

KIC 003120650

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})
003120650-01	OBS	No	2.105462	132.740235	24.6	1.567	9.4	8.4	1.64	6864	0.85	4147.93
003120650-02	OBS	No	2.105407	133.425098	2.3	13.331	8.2	1.5	1.64	6864	0.27	4148.08
003120650-03	OBS	No	128.707625	237.699832	131.5	8.357	15.8	6.8	1.64	6864	2.16	17.23
003120650-04	OBS	No	2.105255	132.162935	21.1	3.516	14.9	6.5	1.64	6864	0.81	4148.48
003120650-05	OBS	No	225.210461	145.189638	148.9	12.816	17.0	10.0	1.64	6864	2.31	8.17
003120650-06	OBS	No	205.256712	204.045049	200.1	3.266	11.5	11.4	1.64	6864	2.63	9.24
003120650-07	OBS	No	54.143709	157.013841	183.0	5.874	10.6	10.6	1.64	6864	2.44	54.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003120650-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003120650-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003120650-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS
003120650-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
003120650-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
003120650-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
003120650-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

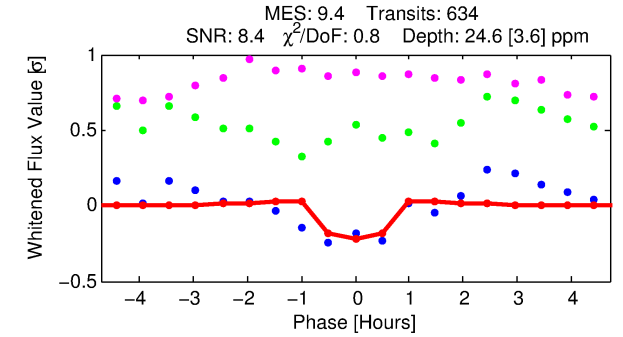
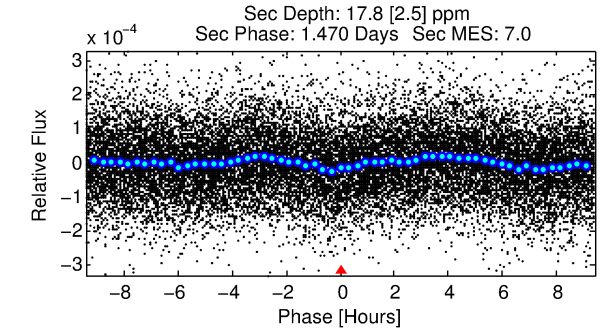
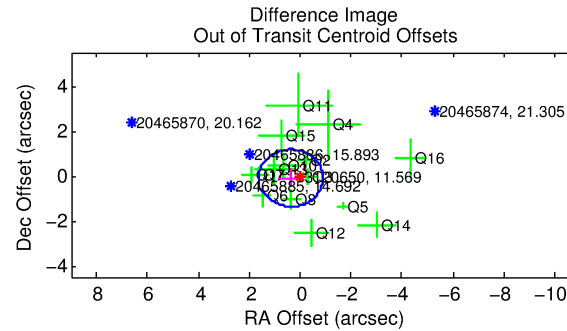
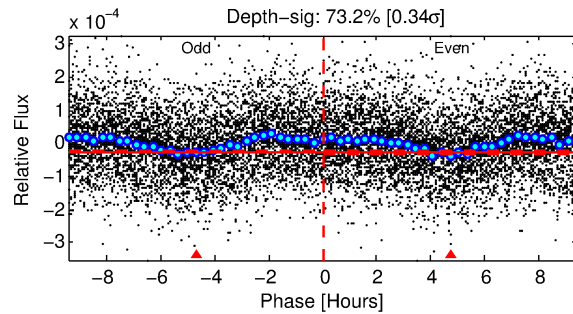
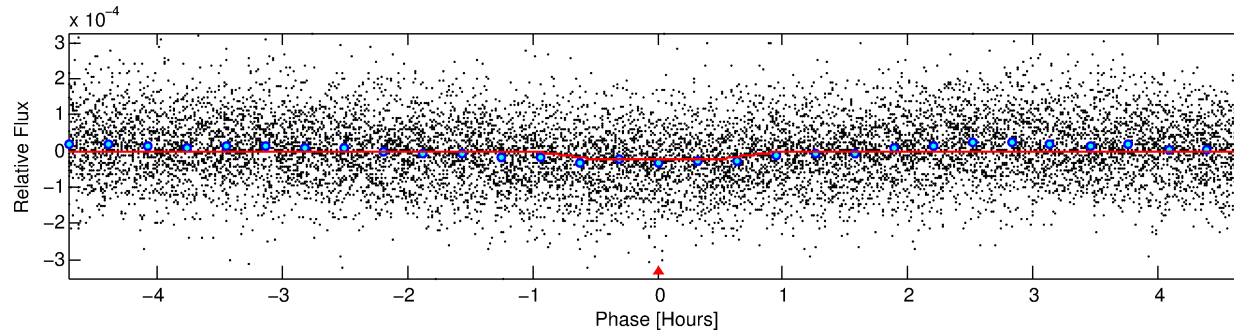
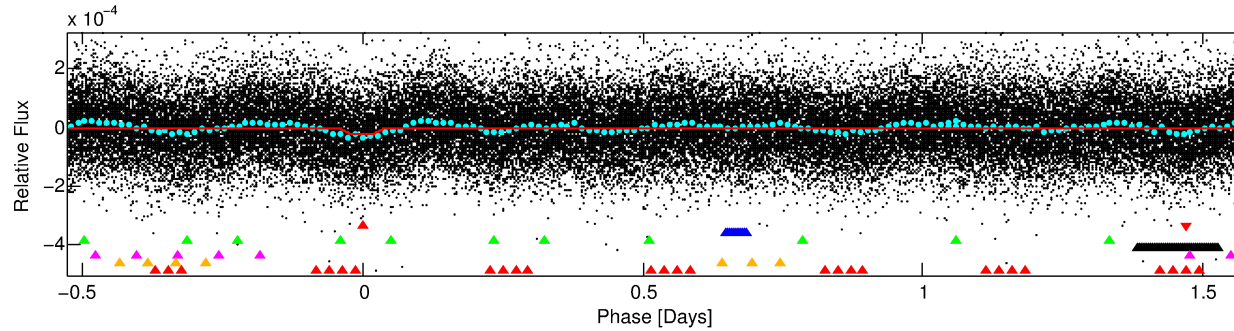
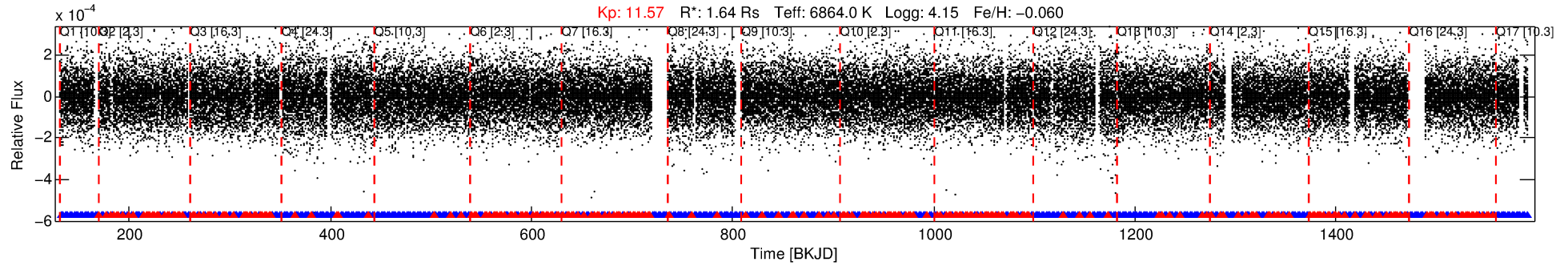
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003120650-01

No Significant Match Found

DV One-Page Summary

KIC: 3120650 Candidate: 1 of 7 Period: 2.105 d



DV Fit Results:

Period = 2.10546 [0.00001] d
Epoch = 132.7402 [0.0025] BKJD
 $R_p/R^* = 0.0047$ [0.0011]
 $a/R^* = 9.01$ [10.68]
 $b = 0.49$ [1.84]
 $\text{Seff} = 4147.93$ [879.40]
 $T_{\text{eq}} = 2046$ [108] K
 $R_p = 0.85$ [0.24] R_{e}
 $a = 0.0360$ [0.0052] AU
 $A_g = 17.74$ [9.08] [1.84 σ]
 $T_{\text{eff}} = 6494$ [766] K [5.75 σ]

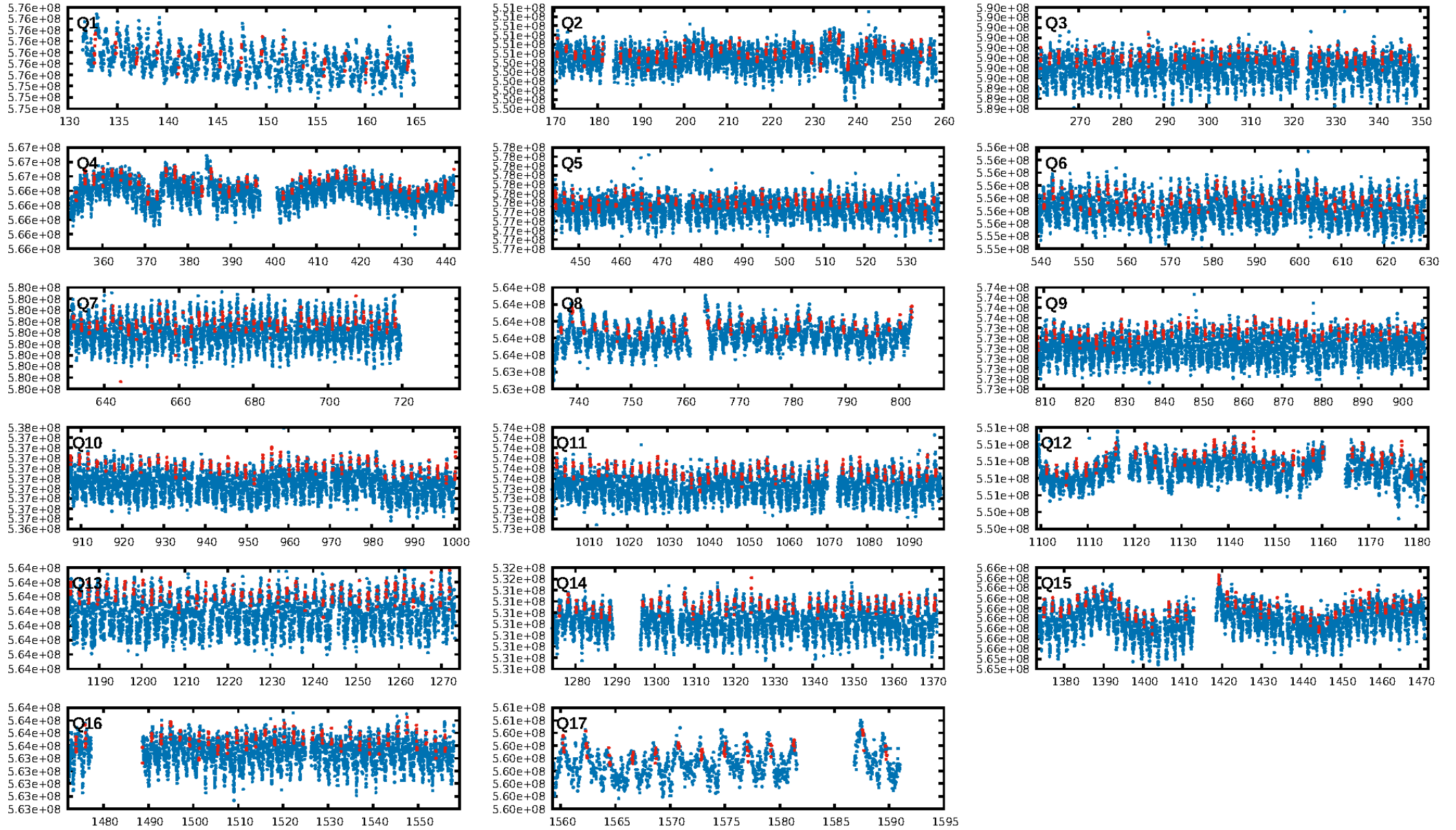
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 100.0% [205.45 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.58 [348/605]
GhostDiagnostic-chr: 1.369
Centroid-sig: 0.3%
Centroid-so: 1.589 arcsec [2.08 σ]
OotOffset-rm: 0.388 arcsec [0.92 σ]
KicOffset-rm: 0.255 arcsec [0.63 σ]
OotOffset-st: 4/4/4/3 [15]
KicOffset-st: 4/4/4/3 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 1.00 [17/17]

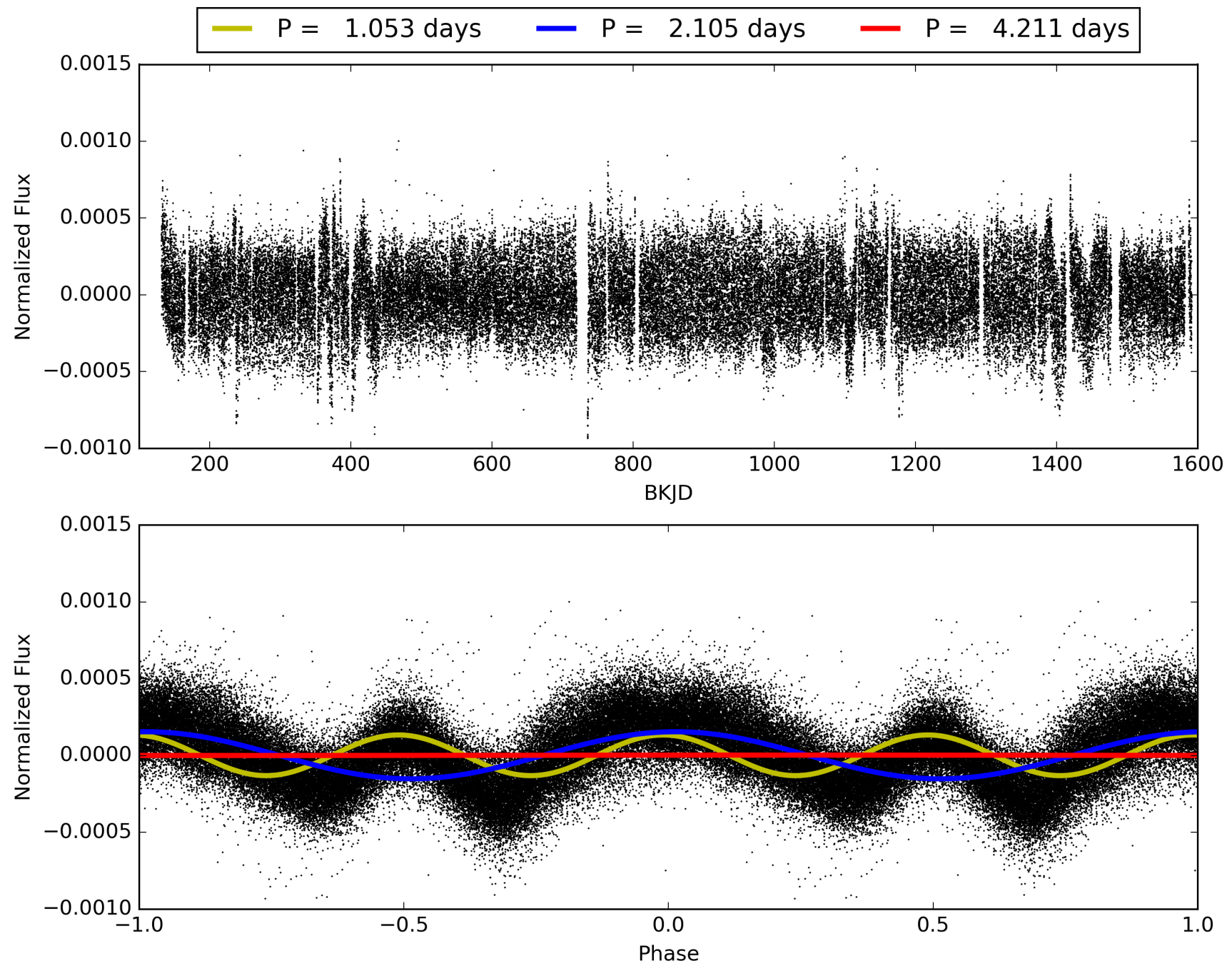
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:53:24 Z

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

TCE 003120650-01, PDC Light Curves

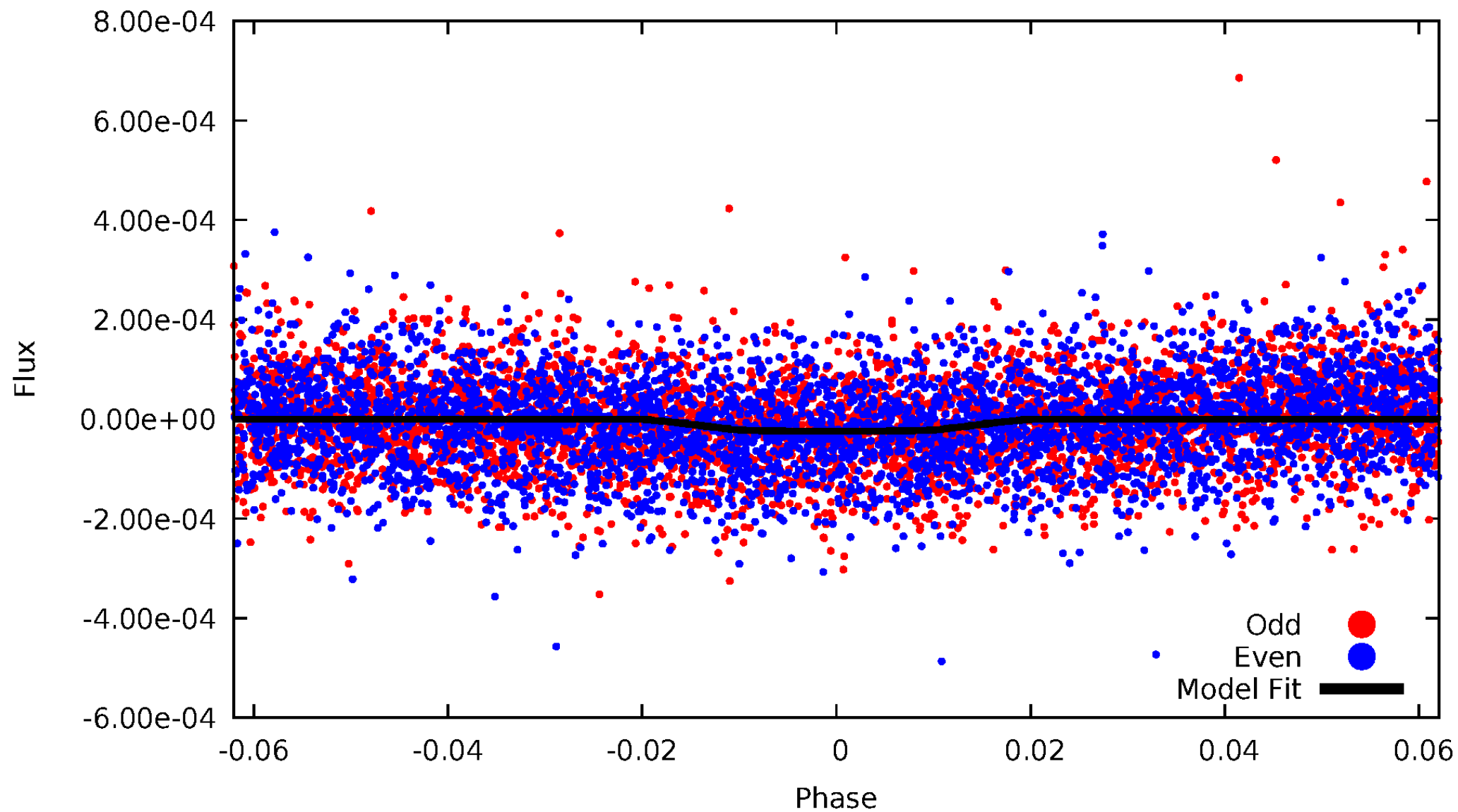


TCE 003120650-01



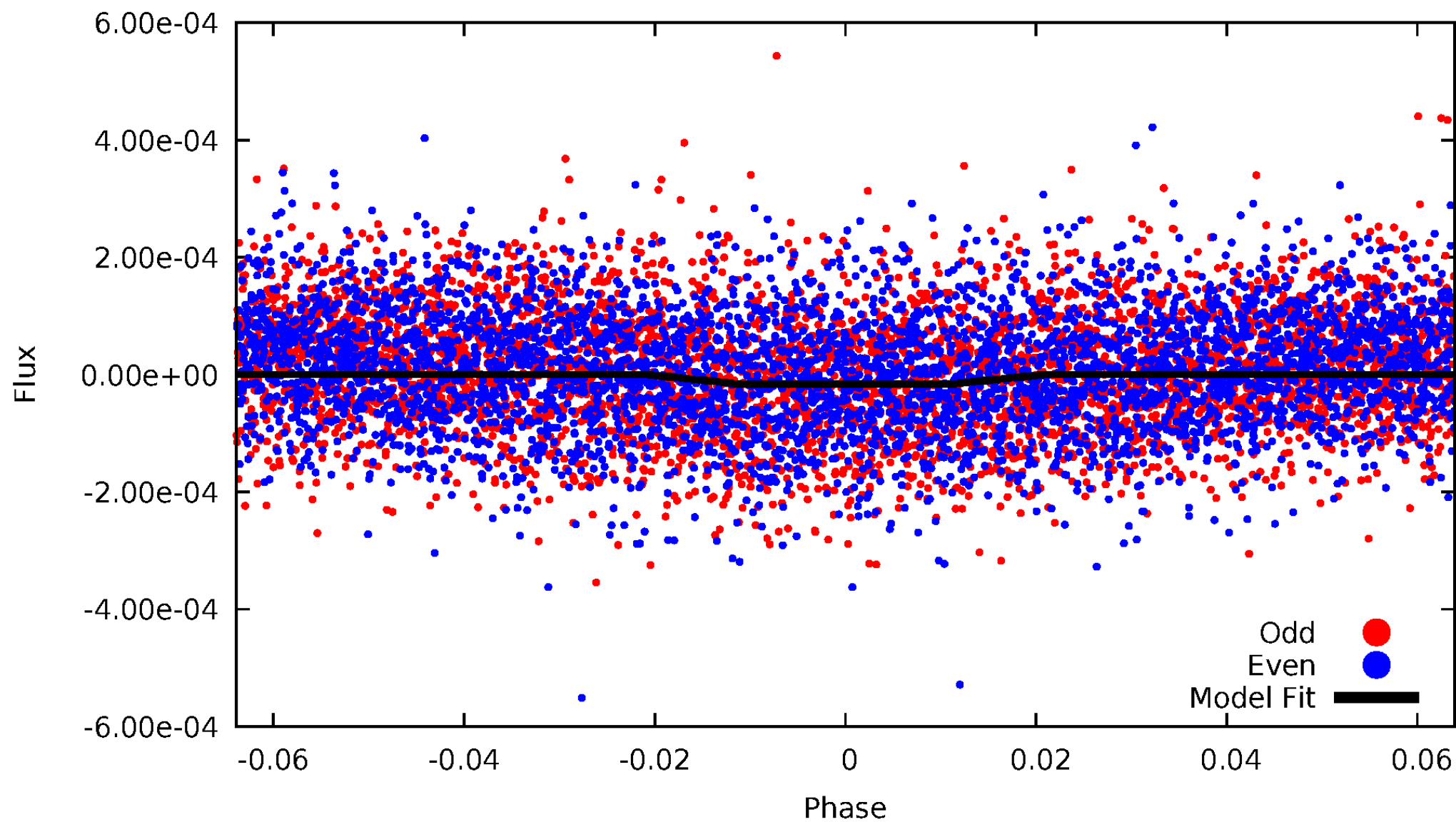
DV Odd/Even

TCE 003120650-01

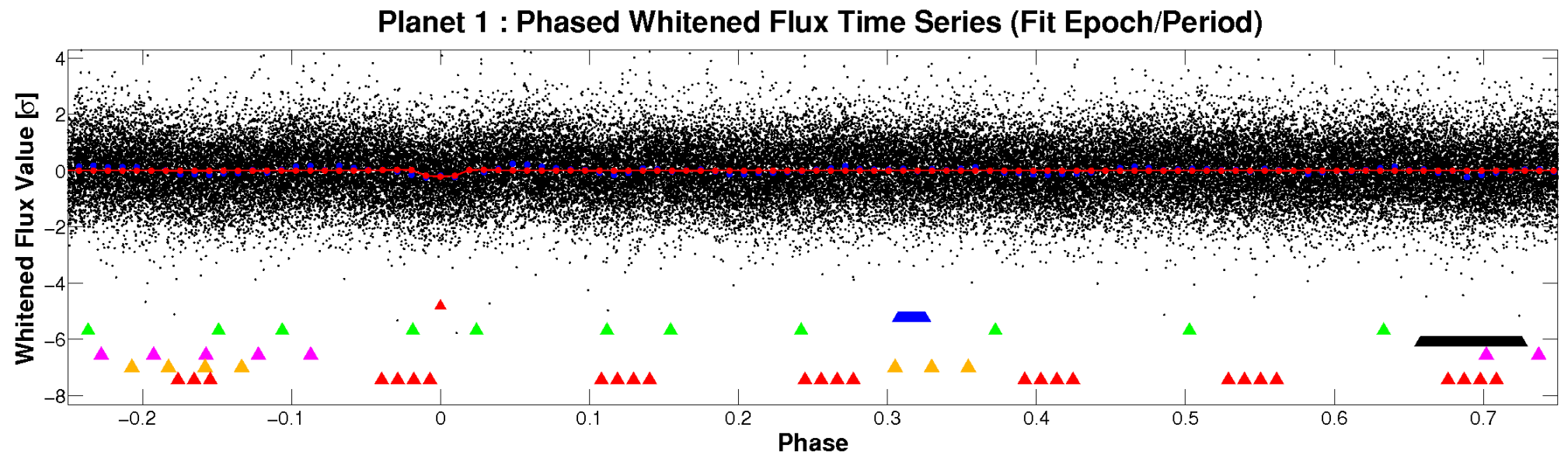
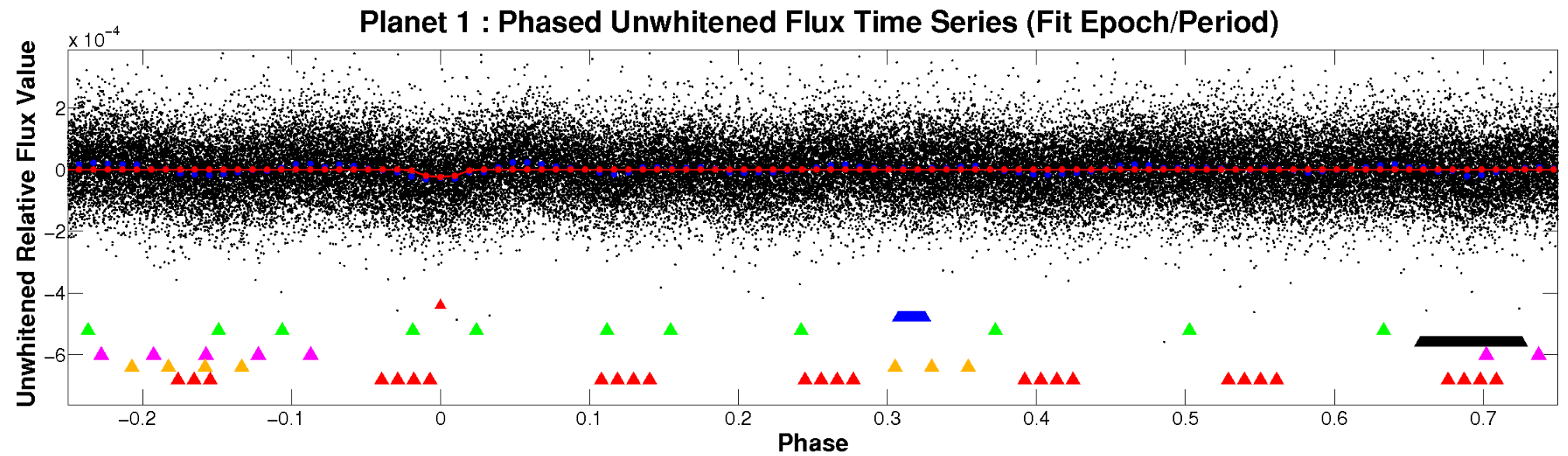


ALT Odd/Even

TCE 003120650-01

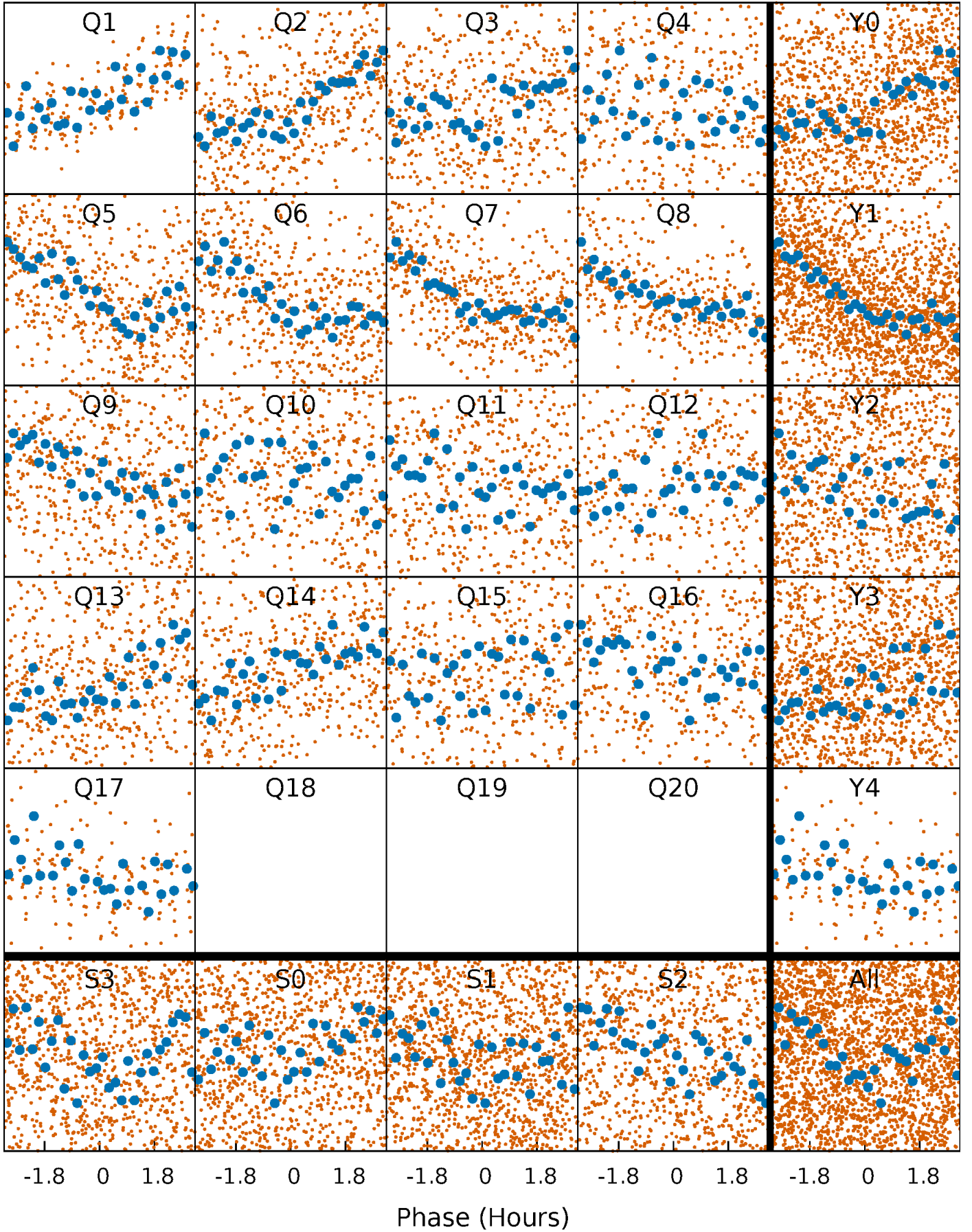


Non-Whitened Vs. Whitened Light Curve



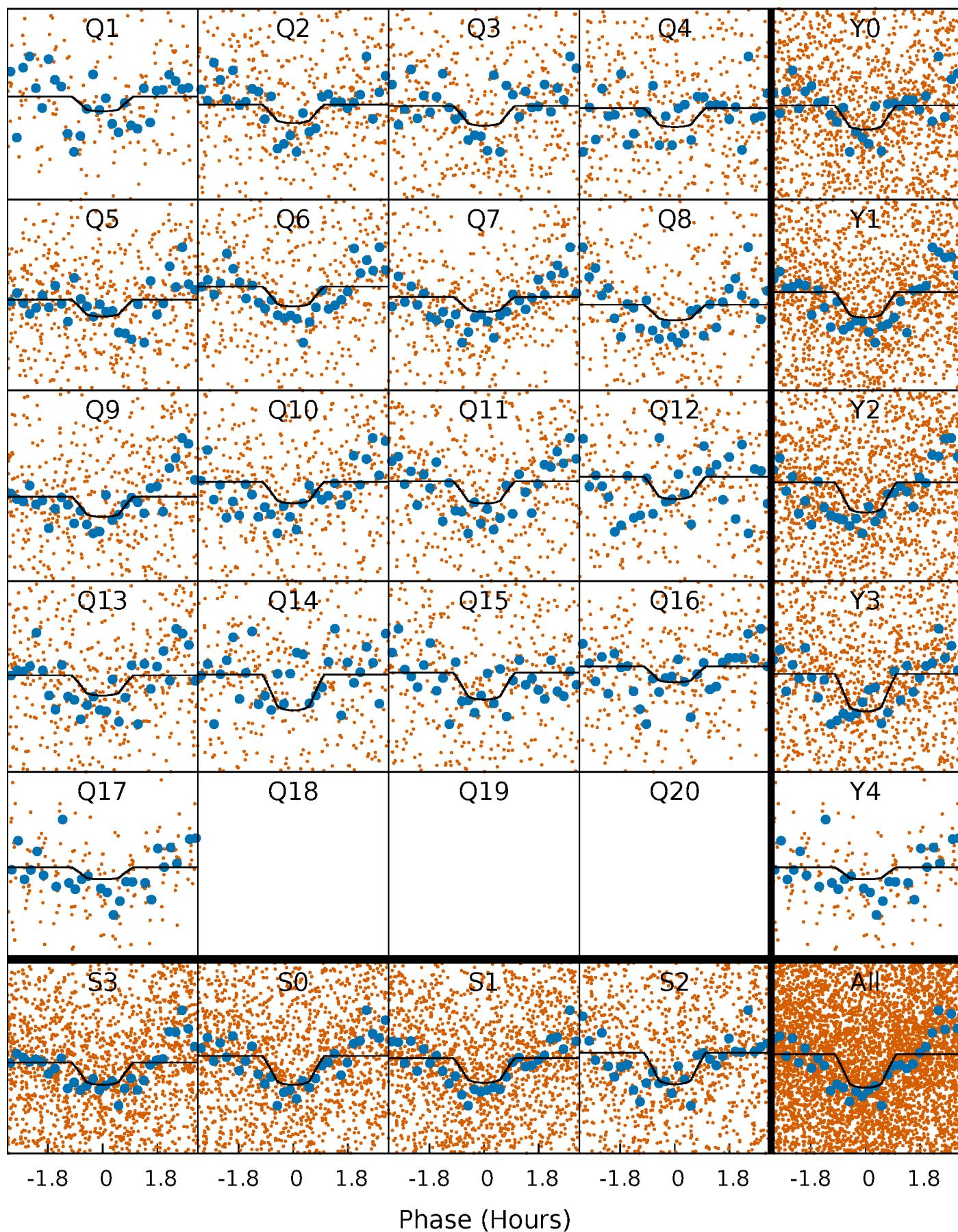
PDC Quarter-Phased Transit Curves

TCE 003120650-01 P= 2.105462 Days $T_0=132.740235$ (BKJD)



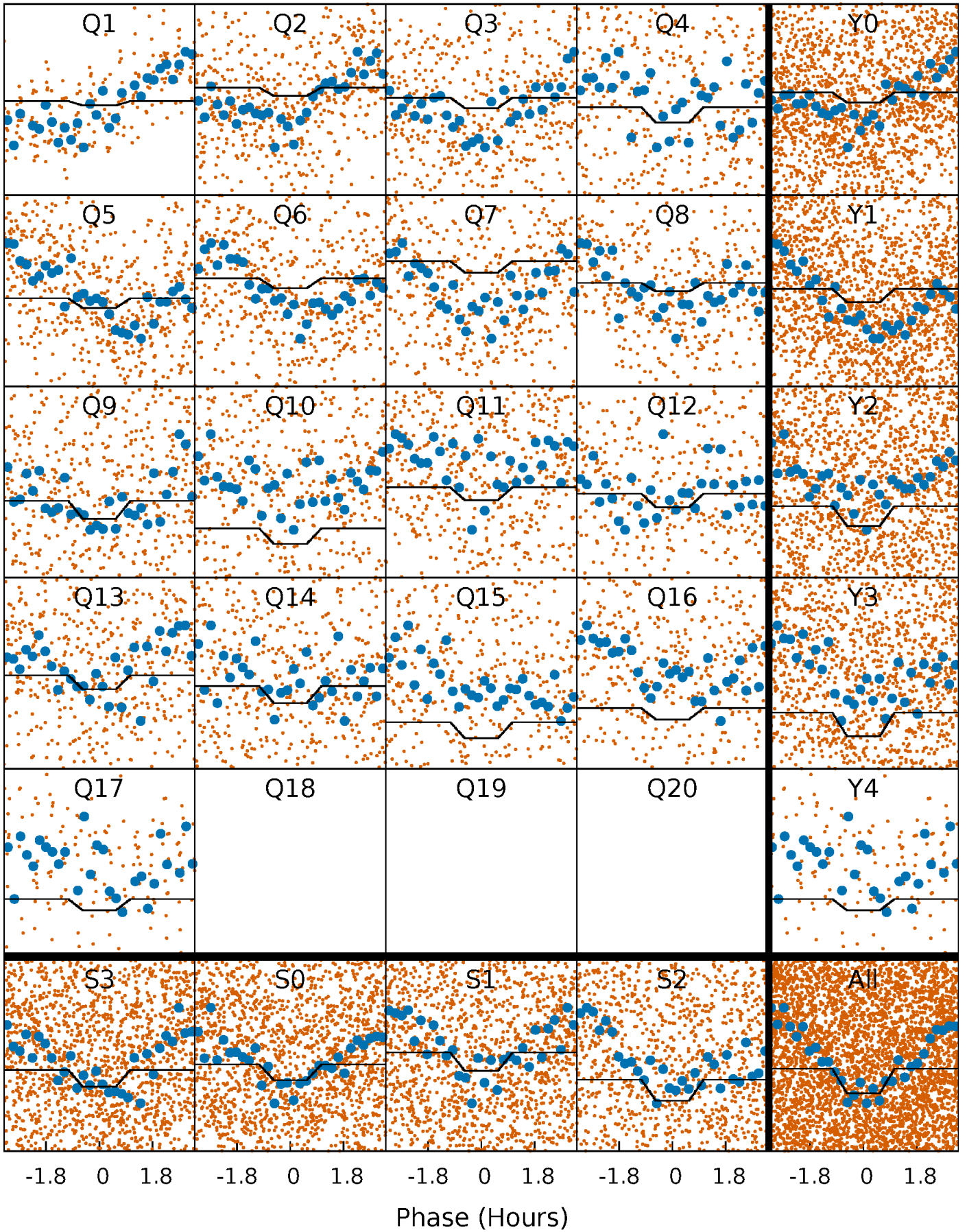
DV Quarter-Phased Transit Curves

TCE 003120650-01 P= 2.105462 Days $T_0=132.740235$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

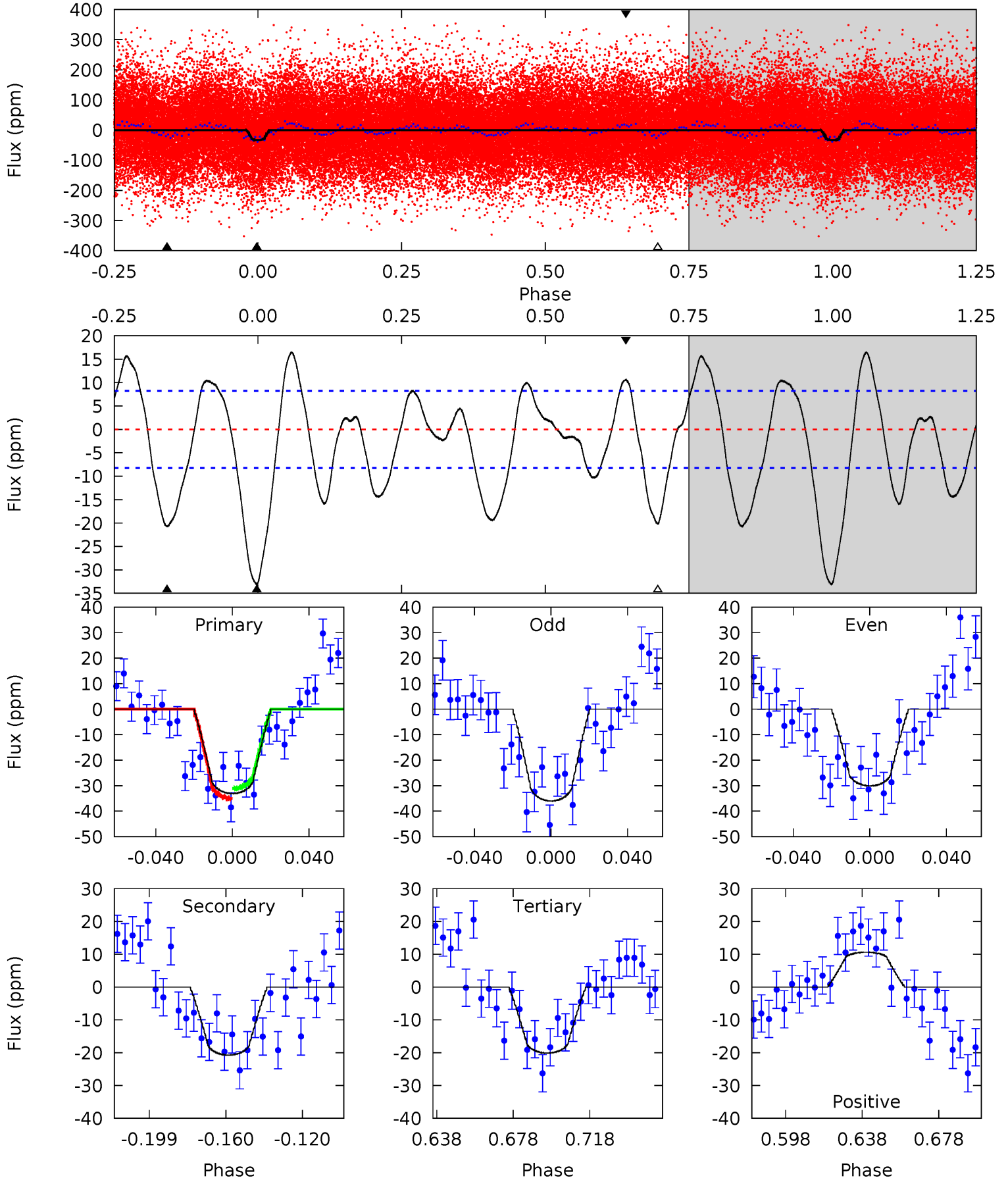
TCE 003120650-01 P= 2.105438 Days $T_0=132.743868$ (BKJD)



DV Model-Shift Uniqueness Test

003120650-01, P = 2.105462 Days, E = 130.634773 Days

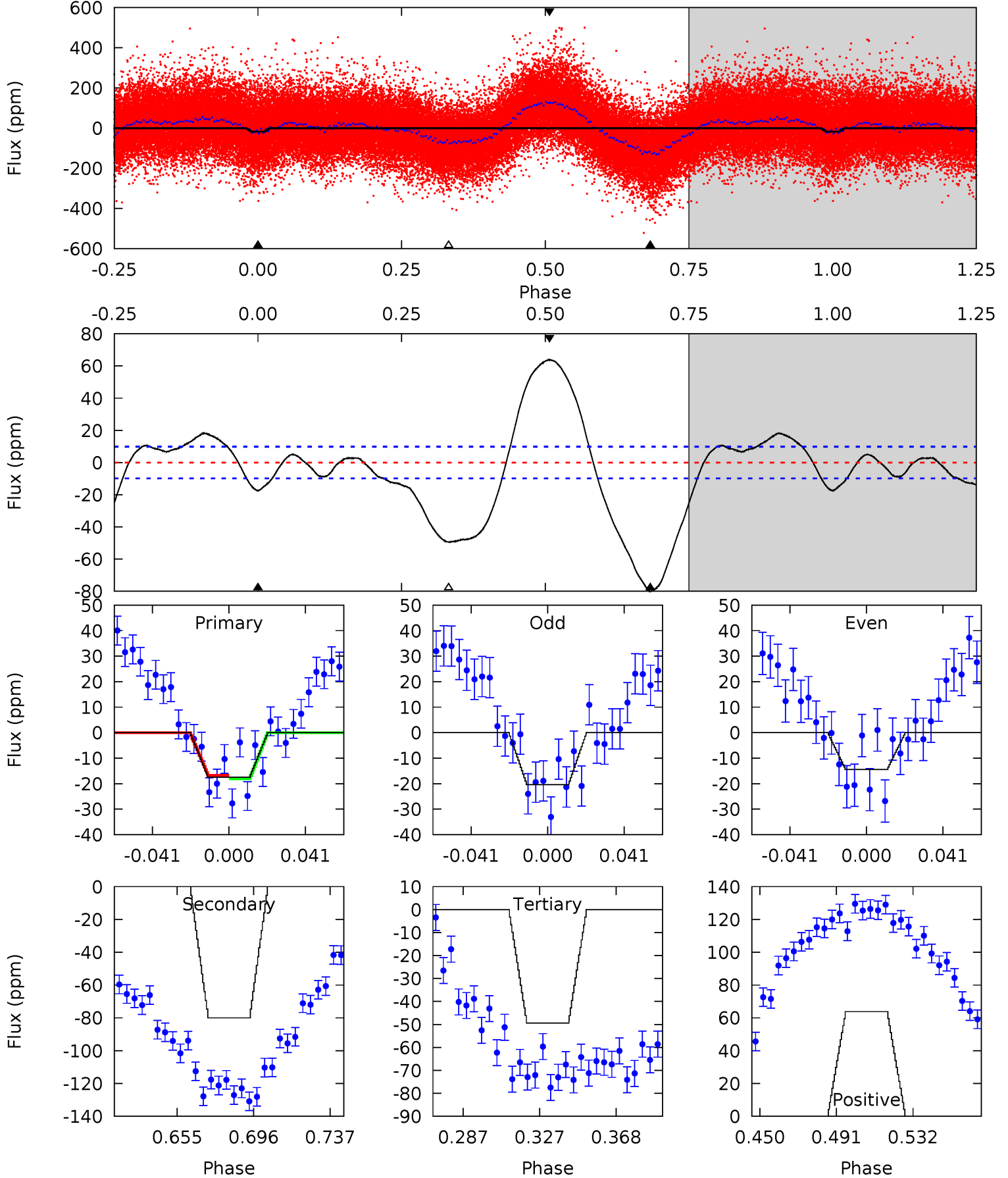
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	12.0	11.6	6.13	4.75	2.05	5.17	7.48	13.0	0.35	5.85	1.71	1.01	0.33	1.17



Alt Model-Shift Uniqueness Test

003120650-01, P = 2.105438 Days, E = 130.638430 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.38	38.5	23.8	30.7	4.75	2.04	14.2	-15.4	-22.3	14.7	7.79	1.42	1.03	0.44	0.33



Stellar Parameters For KIC 003120650

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6864^{+72}_{-92}	$4.153^{+0.090}_{-0.110}$	$-0.060^{+0.150}_{-0.150}$	$1.643^{+0.287}_{-0.191}$	$1.408^{+0.095}_{-0.095}$	$0.447^{+0.188}_{-0.156}$
	+1%/-1%	+2%/-3%	+250%/-250%	+17%/-12%	+7%/-7%	+42%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003120650-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-21 ± 2	$0.85^{+0.21}_{-0.21}$	2855^{+131}_{-98}	6723^{+1080}_{-696}	21^{+15}_{-7}
Alt.	-80 ± 2	$0.73^{+0.20}_{-0.19}$	2866^{+117}_{-100}	11571^{+3414}_{-1847}	107^{+89}_{-41}

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

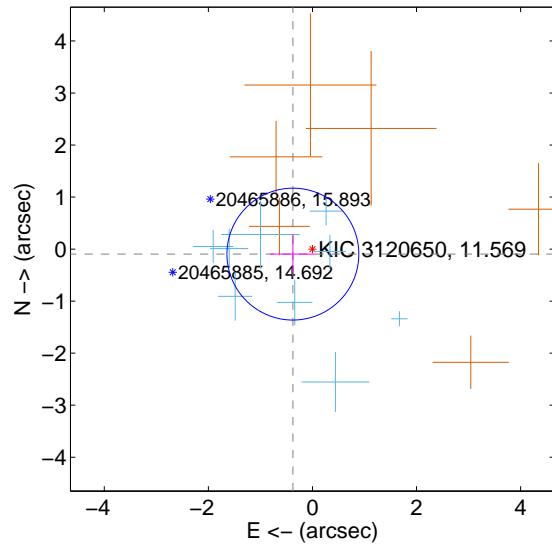
Supplemental centroid analysis for 003120650-01. **Kepler magnitude: 11.57.** Transit SNR 8.43

There are 9 quarters with good PRF difference image offsets

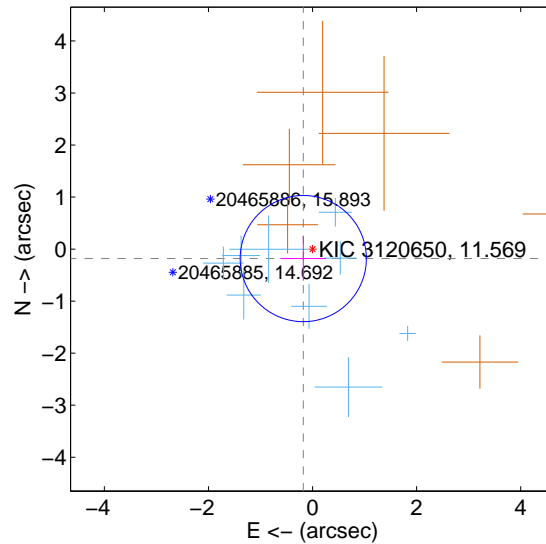
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.388 ± 0.422	0.92	0.376 ± 0.436	-0.096 ± 0.375
PRF-fit source offset from KIC position	0.255 ± 0.404	0.63	0.178 ± 0.439	-0.182 ± 0.425
photometric centroid source offset	1.59 ± 0.76	2.08	1.52 ± 0.75	-0.47 ± 0.91

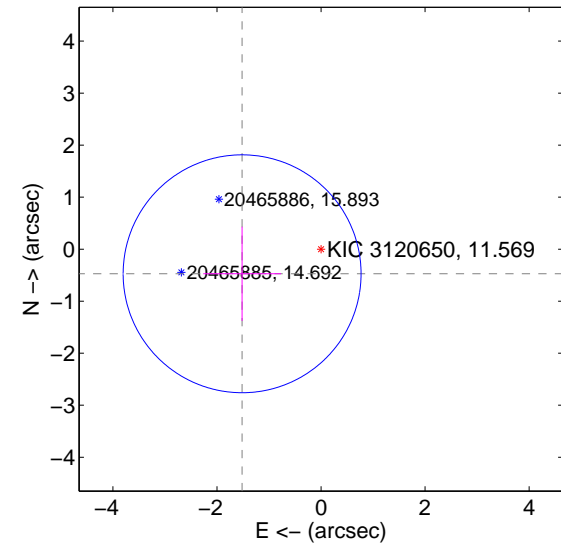
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

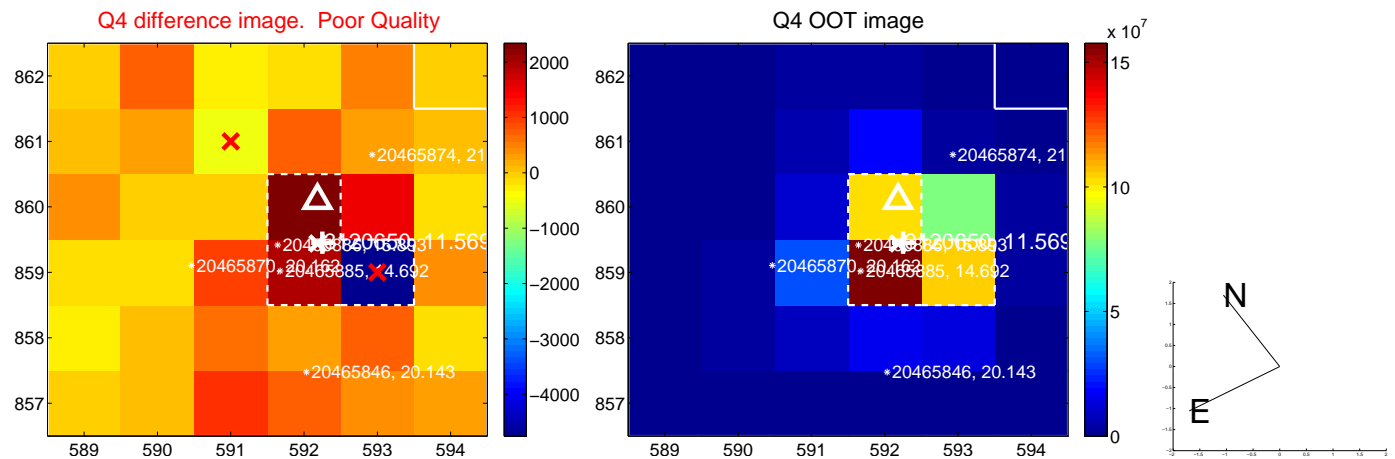
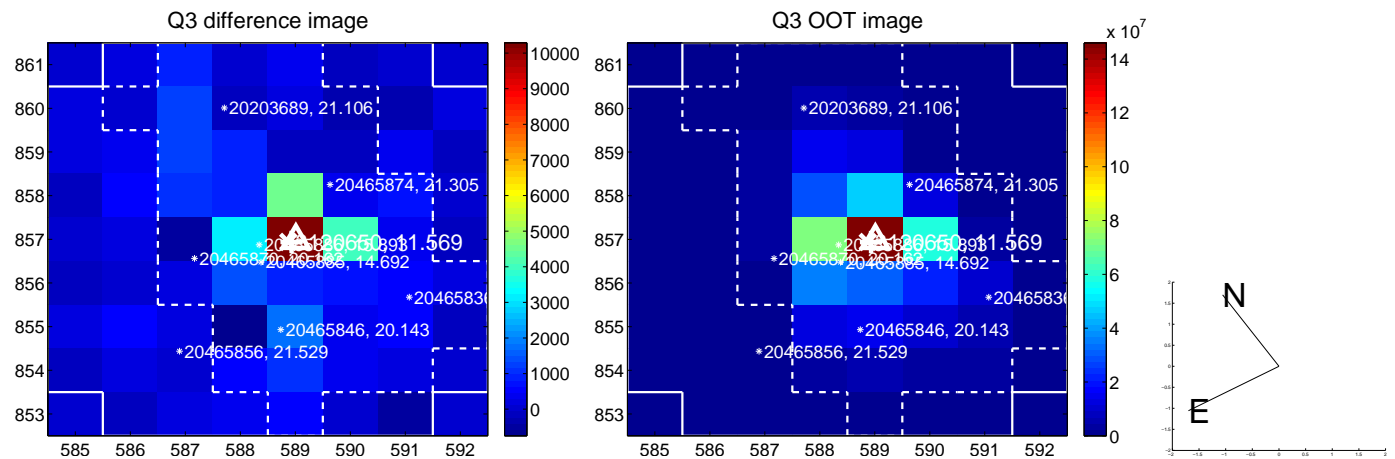
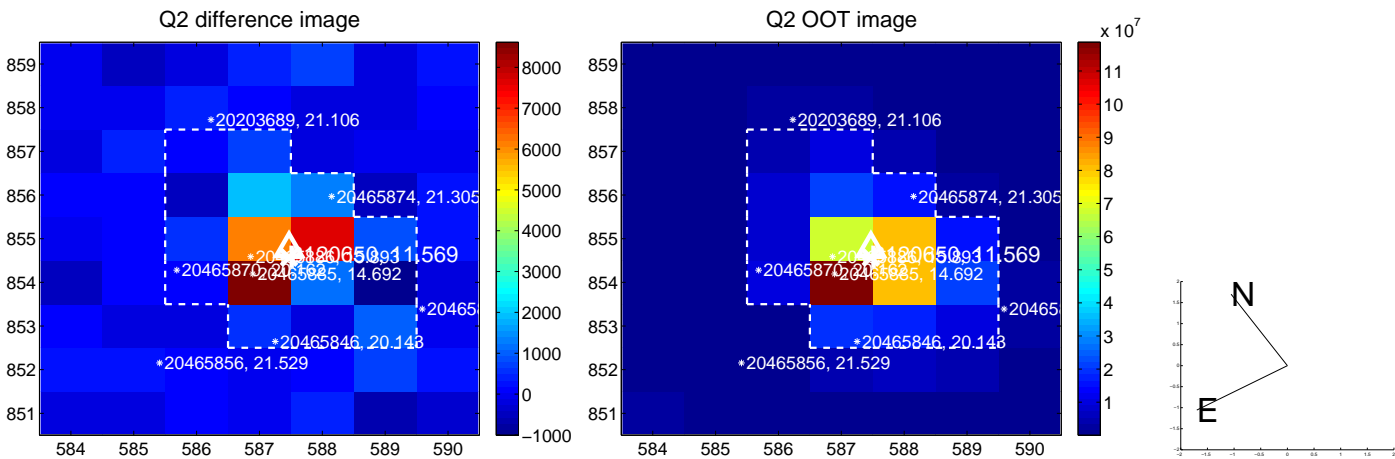
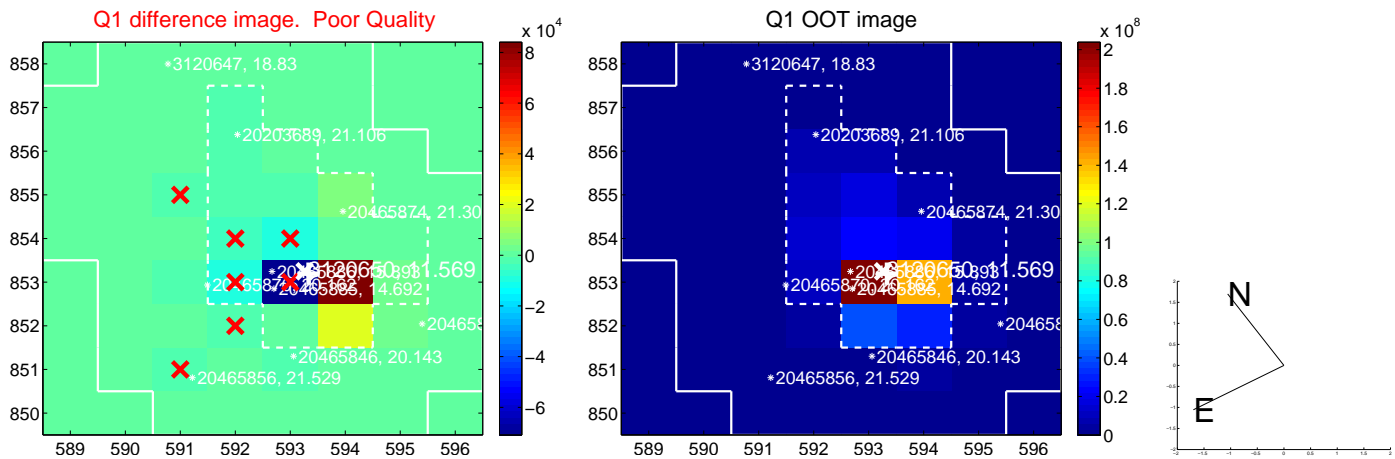


offset from photometric centroids

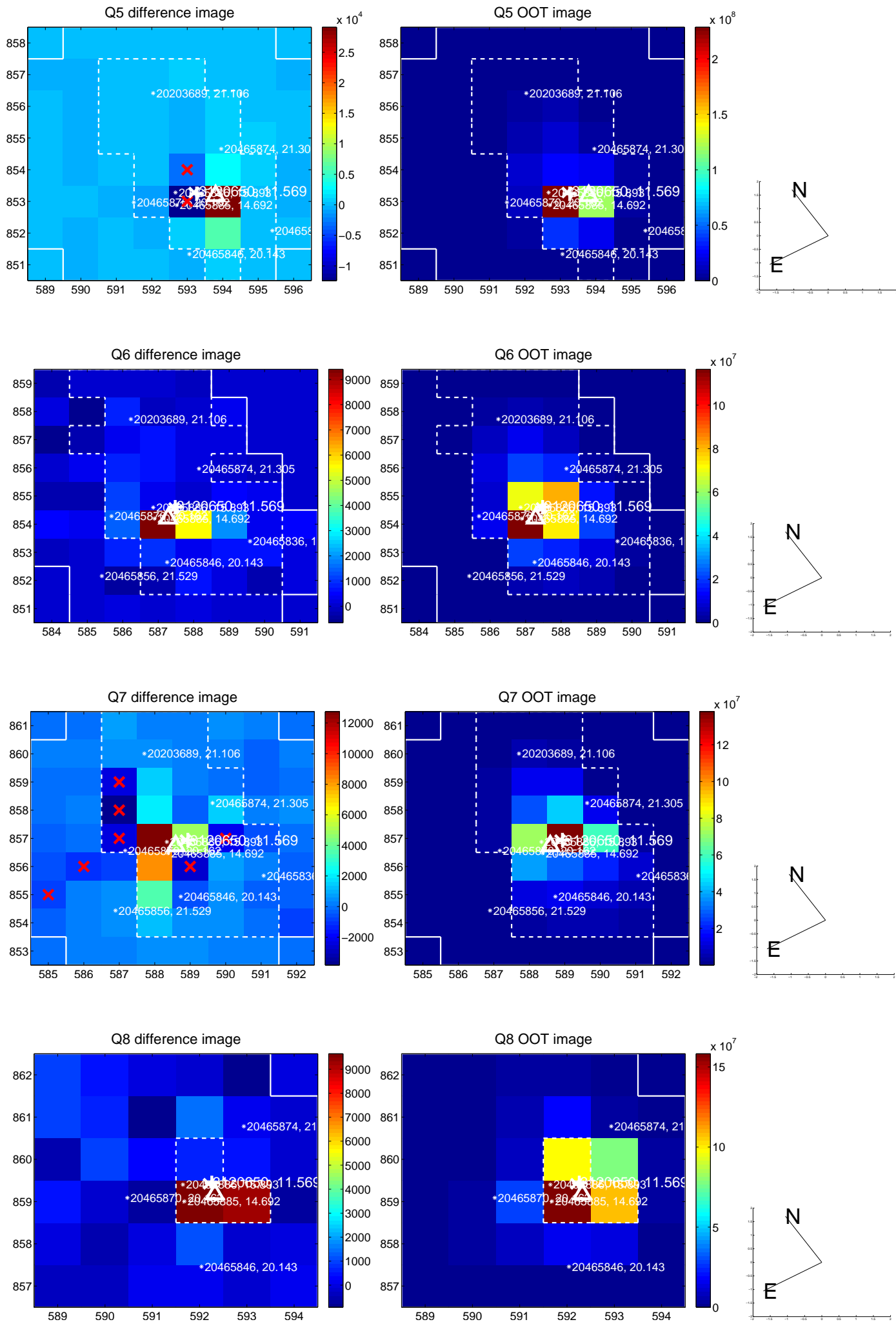


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

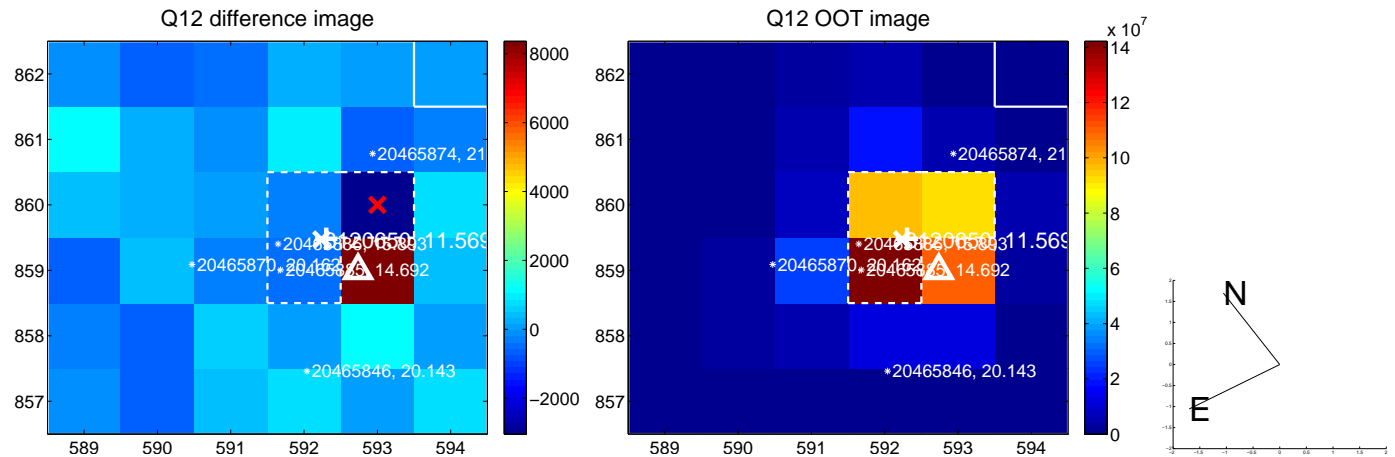
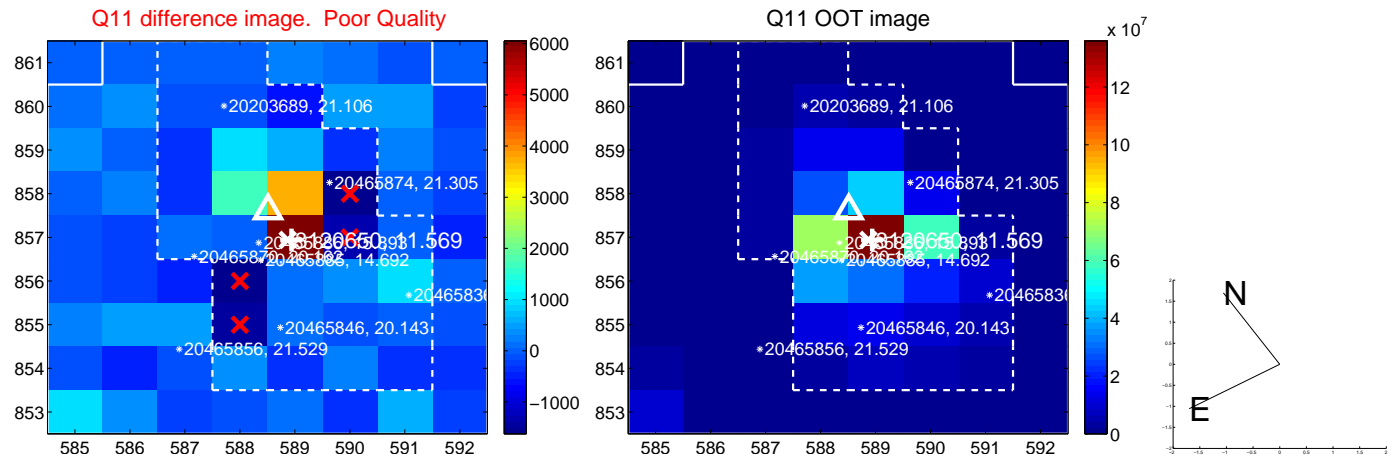
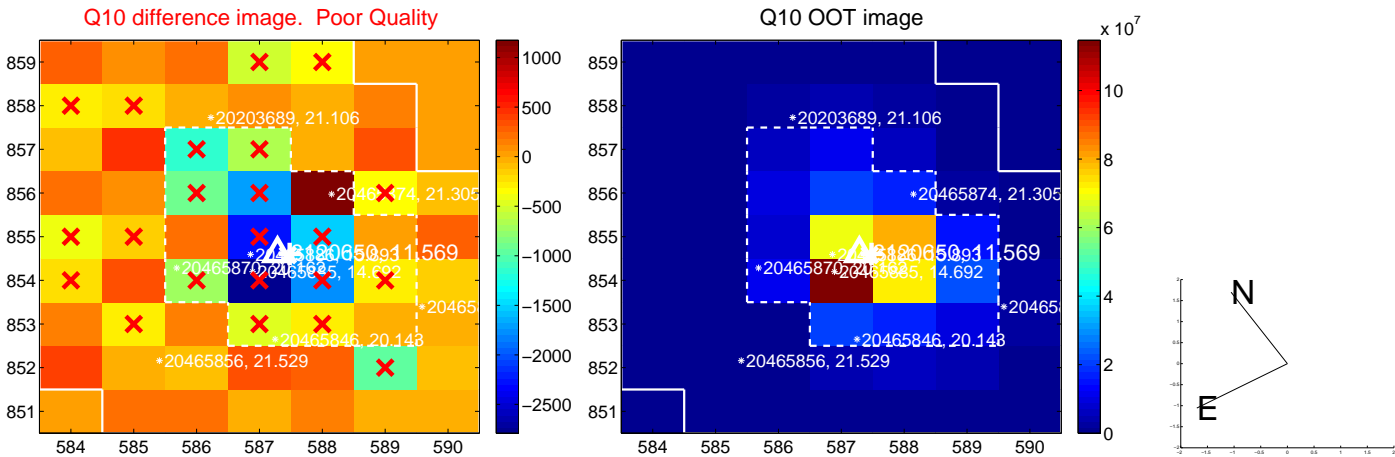
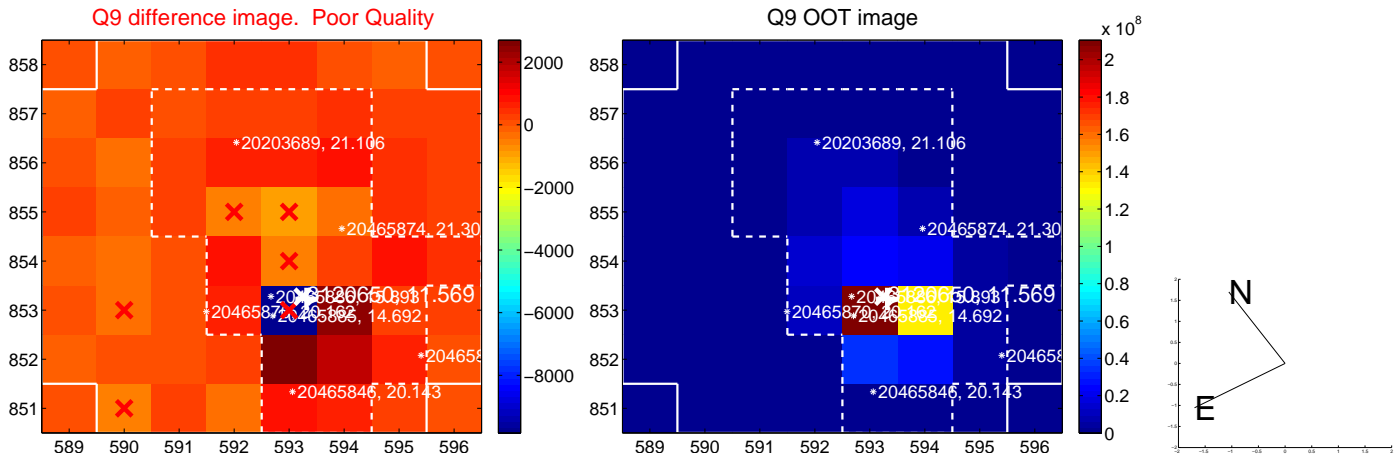
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



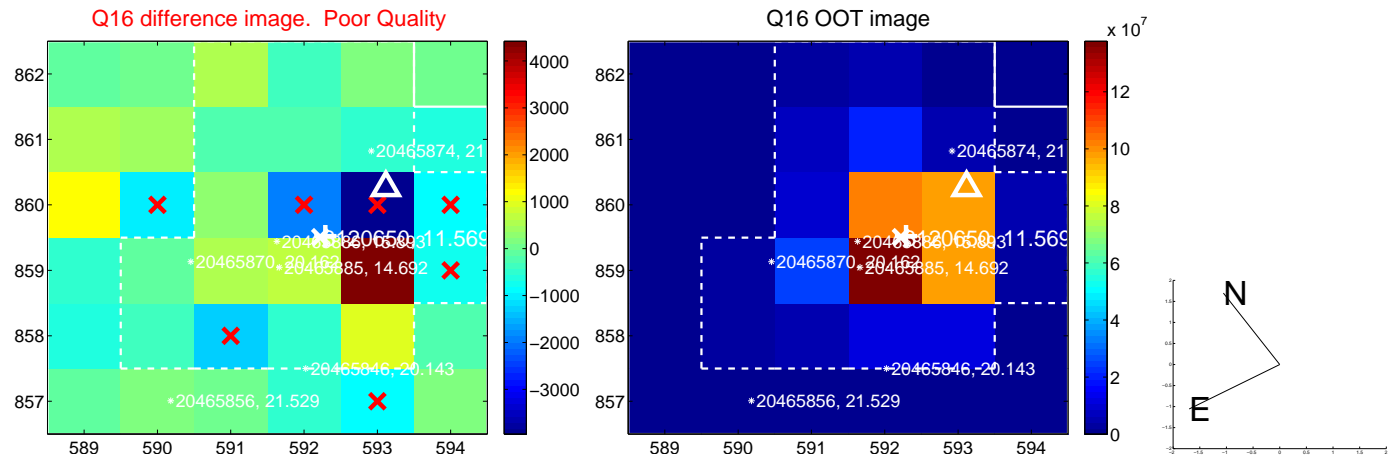
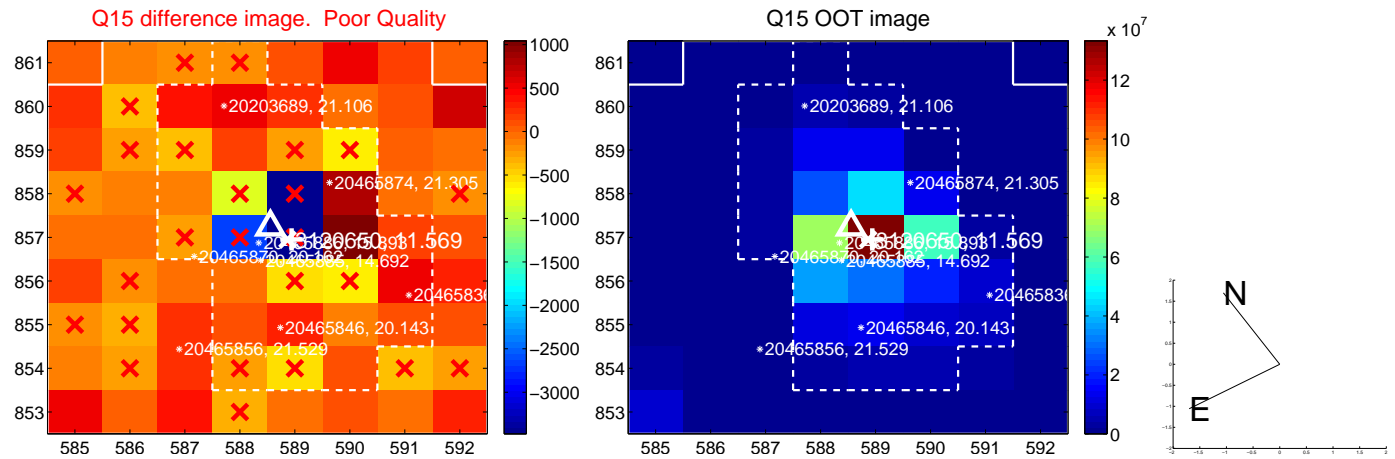
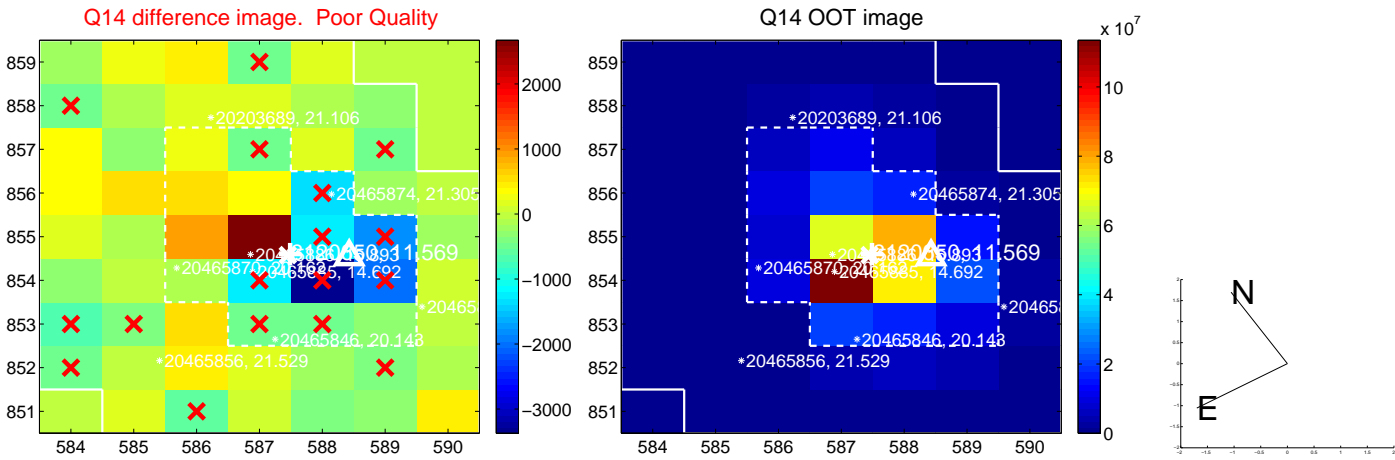
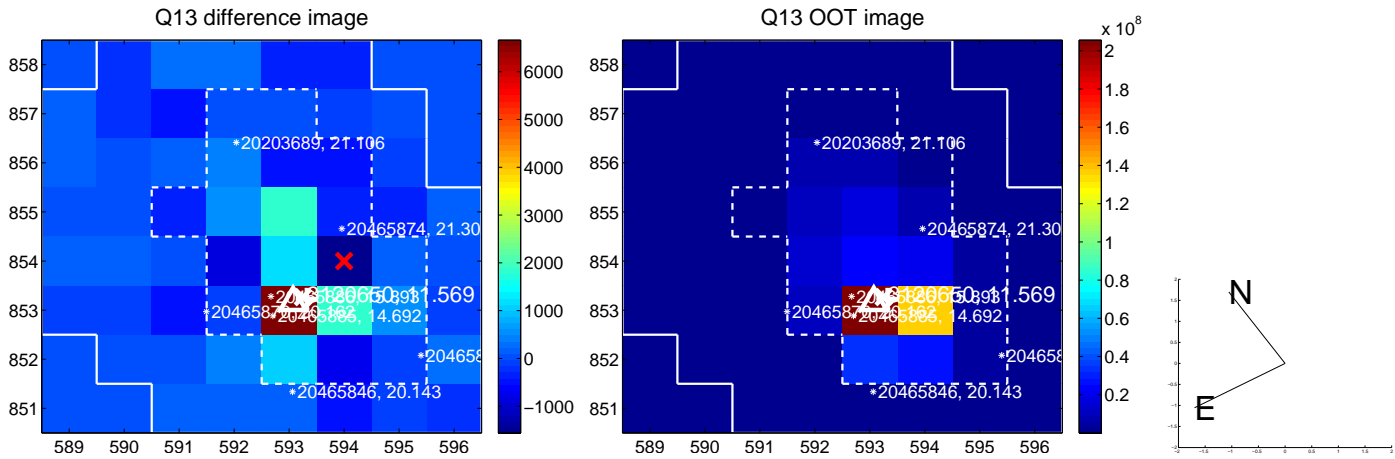
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



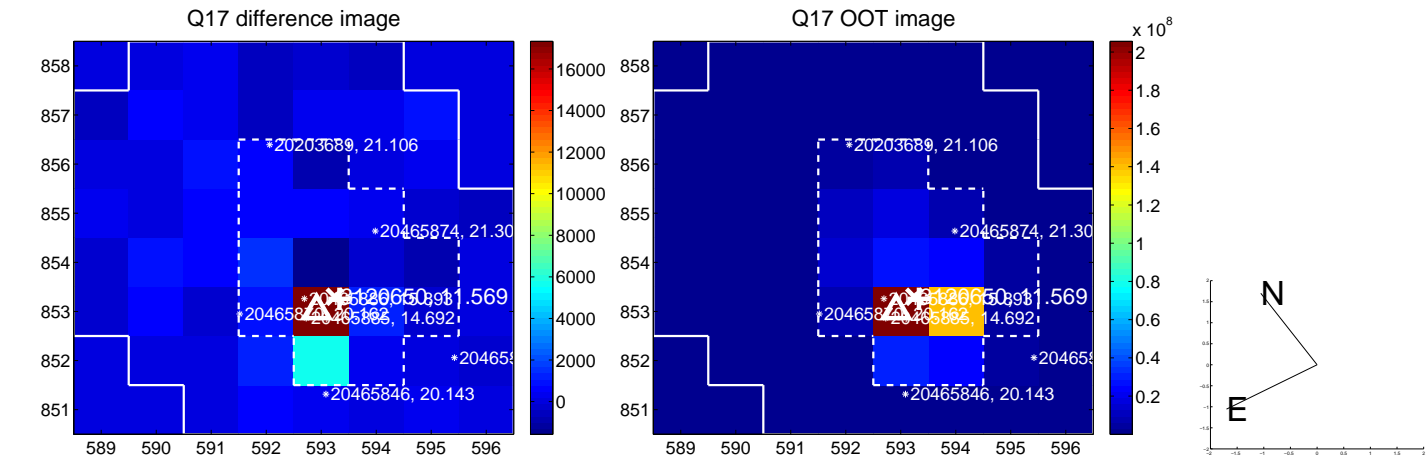
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



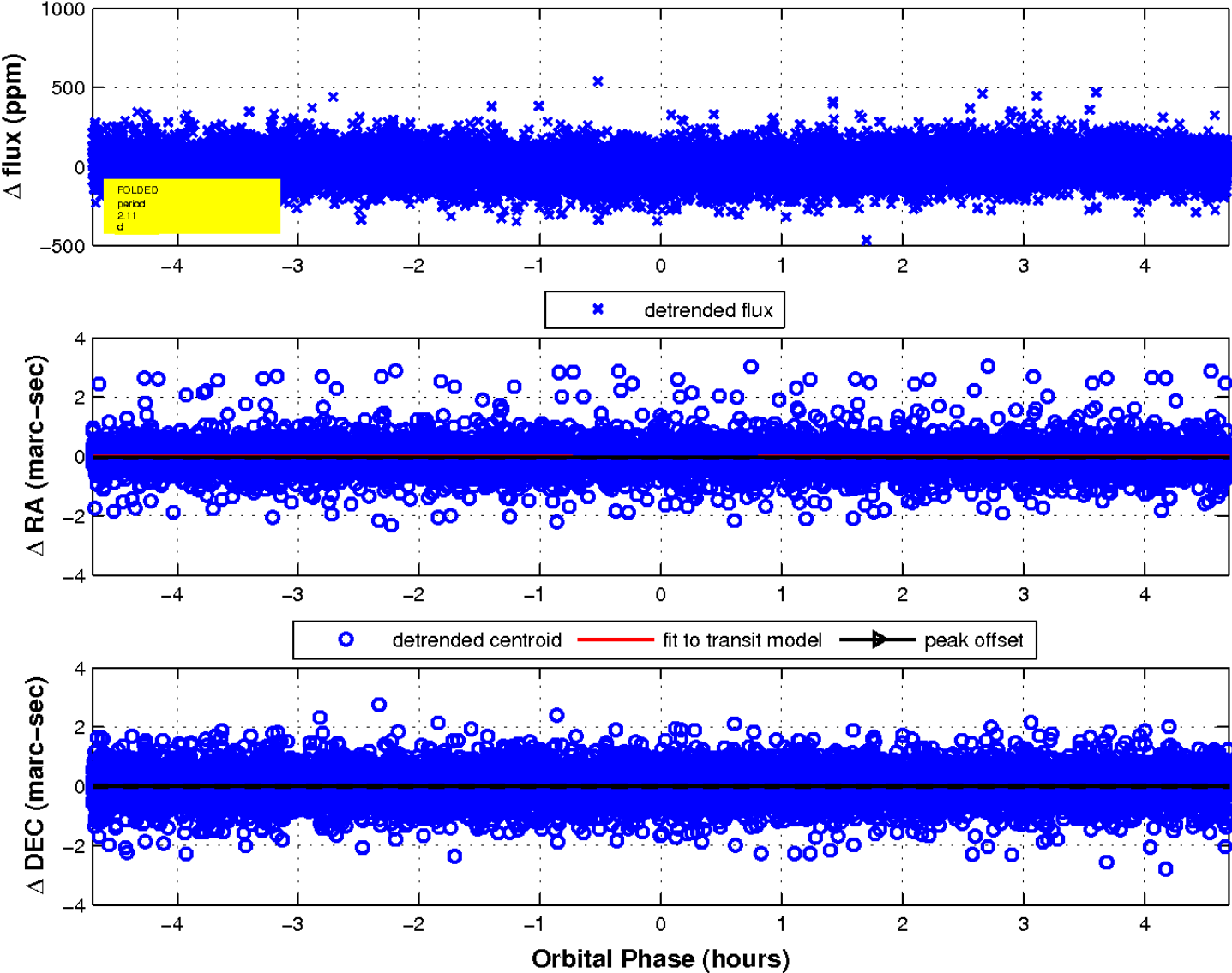
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



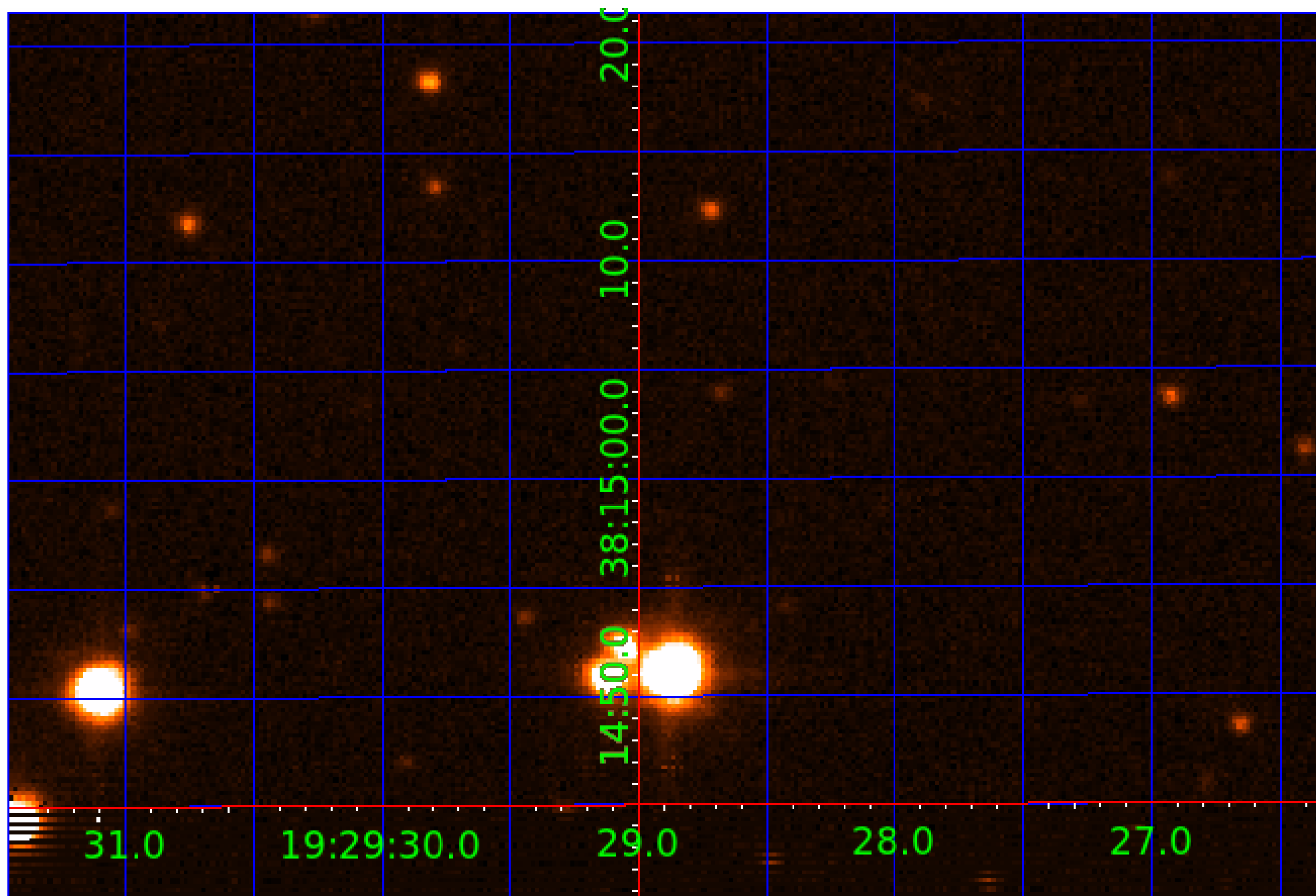
white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 7



UKIRT Image



KIC 003120650

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})
003120650-01	OBS	No	2.105462	132.740235	24.6	1.567	9.4	8.4	1.64	6864	0.85	4147.93
003120650-02	OBS	No	2.105407	133.425098	2.3	13.331	8.2	1.5	1.64	6864	0.27	4148.08
003120650-03	OBS	No	128.707625	237.699832	131.5	8.357	15.8	6.8	1.64	6864	2.16	17.23
003120650-04	OBS	No	2.105255	132.162935	21.1	3.516	14.9	6.5	1.64	6864	0.81	4148.48
003120650-05	OBS	No	225.210461	145.189638	148.9	12.816	17.0	10.0	1.64	6864	2.31	8.17
003120650-06	OBS	No	205.256712	204.045049	200.1	3.266	11.5	11.4	1.64	6864	2.63	9.24
003120650-07	OBS	No	54.143709	157.013841	183.0	5.874	10.6	10.6	1.64	6864	2.44	54.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003120650-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003120650-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003120650-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS
003120650-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
003120650-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
003120650-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
003120650-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

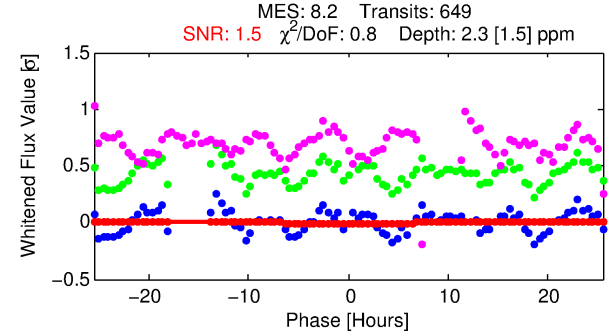
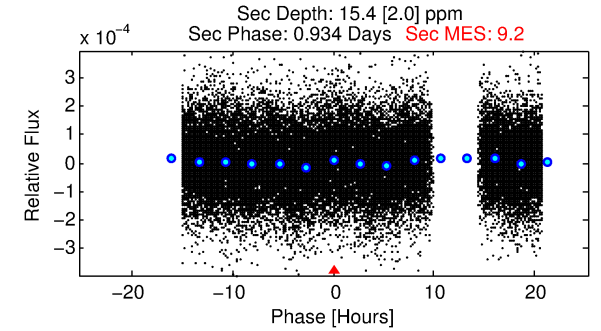
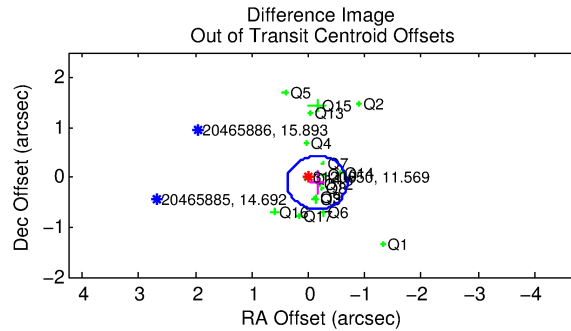
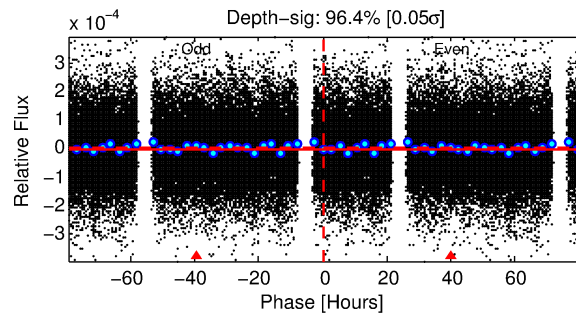
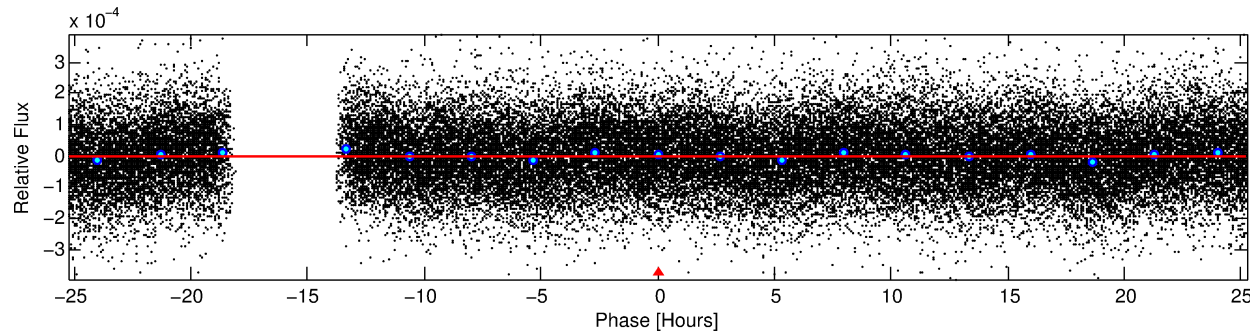
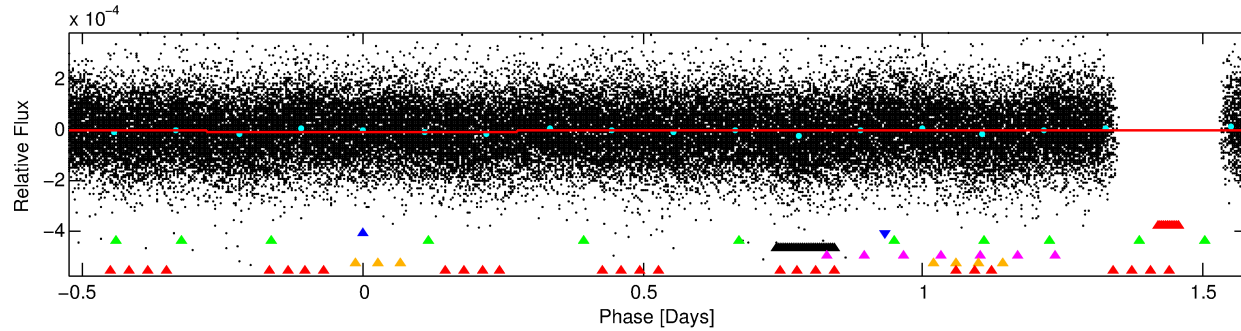
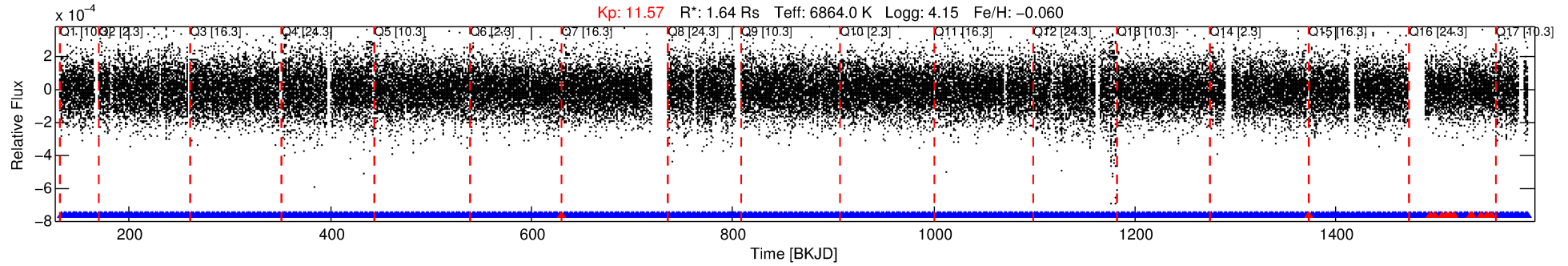
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003120650-02

No Significant Match Found

DV One-Page Summary

KIC: 3120650 Candidate: 2 of 7 Period: 2.105 d



DV Fit Results:

Period = 2.10541 [0.00017] d
Epoch = 133.4251 [0.0386] BKJD
Rp/R* = 0.0015 [0.0014]
a/R* = 1.20 [1.86]
b = 0.69 [3.82]
Seff = 4148.08 [879.43]
Teq = 2046 [108] K
Rp = 0.27 [0.25] Re
a = 0.0360 [0.0052] AU
Ag = 151.57 [280.44] [0.54 σ]
Teffp = 11102 [5106] K [1.7 σ]

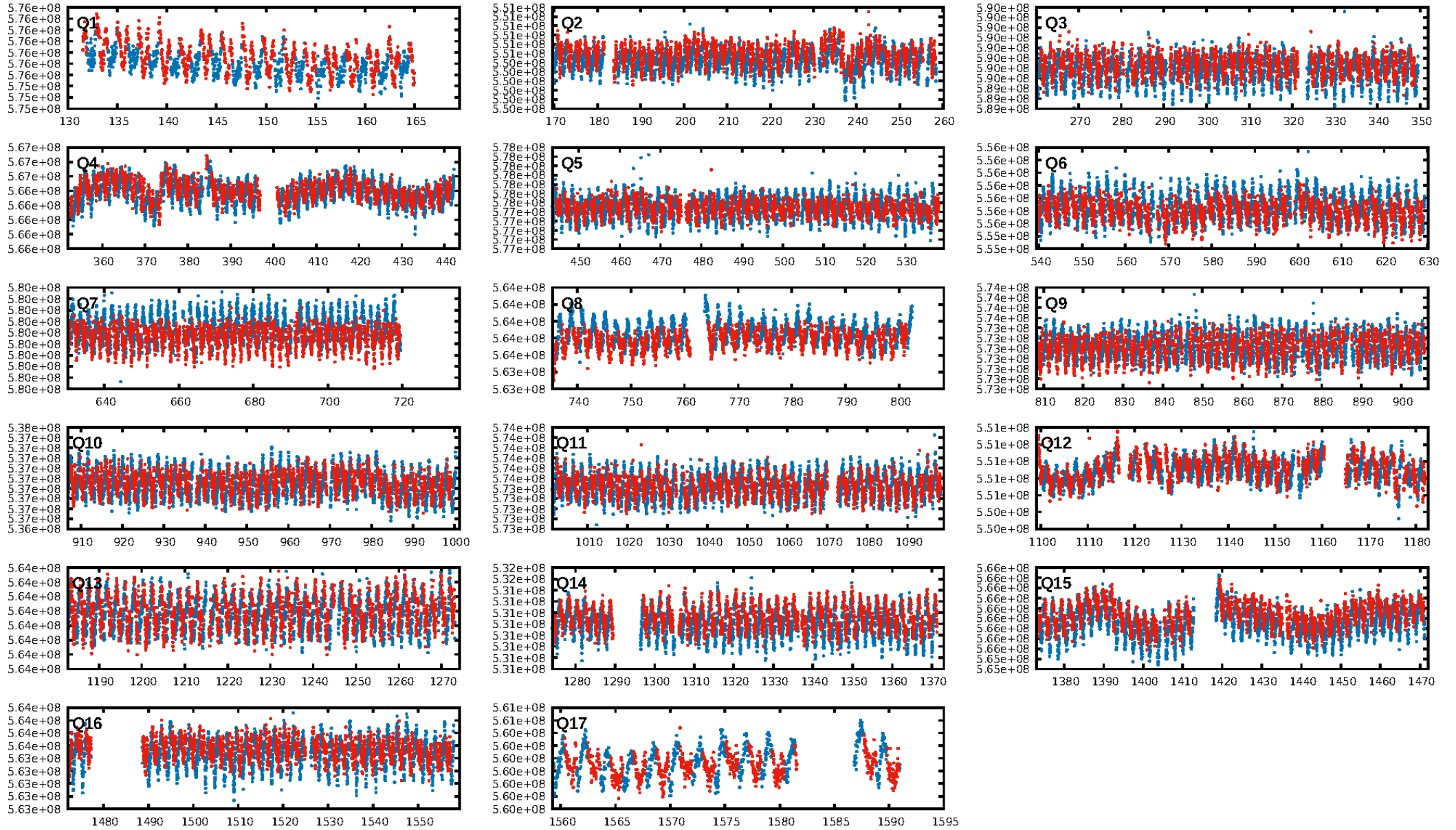
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgm: 0.98 [607/620]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.190 arcsec [1.07 σ]
KicOffset-rm: 0.420 arcsec [2.42 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.00 [0/17]

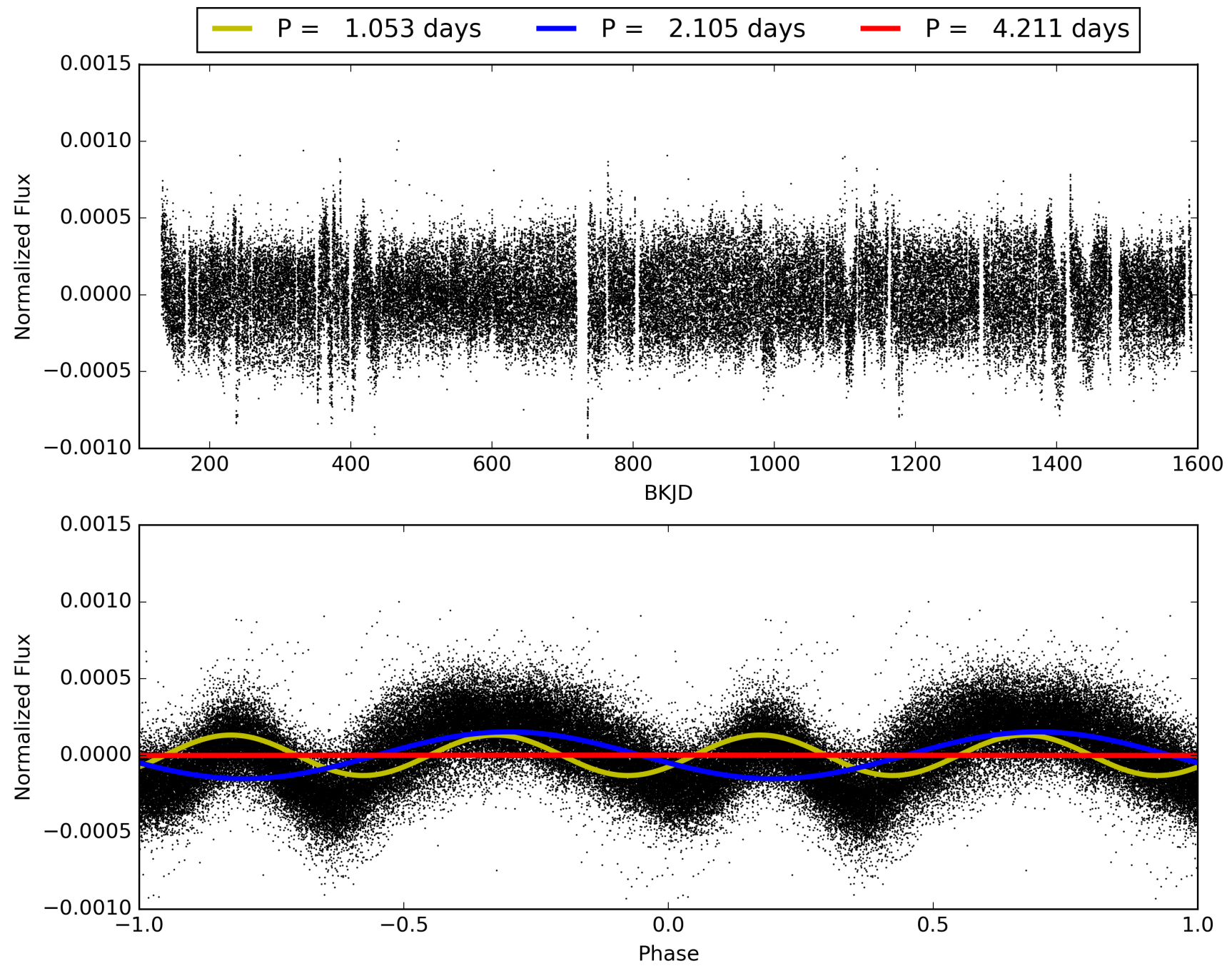
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:53:35 Z

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

TCE 003120650-02, PDC Light Curves

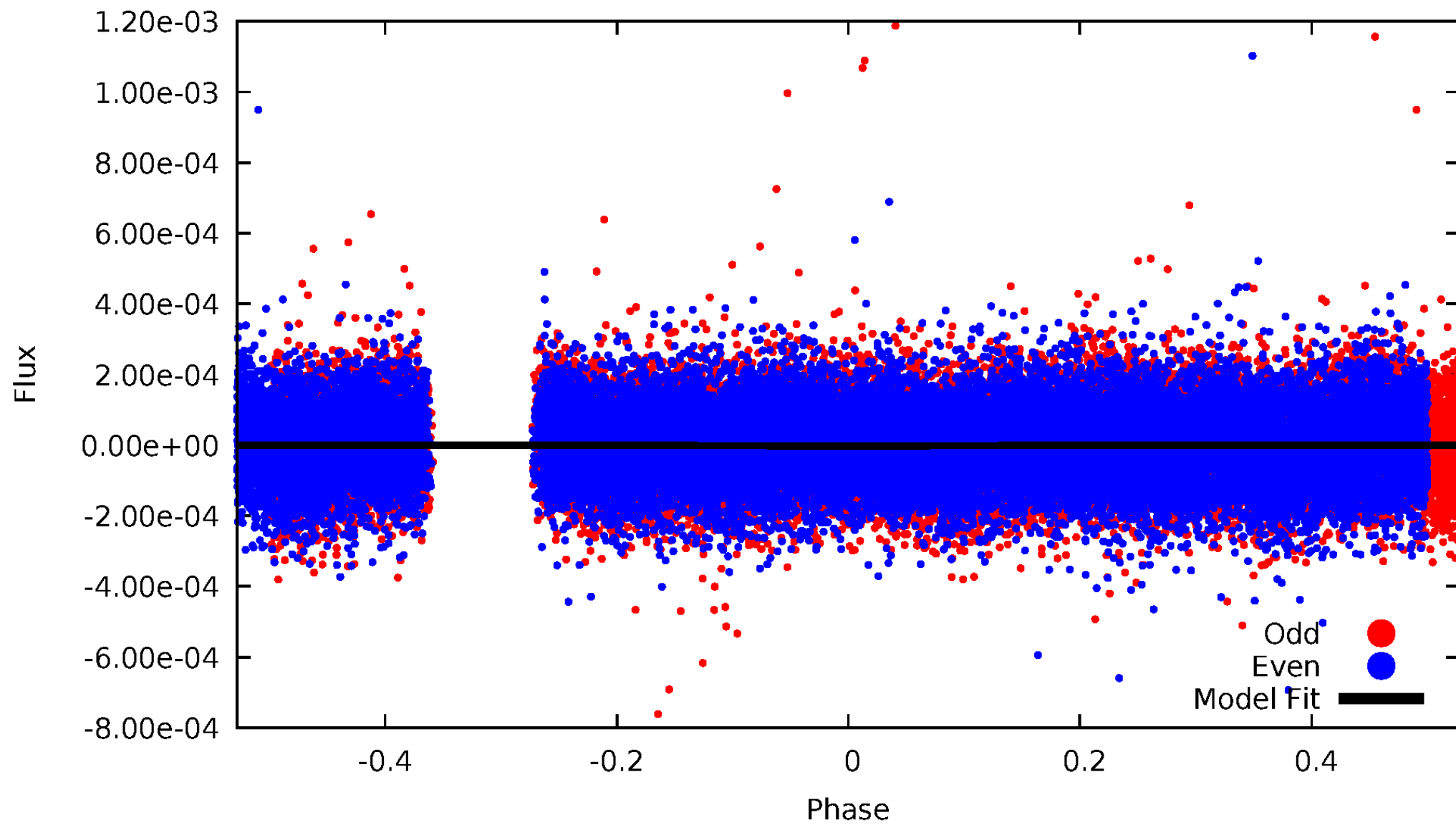


TCE 003120650-02



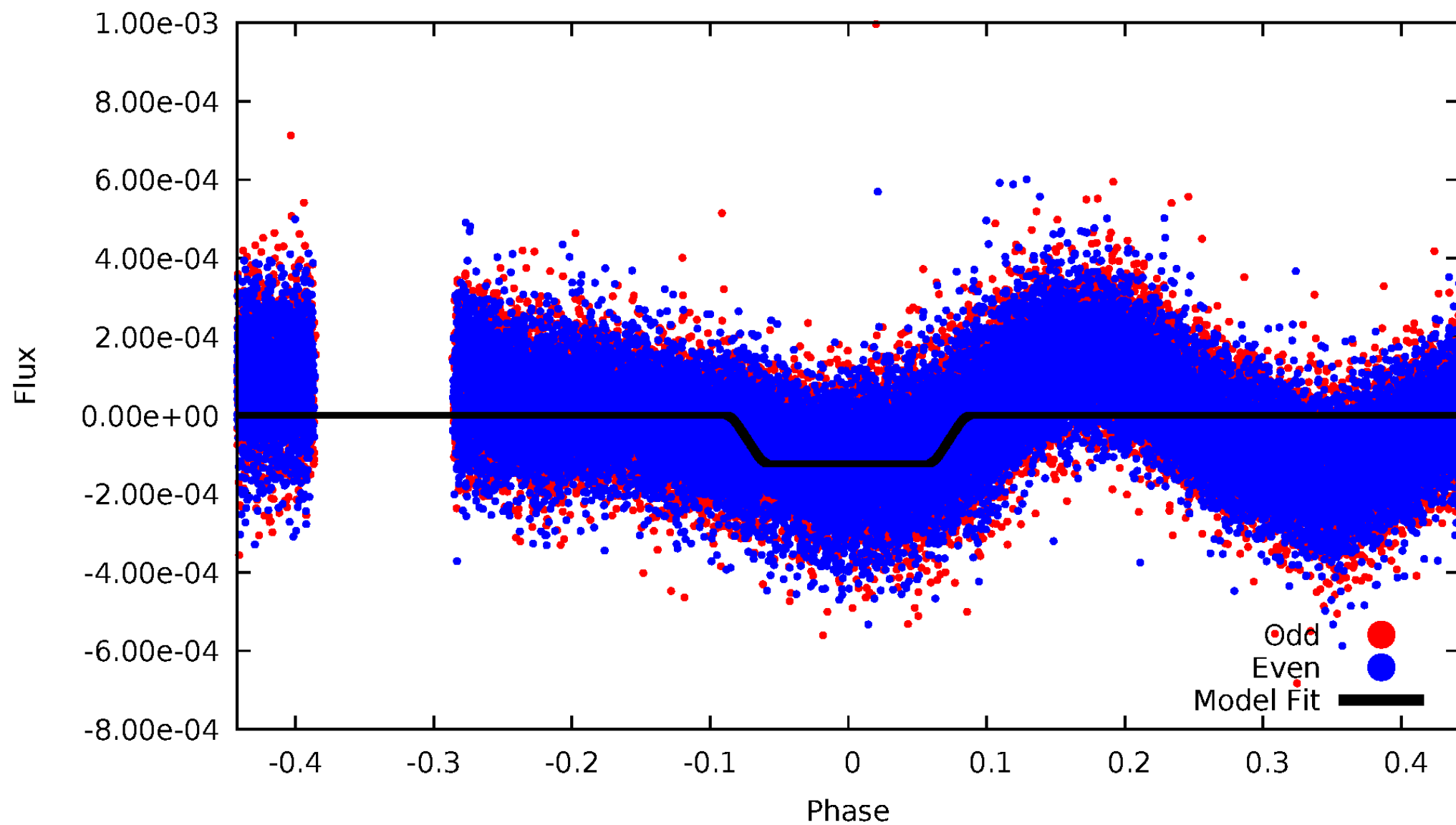
DV Odd/Even

TCE 003120650-02



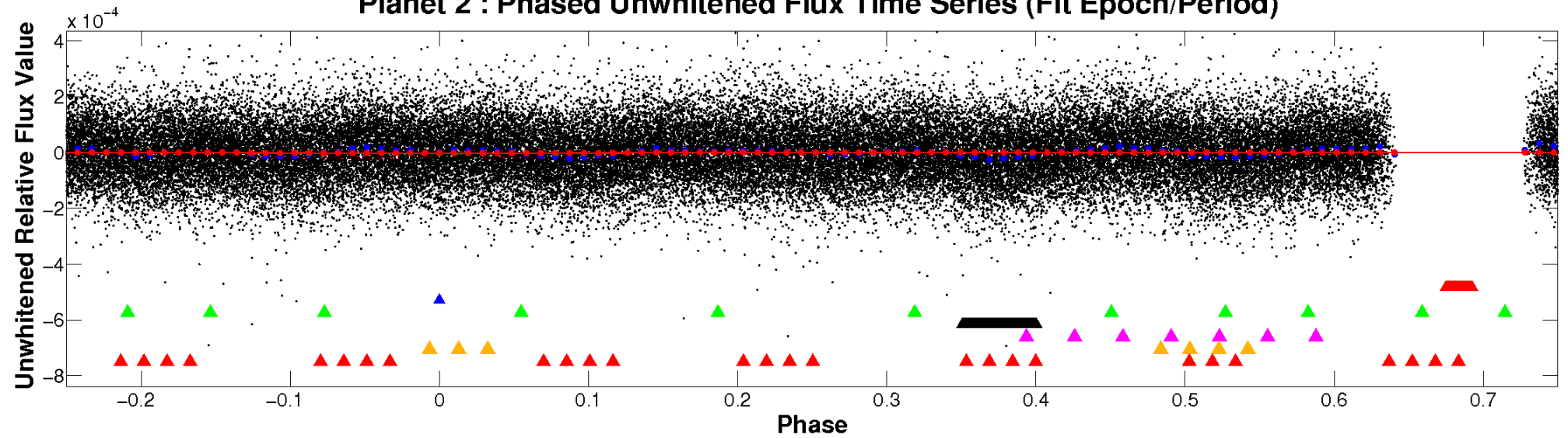
ALT Odd/Even

TCE 003120650-02

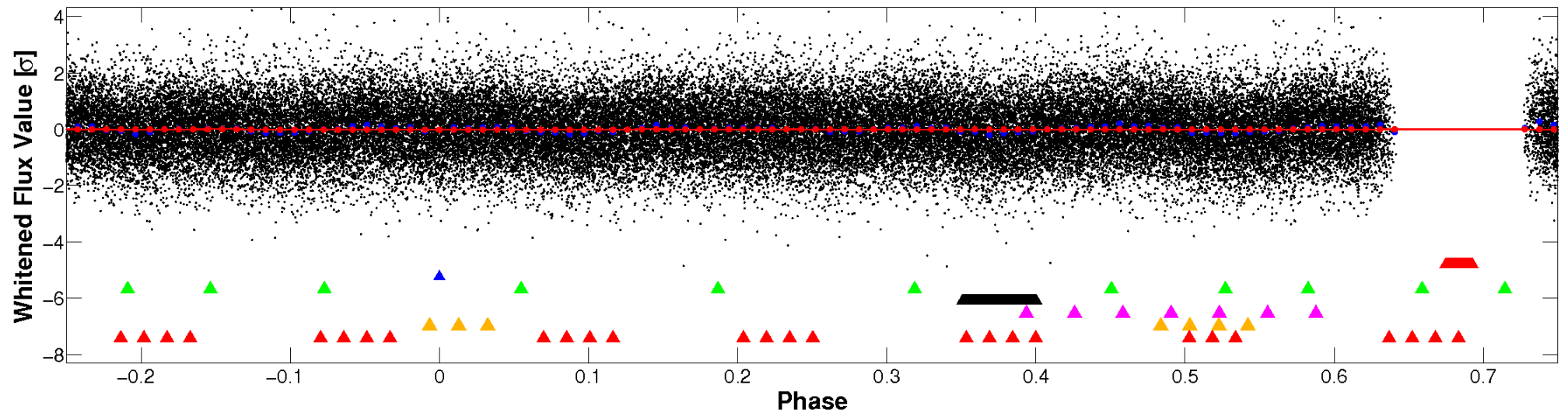


Non-Whitened Vs. Whitened Light Curve

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

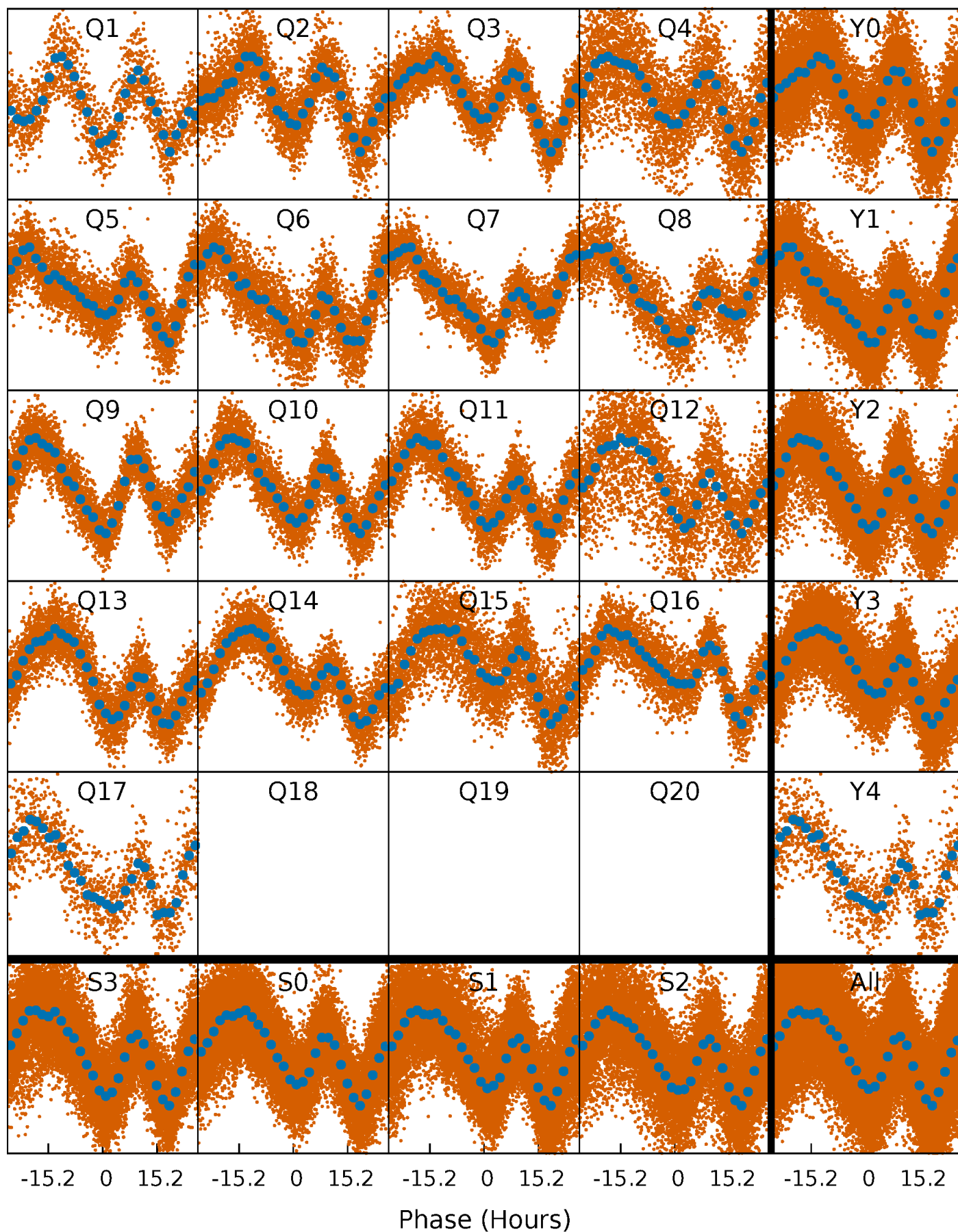


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



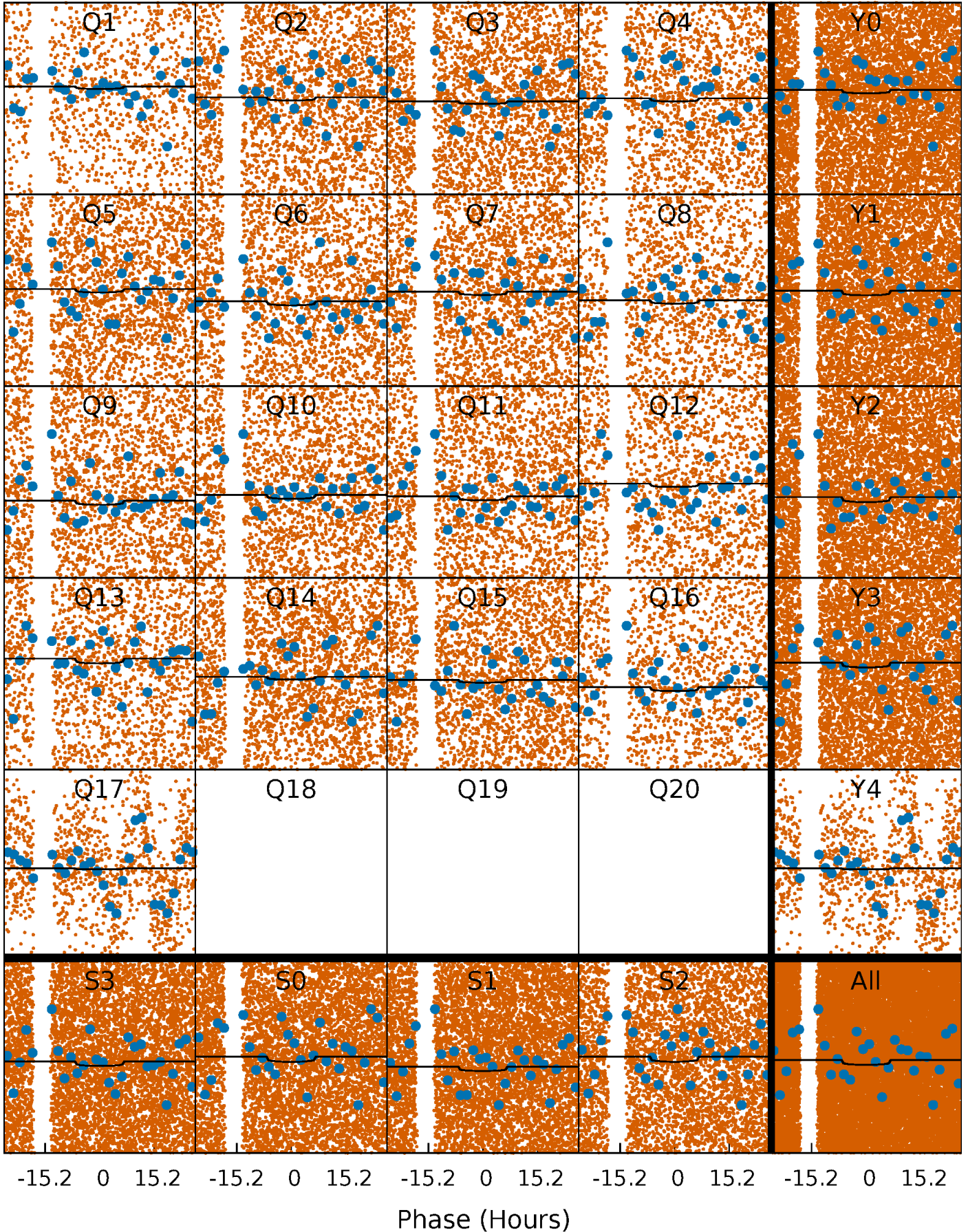
PDC Quarter-Phased Transit Curves

TCE 003120650-02 P= 2.105407 Days $T_0=133.425098$ (BKJD)



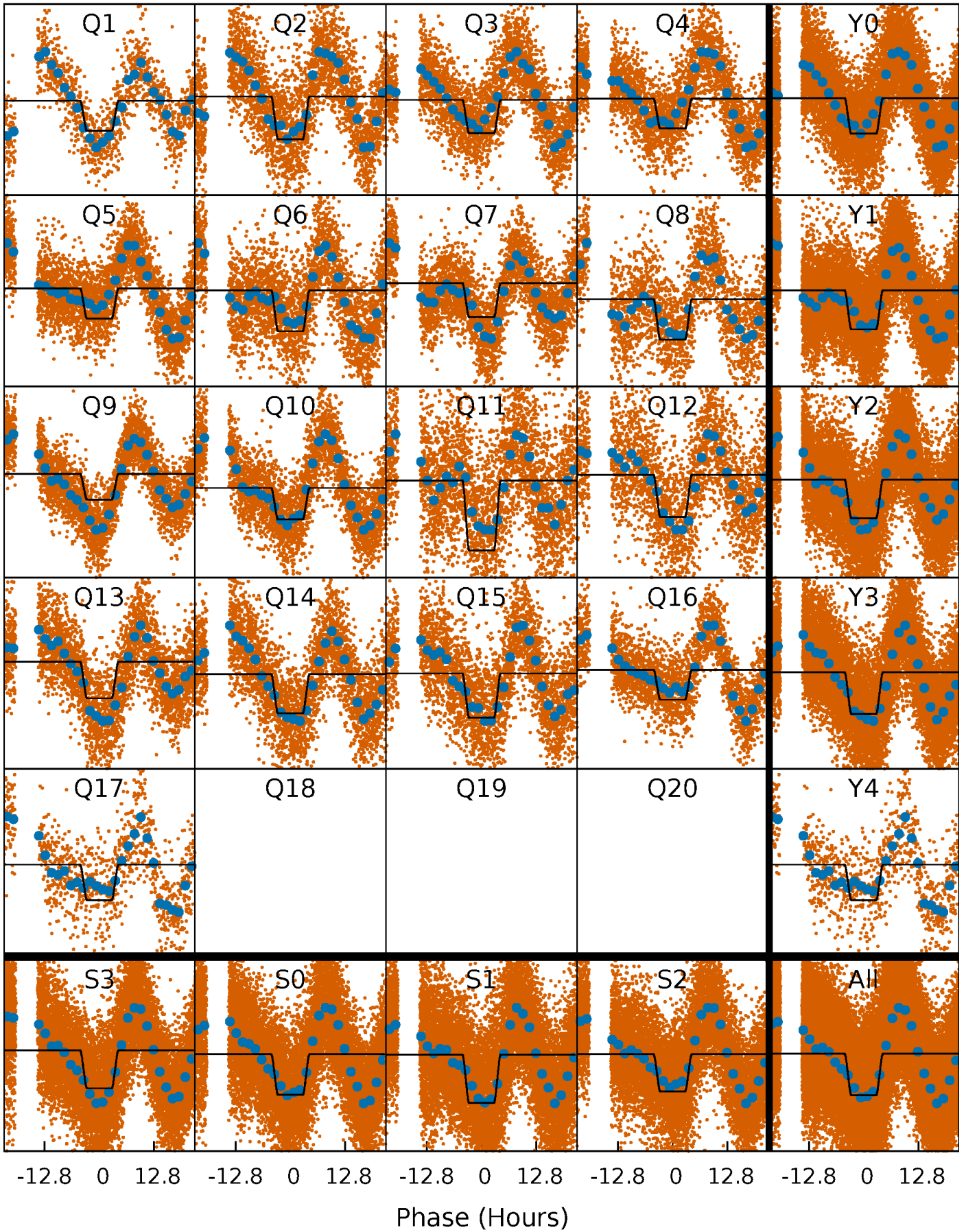
DV Quarter-Phased Transit Curves

TCE 003120650-02 P= 2.105407 Days $T_0=133.425098$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

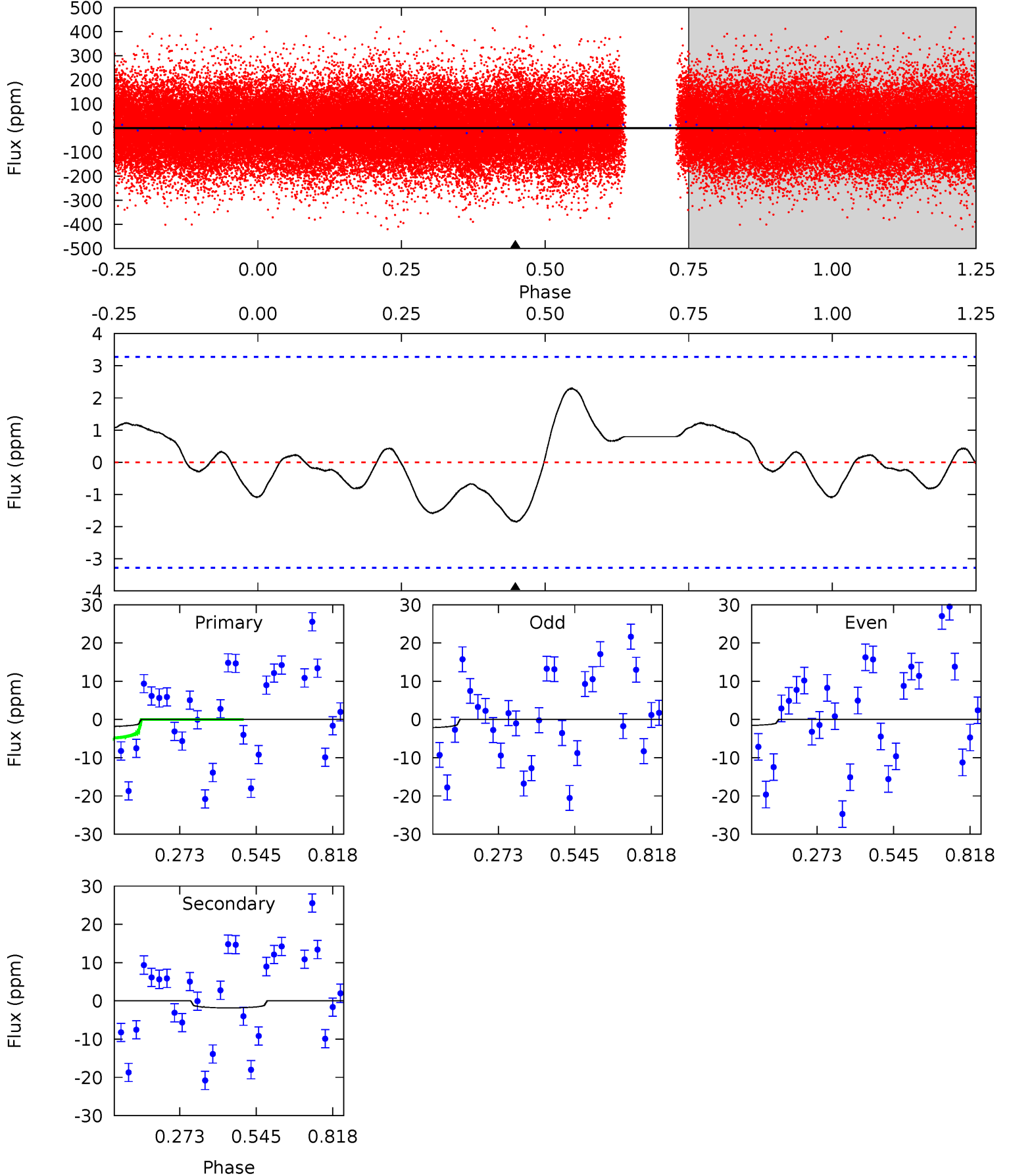
TCE 003120650-02 P= 2.105449 Days $T_0=133.452224$ (BKJD)



DV Model-Shift Uniqueness Test

003120650-02, P = 2.105407 Days, E = 131.319691 Days

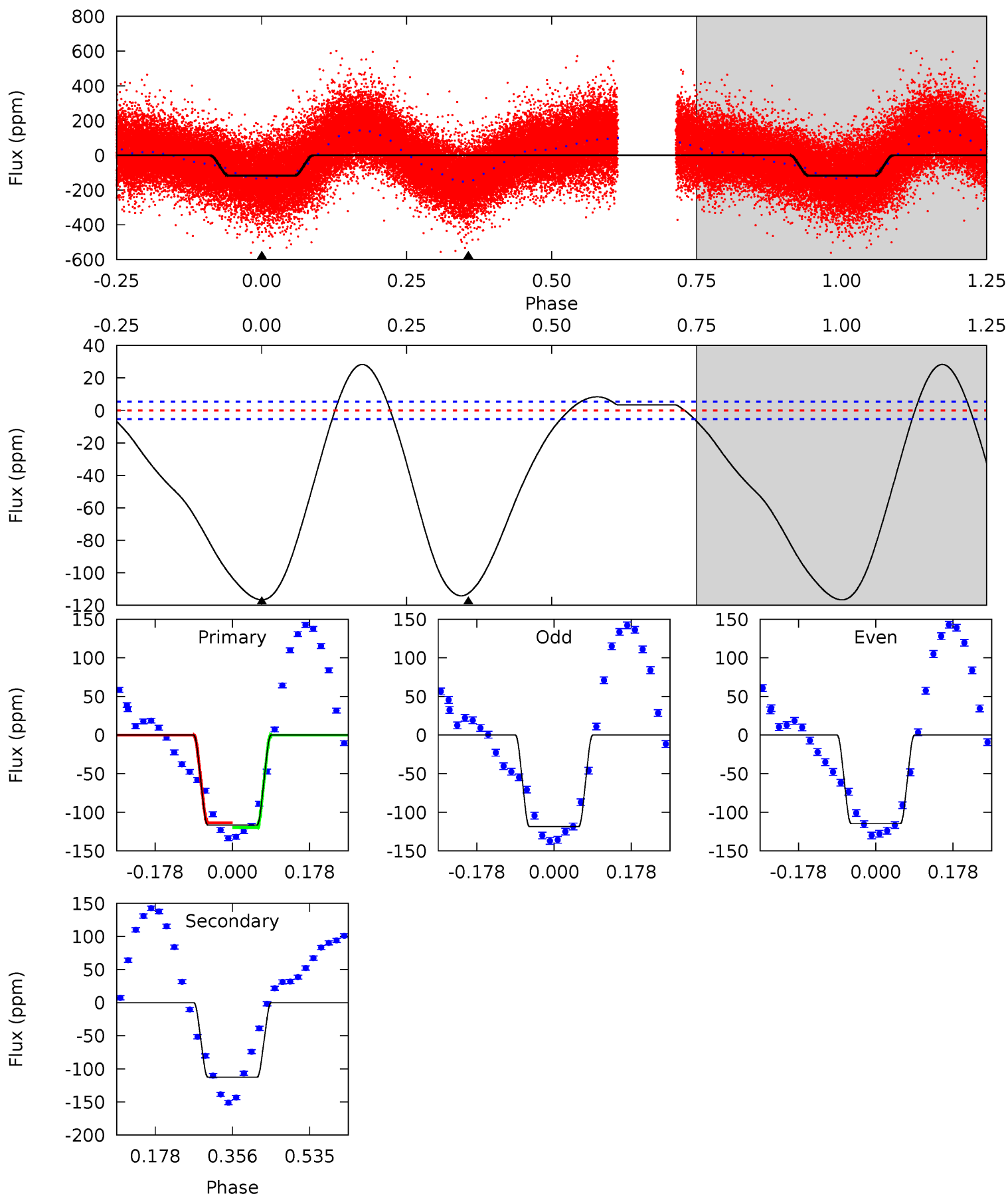
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.45	2.45	0	0	4.35	1.10	0.88	2.45	2.45	2.45	2.45	0.39	0.52	0.55	2.51



Alt Model-Shift Uniqueness Test

003120650-02, P = 2.105449 Days, E = 131.346775 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
96.8	93.4	0	0	4.44	1.35	12.0	96.8	96.8	93.4	93.4	1.57	1.10	0.20	2.68



Stellar Parameters For KIC 003120650

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6864^{+72}_{-92}	$4.153^{+0.090}_{-0.110}$	$-0.060^{+0.150}_{-0.150}$	$1.643^{+0.287}_{-0.191}$	$1.408^{+0.095}_{-0.095}$	$0.447^{+0.188}_{-0.156}$
	+1%/-1%	+2%/-3%	+250%/-250%	+17%/-12%	+7%/-7%	+42%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003120650-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2 ± 1	$0.30^{+0.23}_{-0.18}$	2856^{+115}_{-94}	5968^{+4651}_{-1436}	14^{+68}_{-10}
Alt.	-113 ± 1	$2.01^{+0.33}_{-0.28}$	2860^{+125}_{-110}	6657^{+510}_{-433}	20^{+7}_{-5}

T_{max} = Theoretical Maximum Planetary Temperature

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

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

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

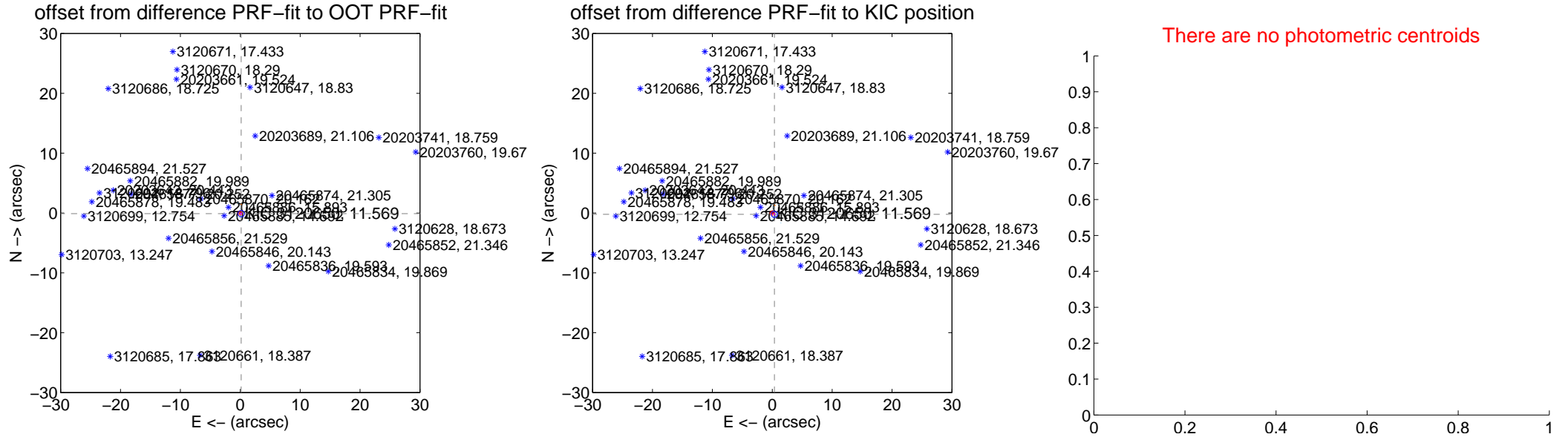
DV Centroid Data

Supplemental centroid analysis for 003120650-02. **Kepler magnitude: 11.57.** Transit SNR 1.51

There are 16 quarters with good PRF difference image offsets

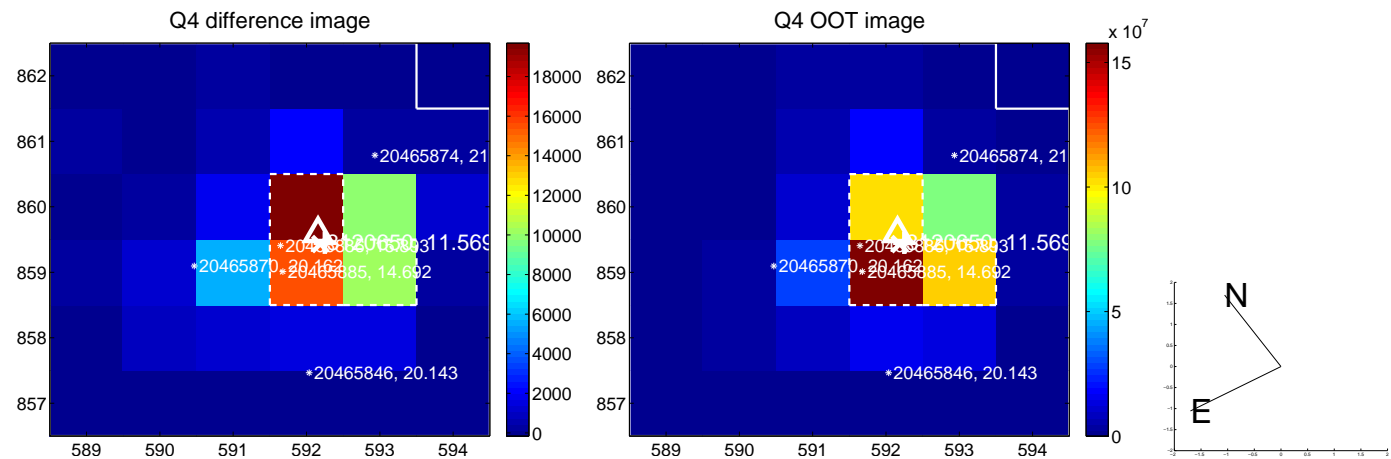
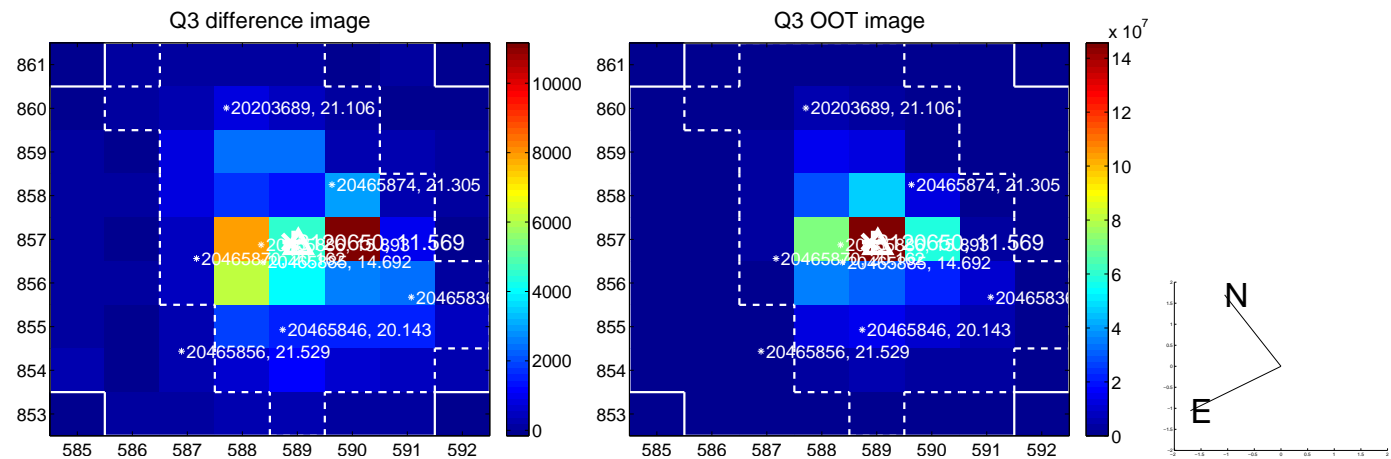
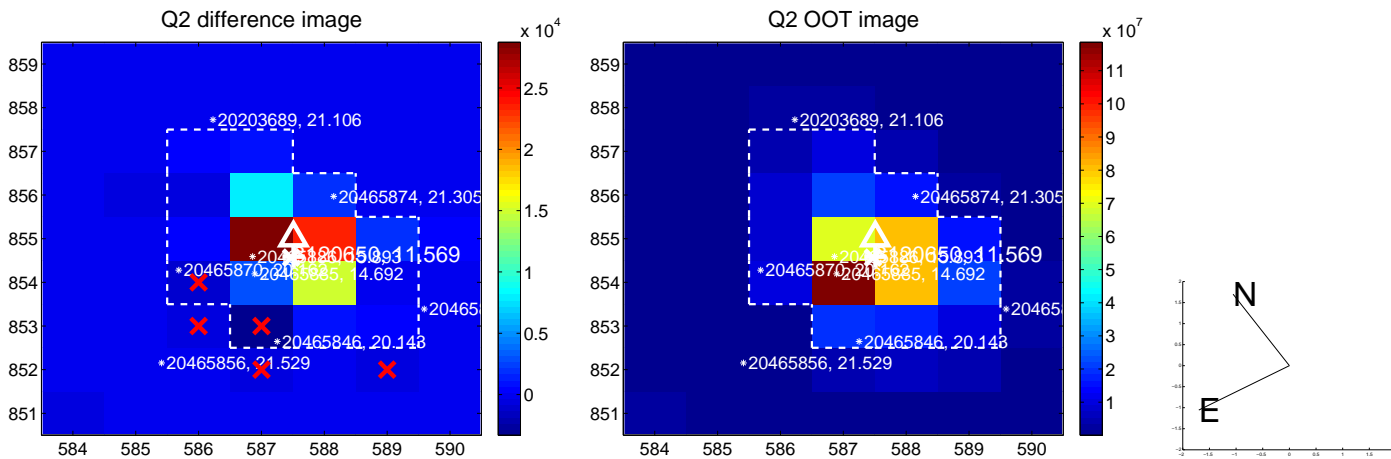
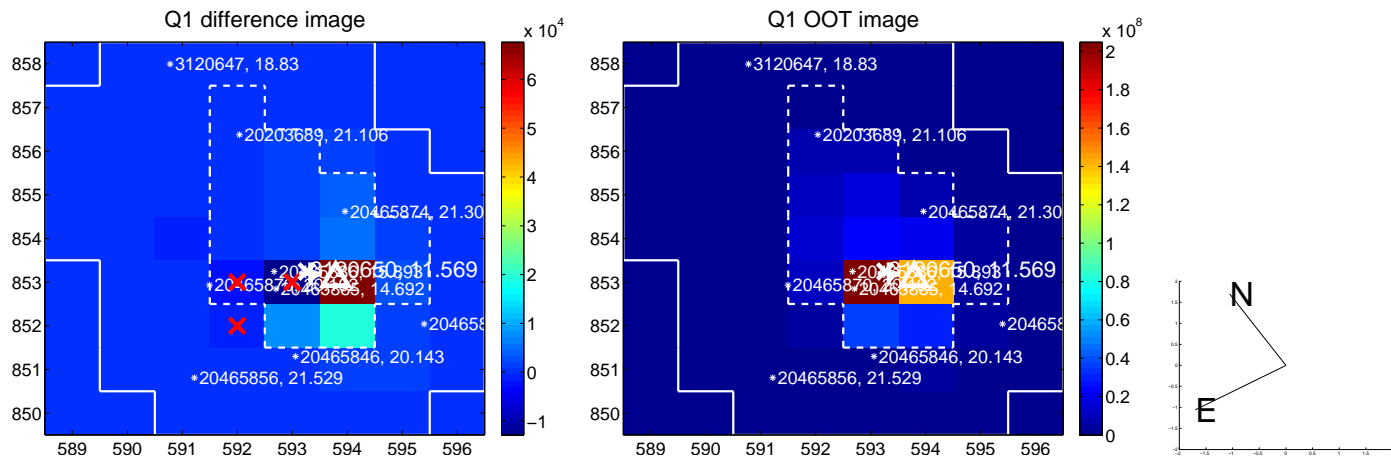
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.190 ± 0.177	1.07	-0.154 ± 0.125	-0.112 ± 0.223
PRF-fit source offset from KIC position	0.420 ± 0.174	2.42	-0.358 ± 0.124	-0.220 ± 0.229
photometric centroid source offset	—	—	—	—

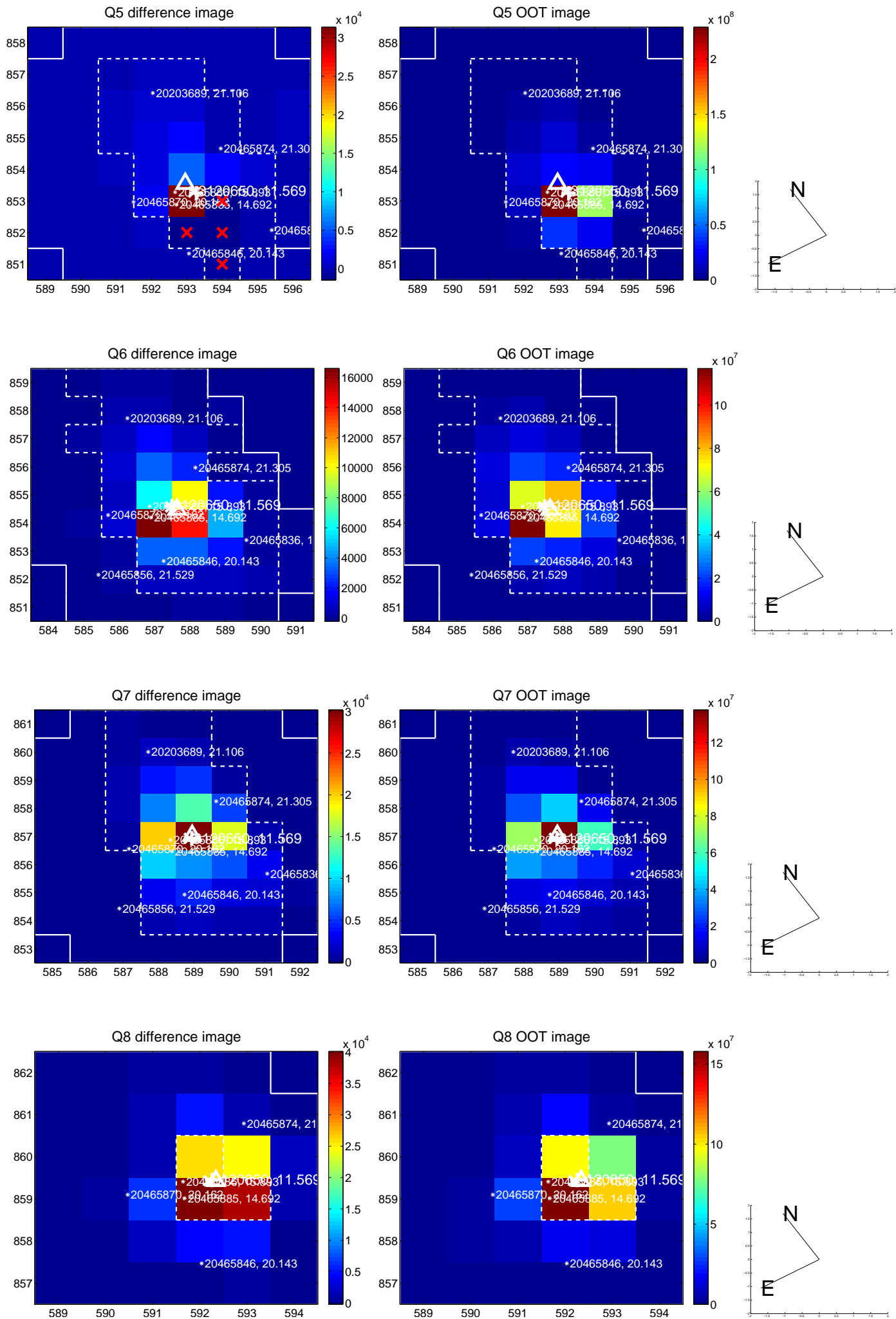


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

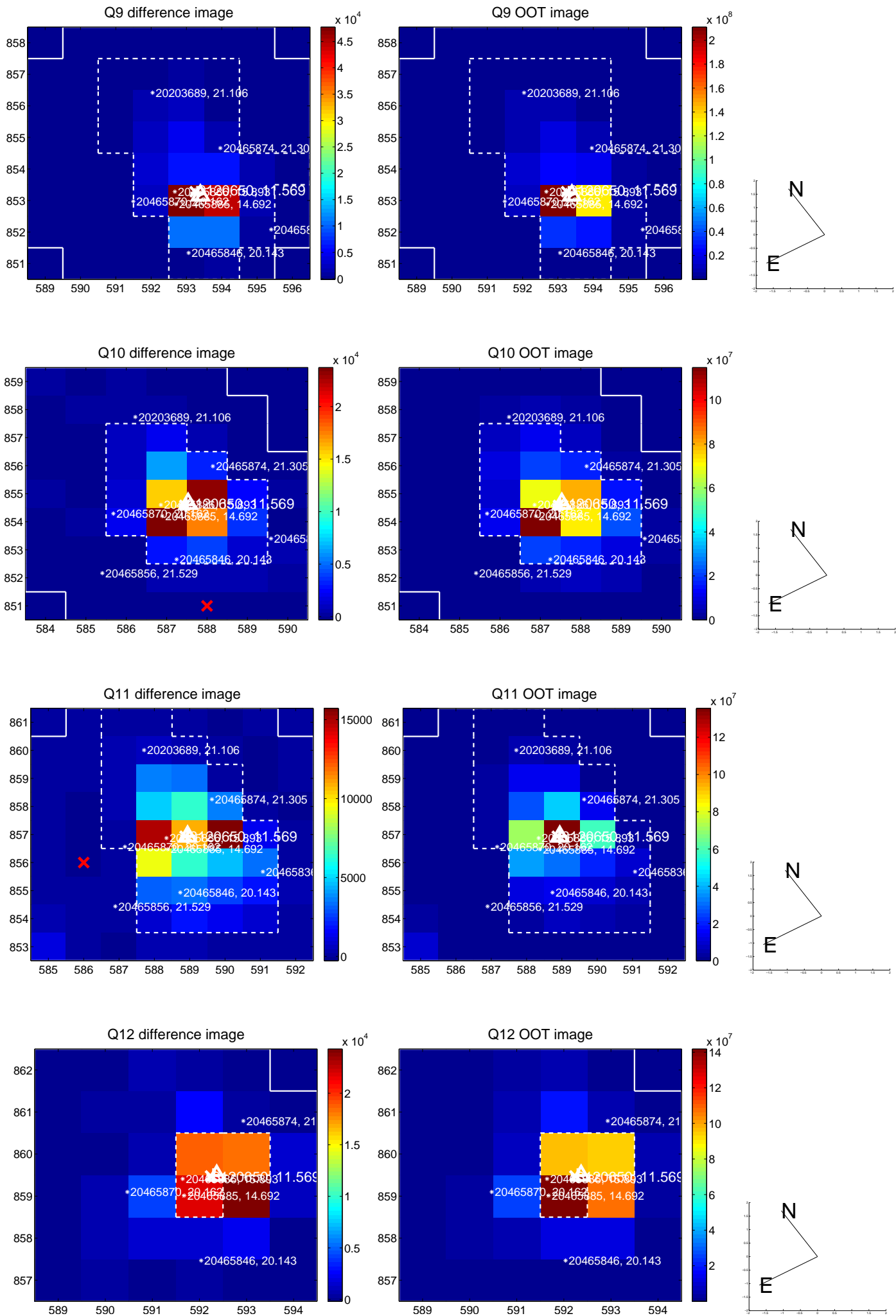
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



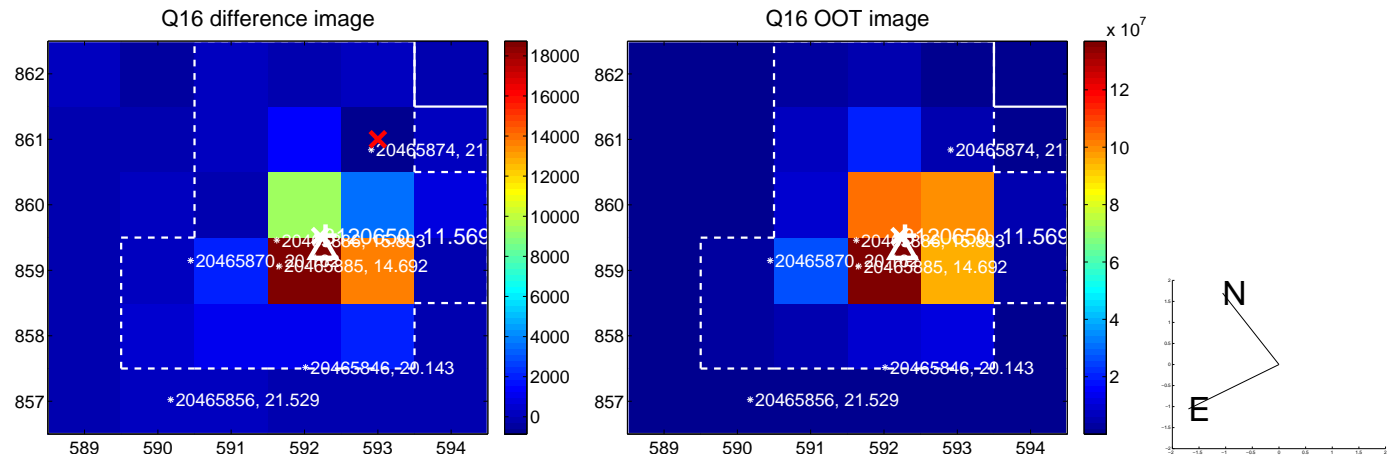
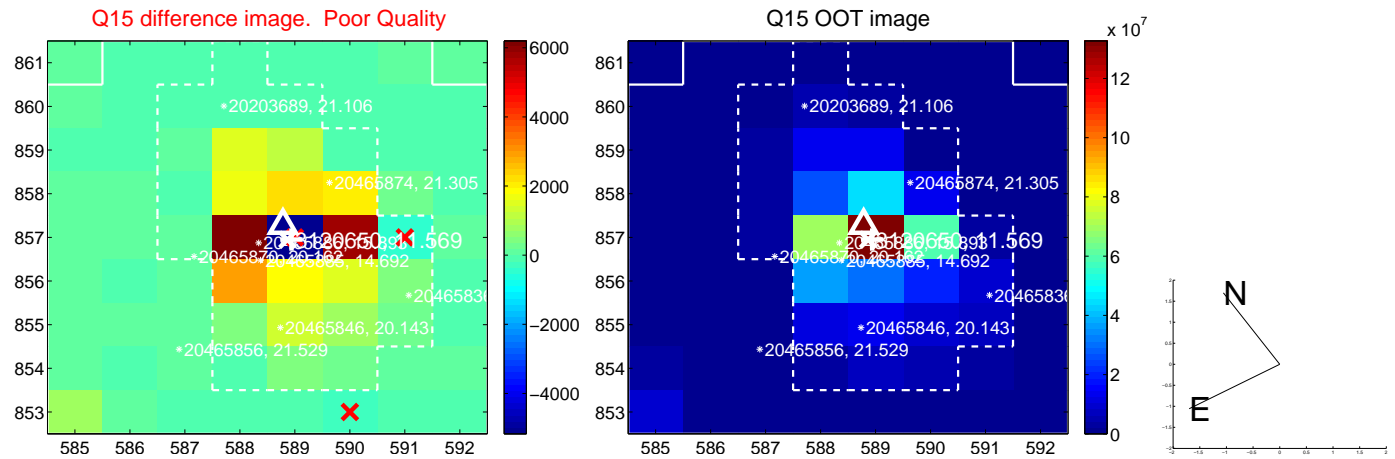
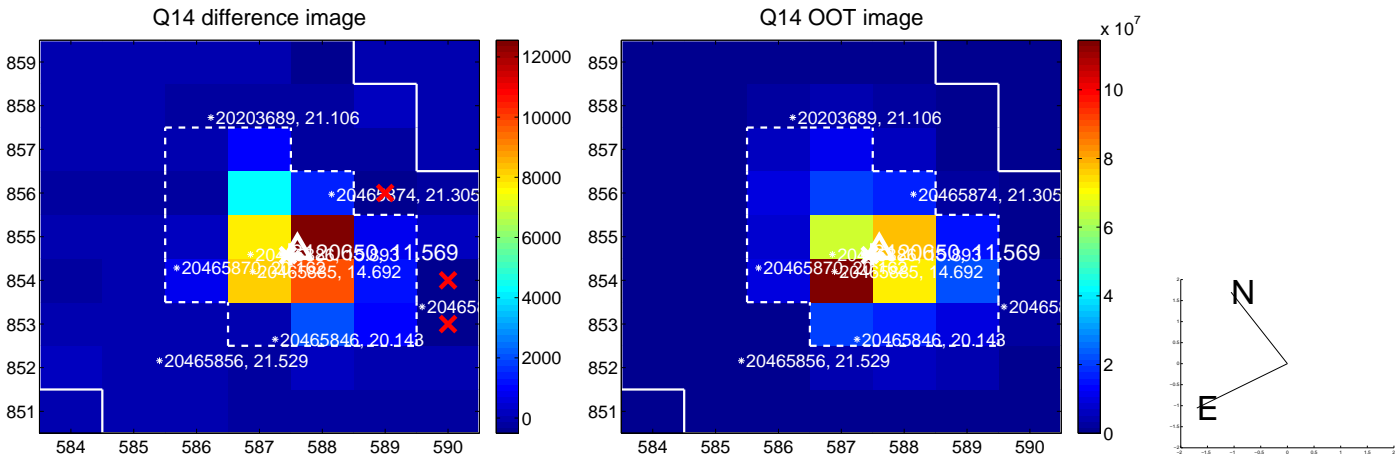
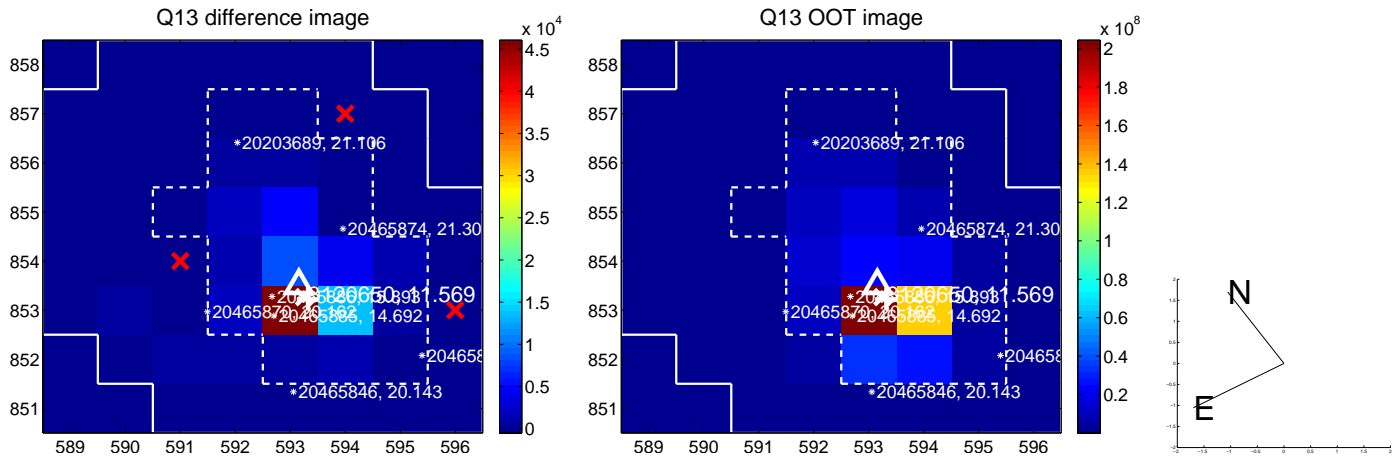
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



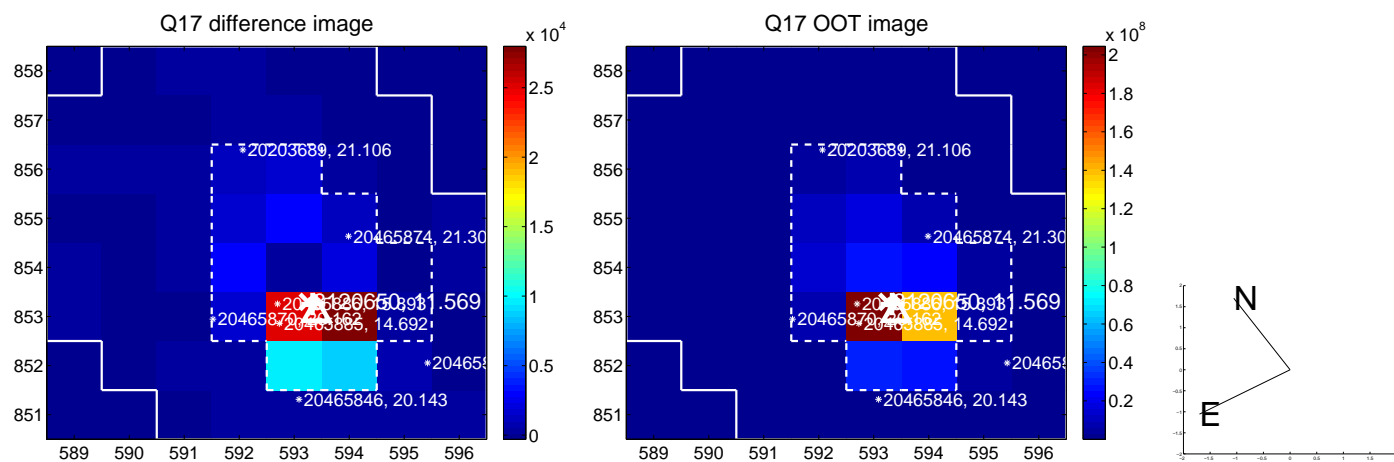
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



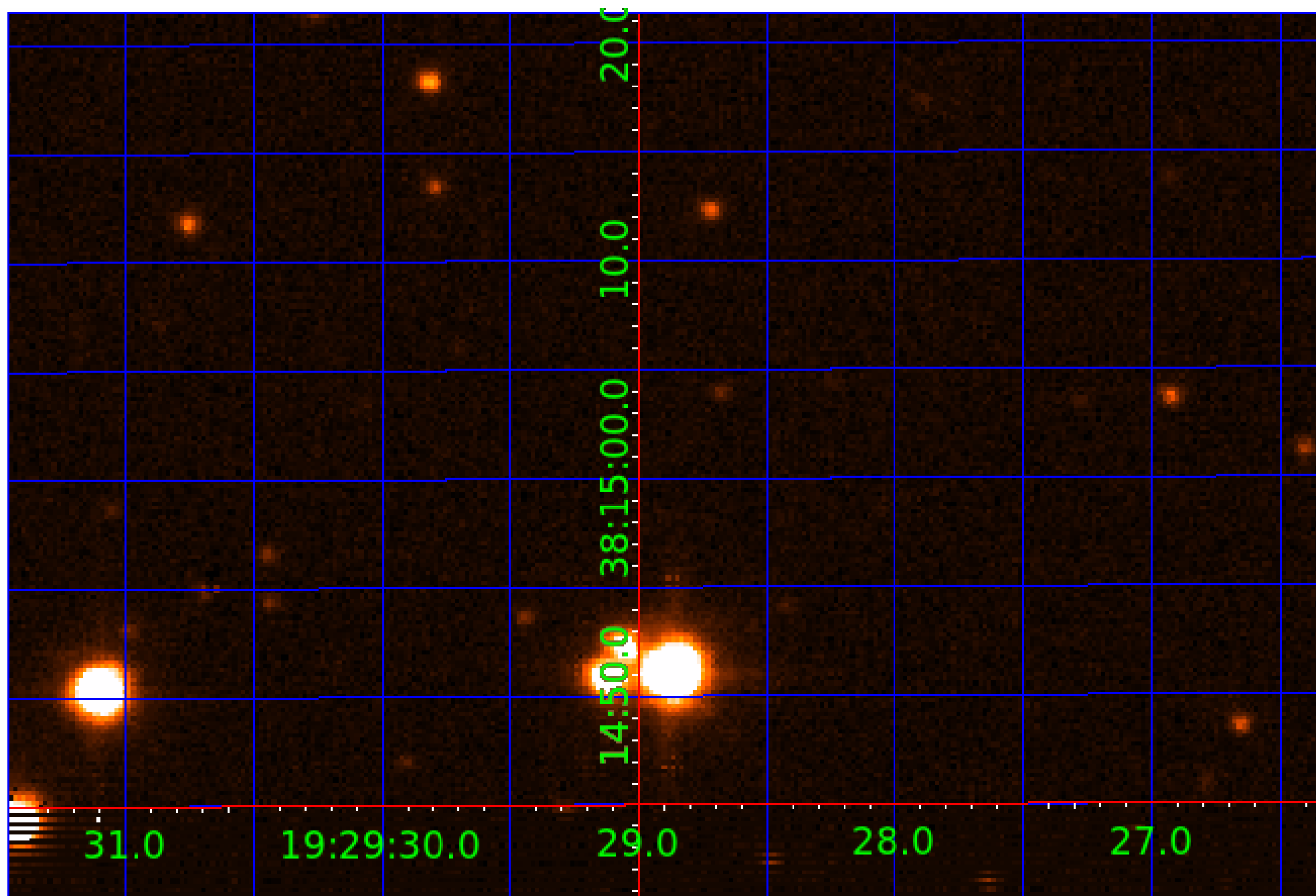
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.



UKIRT Image



KIC 003120650

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})
003120650-01	OBS	No	2.105462	132.740235	24.6	1.567	9.4	8.4	1.64	6864	0.85	4147.93
003120650-02	OBS	No	2.105407	133.425098	2.3	13.331	8.2	1.5	1.64	6864	0.27	4148.08
003120650-03	OBS	No	128.707625	237.699832	131.5	8.357	15.8	6.8	1.64	6864	2.16	17.23
003120650-04	OBS	No	2.105255	132.162935	21.1	3.516	14.9	6.5	1.64	6864	0.81	4148.48
003120650-05	OBS	No	225.210461	145.189638	148.9	12.816	17.0	10.0	1.64	6864	2.31	8.17
003120650-06	OBS	No	205.256712	204.045049	200.1	3.266	11.5	11.4	1.64	6864	2.63	9.24
003120650-07	OBS	No	54.143709	157.013841	183.0	5.874	10.6	10.6	1.64	6864	2.44	54.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003120650-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003120650-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003120650-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS
003120650-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
003120650-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
003120650-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
003120650-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

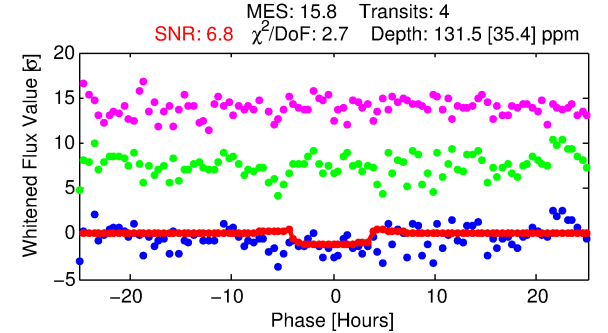
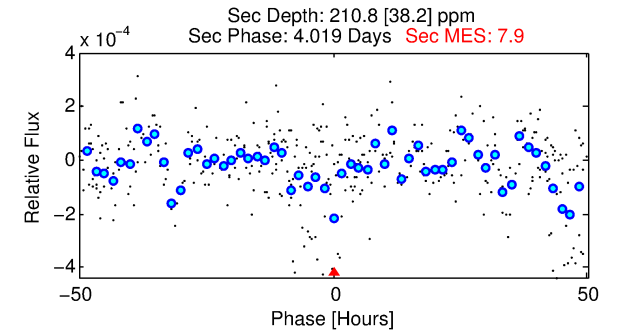
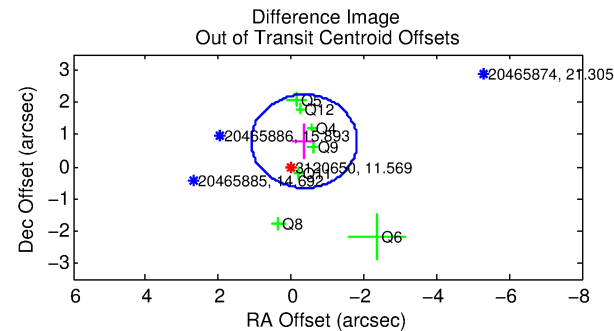
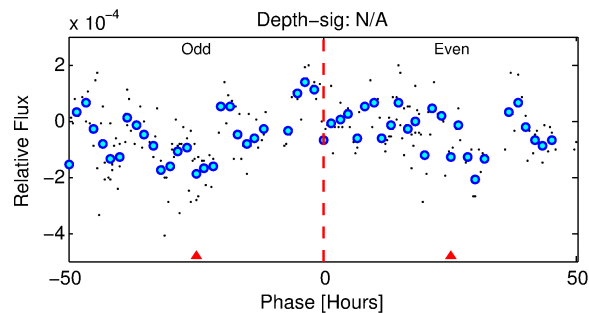
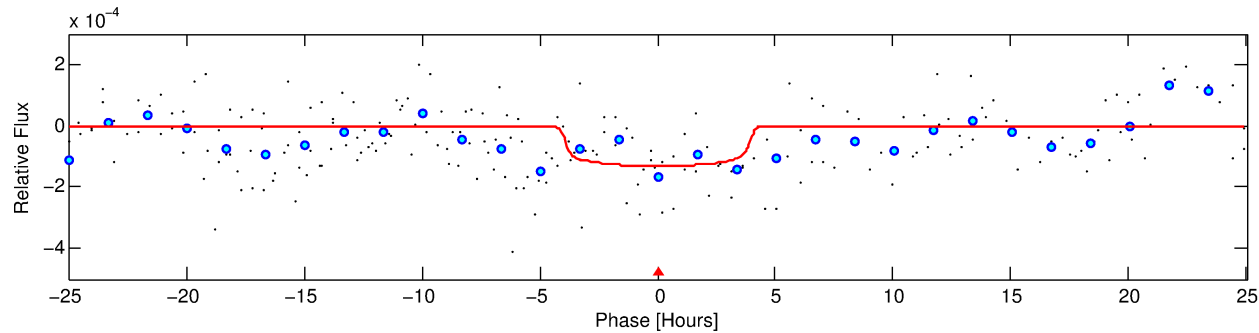
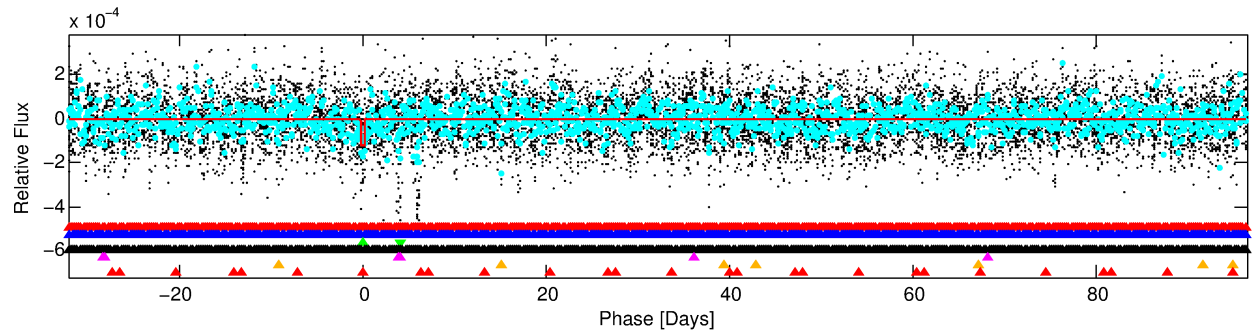
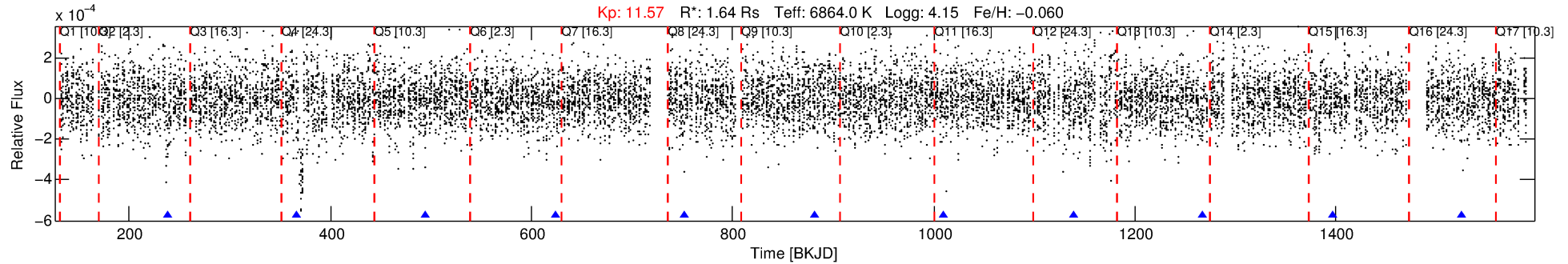
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003120650-03

No Significant Match Found

DV One-Page Summary

KIC: 3120650 Candidate: 3 of 7 Period: 128.708 d



DV Fit Results:

Period = 128.70763 [0.00459] d
Epoch = 237.6998 [0.0281] BKJD
Rp/R* = 0.0121 [0.0051]
a/R* = 58.54 [132.35]
b = 0.88 [0.58]
Seff = 17.22 [3.65]
Teq = 519 [28] K
Rp = 2.16 [0.98] Re
a = 0.5583 [0.0803] AU
Ag = 7724.52 [6824.76] [1.13σ]
Teffp = 7530 [1621] K [4.32σ]

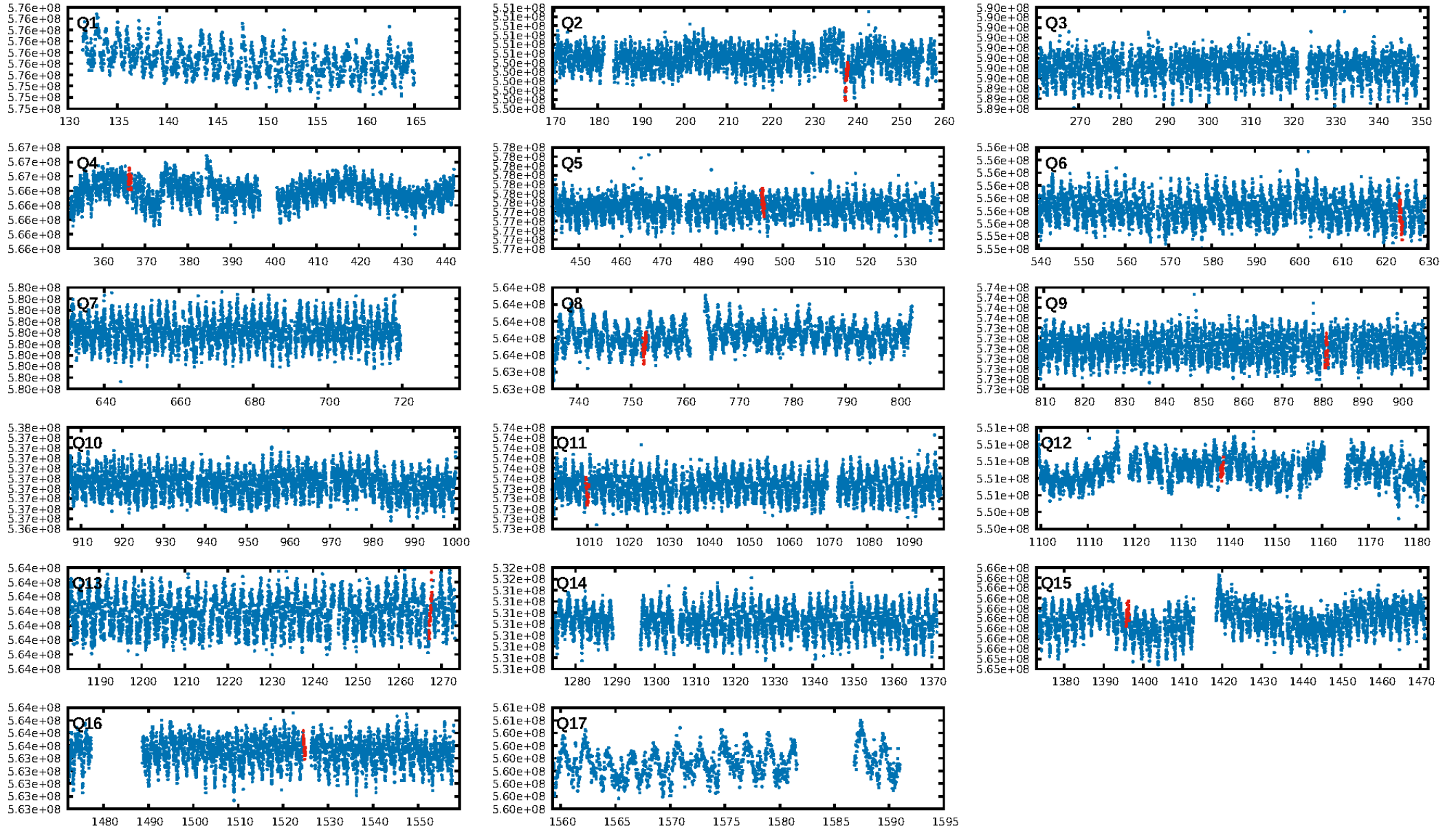
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [175.20σ]
LongPeriod-sig: 100.0% [204.76σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 85.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -3.284
Centroid-sig: 43.1%
Centroid-so: 0.506 arcsec [0.80σ]
OotOffset-rm: 0.865 arcsec [1.79σ]
OotOffset-st: 1/1/3/2 [7]
KicOffset-rm: 0.882 arcsec [2.07σ]
KicOffset-st: 1/1/3/2 [7]
DiffImageQuality-fgm: 0.57 [4/7]
DiffImageOverlap-fno: 0.00 [0/8]

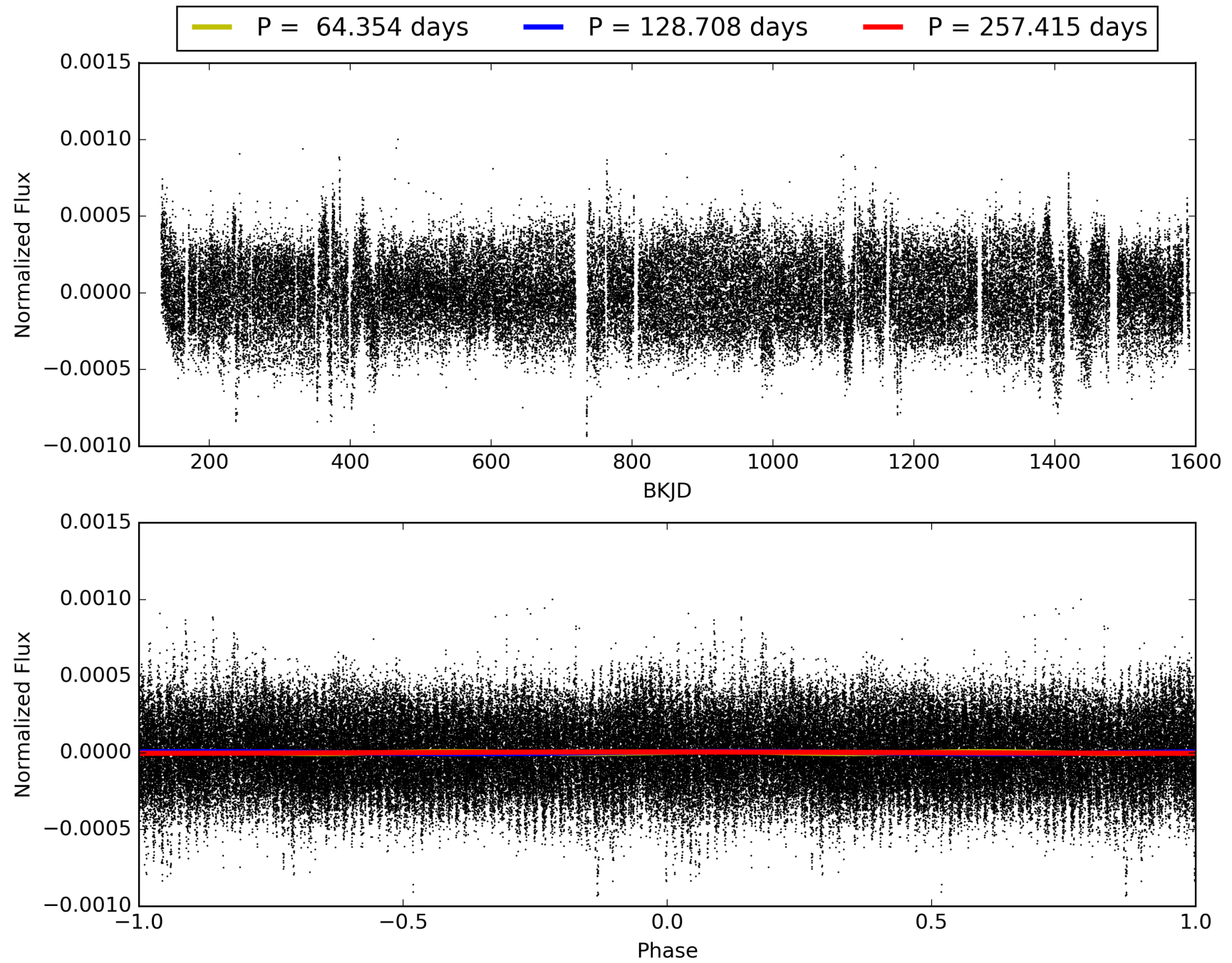
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:53:45 Z

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

TCE 003120650-03, PDC Light Curves

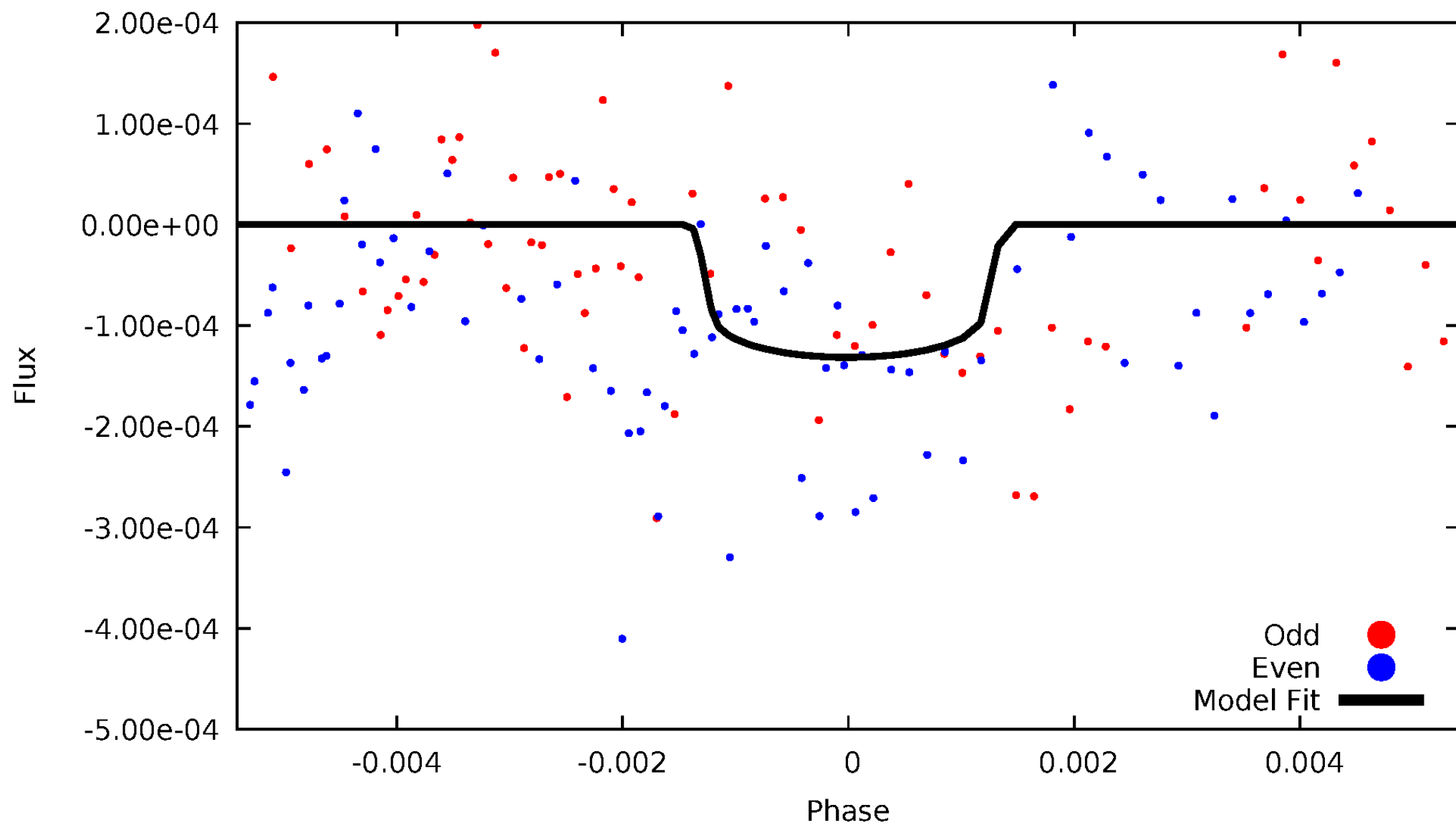


TCE 003120650-03



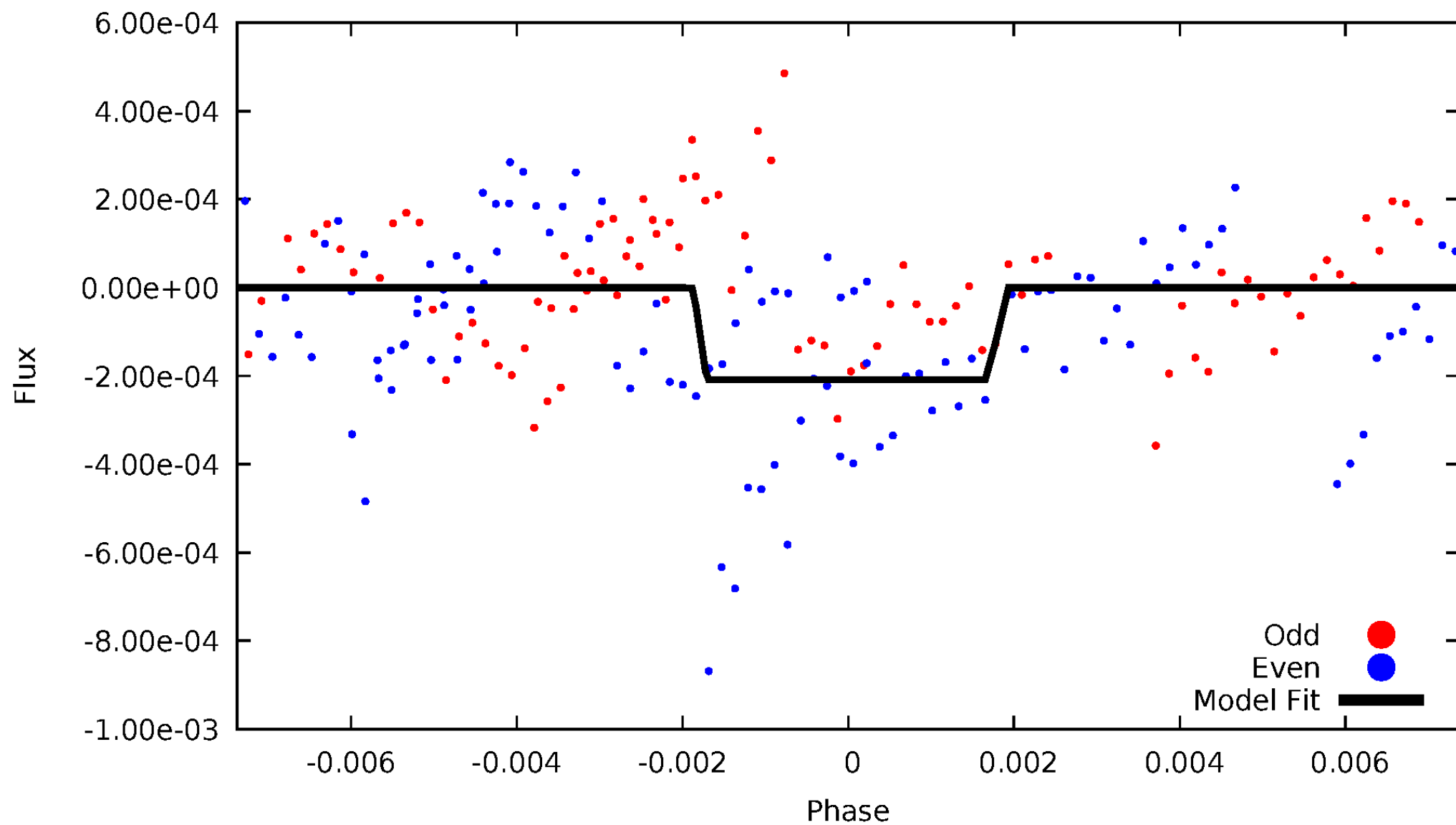
DV Odd/Even

TCE 003120650-03

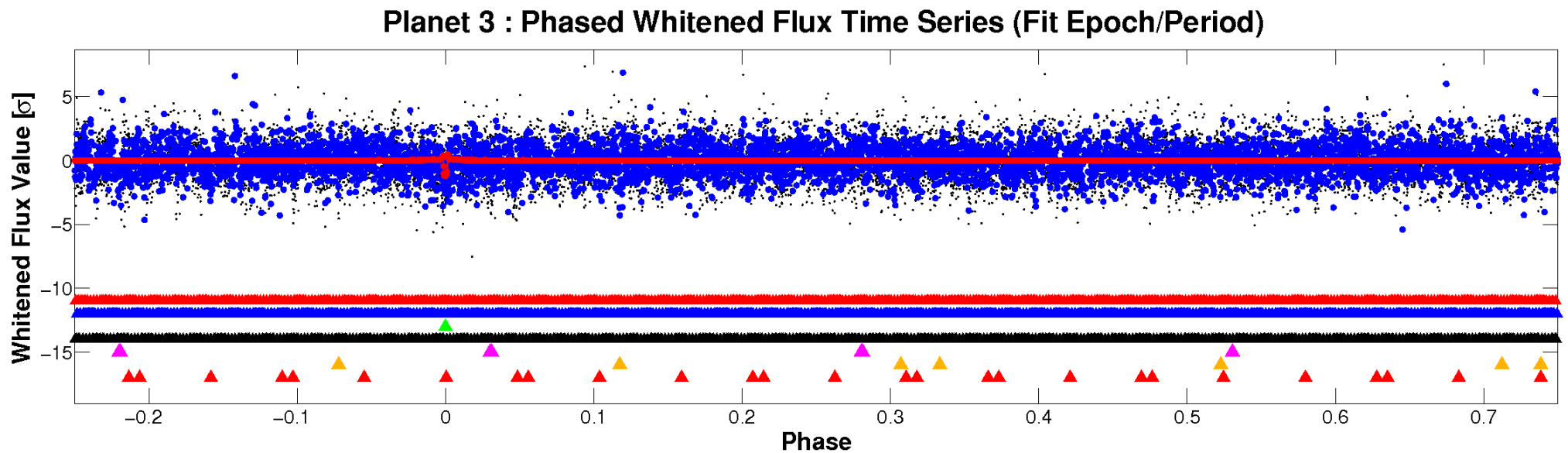
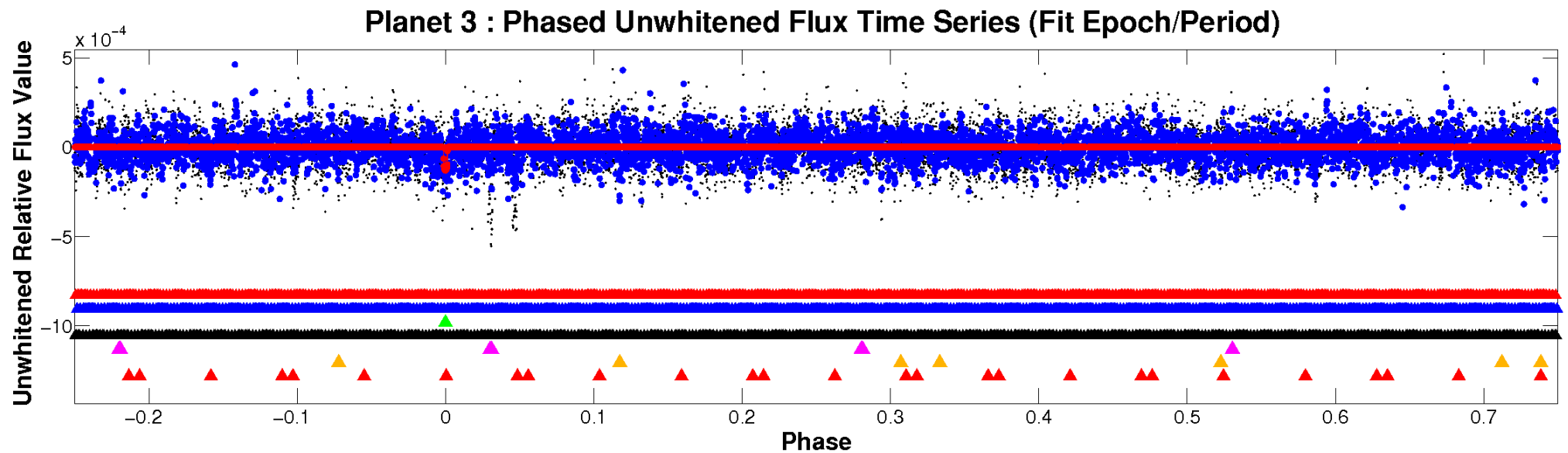


ALT Odd/Even

TCE 003120650-03

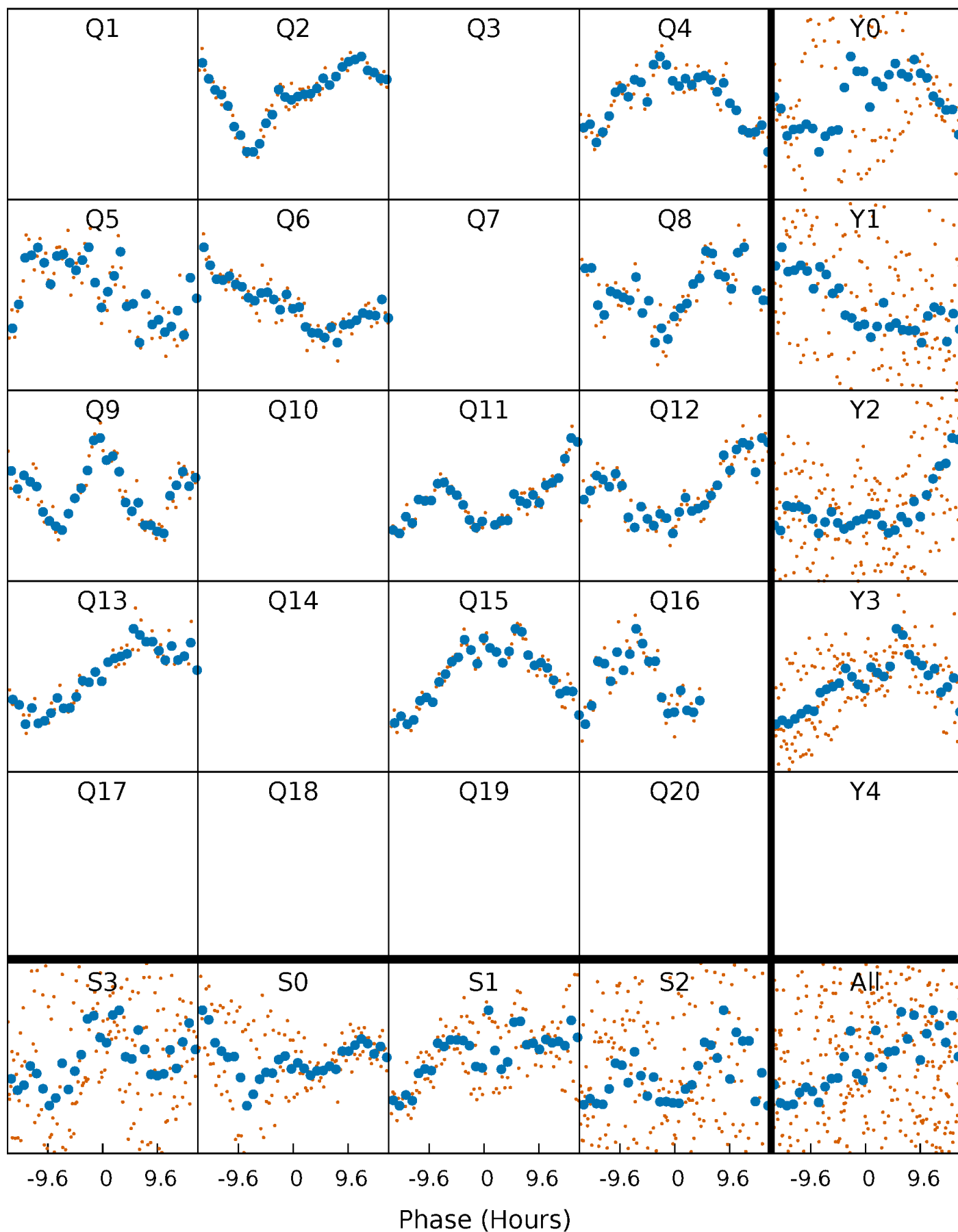


Non-Whitened Vs. Whitened Light Curve



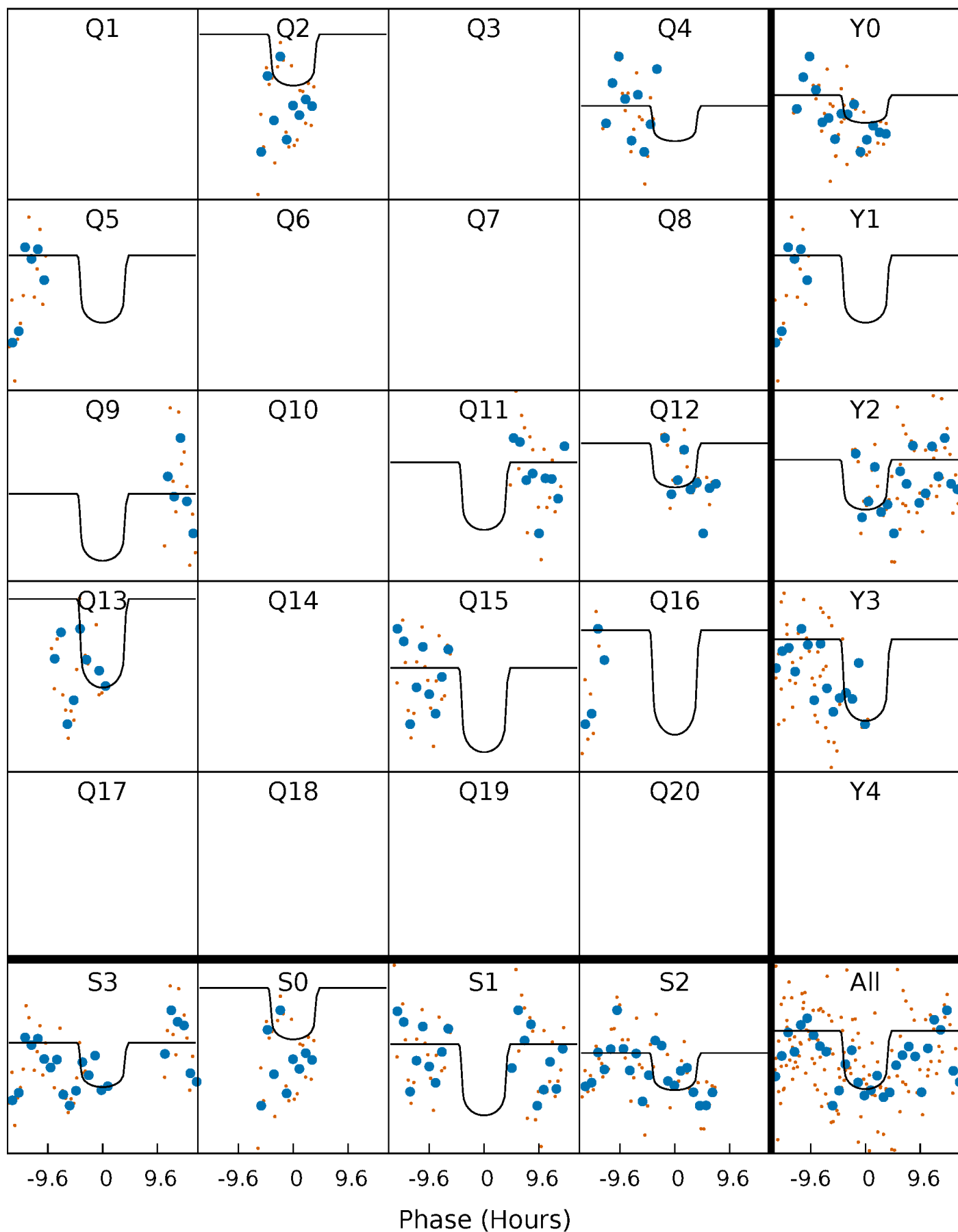
PDC Quarter-Phased Transit Curves

TCE 003120650-03 P=128.707625 Days $T_0=237.699832$ (BKJD)



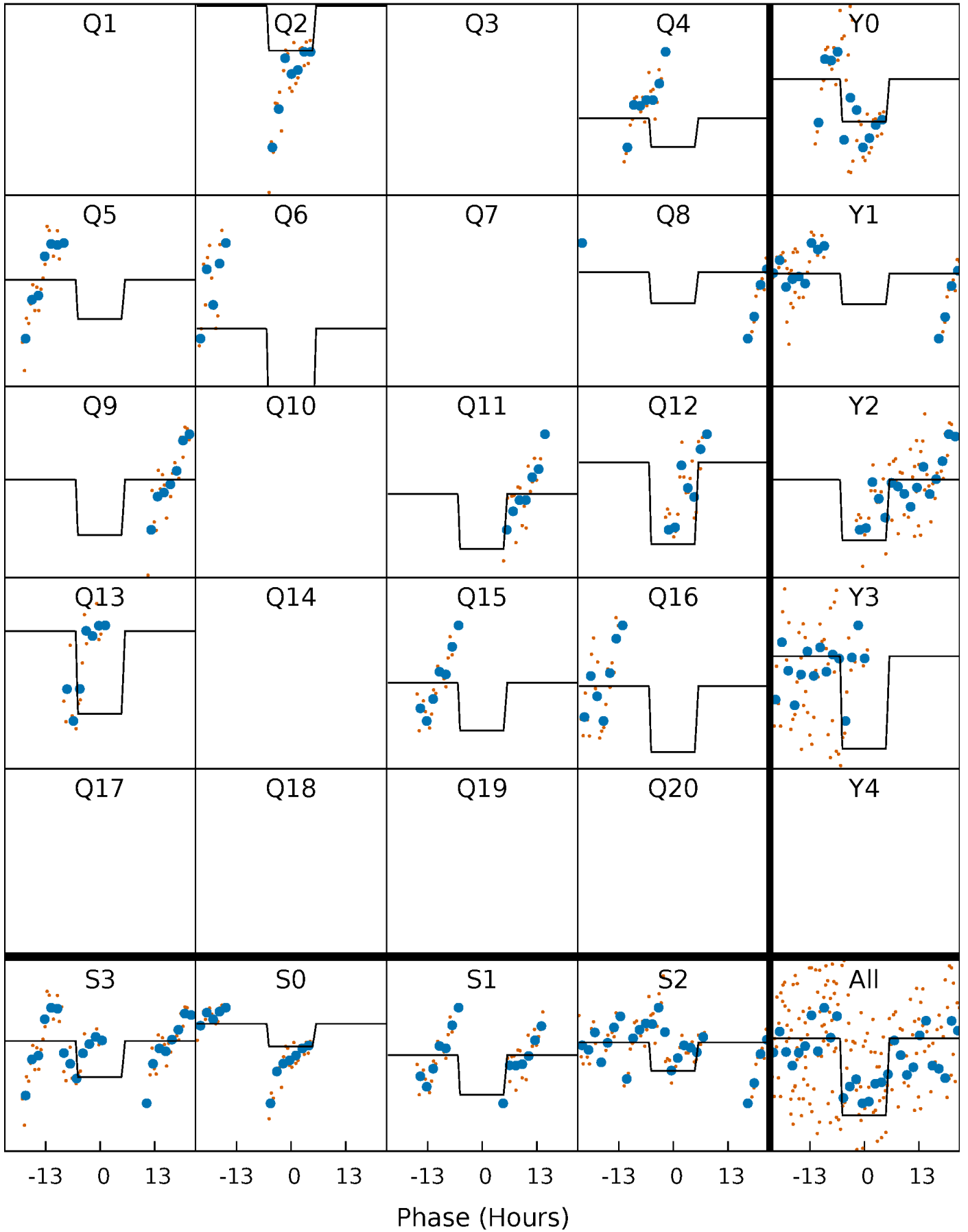
DV Quarter-Phased Transit Curves

TCE 003120650-03 P=128.707625 Days $T_0=237.699832$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

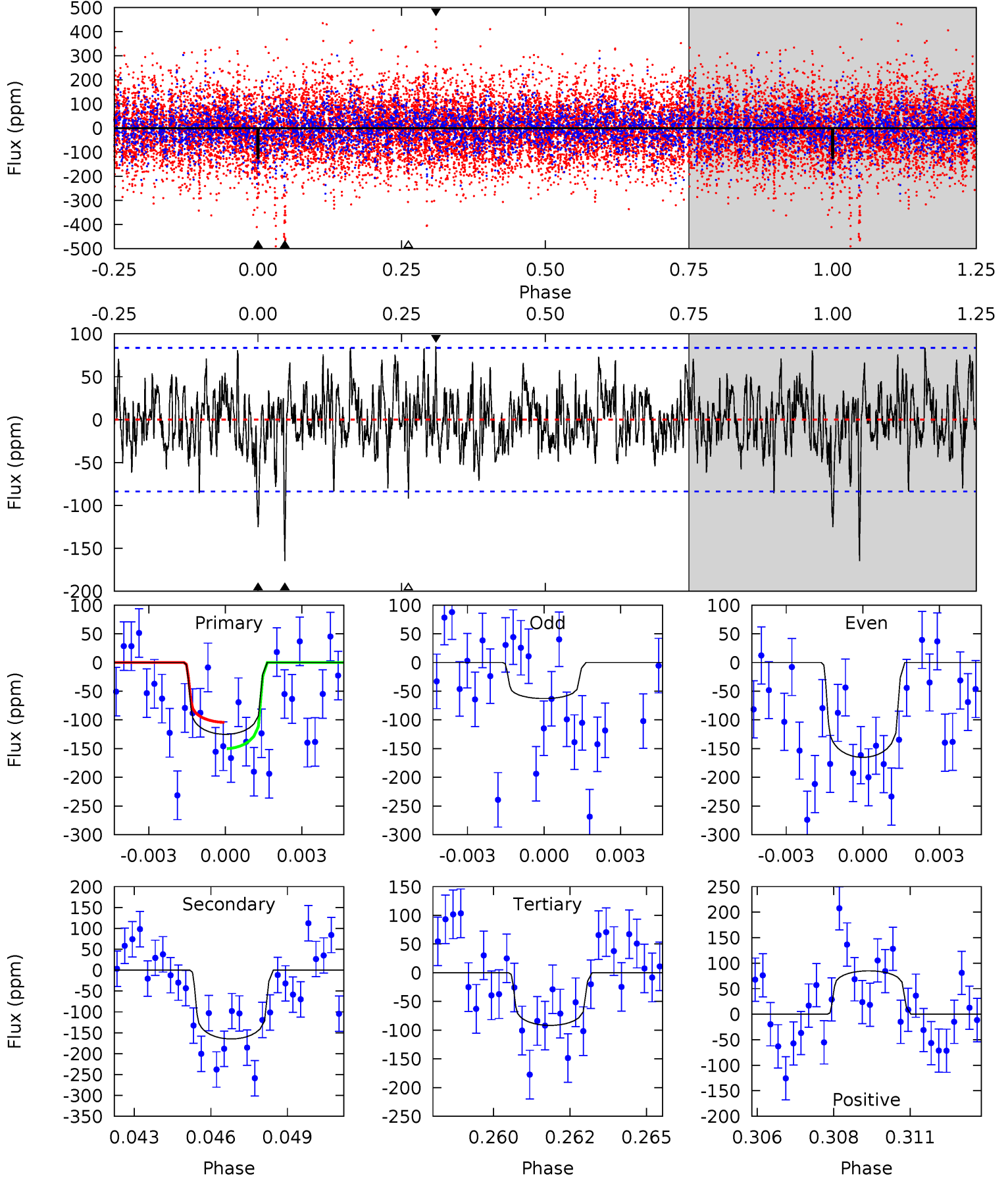
TCE 003120650-03 P=128.710994 Days $T_0=237.659241$ (BKJD)



DV Model-Shift Uniqueness Test

003120650-03, P = 128.707625 Days, E = 108.992207 Days

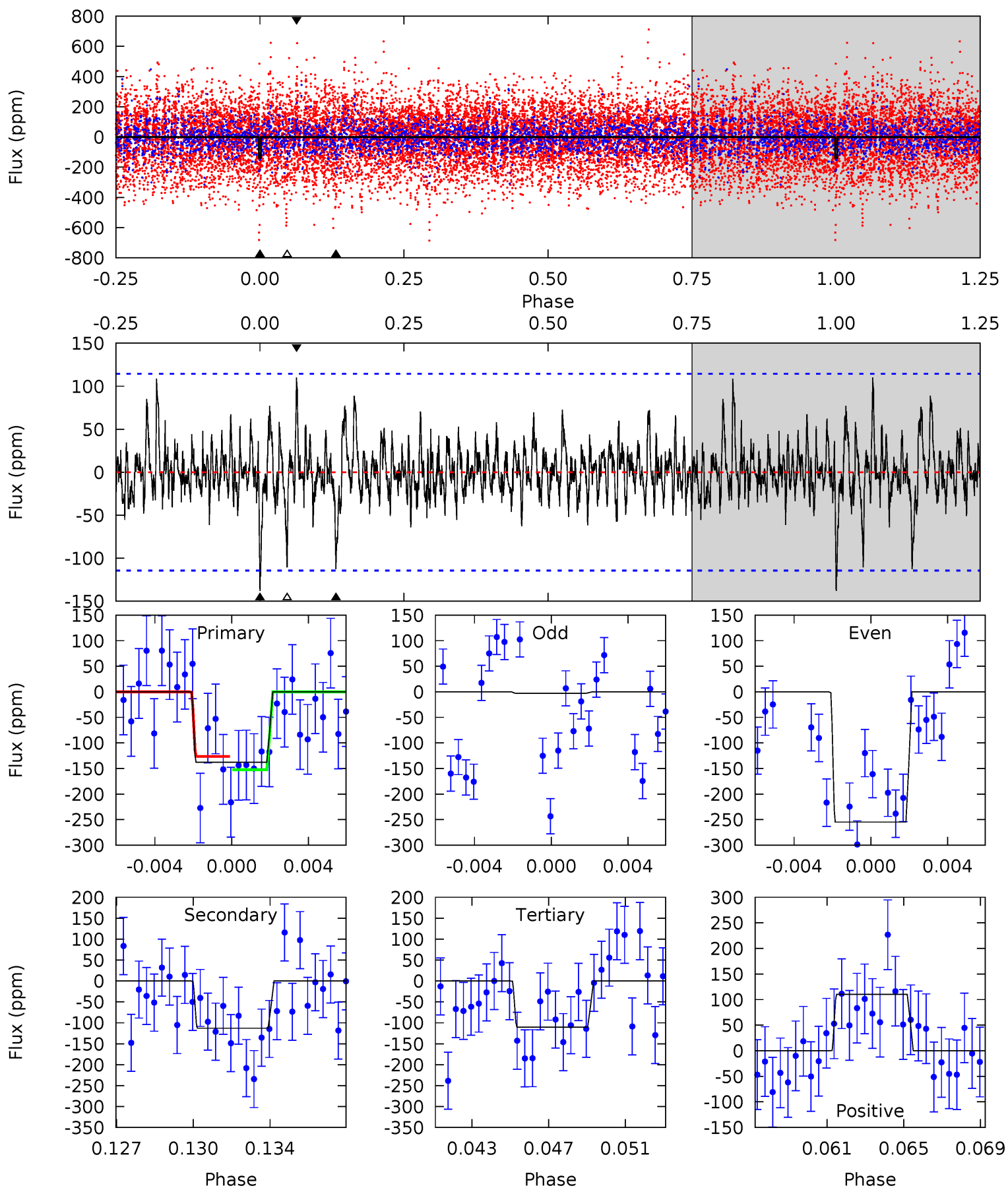
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.87	10.4	5.77	5.35	5.27	3.00	1.72	2.10	2.53	4.60	5.02	3.08	0.80	0.34	1.42



Alt Model-Shift Uniqueness Test

003120650-03, P = 128.710994 Days, E = 108.948247 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.30	5.14	5.03	5.02	5.22	2.91	1.23	1.27	1.28	0.11	0.12	5.61	0.94	0.44	0.59



Stellar Parameters For KIC 003120650

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6864^{+72}_{-92}	$4.153^{+0.090}_{-0.110}$	$-0.060^{+0.150}_{-0.150}$	$1.643^{+0.287}_{-0.191}$	$1.408^{+0.095}_{-0.095}$	$0.447^{+0.188}_{-0.156}$
	+1%/-1%	+2%/-3%	+250%/-250%	+17%/-12%	+7%/-7%	+42%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003120650-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-165 ± 16	$2.17^{+1.00}_{-0.87}$	728^{+30}_{-27}	7103^{+2637}_{-1276}	5937^{+10414}_{-3189}
Alt.	-113 ± 22	$2.63^{+0.91}_{-0.94}$	725^{+30}_{-25}	5840^{+1531}_{-778}	2846^{+4006}_{-1366}

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 $A_{obs} \gg 1.0$

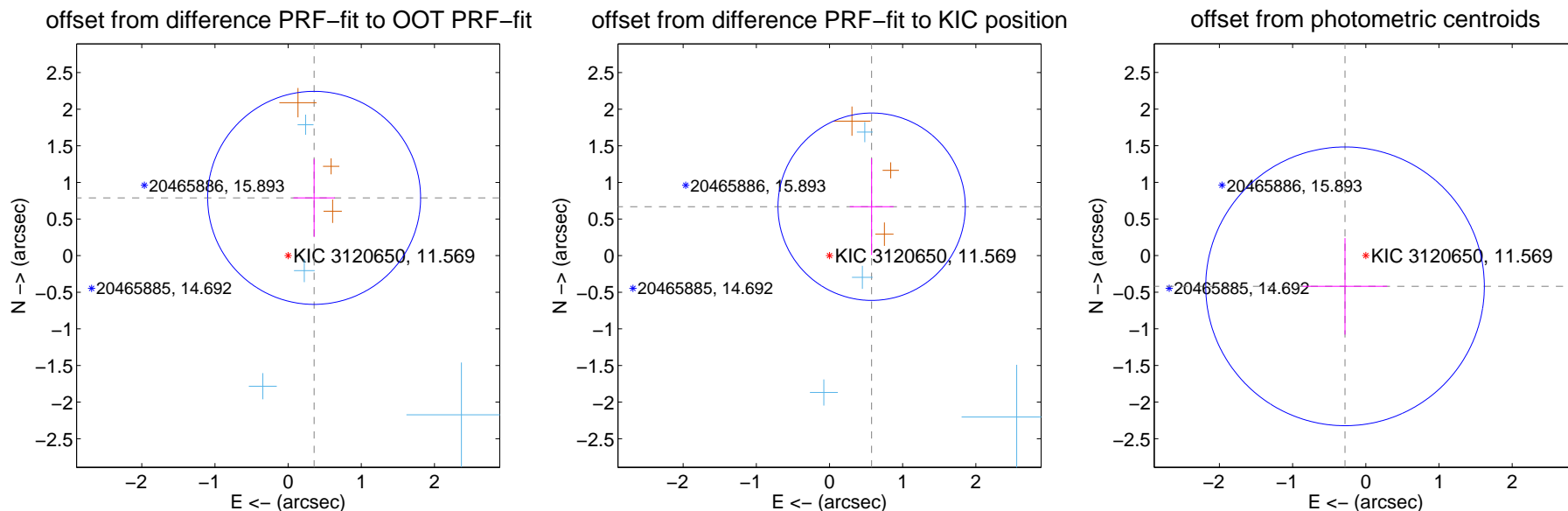
DV Centroid Data

Supplemental centroid analysis for 003120650-03. **Kepler magnitude: 11.57.** Transit SNR 6.80

There are 4 quarters with good PRF difference image offsets

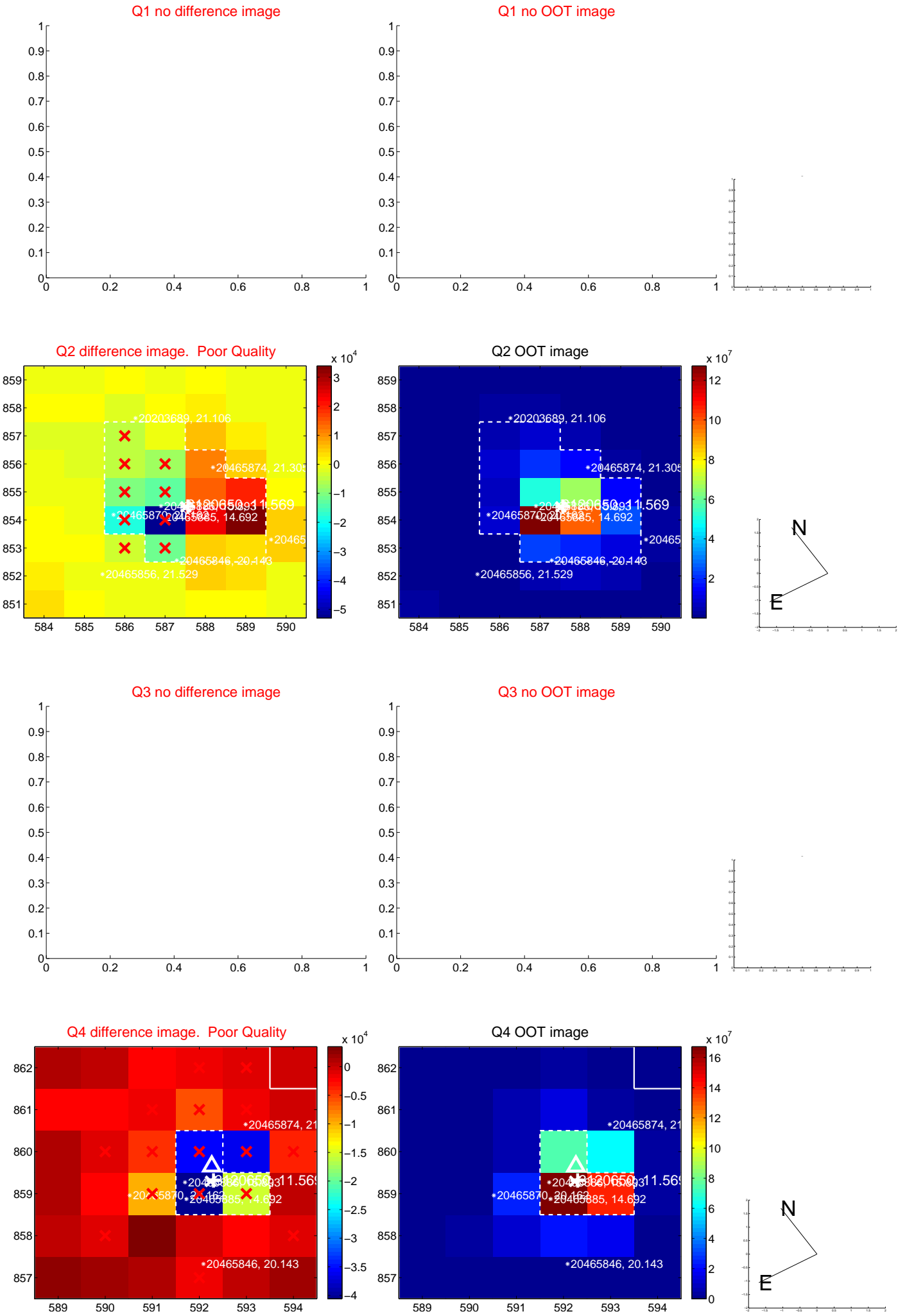
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.865 ± 0.485	1.79	-0.355 ± 0.283	0.789 ± 0.532
PRF-fit source offset from KIC position	0.882 ± 0.426	2.07	-0.576 ± 0.300	0.668 ± 0.660
photometric centroid source offset	0.51 ± 0.63	0.80	0.28 ± 0.58	-0.42 ± 0.66

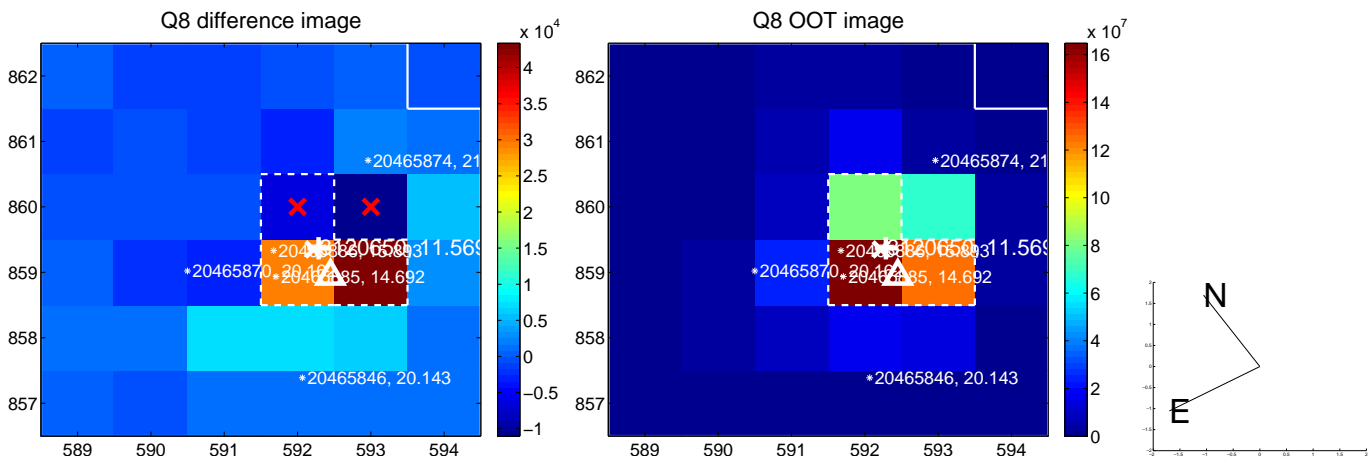
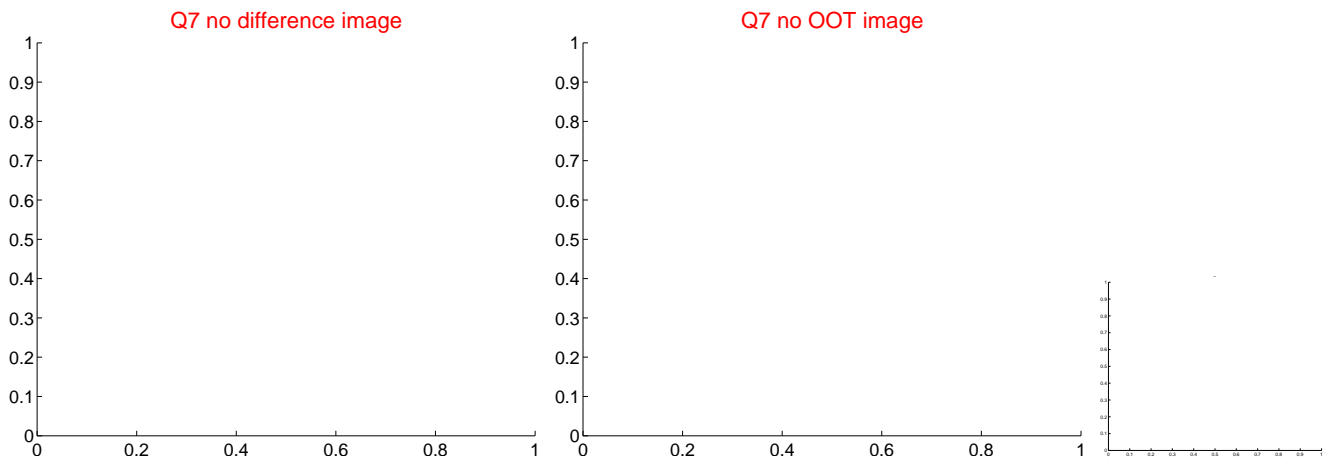
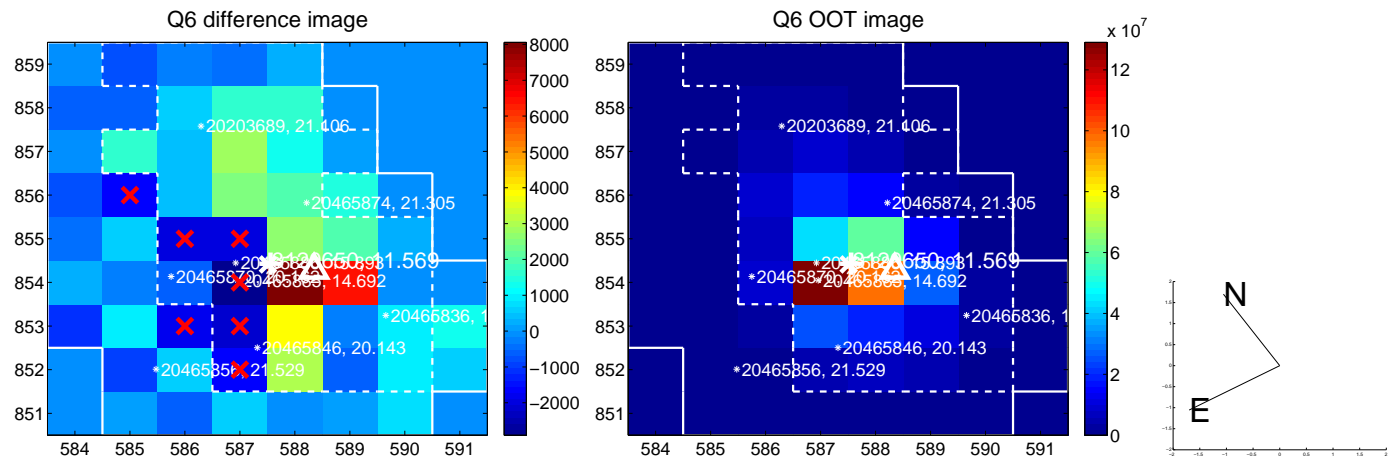
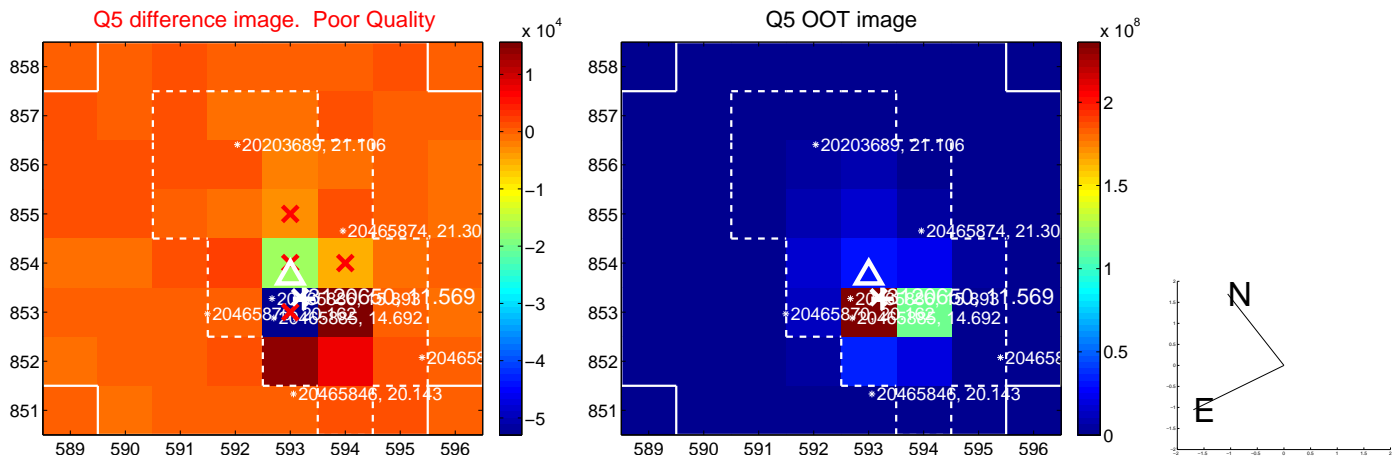


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

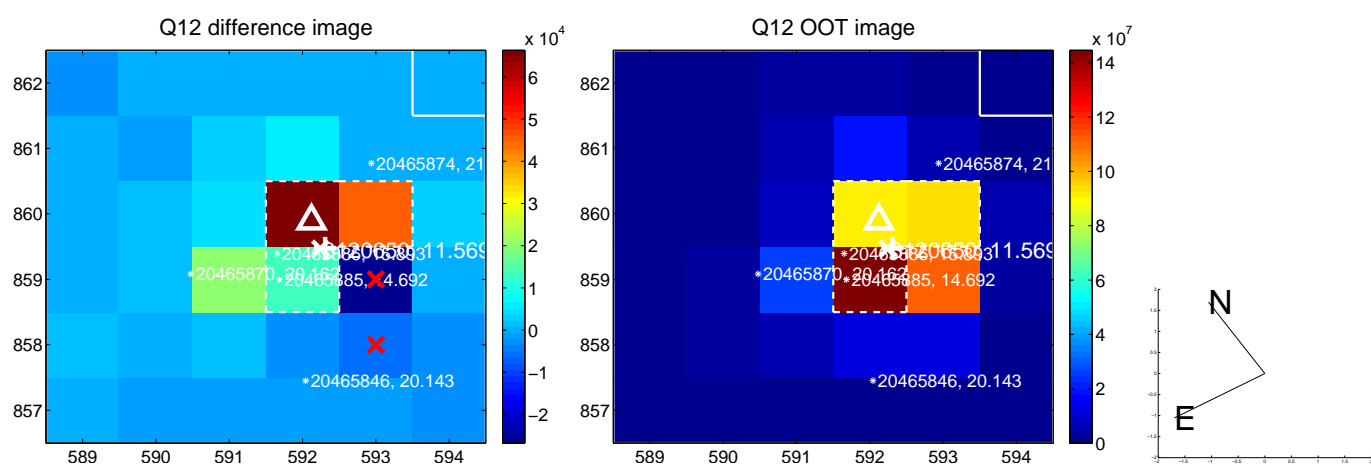
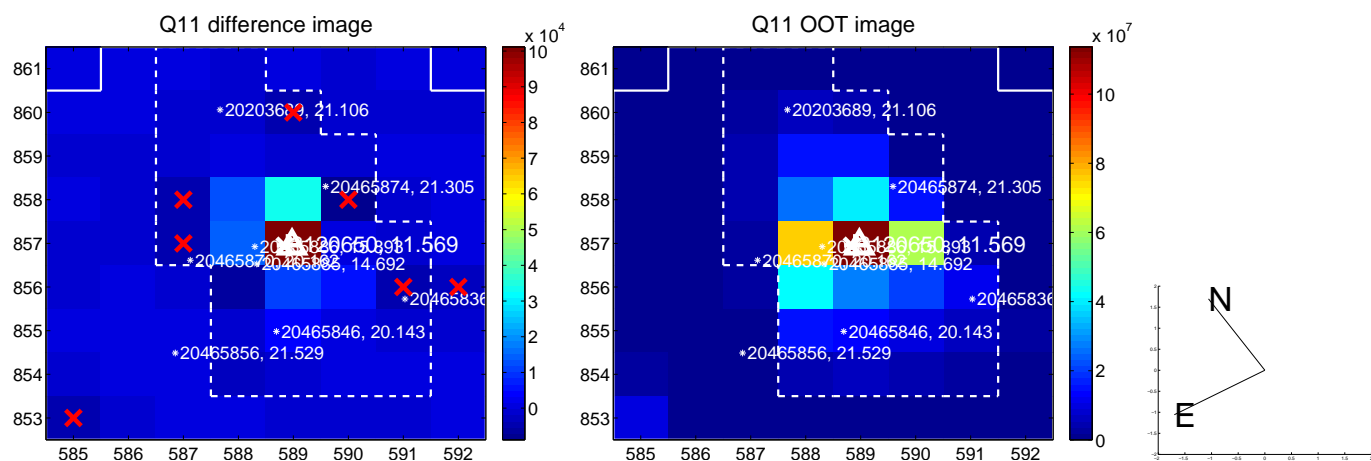
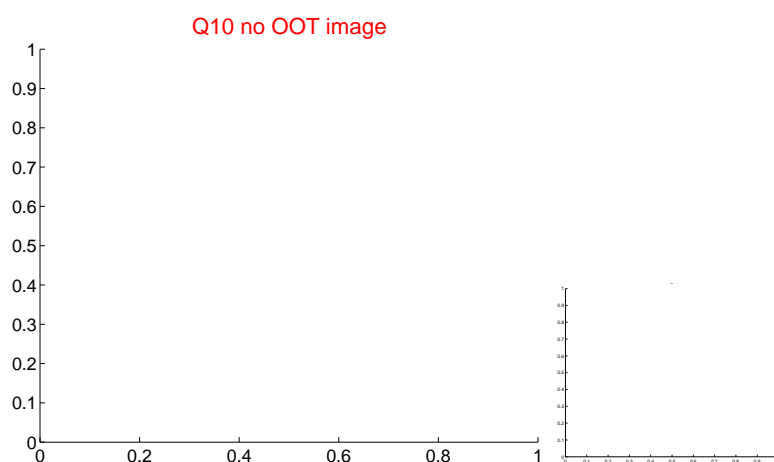
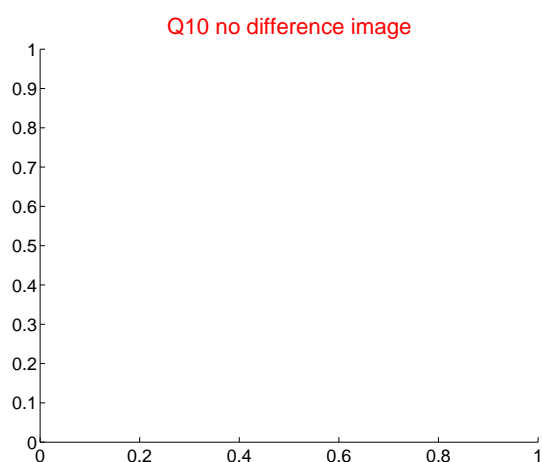
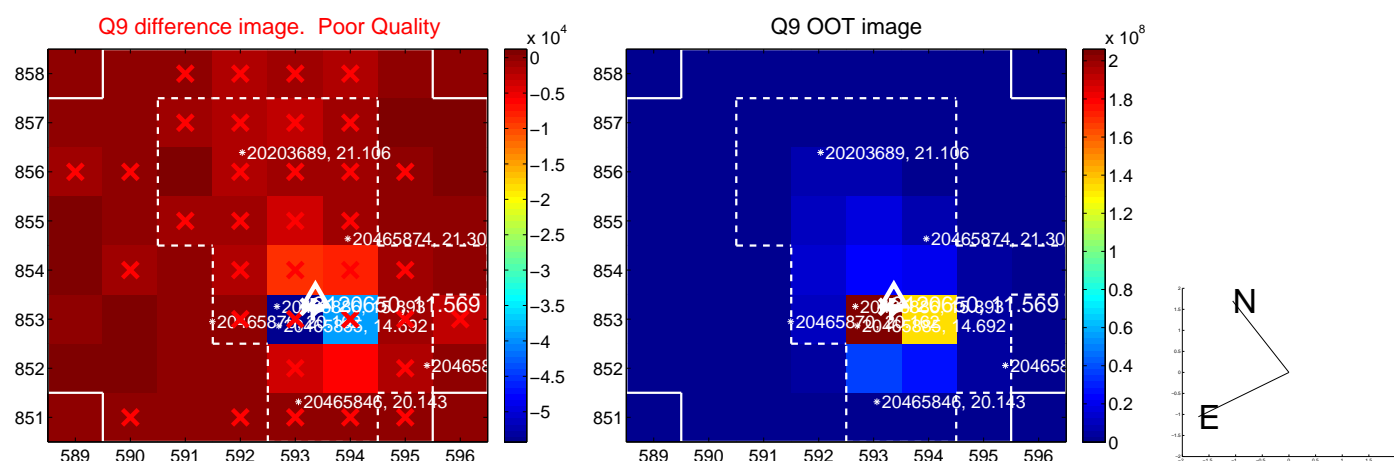
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



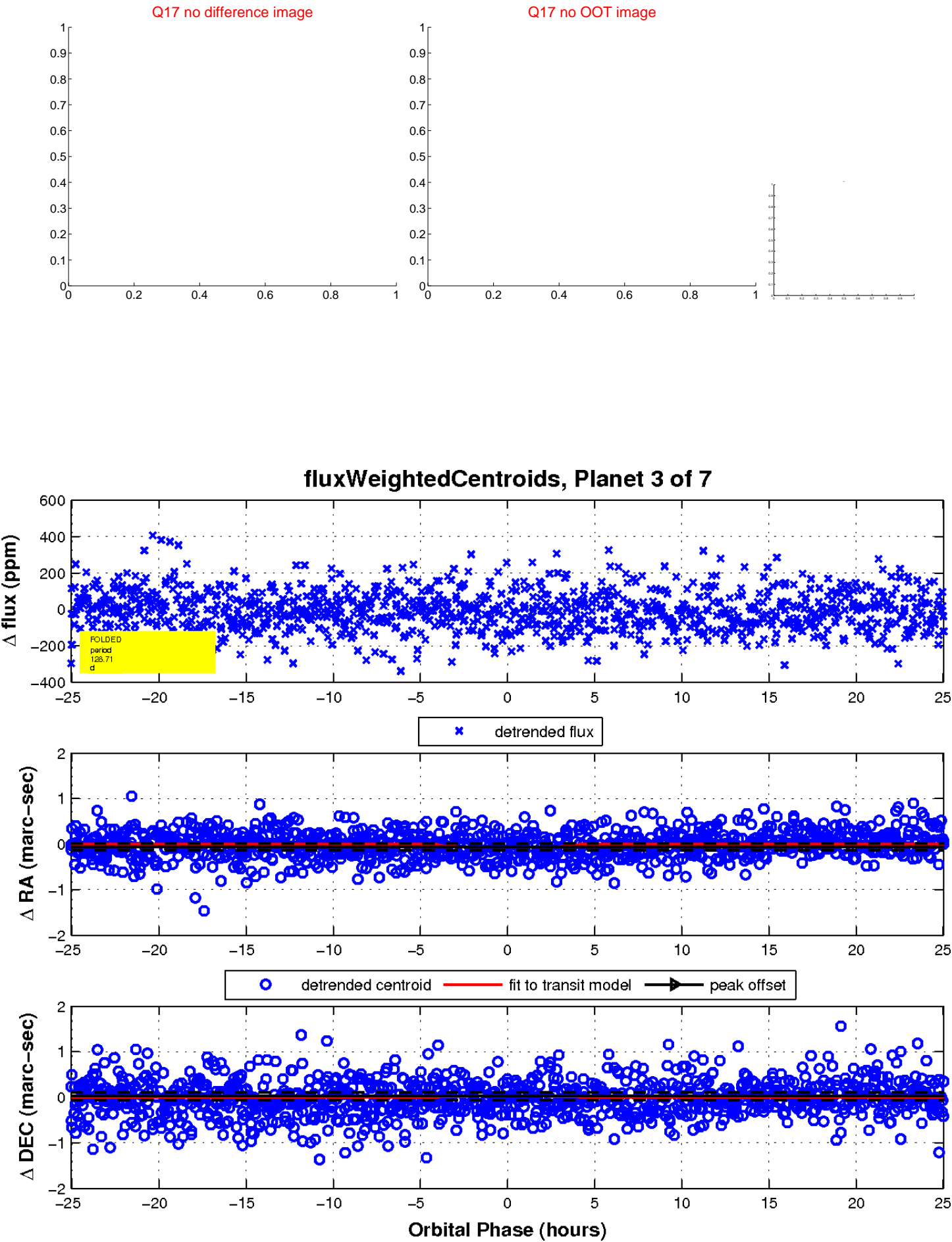
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



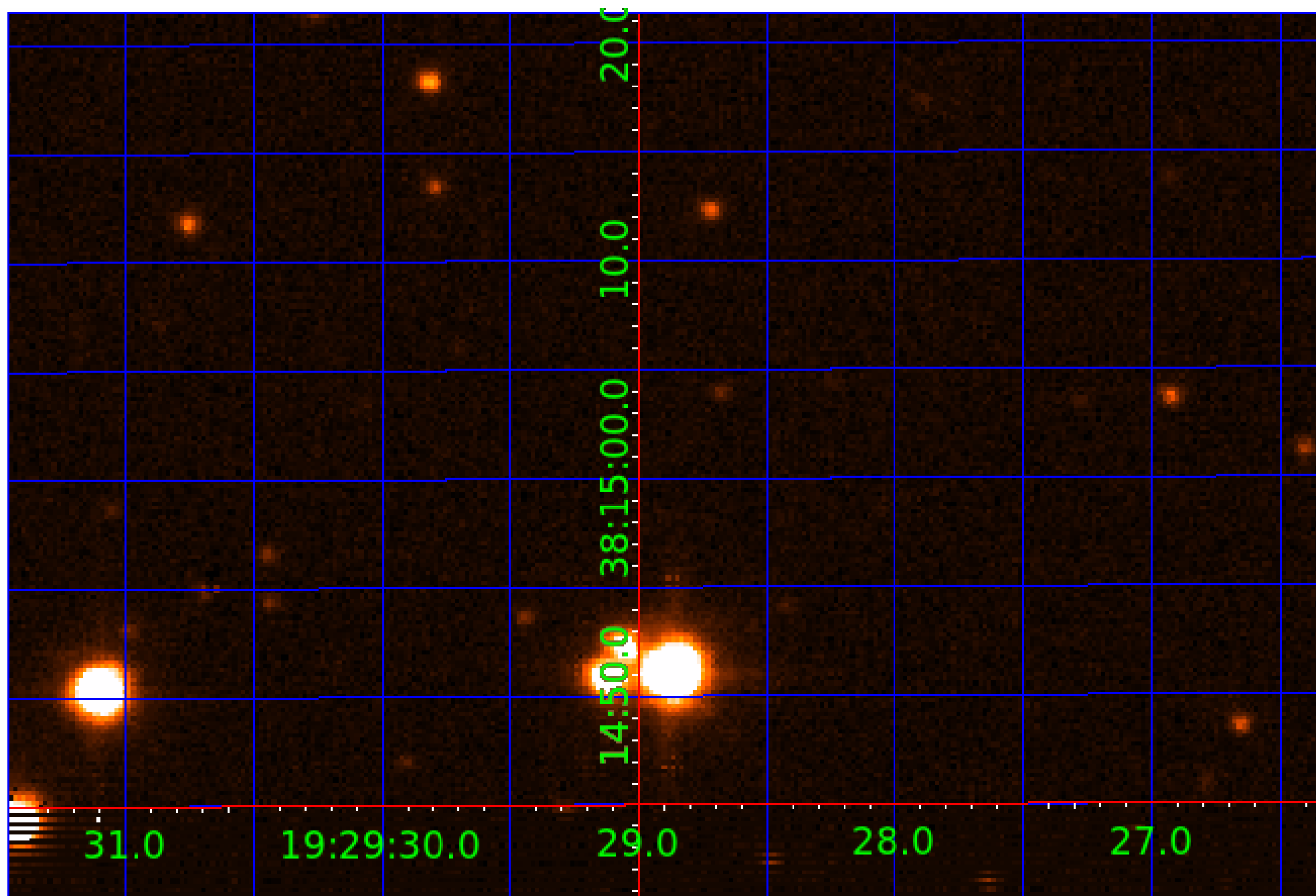
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003120650

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})
003120650-01	OBS	No	2.105462	132.740235	24.6	1.567	9.4	8.4	1.64	6864	0.85	4147.93
003120650-02	OBS	No	2.105407	133.425098	2.3	13.331	8.2	1.5	1.64	6864	0.27	4148.08
003120650-03	OBS	No	128.707625	237.699832	131.5	8.357	15.8	6.8	1.64	6864	2.16	17.23
003120650-04	OBS	No	2.105255	132.162935	21.1	3.516	14.9	6.5	1.64	6864	0.81	4148.48
003120650-05	OBS	No	225.210461	145.189638	148.9	12.816	17.0	10.0	1.64	6864	2.31	8.17
003120650-06	OBS	No	205.256712	204.045049	200.1	3.266	11.5	11.4	1.64	6864	2.63	9.24
003120650-07	OBS	No	54.143709	157.013841	183.0	5.874	10.6	10.6	1.64	6864	2.44	54.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003120650-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003120650-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003120650-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS
003120650-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
003120650-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
003120650-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
003120650-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

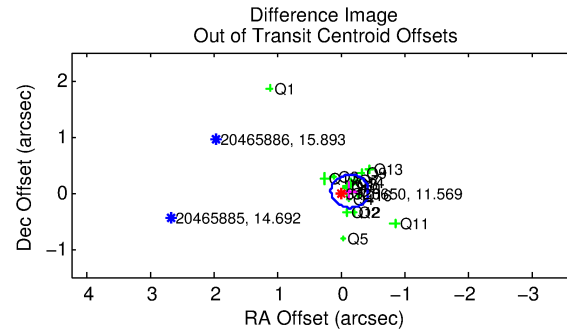
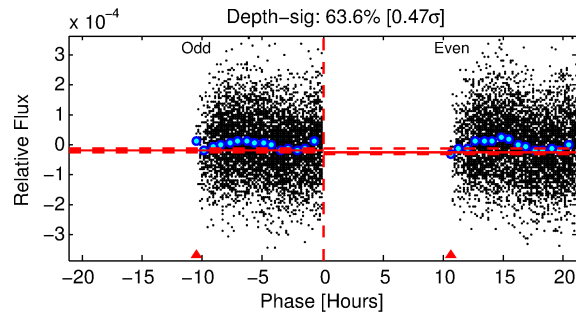
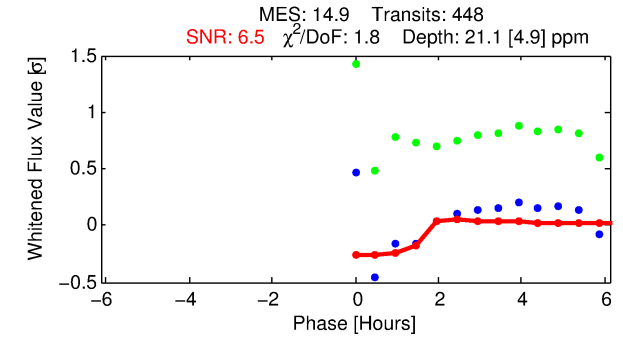
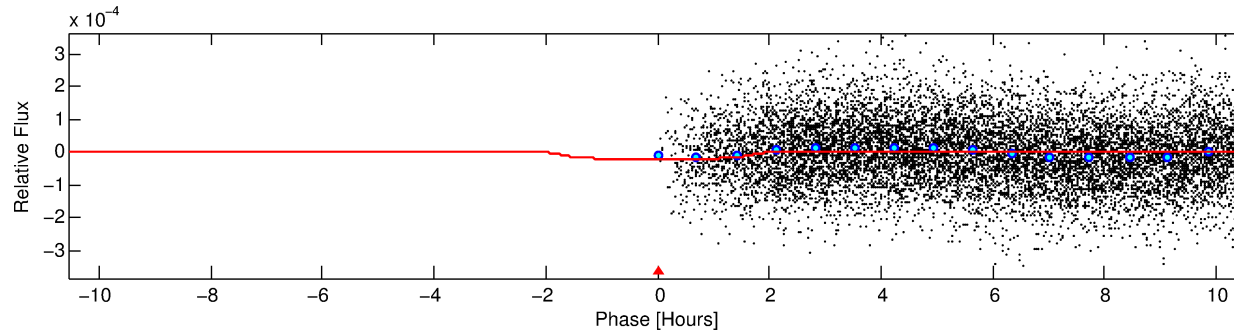
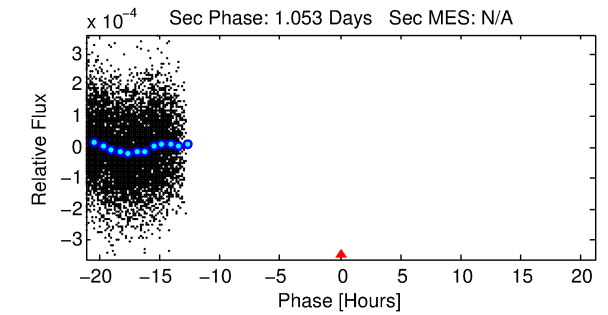
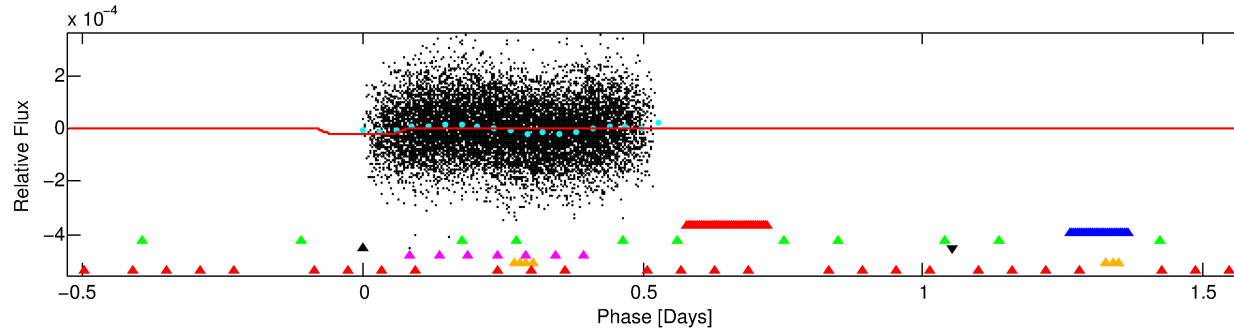
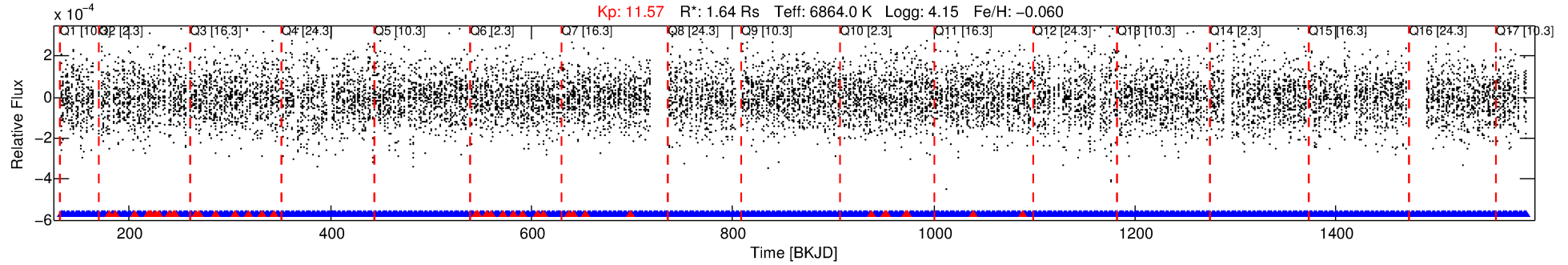
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003120650-04

No Significant Match Found

DV One-Page Summary

KIC: 3120650 Candidate: 4 of 7 Period: 2.105 d



DV Fit Results:

Period = 2.10526 [0.00002] d
Epoch = 132.1629 [0.0115] BKJD
 $R_p/R^* = 0.0045$ [0.0012]
 $a/R^* = 3.40$ [4.21]
 $b = 0.70$ [0.99]
 $\text{Seff} = 4148.48$ [879.52]
 $T_{\text{eq}} = 2046$ [108] K
 $R_p = 0.81$ [0.25] R_e
 $a = 0.0360$ [0.0052] AU

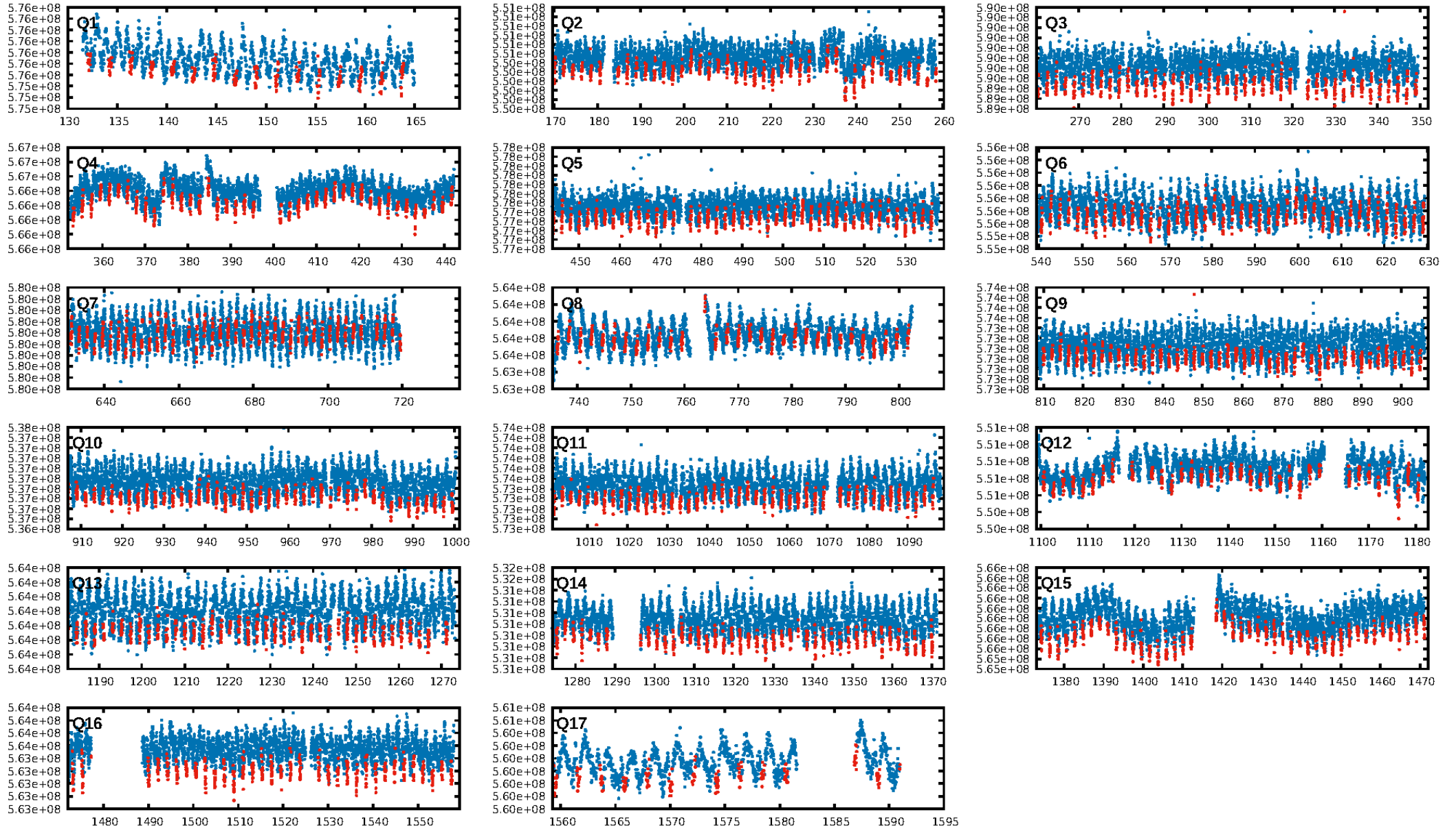
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.91 [394/432]
GhostDiagnostic-chr: 1.988
Centroid-sig: 0.0%
Centroid-so: 2.418 arcsec [3.54σ]
OotOffset-rm: 0.133 arcsec [1.35σ]
KicOffset-rm: 0.357 arcsec [2.64σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

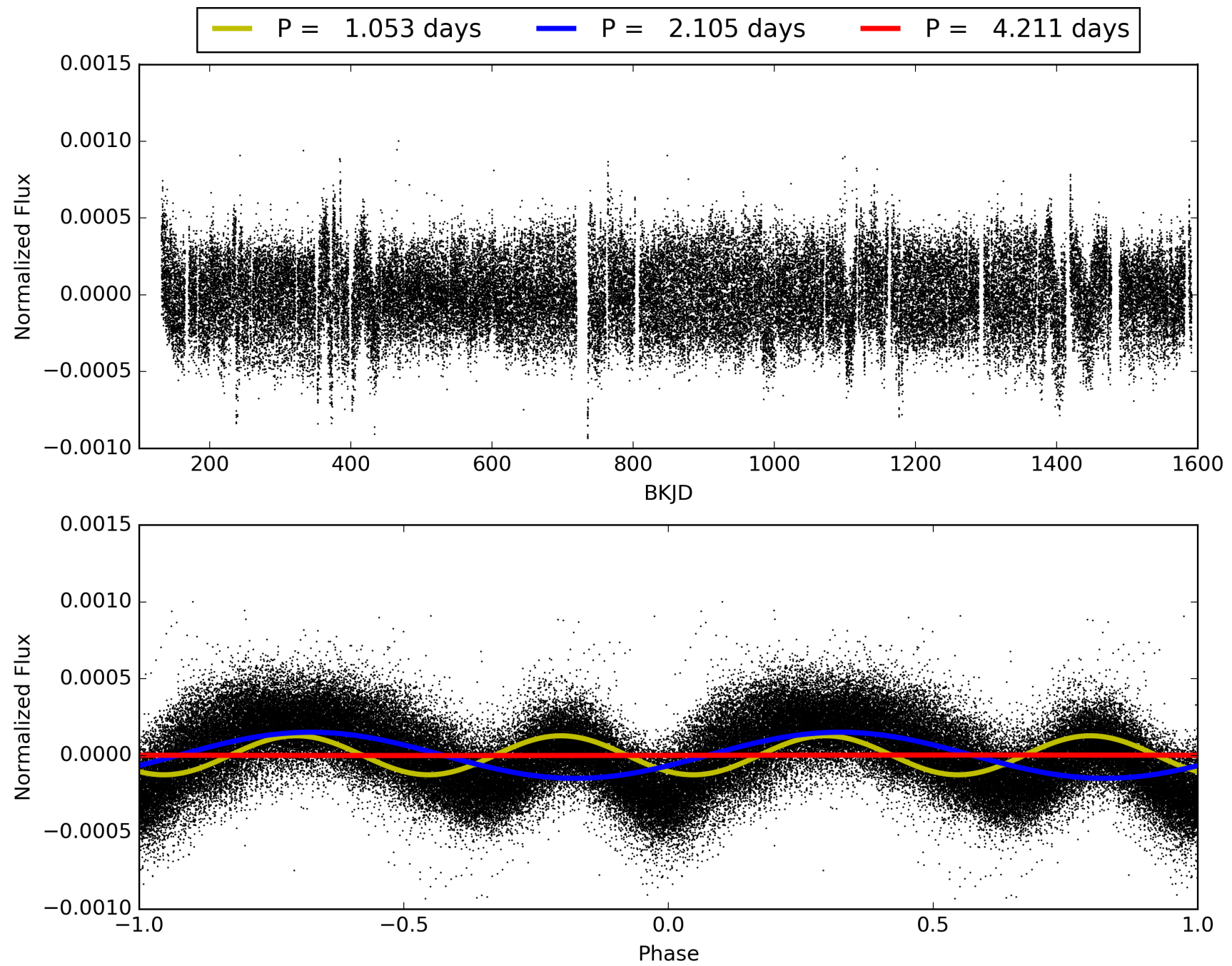
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:53:50 Z

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

TCE 003120650-04, PDC Light Curves

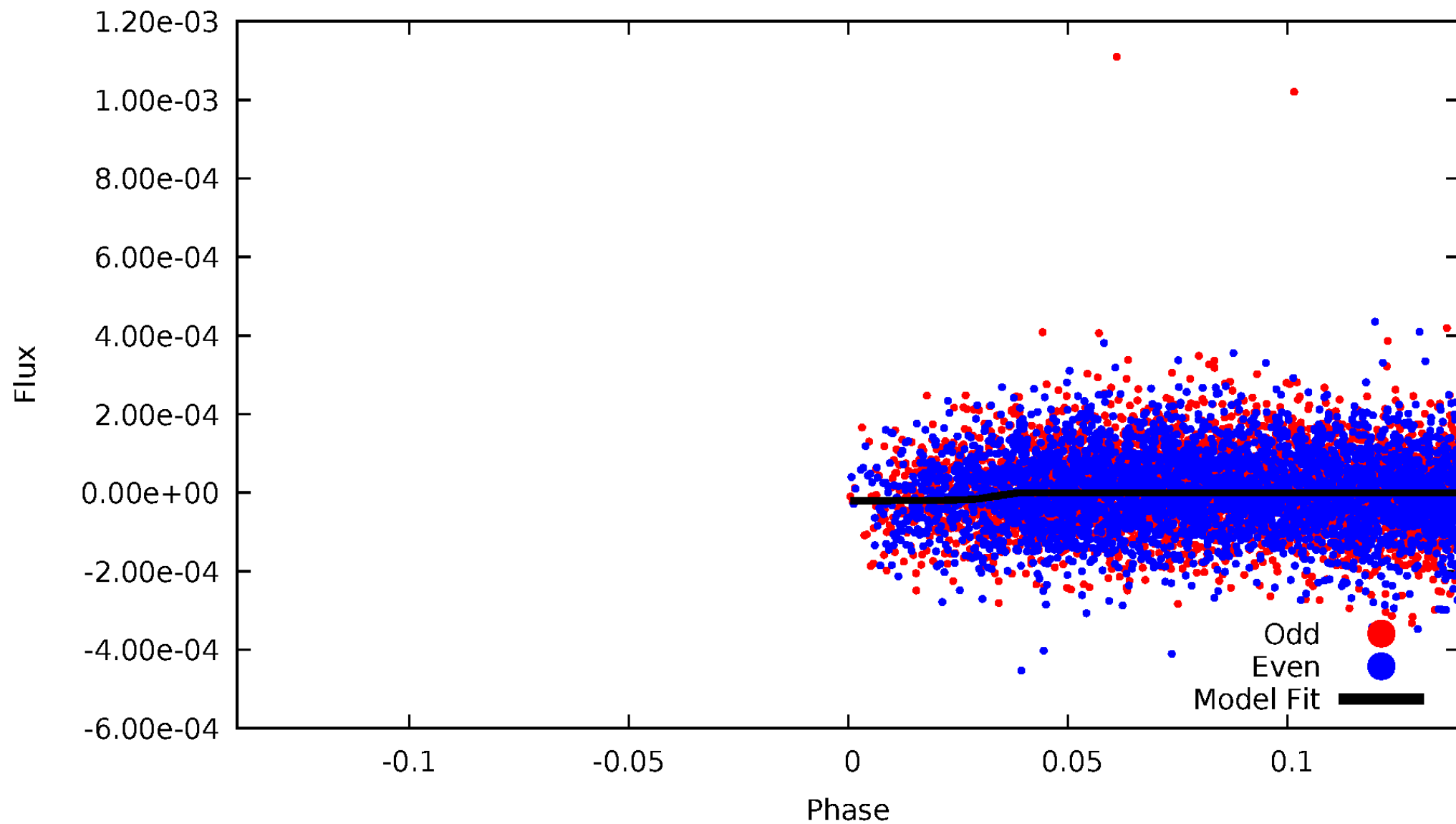


TCE 003120650-04



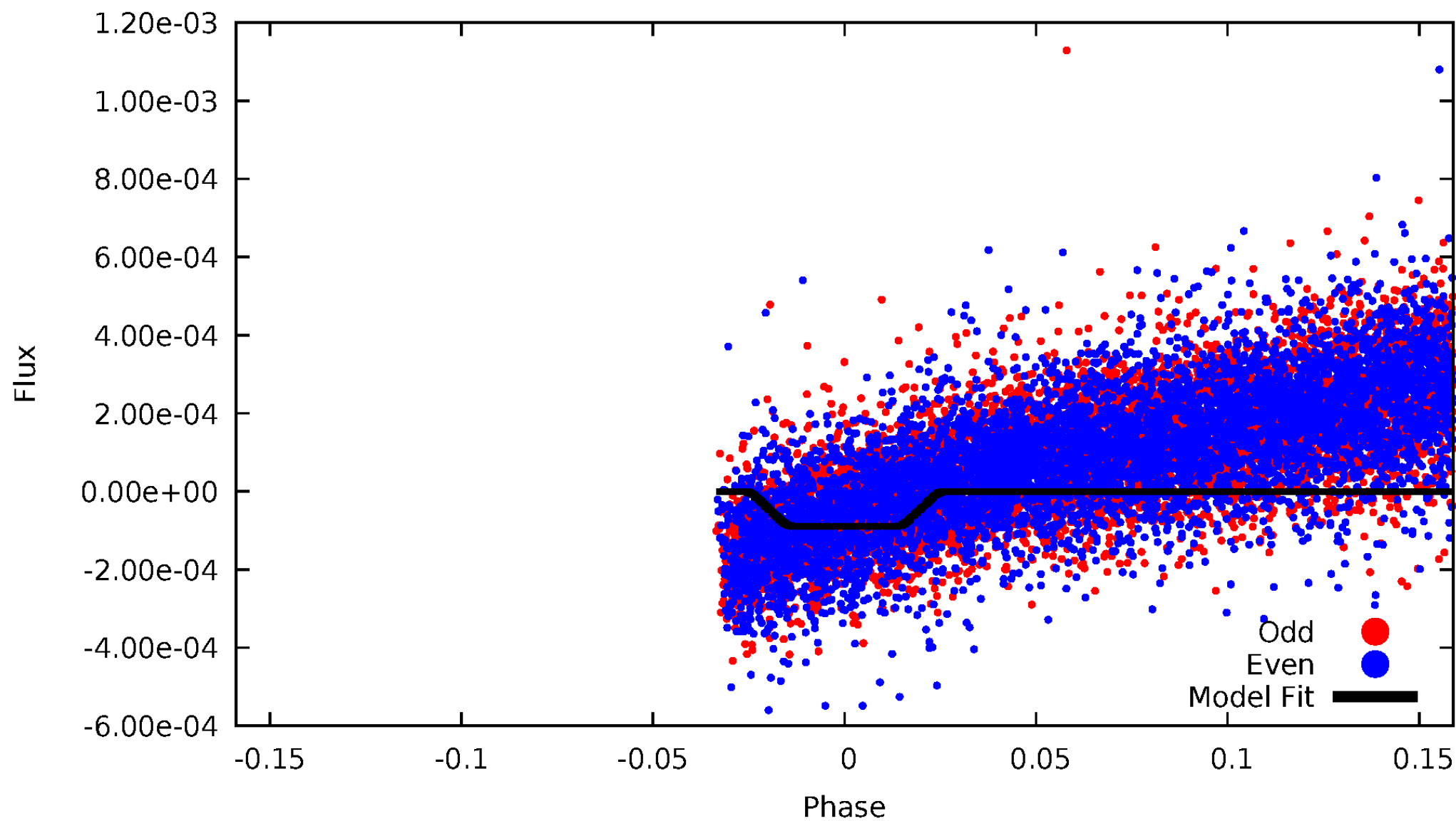
DV Odd/Even

TCE 003120650-04



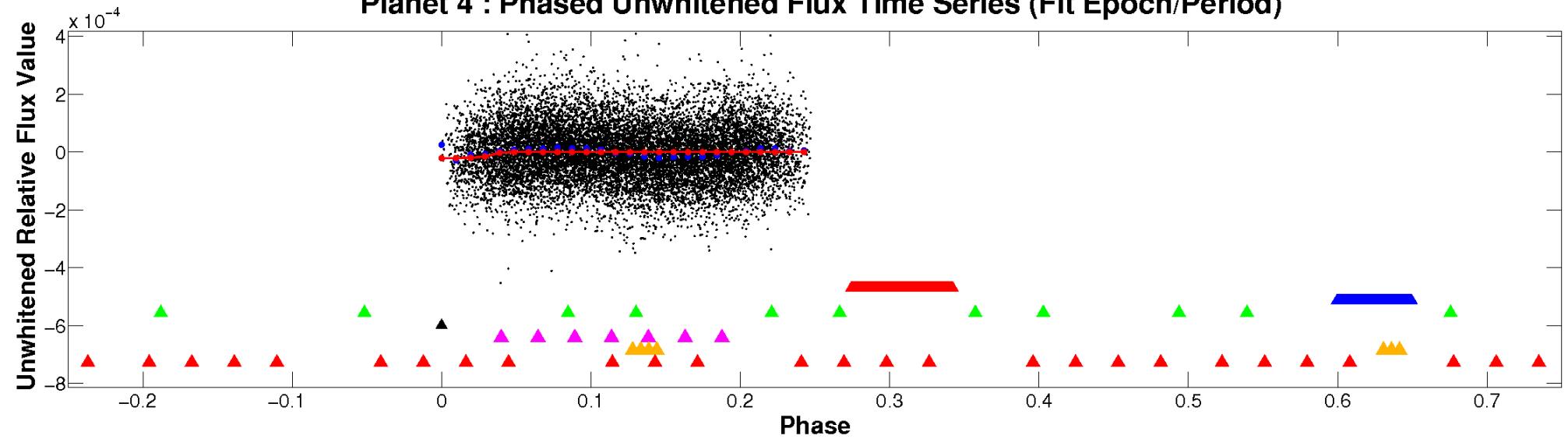
ALT Odd/Even

TCE 003120650-04

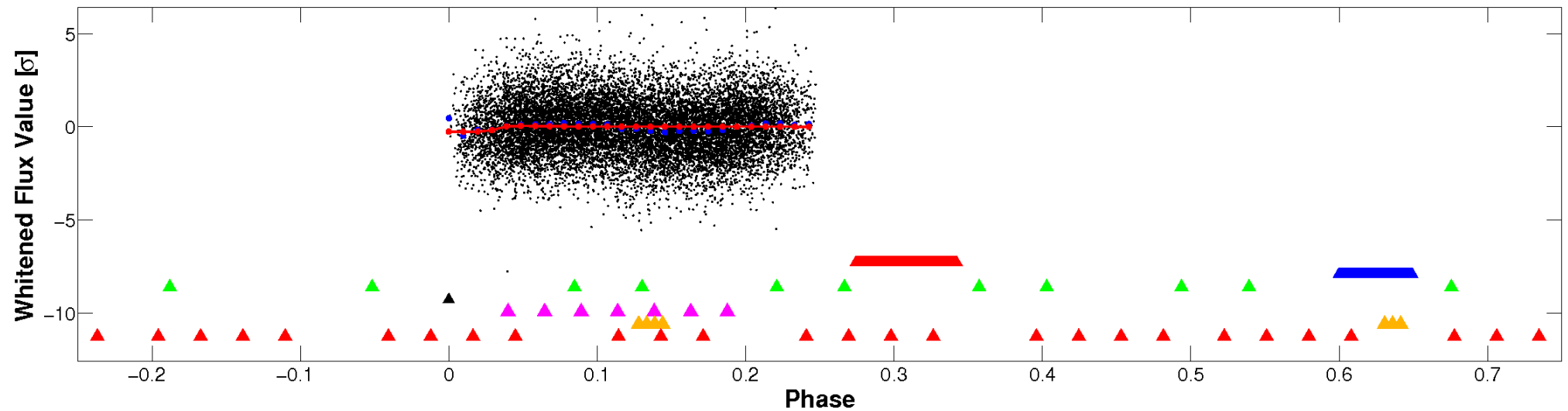


Non-Whitened Vs. Whitened Light Curve

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

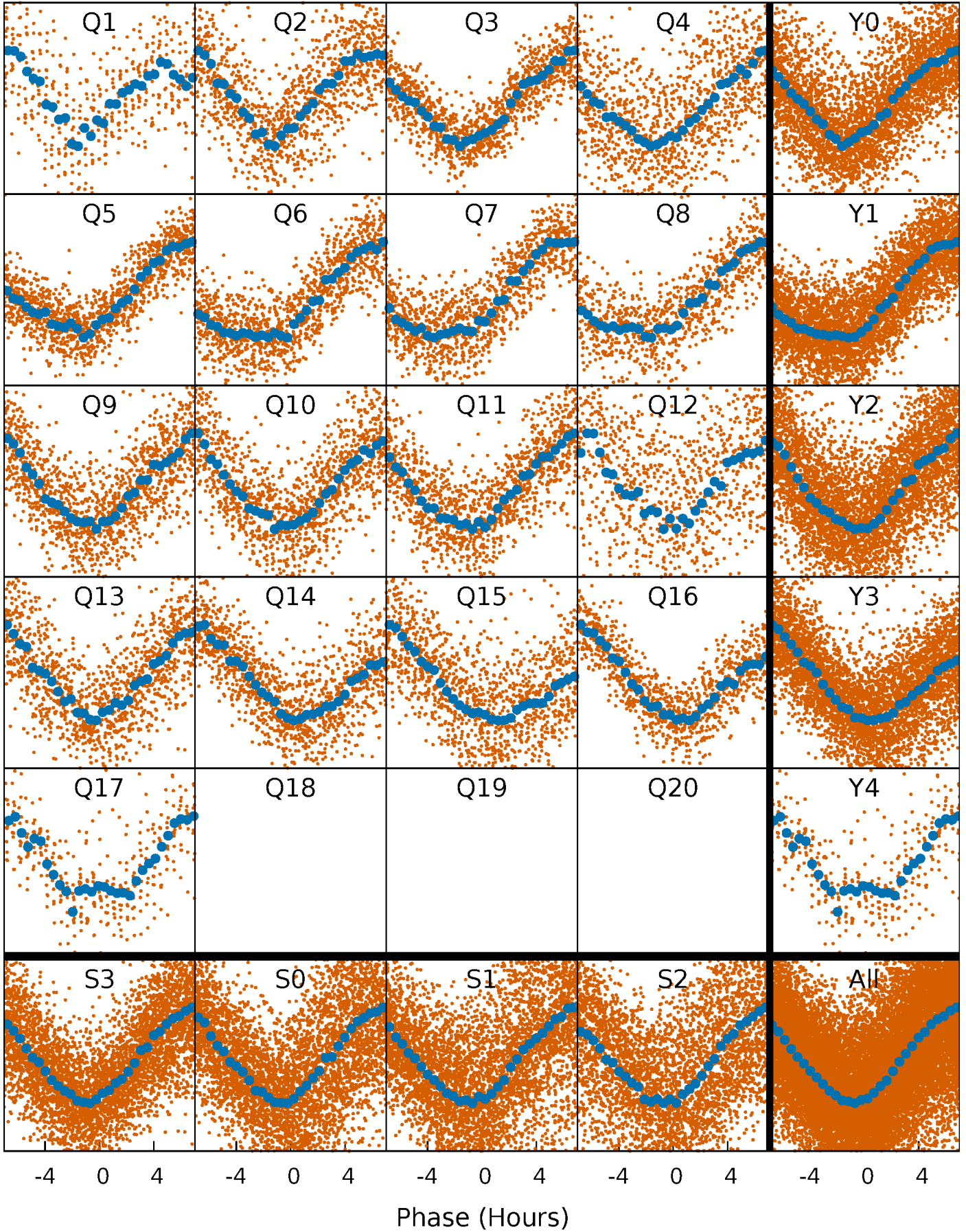


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



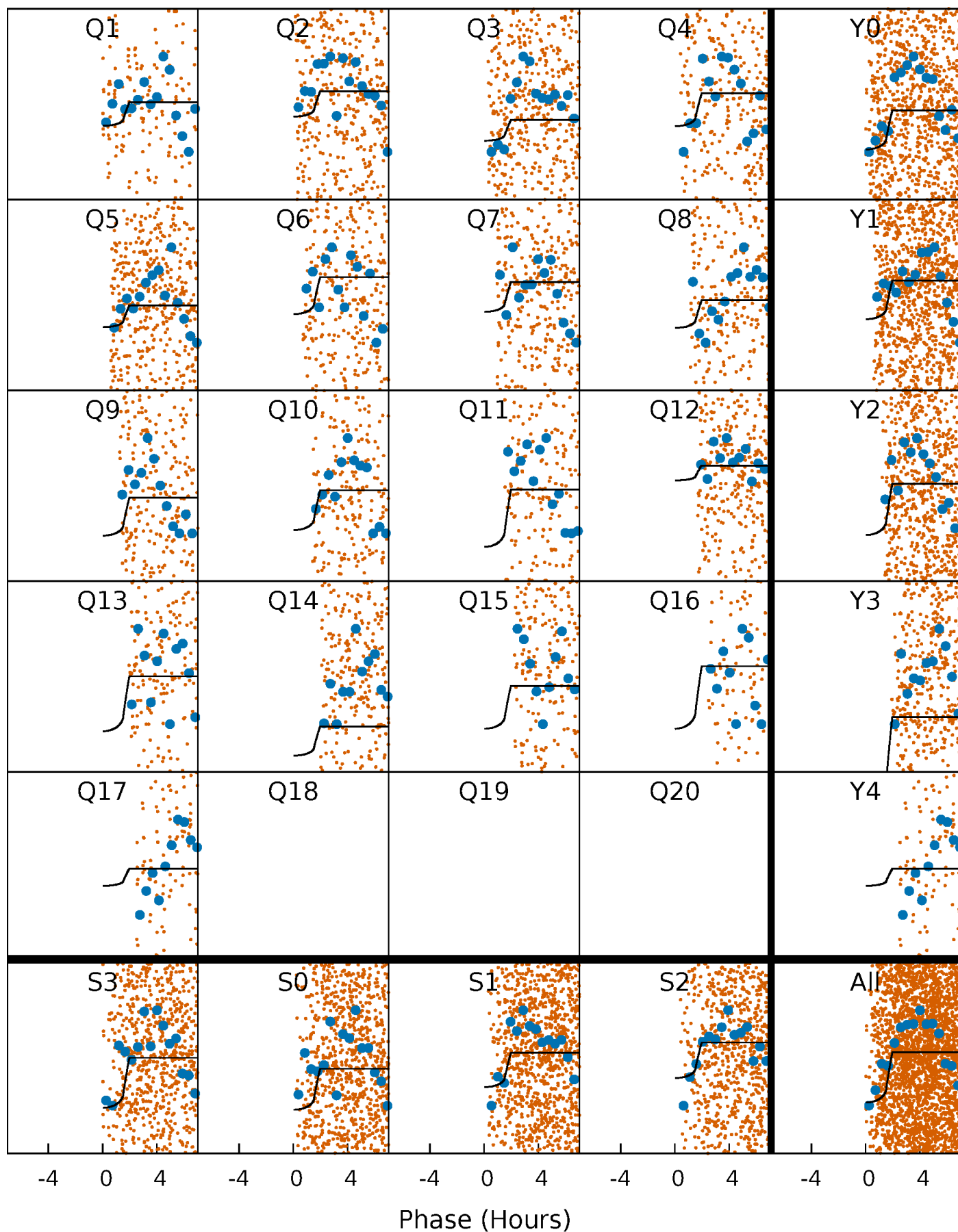
PDC Quarter-Phased Transit Curves

TCE 003120650-04 P= 2.105255 Days $T_0=132.162935$ (BKJD)



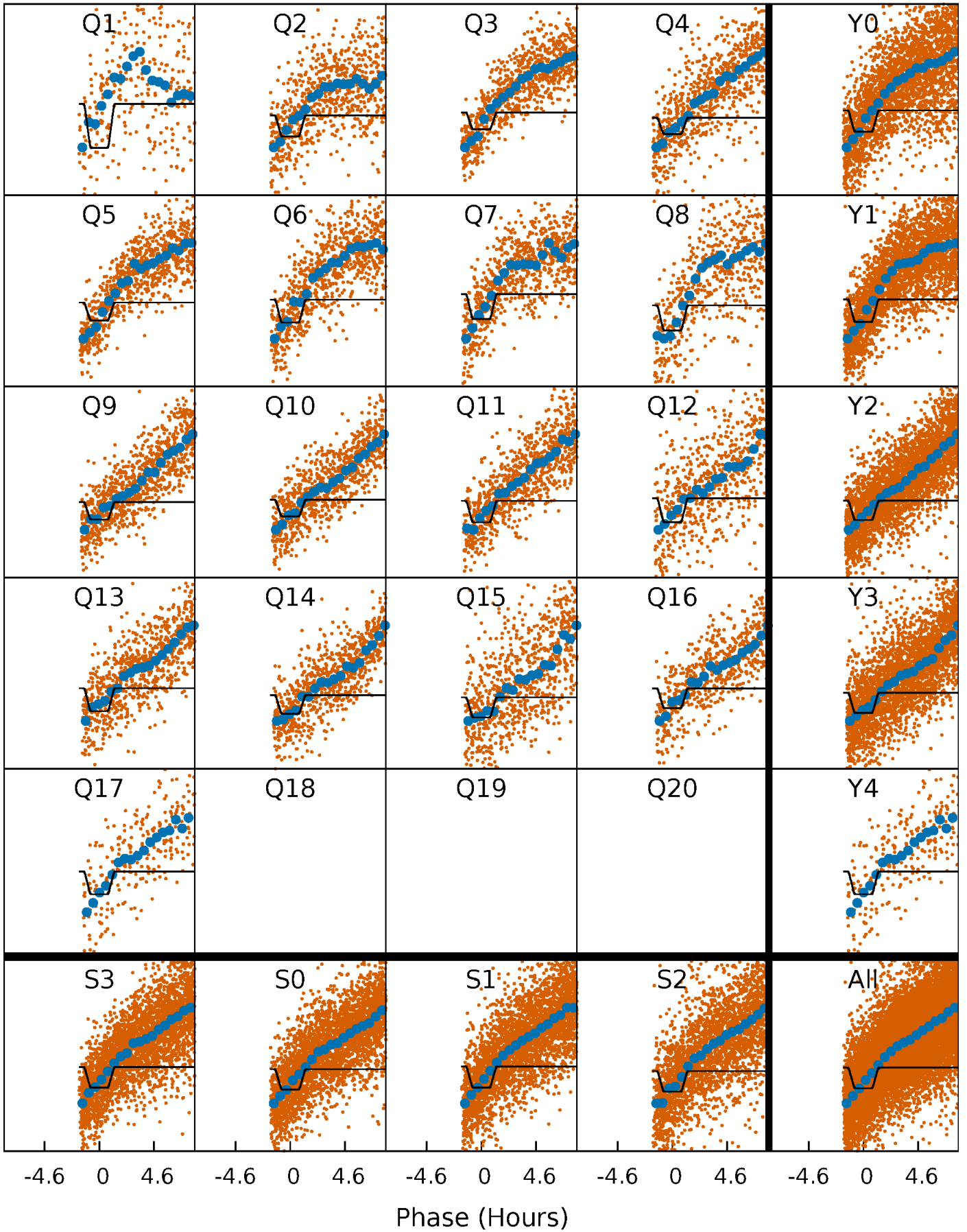
DV Quarter-Phased Transit Curves

TCE 003120650-04 P= 2.105255 Days $T_0=132.162935$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

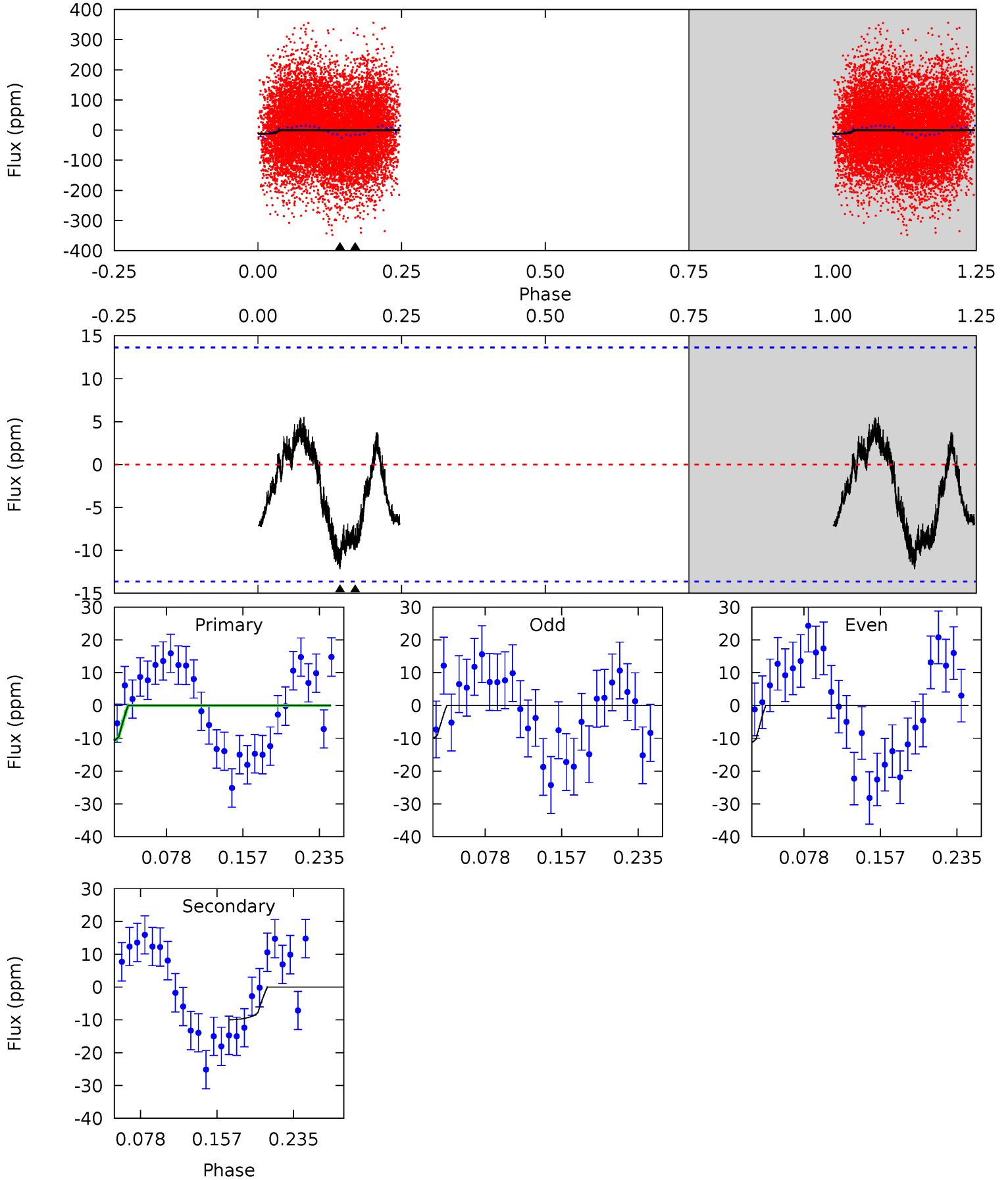
TCE 003120650-04 P= 2.105386 Days $T_0=132.233823$ (BKJD)



DV Model-Shift Uniqueness Test

003120650-04, P = 2.105255 Days, E = 132.162935 Days

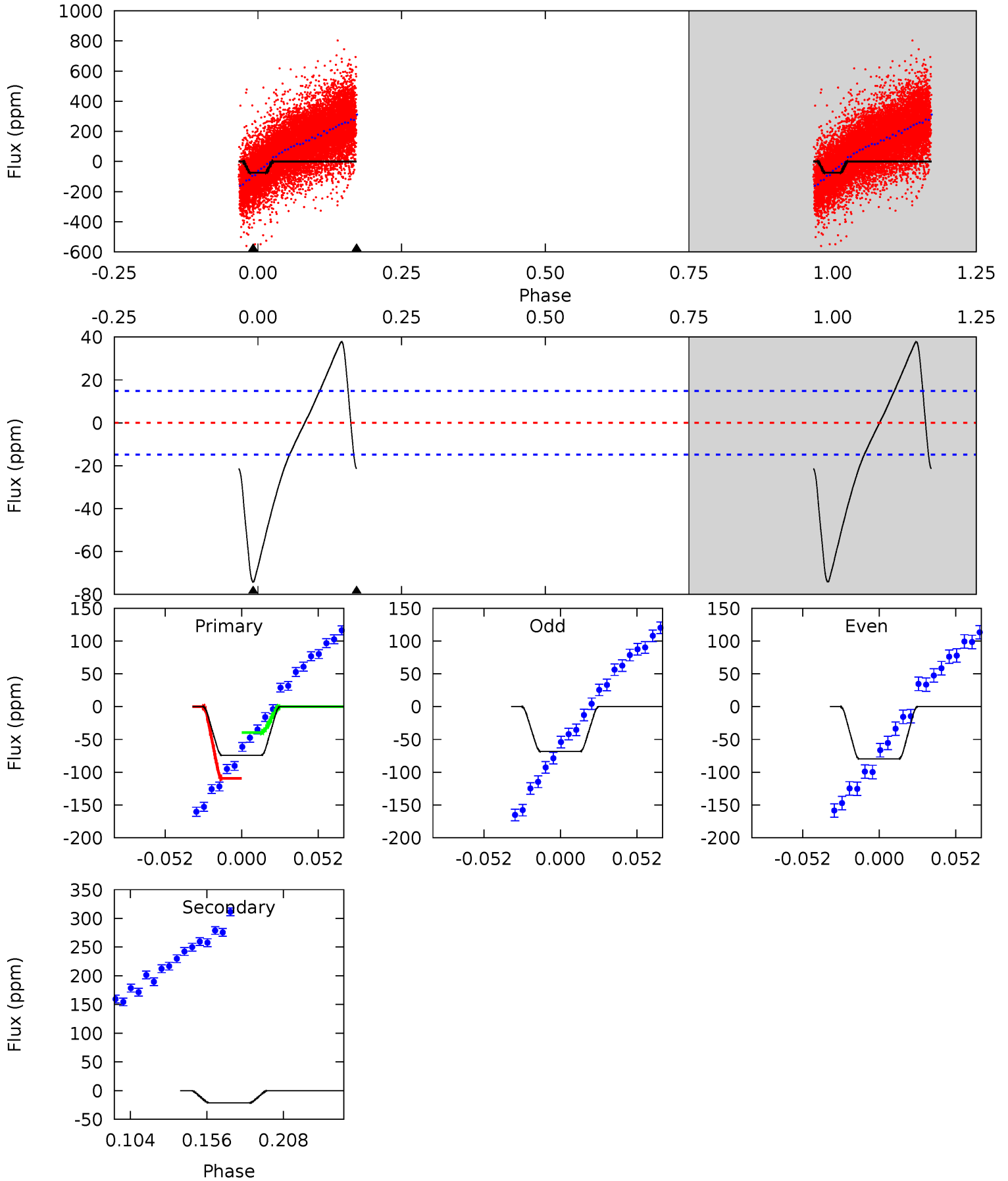
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.13	3.37	0	0	4.62	1.76	0.77	4.13	4.13	3.37	3.37	0.24	3.53	0.31	0



Alt Model-Shift Uniqueness Test

003120650-04, P = 2.105386 Days, E = 130.128437 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
23.5	6.76	0	0	4.70	1.94	3.99	23.5	23.5	6.76	6.76	1.79	0.99	0.34	10.5



Stellar Parameters For KIC 003120650

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6864^{+72}_{-92}	$4.153^{+0.090}_{-0.110}$	$-0.060^{+0.150}_{-0.150}$	$1.643^{+0.287}_{-0.191}$	$1.408^{+0.095}_{-0.095}$	$0.447^{+0.188}_{-0.156}$
	+1%/-1%	+2%/-3%	+250%/-250%	+17%/-12%	+7%/-7%	+42%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003120650-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-10 ± 3	$0.82^{+0.23}_{-0.22}$	2855^{+128}_{-98}	5593^{+1090}_{-663}	$9.936^{+10.972}_{-4.389}$
Alt.	-21 ± 3	$1.70^{+0.26}_{-0.23}$	2851^{+116}_{-87}	4804^{+327}_{-263}	$5.181^{+1.999}_{-1.325}$

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 $A_{obs} \gg 1.0$

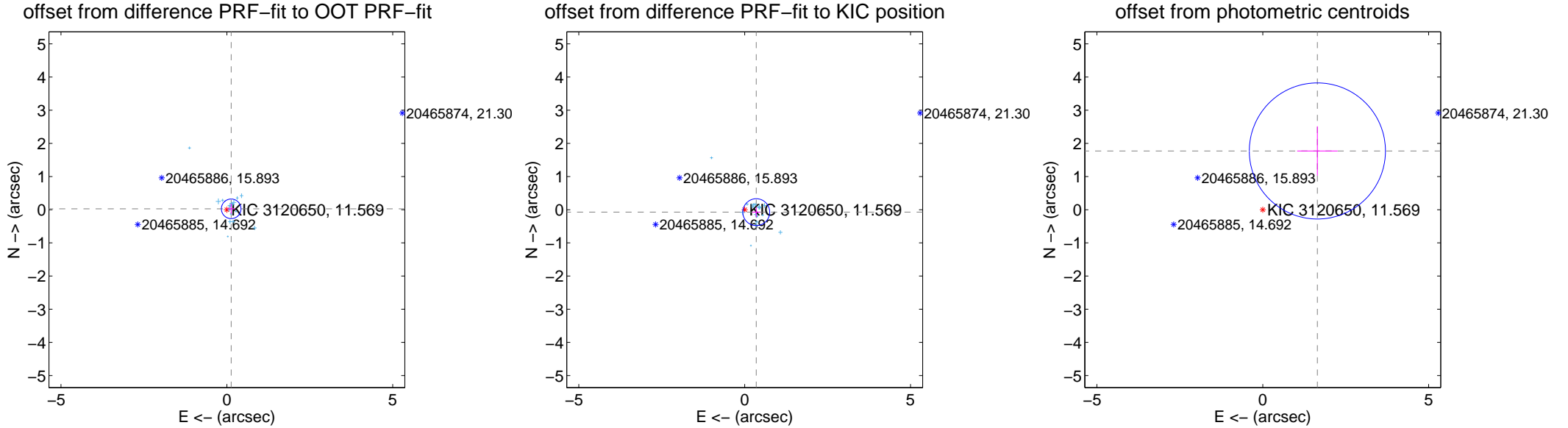
DV Centroid Data

Supplemental centroid analysis for 003120650-04. **Kepler magnitude: 11.57.** Transit SNR 6.51

There are 17 quarters with good PRF difference image offsets

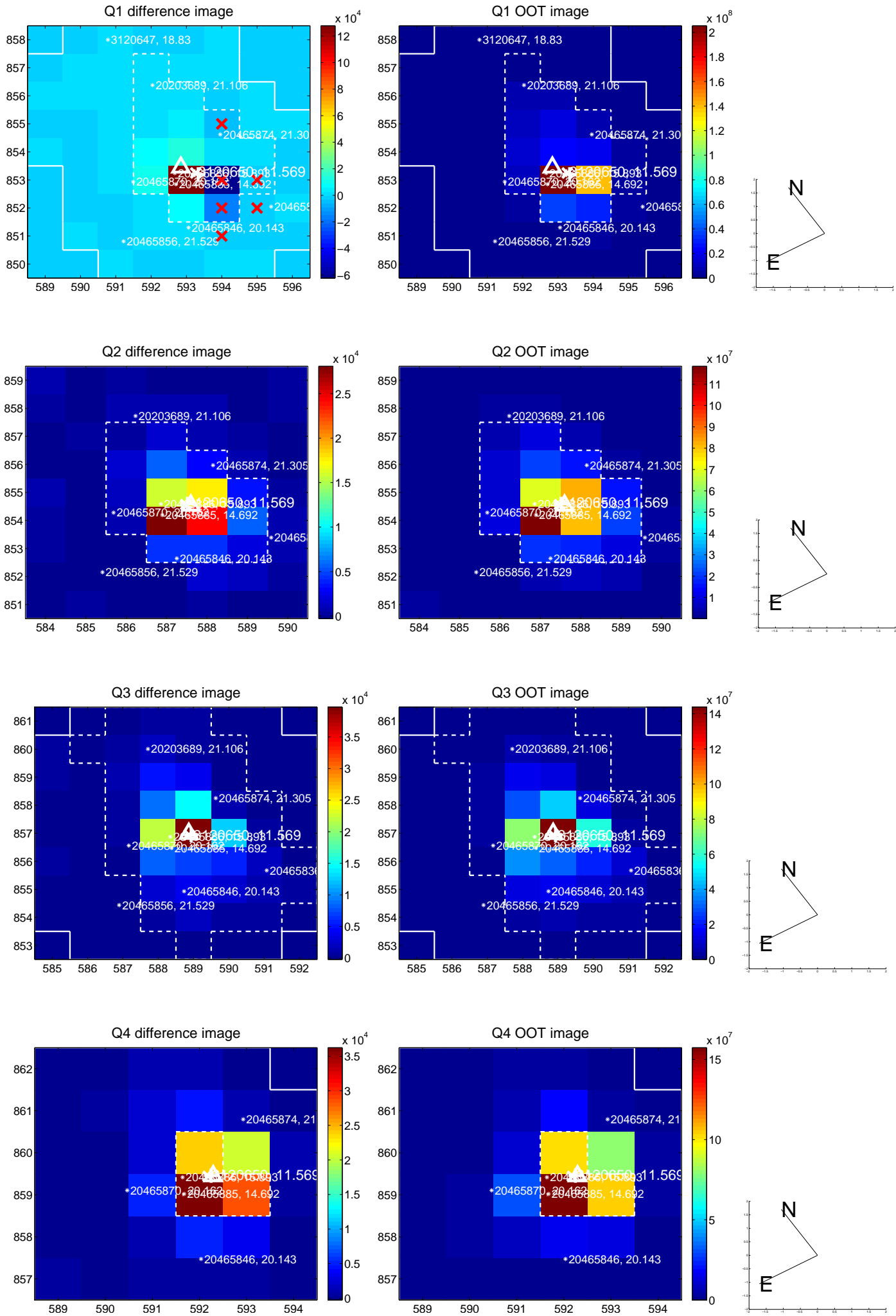
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.133 ± 0.098	1.35	-0.131 ± 0.115	0.027 ± 0.153
PRF-fit source offset from KIC position	0.357 ± 0.135	2.64	-0.349 ± 0.120	-0.074 ± 0.145
photometric centroid source offset	2.42 ± 0.68	3.54	-1.65 ± 0.61	1.77 ± 0.74

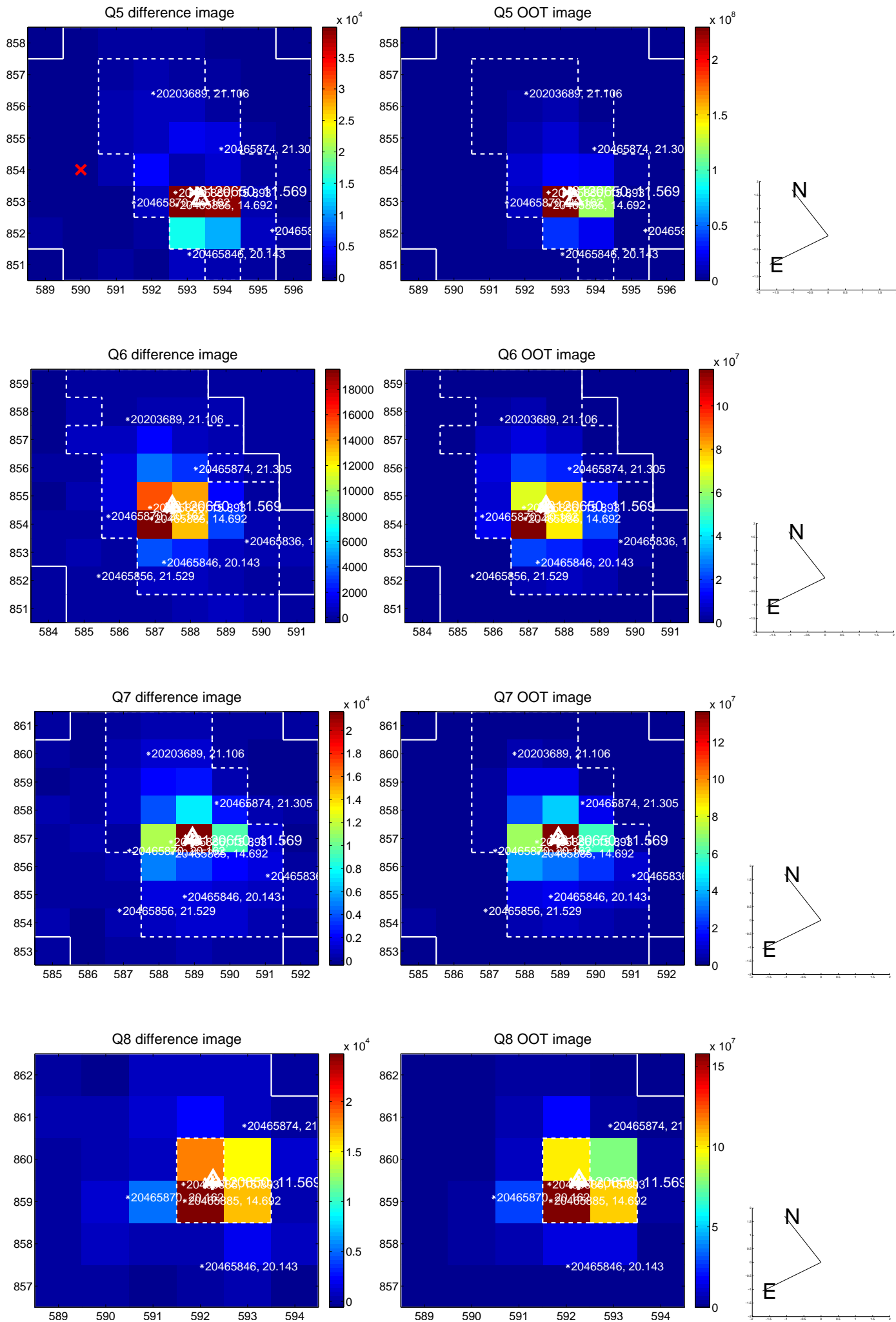


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

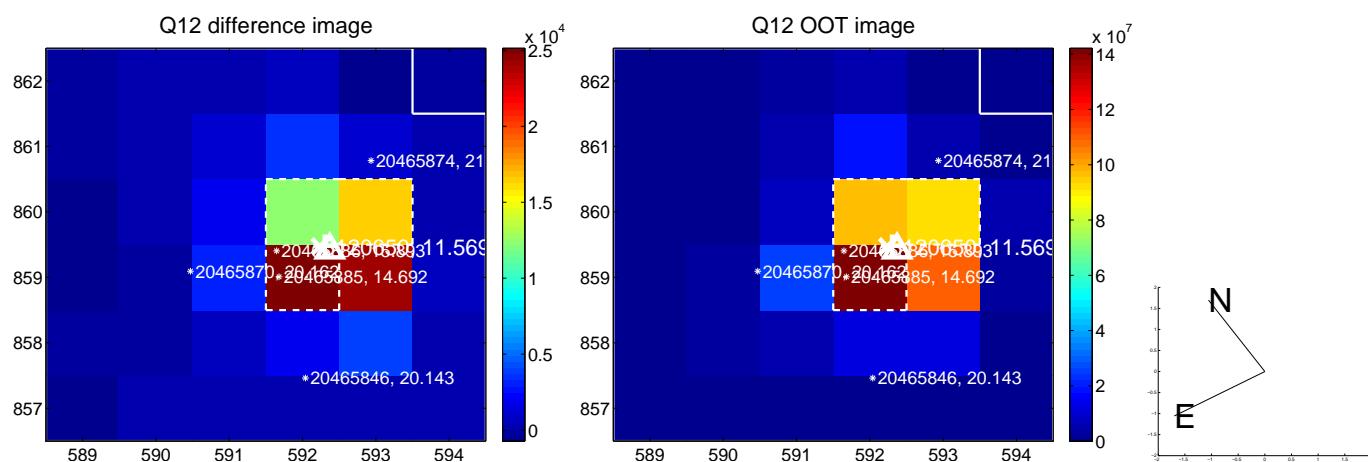
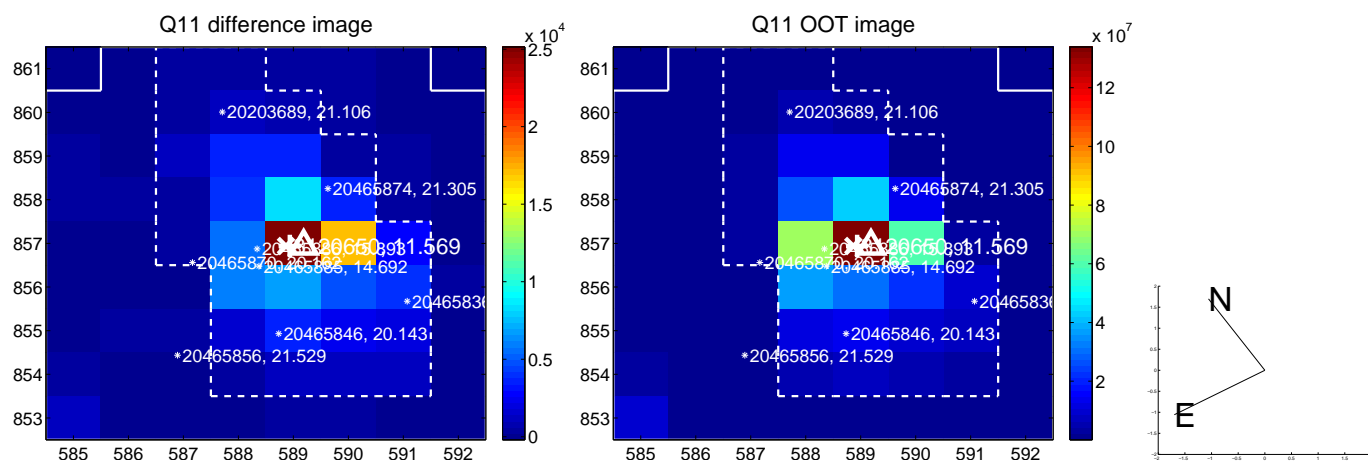
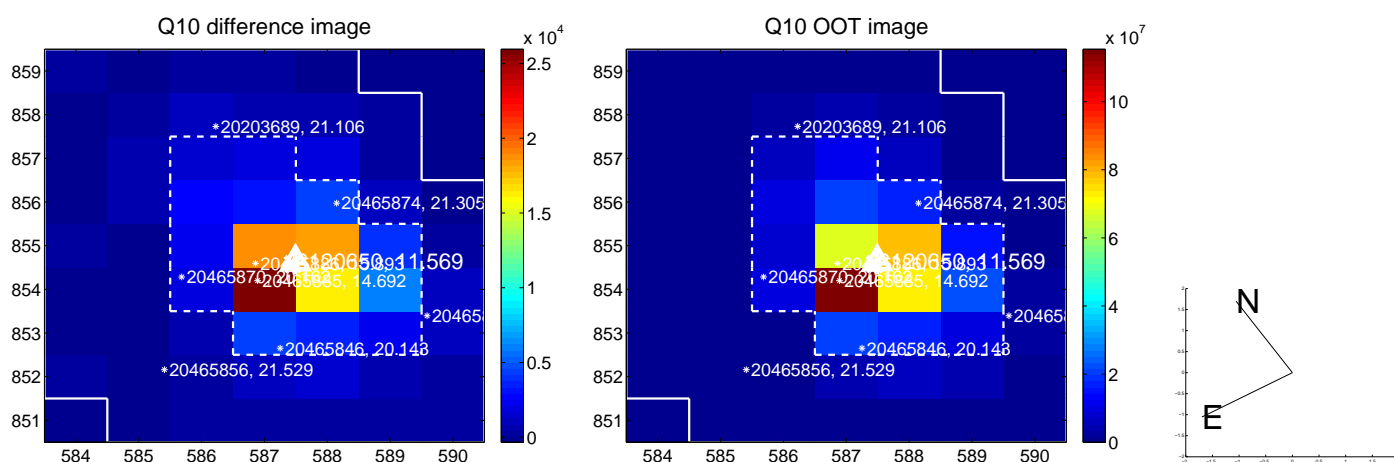
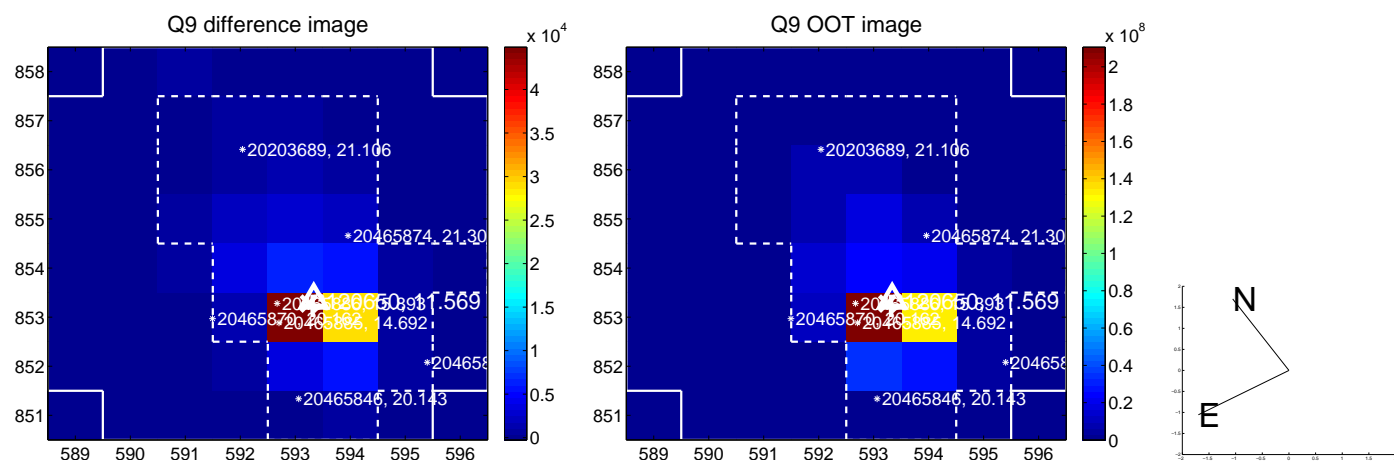
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



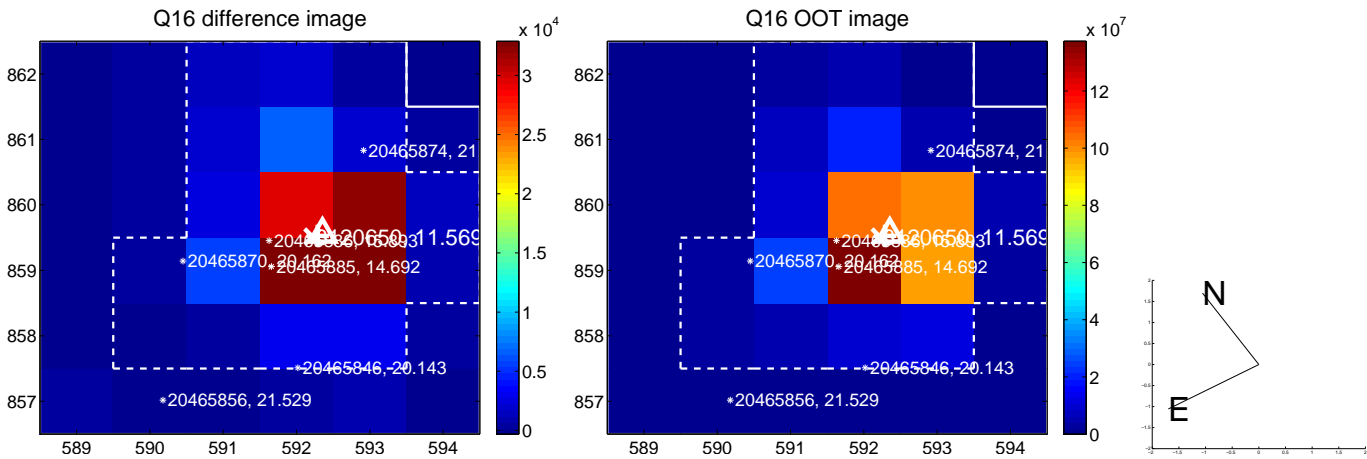
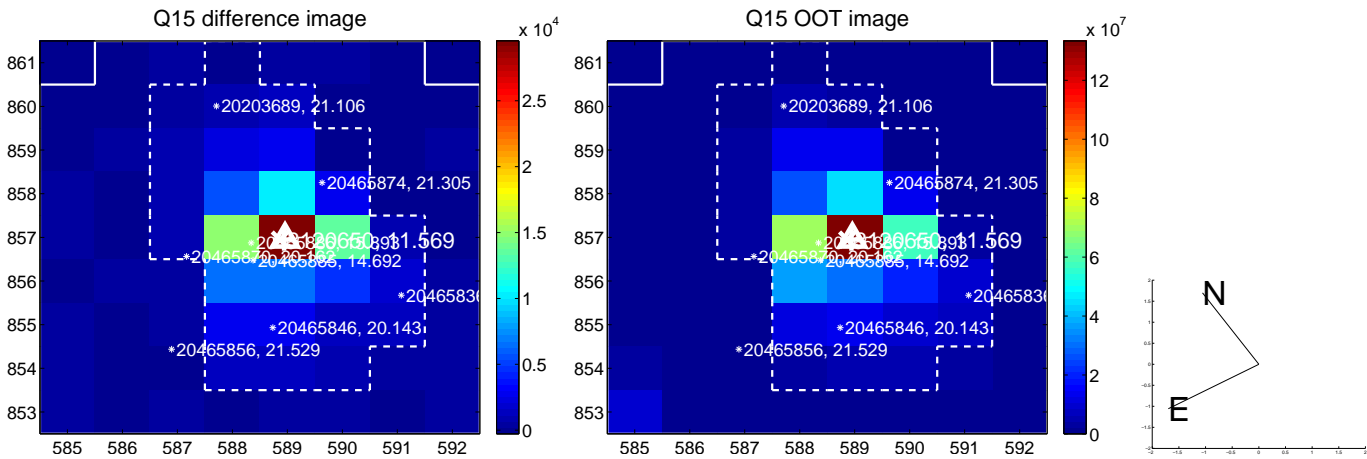
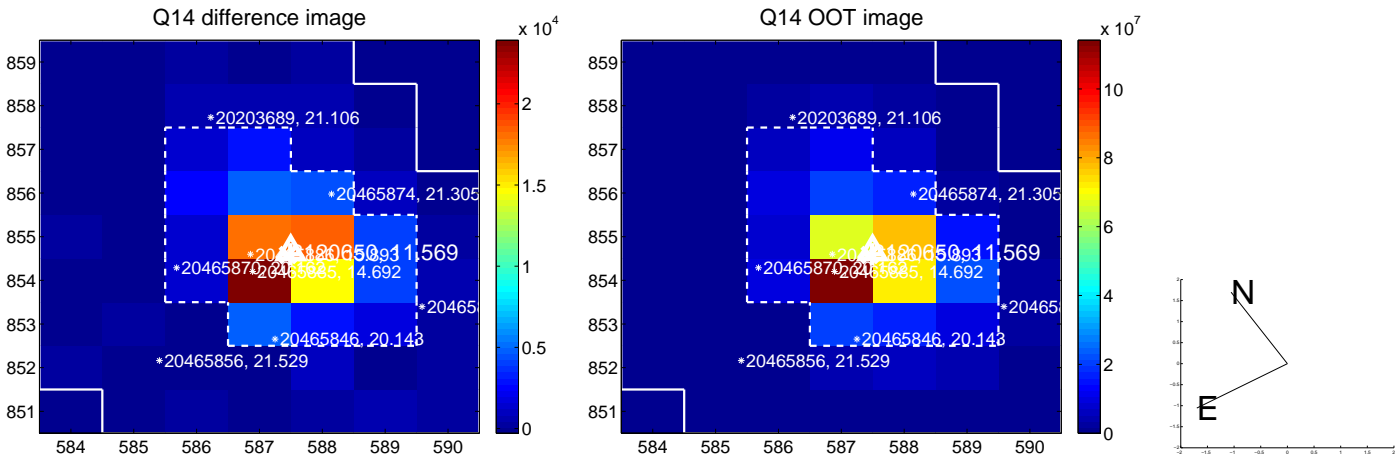
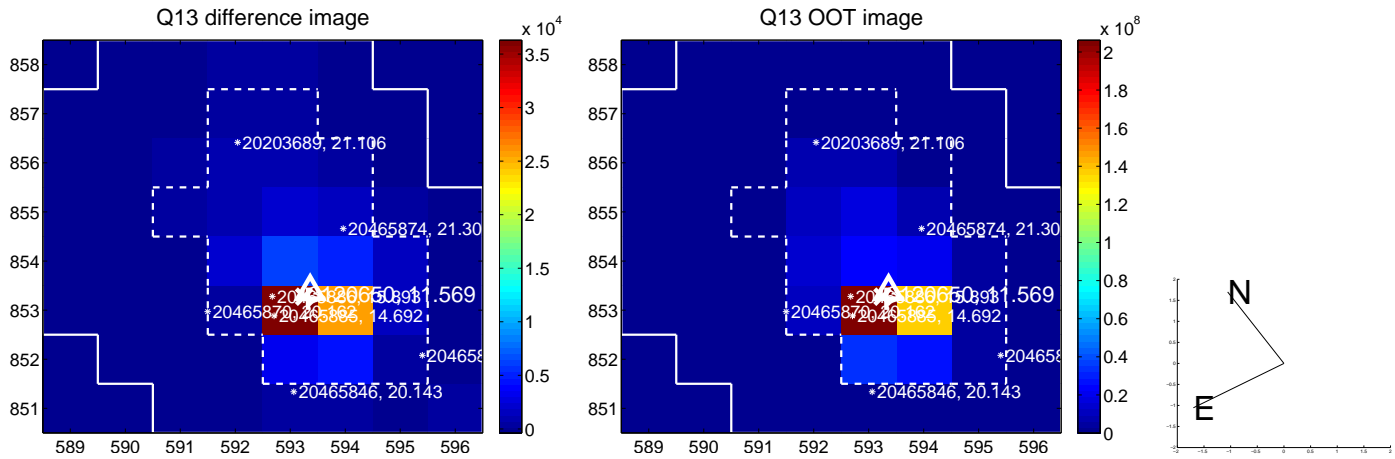
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



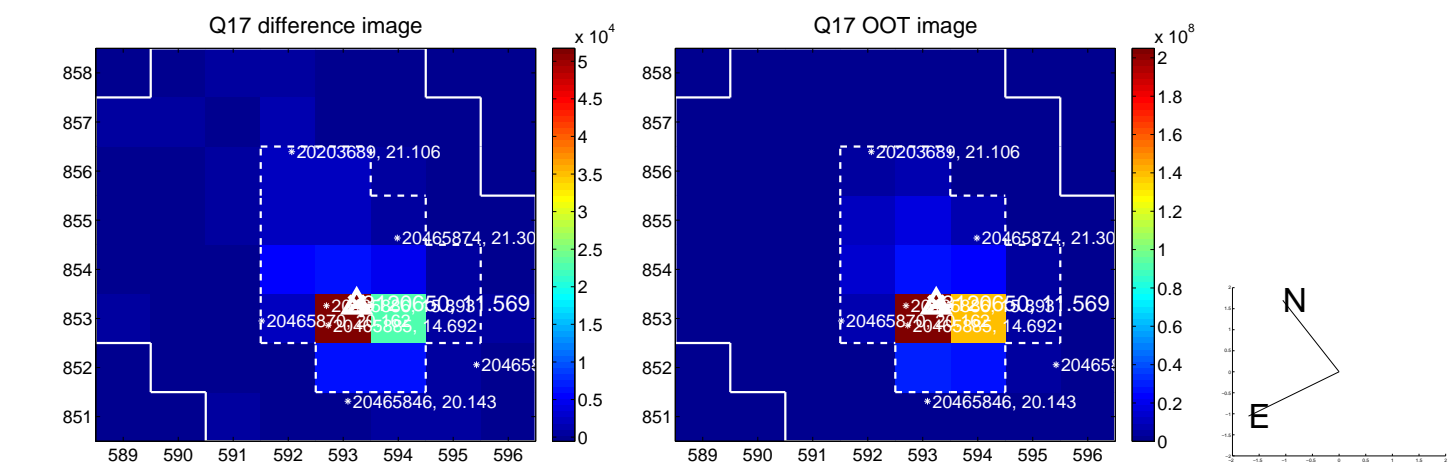
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



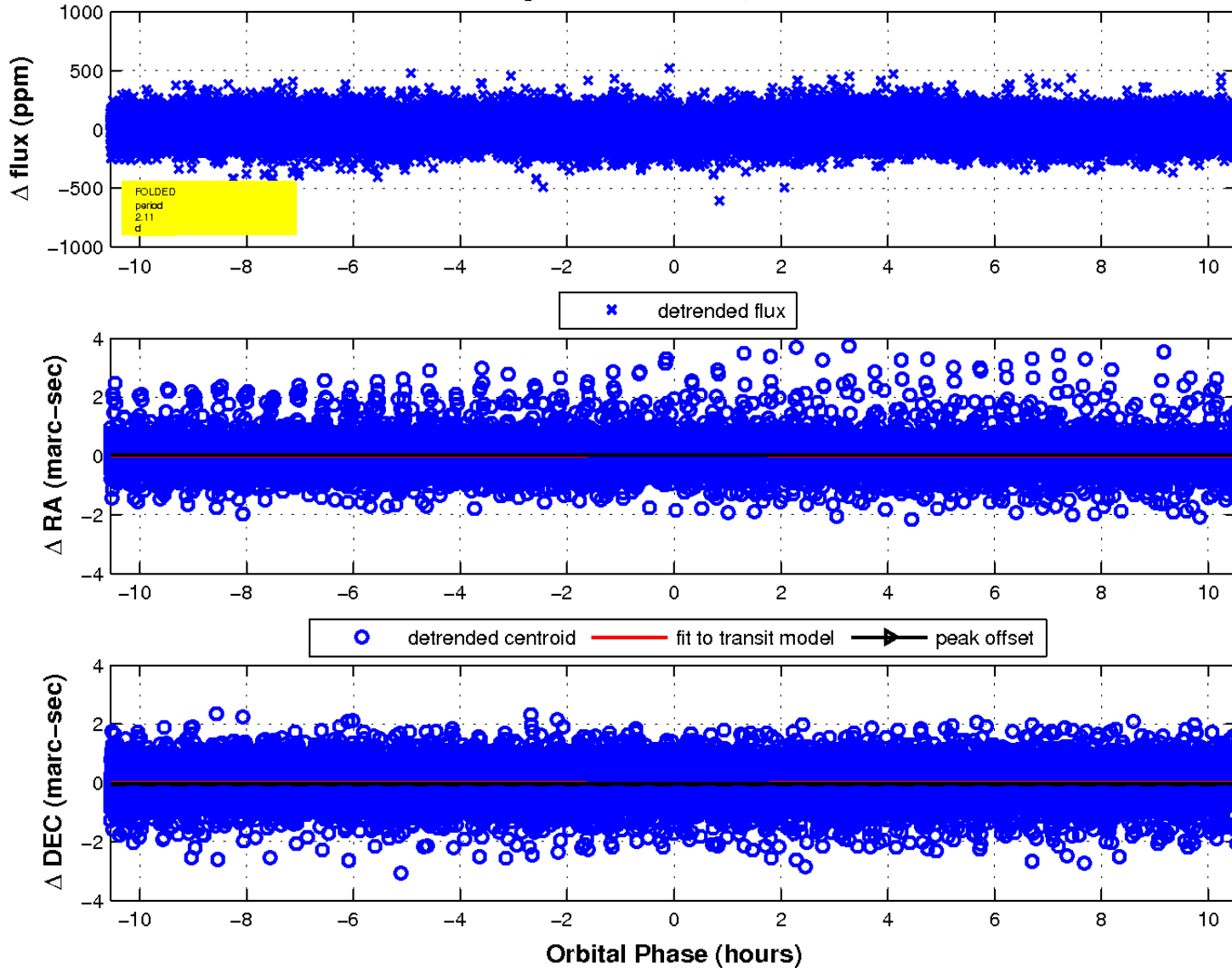
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



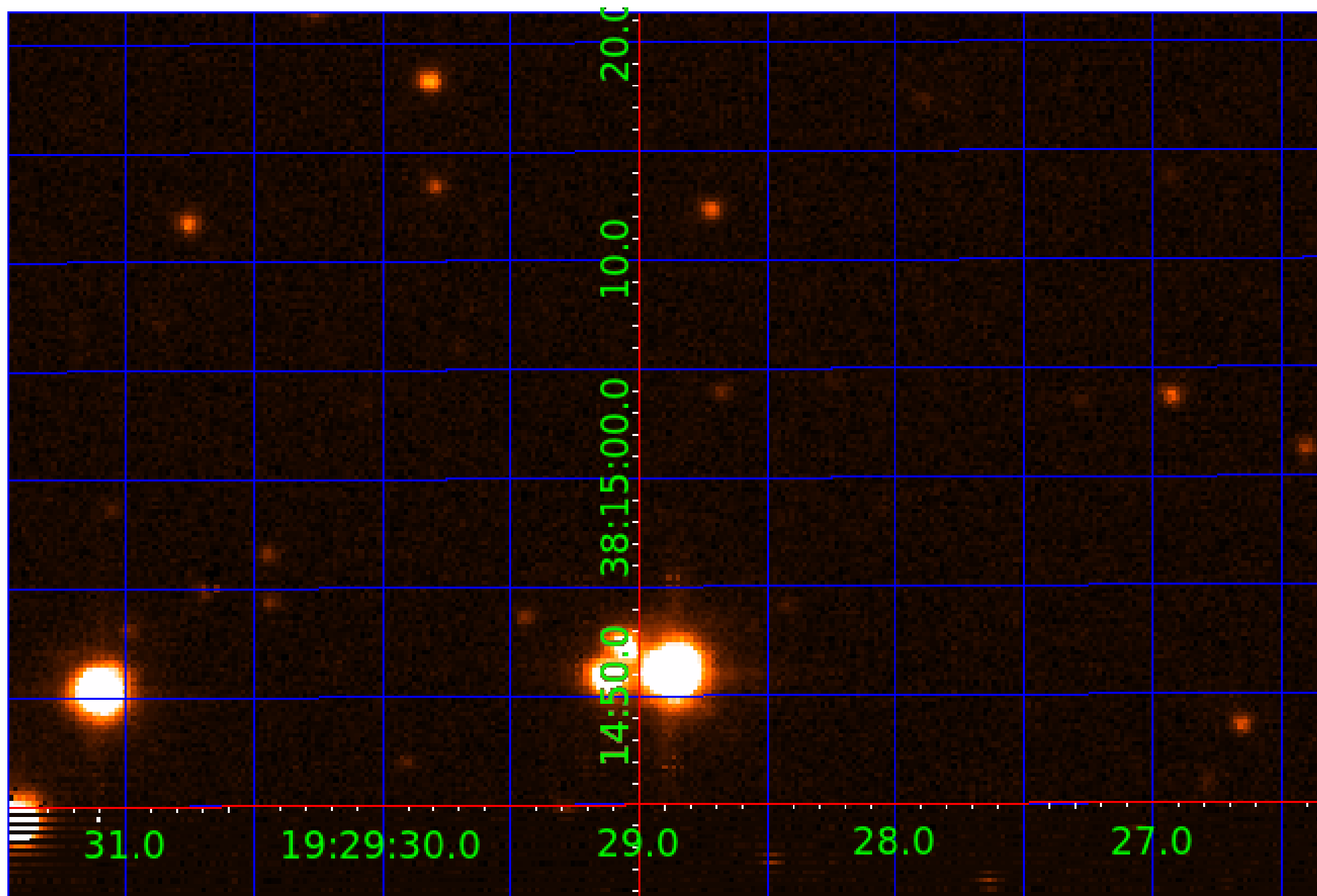
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 4 of 7



UKIRT Image



KIC 003120650

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})
003120650-01	OBS	No	2.105462	132.740235	24.6	1.567	9.4	8.4	1.64	6864	0.85	4147.93
003120650-02	OBS	No	2.105407	133.425098	2.3	13.331	8.2	1.5	1.64	6864	0.27	4148.08
003120650-03	OBS	No	128.707625	237.699832	131.5	8.357	15.8	6.8	1.64	6864	2.16	17.23
003120650-04	OBS	No	2.105255	132.162935	21.1	3.516	14.9	6.5	1.64	6864	0.81	4148.48
003120650-05	OBS	No	225.210461	145.189638	148.9	12.816	17.0	10.0	1.64	6864	2.31	8.17
003120650-06	OBS	No	205.256712	204.045049	200.1	3.266	11.5	11.4	1.64	6864	2.63	9.24
003120650-07	OBS	No	54.143709	157.013841	183.0	5.874	10.6	10.6	1.64	6864	2.44	54.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003120650-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003120650-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003120650-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS
003120650-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
003120650-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
003120650-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
003120650-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

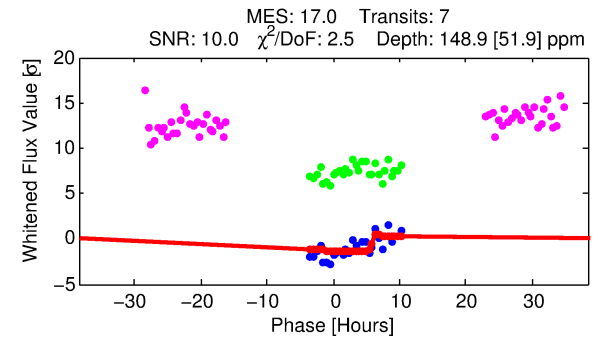
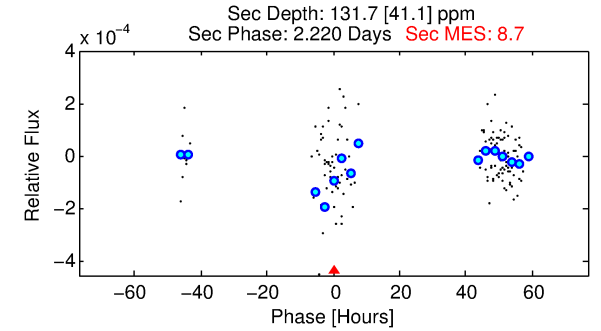
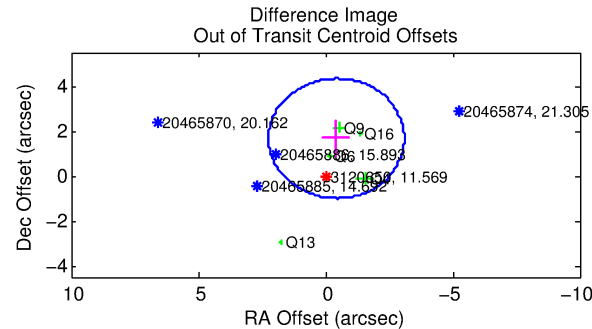
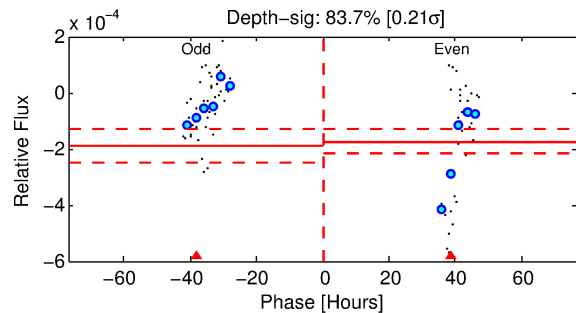
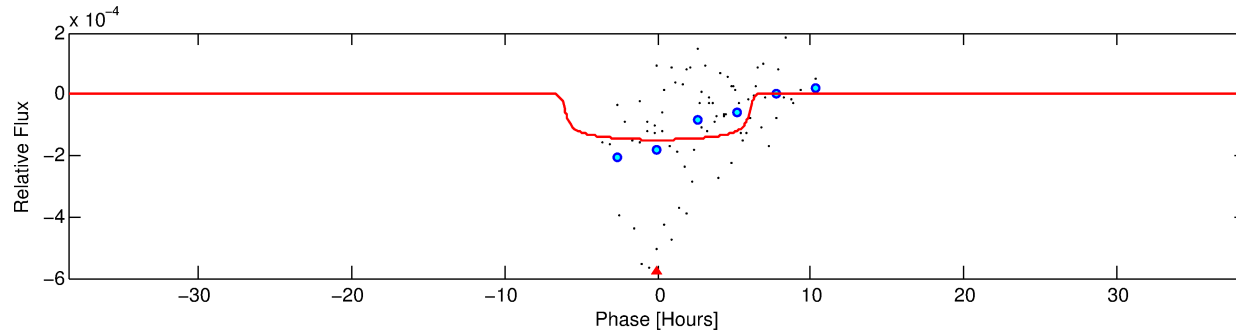
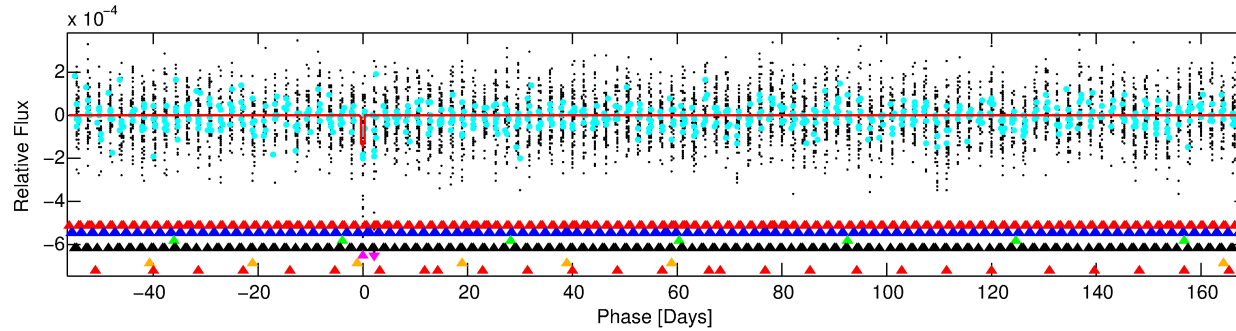
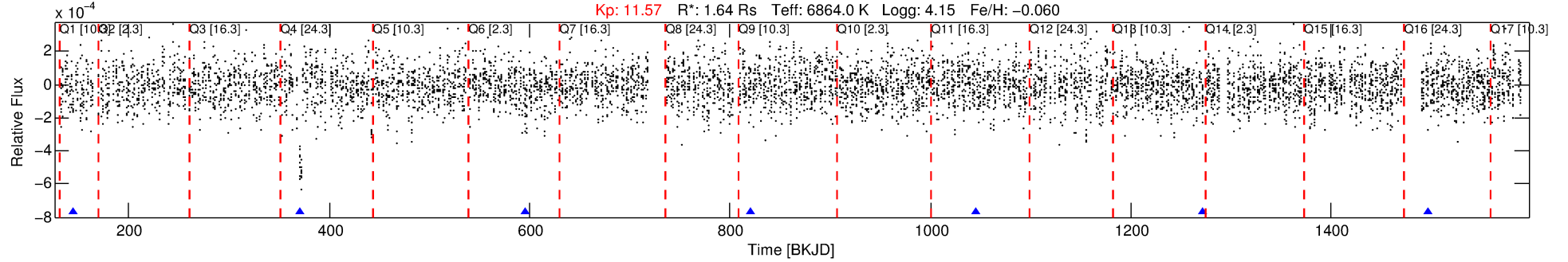
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003120650-05

No Significant Match Found

DV One-Page Summary

KIC: 3120650 Candidate: 5 of 7 Period: 225.210 d



DV Fit Results:

Period = 225.21046 [0.01878] d
Epoch = 145.1896 [0.2836] BKJD
Rp/R* = 0.0129 [0.0083]
a/R* = 66.48 [265.70]
b = 0.88 [0.77]
Seff = 8.17 [1.73]
Teq = 431 [23] K
Rp = 2.30 [1.54] Re
a = 0.8107 [0.1166] AU
Ag = 8960.07 [11996.68] [0.75 σ]
Teffp = 6485 [2147] K [2.82 σ]

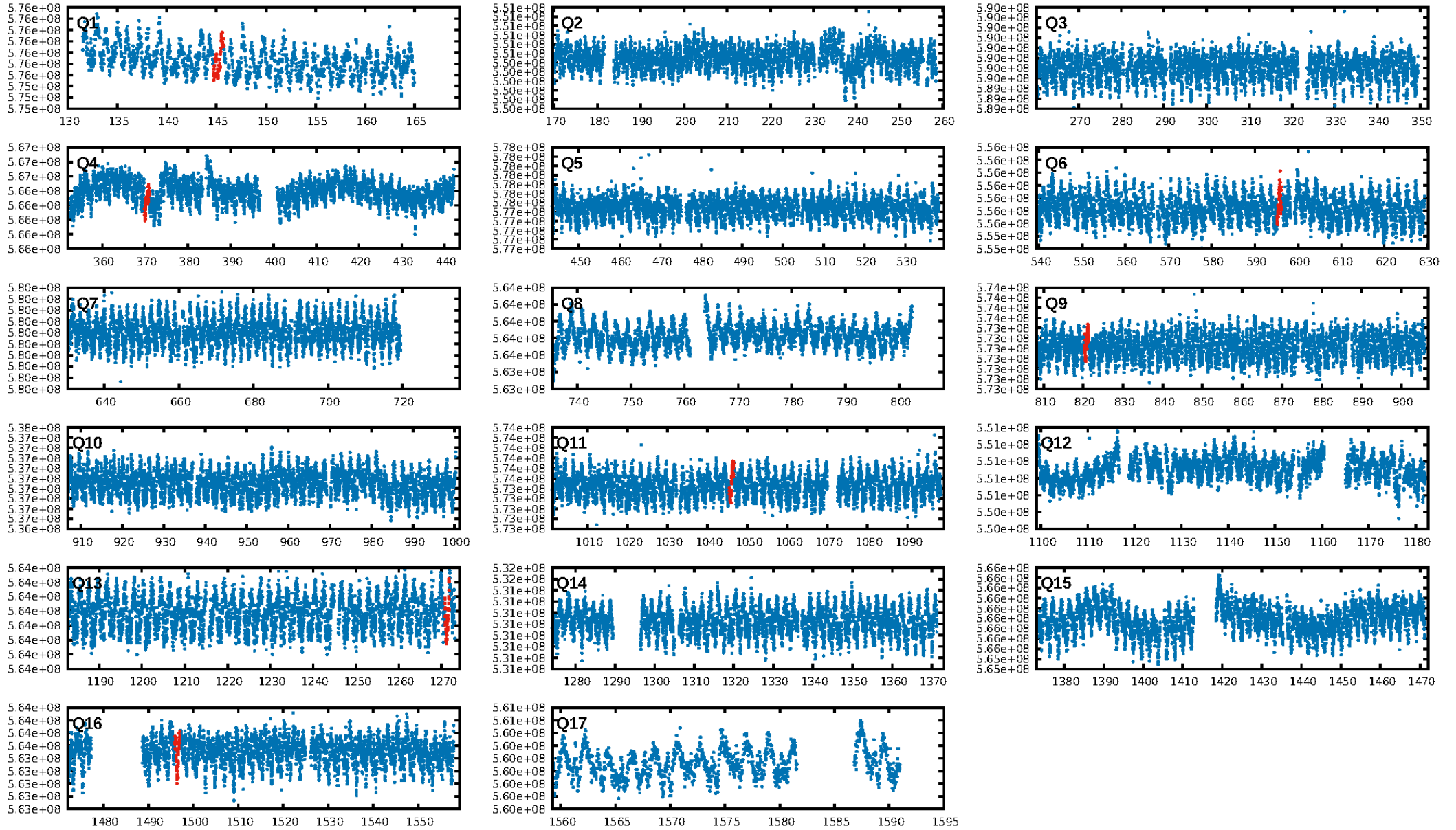
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [36.21 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.9323
Centroid-sig: 0.0%
Centroid-so: 1.930 arcsec [2.93 σ]
OotOffset-rm: 1.721 arcsec [1.94 σ]
KicOffset-rm: 1.692 arcsec [1.84 σ]
OotOffset-st: 1/0/2/2 [5]
KicOffset-st: 1/0/2/2 [5]
DiffImageQuality-fgm: 0.20 [1/5]
DiffImageOverlap-fno: 0.00 [0/7]

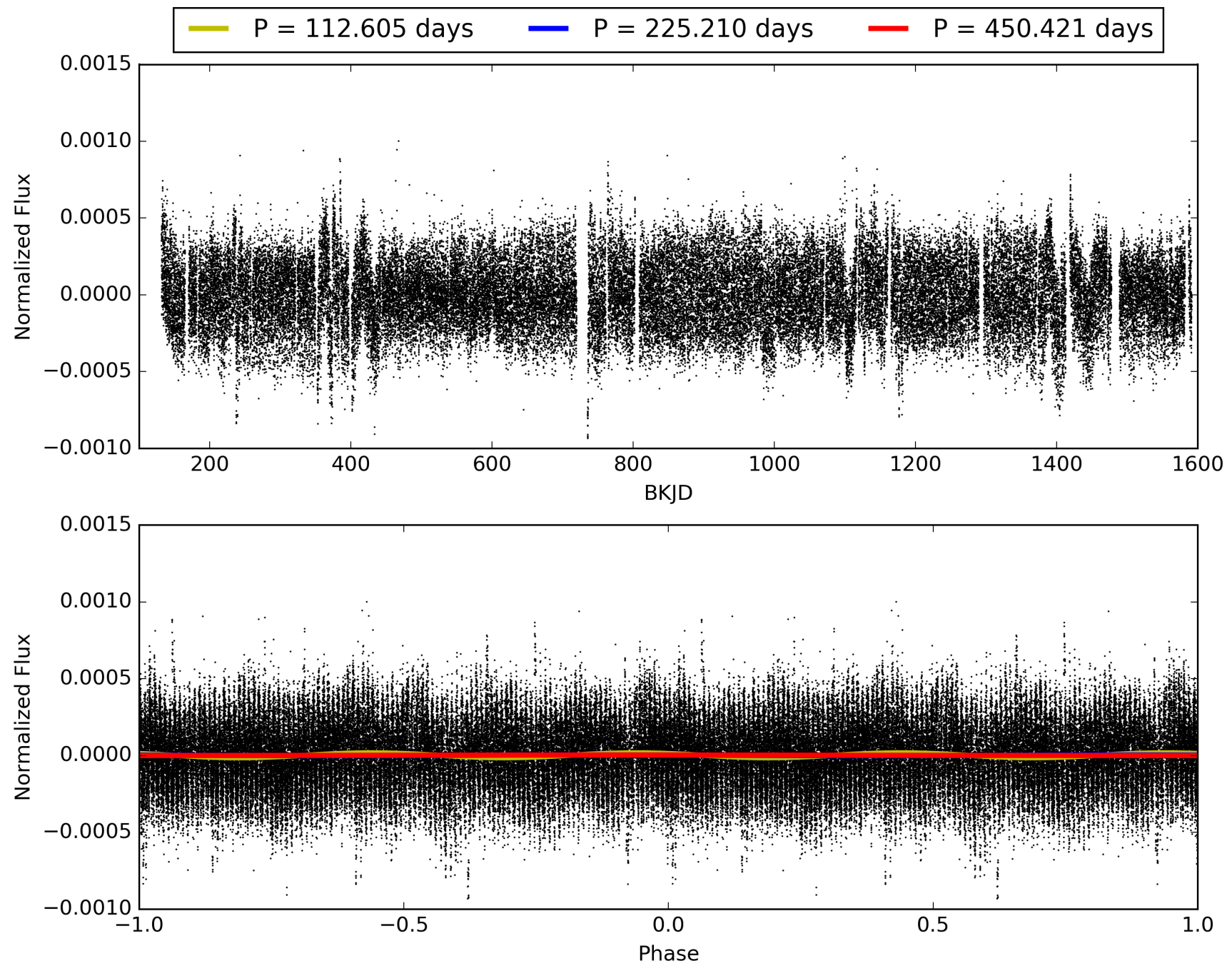
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:53:54 Z

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

TCE 003120650-05, PDC Light Curves

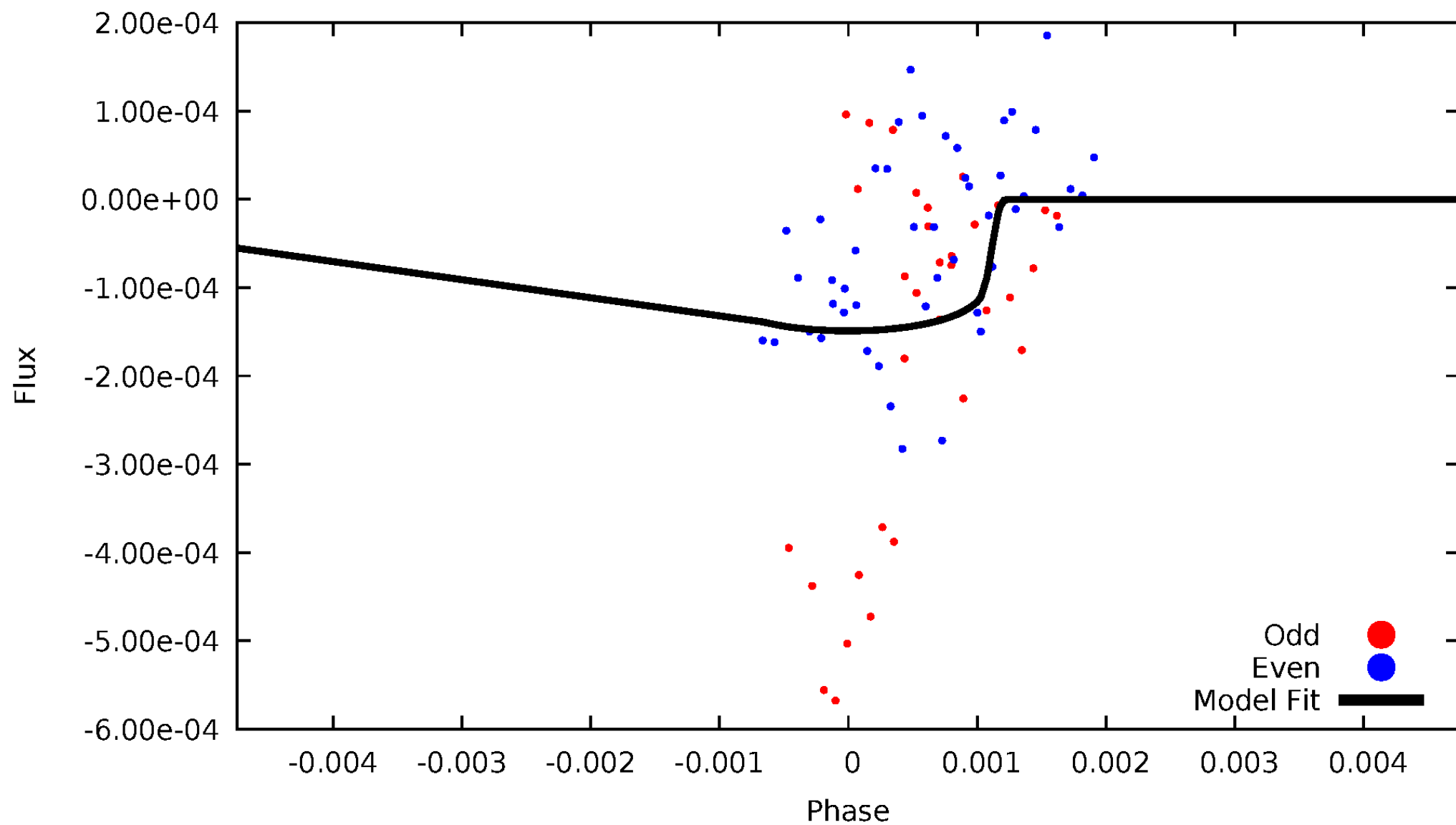


TCE 003120650-05



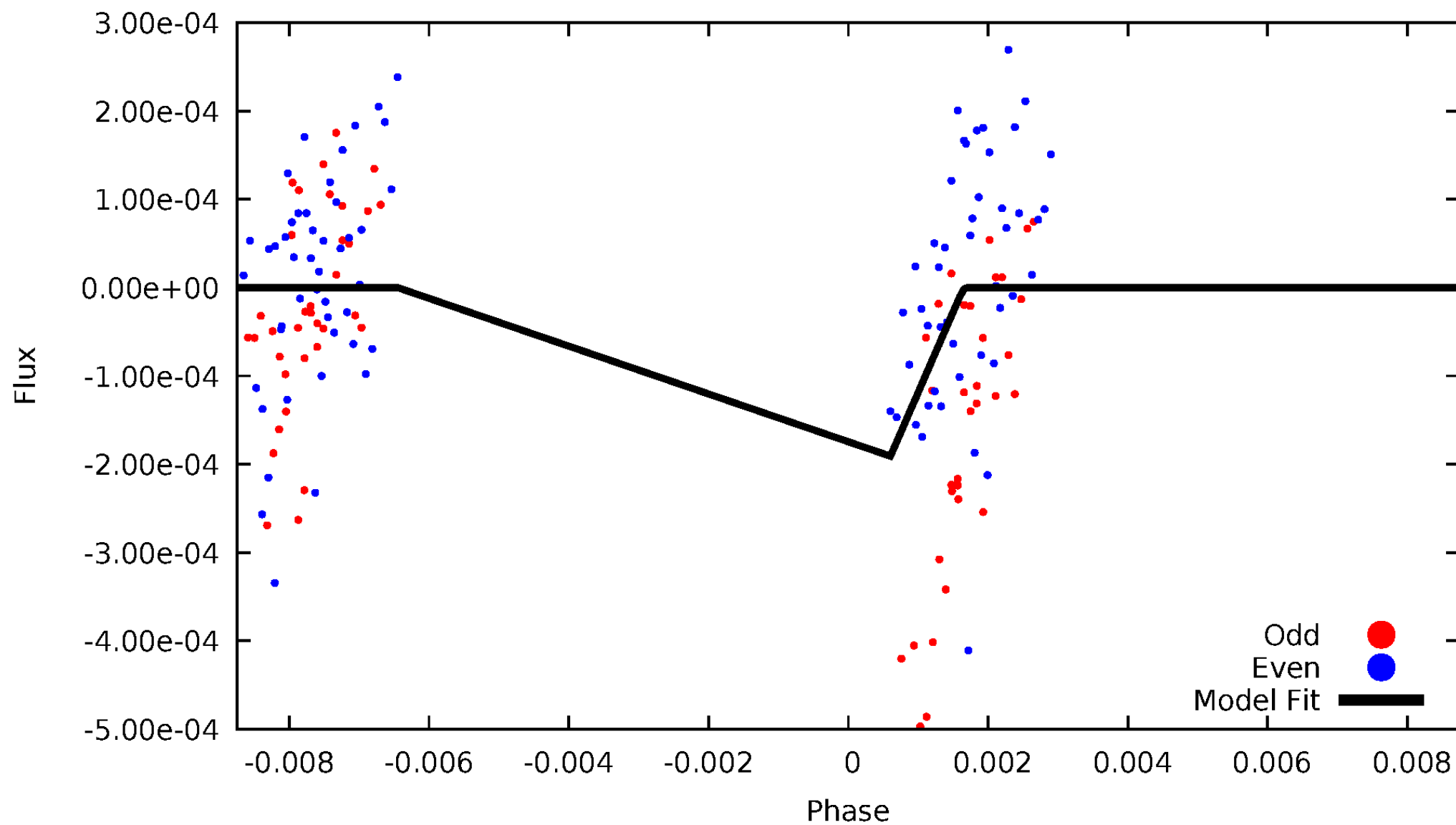
DV Odd/Even

TCE 003120650-05



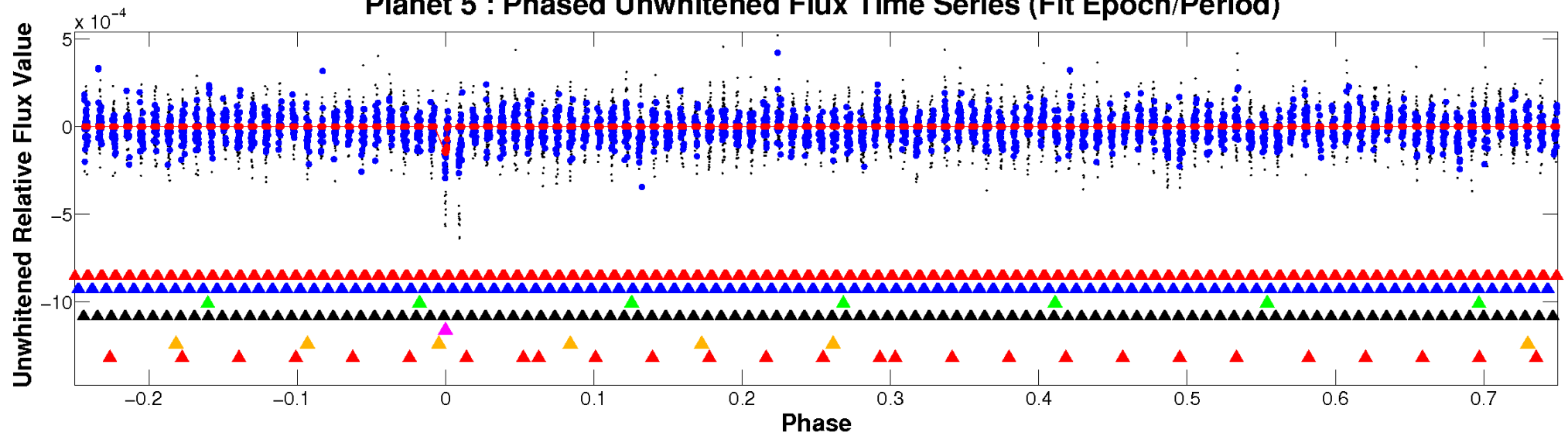
ALT Odd/Even

TCE 003120650-05

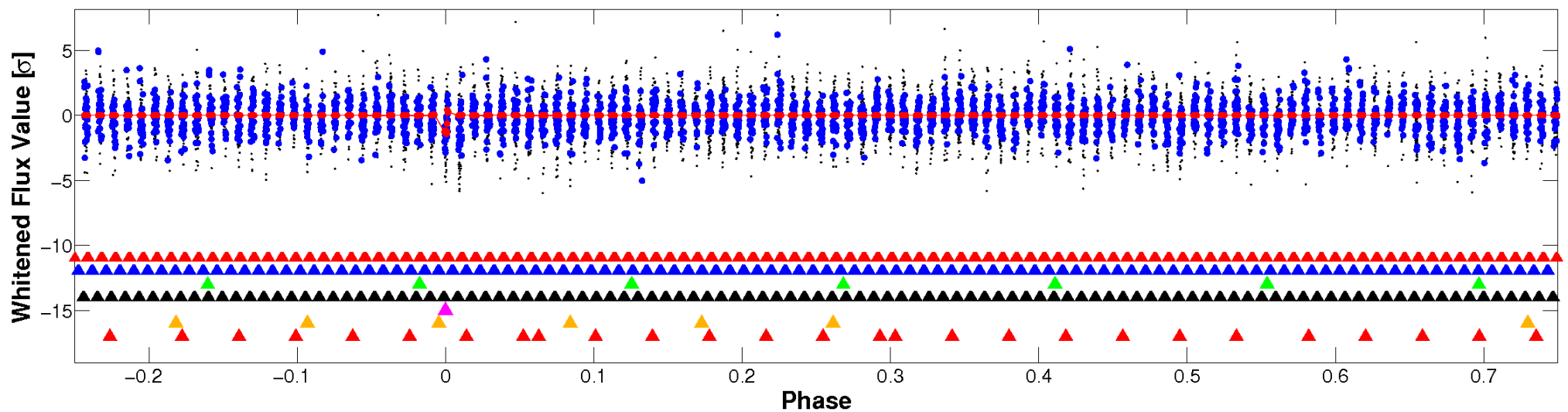


Non-Whitened Vs. Whitened Light Curve

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

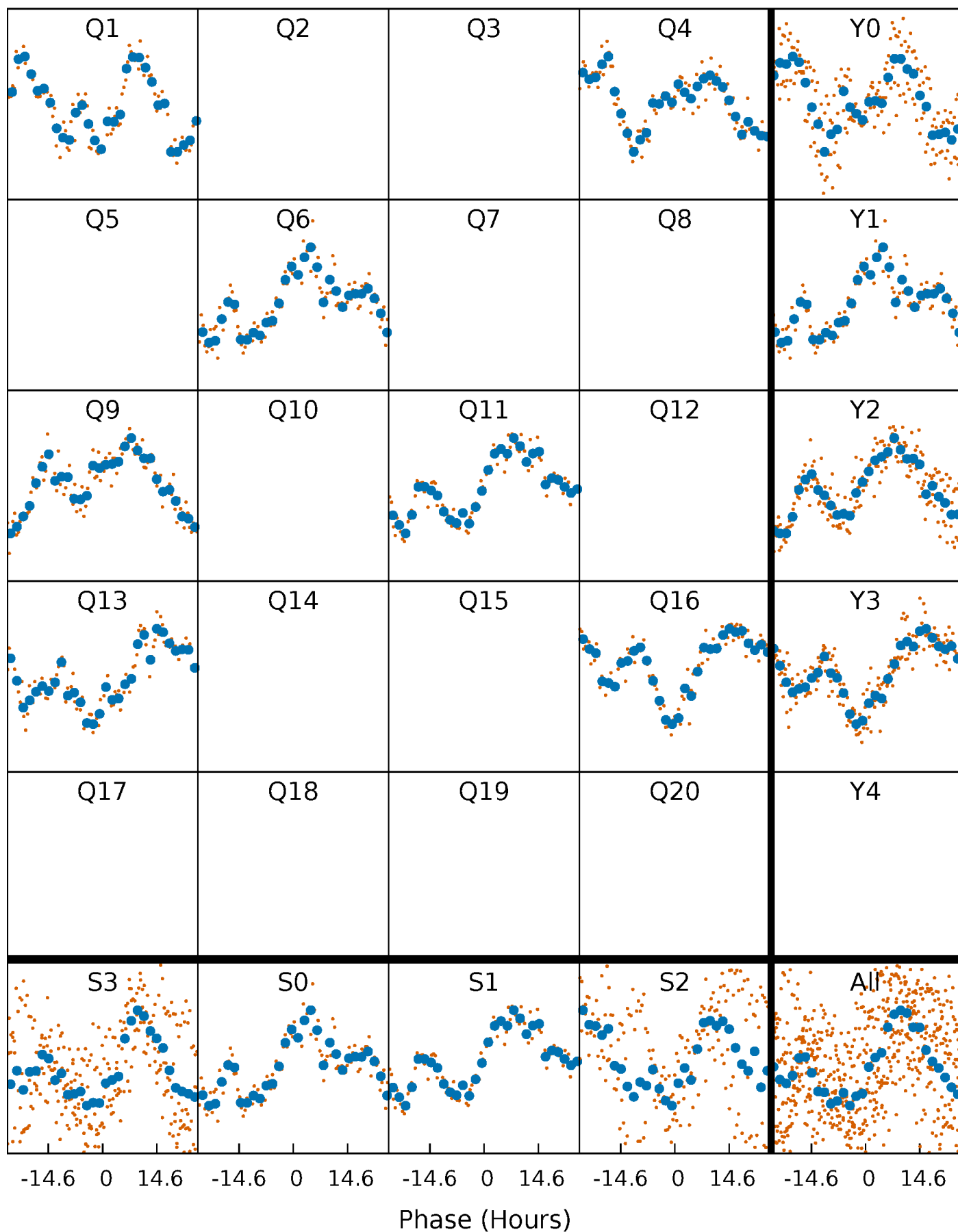


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



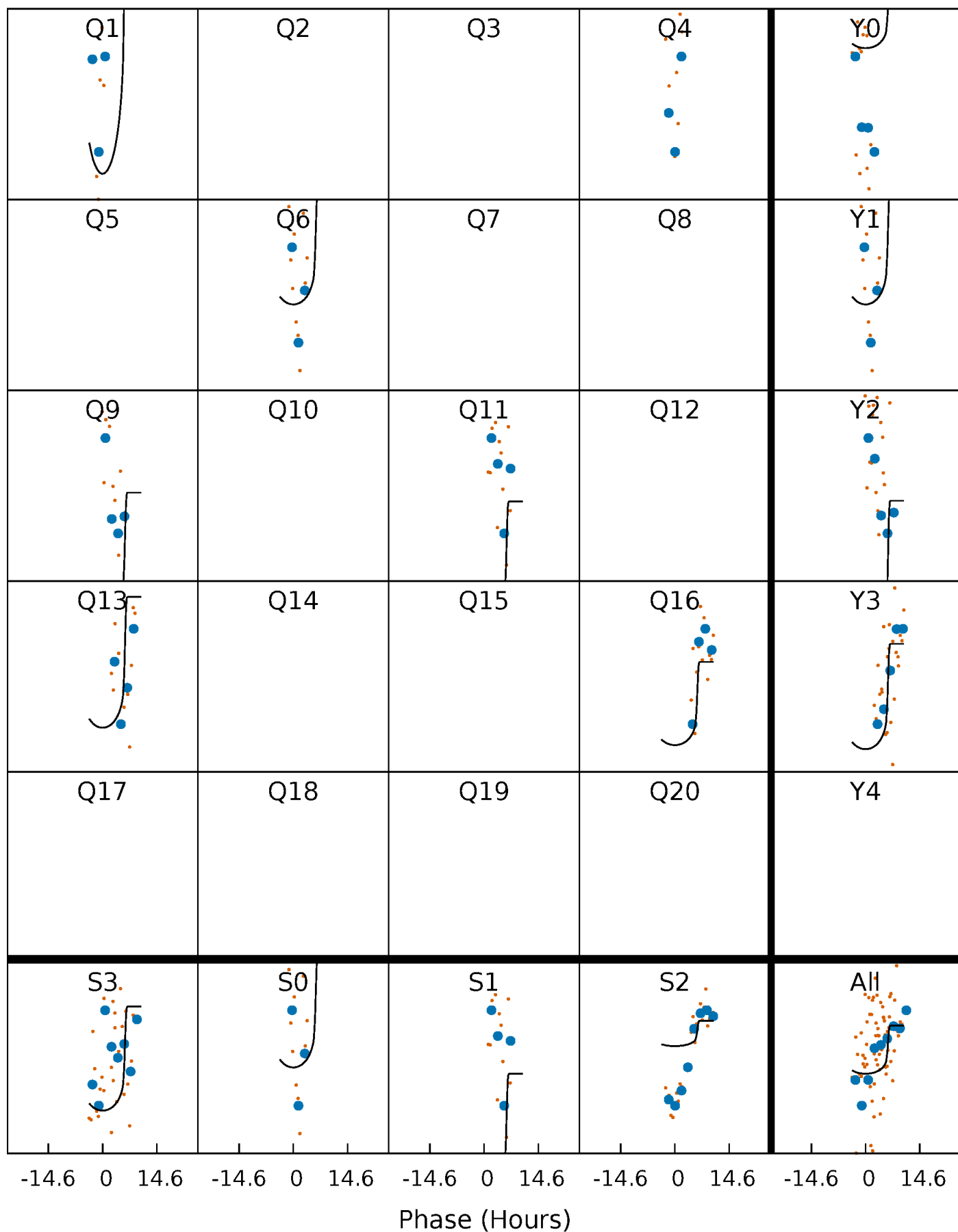
PDC Quarter-Phased Transit Curves

TCE 003120650-05 $P=225.210461$ Days $T_0=145.189638$ (BKJD)



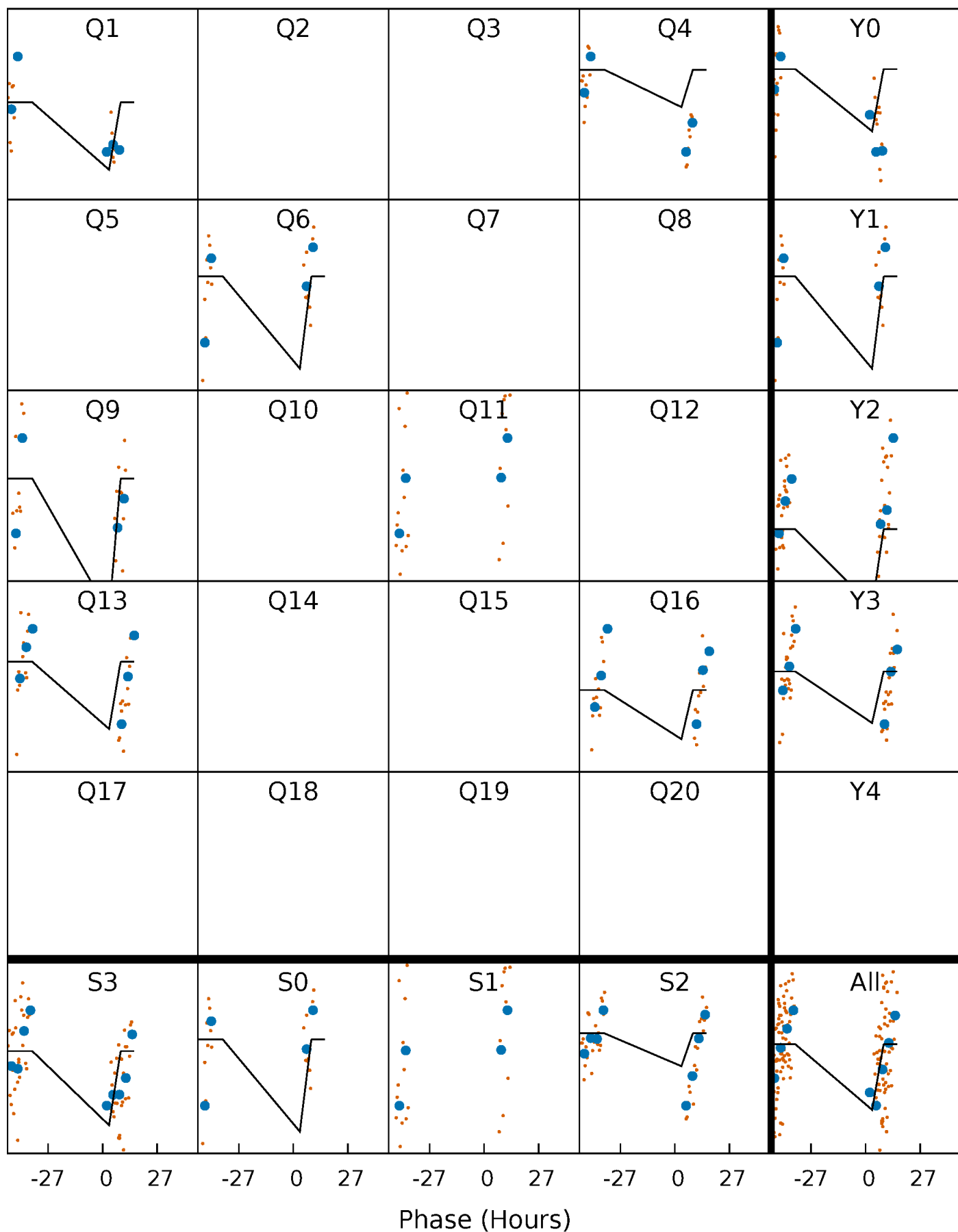
DV Quarter-Phased Transit Curves

TCE 003120650-05 $P=225.210461$ Days $T_0=145.189638$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

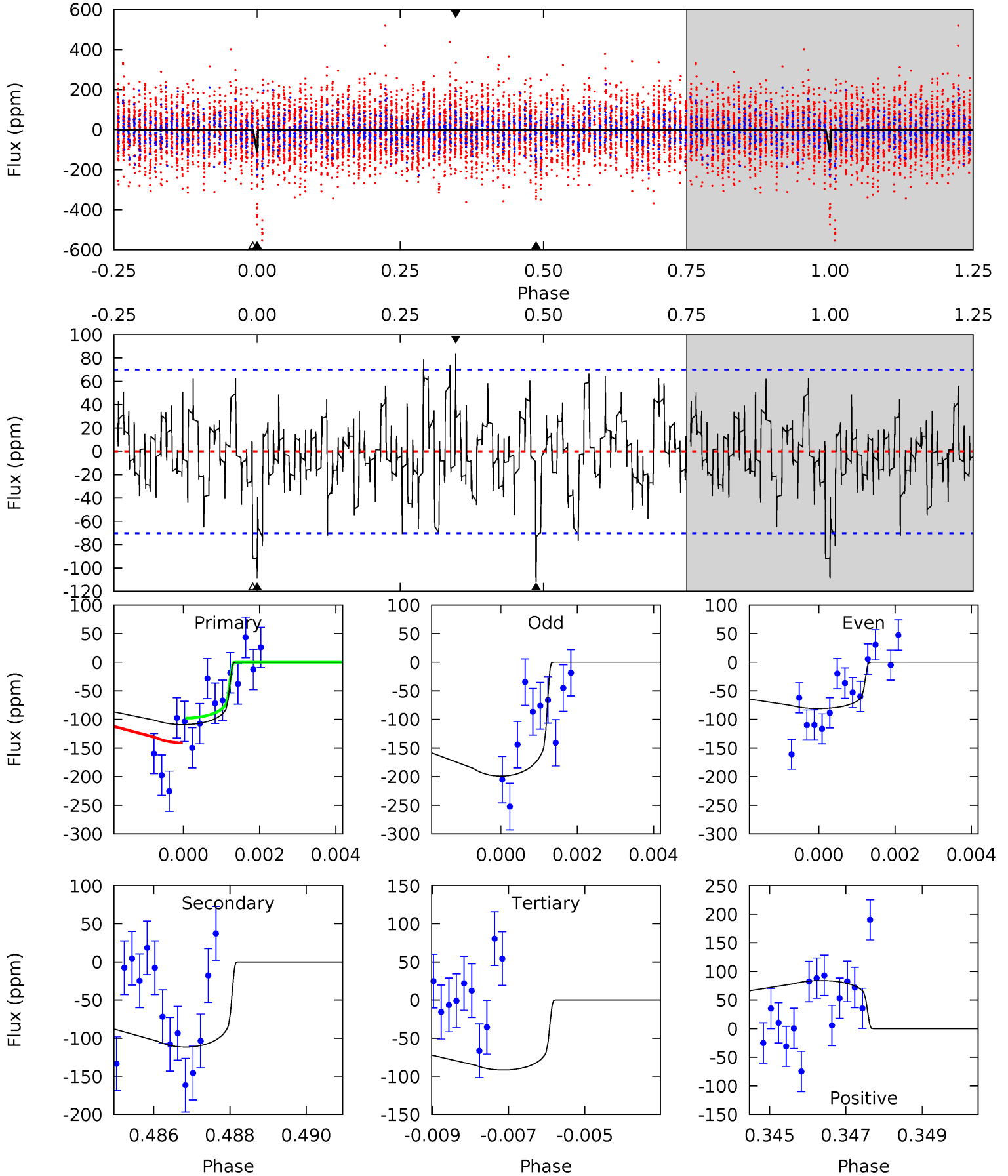
TCE 003120650-05 $P=225.220769$ Days $T_0=144.904752$ (BKJD)



DV Model-Shift Uniqueness Test

003120650-05, P = 225.210461 Days, E = 145.189638 Days

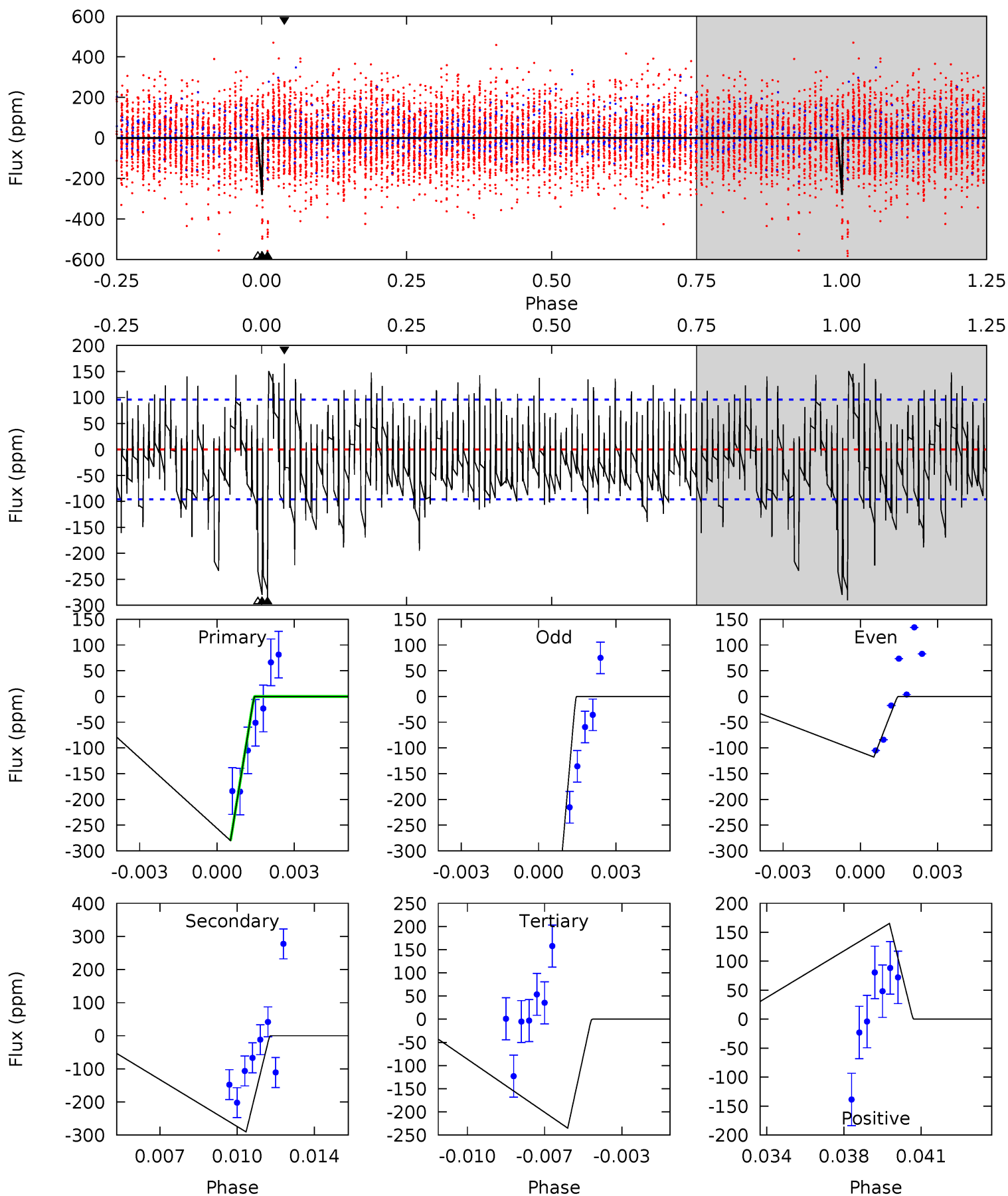
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.30	8.50	6.99	6.40	5.34	3.12	2.06	1.32	1.90	1.52	2.10	4.57	1.06	0.43	0



Alt Model-Shift Uniqueness Test

003120650-05, P = 225.220769 Days, E = 144.904752 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	15.8	12.8	9.00	5.23	2.93	3.23	2.45	6.25	3.02	6.82	10.9	2.43	0.36	0



Stellar Parameters For KIC 003120650

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6864^{+72}_{-92}	$4.153^{+0.090}_{-0.110}$	$-0.060^{+0.150}_{-0.150}$	$1.643^{+0.287}_{-0.191}$	$1.408^{+0.095}_{-0.095}$	$0.447^{+0.188}_{-0.156}$
	+1%/-1%	+2%/-3%	+250%/-250%	+17%/-12%	+7%/-7%	+42%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003120650-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-112 ± 13	$2.43^{+1.38}_{-1.21}$	601^{+26}_{-21}	6045^{+2886}_{-1098}	6844^{+20002}_{-3976}
Alt.	-290 ± 18	$2.57^{+1.37}_{-1.33}$	604^{+26}_{-20}	7576^{+5084}_{-1493}	15693^{+50937}_{-8949}

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

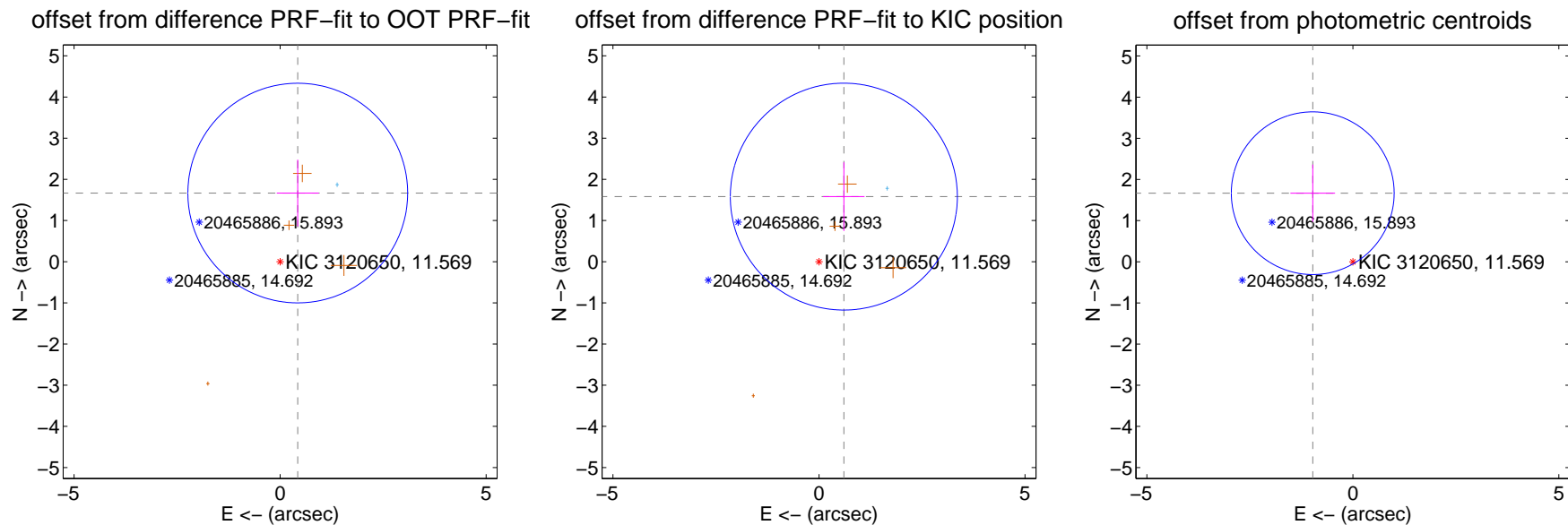
DV Centroid Data

Supplemental centroid analysis for 003120650-05. **Kepler magnitude: 11.57.** Transit SNR 9.99

There are 1 quarters with good PRF difference image offsets

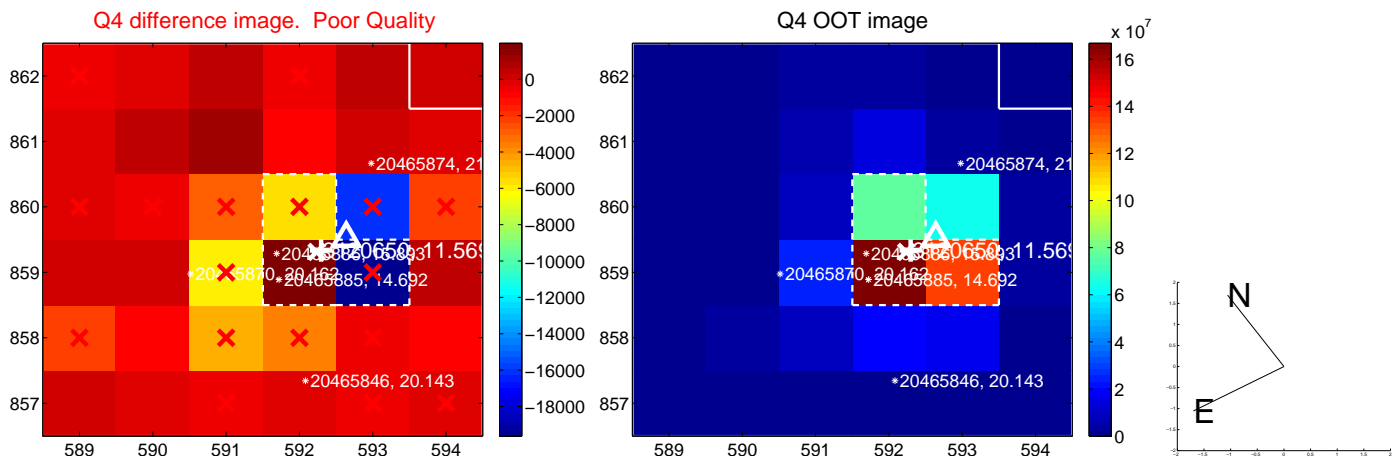
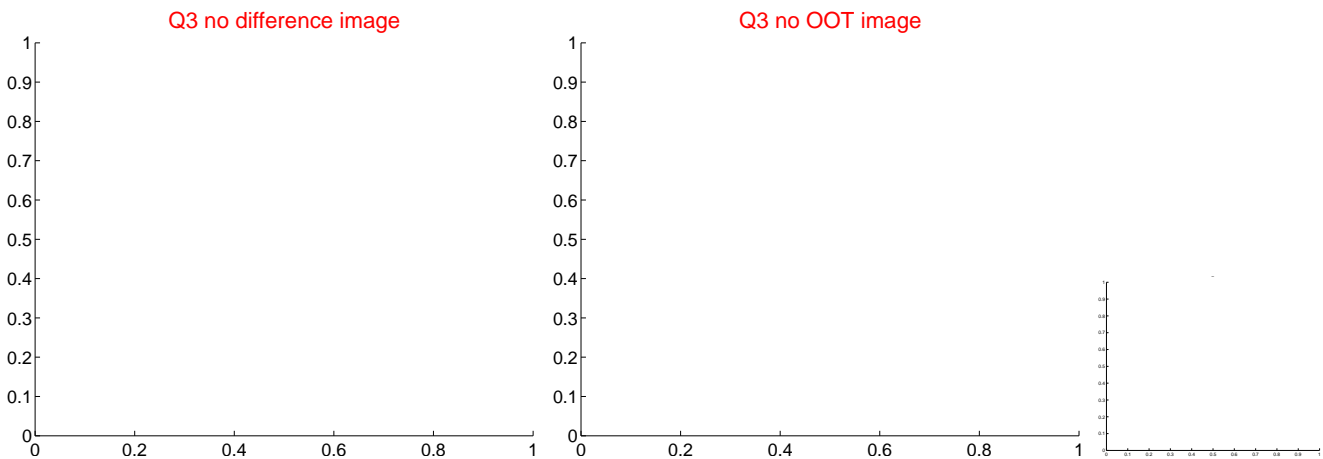
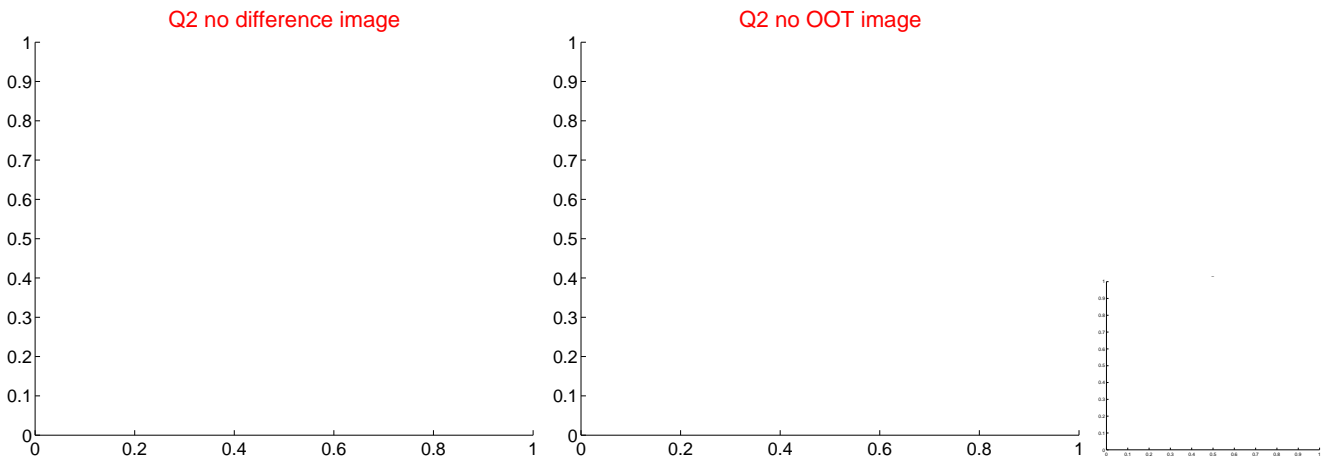
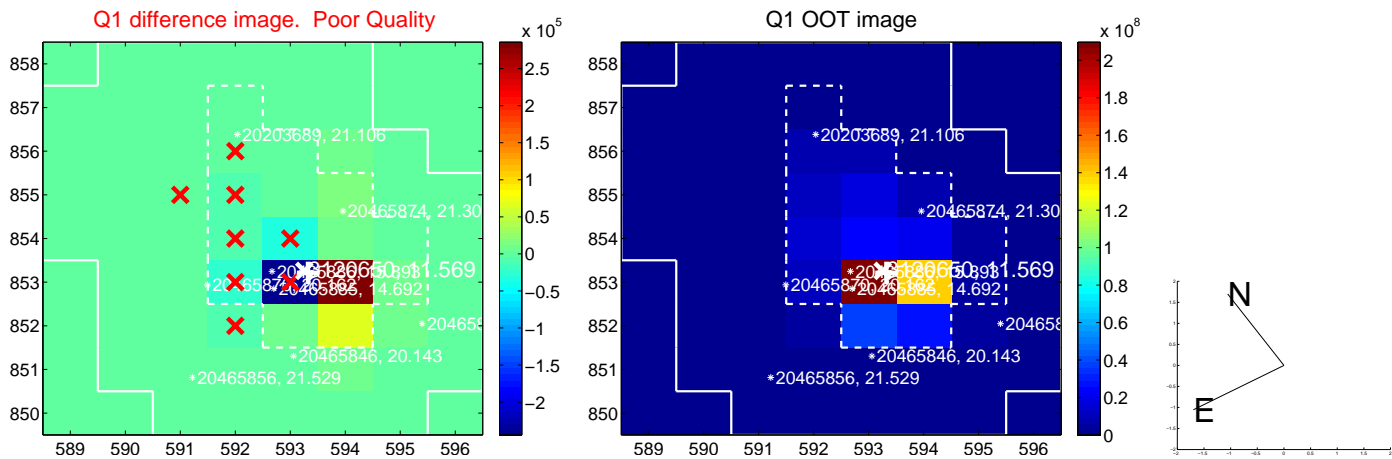
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.721 ± 0.889	1.94	-0.429 ± 0.510	1.667 ± 0.812
PRF-fit source offset from KIC position	1.692 ± 0.918	1.84	-0.603 ± 0.502	1.581 ± 0.833
photometric centroid source offset	1.93 ± 0.66	2.93	0.97 ± 0.54	1.67 ± 0.69

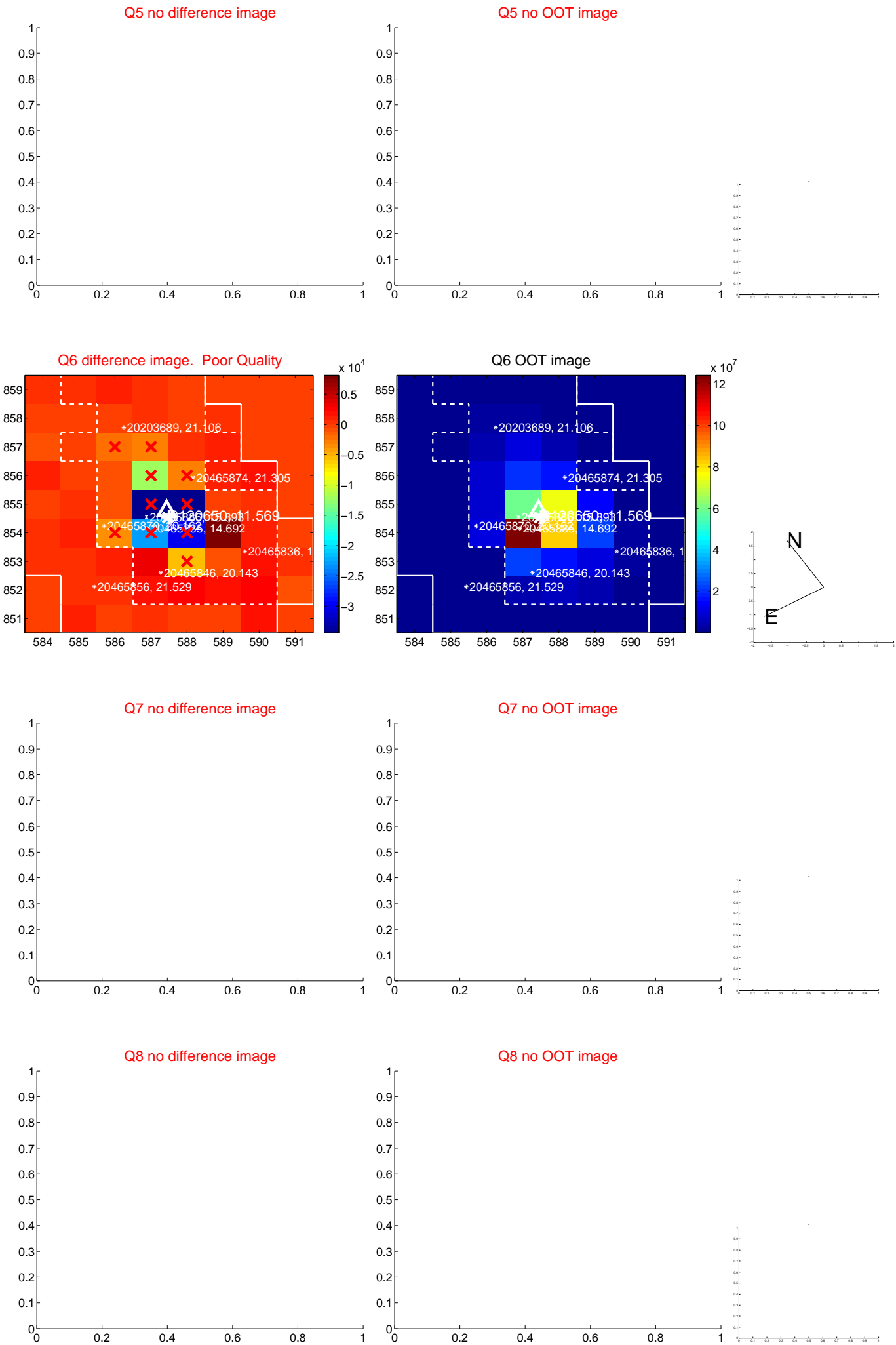


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

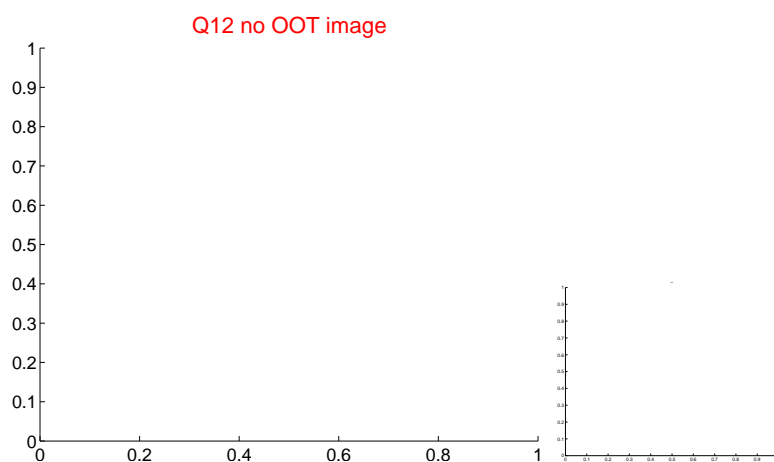
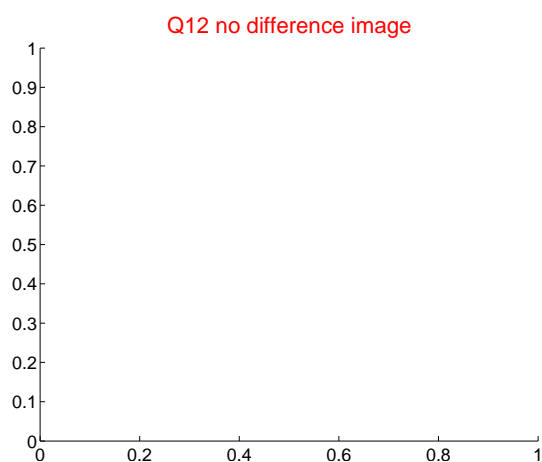
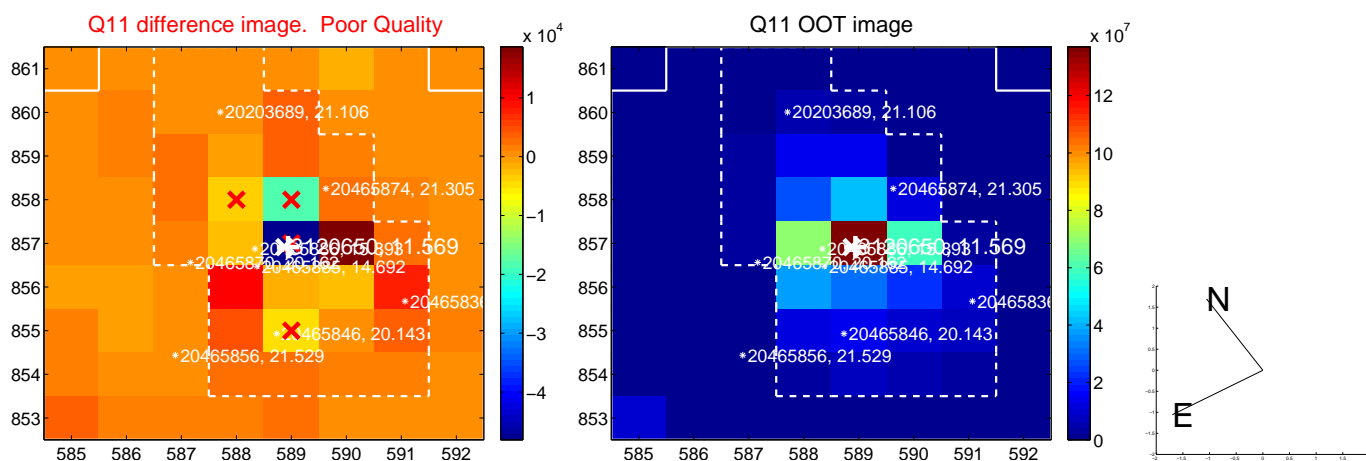
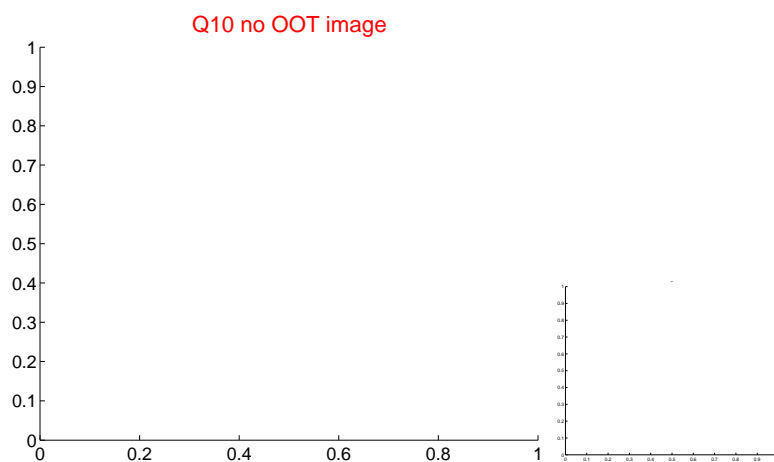
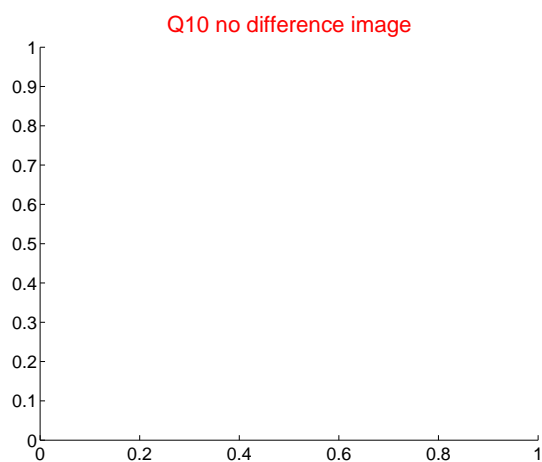
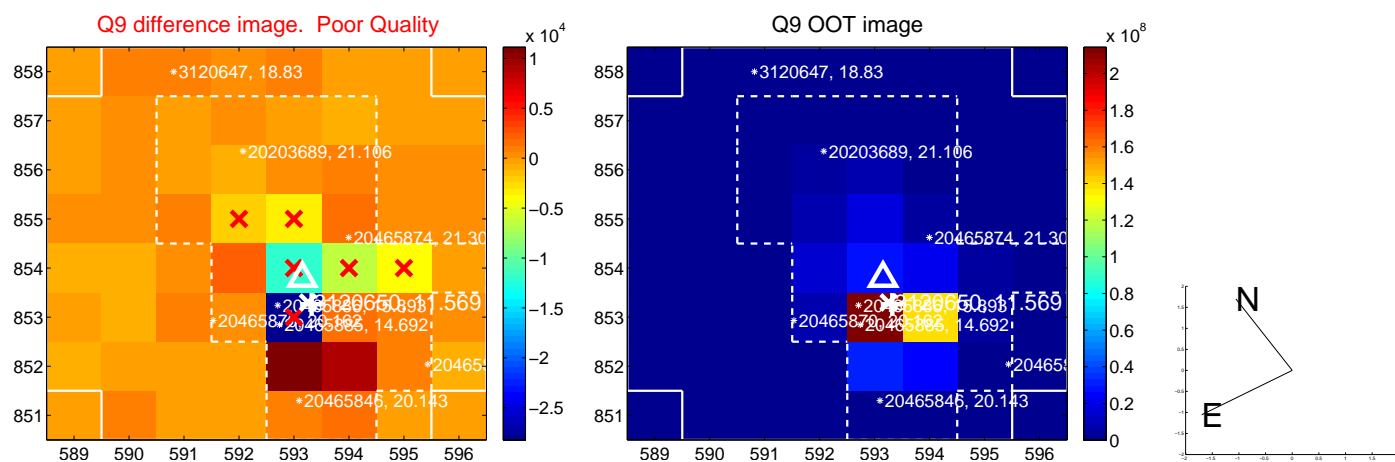
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



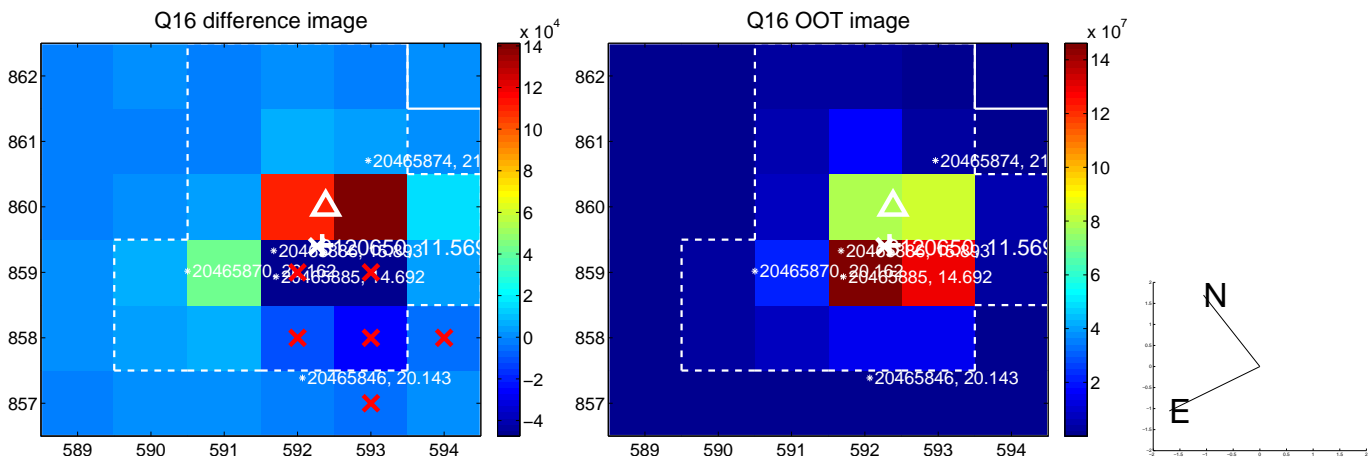
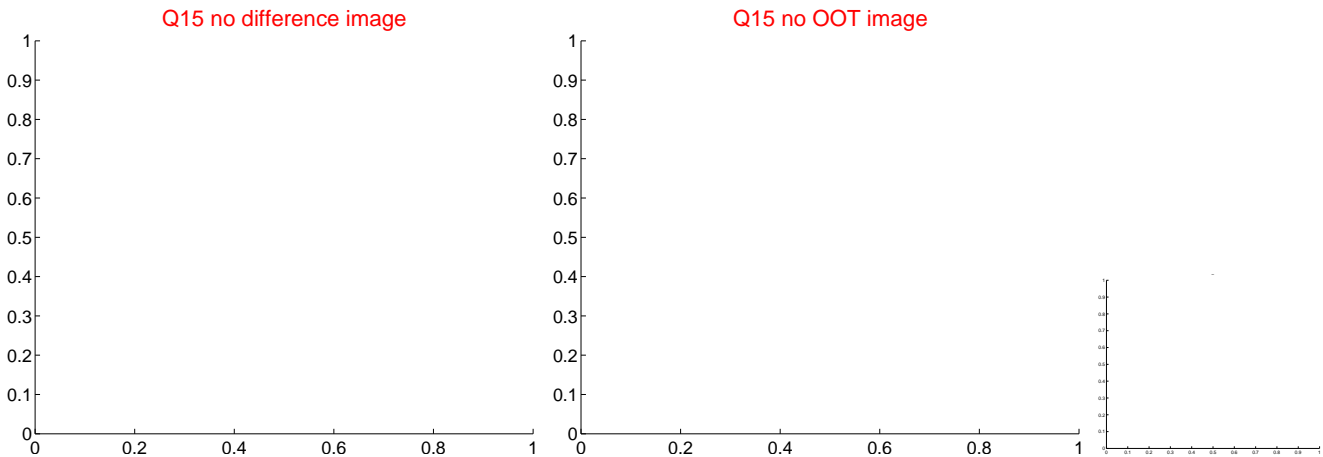
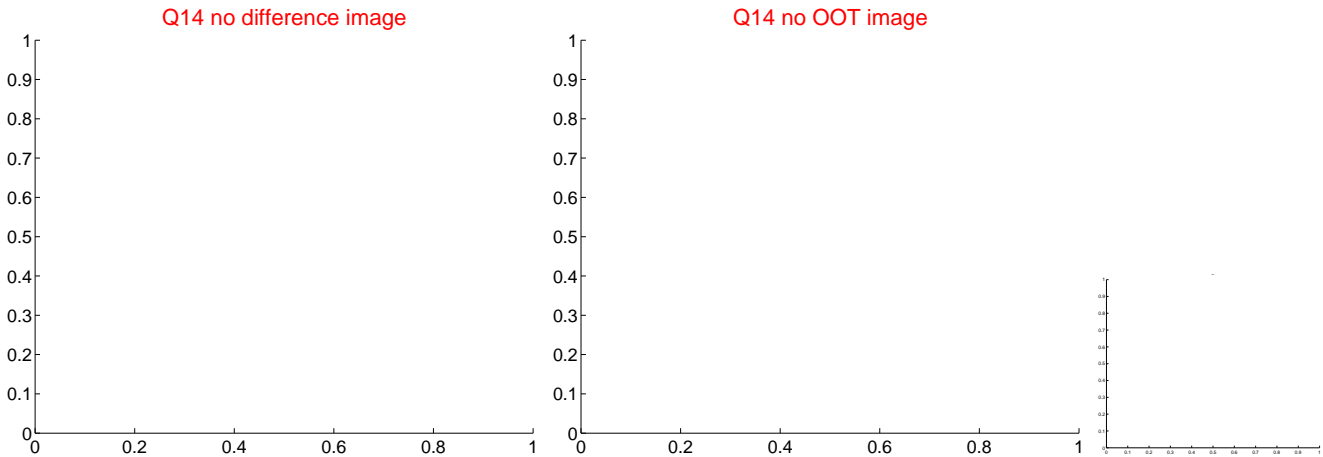
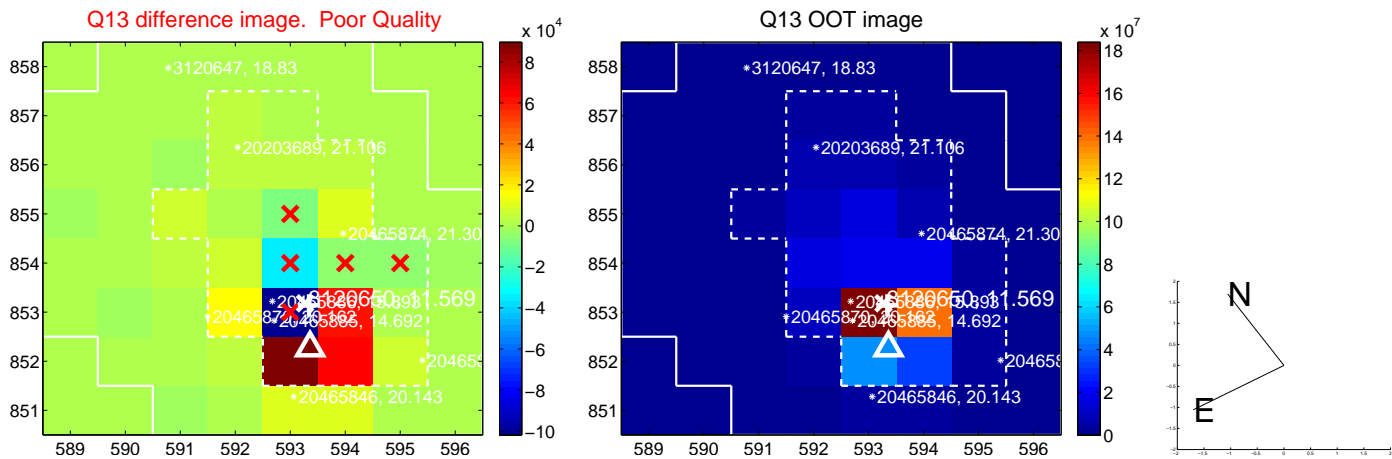
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



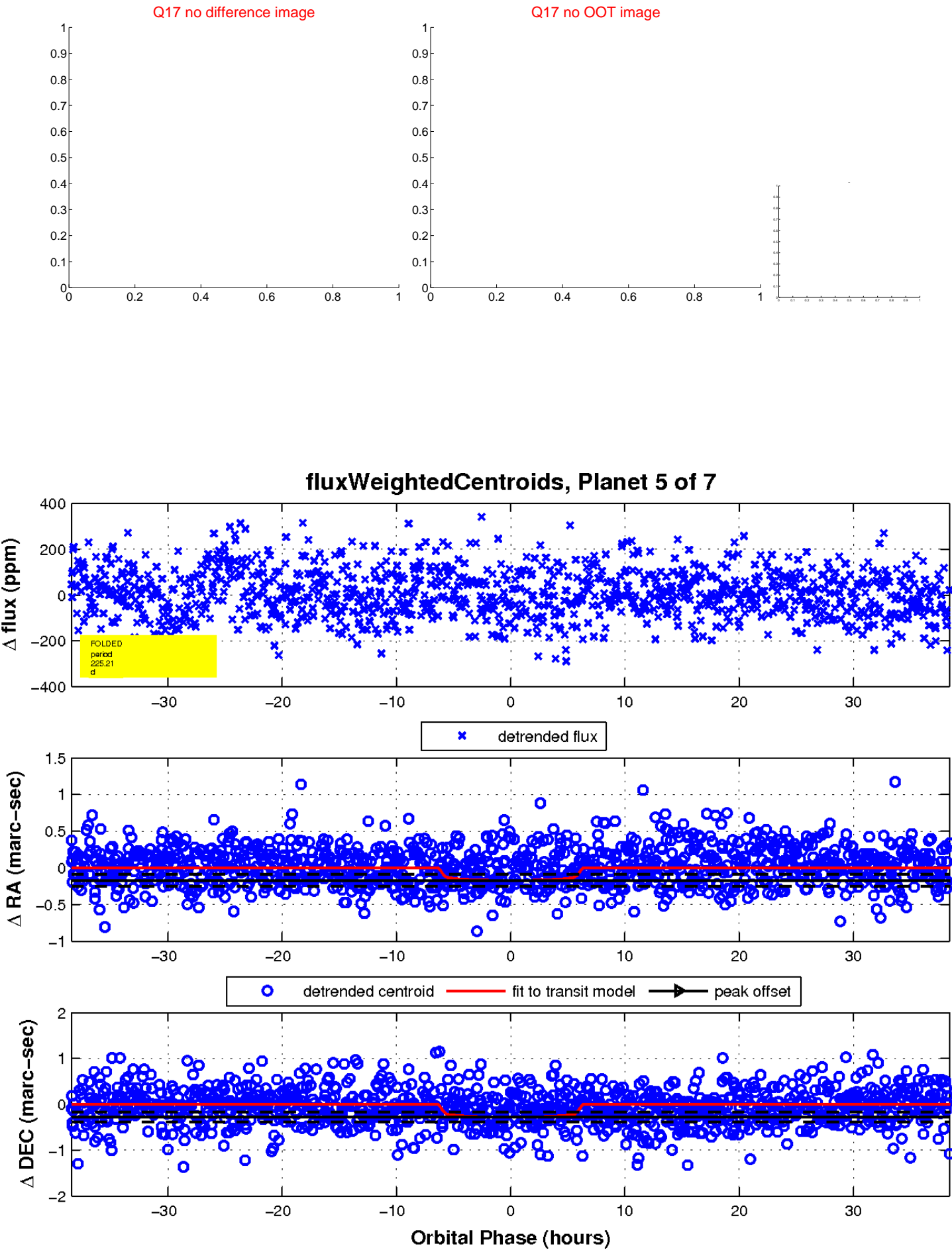
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



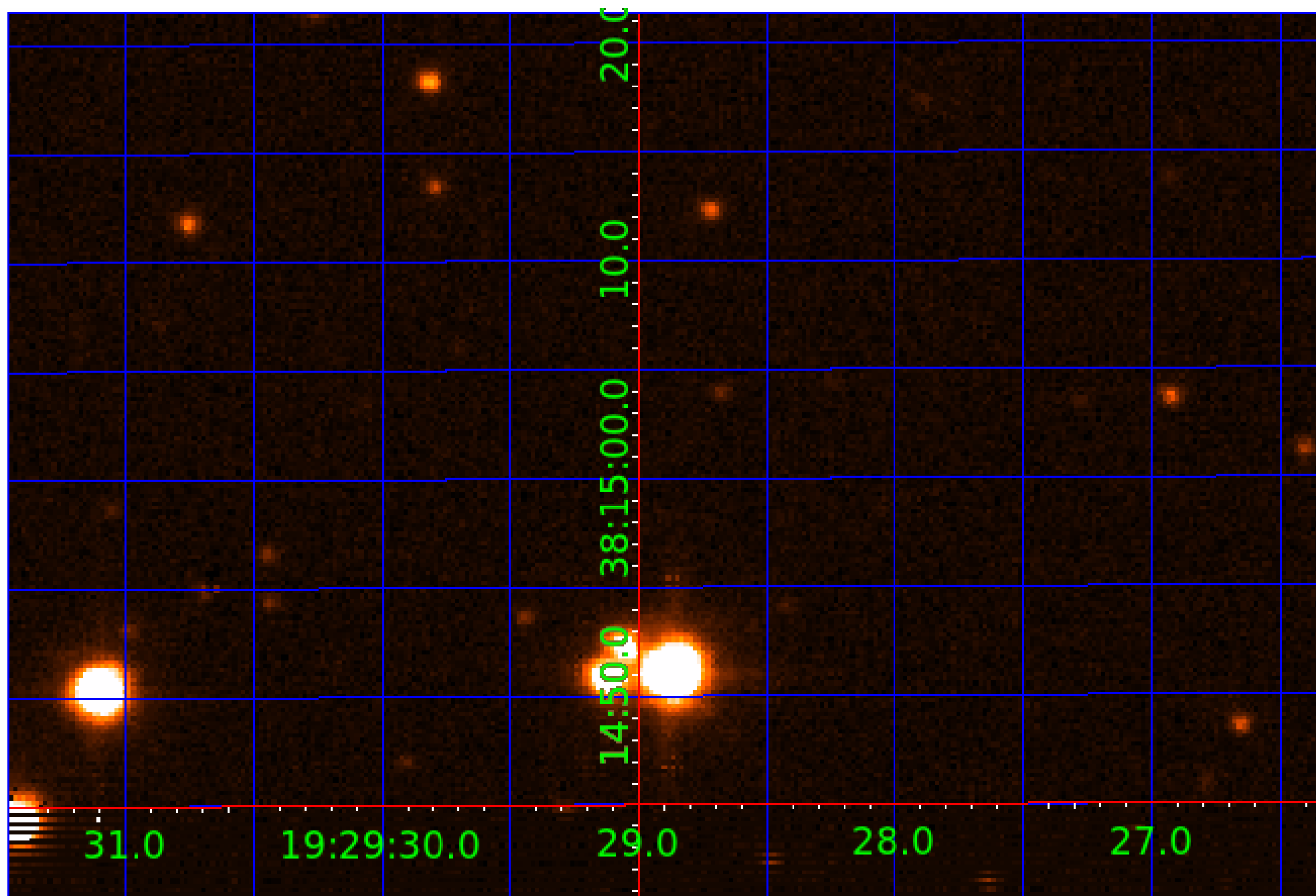
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 003120650

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})
003120650-01	OBS	No	2.105462	132.740235	24.6	1.567	9.4	8.4	1.64	6864	0.85	4147.93
003120650-02	OBS	No	2.105407	133.425098	2.3	13.331	8.2	1.5	1.64	6864	0.27	4148.08
003120650-03	OBS	No	128.707625	237.699832	131.5	8.357	15.8	6.8	1.64	6864	2.16	17.23
003120650-04	OBS	No	2.105255	132.162935	21.1	3.516	14.9	6.5	1.64	6864	0.81	4148.48
003120650-05	OBS	No	225.210461	145.189638	148.9	12.816	17.0	10.0	1.64	6864	2.31	8.17
003120650-06	OBS	No	205.256712	204.045049	200.1	3.266	11.5	11.4	1.64	6864	2.63	9.24
003120650-07	OBS	No	54.143709	157.013841	183.0	5.874	10.6	10.6	1.64	6864	2.44	54.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003120650-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003120650-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003120650-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS
003120650-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
003120650-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
003120650-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
003120650-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

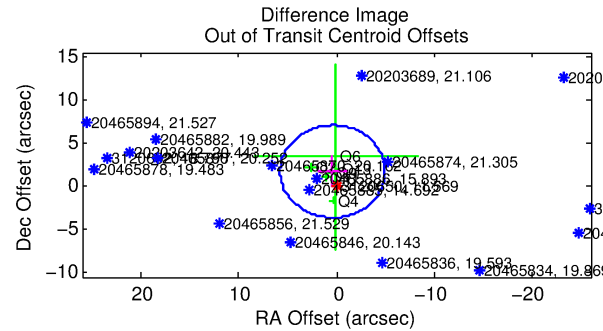
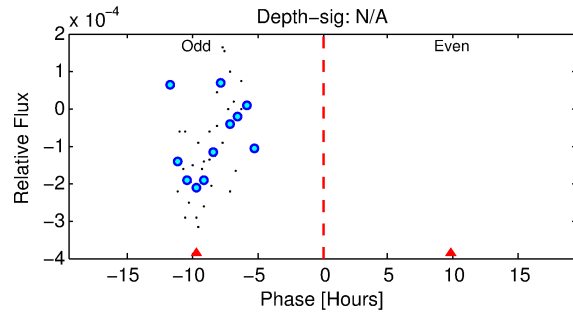
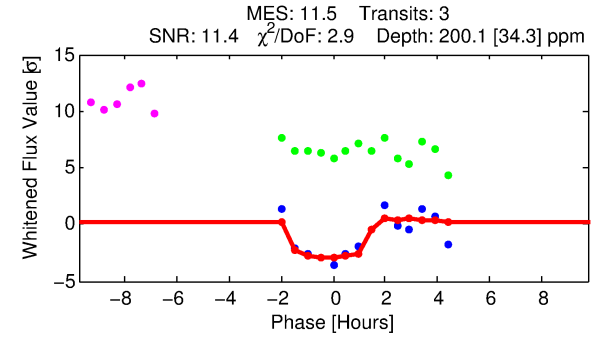
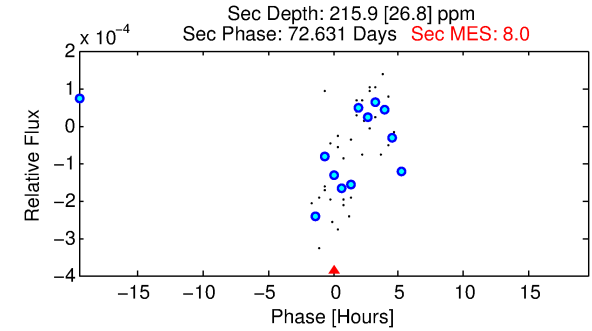
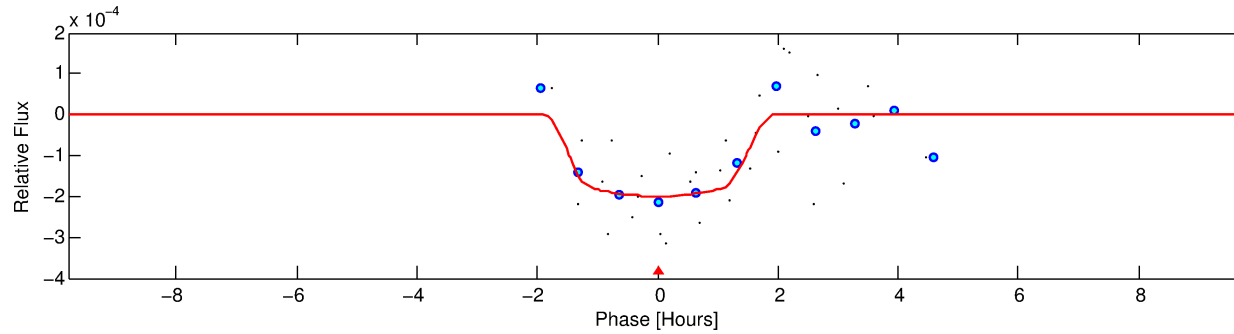
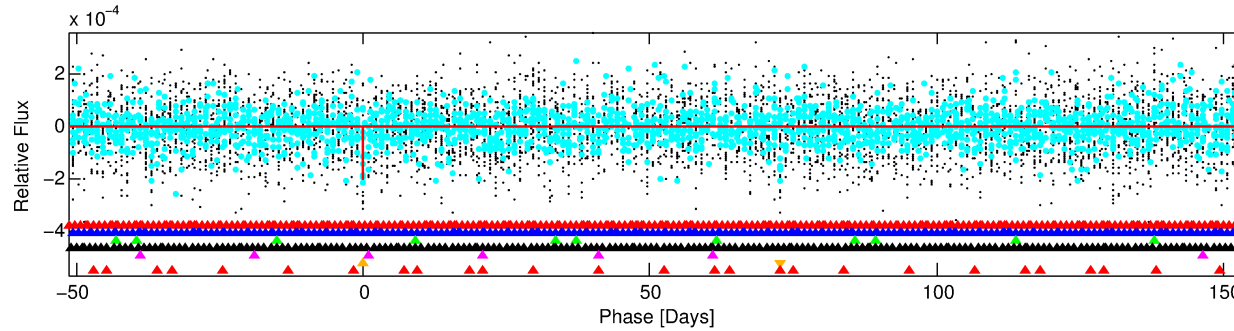
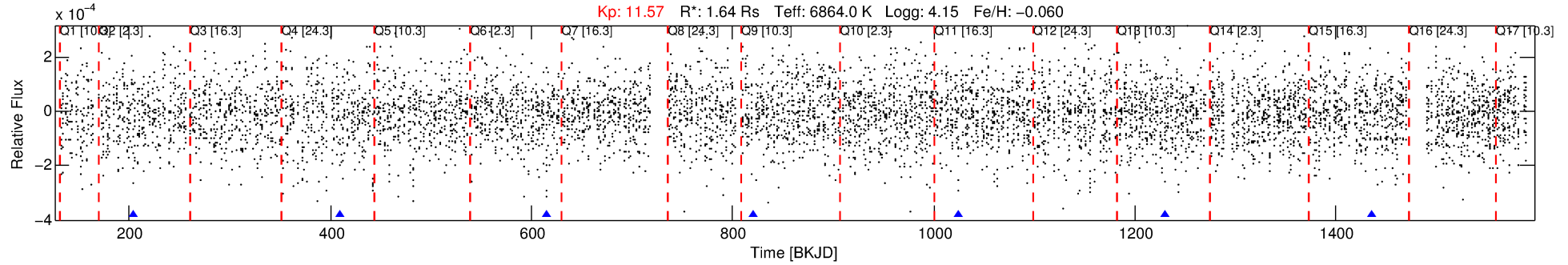
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003120650-06

No Significant Match Found

DV One-Page Summary

KIC: 3120650 Candidate: 6 of 7 Period: 205.257 d



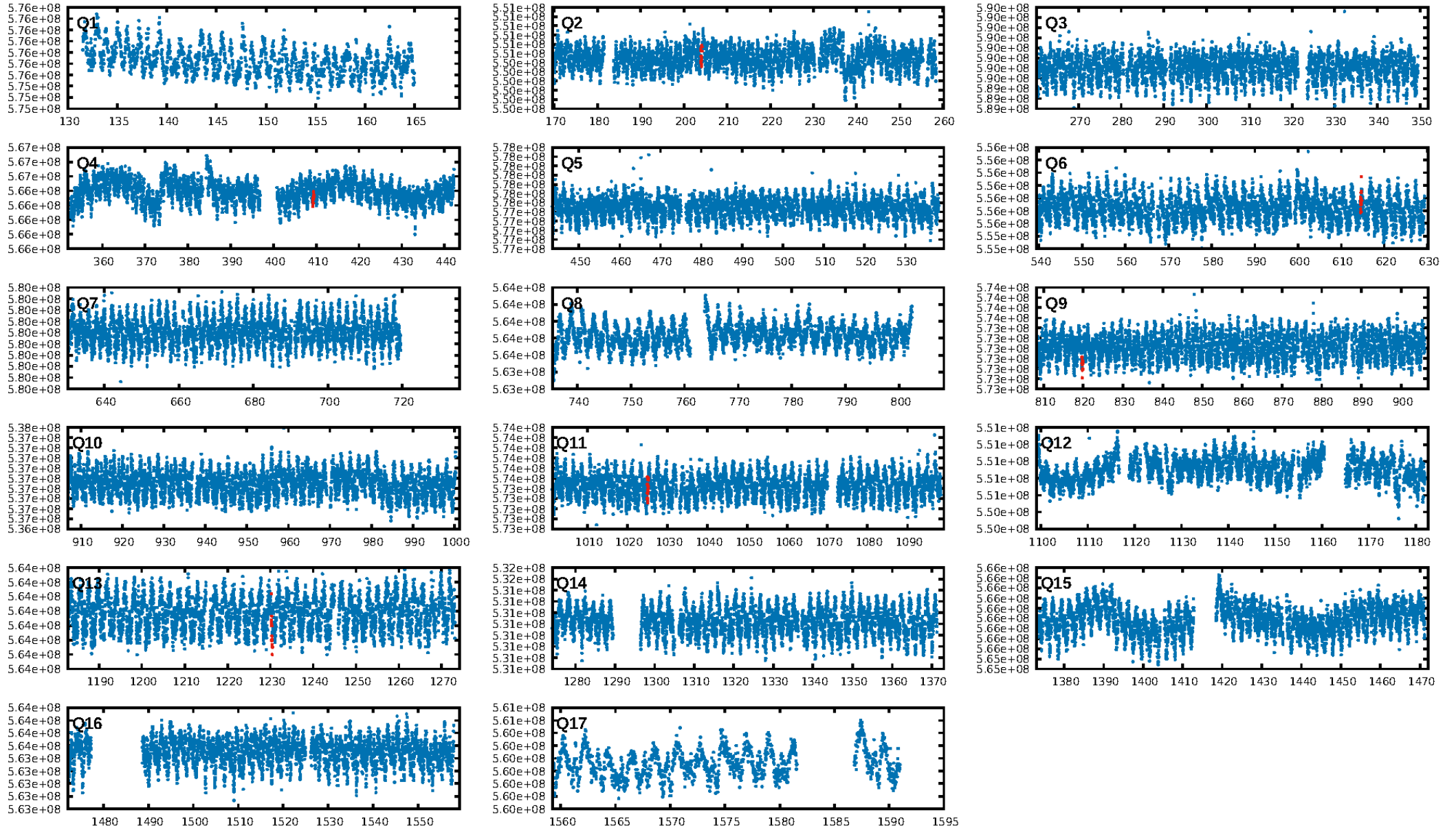
DV Fit Results:

Period = 205.25671 [0.00427] d
Epoch = 204.0450 [0.0101] BKJD
 $R_p/R^* = 0.0146$ [0.0173]
 $a/R^* = 264.05$ [1858.27]
 $b = 0.85$ [2.26]
 $\text{Seff} = 9.24$ [1.96]
 $T_{\text{eq}} = 445$ [24] K
 $R_p = 2.63$ [3.13] R_e
 $a = 0.7621$ [0.1096] AU
 $A_g = 10000.72$ [23739.52] [0.42σ]
 $T_{\text{eff}} = 6875$ [4065] K [1.58σ]

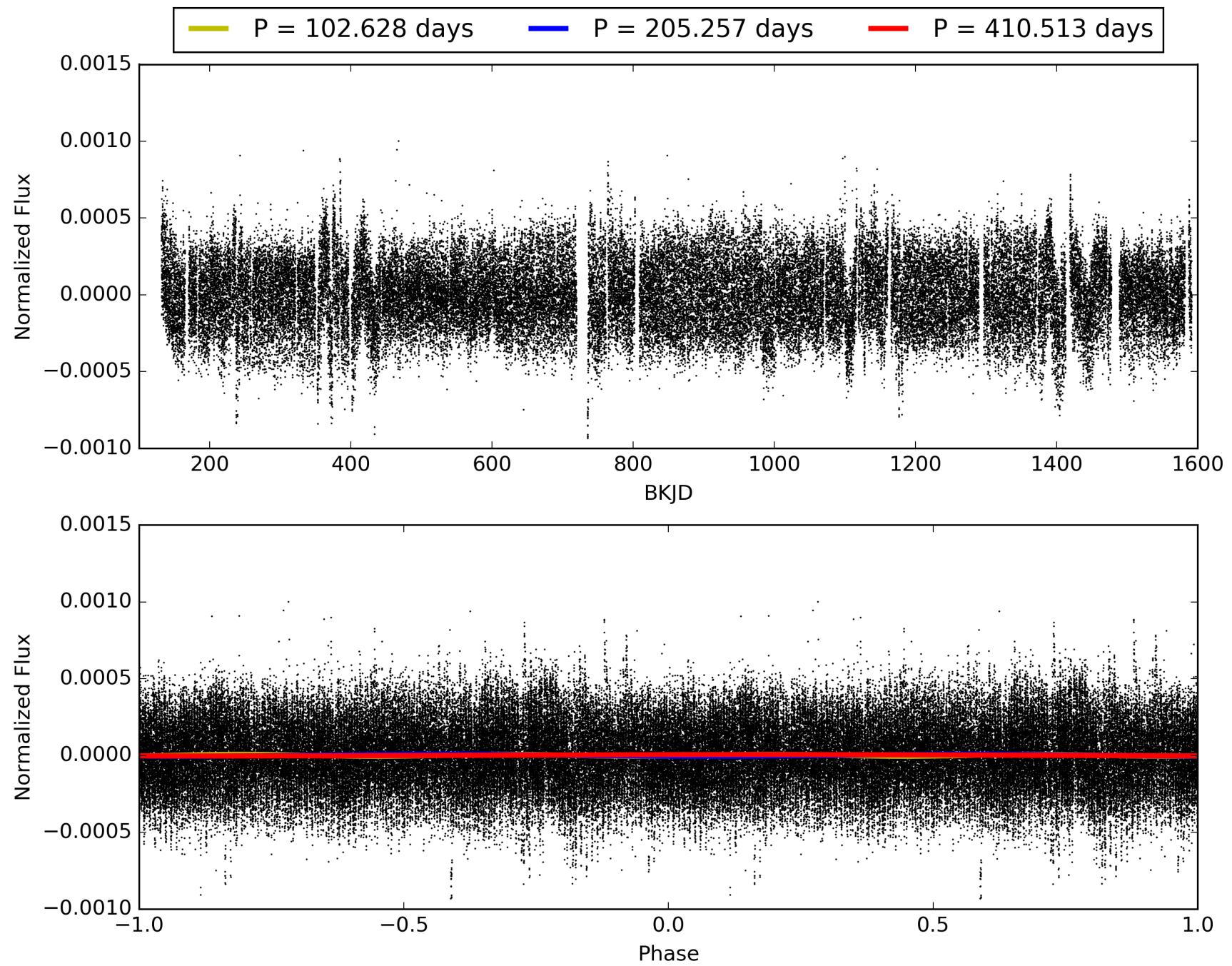
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [204.76σ]
LongPeriod-sig: 100.0% [36.21σ]
ModelChiSquare2-sig: 20.3%
ModelChiSquareGof-sig: 5.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.54
Centroid-sig: 0.6%
Centroid-so: 1.513 arcsec [1.91σ]
OotOffset-rm: 1.756 arcsec [0.98σ]
KicOffset-rm: 1.488 arcsec [0.83σ]
OotOffset-st: 2/1/1/2 [6]
KicOffset-st: 2/1/1/2 [6]
DiffImageQuality-fgm: 0.83 [5/6]
DiffImageOverlap-fno: 0.00 [0/6]

TCE 003120650-06, PDC Light Curves

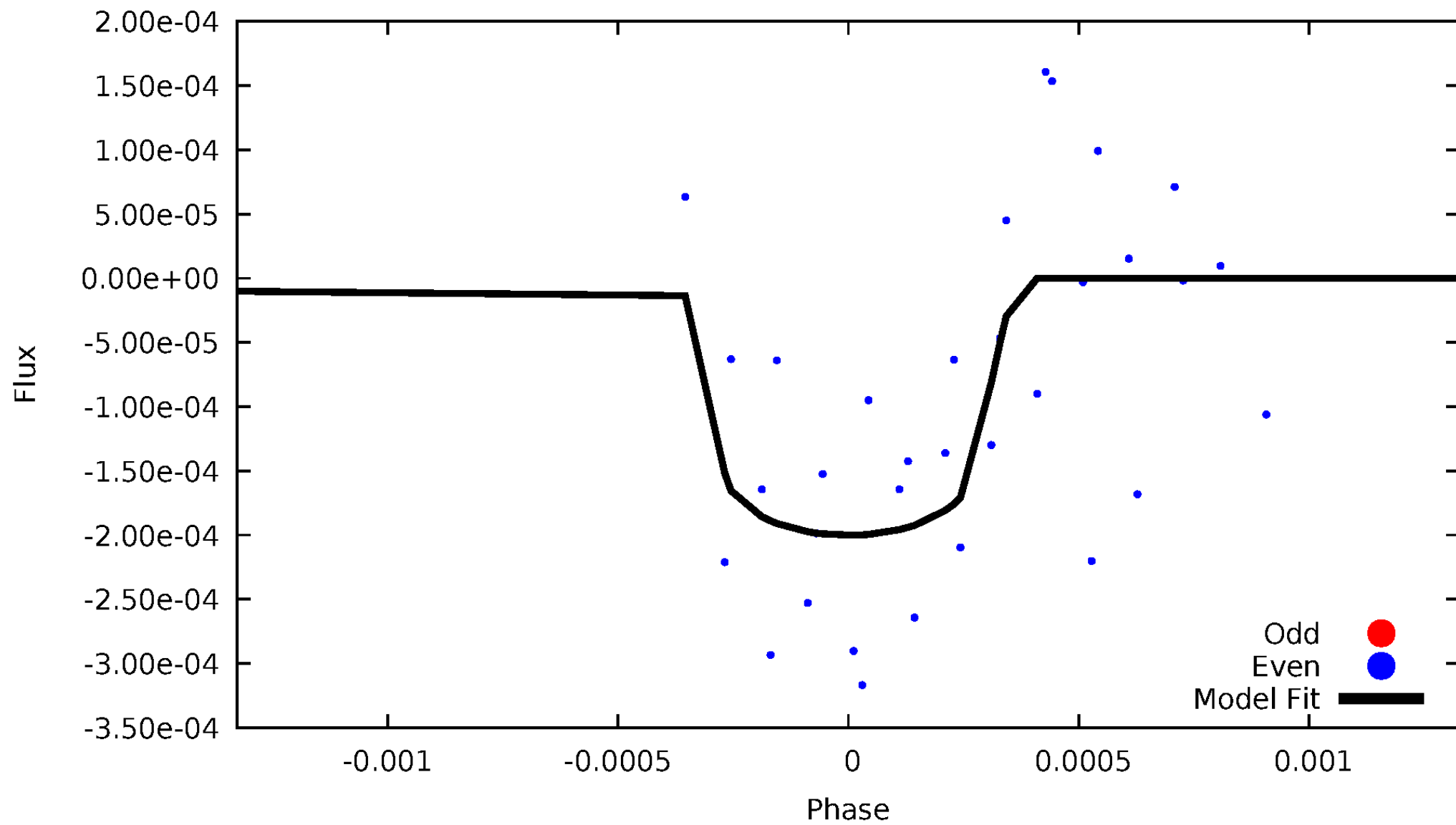


TCE 003120650-06



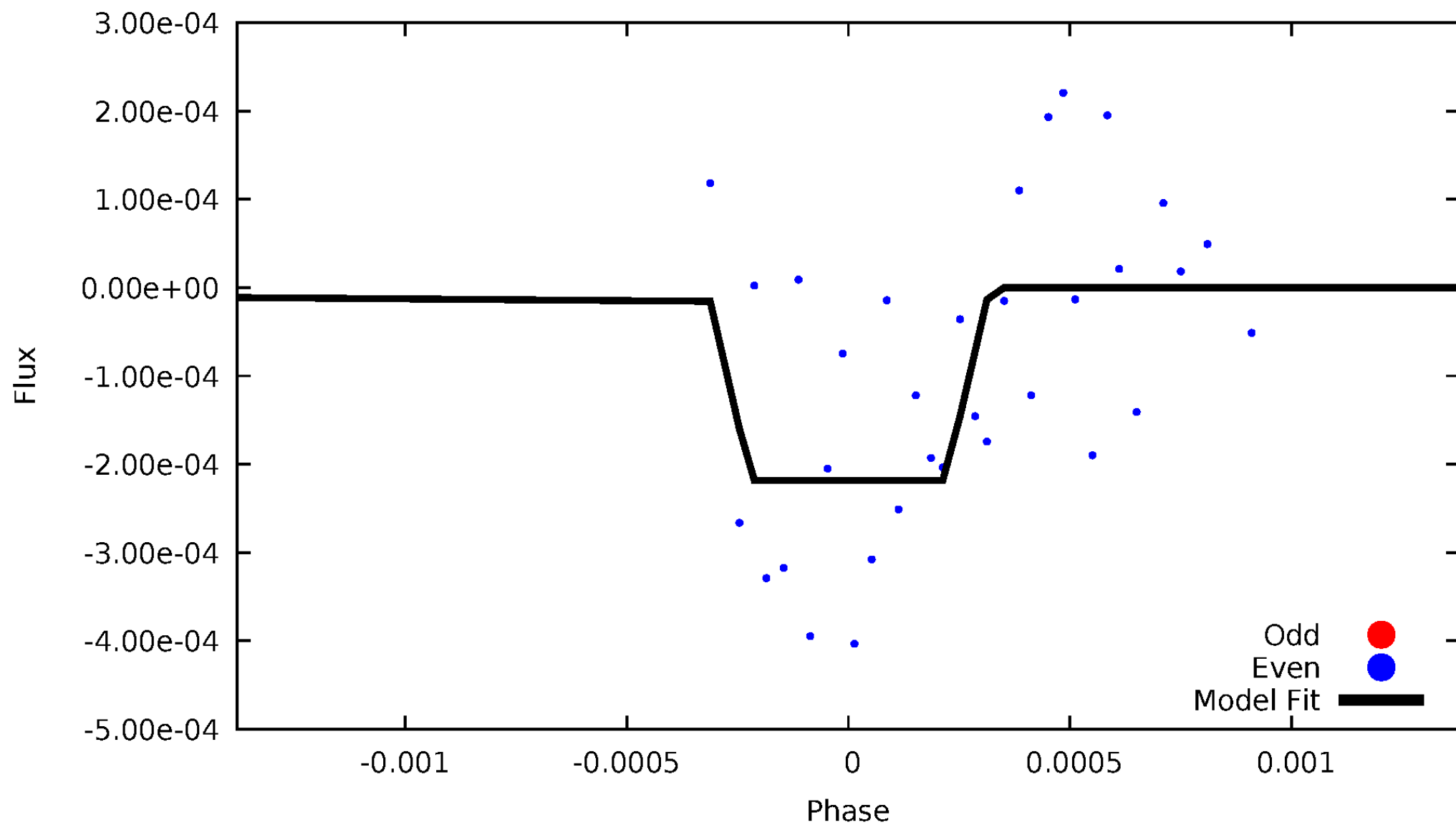
DV Odd/Even

TCE 003120650-06



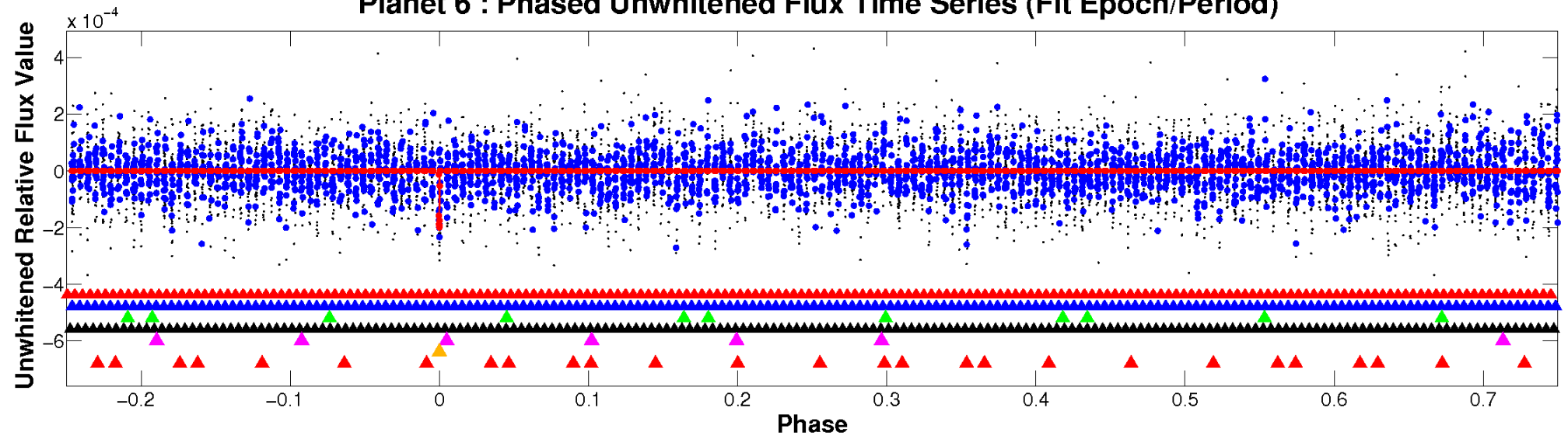
ALT Odd/Even

TCE 003120650-06

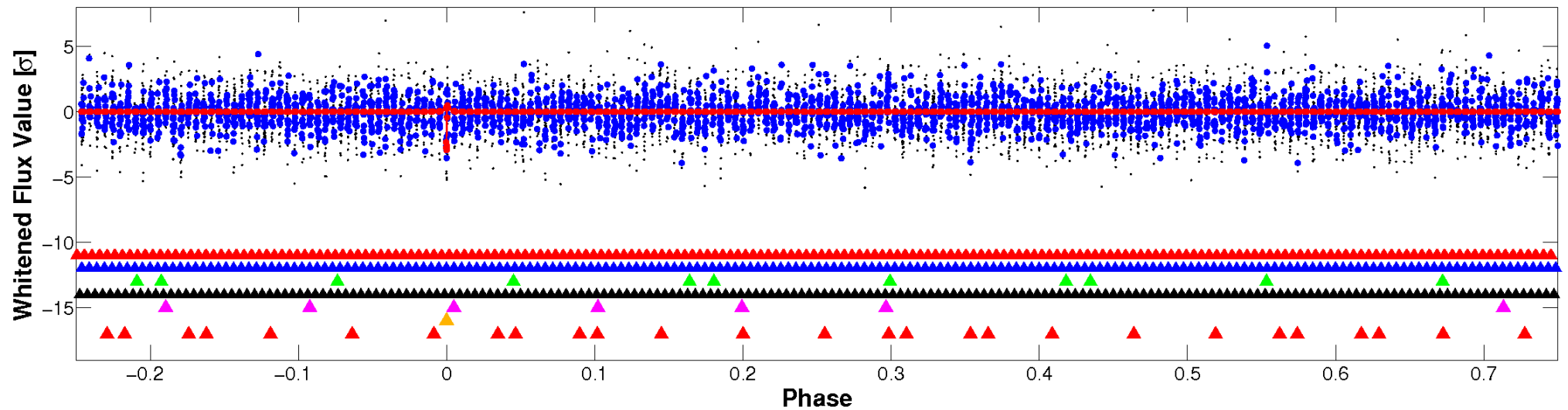


Non-Whitened Vs. Whitened Light Curve

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

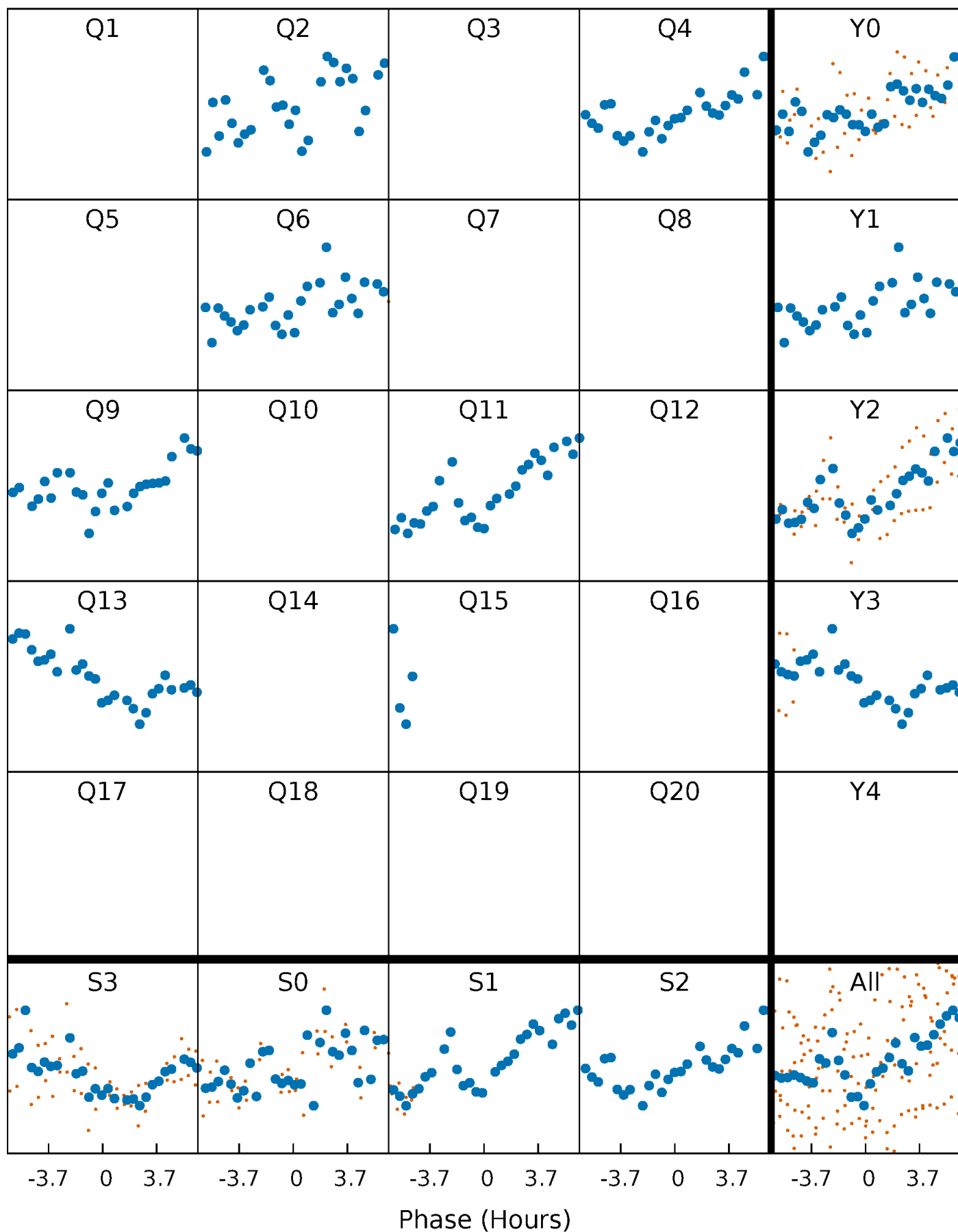


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



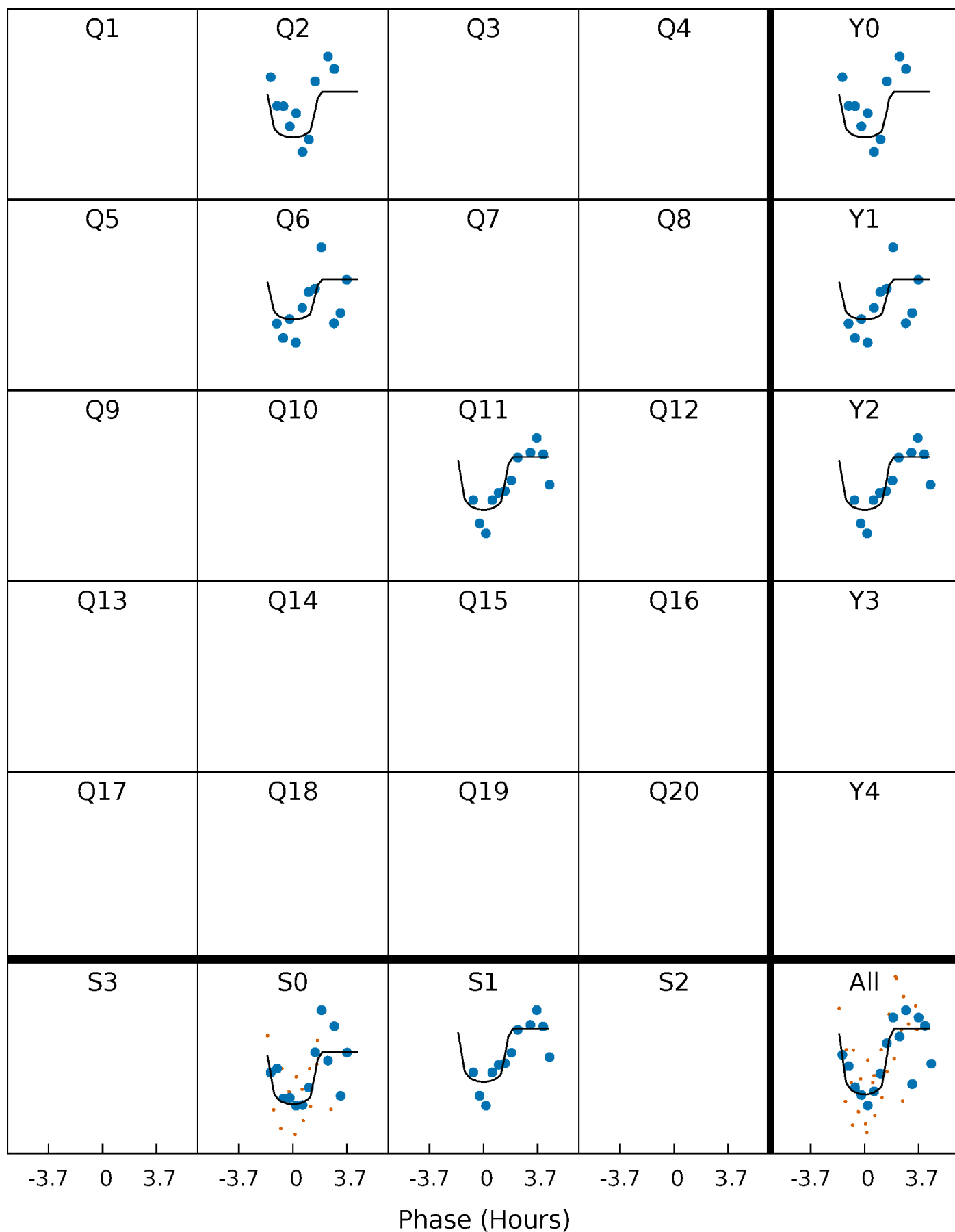
PDC Quarter-Phased Transit Curves

TCE 003120650-06 P=205.256712 Days $T_0=204.045050$ (BKJD)



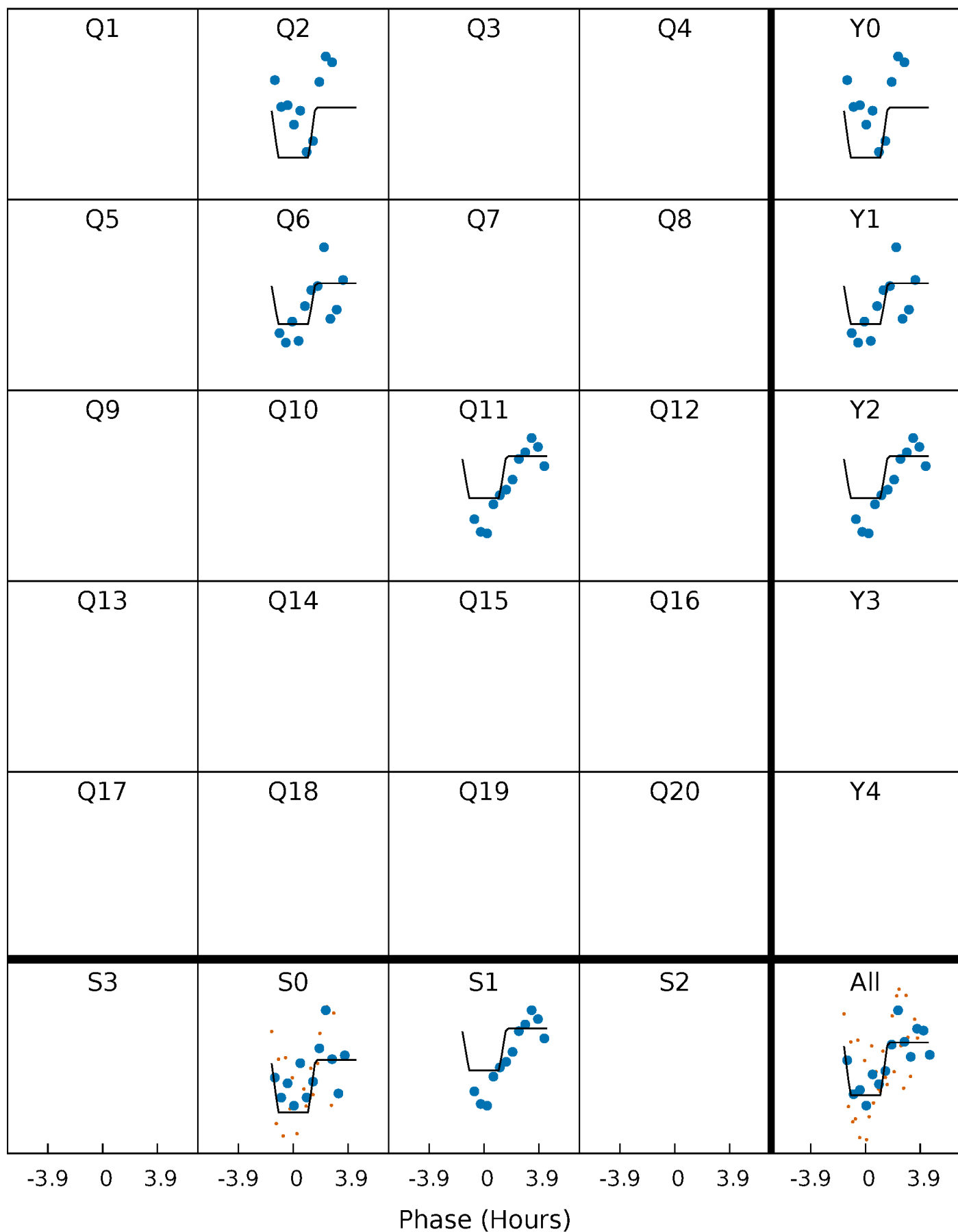
DV Quarter-Phased Transit Curves

TCE 003120650-06 P=205.256712 Days $T_0=204.045050$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

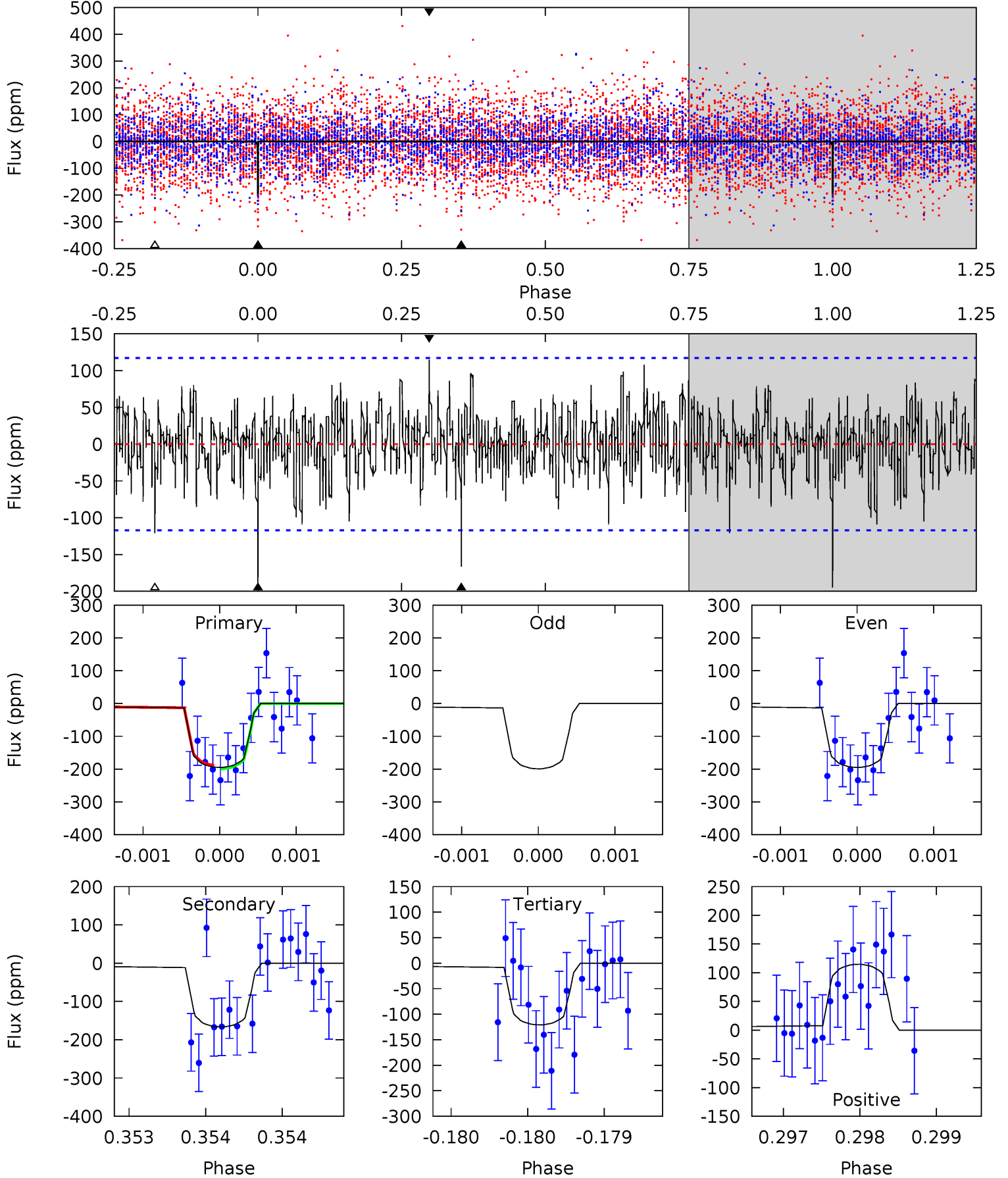
TCE 003120650-06 P=205.258783 Days $T_0=204.036262$ (BKJD)



DV Model-Shift Uniqueness Test

003120650-06, P = 205.256712 Days, E = 204.045050 Days

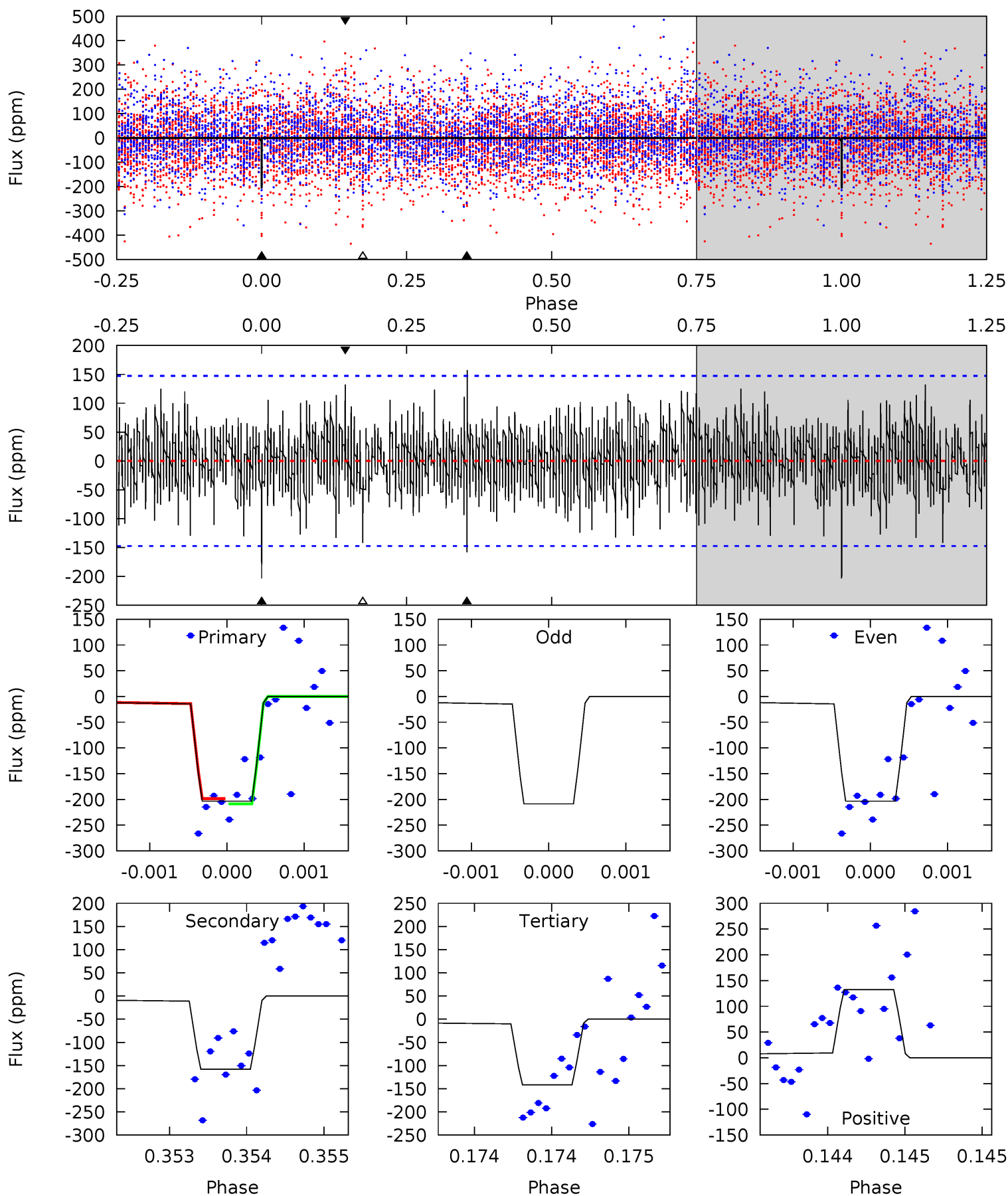
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.16	7.82	5.68	5.39	5.50	3.37	1.60	3.48	3.77	2.14	2.43	0.13	0.91	0.37	0.24



Alt Model-Shift Uniqueness Test

003120650-06, P = 205.258783 Days, E = 204.036262 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.64	5.93	5.32	4.97	5.52	3.40	1.70	2.32	2.67	0.61	0.96	0.12	0.87	0.44	0.19



Stellar Parameters For KIC 003120650

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6864^{+72}_{-92}	$4.153^{+0.090}_{-0.110}$	$-0.060^{+0.150}_{-0.150}$	$1.643^{+0.287}_{-0.191}$	$1.408^{+0.095}_{-0.095}$	$0.447^{+0.188}_{-0.156}$
	+1%/-1%	+2%/-3%	+250%/-250%	+17%/-12%	+7%/-7%	+42%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003120650-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-167 ± 21	$3.47^{+2.67}_{-2.23}$	620^{+25}_{-21}	5596^{+4519}_{-1216}	4270^{+30833}_{-2900}
Alt.	-158 ± 27	$3.61^{+2.78}_{-2.21}$	622^{+27}_{-19}	5499^{+3888}_{-1191}	3898^{+22769}_{-2682}

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 $A_{obs} \gg 1.0$

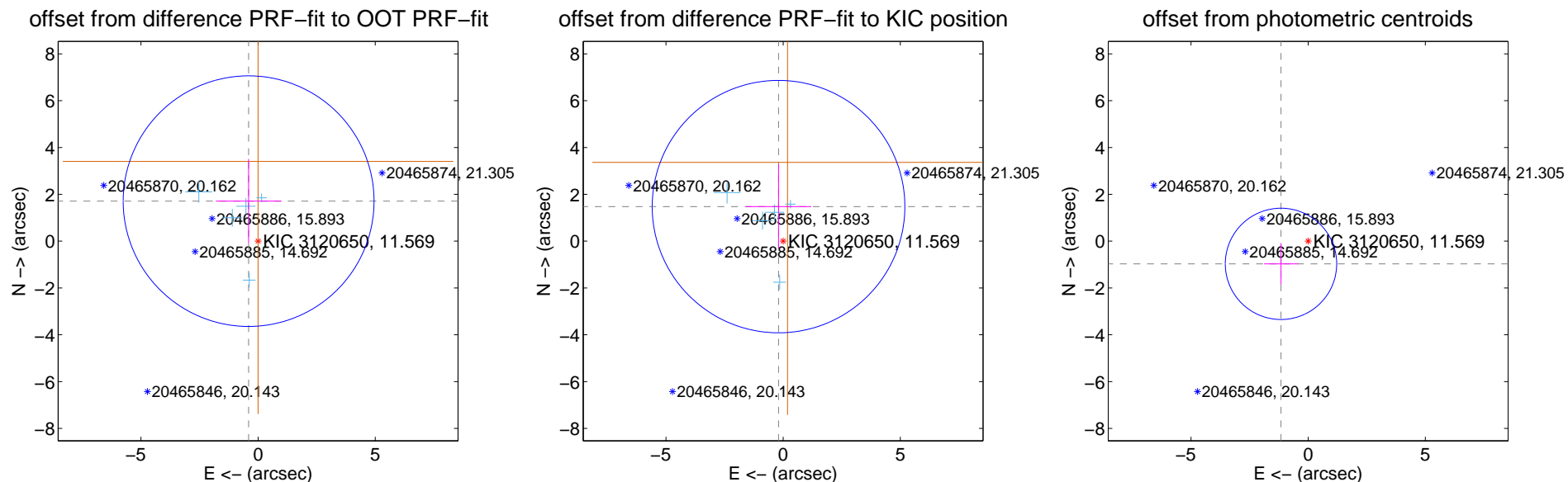
DV Centroid Data

Supplemental centroid analysis for 003120650-06. **Kepler magnitude: 11.57.** Transit SNR 11.41

There are 5 quarters with good PRF difference image offsets

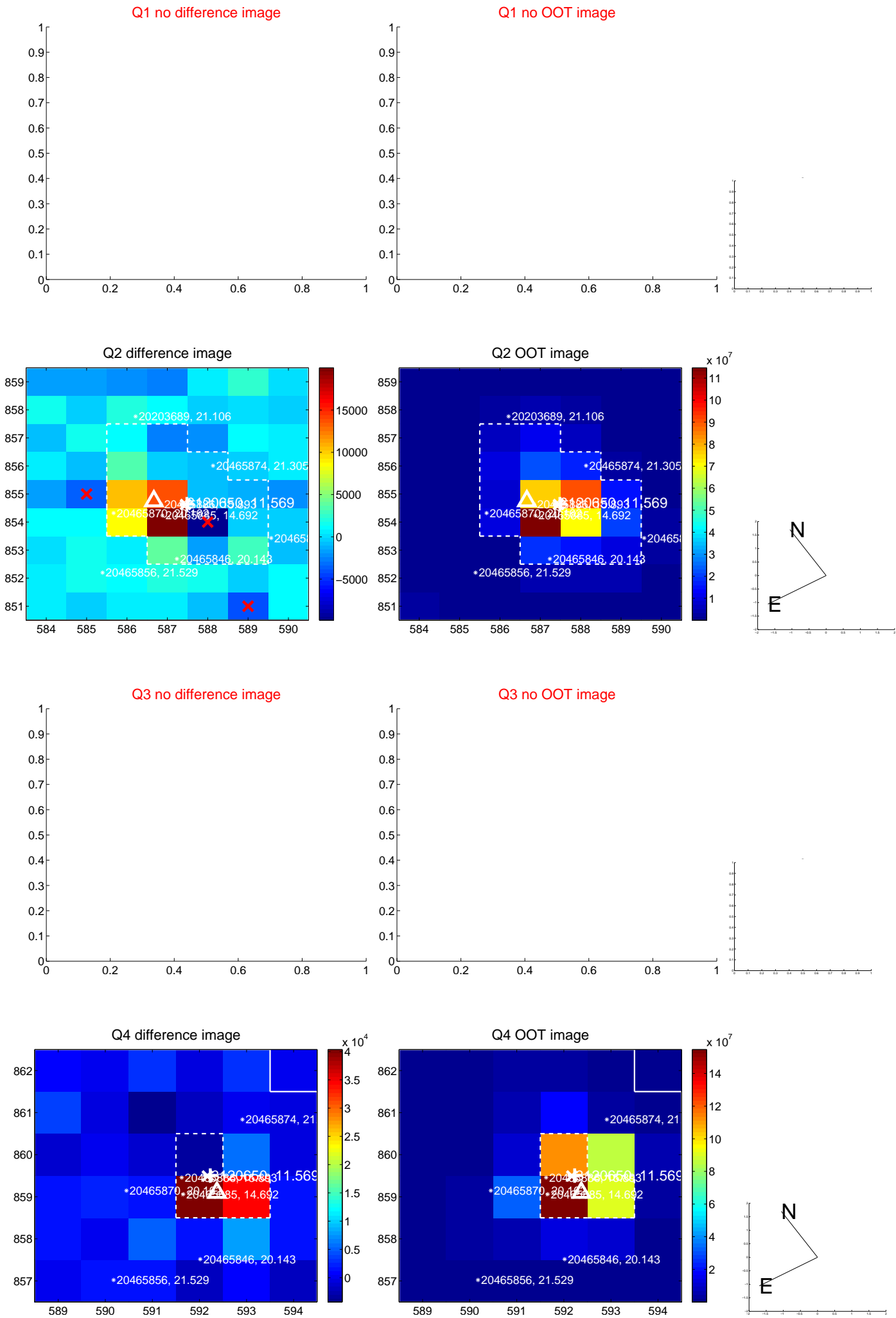
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.756 ± 1.784	0.98	0.405 ± 1.398	1.709 ± 1.803
PRF-fit source offset from KIC position	1.488 ± 1.797	0.83	0.197 ± 1.398	1.475 ± 1.803
photometric centroid source offset	1.51 ± 0.79	1.91	1.16 ± 0.72	-0.97 ± 0.88

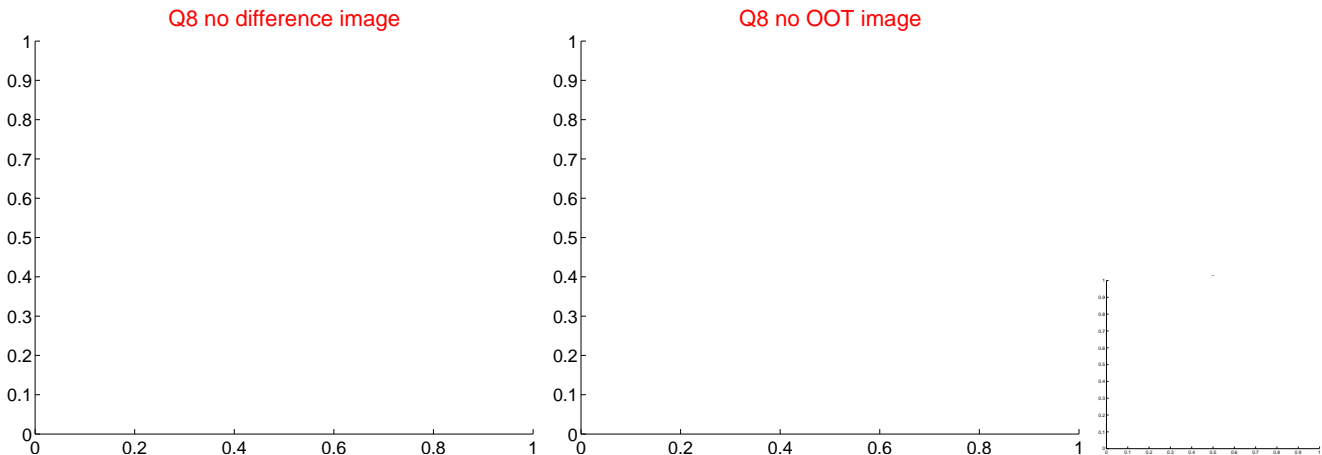
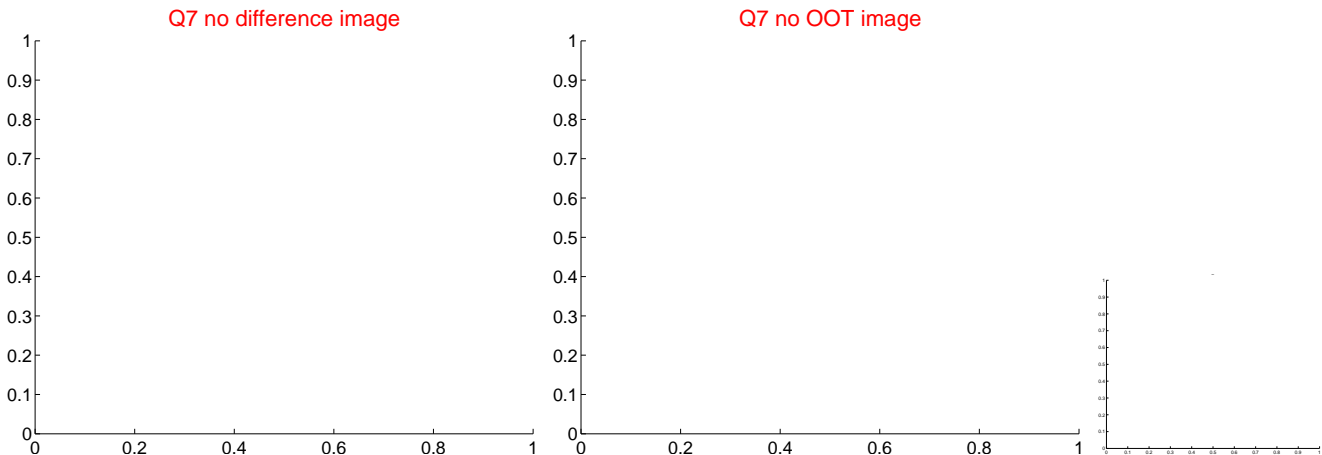
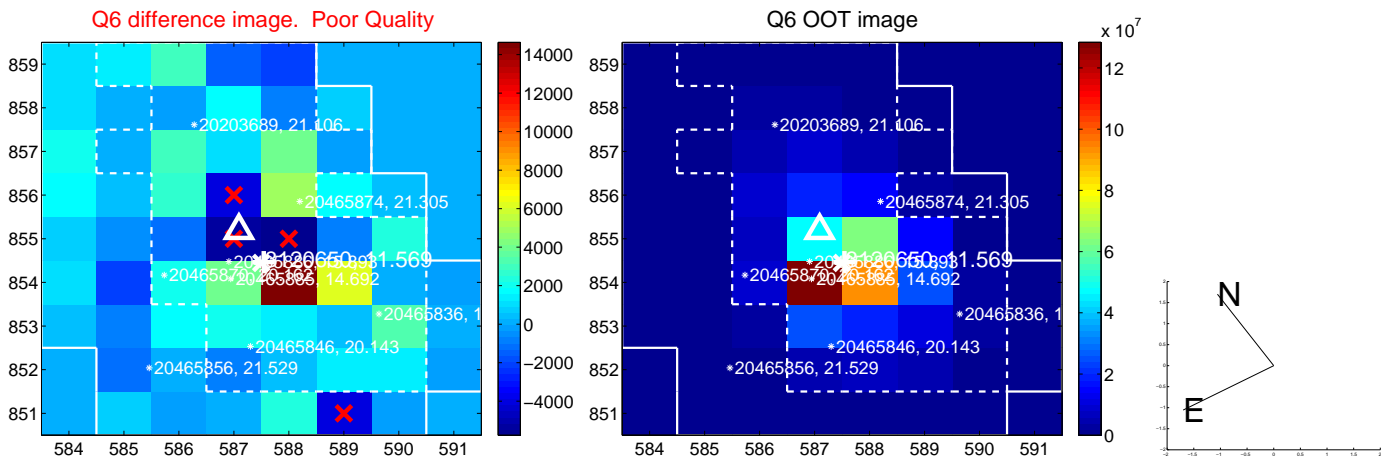
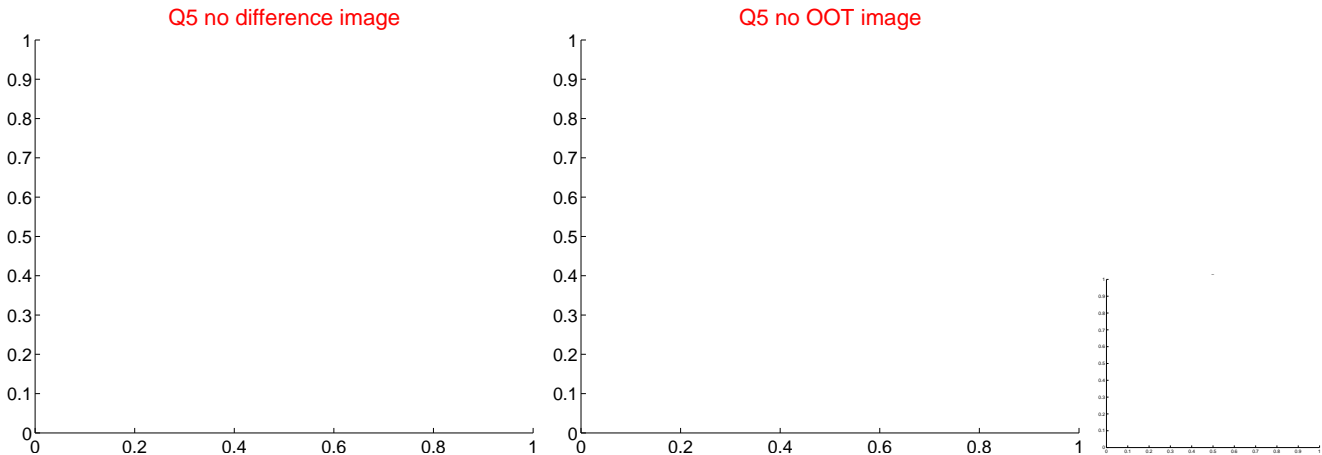


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

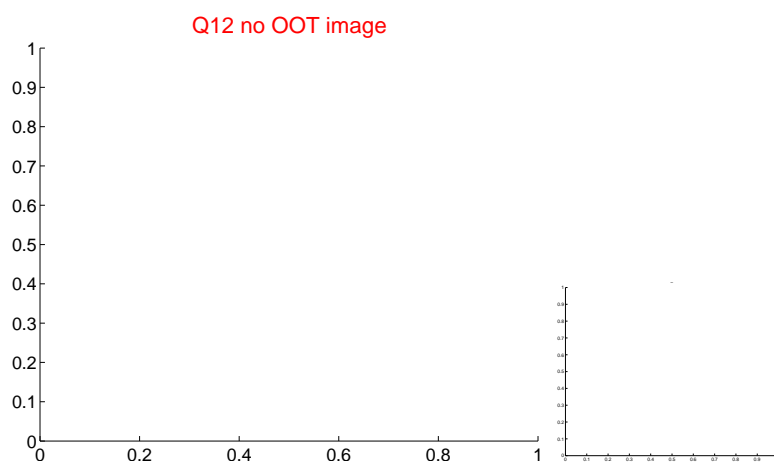
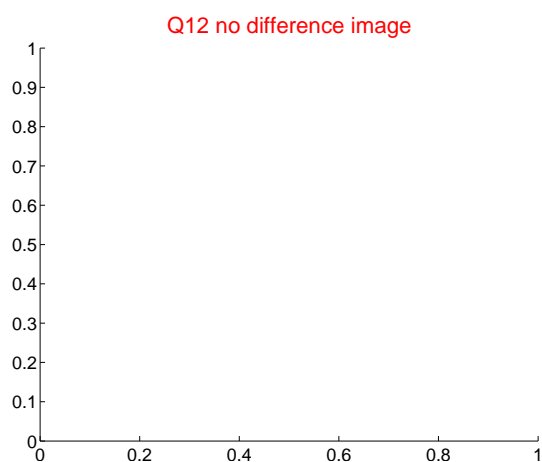
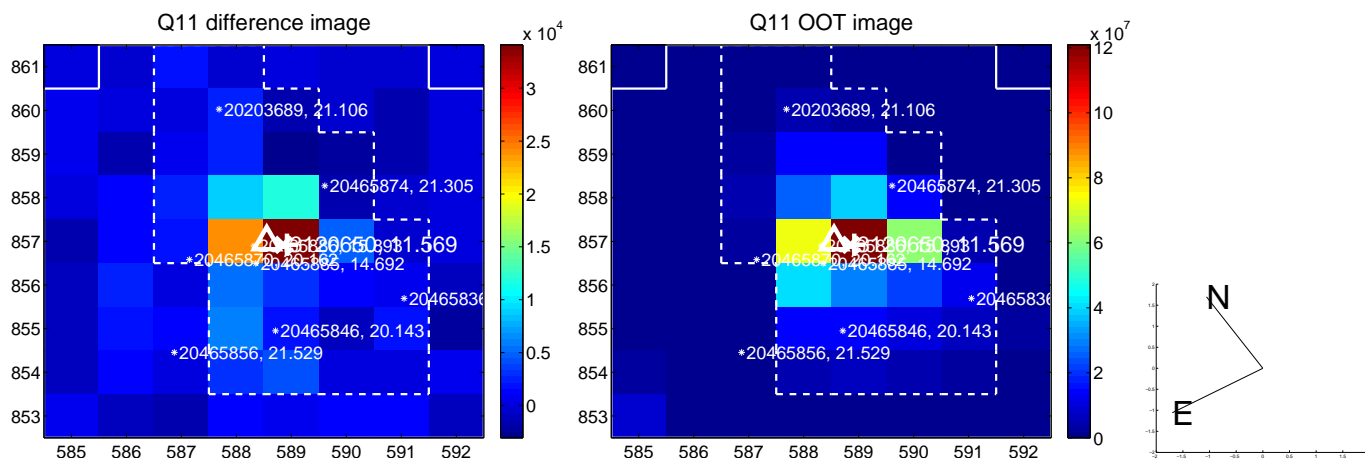
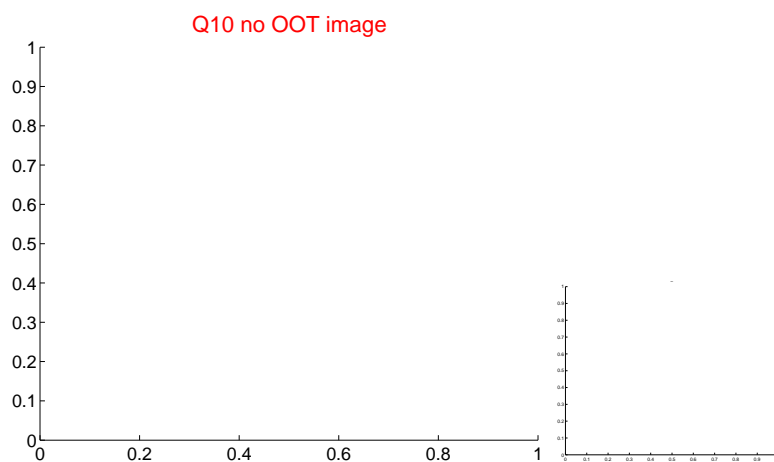
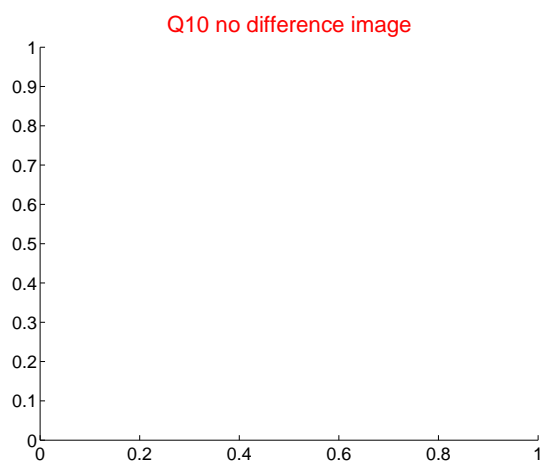
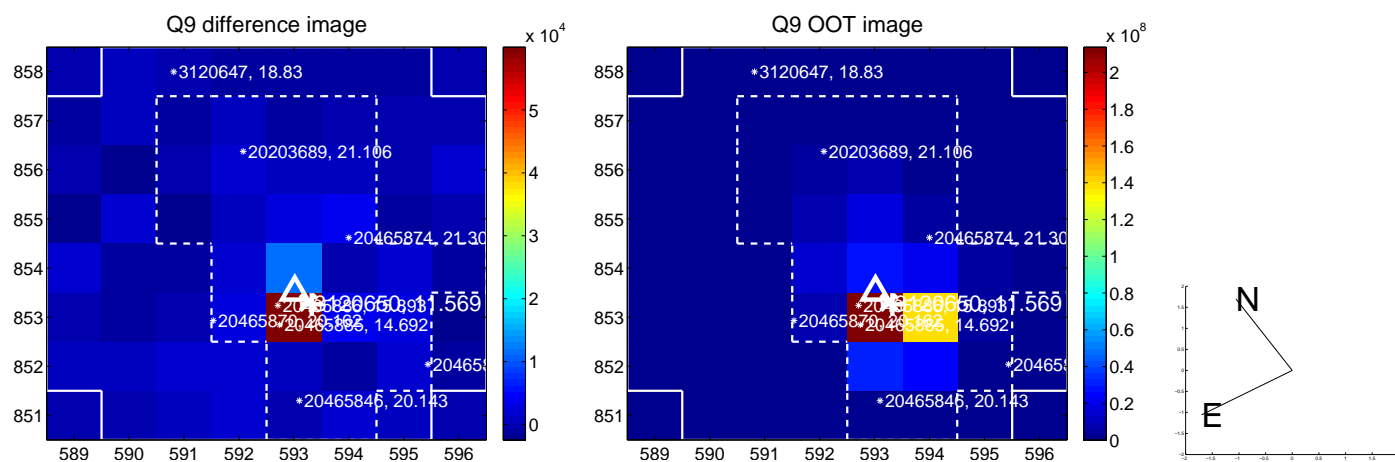
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



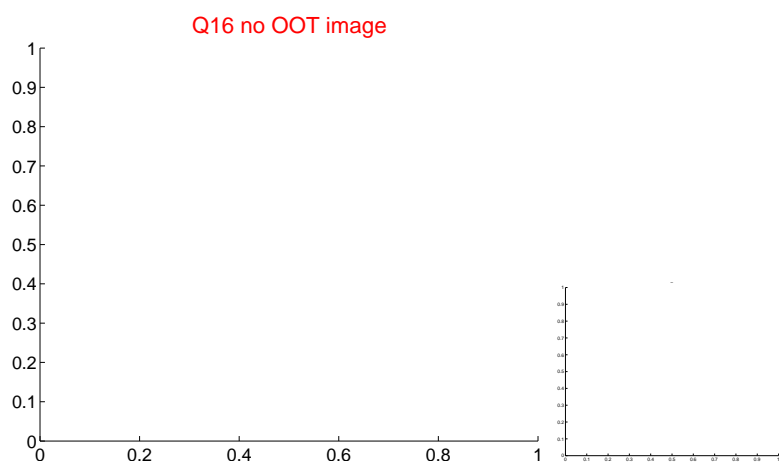
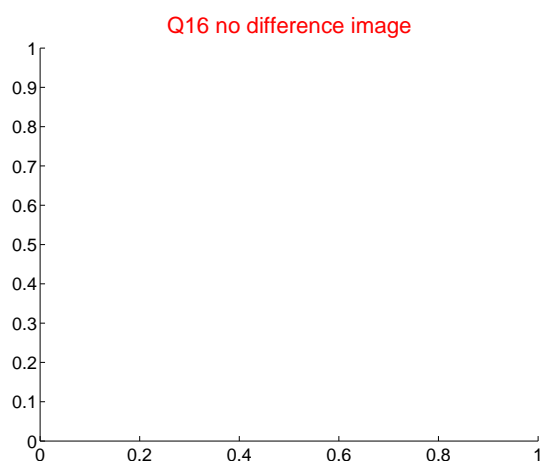
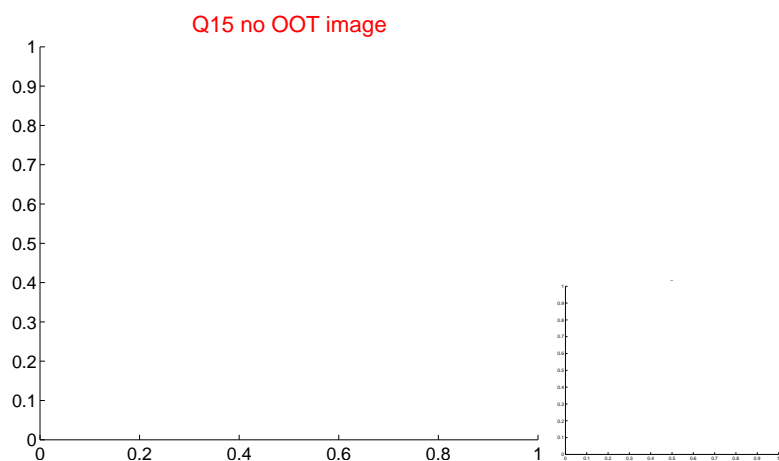
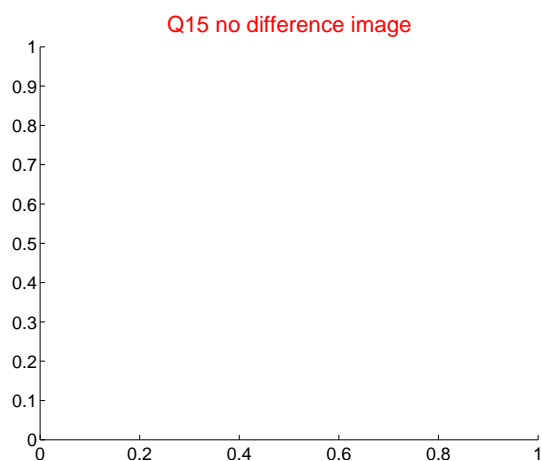
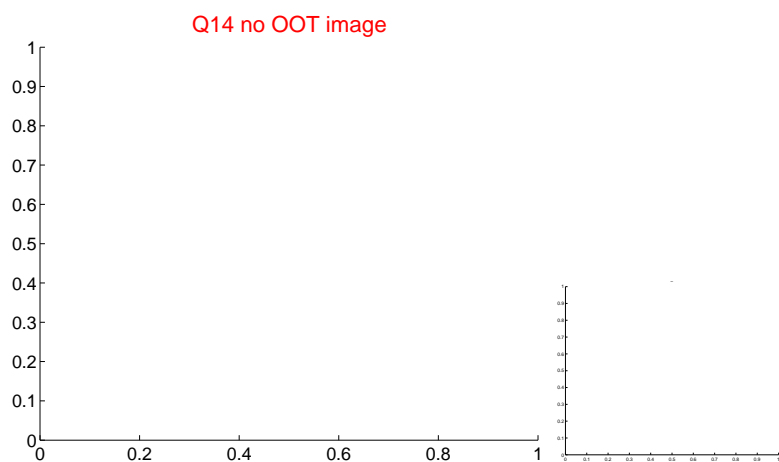
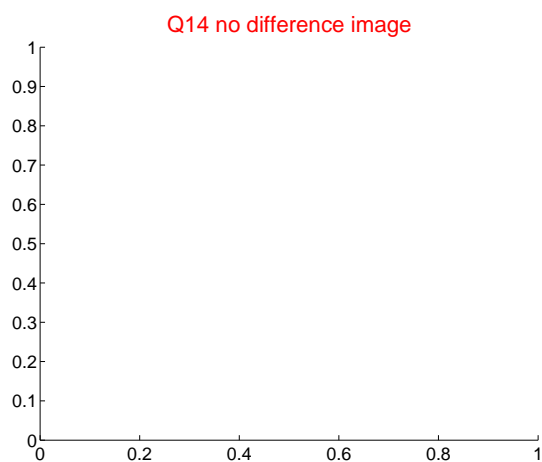
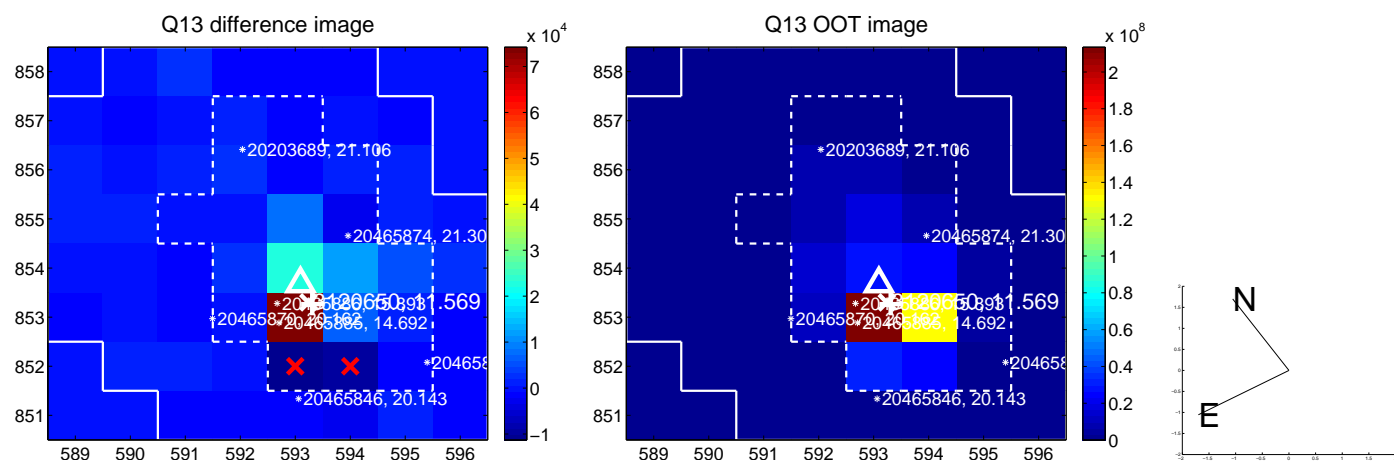
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



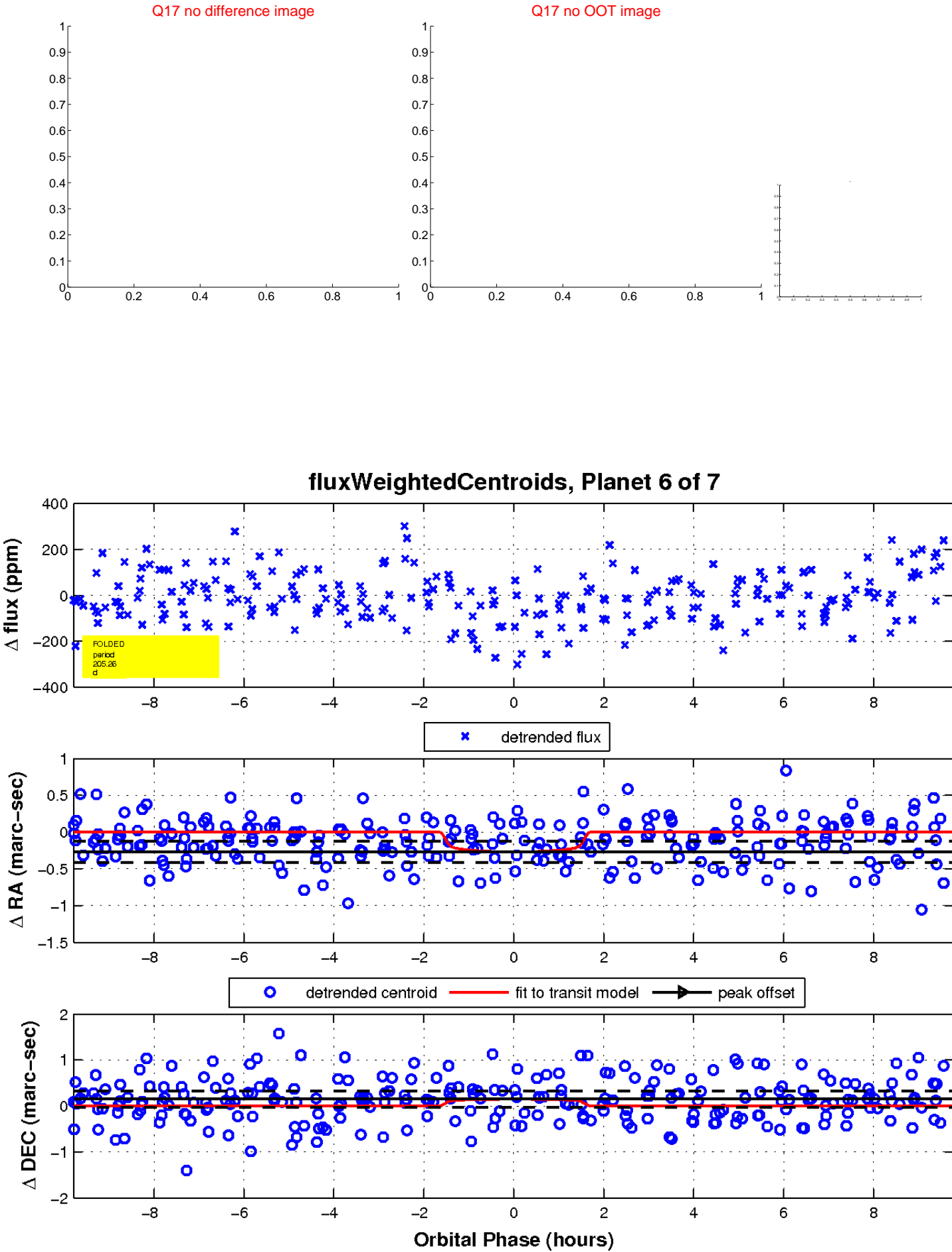
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



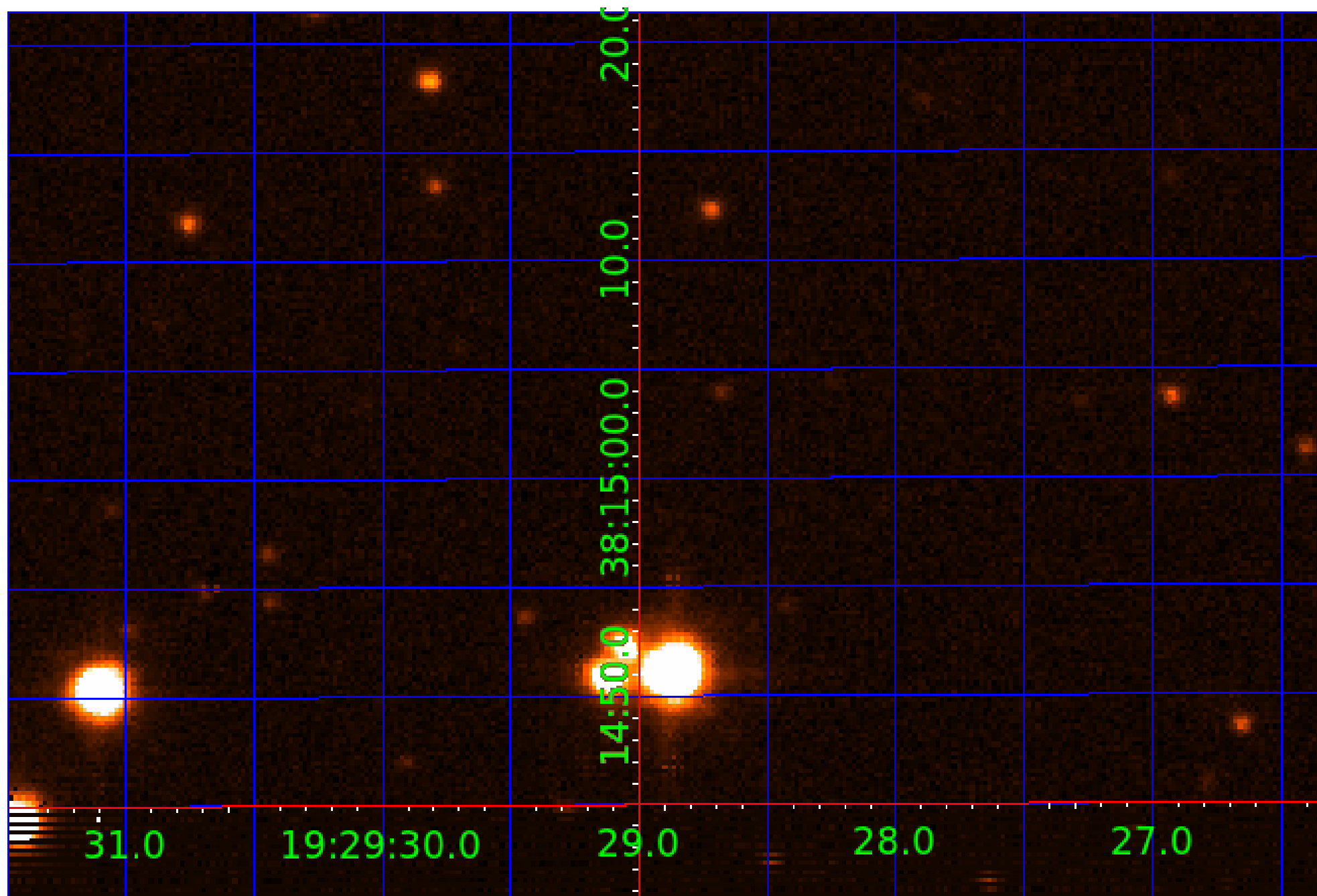
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image



KIC 003120650

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})
003120650-01	OBS	No	2.105462	132.740235	24.6	1.567	9.4	8.4	1.64	6864	0.85	4147.93
003120650-02	OBS	No	2.105407	133.425098	2.3	13.331	8.2	1.5	1.64	6864	0.27	4148.08
003120650-03	OBS	No	128.707625	237.699832	131.5	8.357	15.8	6.8	1.64	6864	2.16	17.23
003120650-04	OBS	No	2.105255	132.162935	21.1	3.516	14.9	6.5	1.64	6864	0.81	4148.48
003120650-05	OBS	No	225.210461	145.189638	148.9	12.816	17.0	10.0	1.64	6864	2.31	8.17
003120650-06	OBS	No	205.256712	204.045049	200.1	3.266	11.5	11.4	1.64	6864	2.63	9.24
003120650-07	OBS	No	54.143709	157.013841	183.0	5.874	10.6	10.6	1.64	6864	2.44	54.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003120650-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
003120650-02	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
003120650-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS
003120650-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD
003120650-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
003120650-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT
003120650-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

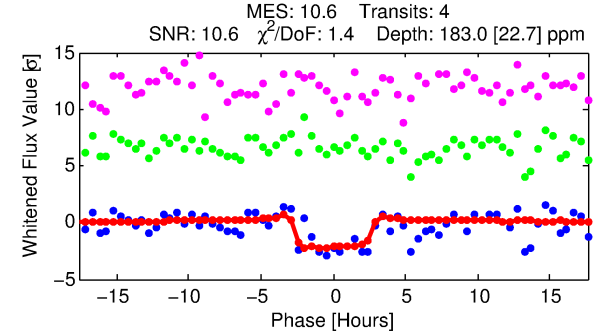
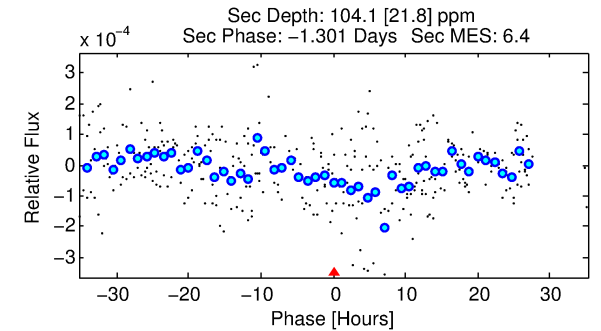
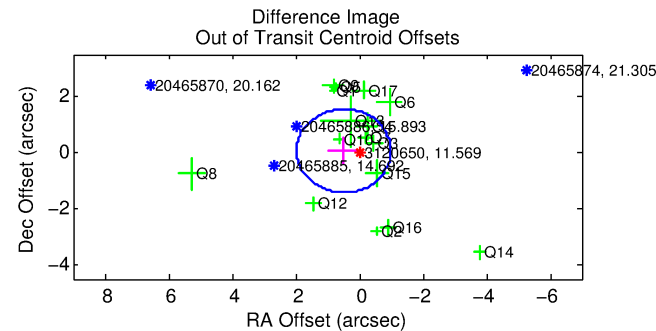
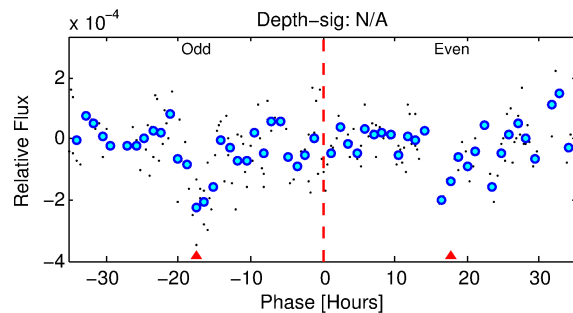
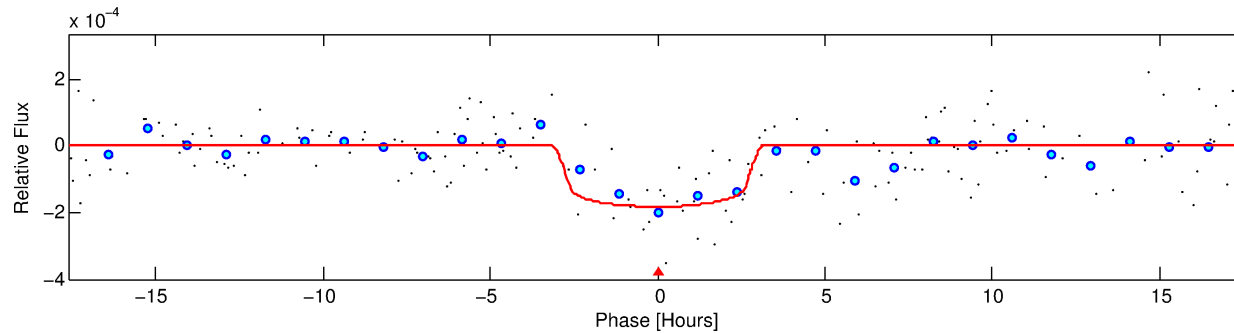
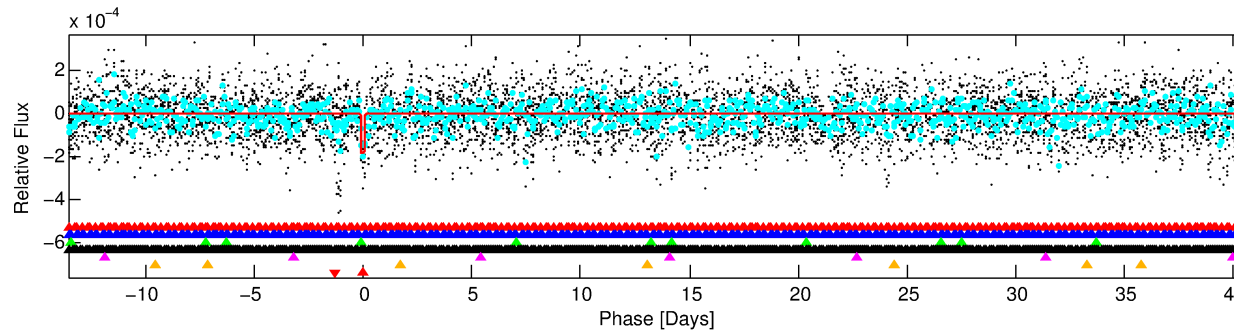
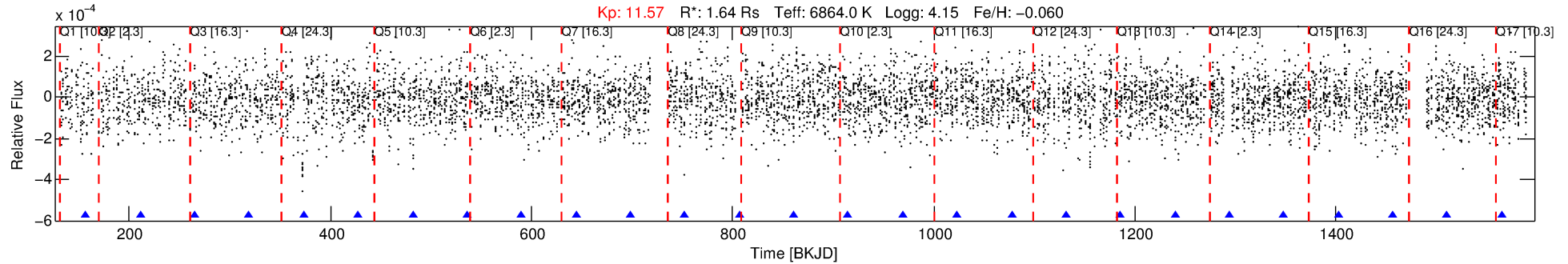
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003120650-07

No Significant Match Found

DV One-Page Summary

KIC: 3120650 Candidate: 7 of 7 Period: 54.144 d



DV Fit Results:

Period = 54.14371 [0.00072] d
Epoch = 157.0138 [0.0107] BKJD
Rp/R* = 0.0136 [0.0064]
a/R* = 44.74 [120.39]
b = 0.79 [1.29]
Seff = 54.65 [11.59]
Teq = 693 [37] K
Rp = 2.44 [1.22] Re
a = 0.3134 [0.0451] AU
Ag = 942.64 [926.07] [1.02σ]
Teffp = 5939 [1429] K [3.67σ]

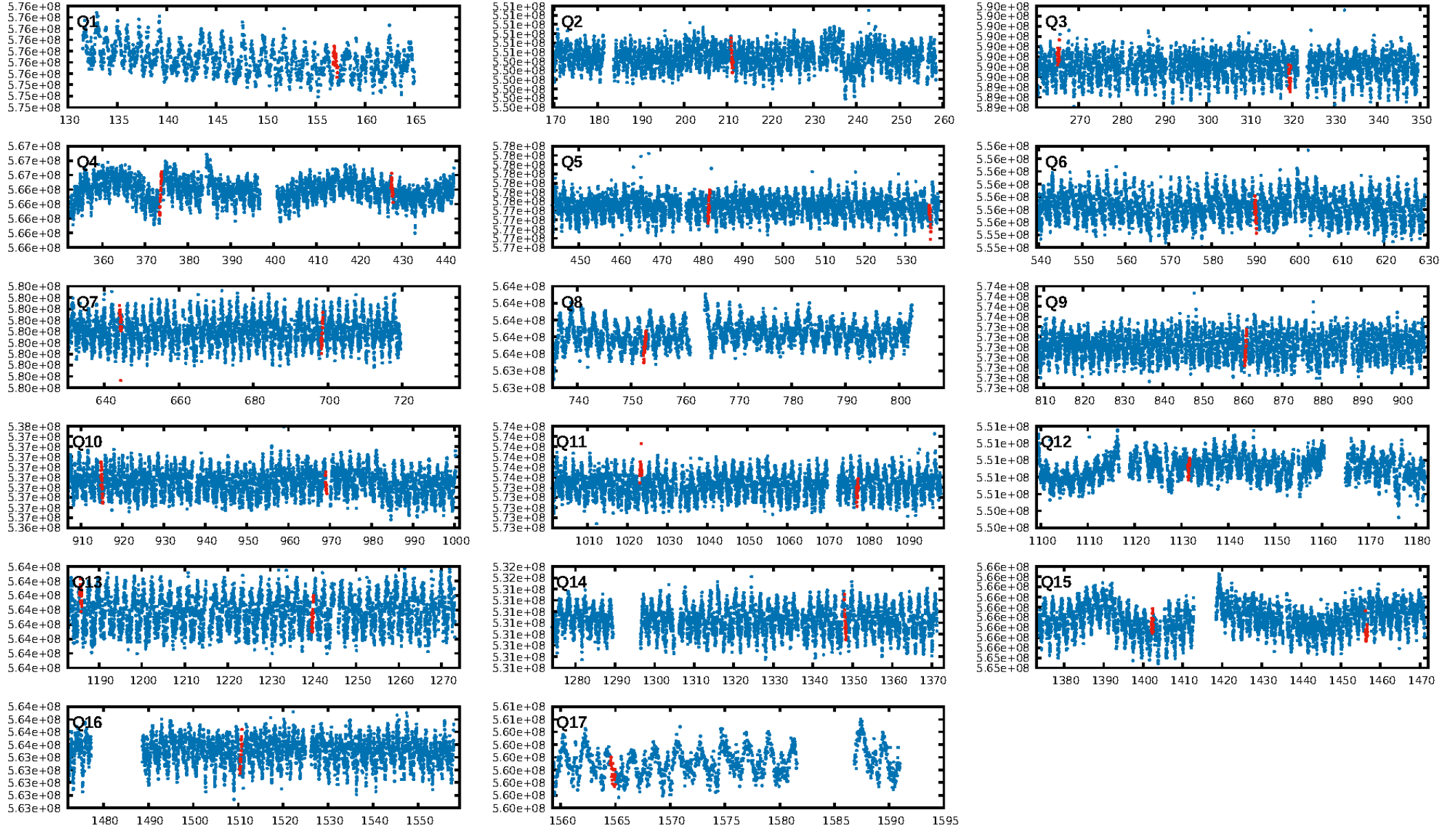
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [205.45σ]
LongPeriod-sig: 100.0% [175.20σ]
ModelChiSquare2-sig: 3.4%
ModelChiSquareGof-sig: 96.7%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.2648
Centroid-sig: 37.8%
Centroid-so: 0.572 arcsec [1.54σ]
OotOffset-rm: 0.498 arcsec [1.00σ]
KicOffset-rm: 0.578 arcsec [1.06σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 0.00 [0/17]

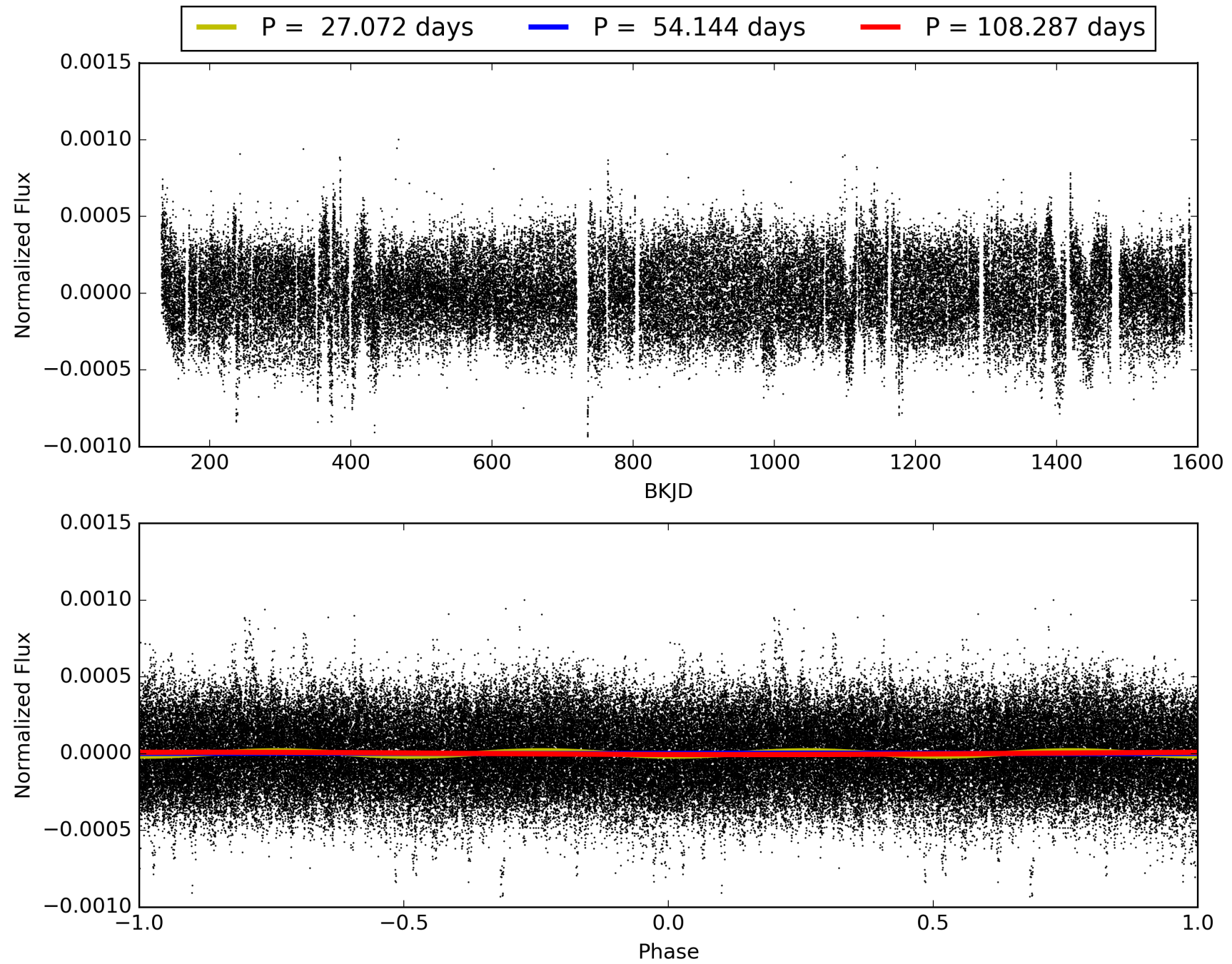
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:54:02 Z

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

TCE 003120650-07, PDC Light Curves

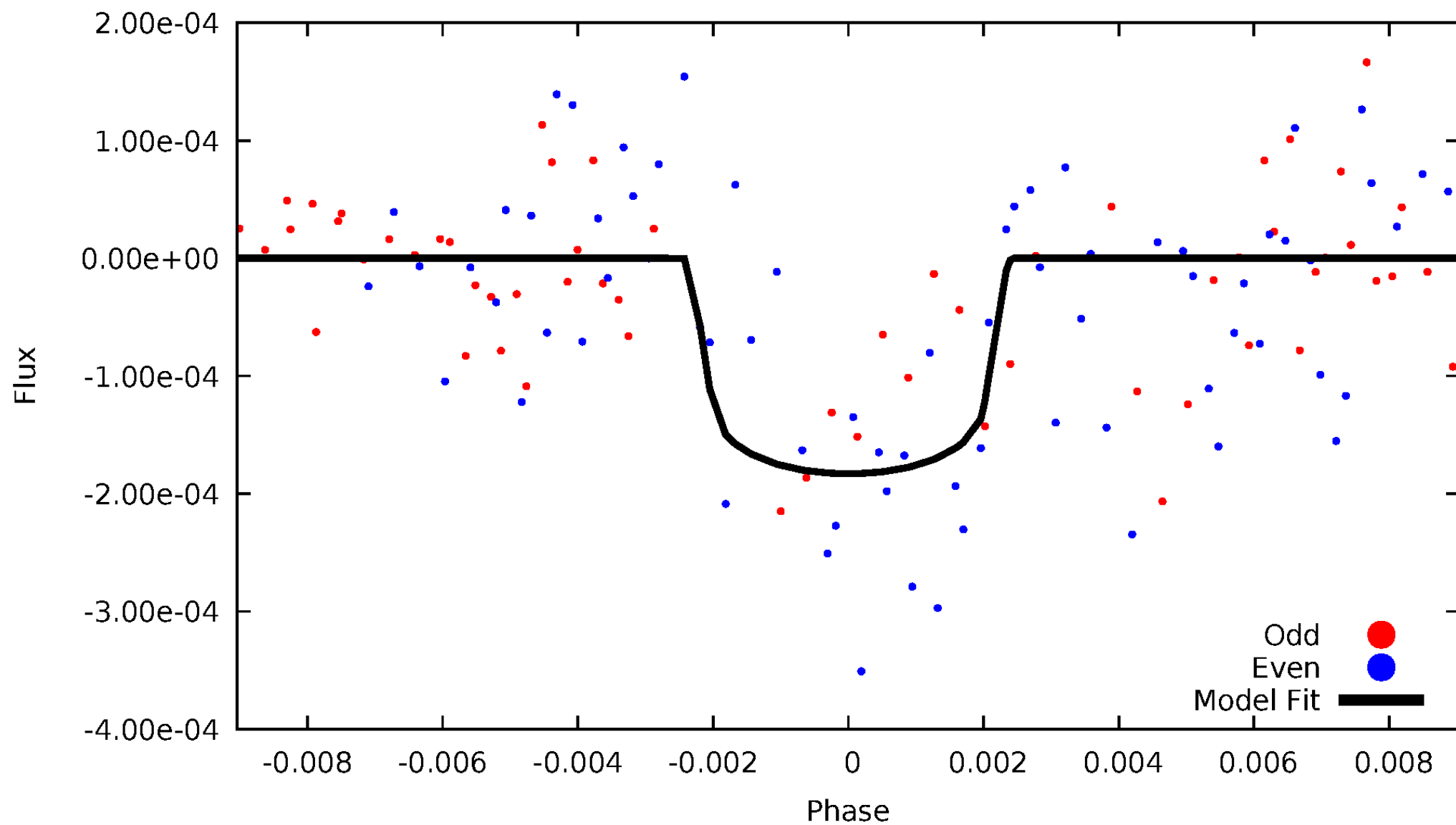


TCE 003120650-07



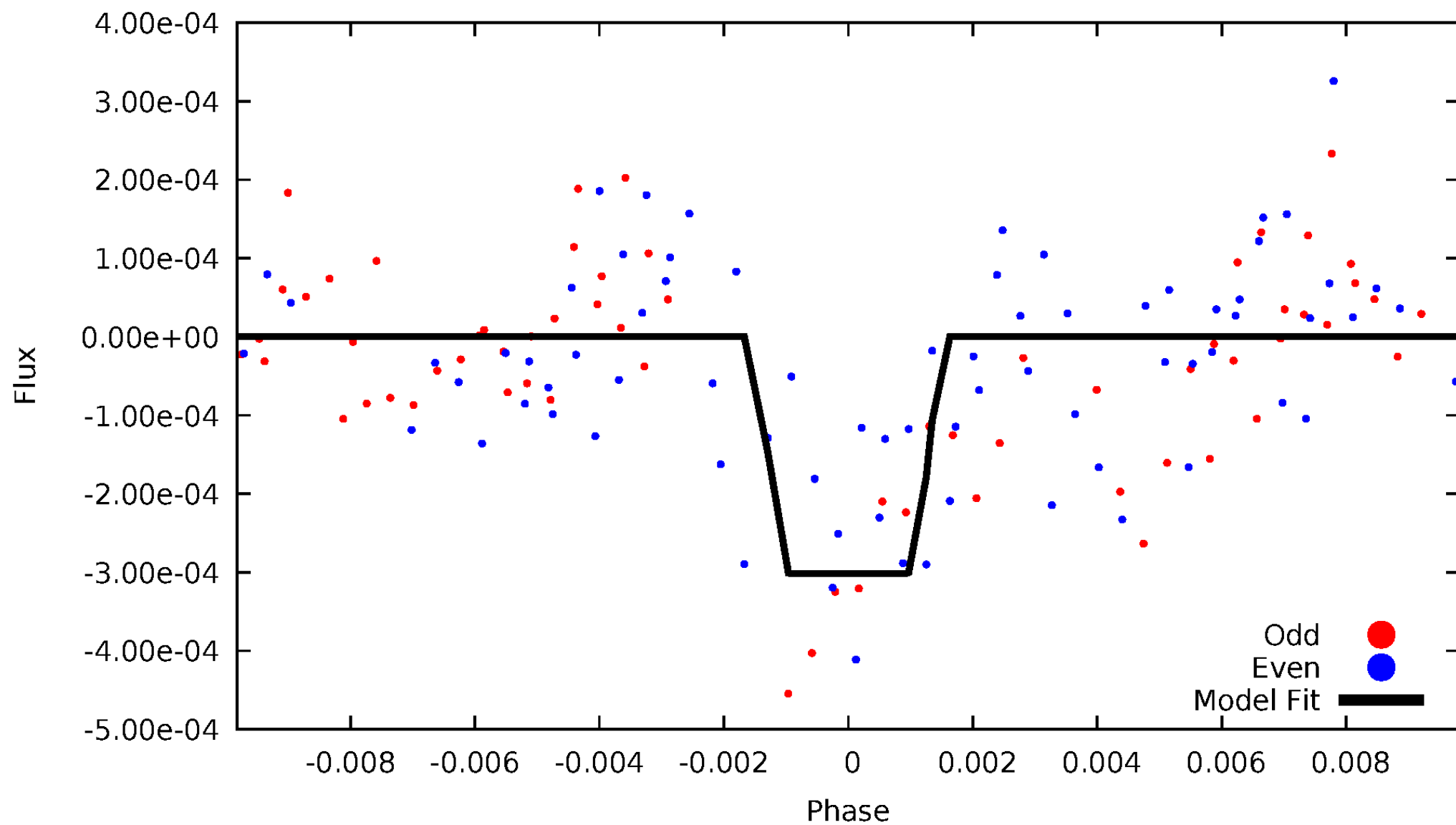
DV Odd/Even

TCE 003120650-07



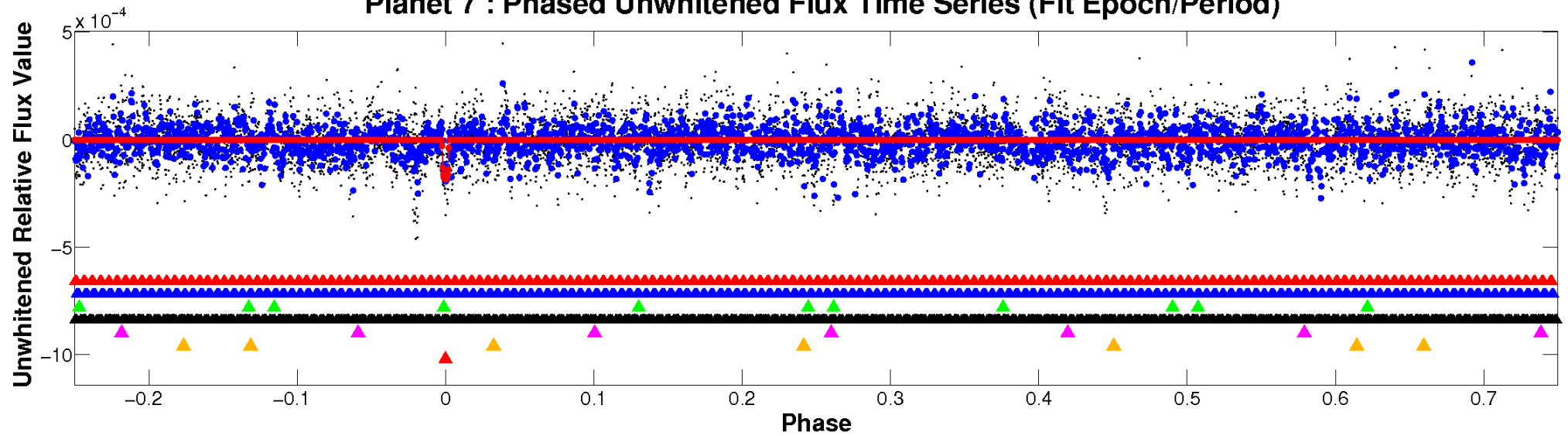
ALT Odd/Even

TCE 003120650-07

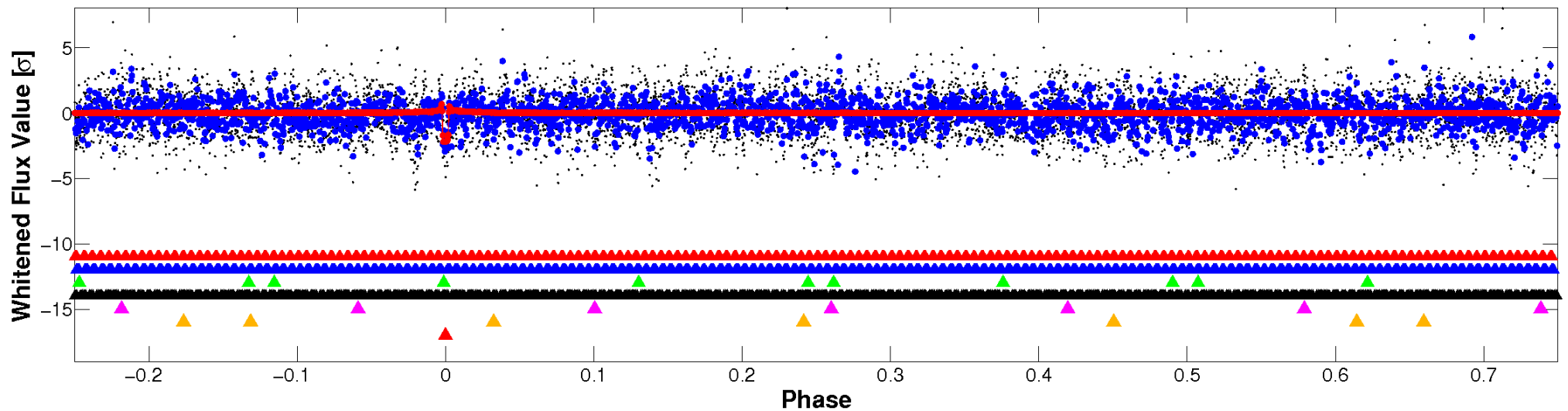


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

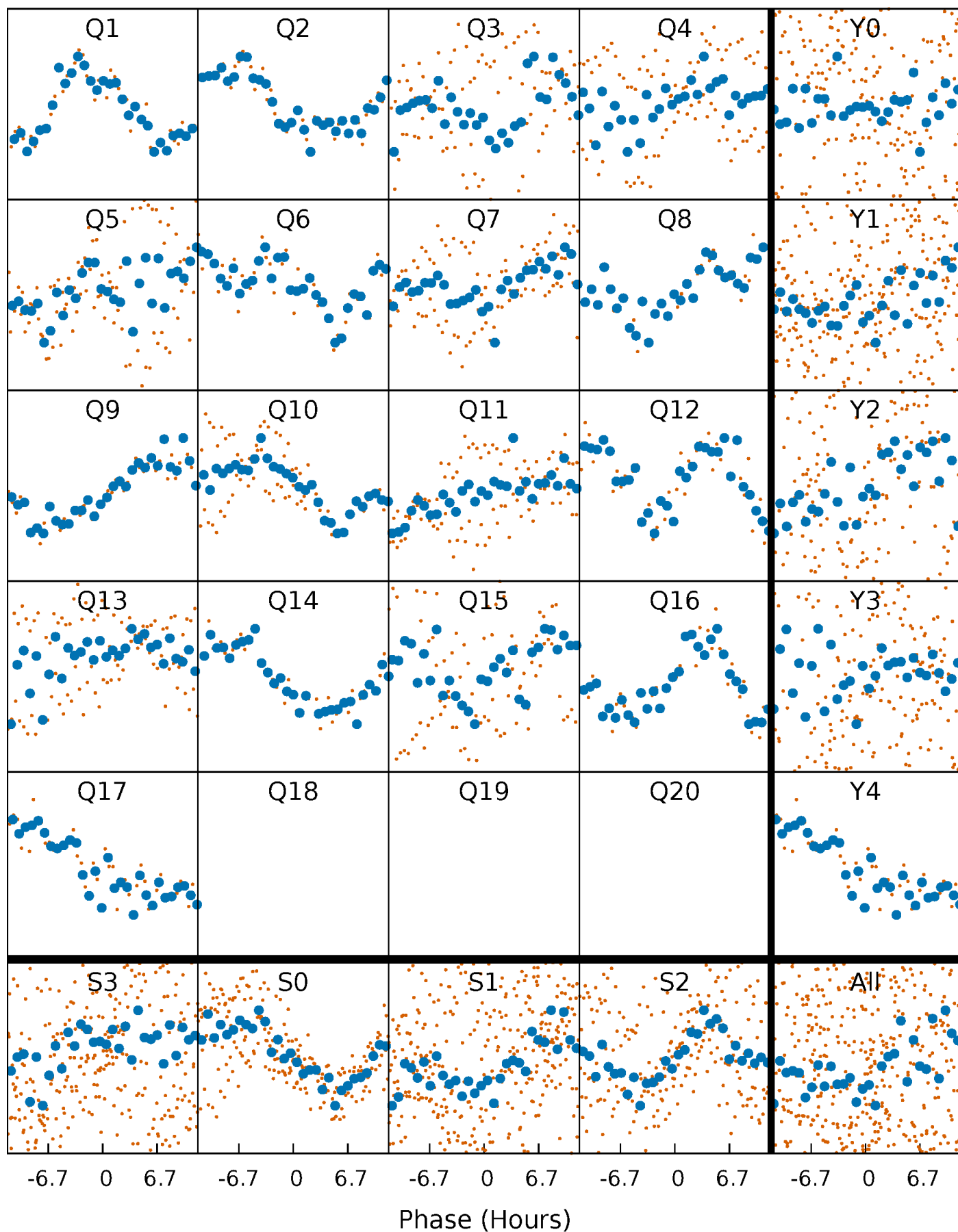


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



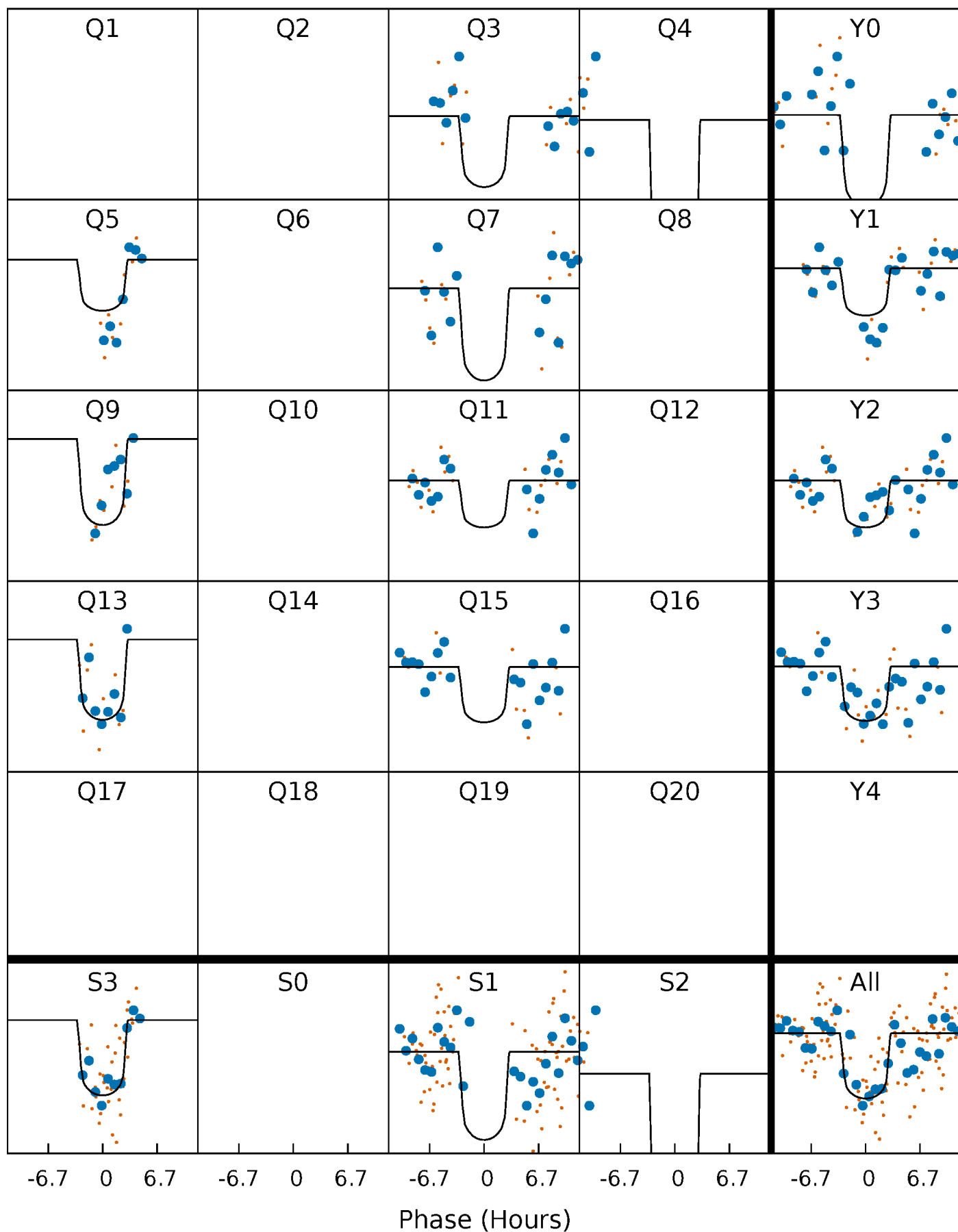
PDC Quarter-Phased Transit Curves

TCE 003120650-07 P= 54.143709 Days $T_0=157.013841$ (BKJD)



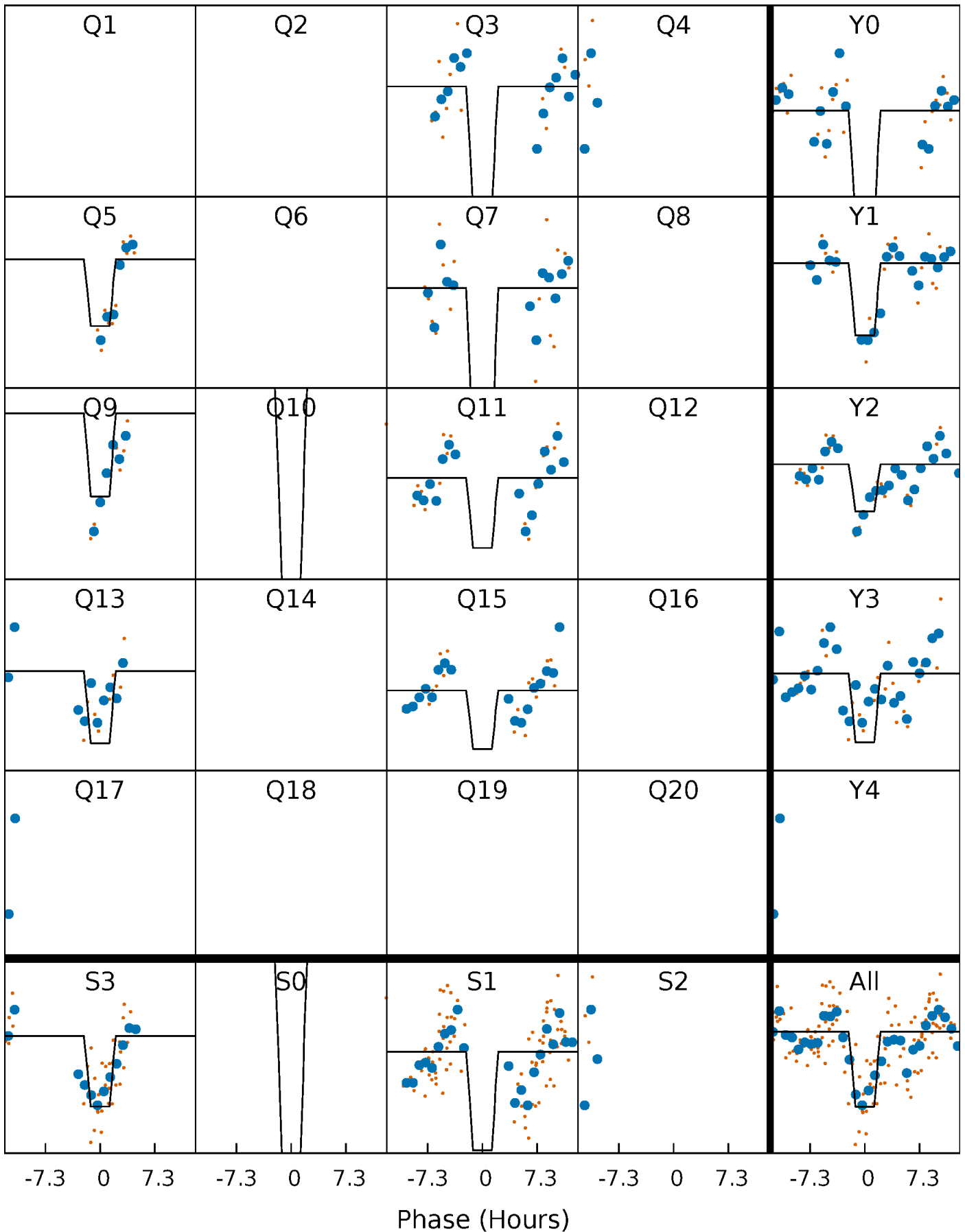
DV Quarter-Phased Transit Curves

TCE 003120650-07 $P = 54.143709$ Days $T_0 = 157.013841$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

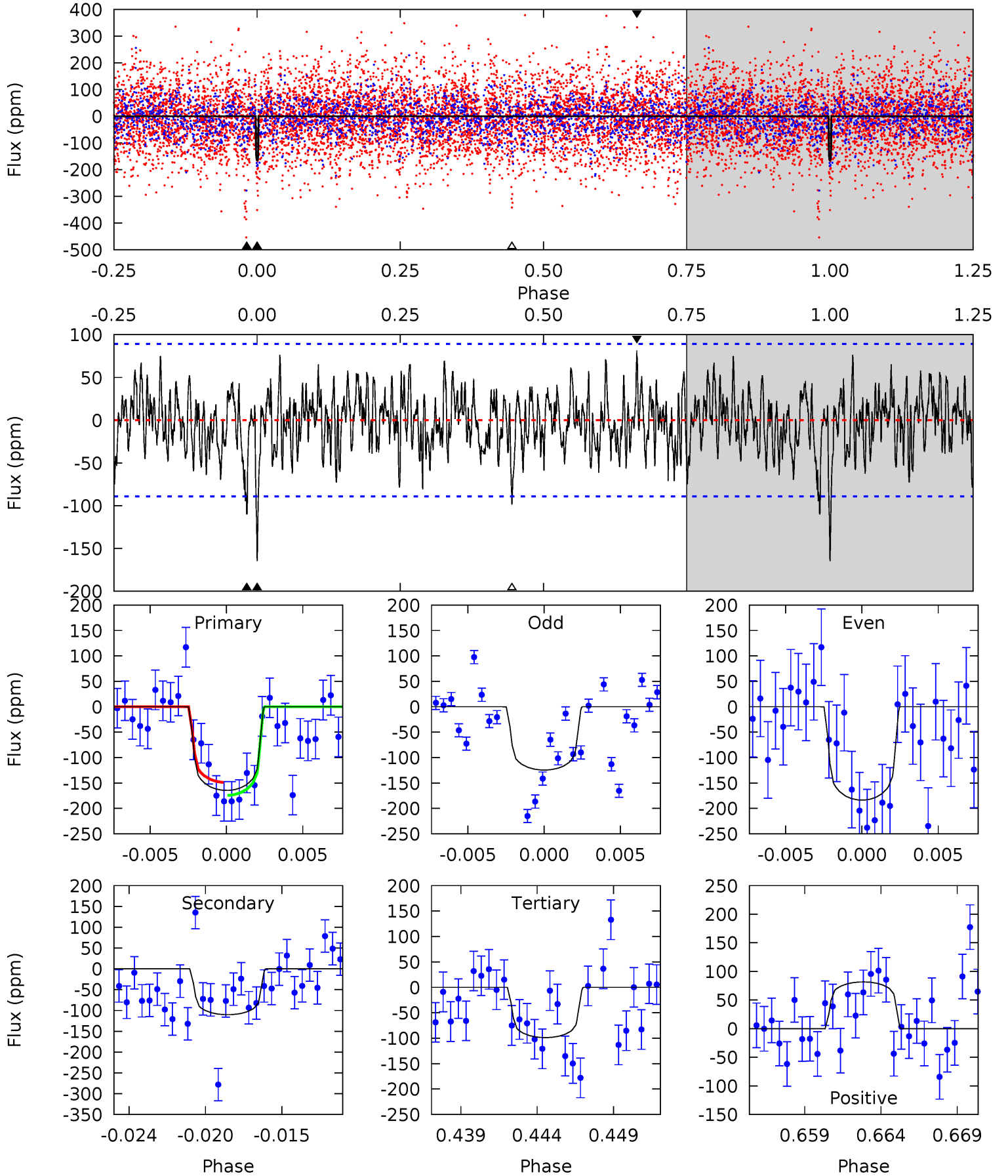
TCE 003120650-07 $P = 54.142893$ Days $T_0 = 157.022441$ (BKJD)



DV Model-Shift Uniqueness Test

003120650-07, P = 54.143709 Days, E = 102.870132 Days

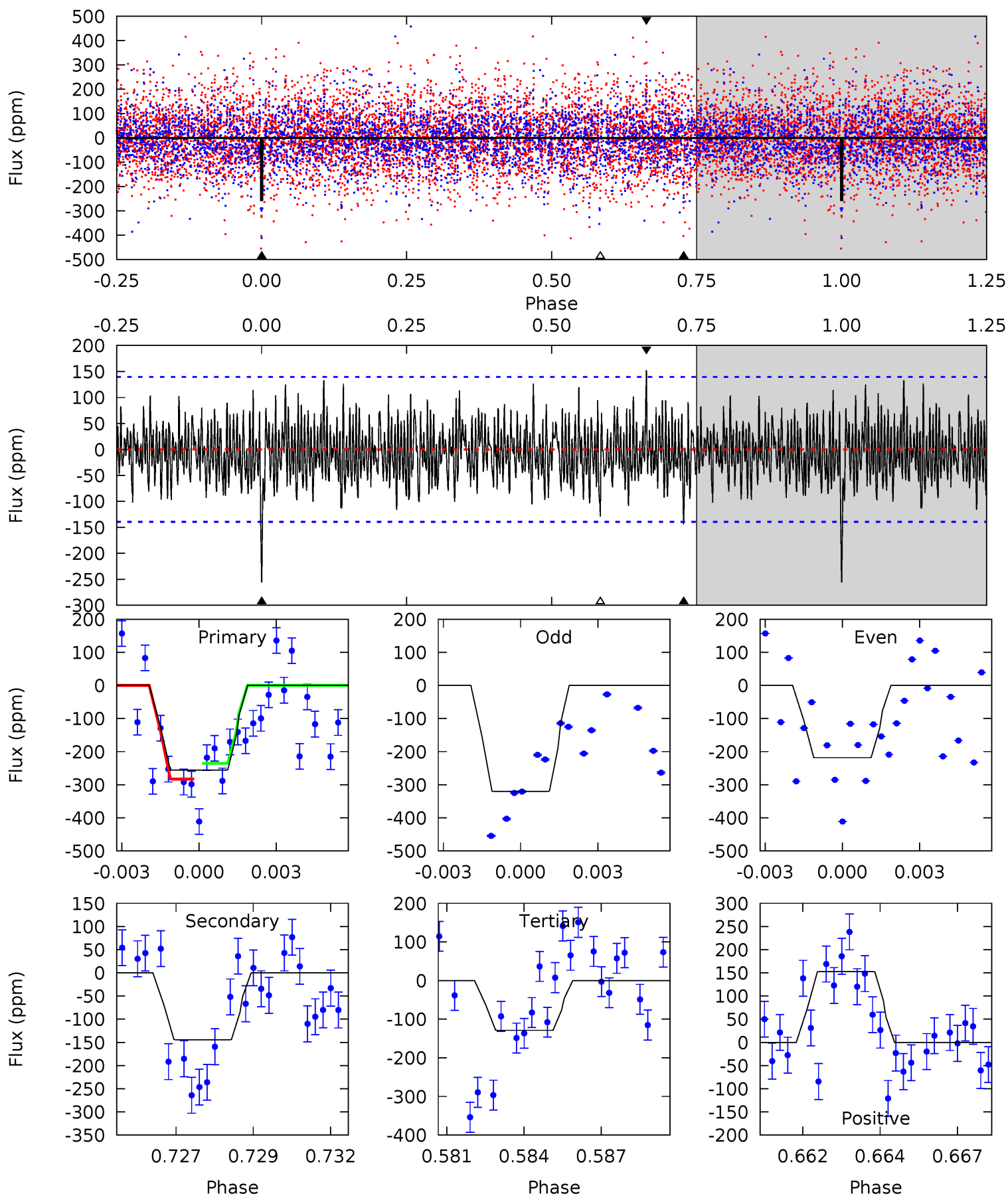
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.53	6.38	5.73	4.73	5.16	2.81	1.66	3.81	4.80	0.66	1.65	1.58	0.96	0.33	0.71



Alt Model-Shift Uniqueness Test

003120650-07, P = 54.142893 Days, E = 102.879548 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.68	5.46	4.88	5.77	5.28	3.01	1.67	4.80	3.91	0.58	-0.31	1.80	0.82	0.37	0.85



Stellar Parameters For KIC 003120650

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6864^{+72}_{-92}	$4.153^{+0.090}_{-0.110}$	$-0.060^{+0.150}_{-0.150}$	$1.643^{+0.287}_{-0.191}$	$1.408^{+0.095}_{-0.095}$	$0.447^{+0.188}_{-0.156}$
	+1%/-1%	+2%/-3%	+250%/-250%	+17%/-12%	+7%/-7%	+42%/-35%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 003120650-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-110 ± 17	$2.50^{+1.16}_{-1.04}$	967^{+41}_{-34}	5938^{+2015}_{-927}	938^{+1999}_{-497}
Alt.	-144 ± 26	$3.06^{+1.22}_{-1.22}$	969^{+41}_{-35}	5759^{+1715}_{-828}	817^{+1475}_{-414}

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 $A_{obs} \gg 1.0$

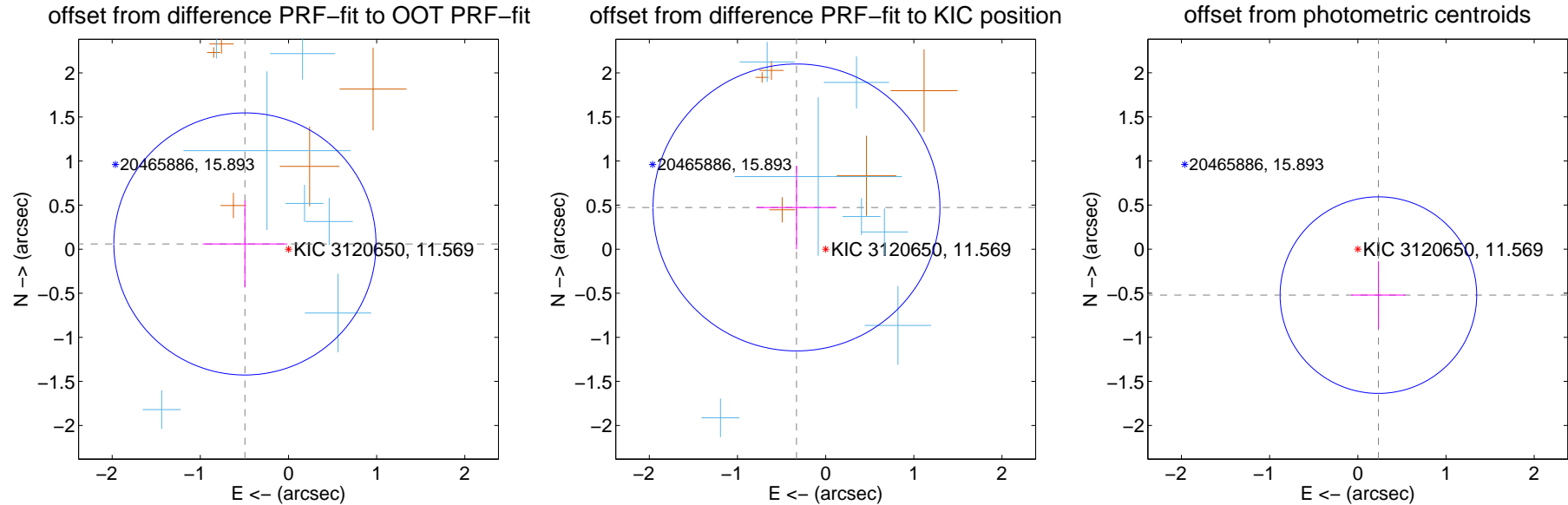
DV Centroid Data

Supplemental centroid analysis for 003120650-07. **Kepler magnitude: 11.57.** Transit SNR 10.64

There are 8 quarters with good PRF difference image offsets

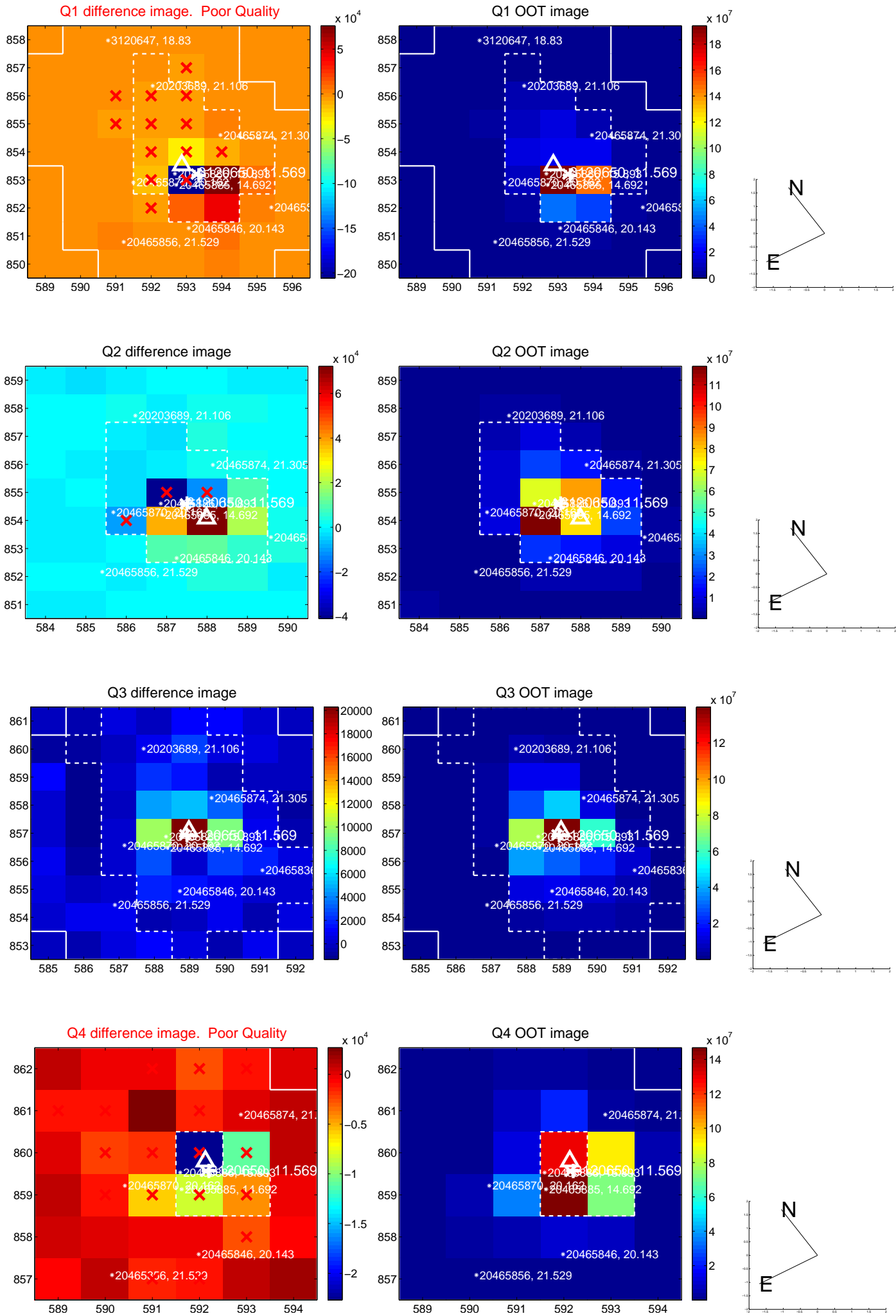
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.498 ± 0.496	1.00	0.494 ± 0.479	0.060 ± 0.491
PRF-fit source offset from KIC position	0.578 ± 0.542	1.06	0.331 ± 0.456	0.473 ± 0.473
photometric centroid source offset	0.57 ± 0.37	1.54	-0.23 ± 0.31	-0.52 ± 0.38

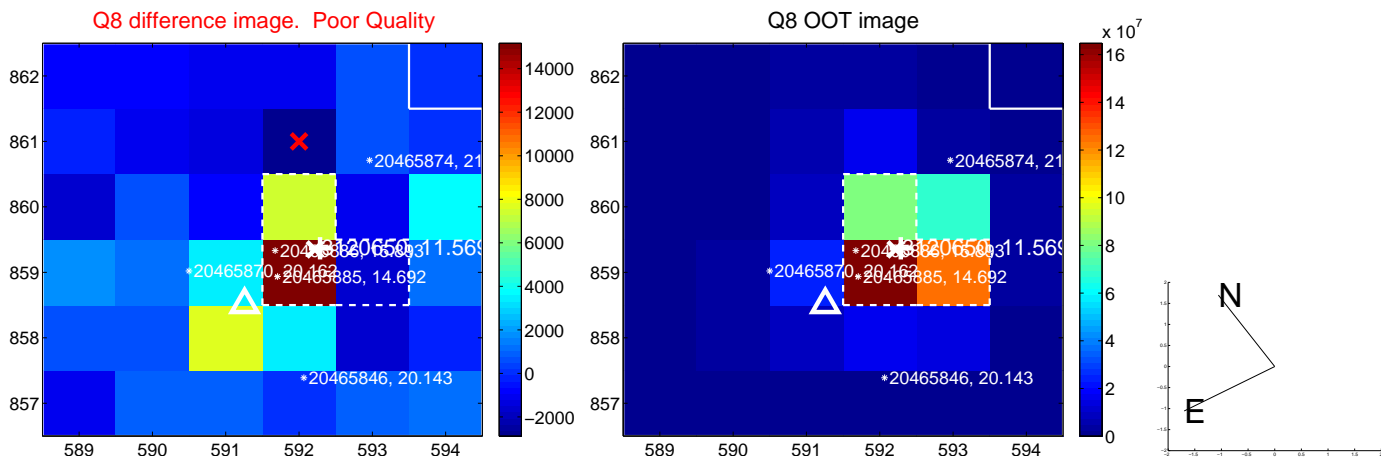
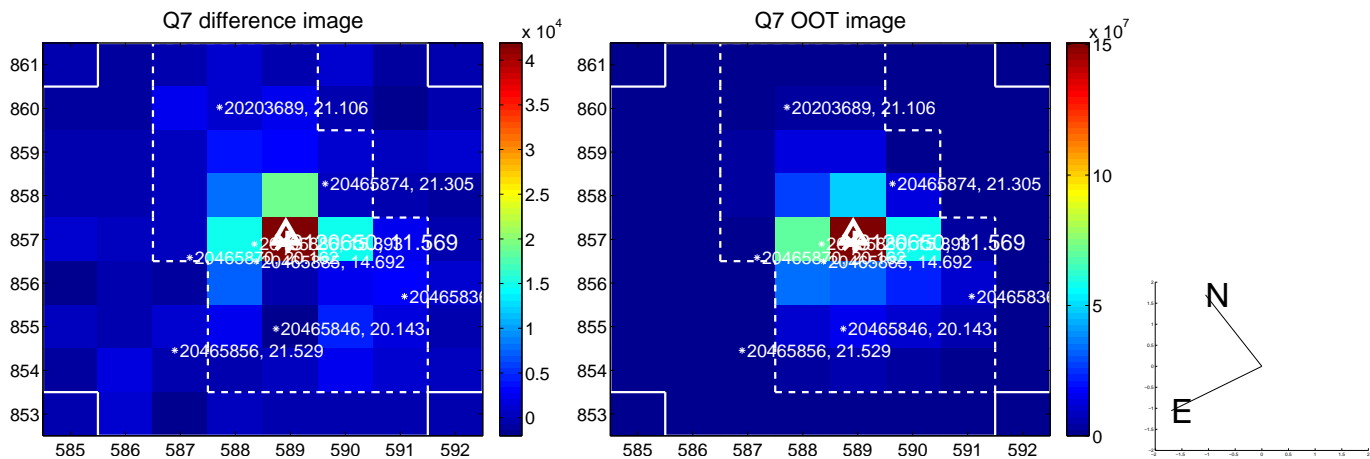
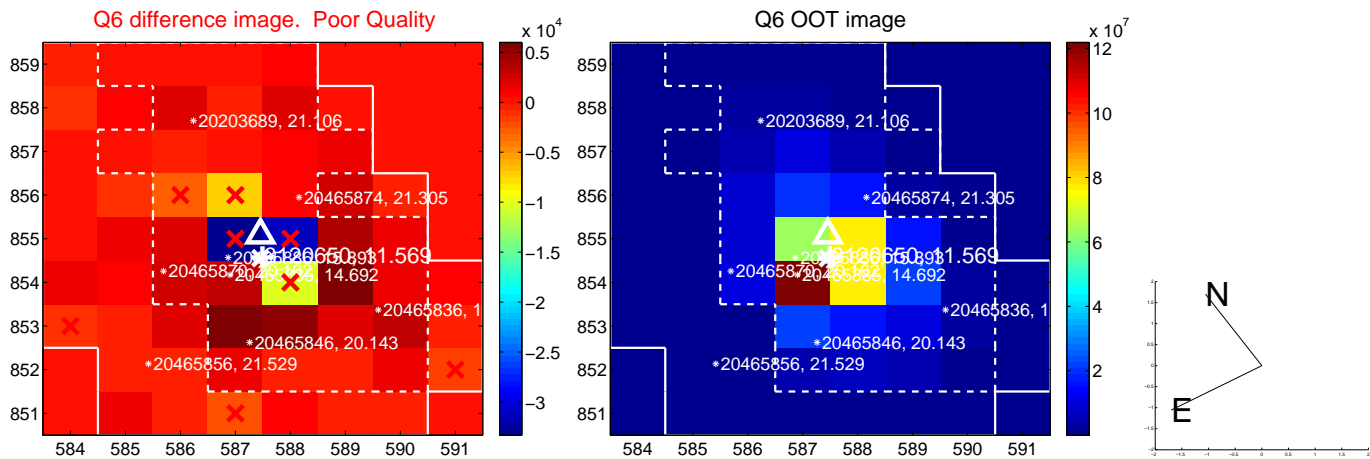
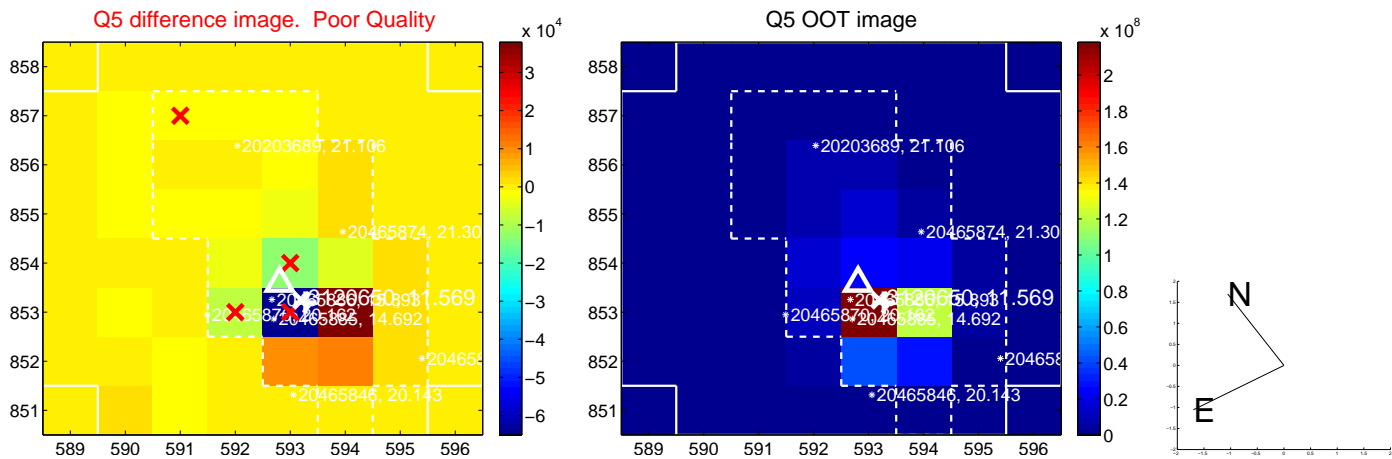


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

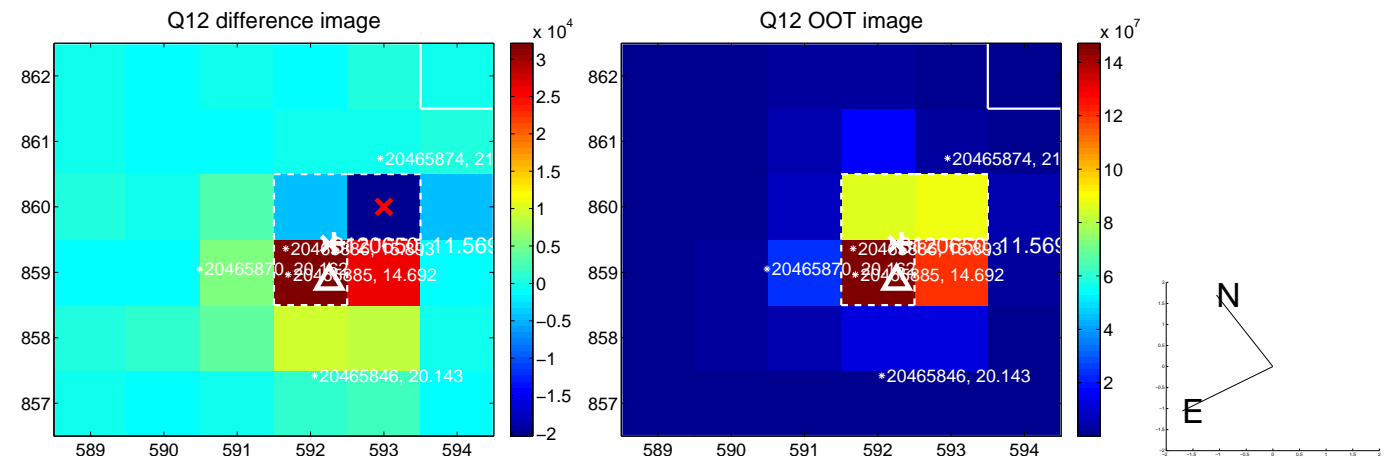
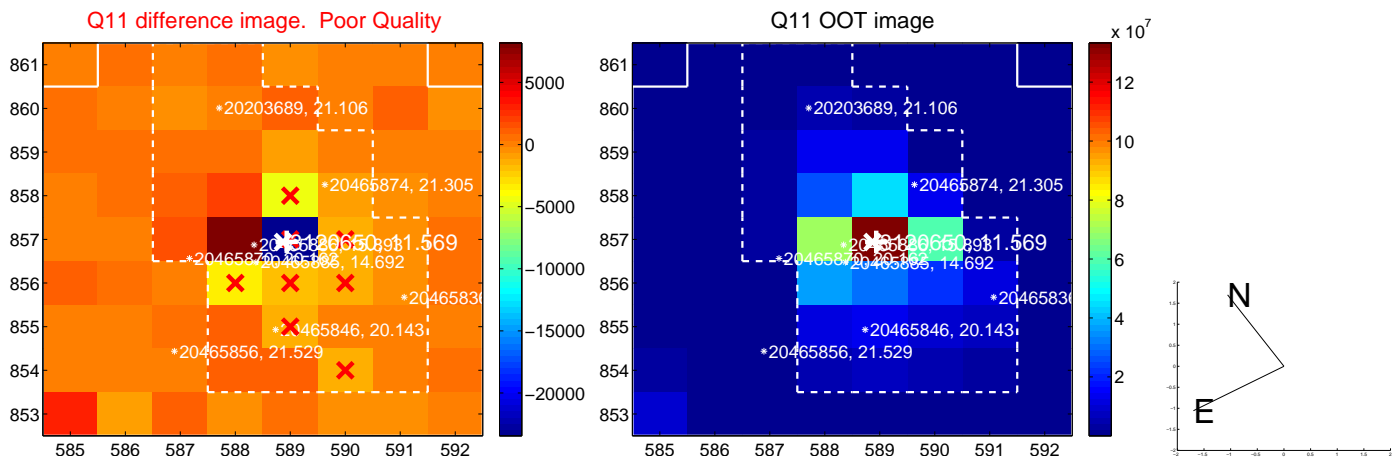
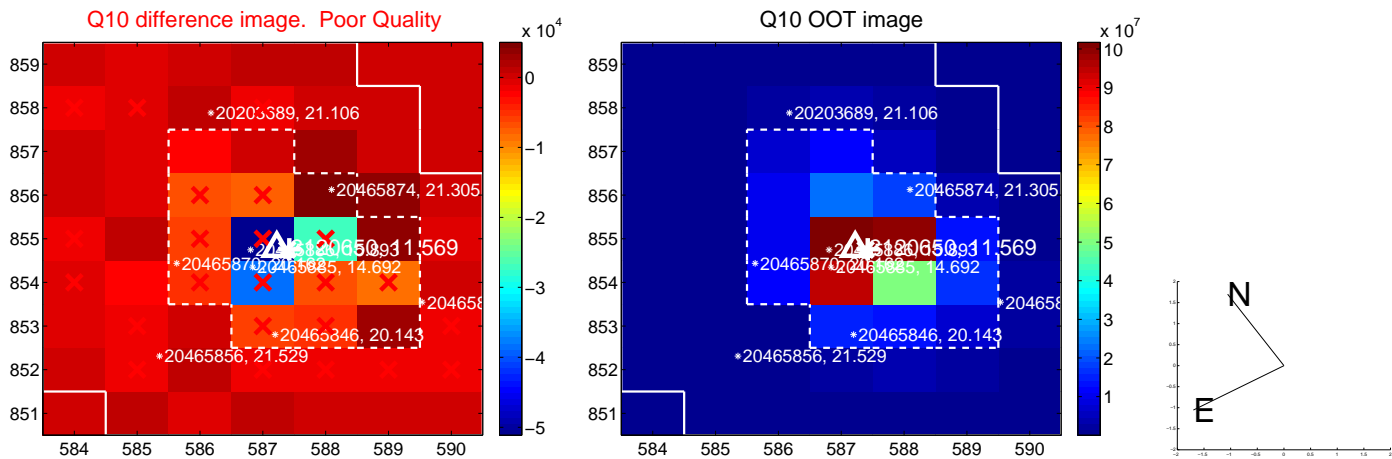
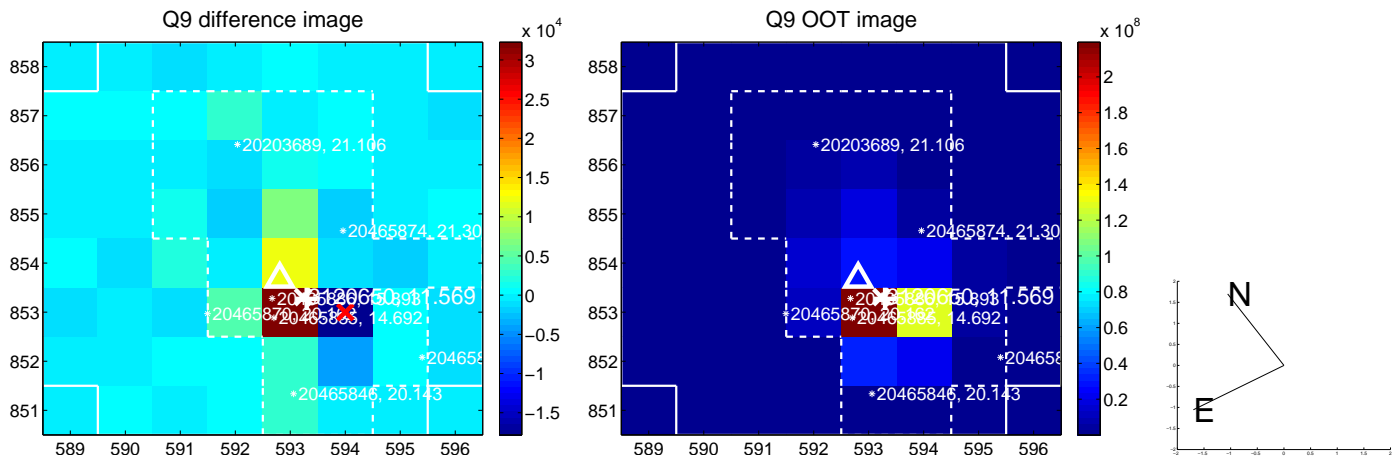
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



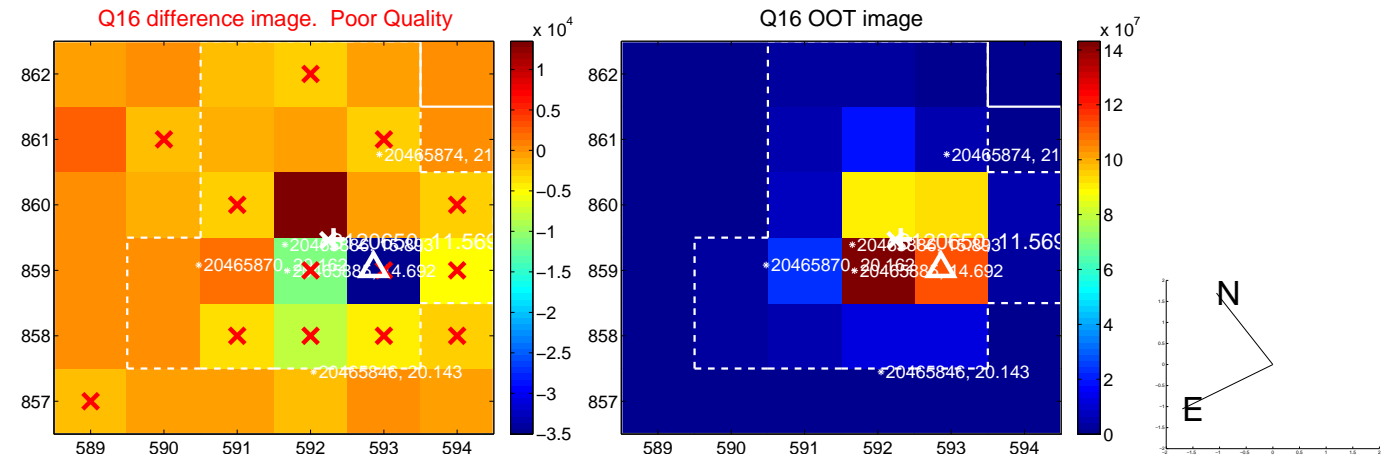
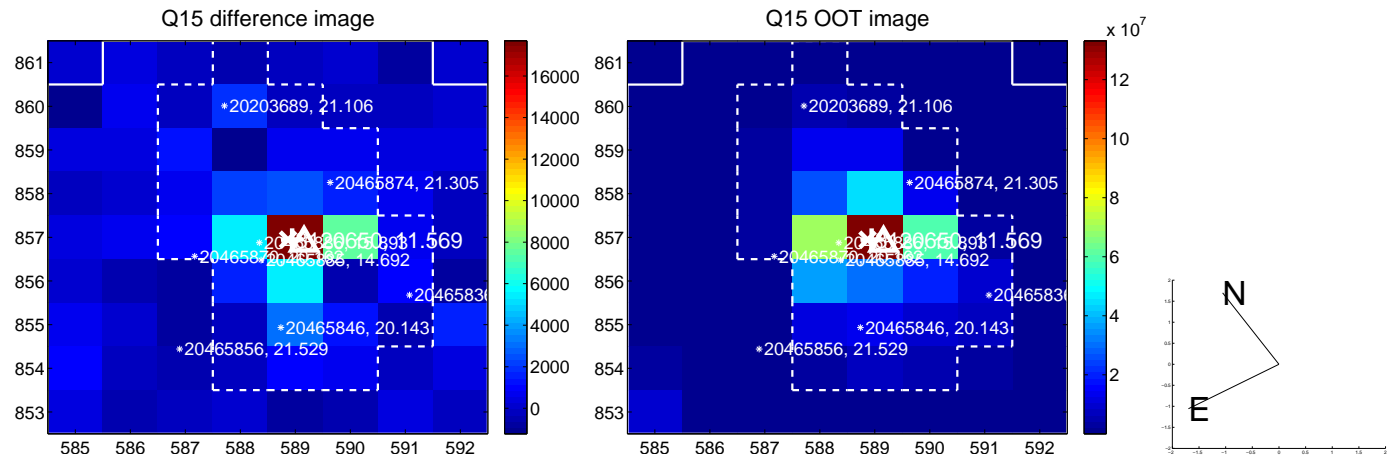
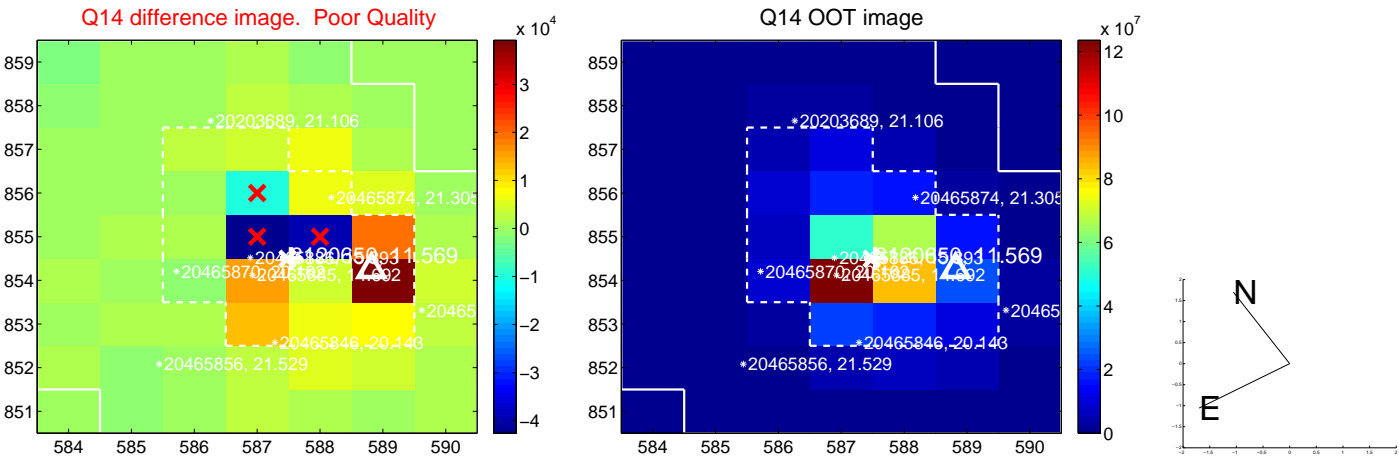
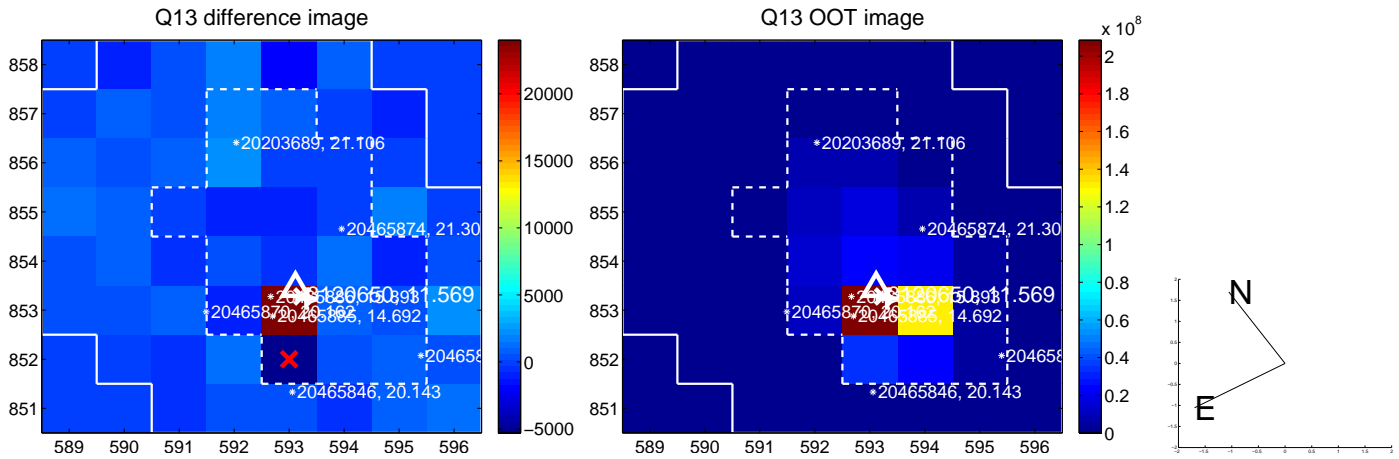
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



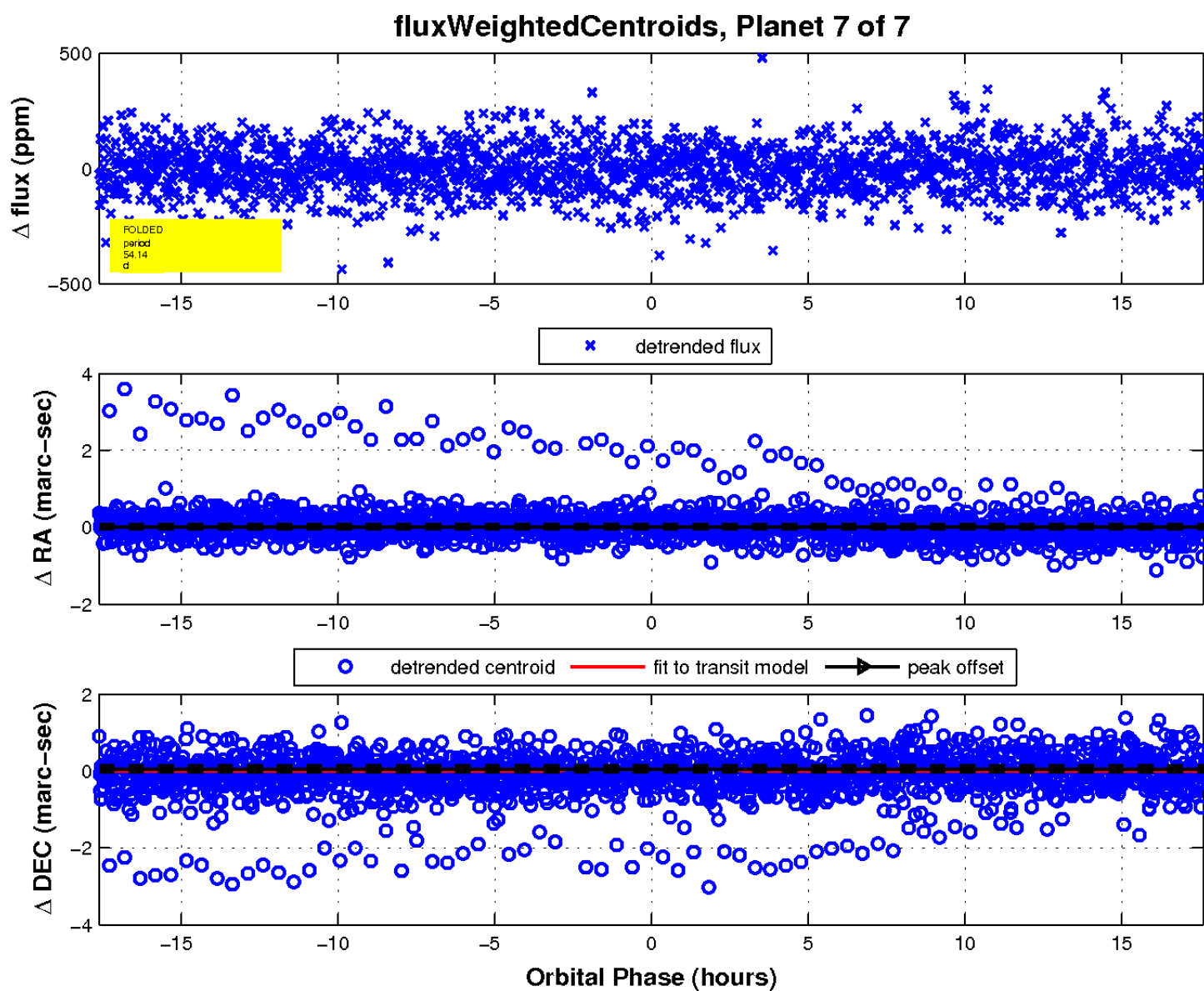
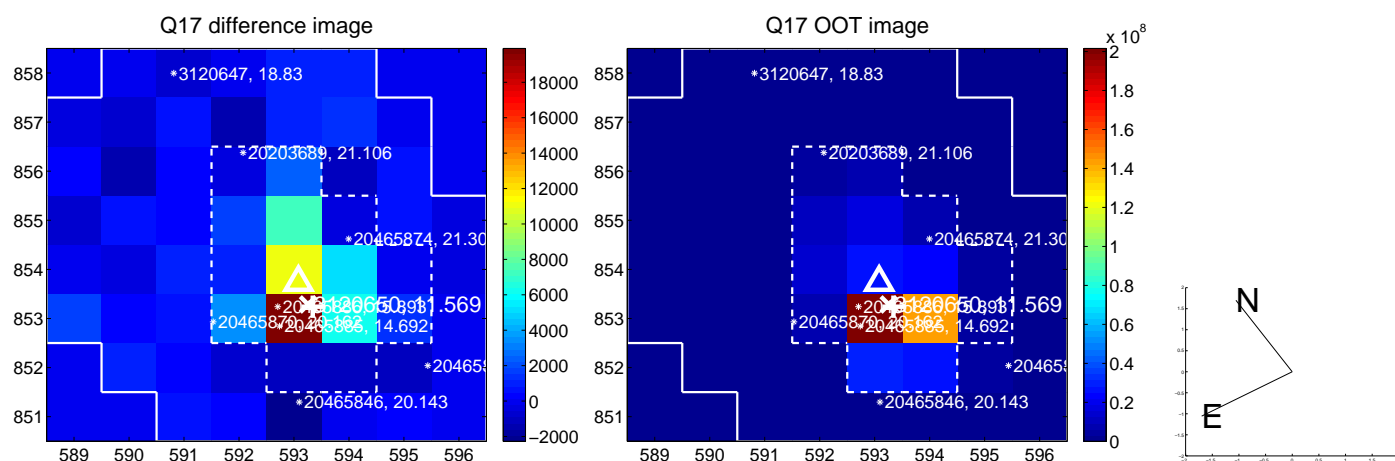
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

