

KIC 007620654

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})
007620654-01	OBS	No	0.531525	131.809551	17.7	1.429	8.6	4.9	1.52	7082	0.74	29424.94
007620654-02	OBS	No	0.796283	131.927930	30.2	4.799	8.6	6.1	1.52	7082	0.98	17165.53
007620654-03	OBS	No	5.945876	133.433856	250.1	3.229	9.7	9.2	1.52	7082	2.79	1176.14
007620654-04	OBS	No	54.500280	181.303643	848.2	7.399	13.0	10.4	1.52	7082	8.09	61.31
007620654-05	OBS	No	6.369529	132.999479	381.1	11.891	9.6	10.5	1.52	7082	5.67	1073.01
007620654-06	OBS	No	0.910054	132.050777	135.1	3.000	10.4	-1.0	1.52	7082	1.79	14365.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007620654-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET
007620654-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
007620654-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007620654-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
007620654-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
007620654-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_NOFITS

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

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

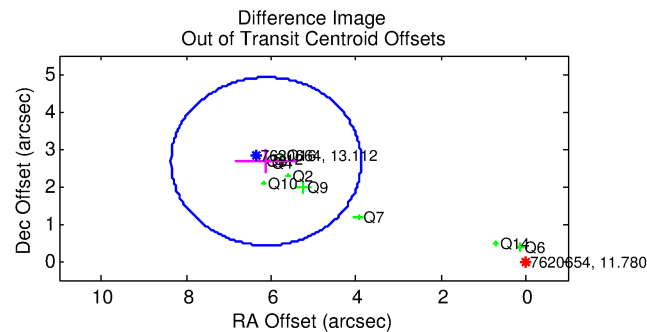
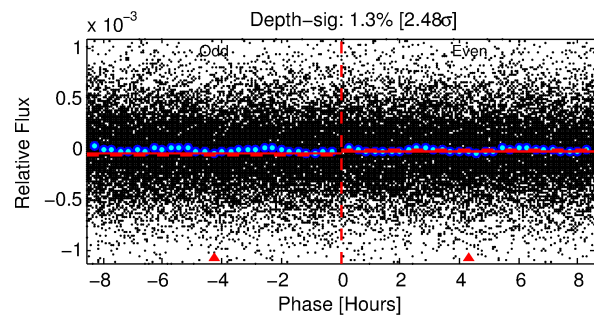
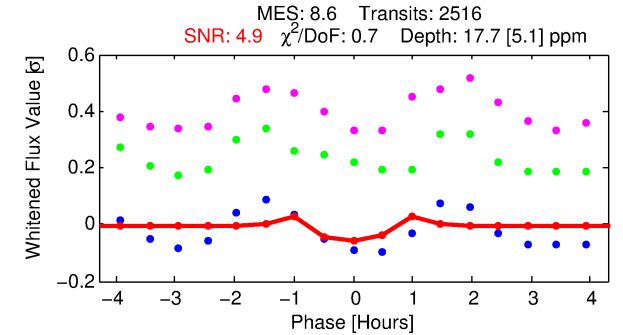
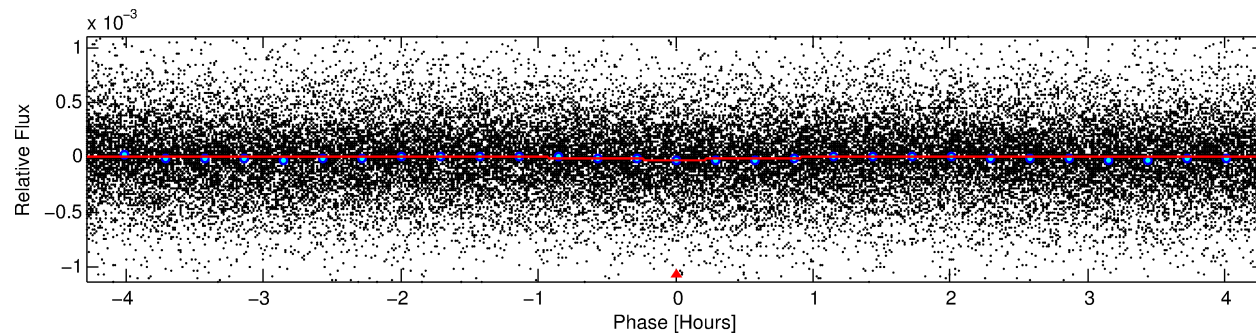
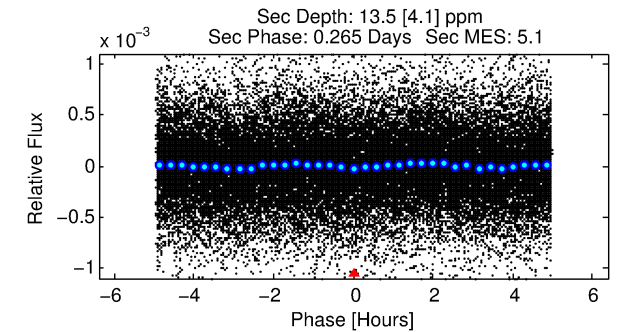
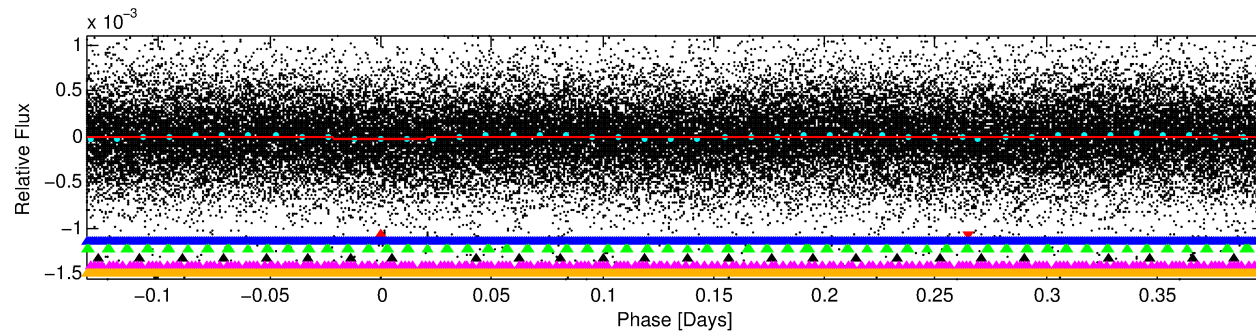
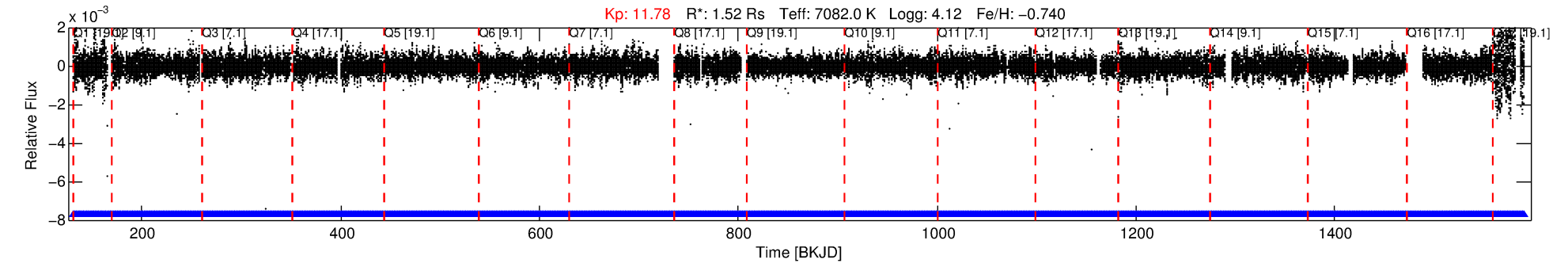
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007620654-01

No Significant Match Found

DV One-Page Summary

KIC: 7620654 Candidate: 1 of 6 Period: 0.532 d



DV Fit Results:

Period = 0.53152 [0.00002] d
Epoch = 131.8096 [0.0024] BKJD
Rp/R* = 0.0045 [0.0010]
a/R* = 1.58 [1.05]
b = 0.90 [0.24]
Seff = 29424.94 [12647.20]
Teff = 3340 [359] K
Rp = 0.74 [0.26] Re
a = 0.0133 [0.0034] AU
Ag = 2.38 [1.62] [0.85σ]
Teffp = 6411 [897] K [3.18σ]

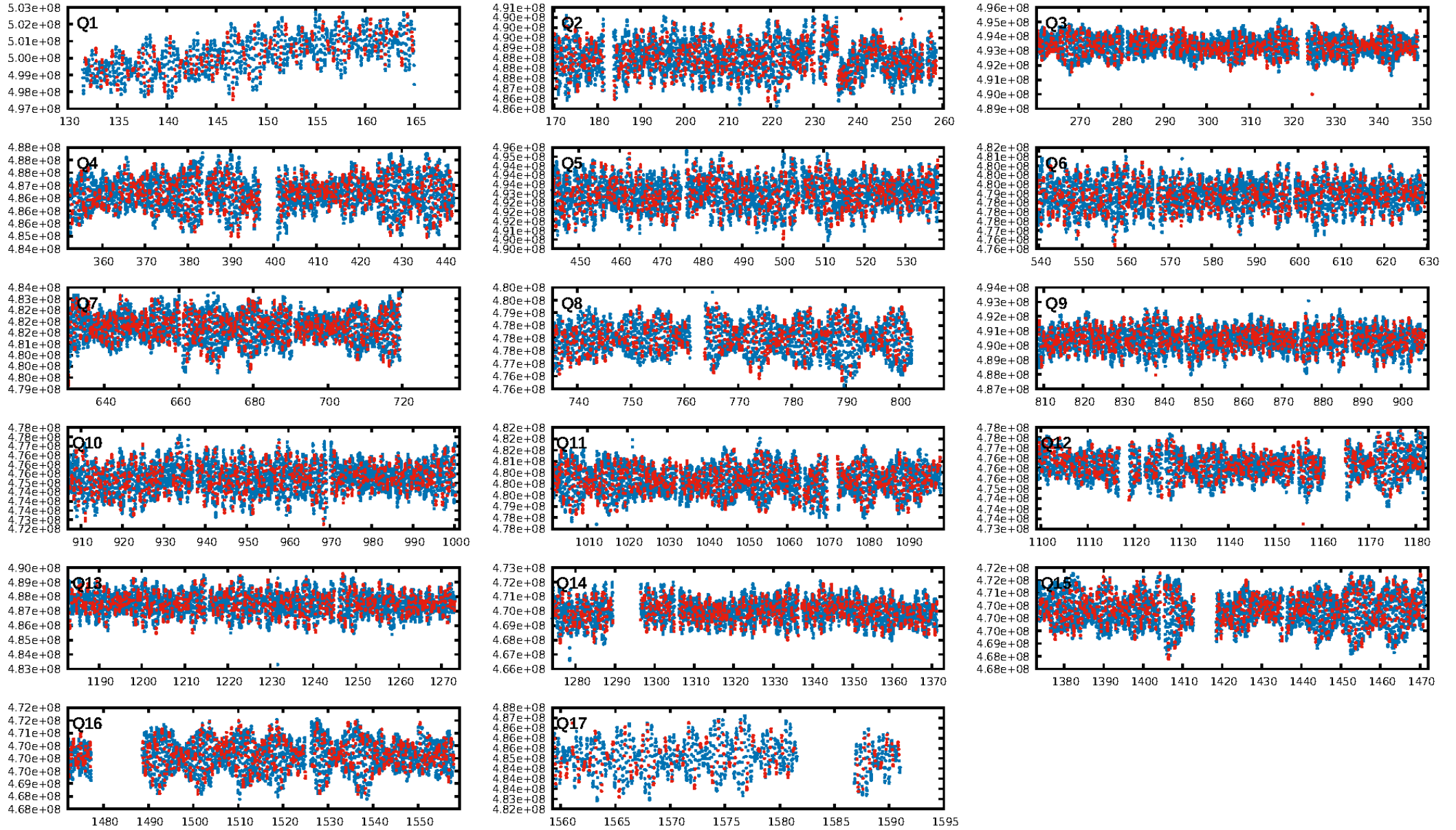
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 79.6% [1.27σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2403/2403]
GhostDiagnostic-chr: 1.251
Centroid-sig: 3.4%
Centroid-so: 4.152 arcsec [1.08σ]
OotOffset-rm: 6.672 arcsec [8.92σ]
KicOffset-rm: 7.049 arcsec [9.13σ]
OotOffset-st: 4/1/4/1 [10]
KicOffset-st: 4/1/4/1 [10]
DiffImageQuality-fgm: 0.60 [6/10]
DiffImageOverlap-fno: 0.47 [8/17]

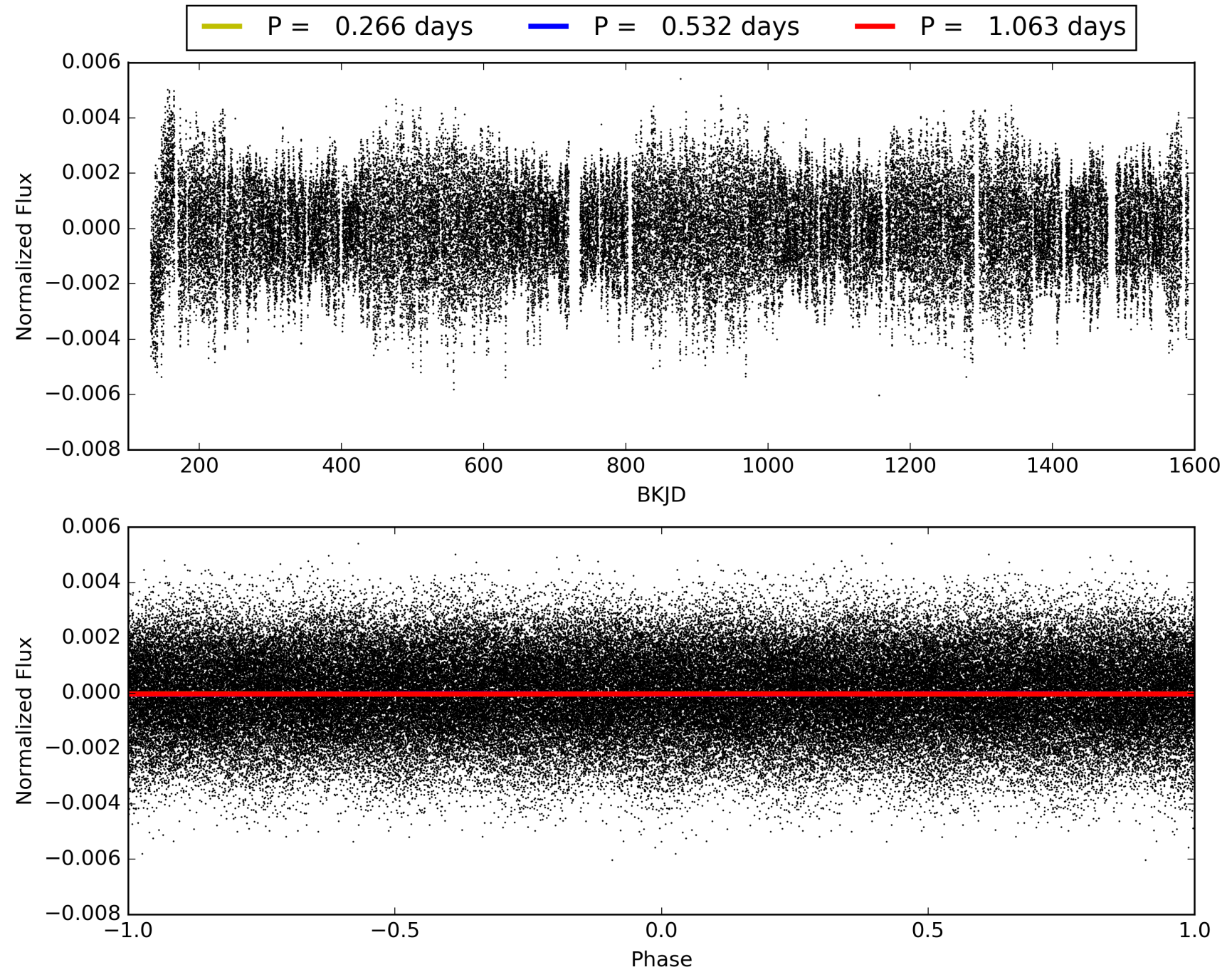
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 09:08:09 Z

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

TCE 007620654-01, PDC Light Curves

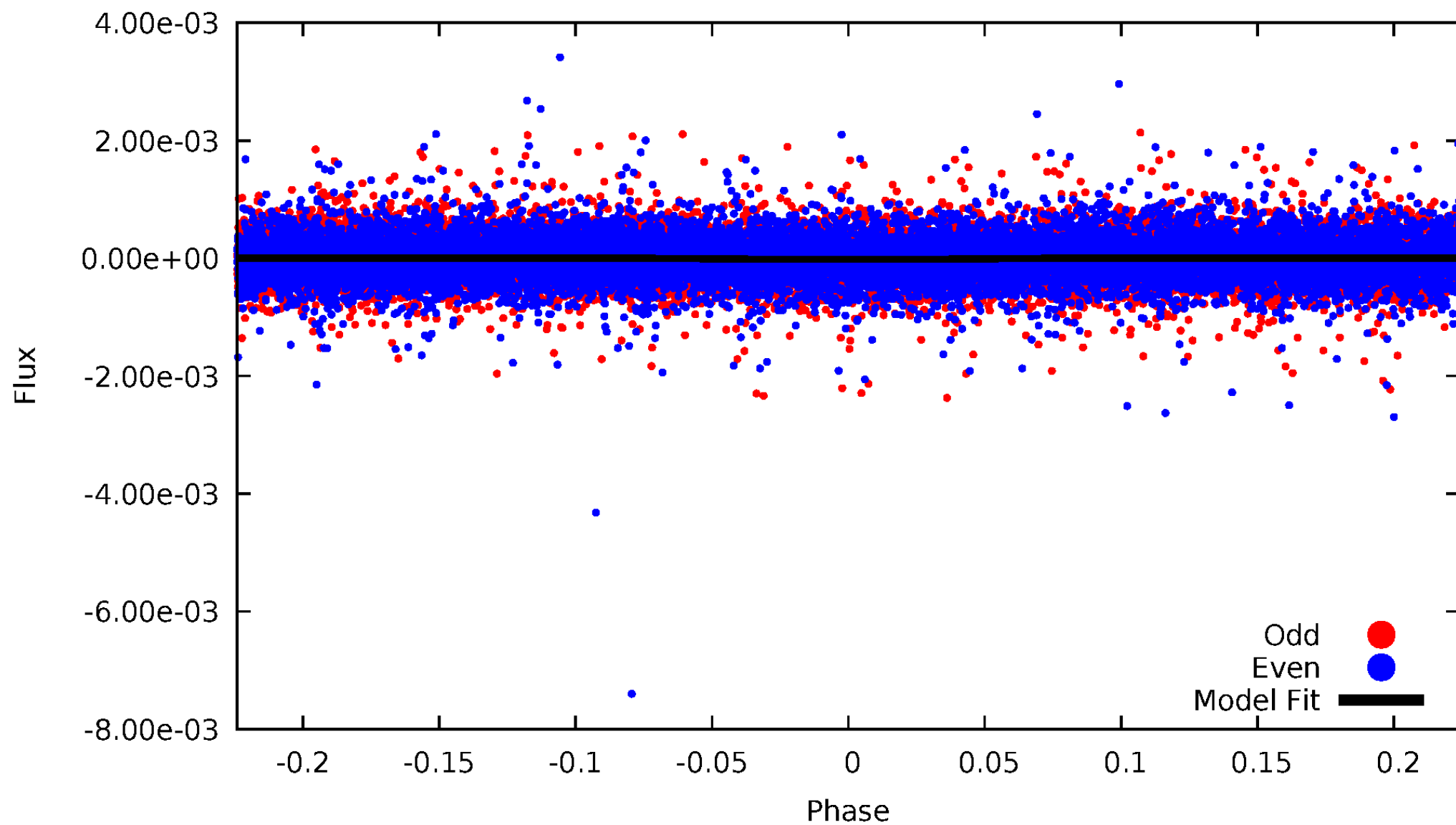


TCE 007620654-01



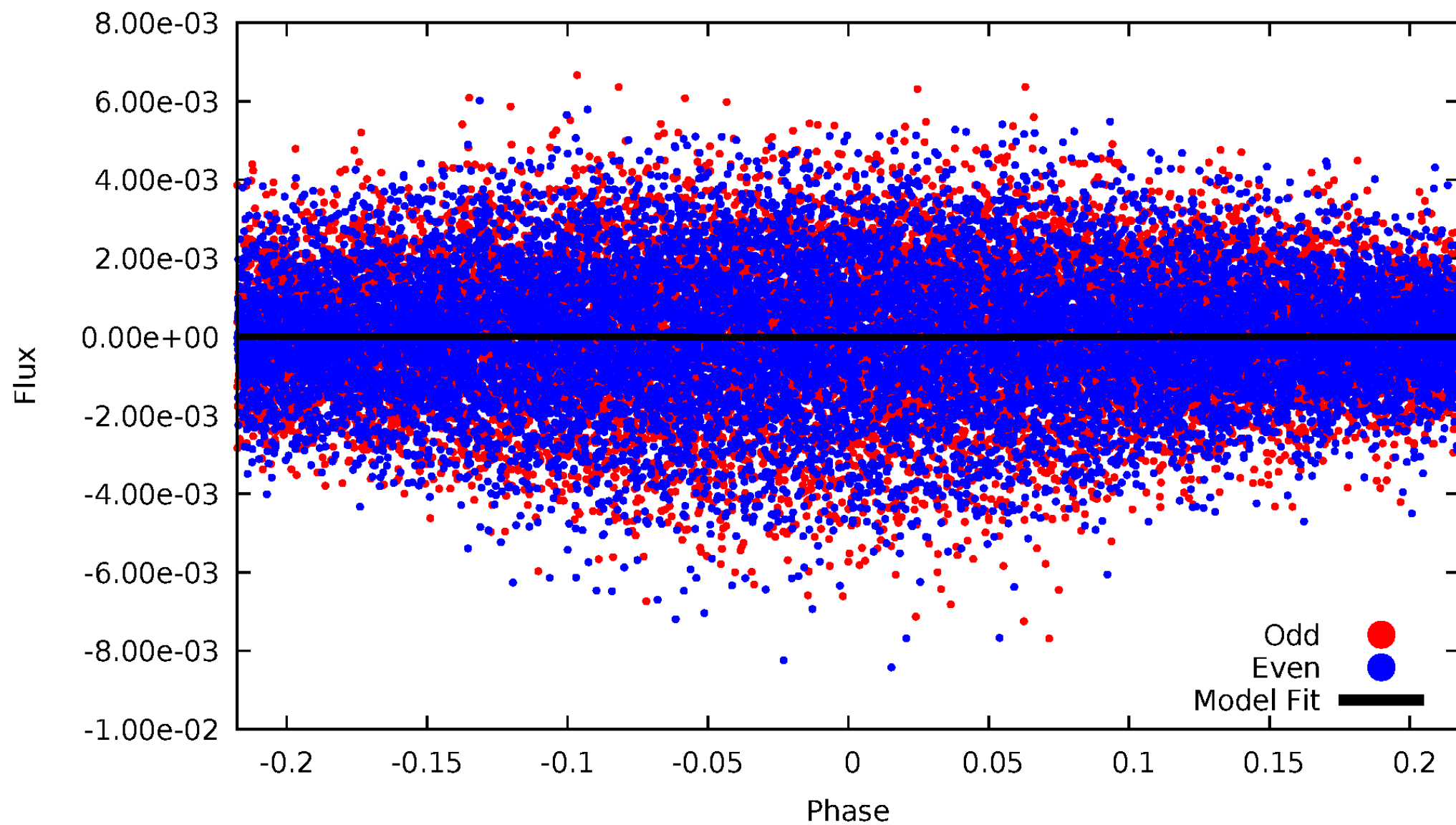
DV Odd/Even

TCE 007620654-01



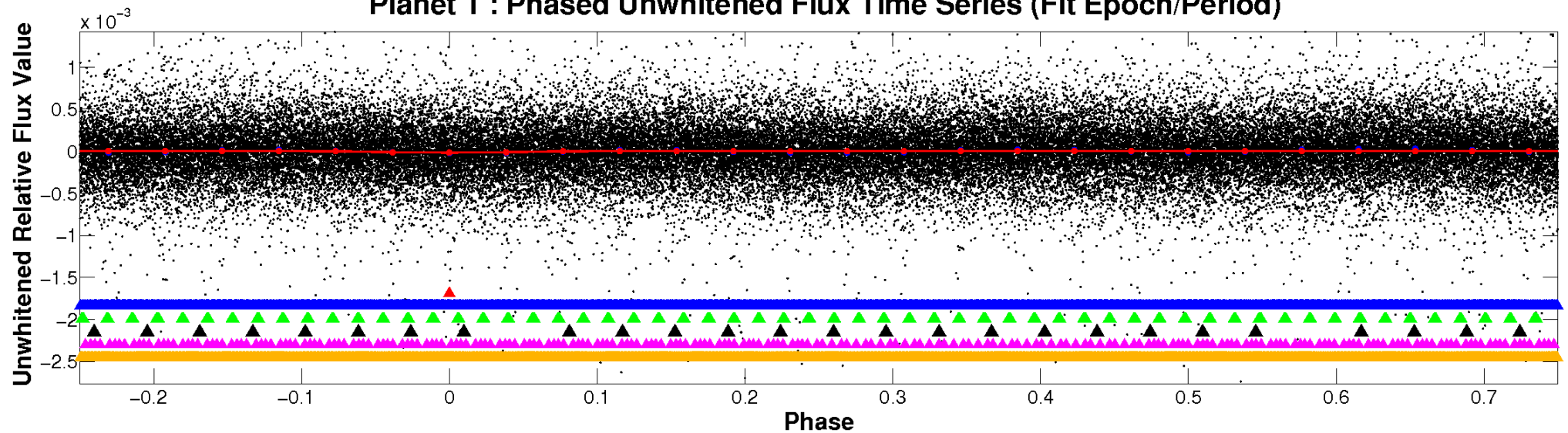
ALT Odd/Even

TCE 007620654-01

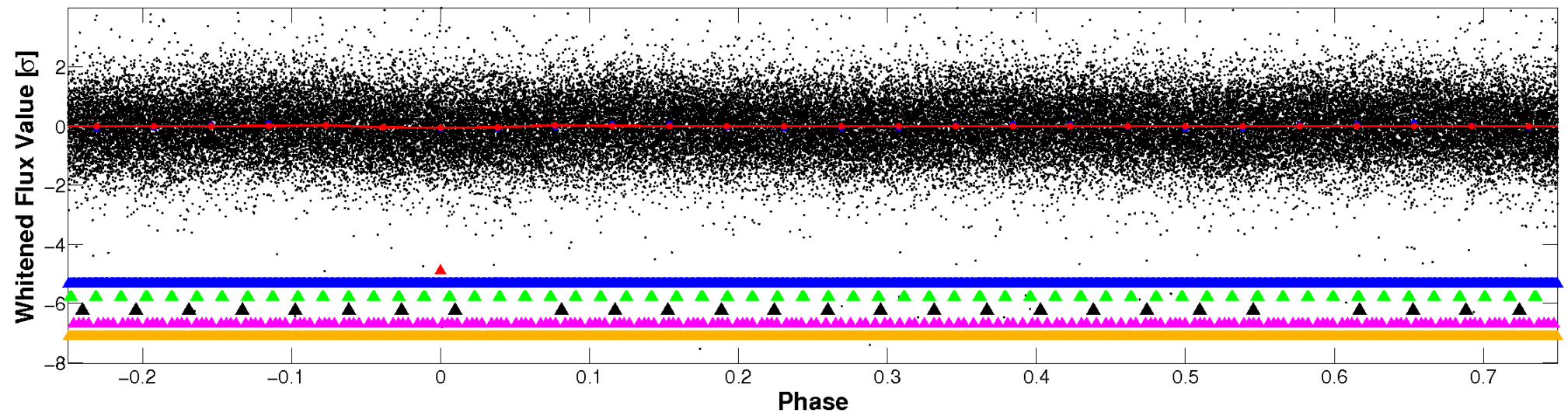


Non-Whitened Vs. Whitened Light Curve

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

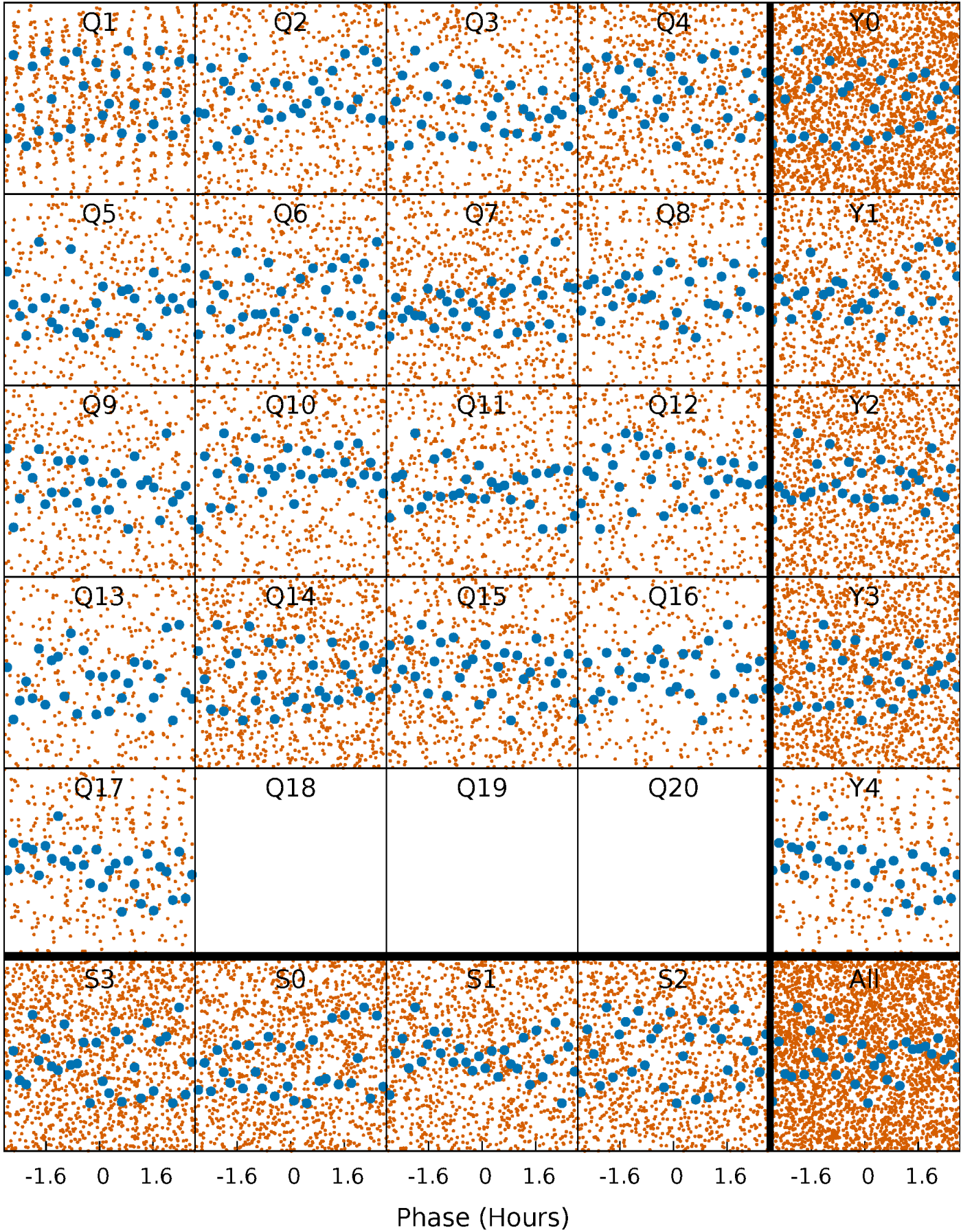


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



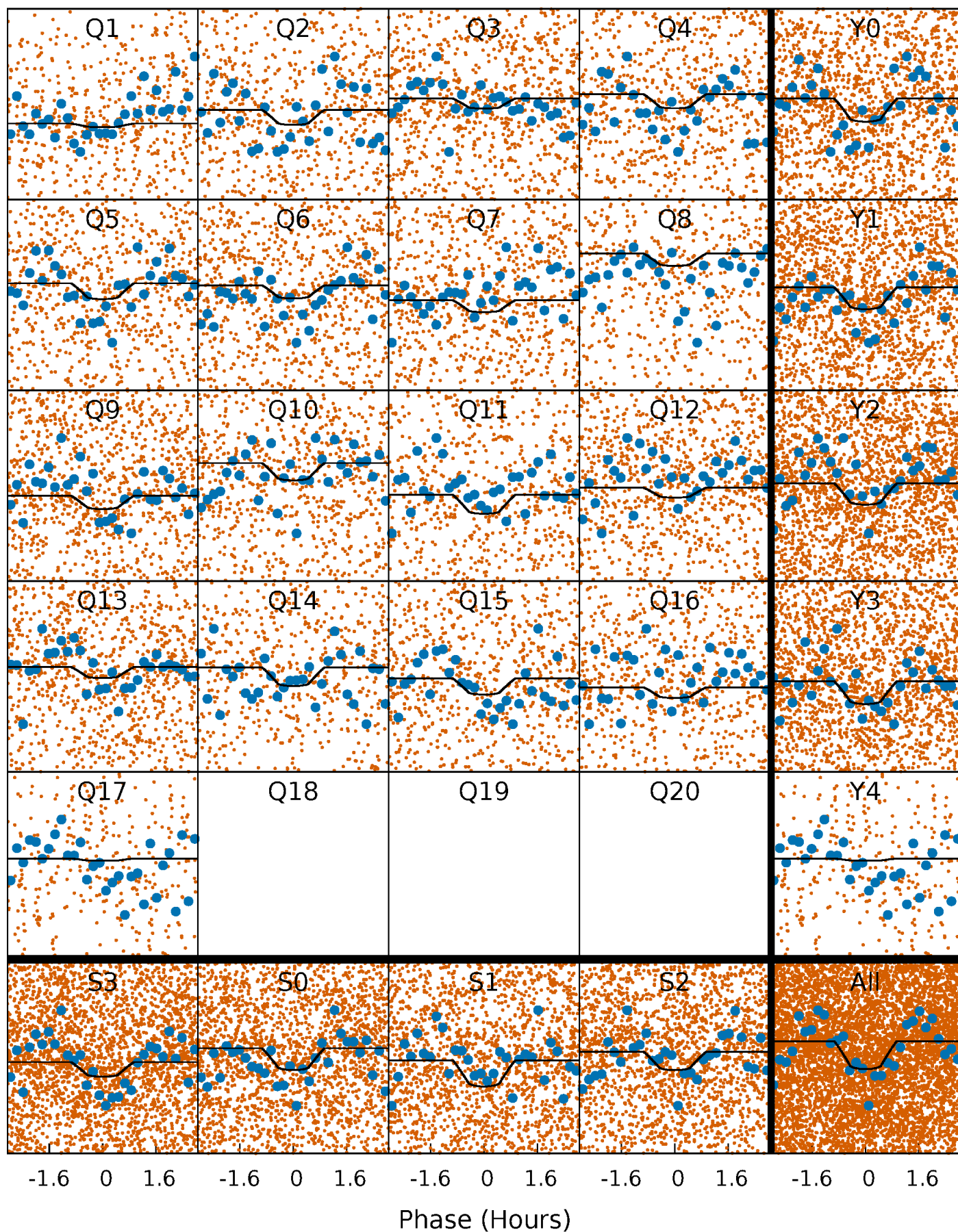
PDC Quarter-Phased Transit Curves

TCE 007620654-01 P= 0.531525 Days $T_0=131.809551$ (BKJD)



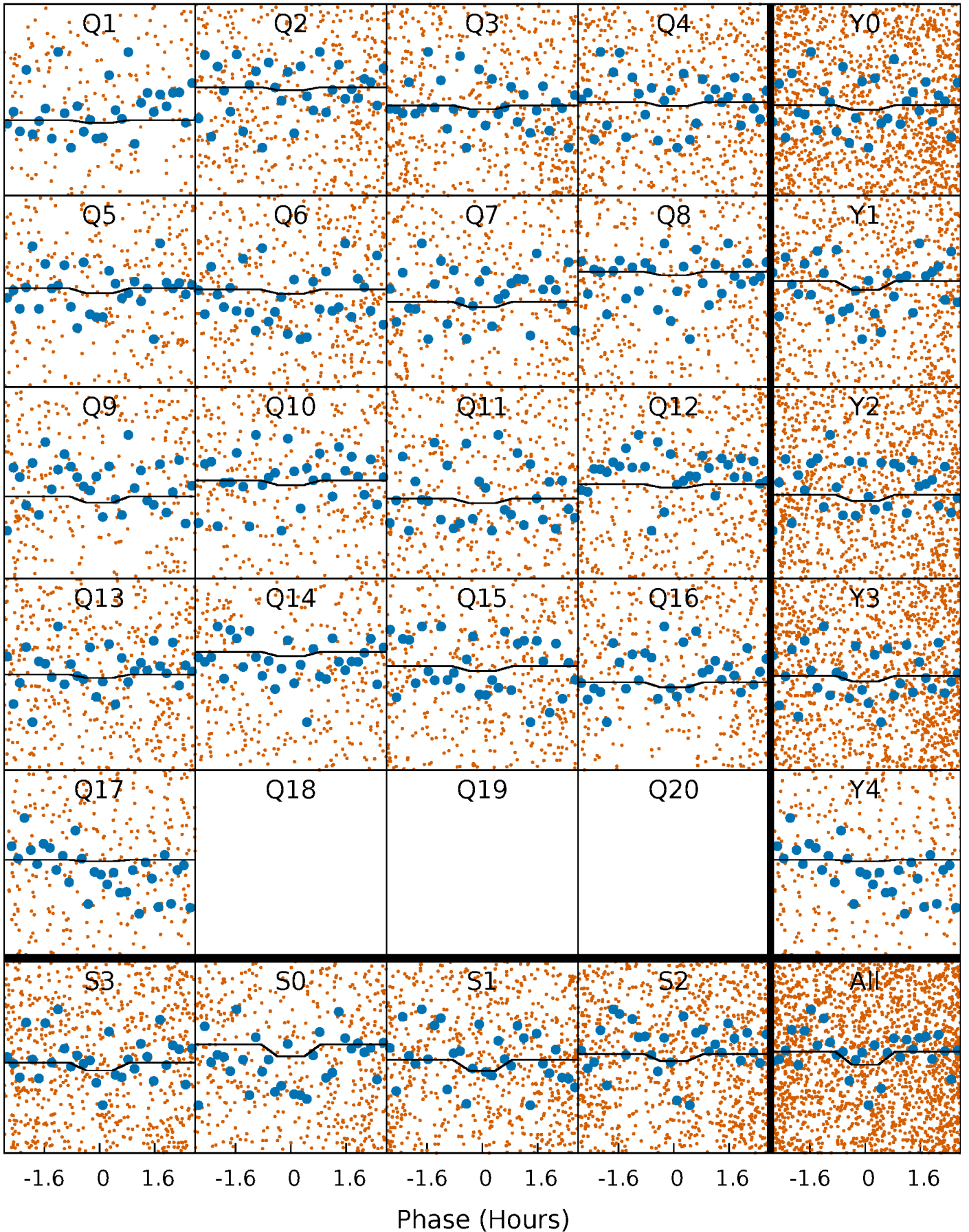
DV Quarter-Phased Transit Curves

TCE 007620654-01 P= 0.531525 Days $T_0=131.809551$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

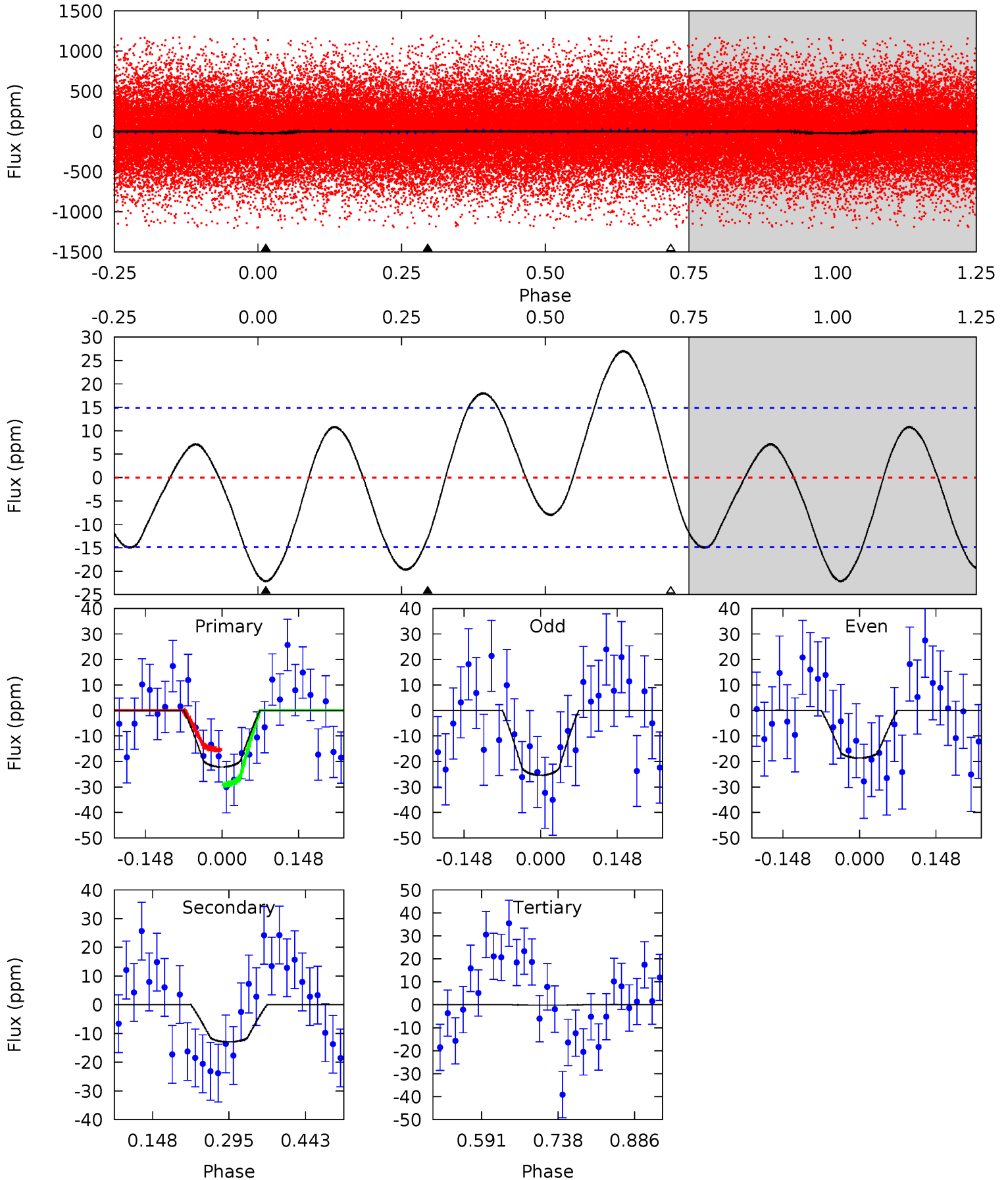
TCE 007620654-01 P= 0.531532 Days $T_0=131.809379$ (BKJD)



DV Model-Shift Uniqueness Test

007620654-01, P = 0.531525 Days, E = 131.278026 Days

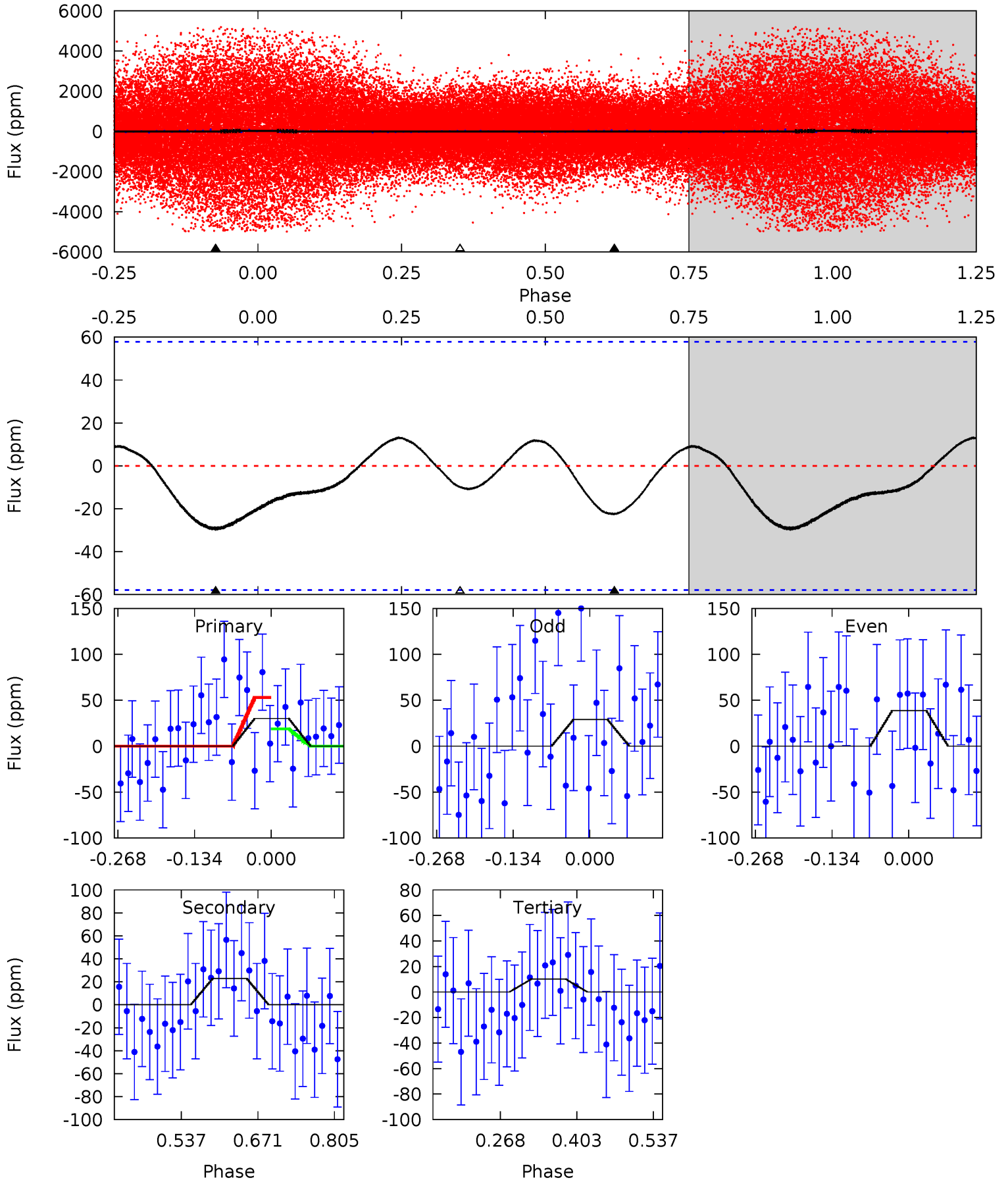
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.68	3.90	0.05	0	4.48	1.45	3.89	6.63	6.68	3.85	3.90	1.03	1.34	0.55	0



Alt Model-Shift Uniqueness Test

007620654-01, P = 0.531532 Days, E = 131.277847 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.35	1.78	0.79	0	4.50	1.50	0.68	1.55	2.35	0.99	1.78	0.39	-0.59	0.31	1.37



Stellar Parameters For KIC 007620654

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7082^{+193}_{-236}	$4.120^{+0.240}_{-0.160}$	$-0.740^{+0.250}_{-0.300}$	$1.520^{+0.403}_{-0.403}$	$1.111^{+0.147}_{-0.107}$	$0.446^{+0.621}_{-0.197}$
	+3%/-3%	+6%/-4%	+34%/-41%	+27%/-27%	+13%/-10%	+139%/-44%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007620654-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 3	$0.74^{+0.21}_{-0.20}$	4645^{+331}_{-357}	6023^{+1092}_{-850}	$2.273^{+2.015}_{-0.980}$
Alt.	-23 ± 13	$0.69^{+0.19}_{-0.18}$	4641^{+337}_{-377}	7304^{+2098}_{-1685}	$4.540^{+5.296}_{-2.725}$

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 $A_{obs} \gg 1.0$

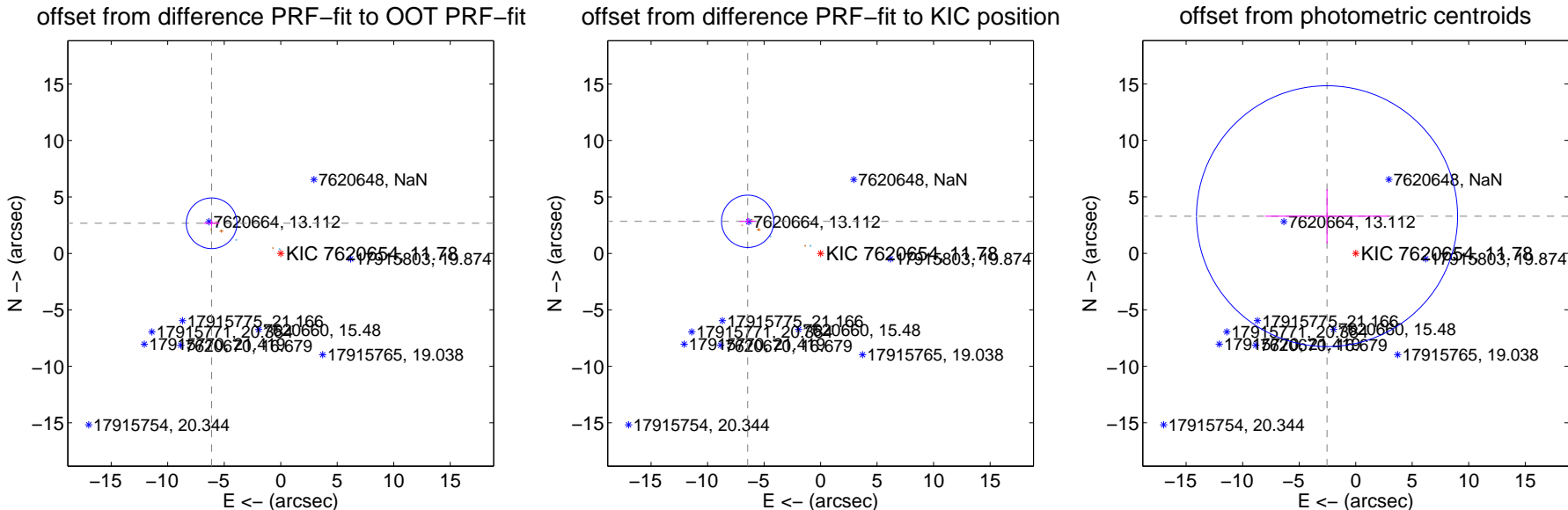
DV Centroid Data

Supplemental centroid analysis for 007620654-01. **Kepler magnitude: 11.78.** Transit SNR 4.89

There are 6 quarters with good PRF difference image offsets

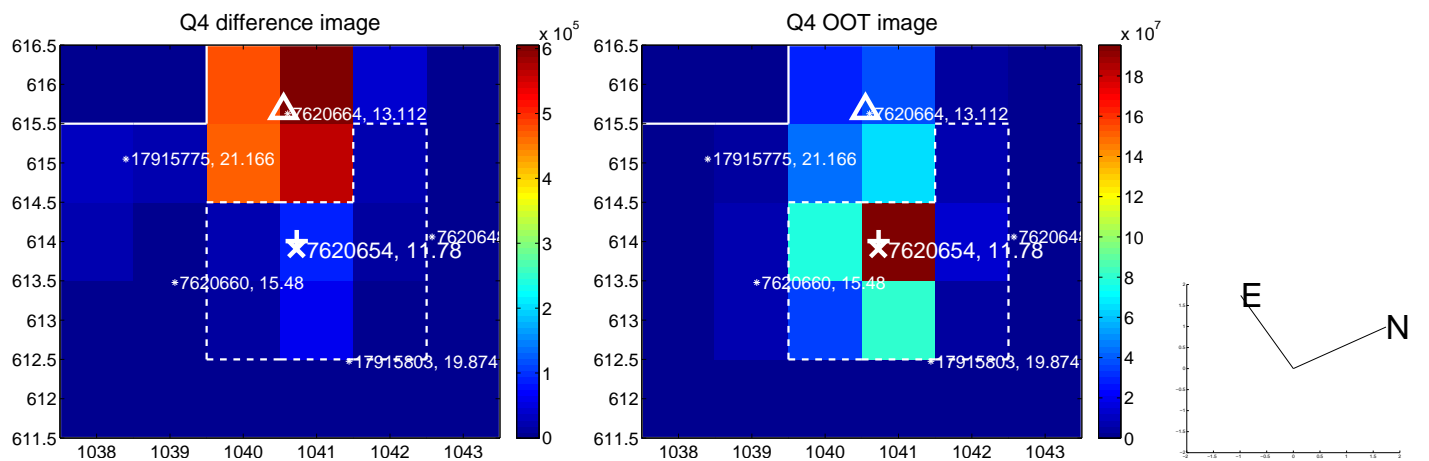
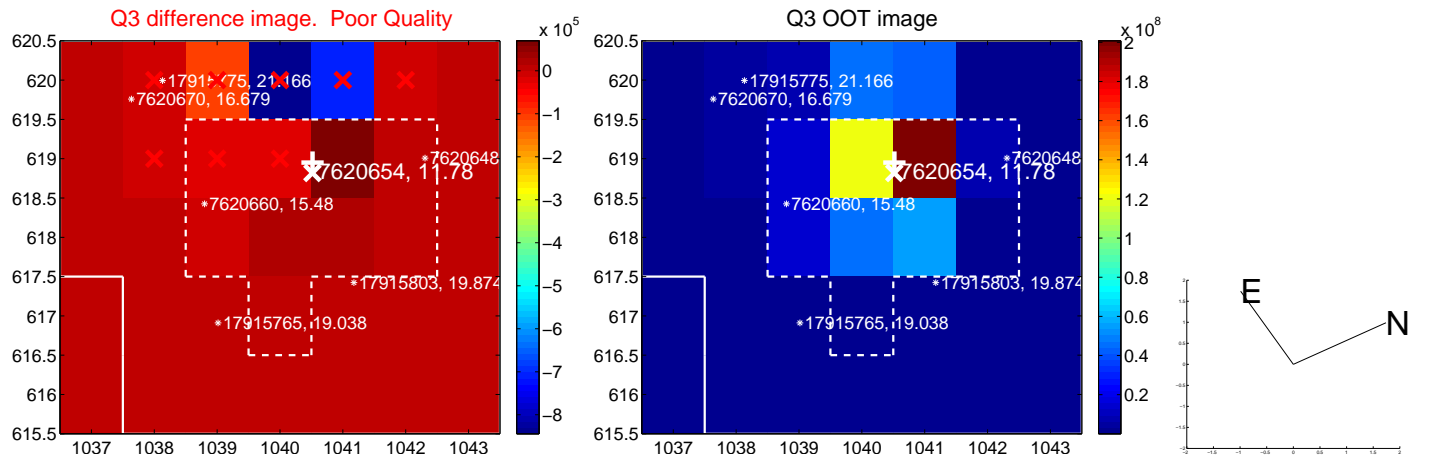
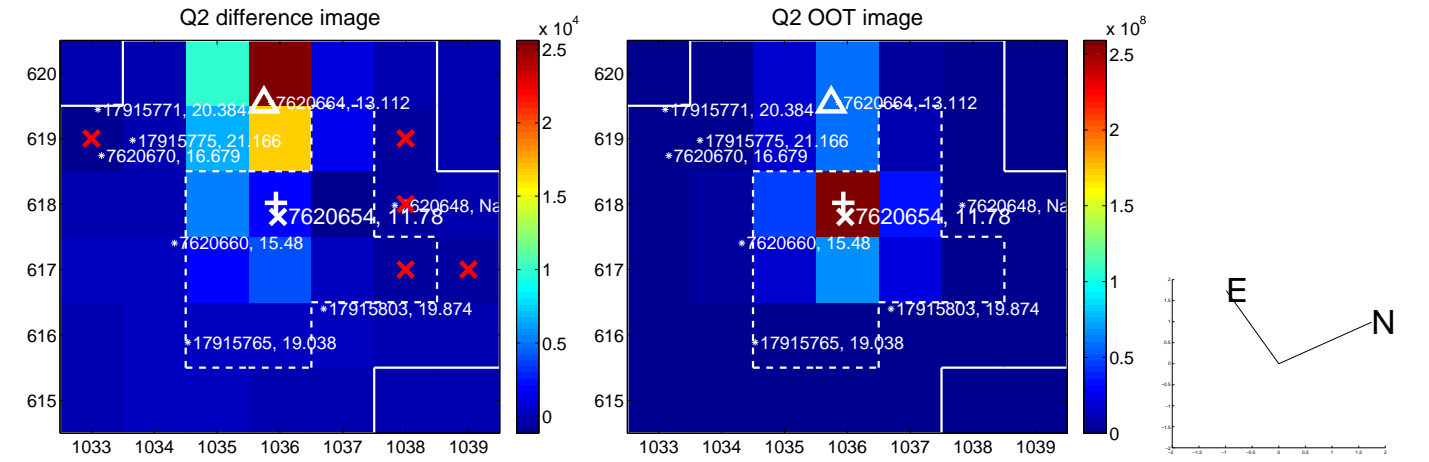
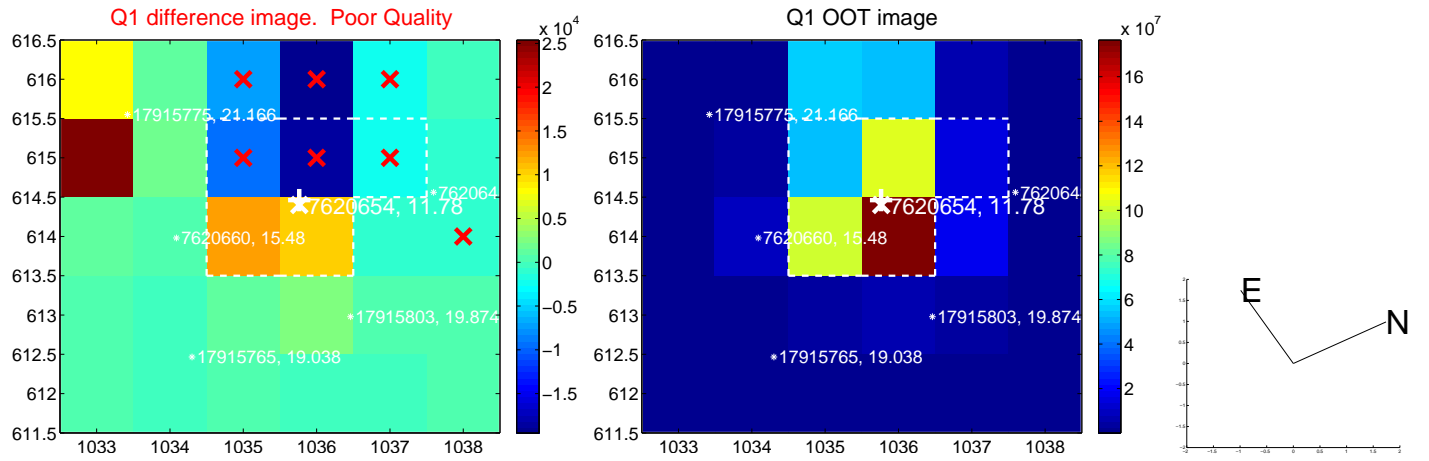
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.672 \pm 0.748	8.92	6.116 \pm 0.699	2.667 \pm 0.287
PRF-fit source offset from KIC position	7.049 \pm 0.772	9.13	6.451 \pm 0.719	2.842 \pm 0.300
photometric centroid source offset	4.15 \pm 3.85	1.08	2.53 \pm 5.48	3.29 \pm 2.41

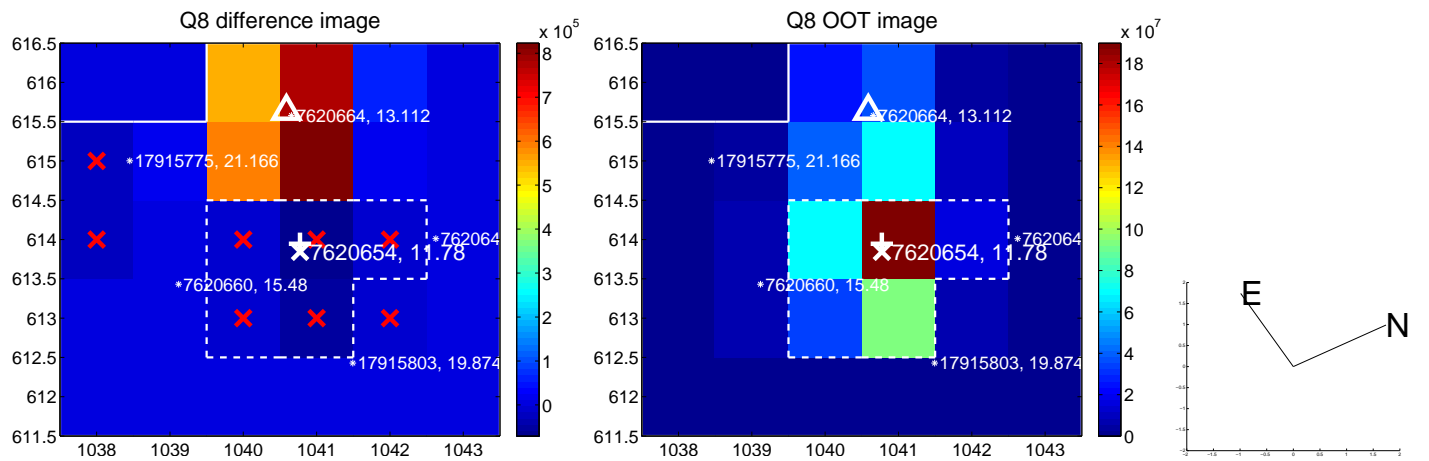
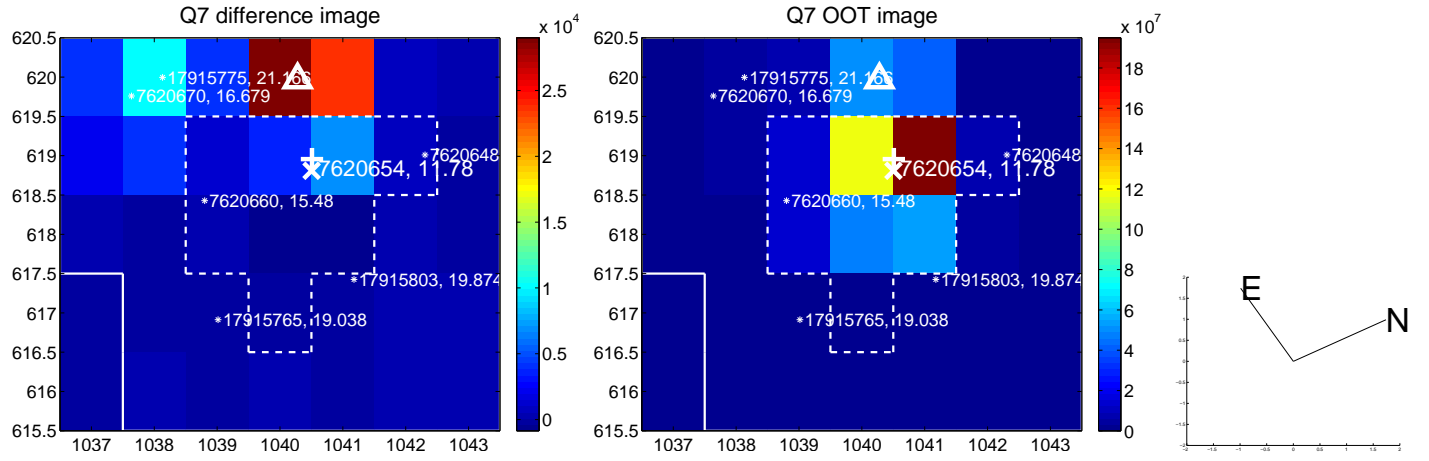
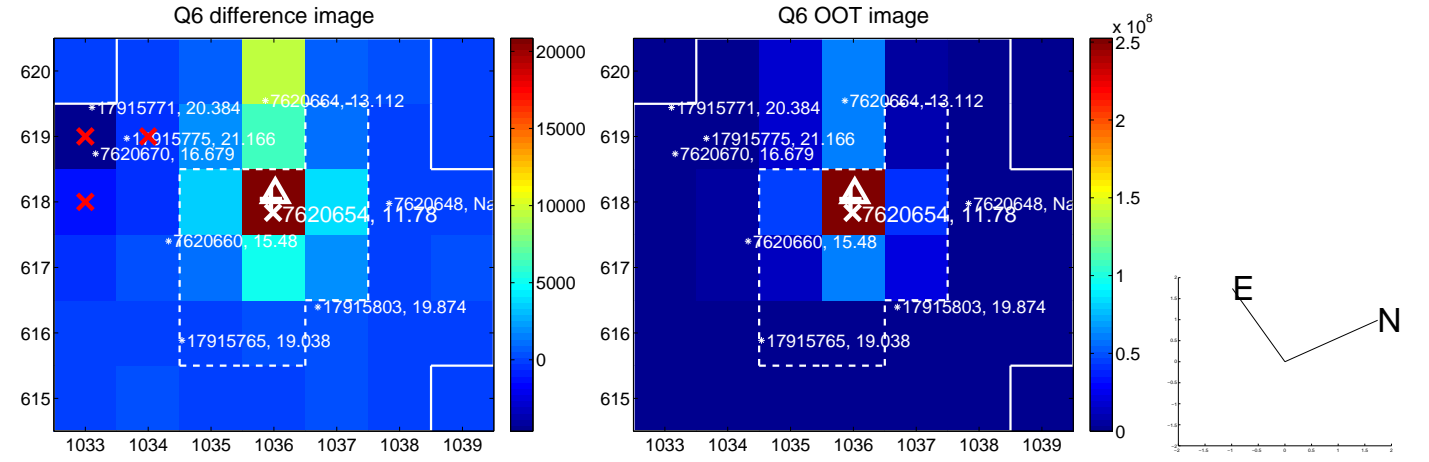
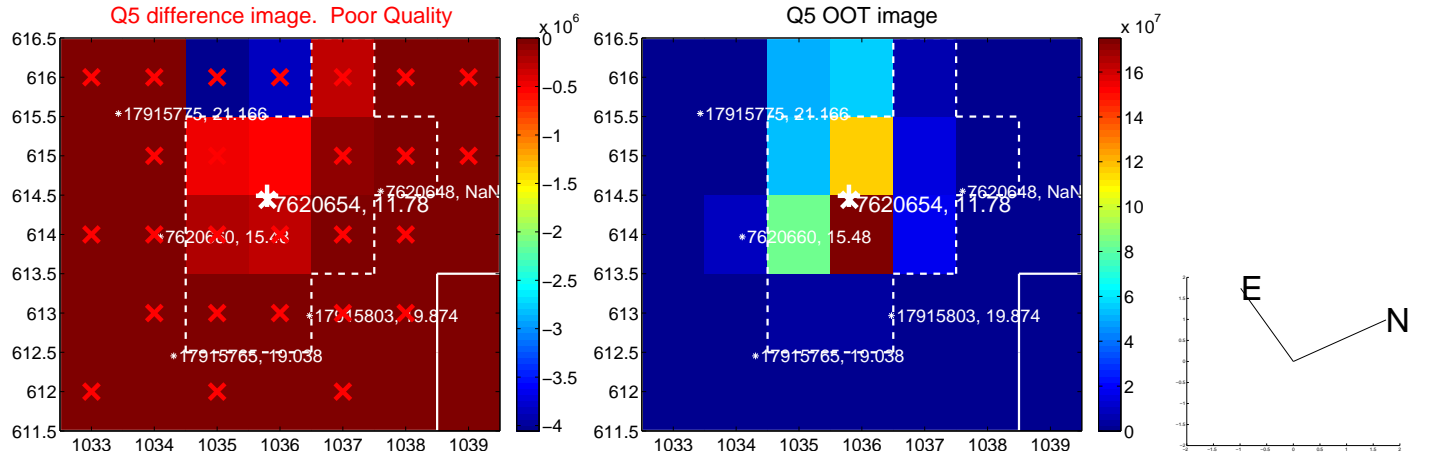


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

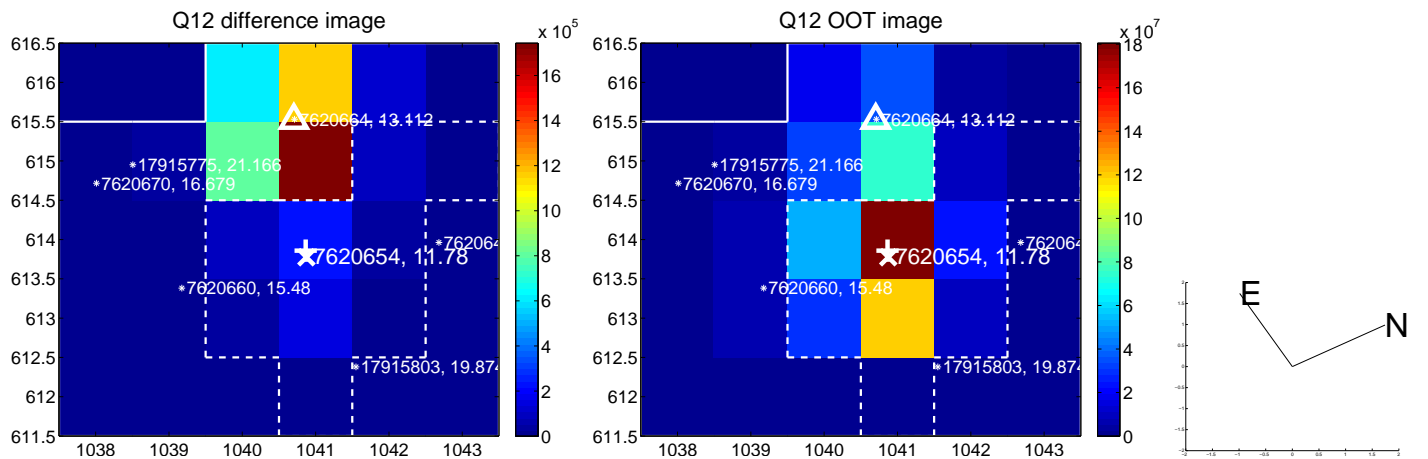
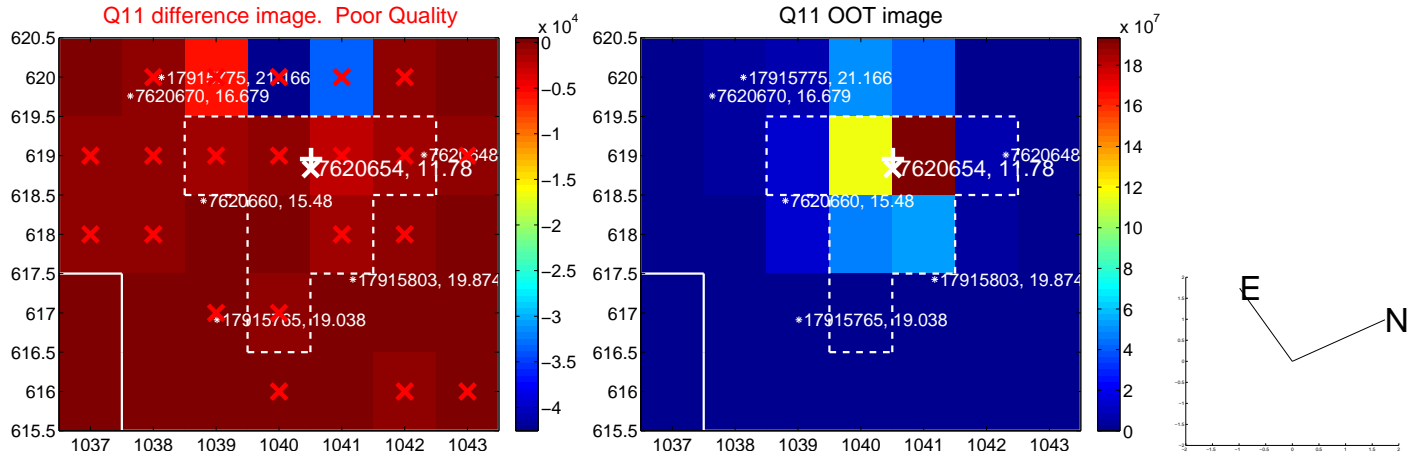
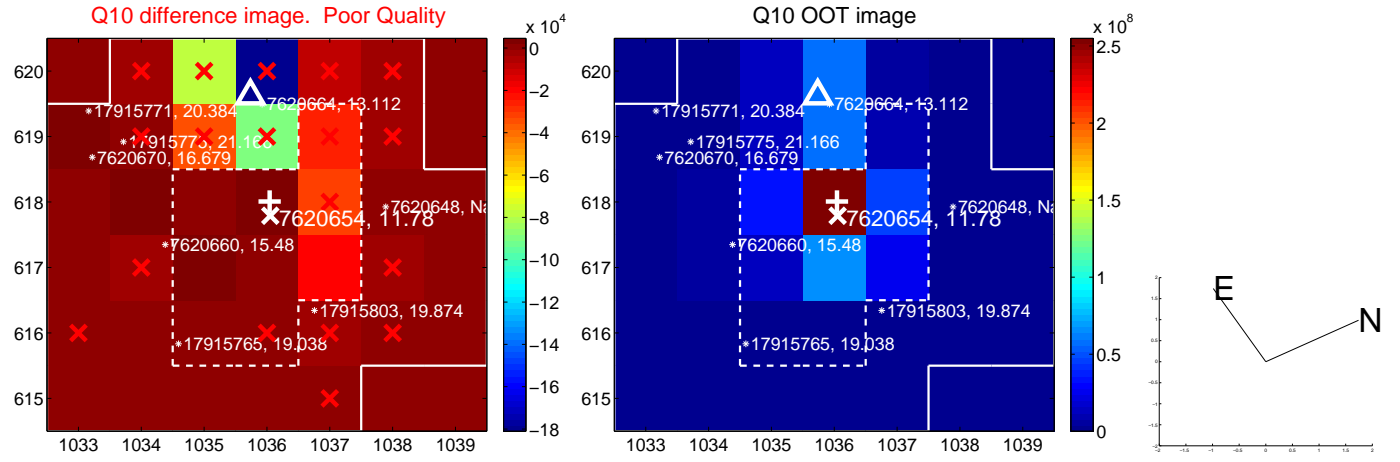
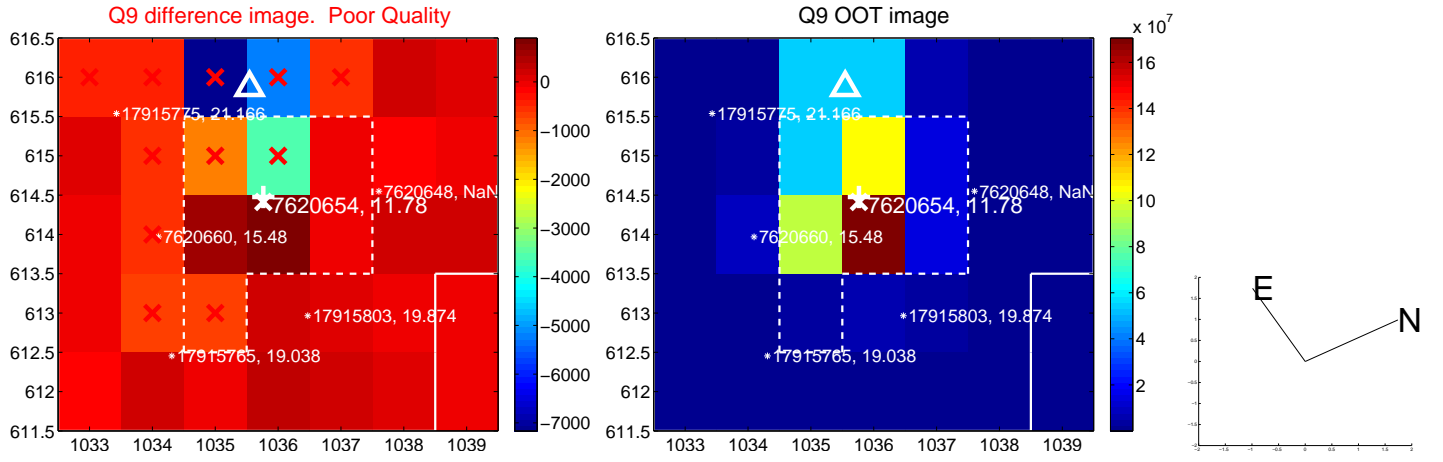
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



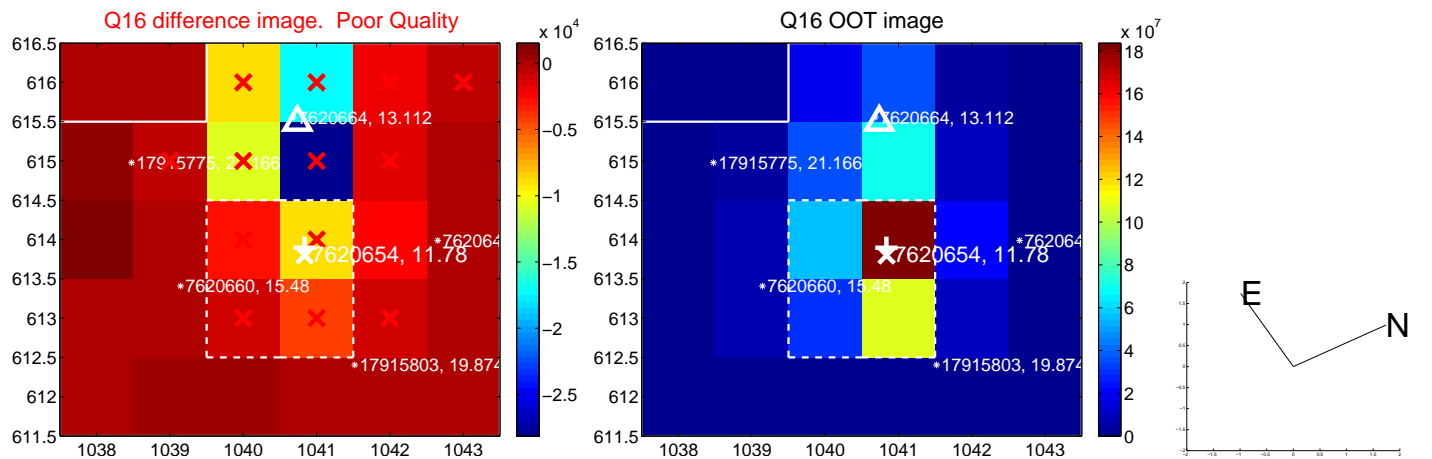
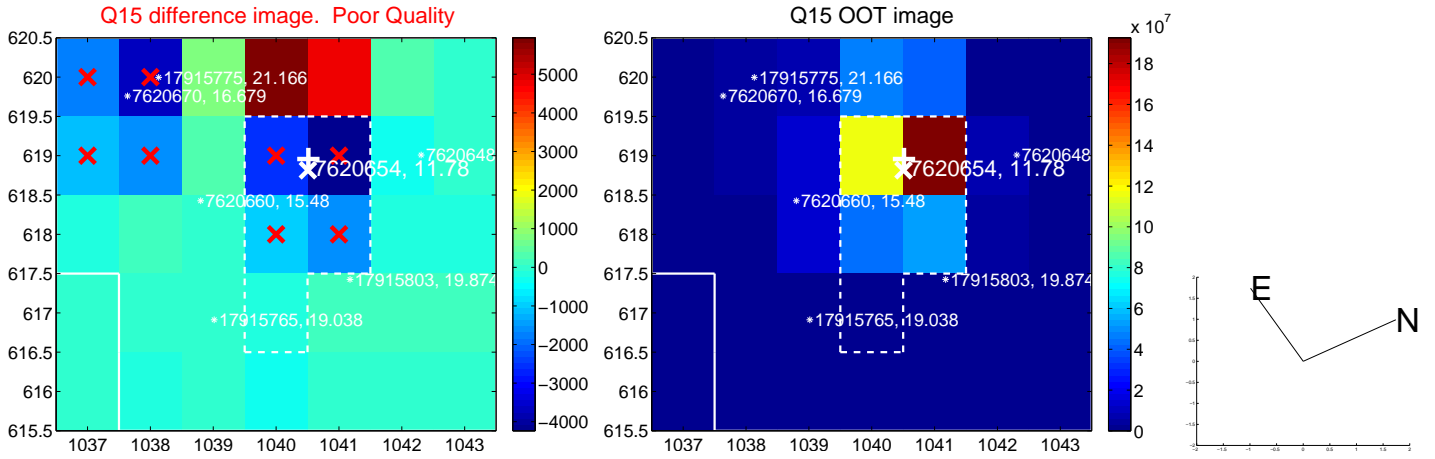
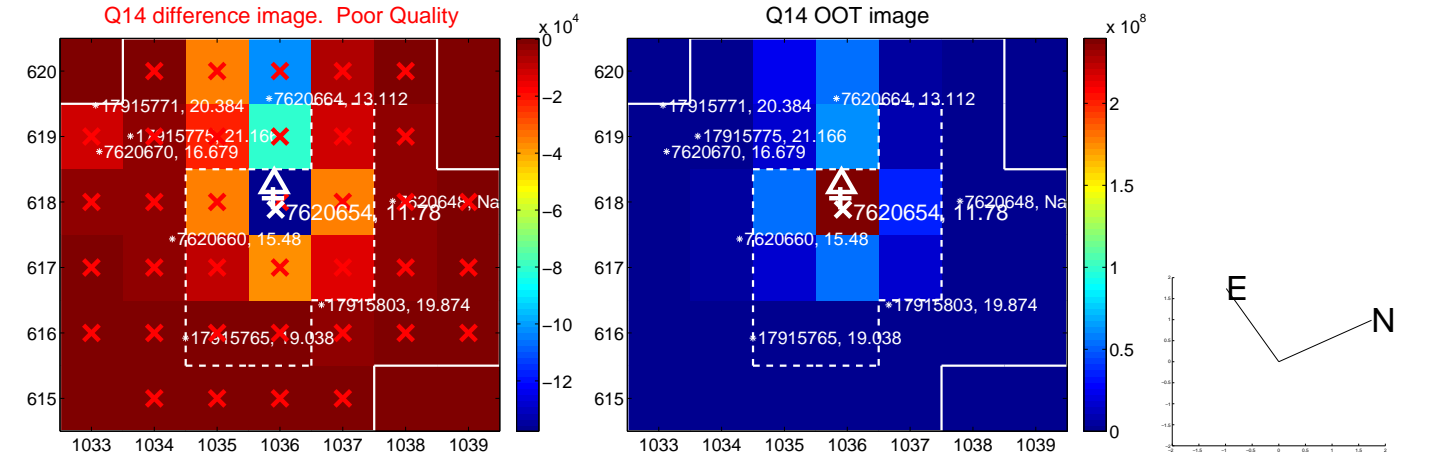
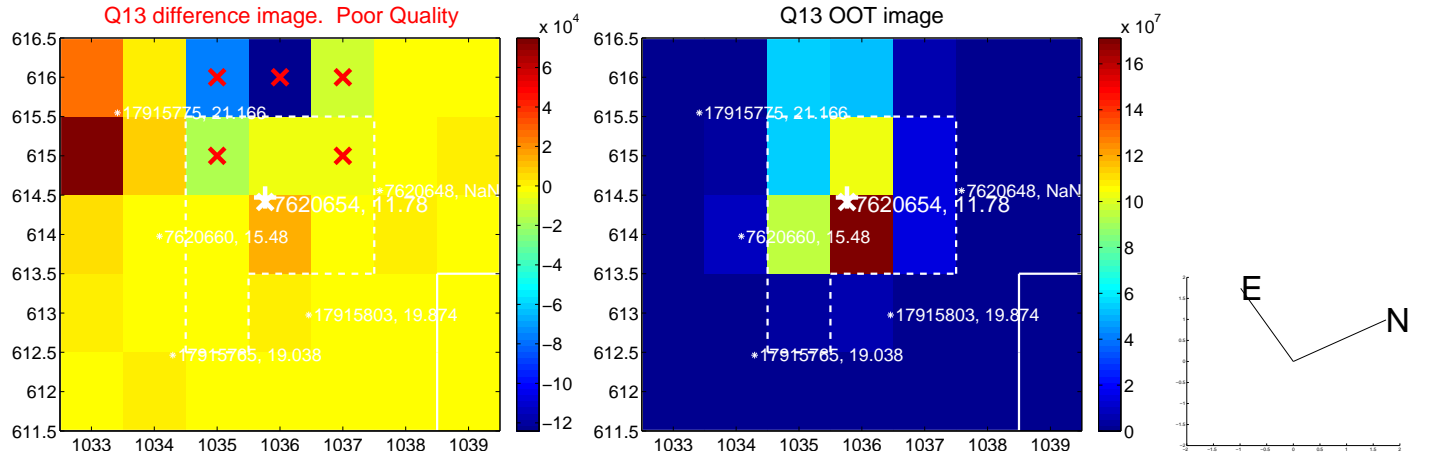
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



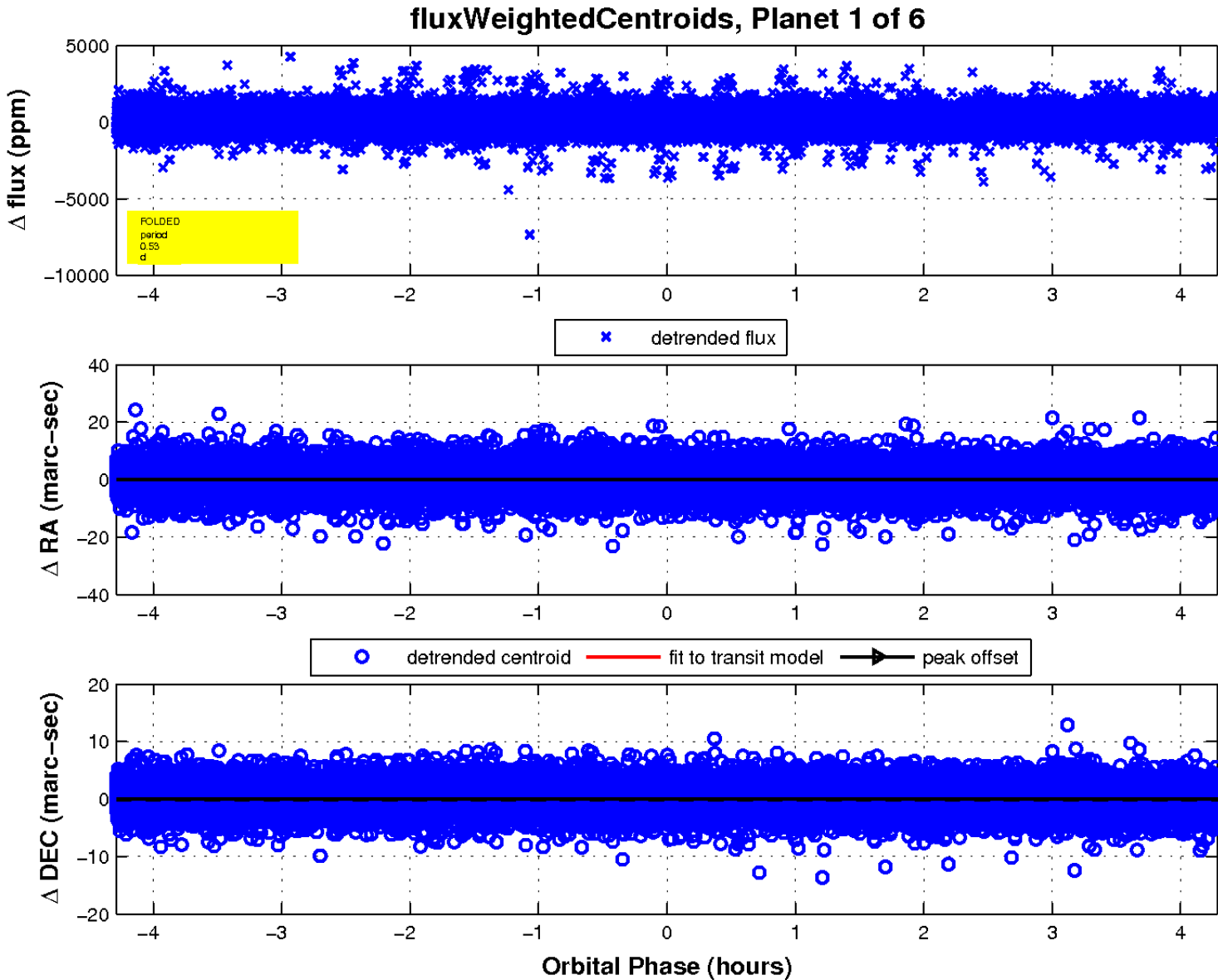
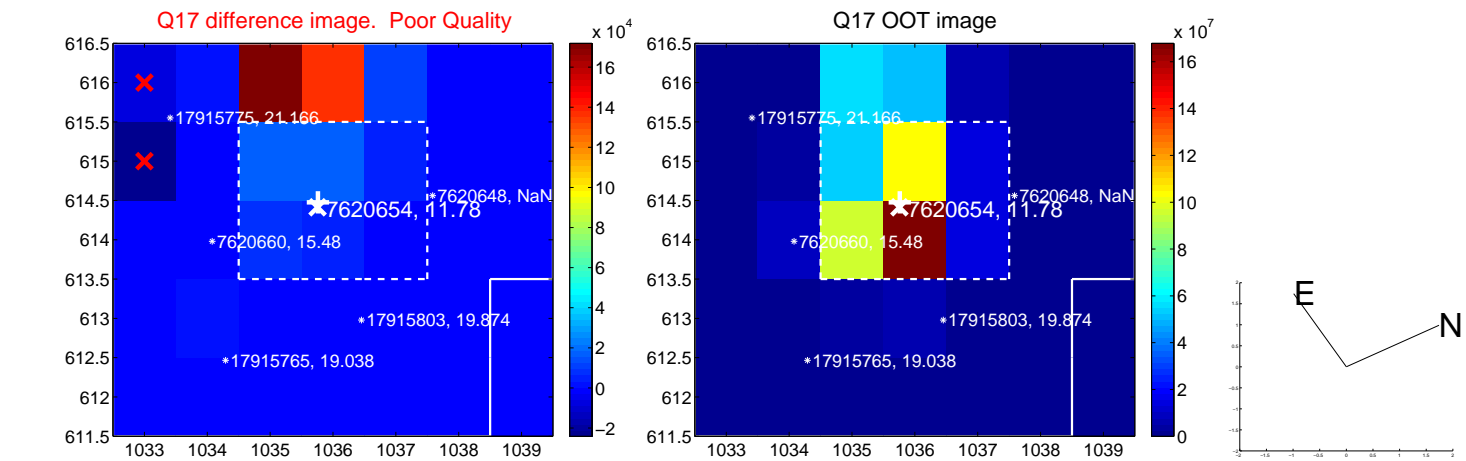
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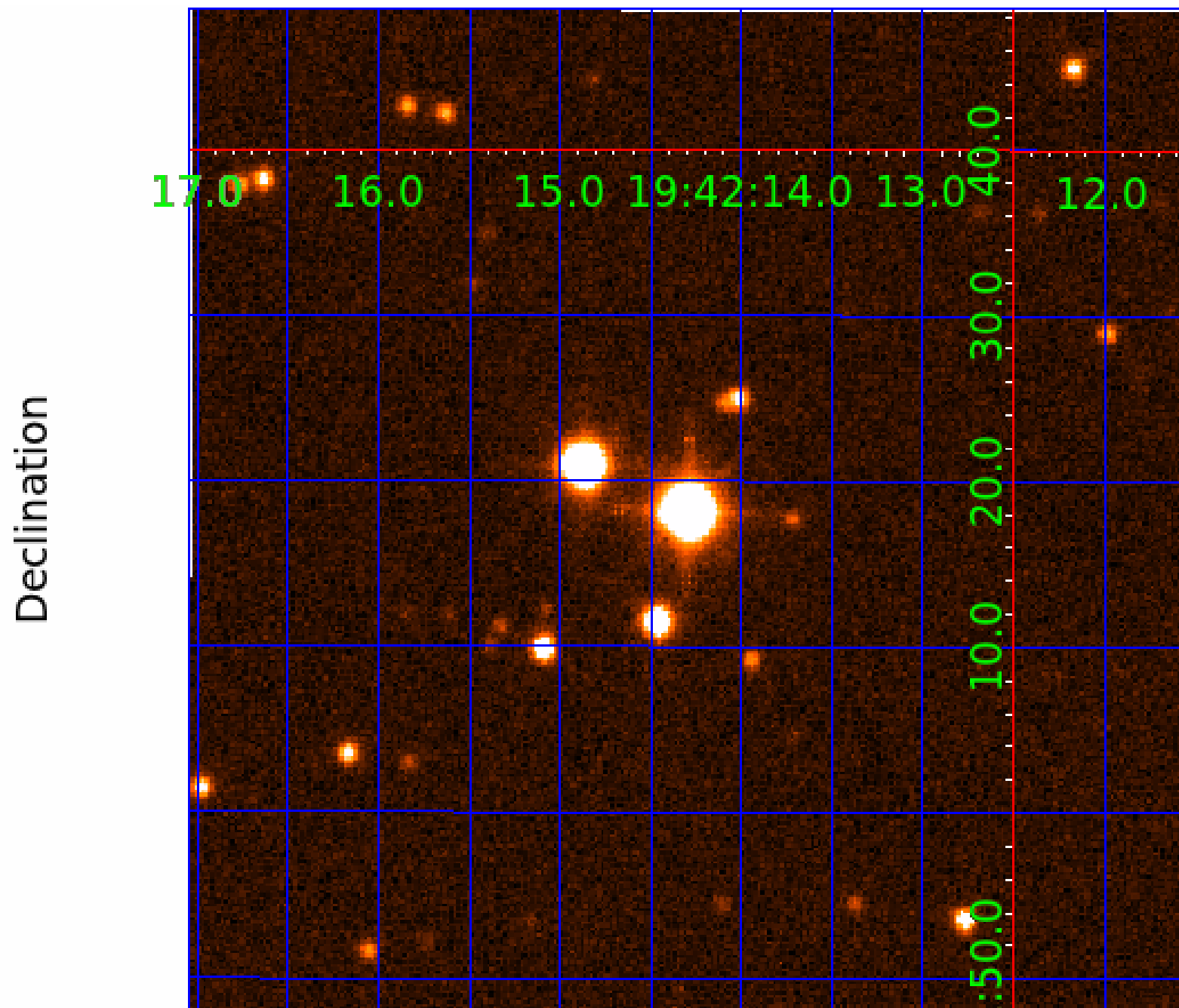
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007620654

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})
007620654-01	OBS	No	0.531525	131.809551	17.7	1.429	8.6	4.9	1.52	7082	0.74	29424.94
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007620654-04	OBS	No	54.500280	181.303643	848.2	7.399	13.0	10.4	1.52	7082	8.09	61.31
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007620654-06	OBS	No	0.910054	132.050777	135.1	3.000	10.4	-1.0	1.52	7082	1.79	14365.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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007620654-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
007620654-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007620654-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
007620654-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
007620654-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_NOFITS

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

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

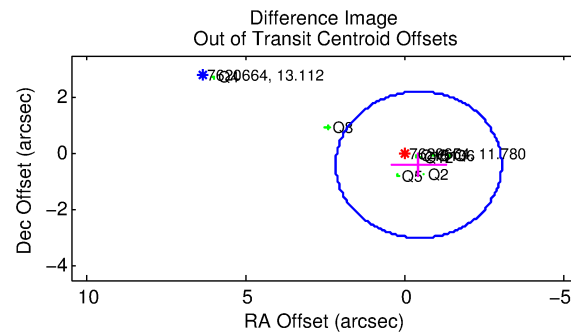
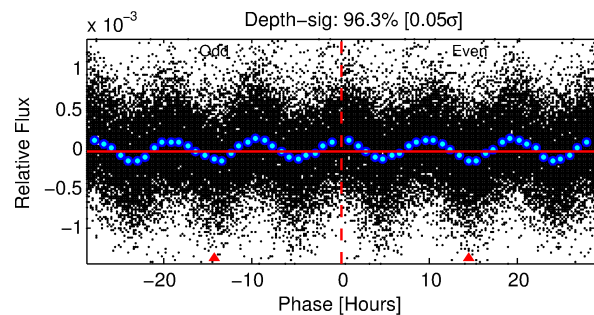
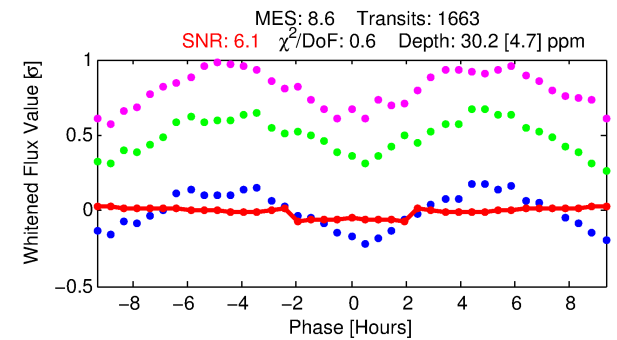
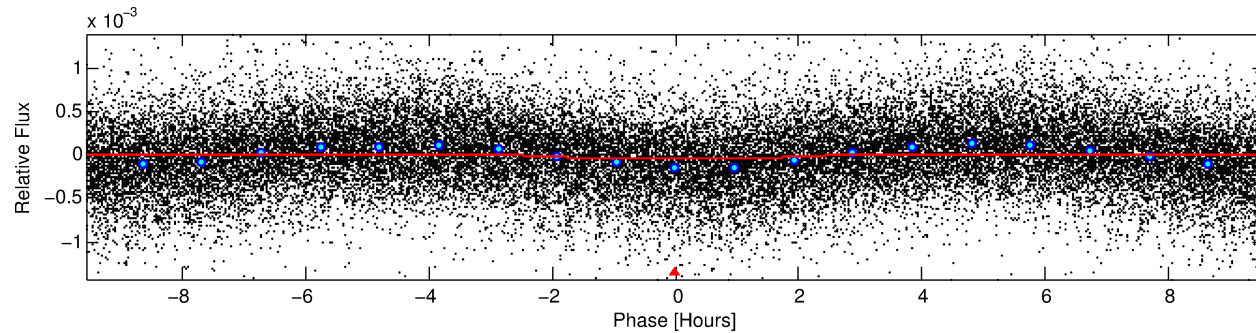
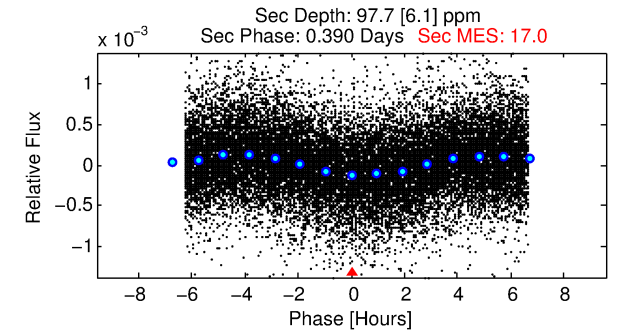
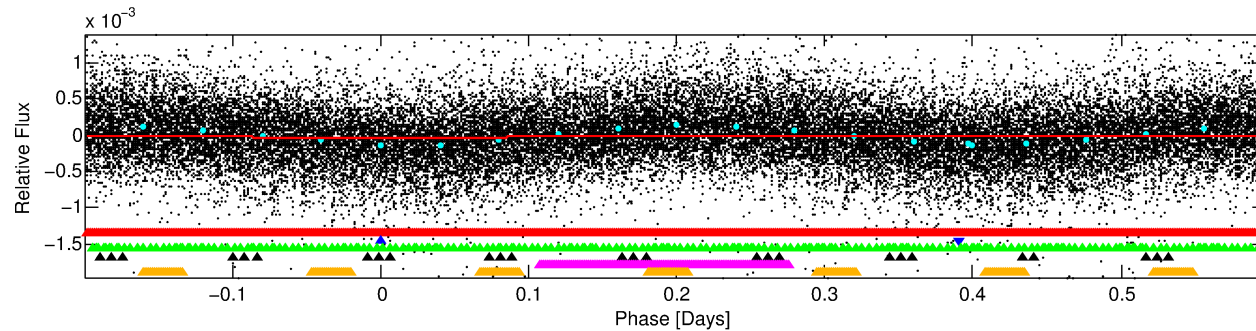
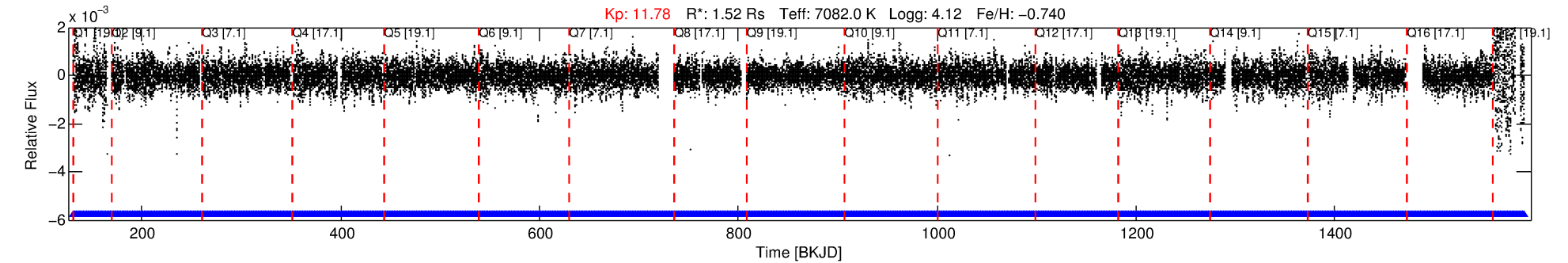
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007620654-02

No Significant Match Found

DV One-Page Summary

KIC: 7620654 Candidate: 2 of 6 Period: 0.796 d



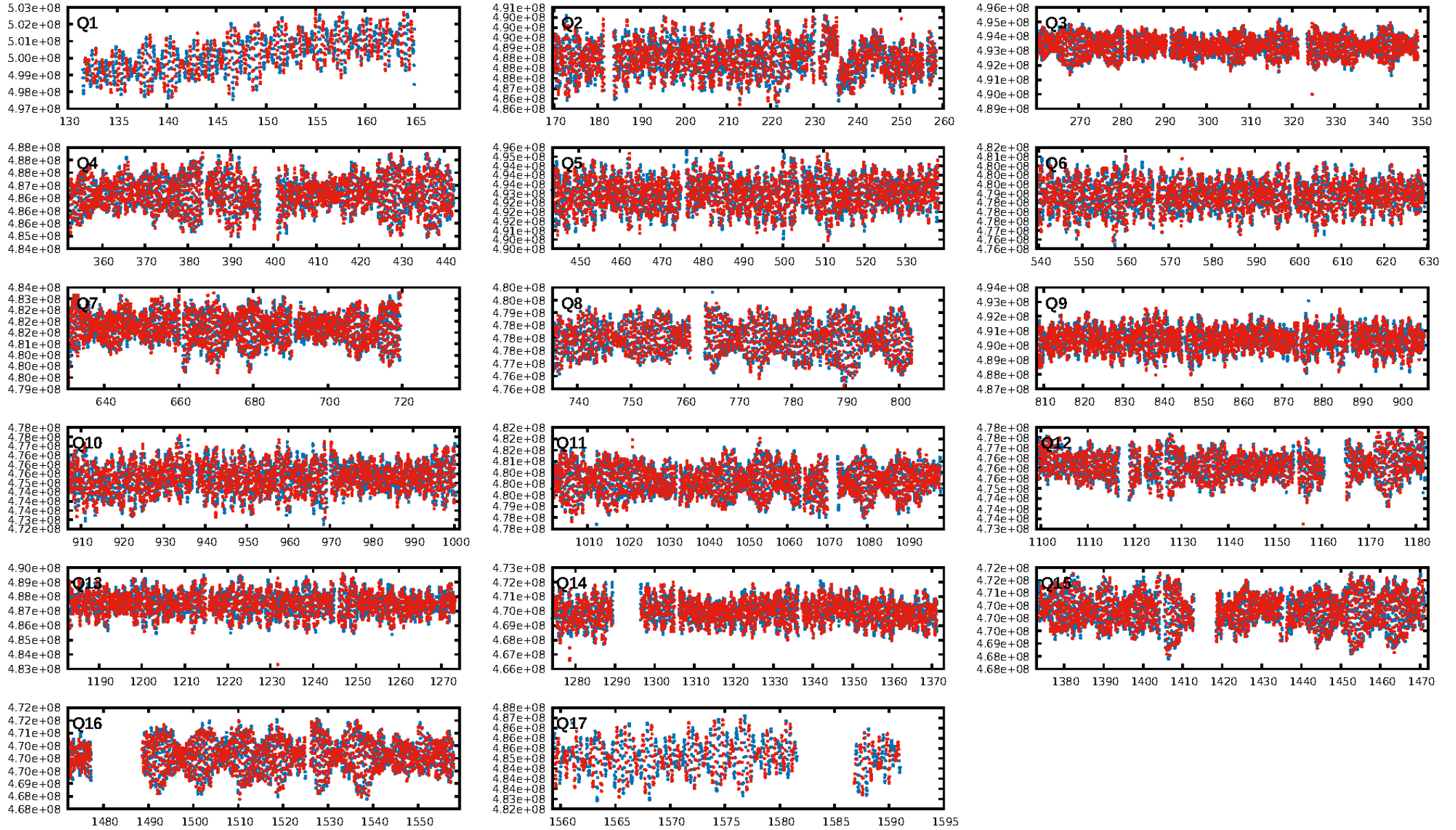
DV Fit Results:

Period = 0.79628 [0.00002] d
Epoch = 131.9279 [0.0034] BKJD
 $R_p/R^* = 0.0059$ [0.0018]
 $a/R^* = 1.09$ [0.31]
 $b = 0.91$ [0.34]
 $\text{Seff} = 17165.53$ [7377.95]
 $T_{\text{eq}} = 2919$ [314] K
 $R_p = 0.98$ [0.39] R_e
 $a = 0.0174$ [0.0044] AU
 $A_g = 17.01$ [12.30] [1.30σ]
 $T_{\text{eff}} = 9165$ [1400] K [4.35σ]

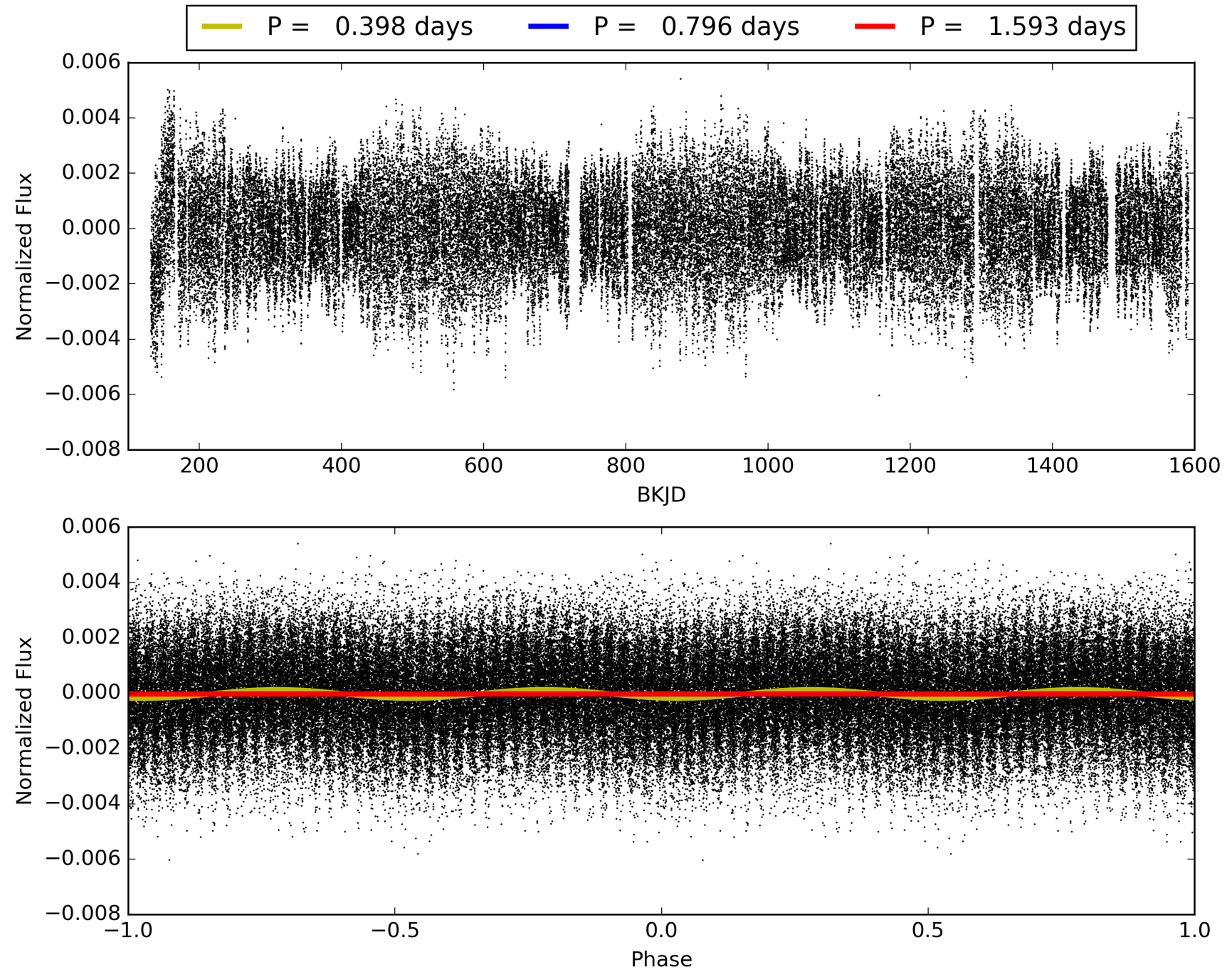
DV Diagnostic Results:

ShortPeriod-sig: 79.6% [1.27σ]
LongPeriod-sig: 37.1% [0.48σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1587/1587]
GhostDiagnostic-chr: 1.614
Centroid-sig: 9.7%
Centroid-so: 1.236 arcsec [0.54σ]
OotOffset-rm: 0.586 arcsec [0.67σ]
KicOffset-rm: 0.194 arcsec [0.60σ]
OotOffset-st: 3/1/3/1 [8]
KicOffset-st: 3/1/3/1 [8]
DiffImageQuality-fgm: 0.88 [7/8]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 007620654-02, PDC Light Curves

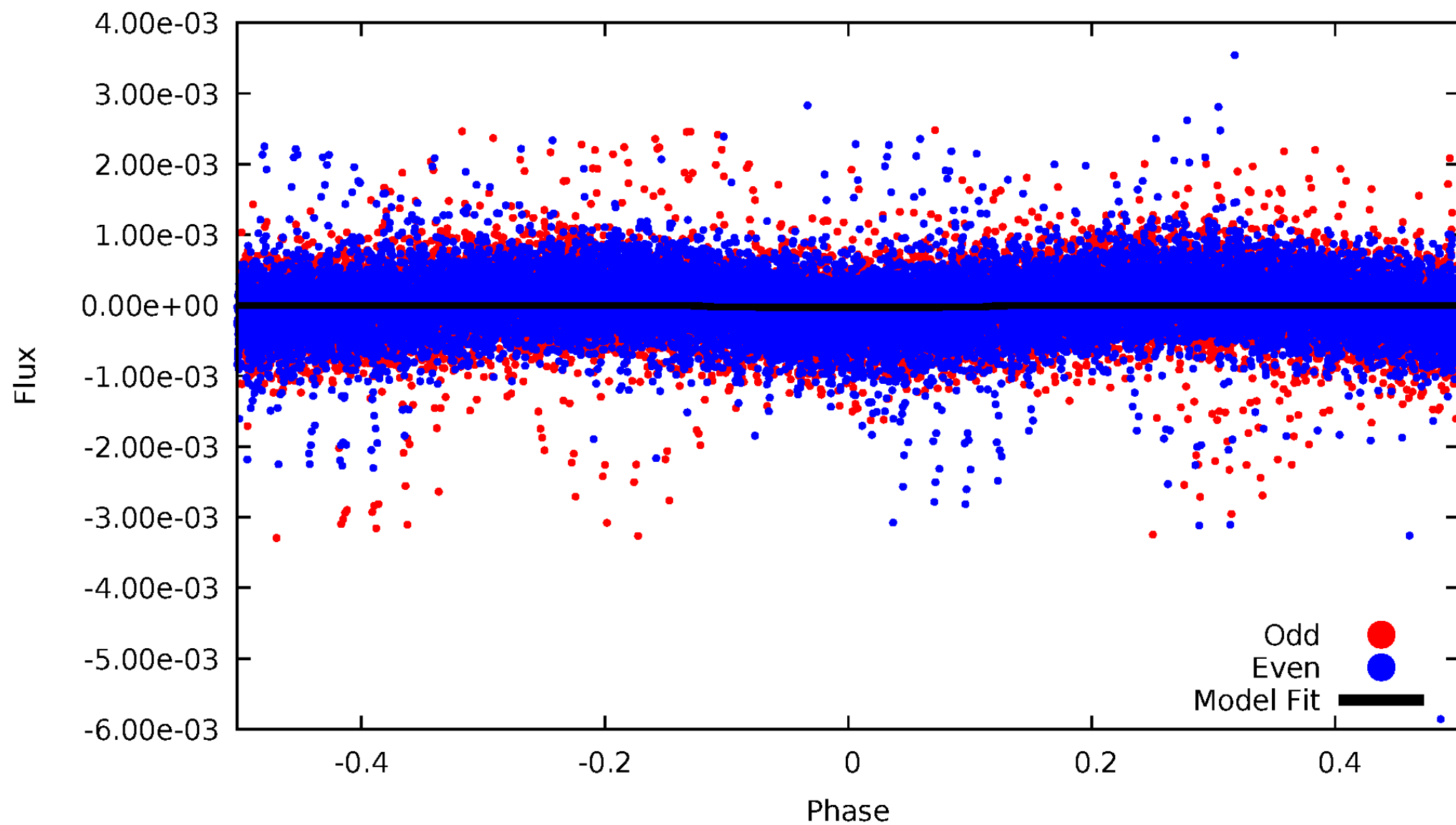


TCE 007620654-02



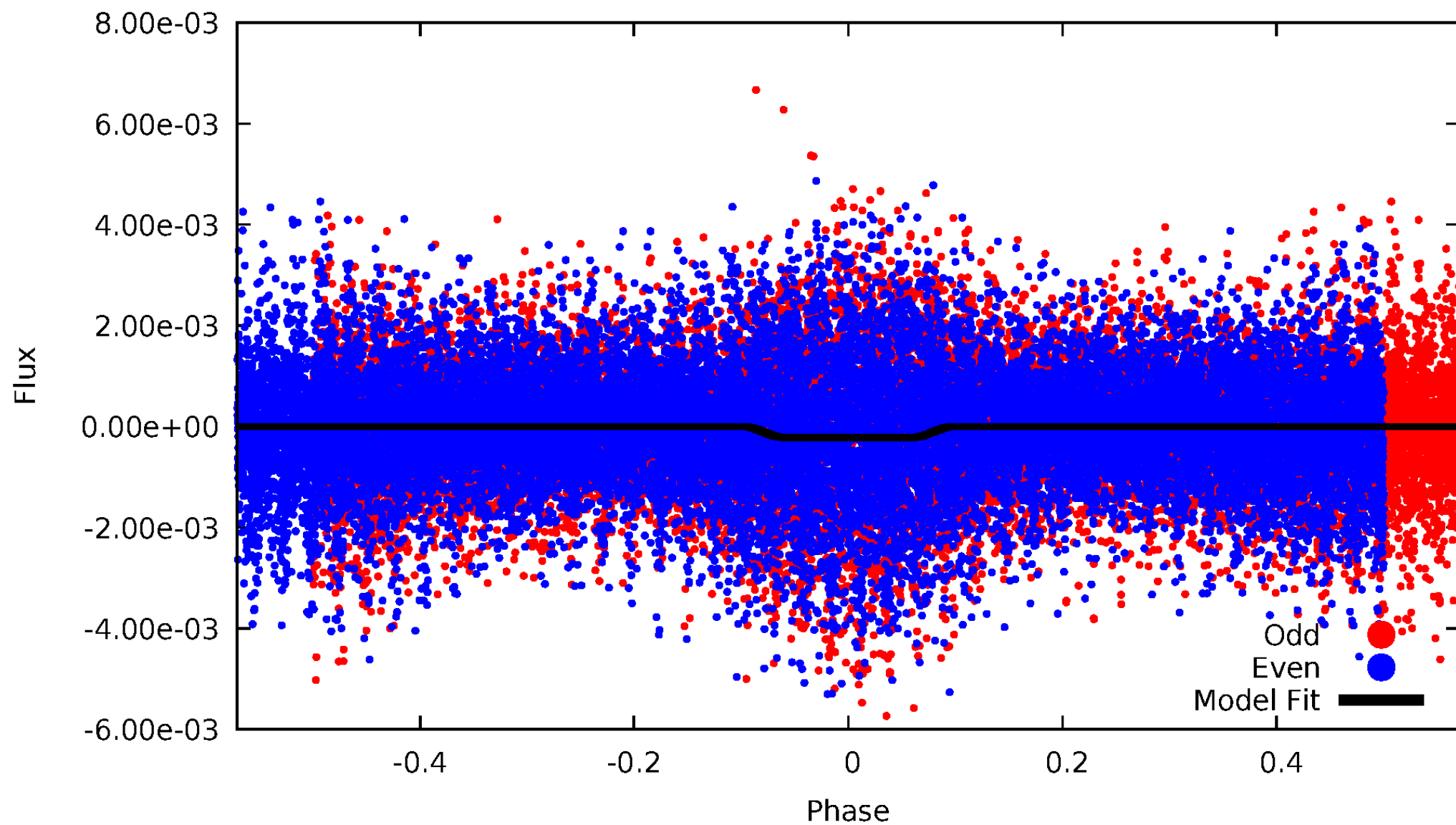
DV Odd/Even

TCE 007620654-02



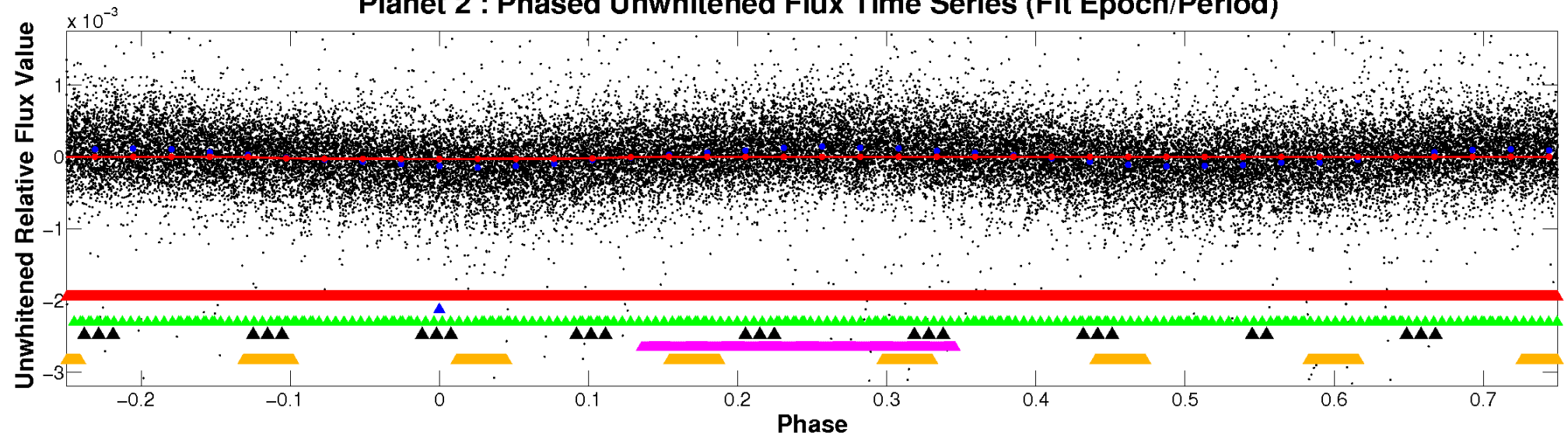
ALT Odd/Even

TCE 007620654-02

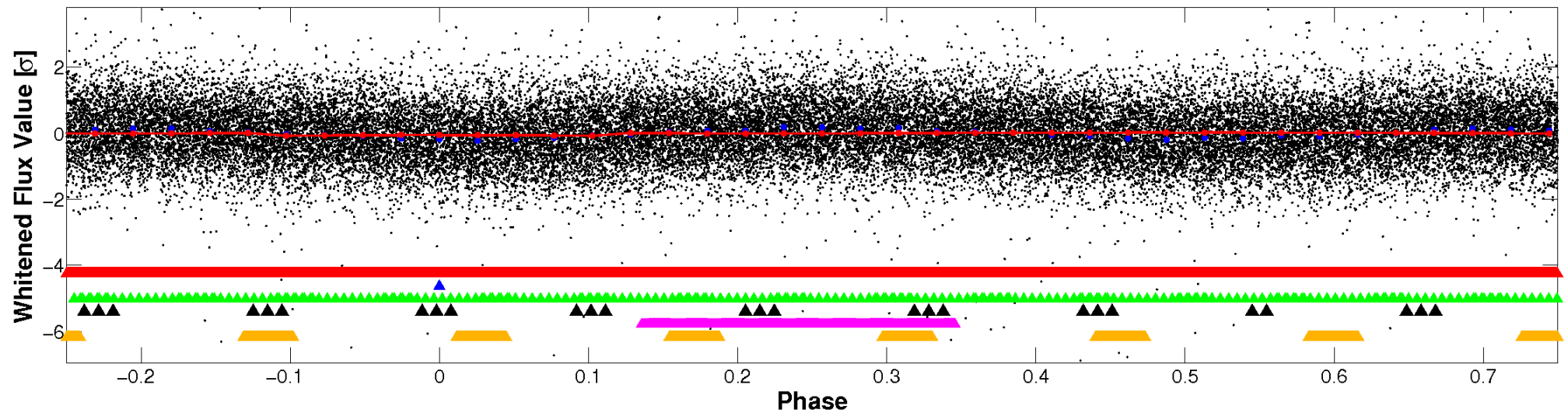


Non-Whitened Vs. Whitened Light Curve

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

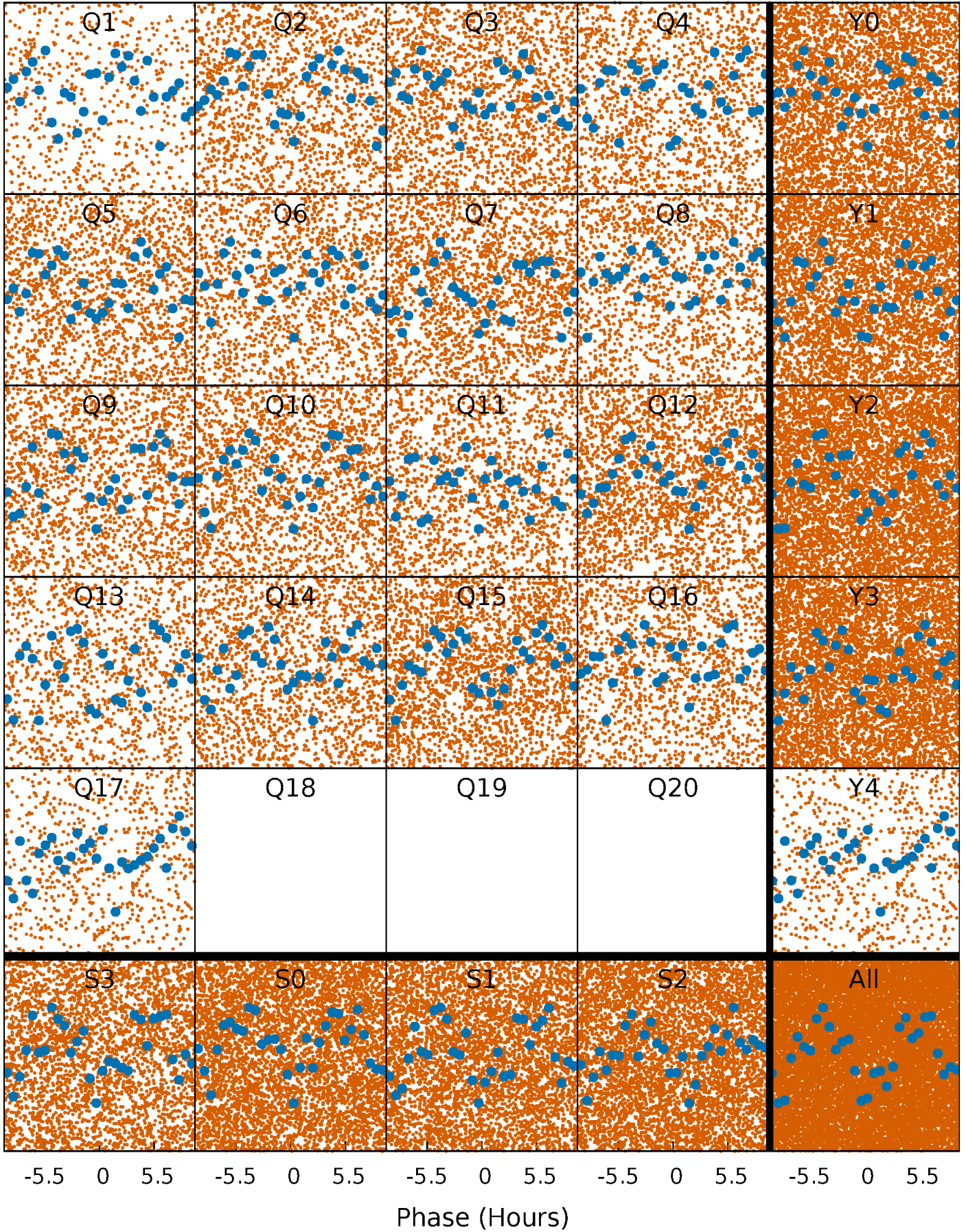


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



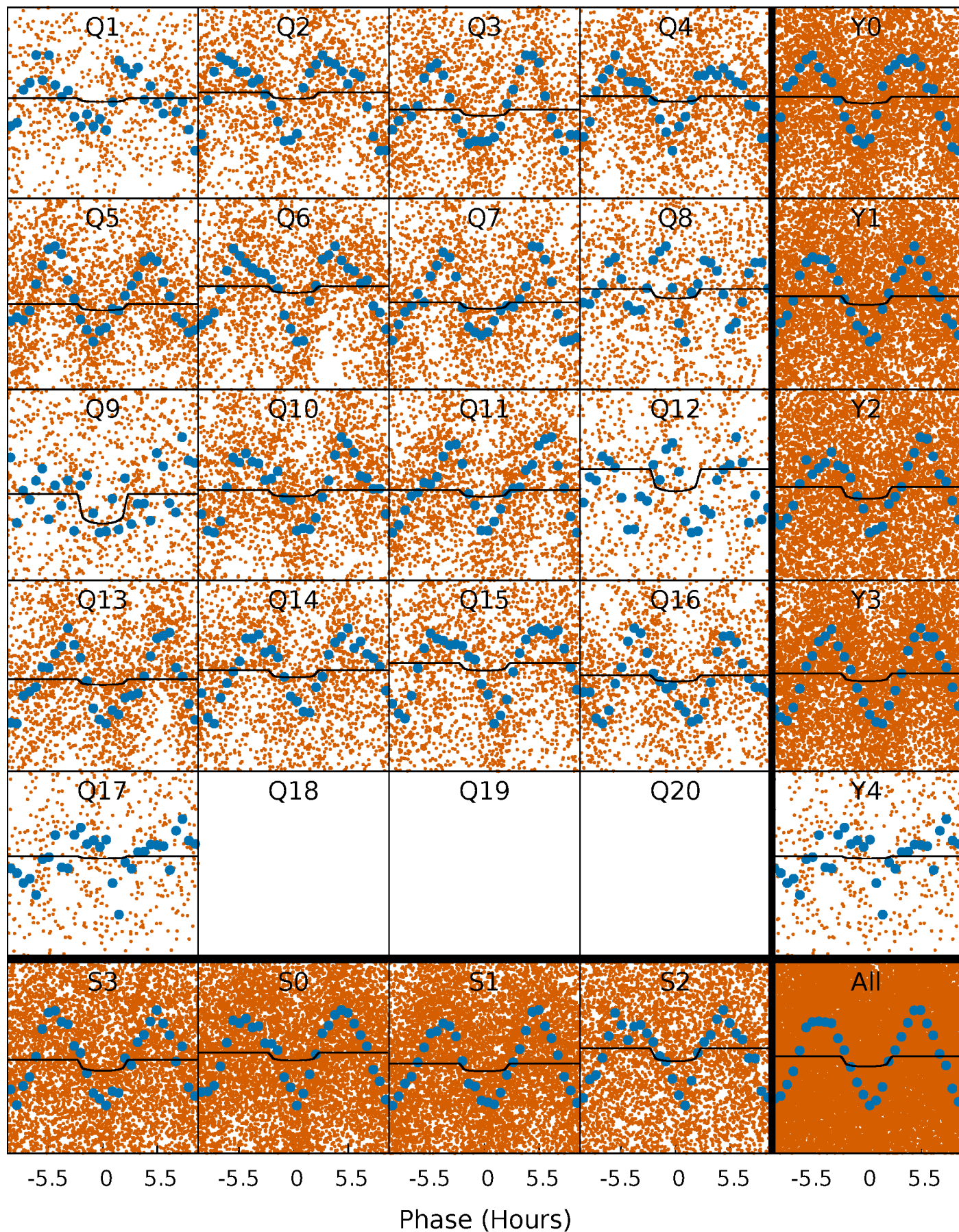
PDC Quarter-Phased Transit Curves

TCE 007620654-02 P= 0.796283 Days $T_0=131.927930$ (BKJD)



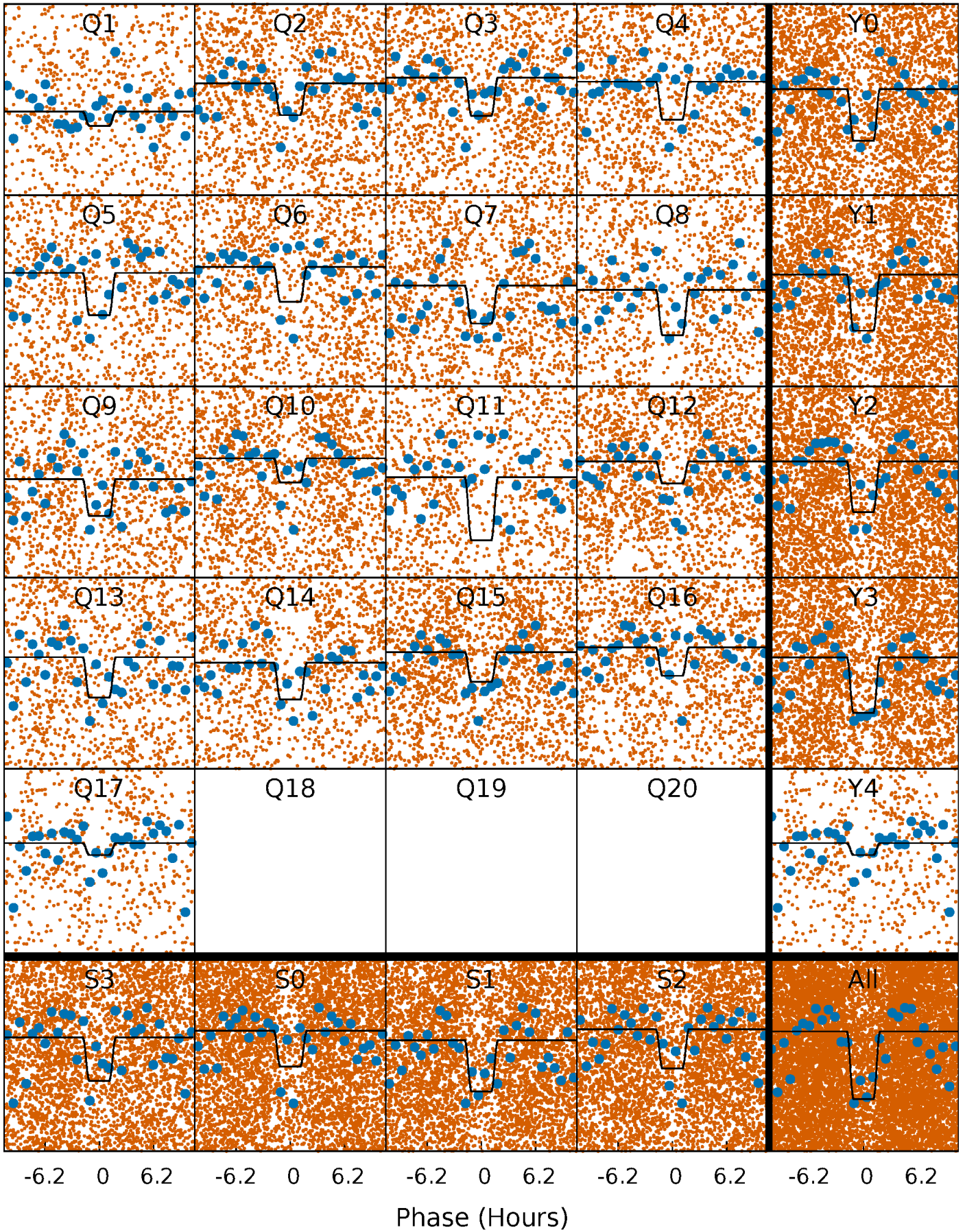
DV Quarter-Phased Transit Curves

TCE 007620654-02 P= 0.796283 Days $T_0=131.927930$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

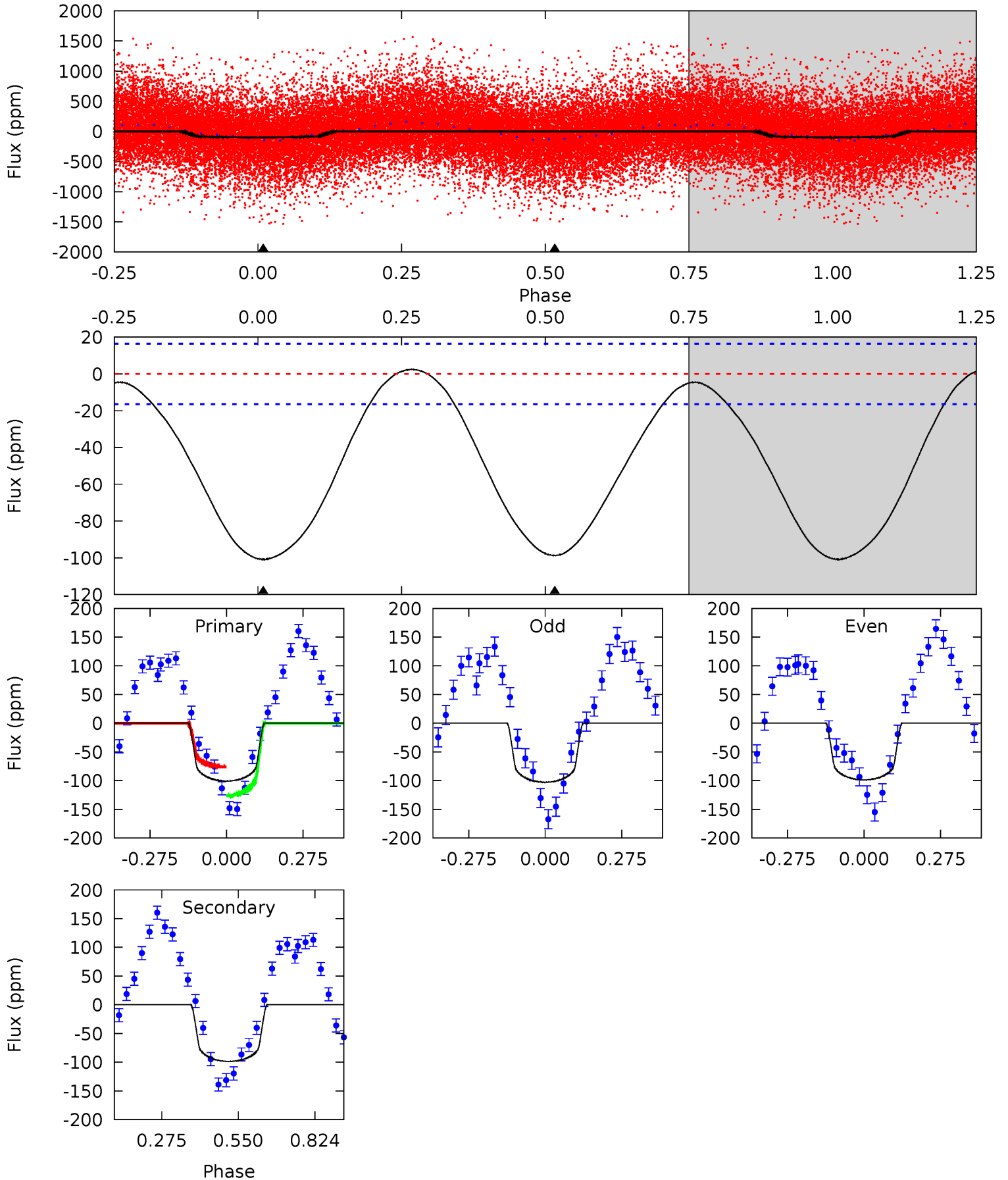
TCE 007620654-02 P= 0.796324 Days $T_0=131.921613$ (BKJD)



DV Model-Shift Uniqueness Test

007620654-02, P = 0.796283 Days, E = 131.131647 Days

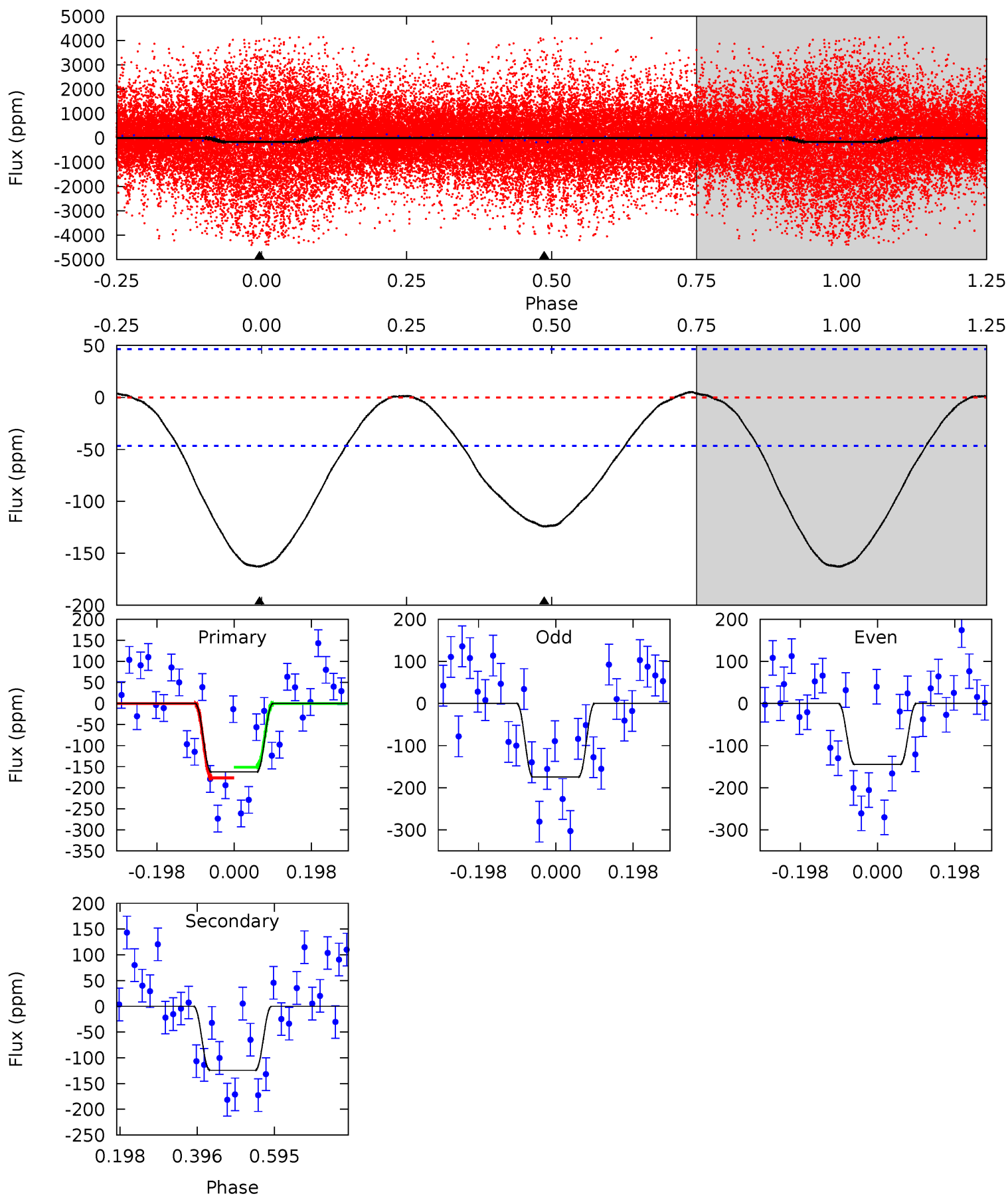
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
26.7	26.2	0	0	4.35	1.09	0.91	26.7	26.7	26.2	26.2	0.56	1.19	0.02	6.97



Alt Model-Shift Uniqueness Test

007620654-02, P = 0.796324 Days, E = 131.125289 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	11.8	0	0	4.42	1.29	0.33	15.4	15.4	11.8	11.8	1.40	1.47	0.03	1.21



Stellar Parameters For KIC 007620654

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7082^{+193}_{-236}	$4.120^{+0.240}_{-0.160}$	$-0.740^{+0.250}_{-0.300}$	$1.520^{+0.403}_{-0.403}$	$1.111^{+0.147}_{-0.107}$	$0.446^{+0.621}_{-0.197}$
	+3%/-3%	+6%/-4%	+34%/-41%	+27%/-27%	+13%/-10%	+139%/-44%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007620654-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-99 ± 4	$0.95^{+0.33}_{-0.31}$	4029^{+297}_{-296}	9811^{+3050}_{-1619}	18^{+22}_{-8}
Alt.	-124 ± 11	$2.43^{+0.50}_{-0.43}$	4040^{+307}_{-329}	5949^{+448}_{-398}	$3.587^{+1.643}_{-1.130}$

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 $A_{obs} \gg 1.0$

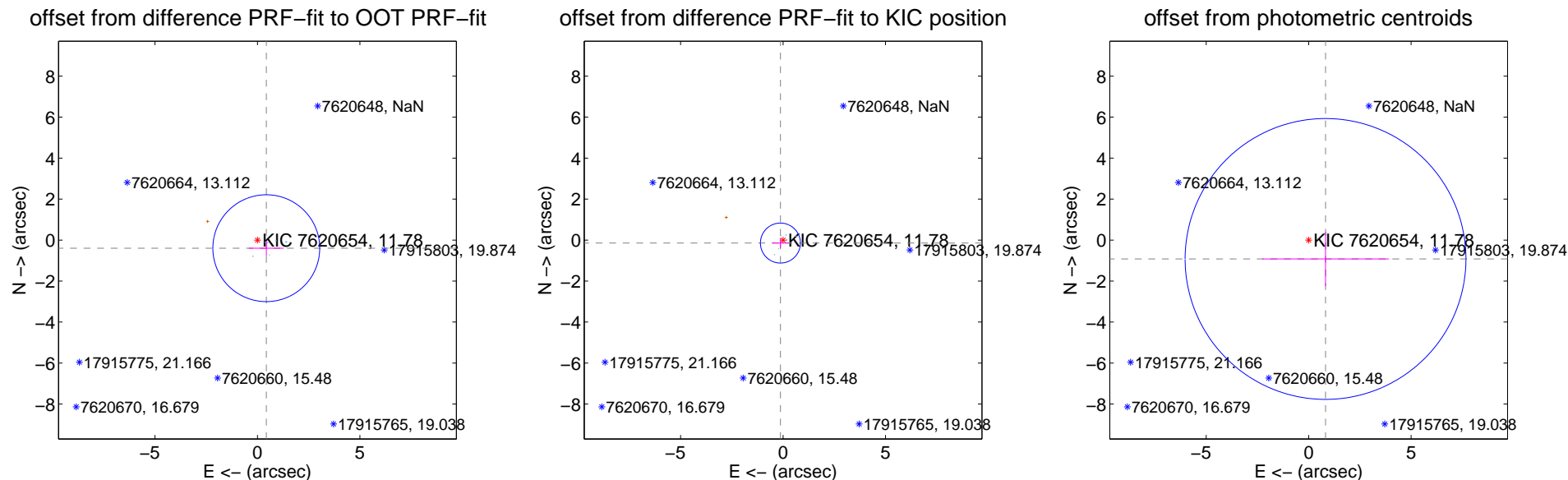
DV Centroid Data

Supplemental centroid analysis for 007620654-02. **Kepler magnitude: 11.78.** Transit SNR 6.07

There are 7 quarters with good PRF difference image offsets

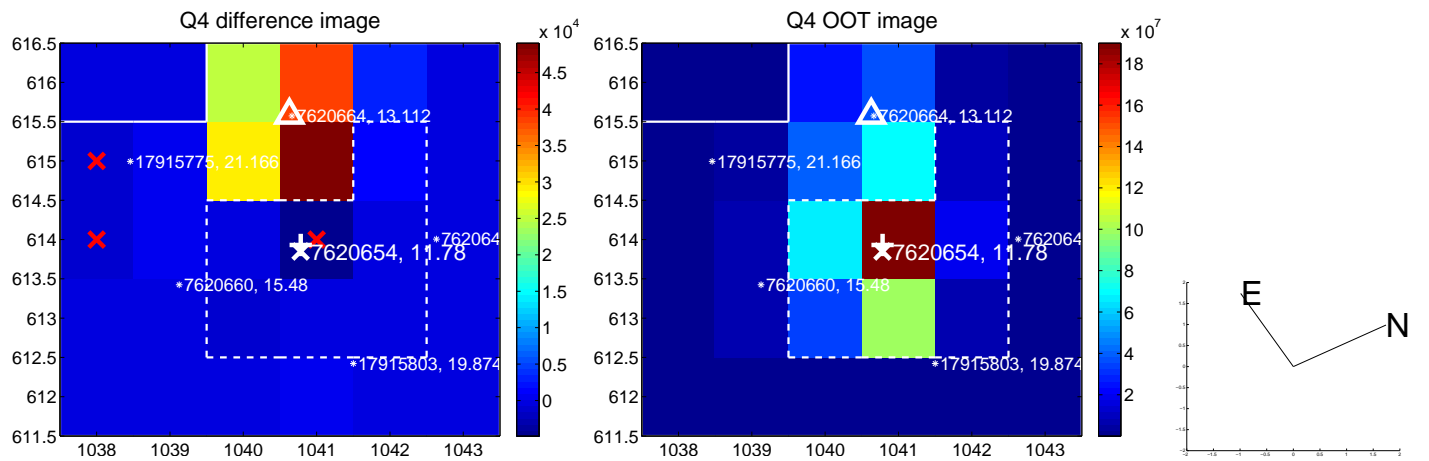
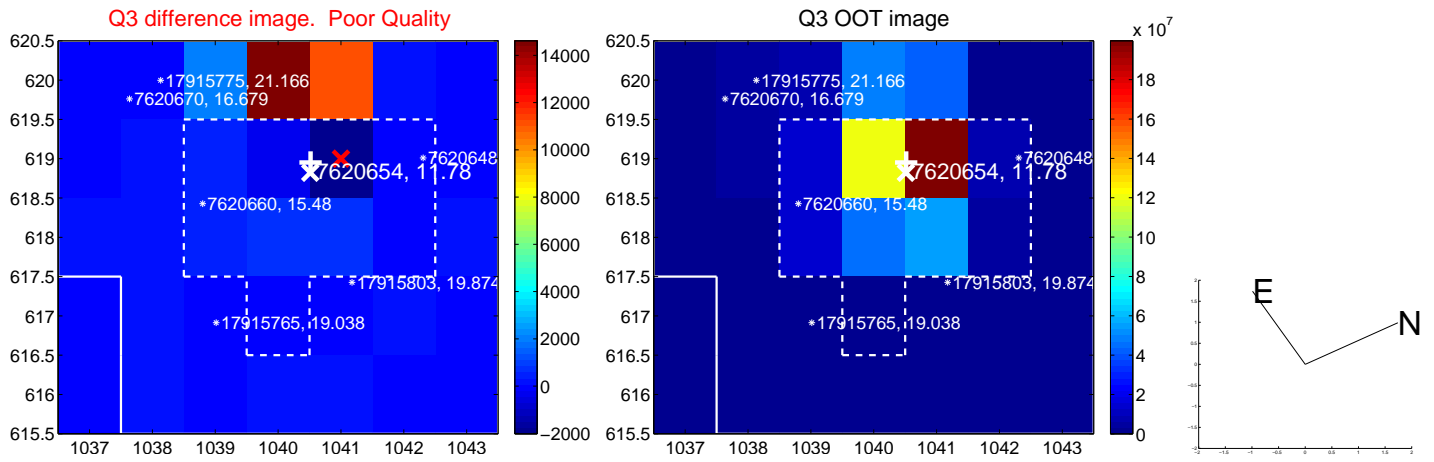
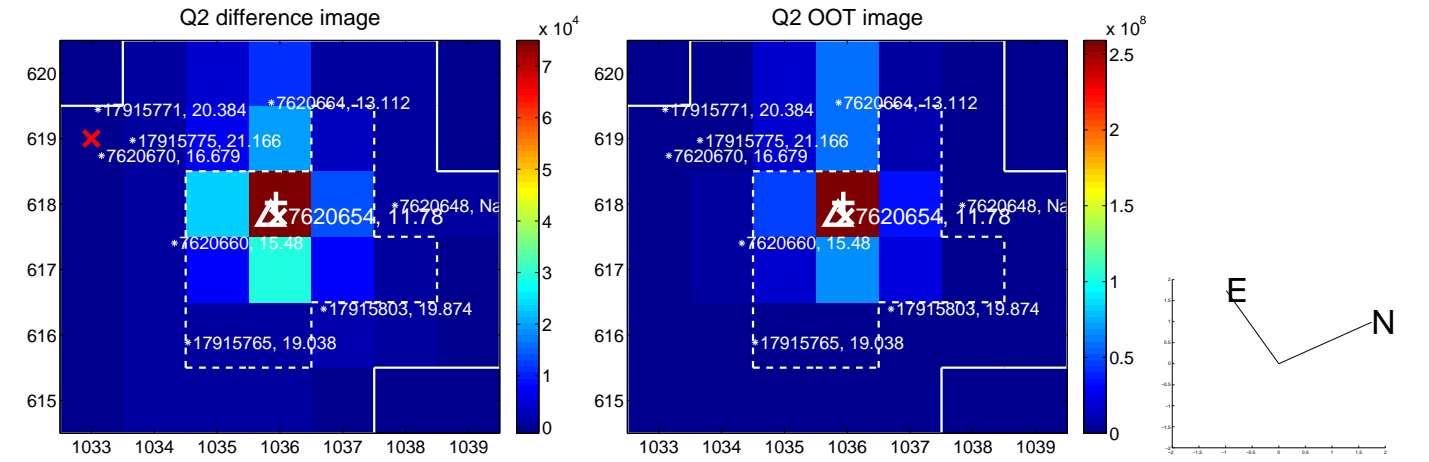
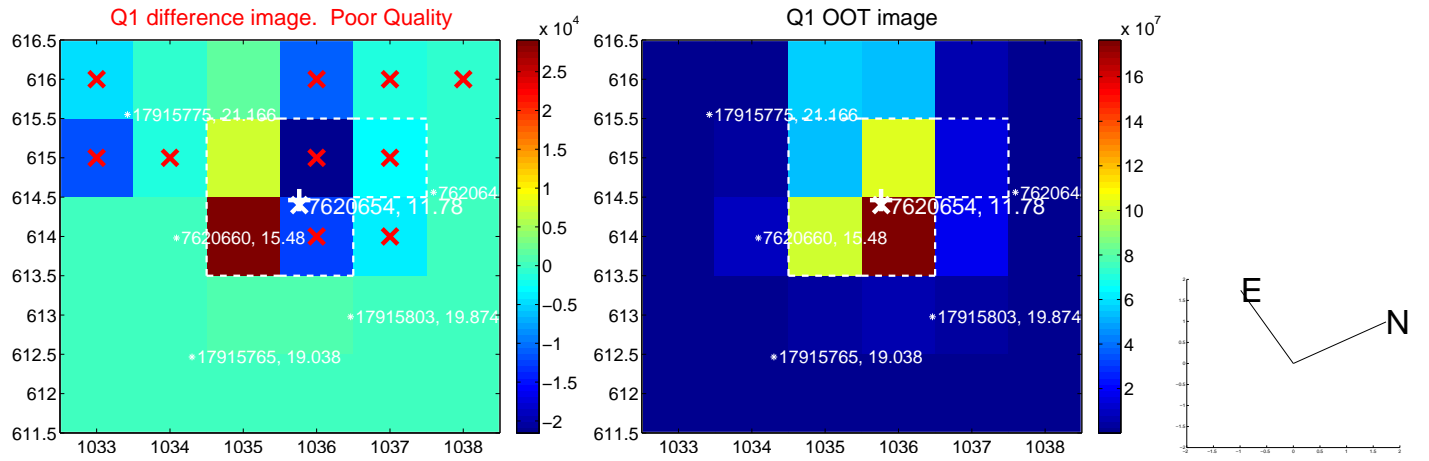
The direct PRF centroid is offset from the target star catalog position by about 0.57 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.586 ± 0.869	0.67	-0.432 ± 0.853	-0.396 ± 0.378
PRF-fit source offset from KIC position	0.194 ± 0.325	0.60	0.128 ± 0.409	-0.145 ± 0.241
photometric centroid source offset	1.24 ± 2.28	0.54	-0.82 ± 3.09	-0.92 ± 1.32

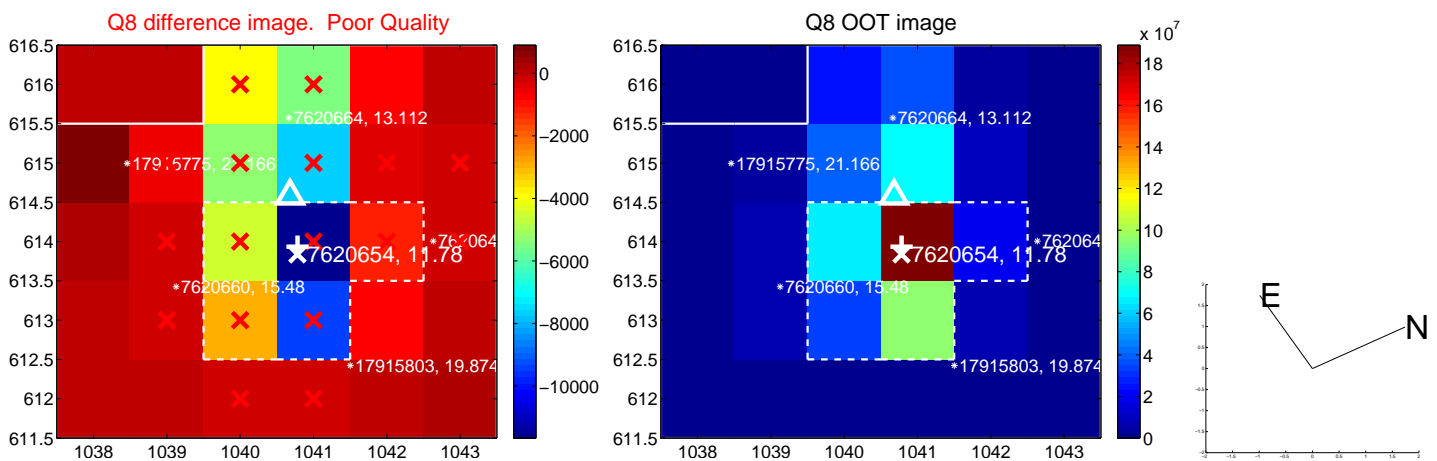
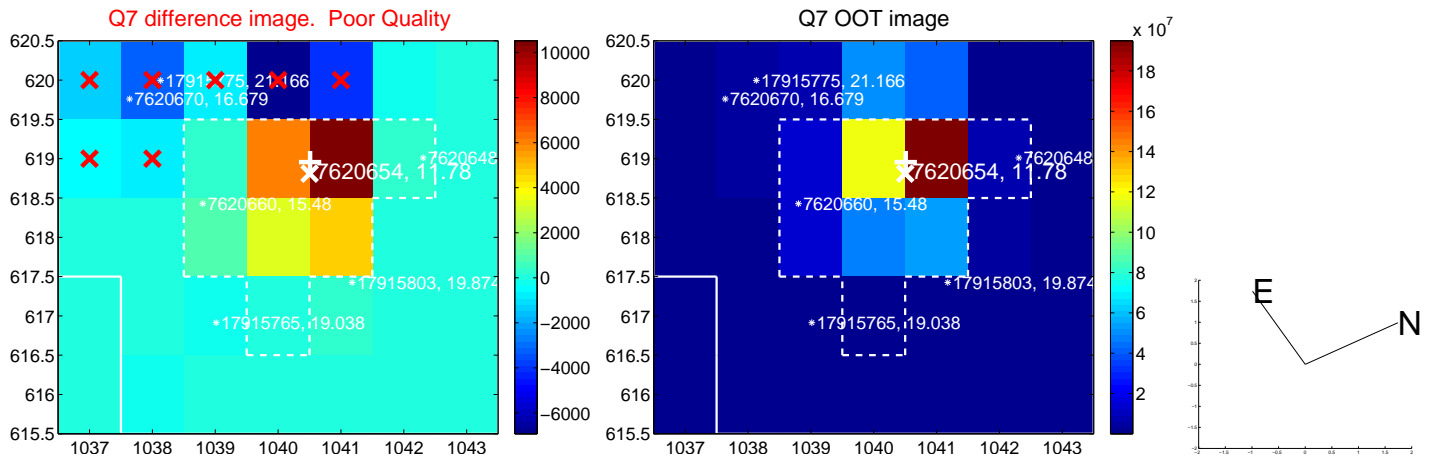
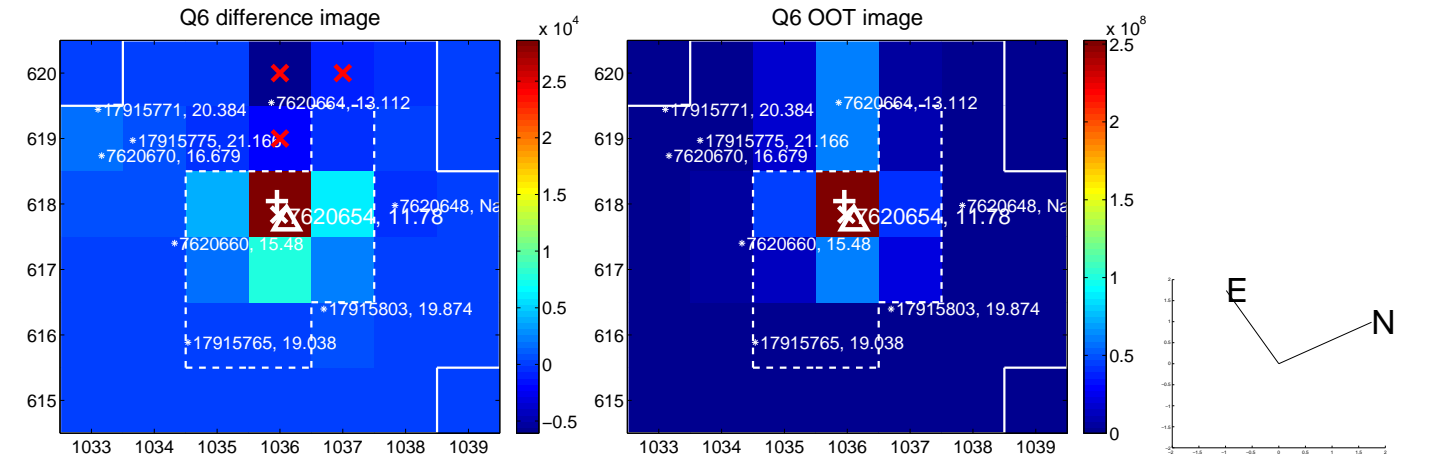
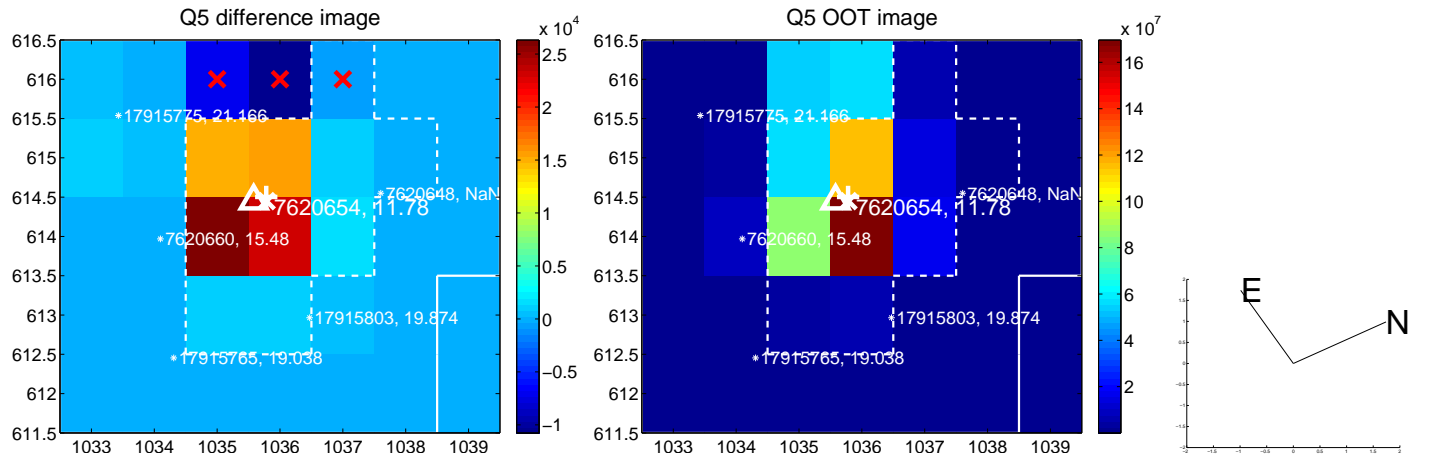


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

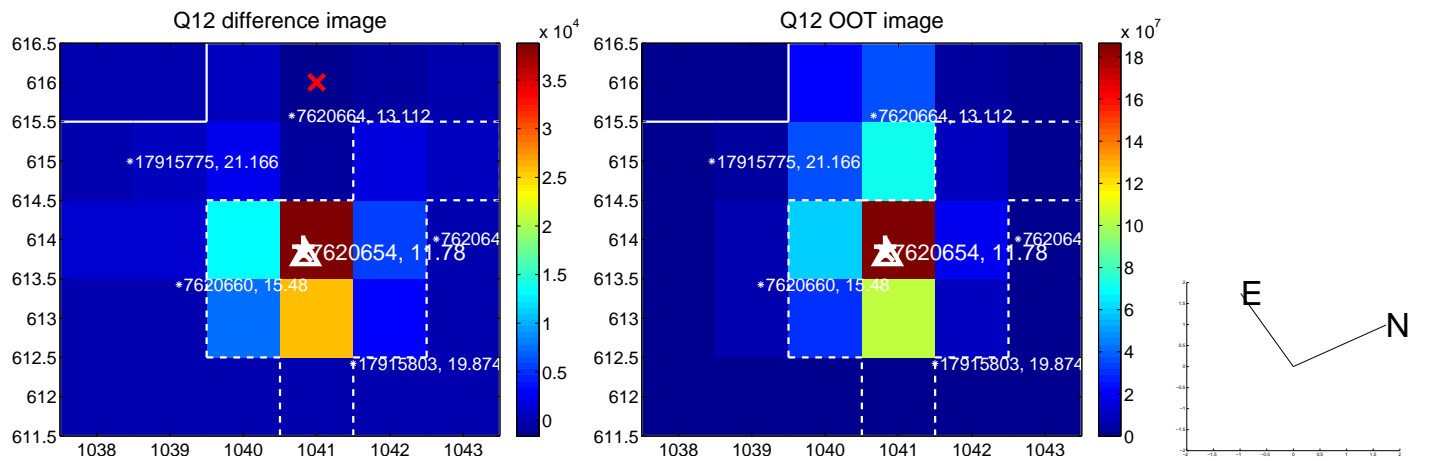
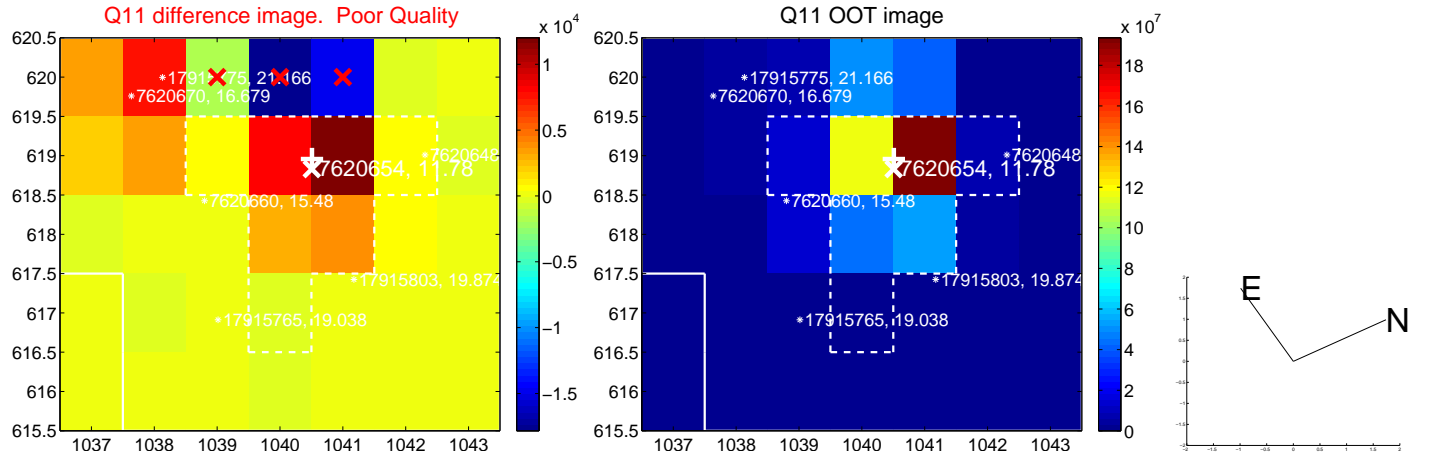
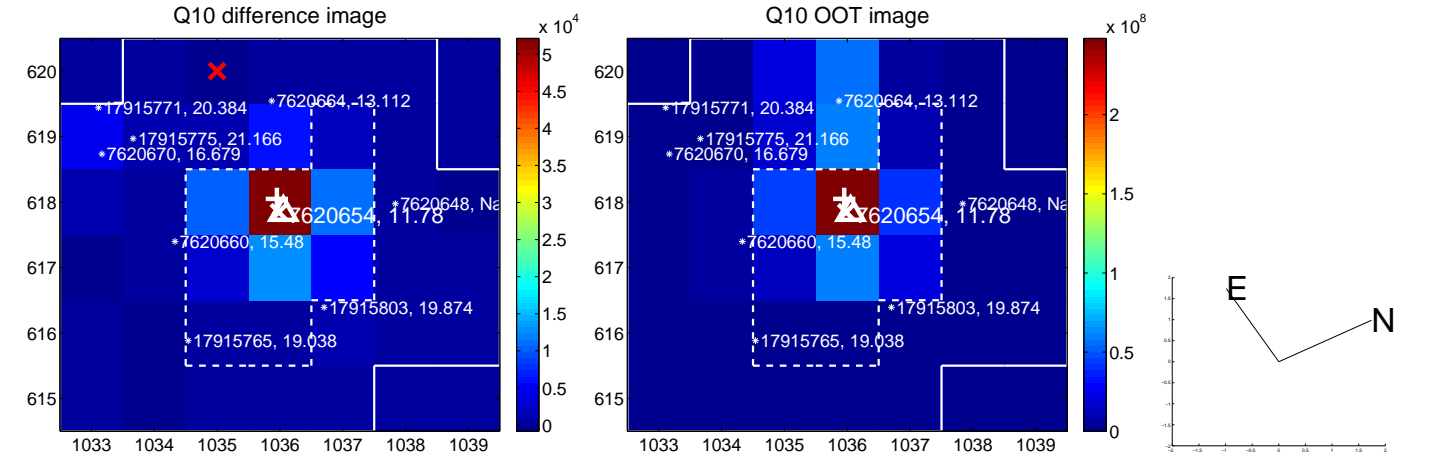
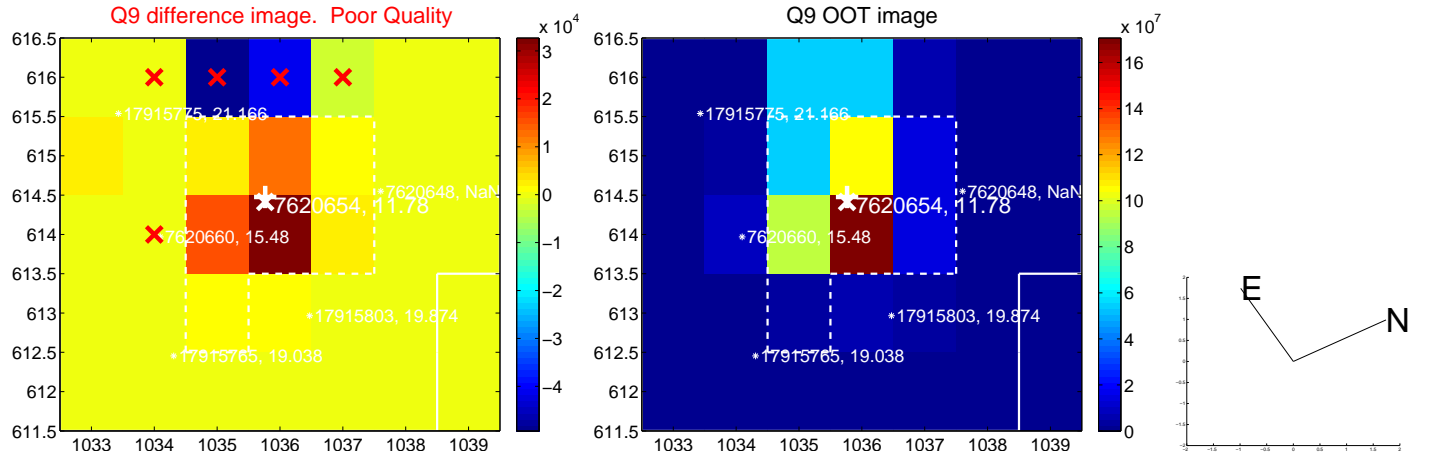
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



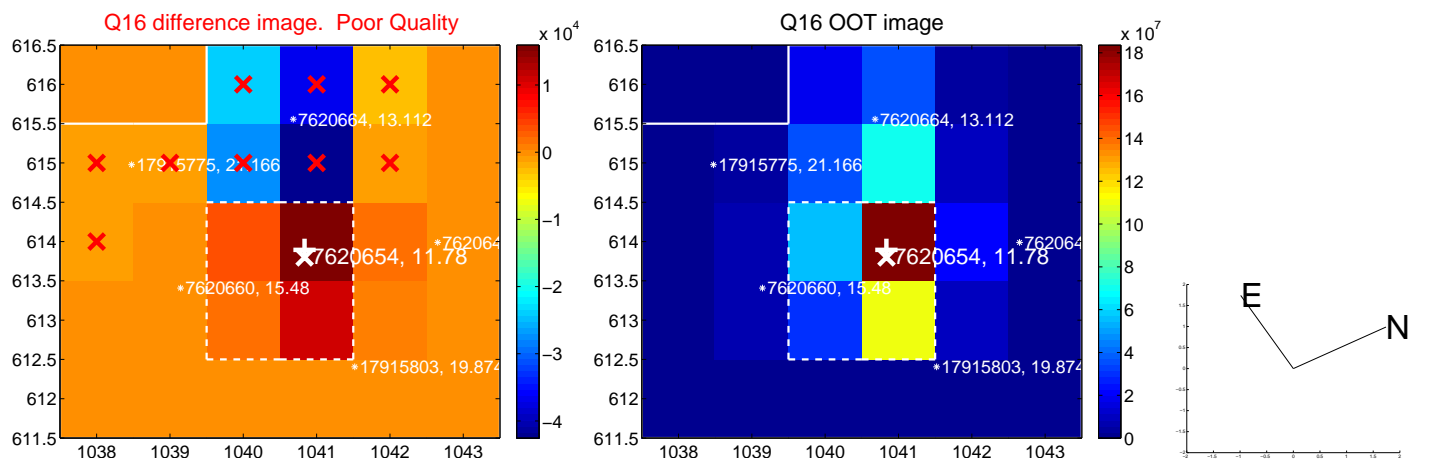
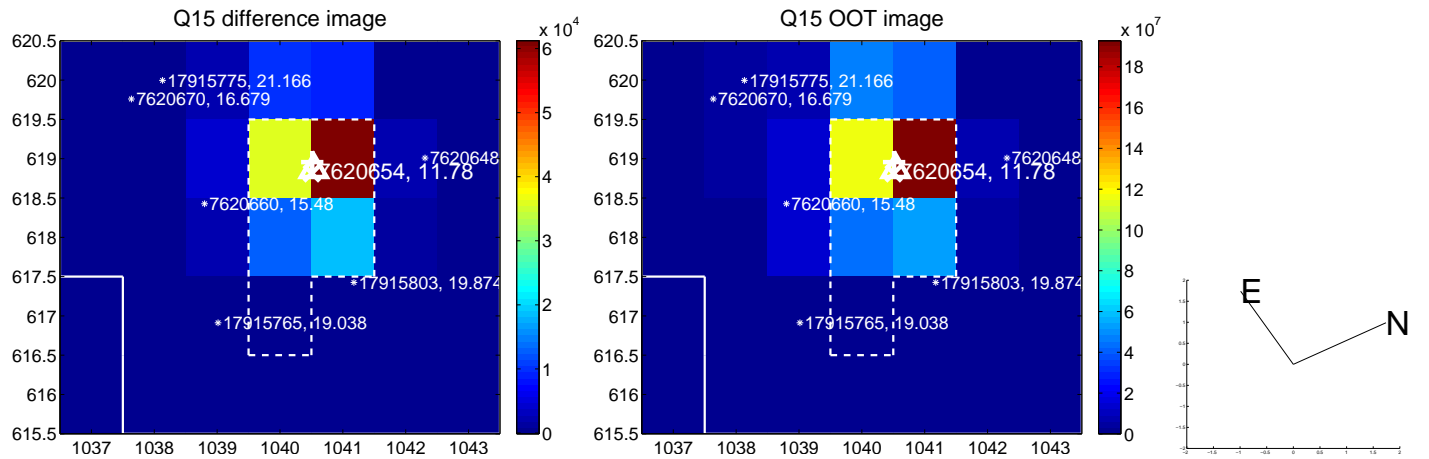
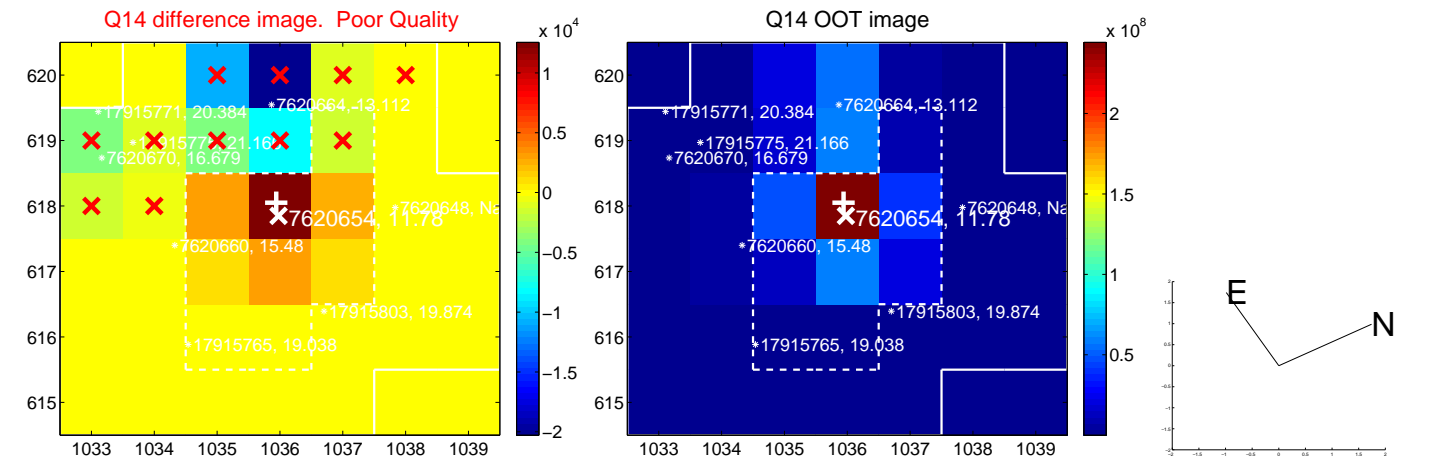
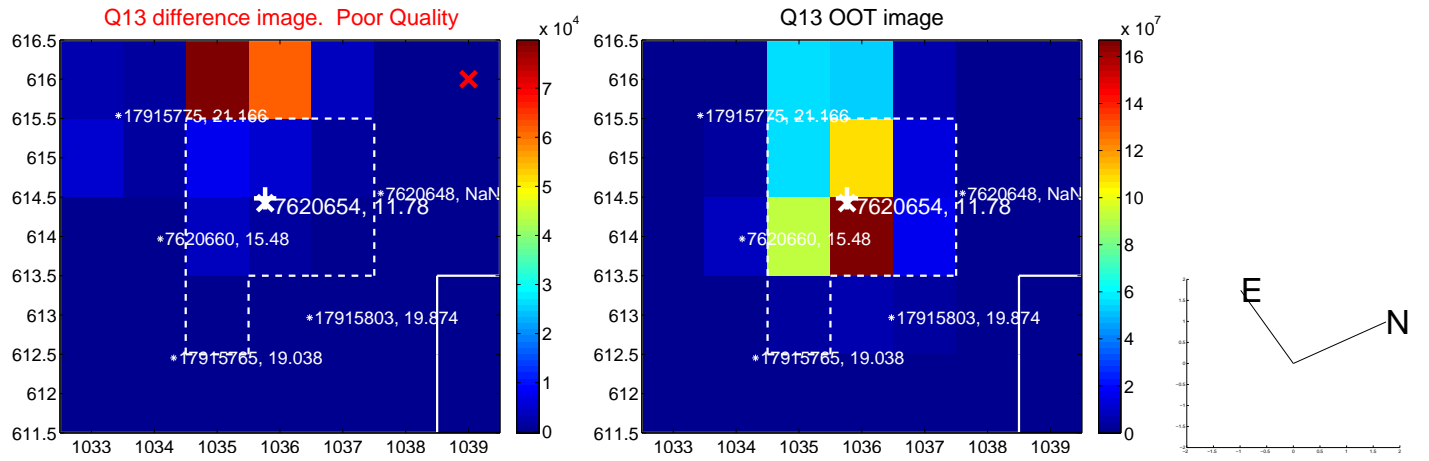
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



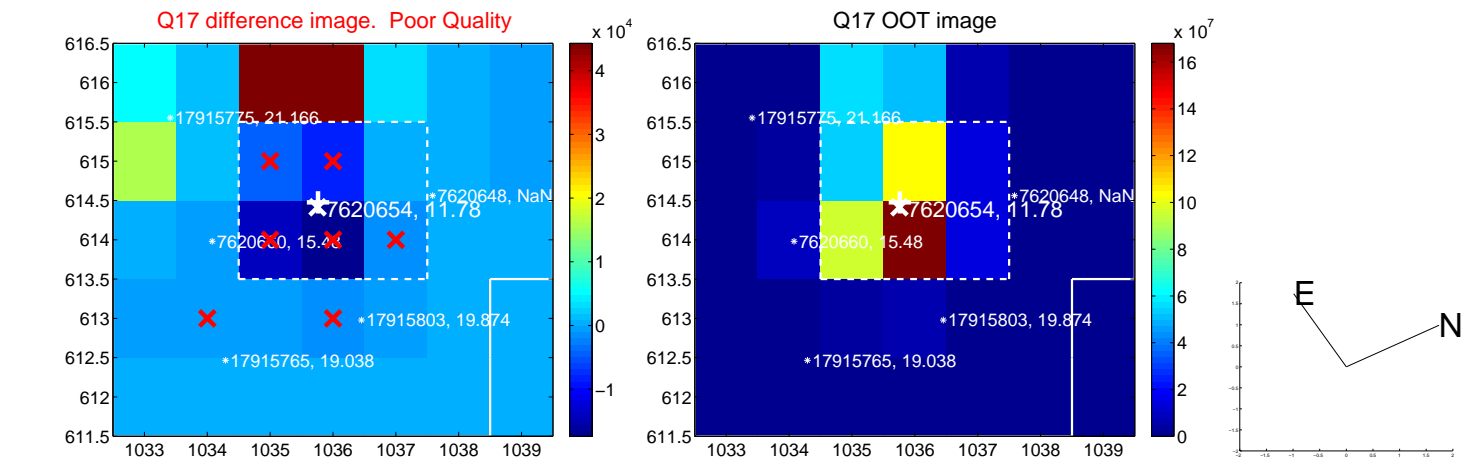
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



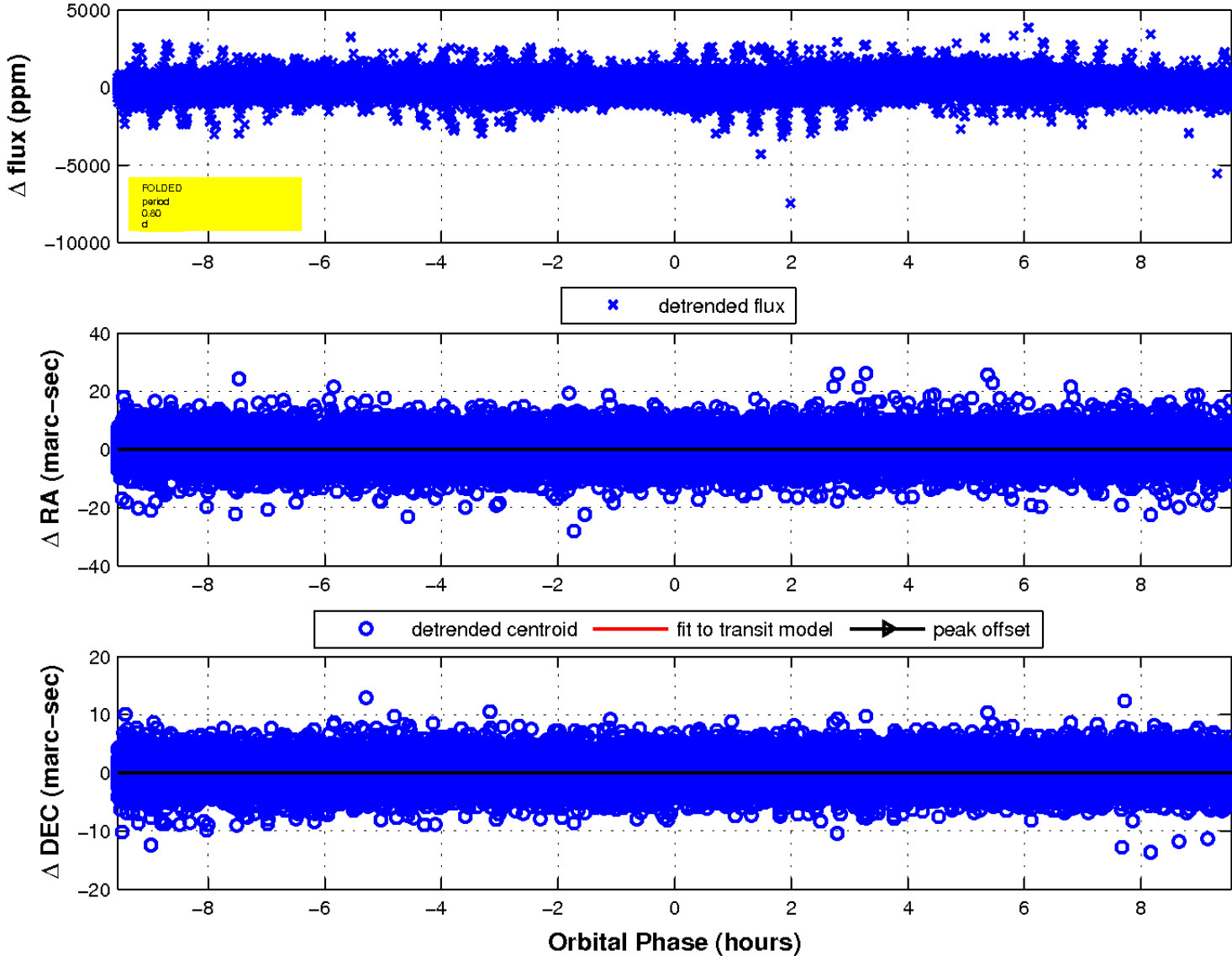
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



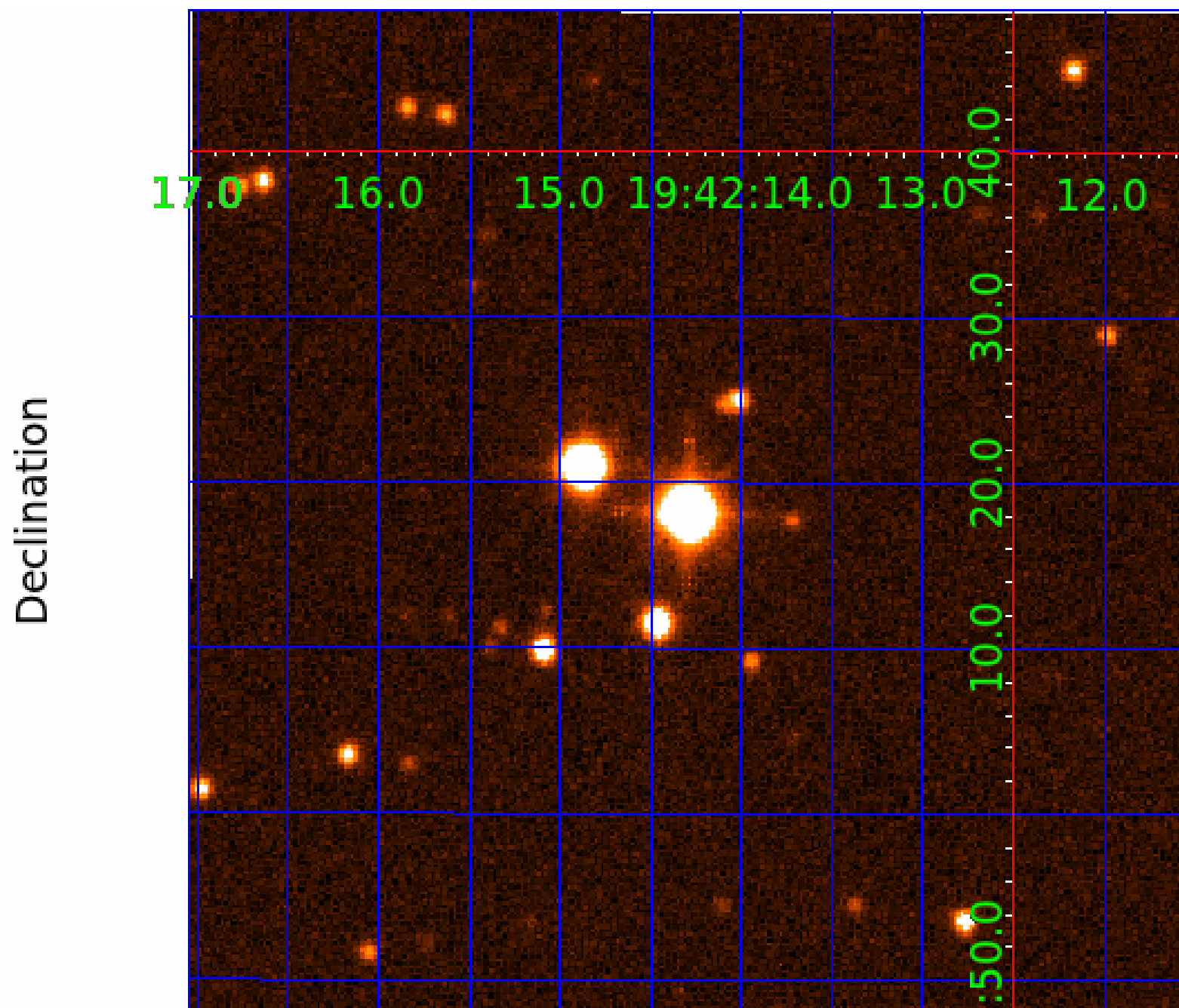
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 2 of 6



UKIRT Image



KIC 007620654

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})
007620654-01	OBS	No	0.531525	131.809551	17.7	1.429	8.6	4.9	1.52	7082	0.74	29424.94
007620654-02	OBS	No	0.796283	131.927930	30.2	4.799	8.6	6.1	1.52	7082	0.98	17165.53
007620654-03	OBS	No	5.945876	133.433856	250.1	3.229	9.7	9.2	1.52	7082	2.79	1176.14
007620654-04	OBS	No	54.500280	181.303643	848.2	7.399	13.0	10.4	1.52	7082	8.09	61.31
007620654-05	OBS	No	6.369529	132.999479	381.1	11.891	9.6	10.5	1.52	7082	5.67	1073.01
007620654-06	OBS	No	0.910054	132.050777	135.1	3.000	10.4	-1.0	1.52	7082	1.79	14365.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007620654-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET
007620654-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
007620654-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007620654-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
007620654-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
007620654-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_NOFITS

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

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

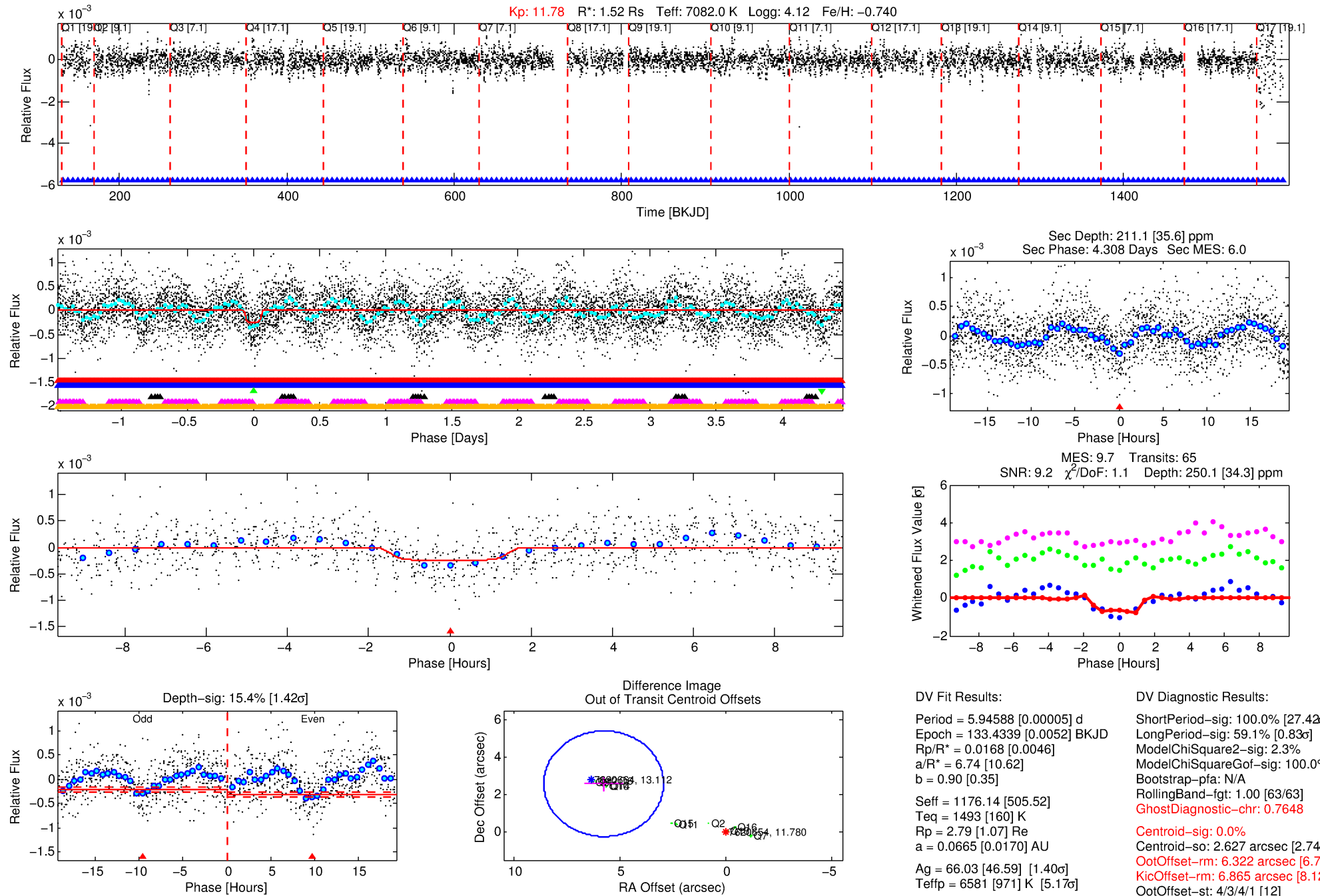
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007620654-03

No Significant Match Found

DV One-Page Summary

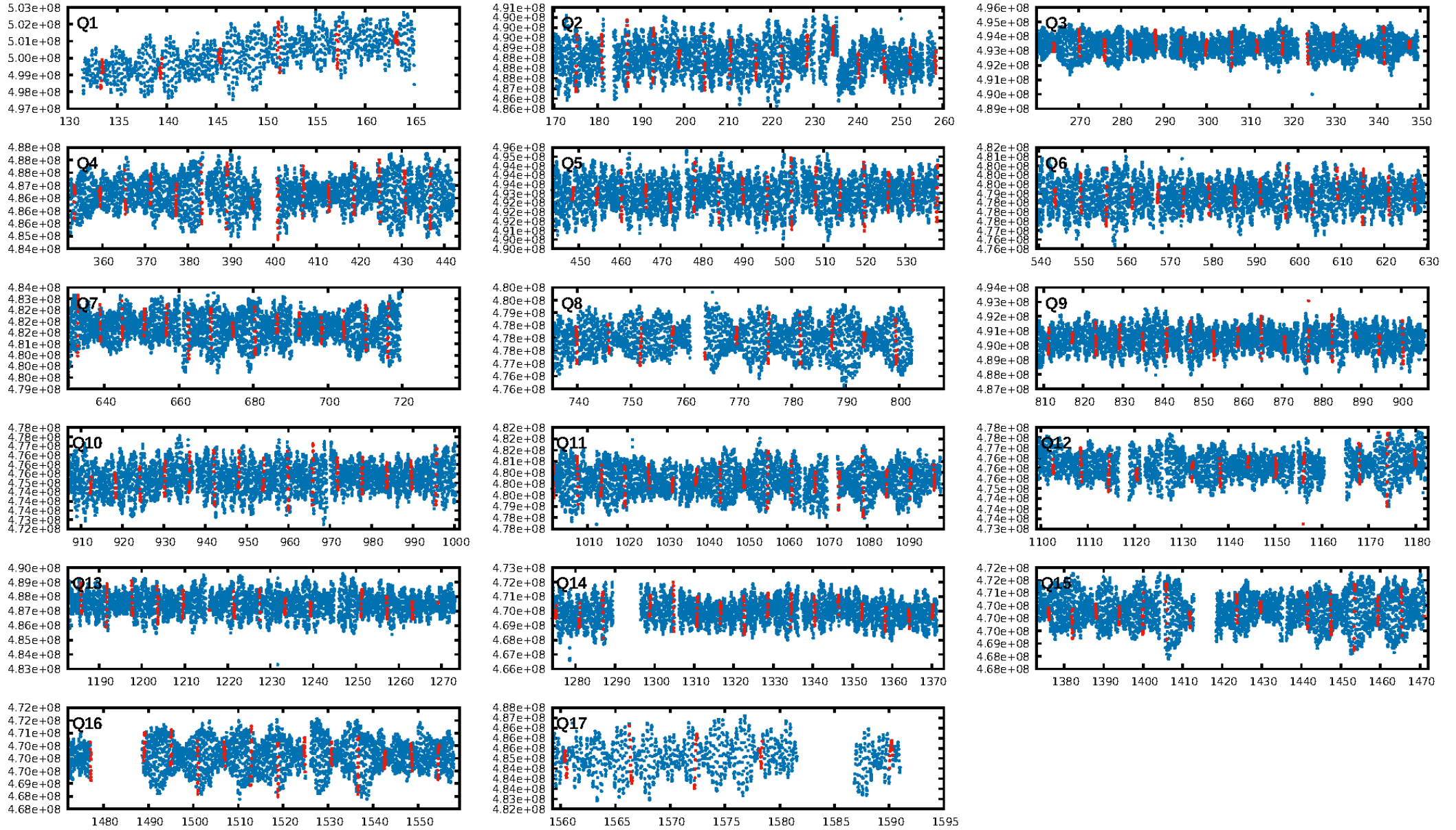
KIC: 7620654 Candidate: 3 of 6 Period: 5.946 d



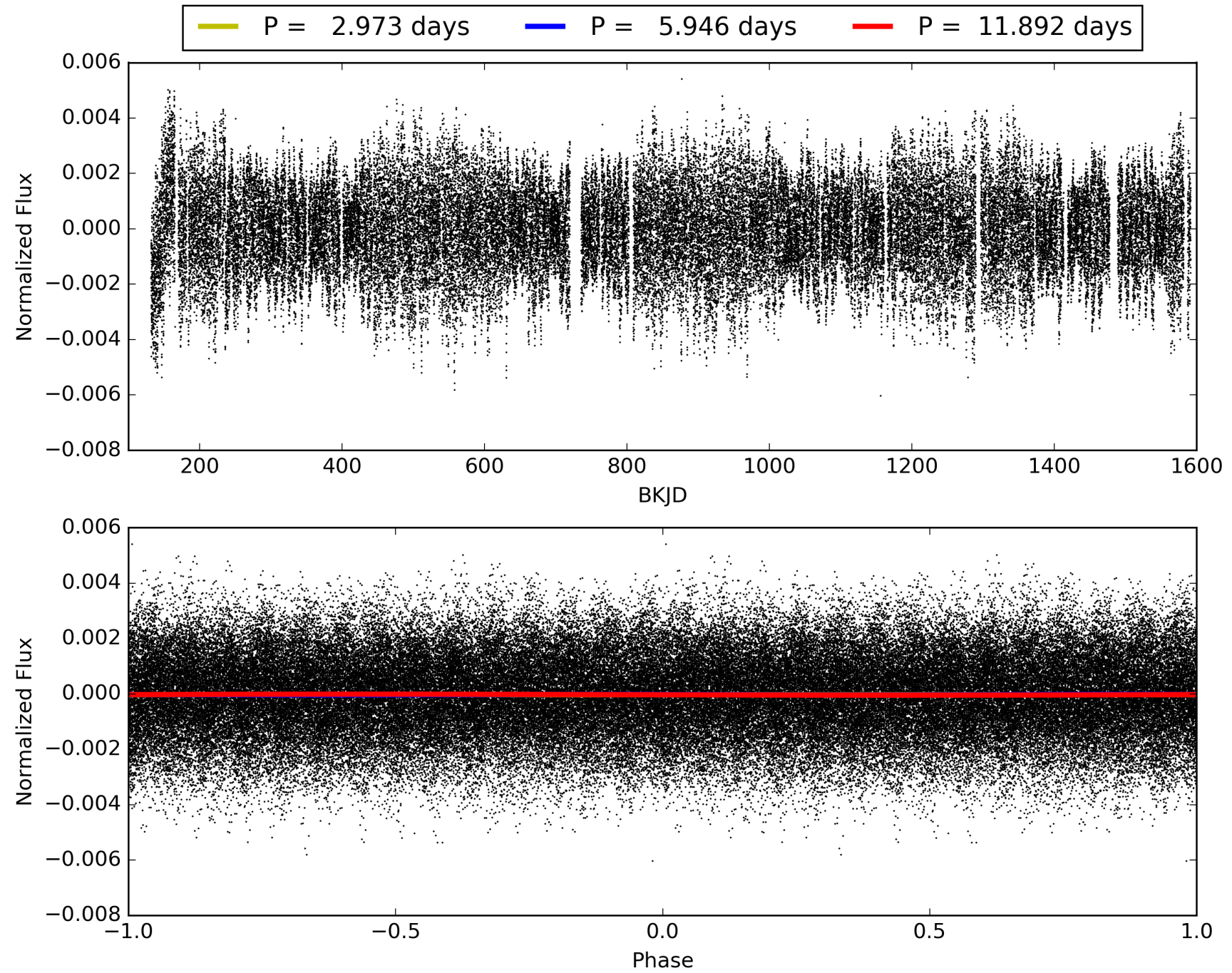
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 09:08:30 Z

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

TCE 007620654-03, PDC Light Curves

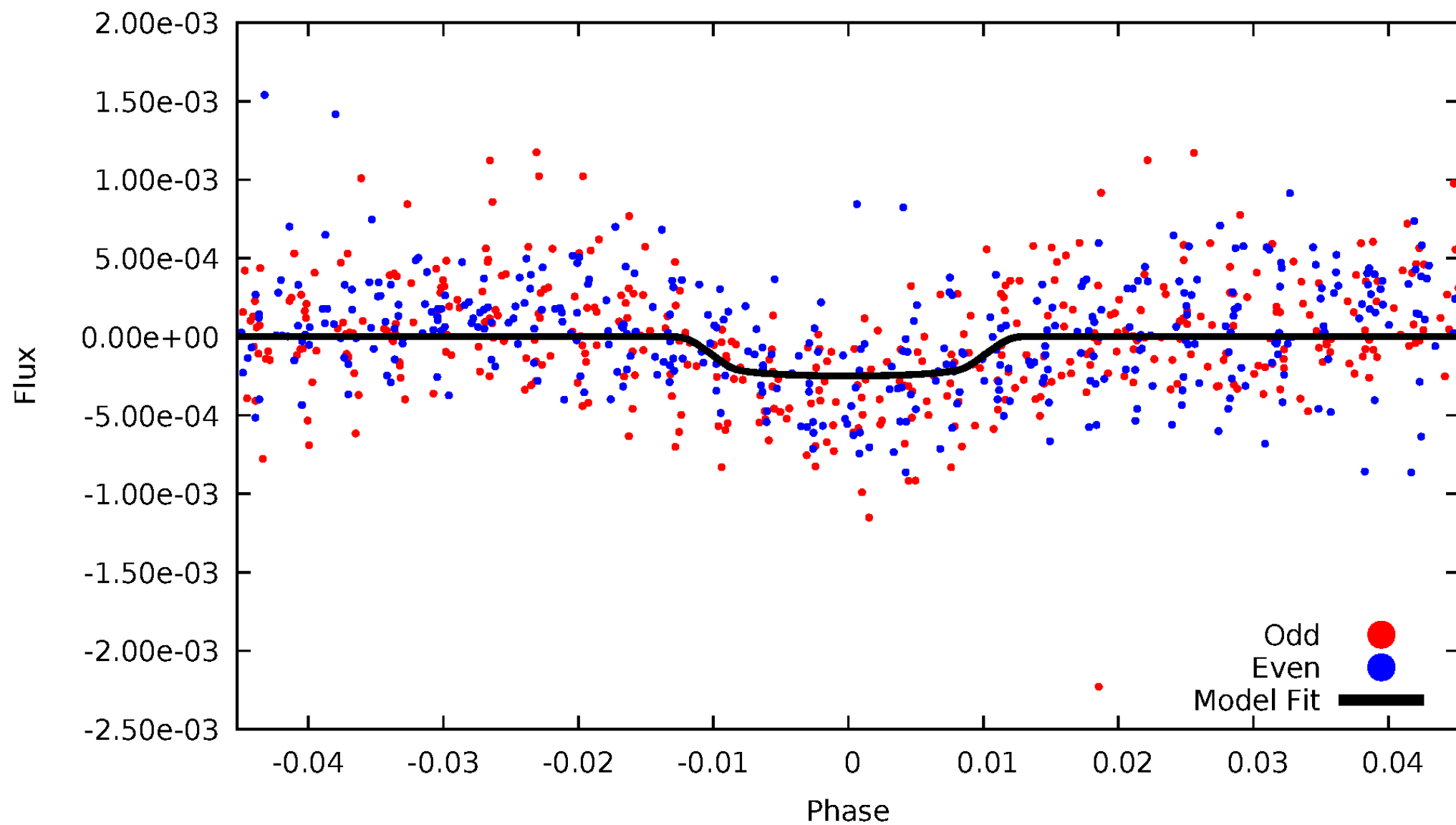


TCE 007620654-03



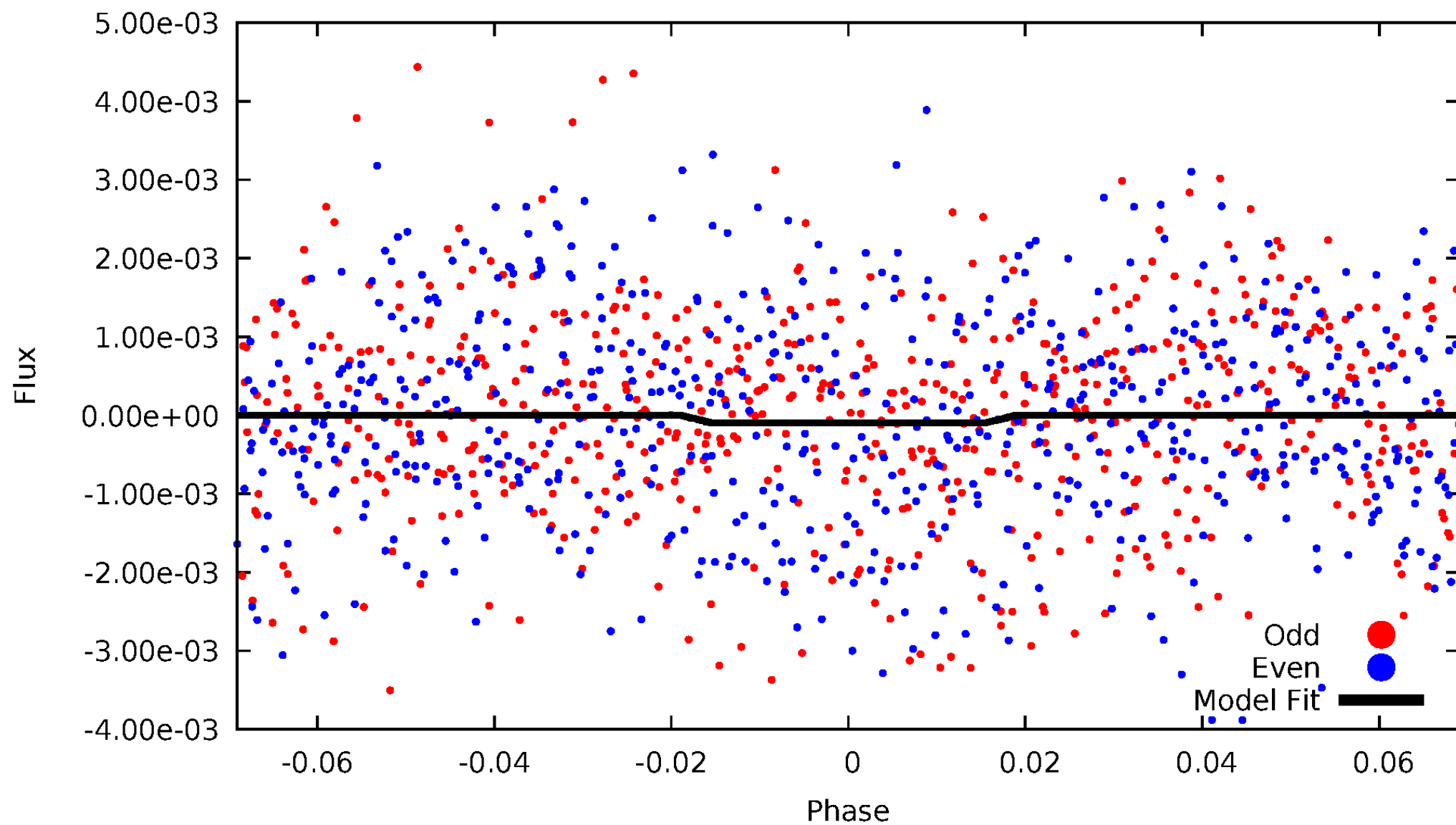
DV Odd/Even

TCE 007620654-03



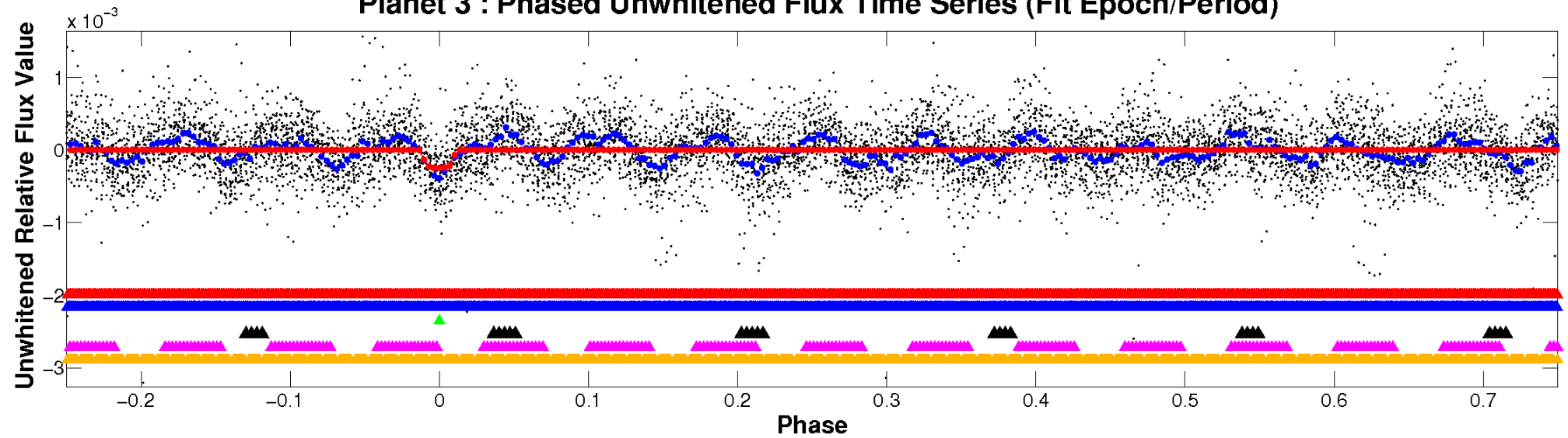
ALT Odd/Even

TCE 007620654-03

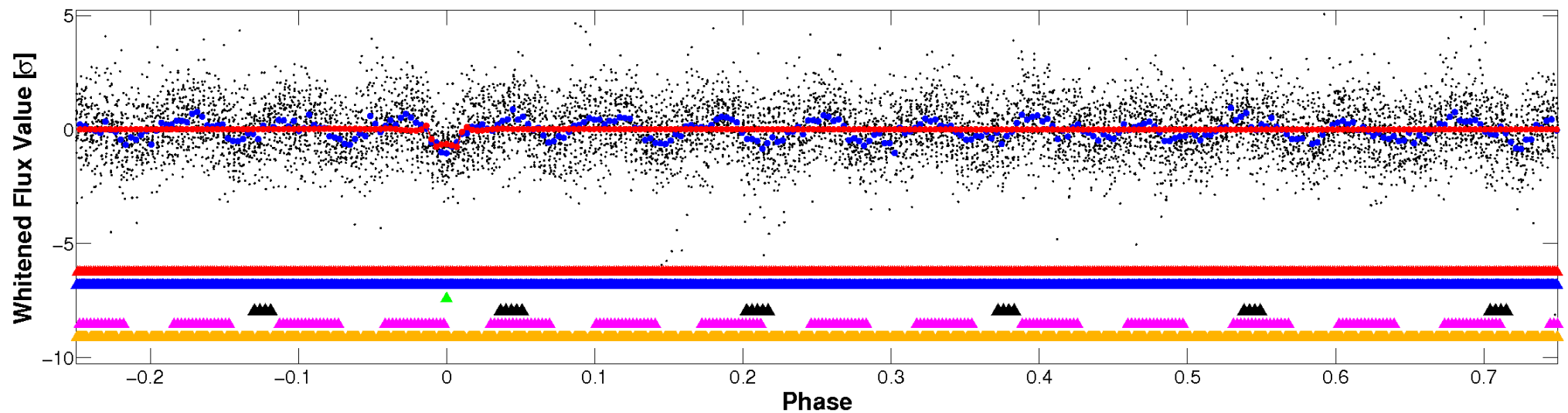


Non-Whitened Vs. Whitened Light Curve

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

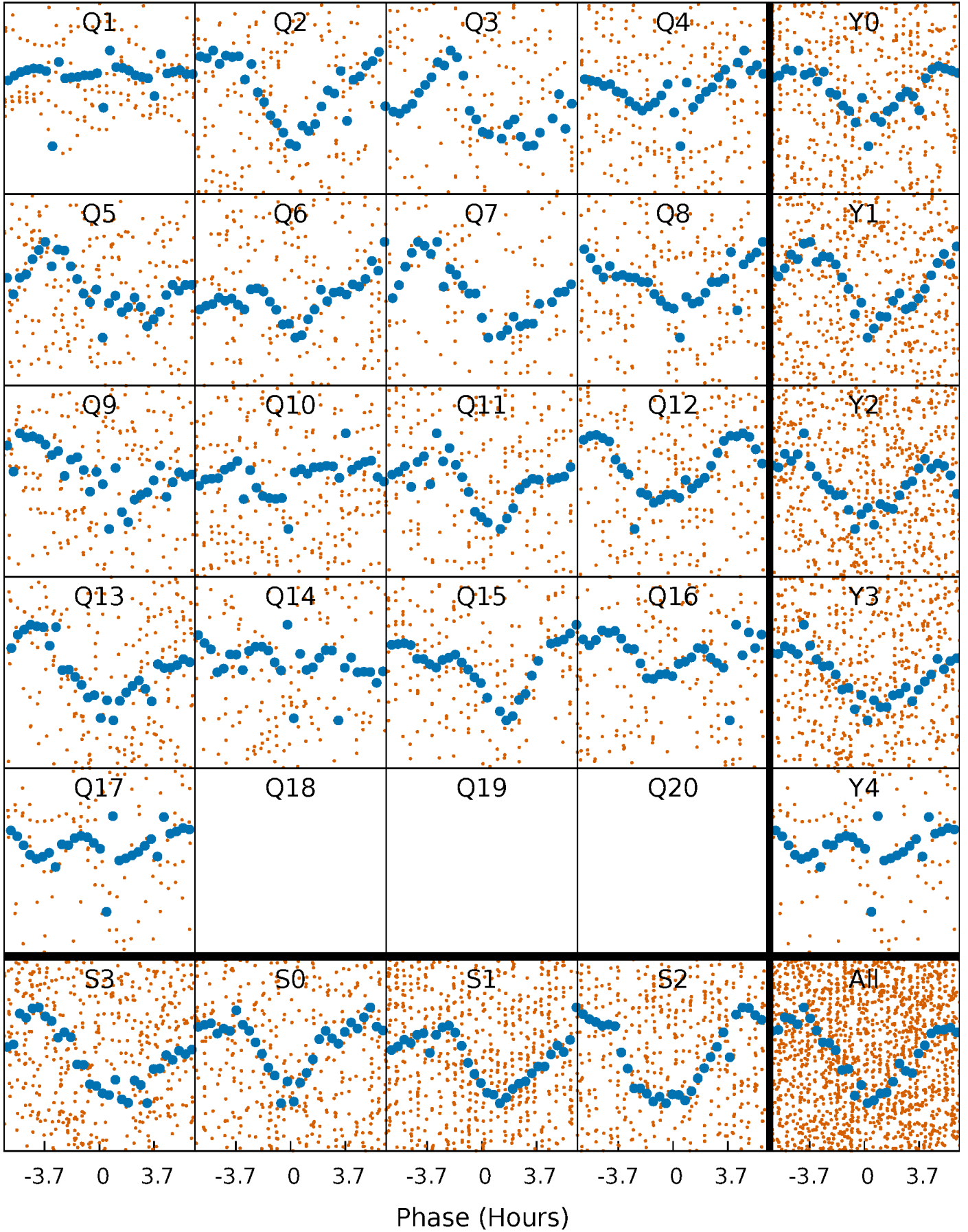


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



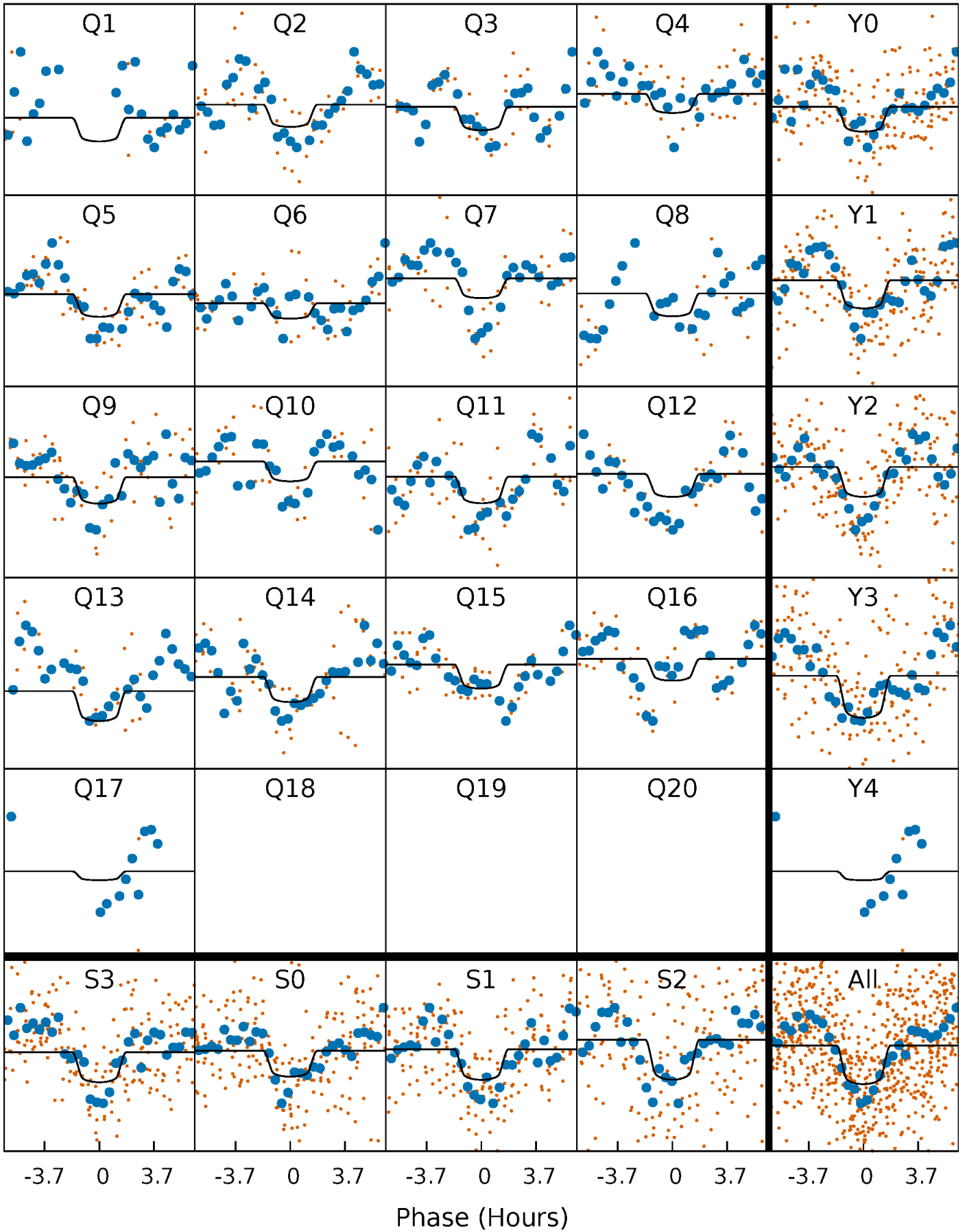
PDC Quarter-Phased Transit Curves

TCE 007620654-03 P= 5.945876 Days $T_0=133.433856$ (BKJD)



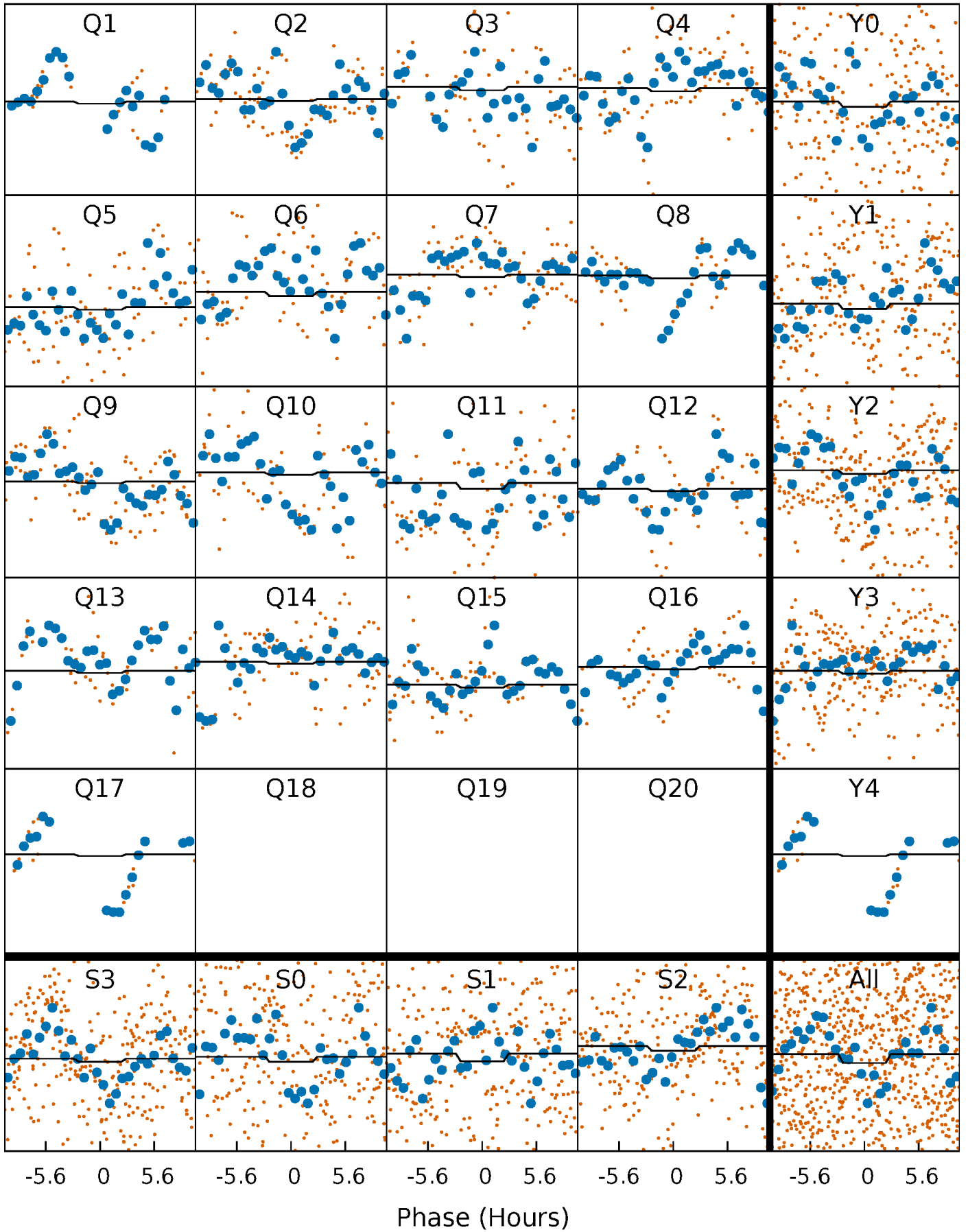
DV Quarter-Phased Transit Curves

TCE 007620654-03 P= 5.945876 Days $T_0=133.433856$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

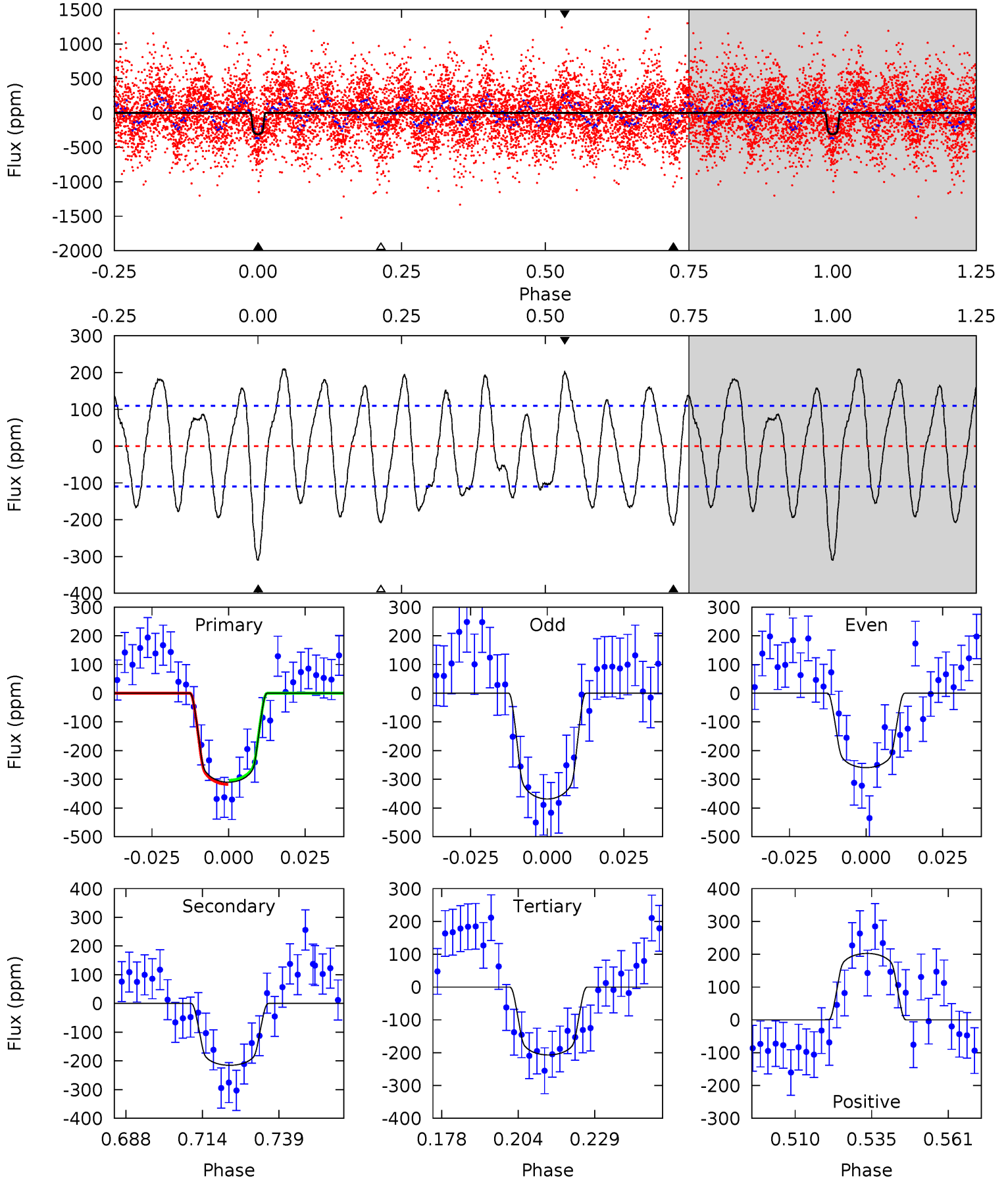
TCE 007620654-03 P= 5.945727 Days $T_0=133.437847$ (BKJD)



DV Model-Shift Uniqueness Test

007620654-03, P = 5.945876 Days, E = 127.487980 Days

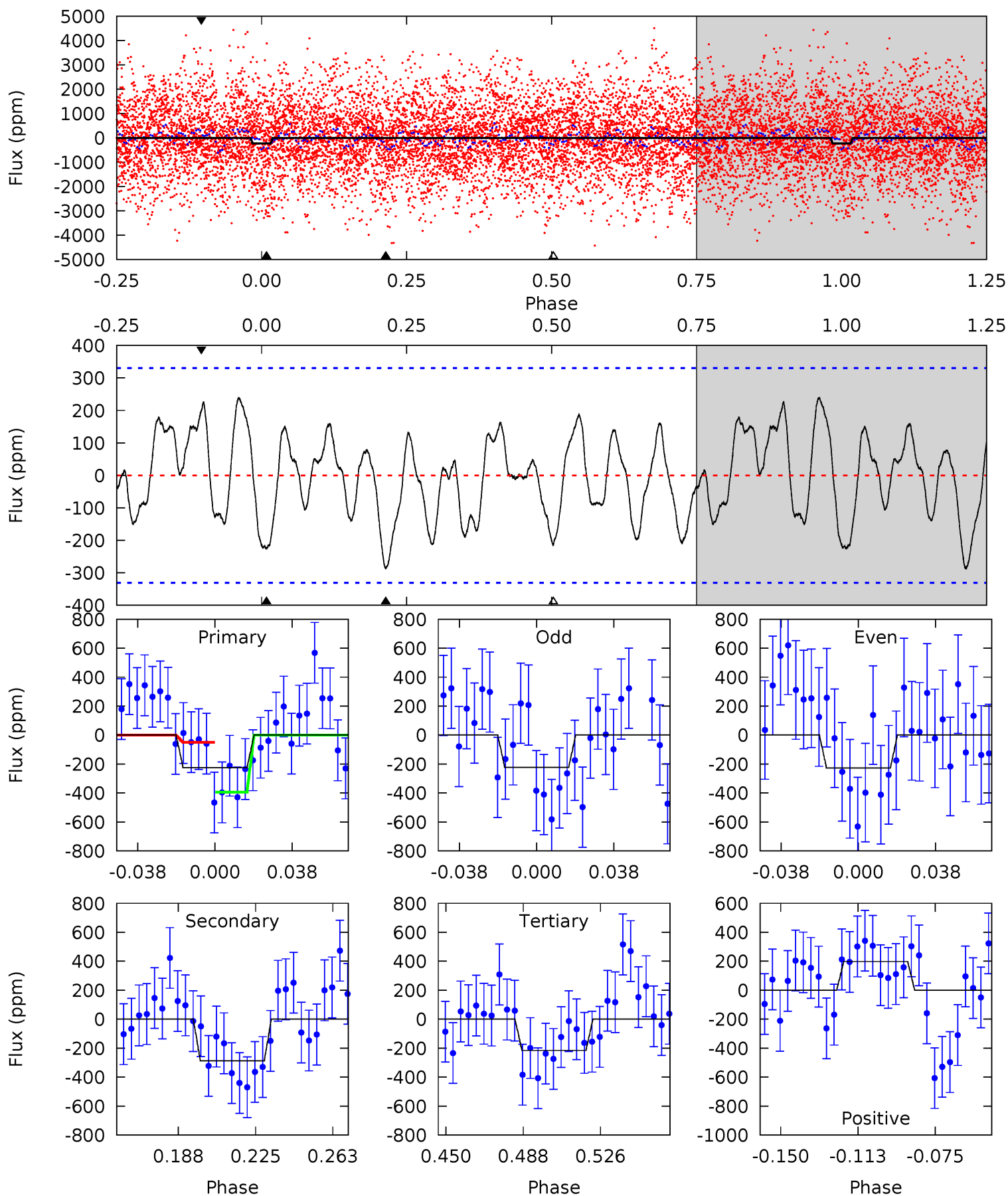
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	9.50	9.13	8.93	4.84	2.23	5.04	4.55	4.75	0.38	0.58	2.42	1.08	0.40	0.31



Alt Model-Shift Uniqueness Test

007620654-03, P = 5.945727 Days, E = 127.492120 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.25	4.15	3.11	2.85	4.77	2.08	1.60	0.14	0.40	1.04	1.30	0.03	-3.50	0.45	2.48



Stellar Parameters For KIC 007620654

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7082^{+193}_{-236}	$4.120^{+0.240}_{-0.160}$	$-0.740^{+0.250}_{-0.300}$	$1.520^{+0.403}_{-0.403}$	$1.111^{+0.147}_{-0.107}$	$0.446^{+0.621}_{-0.197}$
	+3%/-3%	+6%/-4%	+34%/-41%	+27%/-27%	+13%/-10%	+139%/-44%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007620654-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-215 ± 23	$2.74^{+0.92}_{-0.88}$	2066^{+153}_{-153}	6566^{+1367}_{-824}	69^{+80}_{-31}
Alt.	-288 ± 69	$1.58^{+0.83}_{-0.70}$	2072^{+155}_{-164}	9984^{+6771}_{-2330}	276^{+654}_{-160}

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 $A_{obs} \gg 1.0$

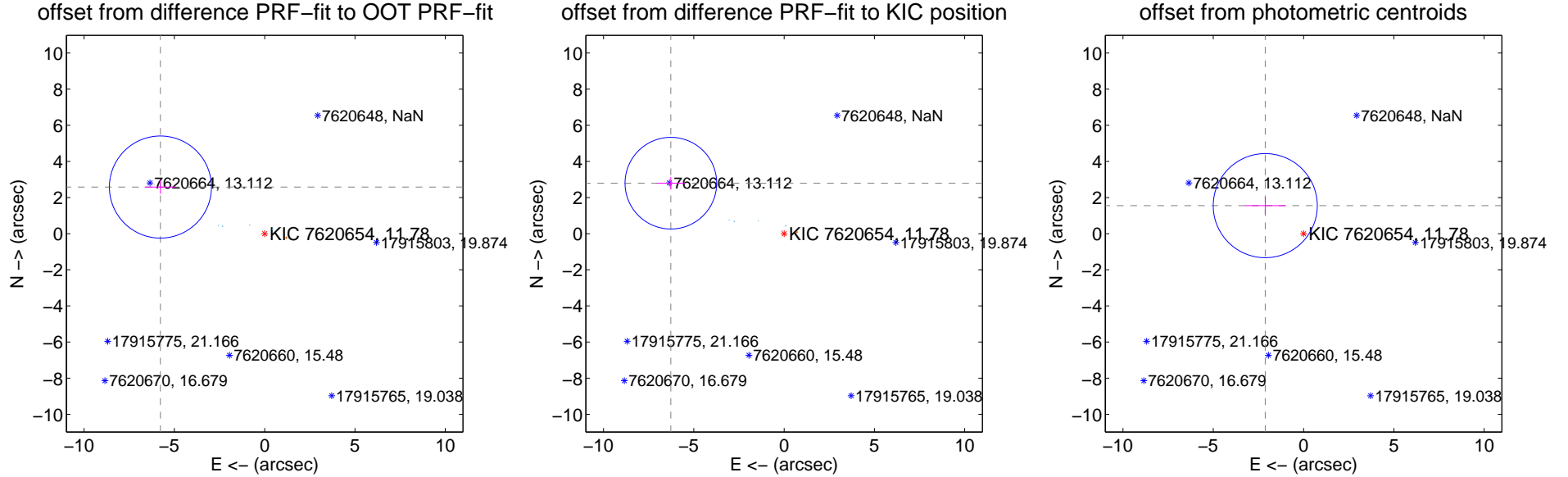
DV Centroid Data

Supplemental centroid analysis for 007620654-03. **Kepler magnitude: 11.78.** Transit SNR 9.17

There are 5 quarters with good PRF difference image offsets

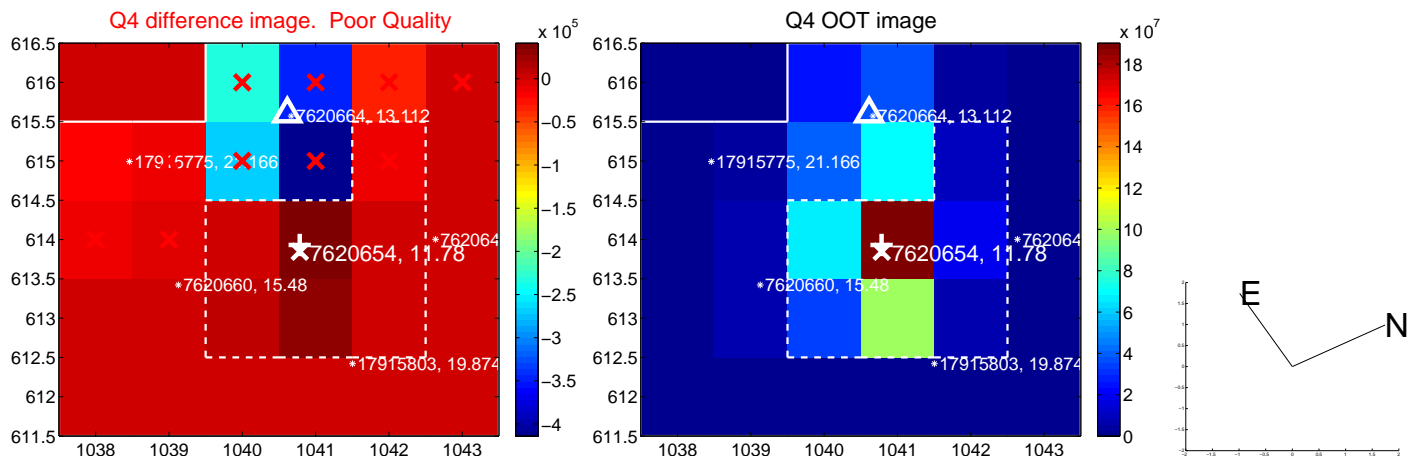
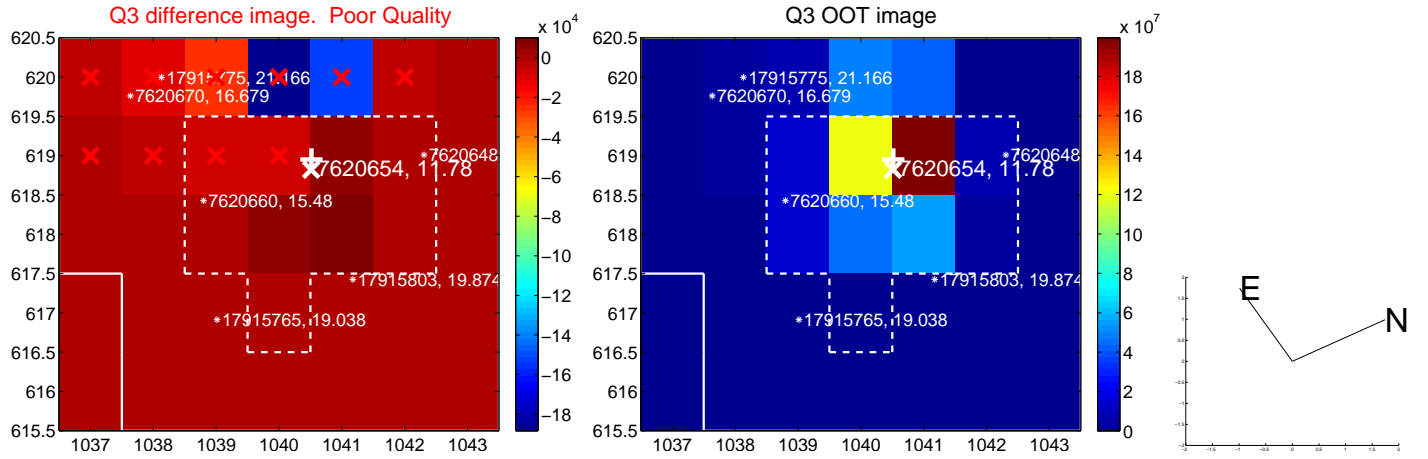
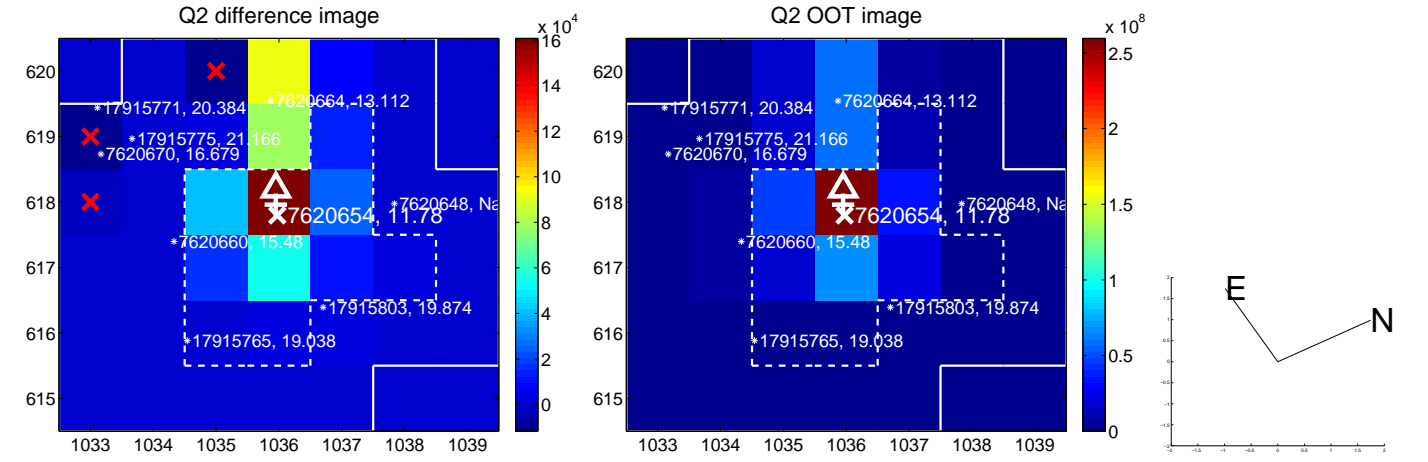
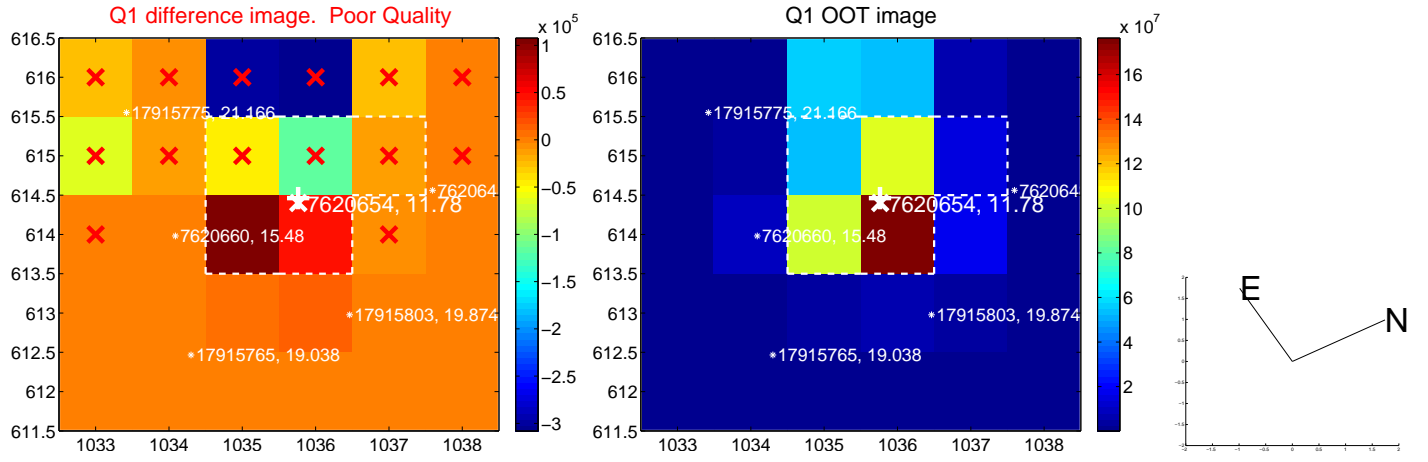
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.322 ± 0.942	6.71	5.772 ± 0.871	2.580 ± 0.375
PRF-fit source offset from KIC position	6.865 ± 0.845	8.12	6.270 ± 0.778	2.794 ± 0.347
photometric centroid source offset	2.63 ± 0.96	2.74	2.12 ± 1.14	1.55 ± 0.48

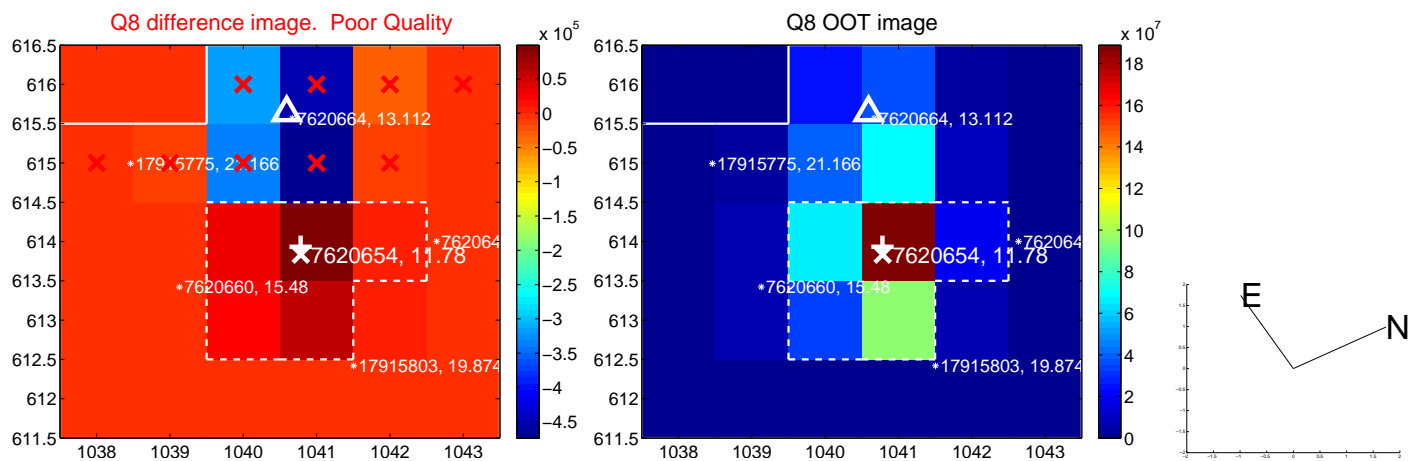
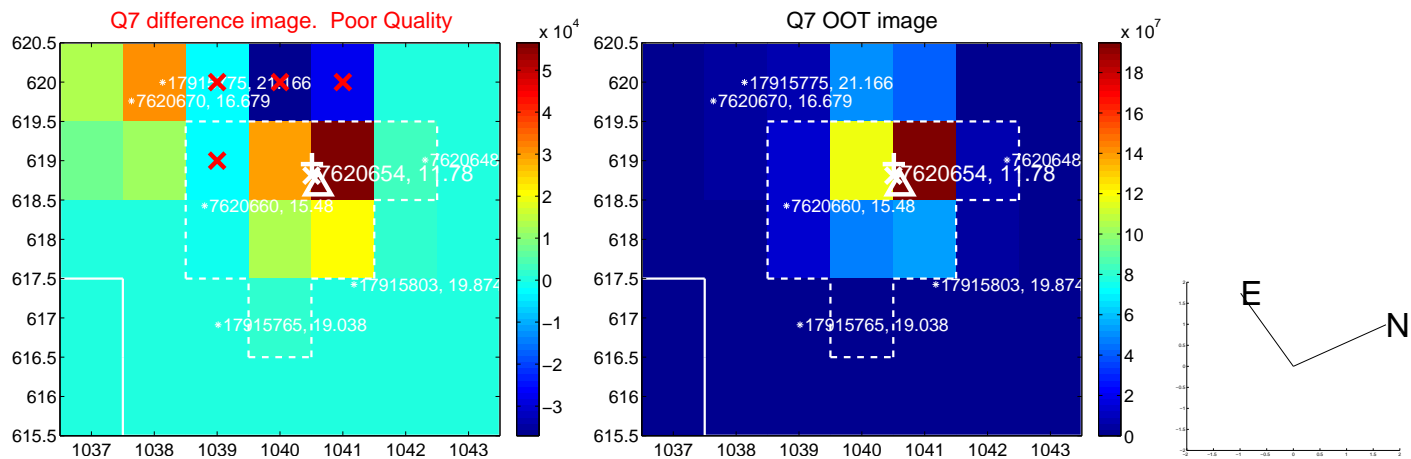
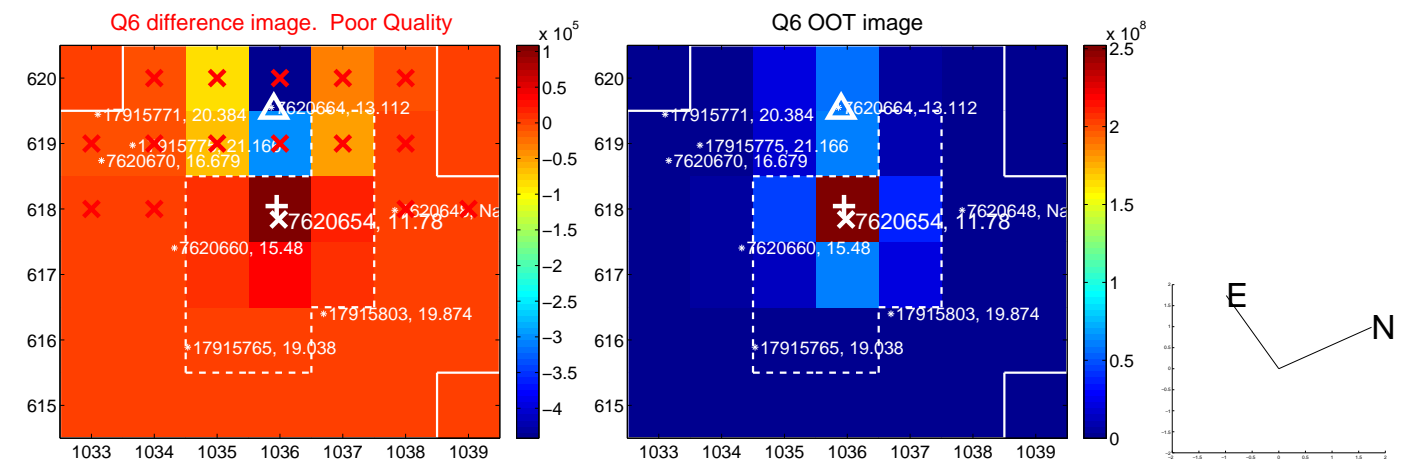
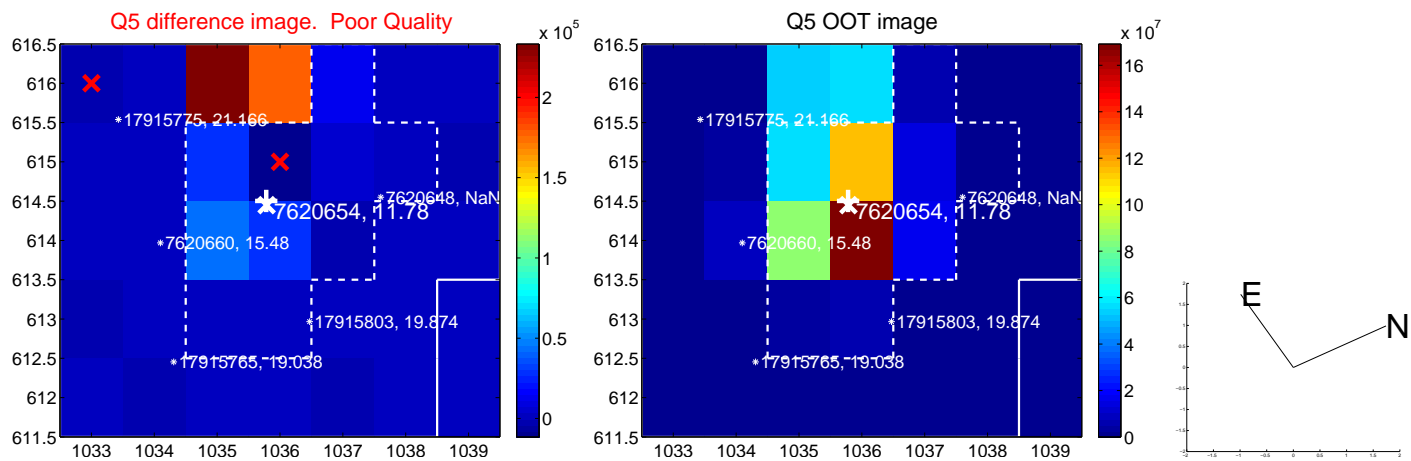


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

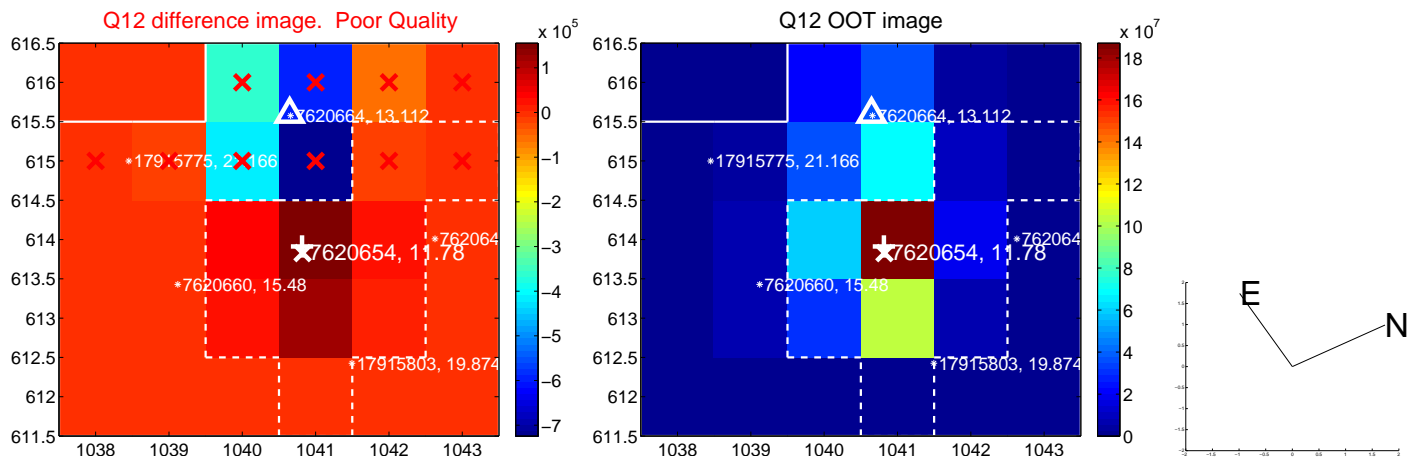
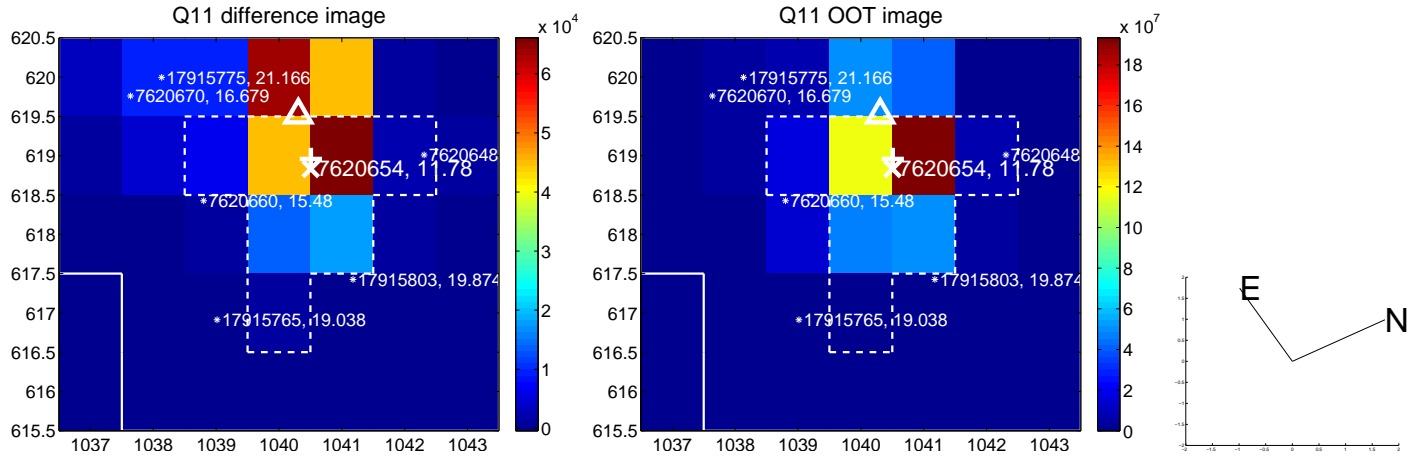
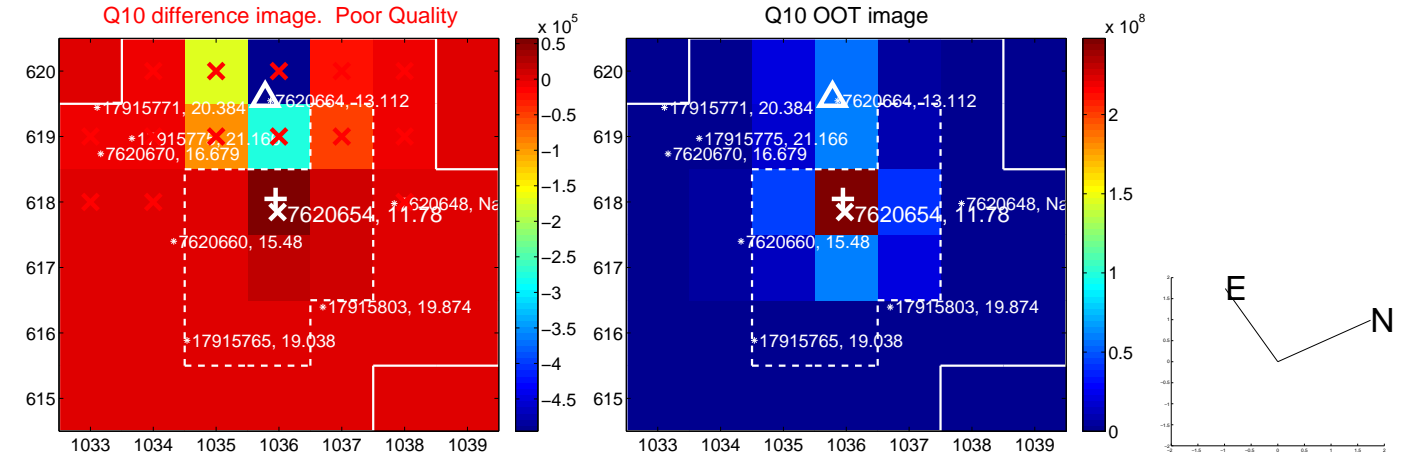
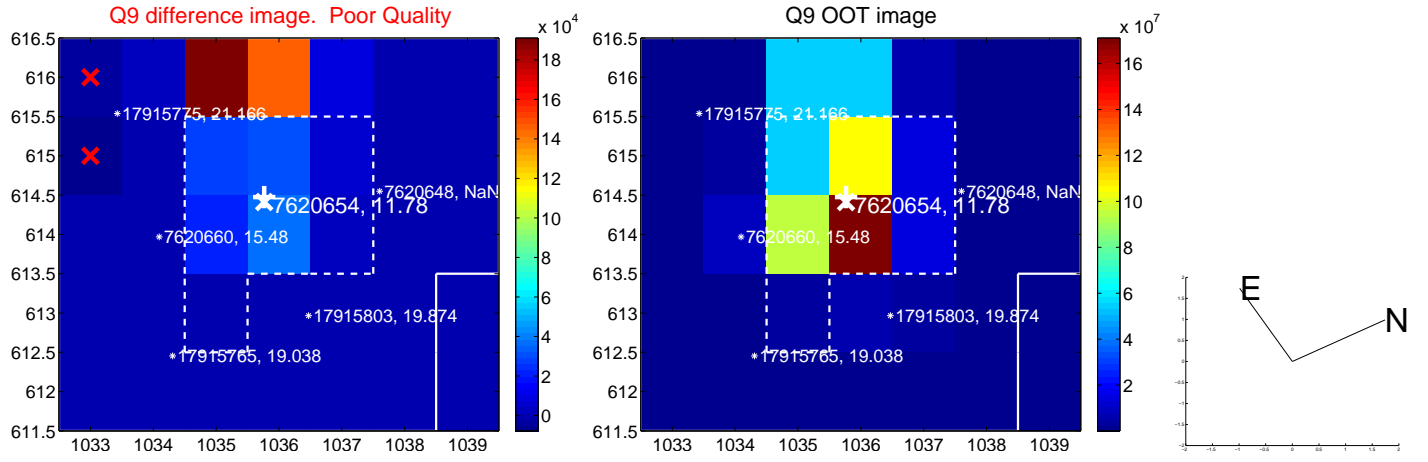
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



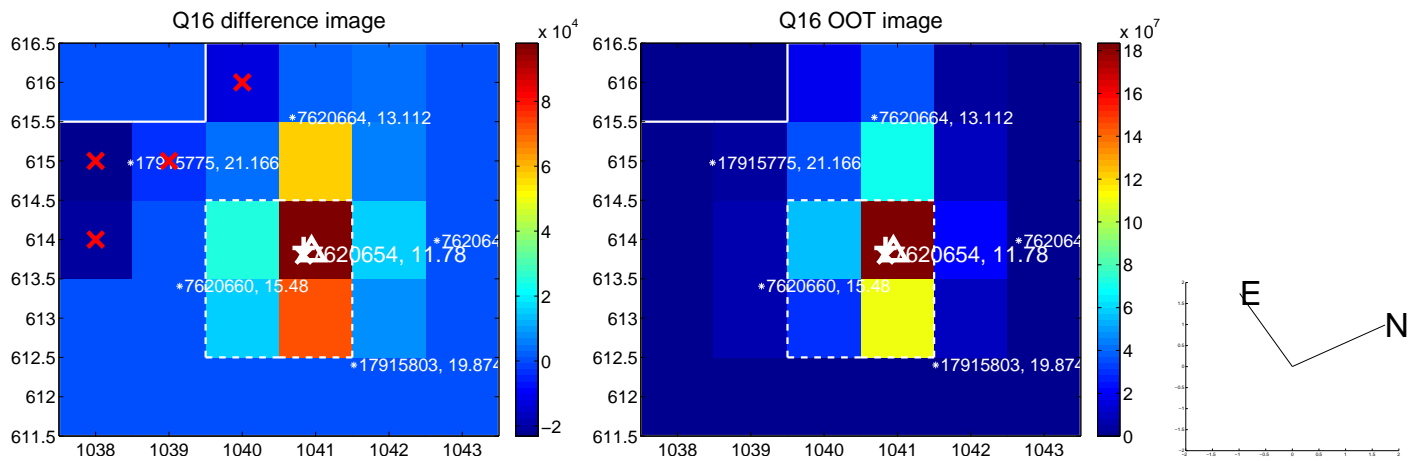
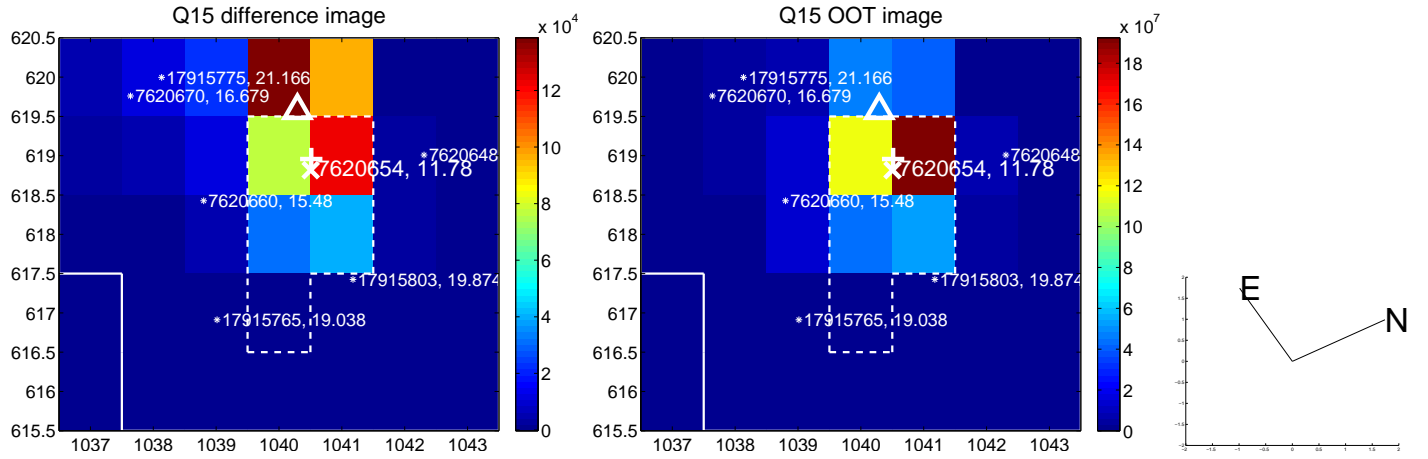
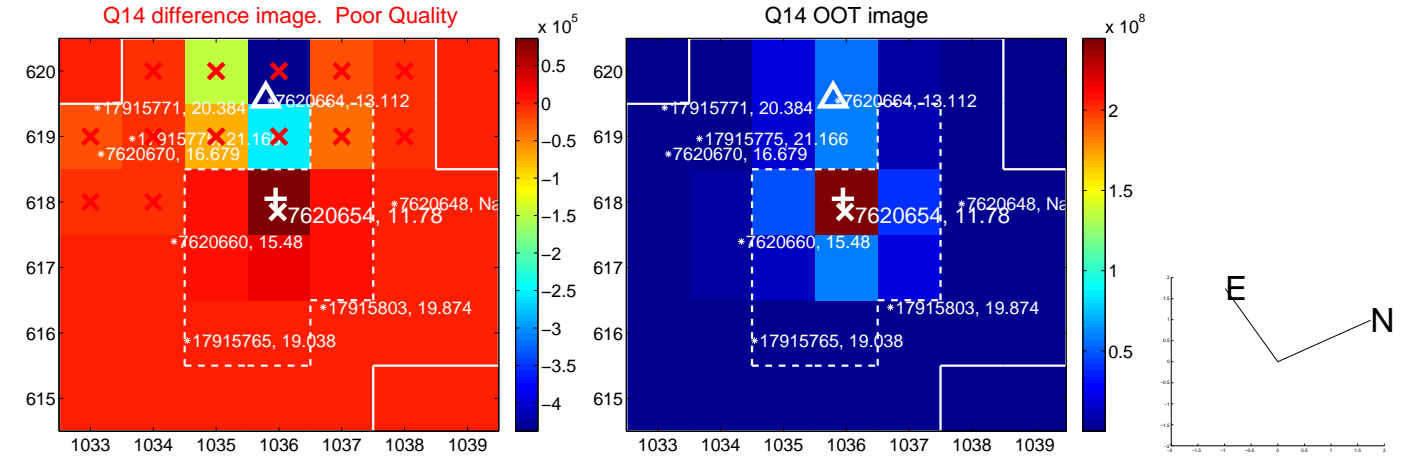
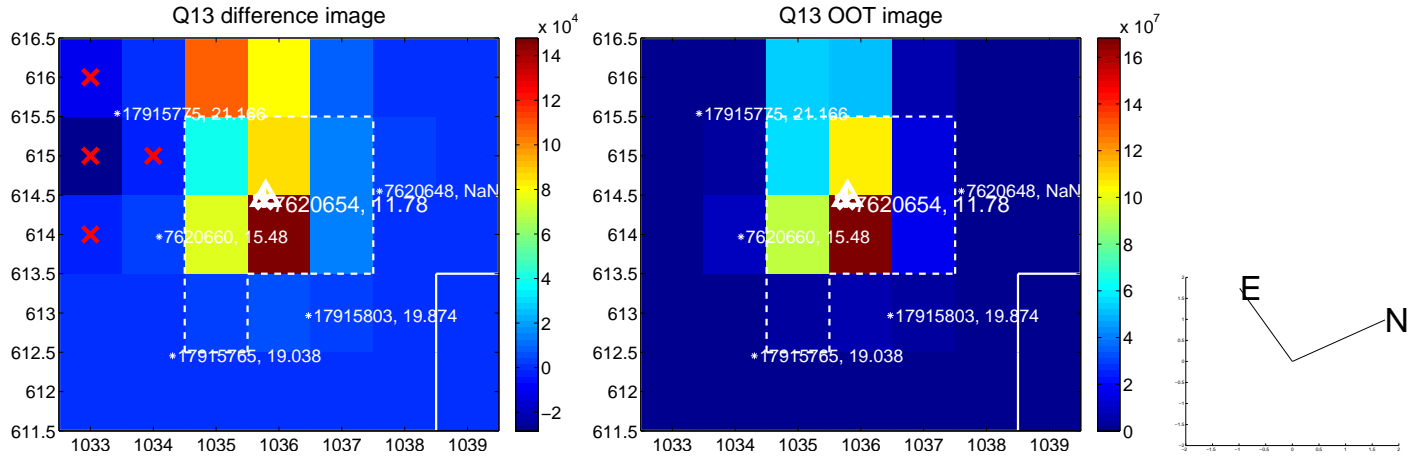
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



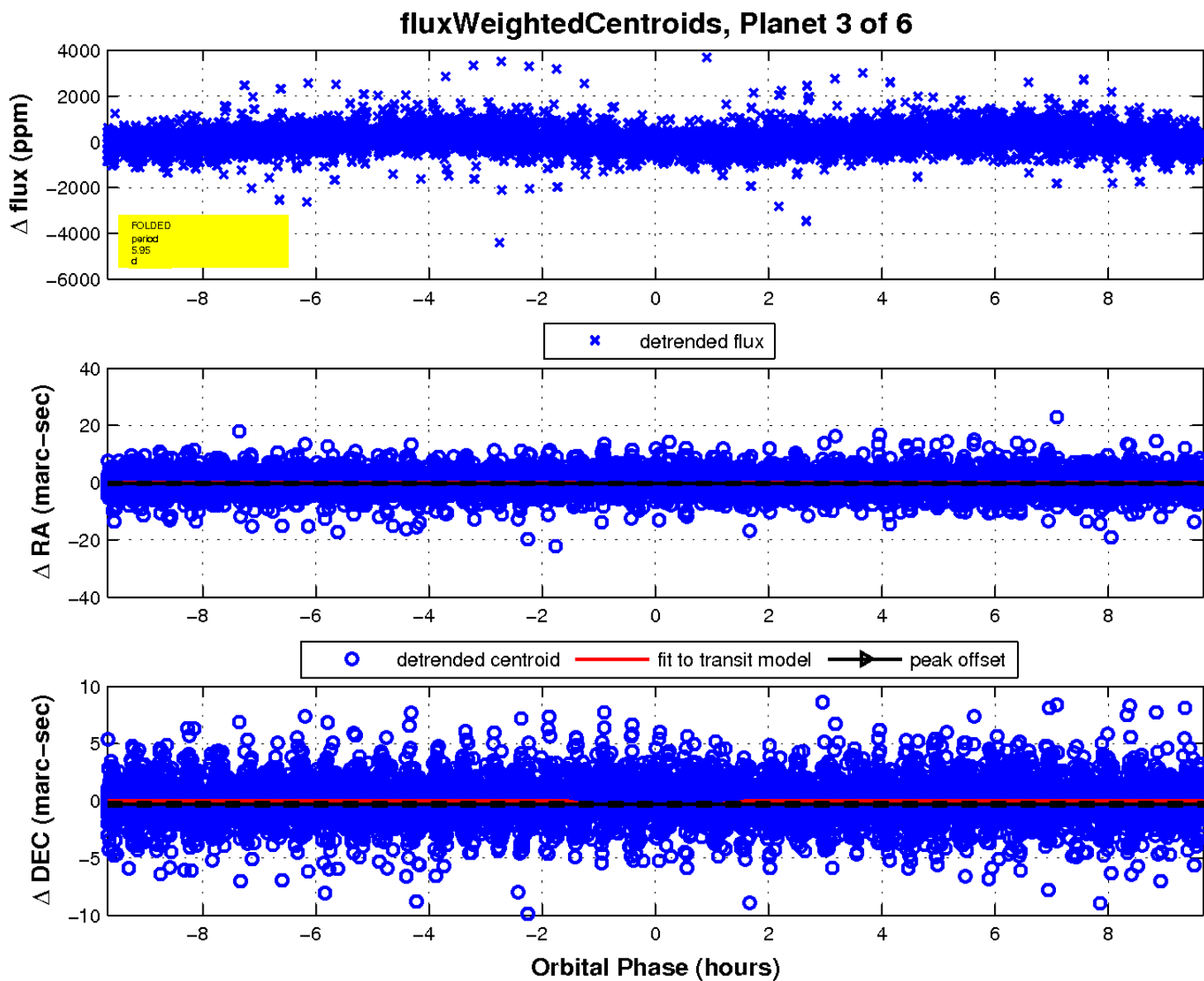
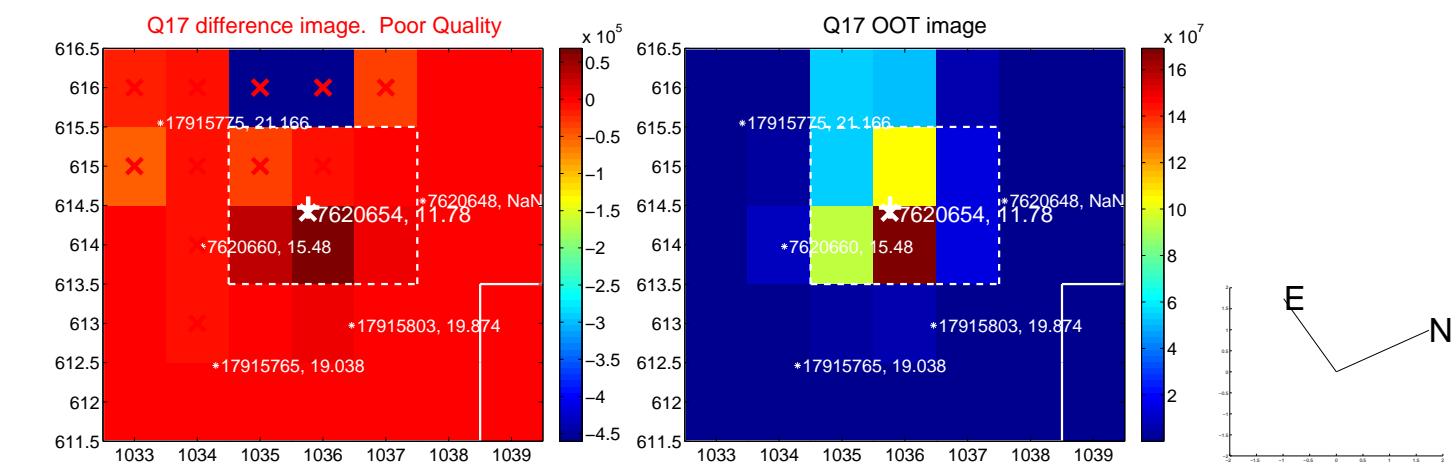
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



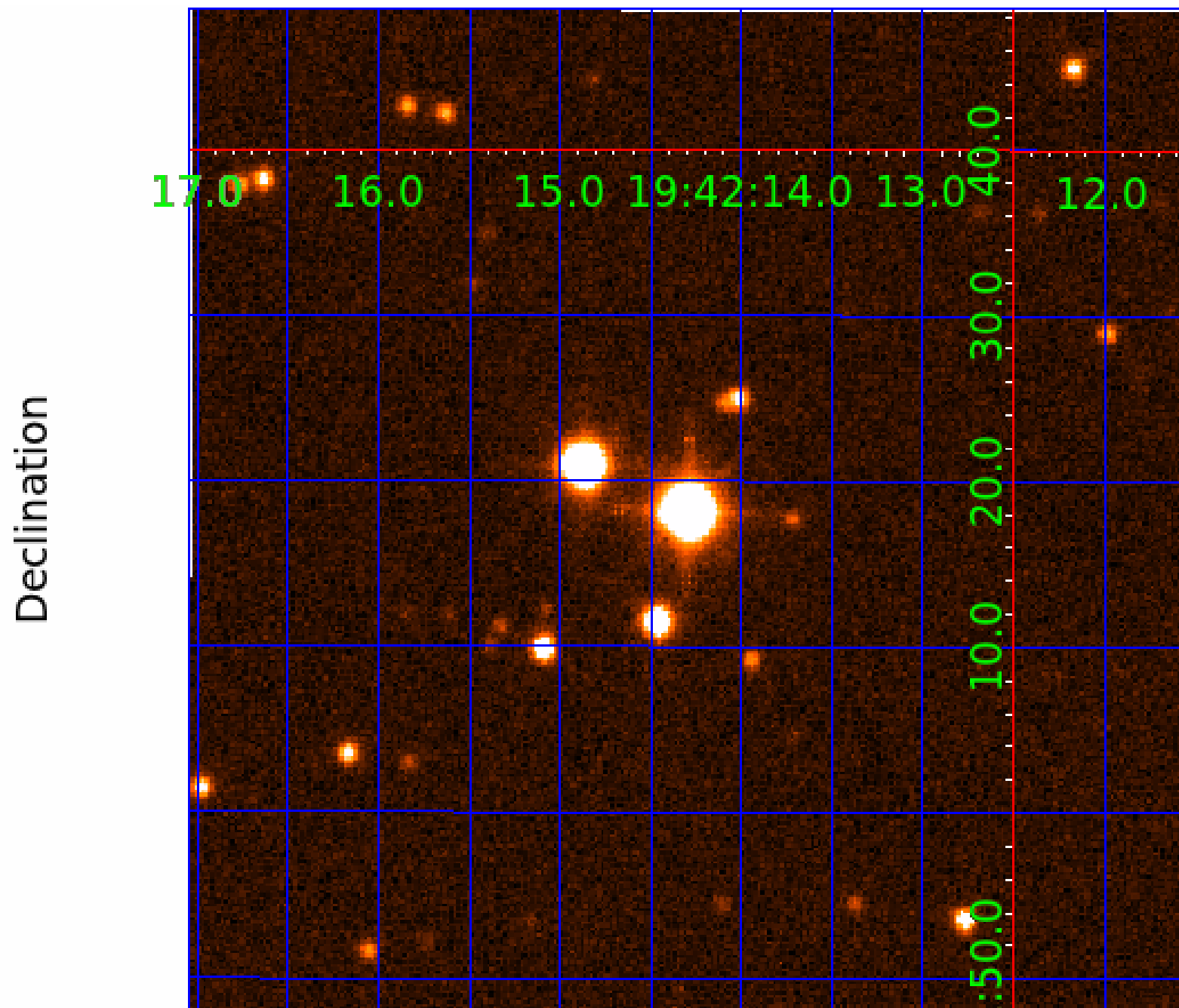
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007620654

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})
007620654-01	OBS	No	0.531525	131.809551	17.7	1.429	8.6	4.9	1.52	7082	0.74	29424.94
007620654-02	OBS	No	0.796283	131.927930	30.2	4.799	8.6	6.1	1.52	7082	0.98	17165.53
007620654-03	OBS	No	5.945876	133.433856	250.1	3.229	9.7	9.2	1.52	7082	2.79	1176.14
007620654-04	OBS	No	54.500280	181.303643	848.2	7.399	13.0	10.4	1.52	7082	8.09	61.31
007620654-05	OBS	No	6.369529	132.999479	381.1	11.891	9.6	10.5	1.52	7082	5.67	1073.01
007620654-06	OBS	No	0.910054	132.050777	135.1	3.000	10.4	-1.0	1.52	7082	1.79	14365.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007620654-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET
007620654-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
007620654-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007620654-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
007620654-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
007620654-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_NOFITS

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

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

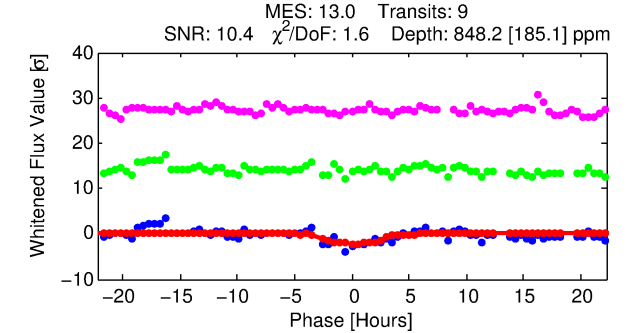
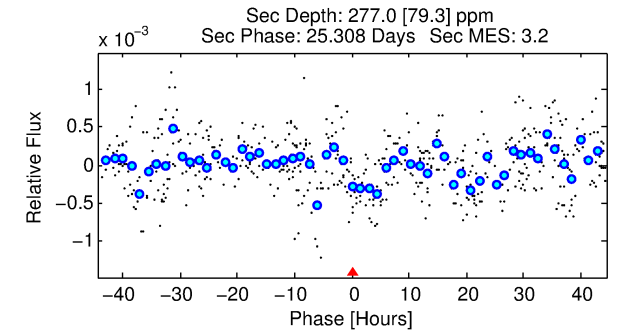
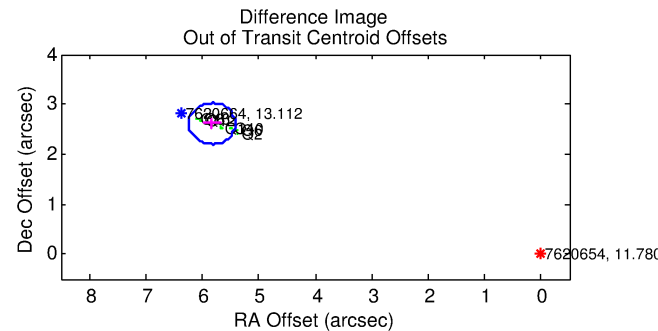
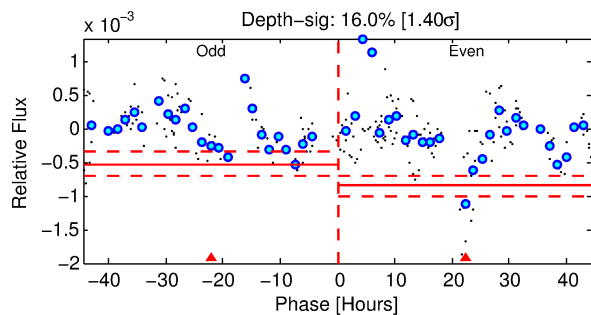
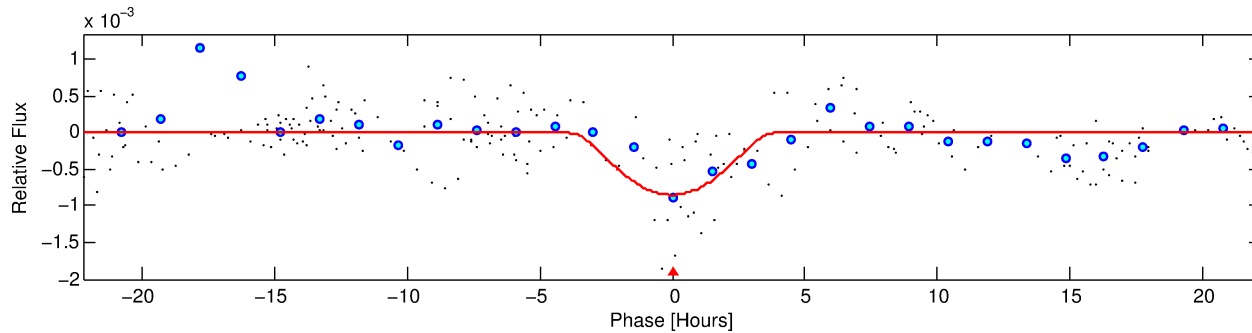
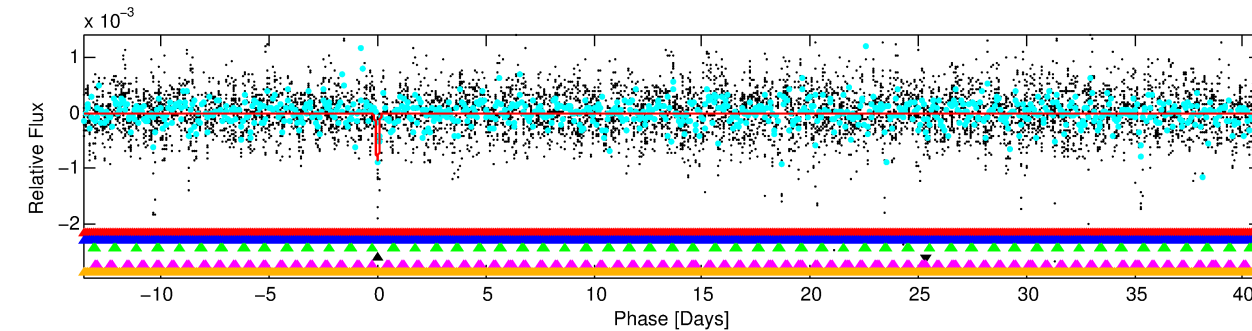
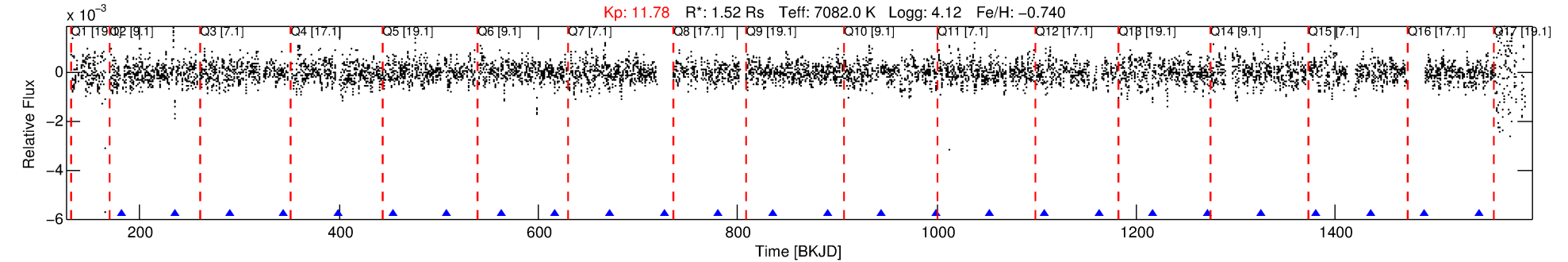
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007620654-04

No Significant Match Found

DV One-Page Summary

KIC: 7620654 Candidate: 4 of 6 Period: 54.500 d



DV Fit Results:

Period = 54.50028 [0.00286] d
Epoch = 181.3036 [0.0402] BKJD
Rp/R* = 0.0488 [0.1785]
a/R* = 18.12 [16.94]
b = 1.00 [0.27]
Seff = 61.31 [26.35]
Teq = 714 [77] K
Rp = 8.09 [29.68] Re
a = 0.2914 [0.0744] AU
Ag = 197.82 [1451.29] [0.14σ]
Teffp = 4137 [7578] K [0.45σ]

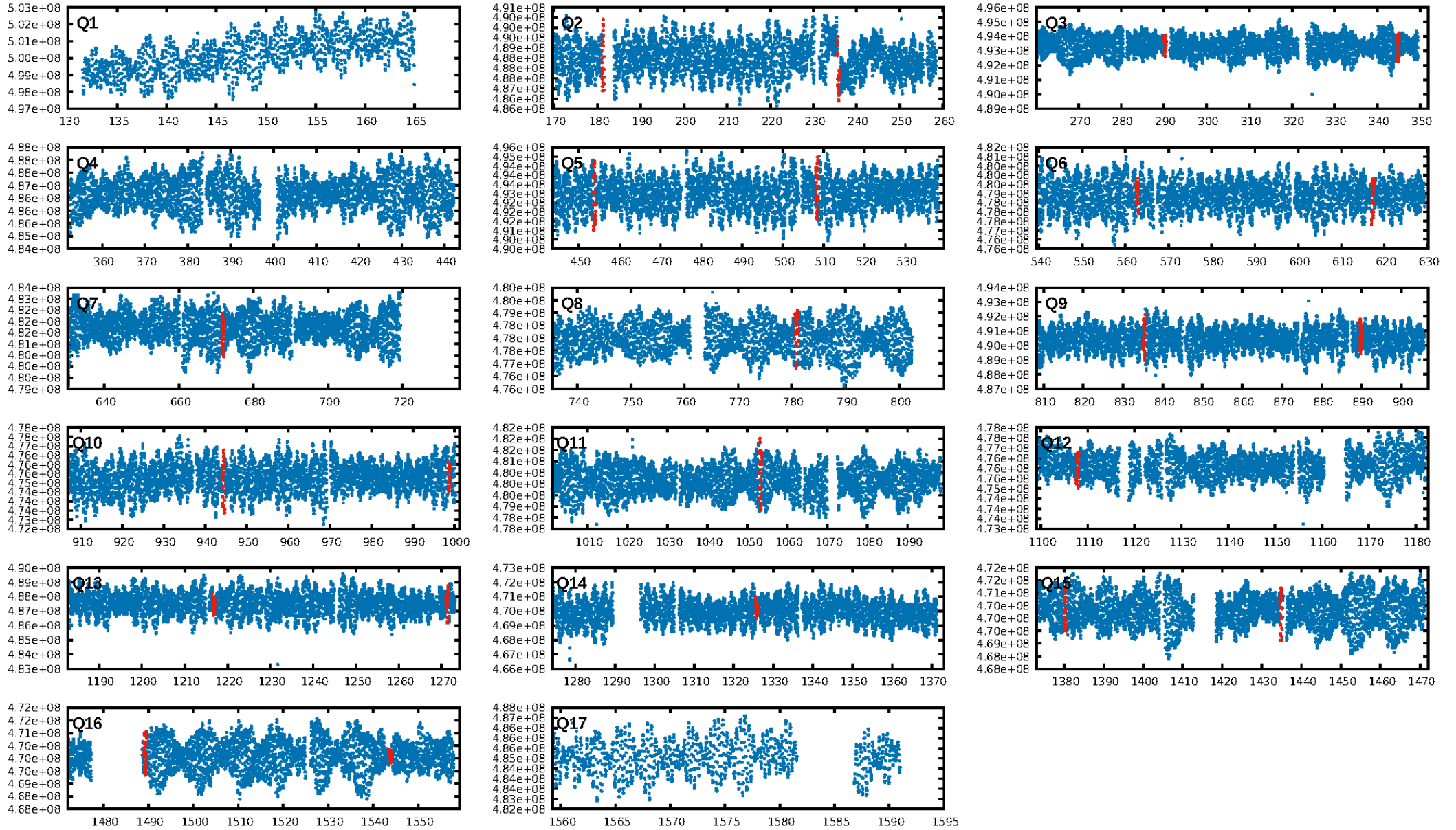
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [82.48σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: 1.875
Centroid-sig: 0.0%
Centroid-so: 2.210 arcsec [2.13σ]
OotOffset-rm: 6.385 arcsec [46.39σ]
KicOffset-rm: 6.916 arcsec [83.25σ]
OotOffset-st: 4/0/3/0 [7]
KicOffset-st: 4/0/3/0 [7]
DiffImageQuality-fgm: 0.43 [3/7]
DiffImageOverlap-fno: 0.00 [0/14]

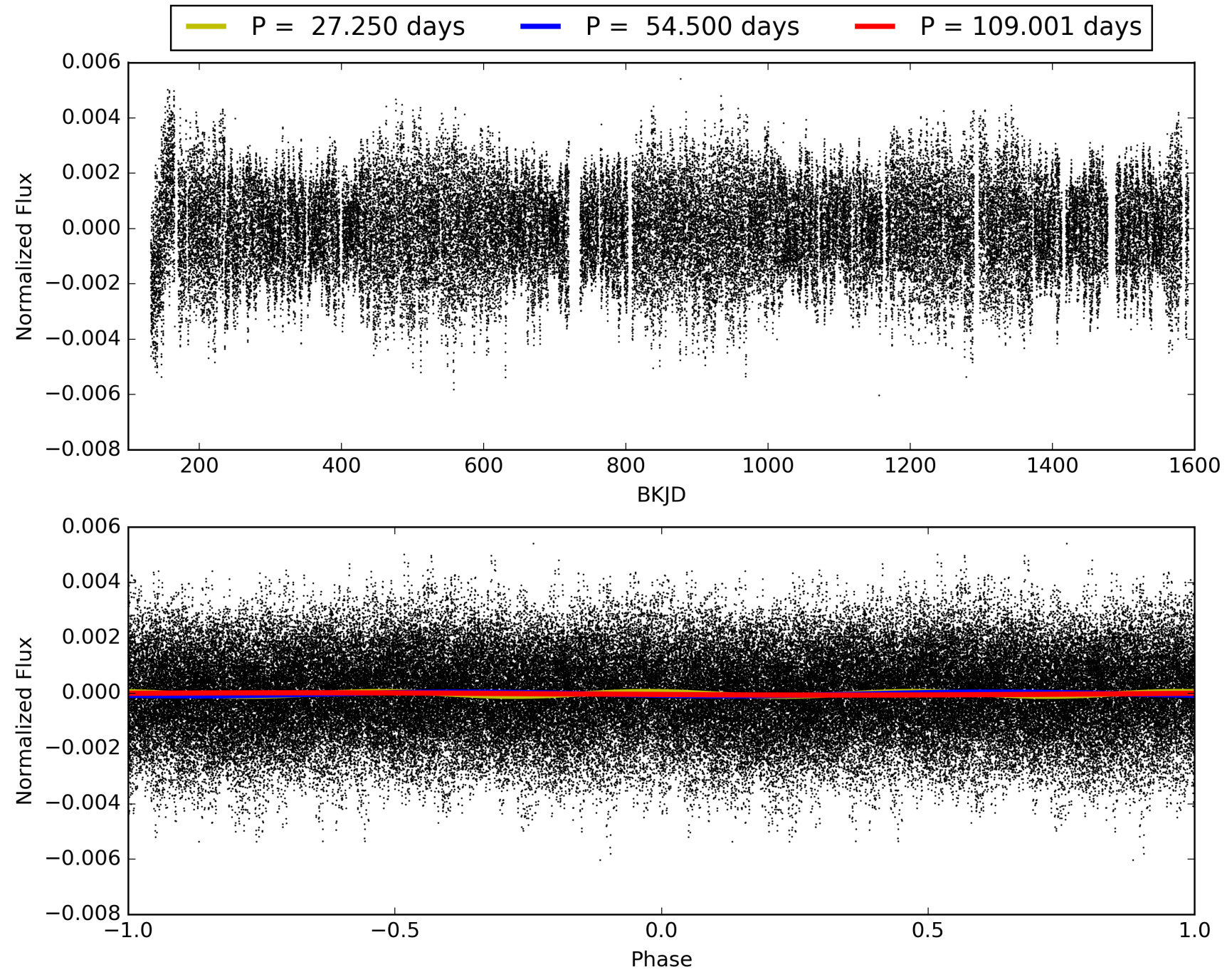
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 09:08:34 Z

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

TCE 007620654-04, PDC Light Curves

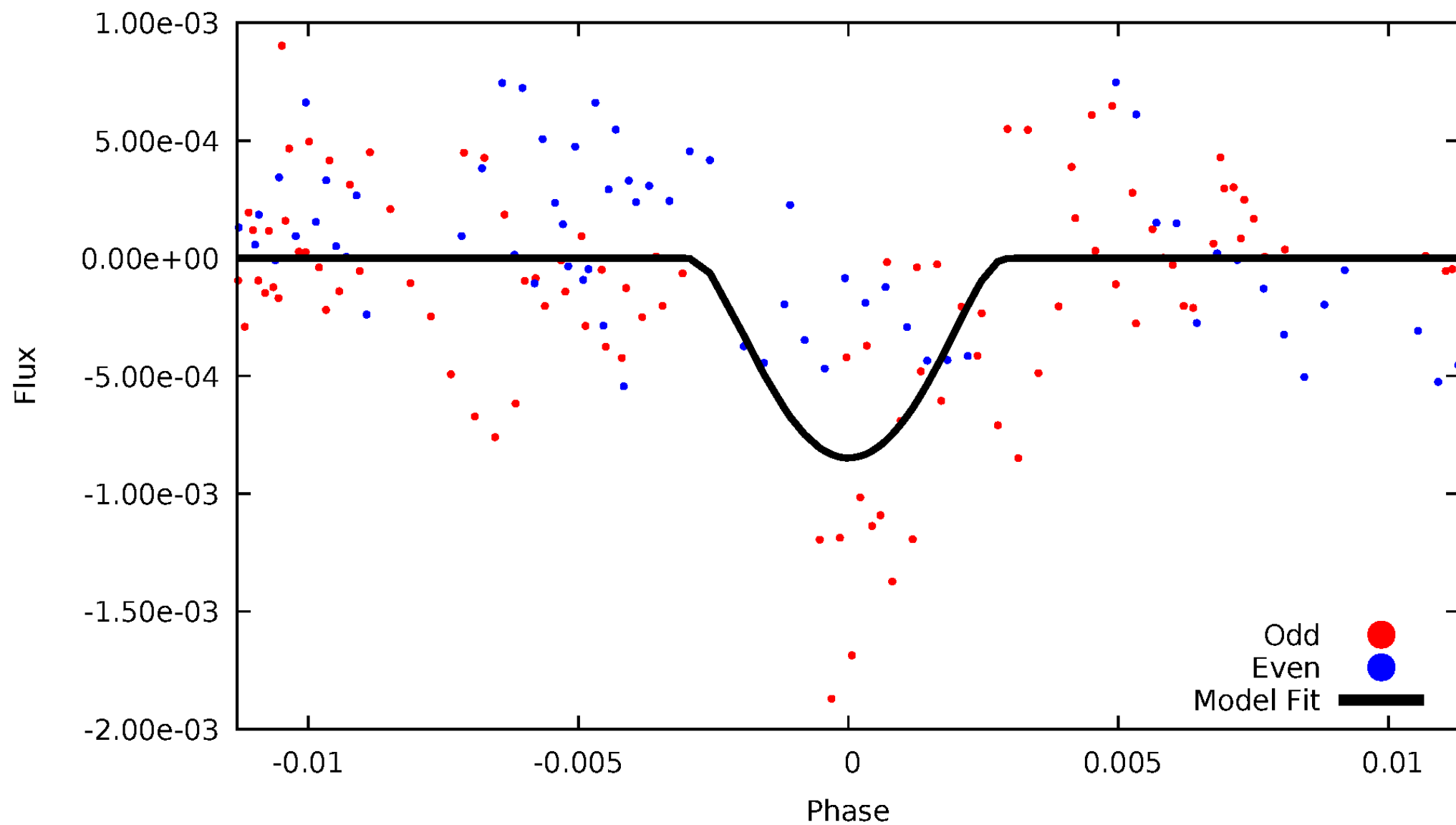


TCE 007620654-04



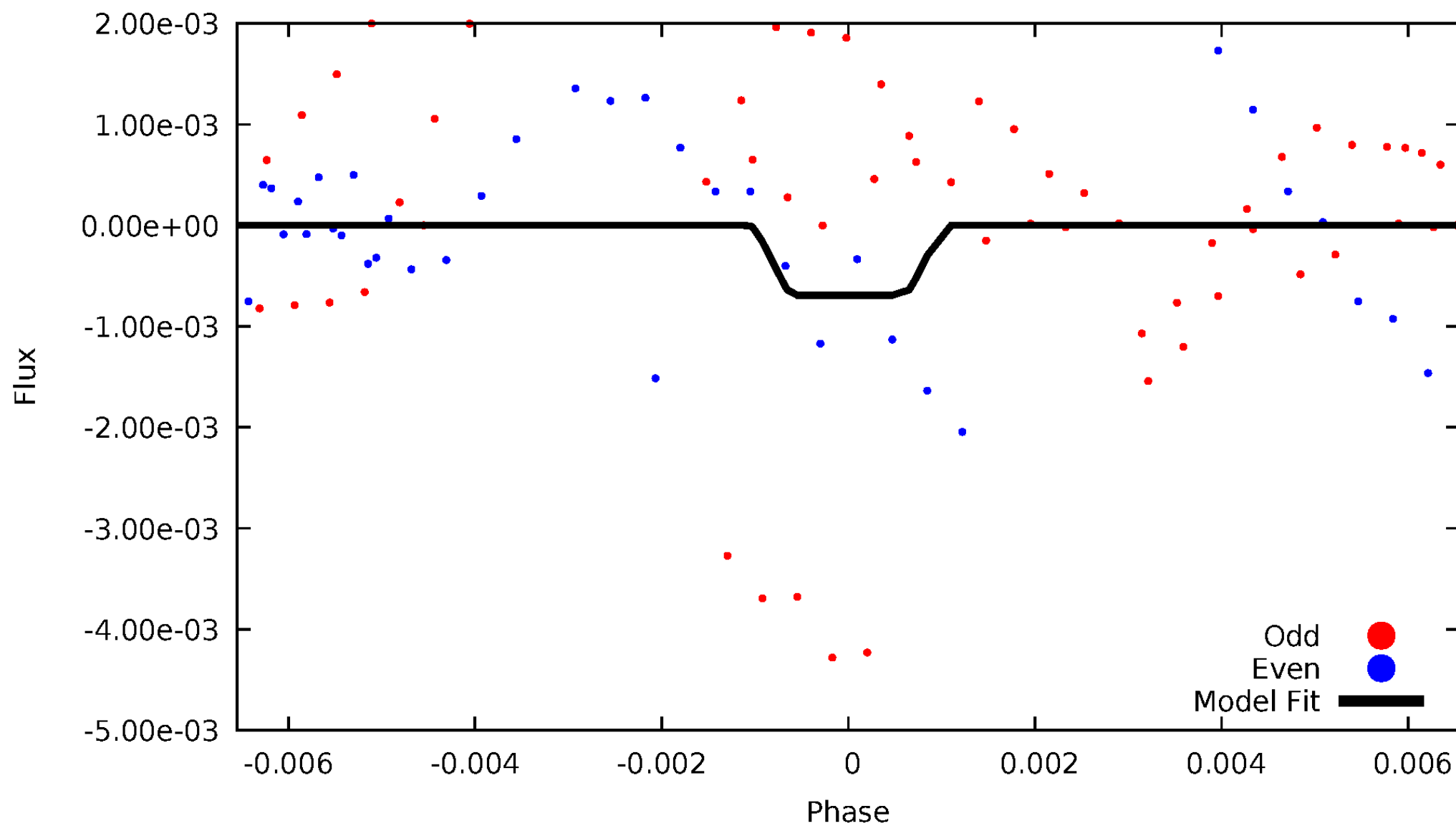
DV Odd/Even

TCE 007620654-04



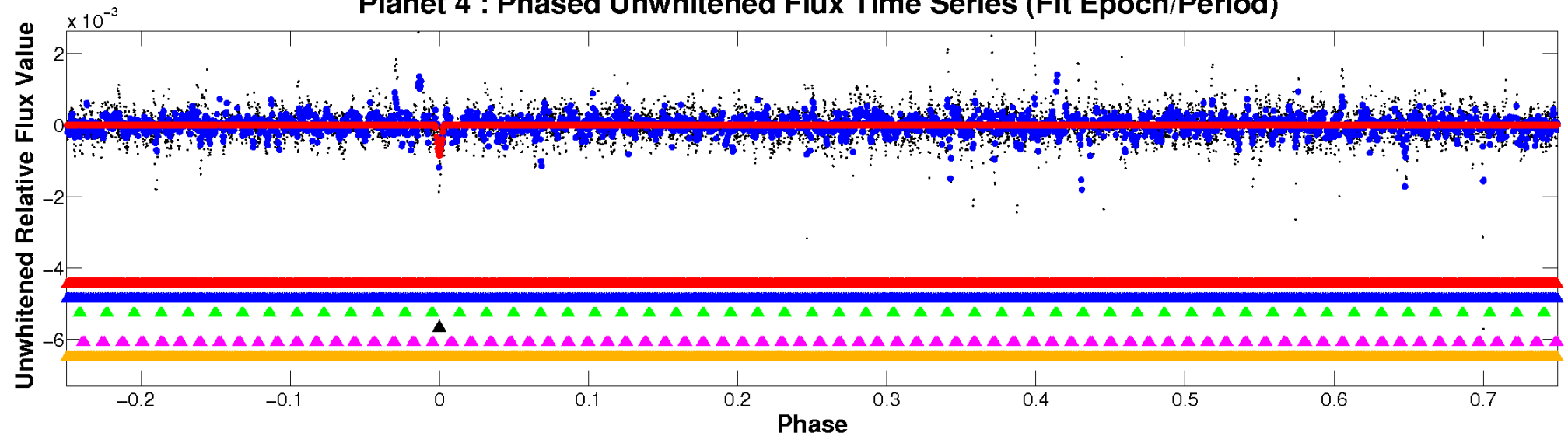
ALT Odd/Even

TCE 007620654-04

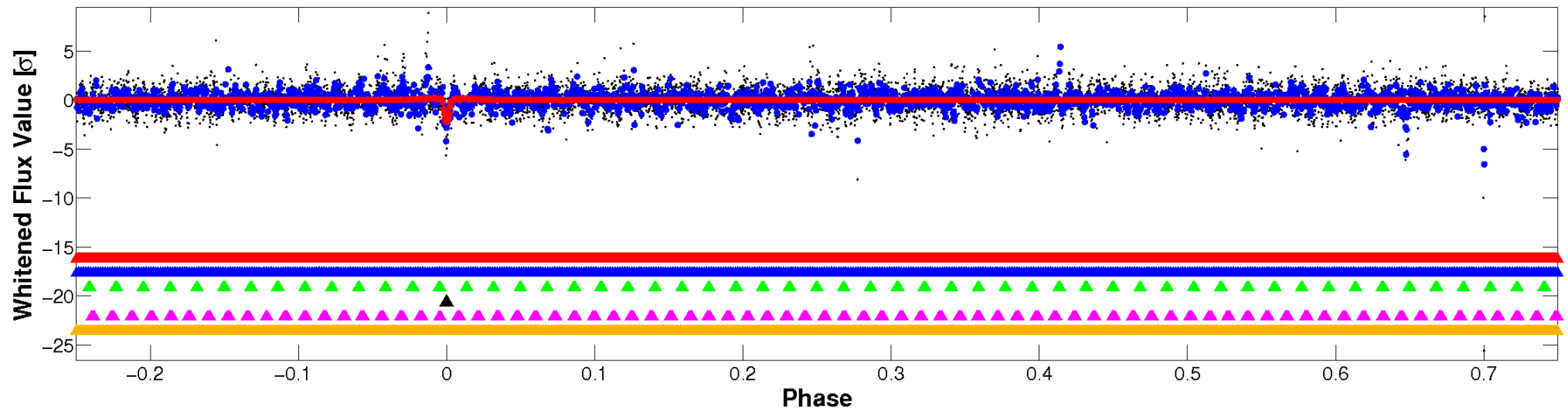


Non-Whitened Vs. Whitened Light Curve

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

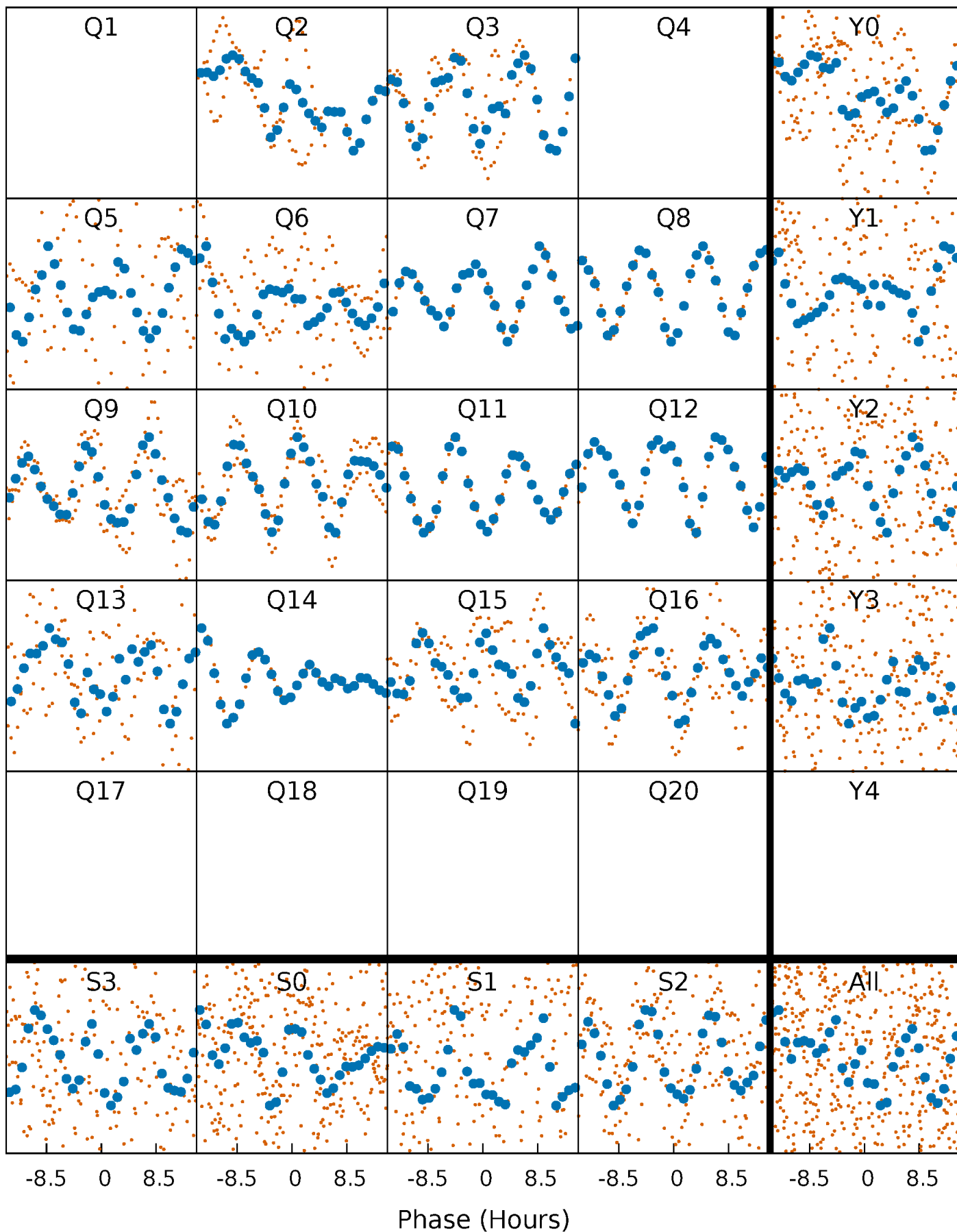


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



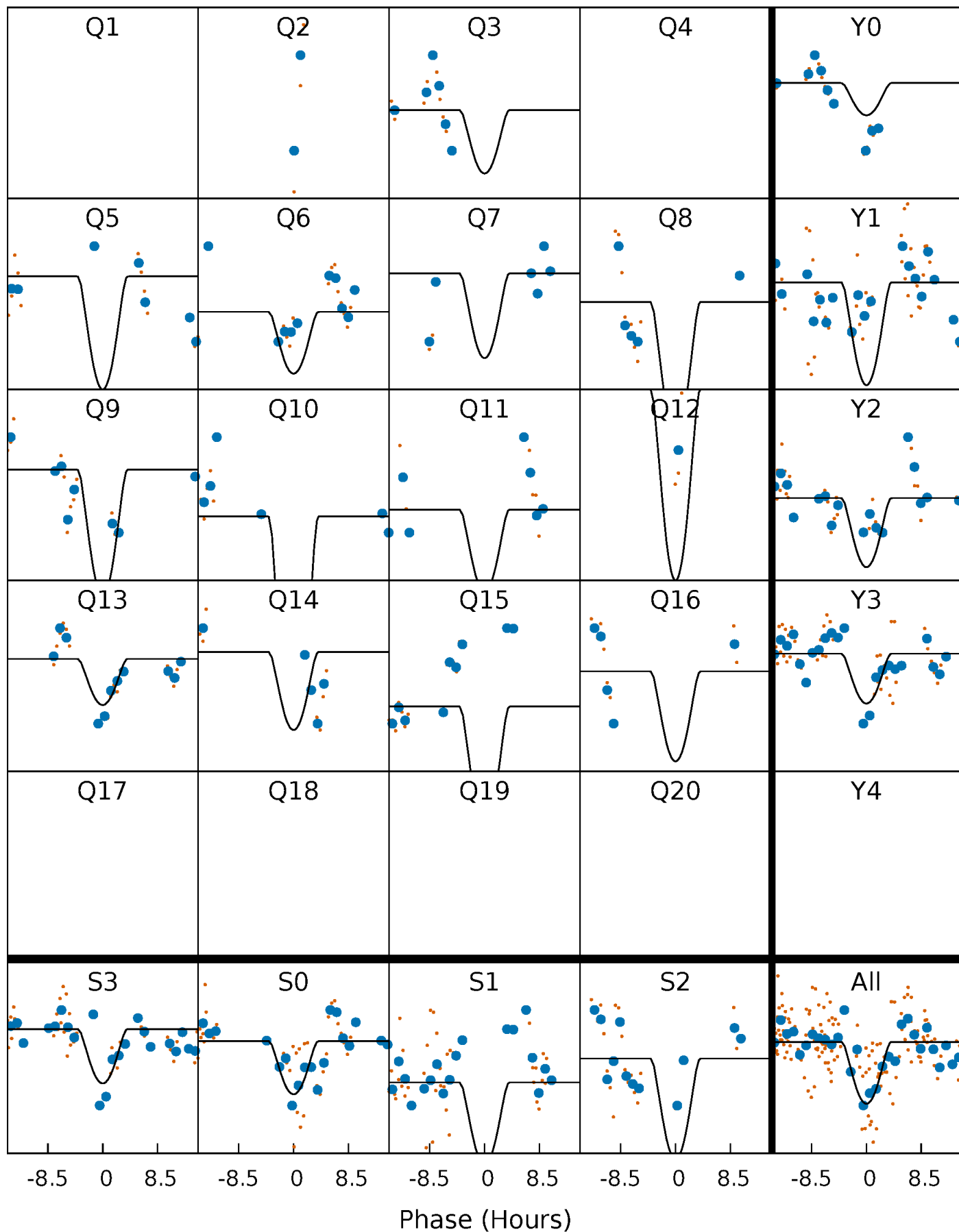
PDC Quarter-Phased Transit Curves

TCE 007620654-04 P= 54.500280 Days $T_0=181.303643$ (BKJD)



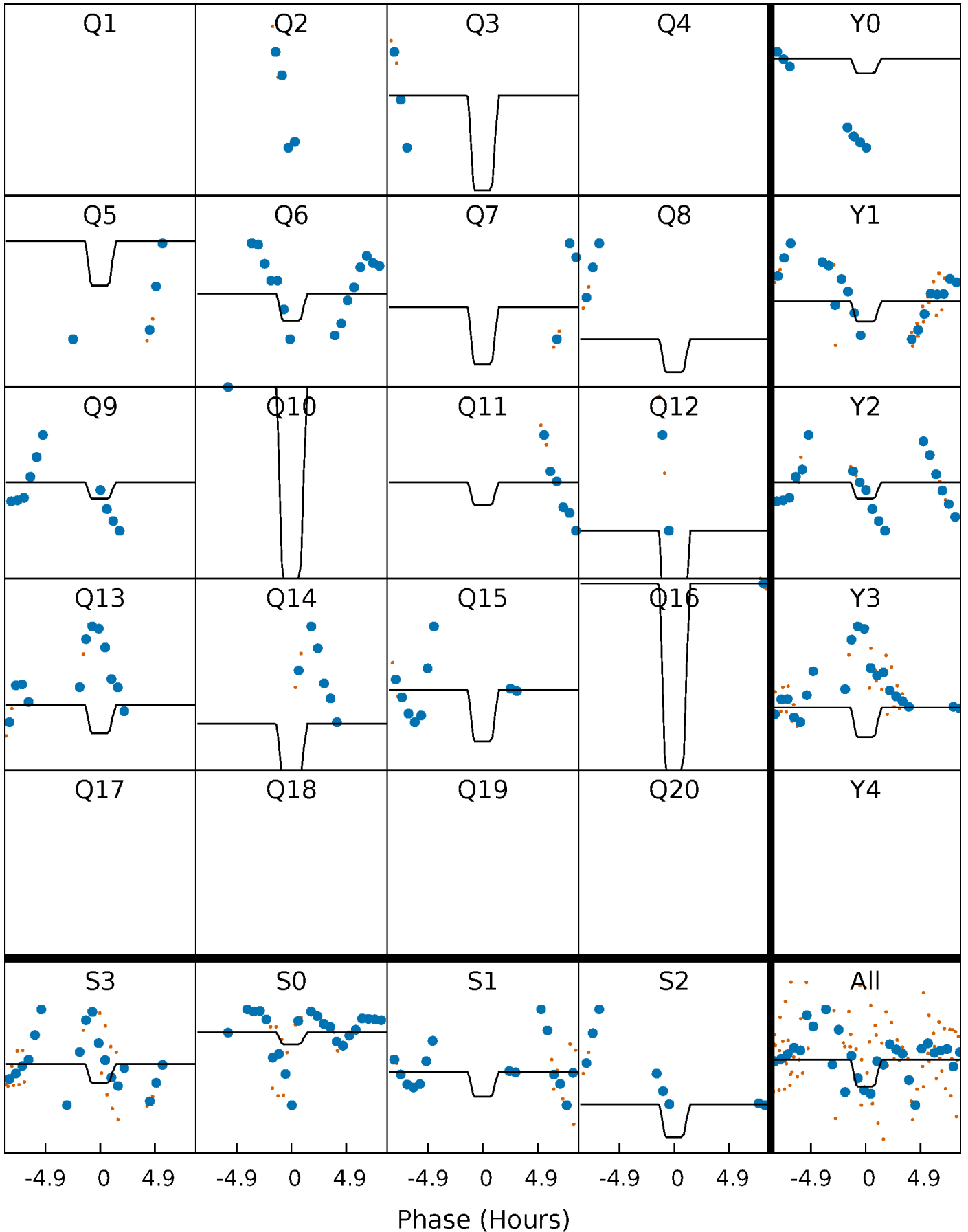
DV Quarter-Phased Transit Curves

TCE 007620654-04 P= 54.500280 Days $T_0=181.303643$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

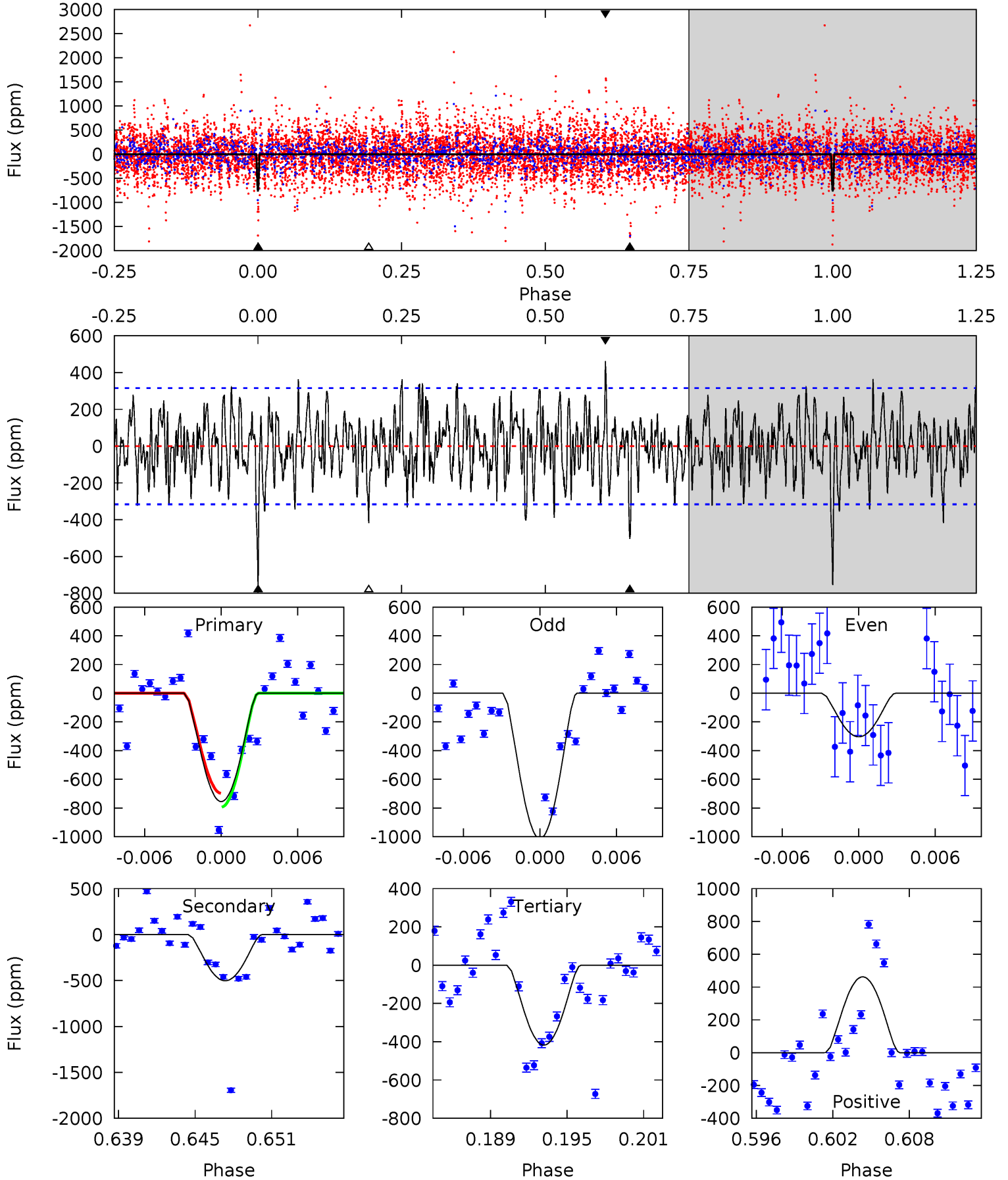
TCE 007620654-04 P= 54.500300 Days $T_0=181.357377$ (BKJD)



DV Model-Shift Uniqueness Test

007620654-04, P = 54.500280 Days, E = 126.803363 Days

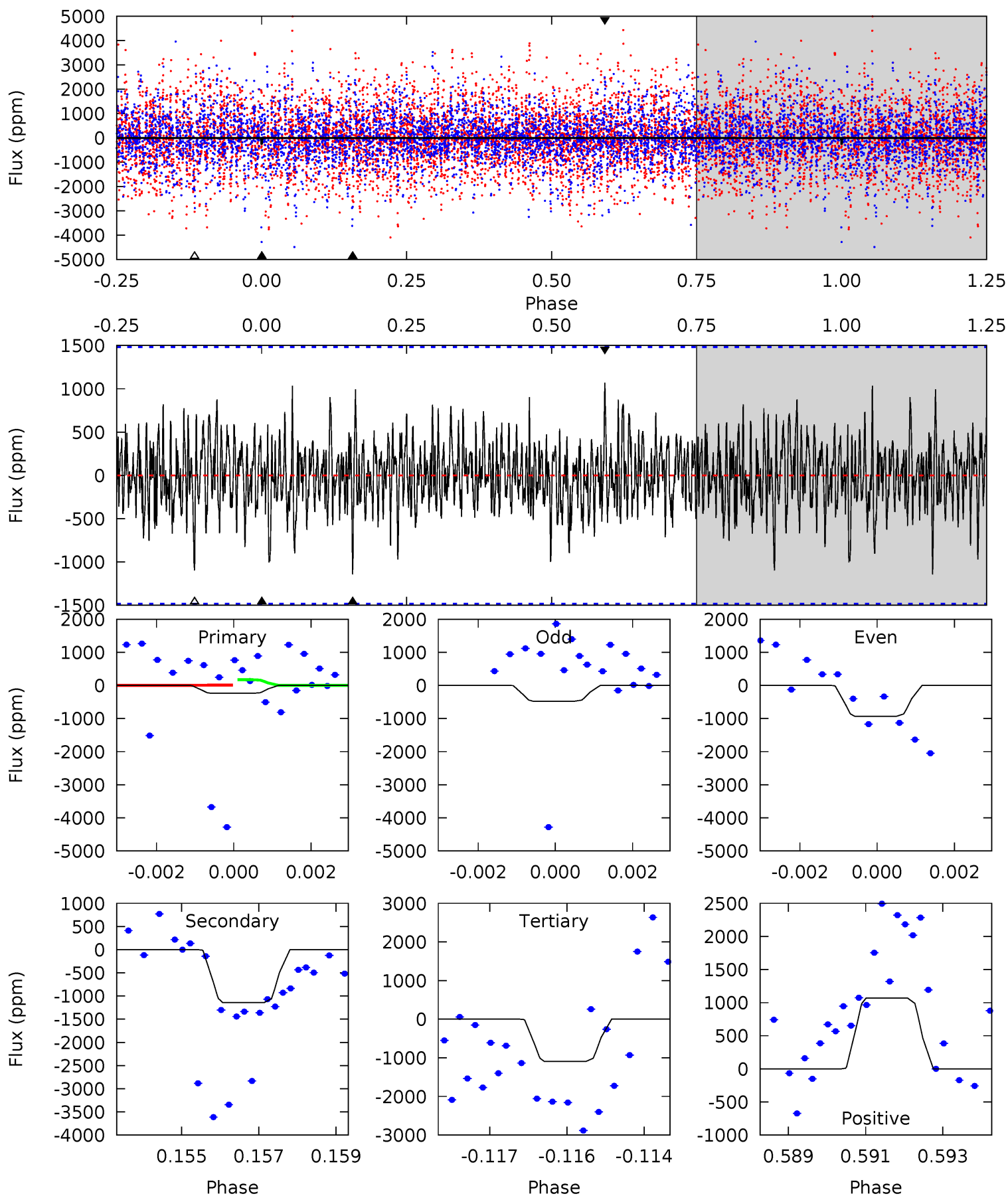
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	8.15	6.77	7.49	5.12	2.74	2.25	5.47	4.75	1.39	0.66	5.46	-0.79	0.38	0.74



Alt Model-Shift Uniqueness Test

007620654-04, P = 54.500300 Days, E = 126.857077 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.85	4.11	3.94	3.85	5.34	3.11	1.15	-3.09	-2.99	0.16	0.26	0.76	1.67	0.48	0.28



Stellar Parameters For KIC 007620654

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7082^{+193}_{-236}	$4.120^{+0.240}_{-0.160}$	$-0.740^{+0.250}_{-0.300}$	$1.520^{+0.403}_{-0.403}$	$1.111^{+0.147}_{-0.107}$	$0.446^{+0.621}_{-0.197}$
	+3%/-3%	+6%/-4%	+34%/-41%	+27%/-27%	+13%/-10%	+139%/-44%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007620654-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-503 ± 62	$22.75^{+22.97}_{-16.05}$	989^{+77}_{-77}	3366^{+1770}_{-608}	46^{+469}_{-36}
Alt.	-1141 ± 278	$21.04^{+21.80}_{-14.33}$	991^{+75}_{-74}	3908^{+2370}_{-782}	116^{+1062}_{-90}

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

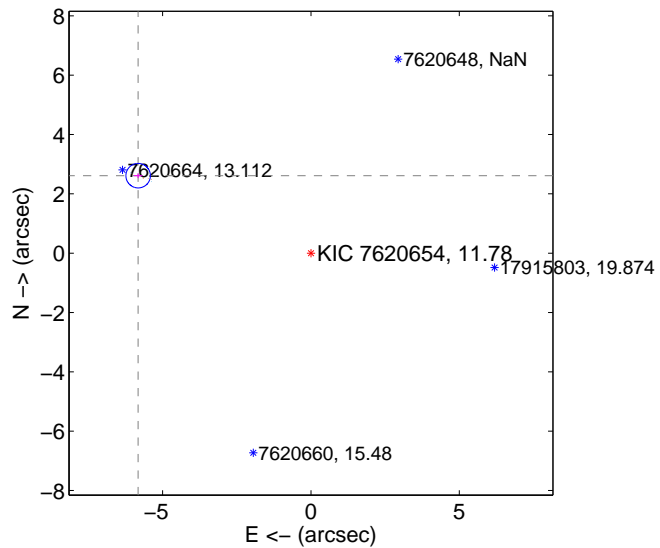
Supplemental centroid analysis for 007620654-04. **Kepler magnitude: 11.78.** Transit SNR 10.38

There are 3 quarters with good PRF difference image offsets

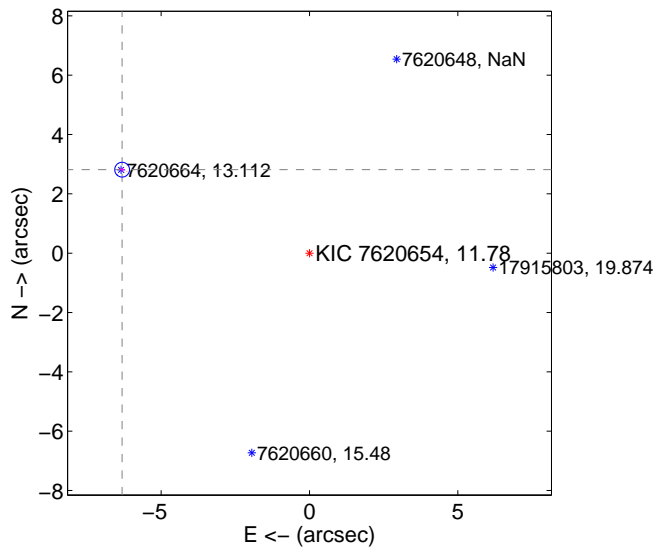
The direct PRF centroid is offset from the target star catalog position by about 0.37 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.385 \pm 0.138	46.39	5.826 \pm 0.146	2.613 \pm 0.081
PRF-fit source offset from KIC position	6.916 \pm 0.083	83.25	6.316 \pm 0.079	2.815 \pm 0.072
photometric centroid source offset	2.21 \pm 1.04	2.13	1.84 \pm 1.20	1.23 \pm 0.50

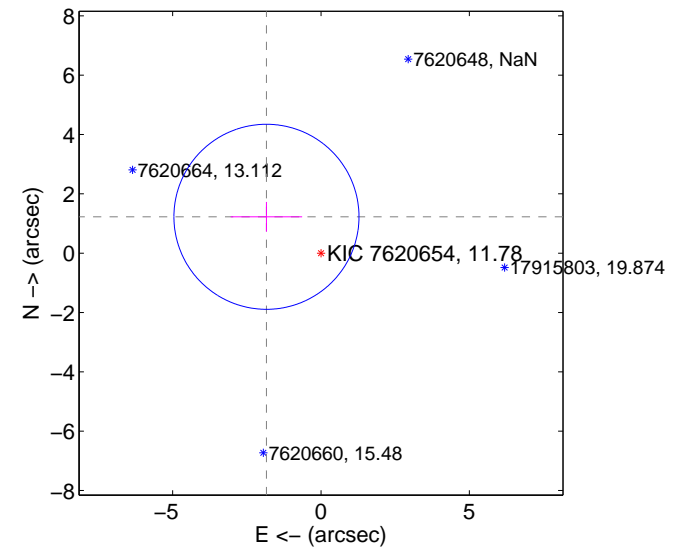
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

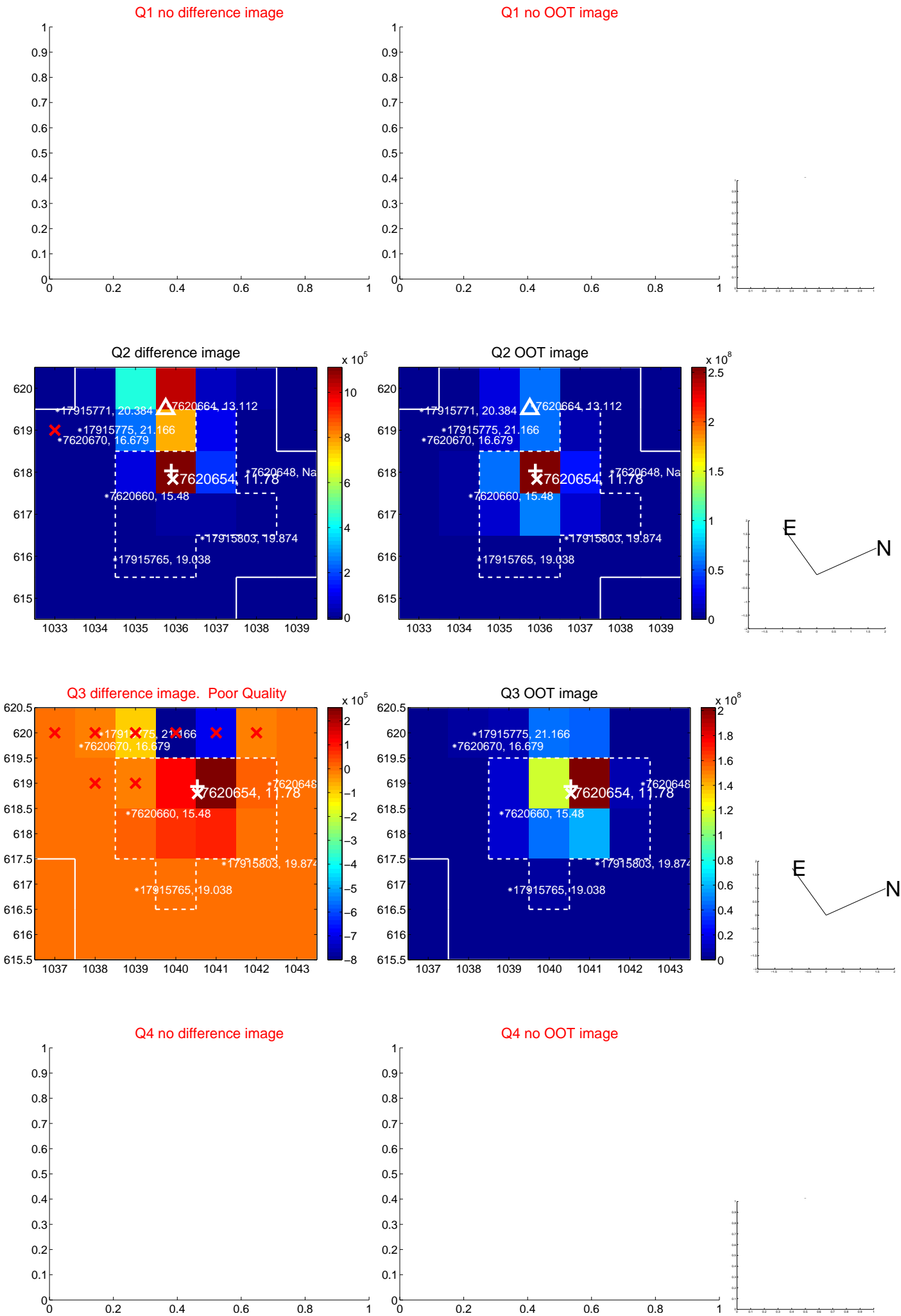


offset from photometric centroids

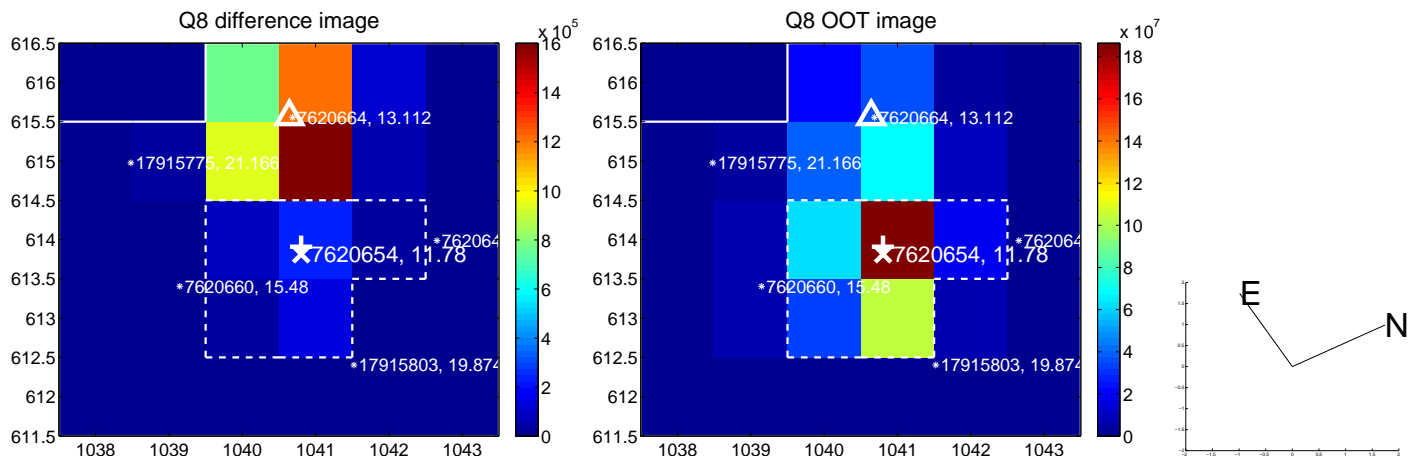
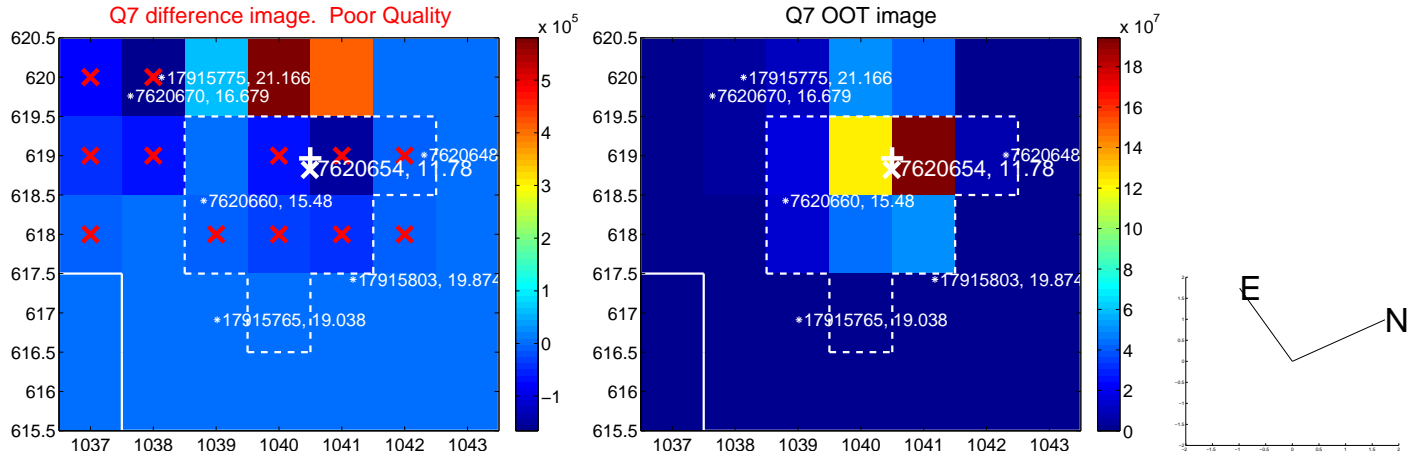
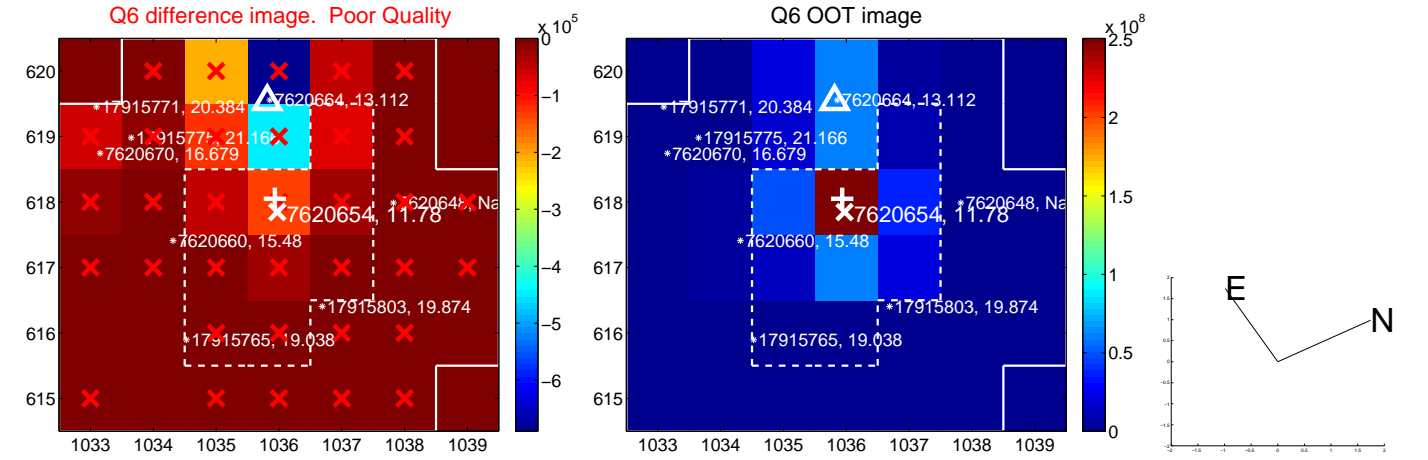
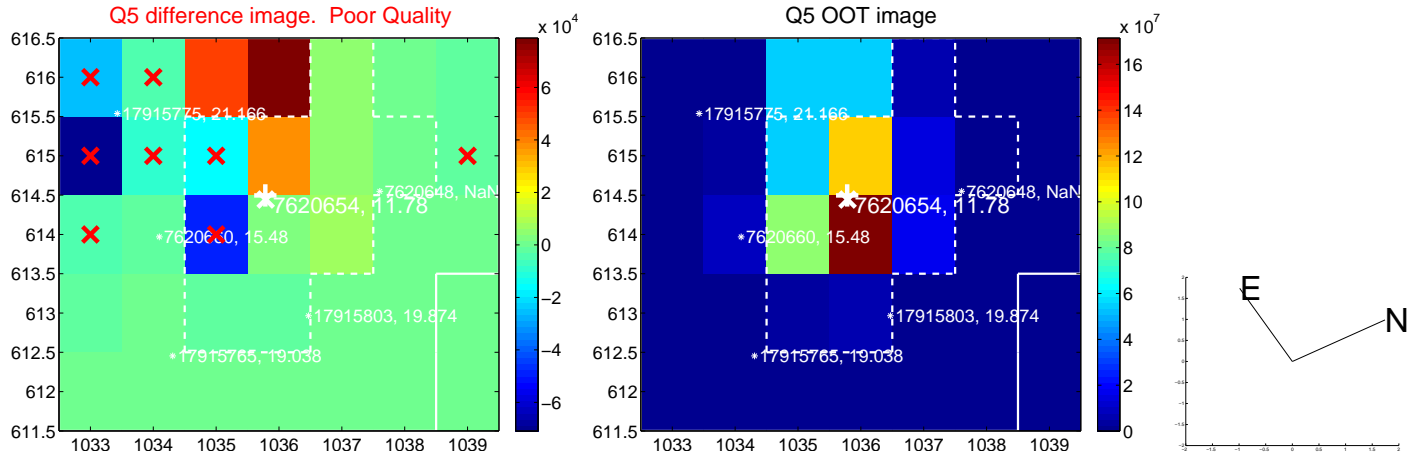


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

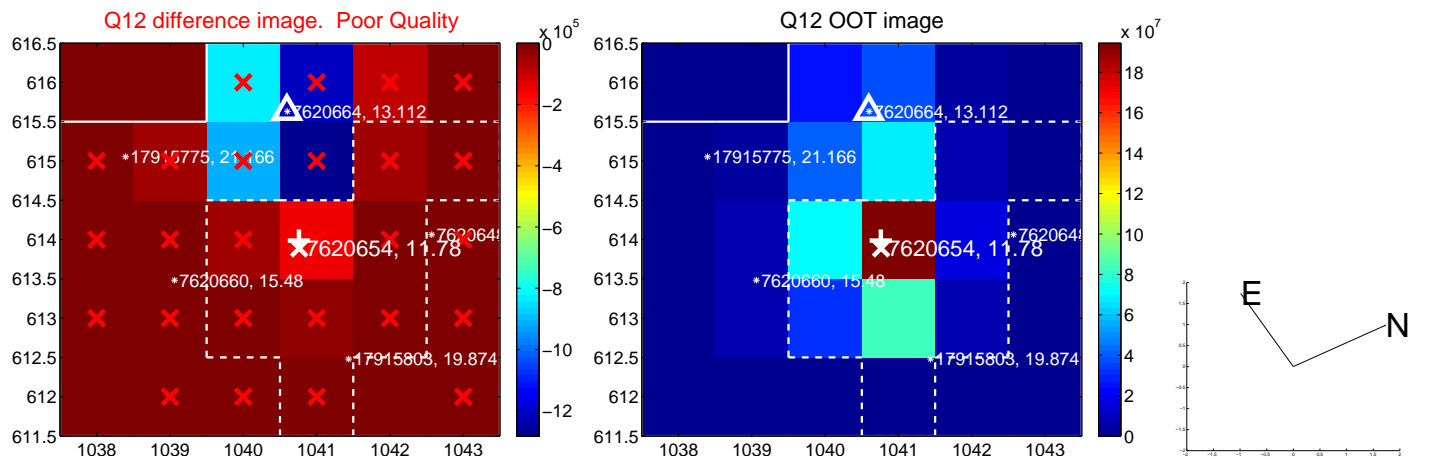
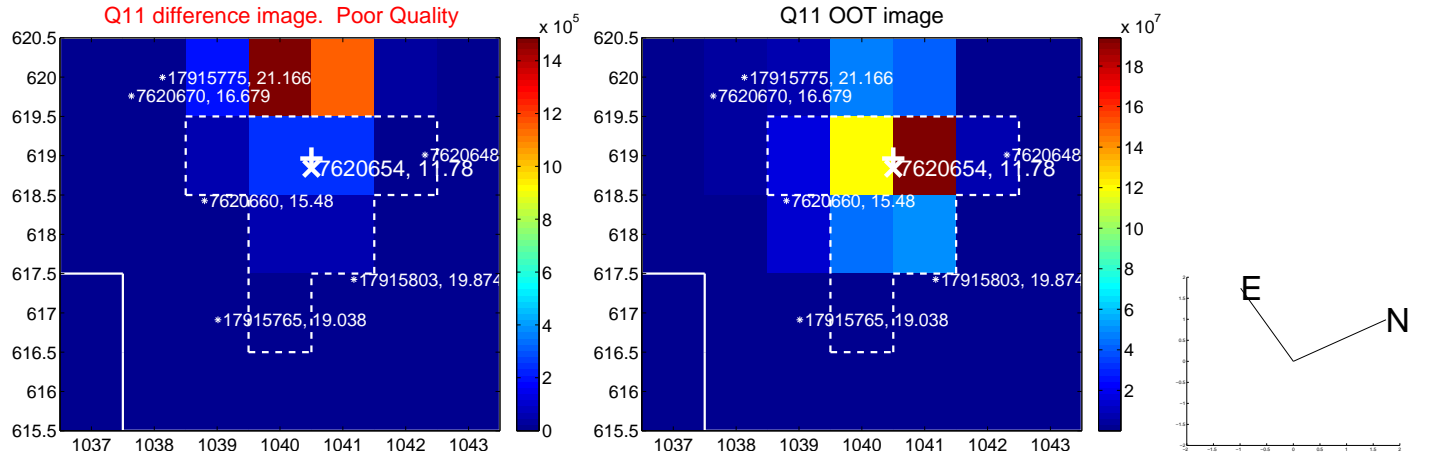
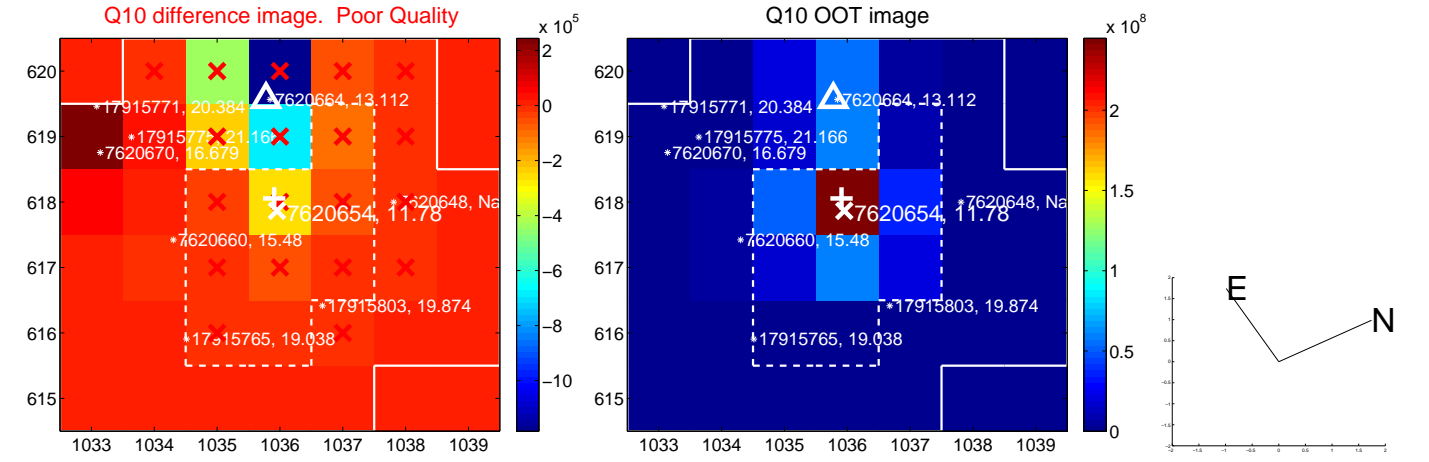
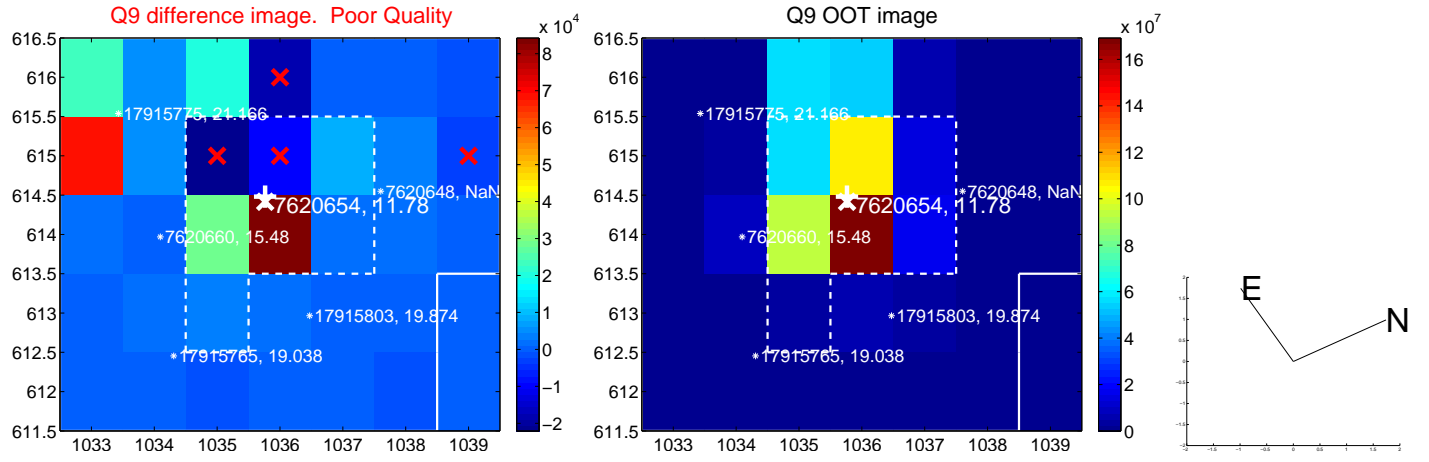
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



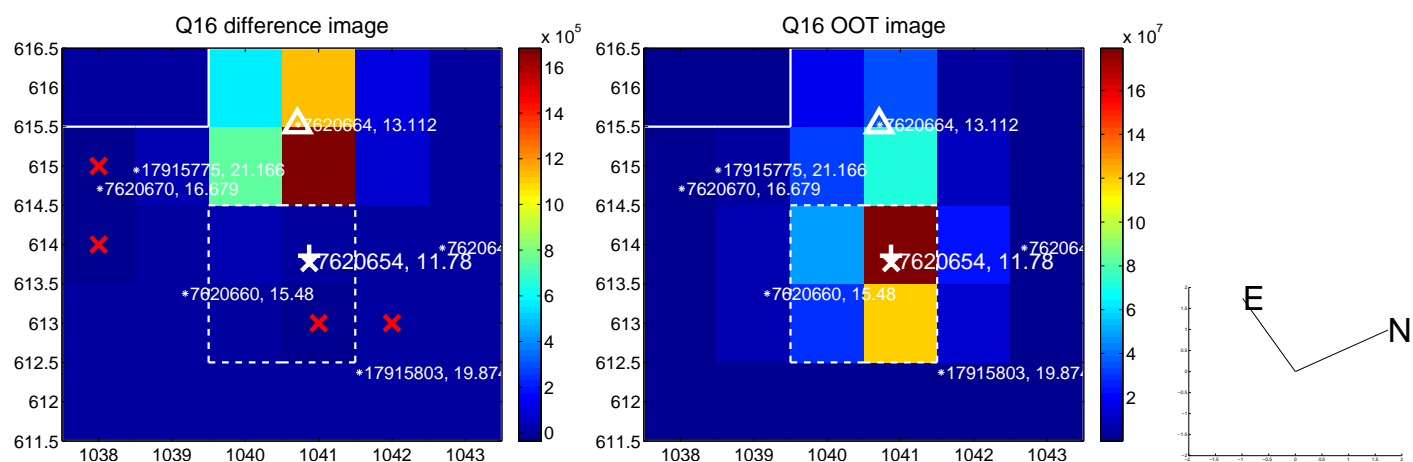
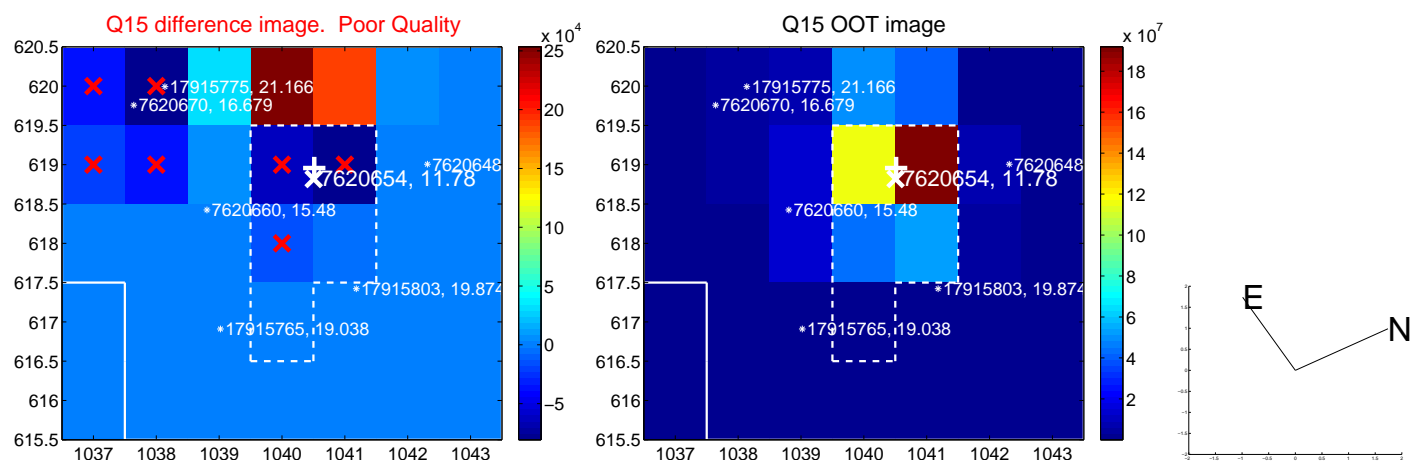
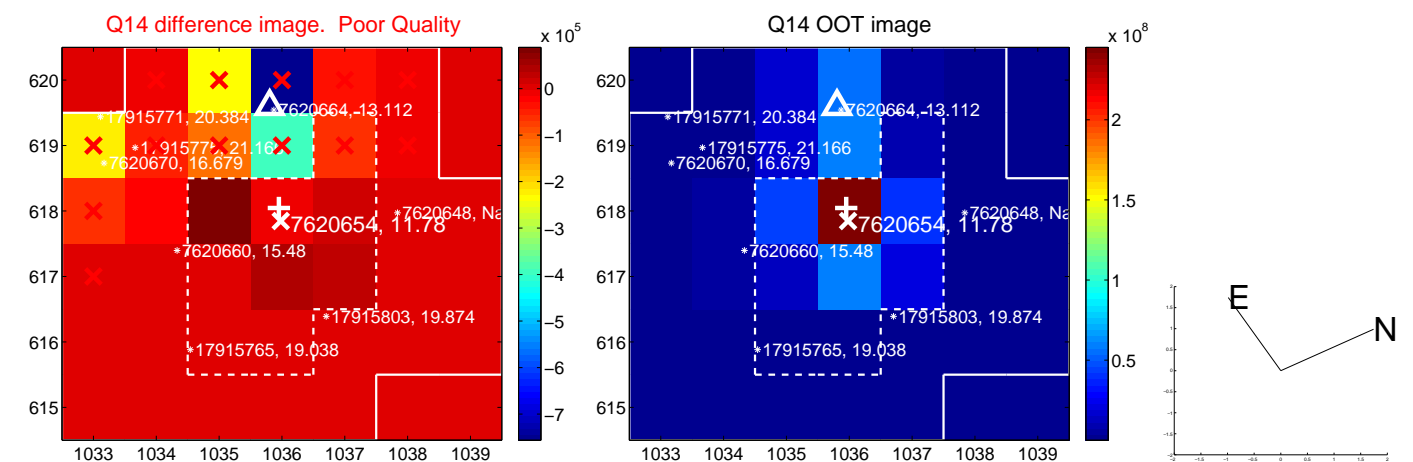
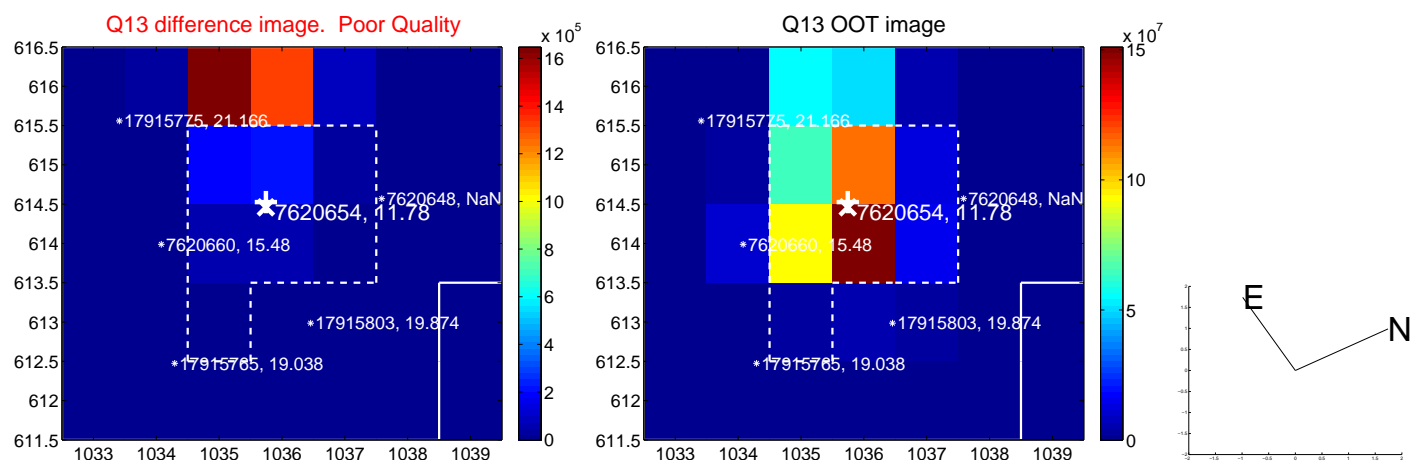
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



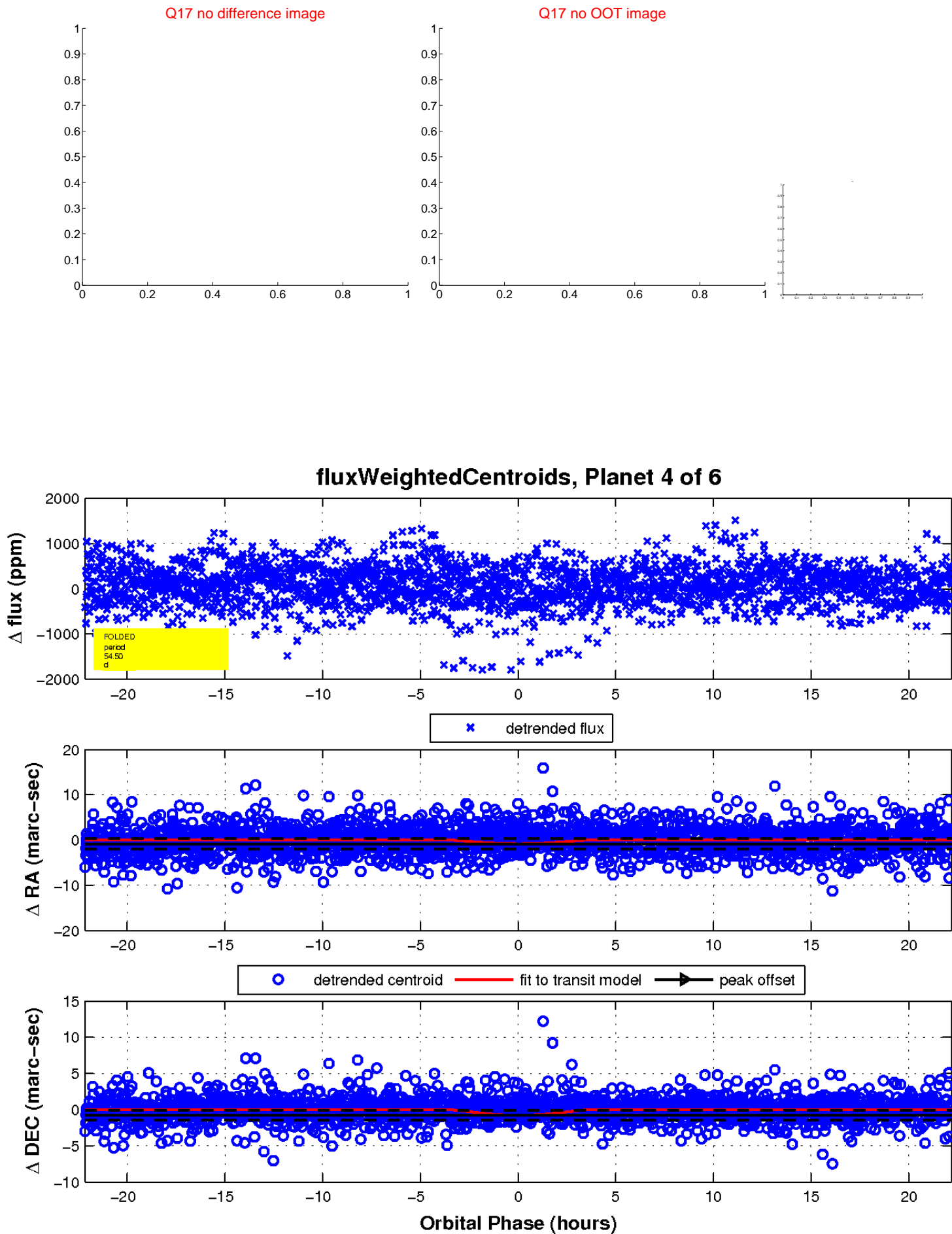
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



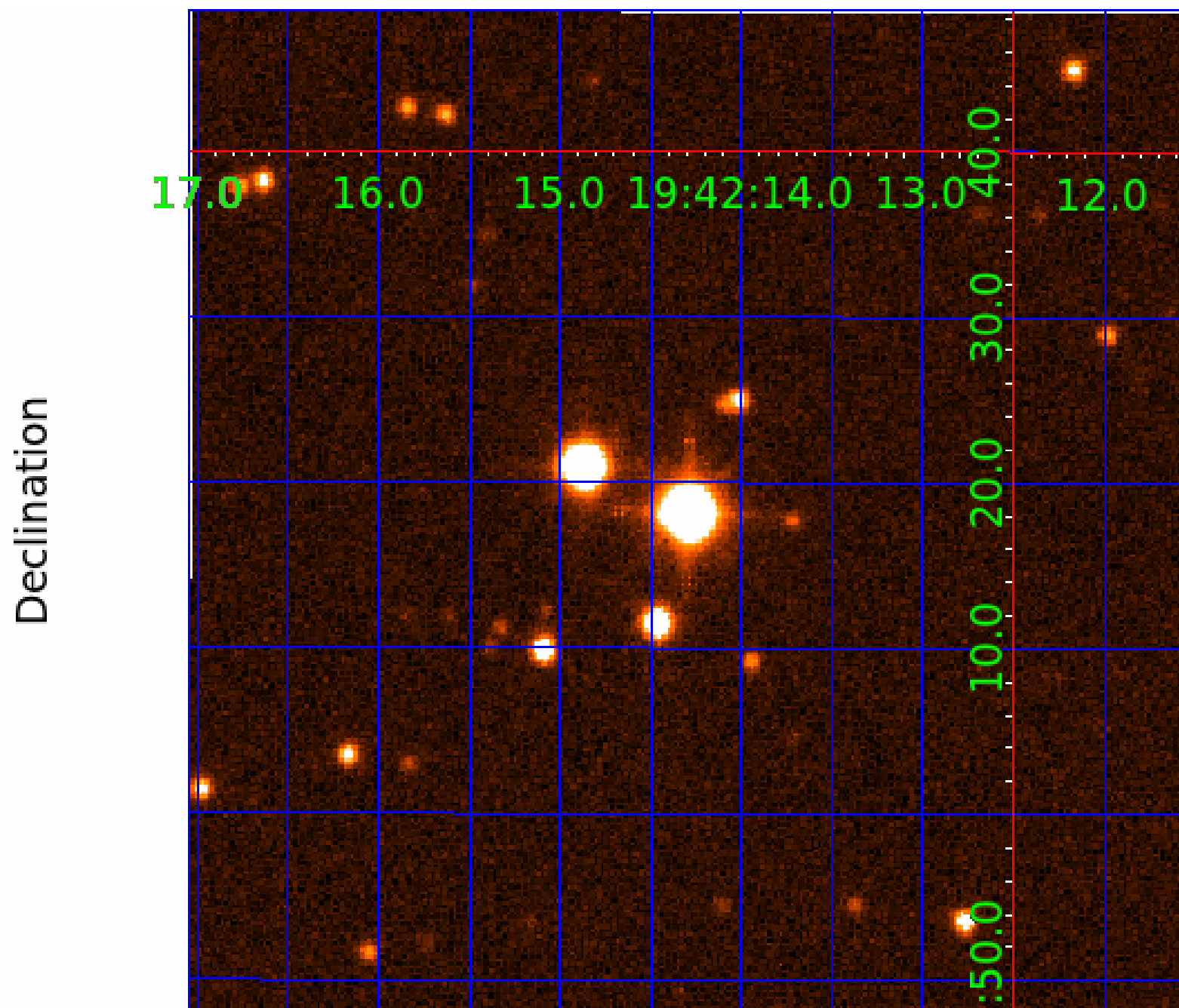
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007620654

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})
007620654-01	OBS	No	0.531525	131.809551	17.7	1.429	8.6	4.9	1.52	7082	0.74	29424.94
007620654-02	OBS	No	0.796283	131.927930	30.2	4.799	8.6	6.1	1.52	7082	0.98	17165.53
007620654-03	OBS	No	5.945876	133.433856	250.1	3.229	9.7	9.2	1.52	7082	2.79	1176.14
007620654-04	OBS	No	54.500280	181.303643	848.2	7.399	13.0	10.4	1.52	7082	8.09	61.31
007620654-05	OBS	No	6.369529	132.999479	381.1	11.891	9.6	10.5	1.52	7082	5.67	1073.01
007620654-06	OBS	No	0.910054	132.050777	135.1	3.000	10.4	-1.0	1.52	7082	1.79	14365.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007620654-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET
007620654-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
007620654-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007620654-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
007620654-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
007620654-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_NOFITS

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

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

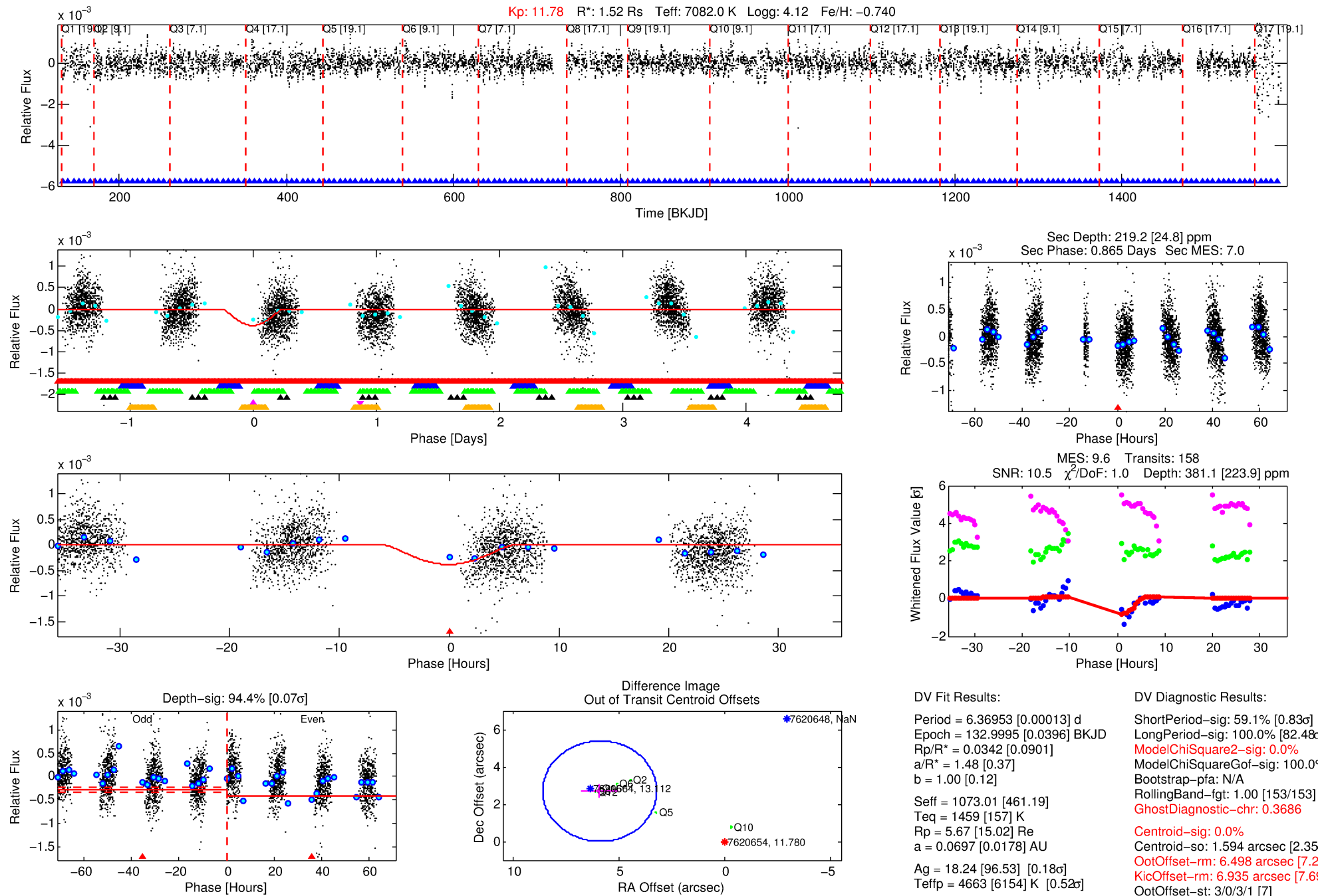
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007620654-05

No Significant Match Found

DV One-Page Summary

KIC: 7620654 Candidate: 5 of 6 Period: 6.370 d



DV Fit Results:

Period = 6.36953 [0.00013] d
Epoch = 132.9995 [0.0396] BKJD
Rp/R* = 0.0342 [0.0901]
a/R* = 1.48 [0.37]
b = 1.00 [0.12]
Seff = 1073.01 [461.19]
Teq = 1459 [157] K
Rp = 5.67 [15.02] Re
a = 0.0697 [0.0178] AU
Ag = 18.24 [96.53] [0.18 σ]
Teffp = 4663 [6154] K [0.52 σ]

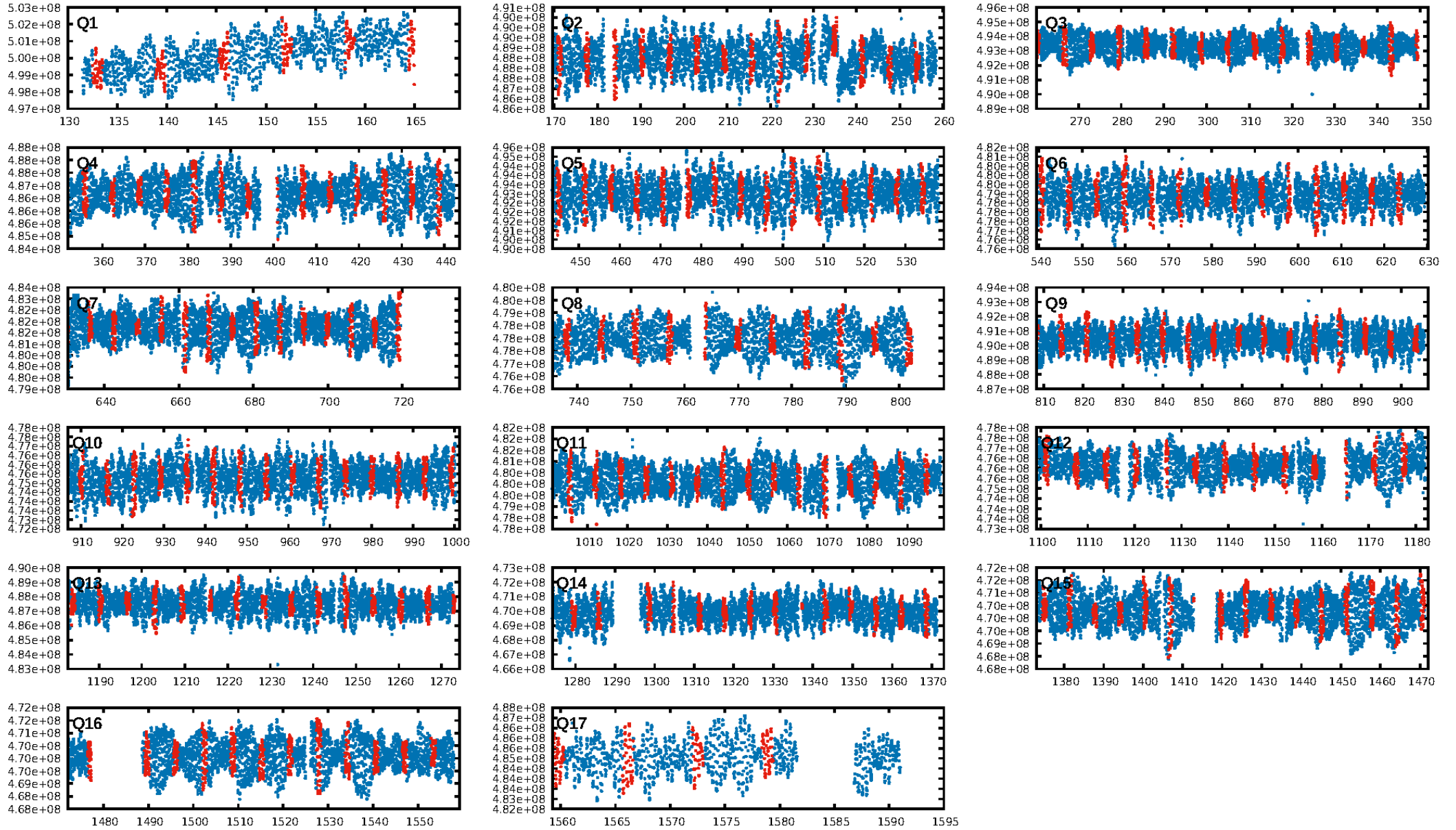
DV Diagnostic Results:

ShortPeriod-sig: 59.1% [0.83 σ]
LongPeriod-sig: 100.0% [82.48 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [153/153]
GhostDiagnostic-chr: 0.3686
Centroid-sig: 0.0%
Centroid-so: 1.594 arcsec [2.35 σ]
OotOffset-rm: 6.498 arcsec [7.24 σ]
KicOffset-rm: 6.935 arcsec [7.69 σ]
OotOffset-st: 3/0/3/1 [7]
KicOffset-st: 3/0/3/1 [7]
DiffImageQuality-fgm: 0.57 [4/7]
DiffImageOverlap-fno: 0.00 [0/17]

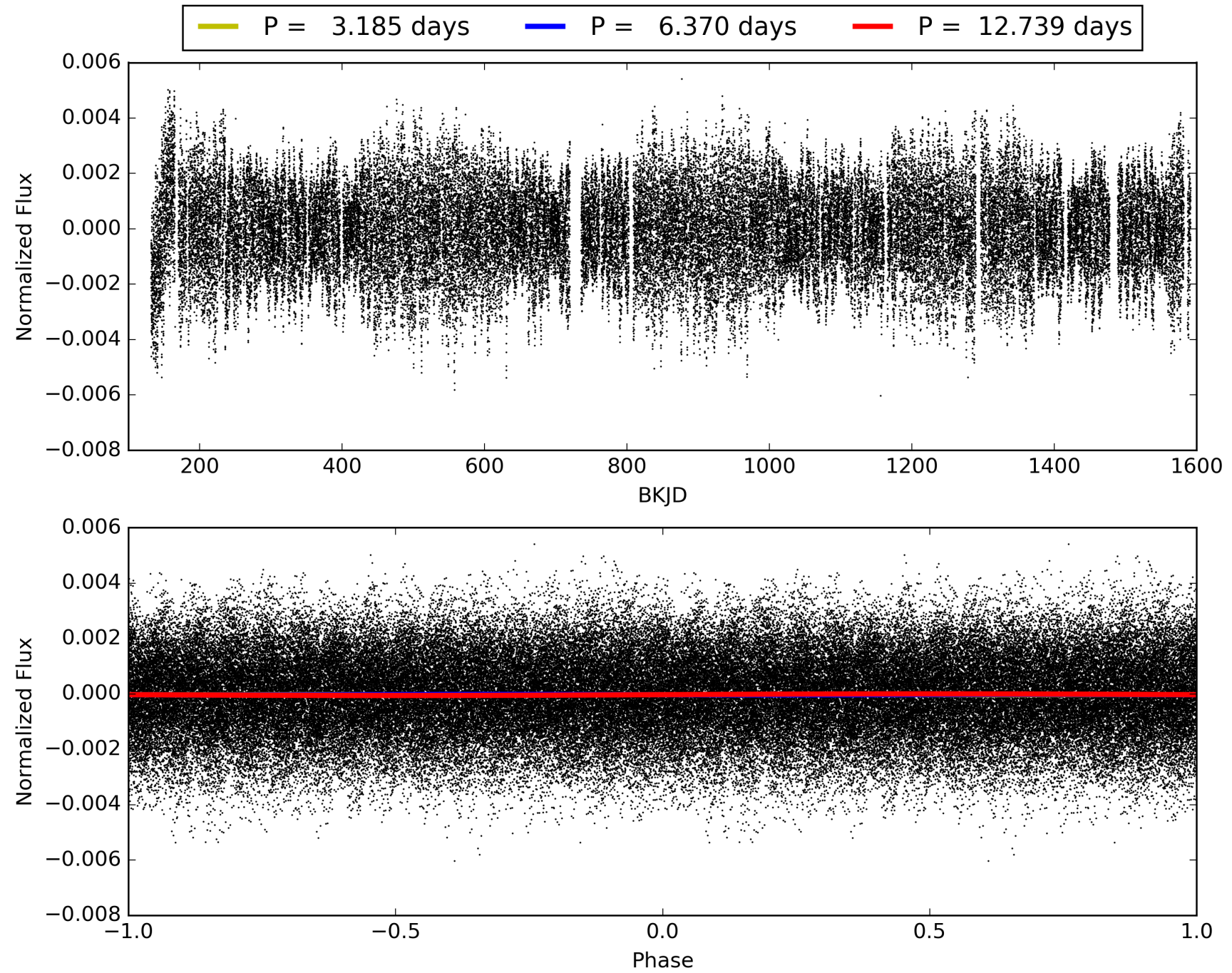
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 09:08:38 Z

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

TCE 007620654-05, PDC Light Curves

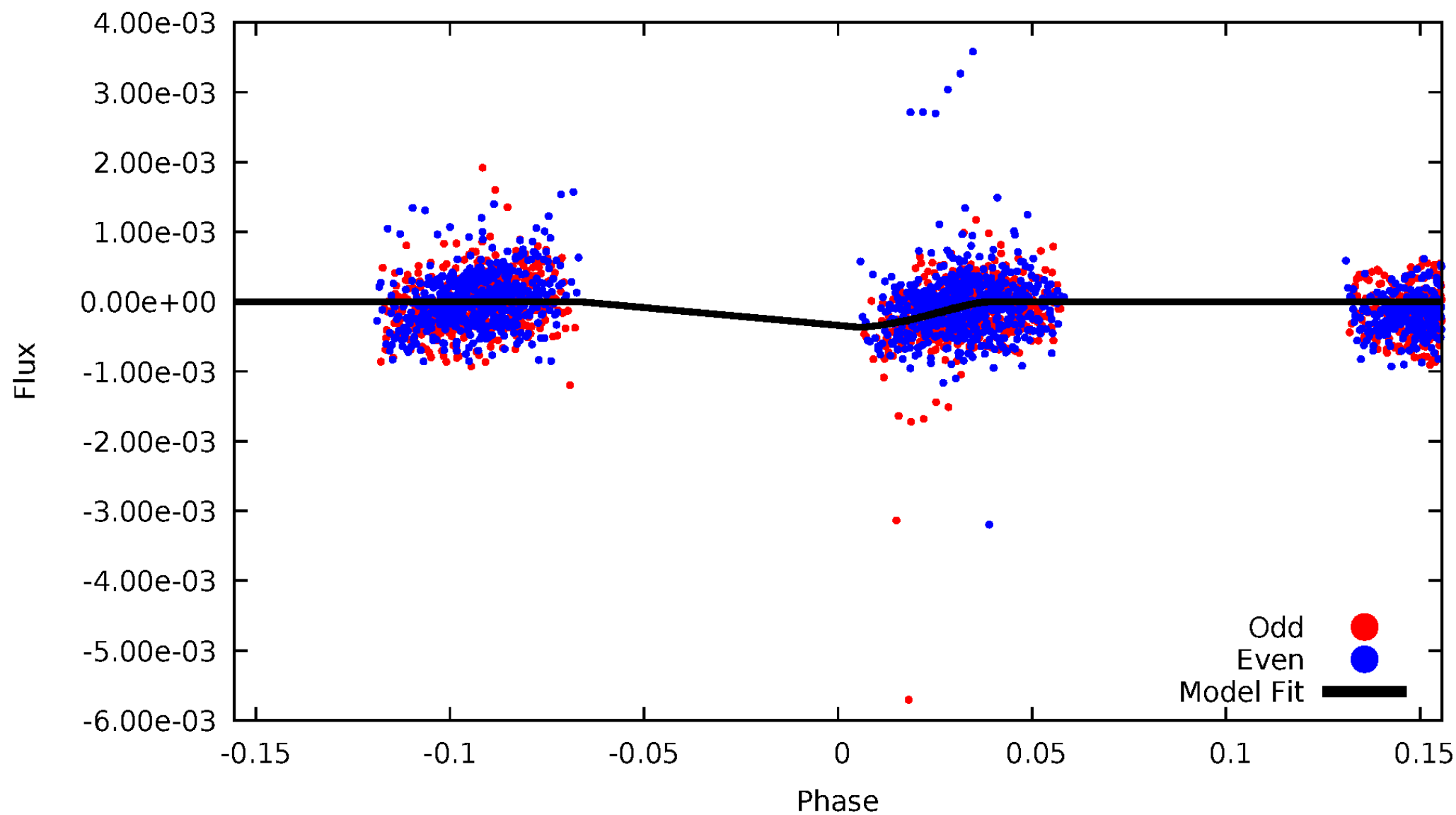


TCE 007620654-05



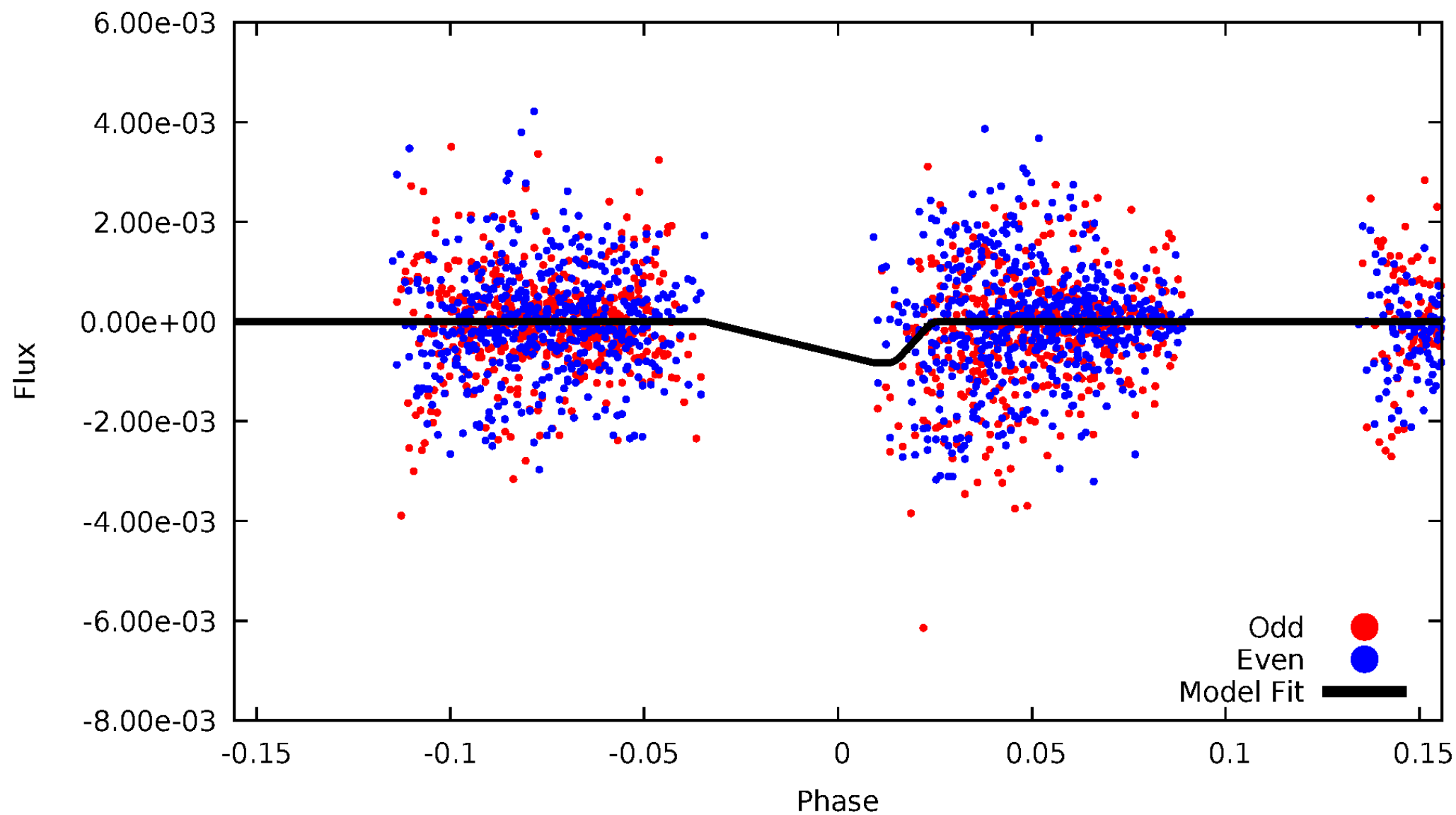
DV Odd/Even

TCE 007620654-05



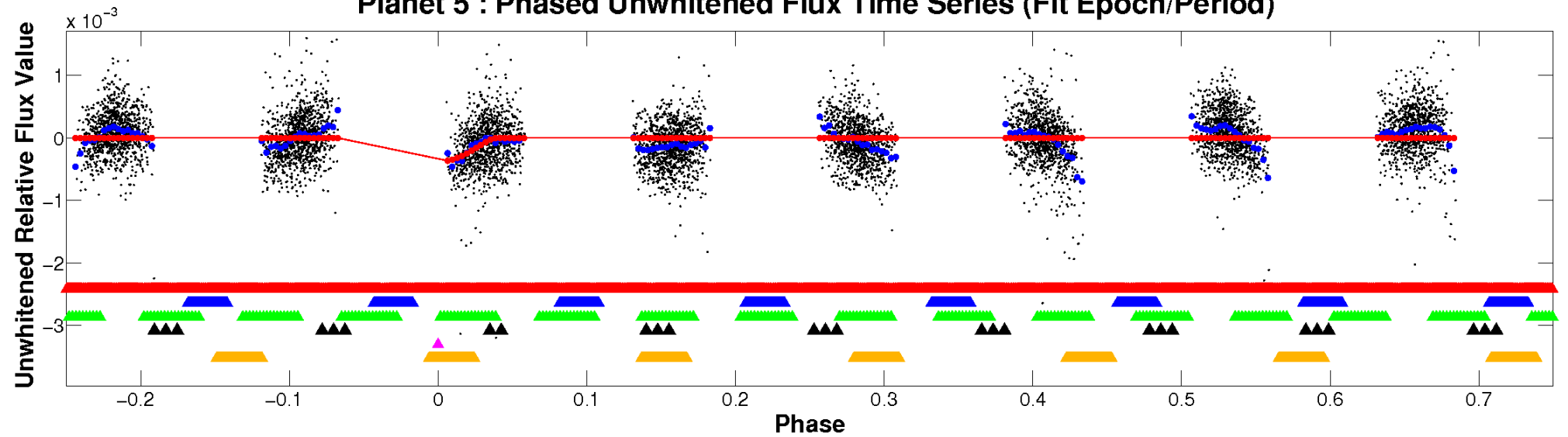
ALT Odd/Even

TCE 007620654-05

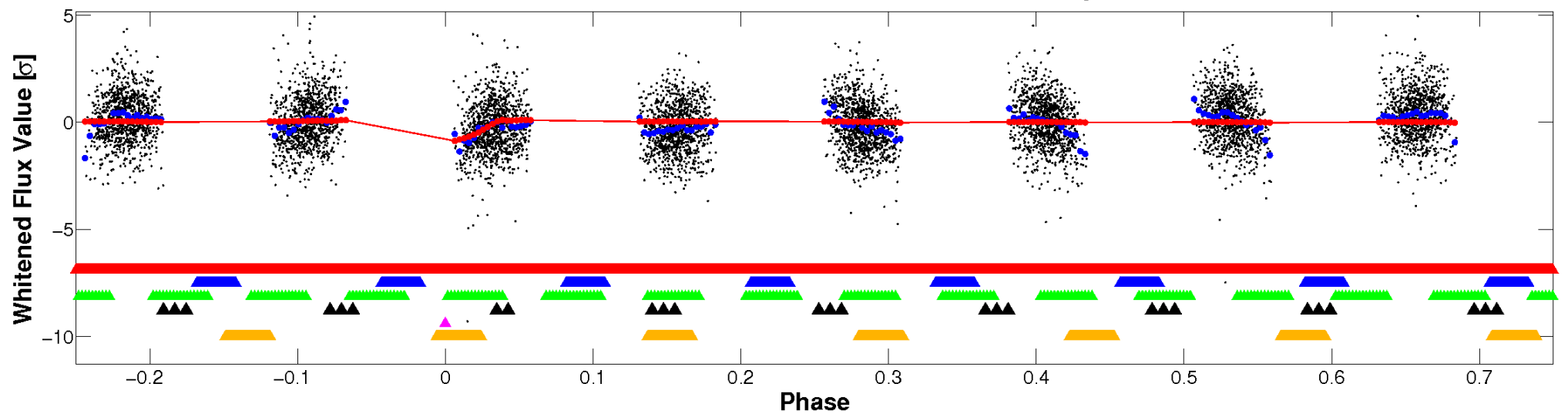


Non-Whitened Vs. Whitened Light Curve

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

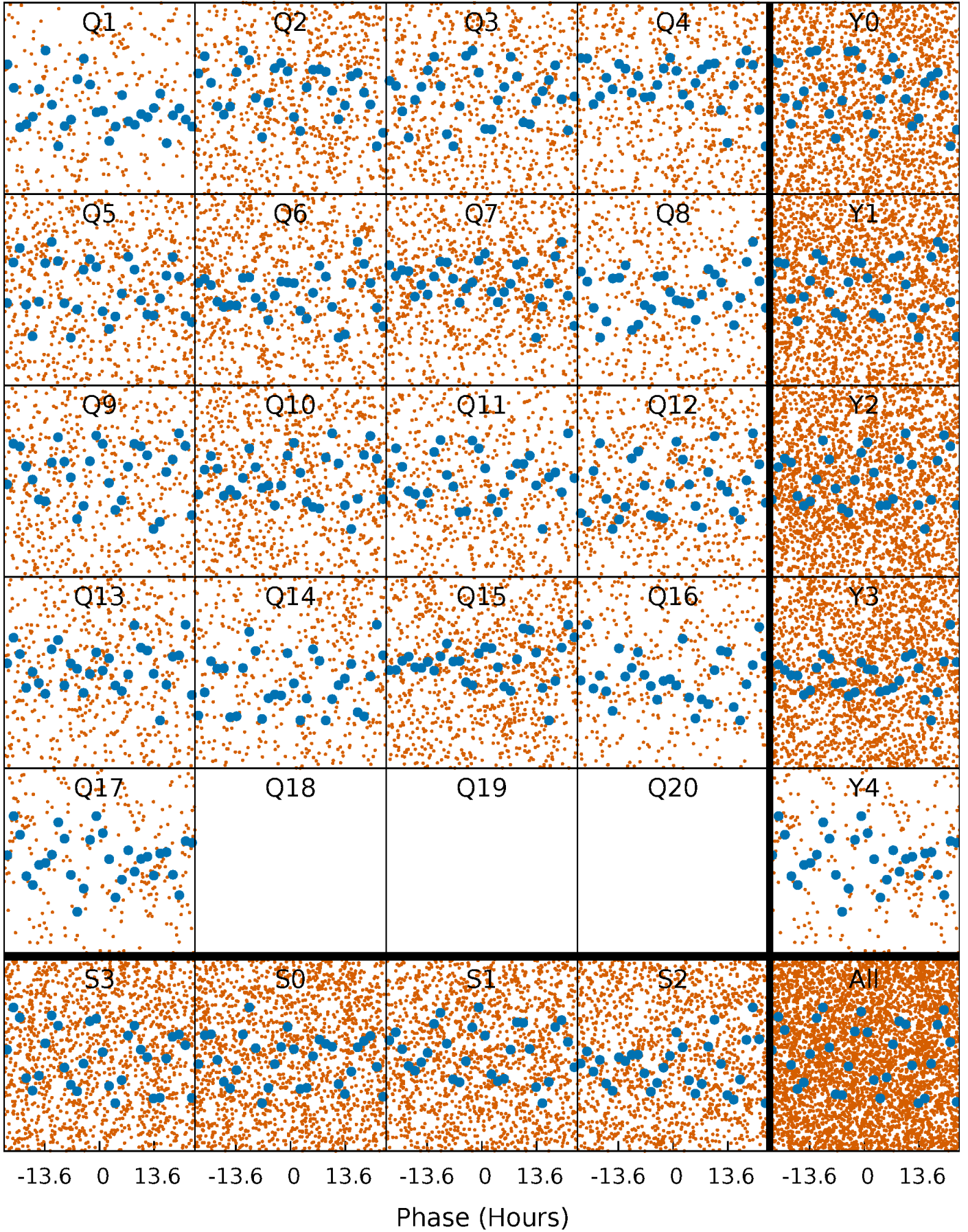


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



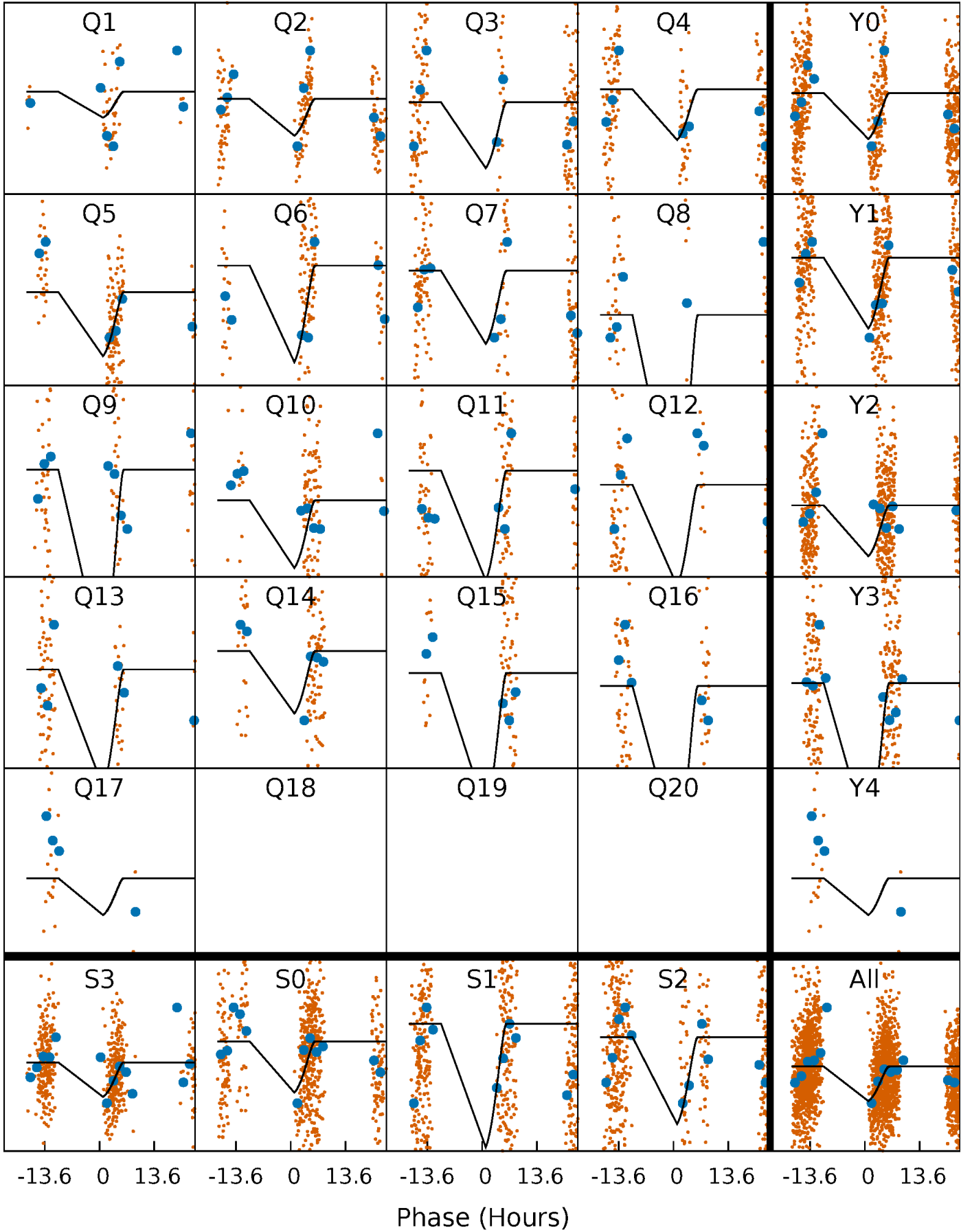
PDC Quarter-Phased Transit Curves

TCE 007620654-05 P= 6.369529 Days $T_0=132.999479$ (BKJD)



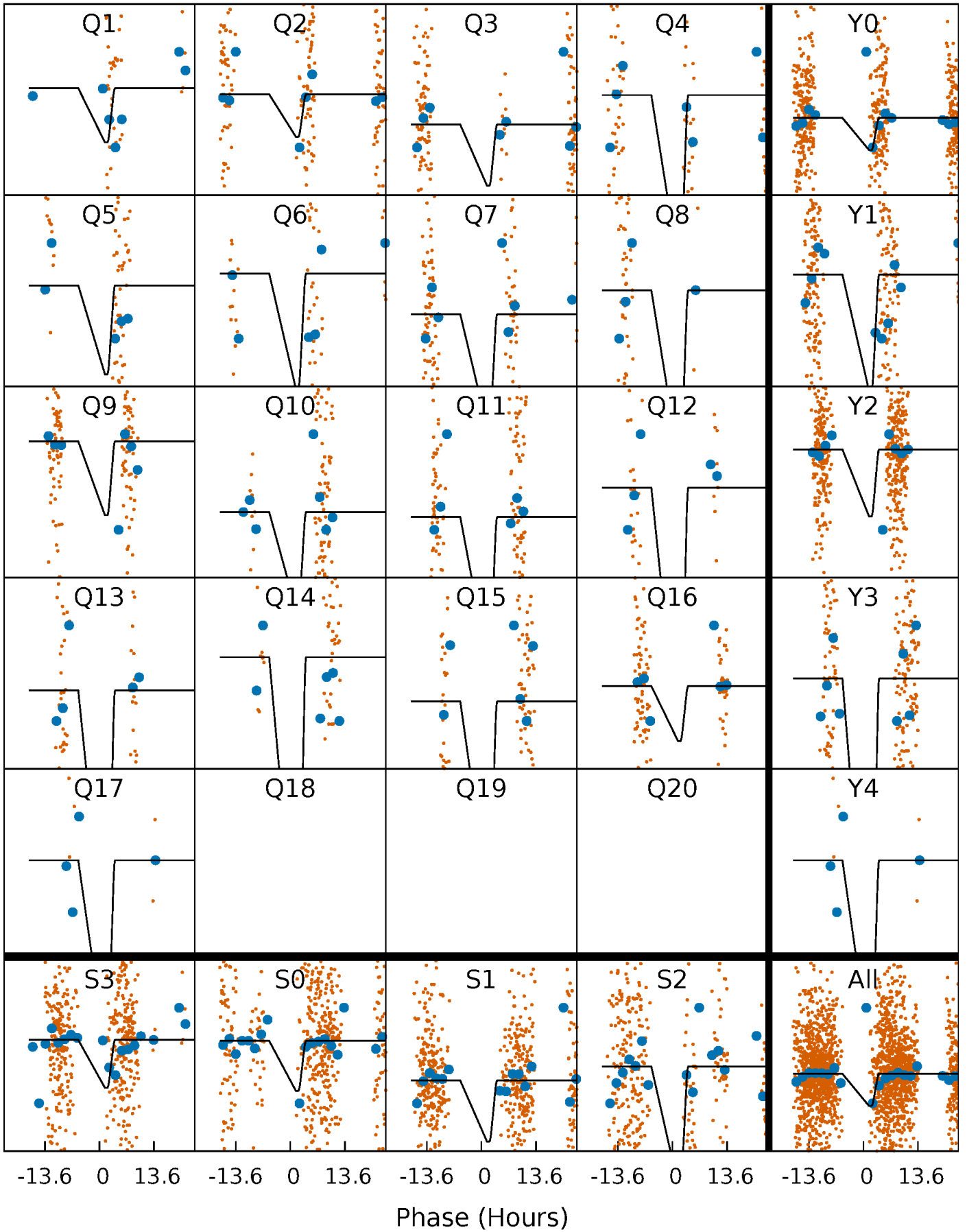
DV Quarter-Phased Transit Curves

TCE 007620654-05 P= 6.369529 Days $T_0=132.999479$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

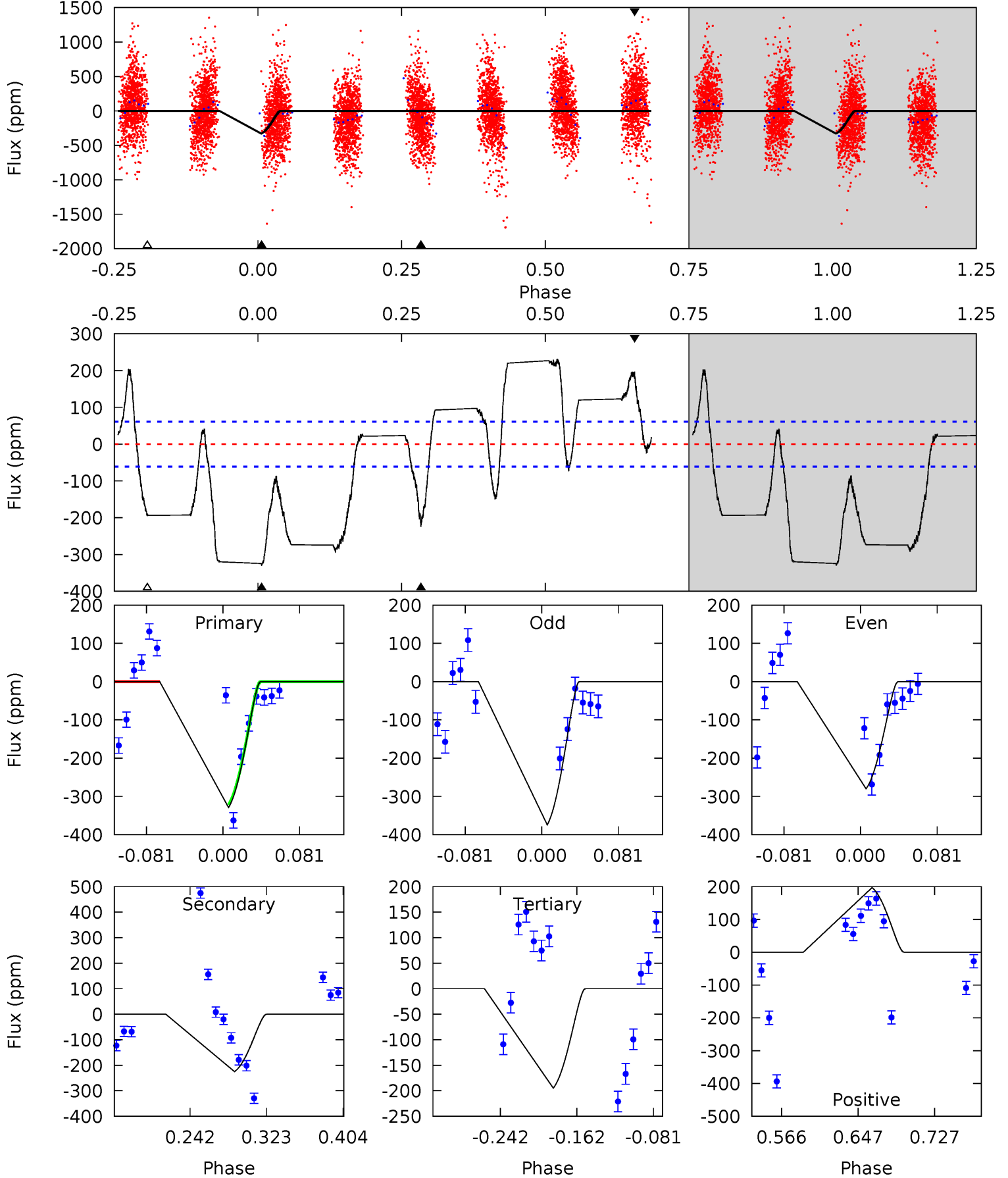
TCE 007620654-05 P= 6.368696 Days $T_0=132.979412$ (BKJD)



DV Model-Shift Uniqueness Test

007620654-05, P = 6.369529 Days, E = 126.629950 Days

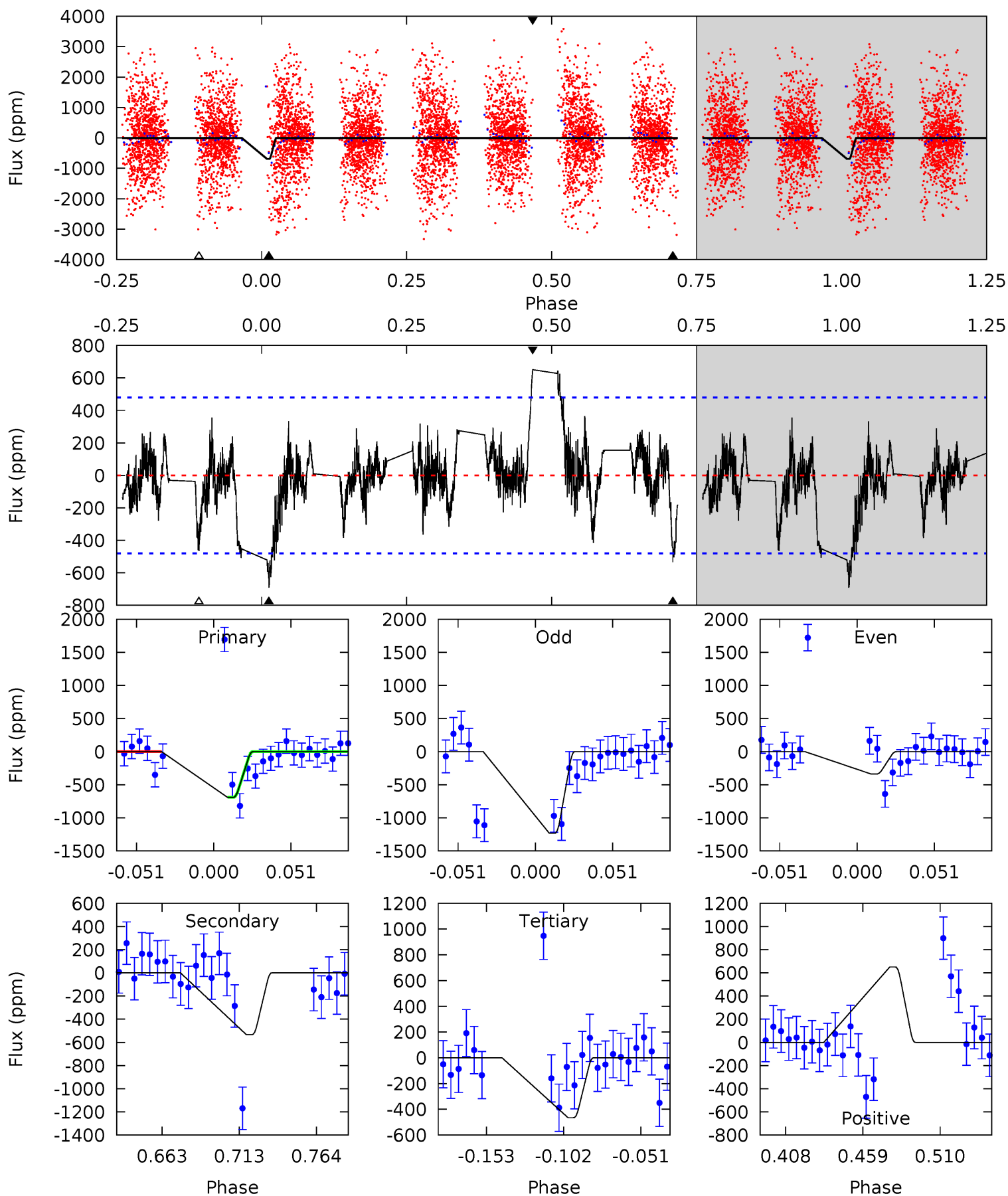
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.8	17.0	14.7	14.9	4.61	1.75	10.1	10.1	9.96	2.28	2.11	3.59	0.89	0.41	0



Alt Model-Shift Uniqueness Test

007620654-05, P = 6.368696 Days, E = 126.610716 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.78	5.24	4.56	6.38	4.70	1.95	1.27	2.22	0.40	0.68	-1.14	4.37	3.90	0.48	0



Stellar Parameters For KIC 007620654

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7082^{+193}_{-236}	$4.120^{+0.240}_{-0.160}$	$-0.740^{+0.250}_{-0.300}$	$1.520^{+0.403}_{-0.403}$	$1.111^{+0.147}_{-0.107}$	$0.446^{+0.621}_{-0.197}$
	+3%/-3%	+6%/-4%	+34%/-41%	+27%/-27%	+13%/-10%	+139%/-44%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007620654-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-225 ± 13	$12.07^{+10.60}_{-8.04}$	2029^{+147}_{-173}	3587^{+1940}_{-727}	$4.240^{+32.195}_{-3.092}$
Alt.	-534 ± 102	$11.17^{+12.79}_{-7.41}$	2025^{+149}_{-156}	4245^{+2835}_{-995}	11^{+97}_{-8}

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 $A_{obs} \gg 1.0$

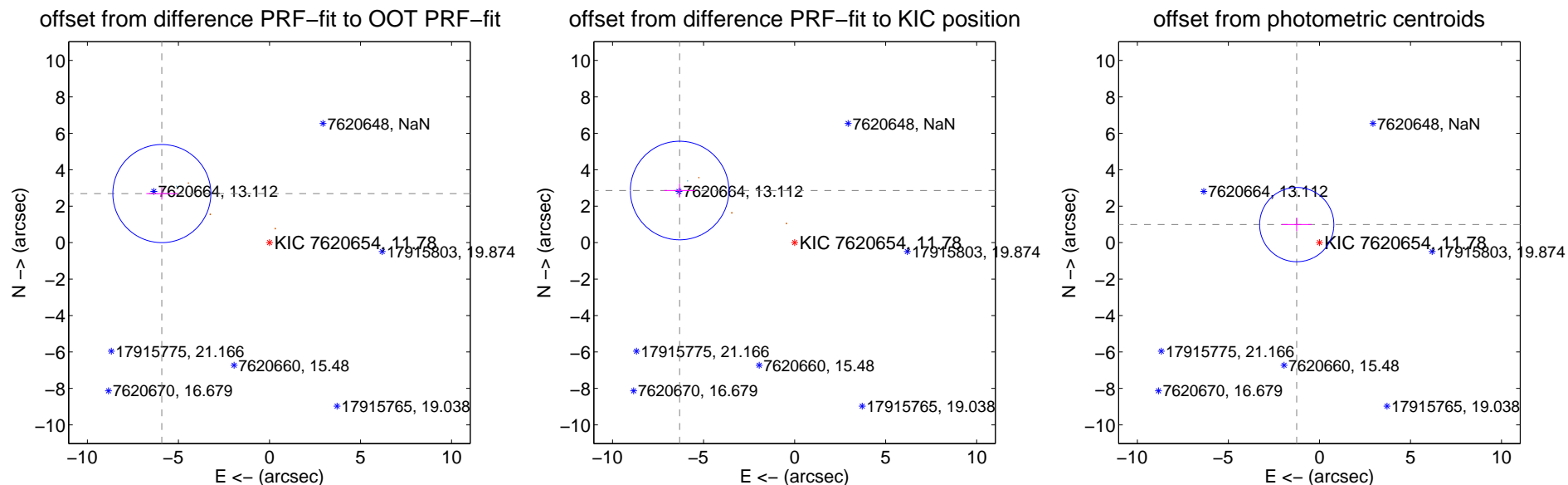
DV Centroid Data

Supplemental centroid analysis for 007620654-05. **Kepler magnitude: 11.78.** Transit SNR 10.49

There are 4 quarters with good PRF difference image offsets

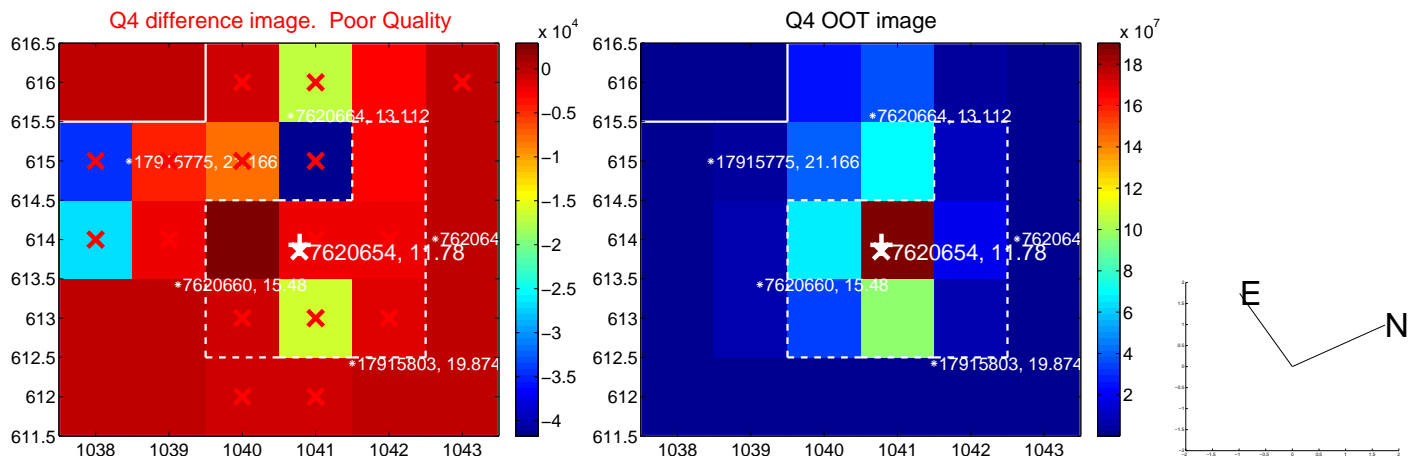
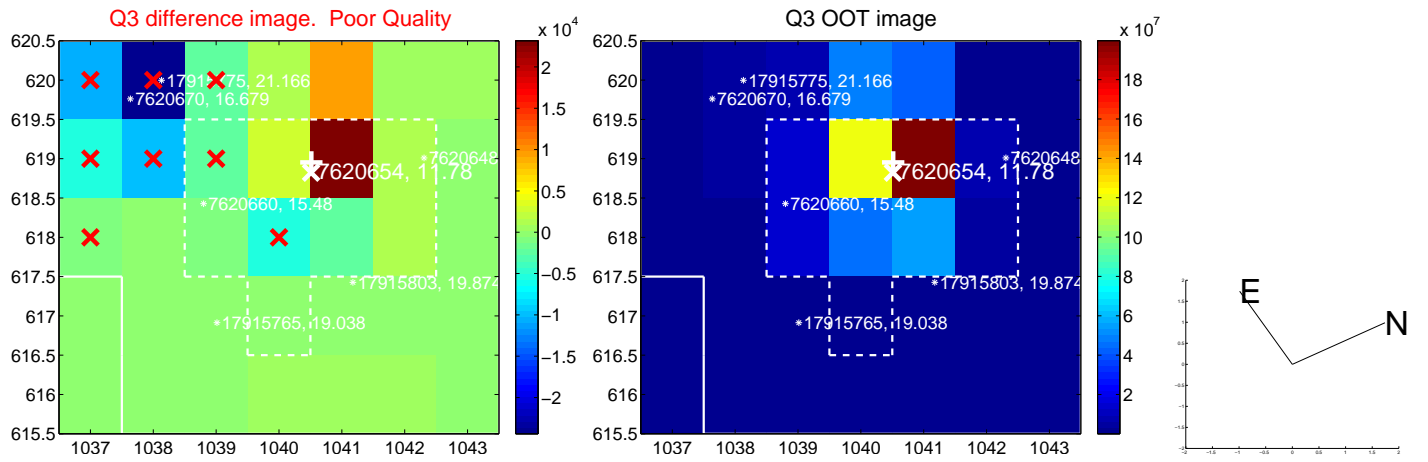
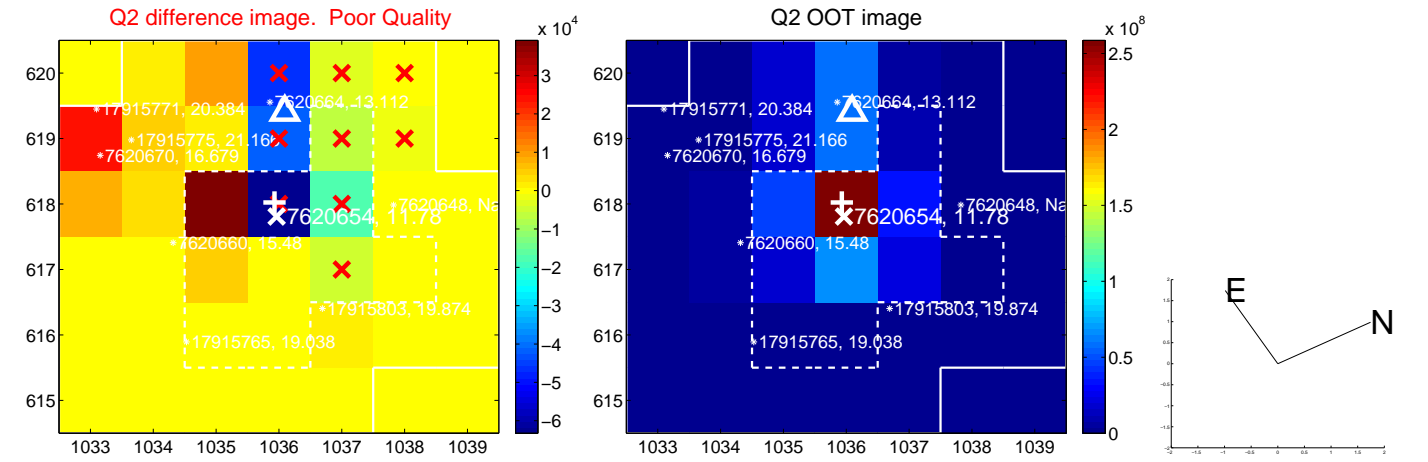
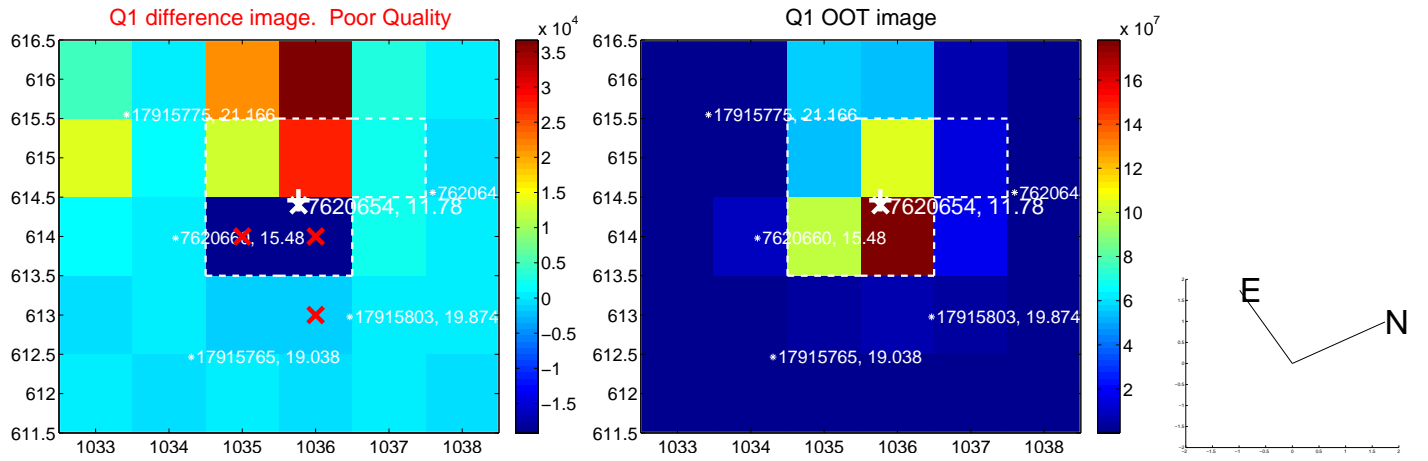
The direct PRF centroid is offset from the target star catalog position by about 0.38 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.498 ± 0.897	7.24	5.914 ± 0.855	2.693 ± 0.330
PRF-fit source offset from KIC position	6.935 ± 0.902	7.69	6.318 ± 0.842	2.860 ± 0.372
photometric centroid source offset	1.59 ± 0.68	2.35	1.25 ± 0.82	0.99 ± 0.36

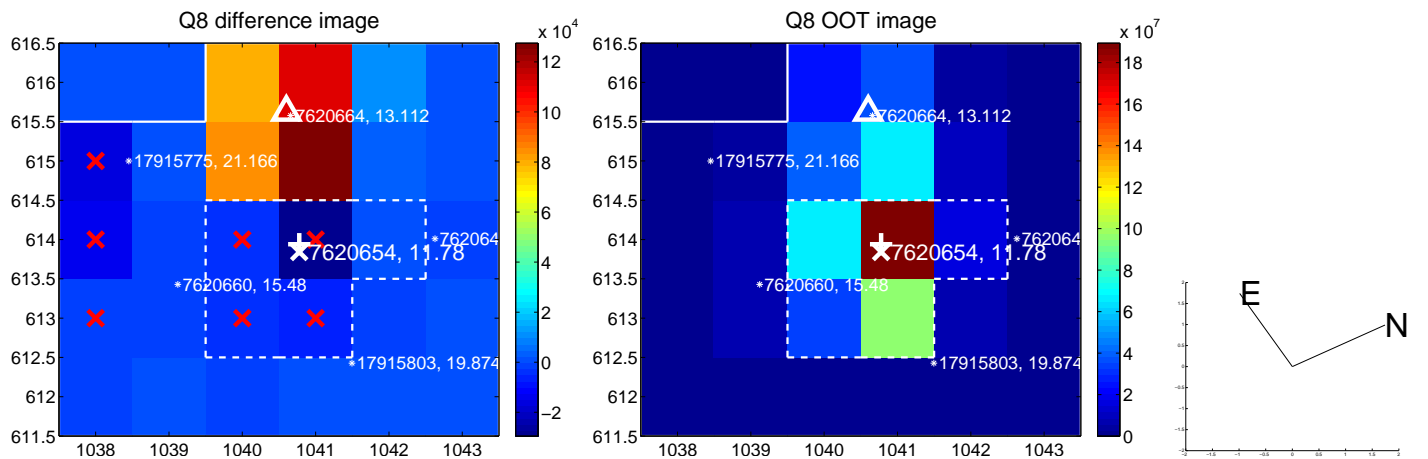
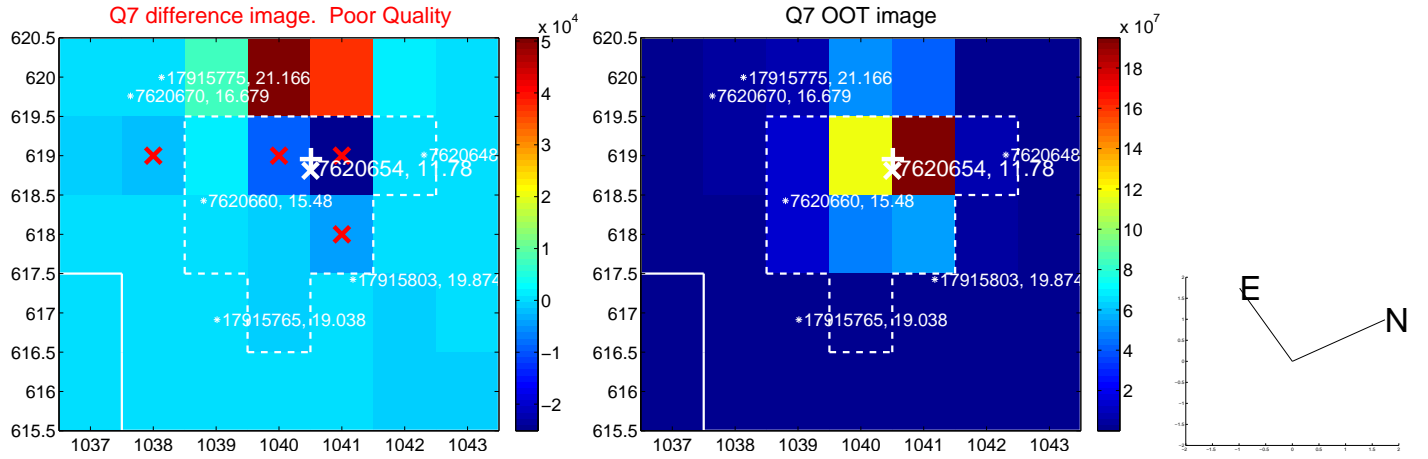
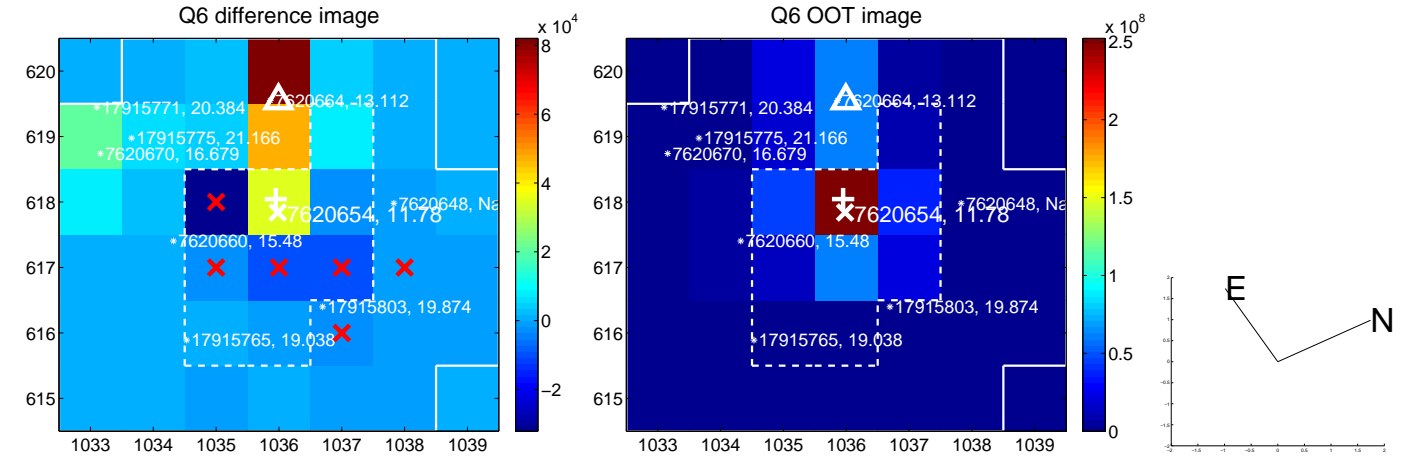
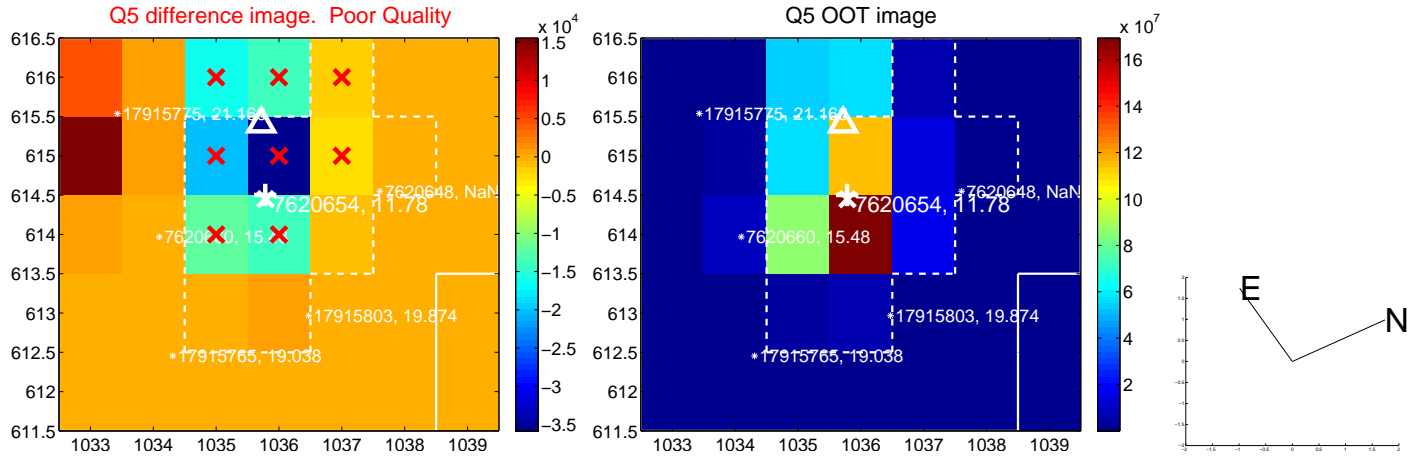


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

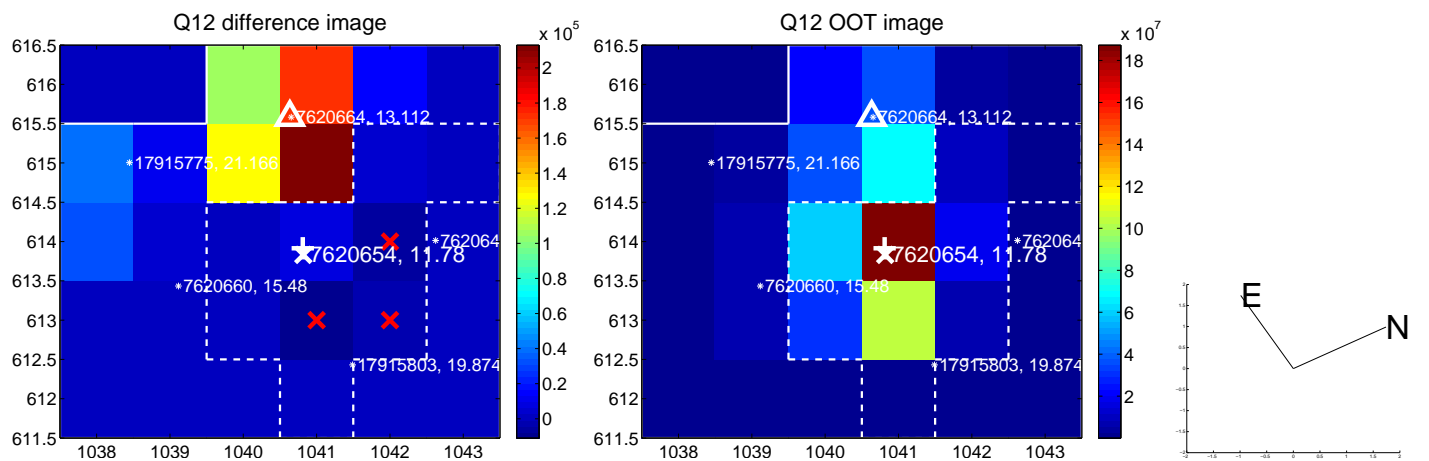
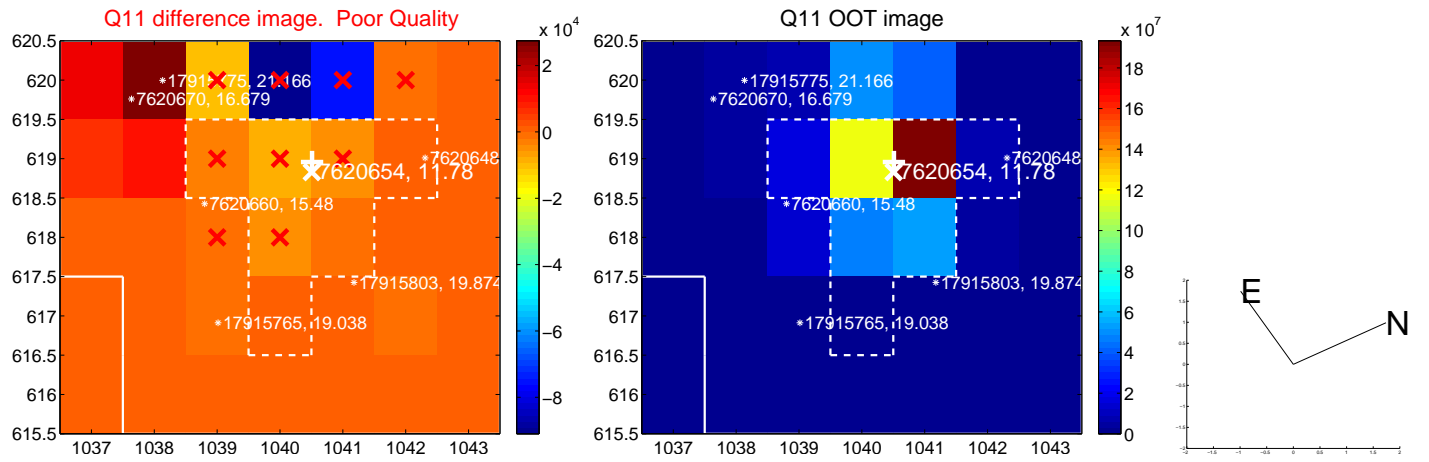
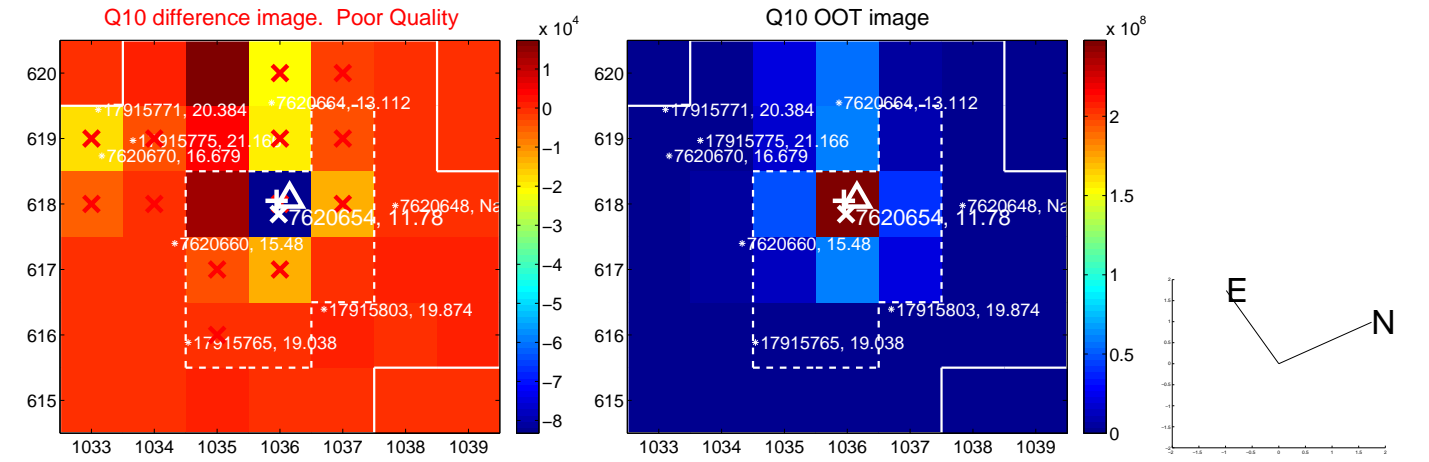
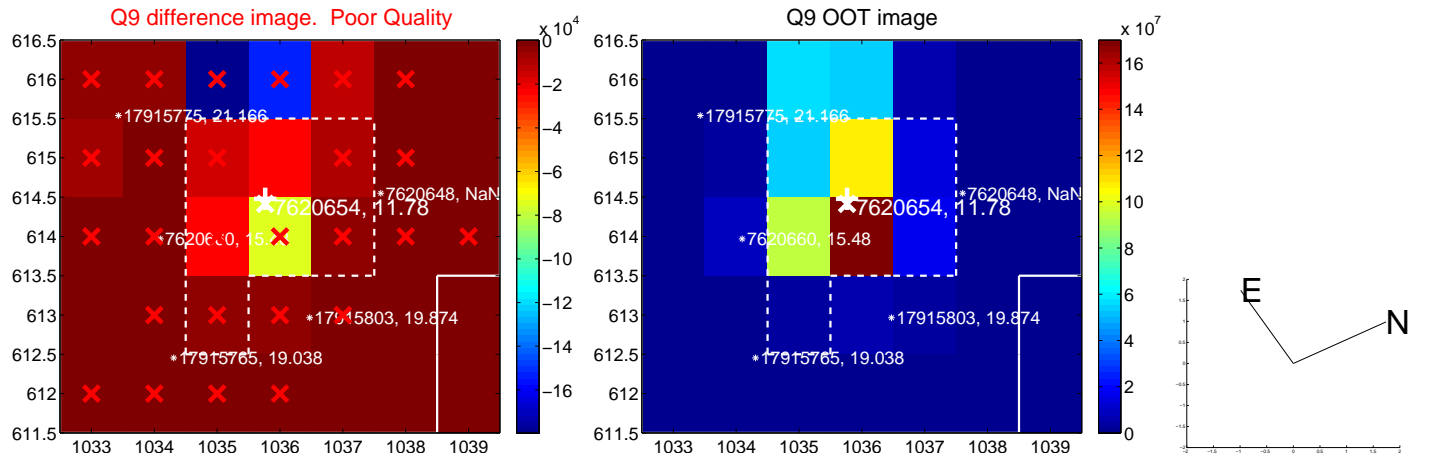
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



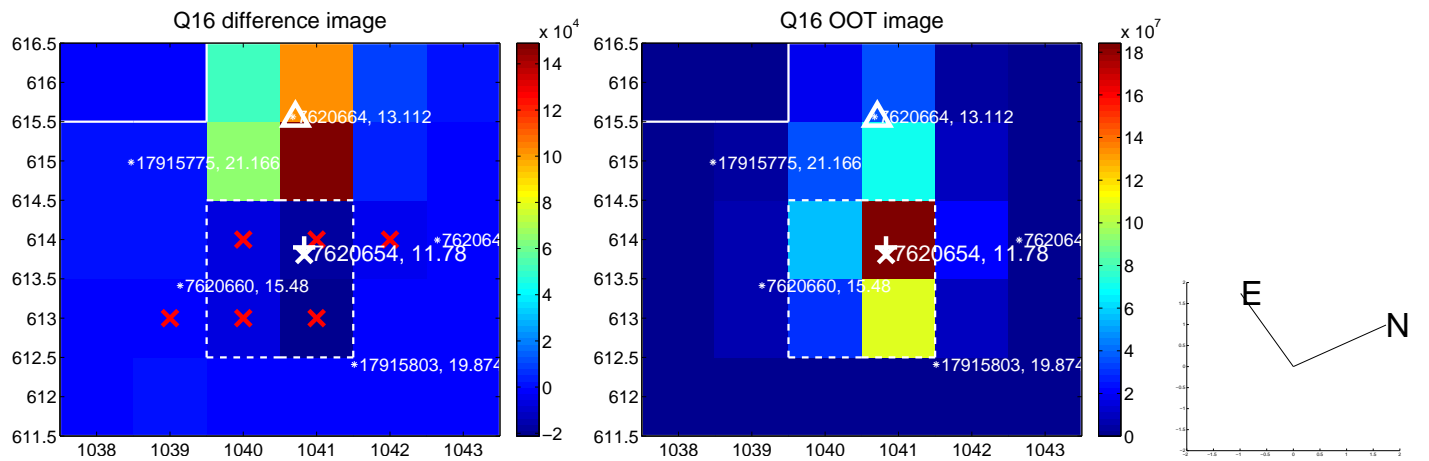
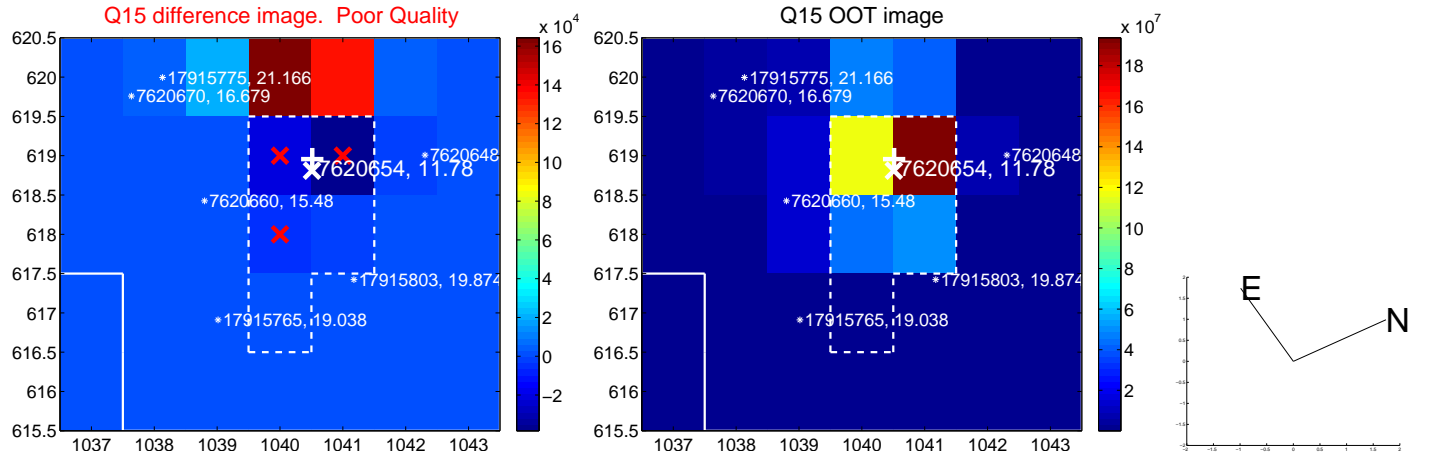
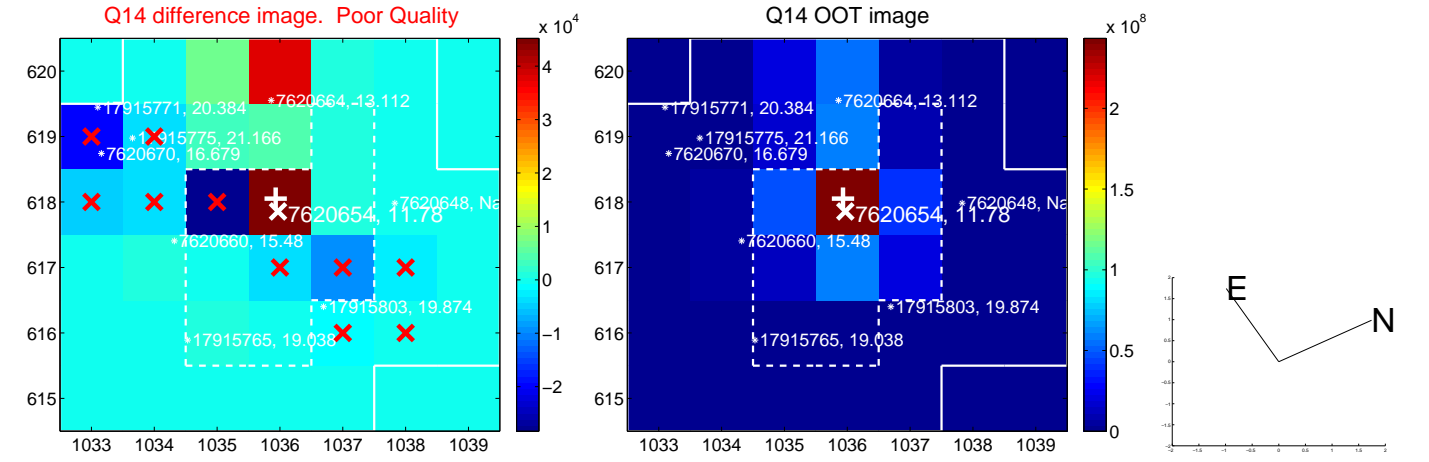
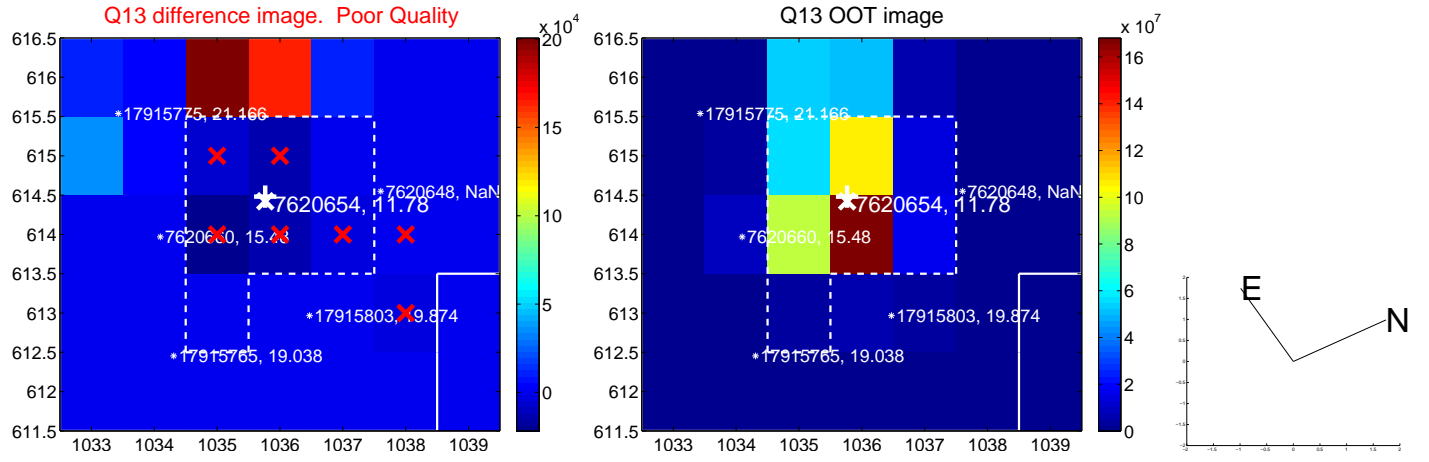
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



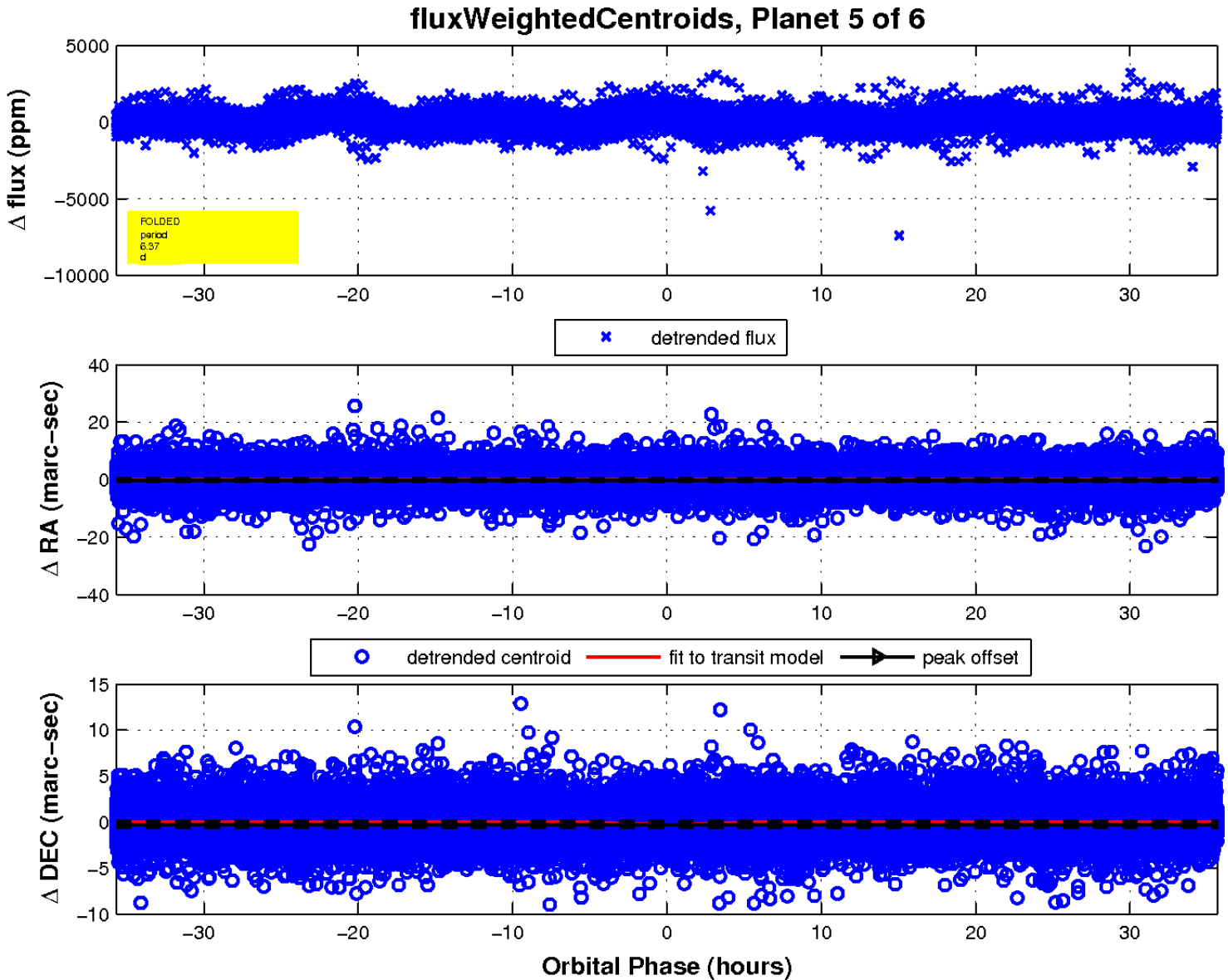
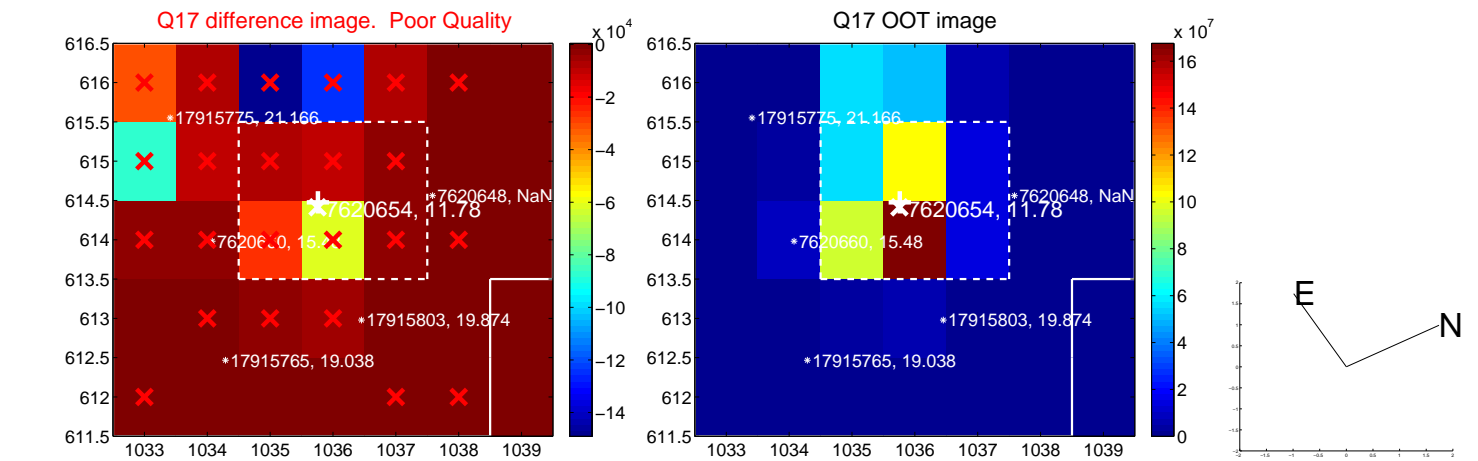
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



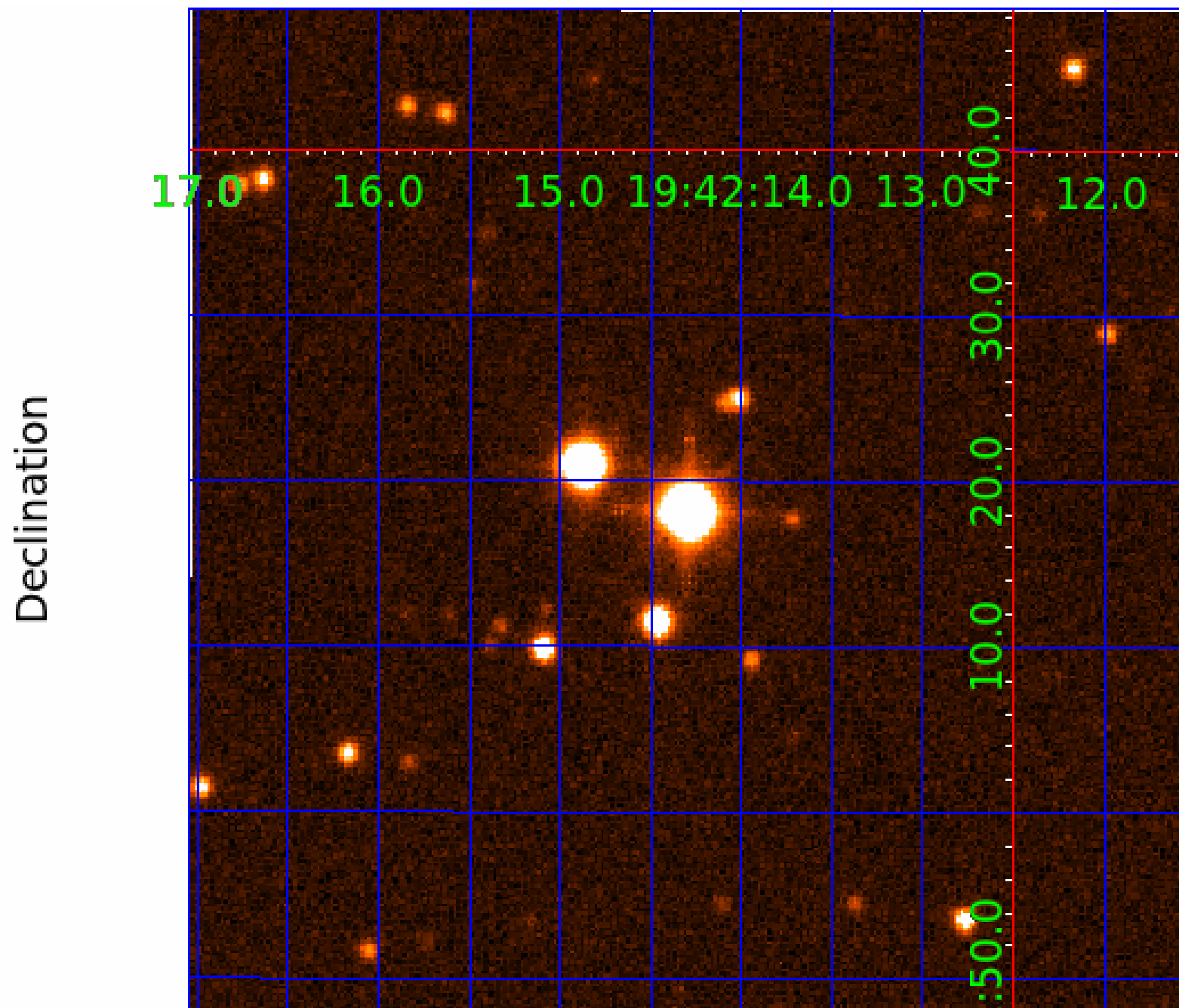
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 007620654

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})
007620654-01	OBS	No	0.531525	131.809551	17.7	1.429	8.6	4.9	1.52	7082	0.74	29424.94
007620654-02	OBS	No	0.796283	131.927930	30.2	4.799	8.6	6.1	1.52	7082	0.98	17165.53
007620654-03	OBS	No	5.945876	133.433856	250.1	3.229	9.7	9.2	1.52	7082	2.79	1176.14
007620654-04	OBS	No	54.500280	181.303643	848.2	7.399	13.0	10.4	1.52	7082	8.09	61.31
007620654-05	OBS	No	6.369529	132.999479	381.1	11.891	9.6	10.5	1.52	7082	5.67	1073.01
007620654-06	OBS	No	0.910054	132.050777	135.1	3.000	10.4	-1.0	1.52	7082	1.79	14365.61

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007620654-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_UNRESOLVED_OFFSET
007620654-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
007620654-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007620654-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
007620654-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNRESOLVED_OFFSET
007620654-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—CENT_NOFITS

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

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

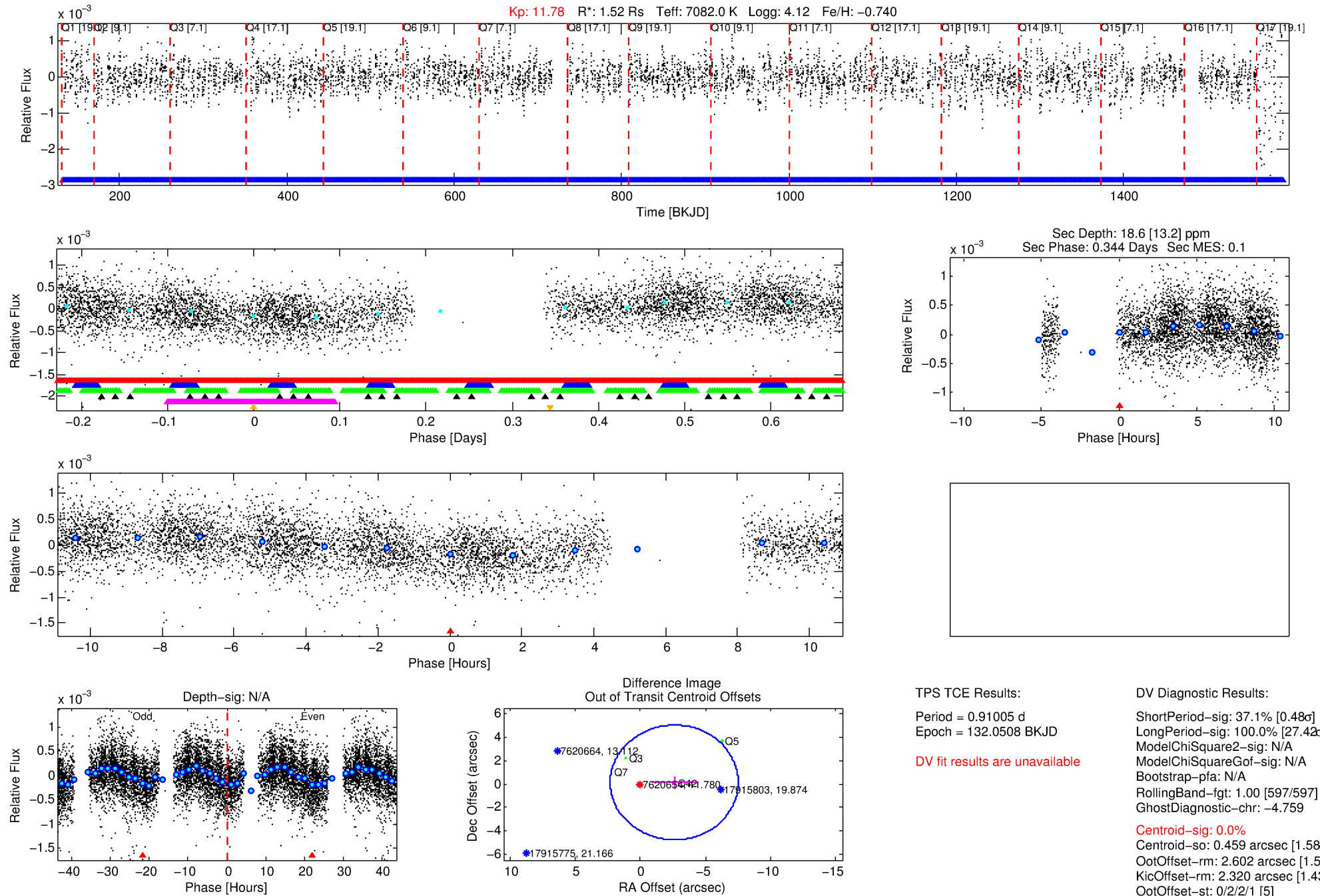
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007620654-06

No Significant Match Found

DV One-Page Summary

KIC: 7620654 Candidate: 6 of 6 Period: 0.910 d



TPS TCE Results:

Period = 0.91005 d
Epoch = 132.0508 BKJD

DV fit results are unavailable

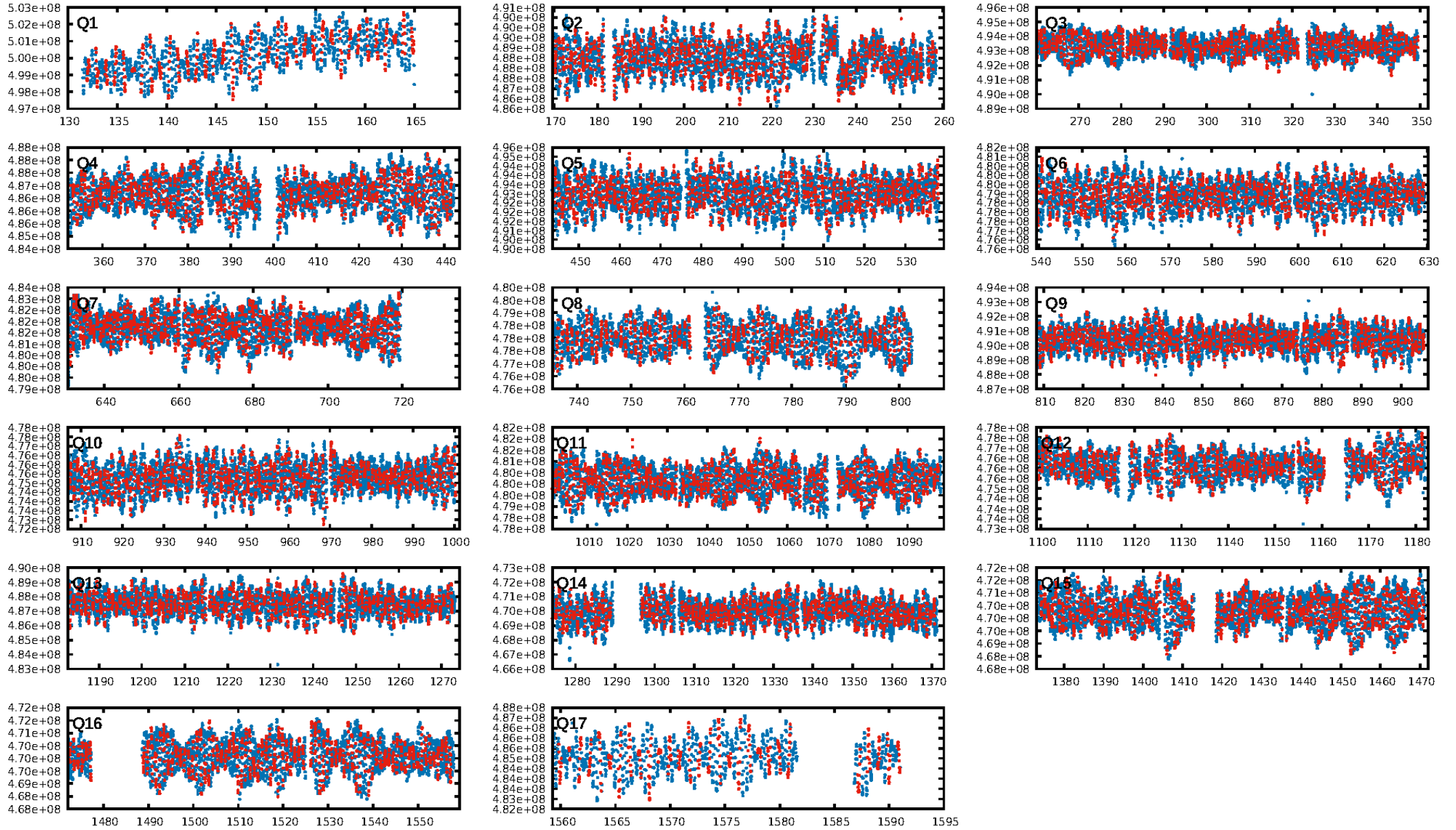
DV Diagnostic Results:

ShortPeriod-sig: 37.1% [0.48 σ]
LongPeriod-sig: 100.0% [27.42 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [597/597]
GhostDiagnostic-chr: -4.759
Centroid-sig: 0.0%
Centroid-so: 0.459 arcsec [1.58 σ]
OotOffset-rm: 2.602 arcsec [1.59 σ]
KicOffset-rm: 2.320 arcsec [1.43 σ]
OotOffset-st: 0/2/2/1 [5]
KicOffset-st: 0/2/2/1 [5]
DiffImageQuality-fgm: 0.00 [0/5]
DiffImageOverlap-fno: 0.00 [0/17]

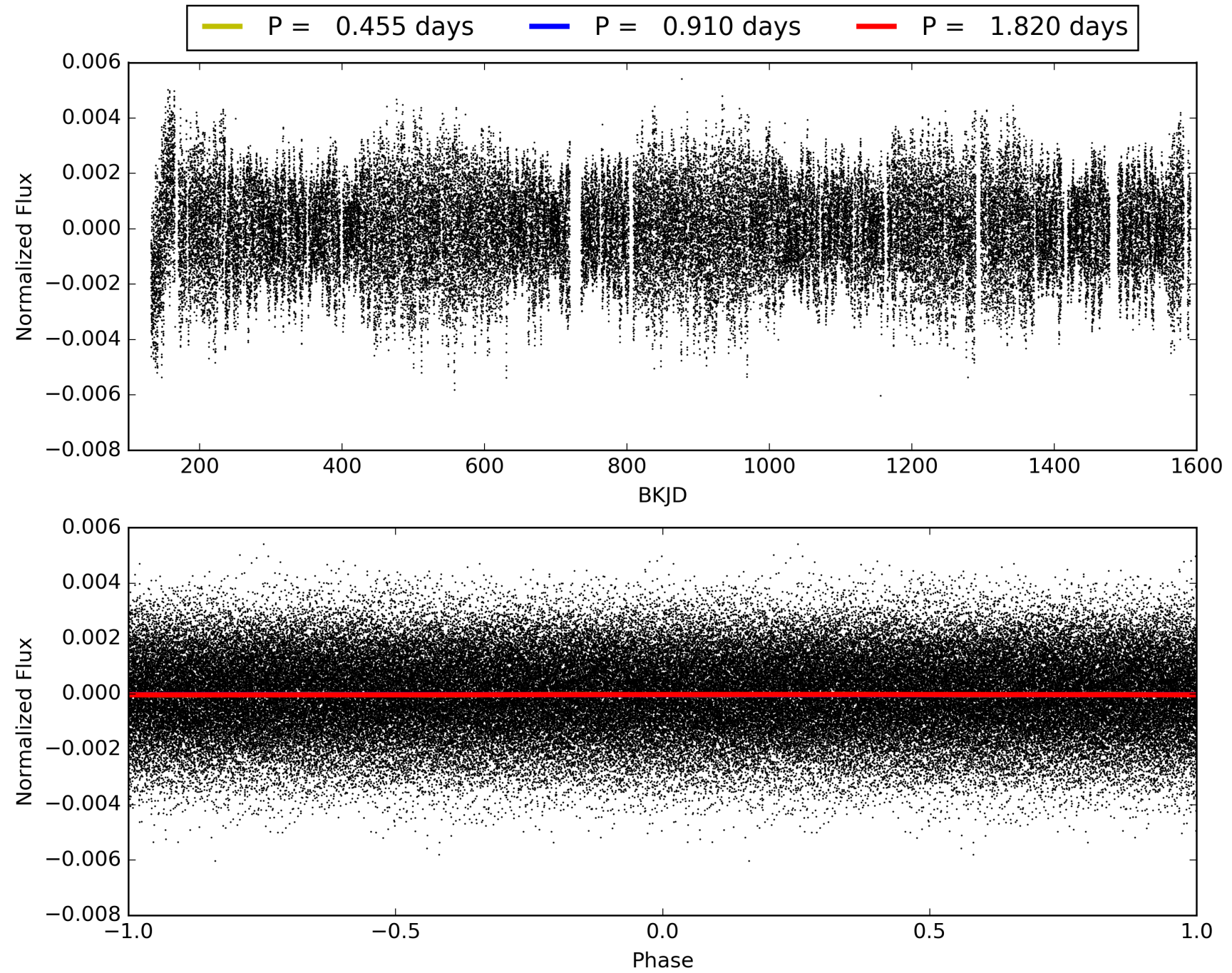
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 09:08:45 Z

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

TCE 007620654-06, PDC Light Curves

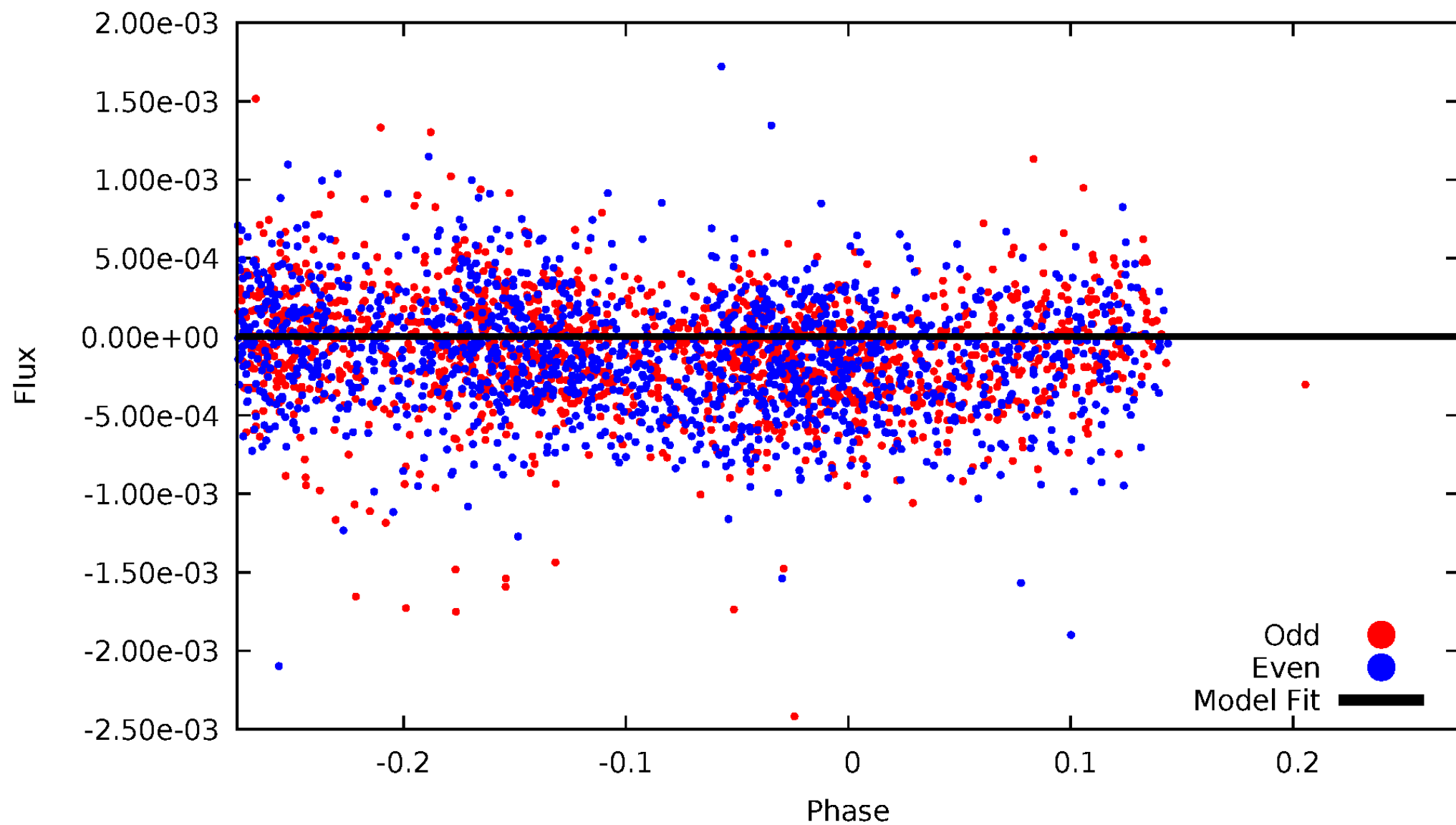


TCE 007620654-06



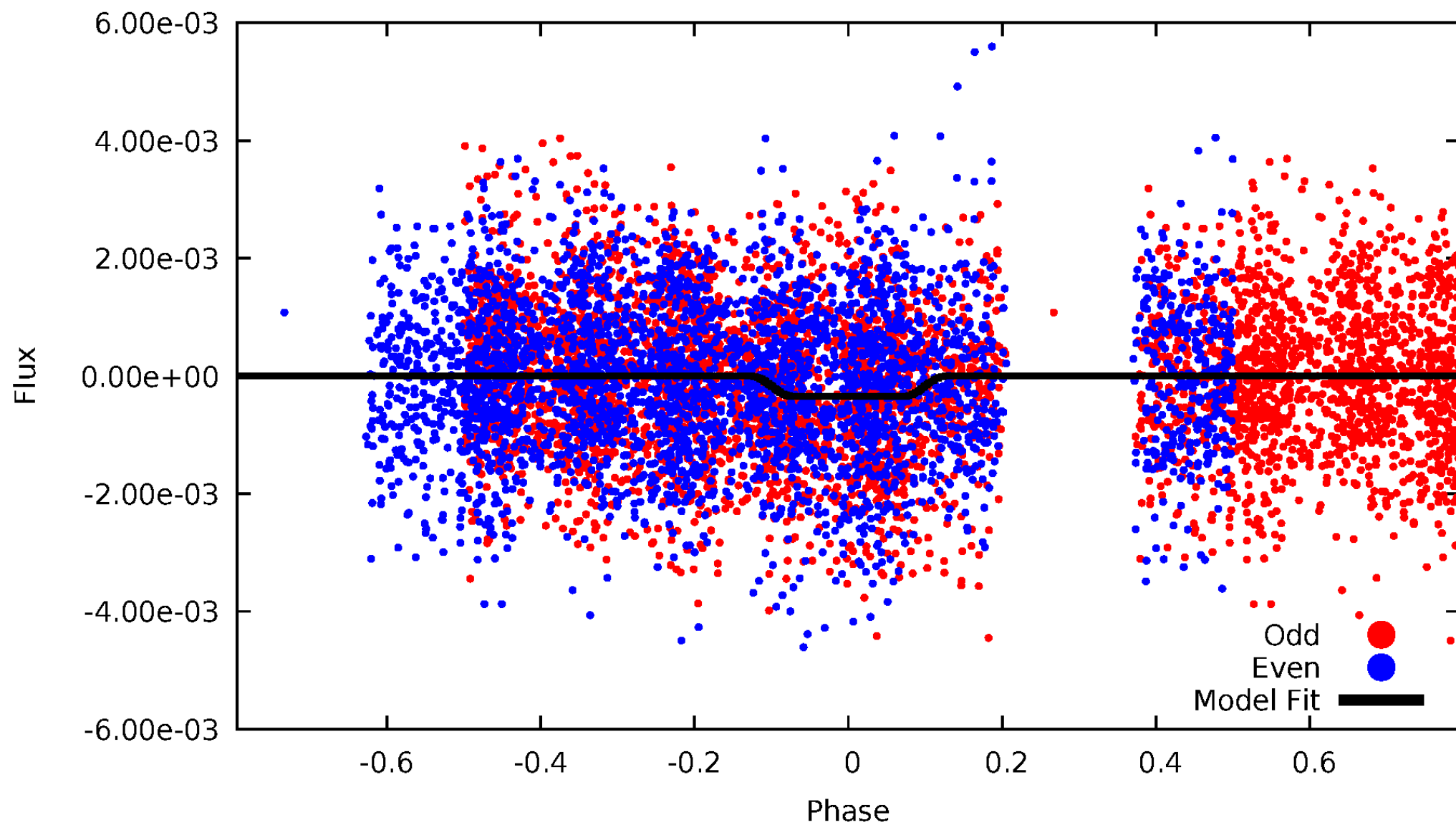
DV Odd/Even

TCE 007620654-06



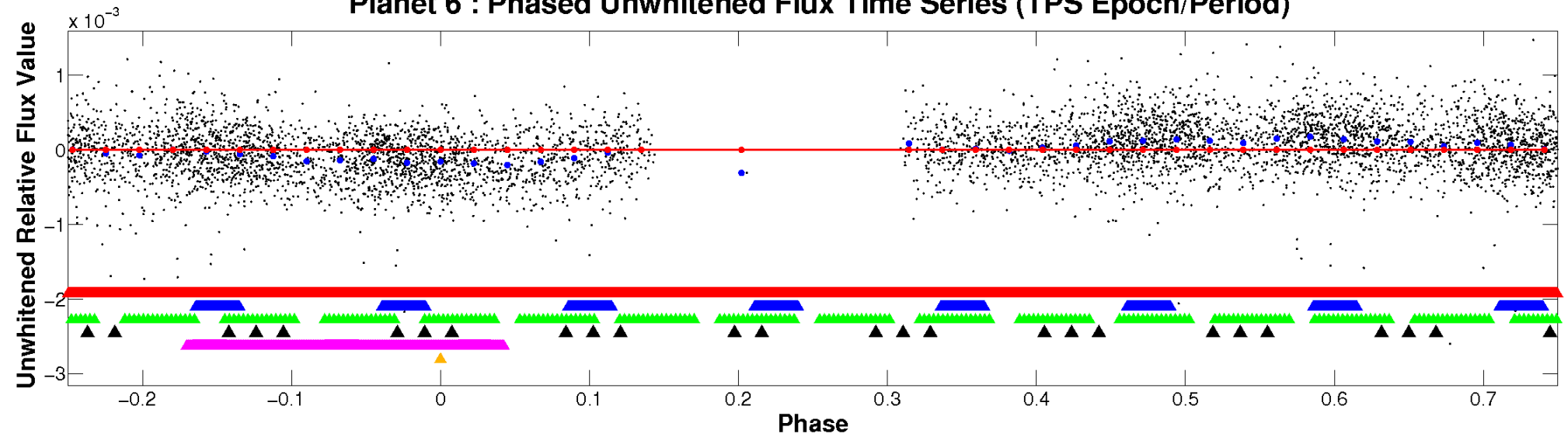
ALT Odd/Even

TCE 007620654-06

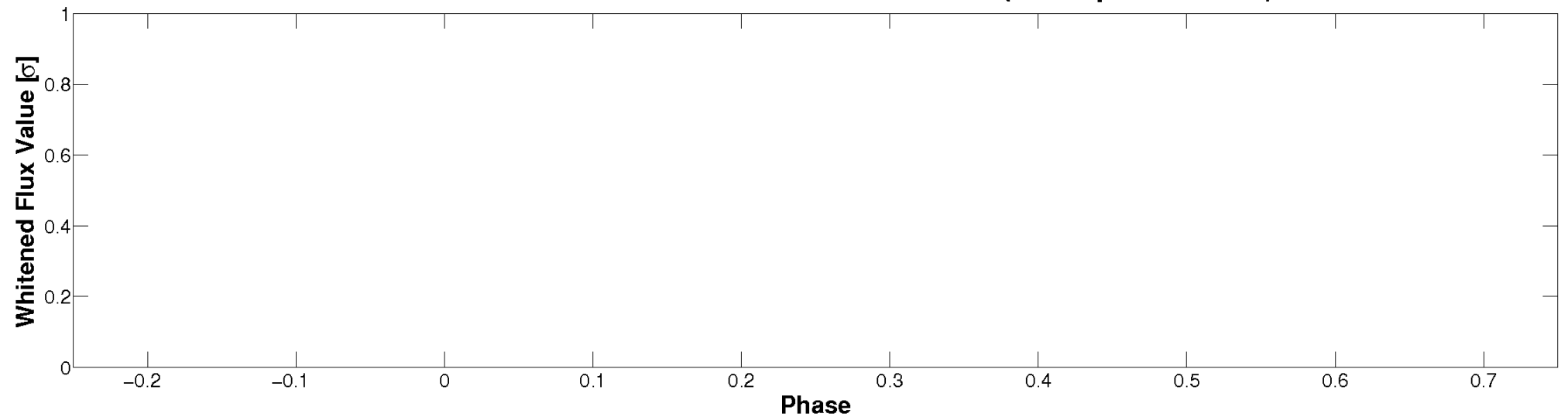


Non-Whitened Vs. Whitened Light Curve

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

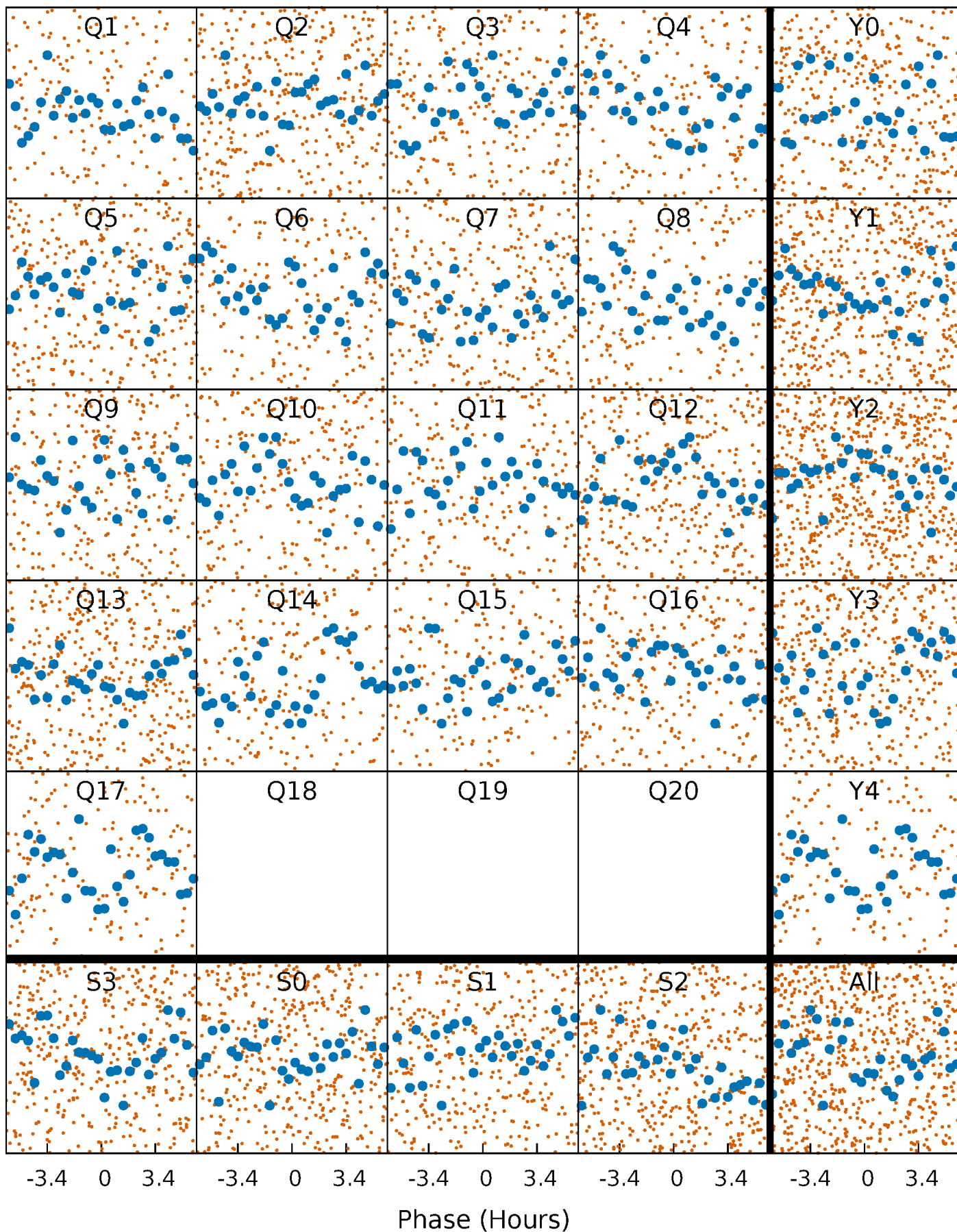


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



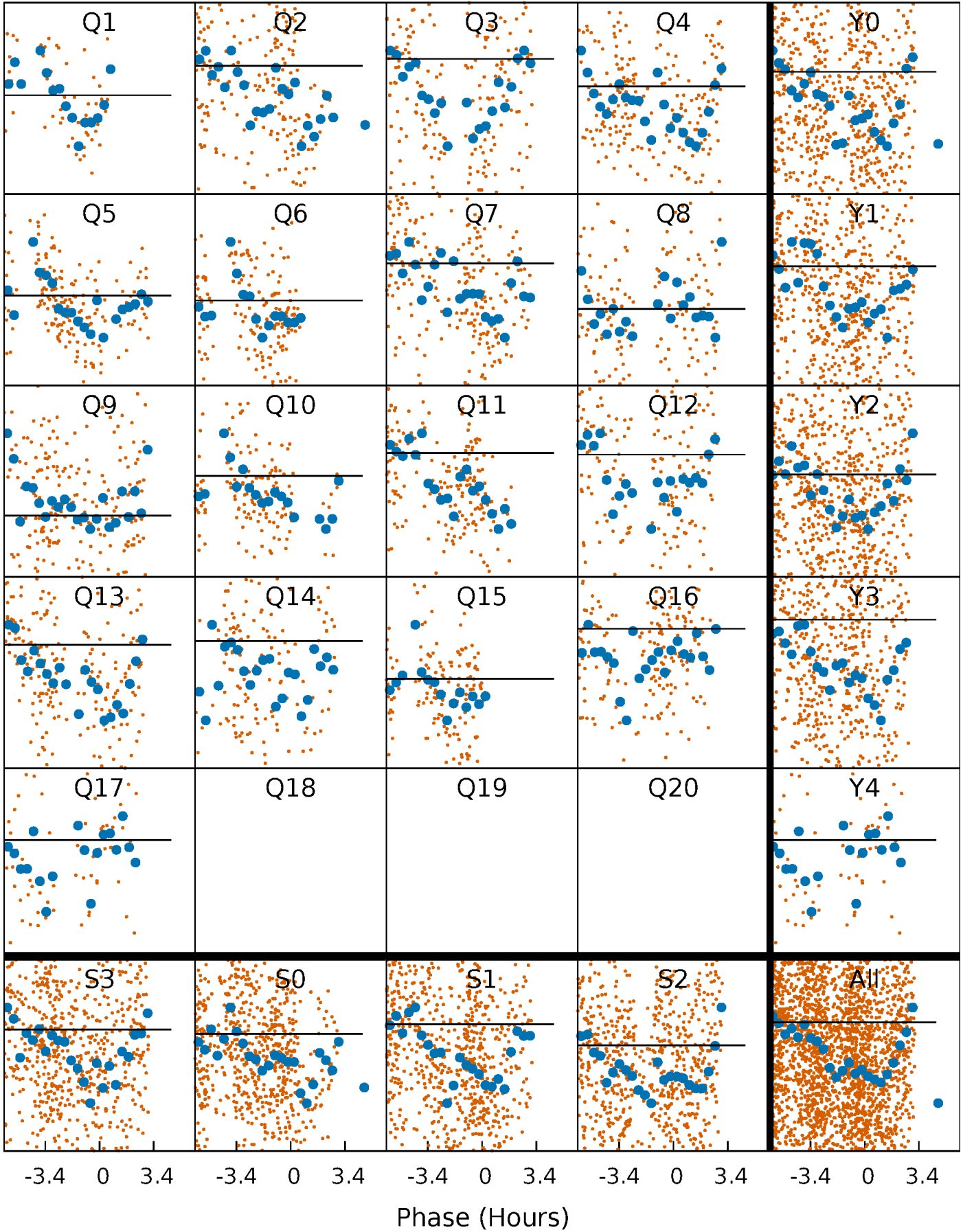
PDC Quarter-Phased Transit Curves

TCE 007620654-06 P= 0.910054 Days $T_0=132.050777$ (BKJD)



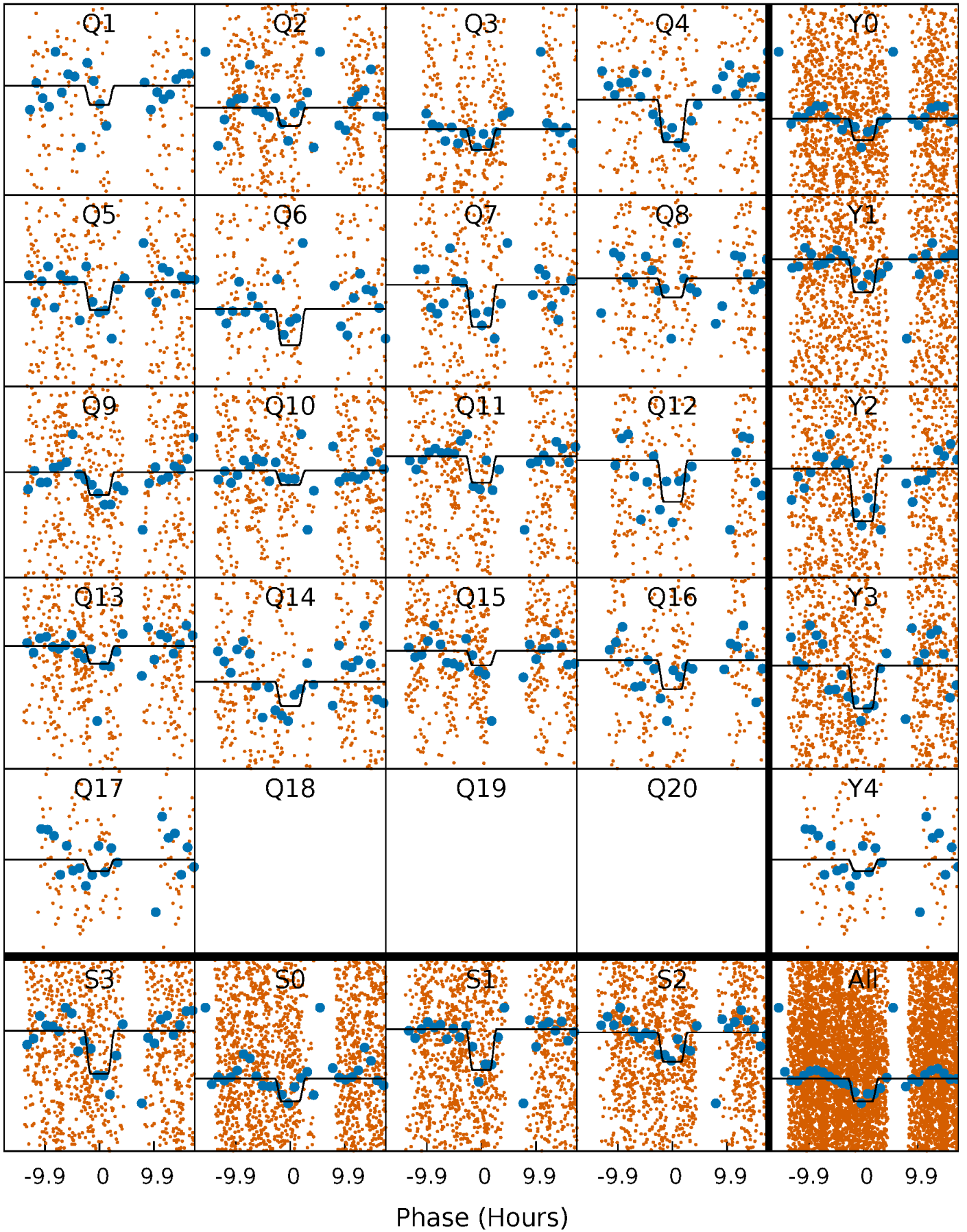
DV Quarter-Phased Transit Curves

TCE 007620654-06 P= 0.910054 Days $T_0=132.050777$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

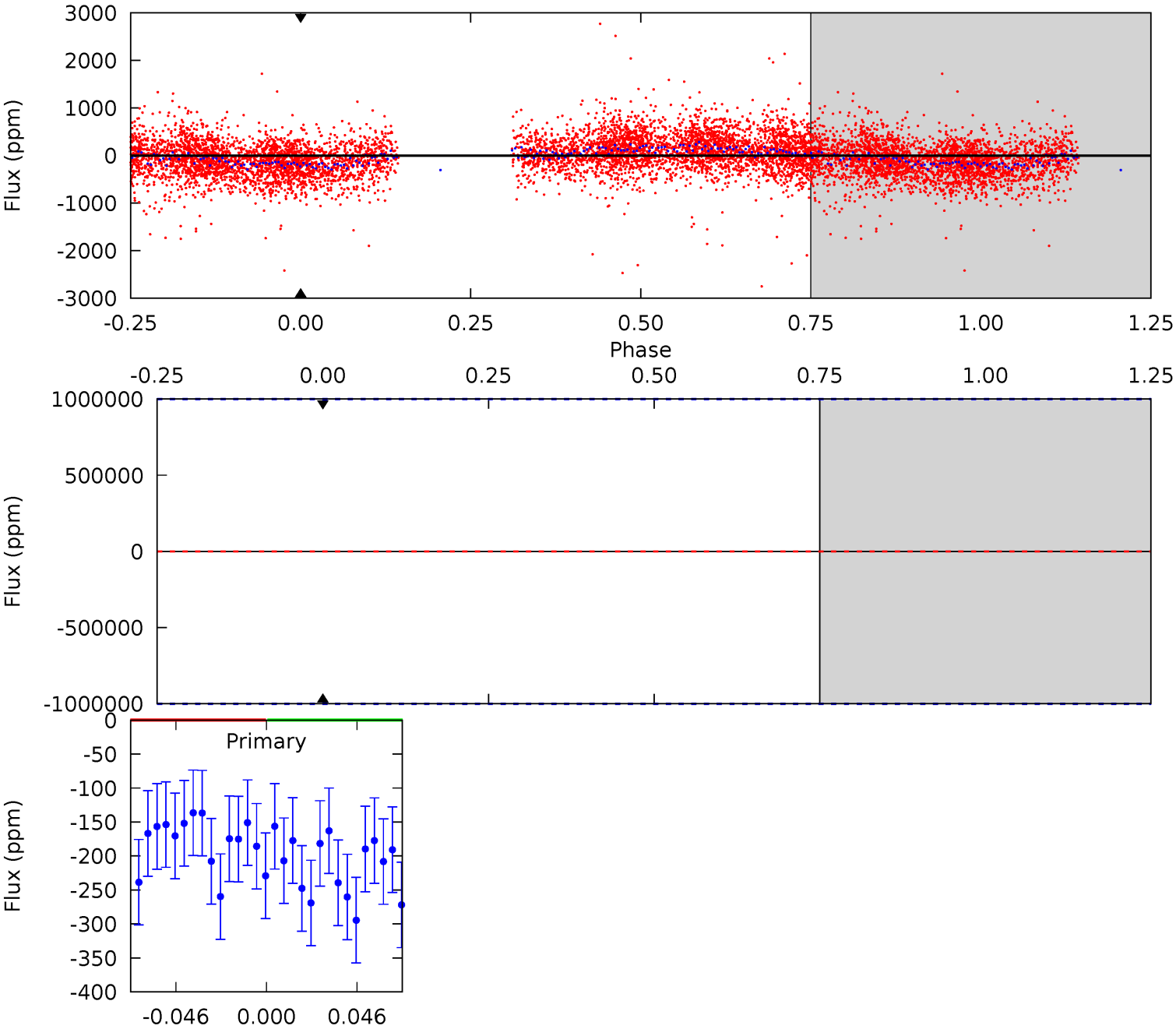
TCE 007620654-06 P= 0.910054 Days $T_0=131.994845$ (BKJD)



DV Model-Shift Uniqueness Test

007620654-06, P = 0.910054 Days, E = 131.140723 Days

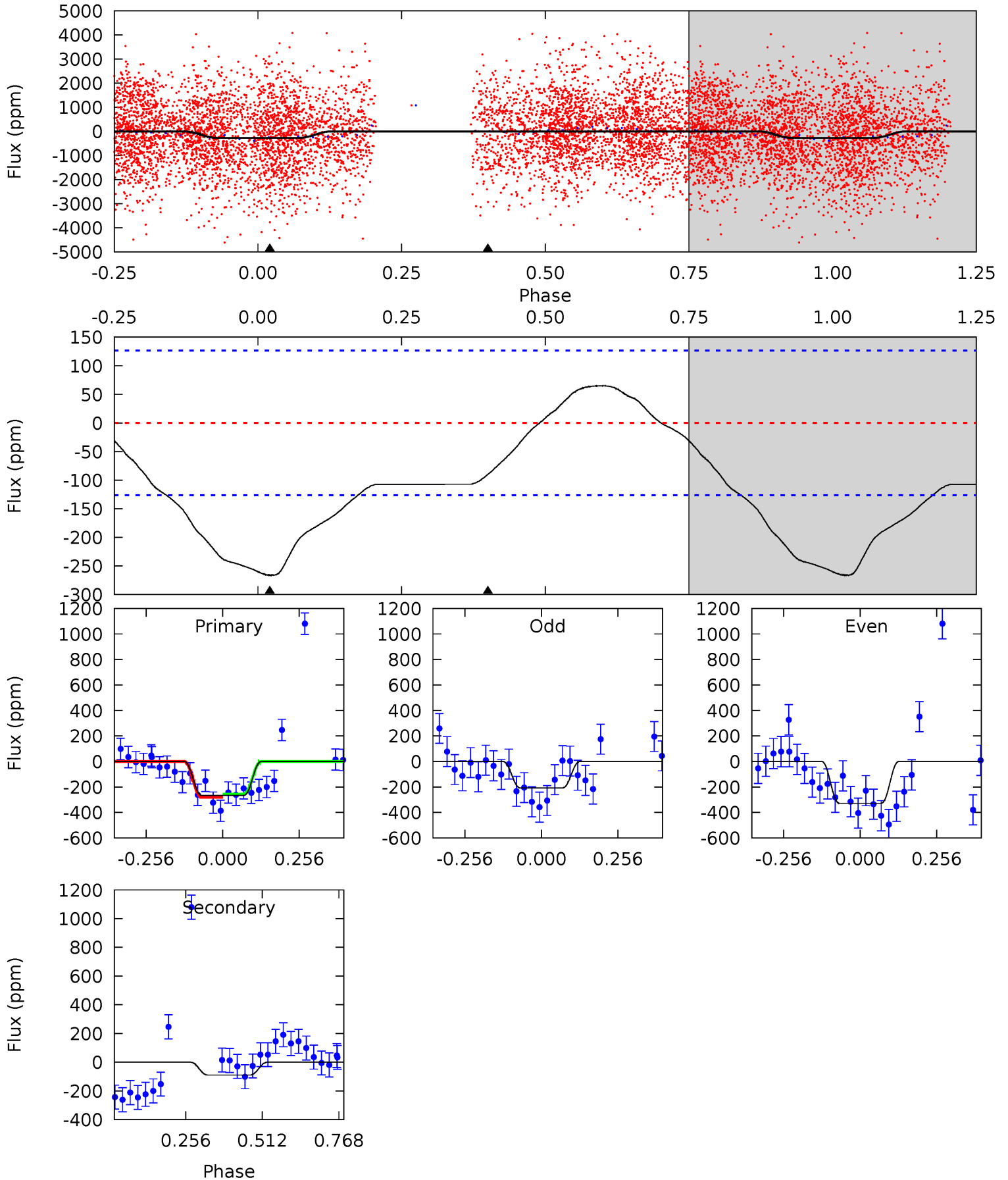
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007620654-06, P = 0.910054 Days, E = 131.084791 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.19	3.10	0	0	4.36	1.14	0.89	9.19	9.19	3.10	3.10	2.04	1.16	0.20	0.44



Stellar Parameters For KIC 007620654

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7082^{+193}_{-236}	$4.120^{+0.240}_{-0.160}$	$-0.740^{+0.250}_{-0.300}$	$1.520^{+0.403}_{-0.403}$	$1.111^{+0.147}_{-0.107}$	$0.446^{+0.621}_{-0.197}$
	+3%/-3%	+6%/-4%	+34%/-41%	+27%/-27%	+13%/-10%	+139%/-44%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007620654-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$11.49^{+13.58}_{-7.96}$	3879^{+283}_{-296}	-6455^{+39360}_{-33987}	$-4.748^{+230.067}_{-324.038}$
Alt.	-90 ± 29	$12.01^{+13.67}_{-8.73}$	3861^{+265}_{-298}	-3241^{+7946}_{-346}	$0.117^{+1.677}_{-0.091}$

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 $A_{obs} \gg 1.0$

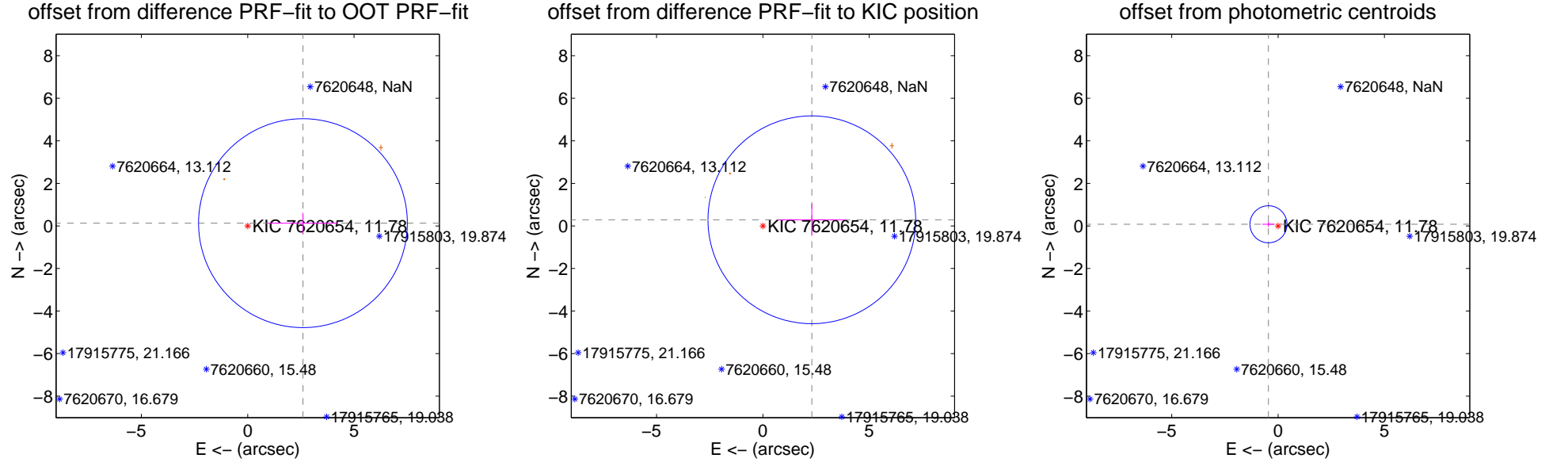
DV Centroid Data

Supplemental centroid analysis for 007620654-06. **Kepler magnitude: 11.78.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

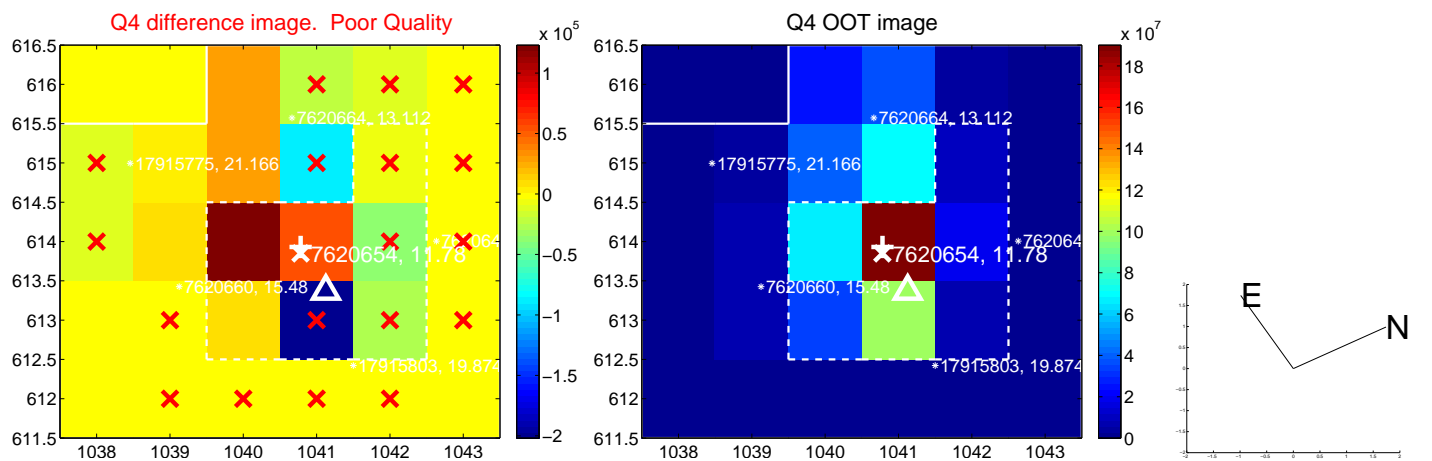
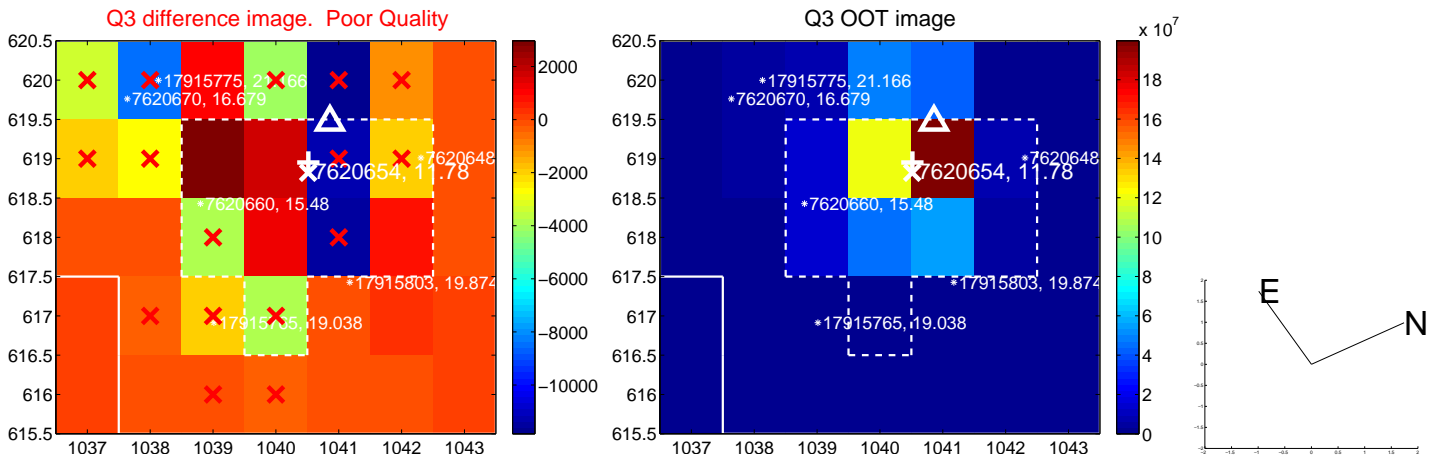
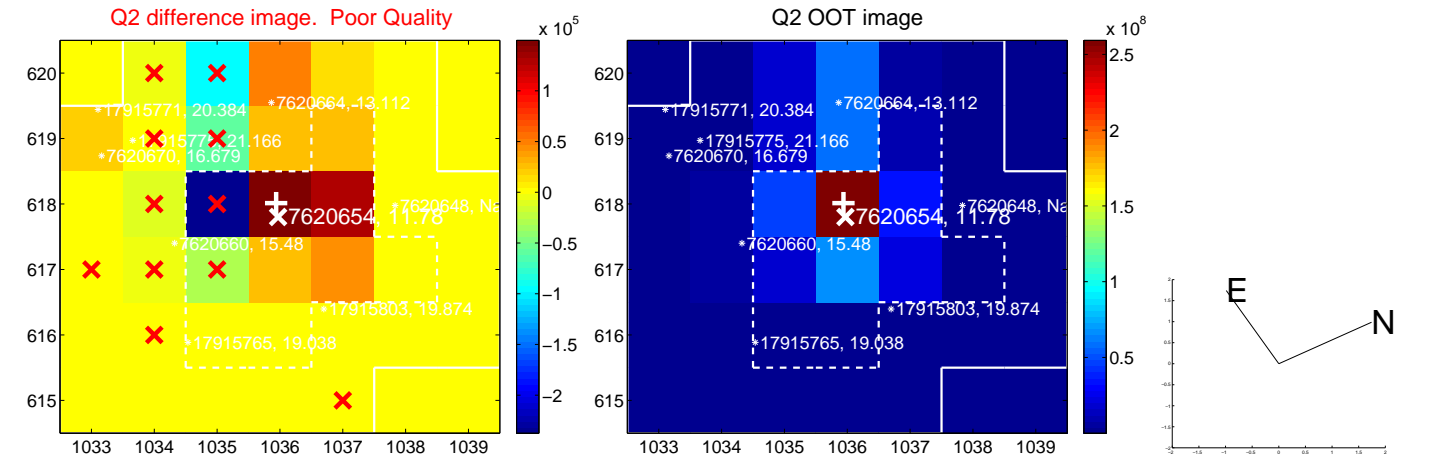
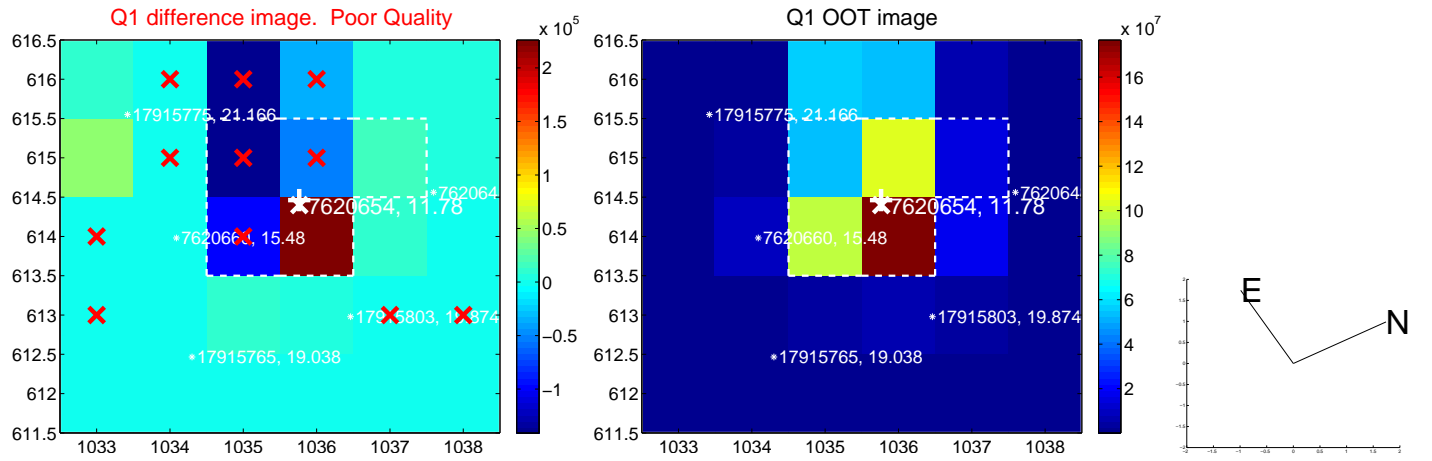
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.602 ± 1.636	1.59	-2.599 ± 1.636	0.131 ± 0.485
PRF-fit source offset from KIC position	2.320 ± 1.628	1.43	-2.302 ± 1.595	0.289 ± 0.758
photometric centroid source offset	0.46 ± 0.29	1.58	0.45 ± 0.29	0.08 ± 0.13

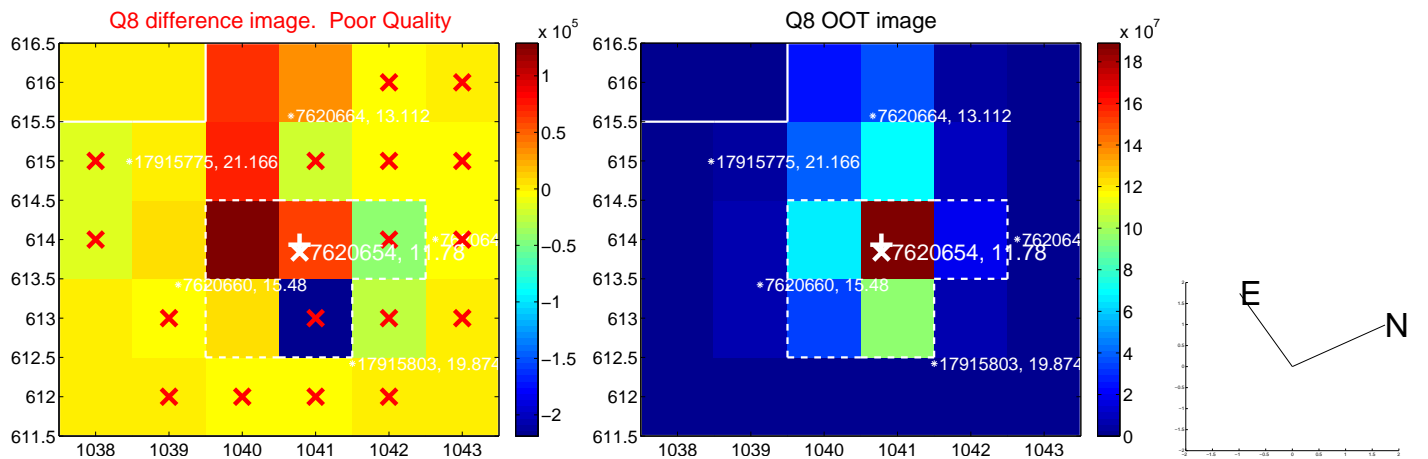
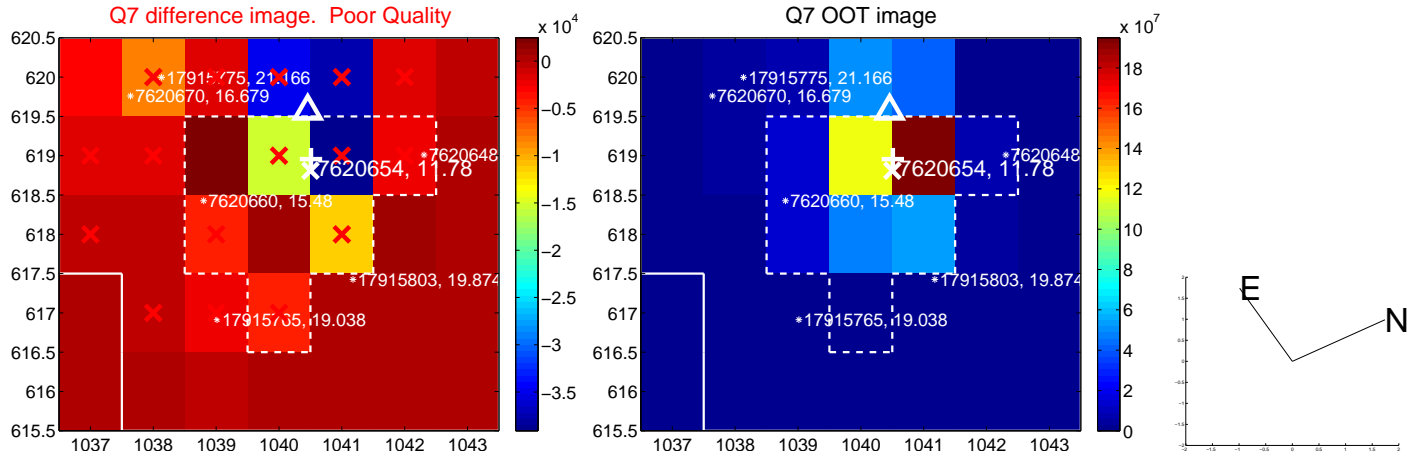
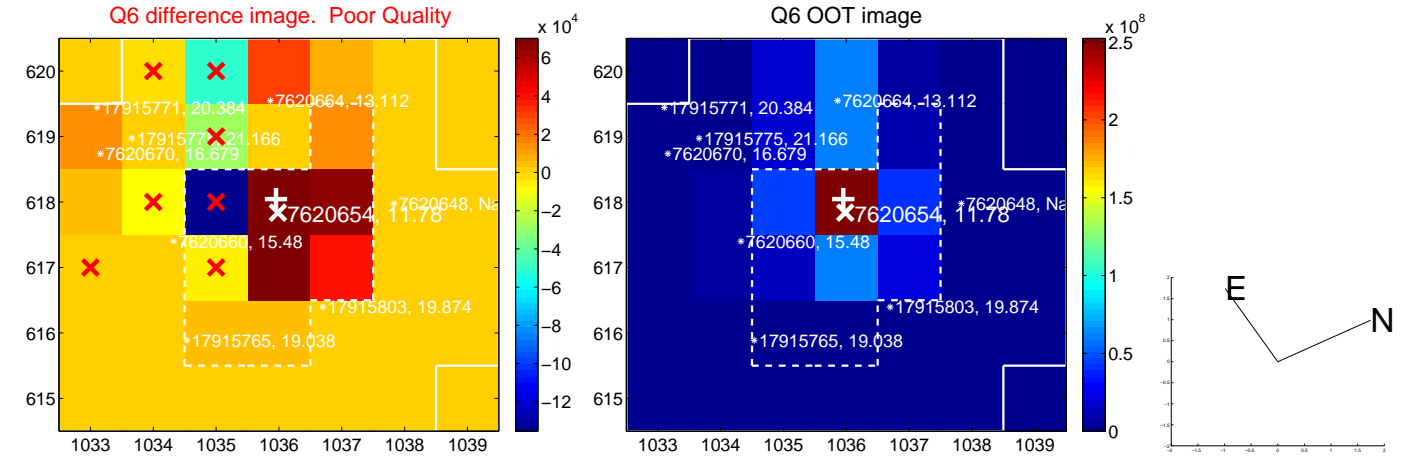
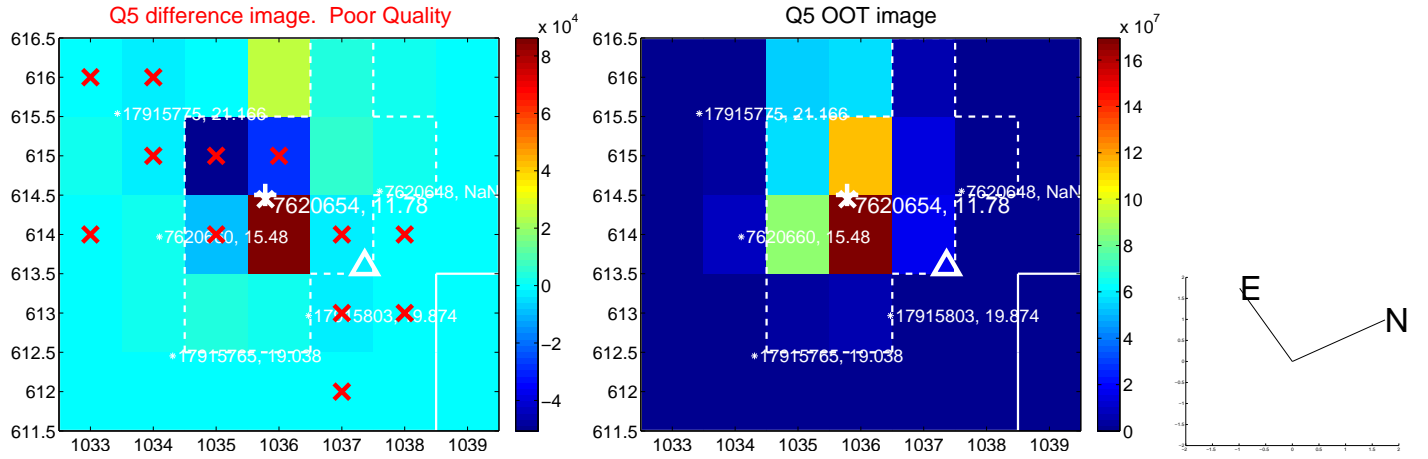


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

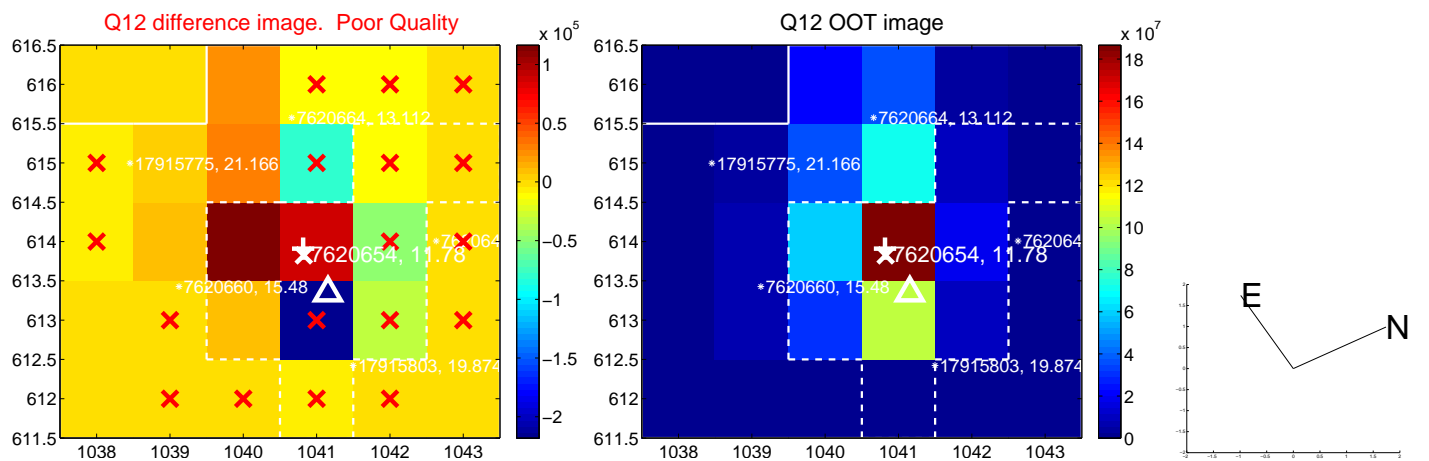
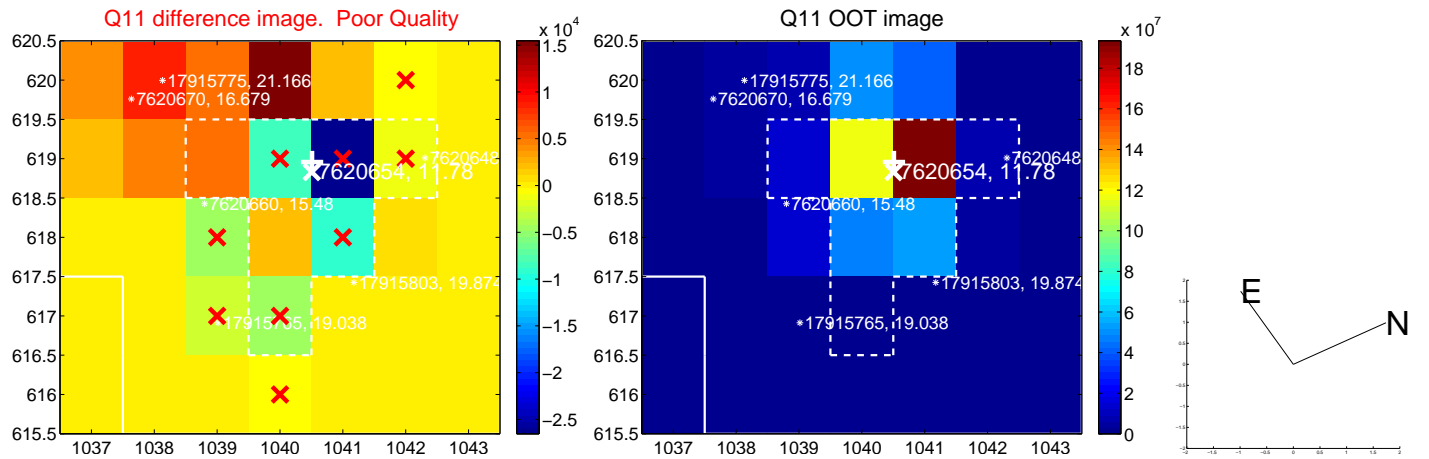
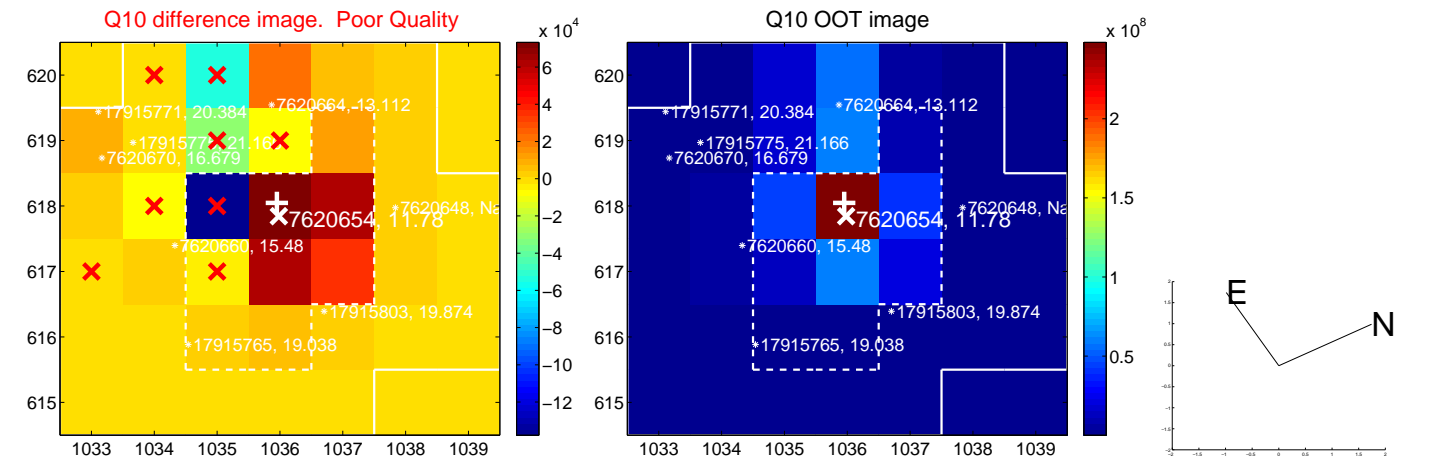
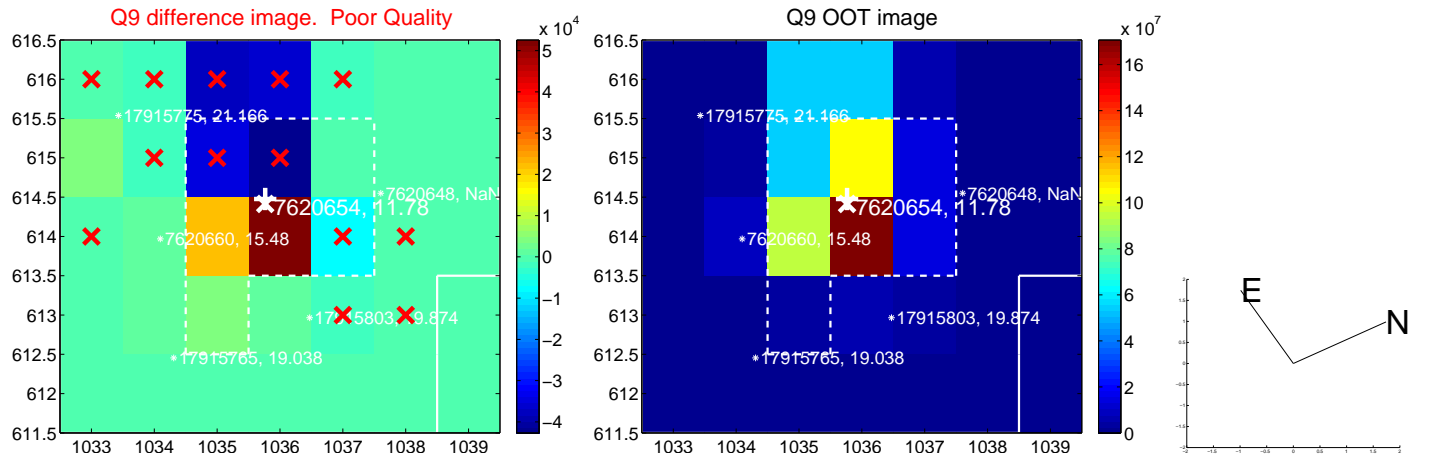
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



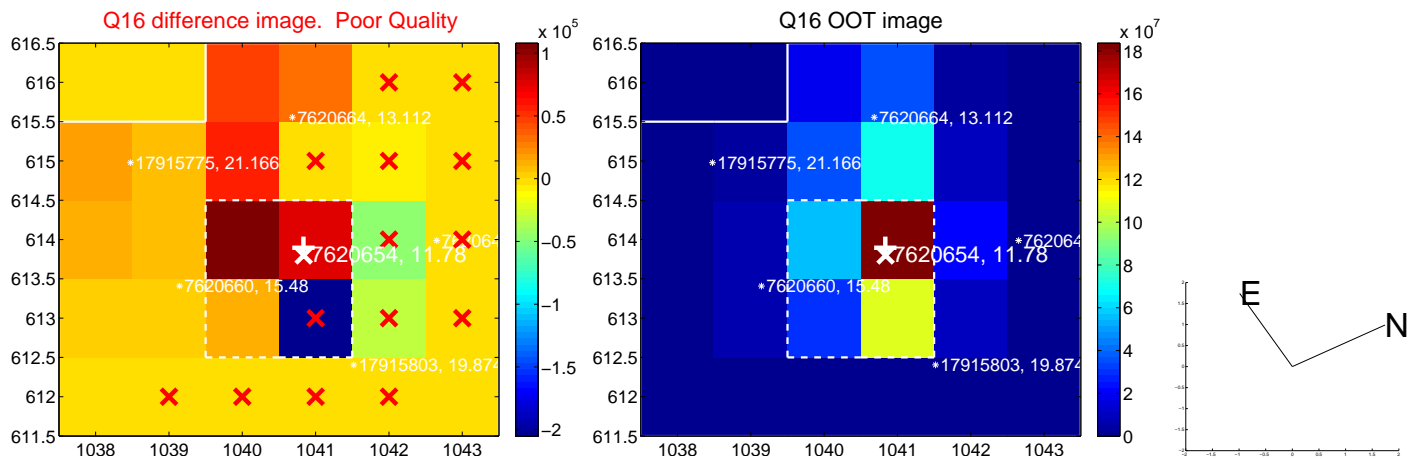
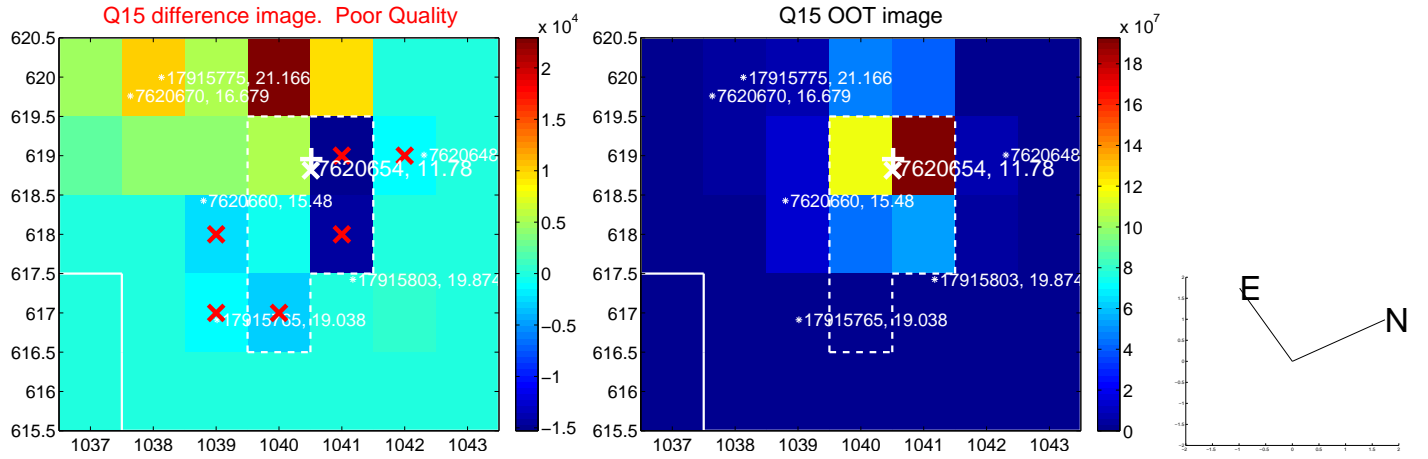
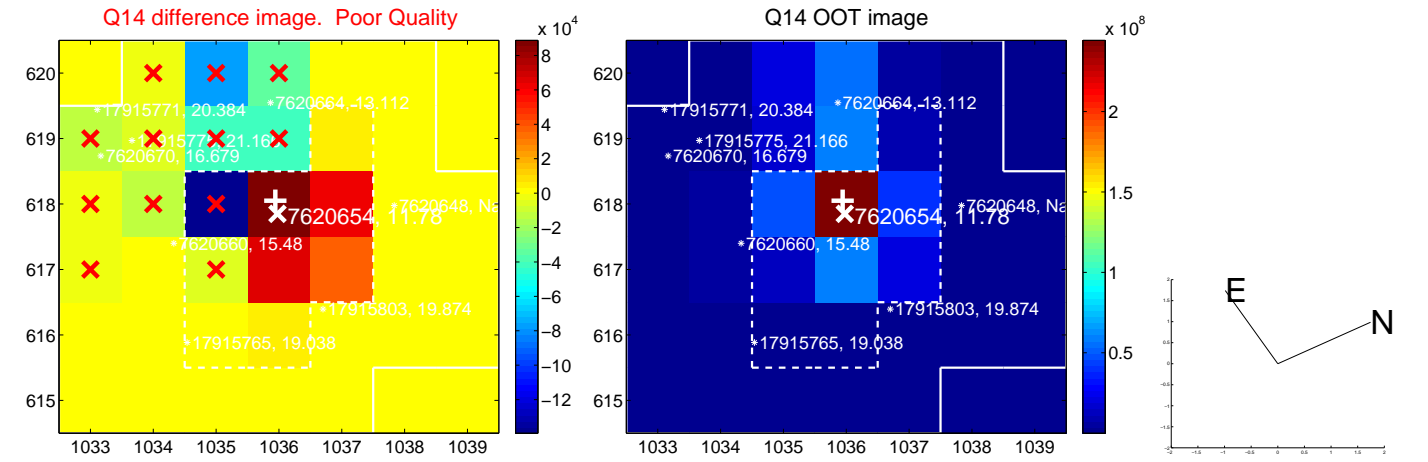
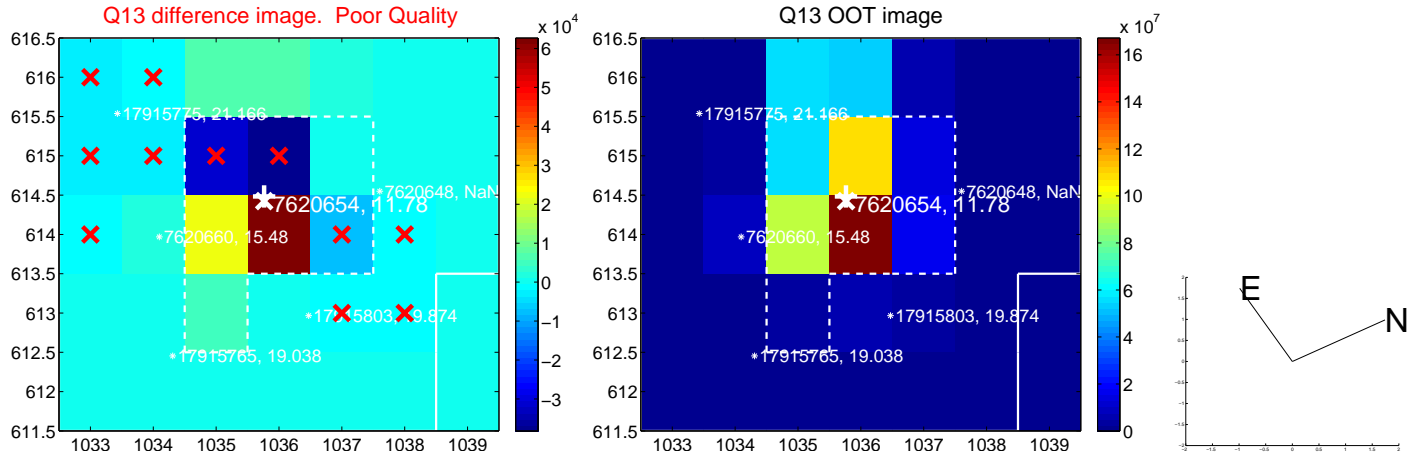
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



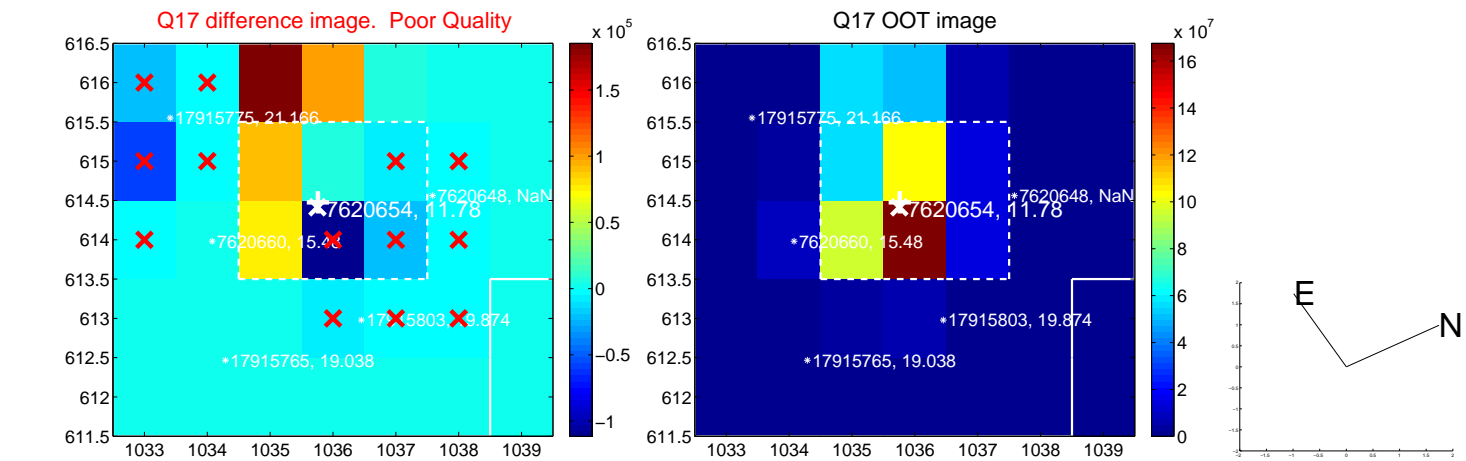
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



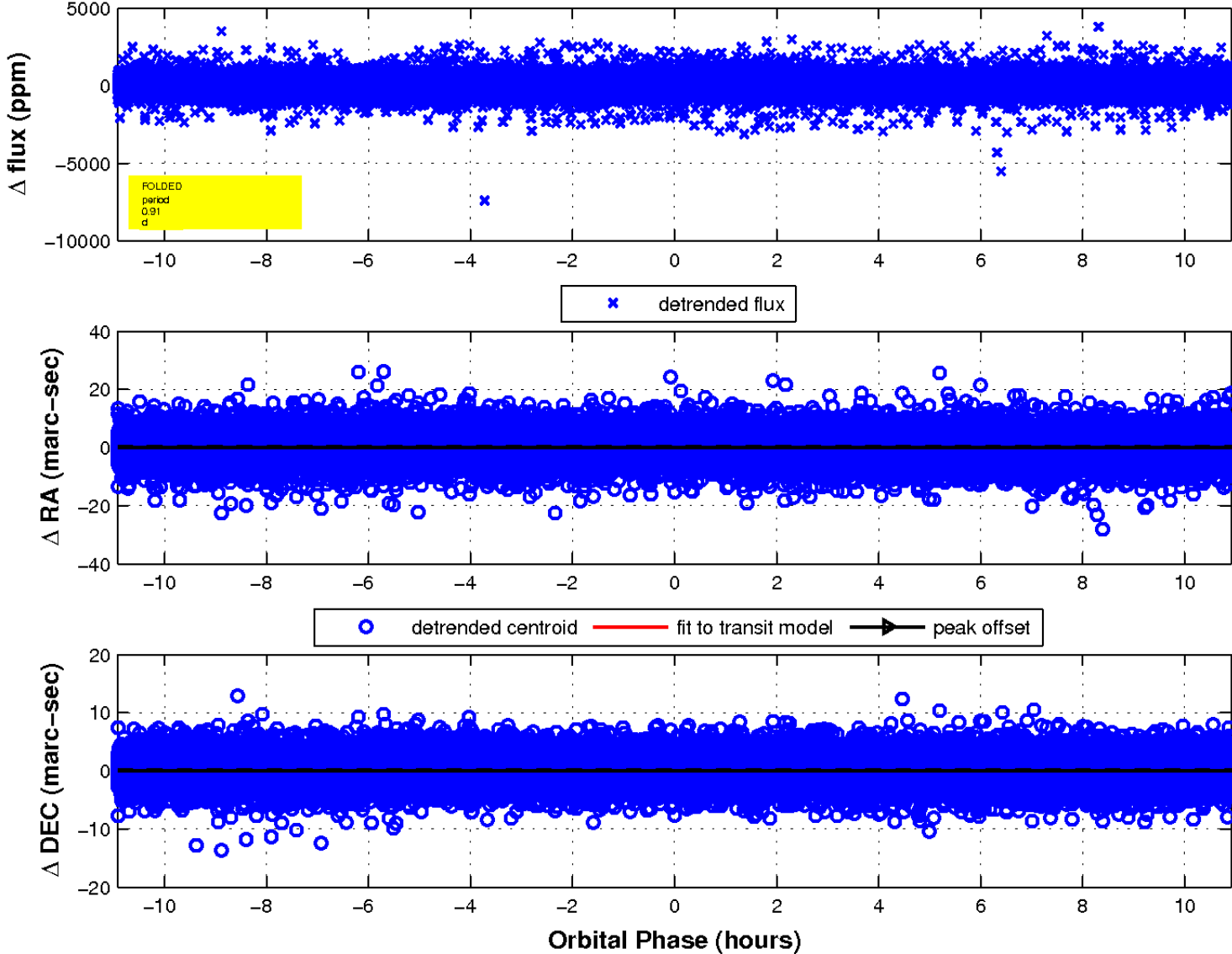
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 6 of 6



UKIRT Image

