

KIC 004845555

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})
004845555-01	OBS	No	2.489558	131.748871	30.1	4.723	9.4	8.0	3.29	6429	2.33	9374.03
004845555-02	OBS	No	2.489164	134.276078	32.0	13.877	9.1	4.5	3.29	6429	1.99	9376.01
004845555-03	OBS	No	17.619521	136.928749	69.7	7.033	8.2	6.8	3.29	6429	3.11	689.86
004845555-04	OBS	No	109.253691	160.791260	339.6	1.599	7.7	7.8	3.29	6429	7.14	60.56
004845555-05	OBS	No	398.282871	264.889448	128.7	11.885	9.1	6.8	3.29	6429	3.99	10.79
004845555-06	OBS	No	552.670174	155.329314	183.9	5.721	7.4	7.1	3.29	6429	5.72	6.97
004845555-07	OBS	No	21.599880	143.419063	155.8	4.577	8.5	9.6	3.29	6429	4.68	525.80
004845555-08	OBS	No	97.707904	208.530444	237.7	3.045	7.3	8.7	3.29	6429	5.78	70.28
004845555-09	OBS	No	54.194665	177.236292	283.5	2.100	7.3	8.7	3.29	6429	7.21	154.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004845555-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004845555-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
004845555-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
004845555-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—CENT_FEW_DIFFS
004845555-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004845555-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT
004845555-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

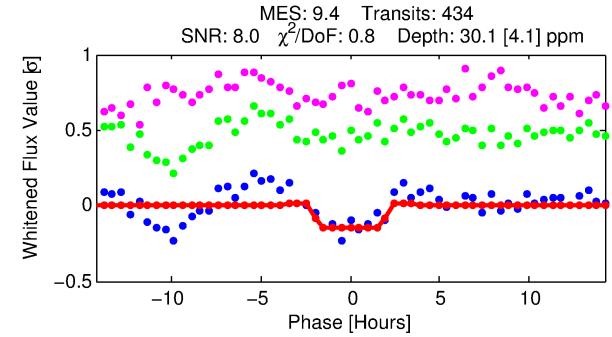
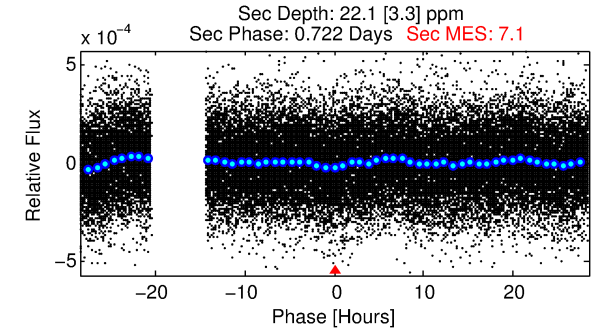
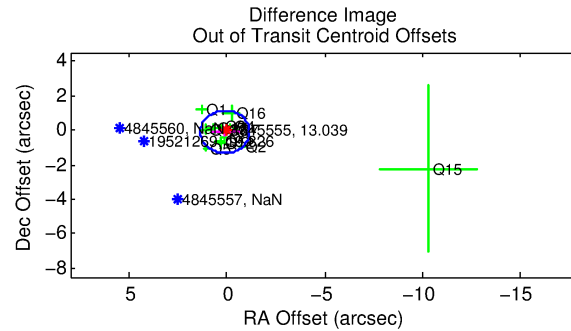
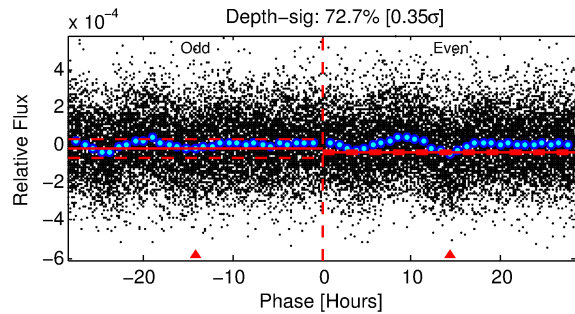
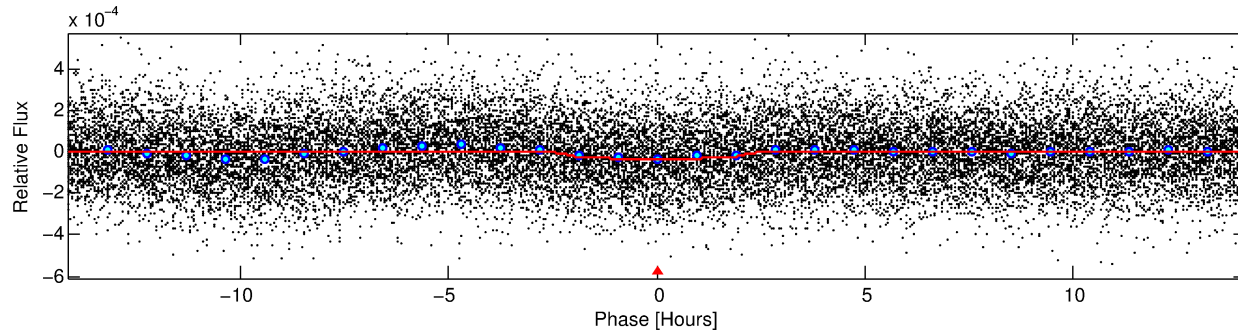
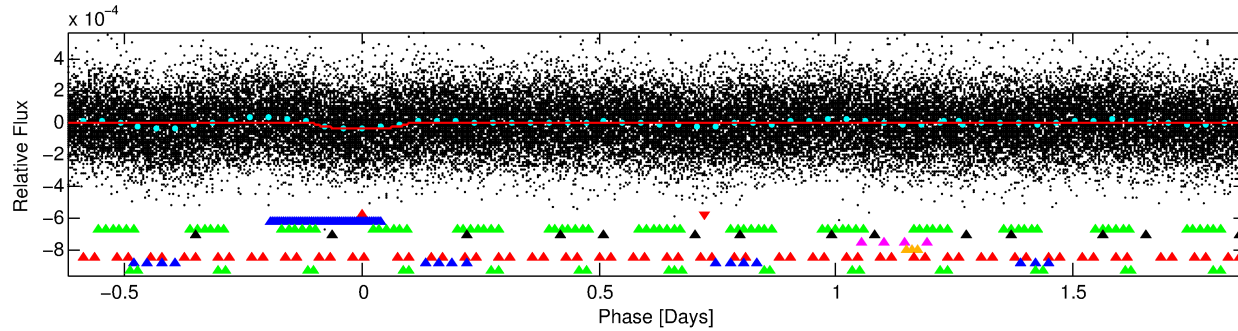
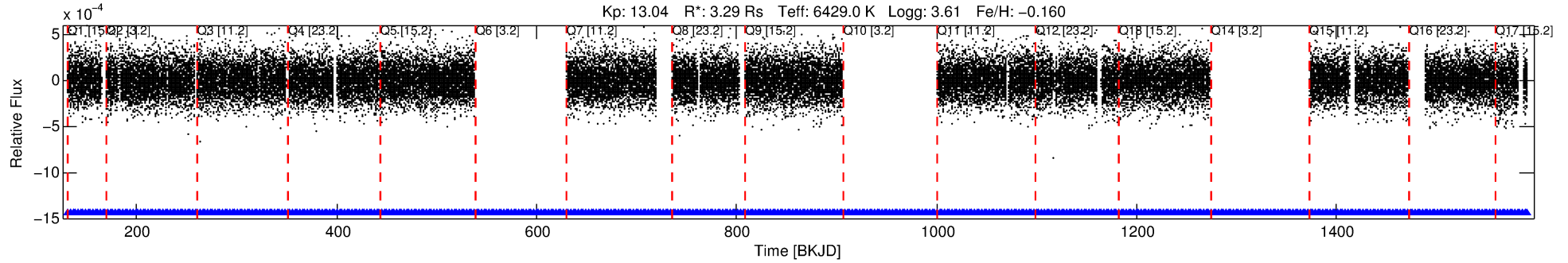
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004845555-01

No Significant Match Found

DV One-Page Summary

KIC: 4845555 Candidate: 1 of 9 Period: 2.490 d



DV Fit Results:

Period = 2.48956 [0.00003] d
Epoch = 131.7489 [0.0059] BKJD
Rp/R* = 0.0065 [0.0009]
a/R* = 1.44 [0.56]
b = 0.97 [0.04]
Seff = 9374.03 [5390.13]
Teq = 2509 [361] K
Rp = 2.33 [0.95] Re
a = 0.0420 [0.0151] AU
Ag = 3.95 [2.56] [1.15 σ]
Teffp = 5468 [461] K [5.05 σ]

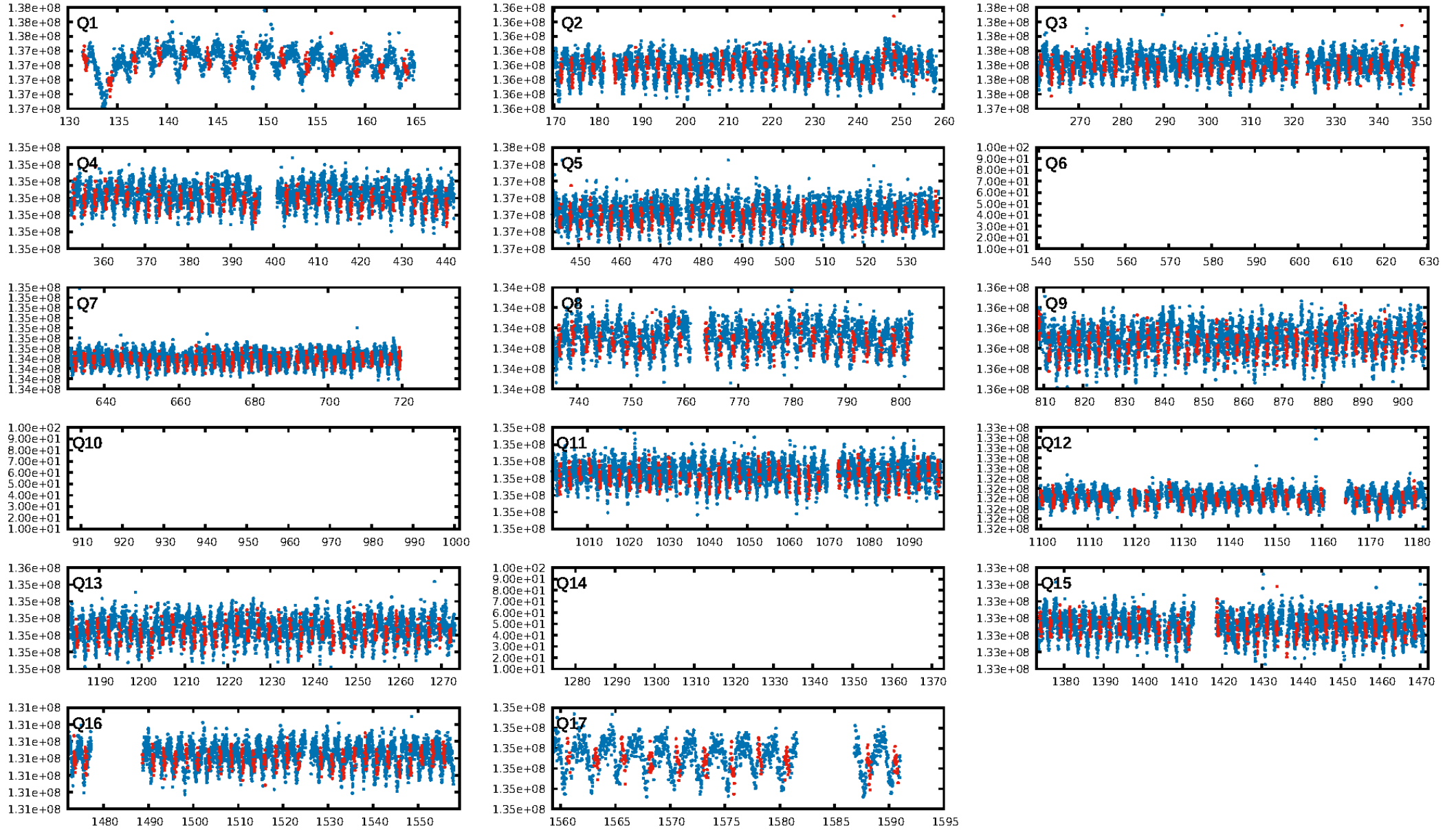
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00 σ]
LongPeriod-sig: 100.0% [42.86 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.92e-12
RollingBand-fgt: 1.00 [409/409]
GhostDiagnostic-chr: 0.6513
Centroid-sig: 33.6%
Centroid-so: 1.078 arcsec [0.90 σ]
OotOffset-rm: 0.144 arcsec [0.35 σ]
KicOffset-rm: 0.180 arcsec [0.34 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 0.00 [0/14]

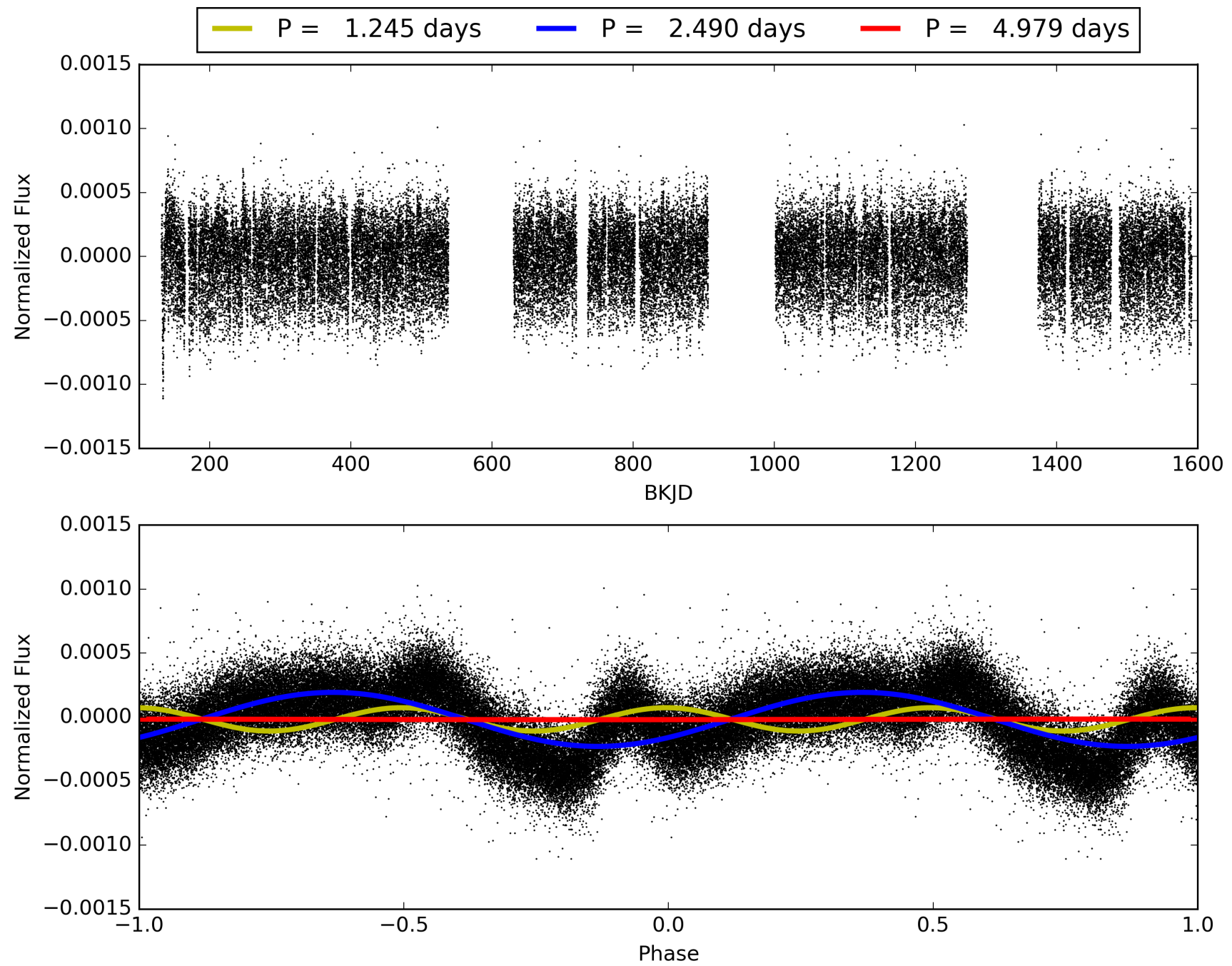
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:11:51 Z

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

TCE 004845555-01, PDC Light Curves

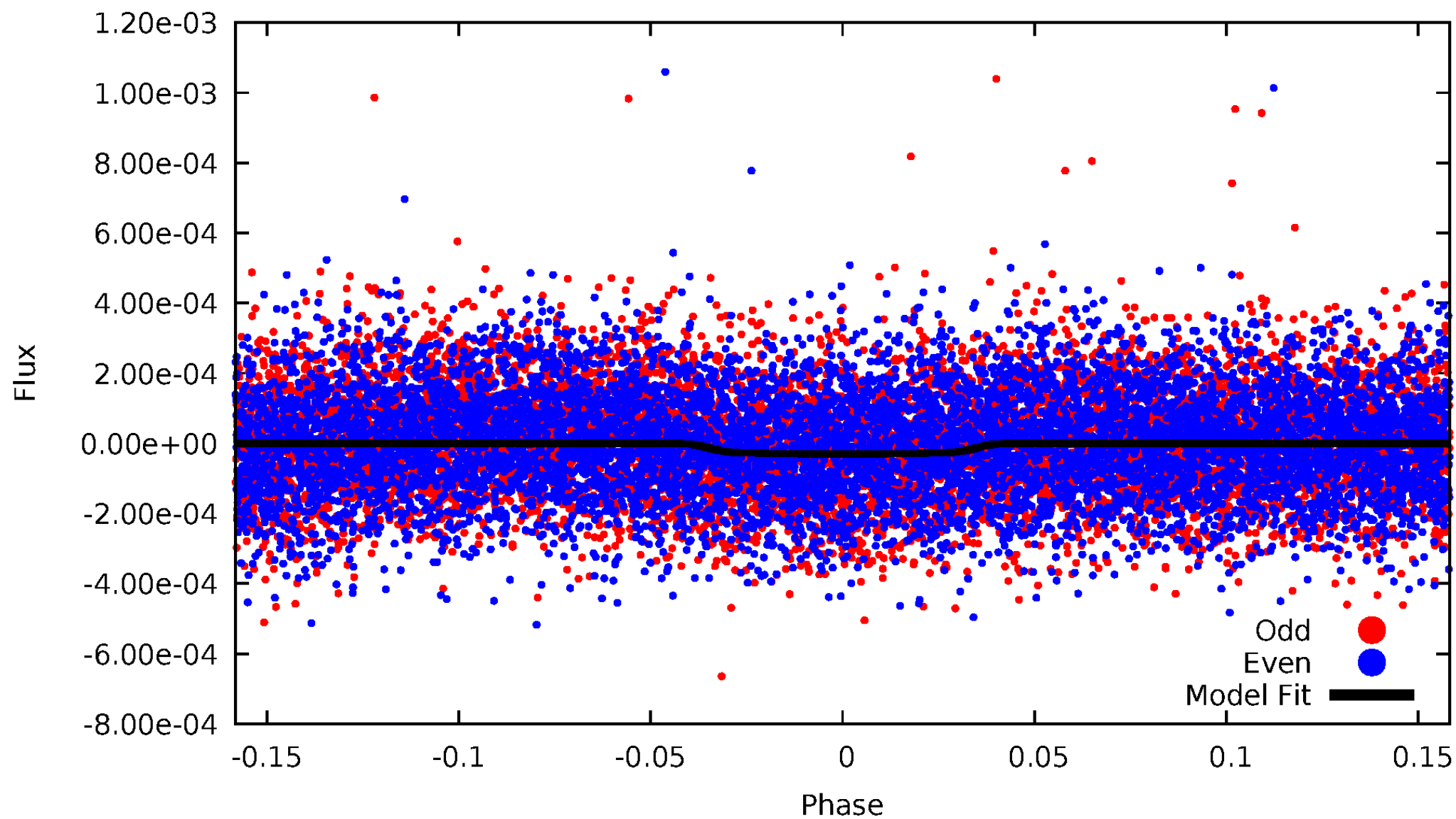


TCE 004845555-01



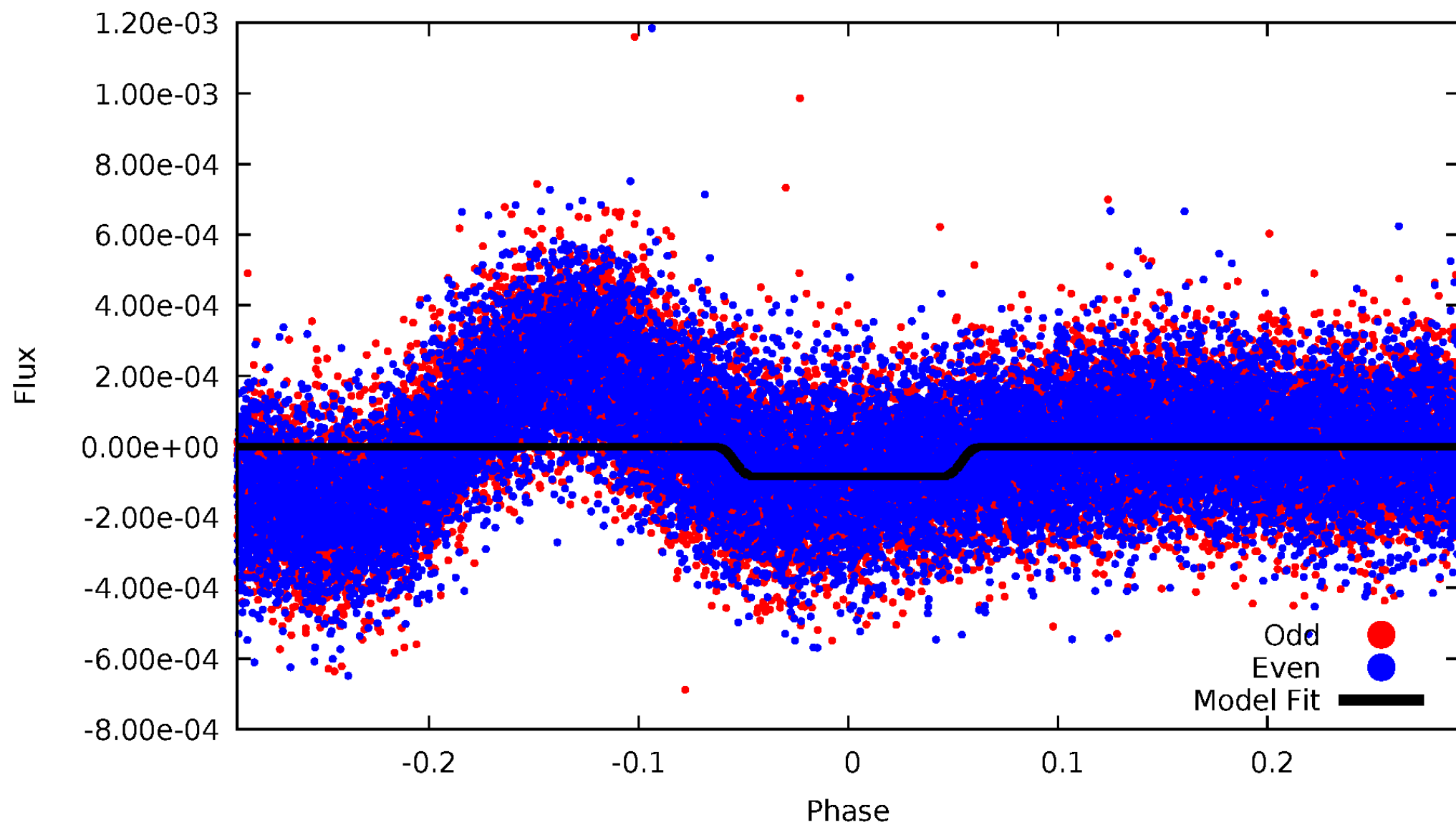
DV Odd/Even

TCE 004845555-01

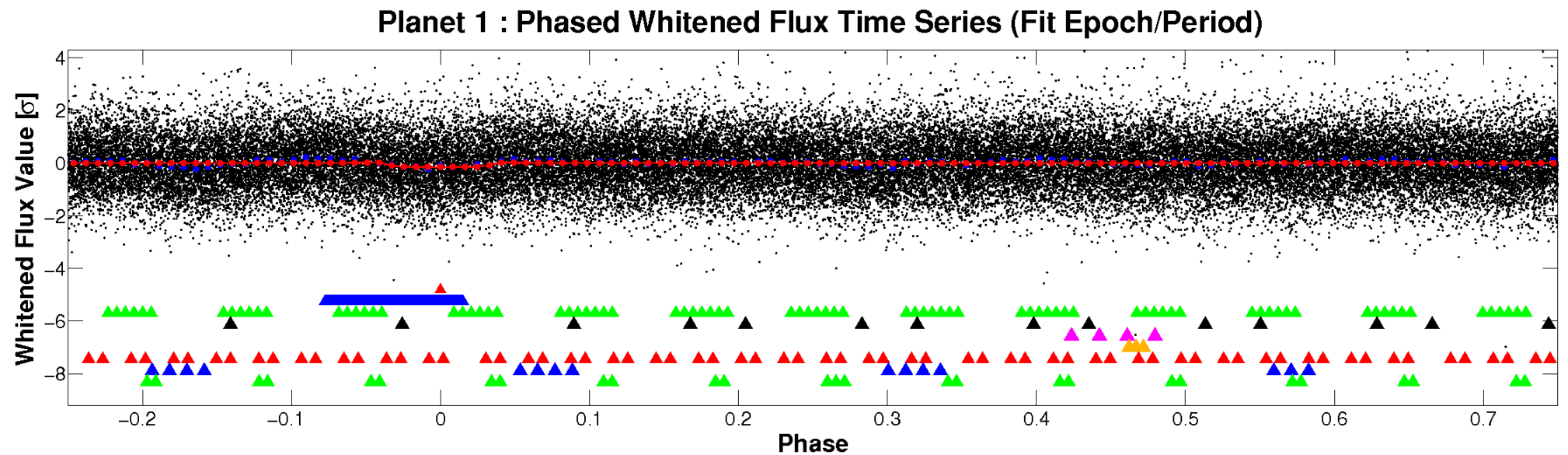
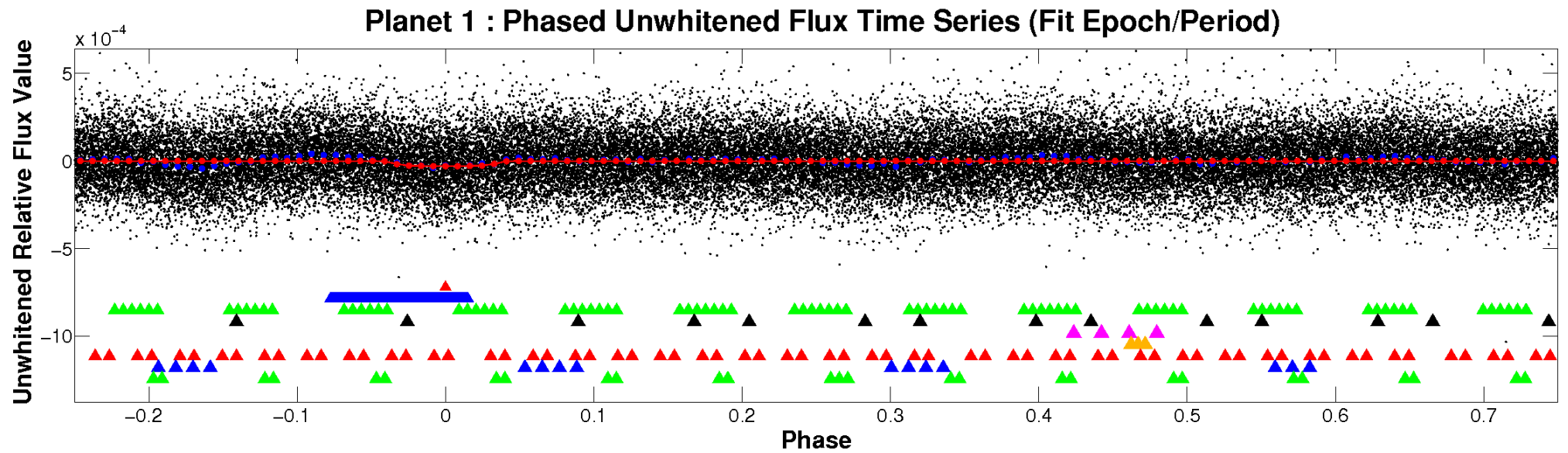


ALT Odd/Even

TCE 004845555-01

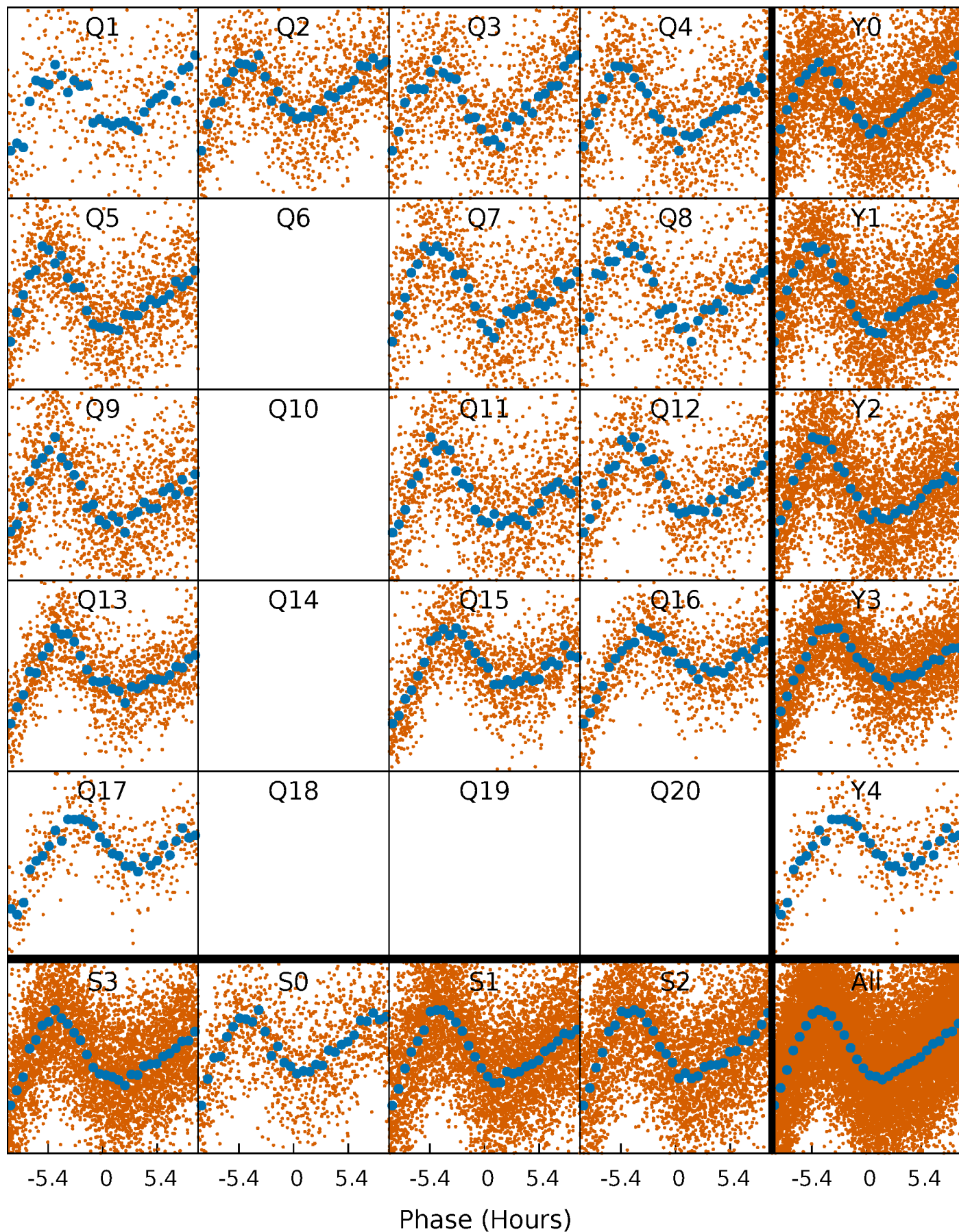


Non-Whitened Vs. Whitened Light Curve



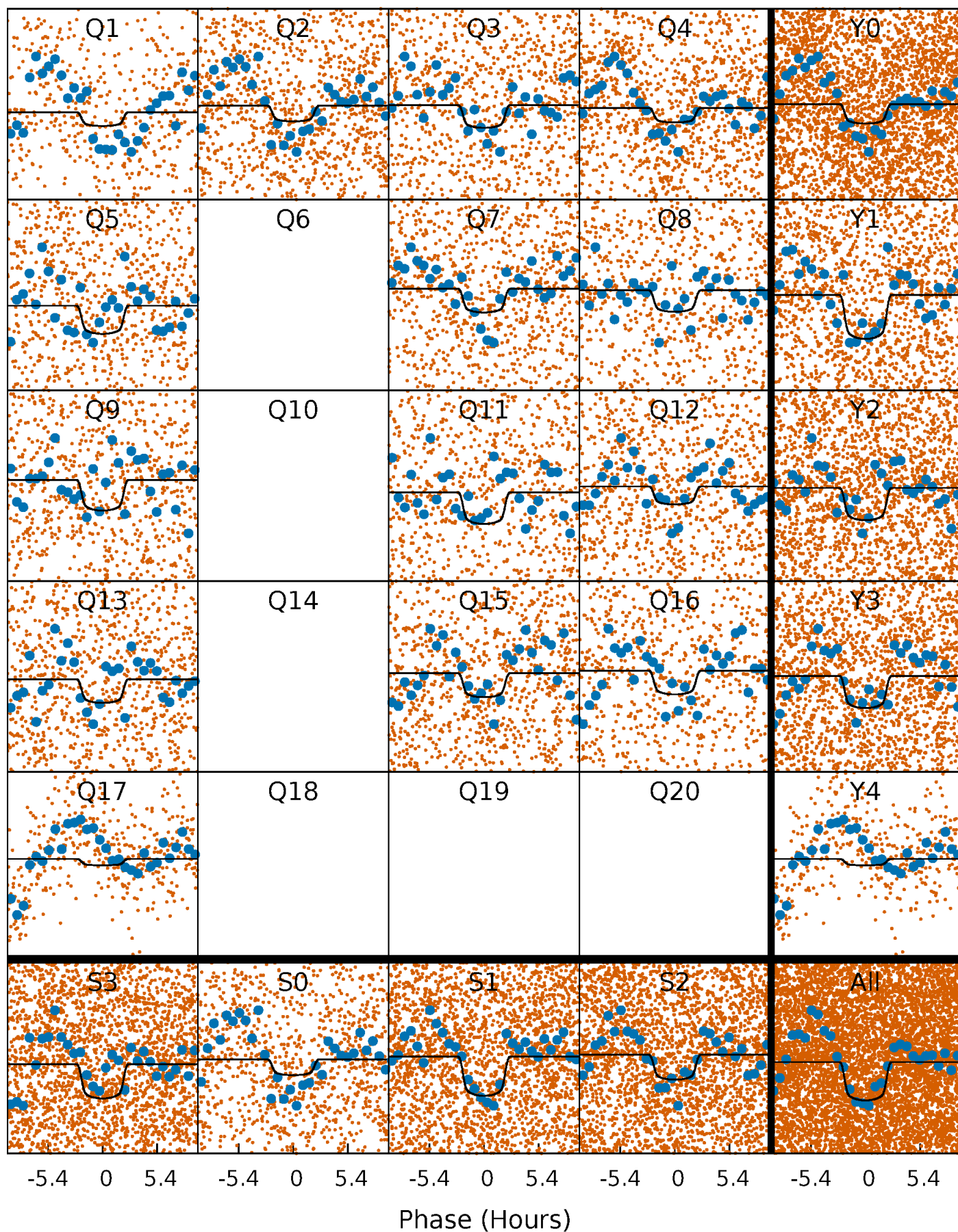
PDC Quarter-Phased Transit Curves

TCE 004845555-01 P= 2.489558 Days $T_0=131.748871$ (BKJD)



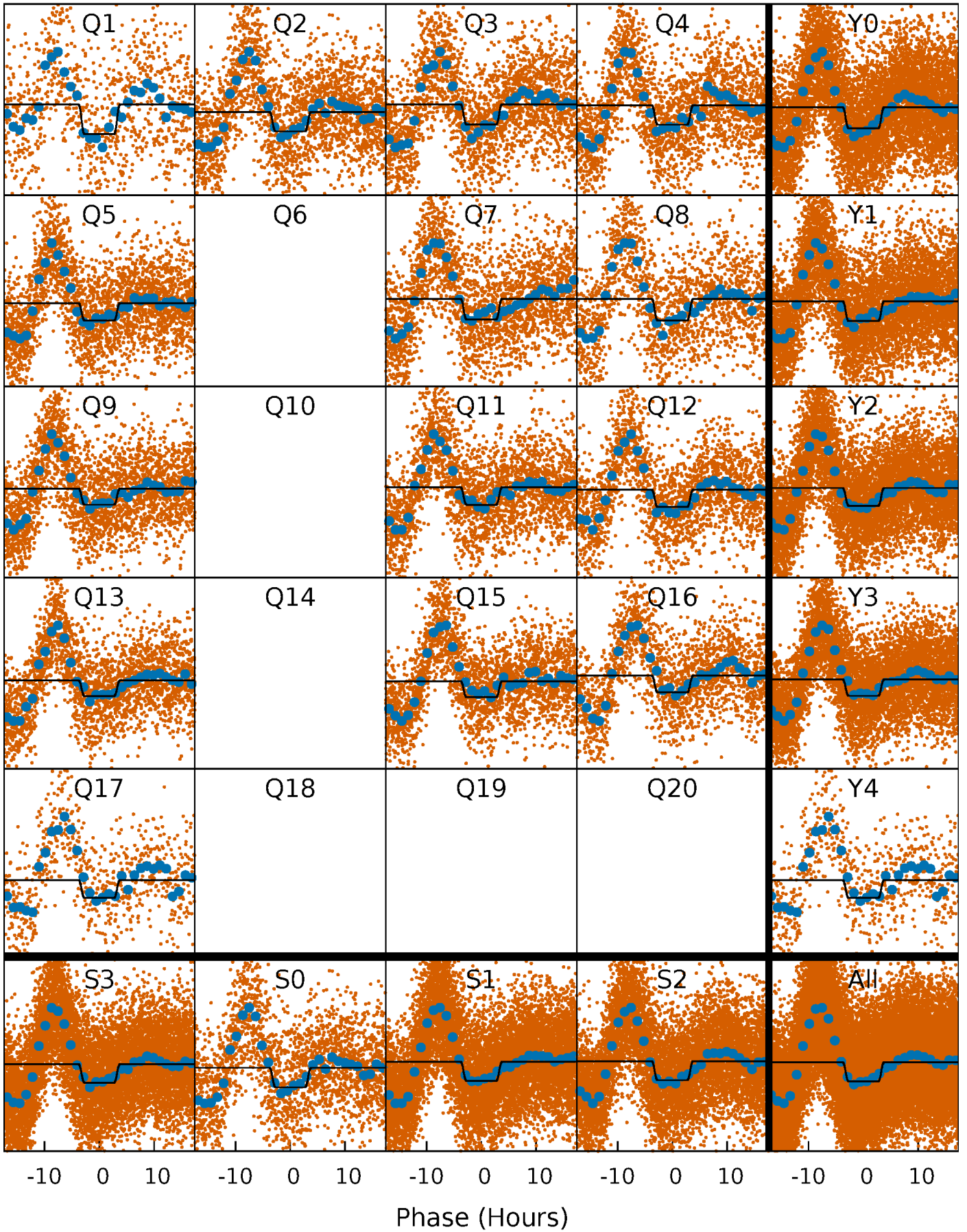
DV Quarter-Phased Transit Curves

TCE 004845555-01 P= 2.489558 Days $T_0=131.748871$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

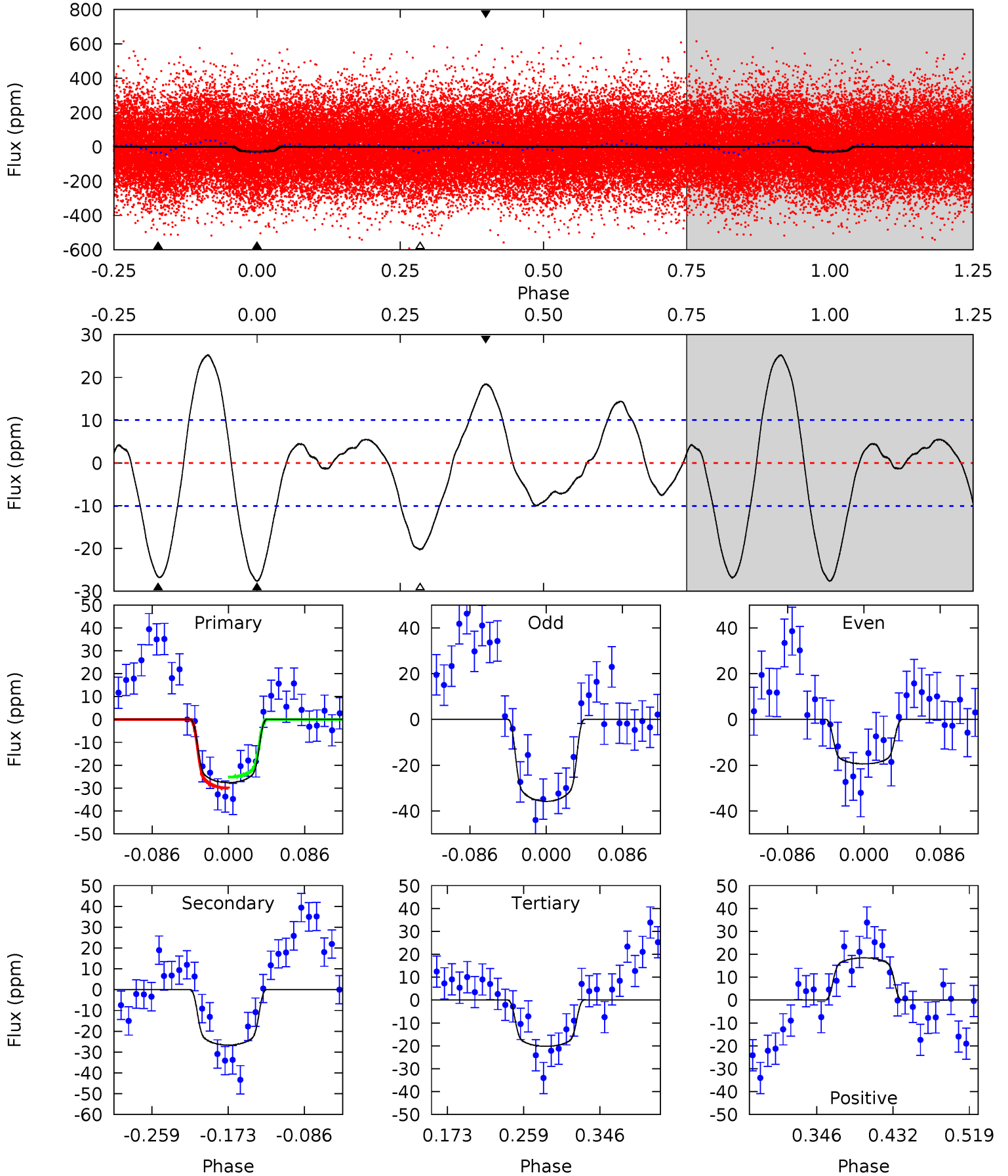
TCE 004845555-01 P= 2.489648 Days $T_0=131.859365$ (BKJD)



DV Model-Shift Uniqueness Test

004845555-01, P = 2.489558 Days, E = 129.259313 Days

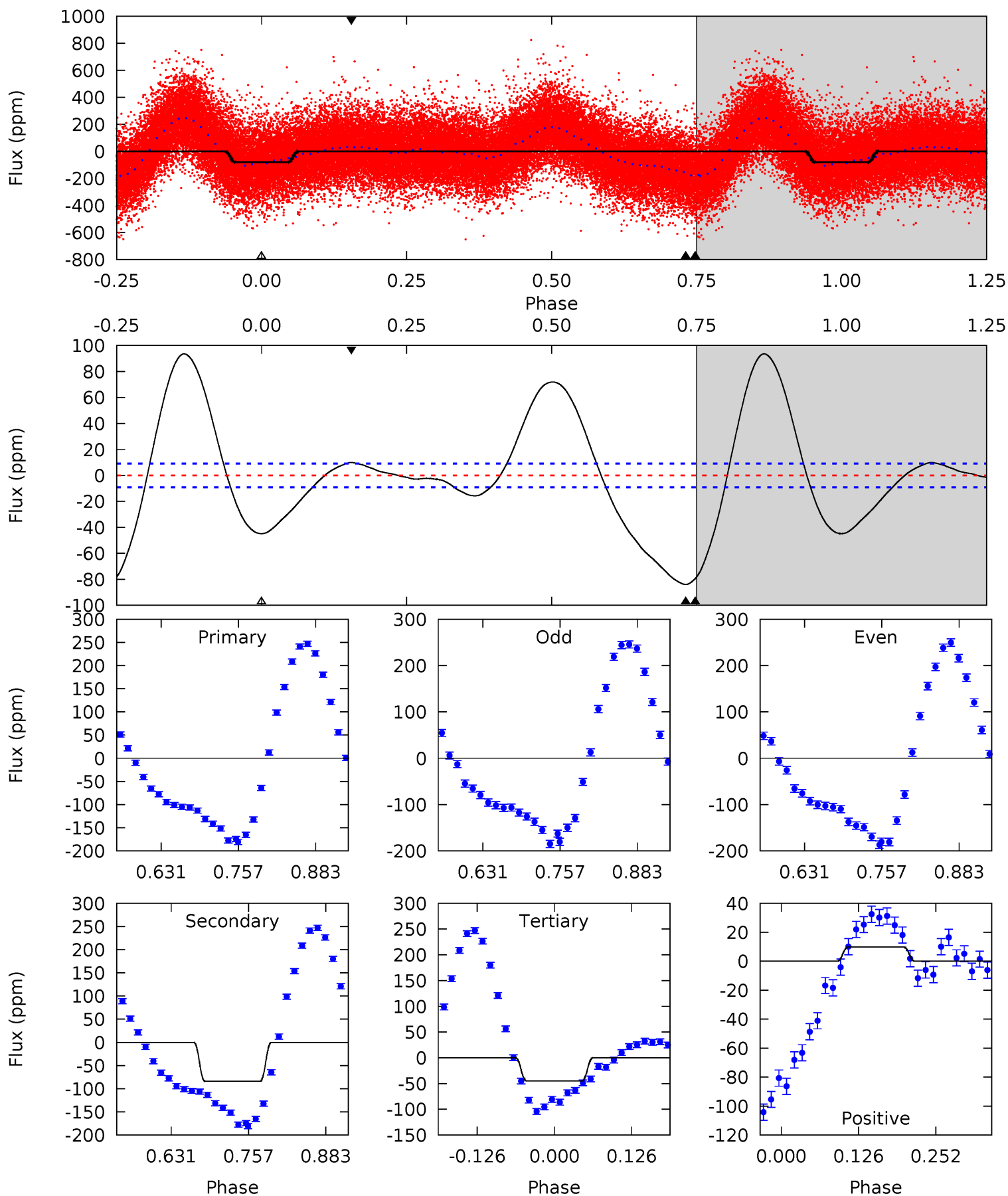
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.6	12.2	9.23	8.42	4.60	1.71	4.08	3.39	4.20	2.94	3.75	3.74	1.17	0.48	1.10



Alt Model-Shift Uniqueness Test

004845555-01, P = 2.489648 Days, E = 129.369717 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.4	41.6	22.2	4.90	4.52	1.53	16.3	17.2	34.5	19.4	36.7	2.41	0.99	0.53	4.58



Stellar Parameters For KIC 004845555

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6429^{+155}_{-175}	$3.607^{+0.328}_{-0.082}$	$-0.160^{+0.350}_{-0.250}$	$3.288^{+0.420}_{-1.260}$	$1.596^{+0.203}_{-0.376}$	$0.063^{+0.162}_{-0.016}$
	+2%/-3%	+9%/-2%	+219%/-156%	+13%/-38%	+13%/-24%	+256%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004845555-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-27 ± 2	$2.24^{+0.43}_{-0.46}$	3438^{+179}_{-286}	5650^{+438}_{-402}	$5.304^{+2.720}_{-1.673}$
Alt.	-84 ± 2	$3.14^{+0.52}_{-0.63}$	3442^{+183}_{-304}	6383^{+393}_{-383}	$8.375^{+4.194}_{-2.135}$

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 $A_{obs} \gg 1.0$

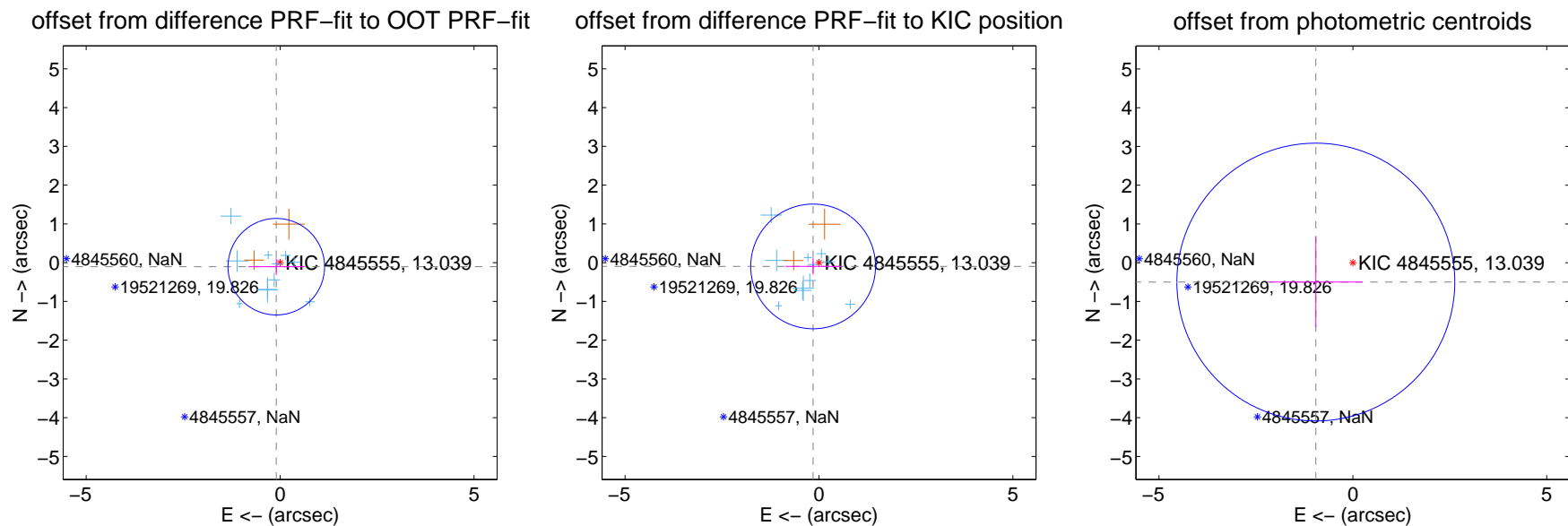
DV Centroid Data

Supplemental centroid analysis for 004845555-01. Kepler magnitude: 13.04. Transit SNR 8.03

There are 11 quarters with good PRF difference image offsets

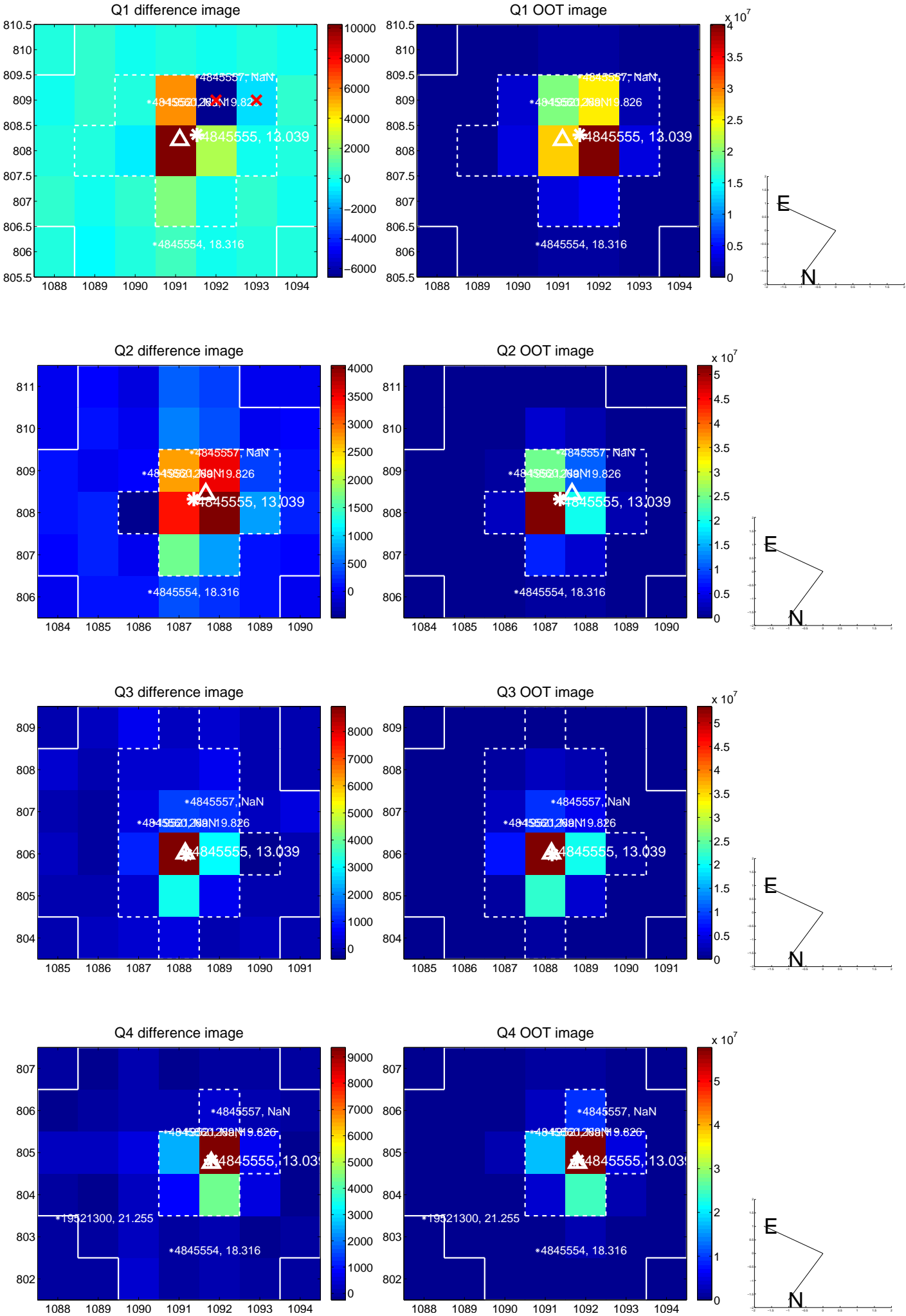
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.144 ± 0.415	0.35	0.098 ± 0.718	-0.105 ± 0.215
PRF-fit source offset from KIC position	0.180 ± 0.536	0.34	0.152 ± 0.713	-0.097 ± 0.212
photometric centroid source offset	1.08 ± 1.19	0.90	0.96 ± 1.20	-0.50 ± 1.17

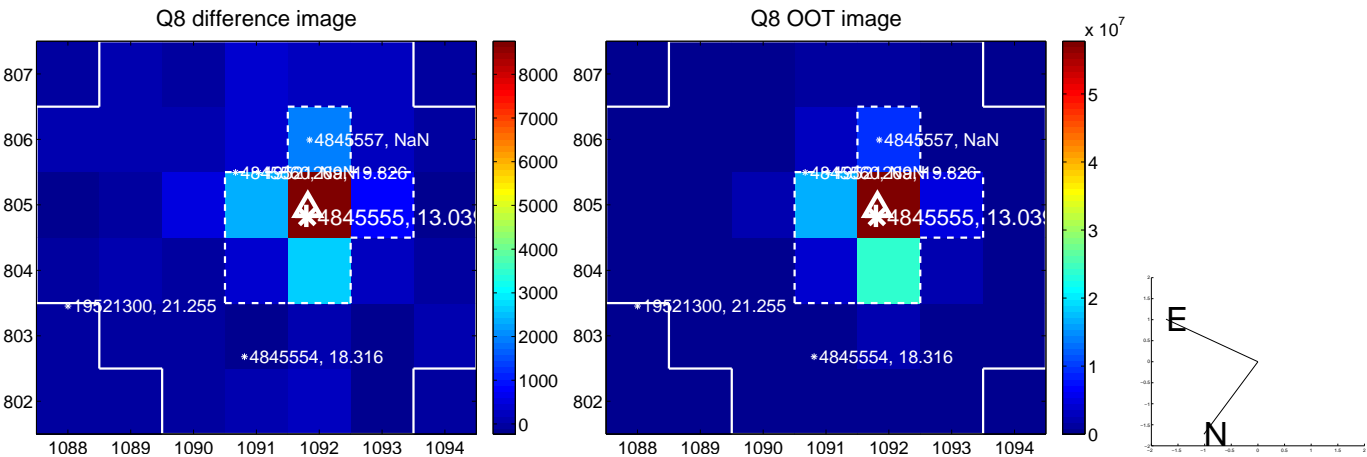
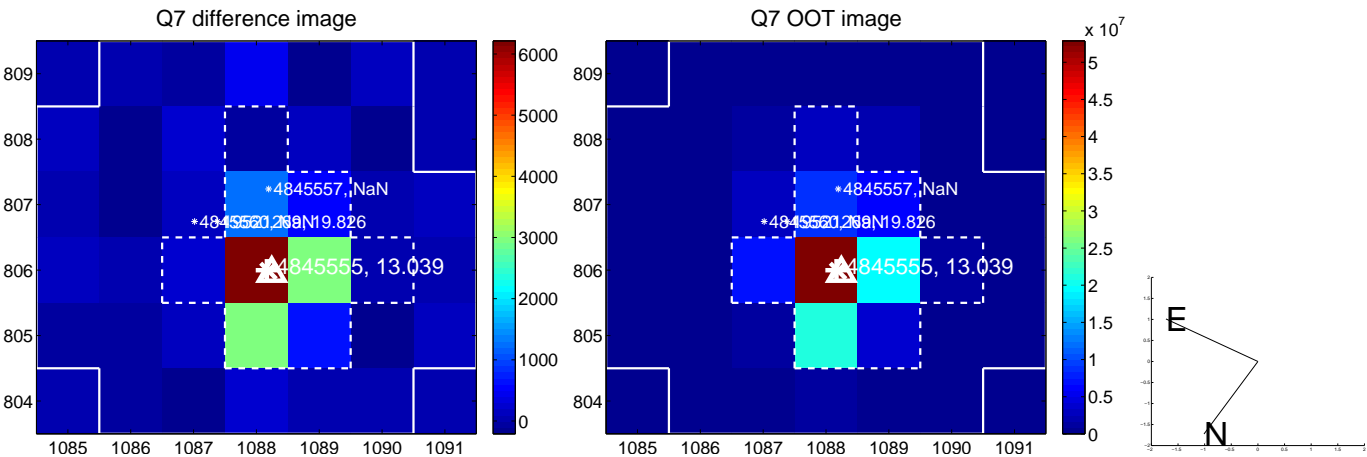
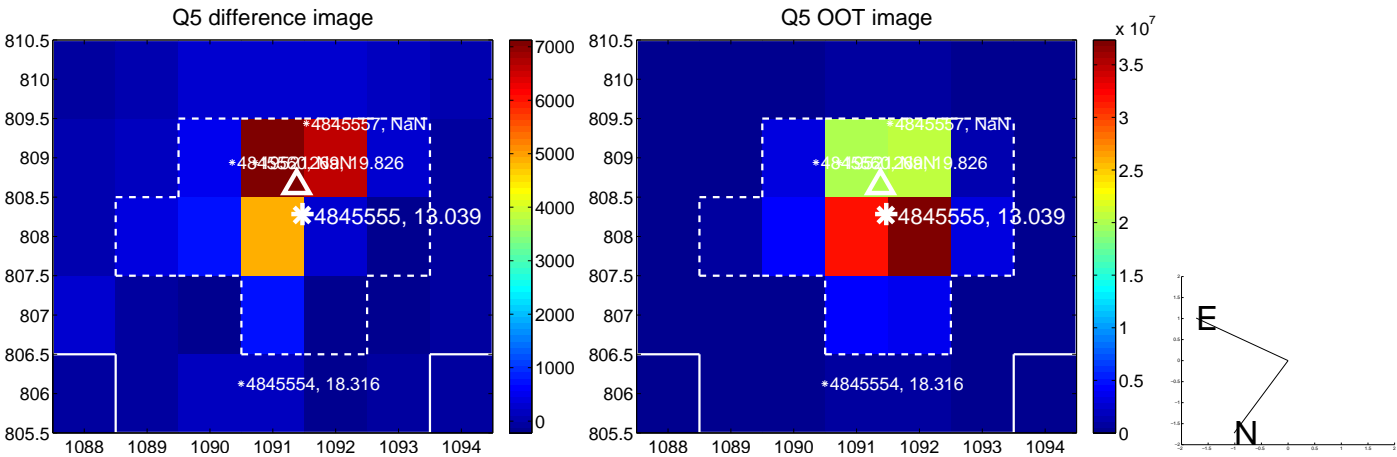


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

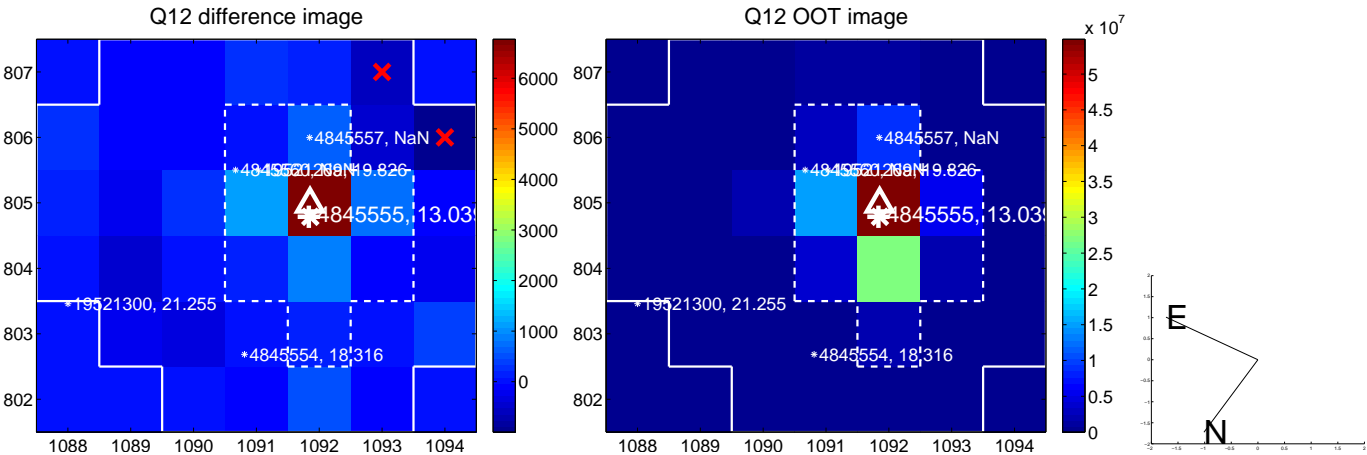
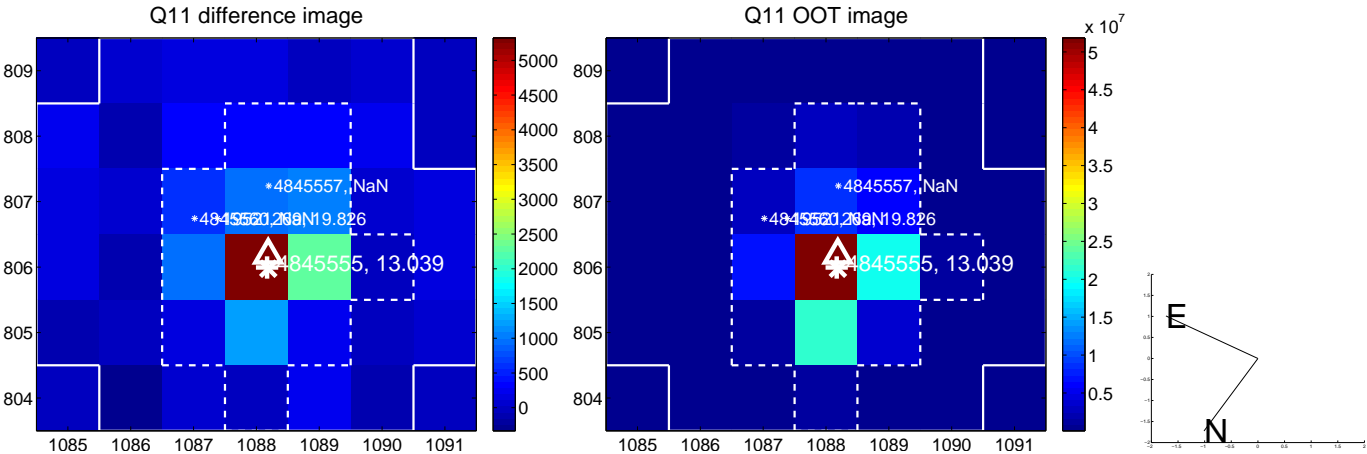
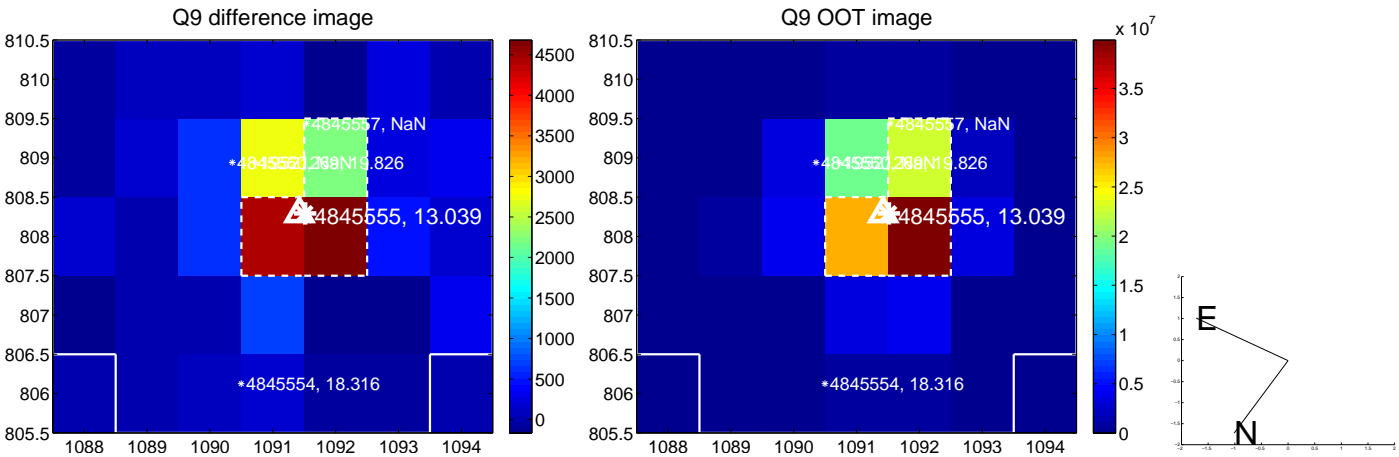
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



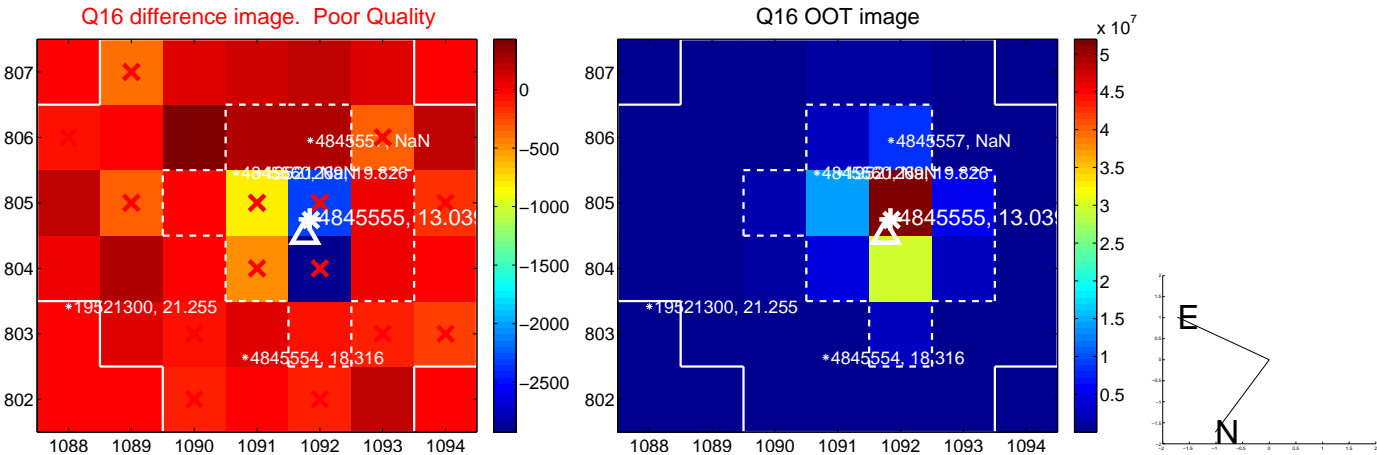
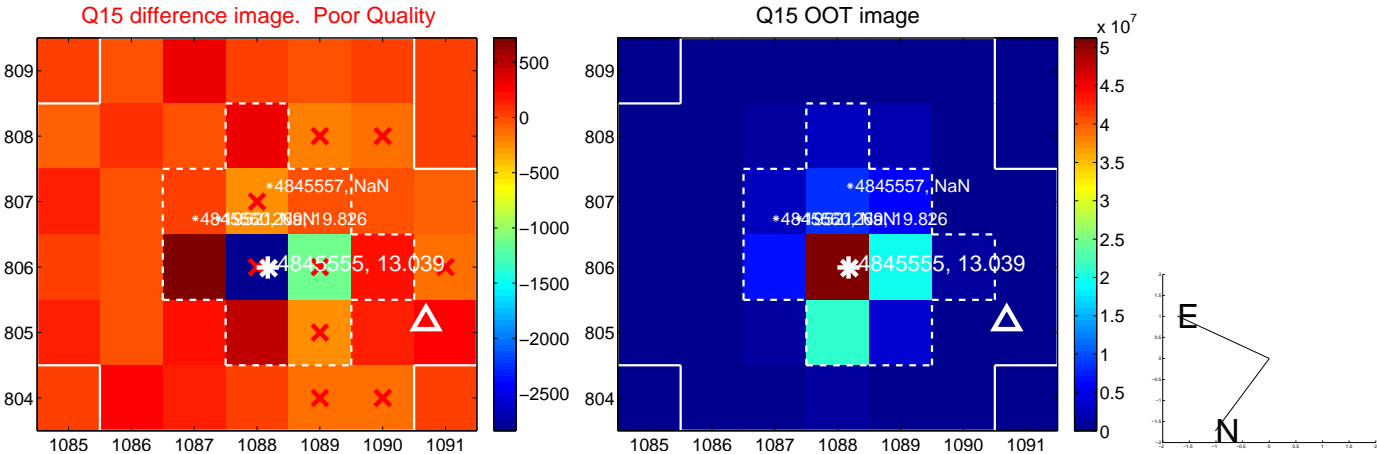
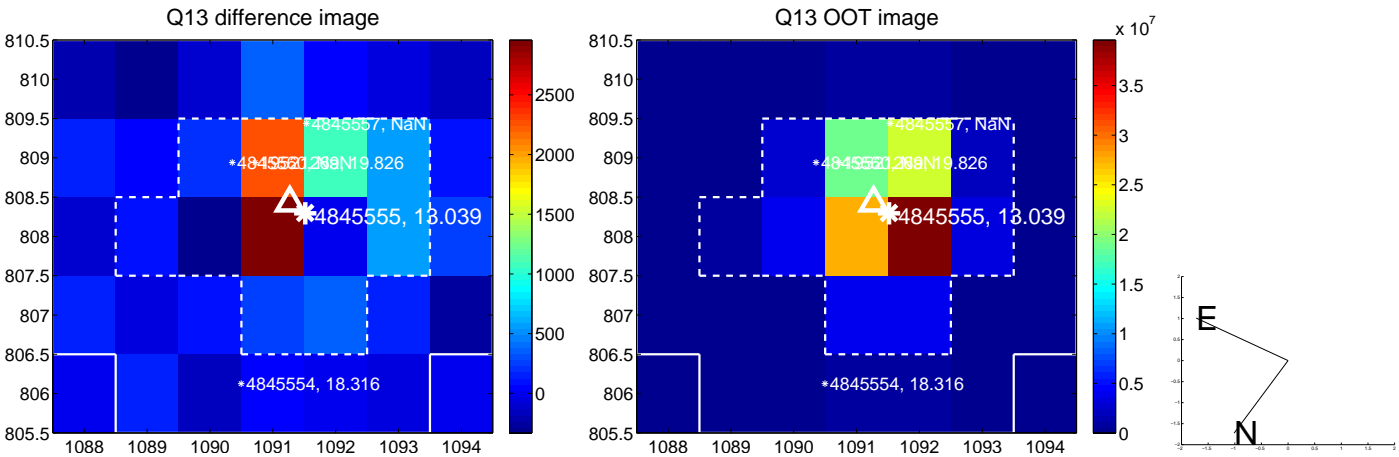
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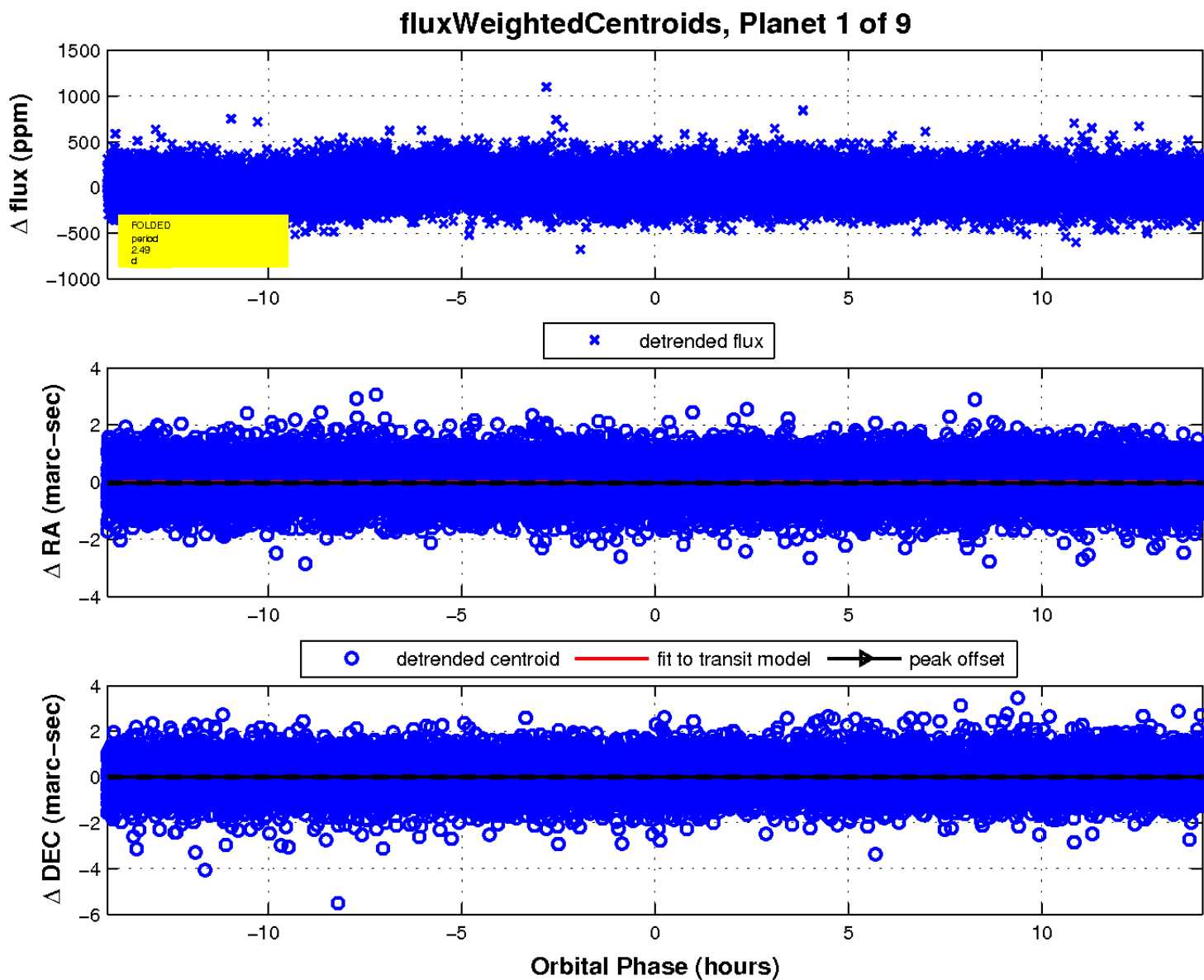
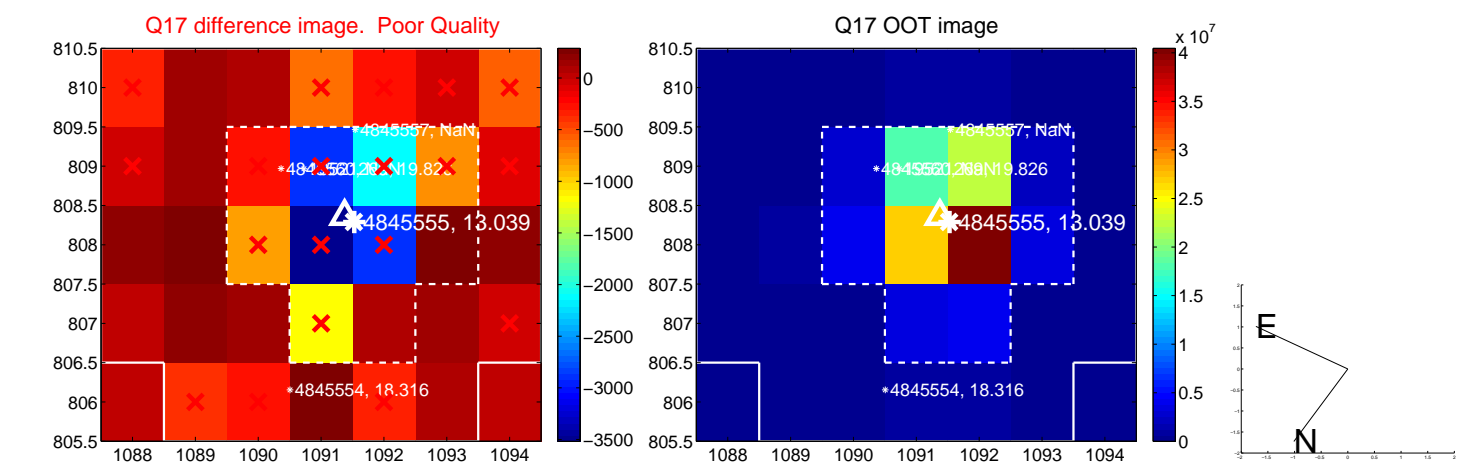
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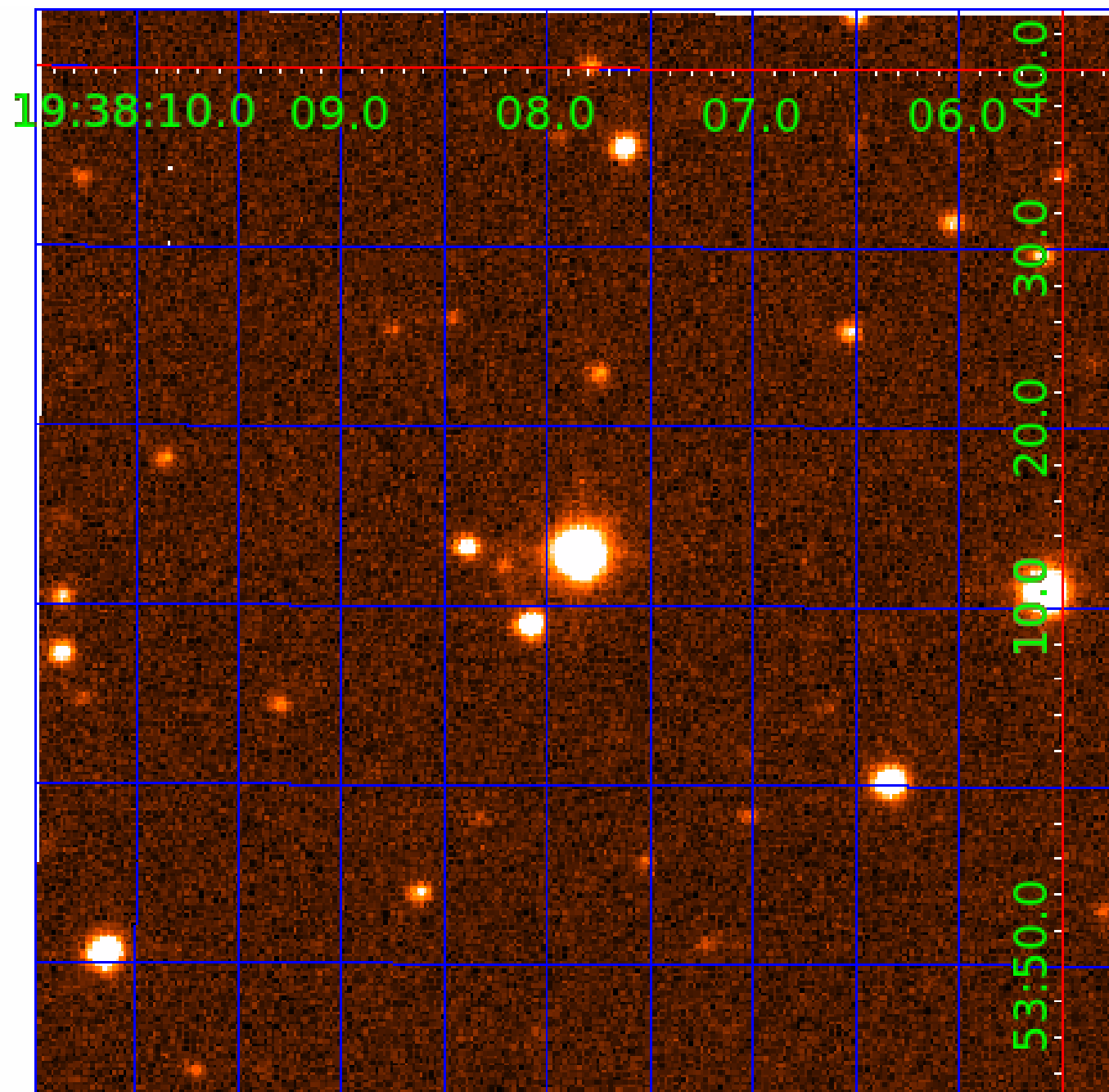


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004845555

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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004845555-02	OBS	No	2.489164	134.276078	32.0	13.877	9.1	4.5	3.29	6429	1.99	9376.01
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Robovetter Results

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004845555-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
004845555-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
004845555-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—CENT_FEW_DIFFS
004845555-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004845555-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT
004845555-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

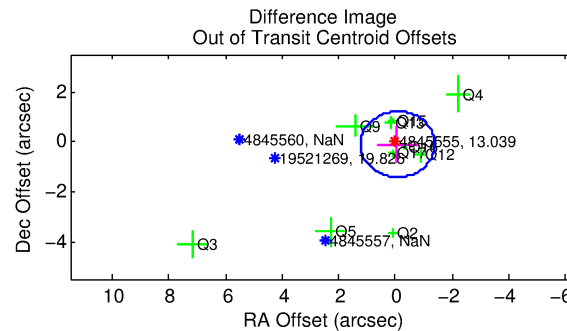
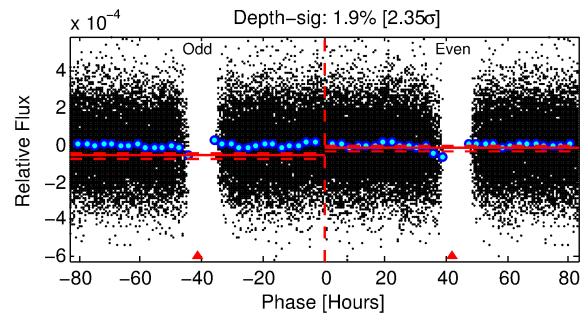
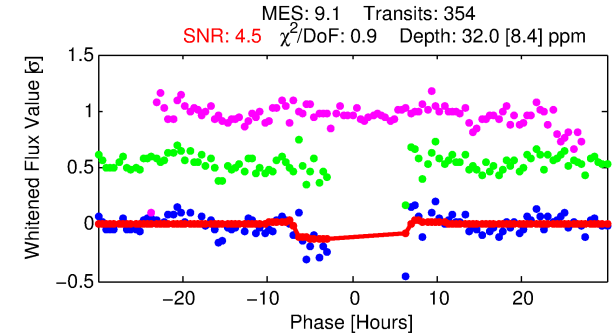
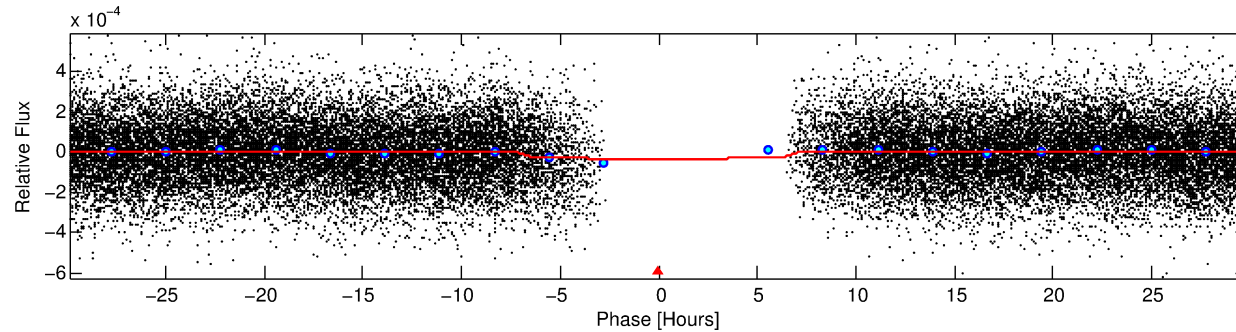
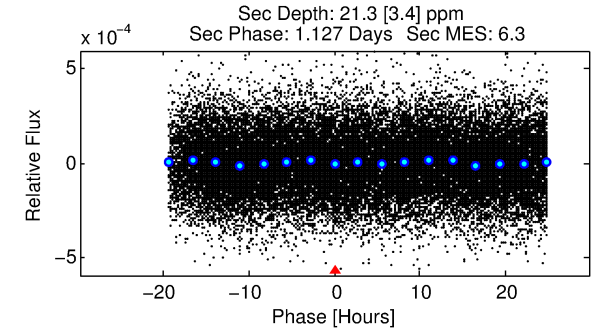
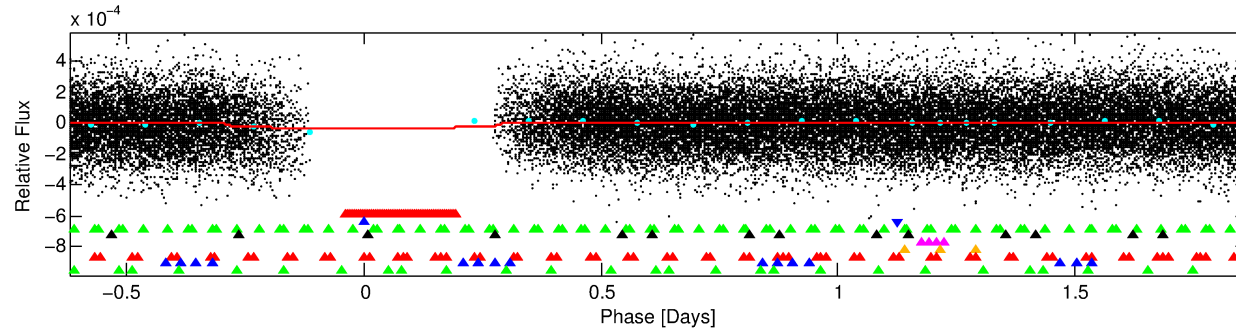
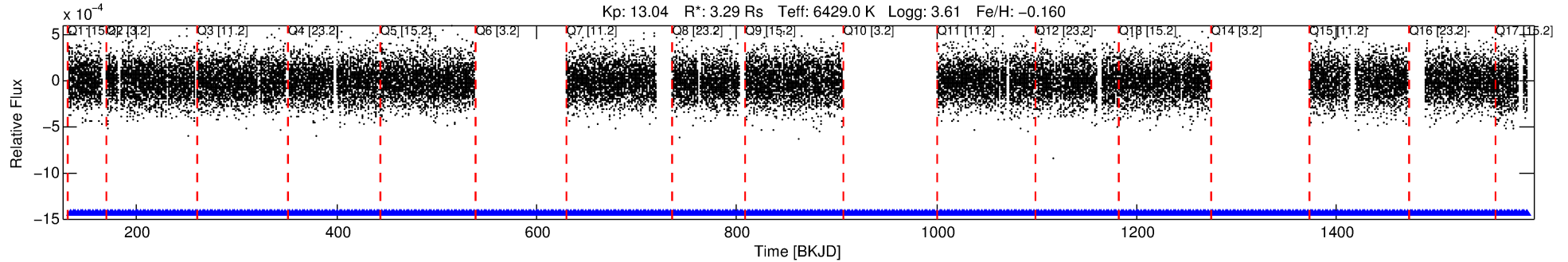
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004845555-02

No Significant Match Found

DV One-Page Summary

KIC: 4845555 Candidate: 2 of 9 Period: 2.489 d



DV Fit Results:

Period = 2.48916 [0.00005] d
Epoch = 134.2761 [0.0134] BKJD
Rp/R* = 0.0055 [0.0028]
a/R* = 1.30 [1.45]
b = 0.69 [2.11]
Seff = 9376.01 [5391.27]
Teq = 2509 [361] K
Rp = 1.98 [1.27] Re
a = 0.0420 [0.0151] AU
Ag = 5.26 [6.21] [0.69σ]
Teffp = 5875 [1530] K [2.14σ]

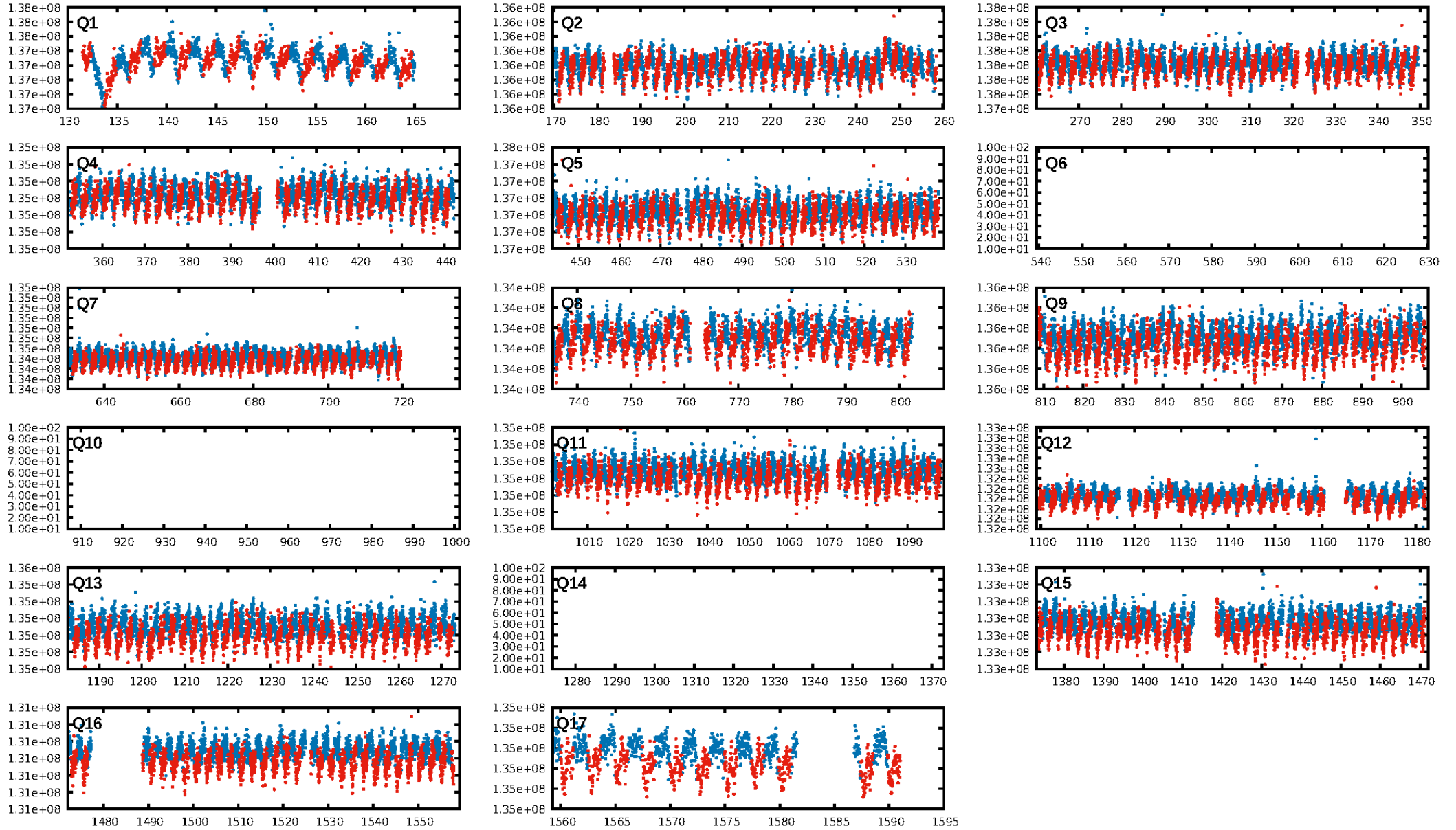
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.59e-11
RollingBand-fgt: 1.00 [329/329]
GhostDiagnostic-chr: 0.5555
Centroid-sig: 70.5%
Centroid-so: 0.249 arcsec [0.34σ]
OotOffset-rm: 0.129 arcsec [0.30σ]
KicOffset-rm: 0.110 arcsec [0.23σ]
OotOffset-st: 1/2/3/4 [10]
KicOffset-st: 1/2/3/4 [10]
DiffImageQuality-fgm: 0.50 [5/10]
DiffImageOverlap-fno: 0.00 [0/14]

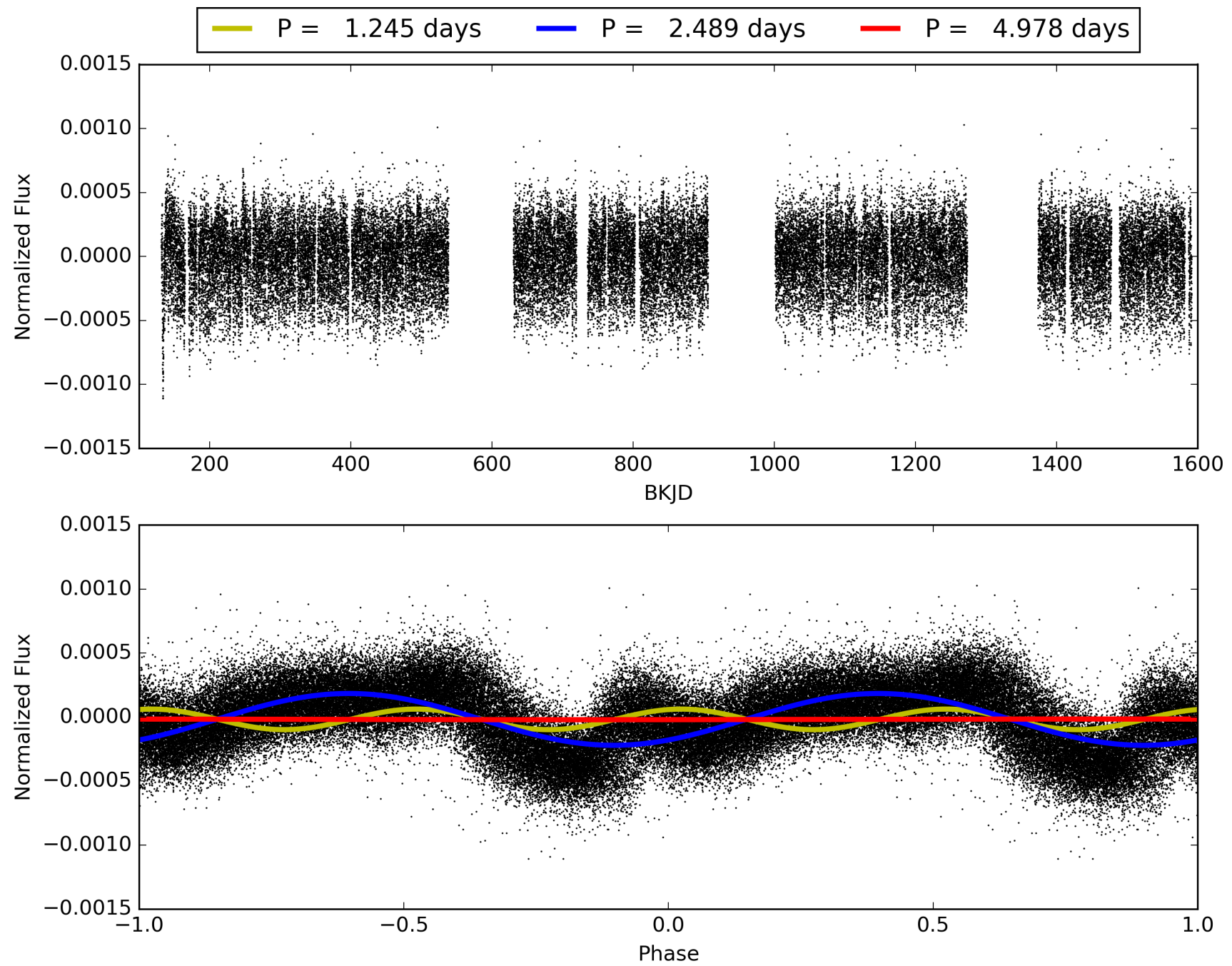
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:12:02 Z

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

TCE 00484555-02, PDC Light Curves

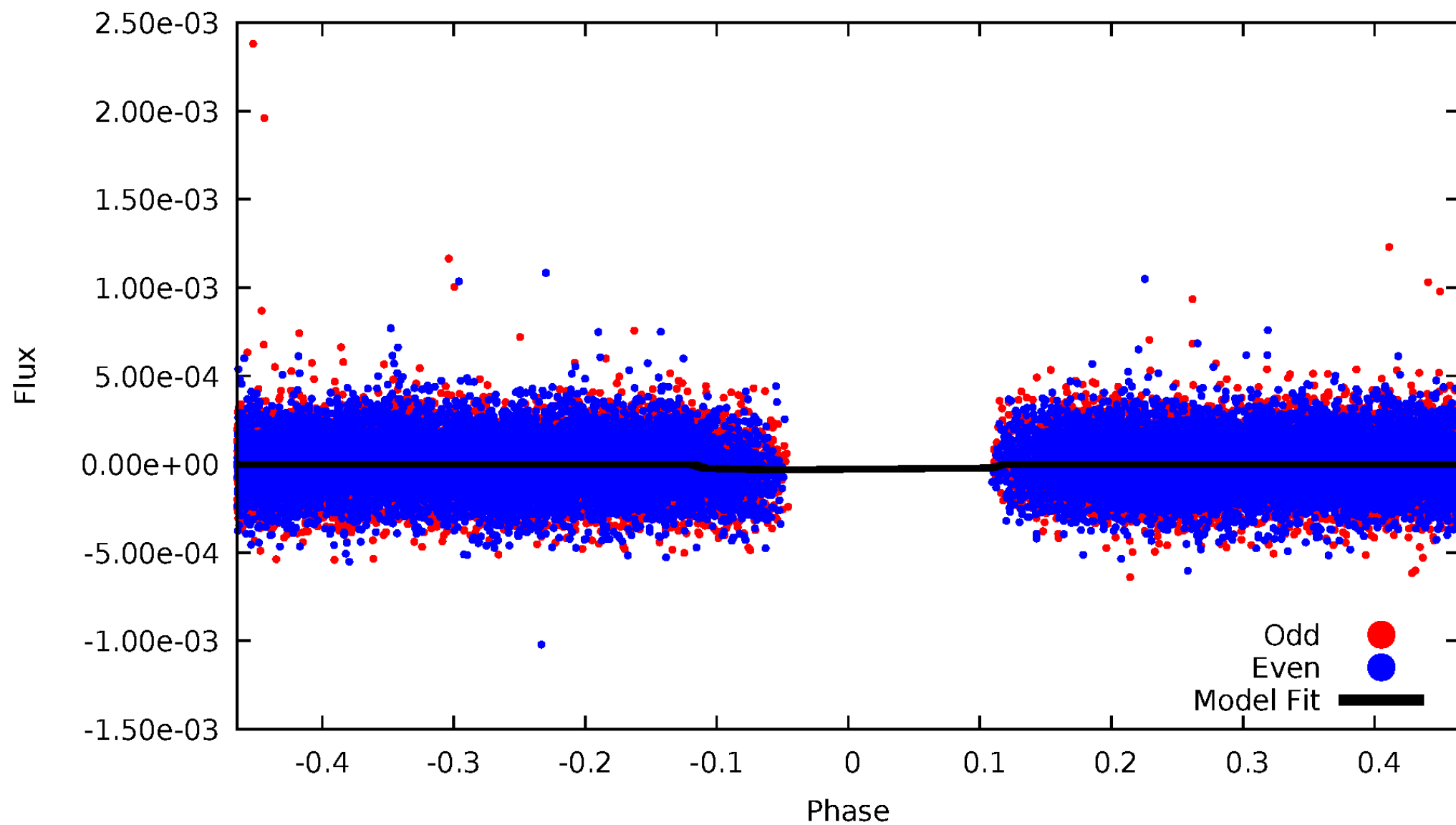


TCE 004845555-02



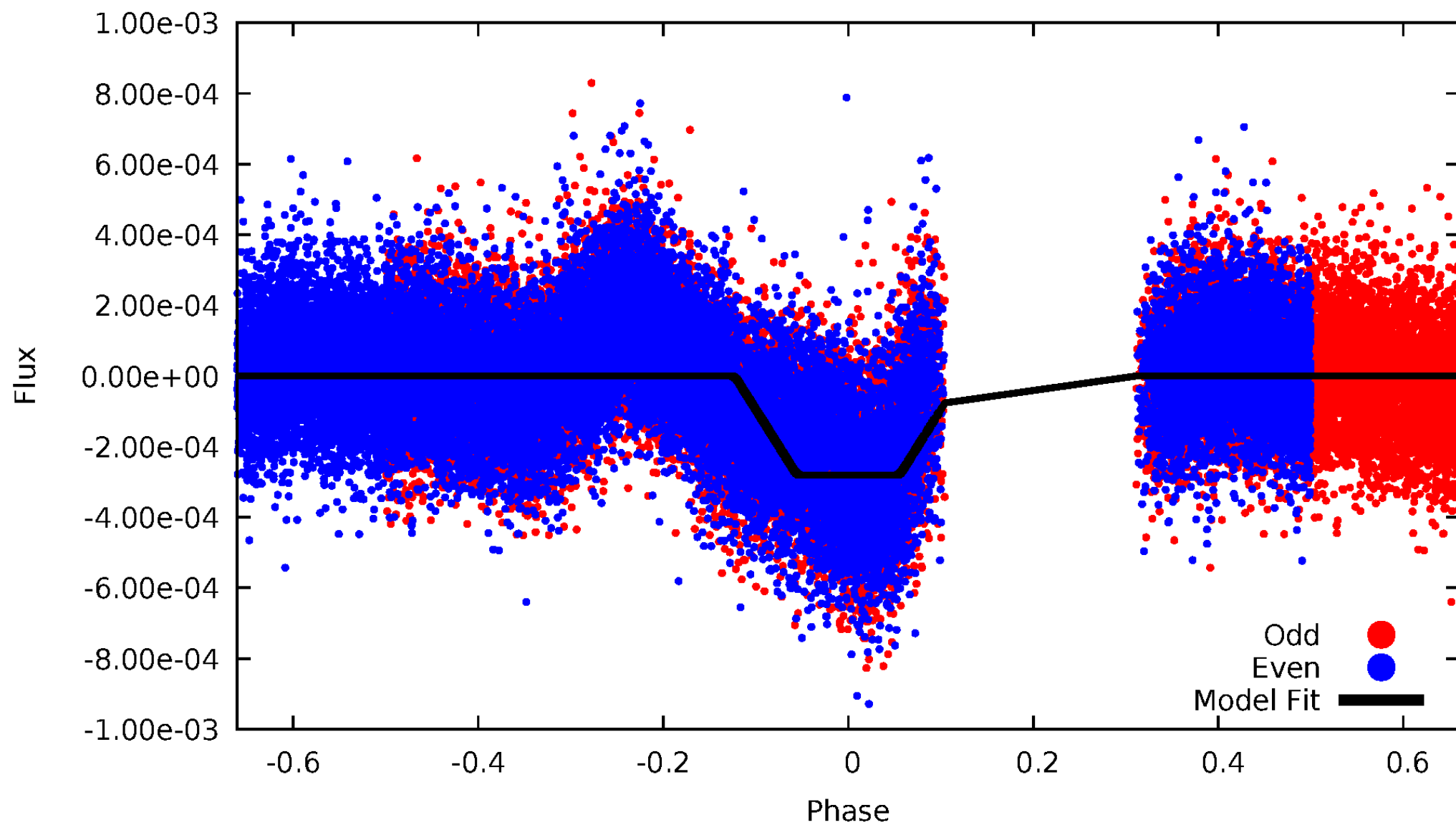
DV Odd/Even

TCE 004845555-02



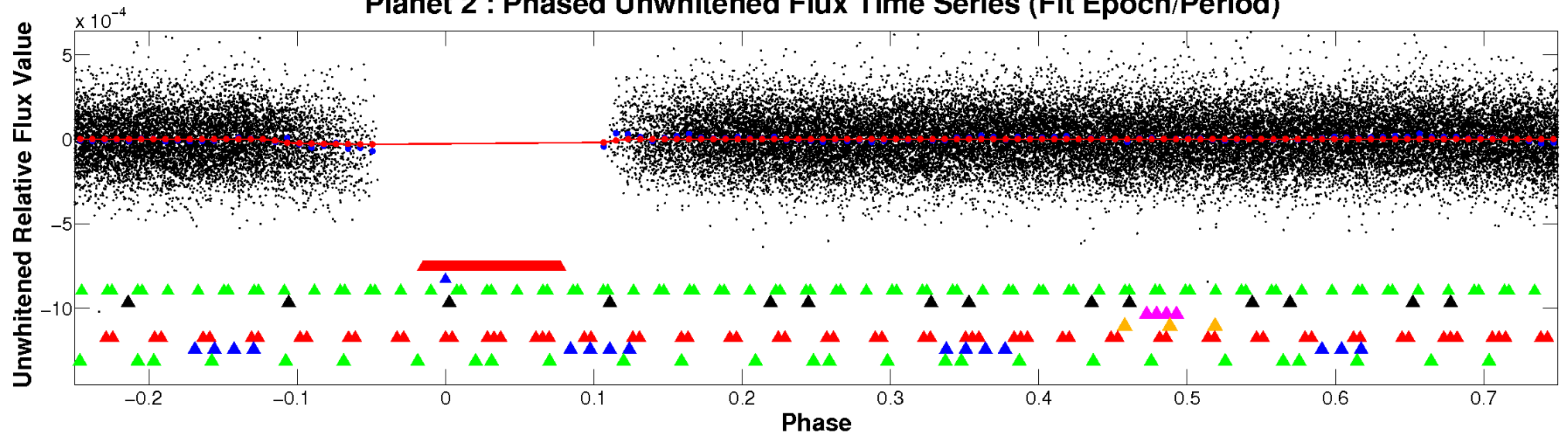
ALT Odd/Even

TCE 004845555-02

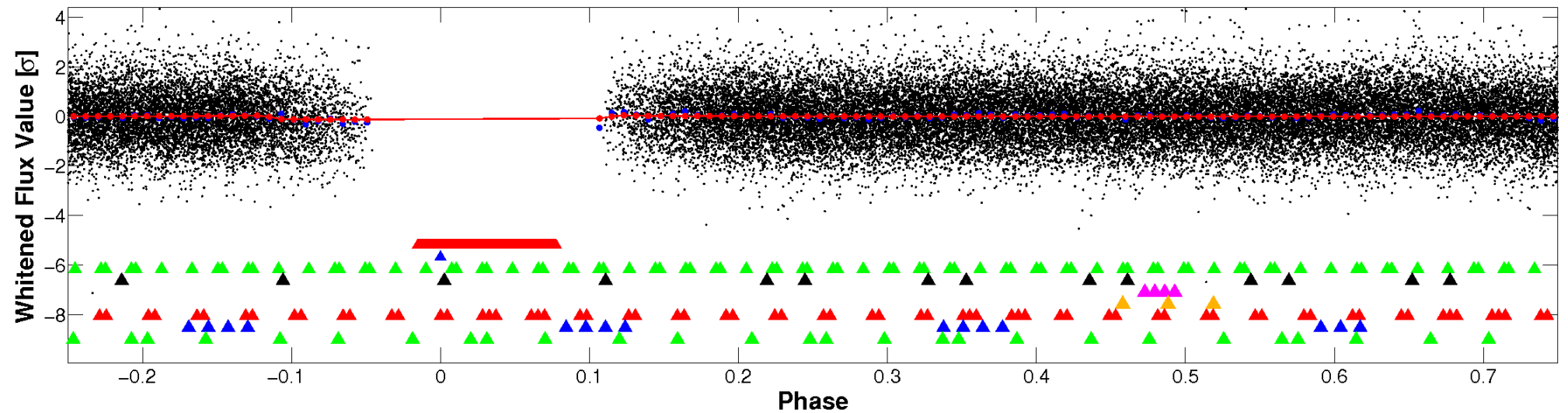


Non-Whitened Vs. Whitened Light Curve

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

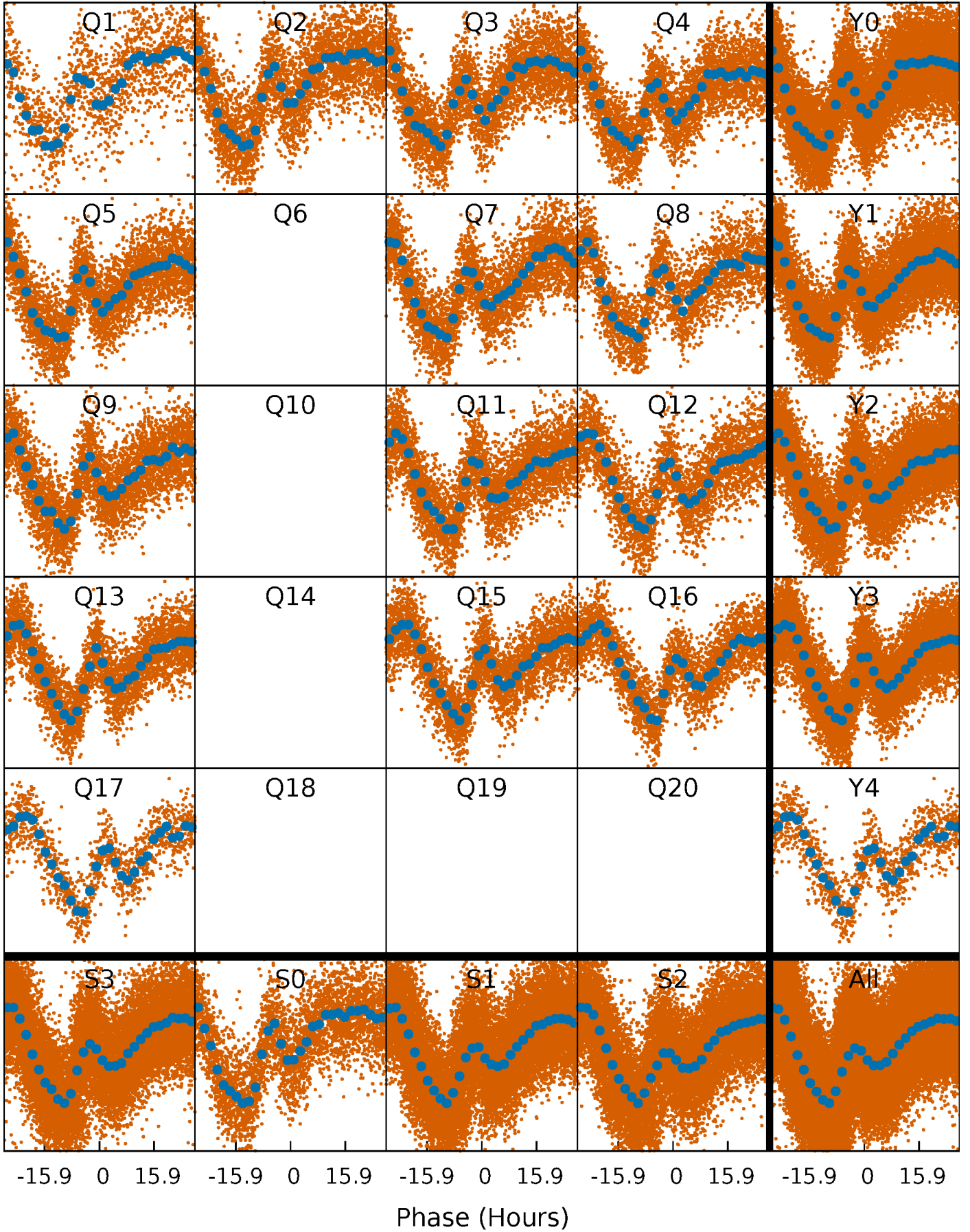


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



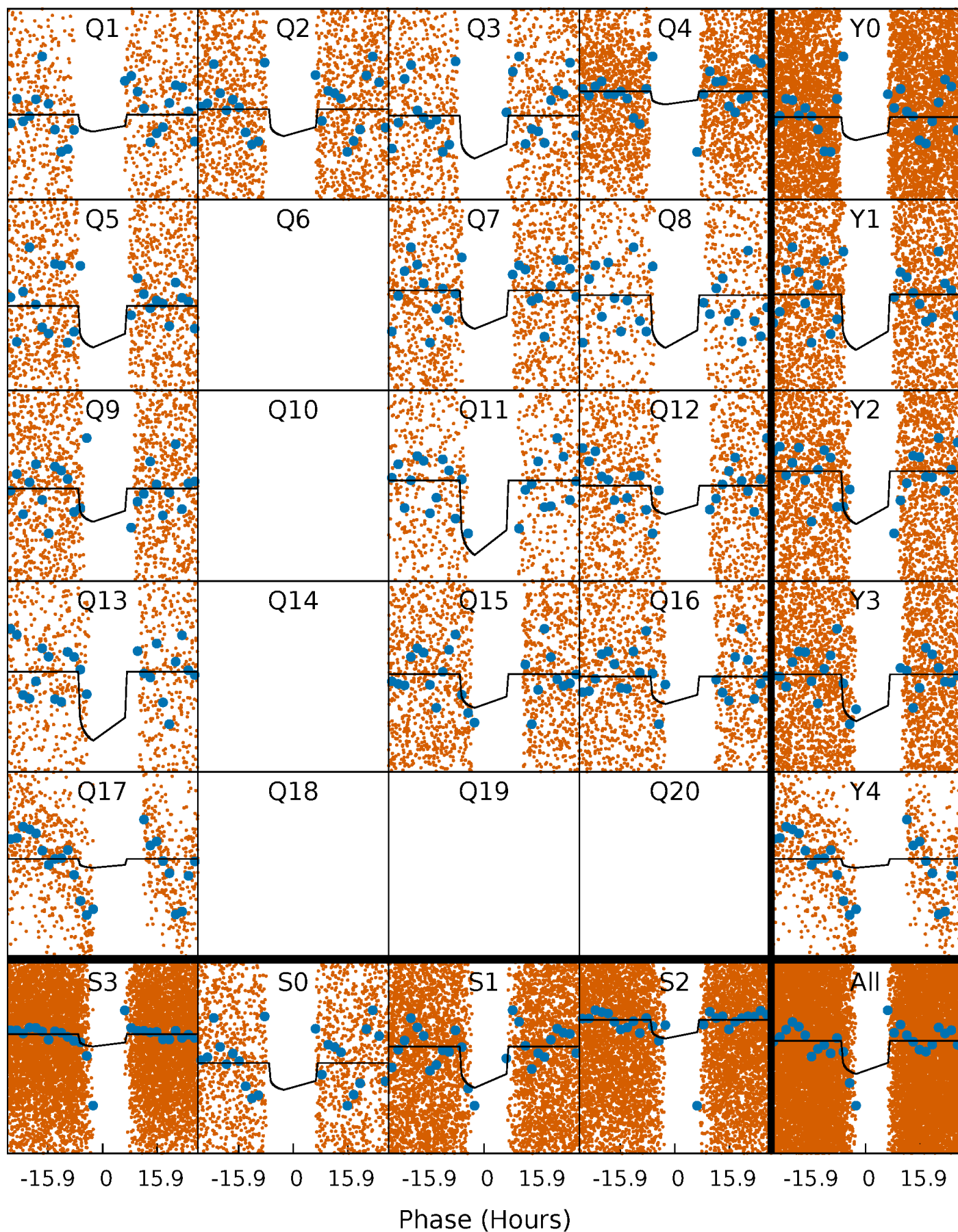
PDC Quarter-Phased Transit Curves

TCE 004845555-02 P= 2.489164 Days $T_0=134.276078$ (BKJD)



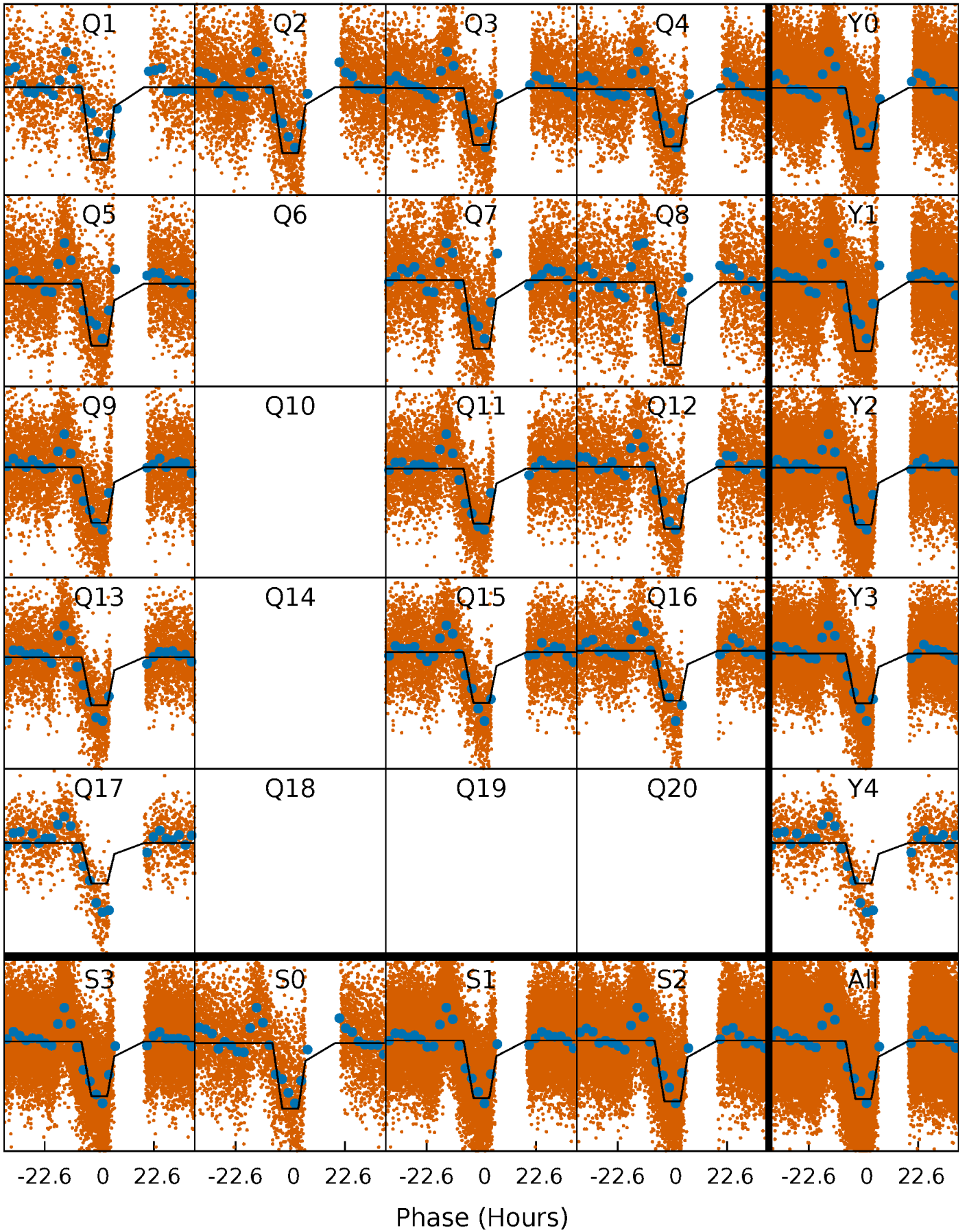
DV Quarter-Phased Transit Curves

TCE 004845555-02 P= 2.489164 Days $T_0=134.276078$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

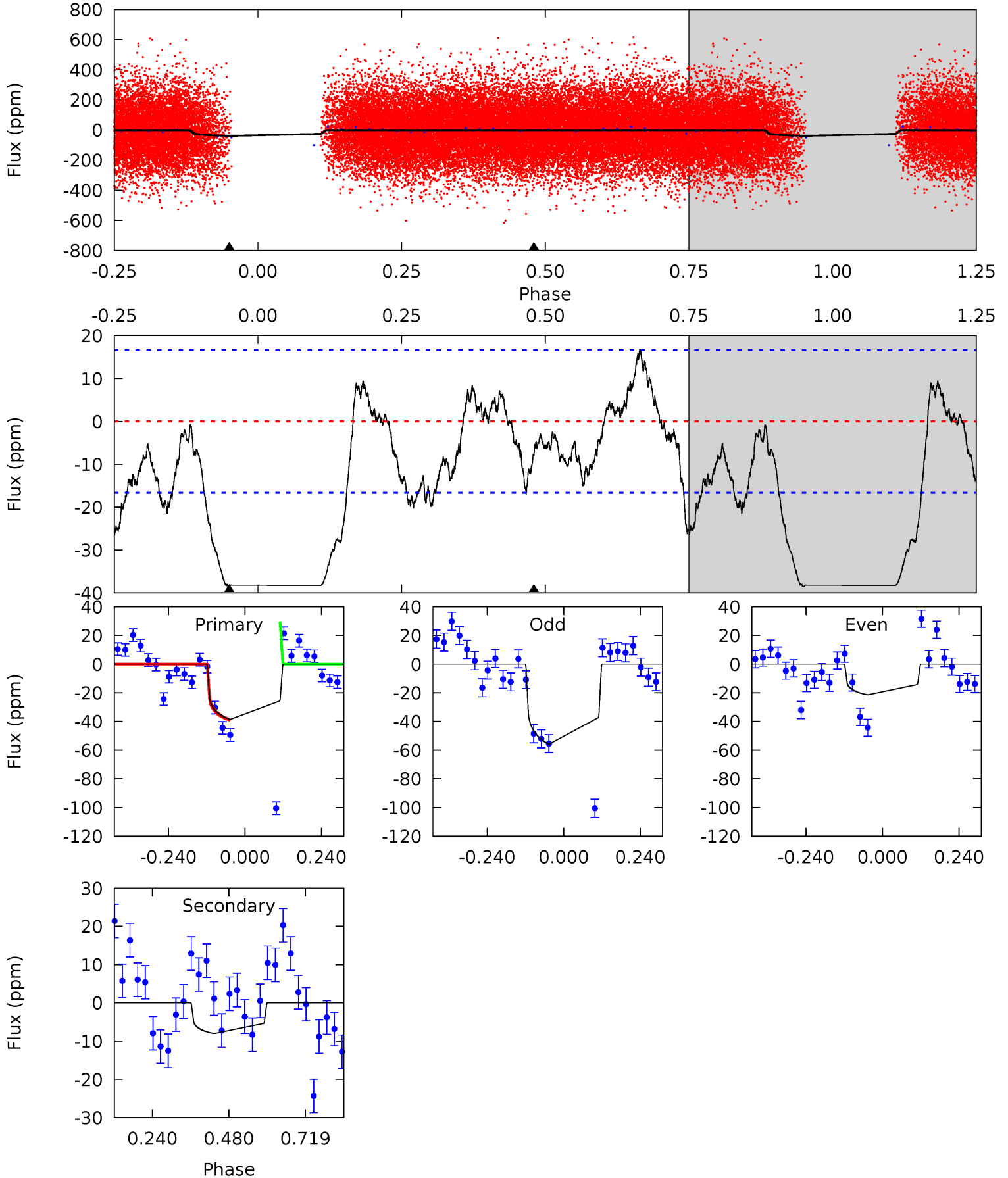
TCE 004845555-02 P= 2.489730 Days $T_0=133.670017$ (BKJD)



DV Model-Shift Uniqueness Test

004845555-02, P = 2.489164 Days, E = 131.786914 Days

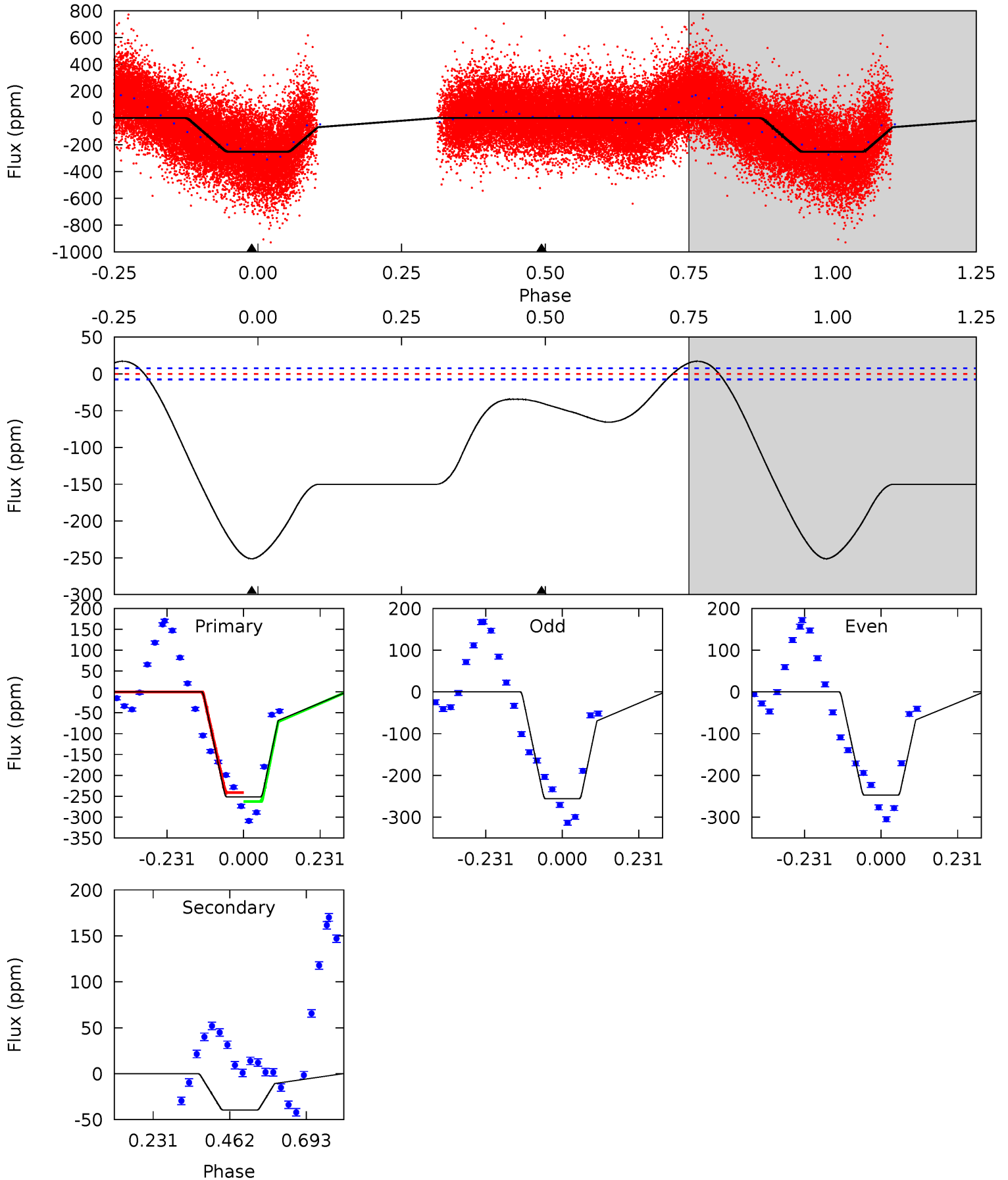
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	2.11	0	0	4.38	1.18	1.47	10.1	10.1	2.11	2.11	4.49	0.99	0.30	0.46



Alt Model-Shift Uniqueness Test

004845555-02, P = 2.489730 Days, E = 131.180287 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
145.0	22.8	0	0	4.39	1.20	8.65	145.0	145.0	22.8	22.8	2.45	1.03	0.06	6.01



Stellar Parameters For KIC 004845555

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6429^{+155}_{-175}	$3.607^{+0.328}_{-0.082}$	$-0.160^{+0.350}_{-0.250}$	$3.288^{+0.420}_{-1.260}$	$1.596^{+0.203}_{-0.376}$	$0.063^{+0.162}_{-0.016}$
	+2%/-3%	+9%/-2%	+219%/-156%	+13%/-38%	+13%/-24%	+256%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004845555-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-8 ± 4	$1.82^{+1.11}_{-0.86}$	3447^{+187}_{-311}	4536^{+1787}_{-997}	$2.196^{+6.610}_{-1.455}$
Alt.	-40 ± 2	$5.69^{+1.22}_{-1.33}$	3435^{+195}_{-309}	3983^{+353}_{-321}	$1.204^{+0.746}_{-0.395}$

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

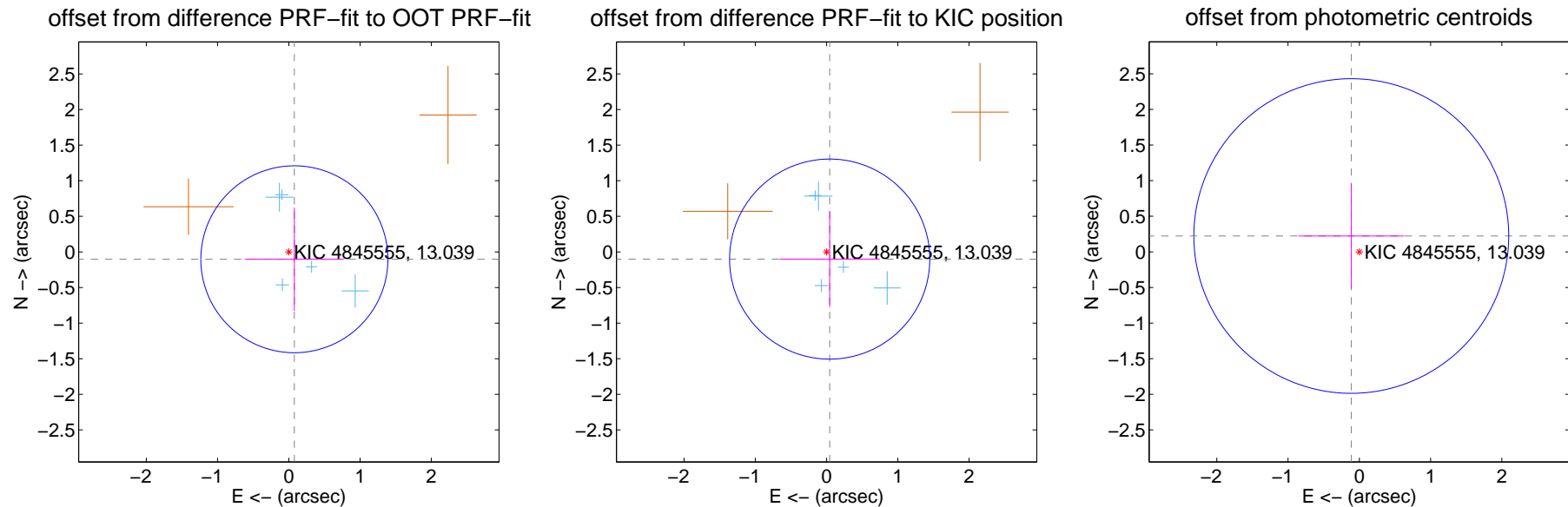
DV Centroid Data

Supplemental centroid analysis for 004845555-02. Kepler magnitude: 13.04. Transit SNR 4.49

There are 5 quarters with good PRF difference image offsets

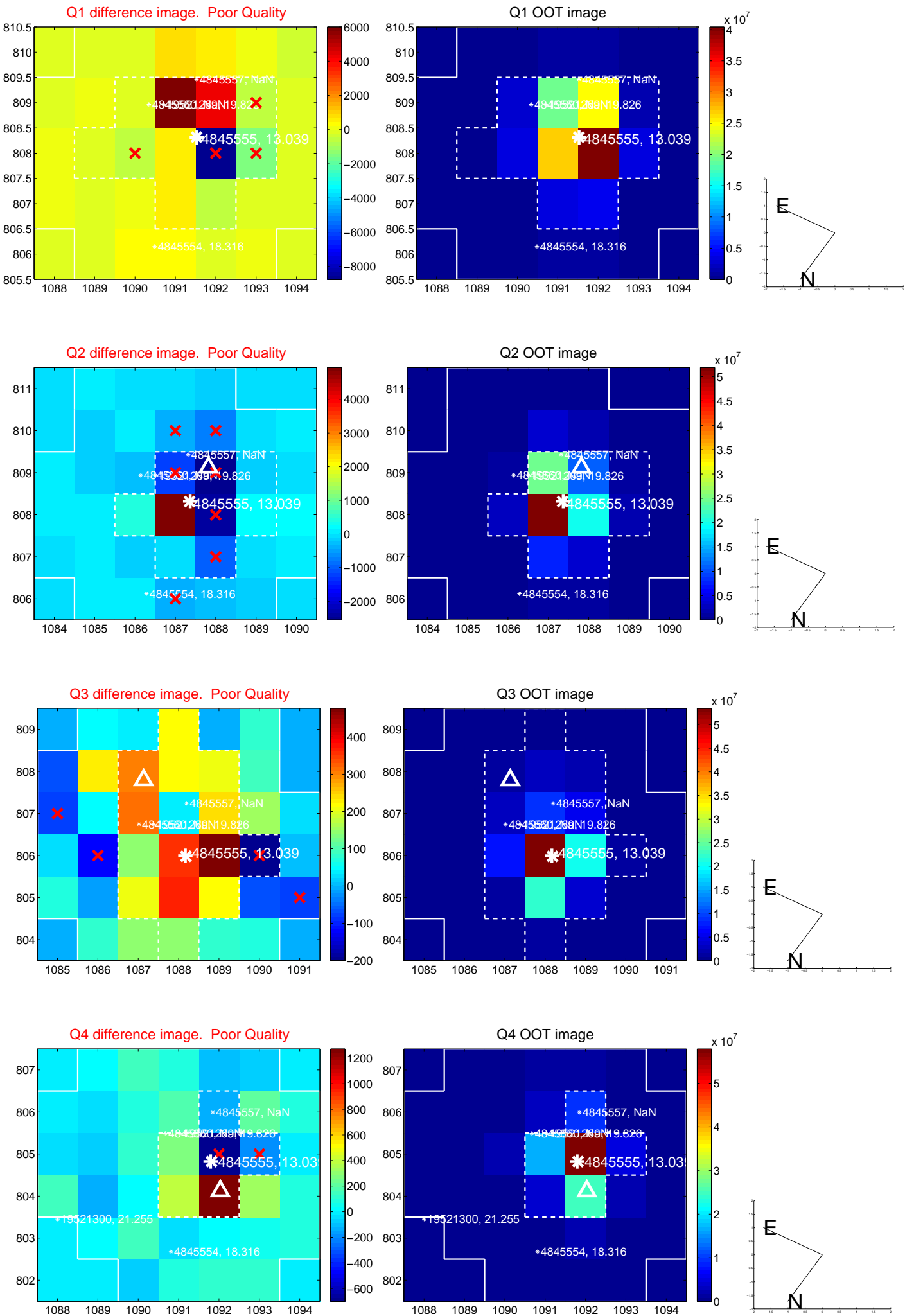
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.129 ± 0.438	0.30	-0.078 ± 0.695	-0.103 ± 0.725
PRF-fit source offset from KIC position	0.110 ± 0.468	0.23	-0.044 ± 0.702	-0.101 ± 0.674
photometric centroid source offset	0.25 ± 0.74	0.34	0.11 ± 0.74	0.22 ± 0.73

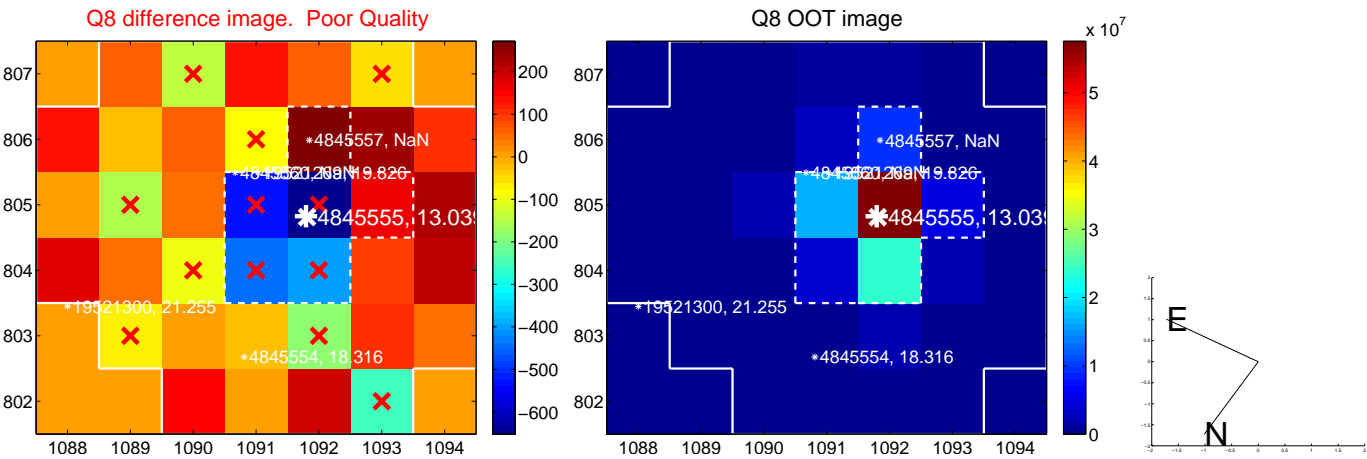
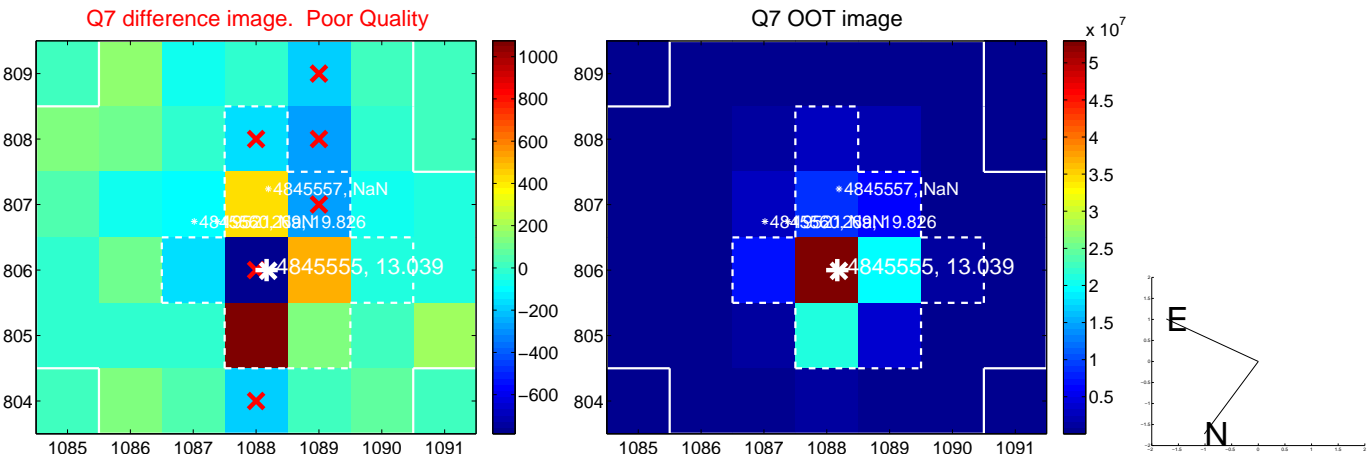
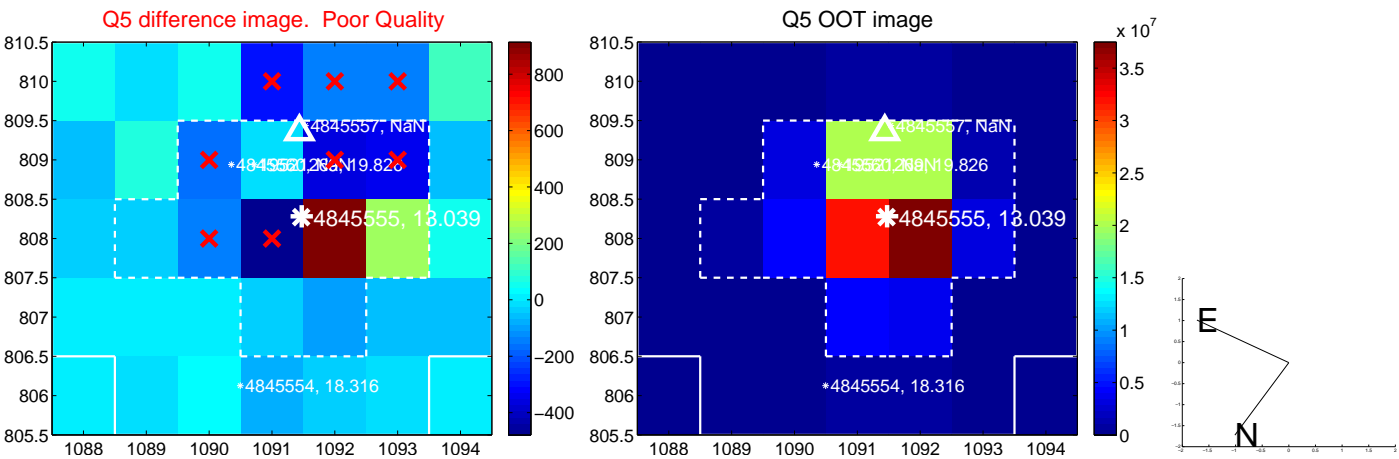


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

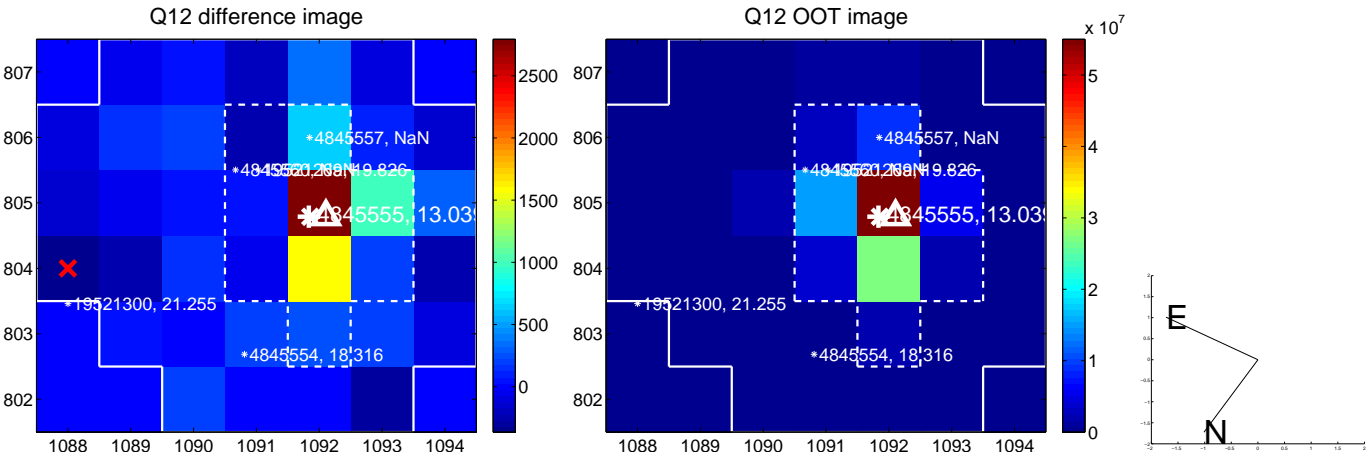
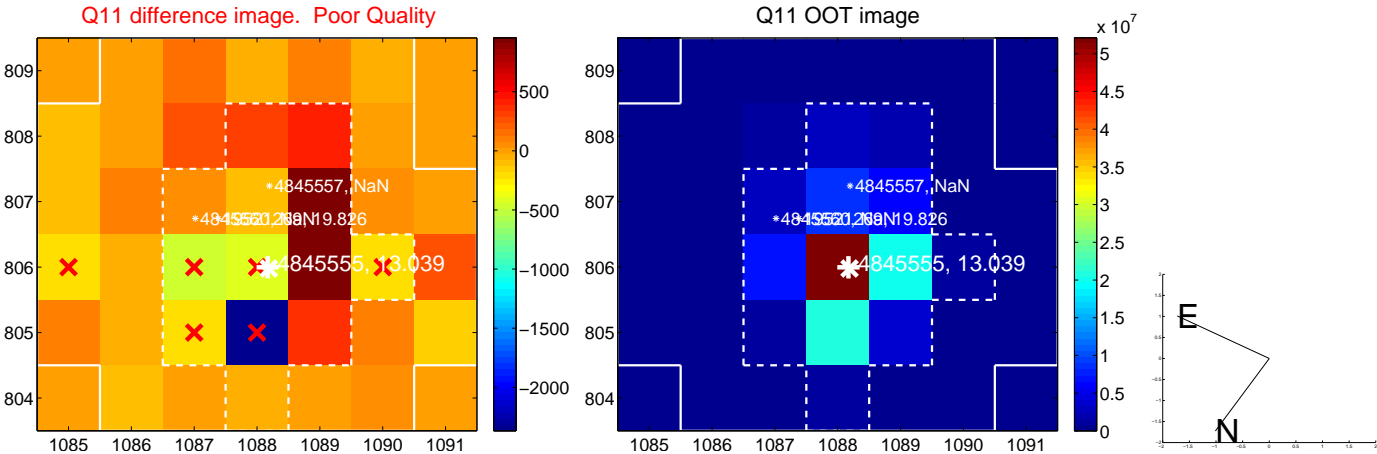
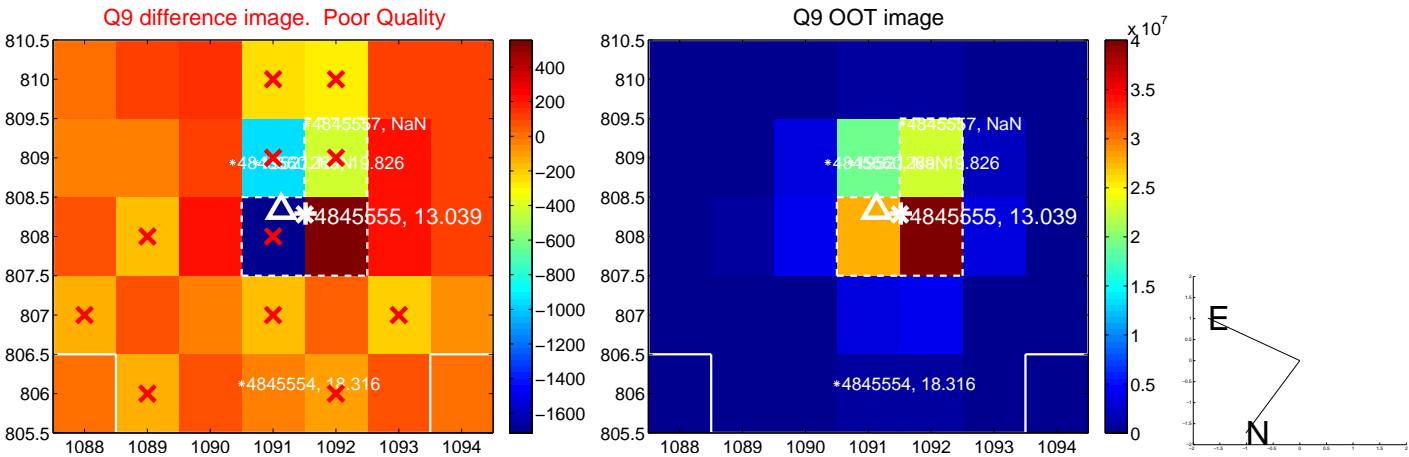
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



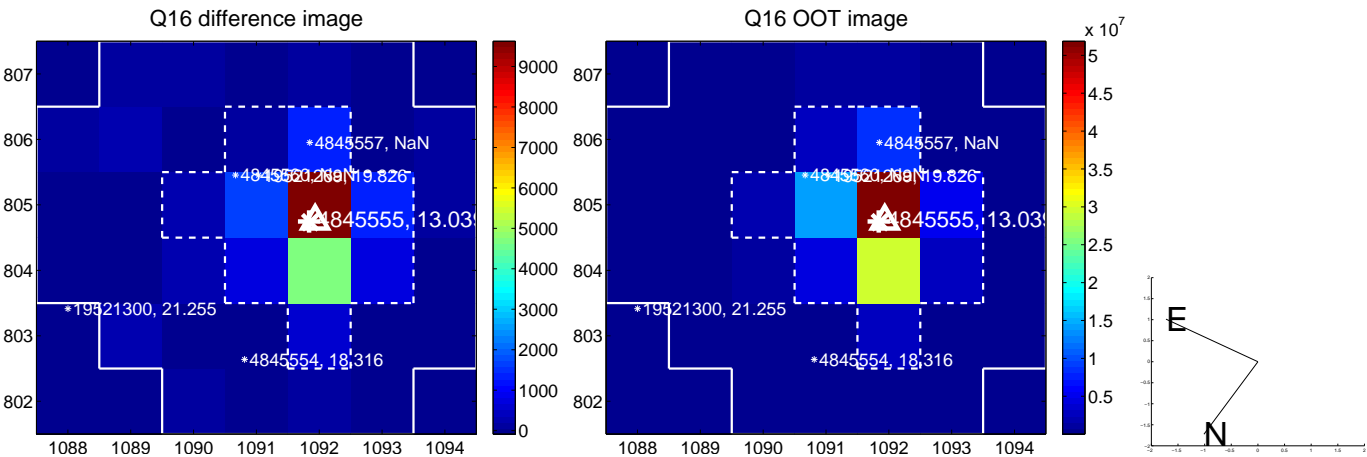
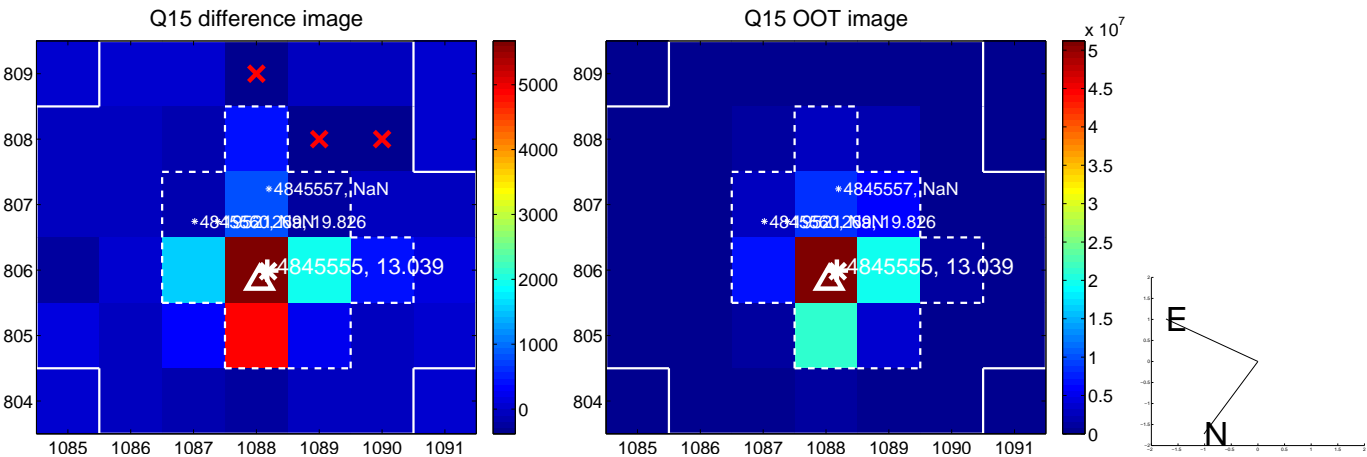
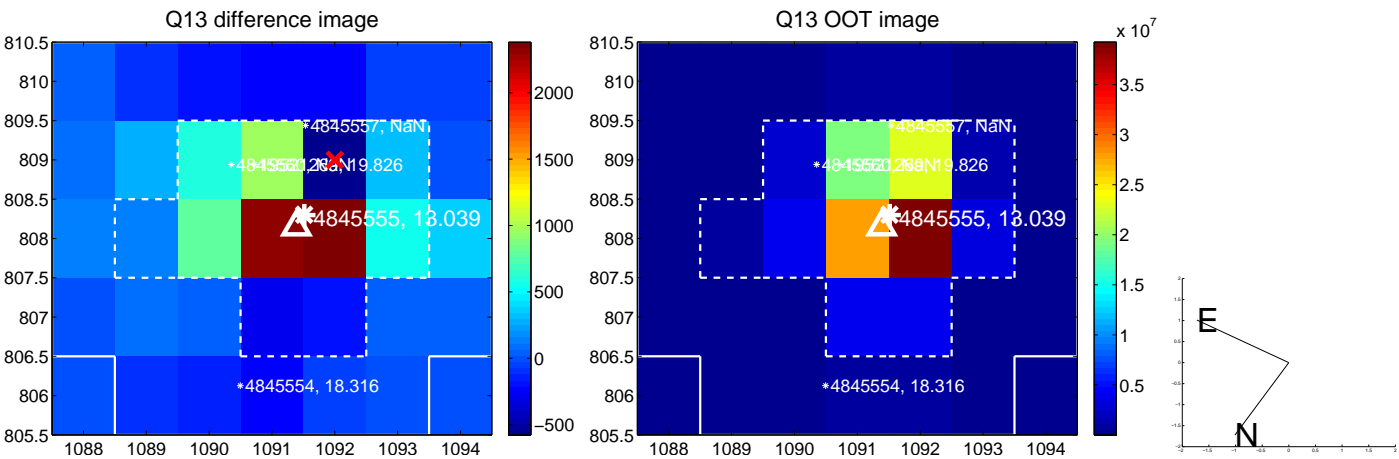
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



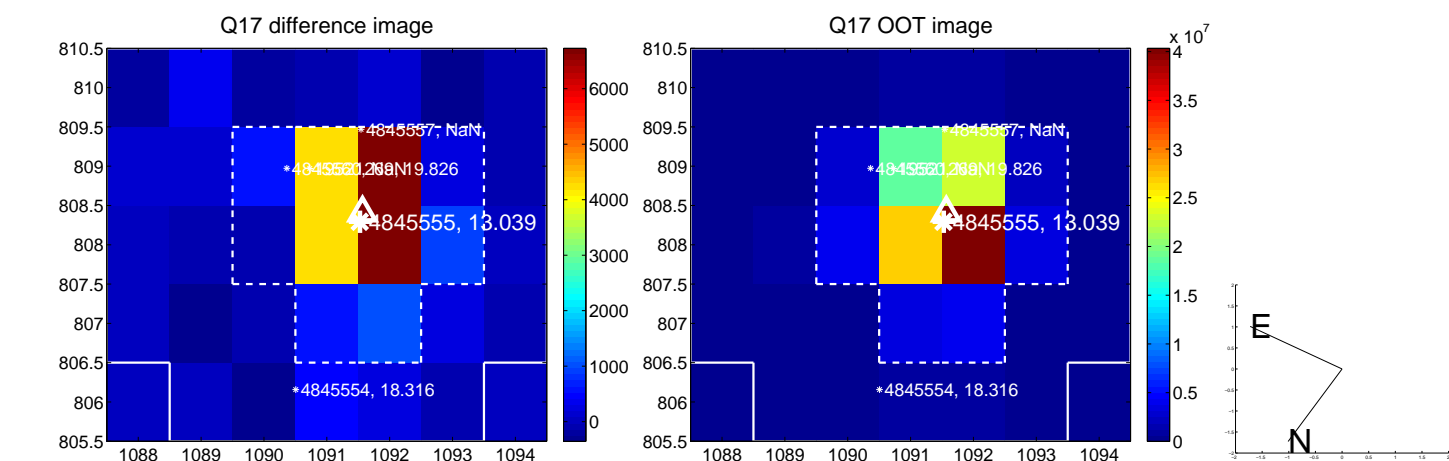
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



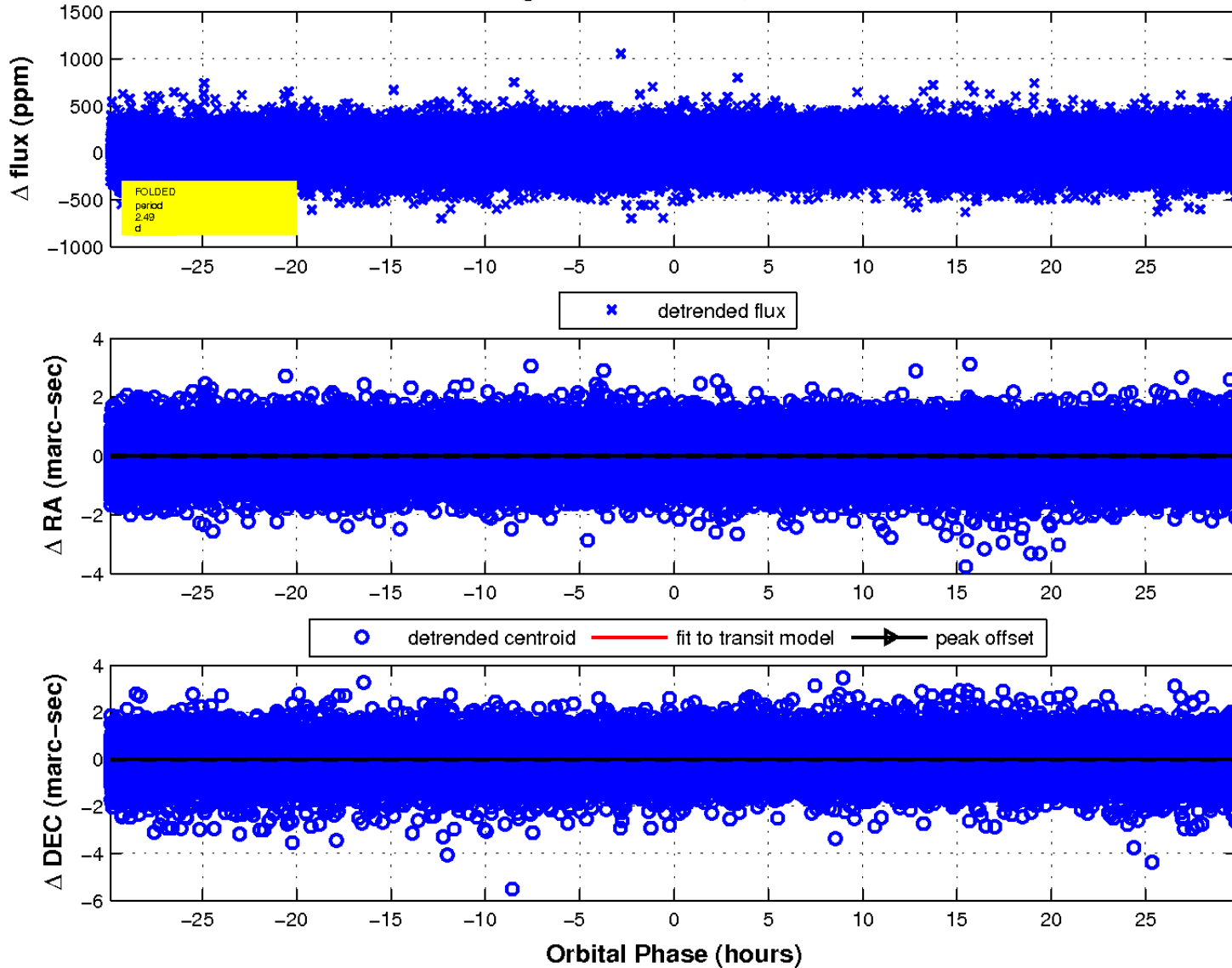
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

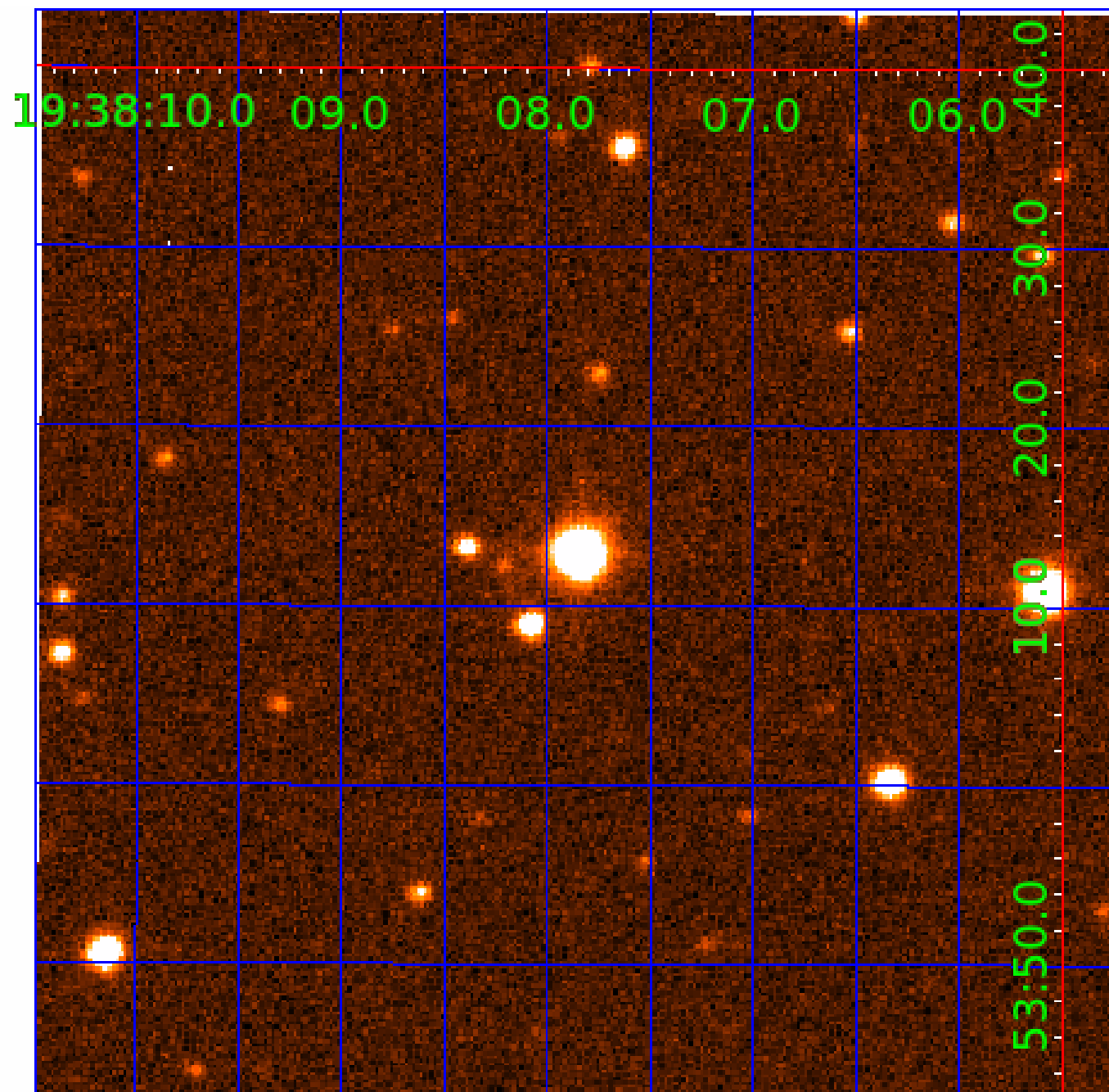


fluxWeightedCentroids, Planet 2 of 9



UKIRT Image

Declination



KIC 004845555

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})
004845555-01	OBS	No	2.489558	131.748871	30.1	4.723	9.4	8.0	3.29	6429	2.33	9374.03
004845555-02	OBS	No	2.489164	134.276078	32.0	13.877	9.1	4.5	3.29	6429	1.99	9376.01
004845555-03	OBS	No	17.619521	136.928749	69.7	7.033	8.2	6.8	3.29	6429	3.11	689.86
004845555-04	OBS	No	109.253691	160.791260	339.6	1.599	7.7	7.8	3.29	6429	7.14	60.56
004845555-05	OBS	No	398.282871	264.889448	128.7	11.885	9.1	6.8	3.29	6429	3.99	10.79
004845555-06	OBS	No	552.670174	155.329314	183.9	5.721	7.4	7.1	3.29	6429	5.72	6.97
004845555-07	OBS	No	21.599880	143.419063	155.8	4.577	8.5	9.6	3.29	6429	4.68	525.80
004845555-08	OBS	No	97.707904	208.530444	237.7	3.045	7.3	8.7	3.29	6429	5.78	70.28
004845555-09	OBS	No	54.194665	177.236292	283.5	2.100	7.3	8.7	3.29	6429	7.21	154.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004845555-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004845555-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
004845555-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
004845555-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—CENT_FEW_DIFFS
004845555-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004845555-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT
004845555-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

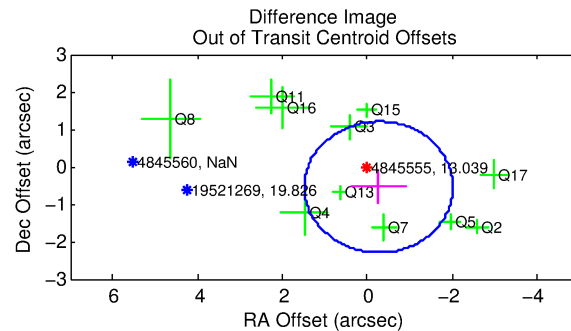
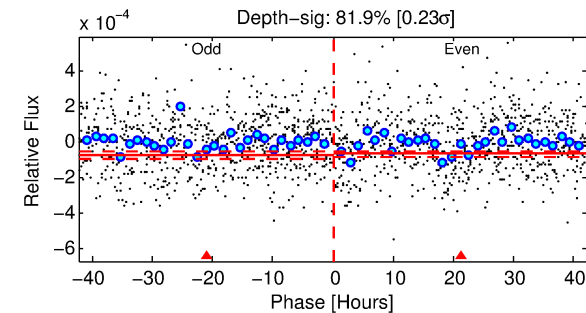
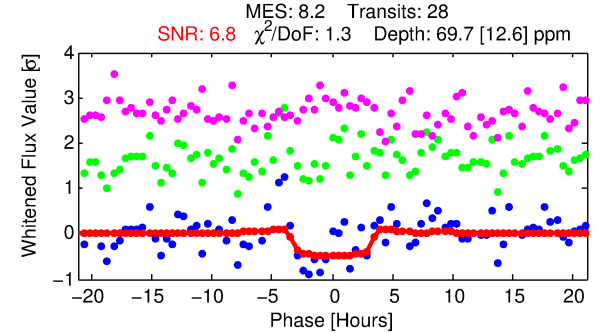
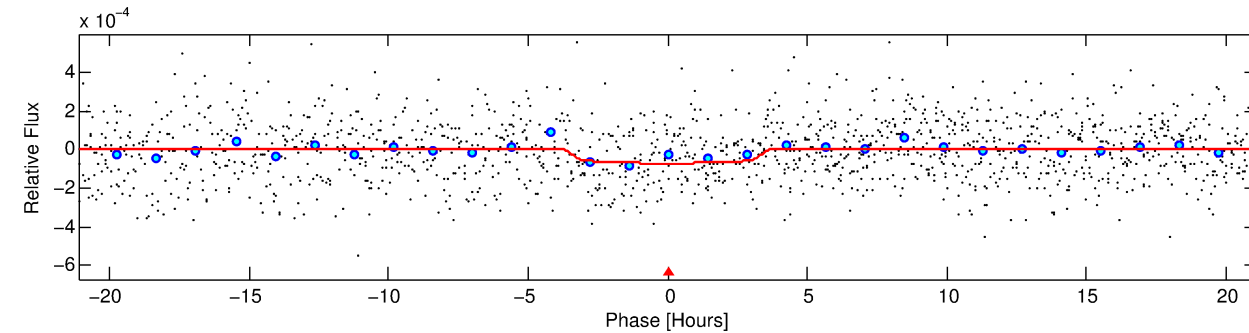
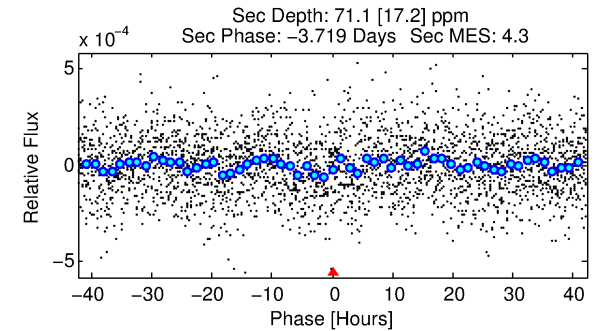
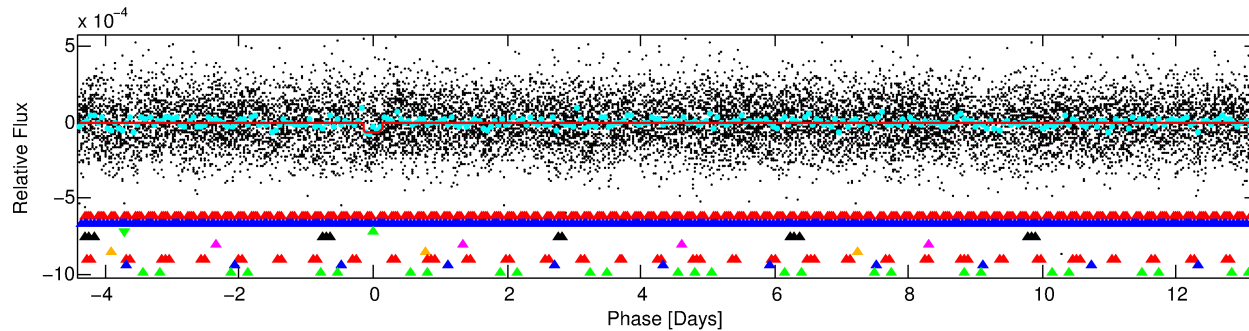
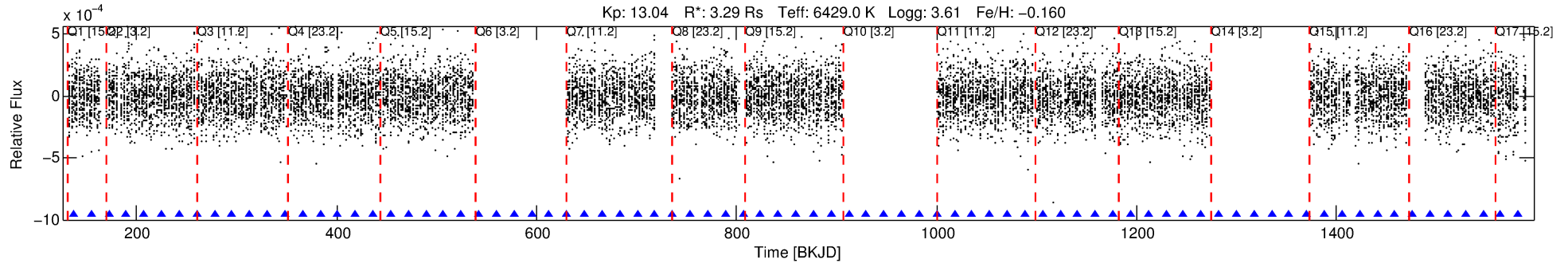
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004845555-03

No Significant Match Found

DV One-Page Summary

KIC: 4845555 Candidate: 3 of 9 Period: 17.620 d



DV Fit Results:

Period = 17.61952 [0.00044] d
Epoch = 136.9287 [0.0181] BKJD
Rp/R* = 0.0087 [0.0053]
a/R* = 10.26 [34.83]
b = 0.86 [1.08]
Seff = 689.86 [396.68]
Teq = 1307 [188] K
Rp = 3.11 [2.25] Re
a = 0.1549 [0.0555] AU
Ag = 96.79 [132.90] [0.72σ]
Teffp = 6337 [1991] K [2.52σ]

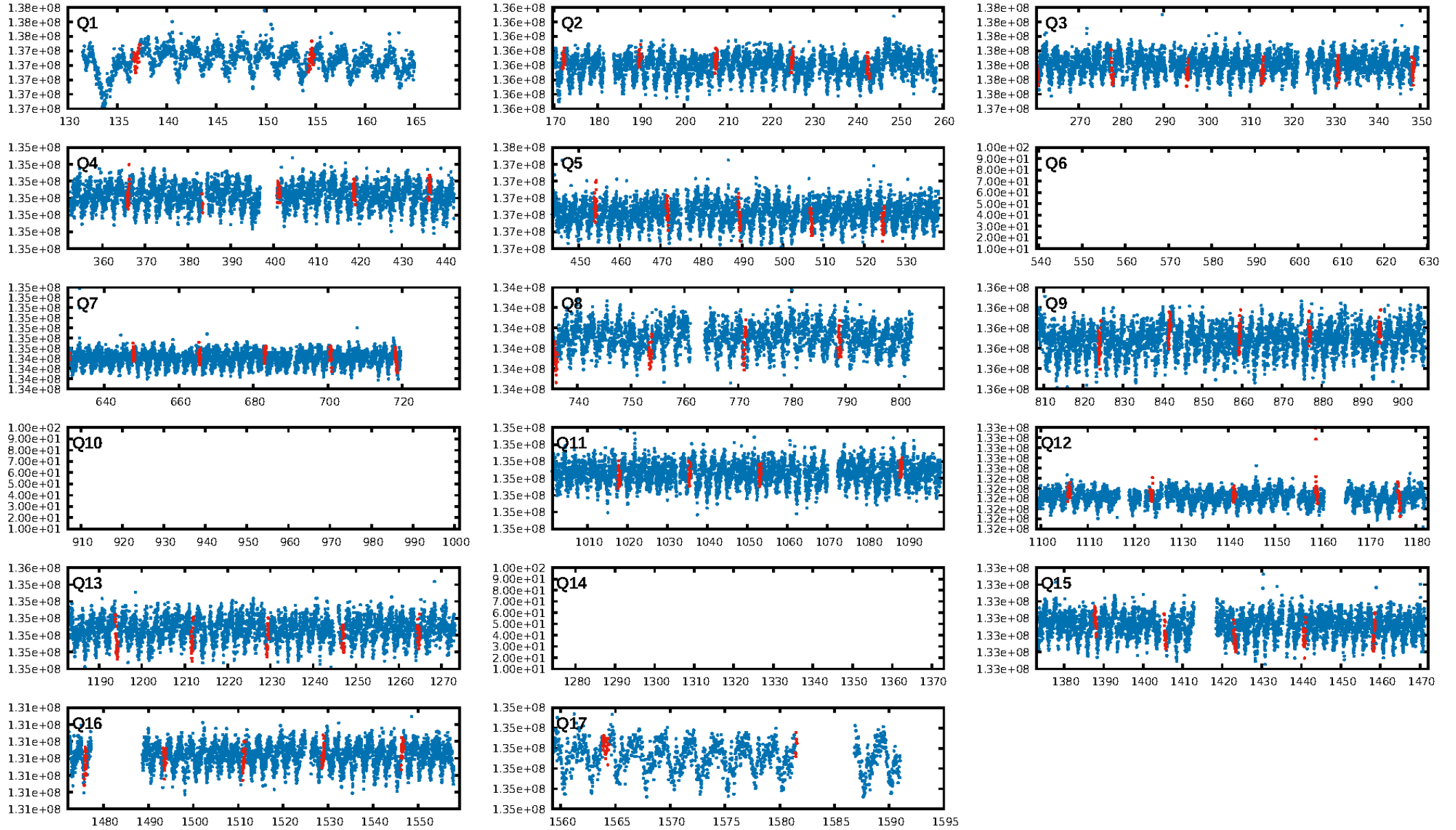
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [42.86σ]
LongPeriod-sig: 100.0% [11.38σ]
ModelChiSquare2-sig: 87.0%
ModelChiSquareGoF-sig: 100.0%
Bootstrap-pfa: 3.95e-09
RollingBand-fgt: 1.00 [26/26]
GhostDiagnostic-chr: 0.8915
Centroid-sig: 0.9%
Centroid-so: 1.757 arcsec [1.67σ]
OotOffset-rm: 0.611 arcsec [1.05σ]
KicOffset-rm: 0.622 arcsec [1.05σ]
OotOffset-st: 1/4/3/3 [11]
KicOffset-st: 1/4/3/3 [11]
DiffImageQuality-fgm: 0.36 [4/11]
DiffImageOverlap-fno: 0.50 [7/14]

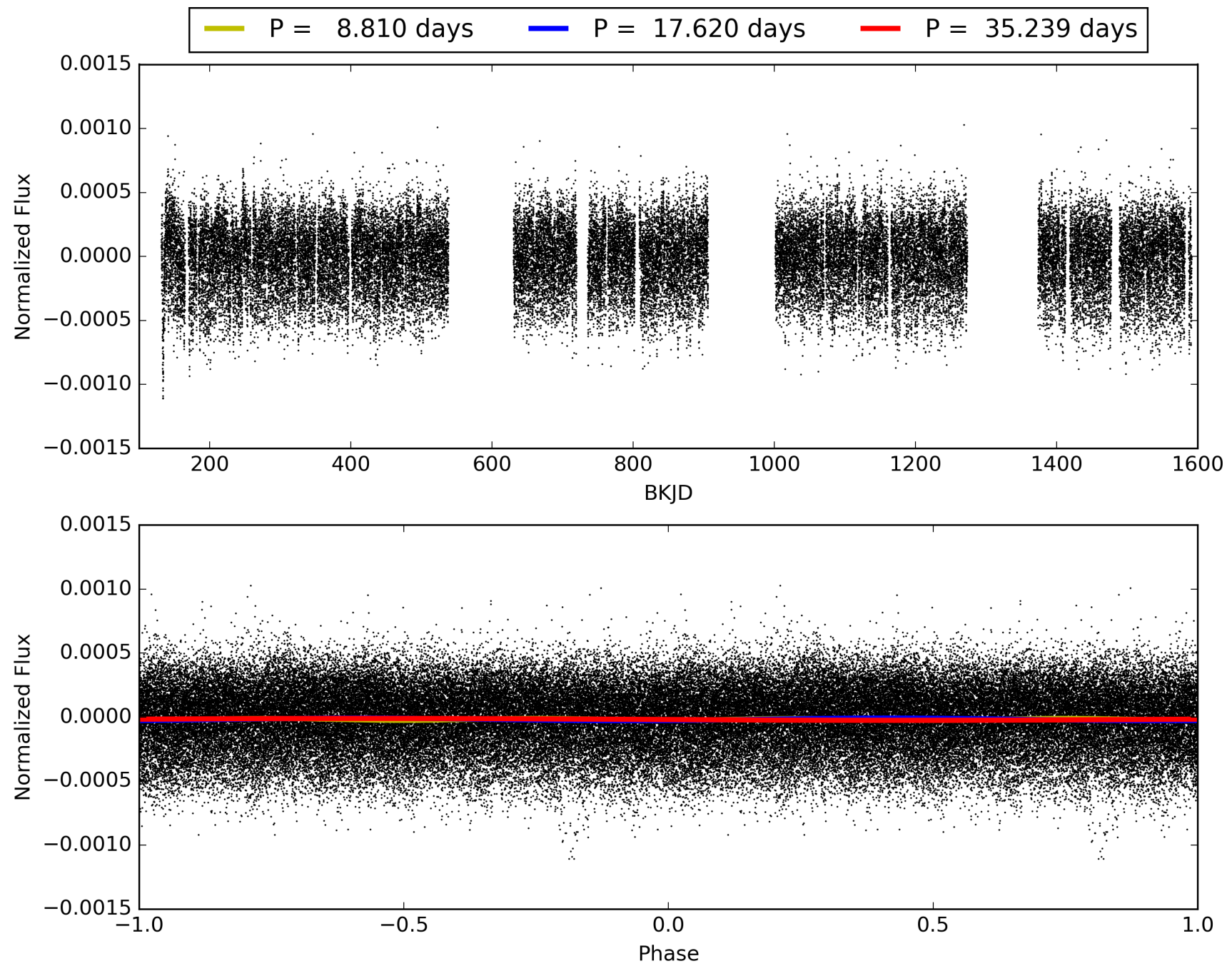
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:12:10 Z

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

TCE 004845555-03, PDC Light Curves

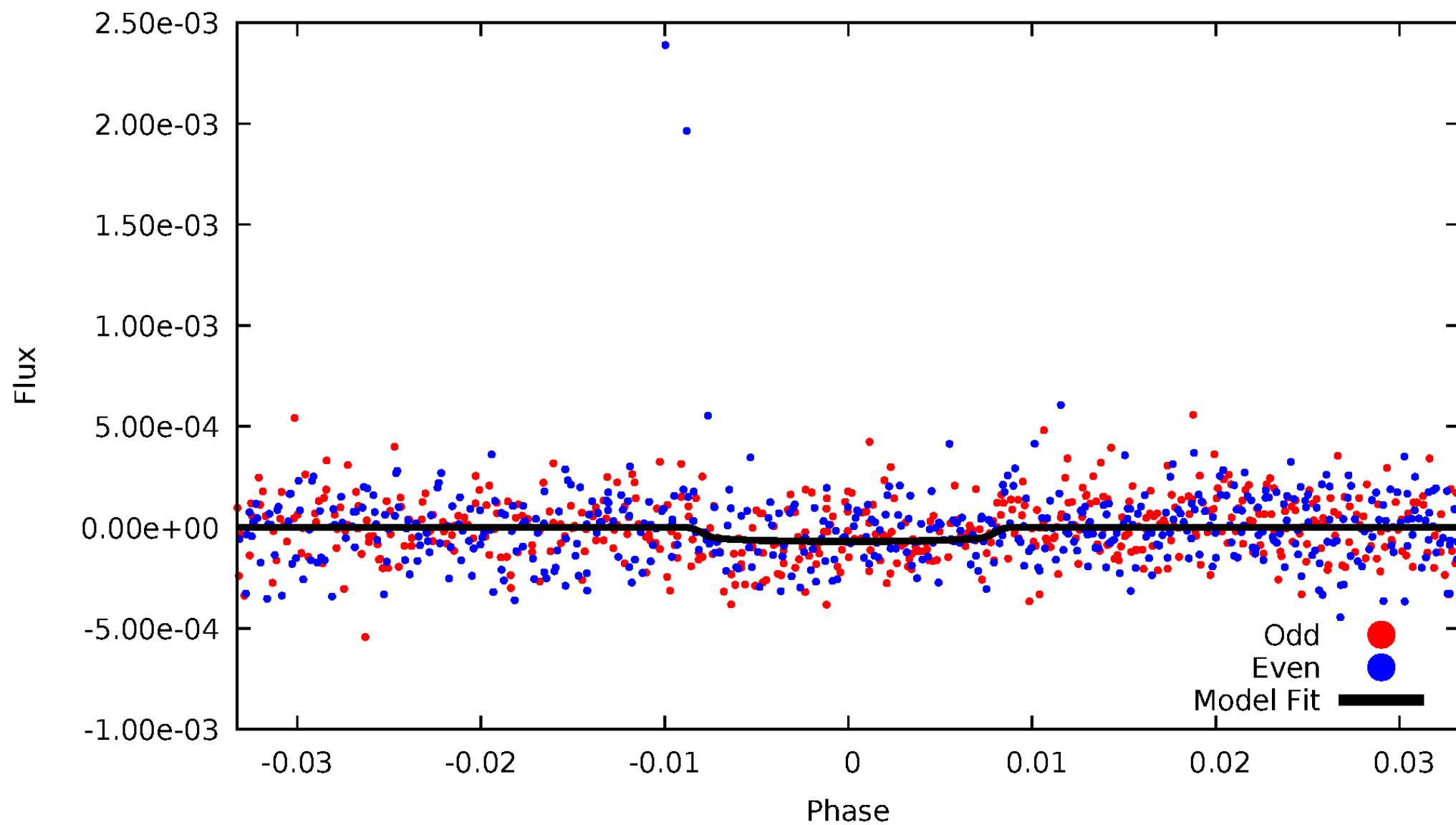


TCE 004845555-03



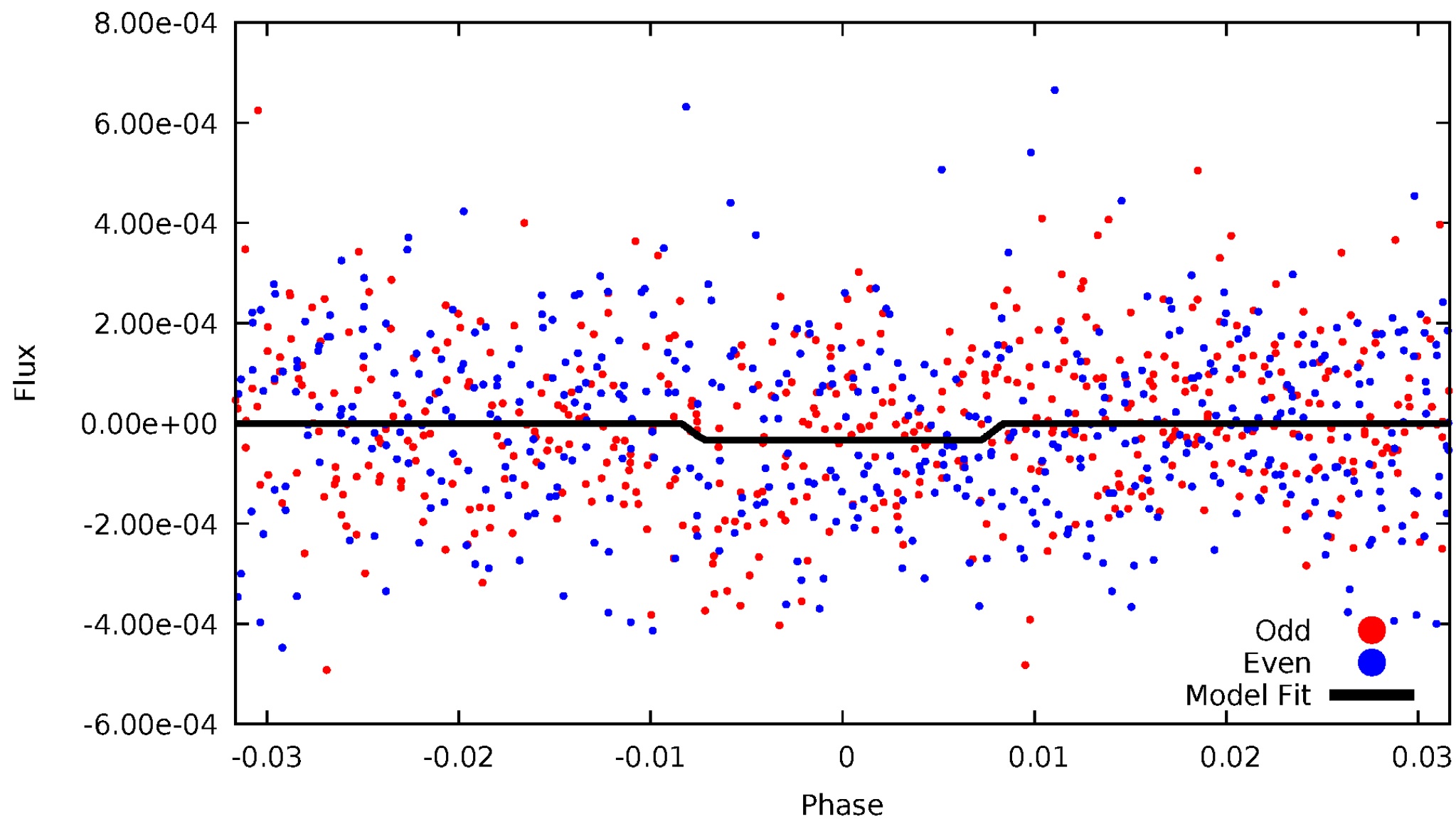
DV Odd/Even

TCE 004845555-03



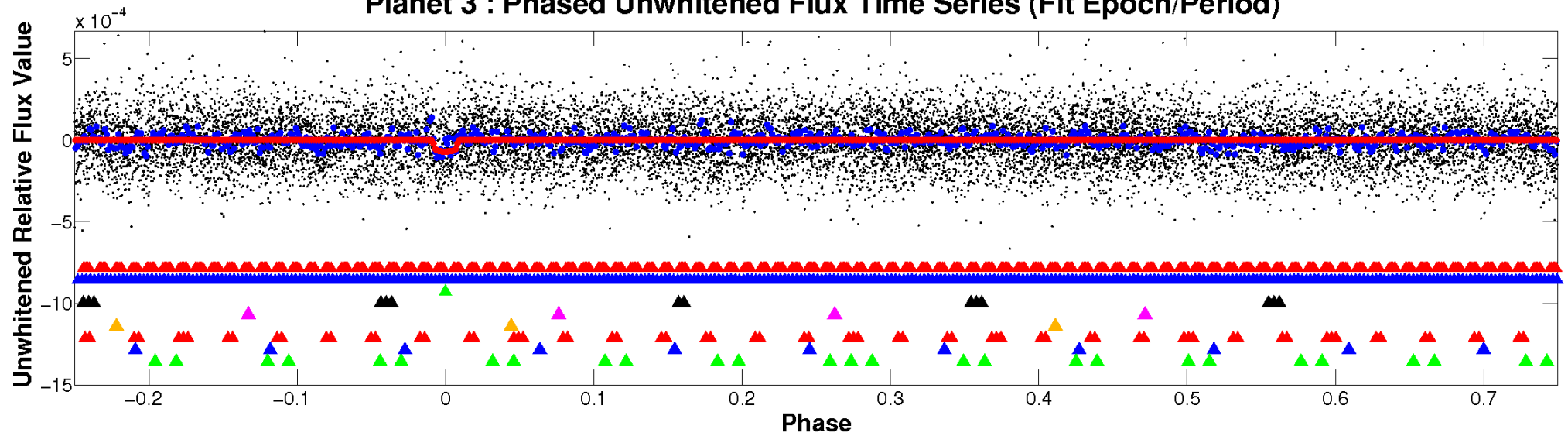
ALT Odd/Even

TCE 00484555-03

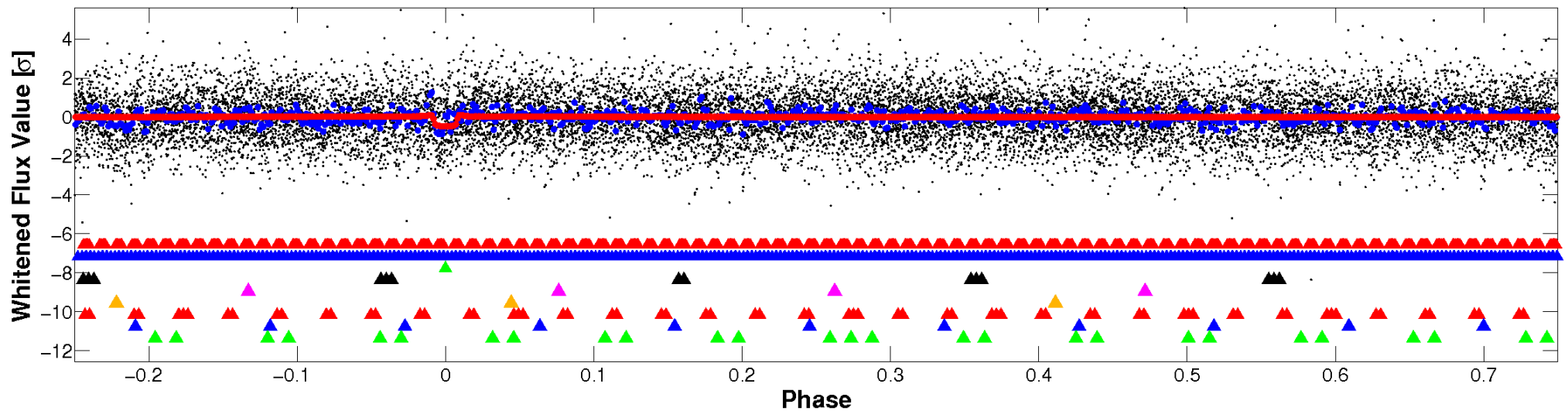


Non-Whitened Vs. Whitened Light Curve

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

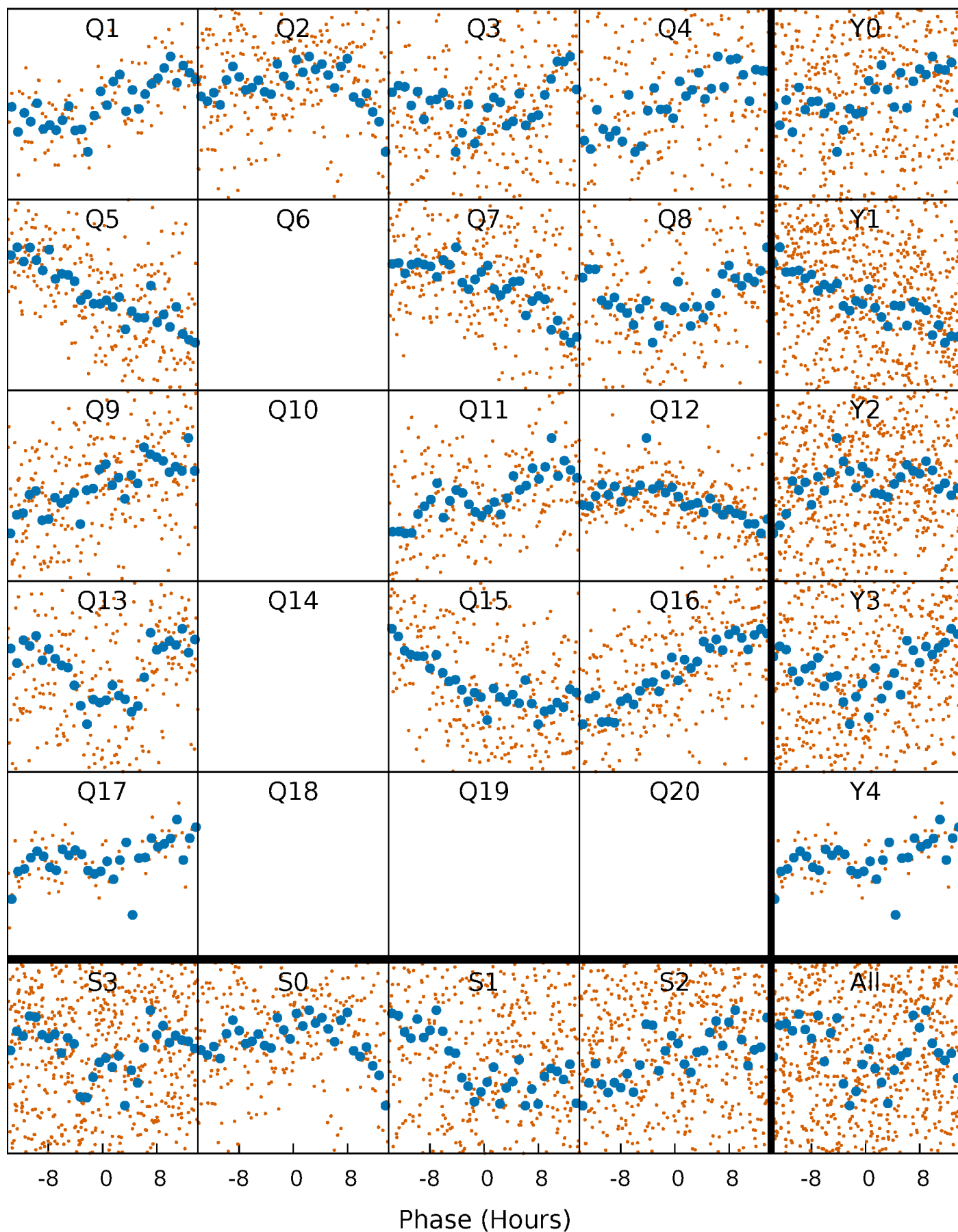


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



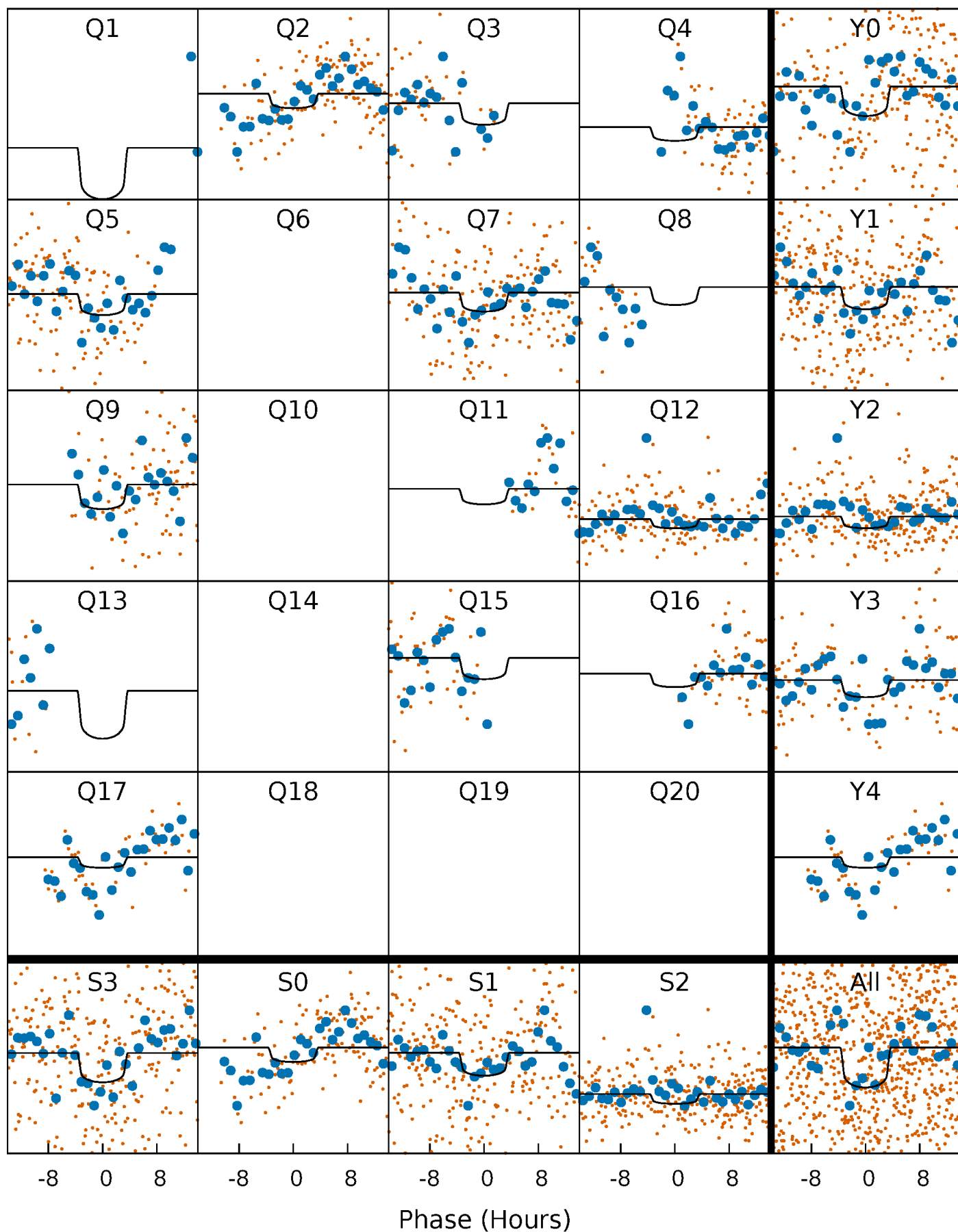
PDC Quarter-Phased Transit Curves

TCE 004845555-03 P= 17.619521 Days $T_0=136.928749$ (BKJD)



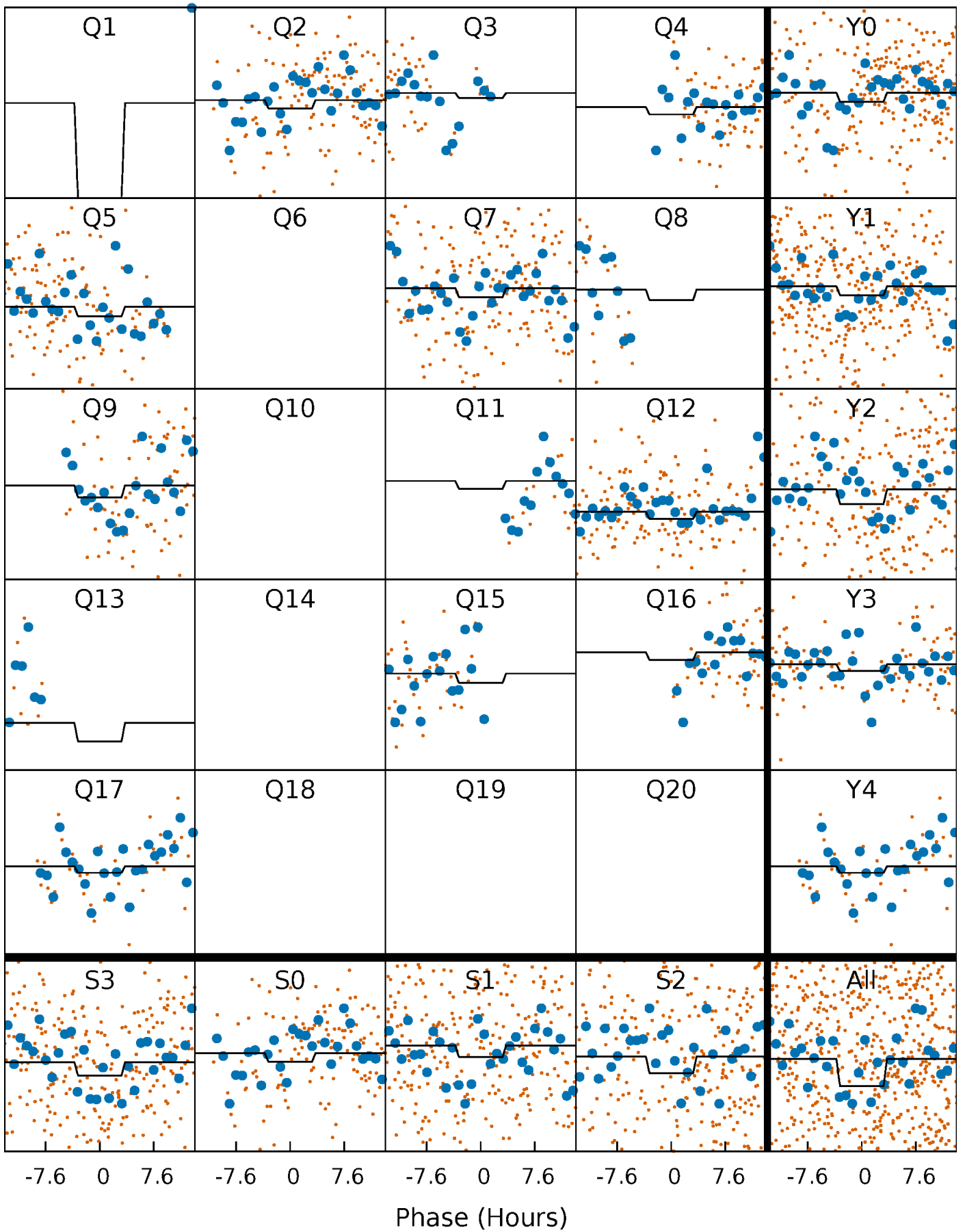
DV Quarter-Phased Transit Curves

TCE 004845555-03 P= 17.619521 Days $T_0=136.928749$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

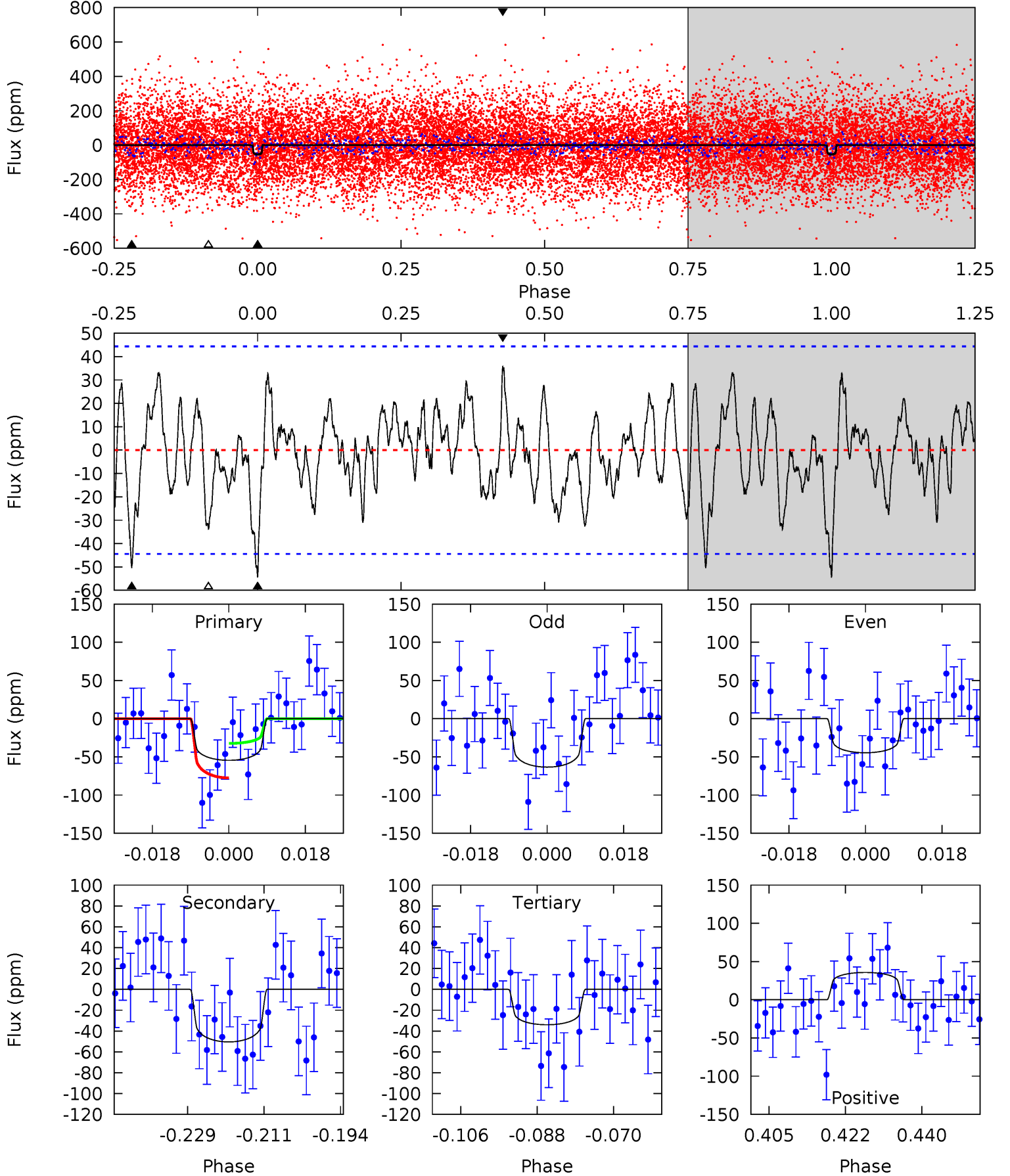
TCE 004845555-03 P= 17.619608 Days $T_0=136.932915$ (BKJD)



DV Model-Shift Uniqueness Test

004845555-03, P = 17.619521 Days, E = 119.309228 Days

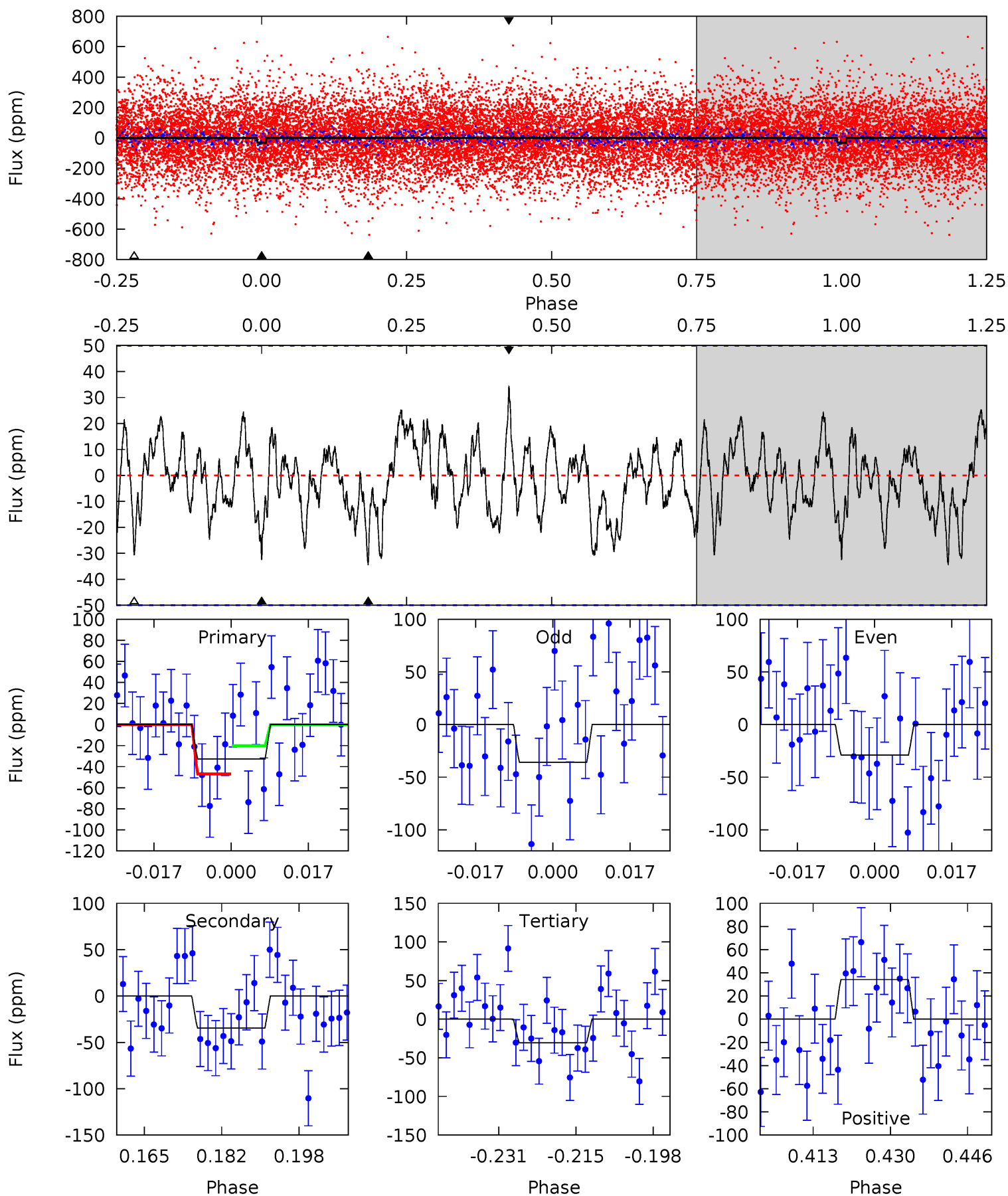
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.03	5.58	3.76	3.95	4.92	2.37	1.56	2.27	2.08	1.82	1.63	1.04	0.77	0.40	2.49



Alt Model-Shift Uniqueness Test

004845555-03, P = 17.619608 Days, E = 119.313307 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.22	3.41	3.03	3.38	4.93	2.40	1.20	0.19	-0.16	0.38	0.03	0.33	1.03	0.50	1.32



Stellar Parameters For KIC 004845555

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6429^{+155}_{-175}	$3.607^{+0.328}_{-0.082}$	$-0.160^{+0.350}_{-0.250}$	$3.288^{+0.420}_{-1.260}$	$1.596^{+0.203}_{-0.376}$	$0.063^{+0.162}_{-0.016}$
	+2%/-3%	+9%/-2%	+219%/-156%	+13%/-38%	+13%/-24%	+256%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004845555-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-50 ± 9	$2.98^{+1.84}_{-1.60}$	1785^{+105}_{-175}	5652^{+2816}_{-1035}	74^{+274}_{-46}
Alt.	-35 ± 10	$2.24^{+1.75}_{-1.29}$	1794^{+92}_{-168}	5860^{+4141}_{-1312}	83^{+401}_{-58}

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 $A_{obs} \gg 1.0$

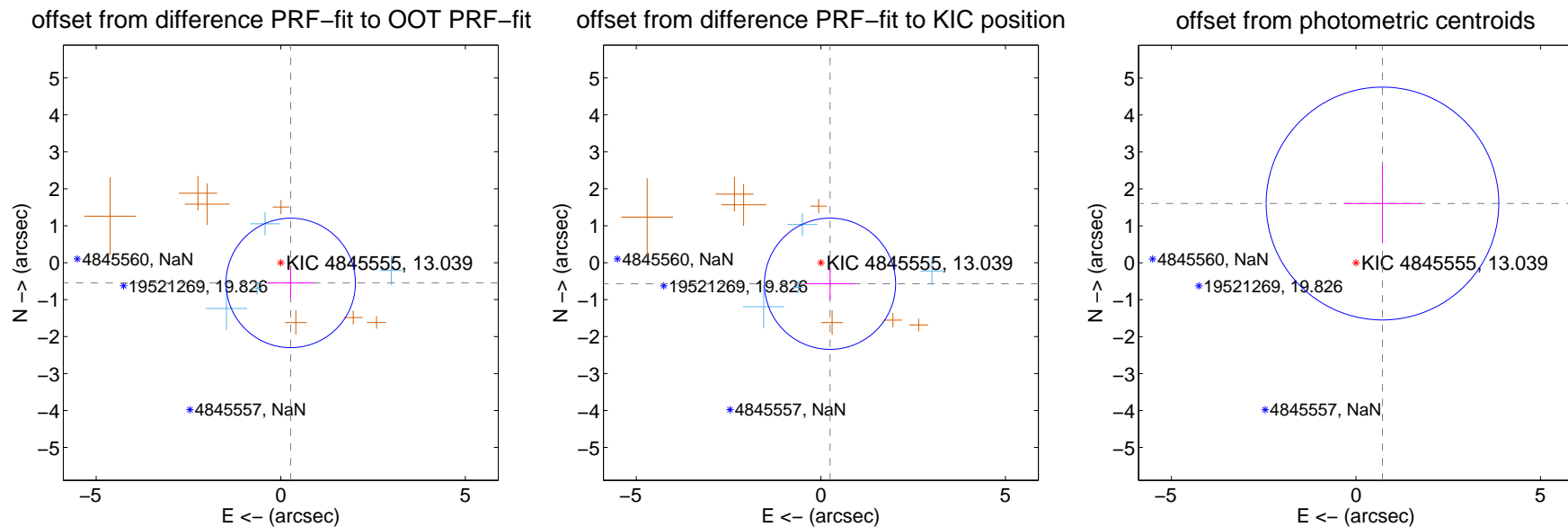
DV Centroid Data

Supplemental centroid analysis for 004845555-03. Kepler magnitude: 13.04. Transit SNR 6.83

There are 4 quarters with good PRF difference image offsets

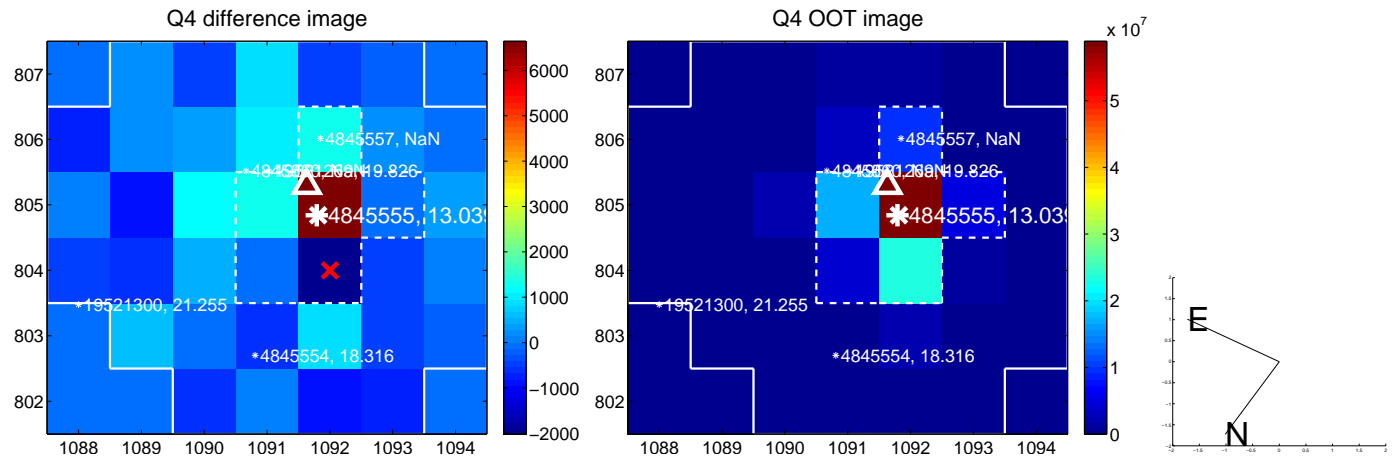
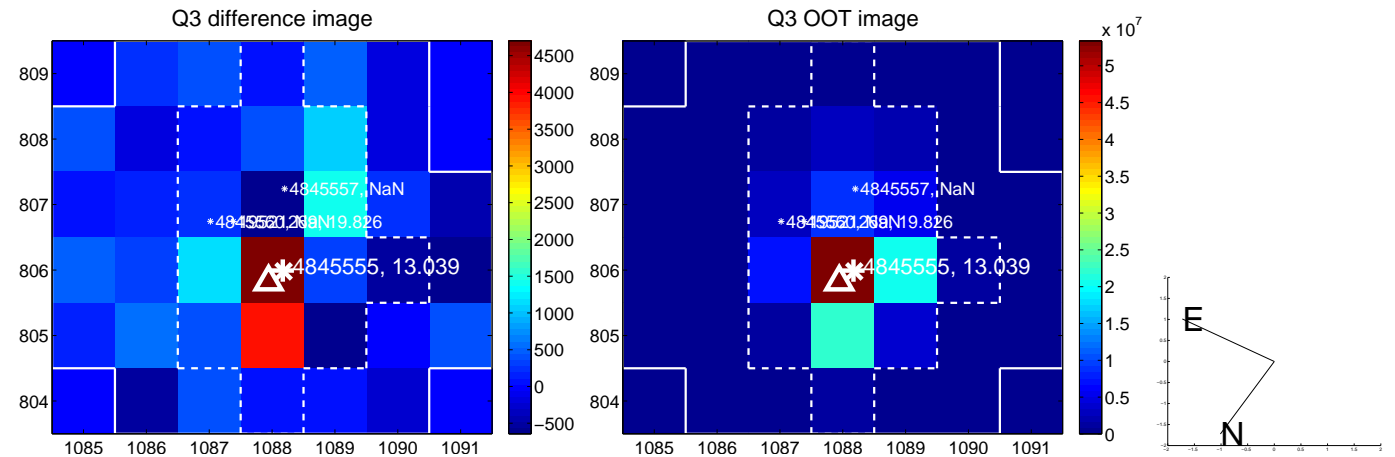
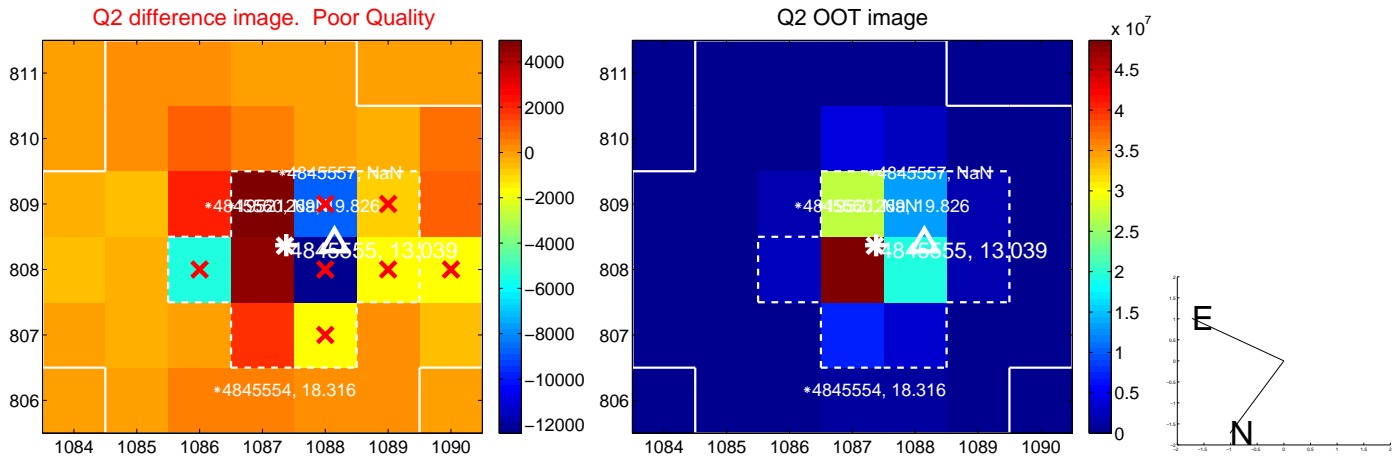
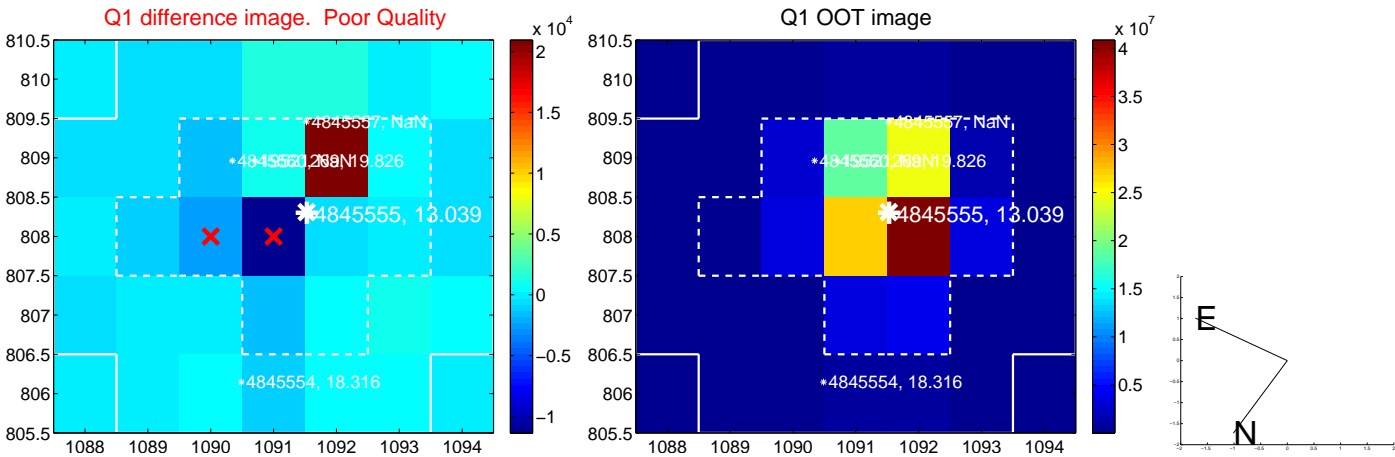
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.611 ± 0.584	1.05	-0.270 ± 0.633	-0.548 ± 0.437
PRF-fit source offset from KIC position	0.622 ± 0.592	1.05	-0.249 ± 0.684	-0.570 ± 0.429
photometric centroid source offset	1.76 ± 1.05	1.67	-0.72 ± 1.04	1.60 ± 1.05

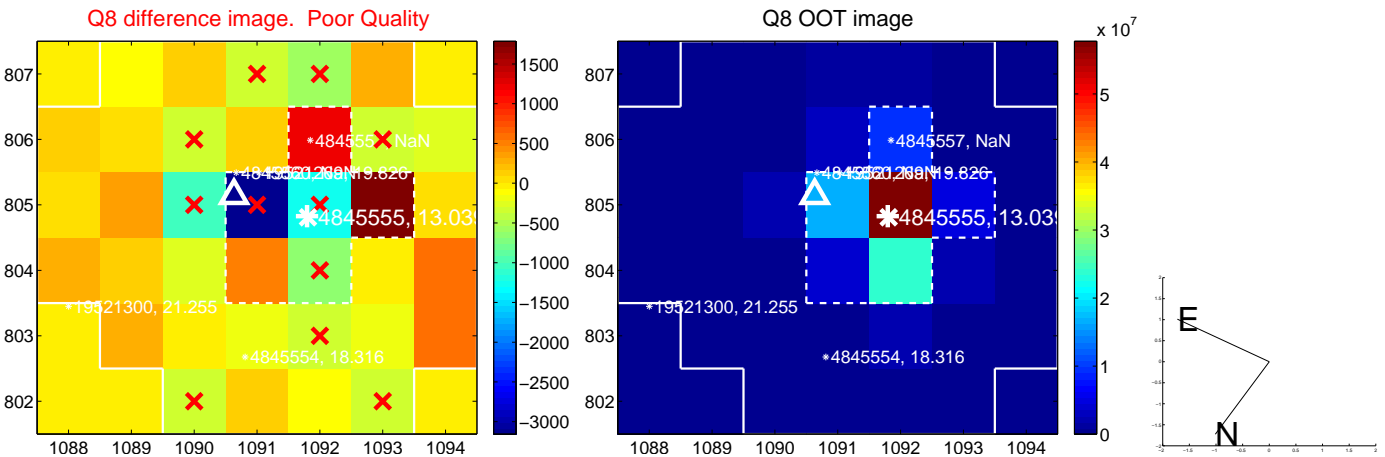
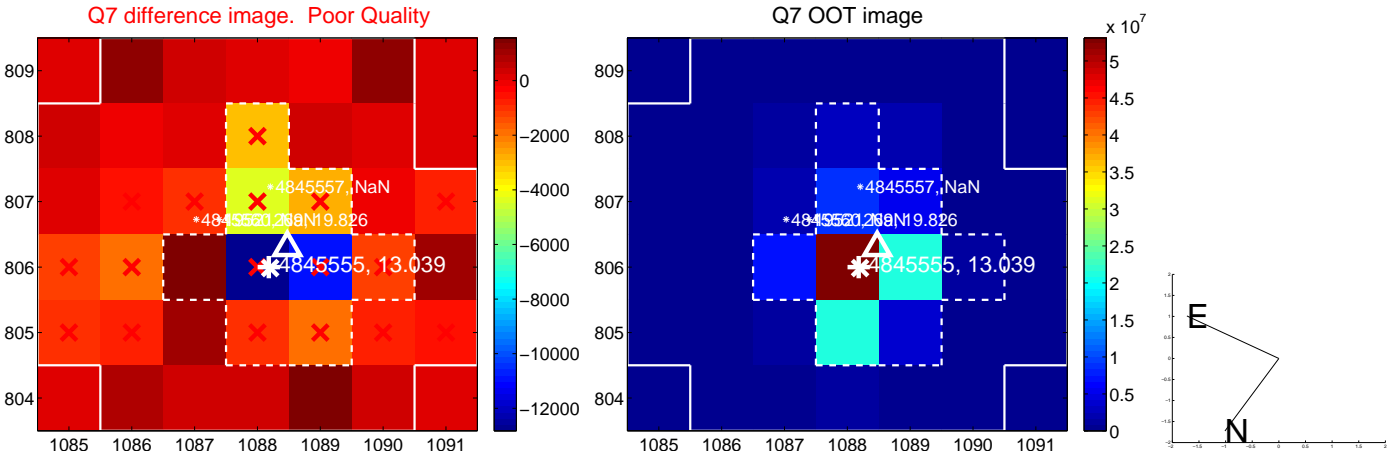
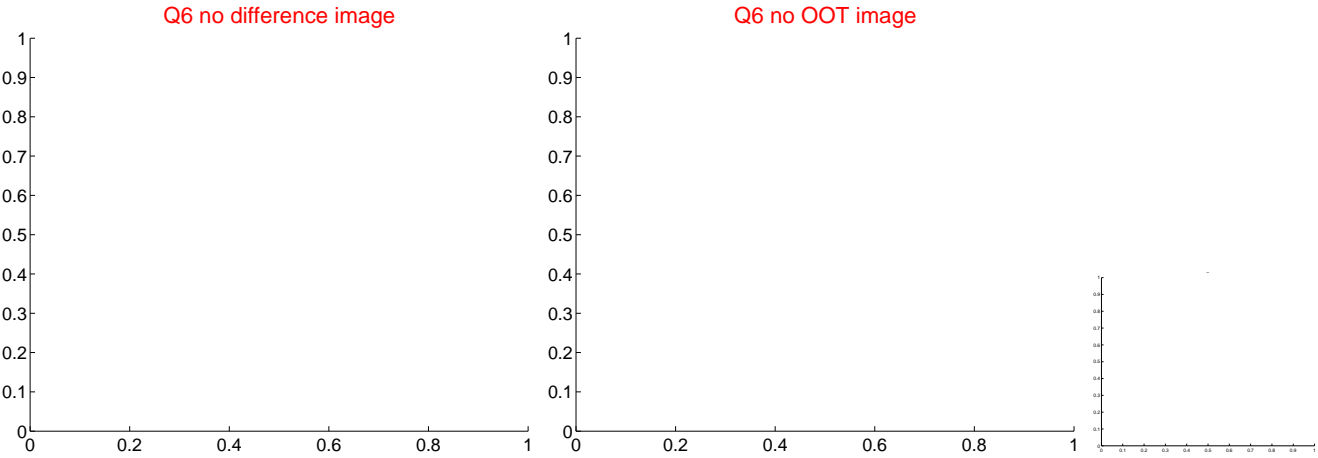
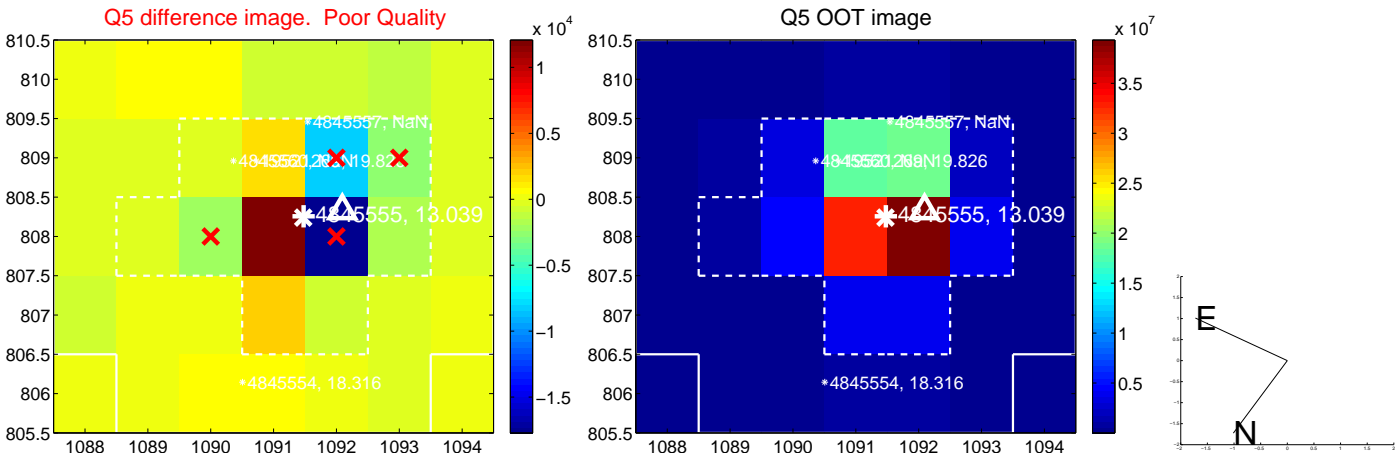


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

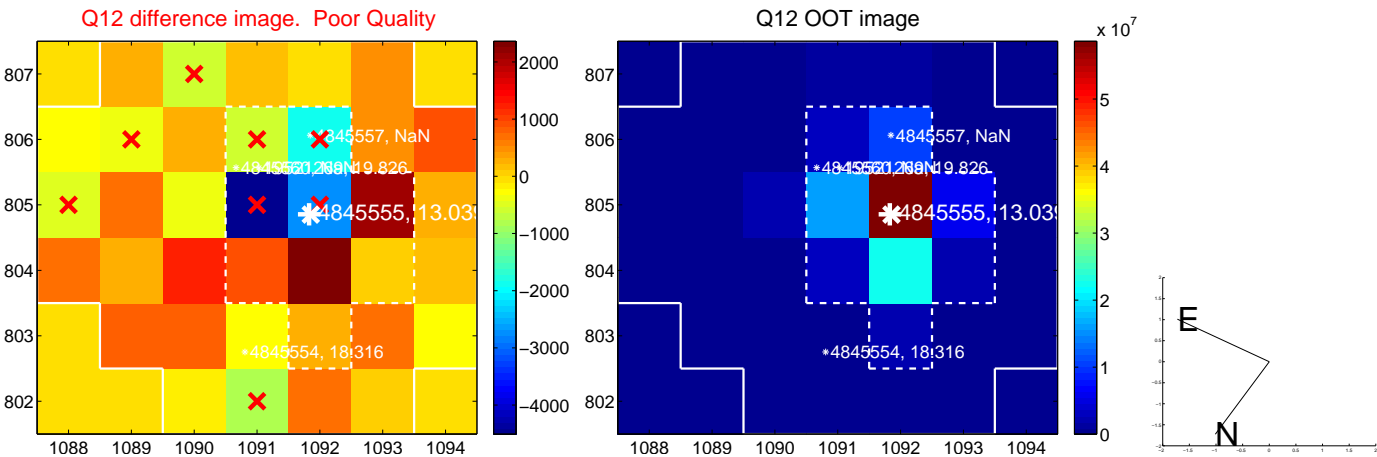
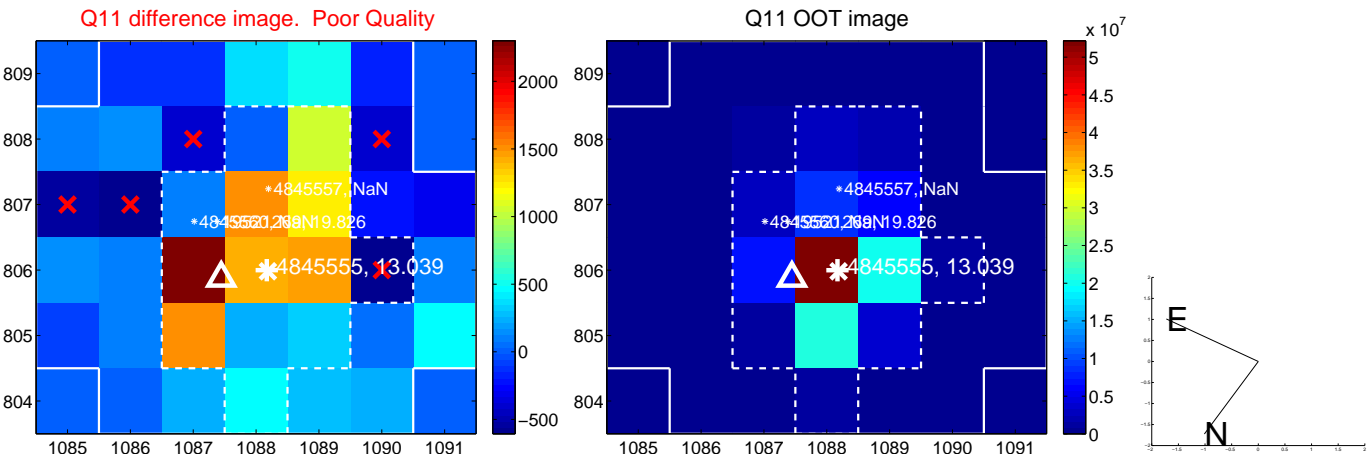
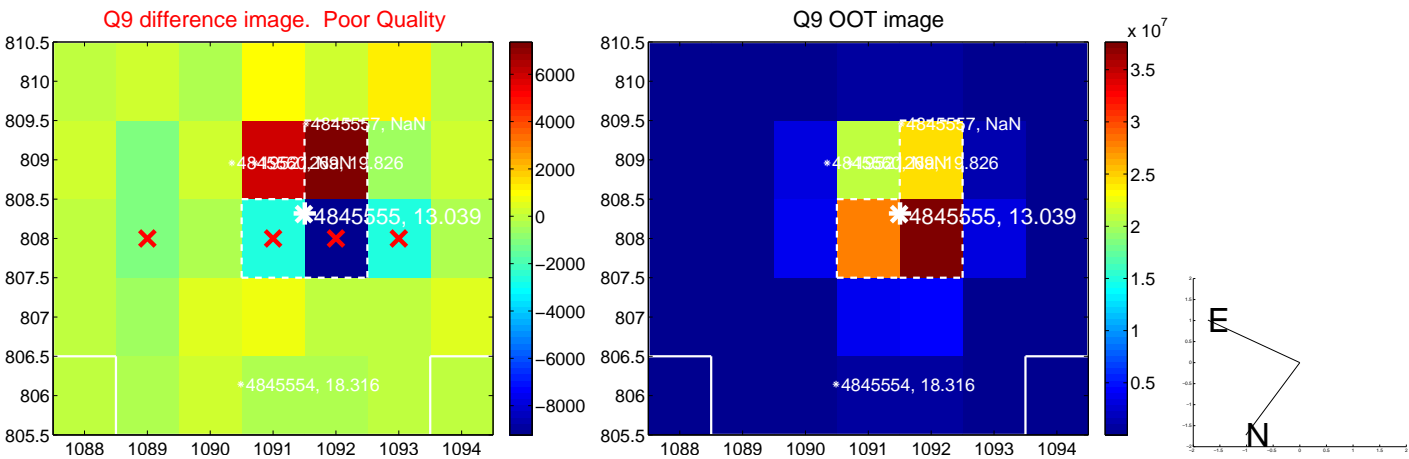
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



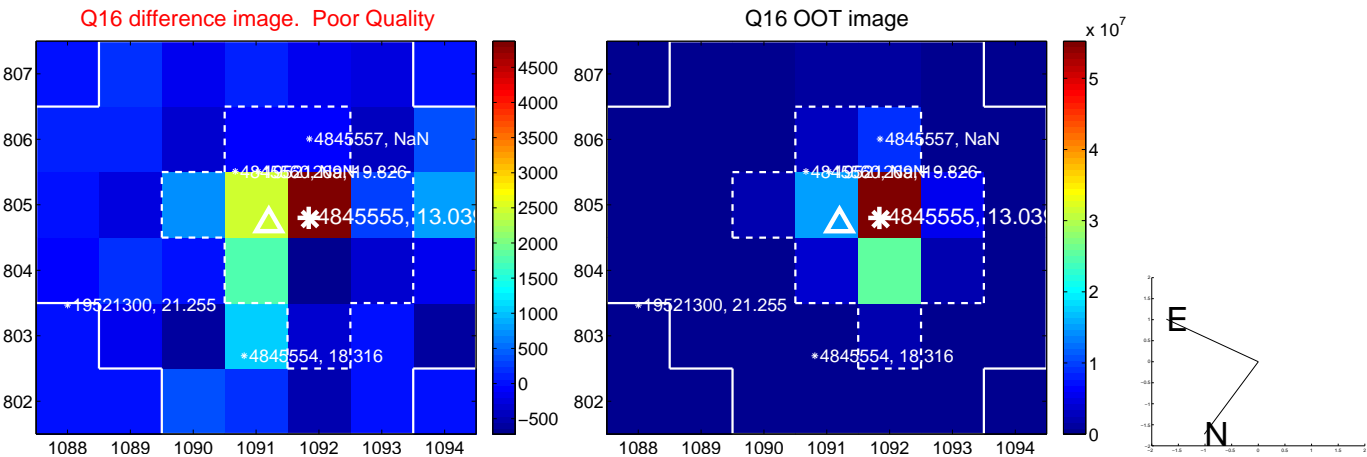
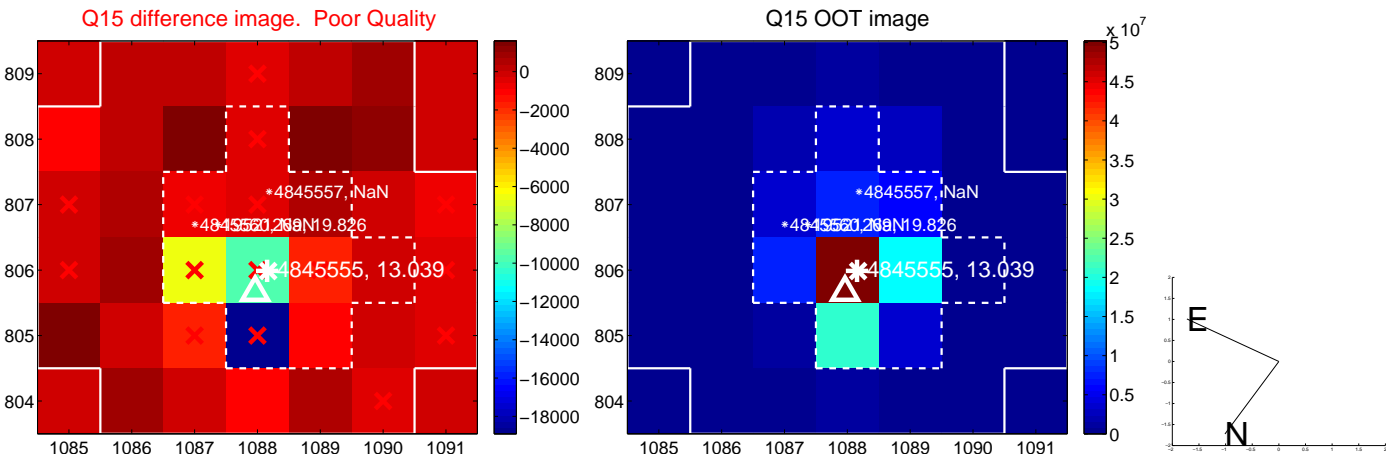
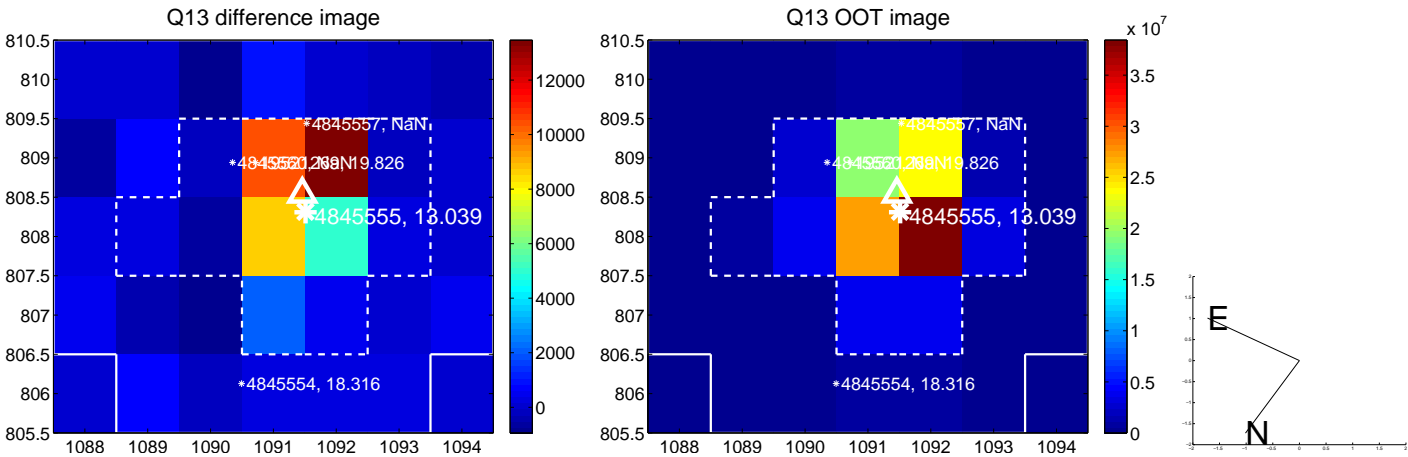
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



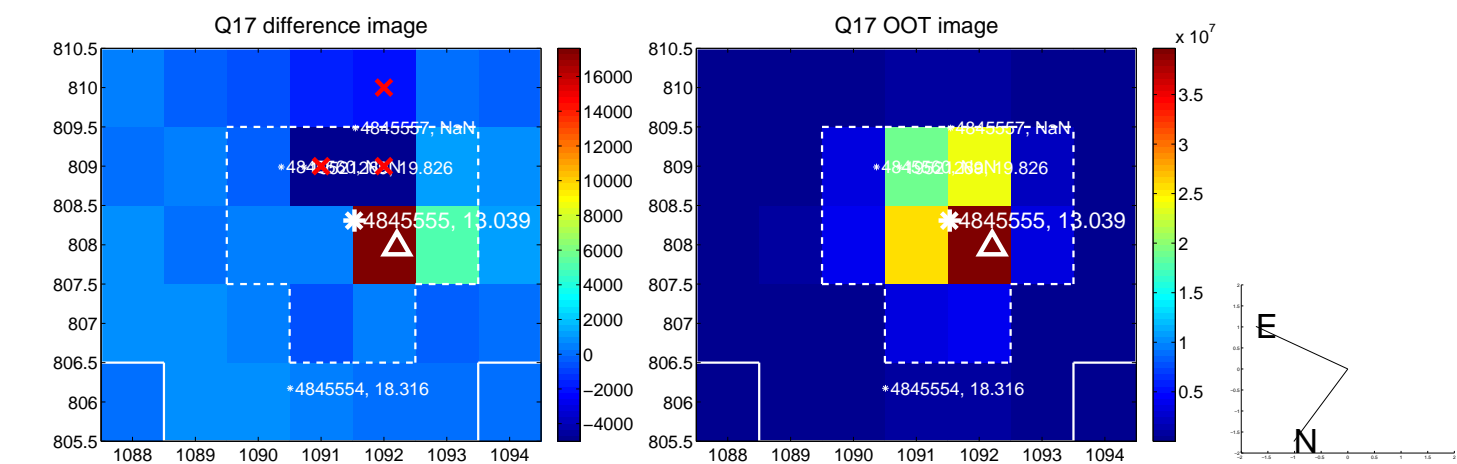
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



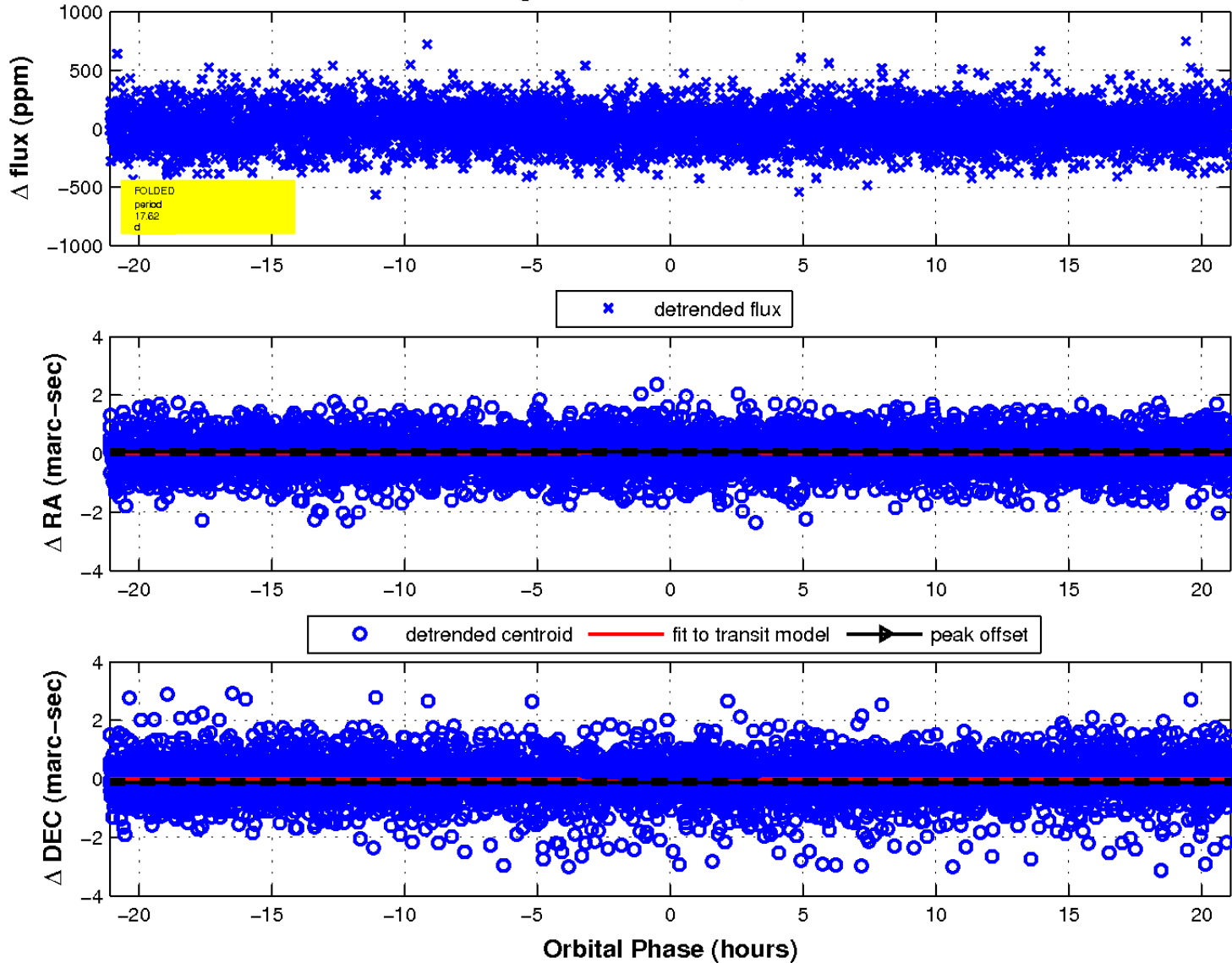
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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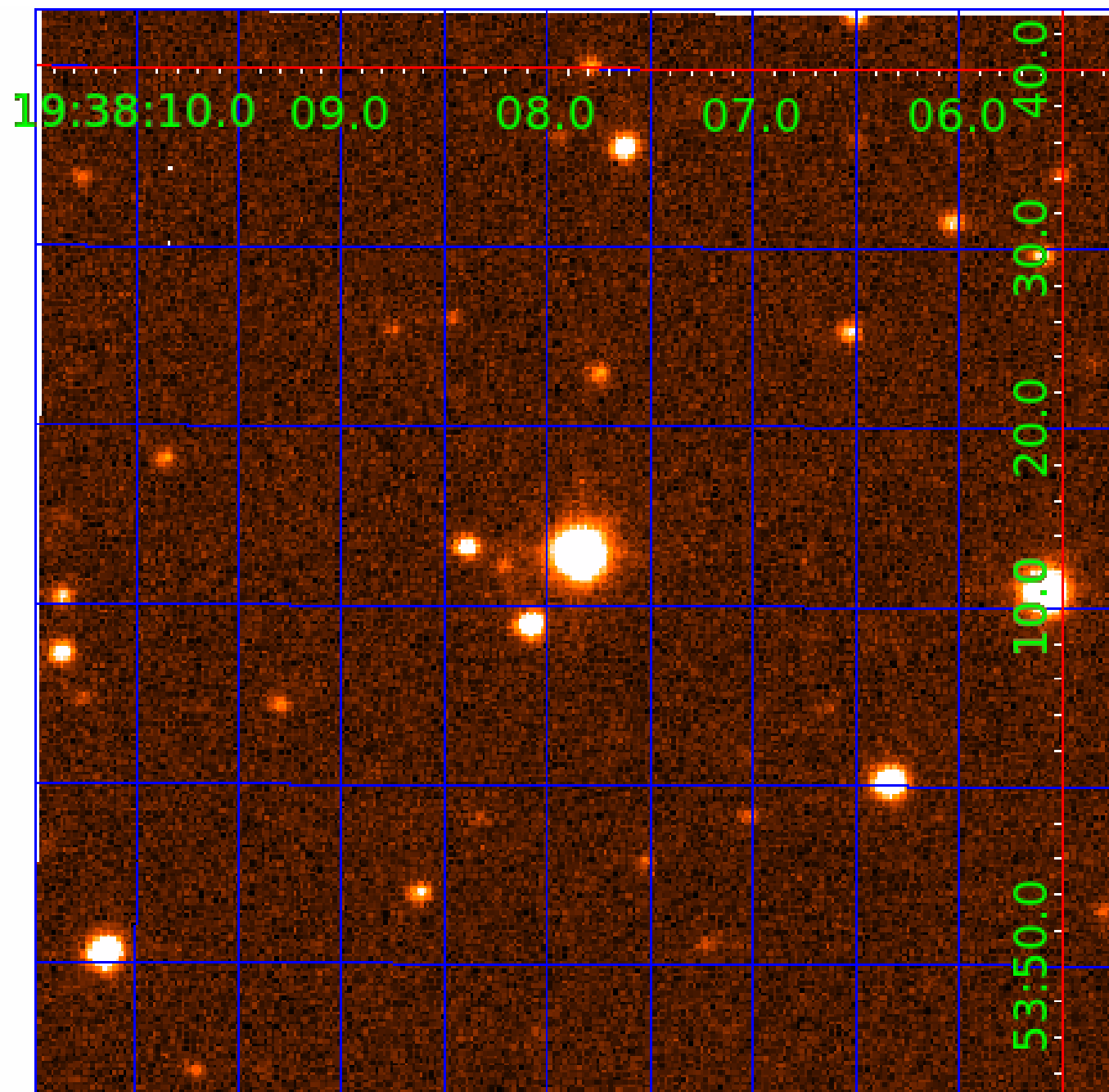


fluxWeightedCentroids, Planet 3 of 9



UKIRT Image

Declination



KIC 004845555

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})
004845555-01	OBS	No	2.489558	131.748871	30.1	4.723	9.4	8.0	3.29	6429	2.33	9374.03
004845555-02	OBS	No	2.489164	134.276078	32.0	13.877	9.1	4.5	3.29	6429	1.99	9376.01
004845555-03	OBS	No	17.619521	136.928749	69.7	7.033	8.2	6.8	3.29	6429	3.11	689.86
004845555-04	OBS	No	109.253691	160.791260	339.6	1.599	7.7	7.8	3.29	6429	7.14	60.56
004845555-05	OBS	No	398.282871	264.889448	128.7	11.885	9.1	6.8	3.29	6429	3.99	10.79
004845555-06	OBS	No	552.670174	155.329314	183.9	5.721	7.4	7.1	3.29	6429	5.72	6.97
004845555-07	OBS	No	21.599880	143.419063	155.8	4.577	8.5	9.6	3.29	6429	4.68	525.80
004845555-08	OBS	No	97.707904	208.530444	237.7	3.045	7.3	8.7	3.29	6429	5.78	70.28
004845555-09	OBS	No	54.194665	177.236292	283.5	2.100	7.3	8.7	3.29	6429	7.21	154.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004845555-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004845555-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
004845555-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
004845555-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—CENT_FEW_DIFFS
004845555-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004845555-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT
004845555-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

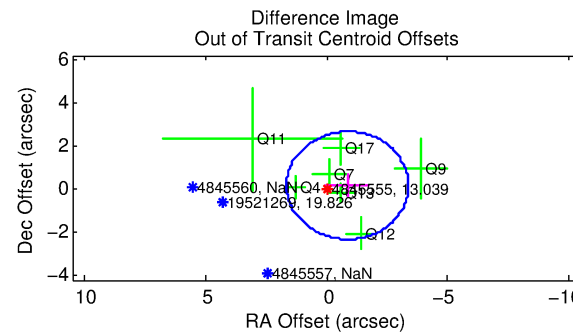
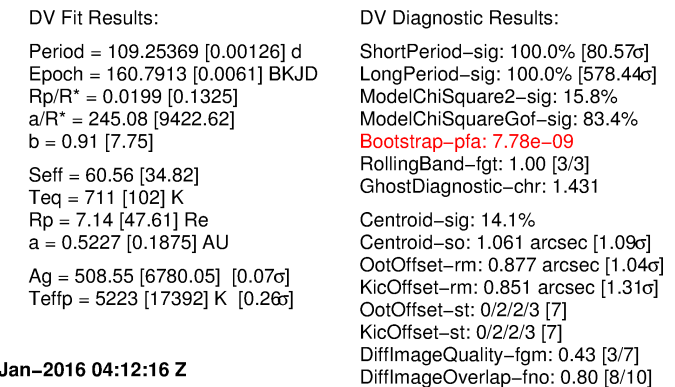
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

Ephemeris Match Information For 004845555-04

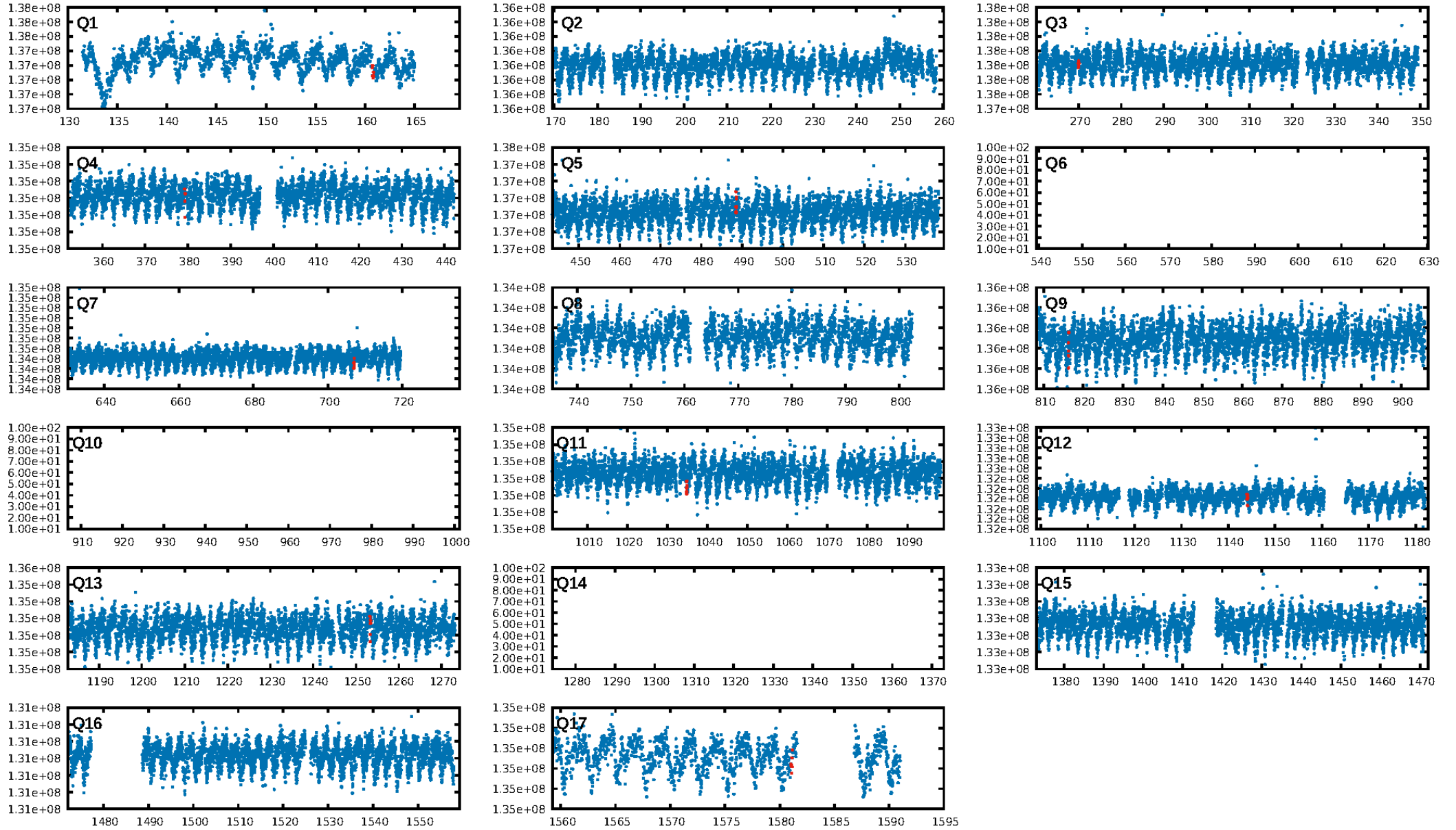
No Significant Match Found

KIC: 4845555 Candidate: 4 of 9 Period: 109.254 d

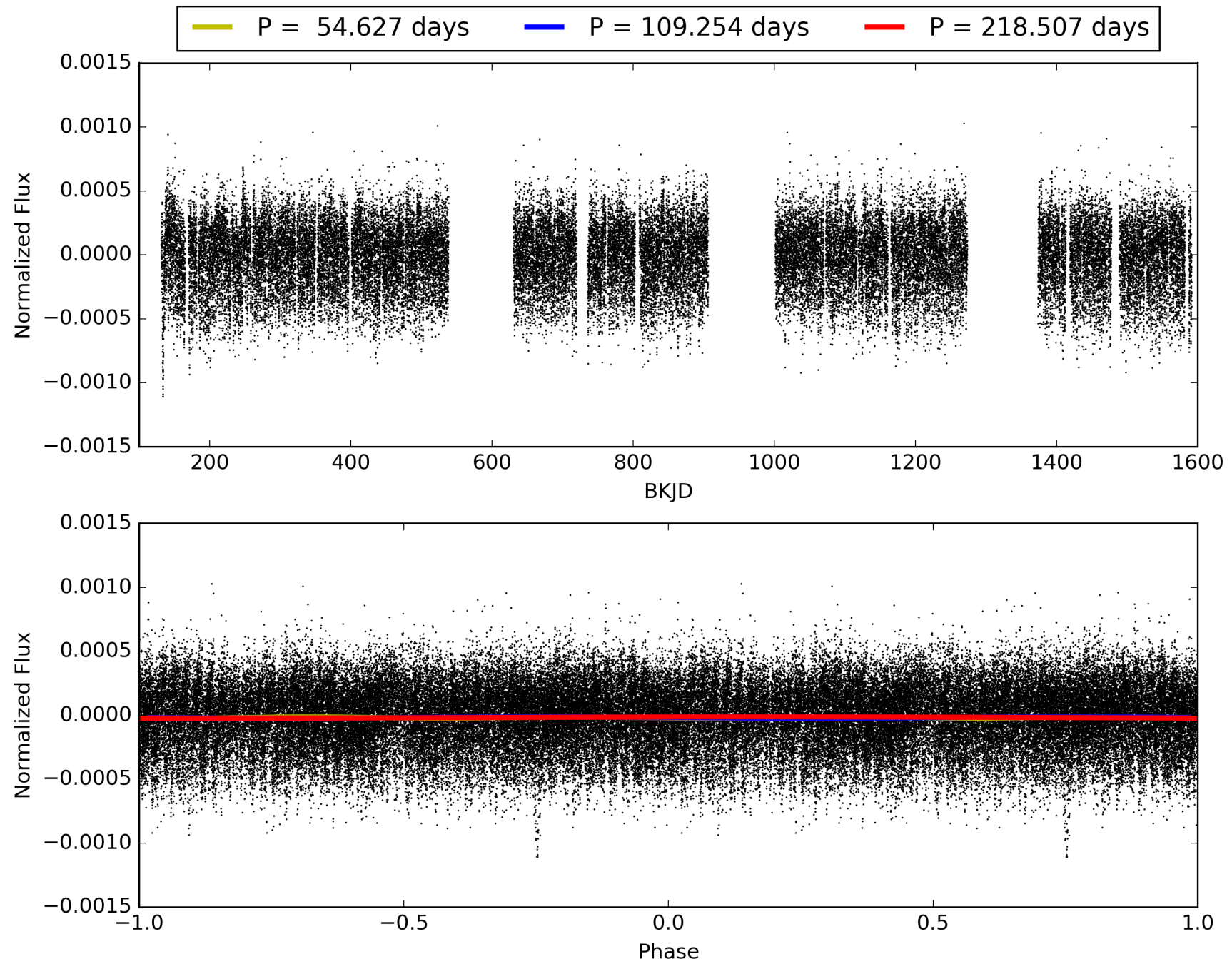


This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 004845555-04, PDC Light Curves

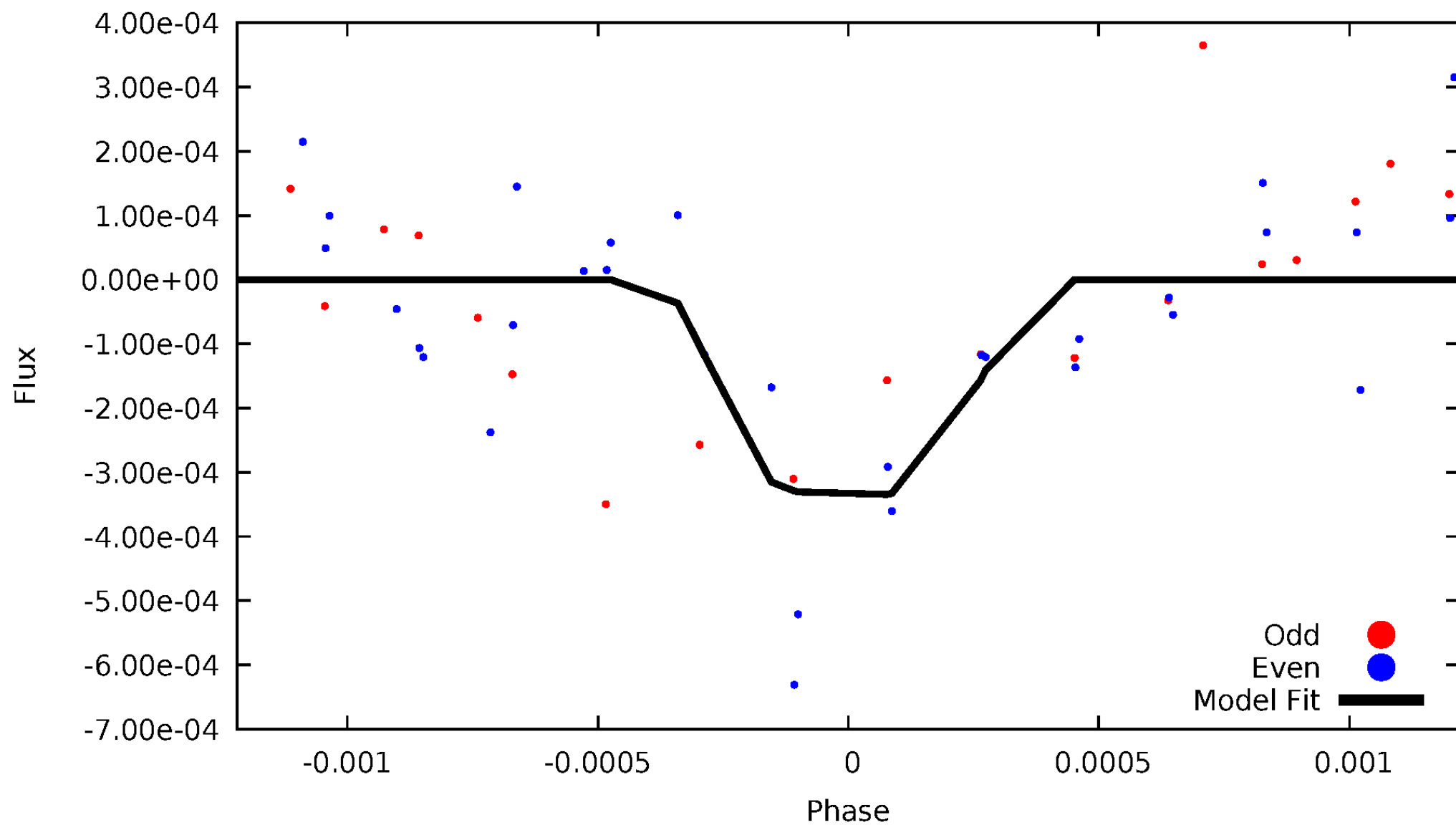


TCE 004845555-04



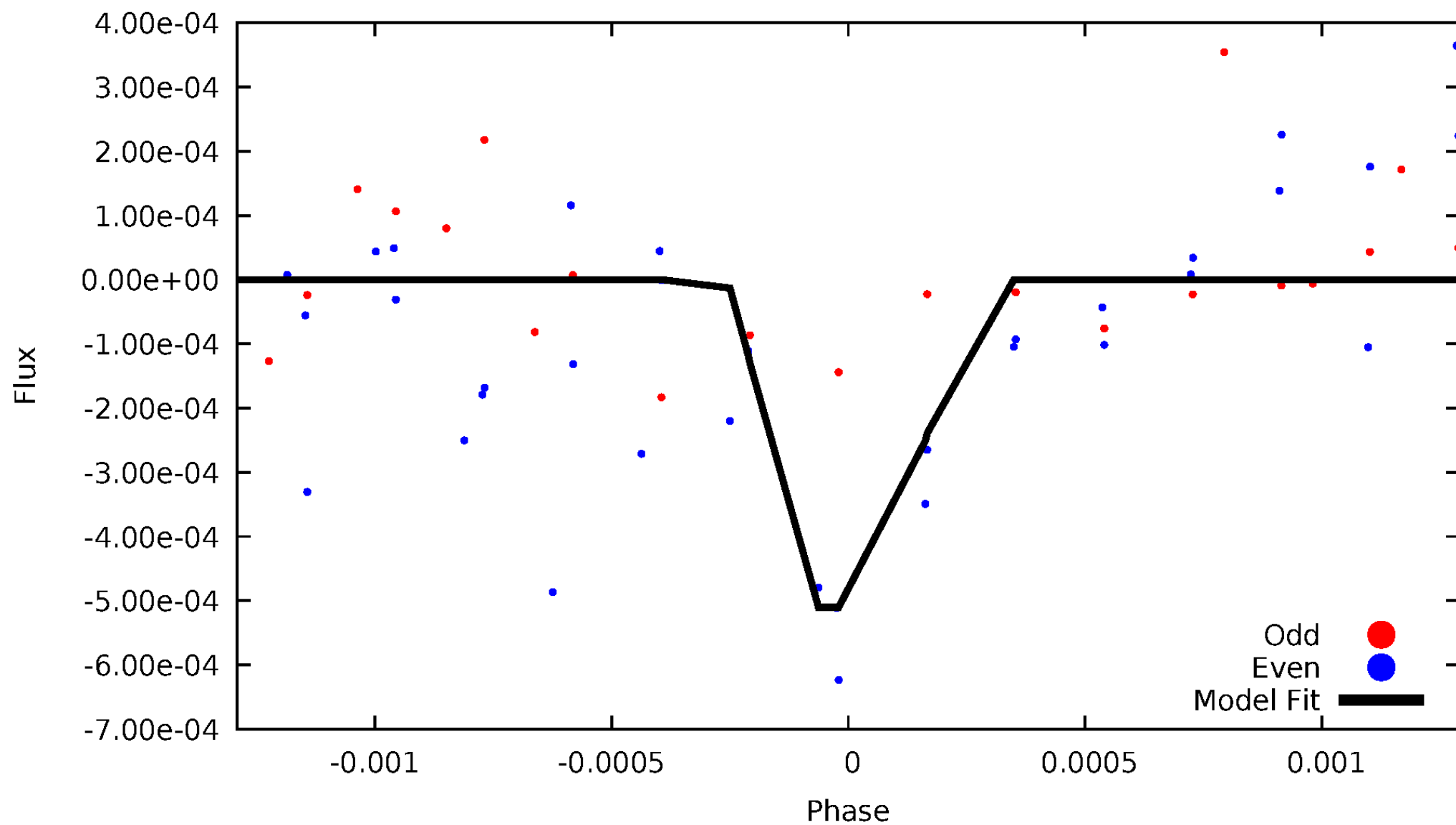
DV Odd/Even

TCE 00484555-04



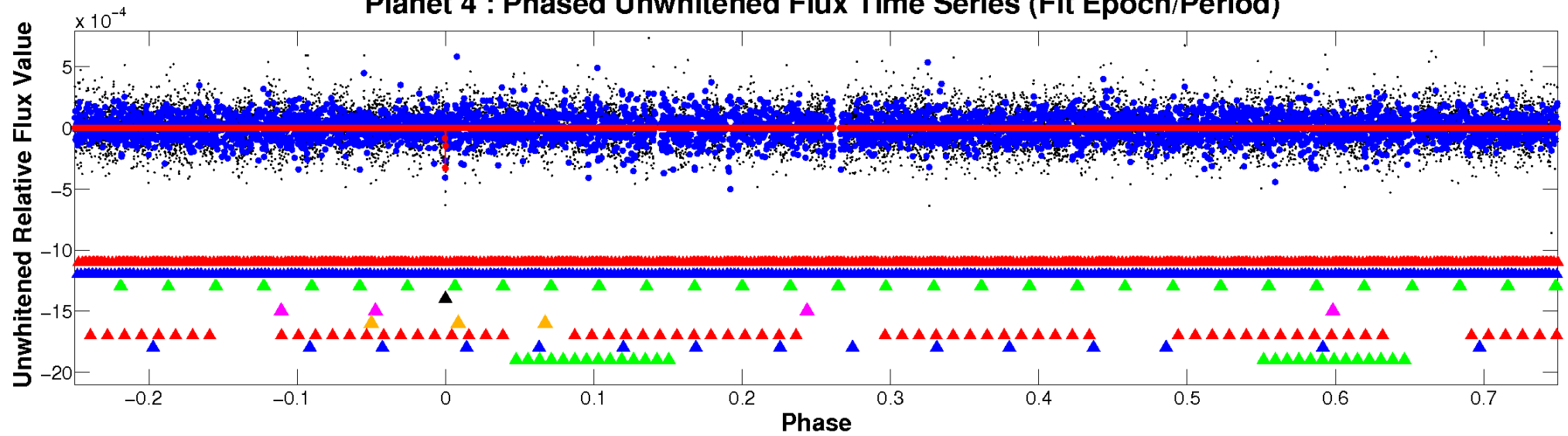
ALT Odd/Even

TCE 00484555-04

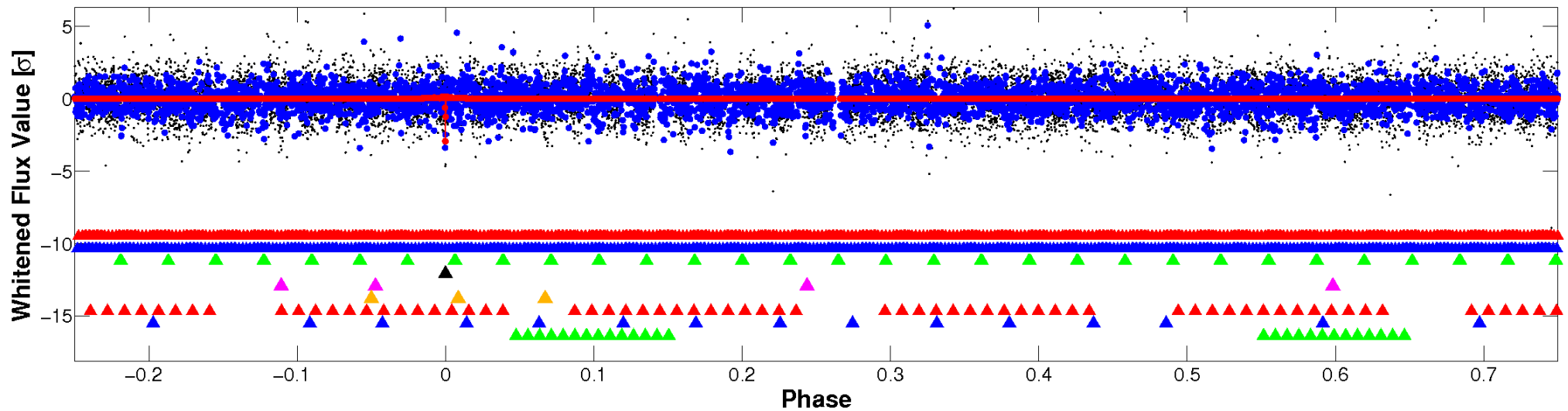


Non-Whitened Vs. Whitened Light Curve

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

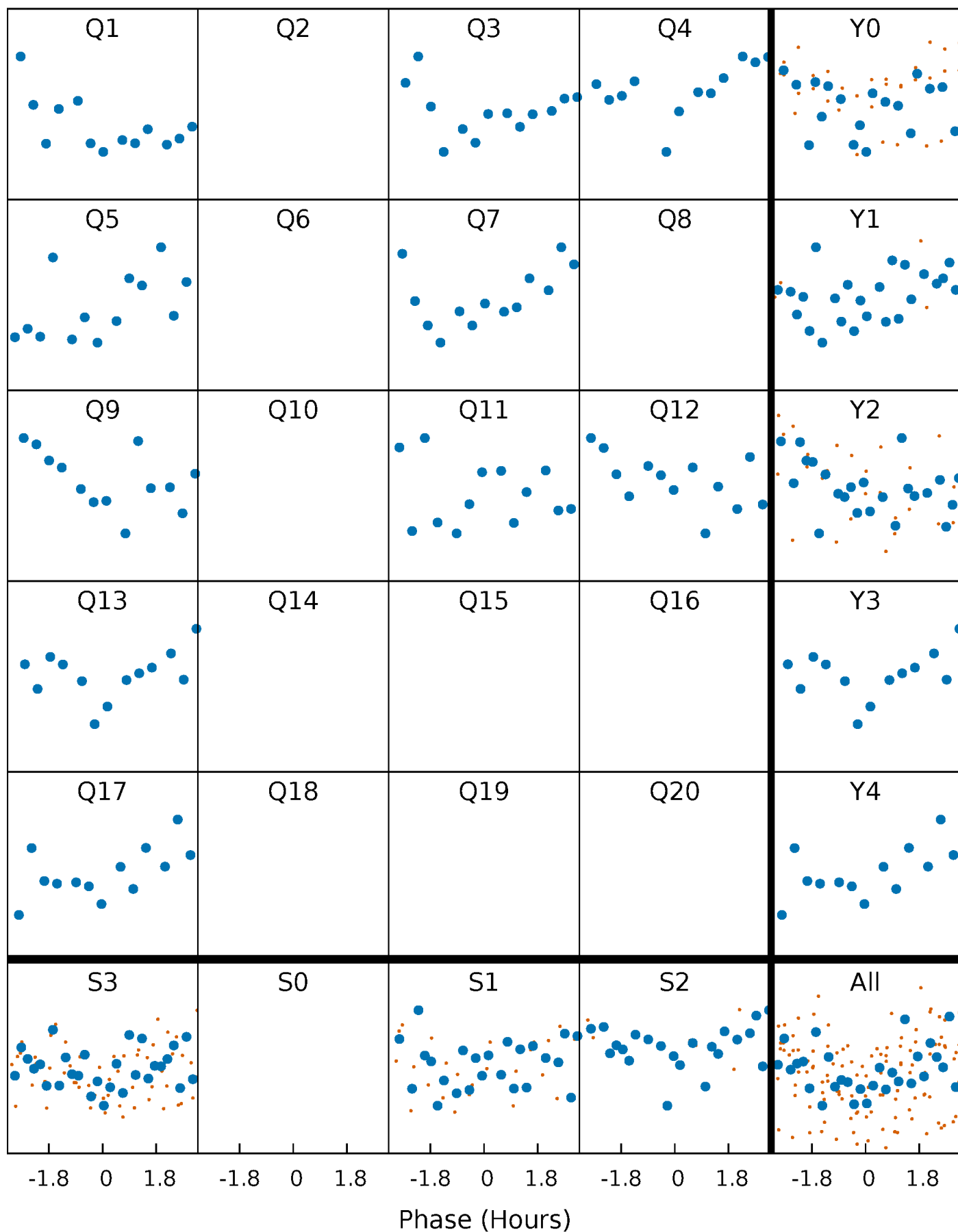


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



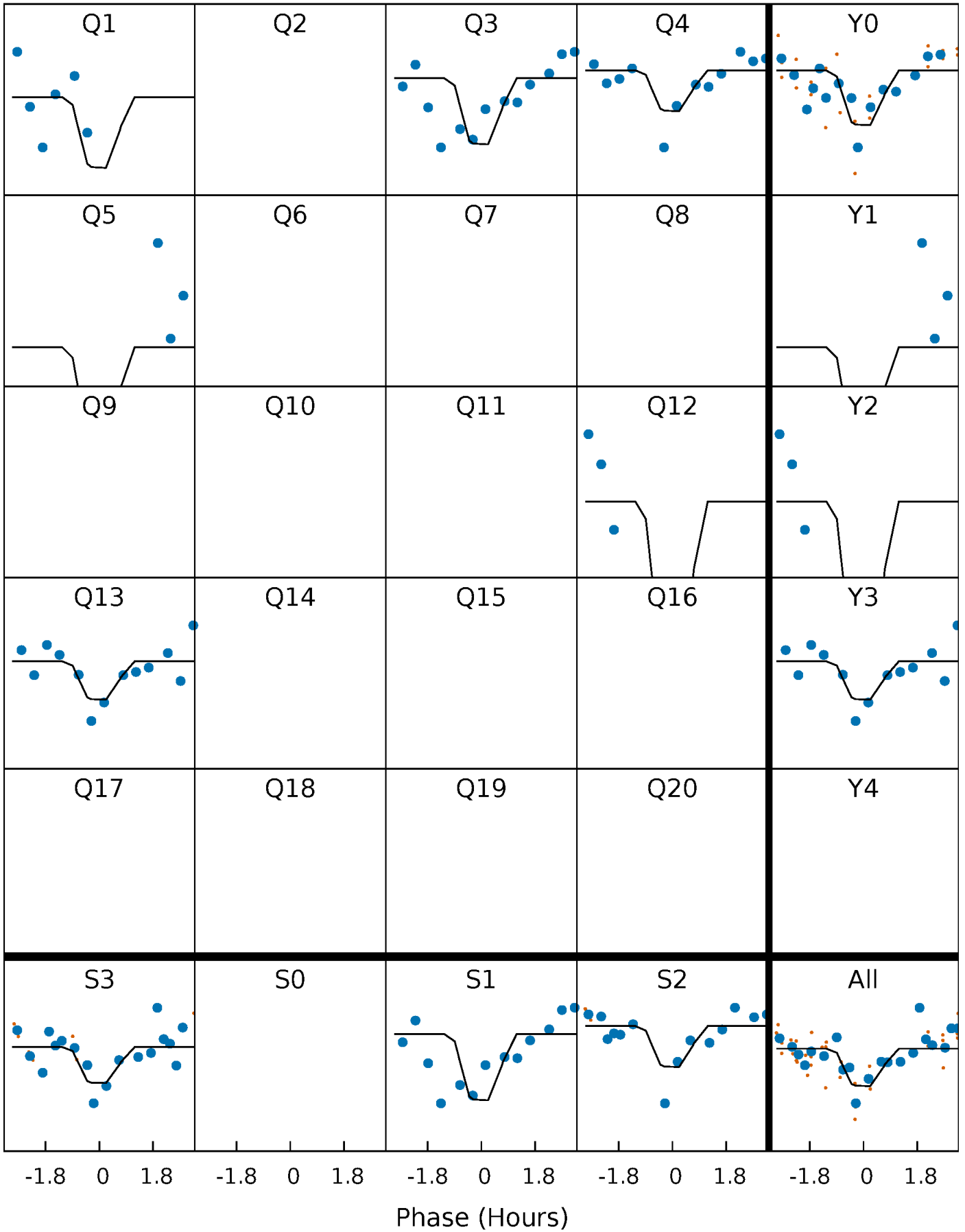
PDC Quarter-Phased Transit Curves

TCE 004845555-04 P=109.253692 Days $T_0=160.791260$ (BKJD)



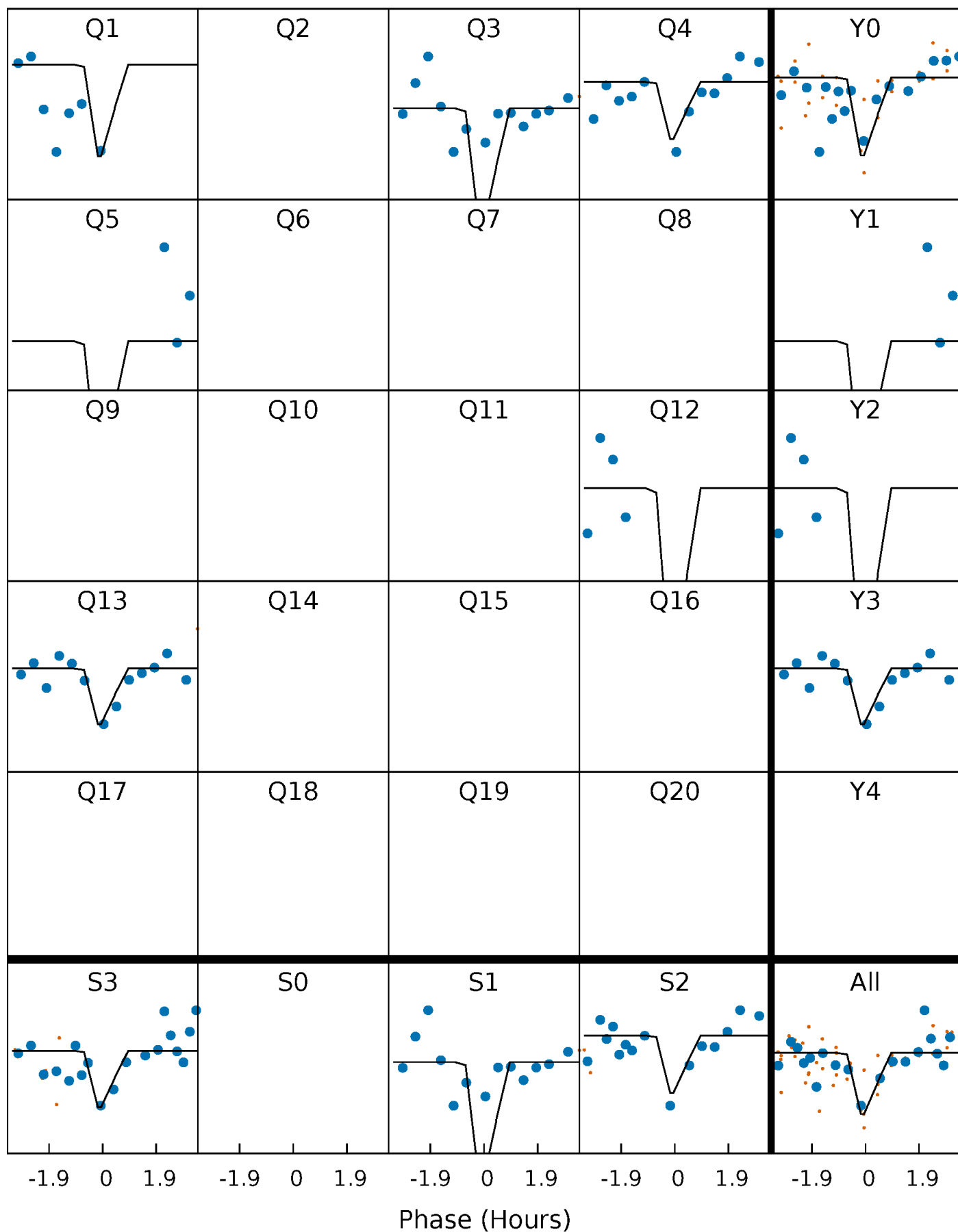
DV Quarter-Phased Transit Curves

TCE 004845555-04 $P=109.253692$ Days $T_0=160.791260$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

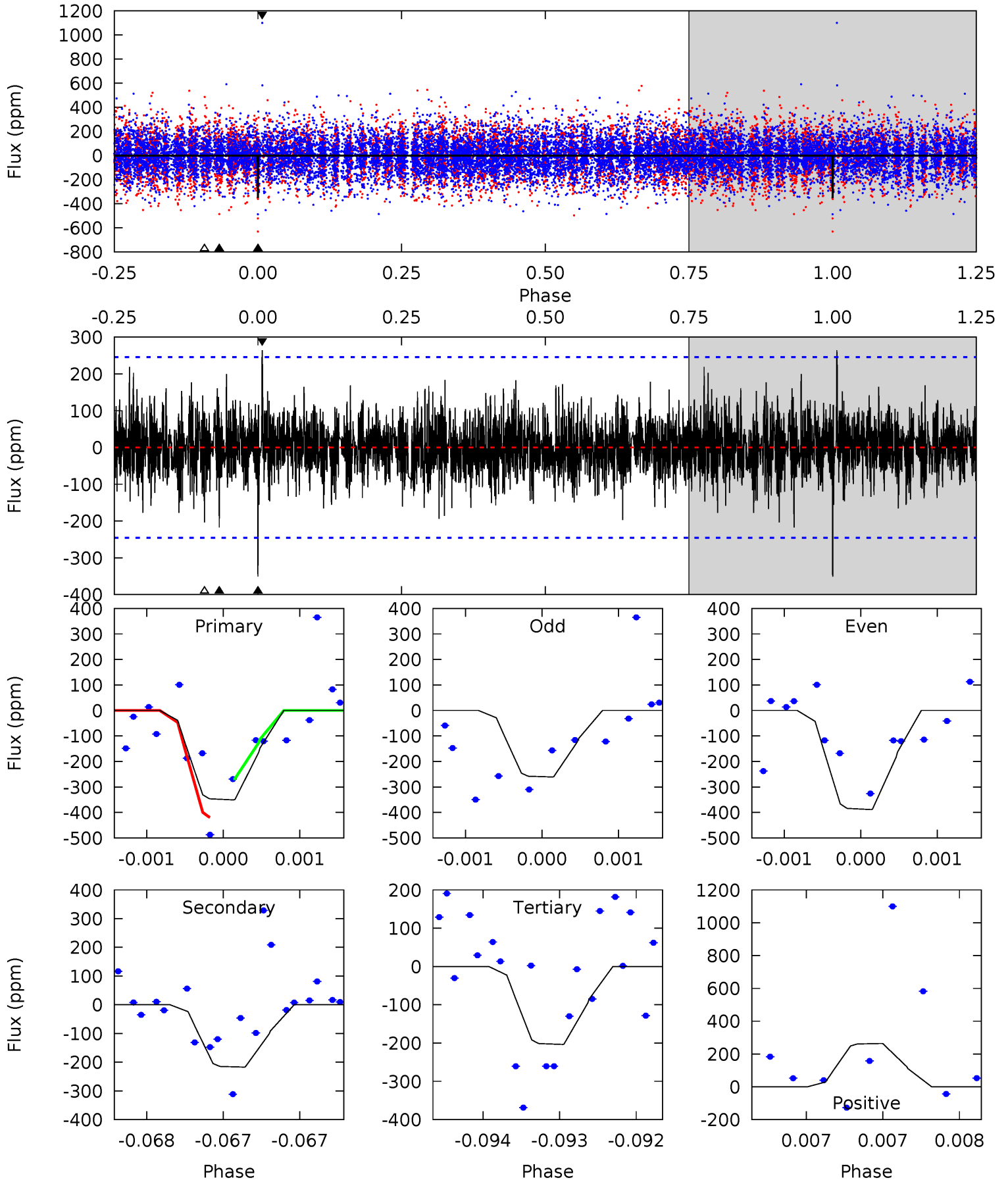
TCE 004845555-04 P=109.253854 Days $T_0=160.781368$ (BKJD)



DV Model-Shift Uniqueness Test

004845555-04, P = 109.253692 Days, E = 51.537568 Days

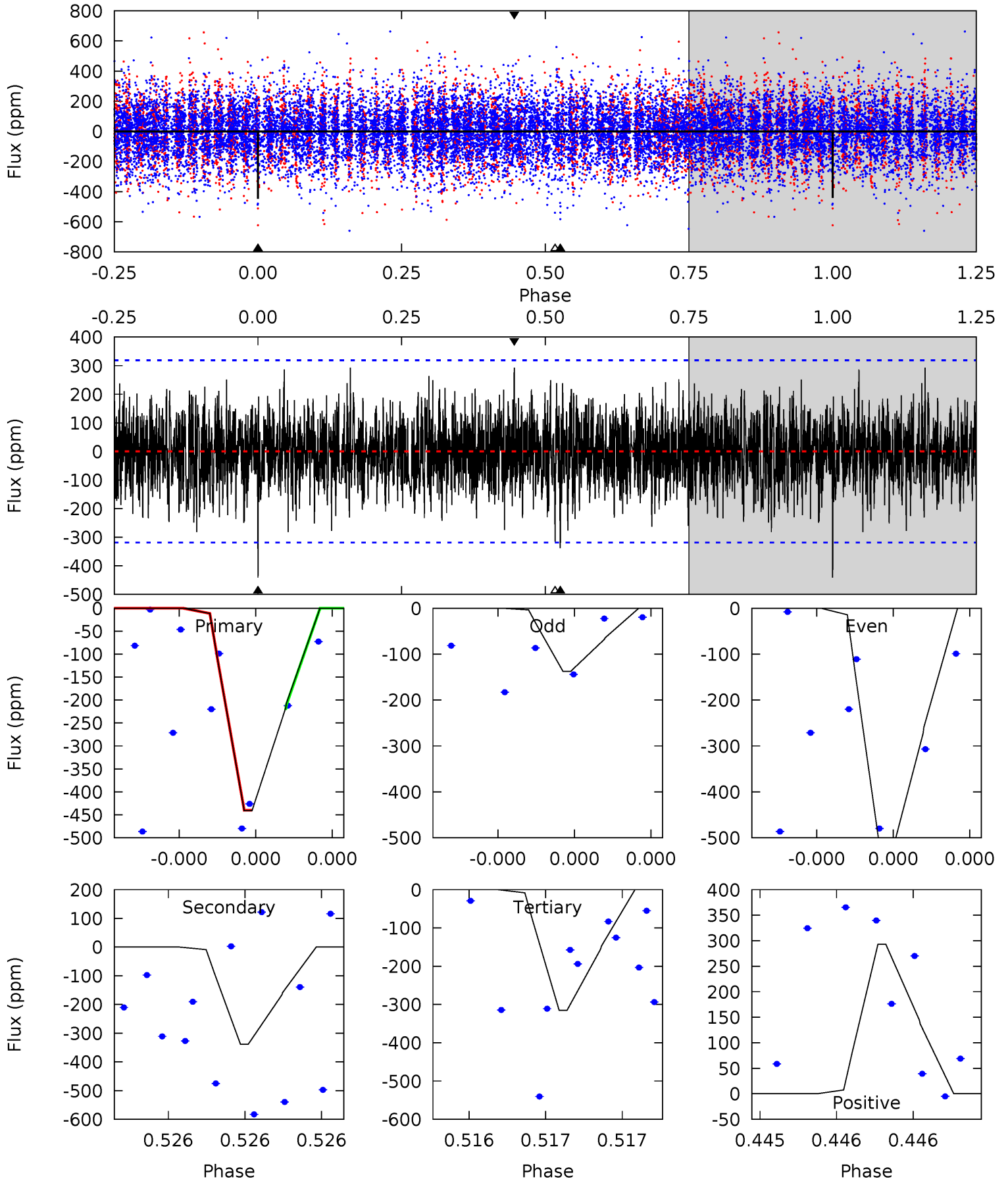
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.92	4.91	4.60	5.97	5.55	3.45	1.26	3.32	1.95	0.31	-1.06	1.32	0.94	0.43	1.71



Alt Model-Shift Uniqueness Test

004845555-04, P = 109.253854 Days, E = 51.527514 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.76	5.95	5.55	5.15	5.61	3.53	1.44	2.21	2.60	0.40	0.79	3.64	0.86	0.40	1.67



Stellar Parameters For KIC 004845555

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6429^{+155}_{-175}	$3.607^{+0.328}_{-0.082}$	$-0.160^{+0.350}_{-0.250}$	$3.288^{+0.420}_{-1.260}$	$1.596^{+0.203}_{-0.376}$	$0.063^{+0.162}_{-0.016}$
	+2%/-3%	+9%/-2%	+219%/-156%	+13%/-38%	+13%/-24%	+256%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004845555-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-217 ± 44	$35.03^{+35.09}_{-24.47}$	973^{+53}_{-85}	3044^{+1496}_{-498}	27^{+270}_{-20}
Alt.	-338 ± 57	$32.63^{+36.62}_{-20.68}$	976^{+54}_{-84}	3298^{+1483}_{-617}	46^{+324}_{-35}

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

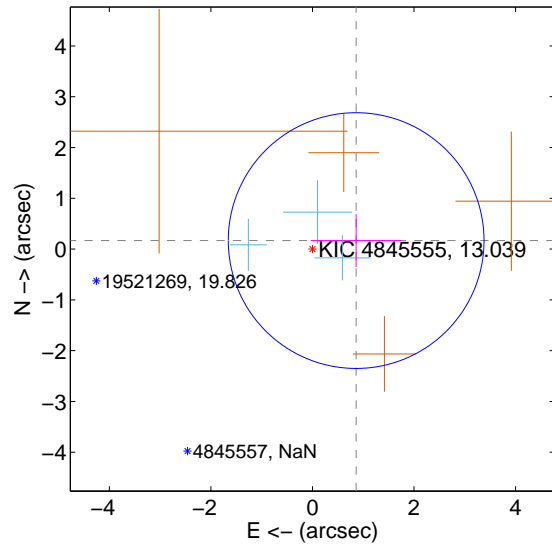
Supplemental centroid analysis for 004845555-04. Kepler magnitude: 13.04. Transit SNR 7.82

There are 3 quarters with good PRF difference image offsets

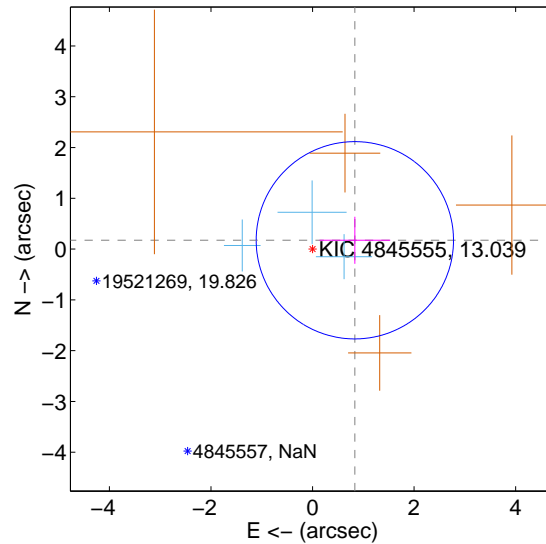
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.877 ± 0.839	1.04	-0.861 ± 0.895	0.168 ± 0.521
PRF-fit source offset from KIC position	0.851 ± 0.648	1.31	-0.833 ± 0.696	0.174 ± 0.464
photometric centroid source offset	1.06 ± 0.97	1.09	-0.97 ± 0.98	0.44 ± 0.92

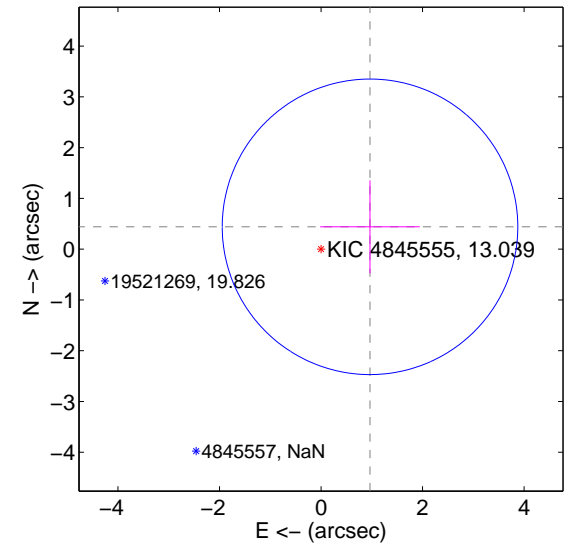
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

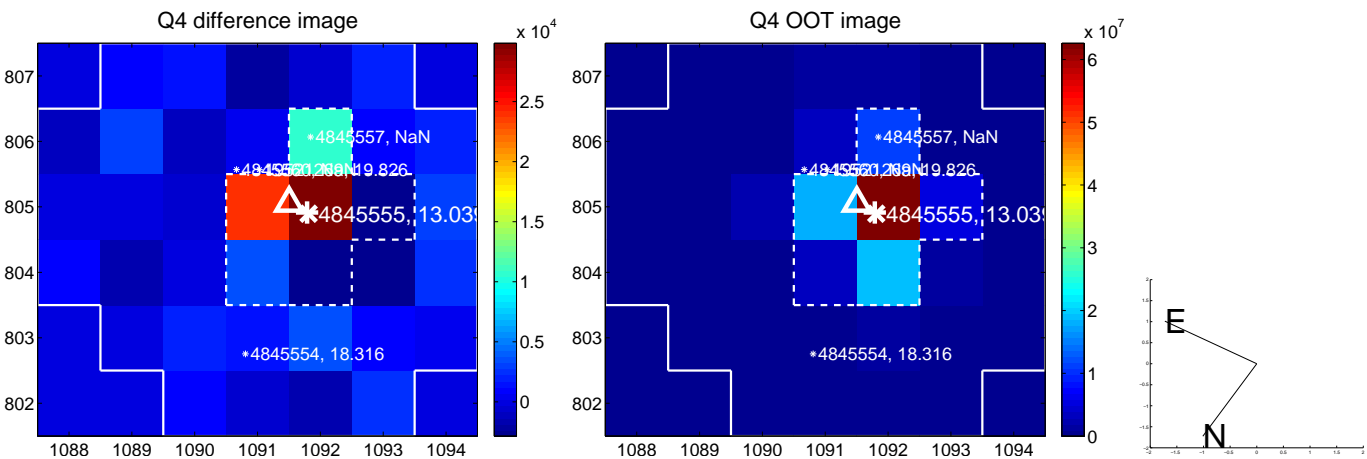
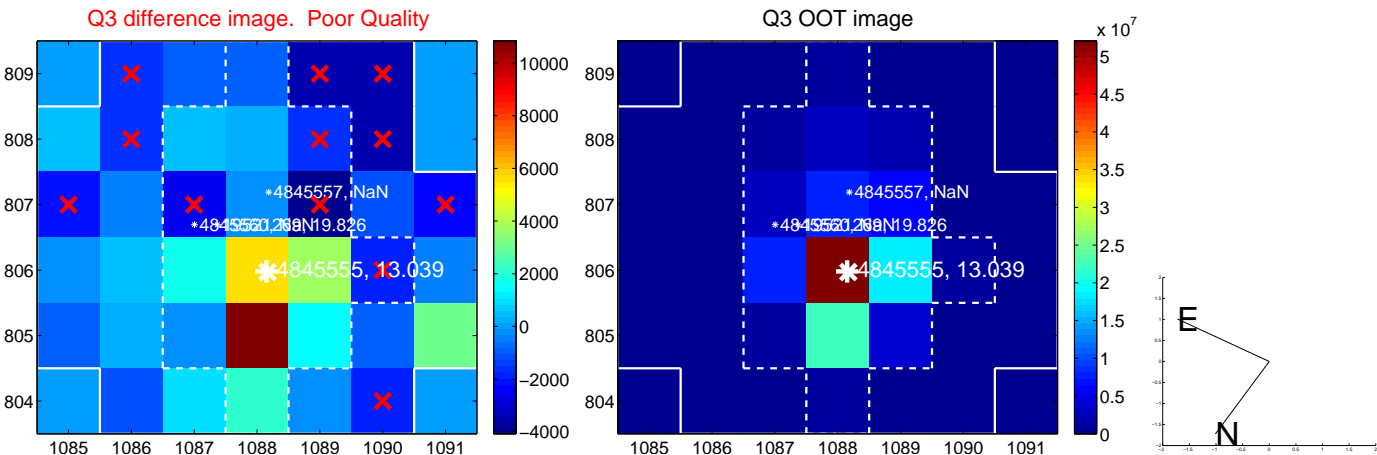
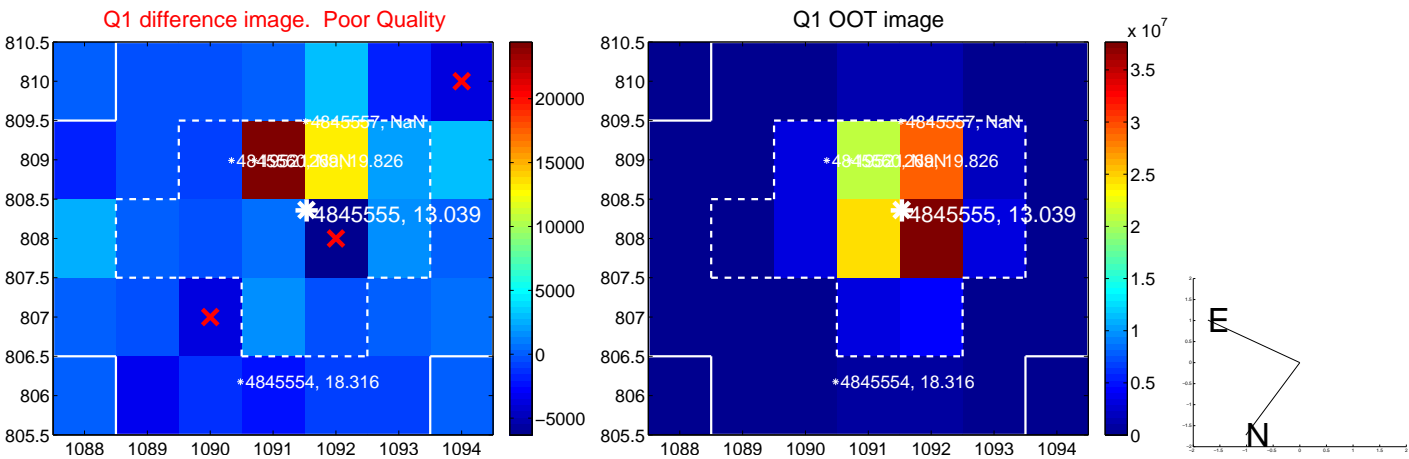


offset from photometric centroids

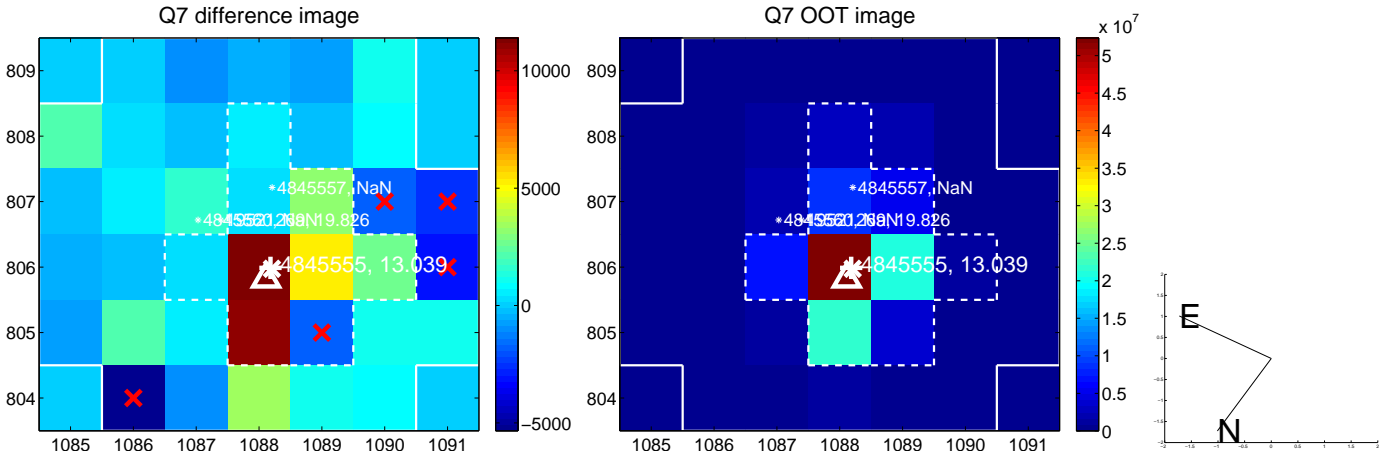
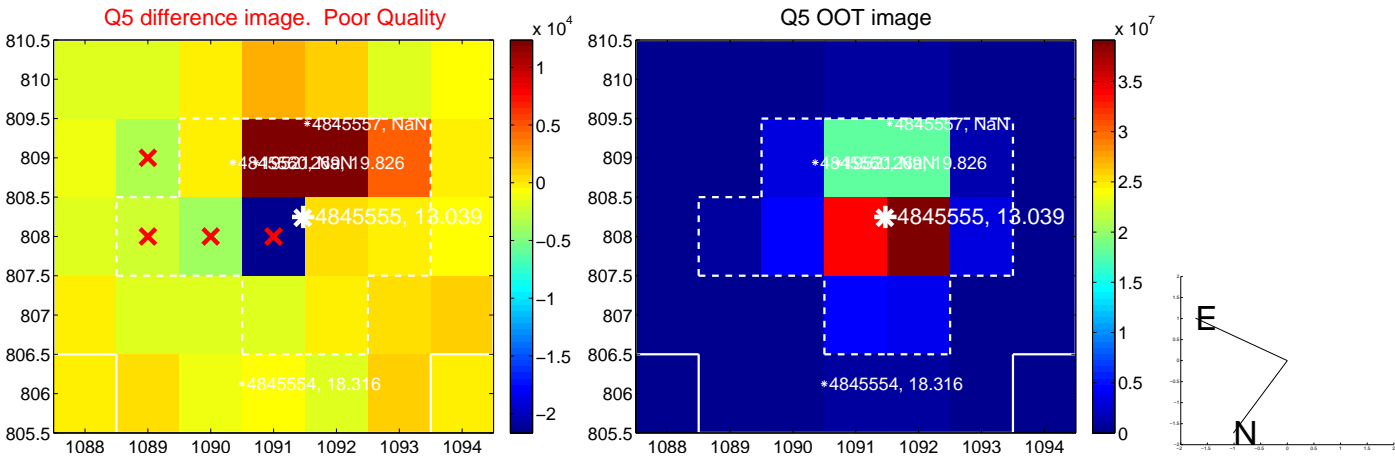


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

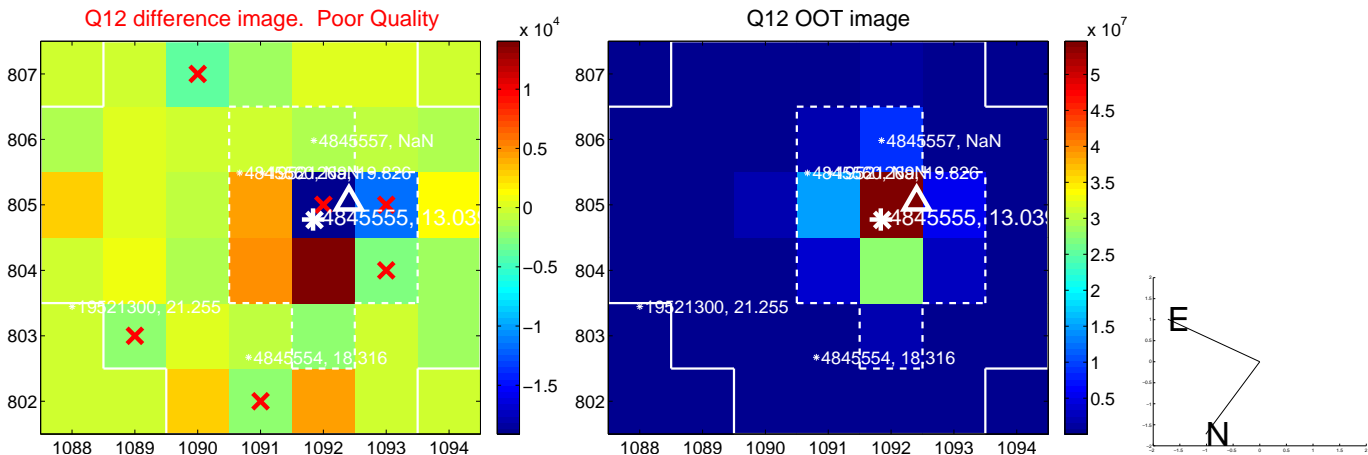
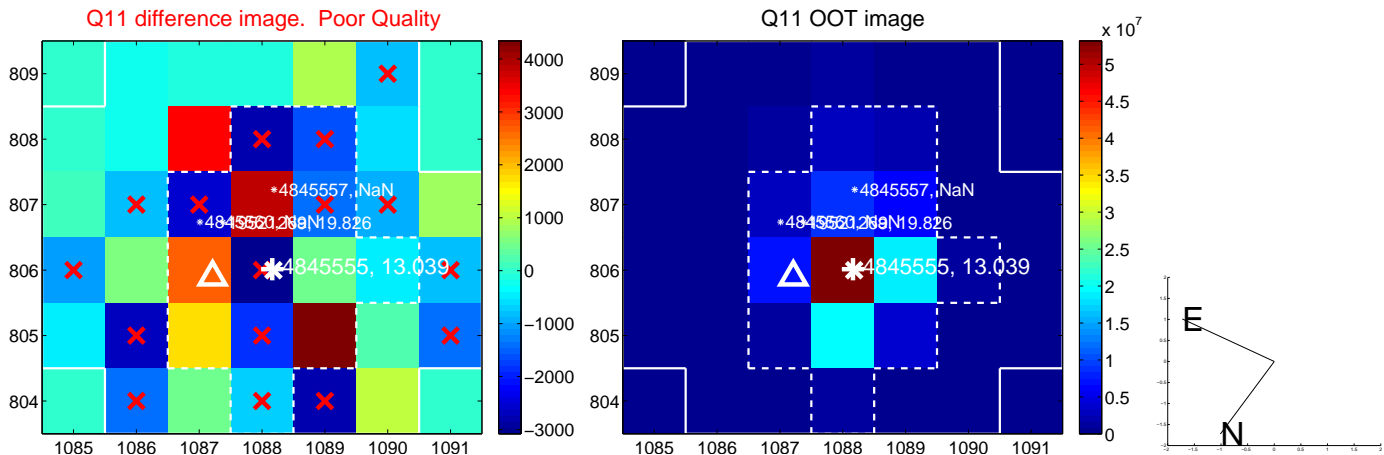
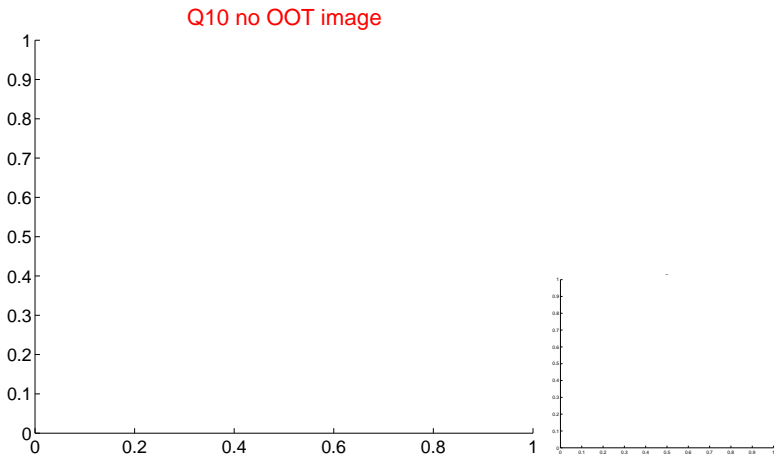
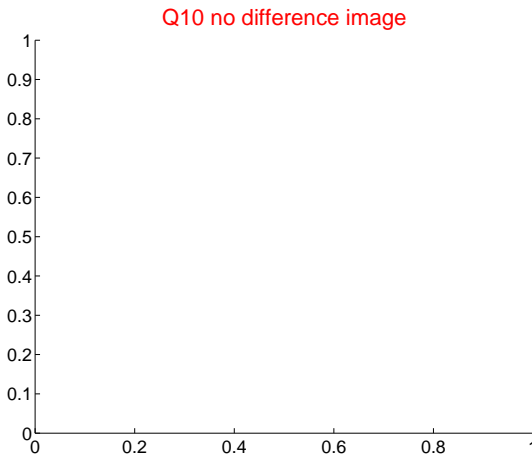
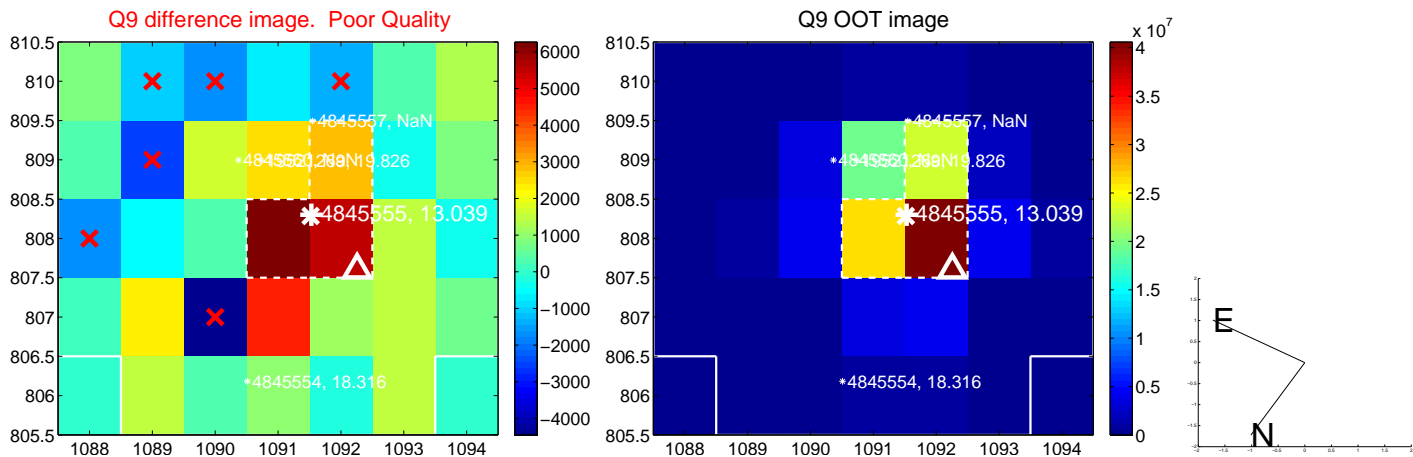
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



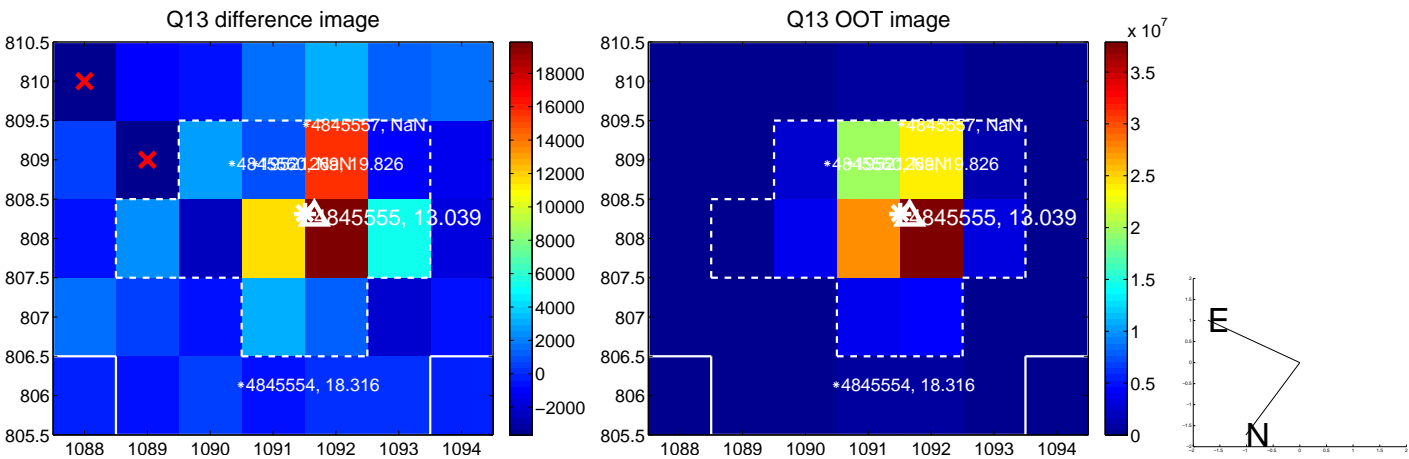
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



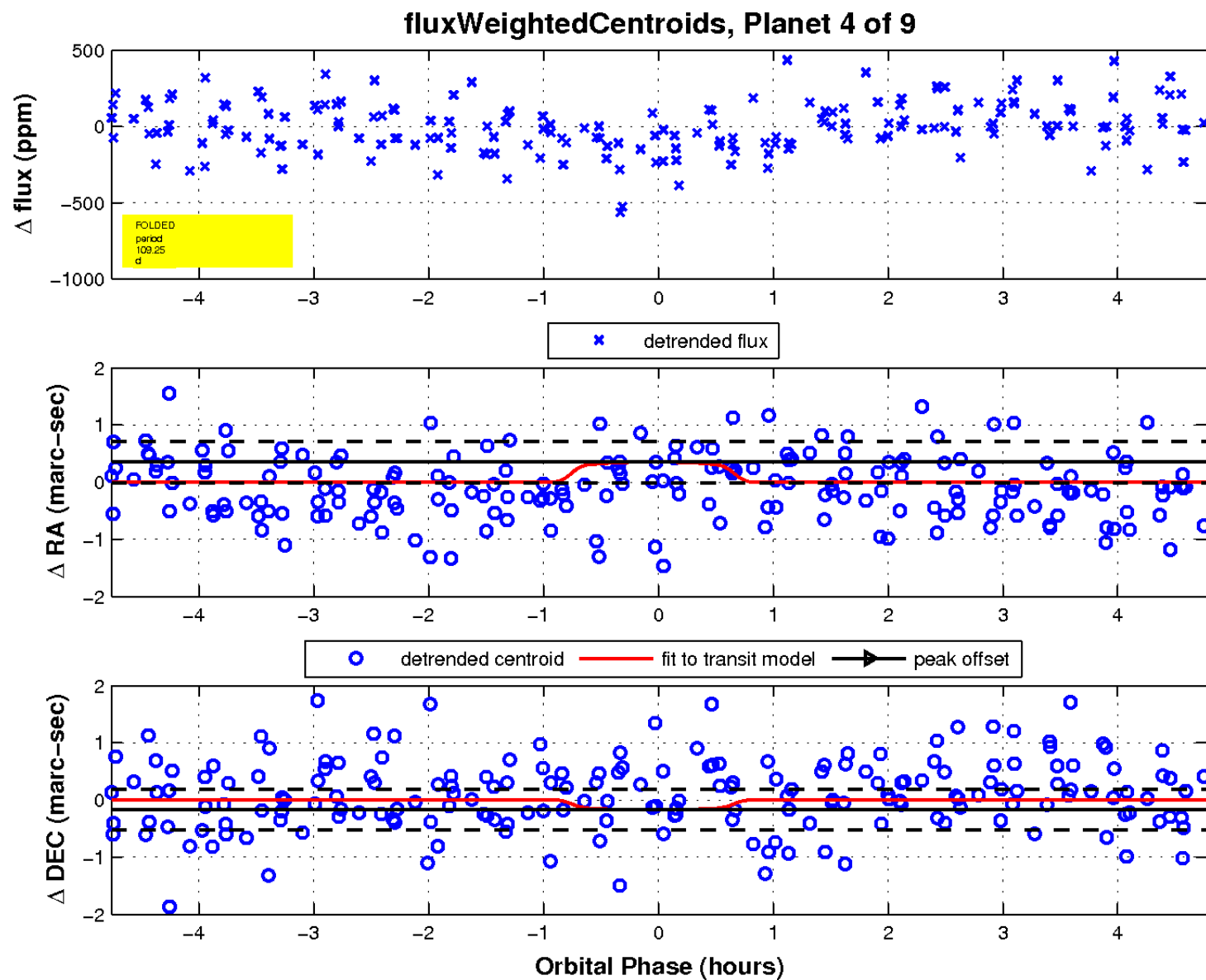
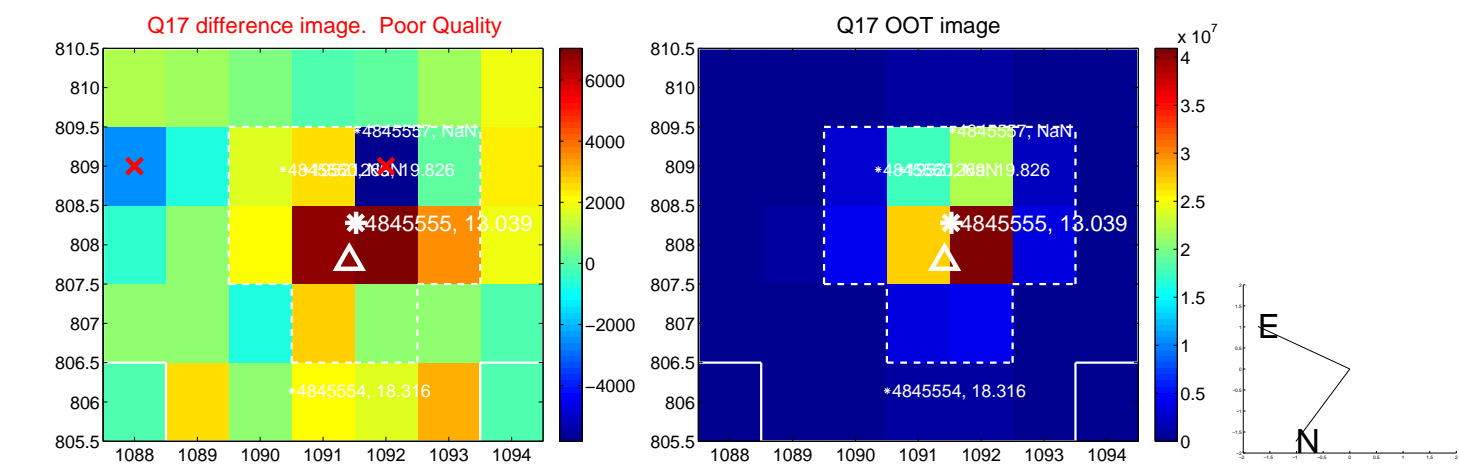
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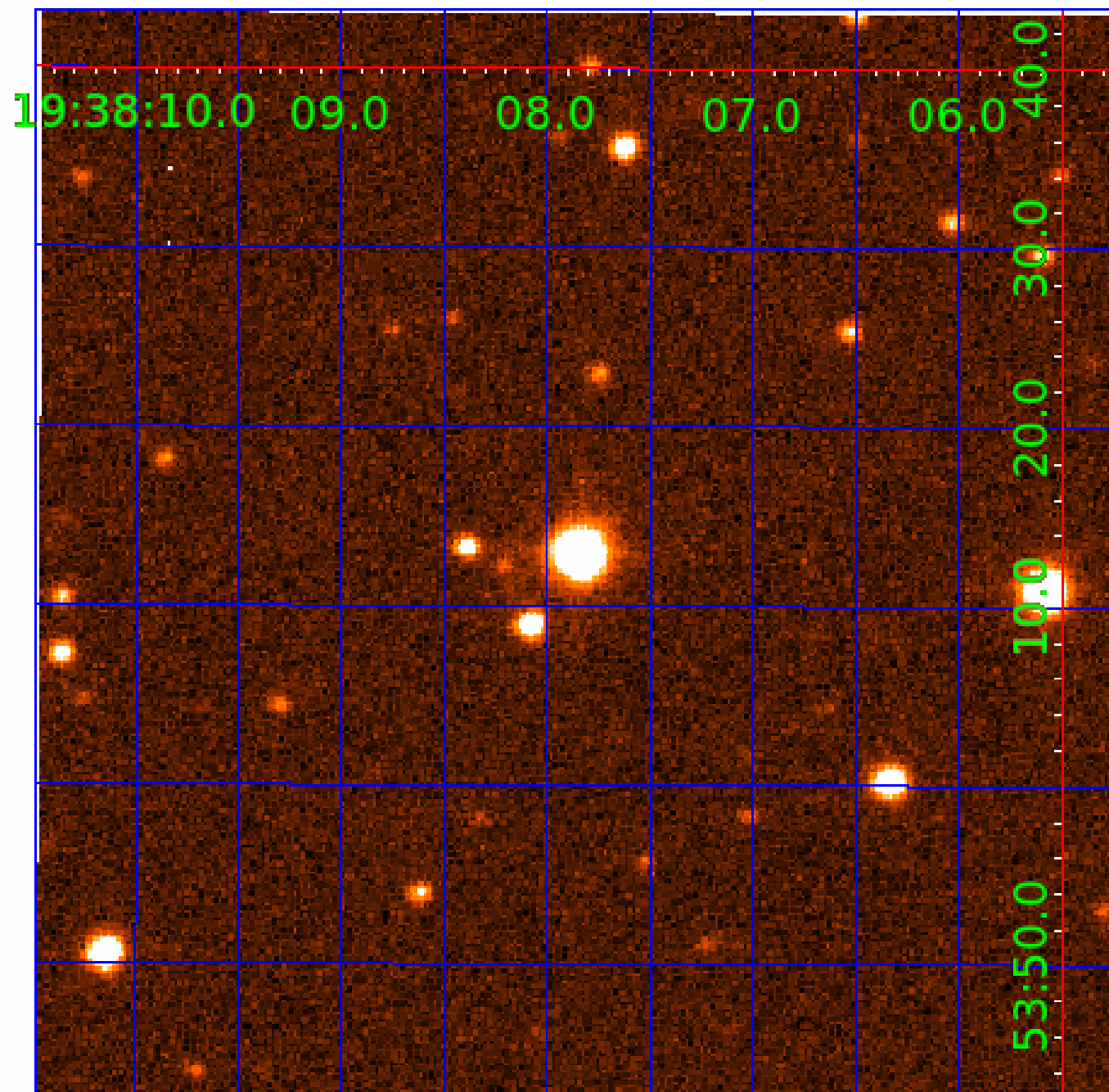


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004845555

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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004845555-04	OBS	No	109.253691	160.791260	339.6	1.599	7.7	7.8	3.29	6429	7.14	60.56
004845555-05	OBS	No	398.282871	264.889448	128.7	11.885	9.1	6.8	3.29	6429	3.99	10.79
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004845555-07	OBS	No	21.599880	143.419063	155.8	4.577	8.5	9.6	3.29	6429	4.68	525.80
004845555-08	OBS	No	97.707904	208.530444	237.7	3.045	7.3	8.7	3.29	6429	5.78	70.28
004845555-09	OBS	No	54.194665	177.236292	283.5	2.100	7.3	8.7	3.29	6429	7.21	154.22

Robovetter Results

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004845555-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004845555-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
004845555-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
004845555-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—CENT_FEW_DIFFS
004845555-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004845555-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT
004845555-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

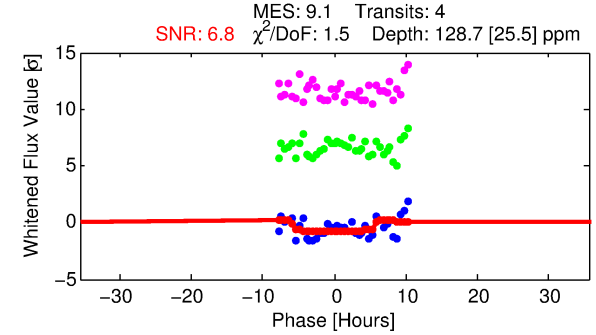
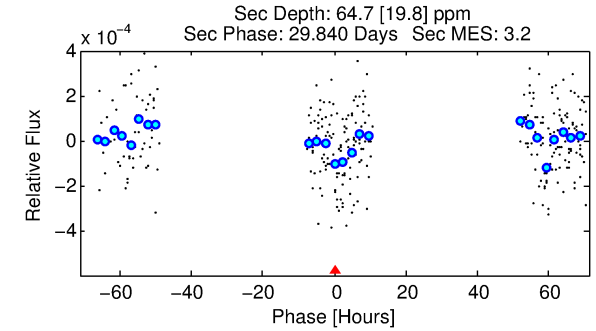
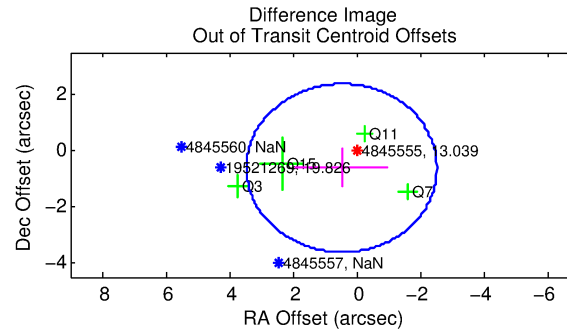
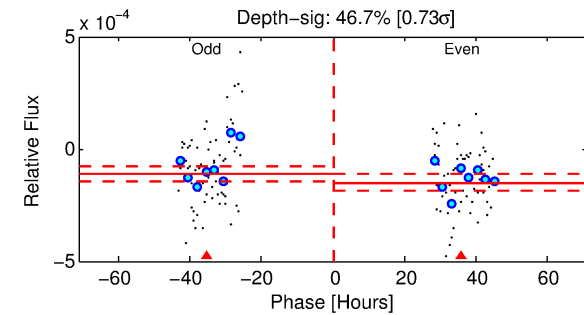
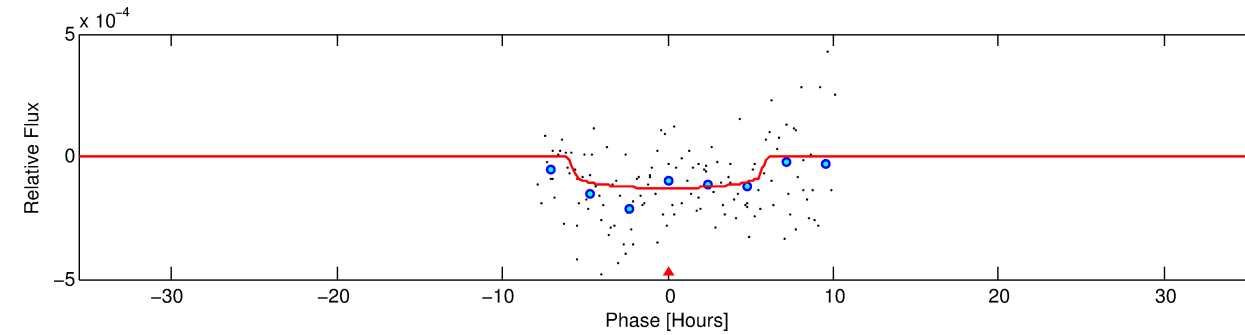
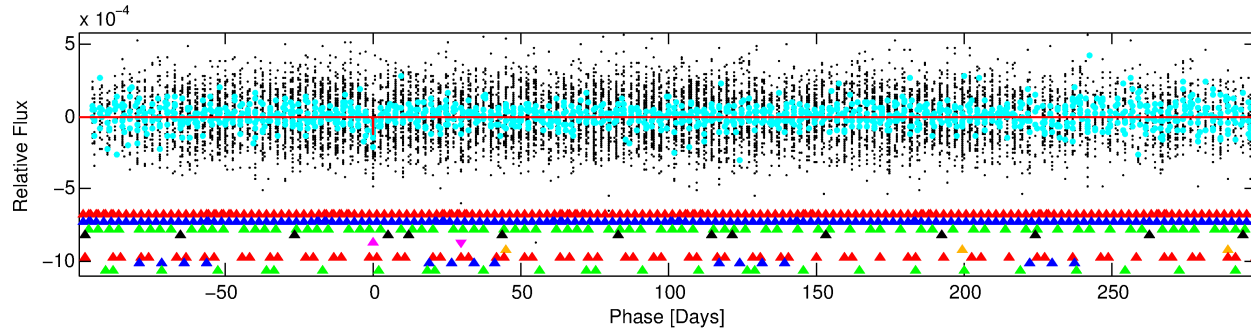
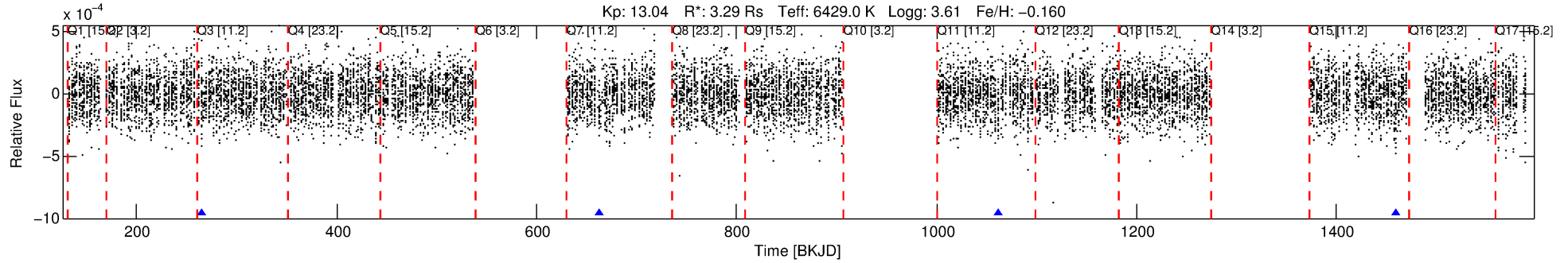
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004845555-05

No Significant Match Found

DV One-Page Summary

KIC: 4845555 Candidate: 5 of 9 Period: 398.283 d



DV Fit Results:

Period = 398.28287 [0.01177] d
Epoch = 264.8894 [0.0237] BKJD
Rp/R* = 0.0111 [0.0081]
a/R* = 186.65 [734.48]
b = 0.70 [2.88]
Seff = 10.79 [6.21]
Teff = 462 [66] K
Rp = 3.99 [3.30] Re
a = 1.2382 [0.4441] AU
Ag = 3426.39 [5472.73] [0.63σ]
Teffp = 5467 [2048] K [2.44σ]

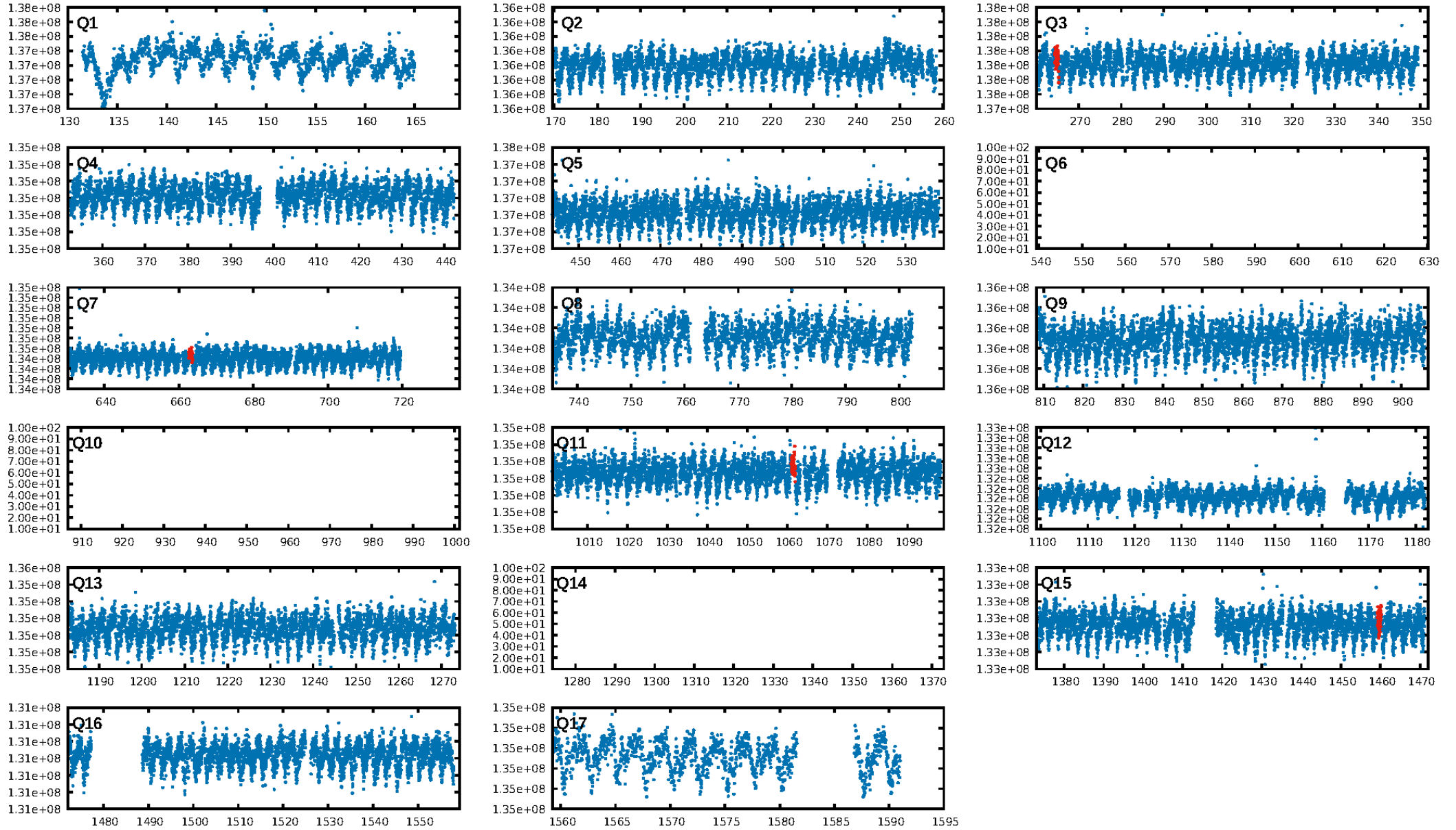
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [578.44σ]
LongPeriod-sig: 100.0% [280.91σ]
ModelChiSquare2-sig: 39.6%
ModelChiSquareGof-sig: 71.9%
Bootstrap-pfa: 6.47e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.291
Centroid-sig: 79.7%
Centroid-so: 0.720 arcsec [0.33σ]
OotOffset-rm: 0.774 arcsec [0.77σ]
OotOffset-st: 0/4/0/0 [4]
KicOffset-rm: 0.839 arcsec [0.80σ]
KicOffset-st: 0/4/0/0 [4]
DiffImageQuality-fgm: 0.00 [0/4]
DiffImageOverlap-fno: 1.00 [4/4]

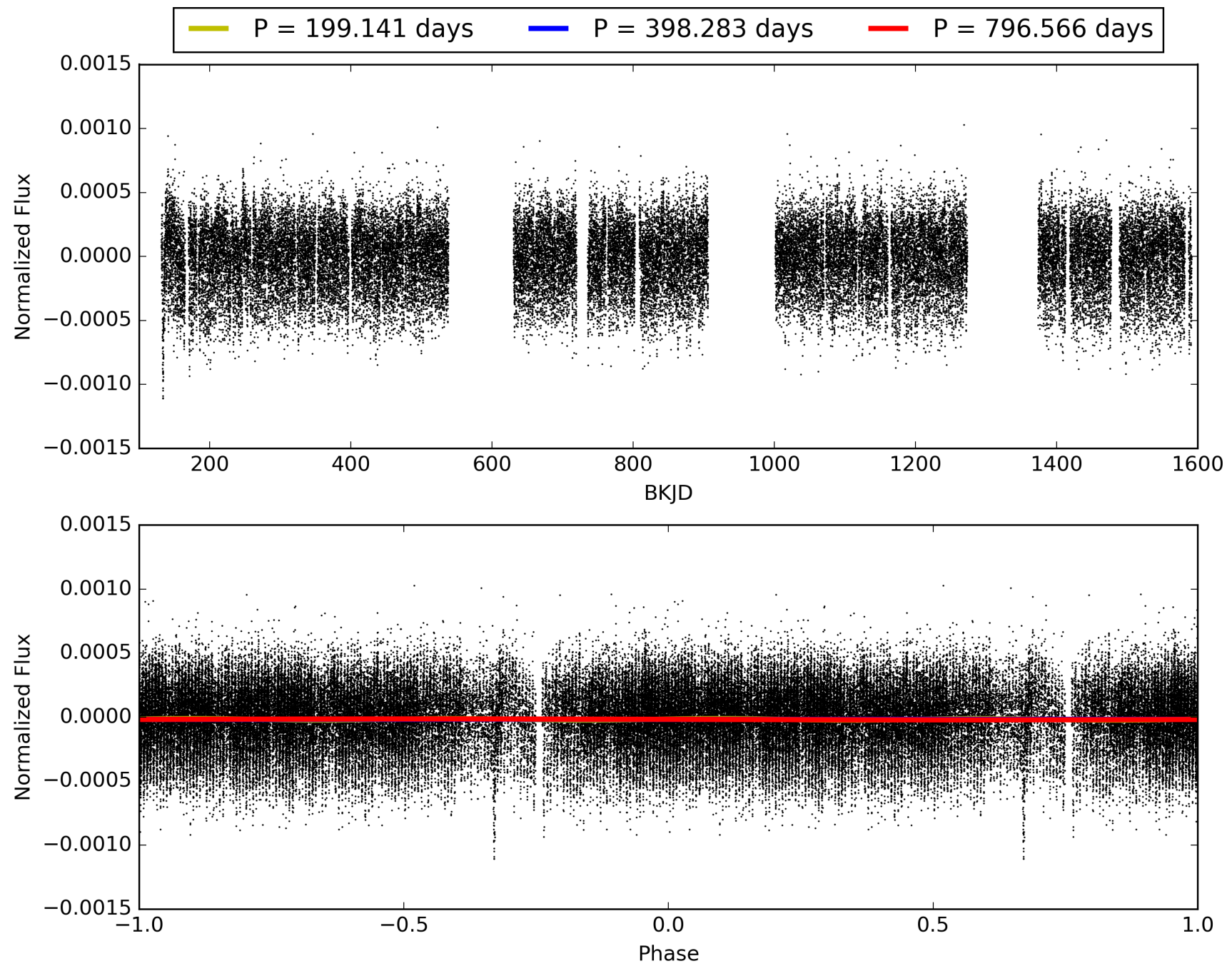
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:12:21 Z

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

TCE 004845555-05, PDC Light Curves

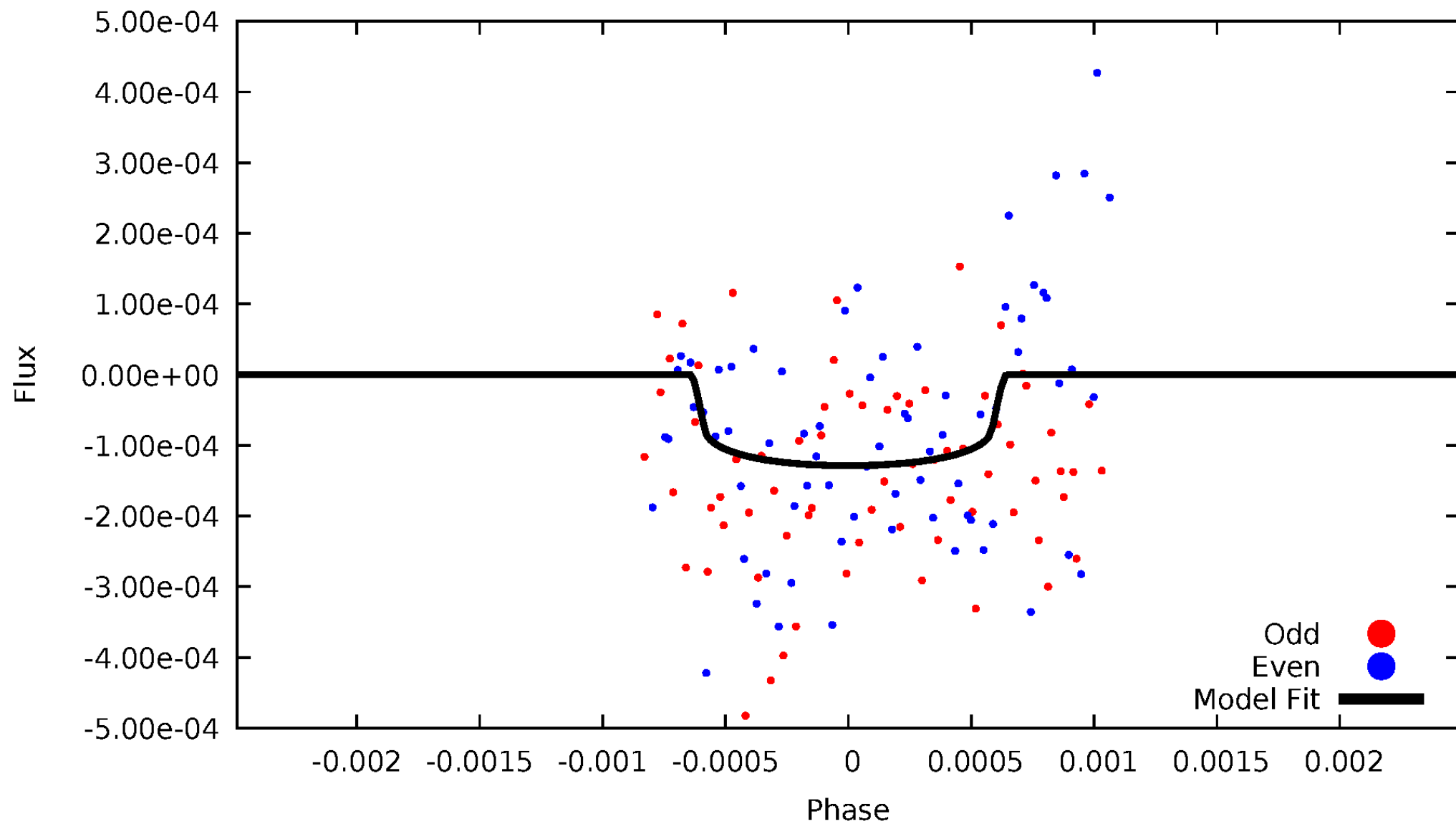


TCE 004845555-05



DV Odd/Even

TCE 004845555-05

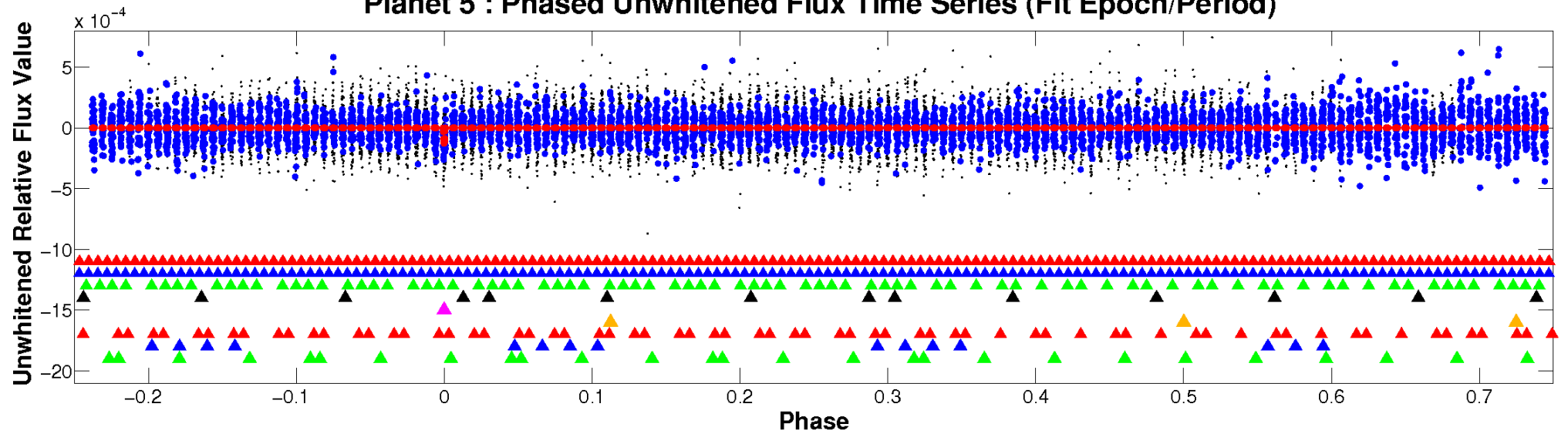


ALT Odd/Even

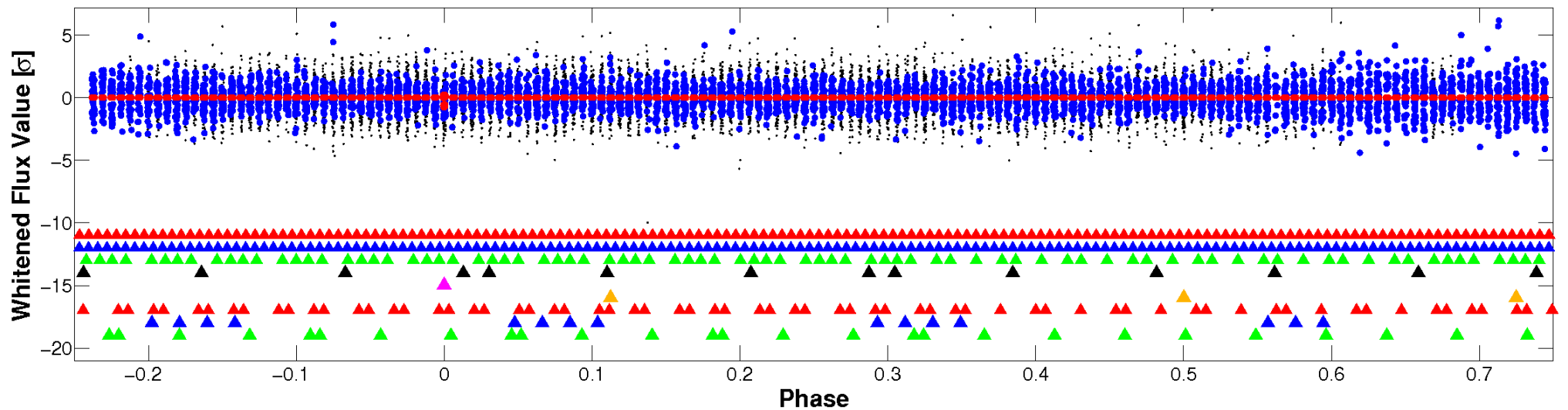
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

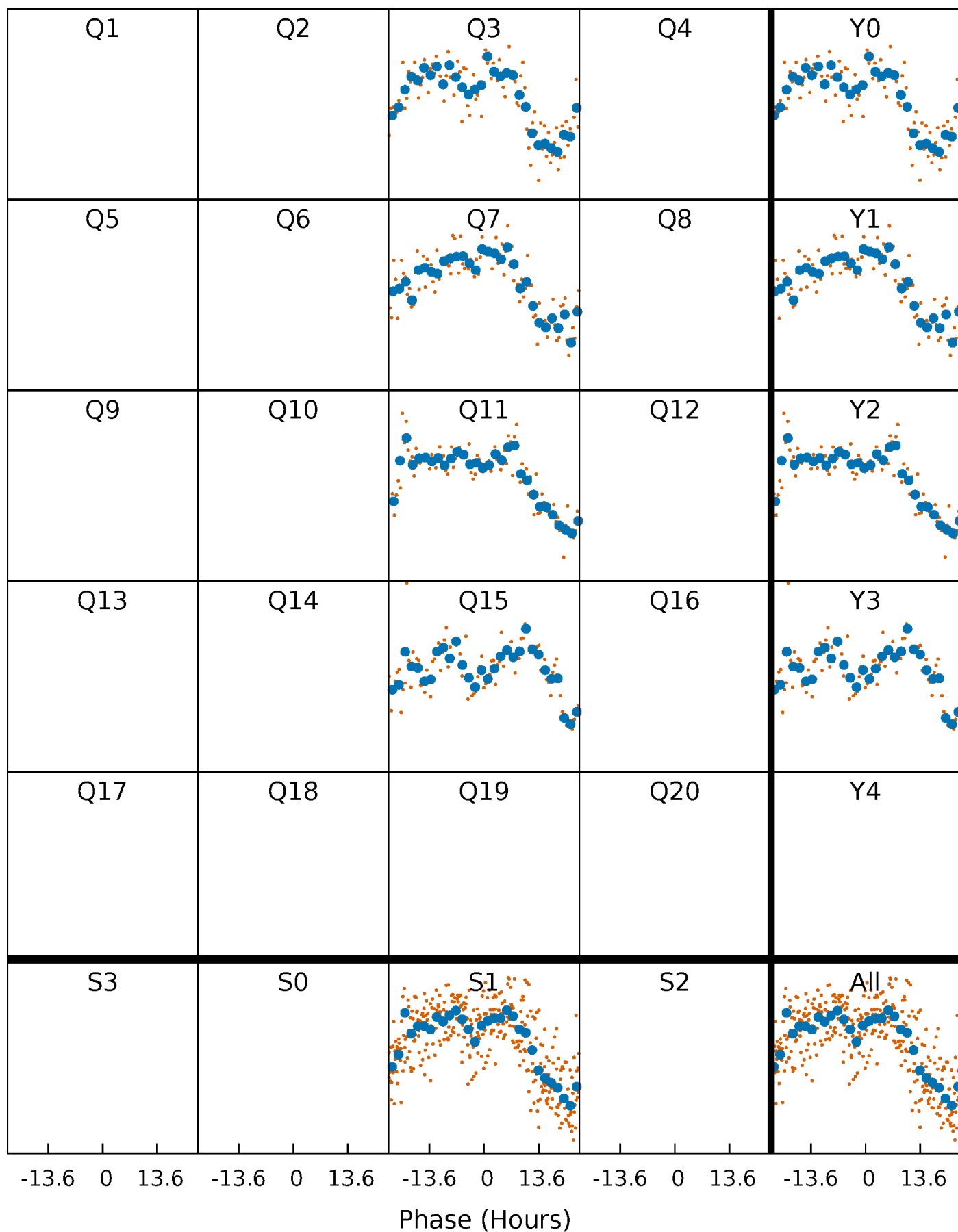


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



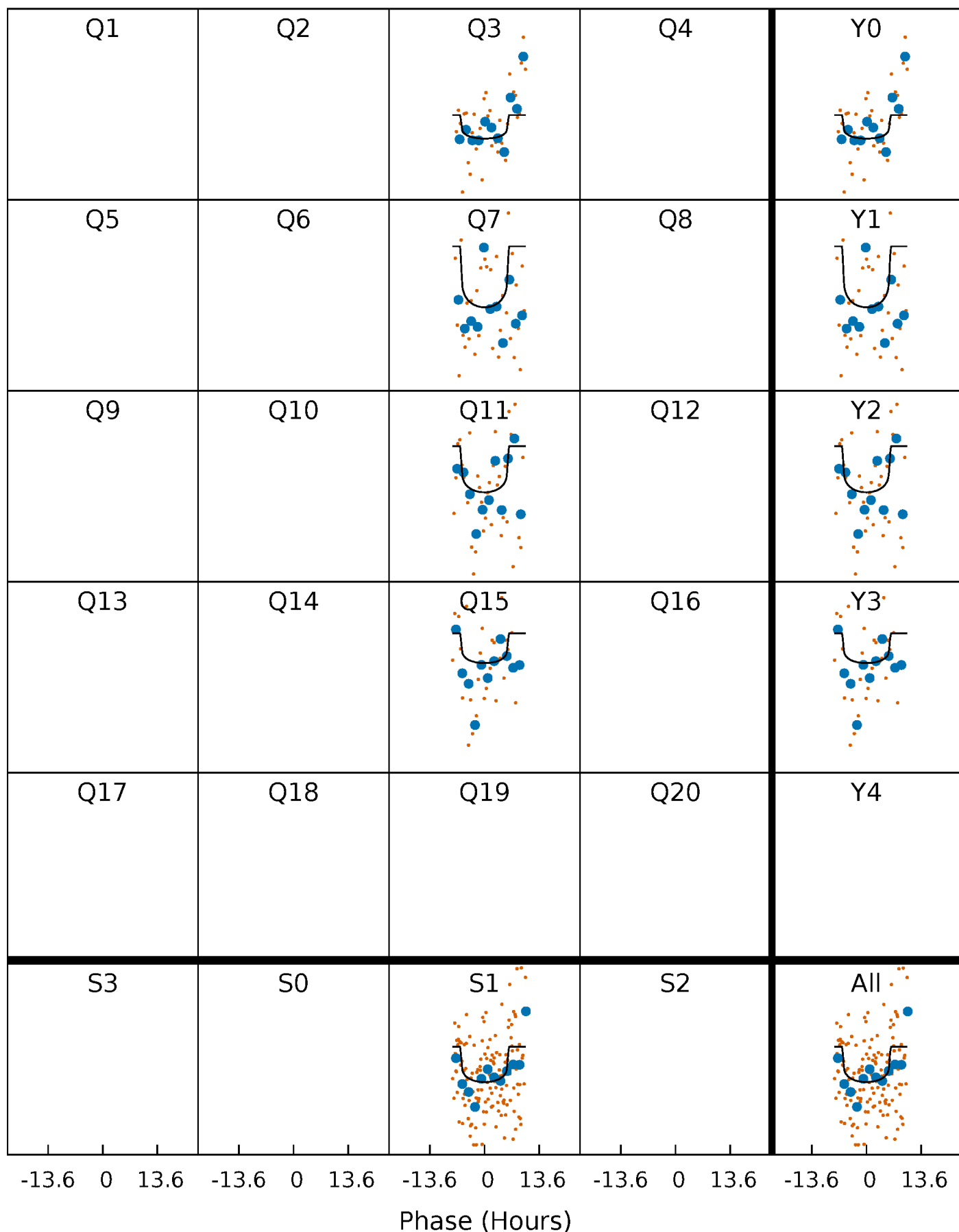
PDC Quarter-Phased Transit Curves

TCE 004845555-05 $P=398.282871$ Days $T_0=264.889448$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 004845555-05 $P=398.282871$ Days $T_0=264.889448$ (BKJD)

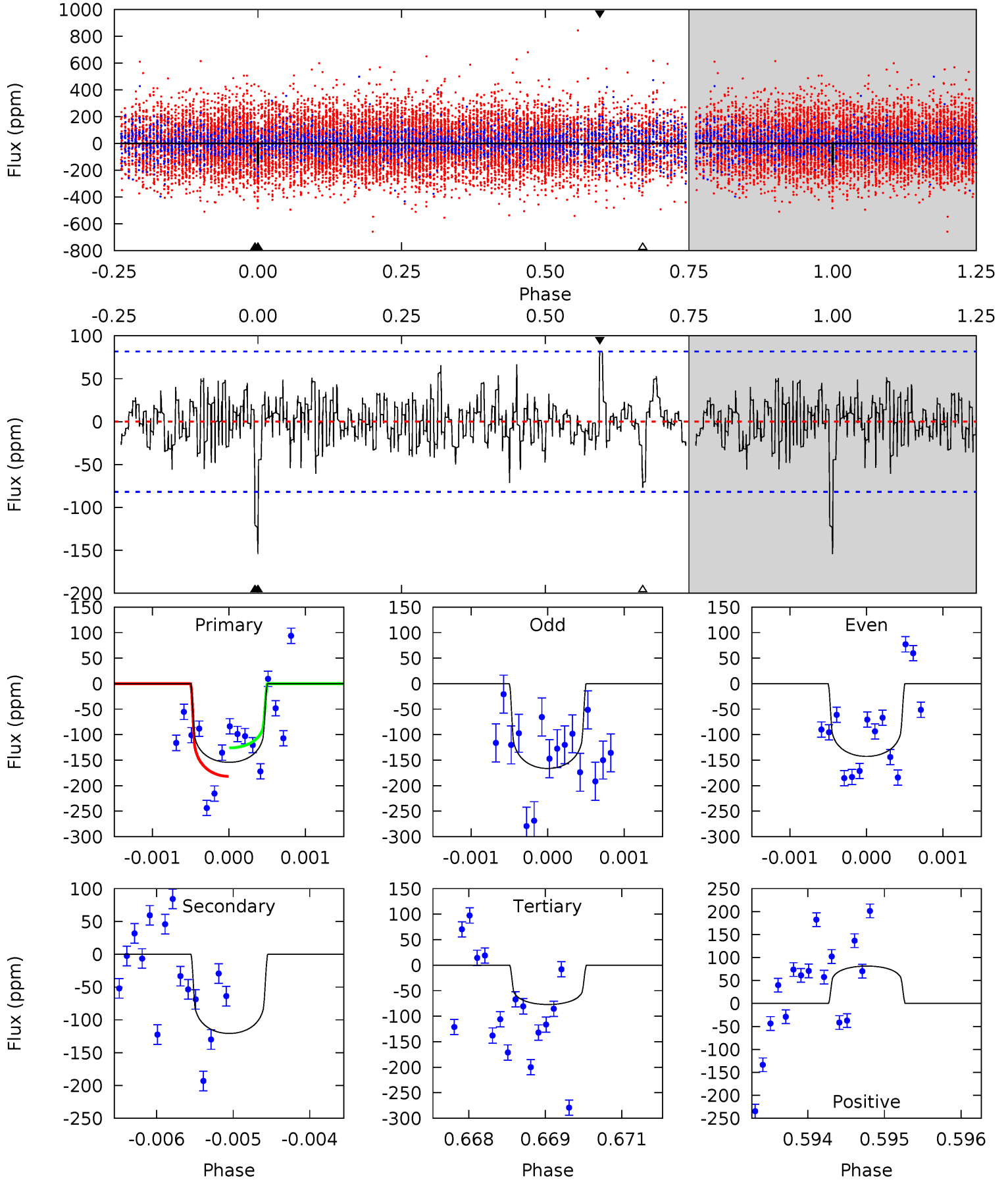


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

004845555-05, P = 398.282871 Days, E = 264.889448 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	7.98	5.10	5.38	5.41	3.22	1.47	5.11	4.82	2.89	2.60	0.78	1.04	0.35	1.85



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 004845555

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6429^{+155}_{-175}	$3.607^{+0.328}_{-0.082}$	$-0.160^{+0.350}_{-0.250}$	$3.288^{+0.420}_{-1.260}$	$1.596^{+0.203}_{-0.376}$	$0.063^{+0.162}_{-0.016}$
	+2%/-3%	+9%/-2%	+219%/-156%	+13%/-38%	+13%/-24%	+256%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004845555-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-121 ± 15	$3.95^{+2.62}_{-2.39}$	634^{+34}_{-63}	6108^{+4902}_{-1183}	6271^{+33344}_{-3936}
Alt.	N/A	N/A	N/A	N/A	N/A

T_{max} = Theoretical Maximum Planetary Temperature

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

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

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

DV Centroid Data

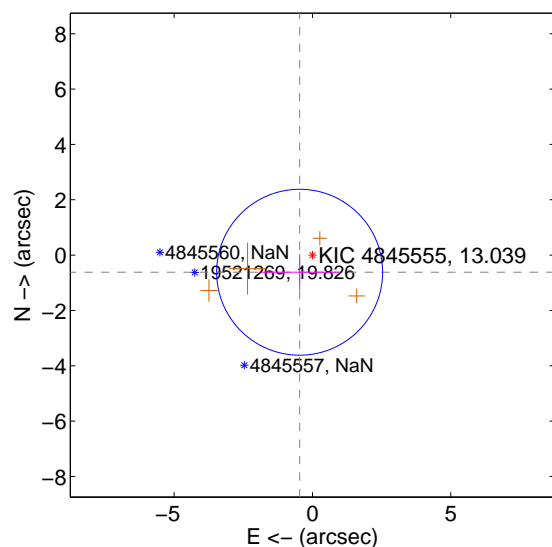
Supplemental centroid analysis for 004845555-05. Kepler magnitude: 13.04. Transit SNR 6.84

There are 0 quarters with good PRF difference image offsets

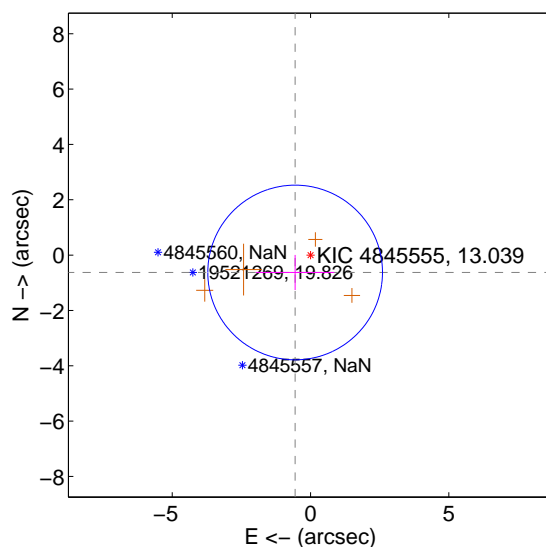
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.774 ± 0.999	0.77	0.463 ± 1.421	-0.619 ± 0.654
PRF-fit source offset from KIC position	0.839 ± 1.052	0.80	0.556 ± 1.416	-0.629 ± 0.636
photometric centroid source offset	0.72 ± 2.19	0.33	0.03 ± 2.10	0.72 ± 2.19

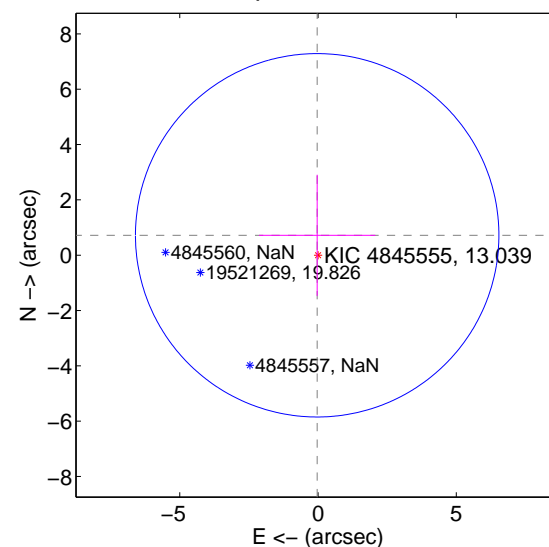
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

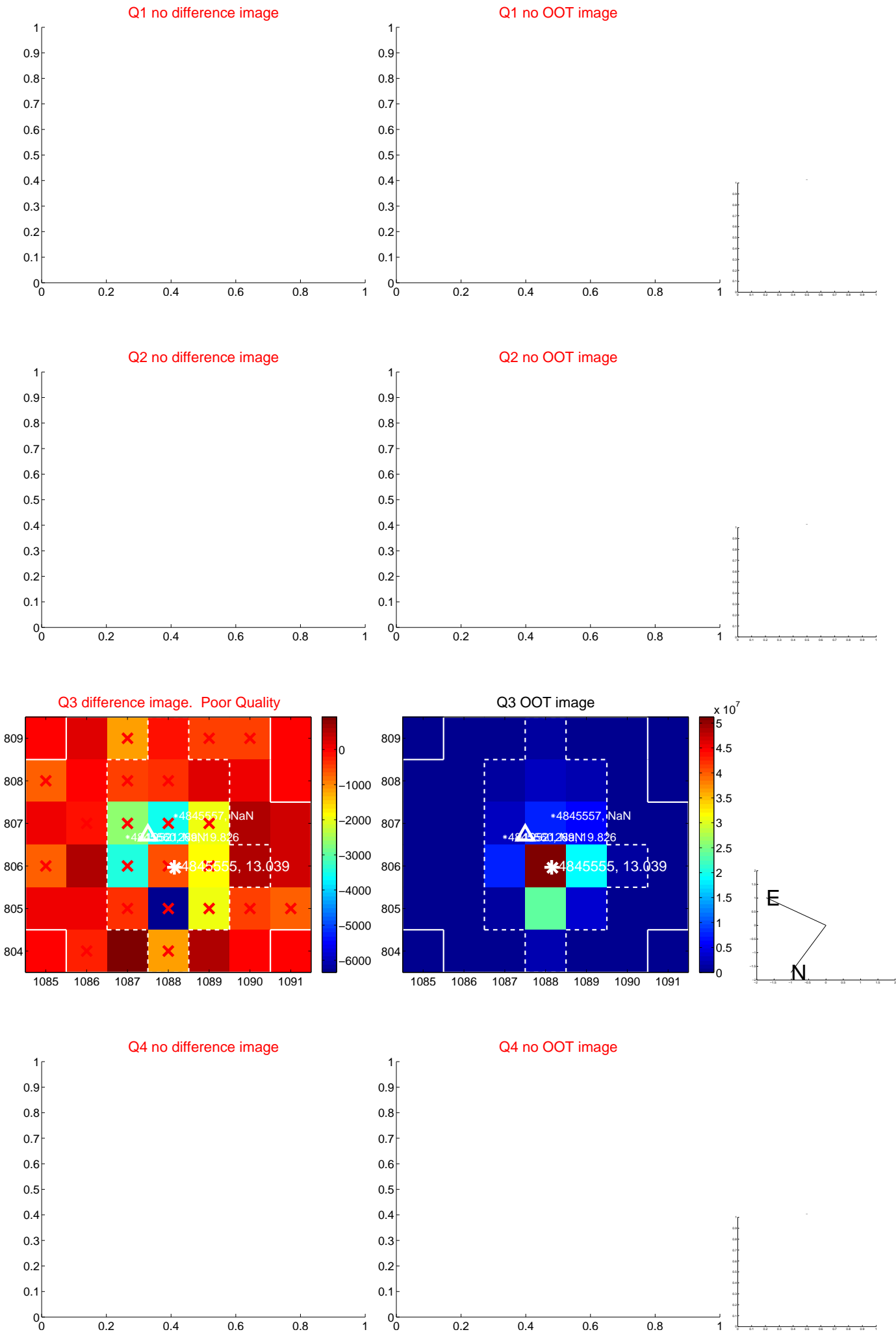


offset from photometric centroids



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

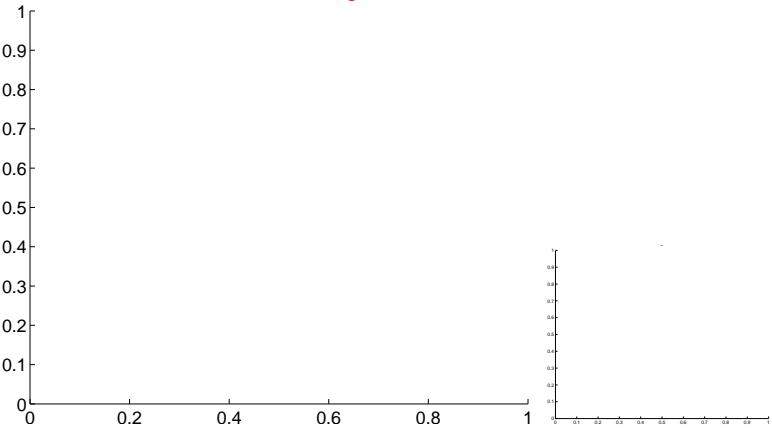


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

Q5 no difference image



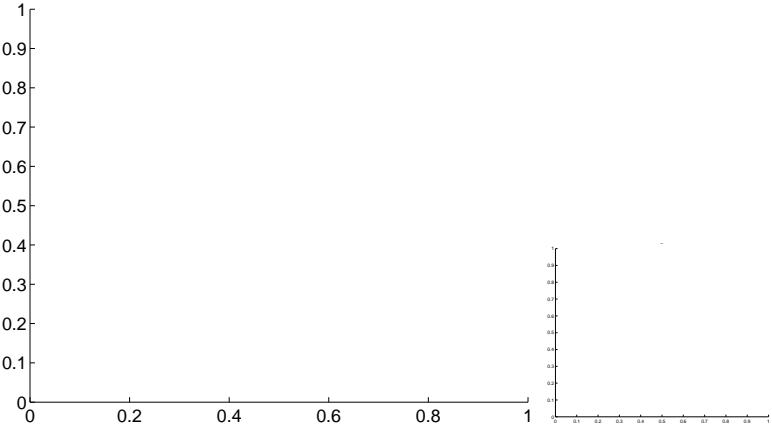
Q5 no OOT image



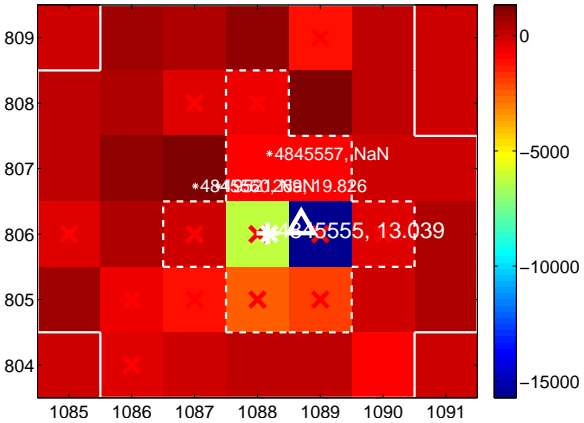
Q6 no difference image



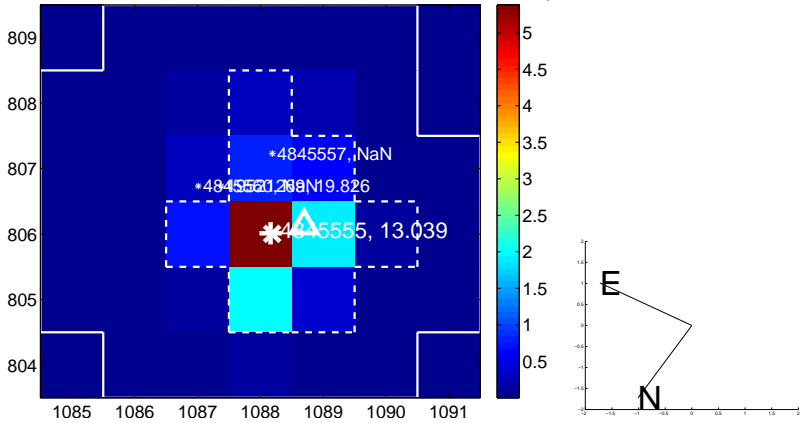
Q6 no OOT image



Q7 difference image. Poor Quality



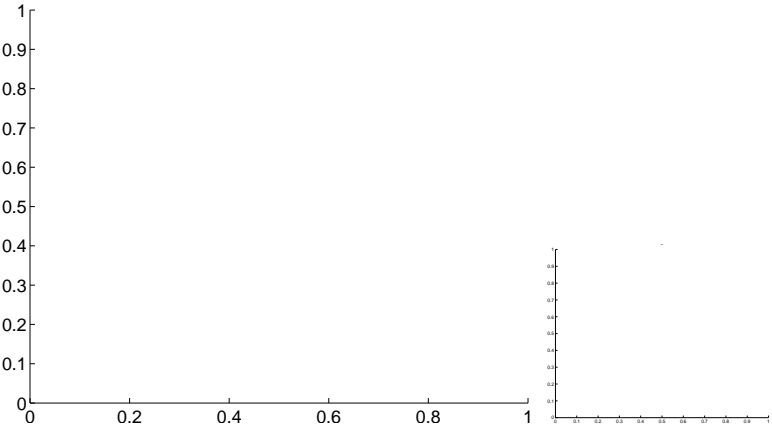
Q7 OOT image



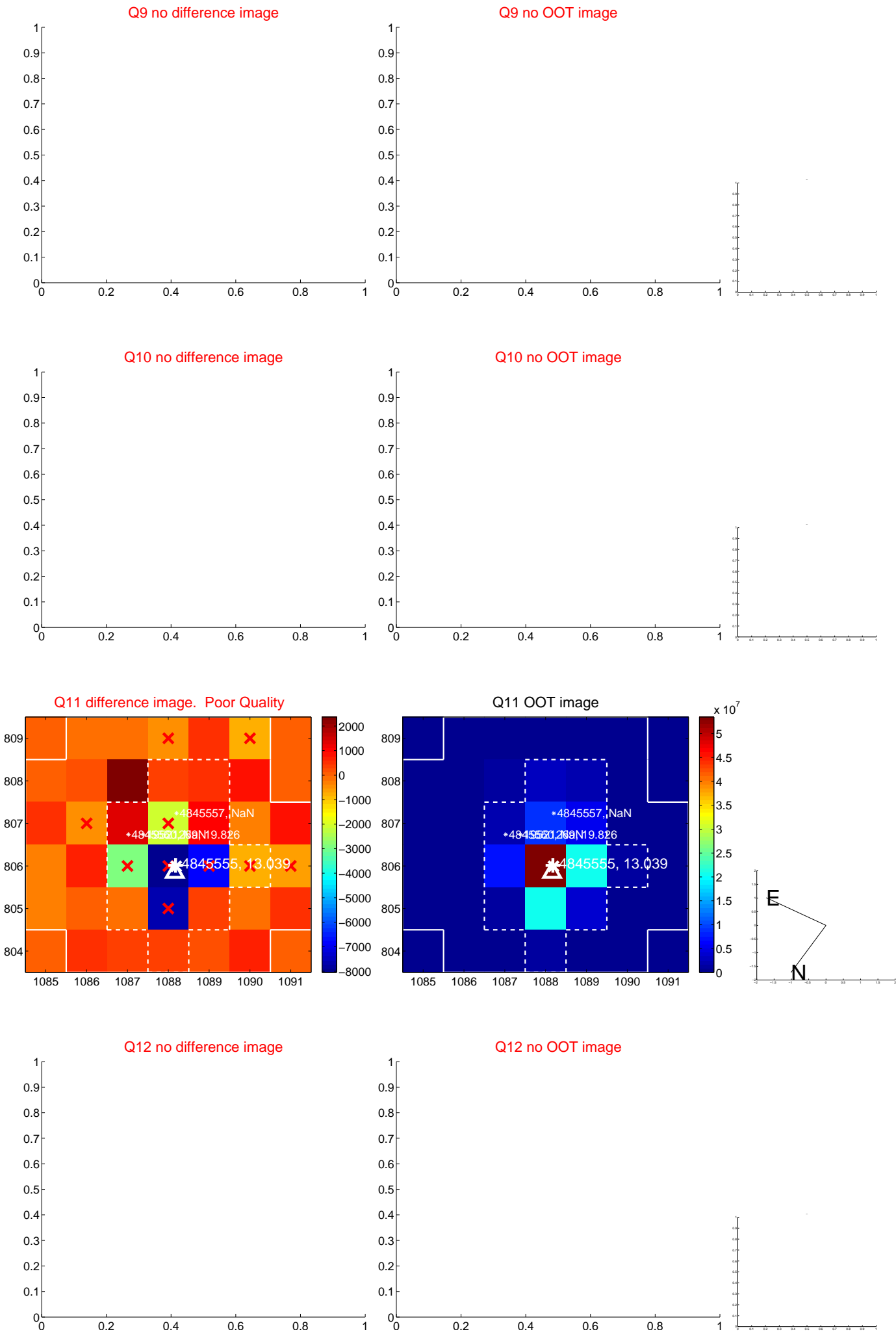
Q8 no difference image



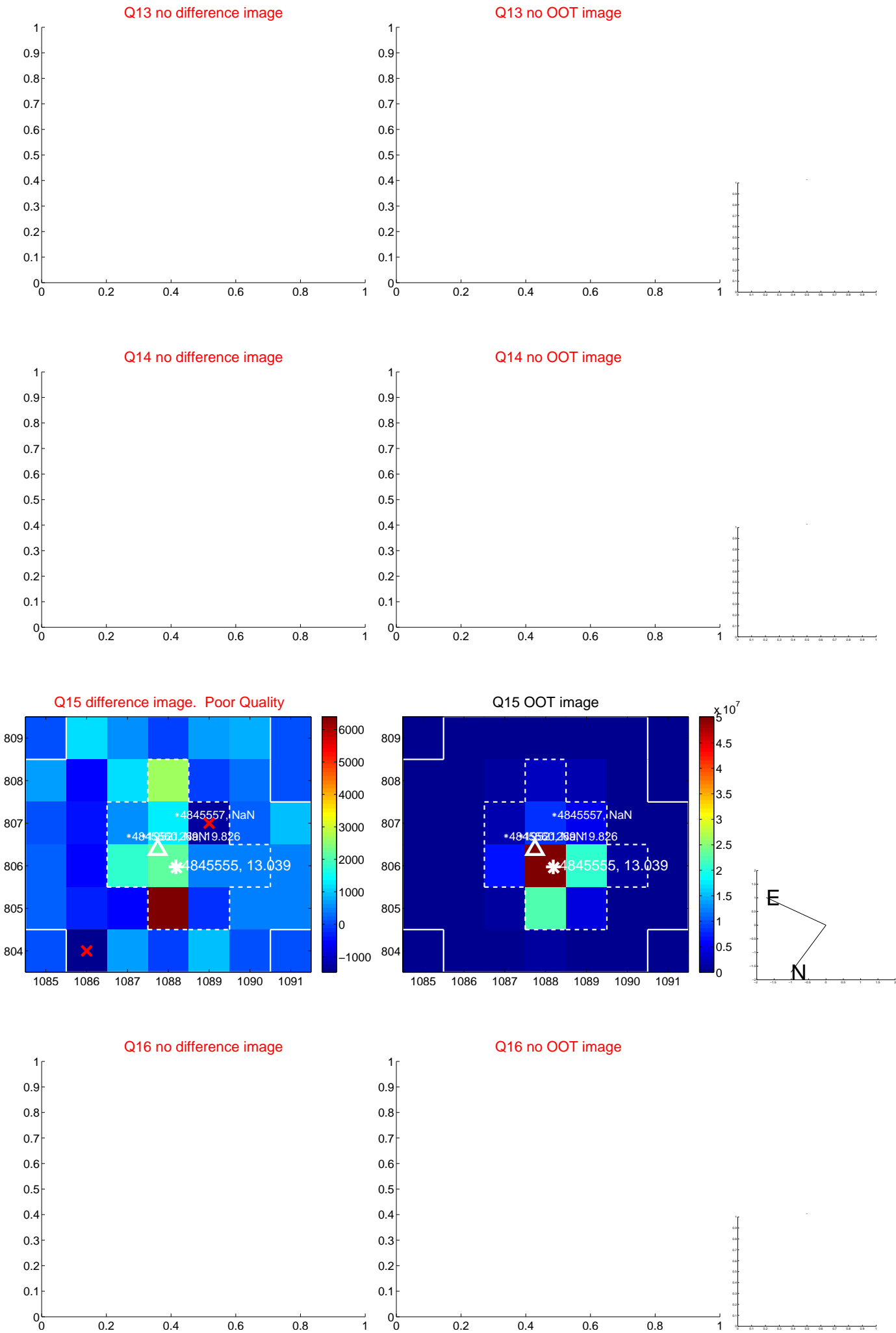
Q8 no OOT image



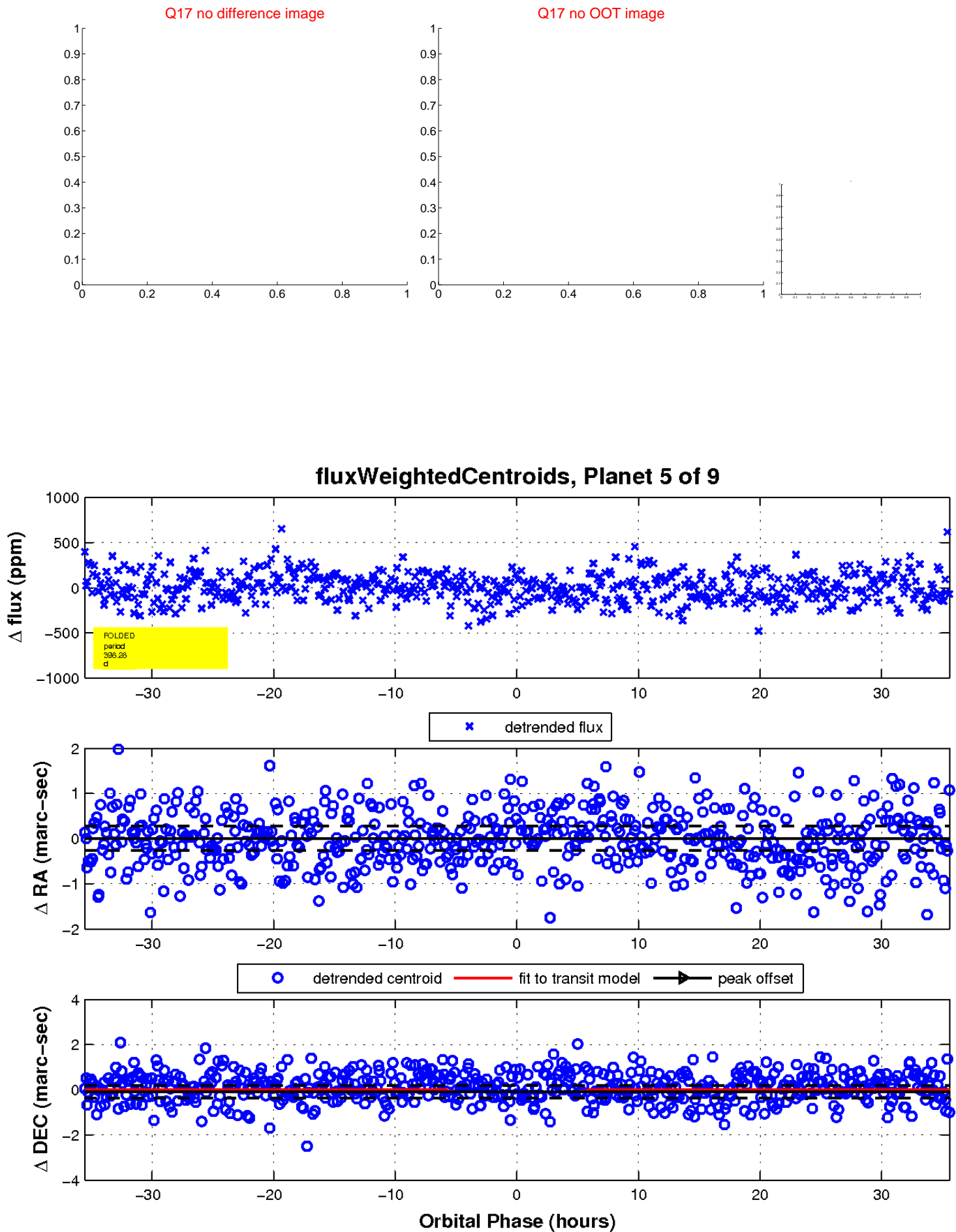
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

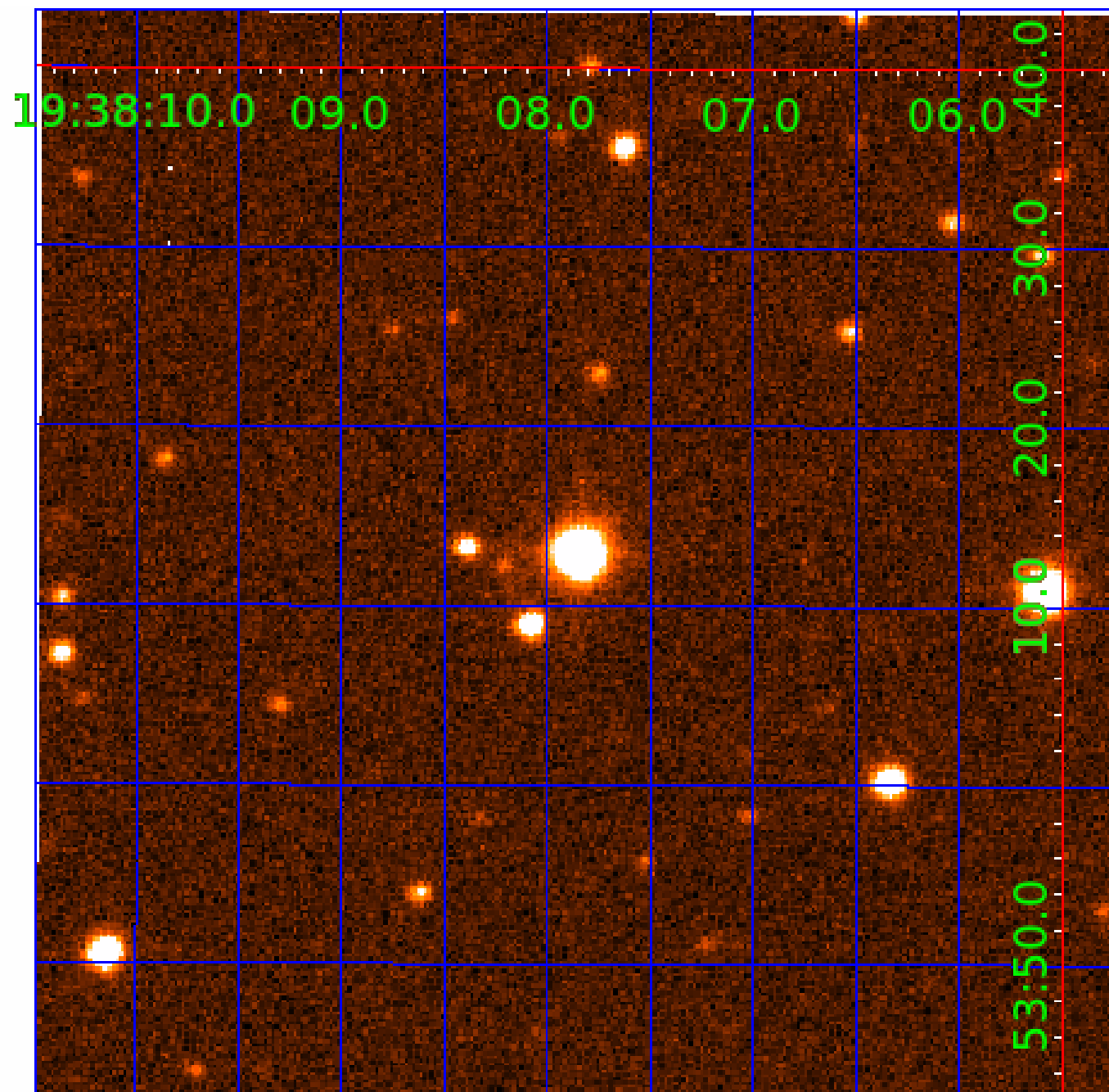


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004845555

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})
004845555-01	OBS	No	2.489558	131.748871	30.1	4.723	9.4	8.0	3.29	6429	2.33	9374.03
004845555-02	OBS	No	2.489164	134.276078	32.0	13.877	9.1	4.5	3.29	6429	1.99	9376.01
004845555-03	OBS	No	17.619521	136.928749	69.7	7.033	8.2	6.8	3.29	6429	3.11	689.86
004845555-04	OBS	No	109.253691	160.791260	339.6	1.599	7.7	7.8	3.29	6429	7.14	60.56
004845555-05	OBS	No	398.282871	264.889448	128.7	11.885	9.1	6.8	3.29	6429	3.99	10.79
004845555-06	OBS	No	552.670174	155.329314	183.9	5.721	7.4	7.1	3.29	6429	5.72	6.97
004845555-07	OBS	No	21.599880	143.419063	155.8	4.577	8.5	9.6	3.29	6429	4.68	525.80
004845555-08	OBS	No	97.707904	208.530444	237.7	3.045	7.3	8.7	3.29	6429	5.78	70.28
004845555-09	OBS	No	54.194665	177.236292	283.5	2.100	7.3	8.7	3.29	6429	7.21	154.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004845555-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004845555-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
004845555-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
004845555-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—CENT_FEW_DIFFS
004845555-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004845555-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT
004845555-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

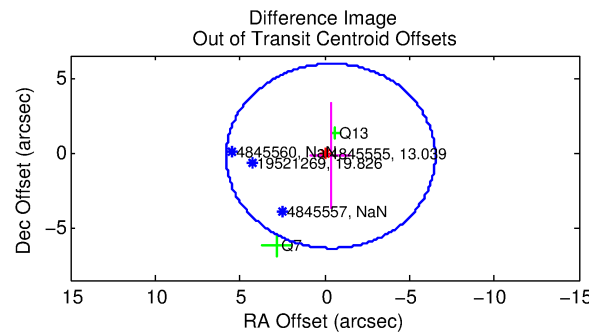
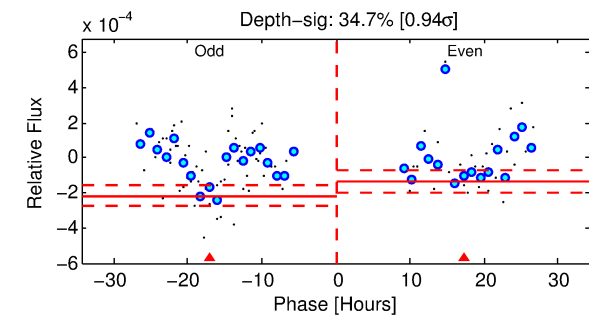
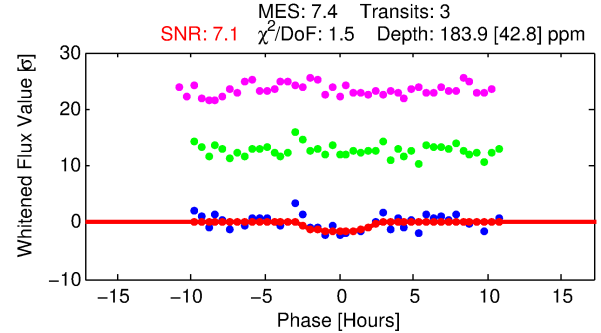
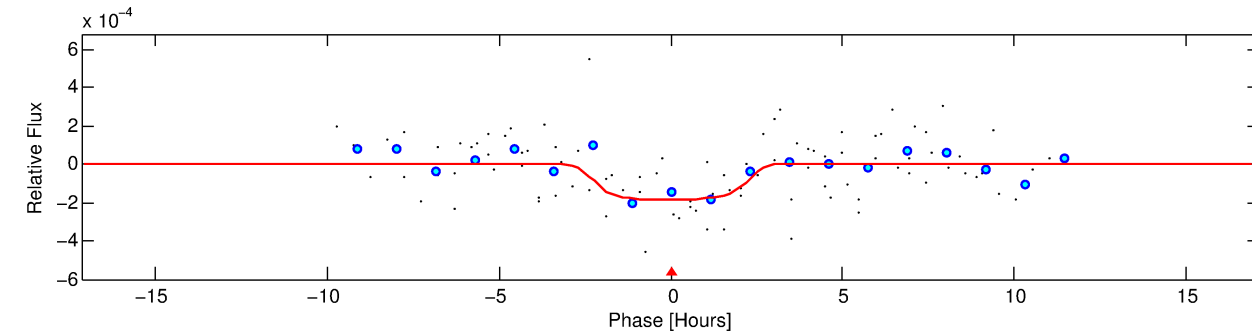
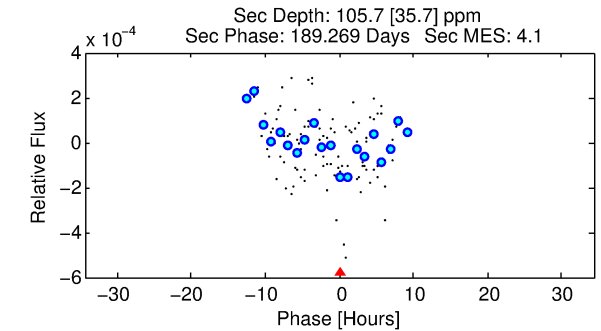
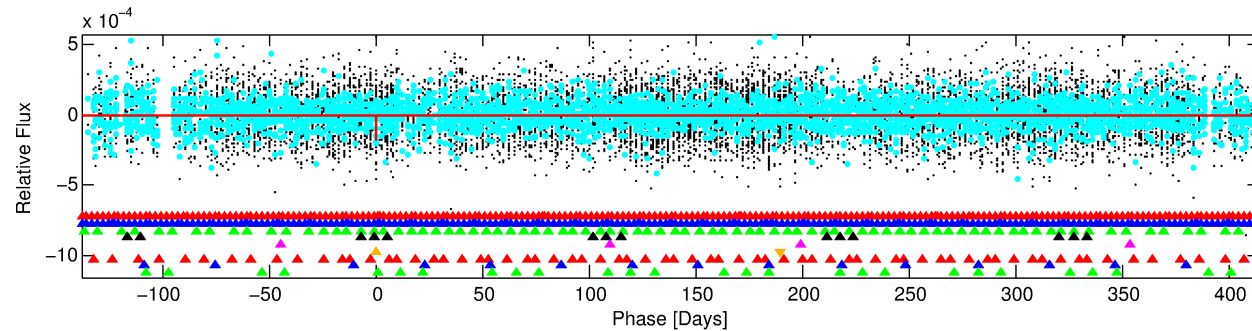
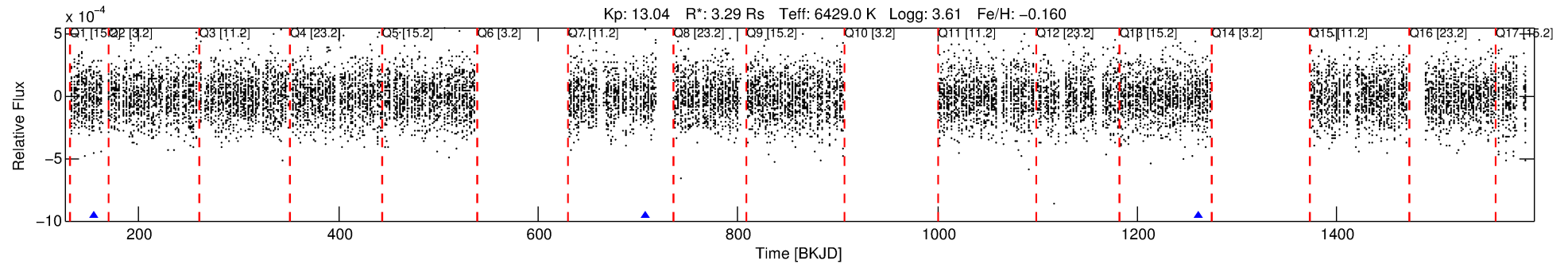
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004845555-06

No Significant Match Found

DV One-Page Summary

KIC: 4845555 Candidate: 6 of 9 Period: 552.670 d



DV Fit Results:

Period = 552.67017 [0.01549] d
Epoch = 155.3293 [0.0196] BKJD
Rp/R* = 0.0159 [0.0030]
a/R* = 226.49 [162.17]
b = 0.97 [0.05]
Seff = 6.97 [4.01]
Teq = 414 [60] K
Rp = 5.72 [2.44] Re
a = 1.5404 [0.5525] AU
Ag = 4220.59 [3194.55] [1.32 σ]
Teffp = 5164 [666] K [7.11 σ]

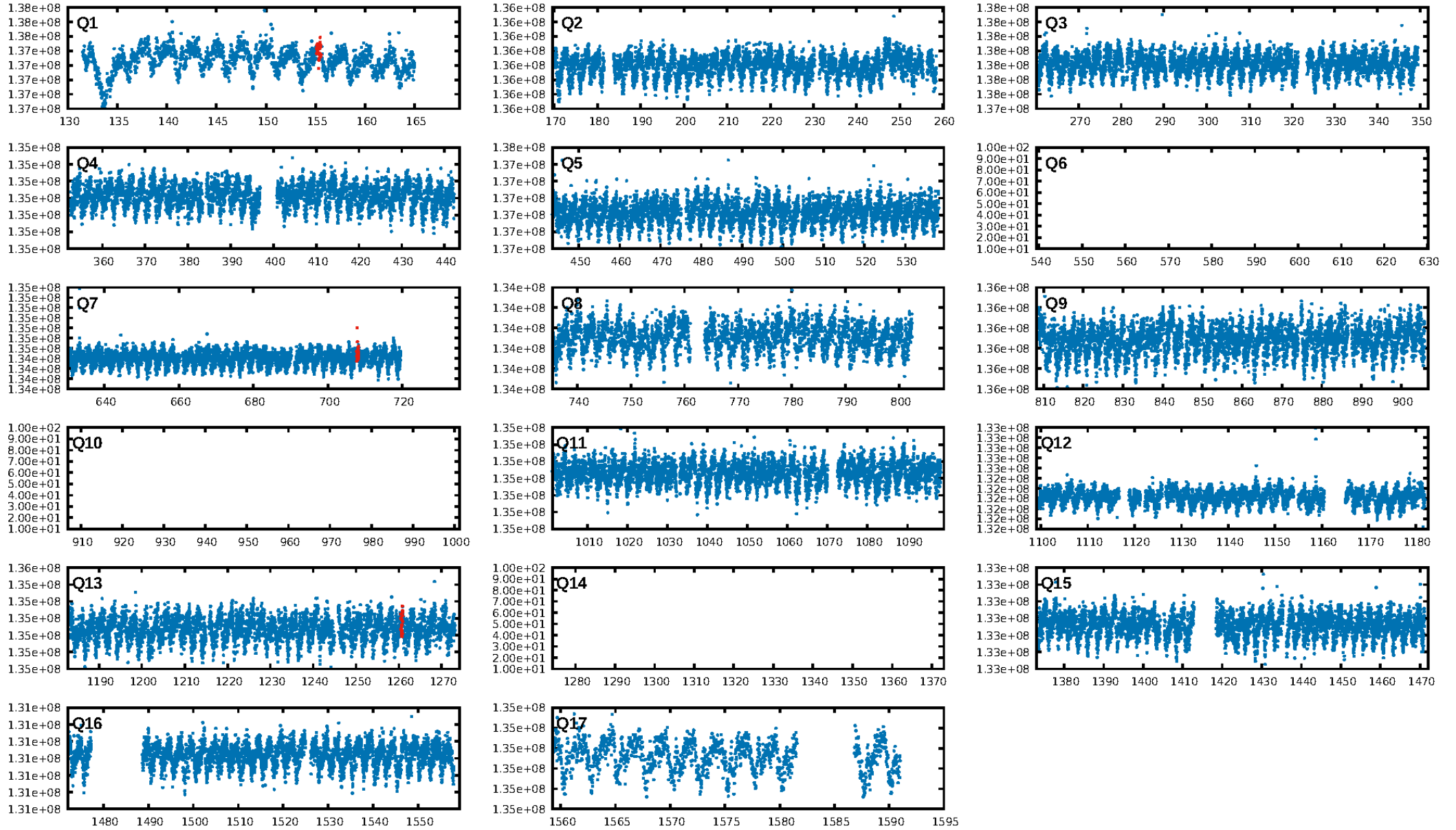
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [280.91 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 26.8%
ModelChiSquareGof-sig: 84.7%
Bootstrap-pfa: 5.47e-08
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 61.58
Centroid-sig: 6.8%
Centroid-so: 3.666 arcsec [1.50 σ]
OotOffset-rm: 0.424 arcsec [0.21 σ]
OotOffset-st: 0/1/0/1 [2]
KicOffset-rm: 0.433 arcsec [0.22 σ]
KicOffset-st: 0/1/0/1 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.67 [2/3]

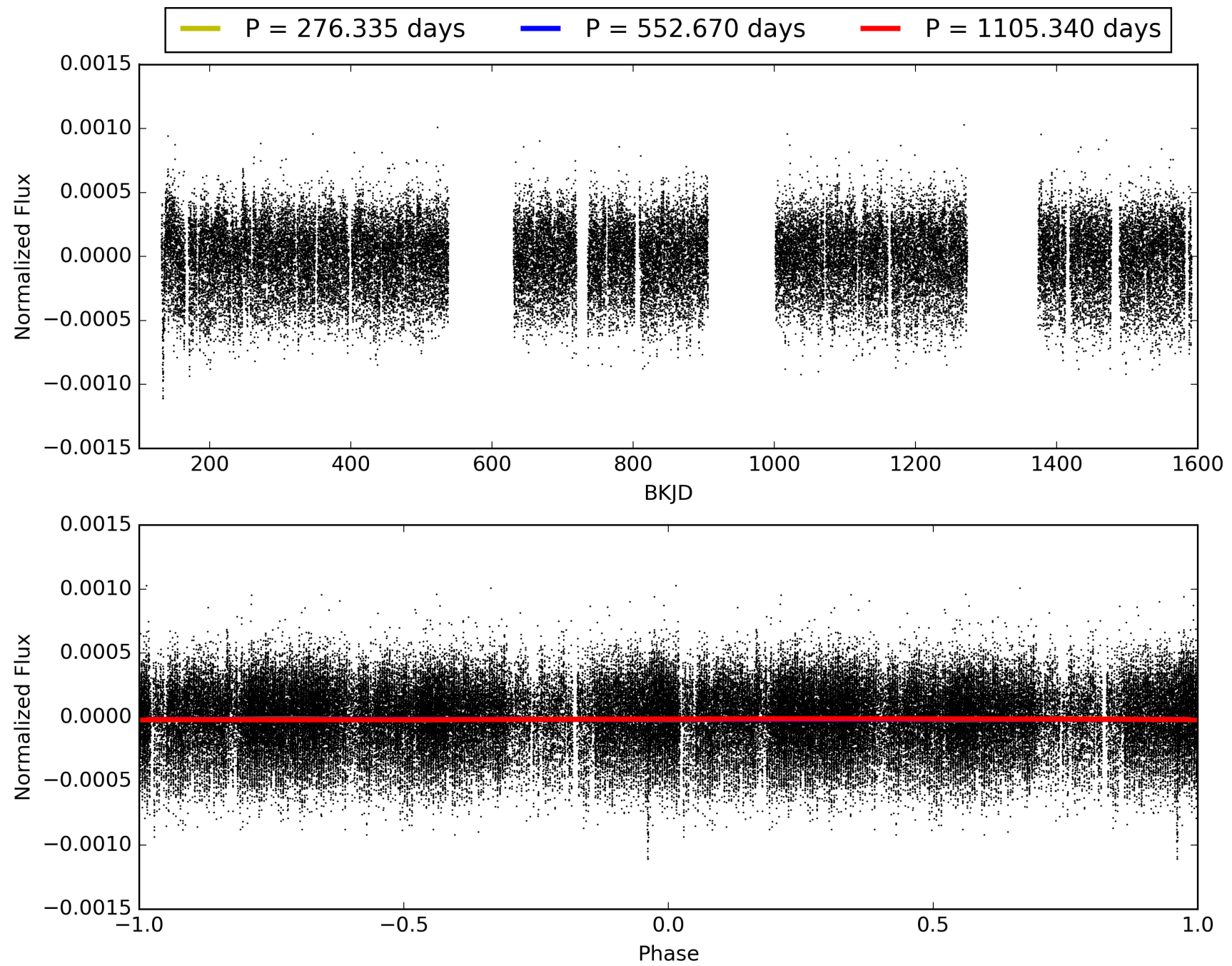
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:12:27 Z

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

TCE 004845555-06, PDC Light Curves

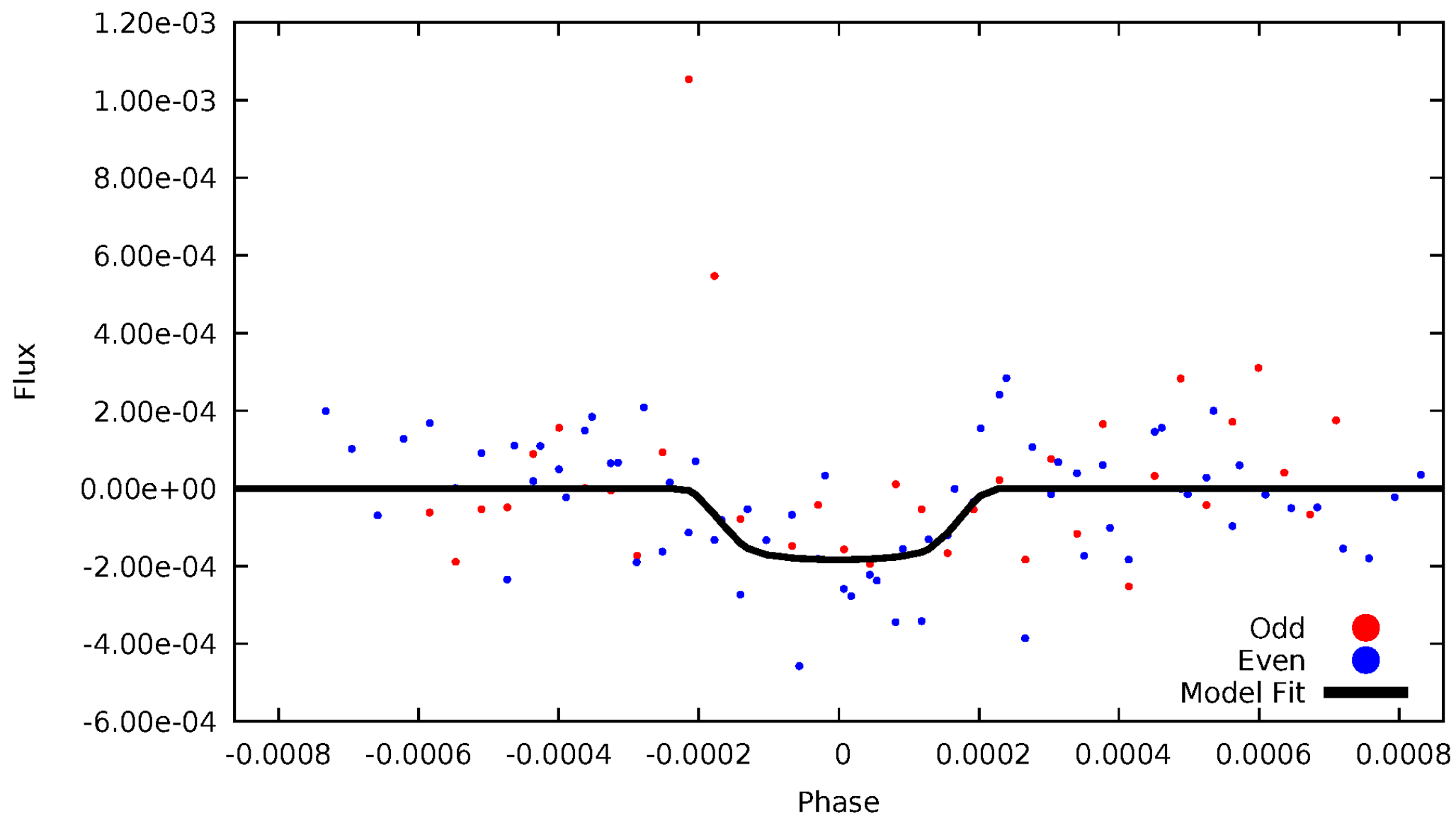


TCE 004845555-06



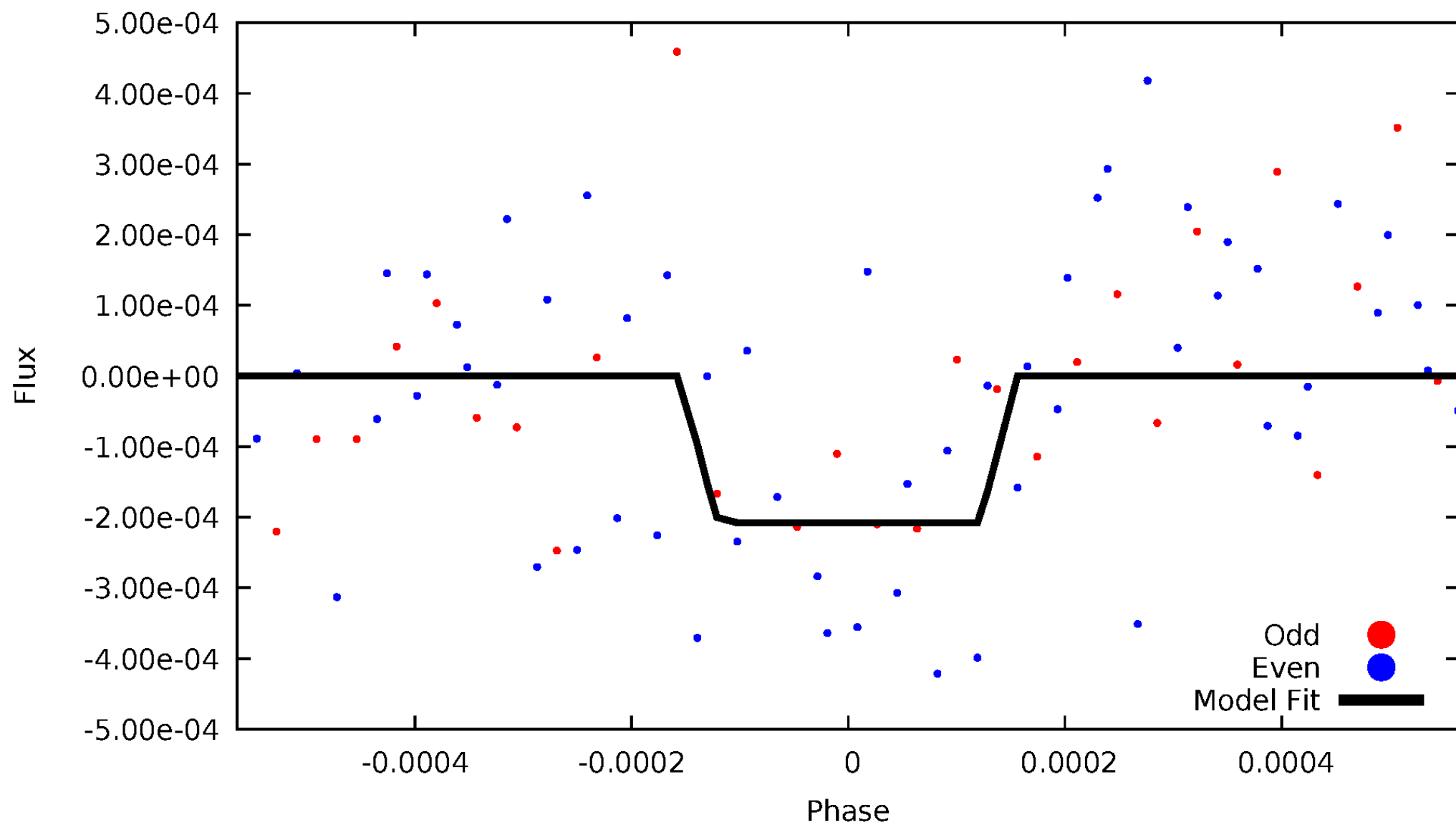
DV Odd/Even

TCE 004845555-06



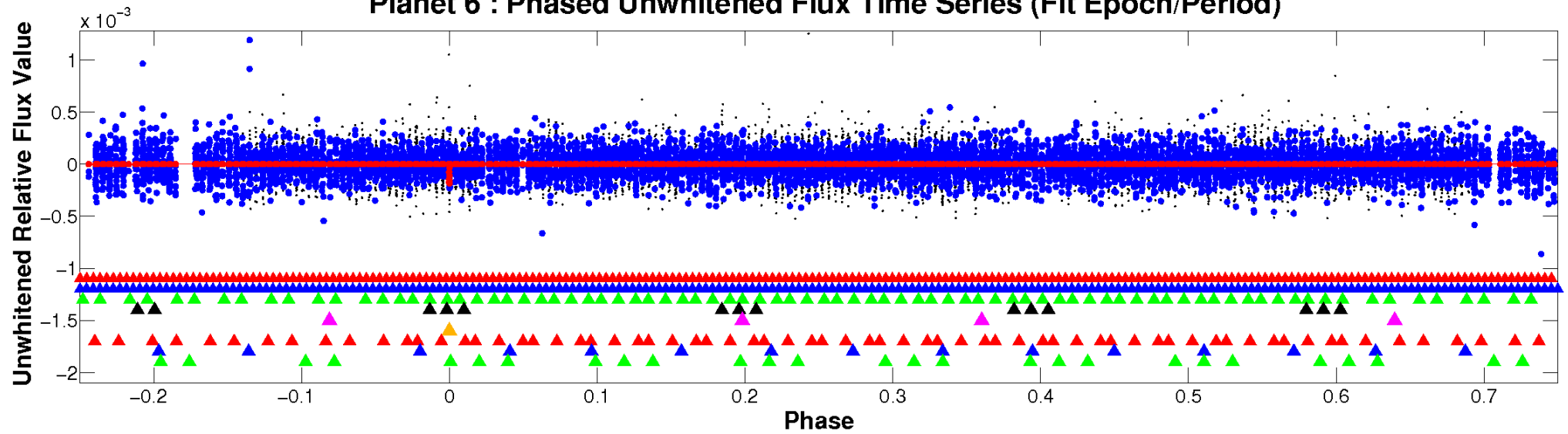
ALT Odd/Even

TCE 004845555-06

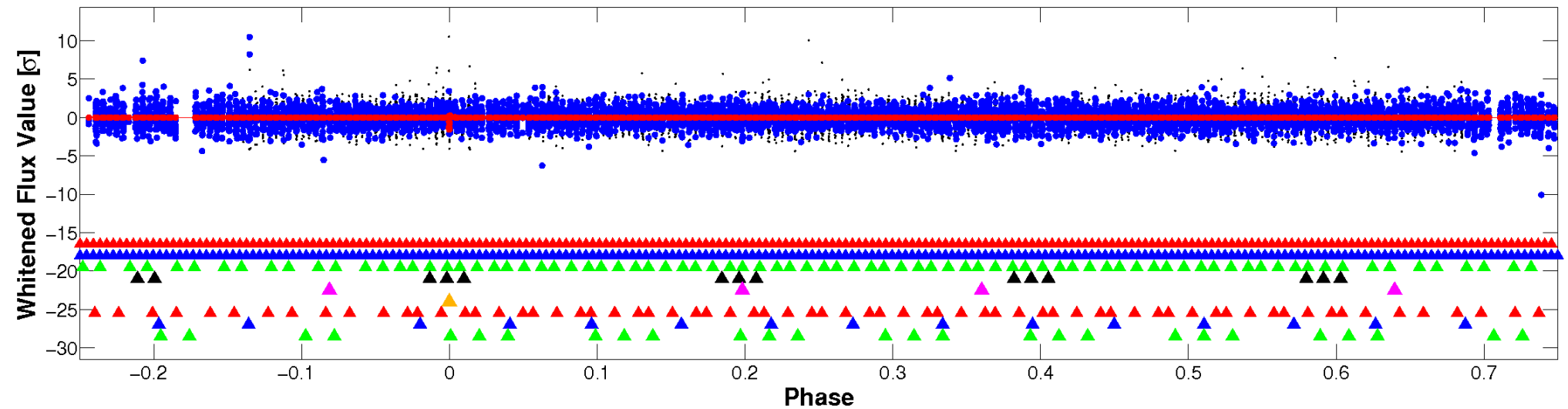


Non-Whitened Vs. Whitened Light Curve

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

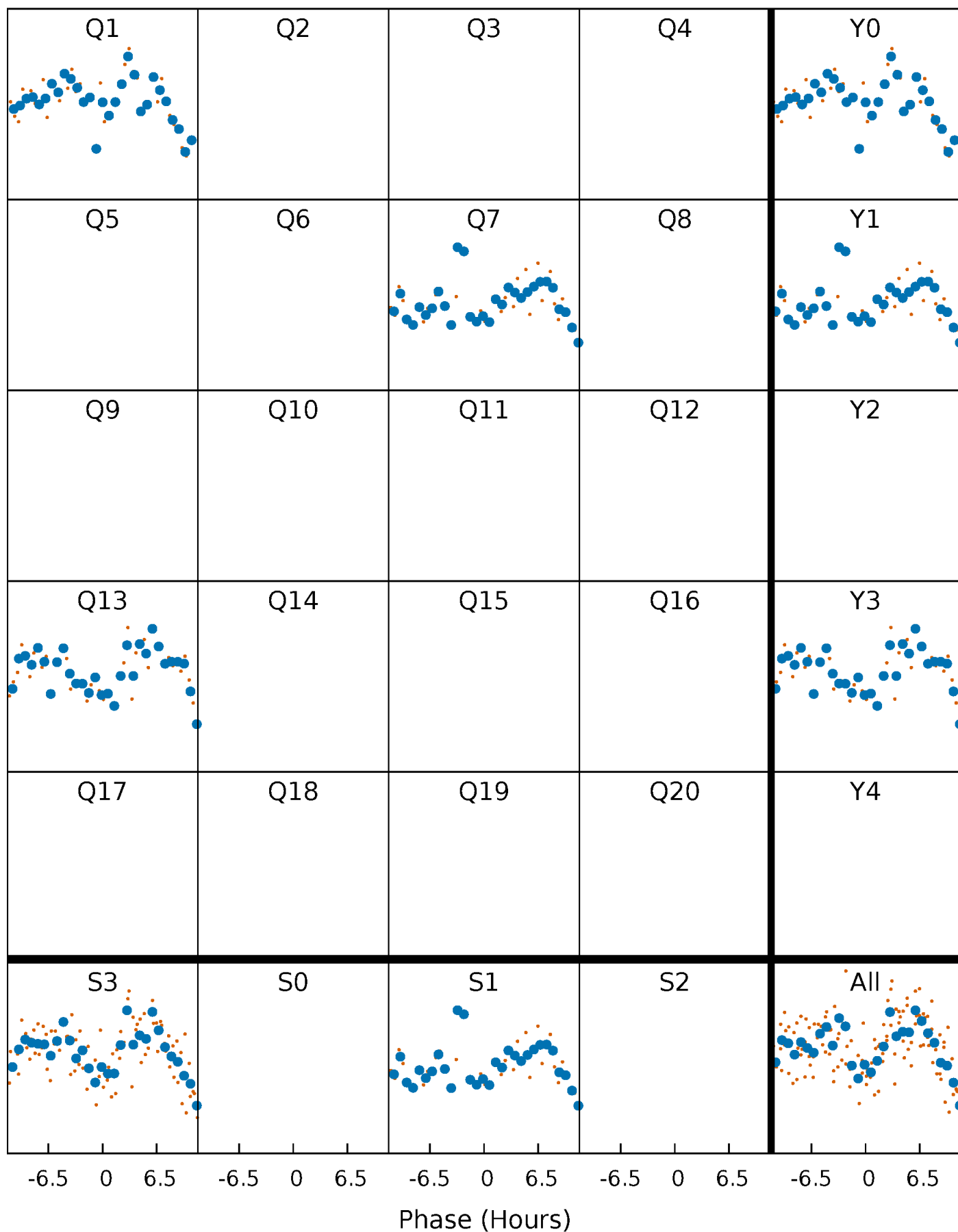


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



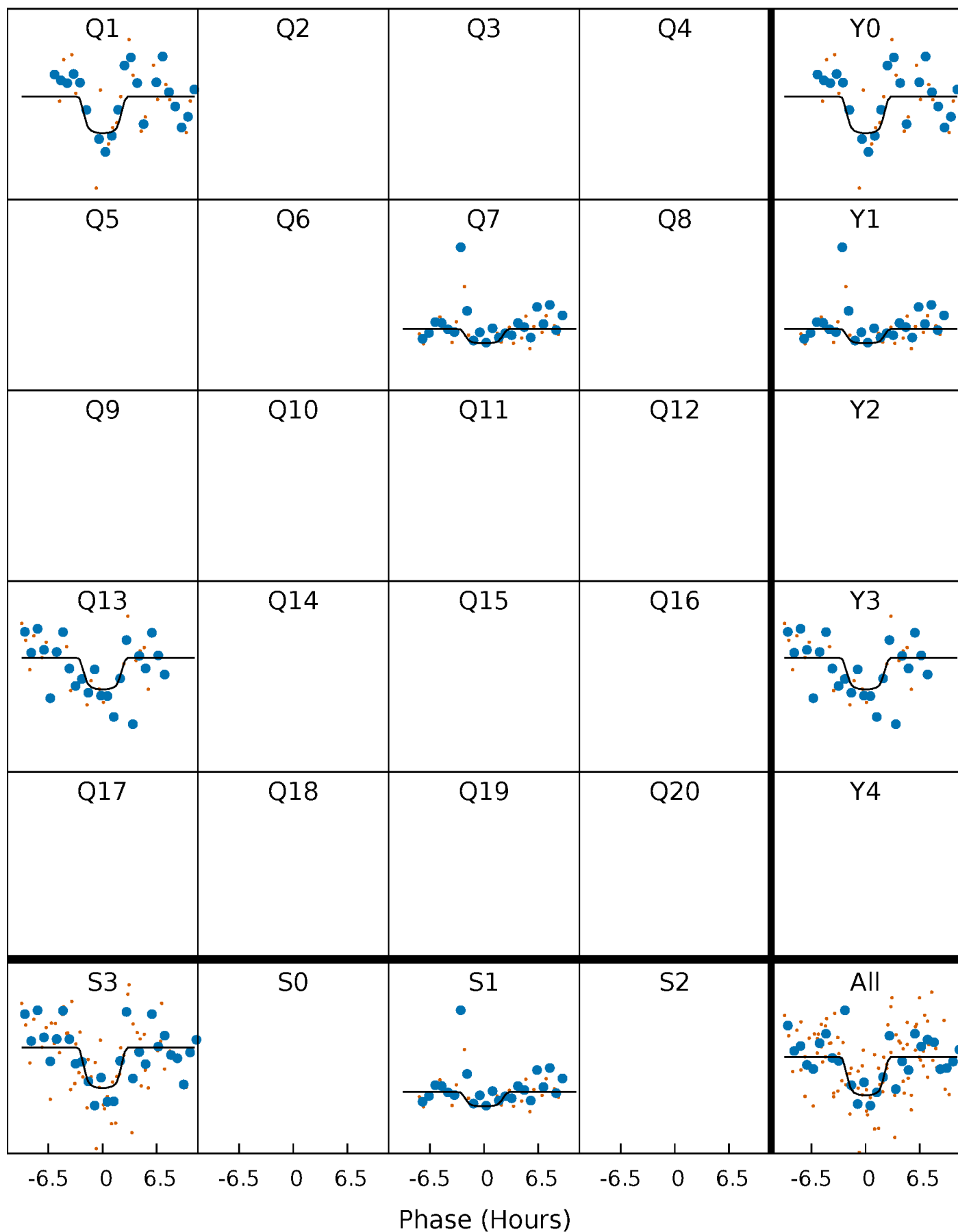
PDC Quarter-Phased Transit Curves

TCE 004845555-06 P=552.670174 Days $T_0=155.329314$ (BKJD)



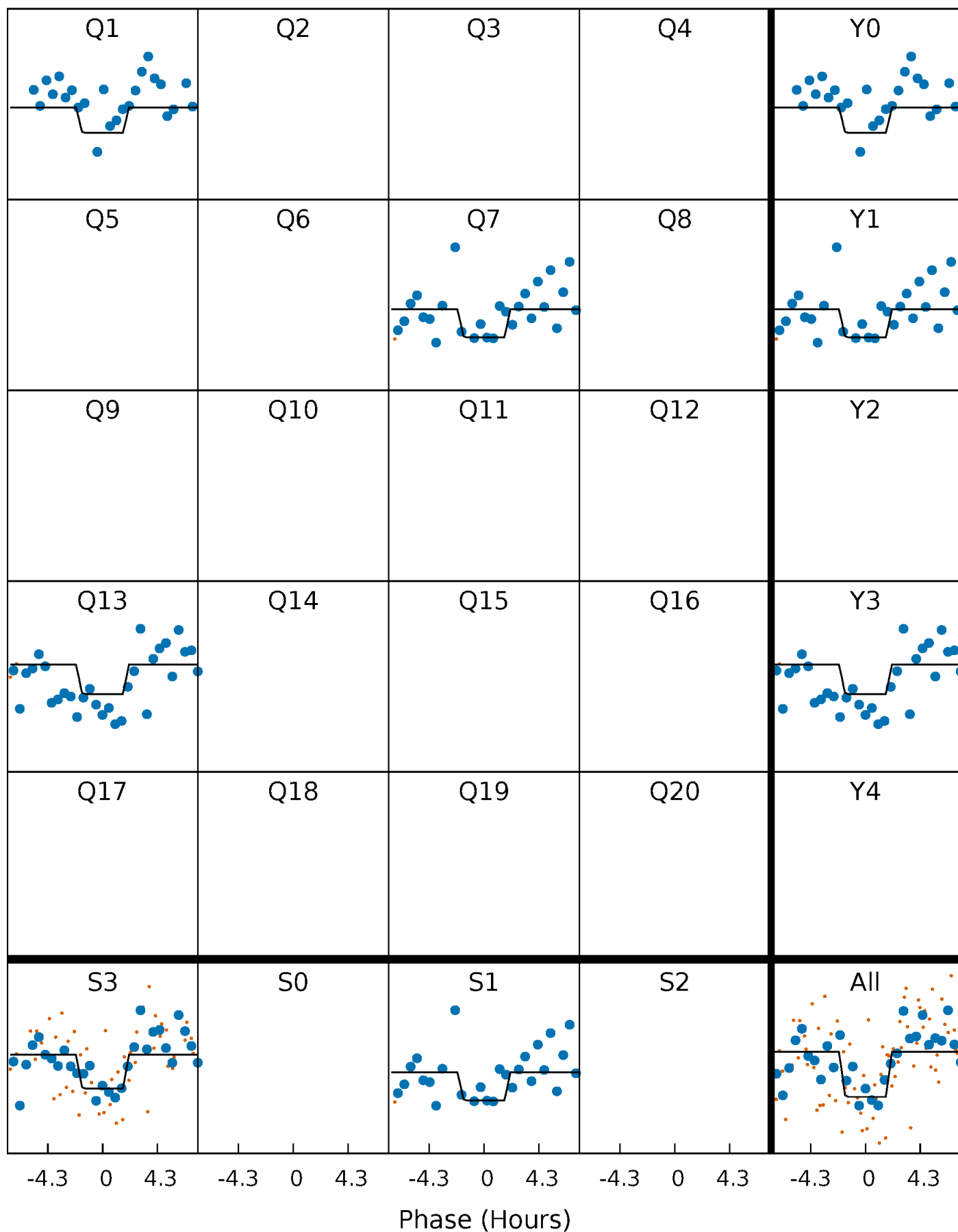
DV Quarter-Phased Transit Curves

TCE 004845555-06 P=552.670174 Days $T_0=155.329314$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

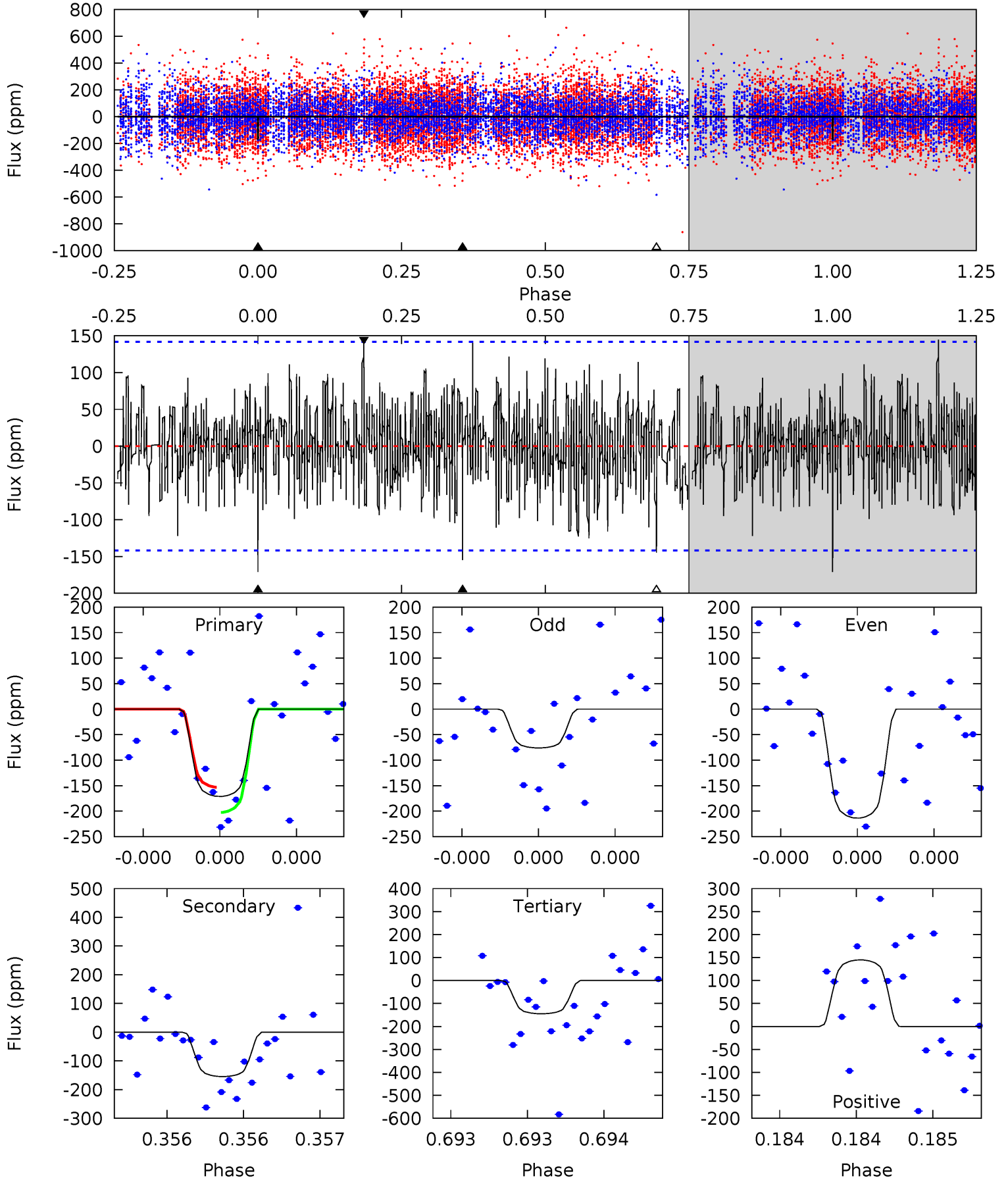
TCE 004845555-06 P=552.680120 Days $T_0=155.308793$ (BKJD)



DV Model-Shift Uniqueness Test

004845555-06, P = 552.670174 Days, E = 155.329314 Days

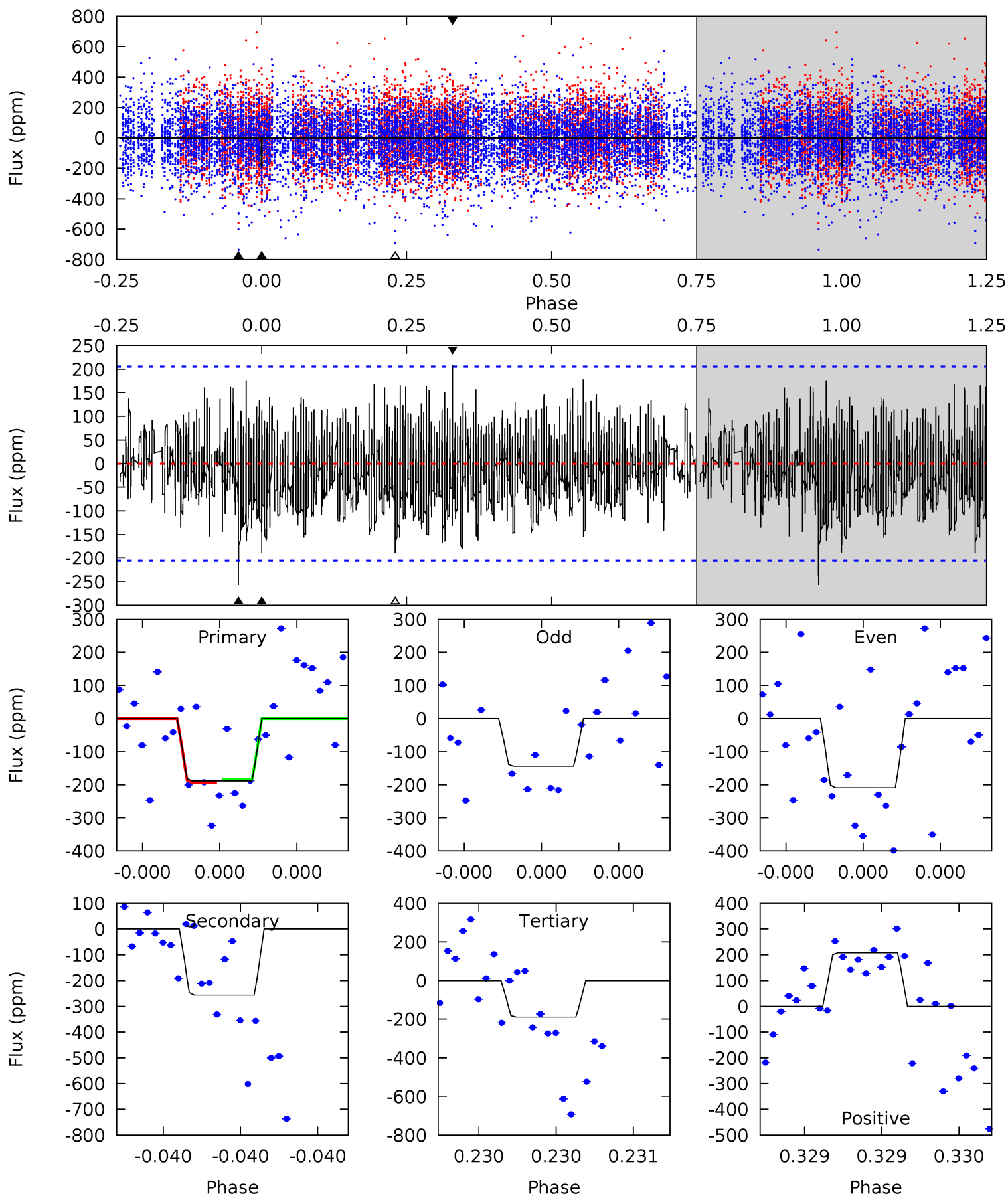
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.75	6.09	5.71	5.71	5.59	3.51	1.62	1.04	1.04	0.39	0.39	2.54	0.90	0.46	0.94



Alt Model-Shift Uniqueness Test

004845555-06, P = 552.680120 Days, E = 155.308793 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.21	7.08	5.22	5.74	5.67	3.63	1.65	-0.02	-0.54	1.86	1.34	0.86	1.25	0.45	0.11



Stellar Parameters For KIC 004845555

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6429^{+155}_{-175}	$3.607^{+0.328}_{-0.082}$	$-0.160^{+0.350}_{-0.250}$	$3.288^{+0.420}_{-1.260}$	$1.596^{+0.203}_{-0.376}$	$0.063^{+0.162}_{-0.016}$
	+2%/-3%	+9%/-2%	+219%/-156%	+13%/-38%	+13%/-24%	+256%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004845555-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-155 ± 25	$5.36^{+1.37}_{-1.38}$	568^{+32}_{-51}	5689^{+680}_{-490}	7106^{+5668}_{-2756}
Alt.	-257 ± 36	$4.79^{+1.38}_{-1.22}$	570^{+28}_{-52}	6810^{+1106}_{-702}	14656^{+11646}_{-5875}

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

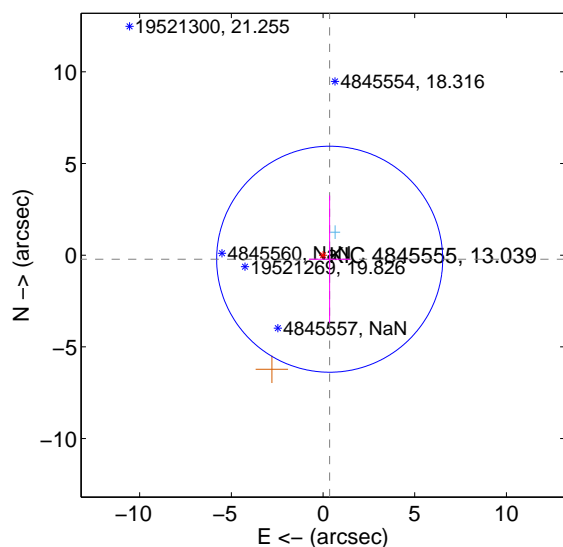
Supplemental centroid analysis for 004845555-06. Kepler magnitude: 13.04. Transit SNR 7.09

There are 1 quarters with good PRF difference image offsets

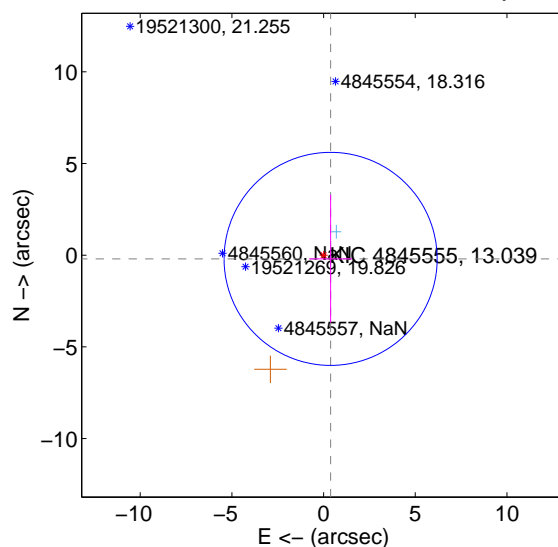
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.424 ± 2.054	0.21	-0.362 ± 1.135	-0.221 ± 3.478
PRF-fit source offset from KIC position	0.433 ± 1.936	0.22	-0.383 ± 1.182	-0.202 ± 3.490
photometric centroid source offset	3.67 ± 2.44	1.50	3.36 ± 2.48	1.46 ± 2.25

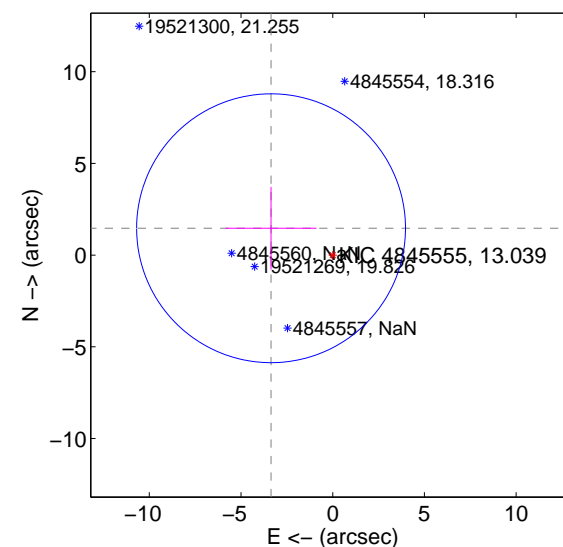
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

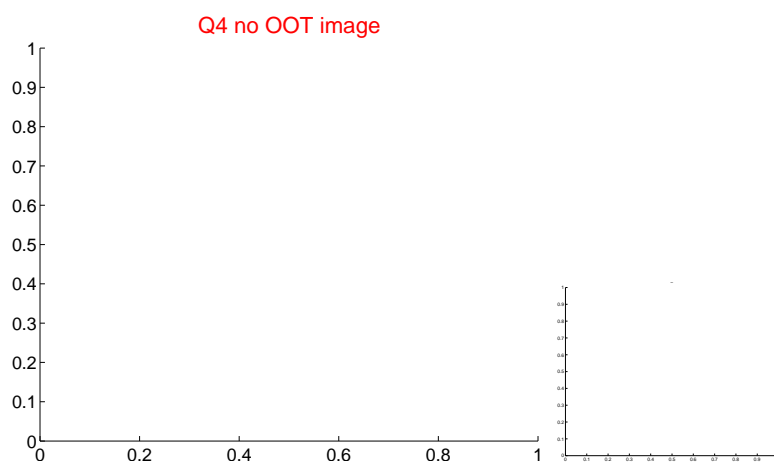
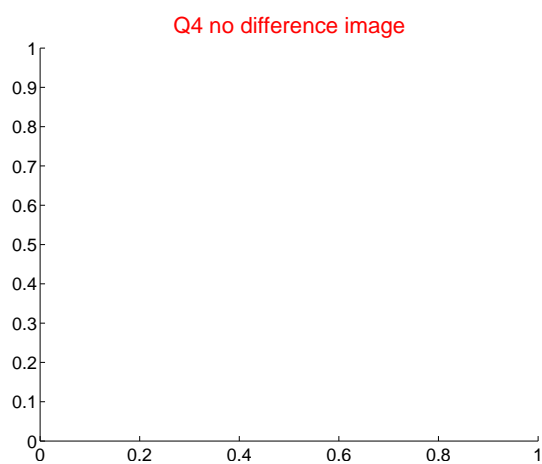
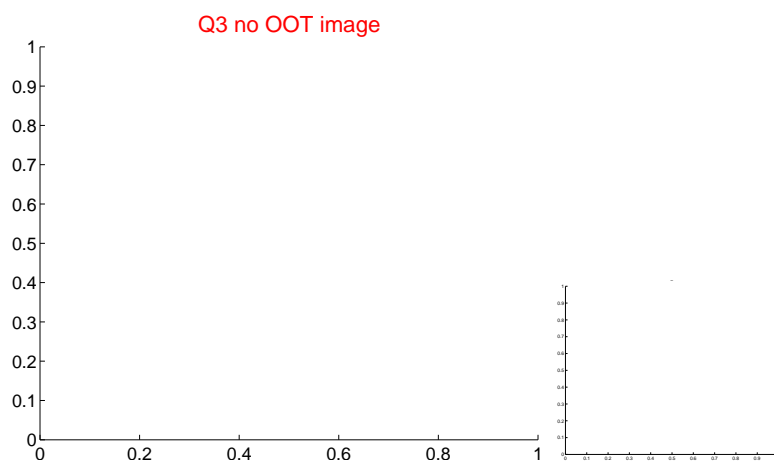
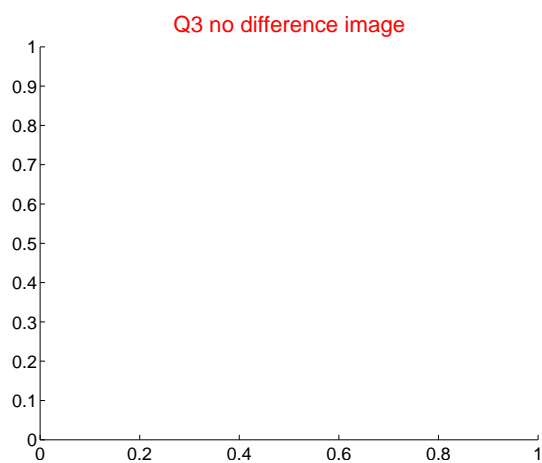
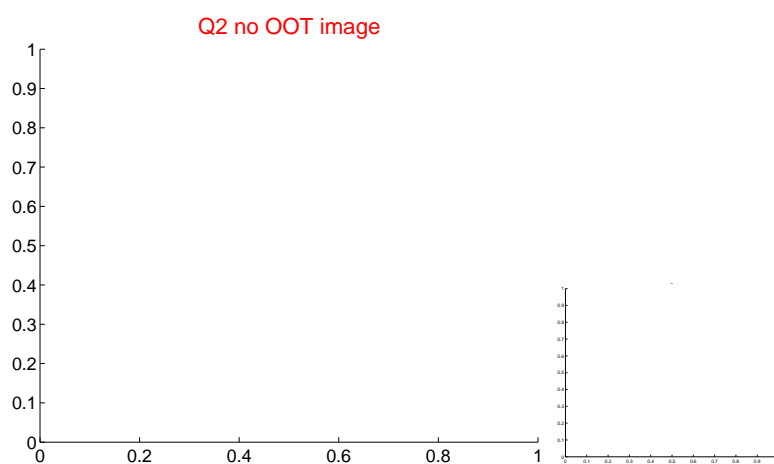
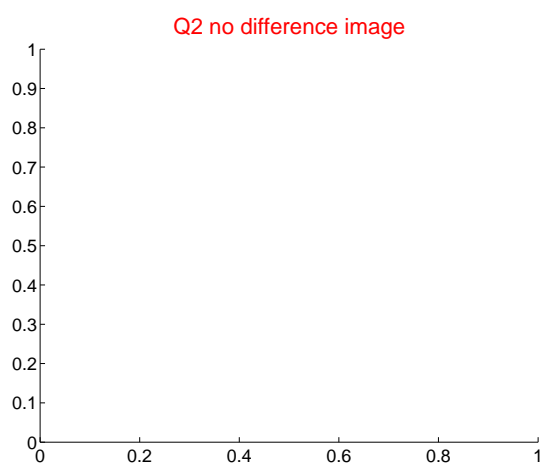
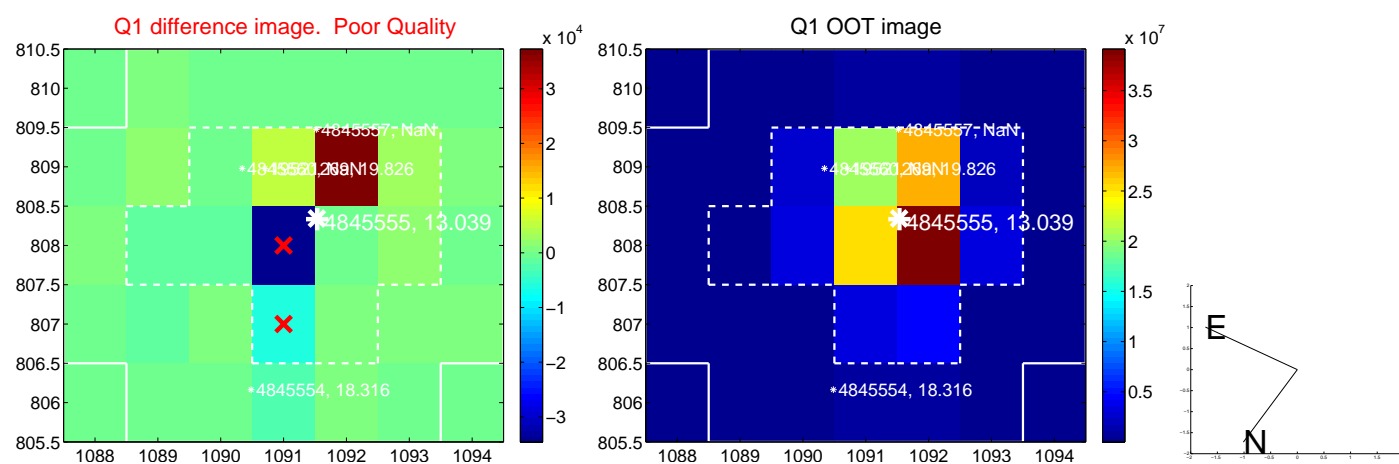


offset from photometric centroids

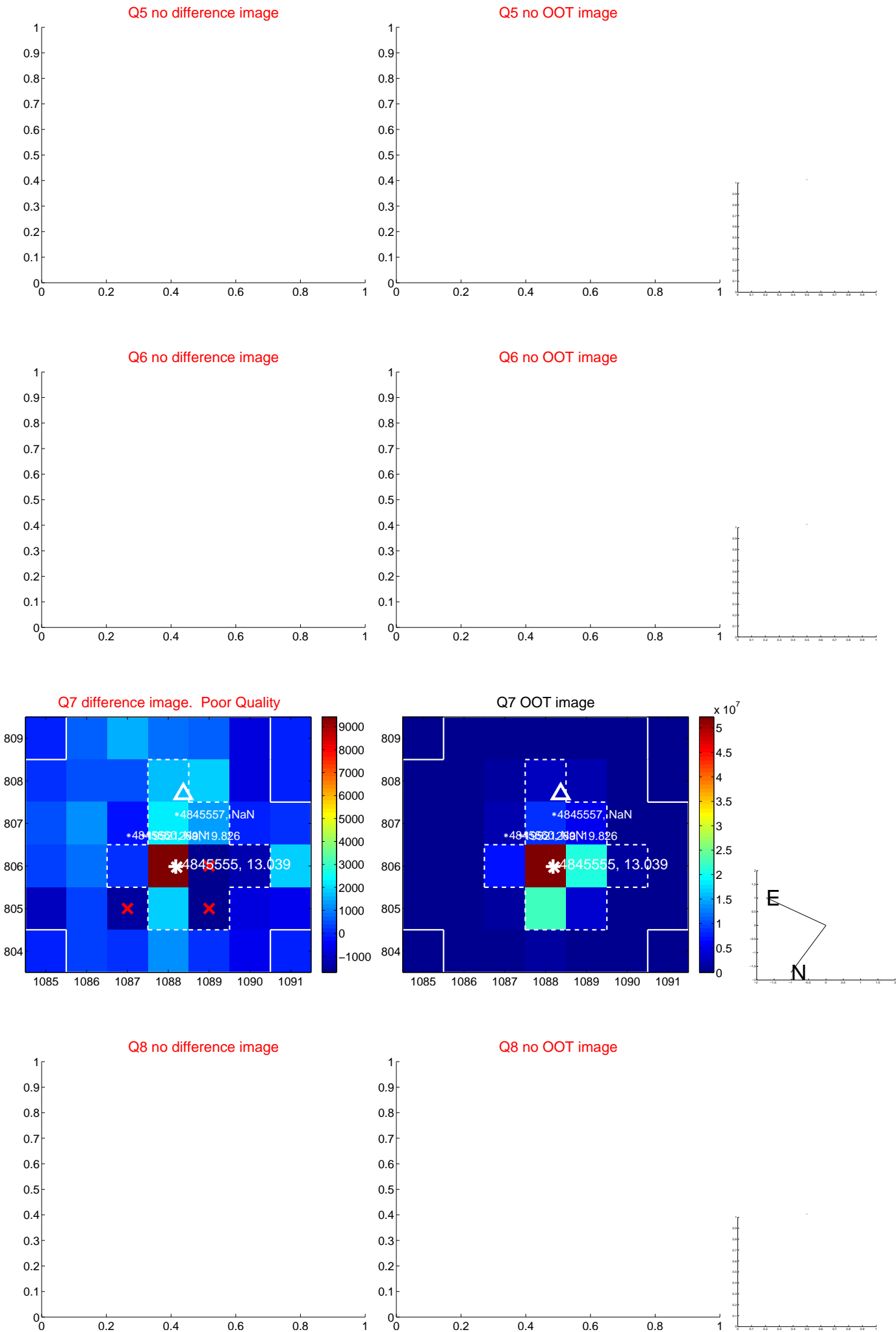


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



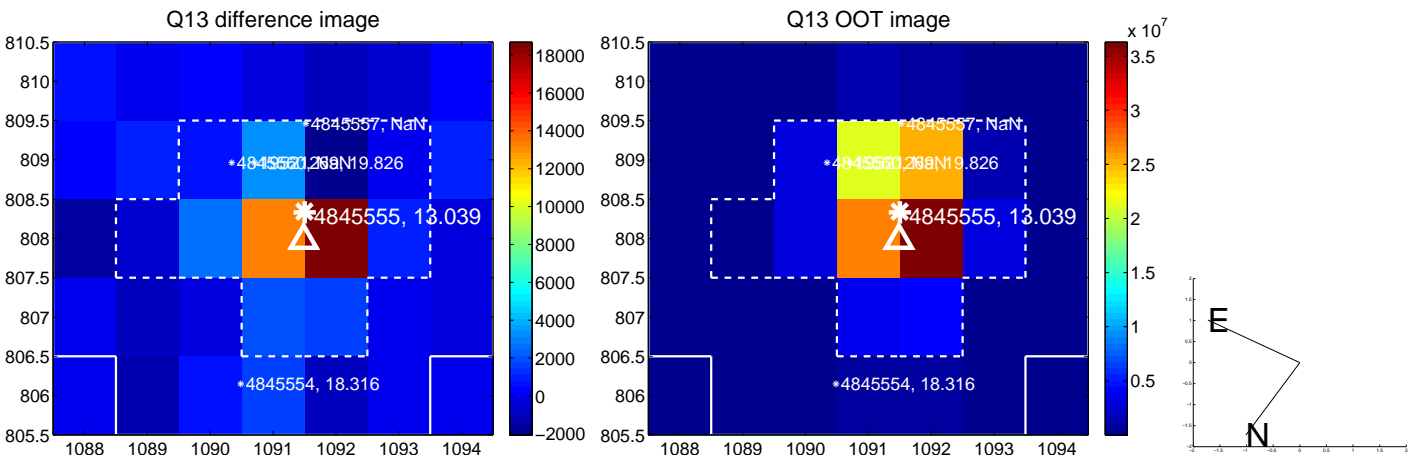
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



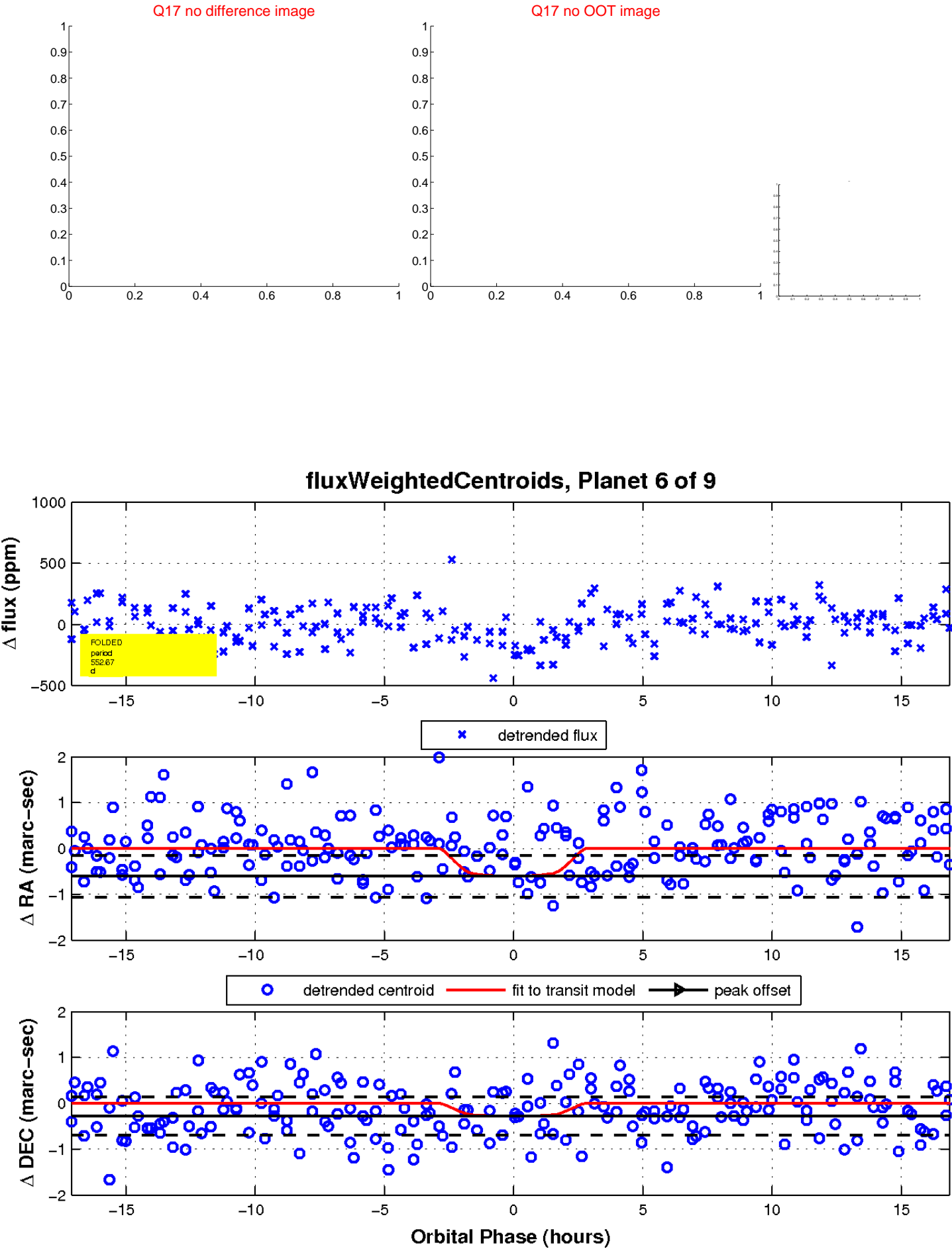
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

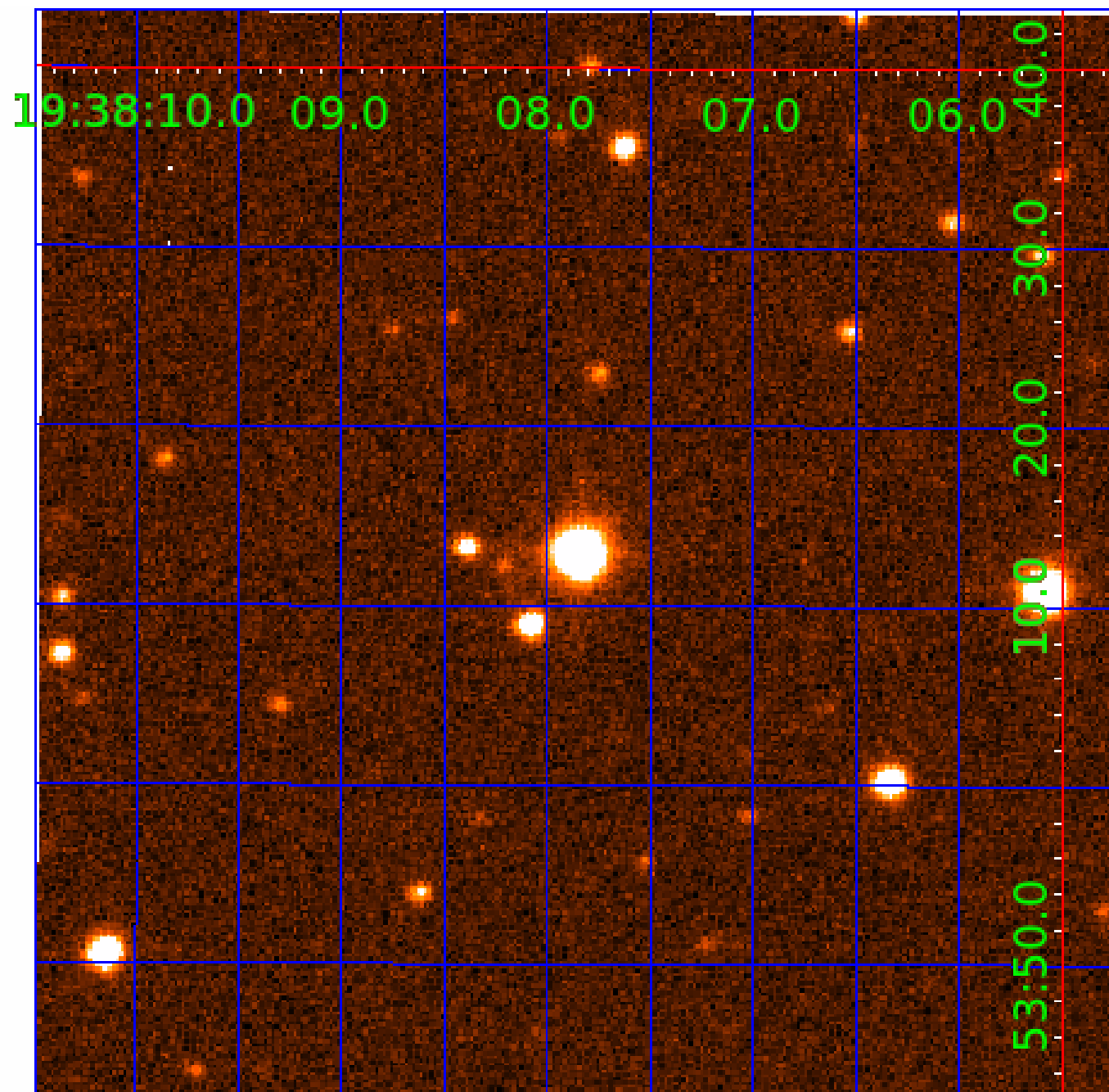


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004845555

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})
004845555-01	OBS	No	2.489558	131.748871	30.1	4.723	9.4	8.0	3.29	6429	2.33	9374.03
004845555-02	OBS	No	2.489164	134.276078	32.0	13.877	9.1	4.5	3.29	6429	1.99	9376.01
004845555-03	OBS	No	17.619521	136.928749	69.7	7.033	8.2	6.8	3.29	6429	3.11	689.86
004845555-04	OBS	No	109.253691	160.791260	339.6	1.599	7.7	7.8	3.29	6429	7.14	60.56
004845555-05	OBS	No	398.282871	264.889448	128.7	11.885	9.1	6.8	3.29	6429	3.99	10.79
004845555-06	OBS	No	552.670174	155.329314	183.9	5.721	7.4	7.1	3.29	6429	5.72	6.97
004845555-07	OBS	No	21.599880	143.419063	155.8	4.577	8.5	9.6	3.29	6429	4.68	525.80
004845555-08	OBS	No	97.707904	208.530444	237.7	3.045	7.3	8.7	3.29	6429	5.78	70.28
004845555-09	OBS	No	54.194665	177.236292	283.5	2.100	7.3	8.7	3.29	6429	7.21	154.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004845555-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004845555-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
004845555-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
004845555-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—CENT_FEW_DIFFS
004845555-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004845555-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT
004845555-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

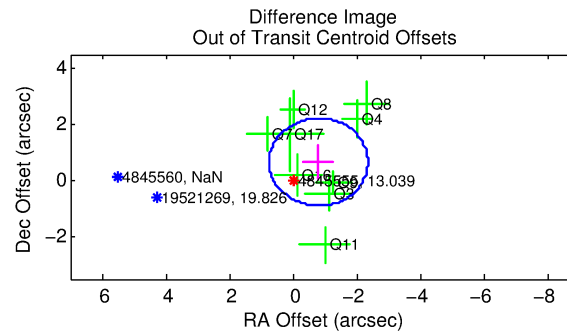
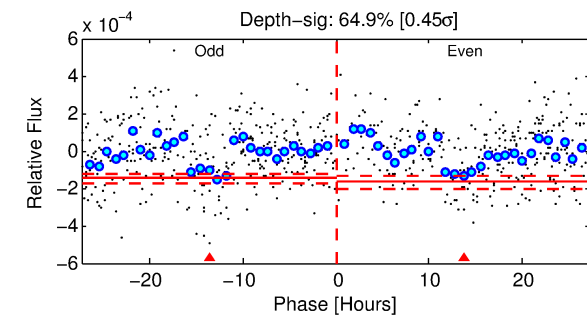
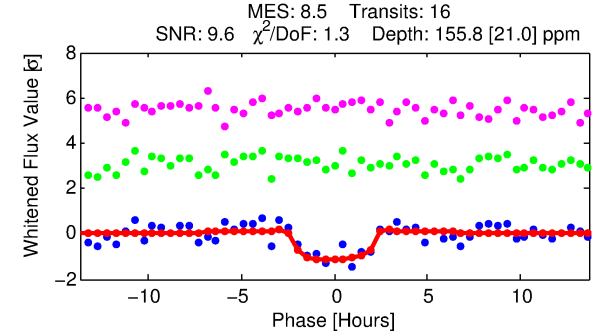
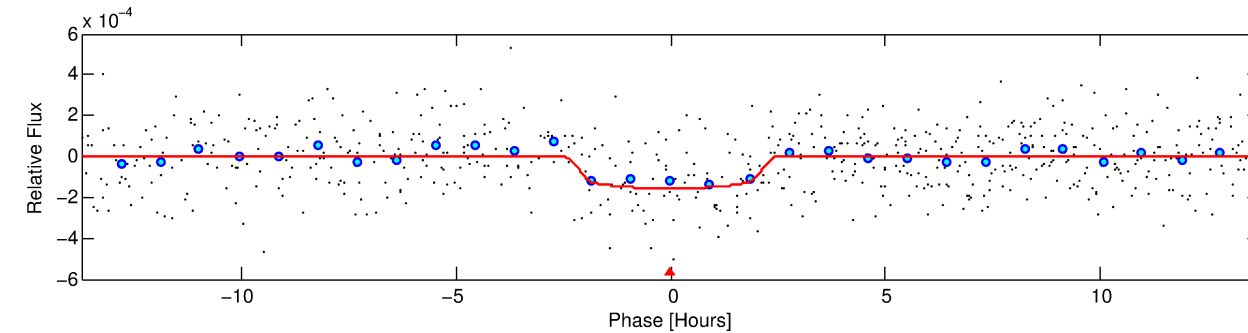
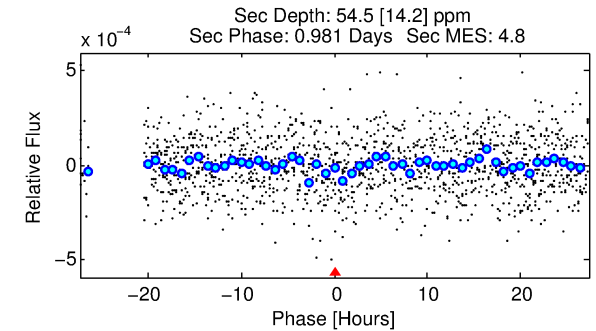
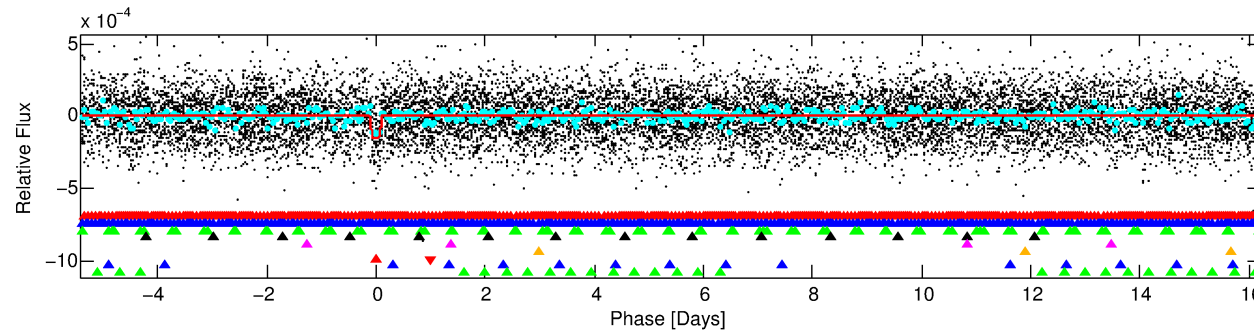
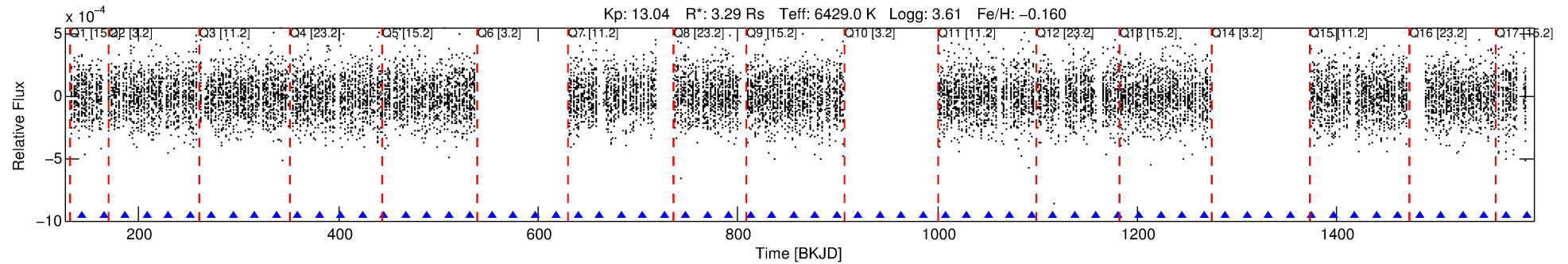
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004845555-07

No Significant Match Found

DV One-Page Summary

KIC: 4845555 Candidate: 7 of 9 Period: 21.600 d



DV Fit Results:

Period = 21.59988 [0.00028] d
Epoch = 143.4191 [0.0106] BKJD
Rp/R* = 0.0131 [0.0083]
a/R* = 18.94 [66.95]
b = 0.87 [1.03]
Seff = 525.80 [302.34]
Teq = 1221 [176] K
Rp = 4.68 [3.47] Re
a = 0.1774 [0.0636] AU
Ag = 43.01 [60.78] [0.69σ]
Teffp = 4835 [1571] K [2.29σ]

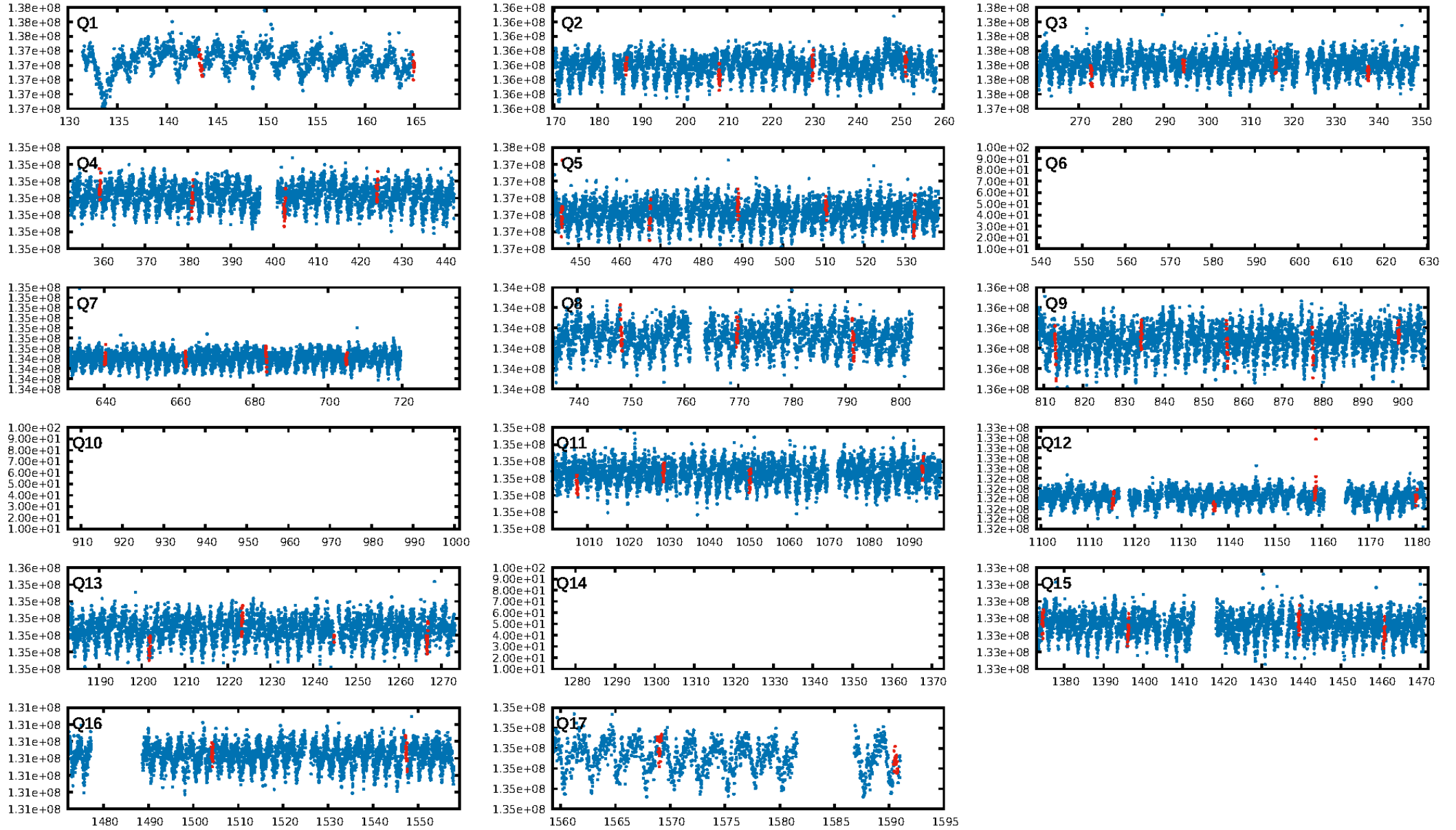
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [11.38σ]
LongPeriod-sig: 100.0% [155.33σ]
ModelChiSquare2-sig: 7.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.56e-09
RollingBand-fgt: 1.00 [14/14]
GhostDiagnostic-chr: -1.874
Centroid-sig: 7.4%
Centroid-so: 0.786 arcsec [1.34σ]
OotOffset-rm: 1.041 arcsec [2.01σ]
KicOffset-rm: 0.987 arcsec [1.94σ]
OotOffset-st: 0/3/4/2 [9]
KicOffset-st: 0/3/4/2 [9]
DiffImageQuality-fgm: 0.67 [6/9]
DiffImageOverlap-fno: 0.86 [12/14]

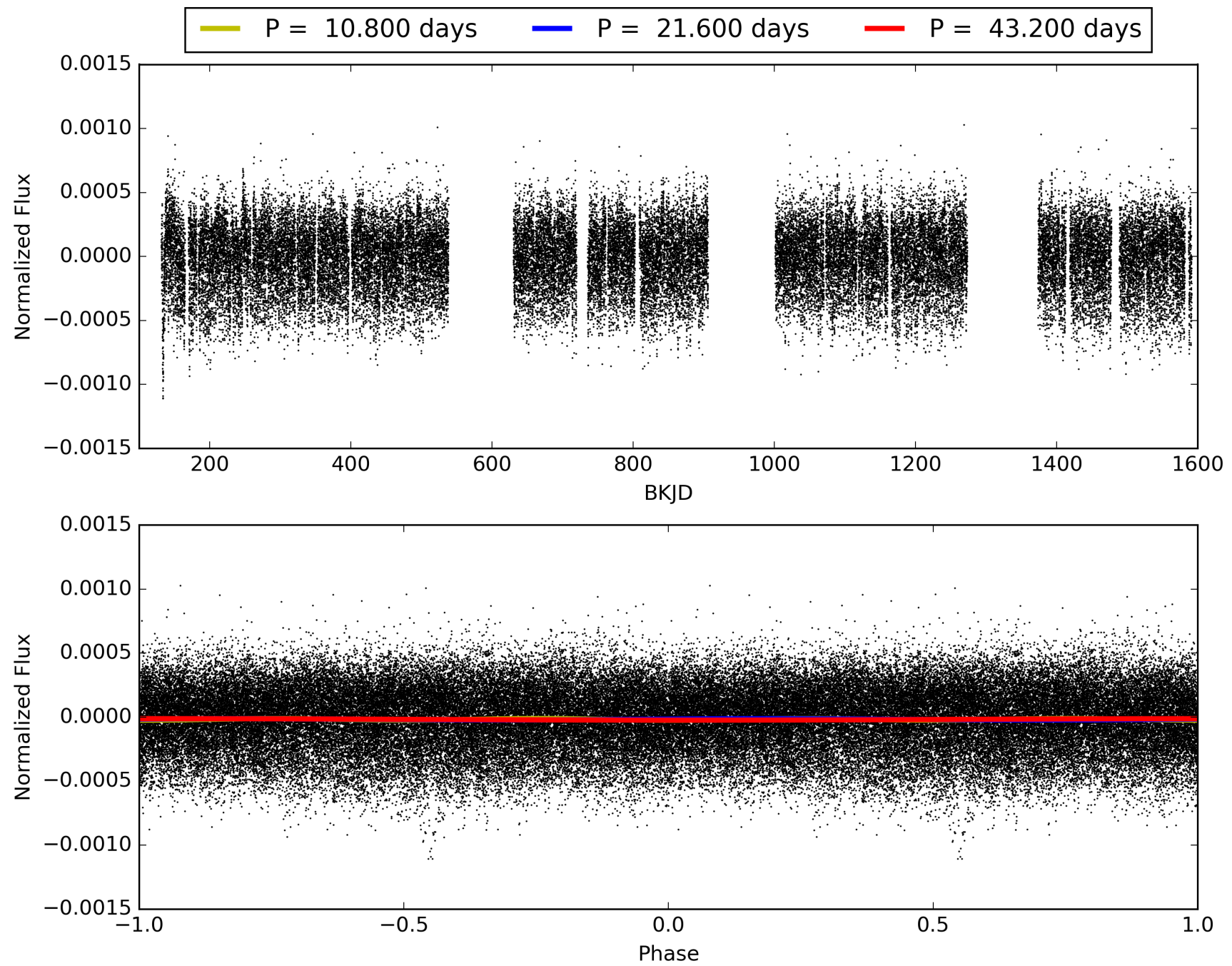
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:12:31 Z

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

TCE 004845555-07, PDC Light Curves

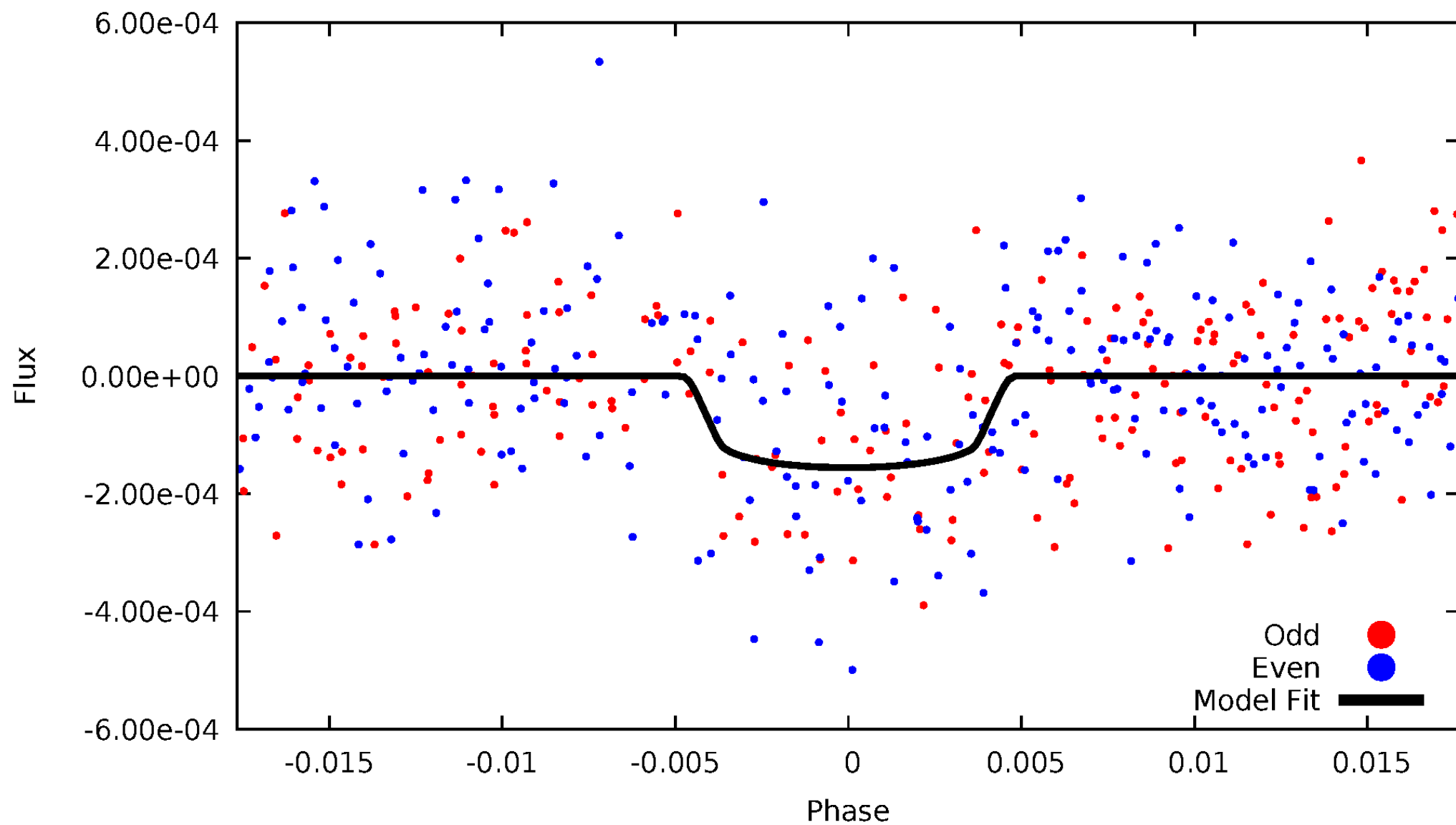


TCE 004845555-07



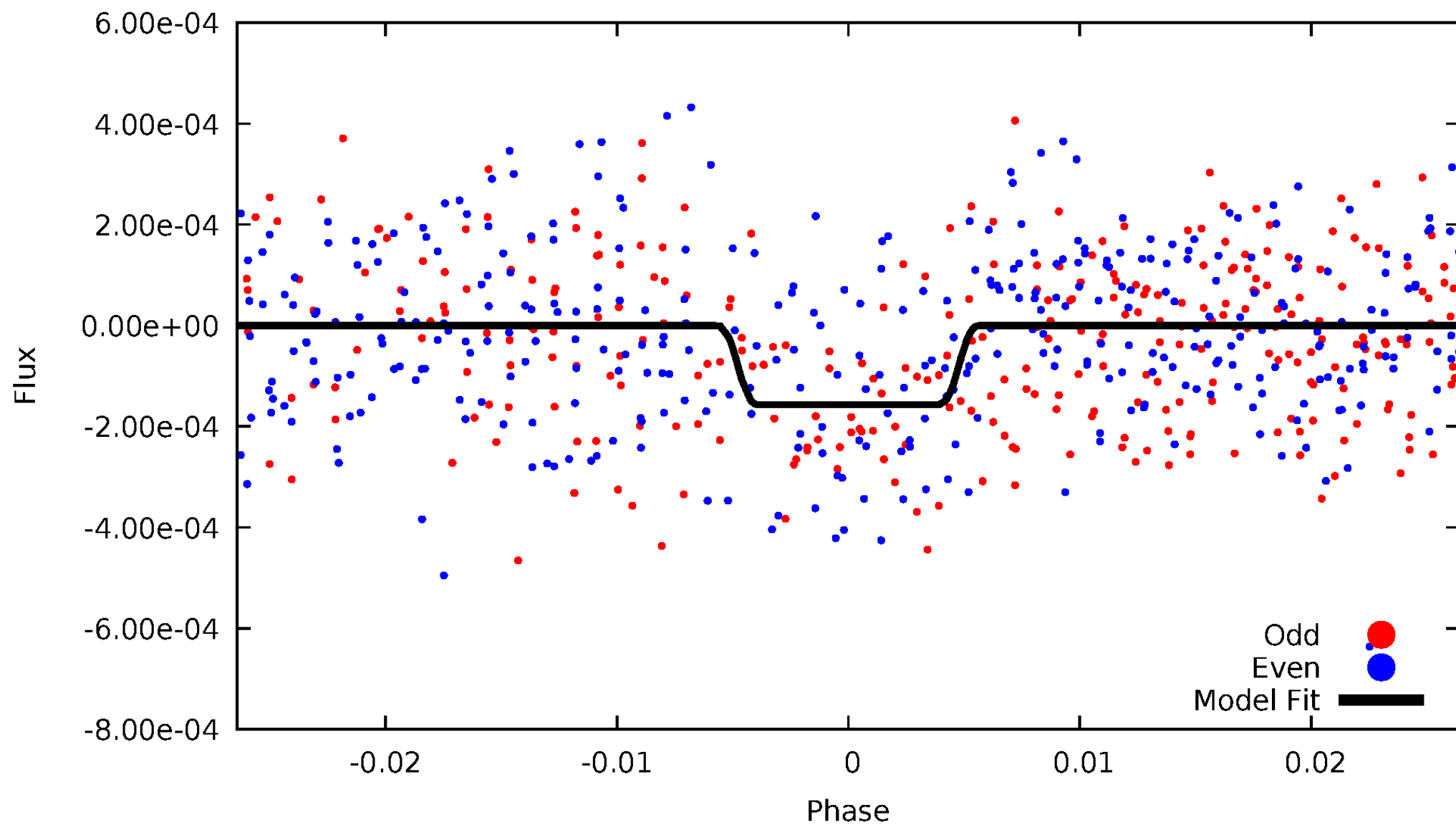
DV Odd/Even

TCE 004845555-07

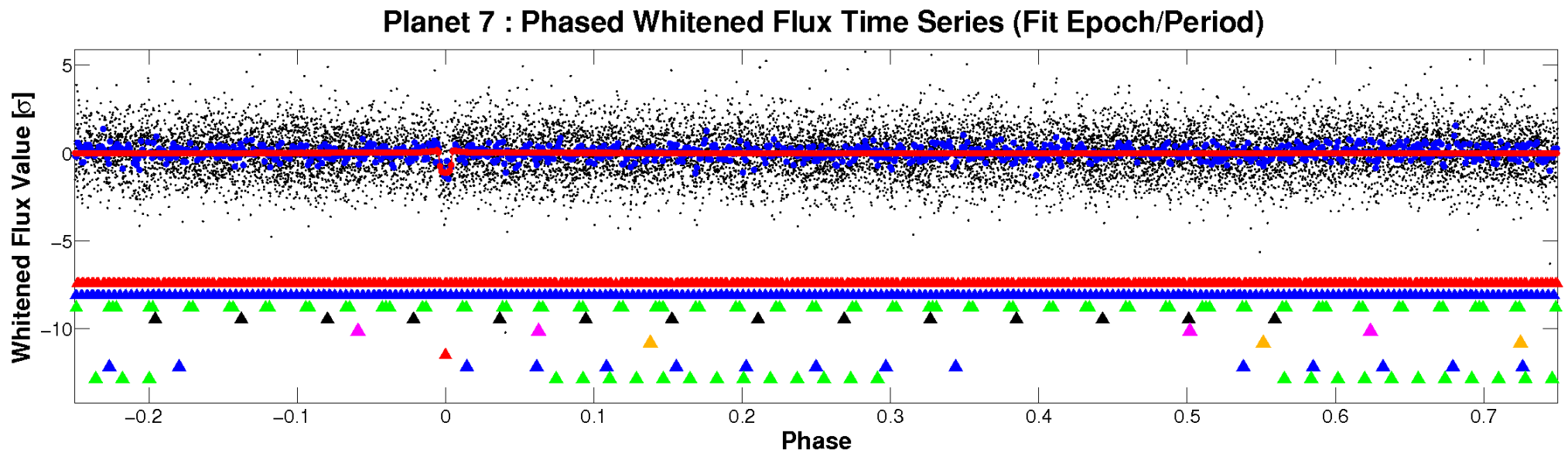
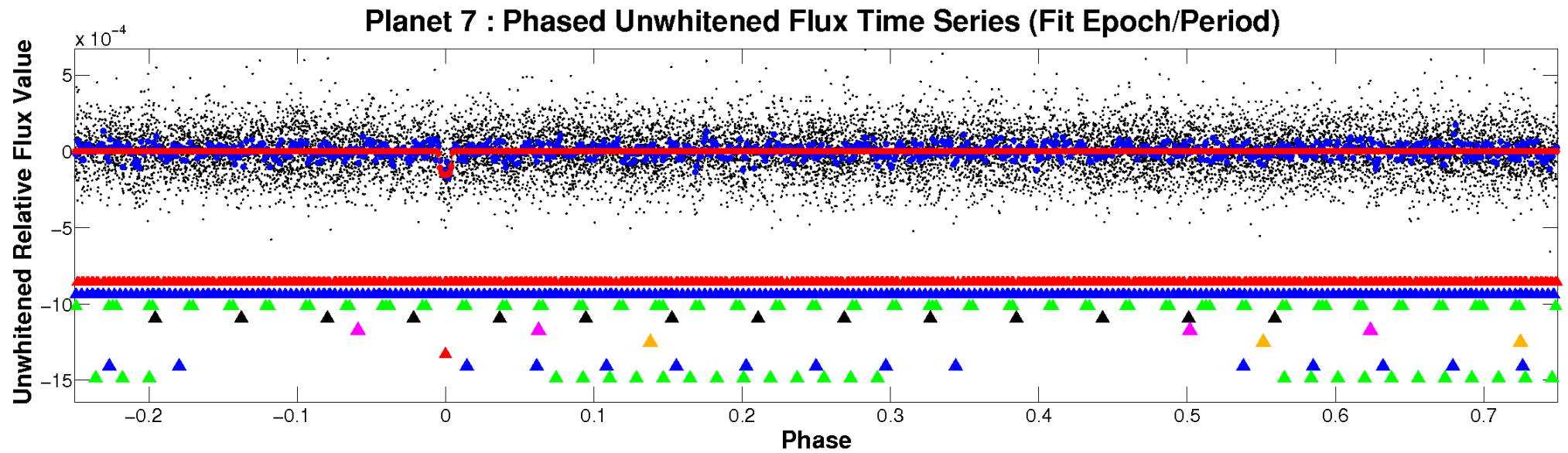


ALT Odd/Even

TCE 00484555-07

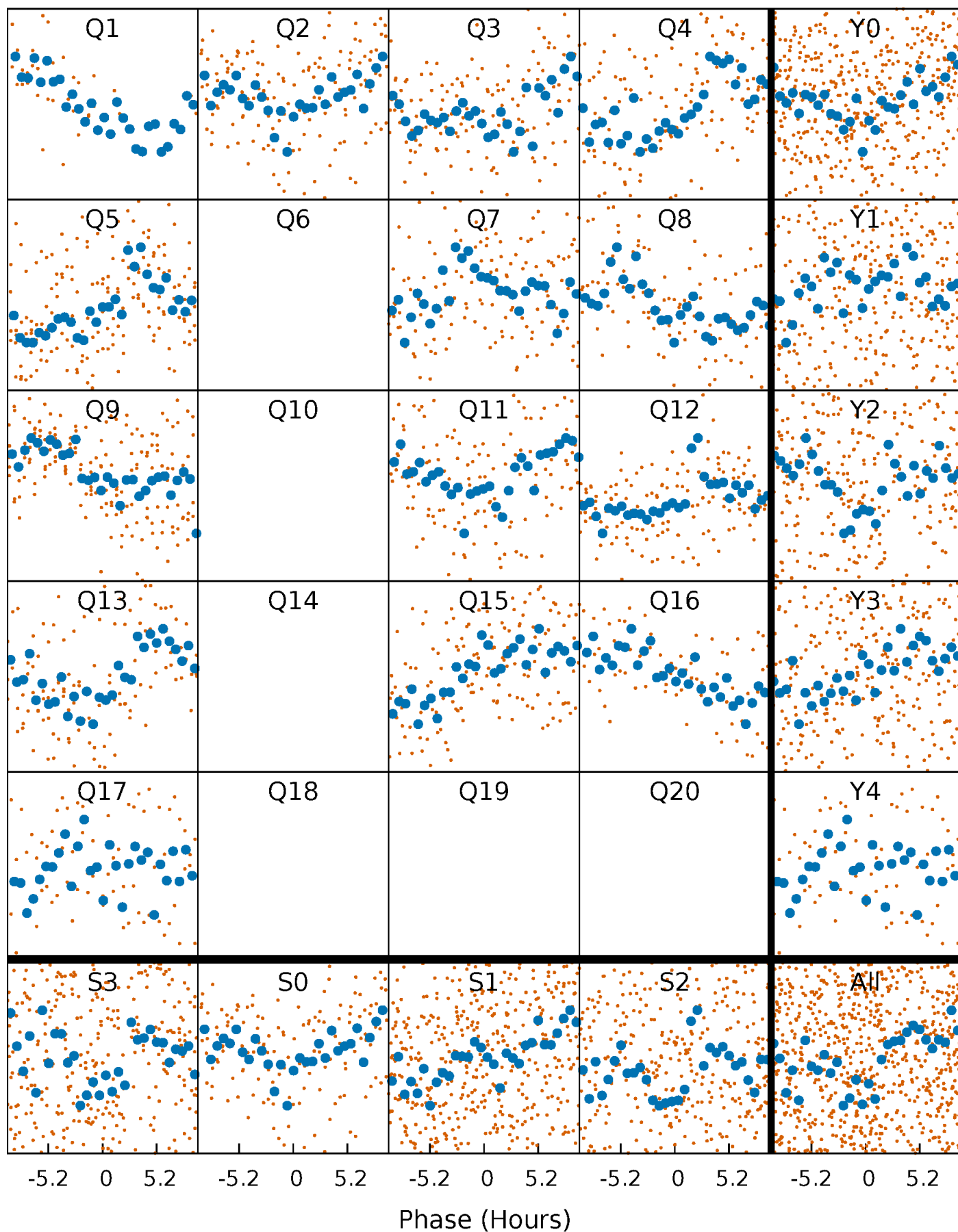


Non-Whitened Vs. Whitened Light Curve



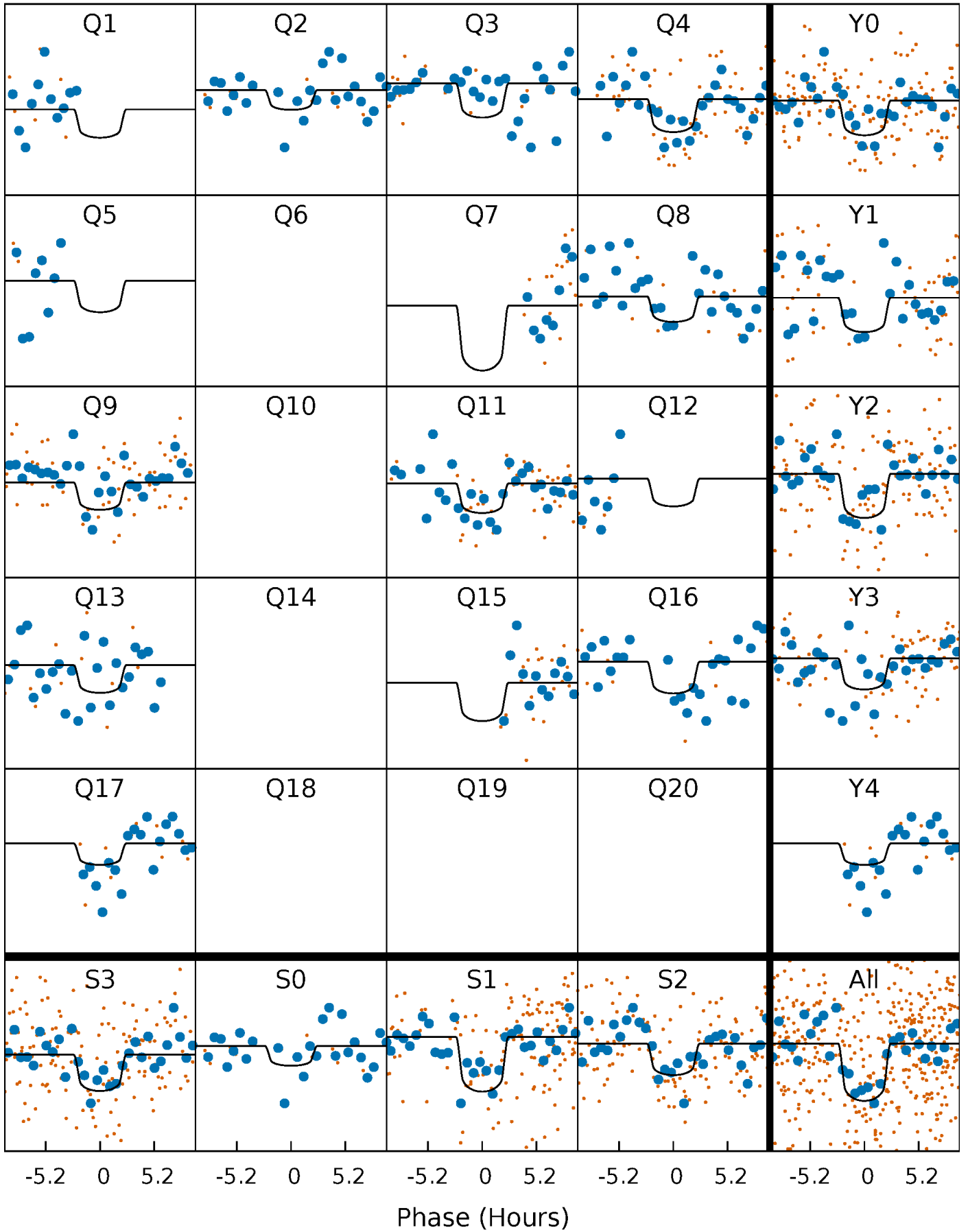
PDC Quarter-Phased Transit Curves

TCE 004845555-07 P= 21.599880 Days $T_0=143.419063$ (BKJD)



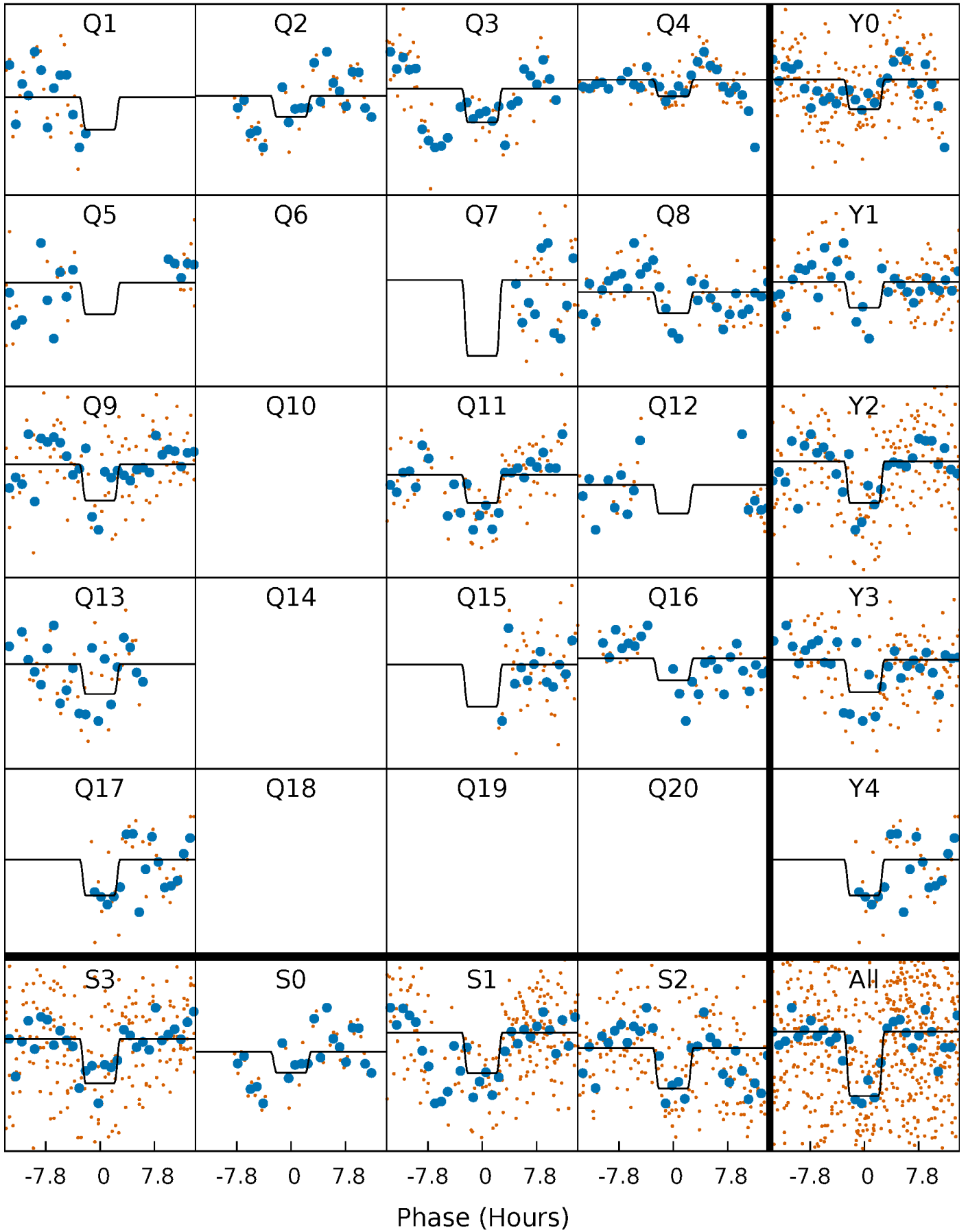
DV Quarter-Phased Transit Curves

TCE 004845555-07 P= 21.599880 Days $T_0=143.419063$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

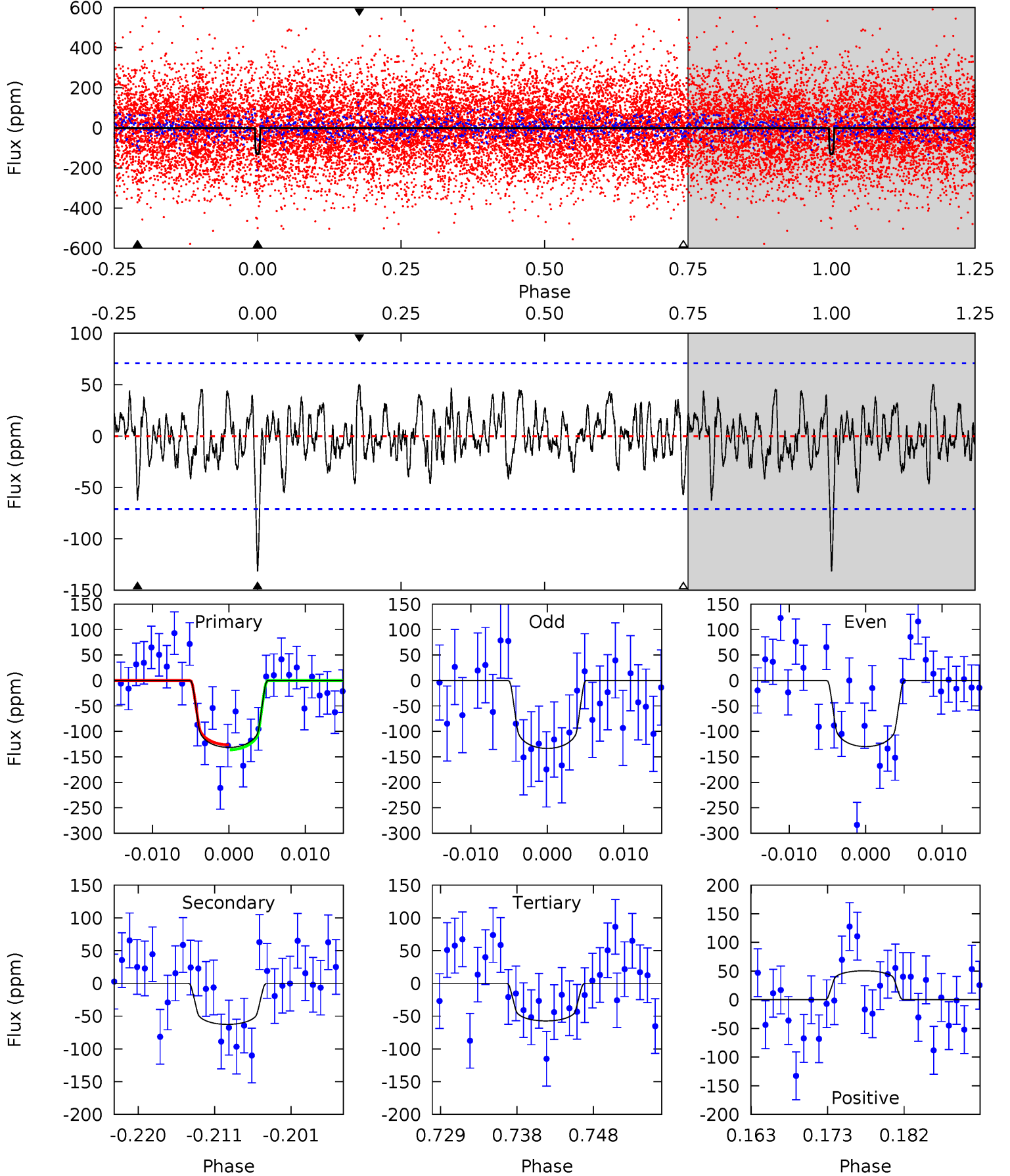
TCE 004845555-07 P= 21.599533 Days $T_0=143.413924$ (BKJD)



DV Model-Shift Uniqueness Test

004845555-07, $P = 21.599880$ Days, $E = 121.819183$ Days

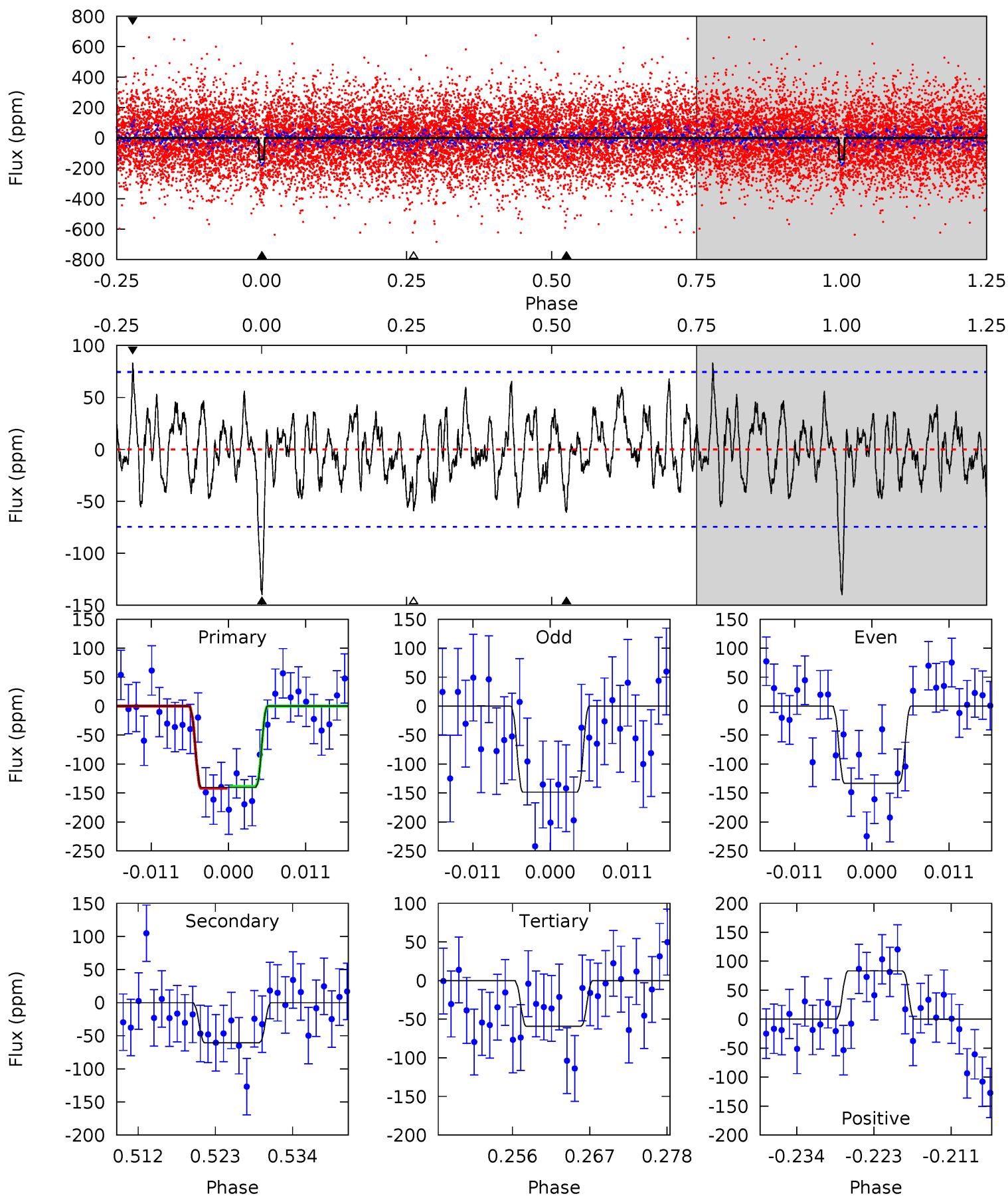
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.34	4.45	4.08	3.59	5.03	2.59	1.40	5.27	5.75	0.38	0.86	0.13	0.83	0.28	0.35



Alt Model-Shift Uniqueness Test

004845555-07, P = 21.599533 Days, E = 121.814391 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.42	4.08	3.98	5.60	5.01	2.54	1.68	5.44	3.82	0.10	-1.53	0.51	1.04	0.37	0.10



Stellar Parameters For KIC 004845555

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6429^{+155}_{-175}	$3.607^{+0.328}_{-0.082}$	$-0.160^{+0.350}_{-0.250}$	$3.288^{+0.420}_{-1.260}$	$1.596^{+0.203}_{-0.376}$	$0.063^{+0.162}_{-0.016}$
	+2%/-3%	+9%/-2%	+219%/-156%	+13%/-38%	+13%/-24%	+256%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004845555-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-63 ± 14	$4.34^{+2.96}_{-2.40}$	1672^{+91}_{-166}	4941^{+2470}_{-826}	52^{+236}_{-32}
Alt.	-61 ± 15	$4.54^{+2.85}_{-2.44}$	1675^{+89}_{-149}	4909^{+2035}_{-856}	49^{+168}_{-31}

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

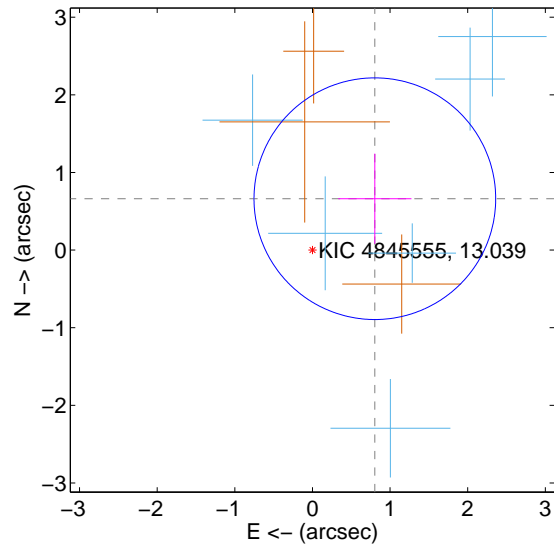
Supplemental centroid analysis for 004845555-07. Kepler magnitude: 13.04. Transit SNR 9.63

There are 6 quarters with good PRF difference image offsets

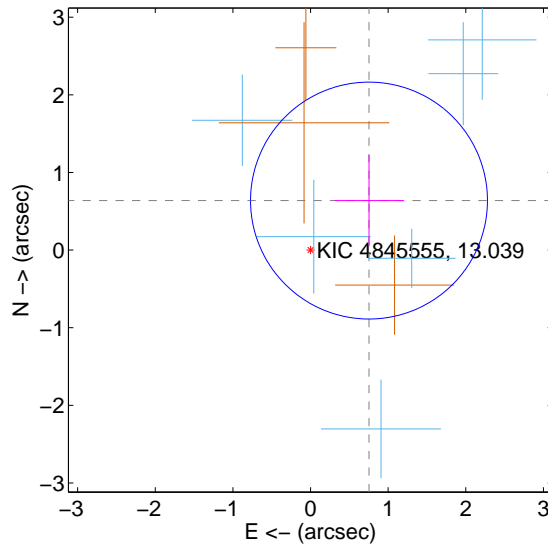
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.041 ± 0.519	2.01	-0.804 ± 0.472	0.662 ± 0.581
PRF-fit source offset from KIC position	0.987 ± 0.508	1.94	-0.753 ± 0.444	0.638 ± 0.587
photometric centroid source offset	0.79 ± 0.59	1.34	0.51 ± 0.59	0.60 ± 0.58

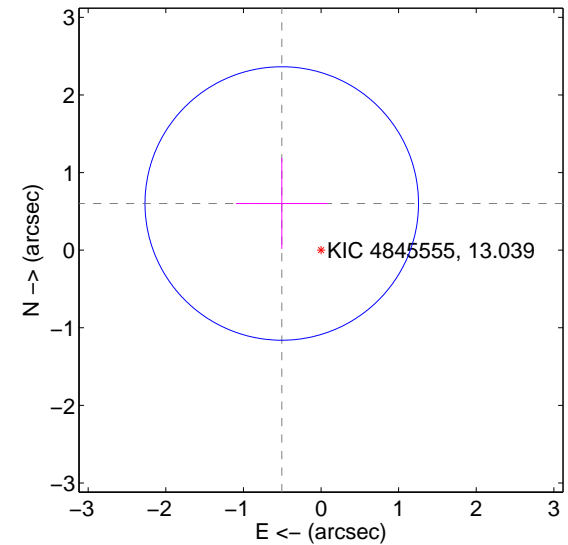
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

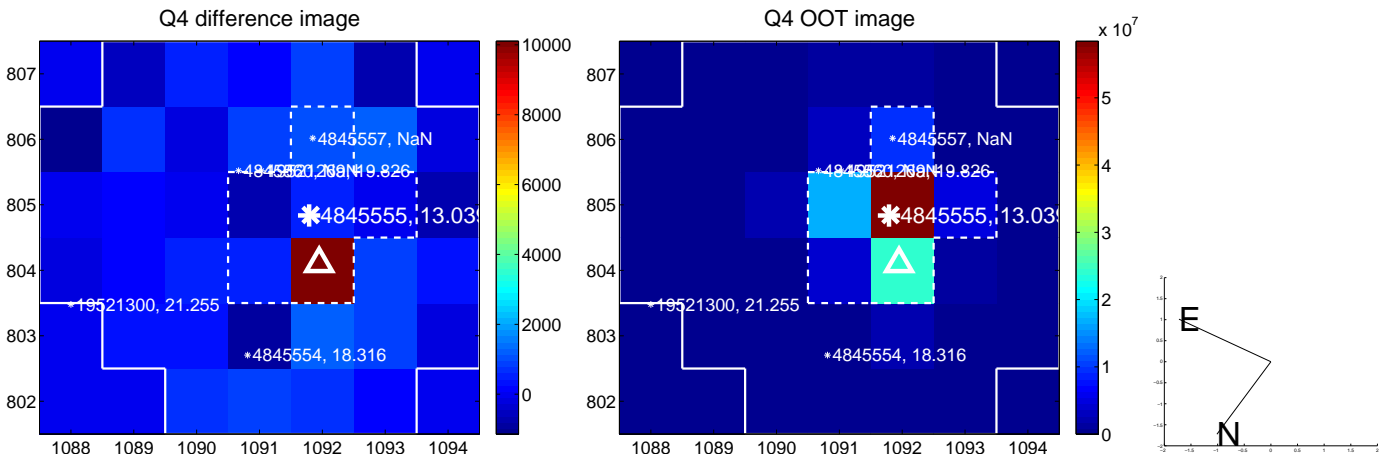
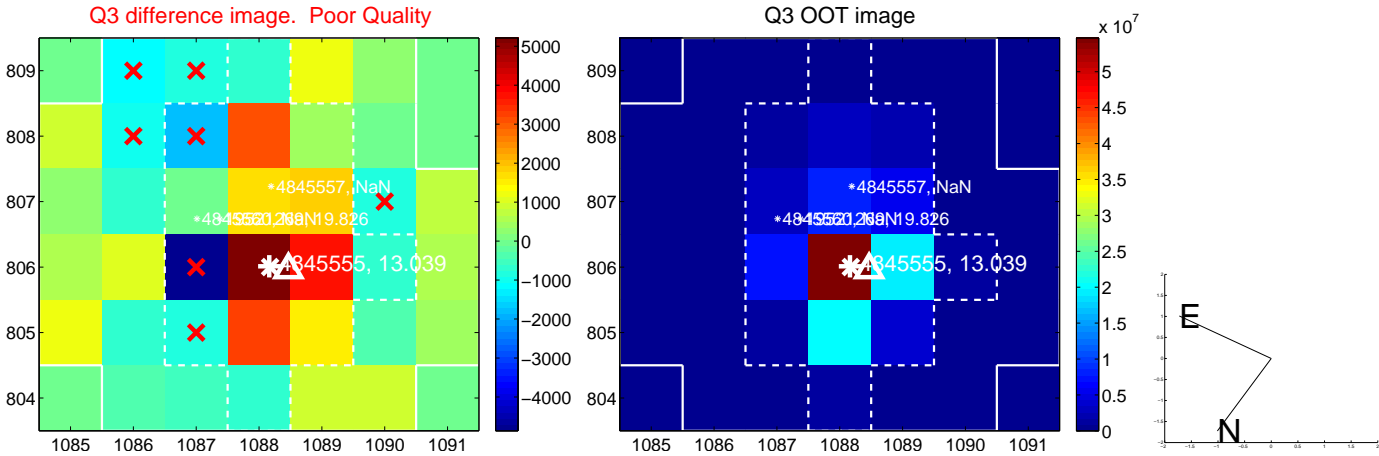
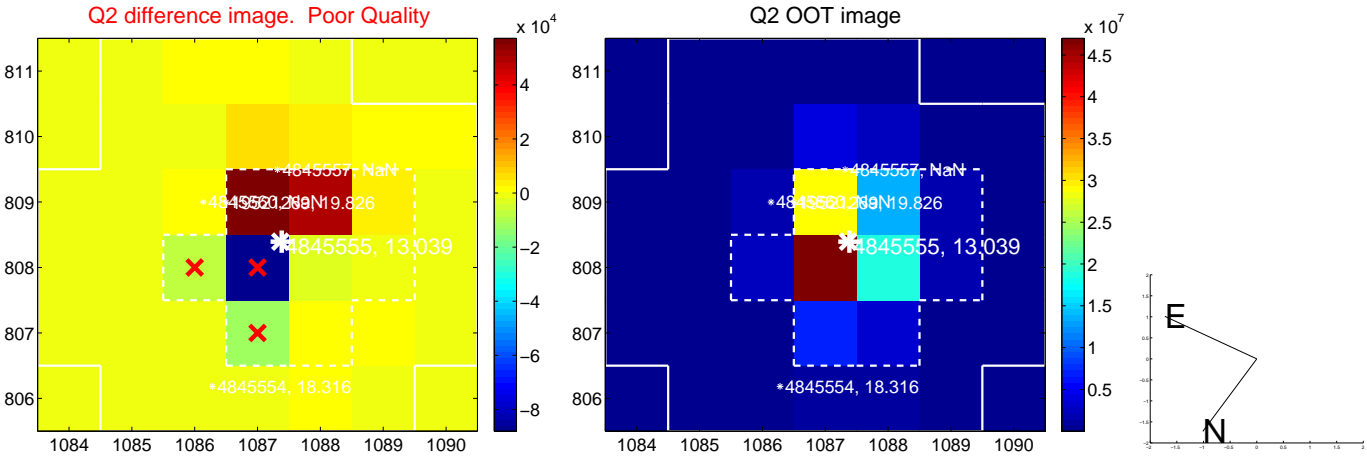
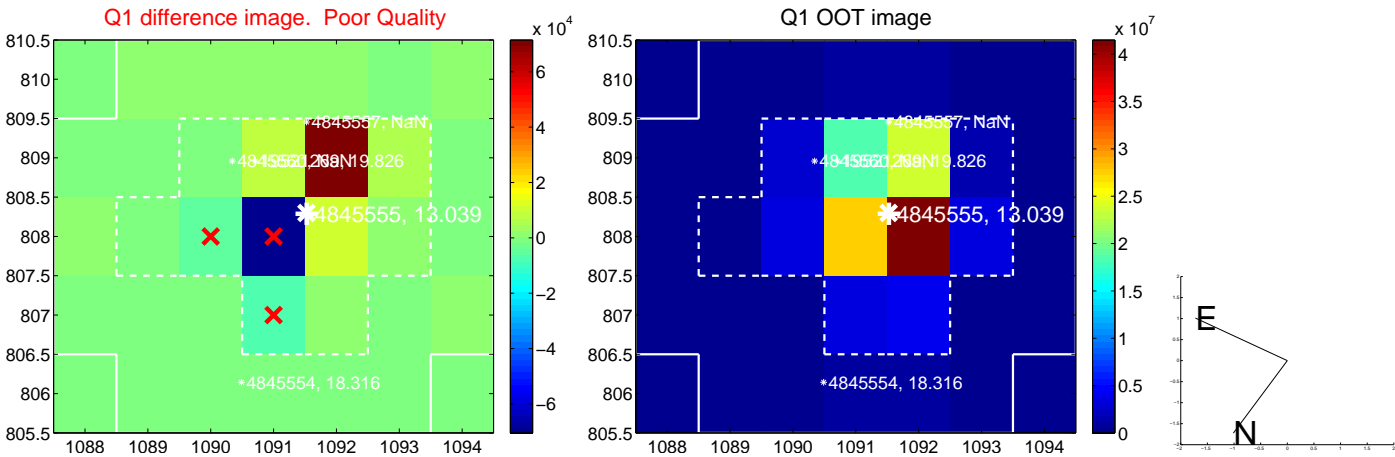


offset from photometric centroids

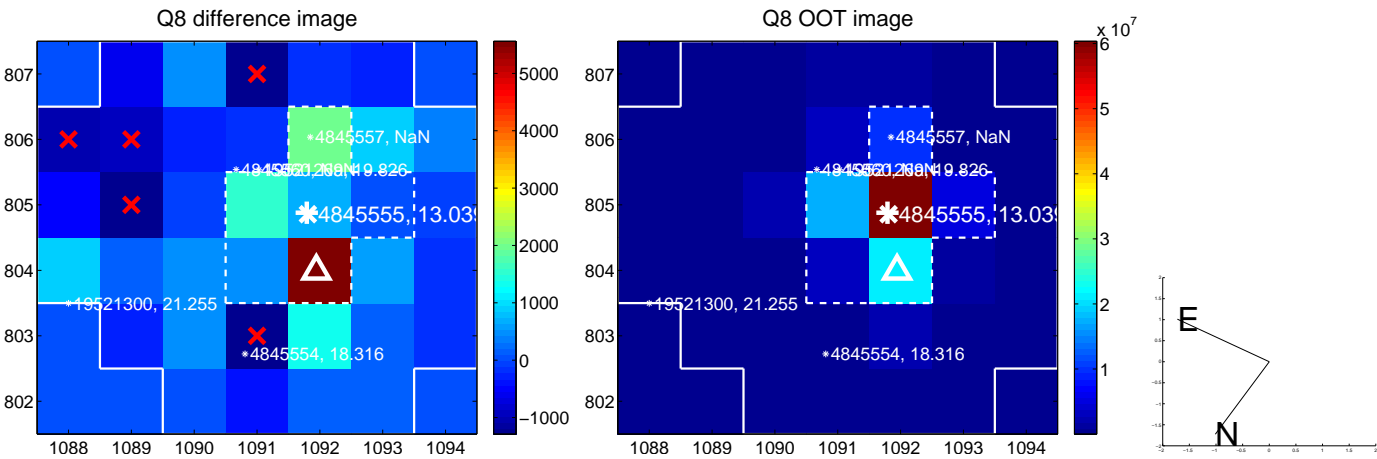
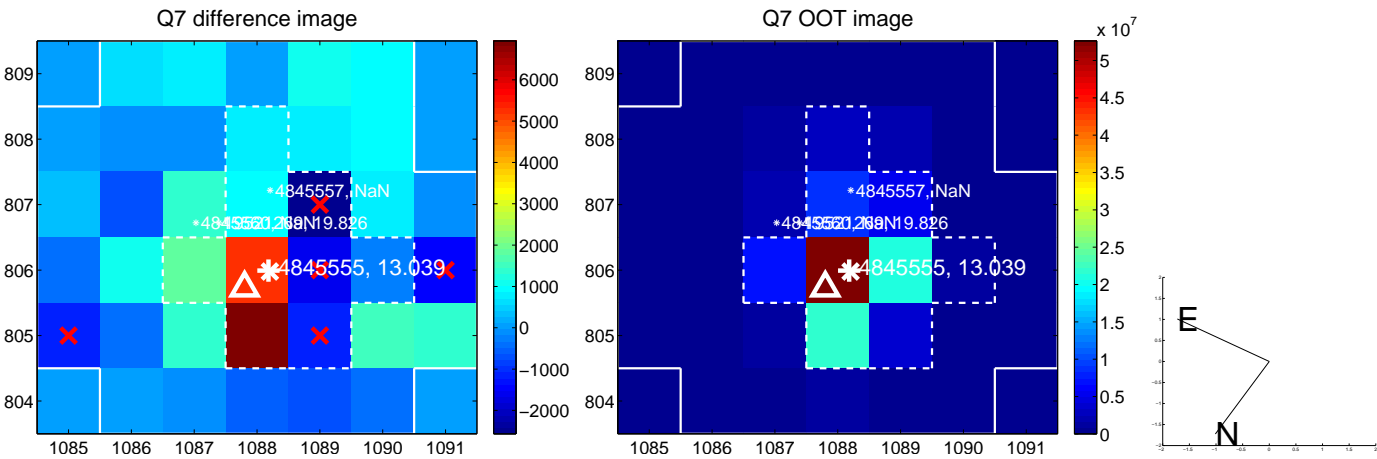
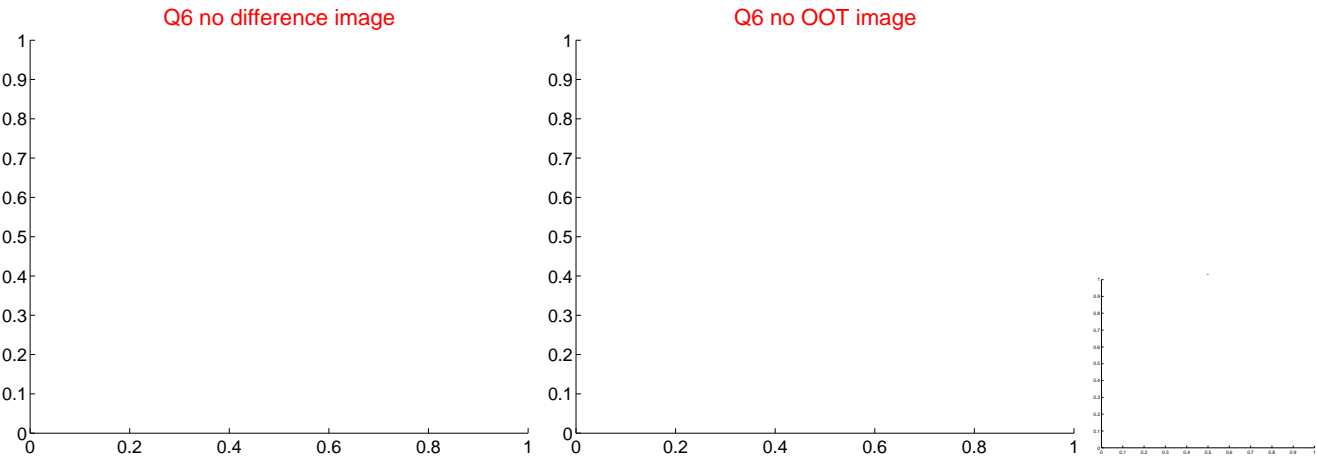
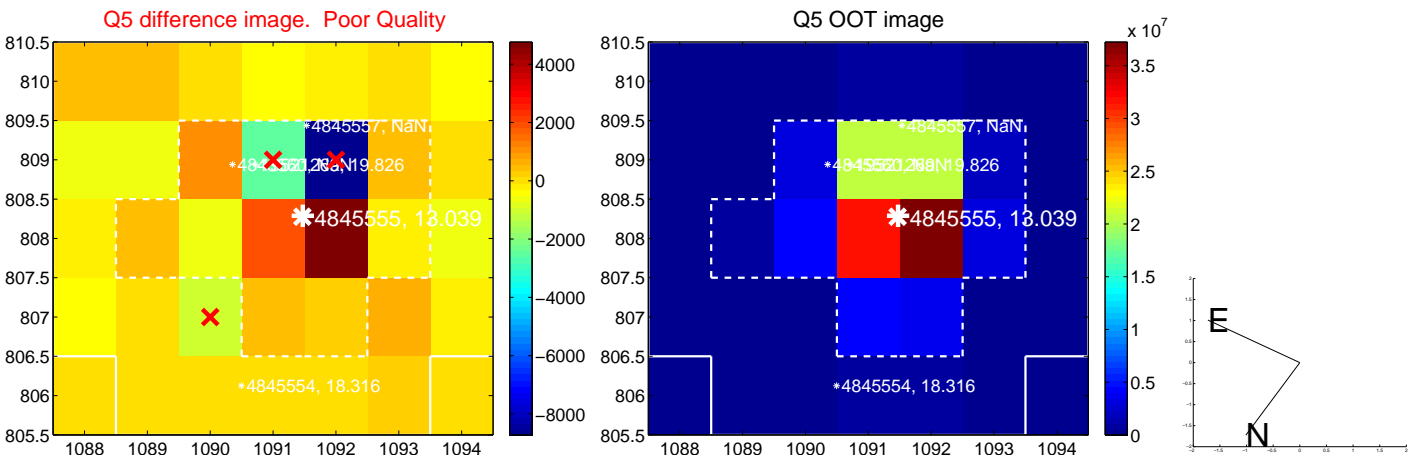


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

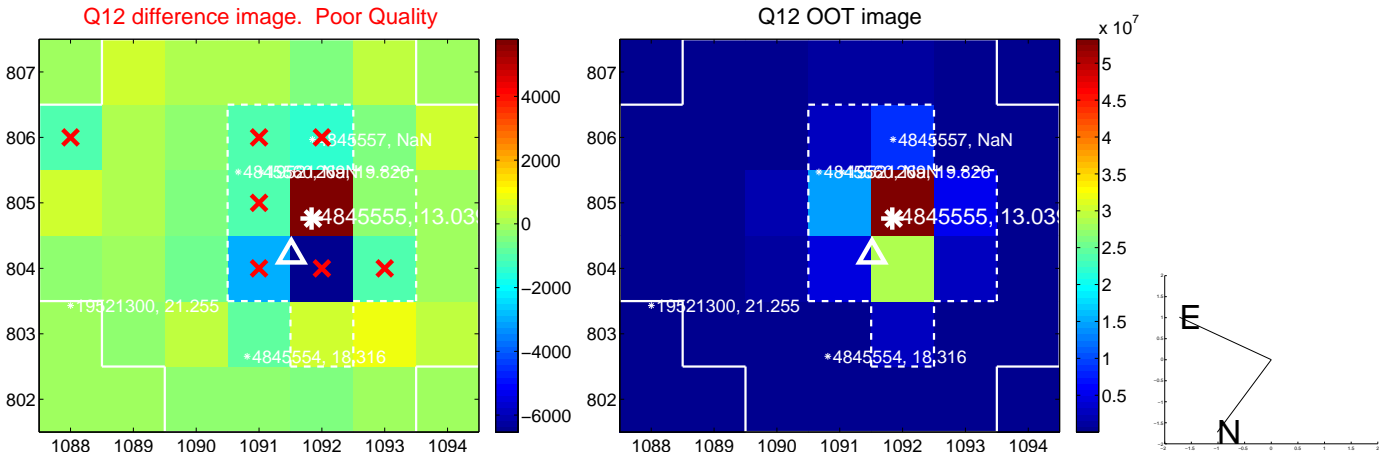
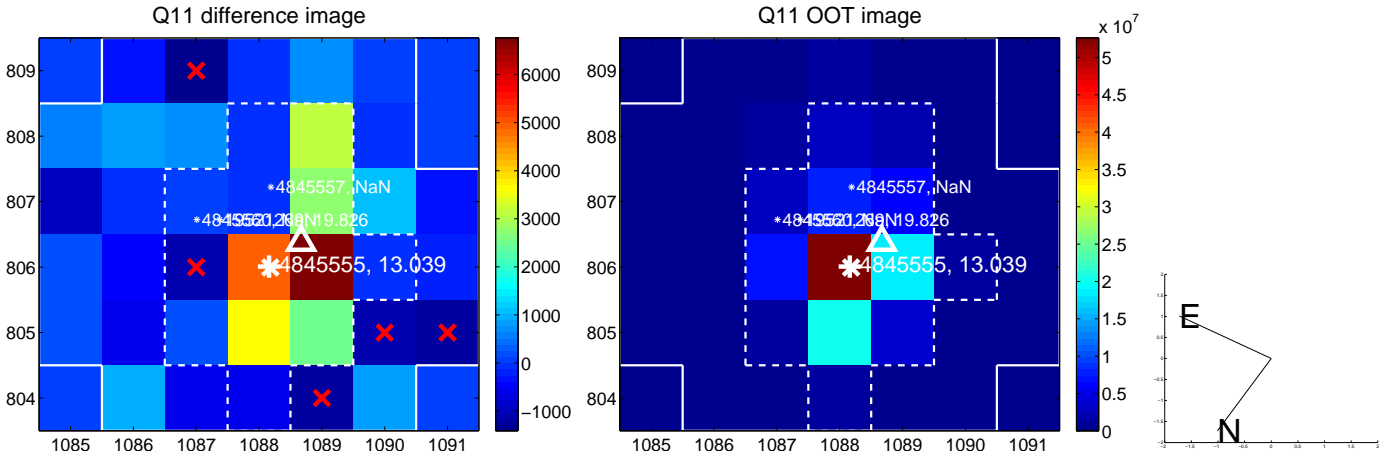
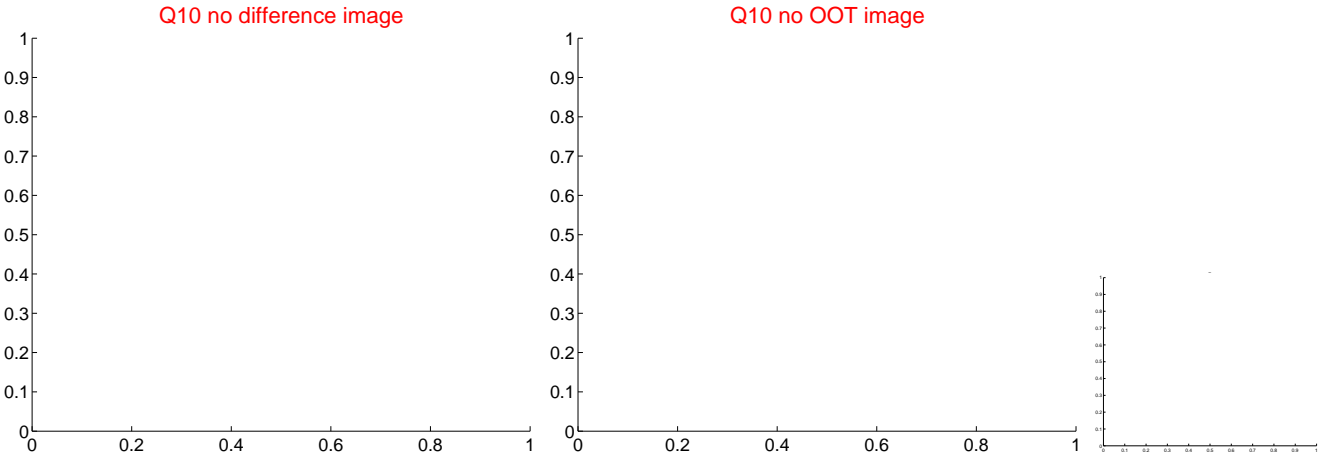
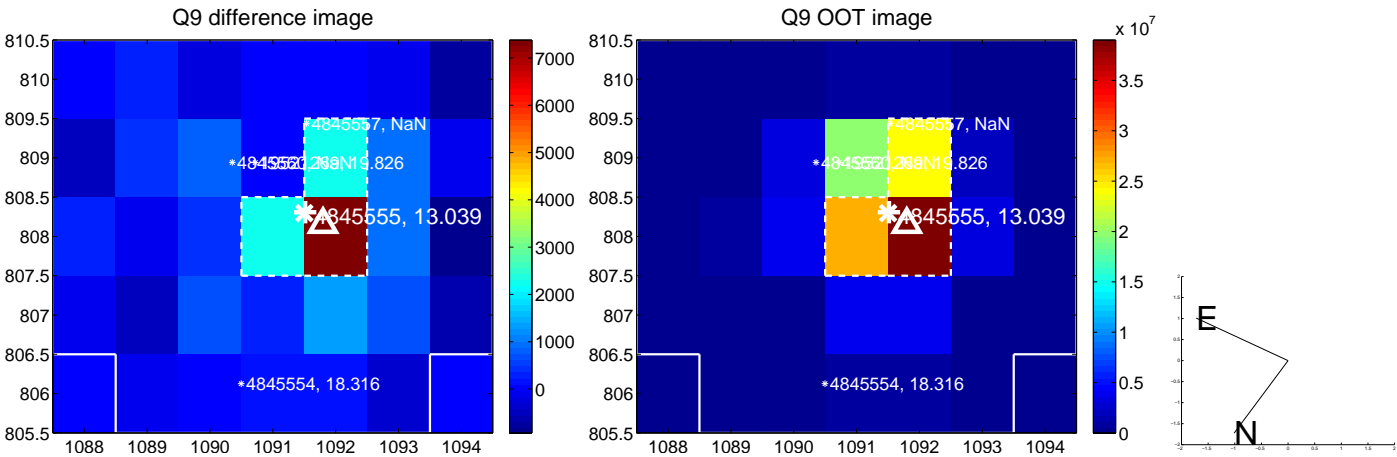
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



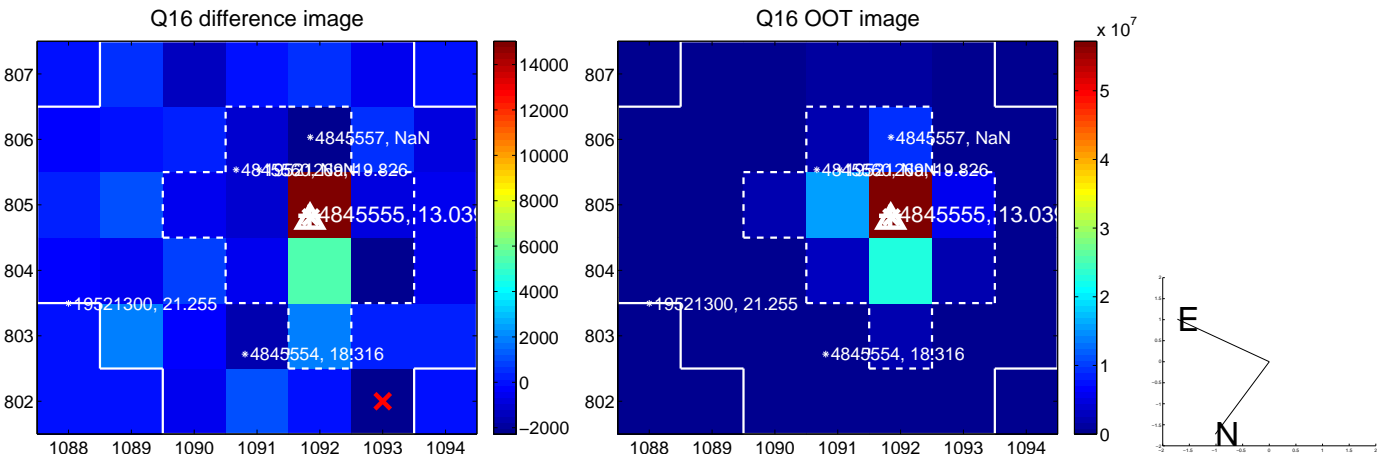
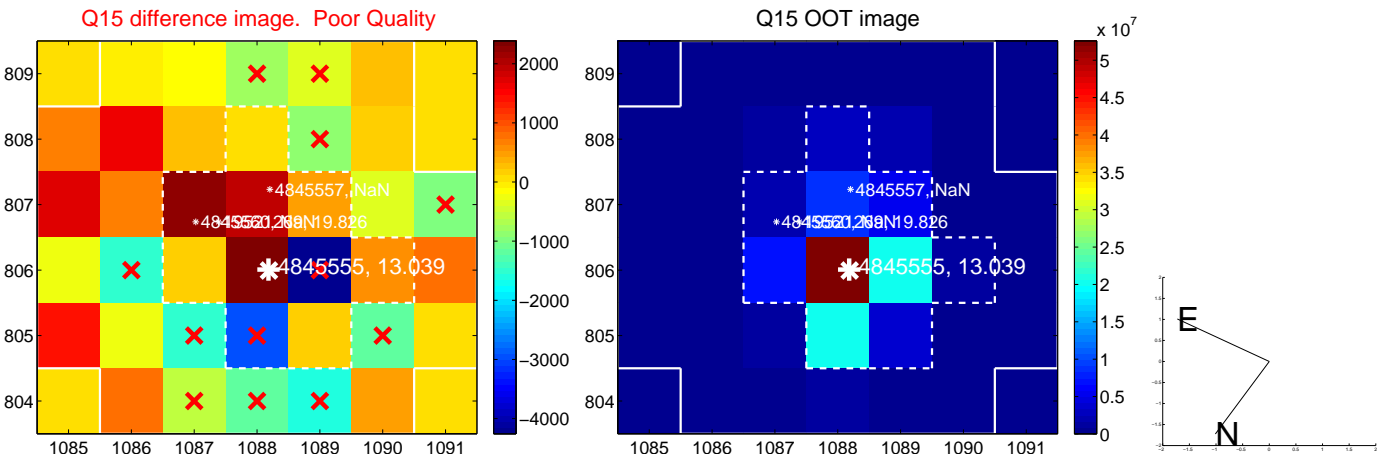
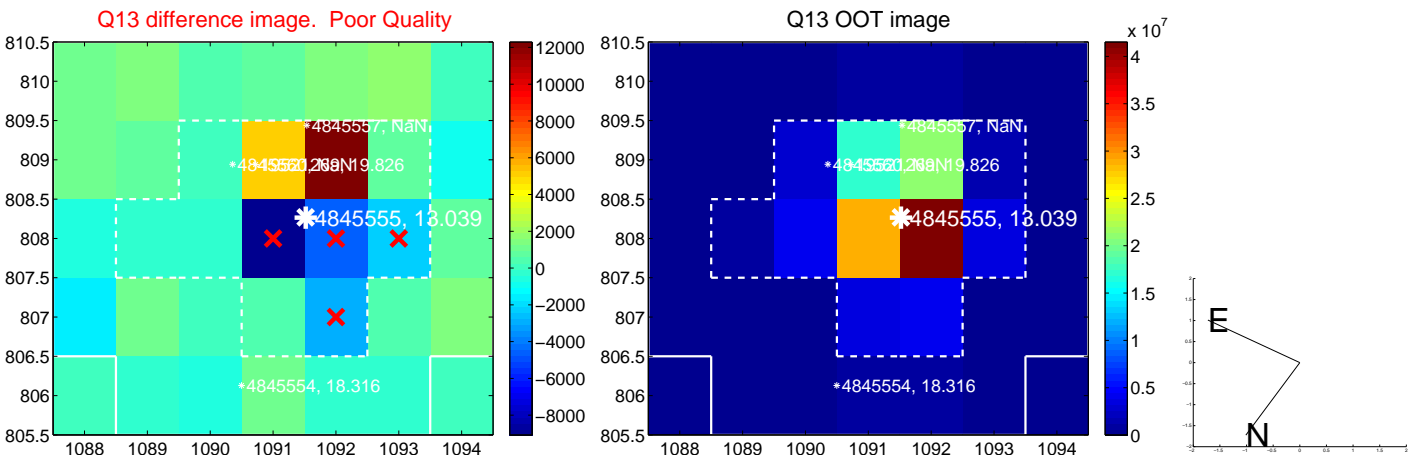
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



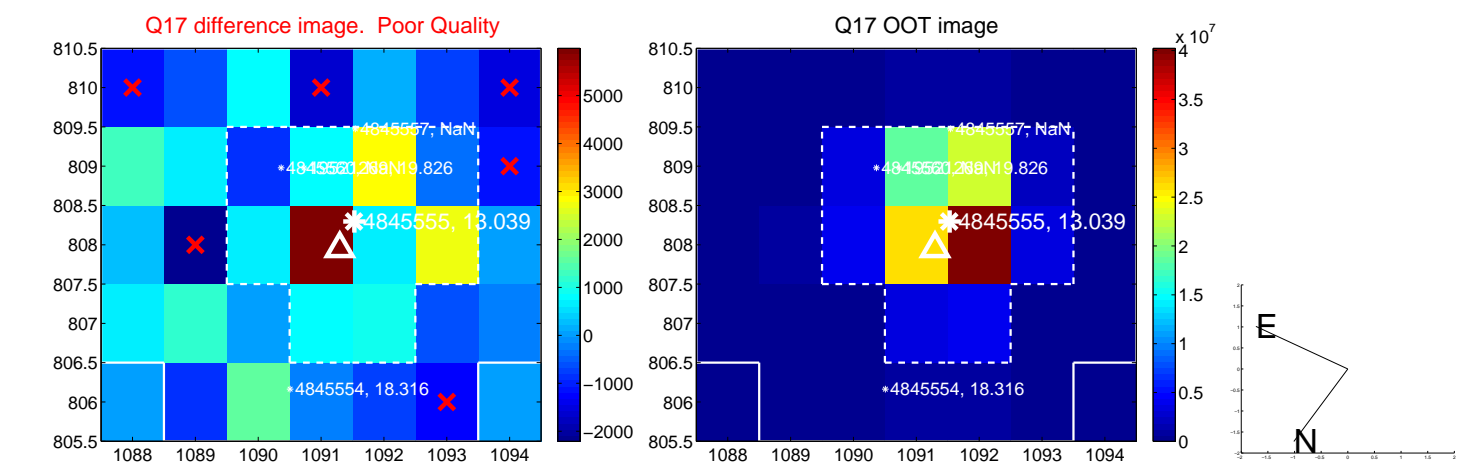
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



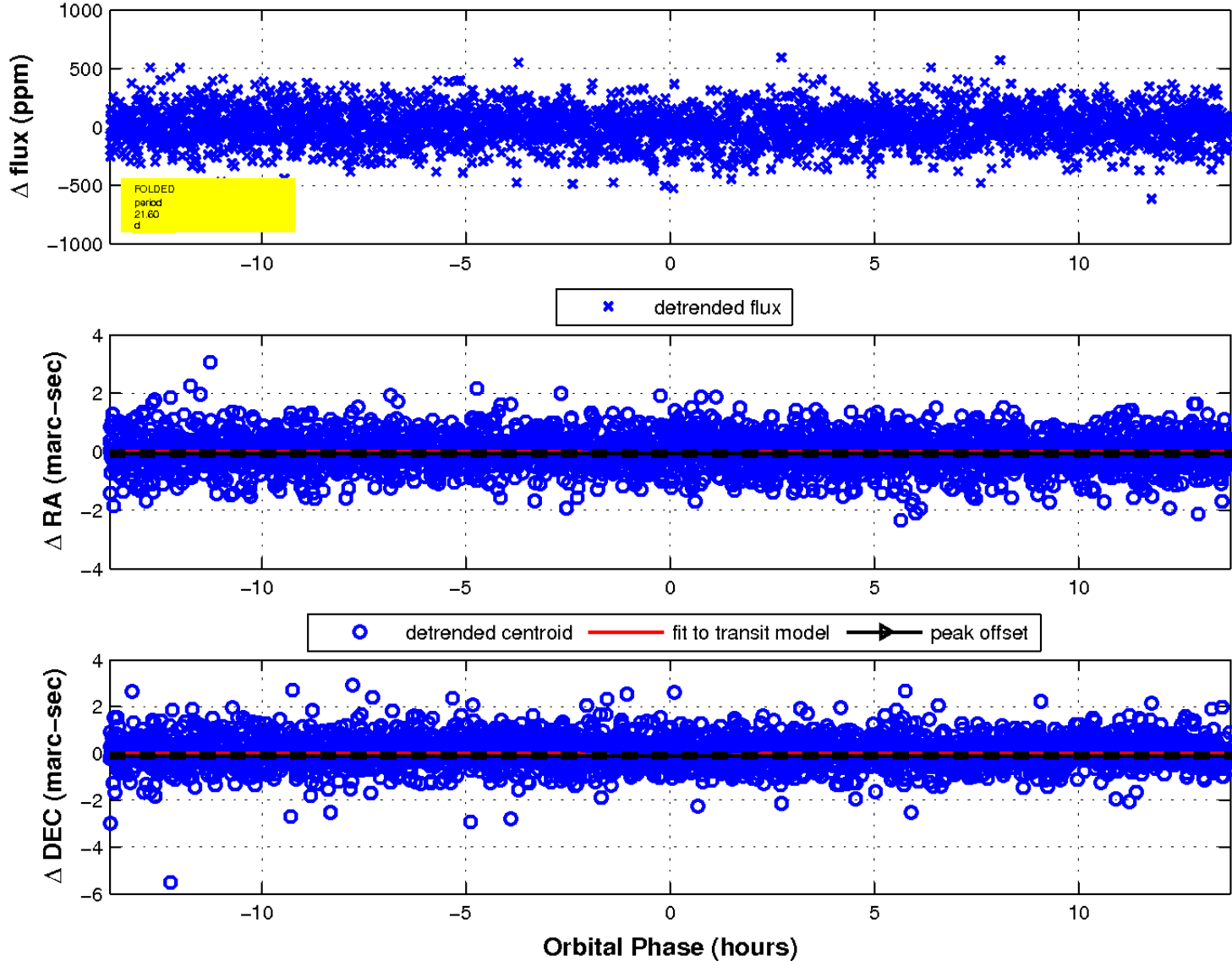
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

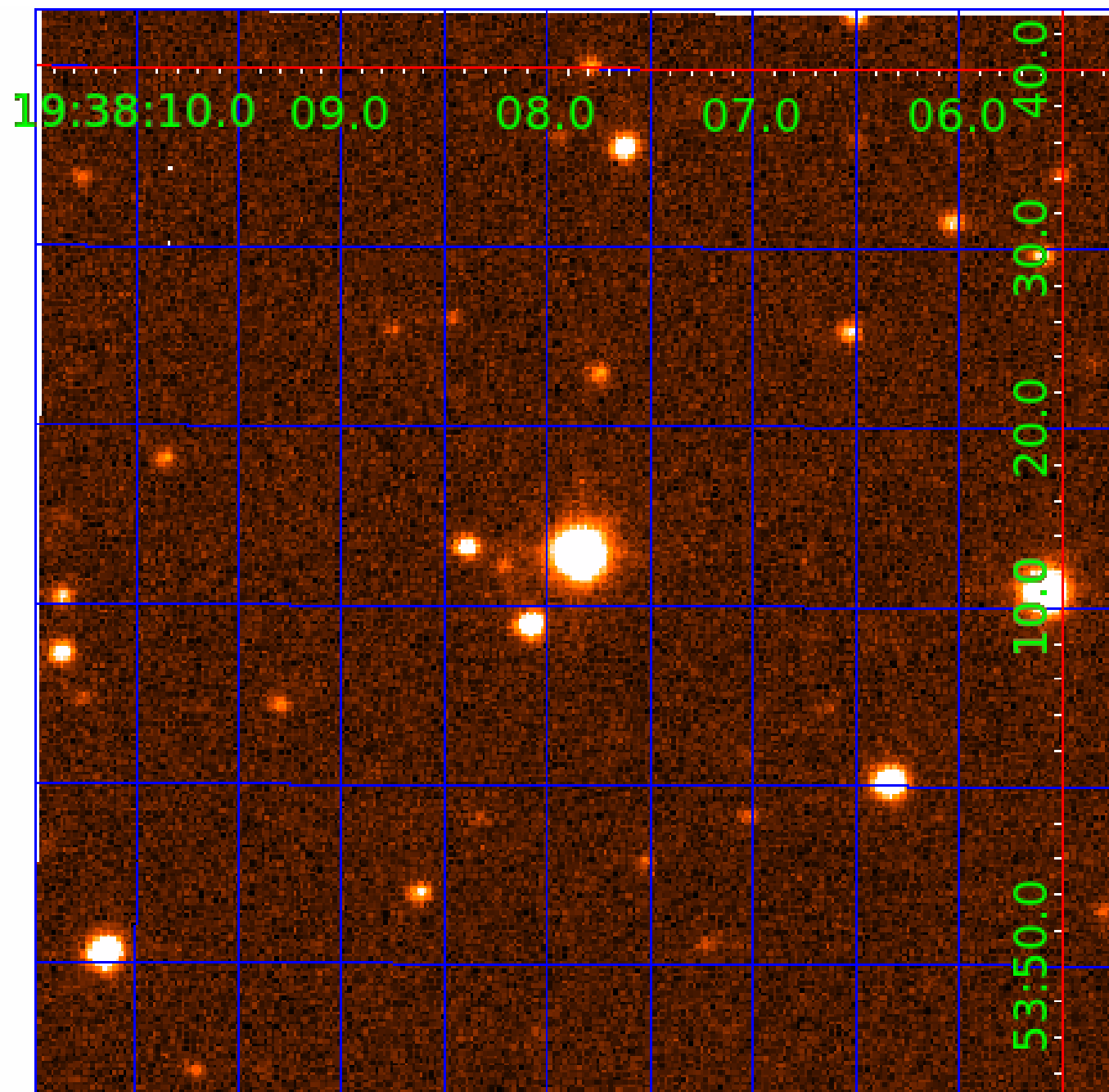


fluxWeightedCentroids, Planet 7 of 9



UKIRT Image

Declination



KIC 004845555

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})
004845555-01	OBS	No	2.489558	131.748871	30.1	4.723	9.4	8.0	3.29	6429	2.33	9374.03
004845555-02	OBS	No	2.489164	134.276078	32.0	13.877	9.1	4.5	3.29	6429	1.99	9376.01
004845555-03	OBS	No	17.619521	136.928749	69.7	7.033	8.2	6.8	3.29	6429	3.11	689.86
004845555-04	OBS	No	109.253691	160.791260	339.6	1.599	7.7	7.8	3.29	6429	7.14	60.56
004845555-05	OBS	No	398.282871	264.889448	128.7	11.885	9.1	6.8	3.29	6429	3.99	10.79
004845555-06	OBS	No	552.670174	155.329314	183.9	5.721	7.4	7.1	3.29	6429	5.72	6.97
004845555-07	OBS	No	21.599880	143.419063	155.8	4.577	8.5	9.6	3.29	6429	4.68	525.80
004845555-08	OBS	No	97.707904	208.530444	237.7	3.045	7.3	8.7	3.29	6429	5.78	70.28
004845555-09	OBS	No	54.194665	177.236292	283.5	2.100	7.3	8.7	3.29	6429	7.21	154.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004845555-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004845555-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
004845555-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
004845555-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—CENT_FEW_DIFFS
004845555-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004845555-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT
004845555-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

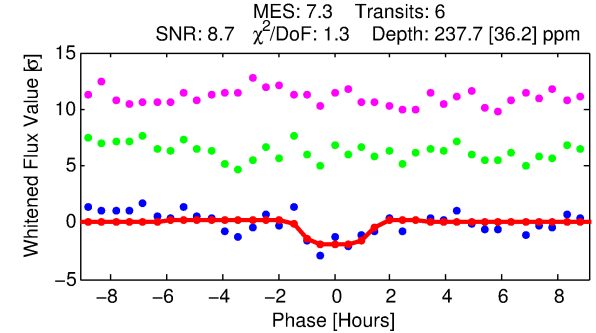
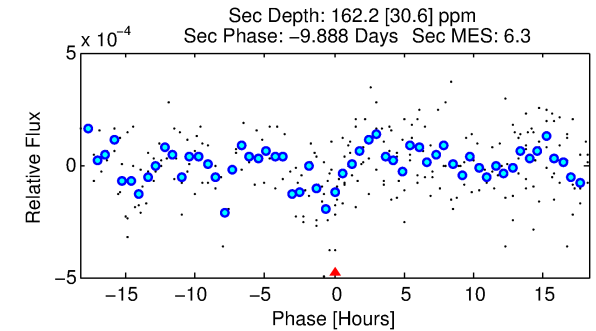
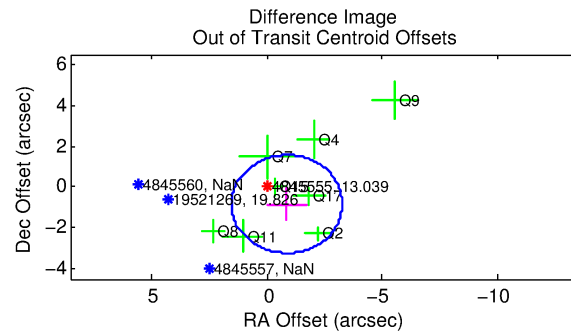
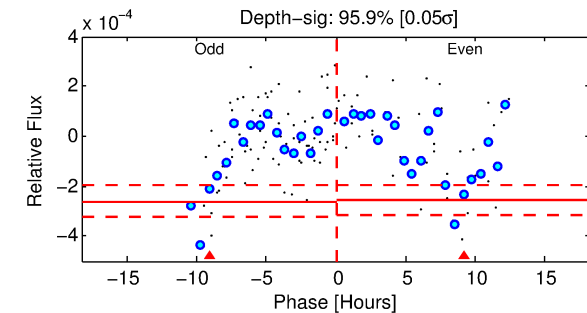
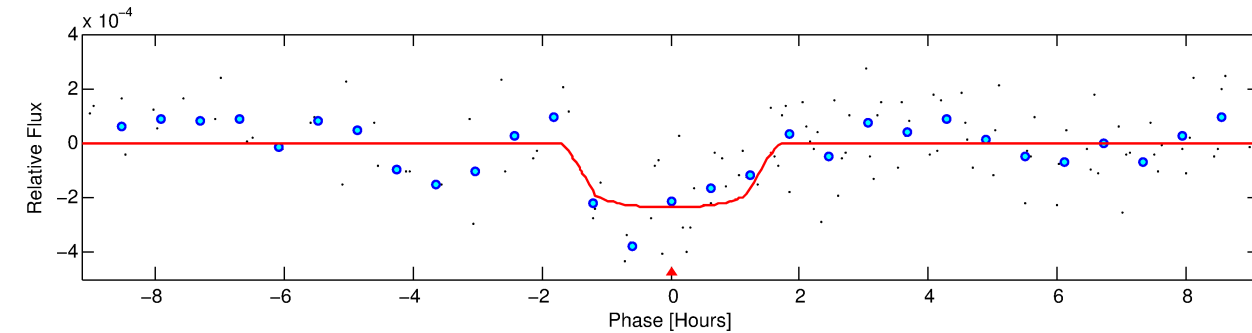
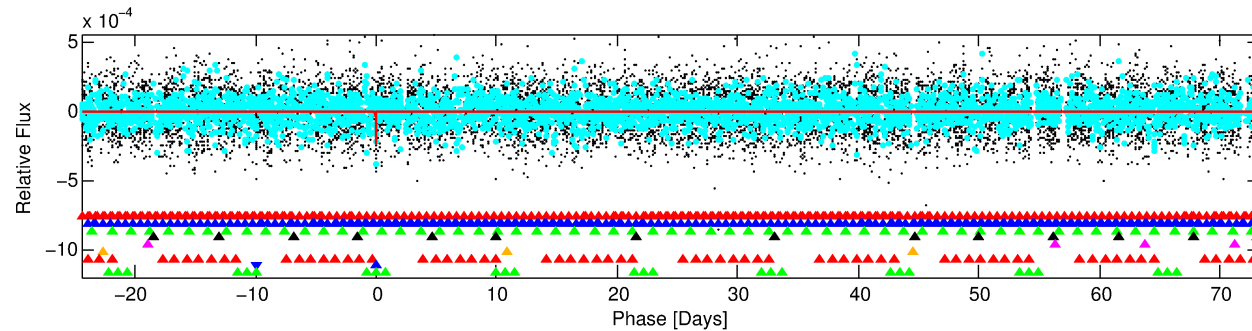
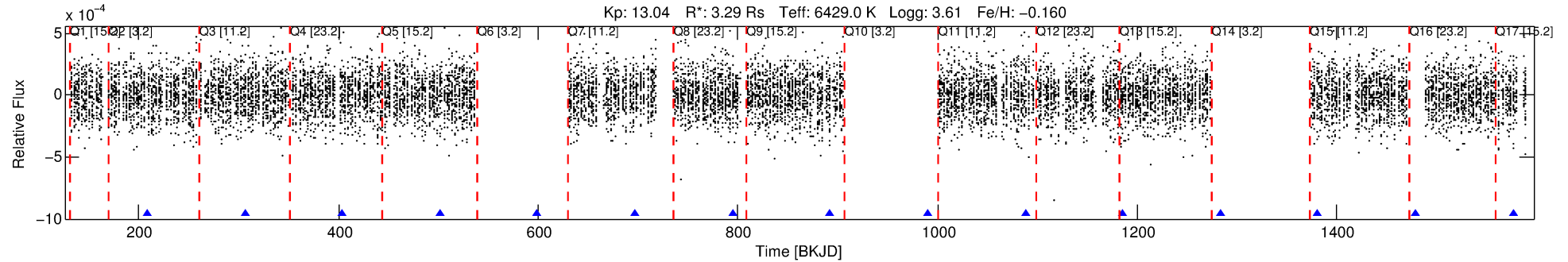
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004845555-08

No Significant Match Found

DV One-Page Summary

KIC: 4845555 Candidate: 8 of 9 Period: 97.708 d



DV Fit Results:

Period = 97.70790 [0.00112] d
Epoch = 208.5304 [0.0107] BKJD
Rp/R* = 0.0161 [0.0105]
a/R* = 131.00 [475.49]
b = 0.86 [1.06]
Seff = 70.28 [40.41]
Teq = 738 [106] K
Rp = 5.78 [4.37] Re
a = 0.4852 [0.1740] AU
Ag = 628.41 [899.19] [0.70 σ]
Teffp = 5715 [1885] K [2.64 σ]

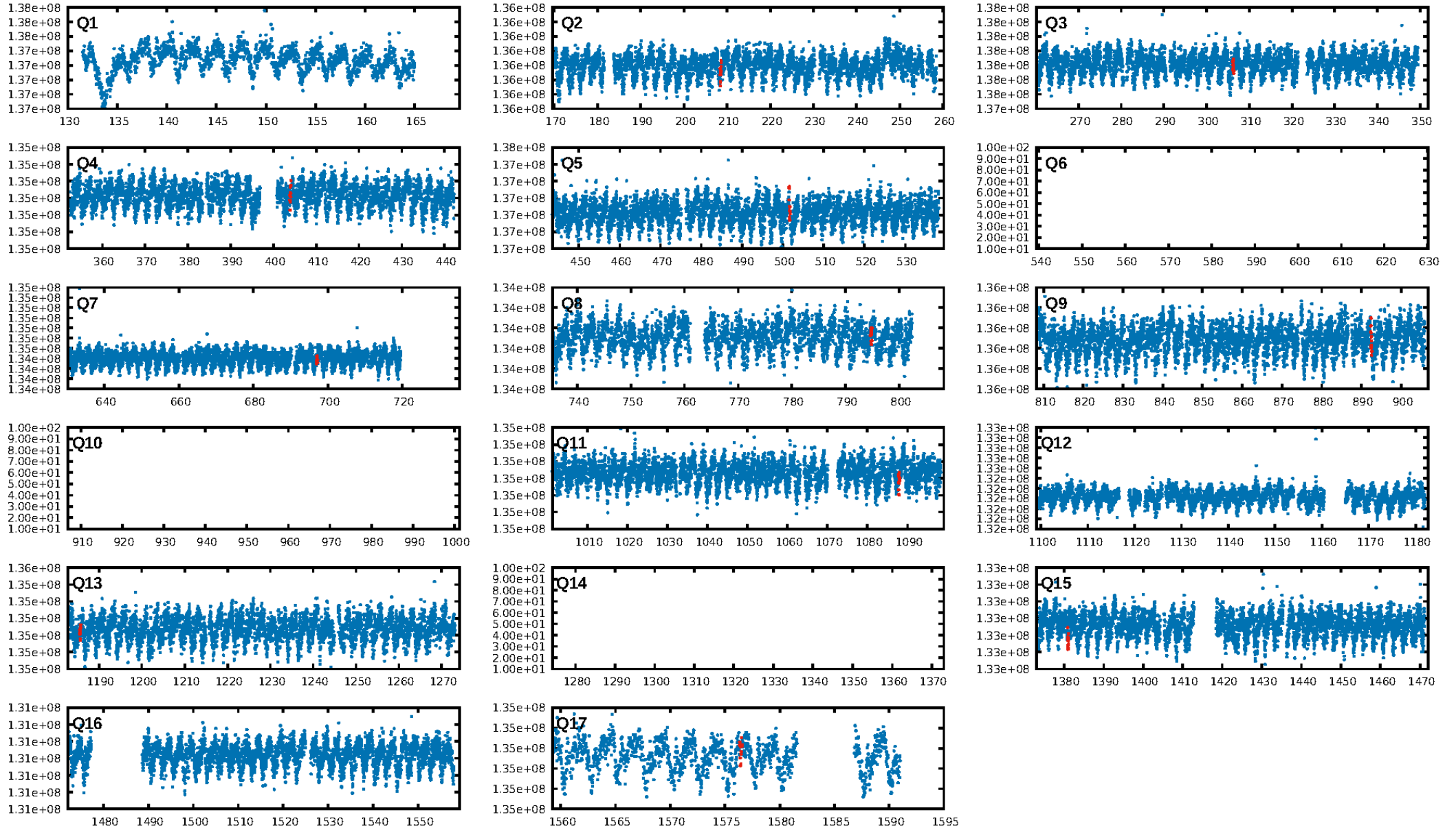
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [282.32 σ]
LongPeriod-sig: 100.0% [80.57 σ]
ModelChiSquare2-sig: 51.4%
ModelChiSquareGof-sig: 96.6%
Bootstrap-pfa: 4.25e-08
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -2.413
Centroid-sig: 11.1%
Centroid-so: 1.209 arcsec [1.27 σ]
OotOffset-rm: 1.198 arcsec [1.50 σ]
OotOffset-st: 1/3/2/2 [8]
KicOffset-rm: 1.186 arcsec [1.46 σ]
KicOffset-st: 1/3/2/2 [8]
DiffImageQuality-fgm: 0.75 [6/8]
DiffImageOverlap-fno: 0.50 [5/10]

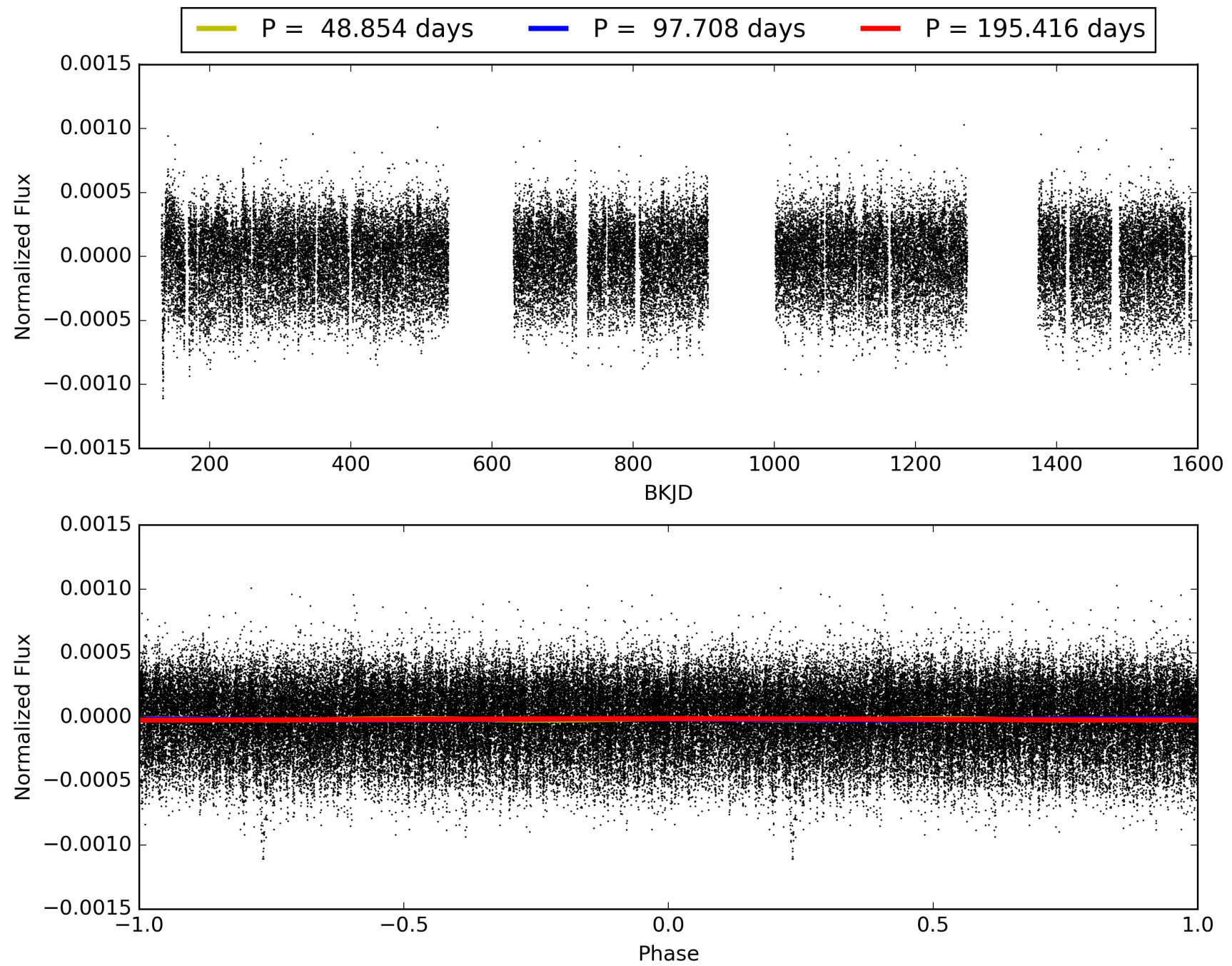
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:12:35 Z

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

TCE 00484555-08, PDC Light Curves

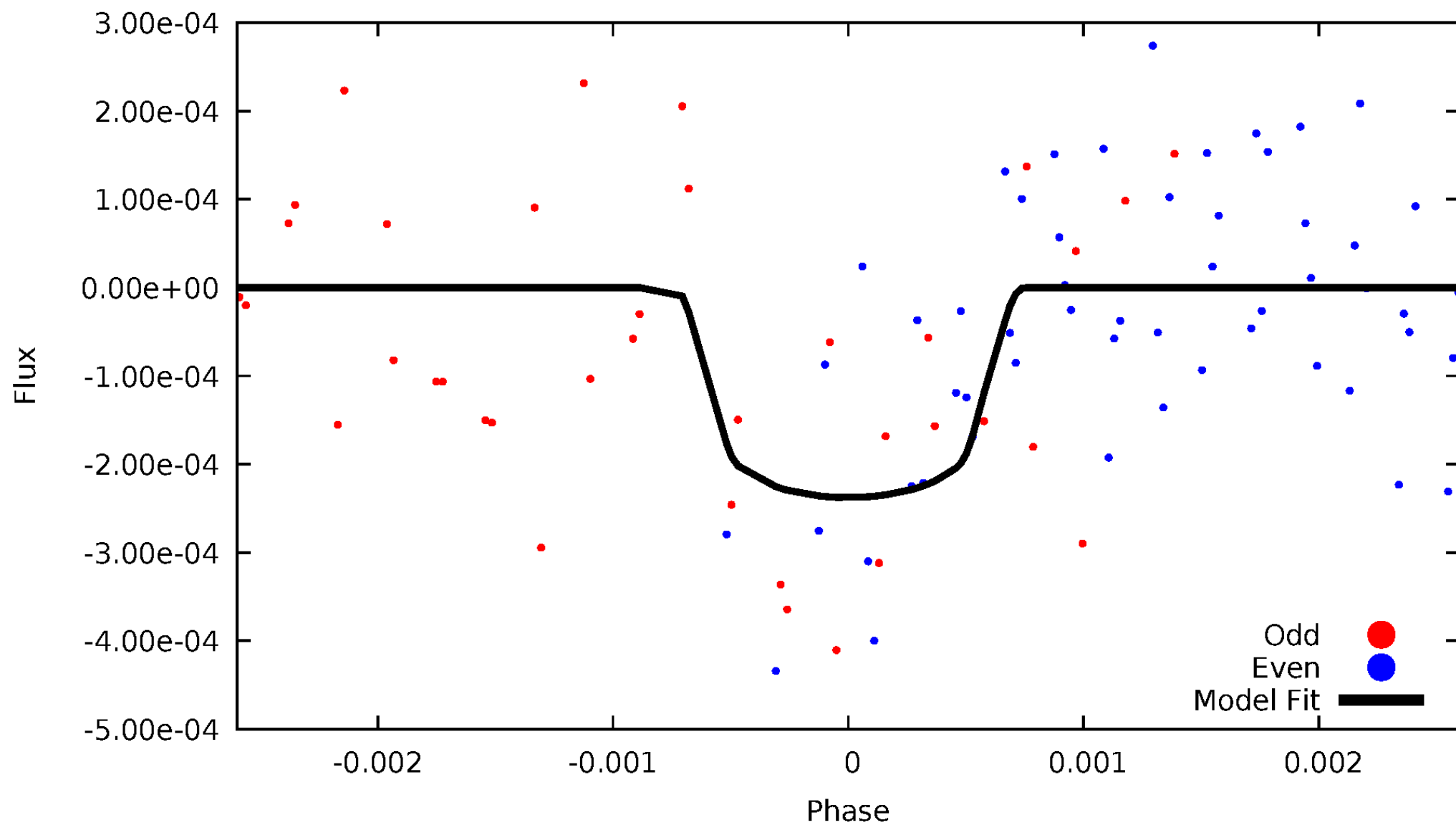


TCE 004845555-08



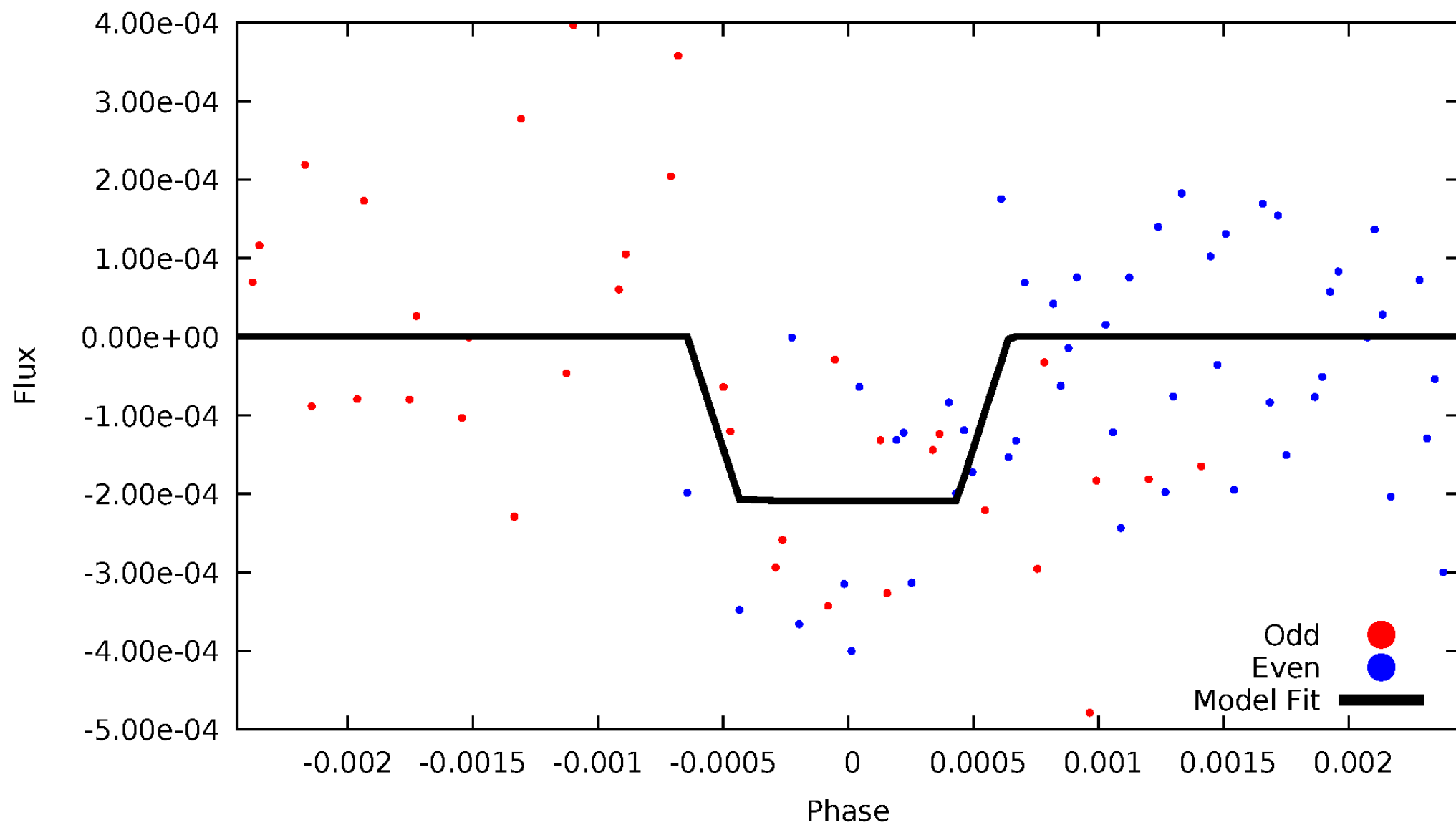
DV Odd/Even

TCE 00484555-08



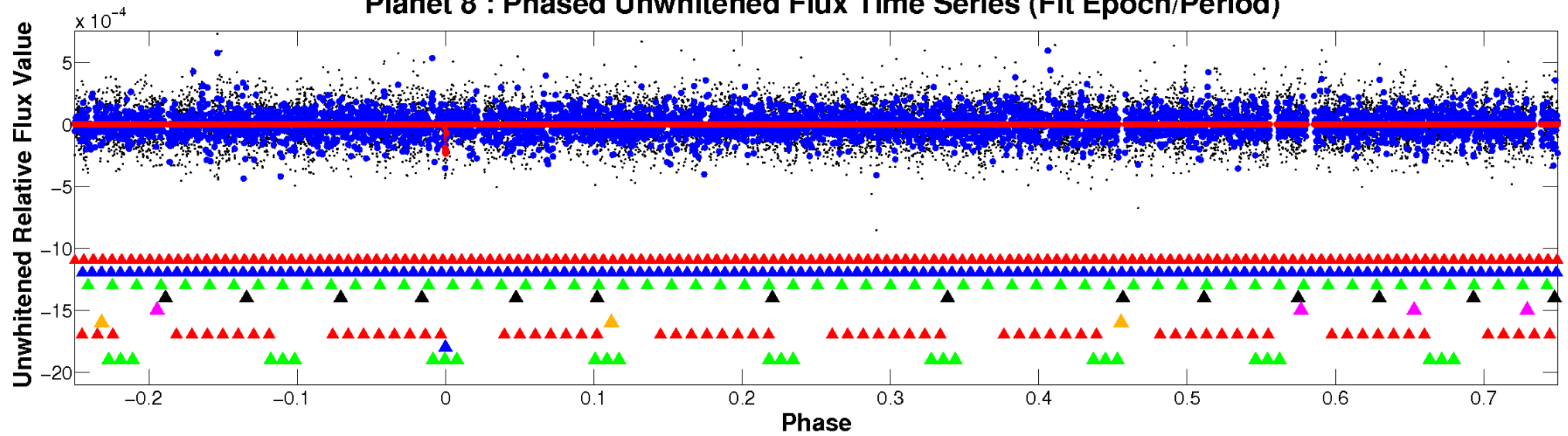
ALT Odd/Even

TCE 00484555-08

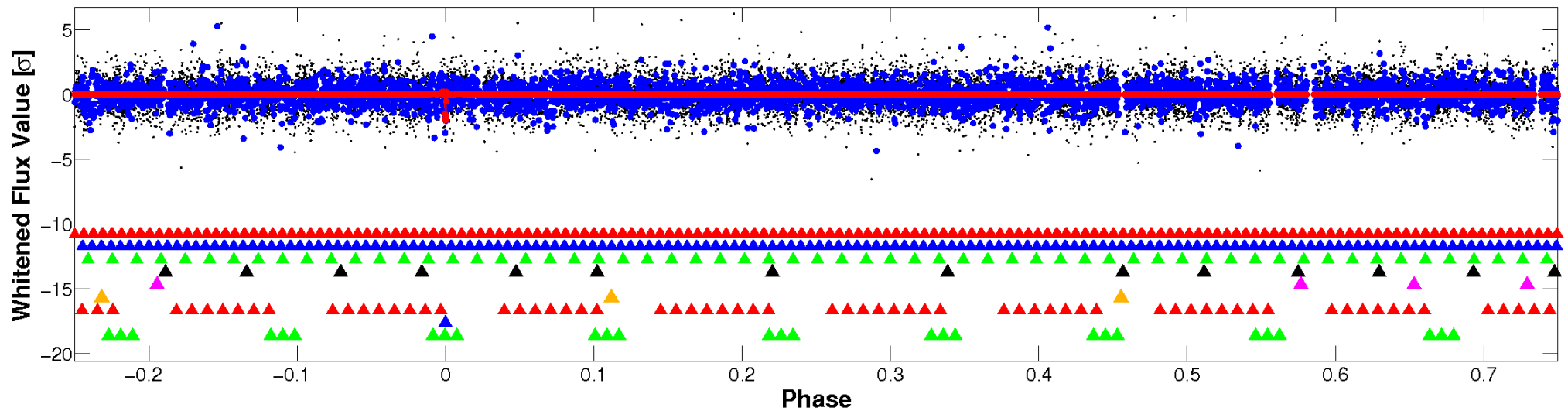


Non-Whitened Vs. Whitened Light Curve

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

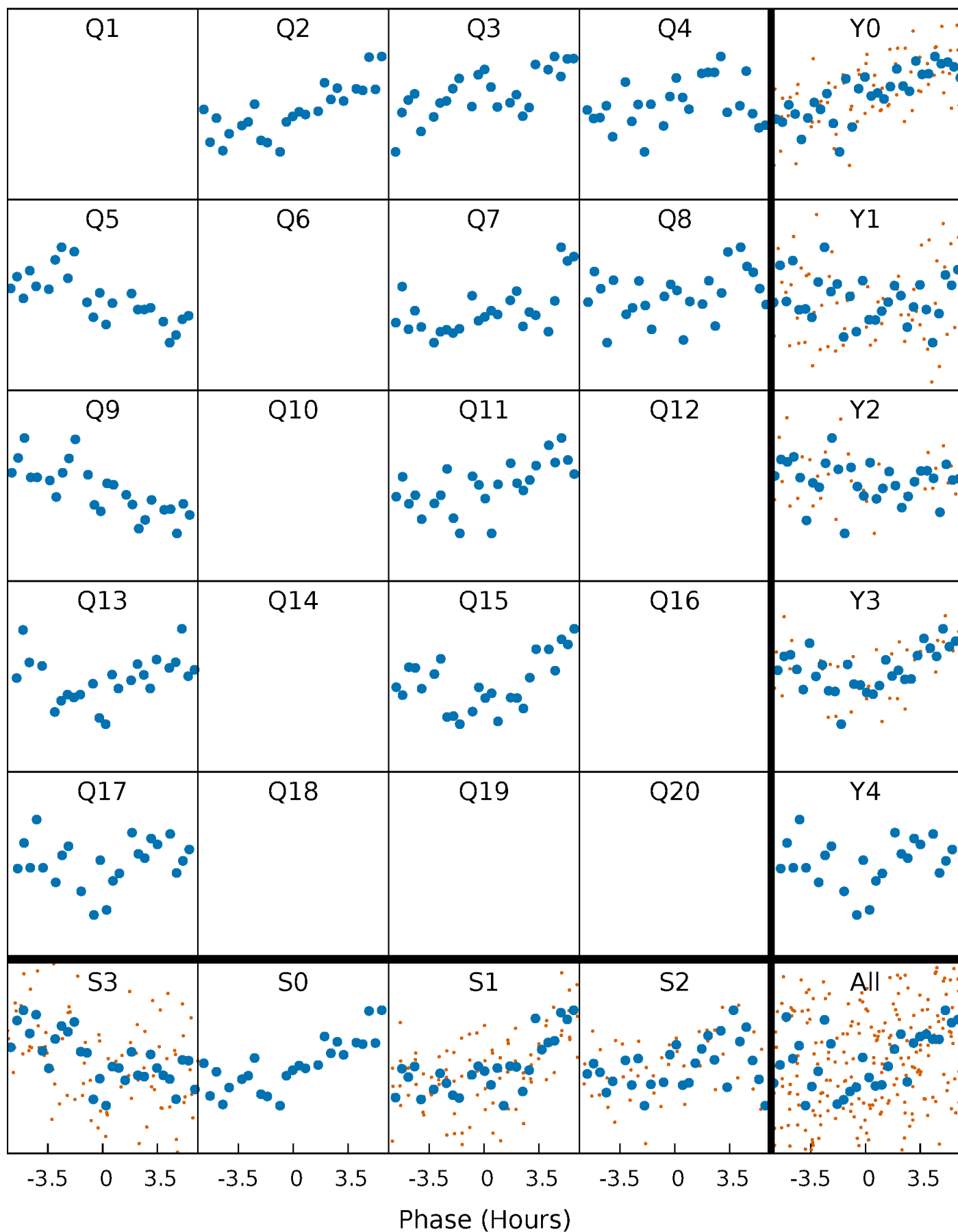


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



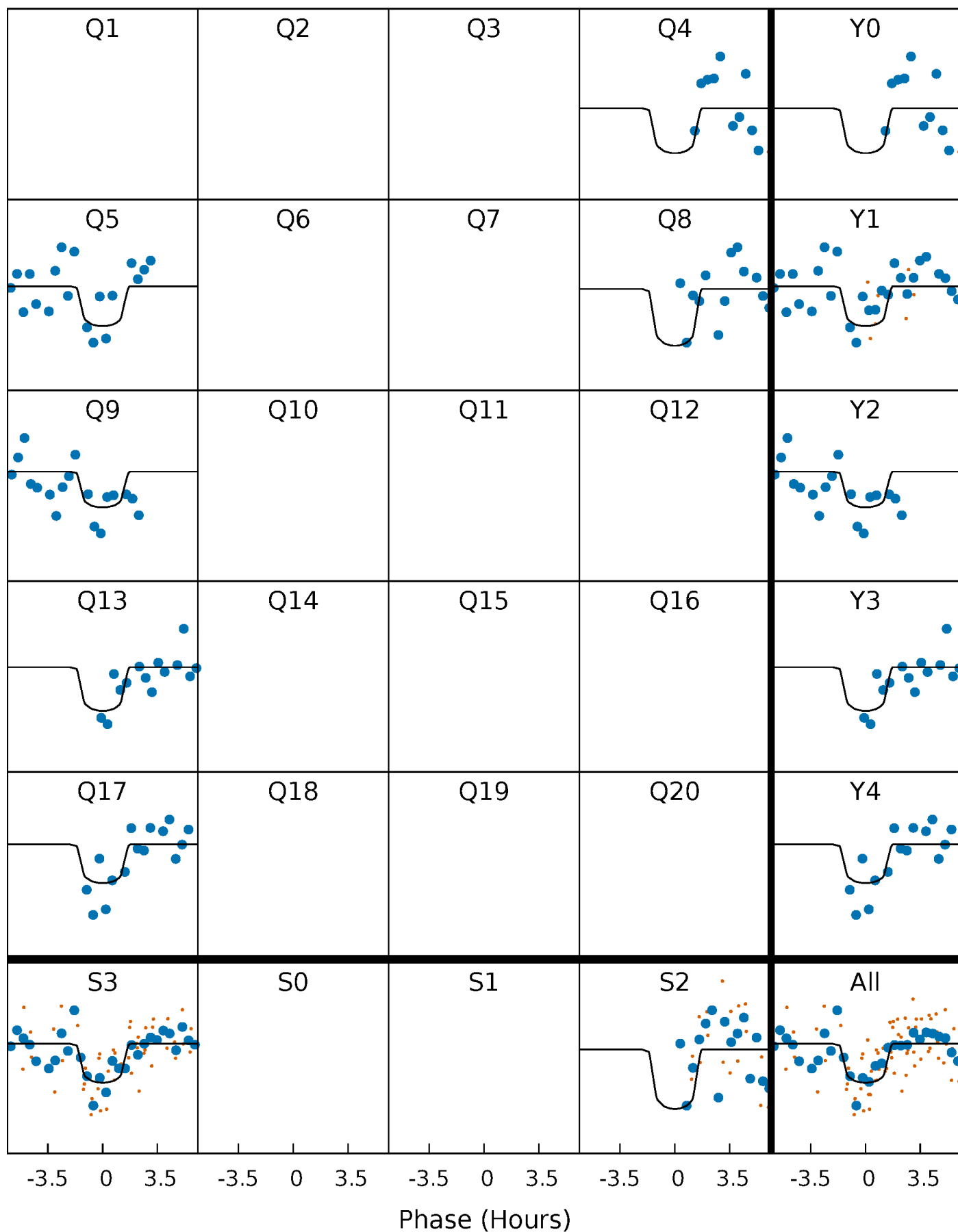
PDC Quarter-Phased Transit Curves

TCE 004845555-08 P= 97.707904 Days $T_0=208.530444$ (BKJD)



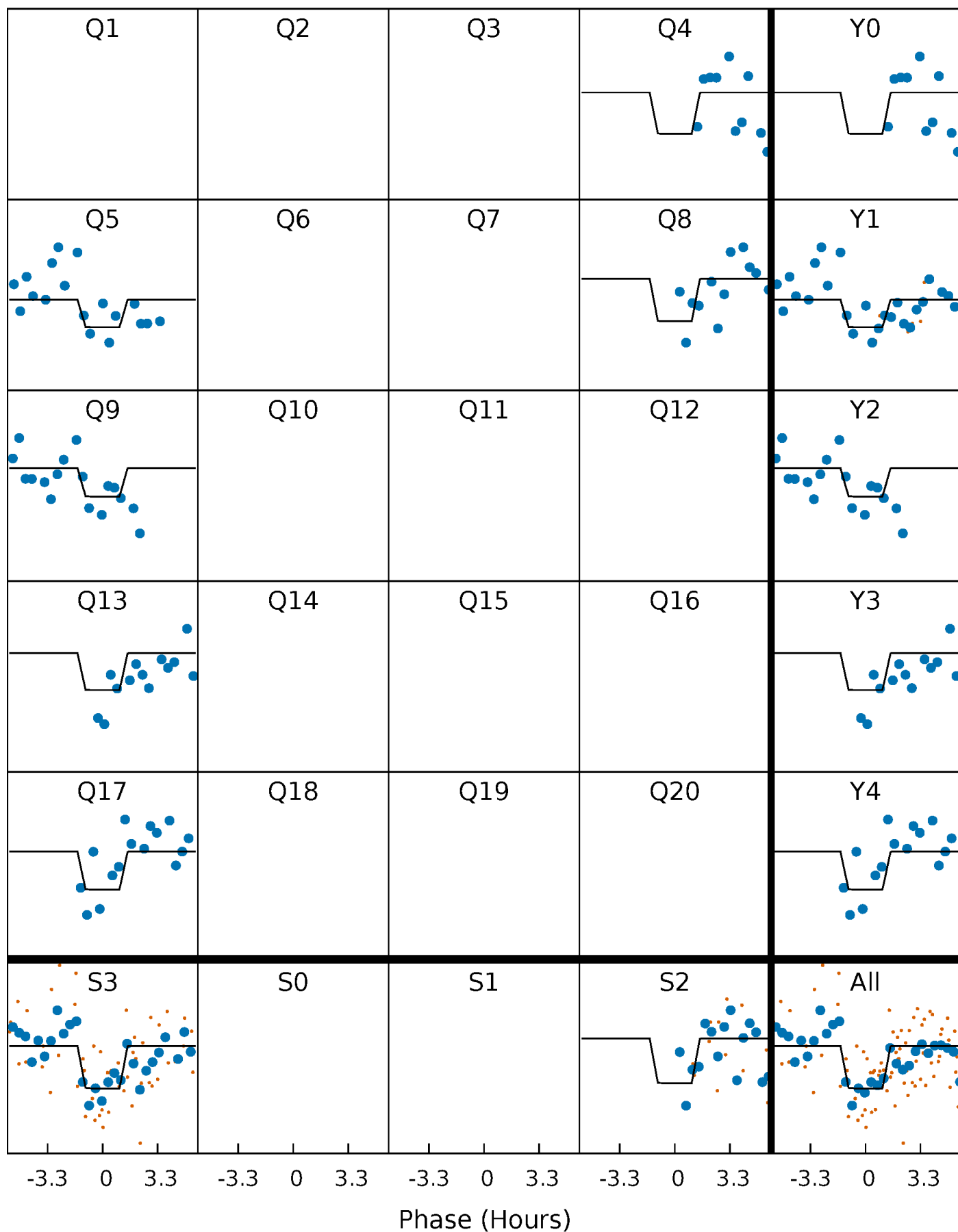
DV Quarter-Phased Transit Curves

TCE 004845555-08 $P = 97.707904$ Days $T_0 = 208.530444$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

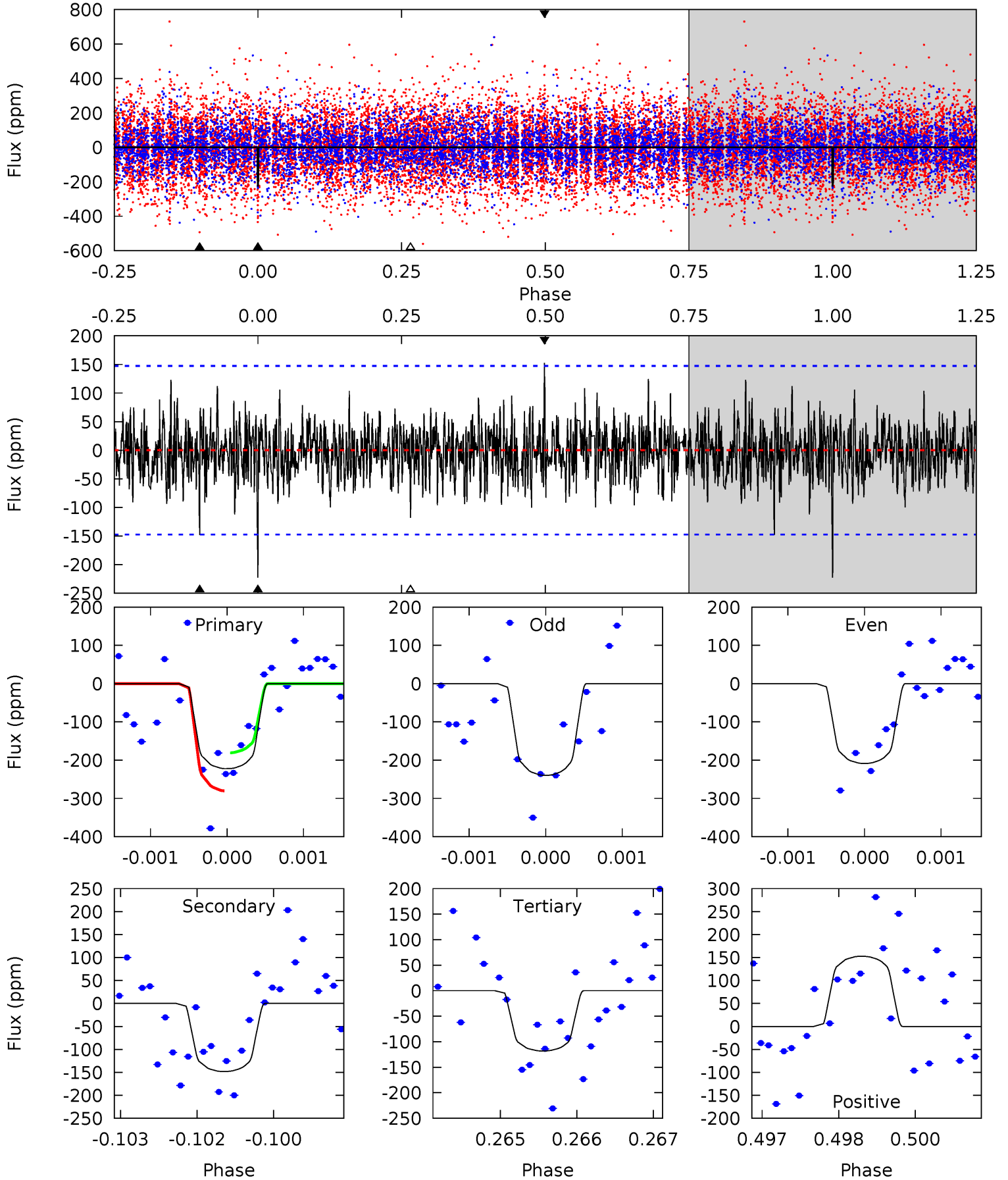
TCE 004845555-08 $P = 97.709248$ Days $T_0 = 208.523990$ (BKJD)



DV Model-Shift Uniqueness Test

004845555-08, P = 97.707904 Days, E = 110.822540 Days

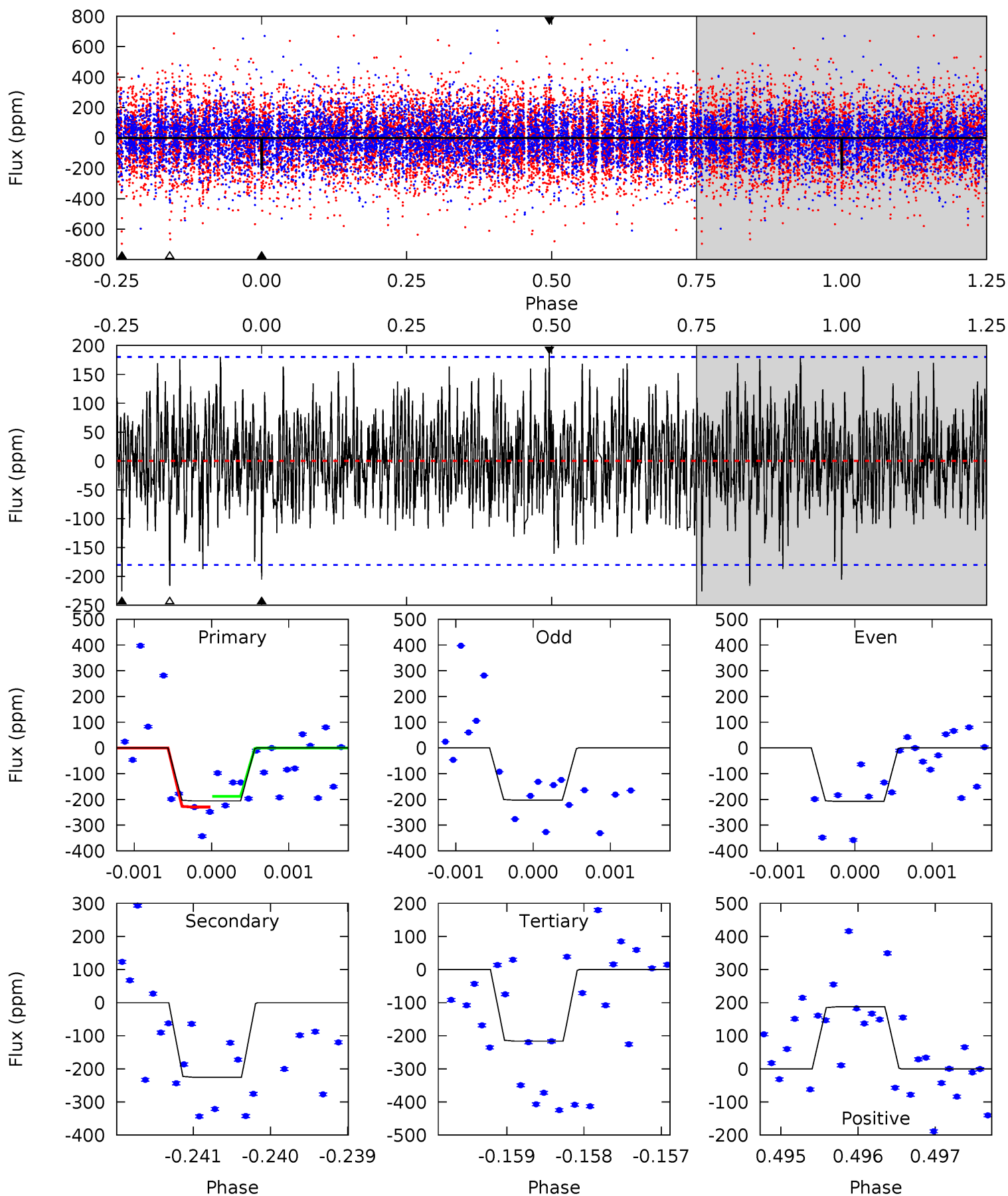
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.13	5.42	4.32	5.58	5.39	3.19	1.35	3.81	2.54	1.10	-0.17	0.56	0.94	0.41	1.75



Alt Model-Shift Uniqueness Test

004845555-08, P = 97.709248 Days, E = 110.814742 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.19	6.79	6.52	5.64	5.43	3.25	1.80	-0.32	0.55	0.27	1.15	0.07	1.14	0.45	0.60



Stellar Parameters For KIC 004845555

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6429^{+155}_{-175}	$3.607^{+0.328}_{-0.082}$	$-0.160^{+0.350}_{-0.250}$	$3.288^{+0.420}_{-1.260}$	$1.596^{+0.203}_{-0.376}$	$0.063^{+0.162}_{-0.016}$
	+2%/-3%	+9%/-2%	+219%/-156%	+13%/-38%	+13%/-24%	+256%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004845555-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-148 ± 27	$5.53^{+3.75}_{-3.16}$	1012^{+57}_{-95}	5526^{+3003}_{-1092}	622^{+2494}_{-405}
Alt.	-225 ± 33	$5.24^{+3.90}_{-3.02}$	1013^{+50}_{-89}	6241^{+4158}_{-1332}	1060^{+4834}_{-703}

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

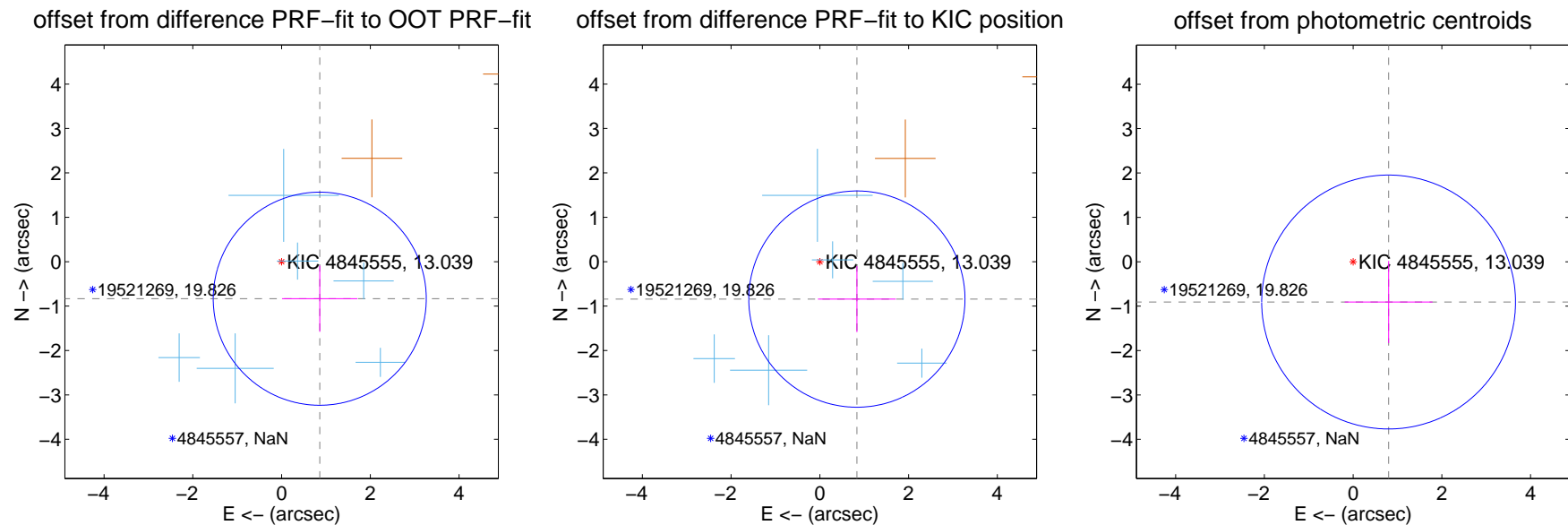
DV Centroid Data

Supplemental centroid analysis for 004845555-08. Kepler magnitude: 13.04. Transit SNR 8.74

There are 6 quarters with good PRF difference image offsets

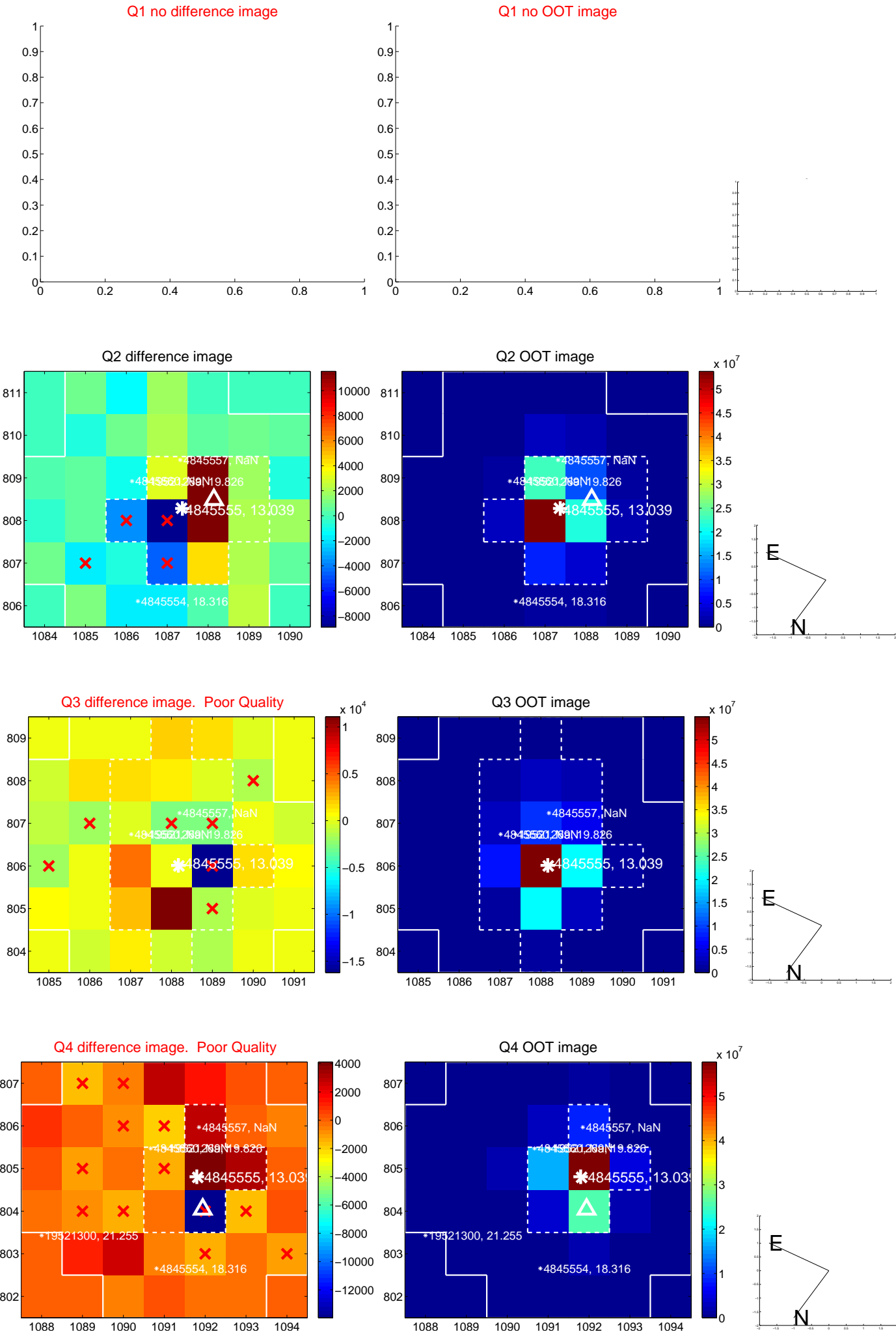
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.198 ± 0.800	1.50	-0.860 ± 0.848	-0.834 ± 0.745
PRF-fit source offset from KIC position	1.186 ± 0.812	1.46	-0.835 ± 0.876	-0.842 ± 0.743
photometric centroid source offset	1.21 ± 0.95	1.27	-0.80 ± 0.99	-0.91 ± 0.92

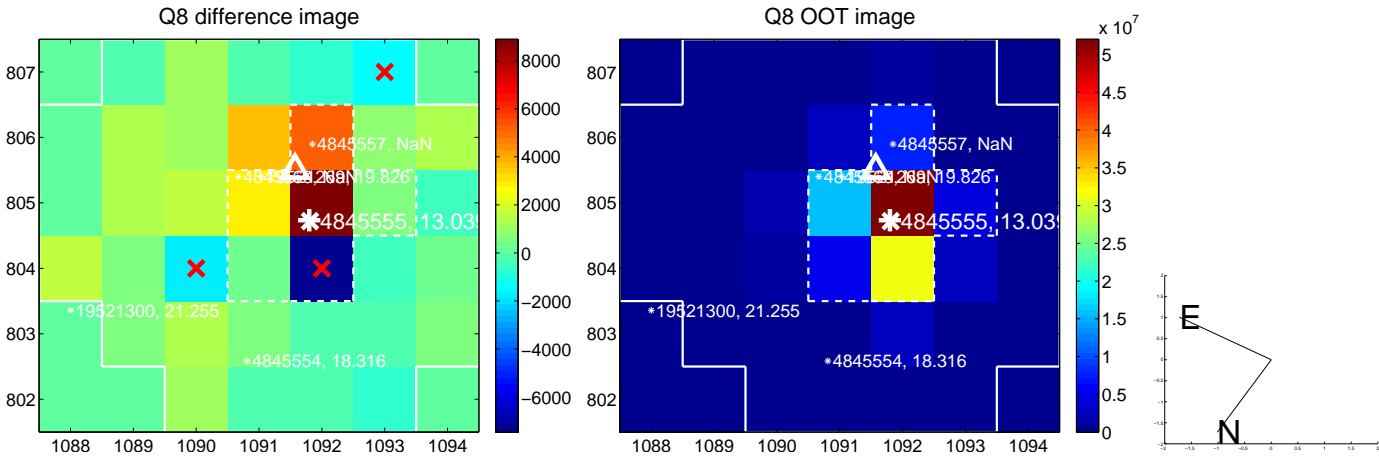
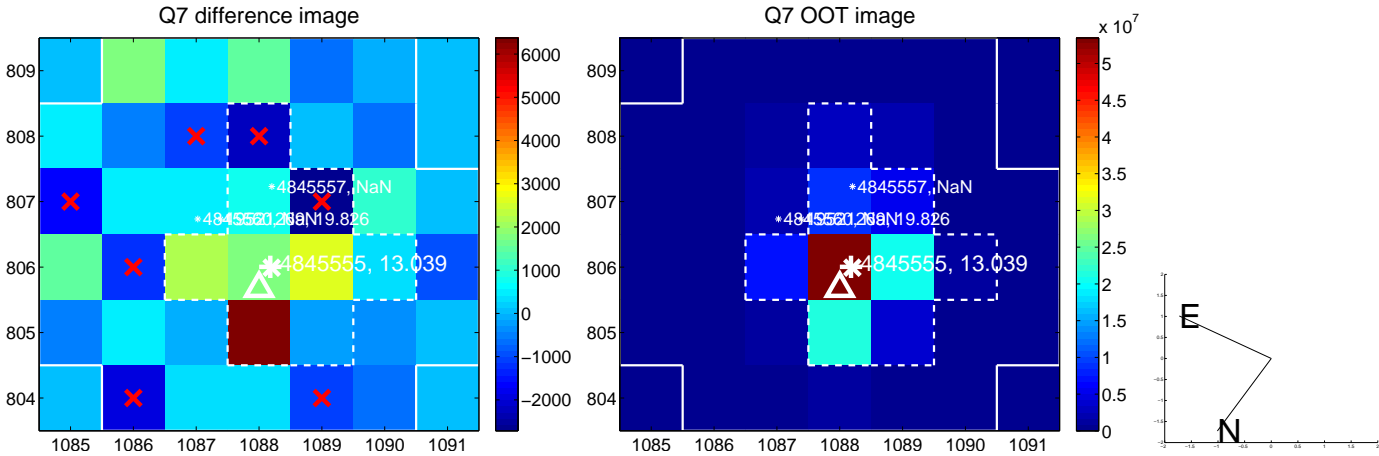
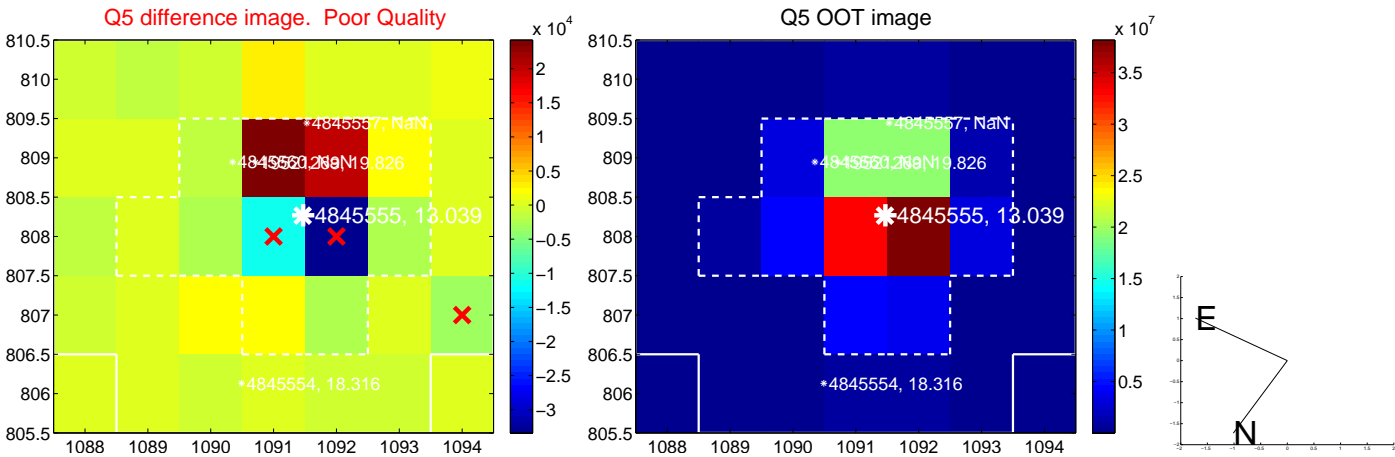


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

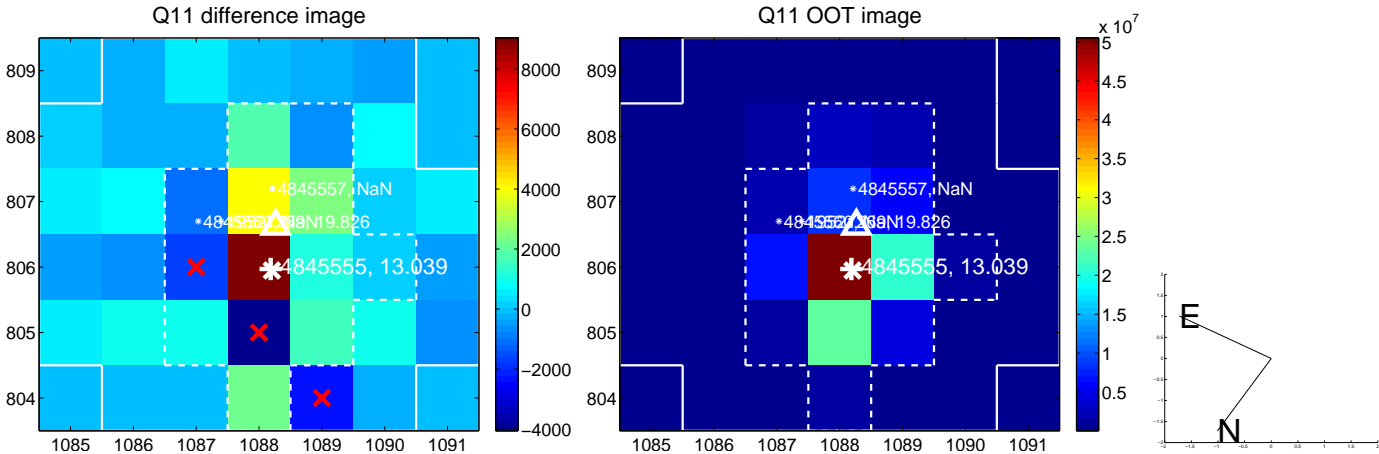
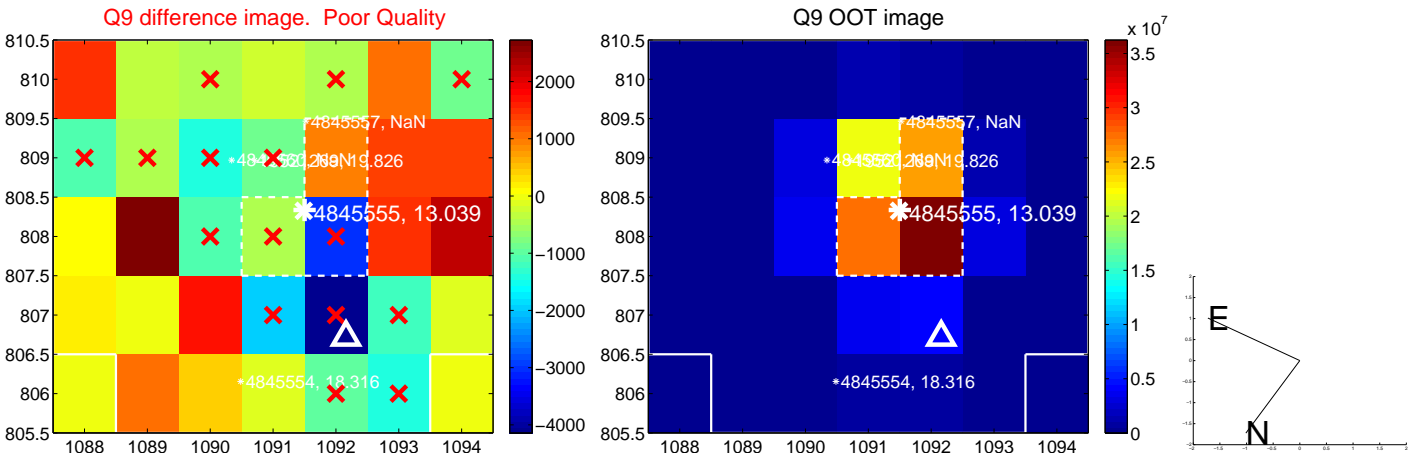
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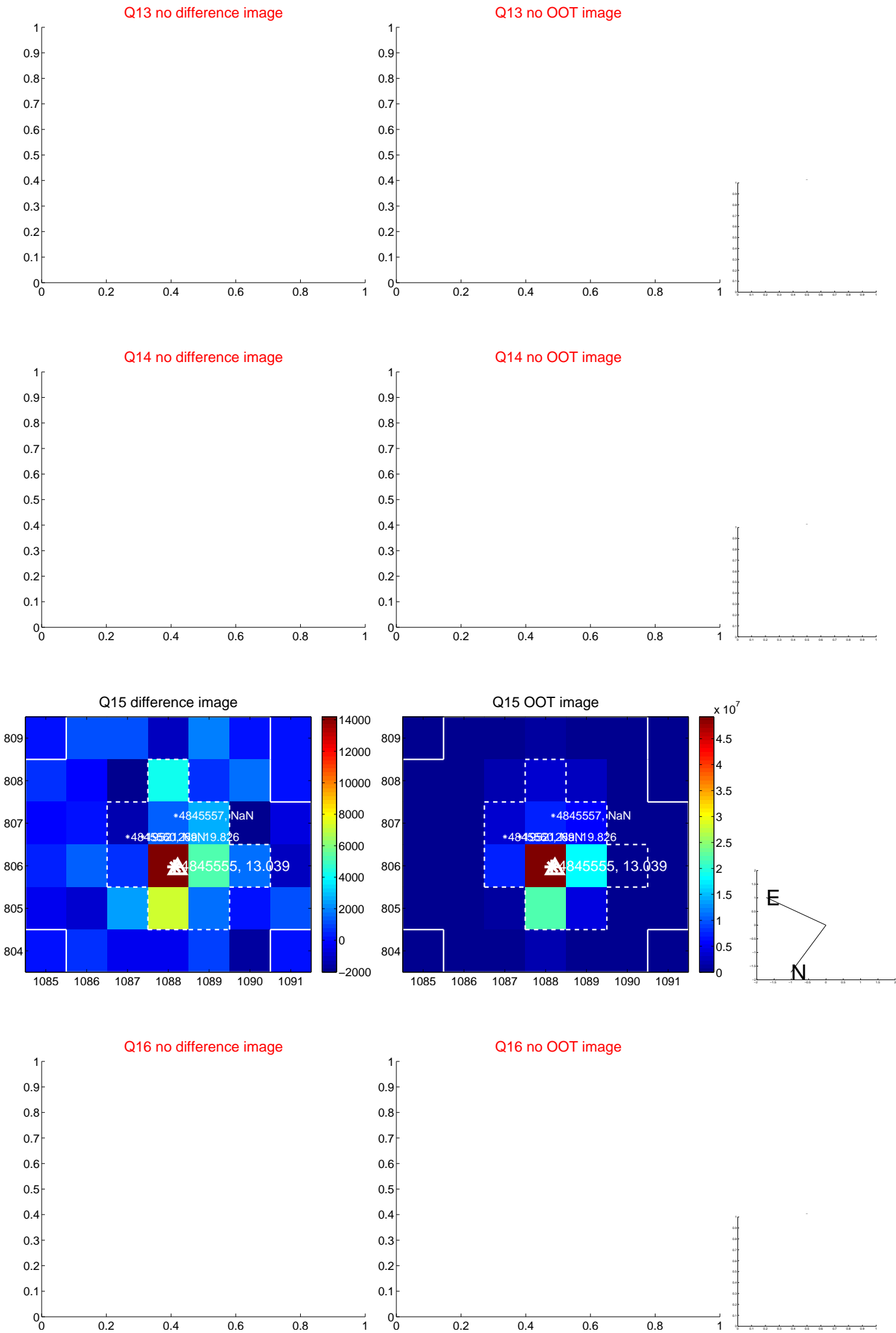
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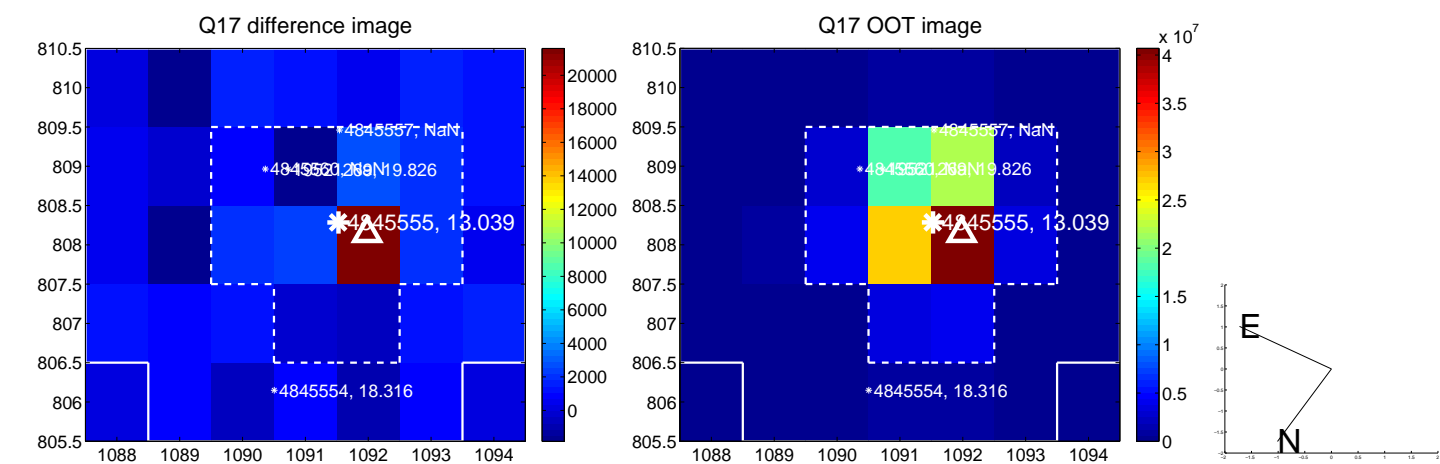
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



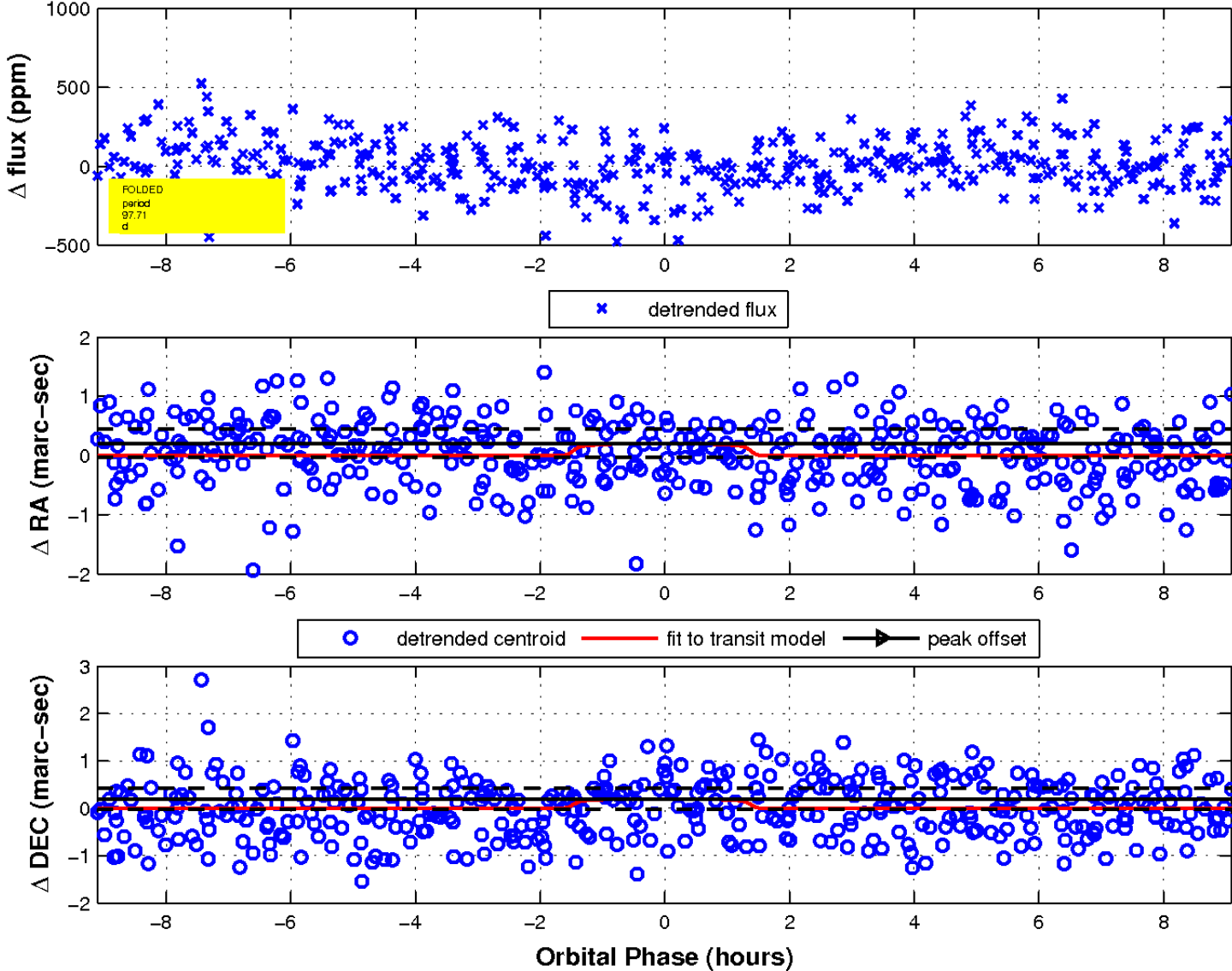
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

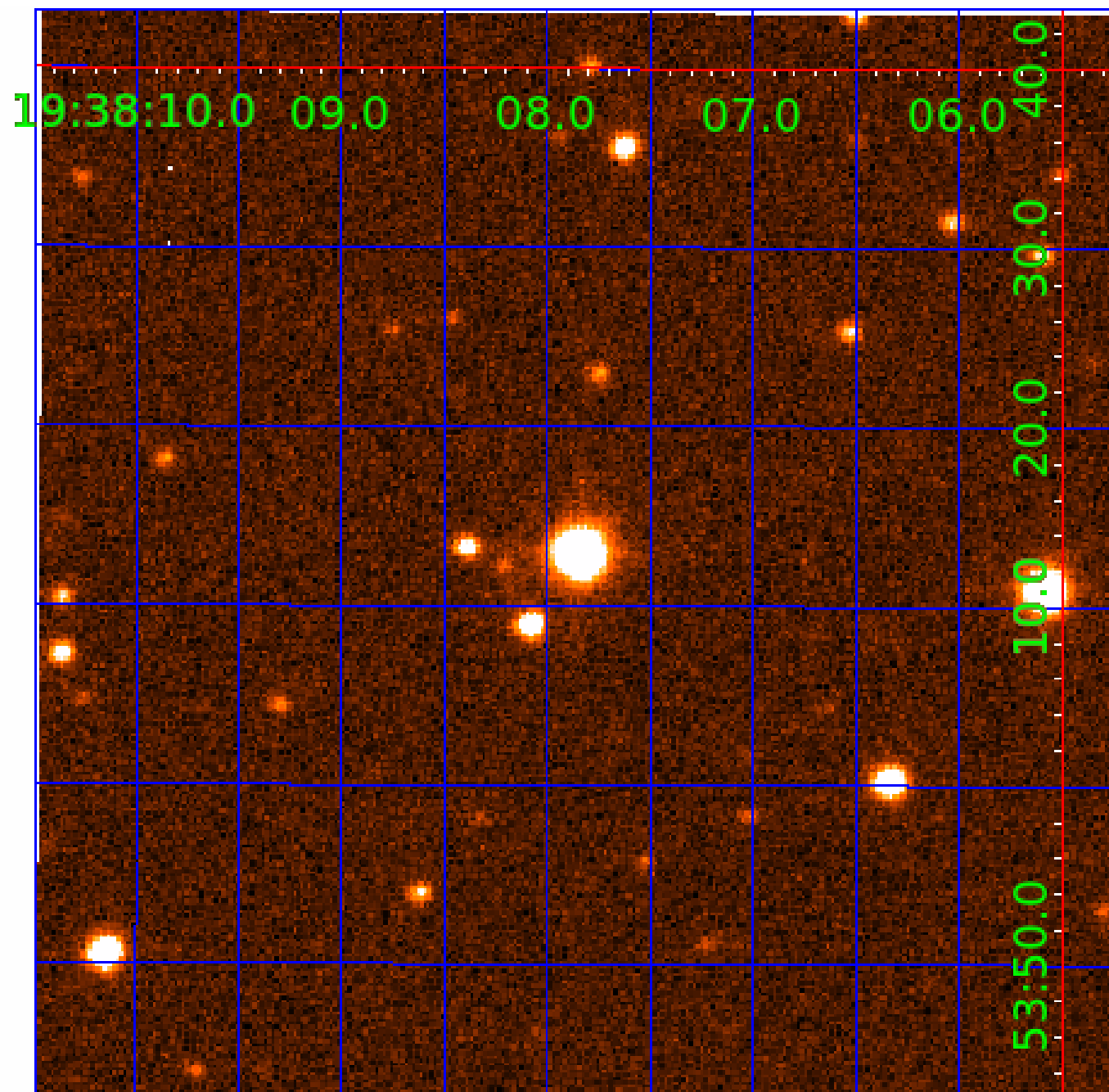


fluxWeightedCentroids, Planet 8 of 9



UKIRT Image

Declination



KIC 004845555

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004845555-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—SAME_NTL_PERIOD
004845555-03	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-04	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT
004845555-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—CENT_FEW_DIFFS
004845555-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004845555-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_ALT
004845555-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
004845555-09	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT

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

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

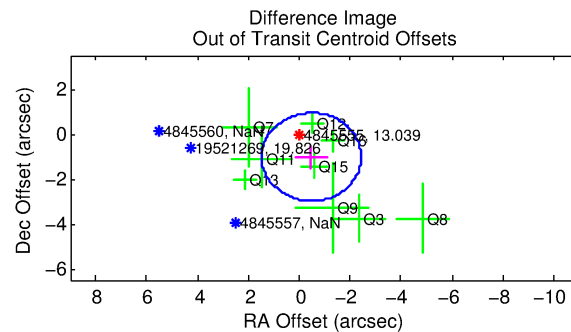
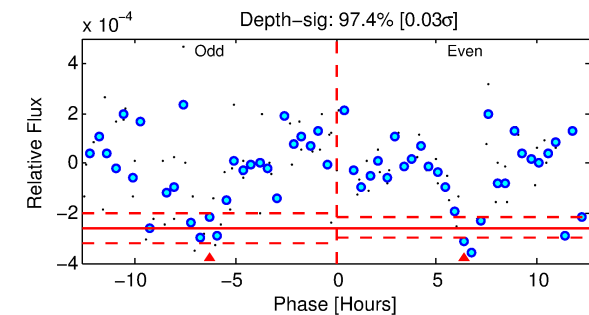
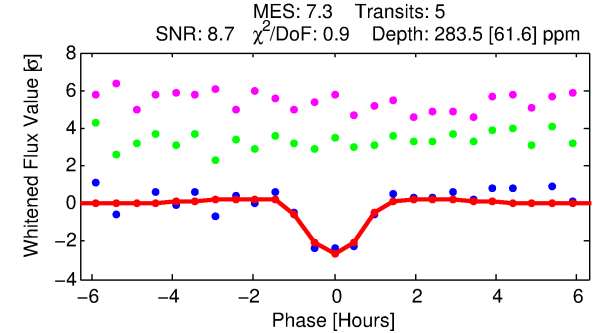
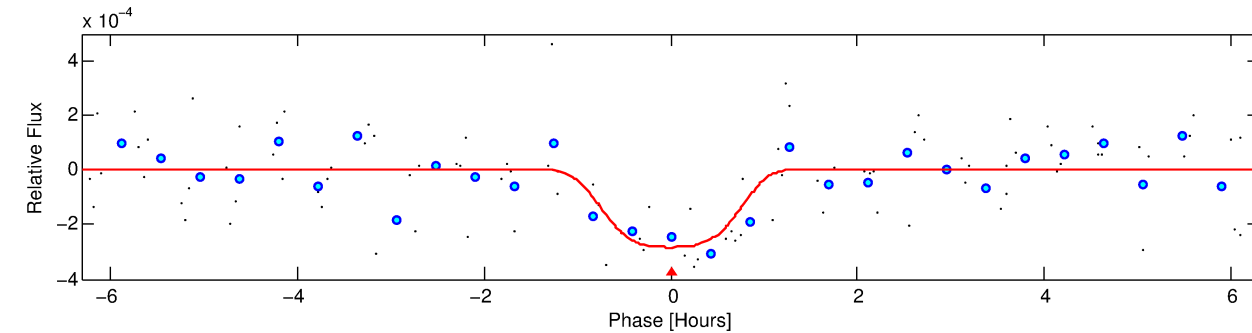
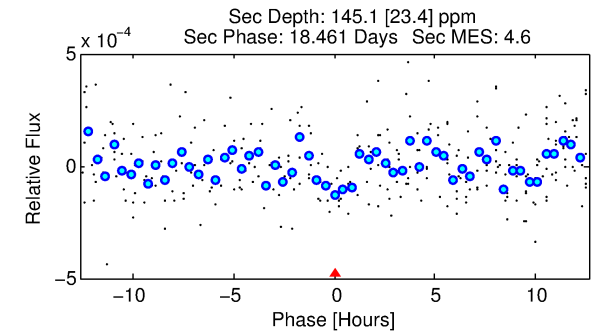
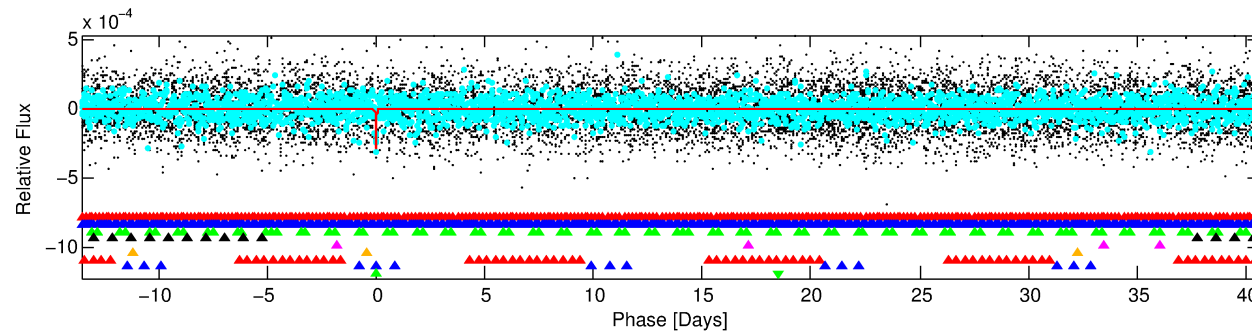
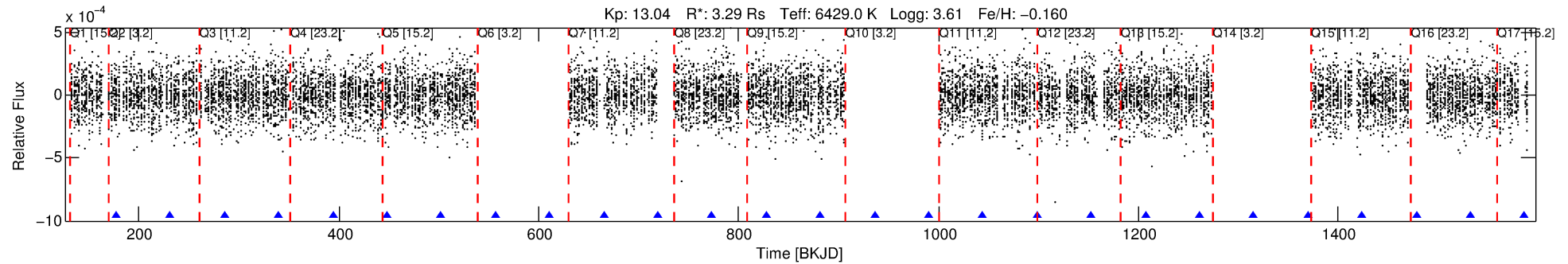
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004845555-09

No Significant Match Found

DV One-Page Summary

KIC: 4845555 Candidate: 9 of 9 Period: 54.195 d



DV Fit Results:

Period = 54.19467 [0.00040] d
Epoch = 177.2363 [0.0071] BKJD
Rp/R* = 0.0201 [0.0044]
a/R* = 60.49 [50.30]
b = 0.97 [0.05]
Seff = 154.22 [88.68]
Teff = 899 [129] K
Rp = 7.21 [3.19] Re
a = 0.3276 [0.1175] AU
Ag = 164.62 [120.82] [1.35σ]
Teffp = 4976 [599] K [6.66σ]

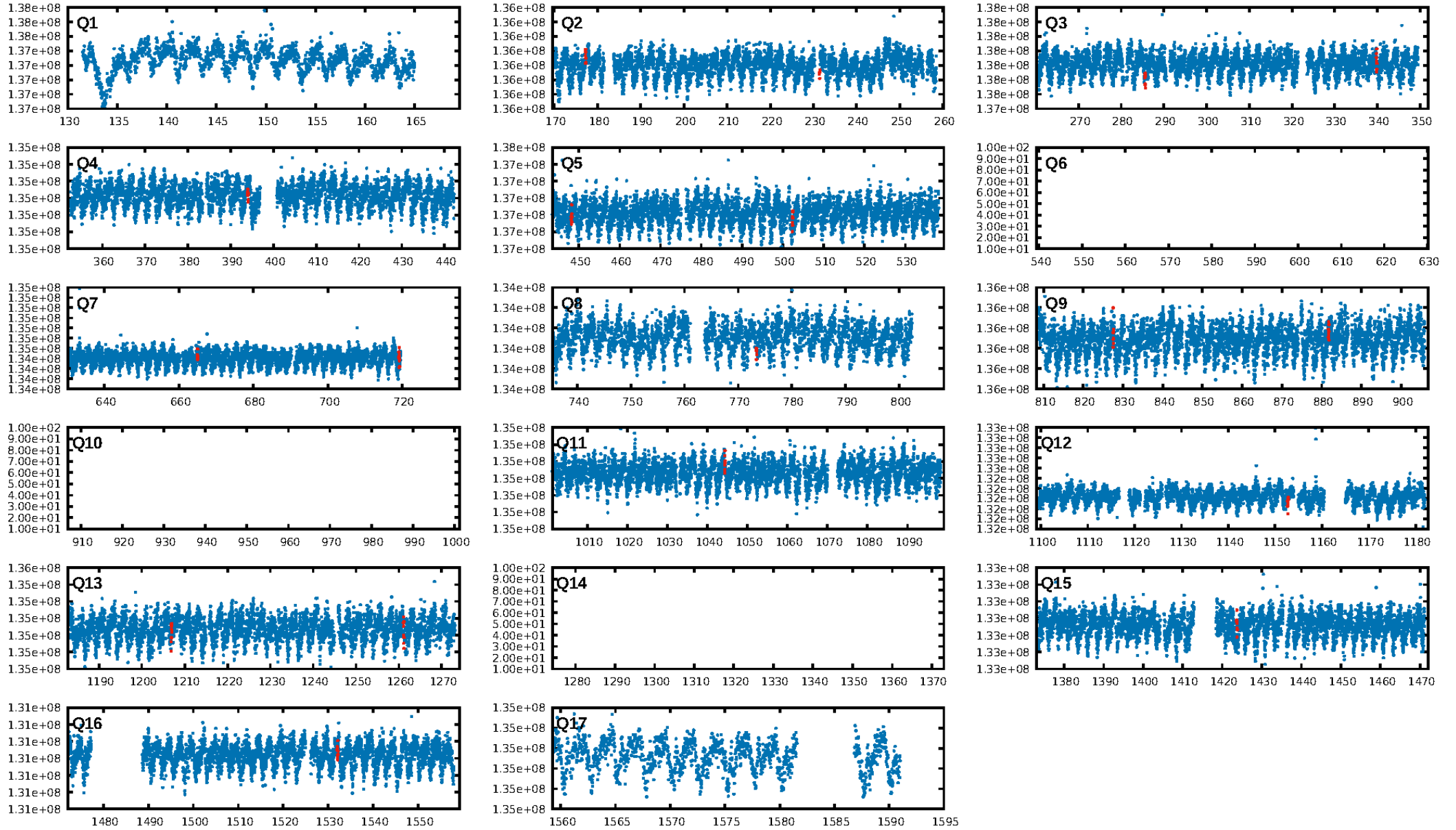
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [155.33σ]
LongPeriod-sig: 100.0% [282.32σ]
ModelChiSquare2-sig: 99.1%
ModelChiSquareGof-sig: 98.6%
Bootstrap-pfa: 4.17e-08
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.4378
Centroid-sig: 3.7%
Centroid-so: 1.239 arcsec [1.49σ]
OotOffset-rm: 1.131 arcsec [1.73σ]
KicOffset-rm: 1.093 arcsec [1.71σ]
OotOffset-st: 0/4/3/2 [9]
KicOffset-st: 0/4/3/2 [9]
DiffImageQuality-fgm: 0.44 [4/9]
DiffImageOverlap-fno: 0.67 [8/12]

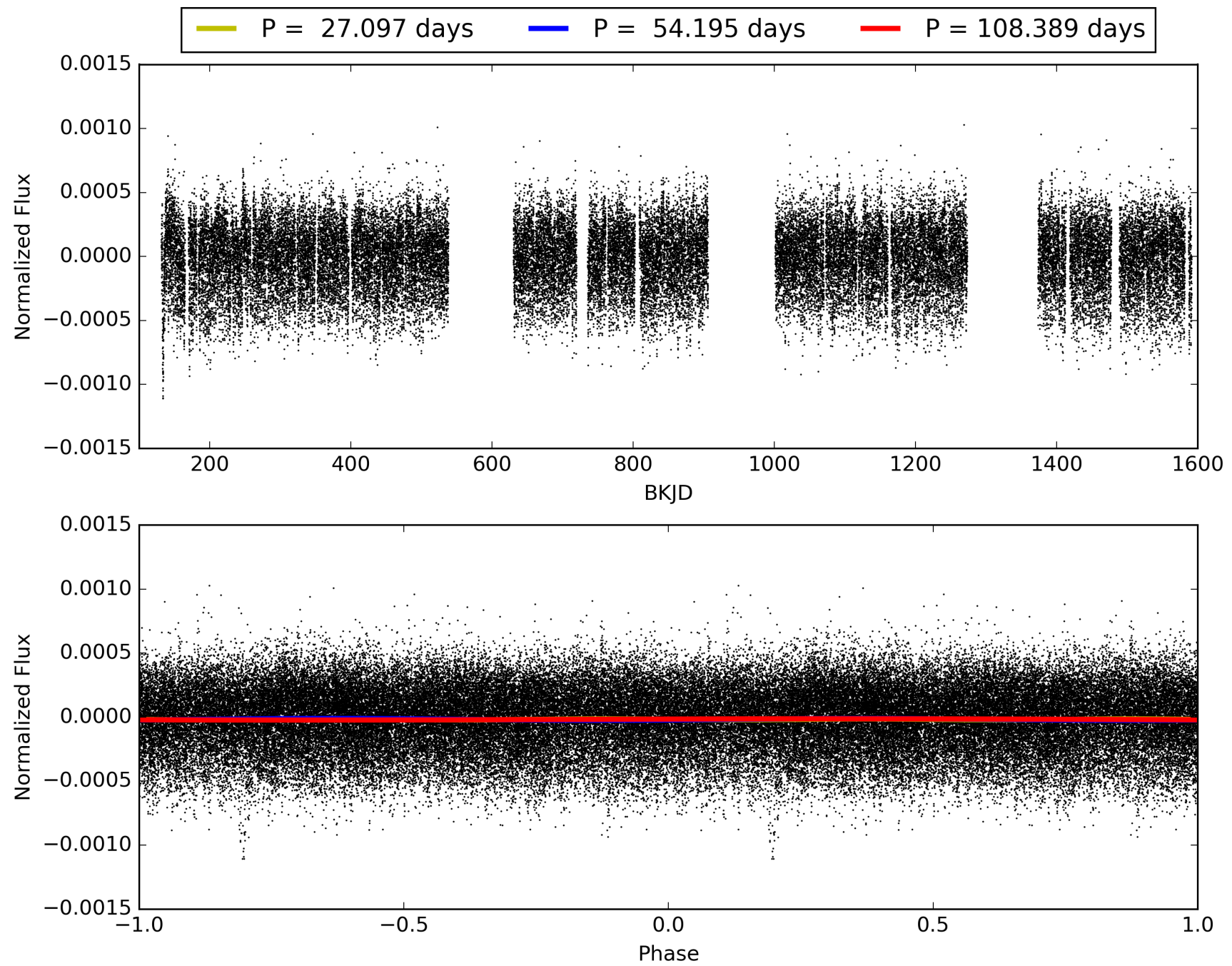
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:12:39 Z

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

TCE 004845555-09, PDC Light Curves

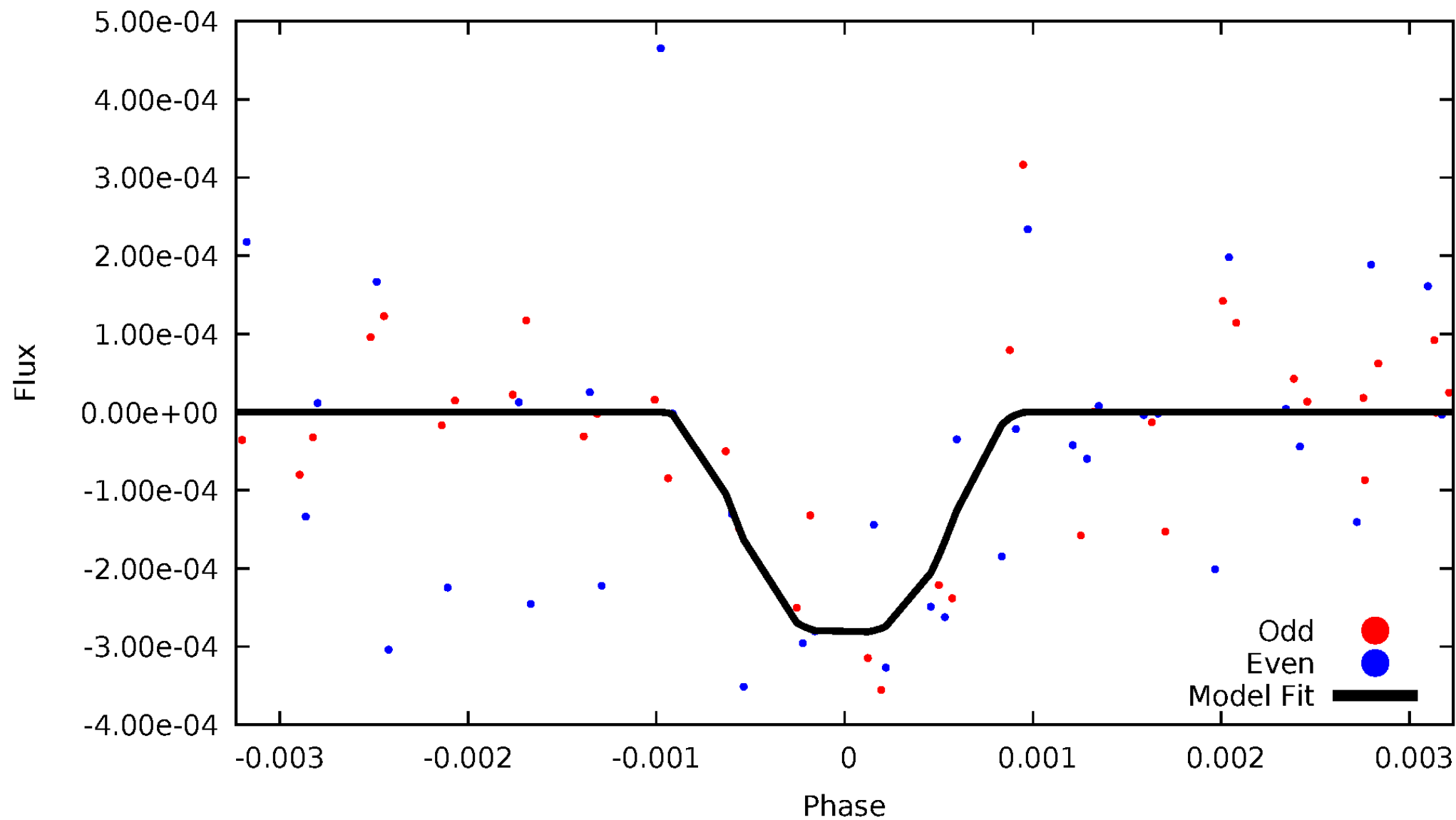


TCE 004845555-09



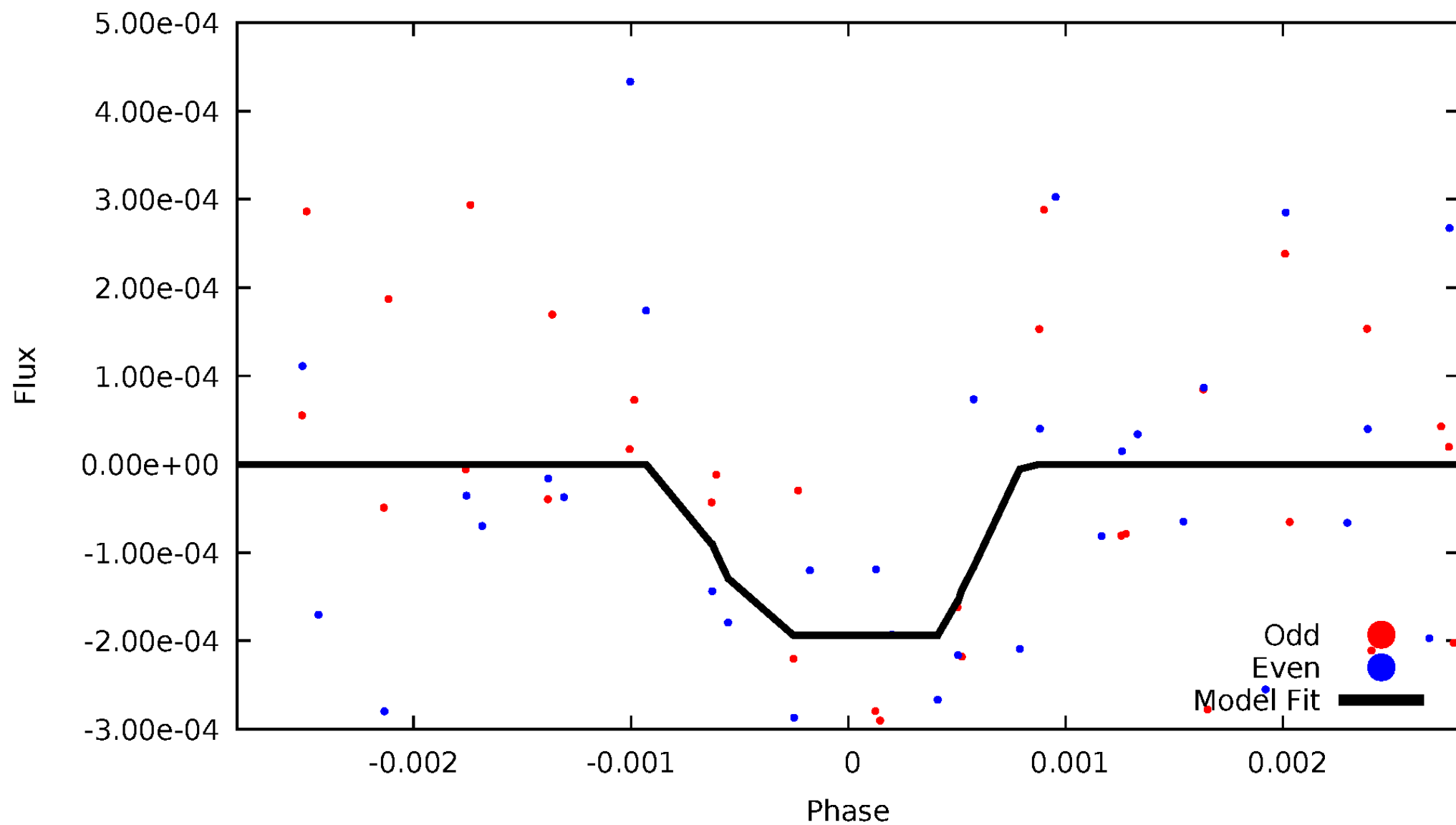
DV Odd/Even

TCE 00484555-09

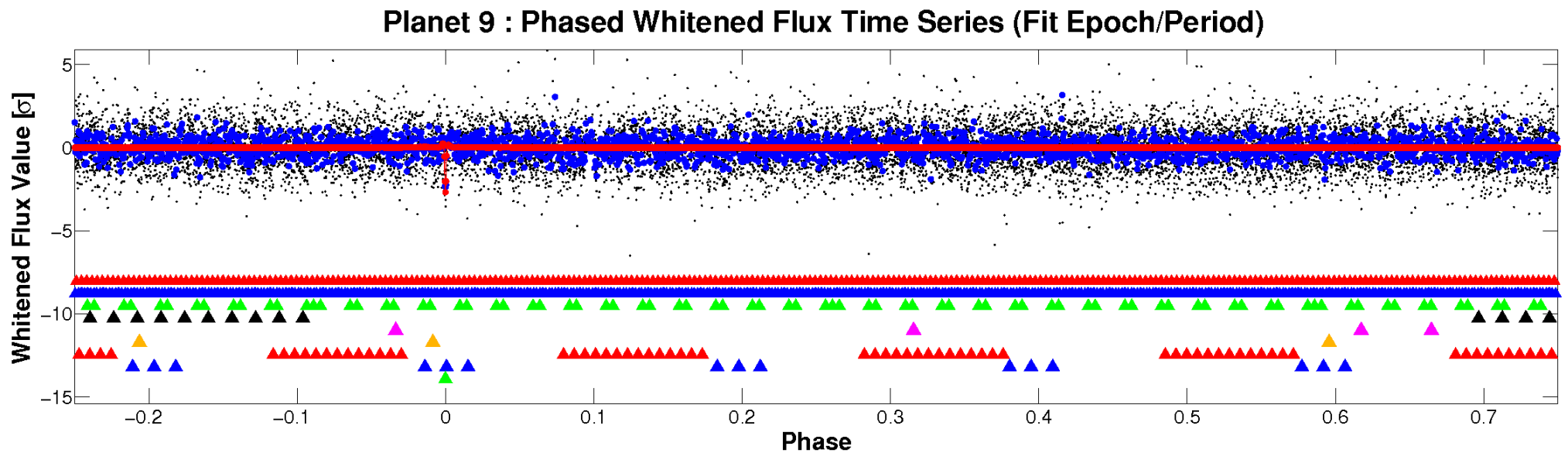
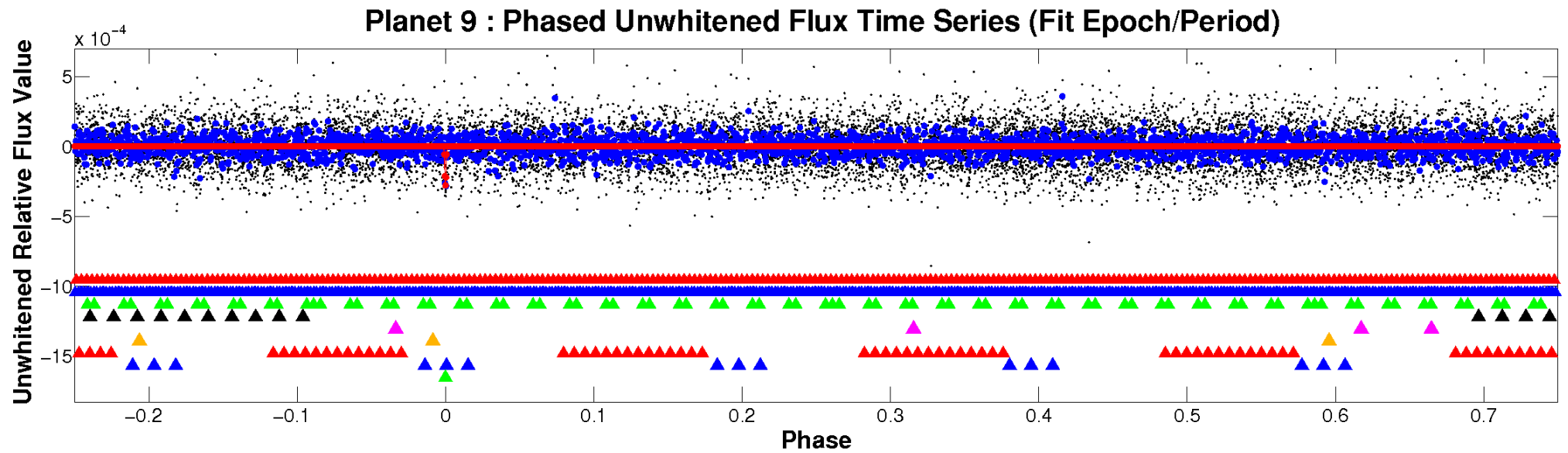


ALT Odd/Even

TCE 004845555-09

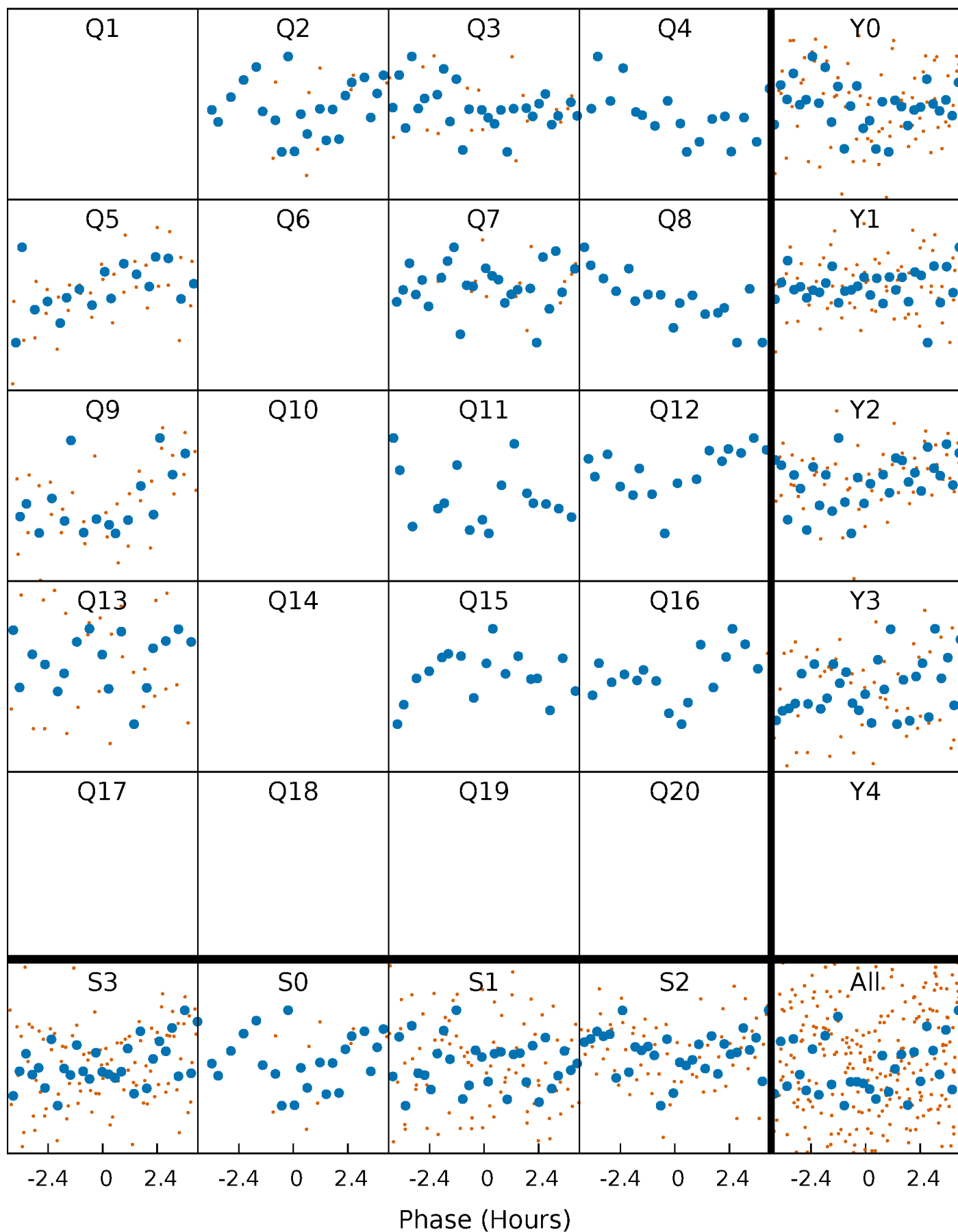


Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 004845555-09 P= 54.194665 Days $T_0=177.236292$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 004845555-09 P= 54.194665 Days $T_0=177.236292$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

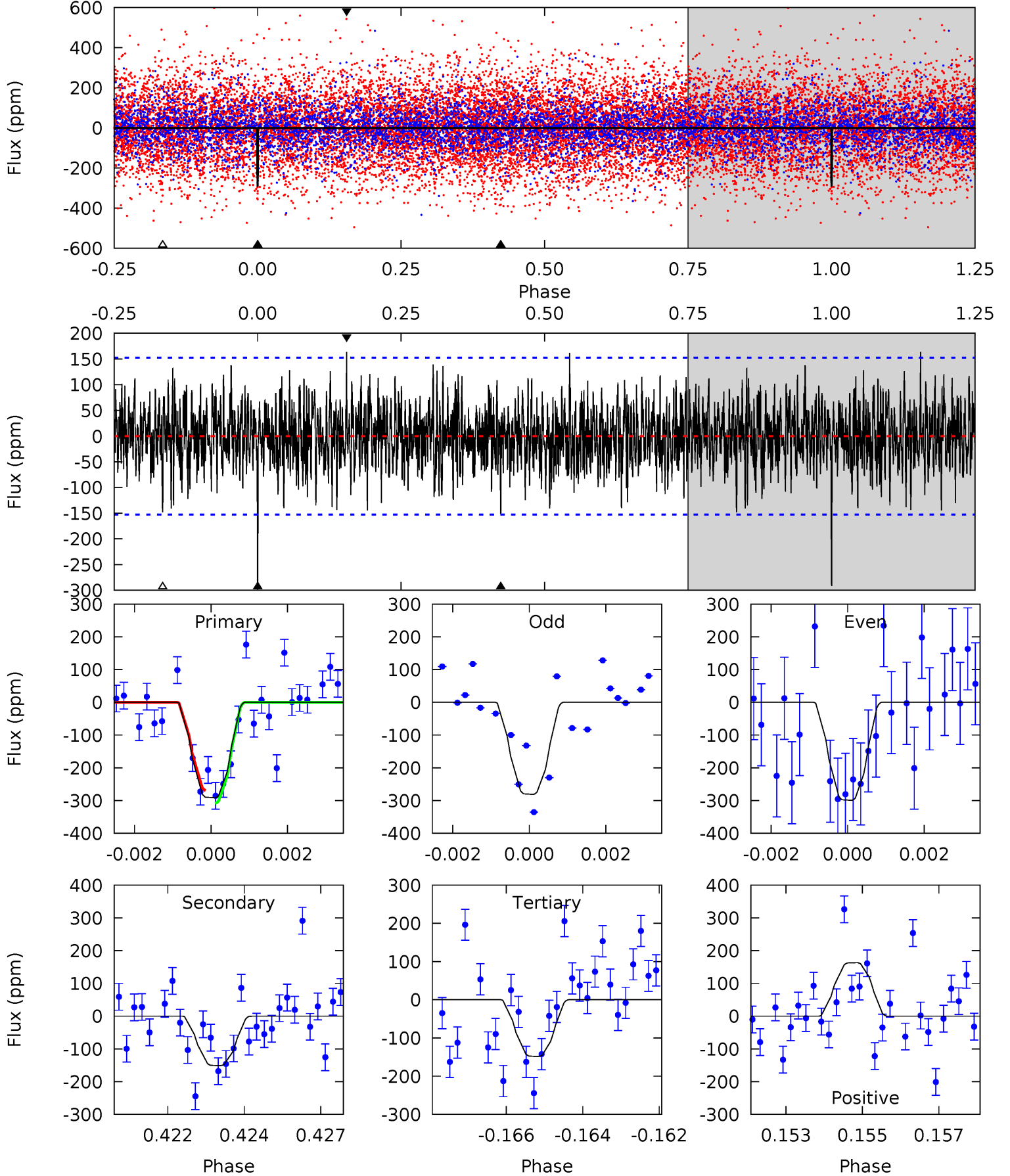
TCE 004845555-09 P= 54.194542 Days $T_0=177.239281$ (BKJD)



DV Model-Shift Uniqueness Test

004845555-09, P = 54.194665 Days, E = 123.041627 Days

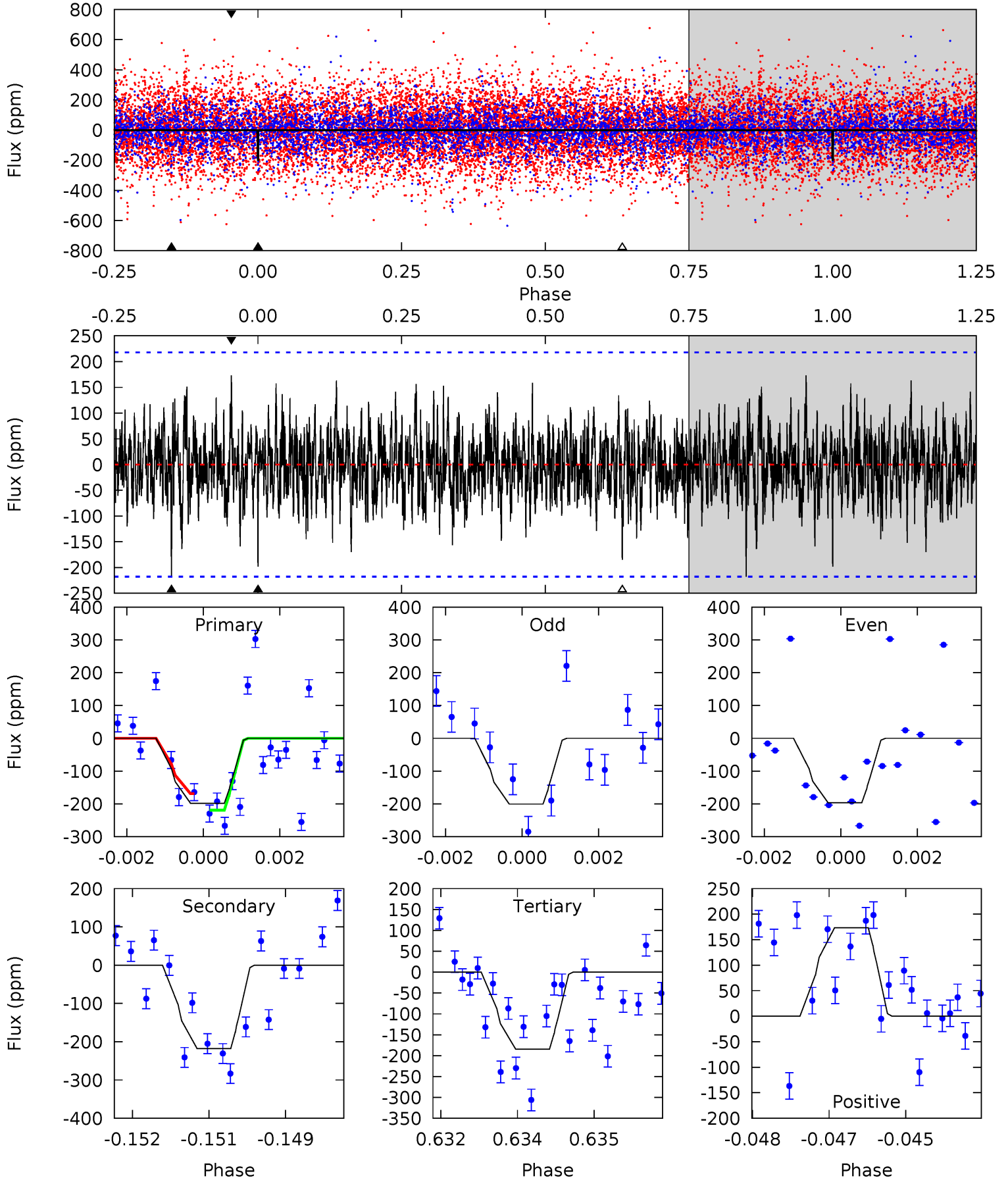
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	5.26	5.16	5.69	5.31	3.06	1.63	4.99	4.46	0.10	-0.43	0.32	1.05	0.36	0.67



Alt Model-Shift Uniqueness Test

004845555-09, P = 54.194542 Days, E = 123.044739 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.89	5.38	4.56	4.27	5.38	3.17	1.27	0.33	0.62	0.82	1.10	0.05	0.92	0.44	0.60



Stellar Parameters For KIC 004845555

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6429^{+155}_{-175}	$3.607^{+0.328}_{-0.082}$	$-0.160^{+0.350}_{-0.250}$	$3.288^{+0.420}_{-1.260}$	$1.596^{+0.203}_{-0.376}$	$0.063^{+0.162}_{-0.016}$
	+2%/-3%	+9%/-2%	+219%/-156%	+13%/-38%	+13%/-24%	+256%/-25%
Source	PHO1	FLK73	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 004845555-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-151 ± 29	$6.64^{+1.97}_{-1.74}$	1230^{+66}_{-121}	5096^{+654}_{-467}	198^{+171}_{-82}
Alt.	-218 ± 41	$4.54^{+1.66}_{-1.57}$	1228^{+68}_{-113}	6662^{+1545}_{-877}	620^{+815}_{-293}

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

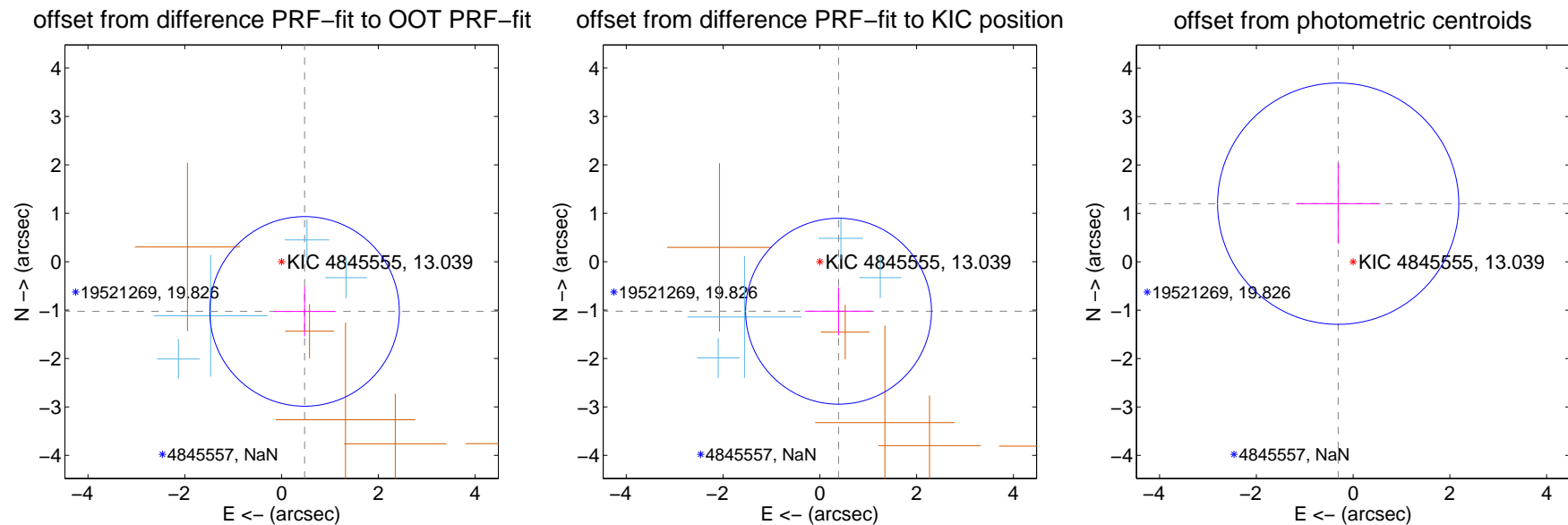
DV Centroid Data

Supplemental centroid analysis for 004845555-09. Kepler magnitude: 13.04. Transit SNR 8.66

There are 4 quarters with good PRF difference image offsets

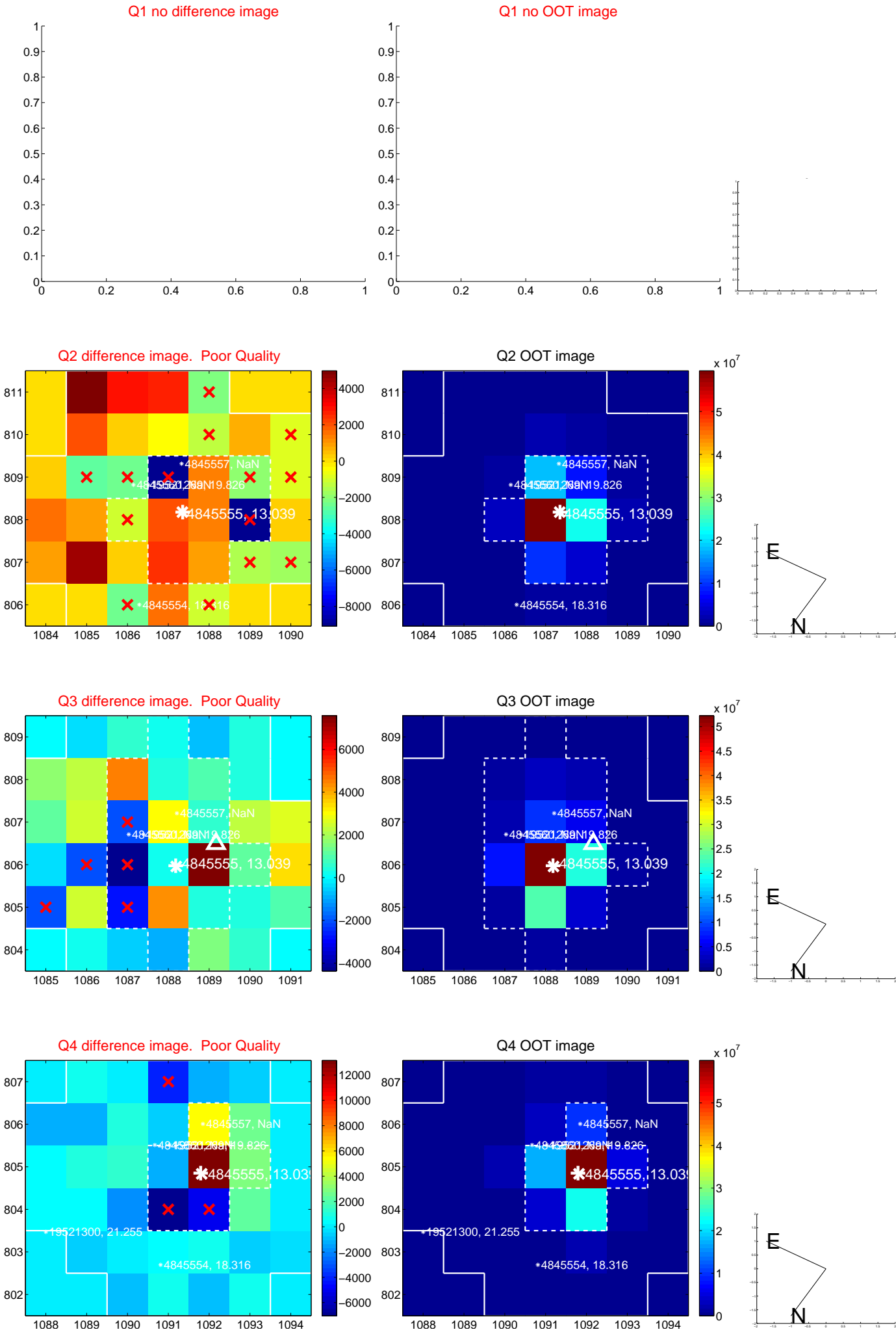
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.131 ± 0.653	1.73	-0.475 ± 0.634	-1.027 ± 0.516
PRF-fit source offset from KIC position	1.093 ± 0.640	1.71	-0.386 ± 0.690	-1.023 ± 0.495
photometric centroid source offset	1.24 ± 0.83	1.49	0.31 ± 0.87	1.20 ± 0.83

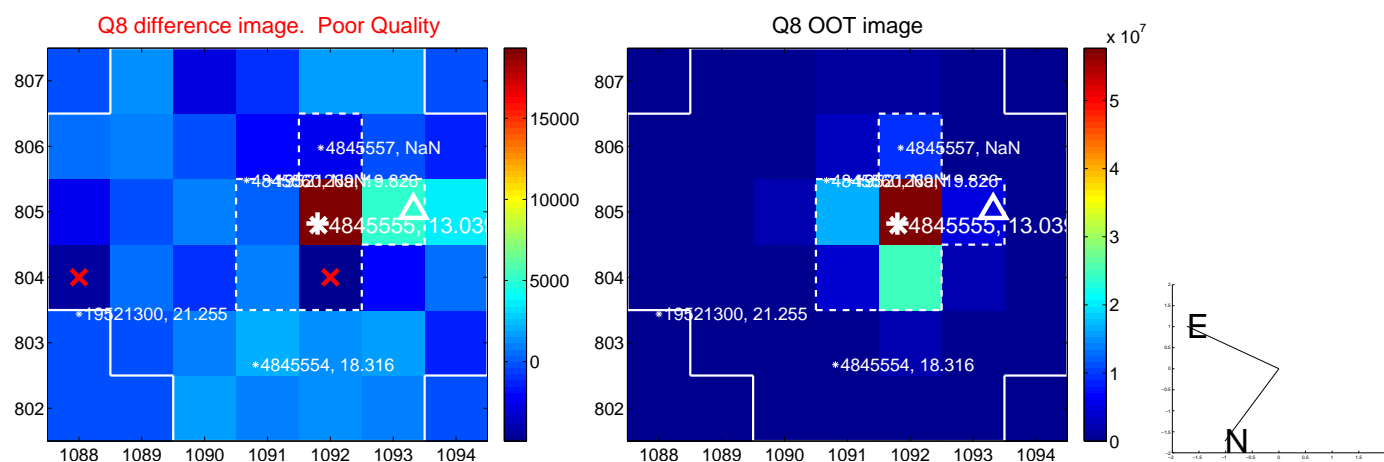
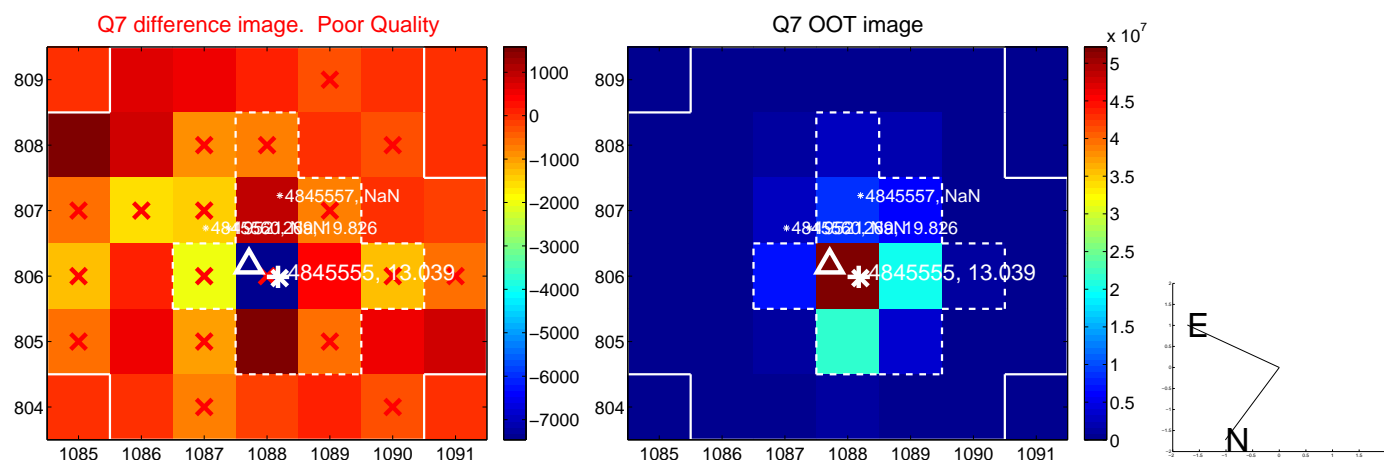
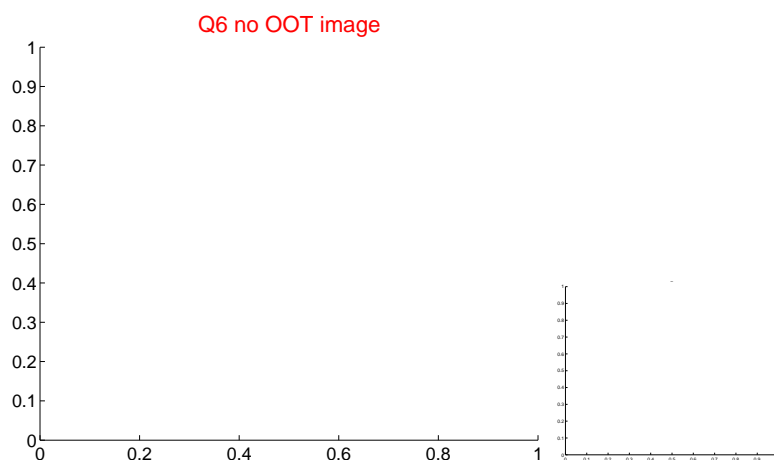
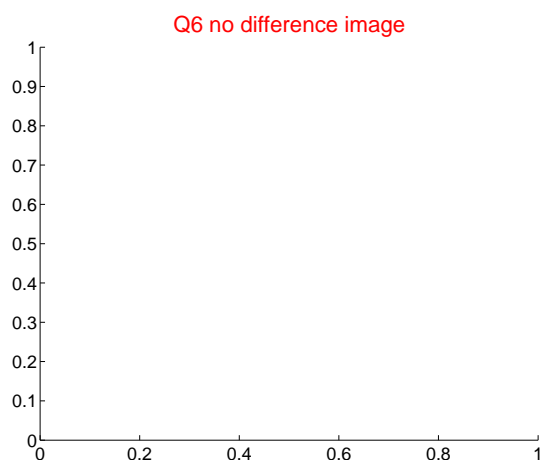
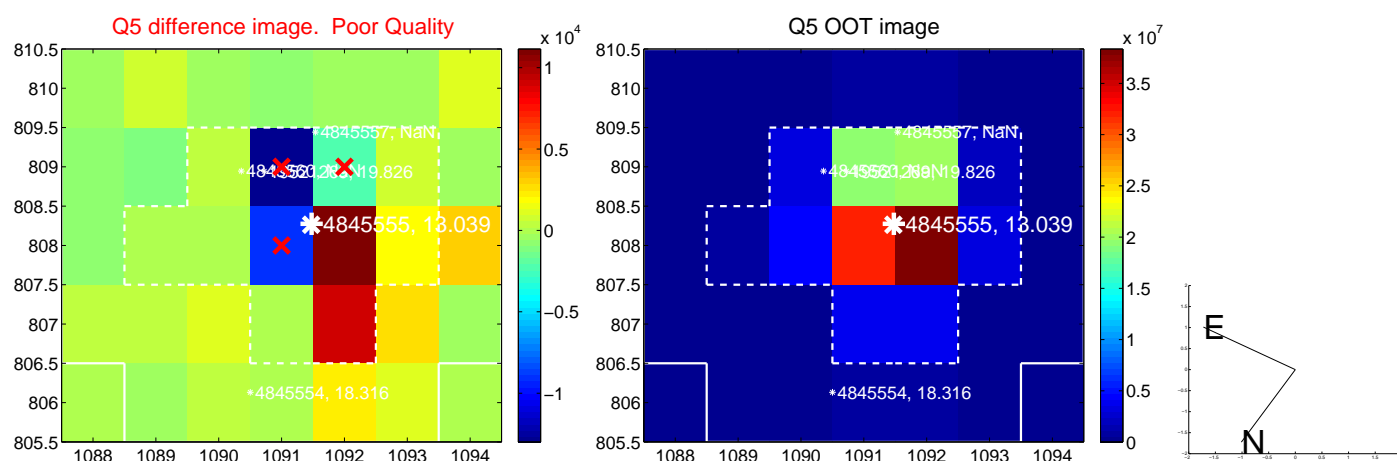


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

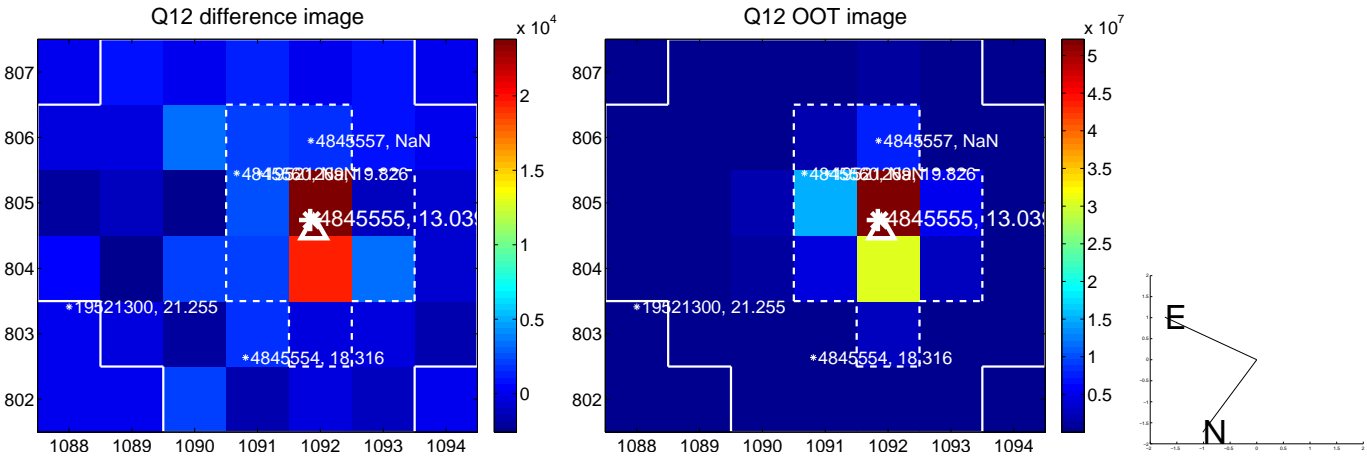
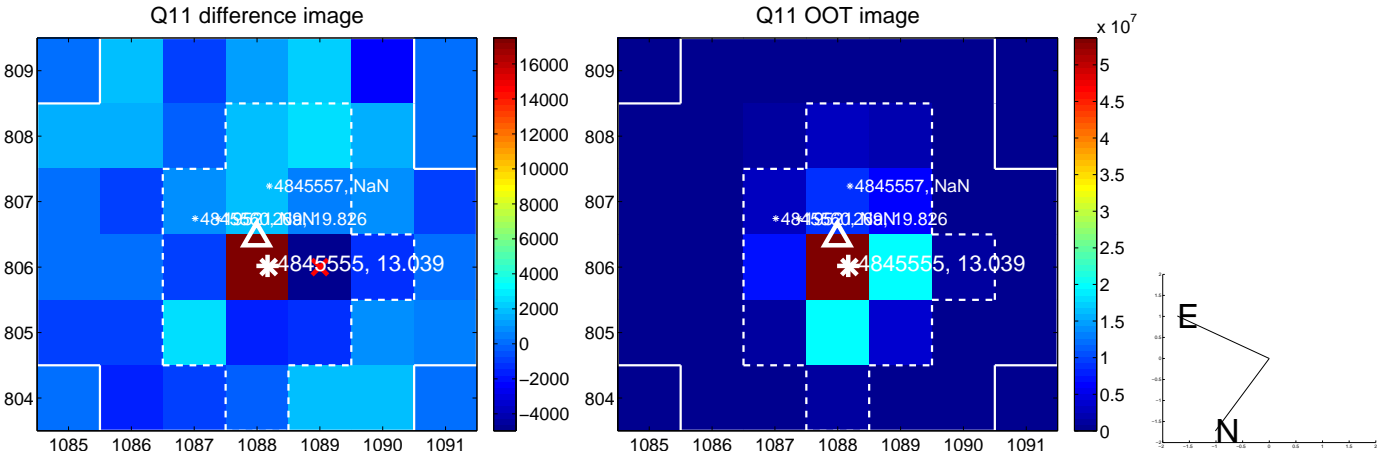
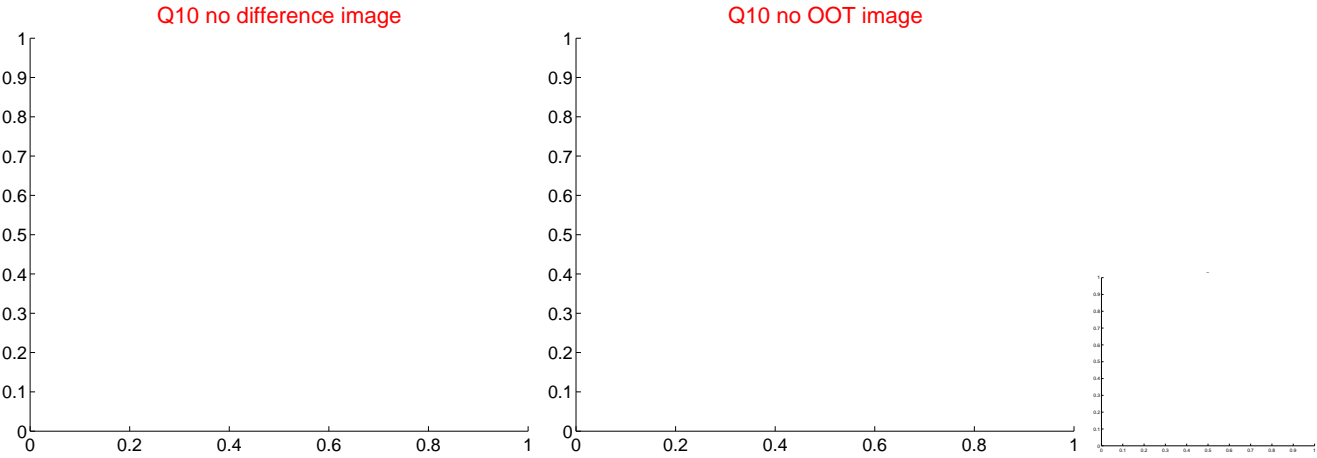
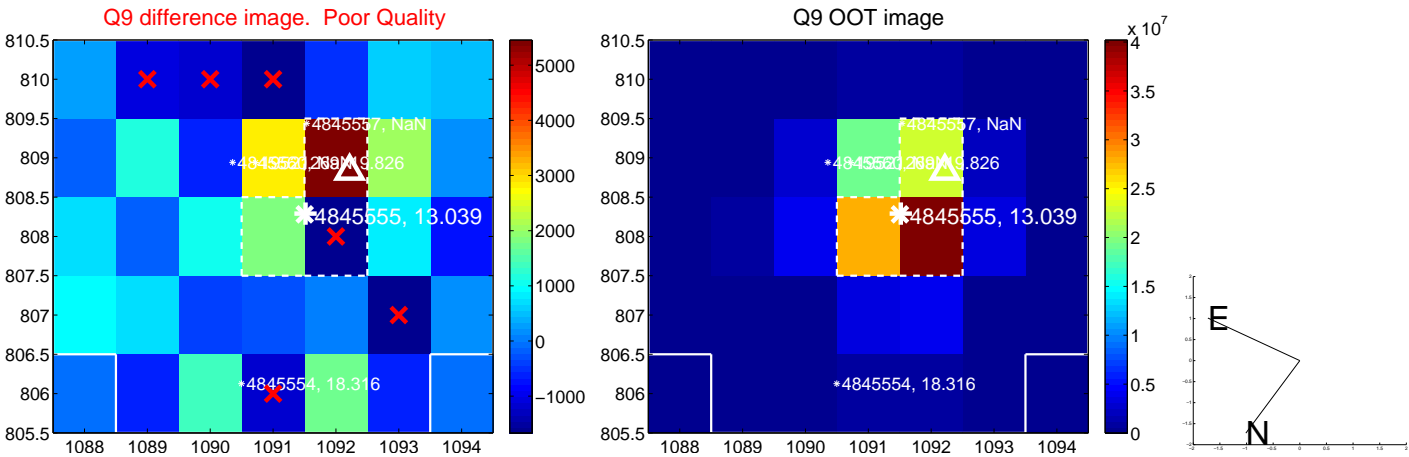
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



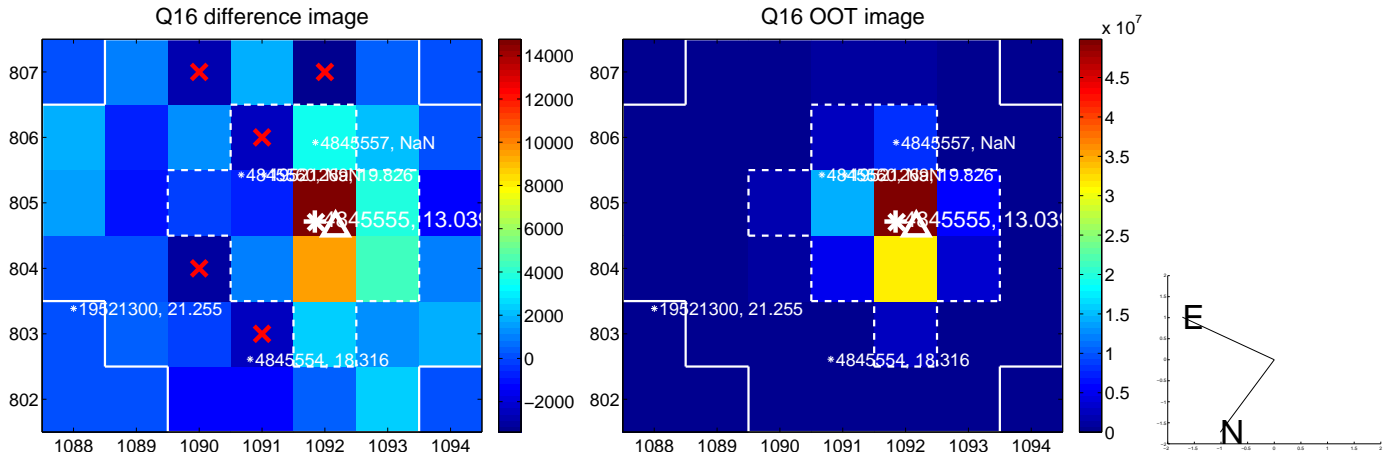
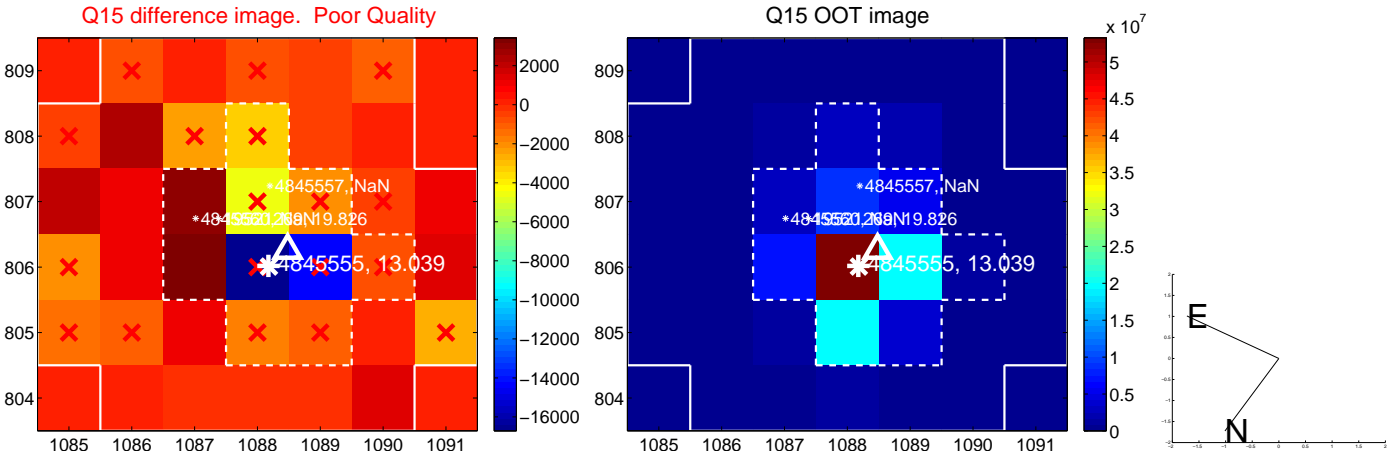
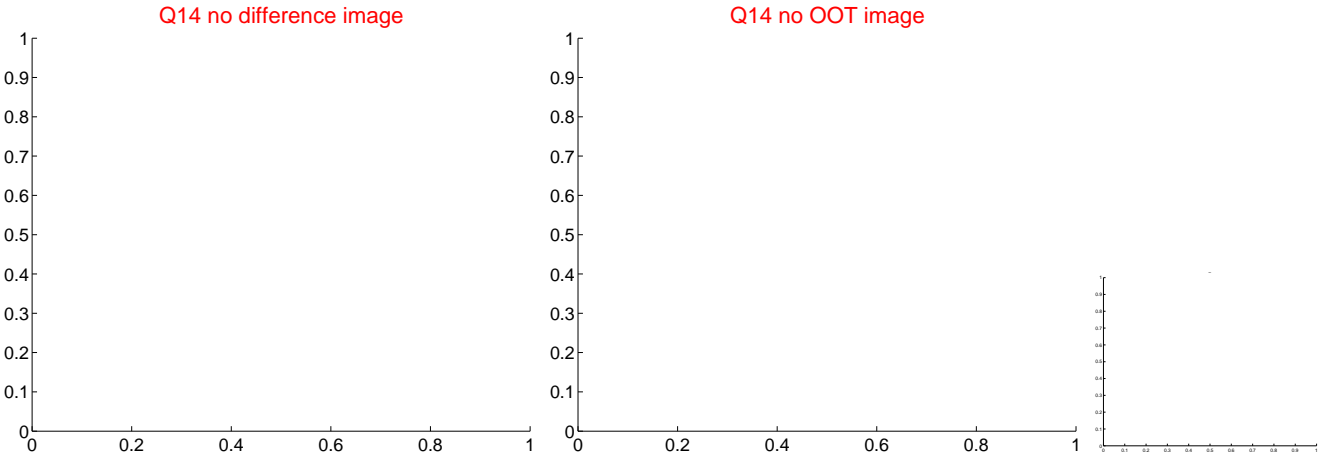
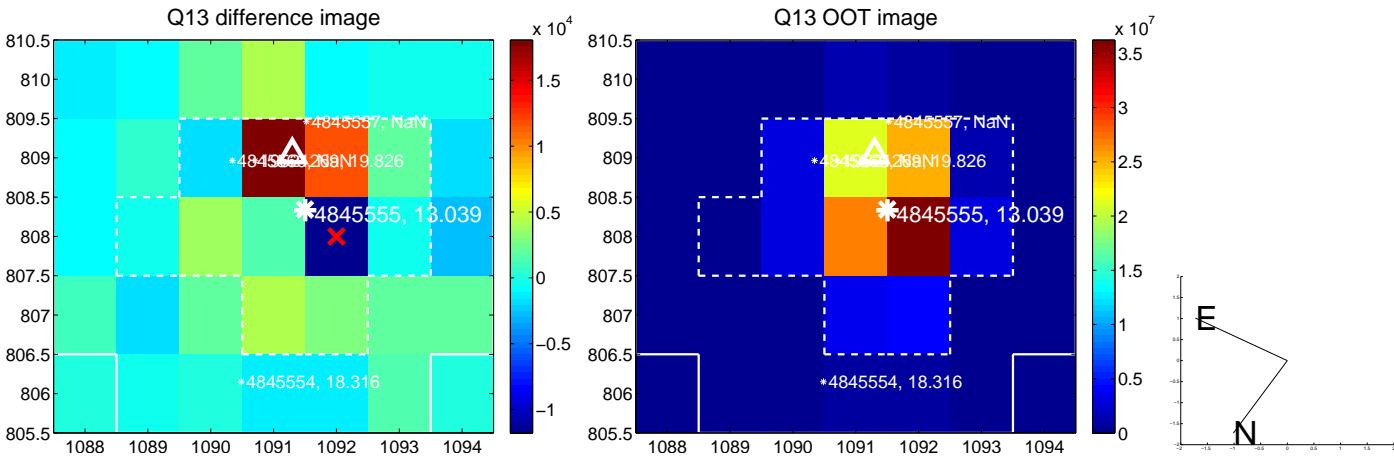
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



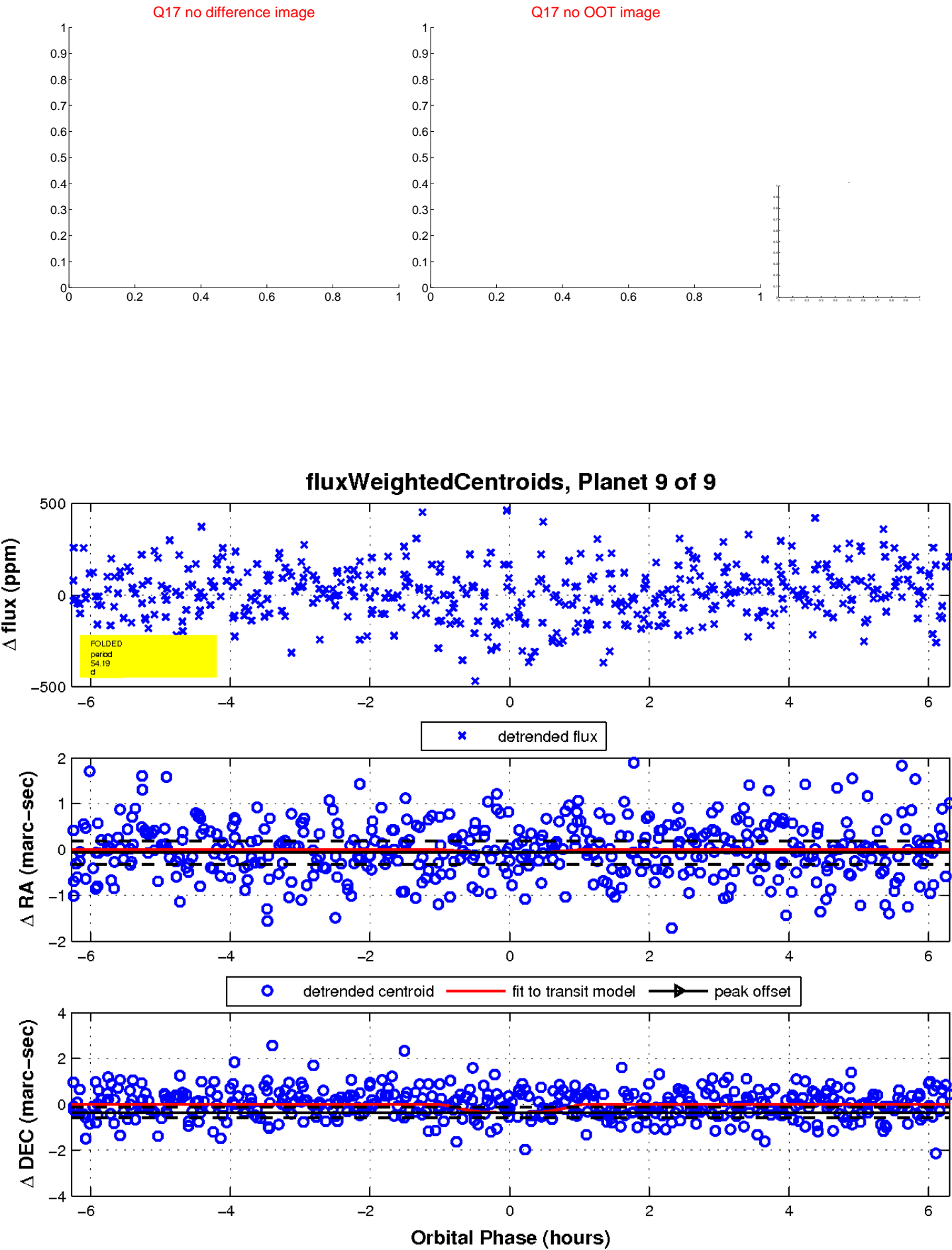
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

