

KIC 006701459

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})
006701459-01	OBS	No	1.889459	133.027296	28.3	6.479	10.2	8.7	3.34	6980	2.06	17516.08
006701459-02	OBS	No	1.889706	132.417824	25.3	8.598	12.8	8.1	3.34	6980	1.80	17513.03
006701459-03	OBS	No	72.103560	147.694414	292.0	2.970	9.4	8.4	3.34	6980	6.56	136.34
006701459-04	OBS	No	28.217516	159.679499	208.2	10.887	9.0	9.3	3.34	6980	9.39	476.28
006701459-05	OBS	No	40.850708	135.790804	114.7	7.854	8.5	5.4	3.34	6980	3.62	290.82
006701459-06	OBS	No	40.875277	135.791873	162.7	7.526	8.1	3.9	3.34	6980	4.34	290.58
006701459-07	OBS	No	204.812285	201.488008	396.0	6.975	8.1	8.3	3.34	6980	8.46	33.89
006701459-08	OBS	No	221.164334	159.832506	229.8	9.197	8.3	7.5	3.34	6980	5.44	30.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006701459-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
006701459-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
006701459-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
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Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

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

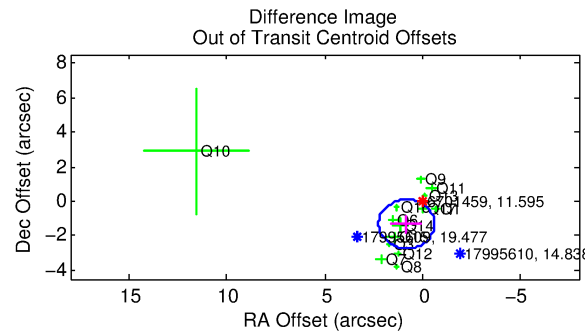
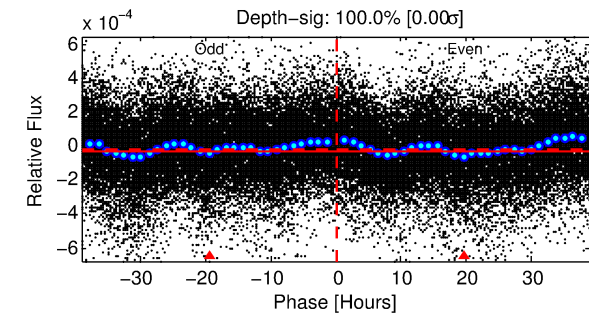
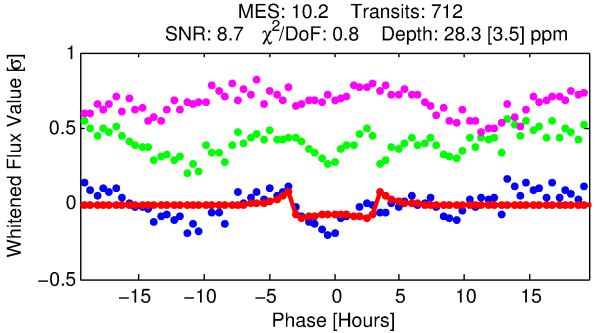
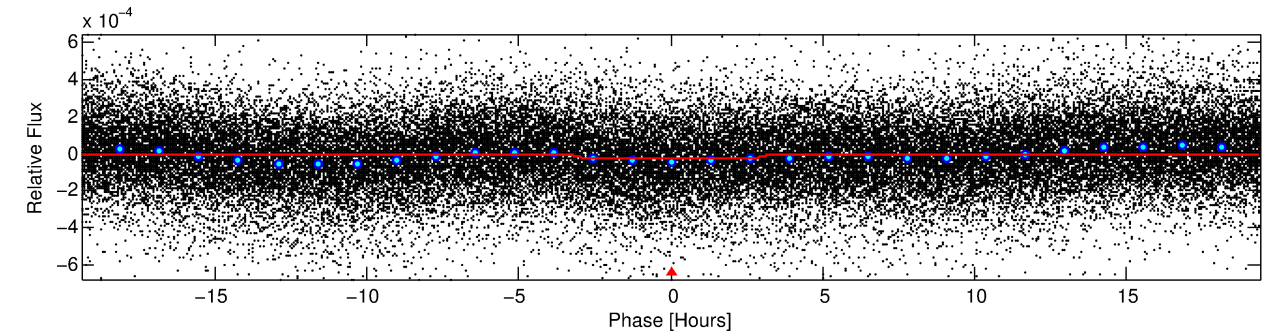
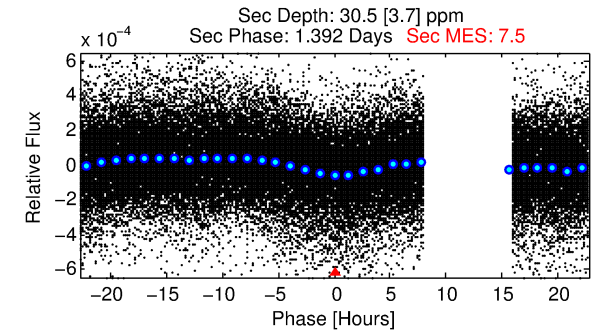
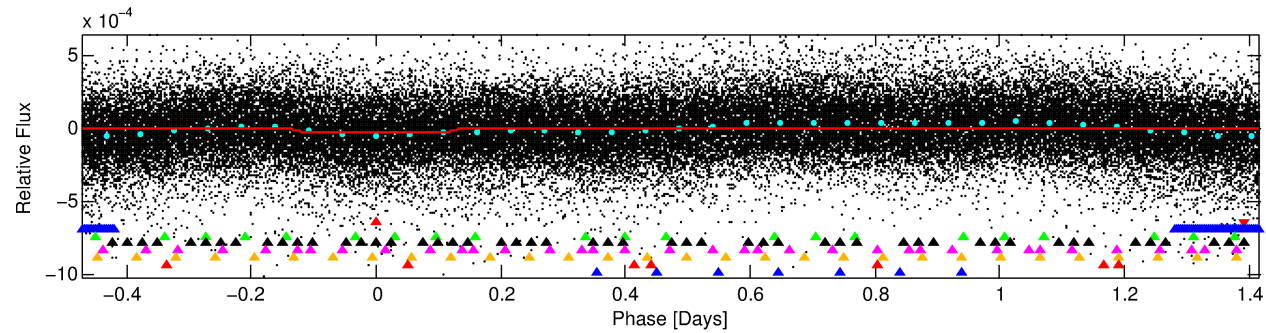
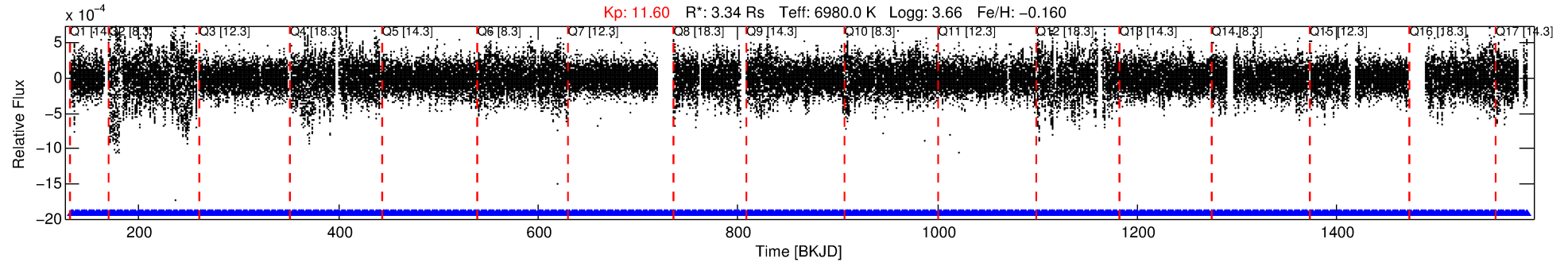
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006701459-01

No Significant Match Found

DV One-Page Summary

KIC: 6701459 Candidate: 1 of 8 Period: 1.889 d



DV Fit Results:

Period = 1.88946 [0.00001] d
Epoch = 133.0273 [0.0030] BKJD
Rp/R* = 0.0057 [0.0009]
a/R* = 1.37 [0.56]
b = 0.90 [0.19]
Seff = 17516.08 [9330.77]
Teq = 2933 [391] K
Rp = 2.06 [0.84] Re
a = 0.0368 [0.0124] AU
Ag = 5.34 [3.31] [1.31σ]
Teffp = 6896 [617] K [5.43σ]

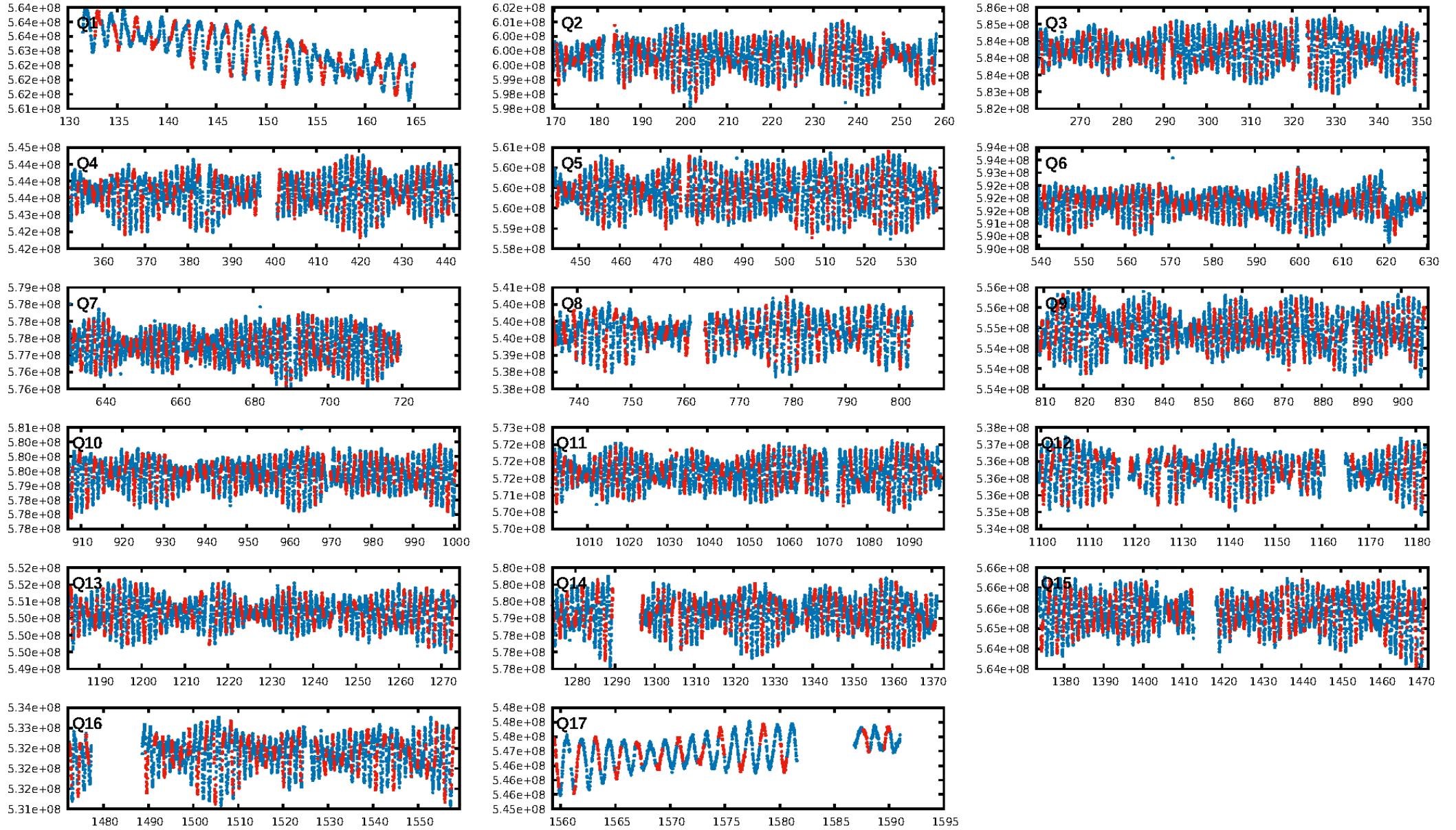
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.66e-17
RollingBand-fgt: 1.00 [681/681]
GhostDiagnostic-chr: 2.391
Centroid-sig: N/A
Centroid-so: 1.344 arcsec [3.46σ]
OotOffset-rm: 1.556 arcsec [3.28σ]
KicOffset-rm: 1.385 arcsec [3.14σ]
OotOffset-st: 3/4/3/4 [14]
KicOffset-st: 3/4/3/4 [14]
DiffImageQuality-fgm: 0.21 [3/14]
DiffImageOverlap-fno: 0.00 [0/17]

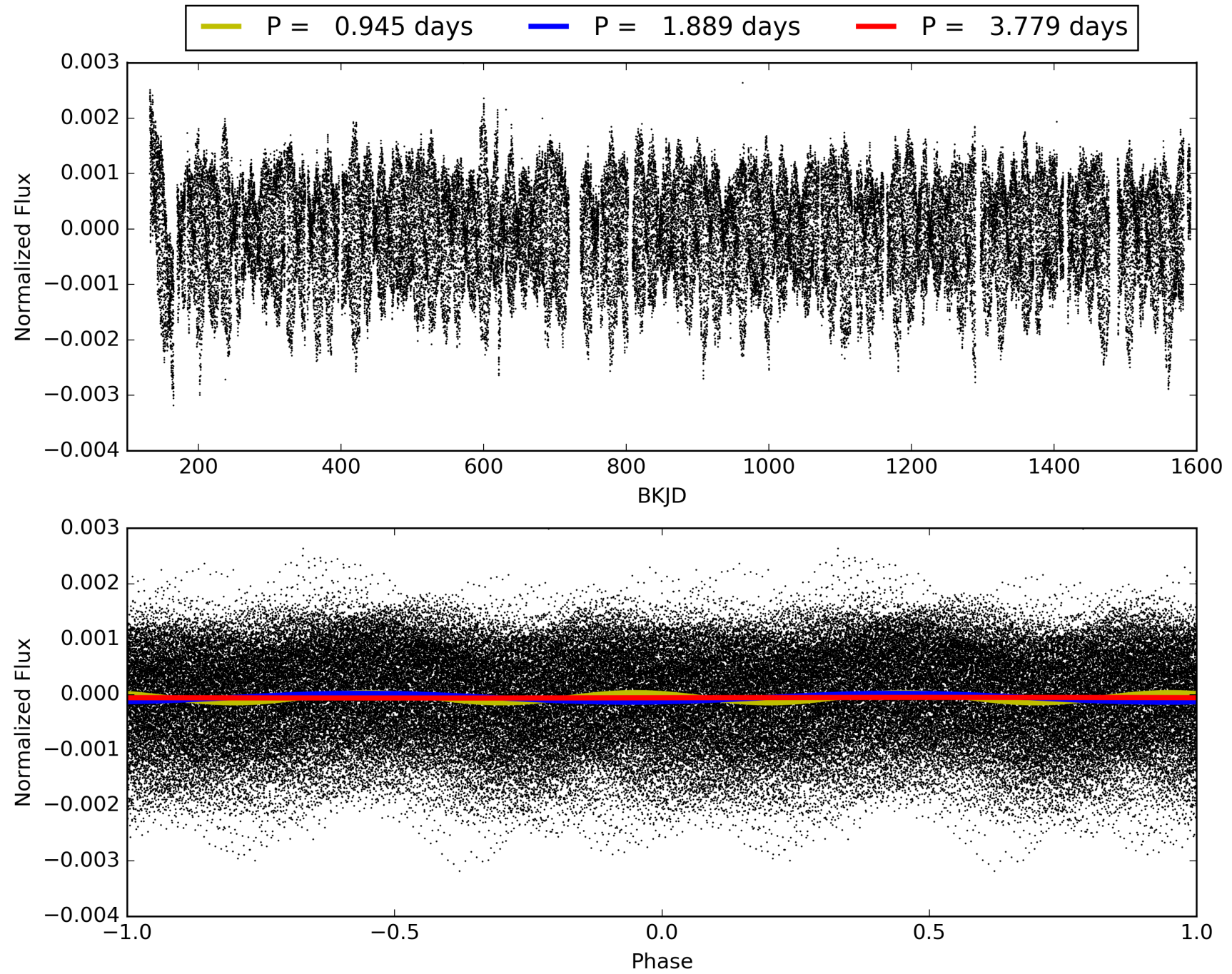
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 01:18:57 Z

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

TCE 006701459-01, PDC Light Curves

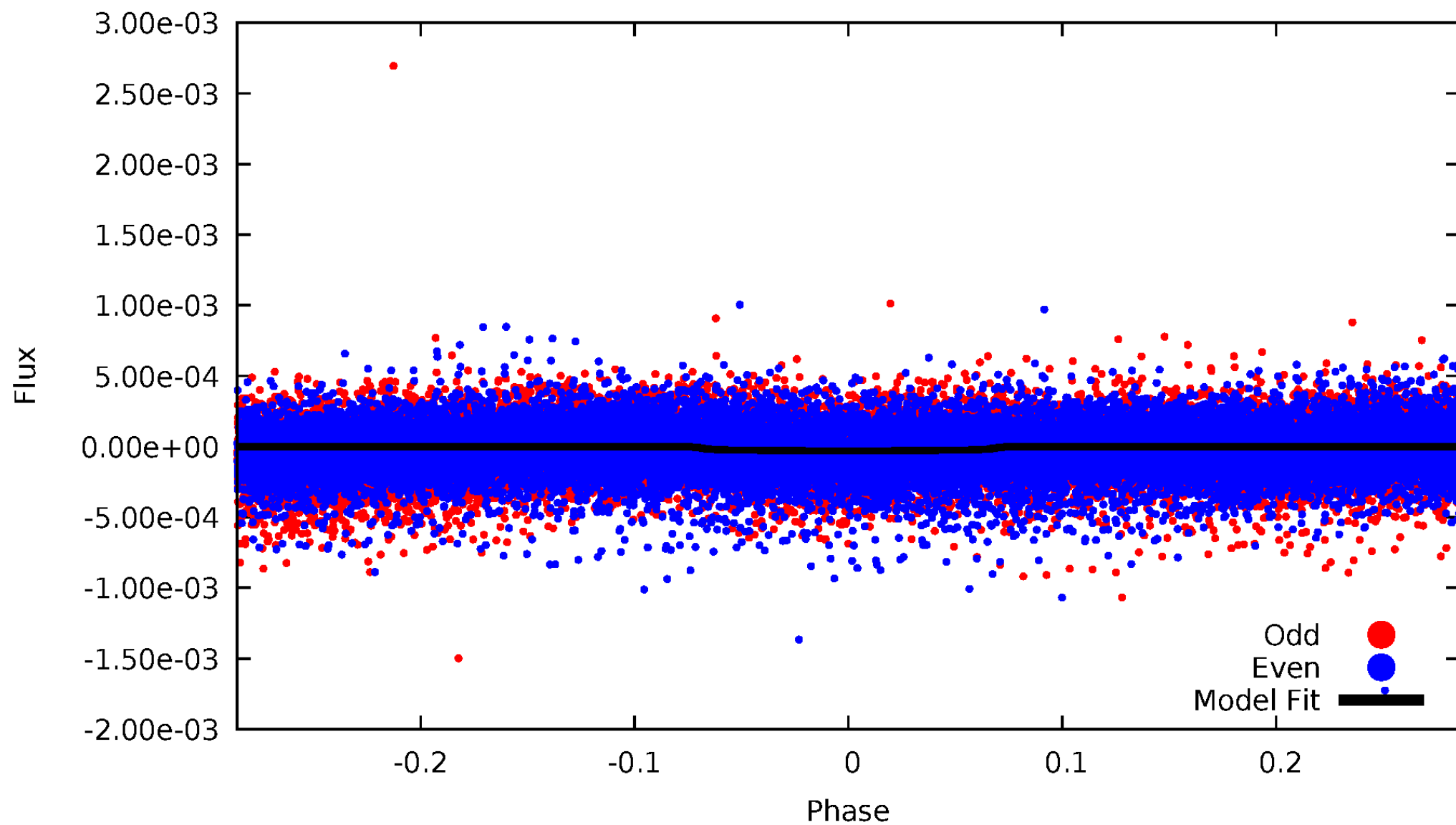


TCE 006701459-01



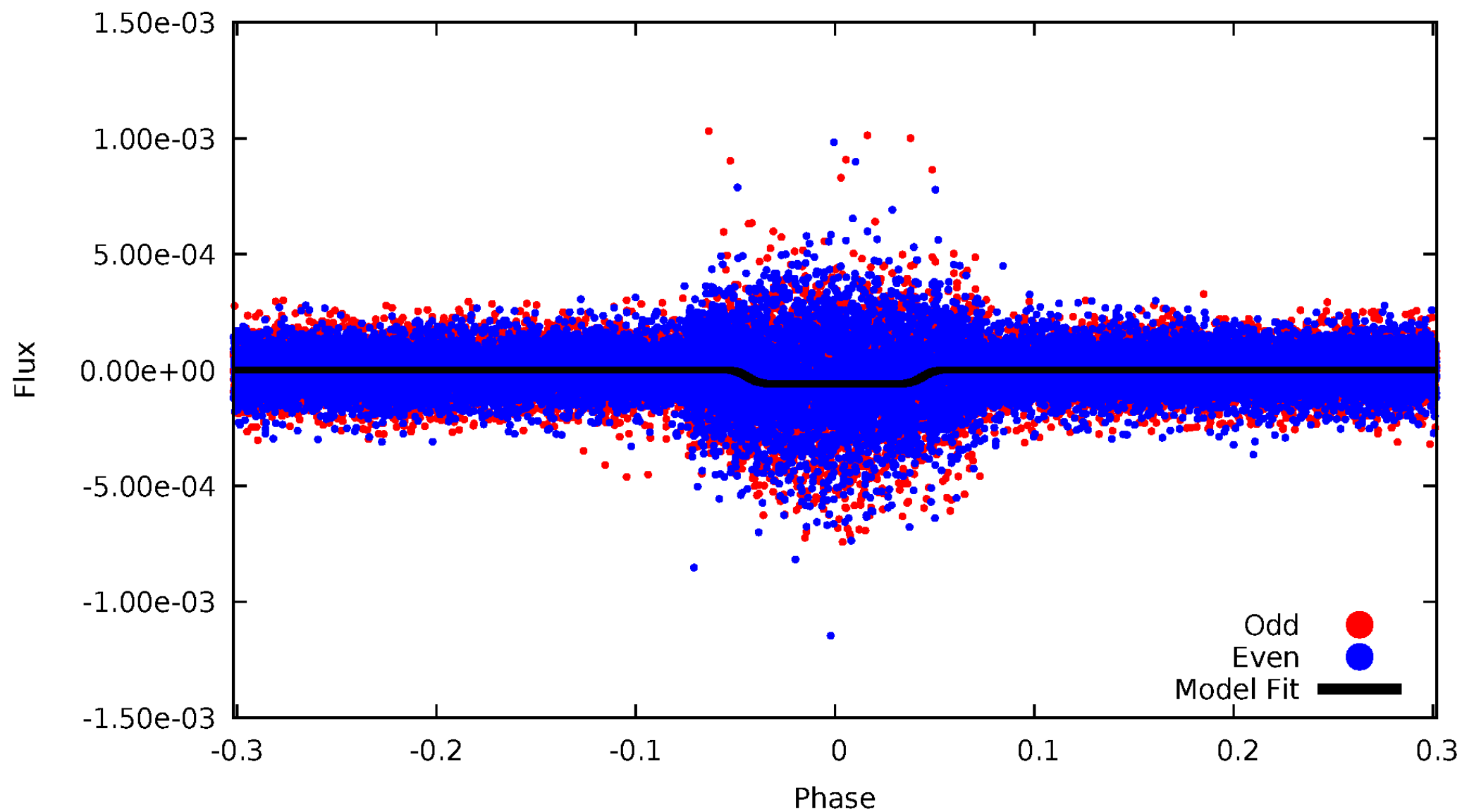
DV Odd/Even

TCE 006701459-01

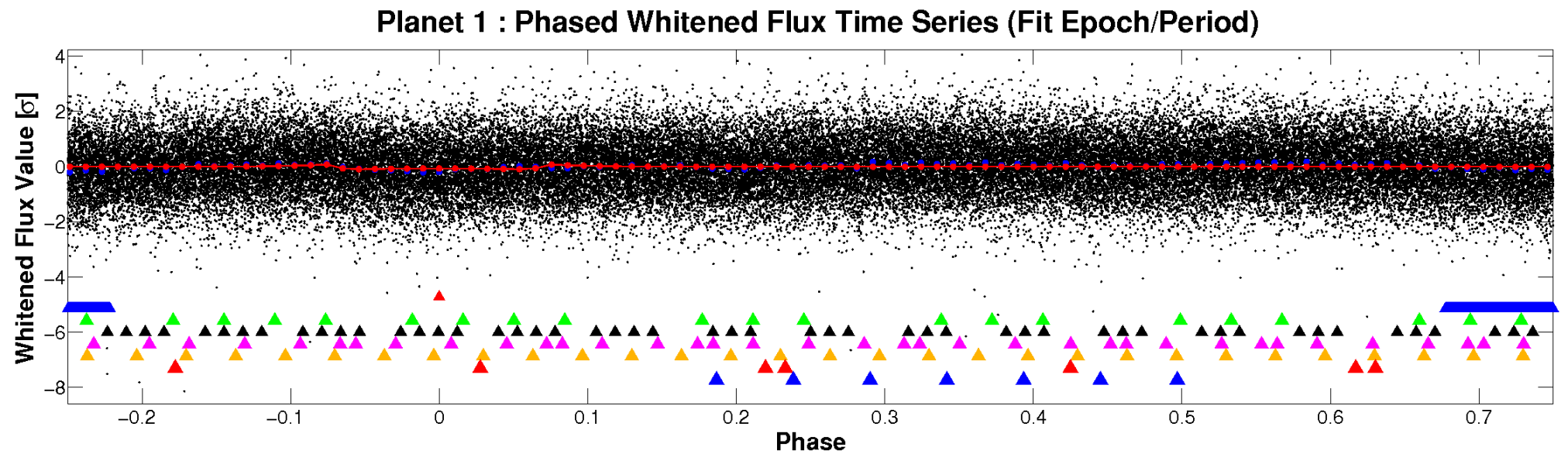
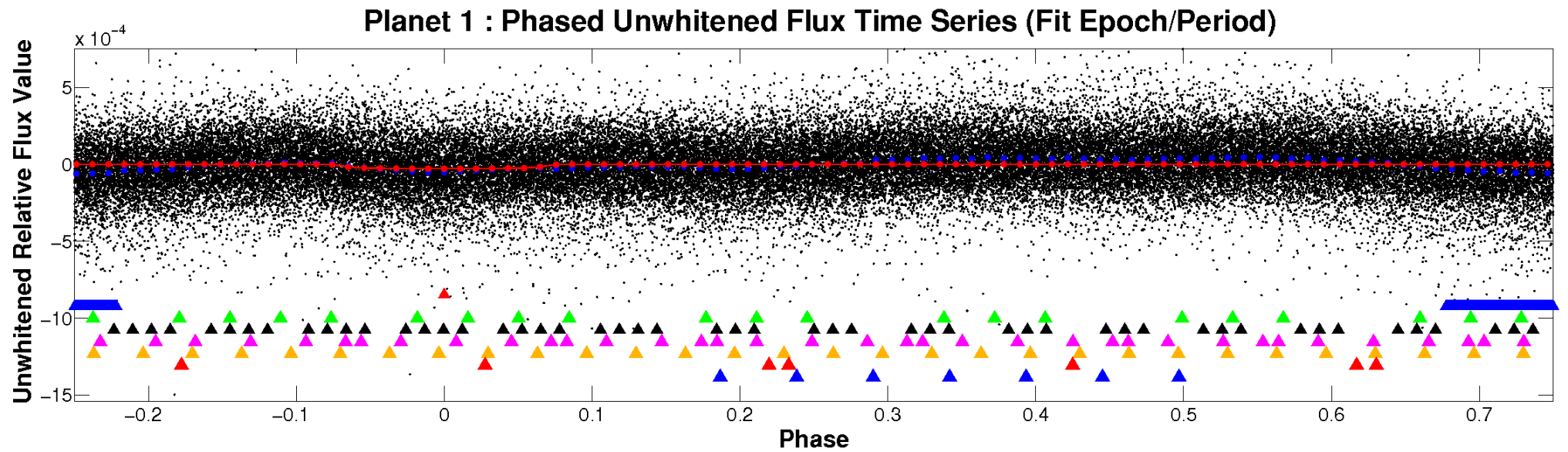


ALT Odd/Even

TCE 006701459-01

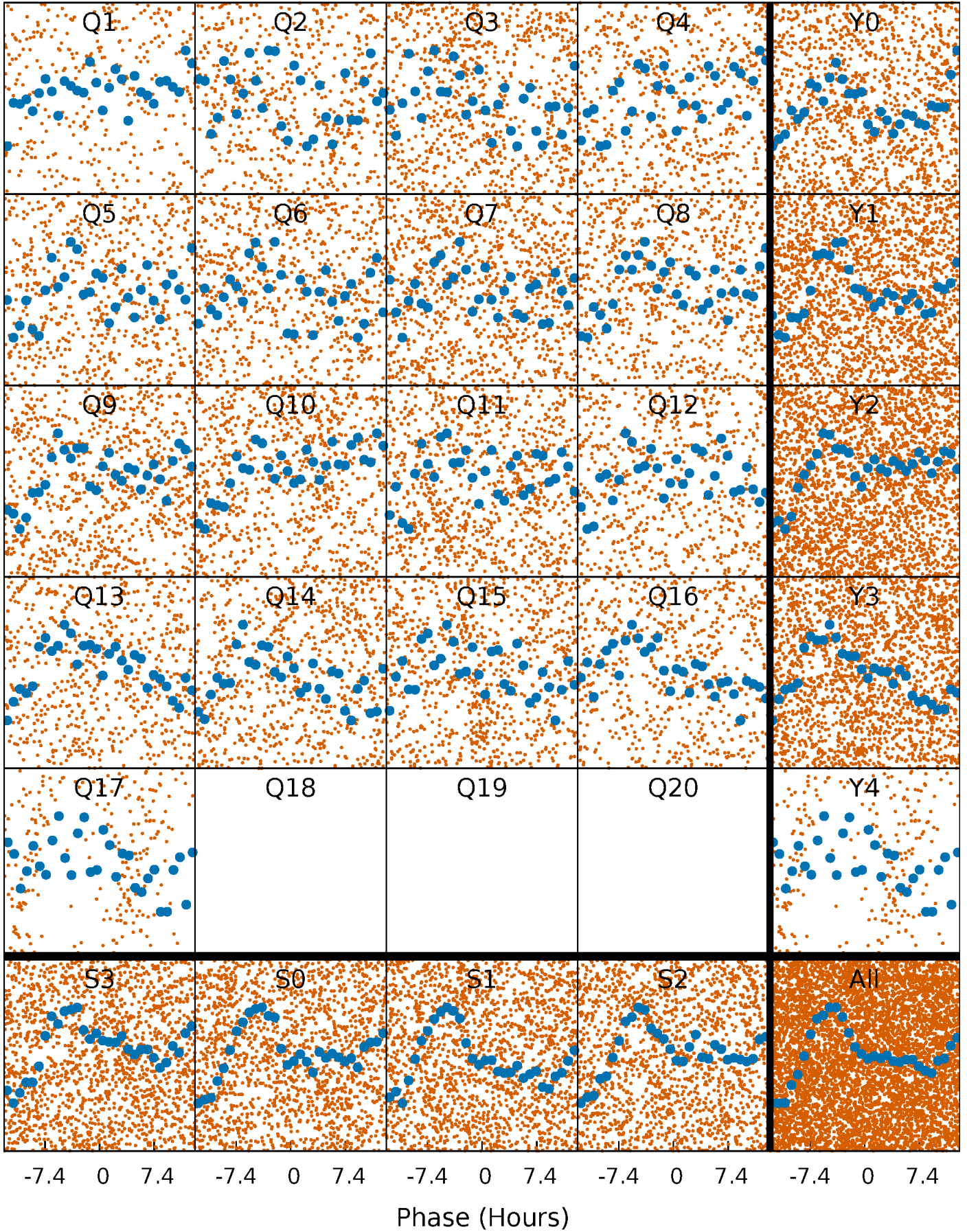


Non-Whitened Vs. Whitened Light Curve



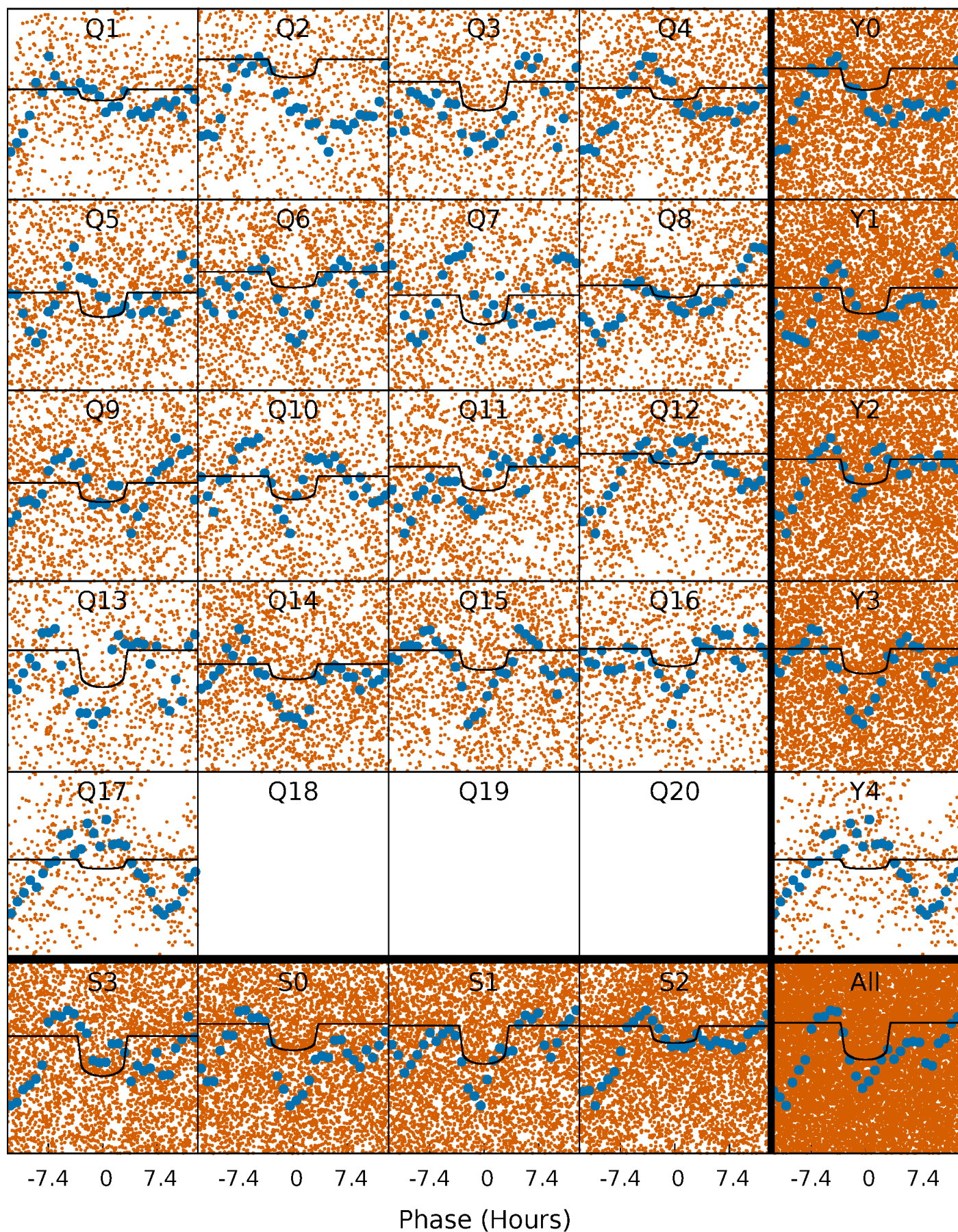
PDC Quarter-Phased Transit Curves

TCE 006701459-01 P= 1.889459 Days $T_0=133.027296$ (BKJD)



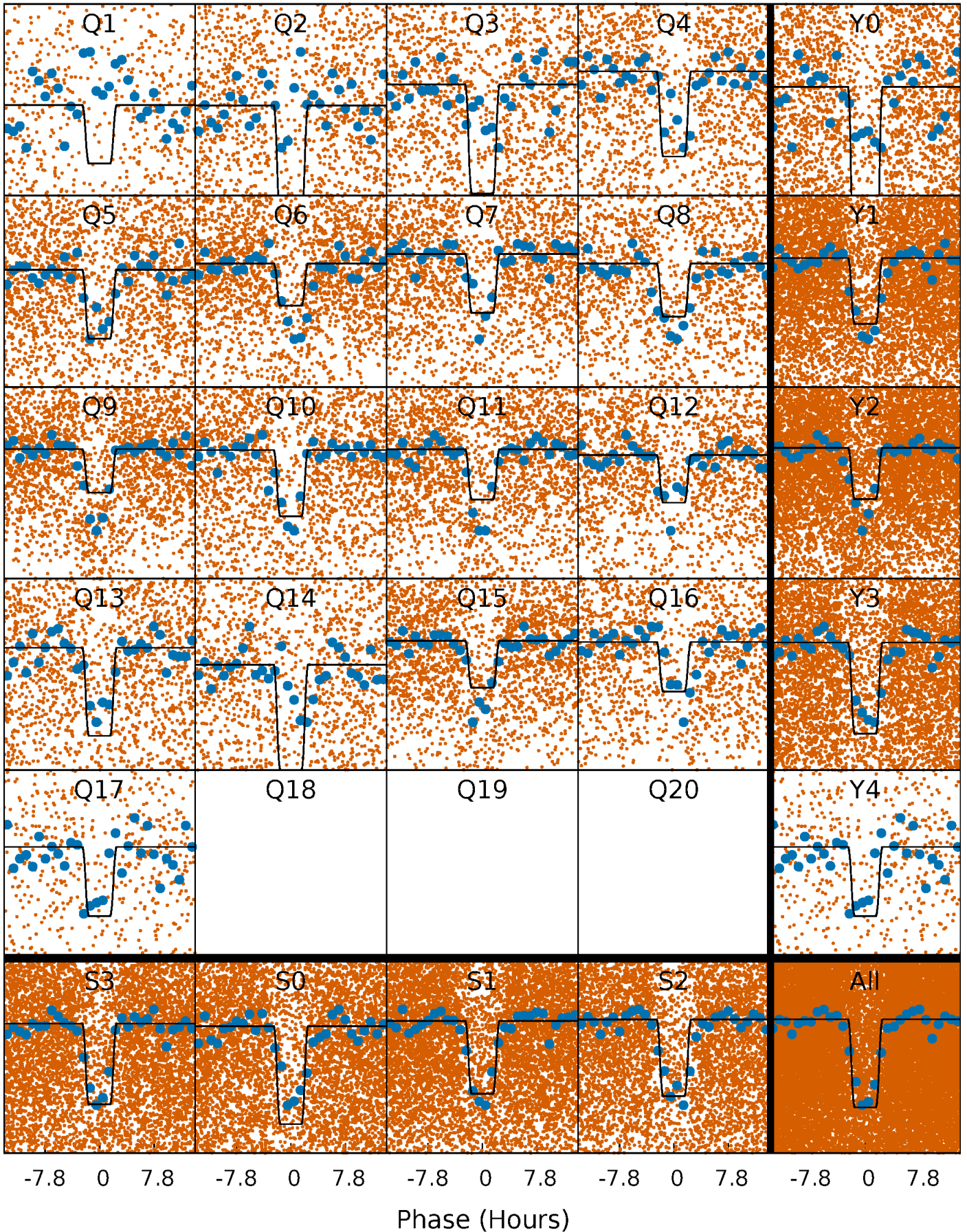
DV Quarter-Phased Transit Curves

TCE 006701459-01 P= 1.889459 Days $T_0=133.027296$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

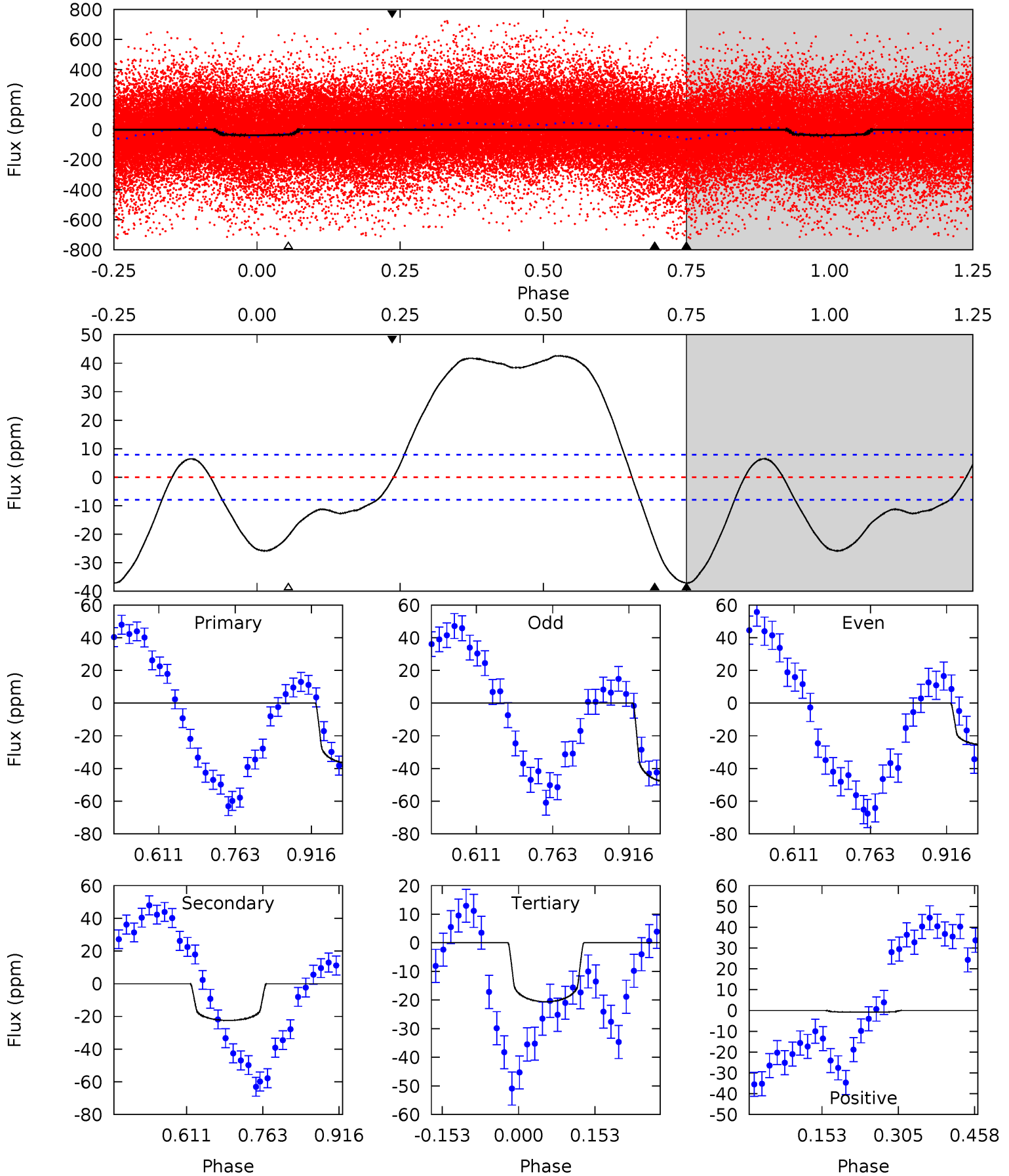
TCE 006701459-01 P= 1.889390 Days $T_0=133.025616$ (BKJD)



DV Model-Shift Uniqueness Test

006701459-01, P = 1.889459 Days, E = 131.137837 Days

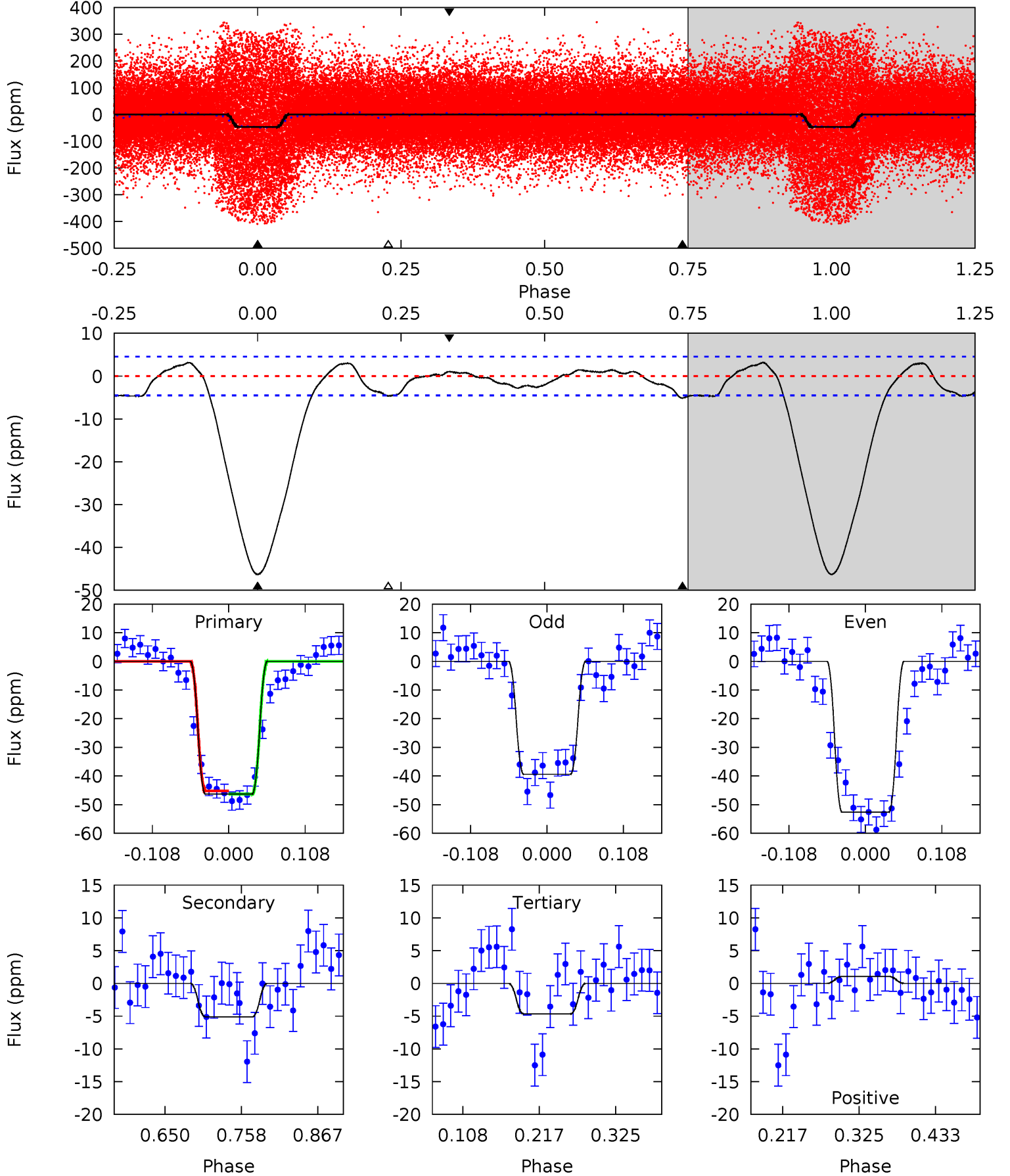
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.0	12.7	11.6	-0.46	4.48	1.43	14.4	9.35	21.4	1.06	13.2	6.43	1.14	0.53	1.01



Alt Model-Shift Uniqueness Test

006701459-01, P = 1.889390 Days, E = 131.136226 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.4	5.14	4.67	1.05	4.55	1.61	1.99	41.7	45.4	0.46	4.09	6.61	1.22	0.06	0.53



Stellar Parameters For KIC 006701459

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6980^{+167}_{-209}	$3.660^{+0.296}_{-0.056}$	$-0.160^{+0.300}_{-0.250}$	$3.337^{+0.335}_{-1.256}$	$1.858^{+0.178}_{-0.414}$	$0.070^{+0.160}_{-0.017}$
	+2%/-3%	+8%/-2%	+188%/-156%	+10%/-38%	+10%/-22%	+227%/-24%
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 006701459-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-22 ± 2	$1.94^{+0.43}_{-0.44}$	4008^{+201}_{-360}	6227^{+617}_{-534}	$4.483^{+2.867}_{-1.437}$
Alt.	-5 ± 1	$2.63^{+0.43}_{-0.51}$	3998^{+193}_{-343}	3560^{+397}_{-544}	$0.561^{+0.296}_{-0.183}$

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 $A_{obs} \gg 1.0$

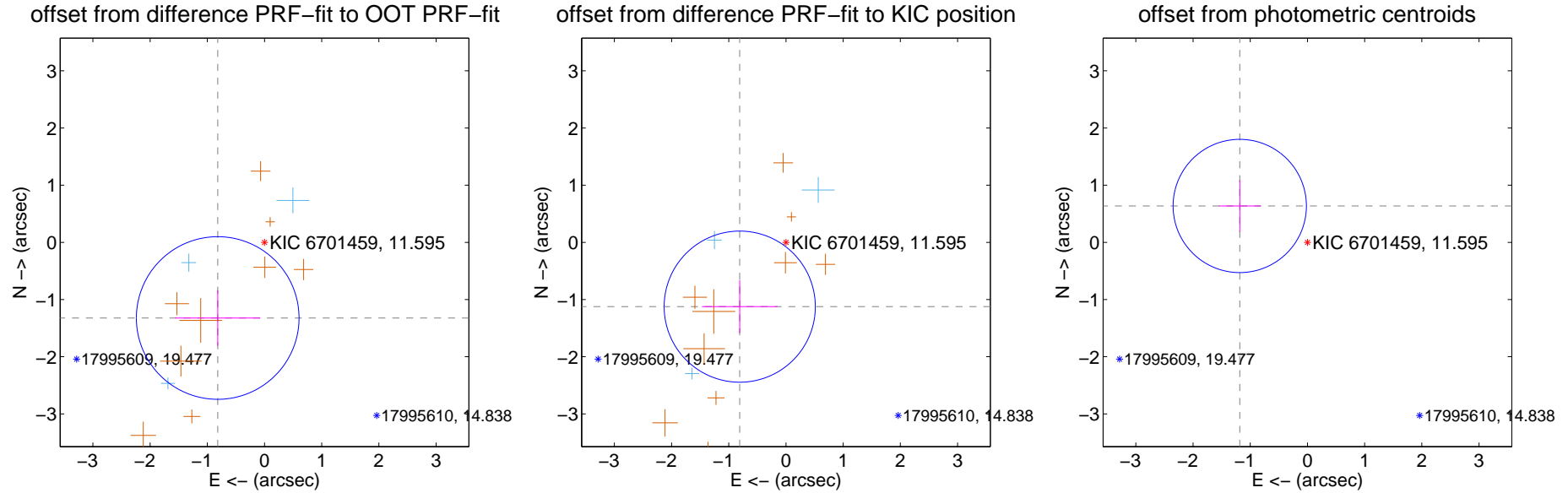
DV Centroid Data

Supplemental centroid analysis for 006701459-01. **Kepler magnitude: 11.60.** Transit SNR 8.70

There are 3 quarters with good PRF difference image offsets

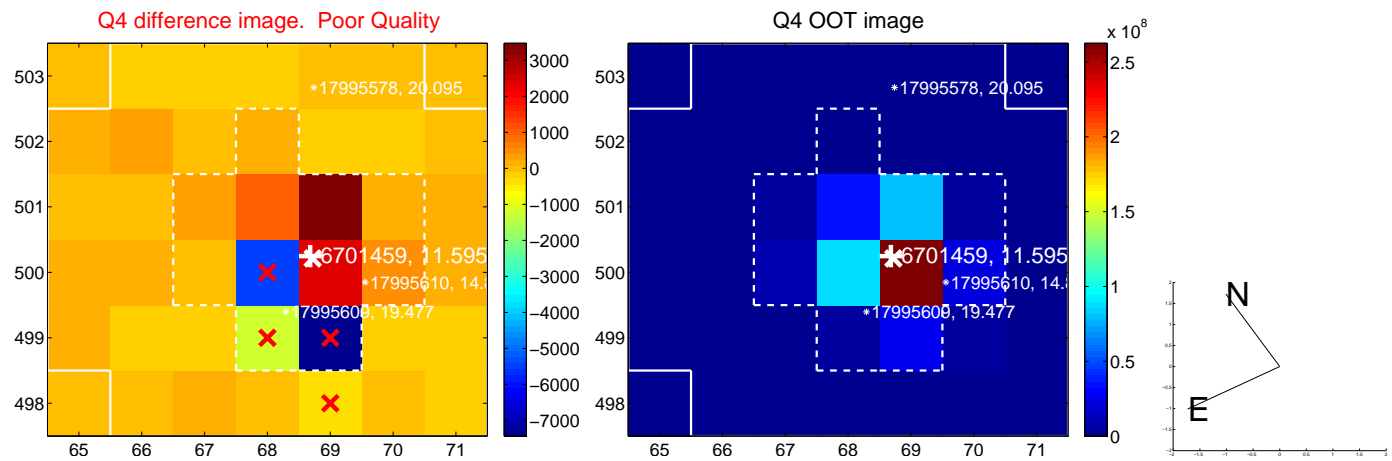
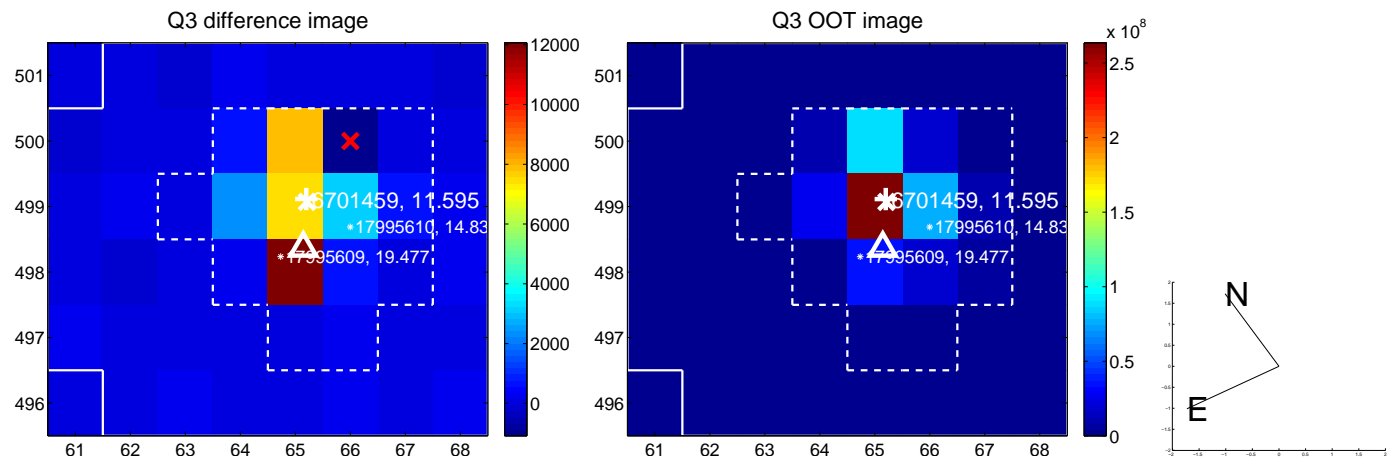
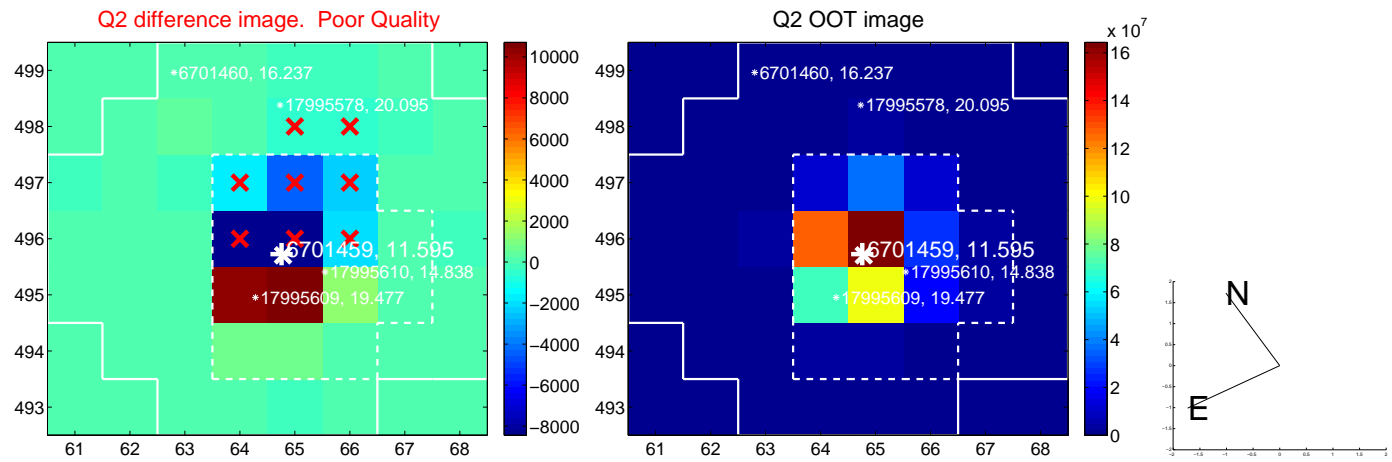
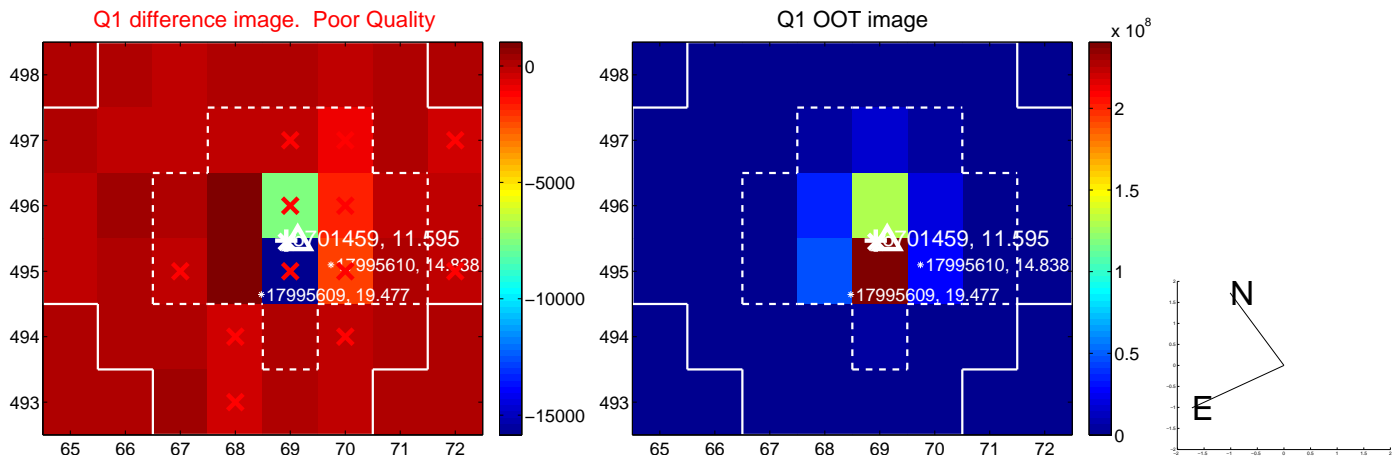
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.556 ± 0.474	3.28	0.818 ± 0.745	-1.323 ± 0.485
PRF-fit source offset from KIC position	1.385 ± 0.441	3.14	0.808 ± 0.660	-1.124 ± 0.464
photometric centroid source offset	1.34 ± 0.39	3.46	1.18 ± 0.37	0.64 ± 0.46

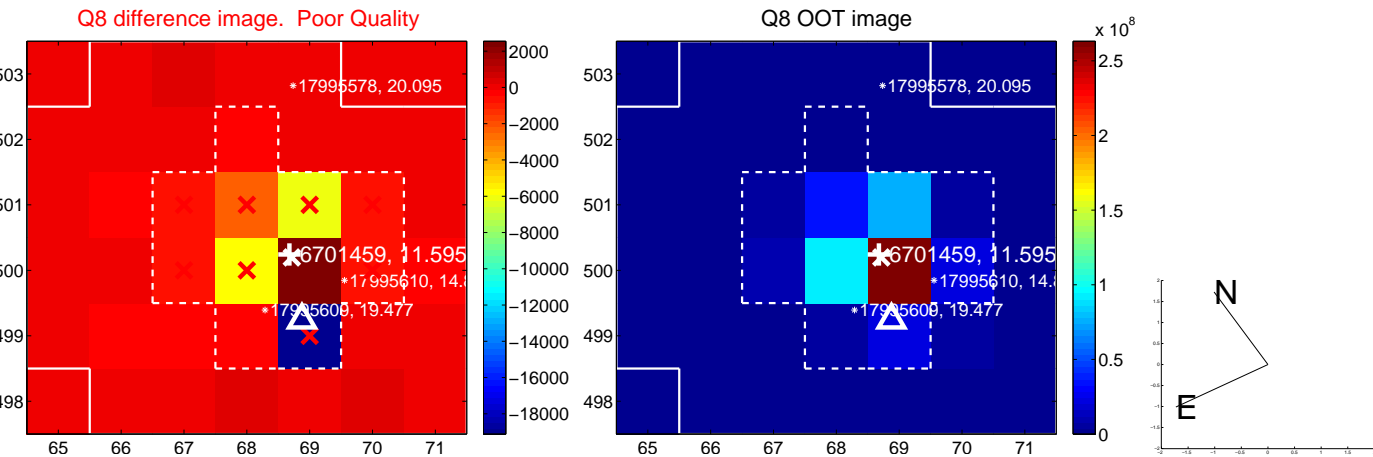
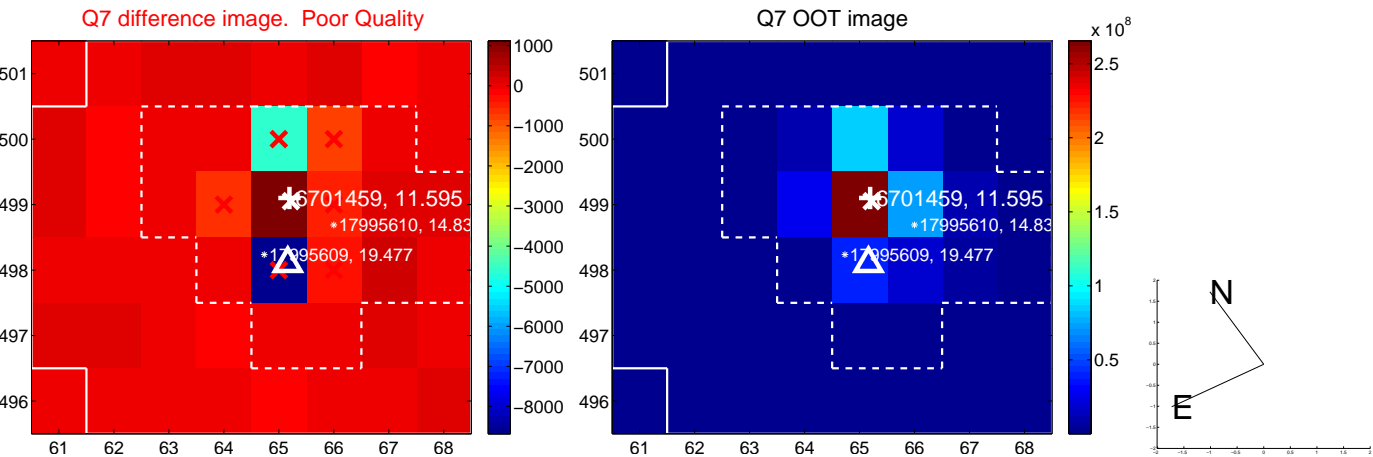
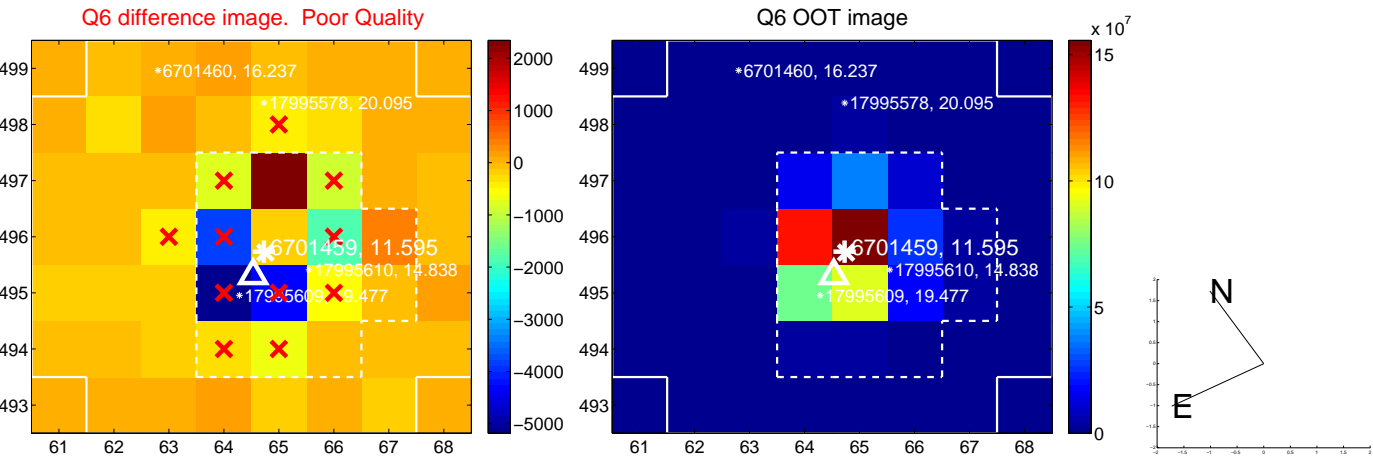
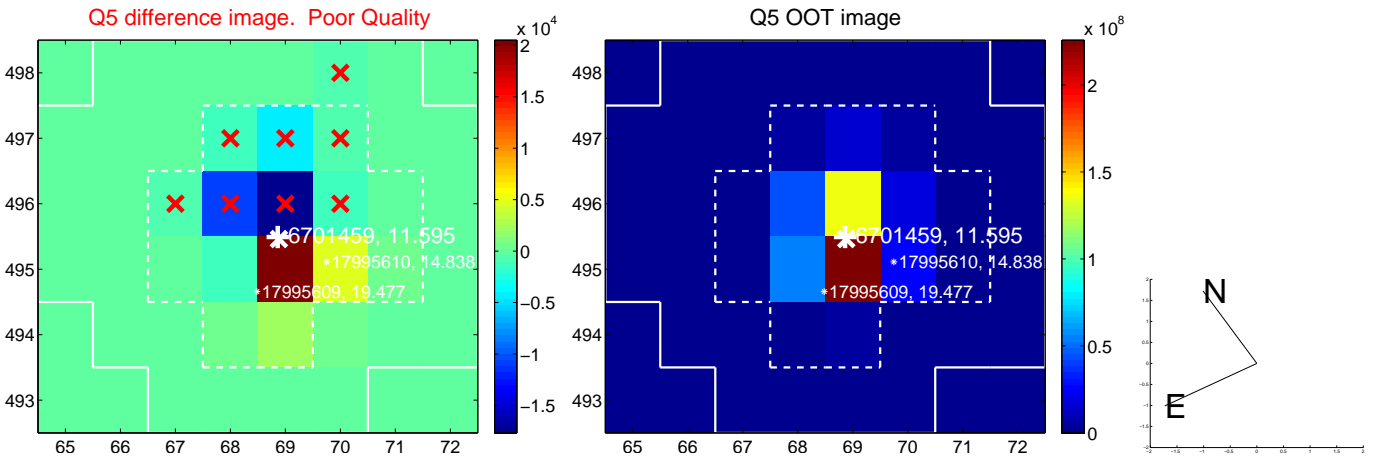


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

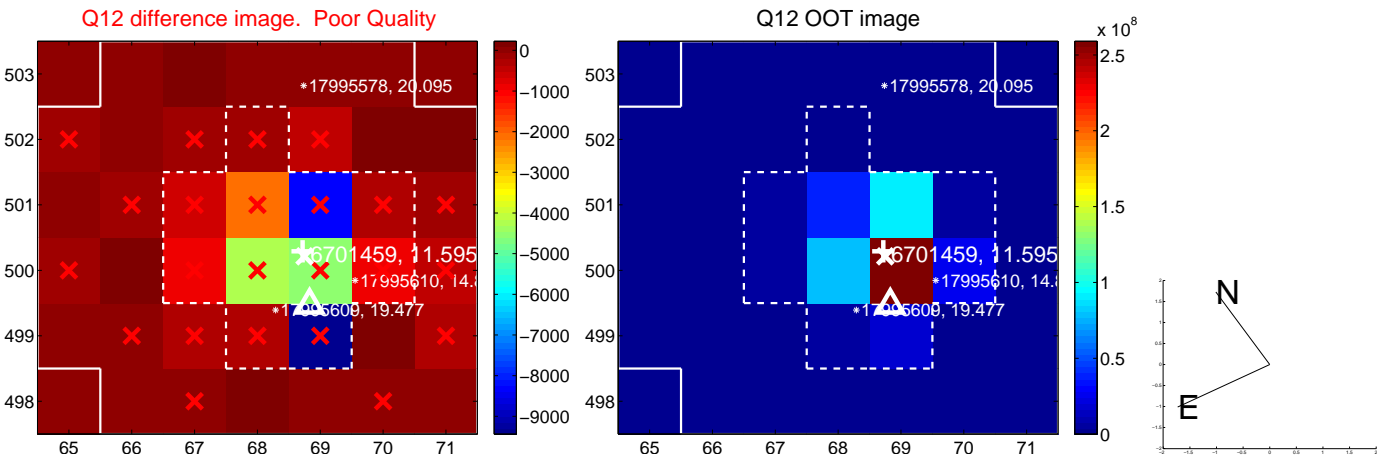
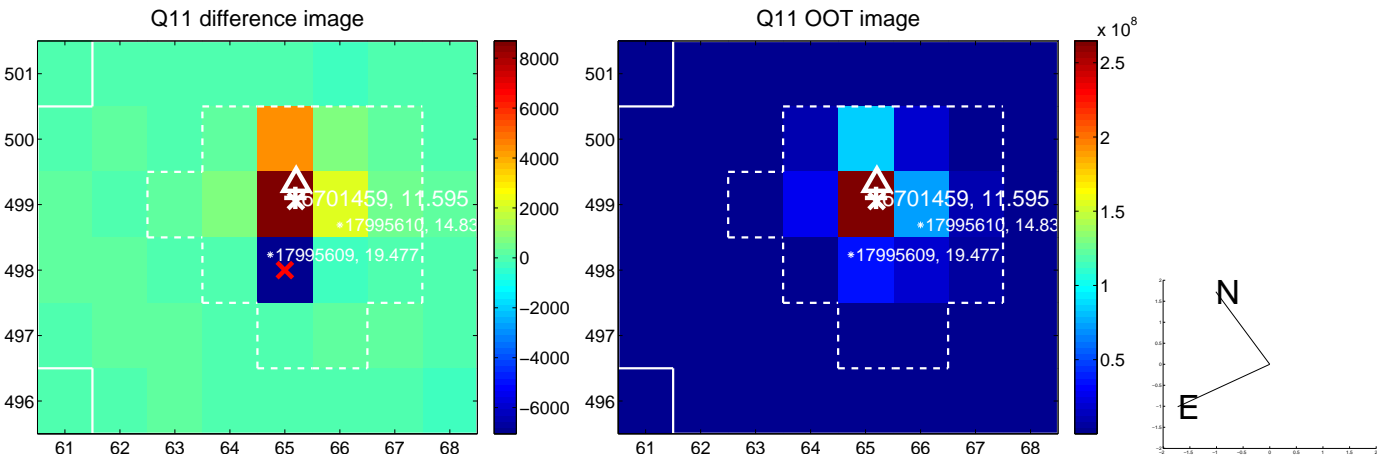
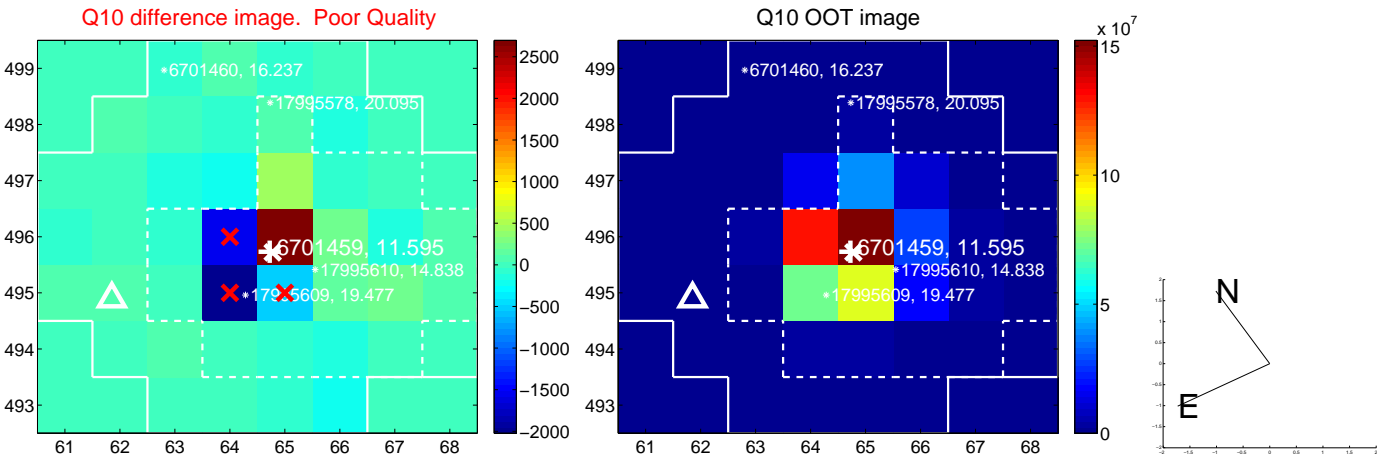
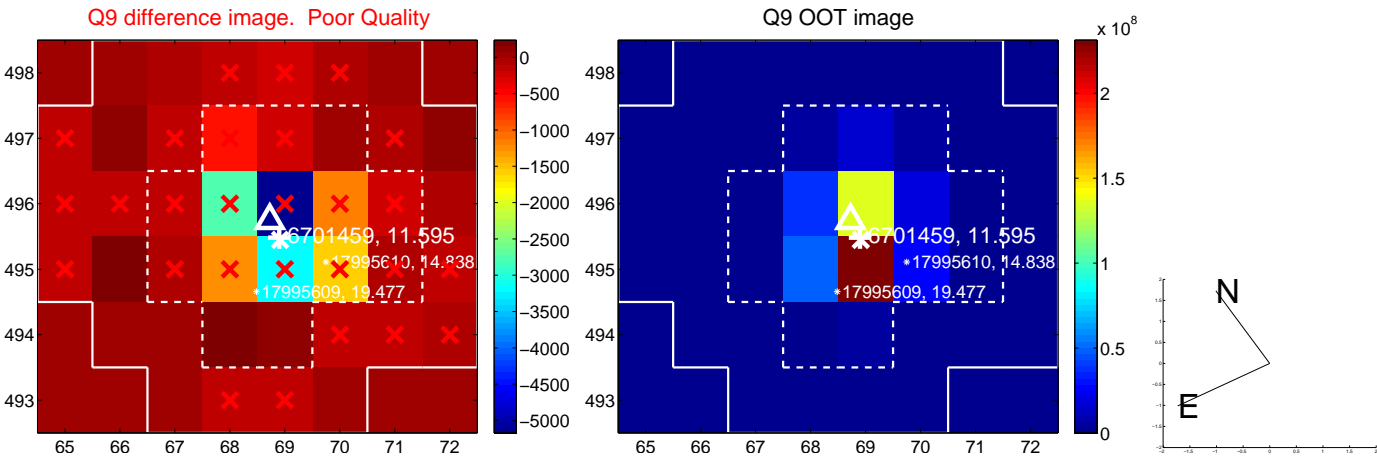
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



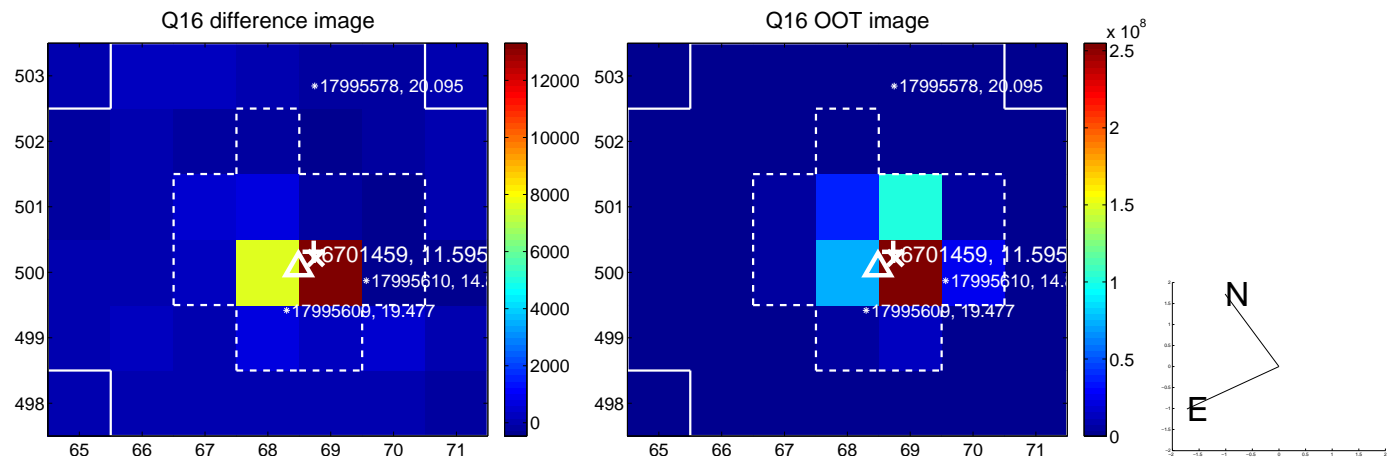
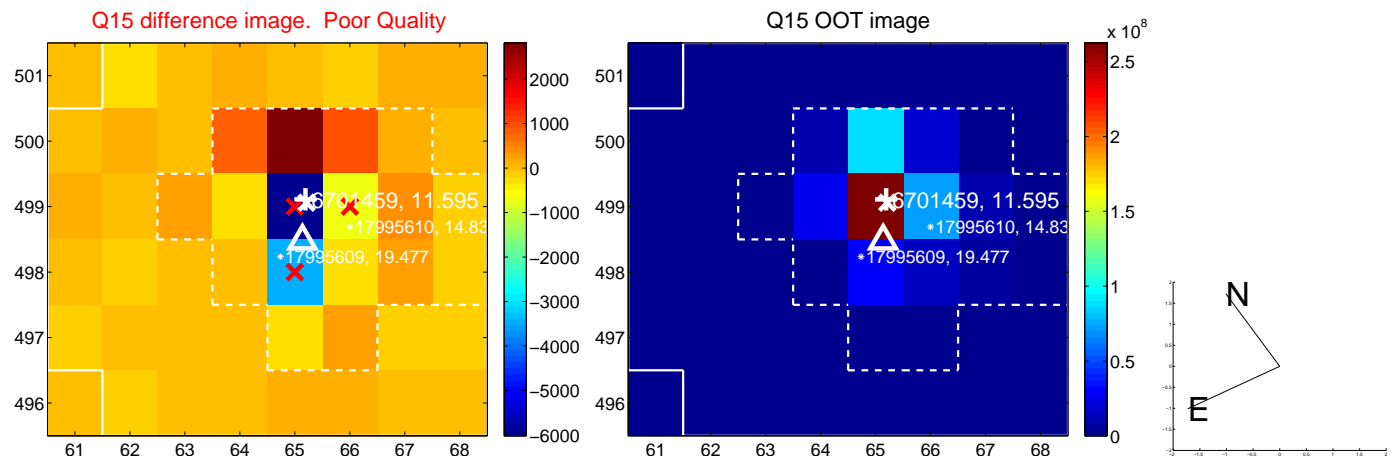
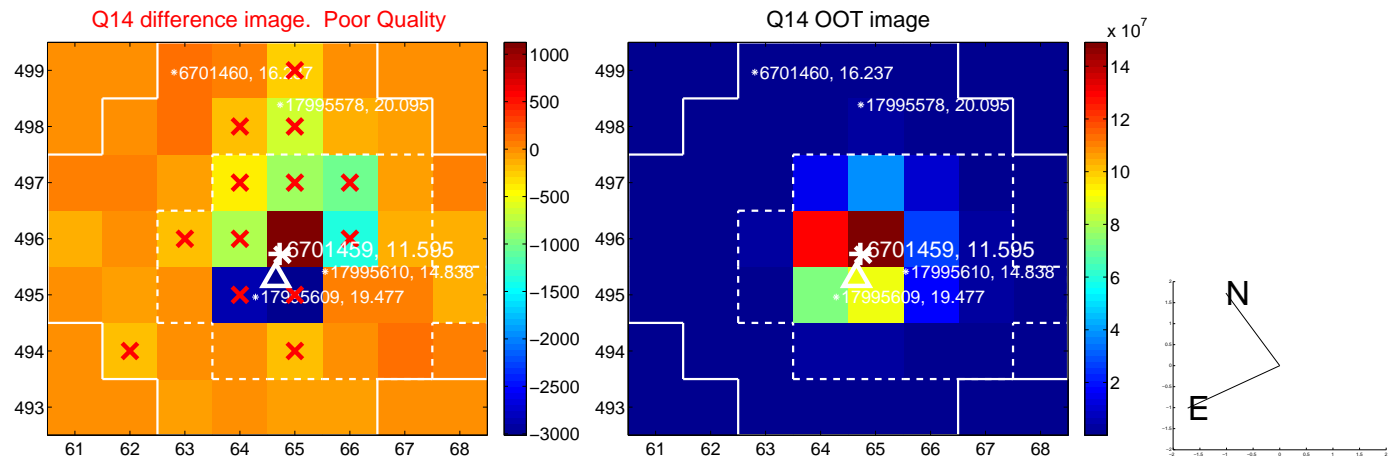
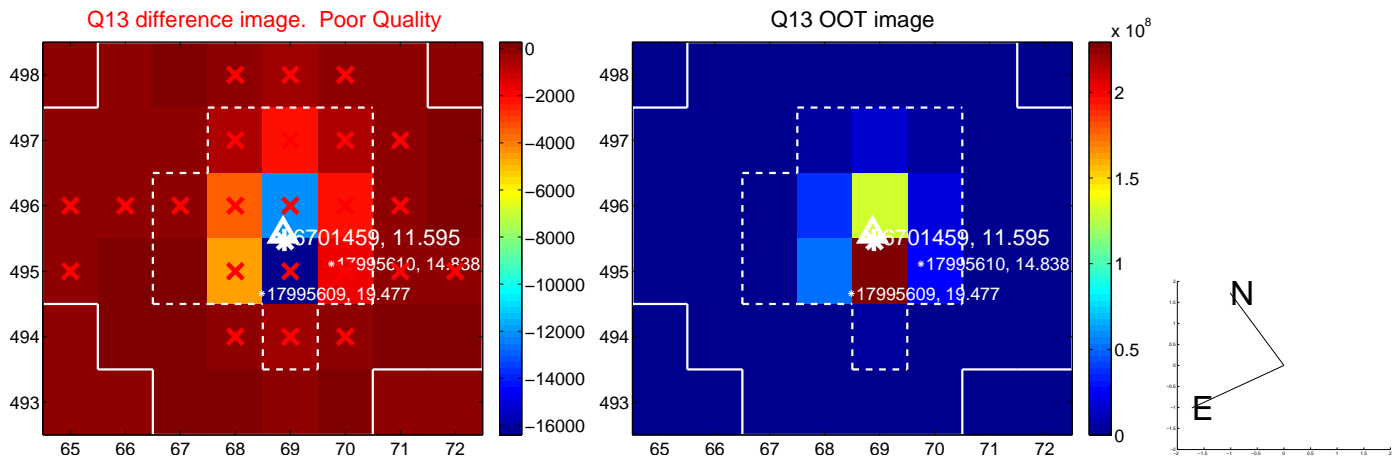
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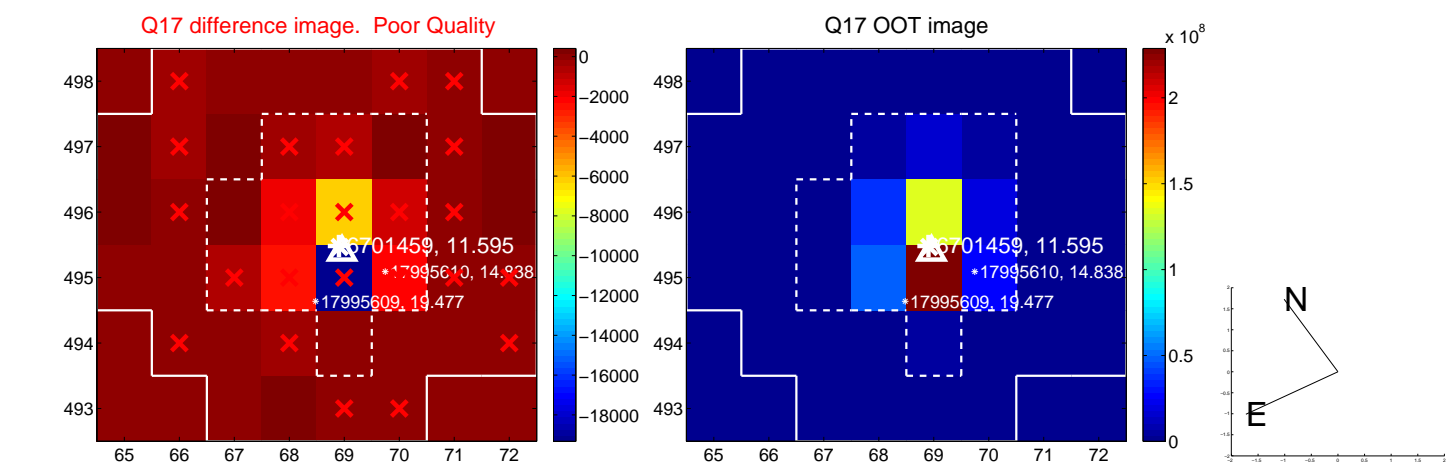
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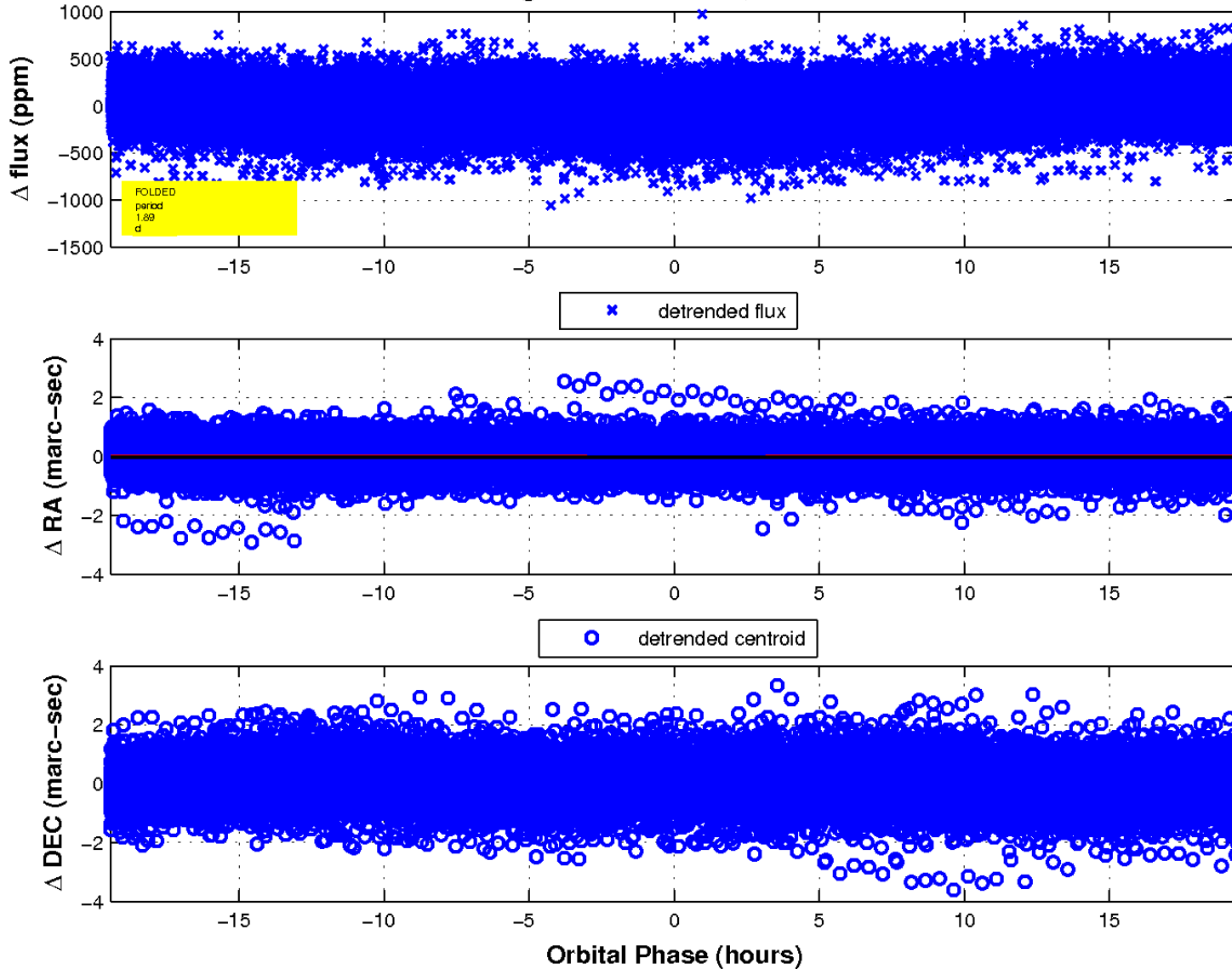
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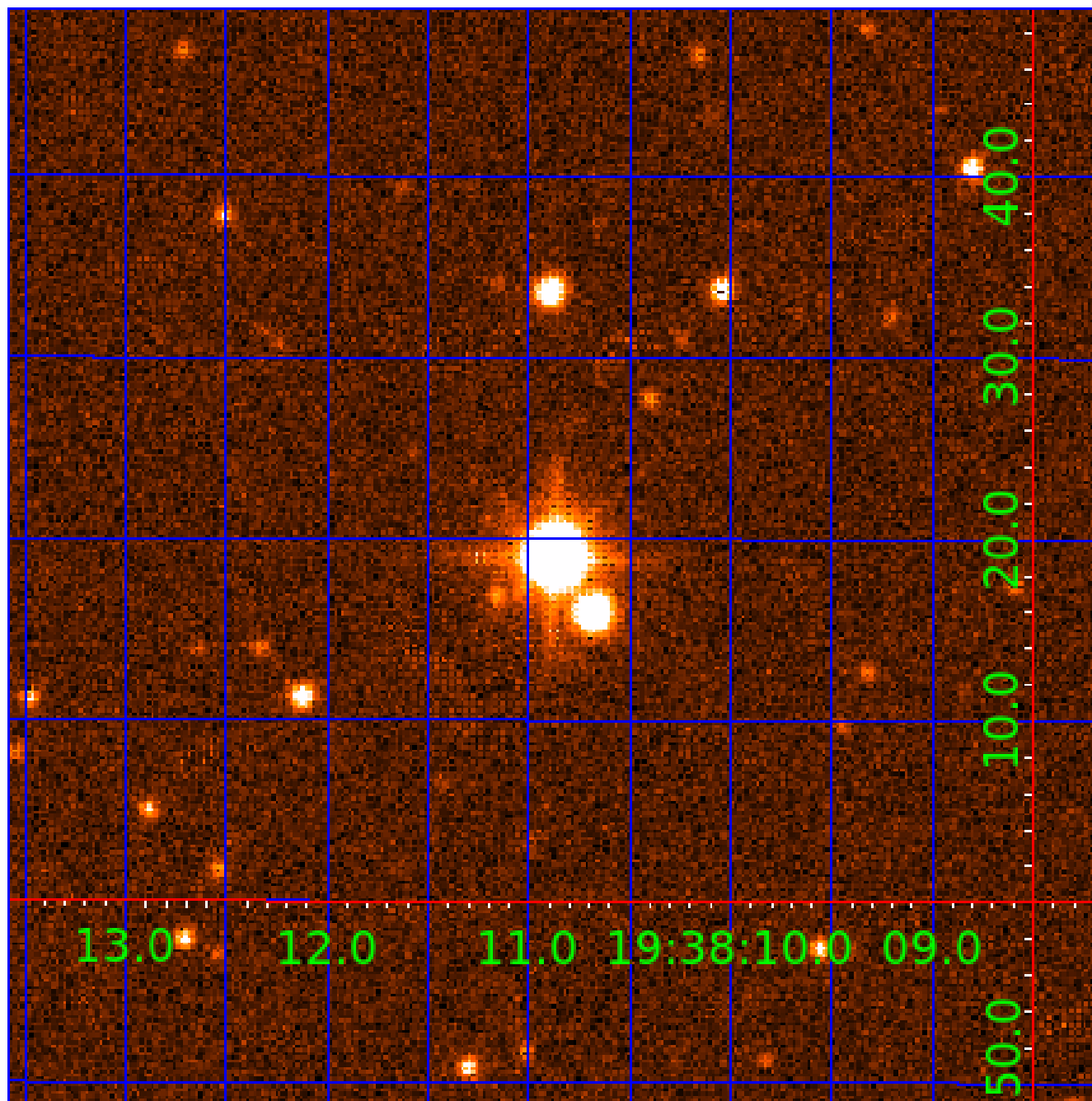


fluxWeightedCentroids, Planet 1 of 8



UKIRT Image

Declination



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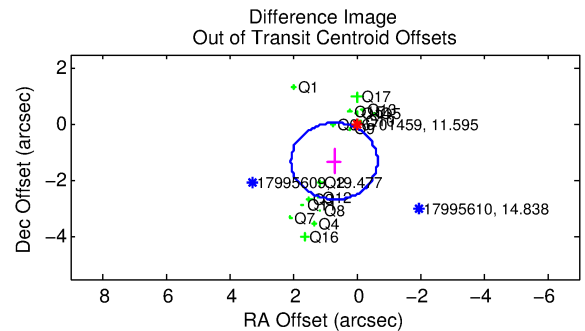
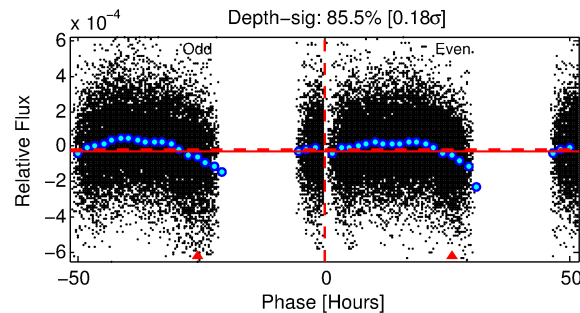
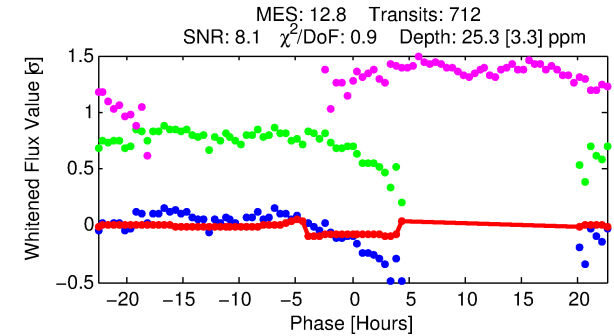
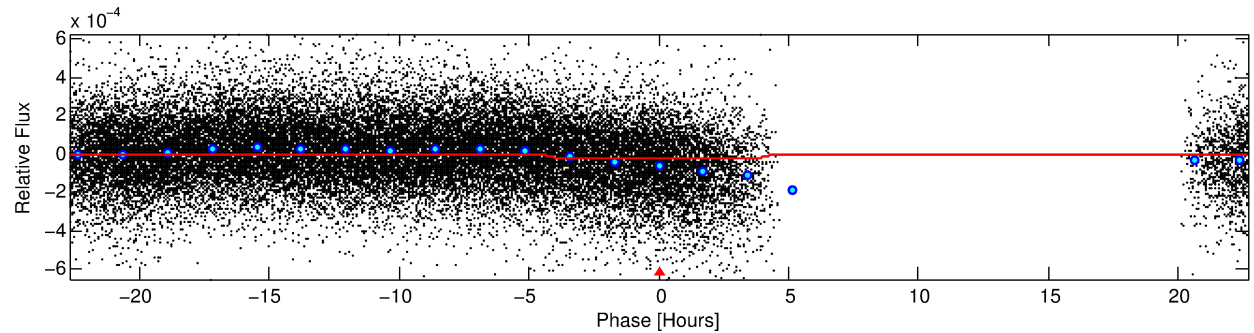
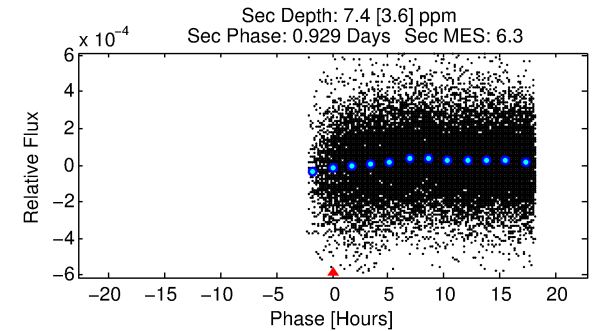
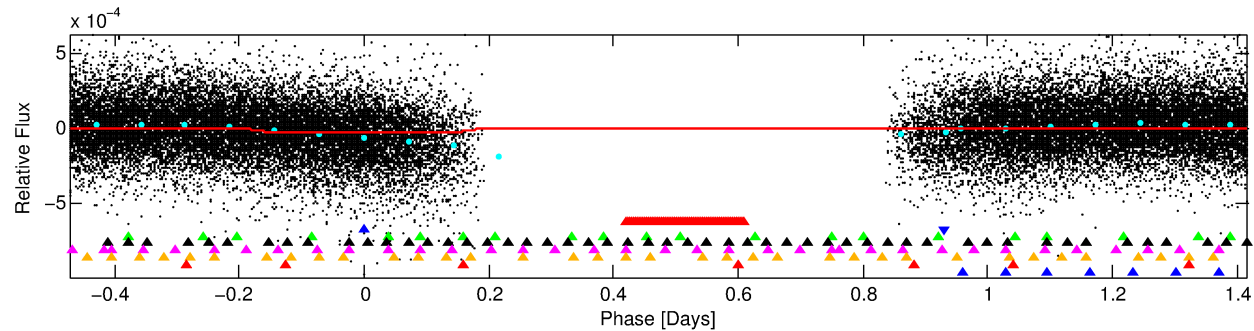
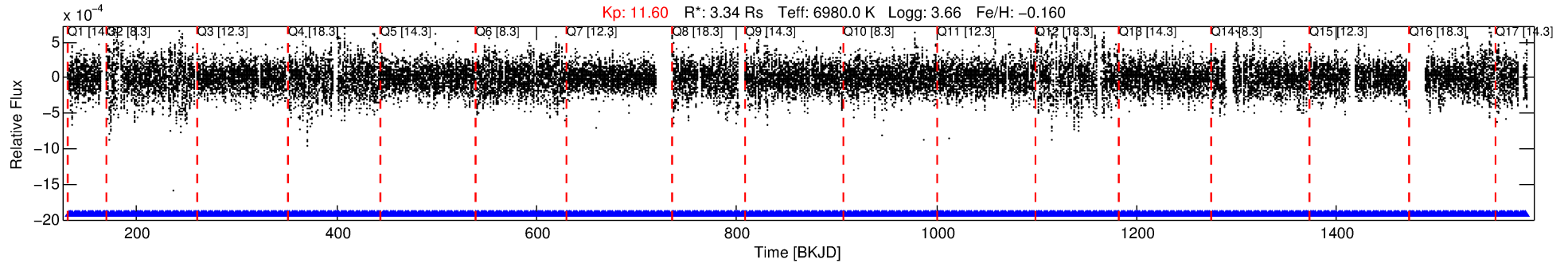
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006701459-02

No Significant Match Found

DV One-Page Summary

KIC: 6701459 Candidate: 2 of 8 Period: 1.890 d



DV Fit Results:

Period = 1.88971 [0.00002] d
Epoch = 132.4178 [0.0081] BKJD
Rp/R* = 0.0049 [0.0015]
a/R* = 1.46 [1.33]
b = 0.70 [1.25]
Seff = 17513.03 [9329.14]
Teq = 2933 [391] K
Rp = 1.80 [0.86] Re
a = 0.0368 [0.0124] AU
Ag = 1.70 [1.57] [0.45σ]
Teffp = 5179 [1003] K [2.09σ]

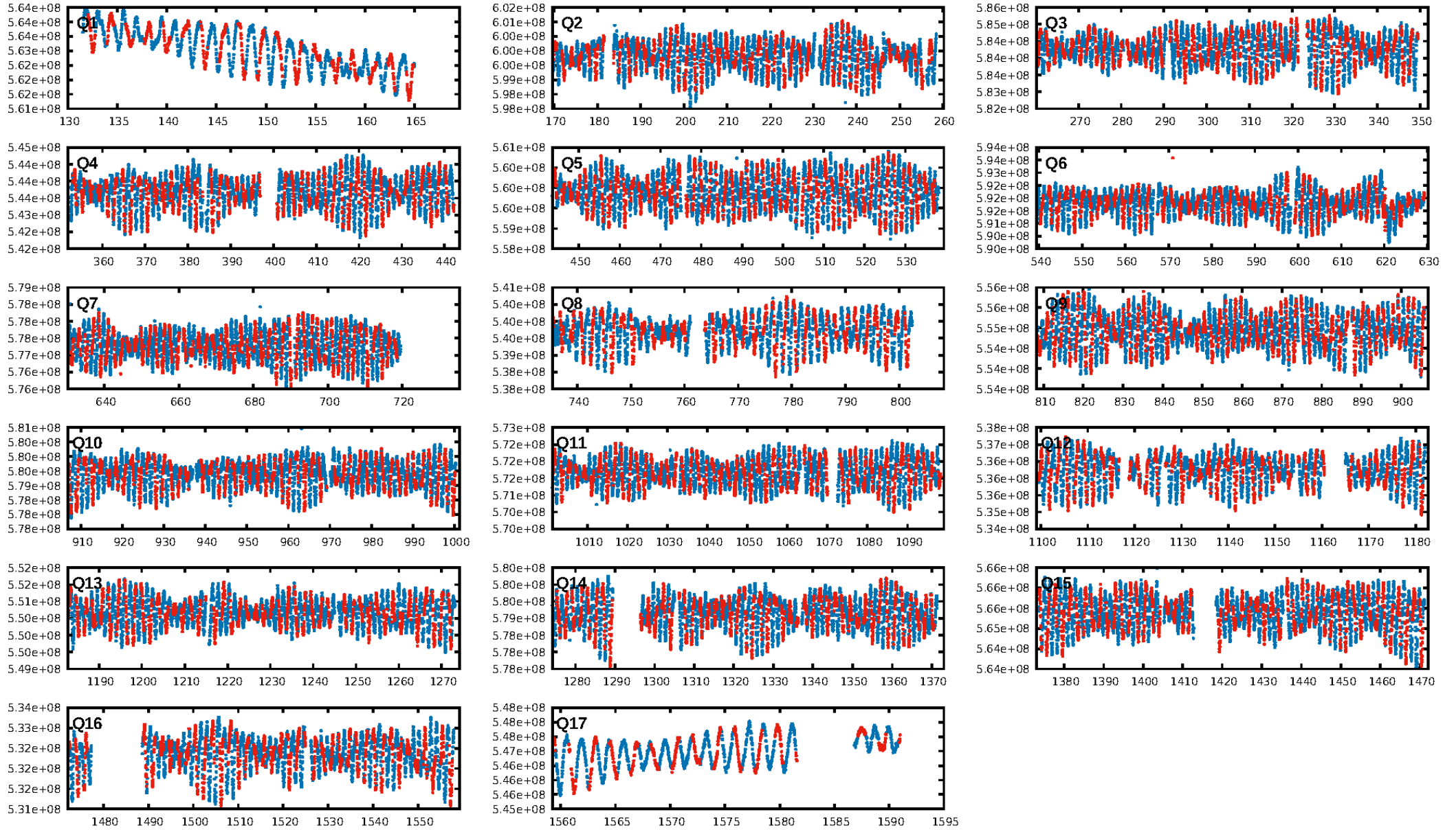
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [45.55σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.43e-23
RollingBand-fgt: 1.00 [681/681]
GhostDiagnostic-chr: 1.033
Centroid-sig: N/A
Centroid-so: 0.784 arcsec [1.99σ]
OotOffset-rm: 1.480 arcsec [3.26σ]
KicOffset-rm: 1.317 arcsec [3.16σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.88 [15/17]
DiffImageOverlap-fno: 0.00 [0/17]

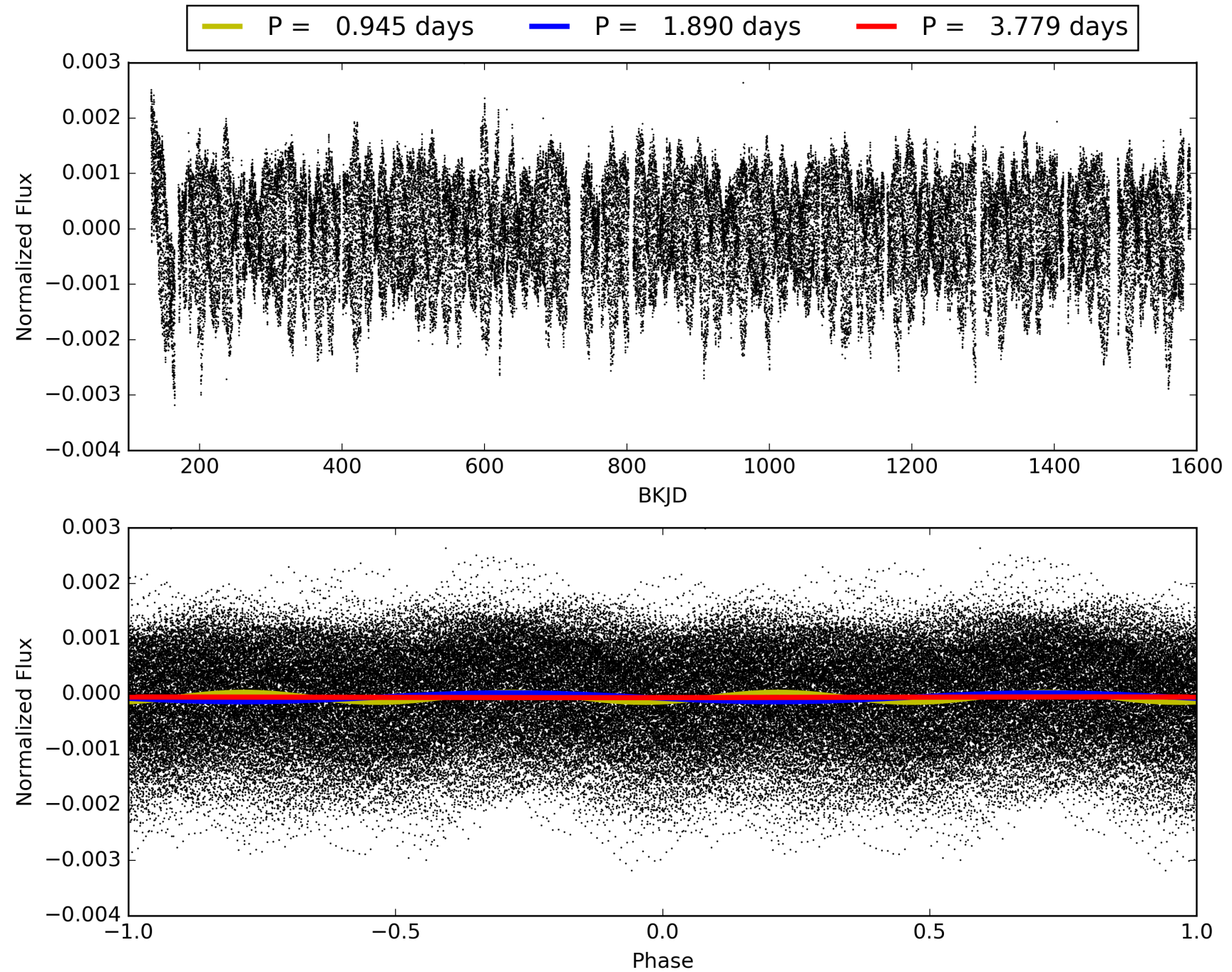
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 01:19:09 Z

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

TCE 006701459-02, PDC Light Curves

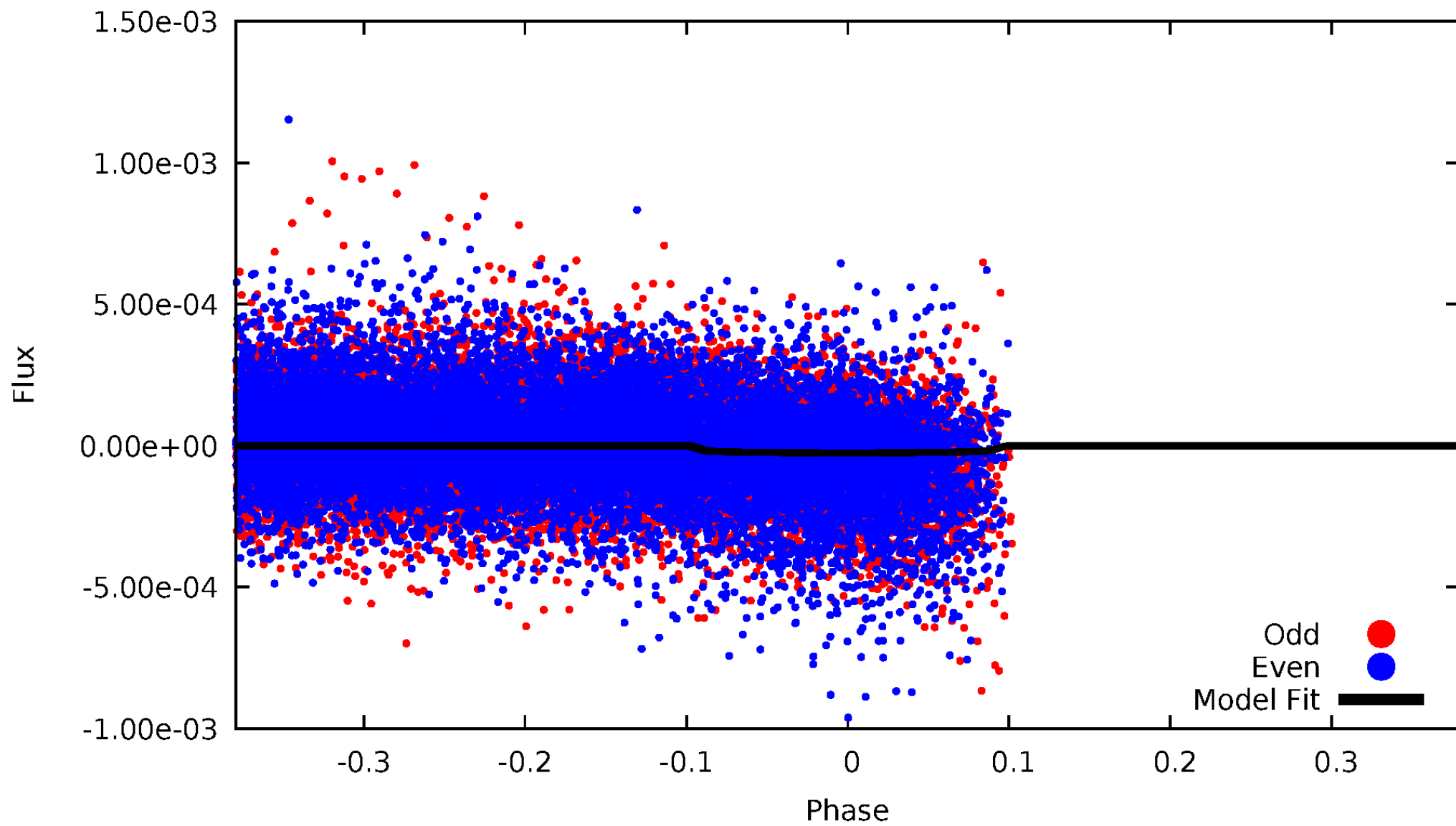


TCE 006701459-02



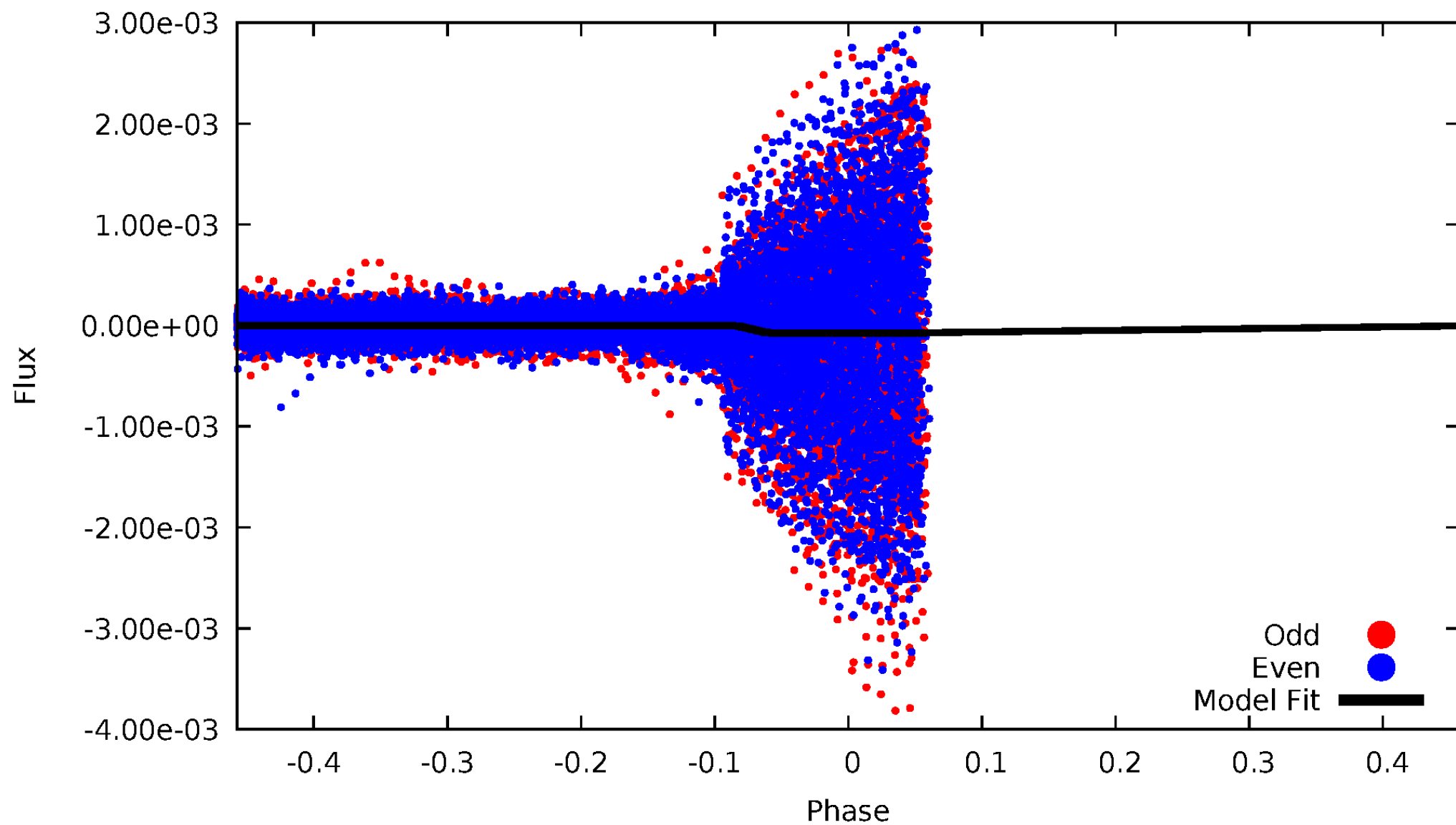
DV Odd/Even

TCE 006701459-02



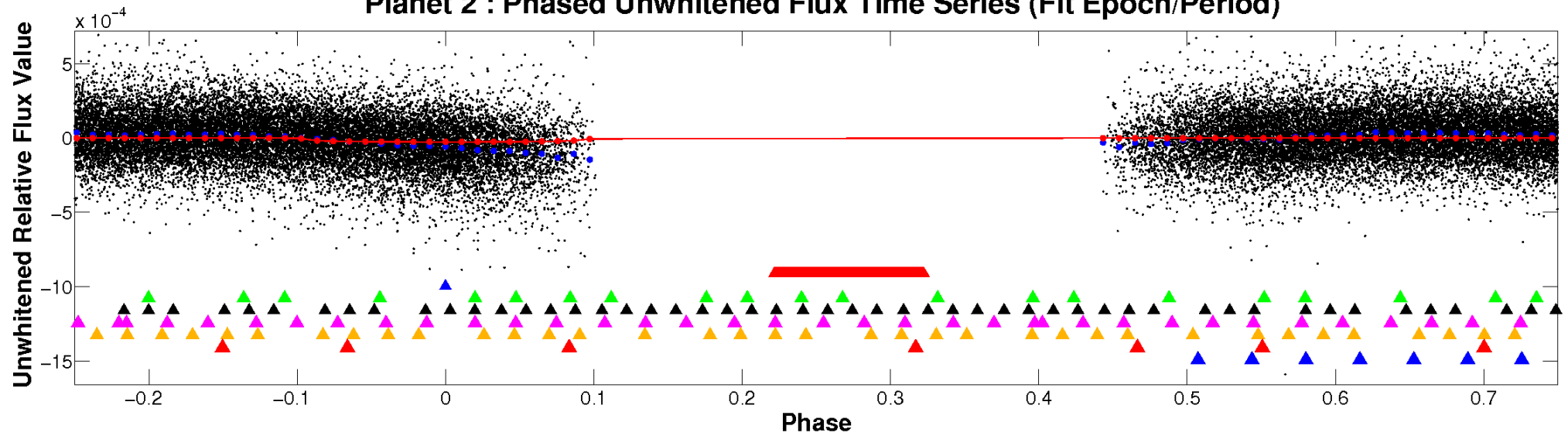
ALT Odd/Even

TCE 006701459-02

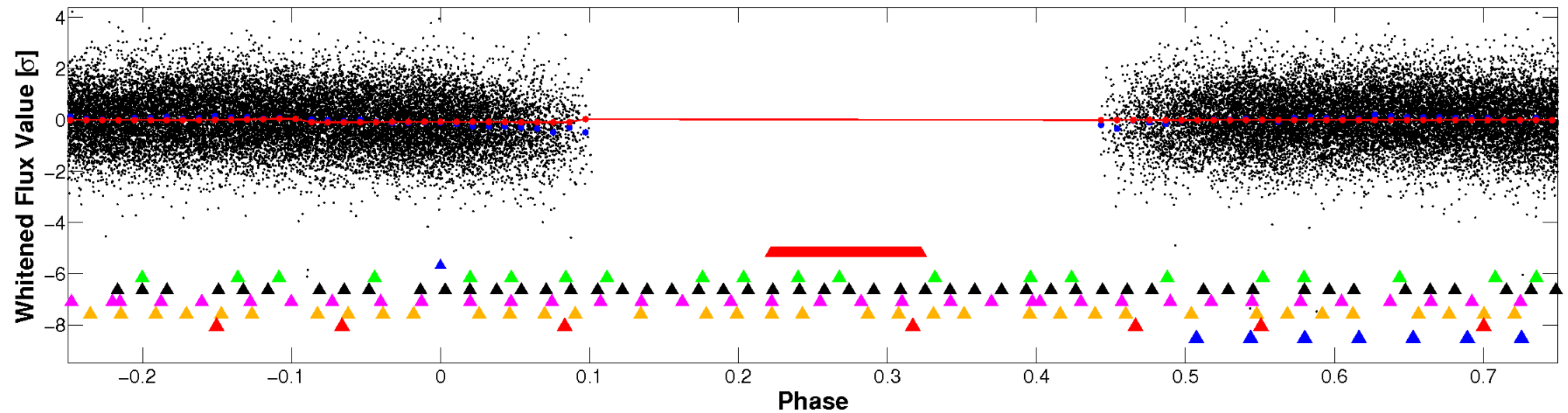


Non-Whitened Vs. Whitened Light Curve

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

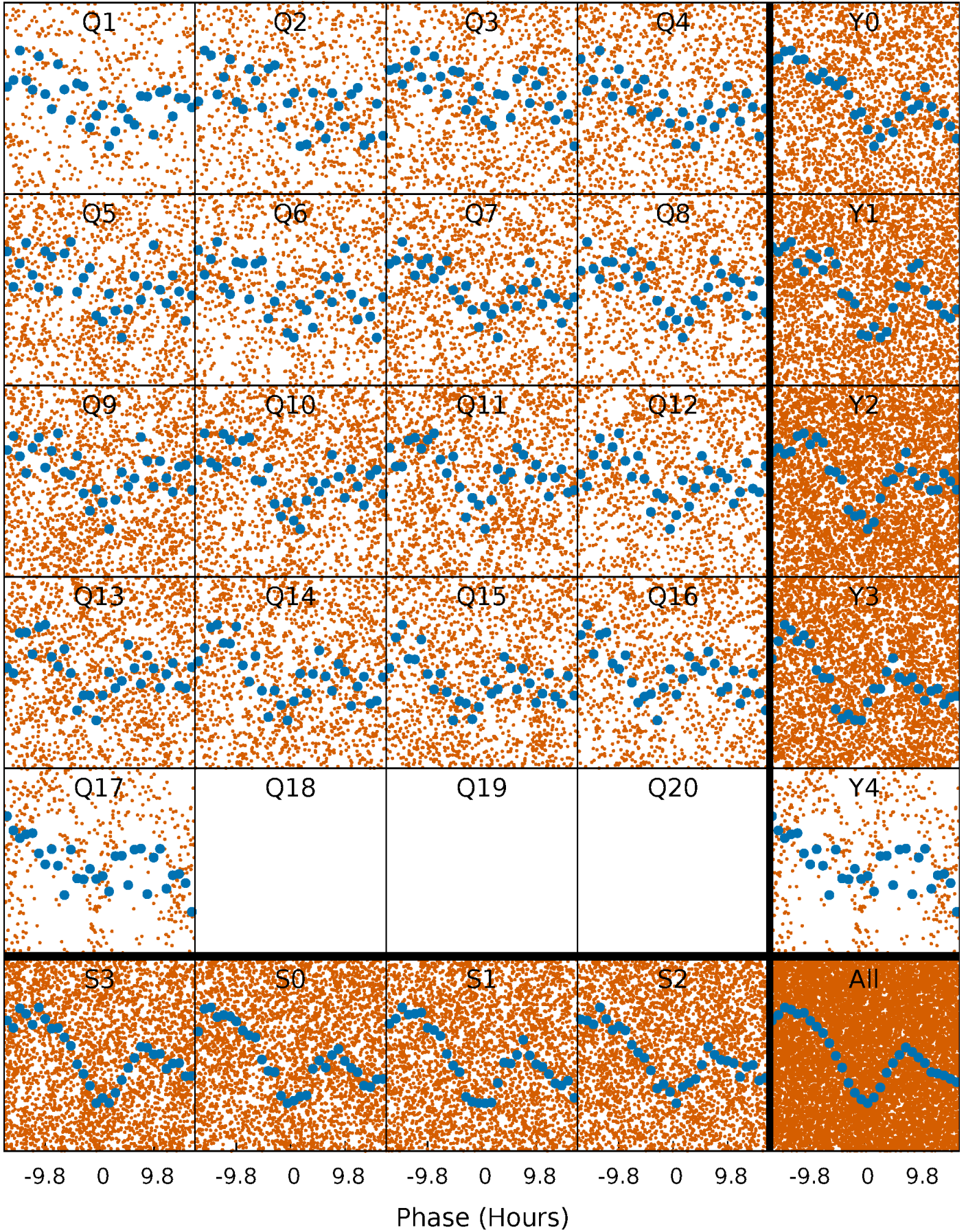


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



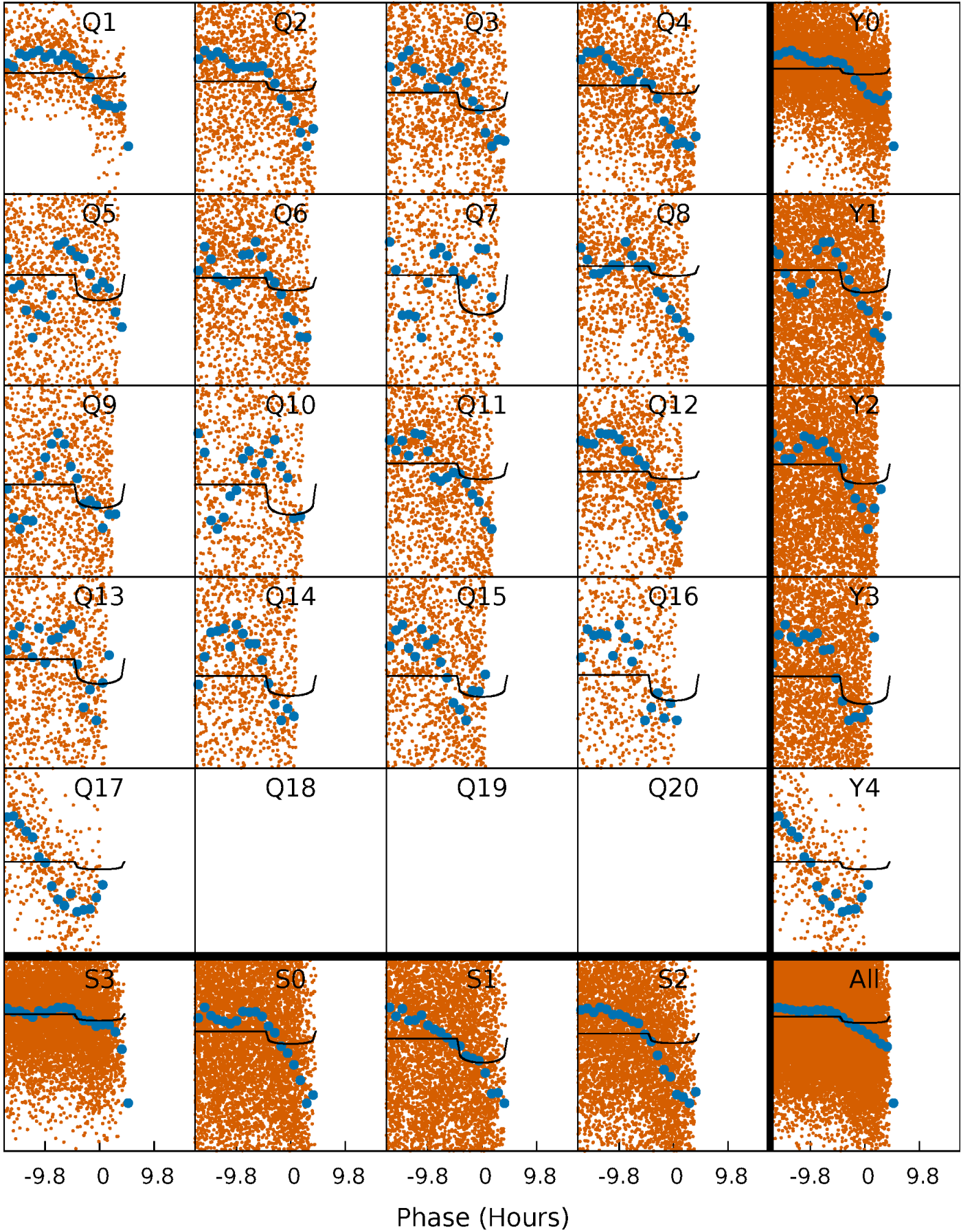
PDC Quarter-Phased Transit Curves

TCE 006701459-02 P= 1.889706 Days $T_0=132.417824$ (BKJD)



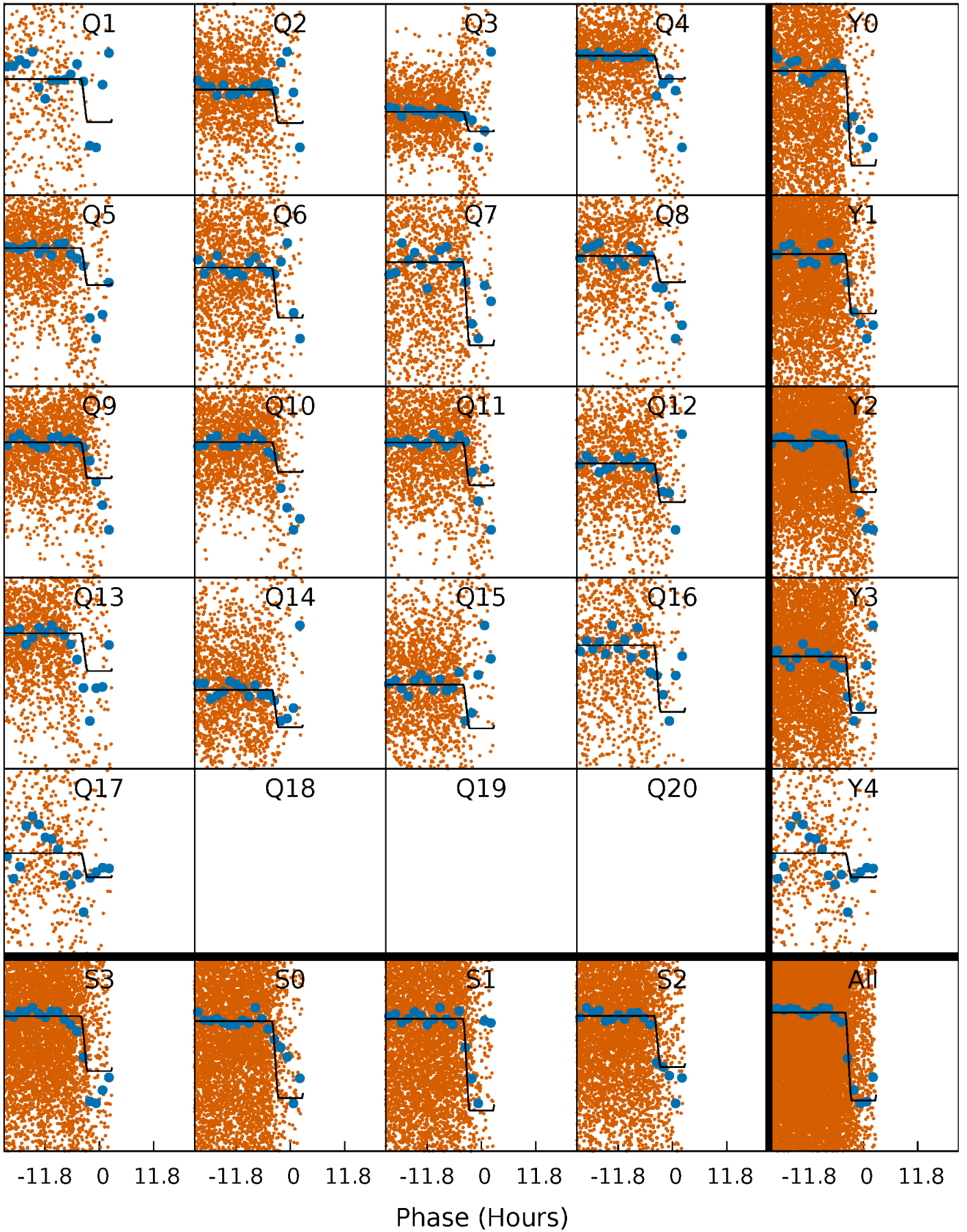
DV Quarter-Phased Transit Curves

TCE 006701459-02 P= 1.889706 Days $T_0=132.417824$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

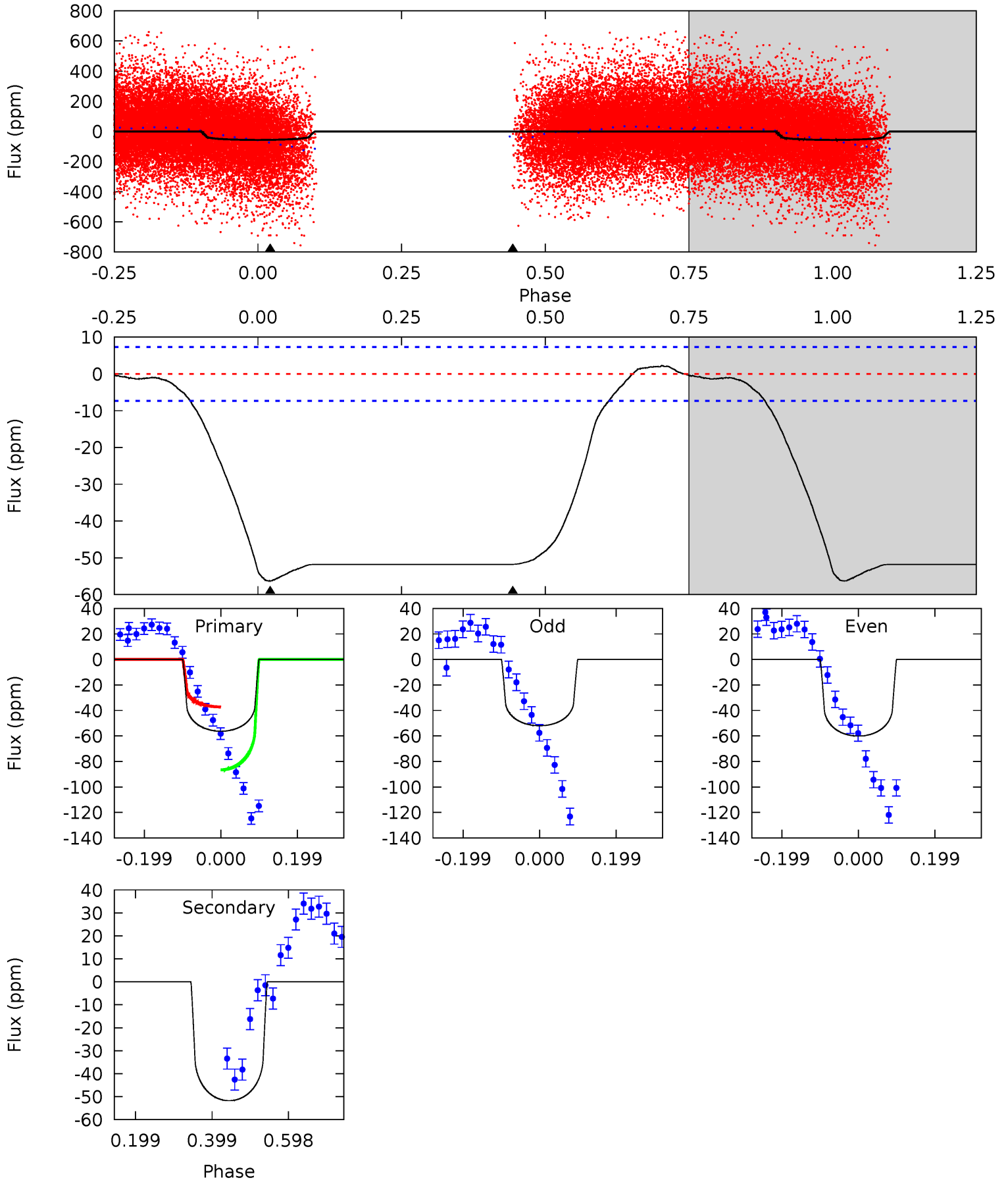
TCE 006701459-02 P= 1.889421 Days $T_0=132.524767$ (BKJD)



DV Model-Shift Uniqueness Test

006701459-02, P = 1.889706 Days, E = 130.528118 Days

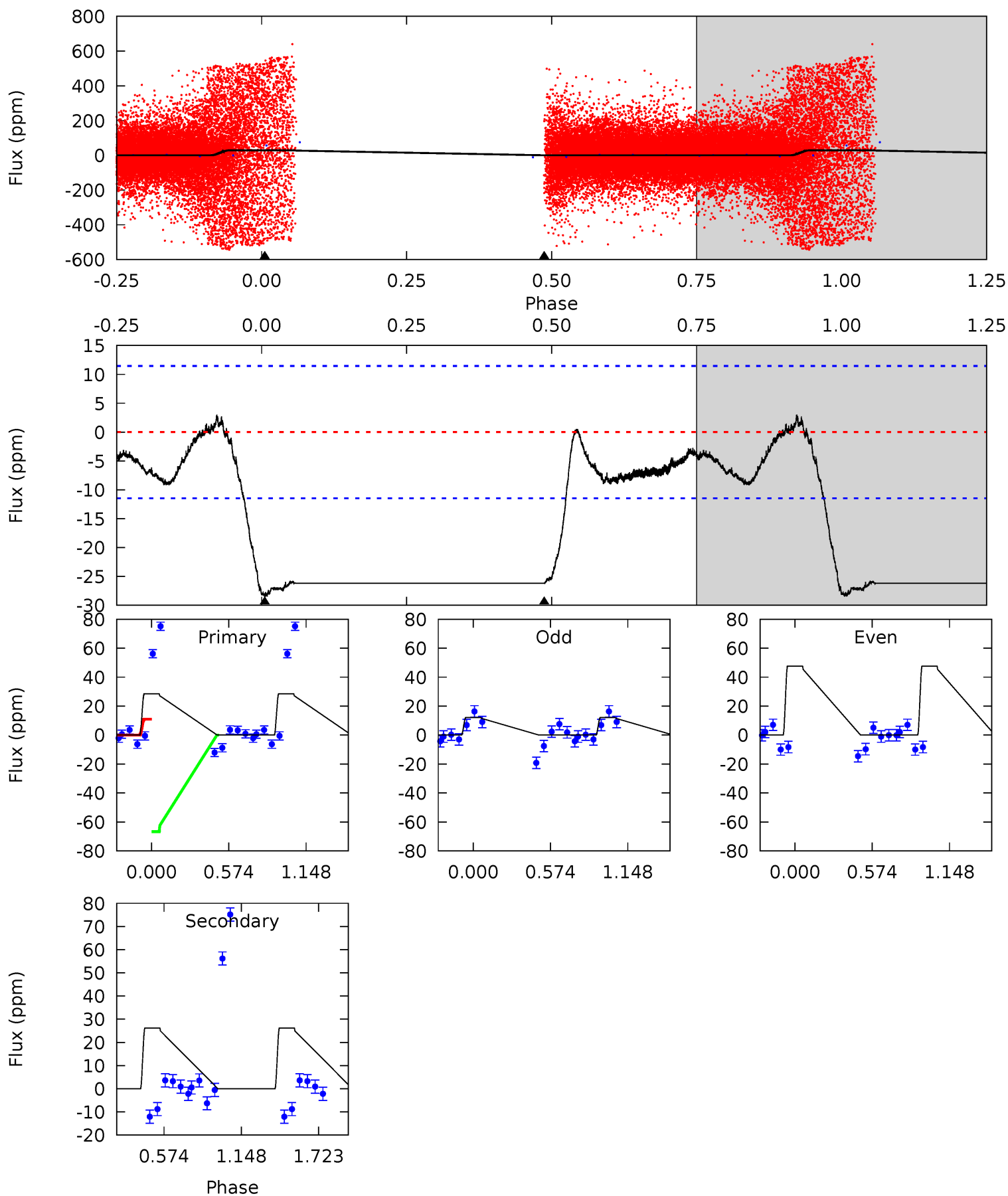
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
33.9	31.2	0	0	4.42	1.28	0.78	33.9	33.9	31.2	31.2	2.45	1.31	0.04	12.5



Alt Model-Shift Uniqueness Test

006701459-02, P = 1.889421 Days, E = 130.635346 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	9.57	0	0	4.18	0.56	0.50	10.4	10.4	9.57	9.57	6.76	-4.52	0.10	0



Stellar Parameters For KIC 006701459

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6980^{+167}_{-209}	$3.660^{+0.296}_{-0.056}$	$-0.160^{+0.300}_{-0.250}$	$3.337^{+0.335}_{-1.256}$	$1.858^{+0.178}_{-0.414}$	$0.070^{+0.160}_{-0.017}$
	+2%/-3%	+8%/-2%	+188%/-156%	+10%/-38%	+10%/-22%	+227%/-24%
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 006701459-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-52 ± 2	$1.67^{+0.58}_{-0.54}$	3996^{+225}_{-339}	8659^{+2335}_{-1254}	14^{+15}_{-6}
Alt.	-26 ± 3	$2.96^{+0.70}_{-0.68}$	3992^{+204}_{-349}	5174^{+535}_{-429}	$2.241^{+1.388}_{-0.754}$

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

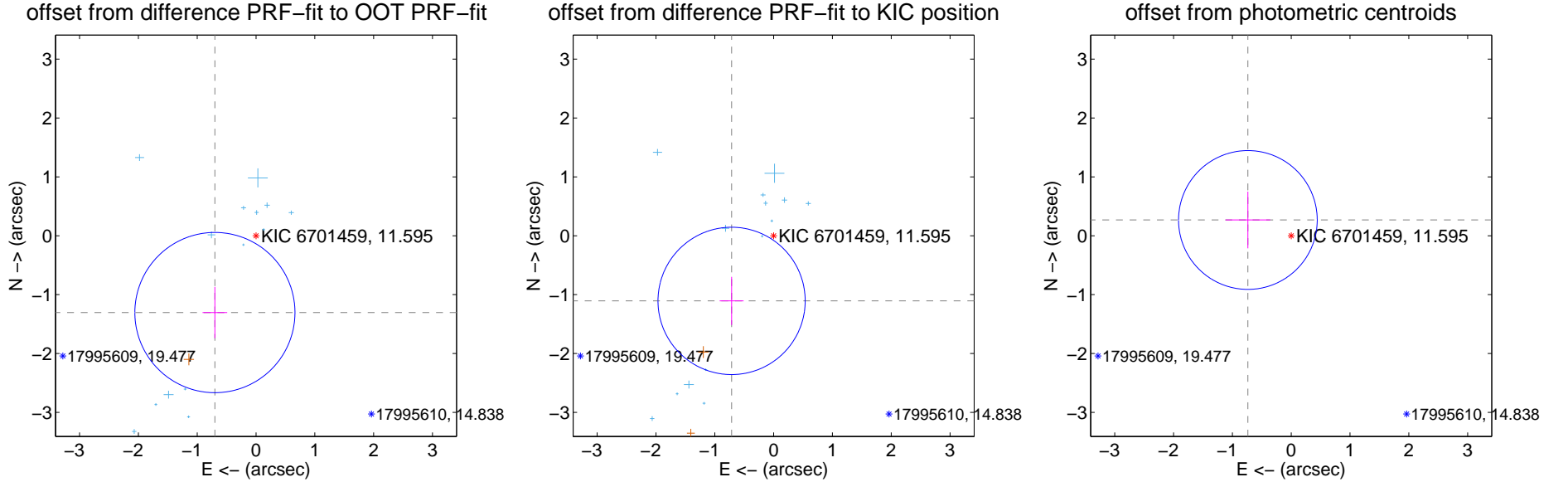
DV Centroid Data

Supplemental centroid analysis for 006701459-02. **Kepler magnitude: 11.60.** Transit SNR 8.14

There are 15 quarters with good PRF difference image offsets

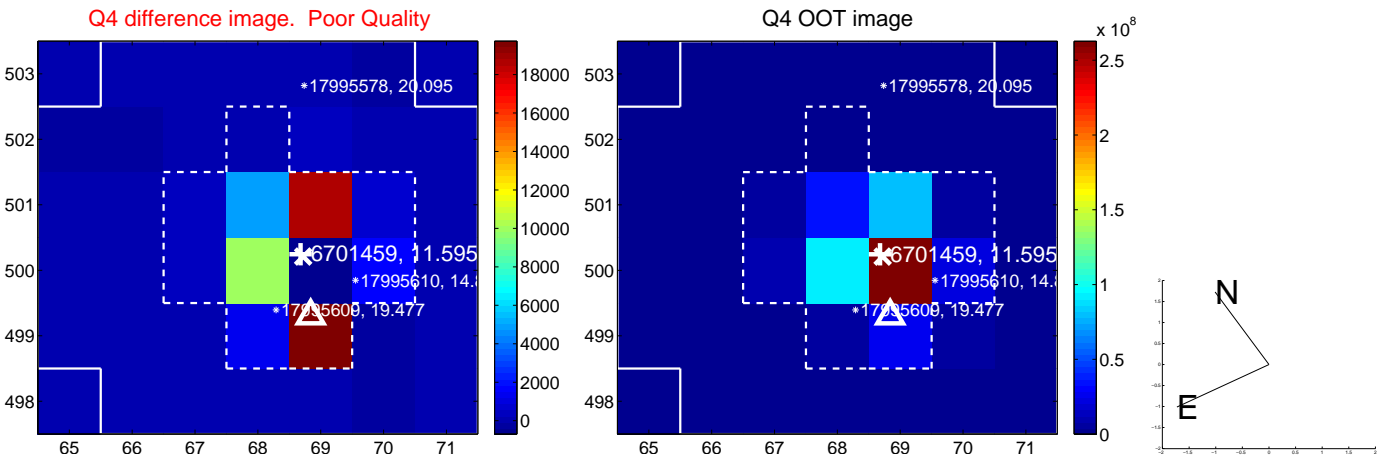
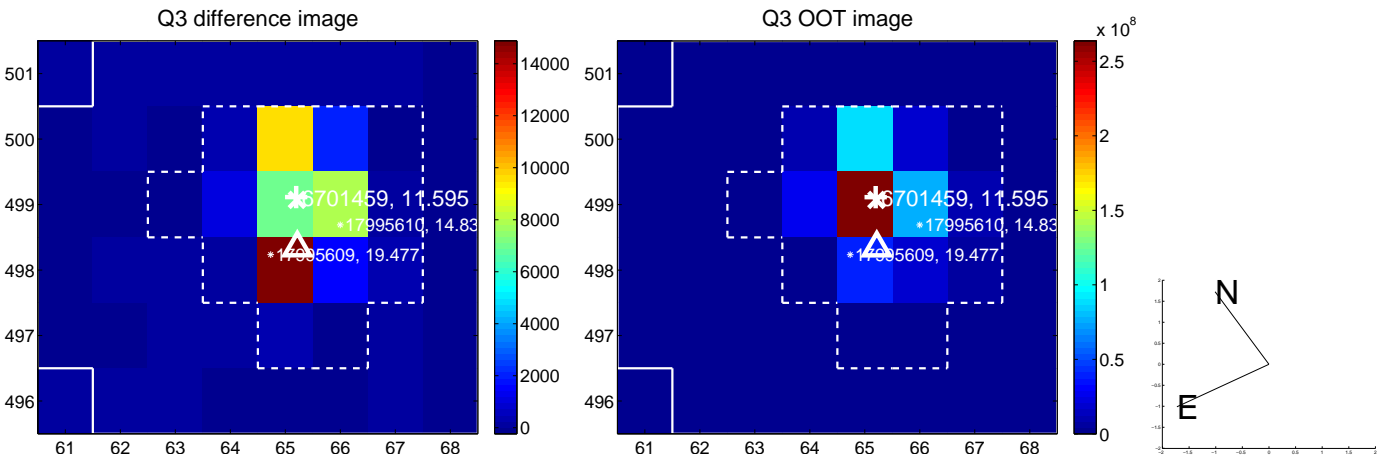
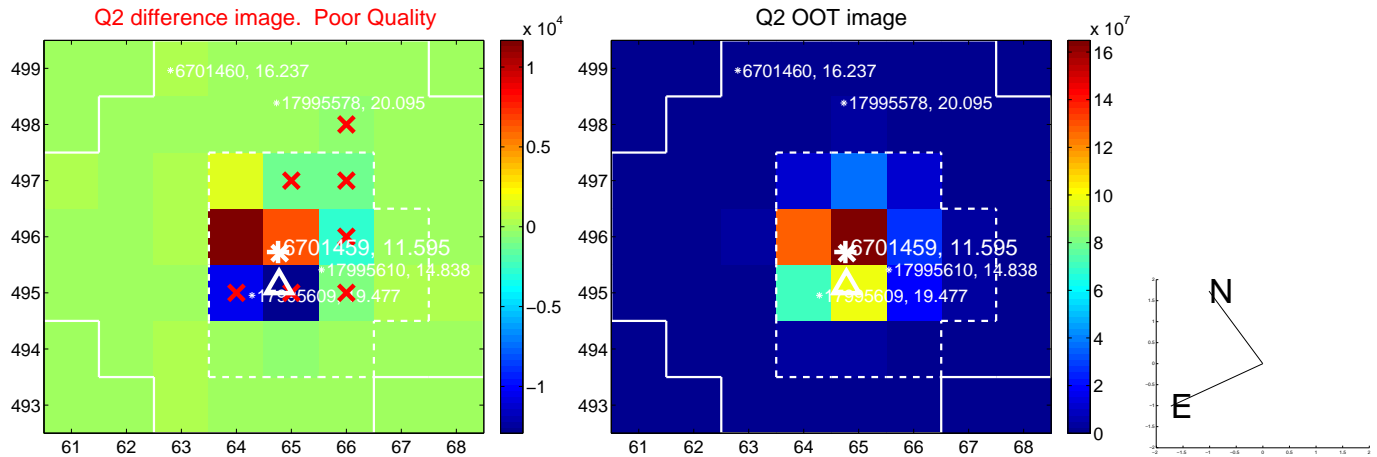
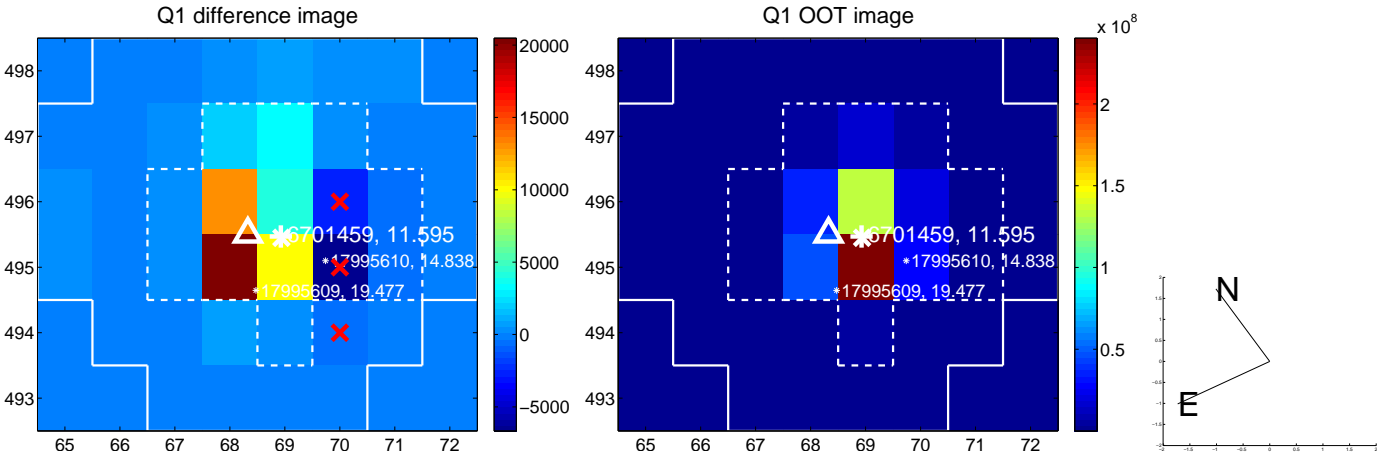
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.480 ± 0.454	3.26	0.699 ± 0.210	-1.305 ± 0.435
PRF-fit source offset from KIC position	1.317 ± 0.417	3.16	0.714 ± 0.203	-1.107 ± 0.409
photometric centroid source offset	0.78 ± 0.39	1.99	0.74 ± 0.38	0.27 ± 0.48

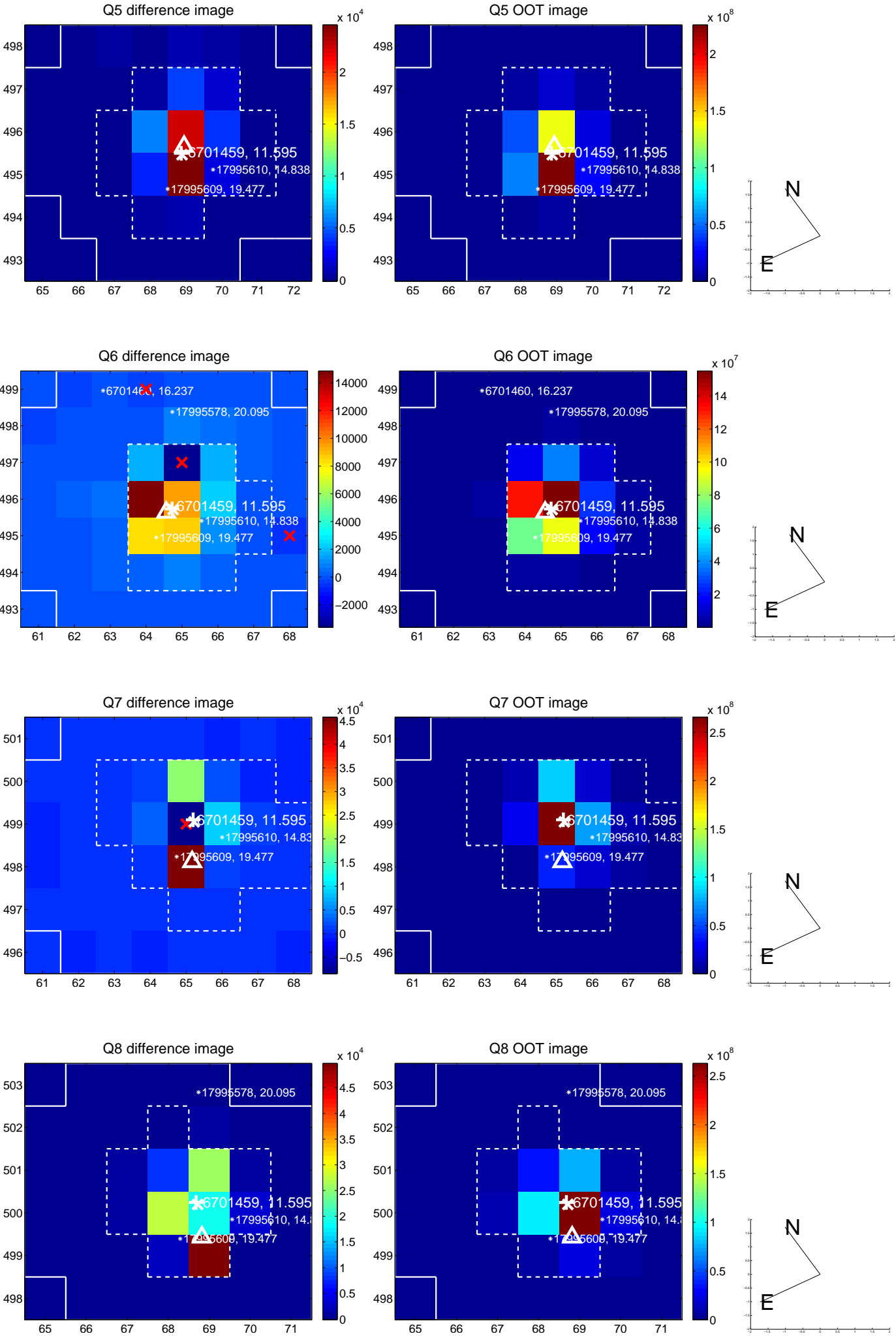


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

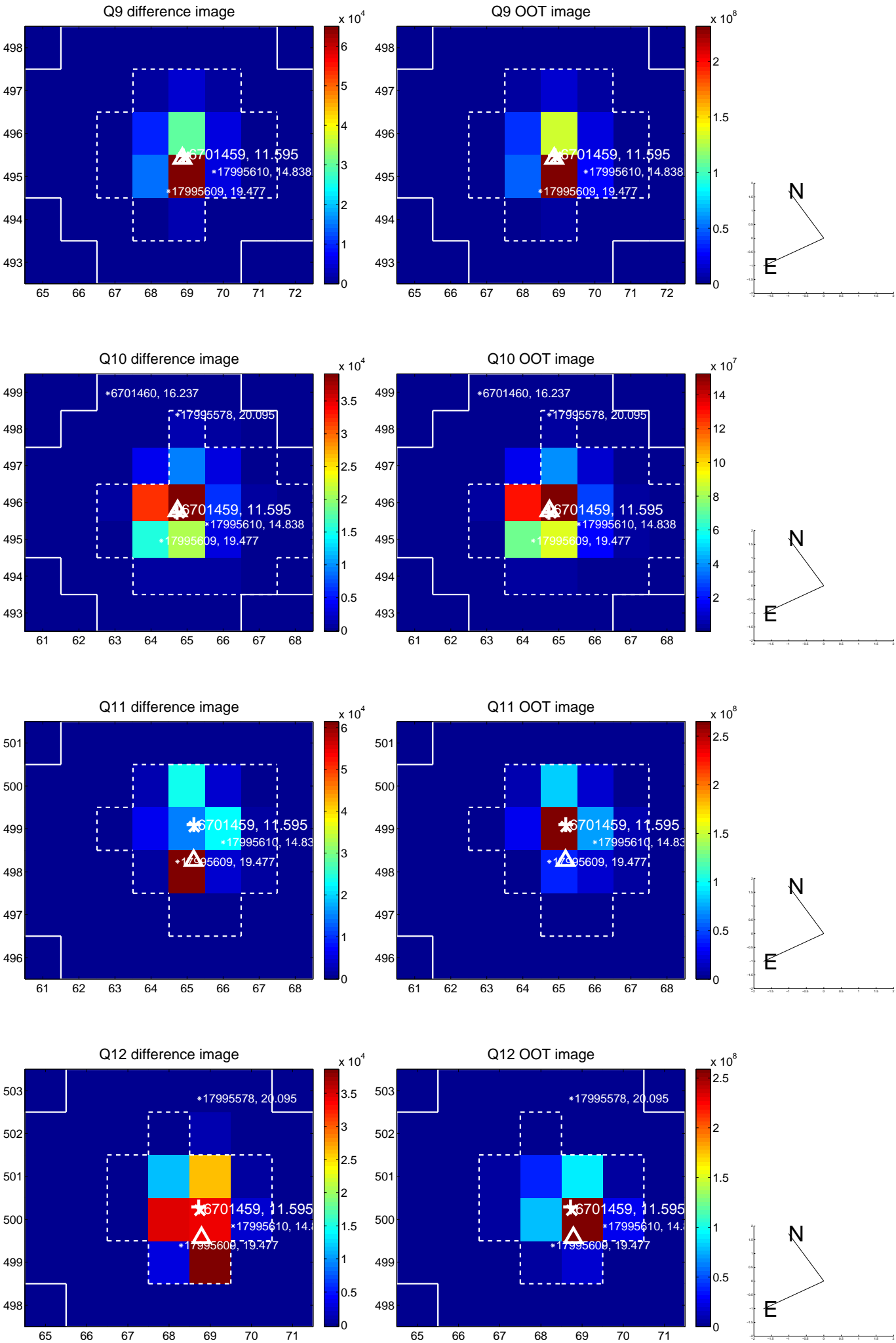
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



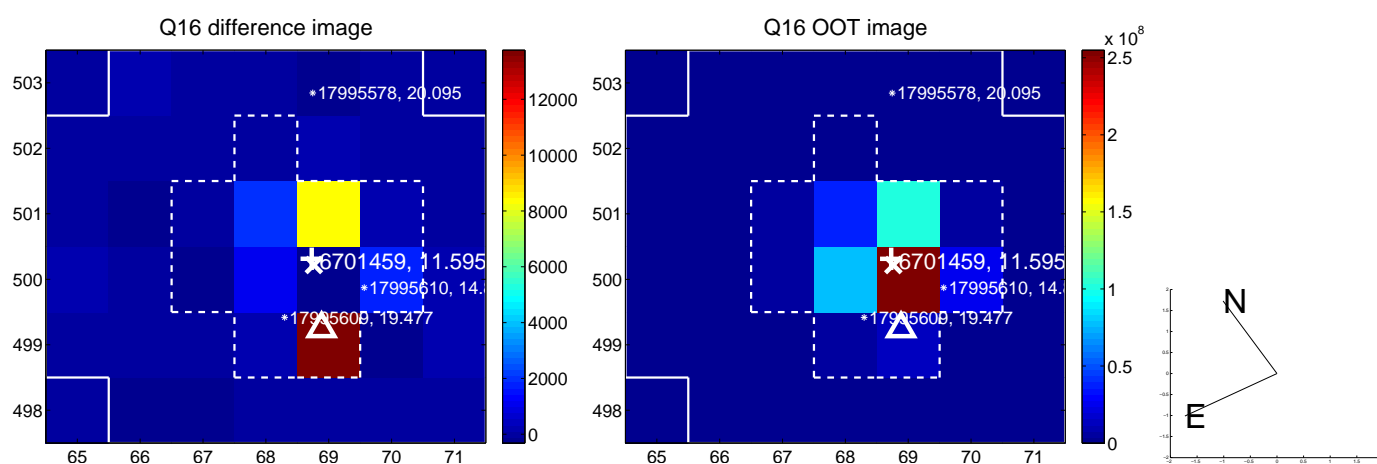
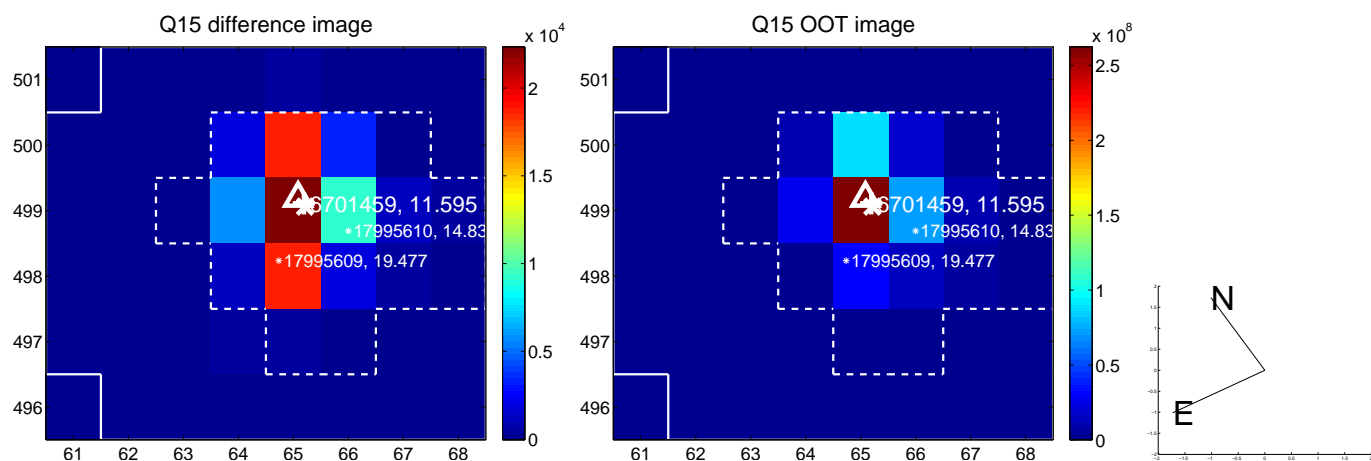
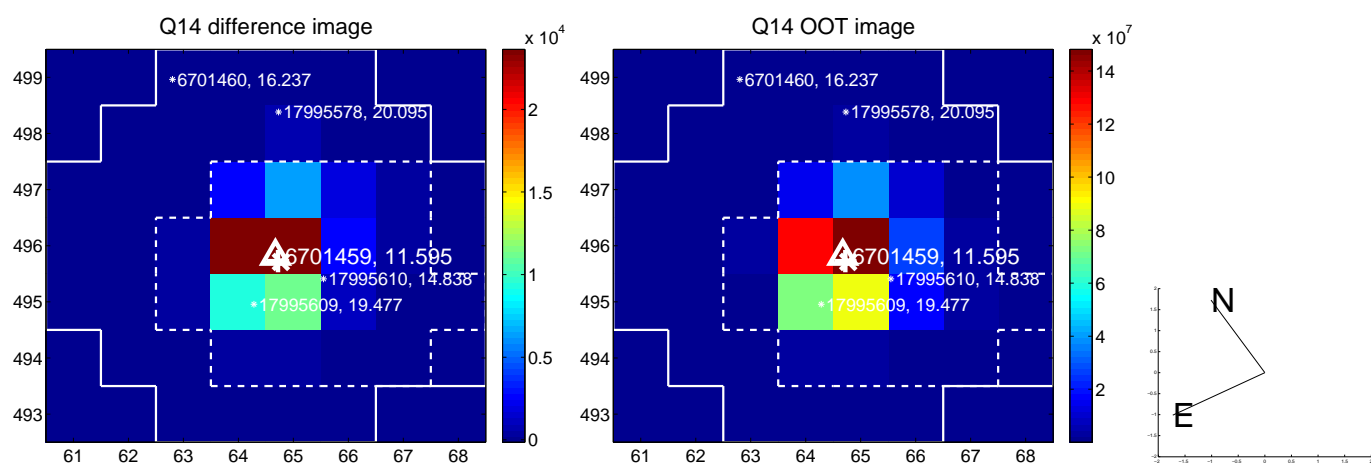
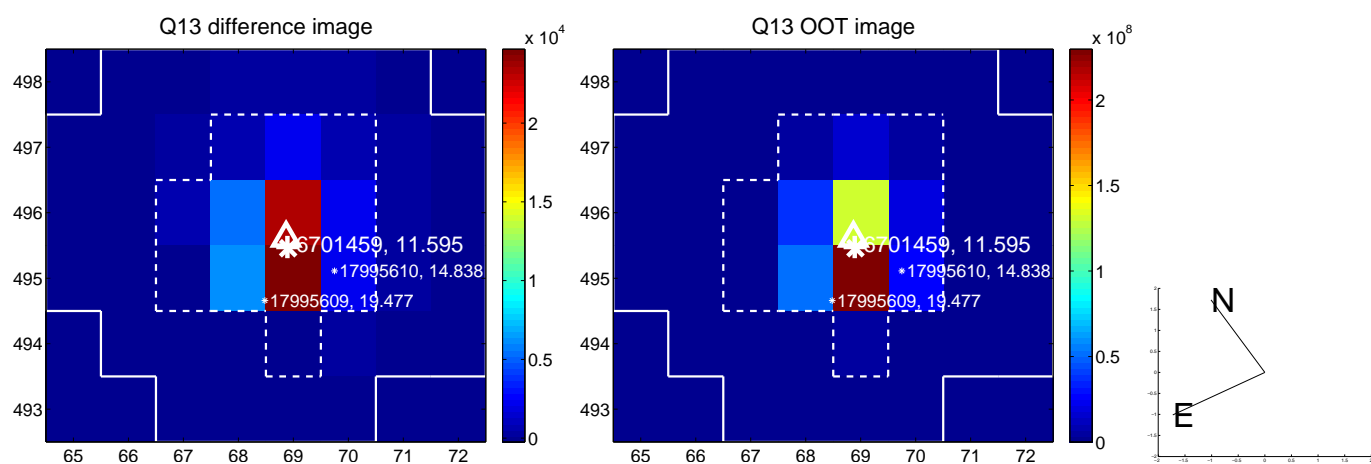
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



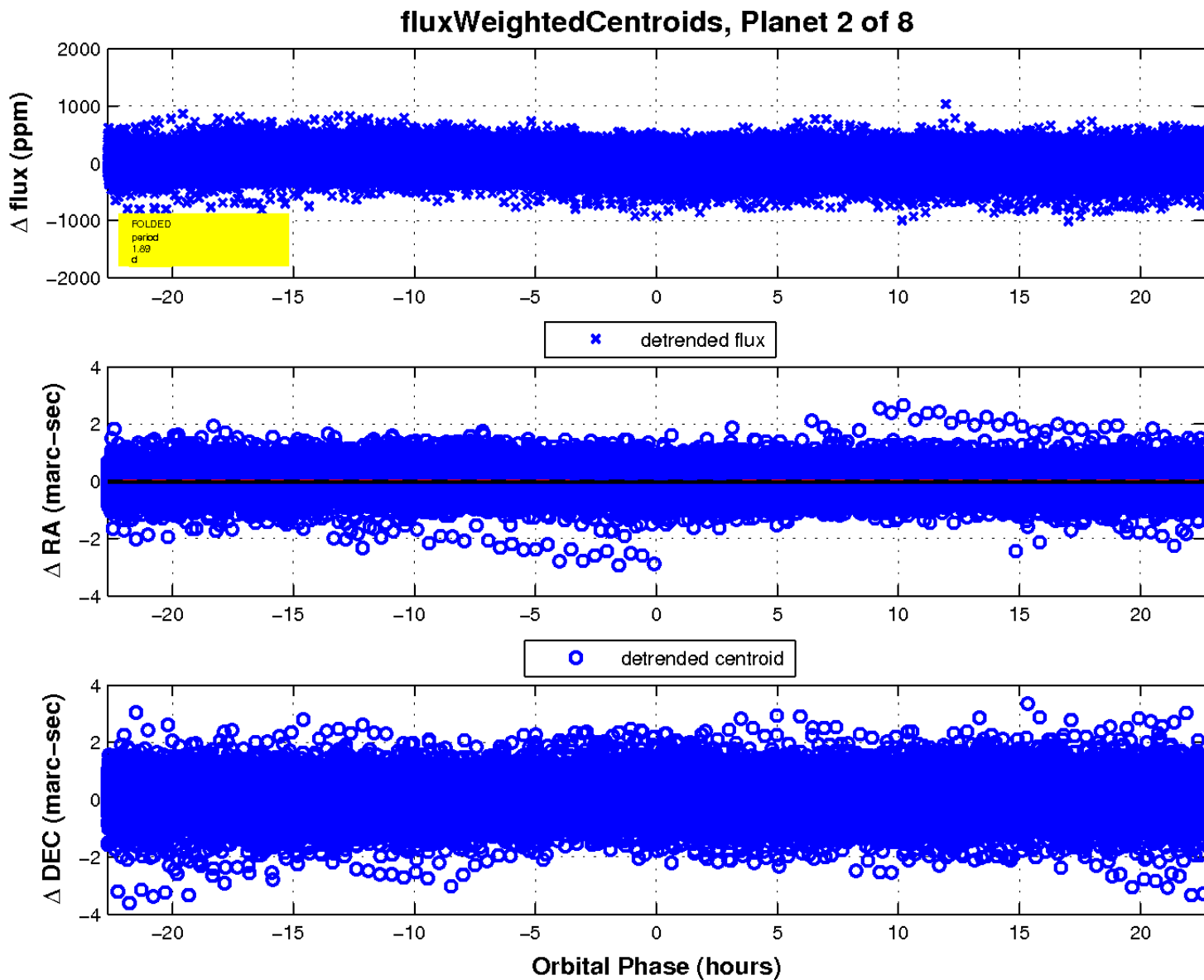
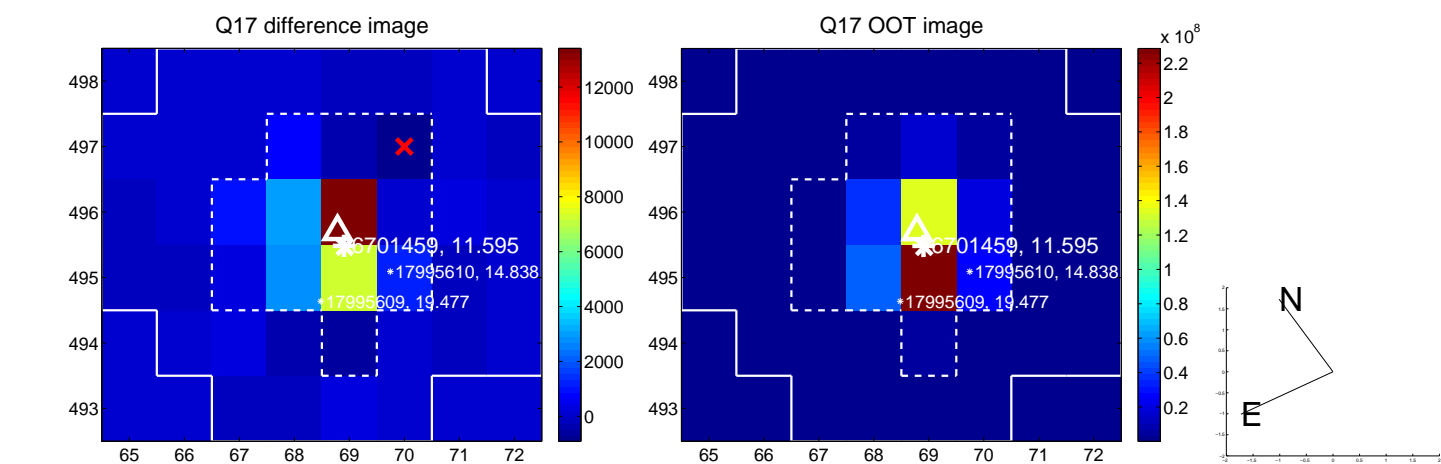
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

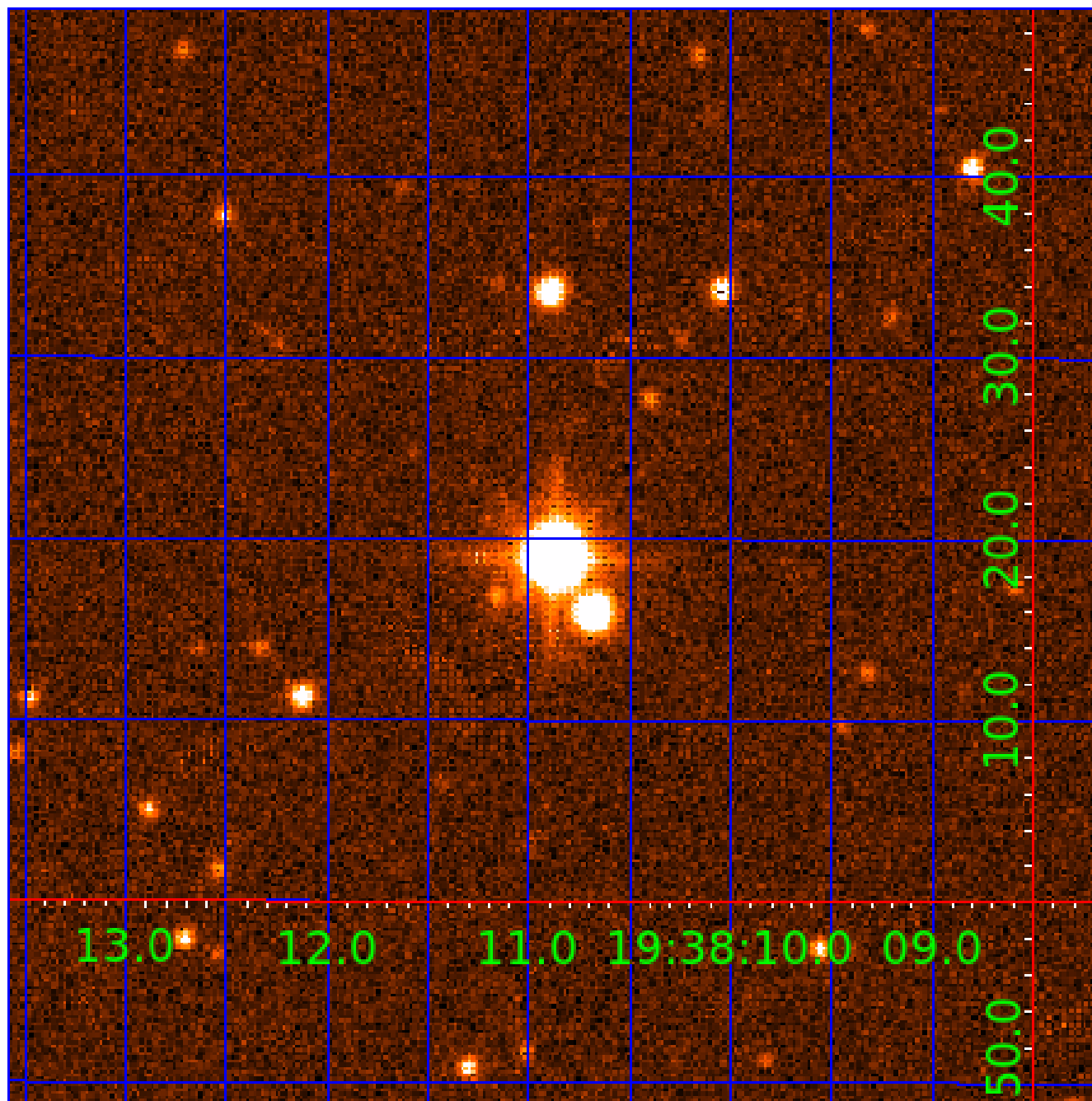


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006701459

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})
006701459-01	OBS	No	1.889459	133.027296	28.3	6.479	10.2	8.7	3.34	6980	2.06	17516.08
006701459-02	OBS	No	1.889706	132.417824	25.3	8.598	12.8	8.1	3.34	6980	1.80	17513.03
006701459-03	OBS	No	72.103560	147.694414	292.0	2.970	9.4	8.4	3.34	6980	6.56	136.34
006701459-04	OBS	No	28.217516	159.679499	208.2	10.887	9.0	9.3	3.34	6980	9.39	476.28
006701459-05	OBS	No	40.850708	135.790804	114.7	7.854	8.5	5.4	3.34	6980	3.62	290.82
006701459-06	OBS	No	40.875277	135.791873	162.7	7.526	8.1	3.9	3.34	6980	4.34	290.58
006701459-07	OBS	No	204.812285	201.488008	396.0	6.975	8.1	8.3	3.34	6980	8.46	33.89
006701459-08	OBS	No	221.164334	159.832506	229.8	9.197	8.3	7.5	3.34	6980	5.44	30.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006701459-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
006701459-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
006701459-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006701459-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

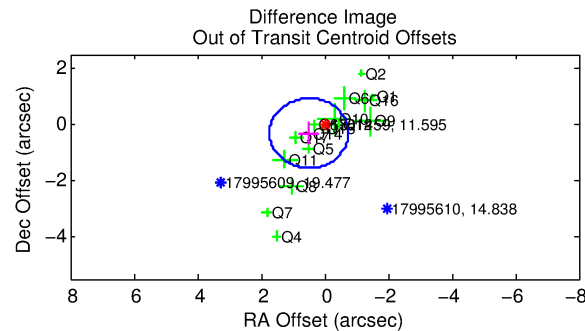
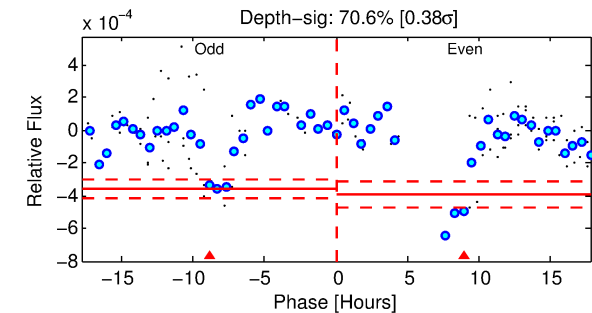
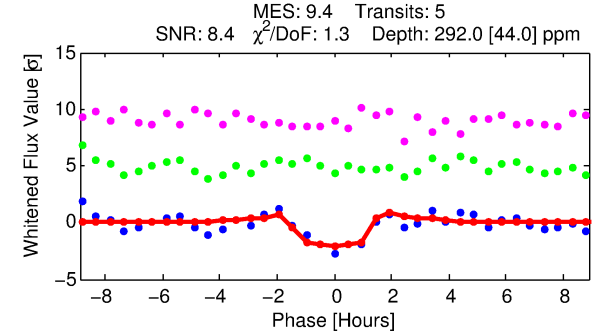
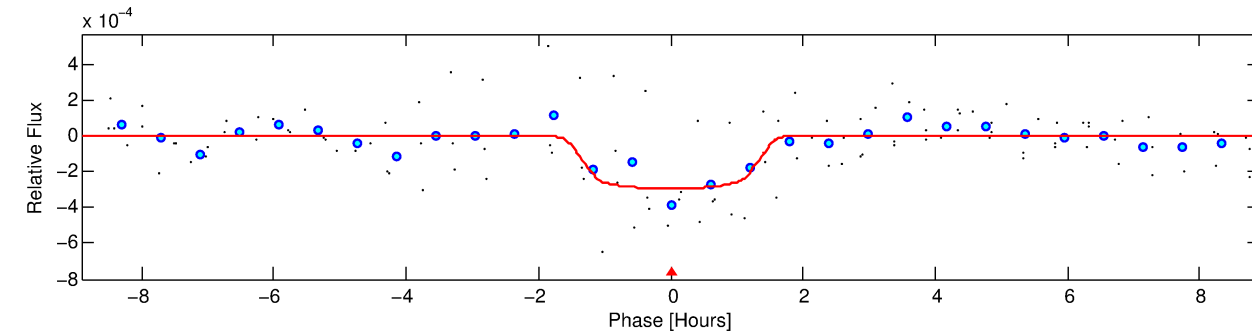
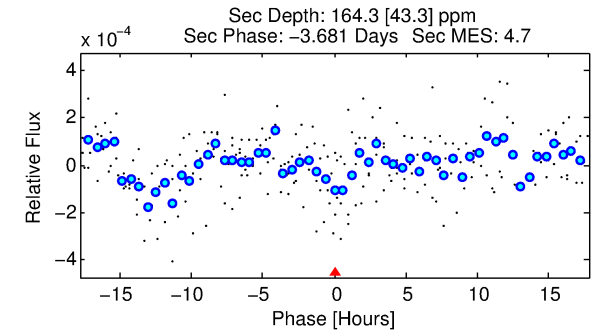
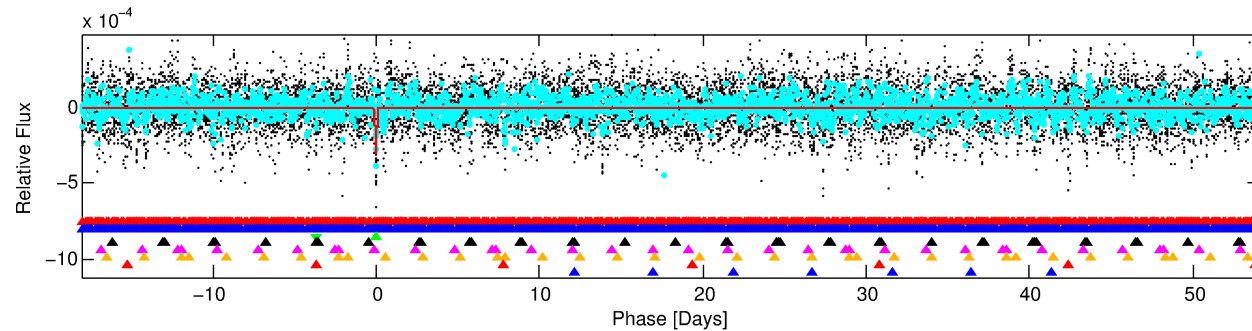
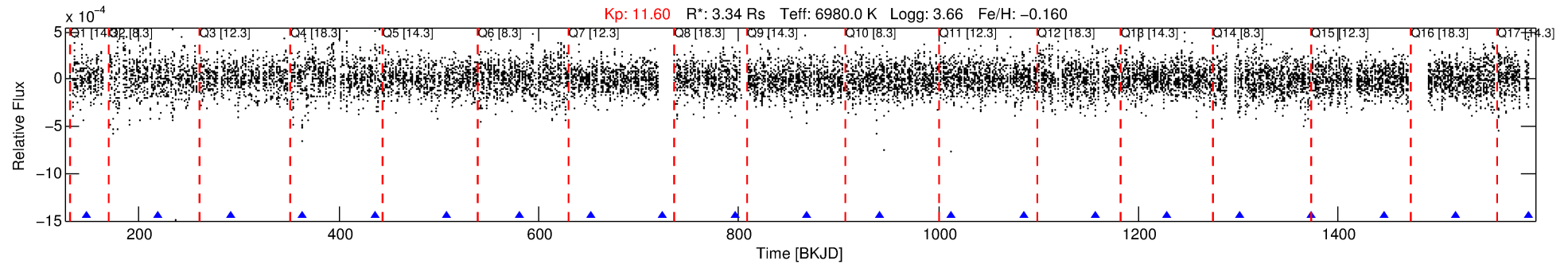
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006701459-03

No Significant Match Found

DV One-Page Summary

KIC: 6701459 Candidate: 3 of 8 Period: 72.104 d



DV Fit Results:

Period = 72.10356 [0.00082] d
Epoch = 147.6944 [0.0088] BKJD
 $R_p/R^* = 0.0180$ [0.0073]
 $a/R^* = 93.13$ [221.50]
 $b = 0.89$ [0.58]
 $\text{Seff} = 136.34$ [72.63]
 $T_{\text{eq}} = 871$ [116] K
 $R_p = 6.56$ [3.63] R_e
 $a = 0.4168$ [0.1411] AU
 $A_g = 364.72$ [363.62] [1.00σ]
 $T_{\text{effp}} = 5887$ [1265] K [3.95σ]

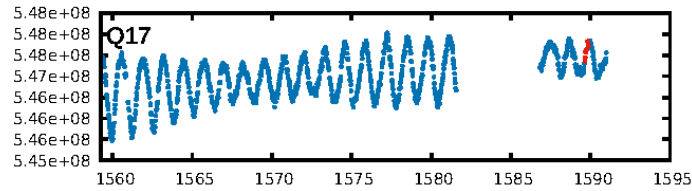
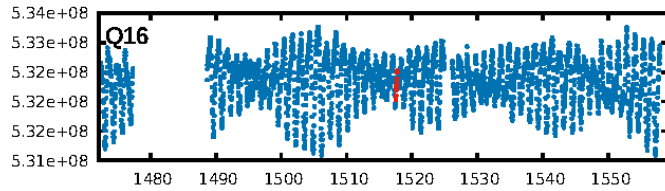
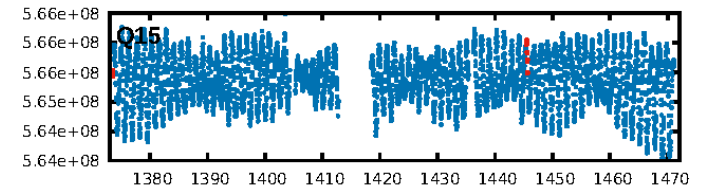
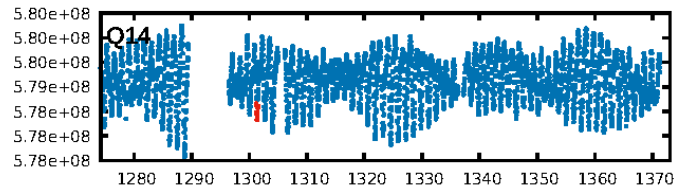
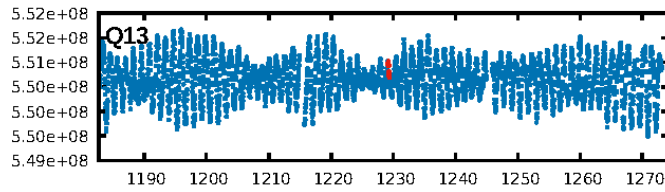
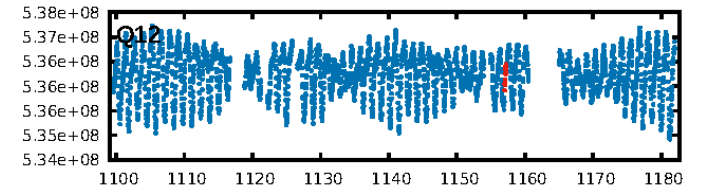
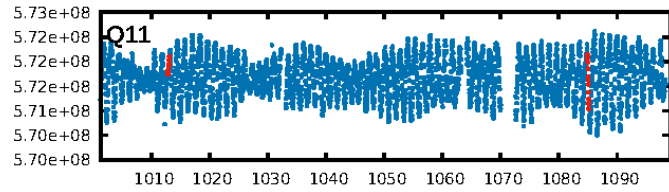
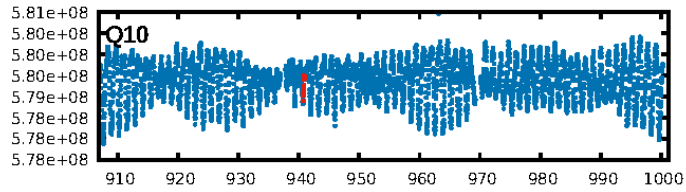
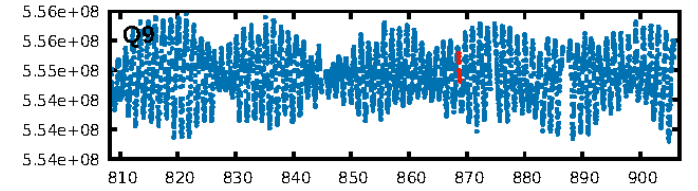
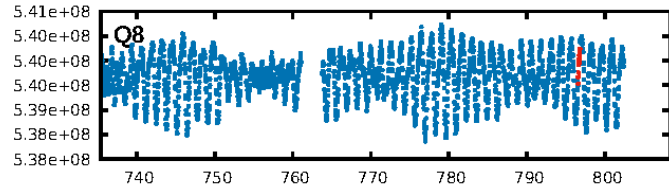
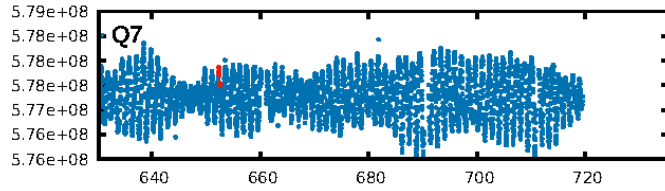
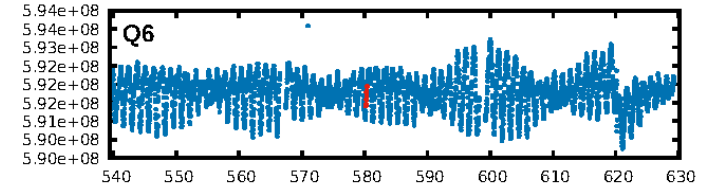
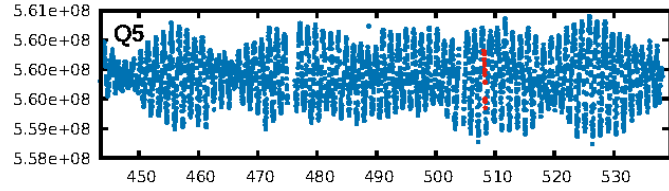
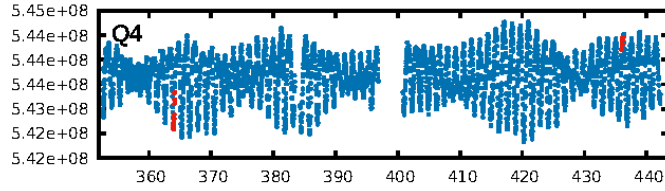
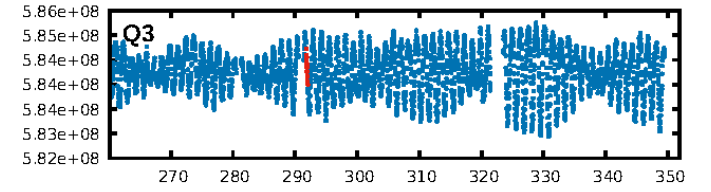
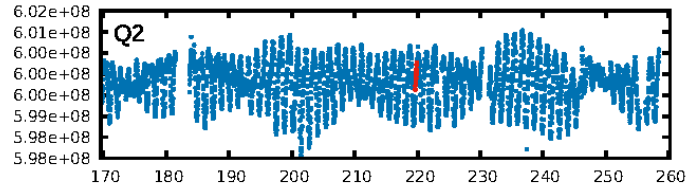
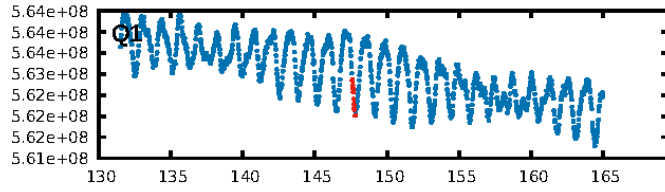
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [92.64σ]
LongPeriod-sig: 100.0% [420.14σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 66.6%
Bootstrap-pfa: 1.32e-10
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.3433
Centroid-sig: N/A
Centroid-so: 0.326 arcsec [1.02σ]
OotOffset-rm: 0.583 arcsec [1.41σ]
KicOffset-rm: 0.571 arcsec [1.67σ]
OotOffset-st: 4/3/4/5 [16]
KicOffset-st: 4/3/4/5 [16]
DiffImageQuality-fgm: 0.19 [3/16]
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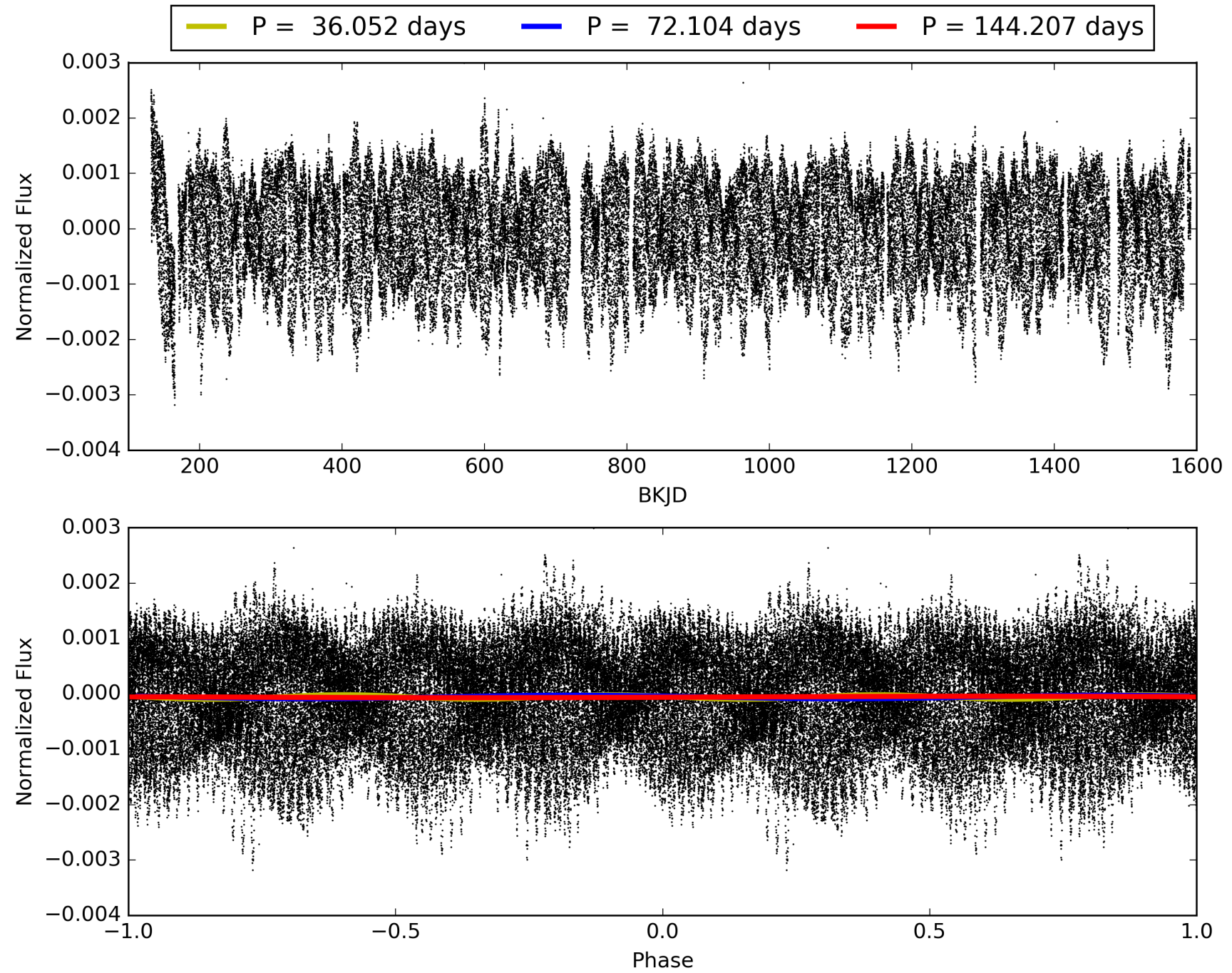
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 01:19:17 Z

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

TCE 006701459-03, PDC Light Curves

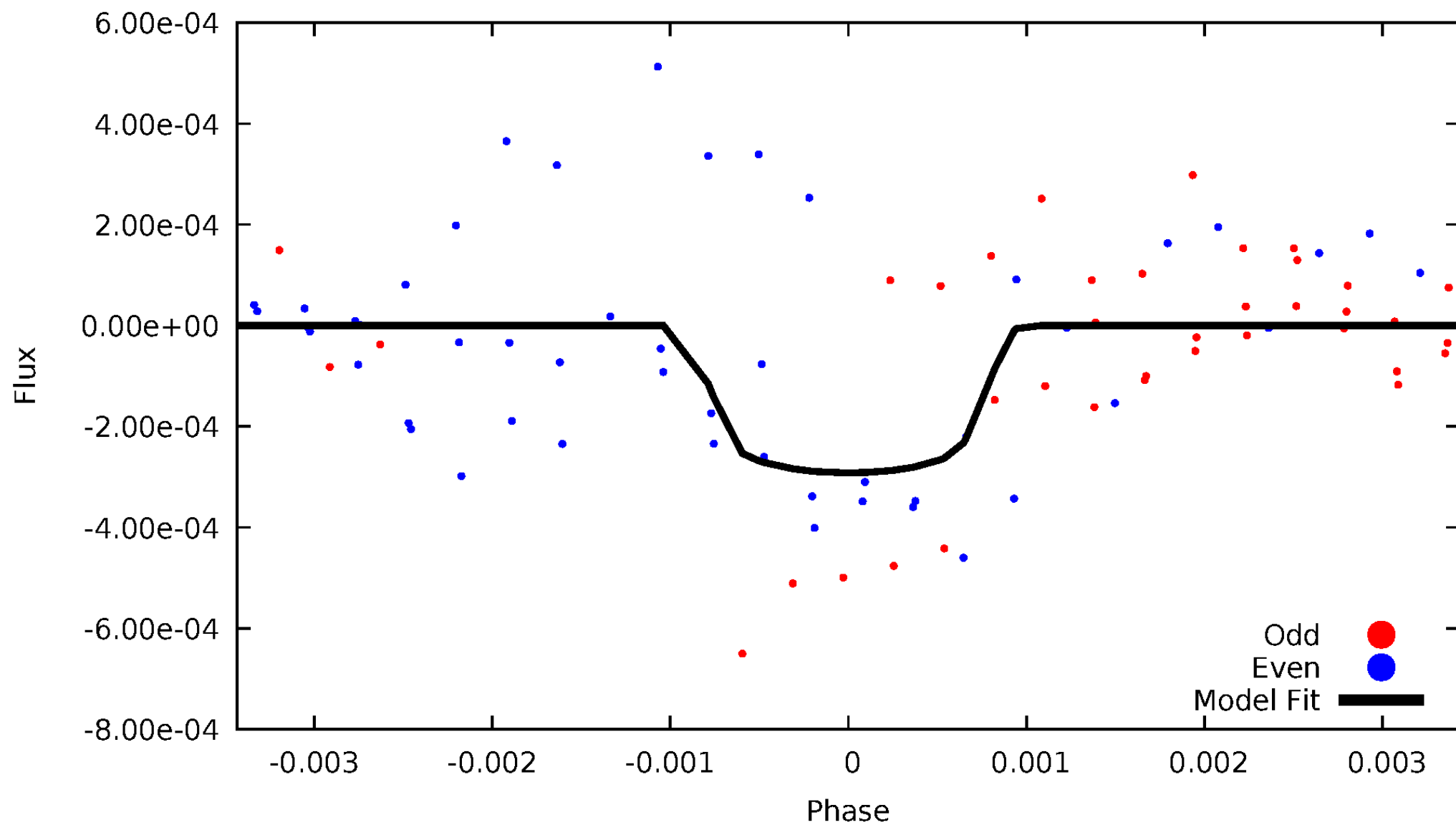


TCE 006701459-03



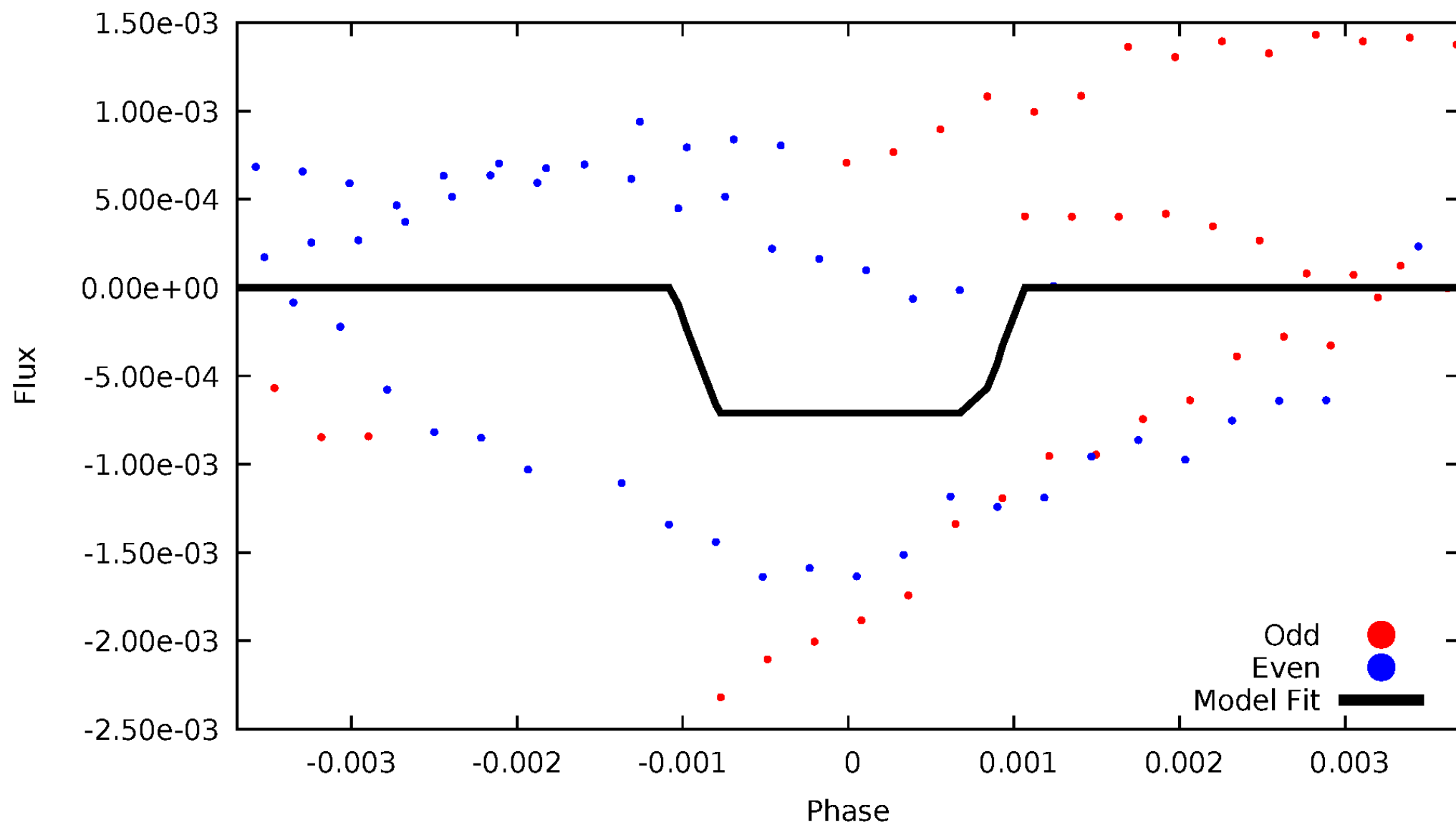
DV Odd/Even

TCE 006701459-03

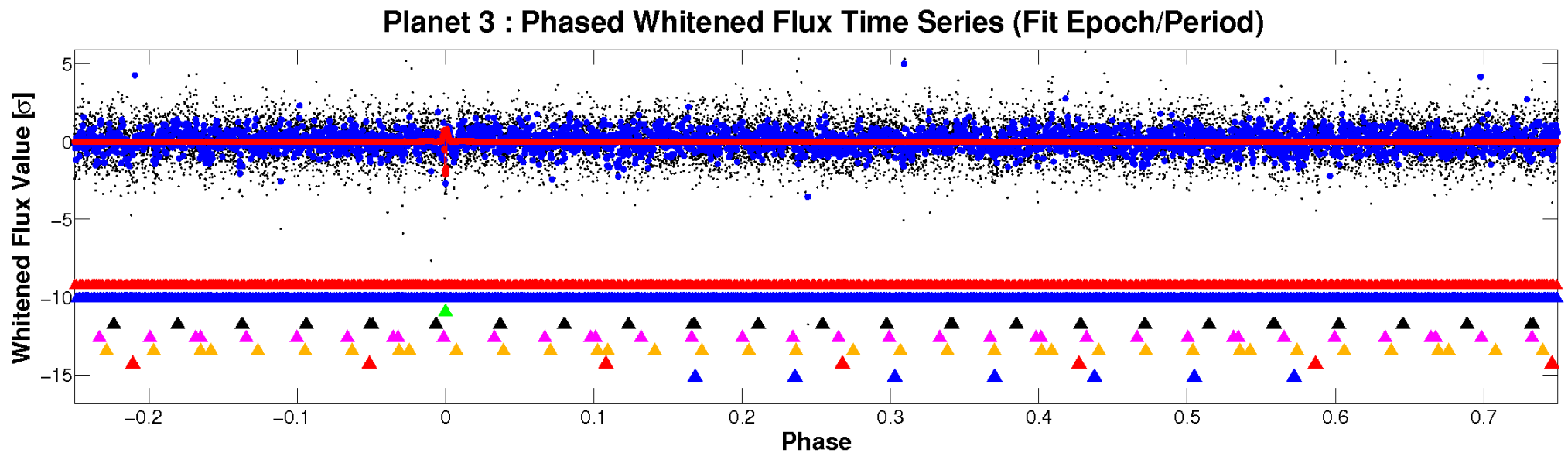
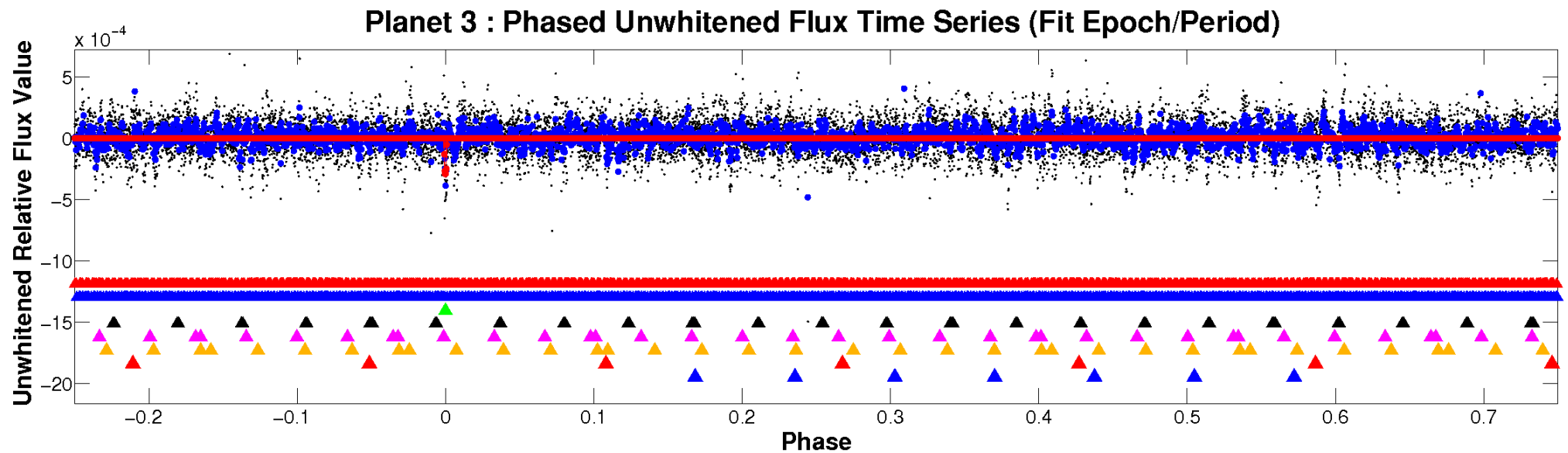


ALT Odd/Even

TCE 006701459-03

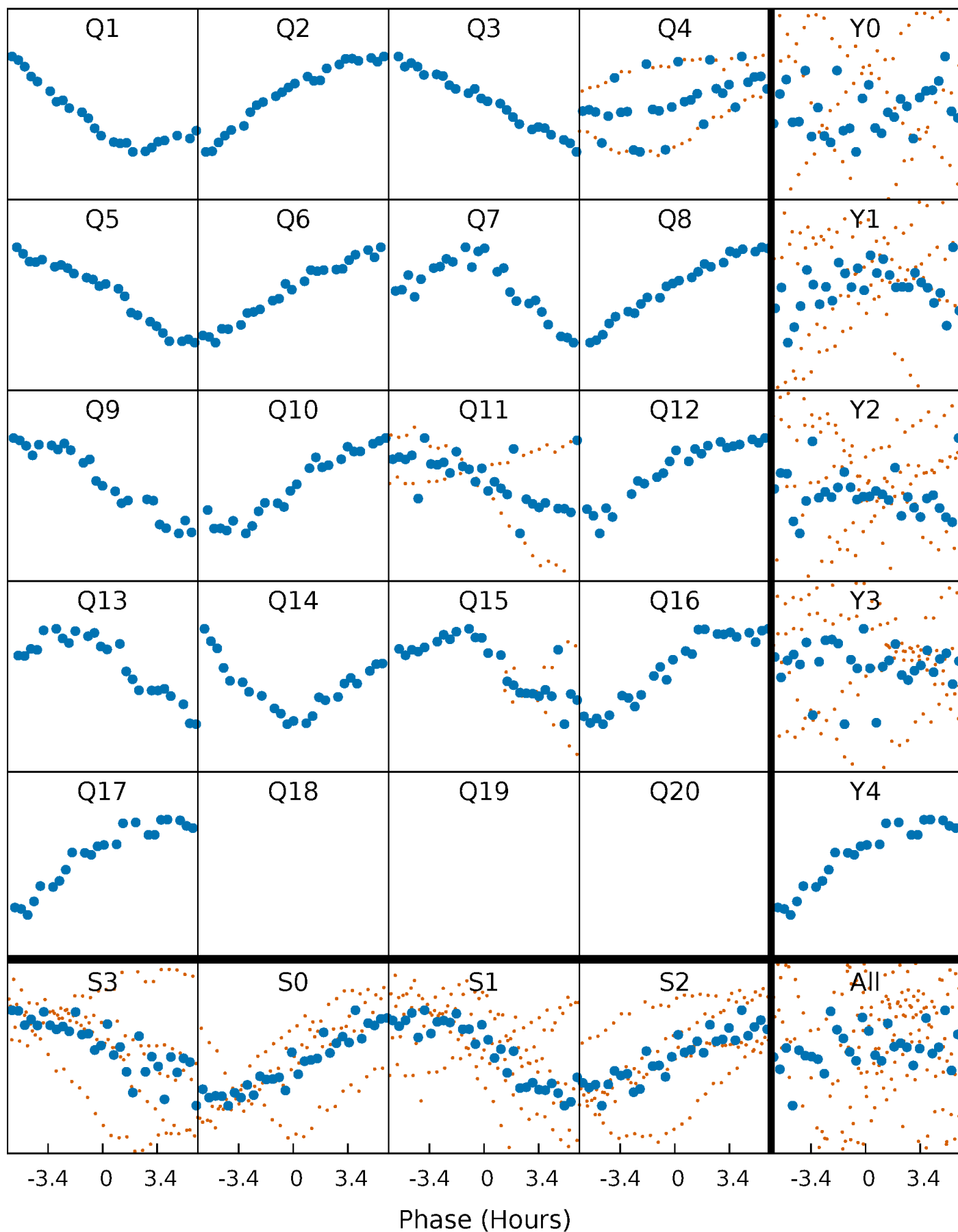


Non-Whitened Vs. Whitened Light Curve



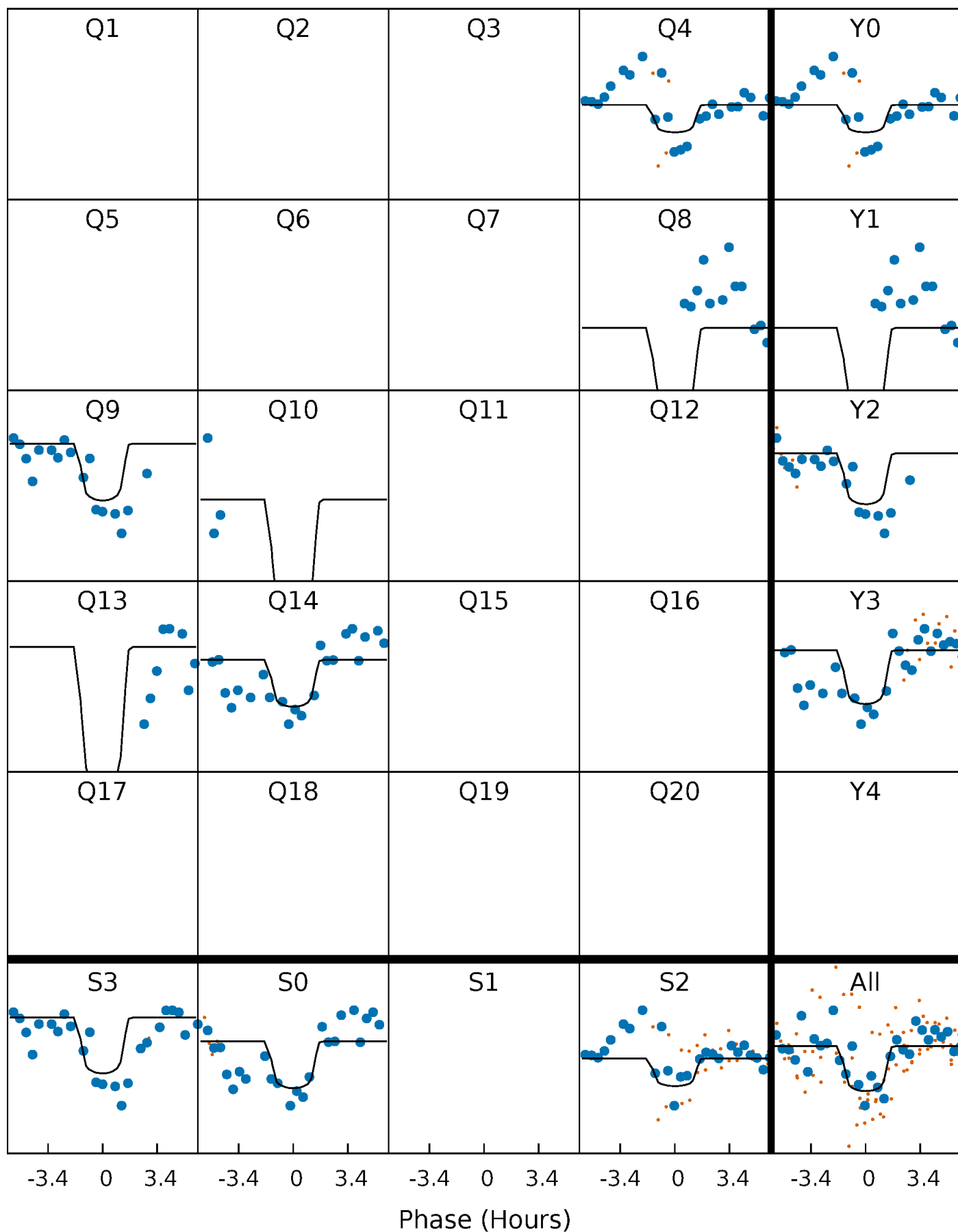
PDC Quarter-Phased Transit Curves

TCE 006701459-03 P= 72.103560 Days $T_0=147.694414$ (BKJD)



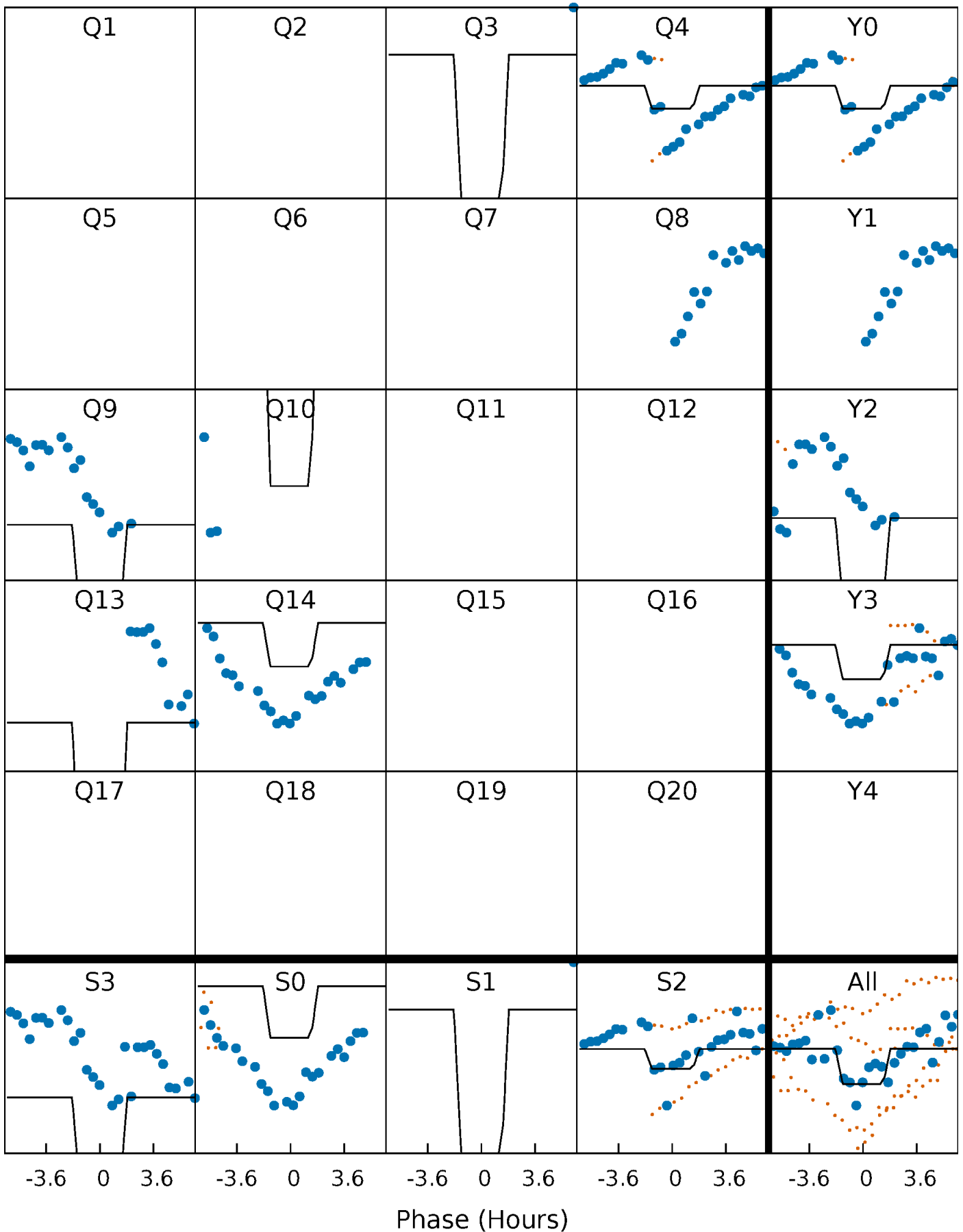
DV Quarter-Phased Transit Curves

TCE 006701459-03 P= 72.103560 Days $T_0=147.694414$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

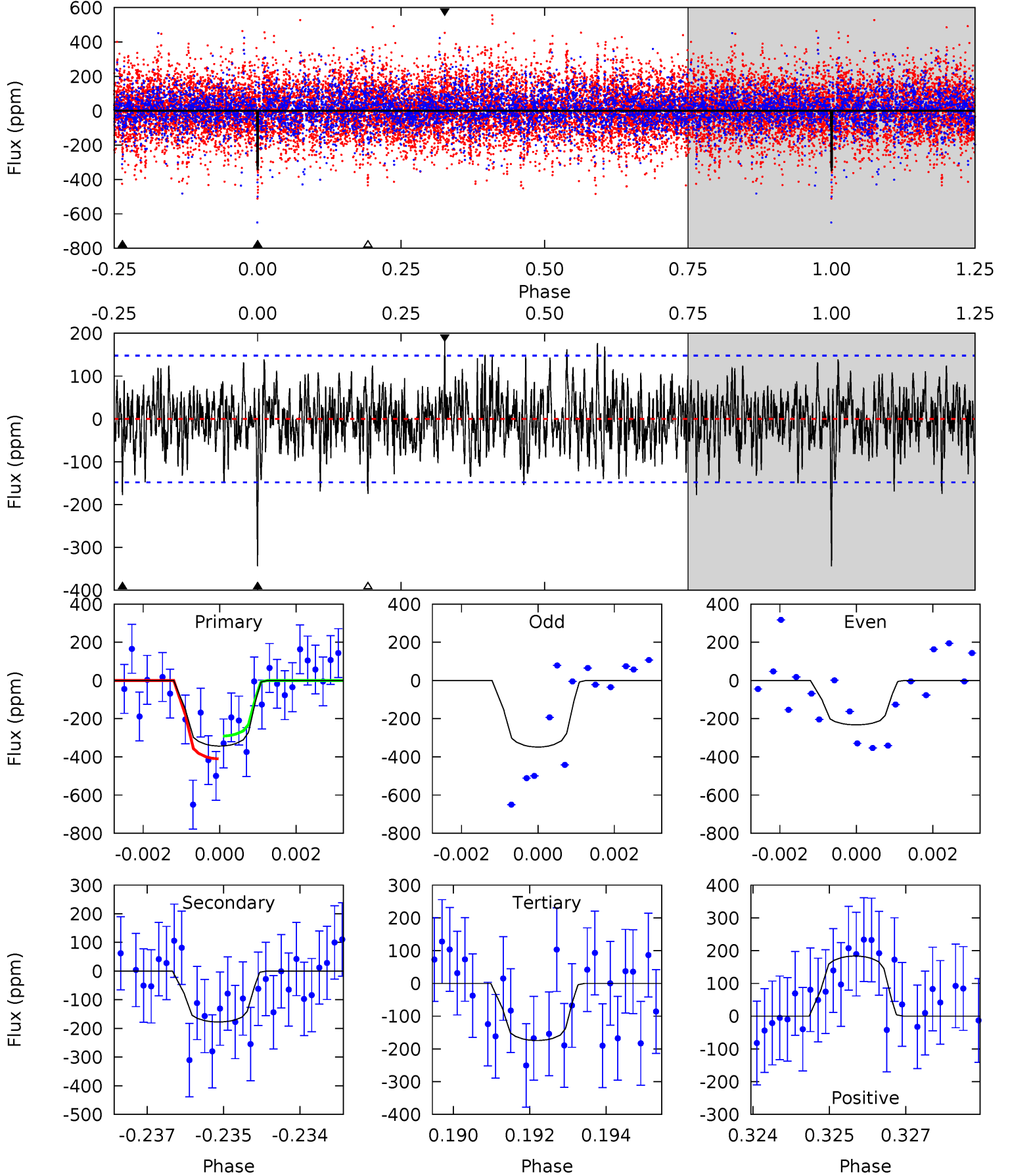
TCE 006701459-03 P= 72.104396 Days $T_0=147.704603$ (BKJD)



DV Model-Shift Uniqueness Test

006701459-03, P = 72.103560 Days, E = 75.590854 Days

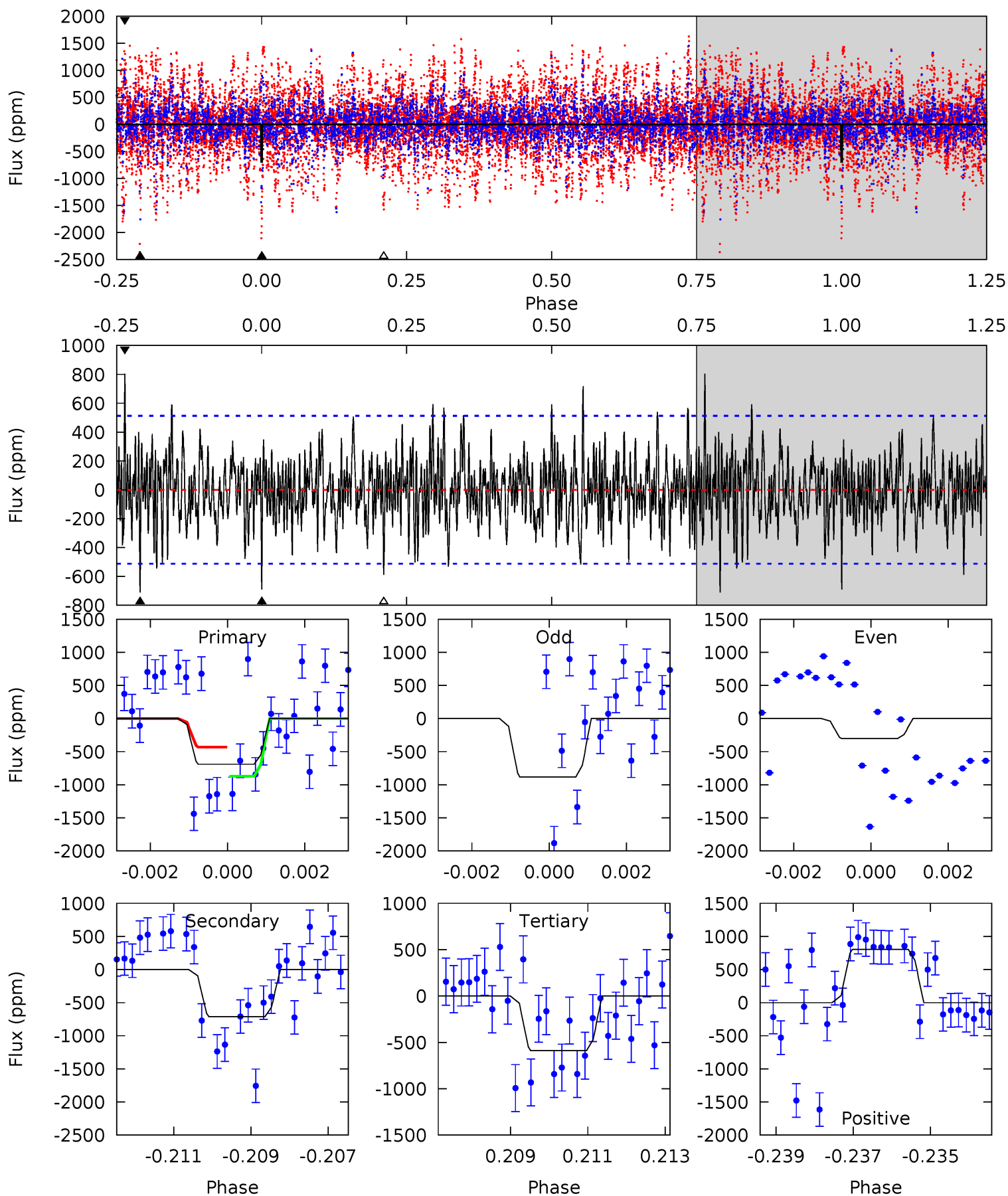
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	6.42	6.31	6.64	5.35	3.13	1.89	6.11	5.79	0.11	-0.21	2.12	0.45	0.35	2.12



Alt Model-Shift Uniqueness Test

006701459-03, P = 72.104396 Days, E = 75.600207 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.18	7.41	6.12	8.36	5.33	3.10	1.95	1.06	-1.17	1.28	-0.95	2.97	-1.85	0.53	2.19



Stellar Parameters For KIC 006701459

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6980^{+167}_{-209}	$3.660^{+0.296}_{-0.056}$	$-0.160^{+0.300}_{-0.250}$	$3.337^{+0.335}_{-1.256}$	$1.858^{+0.178}_{-0.414}$	$0.070^{+0.160}_{-0.017}$
	+2%/-3%	+8%/-2%	+188%/-156%	+10%/-38%	+10%/-22%	+227%/-24%
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 006701459-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-178 ± 28	$6.02^{+2.76}_{-2.64}$	1186^{+64}_{-102}	5966^{+1903}_{-898}	461^{+1003}_{-239}
Alt.	-712 ± 96	$9.22^{+2.82}_{-2.76}$	1191^{+57}_{-95}	6919^{+1453}_{-857}	794^{+833}_{-325}

T_{max} = Theoretical Maximum Planetary Temperature

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

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

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

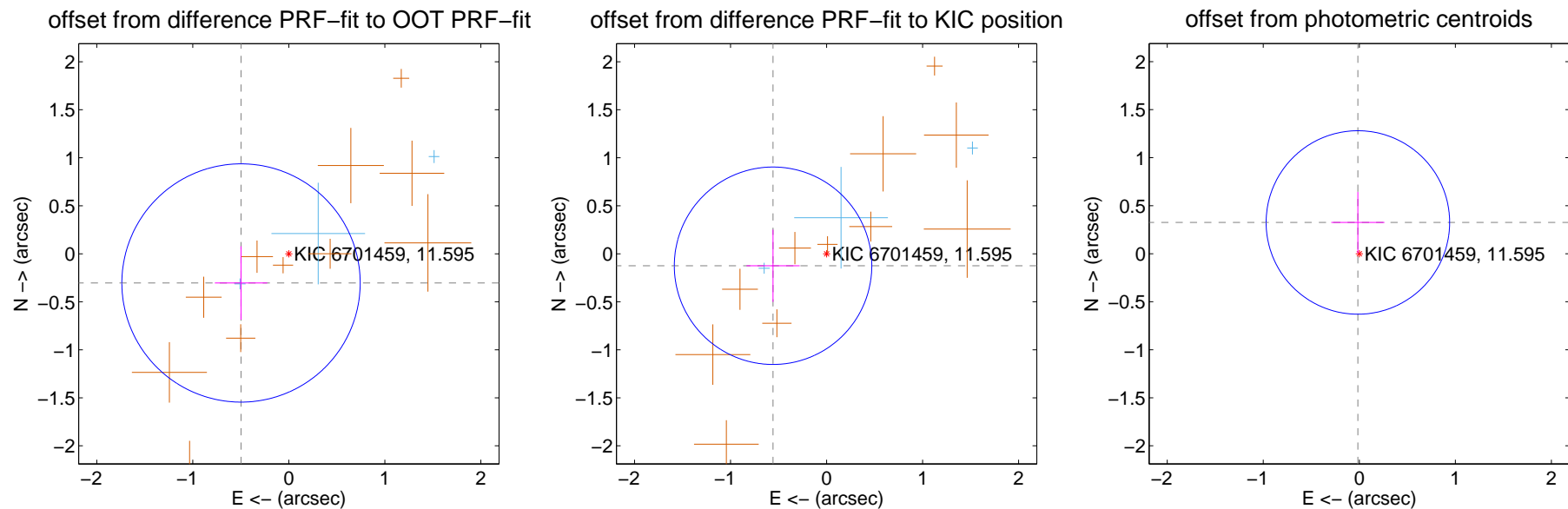
DV Centroid Data

Supplemental centroid analysis for 006701459-03. **Kepler magnitude: 11.60.** Transit SNR 8.43

There are 3 quarters with good PRF difference image offsets

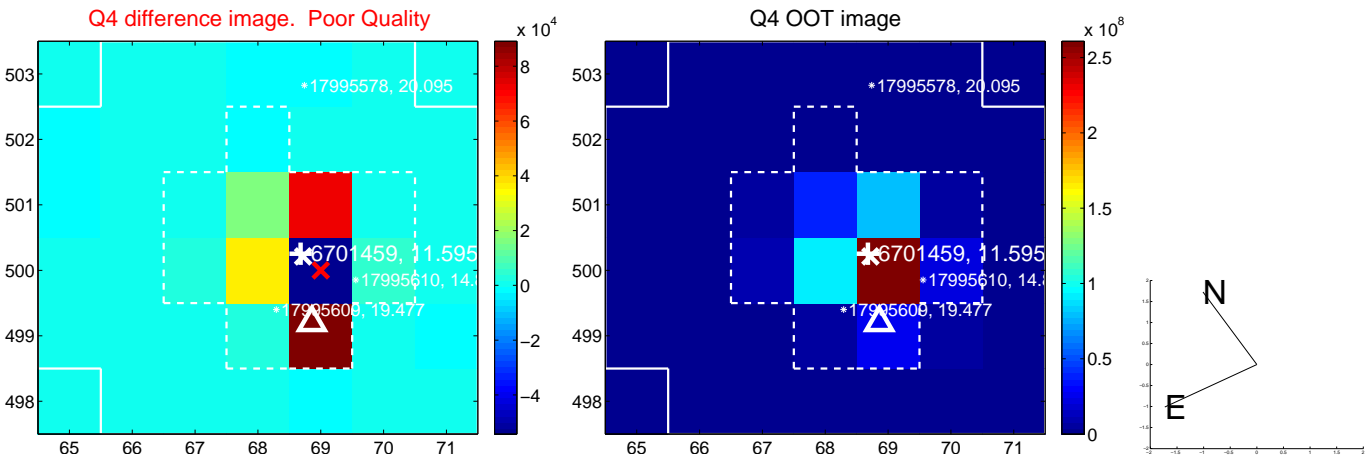
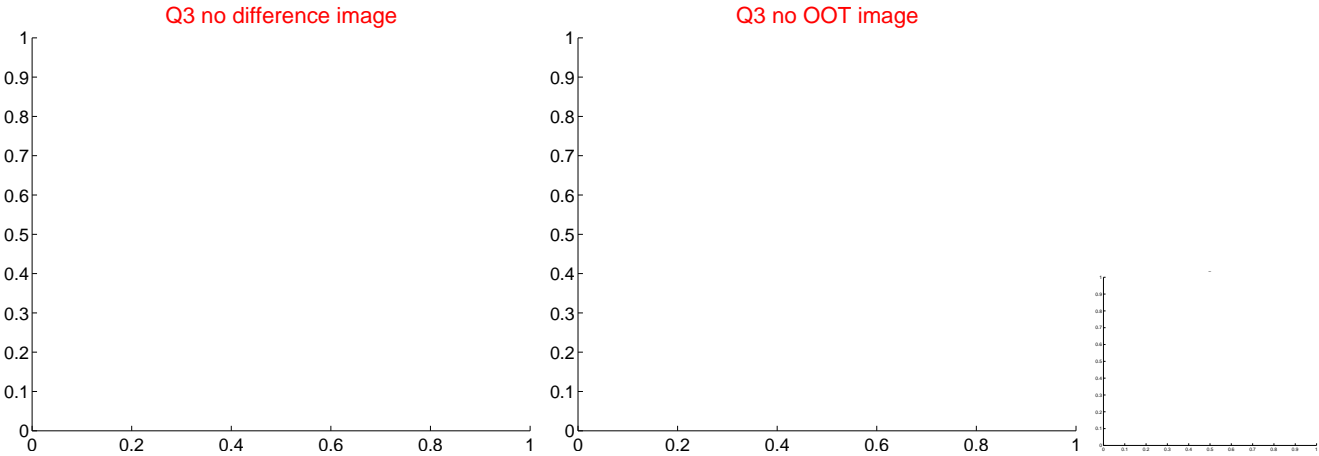
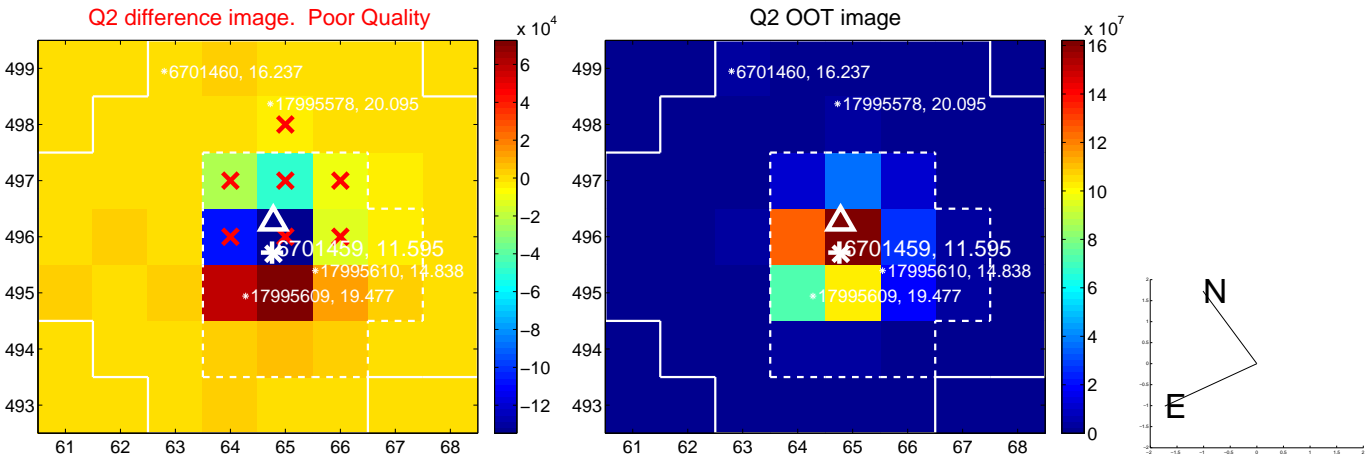
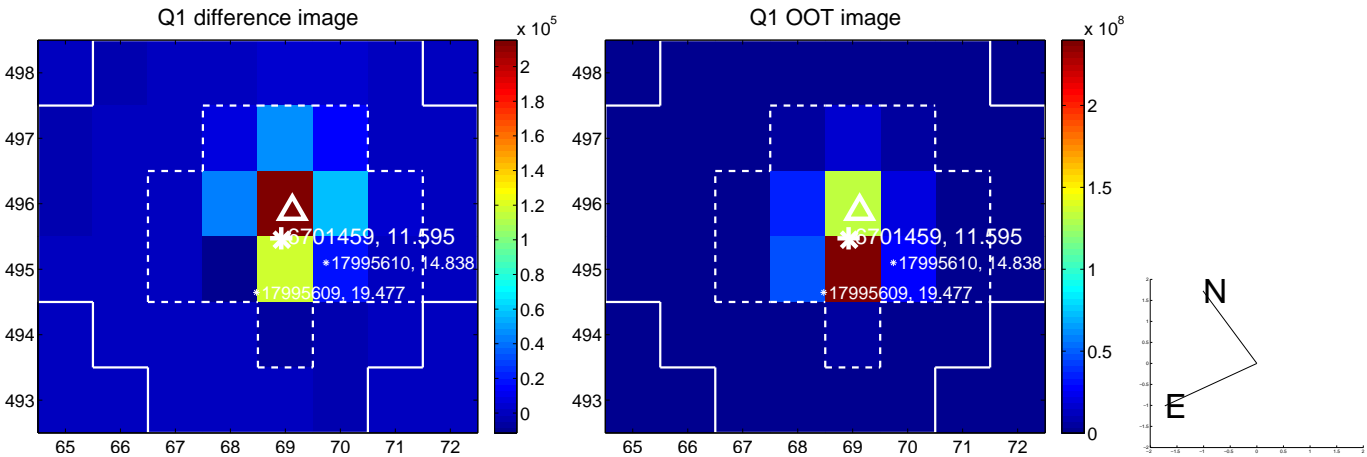
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.583 ± 0.414	1.41	0.498 ± 0.273	-0.304 ± 0.382
PRF-fit source offset from KIC position	0.571 ± 0.343	1.67	0.557 ± 0.277	-0.125 ± 0.376
photometric centroid source offset	0.33 ± 0.32	1.02	0.01 ± 0.28	0.33 ± 0.32

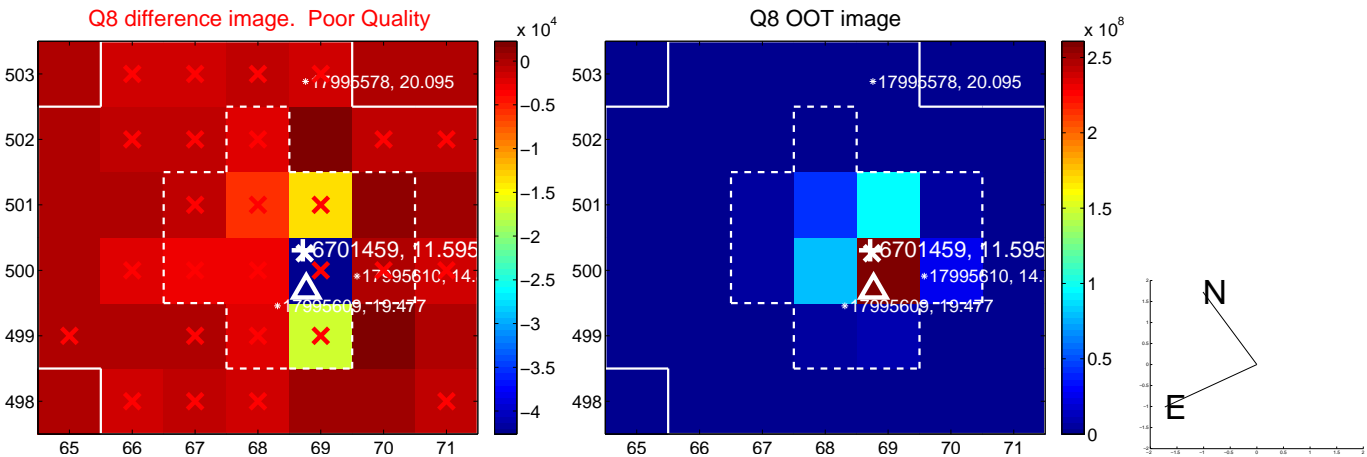
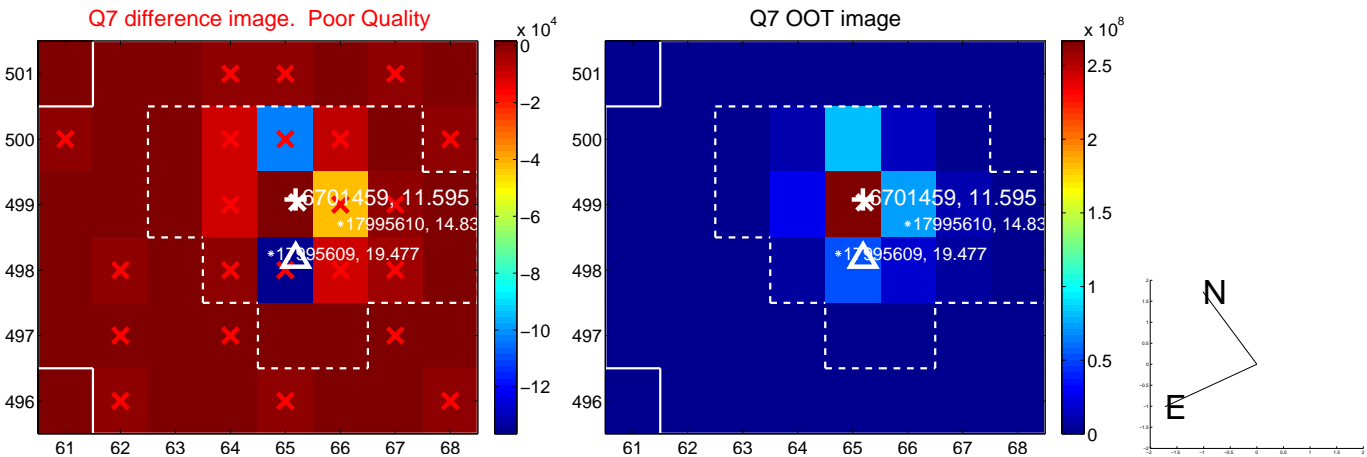
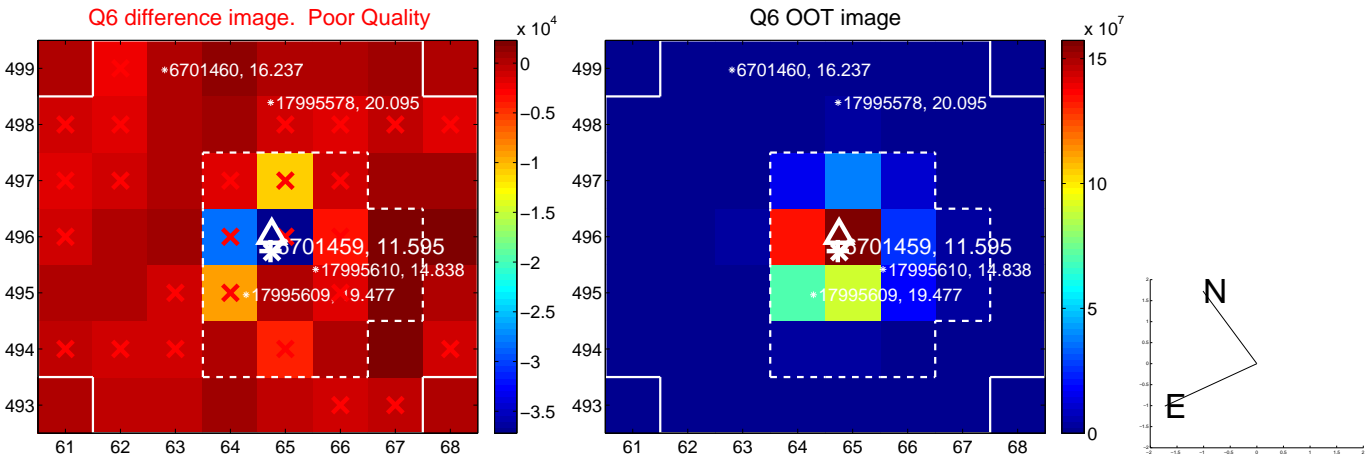
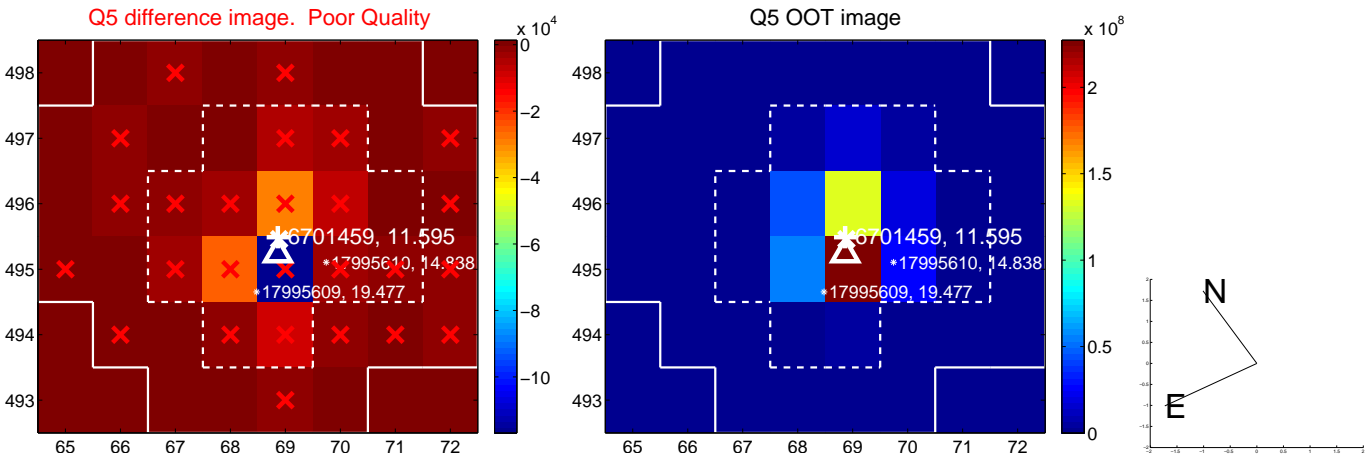


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

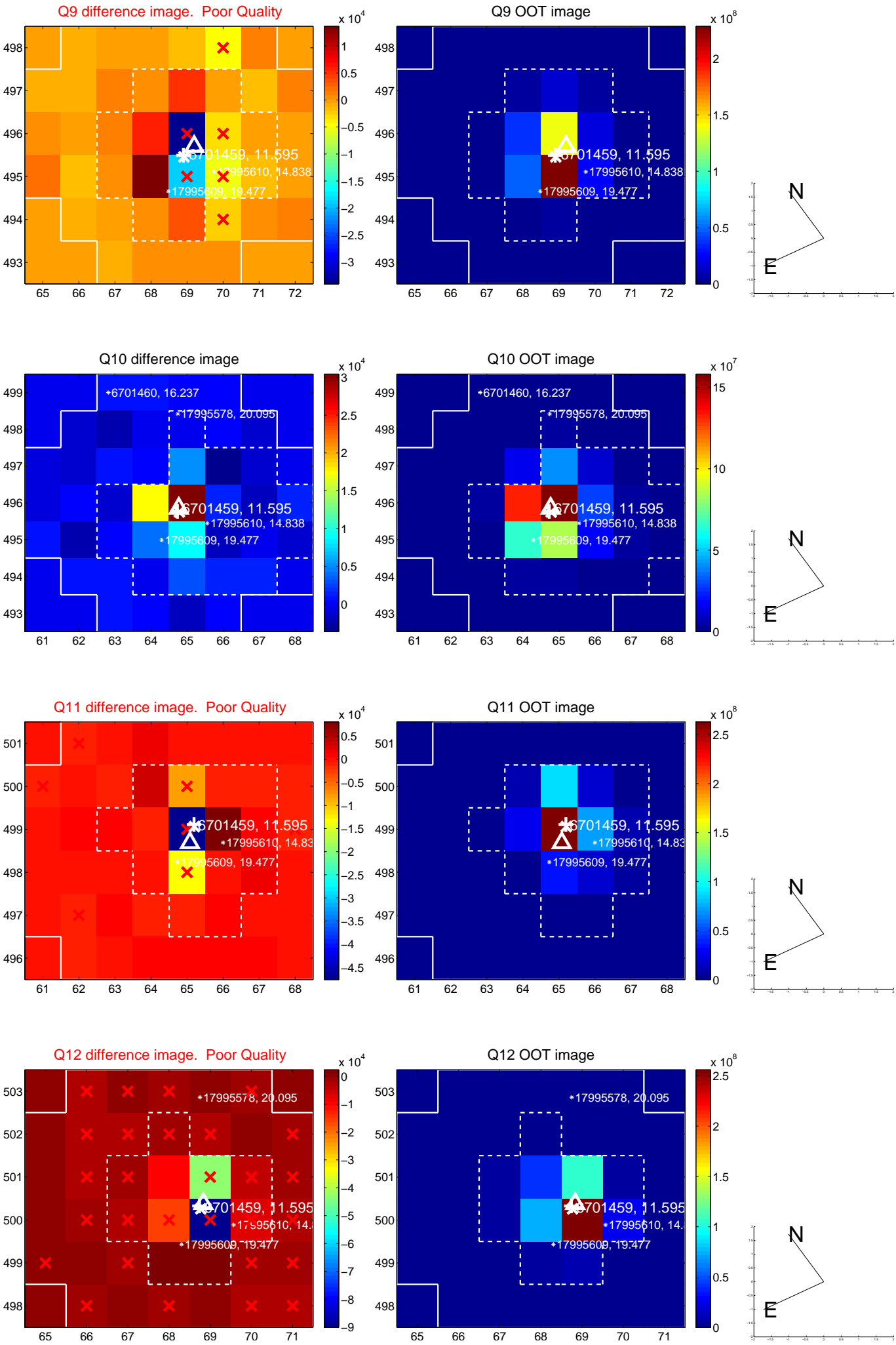
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



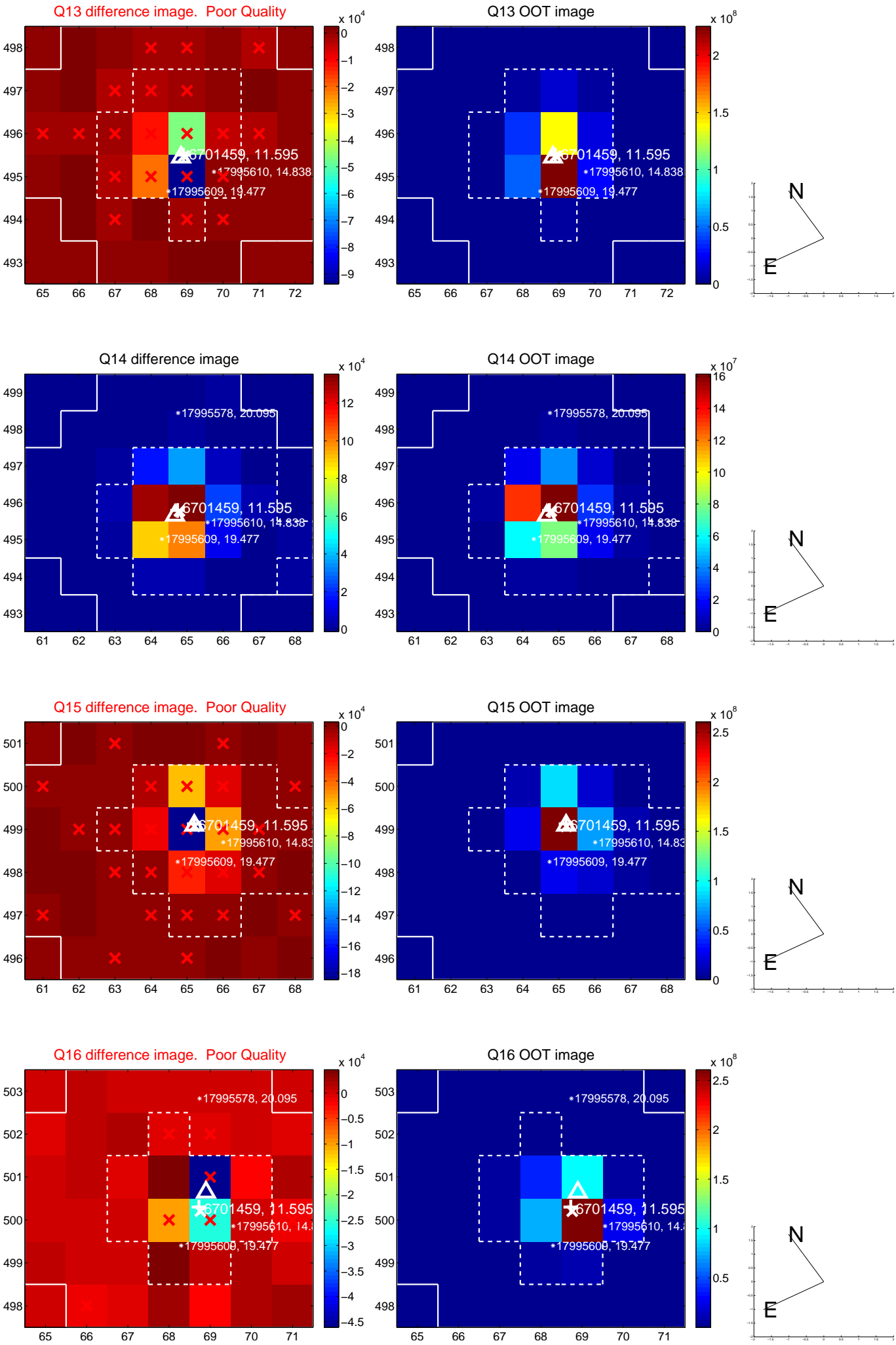
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



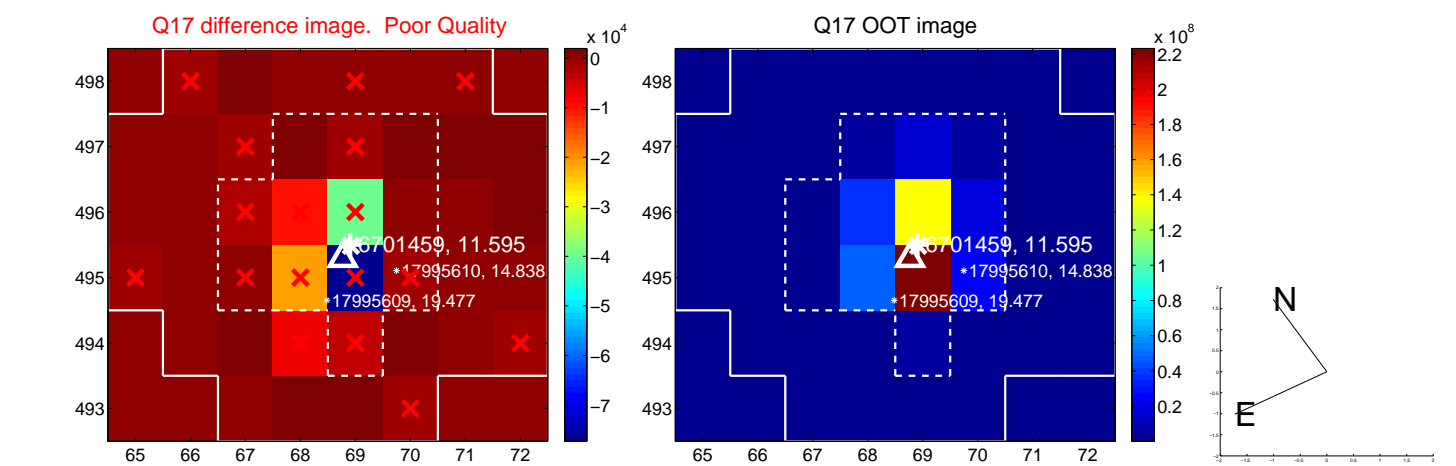
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



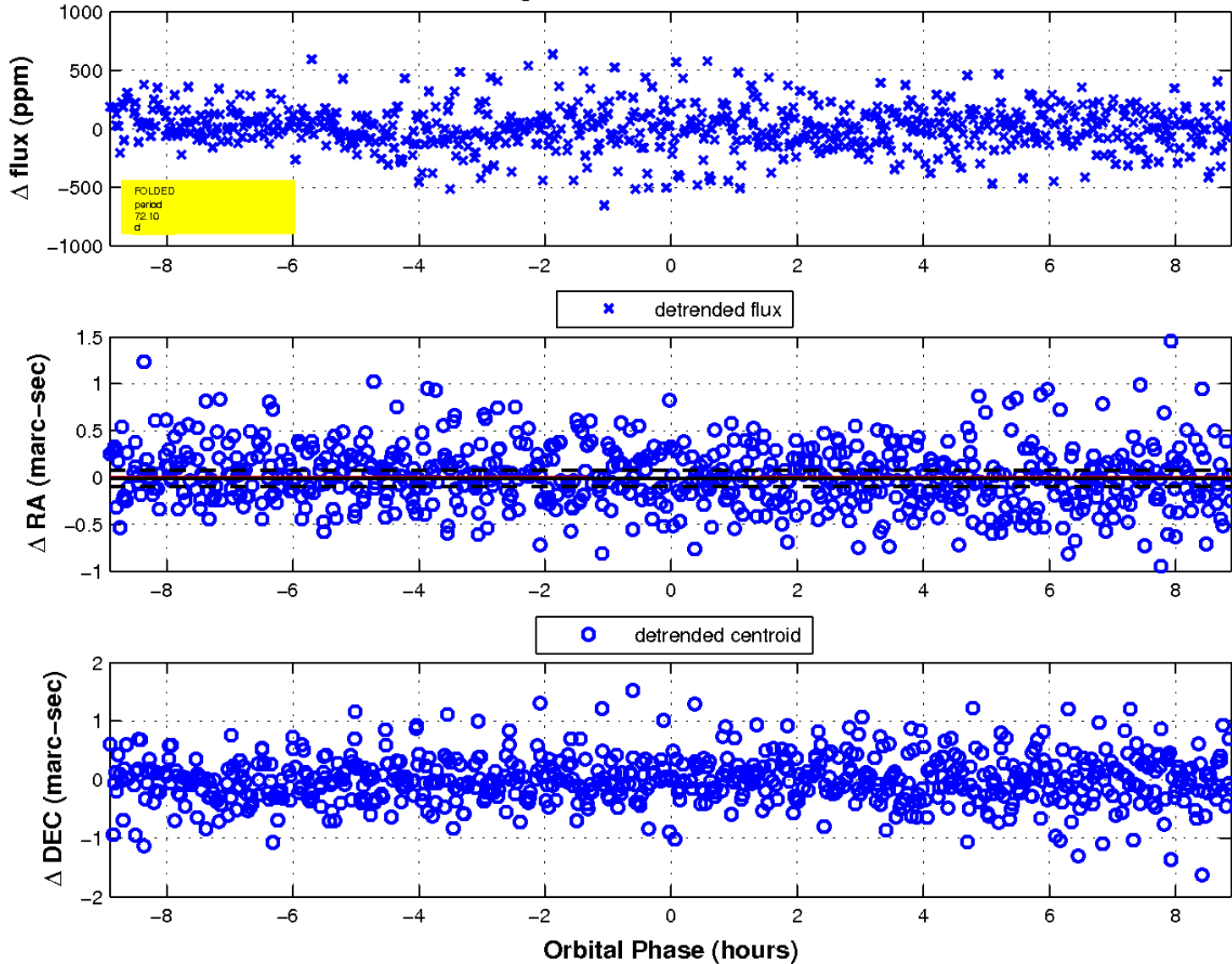
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

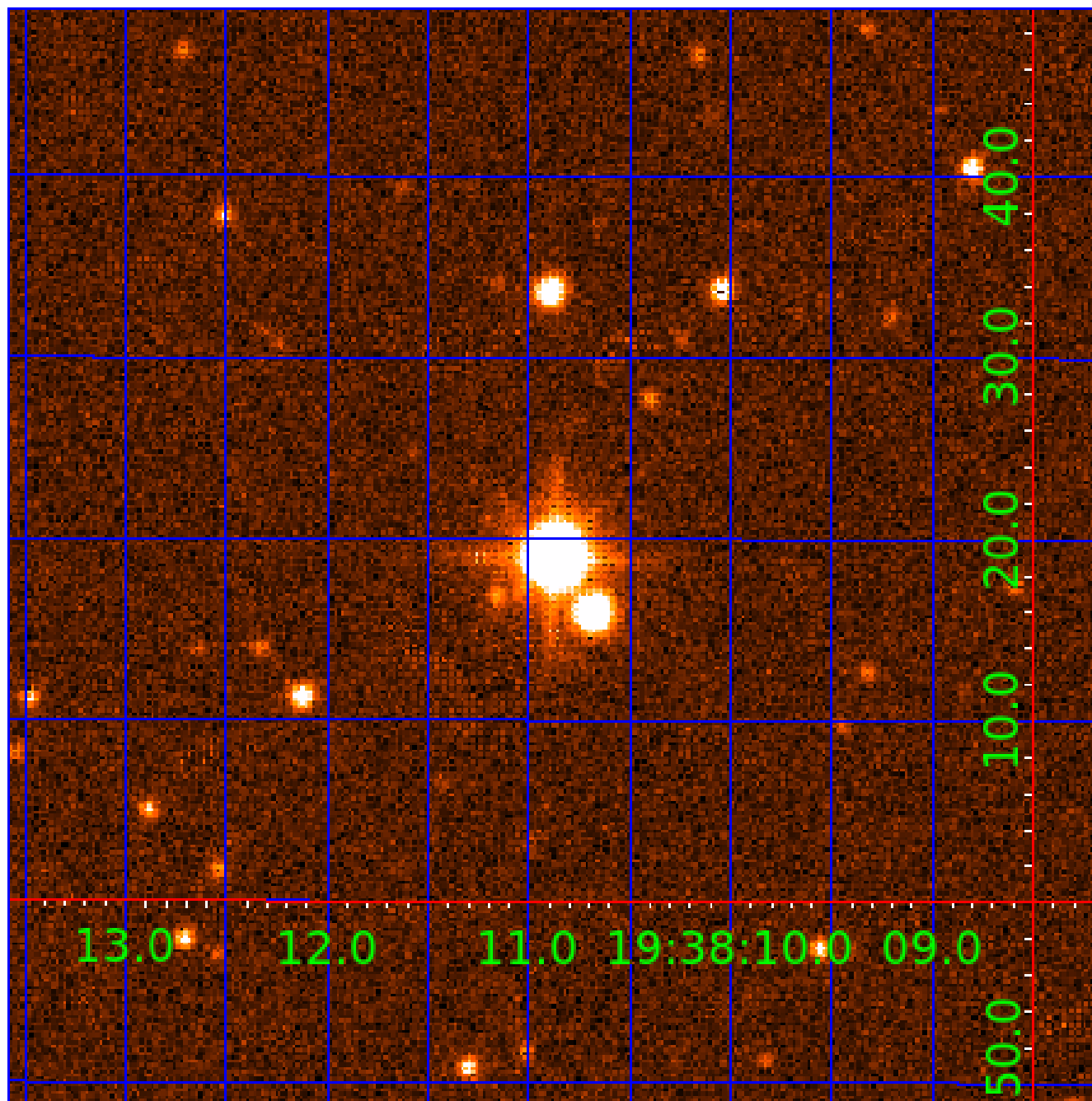


fluxWeightedCentroids, Planet 3 of 8



UKIRT Image

Declination



KIC 006701459

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})
006701459-01	OBS	No	1.889459	133.027296	28.3	6.479	10.2	8.7	3.34	6980	2.06	17516.08
006701459-02	OBS	No	1.889706	132.417824	25.3	8.598	12.8	8.1	3.34	6980	1.80	17513.03
006701459-03	OBS	No	72.103560	147.694414	292.0	2.970	9.4	8.4	3.34	6980	6.56	136.34
006701459-04	OBS	No	28.217516	159.679499	208.2	10.887	9.0	9.3	3.34	6980	9.39	476.28
006701459-05	OBS	No	40.850708	135.790804	114.7	7.854	8.5	5.4	3.34	6980	3.62	290.82
006701459-06	OBS	No	40.875277	135.791873	162.7	7.526	8.1	3.9	3.34	6980	4.34	290.58
006701459-07	OBS	No	204.812285	201.488008	396.0	6.975	8.1	8.3	3.34	6980	8.46	33.89
006701459-08	OBS	No	221.164334	159.832506	229.8	9.197	8.3	7.5	3.34	6980	5.44	30.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006701459-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
006701459-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
006701459-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006701459-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

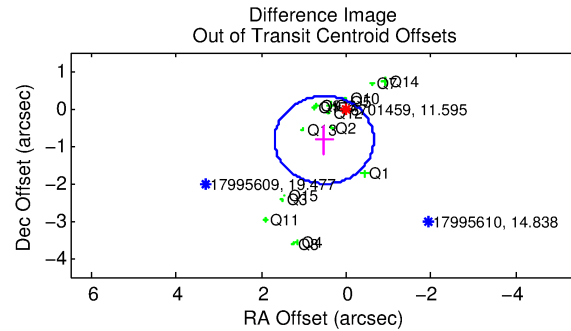
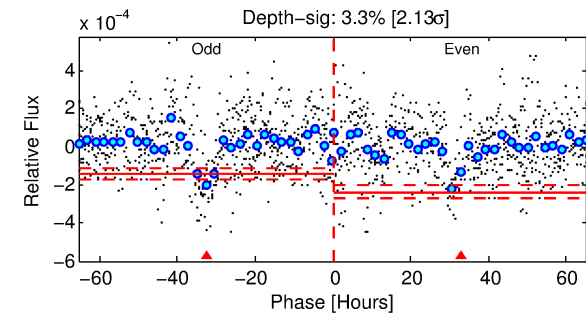
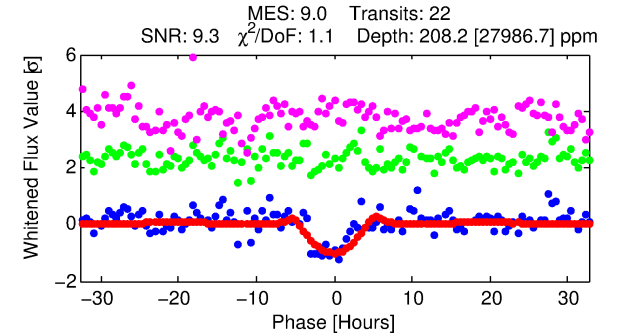
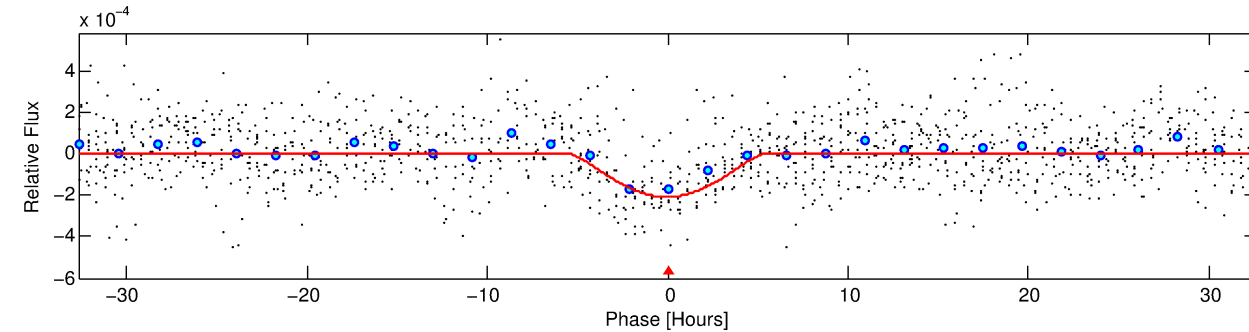
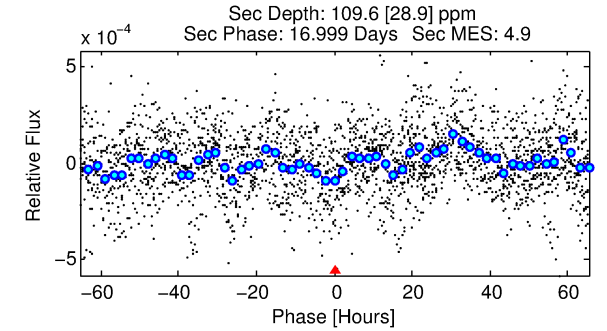
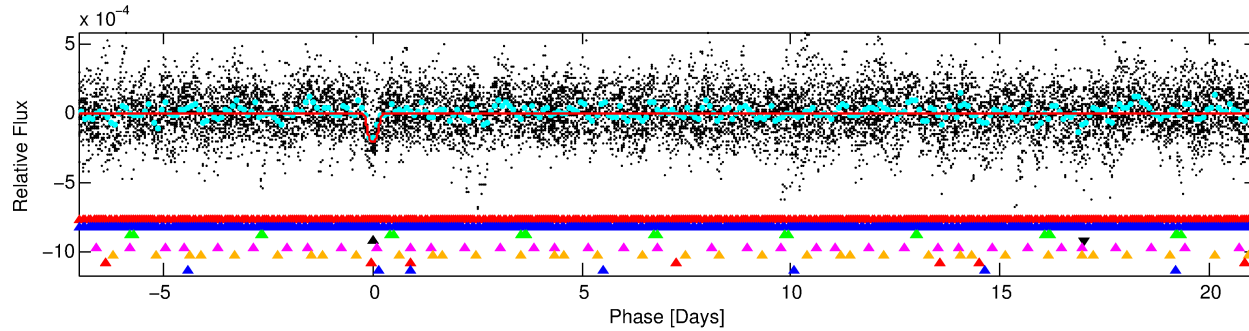
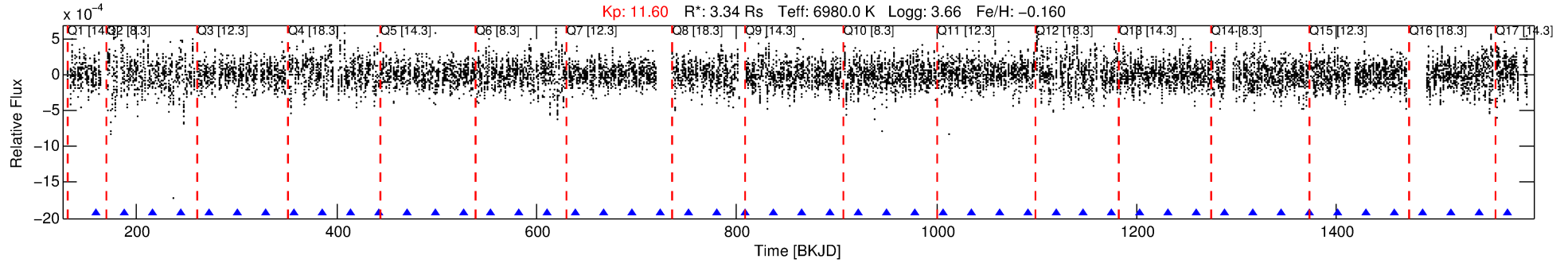
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006701459-04

No Significant Match Found

DV One-Page Summary

KIC: 6701459 Candidate: 4 of 8 Period: 28.218 d



DV Fit Results:

Period = 28.21752 [0.00089] d
Epoch = 159.6795 [0.0261] BKJD
 $R_p/R^* = 0.0258$ [0.0542]
 $a/R^* = 4.64$ [2.45]
 $b = 1.00$ [2.50]
 $S_{\text{eff}} = 476.28$ [253.71]
 $T_{\text{eq}} = 1191$ [159] K
 $R_p = 9.39$ [20.06] R_e
 $a = 0.2230$ [0.0755] AU
 $A_g = 34.04$ [144.59] [0.23σ]
 $T_{\text{eff}} = 4449$ [4691] K [0.69σ]

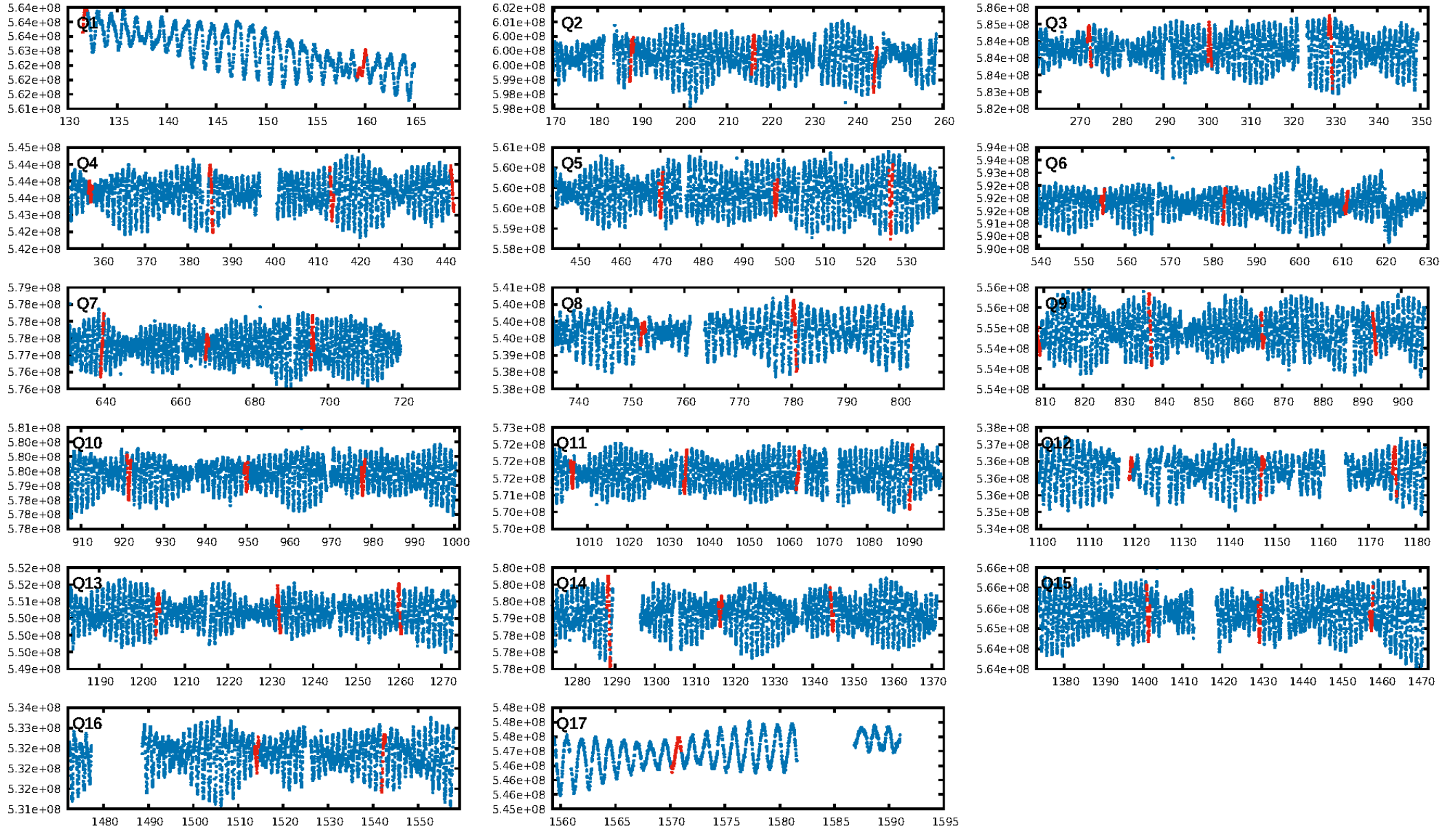
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [45.55σ]
LongPeriod-sig: 100.0% [22.59σ]
ModelChiSquare2-sig: 2.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.34e-10
RollingBand-fgt: 1.00 [20/20]
GhostDiagnostic-chr: -5.063
Centroid-sig: N/A
Centroid-so: 0.366 arcsec [1.41σ]
OotOffset-rm: 0.982 arcsec [2.52σ]
KicOffset-rm: 0.872 arcsec [2.10σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.50 [8/16]
DiffImageOverlap-fno: 0.00 [0/17]

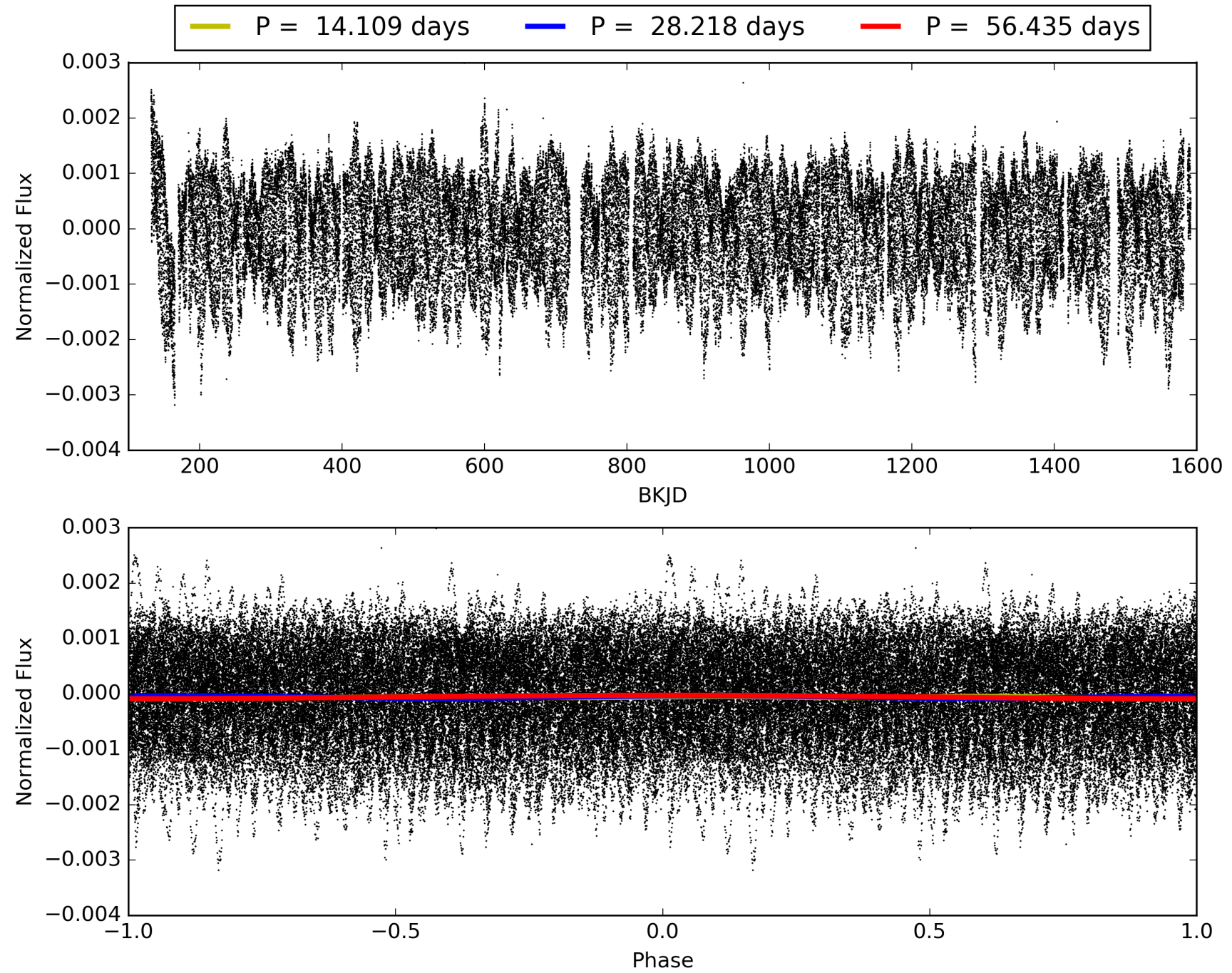
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 01:19:21 Z

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

TCE 006701459-04, PDC Light Curves

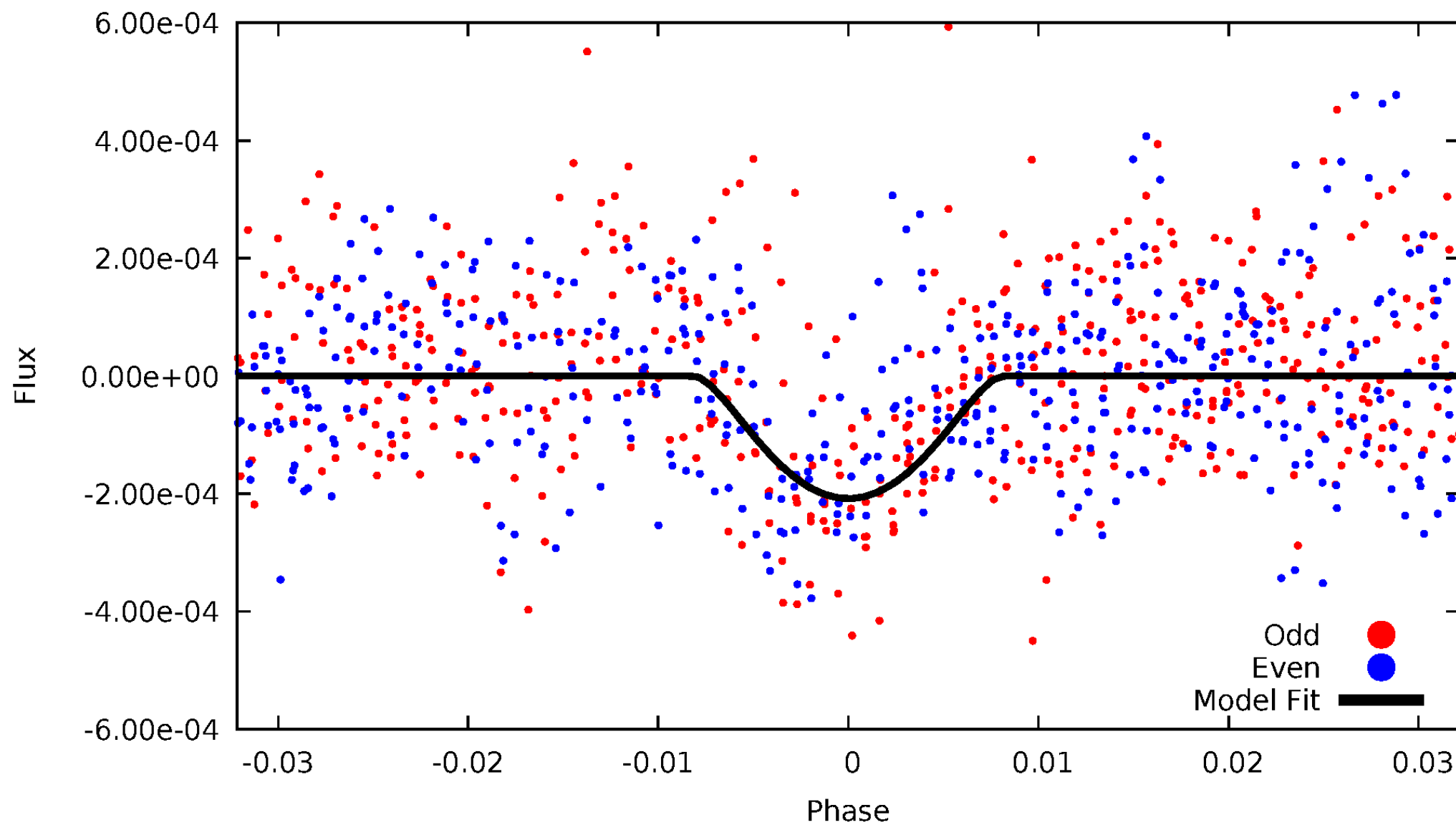


TCE 006701459-04



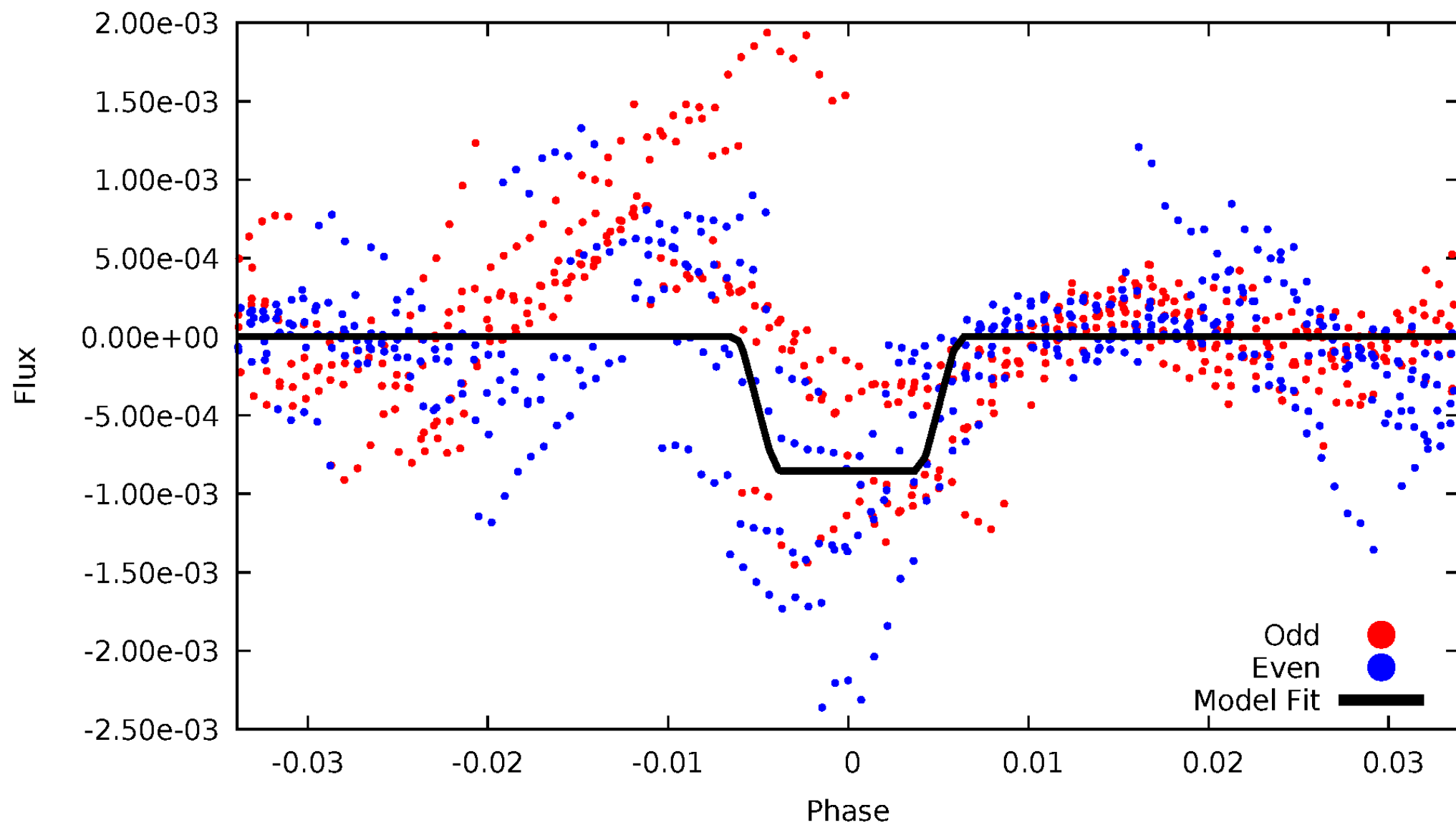
DV Odd/Even

TCE 006701459-04



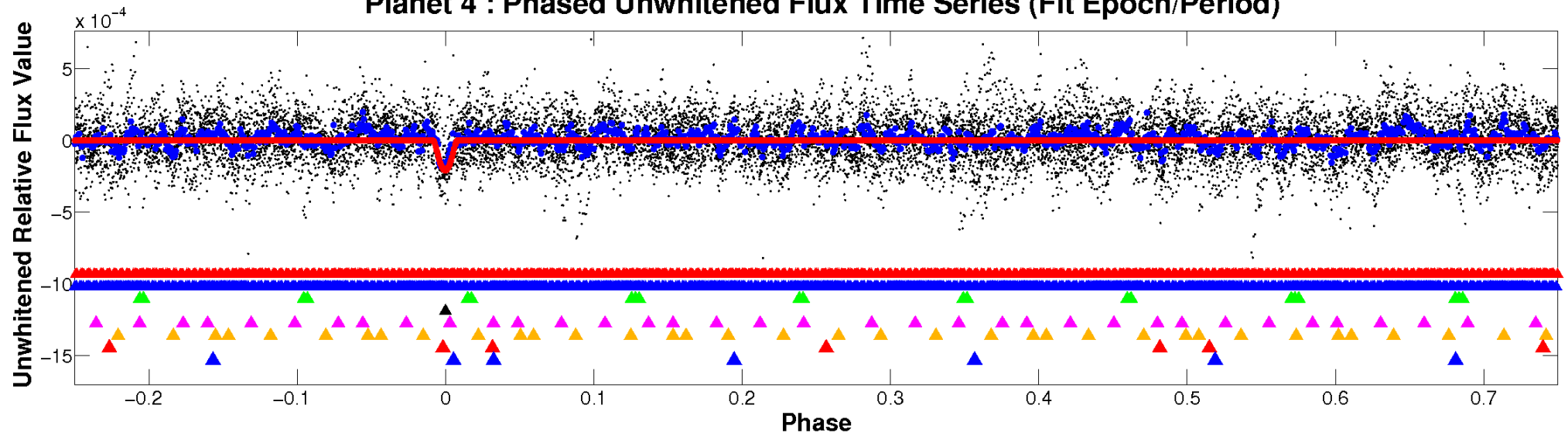
ALT Odd/Even

TCE 006701459-04

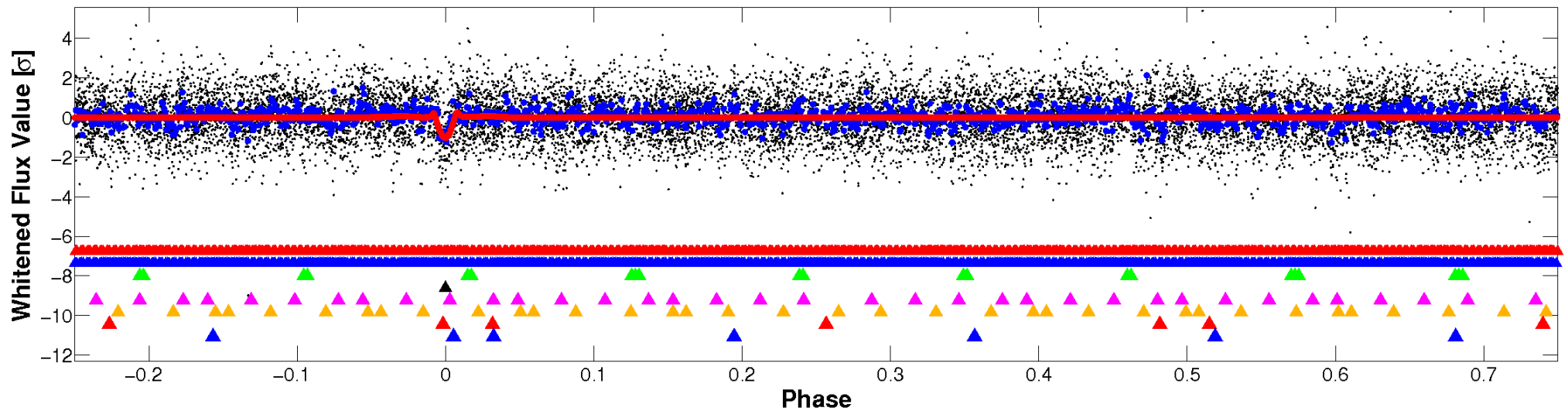


Non-Whitened Vs. Whitened Light Curve

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

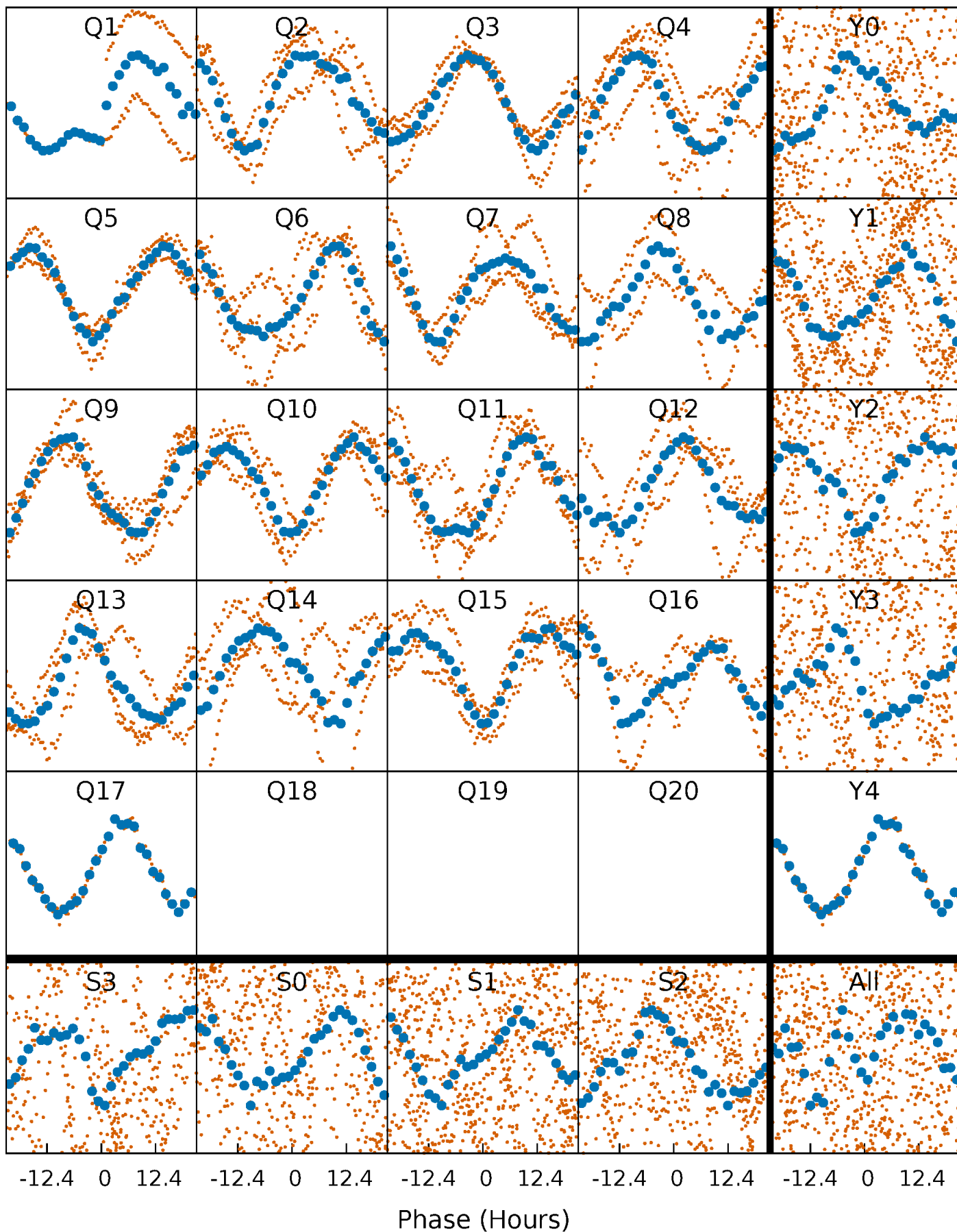


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



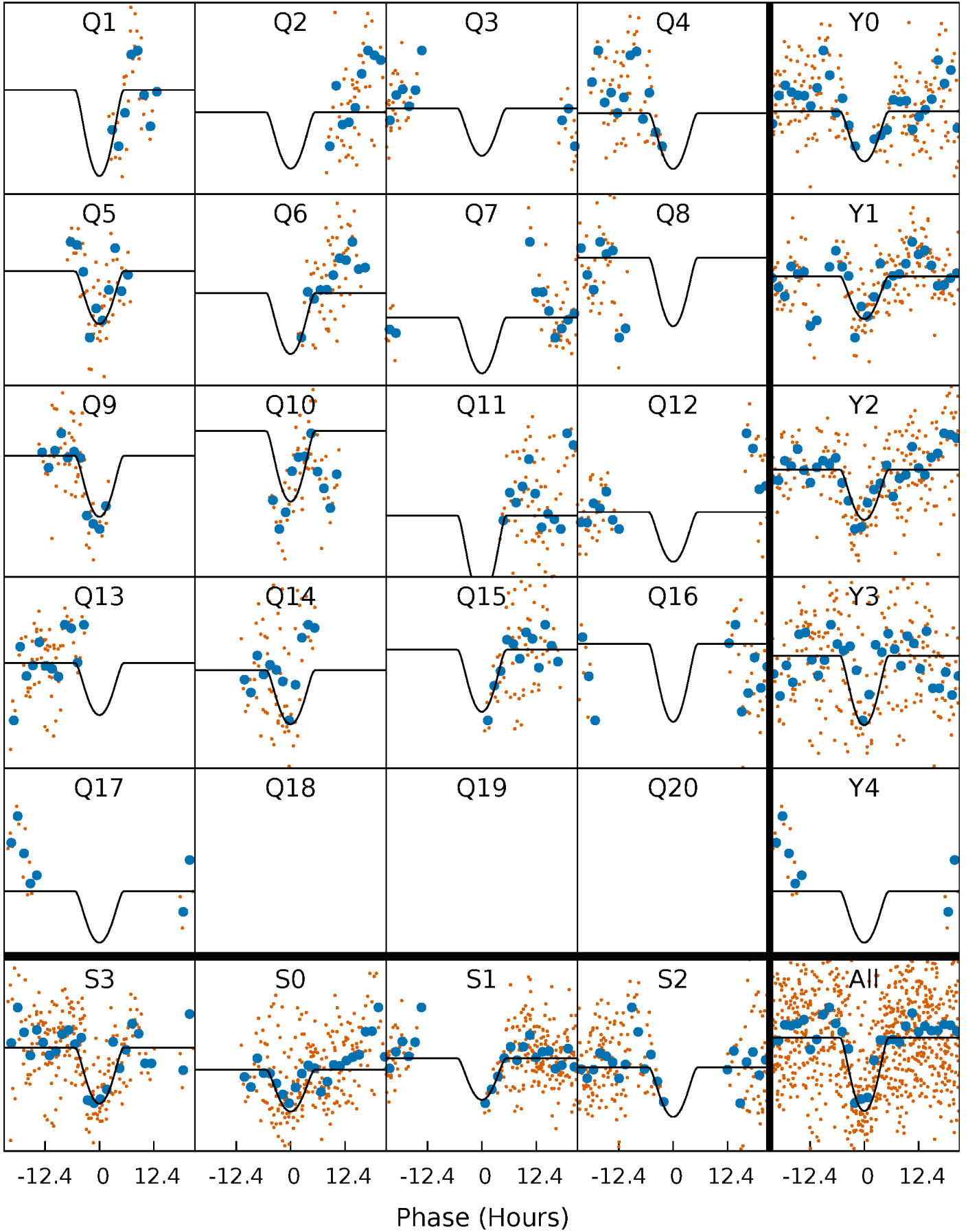
PDC Quarter-Phased Transit Curves

TCE 006701459-04 P= 28.217516 Days $T_0=159.679499$ (BKJD)



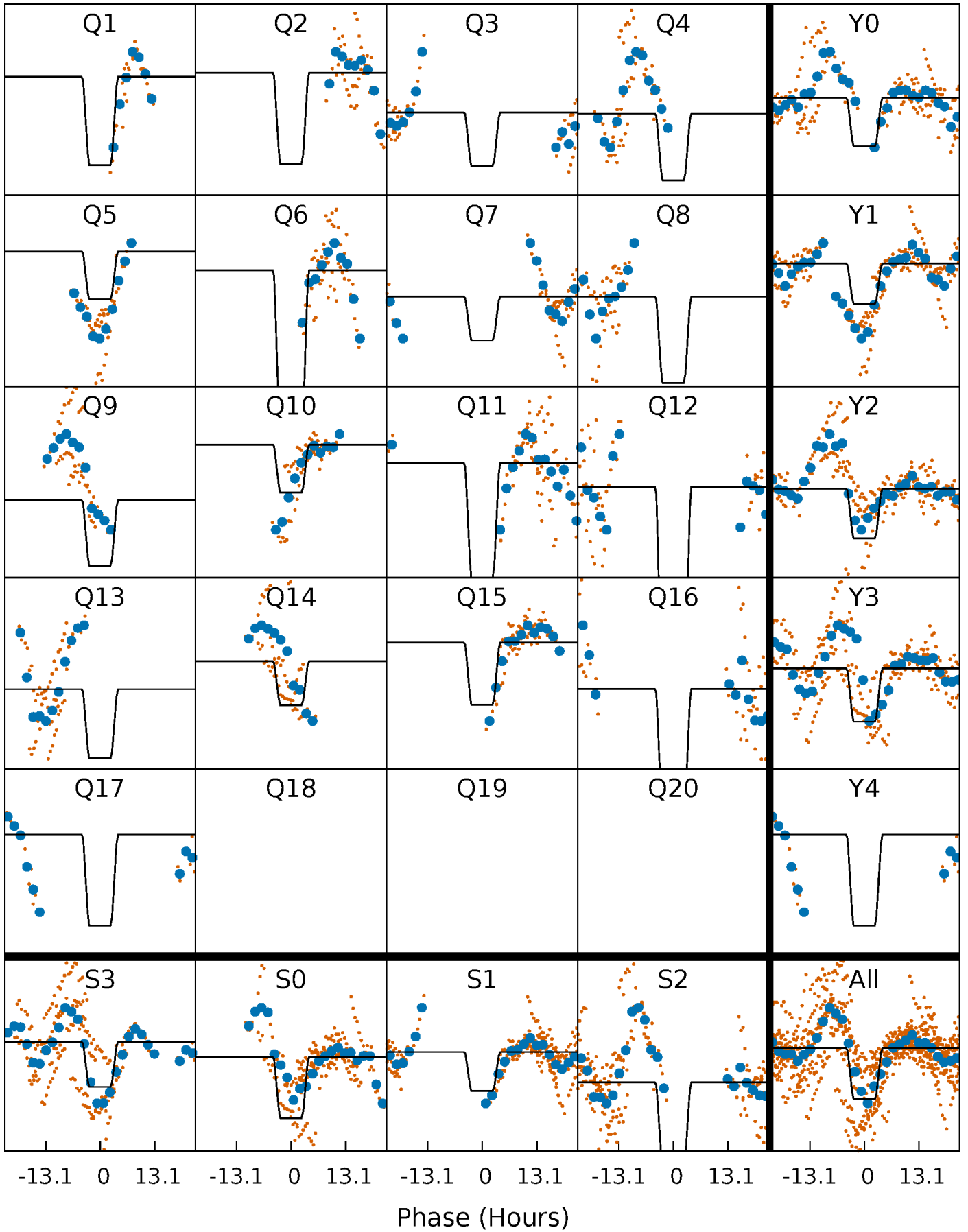
DV Quarter-Phased Transit Curves

TCE 006701459-04 P= 28.217516 Days $T_0=159.679499$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

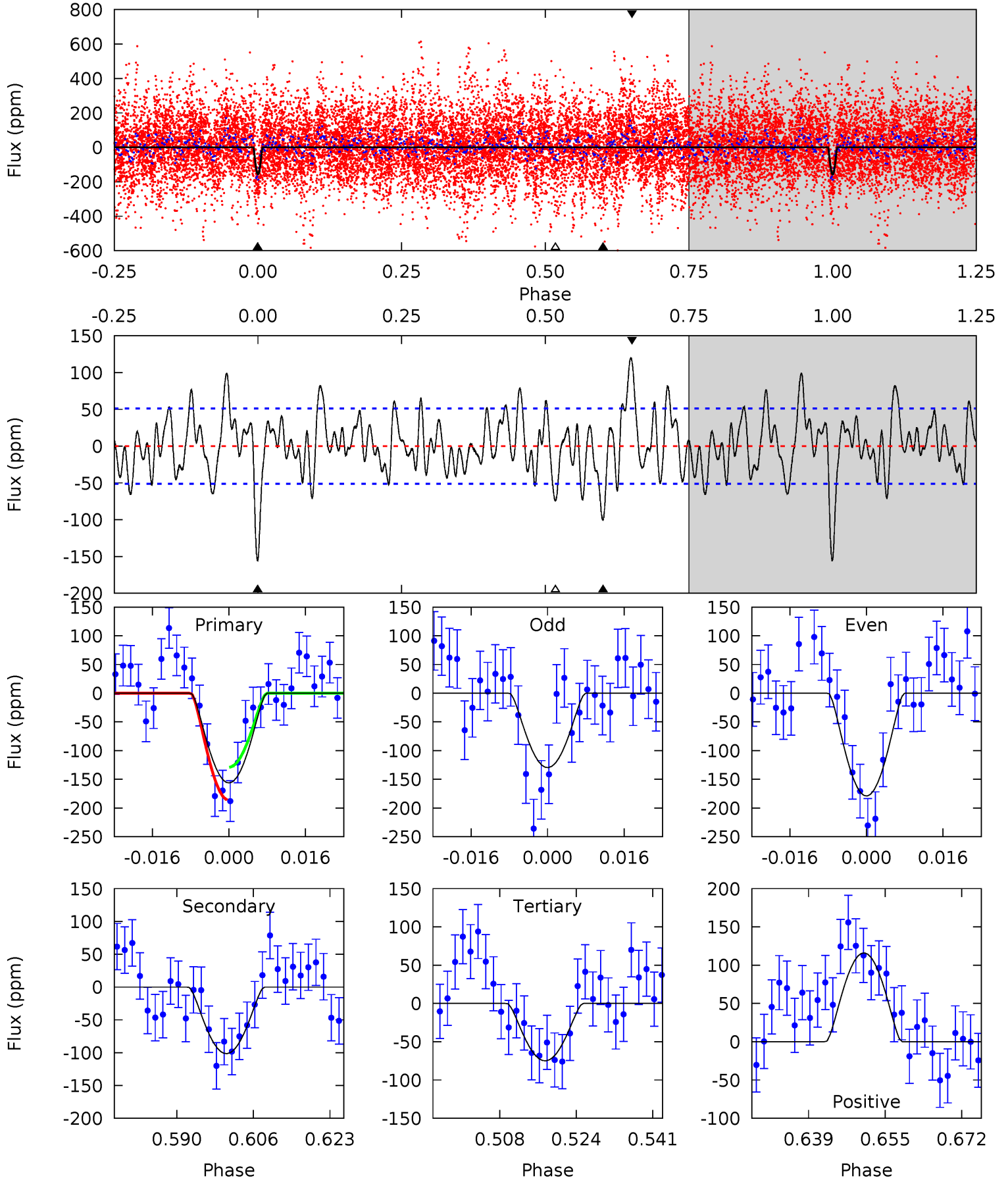
TCE 006701459-04 P= 28.217468 Days $T_0=159.667832$ (BKJD)



DV Model-Shift Uniqueness Test

006701459-04, P = 28.217516 Days, E = 131.461983 Days

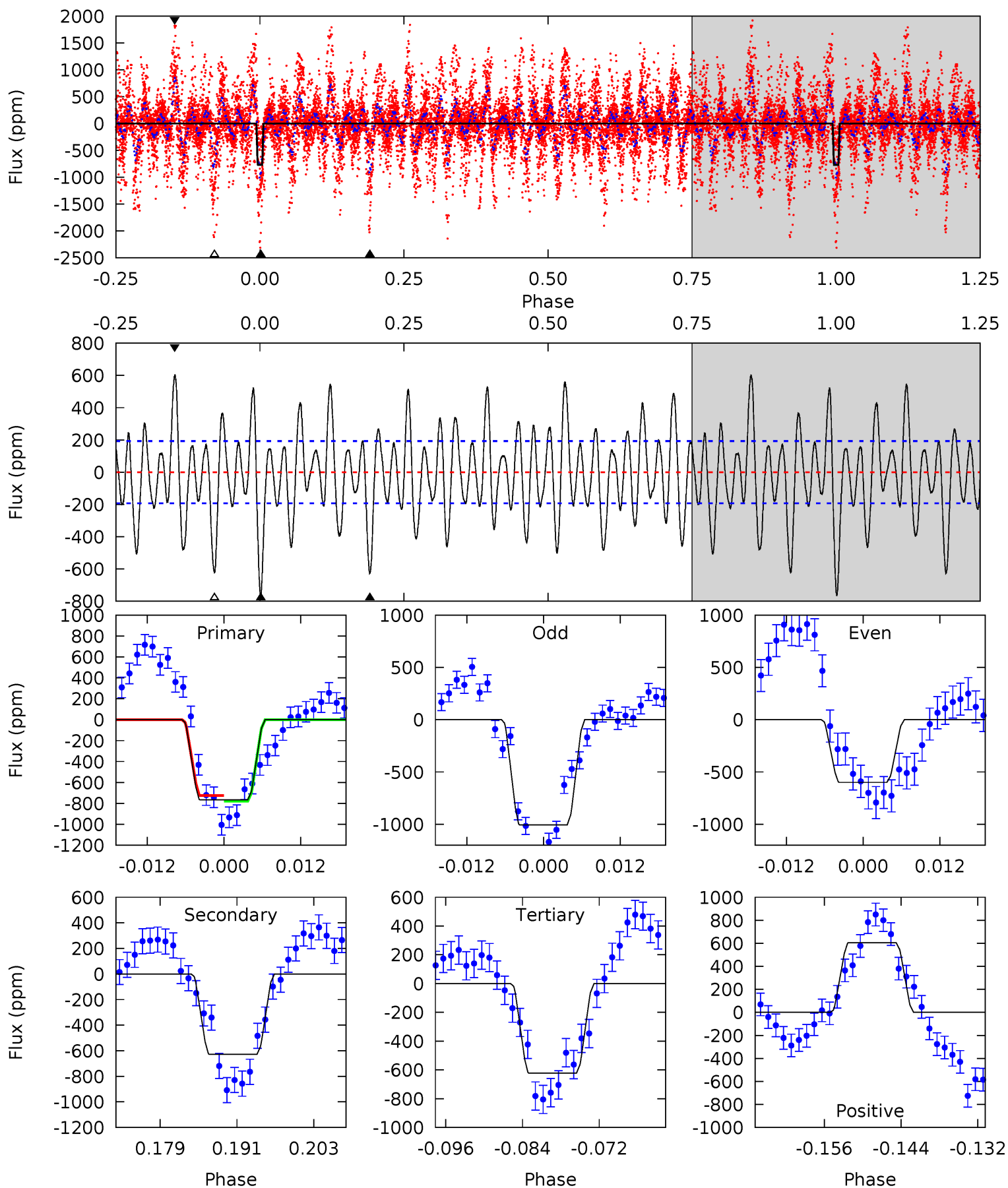
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	9.79	7.23	11.2	4.93	2.40	3.34	7.86	3.90	2.56	-1.40	2.39	0.11	0.44	2.74



Alt Model-Shift Uniqueness Test

006701459-04, P = 28.217468 Days, E = 131.450364 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.9	16.3	16.1	15.7	4.99	2.51	5.85	3.75	4.19	0.15	0.59	5.34	0.91	0.44	0.71



Stellar Parameters For KIC 006701459

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6980^{+167}_{-209}	$3.660^{+0.296}_{-0.056}$	$-0.160^{+0.300}_{-0.250}$	$3.337^{+0.335}_{-1.256}$	$1.858^{+0.178}_{-0.414}$	$0.070^{+0.160}_{-0.017}$
	+2%/-3%	+8%/-2%	+188%/-156%	+10%/-38%	+10%/-22%	+227%/-24%
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 006701459-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-101 ± 10	$15.57^{+15.75}_{-10.26}$	1621^{+88}_{-131}	3639^{+1868}_{-727}	11^{+86}_{-8}
Alt.	-628 ± 39	$15.82^{+16.62}_{-10.40}$	1624^{+85}_{-138}	5065^{+4218}_{-1161}	67^{+520}_{-51}

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 $A_{obs} \gg 1.0$

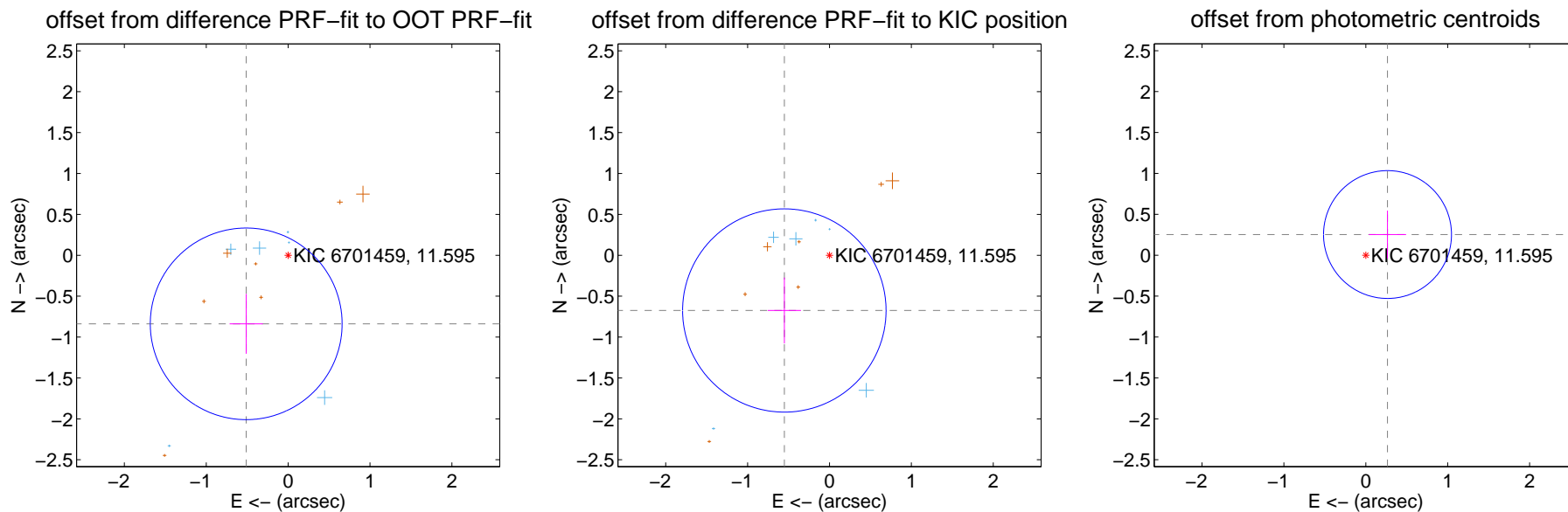
DV Centroid Data

Supplemental centroid analysis for 006701459-04. **Kepler magnitude: 11.60.** Transit SNR 9.33

There are 8 quarters with good PRF difference image offsets

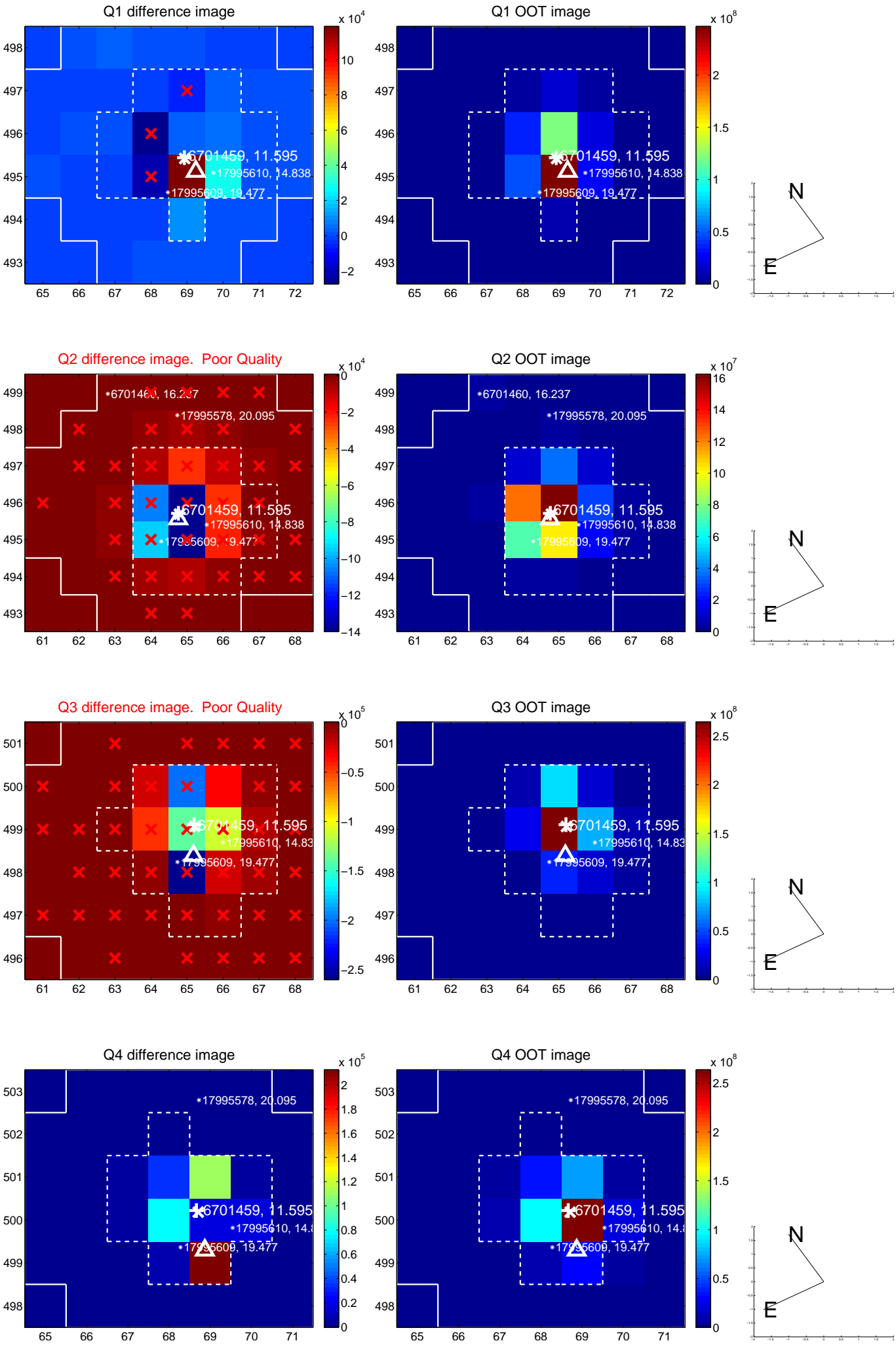
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.982 ± 0.390	2.52	0.512 ± 0.203	-0.838 ± 0.366
PRF-fit source offset from KIC position	0.872 ± 0.414	2.10	0.551 ± 0.203	-0.675 ± 0.403
photometric centroid source offset	0.37 ± 0.26	1.41	-0.27 ± 0.23	0.25 ± 0.29

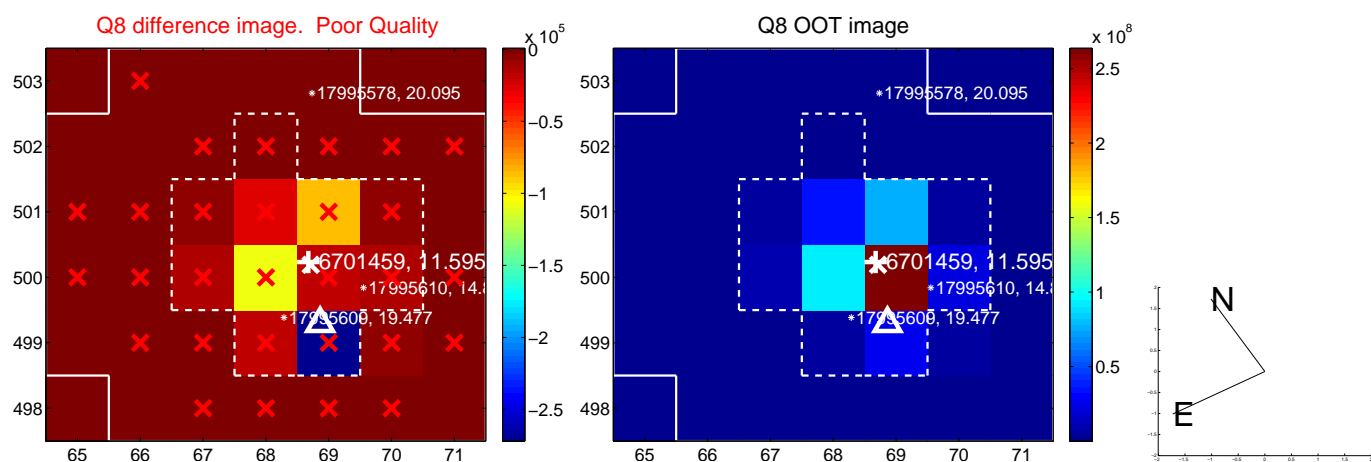
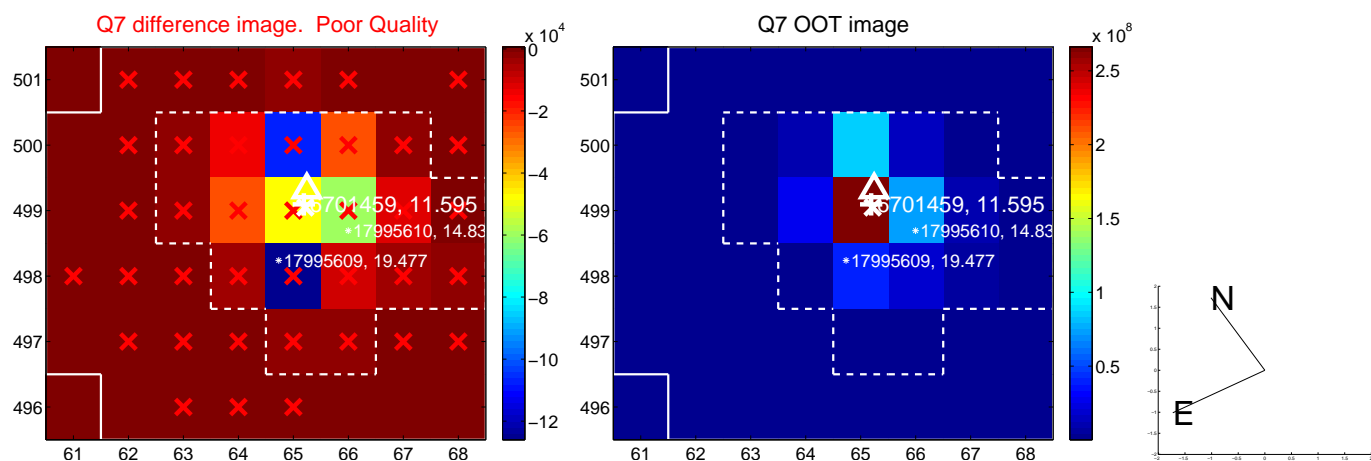
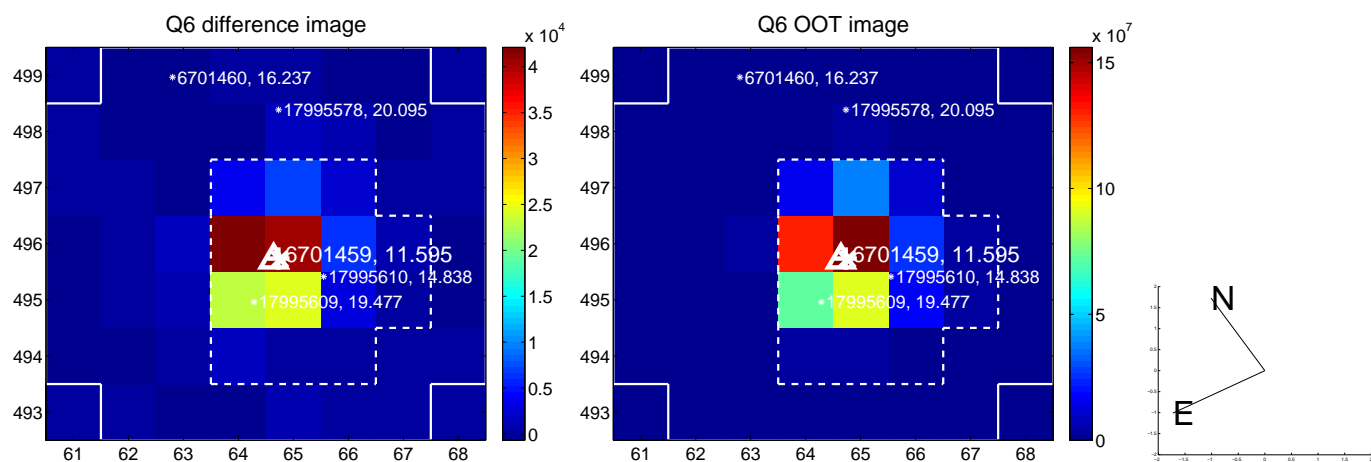
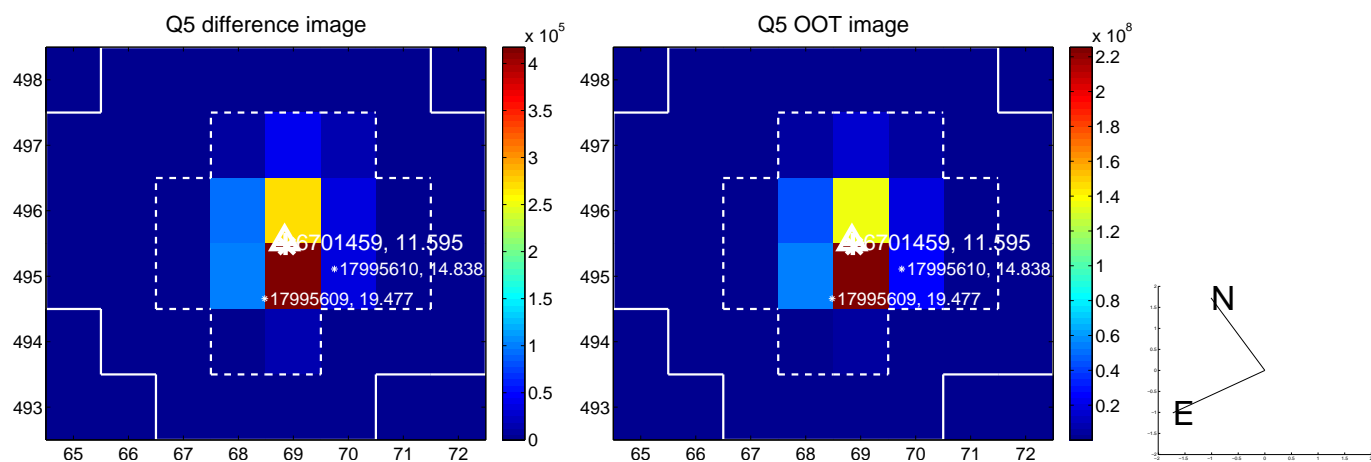


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

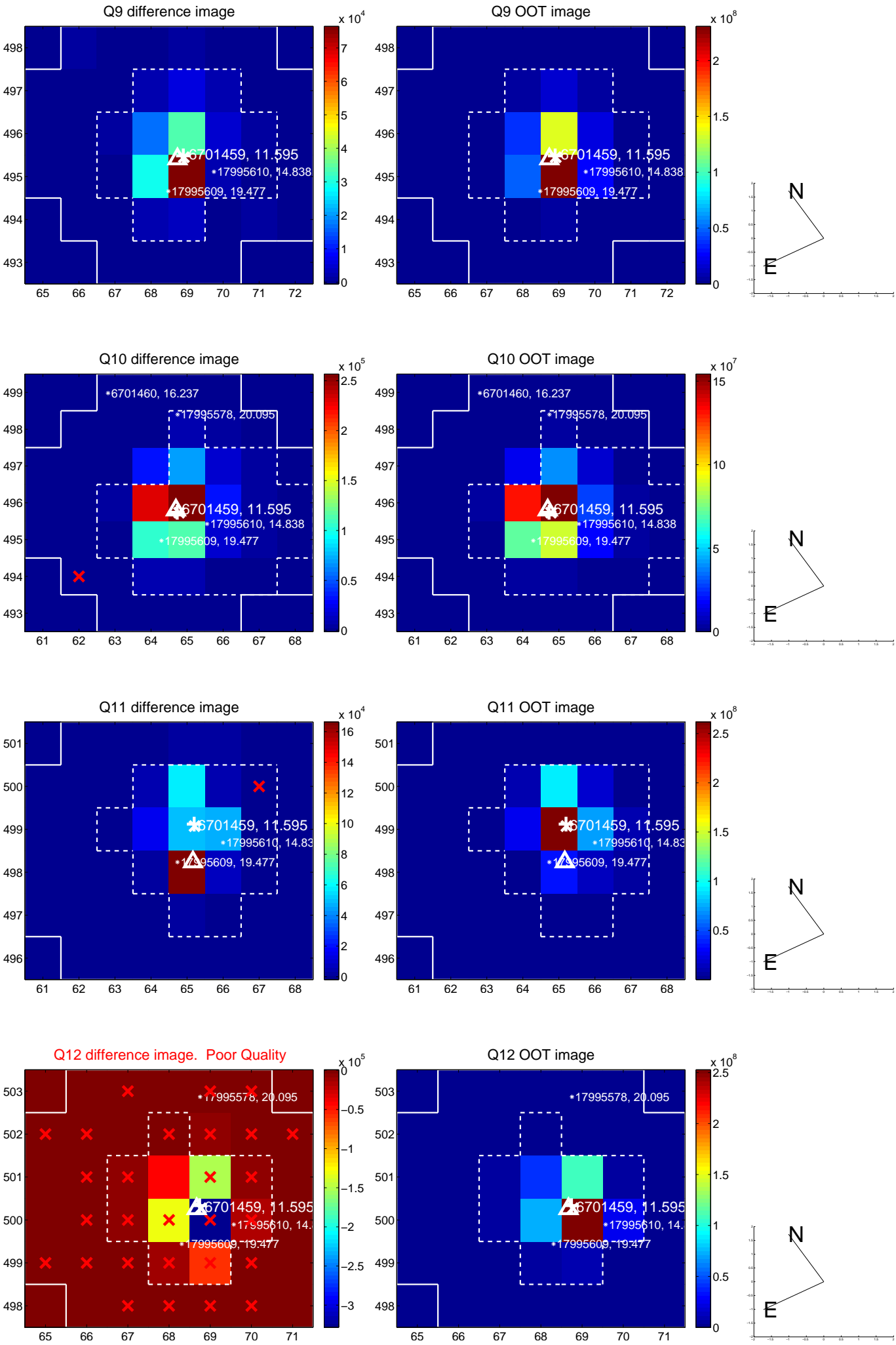
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



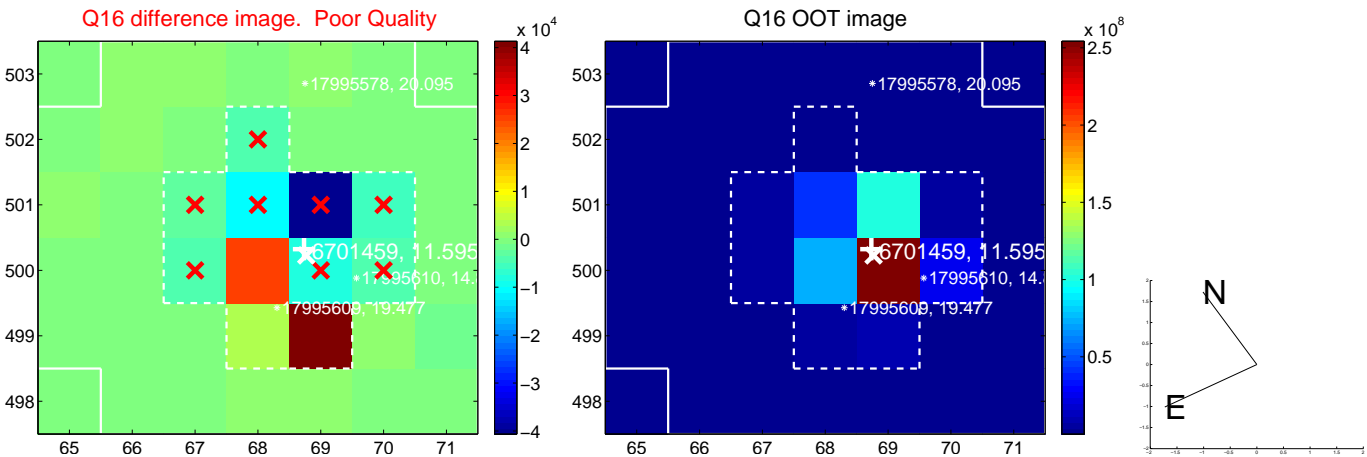
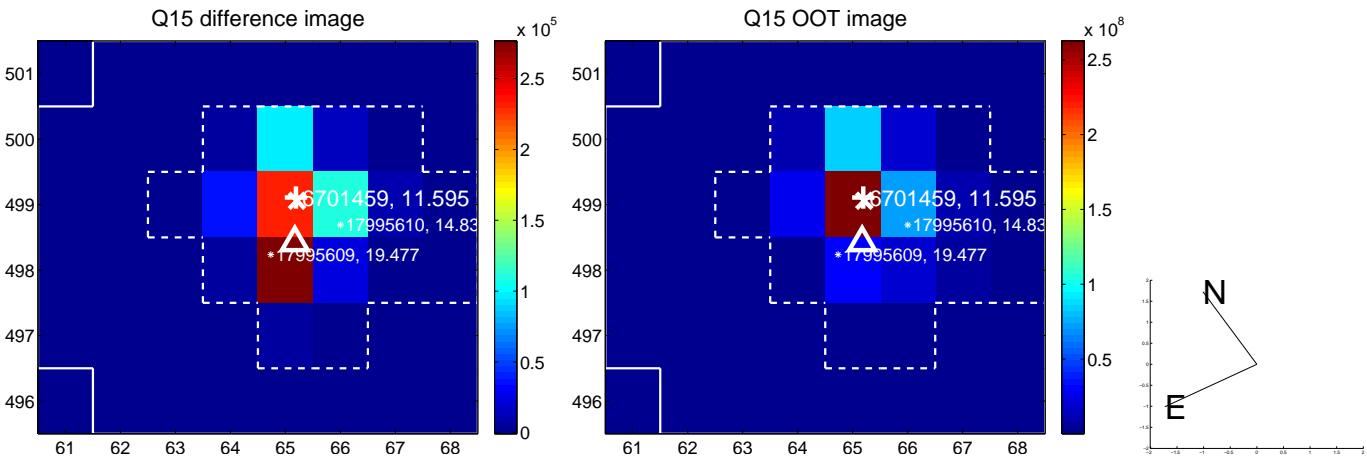
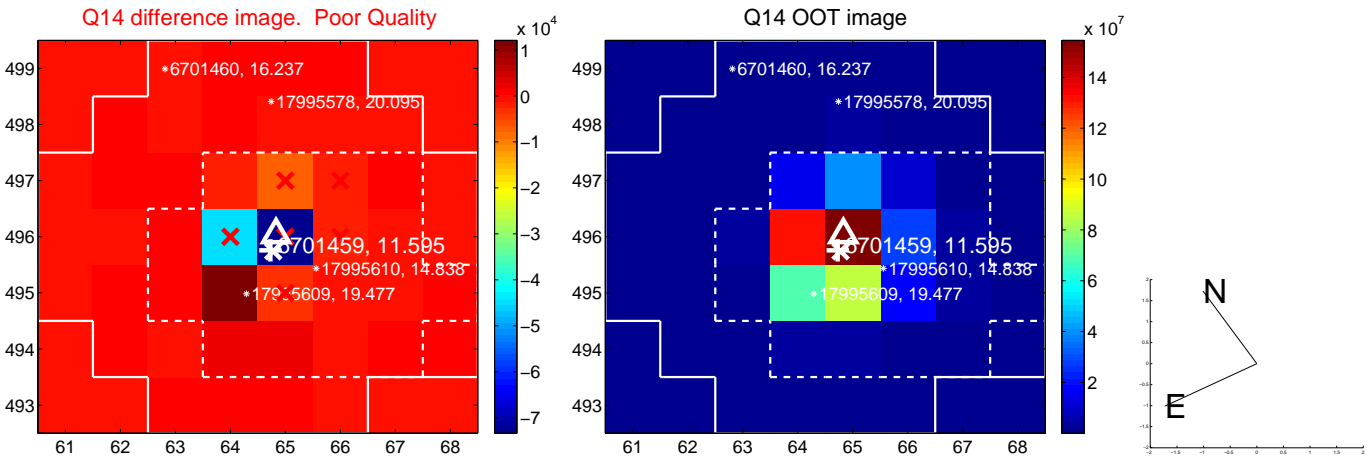
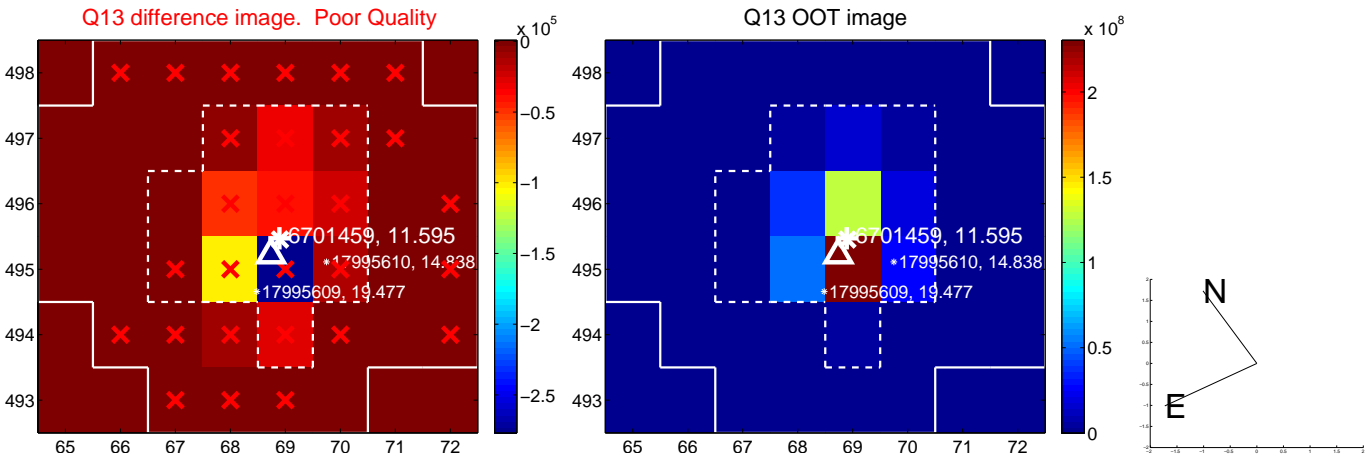
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



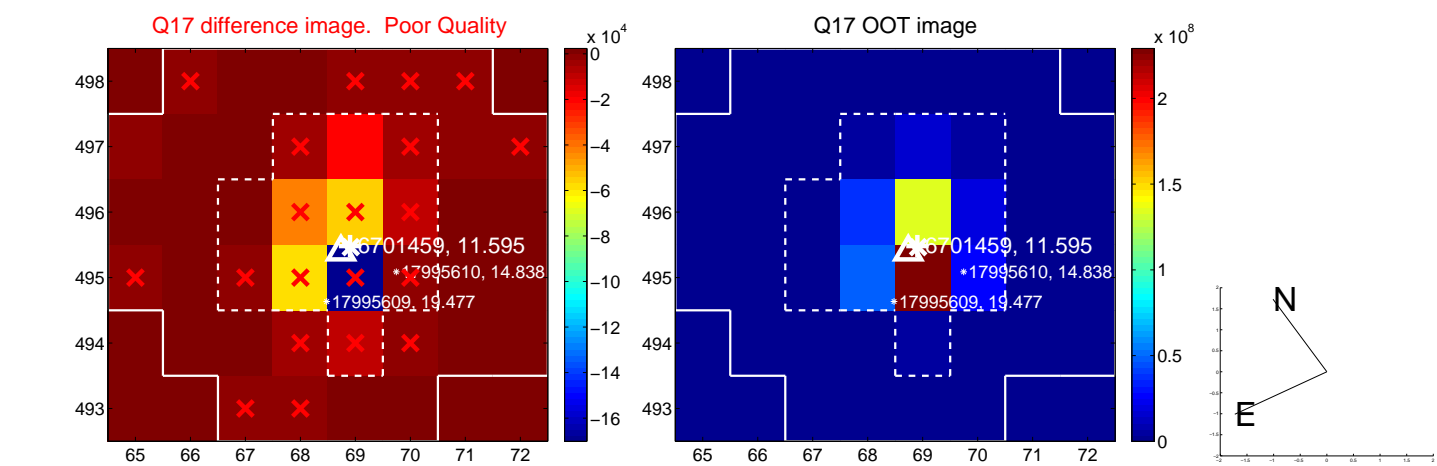
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



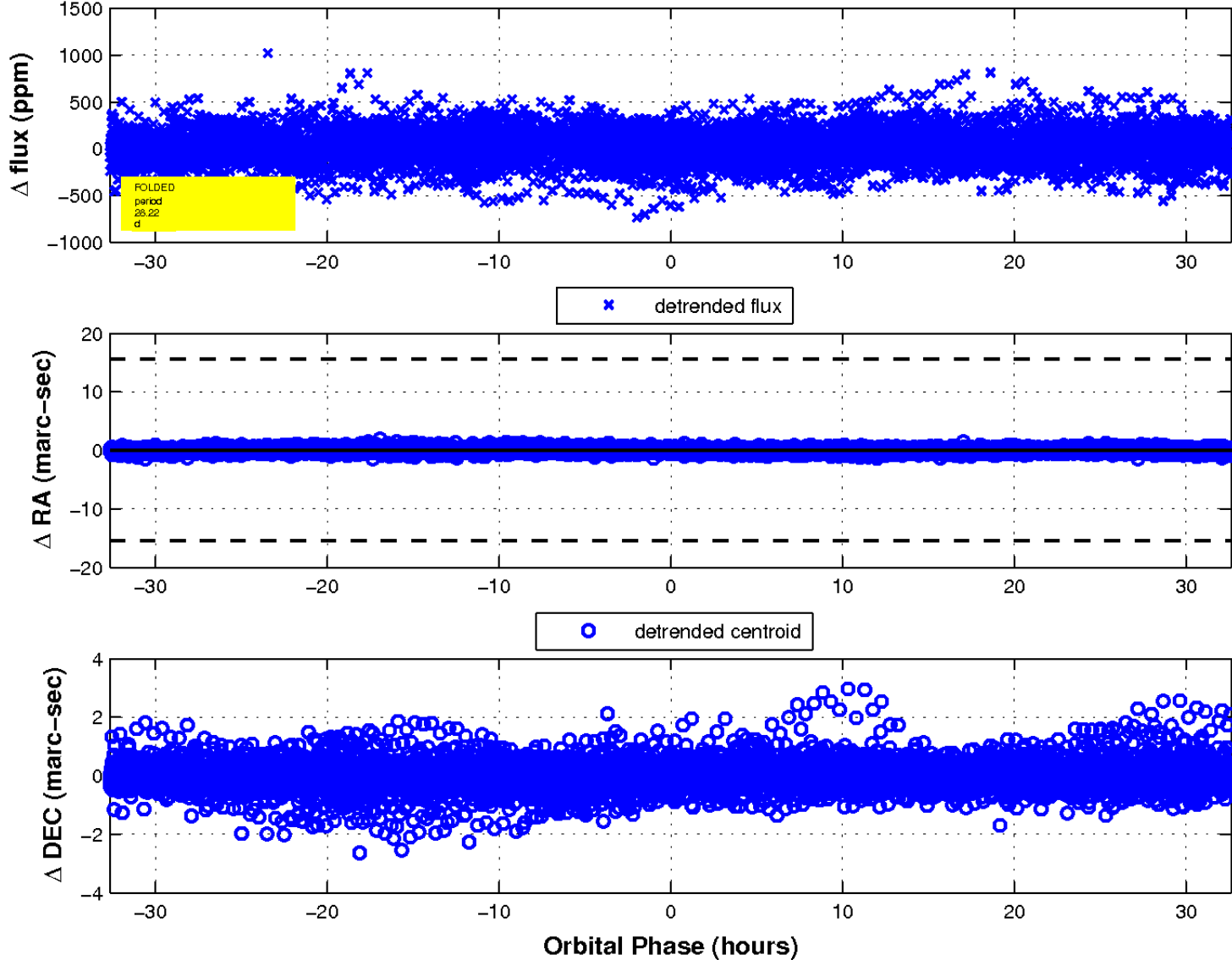
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

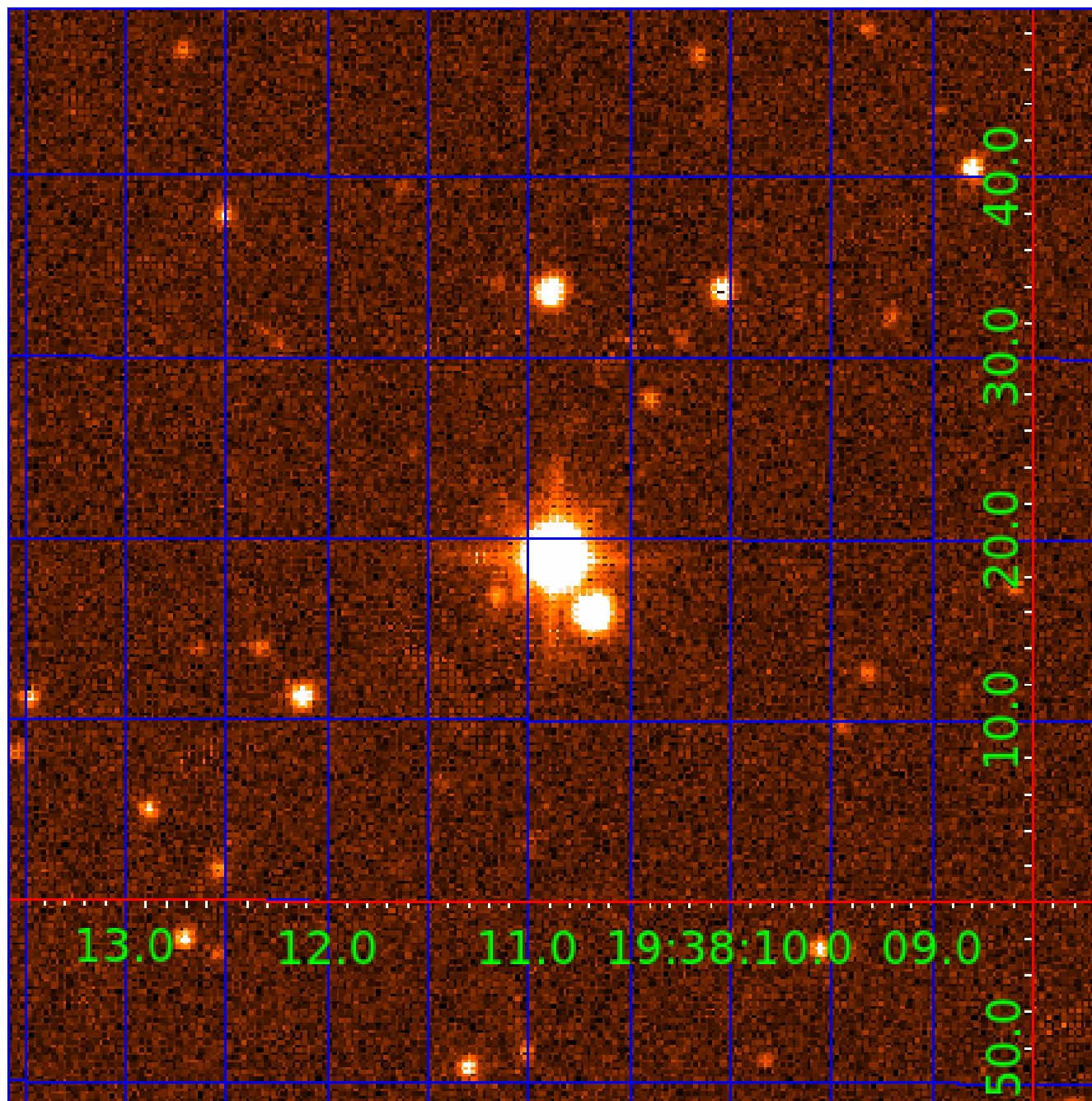


fluxWeightedCentroids, Planet 4 of 8



UKIRT Image

Declination



KIC 006701459

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})
006701459-01	OBS	No	1.889459	133.027296	28.3	6.479	10.2	8.7	3.34	6980	2.06	17516.08
006701459-02	OBS	No	1.889706	132.417824	25.3	8.598	12.8	8.1	3.34	6980	1.80	17513.03
006701459-03	OBS	No	72.103560	147.694414	292.0	2.970	9.4	8.4	3.34	6980	6.56	136.34
006701459-04	OBS	No	28.217516	159.679499	208.2	10.887	9.0	9.3	3.34	6980	9.39	476.28
006701459-05	OBS	No	40.850708	135.790804	114.7	7.854	8.5	5.4	3.34	6980	3.62	290.82
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006701459-07	OBS	No	204.812285	201.488008	396.0	6.975	8.1	8.3	3.34	6980	8.46	33.89
006701459-08	OBS	No	221.164334	159.832506	229.8	9.197	8.3	7.5	3.34	6980	5.44	30.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006701459-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
006701459-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
006701459-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006701459-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

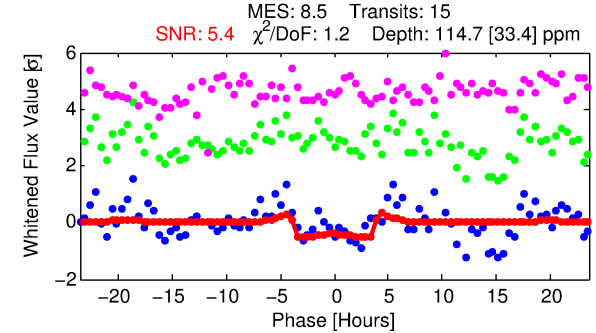
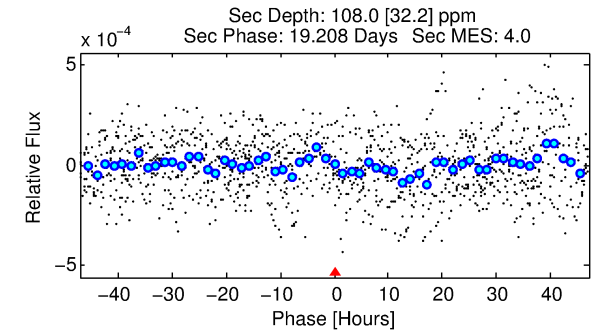
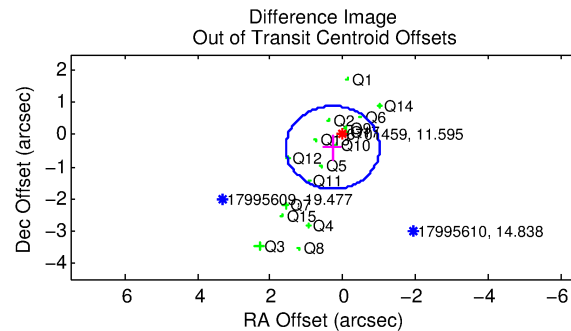
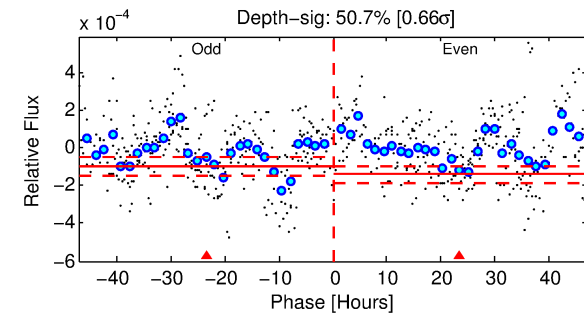
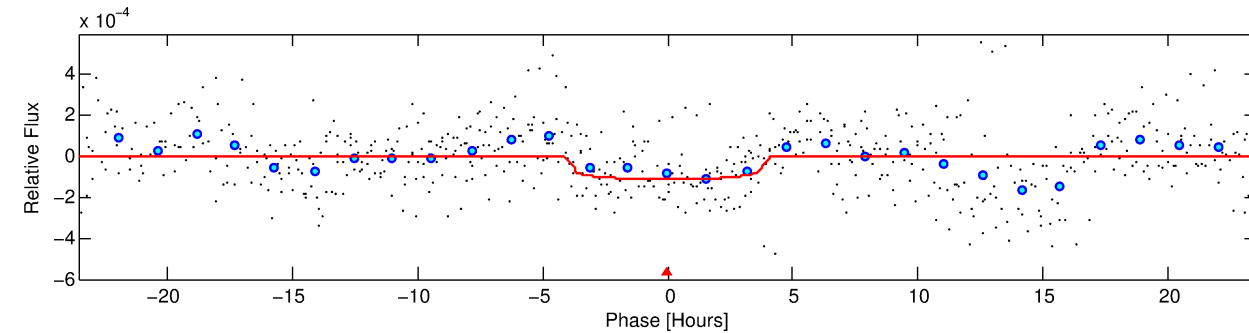
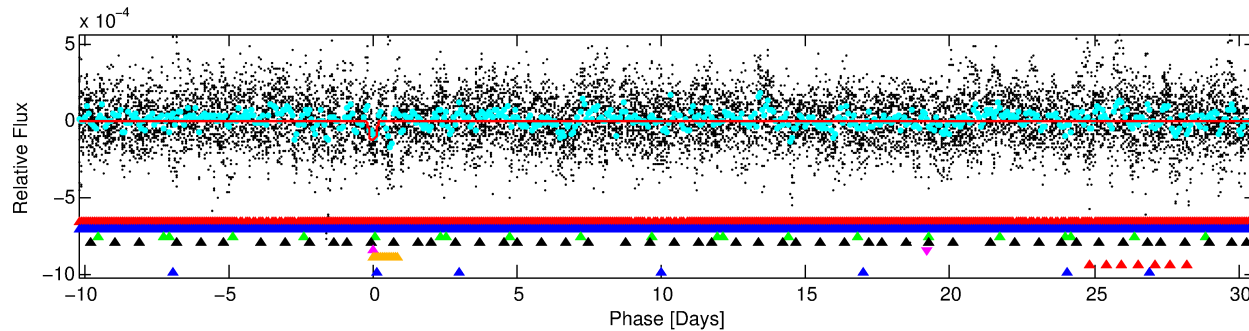
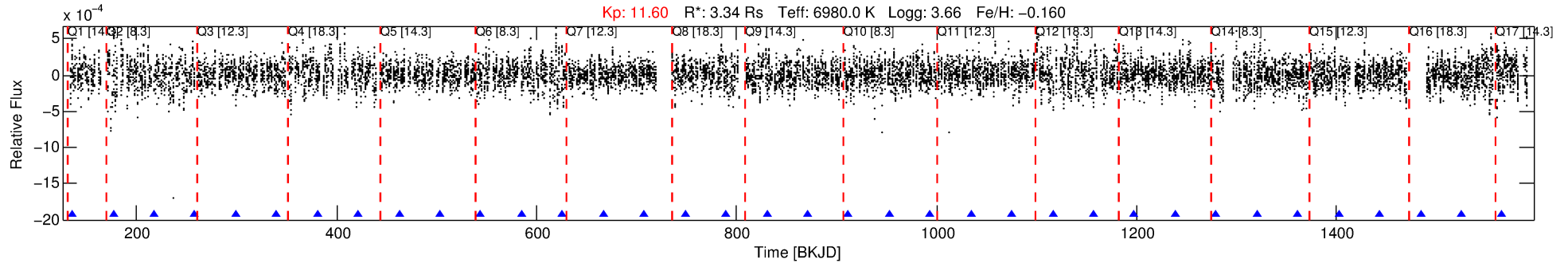
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006701459-05

No Significant Match Found

DV One-Page Summary

KIC: 6701459 Candidate: 5 of 8 Period: 40.851 d



DV Fit Results:

Period = 40.85071 [0.00061] d
Epoch = 135.7908 [0.0139] BKJD
Rp/R* = 0.0099 [0.0154]
a/R* = 39.70 [357.76]
b = 0.15 [60.02]
Seff = 290.82 [154.92]
Teq = 1053 [140] K
Rp = 3.62 [5.79] Re
a = 0.2854 [0.0966] AU
Ag = 370.01 [1172.07] [0.31 σ]
Teffp = 7140 [5582] K [1.09 σ]

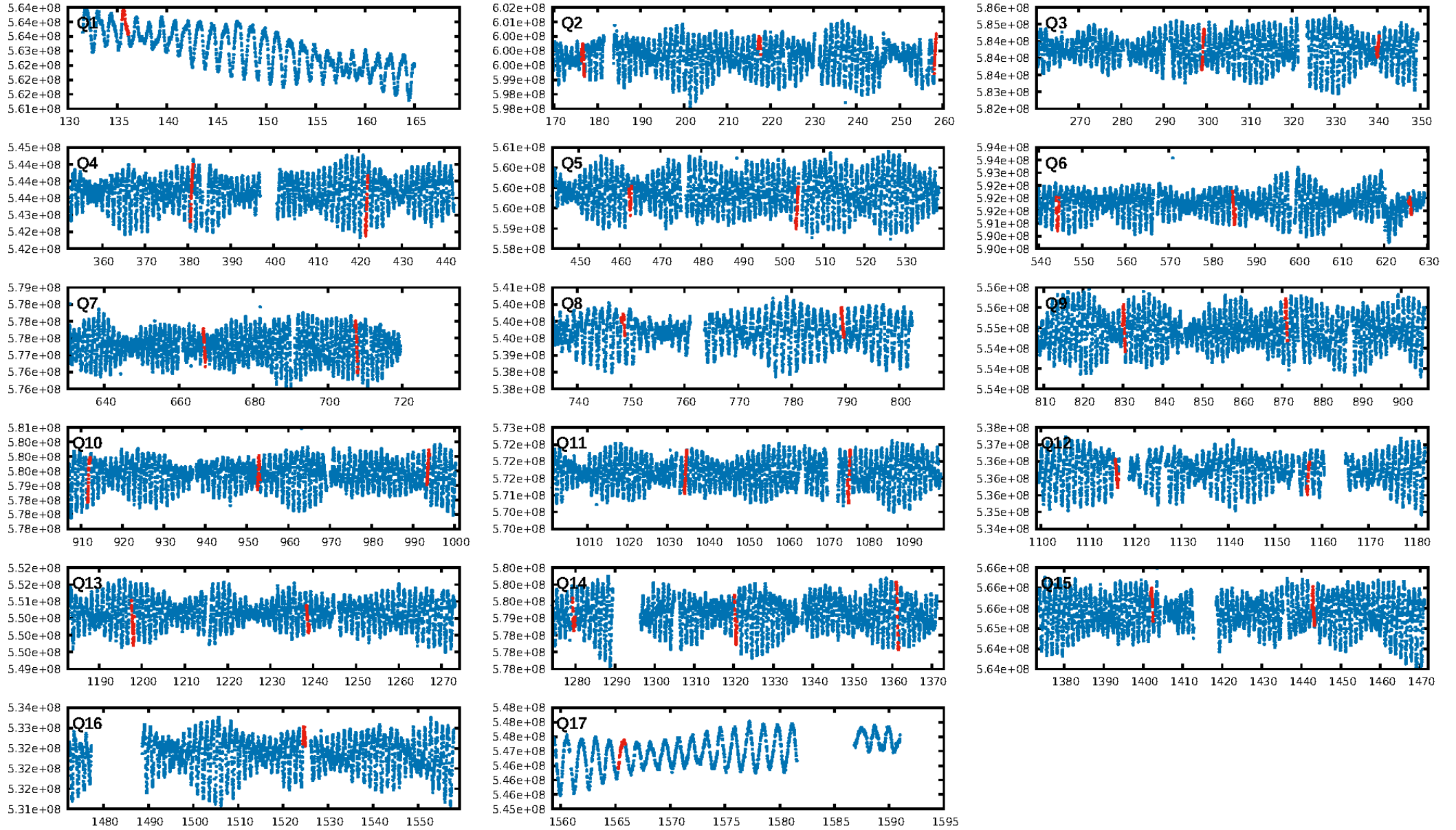
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [22.59 σ]
LongPeriod-sig: 4.3% [0.05 σ]
ModelChiSquare2-sig: 78.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.85e-09
RollingBand-fgt: 1.00 [13/13]
GhostDiagnostic-chr: -1.722
Centroid-sig: N/A
Centroid-so: 0.488 arcsec [1.01 σ]
OotOffset-rm: 0.492 arcsec [1.14 σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-rm: 0.411 arcsec [1.07 σ]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.44 [7/16]
DiffImageOverlap-fno: 0.00 [0/16]

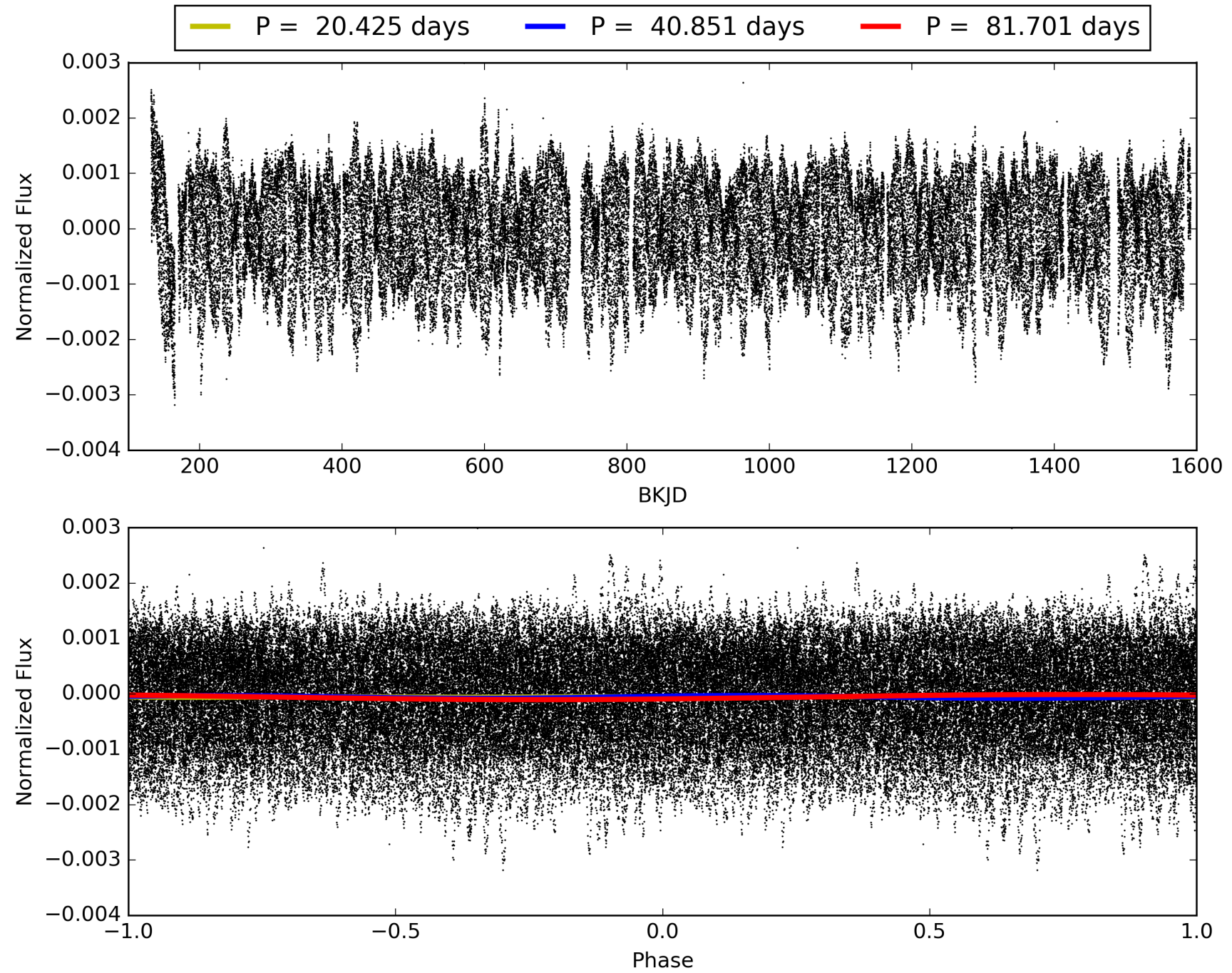
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 01:19:25 Z

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

TCE 006701459-05, PDC Light Curves

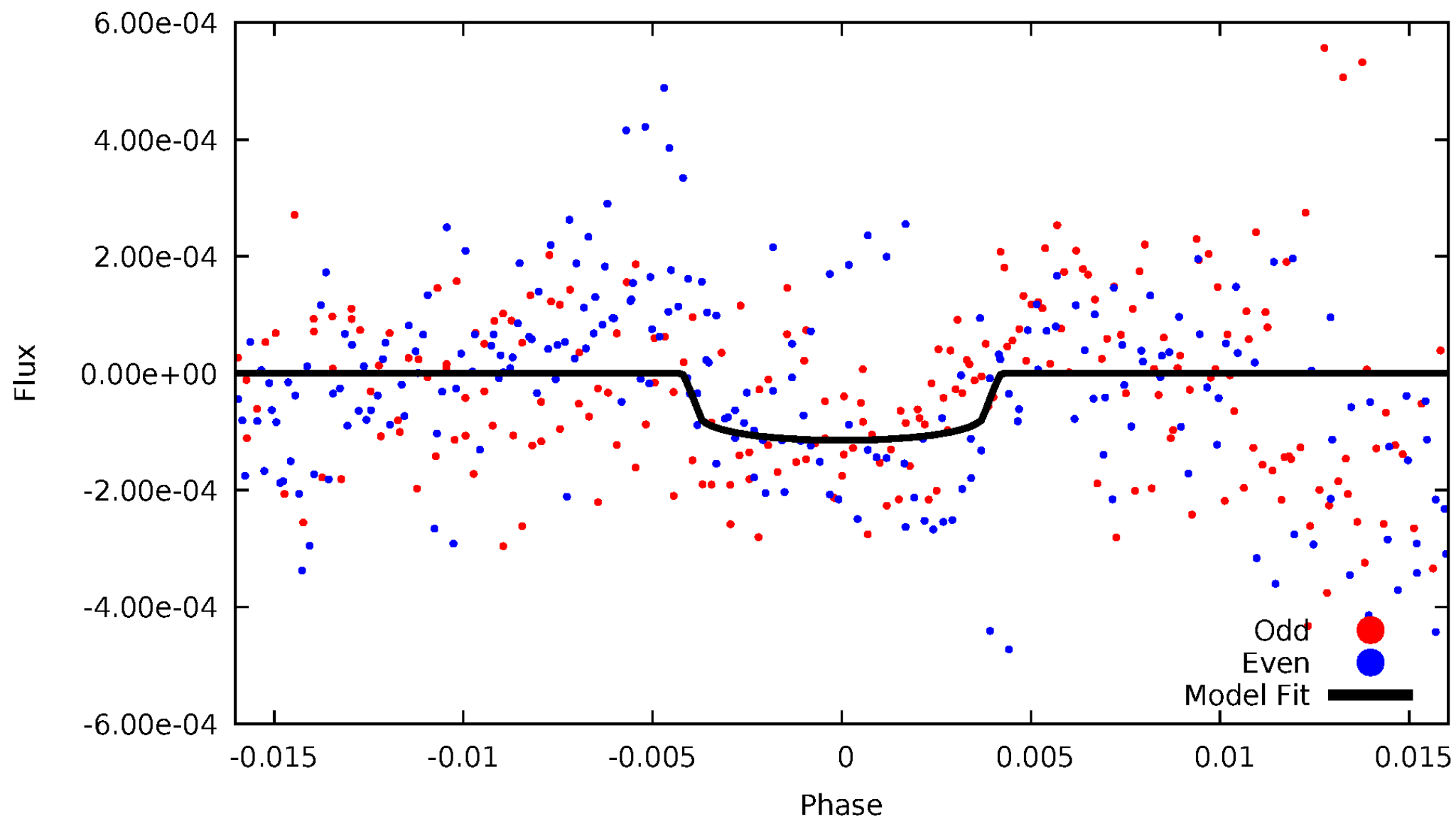


TCE 006701459-05



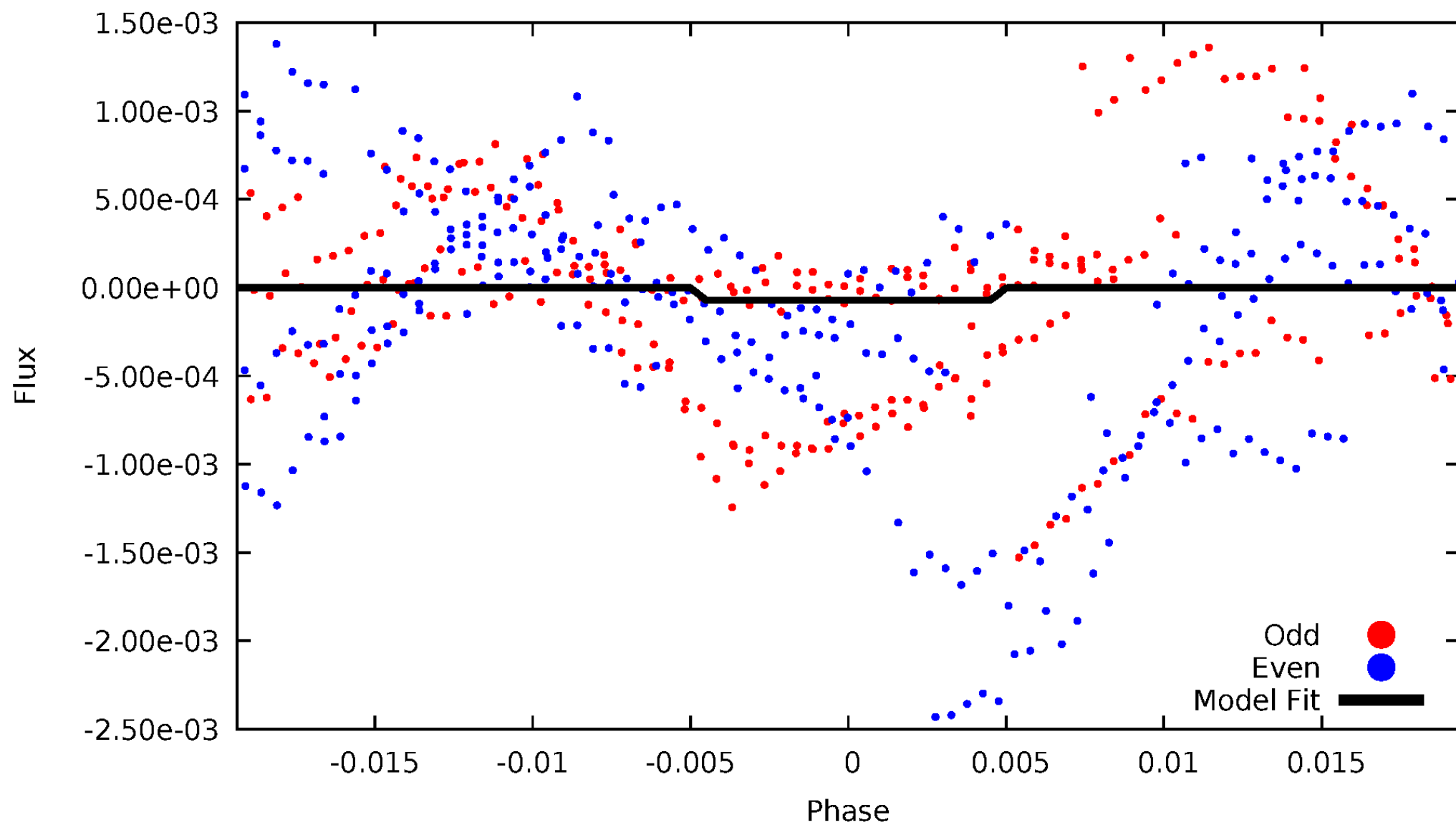
DV Odd/Even

TCE 006701459-05



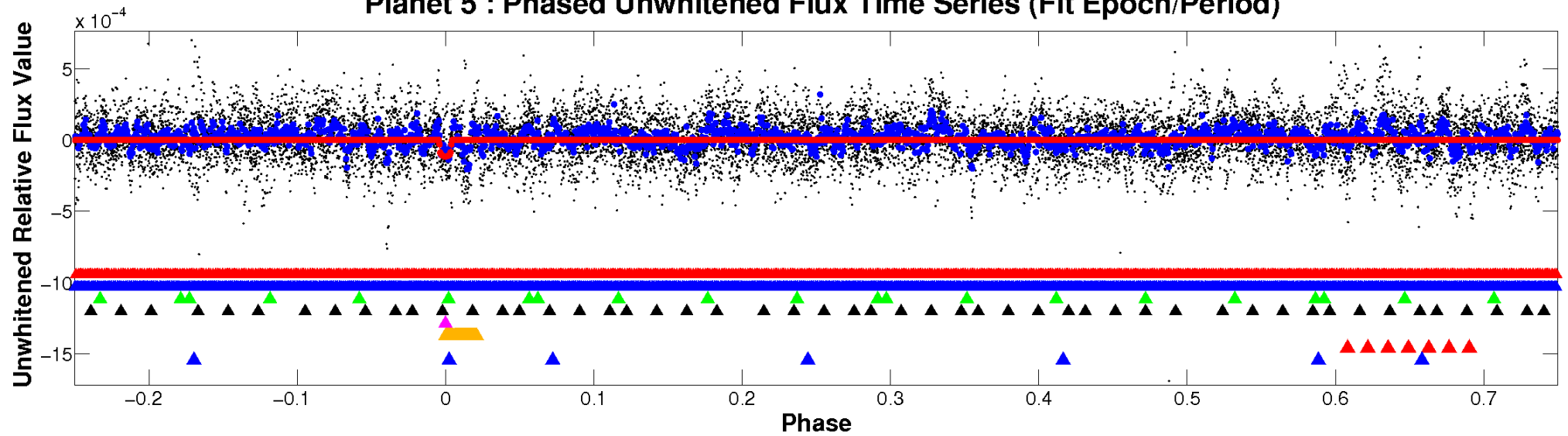
ALT Odd/Even

TCE 006701459-05

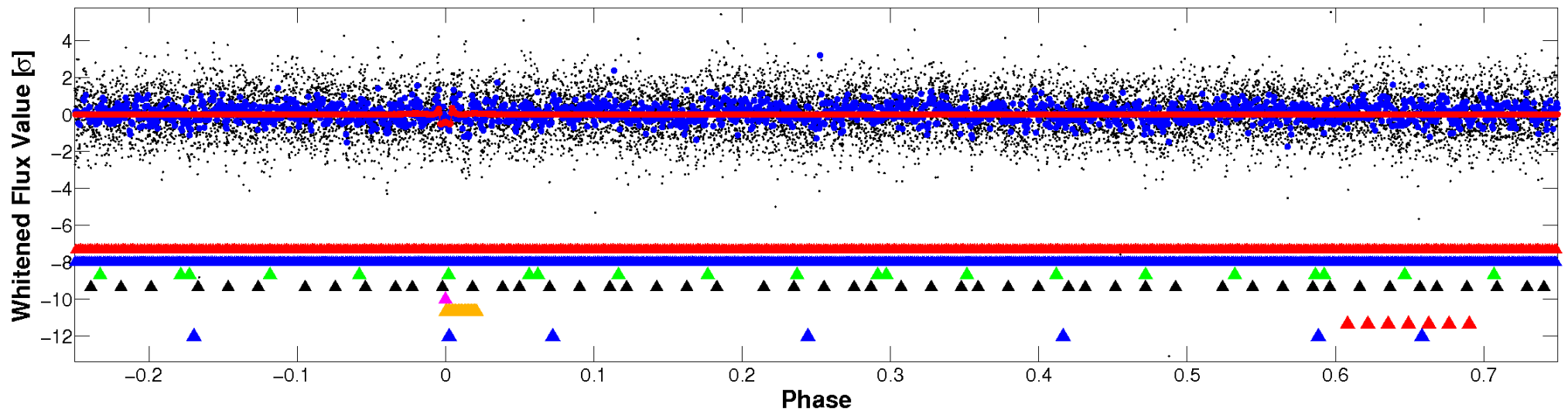


Non-Whitened Vs. Whitened Light Curve

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

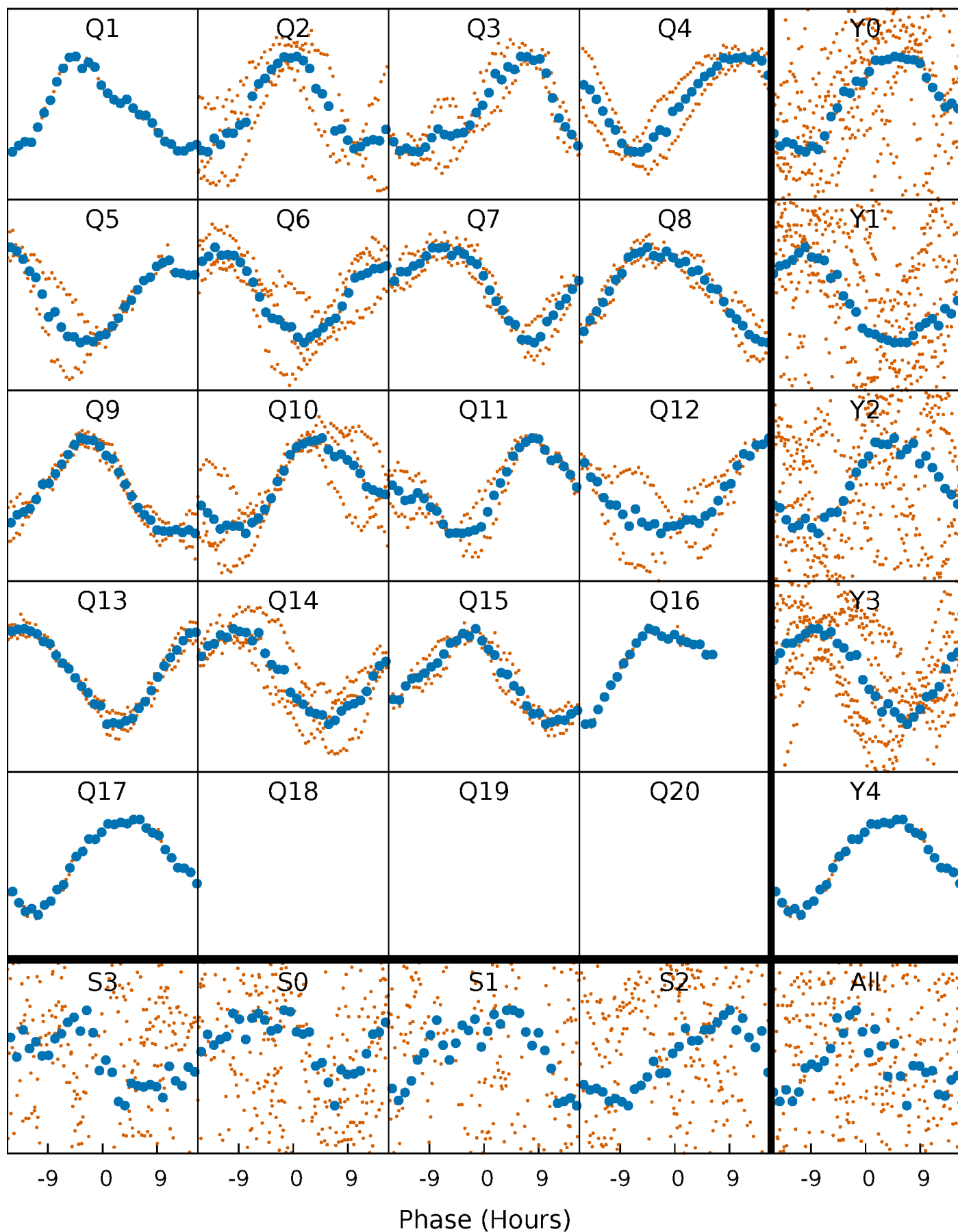


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



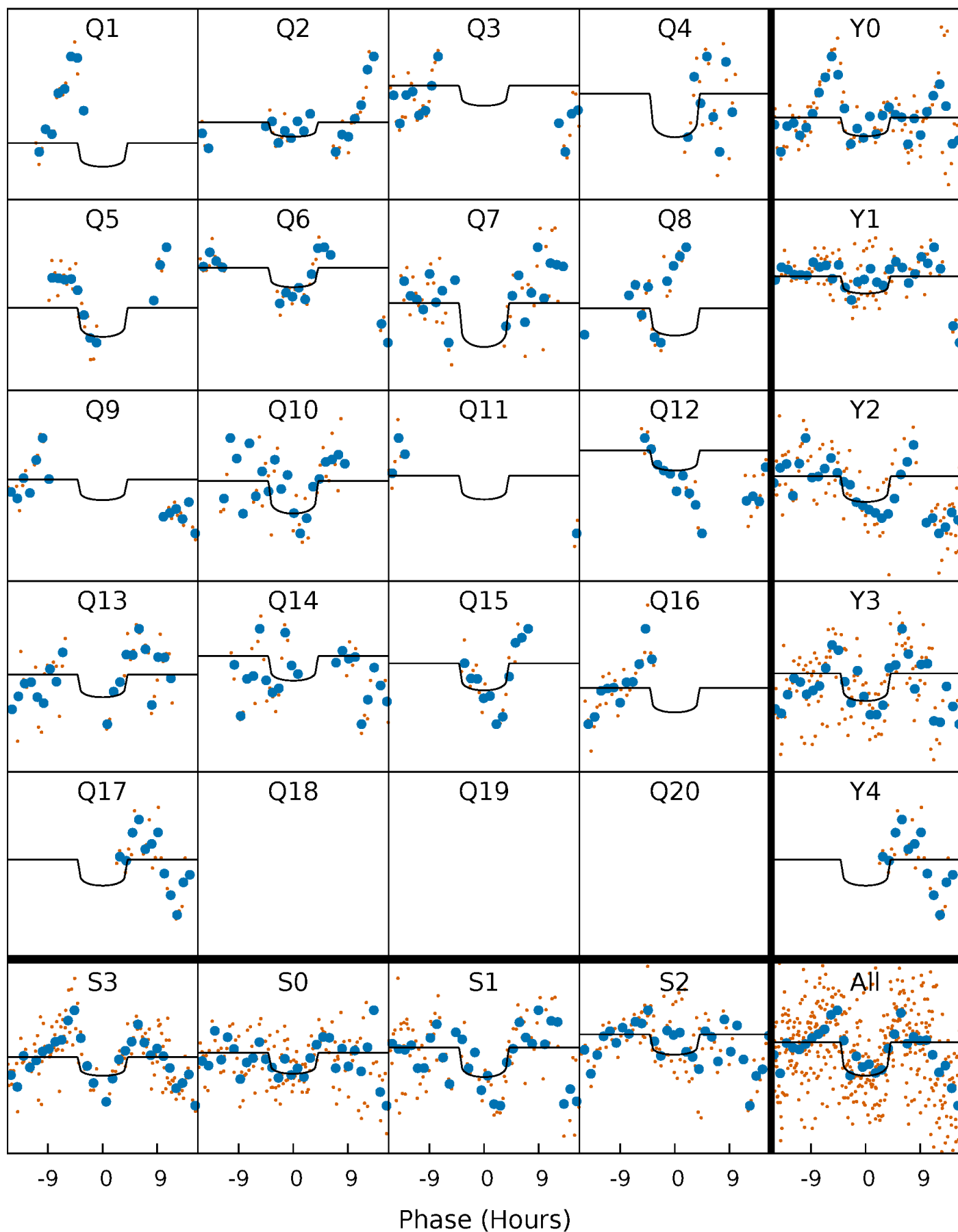
PDC Quarter-Phased Transit Curves

TCE 006701459-05 $P = 40.850708$ Days $T_0 = 135.790804$ (BKJD)



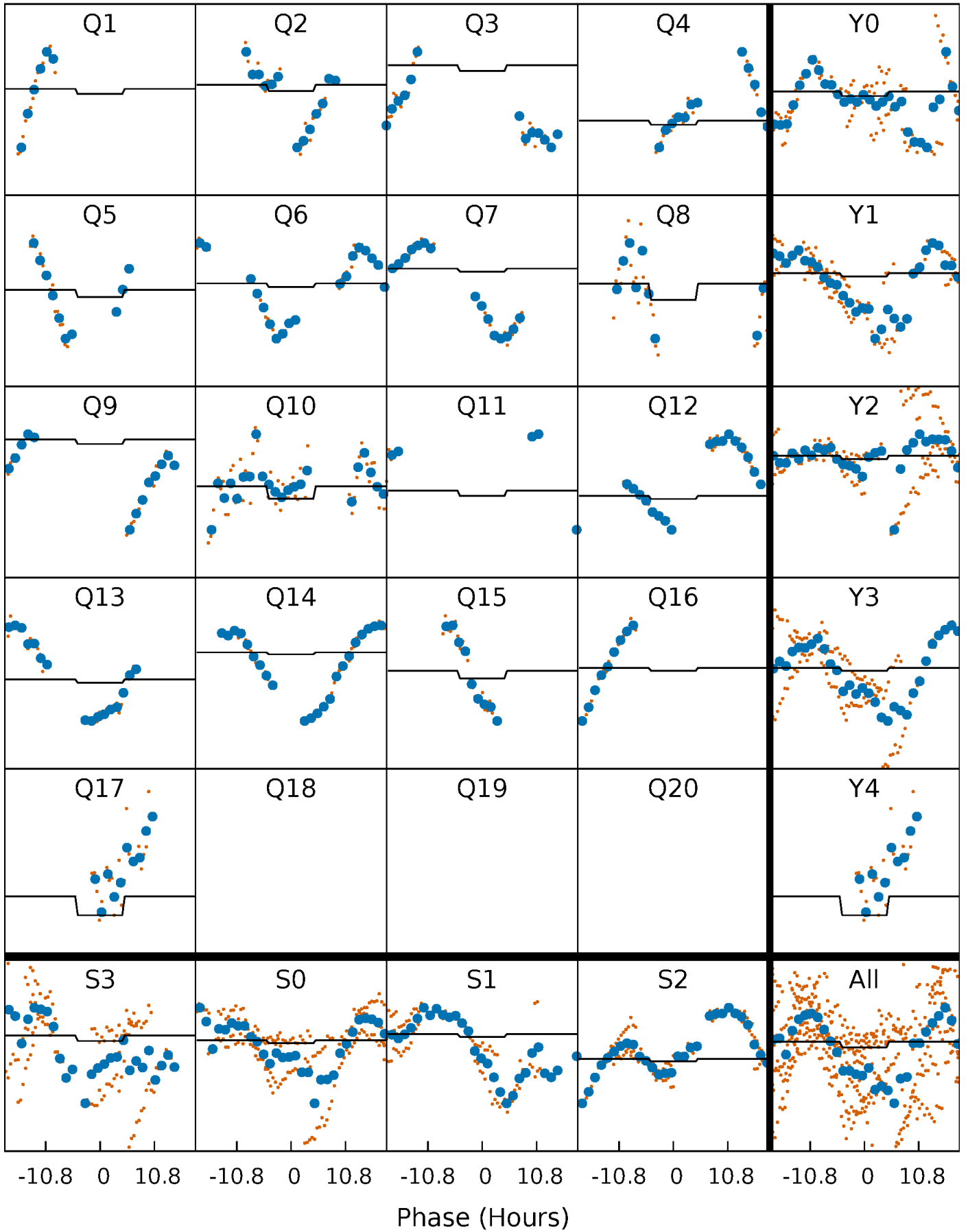
DV Quarter-Phased Transit Curves

TCE 006701459-05 $P = 40.850708$ Days $T_0 = 135.790804$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

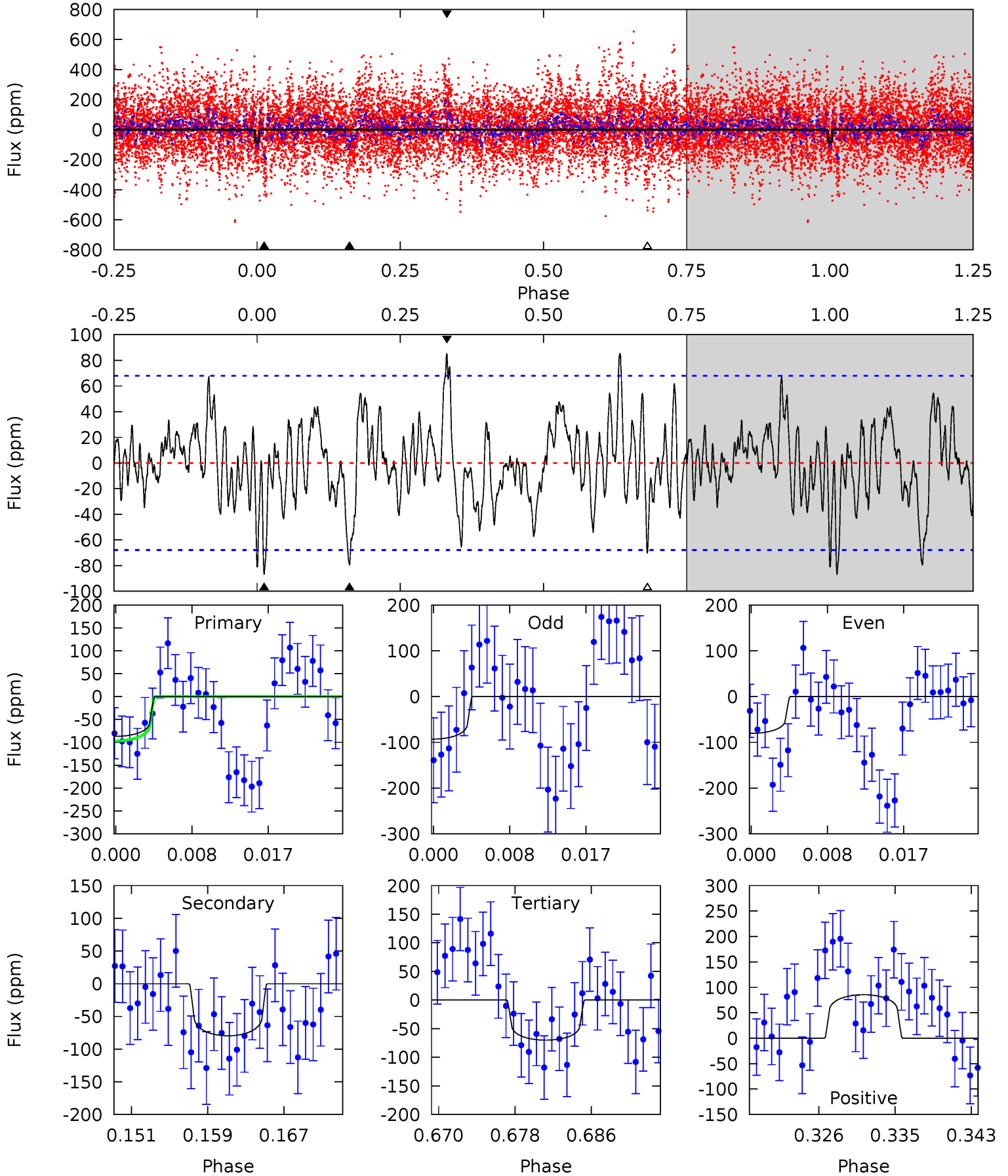
TCE 006701459-05 $P = 40.849078$ Days $T_0 = 136.011319$ (BKJD)



DV Model-Shift Uniqueness Test

006701459-05, P = 40.850708 Days, E = 94.940096 Days

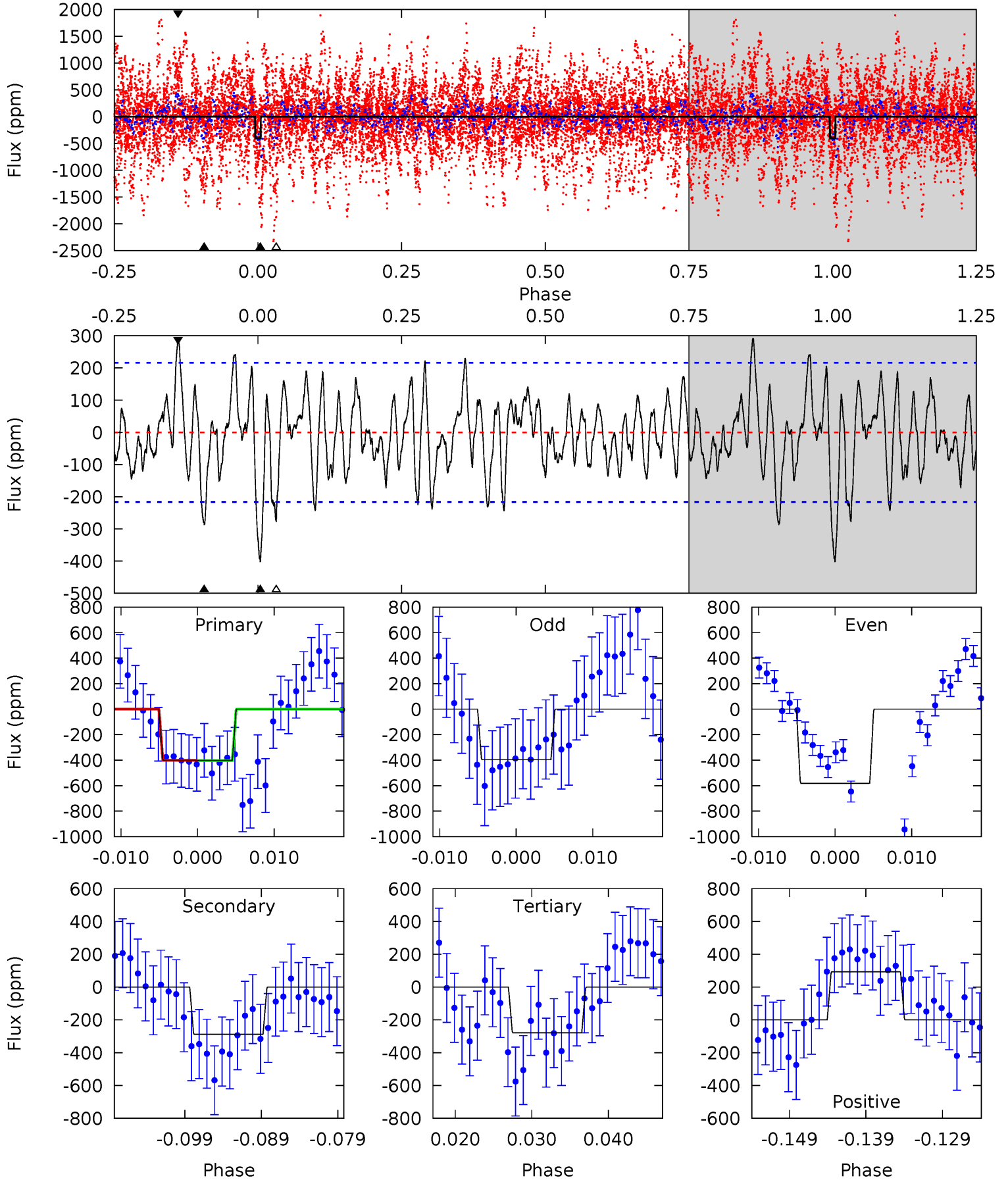
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.48	5.94	5.22	6.37	5.06	2.64	1.98	1.26	0.11	0.72	-0.43	0.47	0.61	0.50	0.76



Alt Model-Shift Uniqueness Test

006701459-05, P = 40.849078 Days, E = 95.162241 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.37	6.70	6.48	6.81	5.03	2.58	2.31	2.90	2.57	0.23	-0.10	2.13	1.58	0.42	0.02



Stellar Parameters For KIC 006701459

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6980^{+167}_{-209}	$3.660^{+0.296}_{-0.056}$	$-0.160^{+0.300}_{-0.250}$	$3.337^{+0.335}_{-1.256}$	$1.858^{+0.178}_{-0.414}$	$0.070^{+0.160}_{-0.017}$
	+2%/-3%	+8%/-2%	+188%/-156%	+10%/-38%	+10%/-22%	+227%/-24%
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 006701459-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-80 ± 13	$5.08^{+4.85}_{-3.33}$	1432^{+74}_{-125}	5298^{+4099}_{-1205}	135^{+996}_{-100}
Alt.	-288 ± 43	$4.61^{+4.39}_{-3.09}$	1439^{+69}_{-119}	7934^{+10649}_{-2375}	621^{+4543}_{-463}

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

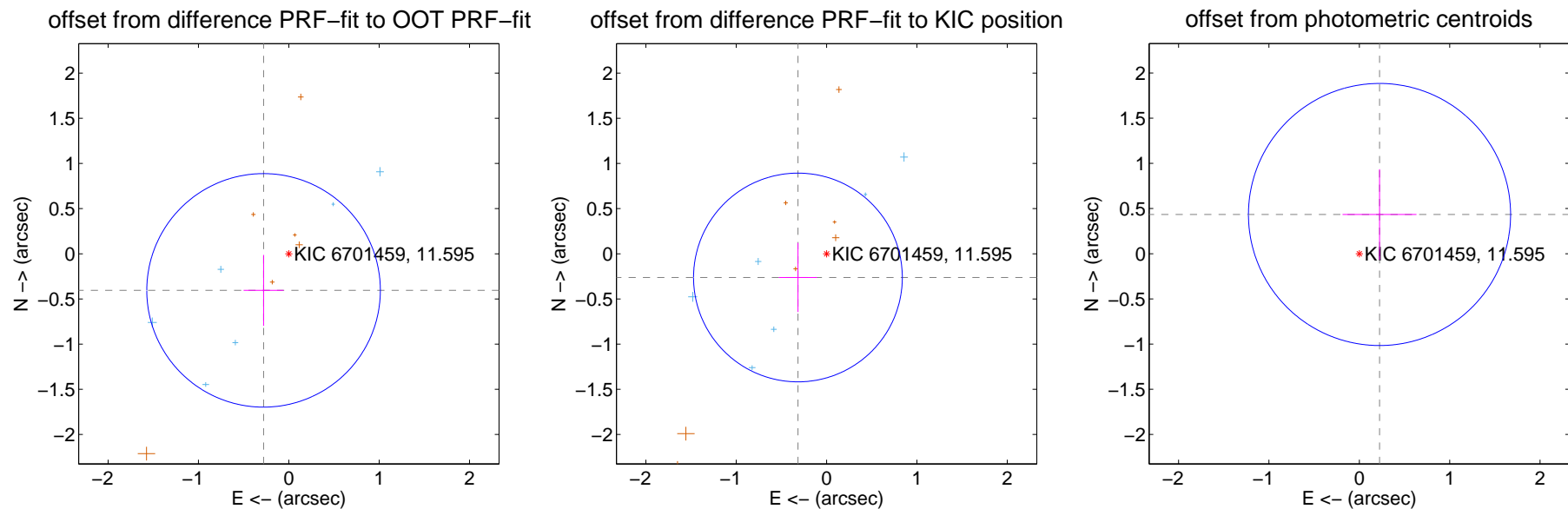
DV Centroid Data

Supplemental centroid analysis for 006701459-05. **Kepler magnitude: 11.60.** Transit SNR 5.38

There are 7 quarters with good PRF difference image offsets

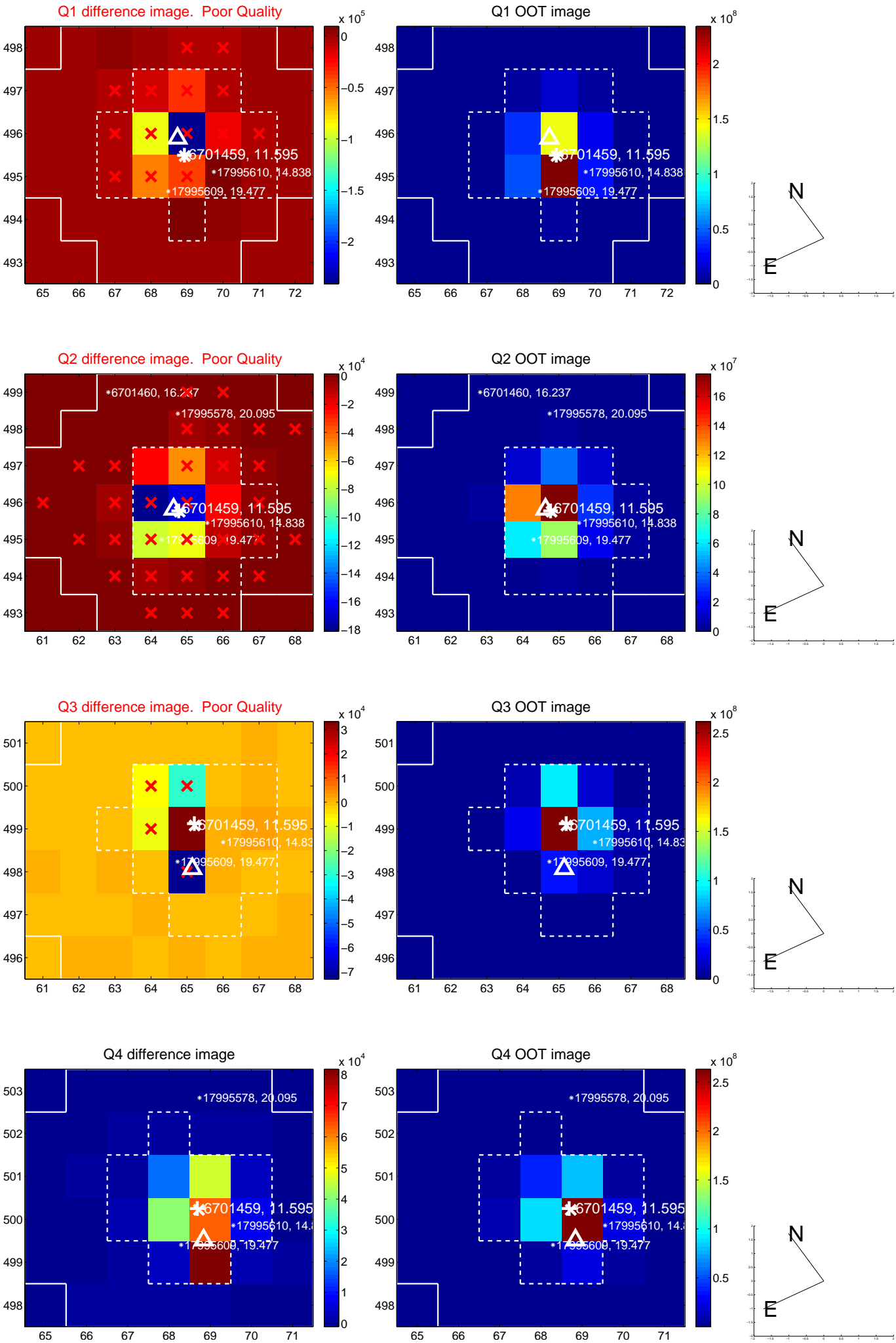
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.492 ± 0.431	1.14	0.279 ± 0.221	-0.405 ± 0.393
PRF-fit source offset from KIC position	0.411 ± 0.385	1.07	0.317 ± 0.212	-0.262 ± 0.383
photometric centroid source offset	0.49 ± 0.48	1.01	-0.22 ± 0.41	0.43 ± 0.50

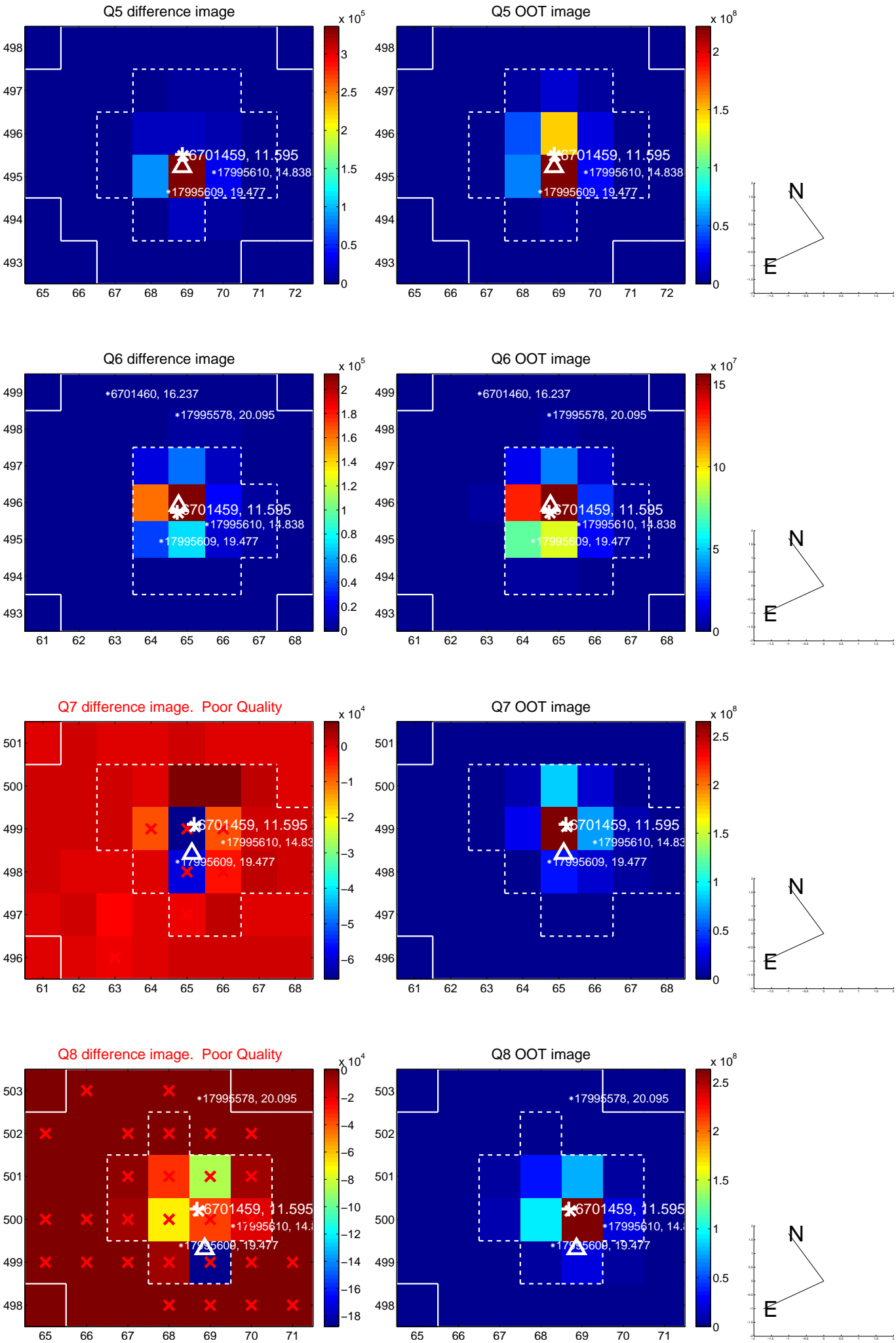


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

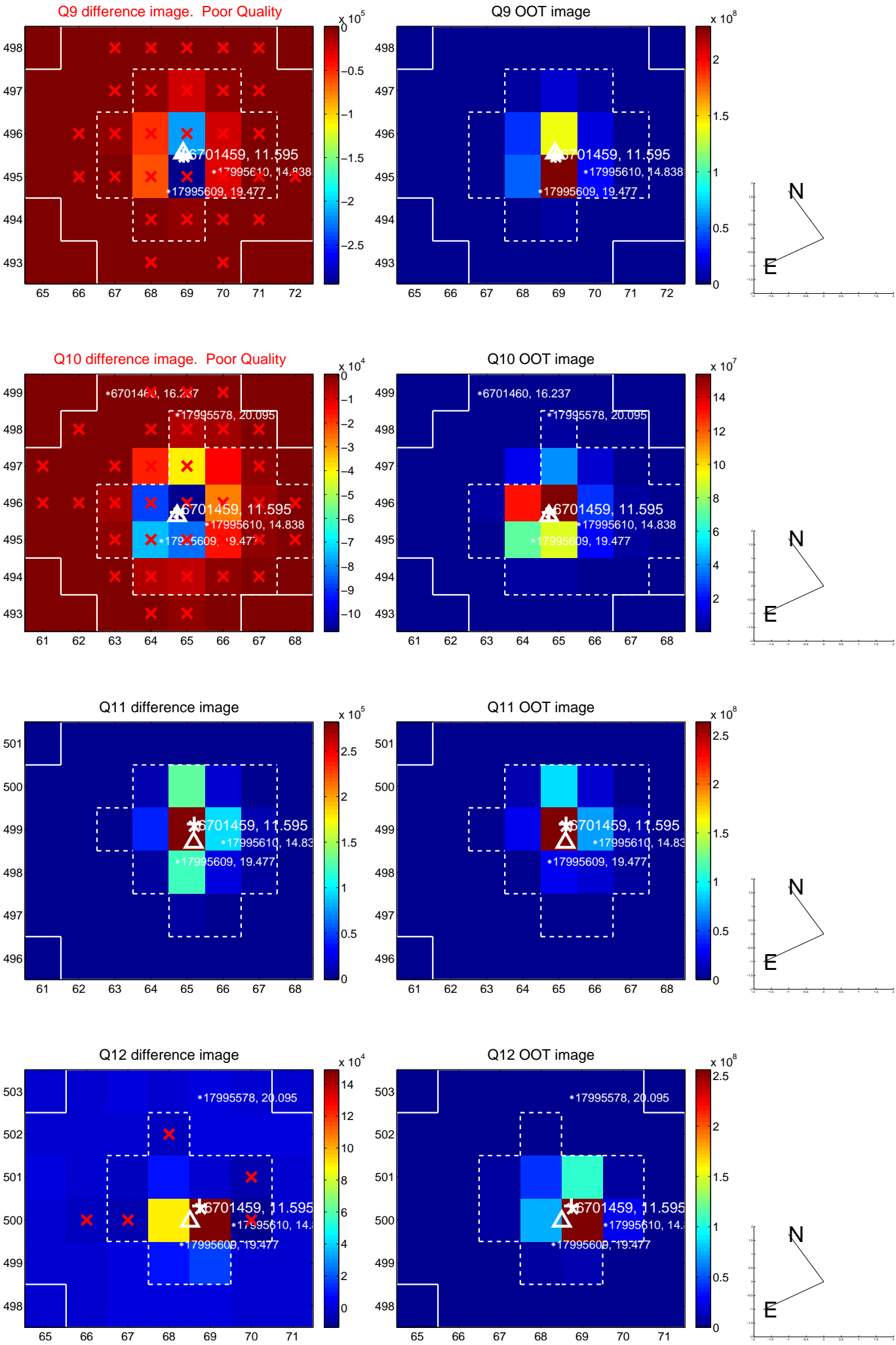
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



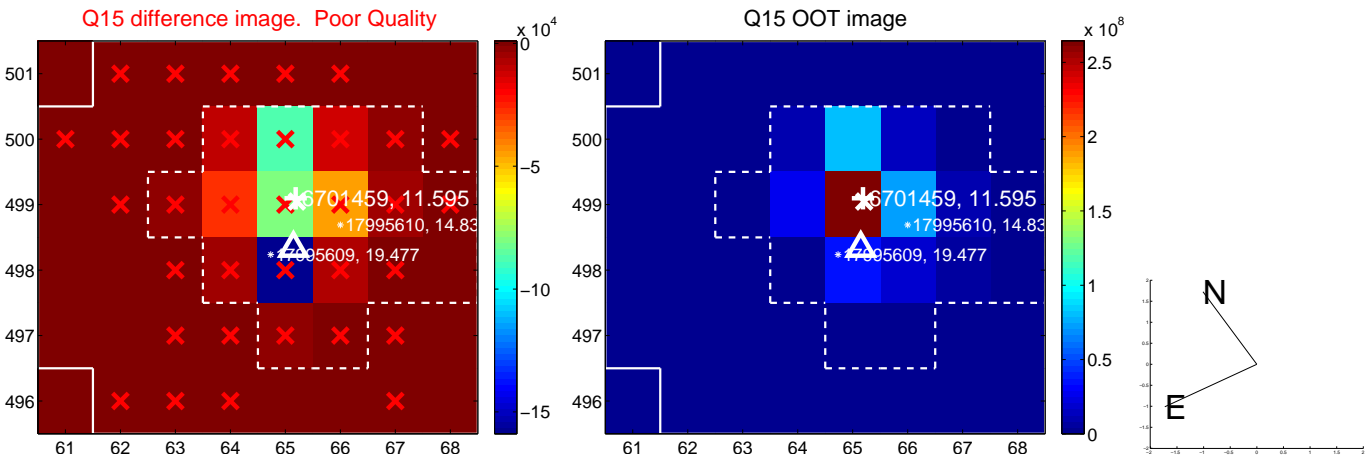
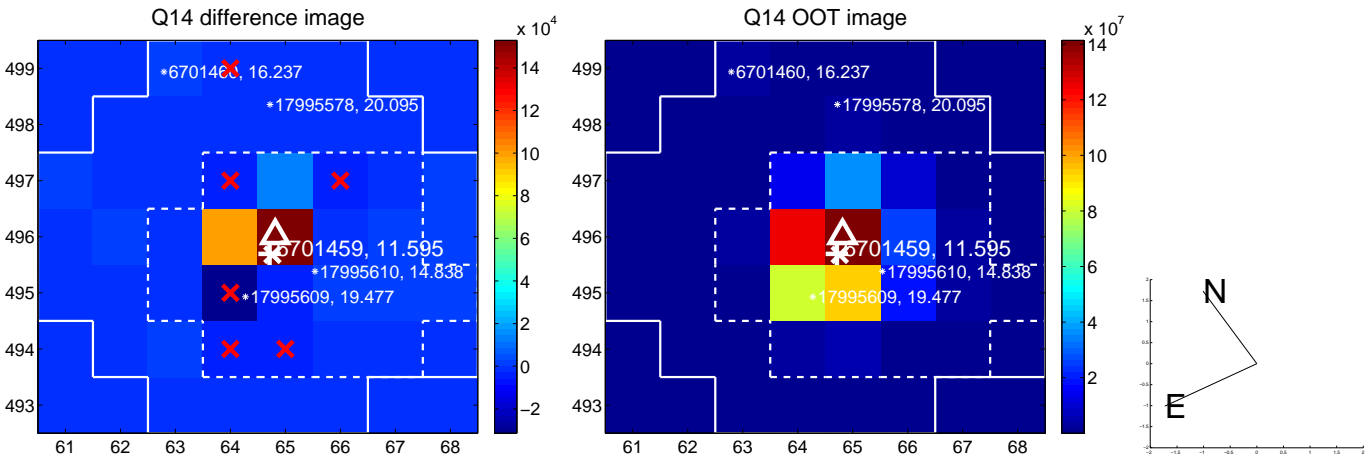
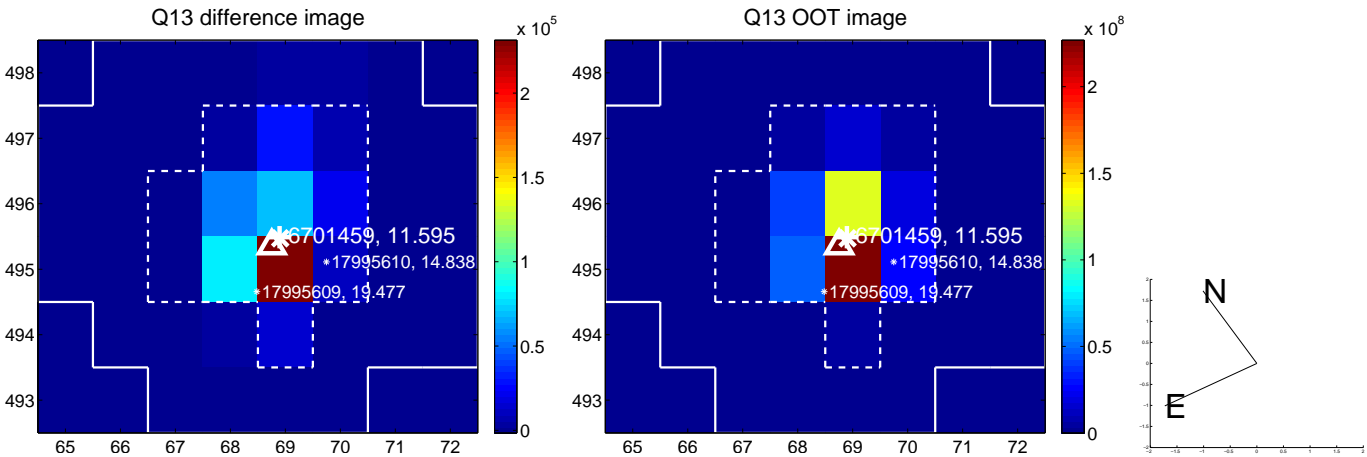
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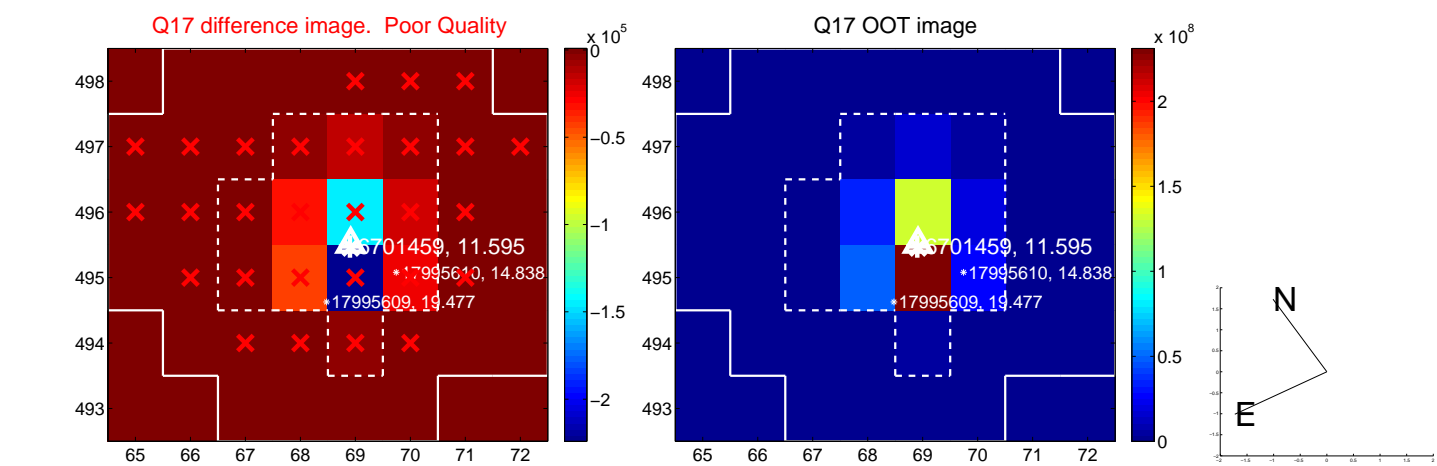
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



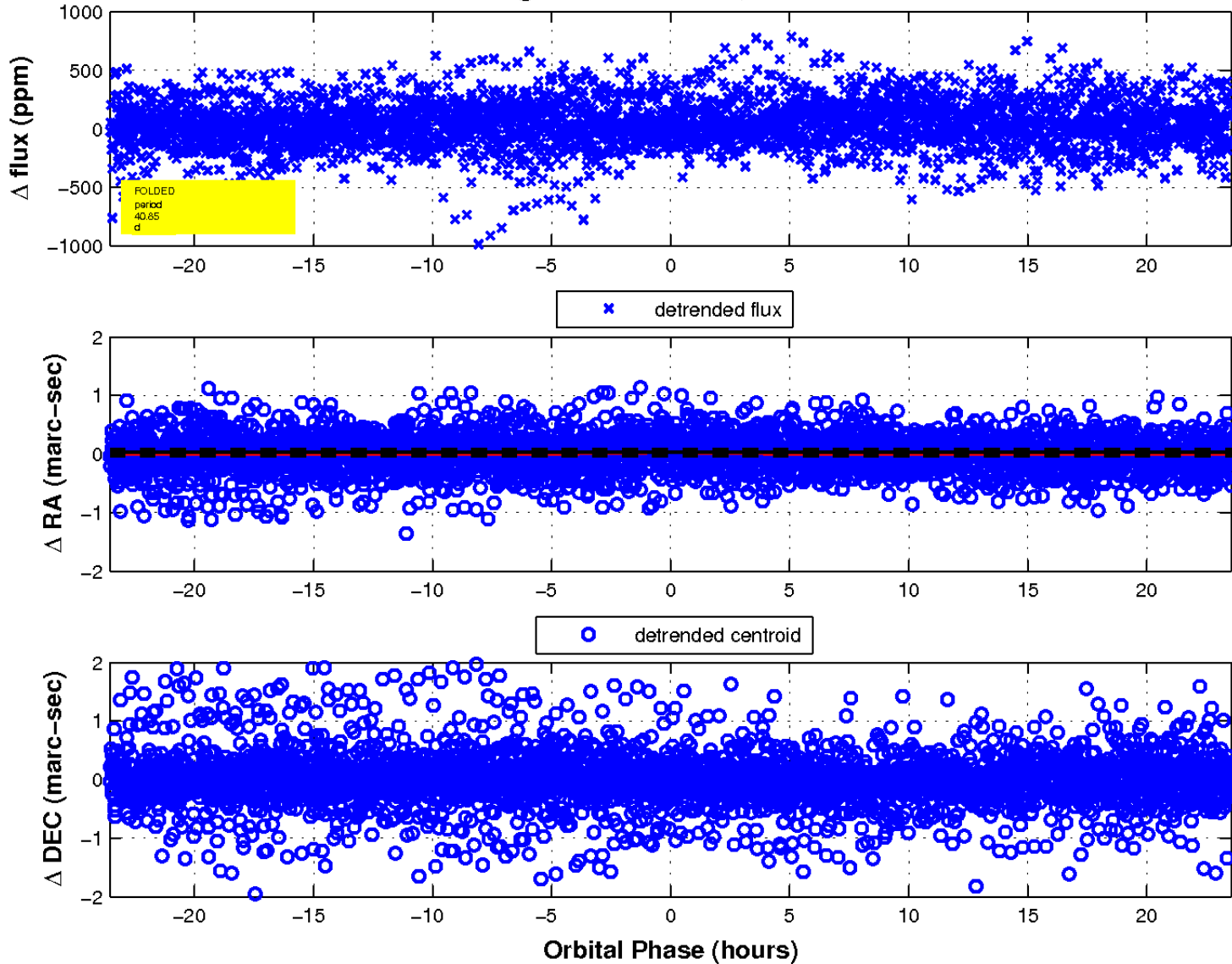
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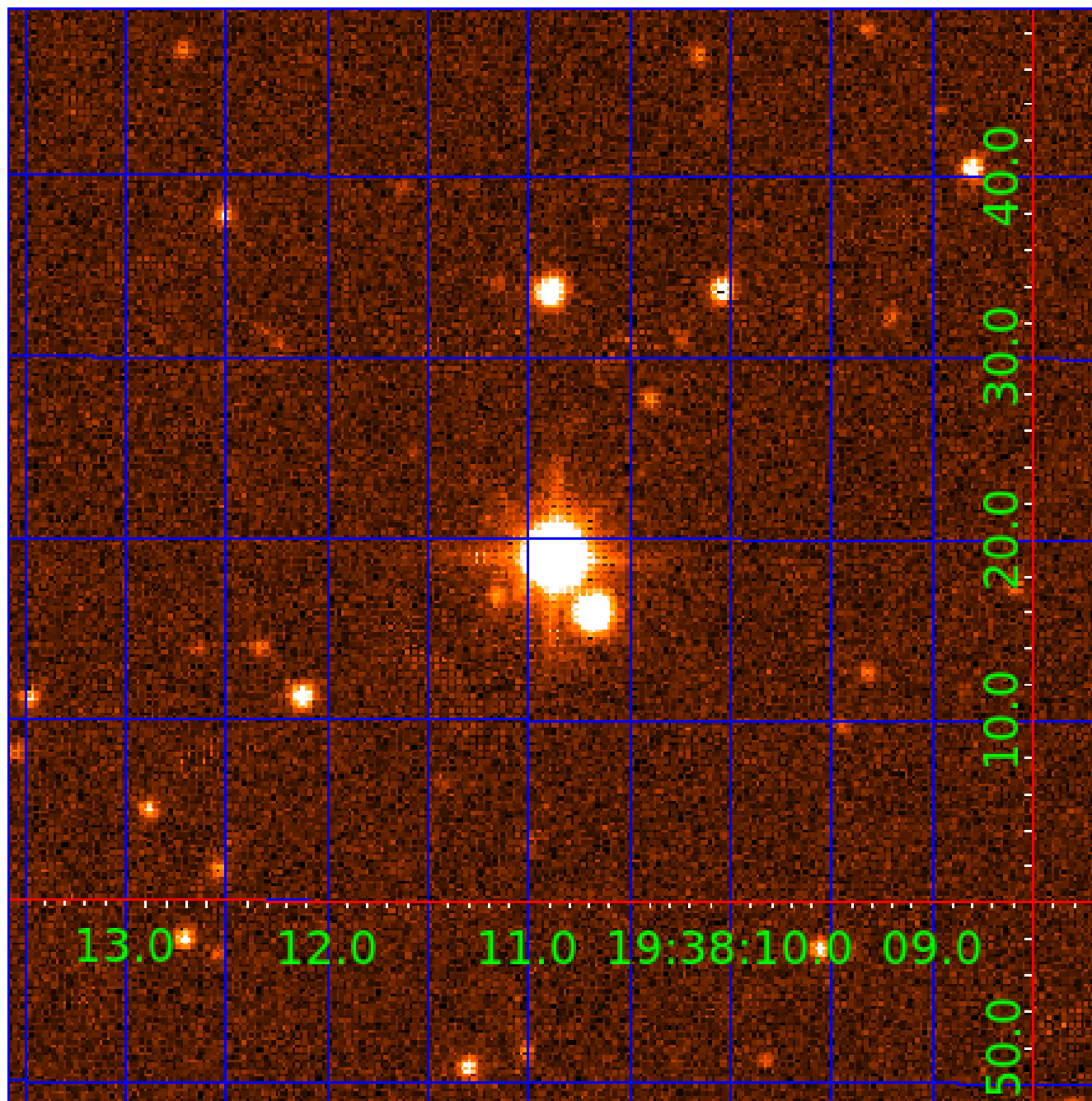


fluxWeightedCentroids, Planet 5 of 8



UKIRT Image

Declination



KIC 006701459

Q1-17 DR25 TCE Parameters

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006701459-03	OBS	No	72.103560	147.694414	292.0	2.970	9.4	8.4	3.34	6980	6.56	136.34
006701459-04	OBS	No	28.217516	159.679499	208.2	10.887	9.0	9.3	3.34	6980	9.39	476.28
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006701459-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
006701459-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006701459-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

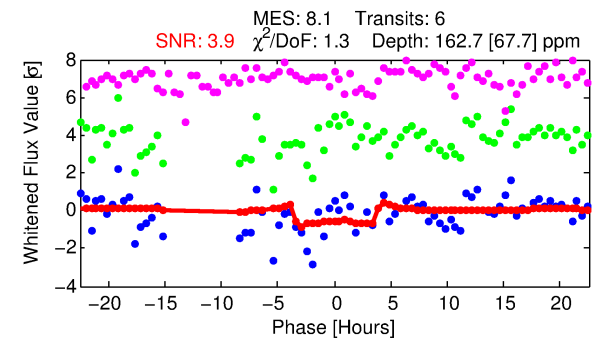
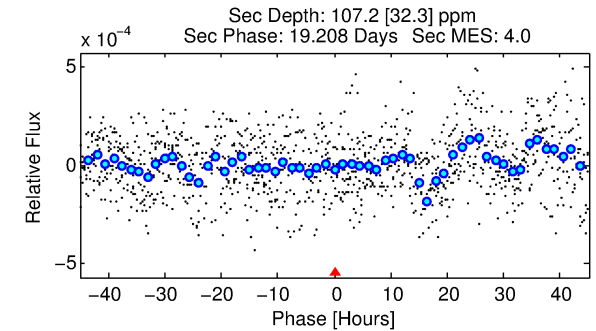
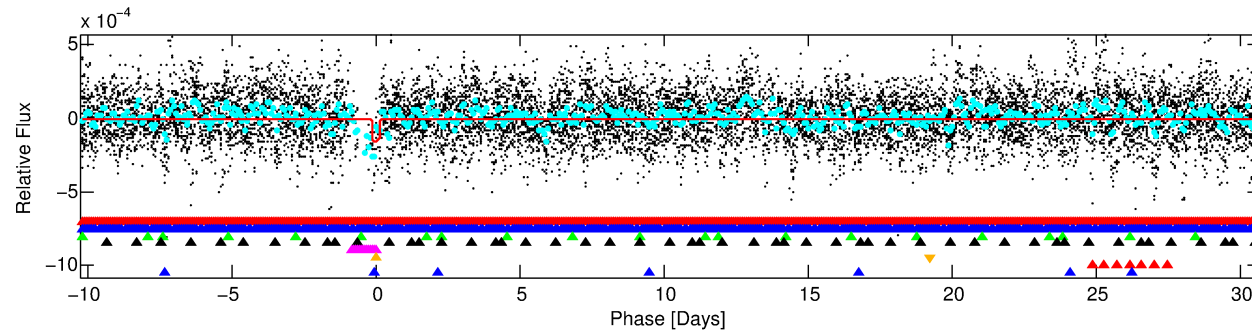
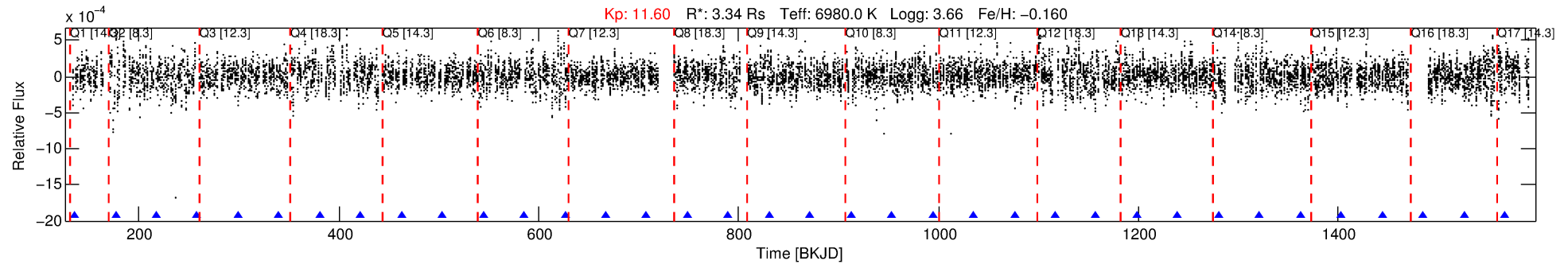
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006701459-06

No Significant Match Found

DV One-Page Summary

KIC: 6701459 Candidate: 6 of 8 Period: 40.875 d

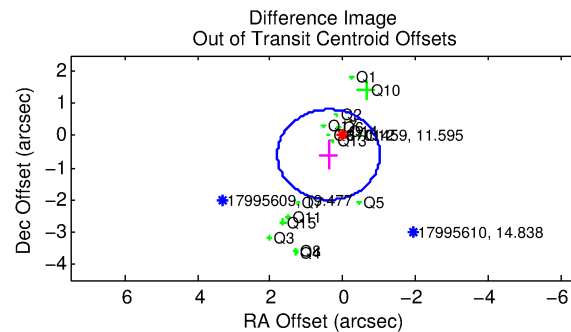
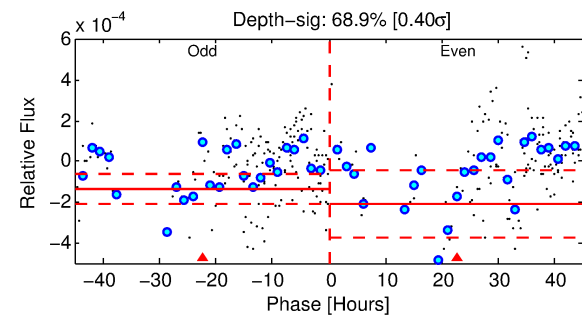
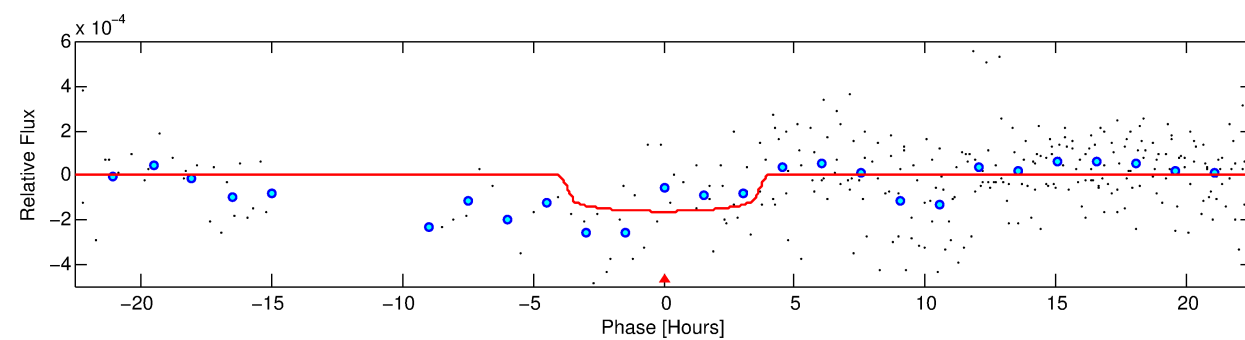


DV Fit Results:

Period = 40.87528 [0.00225] d
Epoch = 135.7919 [0.0591] BKJD
 $R_p/R^* = 0.0119$ [0.0322]
 $a/R^* = 39.68$ [621.49]
 $b = 0.33$ [42.32]
 $S_{\text{eff}} = 290.58$ [154.79]
 $T_{\text{eq}} = 1053$ [140] K
 $R_p = 4.34$ [11.83] R_e
 $a = 0.2855$ [0.0966] AU
 $A_g = 254.55$ [1381.49] [0.18σ]
 $T_{\text{eff}} = 6502$ [8783] K [0.62σ]

DV Diagnostic Results:

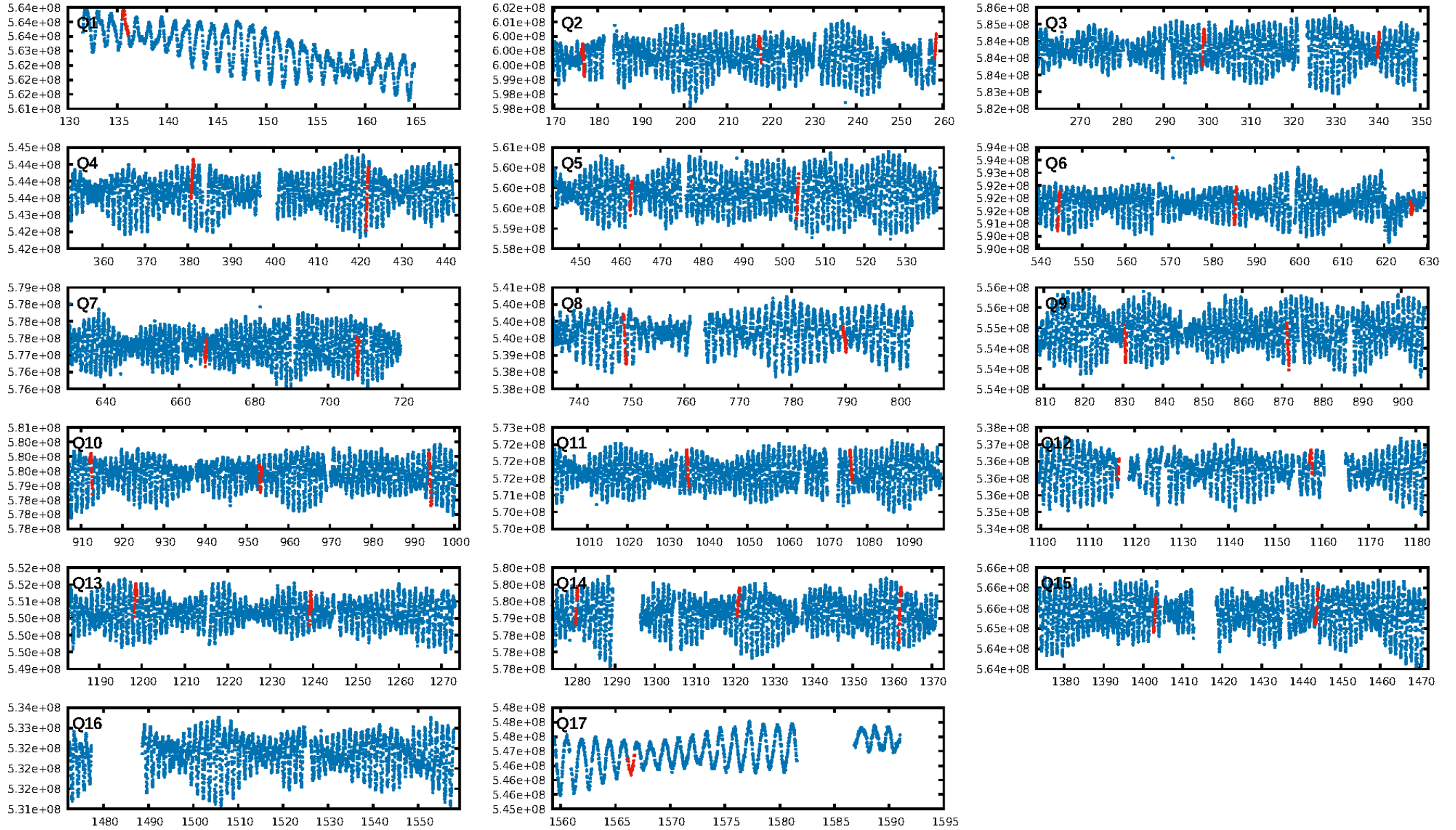
ShortPeriod-sig: 4.3% [0.05σ]
LongPeriod-sig: 100.0% [92.64σ]
ModelChiSquare2-sig: 21.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.50e-08
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -0.8961
Centroid-sig: N/A
Centroid-so: 0.906 arcsec [2.69σ]
OotOffset-rm: 0.713 arcsec [1.52σ]
KicOffset-rm: 0.607 arcsec [1.41σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.44 [7/16]
DiffImageOverlap-fno: 0.00 [0/16]



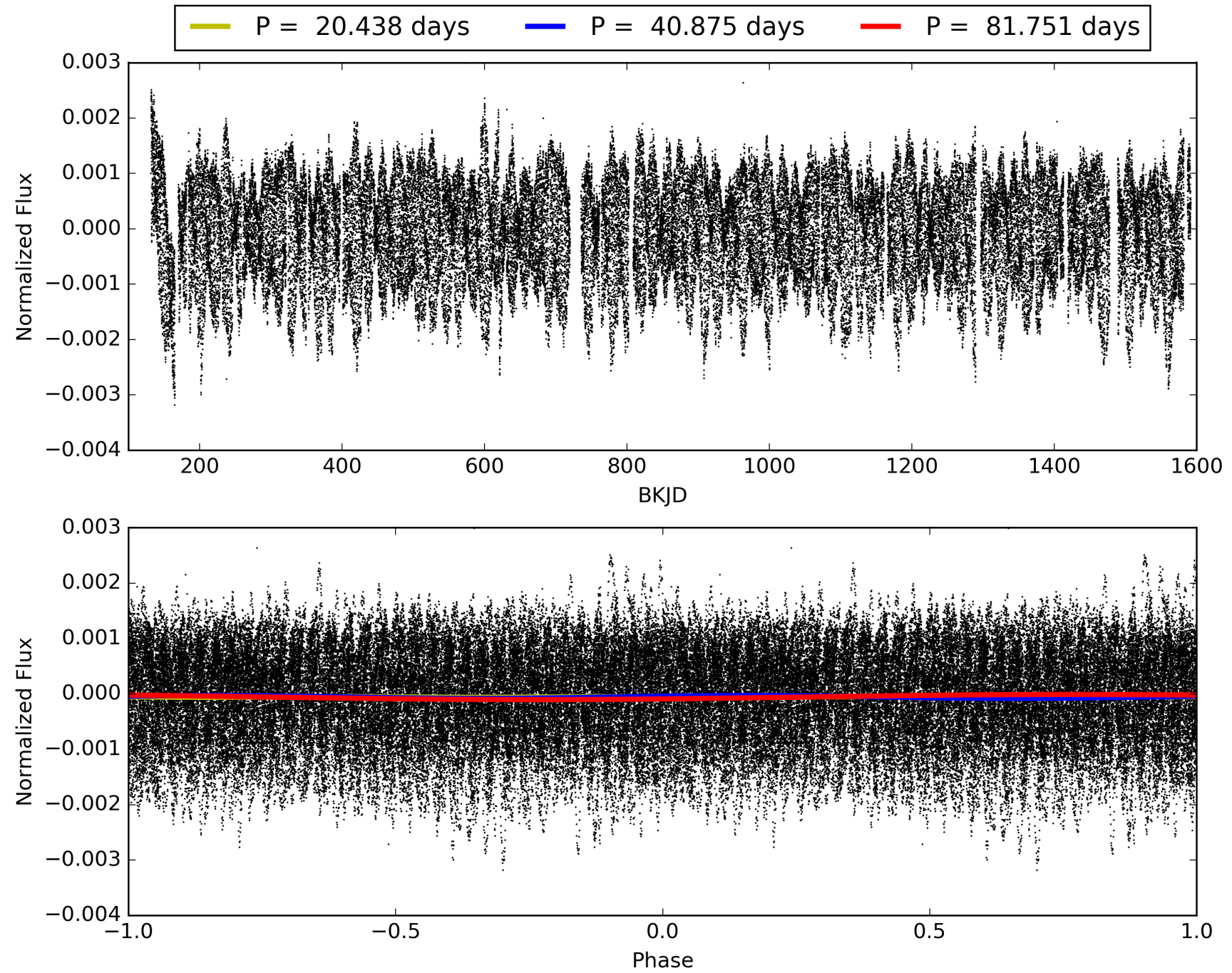
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 01:19:28 Z

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

TCE 006701459-06, PDC Light Curves

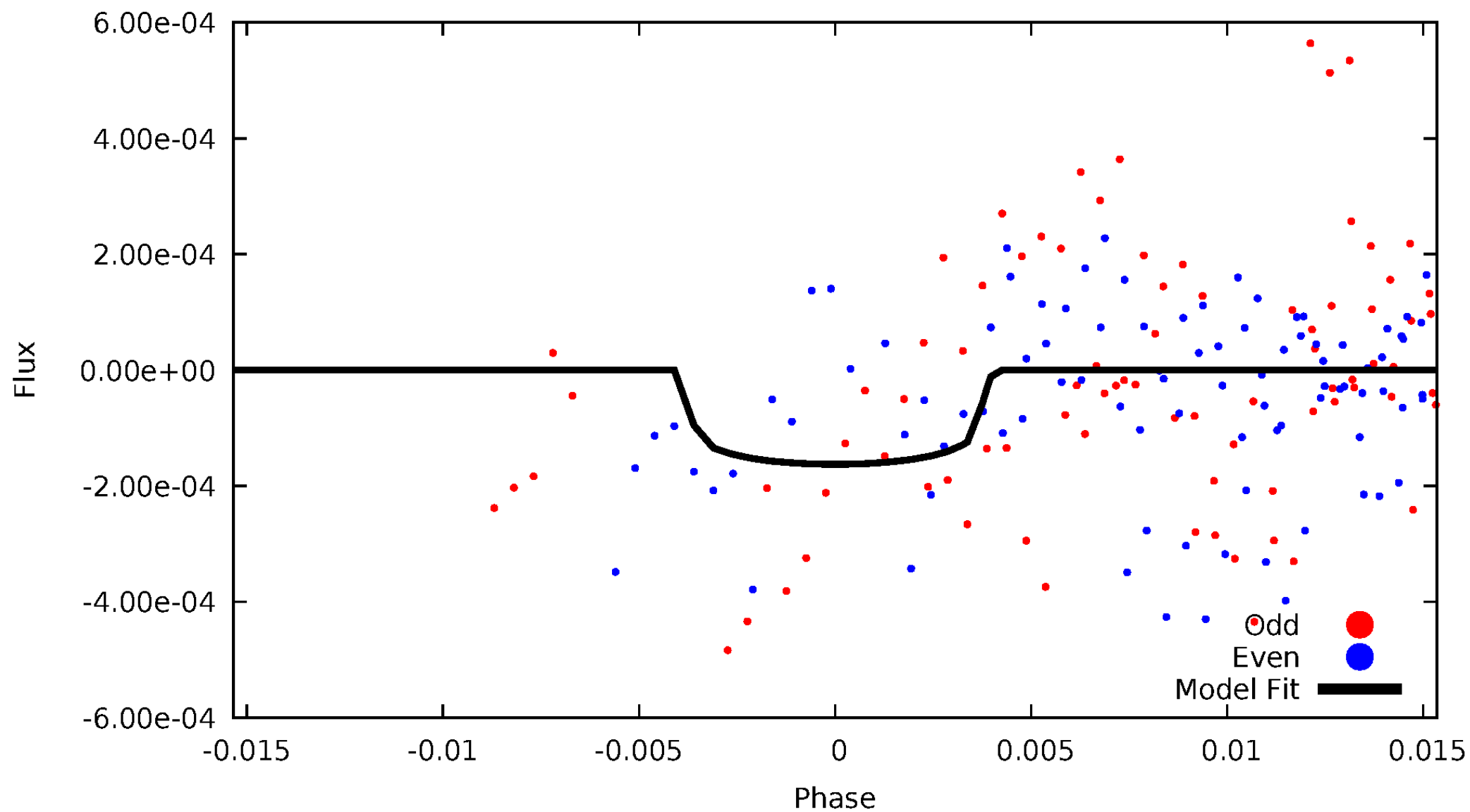


TCE 006701459-06



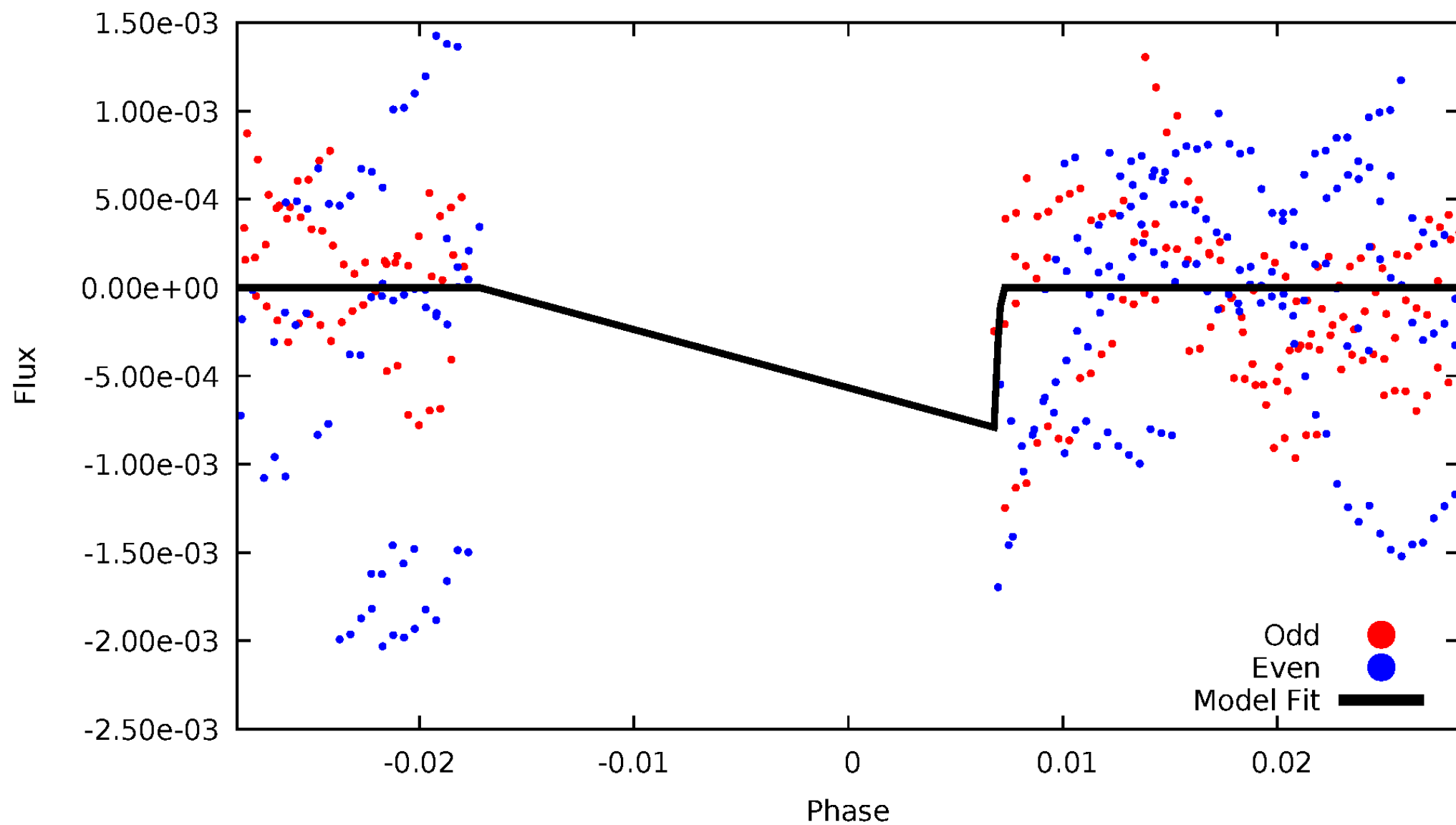
DV Odd/Even

TCE 006701459-06



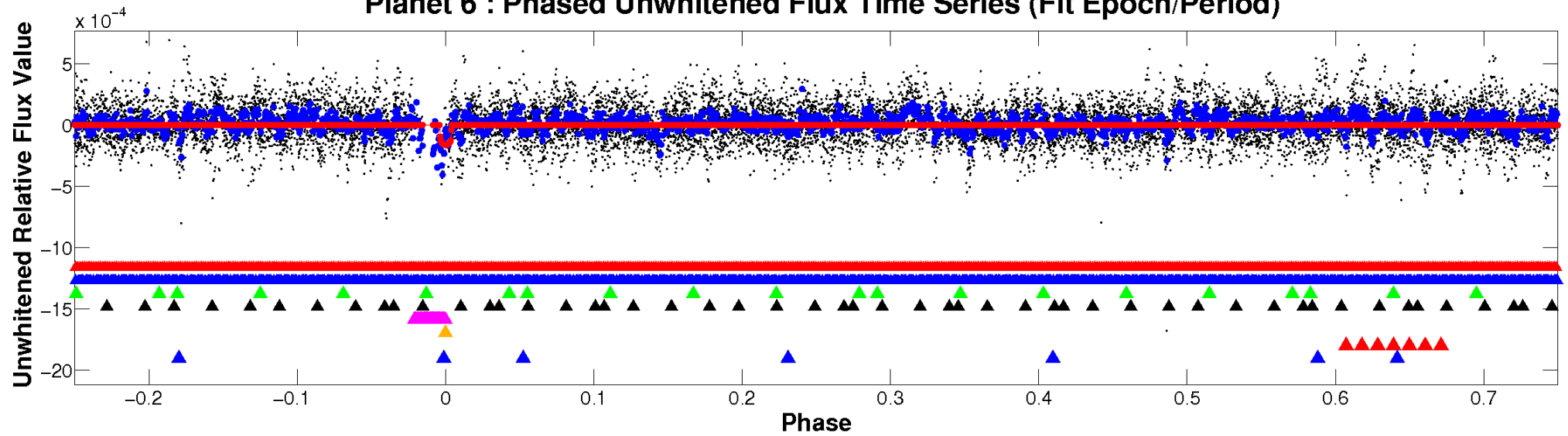
ALT Odd/Even

TCE 006701459-06

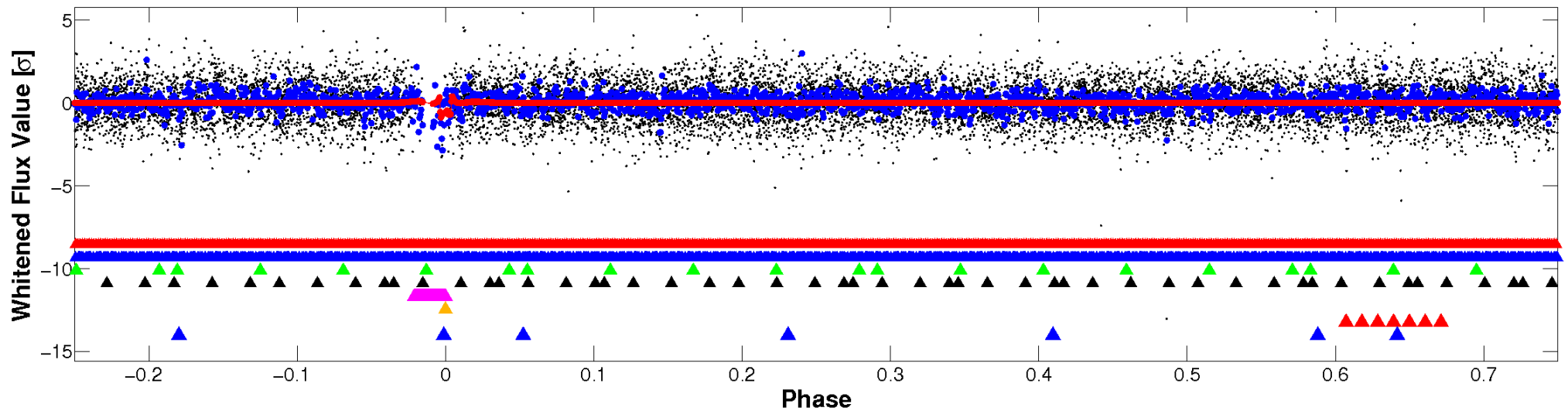


Non-Whitened Vs. Whitened Light Curve

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

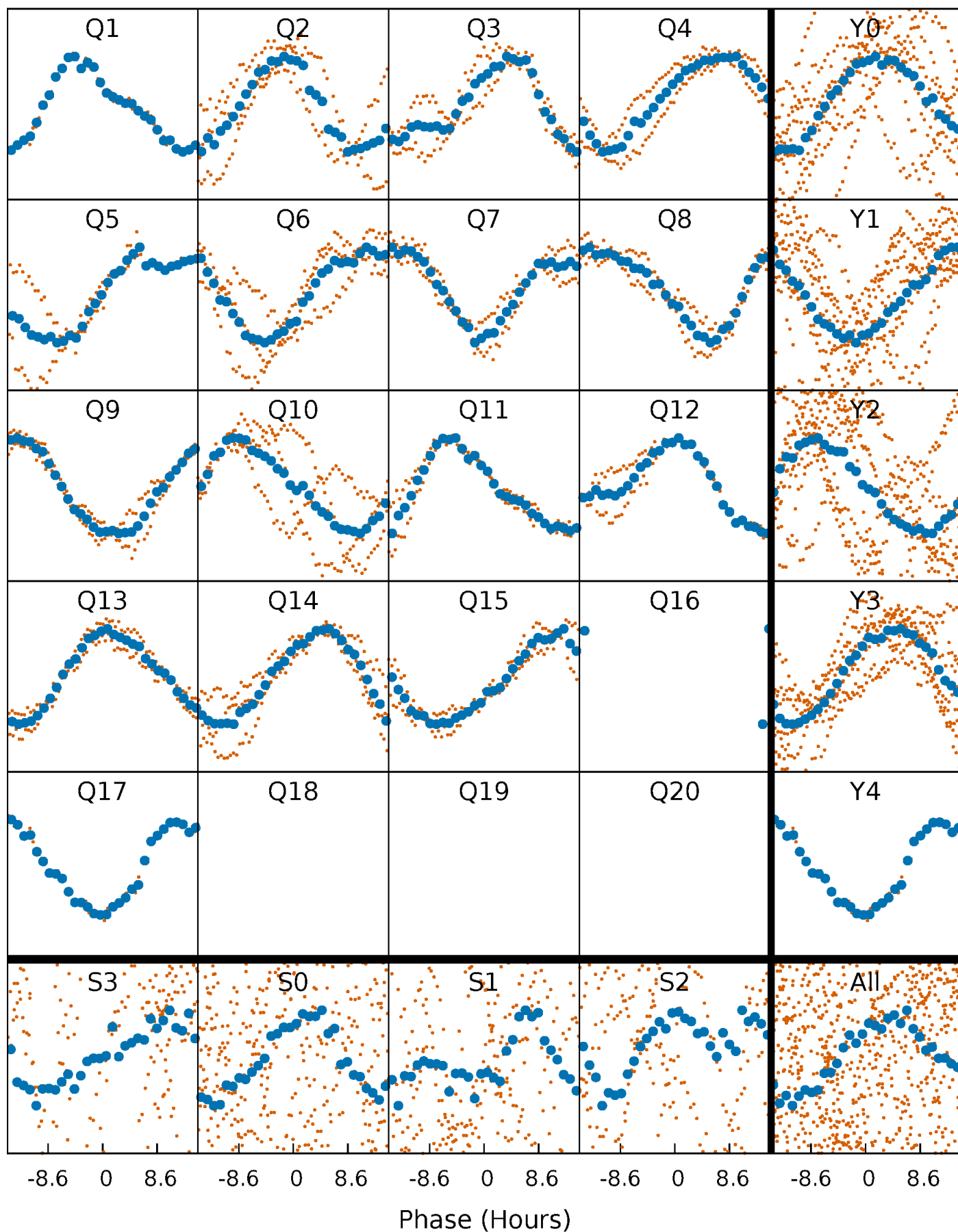


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



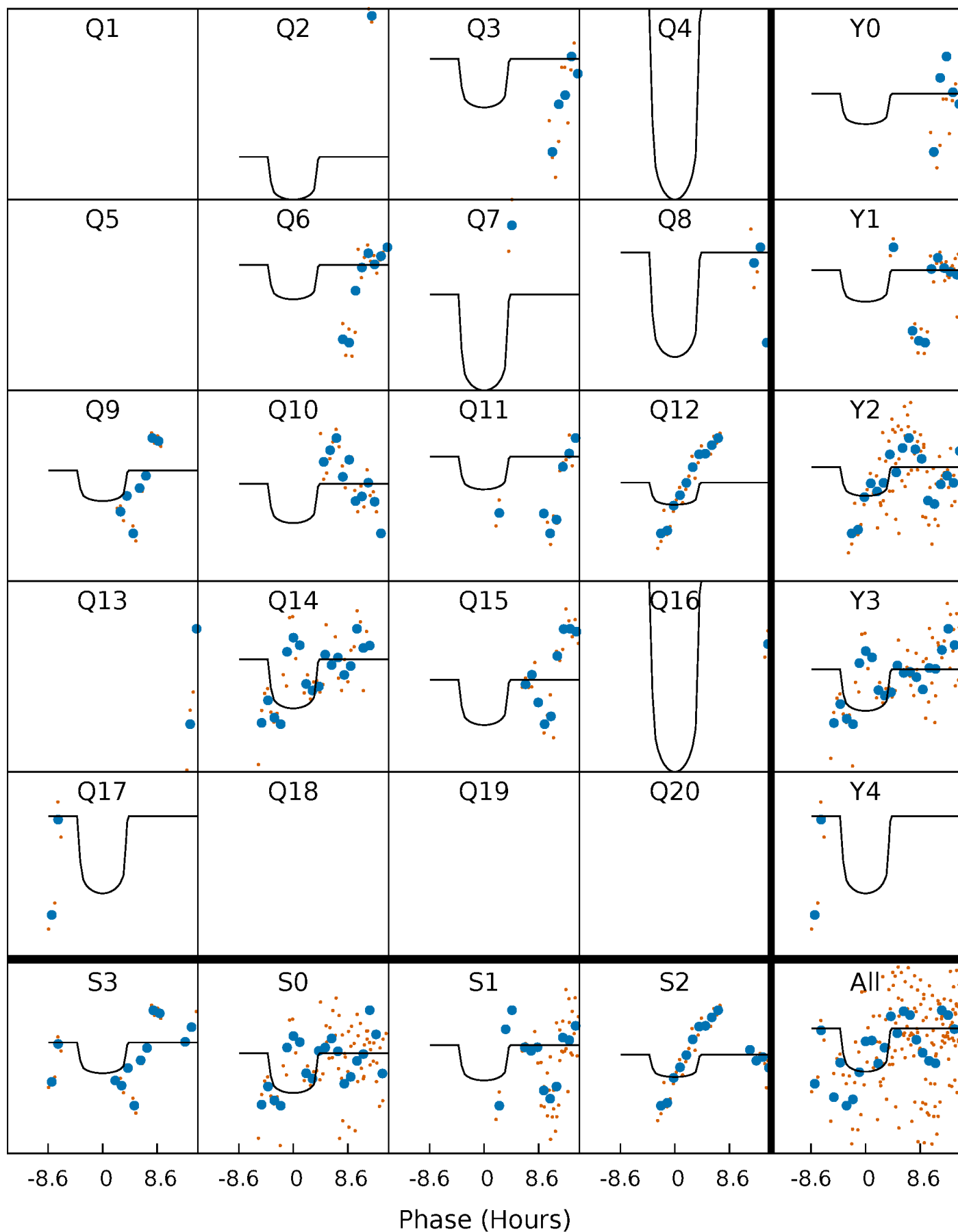
PDC Quarter-Phased Transit Curves

TCE 006701459-06 P= 40.875277 Days $T_0=135.791873$ (BKJD)



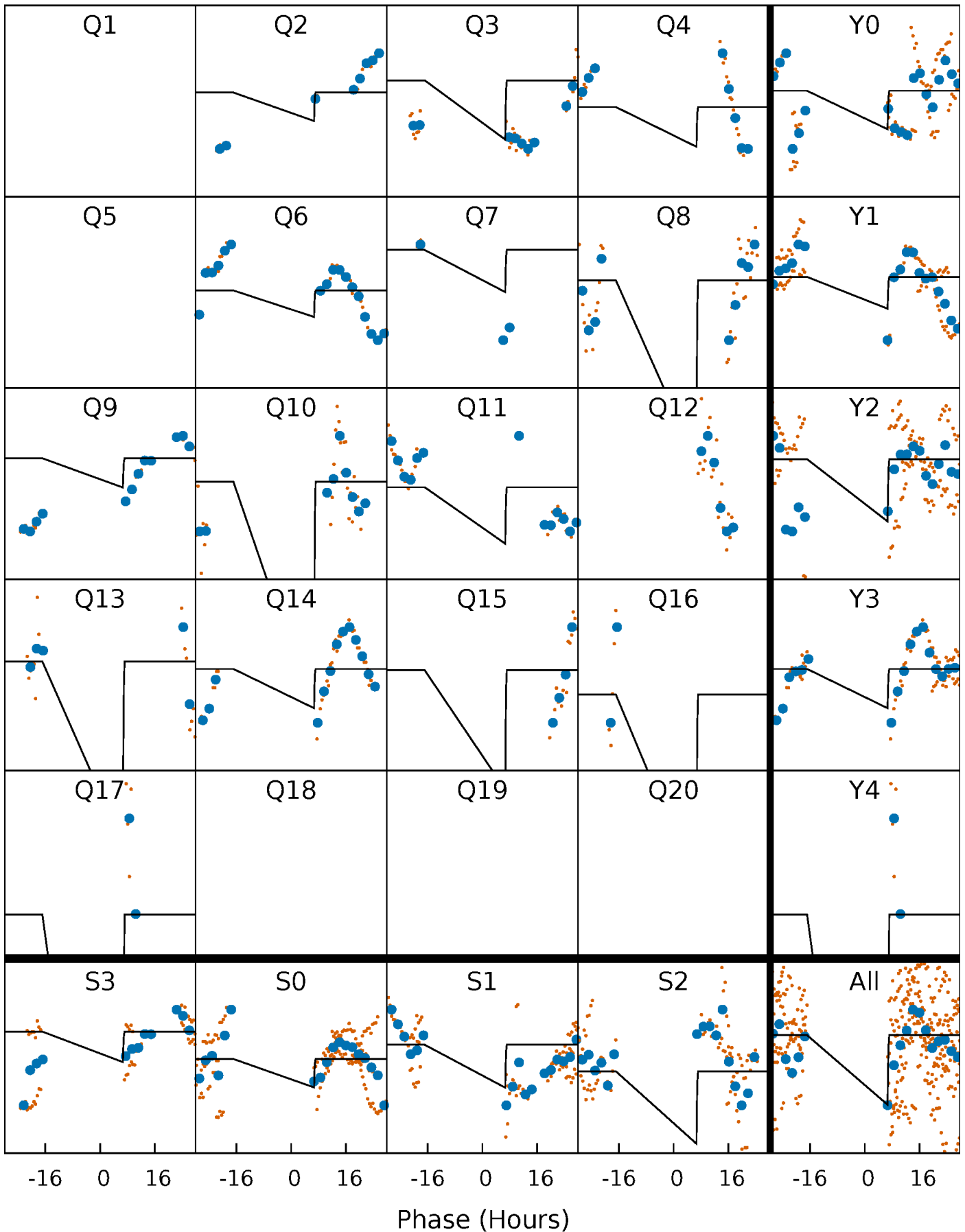
DV Quarter-Phased Transit Curves

TCE 006701459-06 P= 40.875277 Days $T_0=135.791873$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

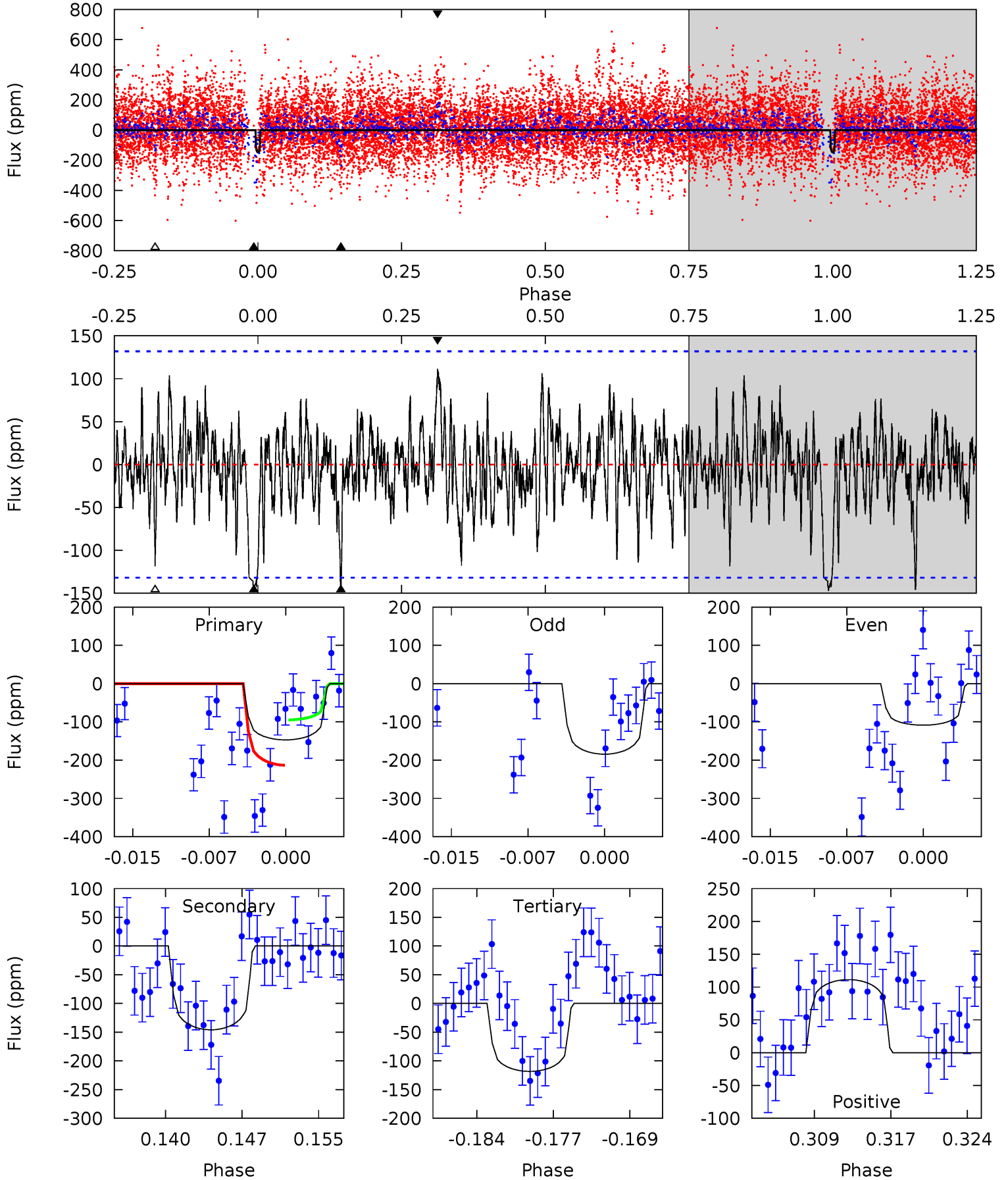
TCE 006701459-06 P= 40.849078 Days $T_0=136.035718$ (BKJD)



DV Model-Shift Uniqueness Test

006701459-06, P = 40.875277 Days, E = 94.916596 Days

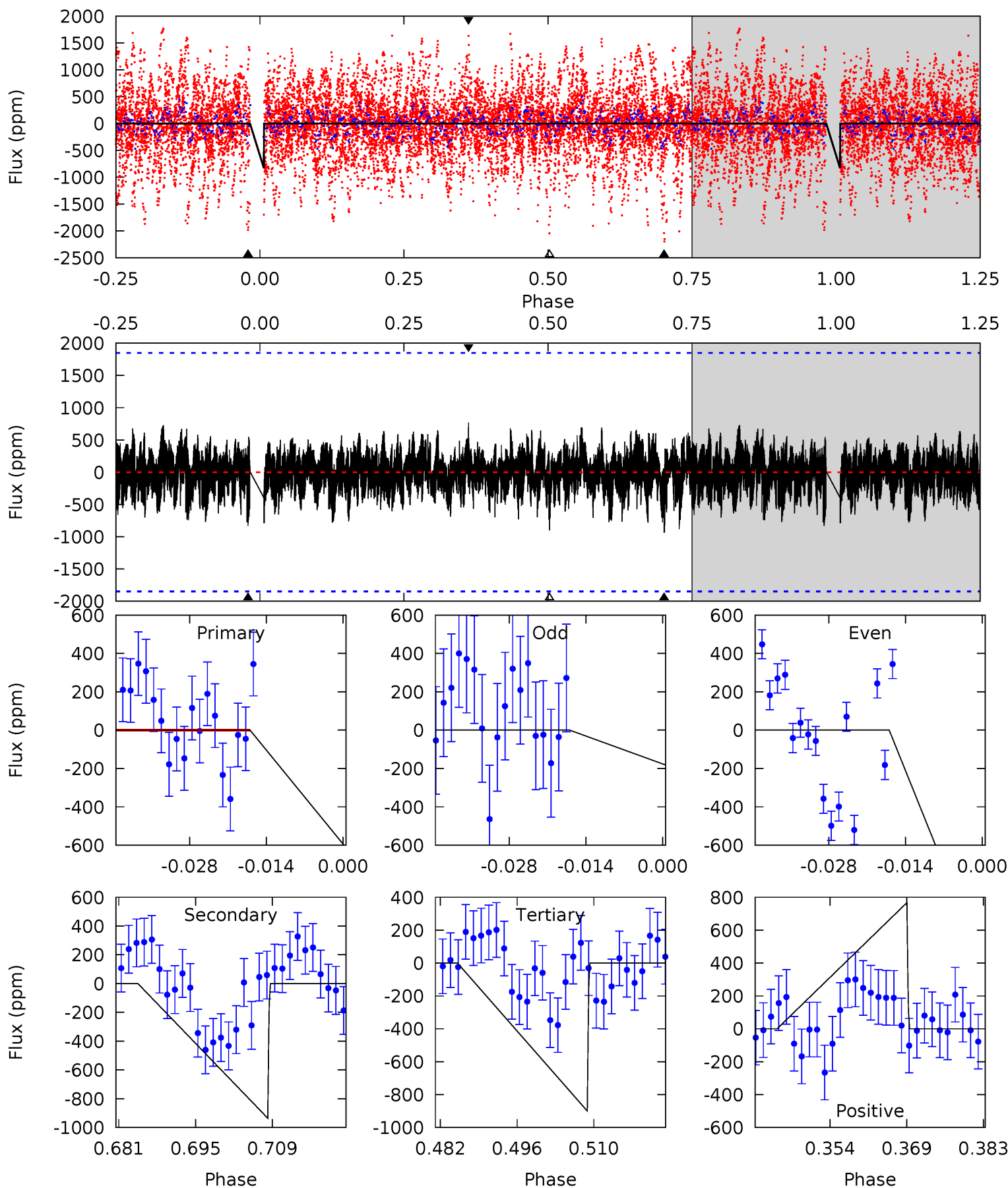
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.67	5.63	4.56	4.29	5.08	2.68	1.43	1.11	1.38	1.06	1.33	1.46	1.05	0.43	2.17



Alt Model-Shift Uniqueness Test

006701459-06, P = 40.849078 Days, E = 95.186640 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.22	2.51	2.41	2.06	4.96	2.45	0.60	-0.19	0.17	0.10	0.45	1.95	0	0.45	0



Stellar Parameters For KIC 006701459

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6980^{+167}_{-209}	$3.660^{+0.296}_{-0.056}$	$-0.160^{+0.300}_{-0.250}$	$3.337^{+0.335}_{-1.256}$	$1.858^{+0.178}_{-0.414}$	$0.070^{+0.160}_{-0.017}$
	+2%/-3%	+8%/-2%	+188%/-156%	+10%/-38%	+10%/-22%	+227%/-24%
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 006701459-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-146 ± 26	$8.83^{+9.33}_{-6.01}$	1432^{+73}_{-125}	4774^{+4110}_{-1108}	85^{+729}_{-64}
Alt.	-936 ± 373	$14.30^{+10.59}_{-8.82}$	1434^{+75}_{-131}	5757^{+4152}_{-1257}	200^{+1130}_{-143}

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

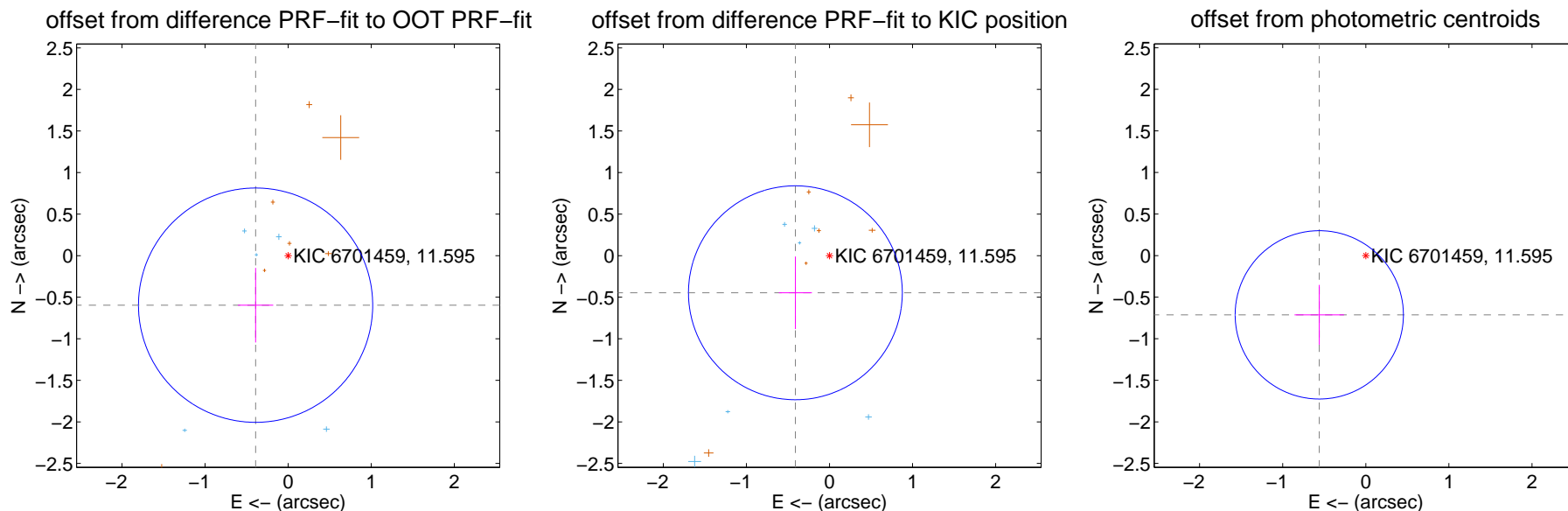
DV Centroid Data

Supplemental centroid analysis for 006701459-06. **Kepler magnitude: 11.60.** Transit SNR 3.87

There are 7 quarters with good PRF difference image offsets

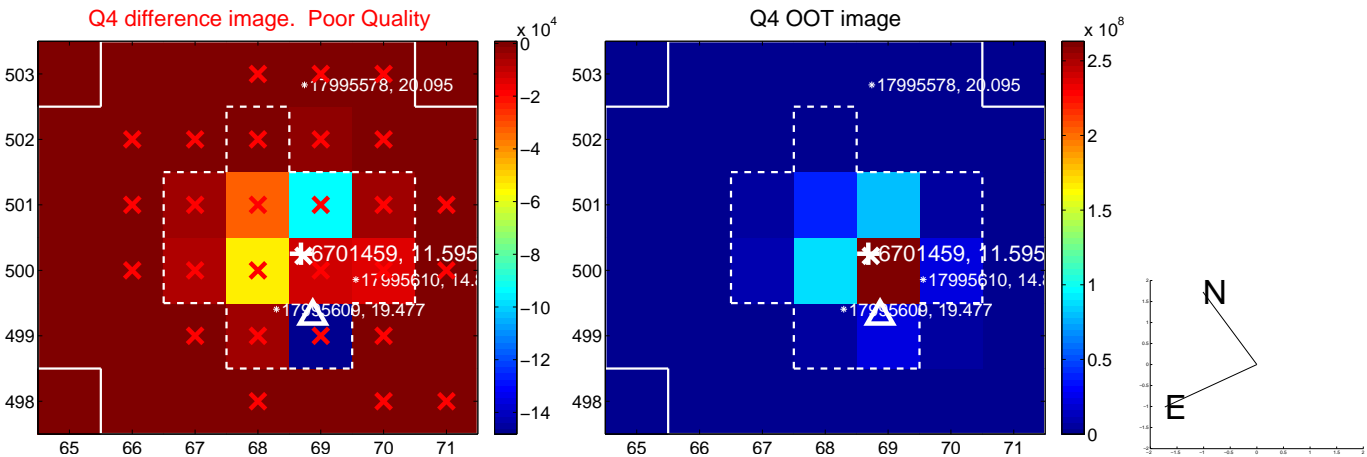
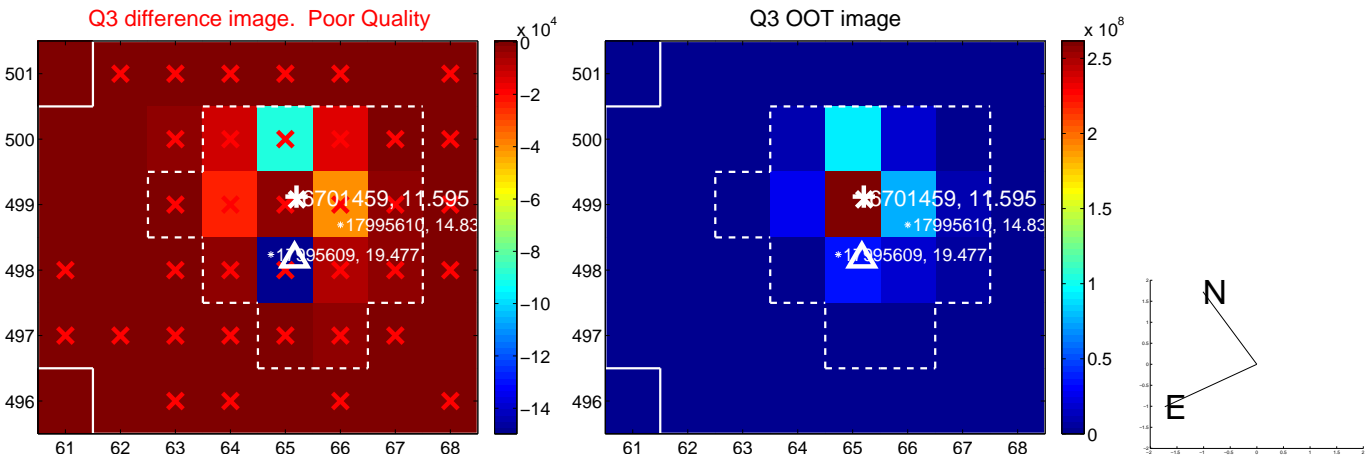
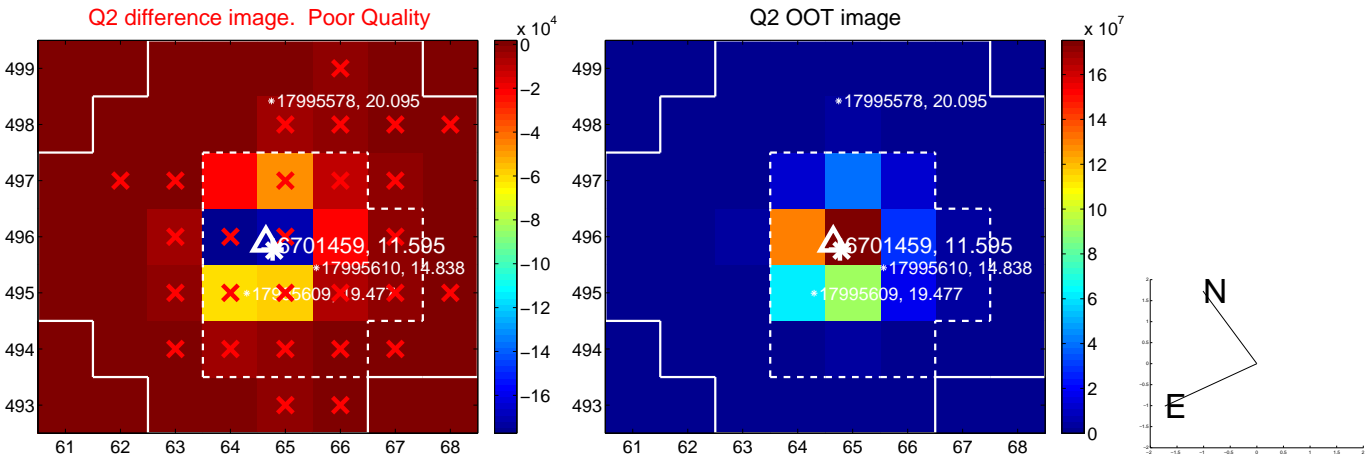
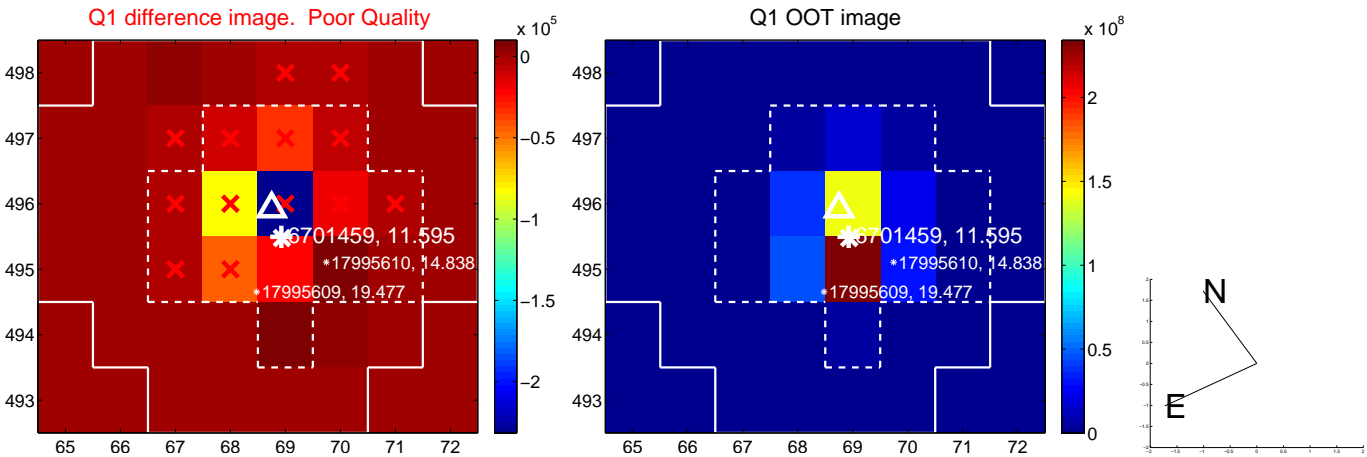
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.713 ± 0.470	1.52	0.392 ± 0.213	-0.596 ± 0.449
PRF-fit source offset from KIC position	0.607 ± 0.429	1.41	0.410 ± 0.199	-0.447 ± 0.436
photometric centroid source offset	0.91 ± 0.34	2.69	0.56 ± 0.30	-0.71 ± 0.36

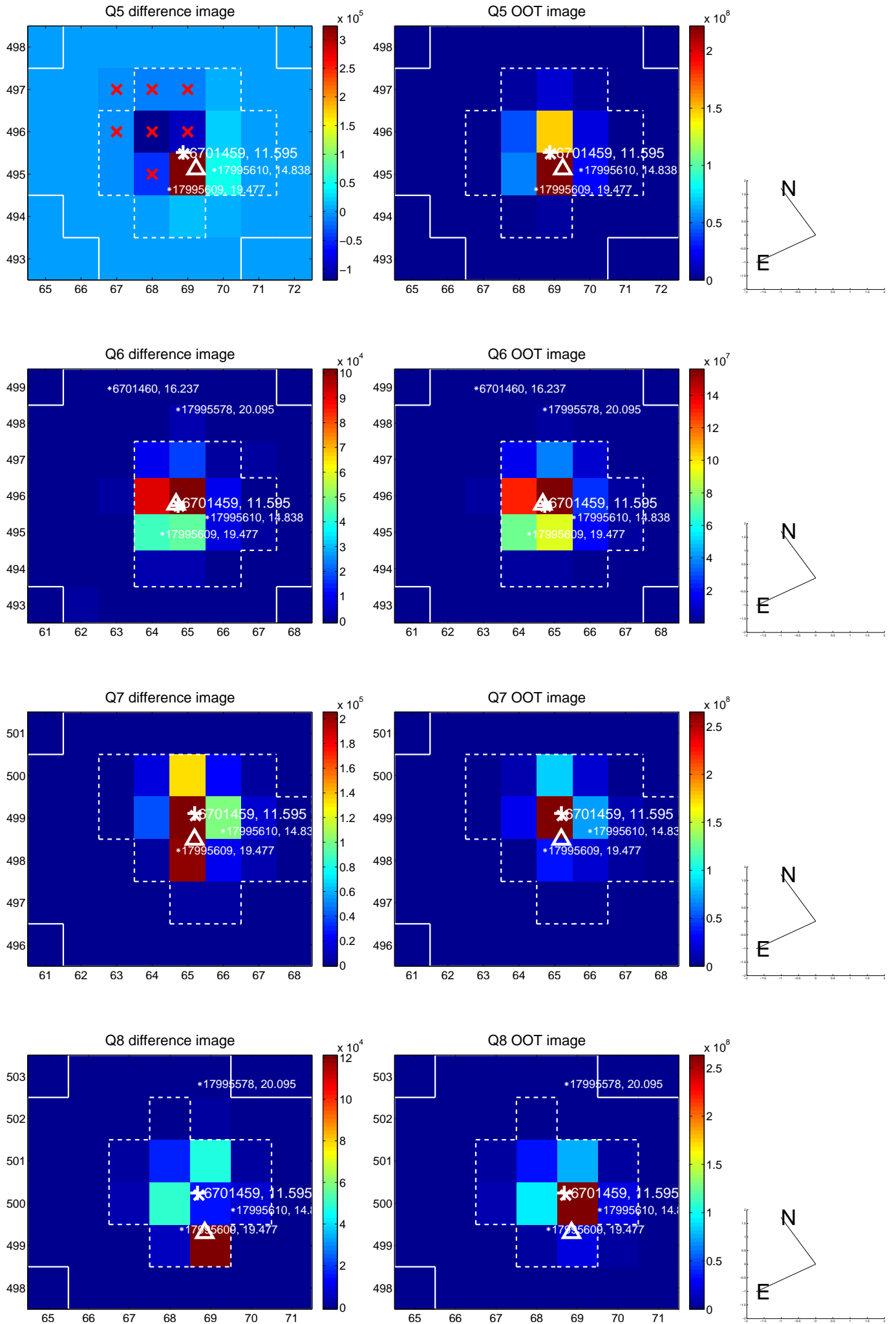


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

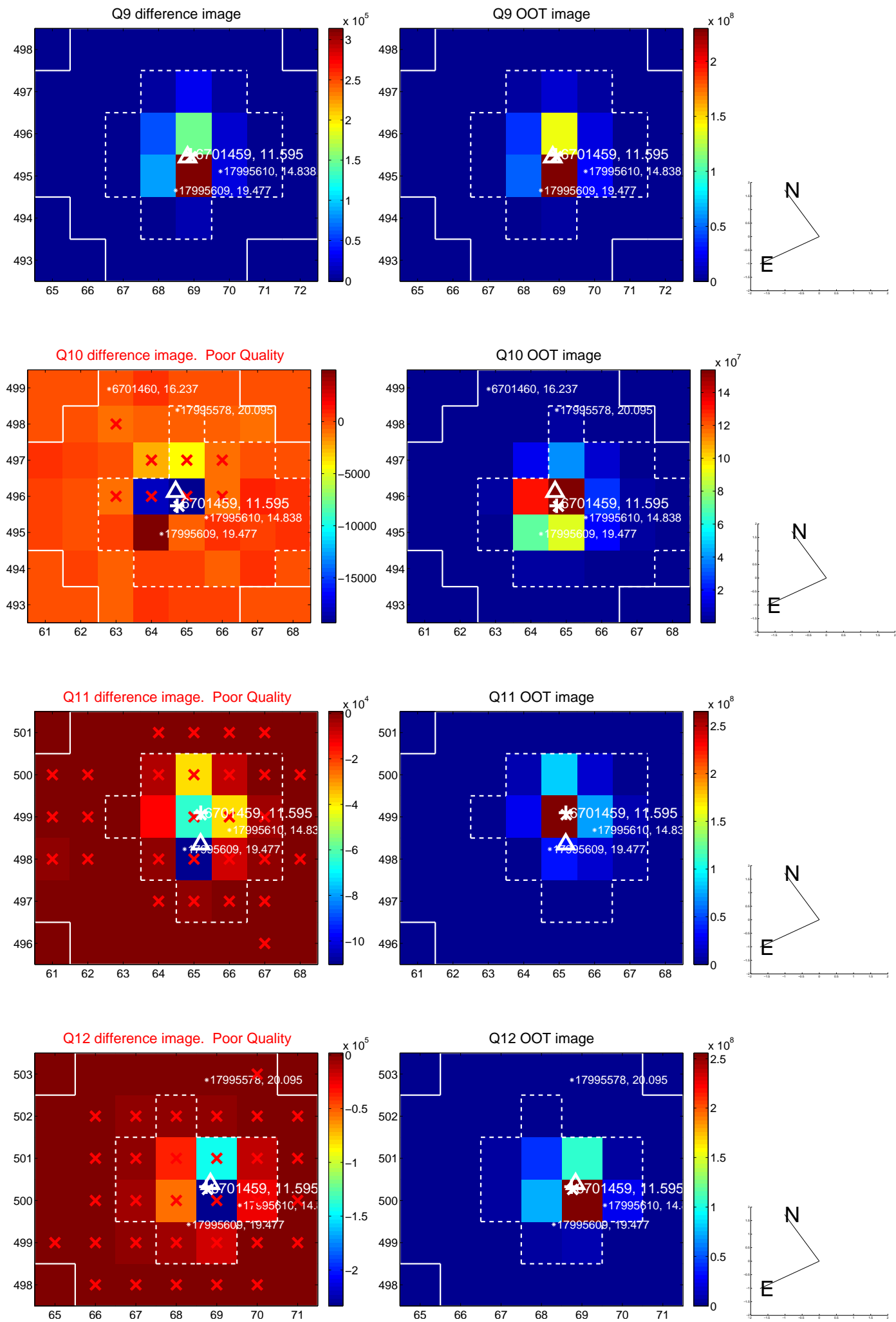
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



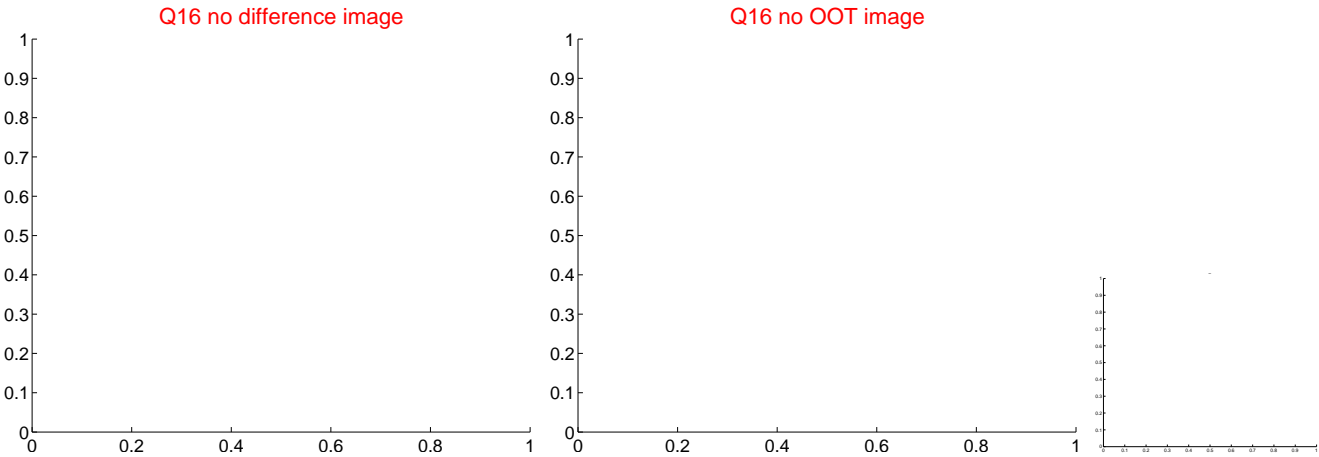
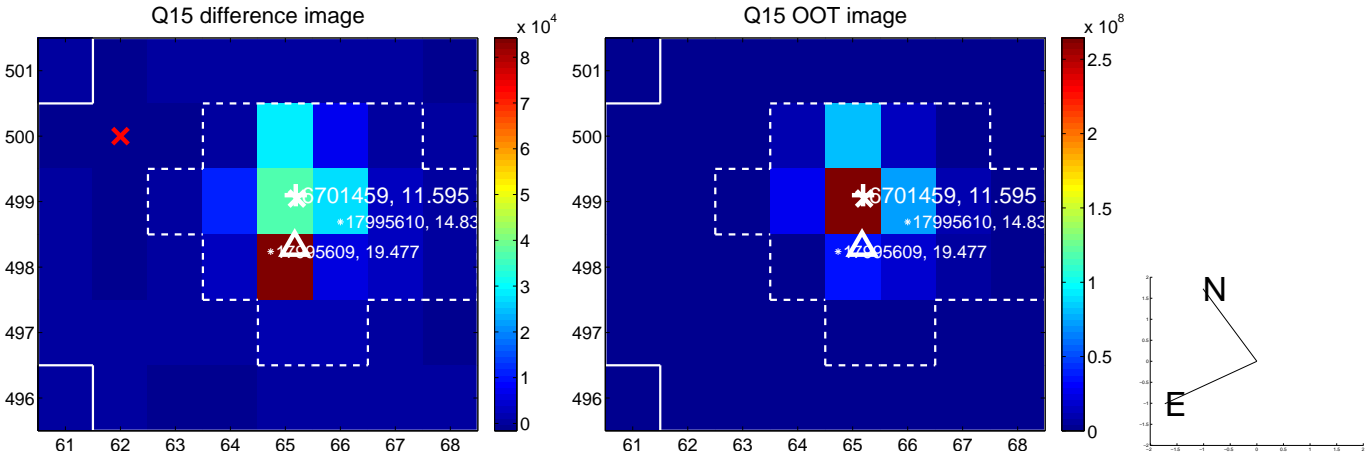
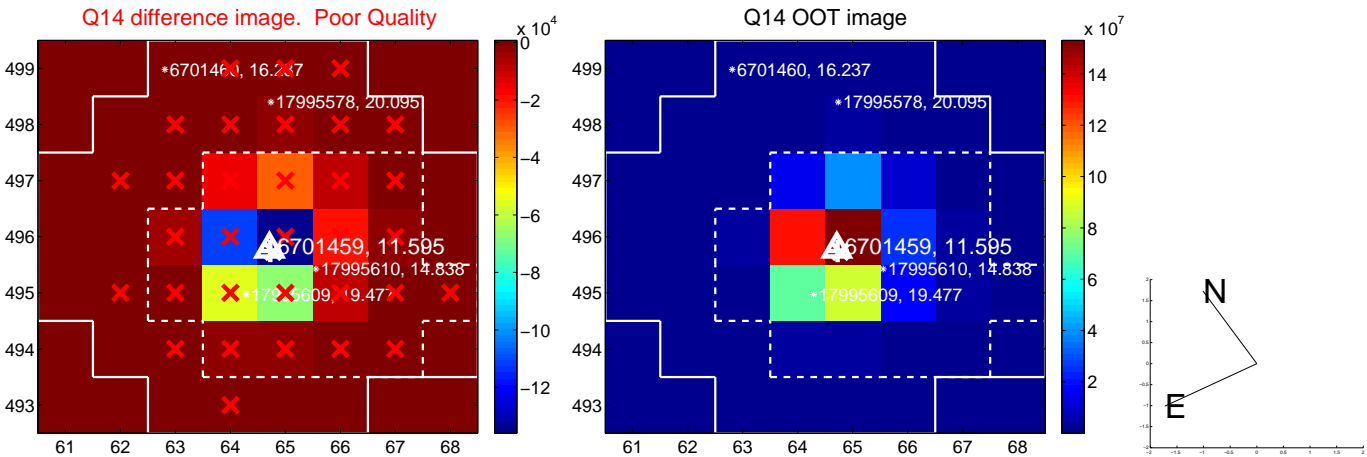
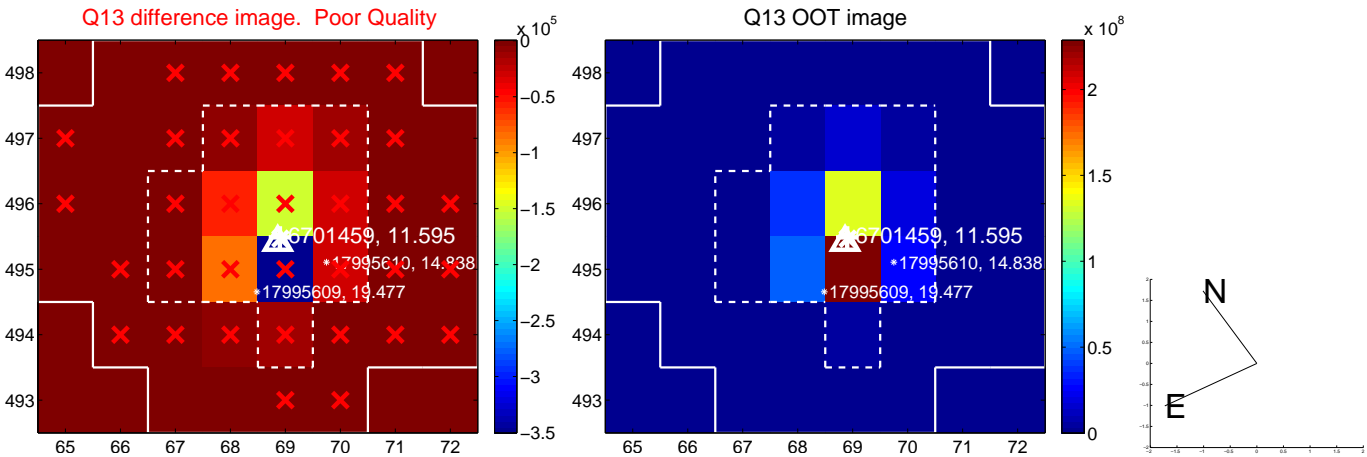
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



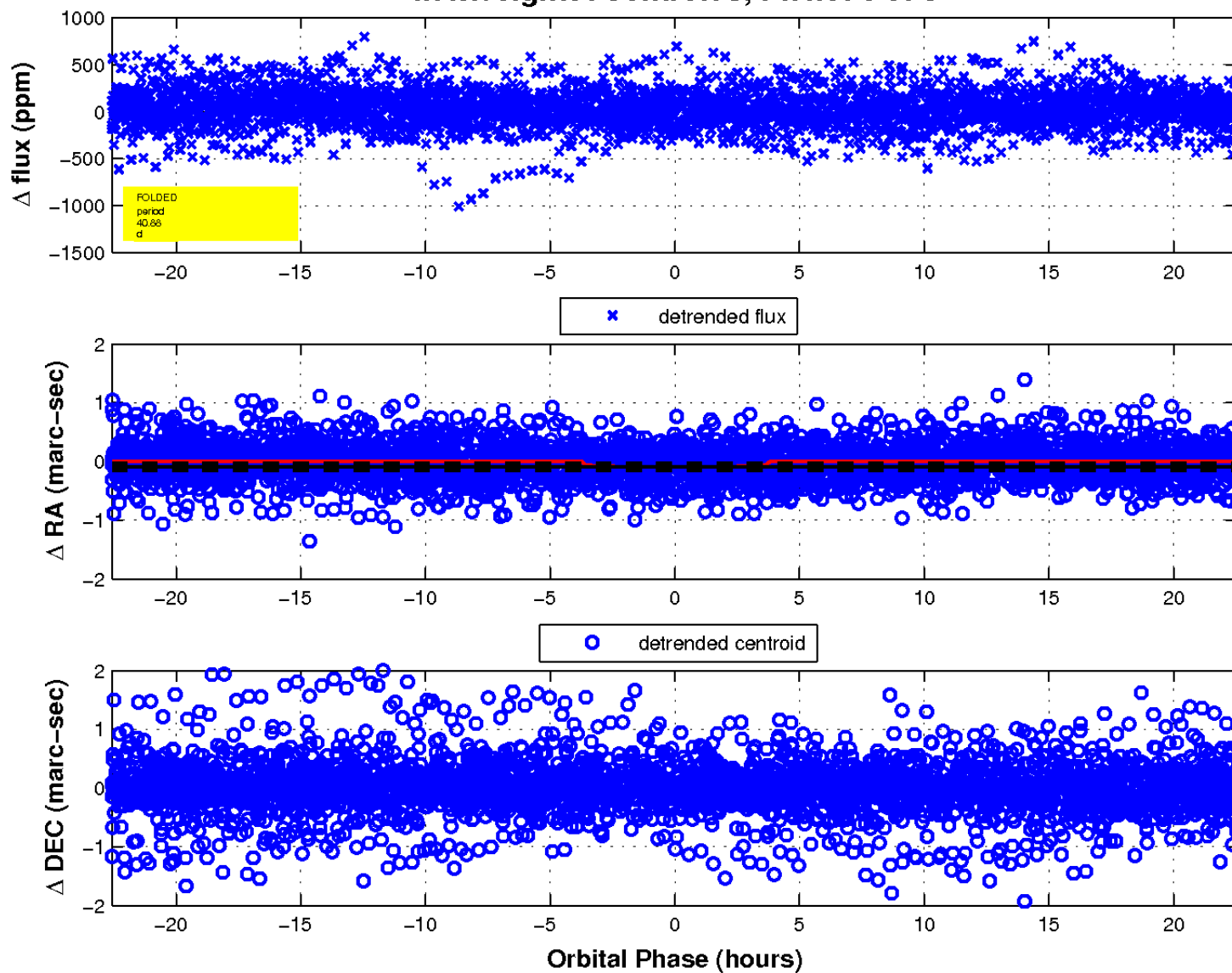
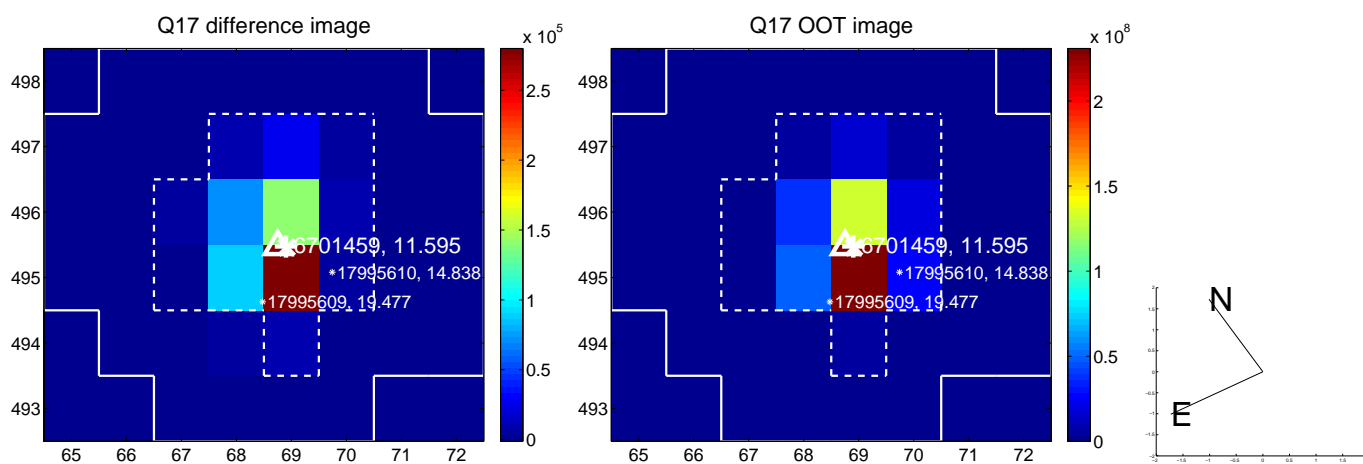
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

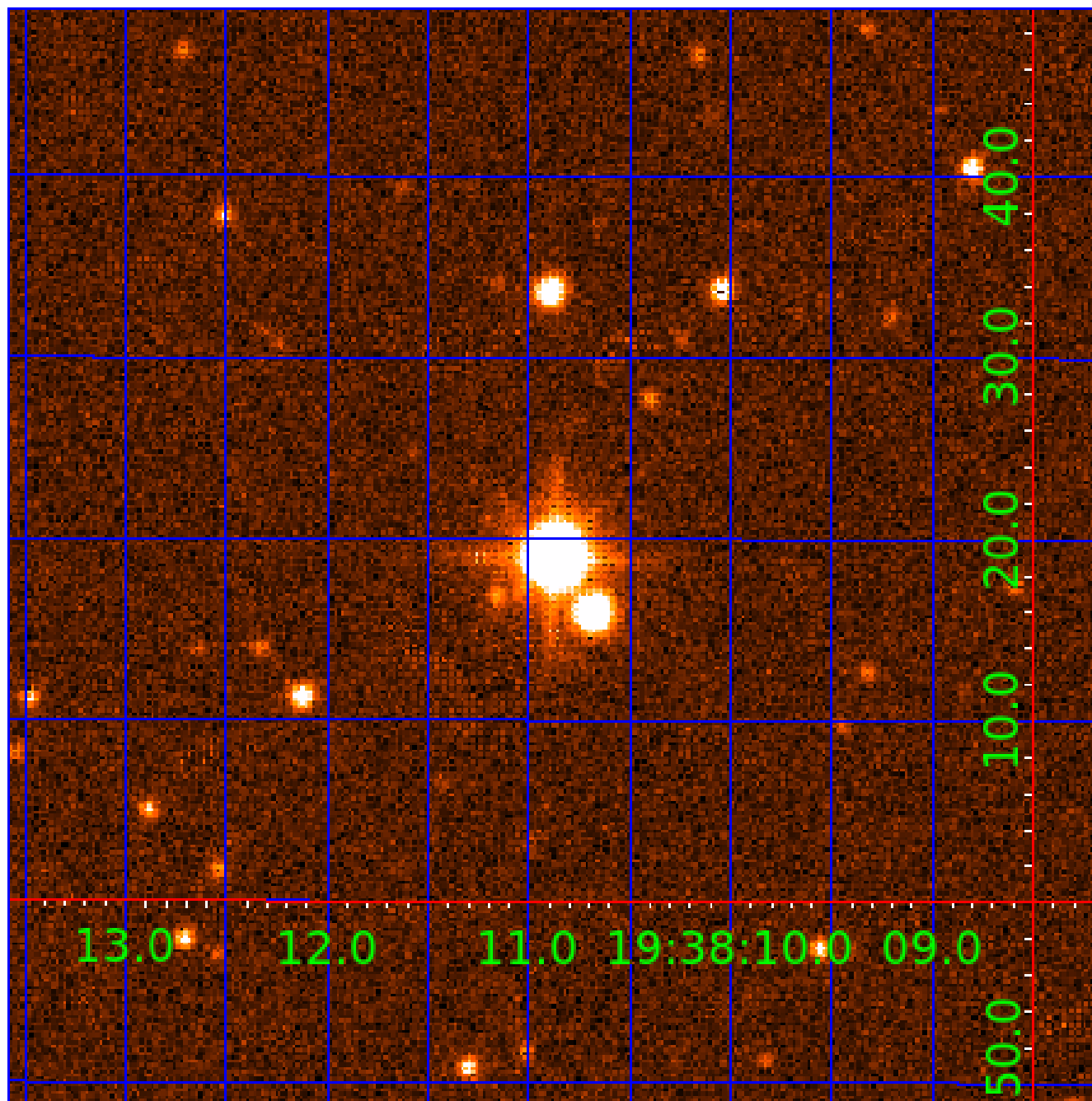


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006701459

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})
006701459-01	OBS	No	1.889459	133.027296	28.3	6.479	10.2	8.7	3.34	6980	2.06	17516.08
006701459-02	OBS	No	1.889706	132.417824	25.3	8.598	12.8	8.1	3.34	6980	1.80	17513.03
006701459-03	OBS	No	72.103560	147.694414	292.0	2.970	9.4	8.4	3.34	6980	6.56	136.34
006701459-04	OBS	No	28.217516	159.679499	208.2	10.887	9.0	9.3	3.34	6980	9.39	476.28
006701459-05	OBS	No	40.850708	135.790804	114.7	7.854	8.5	5.4	3.34	6980	3.62	290.82
006701459-06	OBS	No	40.875277	135.791873	162.7	7.526	8.1	3.9	3.34	6980	4.34	290.58
006701459-07	OBS	No	204.812285	201.488008	396.0	6.975	8.1	8.3	3.34	6980	8.46	33.89
006701459-08	OBS	No	221.164334	159.832506	229.8	9.197	8.3	7.5	3.34	6980	5.44	30.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006701459-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
006701459-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
006701459-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006701459-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

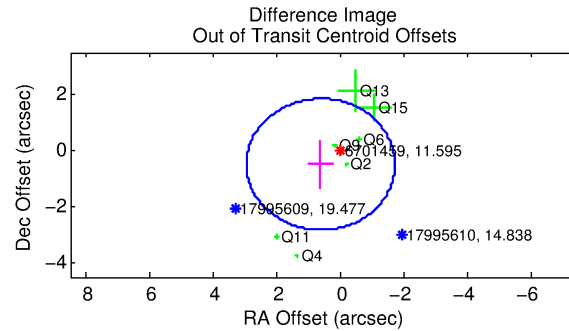
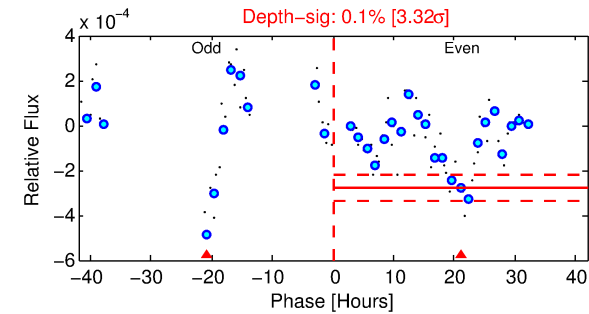
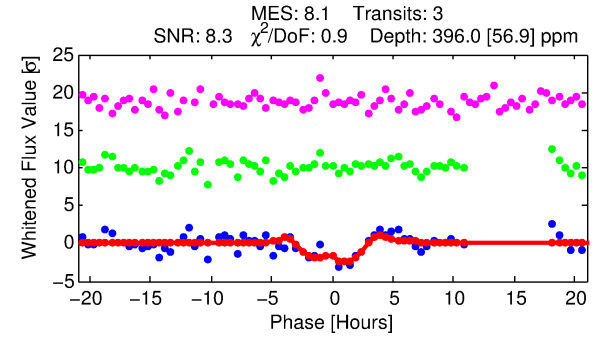
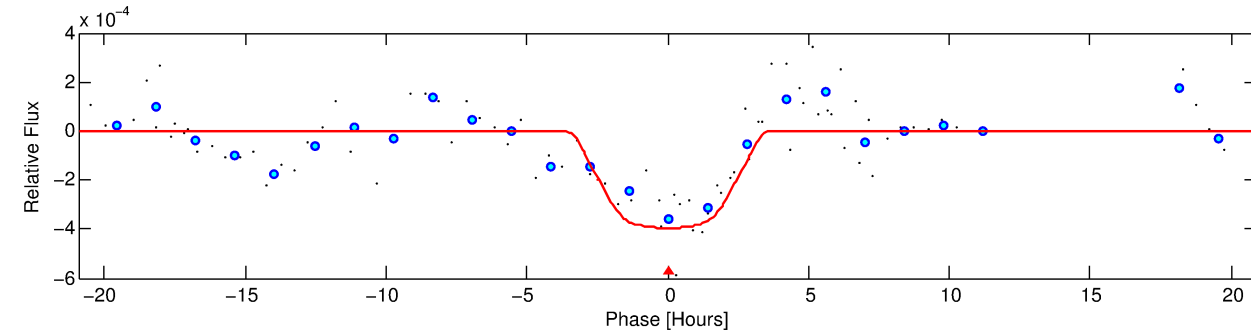
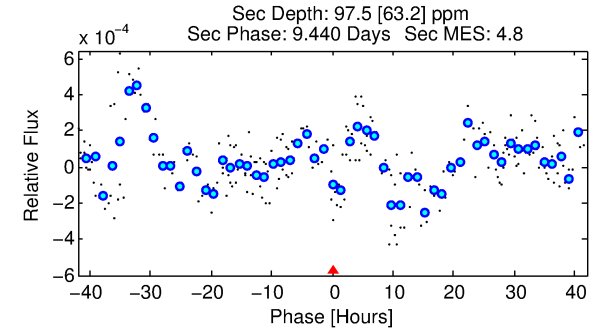
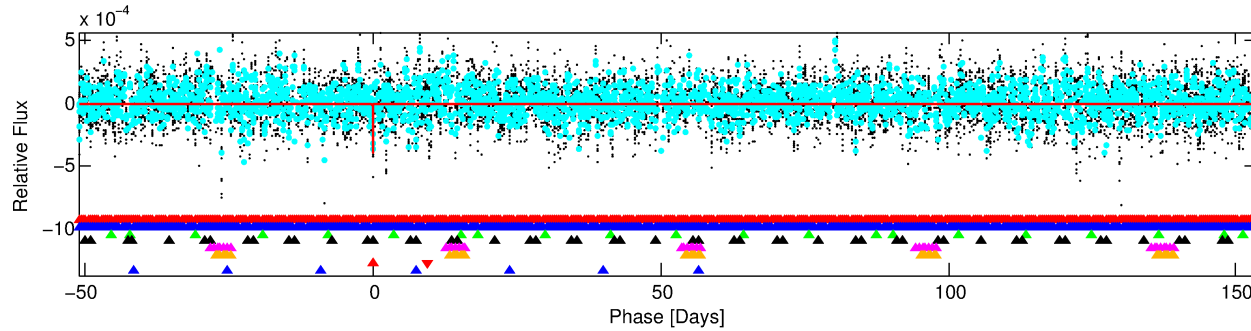
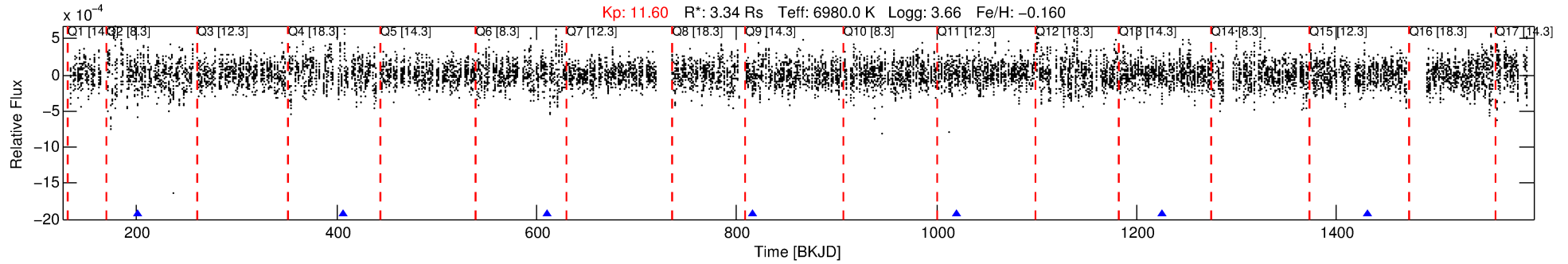
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006701459-07

No Significant Match Found

DV One-Page Summary

KIC: 6701459 Candidate: 7 of 8 Period: 204.812 d



DV Fit Results:

Period = 204.81228 [0.00356] d
Epoch = 201.4880 [0.0138] BKJD
 $R_p/R^* = 0.0232$ [0.0020]
 $a/R^* = 73.41$ [12.51]
 $b = 0.97$ [0.01]
 $S_{\text{eff}} = 33.89$ [18.05]
 $T_{\text{eq}} = 615$ [82] K
 $R_p = 8.46$ [3.26] R_e
 $a = 0.8359$ [0.2830] AU
 $A_g = 523.89$ [444.30] [1.18σ]
 $T_{\text{eff}} = 4551$ [775] K [5.05σ]

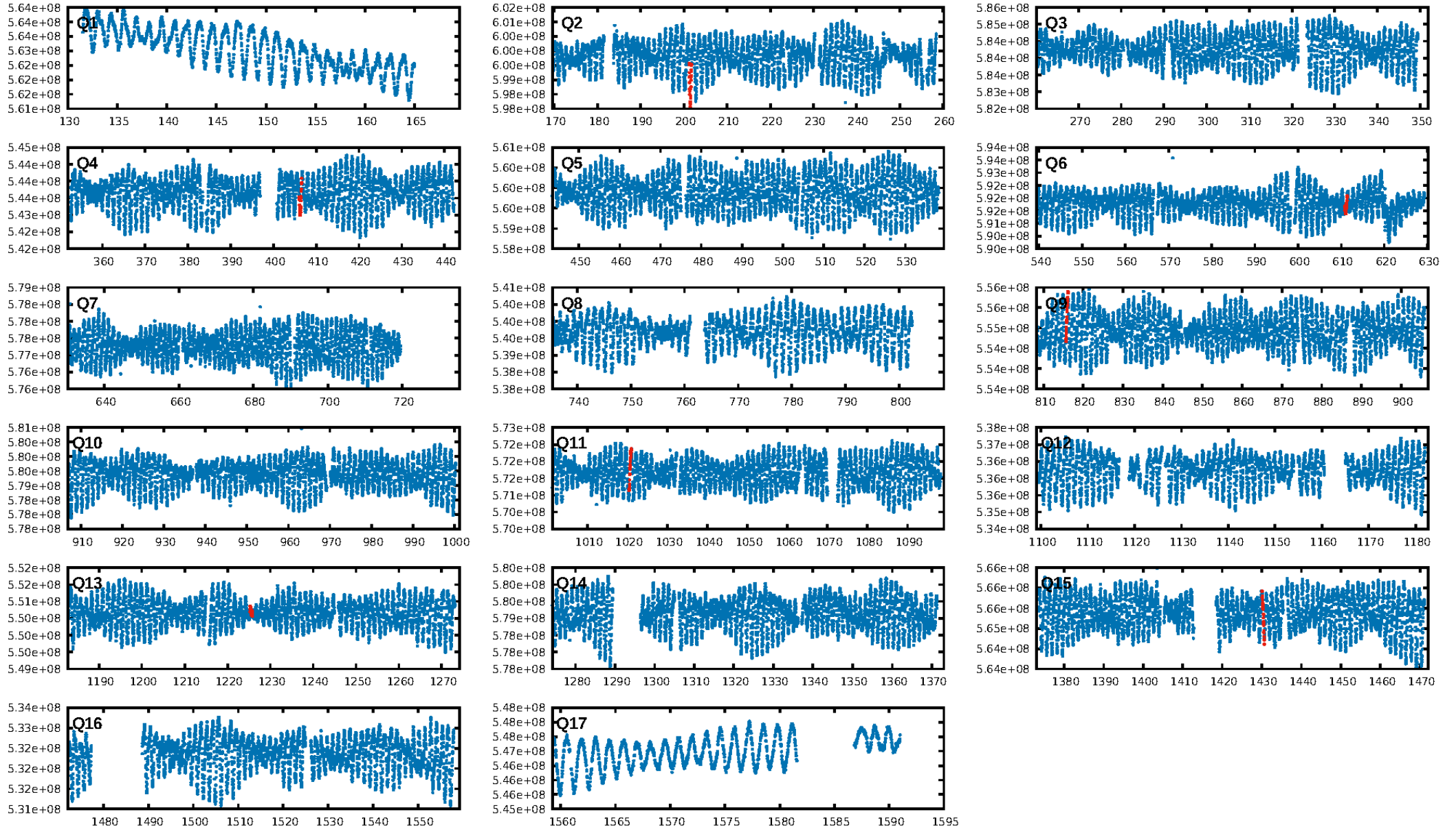
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [420.14σ]
LongPeriod-sig: 100.0% [34.00σ]
ModelChiSquare2-sig: 70.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 7.84e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.8574
Centroid-sig: N/A
Centroid-so: 0.215 arcsec [0.61σ]
OotOffset-rm: 0.797 arcsec [1.02σ]
KicOffset-rm: 0.803 arcsec [1.51σ]
OotOffset-st: 2/2/1/2 [7]
KicOffset-st: 2/2/1/2 [7]
DiffImageQuality-fgm: 0.43 [3/7]
DiffImageOverlap-fno: 0.00 [0/7]

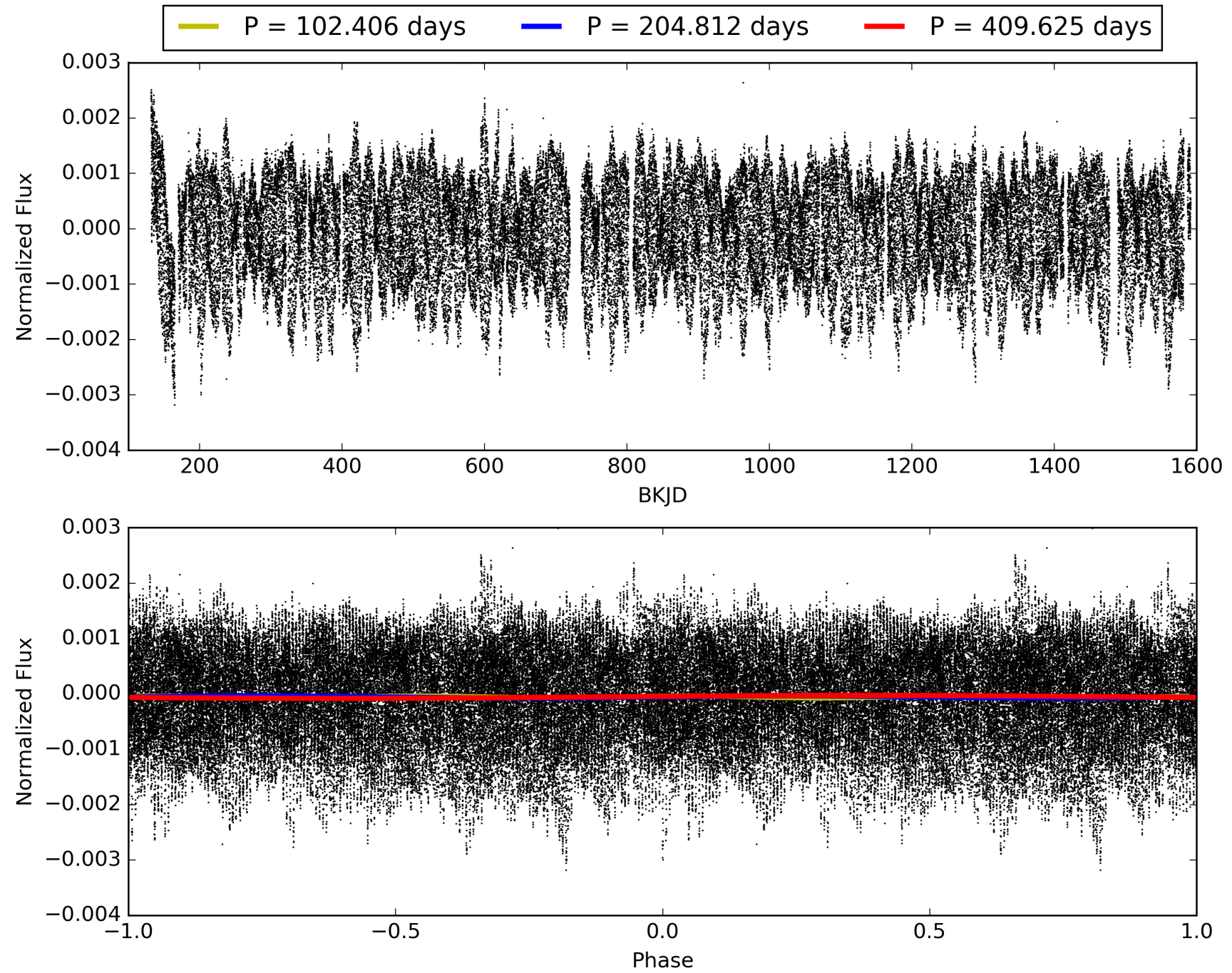
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 01:19:33 Z

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

TCE 006701459-07, PDC Light Curves

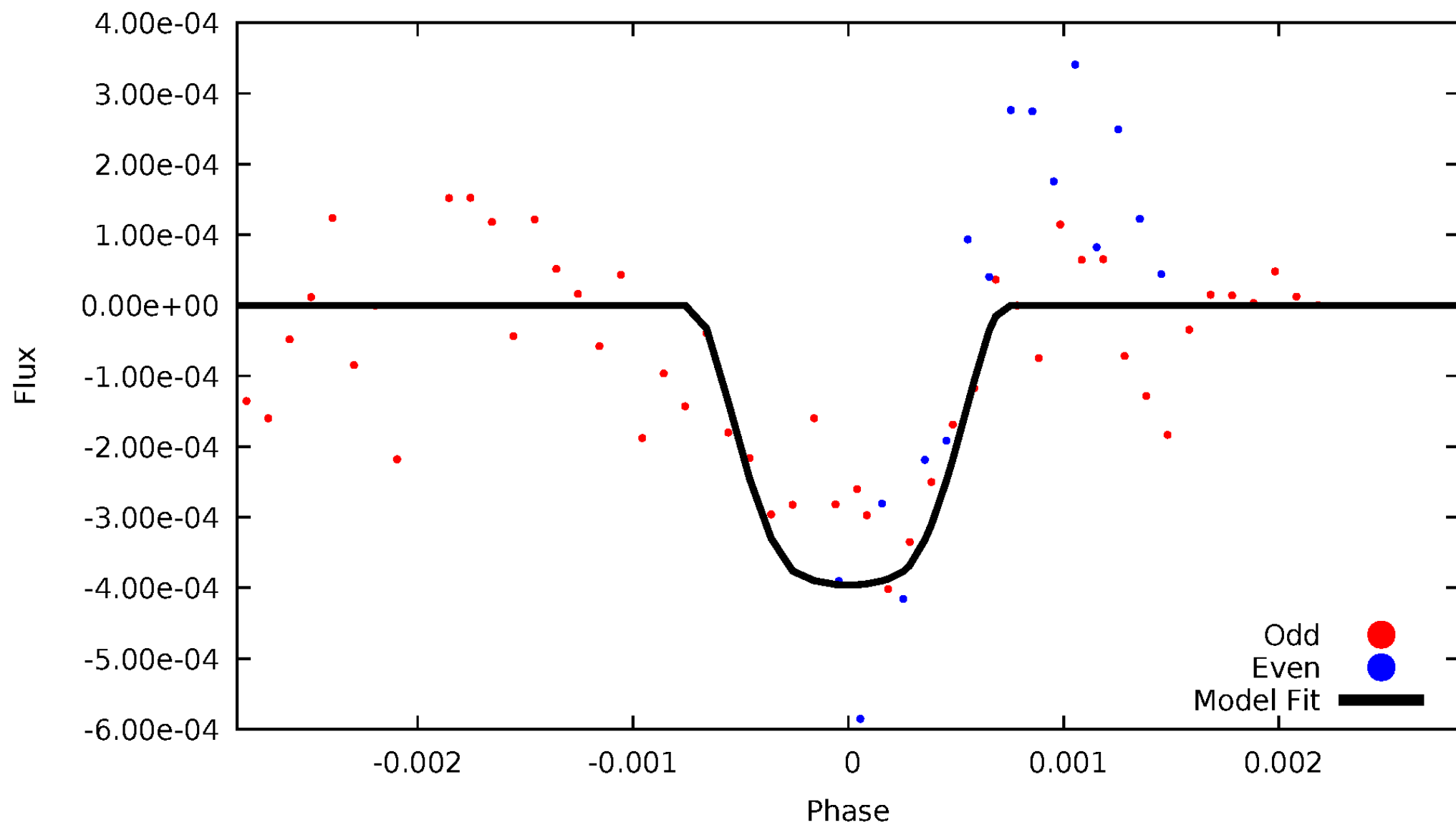


TCE 006701459-07



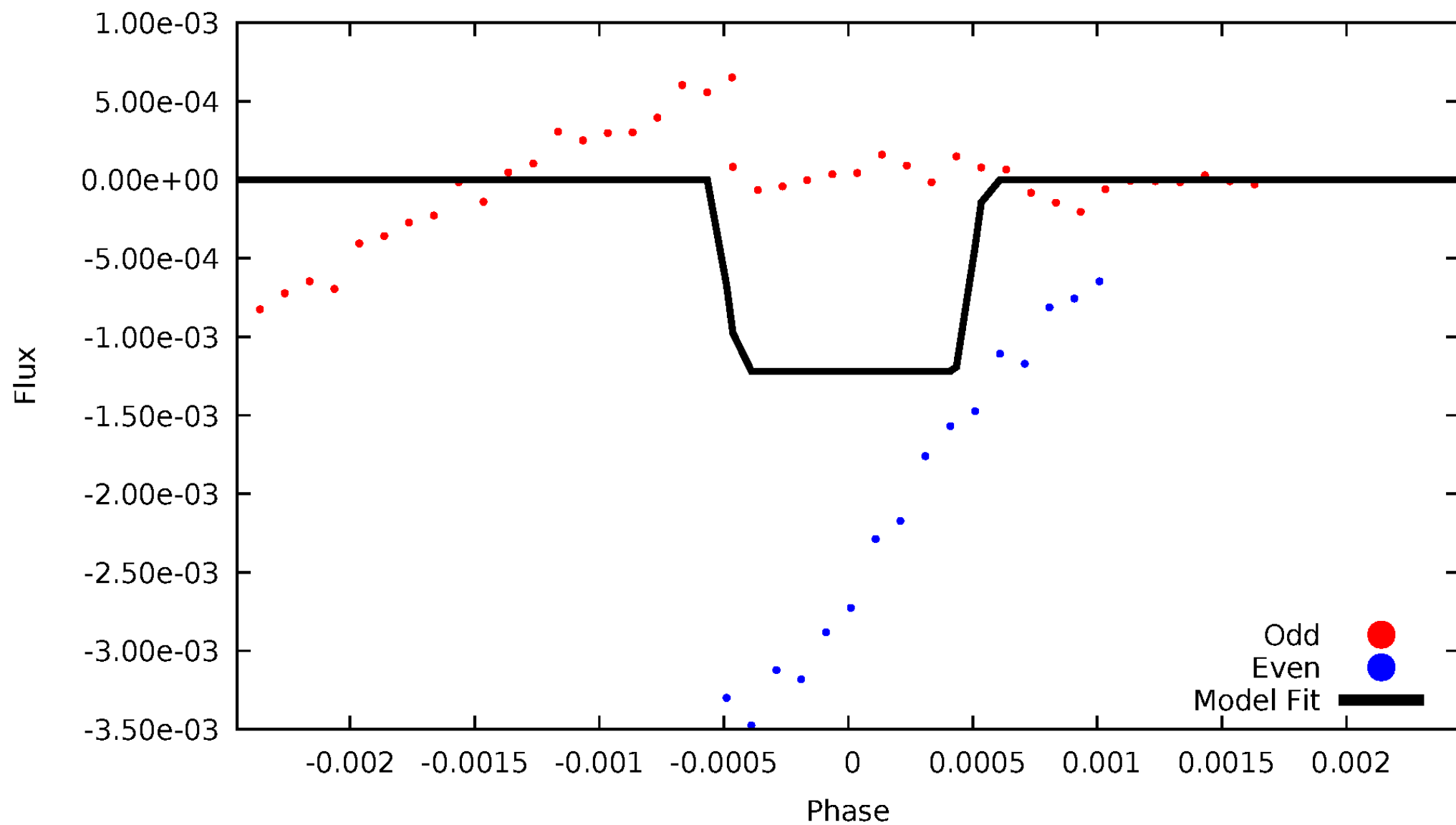
DV Odd/Even

TCE 006701459-07



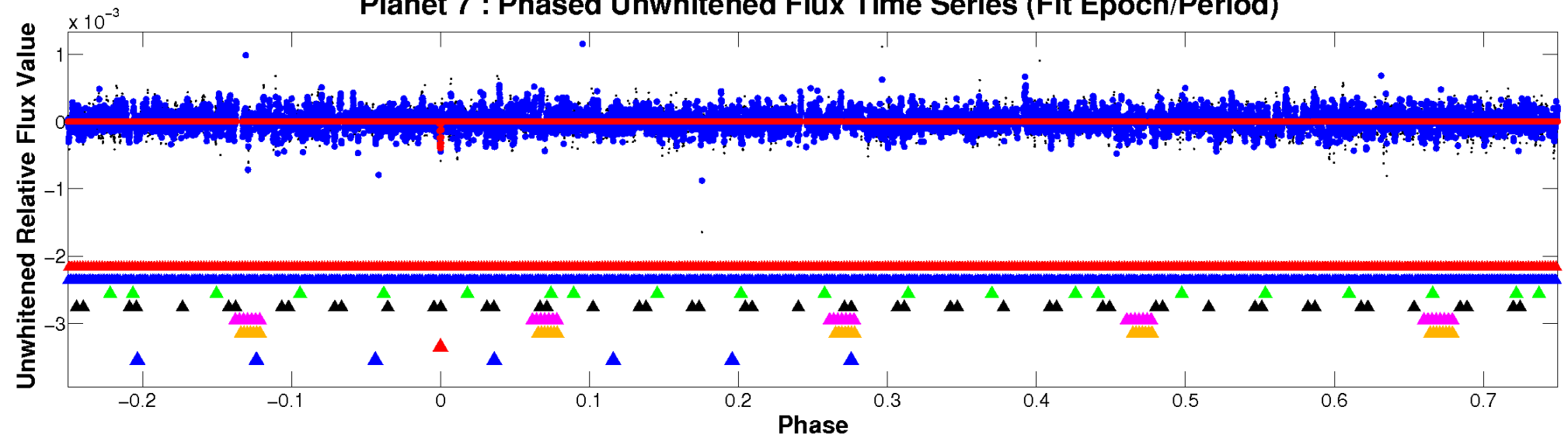
ALT Odd/Even

TCE 006701459-07

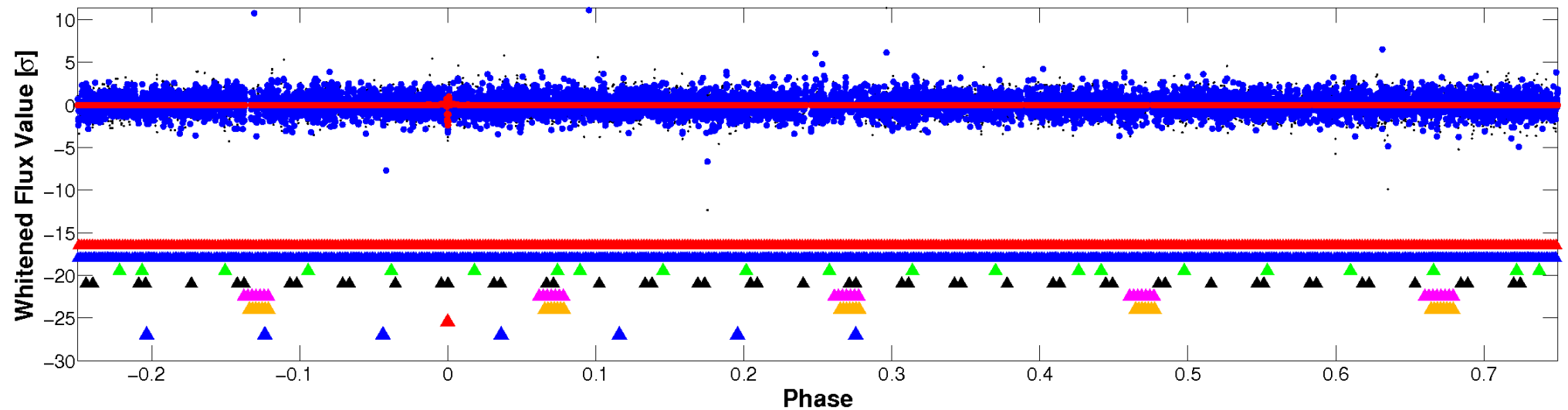


Non-Whitened Vs. Whitened Light Curve

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

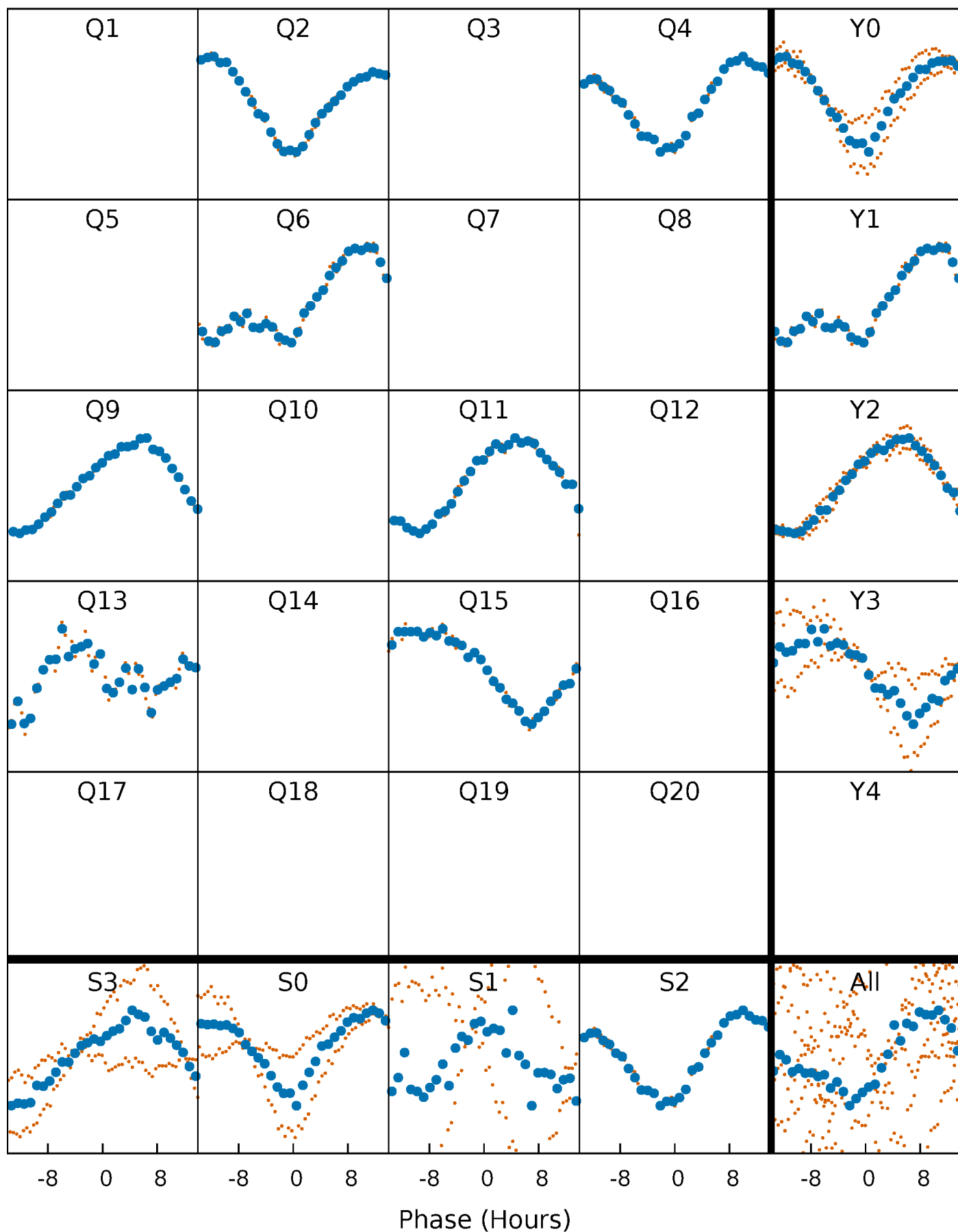


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



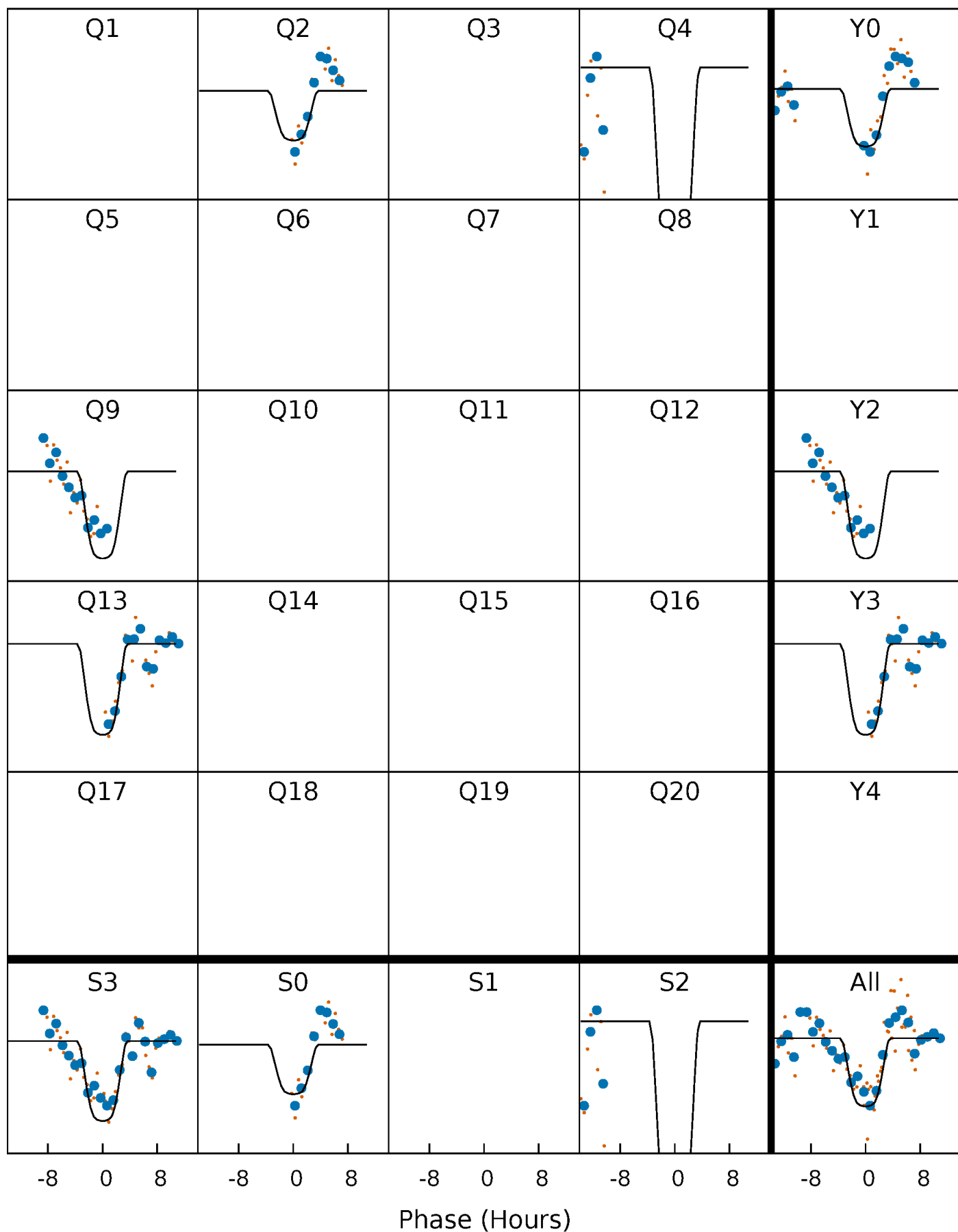
PDC Quarter-Phased Transit Curves

TCE 006701459-07 $P=204.812285$ Days $T_0=201.488008$ (BKJD)



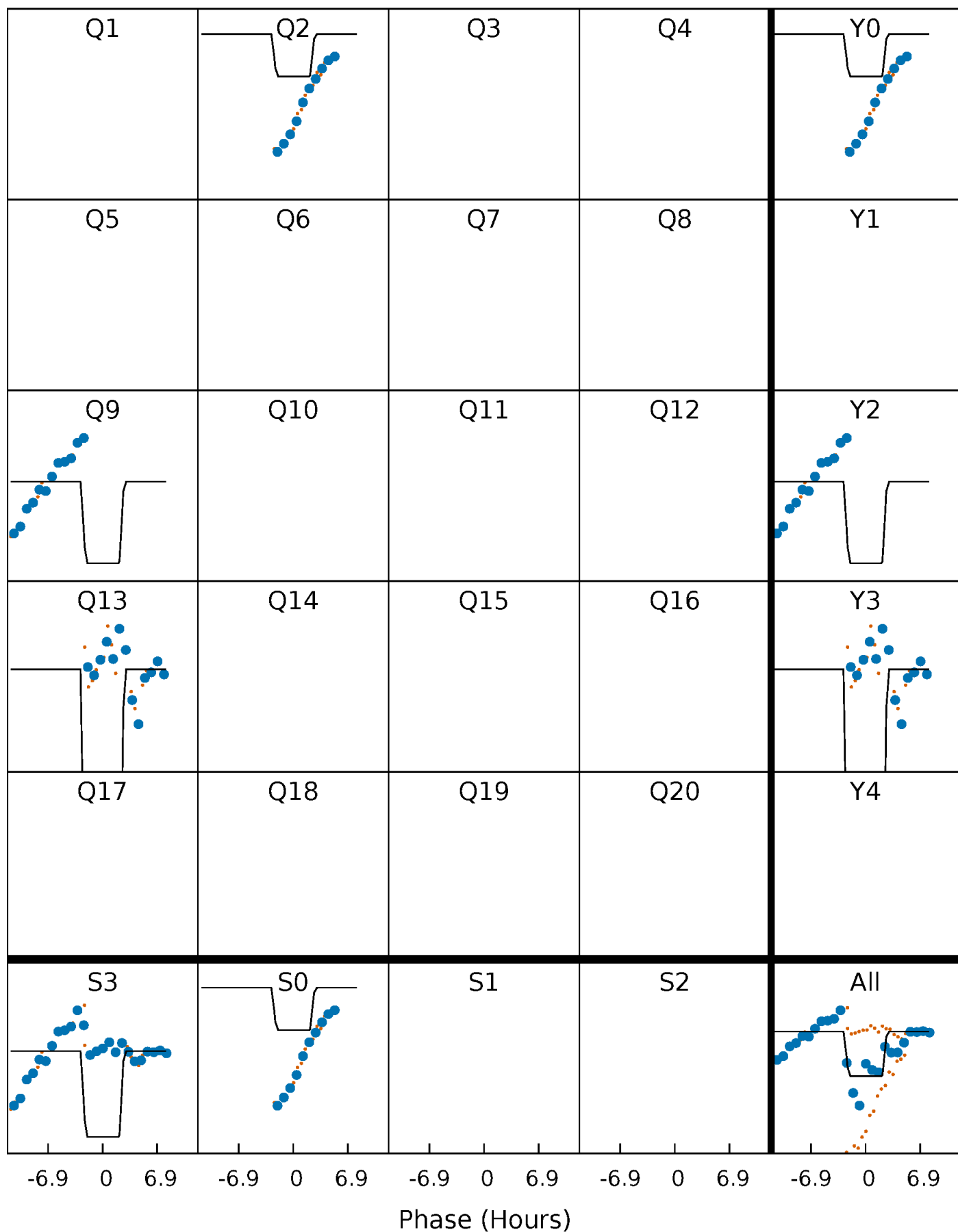
DV Quarter-Phased Transit Curves

TCE 006701459-07 $P=204.812285$ Days $T_0=201.488008$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

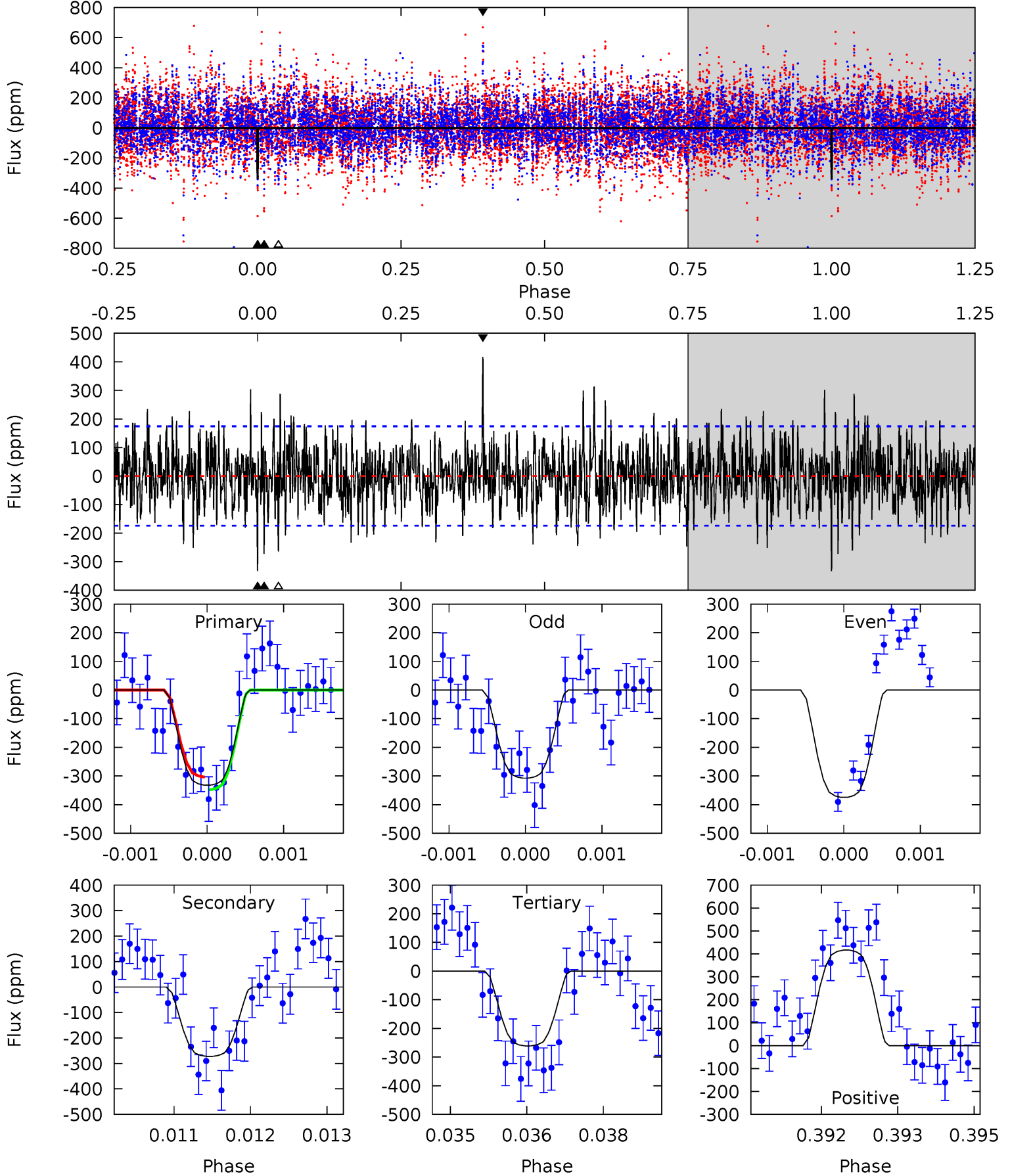
TCE 006701459-07 P=204.816571 Days $T_0=201.579150$ (BKJD)



DV Model-Shift Uniqueness Test

006701459-07, P = 204.812285 Days, E = 201.488008 Days

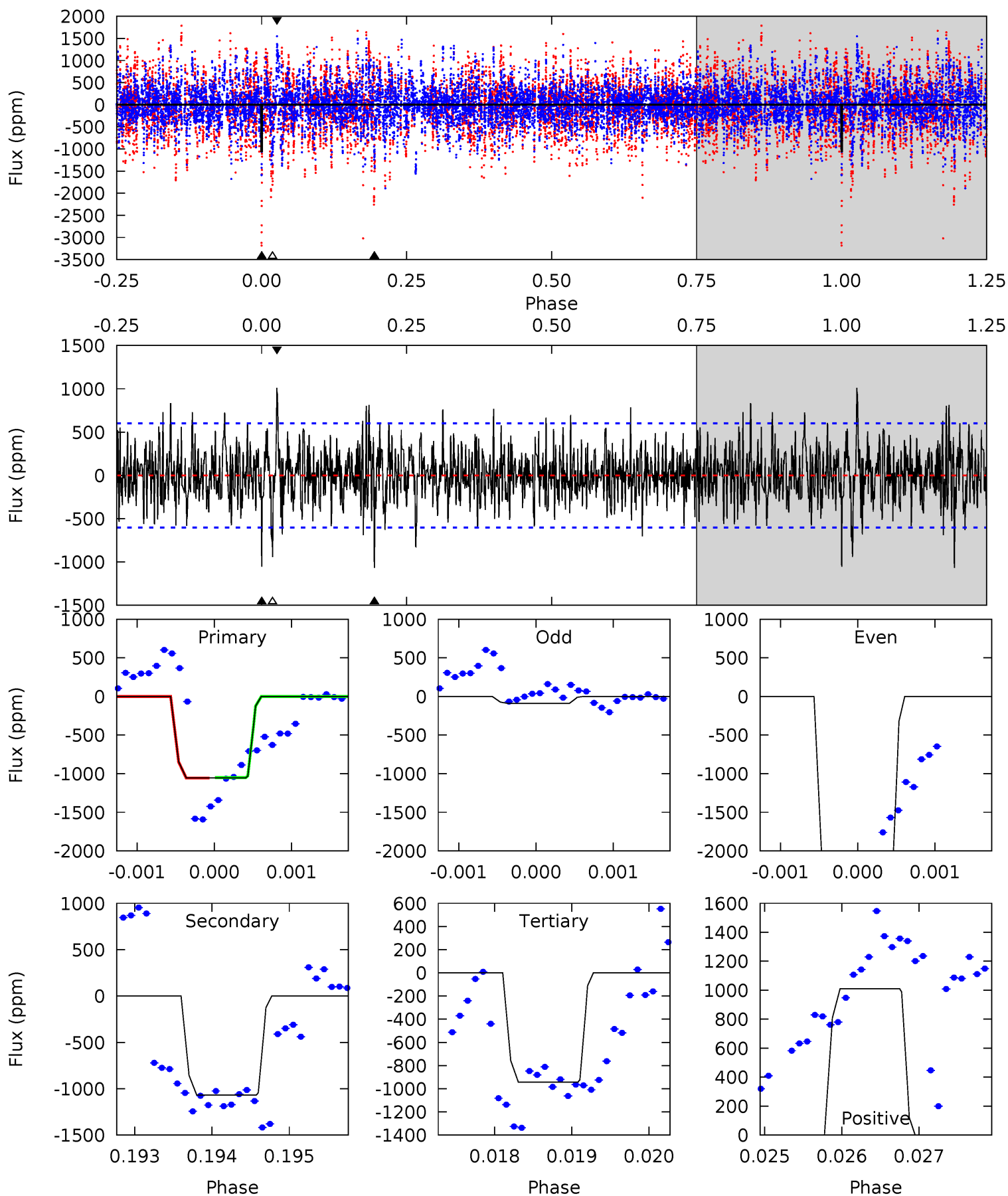
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	8.45	8.10	12.9	5.40	3.21	2.60	2.21	-2.62	0.35	-4.48	1.03	0.96	0.56	0.61



Alt Model-Shift Uniqueness Test

006701459-07, P = 204.816571 Days, E = 201.579150 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.53	9.66	8.53	9.14	5.45	3.29	2.13	1.00	0.39	1.13	0.52	12.1	1.00	0.49	0.03



Stellar Parameters For KIC 006701459

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6980^{+167}_{-209}	$3.660^{+0.296}_{-0.056}$	$-0.160^{+0.300}_{-0.250}$	$3.337^{+0.335}_{-1.256}$	$1.858^{+0.178}_{-0.414}$	$0.070^{+0.160}_{-0.017}$
	+2%/-3%	+8%/-2%	+188%/-156%	+10%/-38%	+10%/-22%	+227%/-24%
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 006701459-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-272 ± 32	$8.02^{+1.19}_{-1.51}$	835^{+46}_{-72}	5833^{+333}_{-291}	1661^{+716}_{-438}
Alt.	-1067 ± 111	$12.23^{+1.41}_{-2.31}$	838^{+42}_{-70}	6734^{+326}_{-349}	2834^{+1118}_{-608}

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

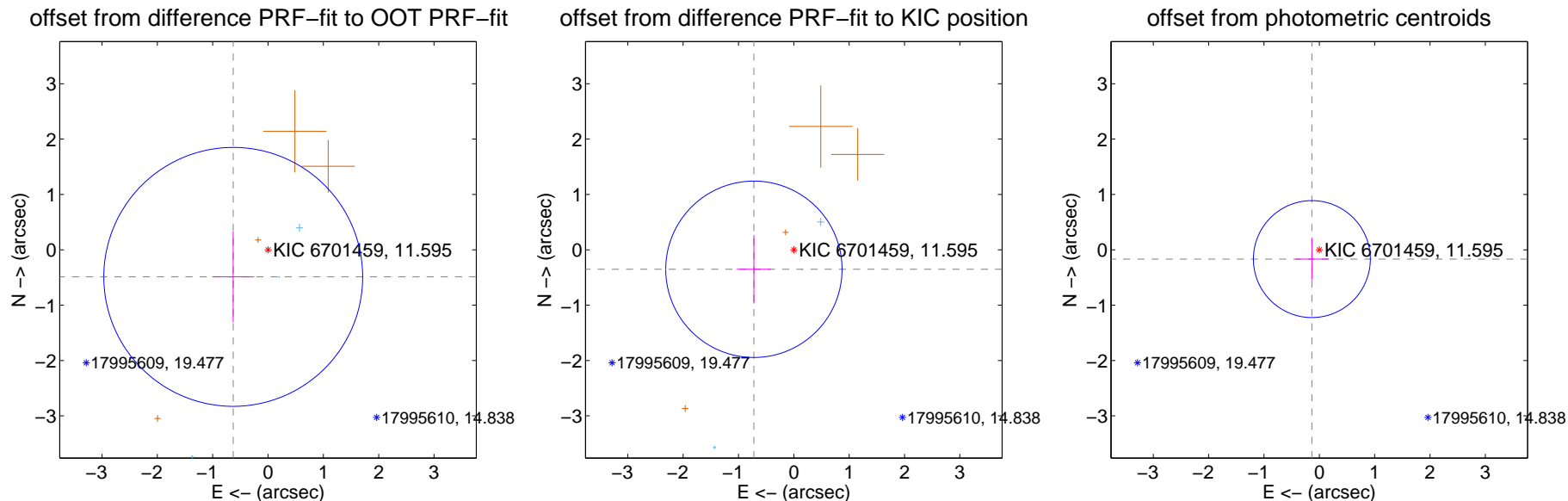
DV Centroid Data

Supplemental centroid analysis for 006701459-07. **Kepler magnitude: 11.60.** Transit SNR 8.27

There are 3 quarters with good PRF difference image offsets

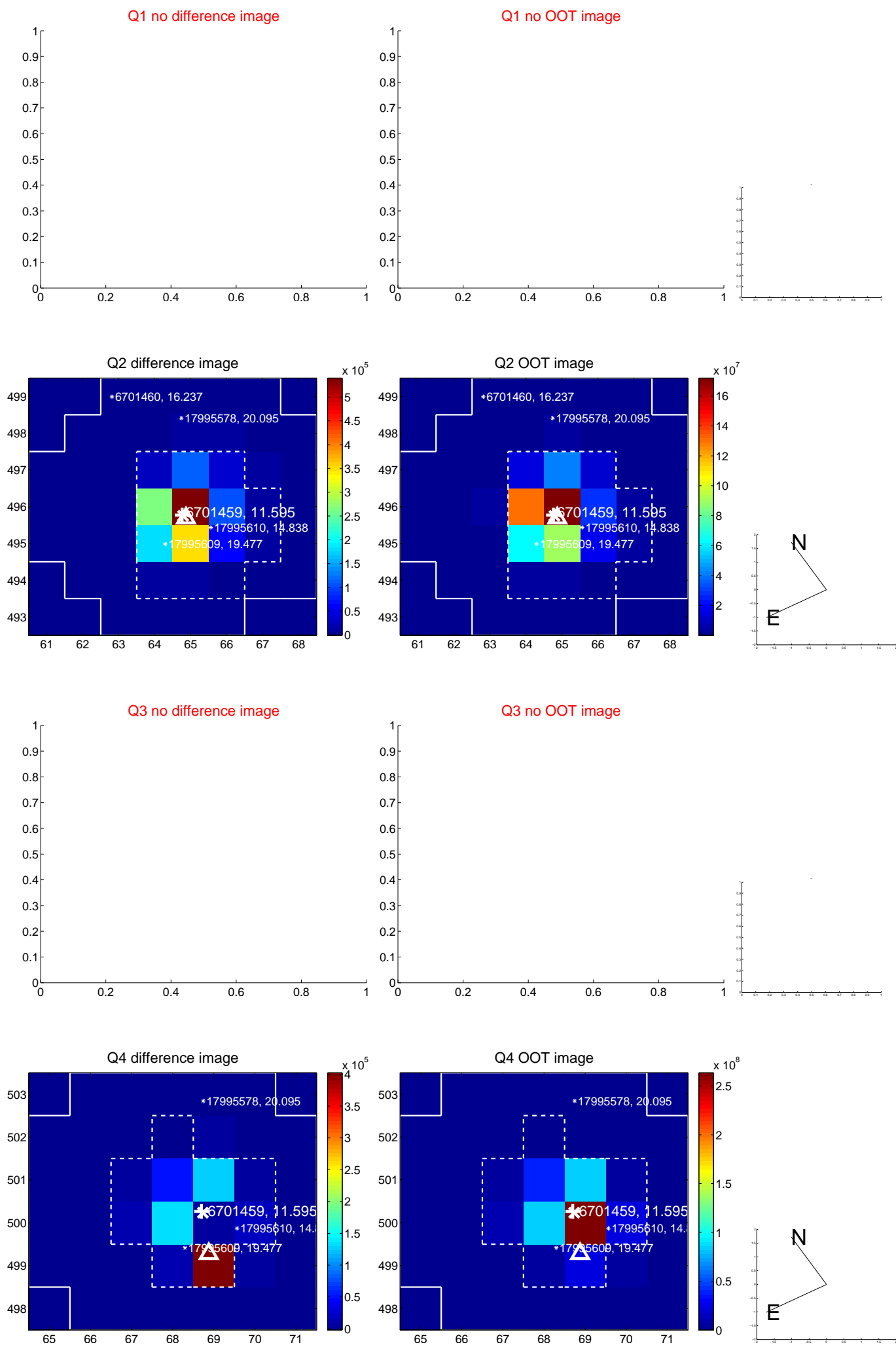
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.797 ± 0.780	1.02	0.629 ± 0.378	-0.489 ± 0.821
PRF-fit source offset from KIC position	0.803 ± 0.531	1.51	0.722 ± 0.307	-0.352 ± 0.617
photometric centroid source offset	0.22 ± 0.35	0.61	0.13 ± 0.30	-0.17 ± 0.38

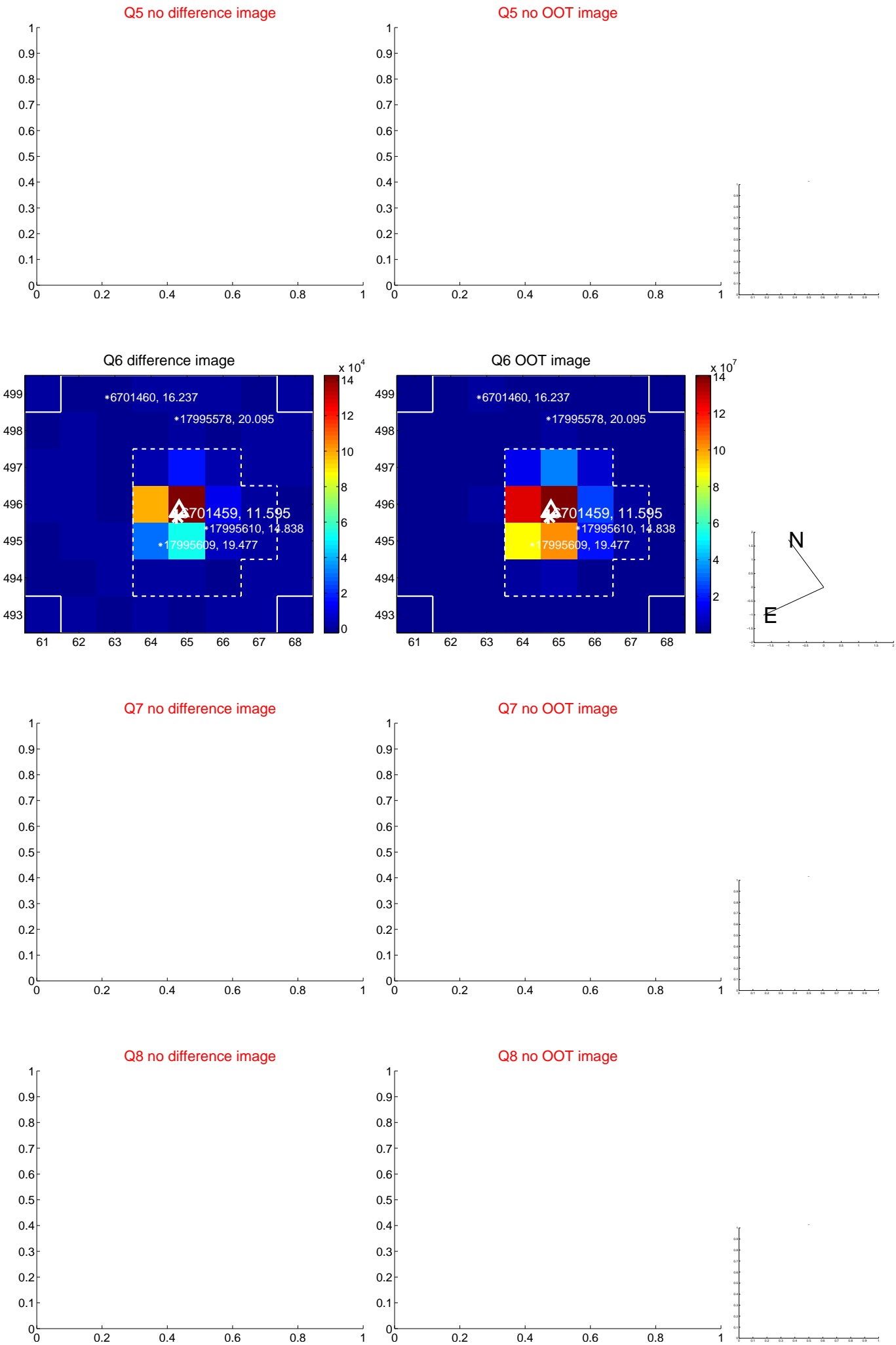


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

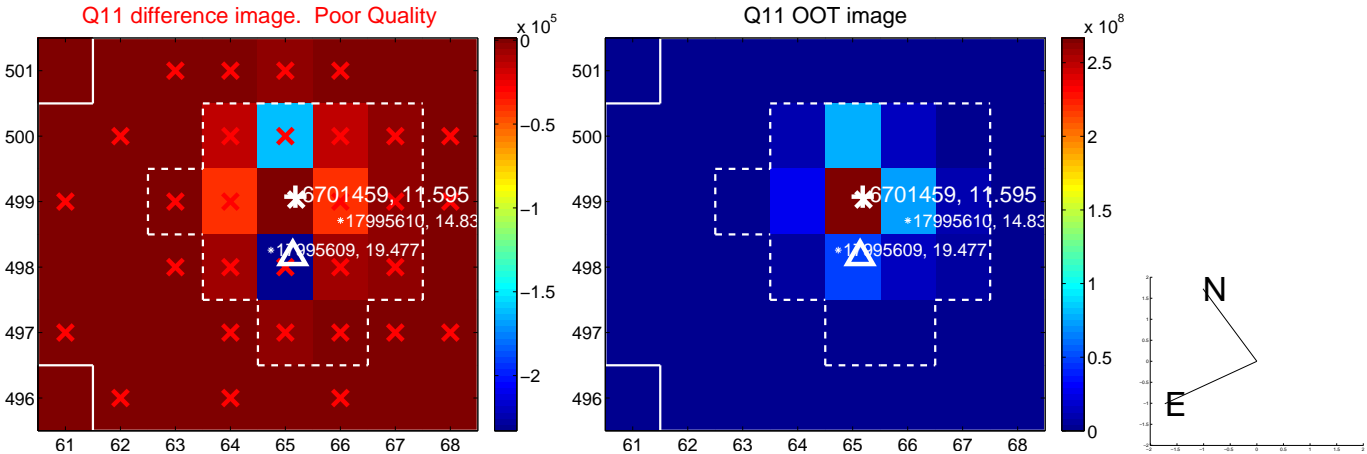
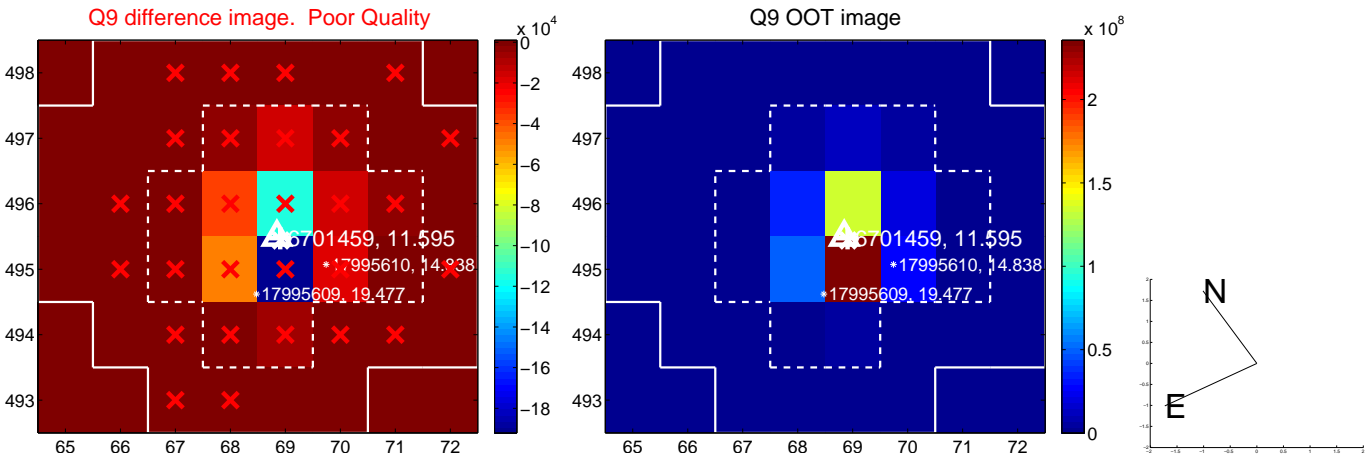
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



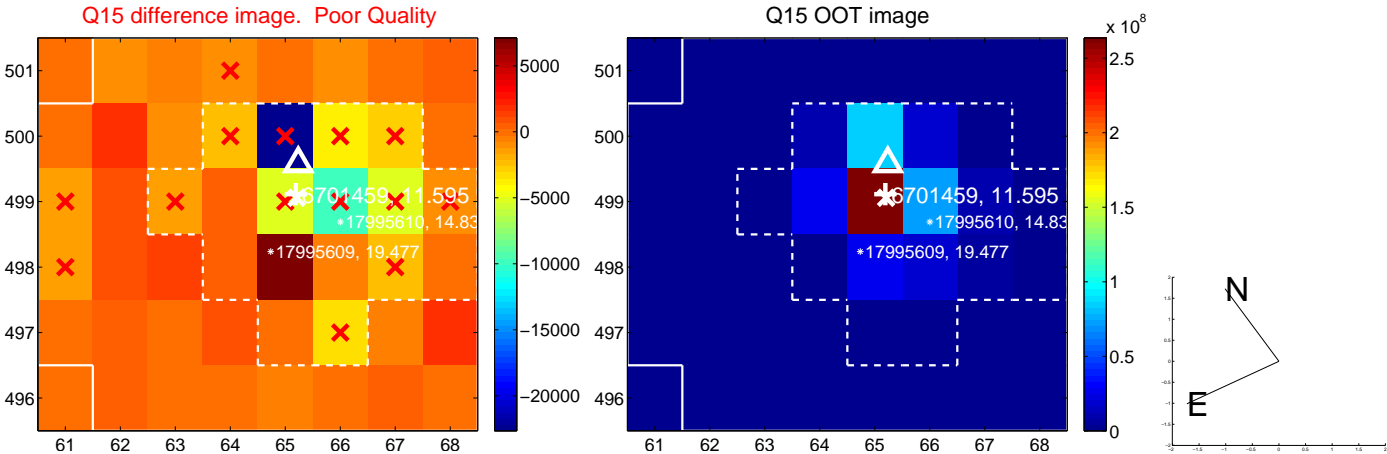
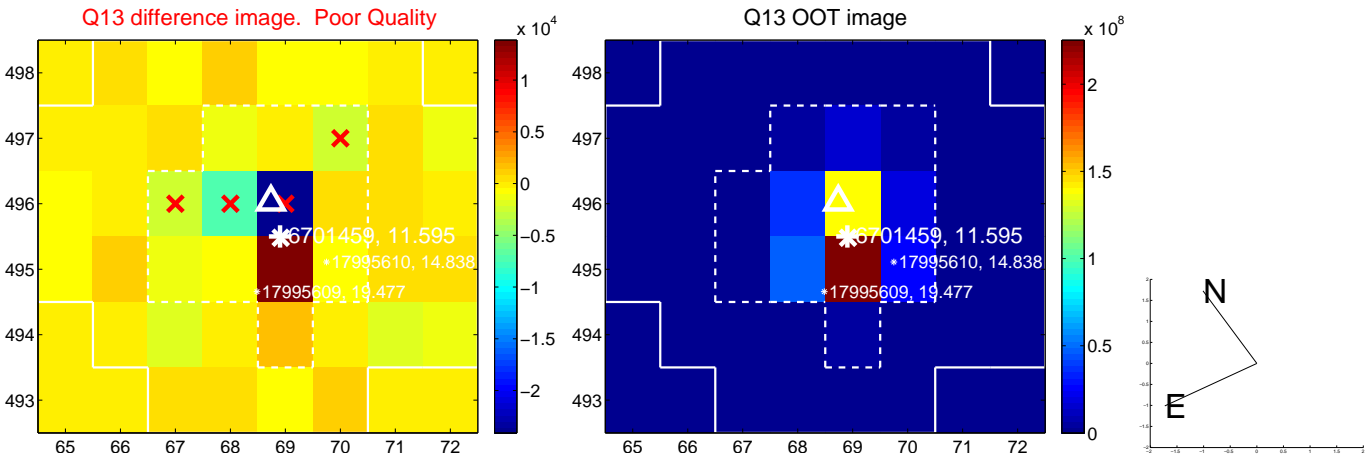
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



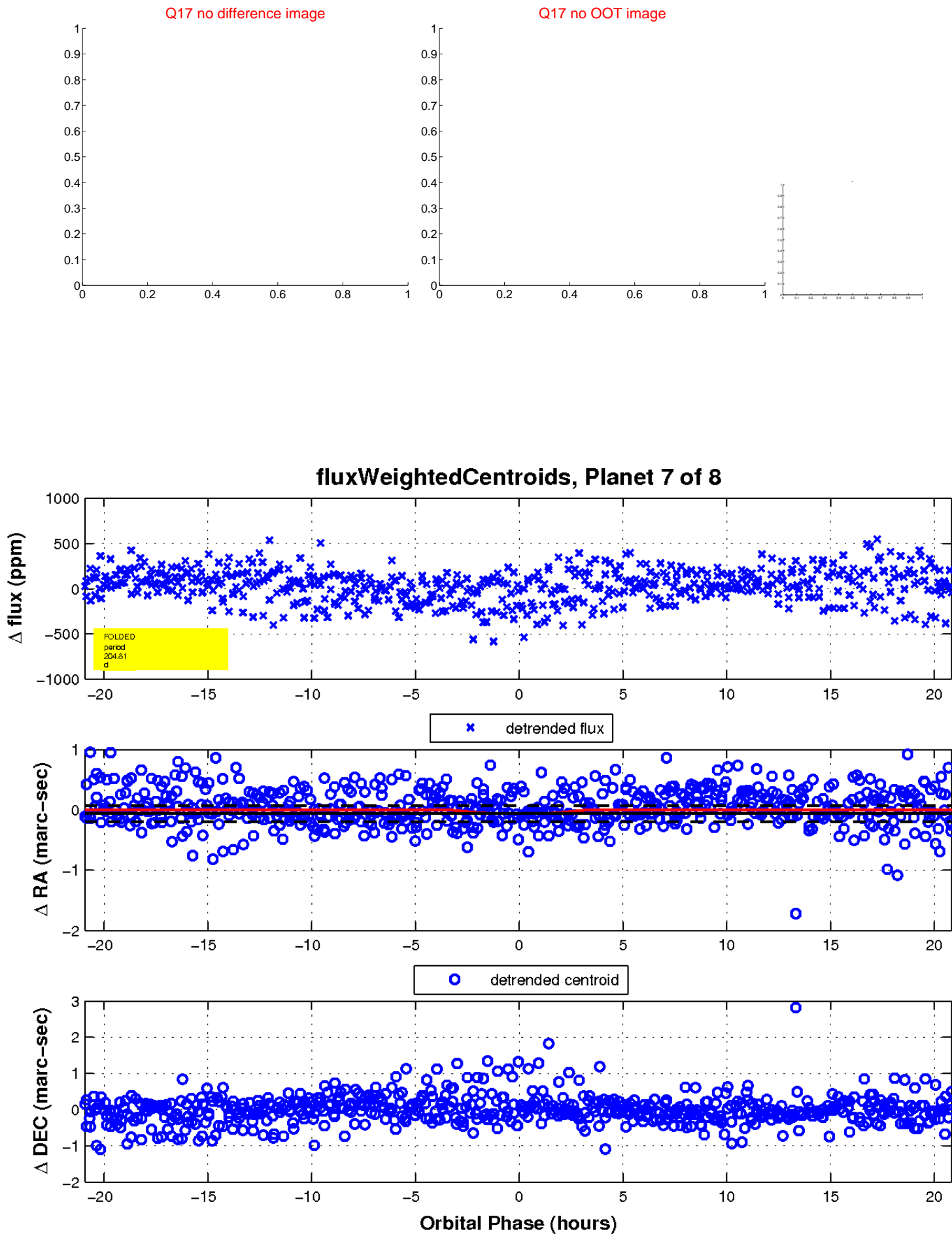
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

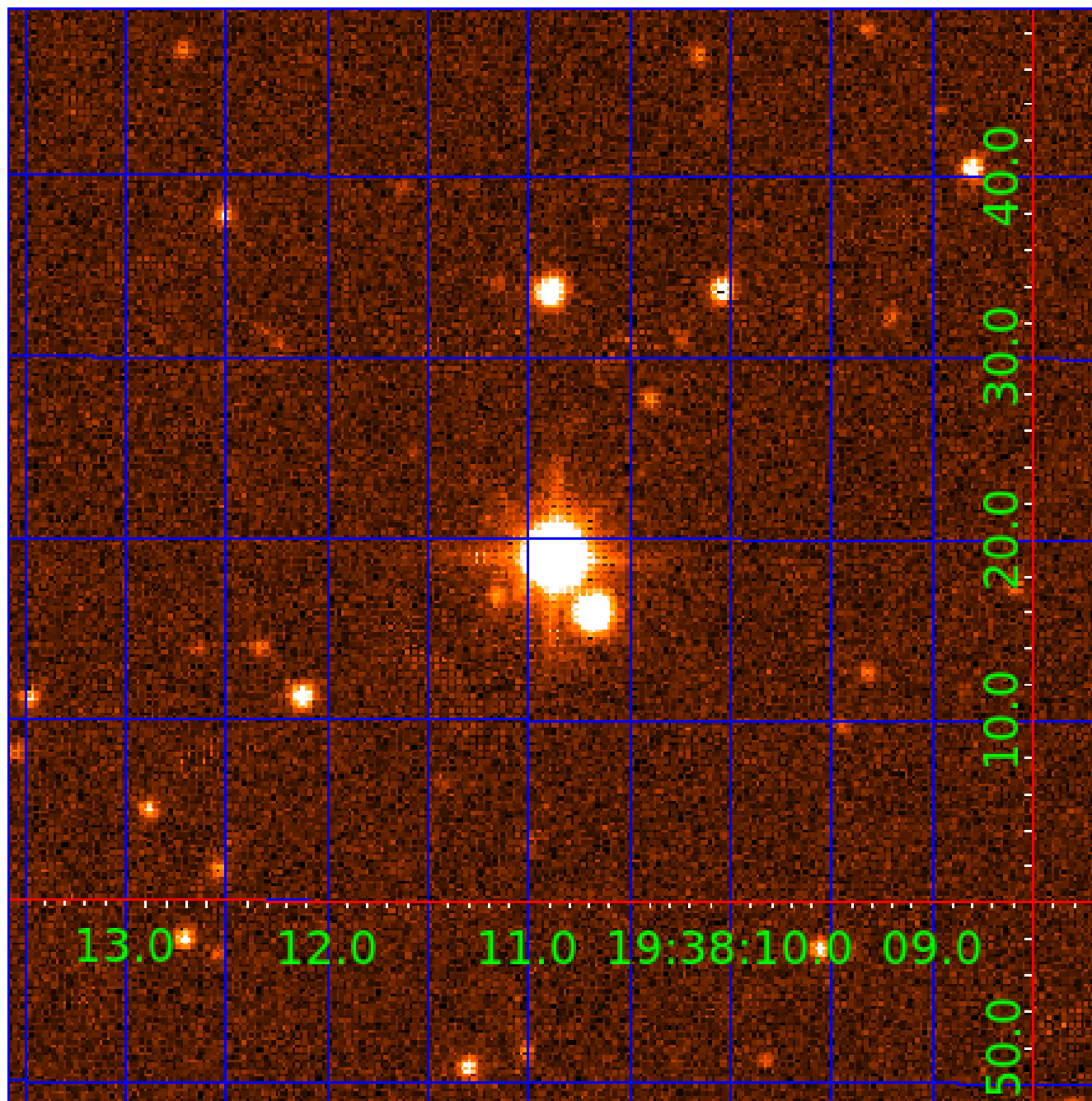


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006701459

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})
006701459-01	OBS	No	1.889459	133.027296	28.3	6.479	10.2	8.7	3.34	6980	2.06	17516.08
006701459-02	OBS	No	1.889706	132.417824	25.3	8.598	12.8	8.1	3.34	6980	1.80	17513.03
006701459-03	OBS	No	72.103560	147.694414	292.0	2.970	9.4	8.4	3.34	6980	6.56	136.34
006701459-04	OBS	No	28.217516	159.679499	208.2	10.887	9.0	9.3	3.34	6980	9.39	476.28
006701459-05	OBS	No	40.850708	135.790804	114.7	7.854	8.5	5.4	3.34	6980	3.62	290.82
006701459-06	OBS	No	40.875277	135.791873	162.7	7.526	8.1	3.9	3.34	6980	4.34	290.58
006701459-07	OBS	No	204.812285	201.488008	396.0	6.975	8.1	8.3	3.34	6980	8.46	33.89
006701459-08	OBS	No	221.164334	159.832506	229.8	9.197	8.3	7.5	3.34	6980	5.44	30.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006701459-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS
006701459-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
006701459-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006701459-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006701459-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
006701459-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS

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

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

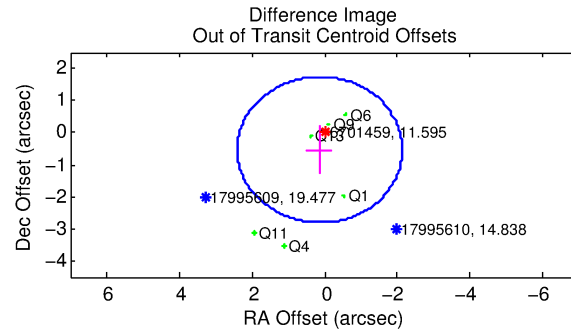
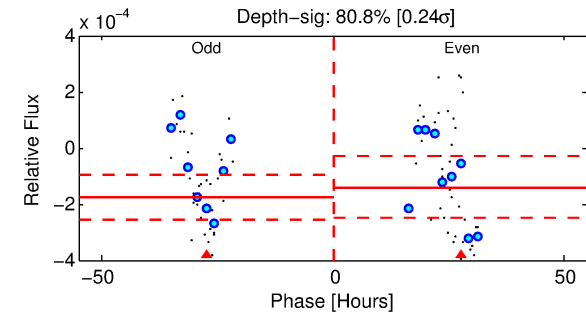
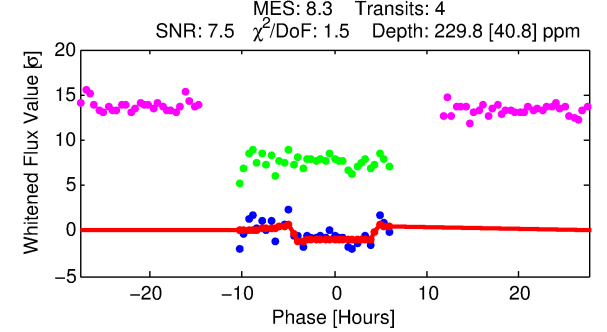
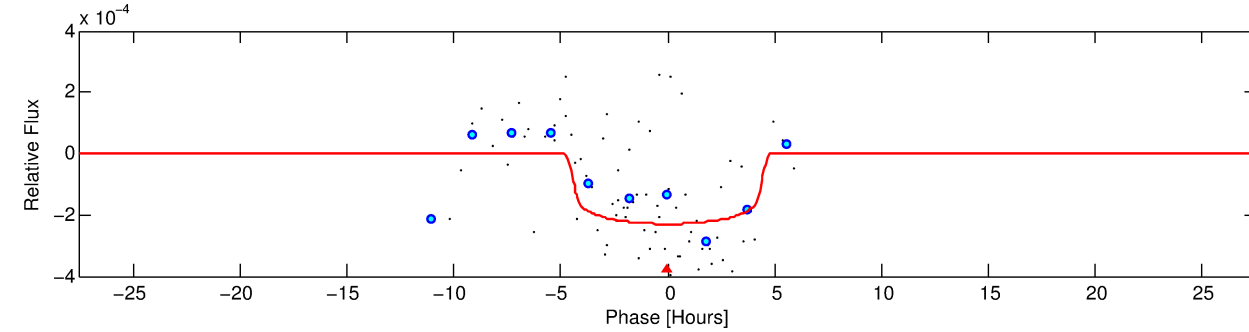
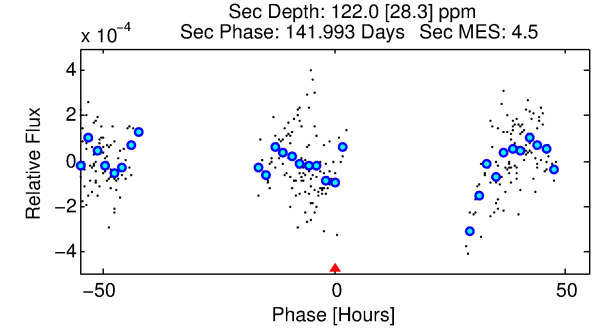
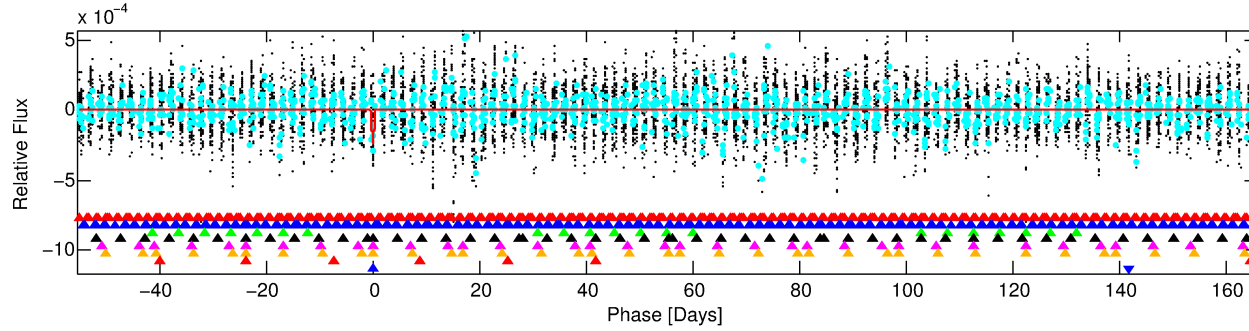
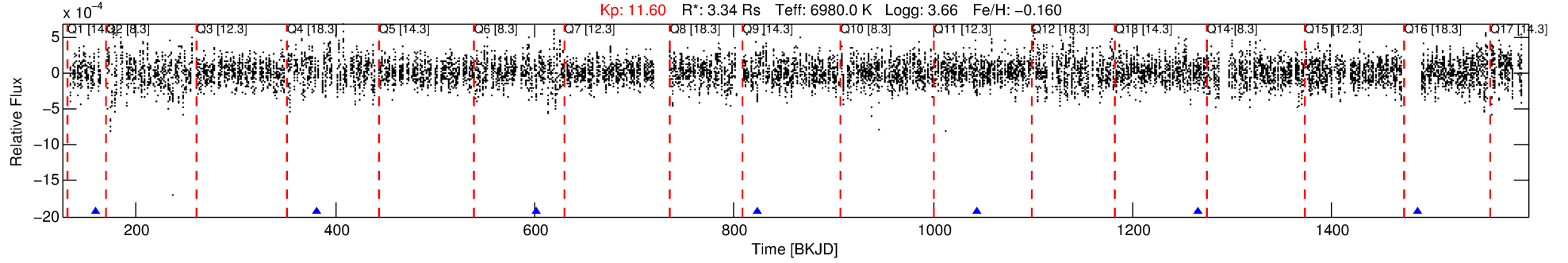
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006701459-08

No Significant Match Found

DV One-Page Summary

KIC: 6701459 Candidate: 8 of 8 Period: 221.164 d



DV Fit Results:

Period = 221.16433 [0.01057] d
Epoch = 159.8325 [0.0320] BKJD
Rp/R* = 0.0149 [0.0092]
a/R* = 131.87 [475.94]
b = 0.72 [2.43]
Seff = 30.59 [16.30]
Teq = 600 [80] K
Rp = 5.44 [3.94] Re
a = 0.8799 [0.2978] AU
Ag = 1755.37 [2387.50] [0.73σ]
Teffp = 6001 [1895] K [2.85σ]

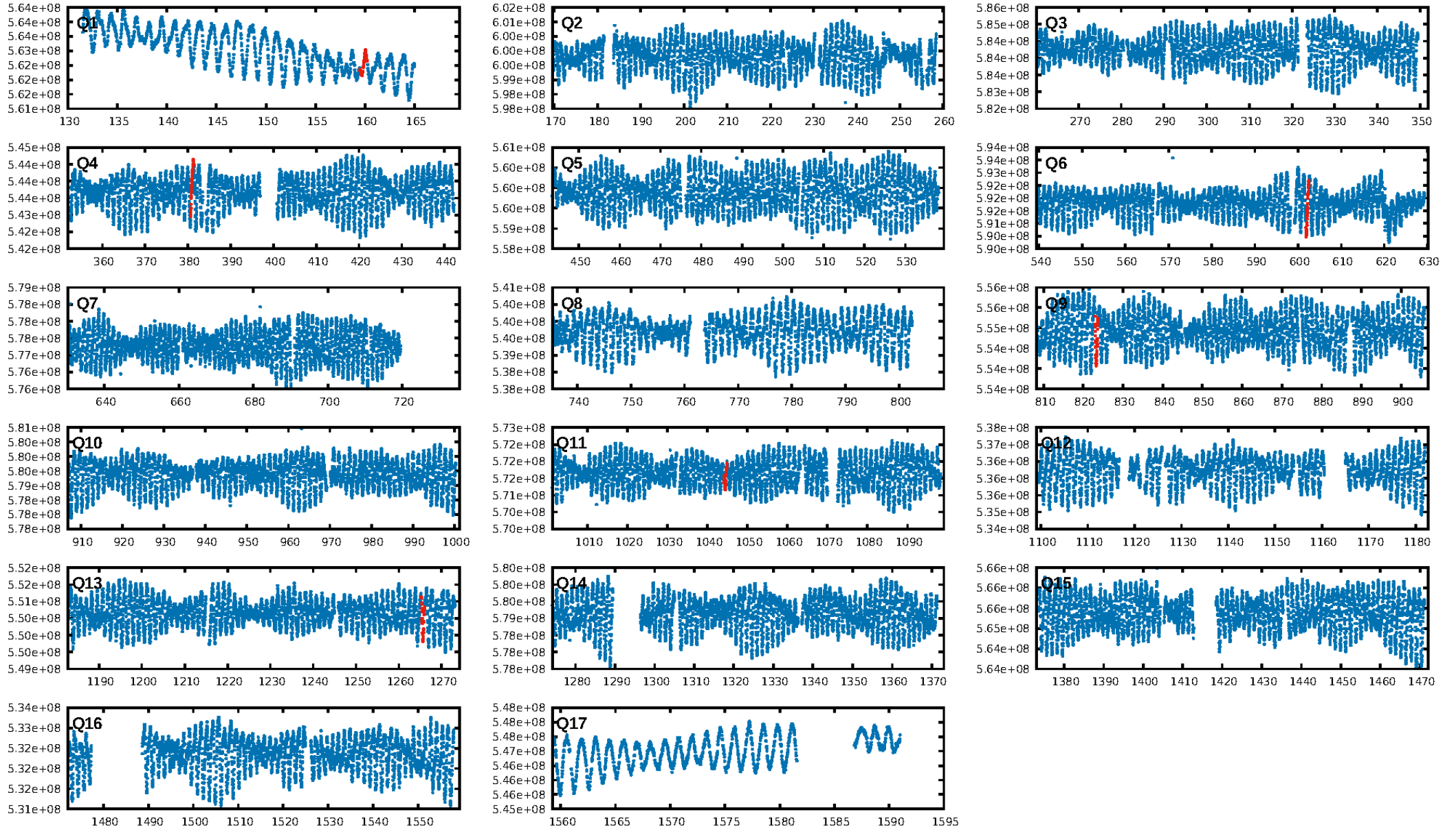
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [34.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 75.8%
Bootstrap-pfa: 8.36e-09
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.528
Centroid-sig: N/A
Centroid-so: 0.457 arcsec [0.98σ]
OotOffset-rm: 0.552 arcsec [0.73σ]
KicOffset-rm: 0.438 arcsec [0.61σ]
OotOffset-st: 1/1/1/3 [6]
KicOffset-st: 1/1/1/3 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.00 [0/6]

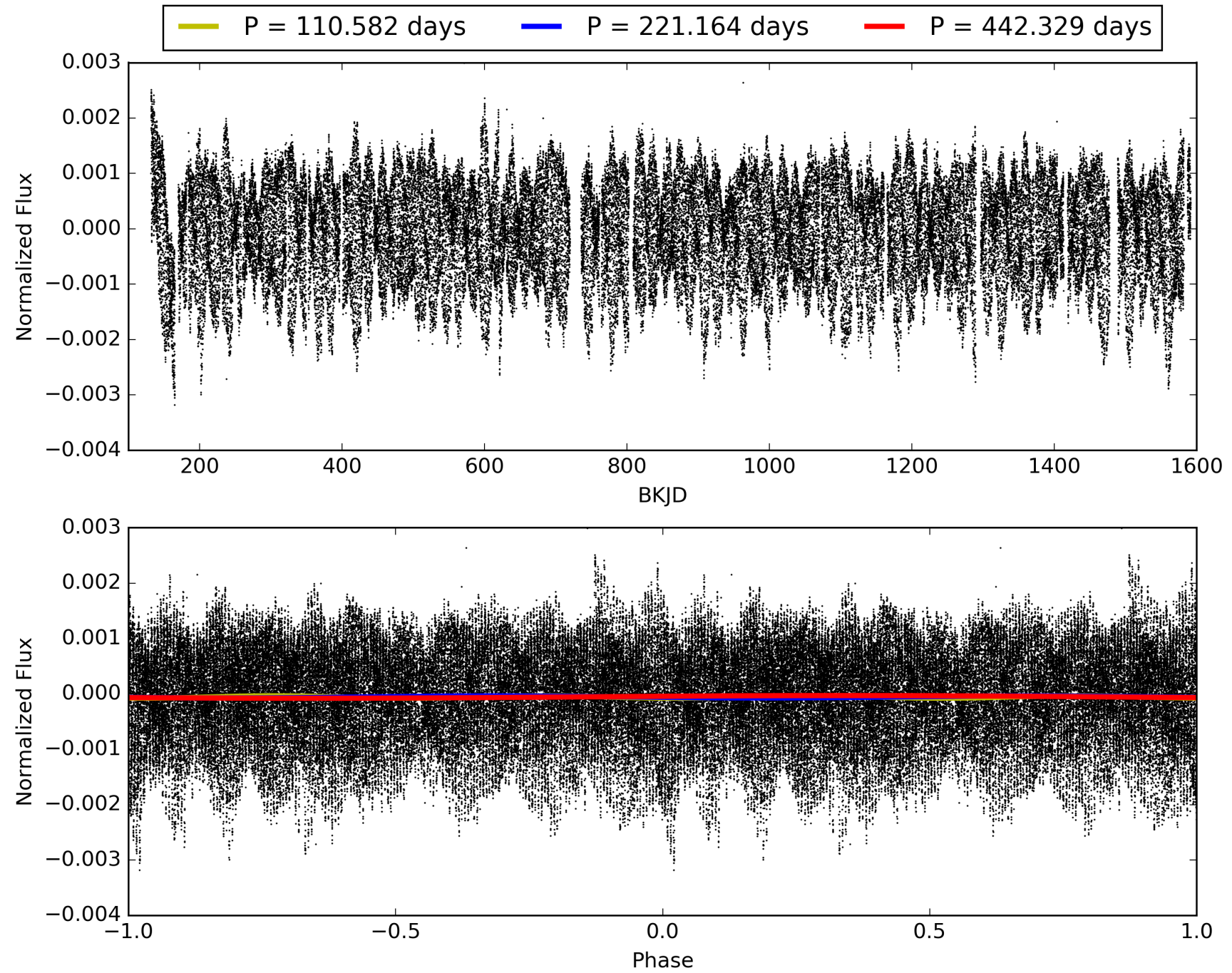
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 01:19:38 Z

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

TCE 006701459-08, PDC Light Curves

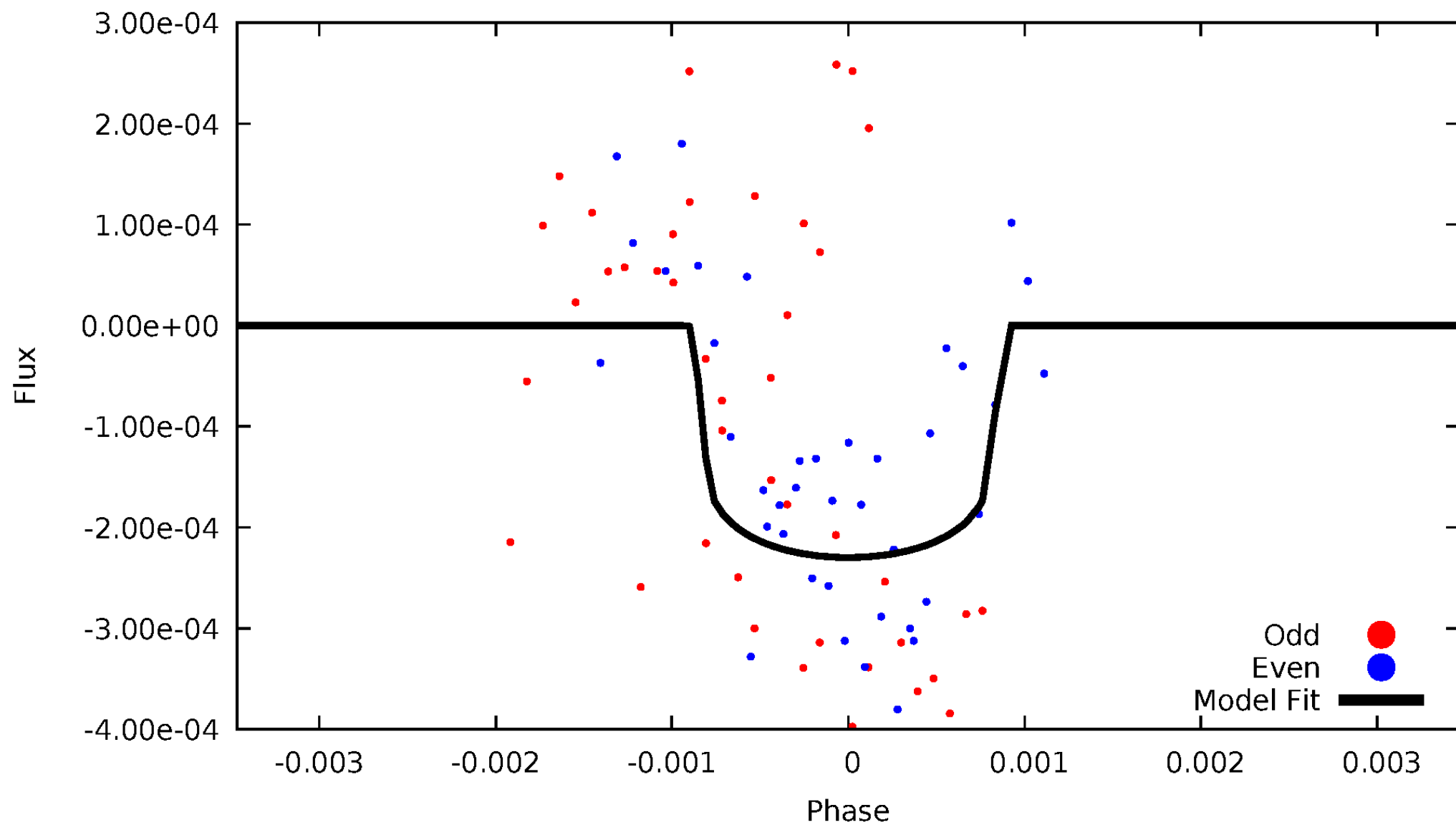


TCE 006701459-08



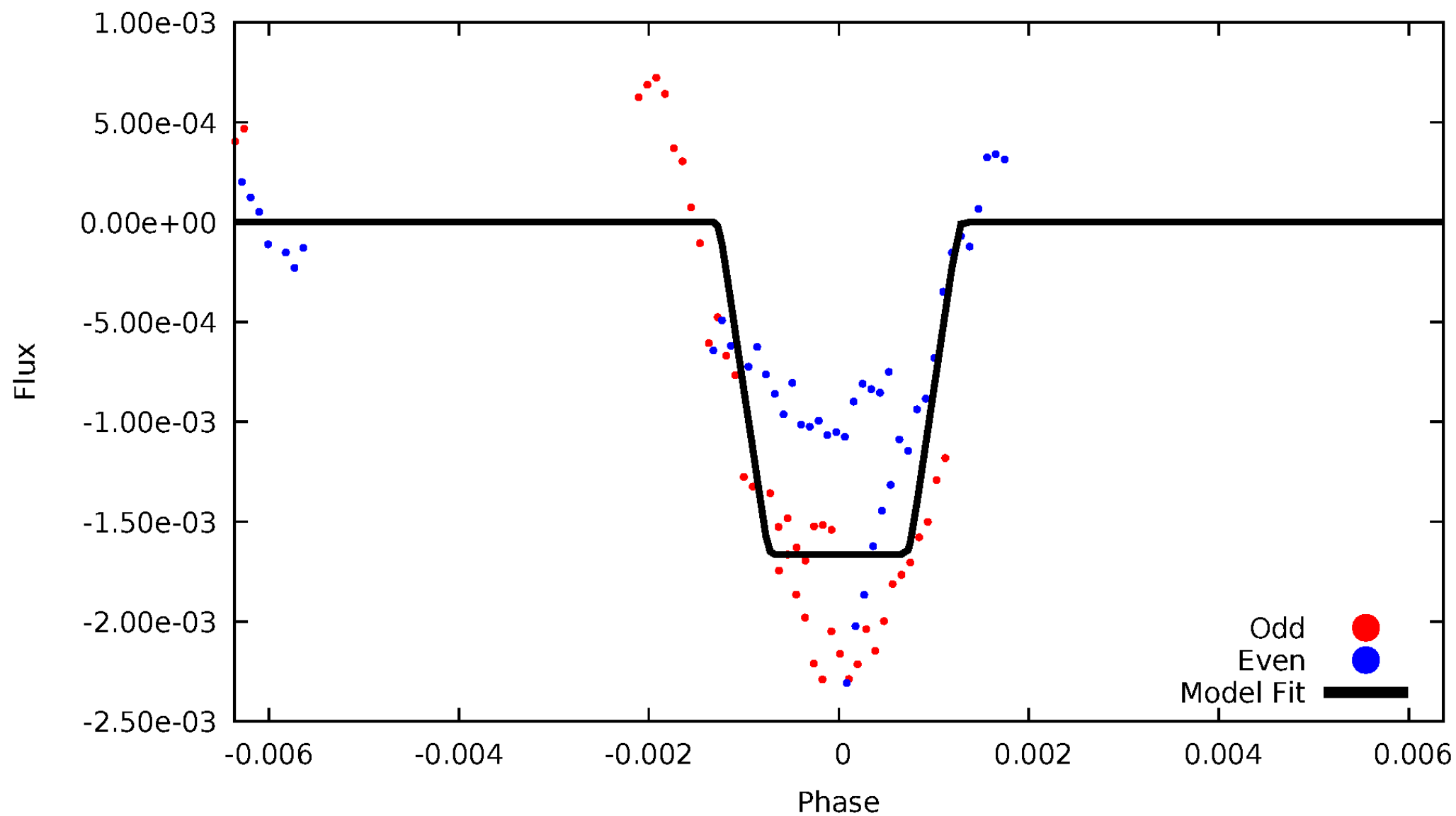
DV Odd/Even

TCE 006701459-08



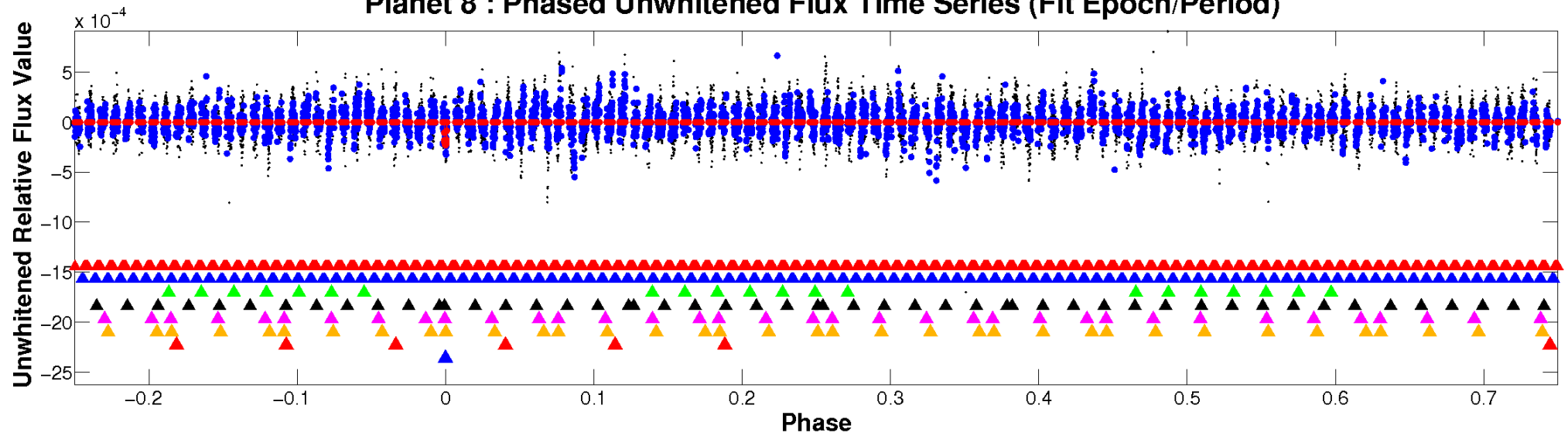
ALT Odd/Even

TCE 006701459-08

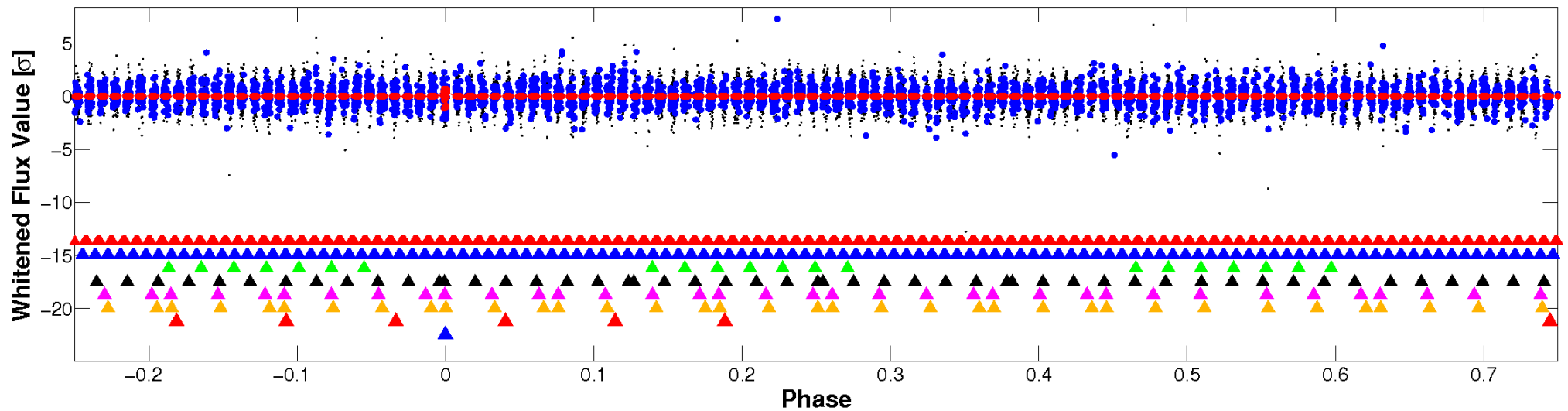


Non-Whitened Vs. Whitened Light Curve

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

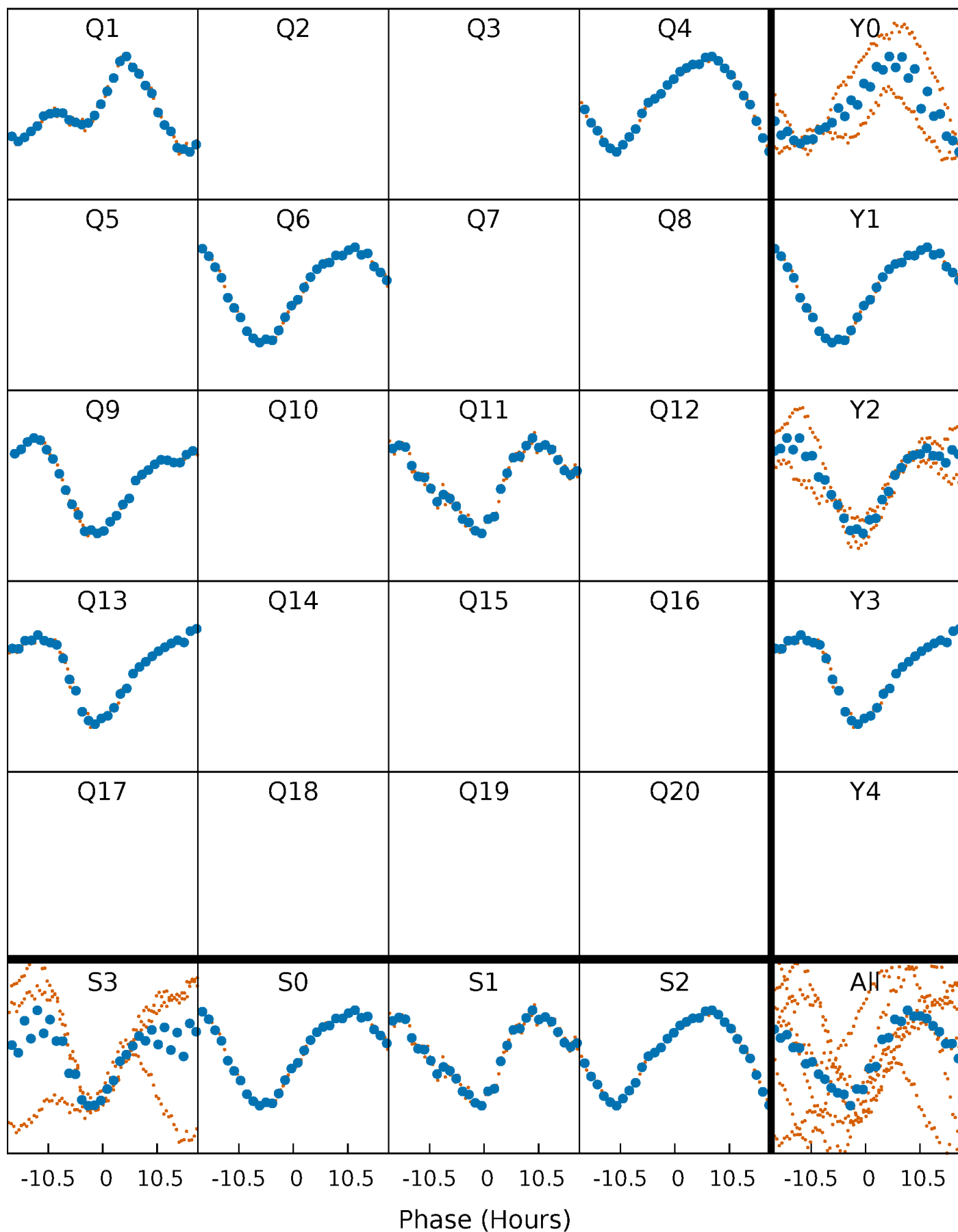


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



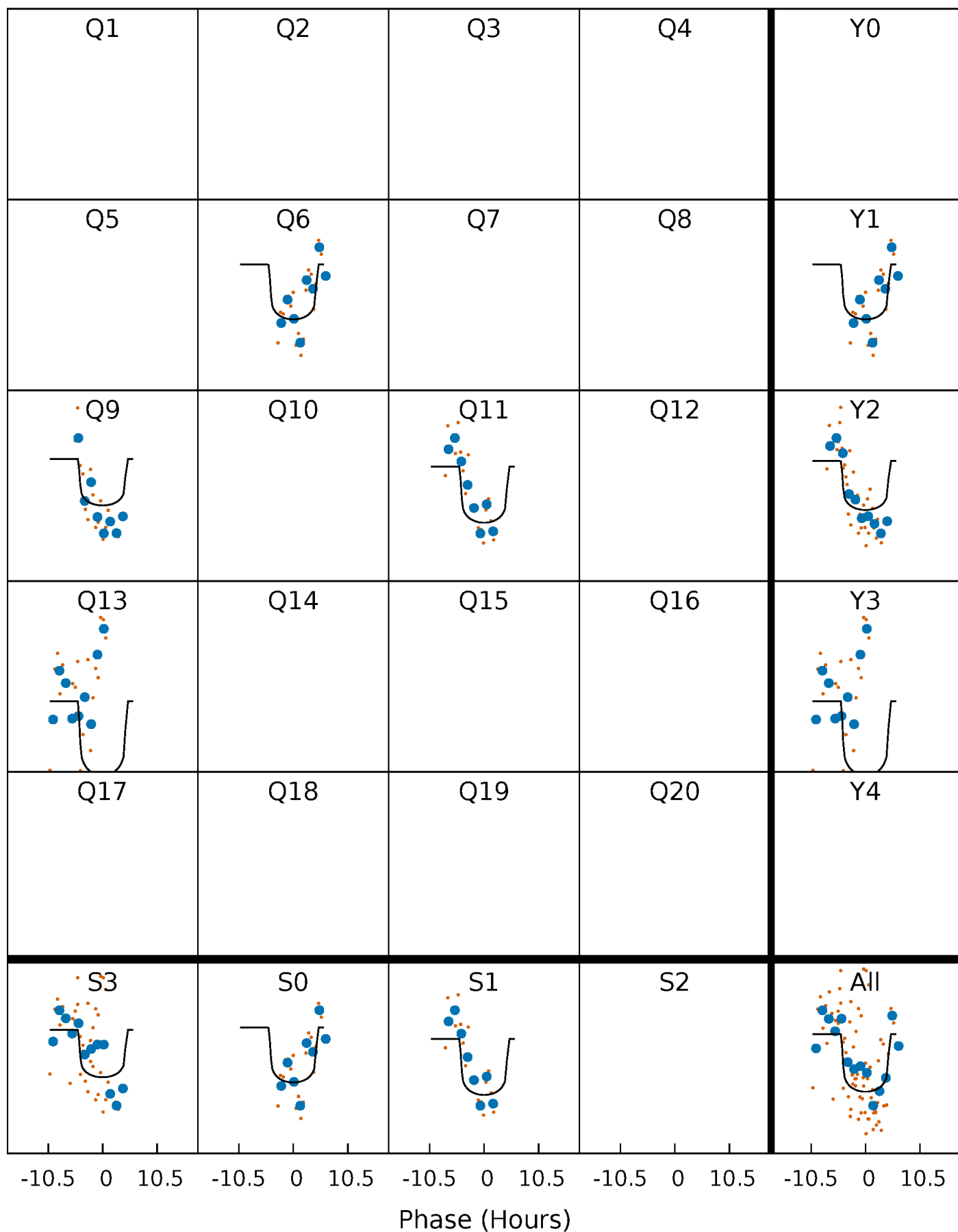
PDC Quarter-Phased Transit Curves

TCE 006701459-08 P=221.164334 Days $T_0=159.832506$ (BKJD)



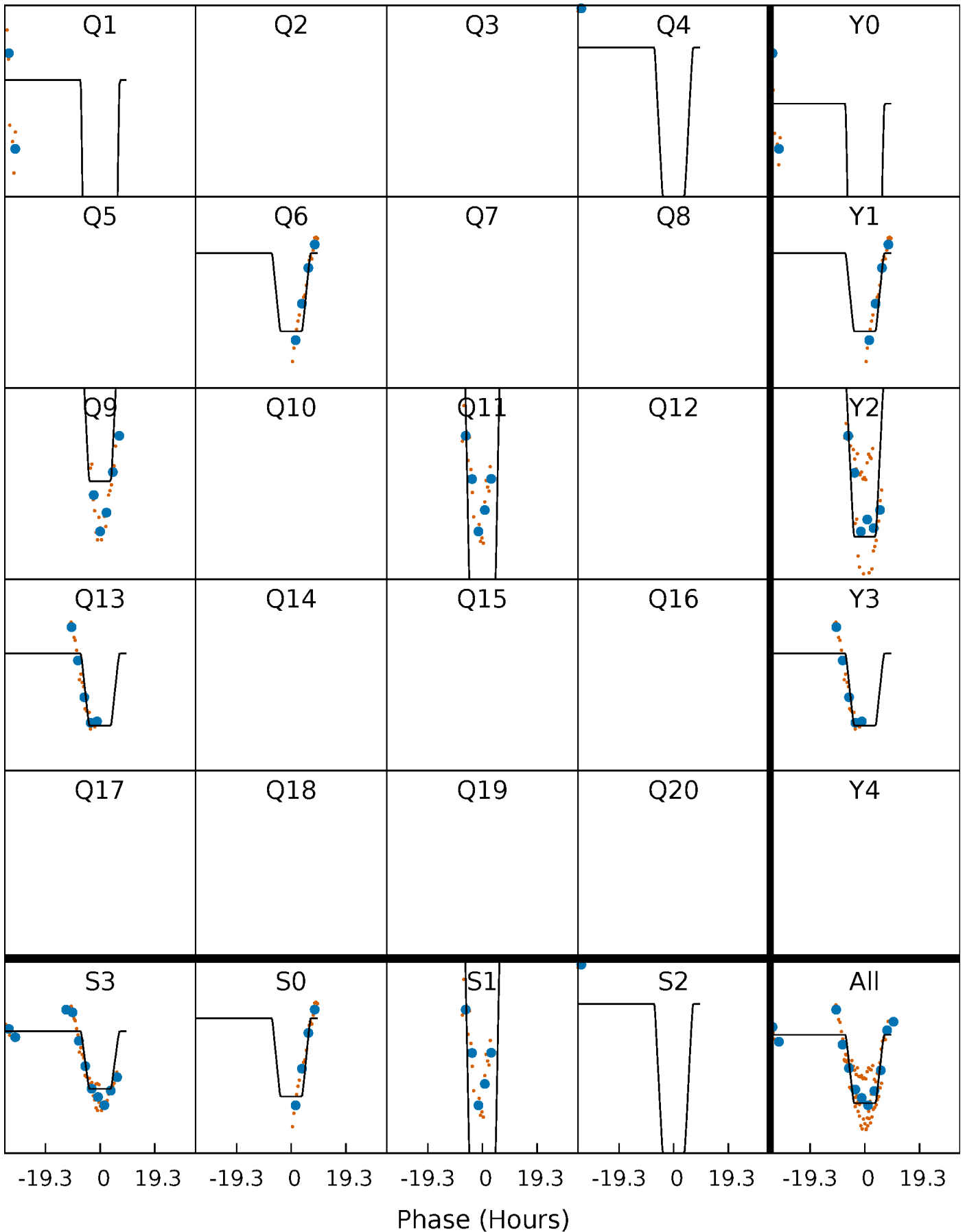
DV Quarter-Phased Transit Curves

TCE 006701459-08 P=221.164334 Days $T_0=159.832506$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

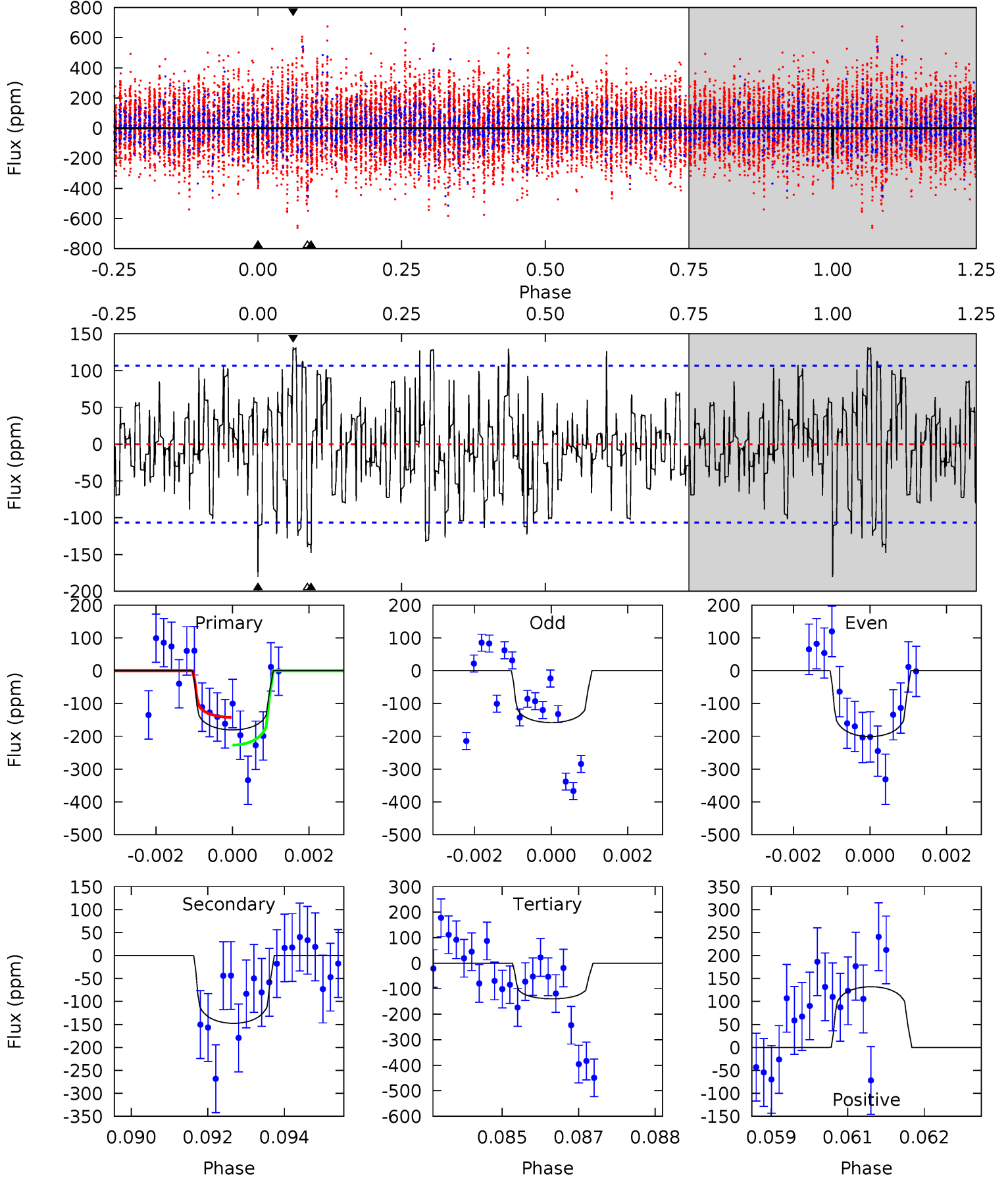
TCE 006701459-08 P=221.225415 Days $T_0=159.569641$ (BKJD)



DV Model-Shift Uniqueness Test

006701459-08, P = 221.164334 Days, E = 159.832506 Days

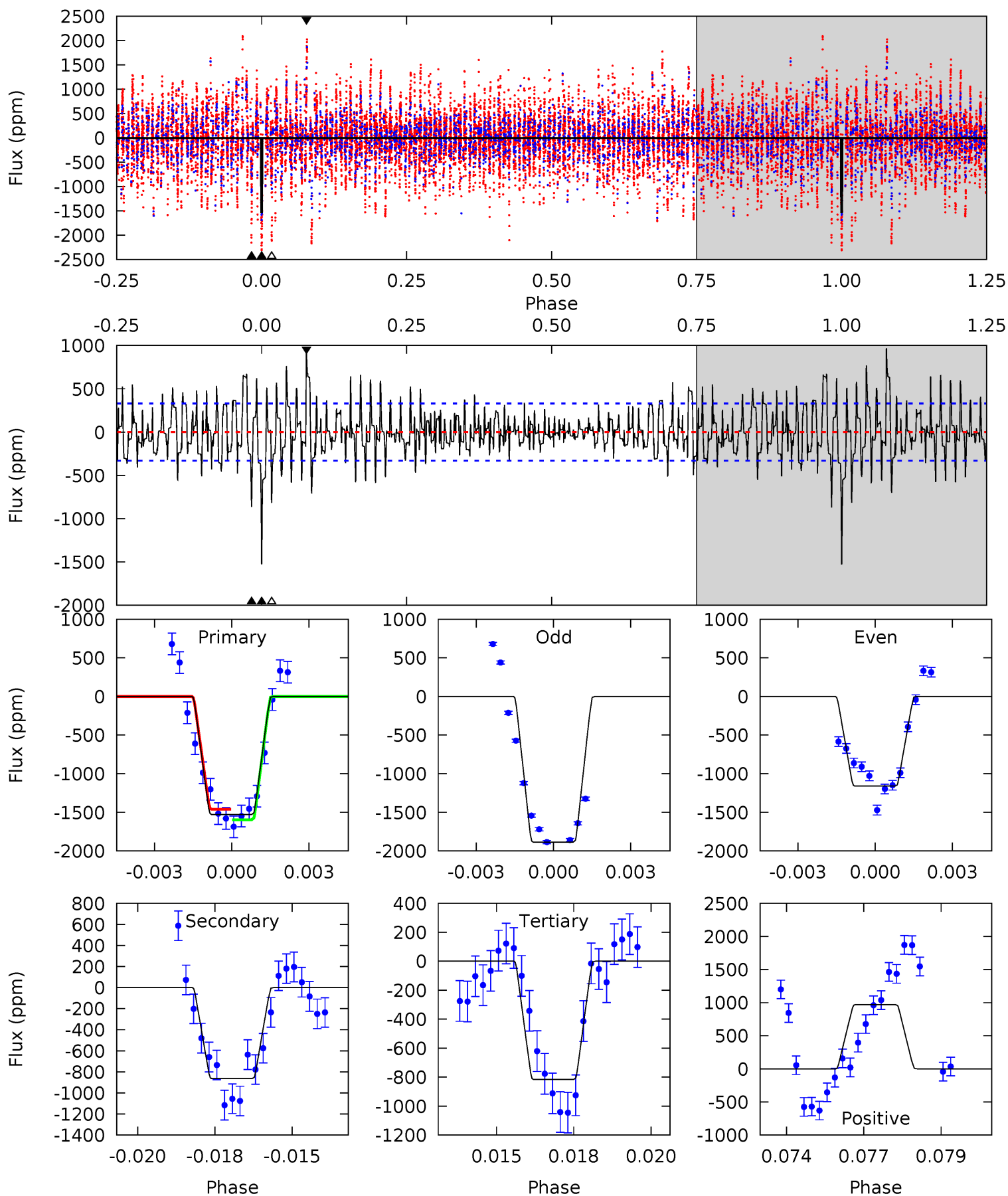
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.06	7.41	7.01	6.63	5.35	3.13	2.34	2.05	2.44	0.40	0.78	1.08	0.77	0.42	2.09



Alt Model-Shift Uniqueness Test

006701459-08, P = 221.225415 Days, E = 159.569641 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.4	13.8	13.0	15.5	5.28	3.02	3.73	11.4	8.93	0.78	-1.69	5.86	0.96	0.39	1.08



Stellar Parameters For KIC 006701459

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6980^{+167}_{-209}	$3.660^{+0.296}_{-0.056}$	$-0.160^{+0.300}_{-0.250}$	$3.337^{+0.335}_{-1.256}$	$1.858^{+0.178}_{-0.414}$	$0.070^{+0.160}_{-0.017}$
	+2%/-3%	+8%/-2%	+188%/-156%	+10%/-38%	+10%/-22%	+227%/-24%
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 006701459-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-148 ± 20	$4.95^{+3.10}_{-2.71}$	819^{+43}_{-67}	6326^{+3653}_{-1313}	2534^{+9120}_{-1569}
Alt.	-864 ± 63	$13.70^{+4.18}_{-3.70}$	818^{+41}_{-66}	5896^{+845}_{-554}	1954^{+1572}_{-757}

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 $A_{obs} \gg 1.0$

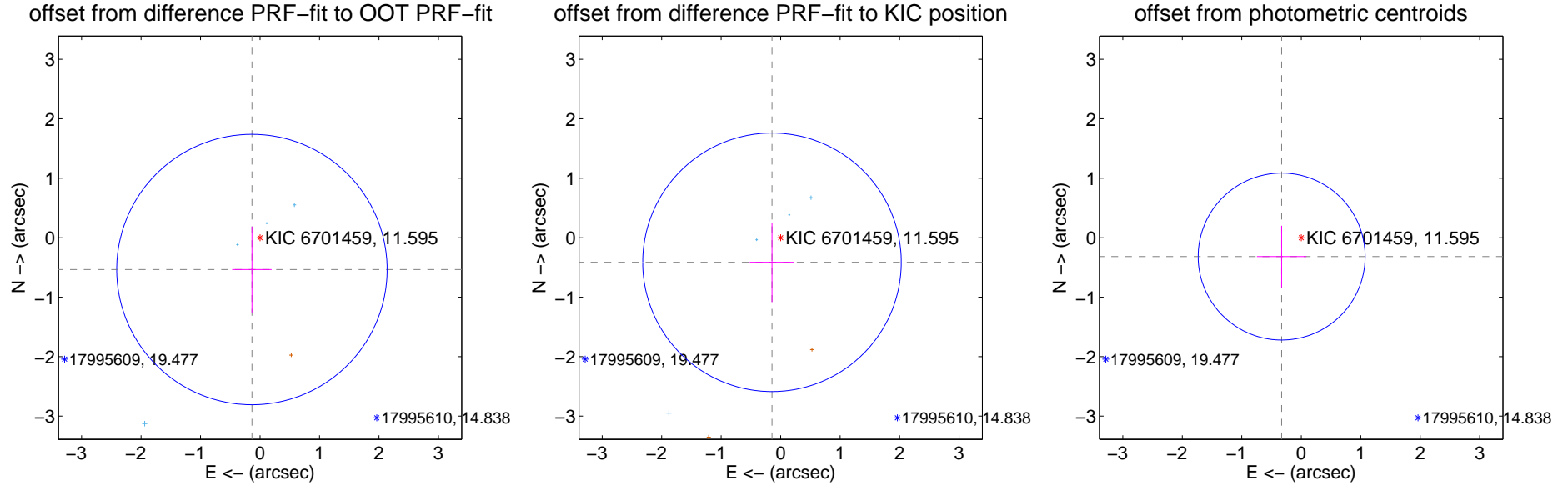
DV Centroid Data

Supplemental centroid analysis for 006701459-08. **Kepler magnitude: 11.60.** Transit SNR 7.52

There are 4 quarters with good PRF difference image offsets

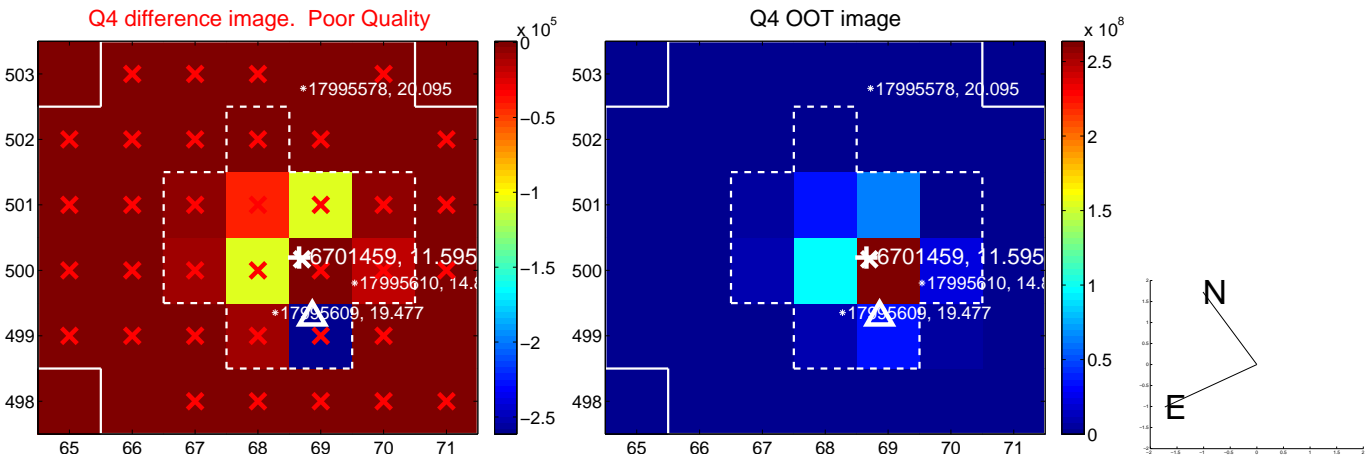
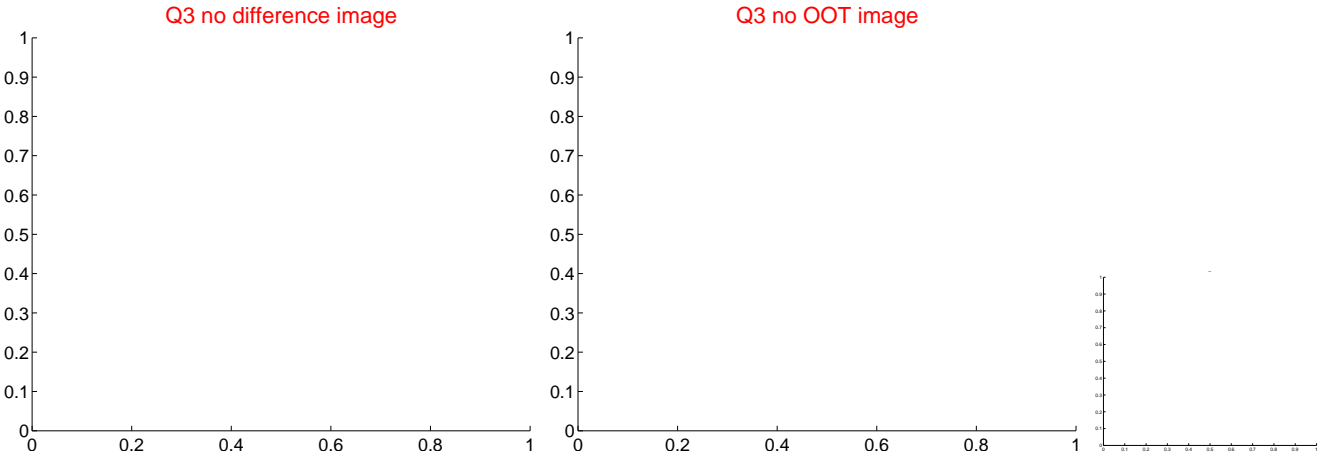
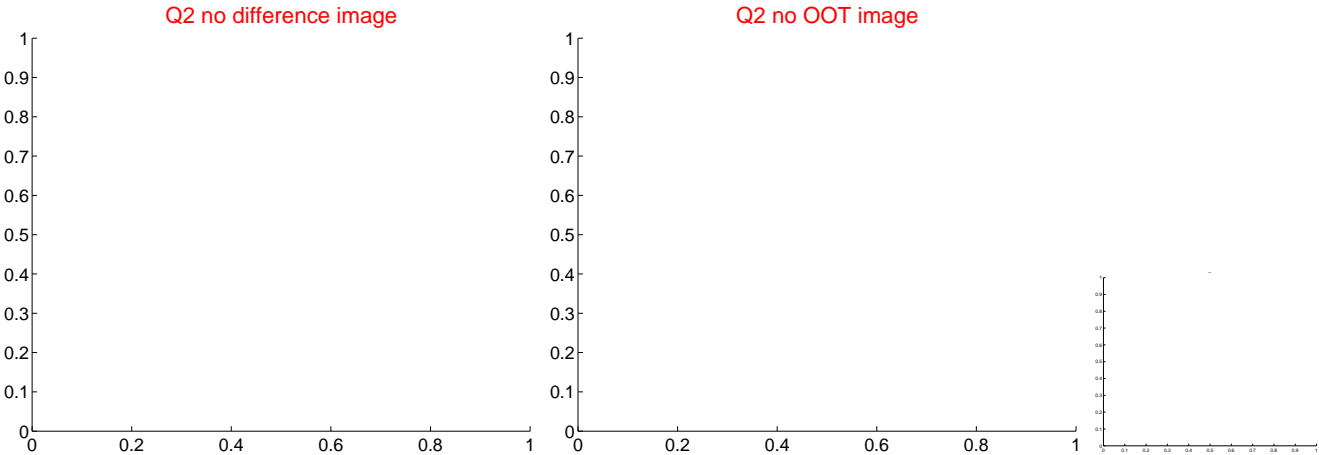
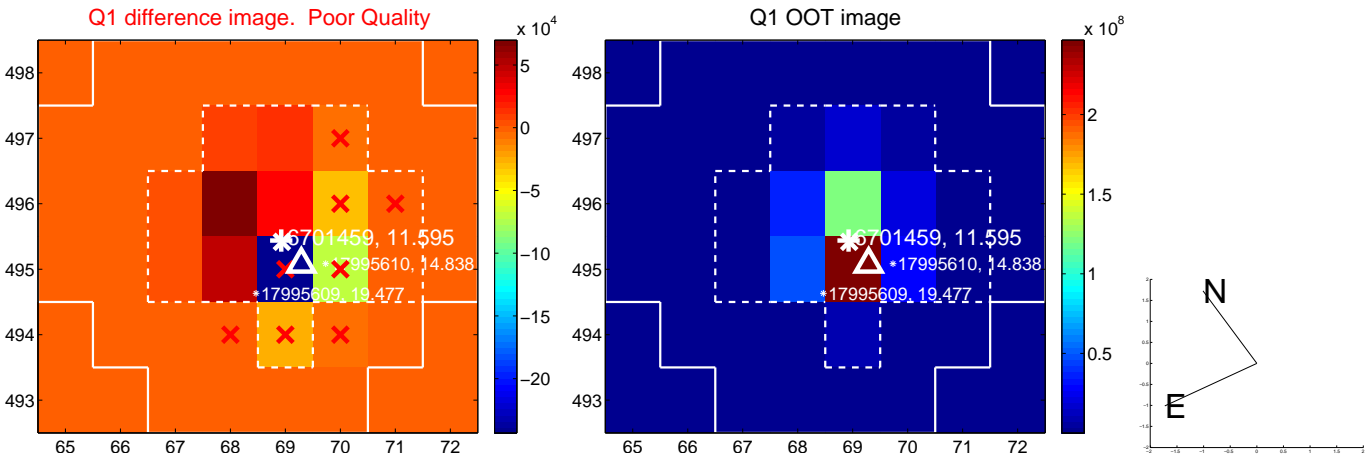
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.552 ± 0.758	0.73	0.136 ± 0.331	-0.535 ± 0.722
PRF-fit source offset from KIC position	0.438 ± 0.724	0.61	0.145 ± 0.375	-0.414 ± 0.668
photometric centroid source offset	0.46 ± 0.47	0.98	0.33 ± 0.42	-0.32 ± 0.52

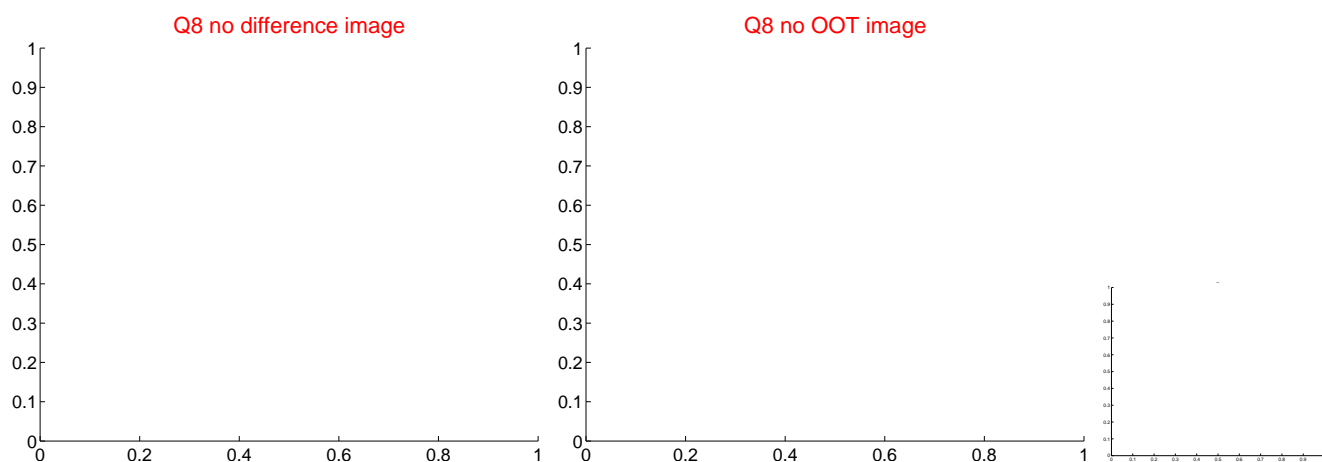
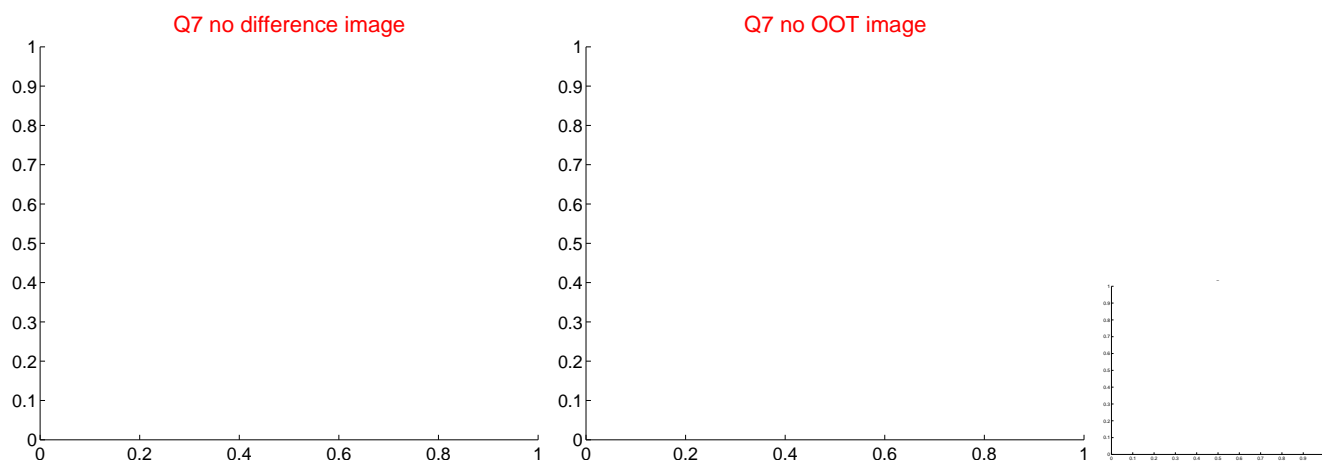
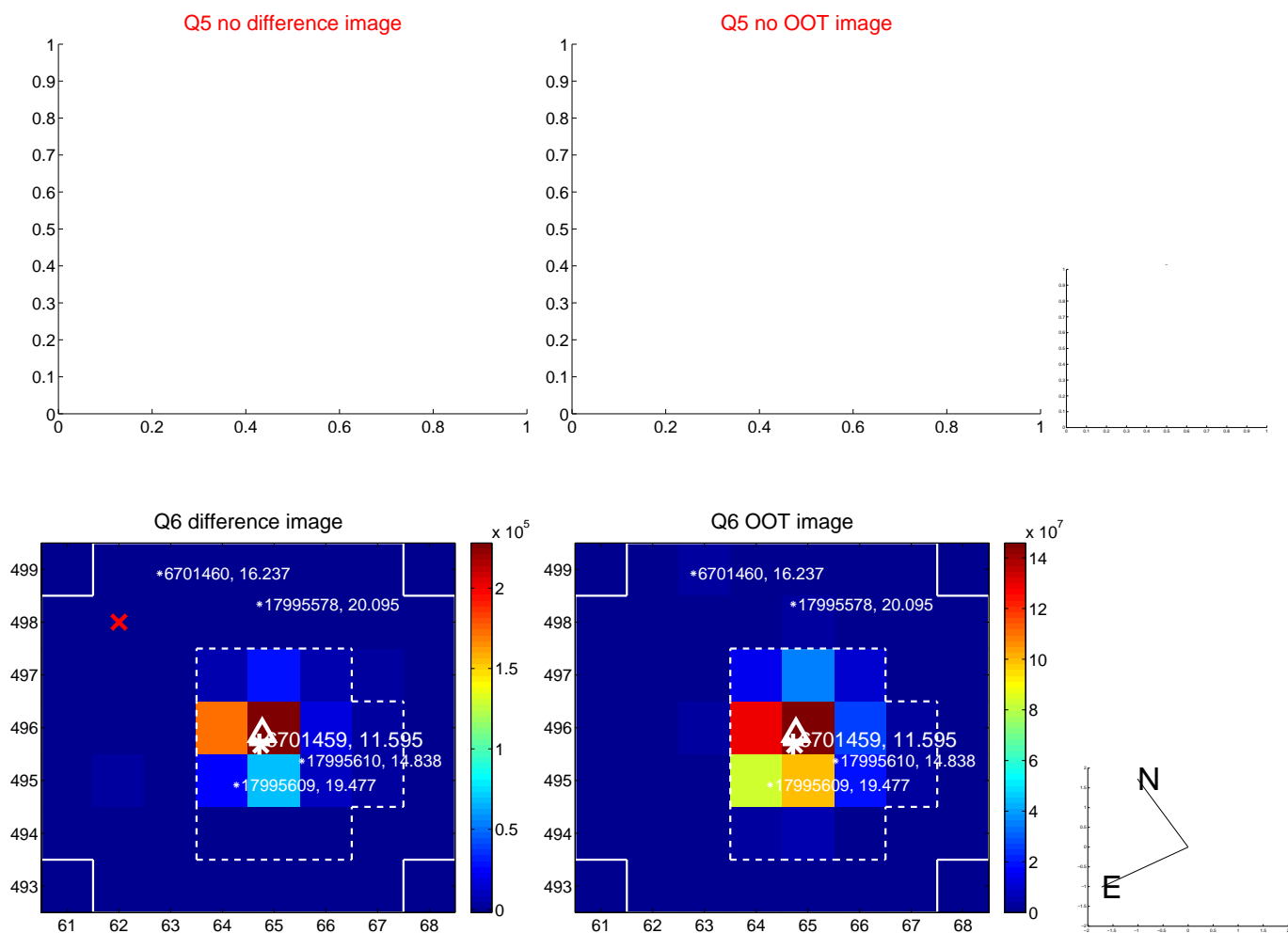


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

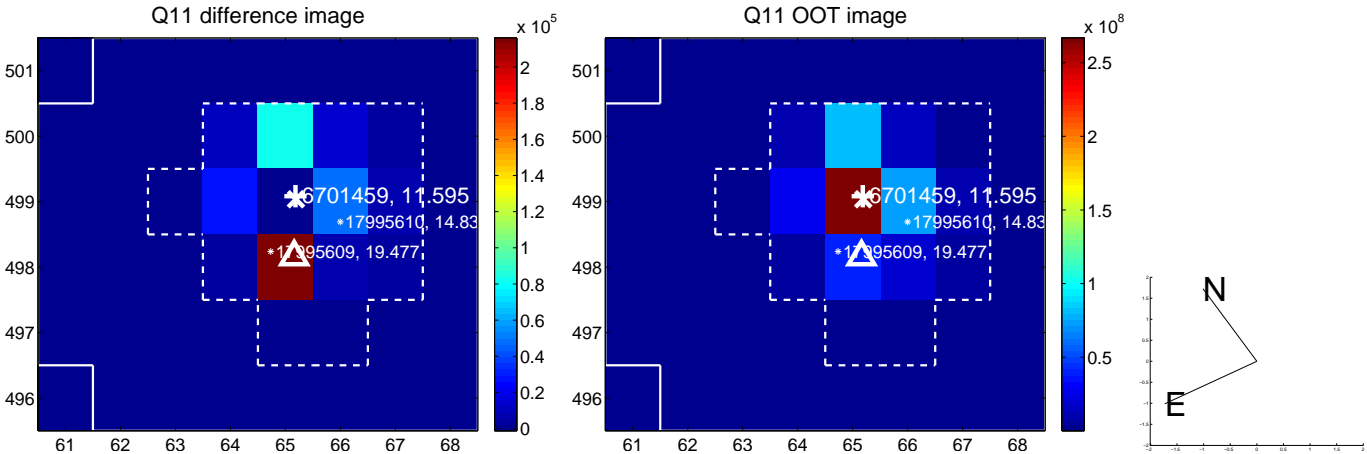
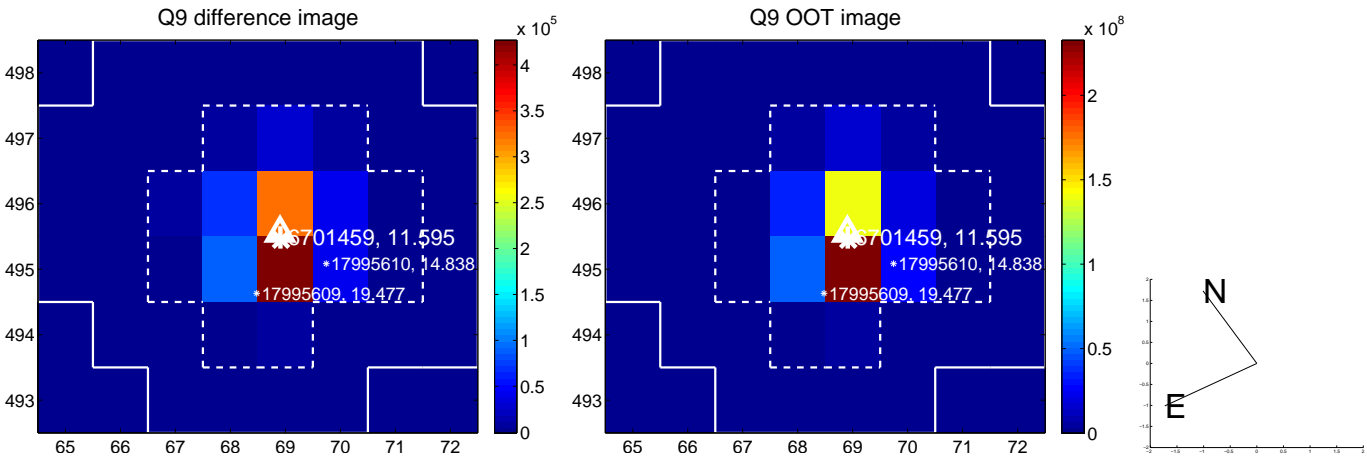
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



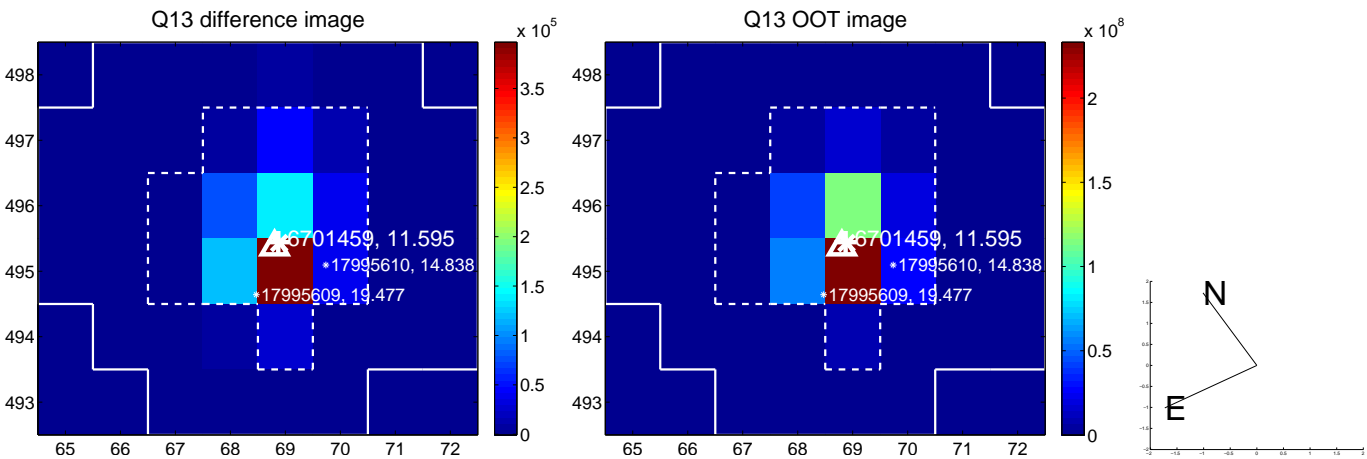
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



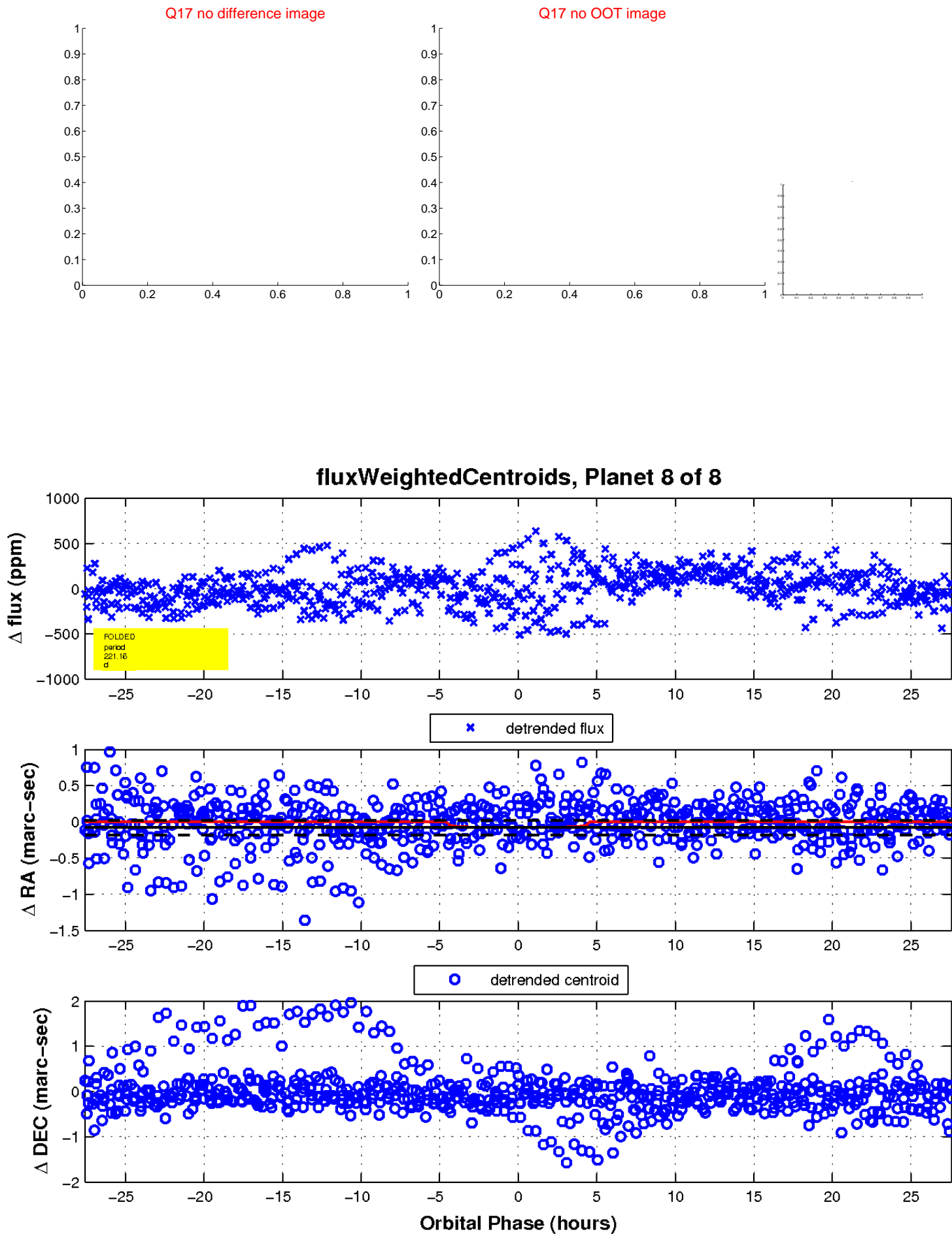
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

