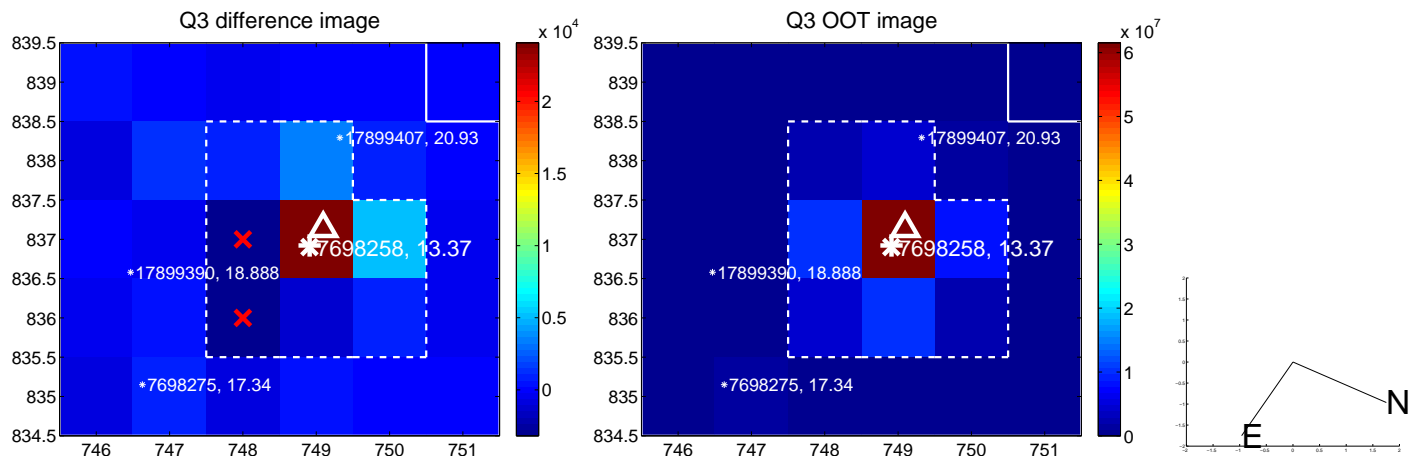
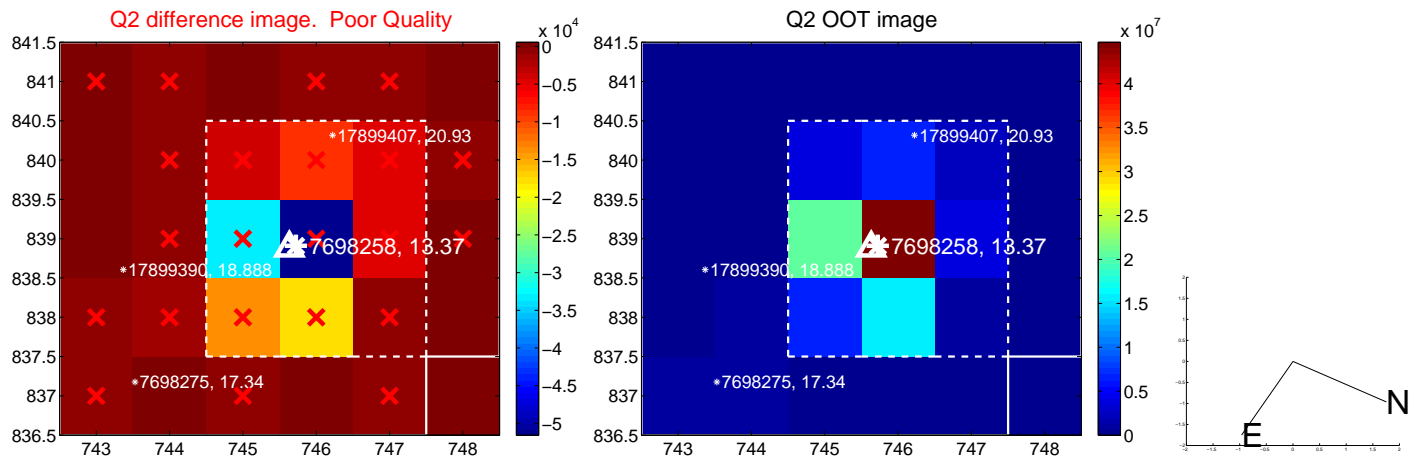
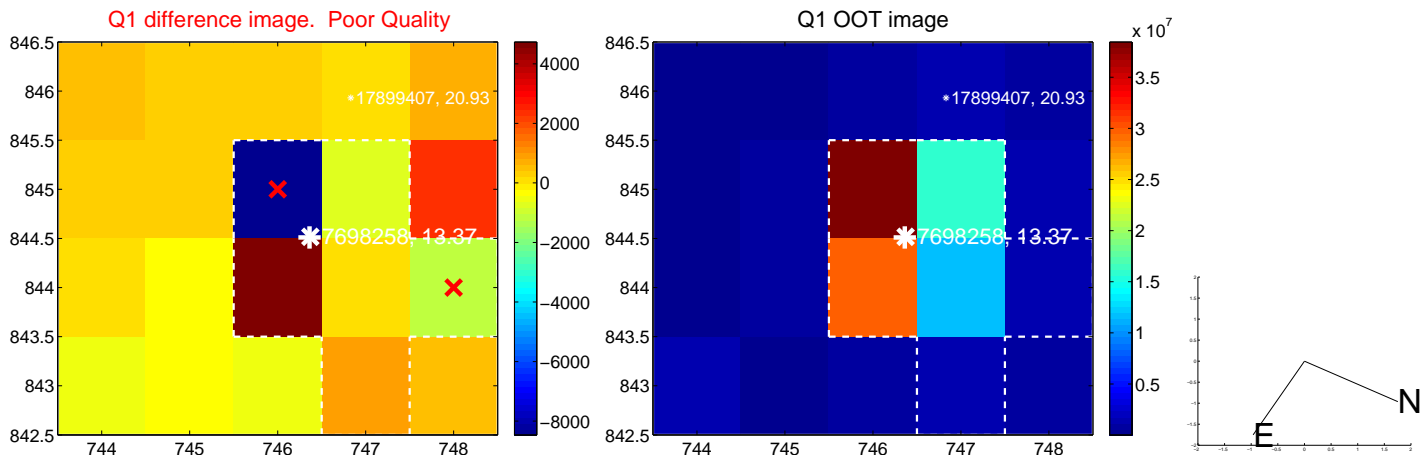
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.172 ± 0.134	1.28	0.059 ± 0.128	0.162 ± 0.130
PRF-fit source offset from KIC position	0.148 ± 0.118	1.25	0.050 ± 0.131	0.139 ± 0.115
photometric centroid source offset	0.18 ± 0.19	0.97	0.18 ± 0.19	0.04 ± 0.18

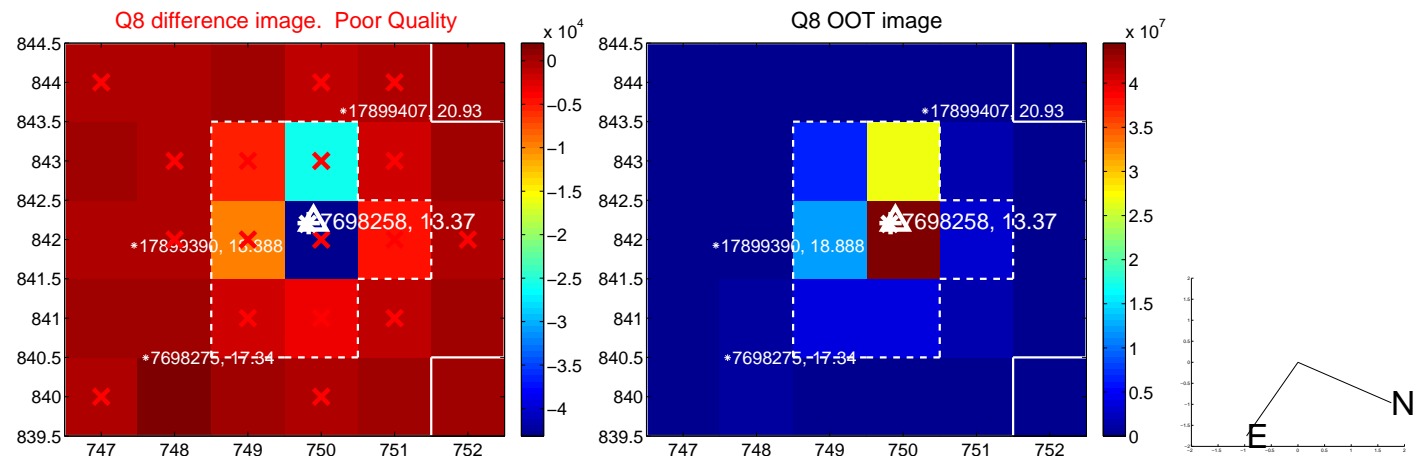
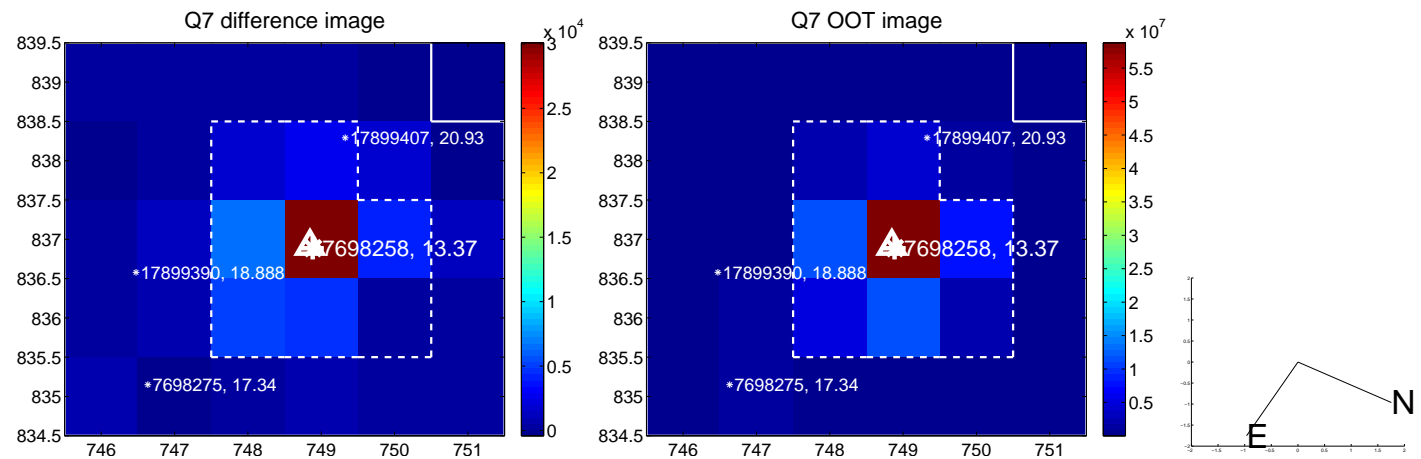
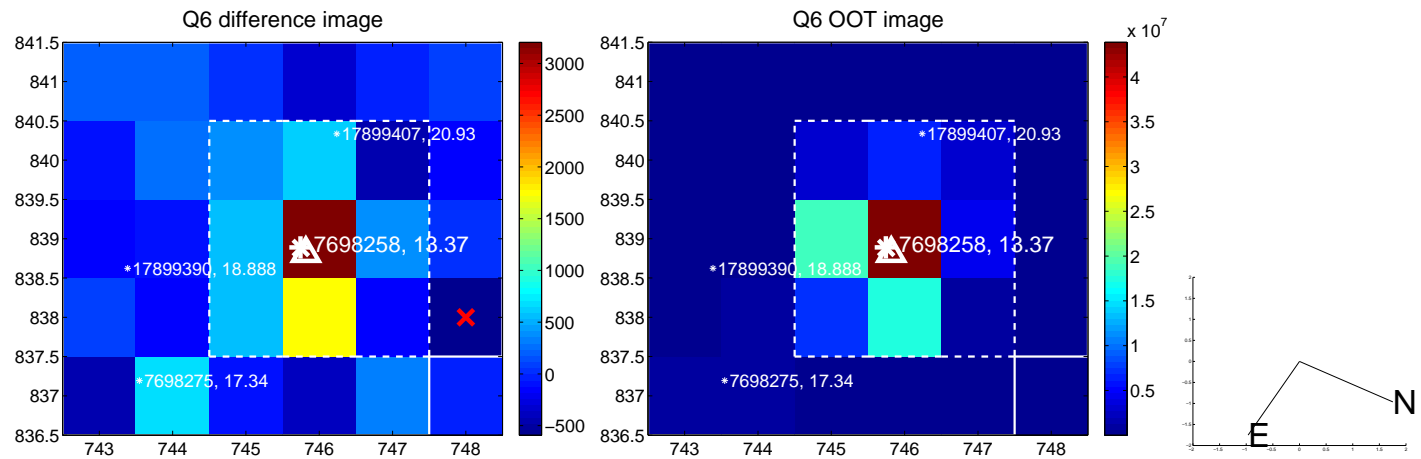
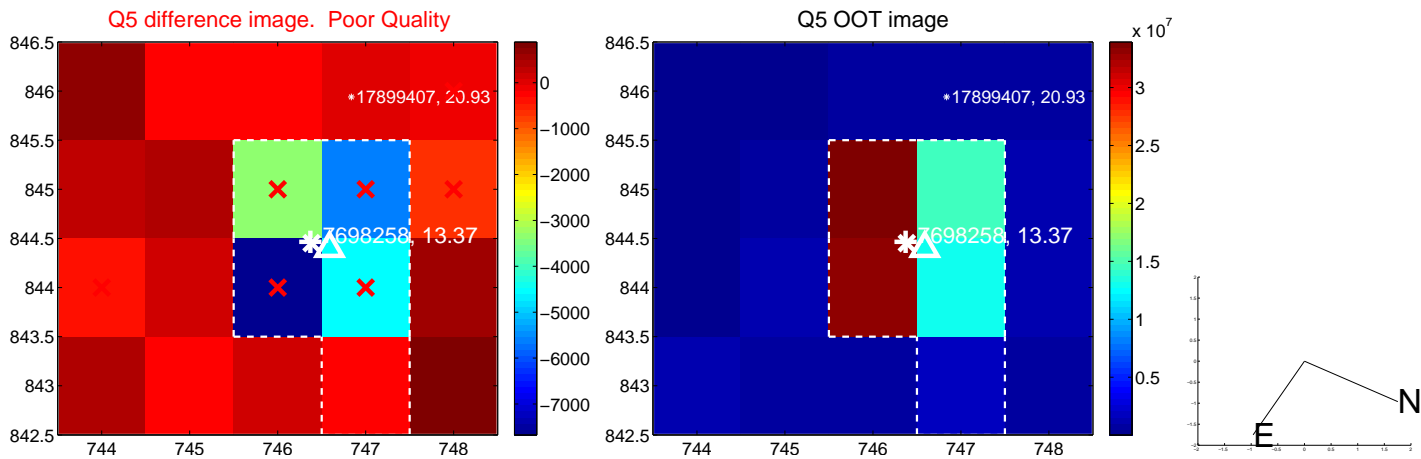


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

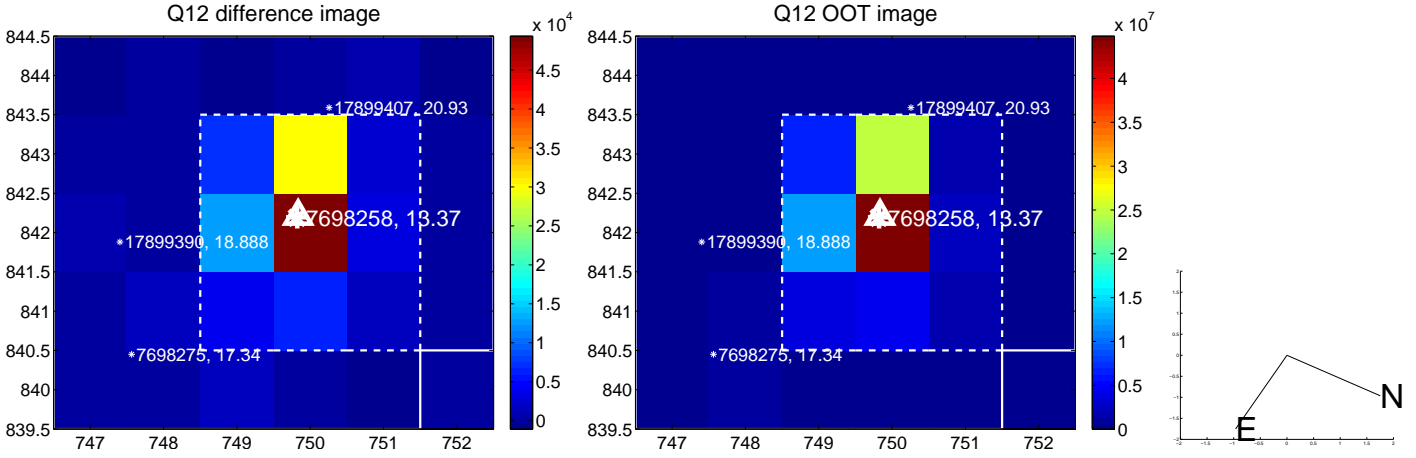
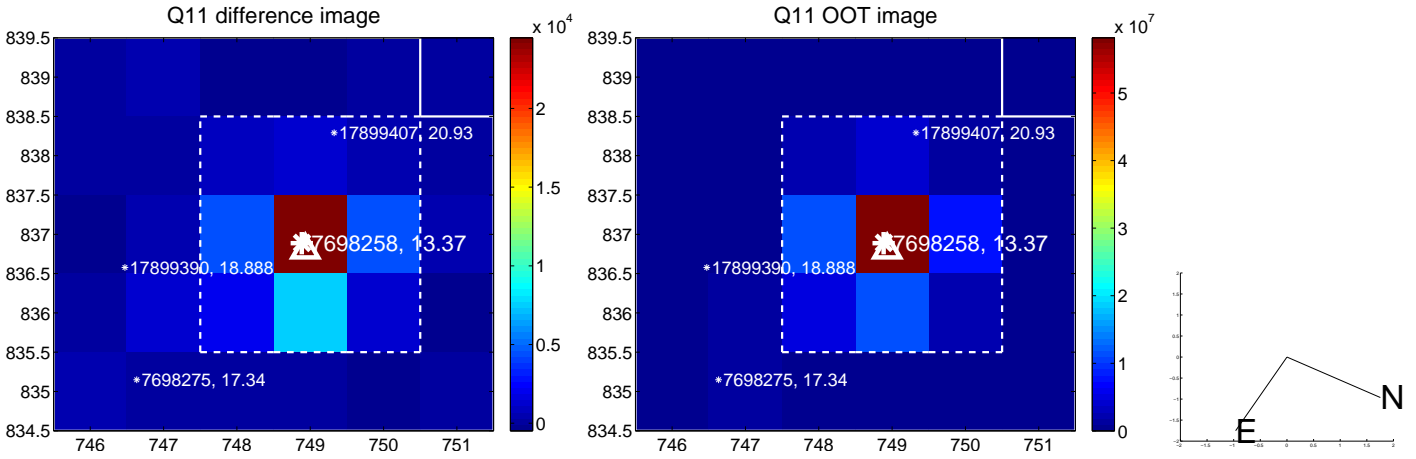
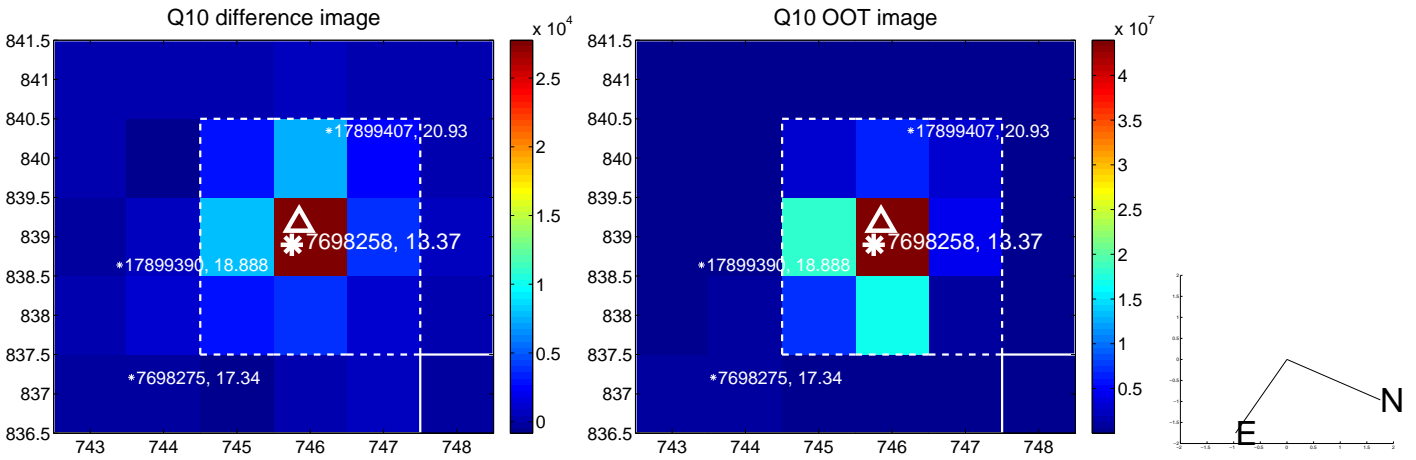
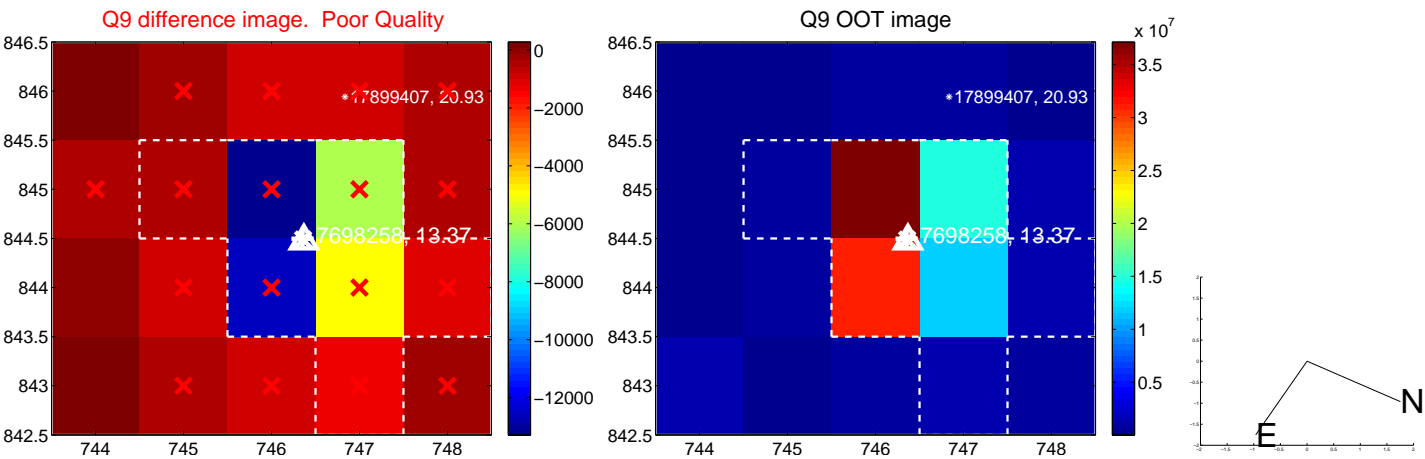
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



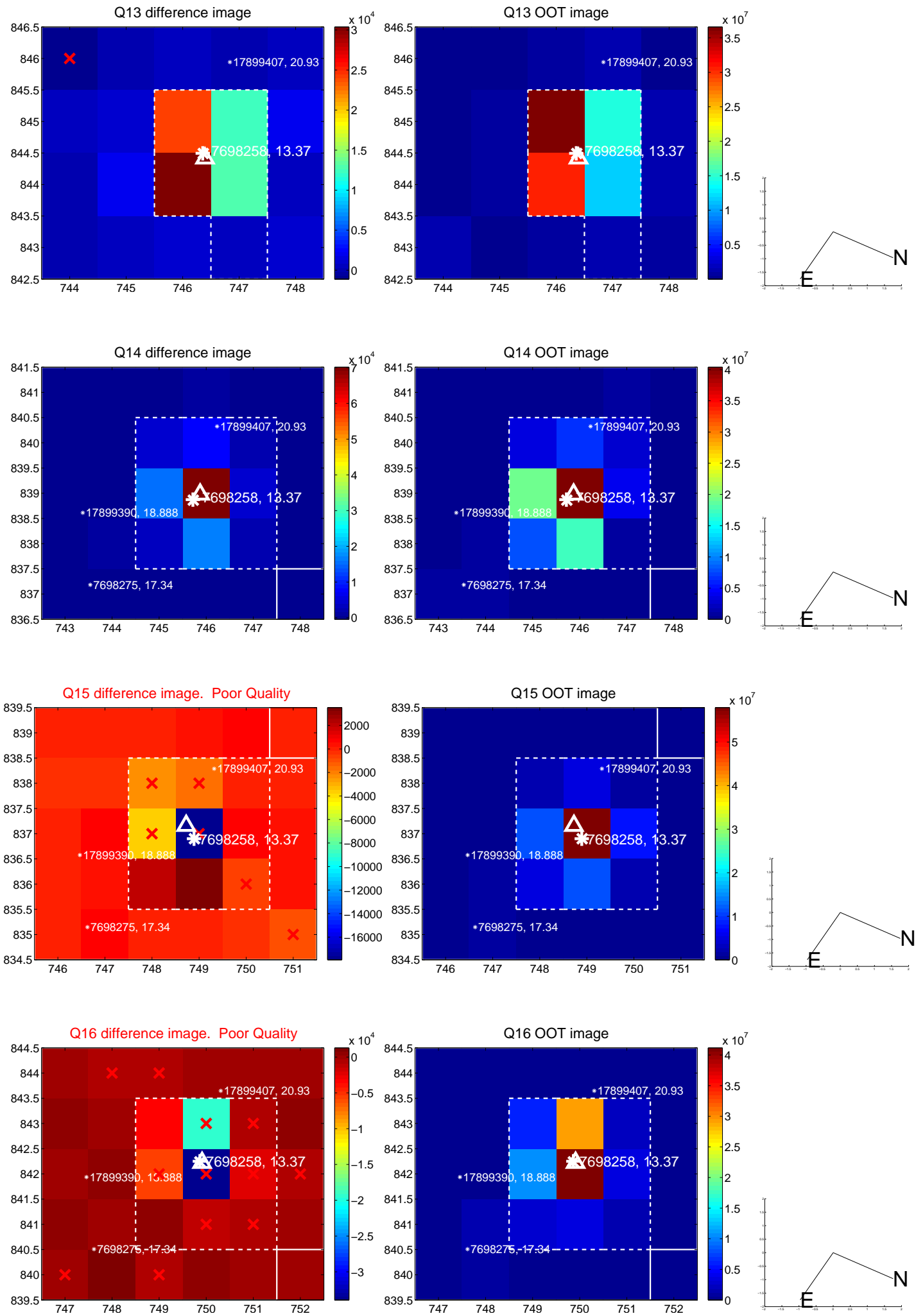
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



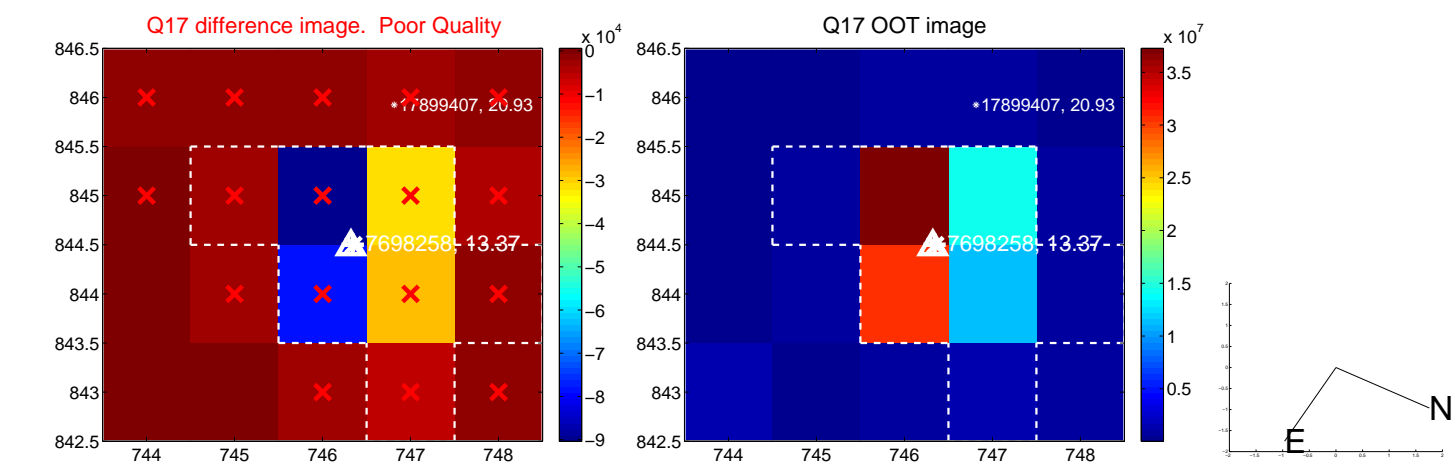
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



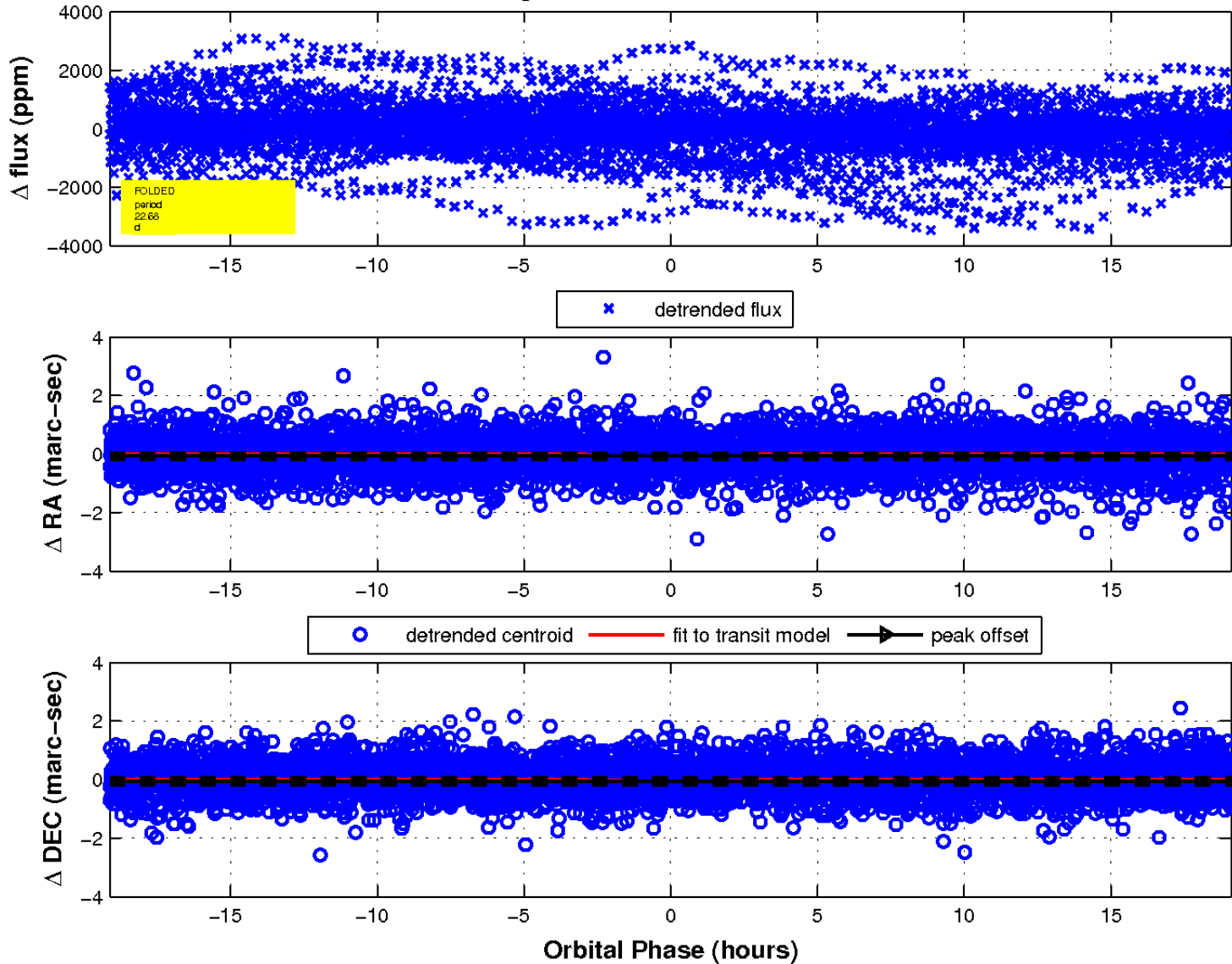
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 4 of 4



UKIRT Image

