

KIC 008198031

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})
008198031-01	OBS	No	0.661033	131.624513	0.0	4.493	9.7	0.0	1.56	7563	0.01	24484.94
008198031-02	OBS	No	37.757658	147.156954	195.7	18.674	10.0	1.5	1.56	7563	2.38	111.31
008198031-03	OBS	No	94.997100	143.814118	2872.3	3.583	11.4	8.6	1.56	7563	8.61	32.53
008198031-05	OBS	No	46.800903	141.824352	949.0	2.535	7.8	3.8	1.56	7563	5.06	83.60
008198031-06	OBS	No	20.264628	137.190330	725.6	1.863	7.9	4.0	1.56	7563	4.67	255.20
008198031-07	OBS	No	45.219461	134.575669	2181.5	3.114	11.8	7.1	1.56	7563	13.21	87.52
008198031-08	OBS	No	43.086319	153.126624	961.3	1.500	10.8	-1.0	1.56	7563	4.92	93.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008198031-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008198031-02	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV
008198031-05	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
008198031-06	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

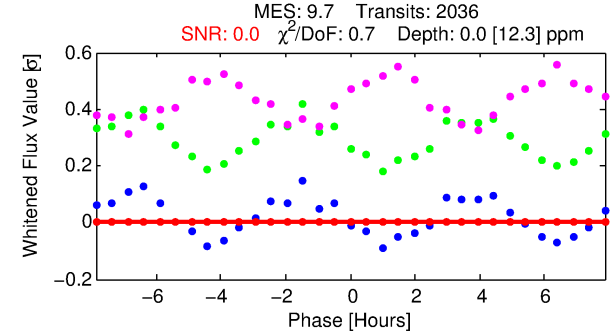
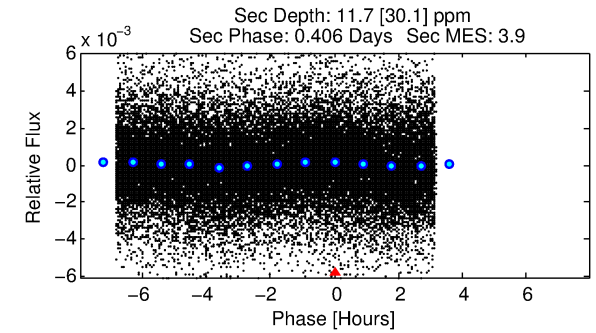
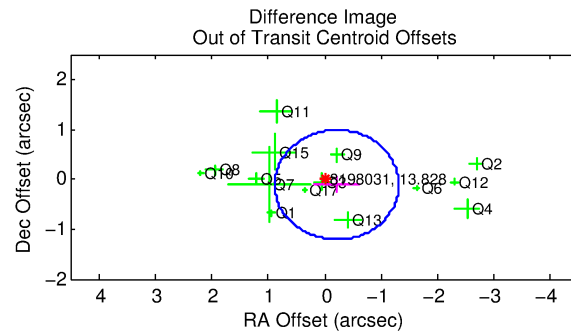
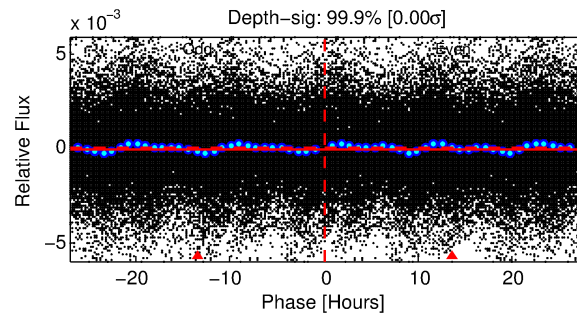
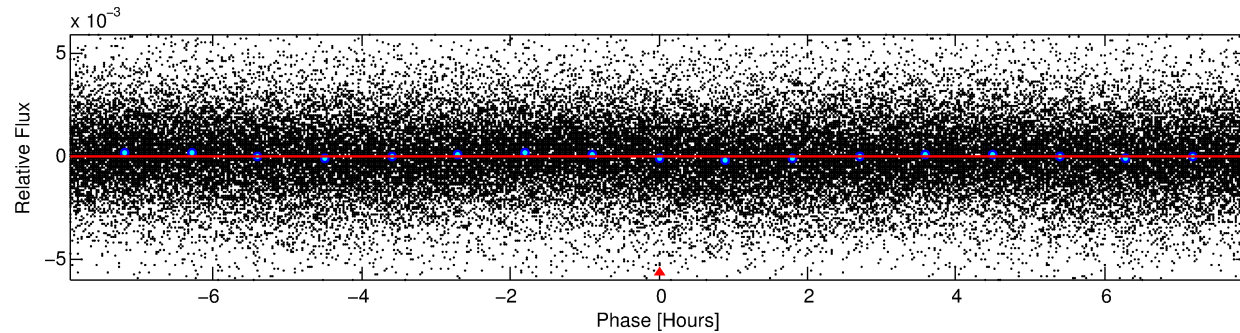
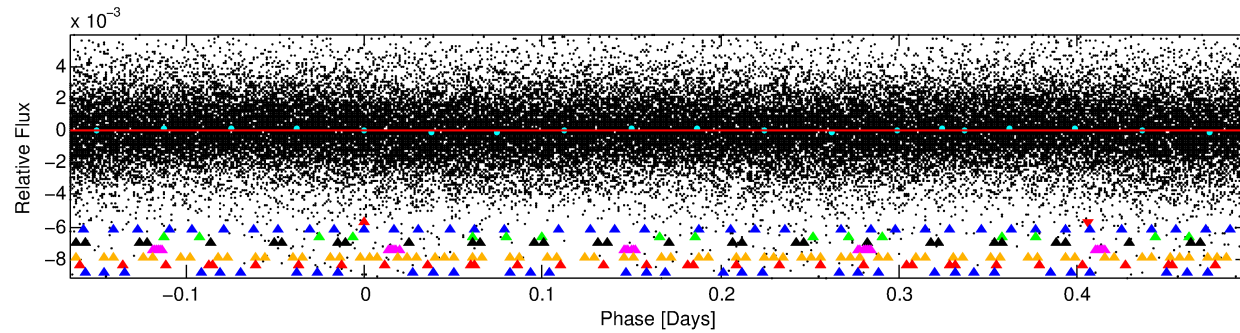
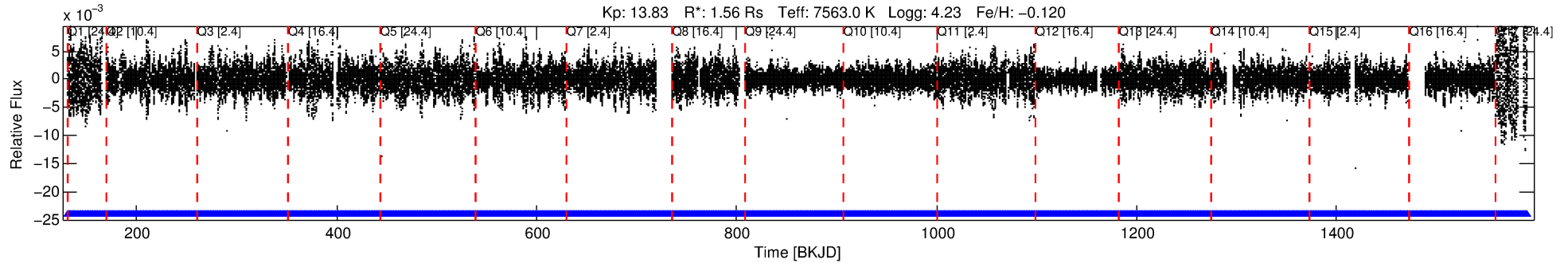
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008198031-01

No Significant Match Found

DV One-Page Summary

KIC: 8198031 Candidate: 1 of 8 Period: 0.661 d



DV Fit Results:

Period = 0.66103 [0.38042] d
Epoch = 131.6245 [53.4901] BKJD
Rp/R* = 0.0000 [0.1130]
a/R* = 1.27 [322.27]
b = 0.25 [2546.14]
Seff = 24484.94 [21509.97]
Teq = 3190 [701] K
Rp = 0.01 [19.20] Re
a = 0.0170 [0.0081] AU
Ag = 28396.67 [134175171.34] [0.00 σ]
Teffp = 64019 [75630378] K [0.00 σ]

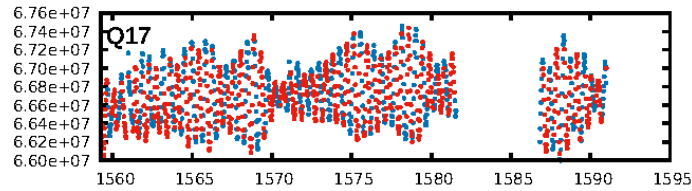
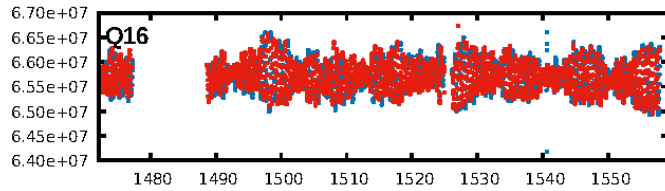
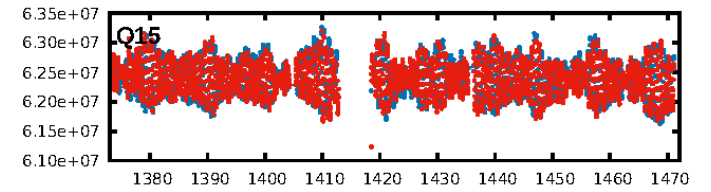
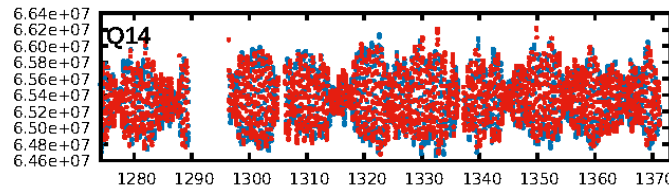
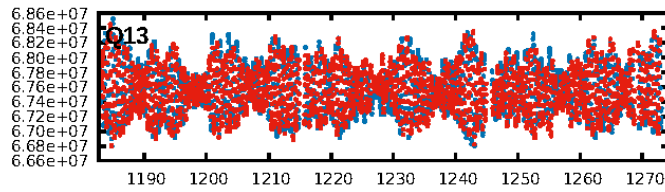
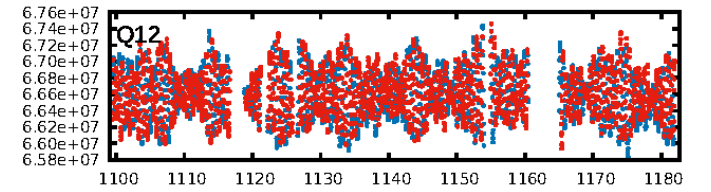
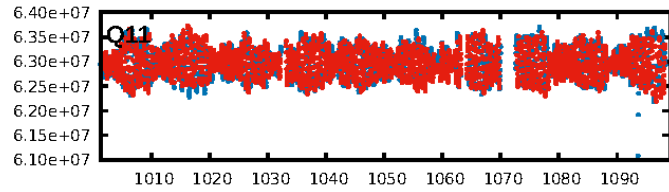
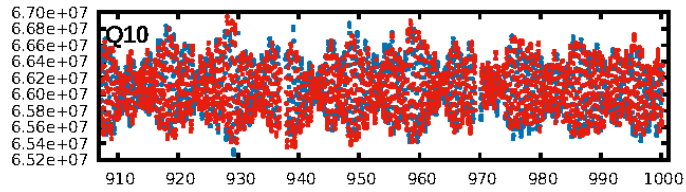
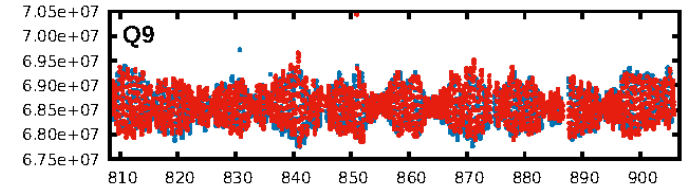
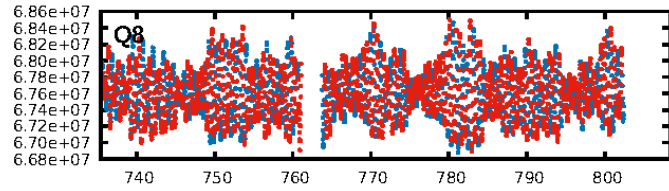
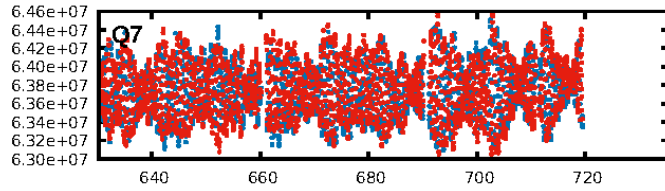
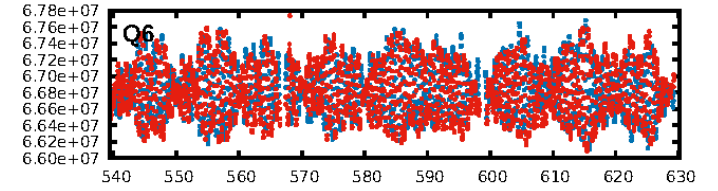
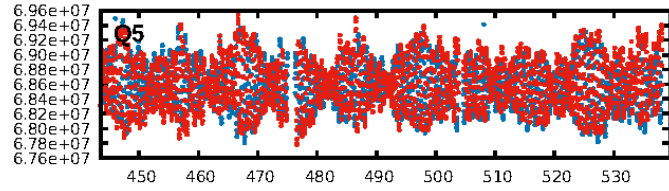
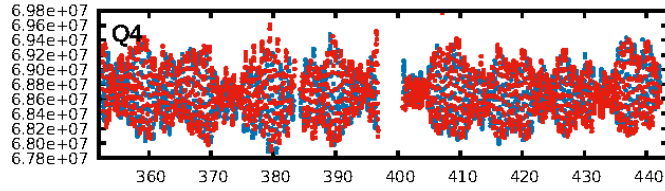
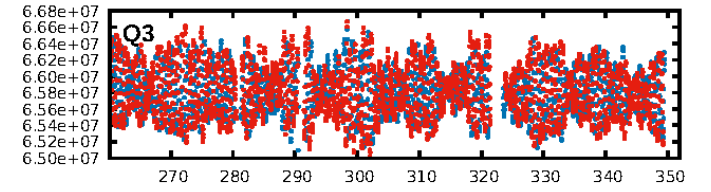
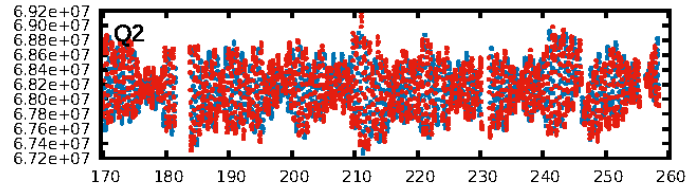
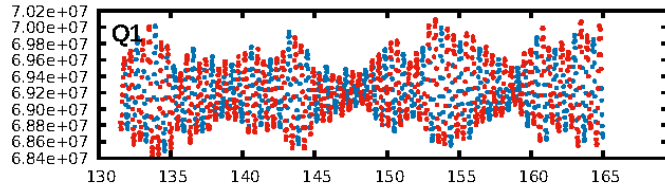
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [96.73 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1945/1945]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.241 arcsec [0.66 σ]
KicOffset-rm: 0.308 arcsec [0.84 σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 1.00 [17/17]

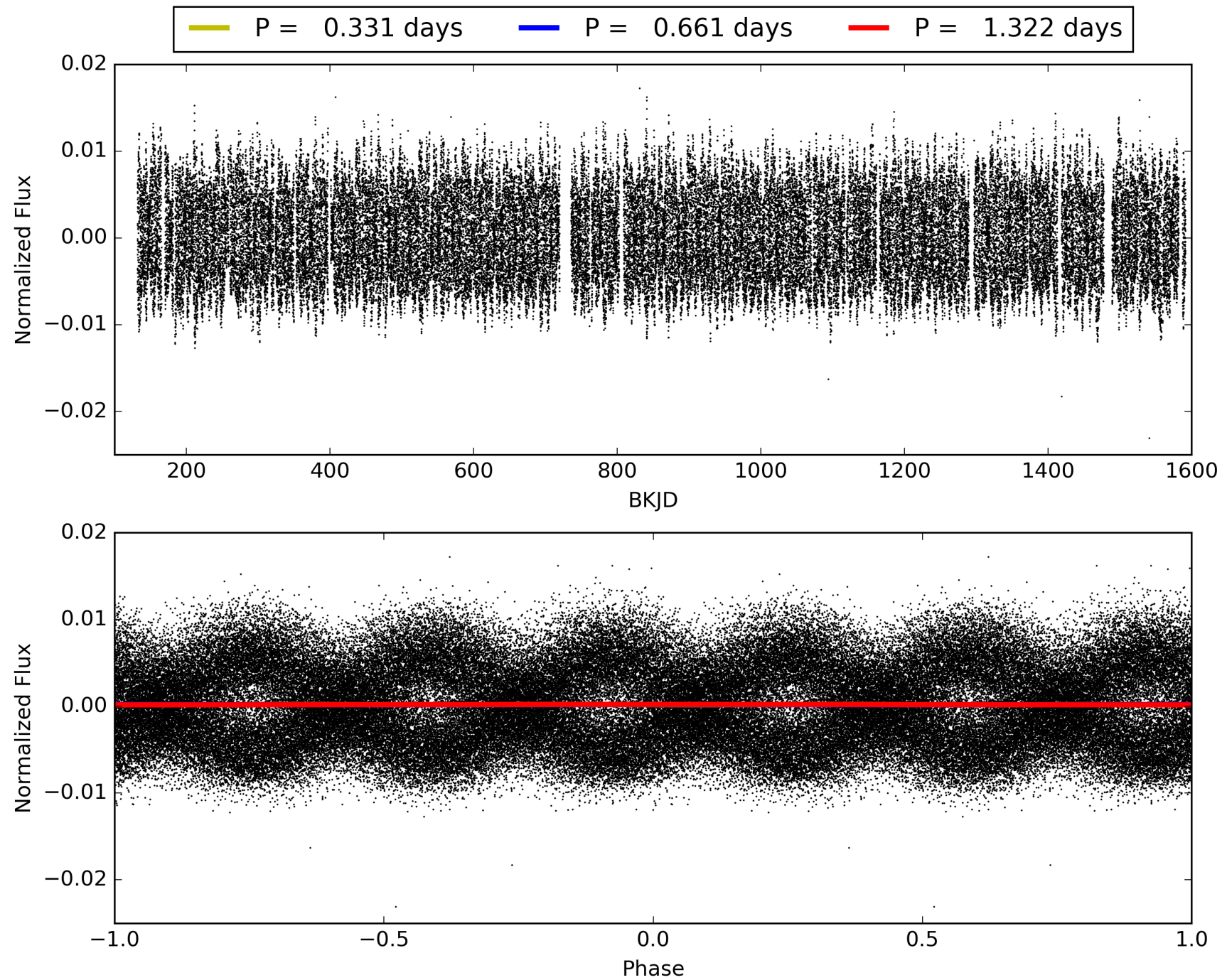
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008198031-01, PDC Light Curves

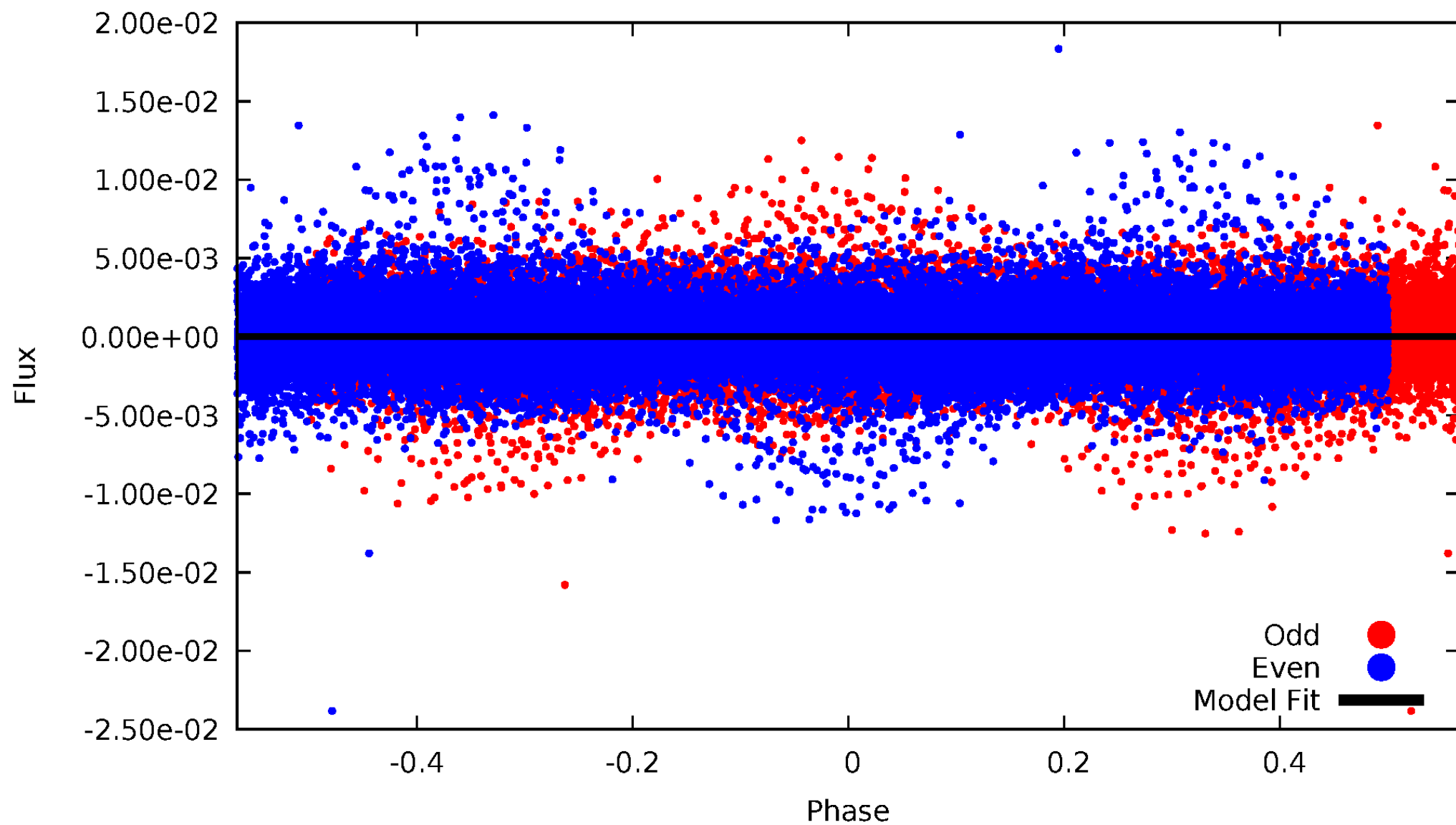


TCE 008198031-01



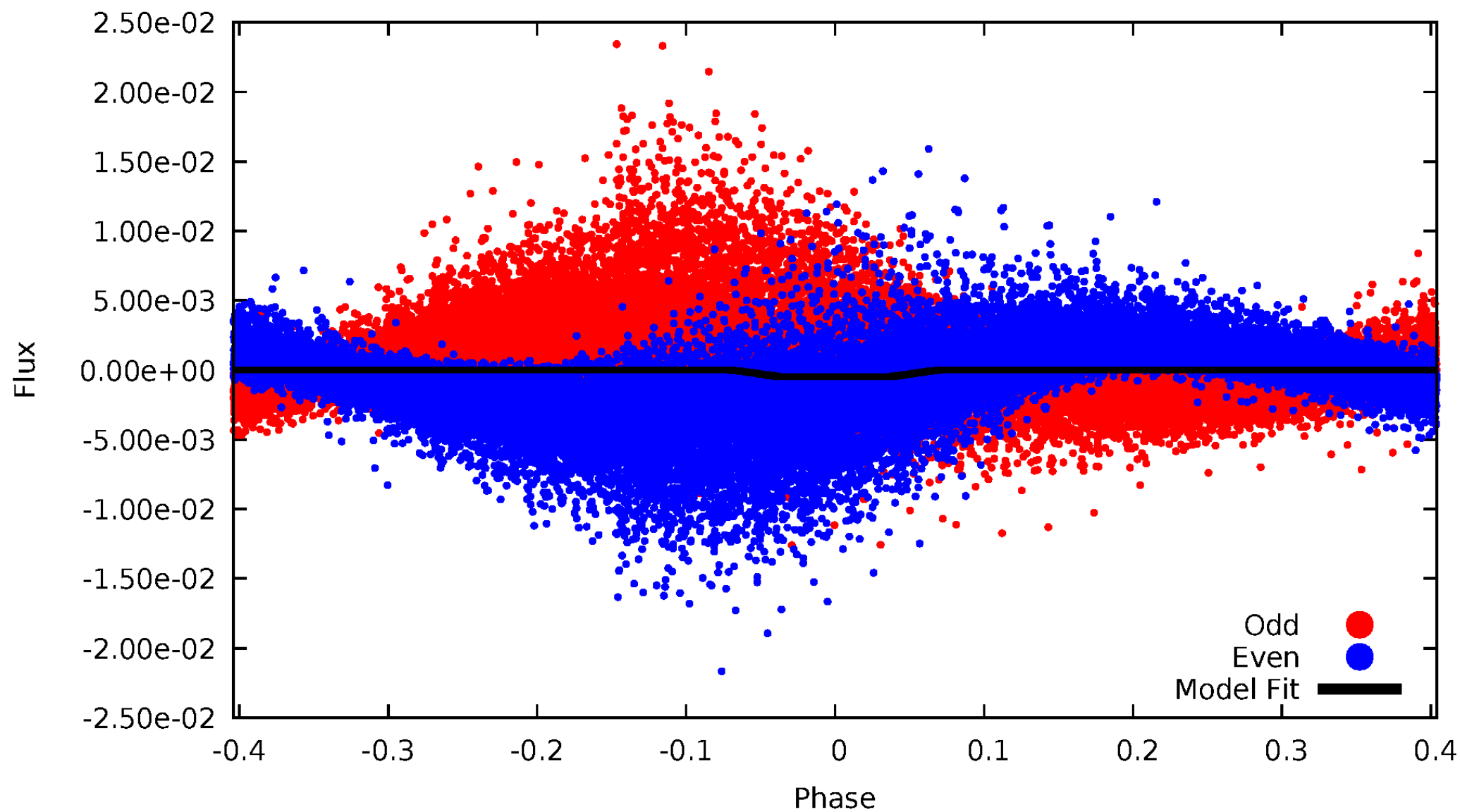
DV Odd/Even

TCE 008198031-01



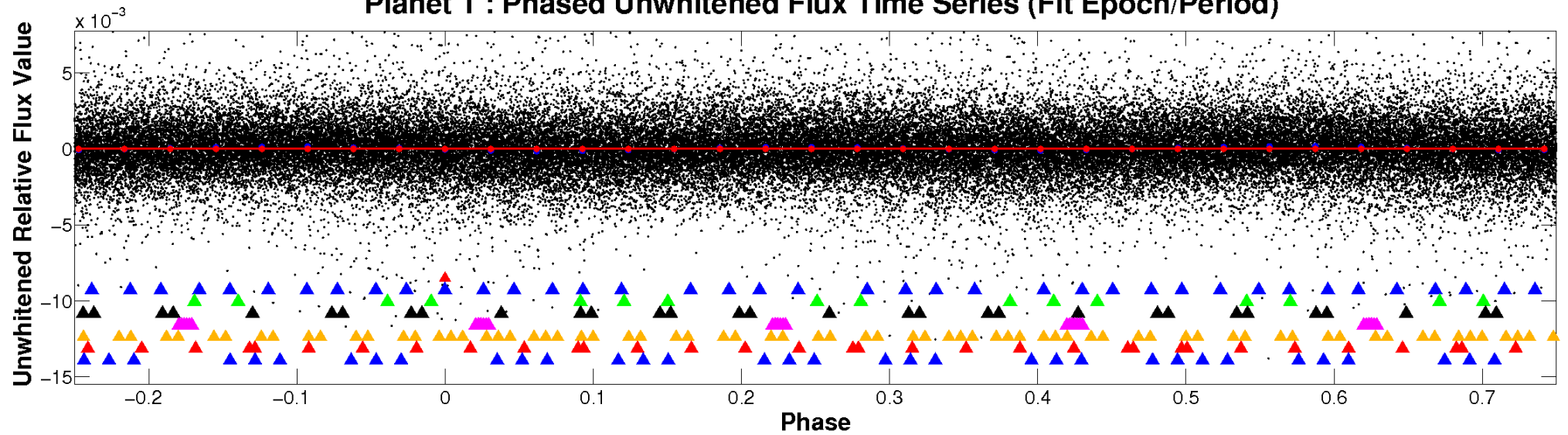
ALT Odd/Even

TCE 008198031-01

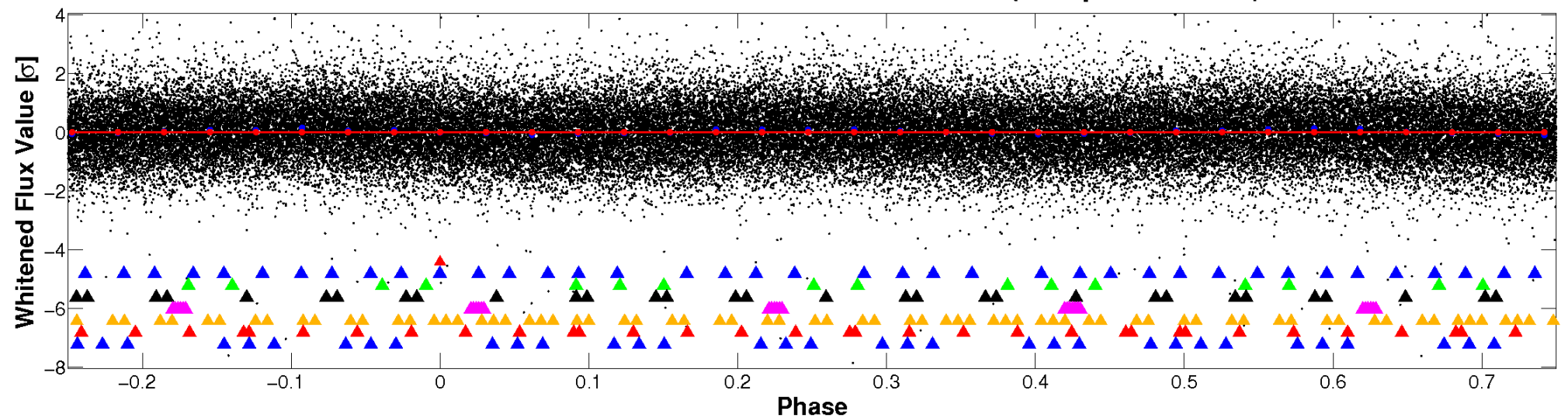


Non-Whitened Vs. Whitened Light Curve

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

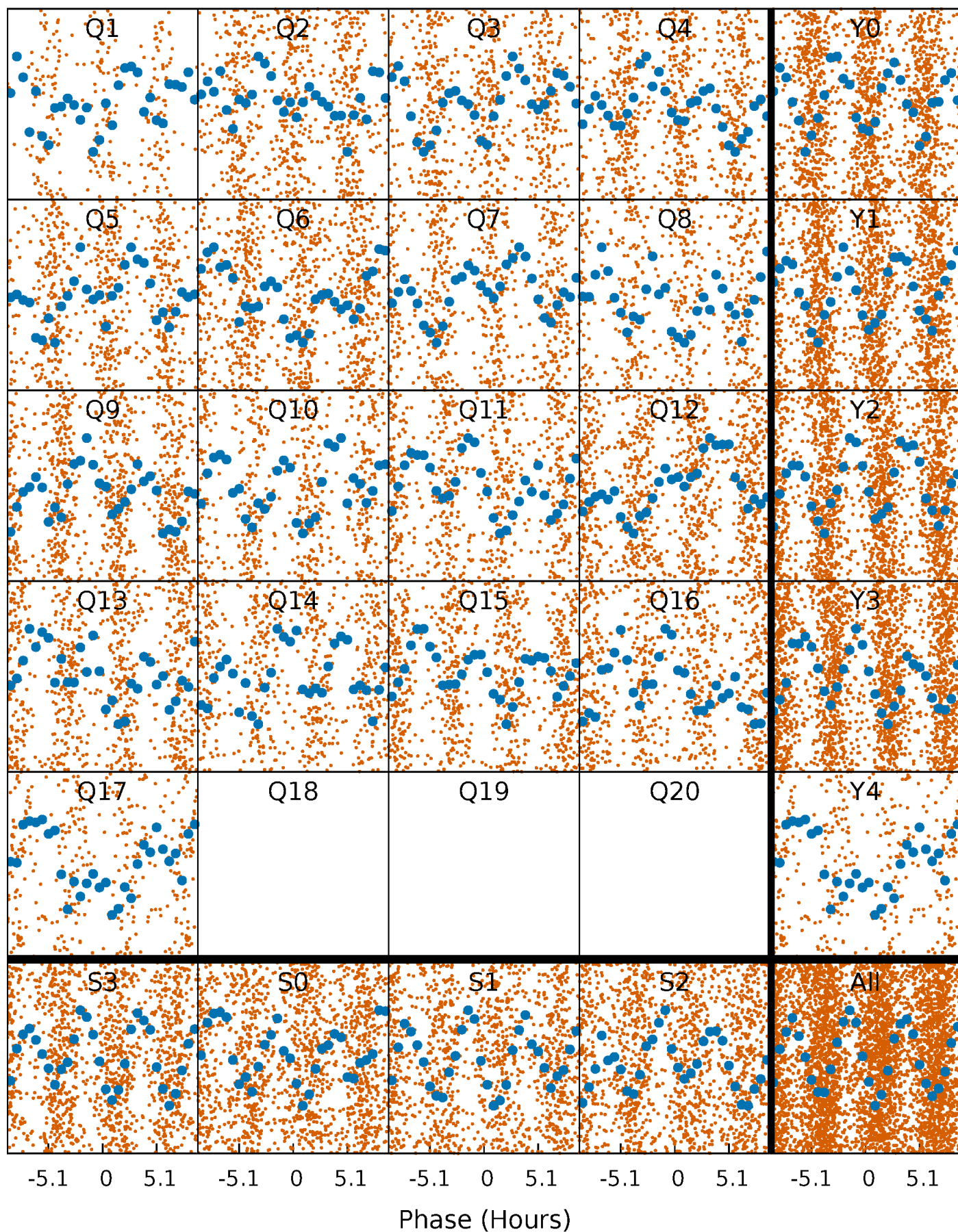


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



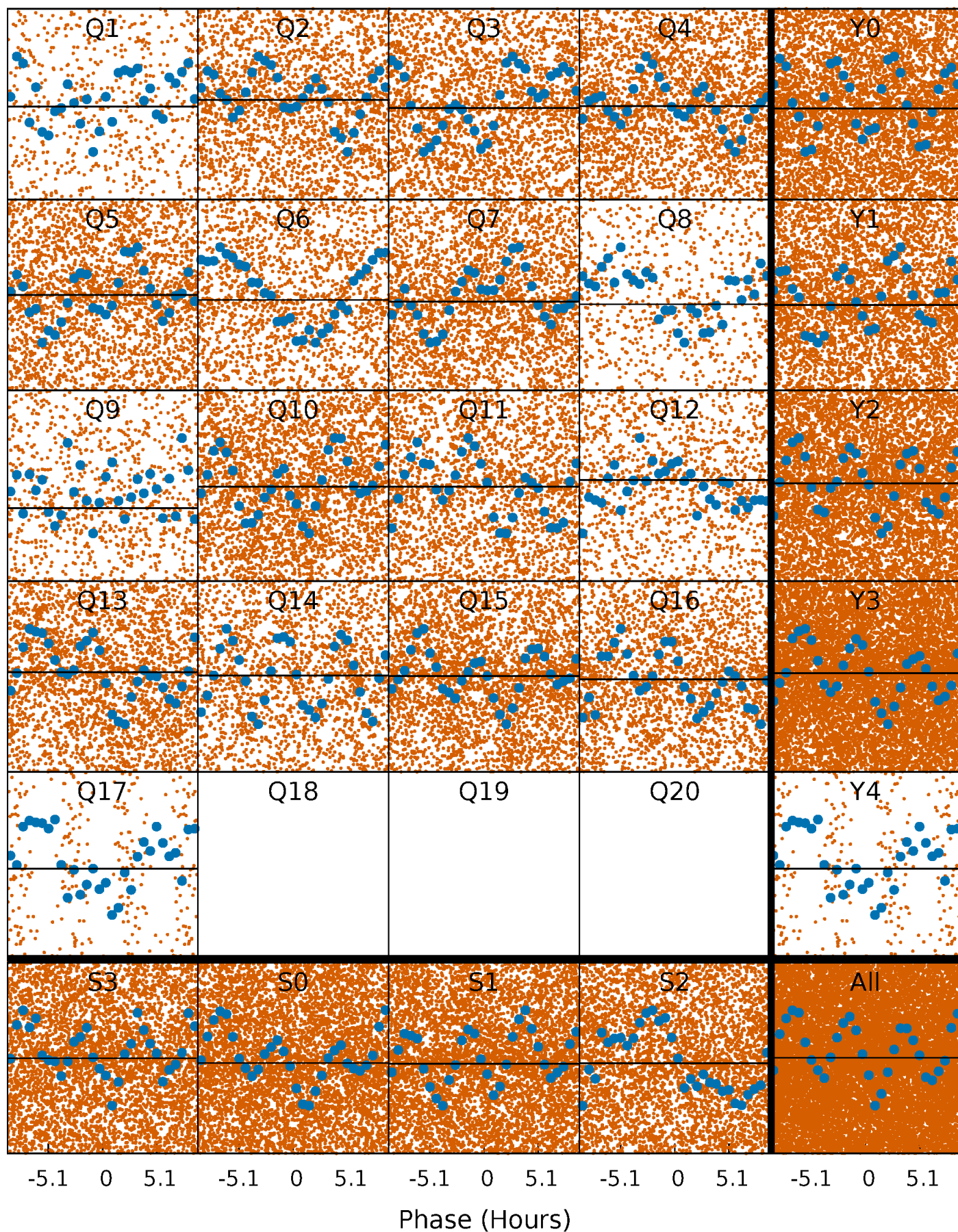
PDC Quarter-Phased Transit Curves

TCE 008198031-01 P= 0.661033 Days $T_0=131.624513$ (BKJD)



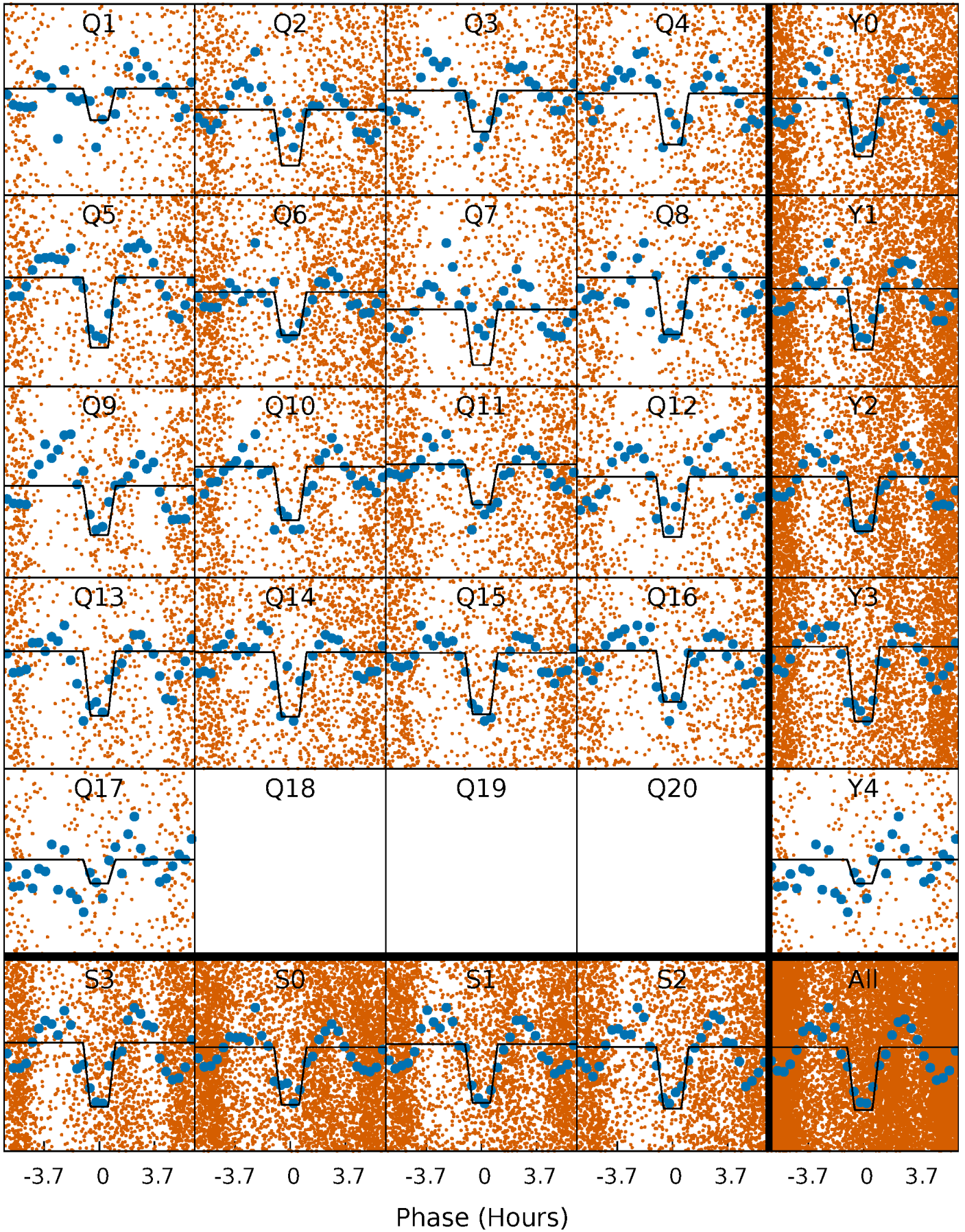
DV Quarter-Phased Transit Curves

TCE 008198031-01 P= 0.661033 Days $T_0=131.624513$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

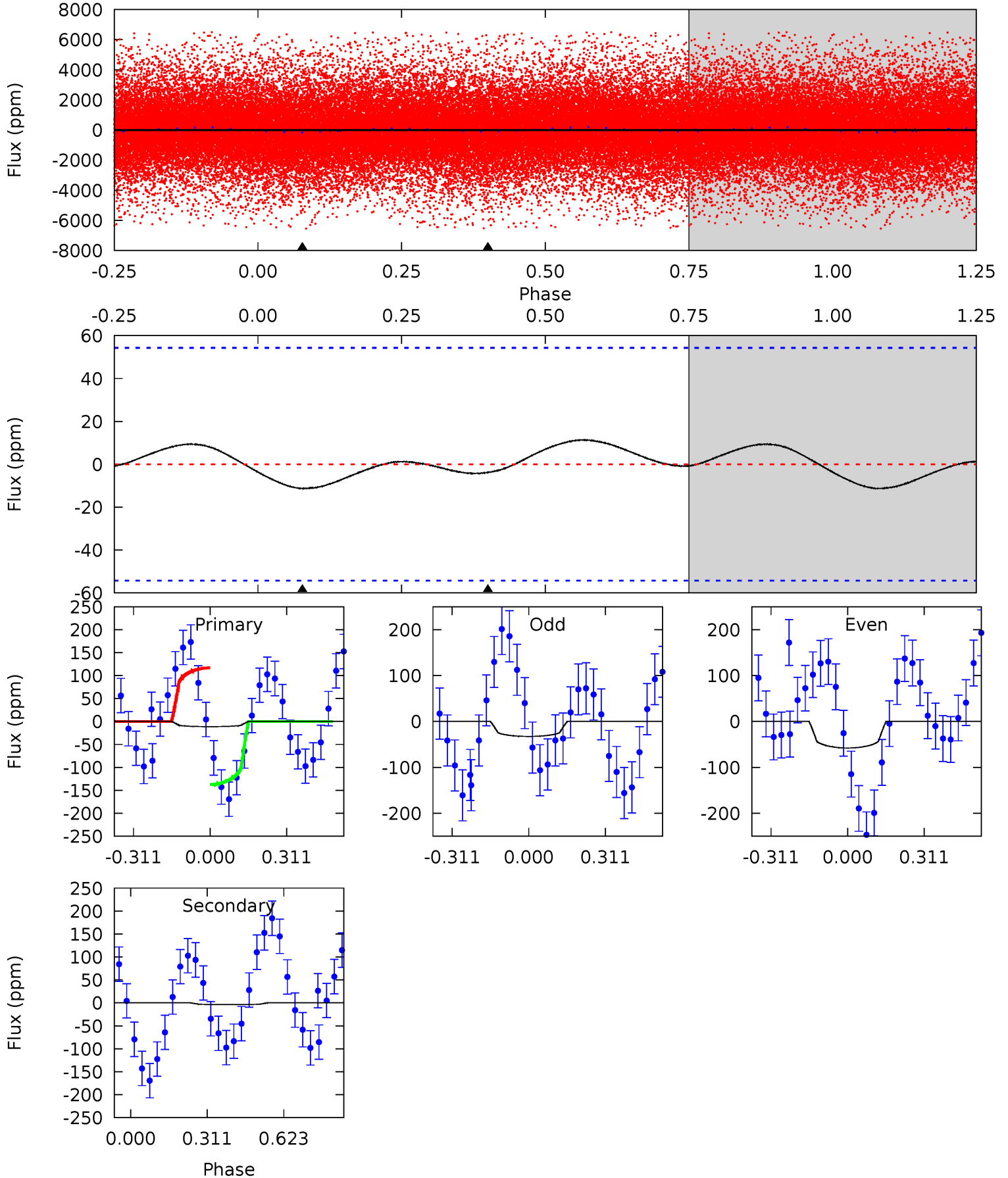
TCE 008198031-01 P= 0.661088 Days $T_0=131.612577$ (BKJD)



DV Model-Shift Uniqueness Test

008198031-01, P = 0.661033 Days, E = 130.963480 Days

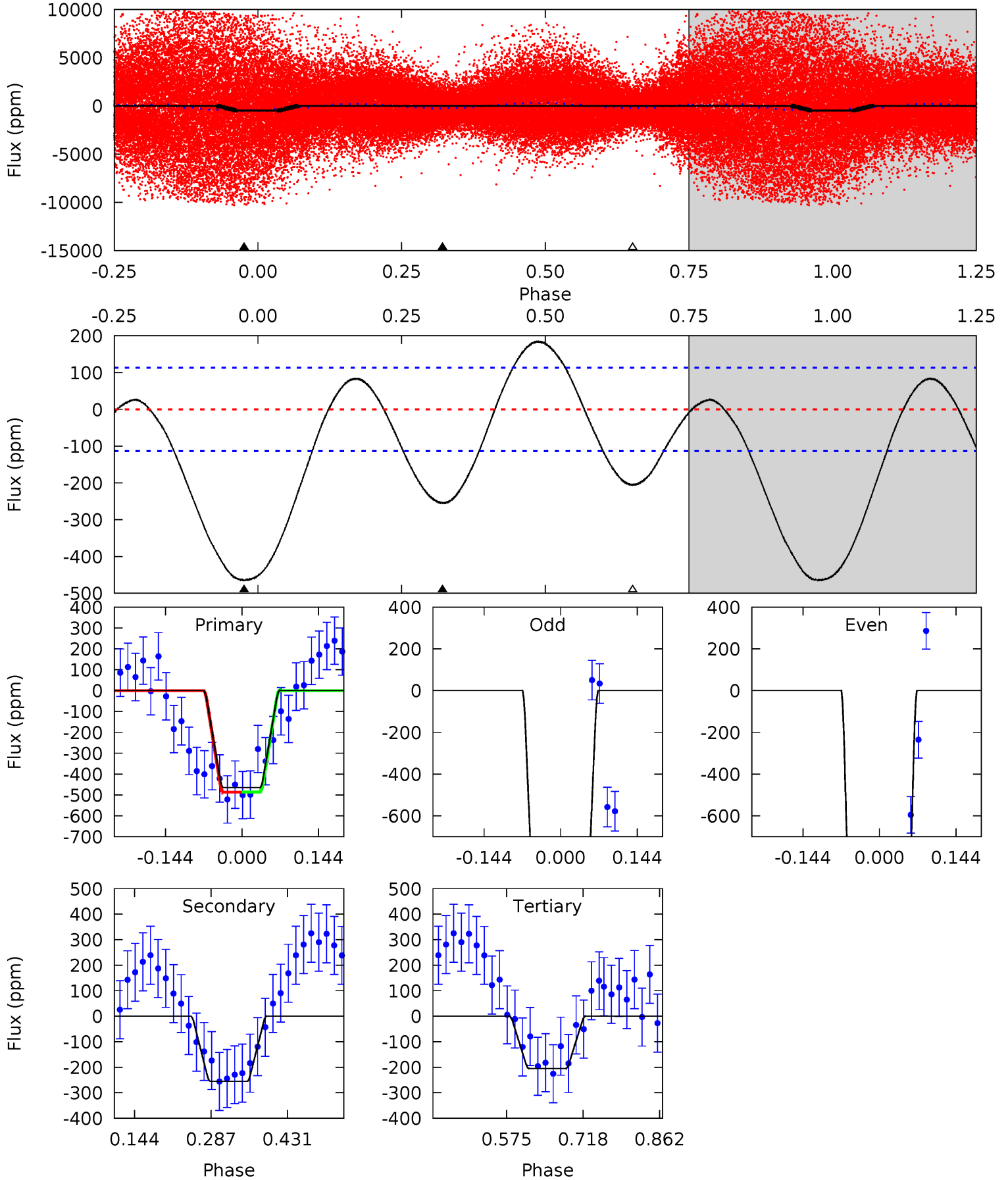
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.90	0.30	0	0	4.32	1.01	0.07	0.90	0.90	0.30	0.30	1.05	-4.15	0.50	0.82



Alt Model-Shift Uniqueness Test

008198031-01, P = 0.661088 Days, E = 130.951489 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	10.1	8.13	0	4.49	1.46	4.66	10.3	18.4	1.97	10.1	22.7	0.97	0.28	0.01



Stellar Parameters For KIC 008198031

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7563^{+211}_{-316}	$4.232^{+0.090}_{-0.210}$	$-0.120^{+0.200}_{-0.350}$	$1.557^{+0.528}_{-0.226}$	$1.506^{+0.219}_{-0.219}$	$0.562^{+0.234}_{-0.314}$
	+3%/-4%	+2%/-5%	+167%/-292%	+34%/-15%	+15%/-15%	+42%/-56%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008198031-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 13	$13.10^{+15.96}_{-9.44}$	4507^{+1325}_{-639}	-3954^{+488}_{-913}	$0.001^{+0.035}_{-0.010}$
Alt.	-255 ± 25	$14.21^{+17.50}_{-9.52}$	4537^{+1196}_{-733}	-3212^{+8488}_{-1159}	$0.183^{+1.749}_{-0.153}$

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 $A_{obs} \gg 1.0$

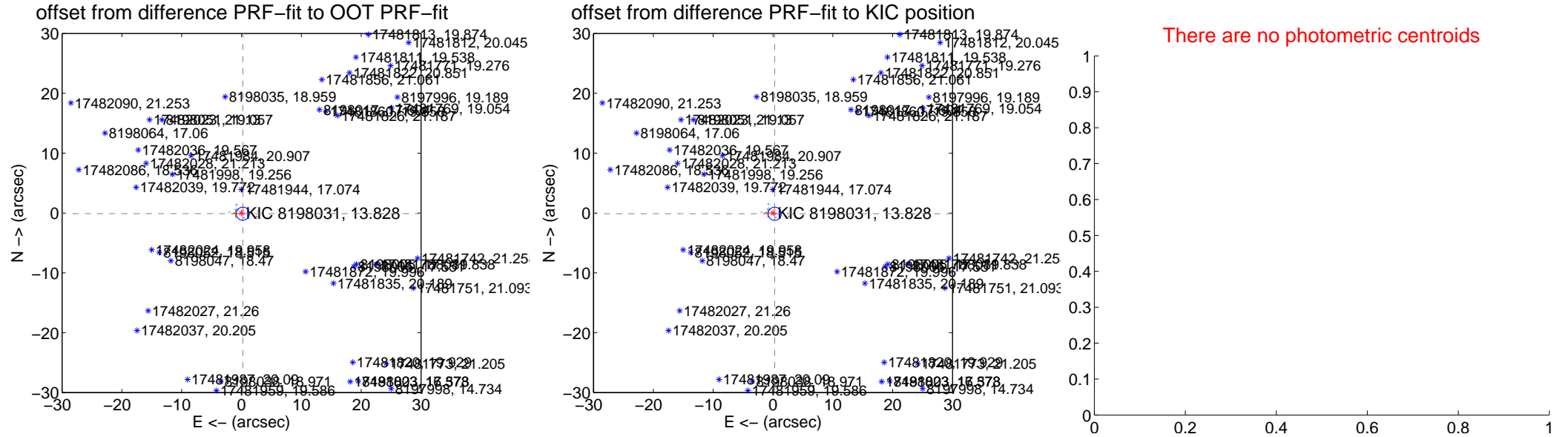
DV Centroid Data

Supplemental centroid analysis for 008198031-01. Kepler magnitude: 13.83. Transit SNR 0.00

There are 7 quarters with good PRF difference image offsets

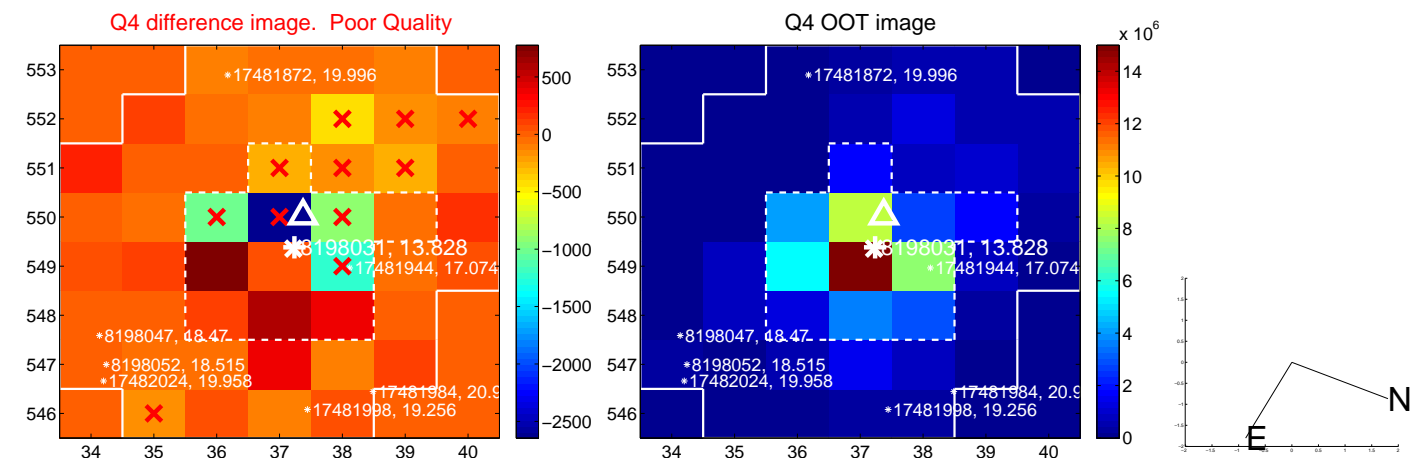
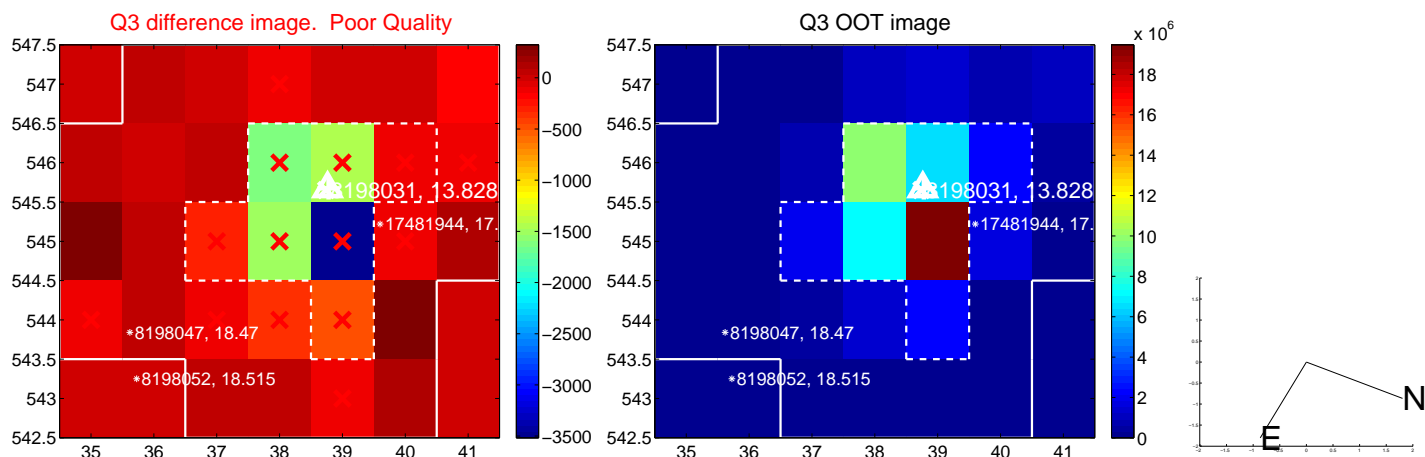
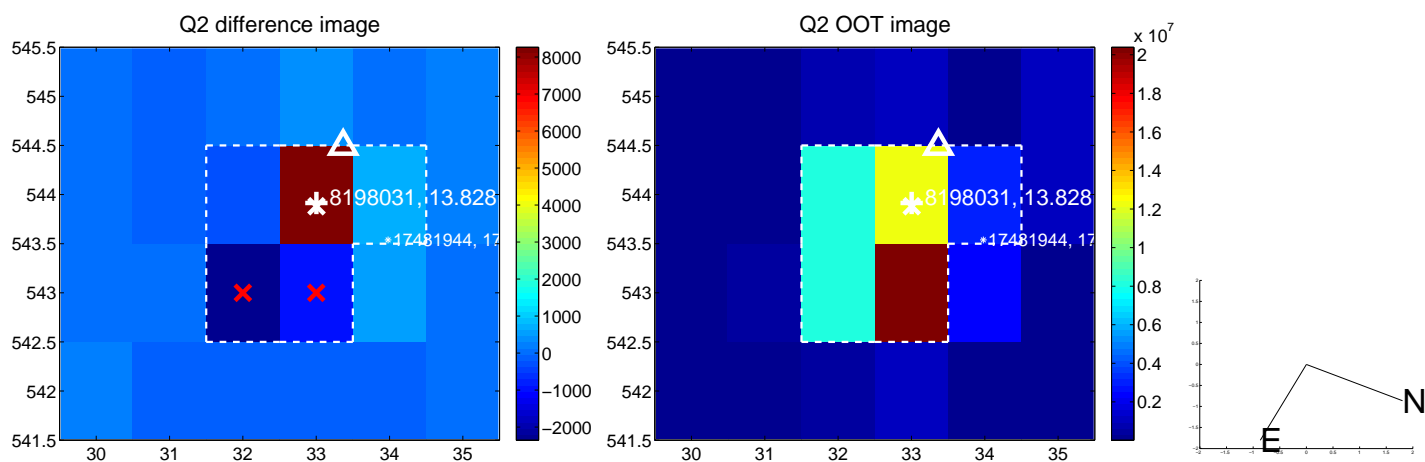
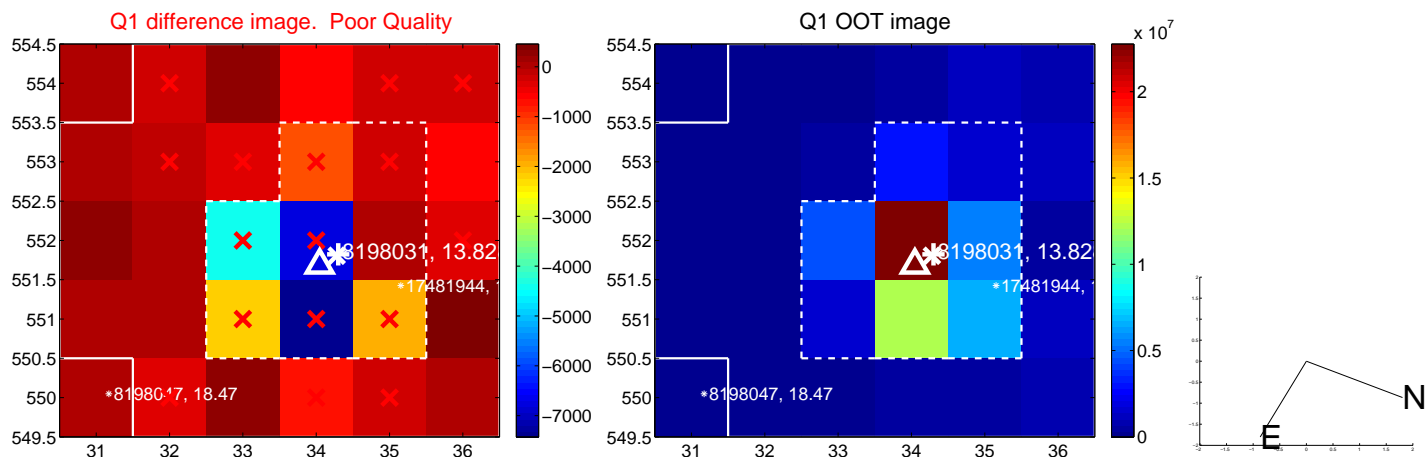
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.241 ± 0.366	0.66	-0.213 ± 0.392	-0.113 ± 0.140
PRF-fit source offset from KIC position	0.308 ± 0.368	0.84	-0.281 ± 0.401	-0.126 ± 0.104
photometric centroid source offset	—	—	—	—

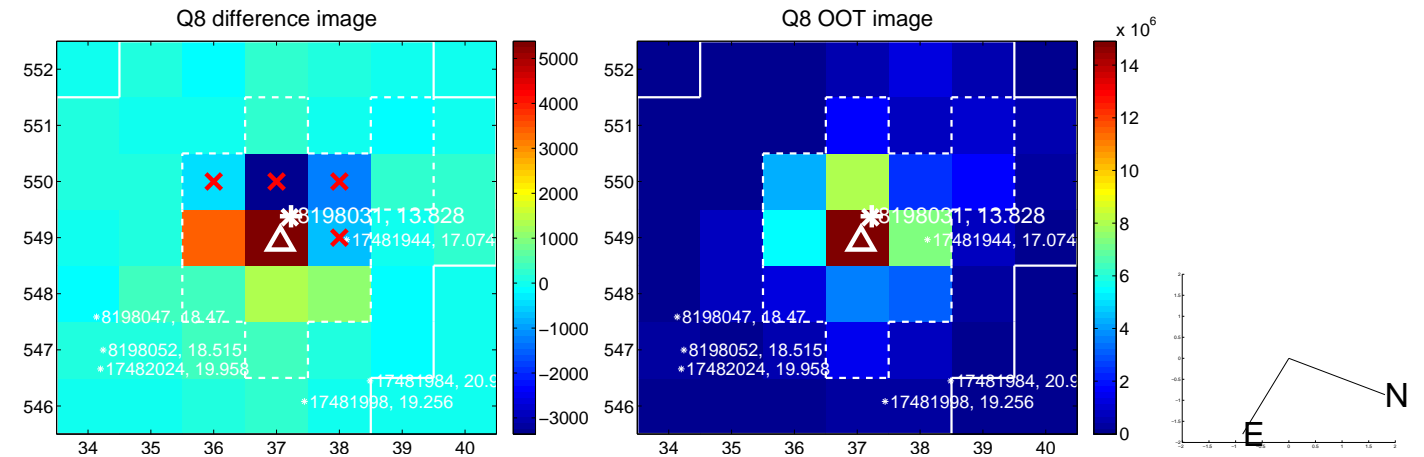
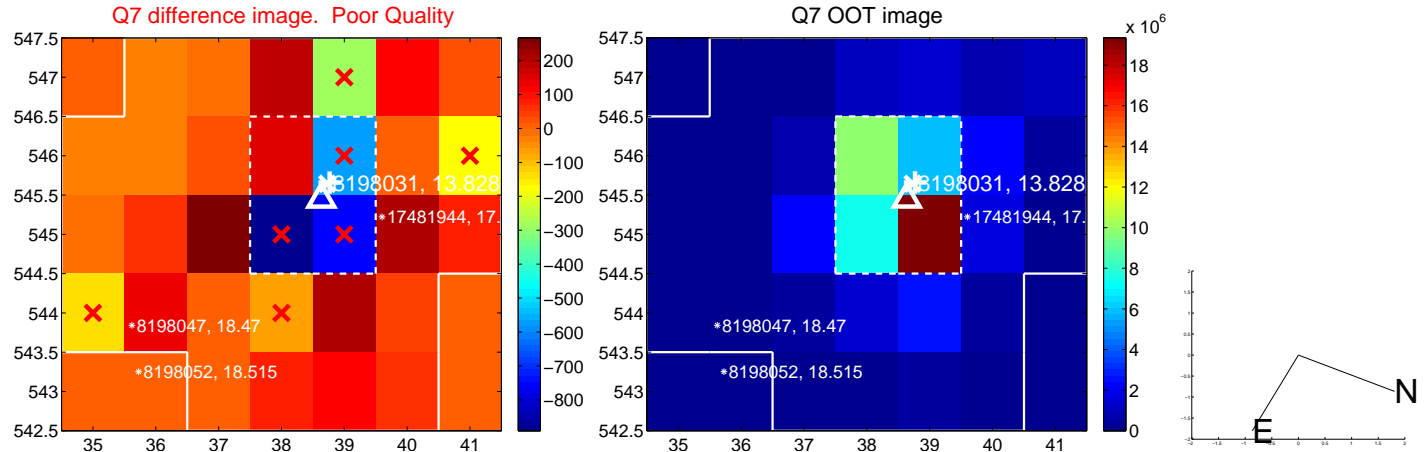
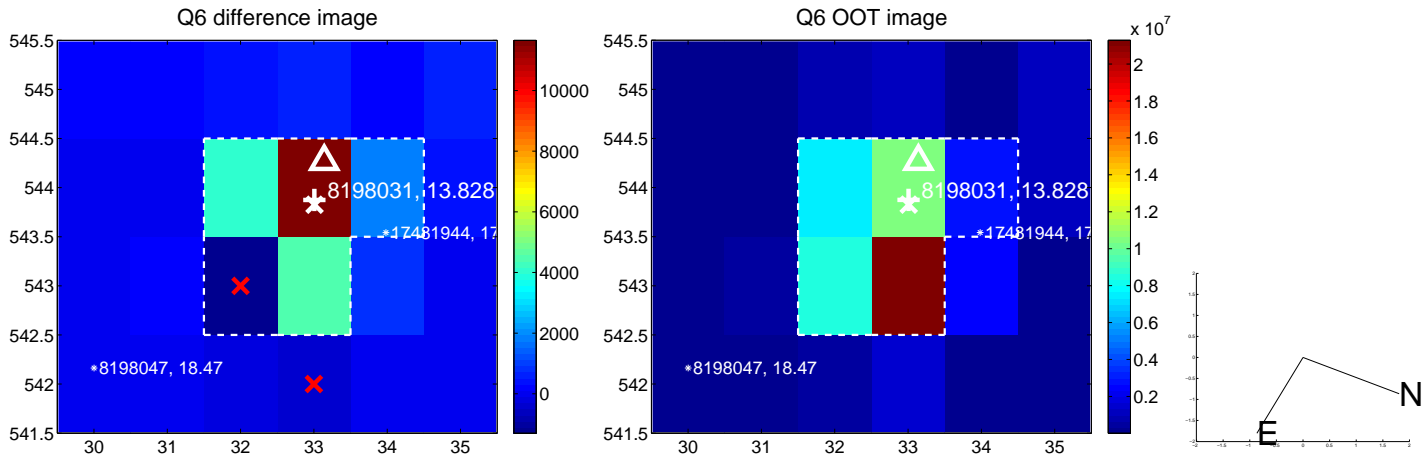
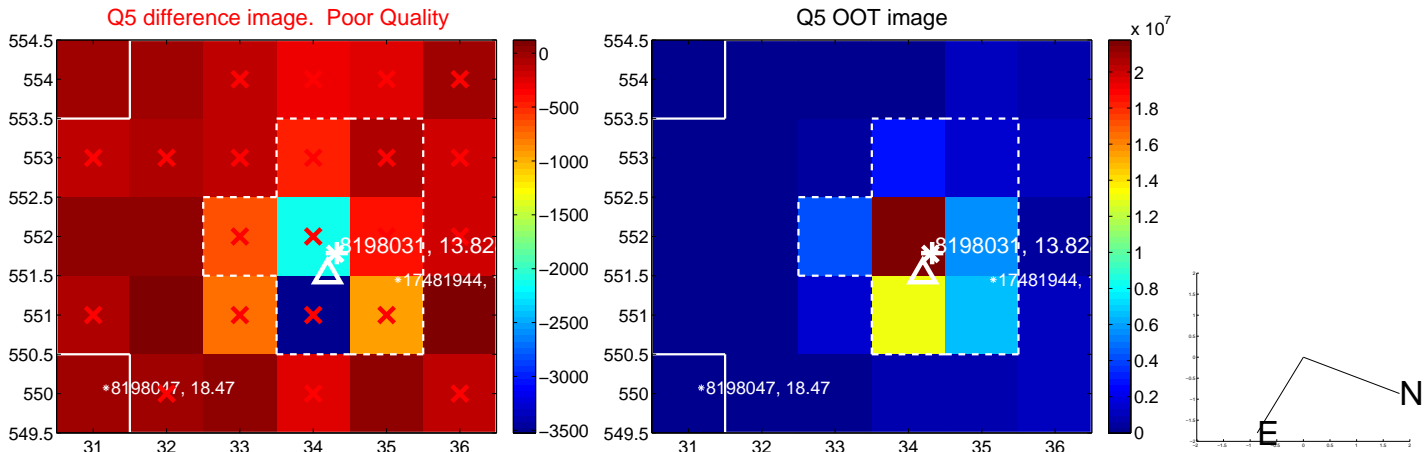


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

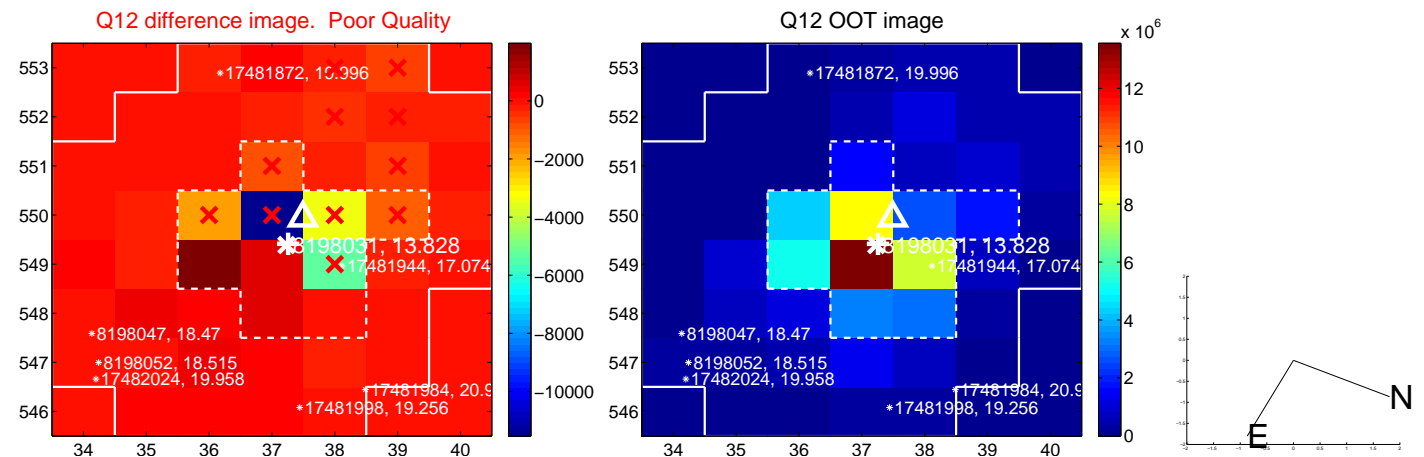
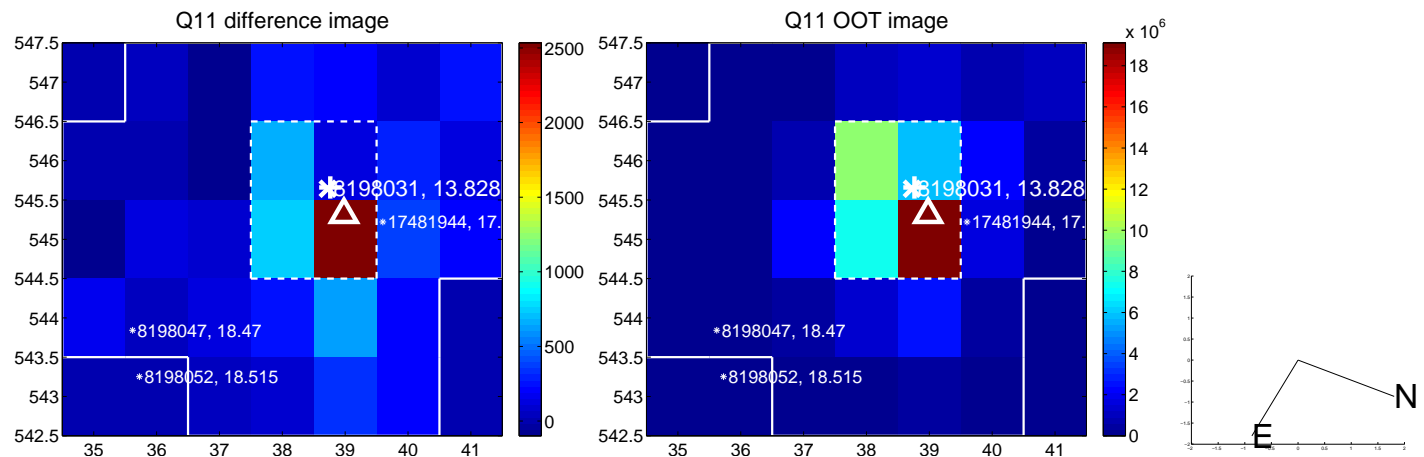
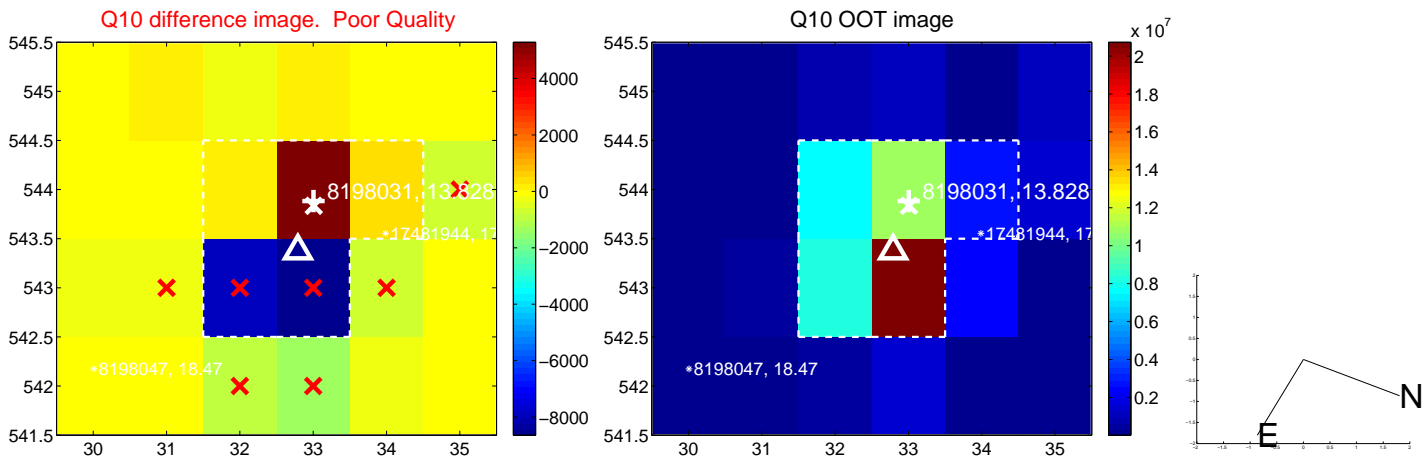
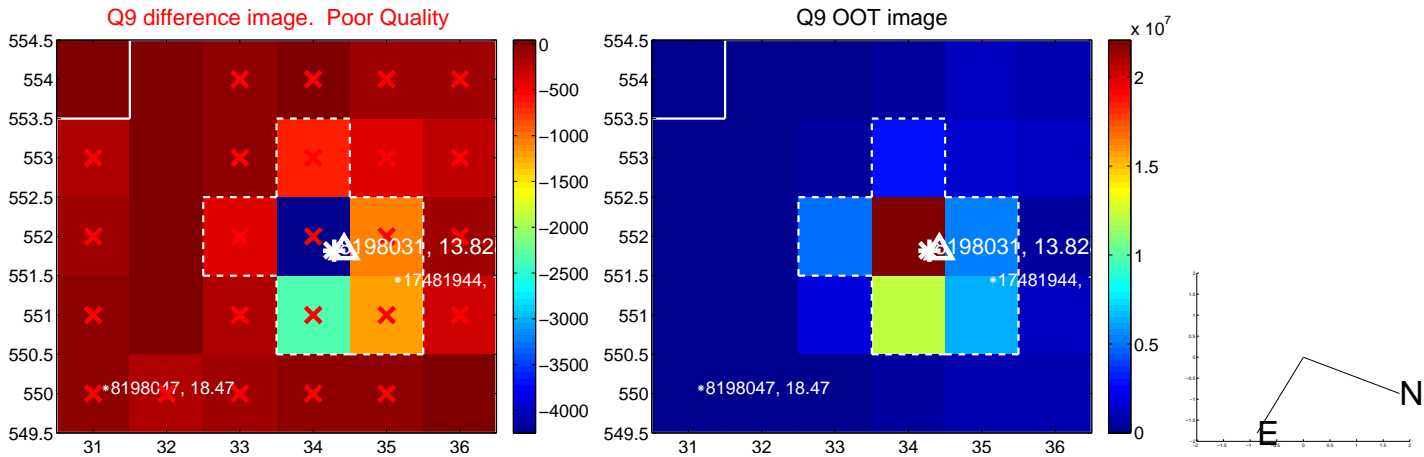
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



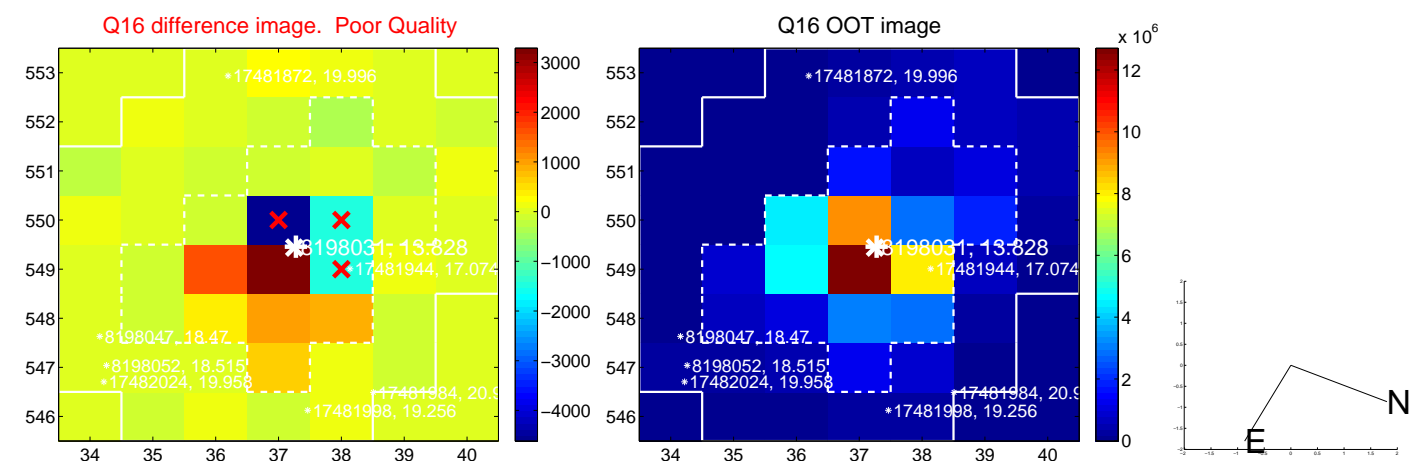
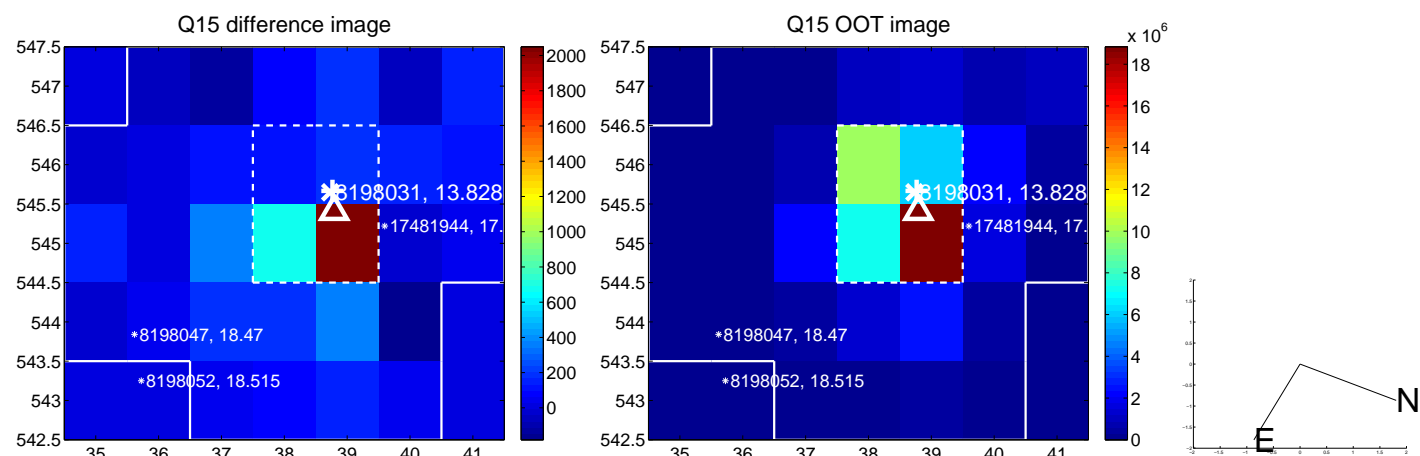
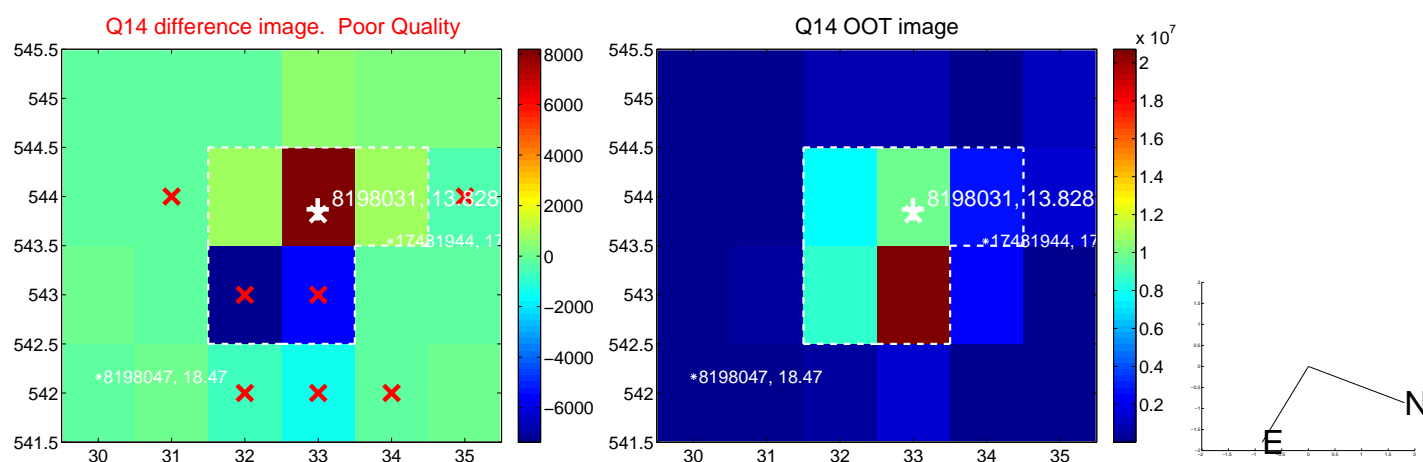
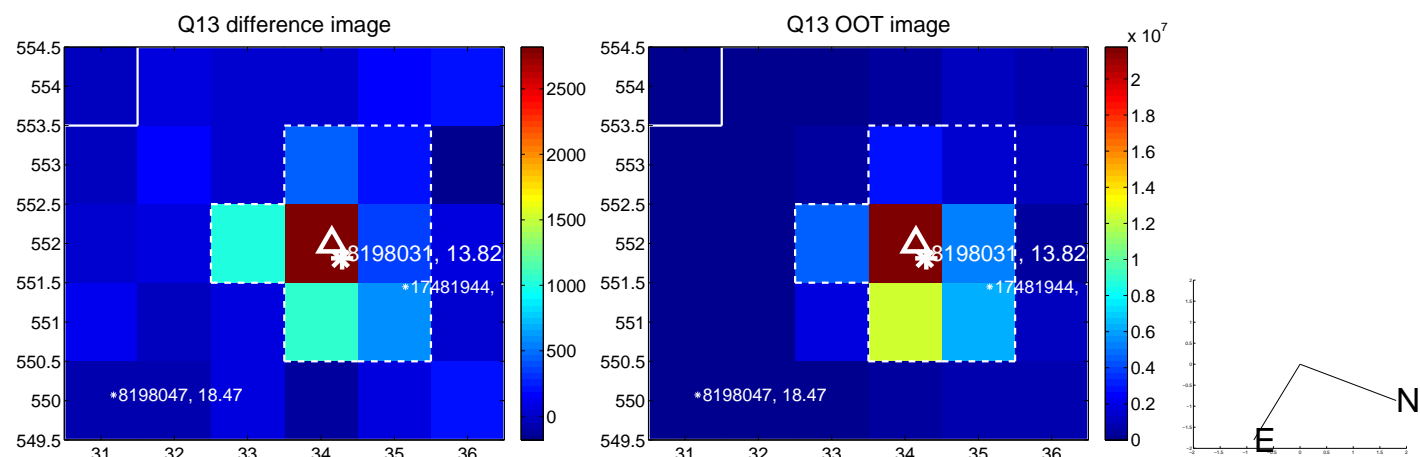
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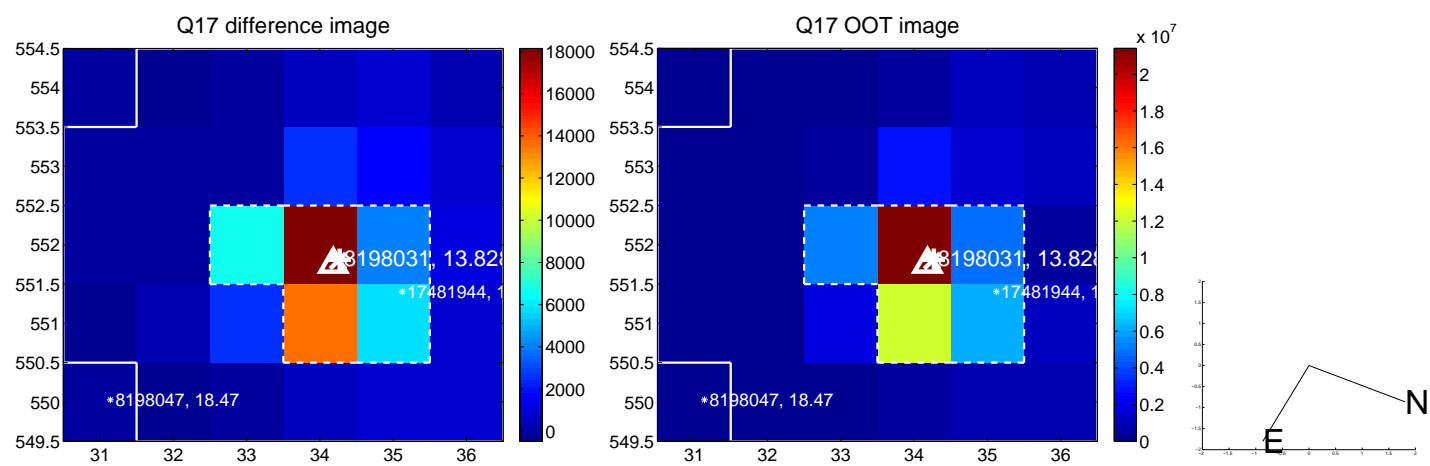
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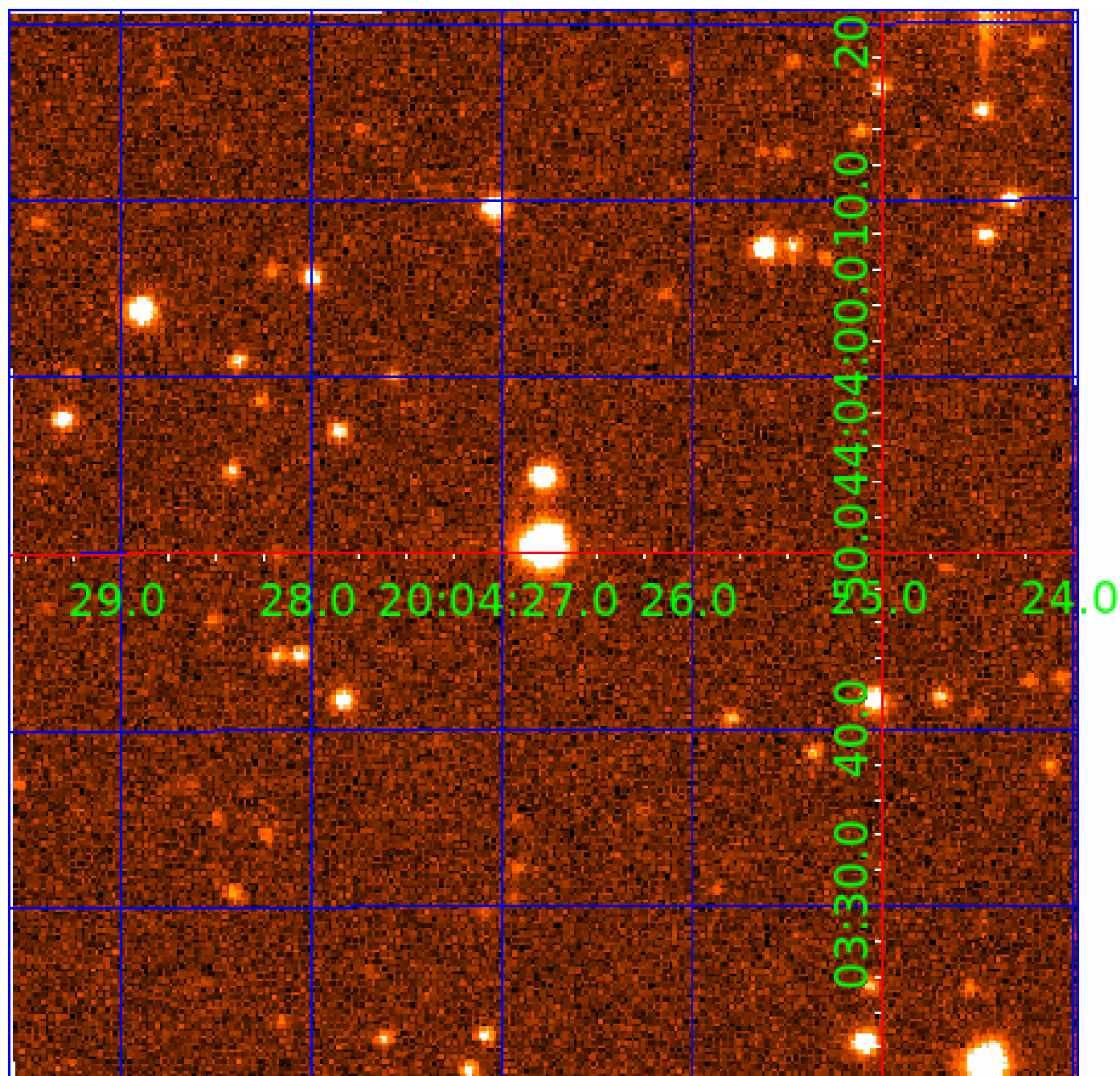
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 008198031

Q1-17 DR25 TCE Parameters

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008198031-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008198031-02	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV
008198031-05	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
008198031-06	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

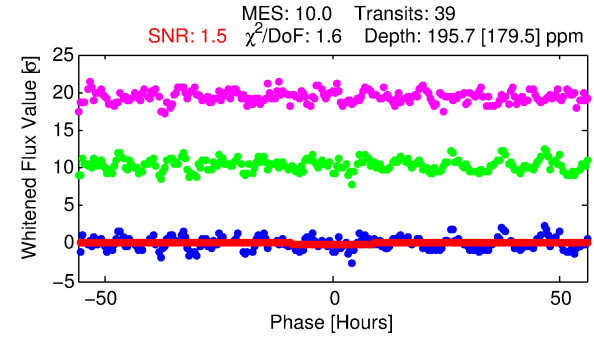
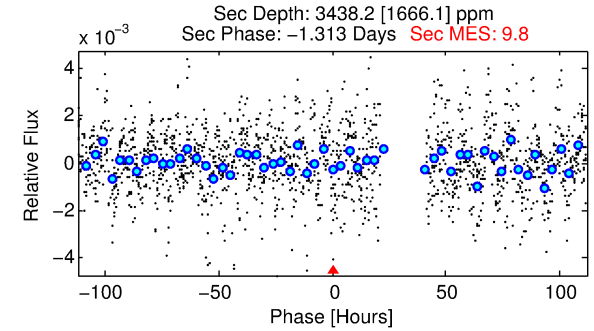
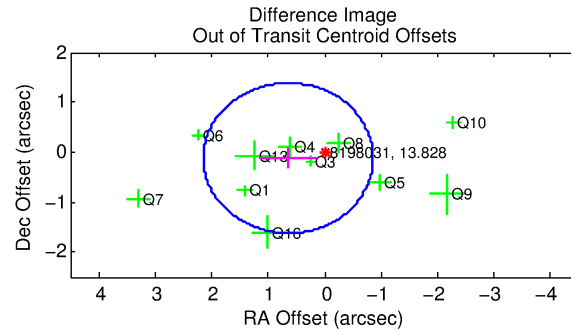
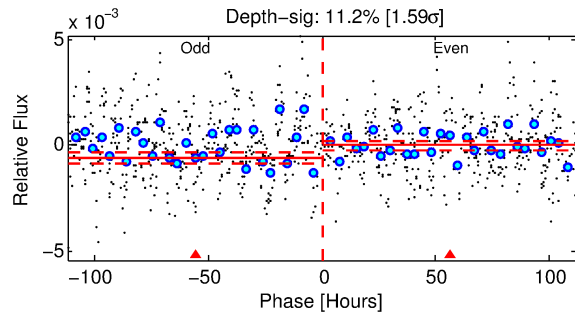
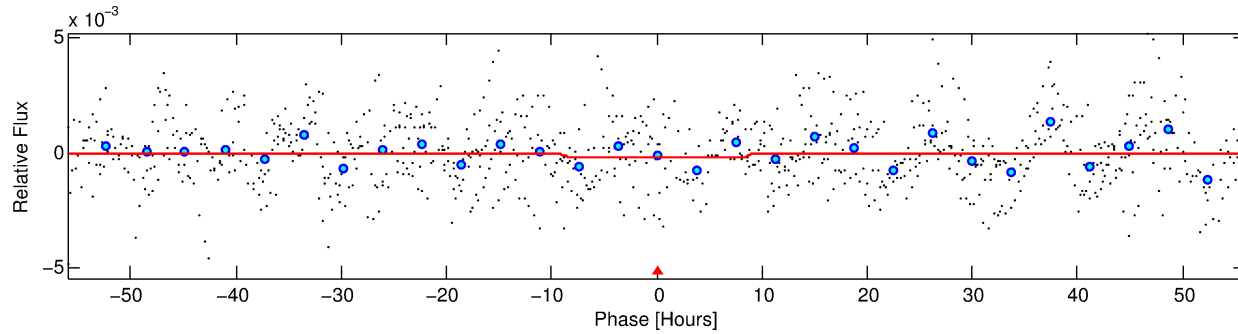
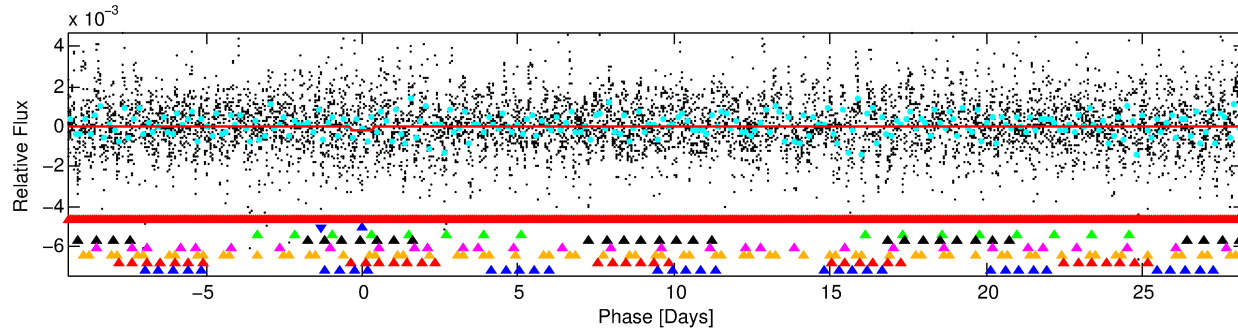
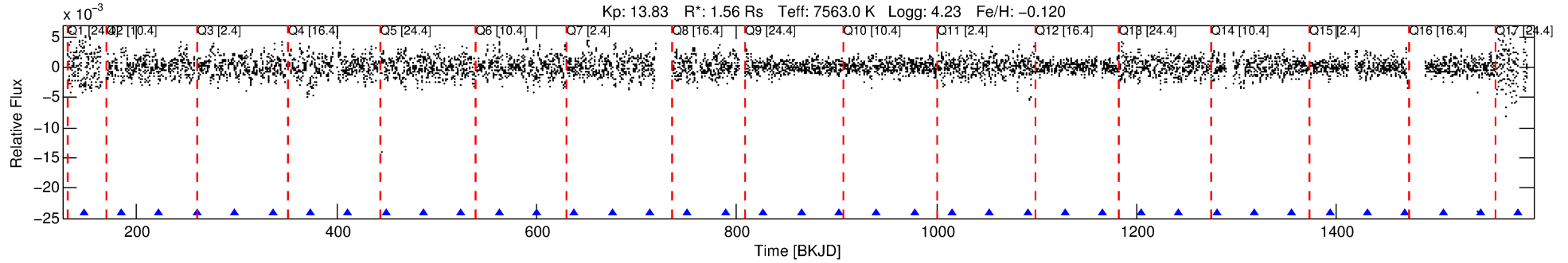
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008198031-02

No Significant Match Found

DV One-Page Summary

KIC: 8198031 Candidate: 2 of 8 Period: 37.758 d



DV Fit Results:

Period = 37.75766 [0.00437] d
Epoch = 147.1570 [0.0984] BKJD
Rp/R* = 0.0140 [0.0101]
a/R* = 10.09 [32.36]
b = 0.78 [1.65]
Seff = 111.31 [47.61]
Teq = 828 [89] K
Rp = 2.38 [1.90] Re
a = 0.2527 [0.0702] AU
Ag = 21297.50 [33561.64] [0.63 σ]
Teffp = 15470 [5936] K [2.47 σ]

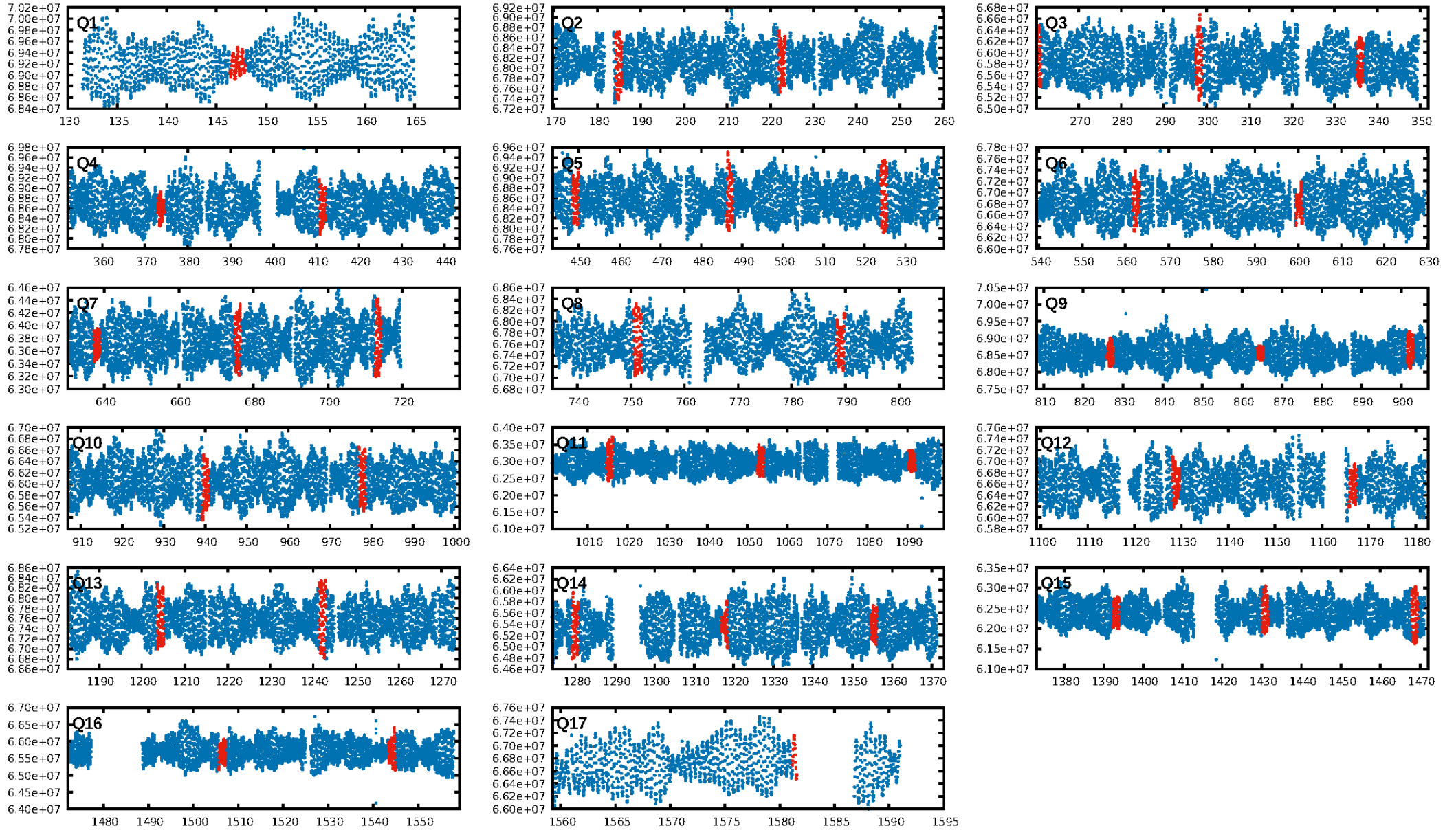
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [22.37 σ]
LongPeriod-sig: 100.0% [6.83 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [37/37]
GhostDiagnostic-chr: 4.722
Centroid-sig: 2.5%
Centroid-so: 1.616 arcsec [2.88 σ]
OotOffset-rm: 0.656 arcsec [1.31 σ]
KicOffset-rm: 0.534 arcsec [1.02 σ]
OotOffset-st: 2/2/3/4 [11]
KicOffset-st: 2/2/3/4 [11]
DiffImageQuality-fgm: 0.45 [5/11]
DiffImageOverlap-fno: 0.00 [0/14]

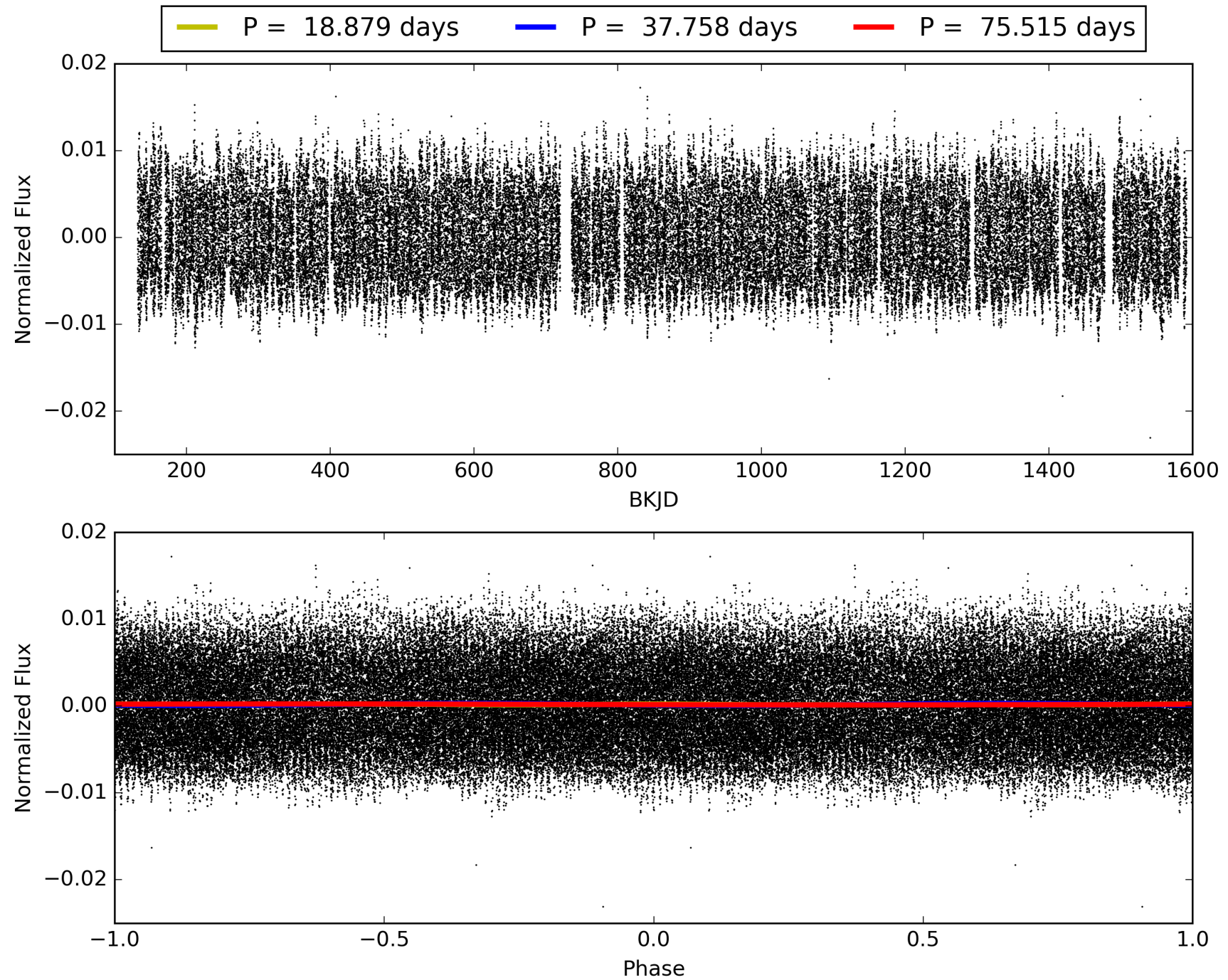
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:23:58 Z

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

TCE 008198031-02, PDC Light Curves

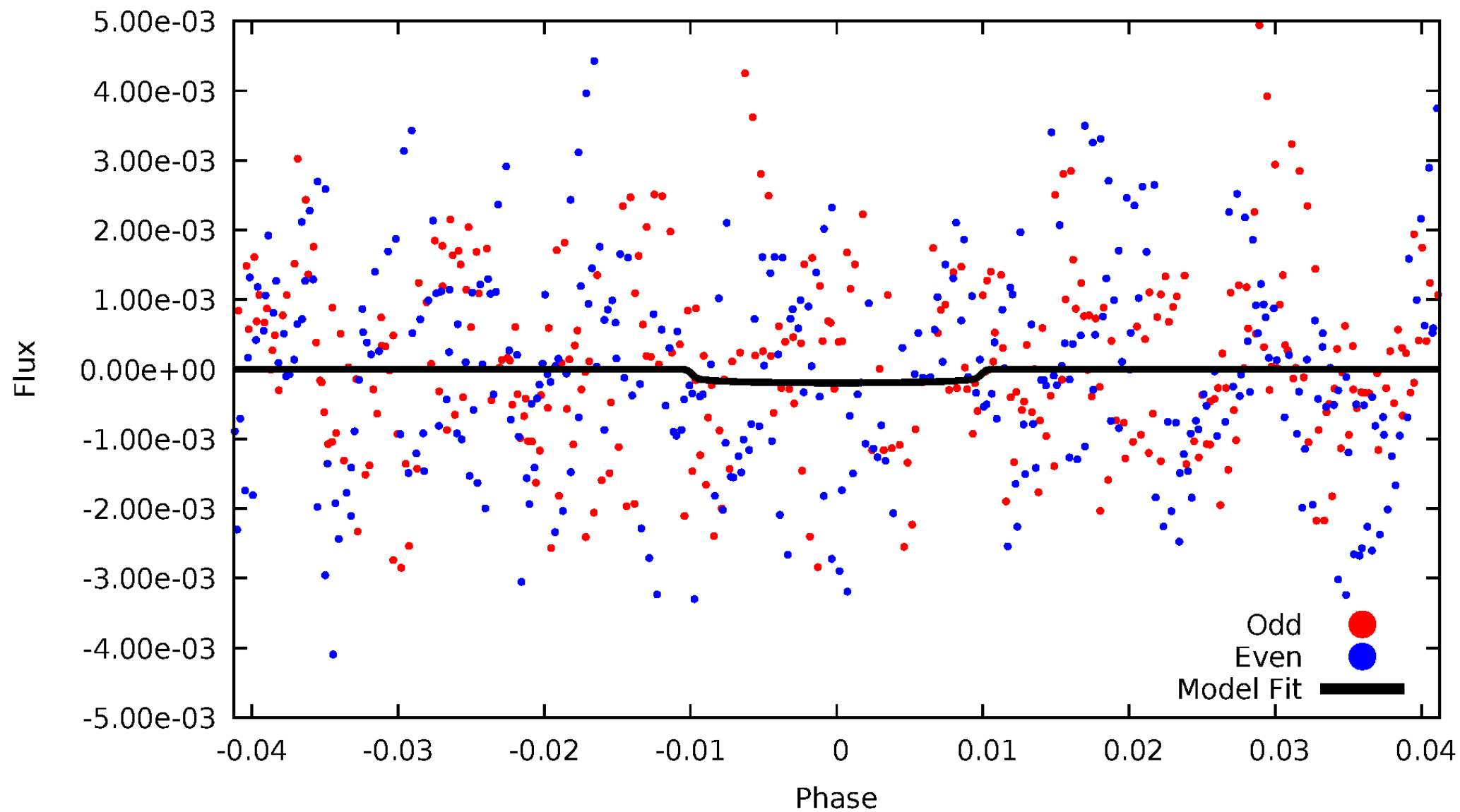


TCE 008198031-02



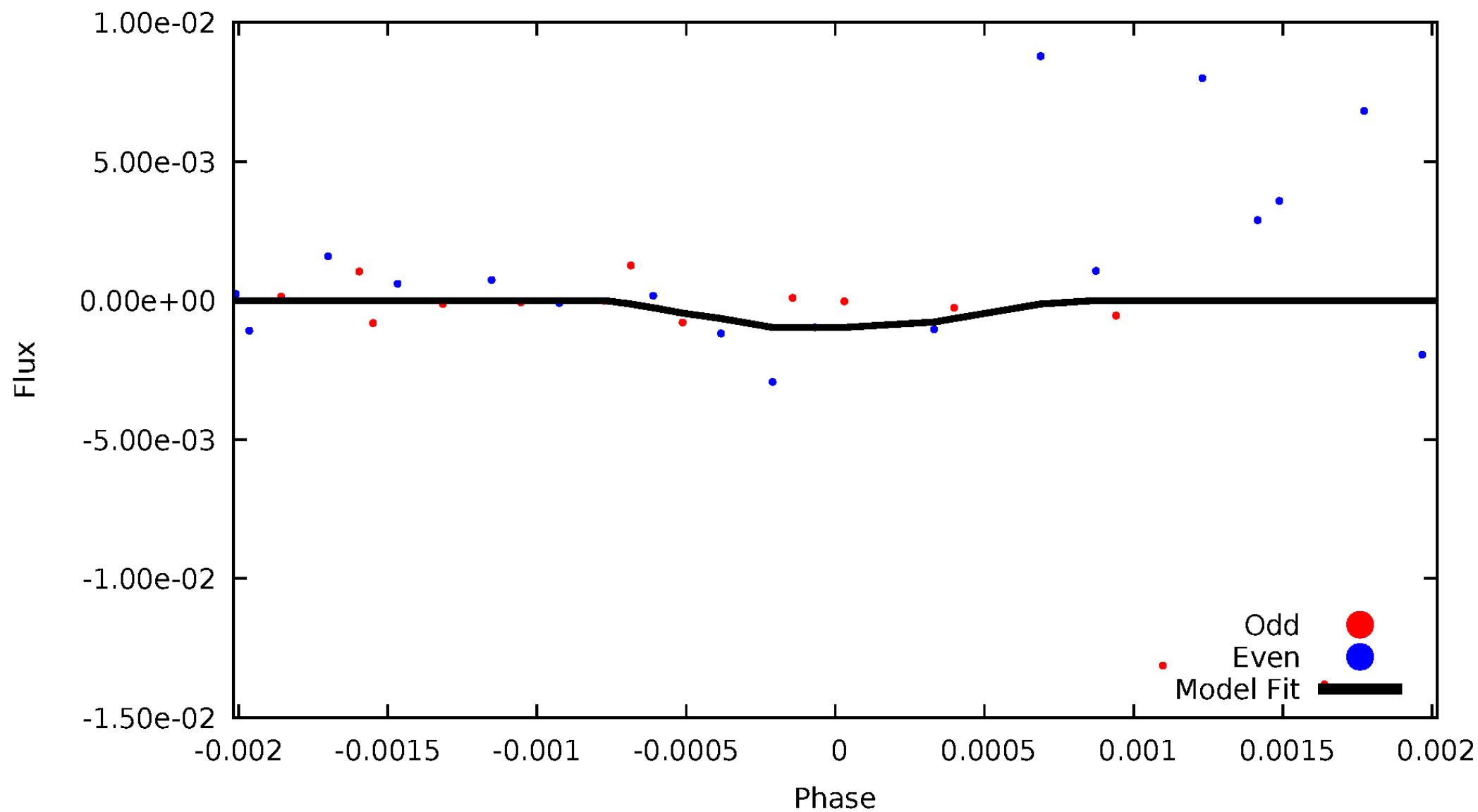
DV Odd/Even

TCE 008198031-02



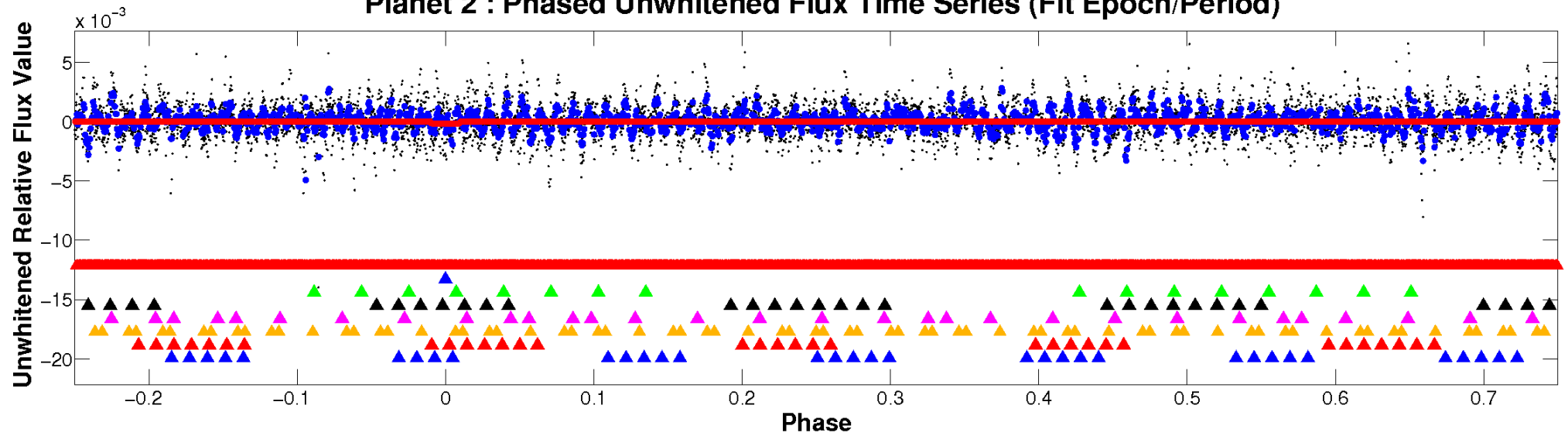
ALT Odd/Even

TCE 008198031-02

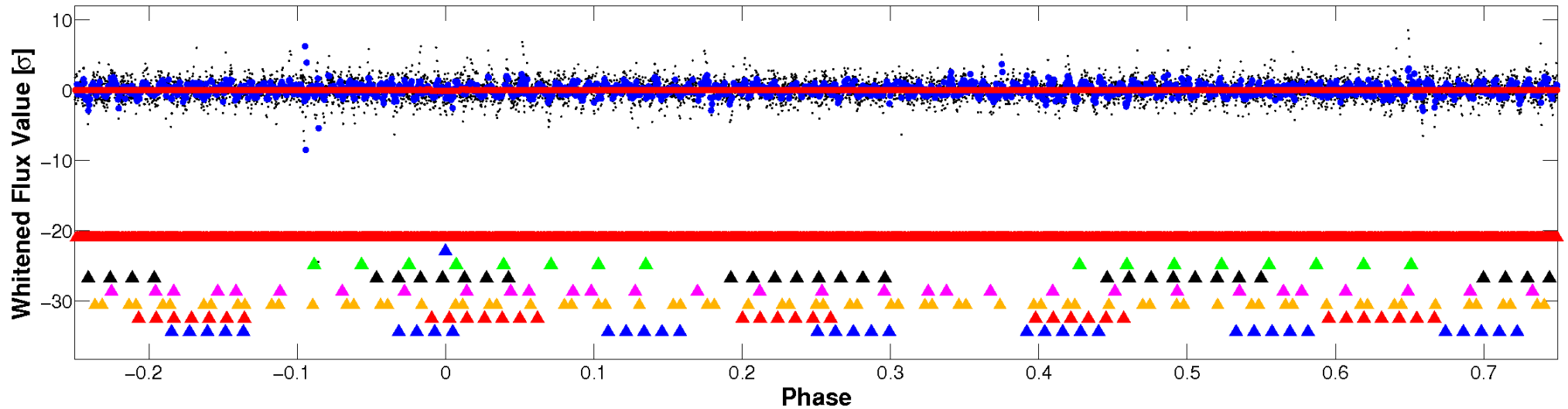


Non-Whitened Vs. Whitened Light Curve

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

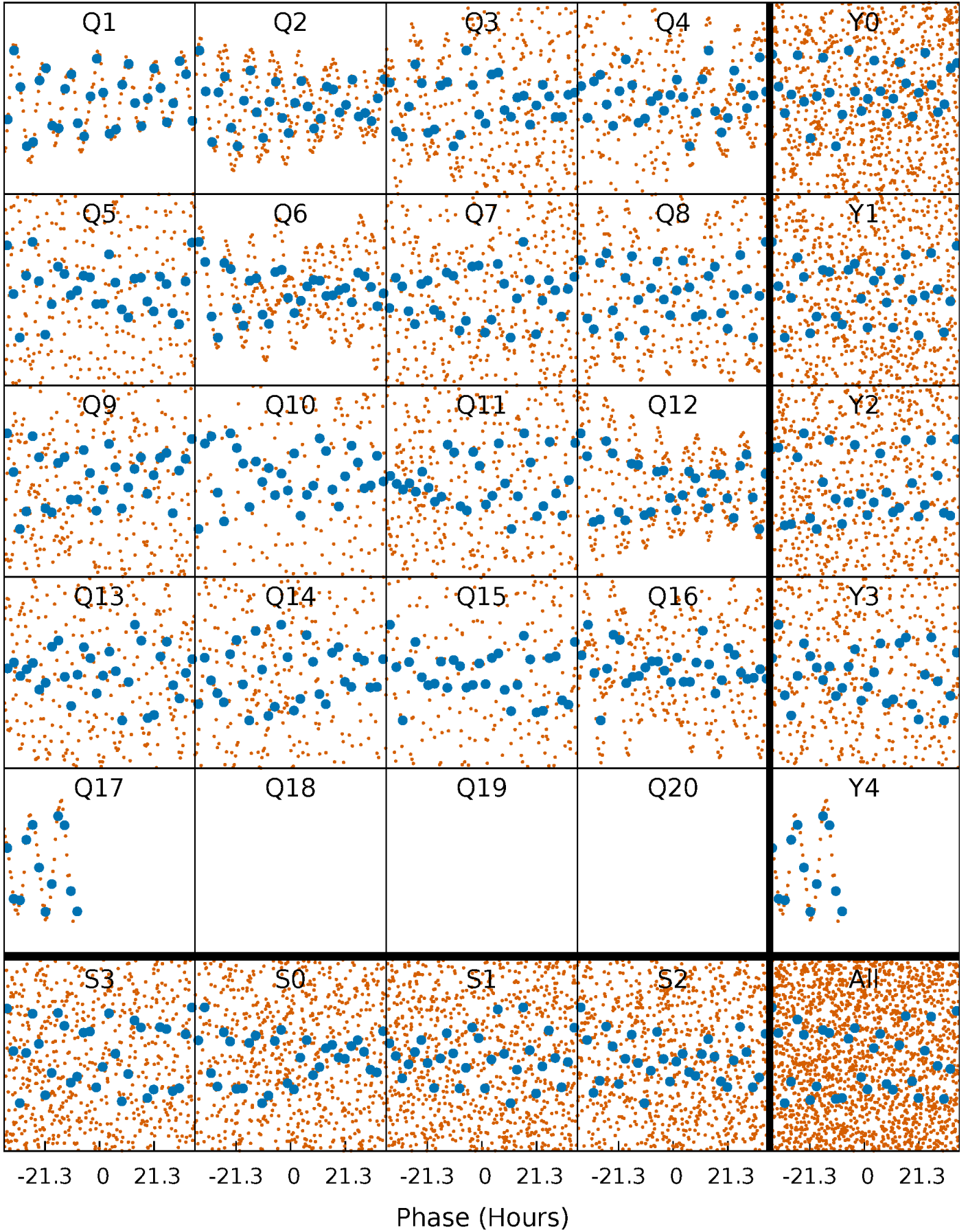


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



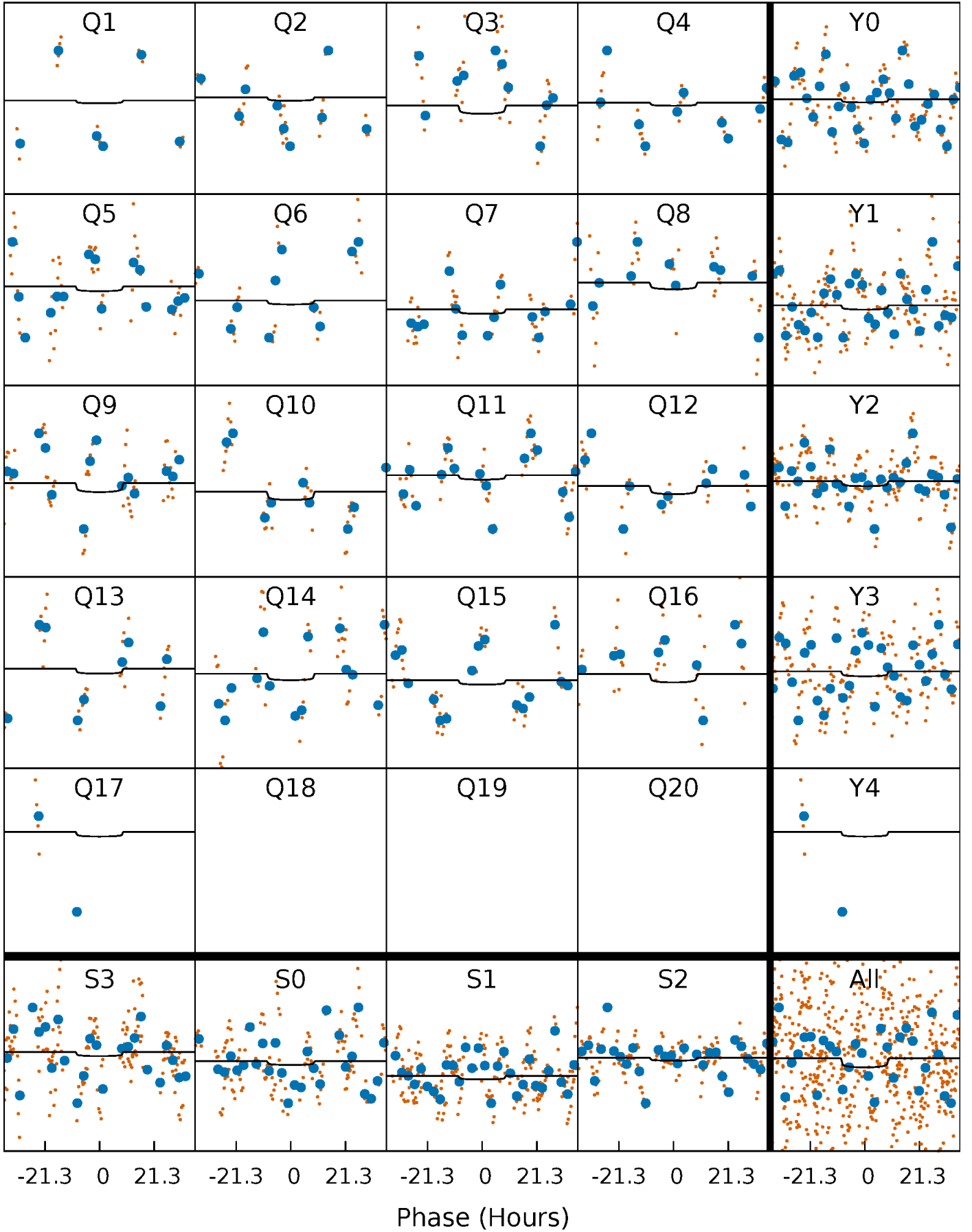
PDC Quarter-Phased Transit Curves

TCE 008198031-02 $P = 37.757658$ Days $T_0 = 147.156955$ (BKJD)



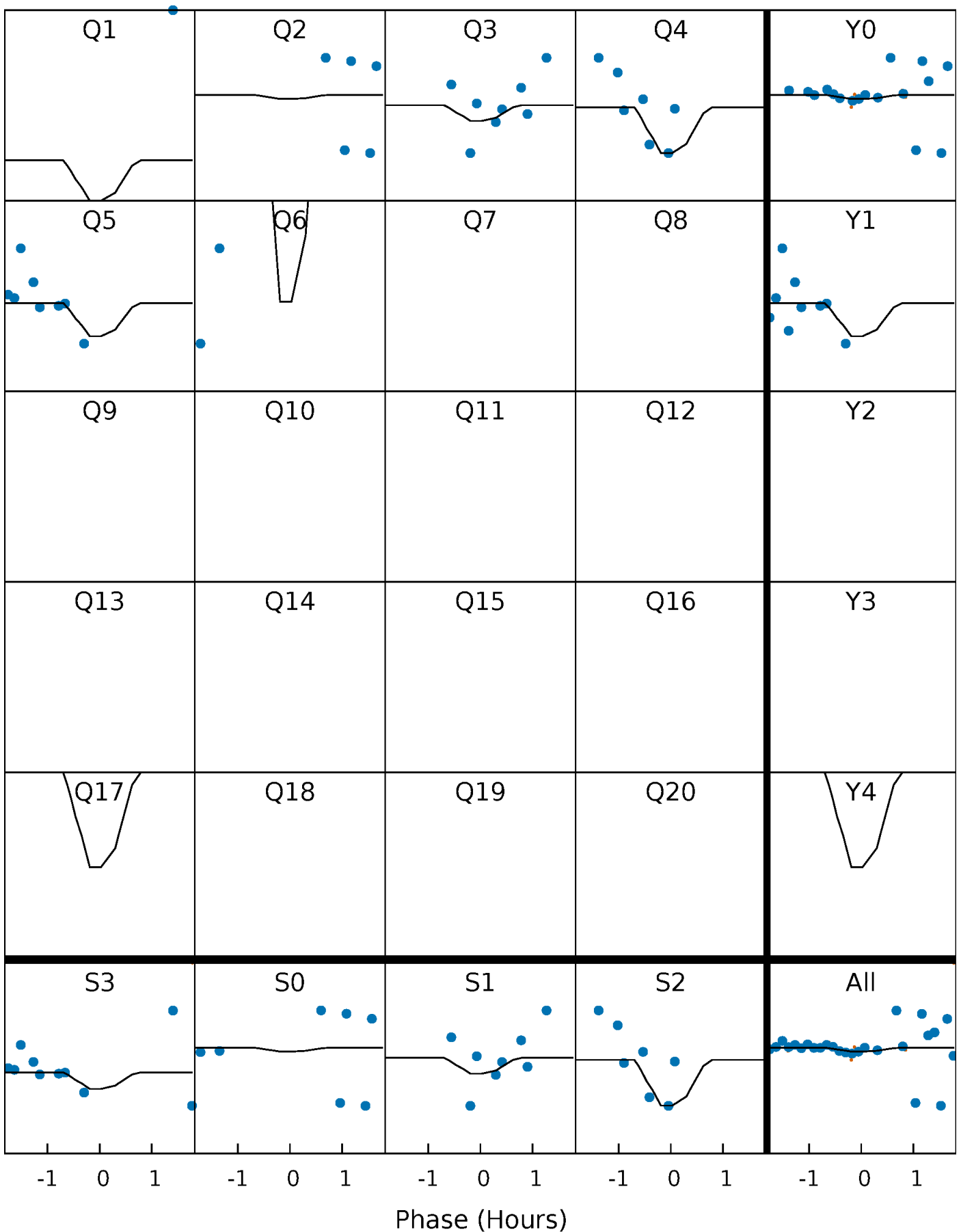
DV Quarter-Phased Transit Curves

TCE 008198031-02 $P = 37.757658$ Days $T_0 = 147.156955$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

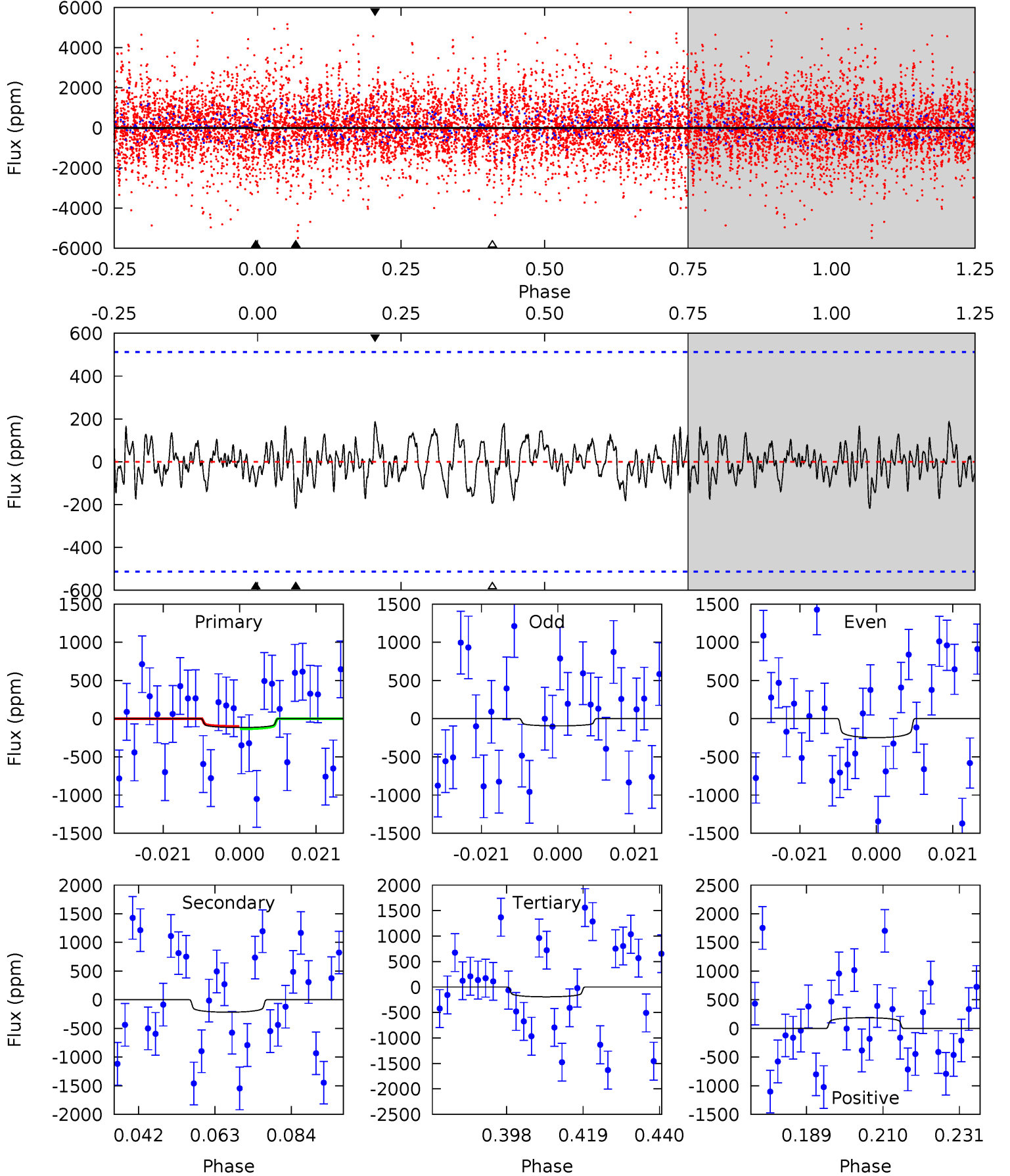
TCE 008198031-02 P= 37.695688 Days $T_0=147.067521$ (BKJD)



DV Model-Shift Uniqueness Test

008198031-02, P = 37.757658 Days, E = 109.399297 Days

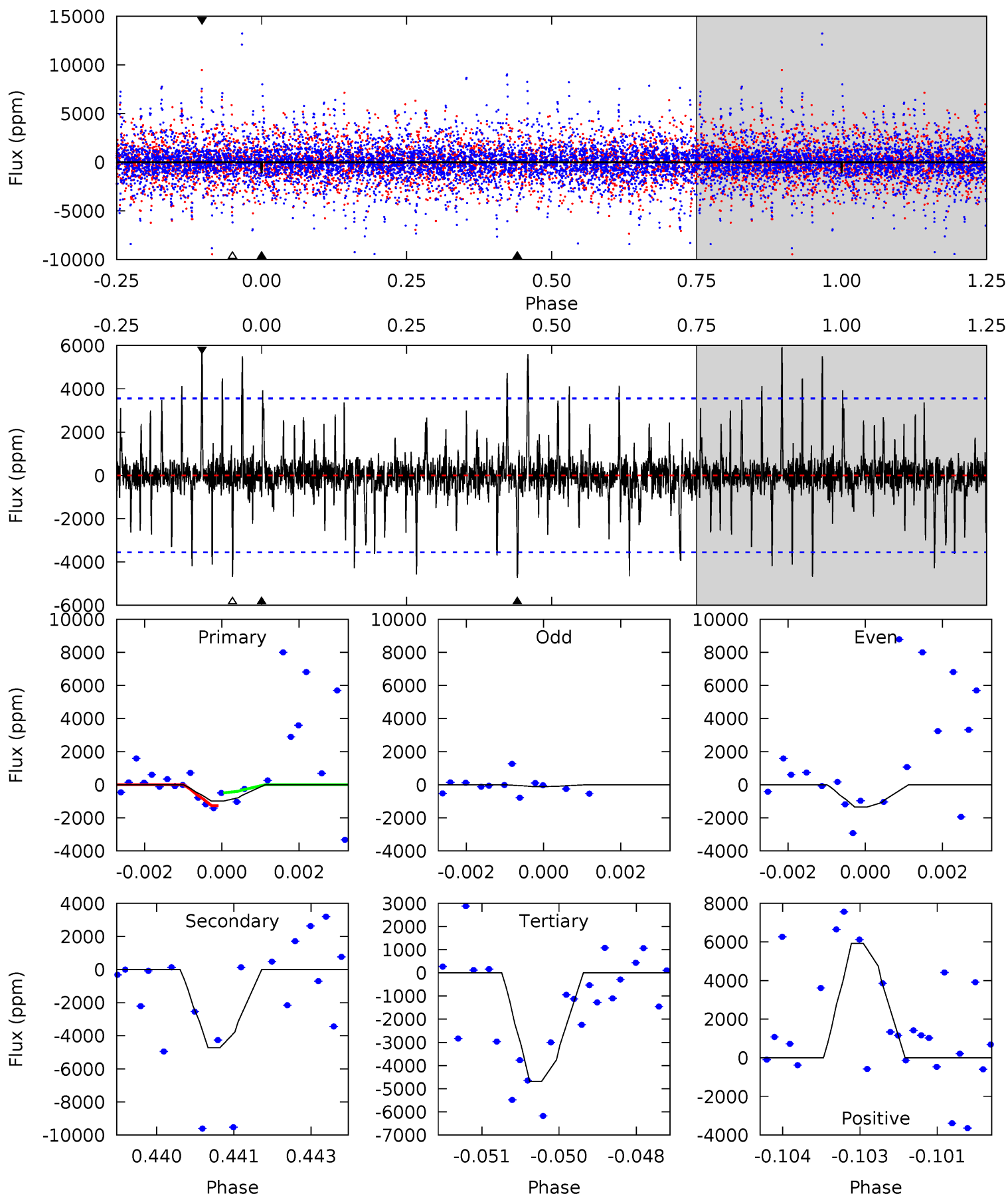
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.10	2.07	1.84	1.77	4.88	2.31	0.69	-0.73	-0.67	0.23	0.30	0.74	1.44	0.46	0.14



Alt Model-Shift Uniqueness Test

008198031-02, P = 37.695688 Days, E = 109.371833 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.49	7.13	7.08	8.95	5.37	3.16	1.25	-5.58	-7.46	0.06	-1.82	0.85	1.43	0.56	0.56



Stellar Parameters For KIC 008198031

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7563^{+211}_{-316}	$4.232^{+0.090}_{-0.210}$	$-0.120^{+0.200}_{-0.350}$	$1.557^{+0.528}_{-0.226}$	$1.506^{+0.219}_{-0.219}$	$0.562^{+0.234}_{-0.314}$
	+3%/-4%	+2%/-5%	+167%/-292%	+34%/-15%	+15%/-15%	+42%/-56%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008198031-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-217 ± 105	$2.63^{+1.68}_{-1.40}$	1173^{+92}_{-71}	7330^{+5346}_{-1858}	991^{+3571}_{-683}
Alt.	-4722 ± 662	$5.43^{+1.97}_{-1.90}$	1174^{+92}_{-69}	13398^{+7397}_{-2937}	5358^{+7856}_{-2401}

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 $A_{obs} \gg 1.0$

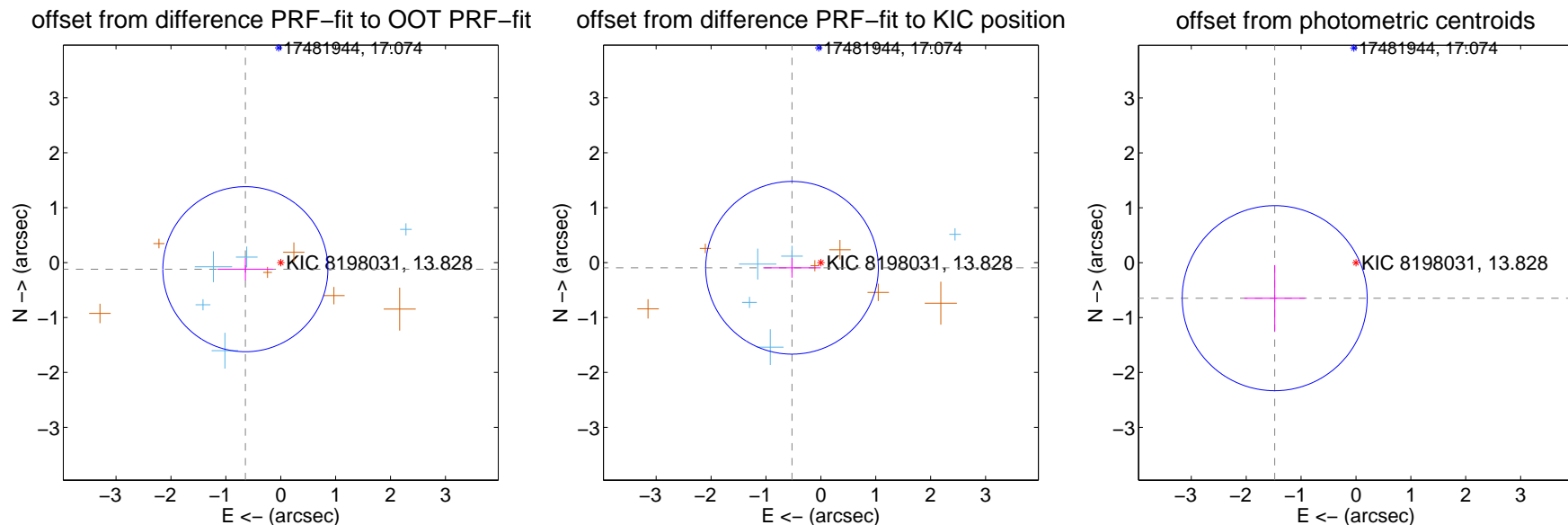
DV Centroid Data

Supplemental centroid analysis for 008198031-02. Kepler magnitude: 13.83. Transit SNR 1.49

There are 5 quarters with good PRF difference image offsets

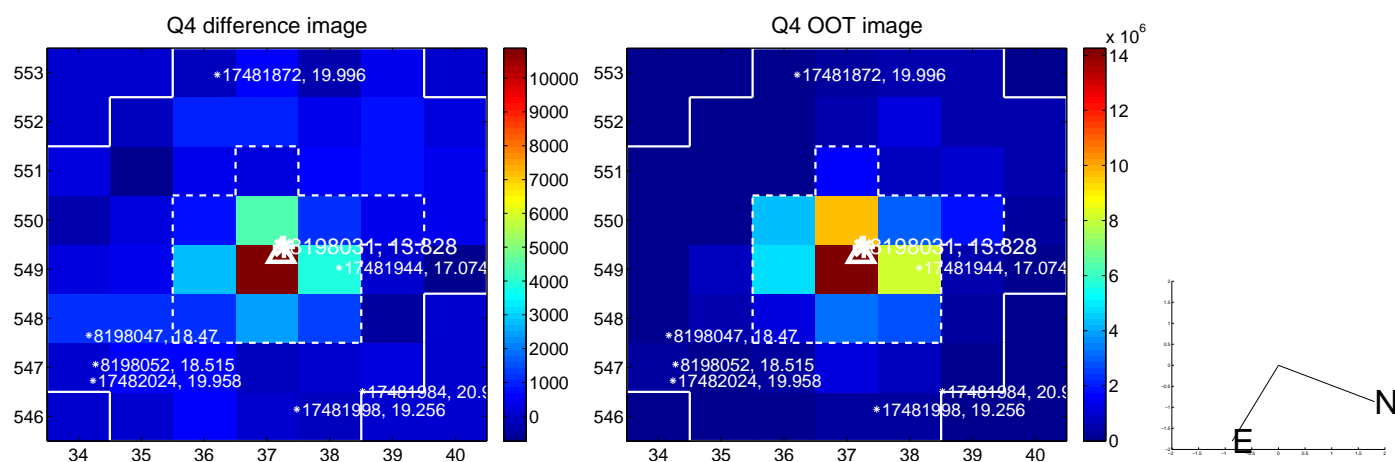
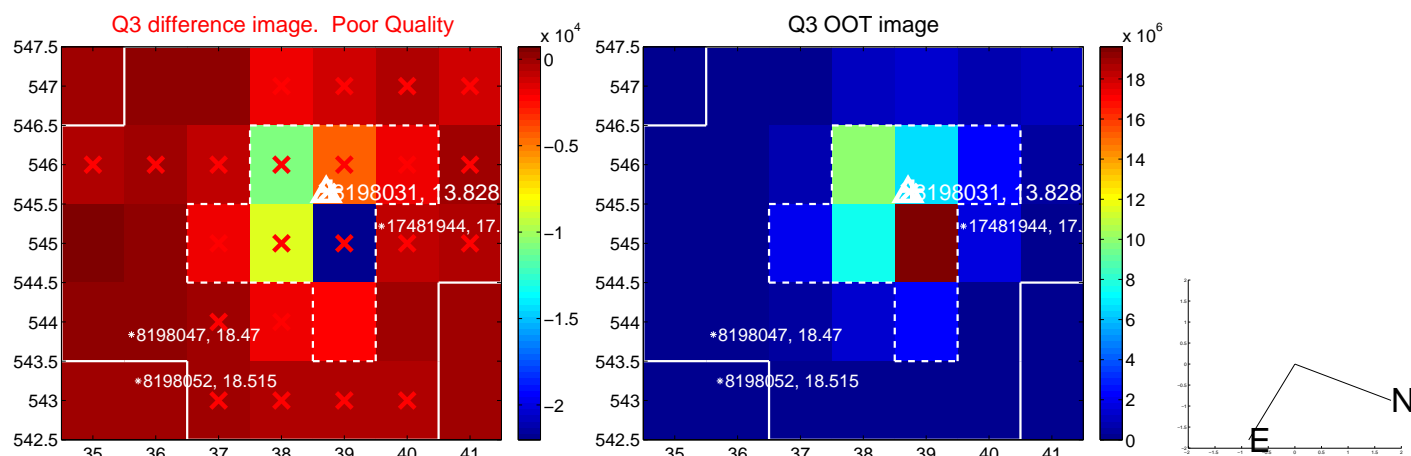
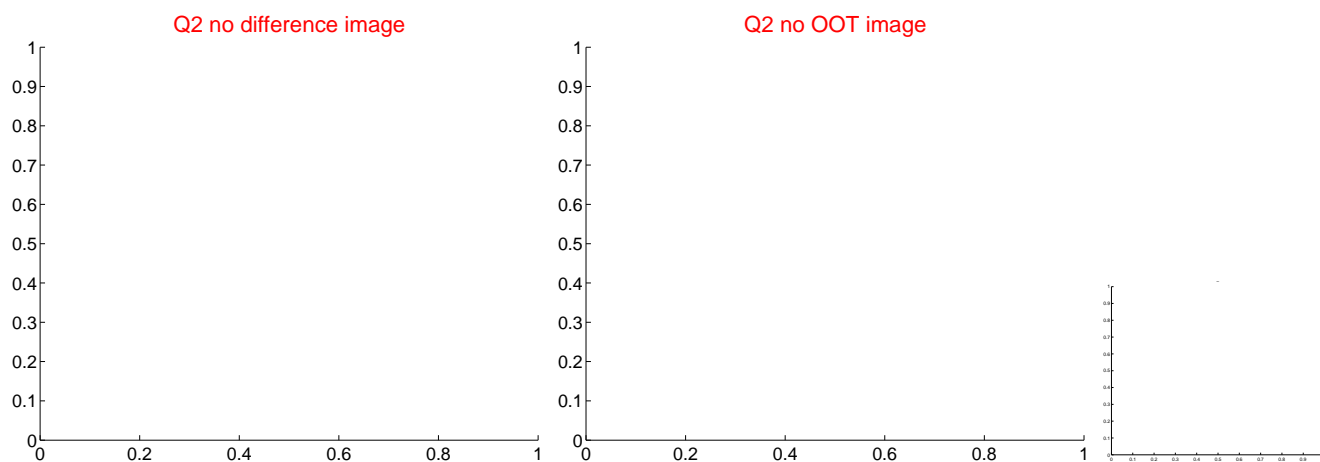
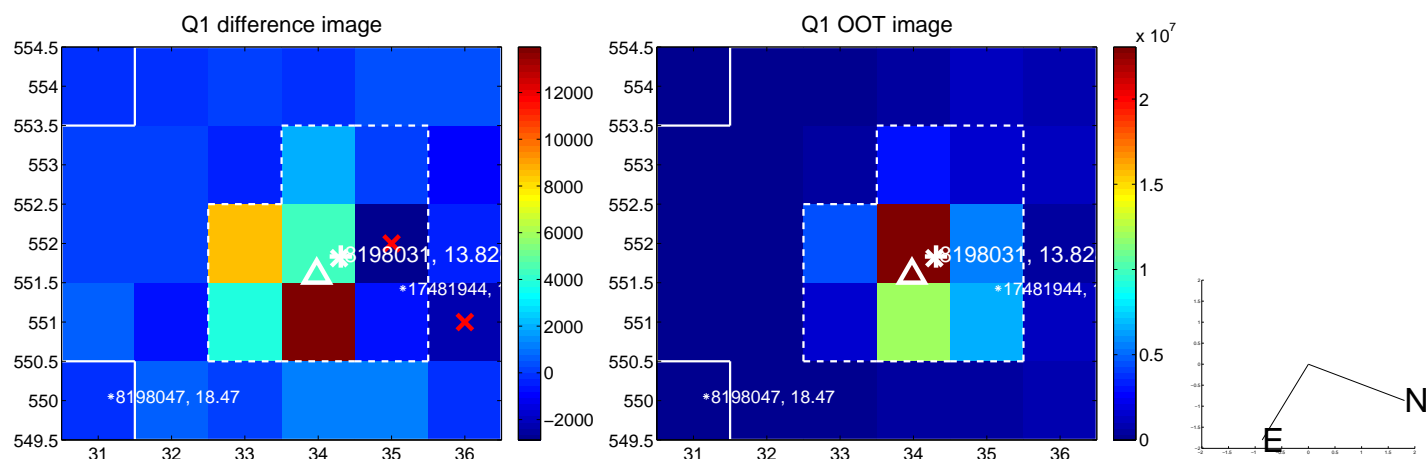
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.656 ± 0.501	1.31	0.645 ± 0.508	-0.120 ± 0.204
PRF-fit source offset from KIC position	0.534 ± 0.524	1.02	0.526 ± 0.523	-0.095 ± 0.179
photometric centroid source offset	1.62 ± 0.56	2.88	1.48 ± 0.55	-0.65 ± 0.60

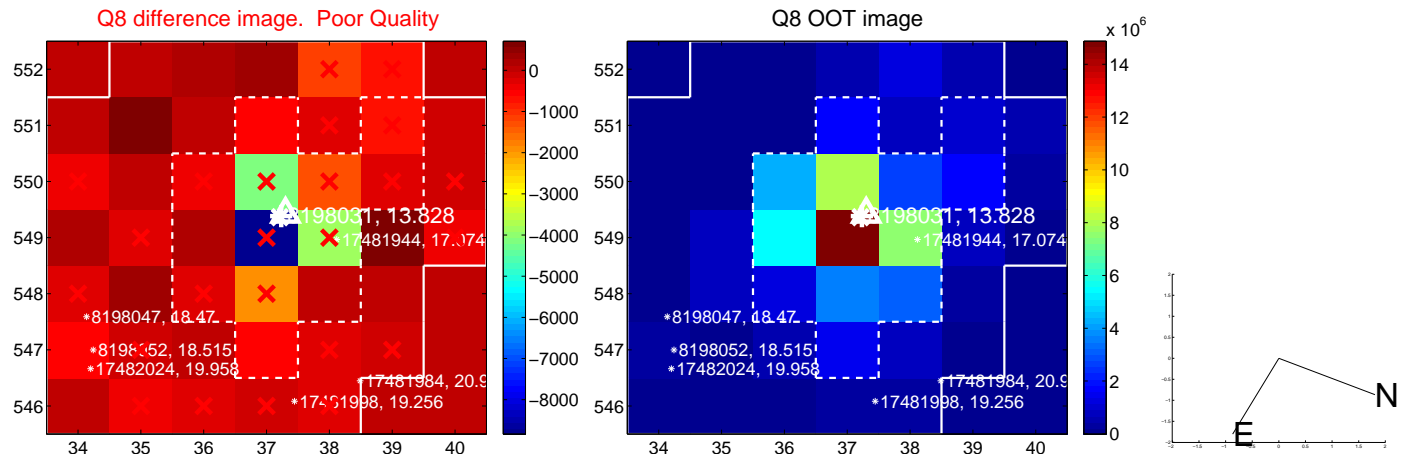
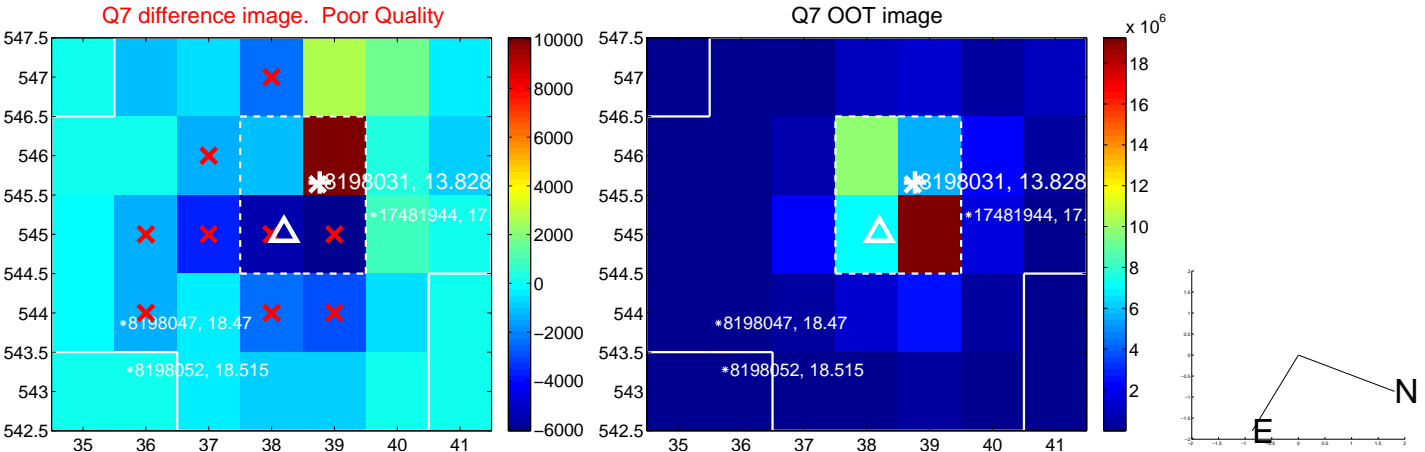
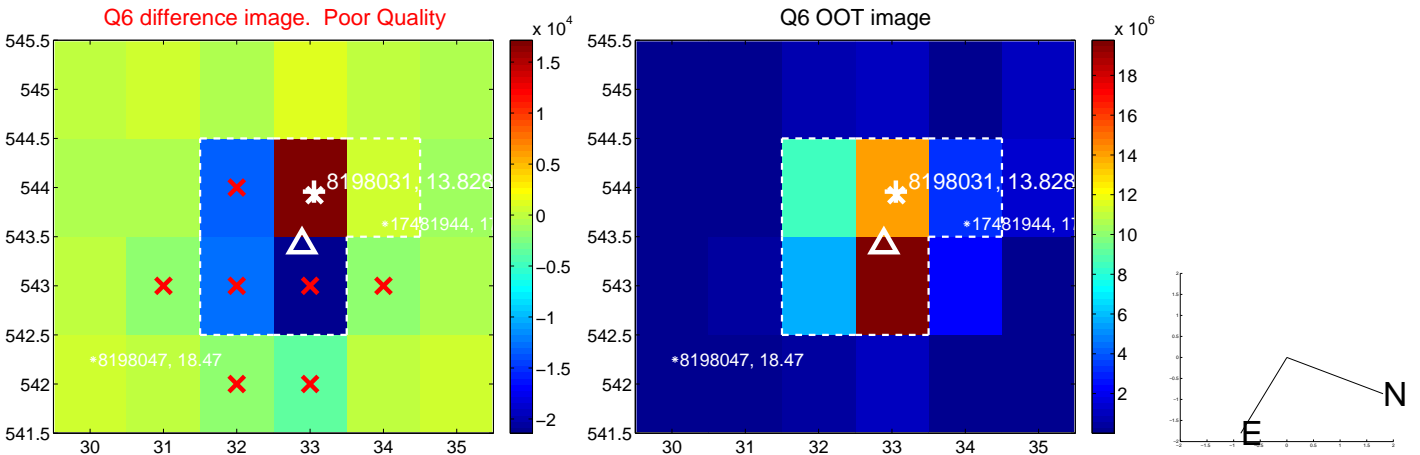
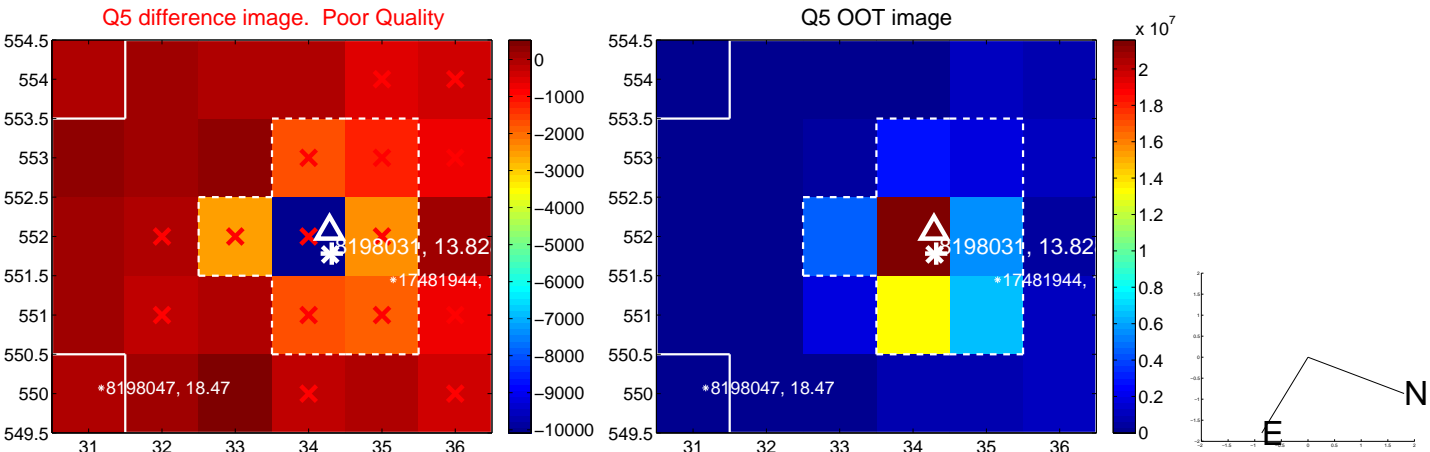


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

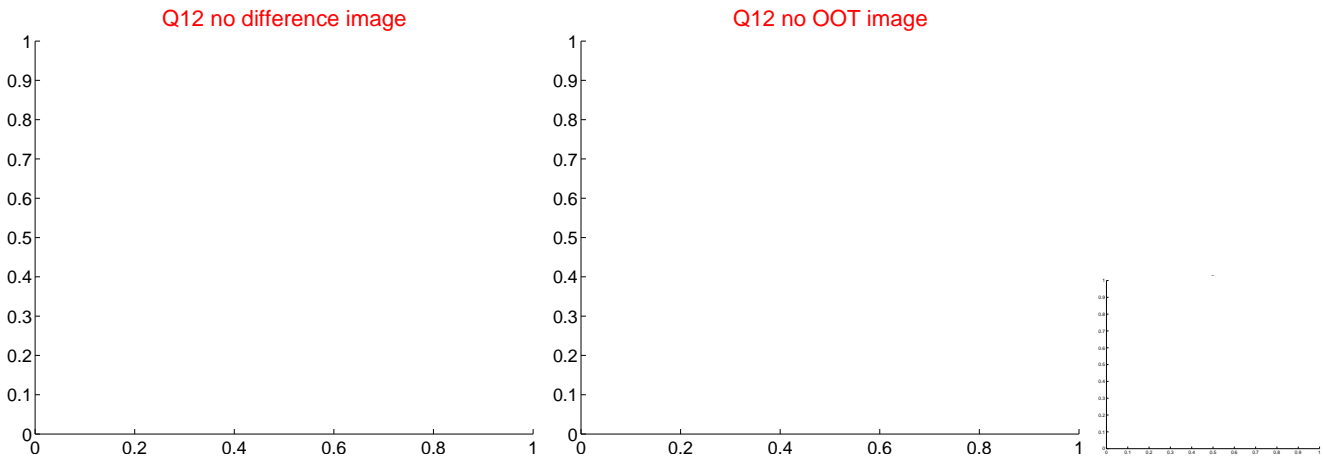
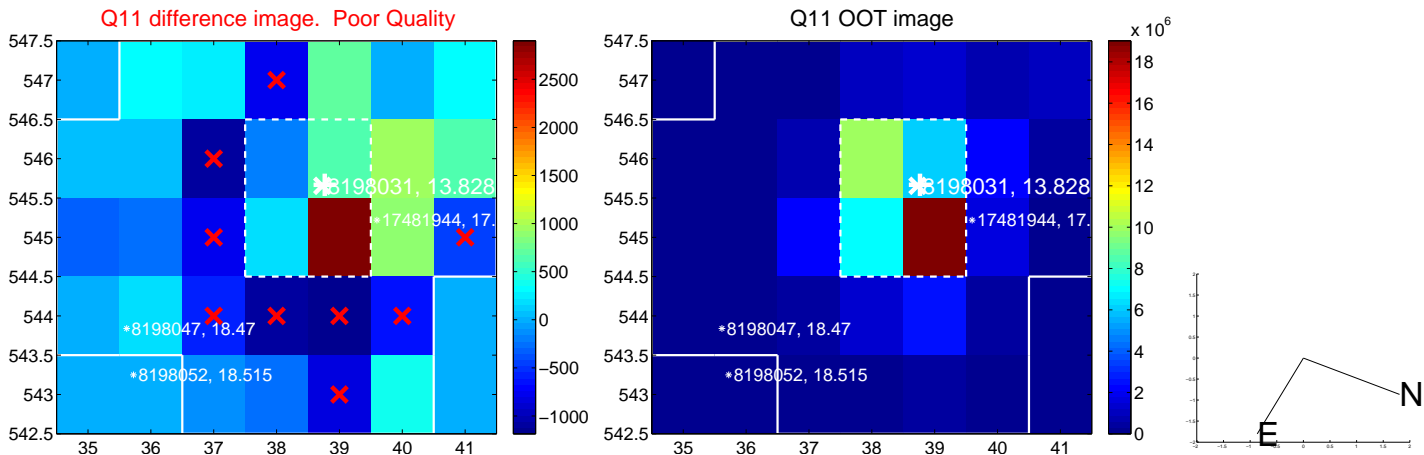
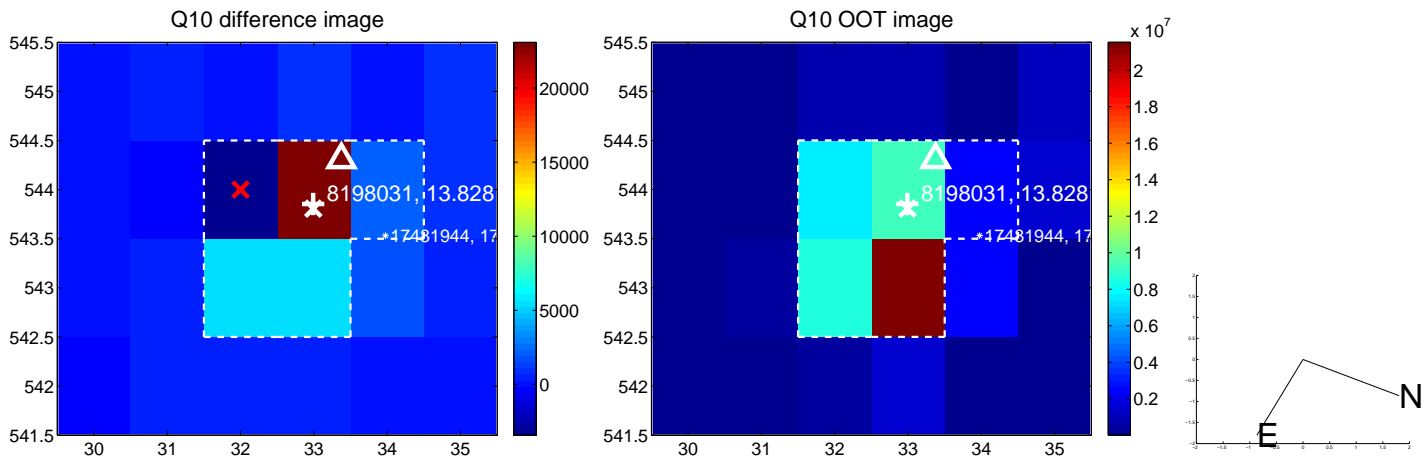
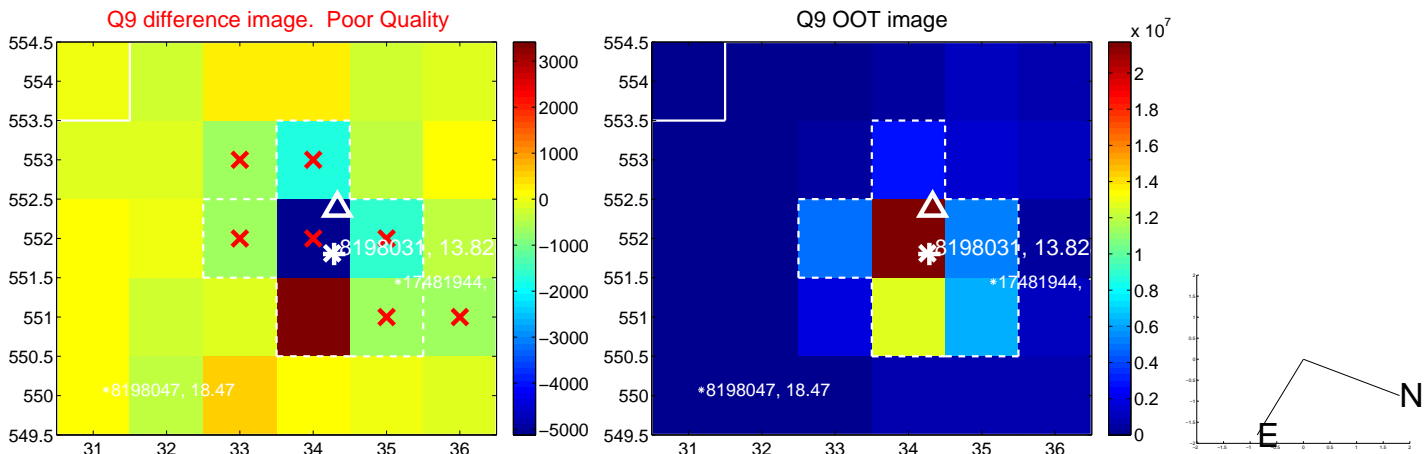
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



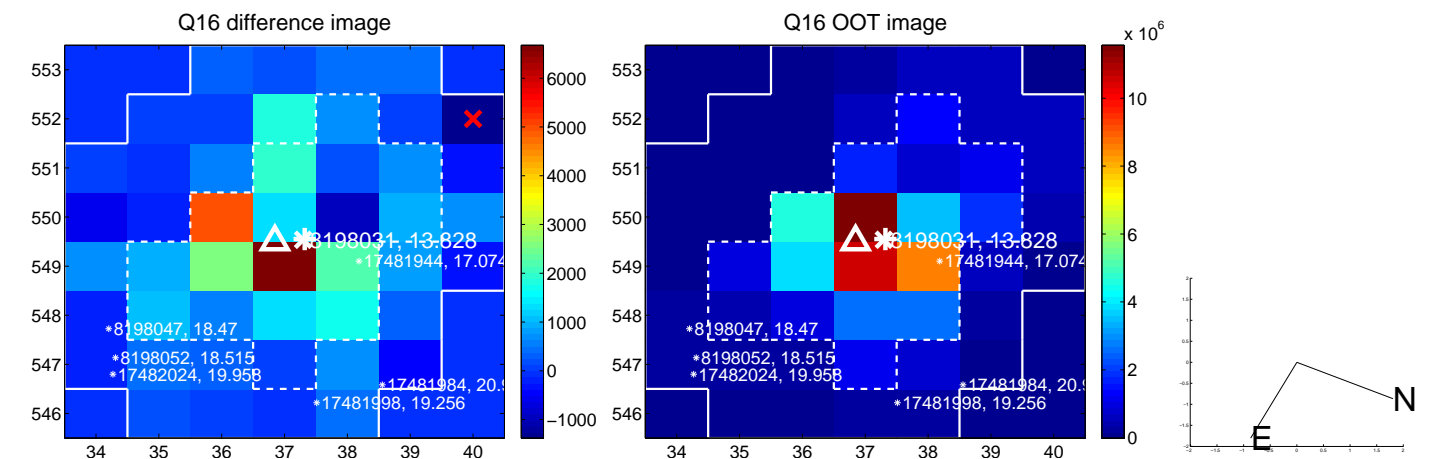
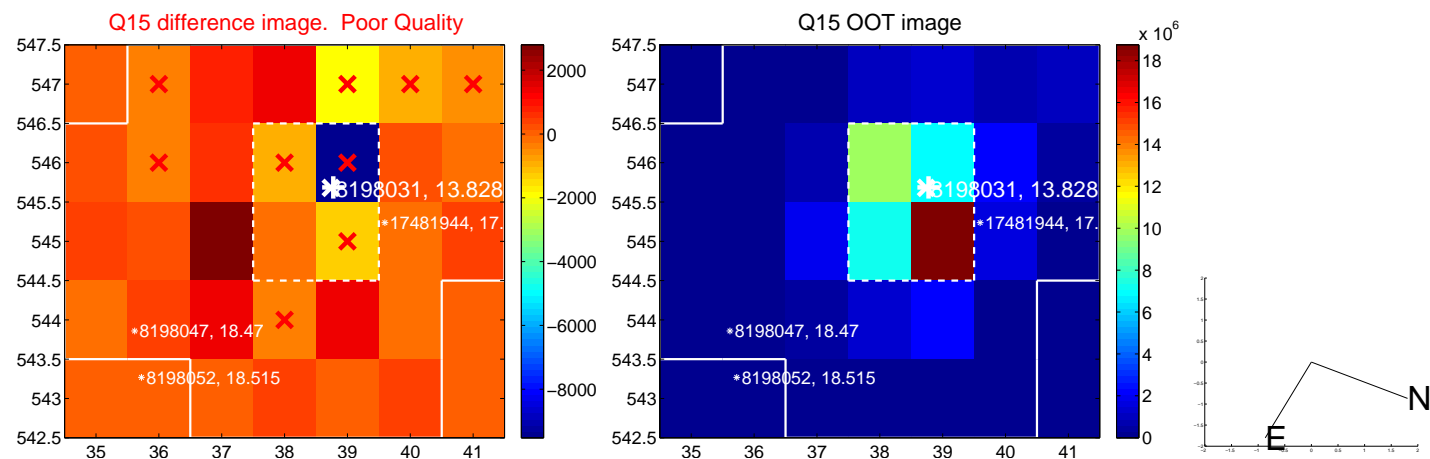
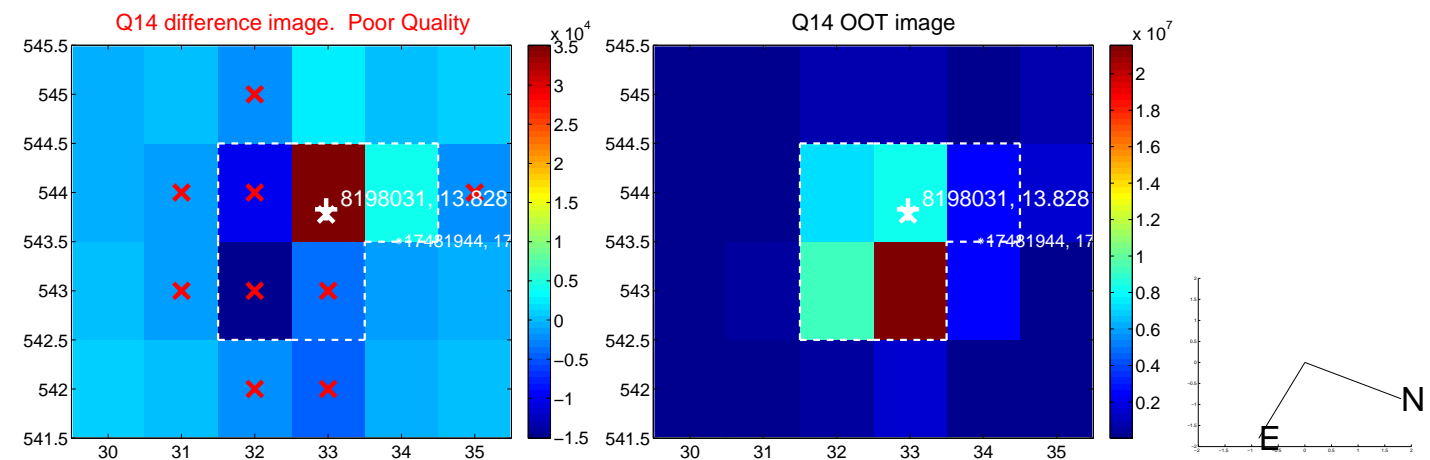
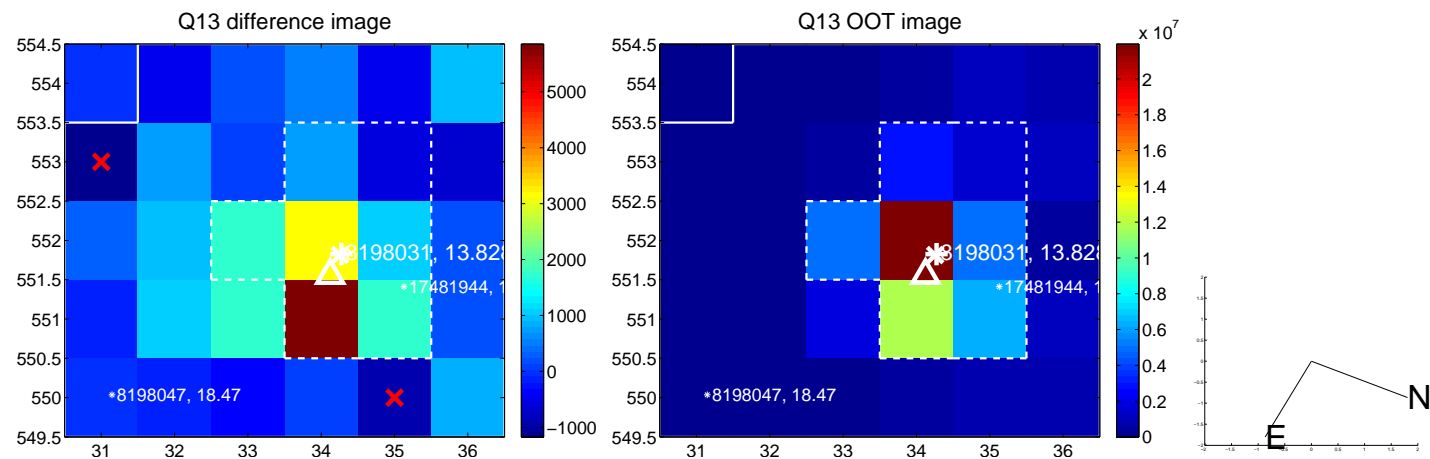
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



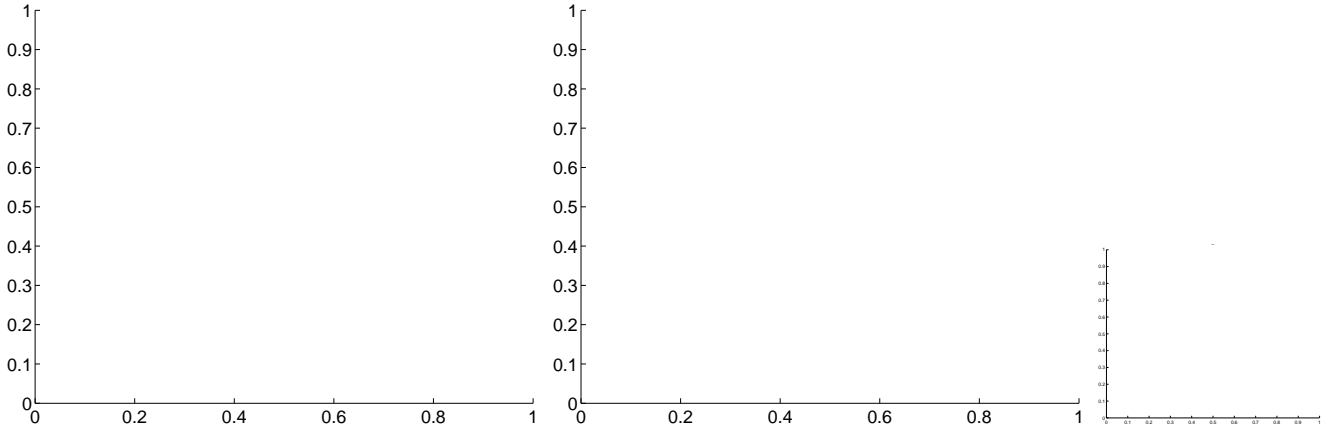
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



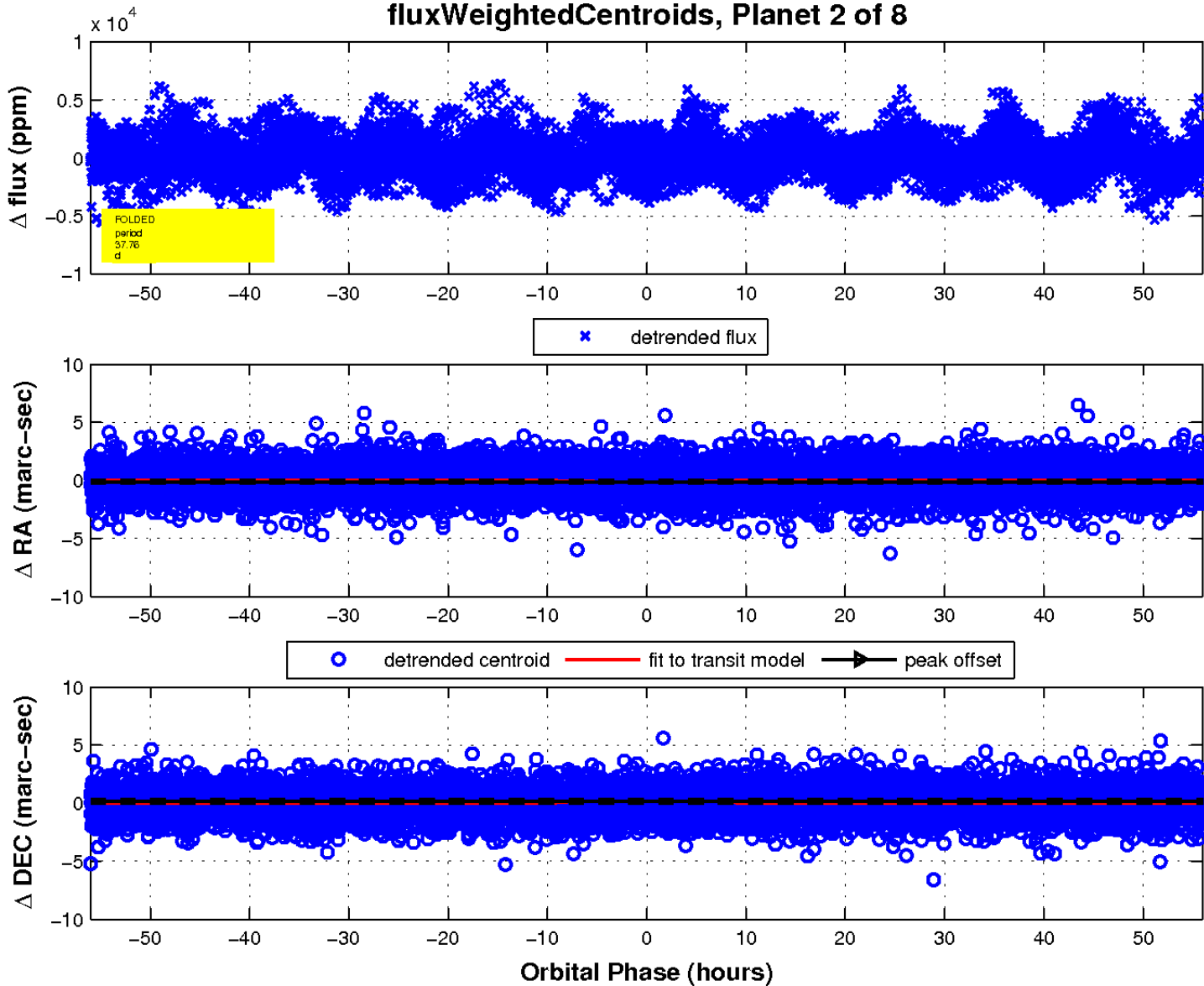
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

Q17 no difference image

Q17 no OOT image

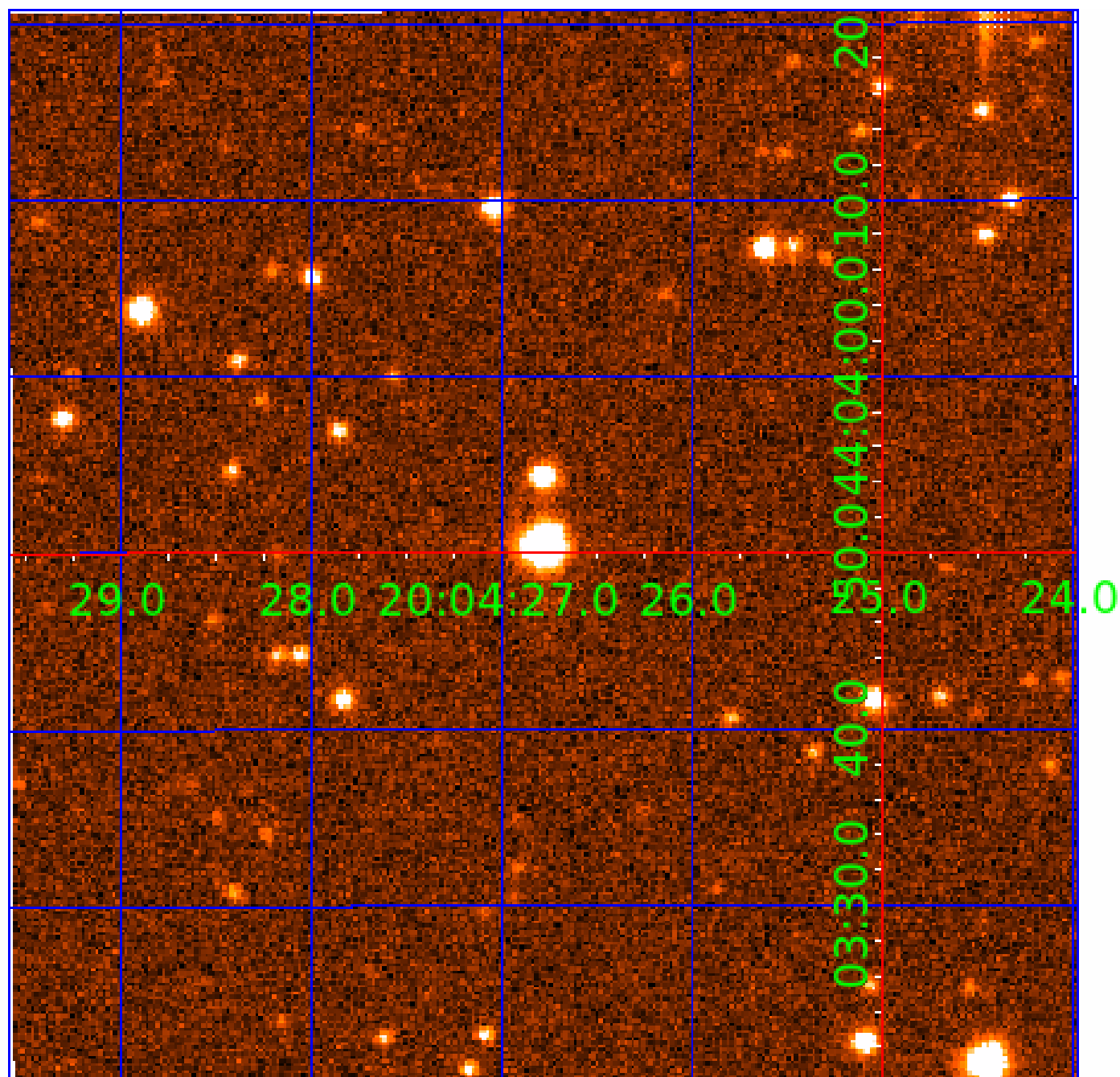


fluxWeightedCentroids, Planet 2 of 8



UKIRT Image

Declination



KIC 008198031

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})
008198031-01	OBS	No	0.661033	131.624513	0.0	4.493	9.7	0.0	1.56	7563	0.01	24484.94
008198031-02	OBS	No	37.757658	147.156954	195.7	18.674	10.0	1.5	1.56	7563	2.38	111.31
008198031-03	OBS	No	94.997100	143.814118	2872.3	3.583	11.4	8.6	1.56	7563	8.61	32.53
008198031-05	OBS	No	46.800903	141.824352	949.0	2.535	7.8	3.8	1.56	7563	5.06	83.60
008198031-06	OBS	No	20.264628	137.190330	725.6	1.863	7.9	4.0	1.56	7563	4.67	255.20
008198031-07	OBS	No	45.219461	134.575669	2181.5	3.114	11.8	7.1	1.56	7563	13.21	87.52
008198031-08	OBS	No	43.086319	153.126624	961.3	1.500	10.8	-1.0	1.56	7563	4.92	93.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008198031-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008198031-02	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV
008198031-05	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
008198031-06	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

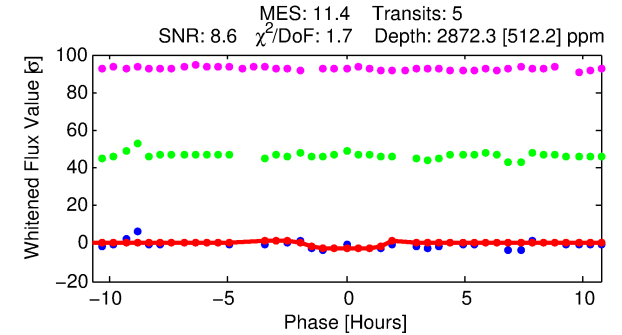
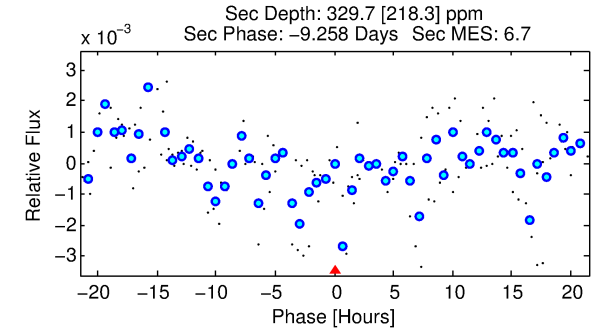
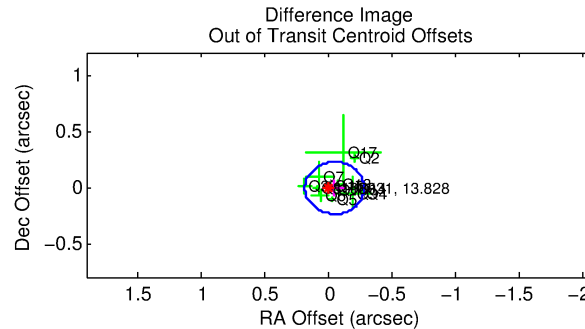
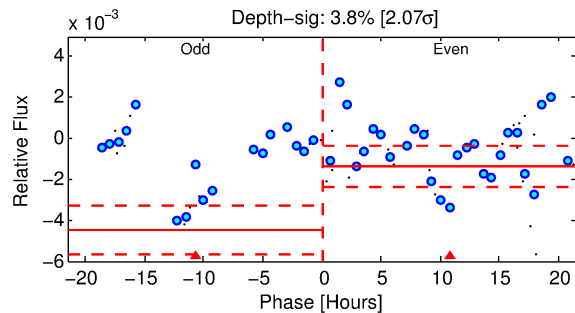
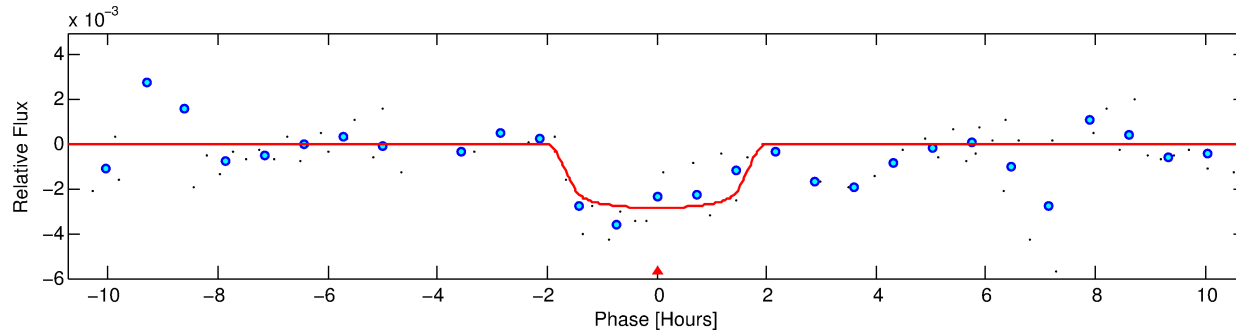
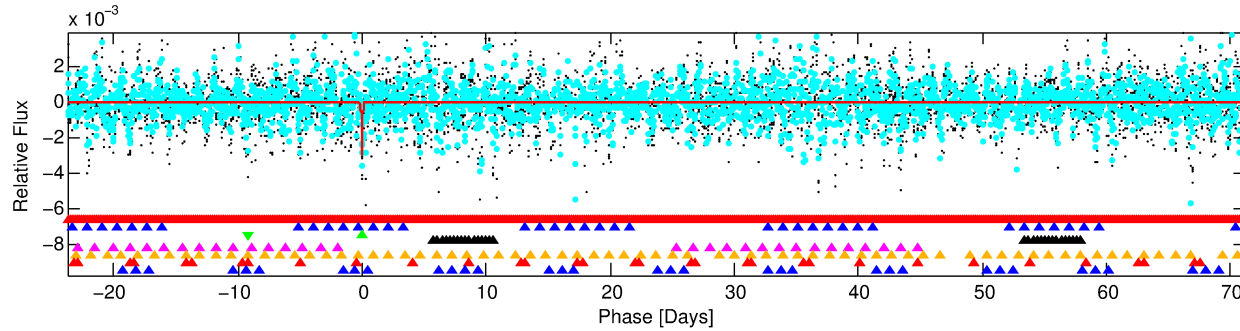
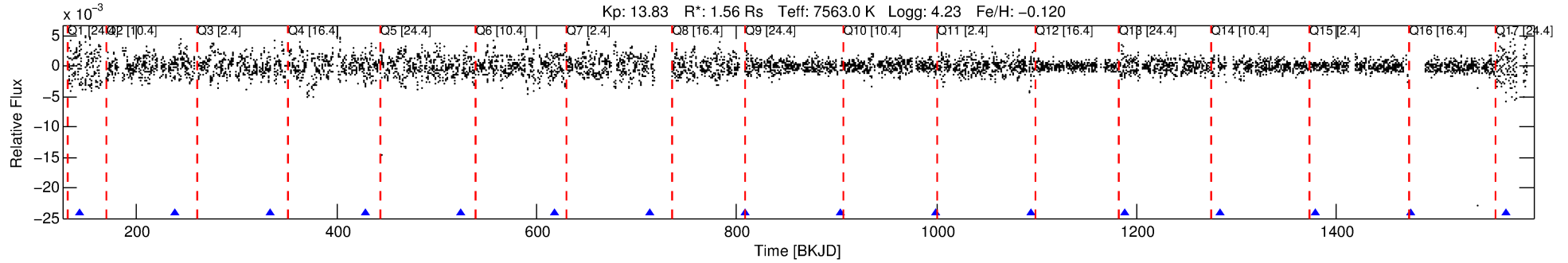
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008198031-03

No Significant Match Found

DV One-Page Summary

KIC: 8198031 Candidate: 3 of 8 Period: 94.997 d



DV Fit Results:

Period = 94.99710 [0.00116] d
Epoch = 143.8141 [0.0104] BKJD
Rp/R* = 0.0507 [0.0576]
a/R* = 196.14 [1345.69]
b = 0.41 [14.10]
Seff = 32.53 [13.91]
Teq = 609 [65] K
Rp = 8.61 [10.22] Re
a = 0.4674 [0.1298] AU
Ag = 535.07 [1285.55] [0.42 σ]
Teffp = 4528 [2690] K [1.46 σ]

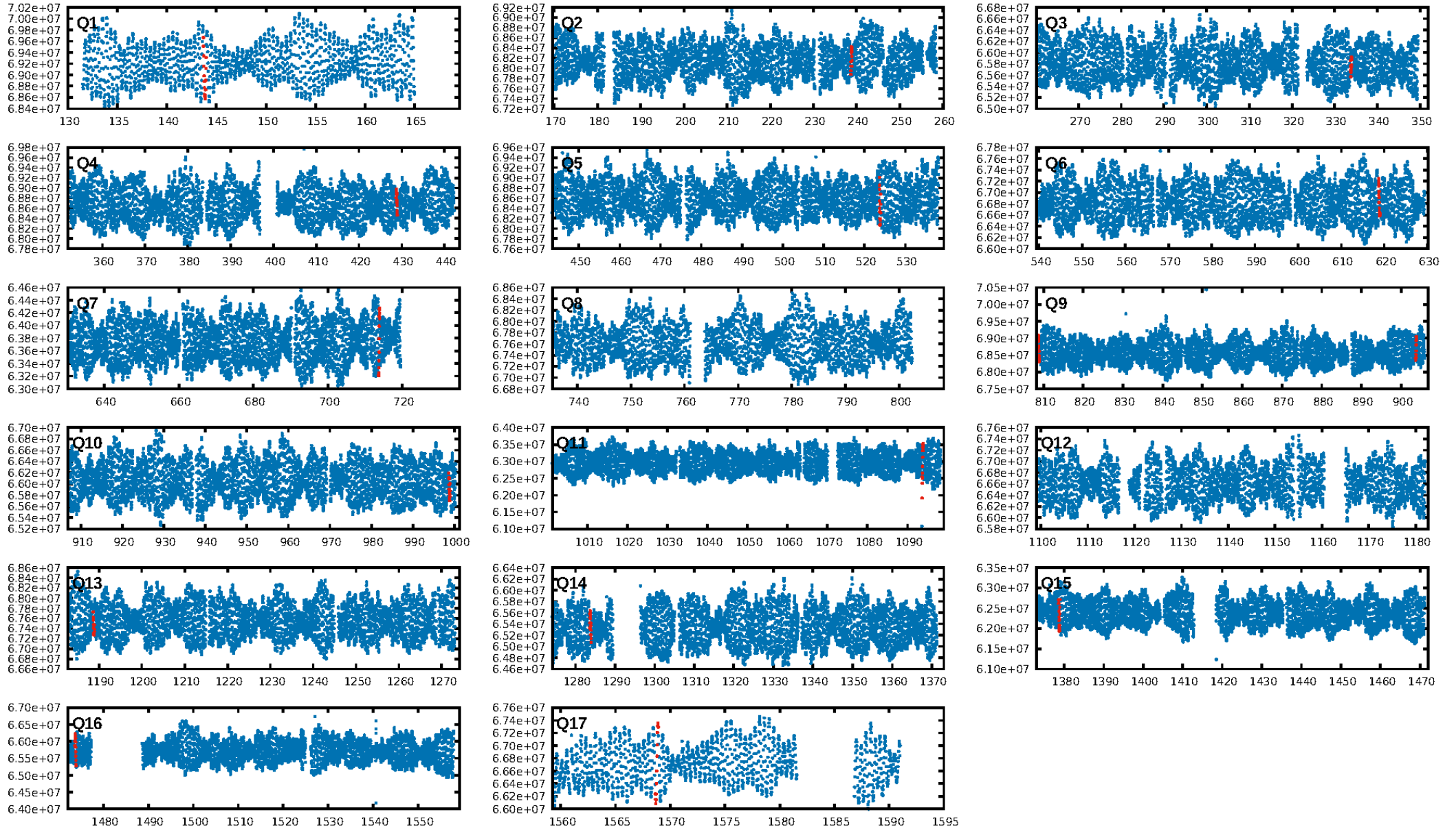
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [239.25 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 18.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.7579
Centroid-sig: 10.9%
Centroid-so: 0.967 arcsec [8.20 σ]
OotOffset-rm: 0.050 arcsec [0.65 σ]
KicOffset-rm: 0.145 arcsec [1.90 σ]
OotOffset-st: 4/3/1/5 [13]
KicOffset-st: 4/3/1/5 [13]
DiffImageQuality-fgm: 0.54 [7/13]
DiffImageOverlap-fno: 0.00 [0/13]

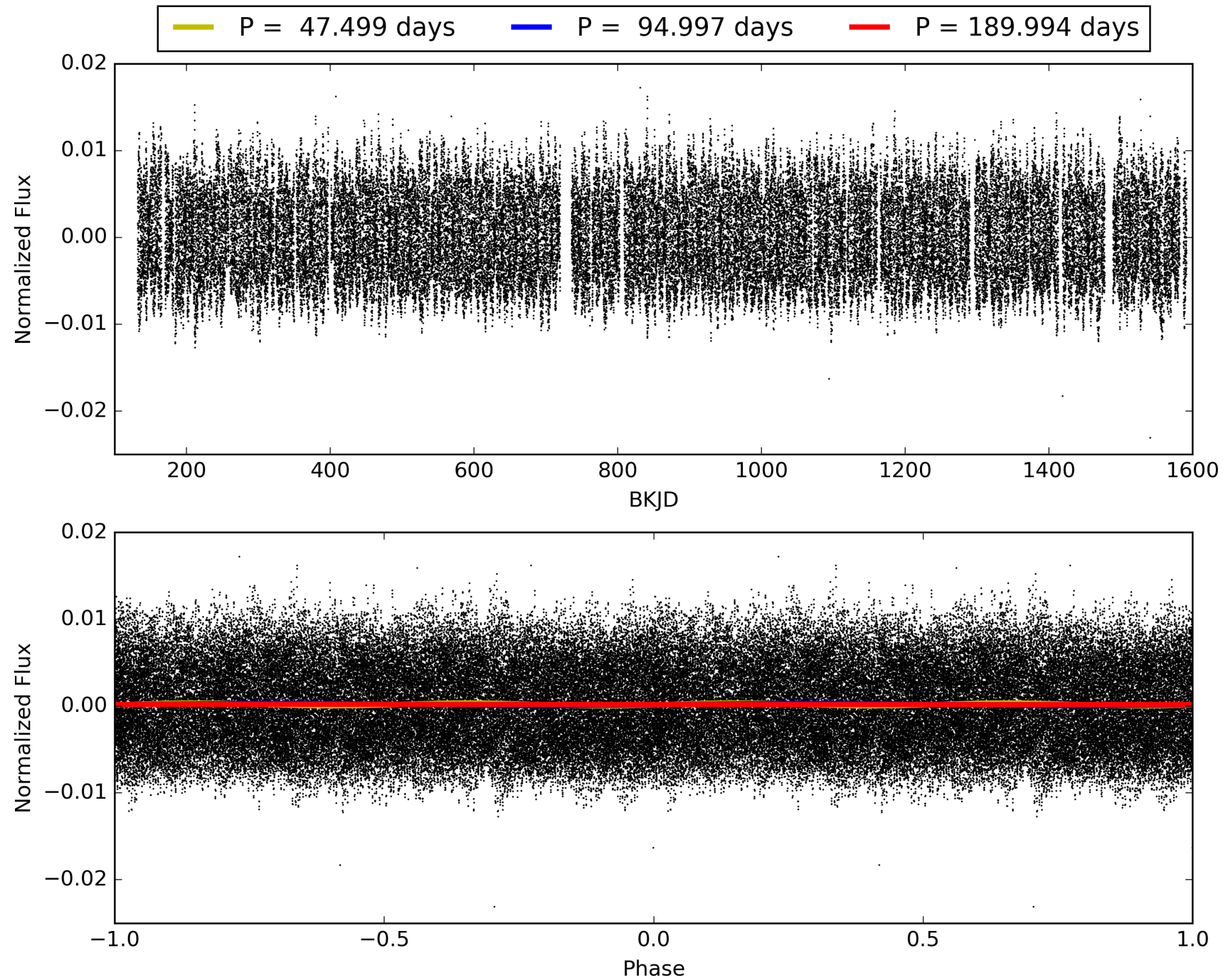
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:24:01 Z

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

TCE 008198031-03, PDC Light Curves

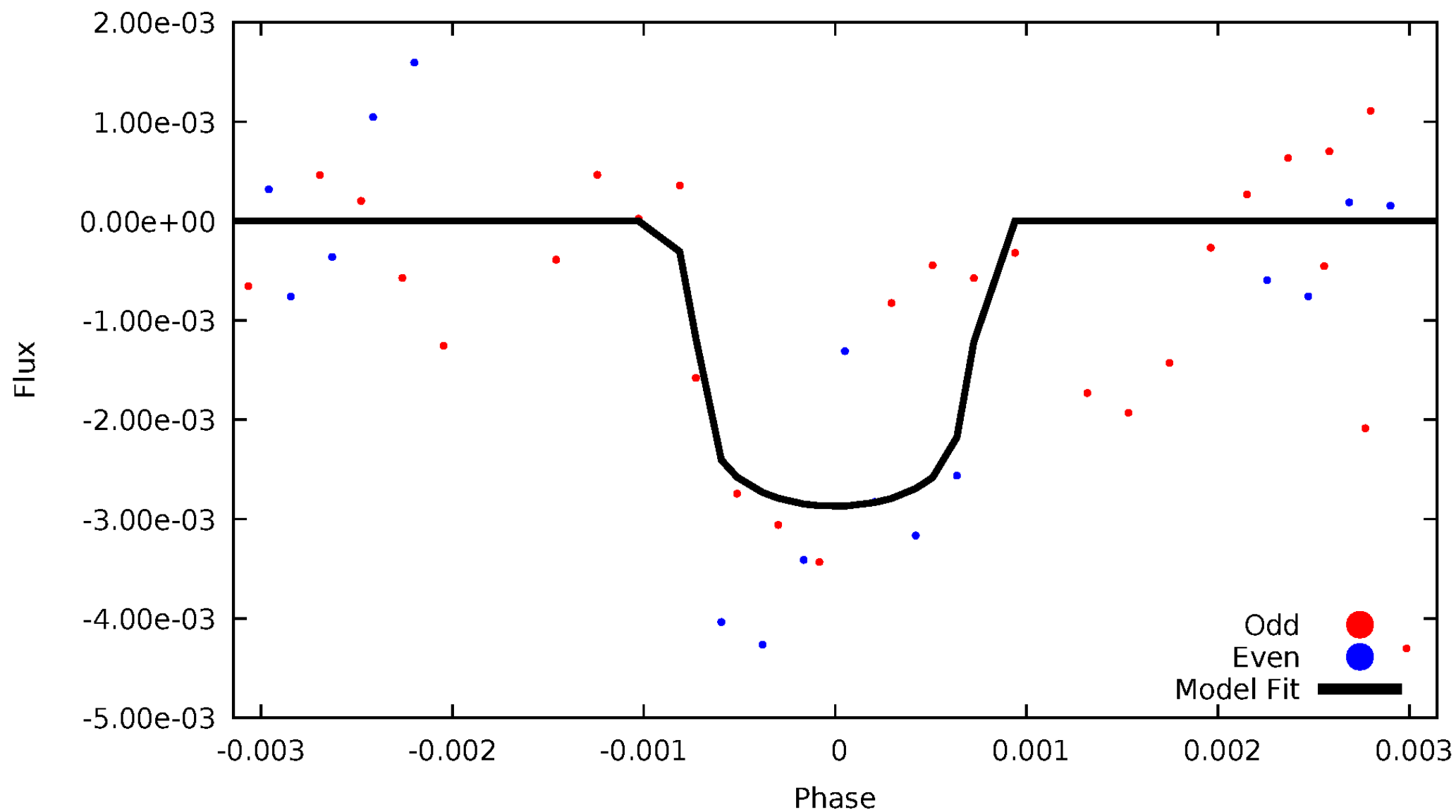


TCE 008198031-03



DV Odd/Even

TCE 008198031-03

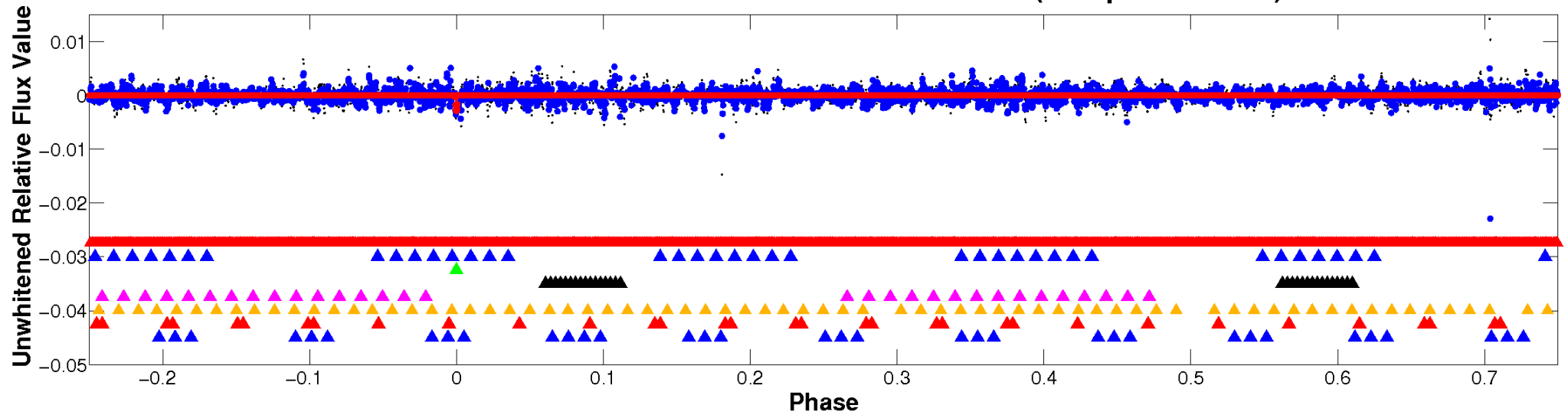


ALT Odd/Even

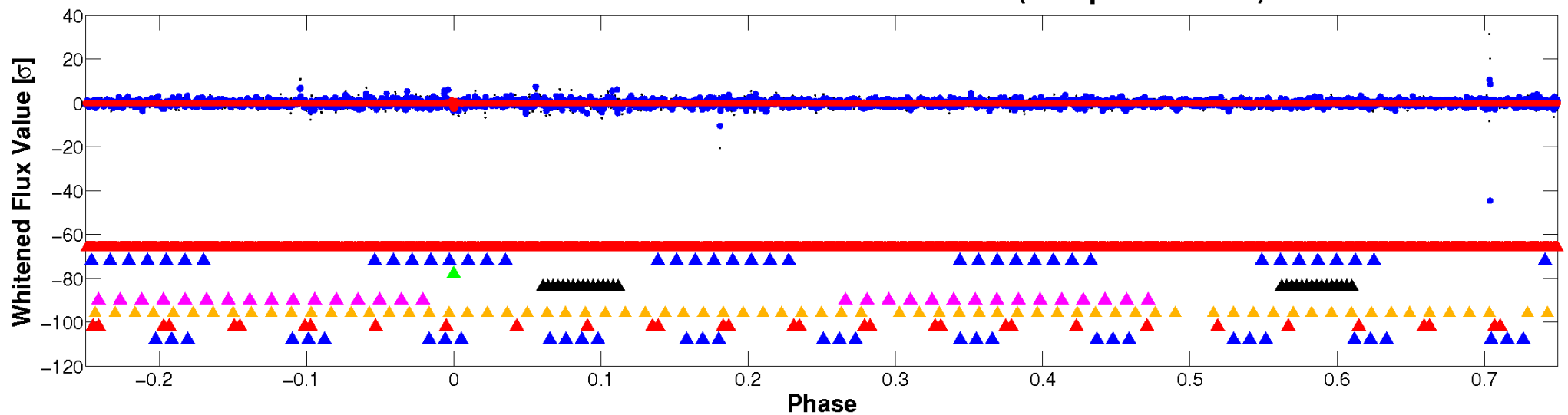
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

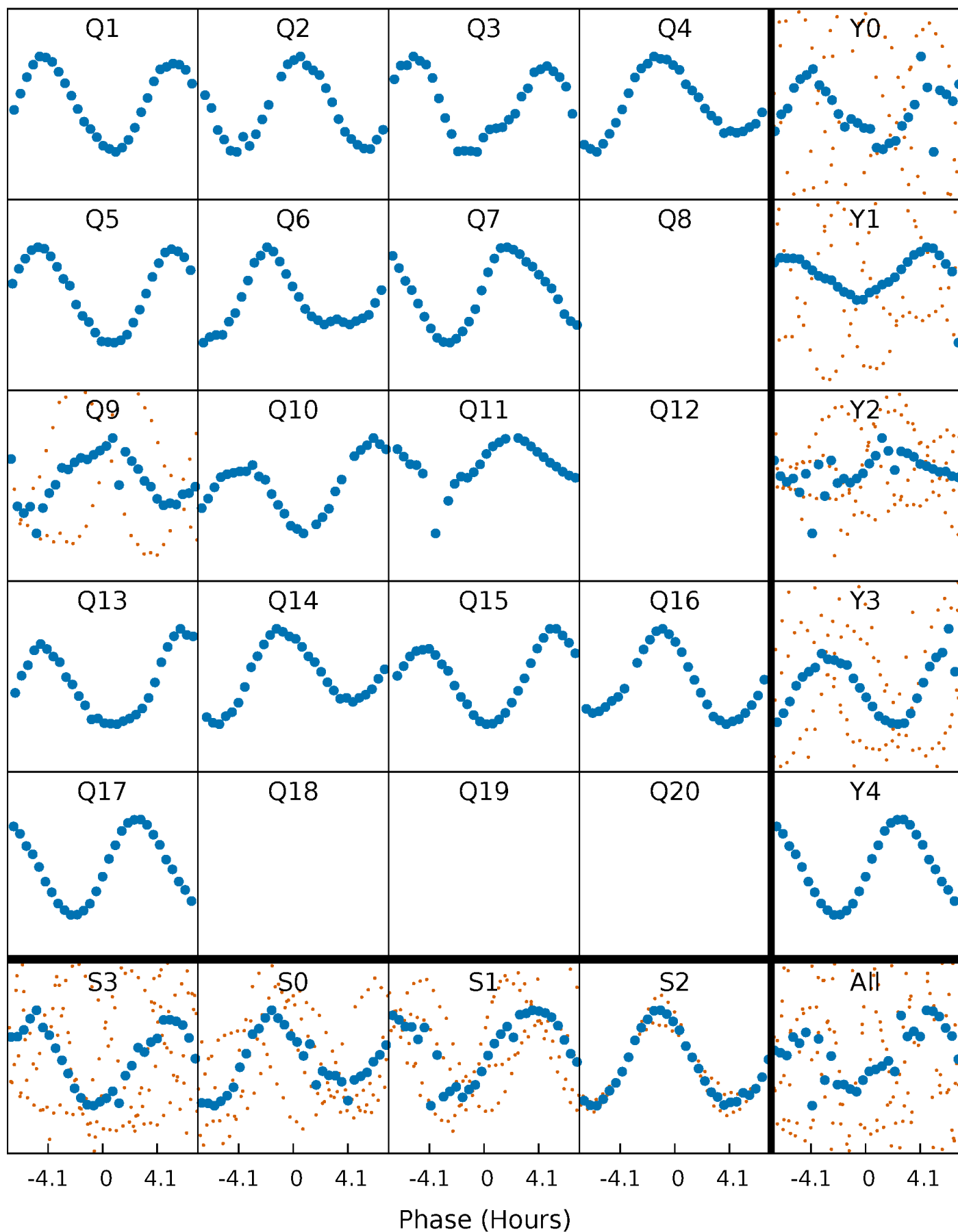


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



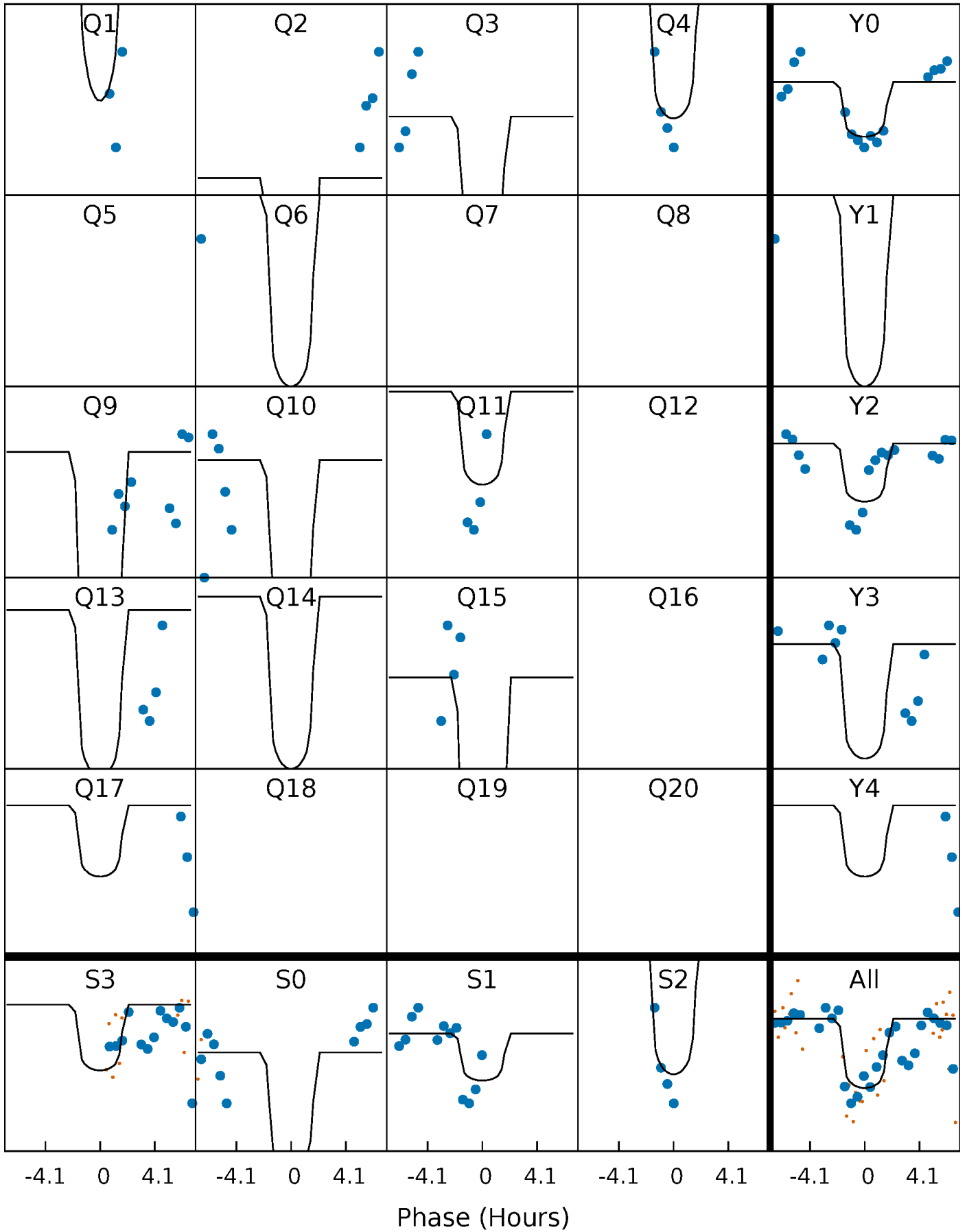
PDC Quarter-Phased Transit Curves

TCE 008198031-03 P= 94.997100 Days $T_0=143.814118$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008198031-03 P= 94.997100 Days $T_0=143.814118$ (BKJD)

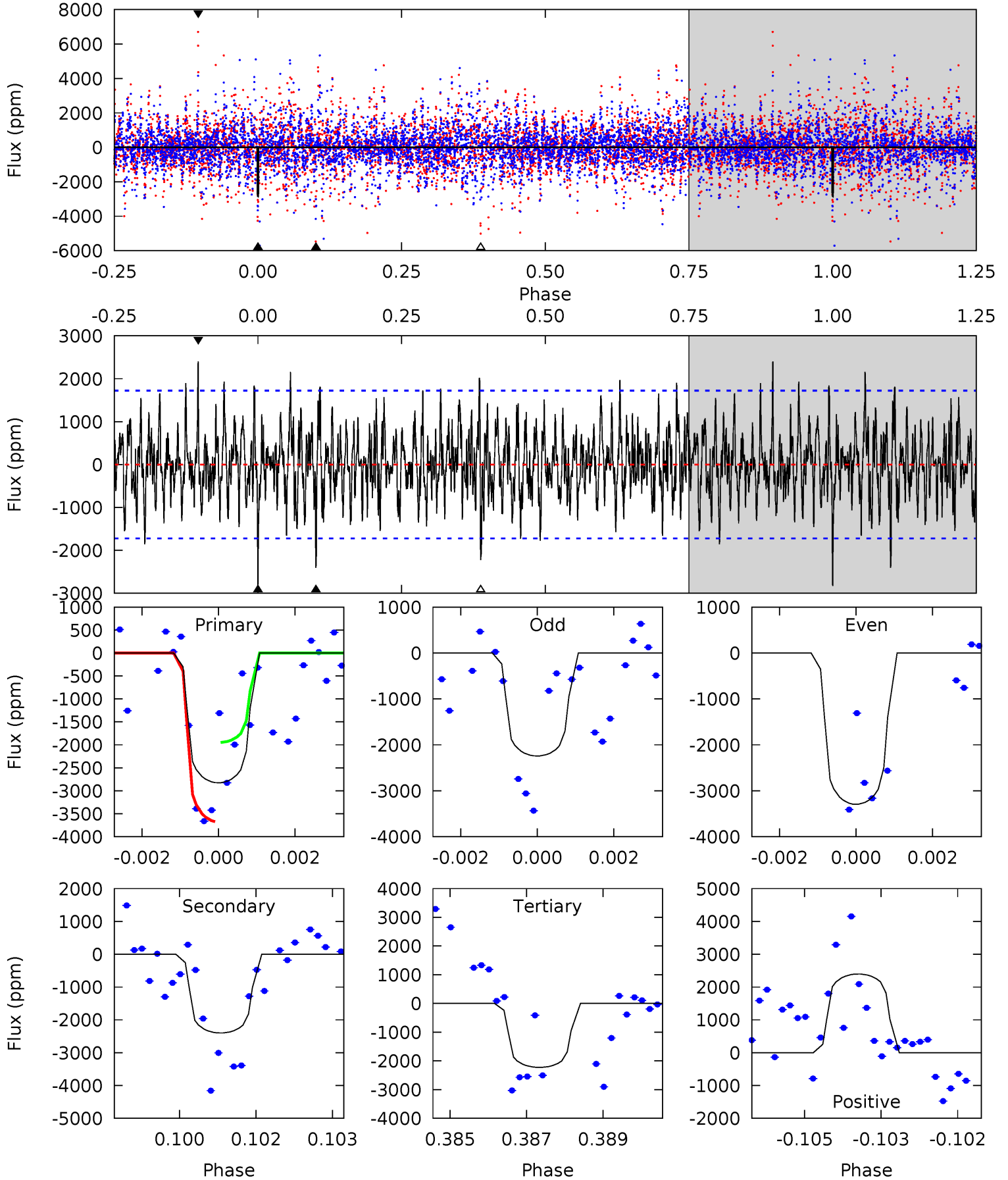


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008198031-03, P = 94.997100 Days, E = 48.817018 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.79	7.46	6.93	7.45	5.35	3.13	2.04	1.86	1.33	0.54	0.01	1.64	0.82	0.46	2.67



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008198031

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7563^{+211}_{-316}	$4.232^{+0.090}_{-0.210}$	$-0.120^{+0.200}_{-0.350}$	$1.557^{+0.528}_{-0.226}$	$1.506^{+0.219}_{-0.219}$	$0.562^{+0.234}_{-0.314}$
	+3%/-4%	+2%/-5%	+167%/-292%	+34%/-15%	+15%/-15%	+42%/-56%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008198031-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2400 ± 322	$11.06^{+10.78}_{-6.93}$	863^{+65}_{-50}	6588^{+5916}_{-1753}	2387^{+14241}_{-1782}
Alt.	N/A	N/A	N/A	N/A	N/A

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming A=0.3)

A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

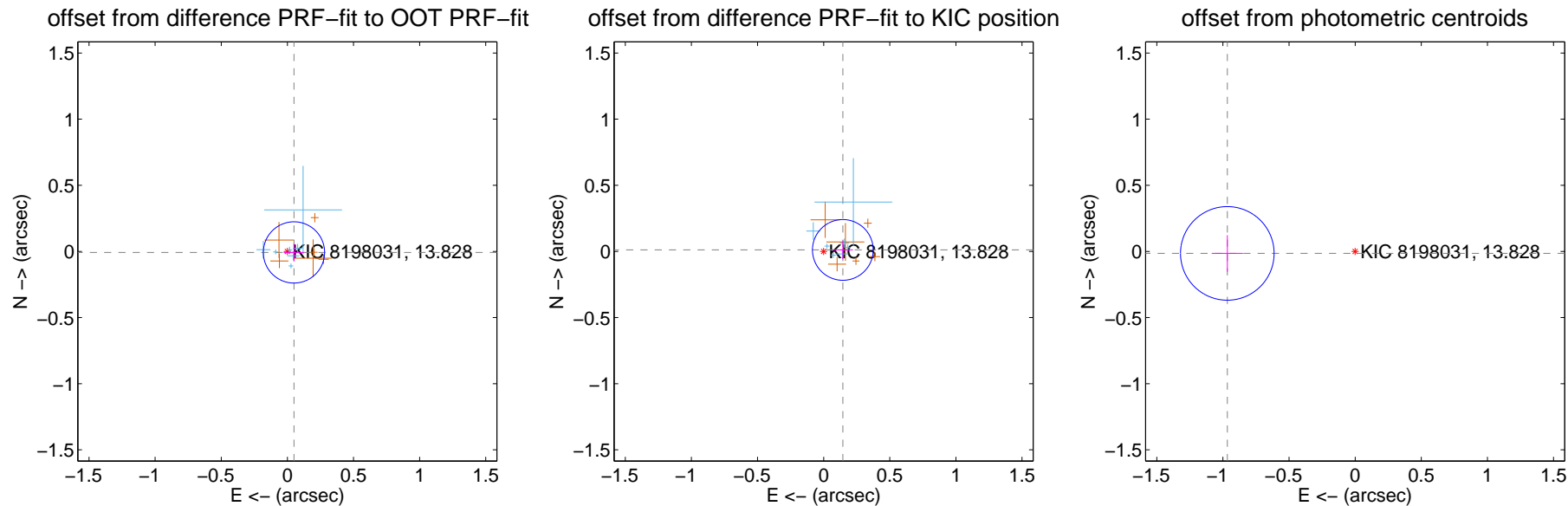
DV Centroid Data

Supplemental centroid analysis for 008198031-03. Kepler magnitude: 13.83. Transit SNR 8.55

There are 7 quarters with good PRF difference image offsets

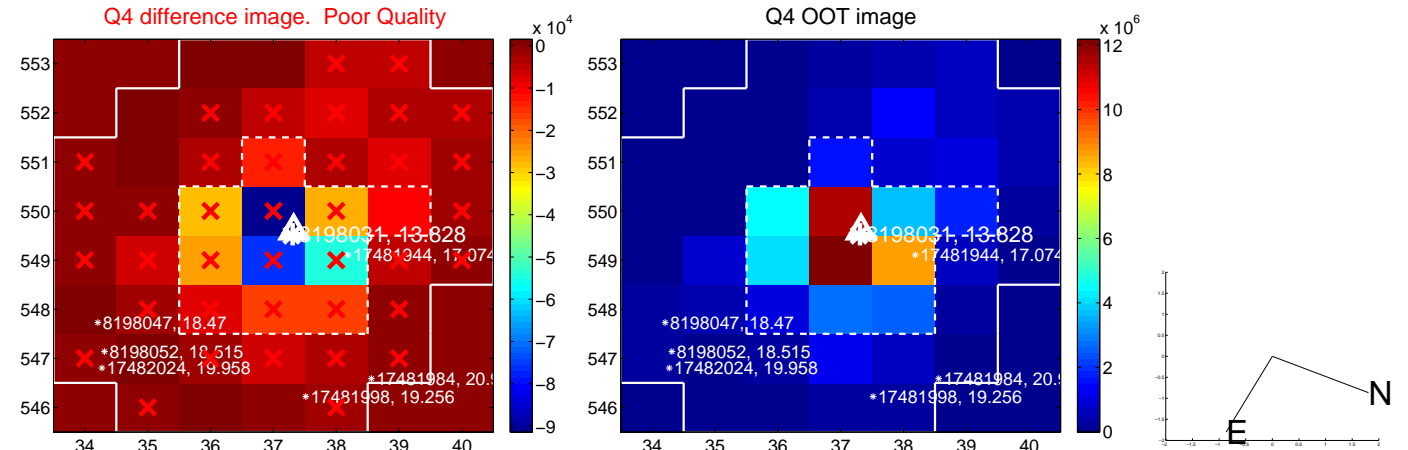
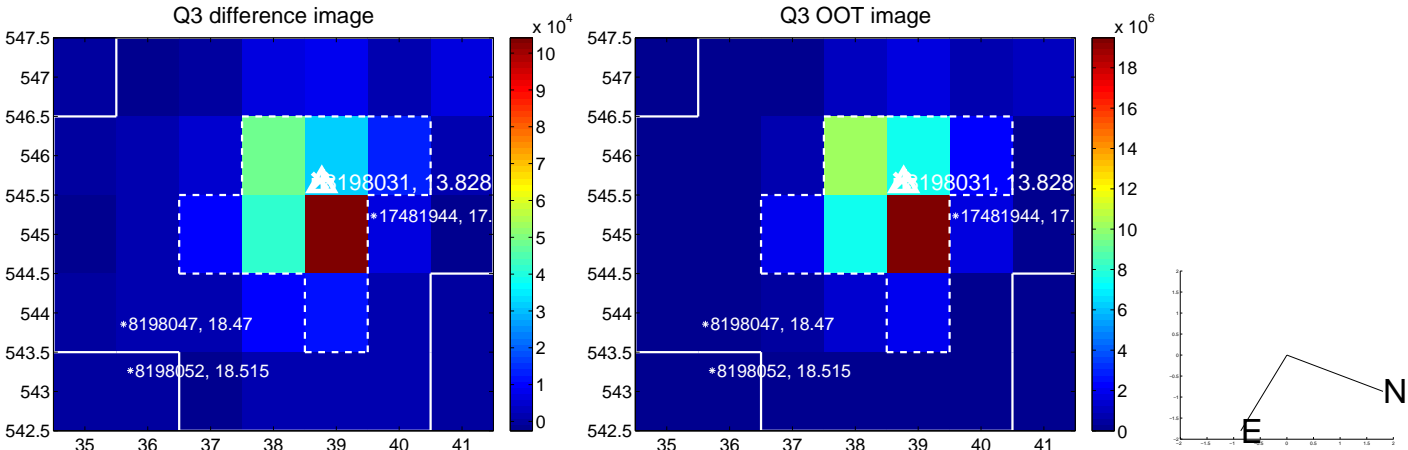
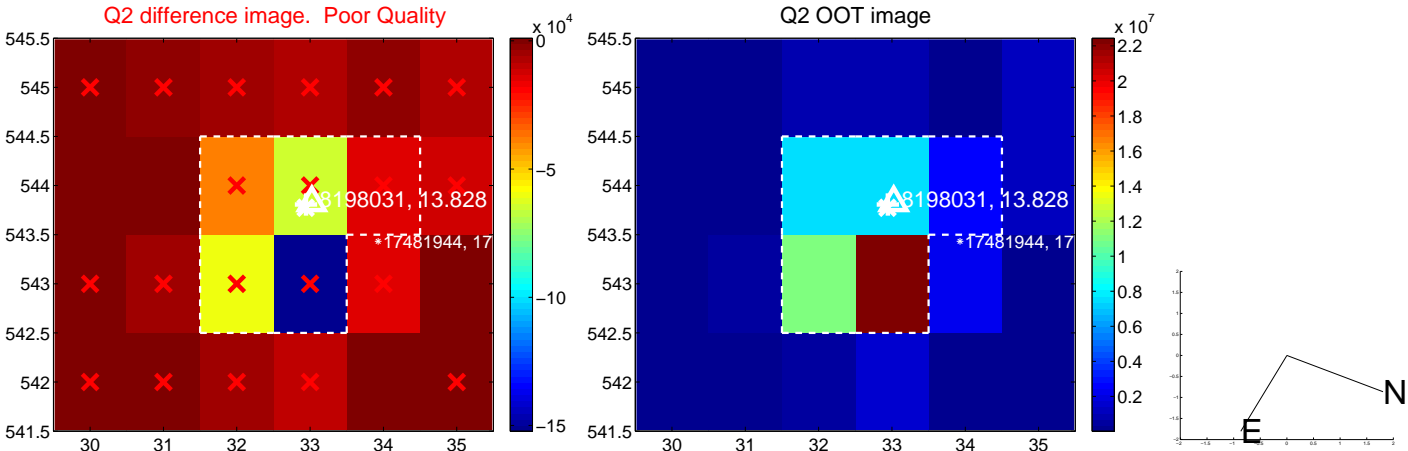
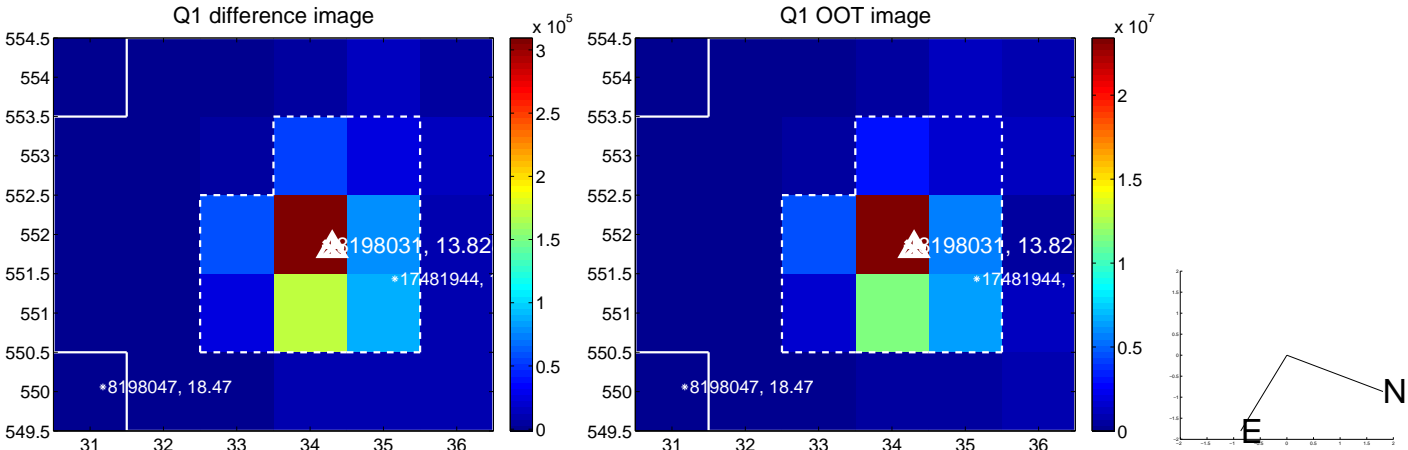
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.050 ± 0.077	0.65	-0.050 ± 0.077	-0.008 ± 0.068
PRF-fit source offset from KIC position	0.145 ± 0.077	1.90	-0.145 ± 0.077	0.011 ± 0.070
photometric centroid source offset	0.97 ± 0.12	8.20	0.97 ± 0.12	-0.01 ± 0.14

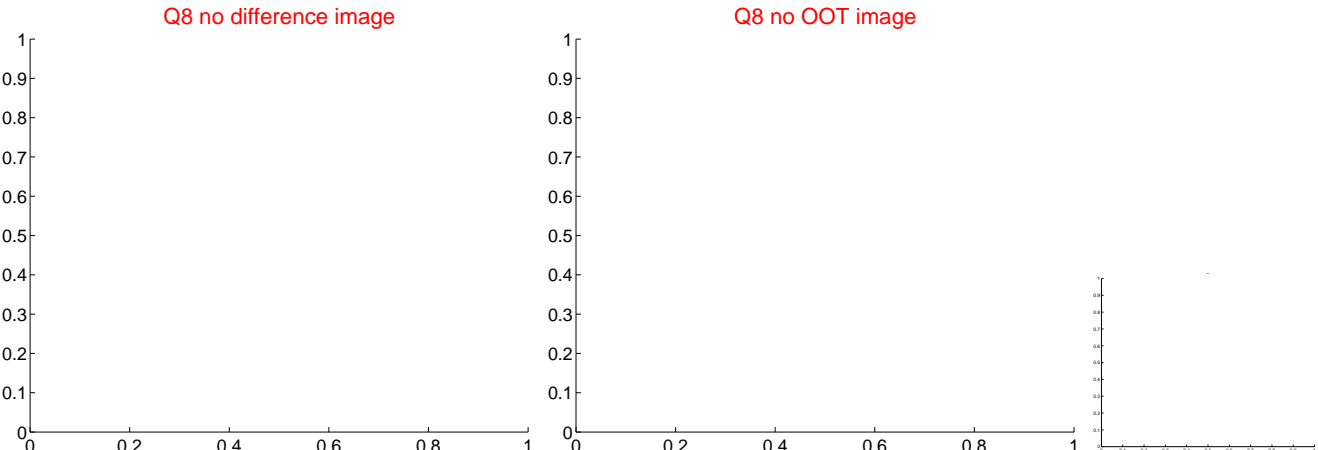
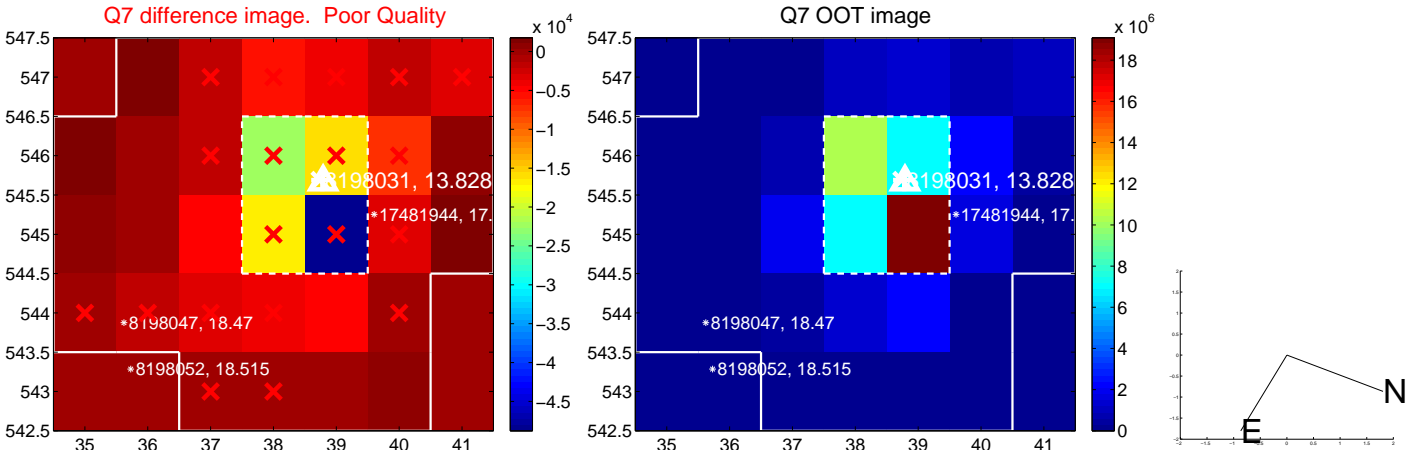
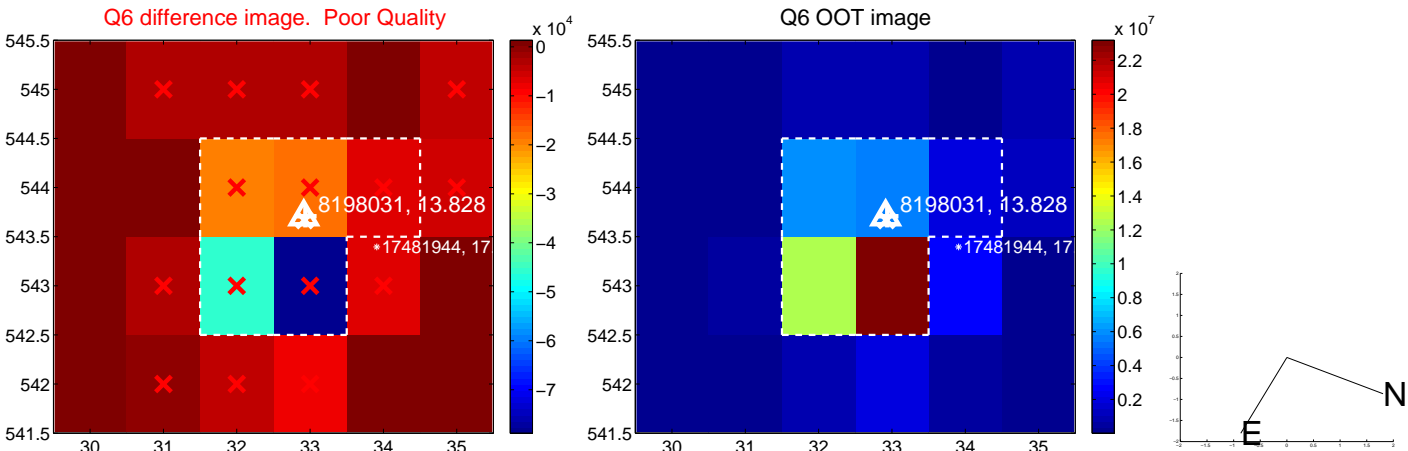
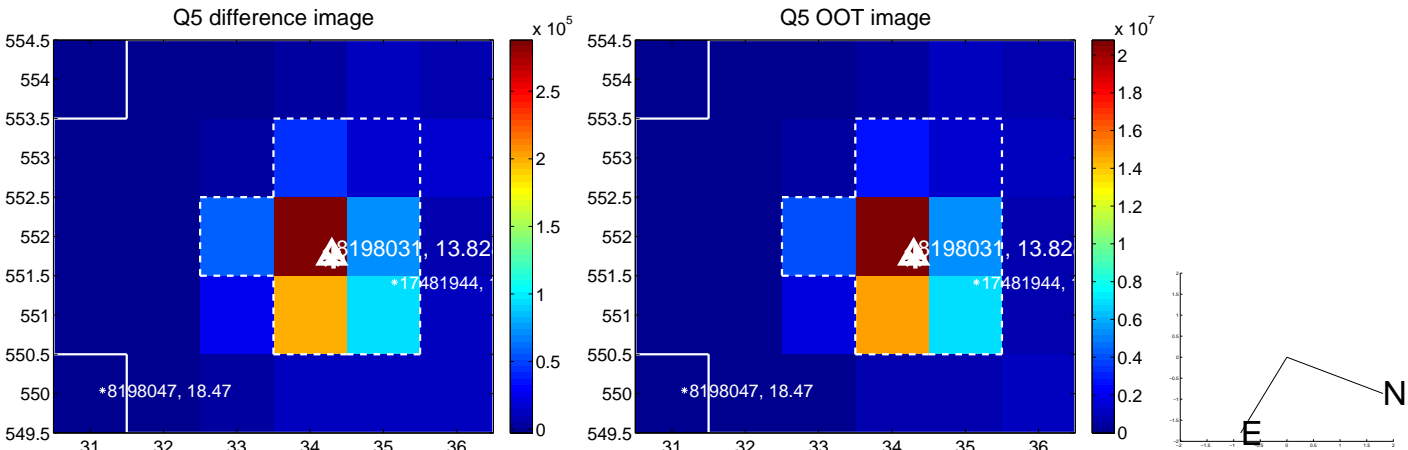


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

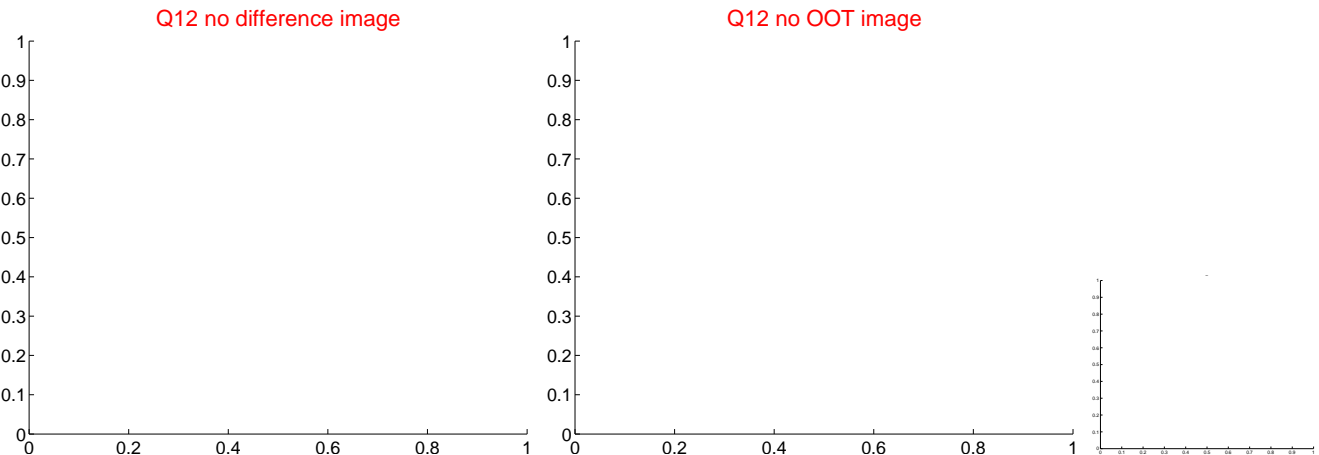
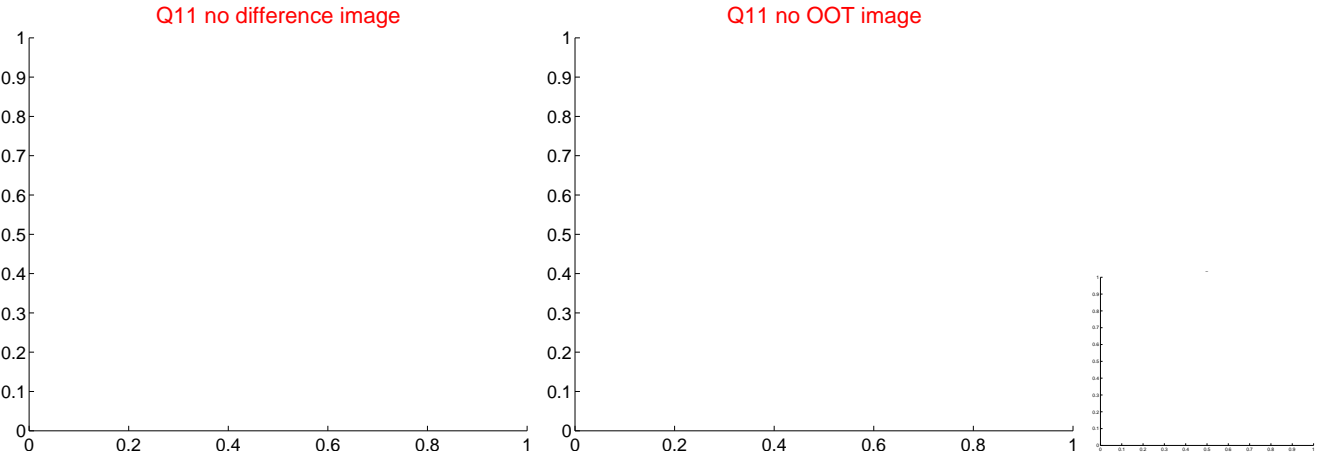
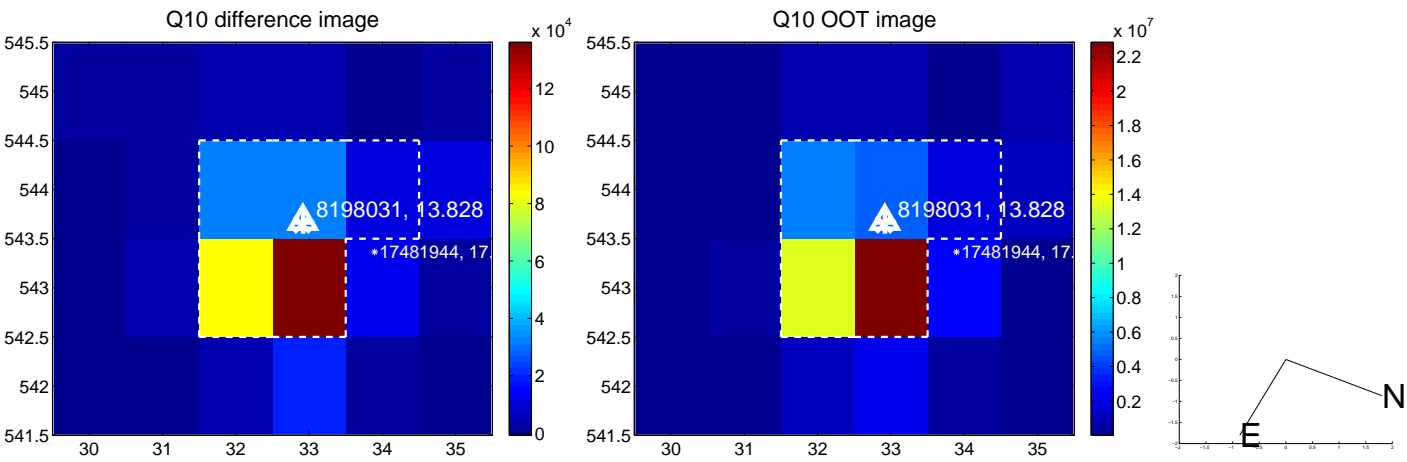
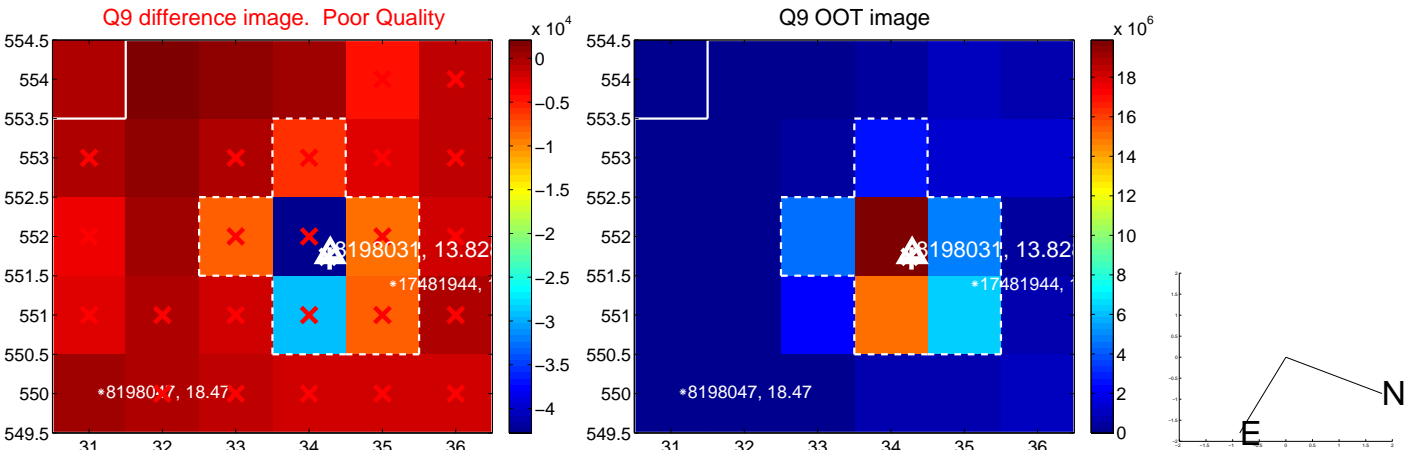
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



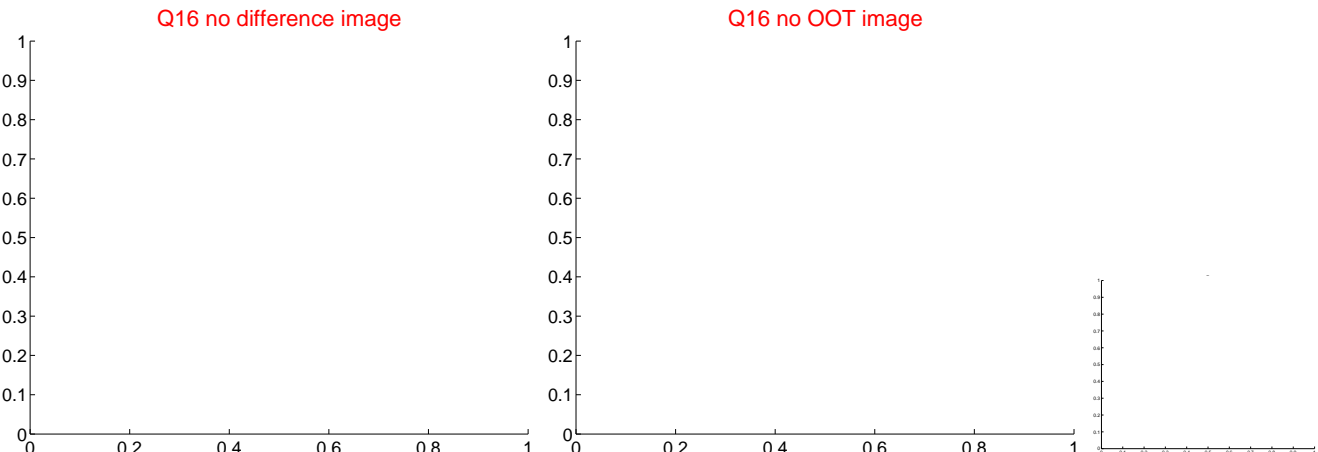
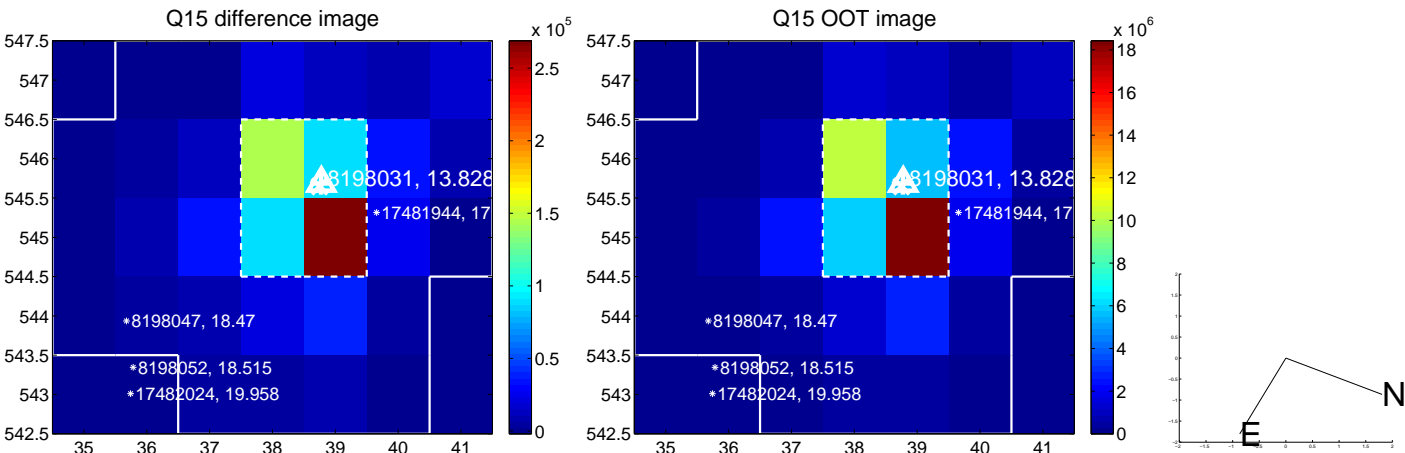
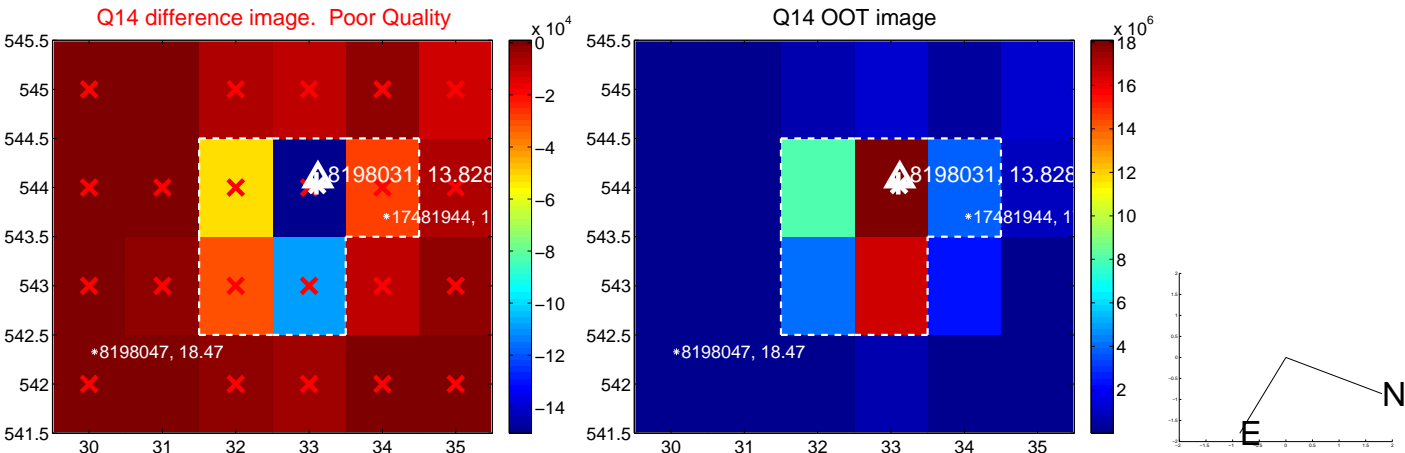
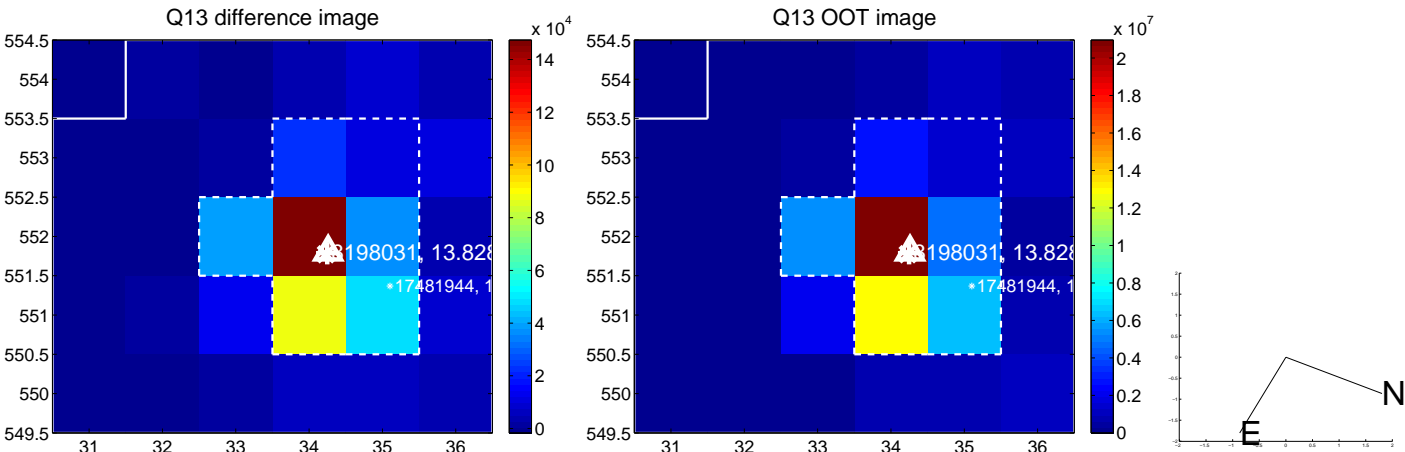
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



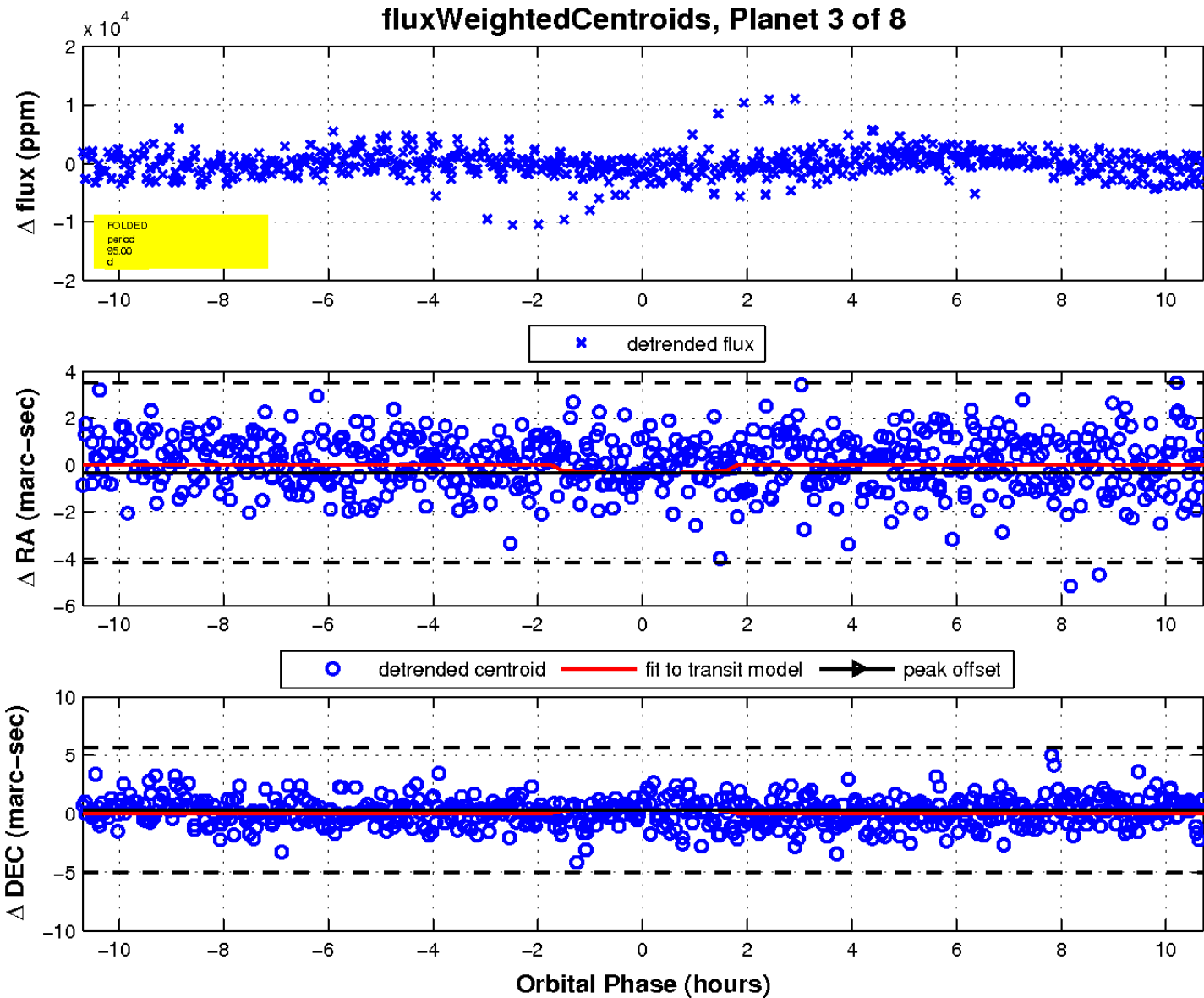
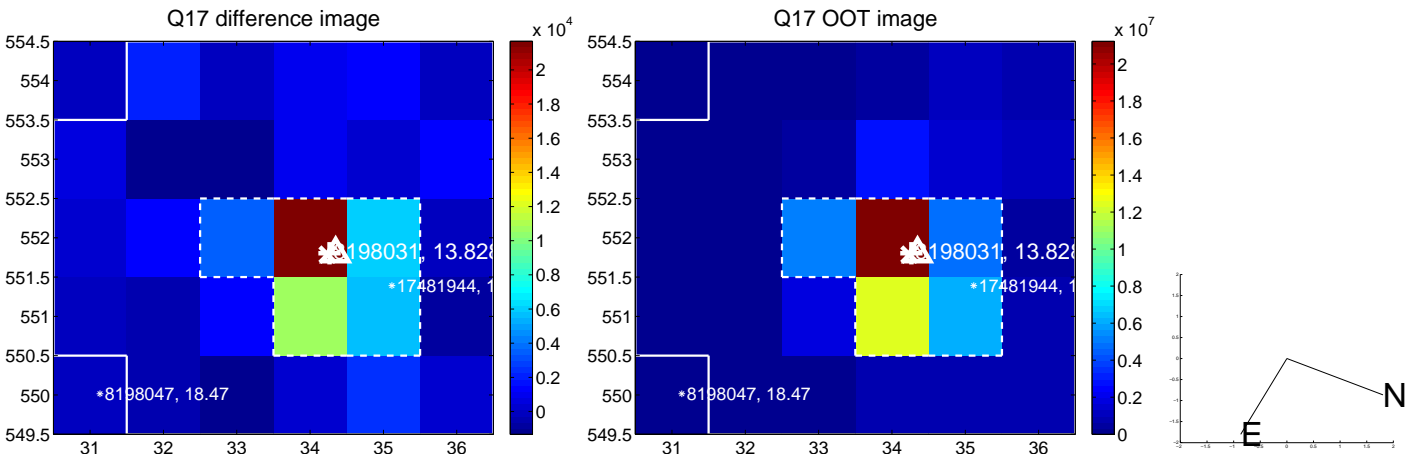
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

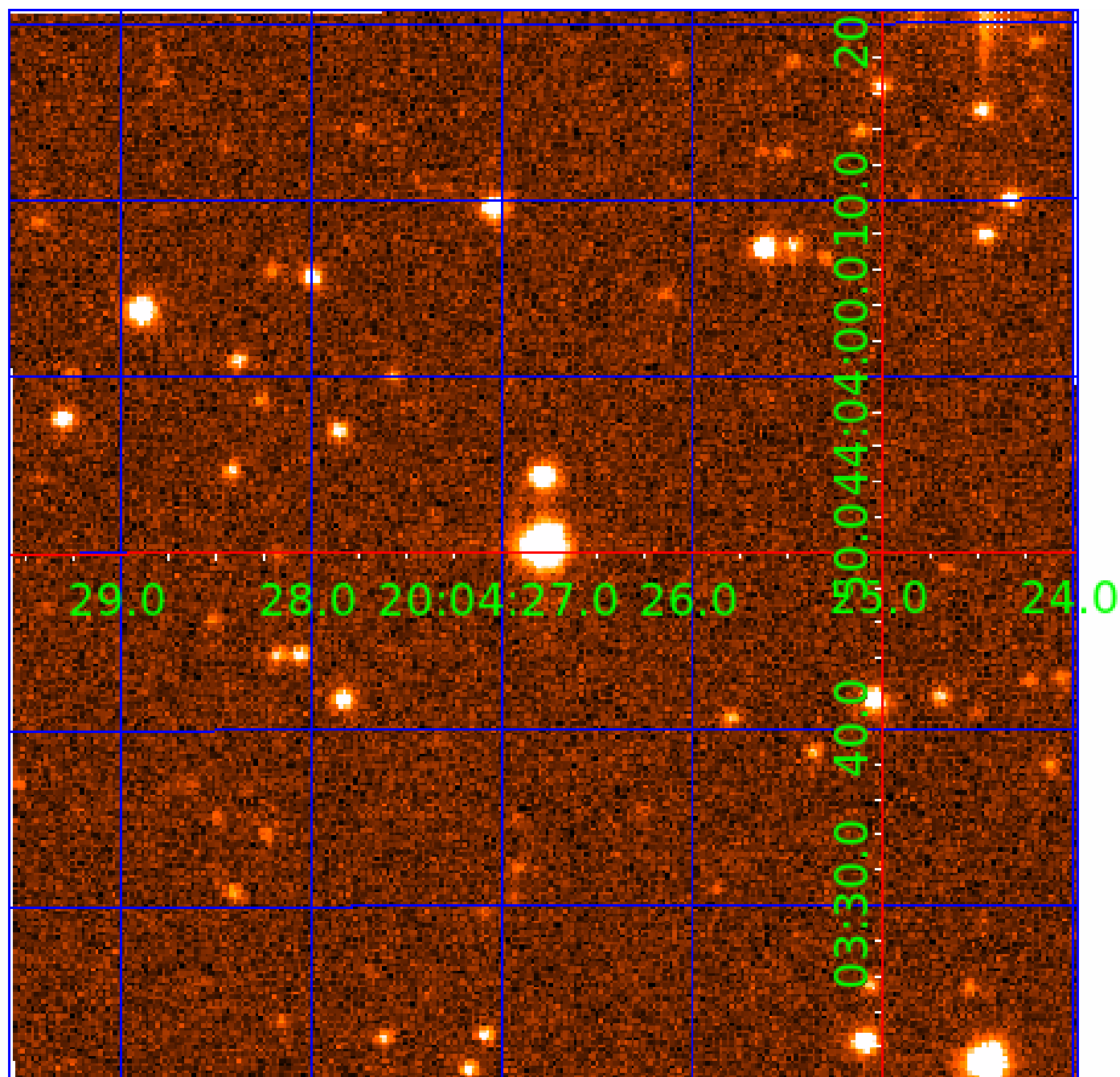


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008198031

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})
008198031-01	OBS	No	0.661033	131.624513	0.0	4.493	9.7	0.0	1.56	7563	0.01	24484.94
008198031-02	OBS	No	37.757658	147.156954	195.7	18.674	10.0	1.5	1.56	7563	2.38	111.31
008198031-03	OBS	No	94.997100	143.814118	2872.3	3.583	11.4	8.6	1.56	7563	8.61	32.53
008198031-05	OBS	No	46.800903	141.824352	949.0	2.535	7.8	3.8	1.56	7563	5.06	83.60
008198031-06	OBS	No	20.264628	137.190330	725.6	1.863	7.9	4.0	1.56	7563	4.67	255.20
008198031-07	OBS	No	45.219461	134.575669	2181.5	3.114	11.8	7.1	1.56	7563	13.21	87.52
008198031-08	OBS	No	43.086319	153.126624	961.3	1.500	10.8	-1.0	1.56	7563	4.92	93.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008198031-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008198031-02	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV
008198031-05	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
008198031-06	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

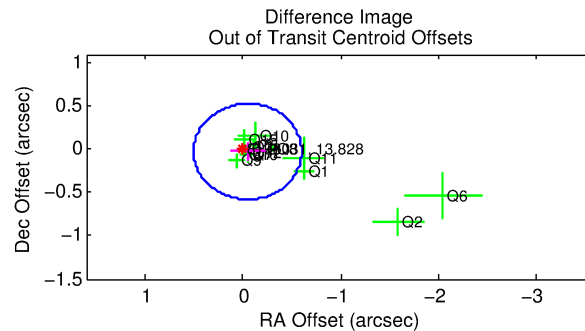
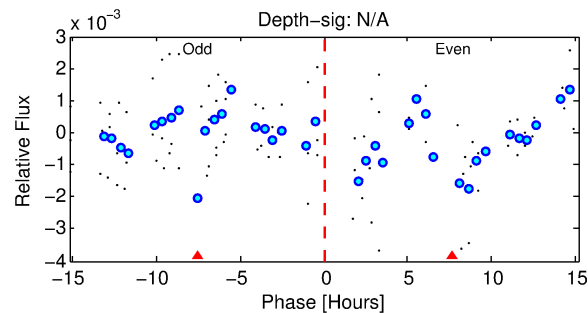
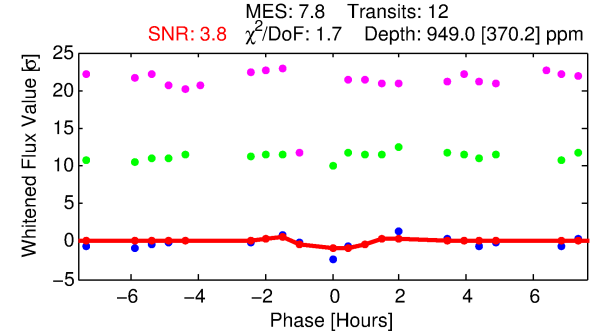
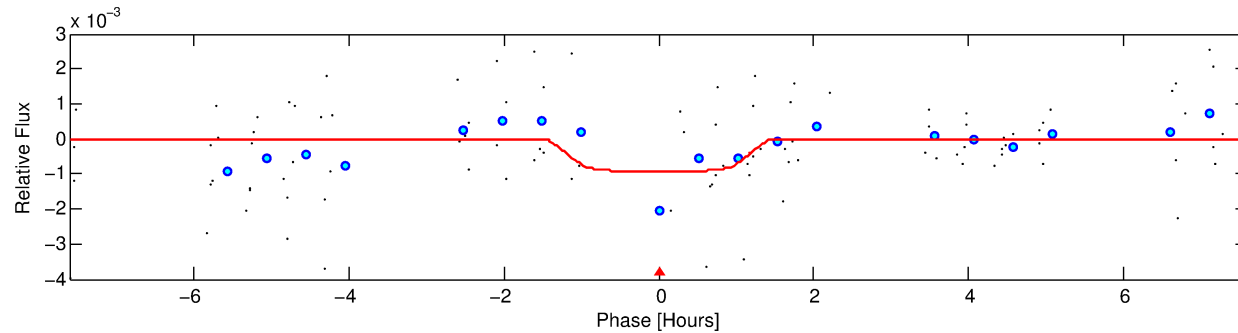
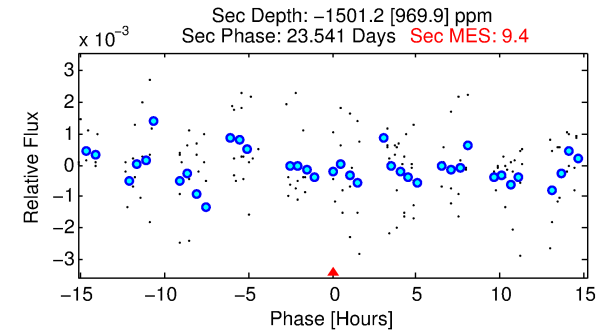
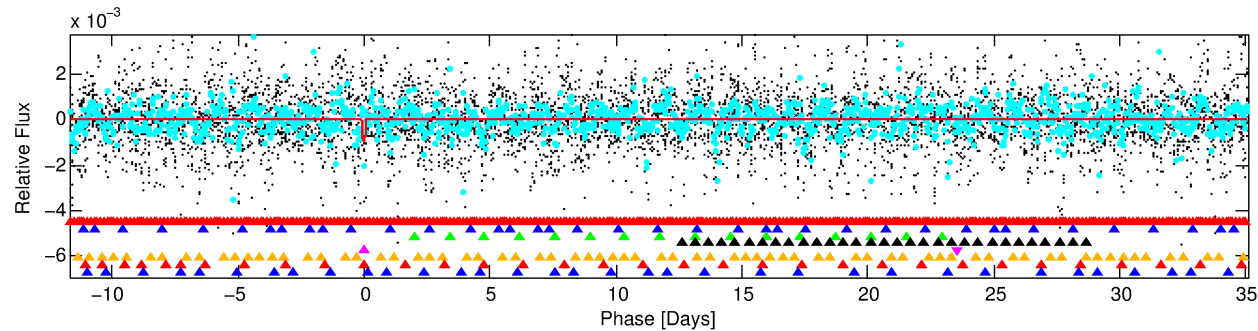
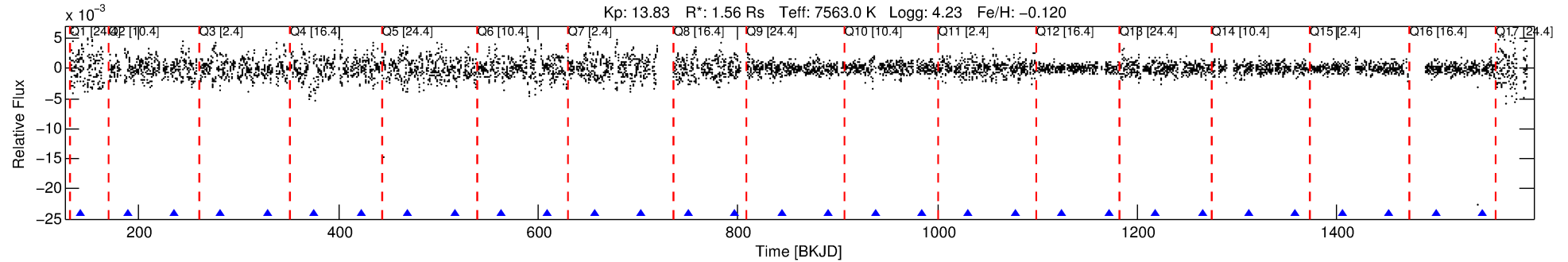
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008198031-05

No Significant Match Found

DV One-Page Summary

KIC: 8198031 Candidate: 5 of 8 Period: 46.801 d



DV Fit Results:

Period = 46.80090 [0.00062] d
Epoch = 141.8244 [0.0123] BKJD
Rp/R* = 0.0298 [0.0564]
a/R* = 117.03 [1374.42]
b = 0.61 [12.16]
Seff = 83.60 [35.76]
Teq = 771 [82] K
Rp = 5.06 [9.74] Re
a = 0.2916 [0.0810] AU
Ag = N/A
Teffp = N/A

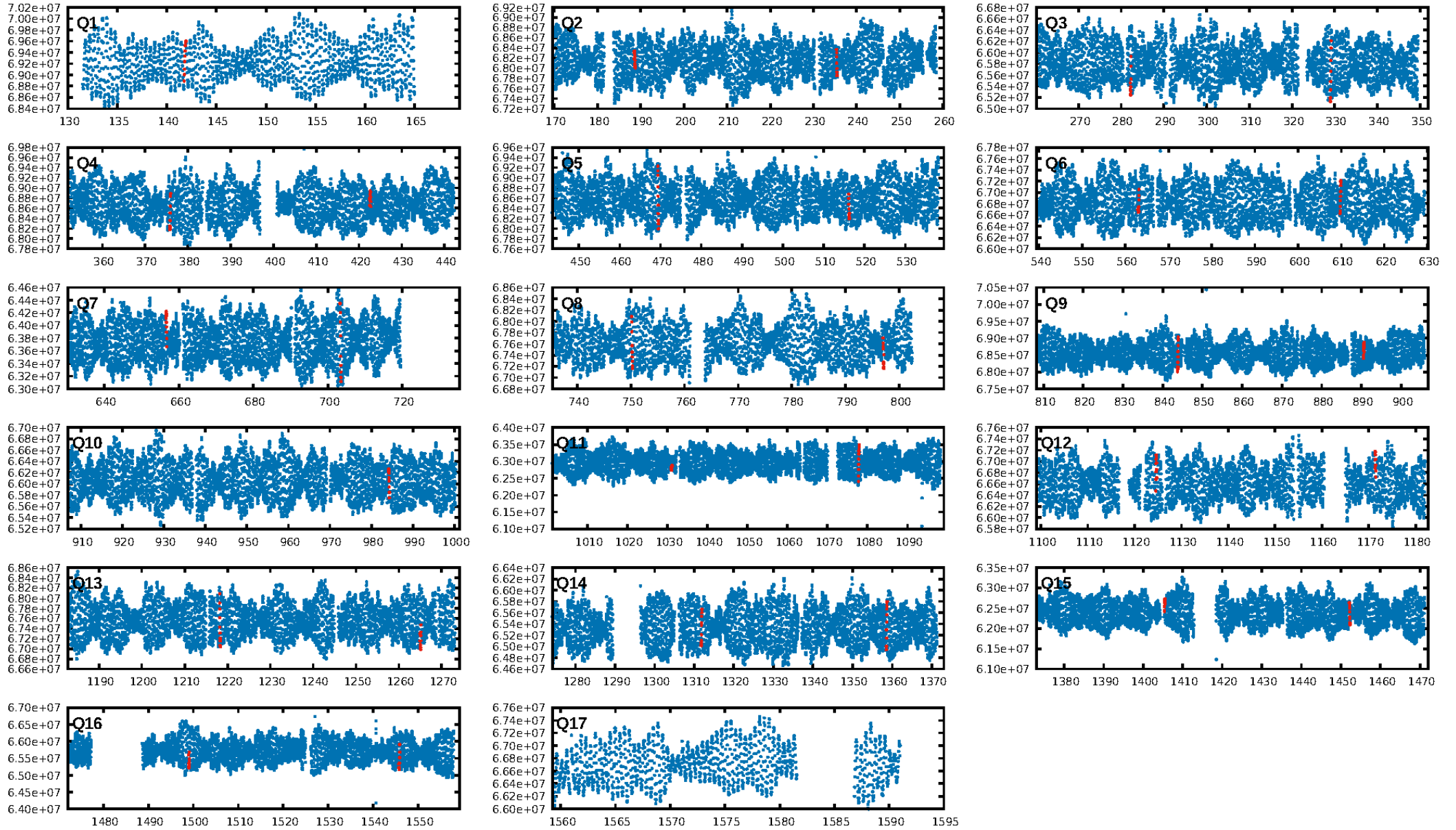
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [9.45σ]
LongPeriod-sig: 99.8% [3.17σ]
ModelChiSquare2-sig: 1.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: 1.771
Centroid-sig: 2.4%
Centroid-so: 0.568 arcsec [1.70σ]
OotOffset-rm: 0.056 arcsec [0.30σ]
KicOffset-rm: 0.196 arcsec [1.22σ]
OotOffset-st: 3/4/3/4 [14]
KicOffset-st: 3/4/3/4 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 0.00 [0/16]

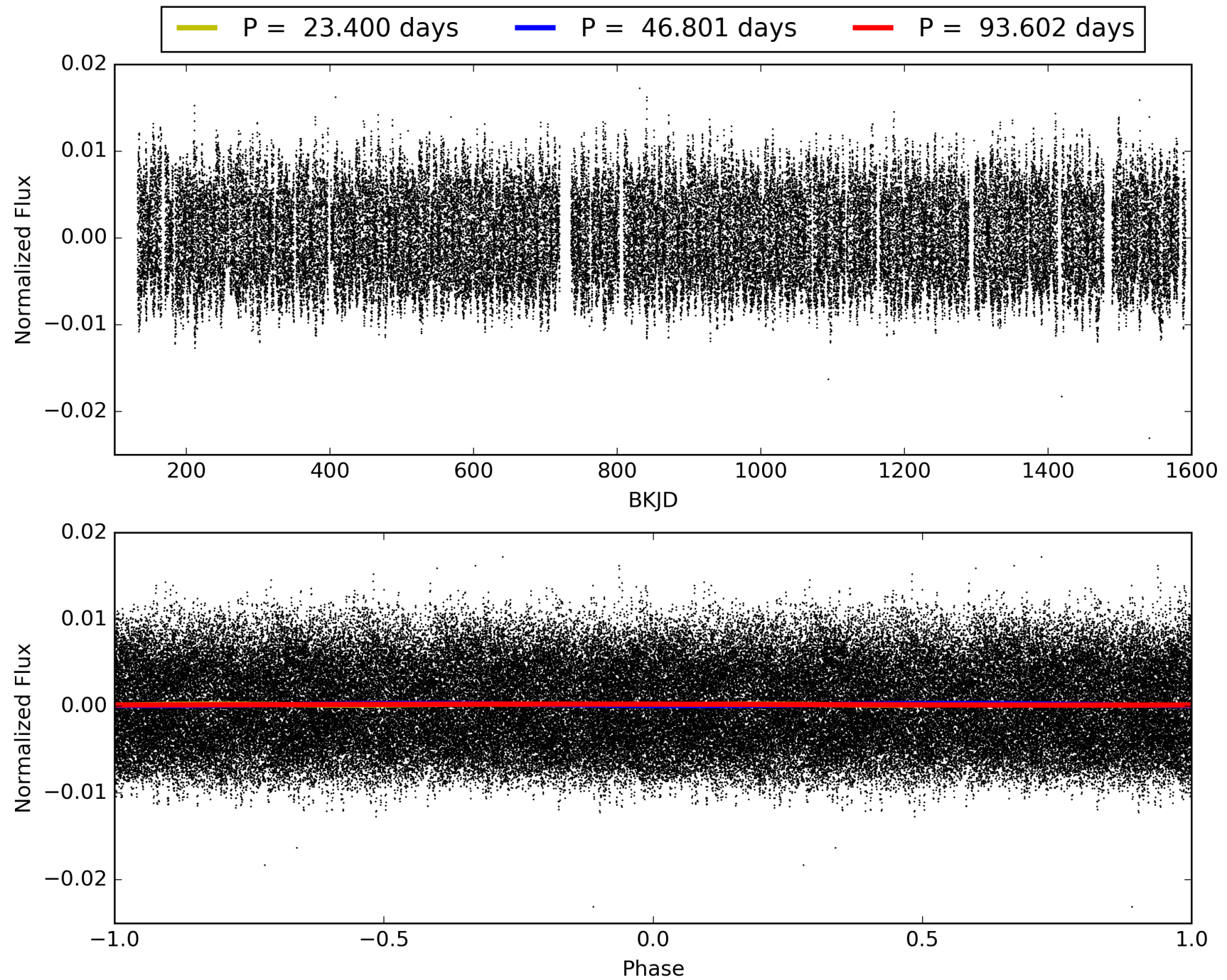
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:24:07 Z

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

TCE 008198031-05, PDC Light Curves

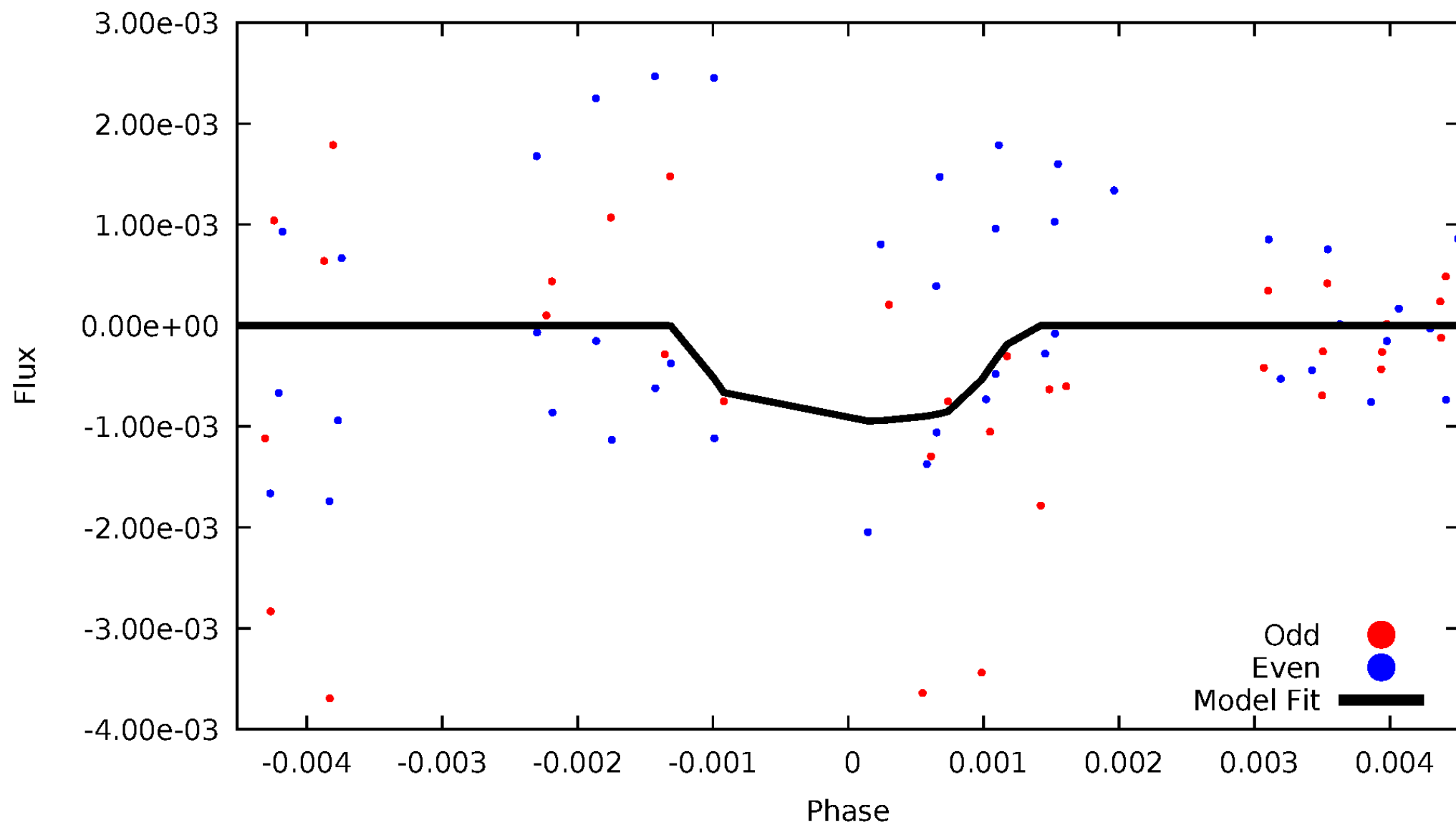


TCE 008198031-05



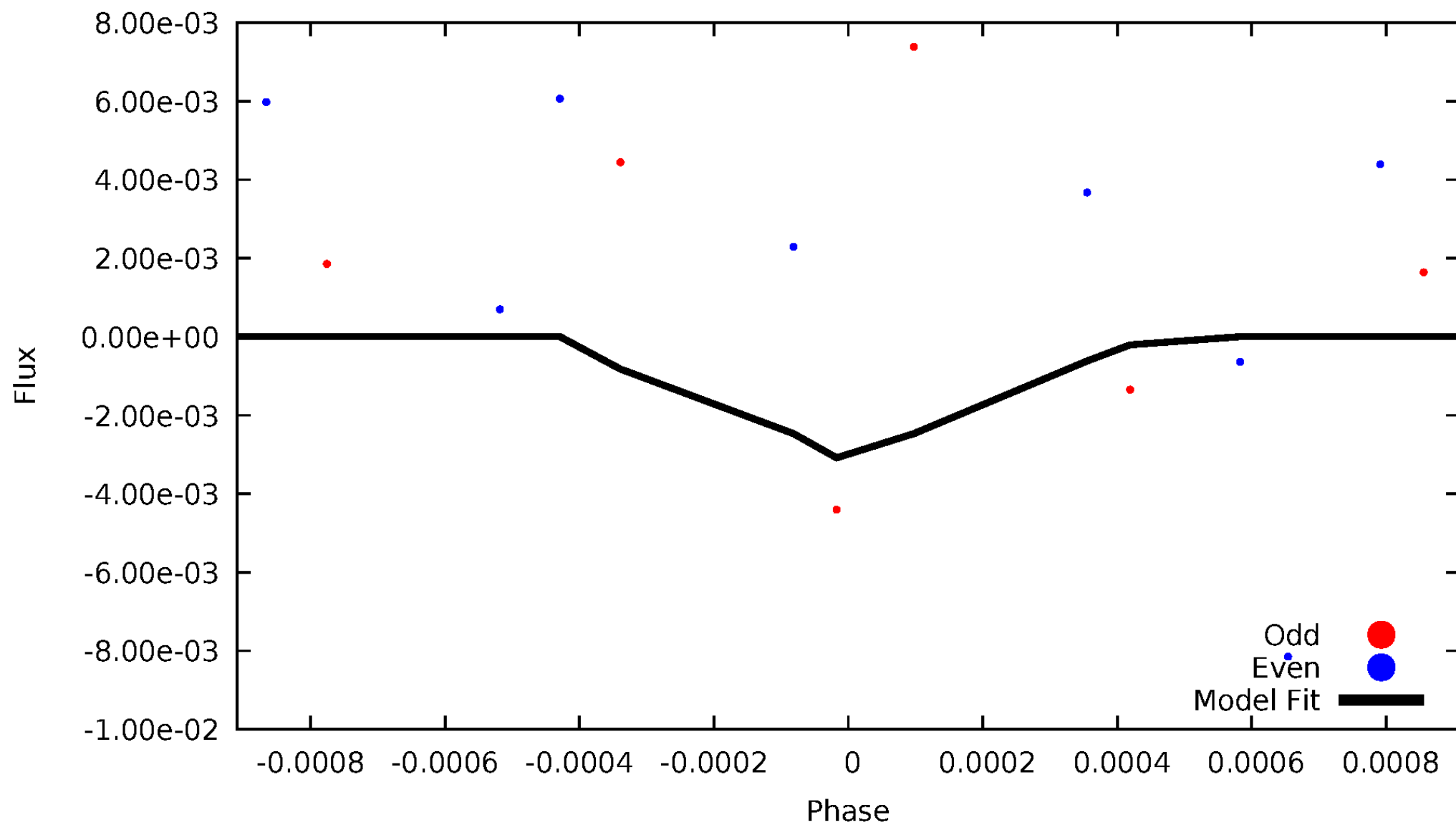
DV Odd/Even

TCE 008198031-05



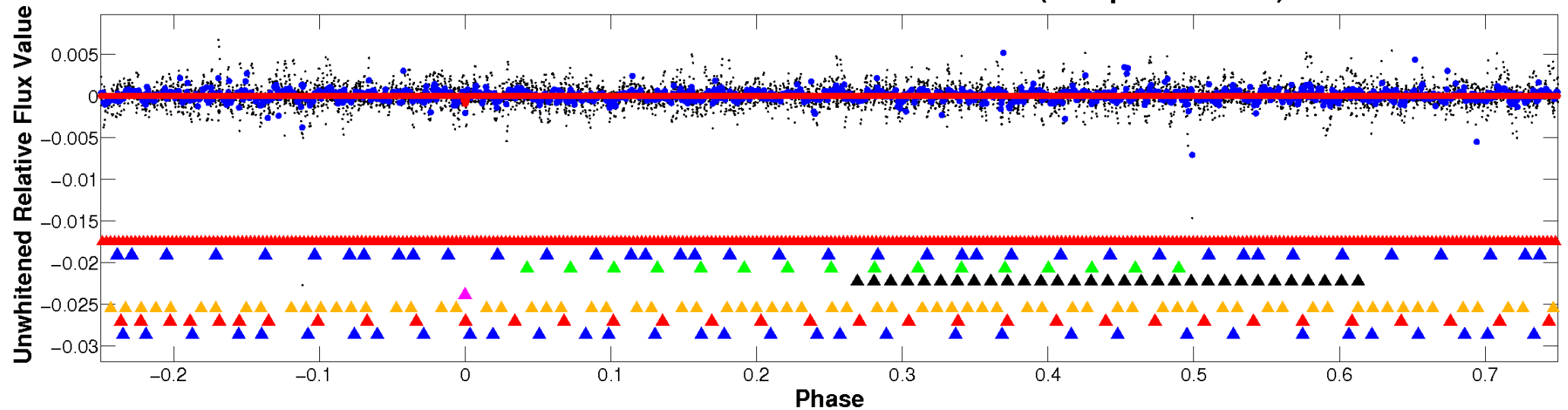
ALT Odd/Even

TCE 008198031-05

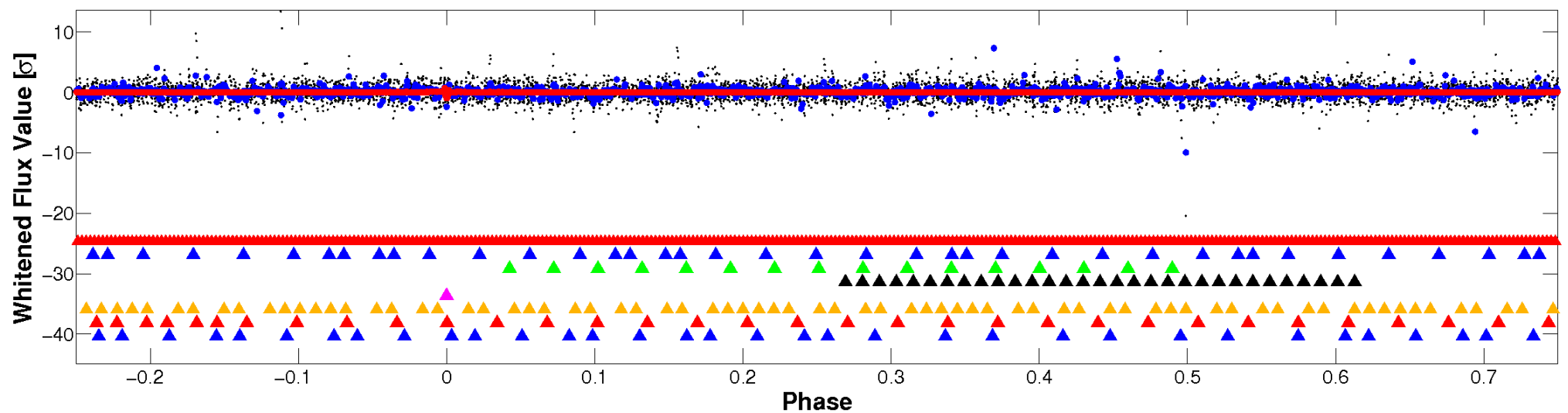


Non-Whitened Vs. Whitened Light Curve

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

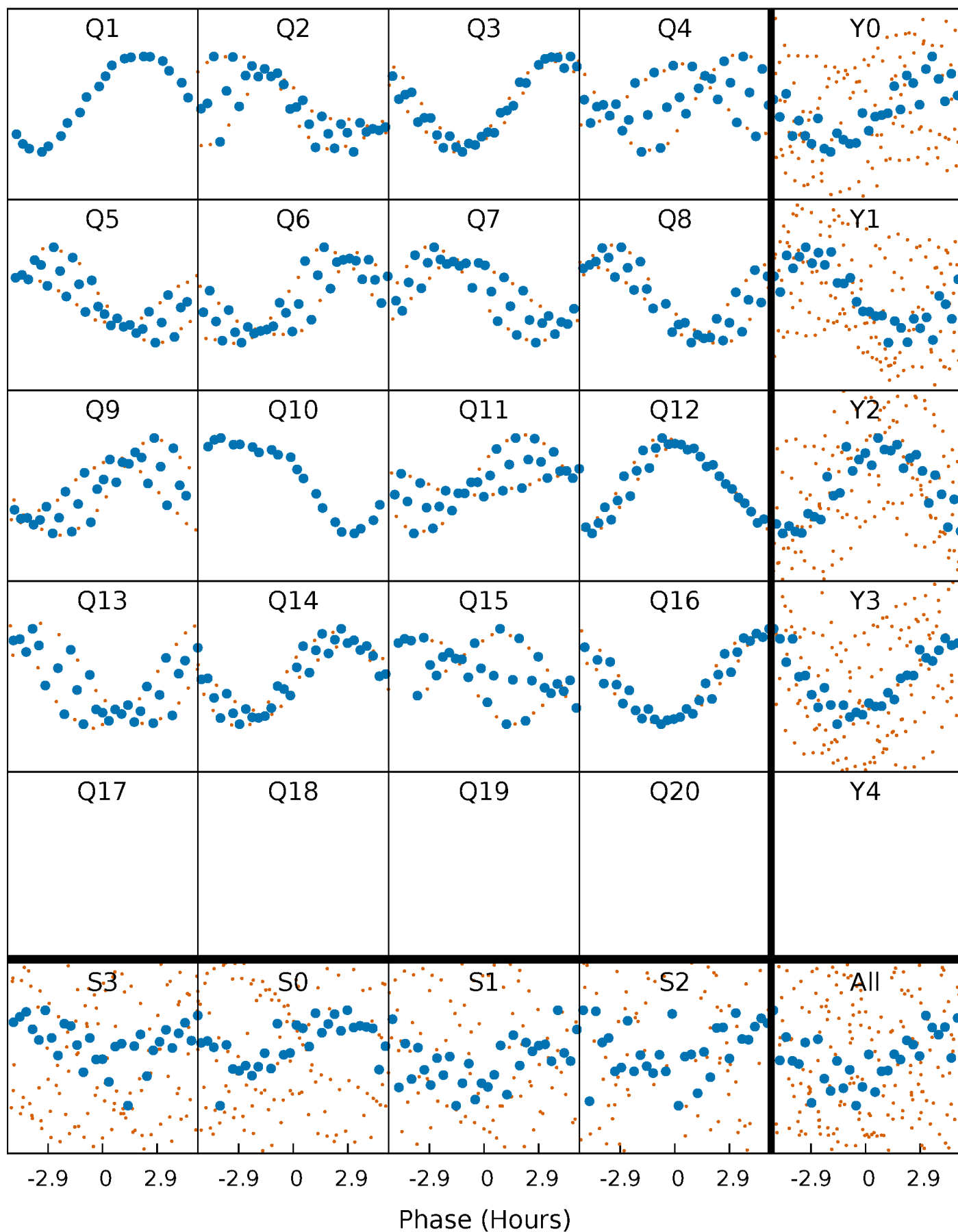


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



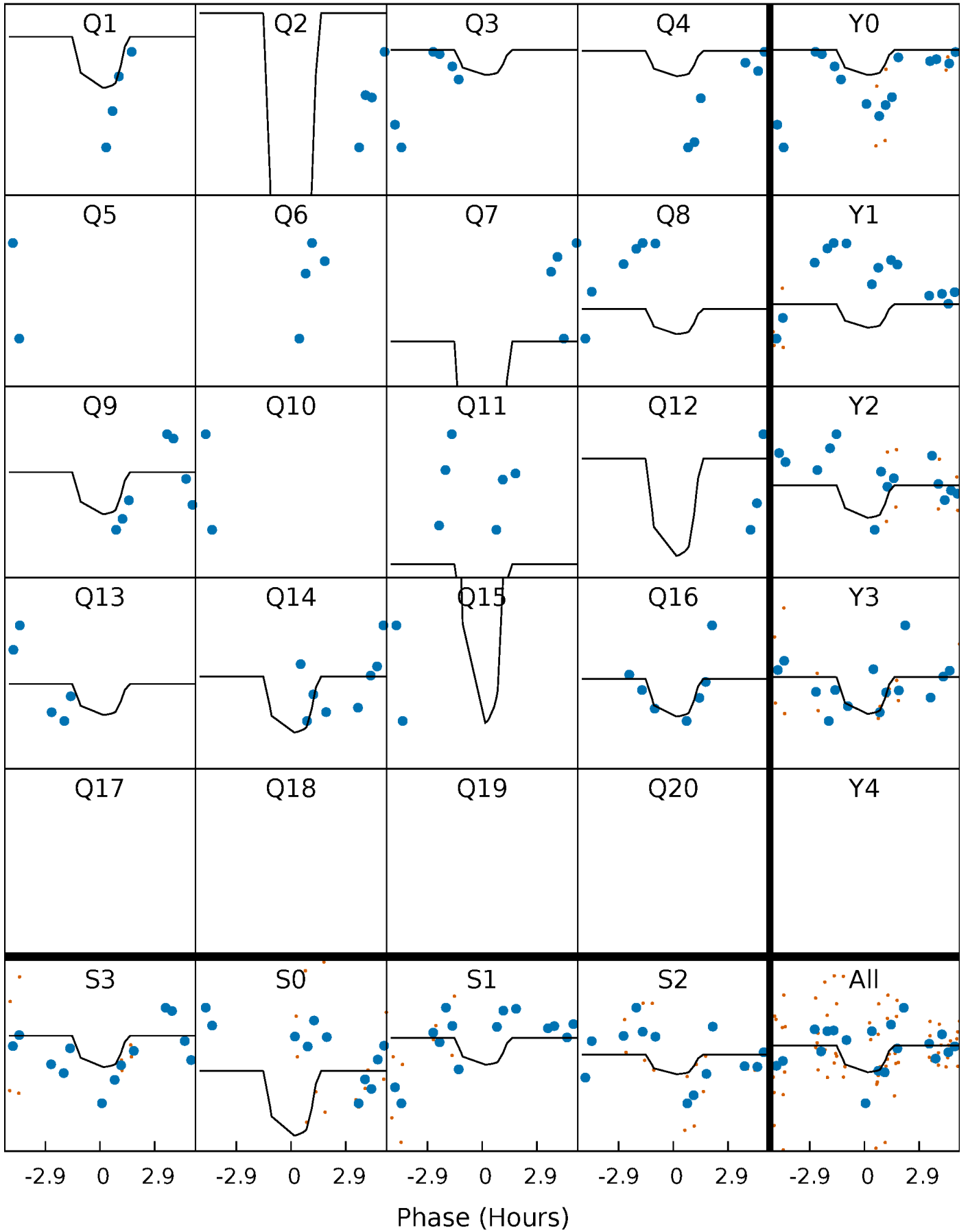
PDC Quarter-Phased Transit Curves

TCE 008198031-05 $P = 46.800903$ Days $T_0 = 141.824352$ (BKJD)



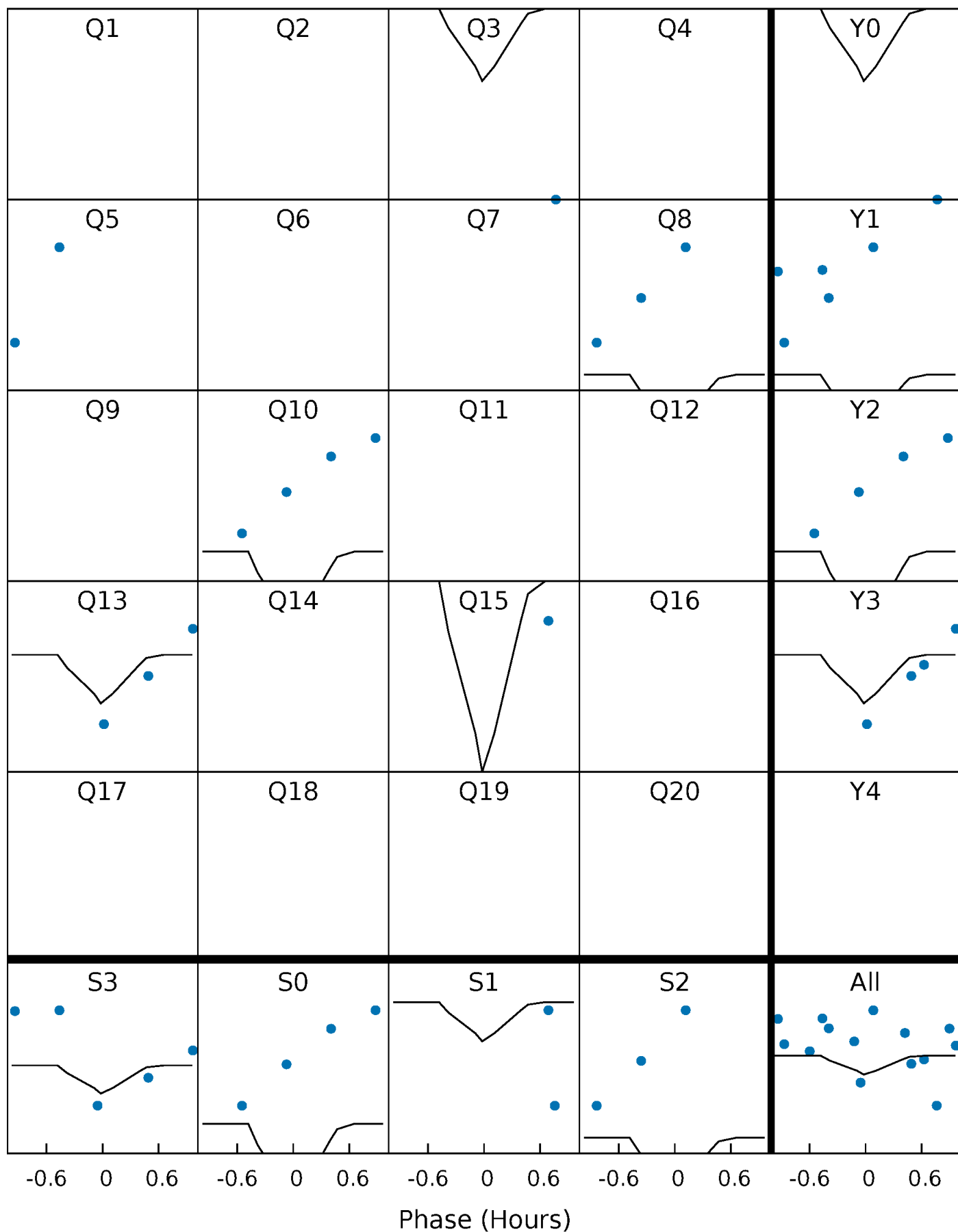
DV Quarter-Phased Transit Curves

TCE 008198031-05 P= 46.800903 Days $T_0=141.824352$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

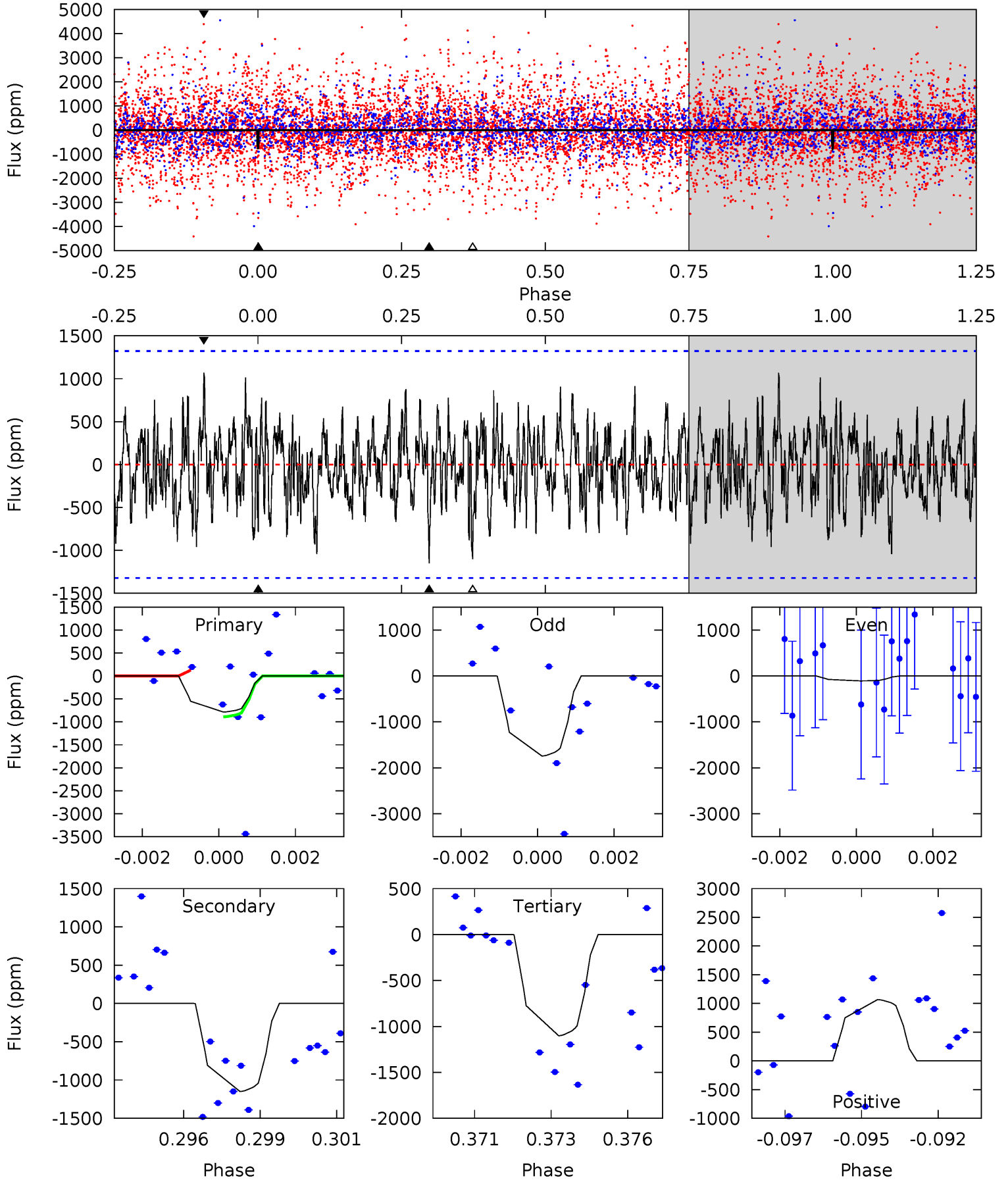
TCE 008198031-05 P= 46.795620 Days $T_0=141.707318$ (BKJD)



DV Model-Shift Uniqueness Test

008198031-05, P = 46.800903 Days, E = 95.023449 Days

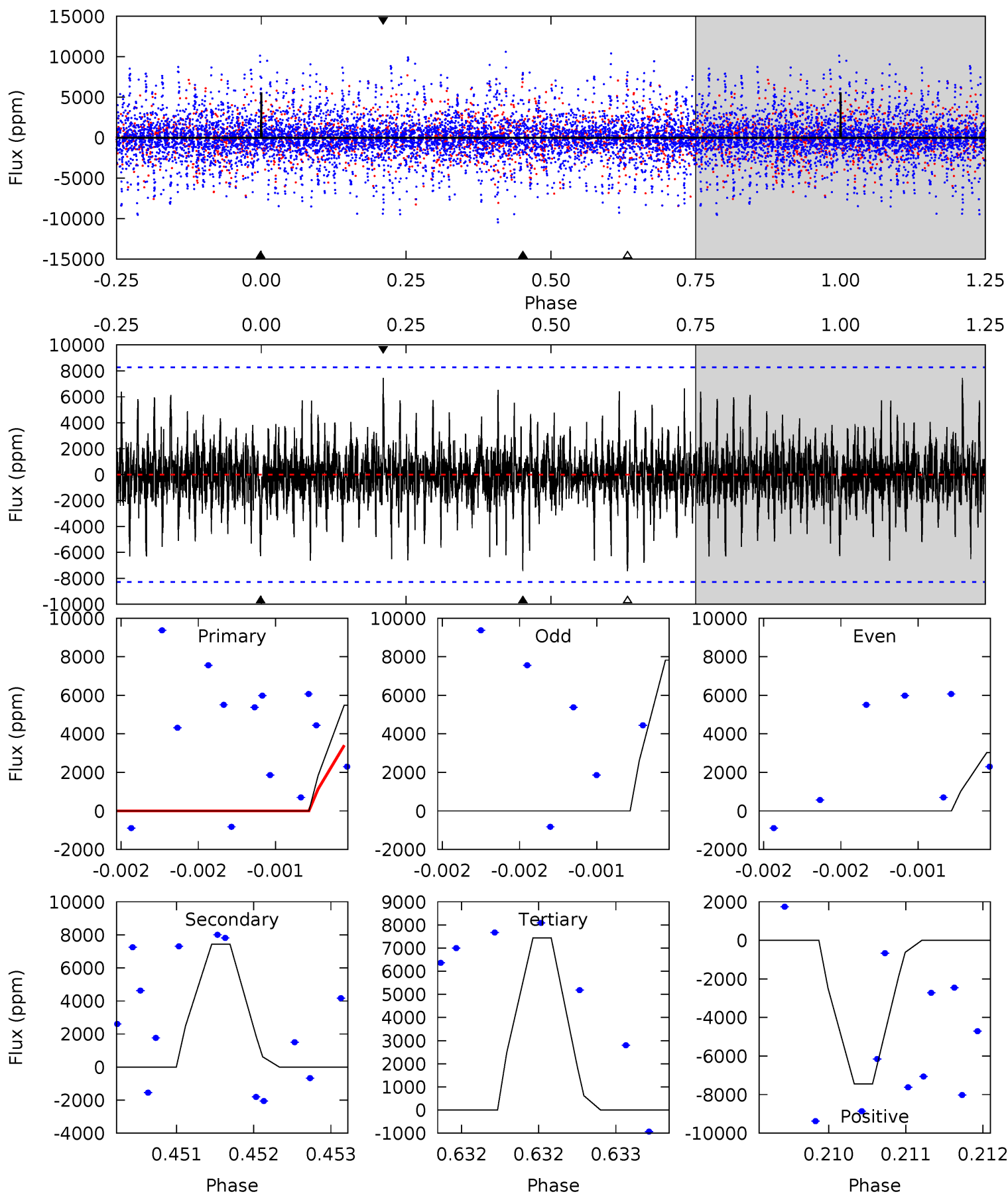
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.14	4.60	4.41	4.27	5.29	3.02	1.42	-1.27	-1.13	0.19	0.33	3.07	0.86	0.48	1.23



Alt Model-Shift Uniqueness Test

008198031-05, P = 46.795620 Days, E = 94.911698 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.65	4.94	4.94	4.95	5.50	3.37	1.09	-1.29	-1.30	0.00	-0.01	1.41	0.82	0.50	0



Stellar Parameters For KIC 008198031

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7563^{+211}_{-316}	$4.232^{+0.090}_{-0.210}$	$-0.120^{+0.200}_{-0.350}$	$1.557^{+0.528}_{-0.226}$	$1.506^{+0.219}_{-0.219}$	$0.562^{+0.234}_{-0.314}$
	+3%/-4%	+2%/-5%	+167%/-292%	+34%/-15%	+15%/-15%	+42%/-56%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008198031-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1151 ± 250	$9.39^{+8.69}_{-6.49}$	1090^{+88}_{-65}	5825^{+6535}_{-1370}	585^{+5500}_{-428}
Alt.	-7437 ± 1505	$11.45^{+10.38}_{-7.35}$	1091^{+89}_{-74}	8879^{+13062}_{-2731}	2483^{+17684}_{-1777}

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 $A_{obs} \gg 1.0$

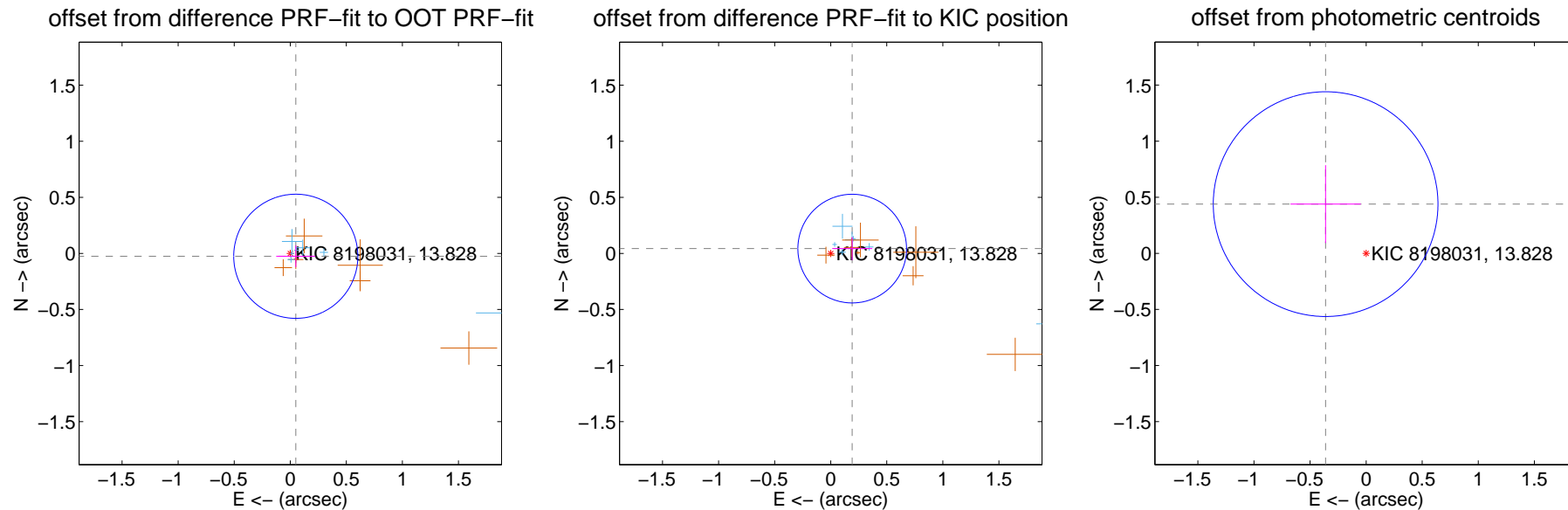
DV Centroid Data

Supplemental centroid analysis for 008198031-05. Kepler magnitude: 13.83. Transit SNR 3.75

There are 7 quarters with good PRF difference image offsets

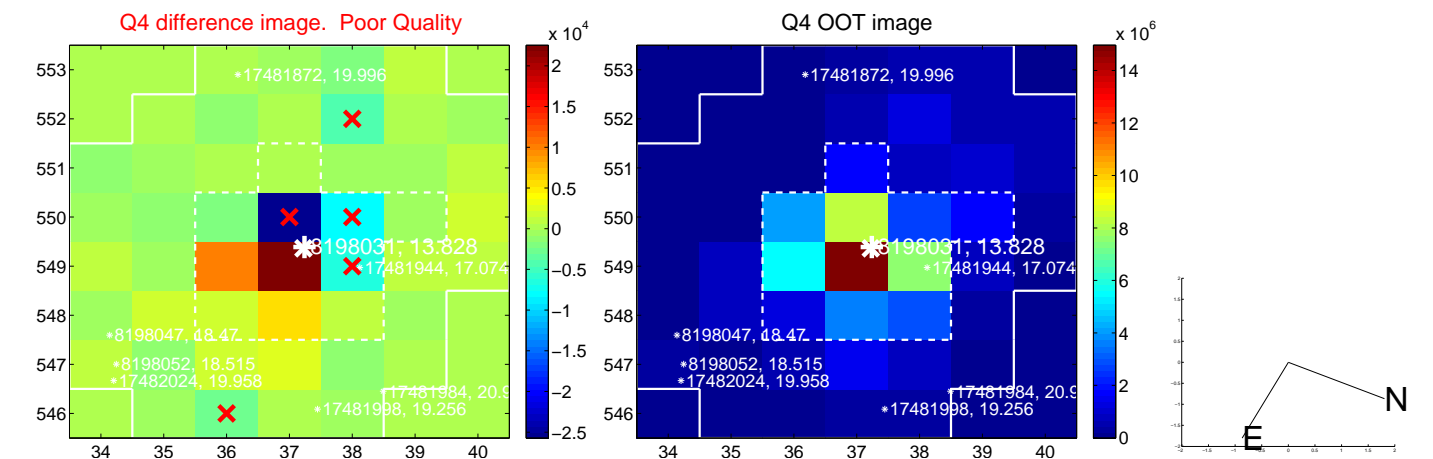
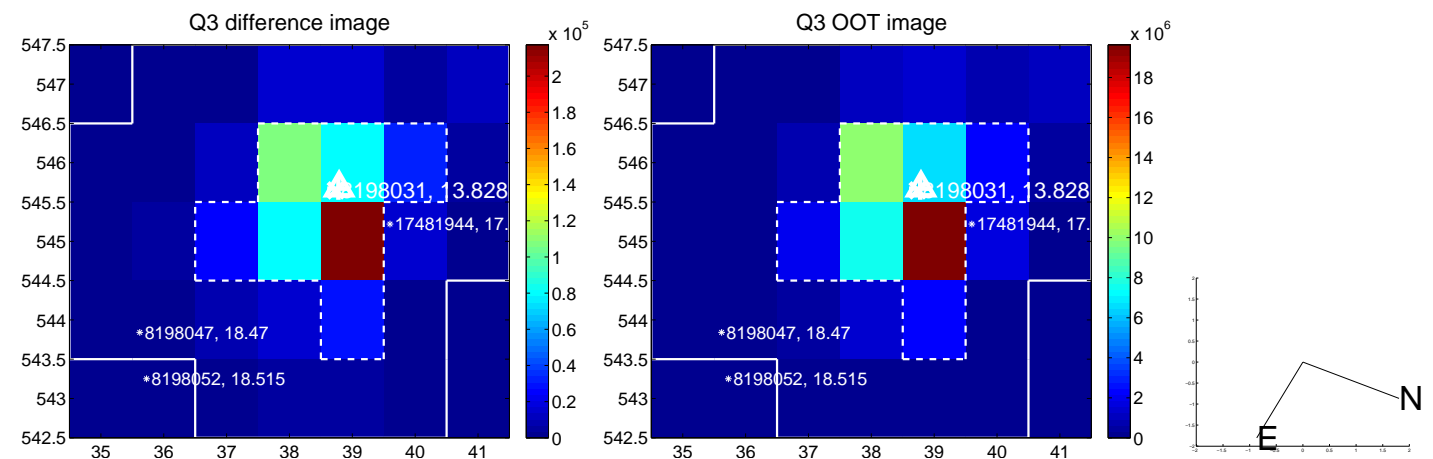
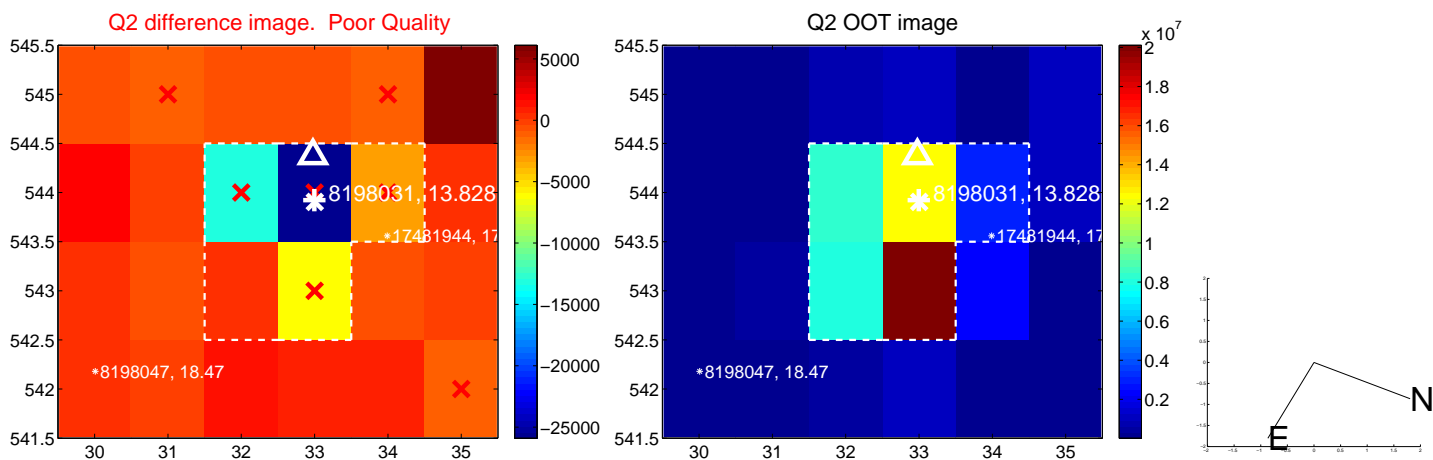
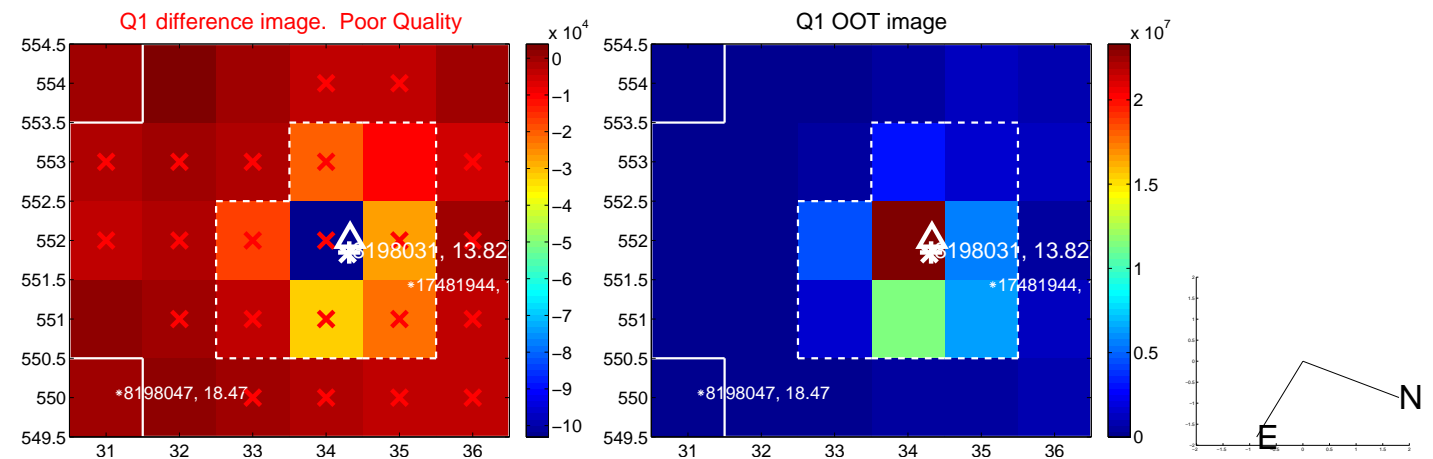
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.056 ± 0.185	0.30	-0.049 ± 0.174	-0.026 ± 0.097
PRF-fit source offset from KIC position	0.196 ± 0.161	1.22	-0.192 ± 0.179	0.043 ± 0.103
photometric centroid source offset	0.57 ± 0.33	1.70	0.36 ± 0.31	0.44 ± 0.35

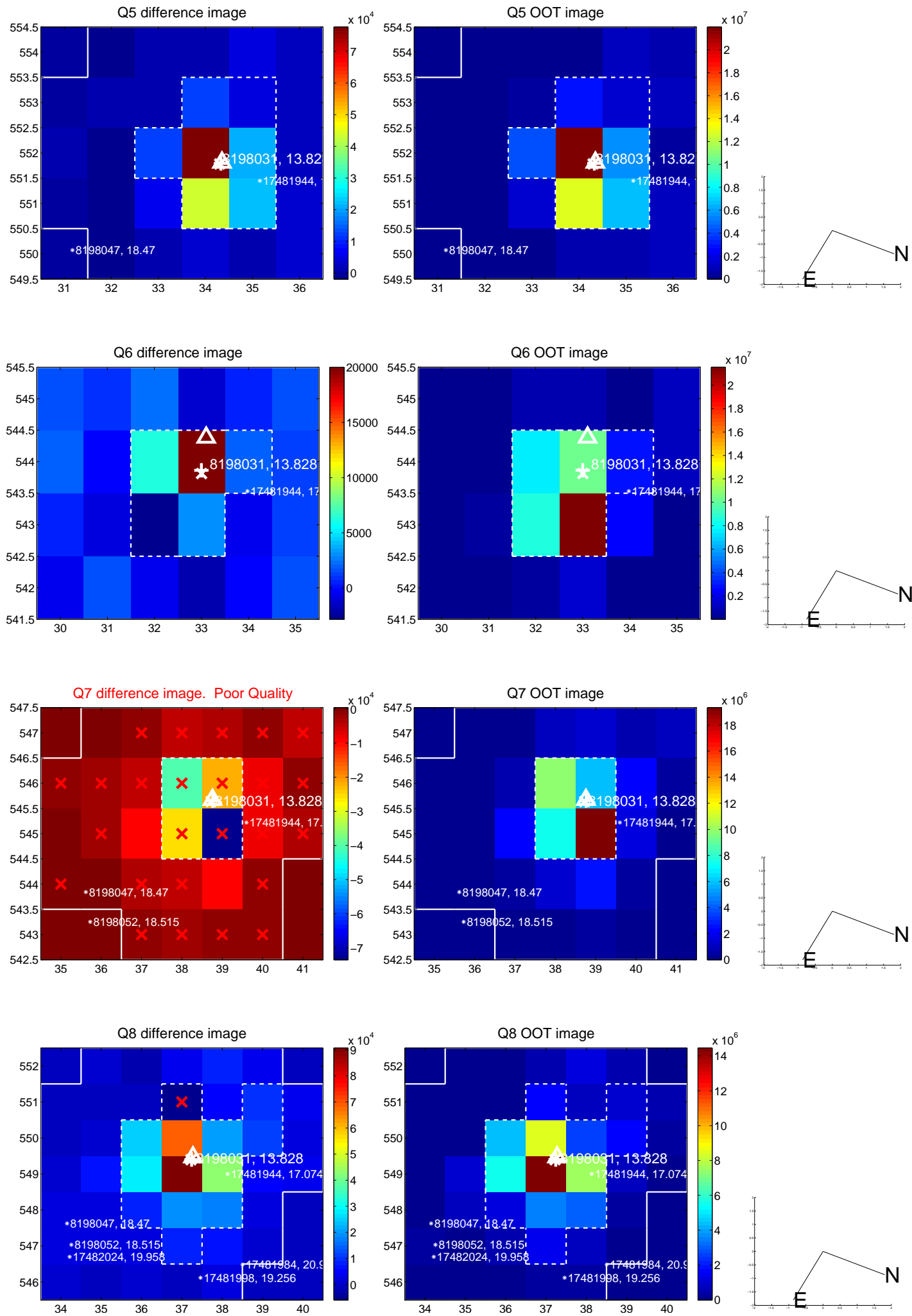


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

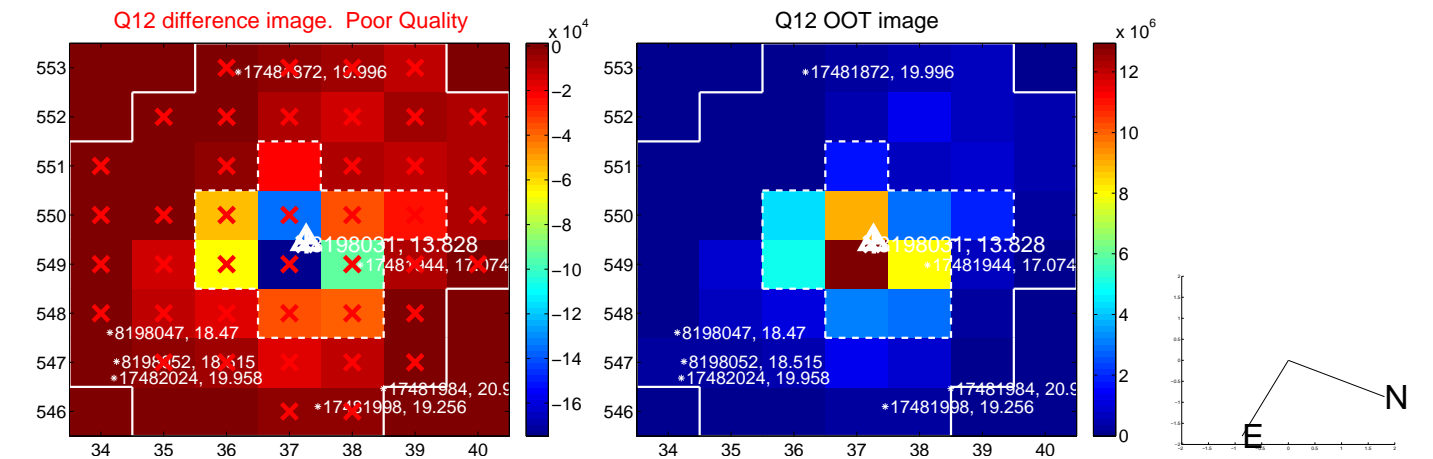
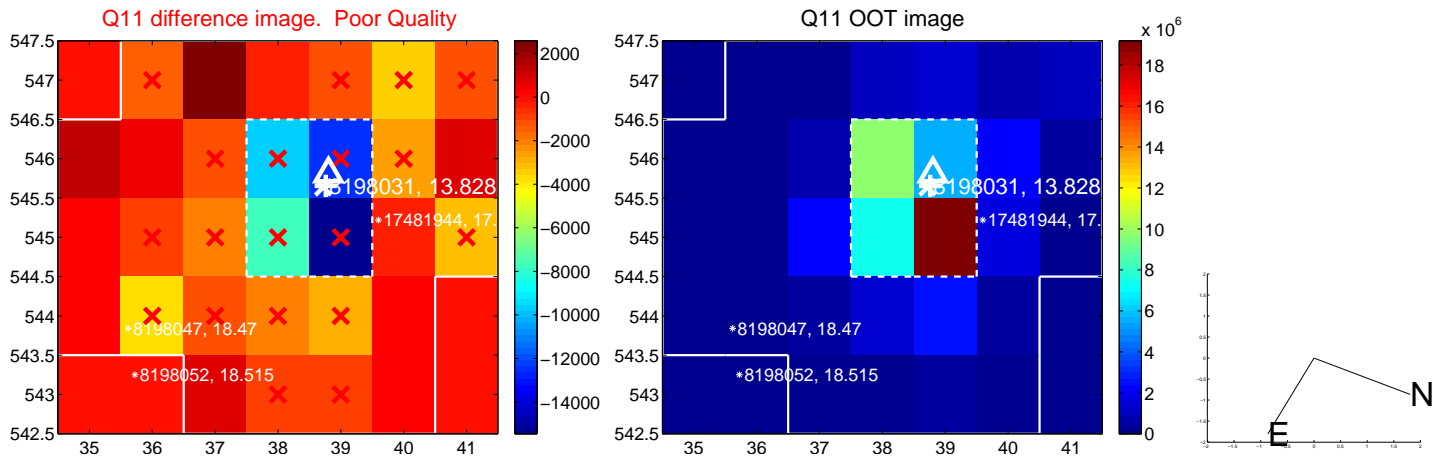
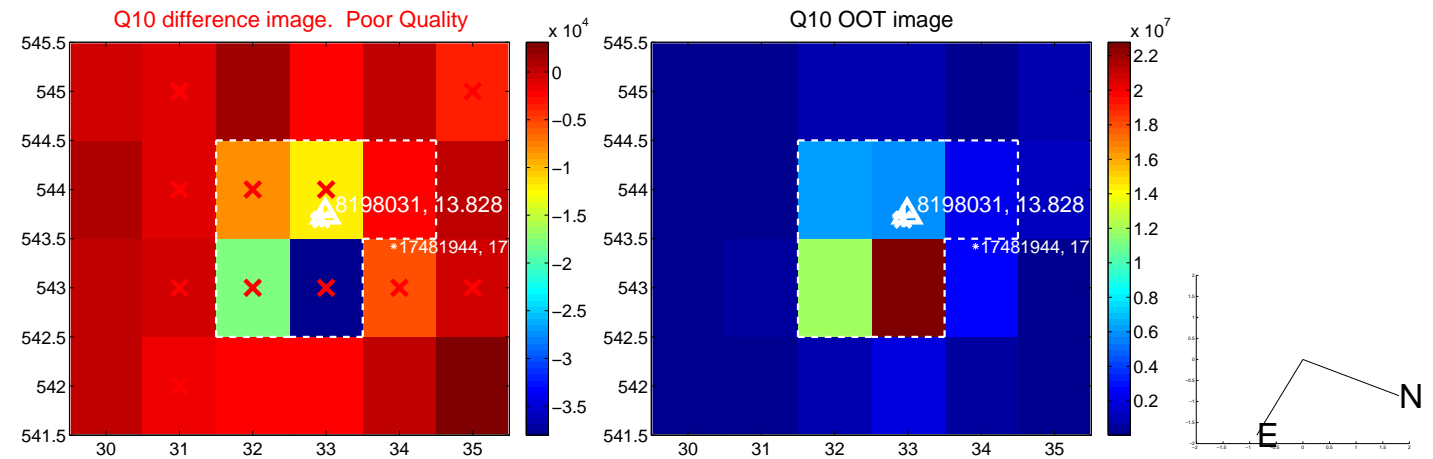
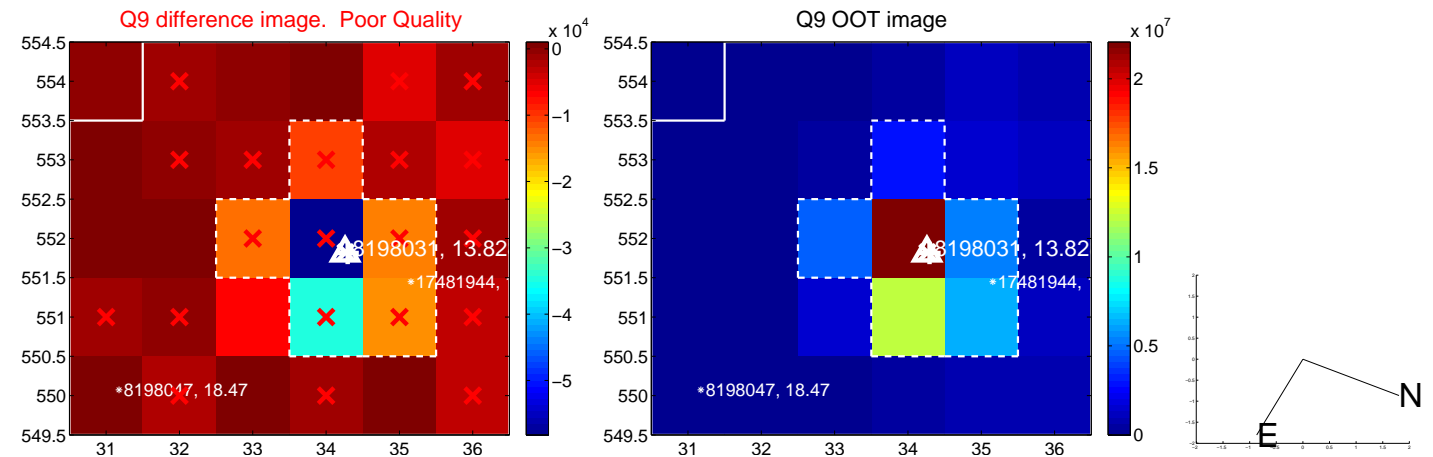
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



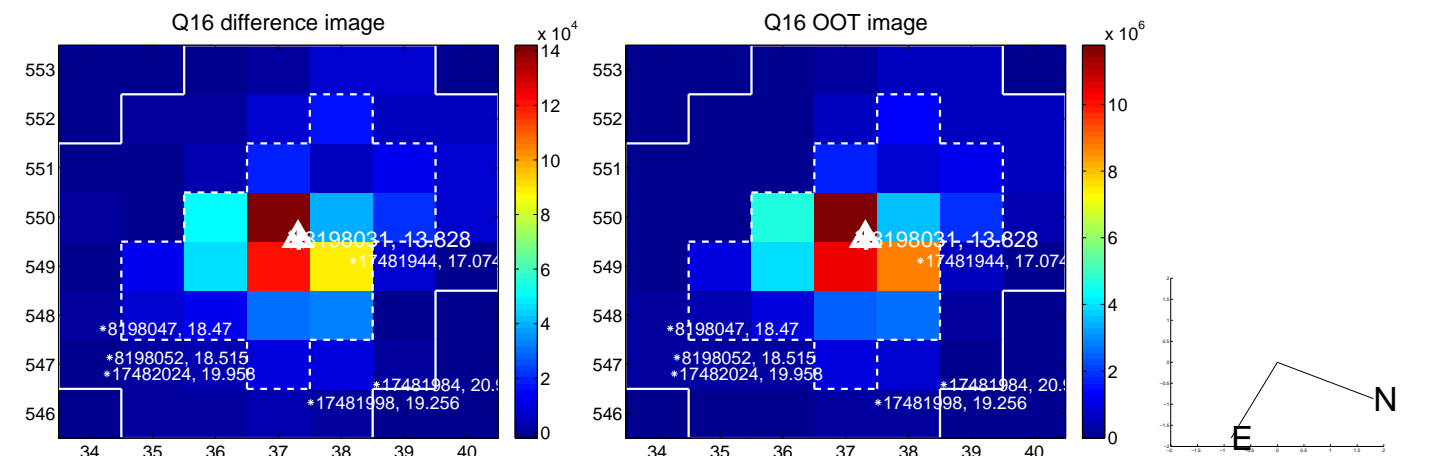
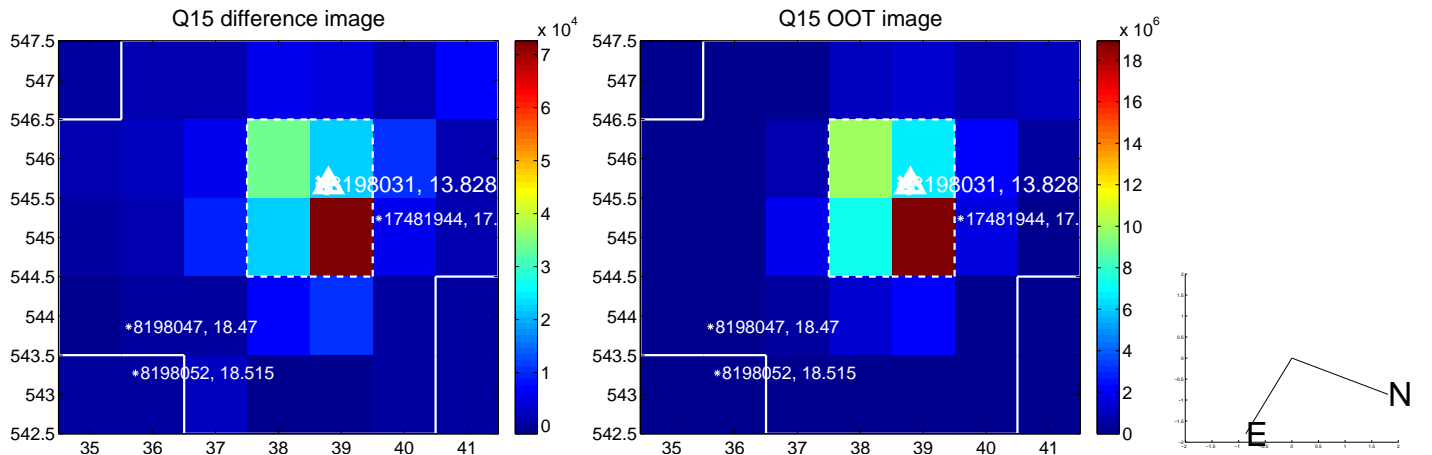
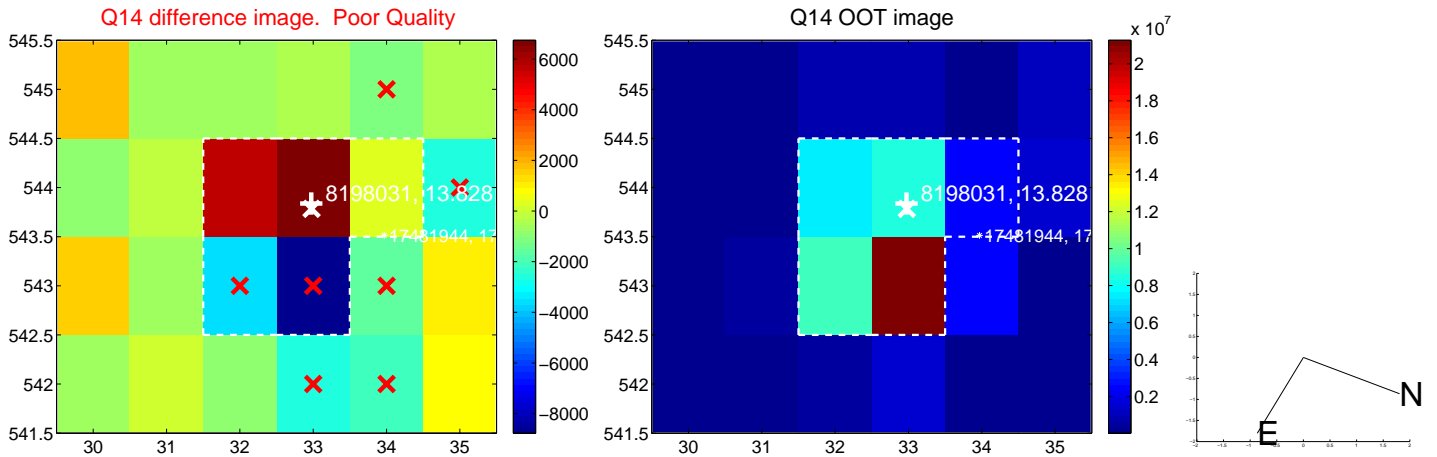
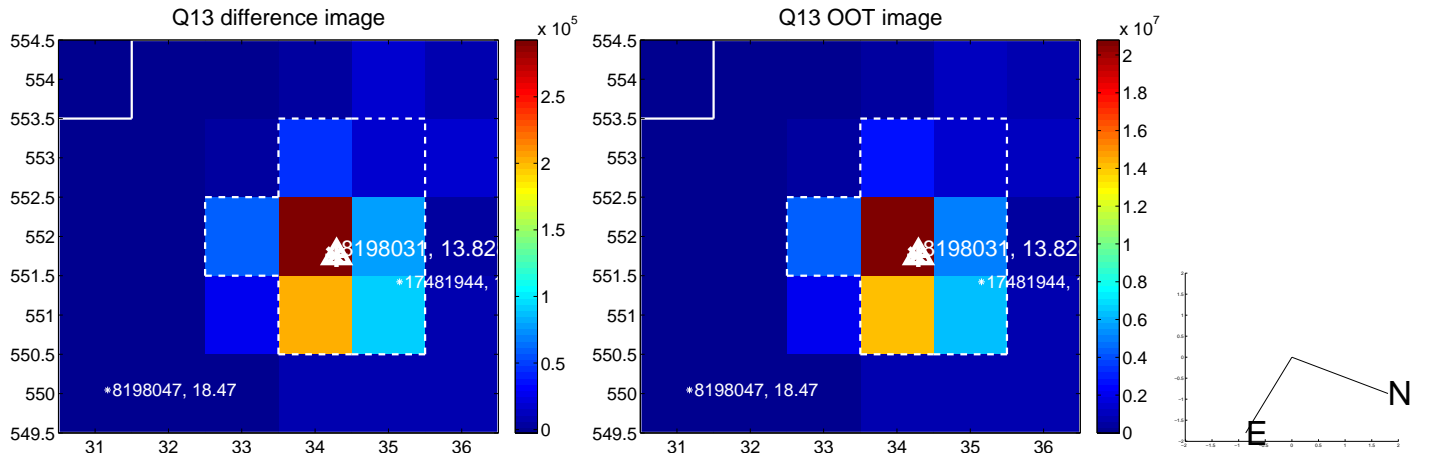
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



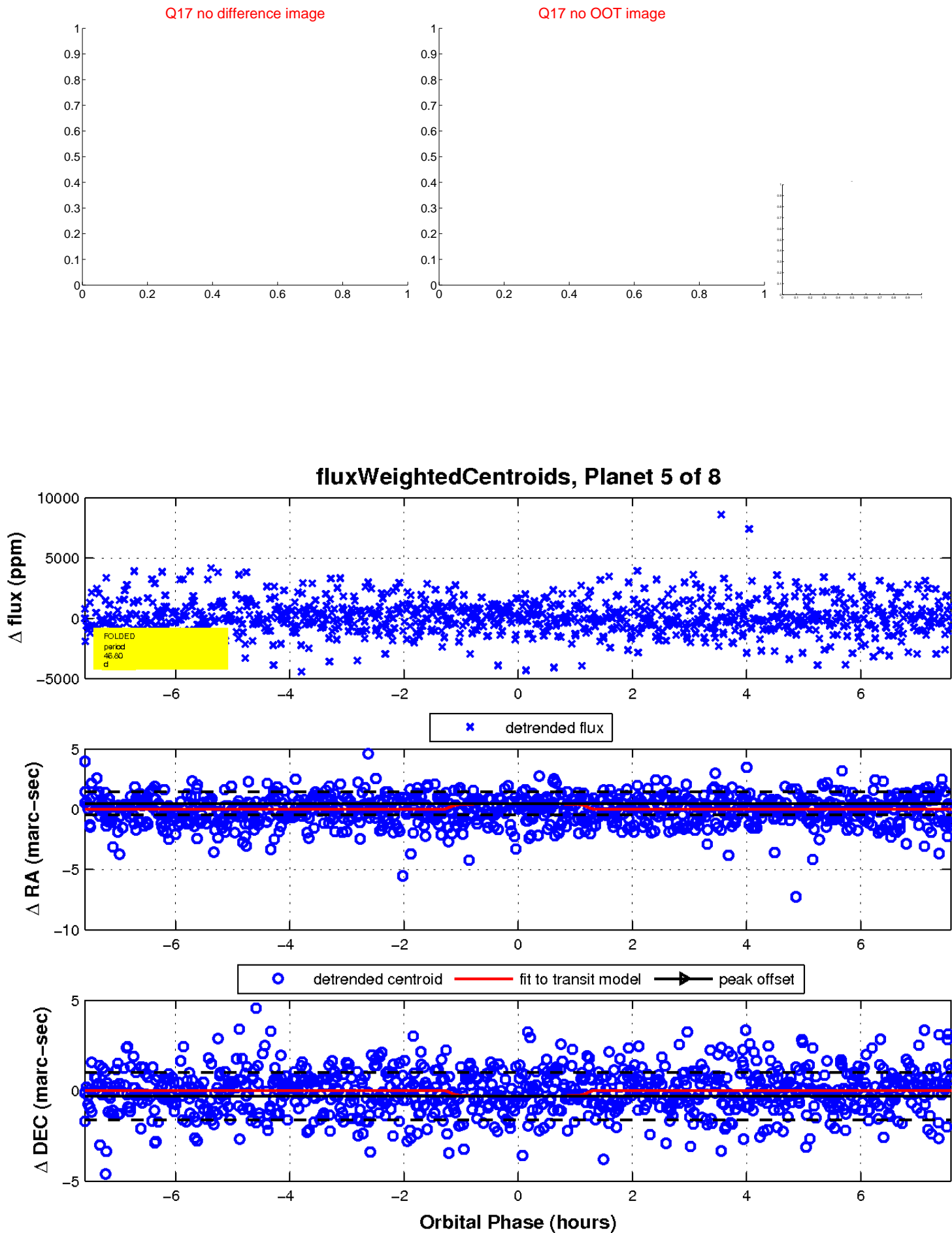
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

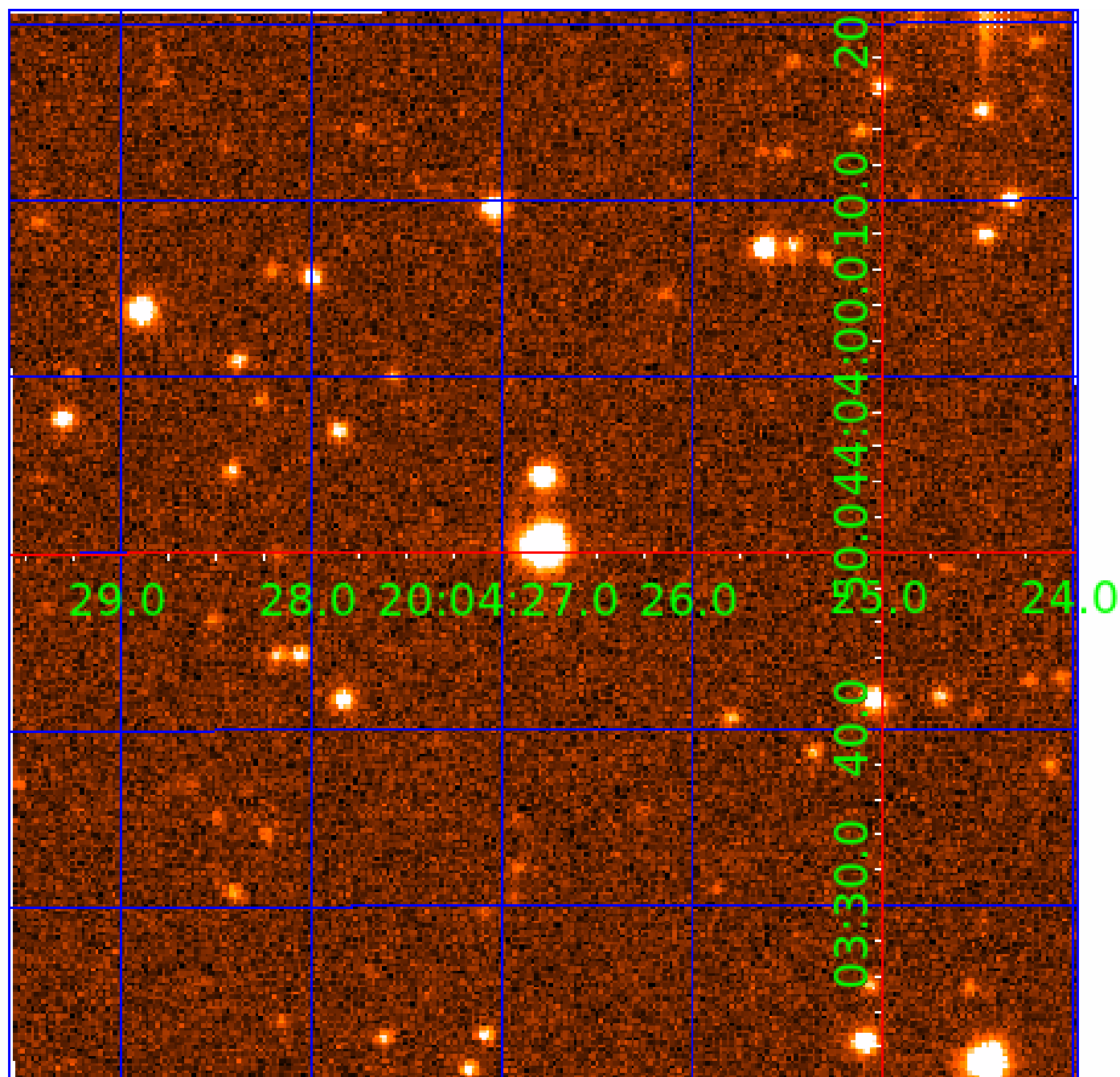


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008198031

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})
008198031-01	OBS	No	0.661033	131.624513	0.0	4.493	9.7	0.0	1.56	7563	0.01	24484.94
008198031-02	OBS	No	37.757658	147.156954	195.7	18.674	10.0	1.5	1.56	7563	2.38	111.31
008198031-03	OBS	No	94.997100	143.814118	2872.3	3.583	11.4	8.6	1.56	7563	8.61	32.53
008198031-05	OBS	No	46.800903	141.824352	949.0	2.535	7.8	3.8	1.56	7563	5.06	83.60
008198031-06	OBS	No	20.264628	137.190330	725.6	1.863	7.9	4.0	1.56	7563	4.67	255.20
008198031-07	OBS	No	45.219461	134.575669	2181.5	3.114	11.8	7.1	1.56	7563	13.21	87.52
008198031-08	OBS	No	43.086319	153.126624	961.3	1.500	10.8	-1.0	1.56	7563	4.92	93.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008198031-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008198031-02	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV
008198031-05	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
008198031-06	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

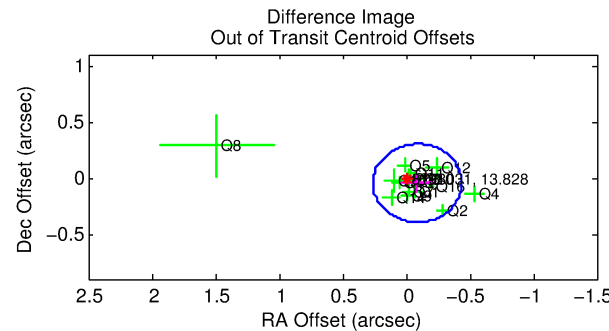
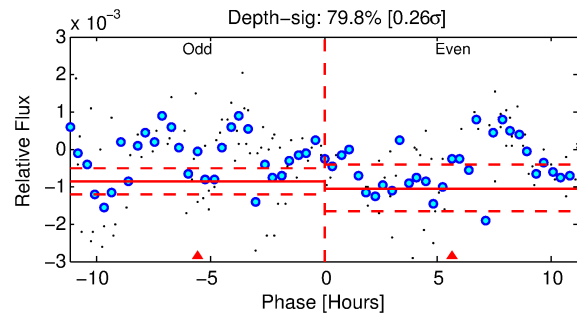
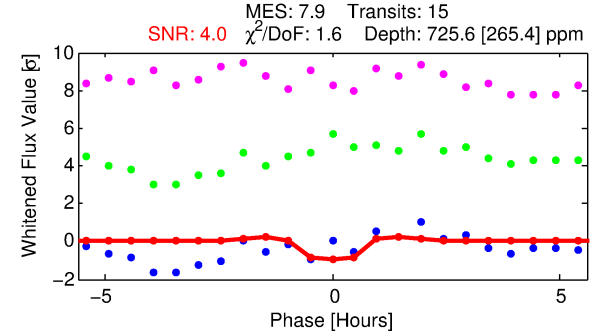
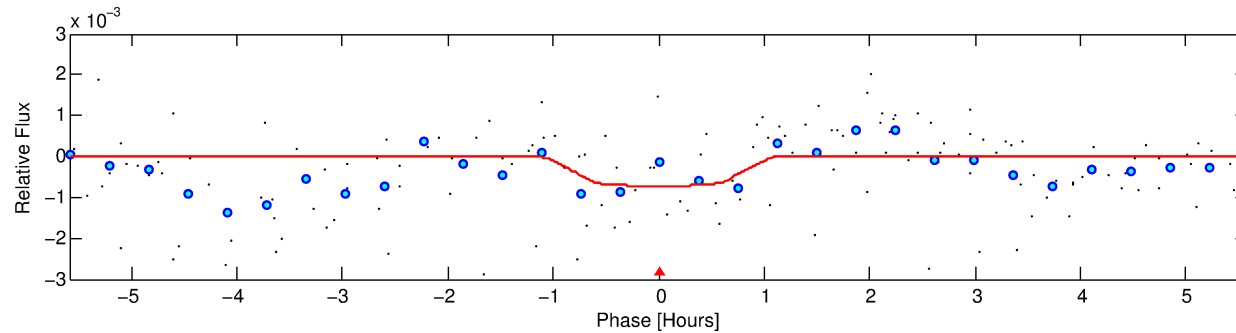
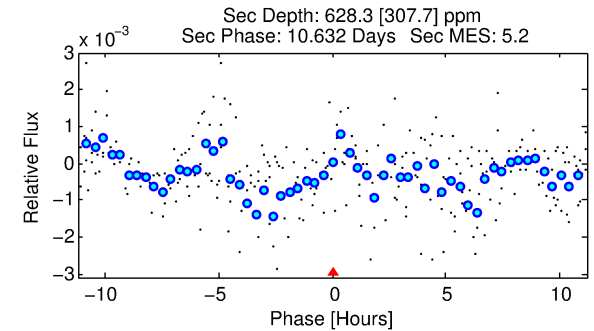
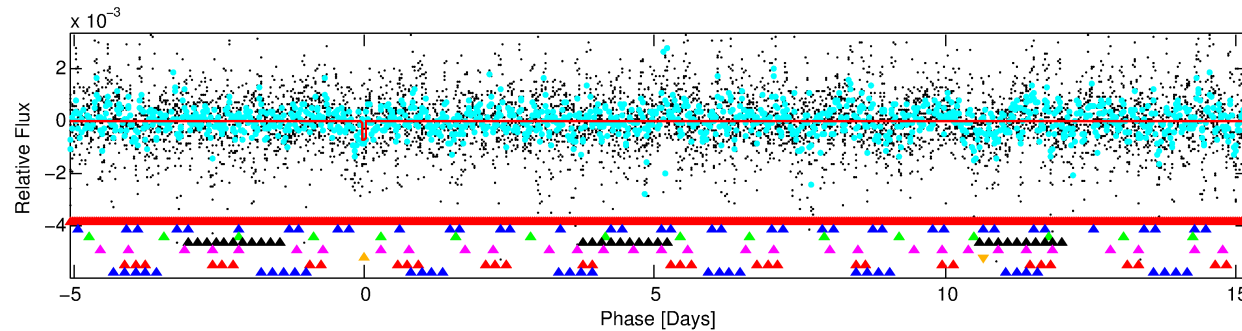
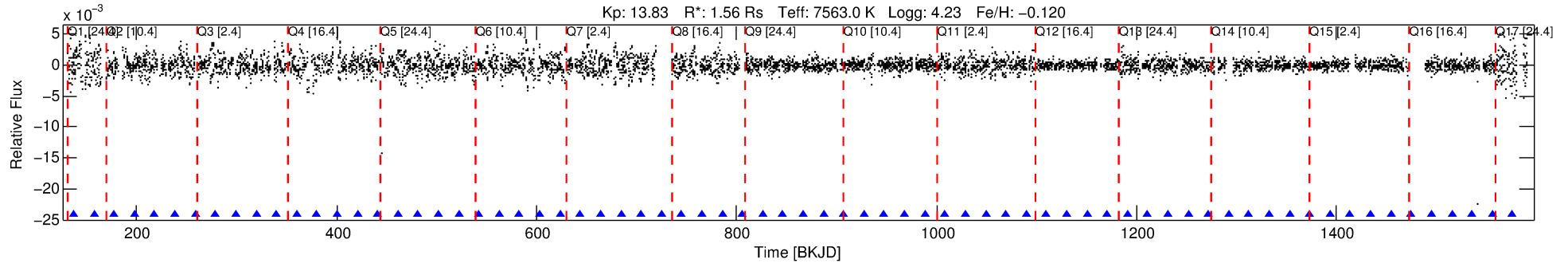
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008198031-06

No Significant Match Found

DV One-Page Summary

KIC: 8198031 Candidate: 6 of 8 Period: 20.265 d



DV Fit Results:

Period = 20.26463 [0.00034] d
Epoch = 137.1903 [0.0136] BKJD
Rp/R* = 0.0275 [0.0366]
a/R* = 50.76 [421.13]
b = 0.83 [3.23]
Seff = 255.20 [109.16]
Teq = 1019 [109] K
Rp = 4.67 [6.42] Re
a = 0.1669 [0.0463] AU
Ag = 440.70 [1205.91] [0.36σ]
Teffp = 7220 [4897] K [1.27σ]

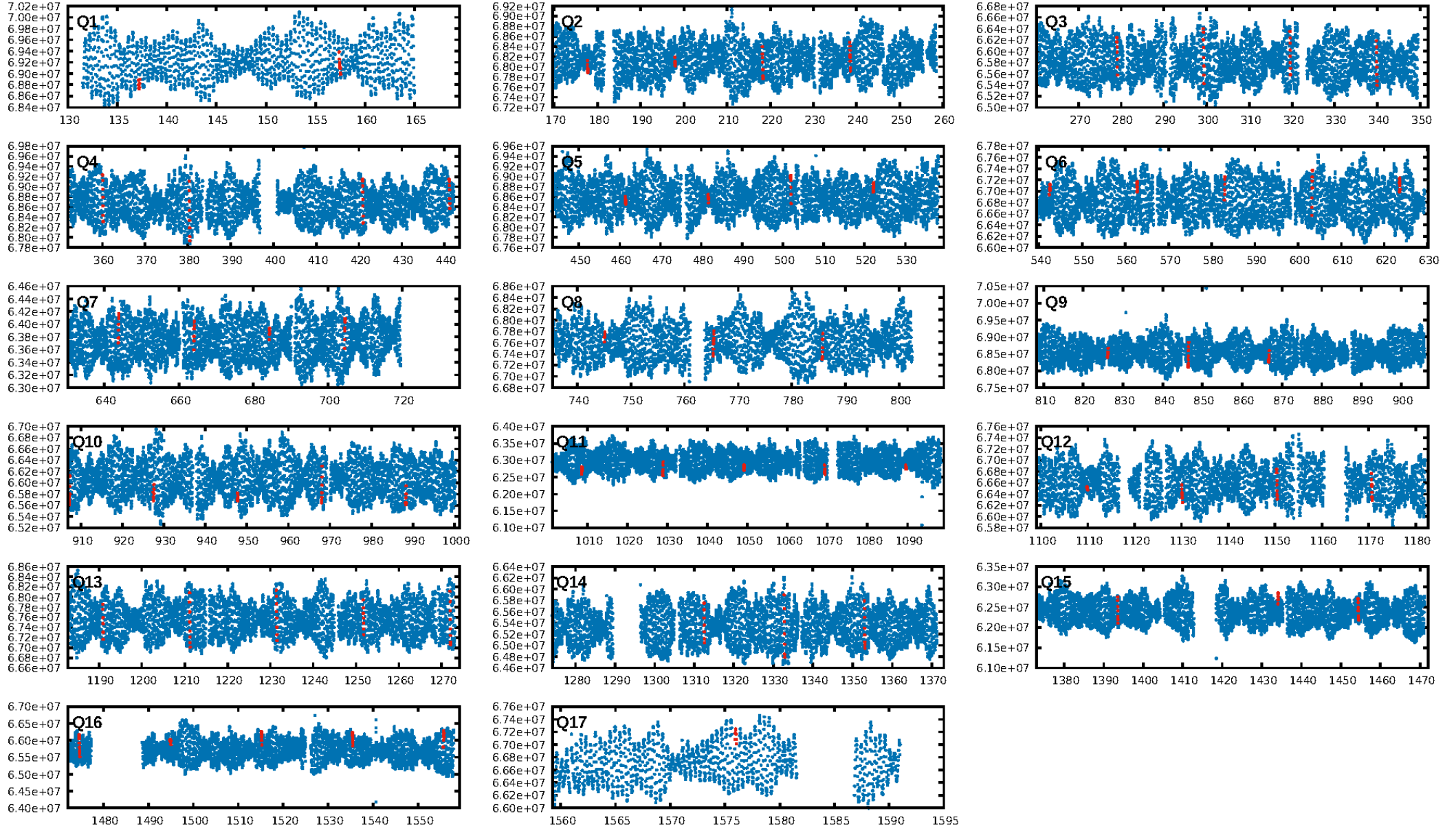
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [96.73σ]
LongPeriod-sig: 100.0% [22.37σ]
ModelChiSquare2-sig: 20.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [14/14]
GhostDiagnostic-chr: -1.284
Centroid-sig: 4.9%
Centroid-so: 1.451 arcsec [4.46σ]
OotOffset-rm: 0.098 arcsec [0.84σ]
KicOffset-rm: 0.225 arcsec [1.81σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 0.00 [0/17]

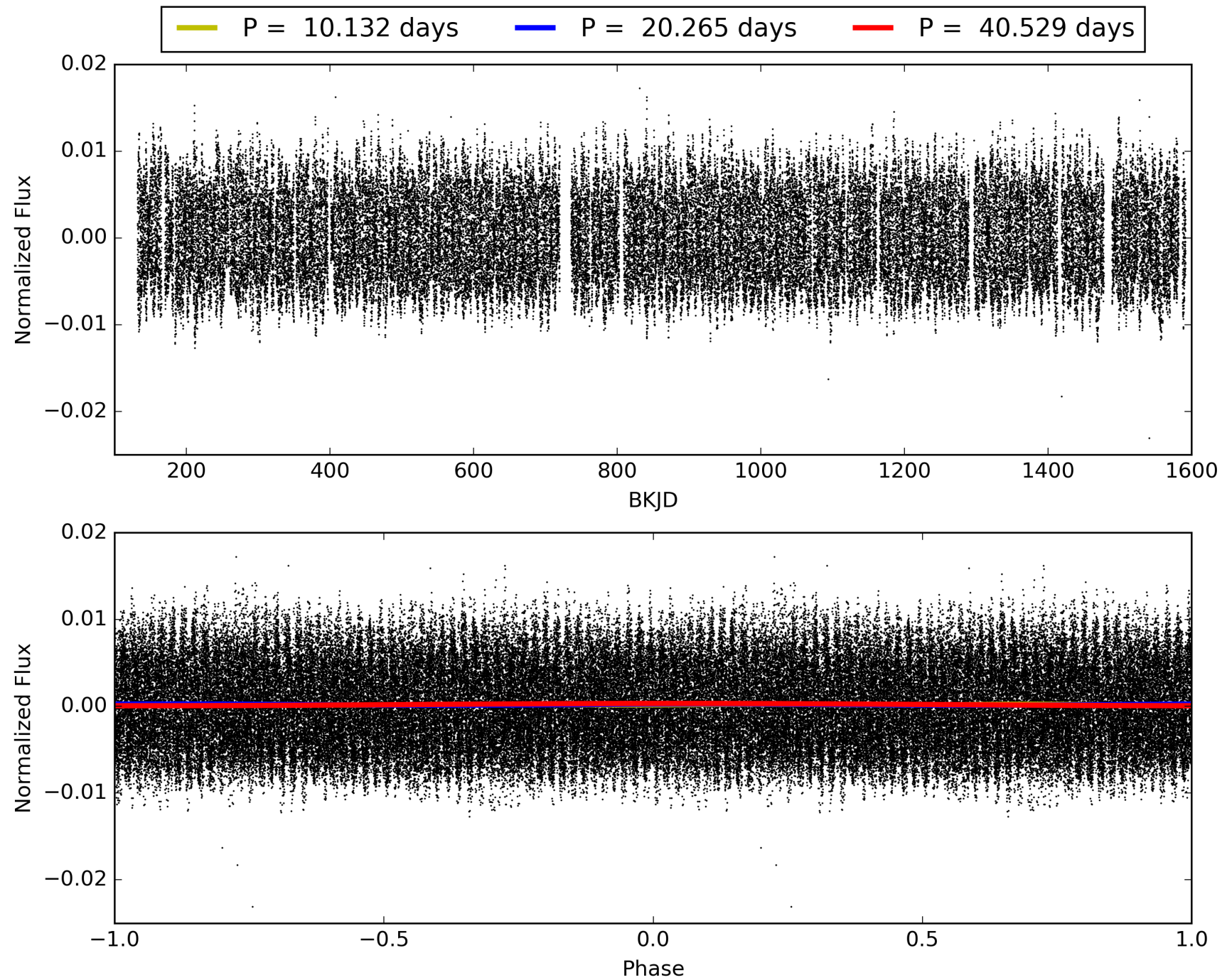
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:24:10 Z

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

TCE 008198031-06, PDC Light Curves

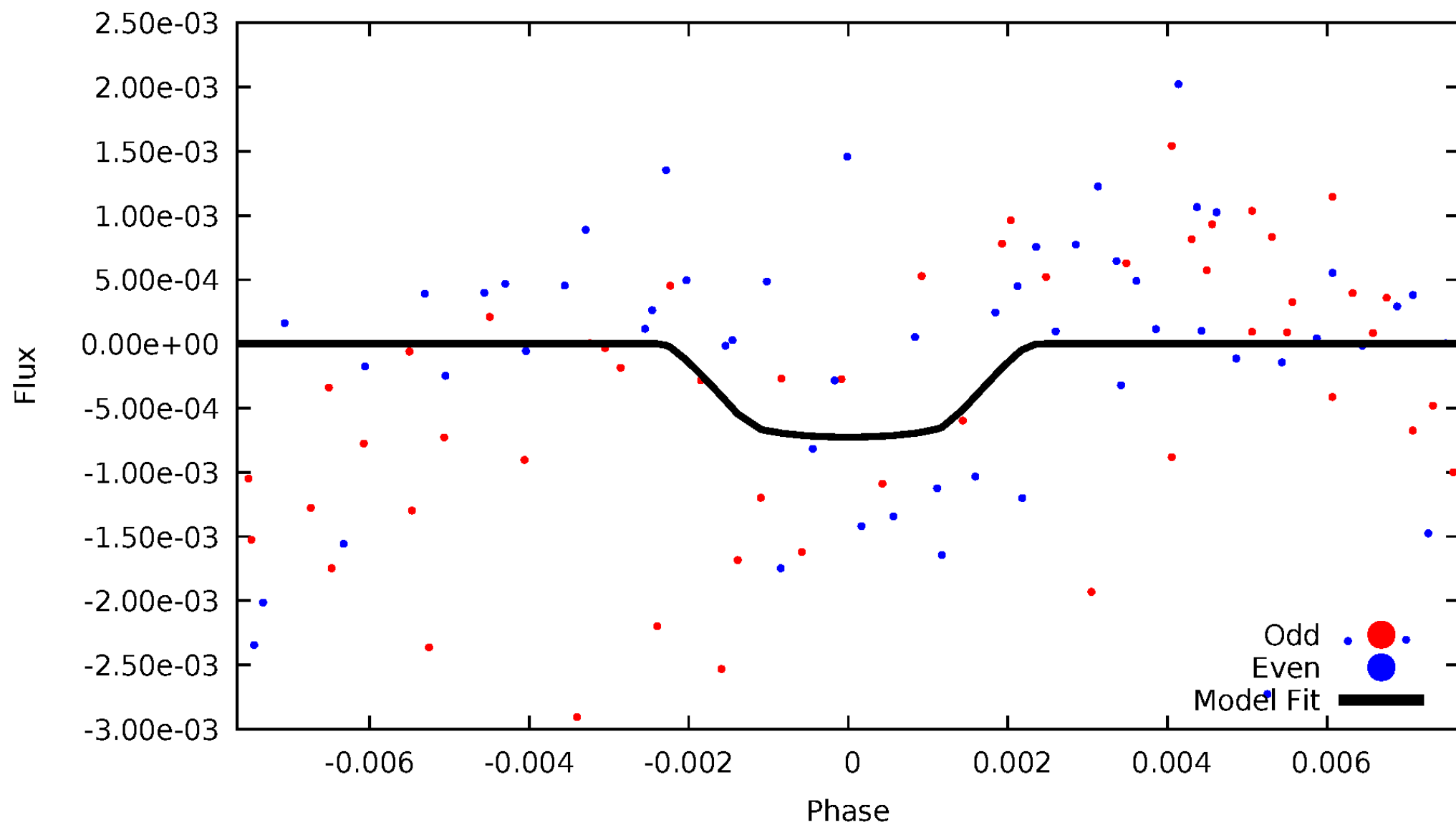


TCE 008198031-06



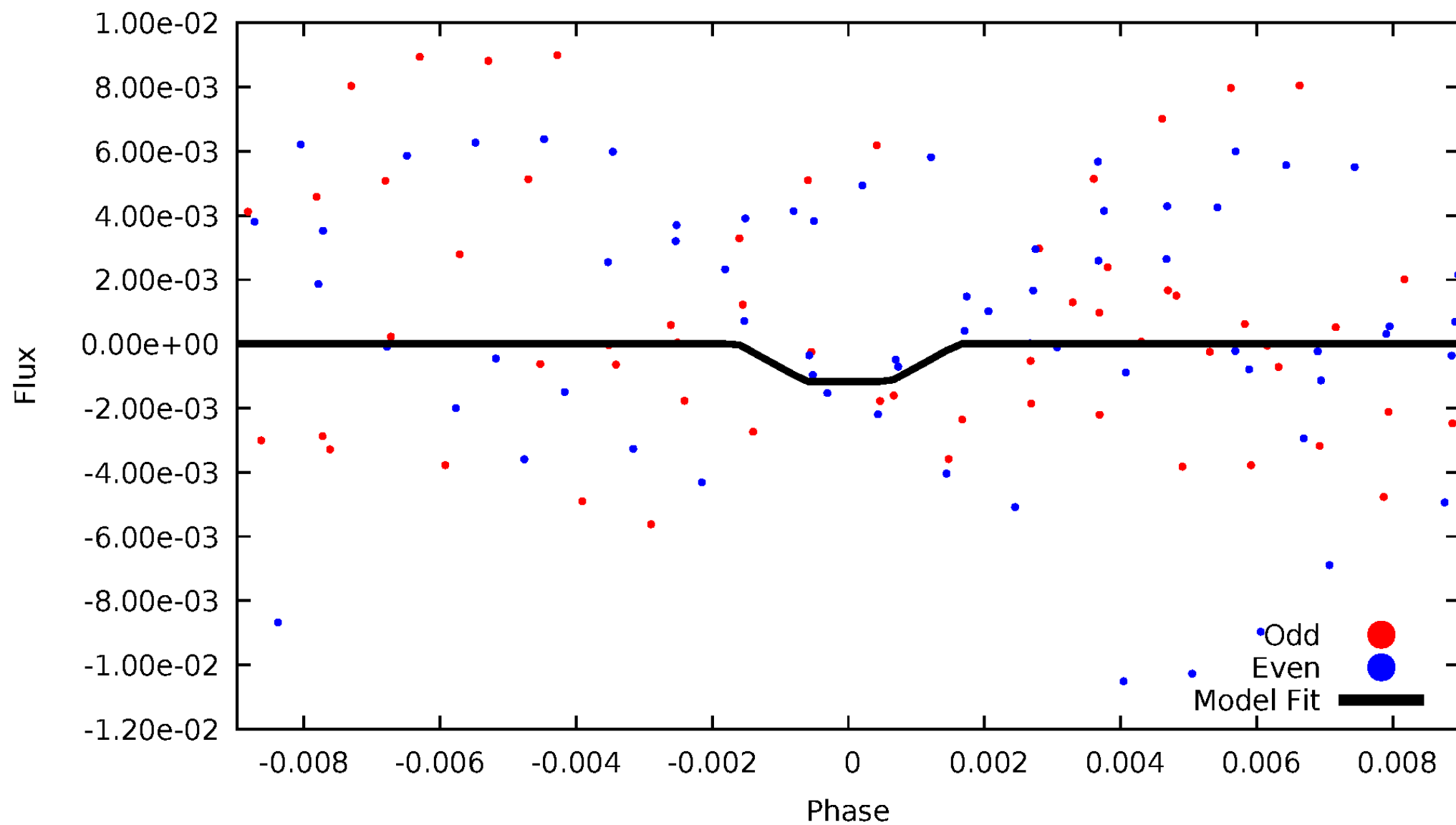
DV Odd/Even

TCE 008198031-06



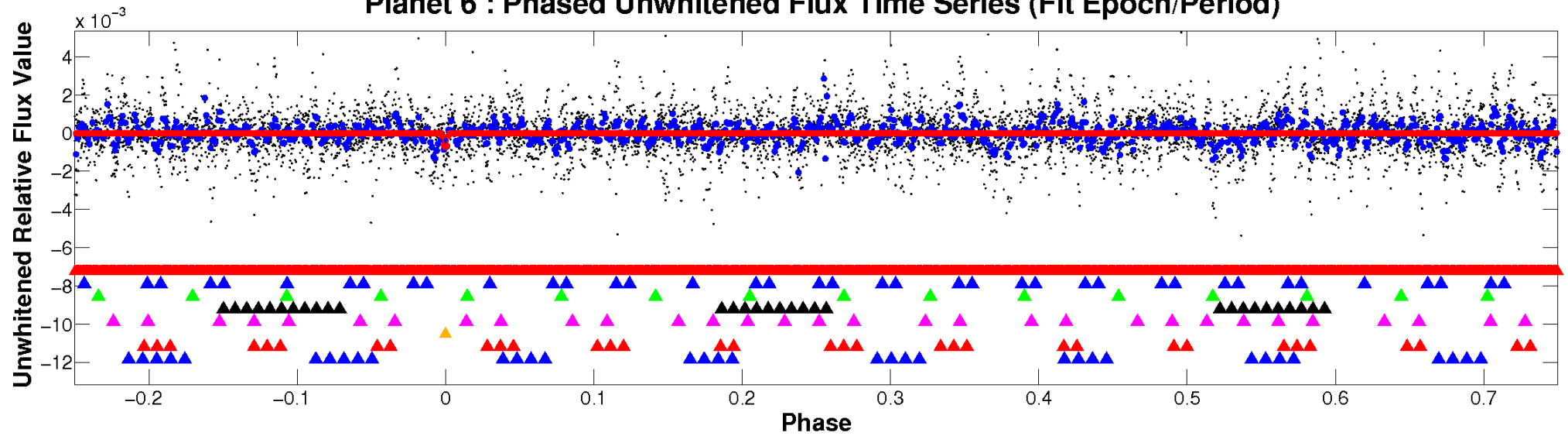
ALT Odd/Even

TCE 008198031-06

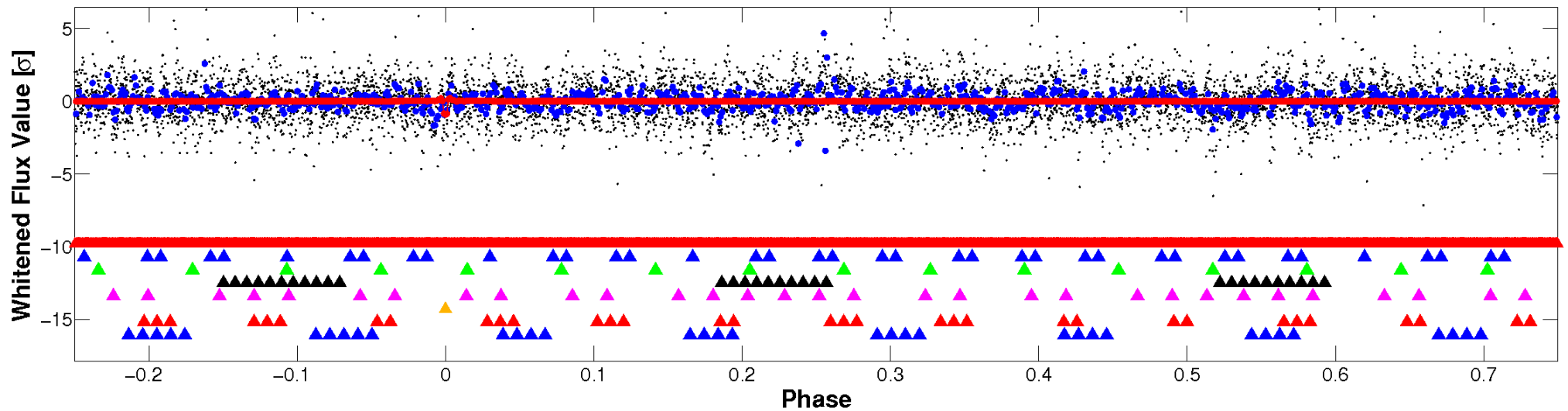


Non-Whitened Vs. Whitened Light Curve

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

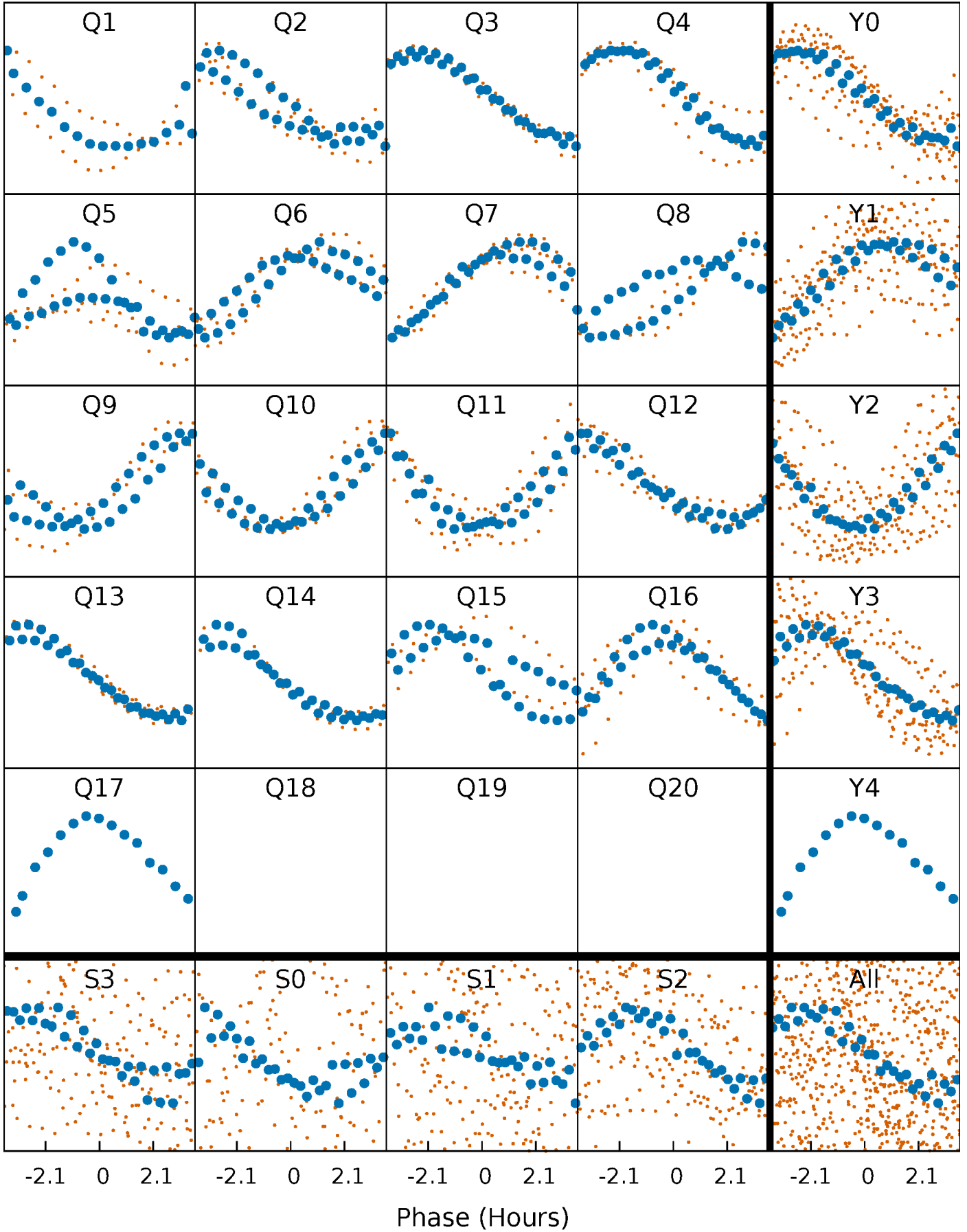


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



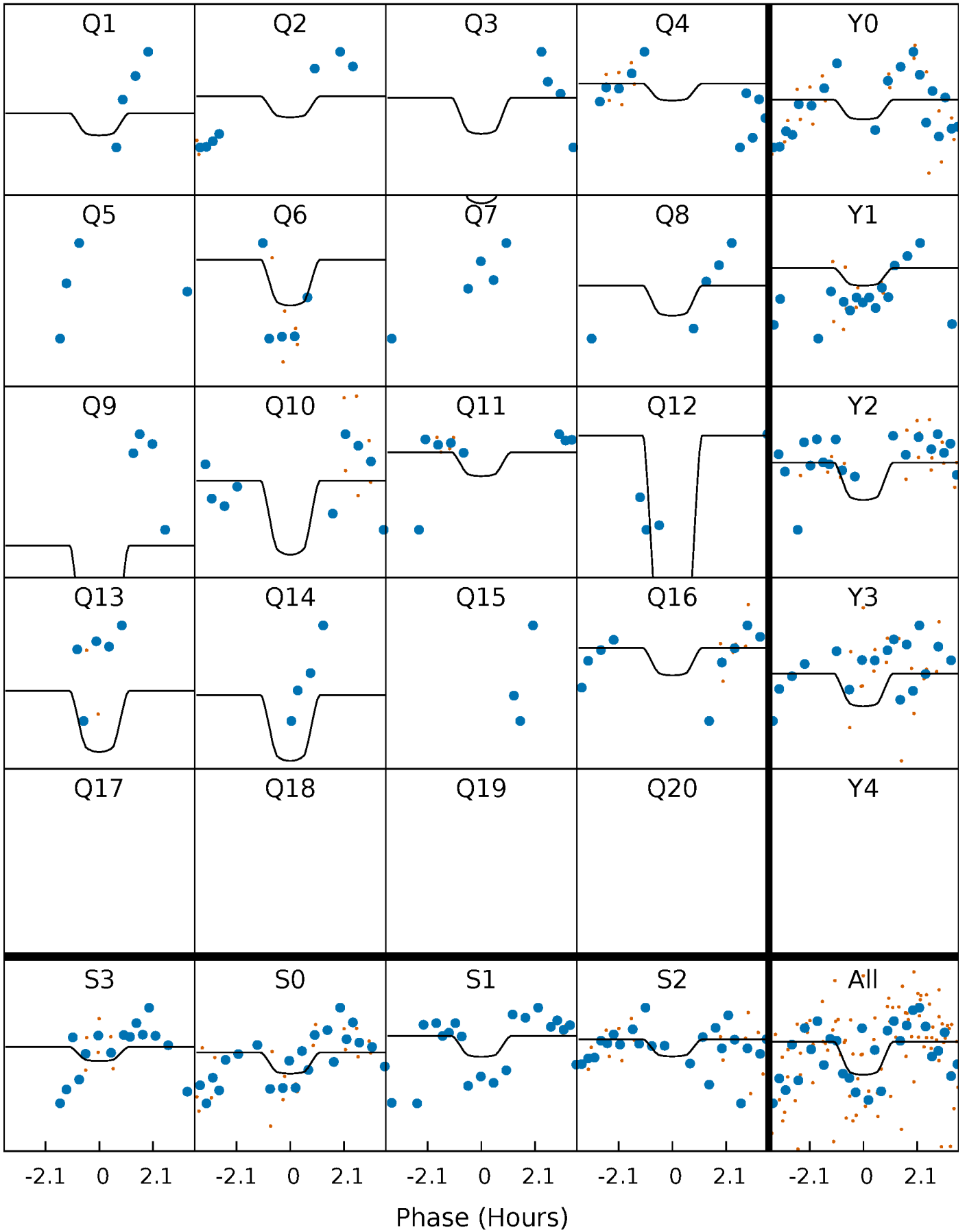
PDC Quarter-Phased Transit Curves

TCE 008198031-06 P= 20.264628 Days $T_0=137.190330$ (BKJD)



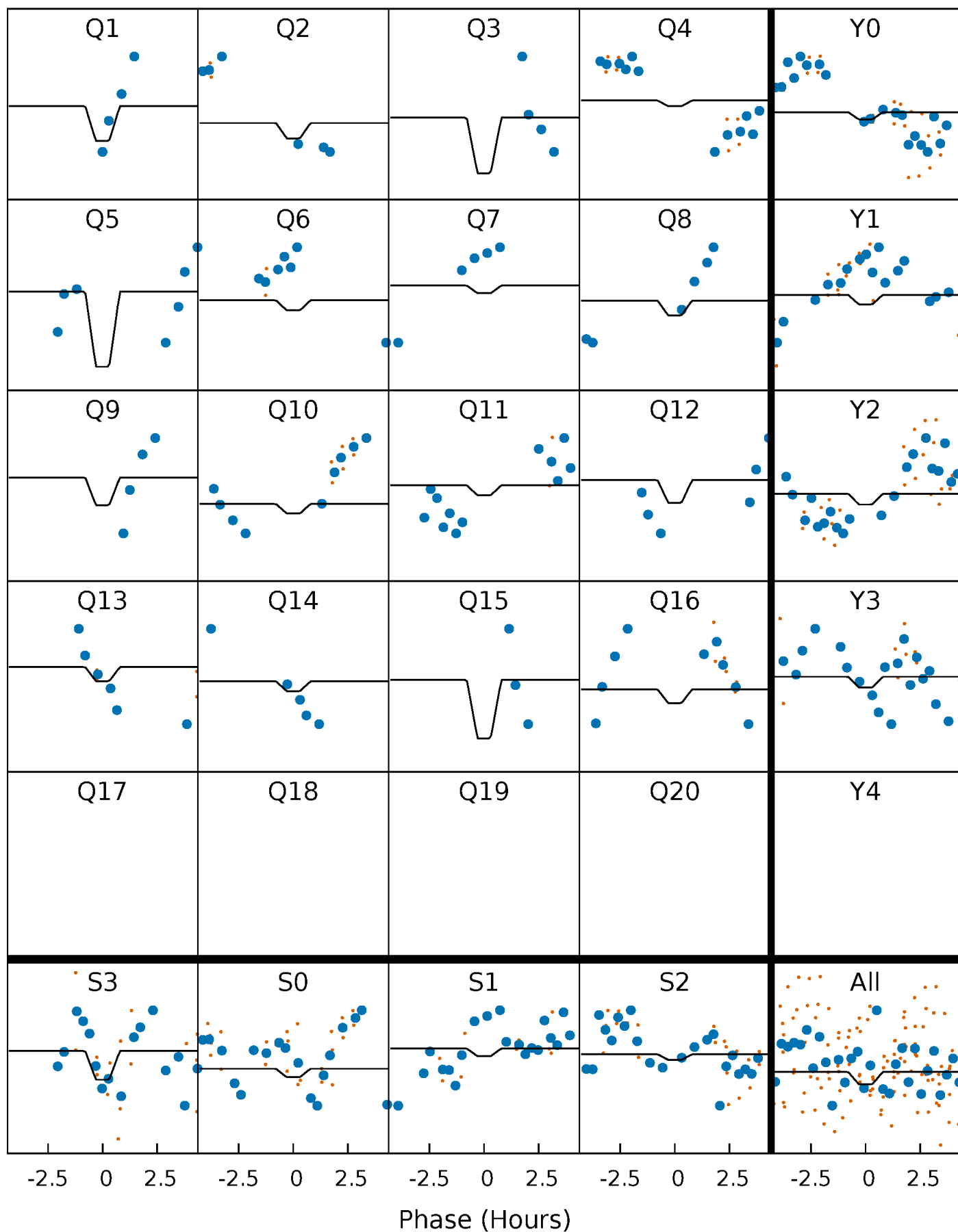
DV Quarter-Phased Transit Curves

TCE 008198031-06 P= 20.264628 Days $T_0=137.190330$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

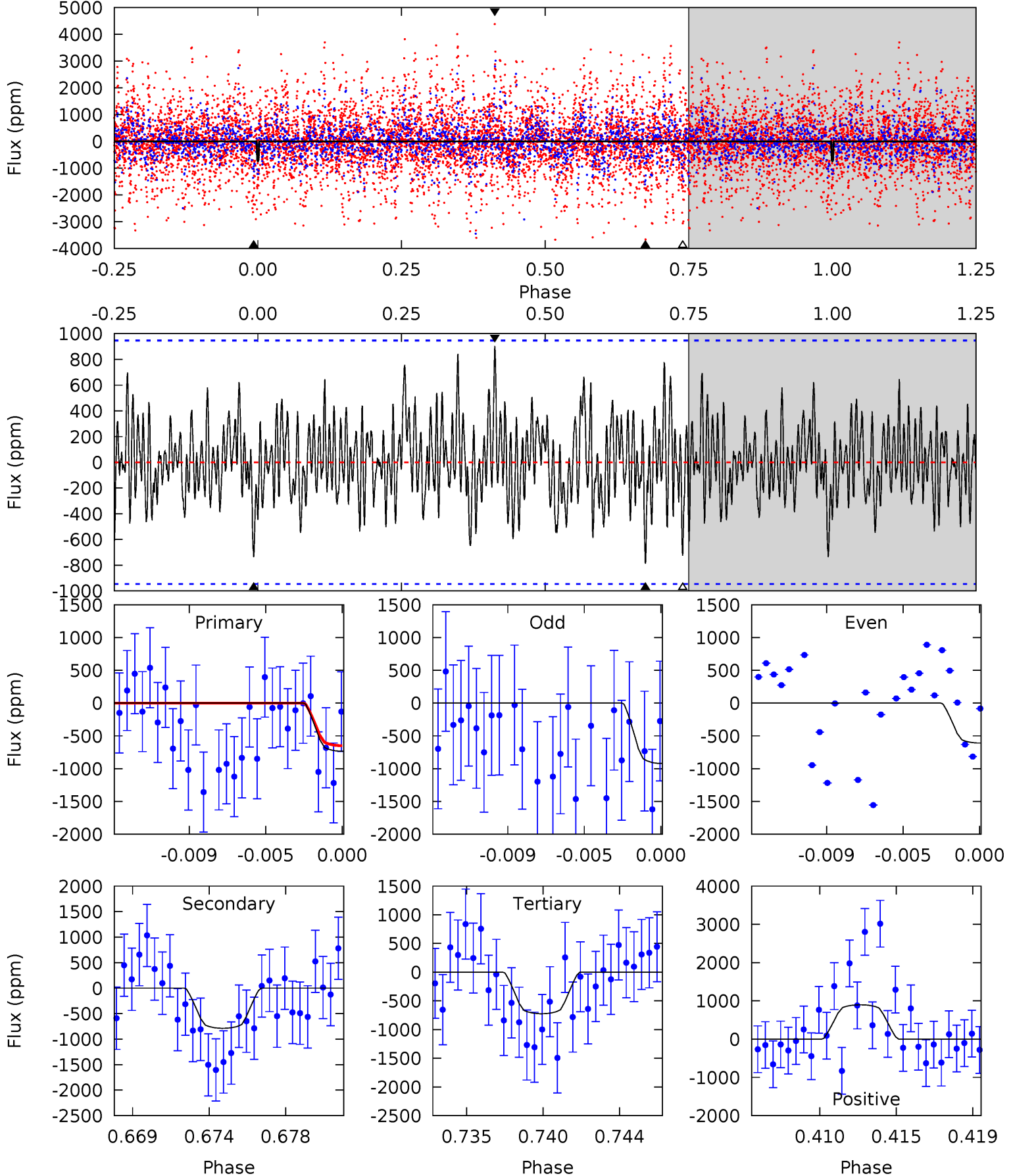
TCE 008198031-06 P= 20.264271 Days $T_0=137.219174$ (BKJD)



DV Model-Shift Uniqueness Test

008198031-06, $P = 20.264628$ Days, $E = 116.925702$ Days

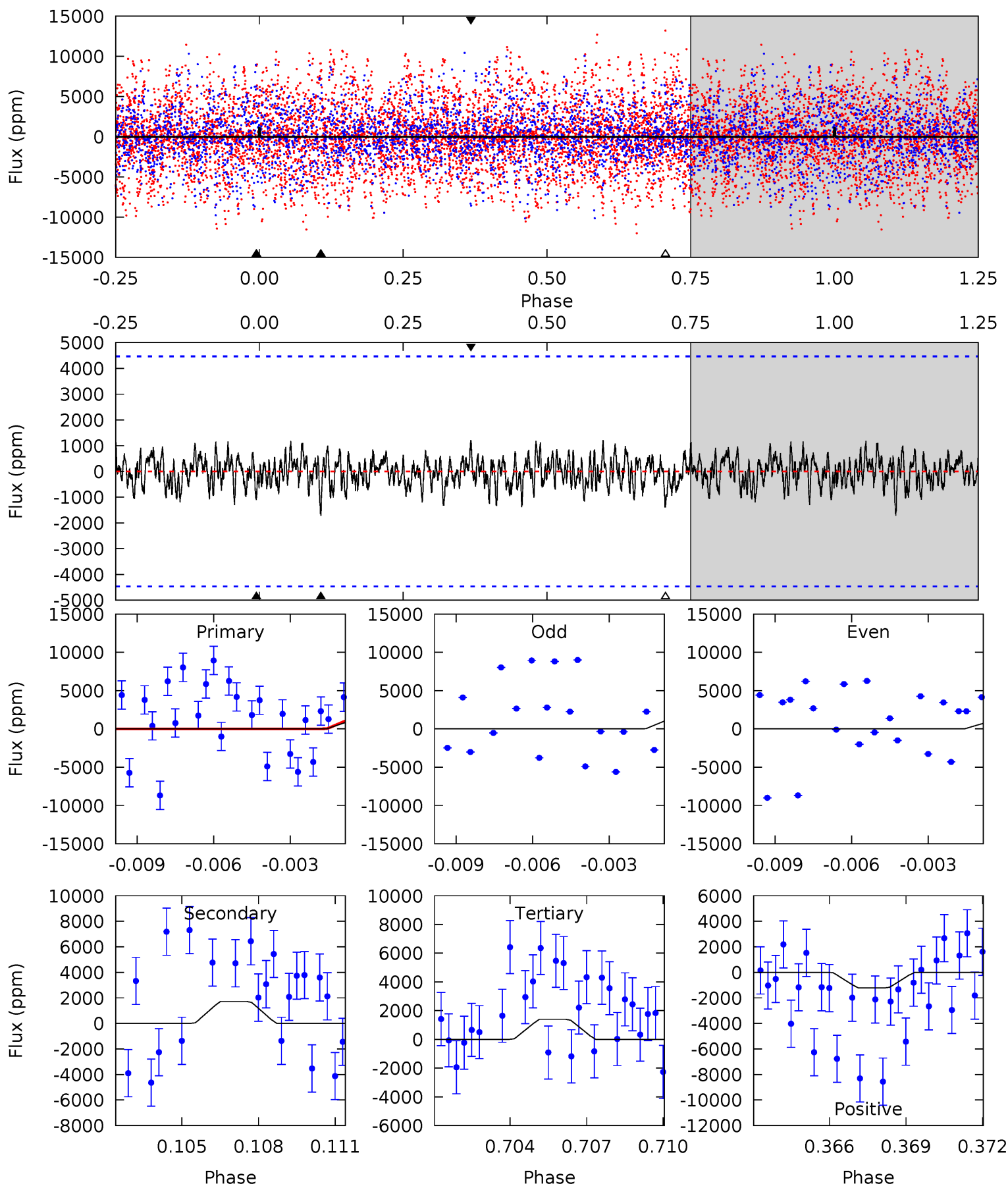
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.02	4.30	3.96	4.91	5.17	2.83	1.44	0.06	-0.89	0.35	-0.60	0.84	1.03	0.53	0.56



Alt Model-Shift Uniqueness Test

008198031-06, P = 20.264271 Days, E = 116.954903 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.30	2.02	1.64	1.43	5.25	2.96	0.55	-0.34	-0.14	0.38	0.59	0.21	-1.75	0.42	0.32



Stellar Parameters For KIC 008198031

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7563^{+211}_{-316}	$4.232^{+0.090}_{-0.210}$	$-0.120^{+0.200}_{-0.350}$	$1.557^{+0.528}_{-0.226}$	$1.506^{+0.219}_{-0.219}$	$0.562^{+0.234}_{-0.314}$
	+3%/-4%	+2%/-5%	+167%/-292%	+34%/-15%	+15%/-15%	+42%/-56%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008198031-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-788 ± 183	$6.88^{+5.26}_{-4.33}$	1439^{+115}_{-85}	6278^{+5782}_{-1479}	252^{+1592}_{-176}
Alt.	-1716 ± 851	$7.45^{+6.44}_{-4.65}$	1448^{+113}_{-83}	7302^{+9665}_{-2156}	430^{+3142}_{-325}

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 $A_{obs} \gg 1.0$

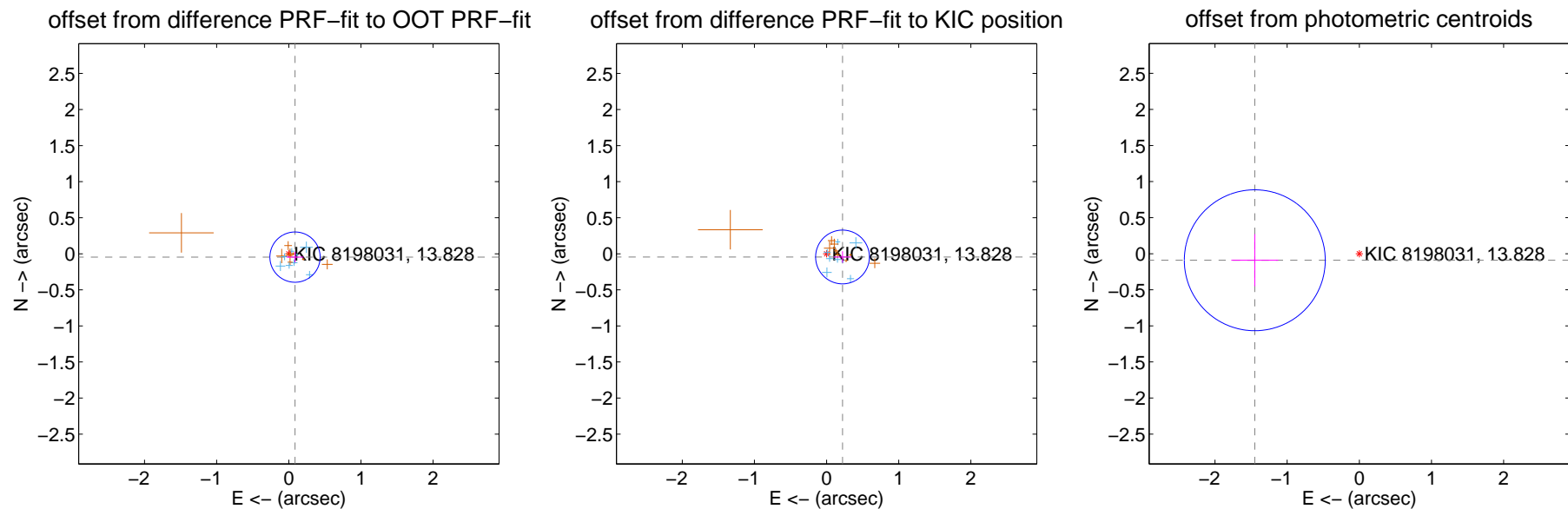
DV Centroid Data

Supplemental centroid analysis for 008198031-06. Kepler magnitude: 13.83. Transit SNR 4.00

There are 8 quarters with good PRF difference image offsets

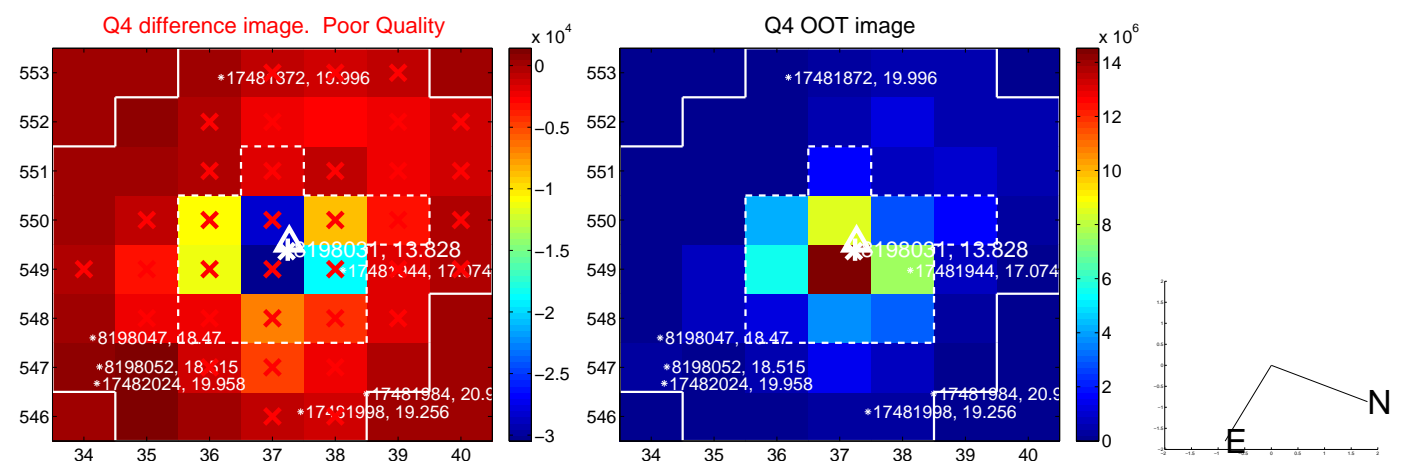
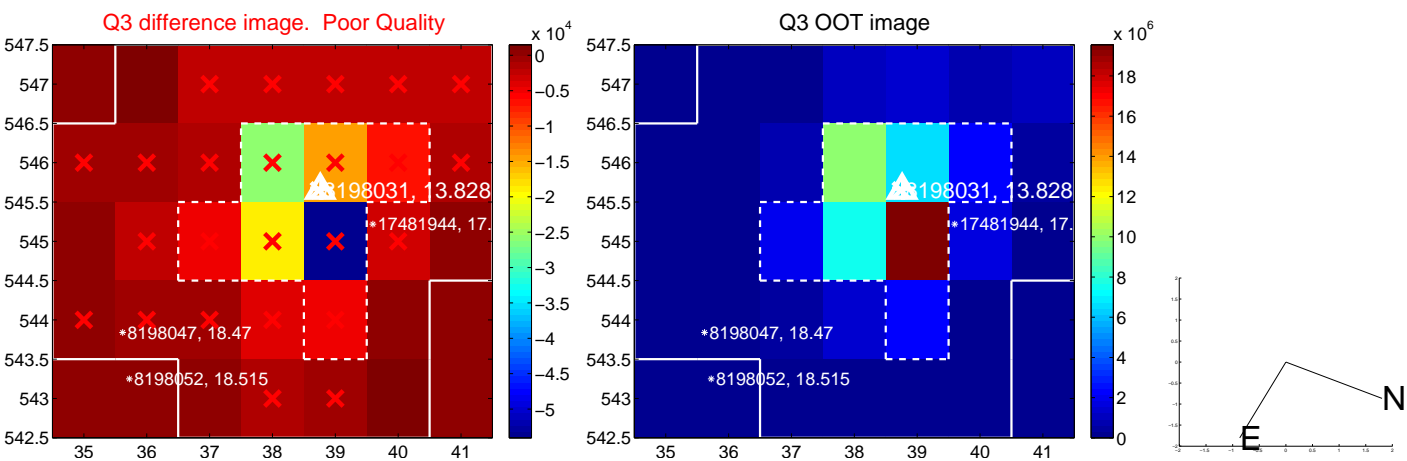
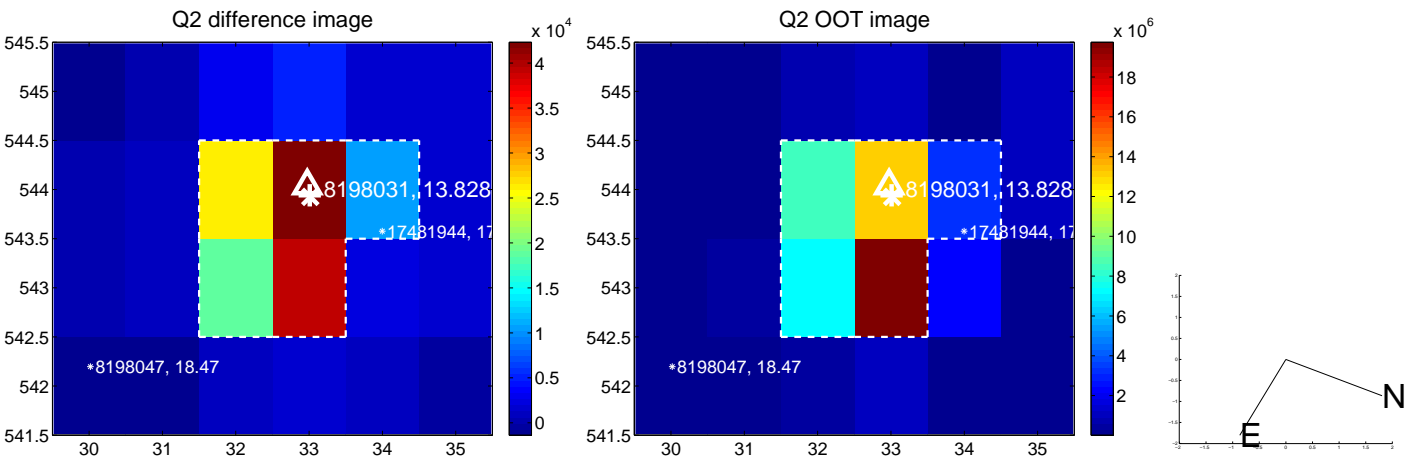
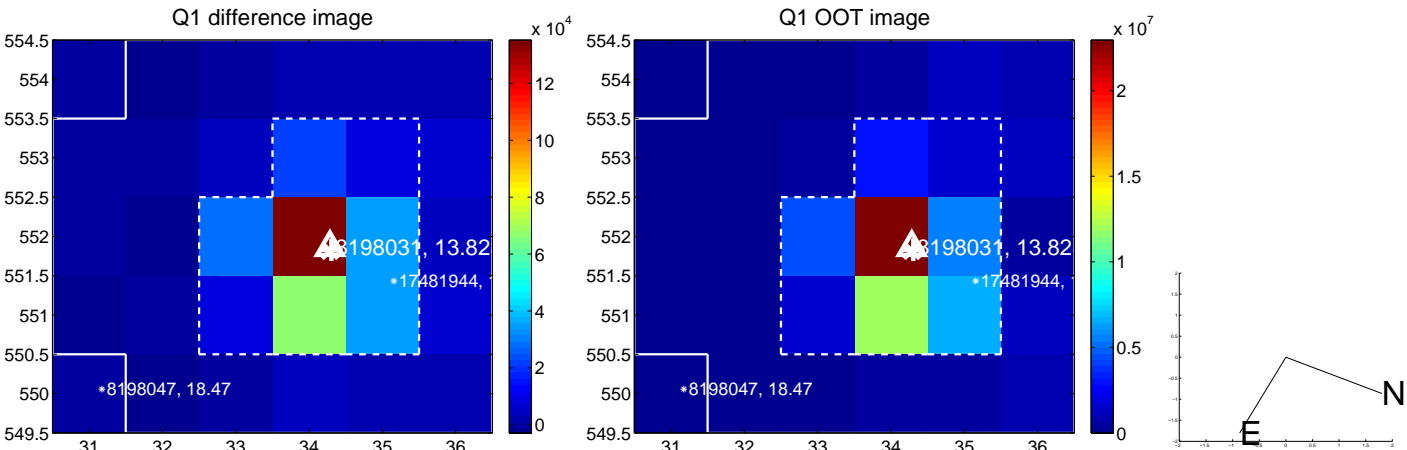
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.098 ± 0.116	0.84	-0.086 ± 0.117	-0.046 ± 0.073
PRF-fit source offset from KIC position	0.225 ± 0.124	1.81	-0.221 ± 0.122	-0.044 ± 0.079
photometric centroid source offset	1.45 ± 0.33	4.46	1.45 ± 0.33	-0.09 ± 0.36

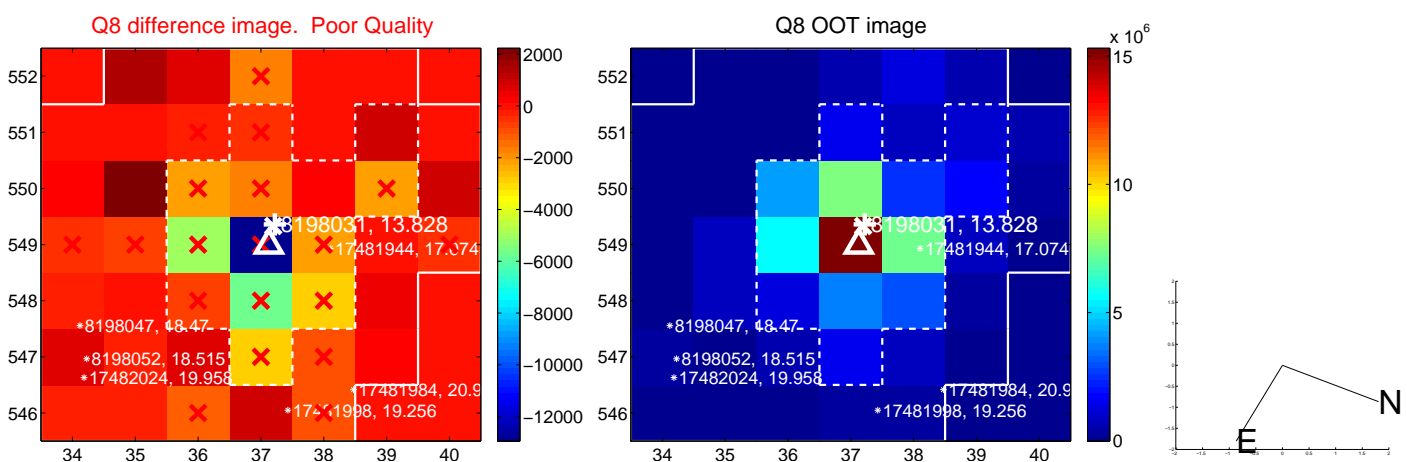
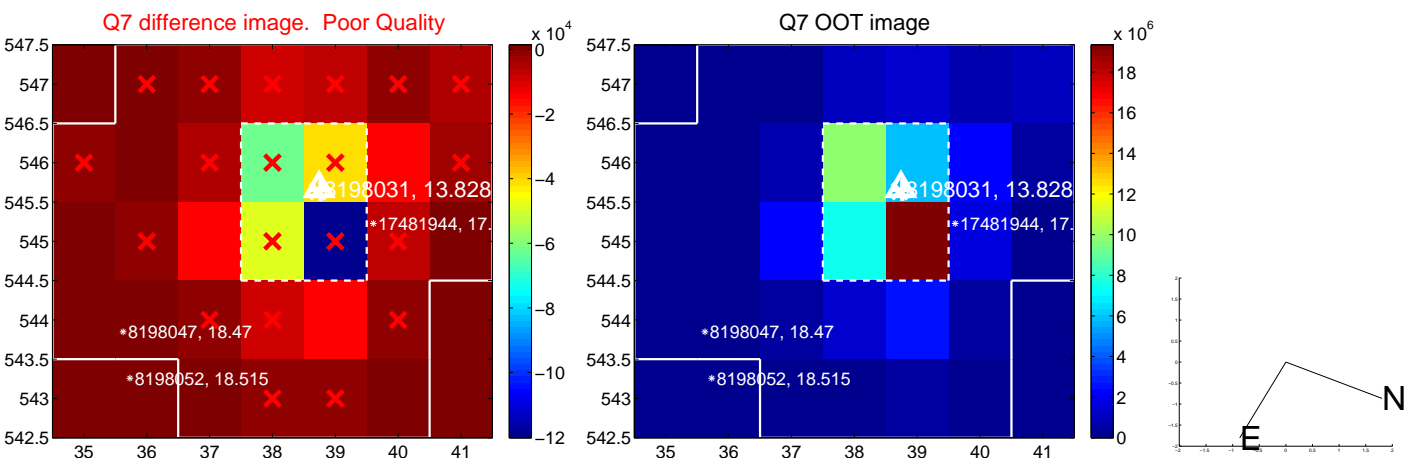
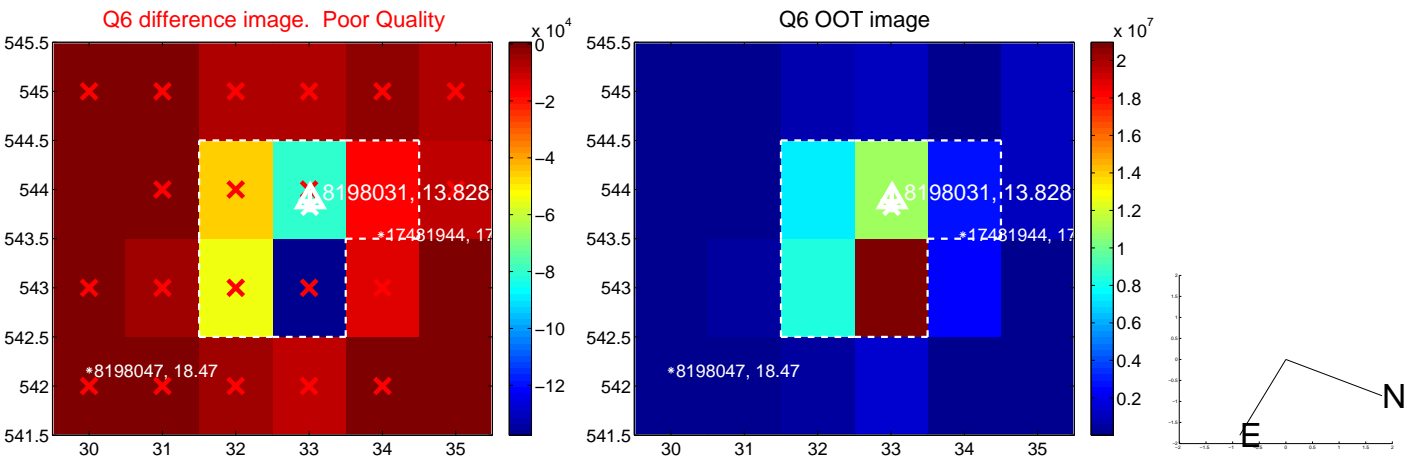
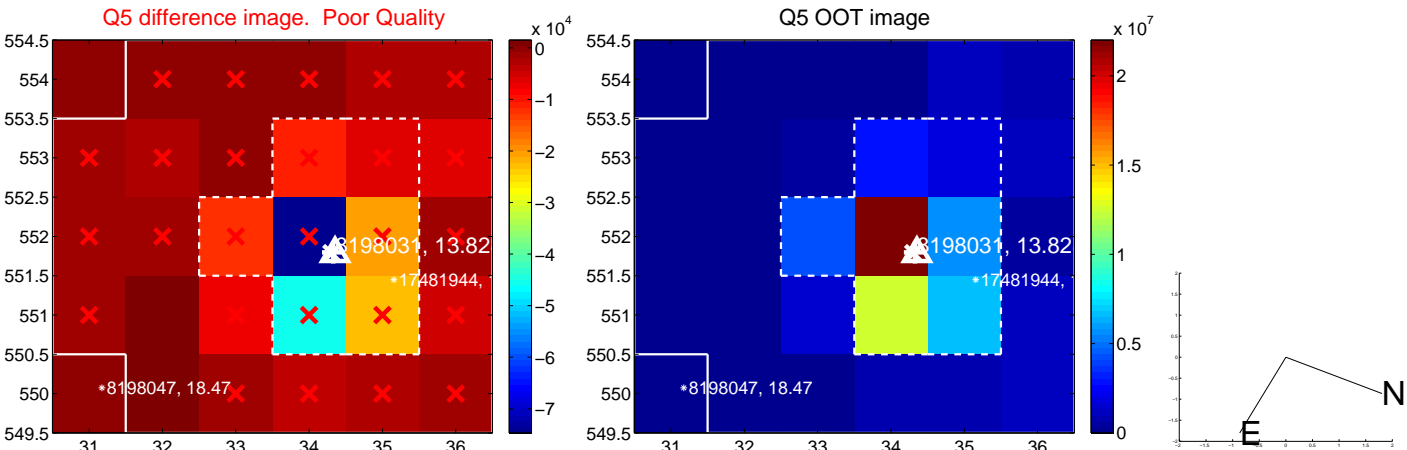


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

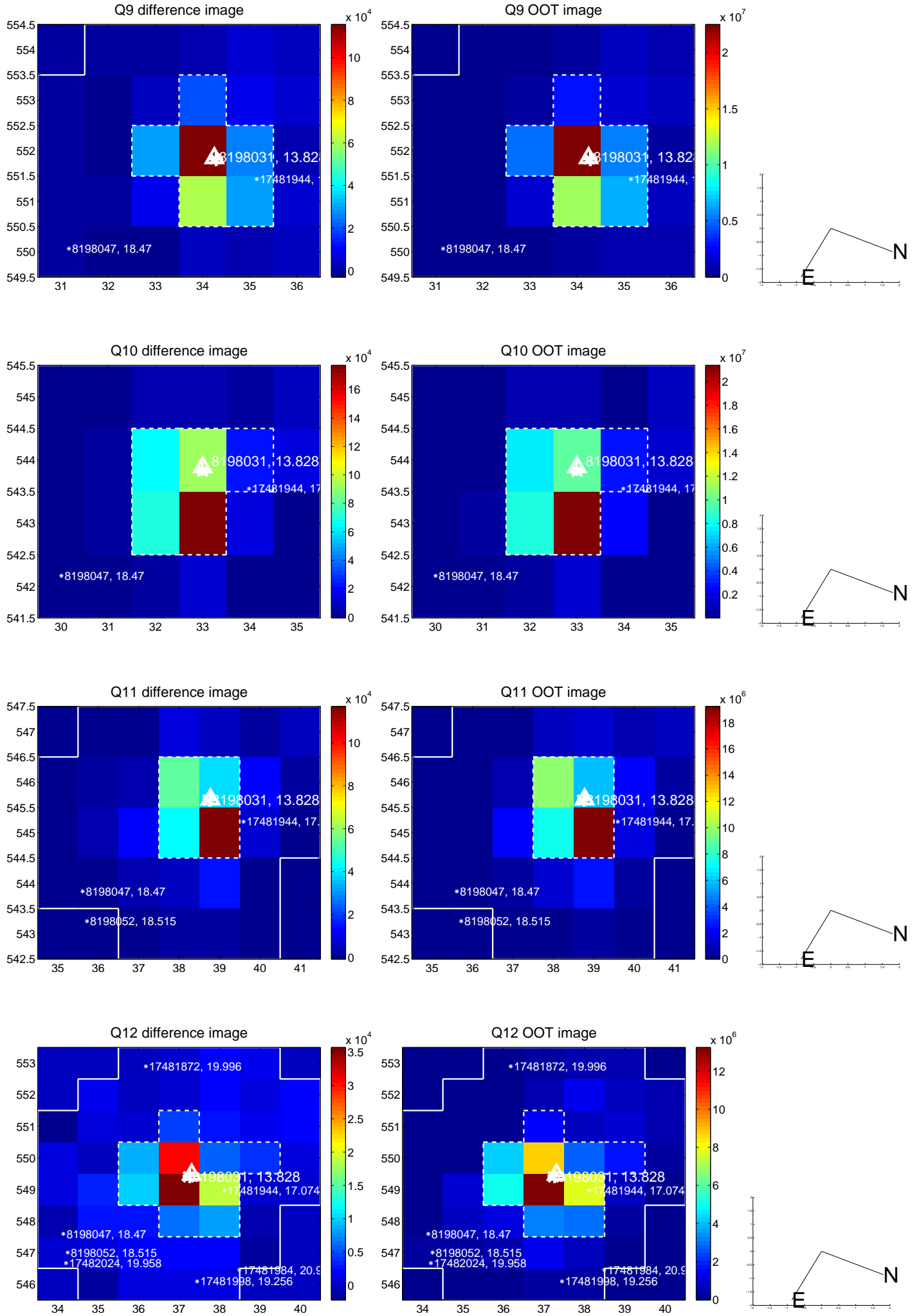
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



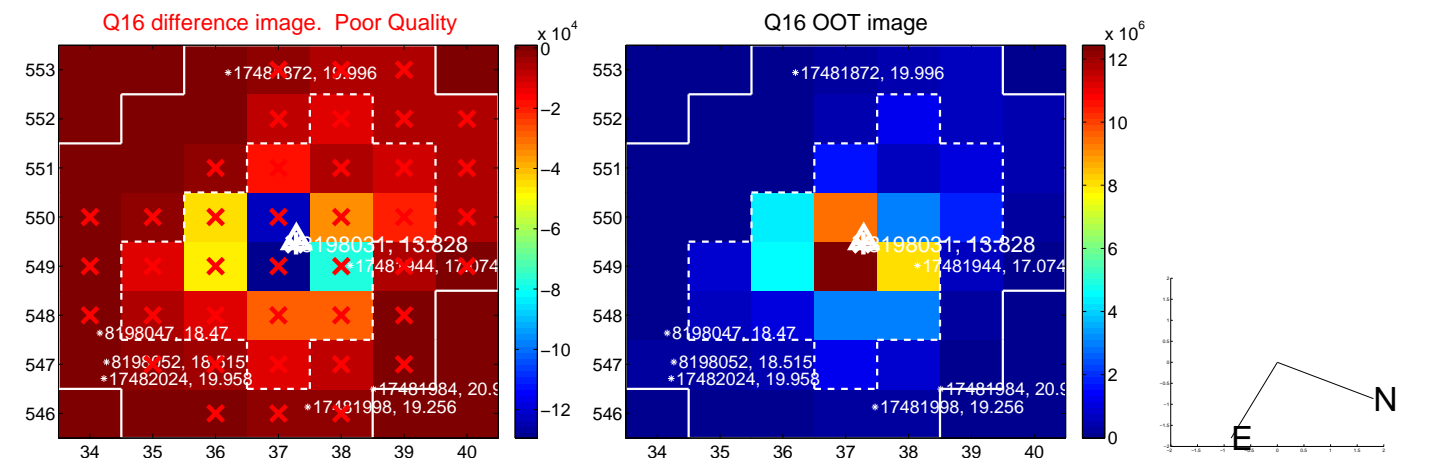
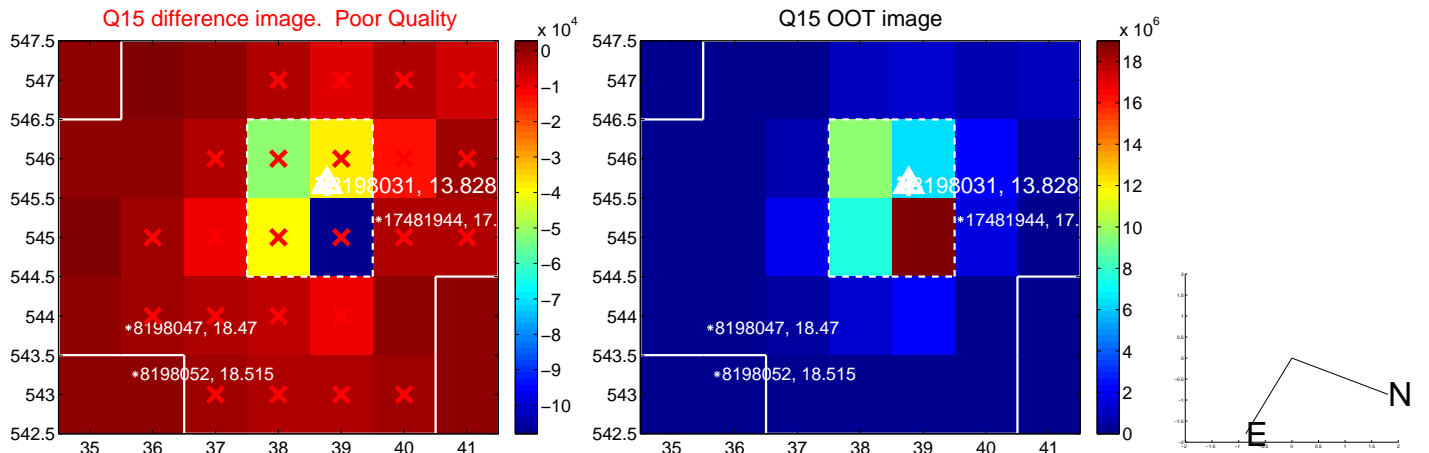
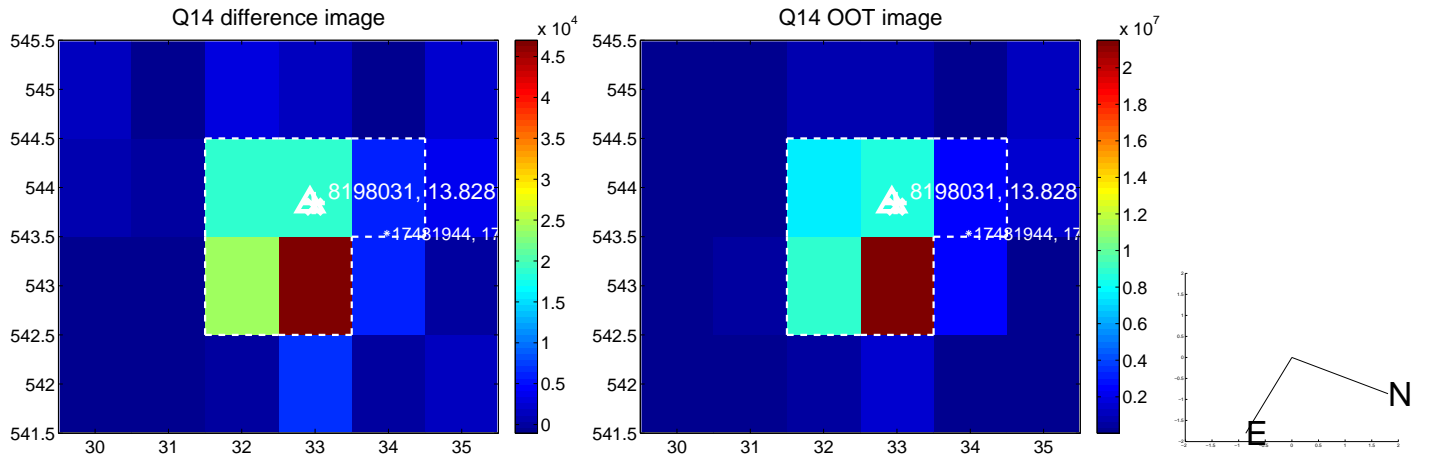
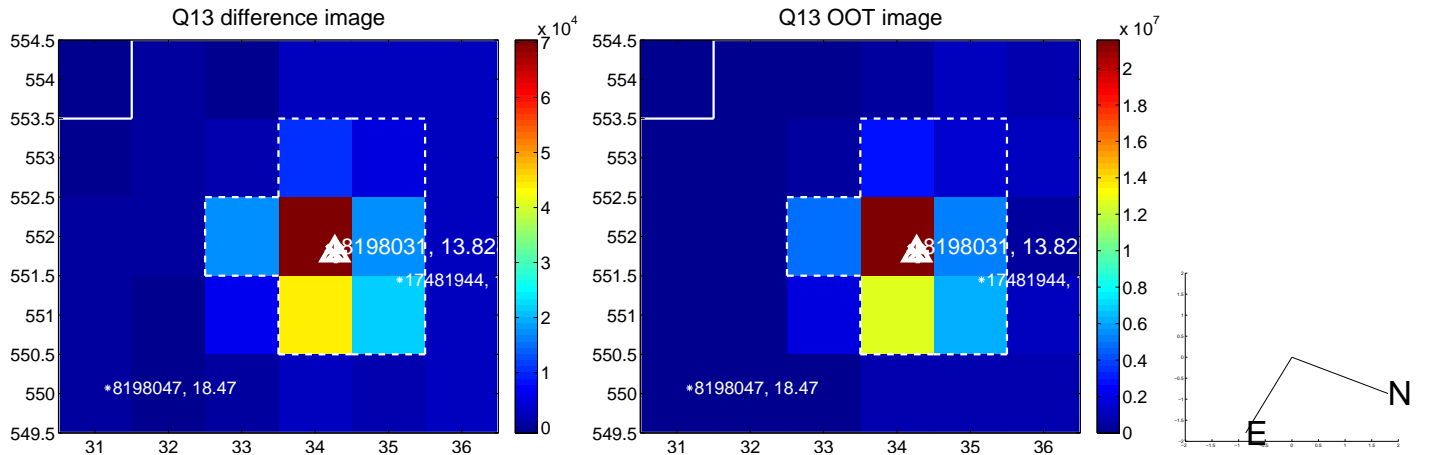
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



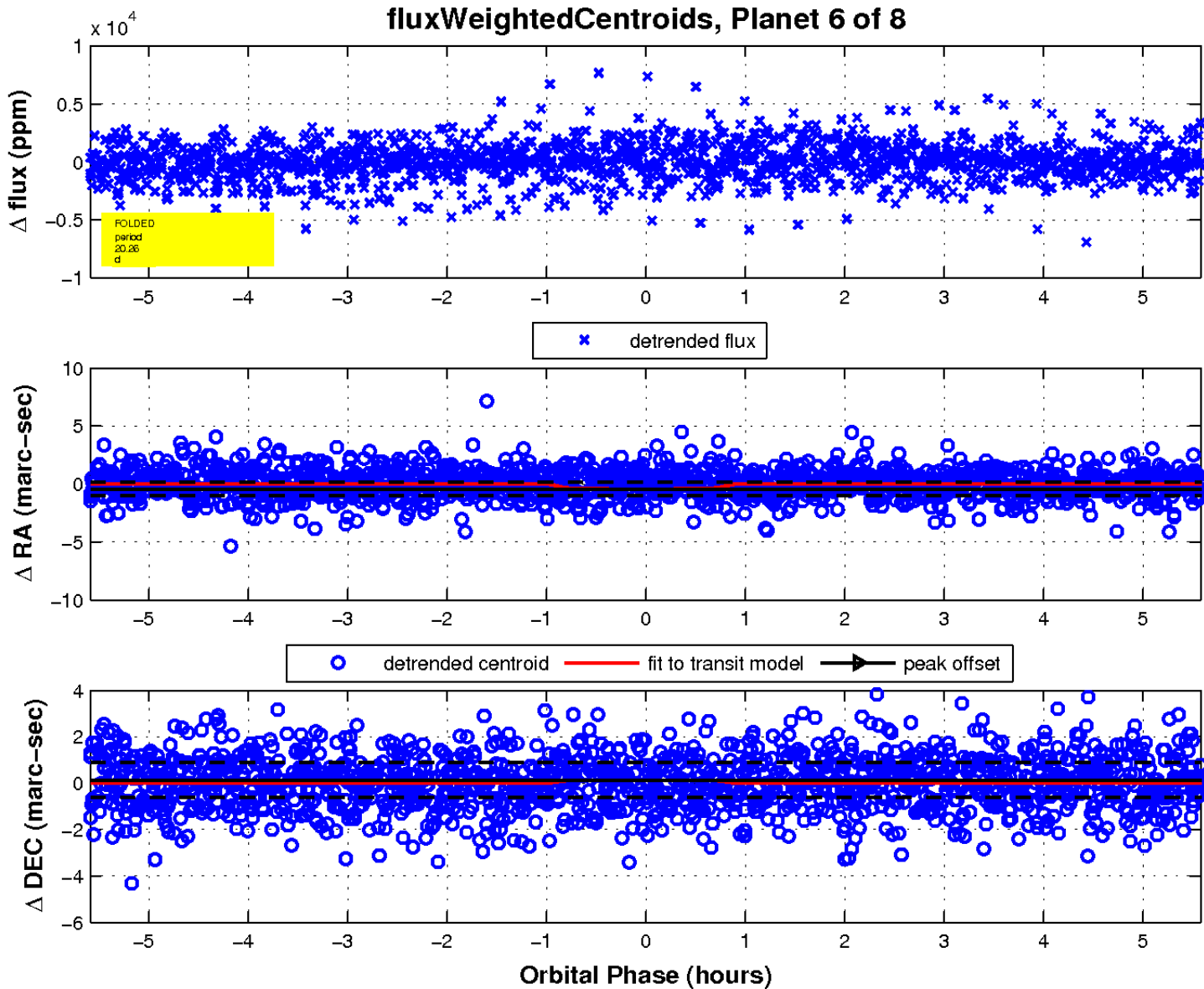
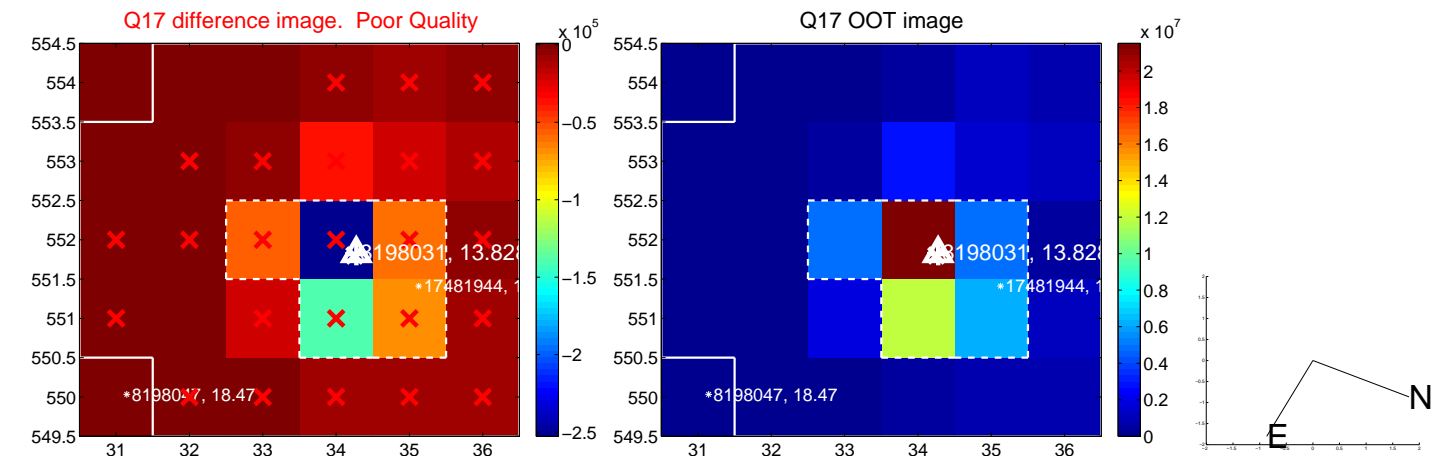
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

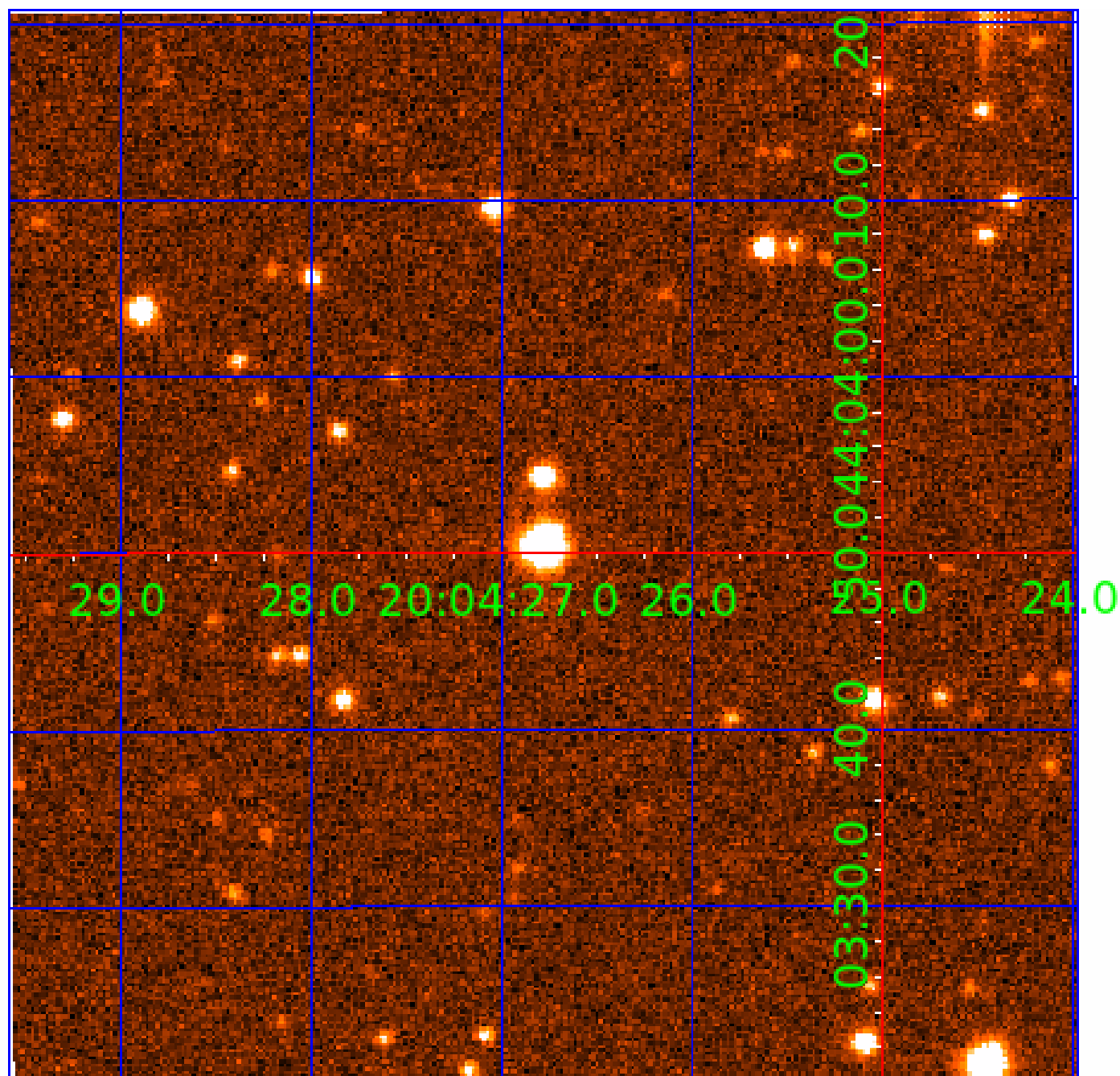


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008198031

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})
008198031-01	OBS	No	0.661033	131.624513	0.0	4.493	9.7	0.0	1.56	7563	0.01	24484.94
008198031-02	OBS	No	37.757658	147.156954	195.7	18.674	10.0	1.5	1.56	7563	2.38	111.31
008198031-03	OBS	No	94.997100	143.814118	2872.3	3.583	11.4	8.6	1.56	7563	8.61	32.53
008198031-05	OBS	No	46.800903	141.824352	949.0	2.535	7.8	3.8	1.56	7563	5.06	83.60
008198031-06	OBS	No	20.264628	137.190330	725.6	1.863	7.9	4.0	1.56	7563	4.67	255.20
008198031-07	OBS	No	45.219461	134.575669	2181.5	3.114	11.8	7.1	1.56	7563	13.21	87.52
008198031-08	OBS	No	43.086319	153.126624	961.3	1.500	10.8	-1.0	1.56	7563	4.92	93.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008198031-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008198031-02	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV
008198031-05	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
008198031-06	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

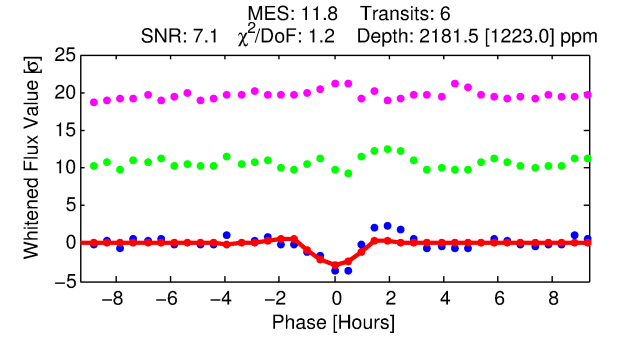
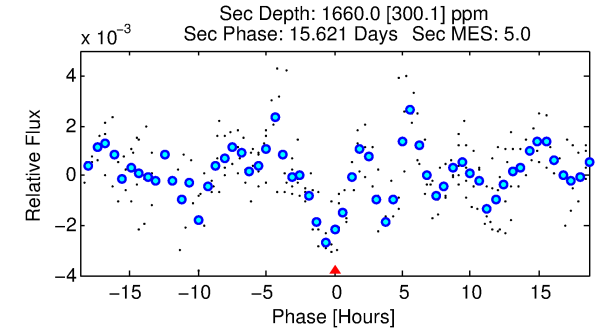
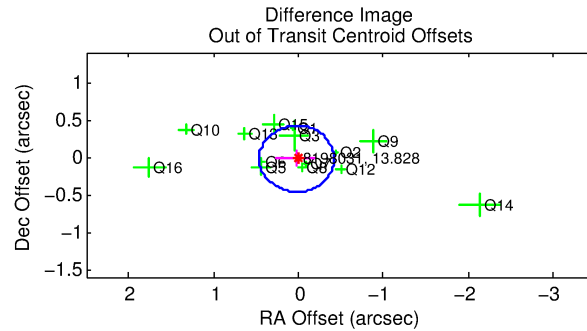
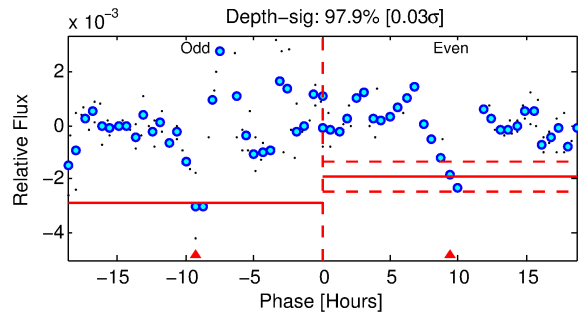
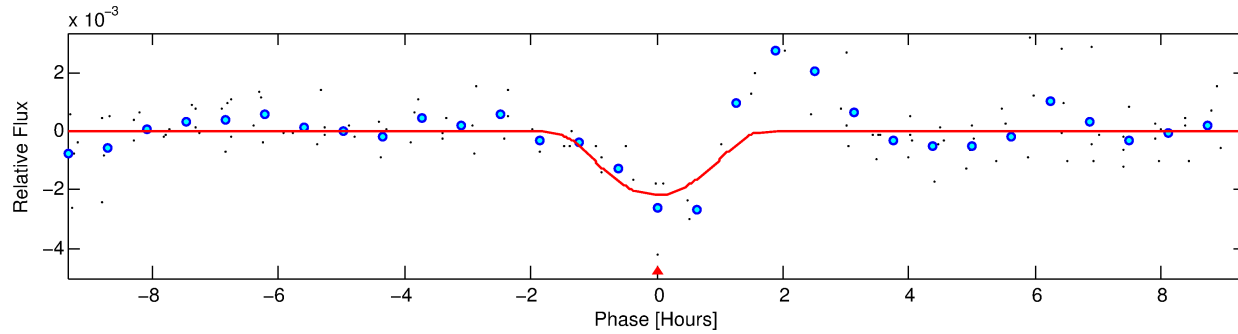
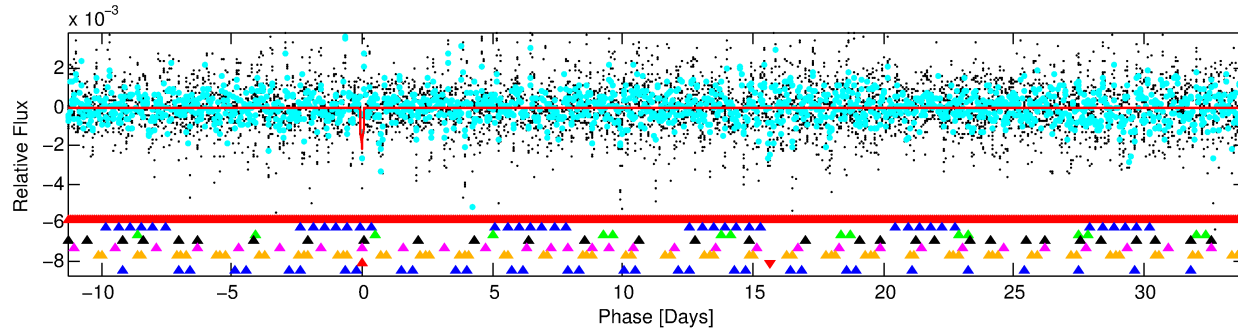
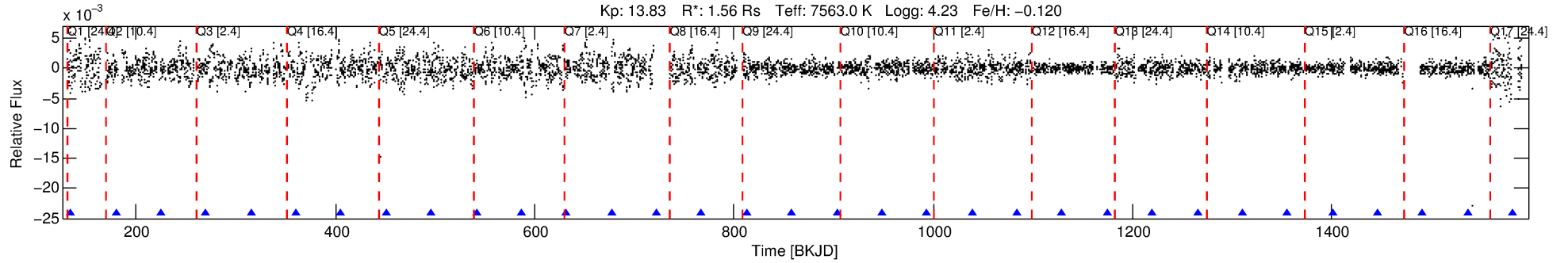
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008198031-07

No Significant Match Found

DV One-Page Summary

KIC: 8198031 Candidate: 7 of 8 Period: 45.219 d



DV Fit Results:

Period = 45.21946 [0.00137] d
Epoch = 134.5757 [0.0127] BKJD
Rp/R* = 0.0777 [0.4264]
a/R* = 44.63 [54.87]
b = 1.00 [0.59]
Seff = 87.52 [37.43]
Teq = 780 [83] K
Rp = 13.21 [72.59] Re
a = 0.2850 [0.0791] AU
Ag = 424.95 [4664.98] [0.09σ]
Teffp = 5475 [15017] K [0.31σ]

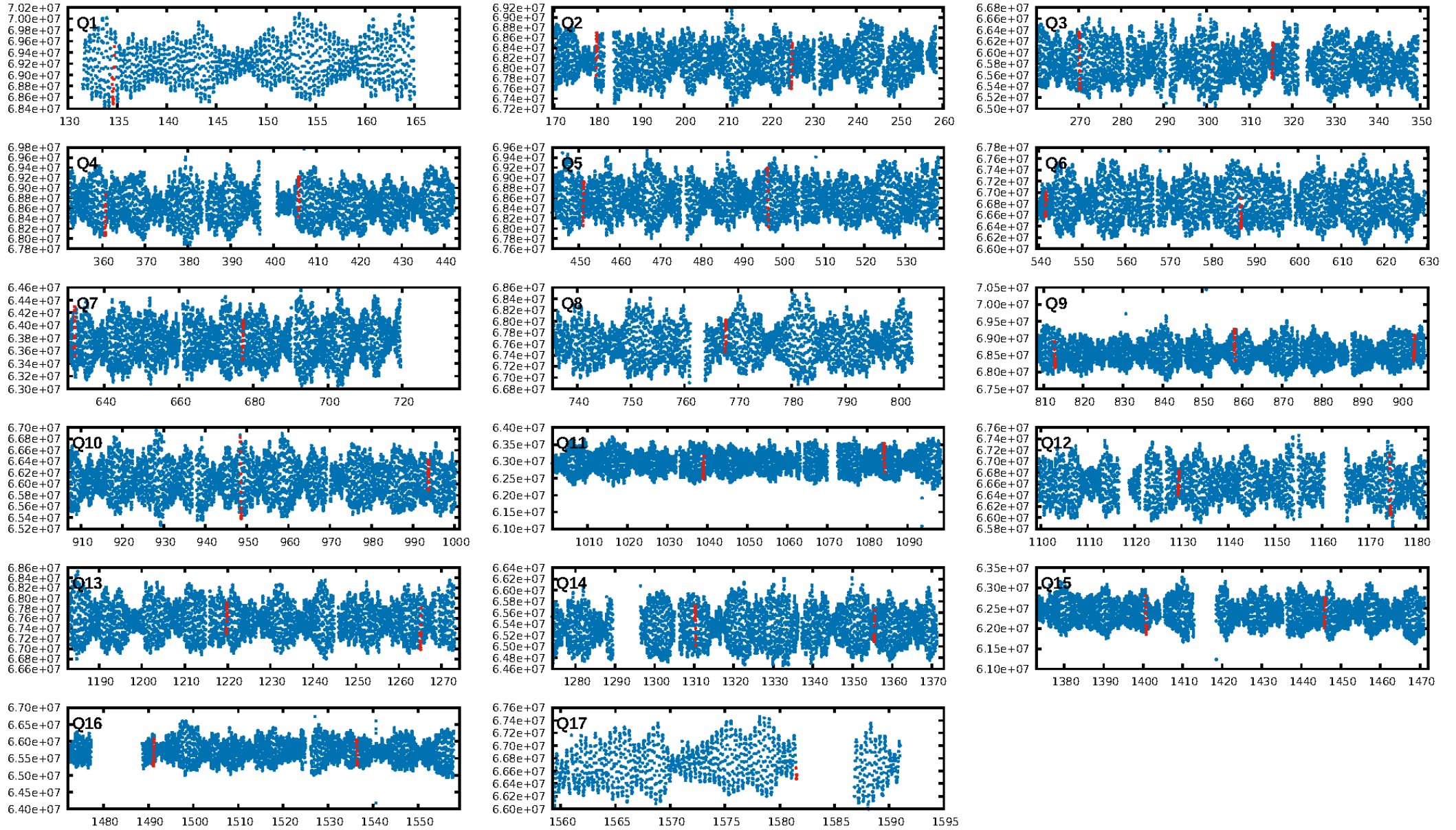
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [14.81σ]
LongPeriod-sig: 100.0% [9.45σ]
ModelChiSquare2-sig: 12.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.6081
Centroid-sig: 15.0%
Centroid-so: 0.646 arcsec [4.23σ]
OotOffset-rm: 0.030 arcsec [0.20σ]
KicOffset-rm: 0.091 arcsec [0.34σ]
OotOffset-st: 4/3/3/4 [14]
KicOffset-st: 4/3/3/4 [14]
DiffImageQuality-fgm: 0.43 [6/14]
DiffImageOverlap-fno: 0.00 [0/16]

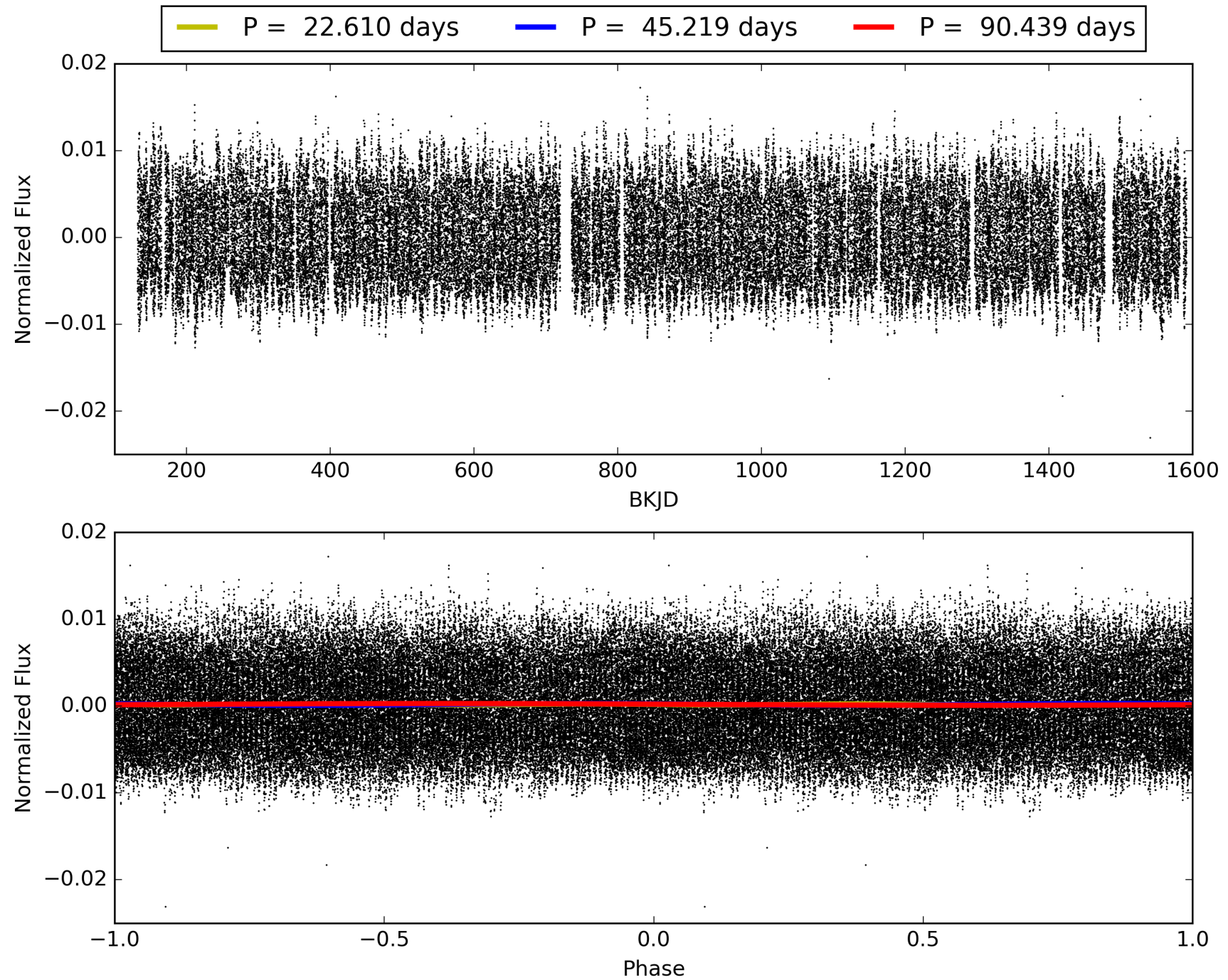
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:24:13 Z

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

TCE 008198031-07, PDC Light Curves

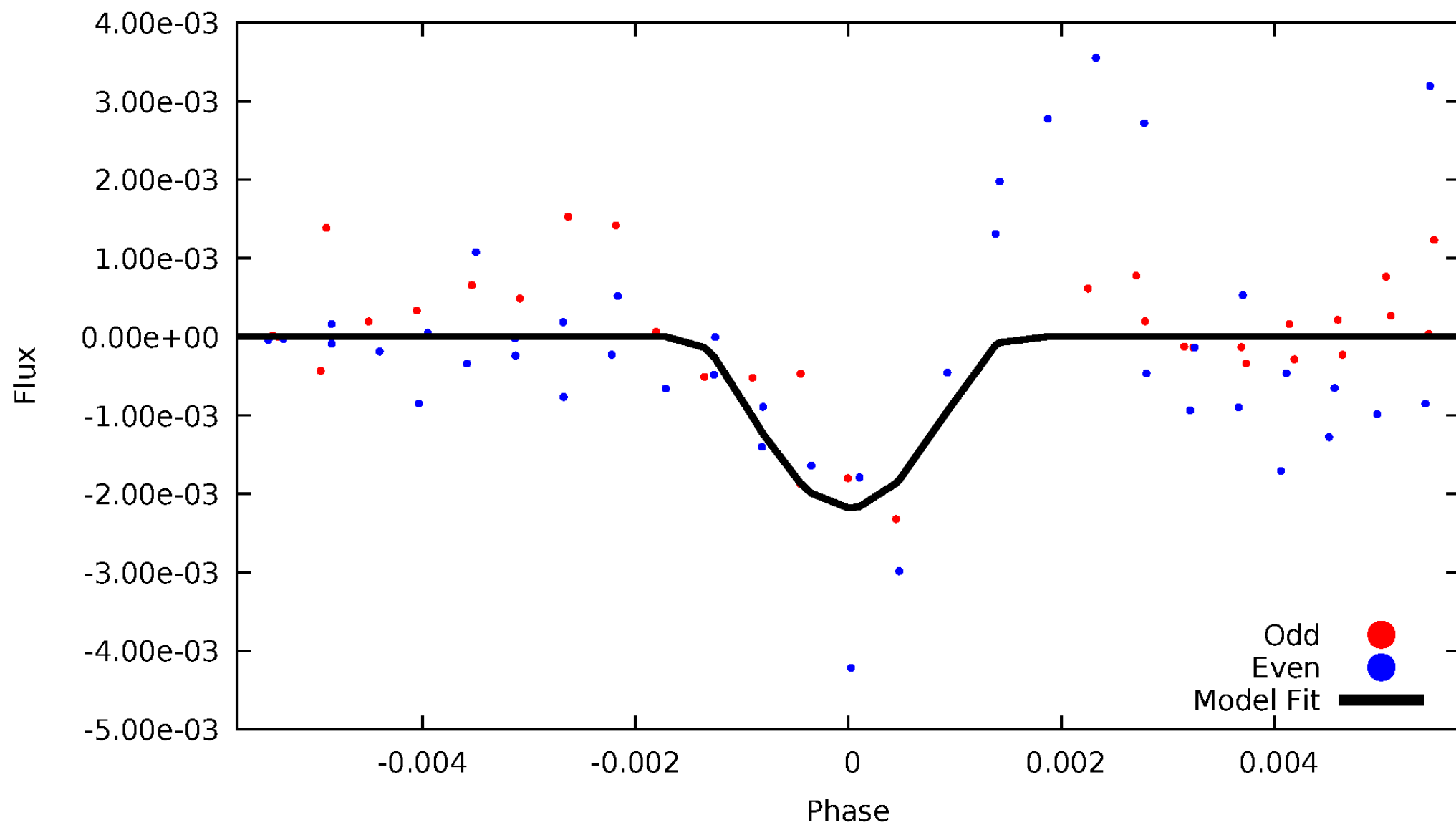


TCE 008198031-07



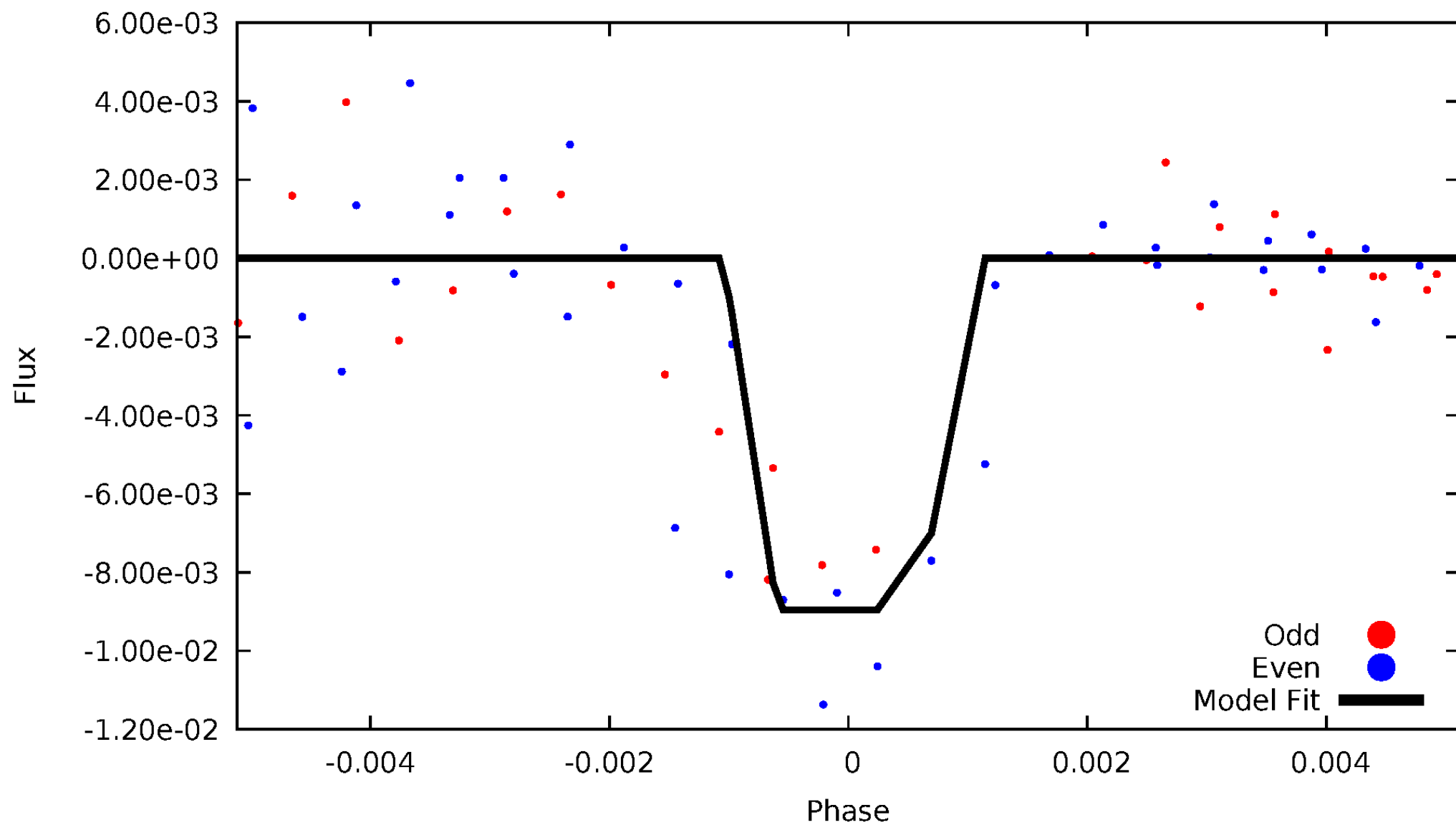
DV Odd/Even

TCE 008198031-07

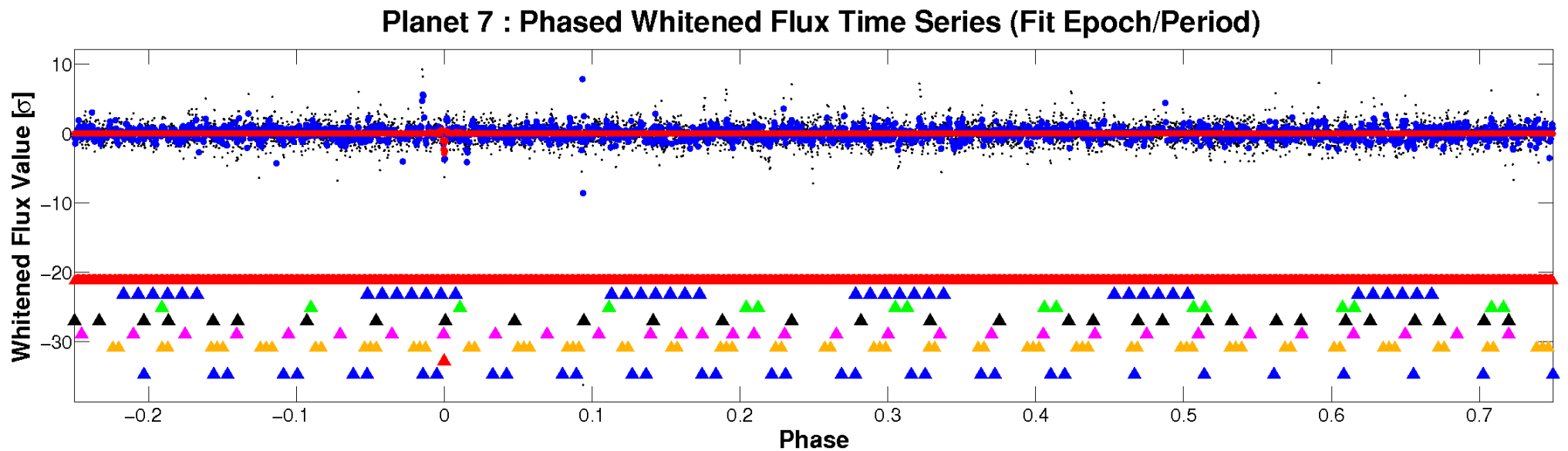
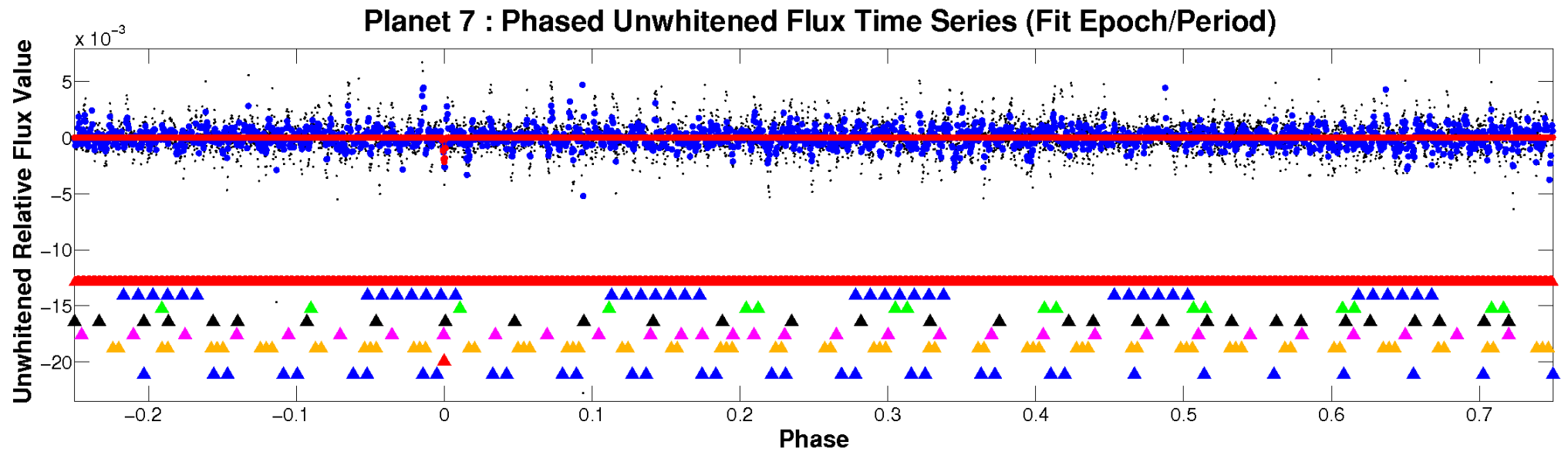


ALT Odd/Even

TCE 008198031-07

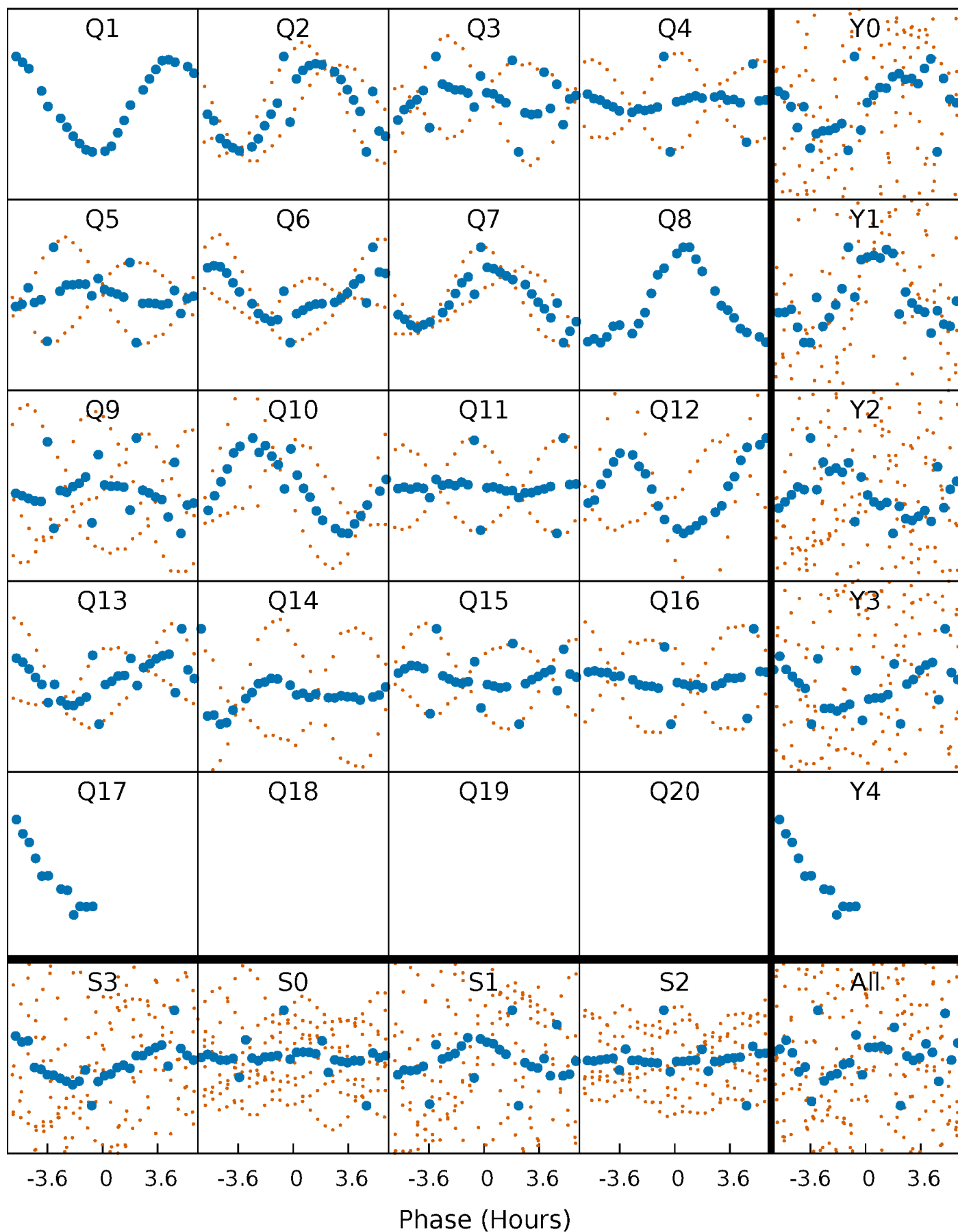


Non-Whitened Vs. Whitened Light Curve



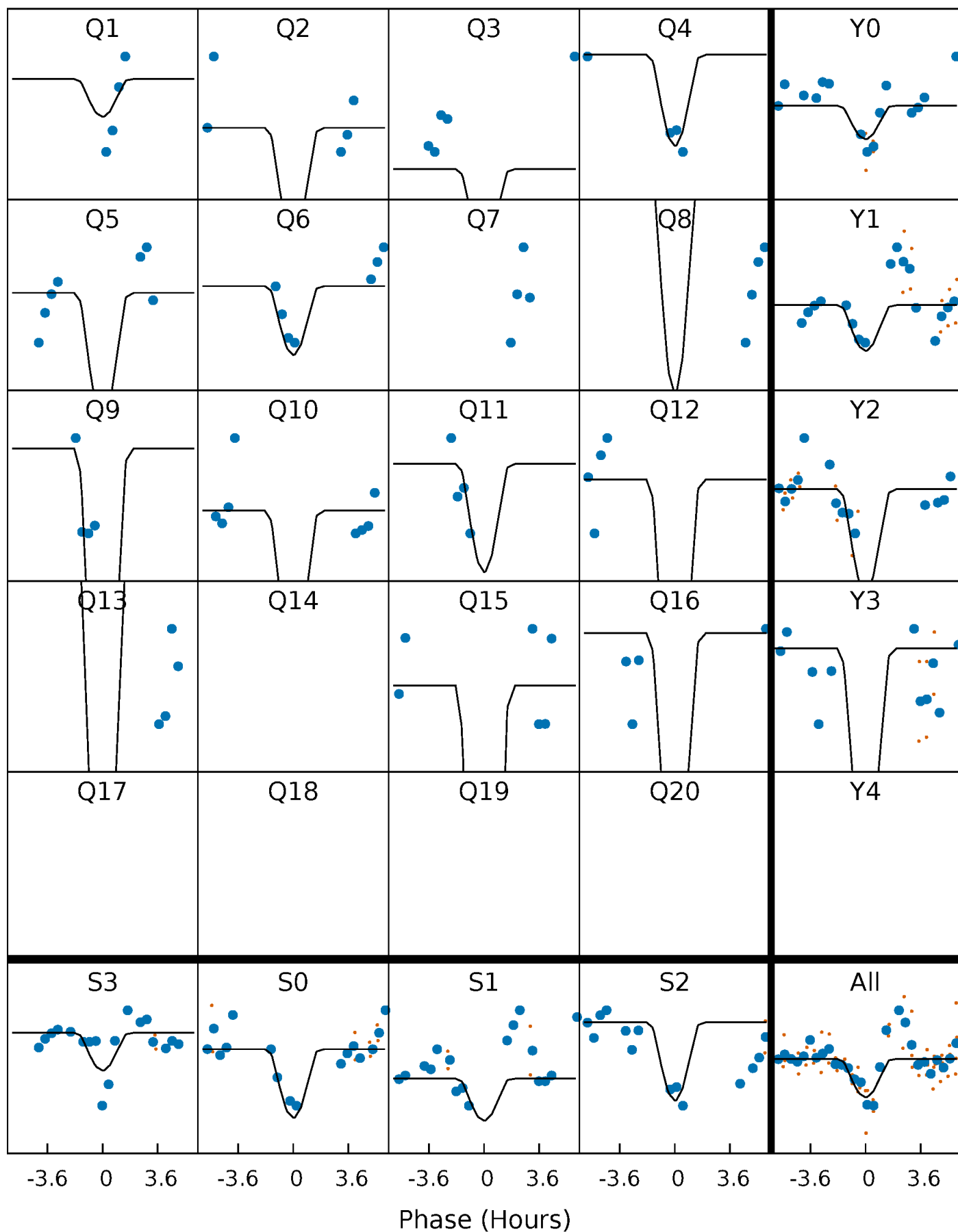
PDC Quarter-Phased Transit Curves

TCE 008198031-07 P= 45.219461 Days $T_0=134.575669$ (BKJD)



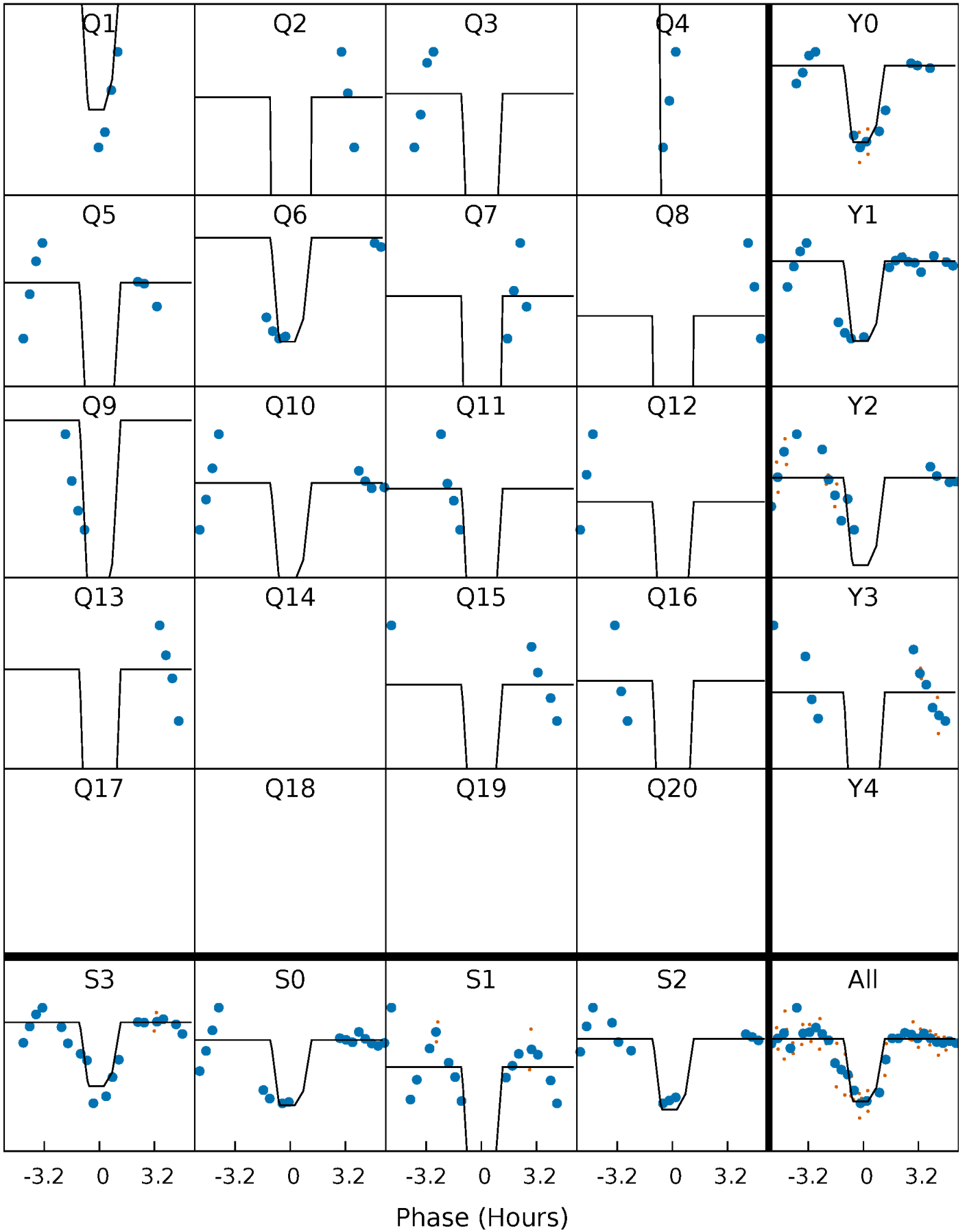
DV Quarter-Phased Transit Curves

TCE 008198031-07 P= 45.219461 Days $T_0=134.575669$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

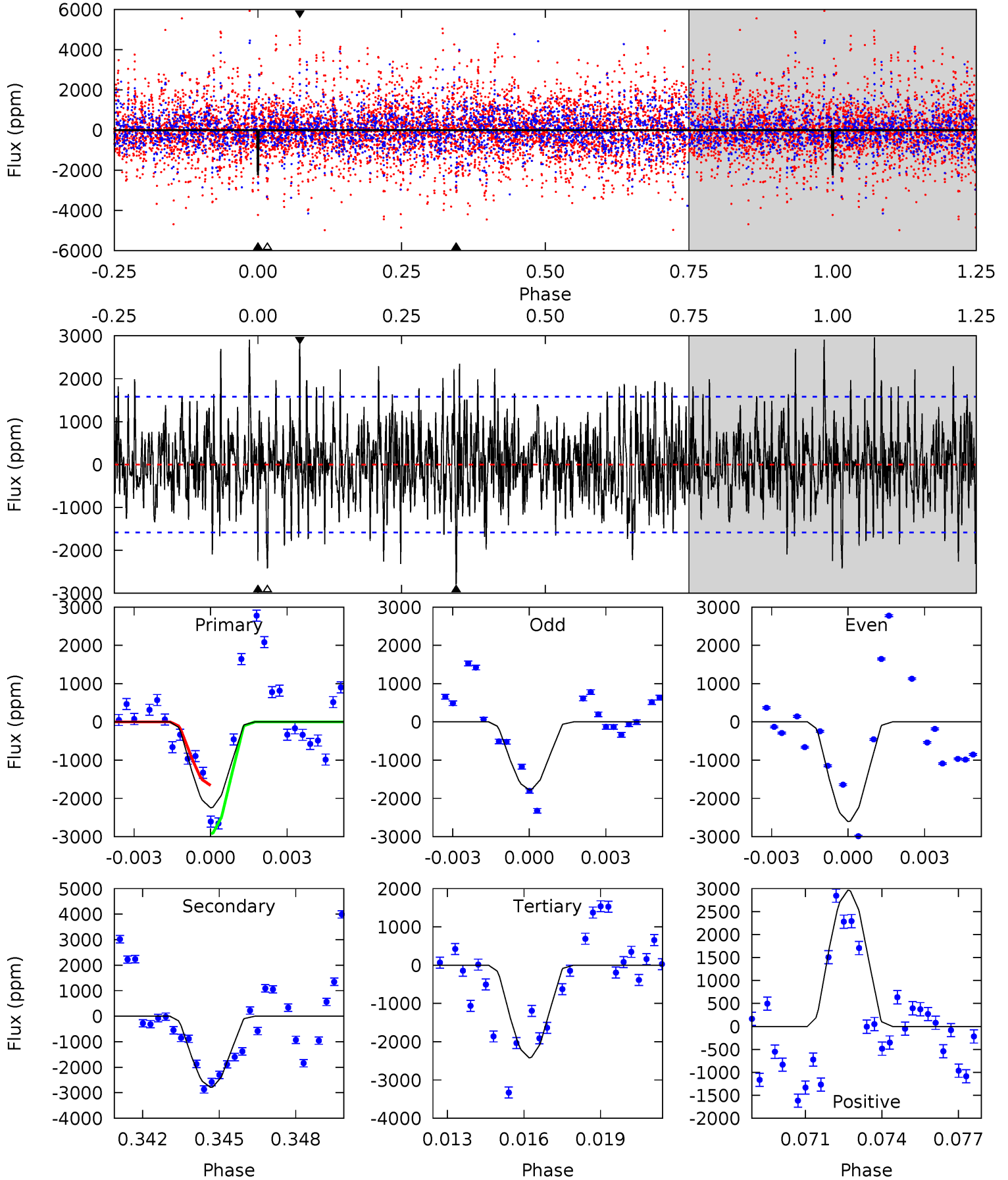
TCE 008198031-07 $P = 45.219298$ Days $T_0 = 134.586309$ (BKJD)



DV Model-Shift Uniqueness Test

008198031-07, P = 45.219461 Days, E = 89.356208 Days

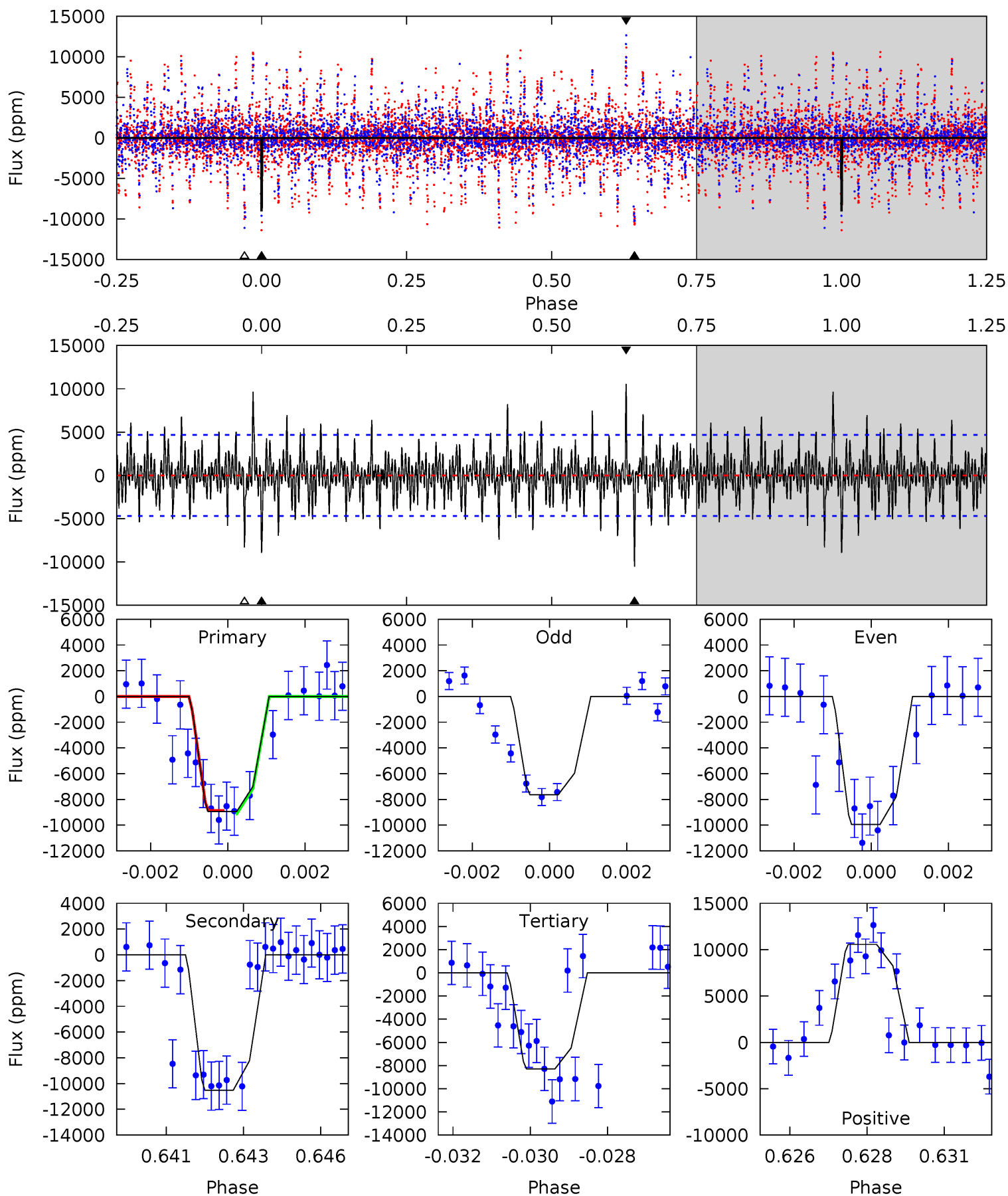
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.44	9.24	8.02	9.84	5.24	2.95	2.42	-0.58	-2.40	1.23	-0.59	1.29	0.99	0.52	2.10



Alt Model-Shift Uniqueness Test

008198031-07, P = 45.219298 Days, E = 89.367011 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	11.9	9.41	12.0	5.31	3.07	2.38	0.74	-1.84	2.52	-0.05	1.30	1.03	0.50	0.15



Stellar Parameters For KIC 008198031

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7563^{+211}_{-316}	$4.232^{+0.090}_{-0.210}$	$-0.120^{+0.200}_{-0.350}$	$1.557^{+0.528}_{-0.226}$	$1.506^{+0.219}_{-0.219}$	$0.562^{+0.234}_{-0.314}$
	+3%/-4%	+2%/-5%	+167%/-292%	+34%/-15%	+15%/-15%	+42%/-56%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008198031-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-2790 ± 302	$56.02^{+57.79}_{-39.87}$	1102^{+89}_{-70}	3509^{+2111}_{-669}	39^{+433}_{-29}
Alt.	-10520 ± 882	$55.03^{+63.57}_{-36.71}$	1096^{+89}_{-58}	4435^{+3102}_{-1032}	150^{+1207}_{-117}

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

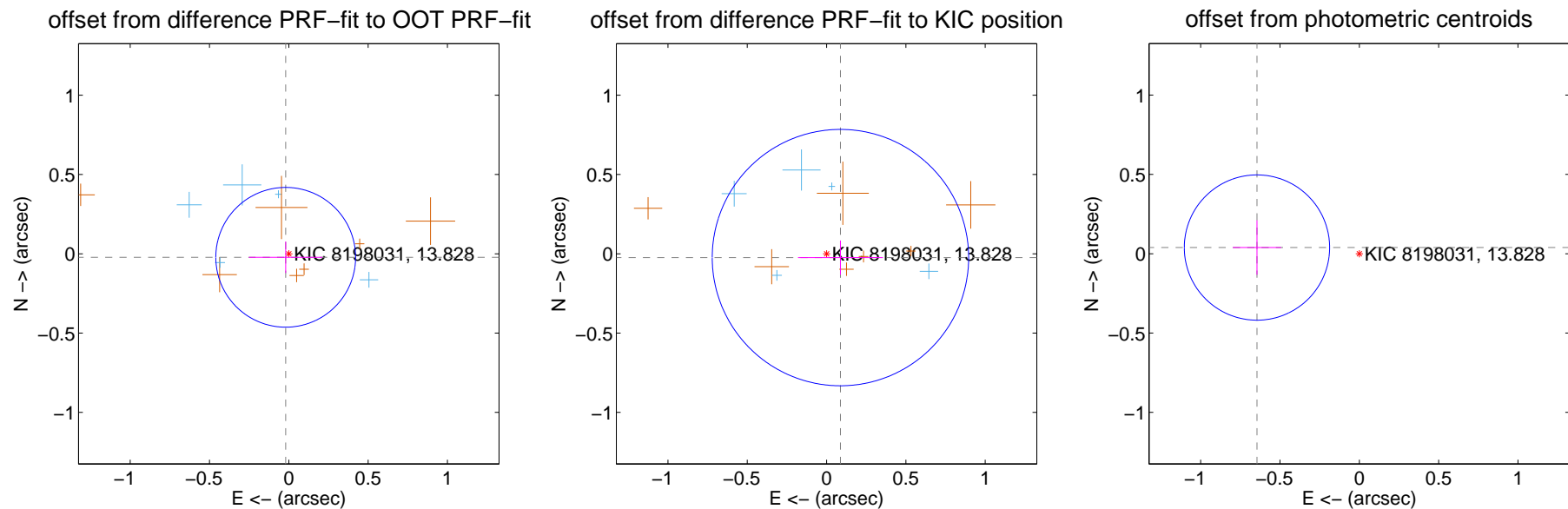
DV Centroid Data

Supplemental centroid analysis for 008198031-07. Kepler magnitude: 13.83. Transit SNR 7.11

There are 6 quarters with good PRF difference image offsets

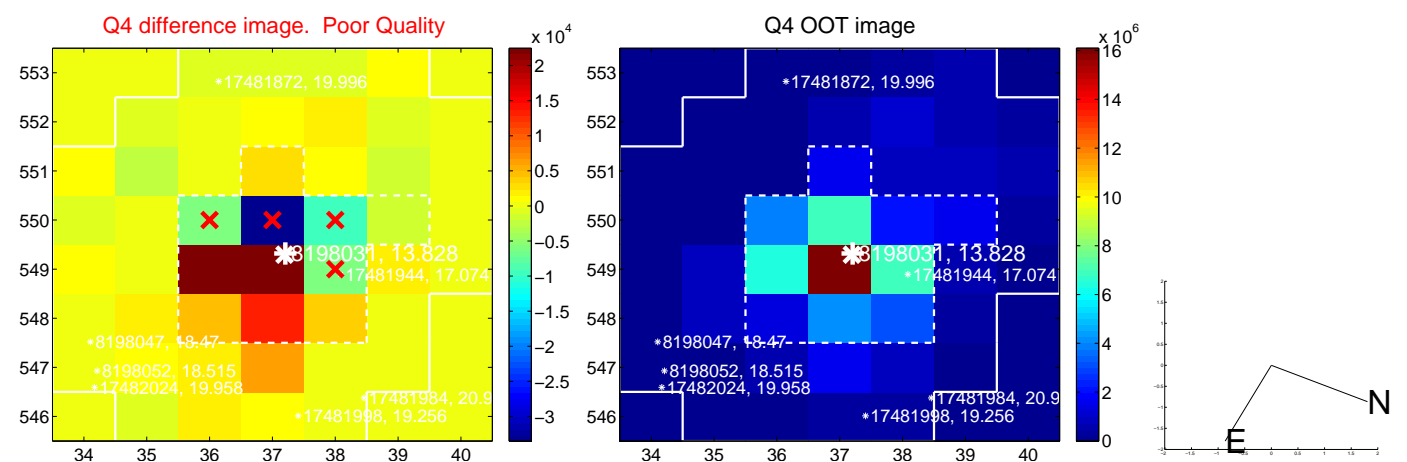
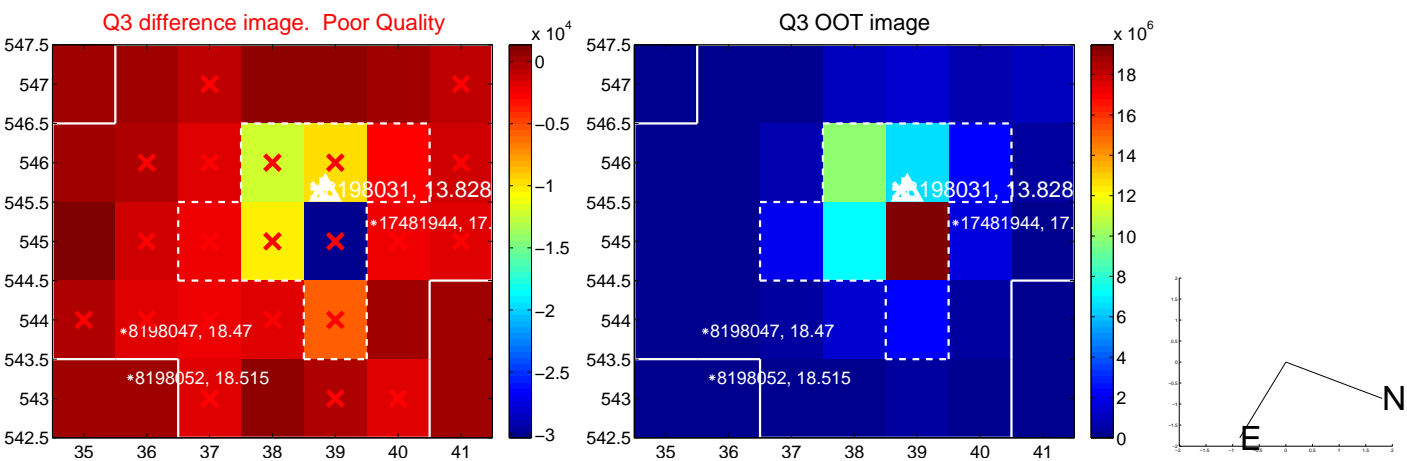
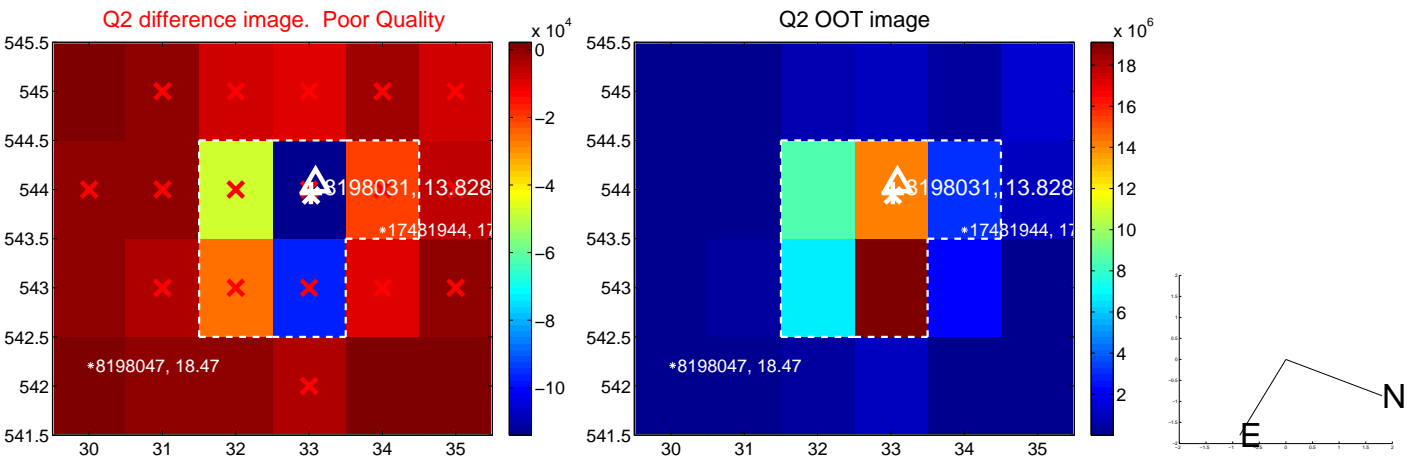
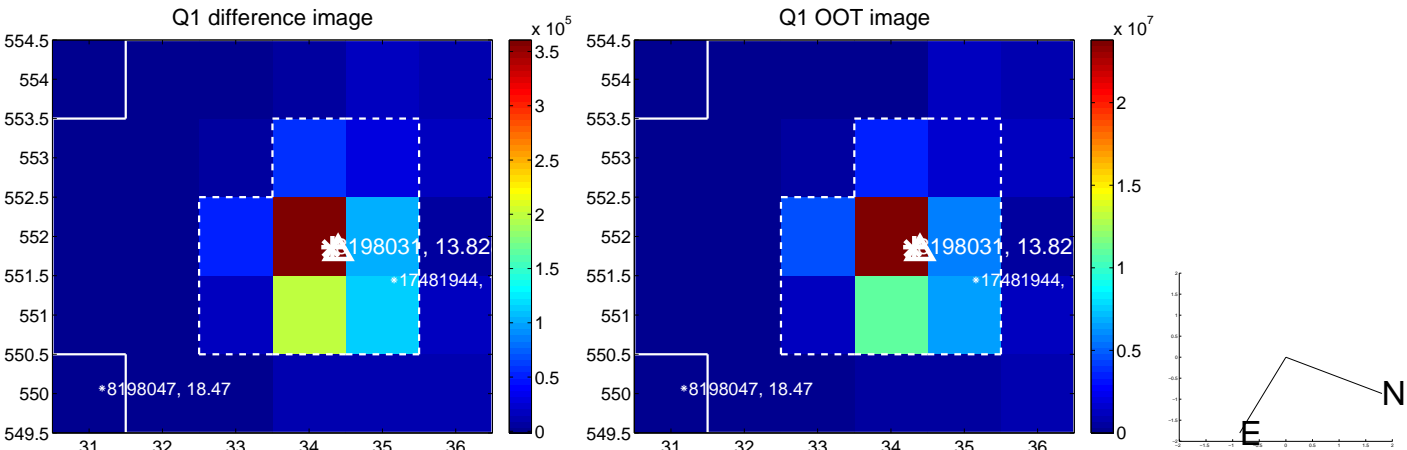
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.030 ± 0.147	0.20	0.020 ± 0.231	-0.022 ± 0.099
PRF-fit source offset from KIC position	0.091 ± 0.269	0.34	-0.087 ± 0.268	-0.024 ± 0.108
photometric centroid source offset	0.65 ± 0.15	4.23	0.65 ± 0.15	0.04 ± 0.17

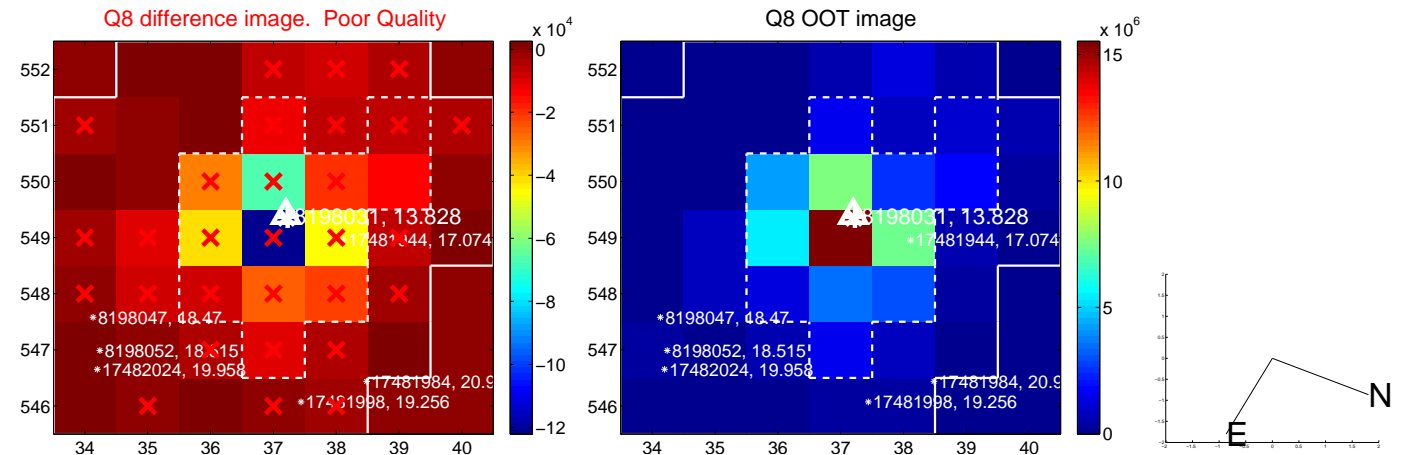
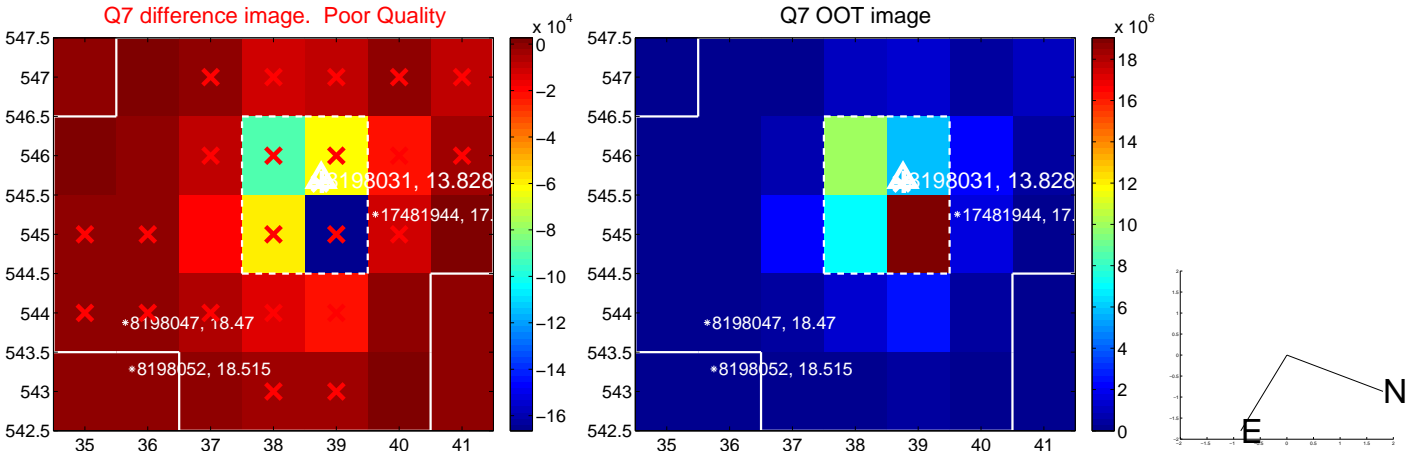
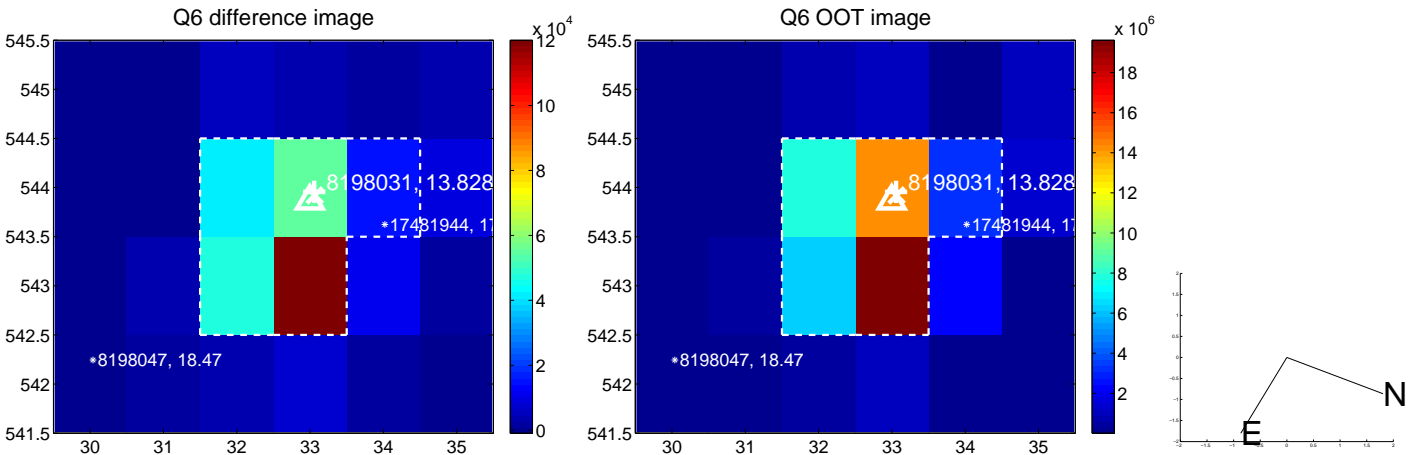
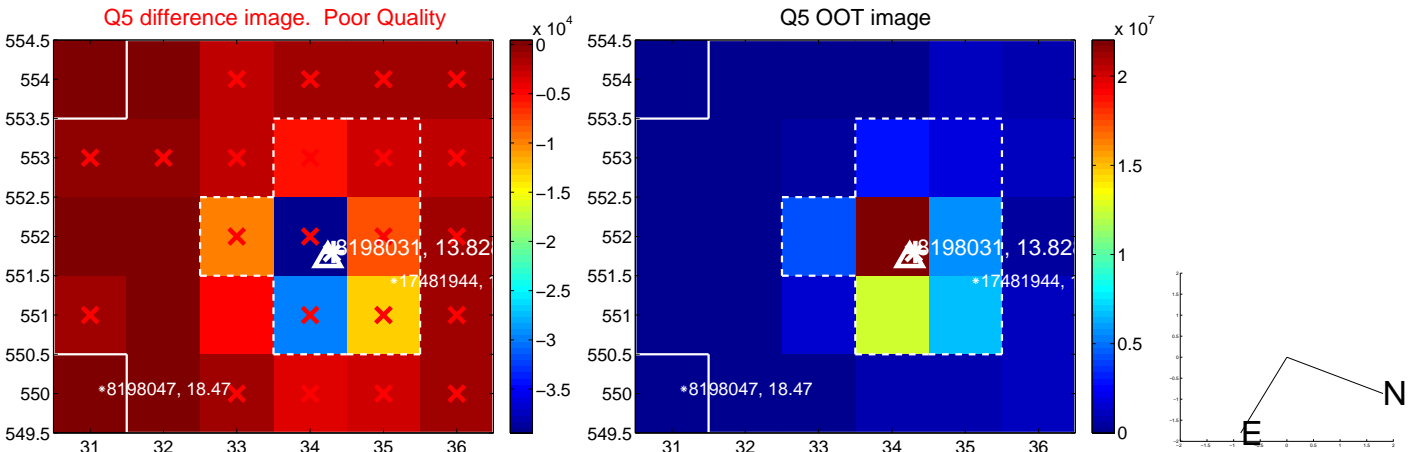


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

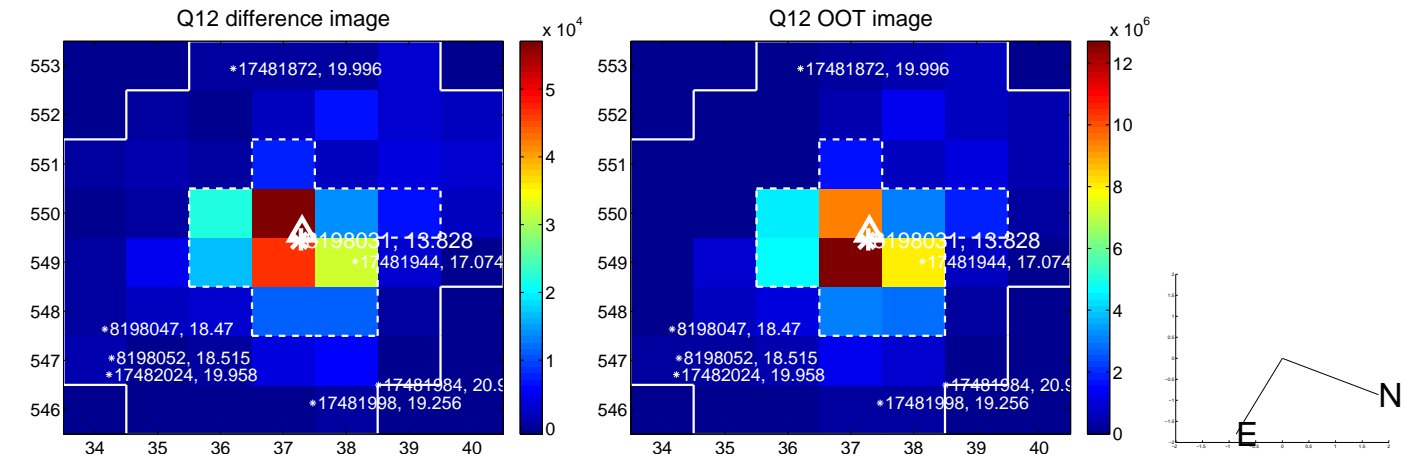
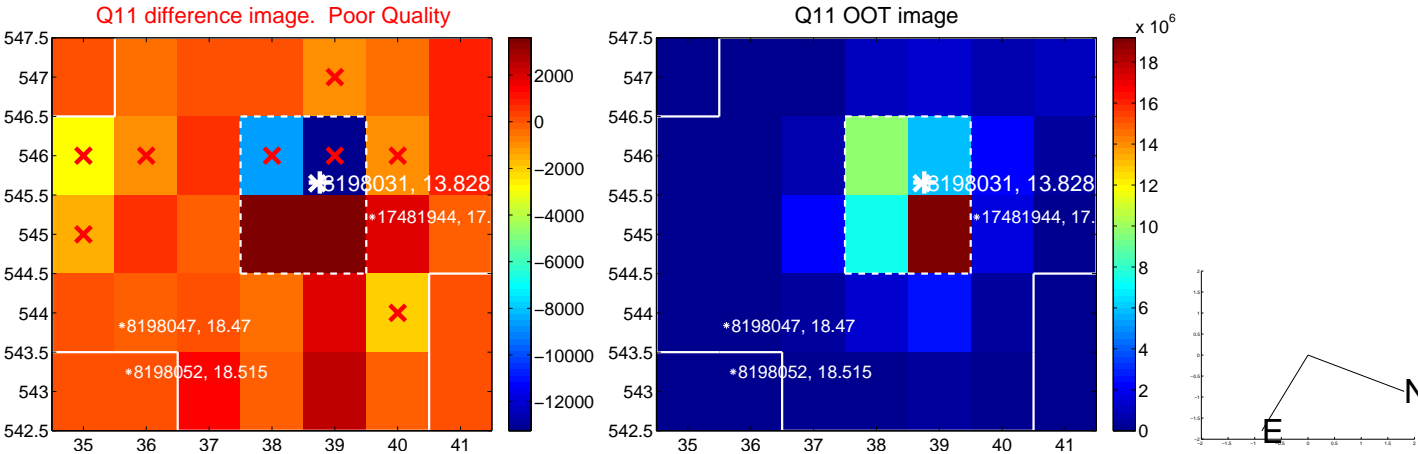
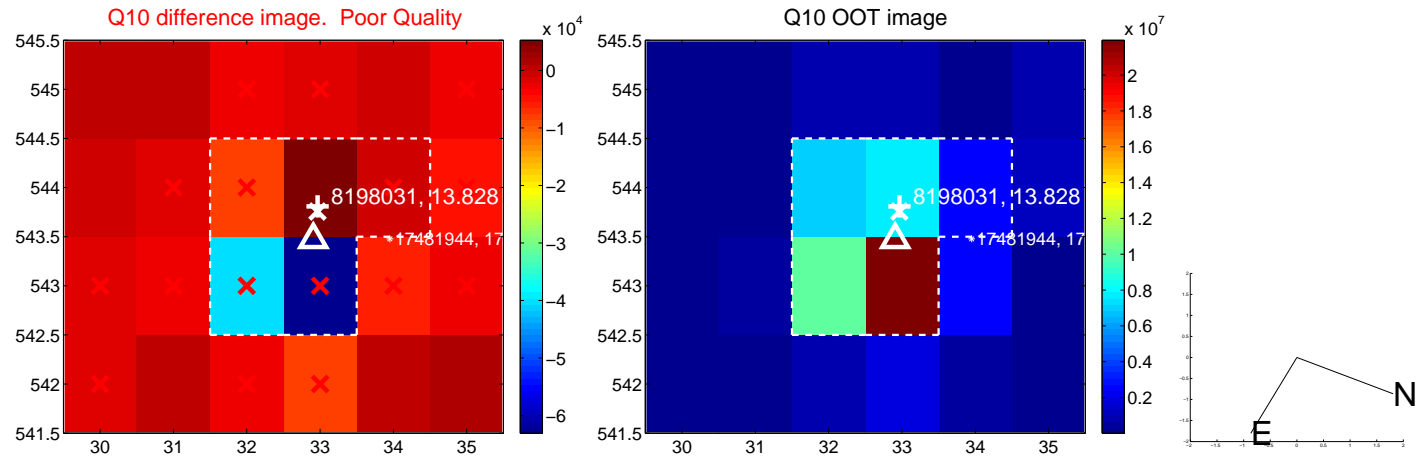
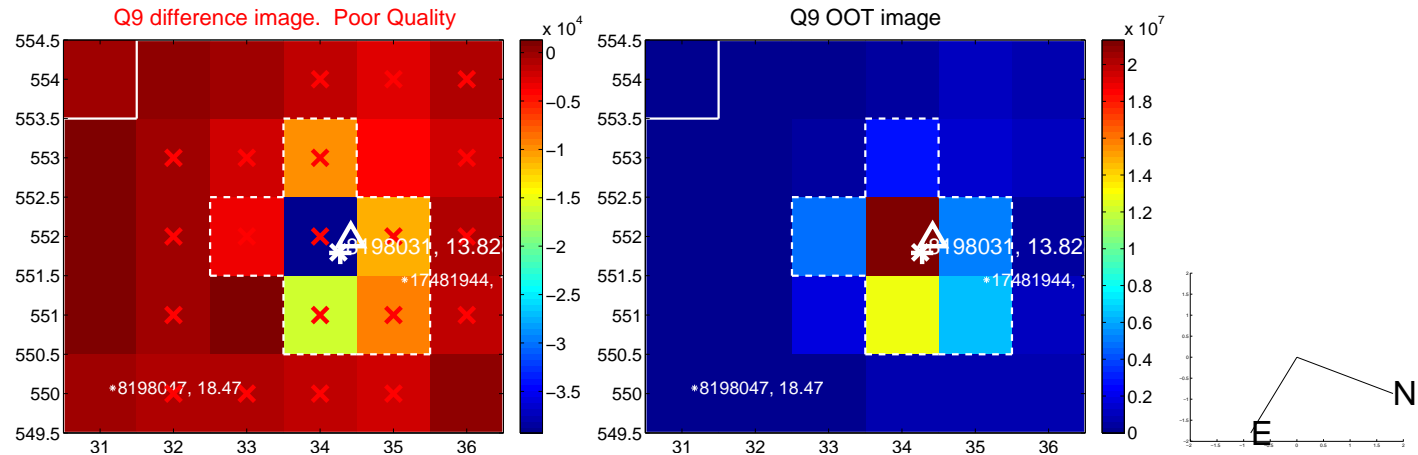
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



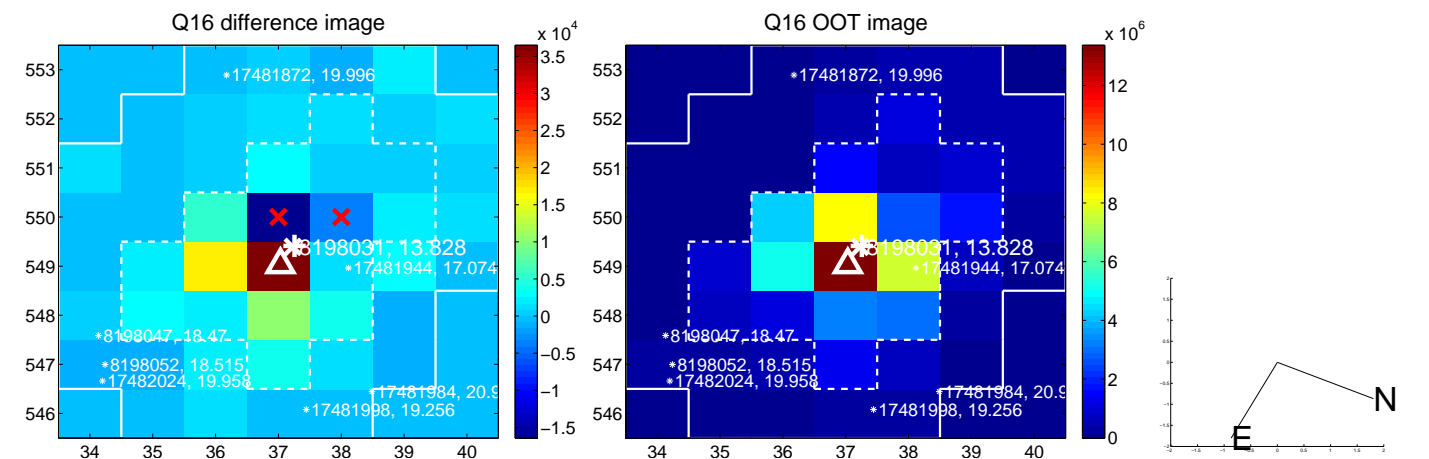
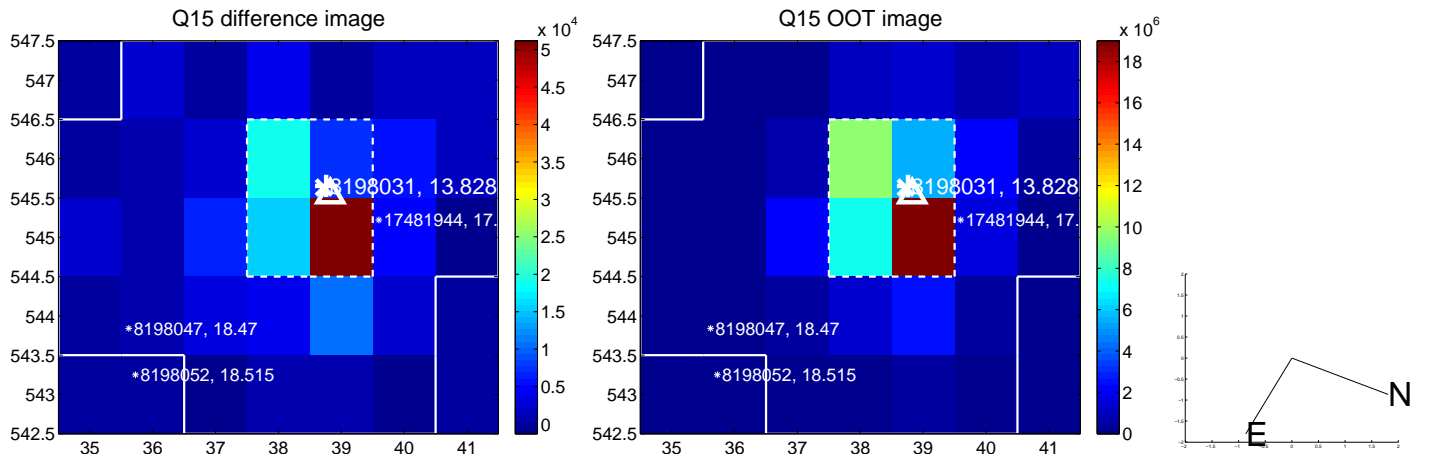
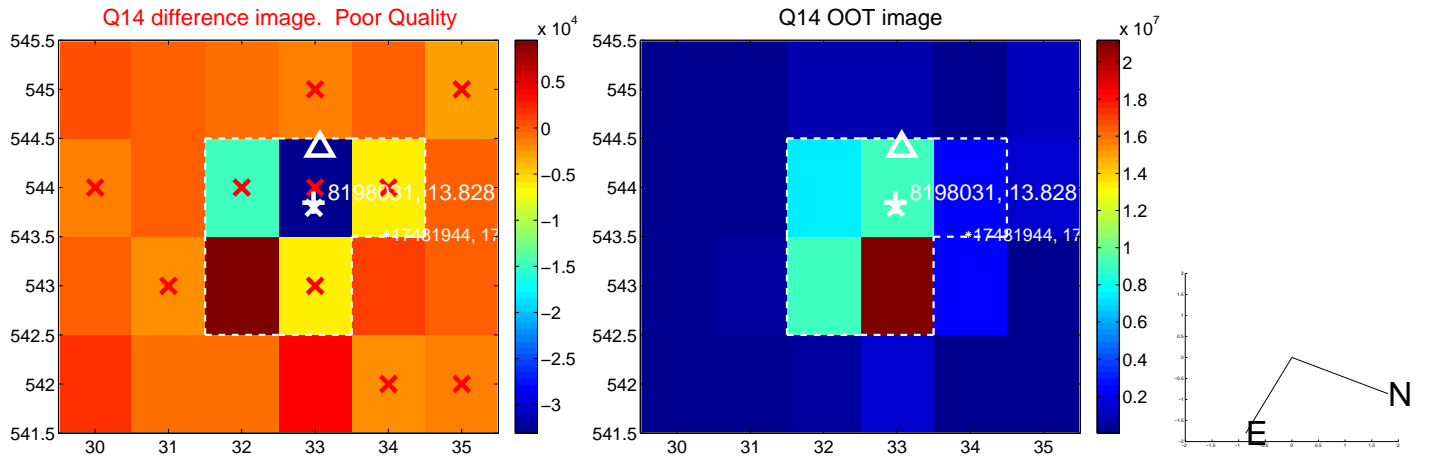
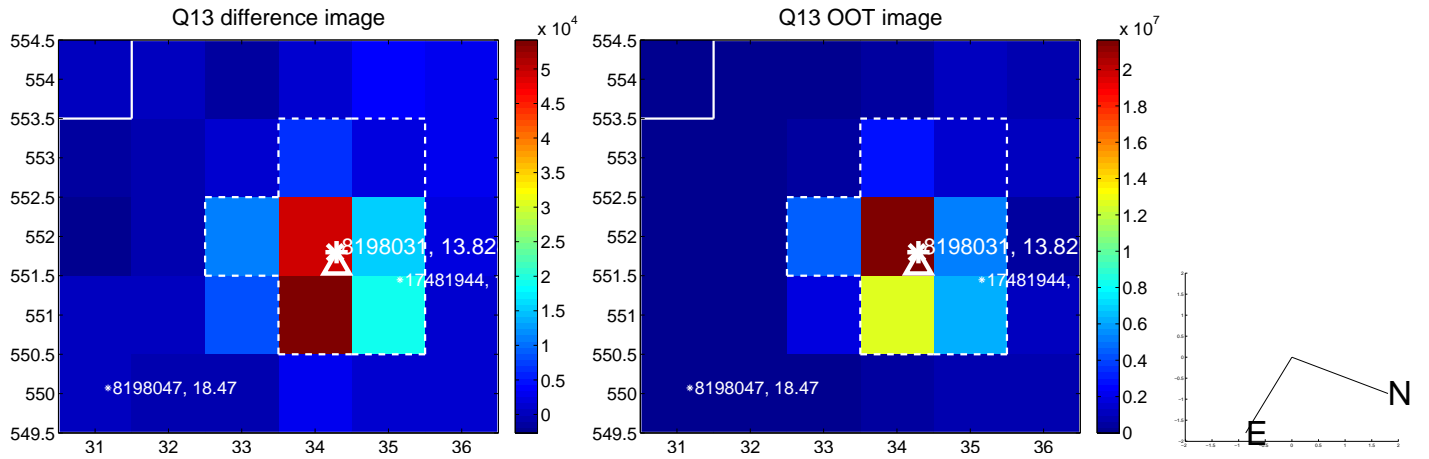
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



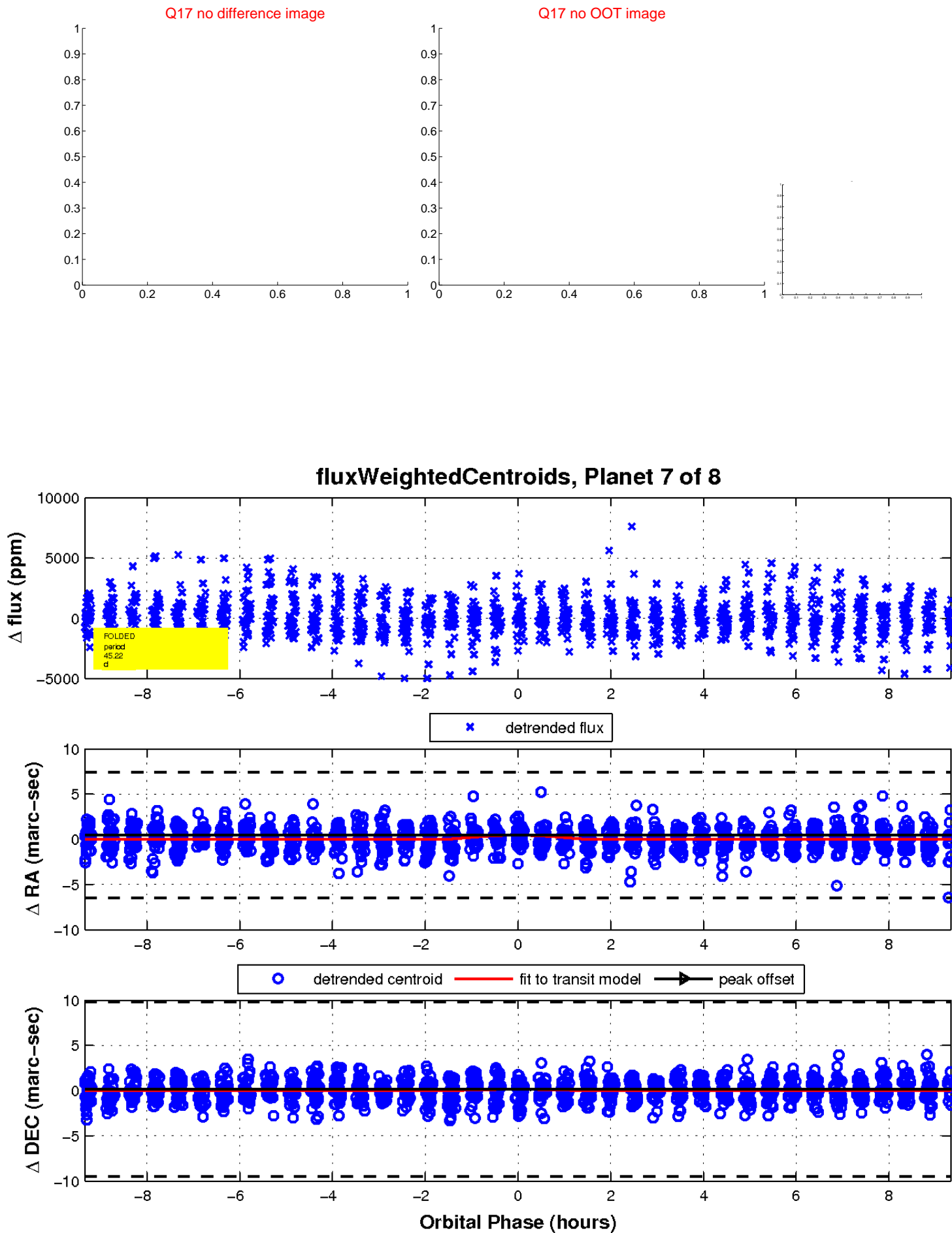
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

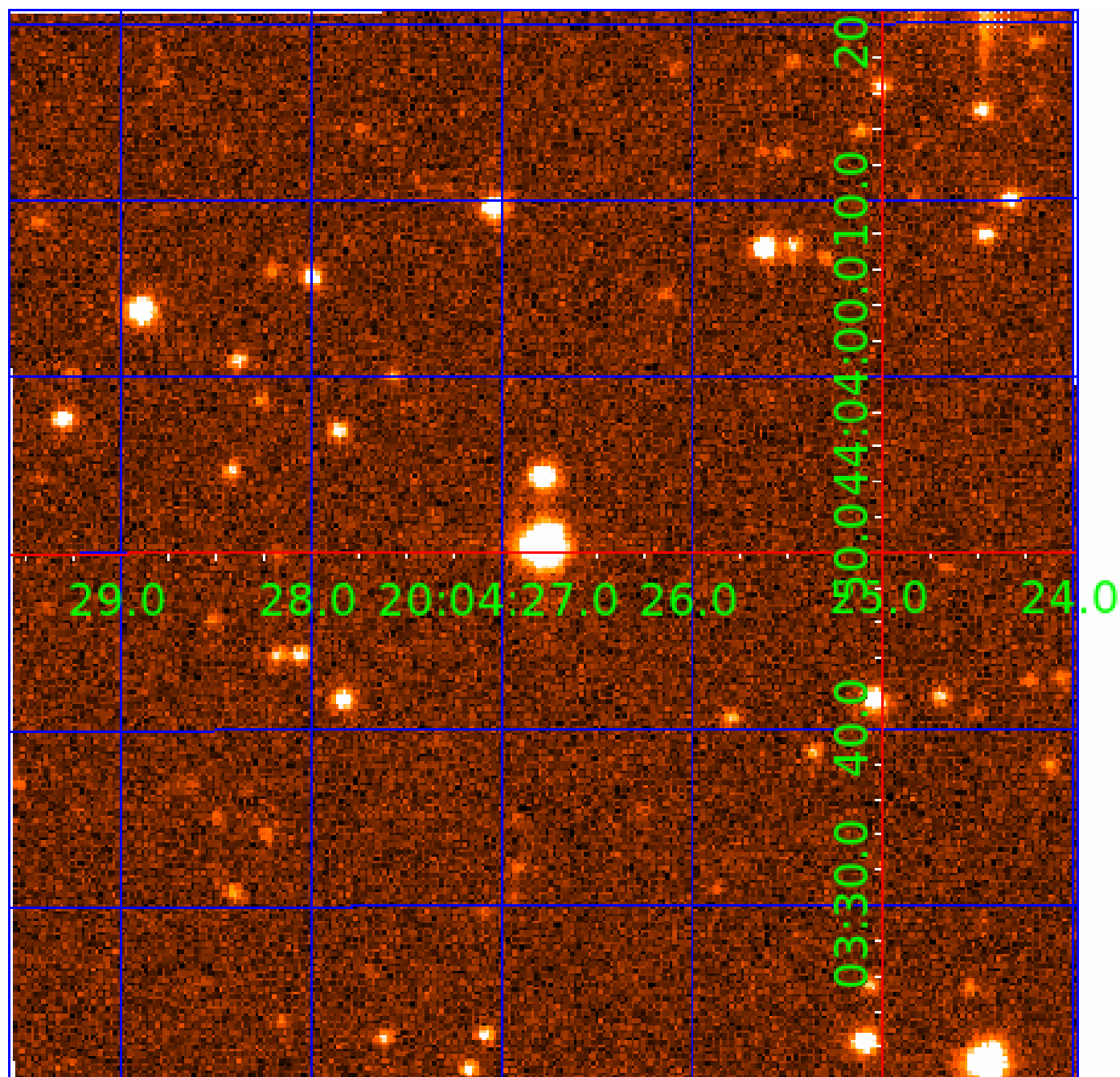


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008198031

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})
008198031-01	OBS	No	0.661033	131.624513	0.0	4.493	9.7	0.0	1.56	7563	0.01	24484.94
008198031-02	OBS	No	37.757658	147.156954	195.7	18.674	10.0	1.5	1.56	7563	2.38	111.31
008198031-03	OBS	No	94.997100	143.814118	2872.3	3.583	11.4	8.6	1.56	7563	8.61	32.53
008198031-05	OBS	No	46.800903	141.824352	949.0	2.535	7.8	3.8	1.56	7563	5.06	83.60
008198031-06	OBS	No	20.264628	137.190330	725.6	1.863	7.9	4.0	1.56	7563	4.67	255.20
008198031-07	OBS	No	45.219461	134.575669	2181.5	3.114	11.8	7.1	1.56	7563	13.21	87.52
008198031-08	OBS	No	43.086319	153.126624	961.3	1.500	10.8	-1.0	1.56	7563	4.92	93.34

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008198031-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
008198031-02	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV
008198031-05	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
008198031-06	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_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
008198031-08	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST

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

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

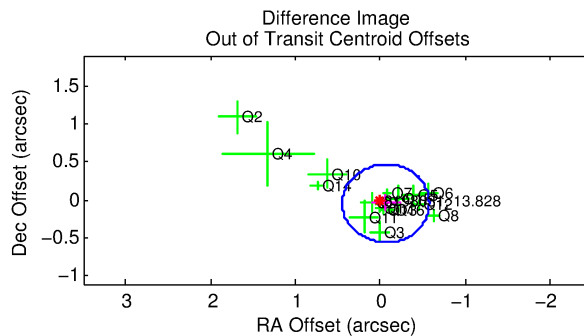
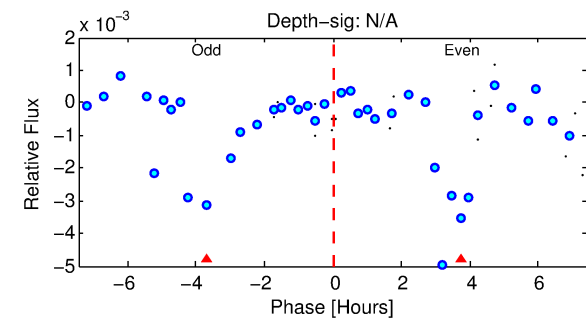
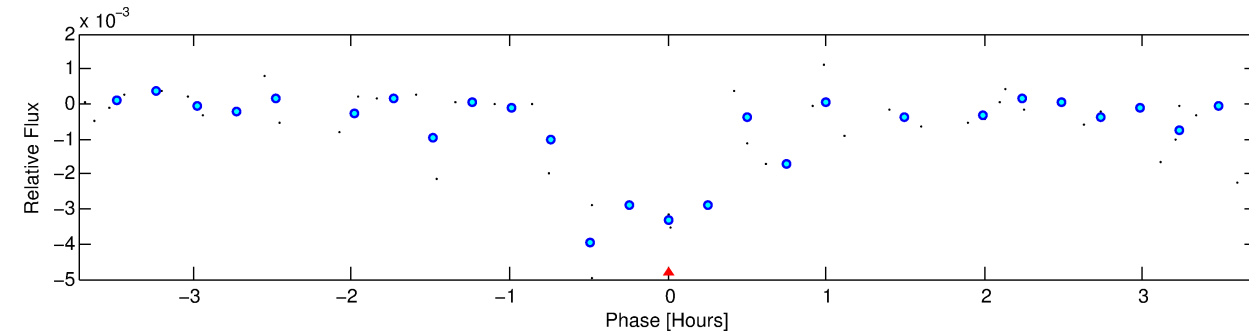
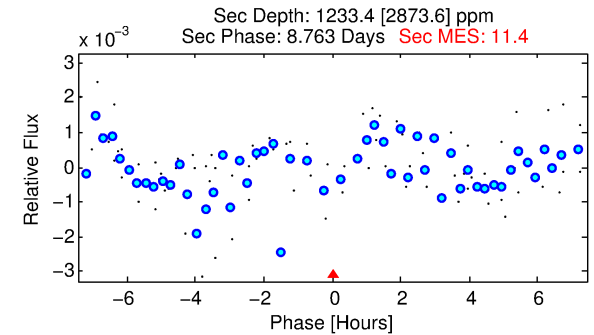
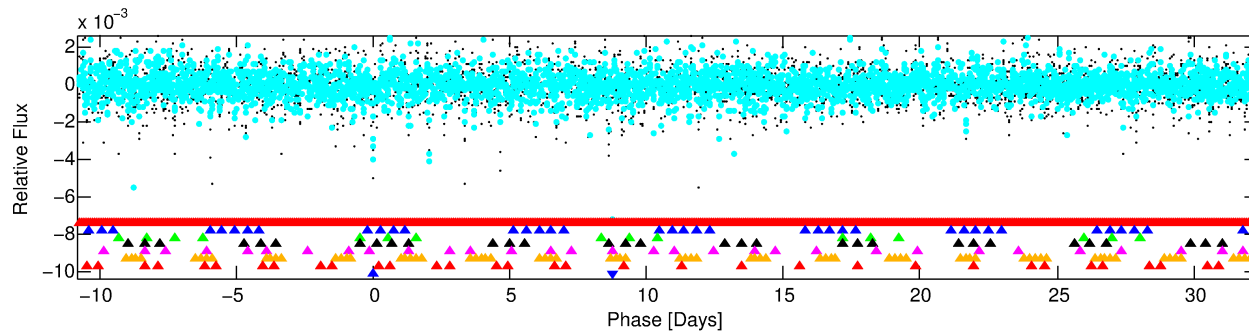
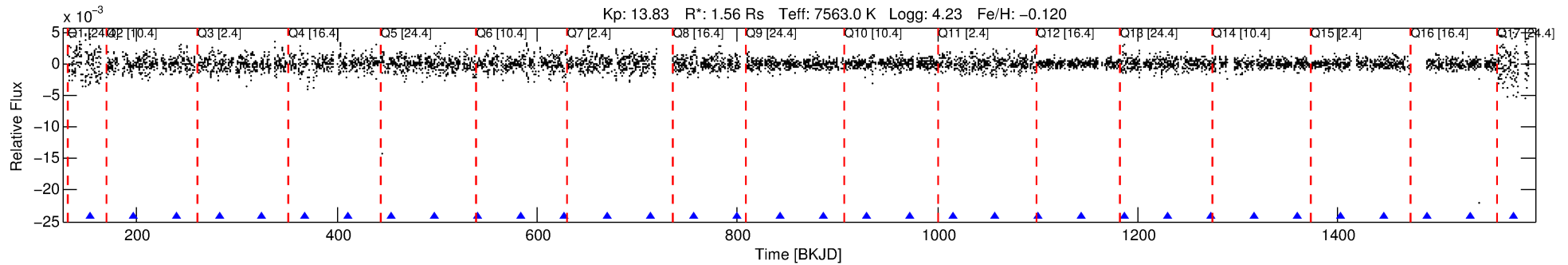
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008198031-08

No Significant Match Found

DV One-Page Summary

KIC: 8198031 Candidate: 8 of 8 Period: 43.086 d



TPS TCE Results:

Period = 43.08632 d
Epoch = 153.1266 BKJD

DV fit results are unavailable

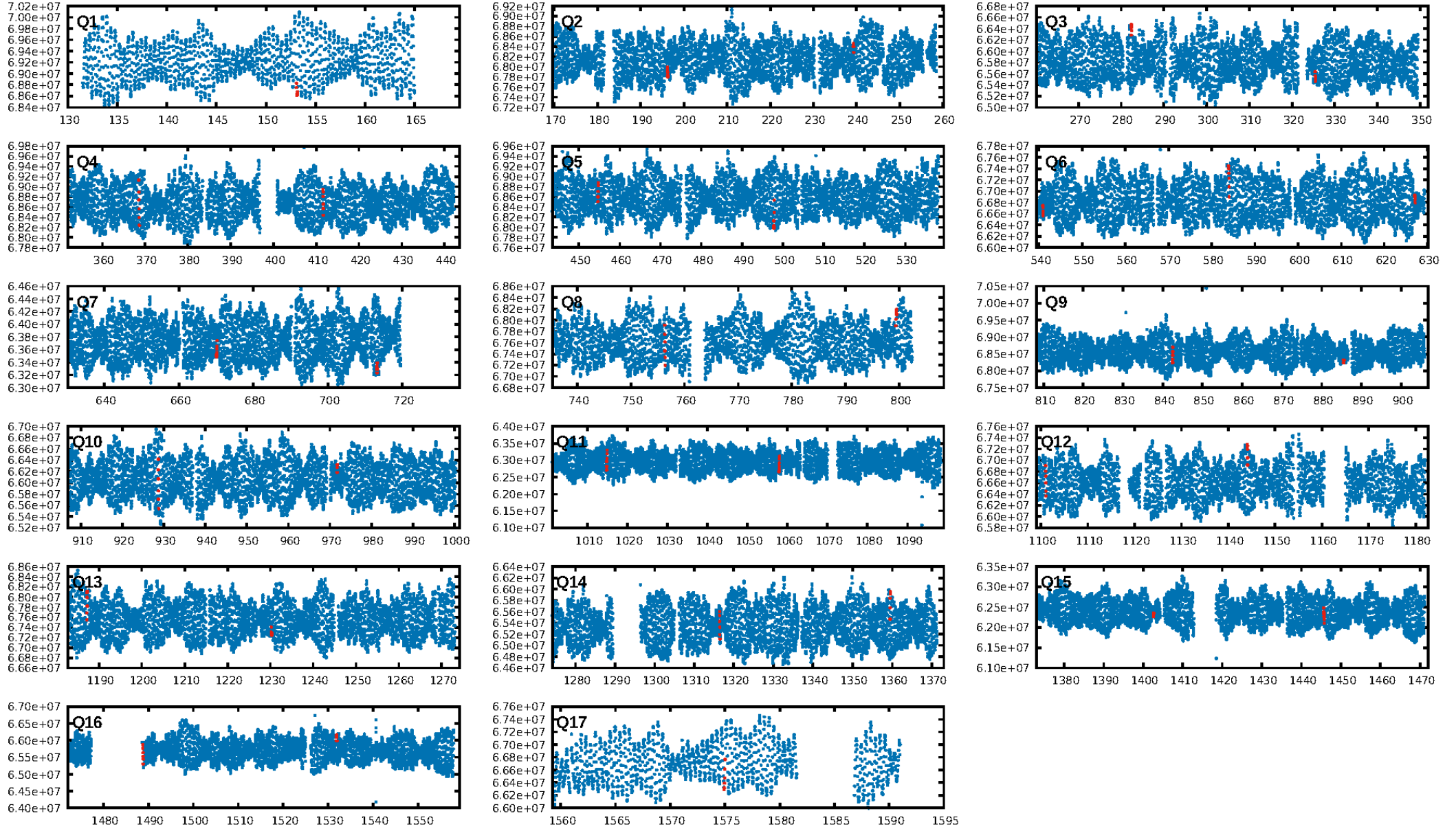
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.83 σ]
LongPeriod-sig: 100.0% [14.81 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.03728
Centroid-sig: 2.2%
Centroid-so: 0.709 arcsec [9.75 σ]
OotOffset-rm: 0.080 arcsec [0.47 σ]
KicOffset-rm: 0.165 arcsec [1.06 σ]
OotOffset-st: 4/4/4/5 [17]
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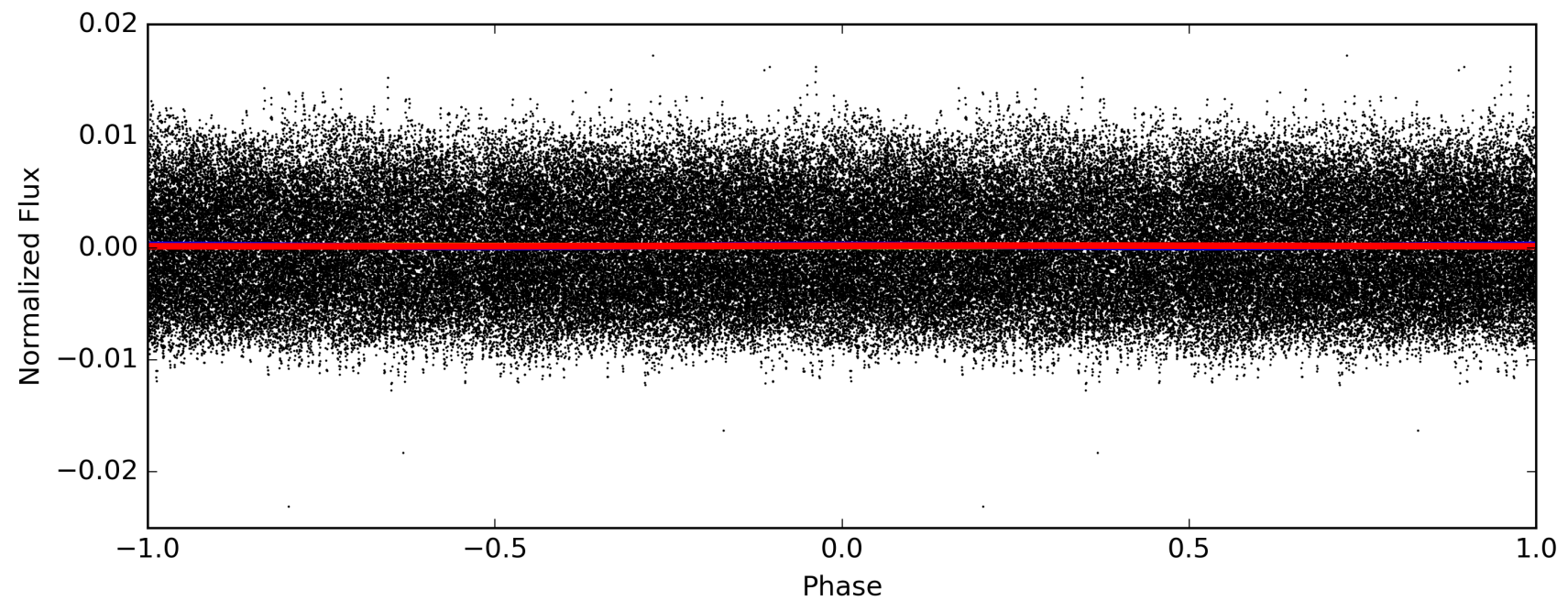
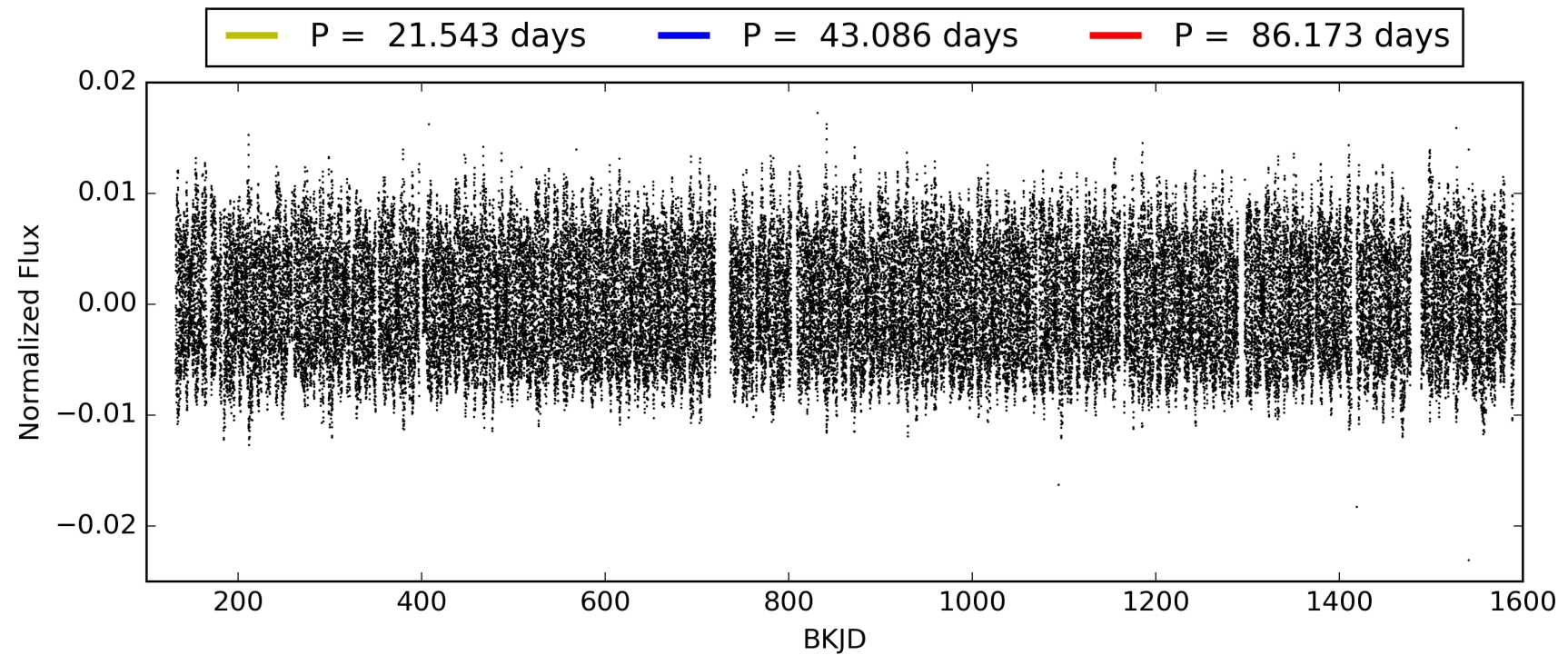
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:24:17 Z

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

TCE 008198031-08, PDC Light Curves

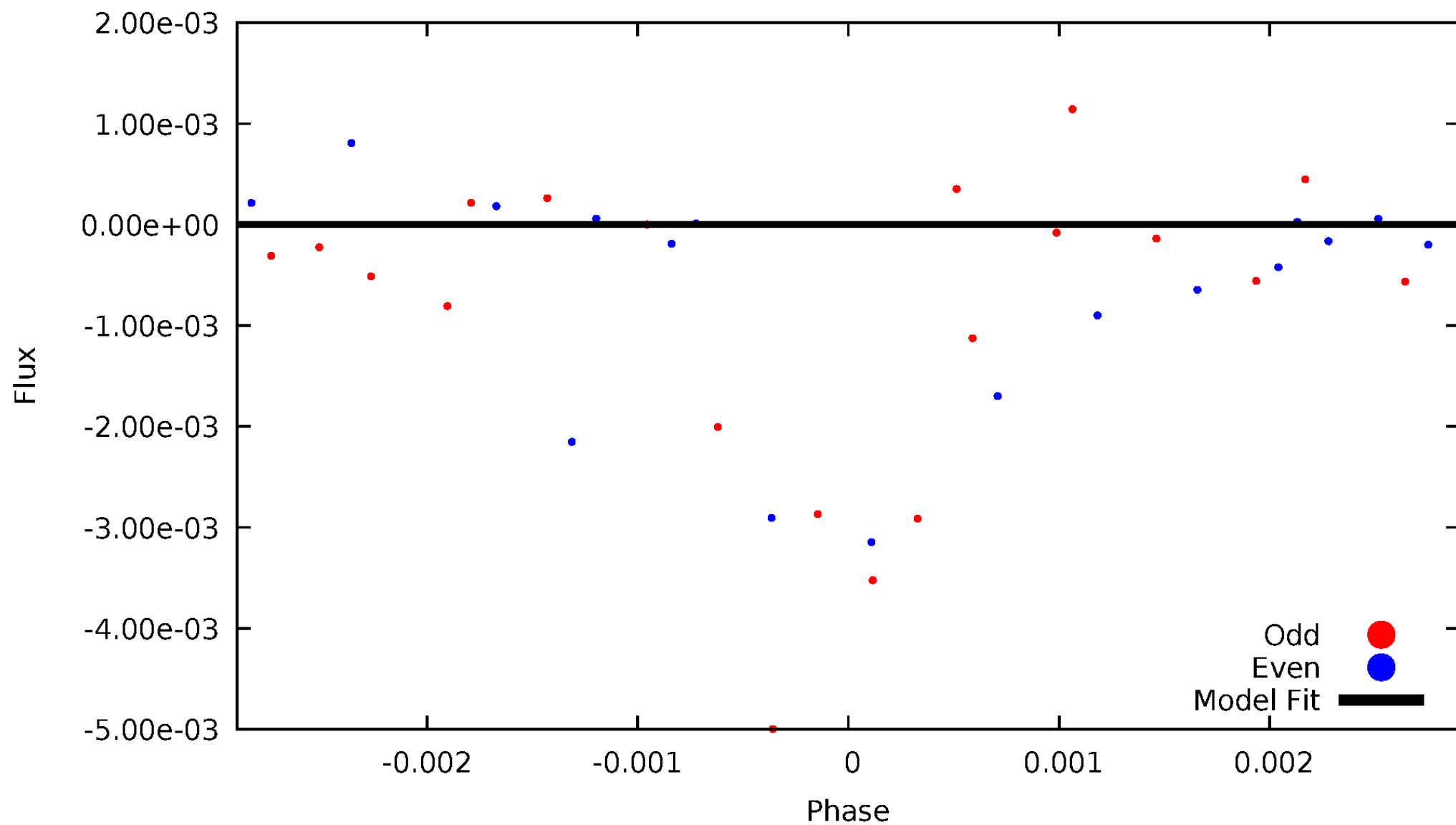


TCE 008198031-08



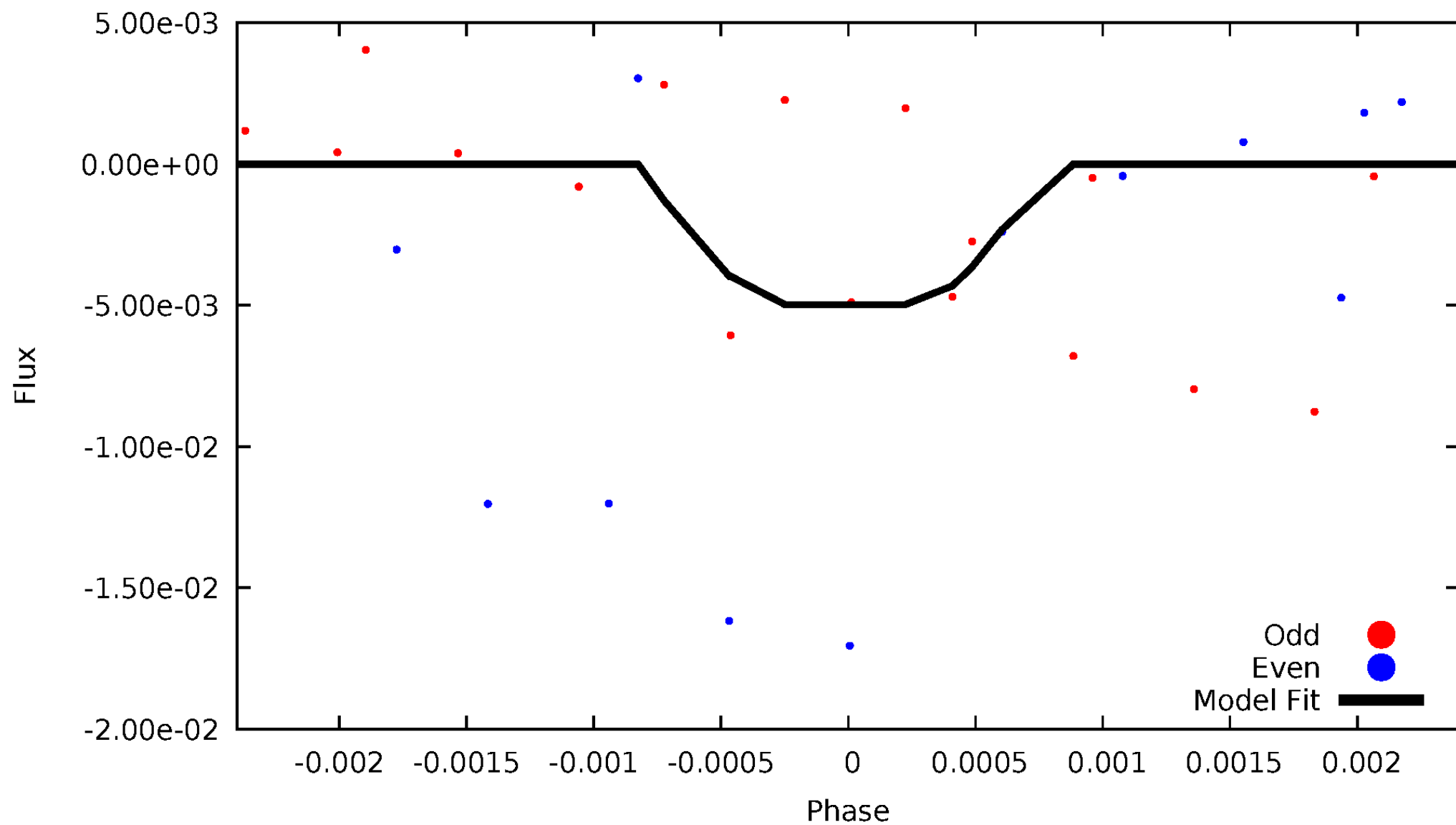
DV Odd/Even

TCE 008198031-08



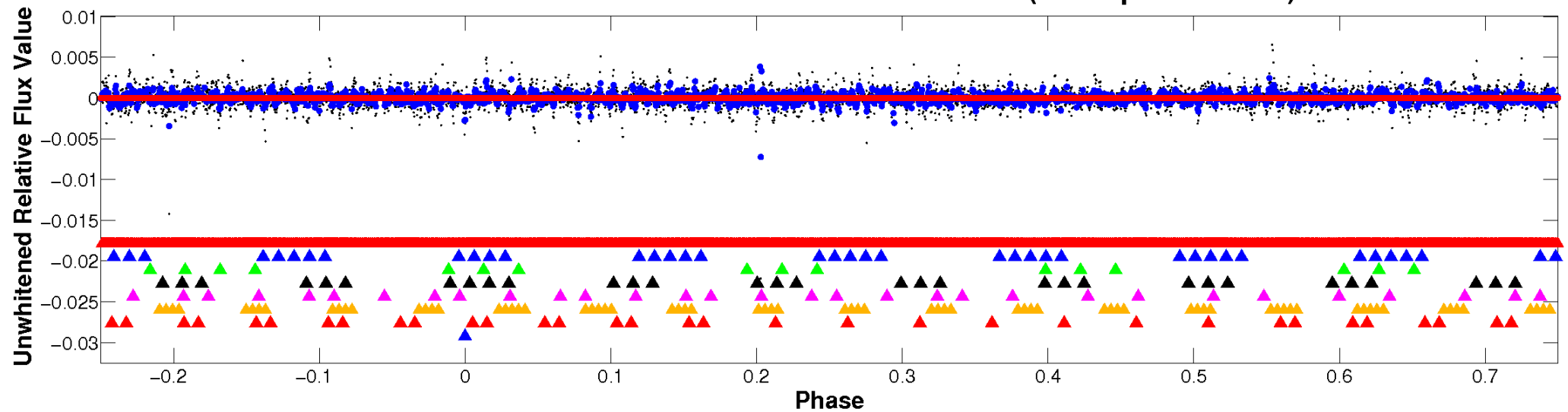
ALT Odd/Even

TCE 008198031-08

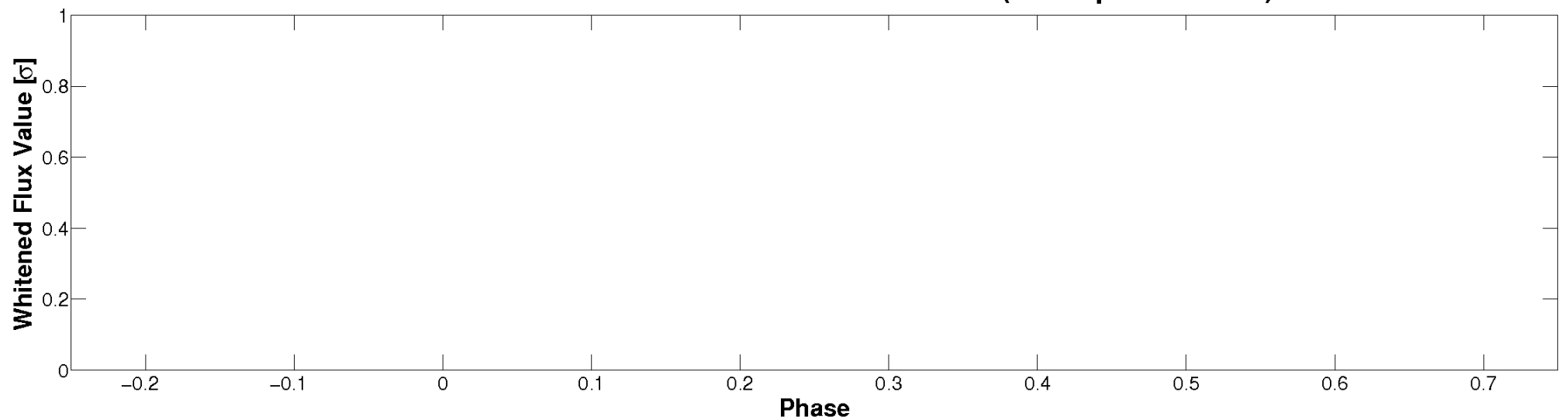


Non-Whitened Vs. Whitened Light Curve

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

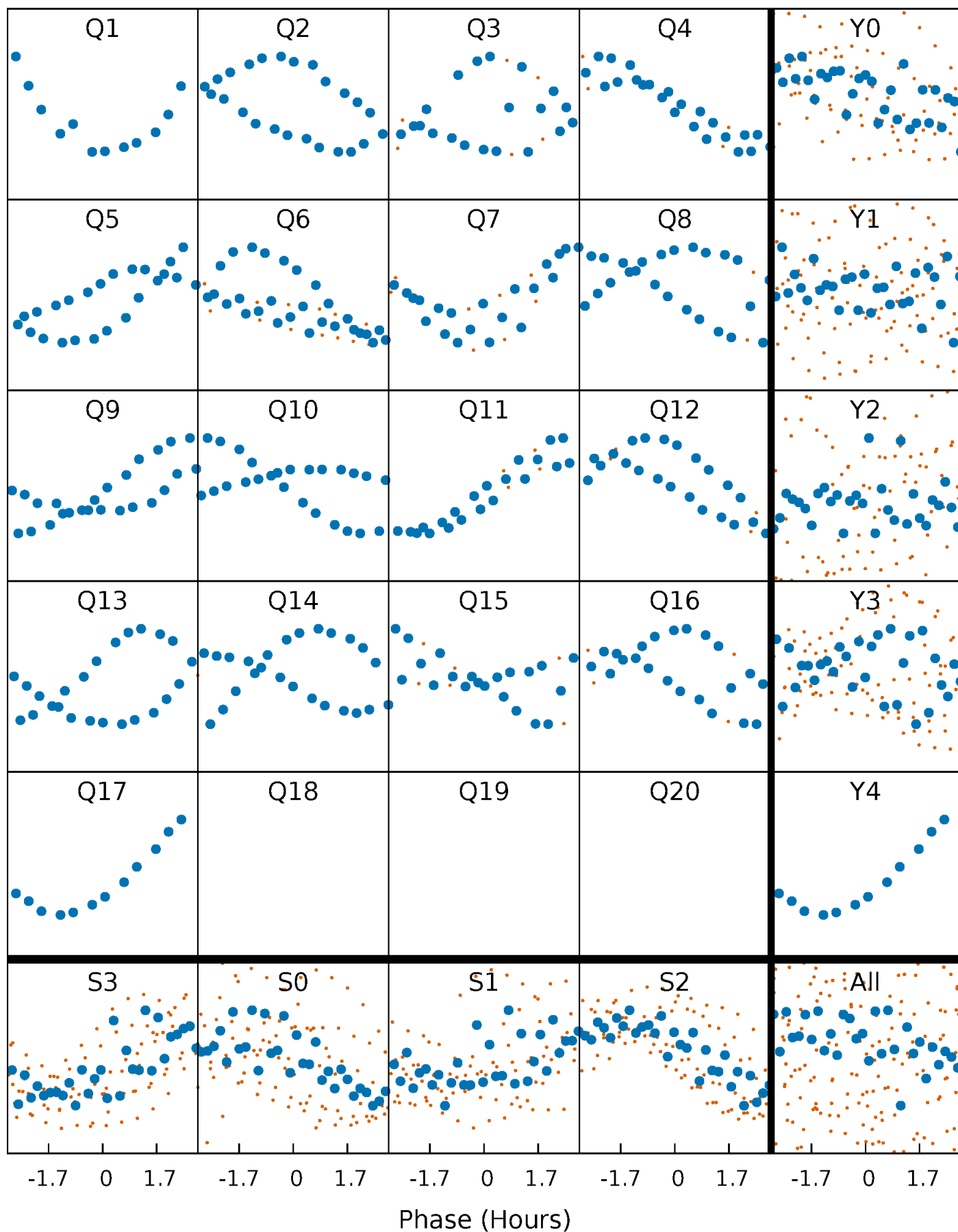


Planet 8 : Phased Whitened Flux Time Series (TPS Epoch/Period)



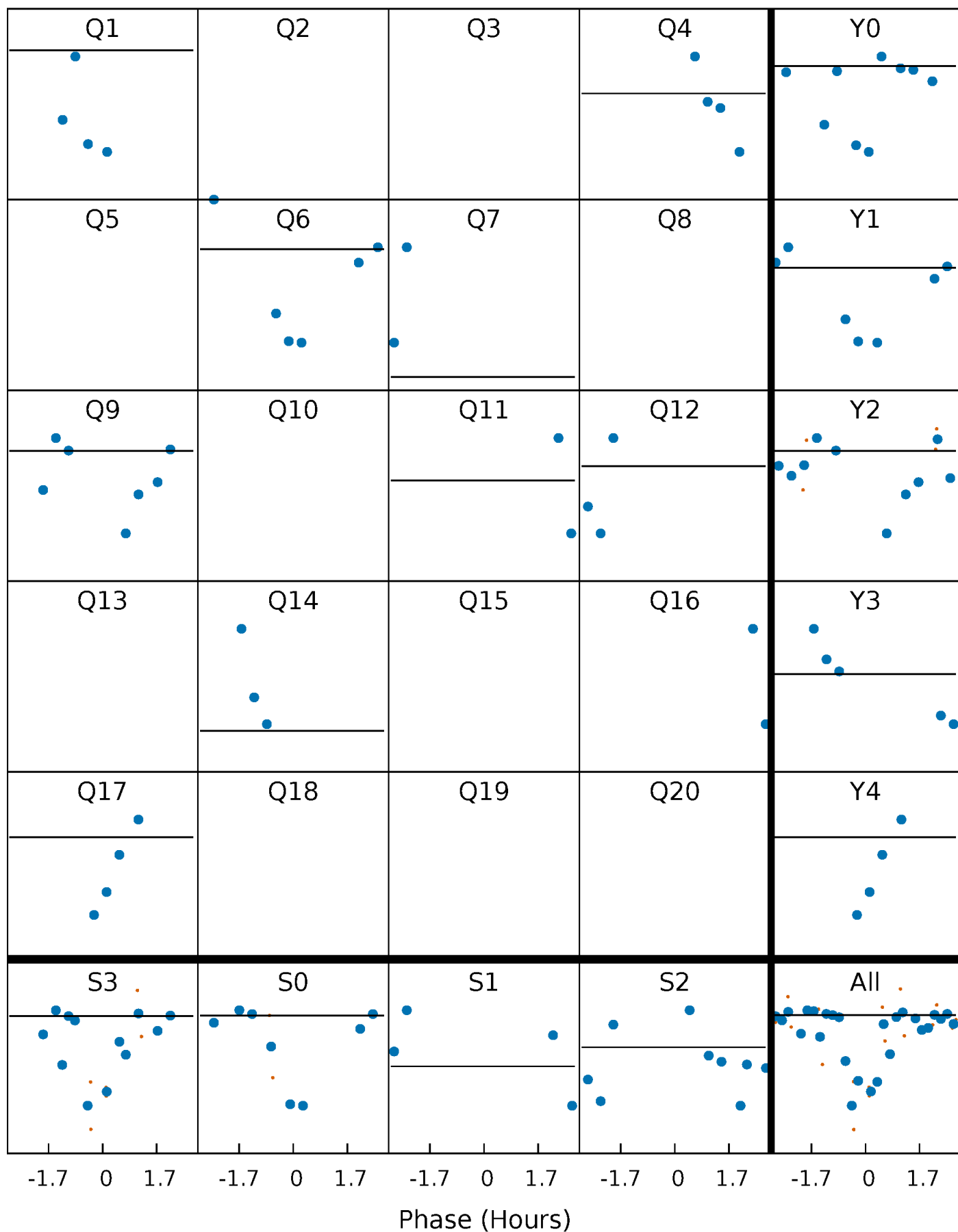
PDC Quarter-Phased Transit Curves

TCE 008198031-08 P= 43.086319 Days $T_0=153.126624$ (BKJD)



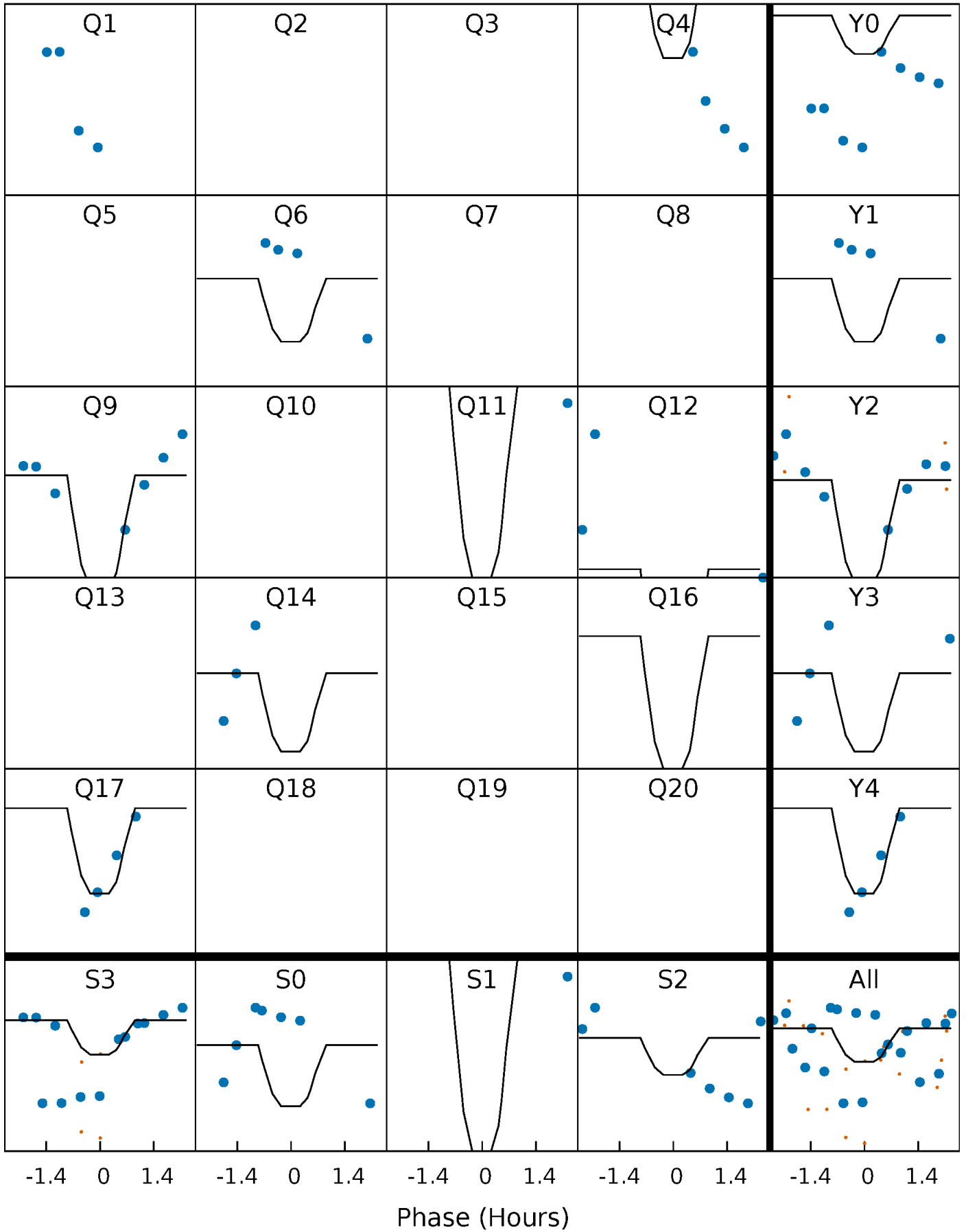
DV Quarter-Phased Transit Curves

TCE 008198031-08 P= 43.086319 Days $T_0=153.126624$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

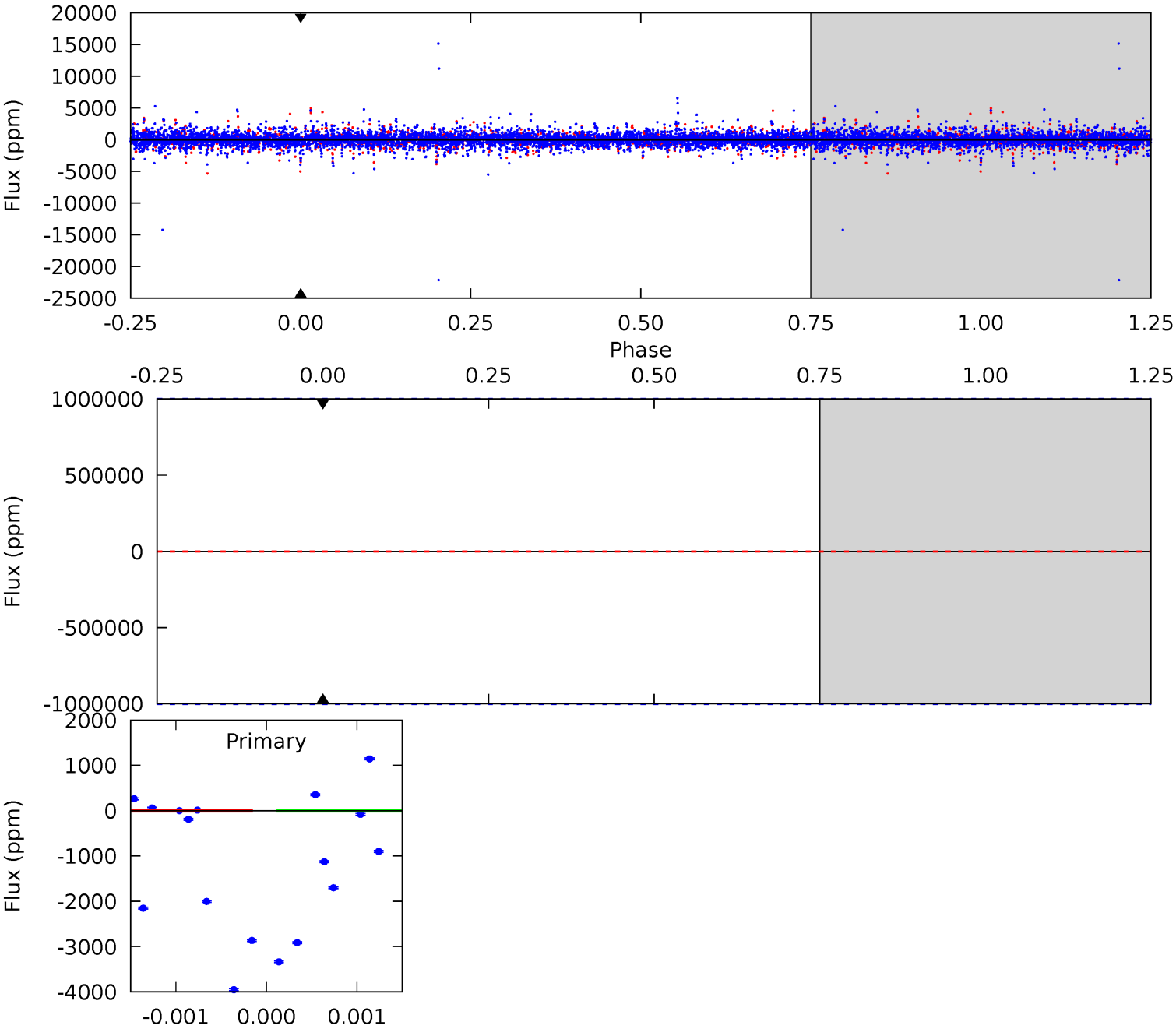
TCE 008198031-08 $P = 43.086319$ Days $T_0 = 153.131109$ (BKJD)



DV Model-Shift Uniqueness Test

008198031-08, P = 43.086319 Days, E = 110.040305 Days

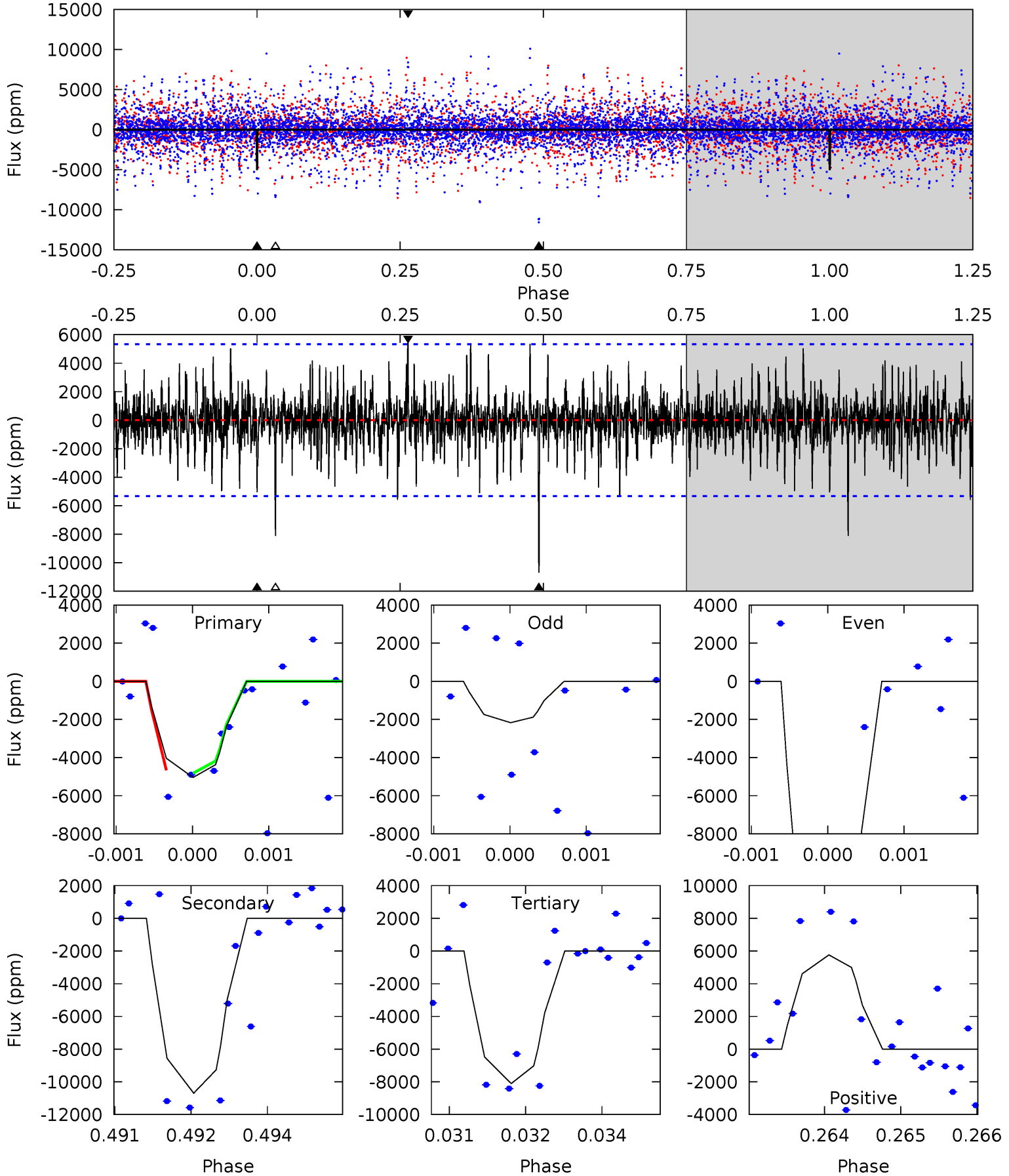
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

008198031-08, P = 43.086319 Days, E = 110.044790 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.11	10.8	8.21	5.84	5.40	3.20	1.33	-3.10	-0.73	2.63	5.00	7.63	1.31	0.35	0



Stellar Parameters For KIC 008198031

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7563^{+211}_{-316}	$4.232^{+0.090}_{-0.210}$	$-0.120^{+0.200}_{-0.350}$	$1.557^{+0.528}_{-0.226}$	$1.506^{+0.219}_{-0.219}$	$0.562^{+0.234}_{-0.314}$
	+3%/-4%	+2%/-5%	+167%/-292%	+34%/-15%	+15%/-15%	+42%/-56%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 008198031-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$13.73^{+15.16}_{-9.28}$	1118^{+88}_{-63}	5640^{+28827}_{-36063}	411^{+34048}_{-29647}
Alt.	-10696 ± 987	$18.41^{+14.89}_{-11.12}$	1117^{+92}_{-68}	7467^{+8024}_{-1987}	1336^{+7435}_{-939}

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 $A_{obs} \gg 1.0$

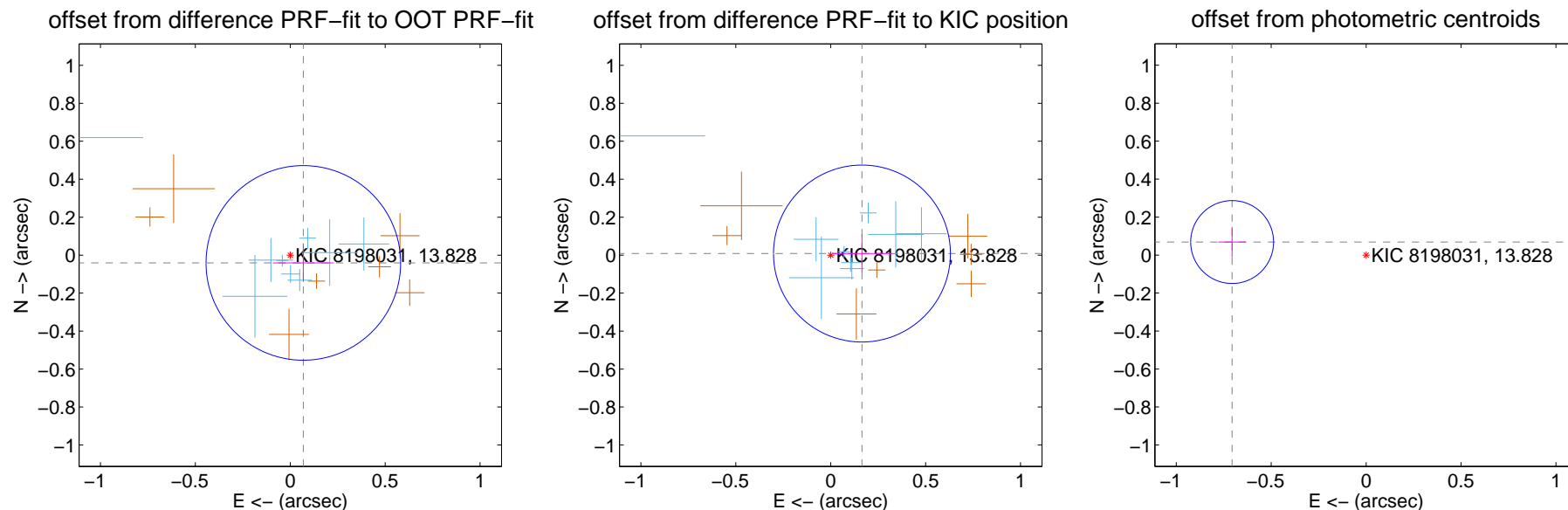
DV Centroid Data

Supplemental centroid analysis for 008198031-08. Kepler magnitude: 13.83. Transit SNR -1.00

There are 9 quarters with good PRF difference image offsets

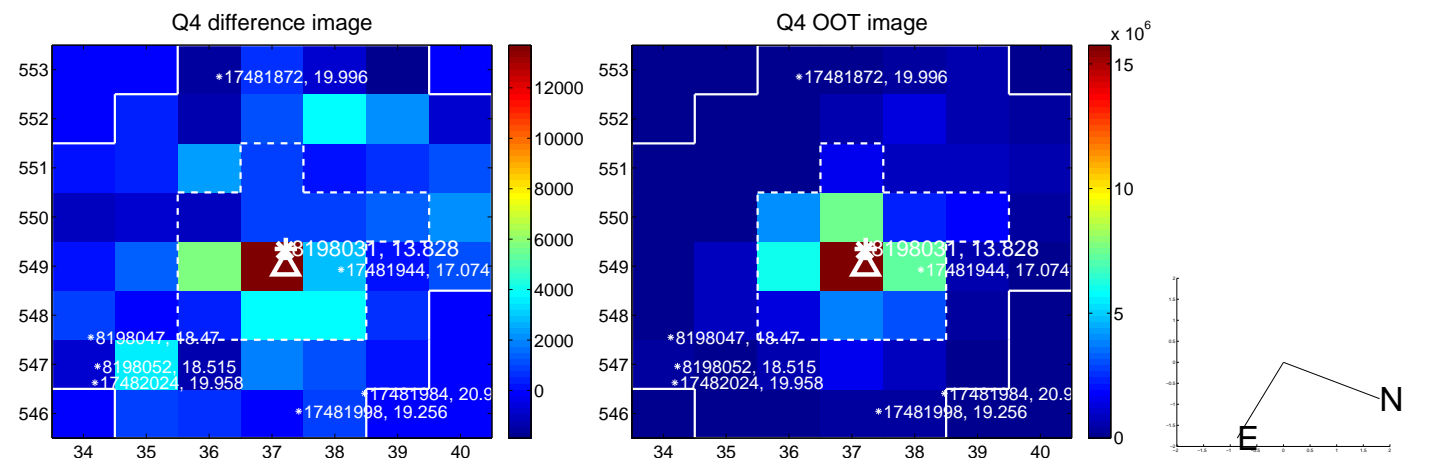
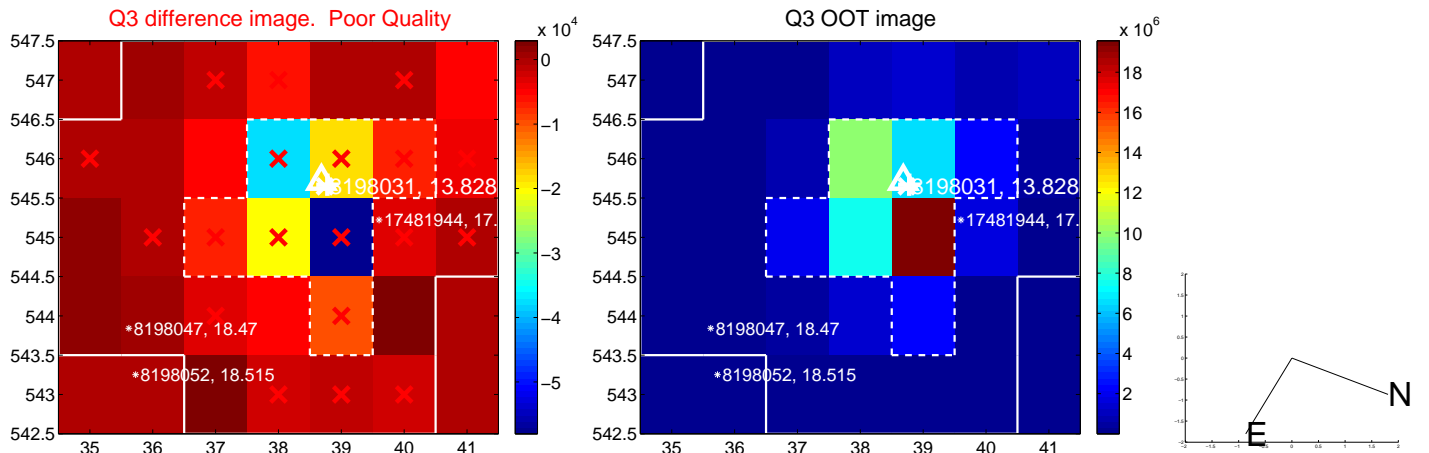
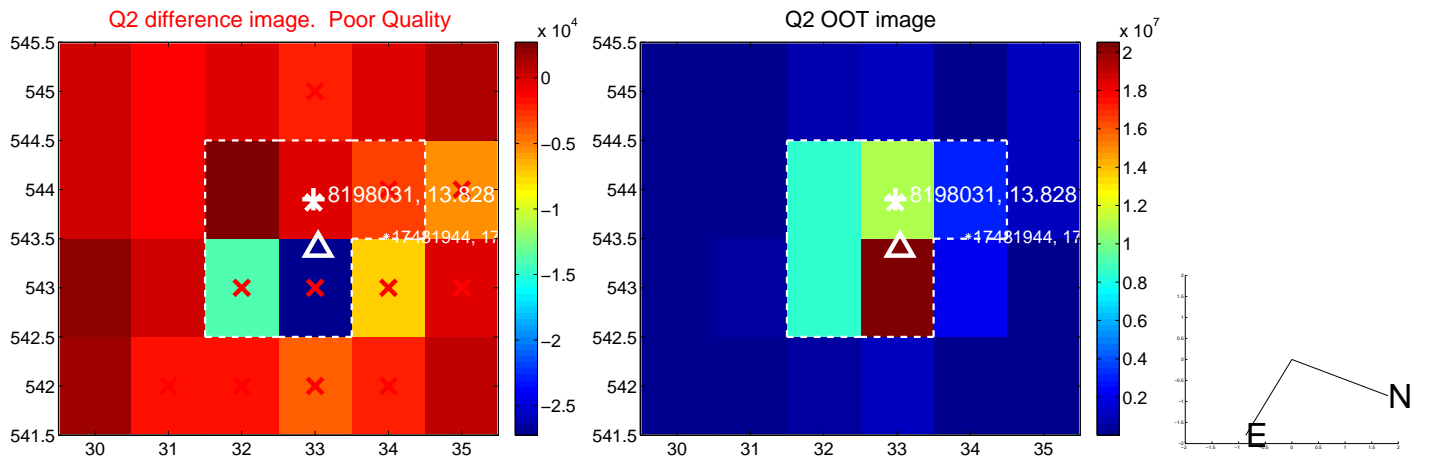
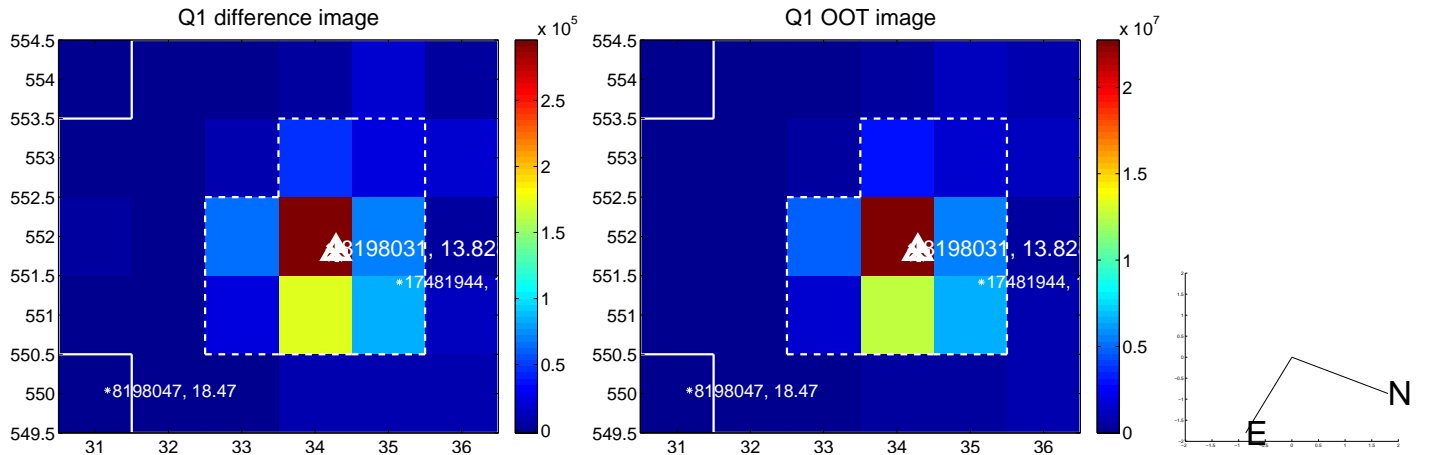
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.080 ± 0.171	0.47	-0.069 ± 0.161	-0.041 ± 0.100
PRF-fit source offset from KIC position	0.165 ± 0.155	1.06	-0.165 ± 0.158	0.008 ± 0.100
photometric centroid source offset	0.71 ± 0.07	9.75	0.71 ± 0.07	0.07 ± 0.08

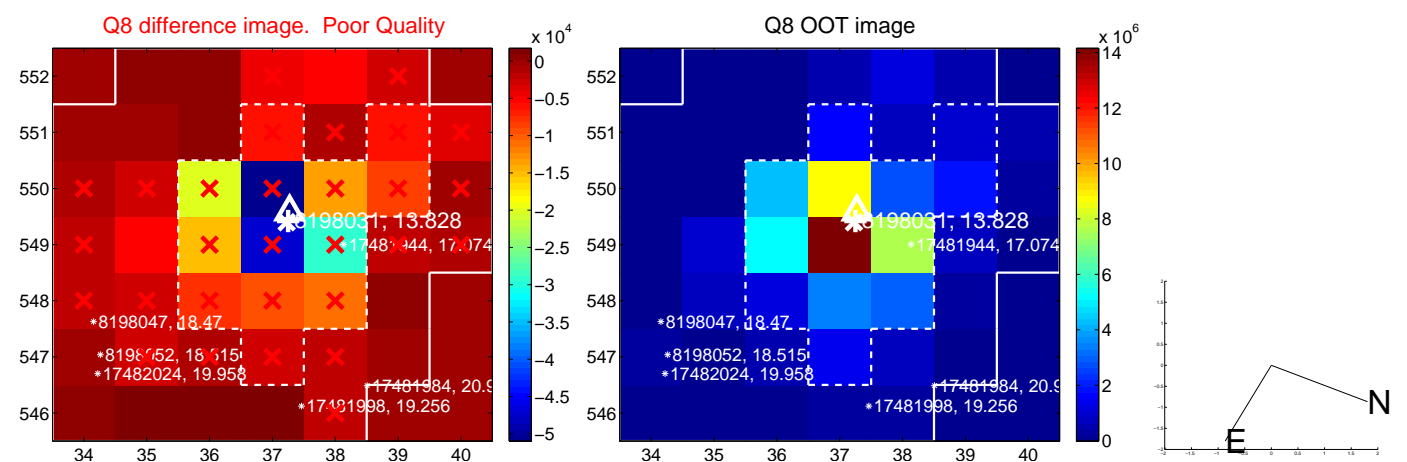
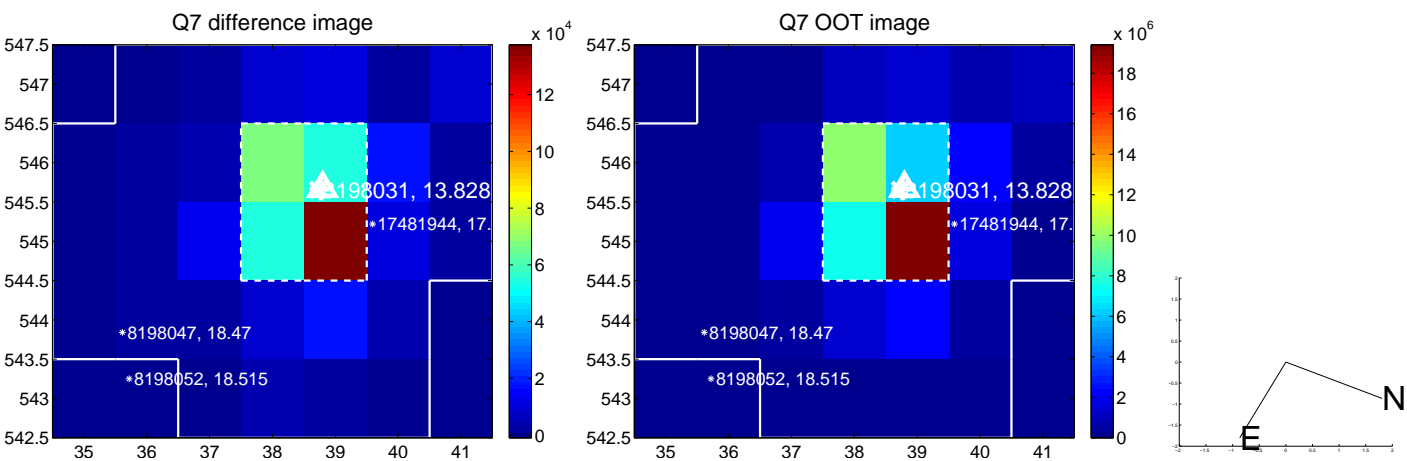
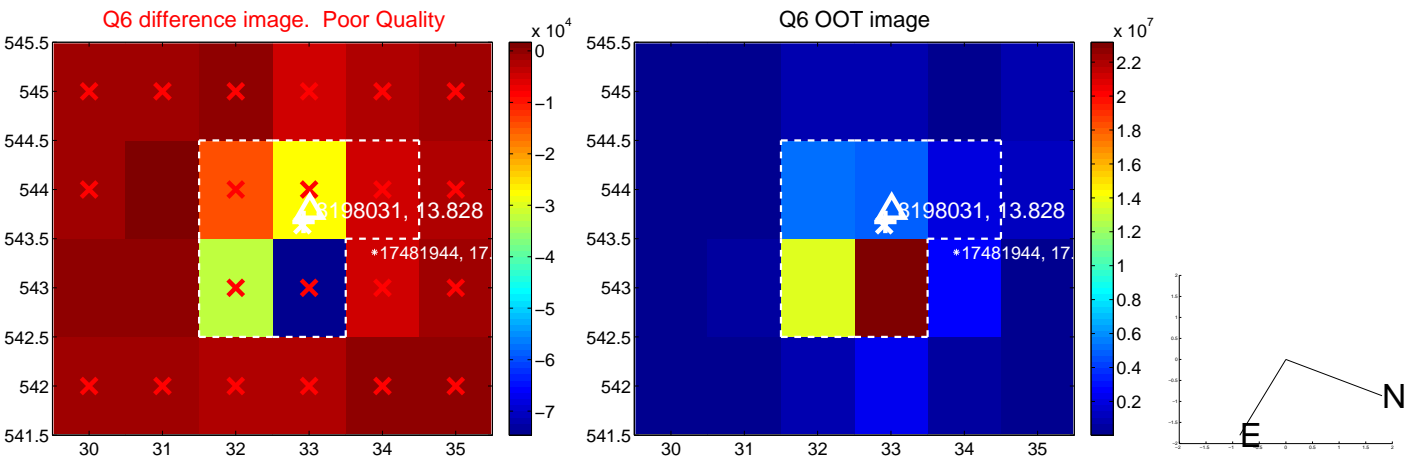
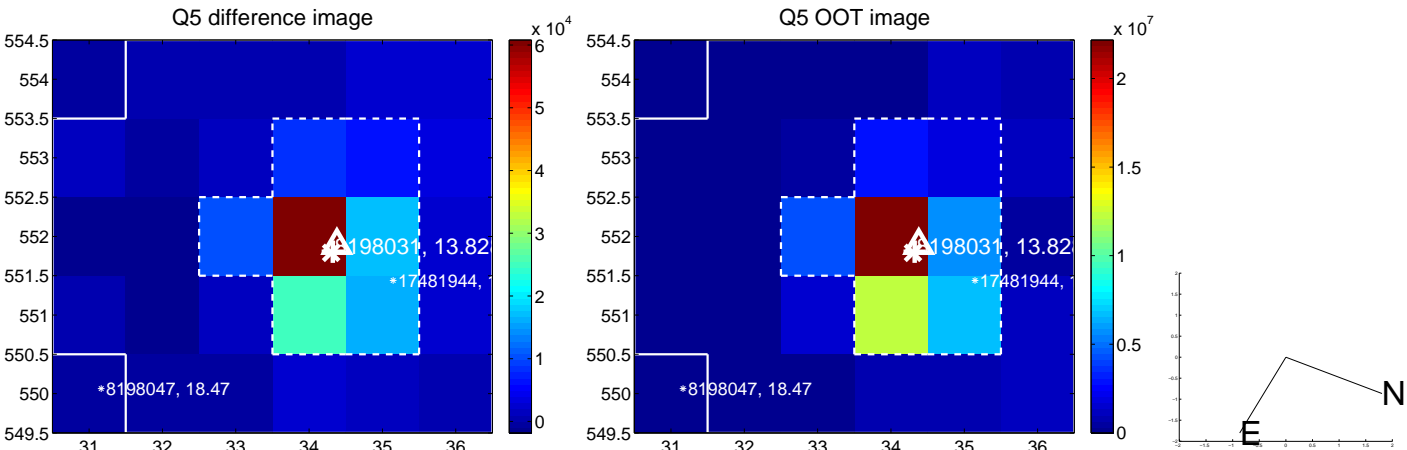


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

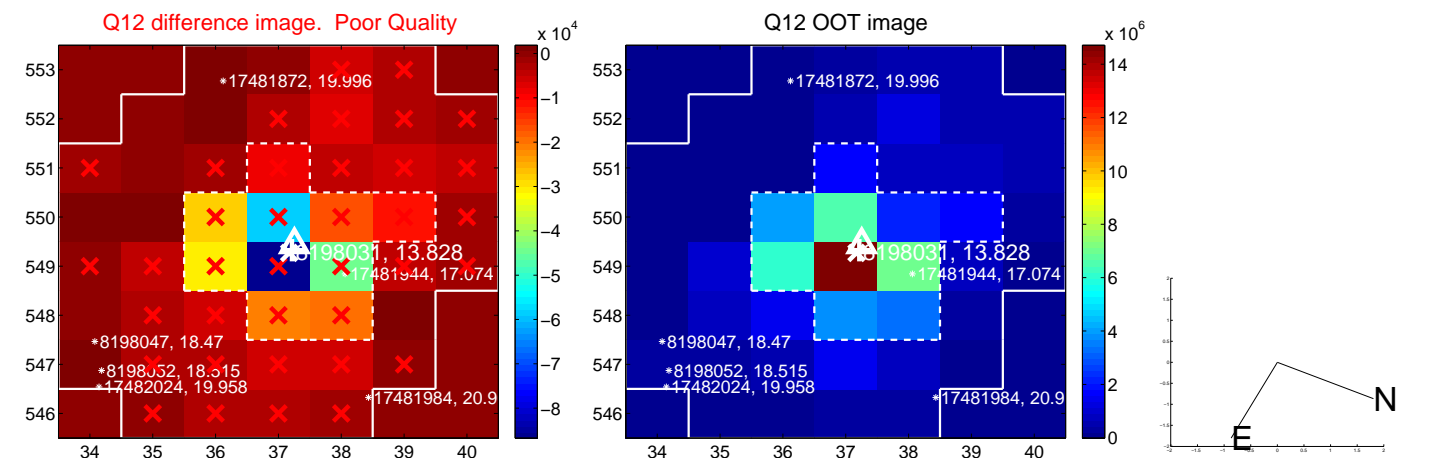
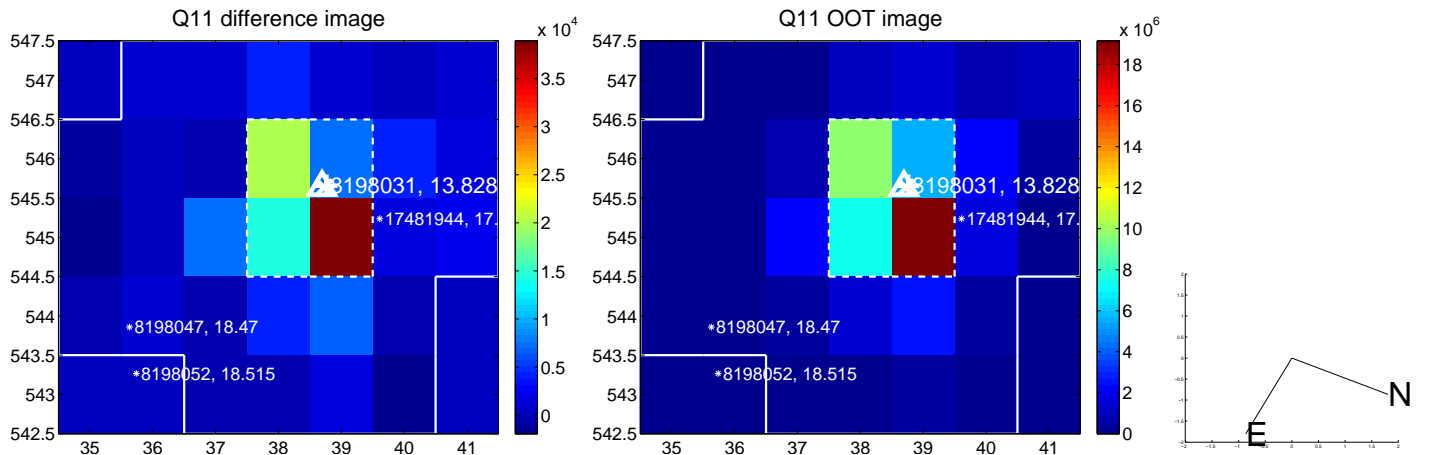
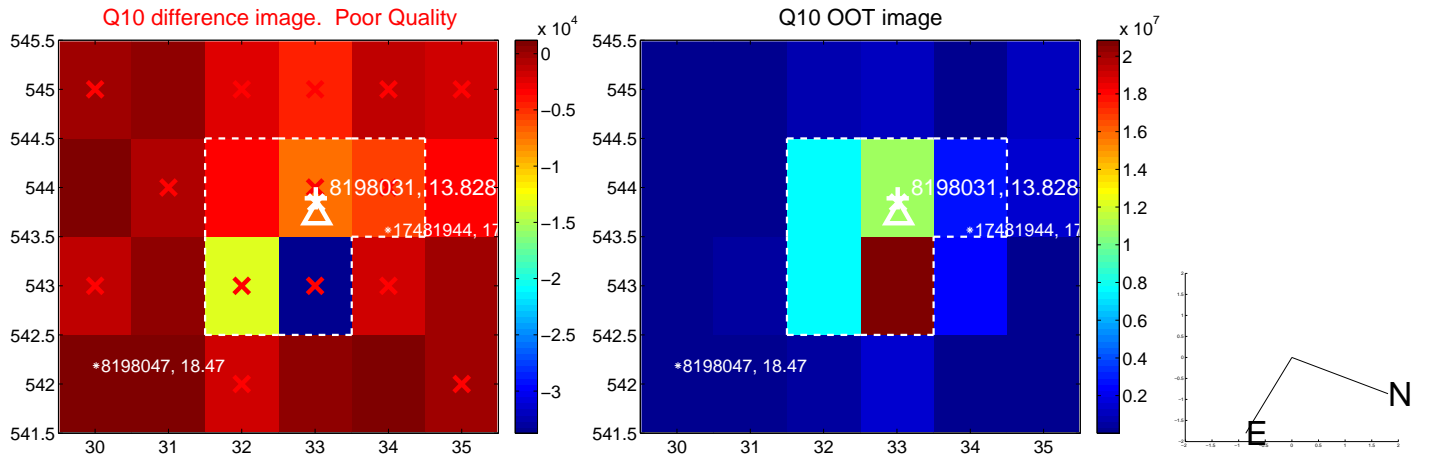
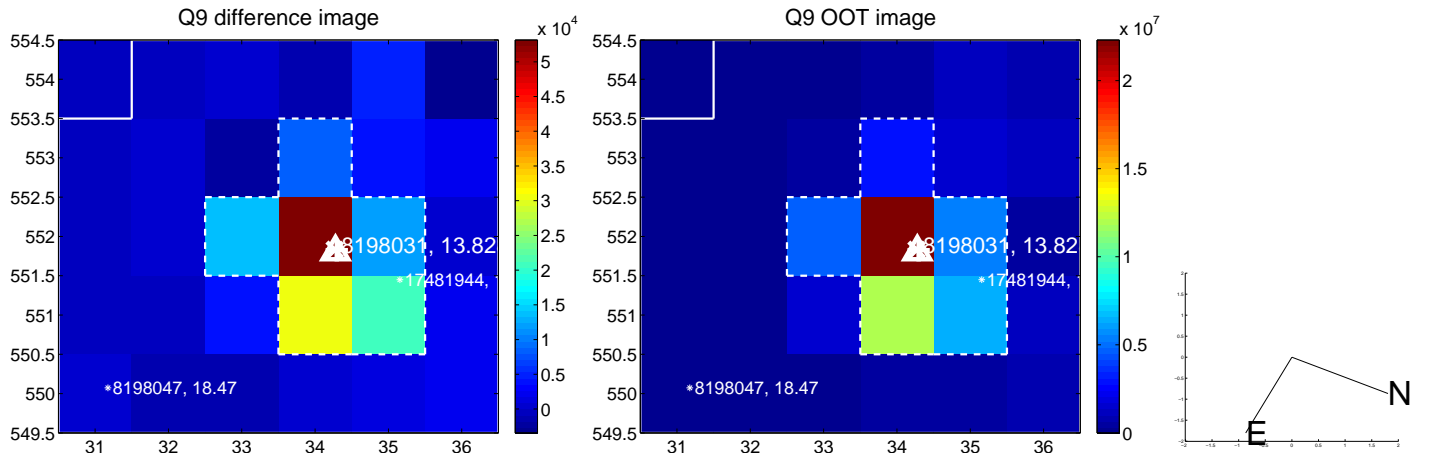
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



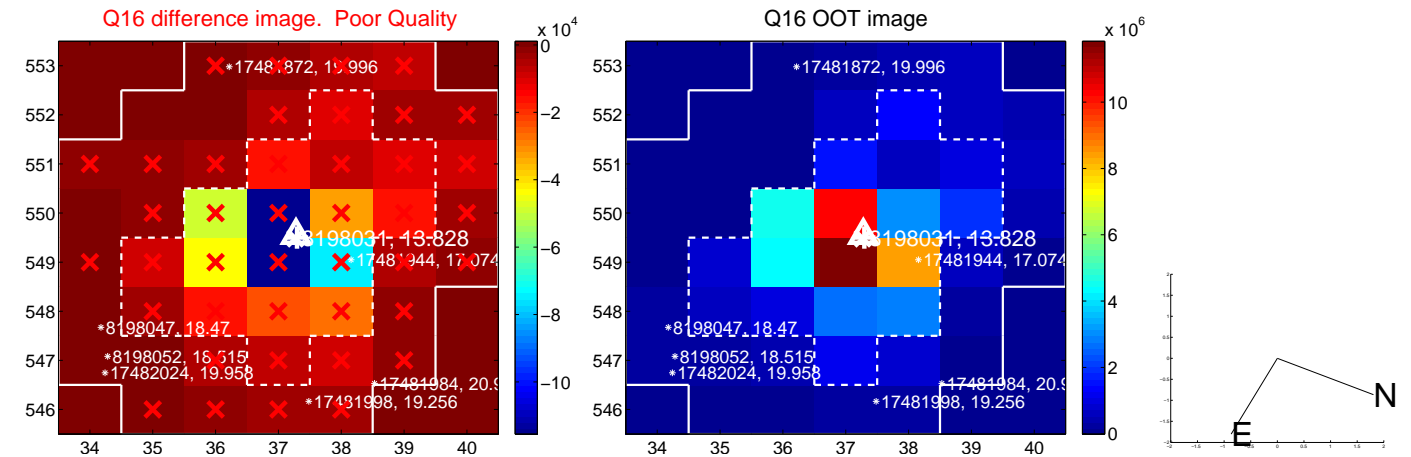
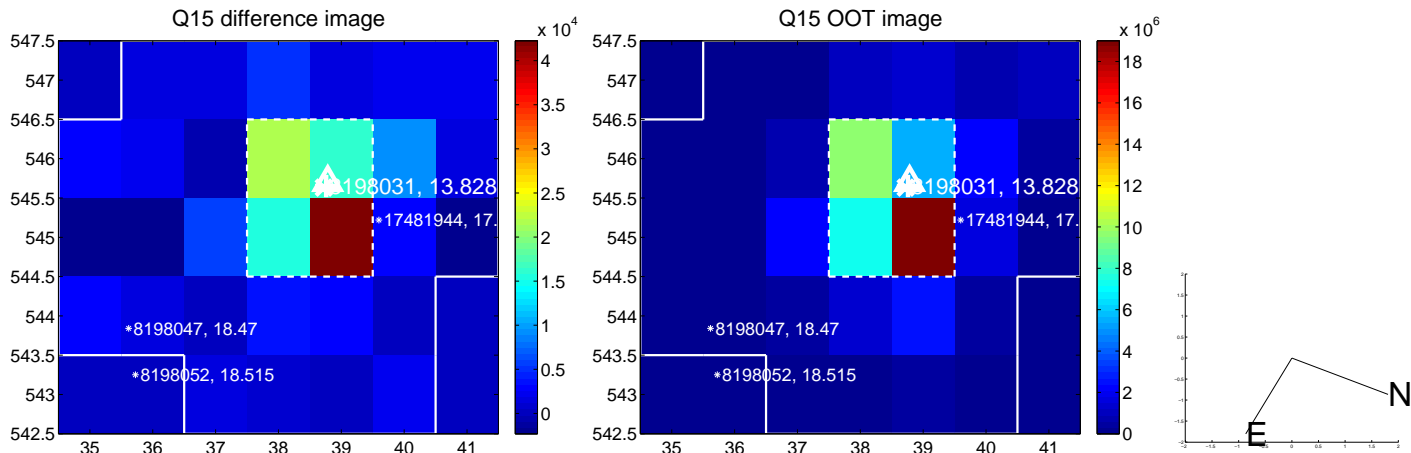
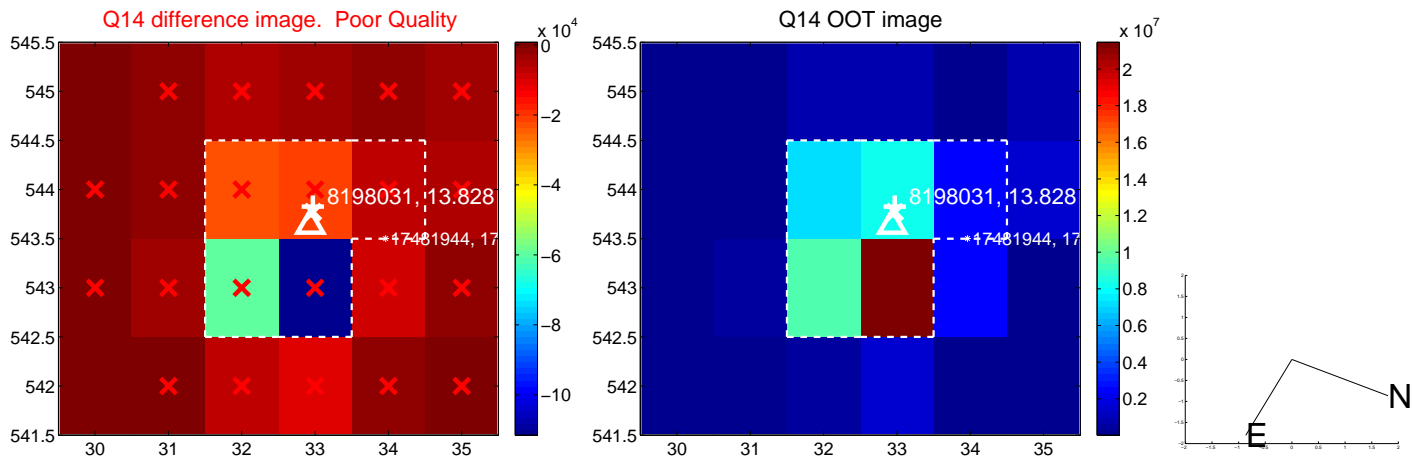
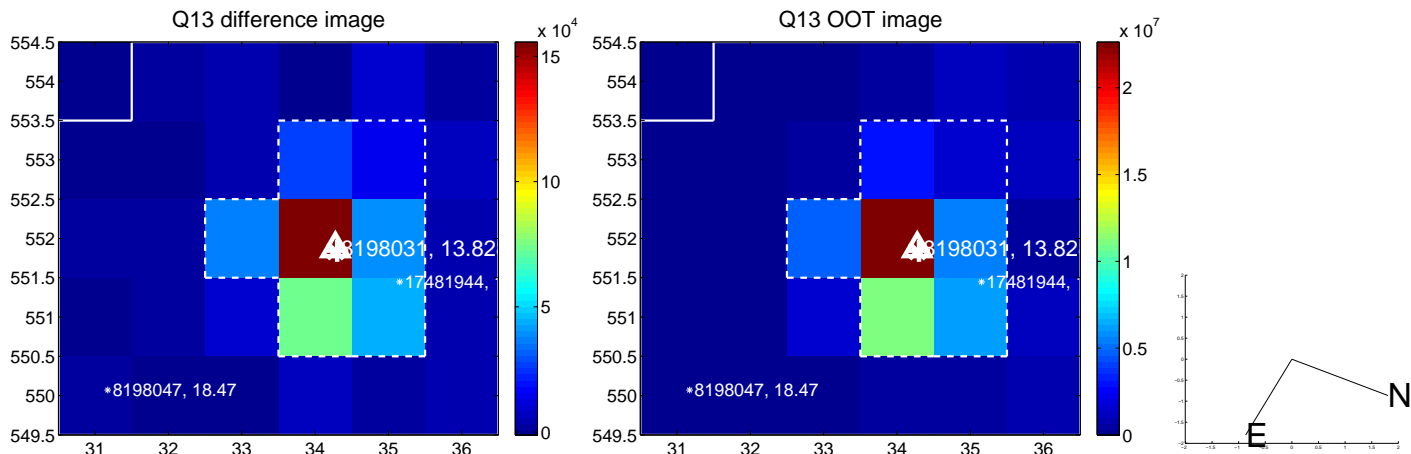
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



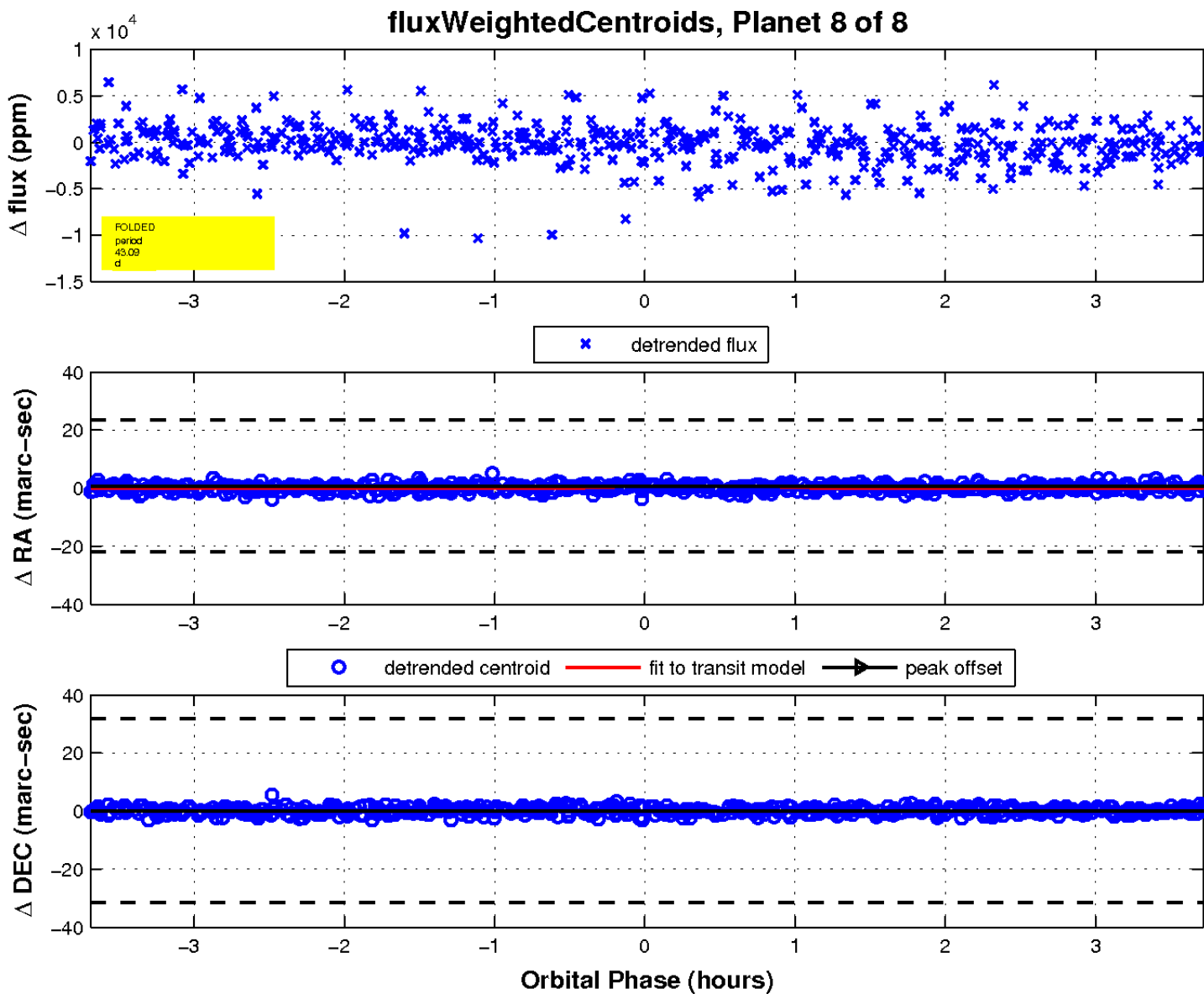
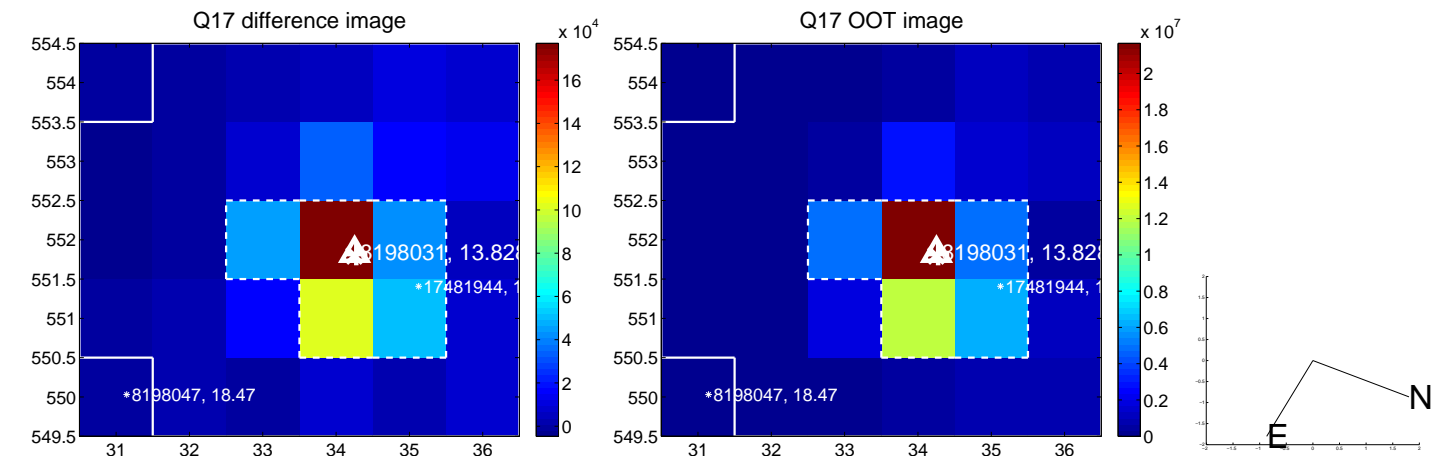
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

