

KIC 006945500

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})
006945500-01	OBS	No	1.755894	133.225592	35.1	12.473	9.1	10.7	1.89	7207	1.31	8143.94
006945500-02	OBS	No	38.648683	160.583197	525.7	22.088	16.0	10.1	1.89	7207	8.21	132.02
006945500-03	OBS	No	59.797470	188.316106	568.7	11.781	12.5	11.0	1.89	7207	8.53	73.78
006945500-05	OBS	No	245.835306	143.036494	483.0	9.931	10.0	9.3	1.89	7207	4.95	11.20
006945500-06	OBS	No	34.477761	140.060283	280.5	2.242	10.1	10.3	1.89	7207	3.68	153.74
006945500-07	OBS	No	36.817043	164.470540	305.2	2.424	9.9	10.0	1.89	7207	6.12	140.85
006945500-08	OBS	No	56.654681	137.107227	315.3	5.291	8.2	9.8	1.89	7207	6.46	79.28
006945500-09	OBS	No	4.866339	135.550778	126.2	3.000	9.0	-1.0	1.89	7207	2.16	2092.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006945500-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006945500-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
006945500-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006945500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
006945500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006945500-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

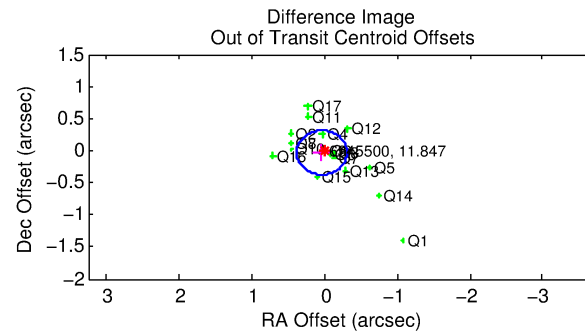
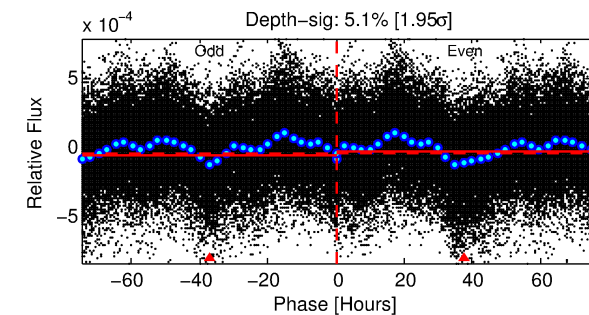
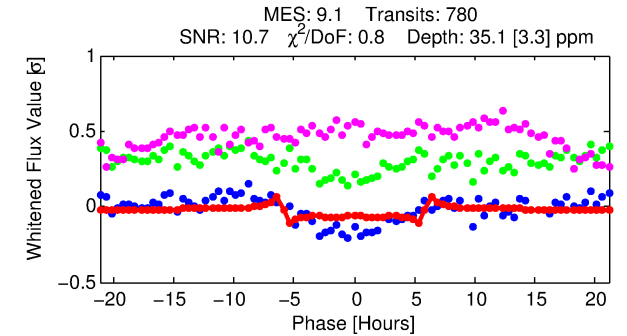
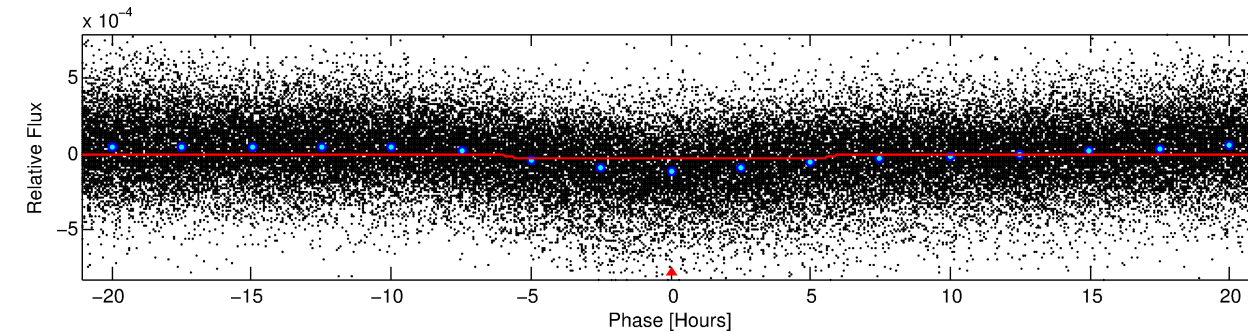
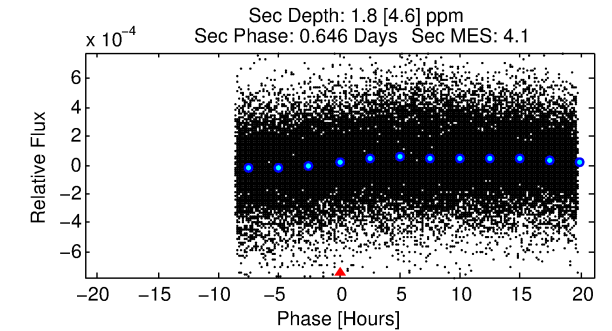
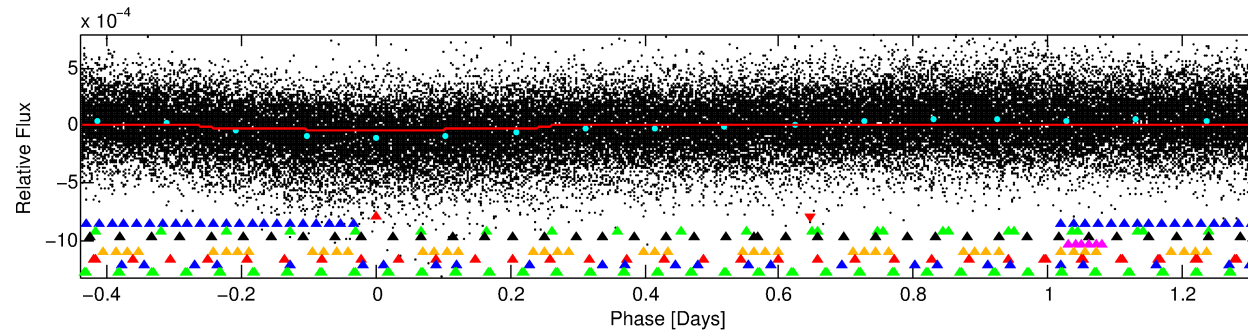
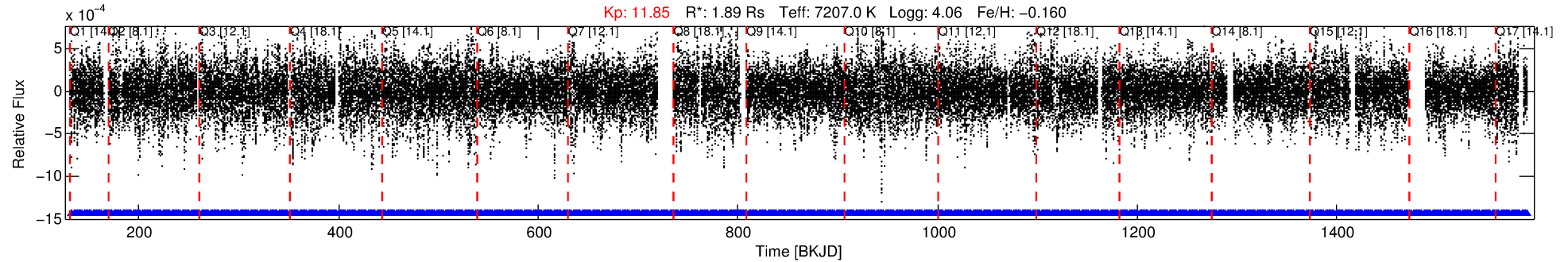
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006945500-01

No Significant Match Found

DV One-Page Summary

KIC: 6945500 Candidate: 1 of 9 Period: 1.756 d



DV Fit Results:

Period = 1.75589 [0.00002] d
Epoch = 133.2256 [0.0031] BKJD
 R_p/R^* = 0.0063 [0.0005]
 a/R^* = 1.06 [0.04]
 b = 0.91 [0.06]
 S_{eff} = 8143.94 [3228.15]
 T_{eq} = 2422 [240] K
 R_p = 1.31 [0.41] R_e
 a = 0.0326 [0.0083] AU
 A_g = 0.63 [1.61] [-0.23σ]
 T_{eff} = 3340 [2112] K [0.43σ]

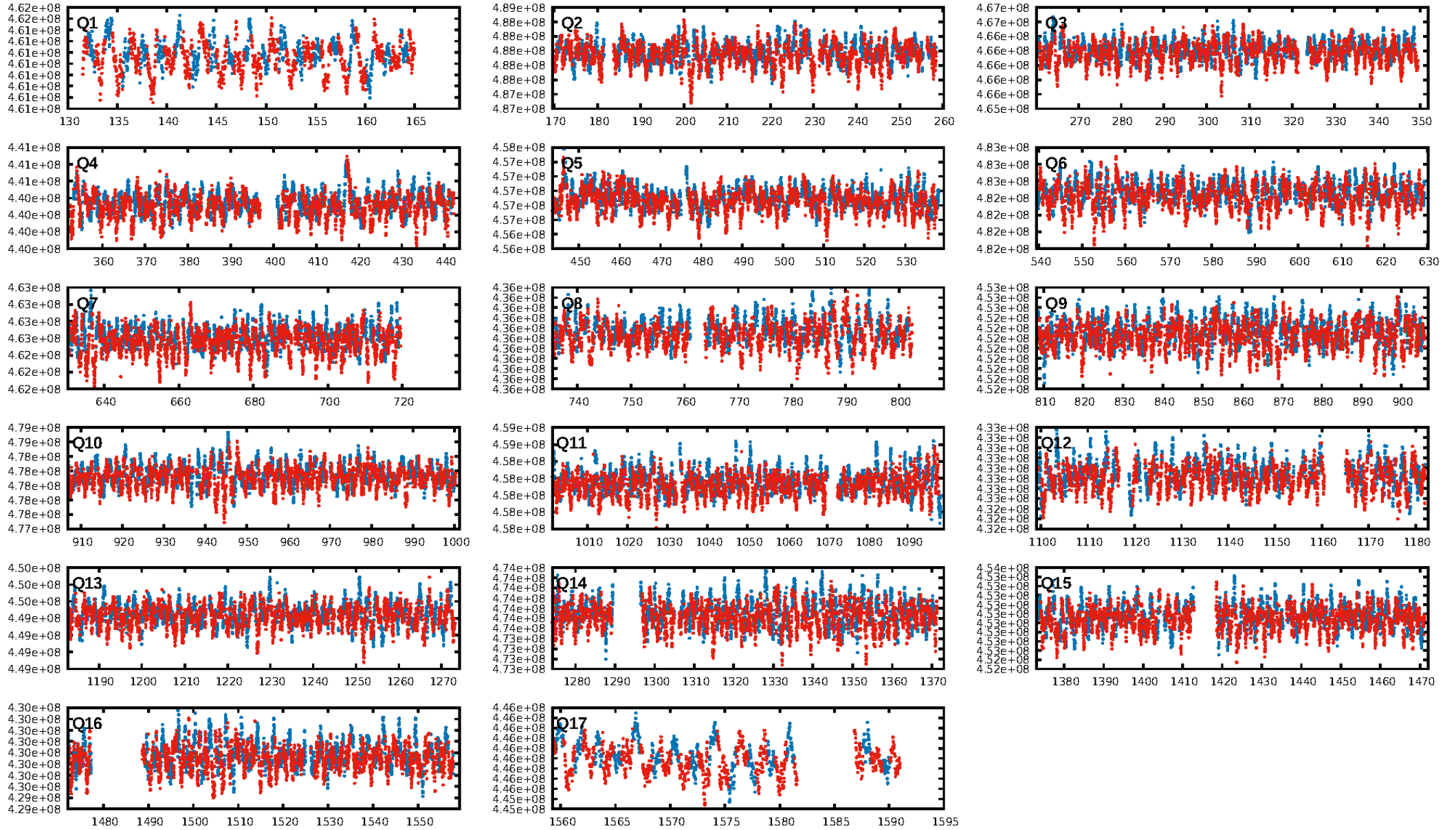
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [5.82σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [743/743]
GhostDiagnostic-chr: 1.775
Centroid-sig: 0.5%
Centroid-so: 0.259 arcsec [1.29σ]
OotOffset-rm: 0.050 arcsec [0.43σ]
KicOffset-rm: 0.148 arcsec [0.92σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

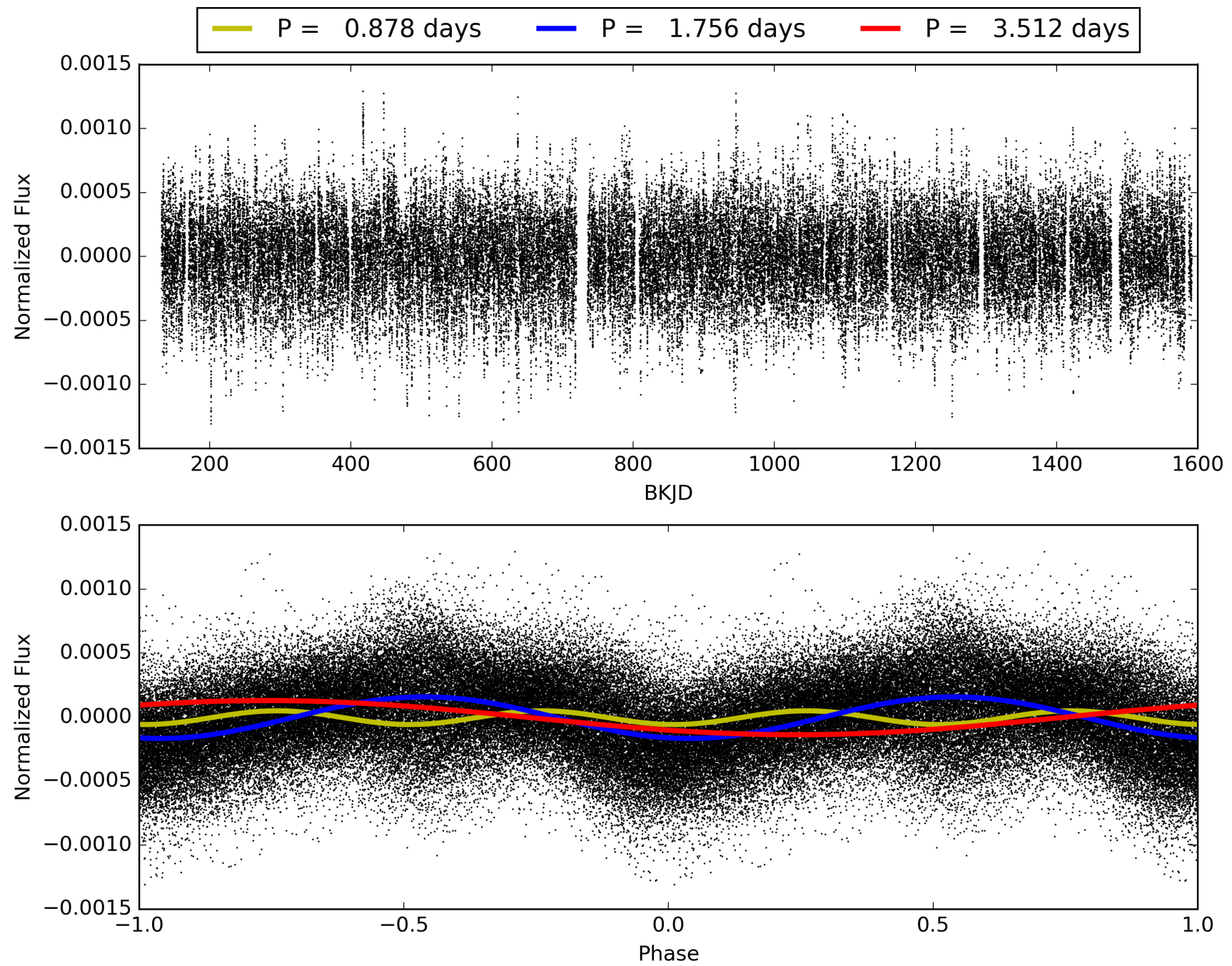
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:12:35 Z

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

TCE 006945500-01, PDC Light Curves

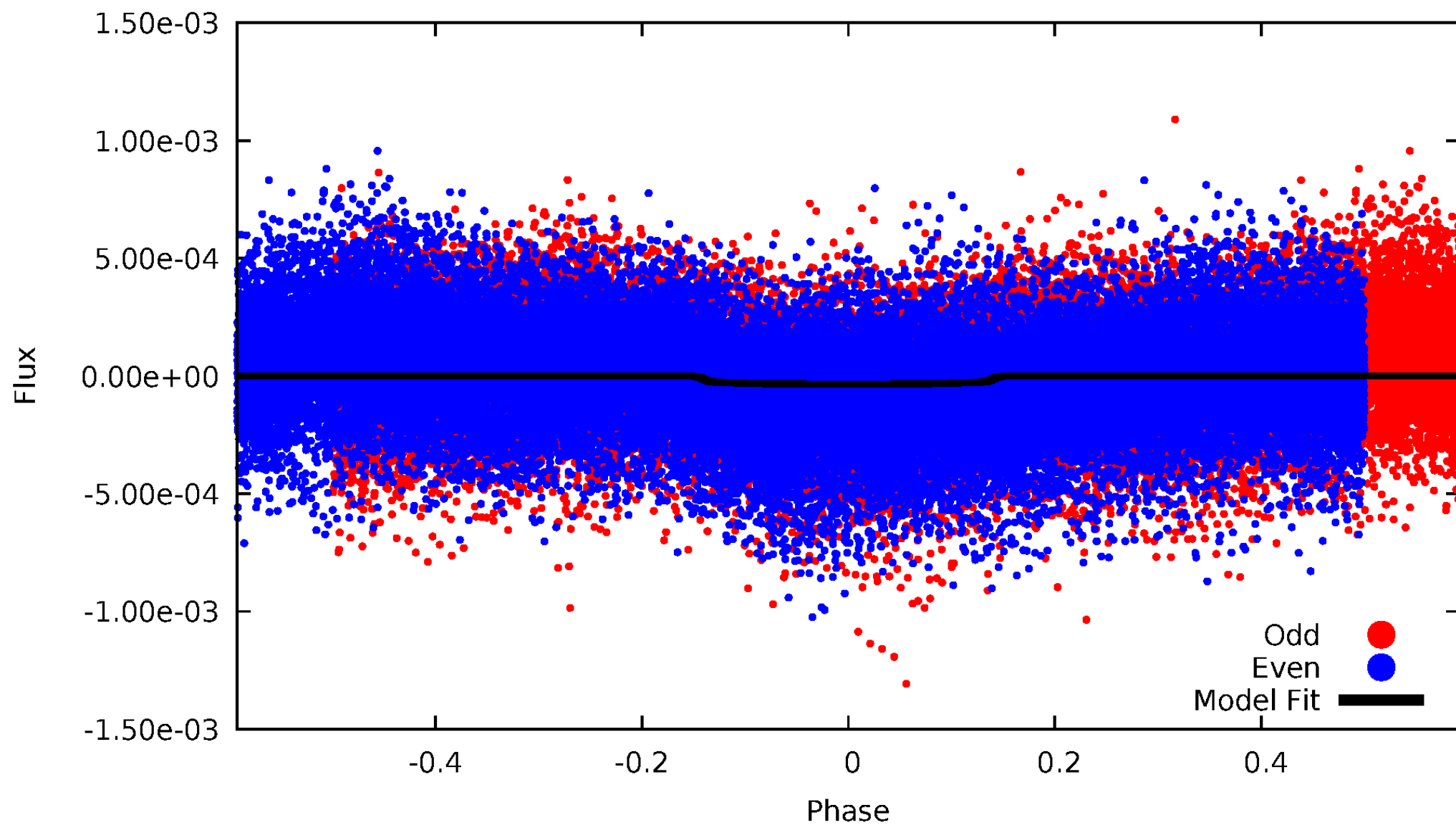


TCE 006945500-01



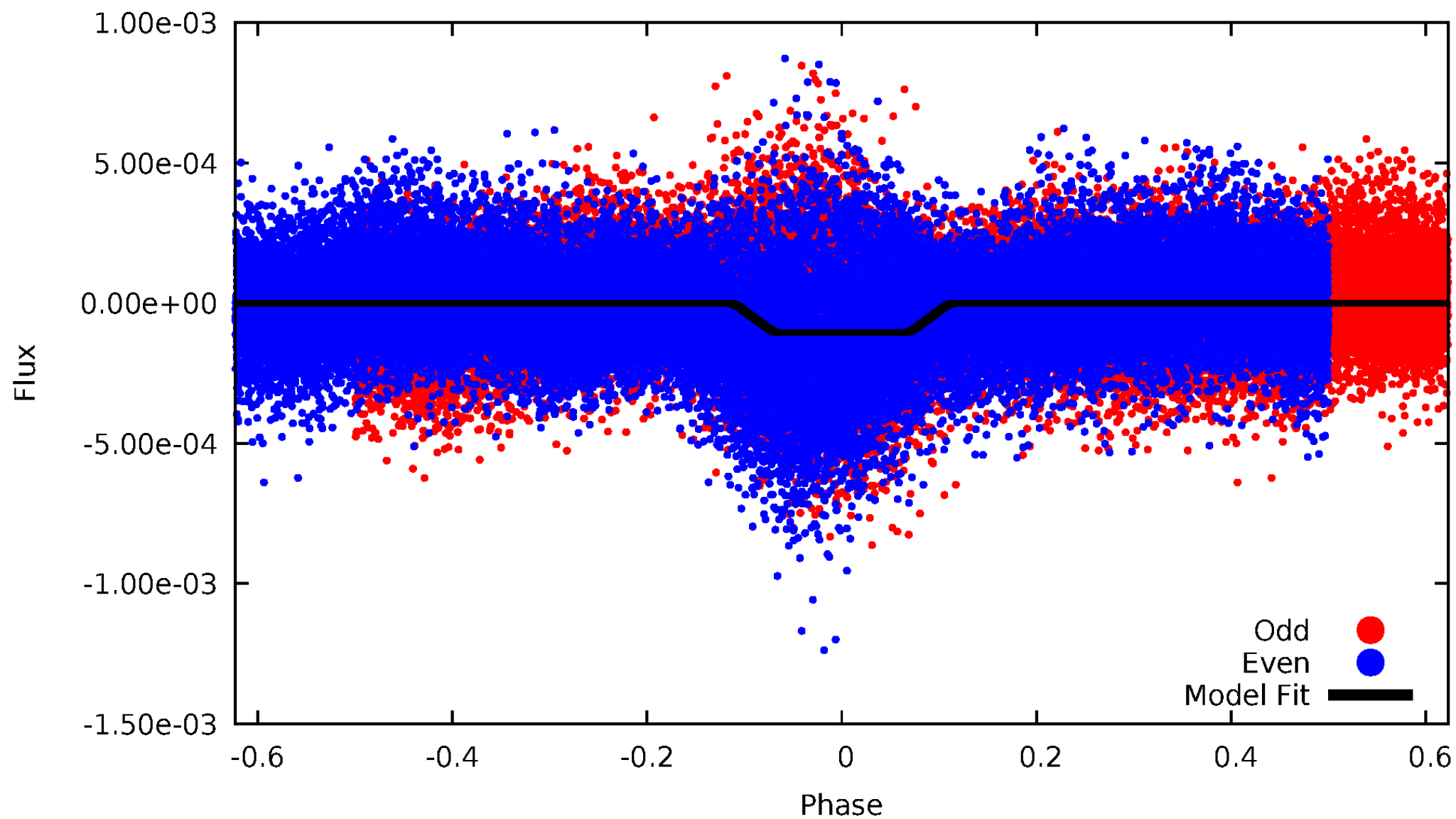
DV Odd/Even

TCE 006945500-01

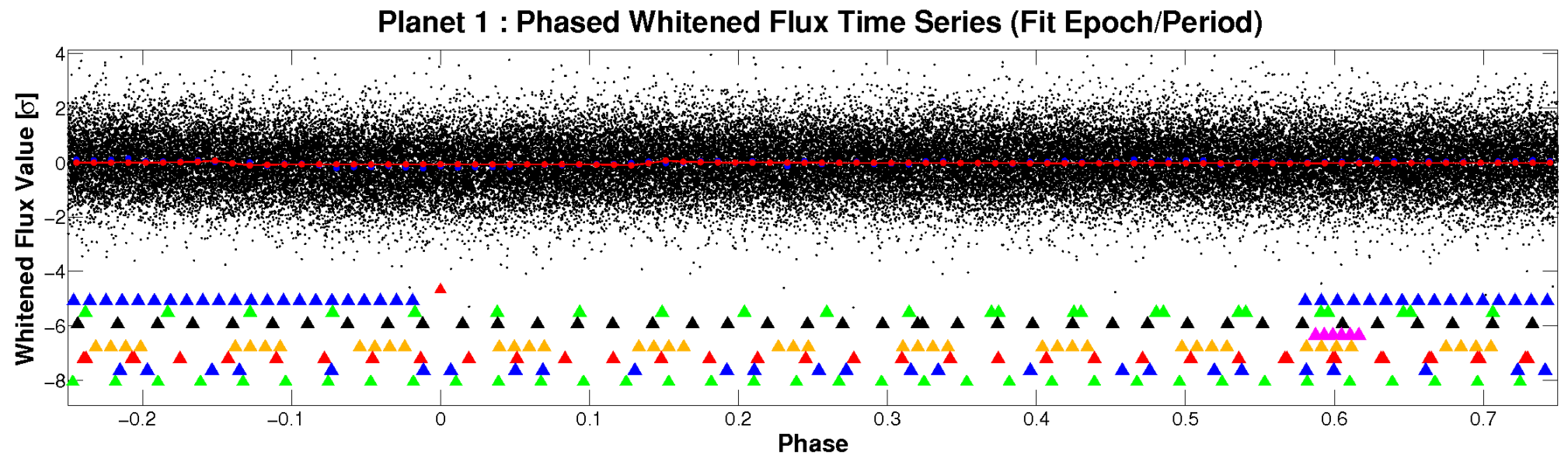
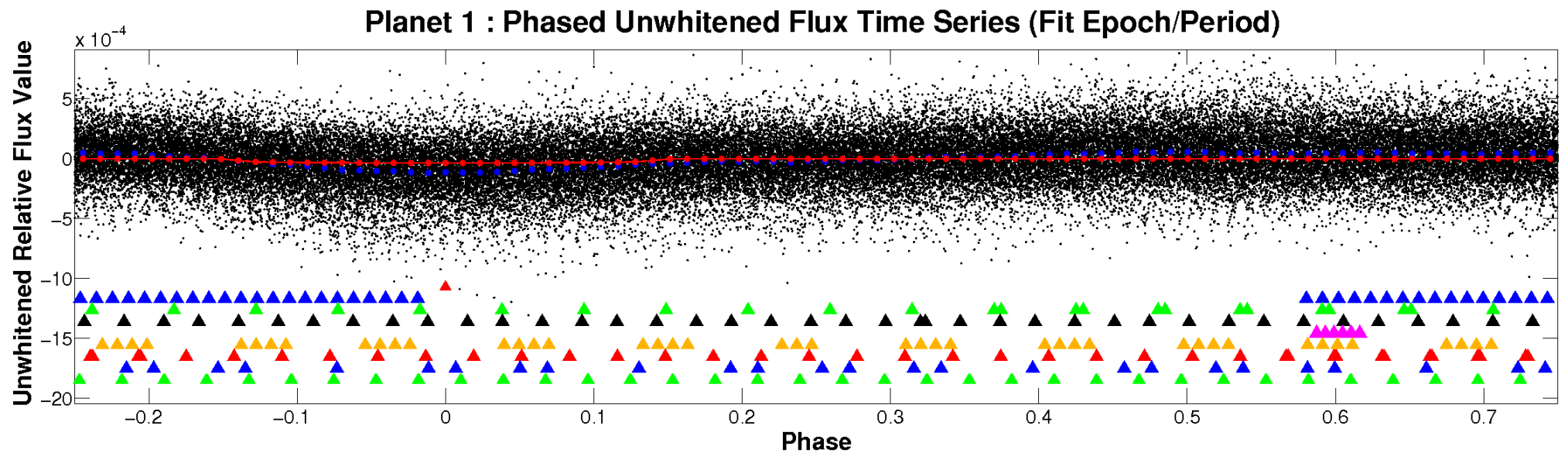


ALT Odd/Even

TCE 006945500-01

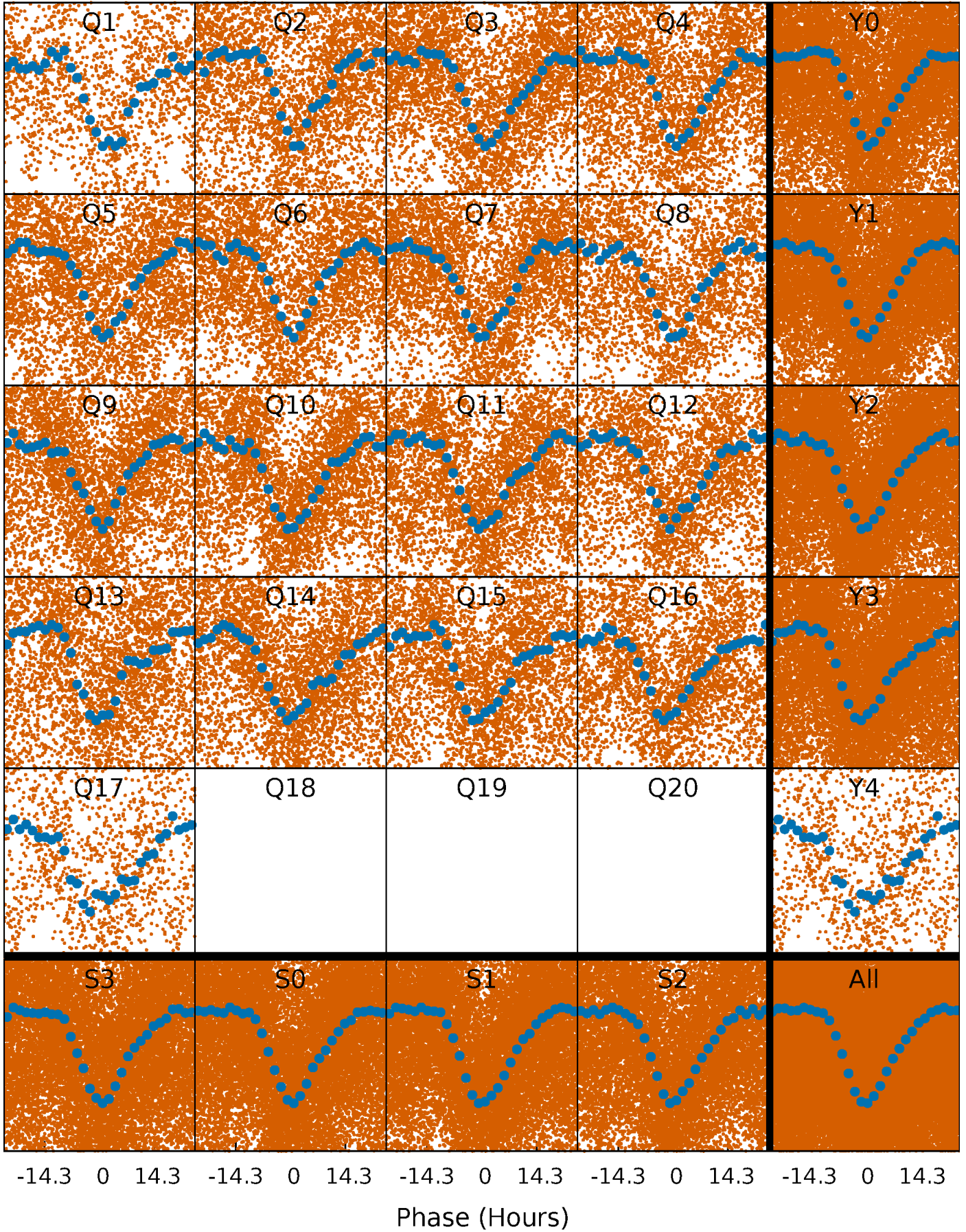


Non-Whitened Vs. Whitened Light Curve



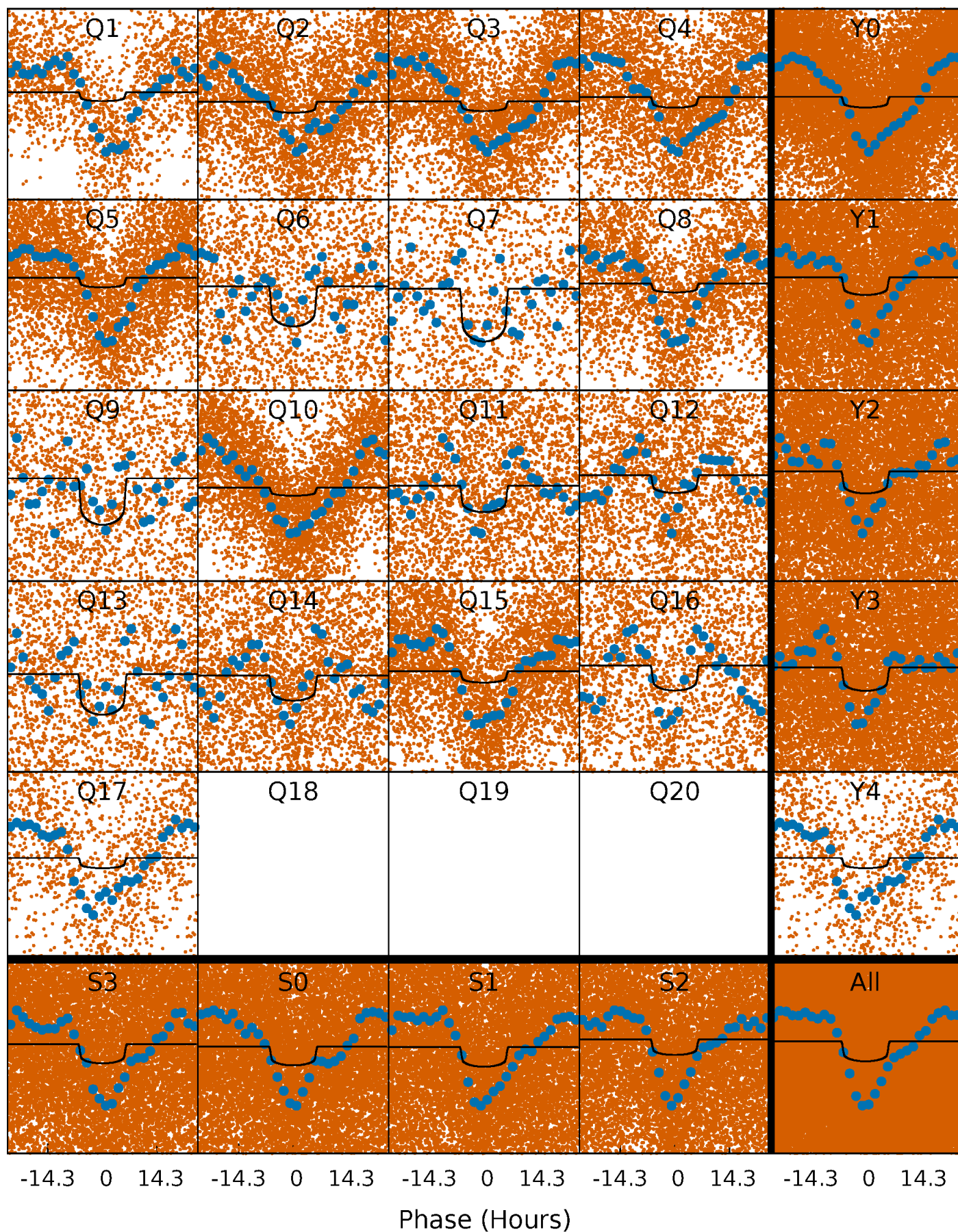
PDC Quarter-Phased Transit Curves

TCE 006945500-01 P= 1.755894 Days $T_0=133.225592$ (BKJD)



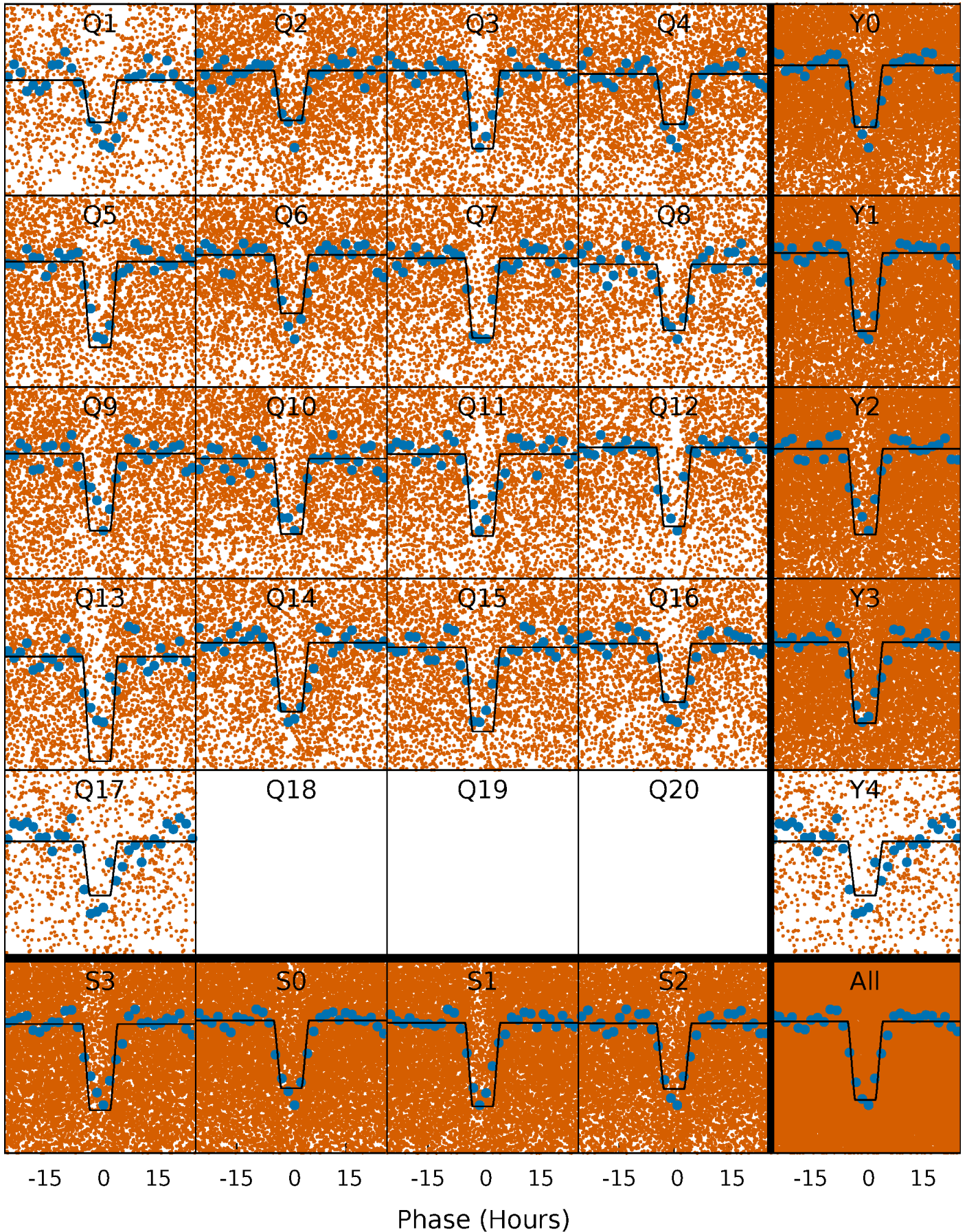
DV Quarter-Phased Transit Curves

TCE 006945500-01 P= 1.755894 Days $T_0=133.225592$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

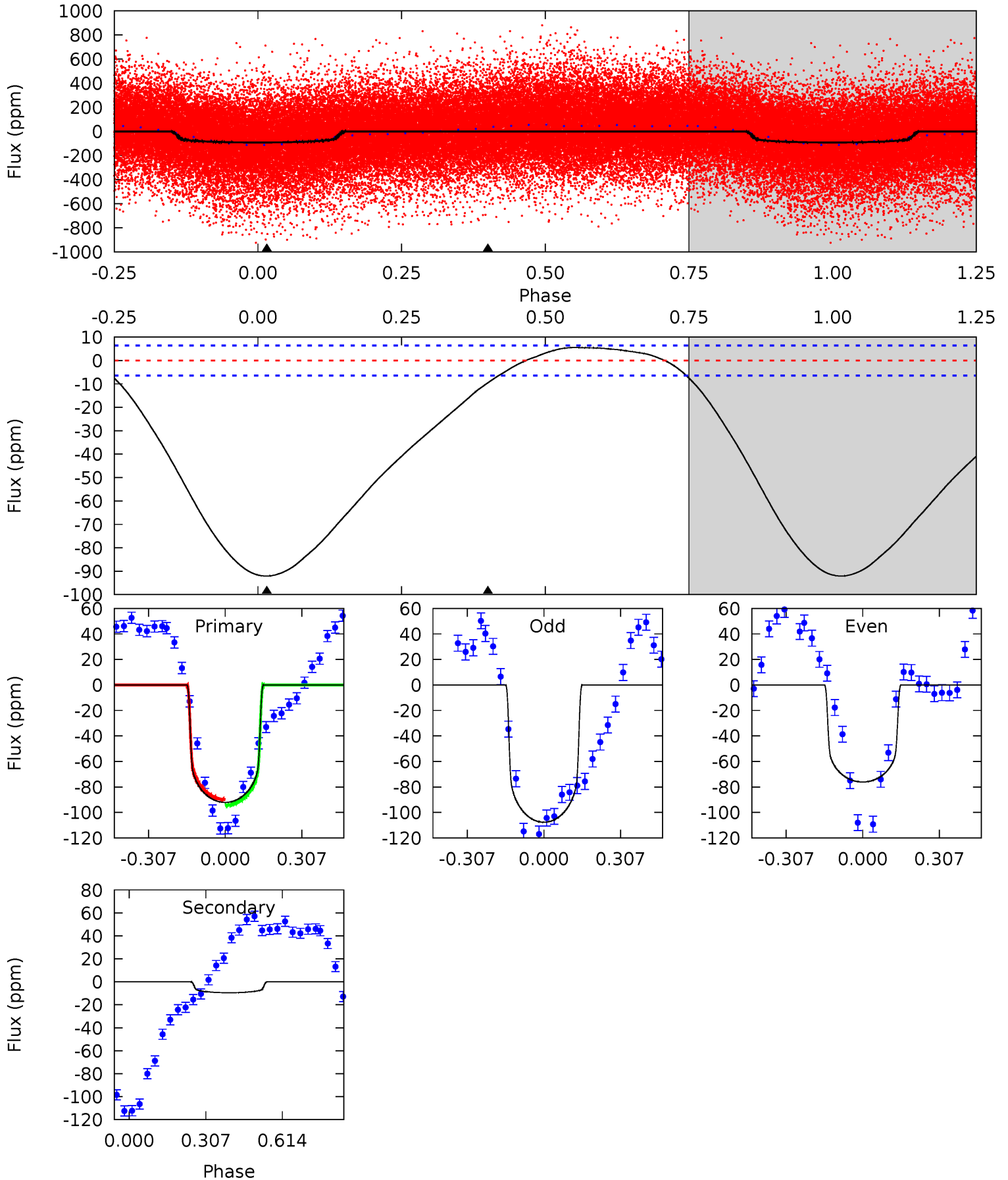
TCE 006945500-01 P= 1.755761 Days $T_0=133.232819$ (BKJD)



DV Model-Shift Uniqueness Test

006945500-01, P = 1.755894 Days, E = 131.469698 Days

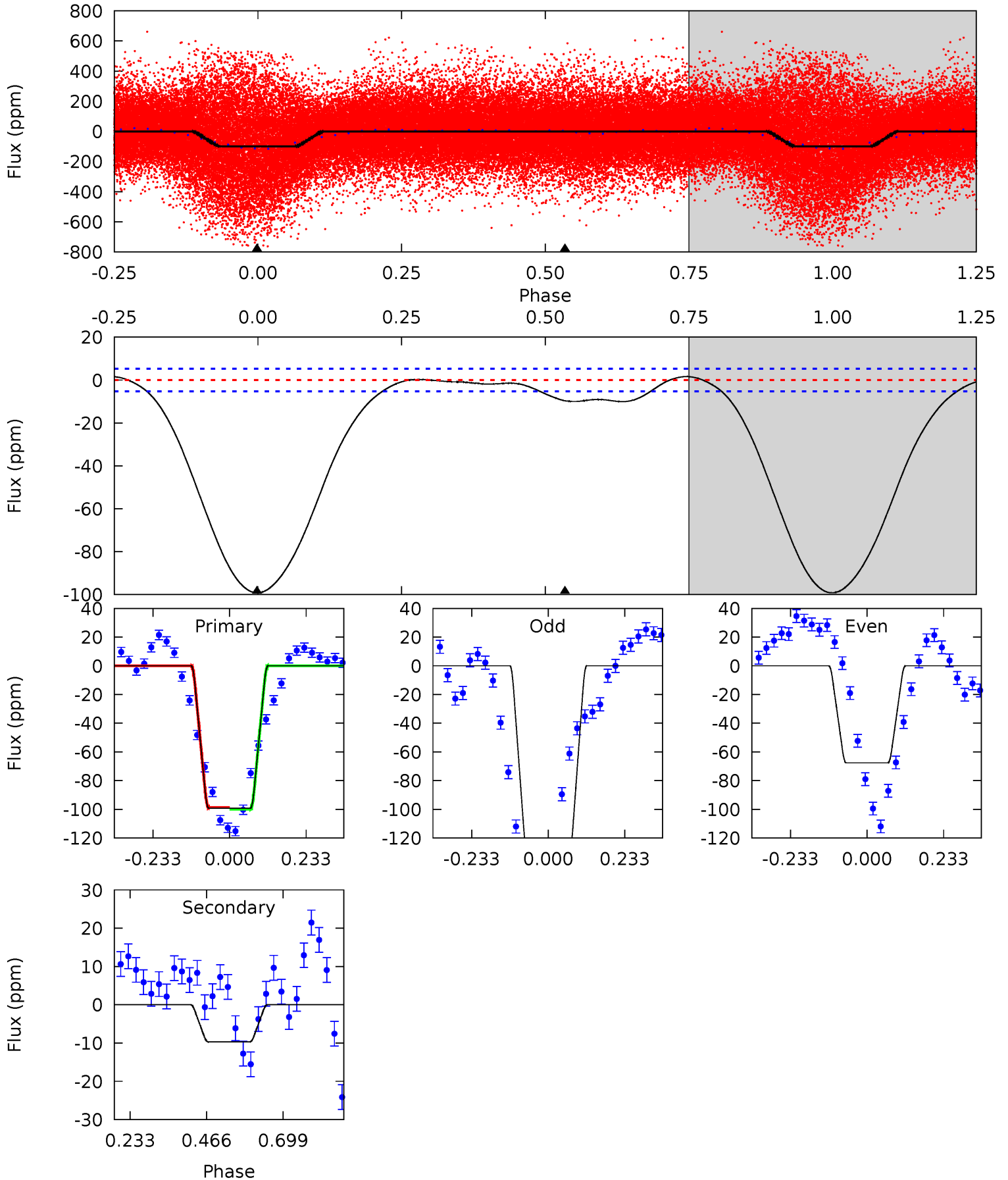
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
61.9	6.41	0	0	4.32	1.02	2.52	61.9	61.9	6.41	6.41	10.7	1.19	0.06	1.55



Alt Model-Shift Uniqueness Test

006945500-01, P = 1.755761 Days, E = 131.477058 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
83.0	8.09	0	0	4.38	1.19	1.03	83.0	83.0	8.09	8.09	26.1	0.94	0.02	0.46



Stellar Parameters For KIC 006945500

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+201}_{-277}	$4.060^{+0.198}_{-0.162}$	$-0.160^{+0.250}_{-0.350}$	$1.894^{+0.576}_{-0.471}$	$1.499^{+0.221}_{-0.265}$	$0.311^{+0.320}_{-0.160}$
	+3%/-4%	+5%/-4%	+156%/-219%	+30%/-25%	+15%/-18%	+103%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006945500-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 1	$1.28^{+0.22}_{-0.19}$	3349^{+248}_{-237}	4936^{+273}_{-266}	$3.328^{+1.390}_{-0.936}$
Alt.	-10 ± 1	$2.10^{+0.32}_{-0.30}$	3360^{+253}_{-238}	3979^{+183}_{-183}	$1.283^{+0.464}_{-0.349}$

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

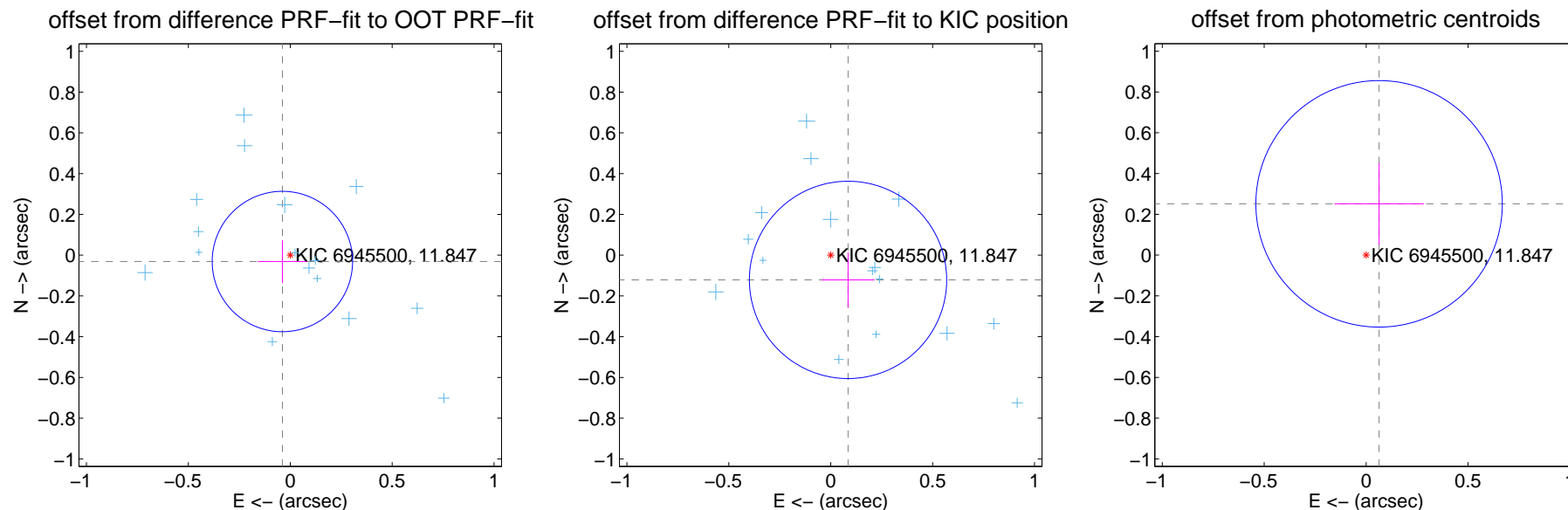
DV Centroid Data

Supplemental centroid analysis for 006945500-01. **Kepler magnitude: 11.85.** Transit SNR 10.72

There are 17 quarters with good PRF difference image offsets

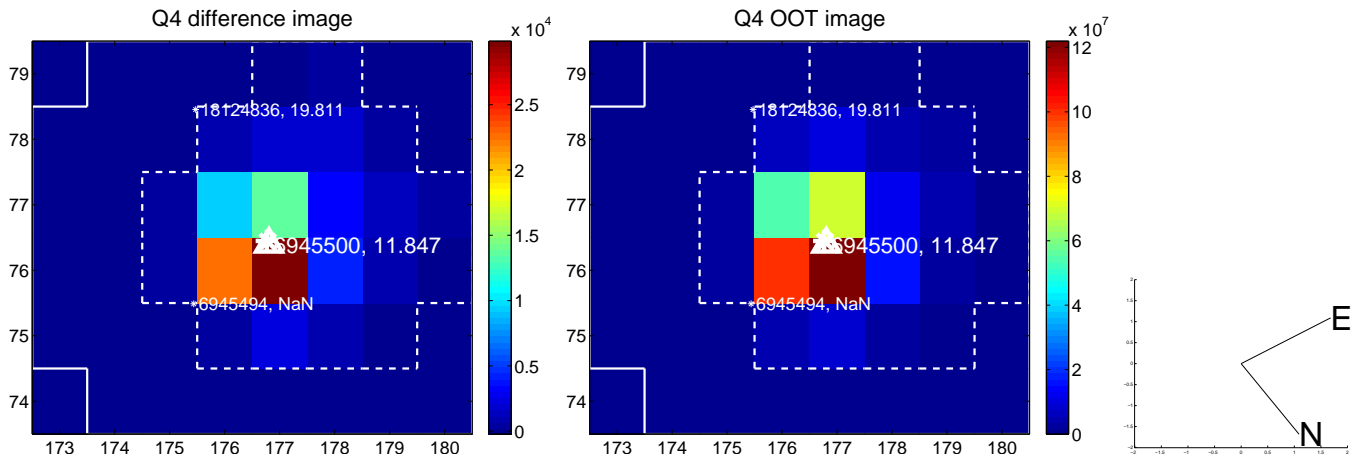
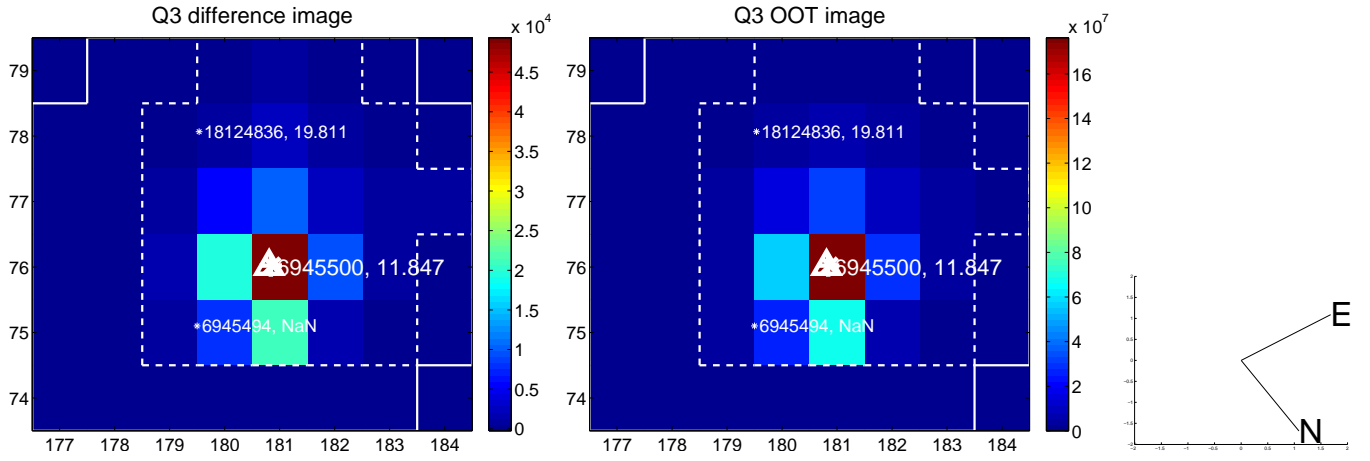
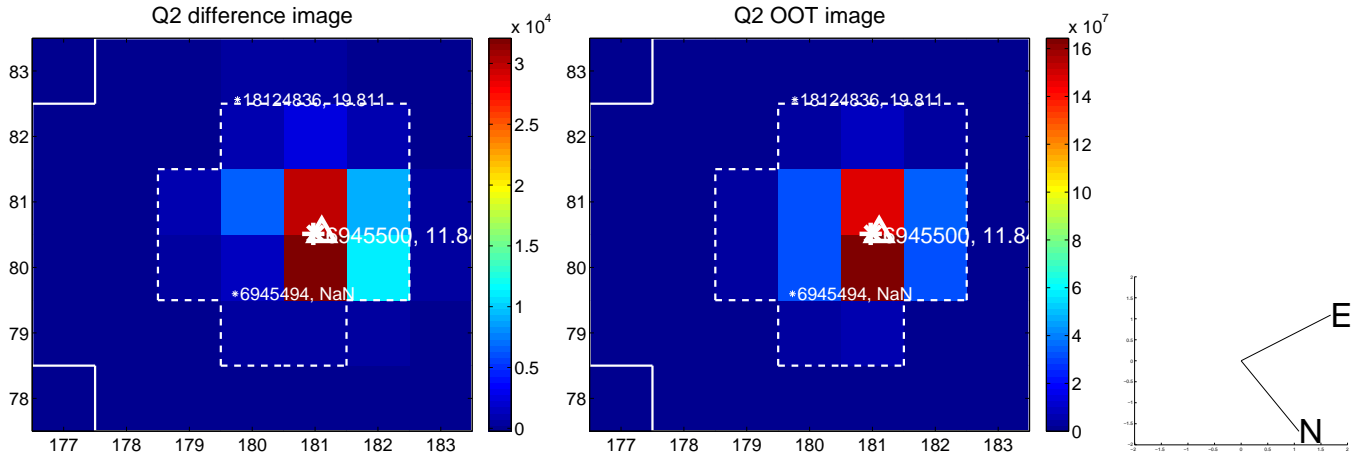
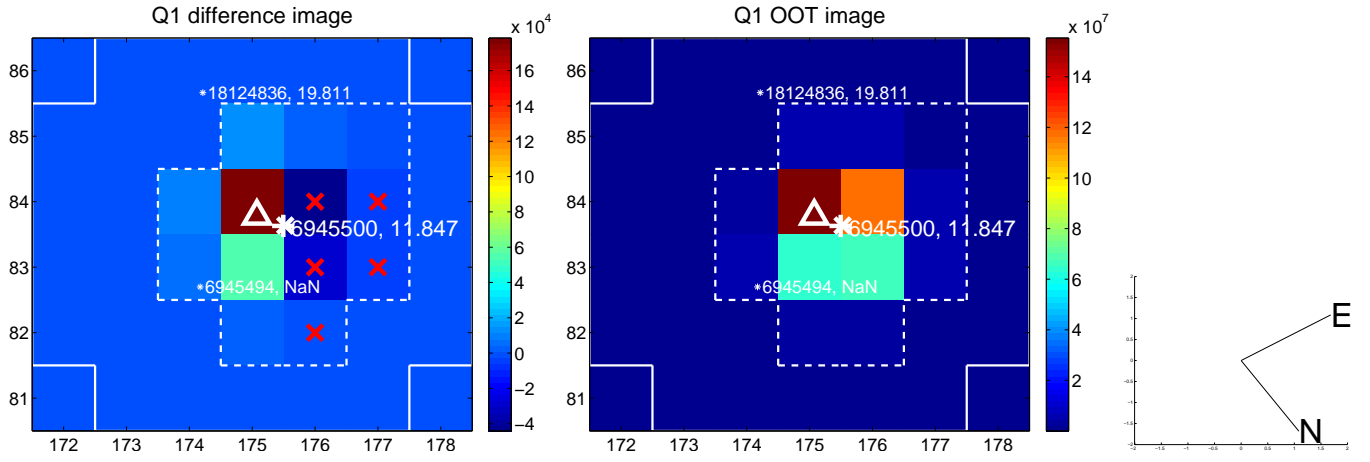
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.050 ± 0.115	0.43	0.039 ± 0.121	-0.031 ± 0.105
PRF-fit source offset from KIC position	0.148 ± 0.161	0.92	-0.085 ± 0.131	-0.121 ± 0.134
photometric centroid source offset	0.26 ± 0.20	1.29	-0.06 ± 0.22	0.25 ± 0.20

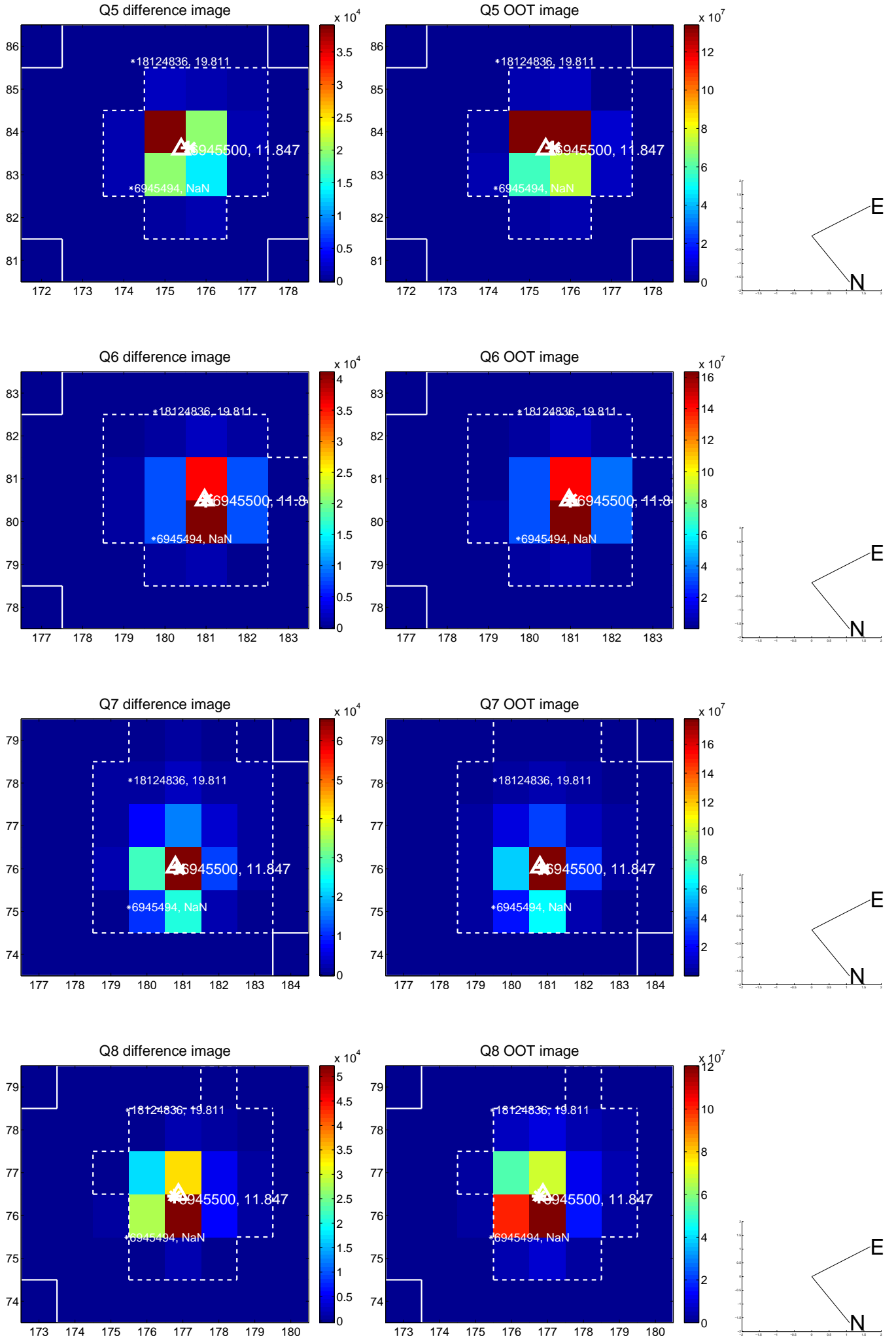


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

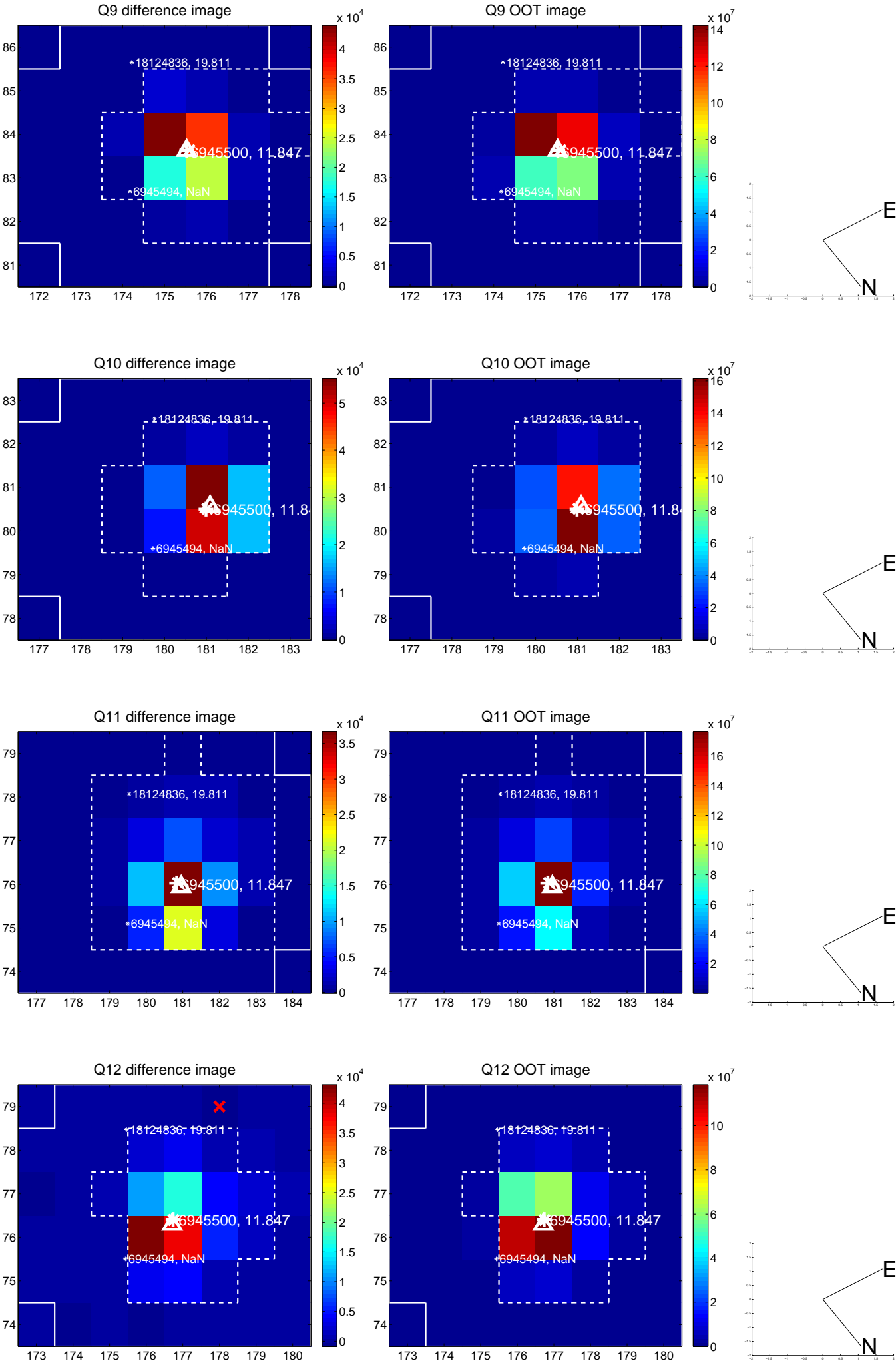
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



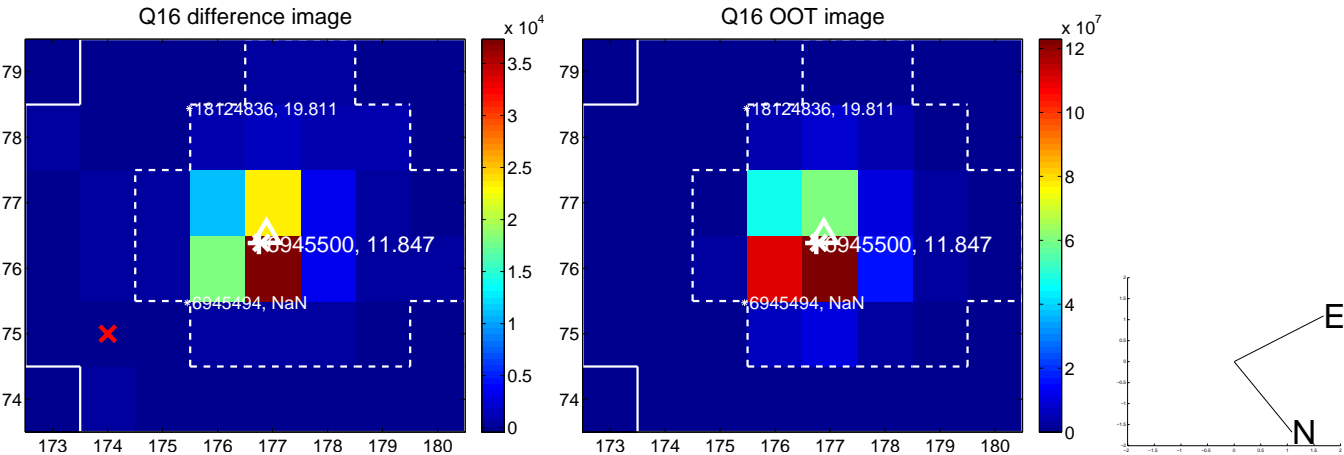
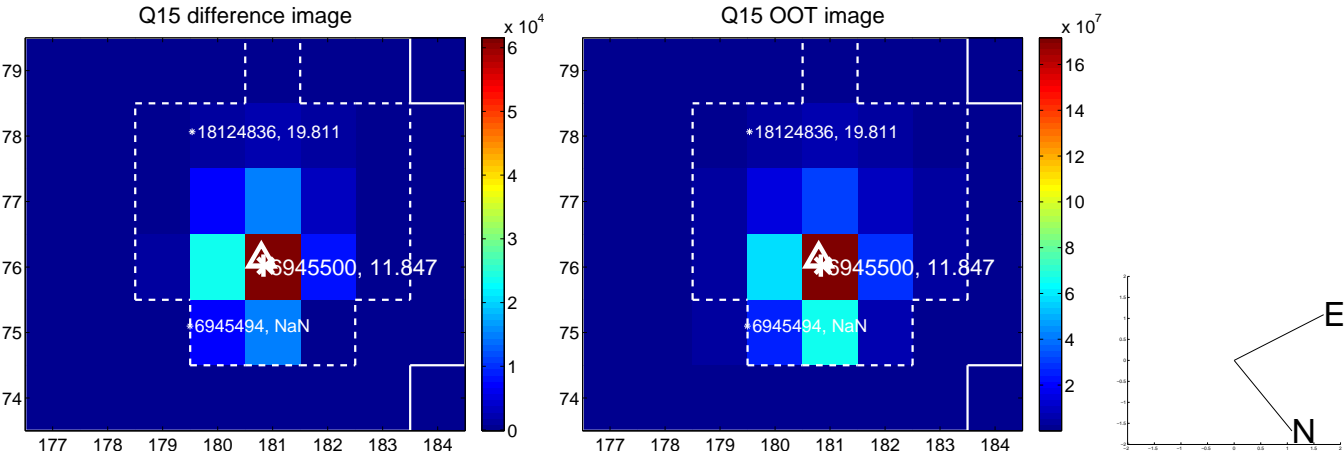
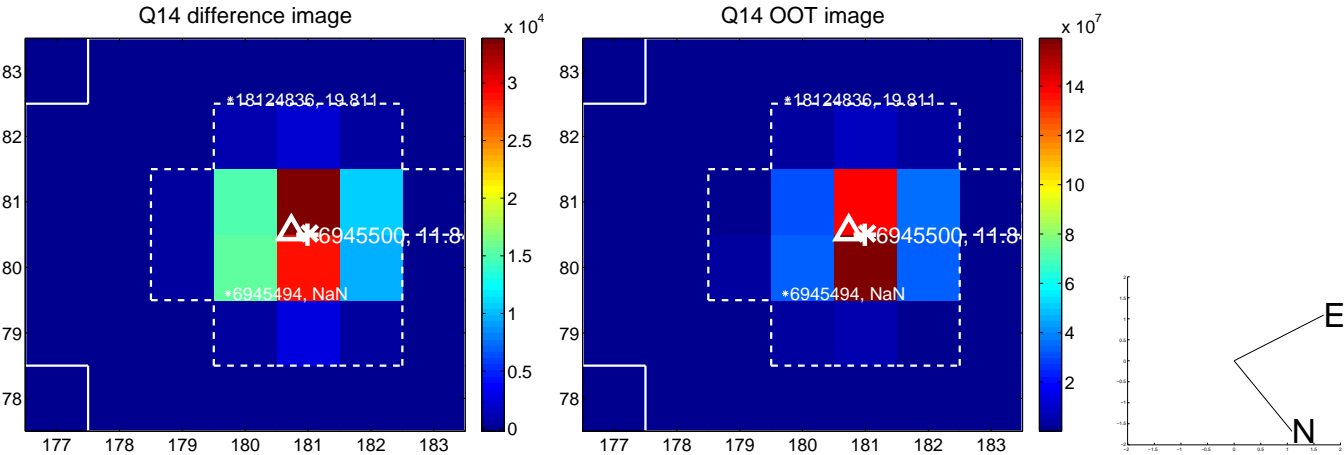
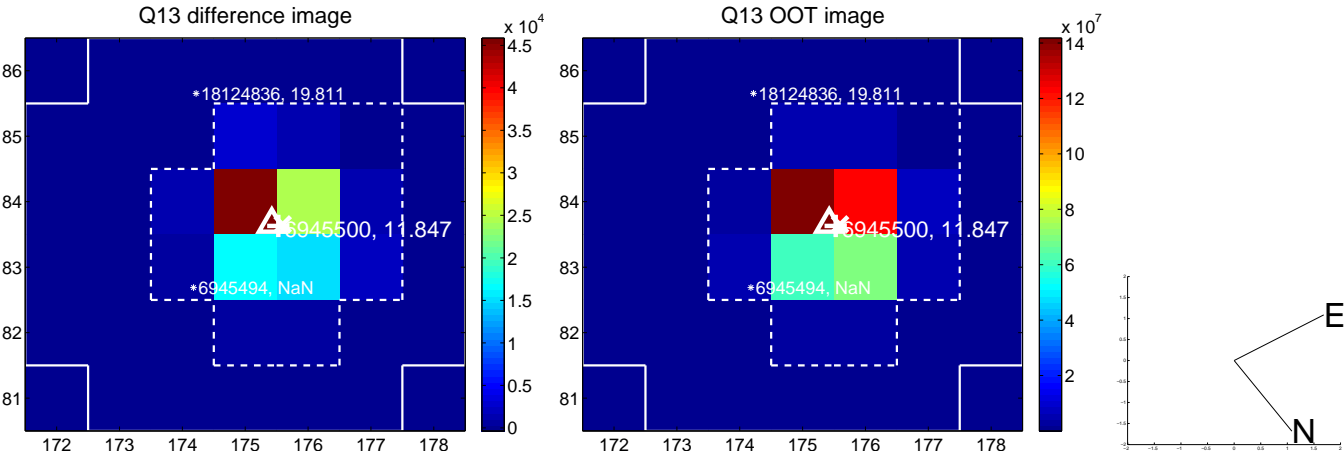
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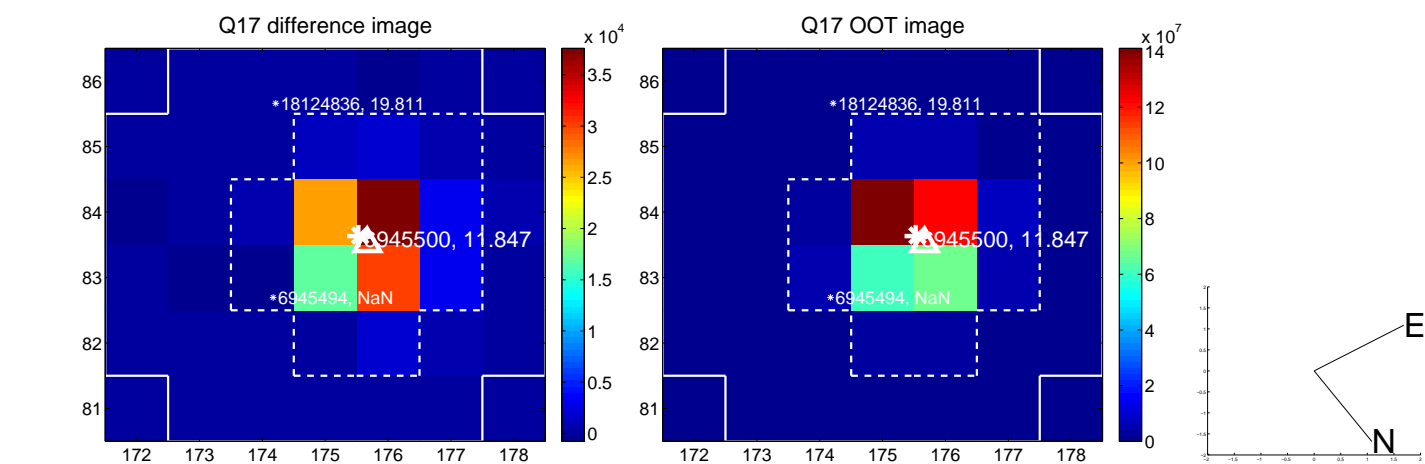
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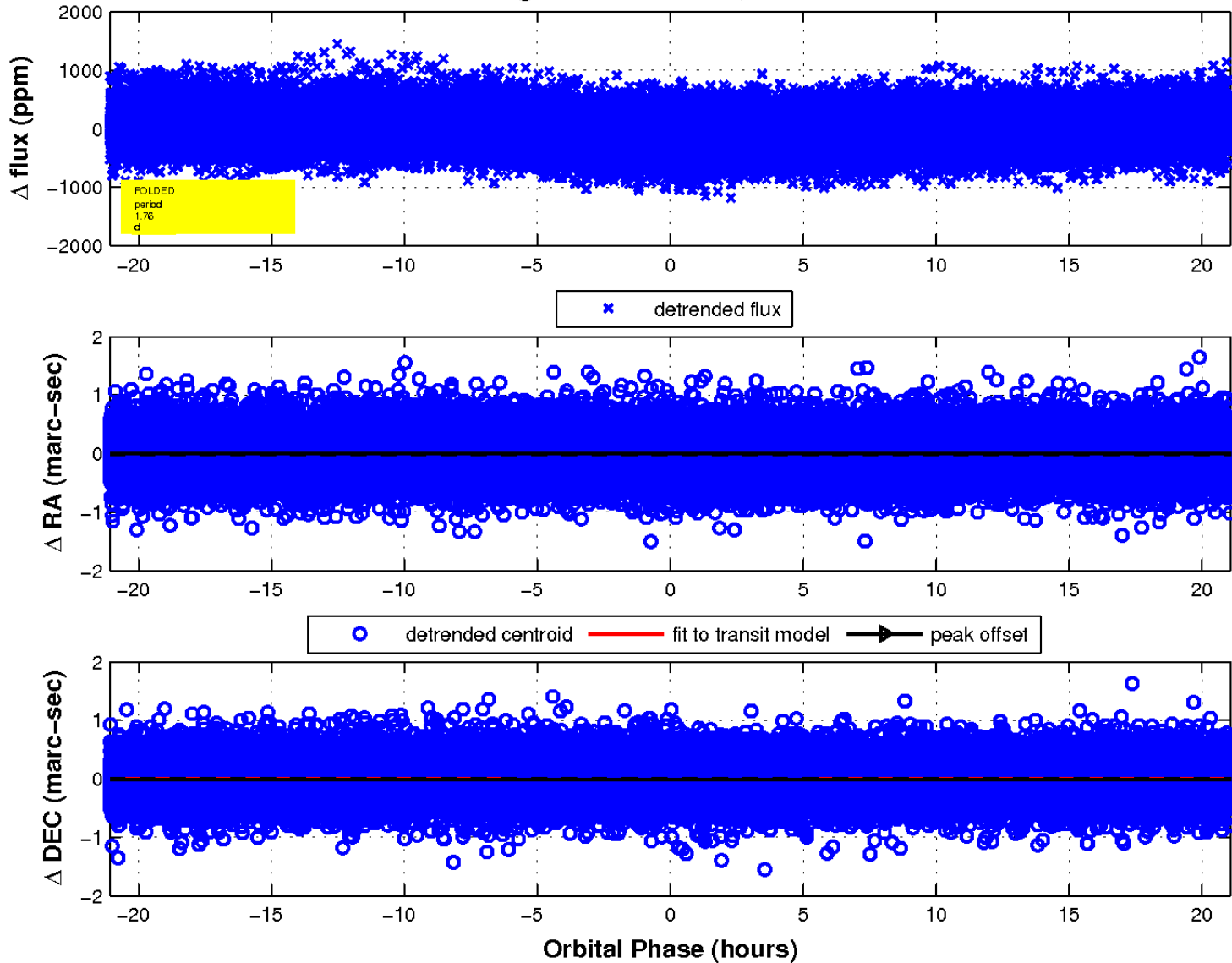
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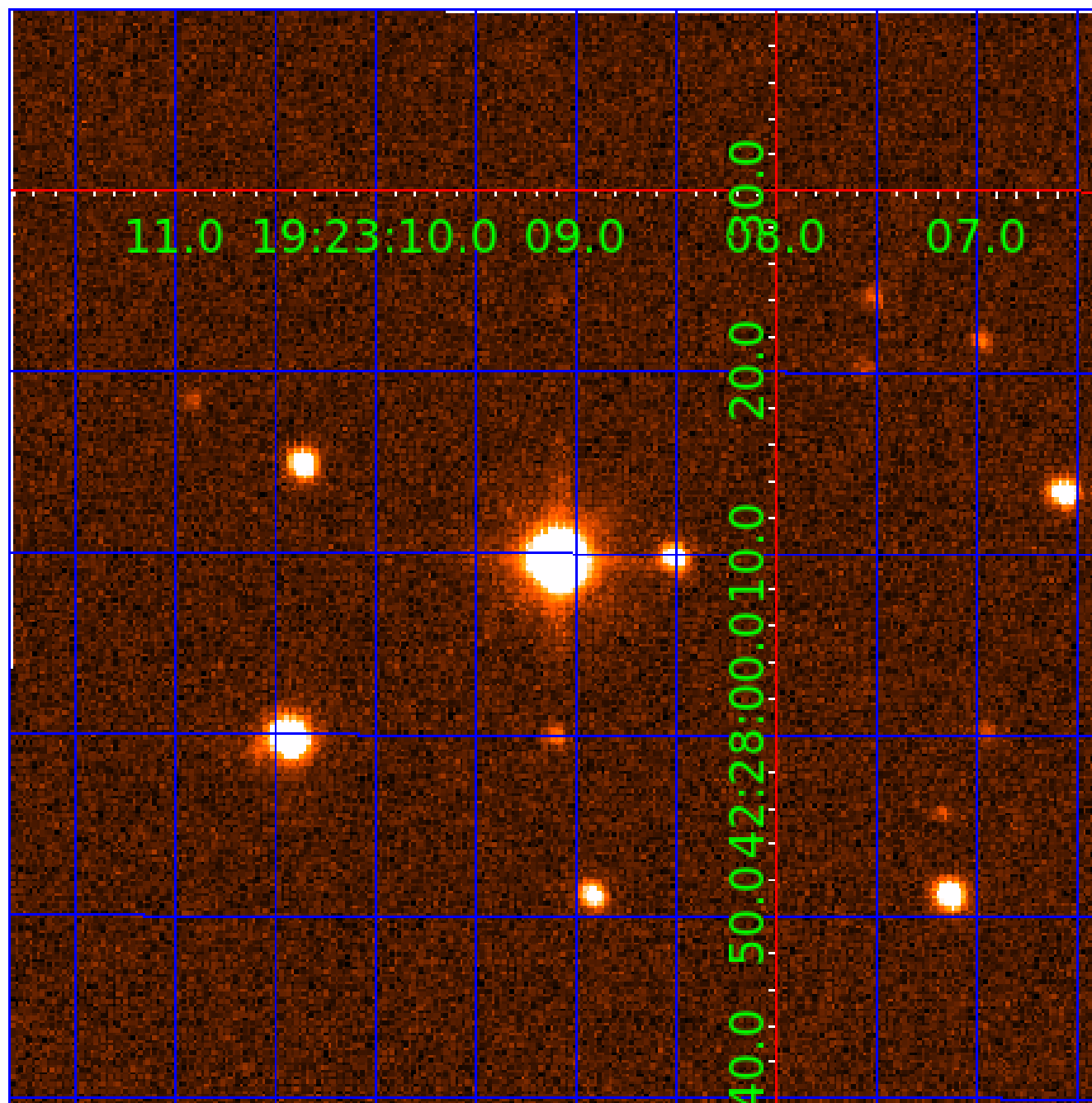


fluxWeightedCentroids, Planet 1 of 9



UKIRT Image

Declination



KIC 006945500

Q1-17 DR25 TCE Parameters

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006945500-07	OBS	No	36.817043	164.470540	305.2	2.424	9.9	10.0	1.89	7207	6.12	140.85
006945500-08	OBS	No	56.654681	137.107227	315.3	5.291	8.2	9.8	1.89	7207	6.46	79.28
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Robovetter Results

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006945500-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
006945500-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006945500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
006945500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006945500-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

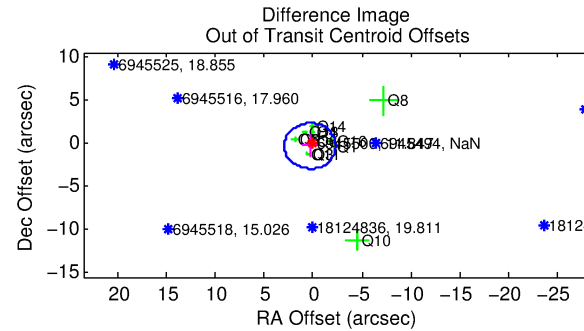
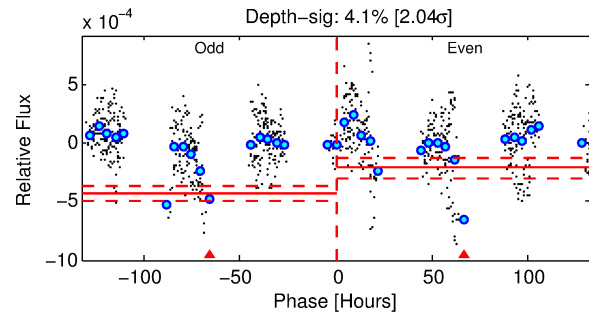
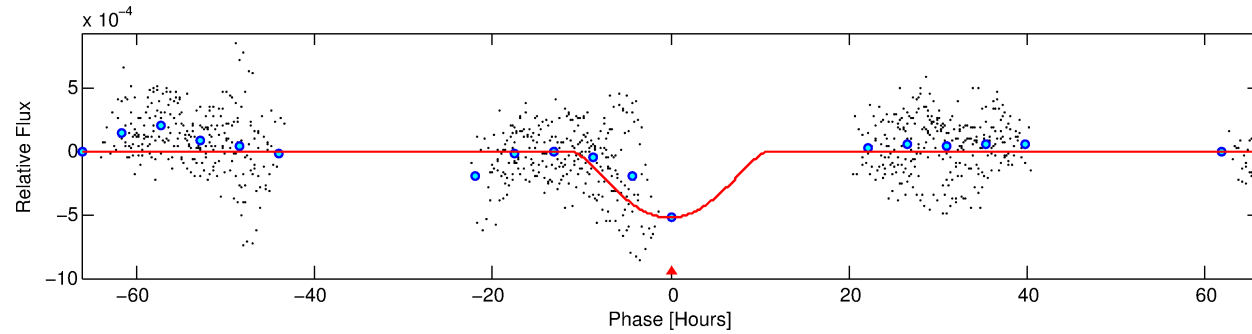
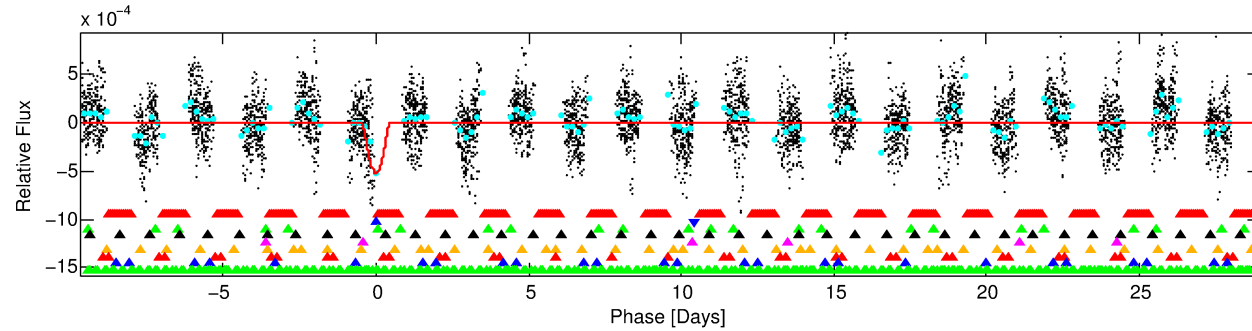
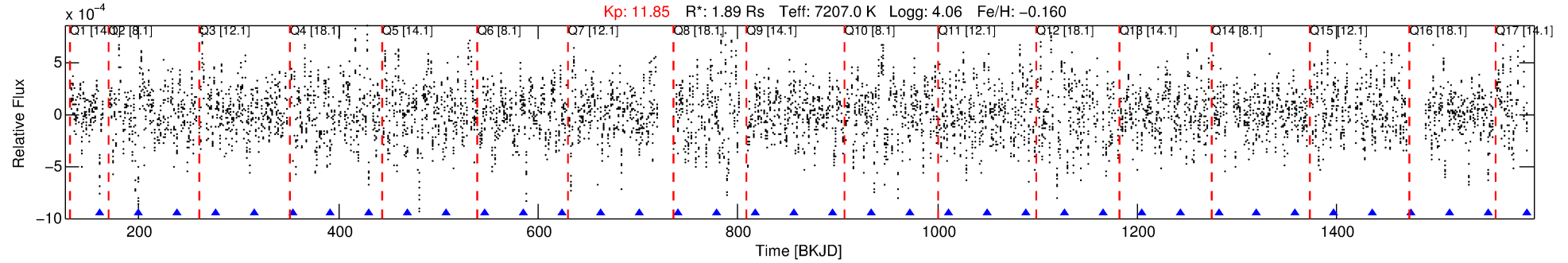
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006945500-02

No Significant Match Found

DV One-Page Summary

KIC: 6945500 Candidate: 2 of 9 Period: 38.649 d



DV Fit Results:

Period = 38.64868 [0.00365] d
Epoch = 160.5832 [0.1193] BKJD
Rp/R* = 0.0397 [0.0795]
a/R* = 3.94 [1.53]
b = 1.00 [0.32]
Seff = 132.02 [52.33]
Teq = 864 [86] K
Rp = 8.21 [16.63] Re
a = 0.2563 [0.0649] AU
Ag = 80.28 [323.79] [0.24 σ]
Teffp = 4000 [4020] K [0.78 σ]

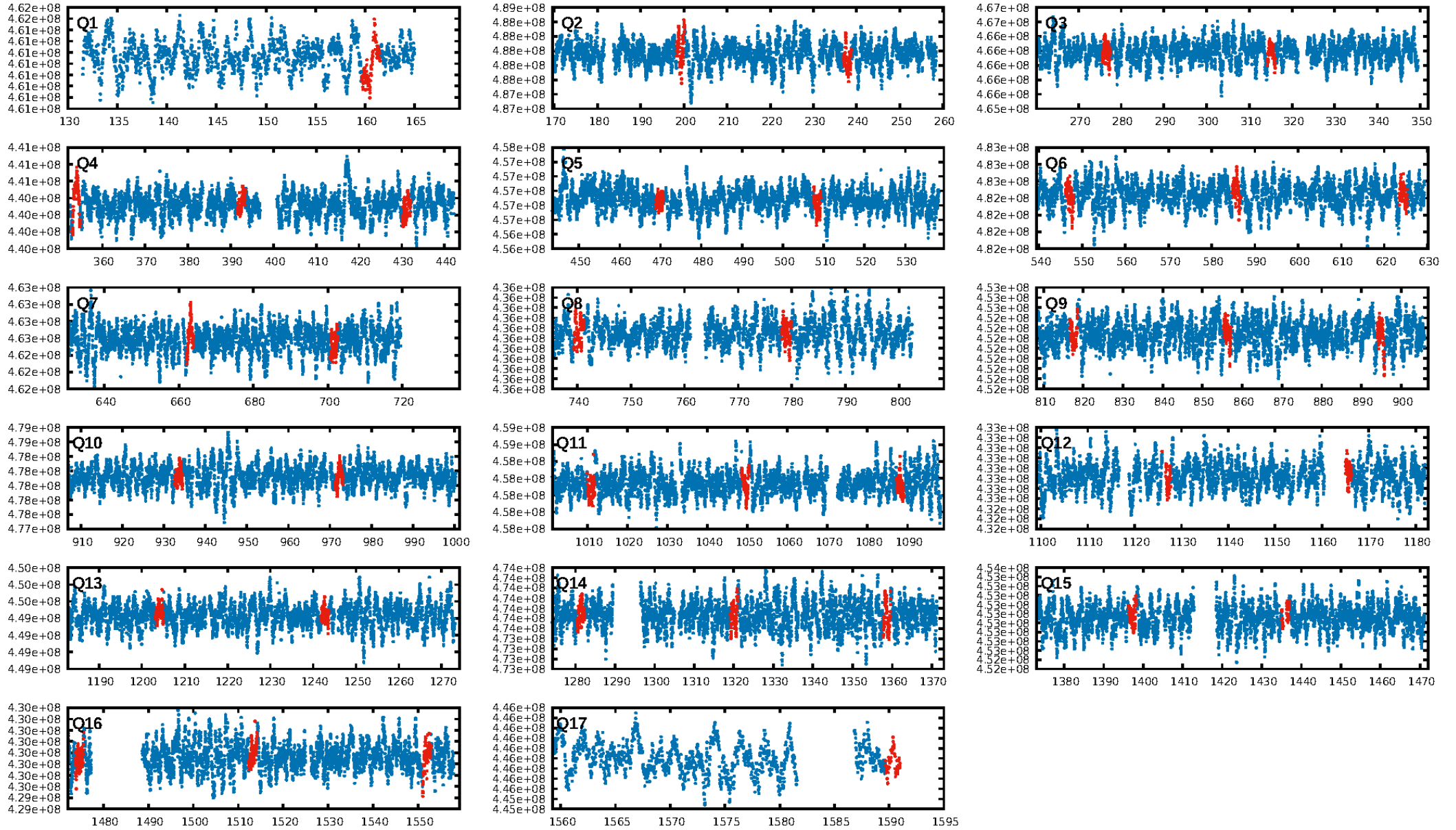
DV Diagnostic Results:

ShortPeriod-sig: 95.2% [1.98 σ]
LongPeriod-sig: 100.0% [19.03 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [21/21]
GhostDiagnostic-chr: 0.5878
Centroid-sig: 24.9%
Centroid-so: 0.213 arcsec [2.60 σ]
OotOffset-rm: 0.455 arcsec [0.52 σ]
KicOffset-rm: 0.434 arcsec [0.40 σ]
OotOffset-st: 3/2/3/4 [12]
KicOffset-st: 3/2/3/4 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 0.00 [0/14]

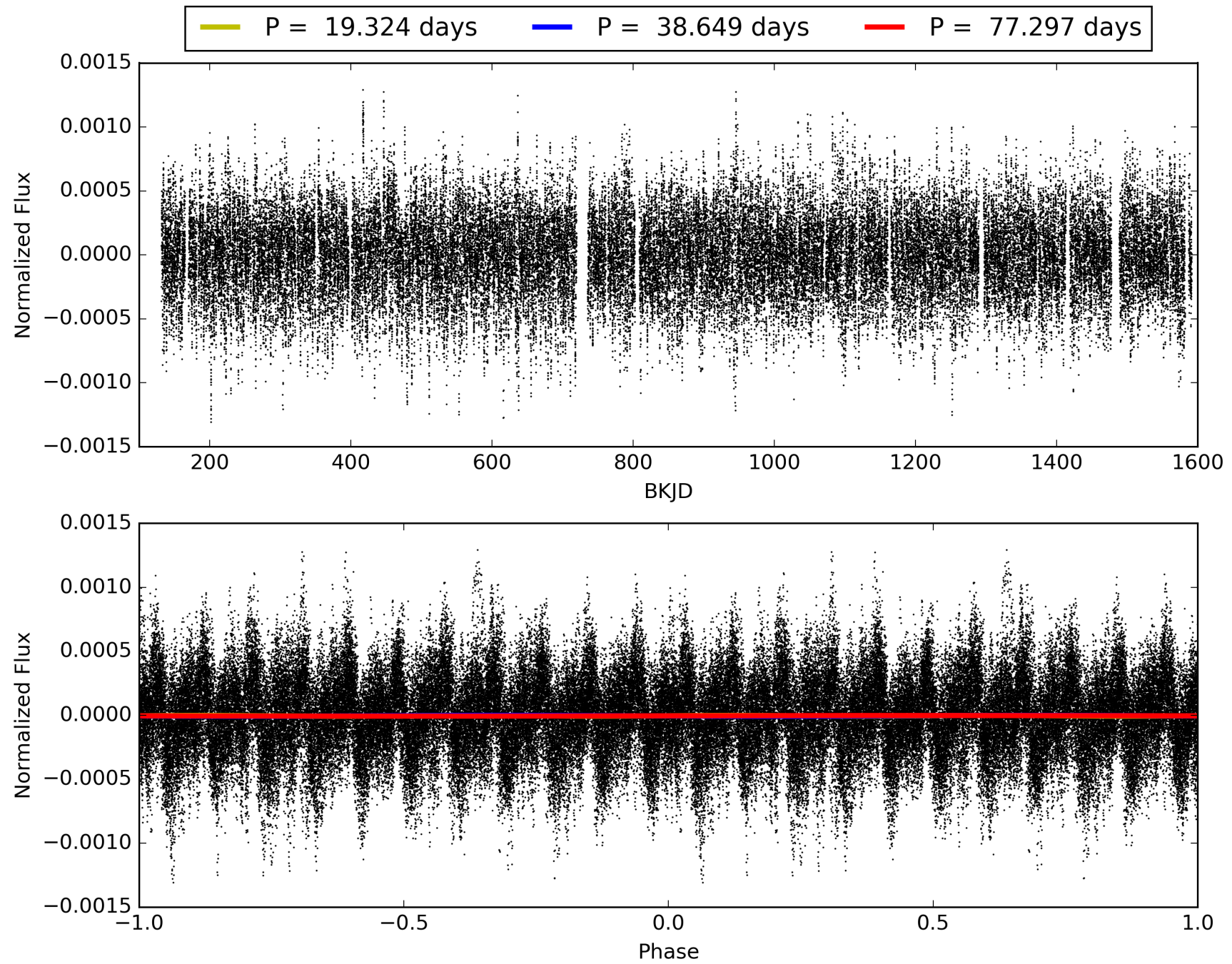
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:12:47 Z

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

TCE 006945500-02, PDC Light Curves

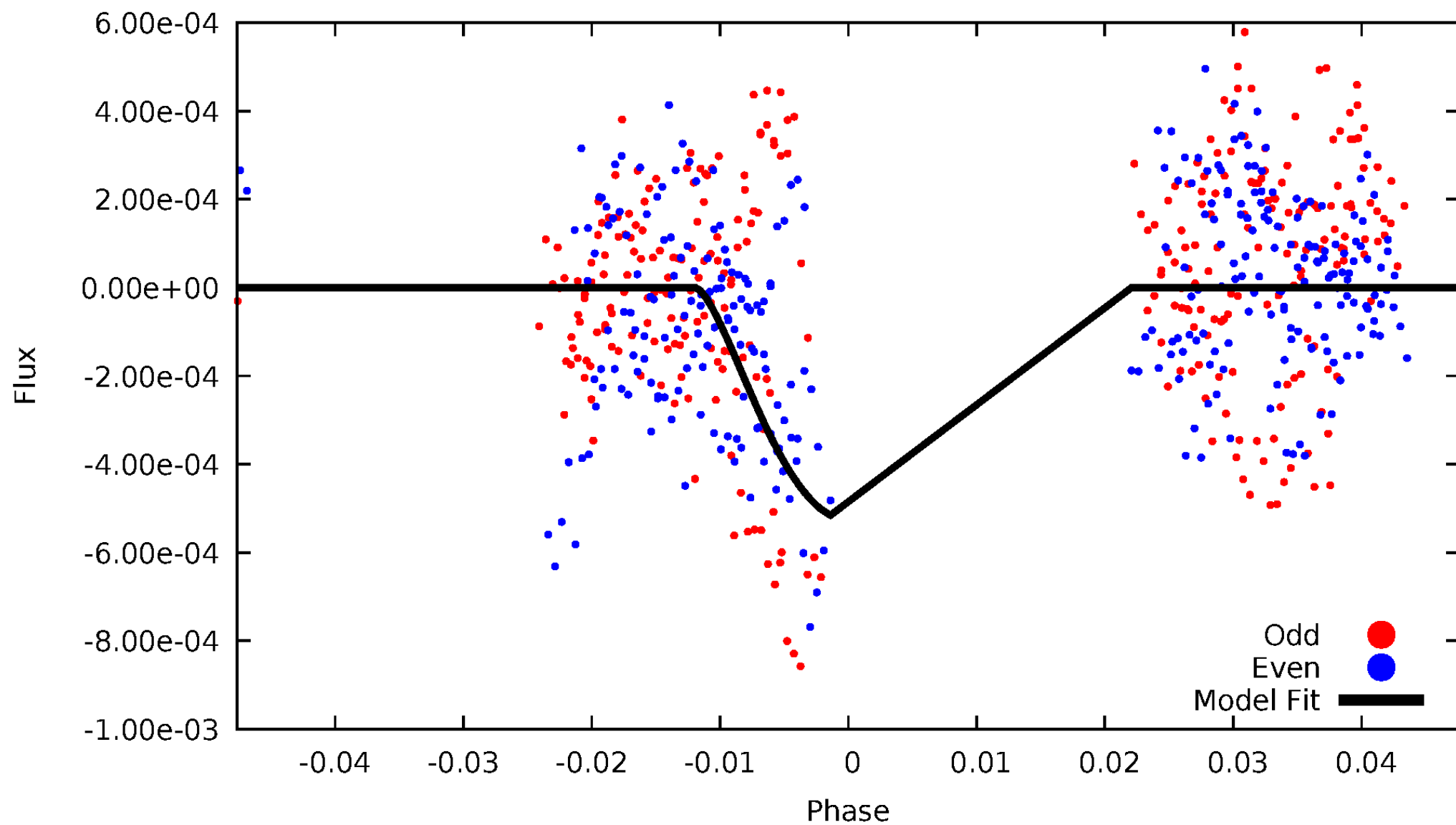


TCE 006945500-02



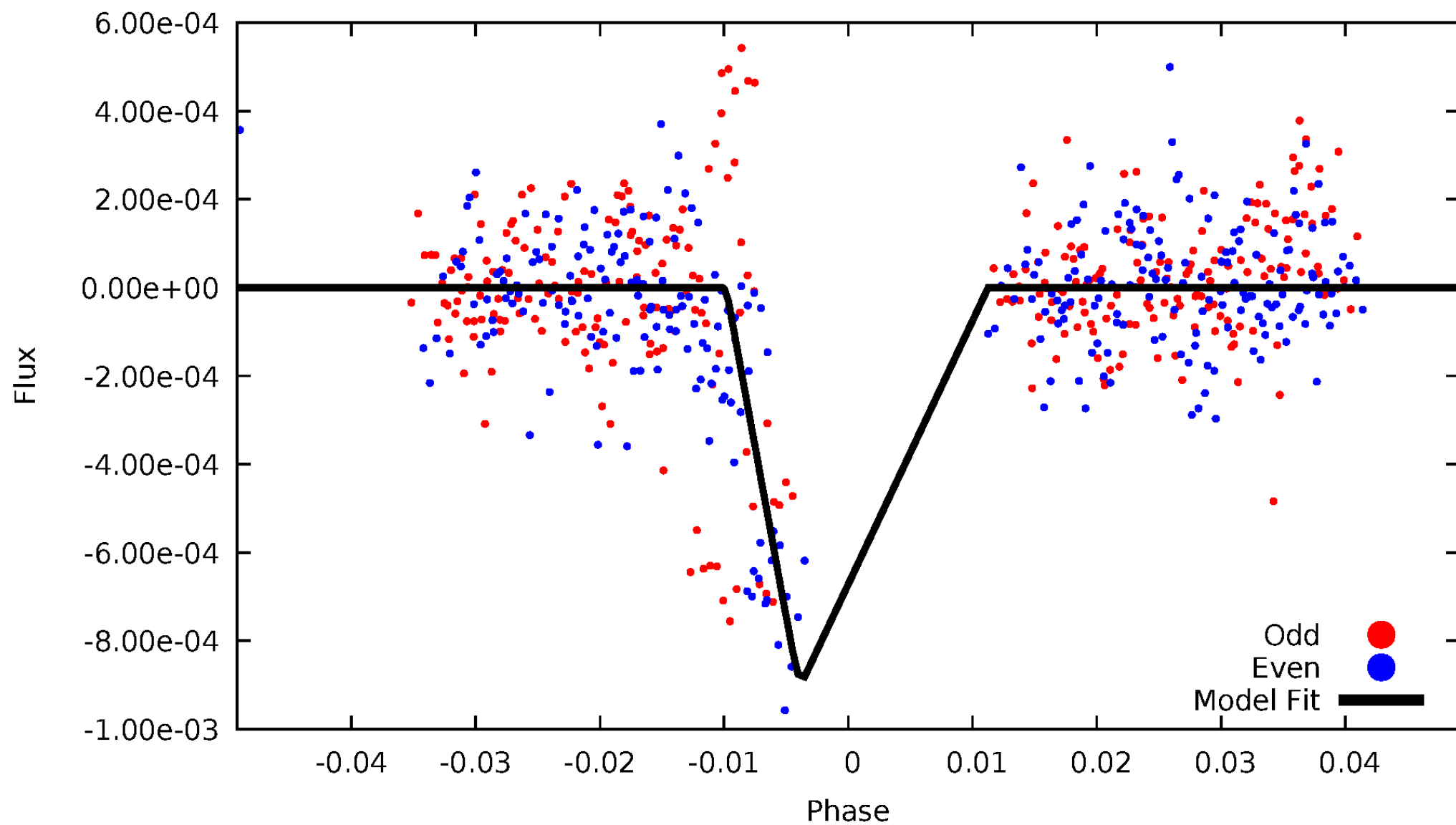
DV Odd/Even

TCE 006945500-02



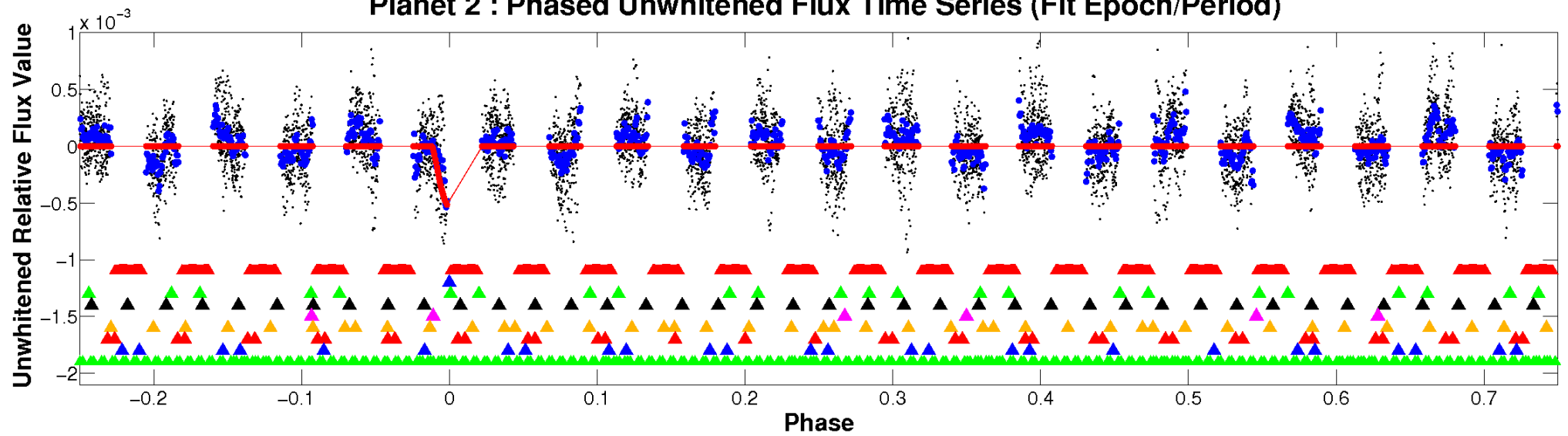
ALT Odd/Even

TCE 006945500-02

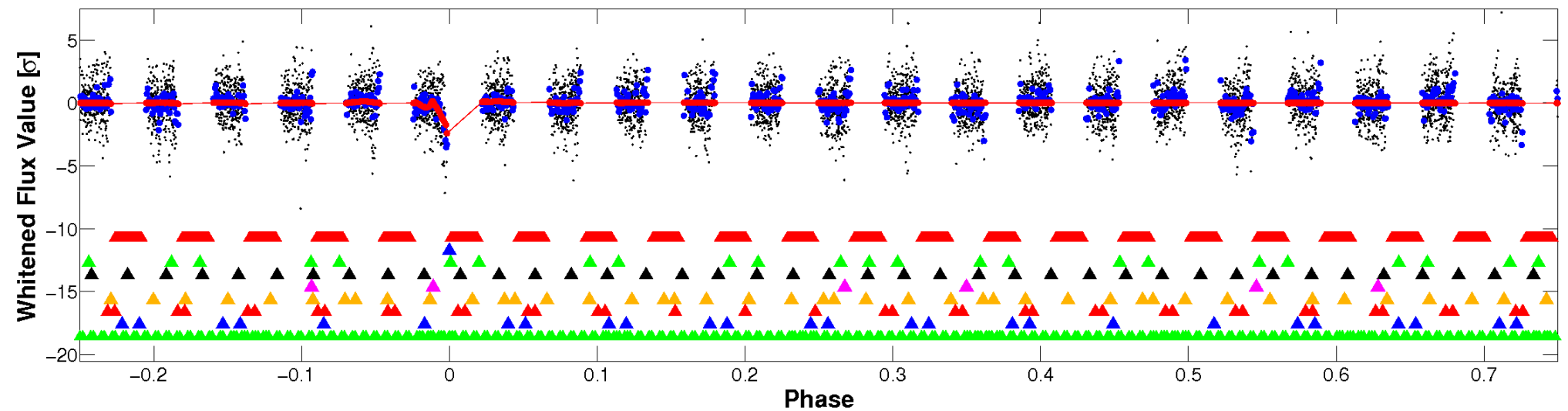


Non-Whitened Vs. Whitened Light Curve

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

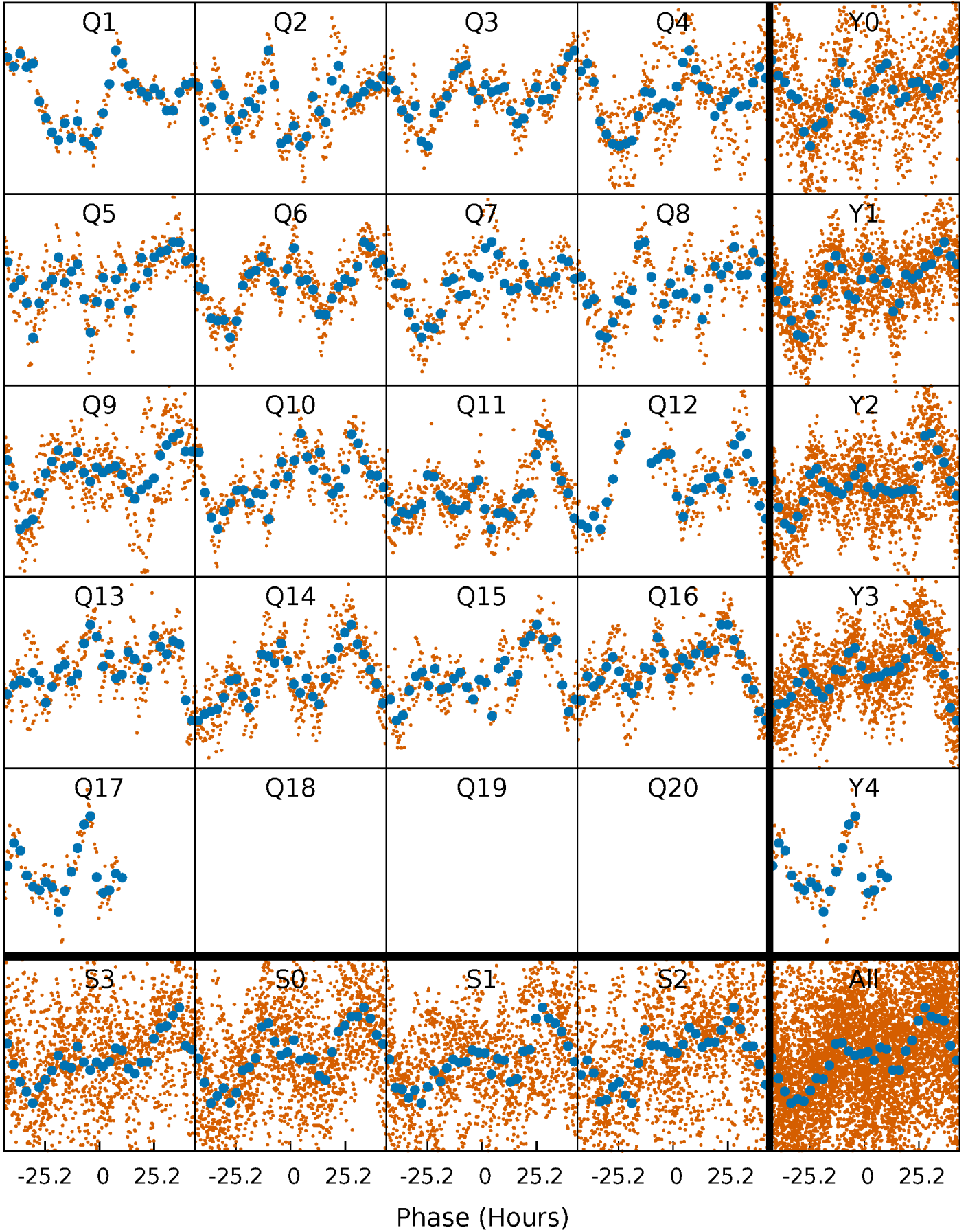


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



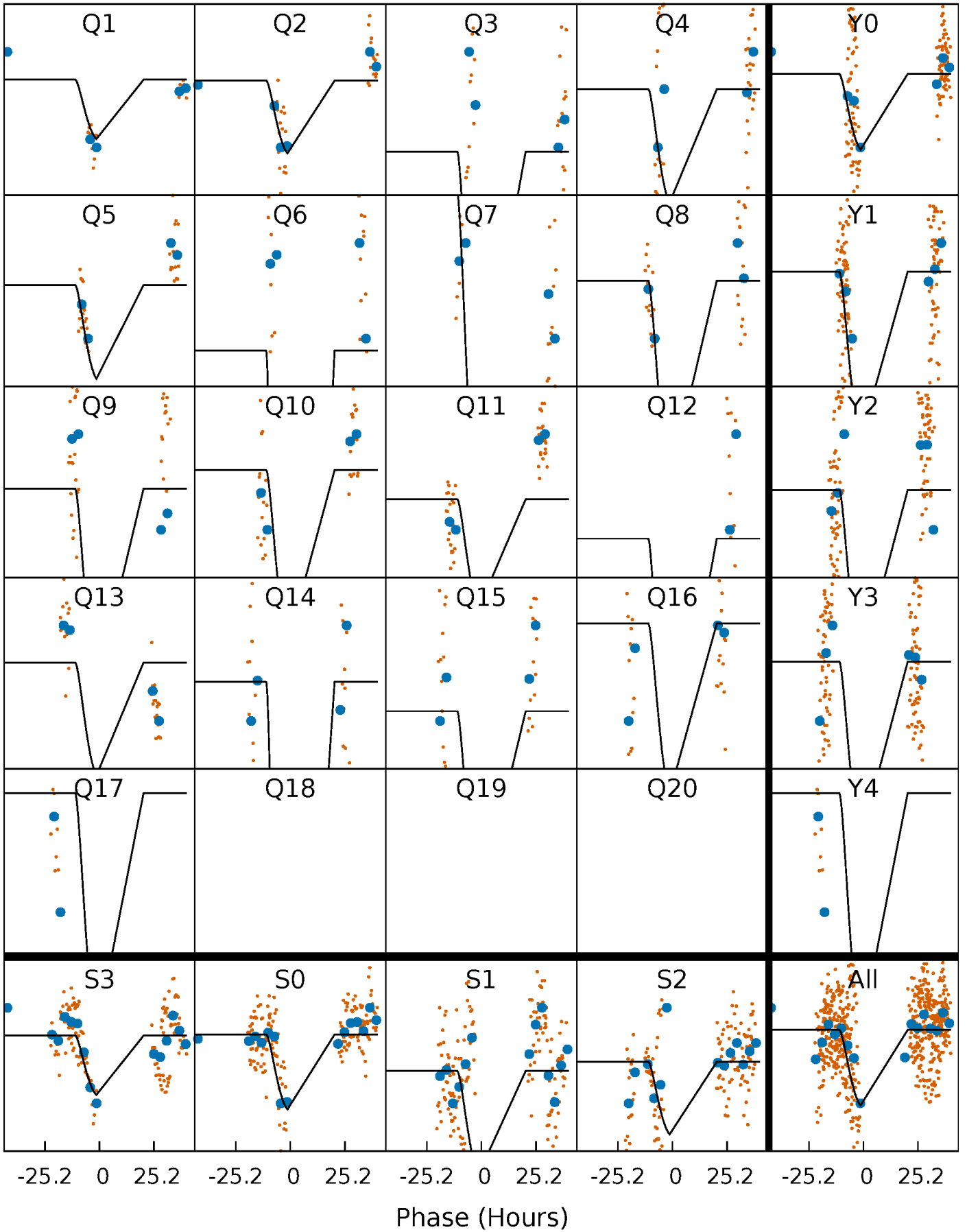
PDC Quarter-Phased Transit Curves

TCE 006945500-02 P= 38.648683 Days $T_0=160.583197$ (BKJD)



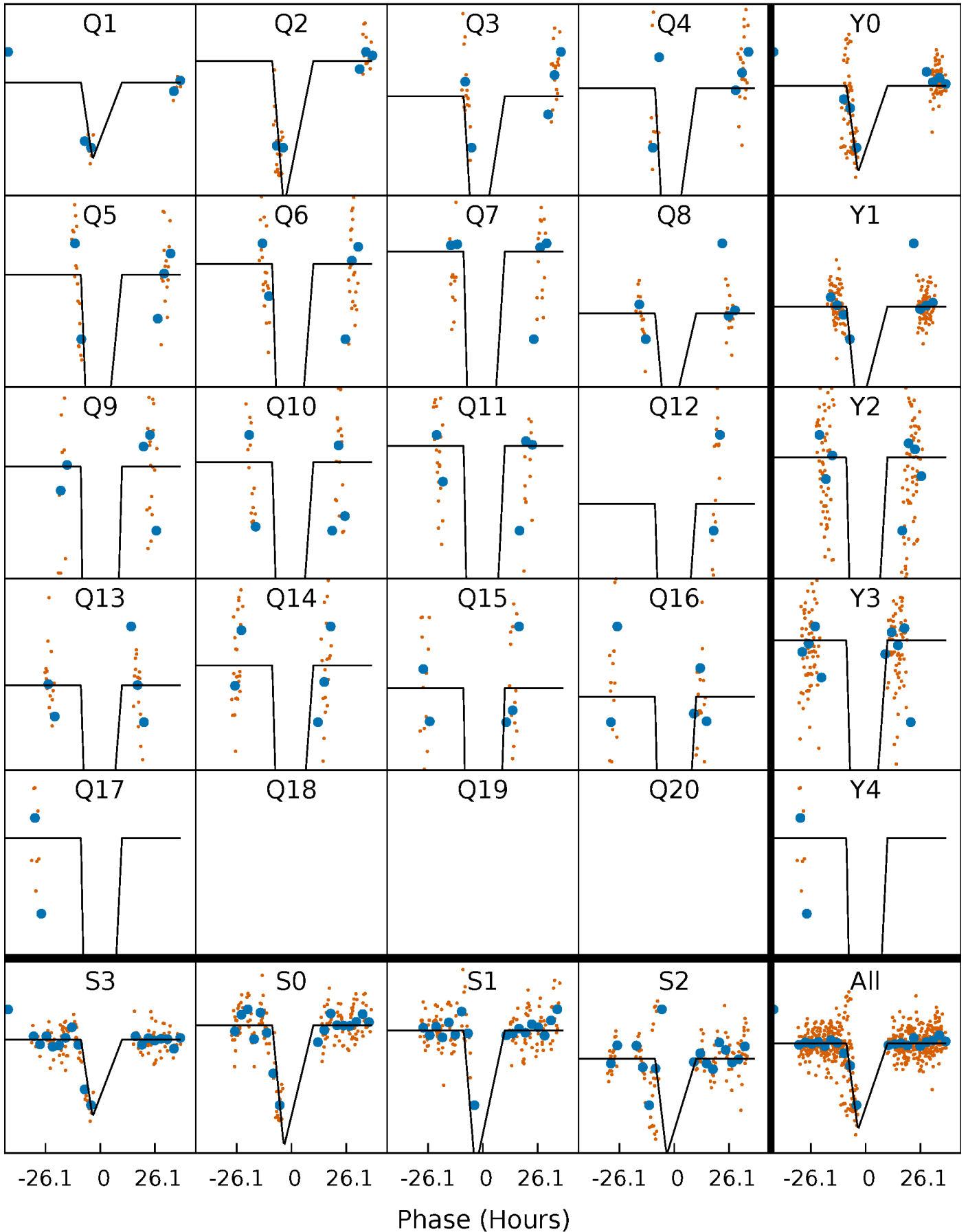
DV Quarter-Phased Transit Curves

TCE 006945500-02 P= 38.648683 Days $T_0=160.583197$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

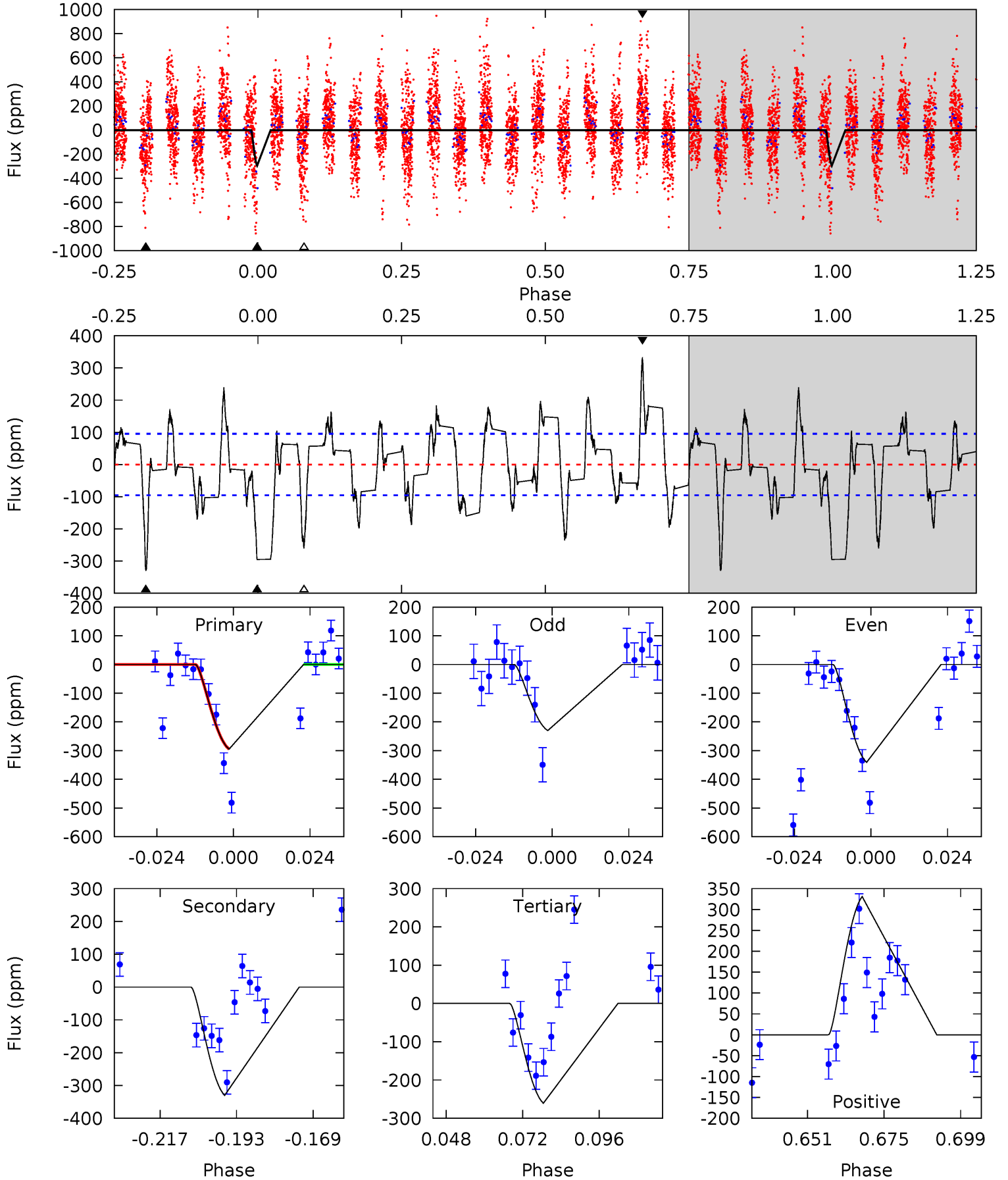
TCE 006945500-02 P= 38.658029 Days $T_0=160.665270$ (BKJD)



DV Model-Shift Uniqueness Test

006945500-02, P = 38.648683 Days, E = 121.934514 Days

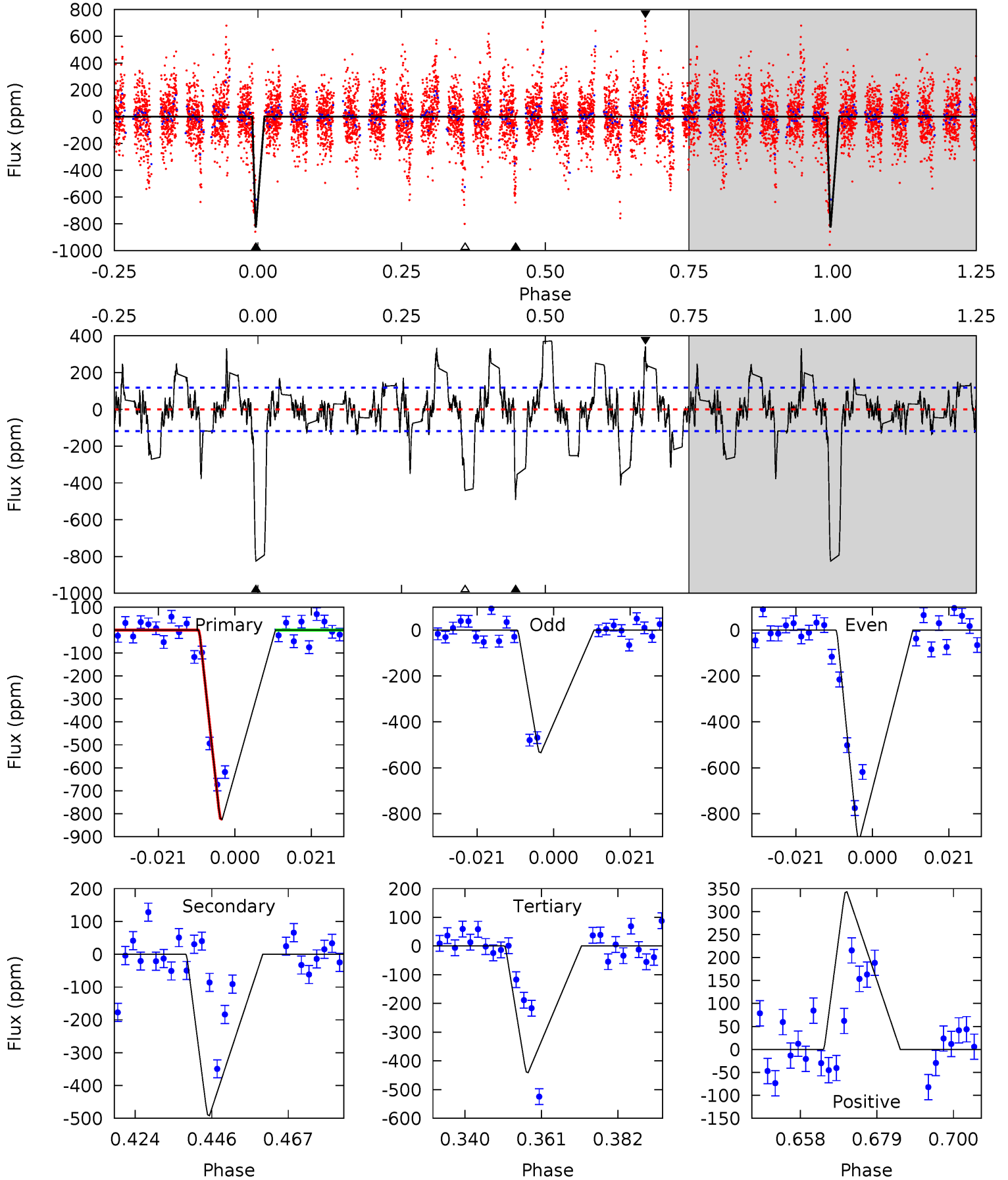
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.0	16.8	13.2	16.8	4.85	2.26	5.86	1.73	-1.83	3.52	-0.04	2.83	0	0.50	0



Alt Model-Shift Uniqueness Test

006945500-02, P = 38.658029 Days, E = 122.007241 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
34.1	20.3	18.2	14.2	4.88	2.30	4.05	15.9	19.9	2.10	6.15	8.03	0	0.31	0



Stellar Parameters For KIC 006945500

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+201}_{-277}	$4.060^{+0.198}_{-0.162}$	$-0.160^{+0.250}_{-0.350}$	$1.894^{+0.576}_{-0.471}$	$1.499^{+0.221}_{-0.265}$	$0.311^{+0.320}_{-0.160}$
	+3%/-4%	+5%/-4%	+156%/-219%	+30%/-25%	+15%/-18%	+103%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006945500-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-330 ± 20	$14.67^{+12.41}_{-9.55}$	1193^{+87}_{-83}	3888^{+2062}_{-669}	56^{+392}_{-40}
Alt.	-492 ± 24	$13.20^{+14.40}_{-9.18}$	1195^{+93}_{-86}	4358^{+3273}_{-951}	101^{+965}_{-78}

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 $A_{obs} \gg 1.0$

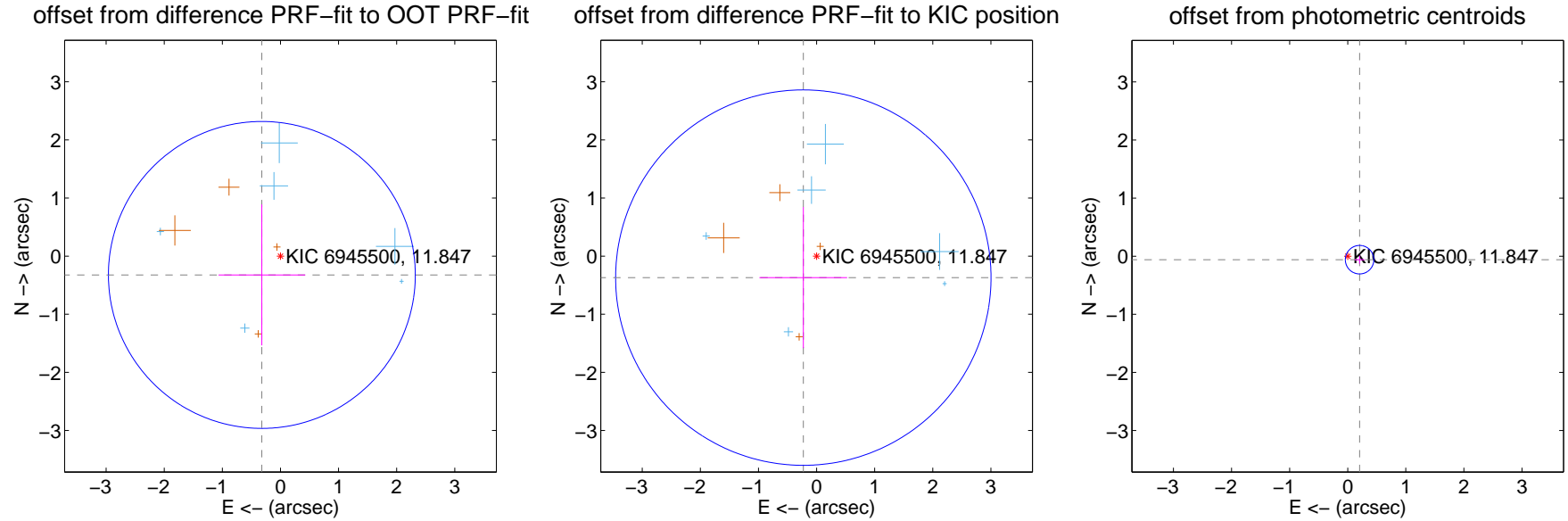
DV Centroid Data

Supplemental centroid analysis for 006945500-02. **Kepler magnitude: 11.85.** Transit SNR 10.06

There are 6 quarters with good PRF difference image offsets

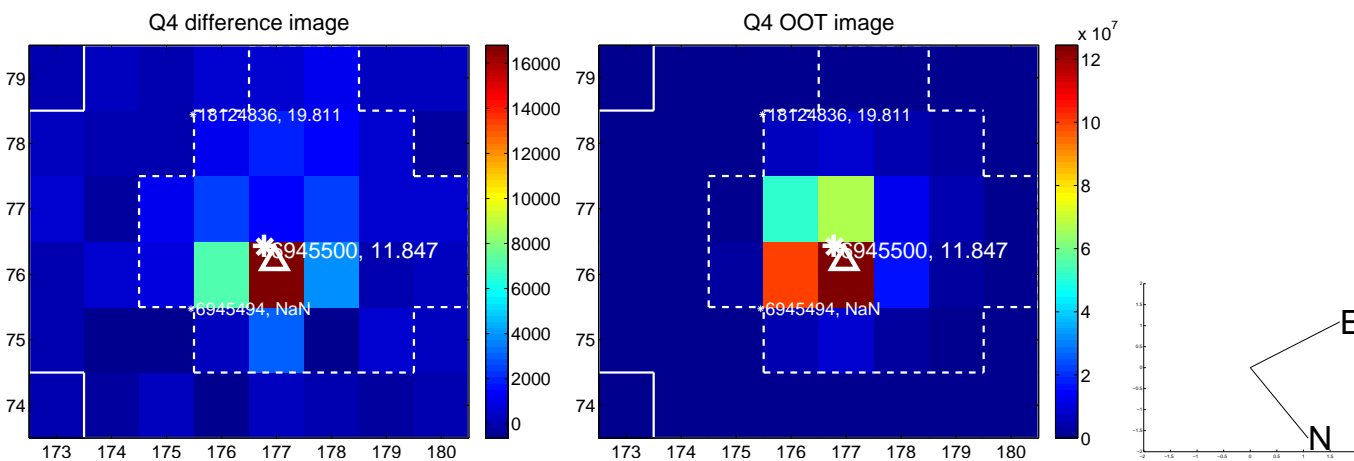
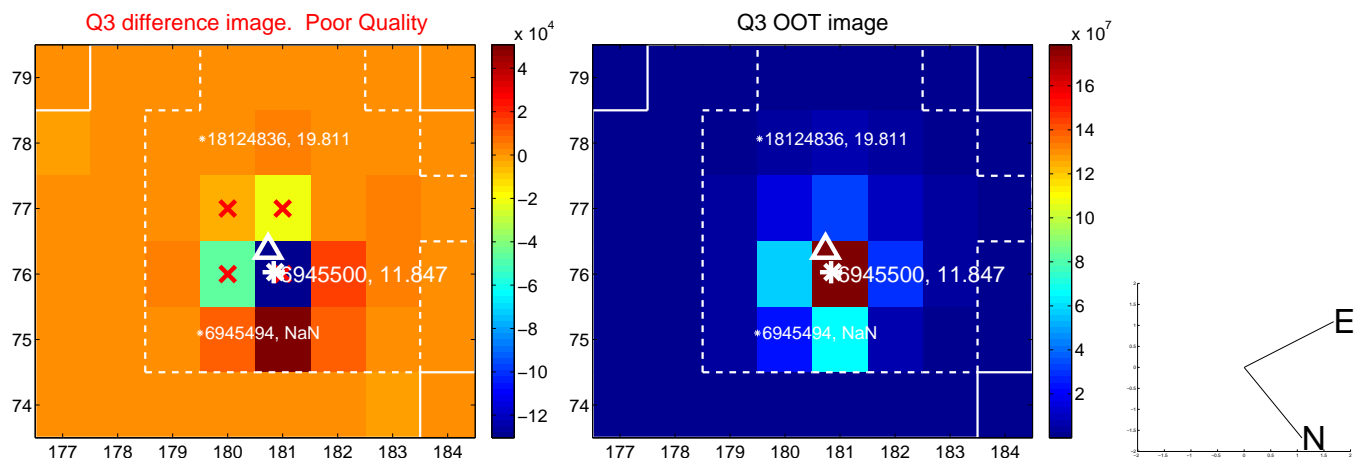
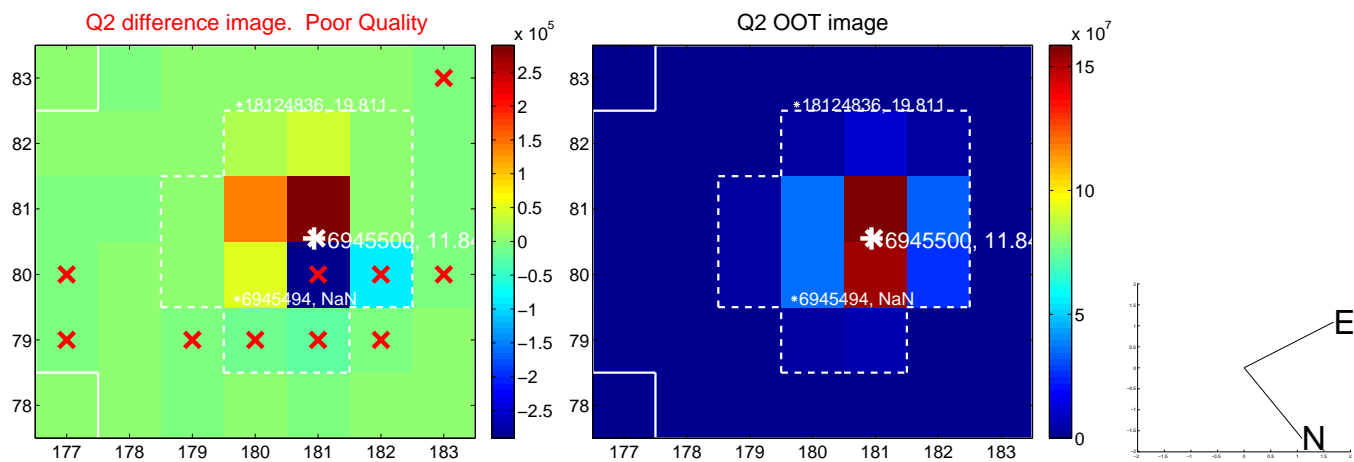
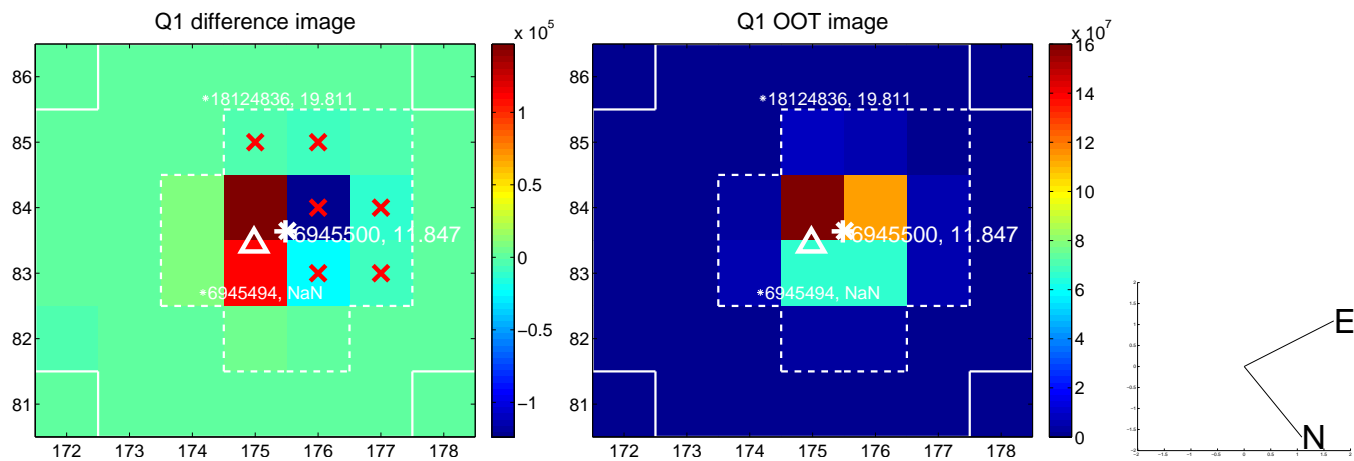
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.455 ± 0.880	0.52	0.320 ± 0.746	-0.324 ± 1.213
PRF-fit source offset from KIC position	0.434 ± 1.077	0.40	0.228 ± 0.755	-0.370 ± 1.214
photometric centroid source offset	0.21 ± 0.08	2.60	-0.20 ± 0.08	-0.06 ± 0.07

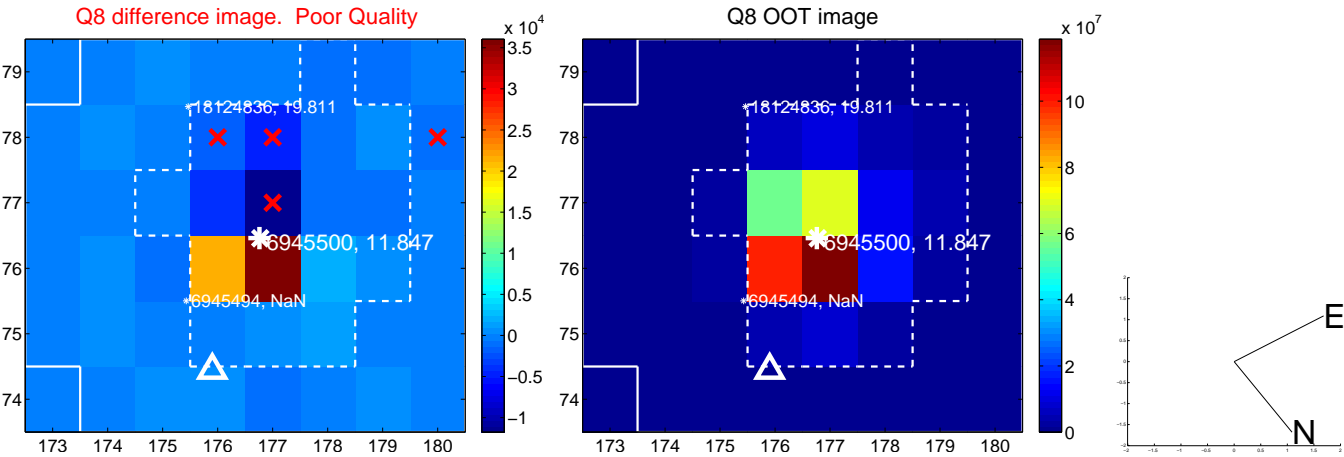
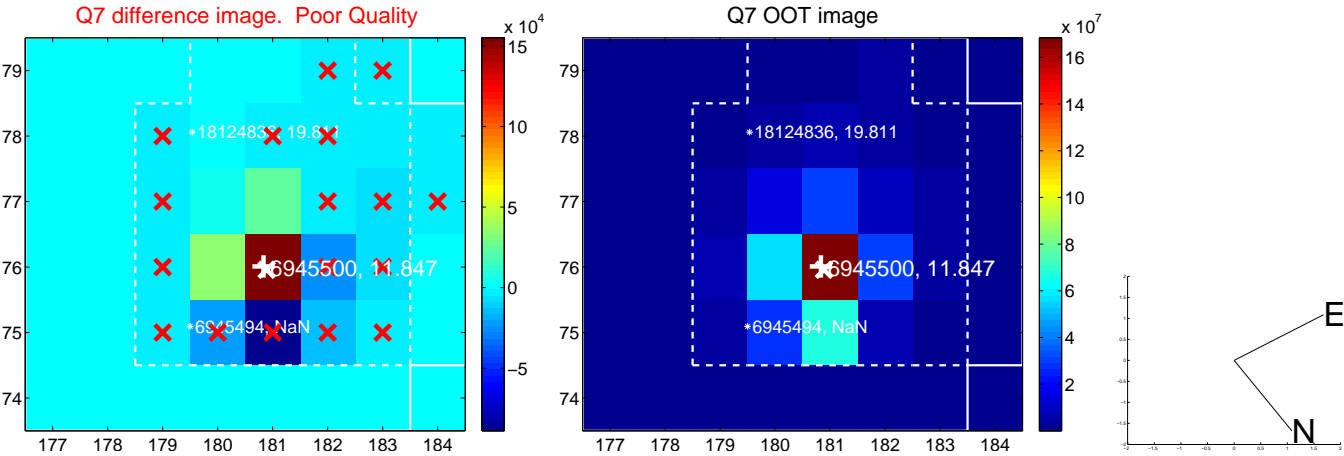
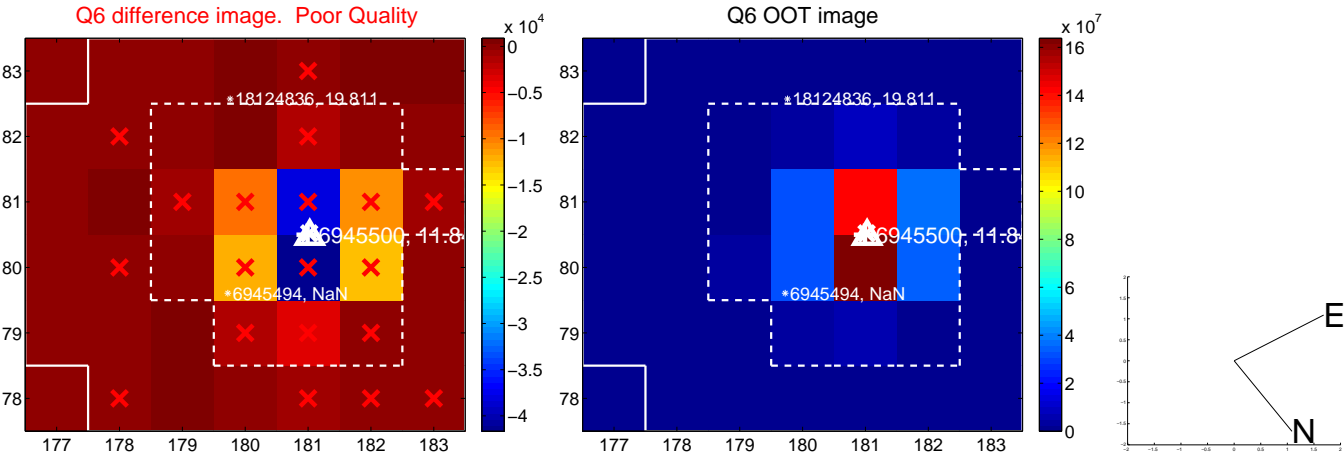
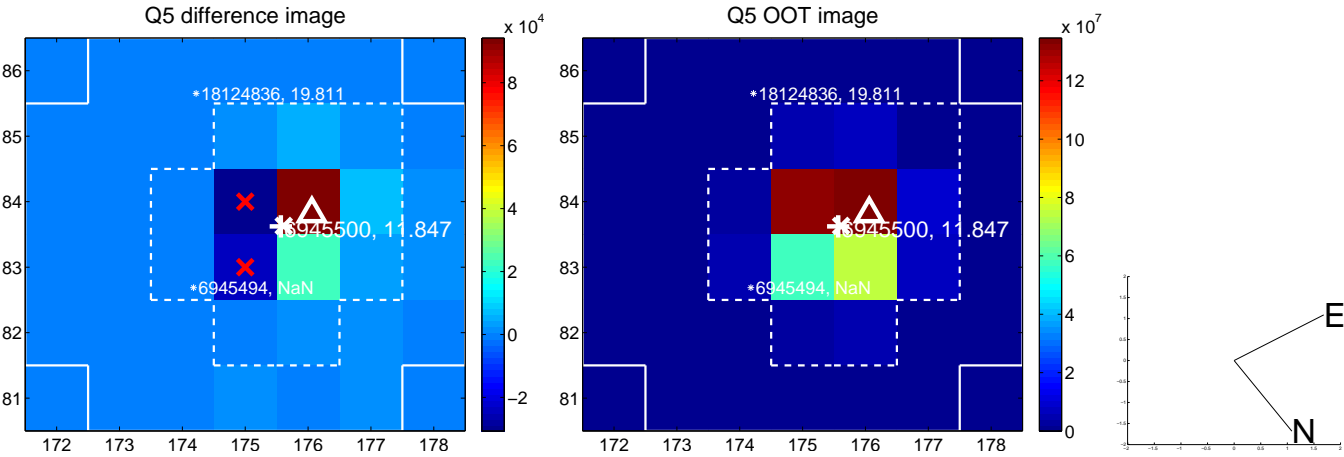


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

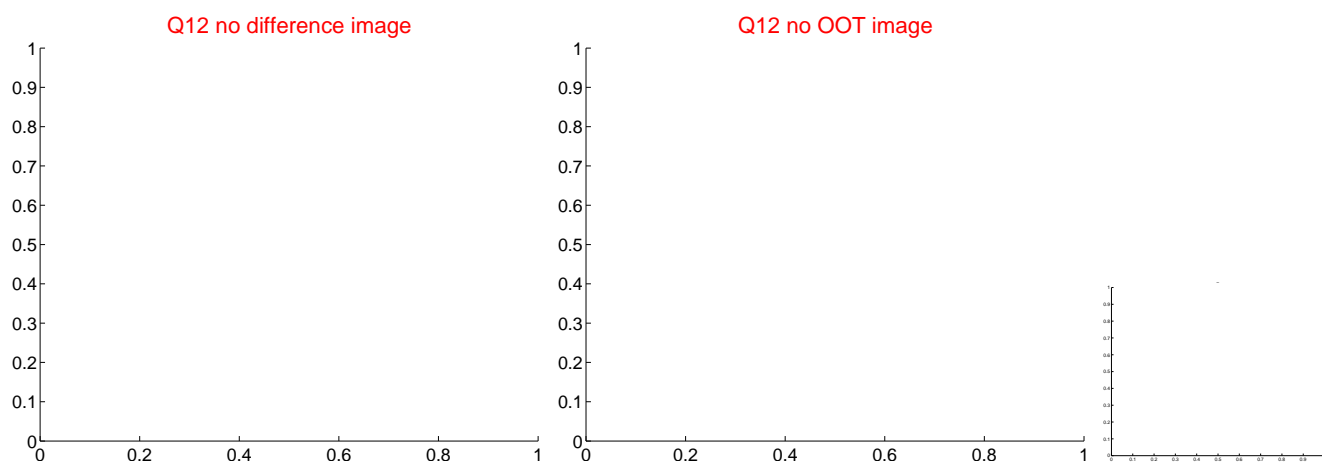
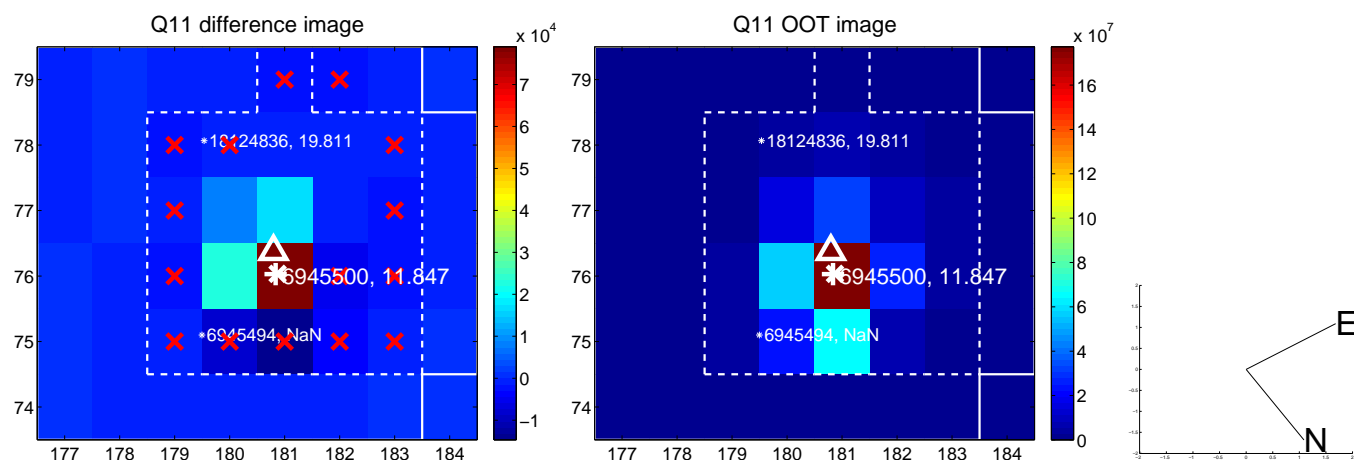
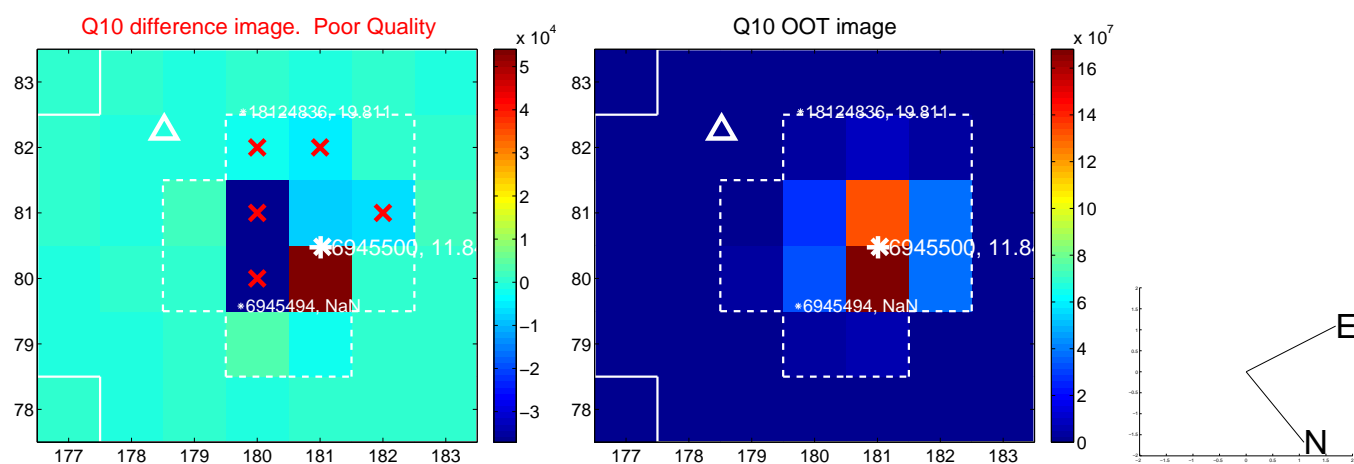
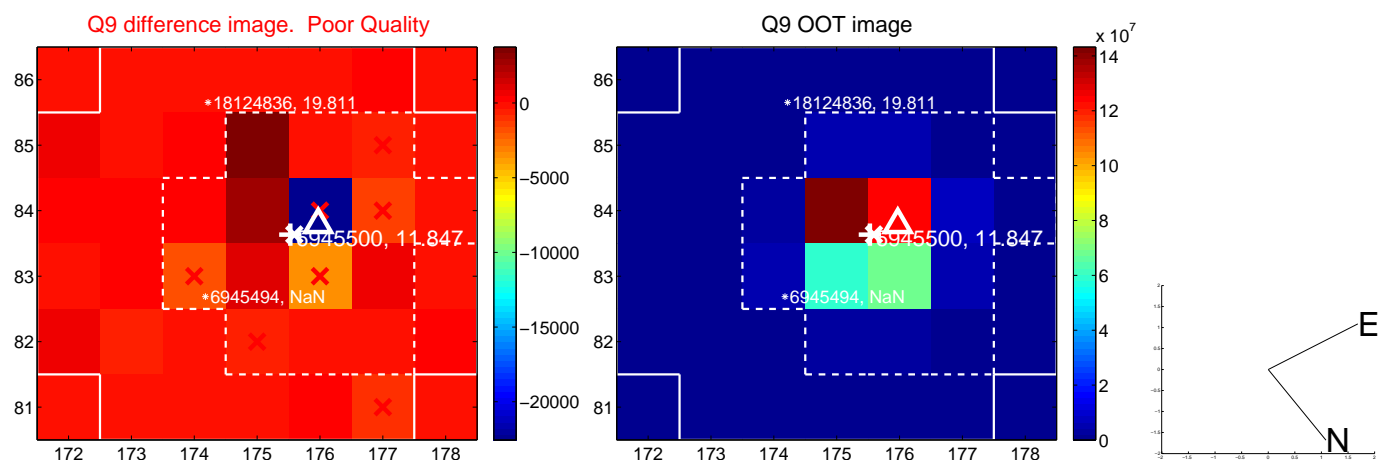
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



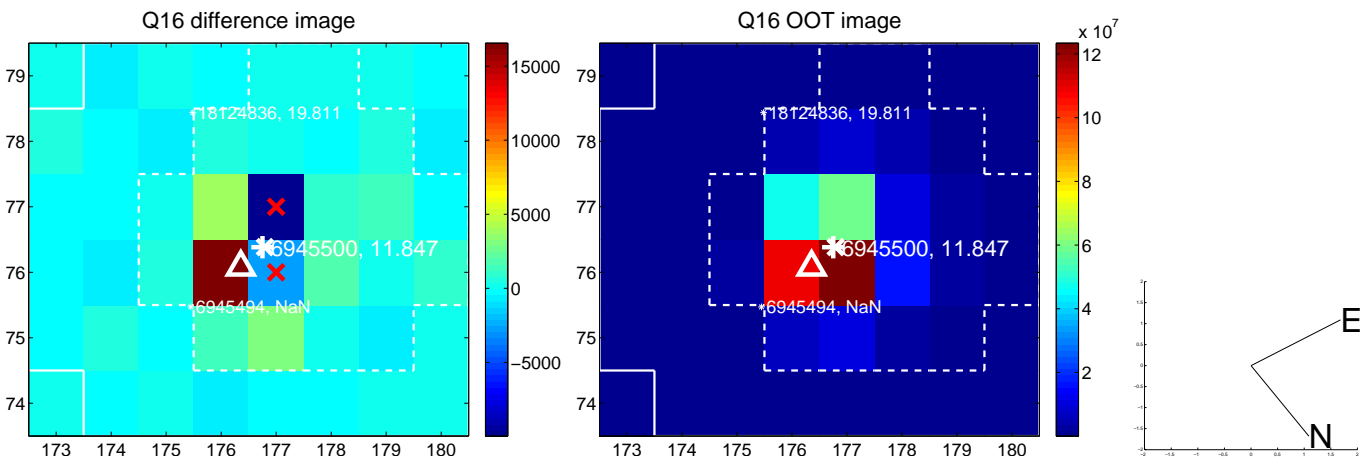
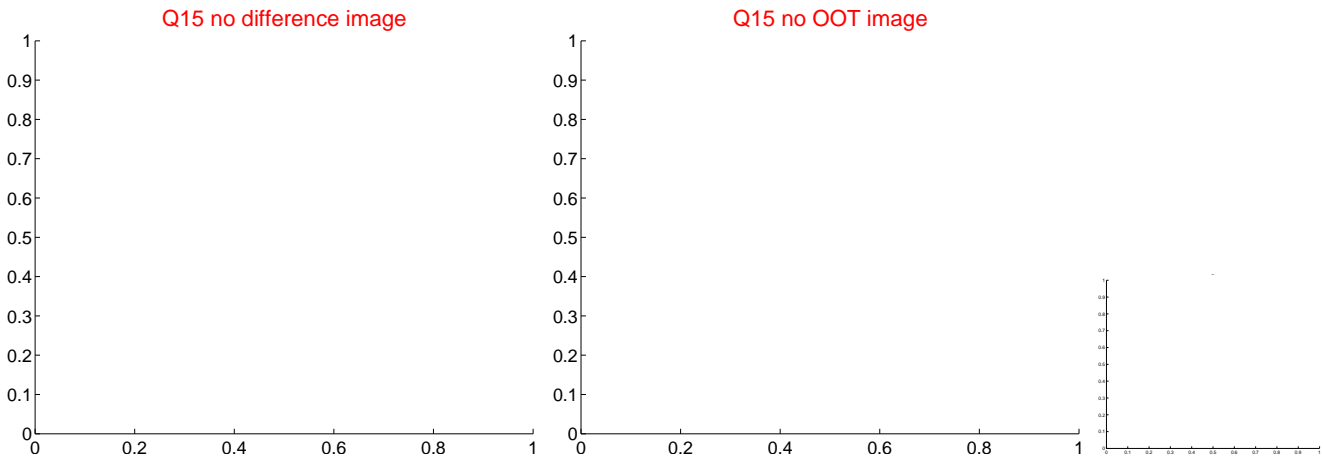
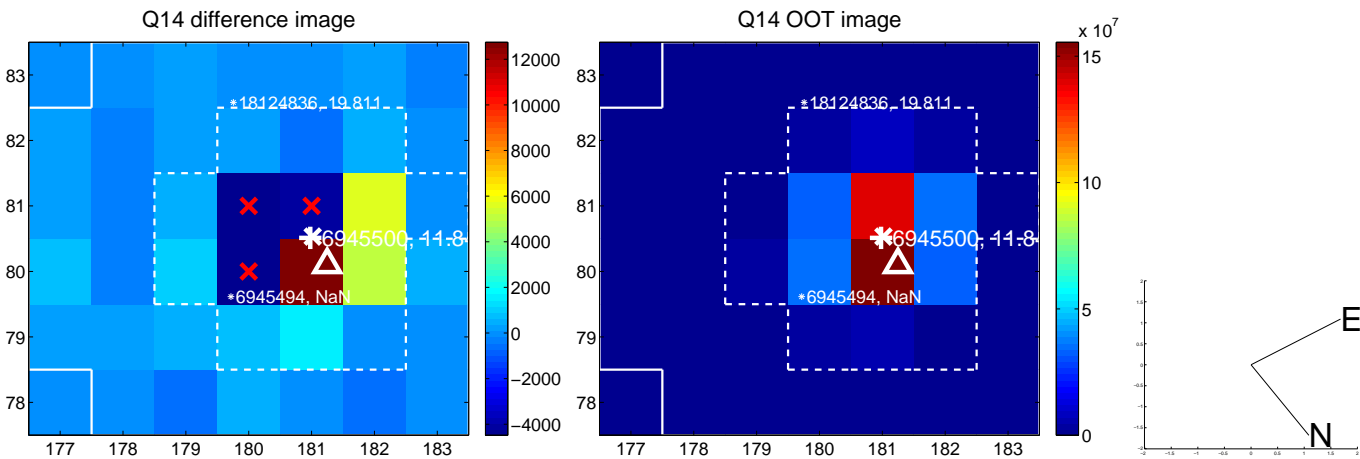
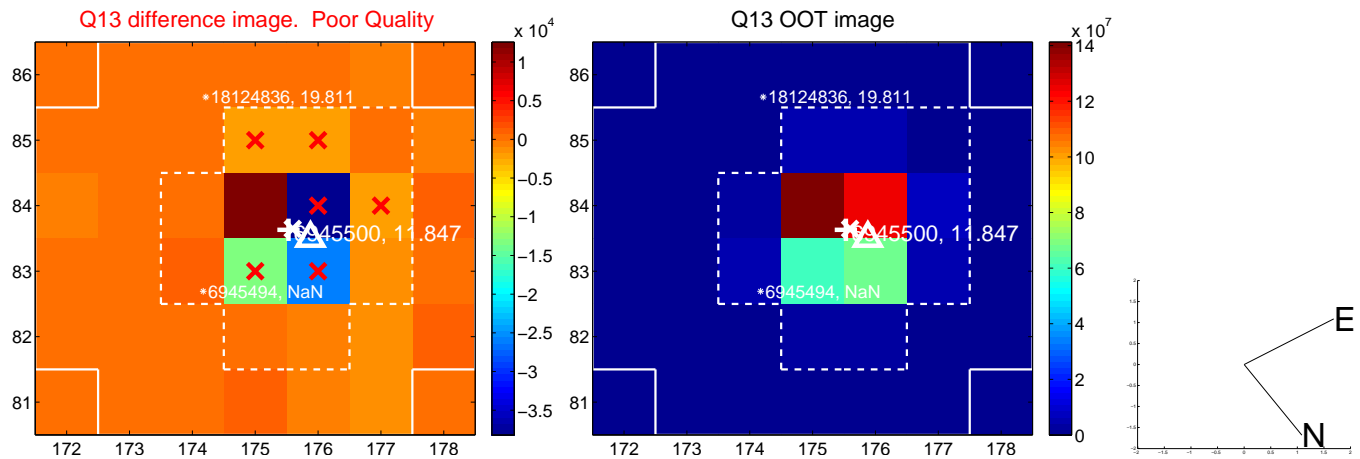
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



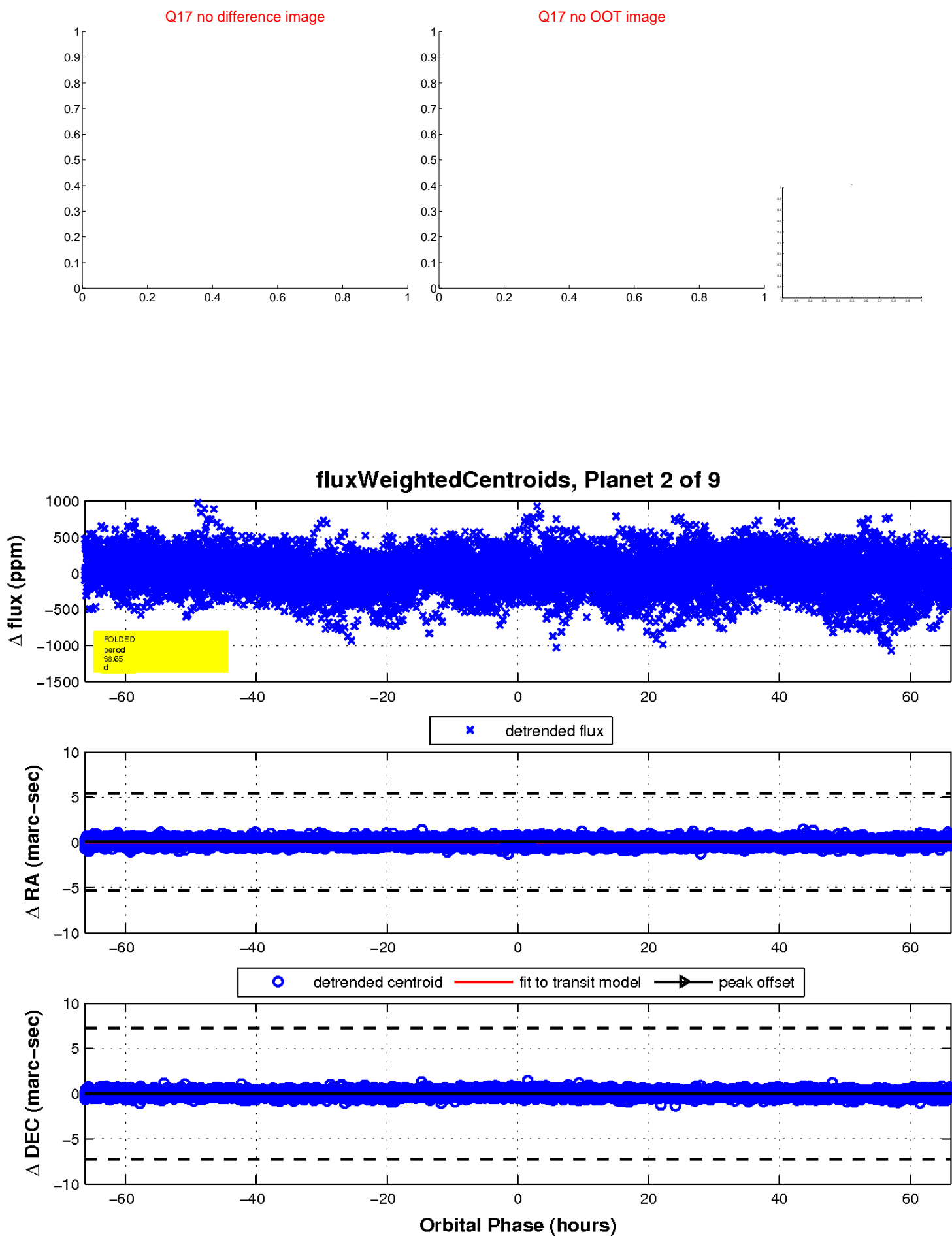
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

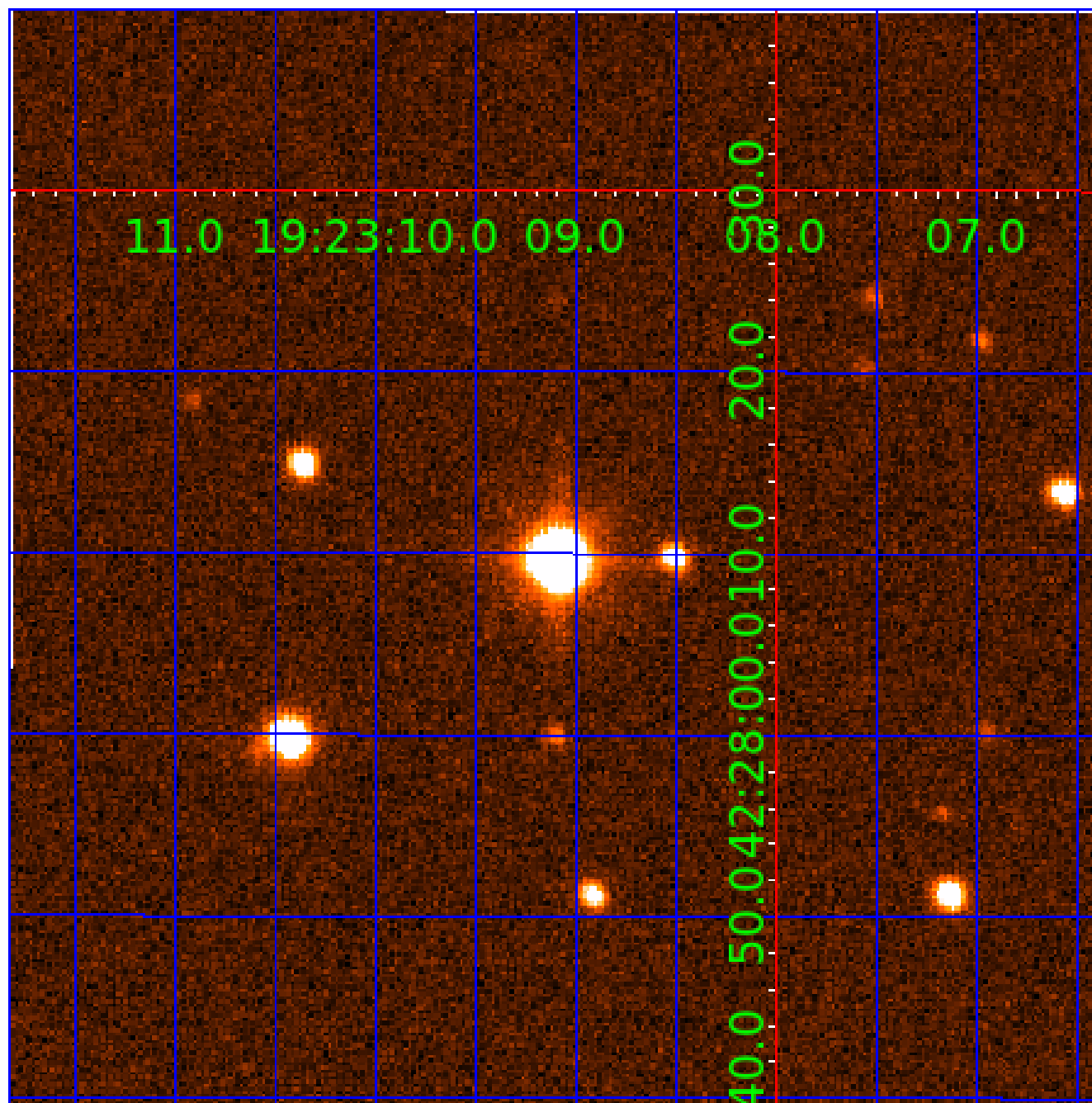


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006945500

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})
006945500-01	OBS	No	1.755894	133.225592	35.1	12.473	9.1	10.7	1.89	7207	1.31	8143.94
006945500-02	OBS	No	38.648683	160.583197	525.7	22.088	16.0	10.1	1.89	7207	8.21	132.02
006945500-03	OBS	No	59.797470	188.316106	568.7	11.781	12.5	11.0	1.89	7207	8.53	73.78
006945500-05	OBS	No	245.835306	143.036494	483.0	9.931	10.0	9.3	1.89	7207	4.95	11.20
006945500-06	OBS	No	34.477761	140.060283	280.5	2.242	10.1	10.3	1.89	7207	3.68	153.74
006945500-07	OBS	No	36.817043	164.470540	305.2	2.424	9.9	10.0	1.89	7207	6.12	140.85
006945500-08	OBS	No	56.654681	137.107227	315.3	5.291	8.2	9.8	1.89	7207	6.46	79.28
006945500-09	OBS	No	4.866339	135.550778	126.2	3.000	9.0	-1.0	1.89	7207	2.16	2092.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006945500-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006945500-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
006945500-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006945500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
006945500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006945500-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

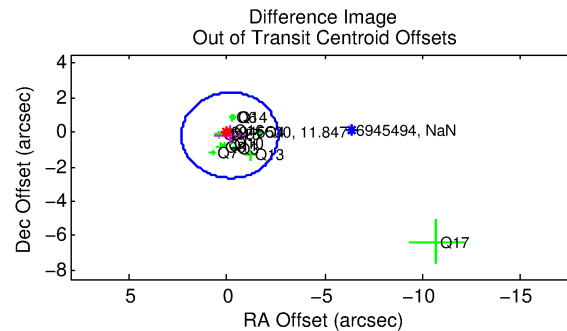
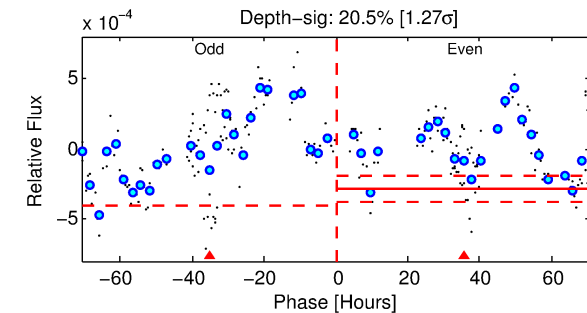
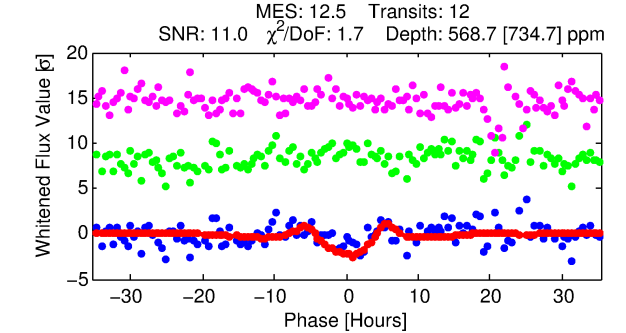
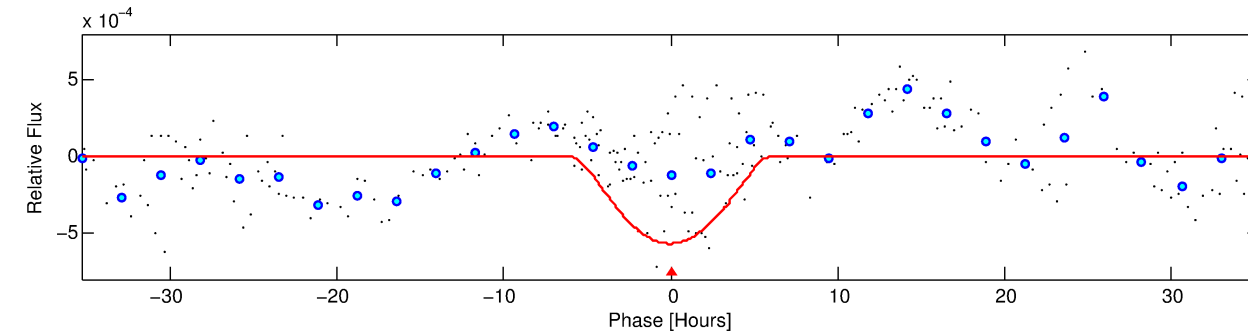
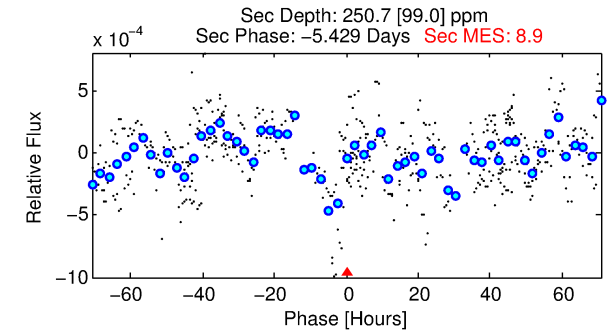
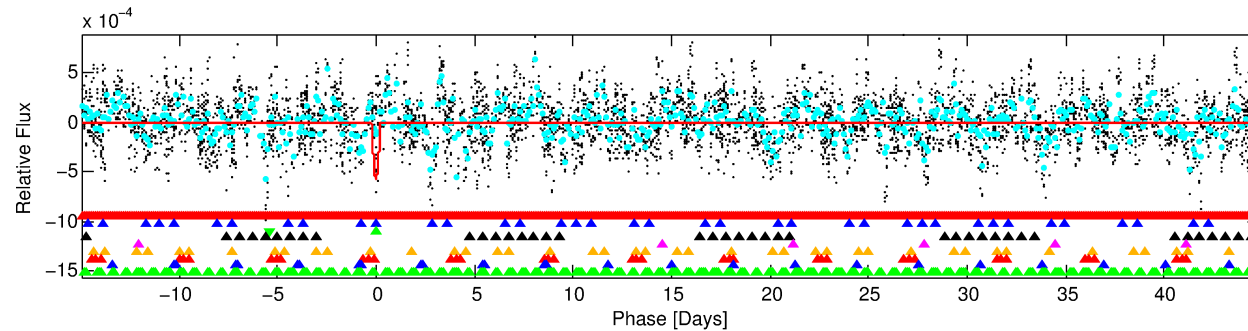
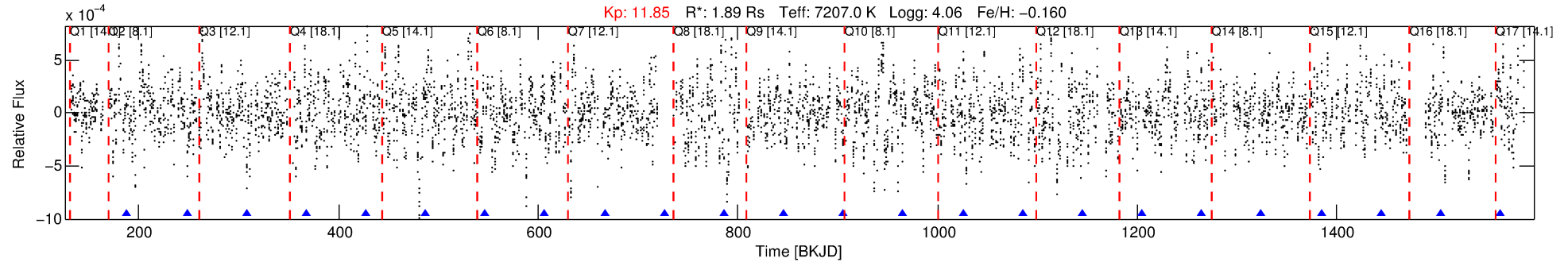
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006945500-03

No Significant Match Found

DV One-Page Summary

KIC: 6945500 Candidate: 3 of 9 Period: 59.797 d



DV Fit Results:

Period = 59.79747 [0.01988] d
Epoch = 188.3161 [0.0474] BKJD
Rp/R* = 0.0413 [0.0832]
a/R* = 11.30 [6.05]
b = 1.00 [0.16]
Seff = 73.78 [29.24]
Teq = 747 [74] K
Rp = 8.53 [17.38] Re
a = 0.3428 [0.0869] AU
Ag = 222.99 [906.98] [0.24σ]
Teffp = 4465 [4525] K [0.82σ]

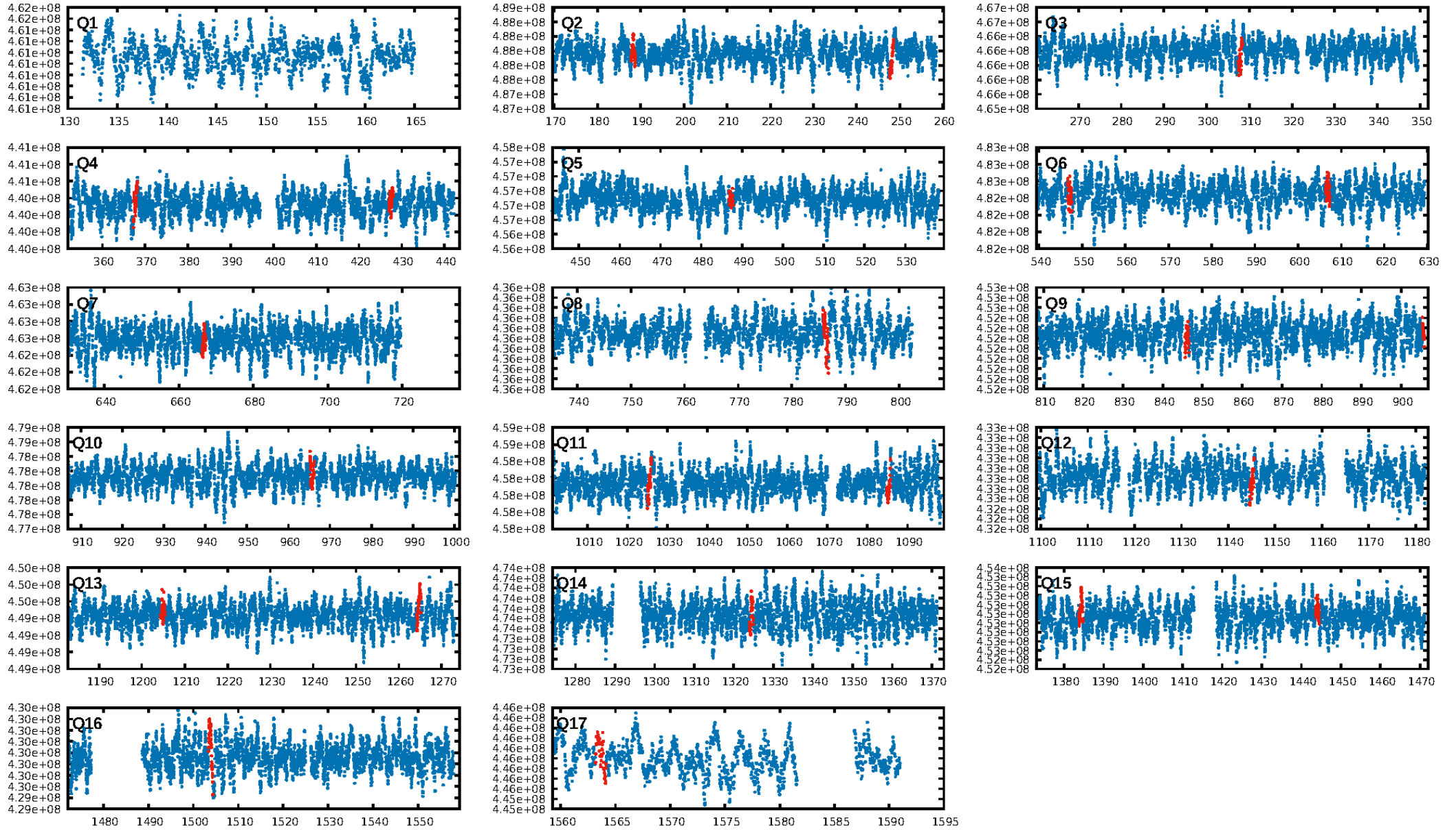
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.84σ]
LongPeriod-sig: 100.0% [289.77σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [11/11]
GhostDiagnostic-chr: -0.8512
Centroid-sig: 82.7%
Centroid-so: 0.155 arcsec [1.38σ]
OotOffset-rm: 0.243 arcsec [0.29σ]
KicOffset-rm: 0.386 arcsec [0.48σ]
OotOffset-st: 3/4/4/2 [13]
KicOffset-st: 3/4/4/2 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 0.00 [0/15]

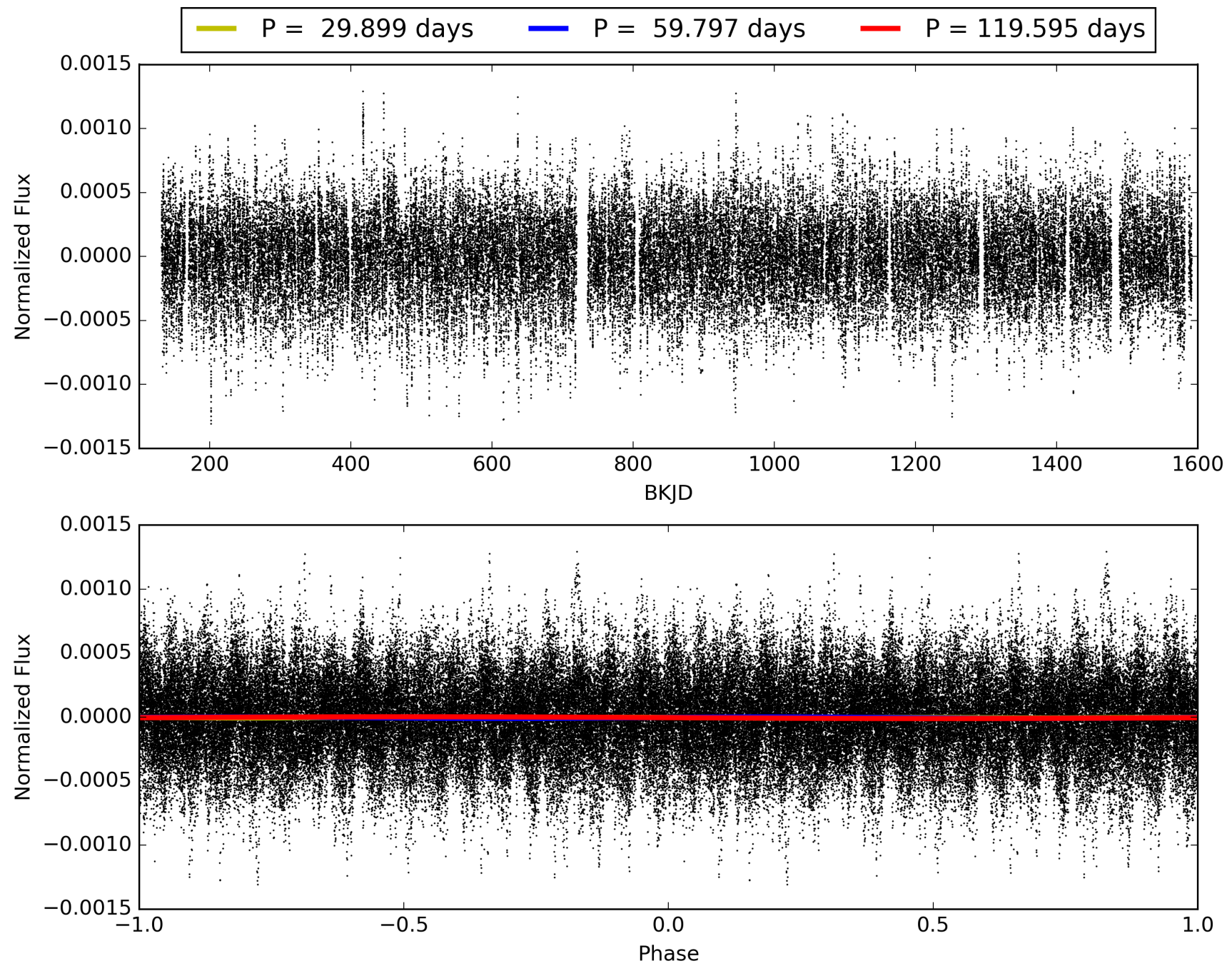
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:12:50 Z

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

TCE 006945500-03, PDC Light Curves

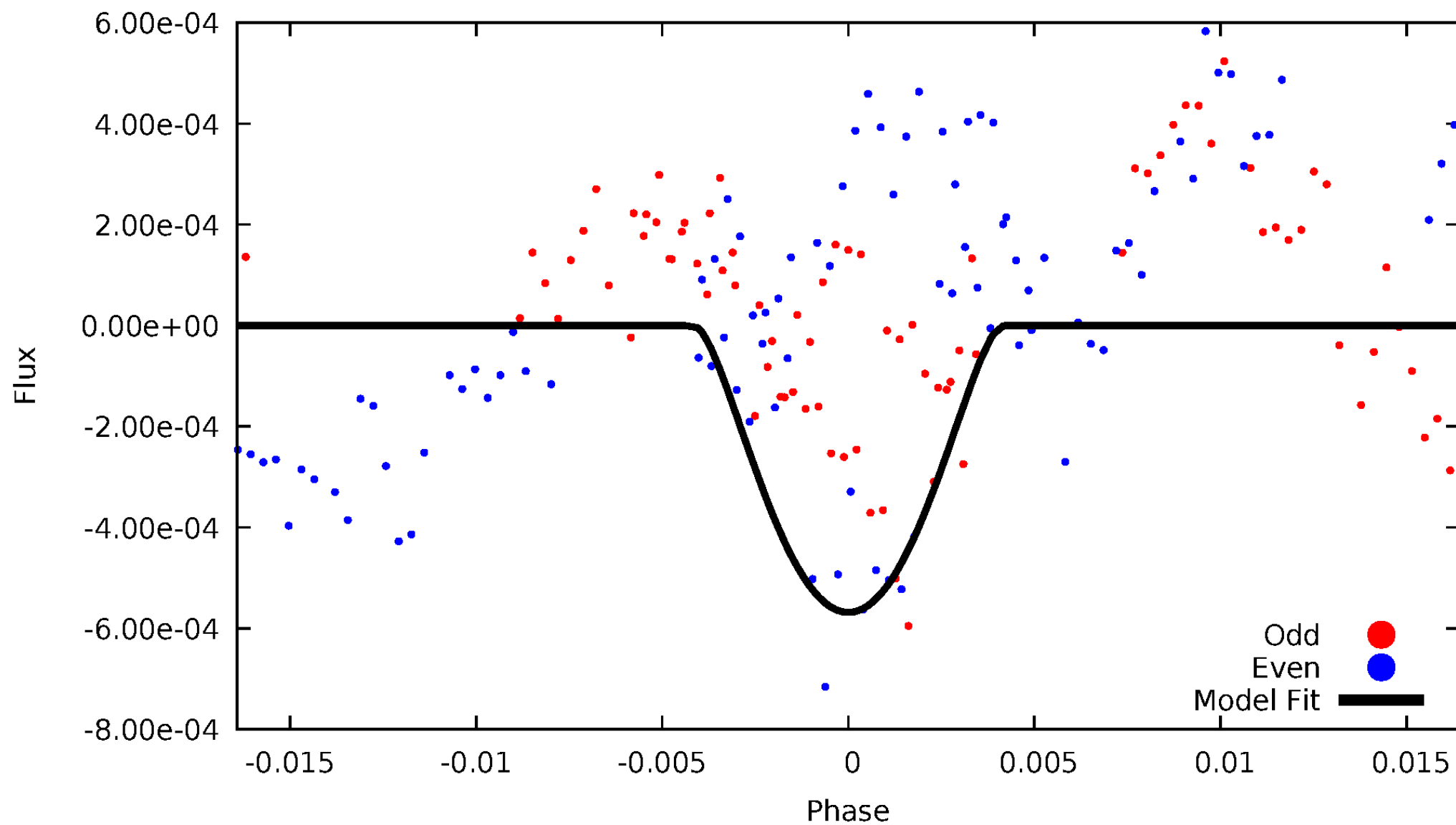


TCE 006945500-03



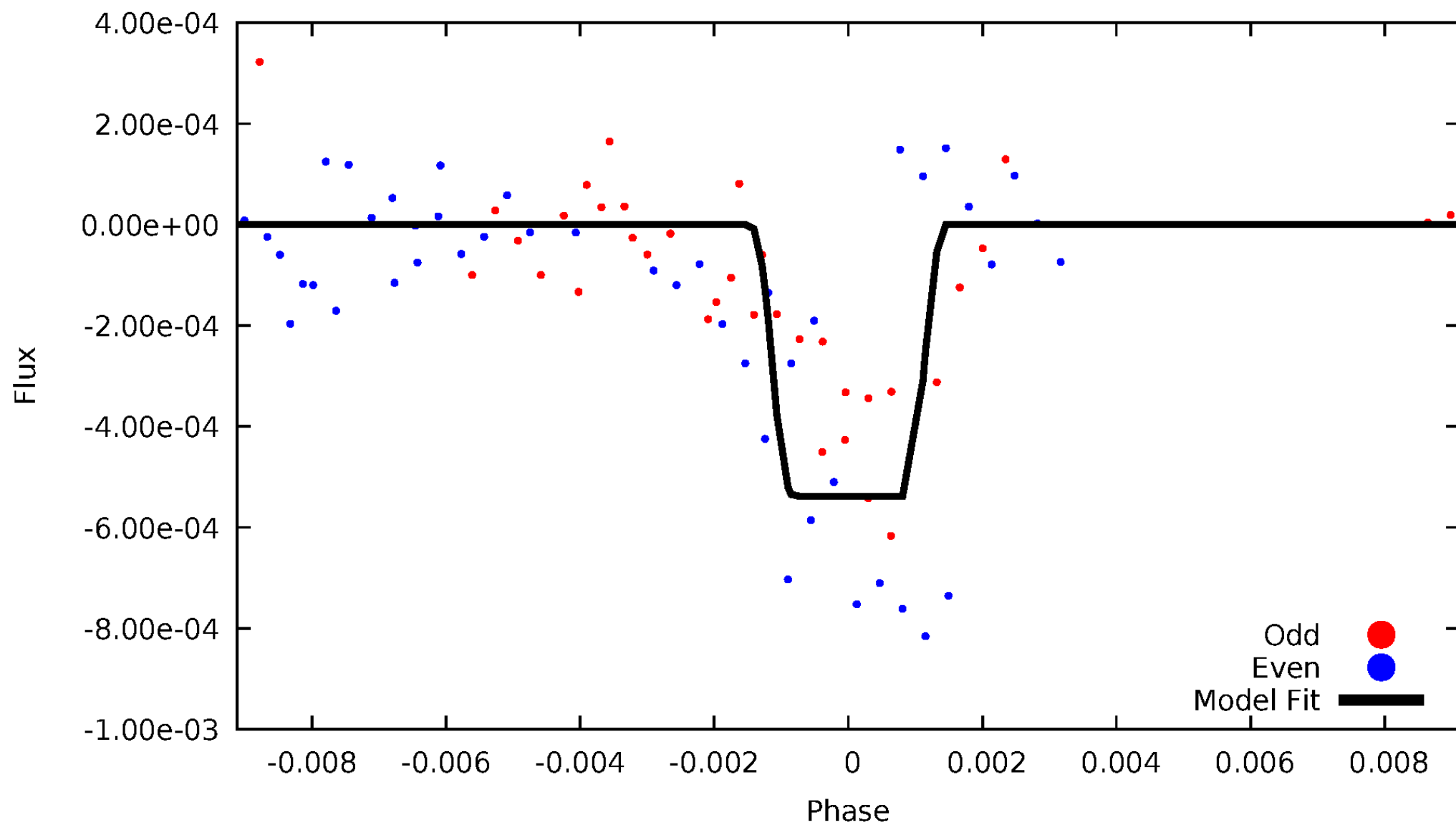
DV Odd/Even

TCE 006945500-03



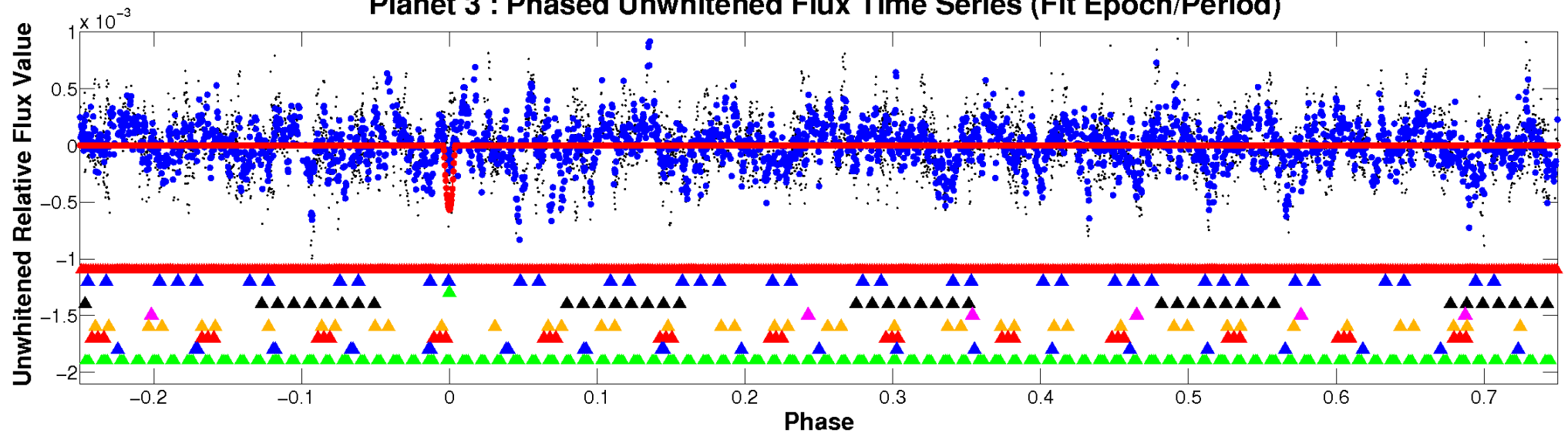
ALT Odd/Even

TCE 006945500-03

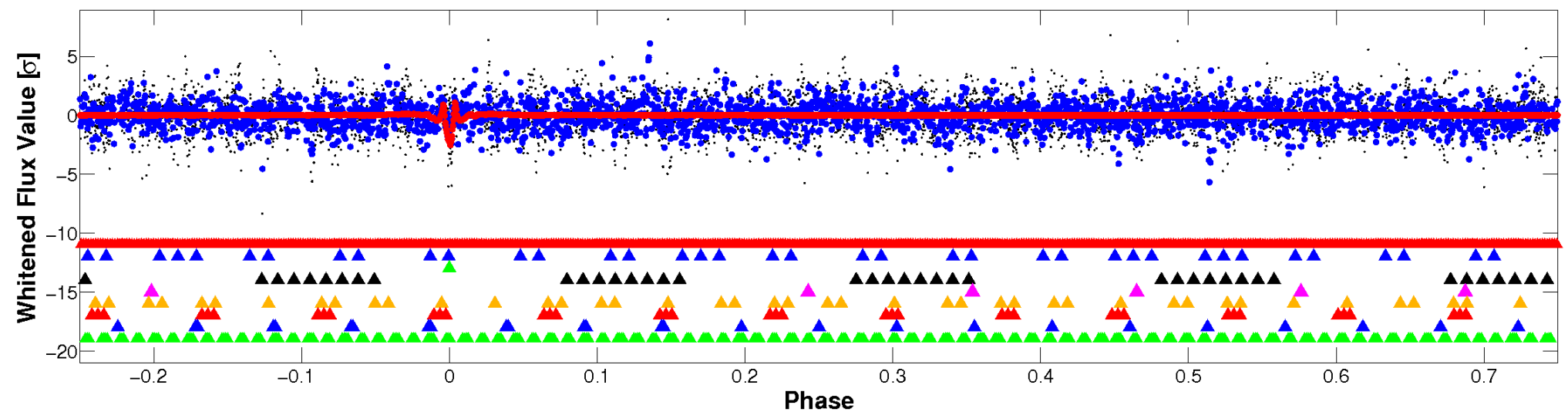


Non-Whitened Vs. Whitened Light Curve

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

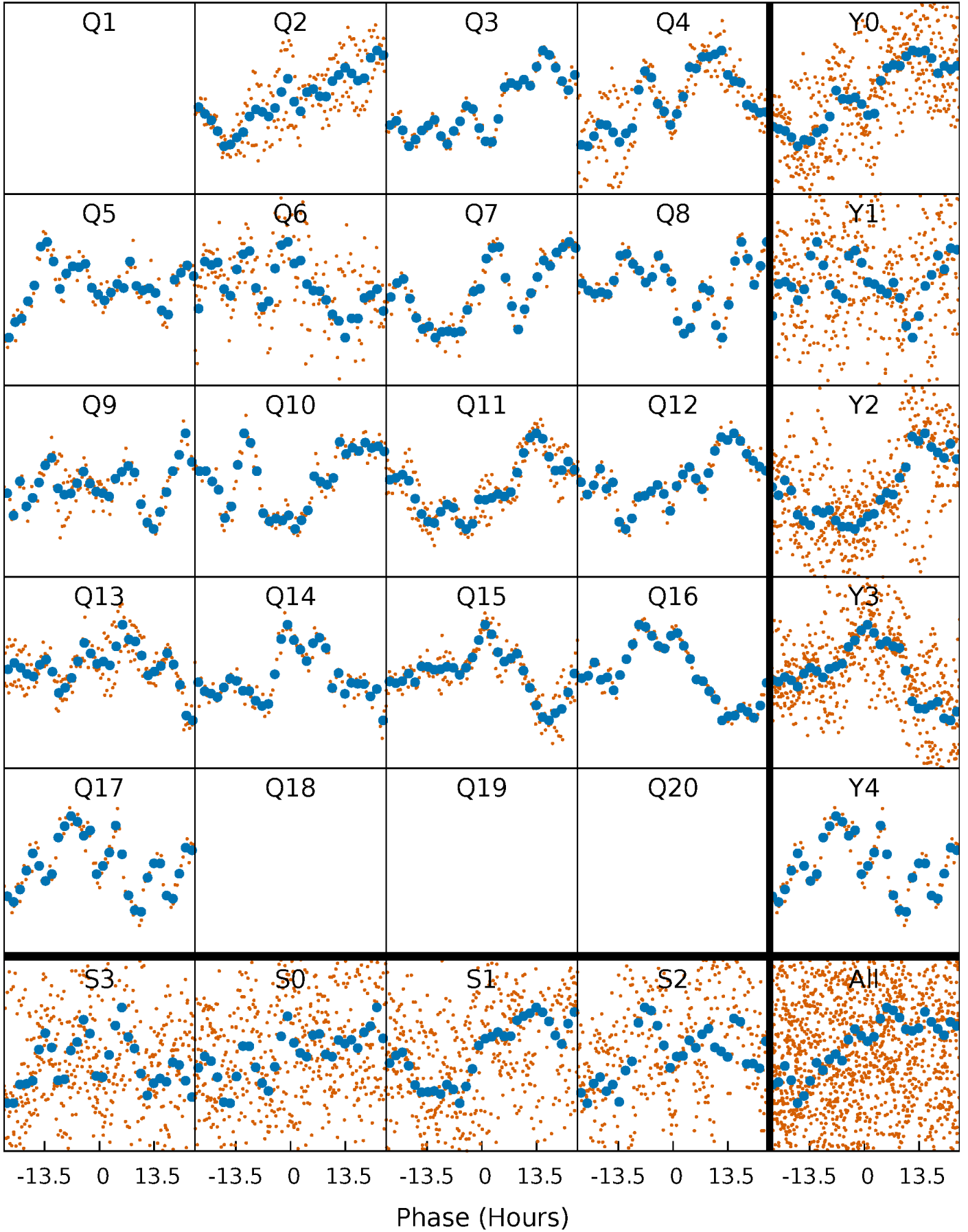


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



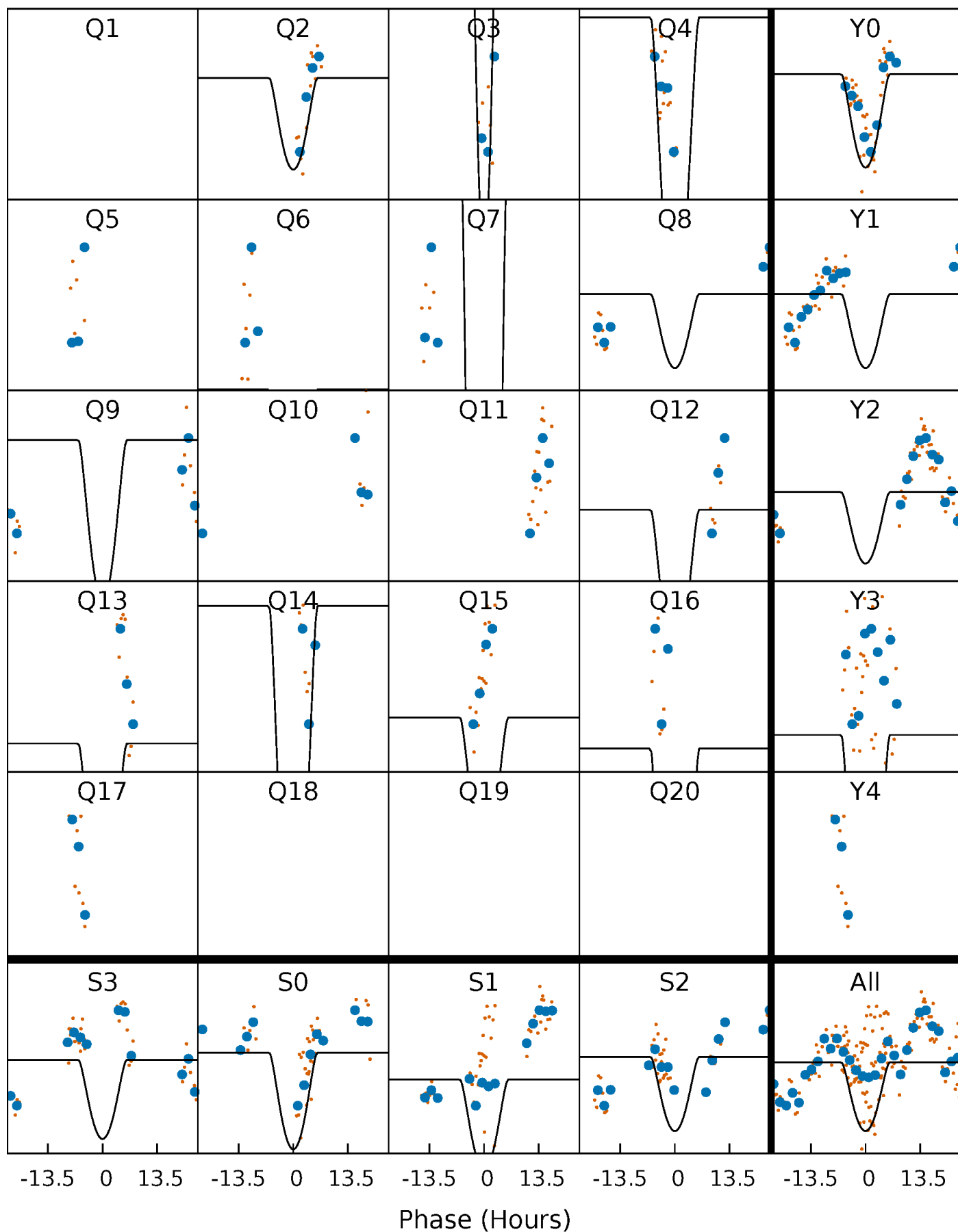
PDC Quarter-Phased Transit Curves

TCE 006945500-03 P= 59.797470 Days $T_0=188.316106$ (BKJD)



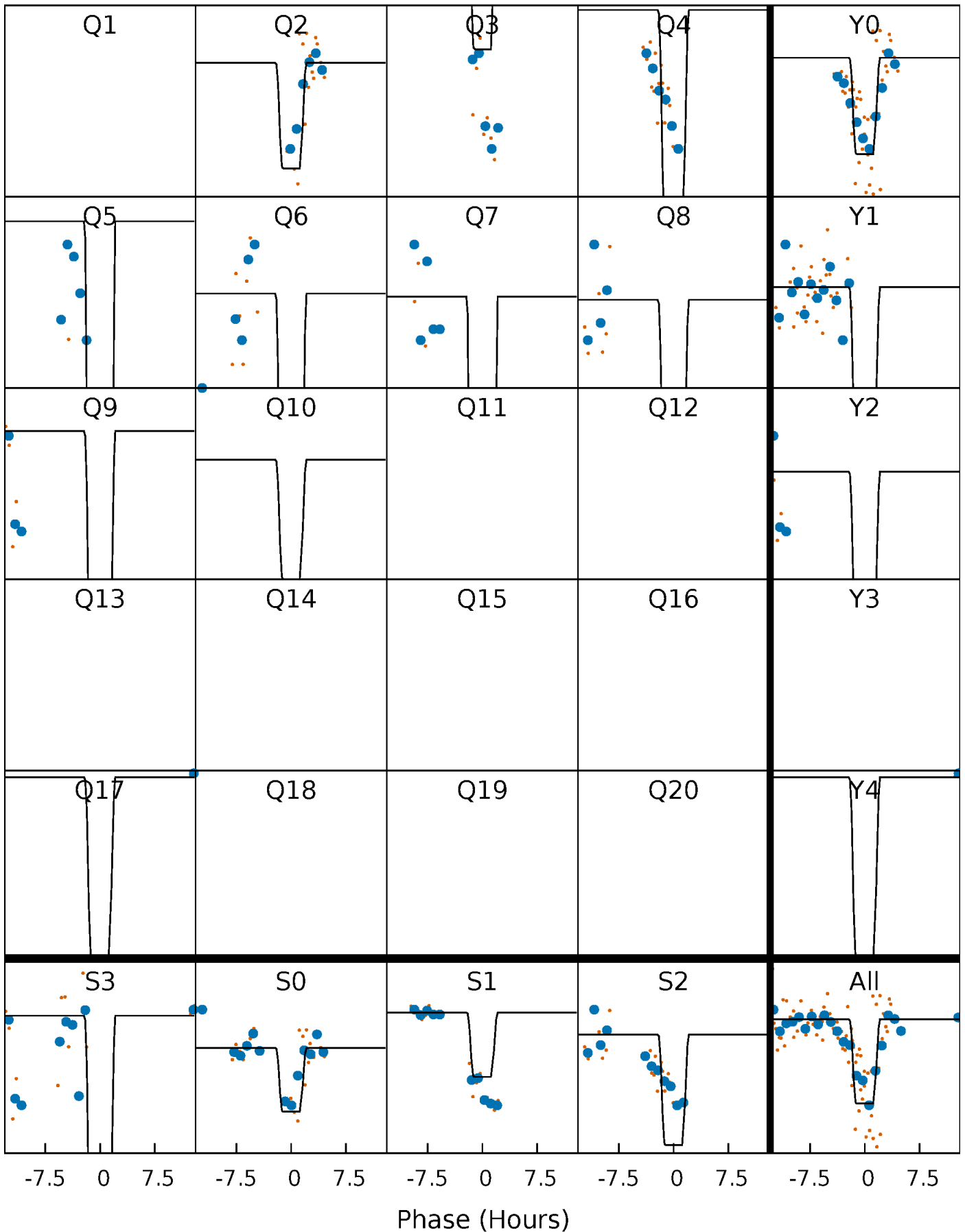
DV Quarter-Phased Transit Curves

TCE 006945500-03 P= 59.797470 Days $T_0=188.316106$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

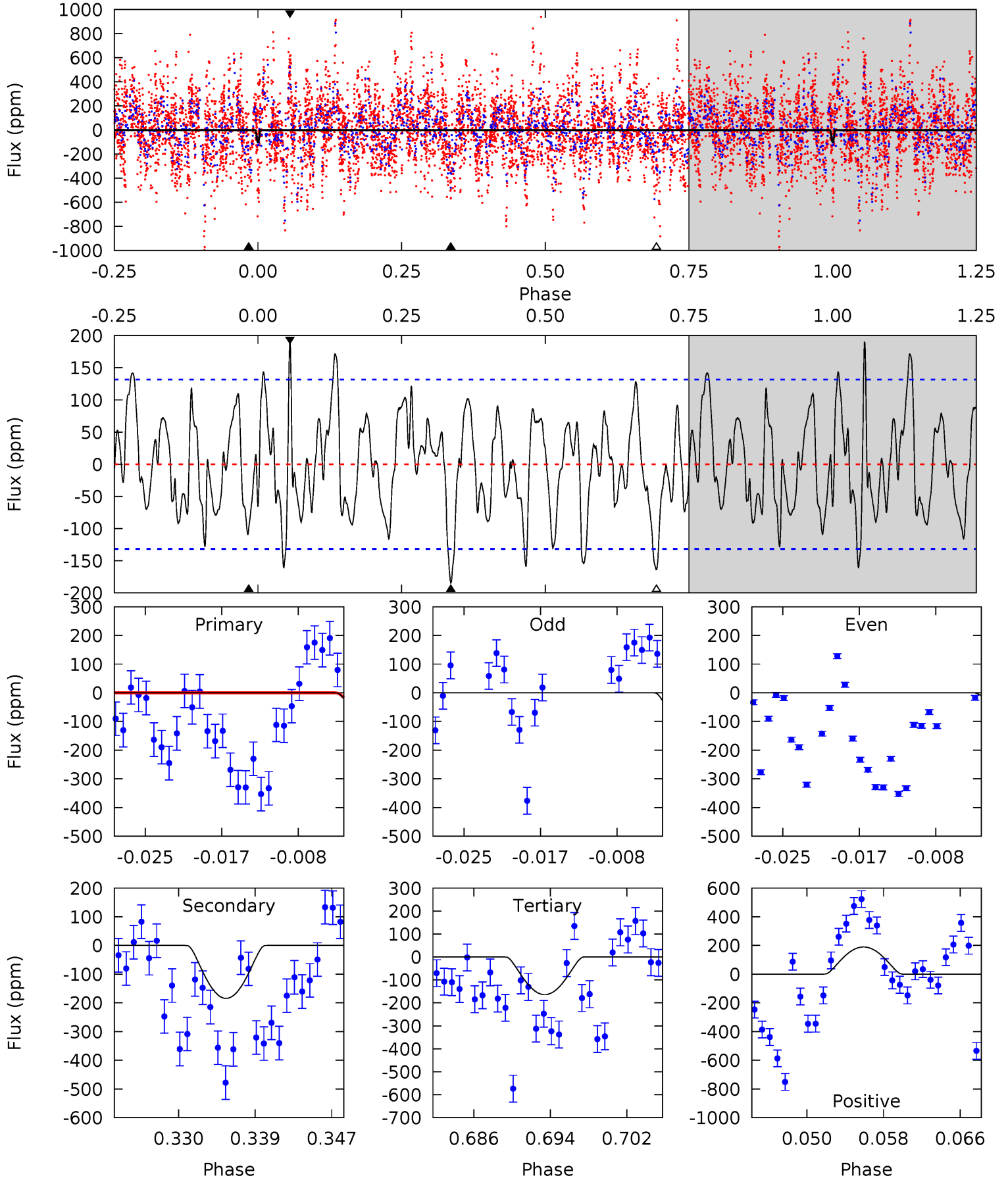
TCE 006945500-03 P= 59.755640 Days $T_0=188.416472$ (BKJD)



DV Model-Shift Uniqueness Test

006945500-03, $P = 59.797470$ Days, $E = 128.518636$ Days

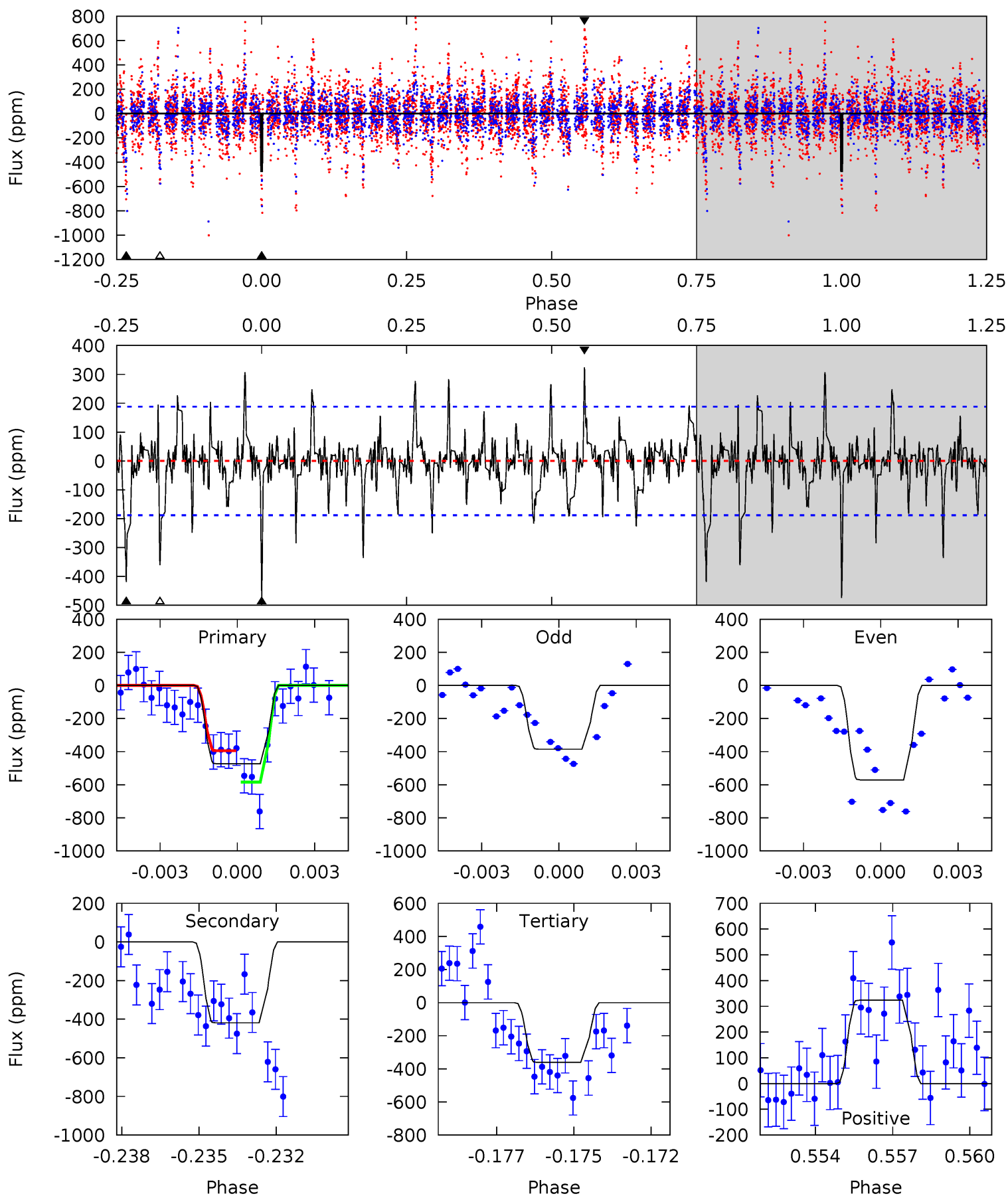
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.82	7.09	6.31	7.30	5.06	2.64	2.44	-2.49	-3.47	0.78	-0.20	1.80	1.22	0.51	0.39



Alt Model-Shift Uniqueness Test

006945500-03, P = 59.755640 Days, E = 128.660832 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	11.8	10.1	9.07	5.27	3.00	2.20	3.17	4.21	1.64	2.68	2.53	1.11	0.41	2.62



Stellar Parameters For KIC 006945500

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+201}_{-277}	$4.060^{+0.198}_{-0.162}$	$-0.160^{+0.250}_{-0.350}$	$1.894^{+0.576}_{-0.471}$	$1.499^{+0.221}_{-0.265}$	$0.311^{+0.320}_{-0.160}$
	+3%/-4%	+5%/-4%	+156%/-219%	+30%/-25%	+15%/-18%	+103%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006945500-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-184 ± 26	$15.19^{+14.70}_{-10.24}$	1034^{+75}_{-77}	3487^{+1862}_{-608}	49^{+461}_{-36}
Alt.	-419 ± 36	$13.12^{+14.76}_{-9.26}$	1028^{+88}_{-79}	4253^{+2975}_{-946}	159^{+1567}_{-124}

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

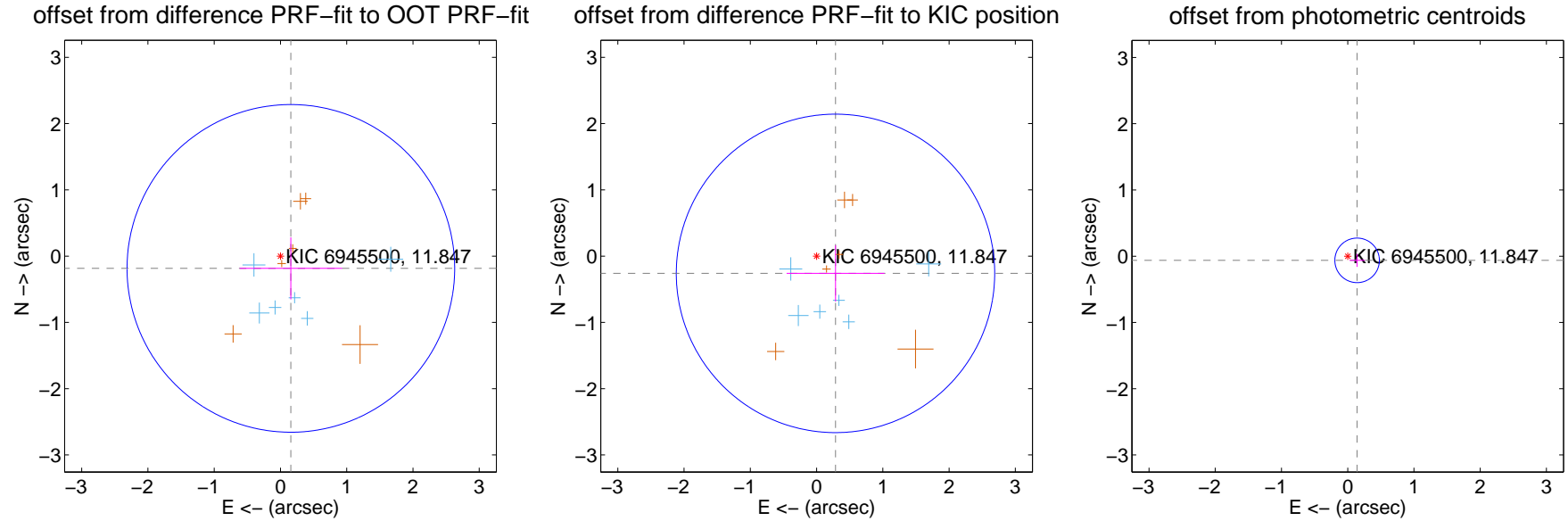
DV Centroid Data

Supplemental centroid analysis for 006945500-03. **Kepler magnitude: 11.85.** Transit SNR 10.96

There are 6 quarters with good PRF difference image offsets

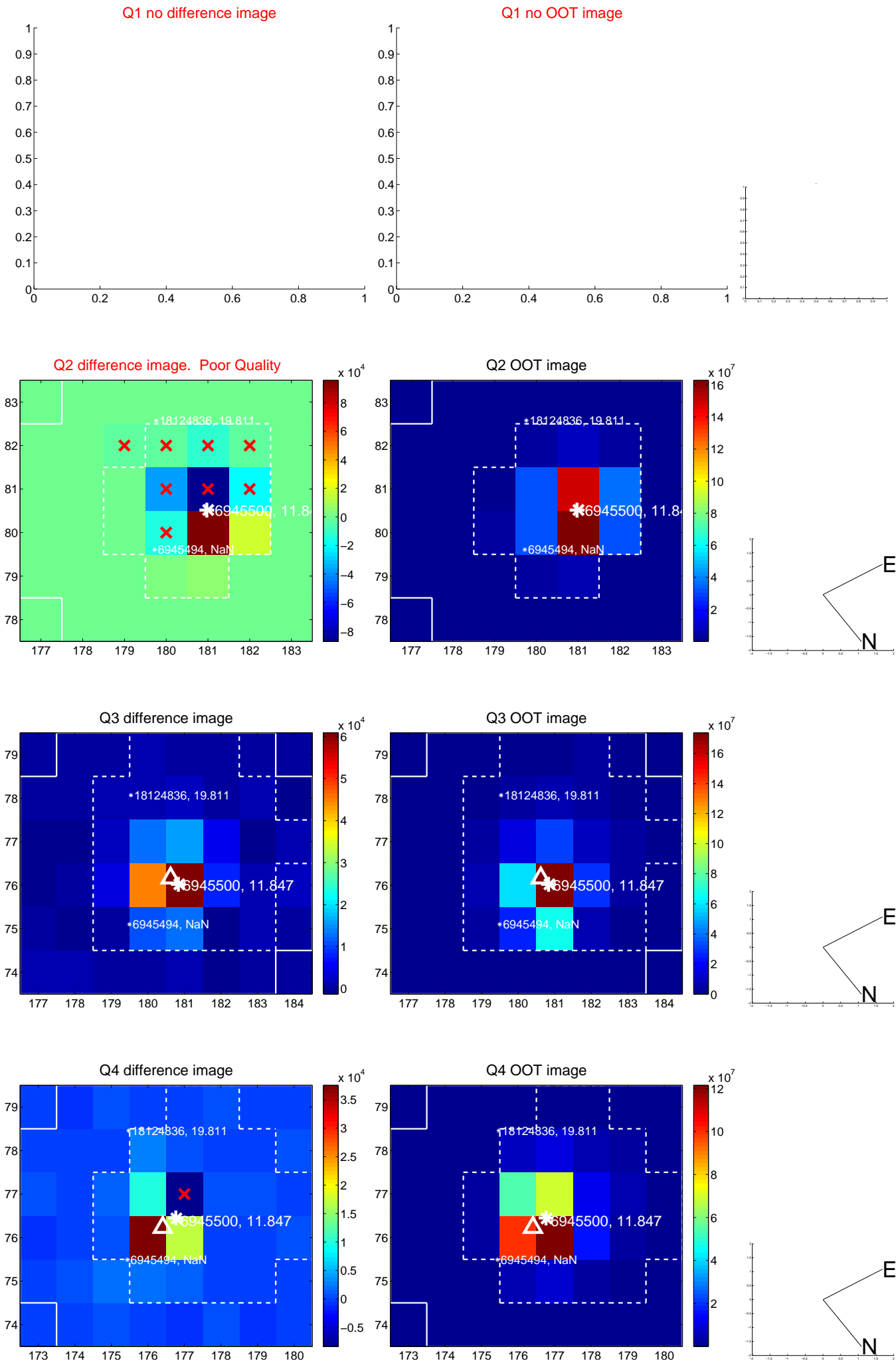
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.243 ± 0.824	0.29	-0.157 ± 0.773	-0.185 ± 0.467
PRF-fit source offset from KIC position	0.386 ± 0.801	0.48	-0.285 ± 0.738	-0.260 ± 0.425
photometric centroid source offset	0.15 ± 0.11	1.38	-0.14 ± 0.11	-0.06 ± 0.10

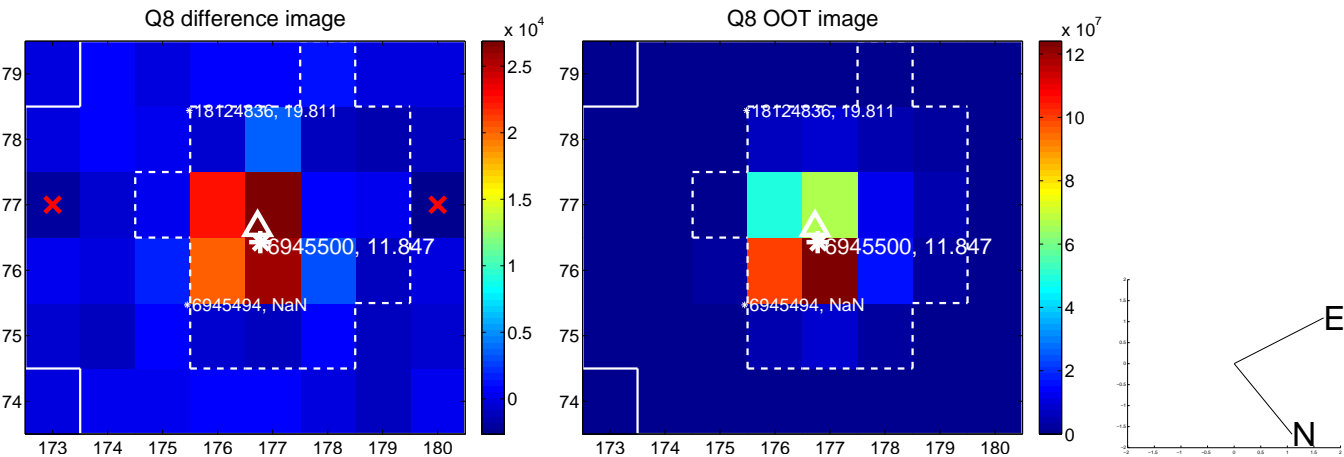
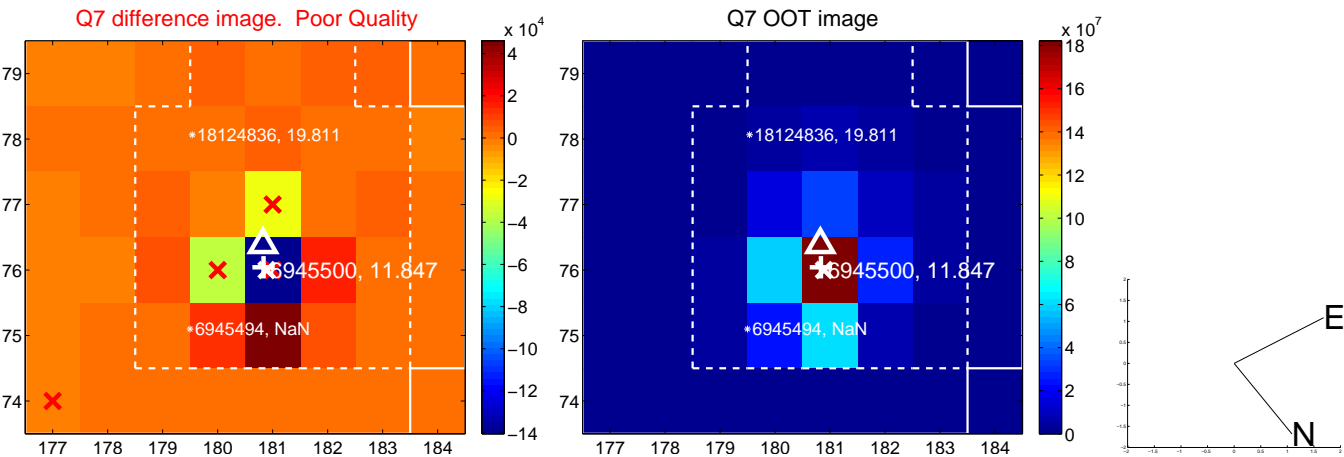
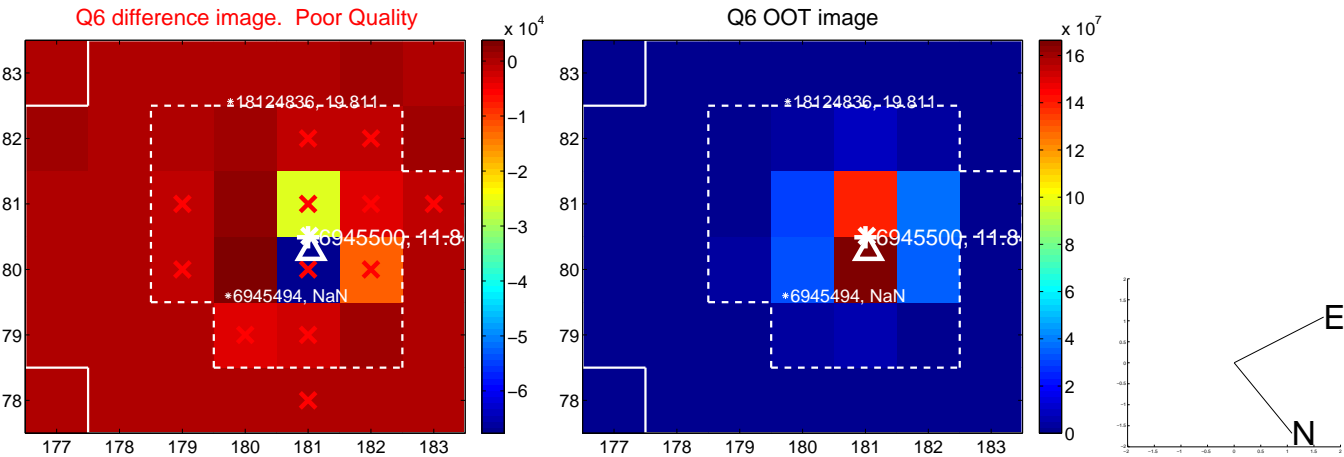
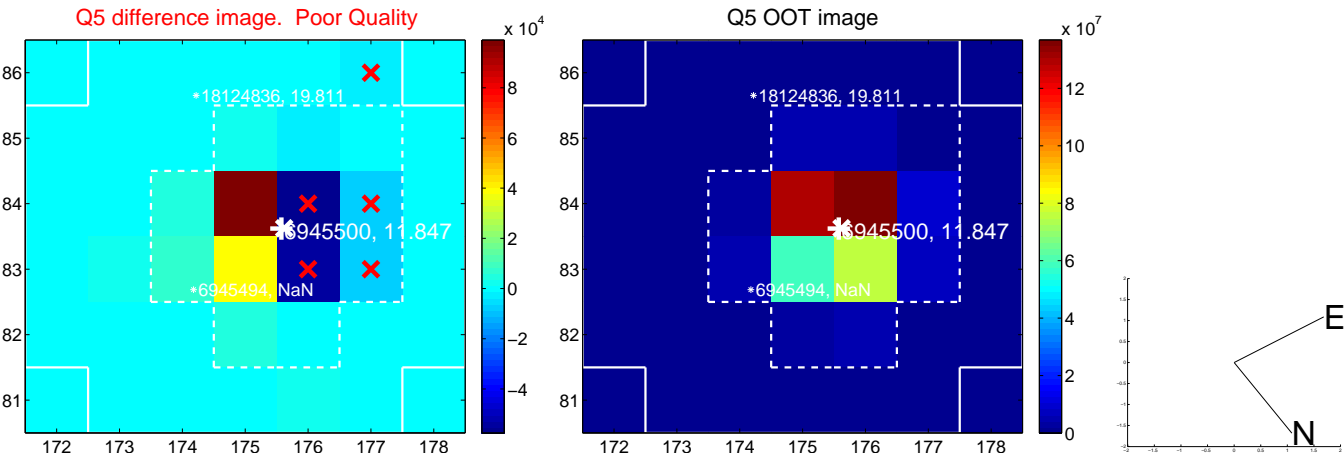


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

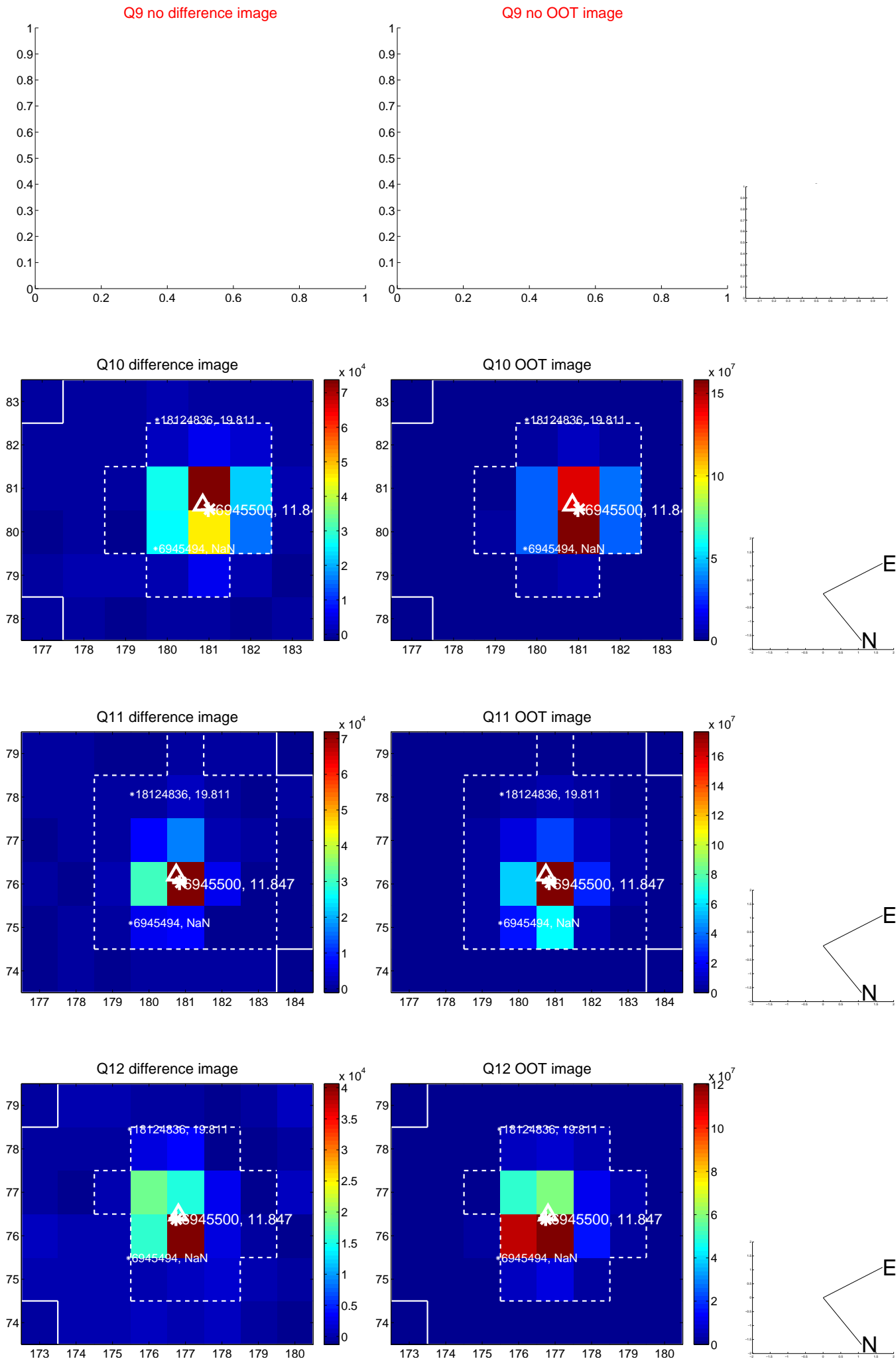
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



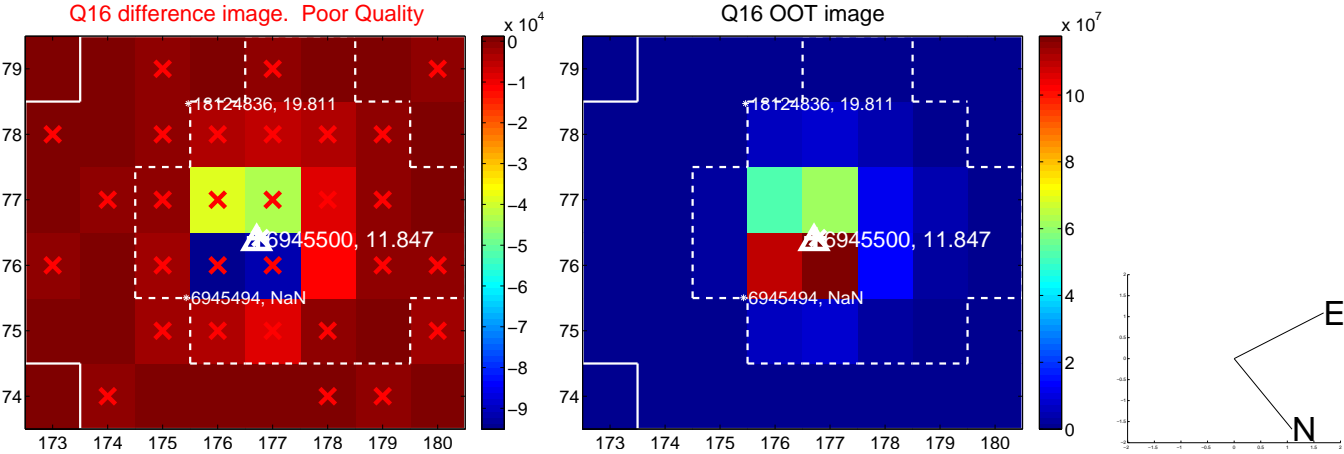
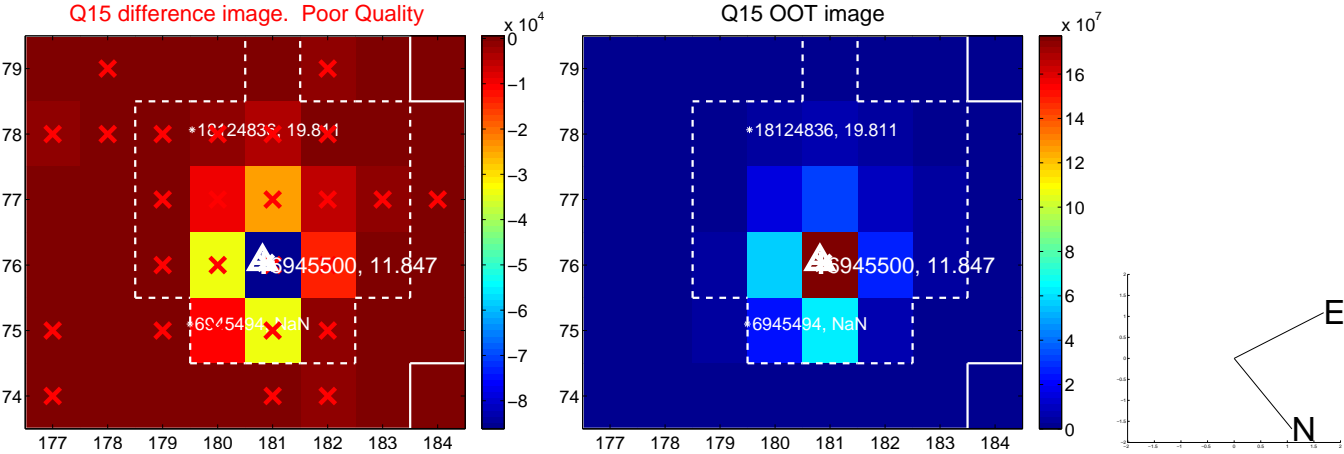
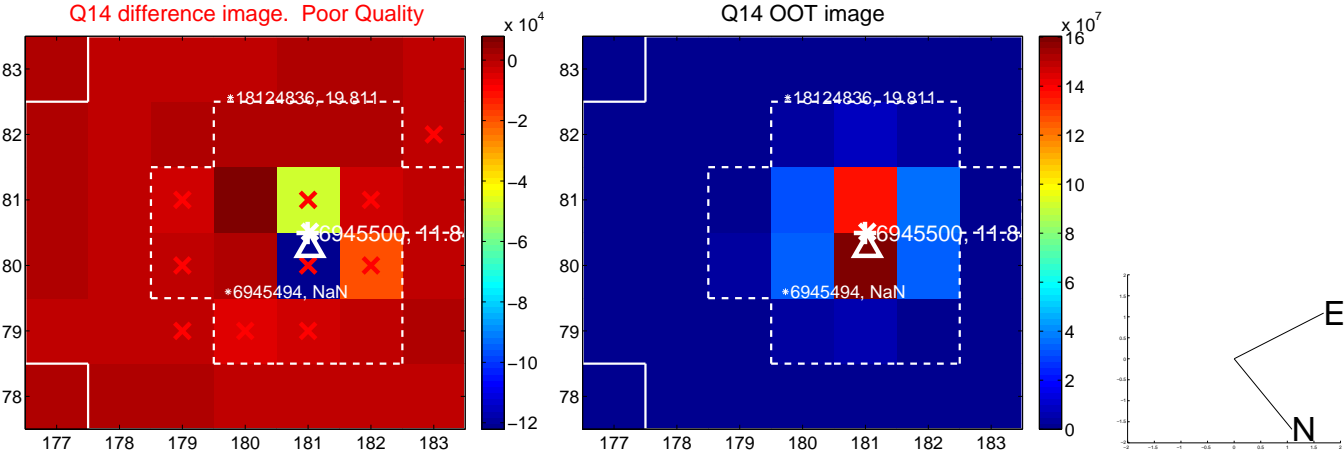
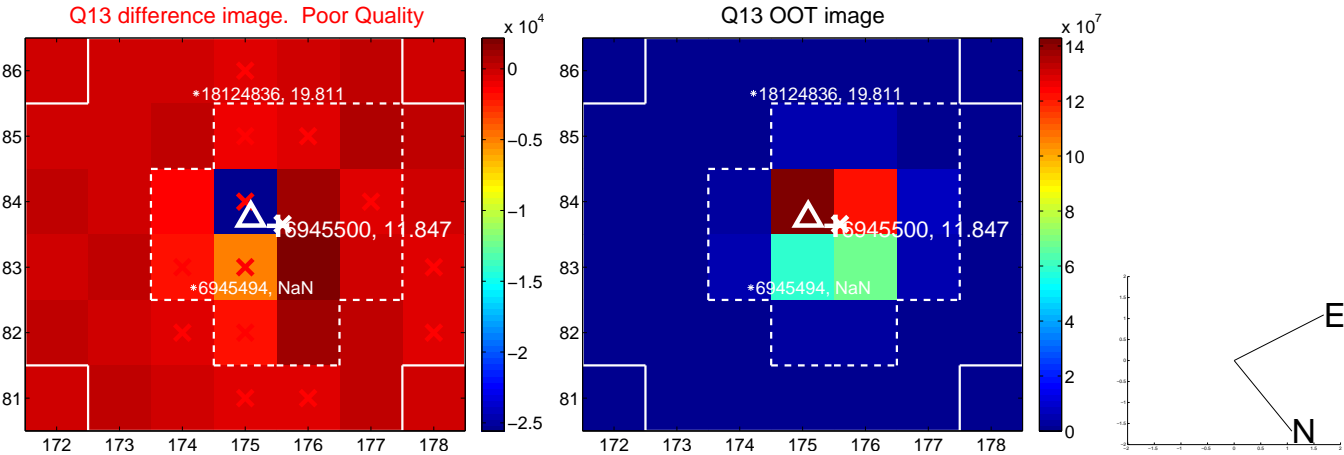
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



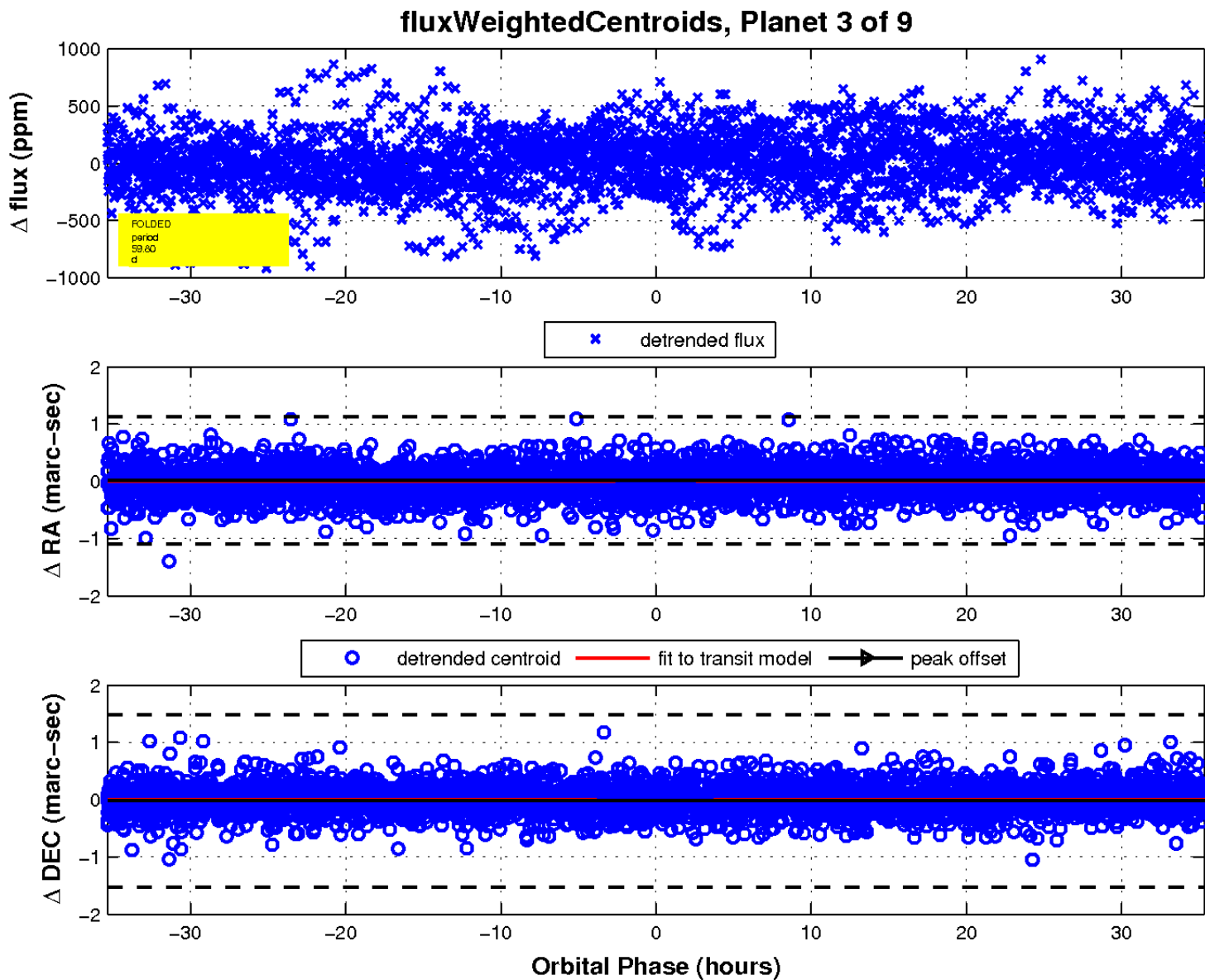
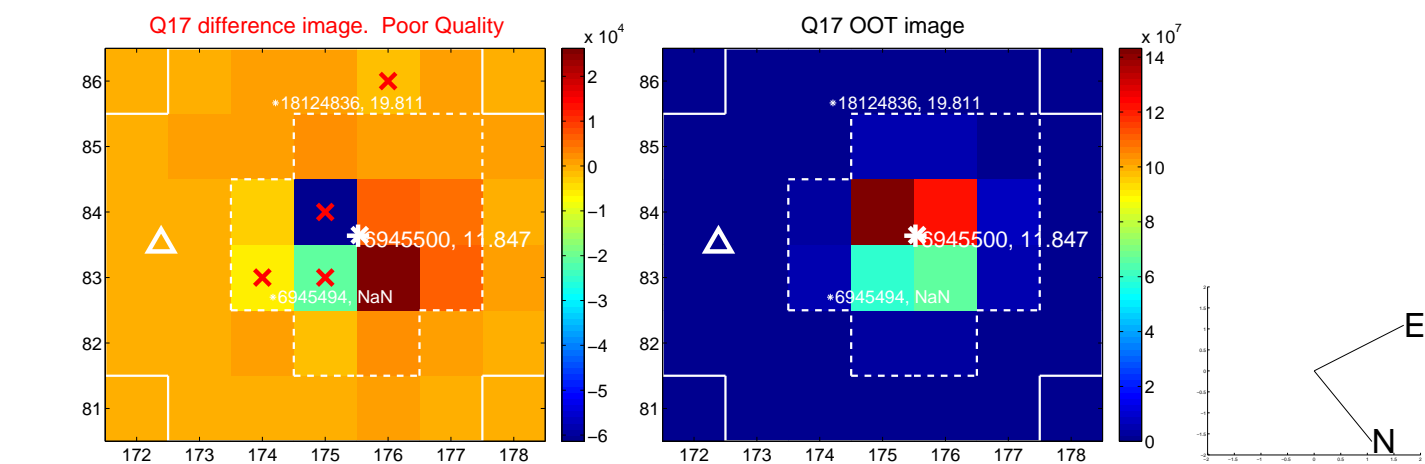
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

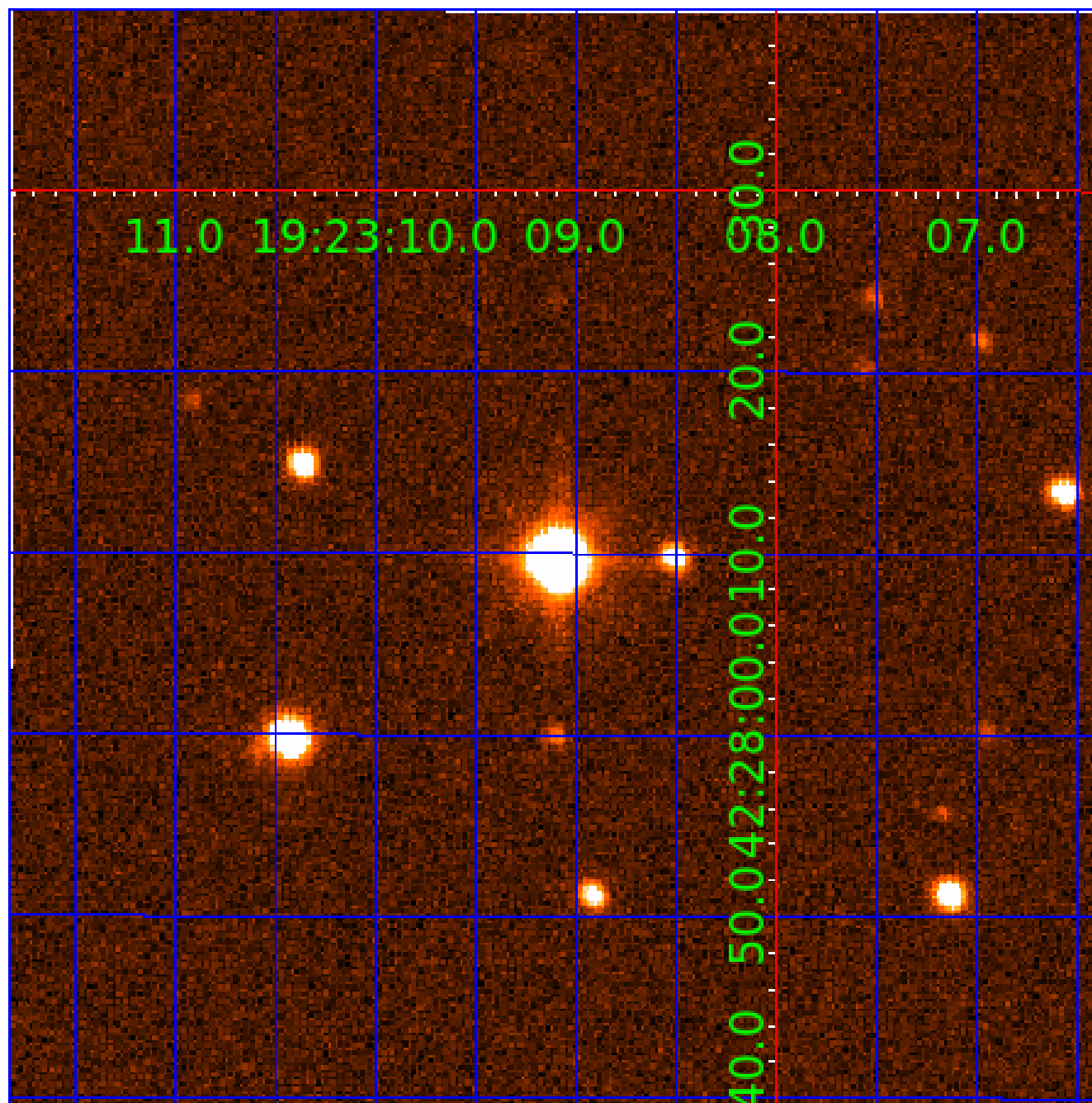


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006945500

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})
006945500-01	OBS	No	1.755894	133.225592	35.1	12.473	9.1	10.7	1.89	7207	1.31	8143.94
006945500-02	OBS	No	38.648683	160.583197	525.7	22.088	16.0	10.1	1.89	7207	8.21	132.02
006945500-03	OBS	No	59.797470	188.316106	568.7	11.781	12.5	11.0	1.89	7207	8.53	73.78
006945500-05	OBS	No	245.835306	143.036494	483.0	9.931	10.0	9.3	1.89	7207	4.95	11.20
006945500-06	OBS	No	34.477761	140.060283	280.5	2.242	10.1	10.3	1.89	7207	3.68	153.74
006945500-07	OBS	No	36.817043	164.470540	305.2	2.424	9.9	10.0	1.89	7207	6.12	140.85
006945500-08	OBS	No	56.654681	137.107227	315.3	5.291	8.2	9.8	1.89	7207	6.46	79.28
006945500-09	OBS	No	4.866339	135.550778	126.2	3.000	9.0	-1.0	1.89	7207	2.16	2092.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006945500-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006945500-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
006945500-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006945500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
006945500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006945500-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

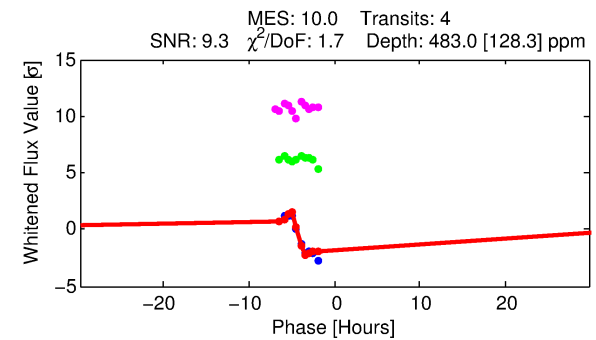
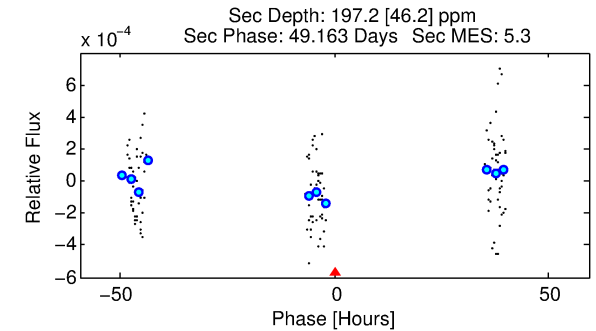
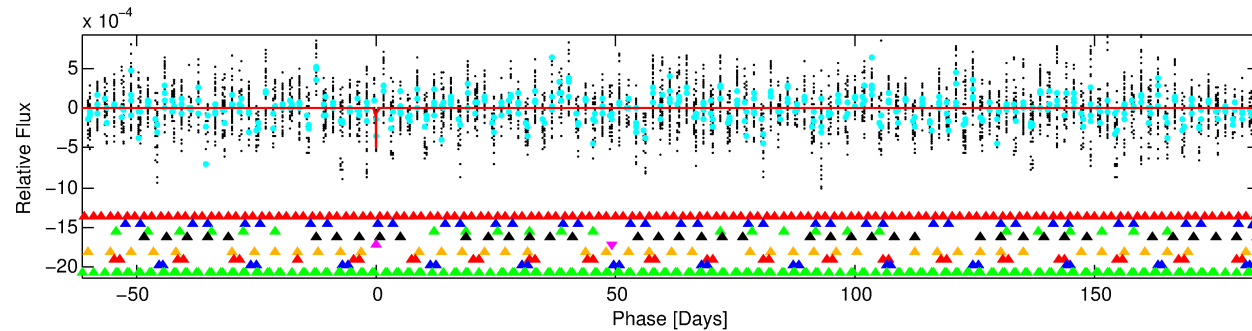
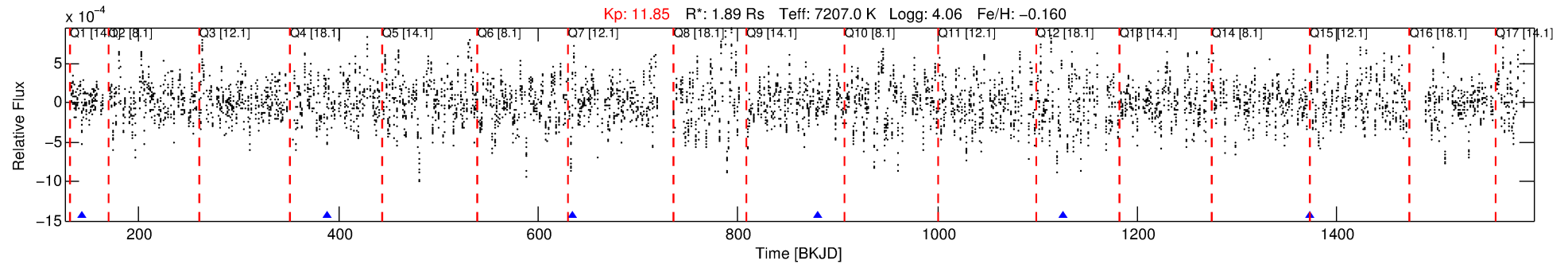
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006945500-05

No Significant Match Found

DV One-Page Summary

KIC: 6945500 Candidate: 5 of 9 Period: 245.835 d

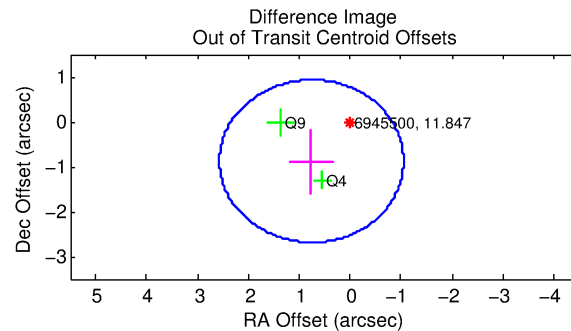
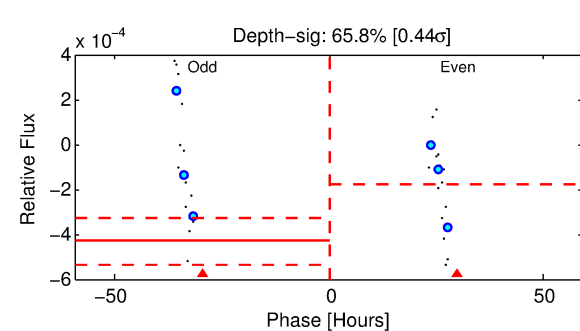
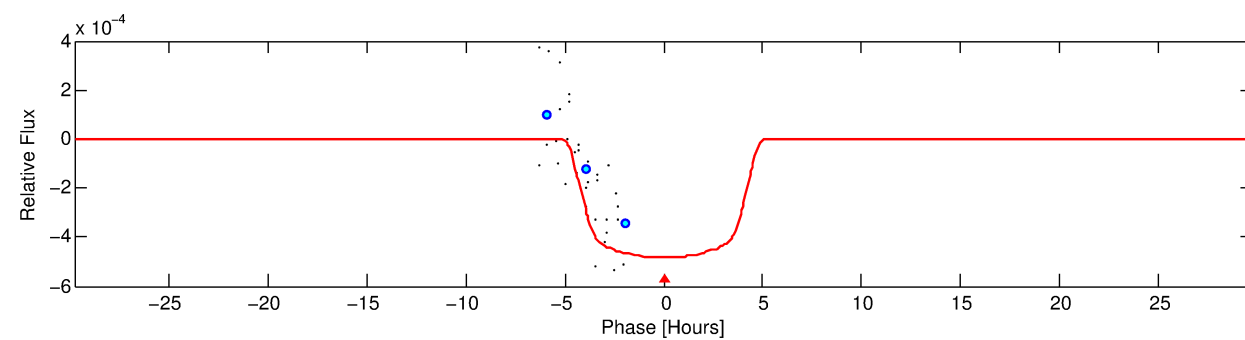


DV Fit Results:

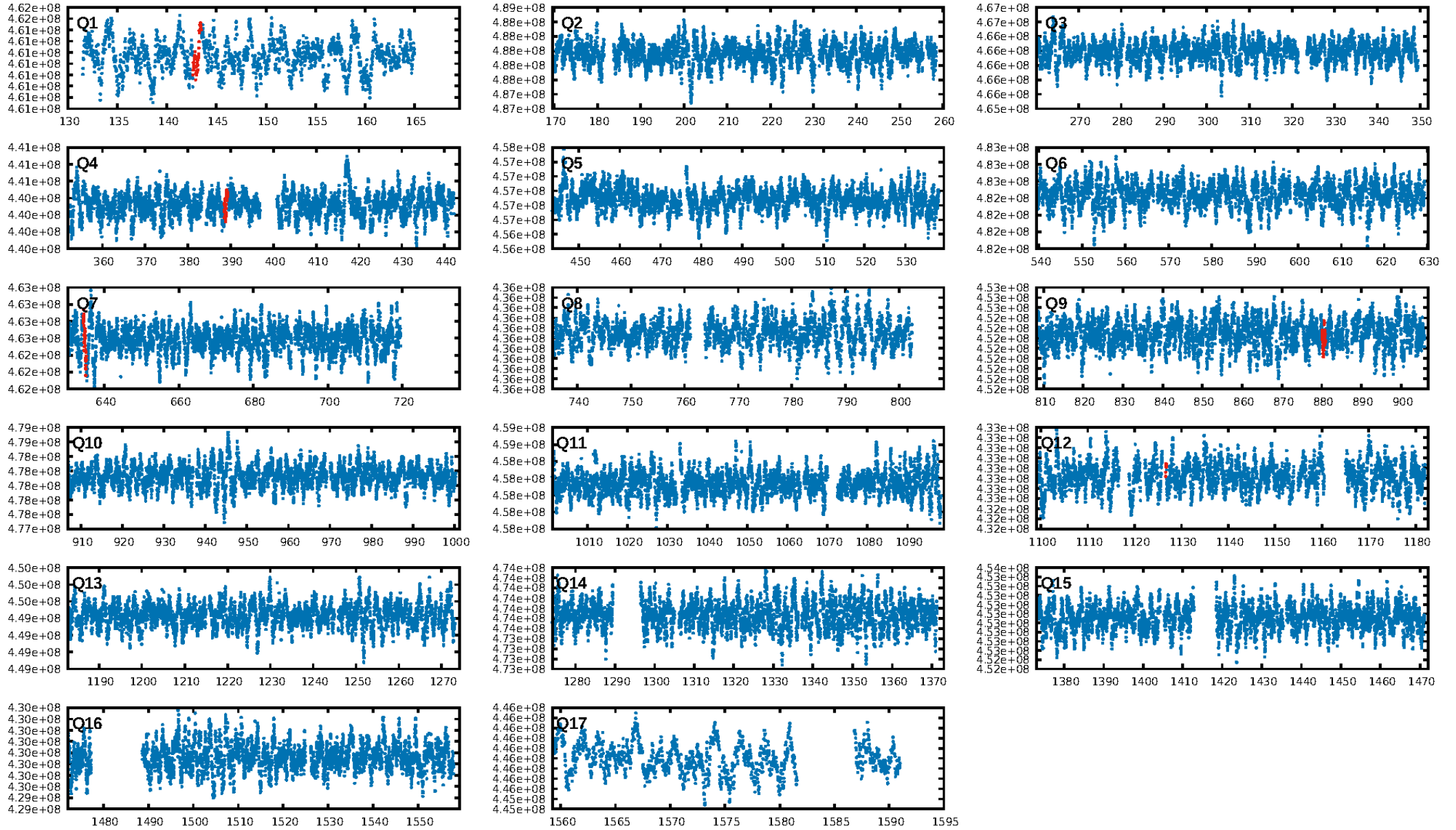
Period = 245.83531 [0.00507] d
Epoch = 143.0365 [0.1045] BKJD
 $R_p/R^* = 0.0239$ [0.0024]
 $a/R^* = 81.87$ [16.87]
 $b = 0.93$ [0.08]
 $S_{\text{eff}} = 11.20$ [4.44]
 $T_{\text{eq}} = 467$ [46] K
 $R_p = 4.95$ [1.59] R_e
 $a = 0.8798$ [0.2229] AU
 $A_g = 3431.59$ [1645.83] [2.08σ]
 $T_{\text{eff}} = 5520$ [478] K [10.51σ]

DV Diagnostic Results:

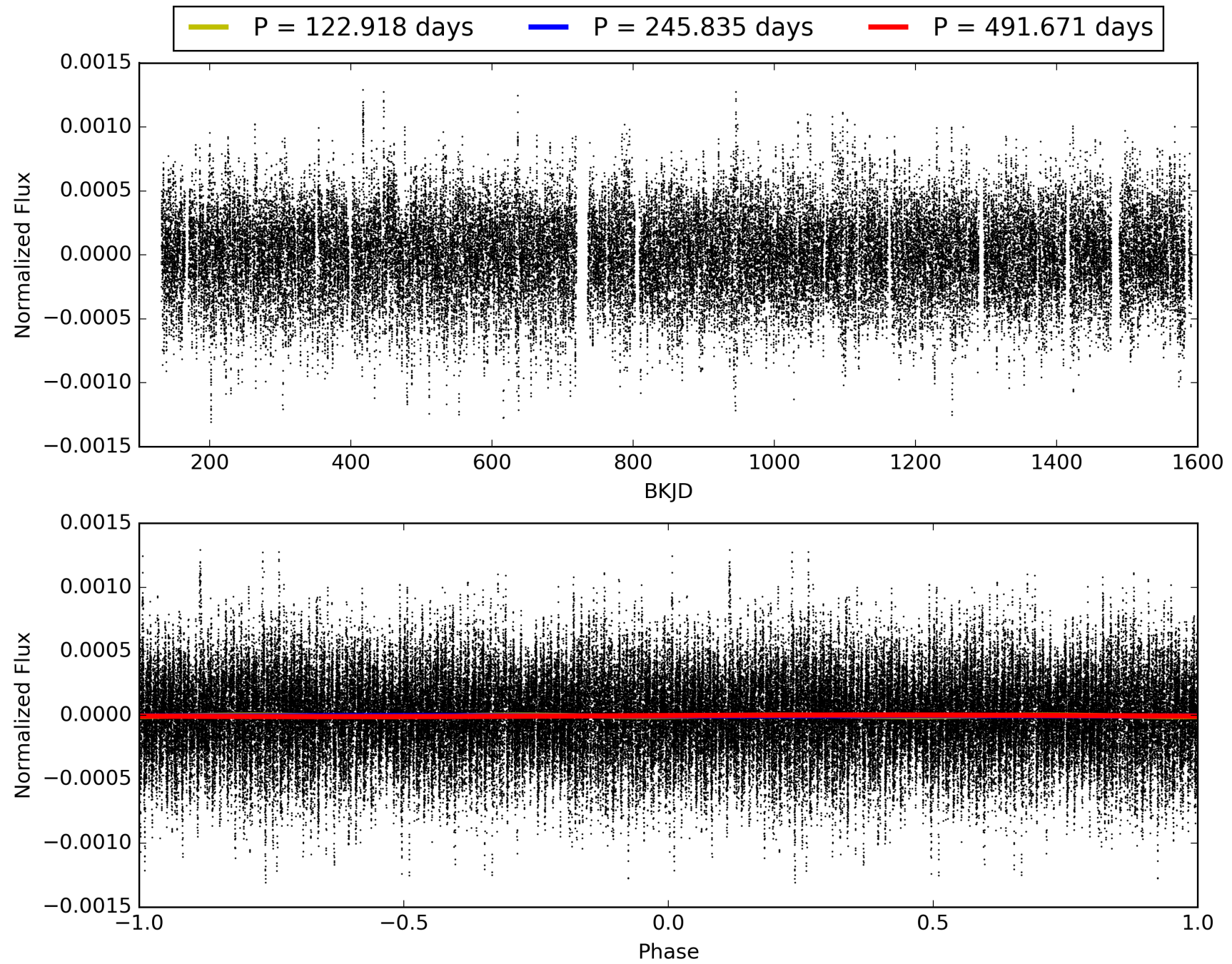
ShortPeriod-sig: 100.0% [289.77σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 67.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 3.619
Centroid-sig: 80.5%
Centroid-so: 0.149 arcsec [0.64σ]
OotOffset-rm: 1.160 arcsec [1.92σ]
KicOffset-rm: 1.173 arcsec [2.00σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/3]



TCE 006945500-05, PDC Light Curves

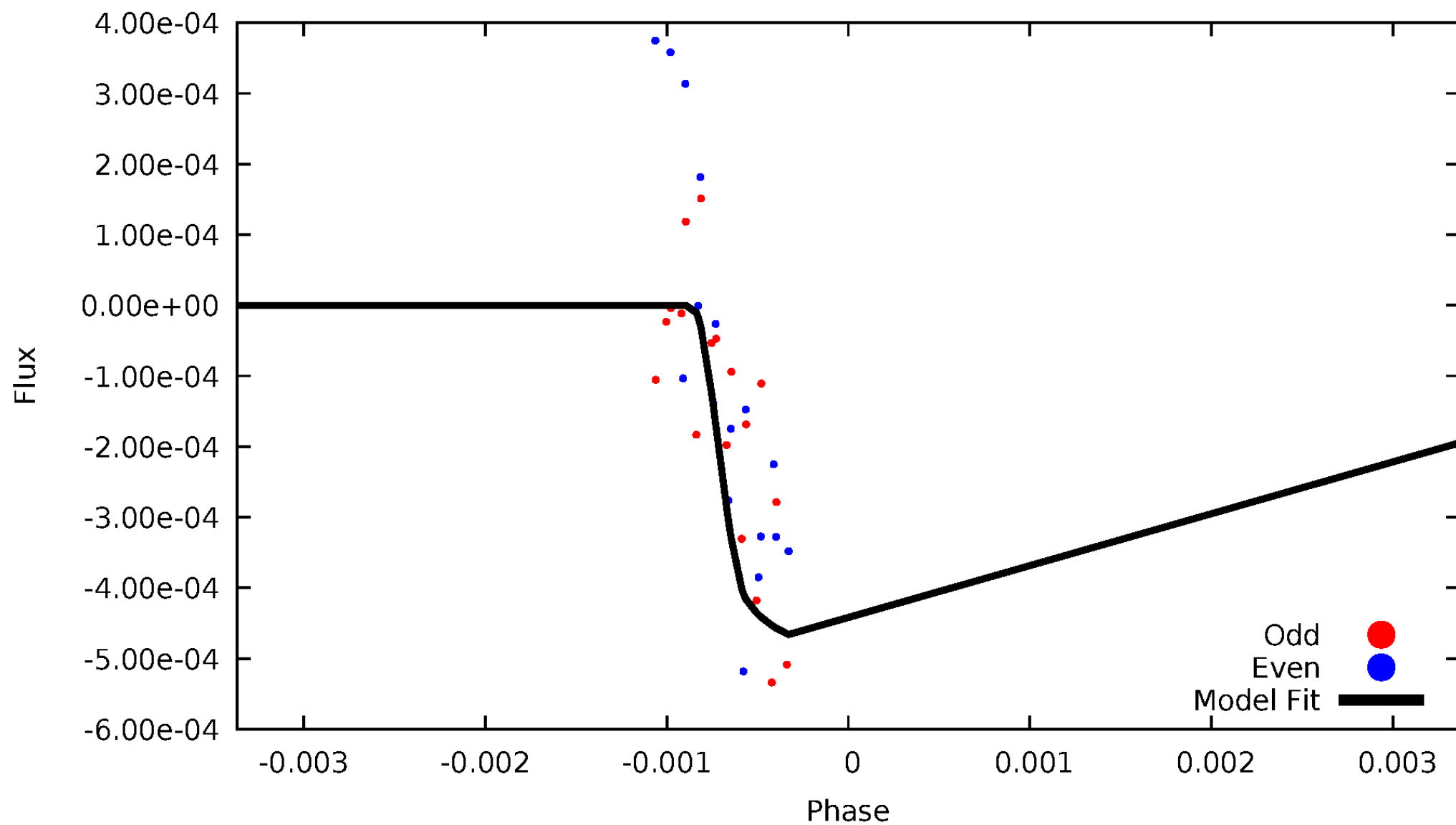


TCE 006945500-05



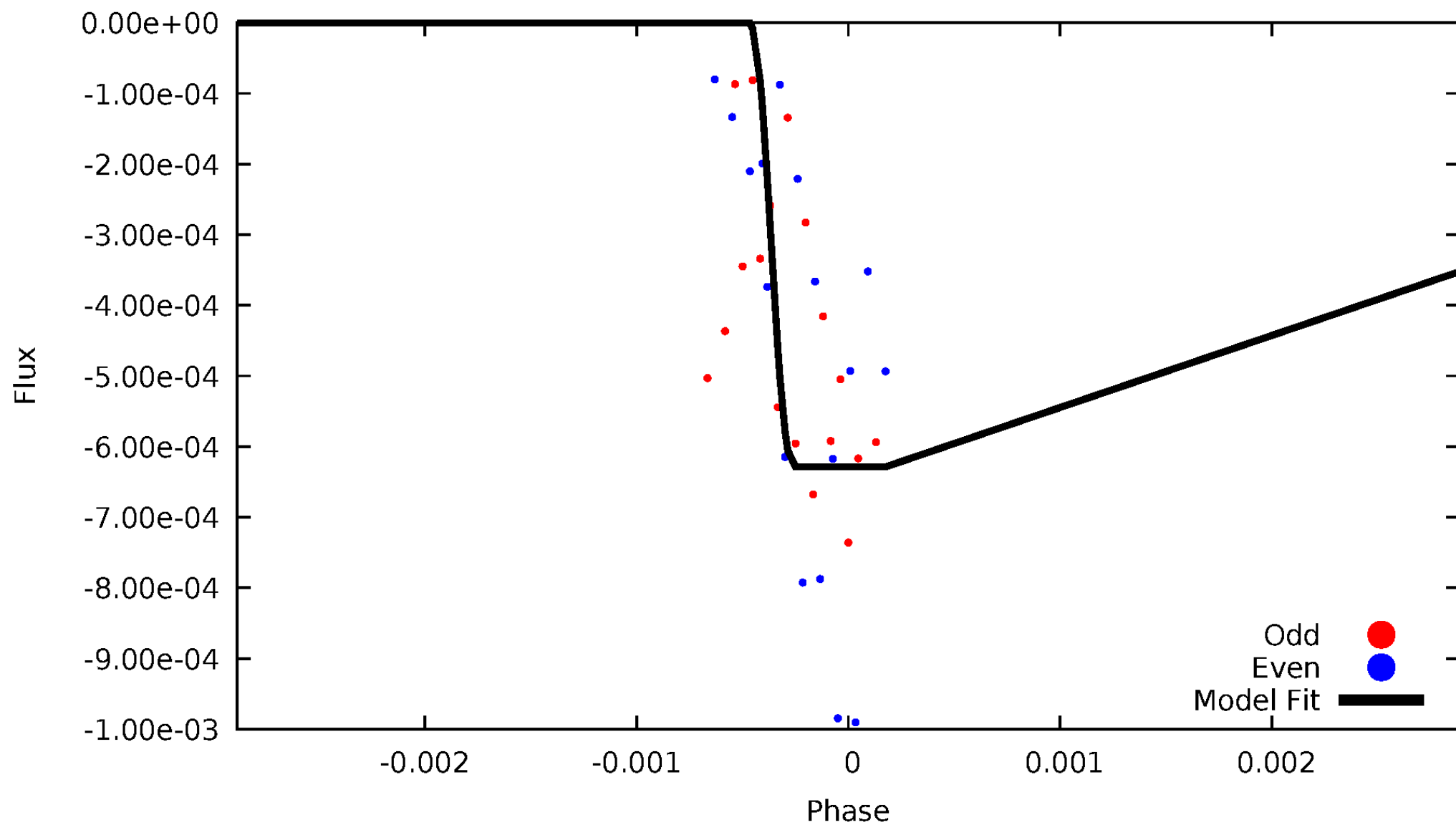
DV Odd/Even

TCE 006945500-05



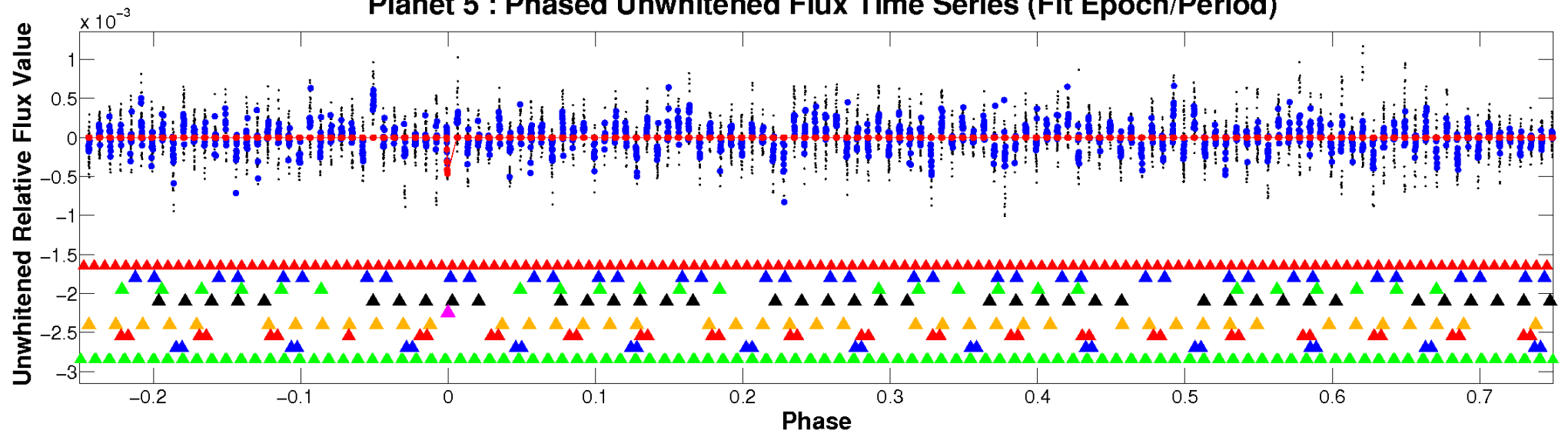
ALT Odd/Even

TCE 006945500-05

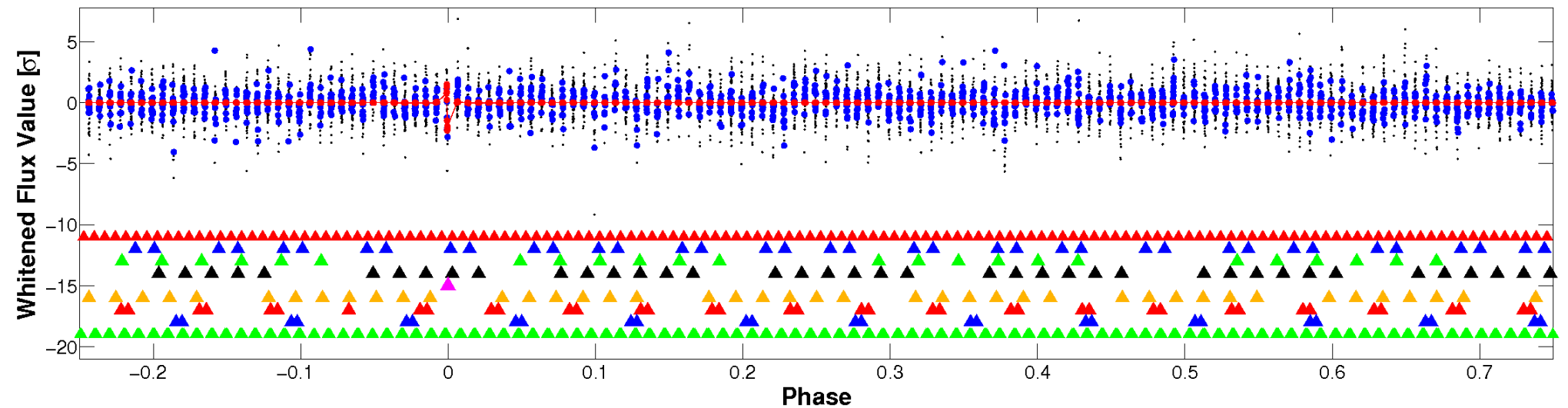


Non-Whitened Vs. Whitened Light Curve

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

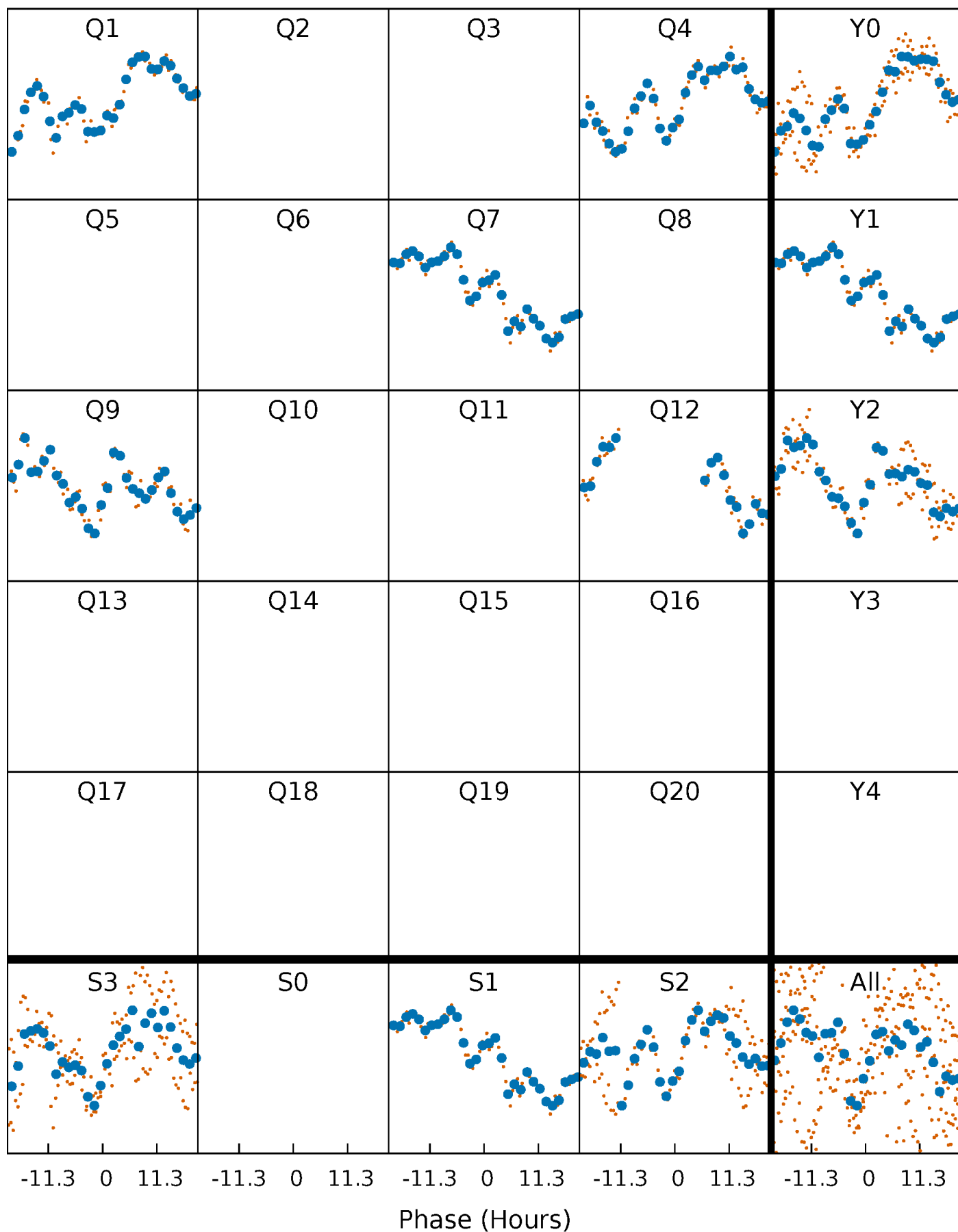


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



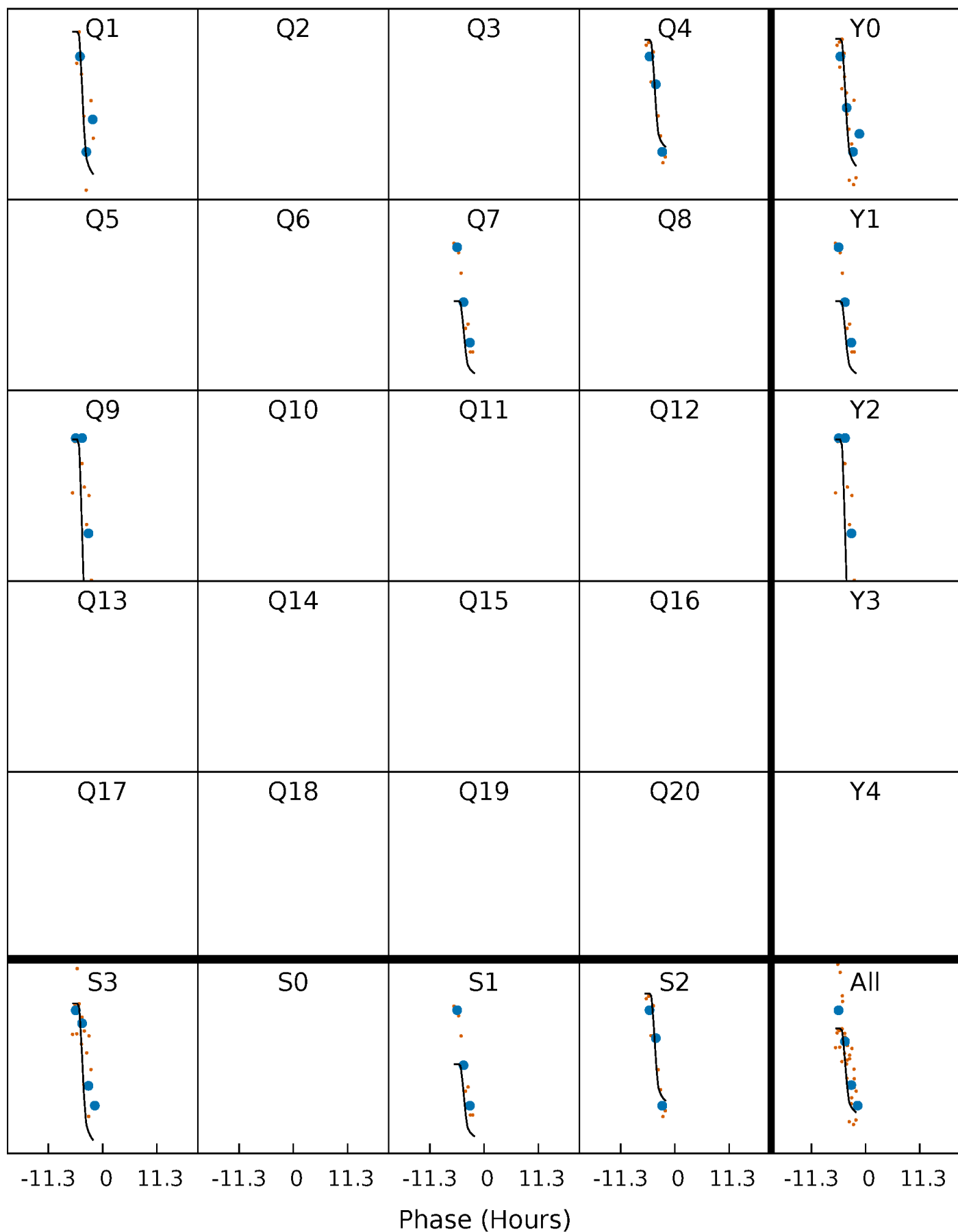
PDC Quarter-Phased Transit Curves

TCE 006945500-05 $P=245.835306$ Days $T_0=143.036494$ (BKJD)



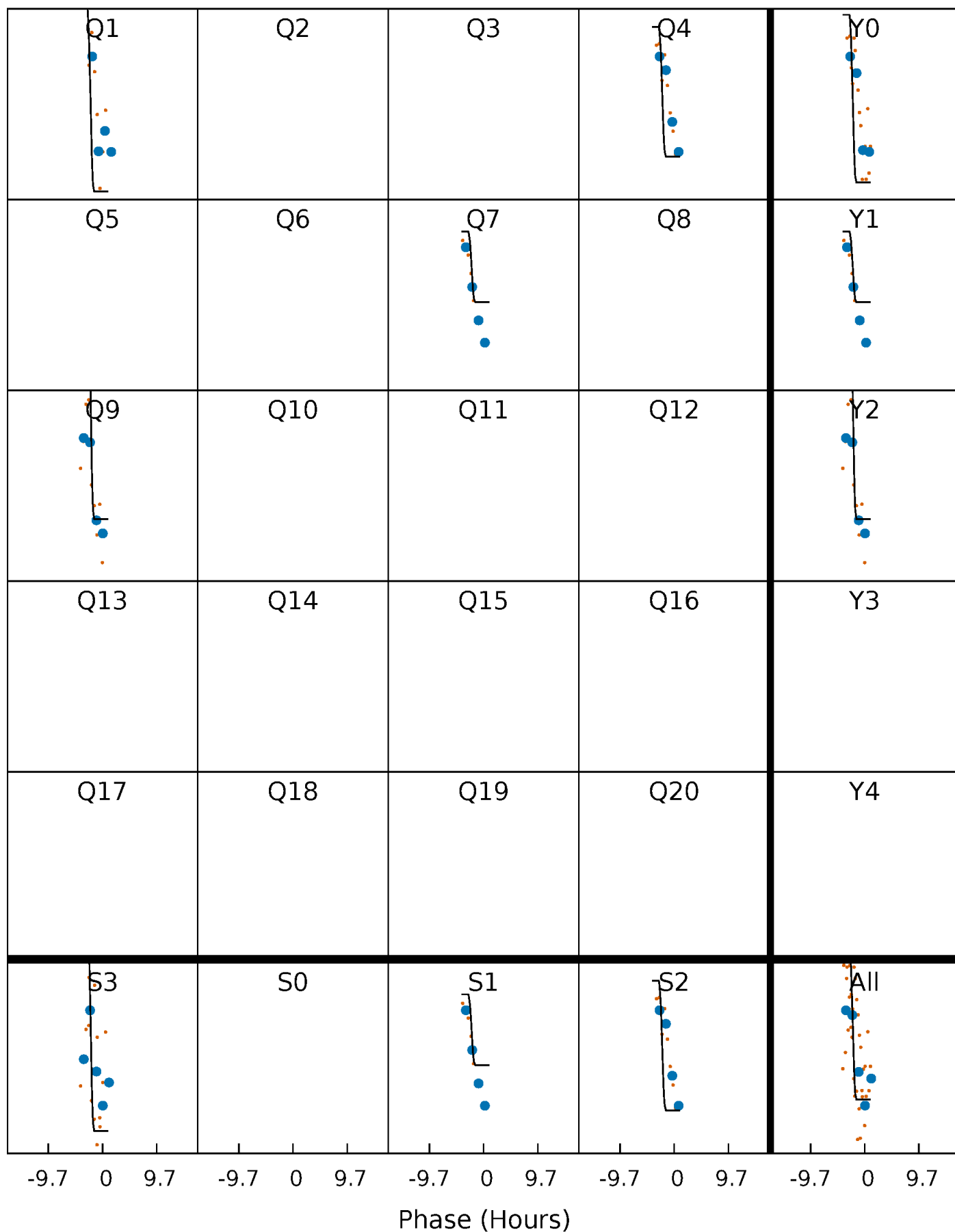
DV Quarter-Phased Transit Curves

TCE 006945500-05 $P=245.835306$ Days $T_0=143.036494$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

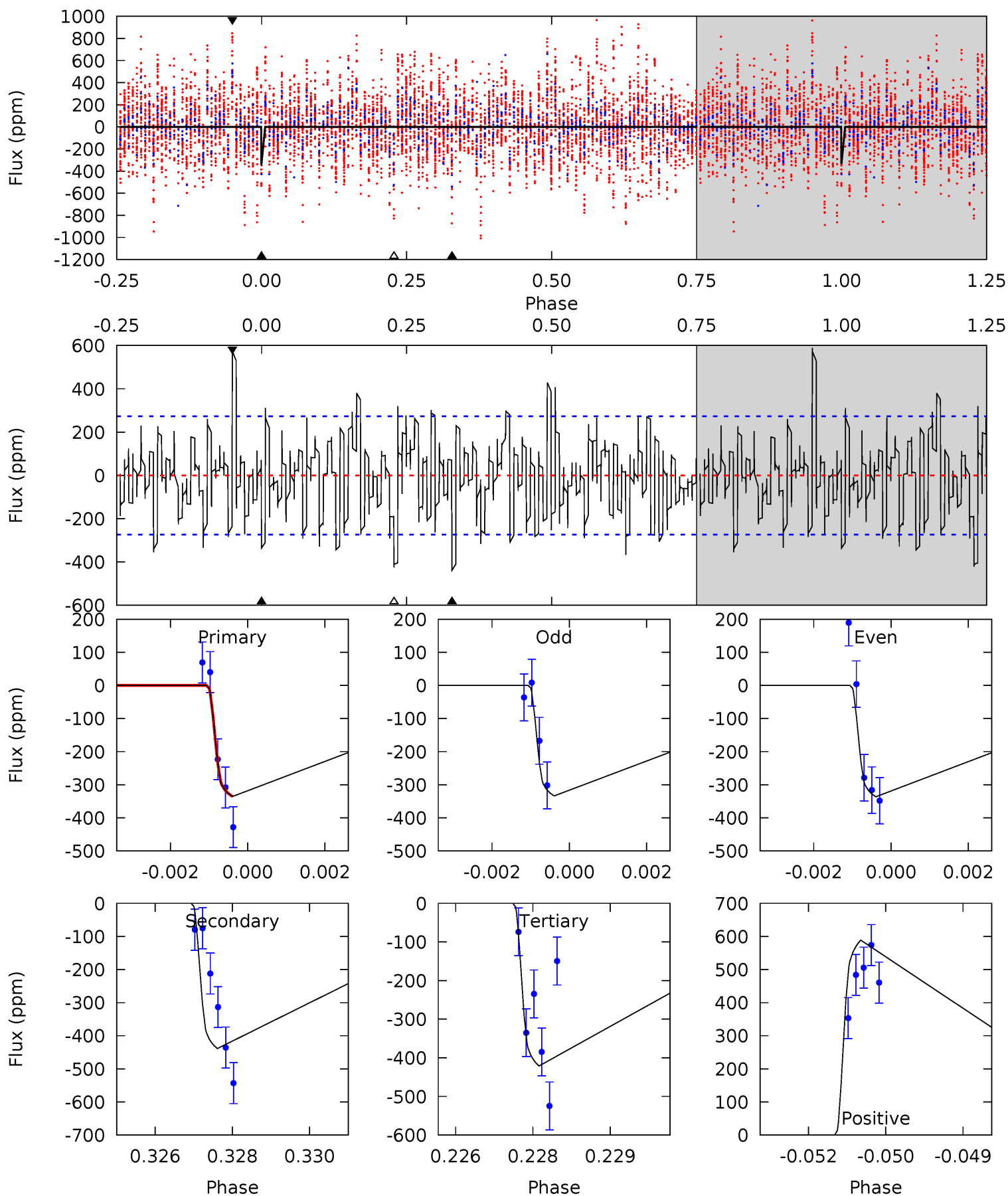
TCE 006945500-05 P=245.844191 Days $T_0=142.912529$ (BKJD)



DV Model-Shift Uniqueness Test

006945500-05, P = 245.835306 Days, E = 143.036494 Days

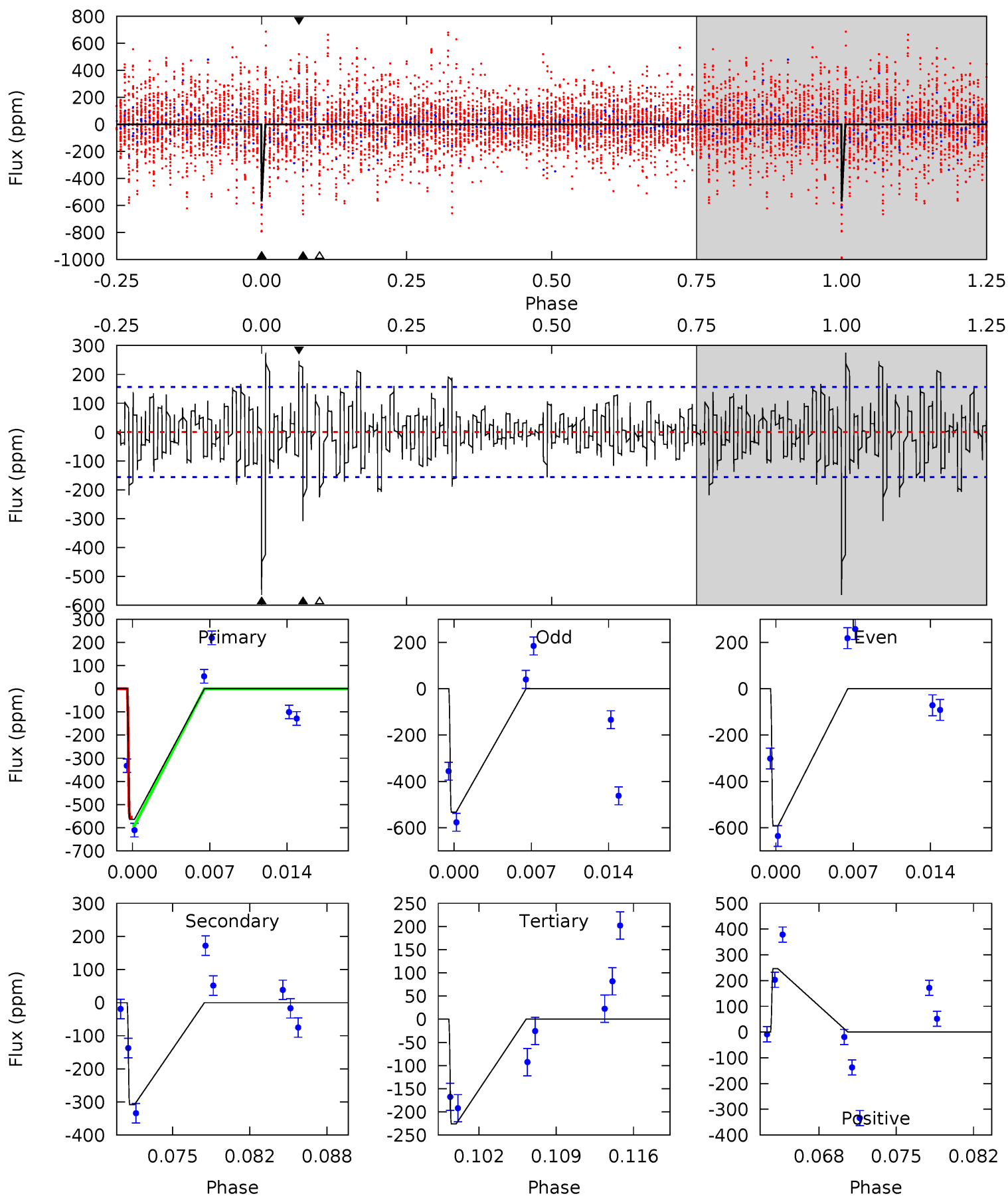
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.58	8.60	8.26	11.5	5.36	3.14	2.71	-1.68	-4.96	0.34	-2.94	0.03	0	0.57	0



Alt Model-Shift Uniqueness Test

006945500-05, P = 245.844191 Days, E = 142.912529 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	10.1	7.39	8.05	5.10	2.71	2.09	11.0	10.4	2.68	2.02	0.96	1.07	0.33	0.46



Stellar Parameters For KIC 006945500

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+201}_{-277}	$4.060^{+0.198}_{-0.162}$	$-0.160^{+0.250}_{-0.350}$	$1.894^{+0.576}_{-0.471}$	$1.499^{+0.221}_{-0.265}$	$0.311^{+0.320}_{-0.160}$
	+3%/-4%	+5%/-4%	+156%/-219%	+30%/-25%	+15%/-18%	+103%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006945500-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-439 ± 51	$4.84^{+0.99}_{-0.83}$	648^{+50}_{-51}	6649^{+519}_{-420}	7829^{+3489}_{-2460}
Alt.	-308 ± 31	$5.14^{+0.94}_{-0.87}$	647^{+50}_{-44}	5956^{+359}_{-337}	4859^{+2040}_{-1348}

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

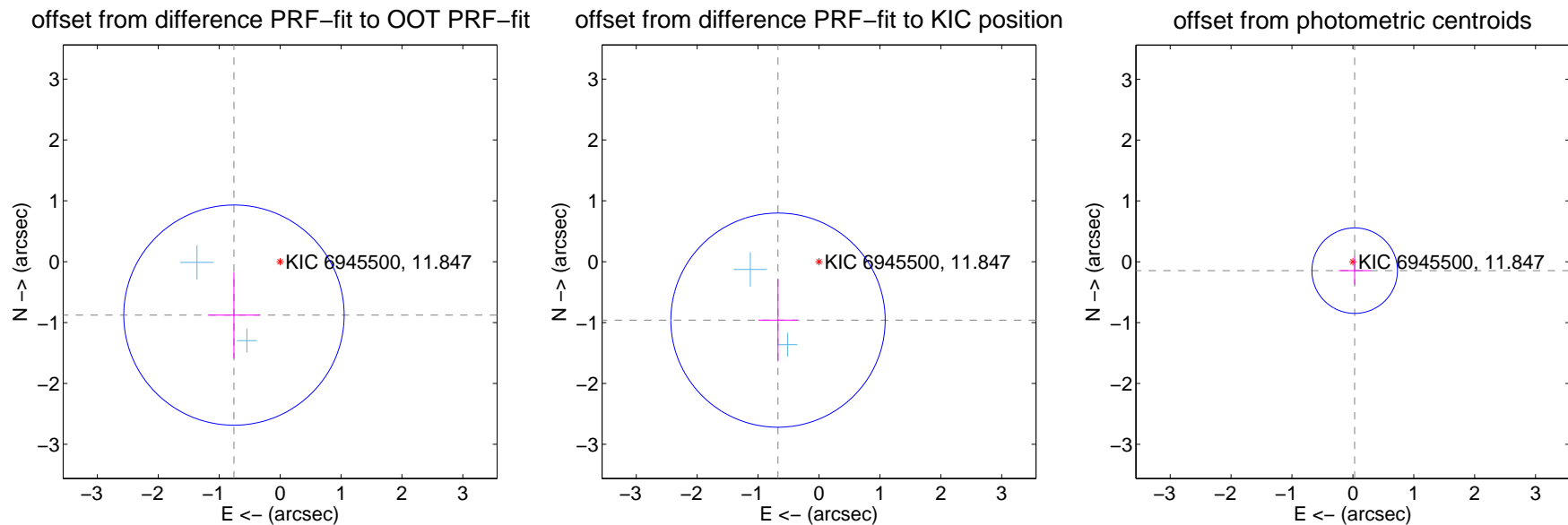
DV Centroid Data

Supplemental centroid analysis for 006945500-05. **Kepler magnitude: 11.85.** Transit SNR 9.28

There are 2 quarters with good PRF difference image offsets

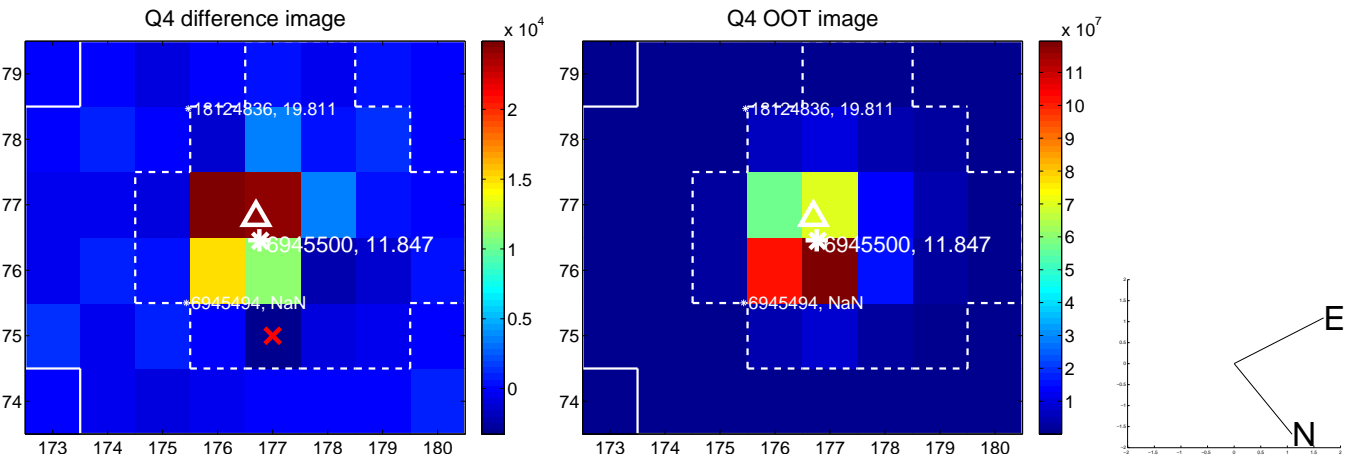
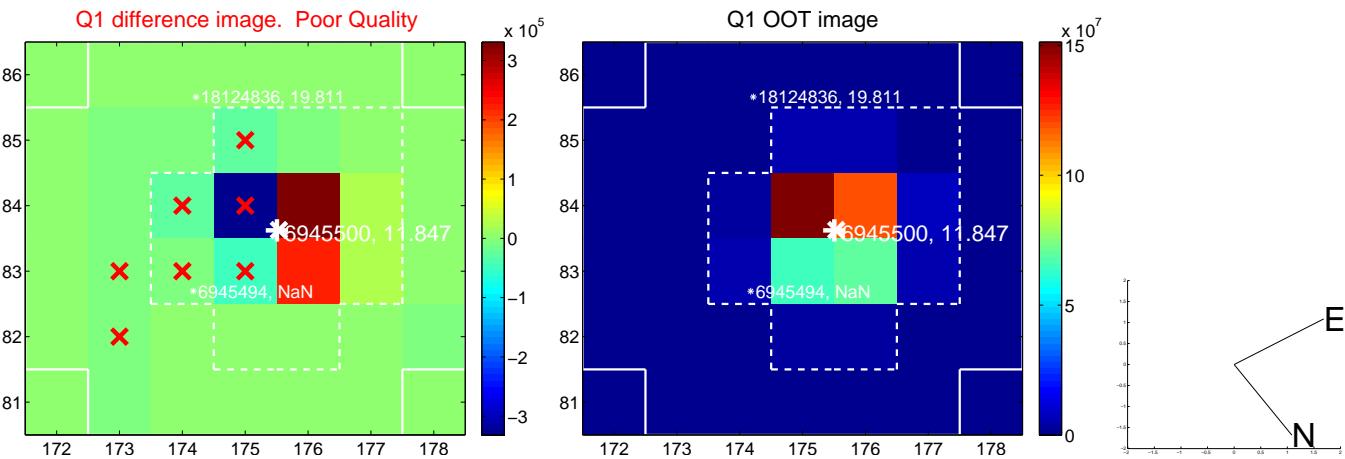
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.160 ± 0.603	1.92	0.758 ± 0.424	-0.878 ± 0.707
PRF-fit source offset from KIC position	1.173 ± 0.587	2.00	0.673 ± 0.321	-0.960 ± 0.680
photometric centroid source offset	0.15 ± 0.23	0.64	-0.03 ± 0.26	-0.15 ± 0.23



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.

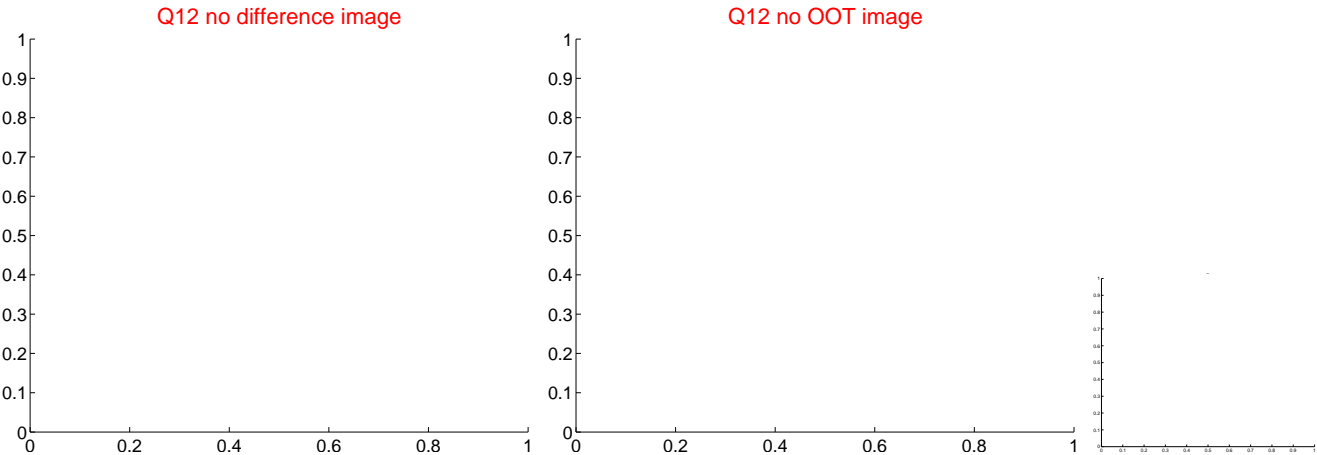
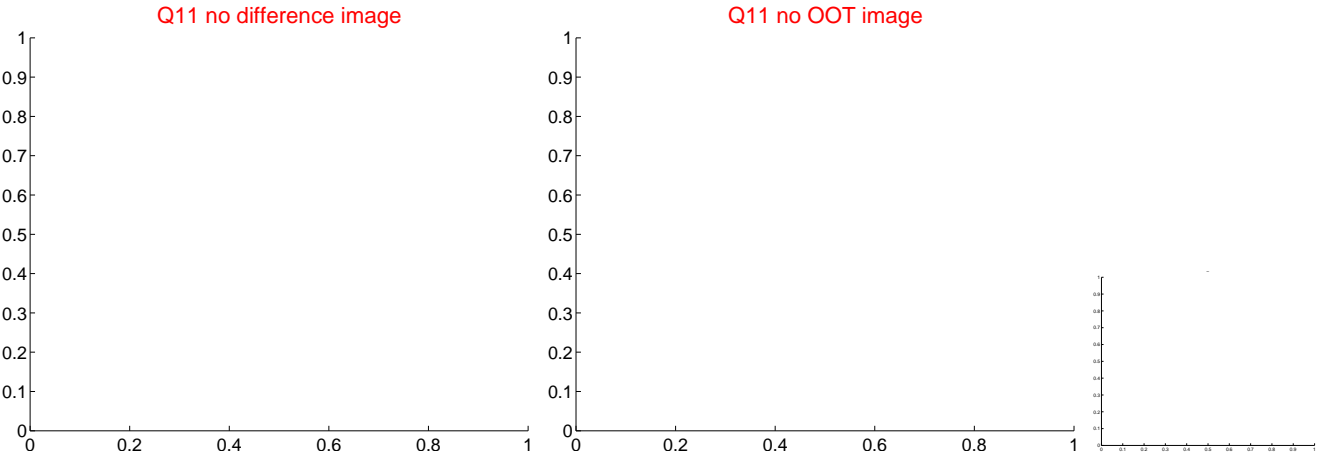
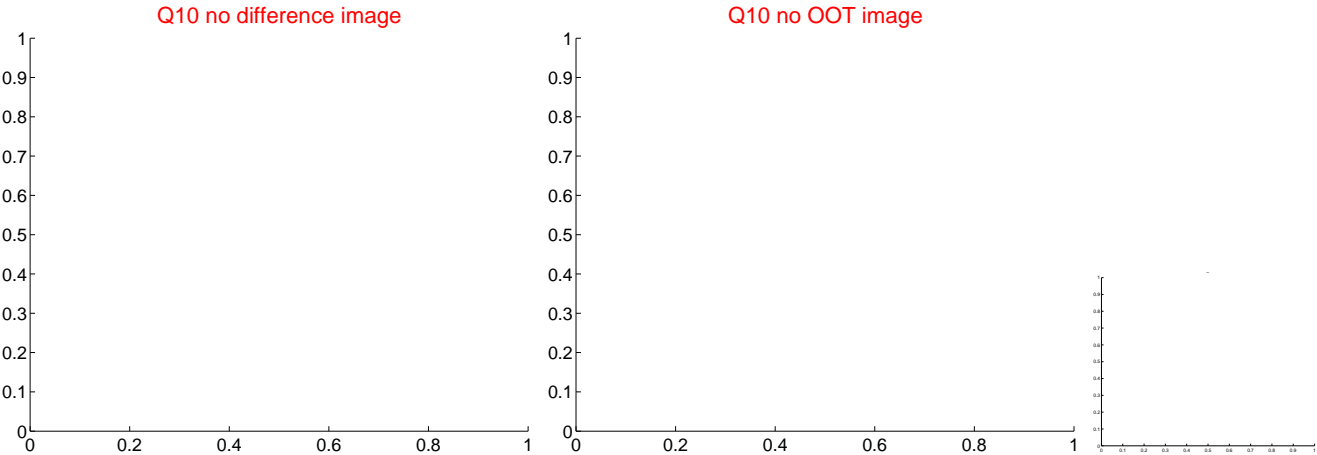
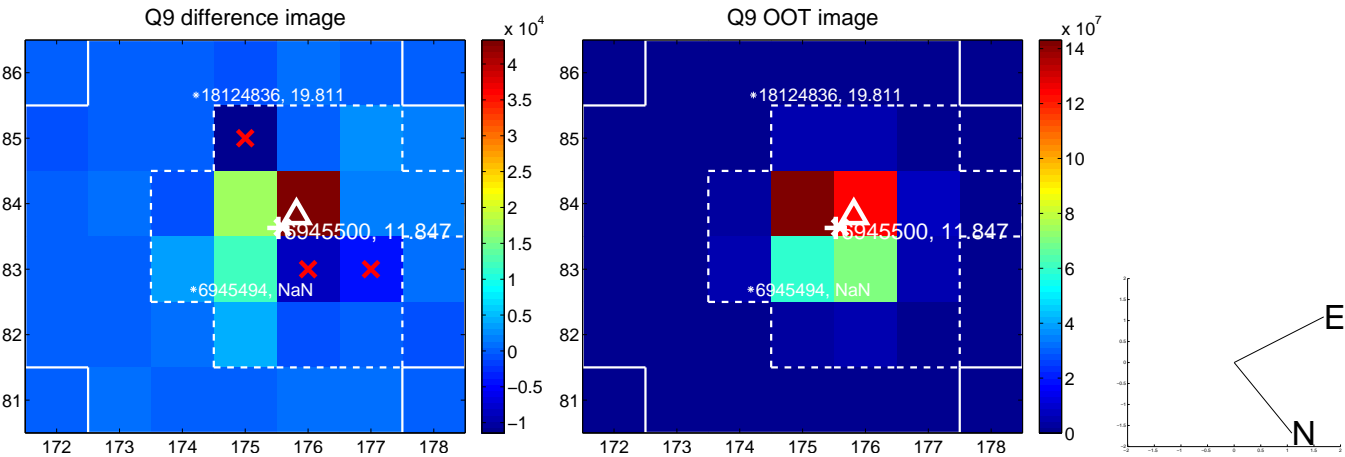
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



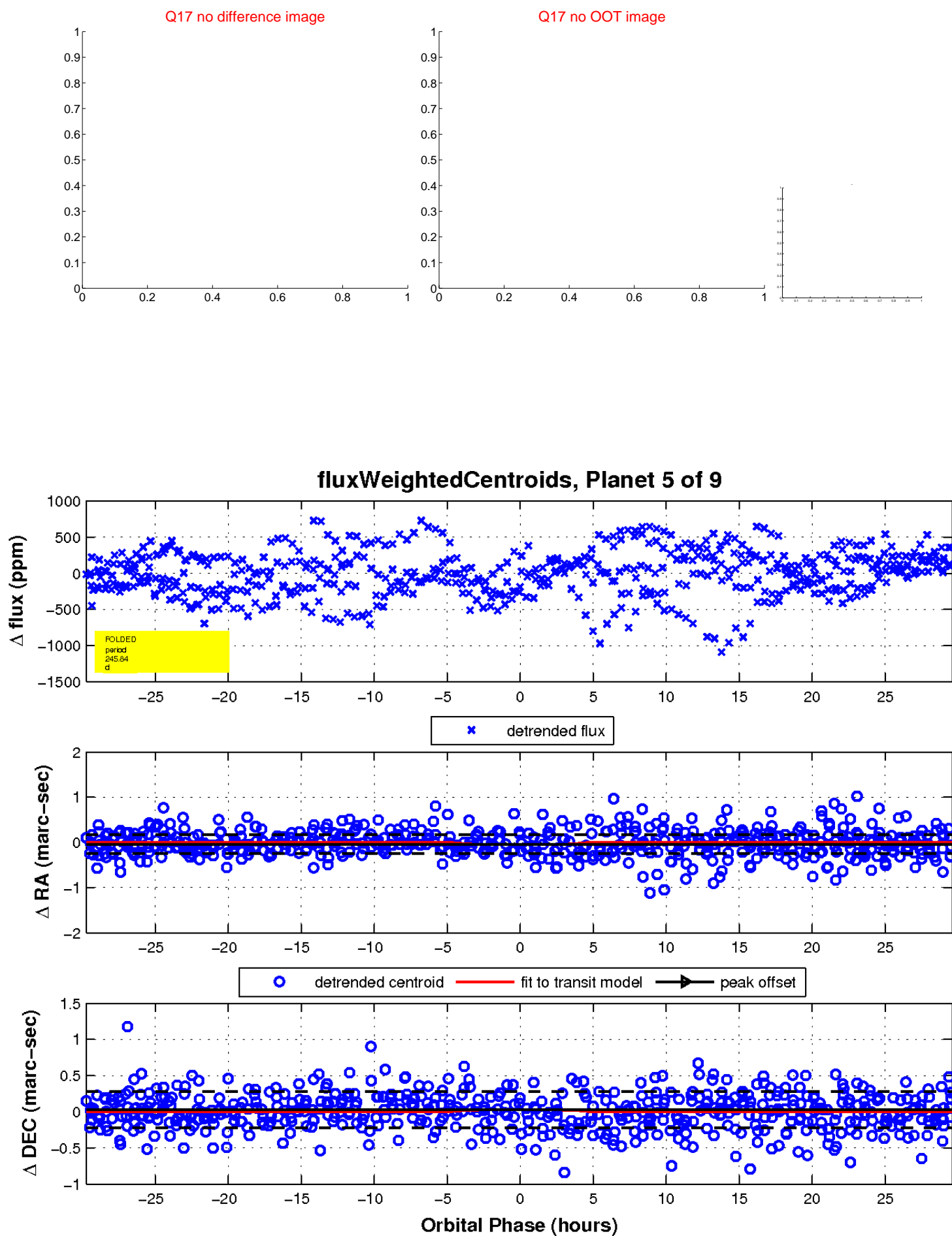
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

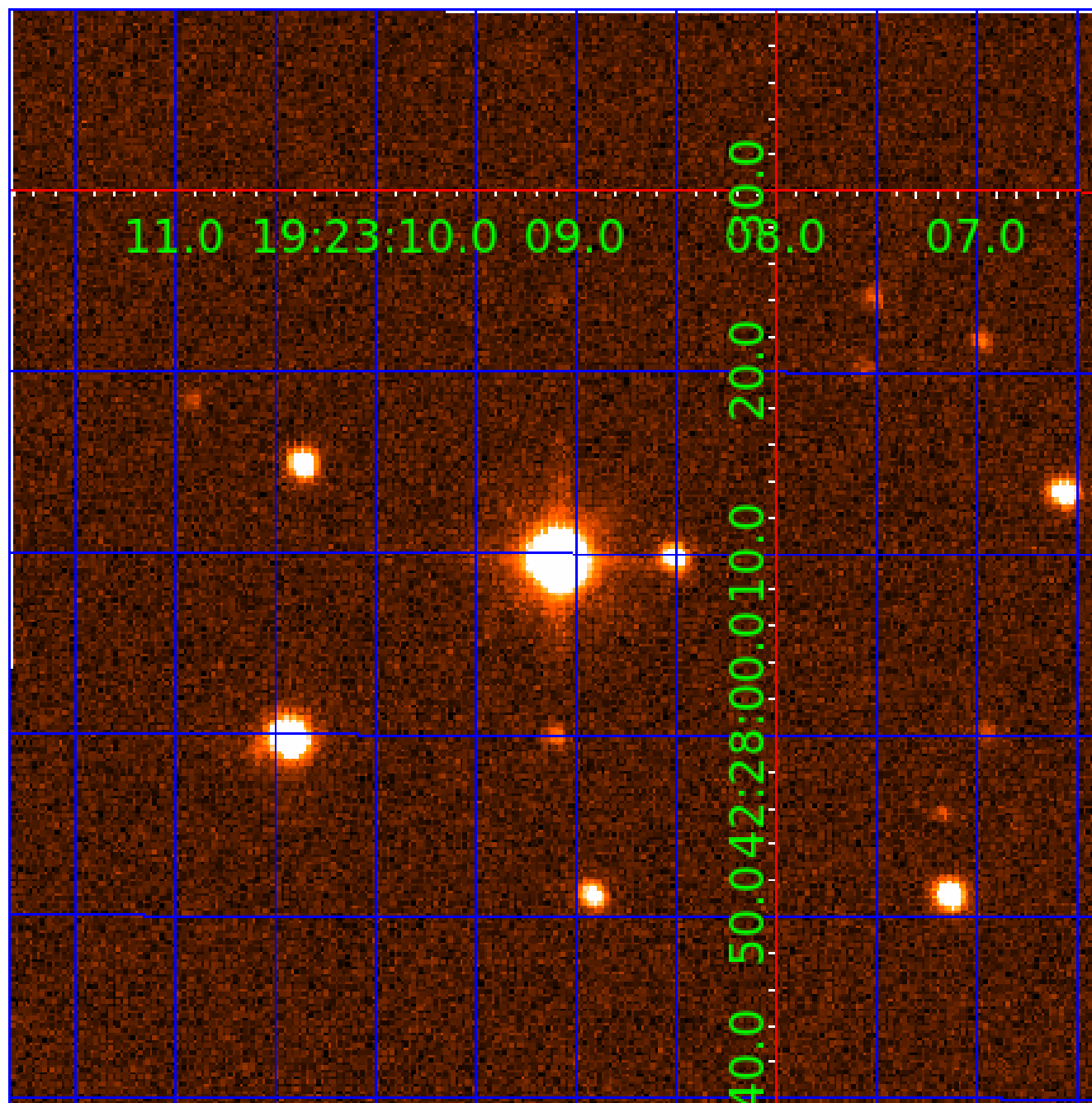


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006945500

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})
006945500-01	OBS	No	1.755894	133.225592	35.1	12.473	9.1	10.7	1.89	7207	1.31	8143.94
006945500-02	OBS	No	38.648683	160.583197	525.7	22.088	16.0	10.1	1.89	7207	8.21	132.02
006945500-03	OBS	No	59.797470	188.316106	568.7	11.781	12.5	11.0	1.89	7207	8.53	73.78
006945500-05	OBS	No	245.835306	143.036494	483.0	9.931	10.0	9.3	1.89	7207	4.95	11.20
006945500-06	OBS	No	34.477761	140.060283	280.5	2.242	10.1	10.3	1.89	7207	3.68	153.74
006945500-07	OBS	No	36.817043	164.470540	305.2	2.424	9.9	10.0	1.89	7207	6.12	140.85
006945500-08	OBS	No	56.654681	137.107227	315.3	5.291	8.2	9.8	1.89	7207	6.46	79.28
006945500-09	OBS	No	4.866339	135.550778	126.2	3.000	9.0	-1.0	1.89	7207	2.16	2092.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006945500-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006945500-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
006945500-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006945500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
006945500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006945500-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

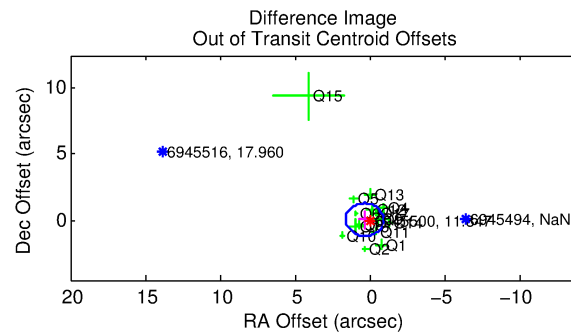
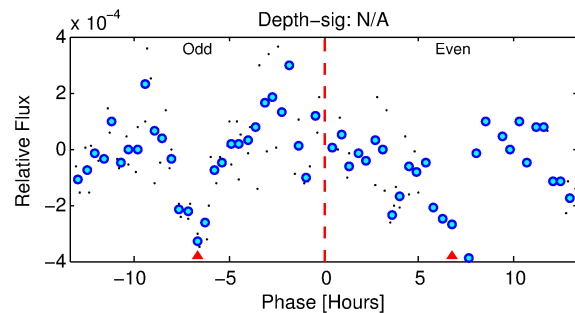
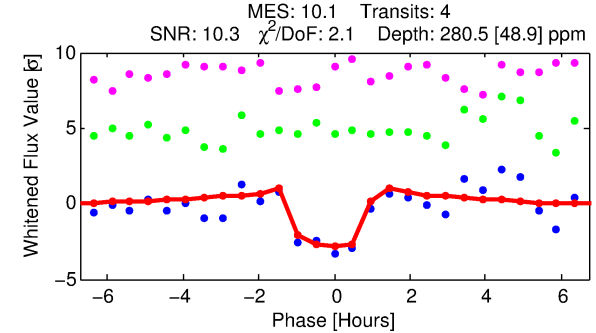
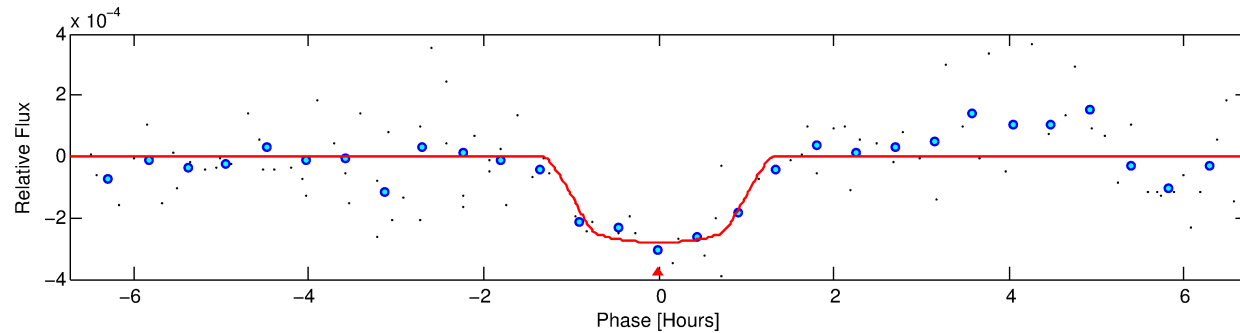
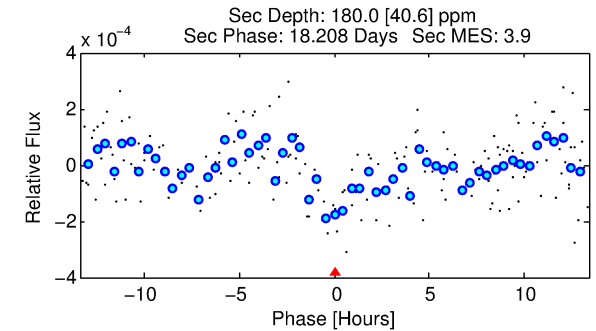
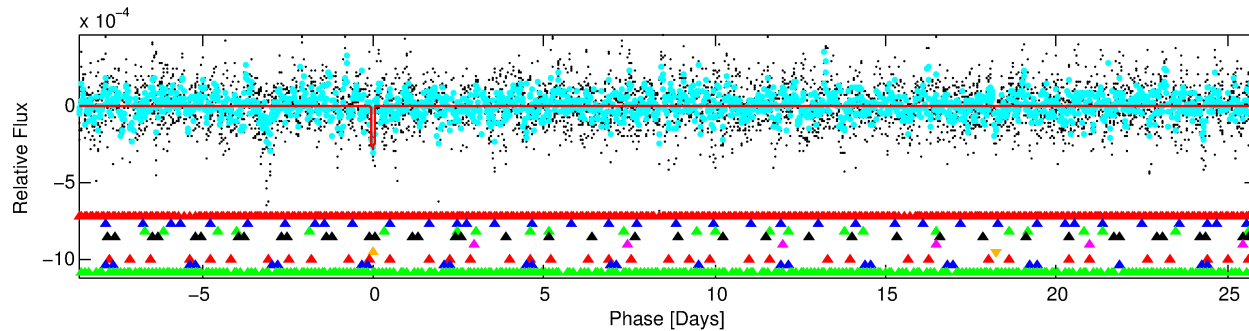
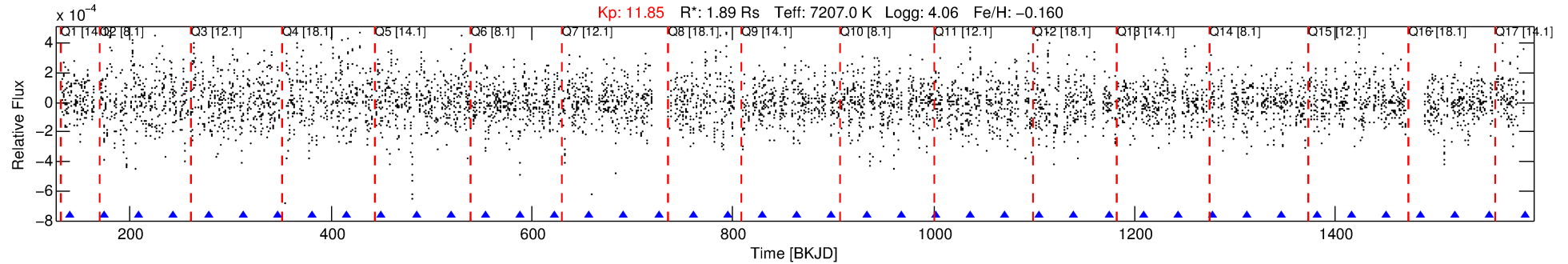
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006945500-06

No Significant Match Found

DV One-Page Summary

KIC: 6945500 Candidate: 6 of 9 Period: 34.478 d



DV Fit Results:

Period = 34.47776 [0.00029] d
Epoch = 140.0603 [0.0065] BKJD
Rp/R* = 0.0178 [0.0059]
a/R* = 56.12 [104.14]
b = 0.90 [0.40]
Seff = 153.74 [60.94]
Teq = 898 [89] K
Rp = 3.68 [1.65] Re
a = 0.2375 [0.0602] AU
Ag = 412.51 [325.60] [1.26σ]
Teffp = 6256 [1120] K [4.77σ]

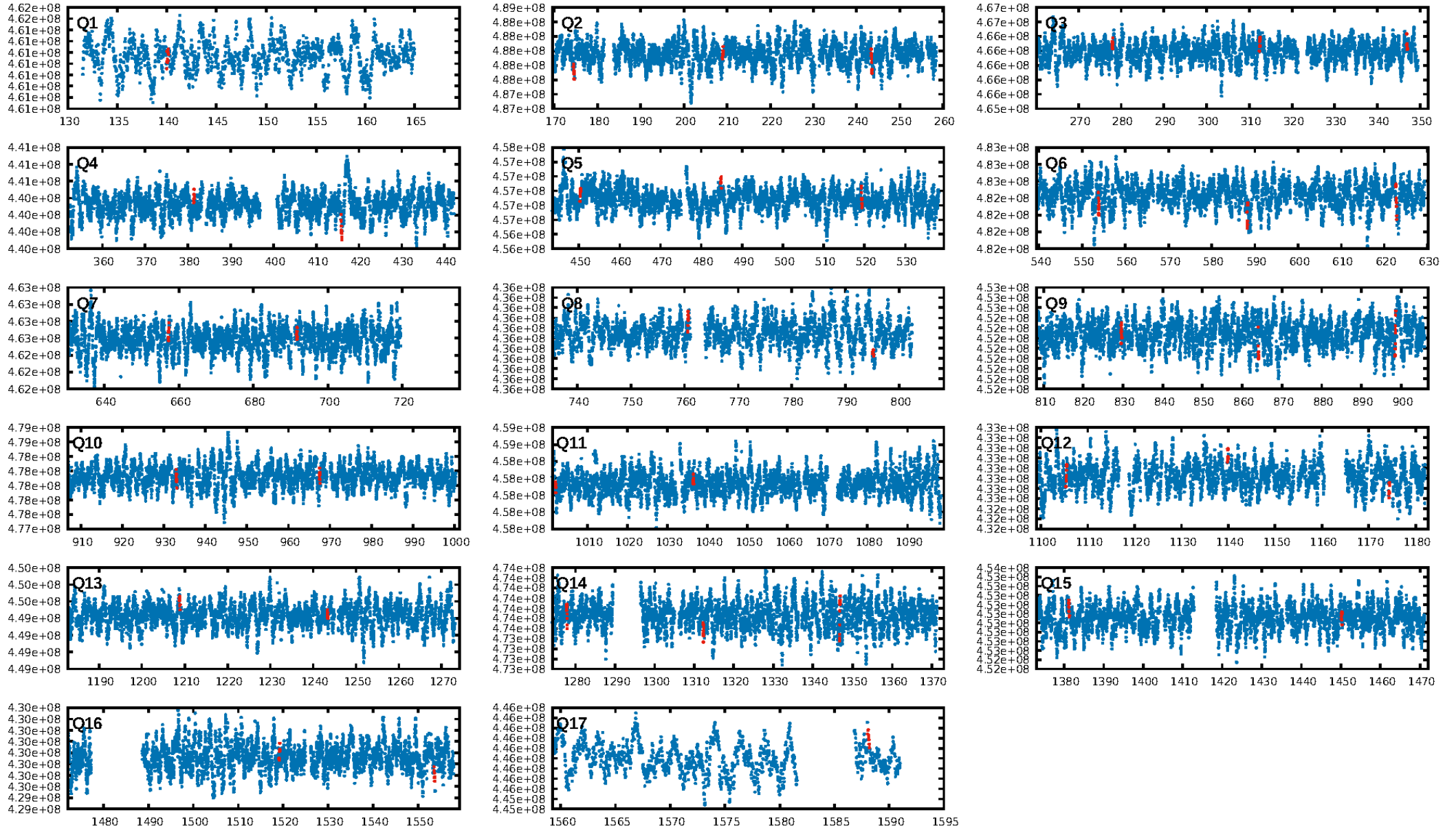
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [189.75σ]
LongPeriod-sig: 100.0% [8.09σ]
ModelChiSquare2-sig: 12.9%
ModelChiSquareGof-sig: 92.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.94
Centroid-sig: 0.4%
Centroid-so: 0.492 arcsec [2.23σ]
OotOffset-rm: 0.343 arcsec [0.83σ]
KicOffset-rm: 0.209 arcsec [0.48σ]
OotOffset-st: 4/2/4/5 [15]
KicOffset-st: 4/2/4/5 [15]
DiffImageQuality-fgm: 0.40 [6/15]
DiffImageOverlap-fno: 0.65 [11/17]

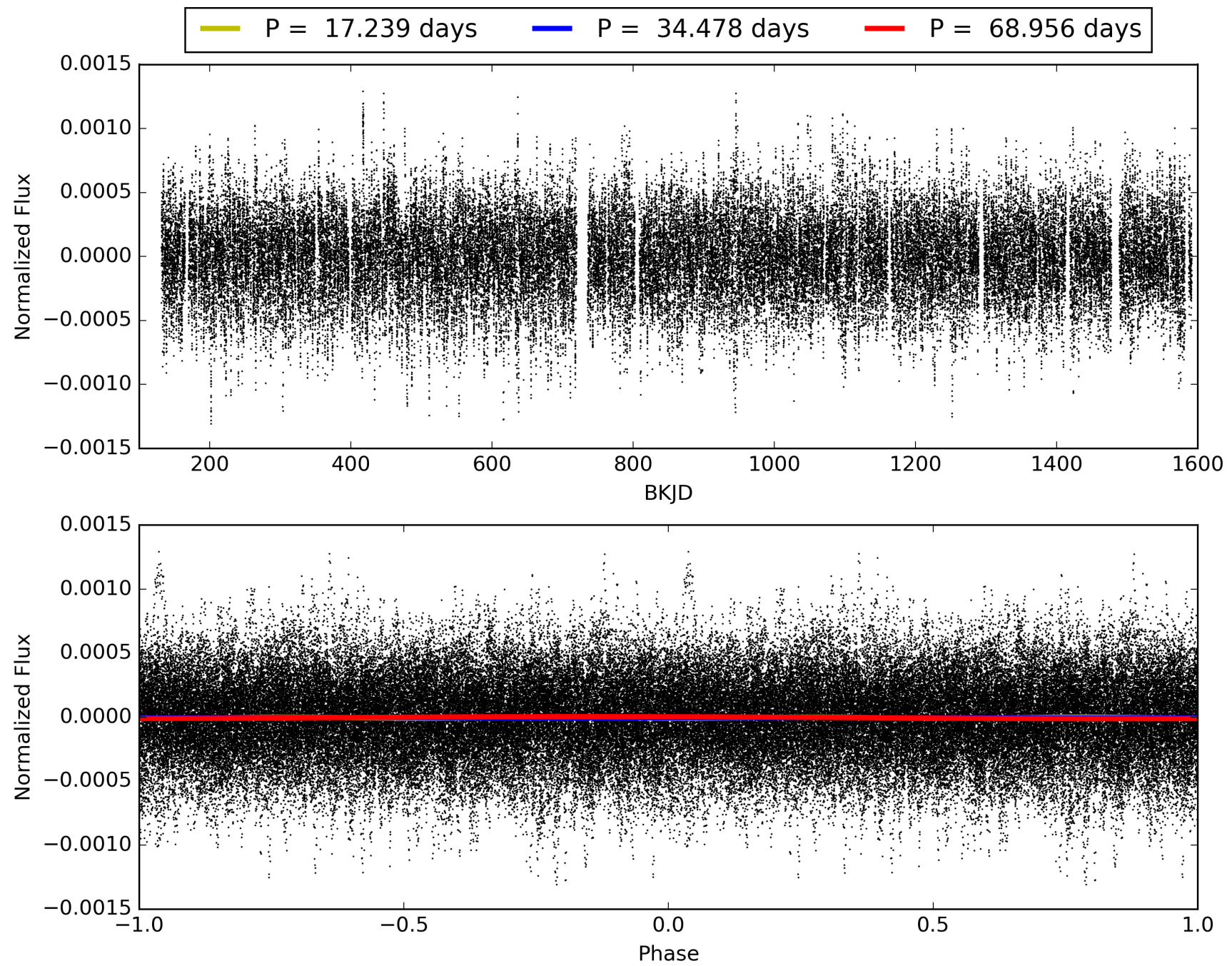
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:13:00 Z

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

TCE 006945500-06, PDC Light Curves

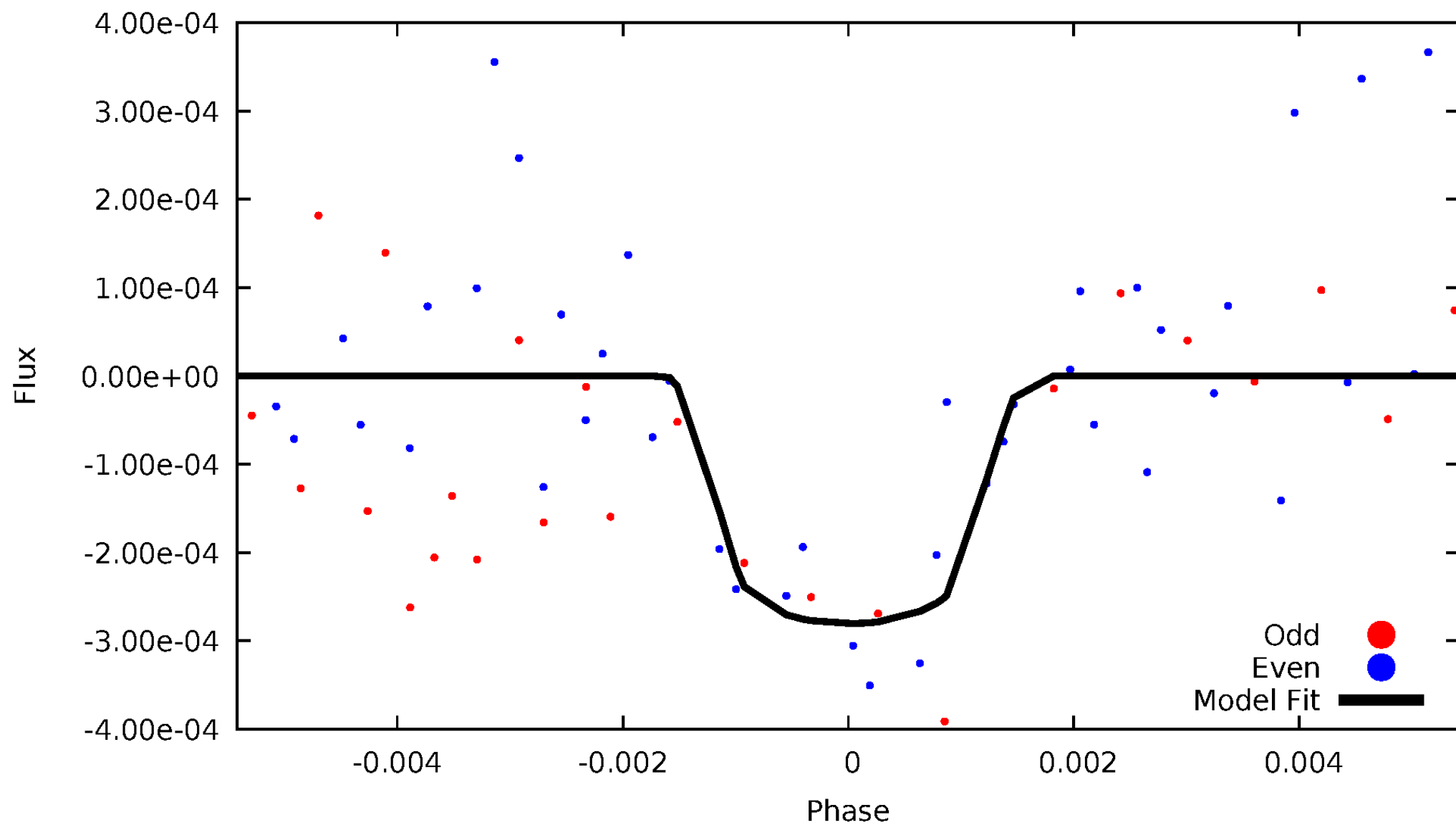


TCE 006945500-06



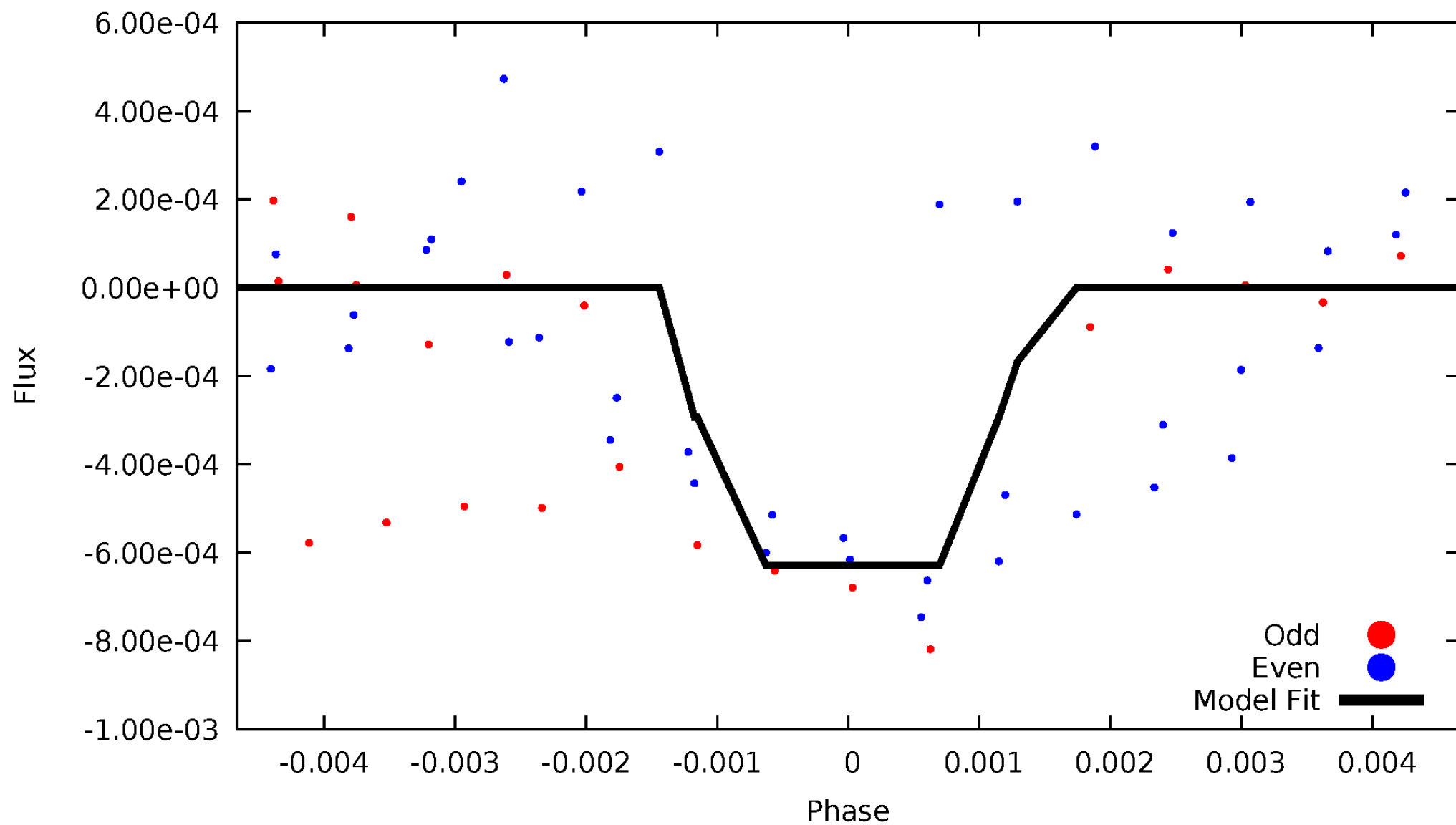
DV Odd/Even

TCE 006945500-06



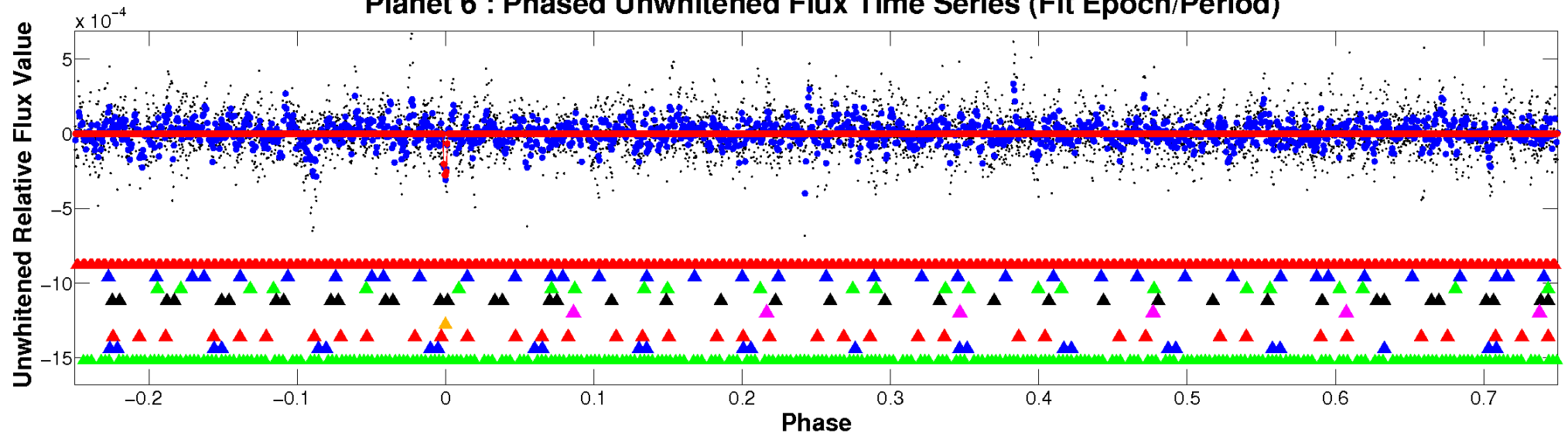
ALT Odd/Even

TCE 006945500-06

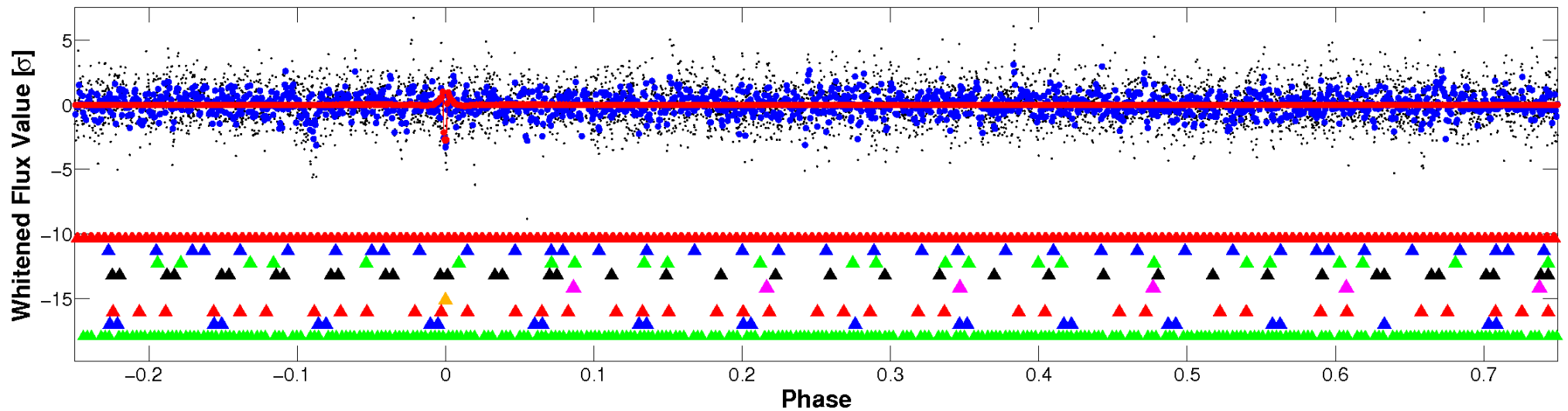


Non-Whitened Vs. Whitened Light Curve

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

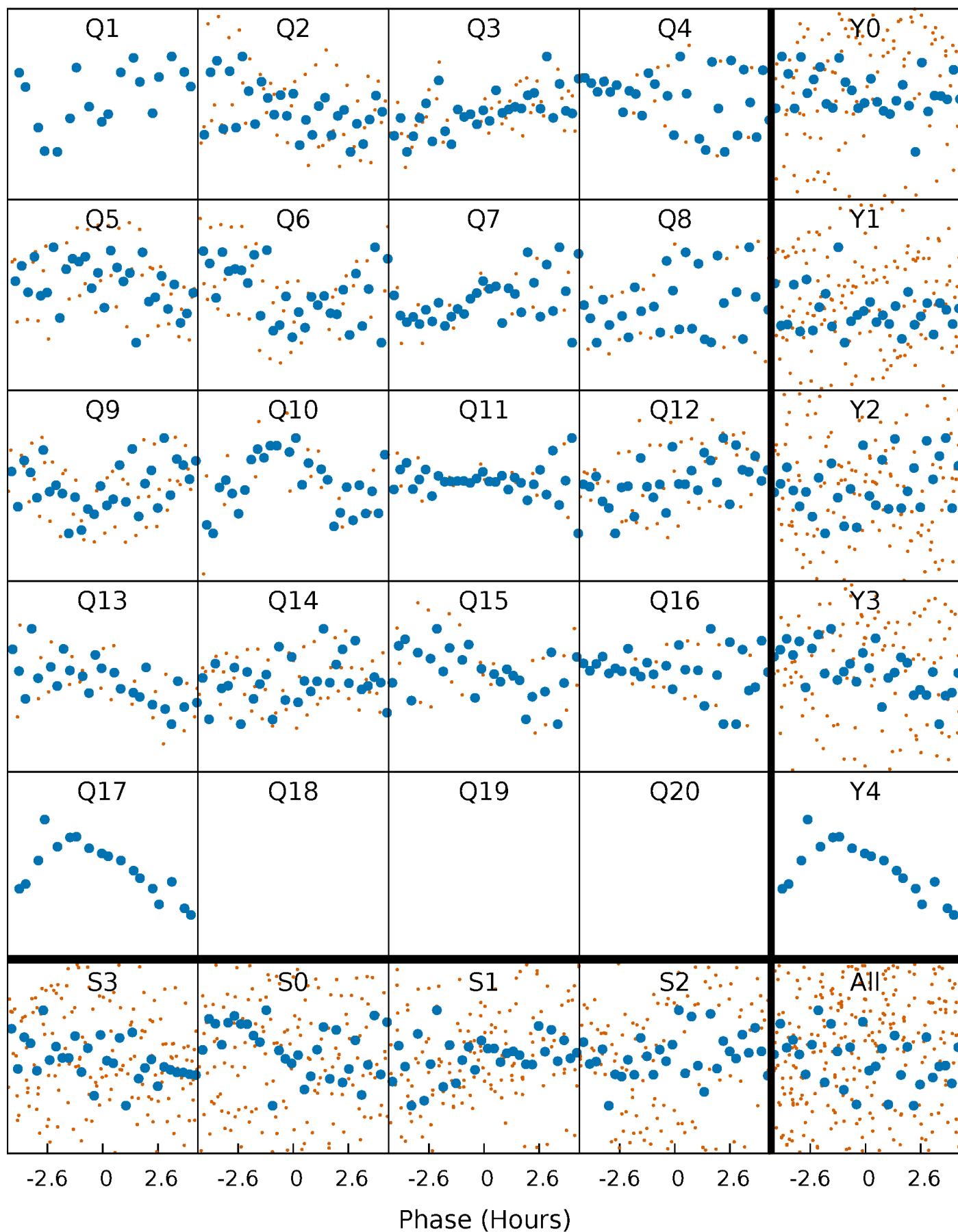


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



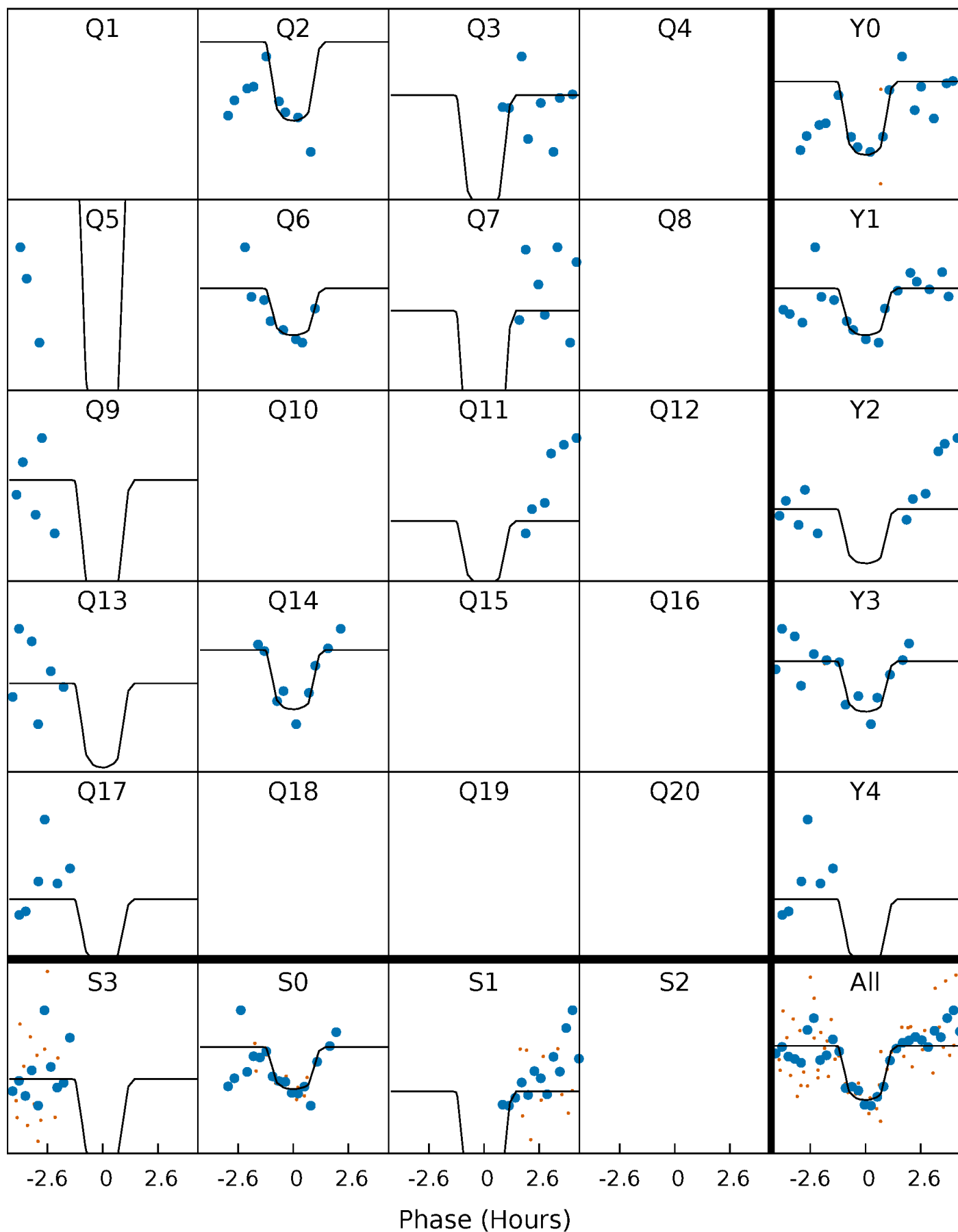
PDC Quarter-Phased Transit Curves

TCE 006945500-06 P= 34.477761 Days $T_0=140.060283$ (BKJD)



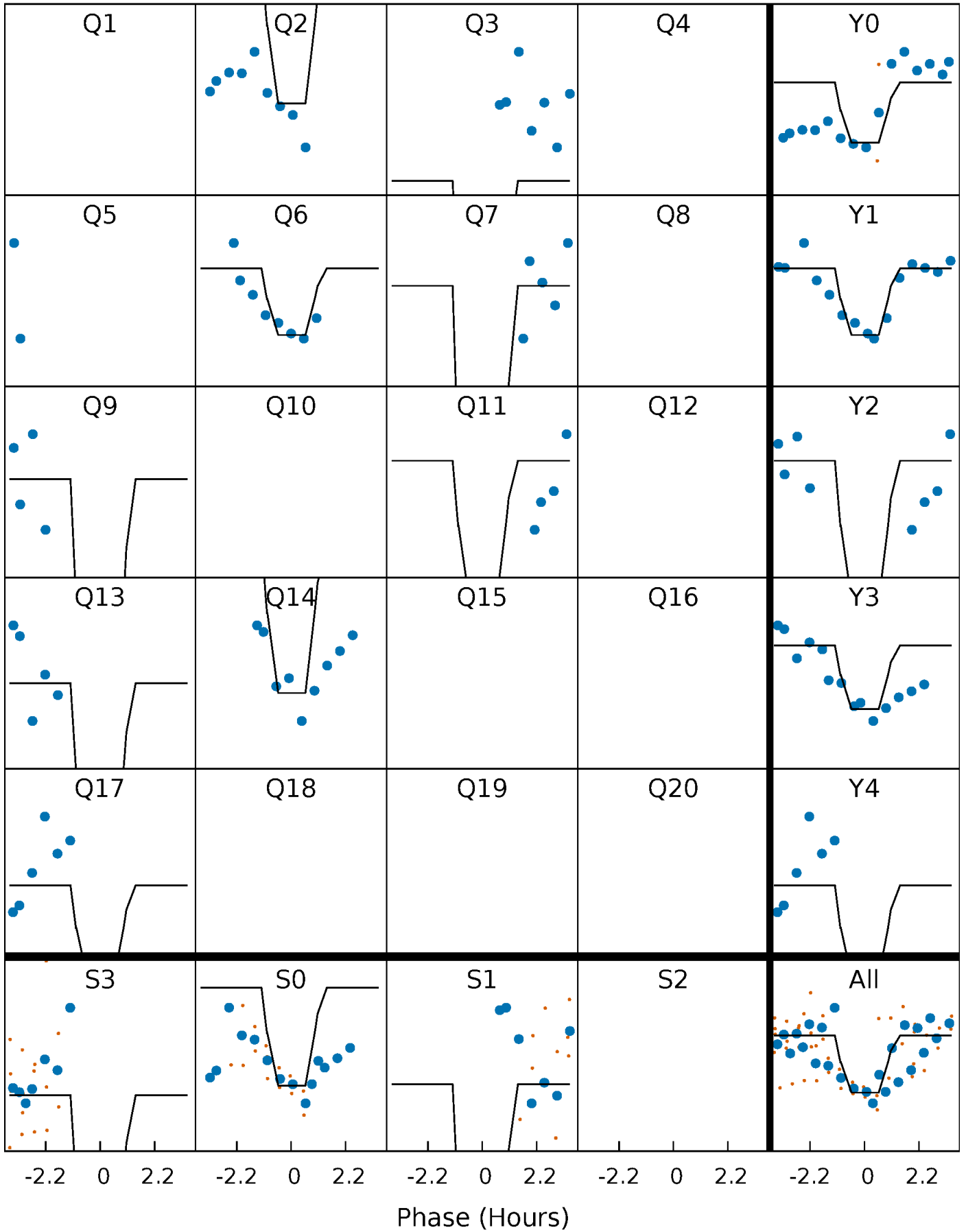
DV Quarter-Phased Transit Curves

TCE 006945500-06 P= 34.477761 Days $T_0=140.060283$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

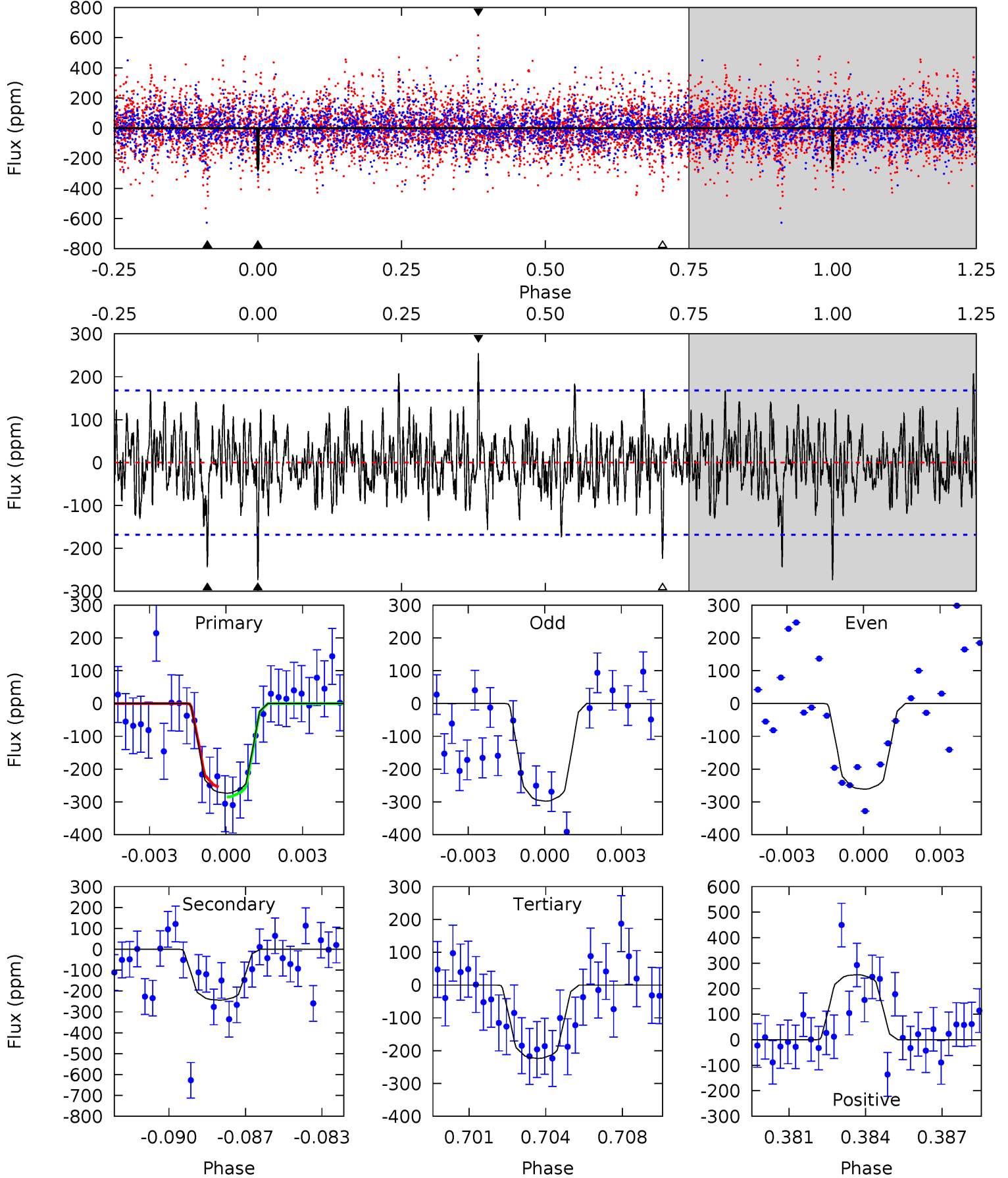
TCE 006945500-06 P= 34.477139 Days $T_0=140.068819$ (BKJD)



DV Model-Shift Uniqueness Test

006945500-06, P = 34.477761 Days, E = 105.582522 Days

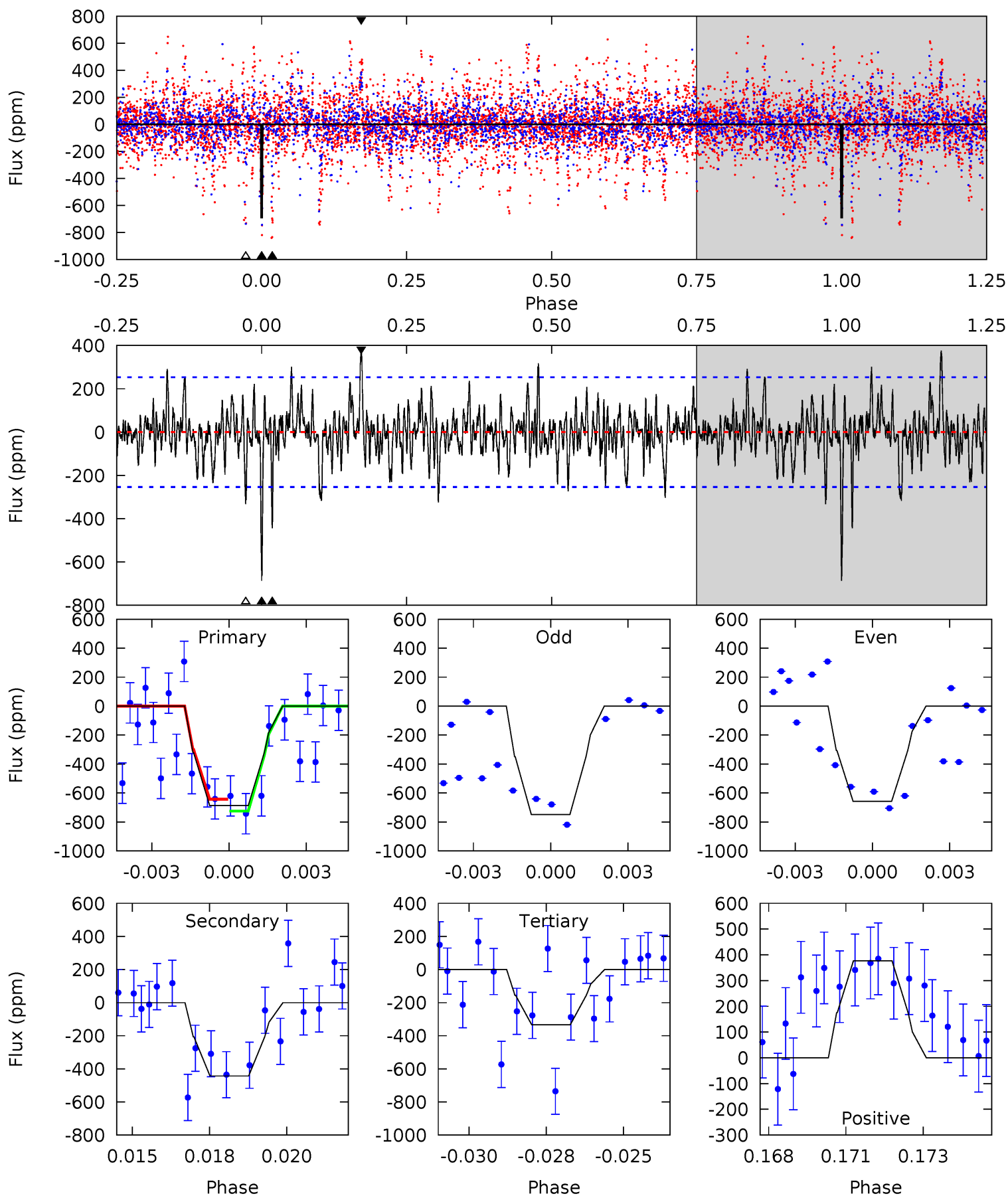
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.51	7.58	6.96	7.93	5.23	2.93	1.75	1.55	0.58	0.62	-0.36	0.49	0.80	0.48	0.47



Alt Model-Shift Uniqueness Test

006945500-06, P = 34.477139 Days, E = 105.591680 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.3	9.23	6.94	7.85	5.29	3.02	1.92	7.38	6.47	2.29	1.38	0.84	0.70	0.35	0.85



Stellar Parameters For KIC 006945500

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+201}_{-277}	$4.060^{+0.198}_{-0.162}$	$-0.160^{+0.250}_{-0.350}$	$1.894^{+0.576}_{-0.471}$	$1.499^{+0.221}_{-0.265}$	$0.311^{+0.320}_{-0.160}$
	+3%/-4%	+5%/-4%	+156%/-219%	+30%/-25%	+15%/-18%	+103%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006945500-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-244 ± 32	$3.63^{+1.40}_{-1.26}$	1251^{+91}_{-91}	6706^{+1712}_{-975}	571^{+783}_{-279}
Alt.	-443 ± 48	$5.08^{+1.53}_{-1.28}$	1250^{+90}_{-94}	6530^{+1059}_{-720}	523^{+428}_{-209}

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

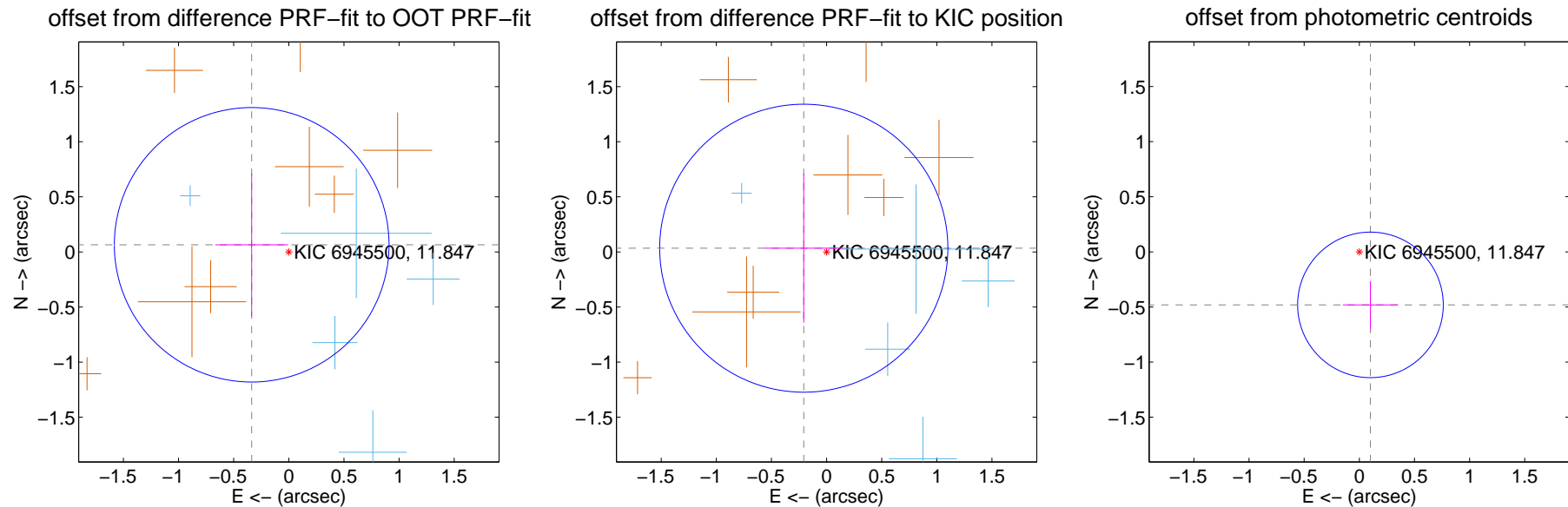
DV Centroid Data

Supplemental centroid analysis for 006945500-06. **Kepler magnitude: 11.85.** Transit SNR 10.26

There are 6 quarters with good PRF difference image offsets

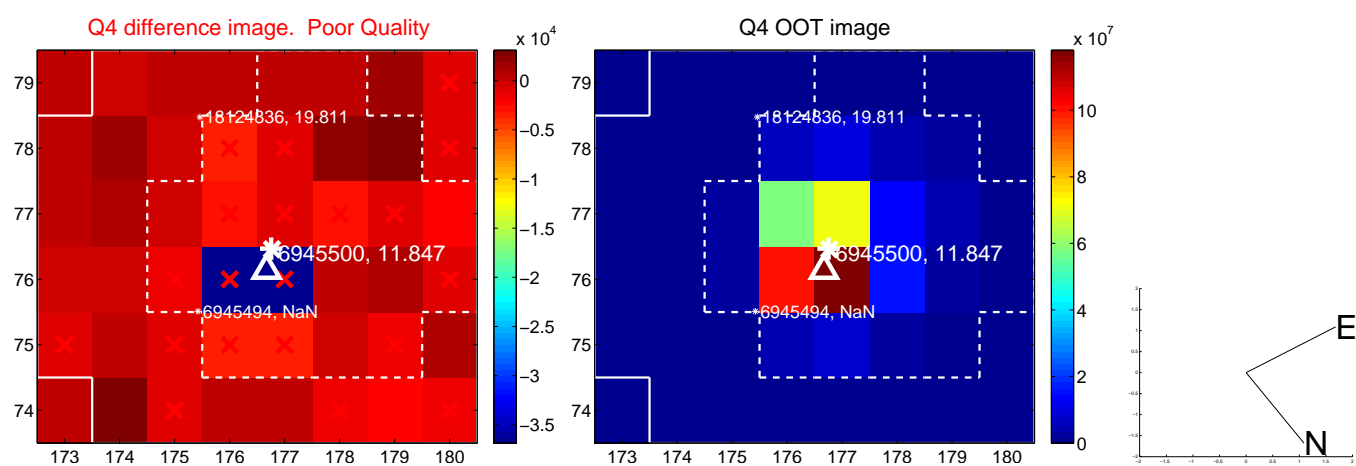
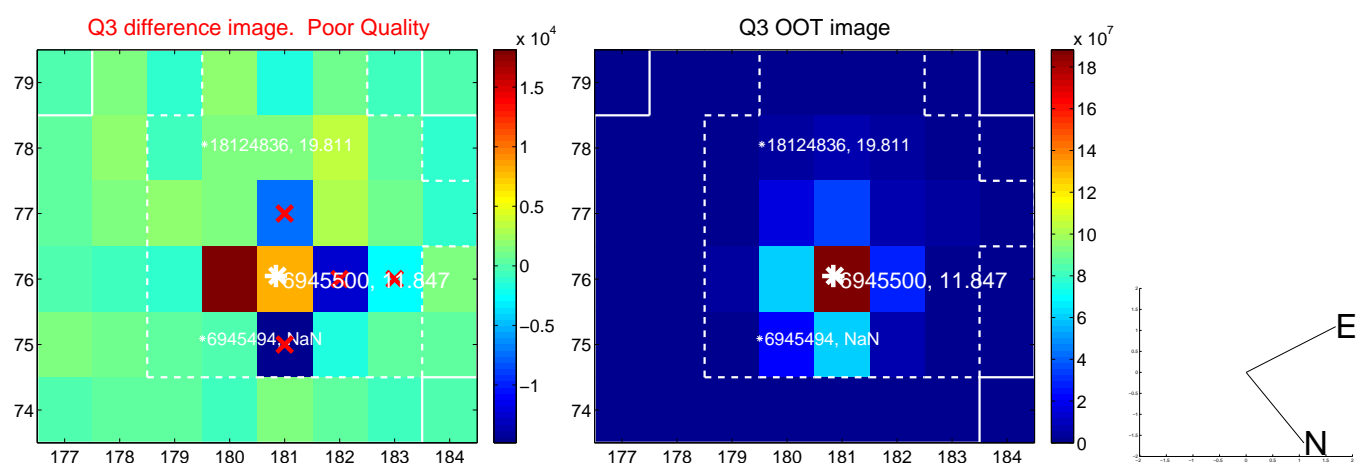
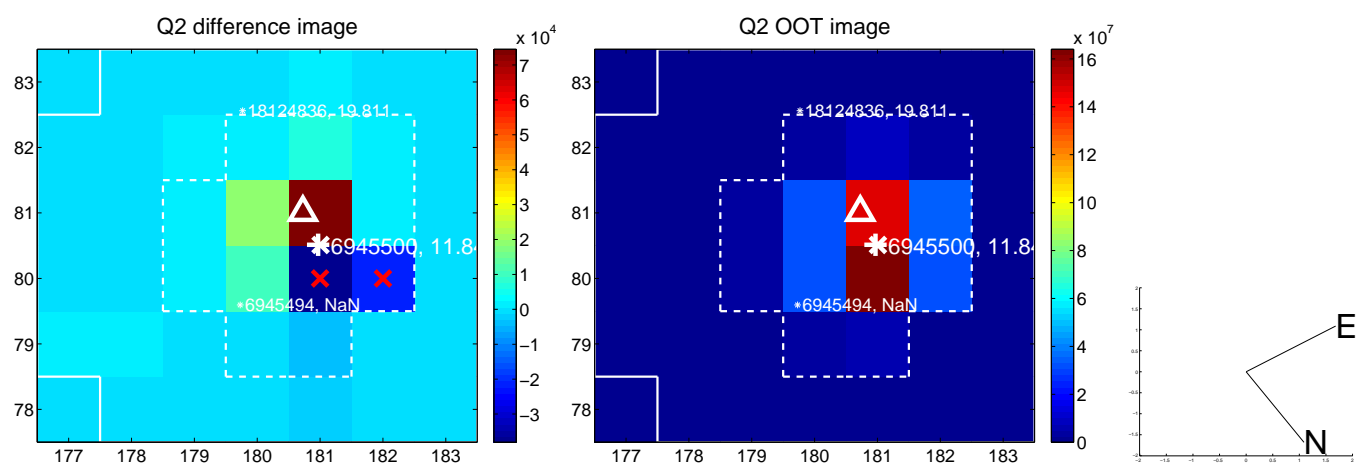
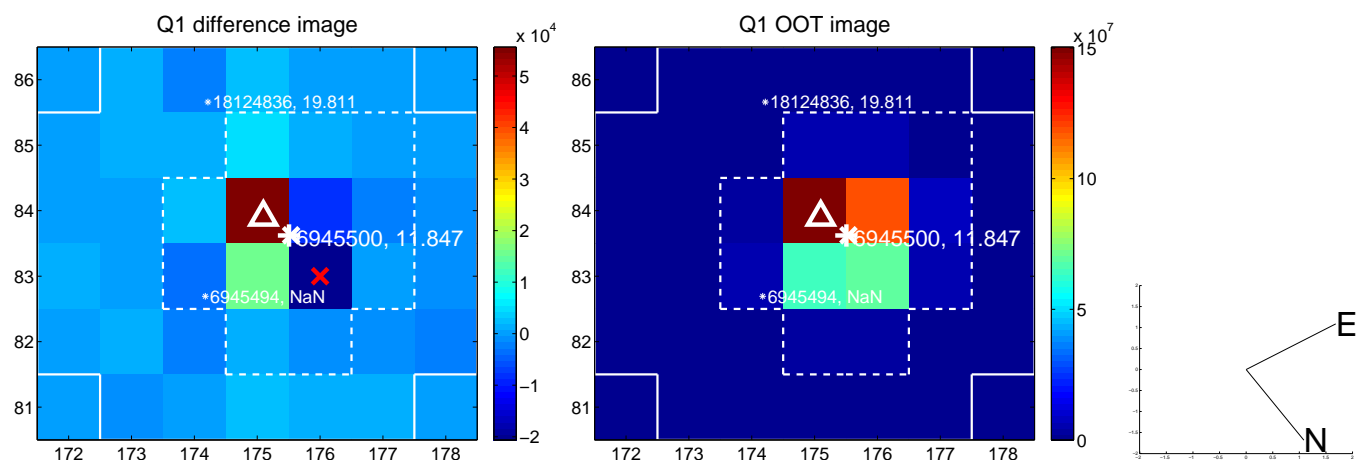
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.343 ± 0.415	0.83	0.337 ± 0.331	0.065 ± 0.649
PRF-fit source offset from KIC position	0.209 ± 0.436	0.48	0.207 ± 0.358	0.034 ± 0.675
photometric centroid source offset	0.49 ± 0.22	2.23	-0.10 ± 0.25	-0.48 ± 0.22

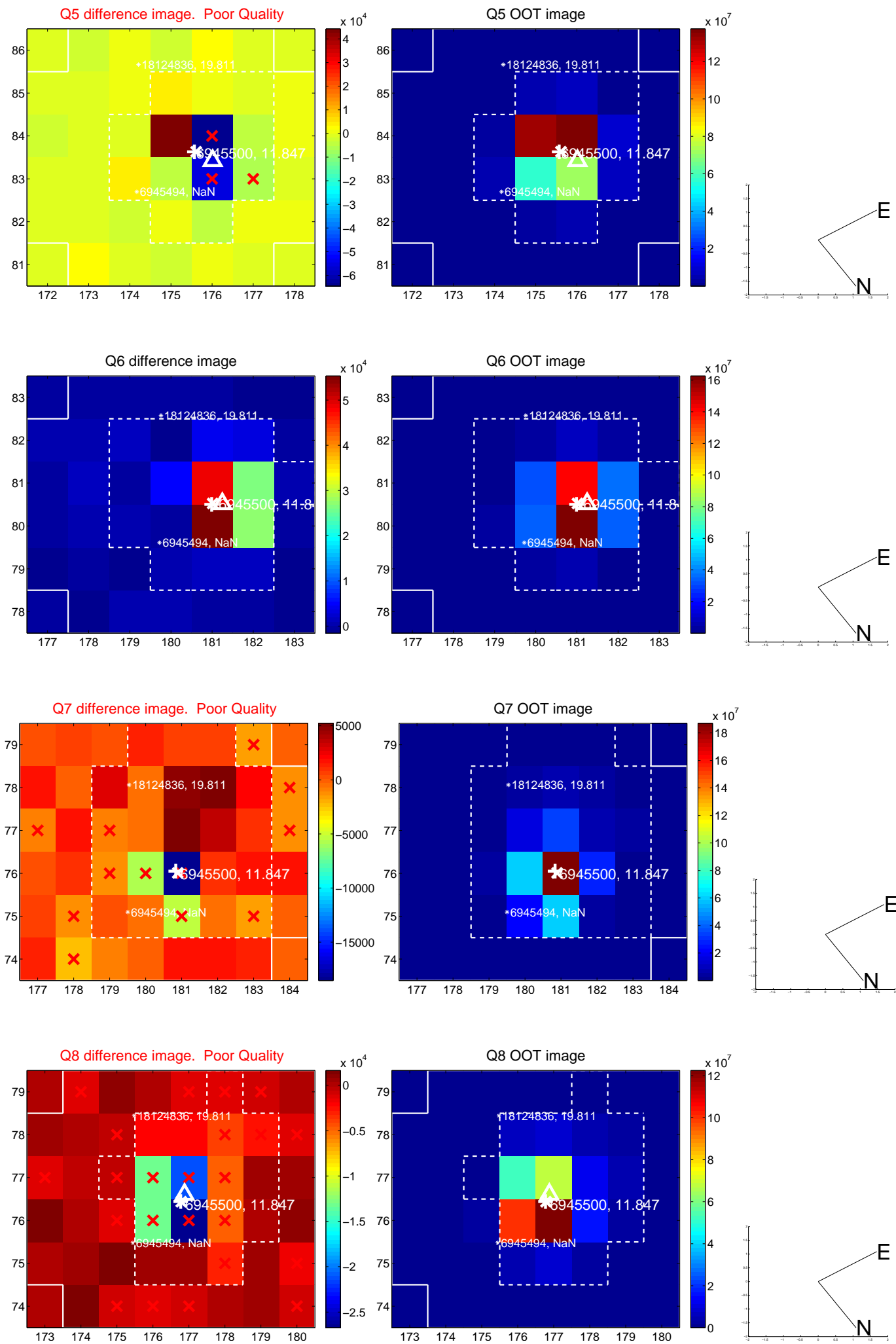


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

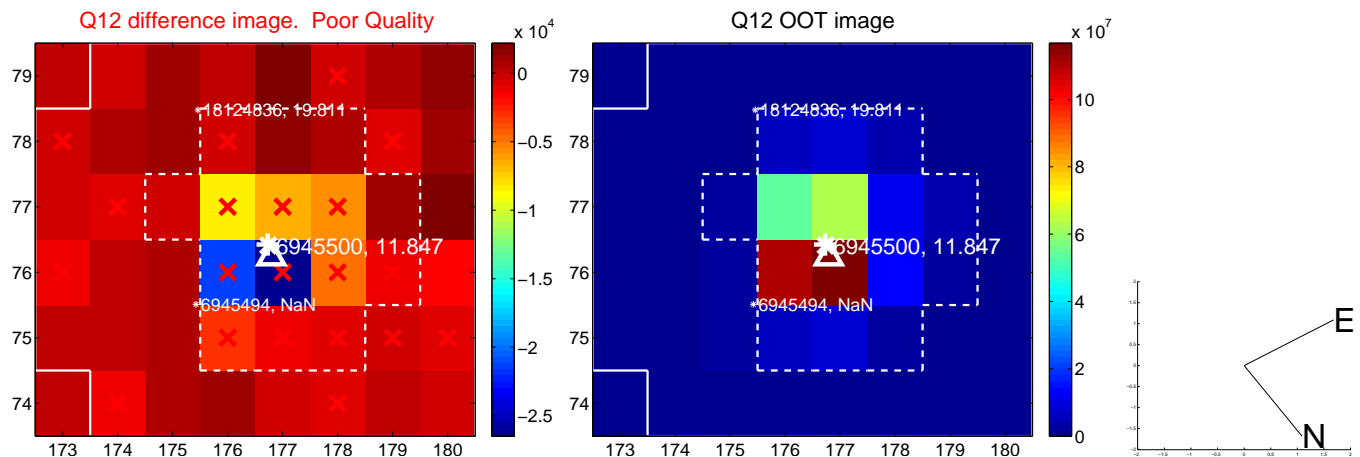
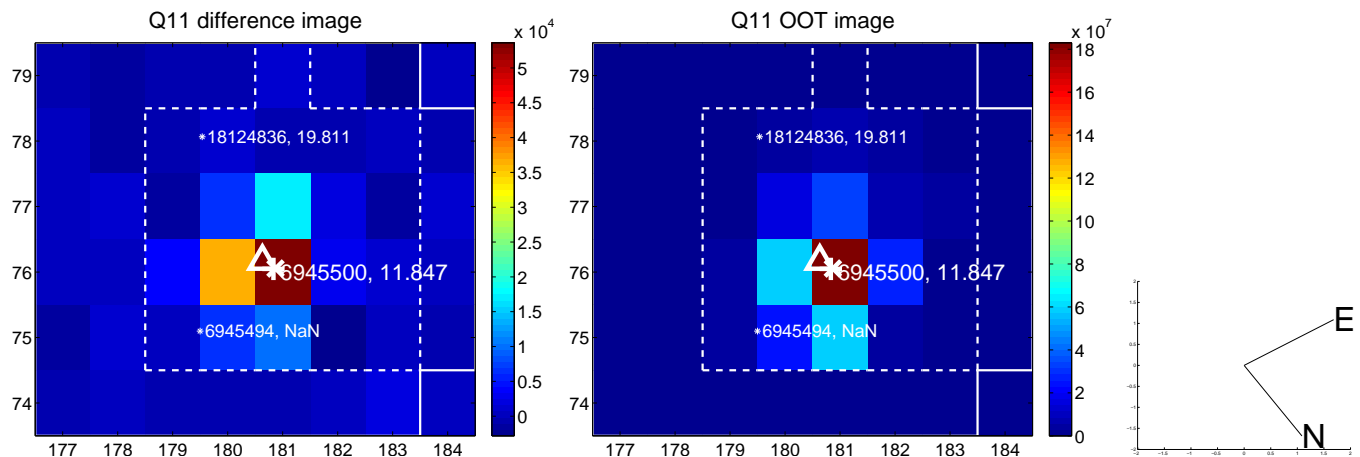
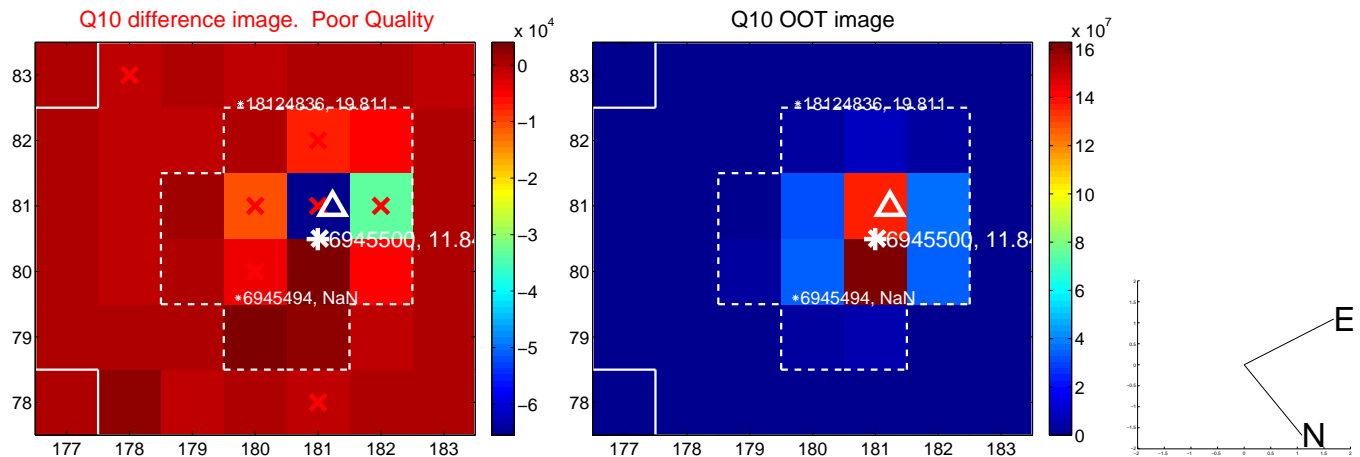
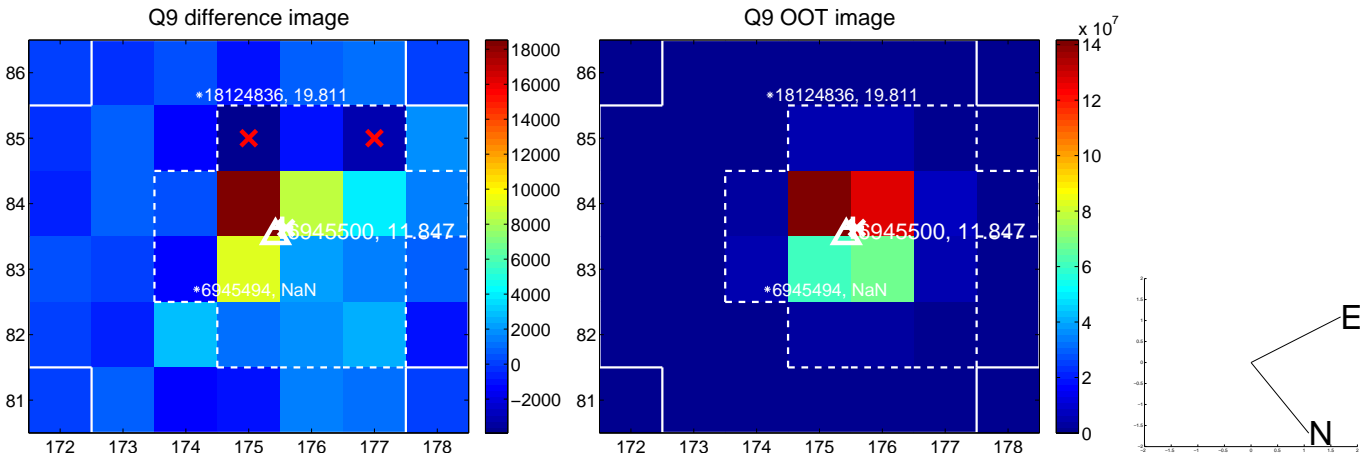
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



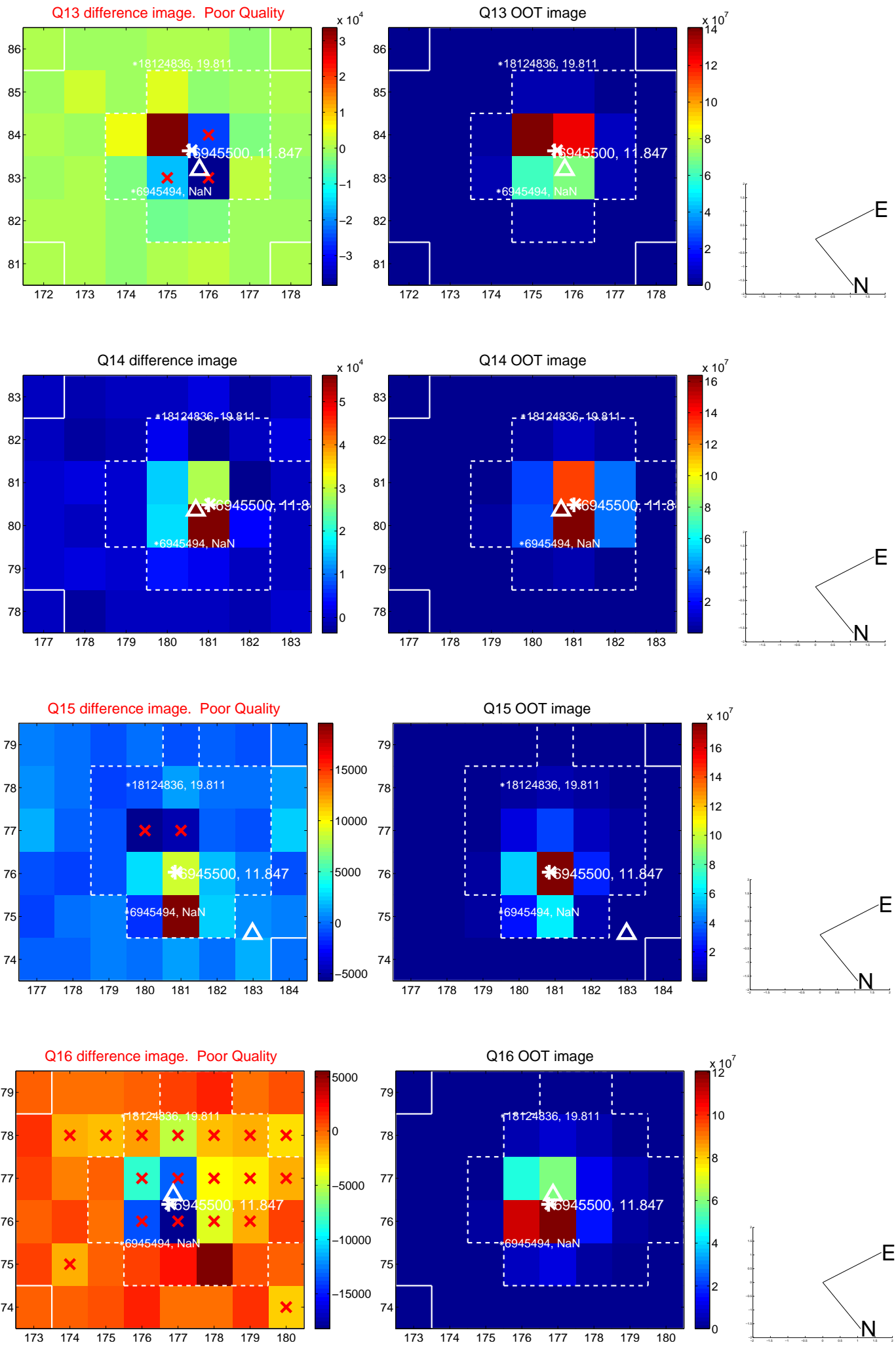
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



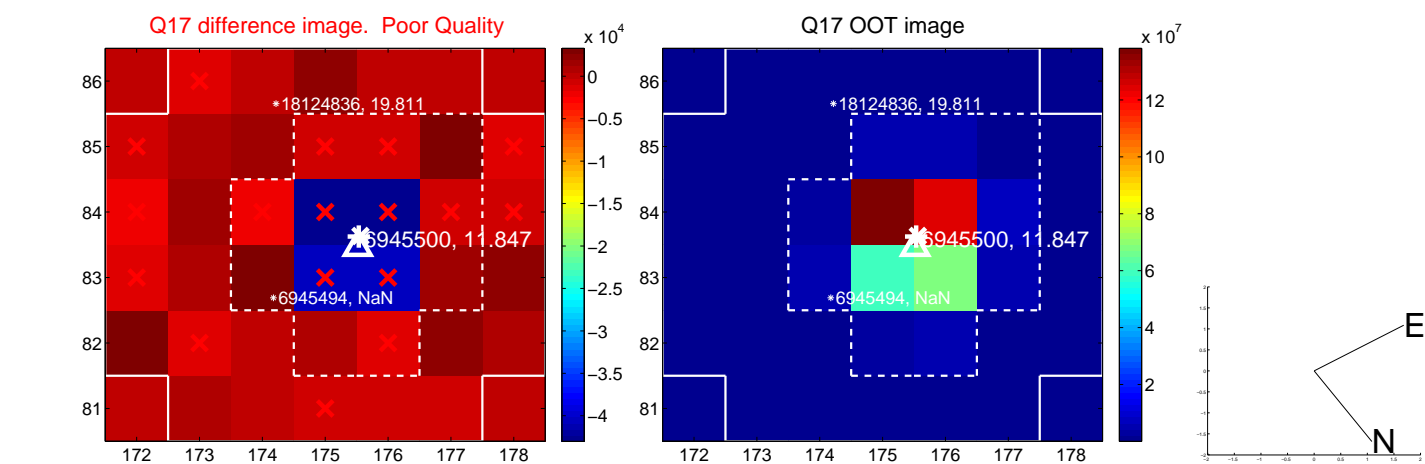
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



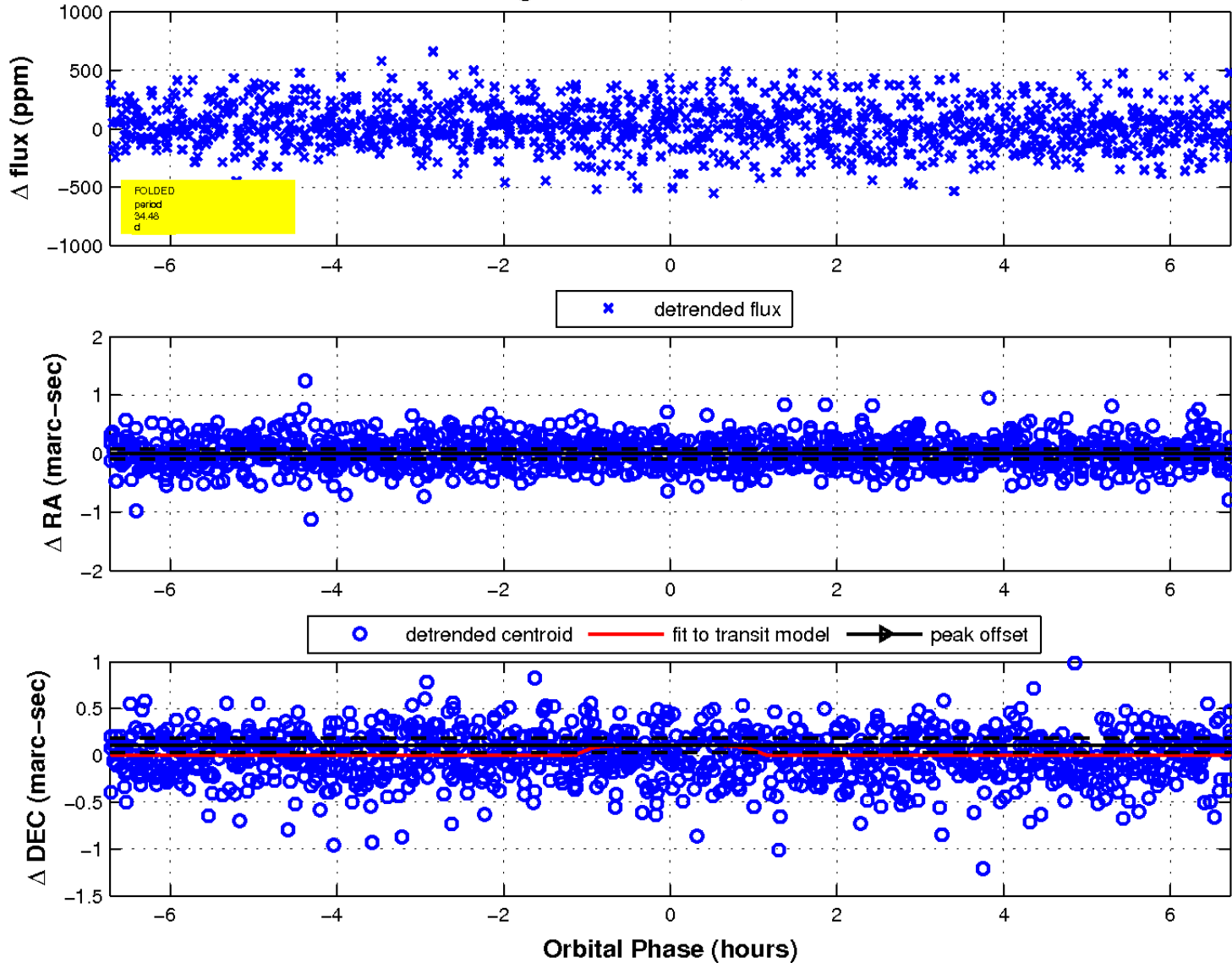
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

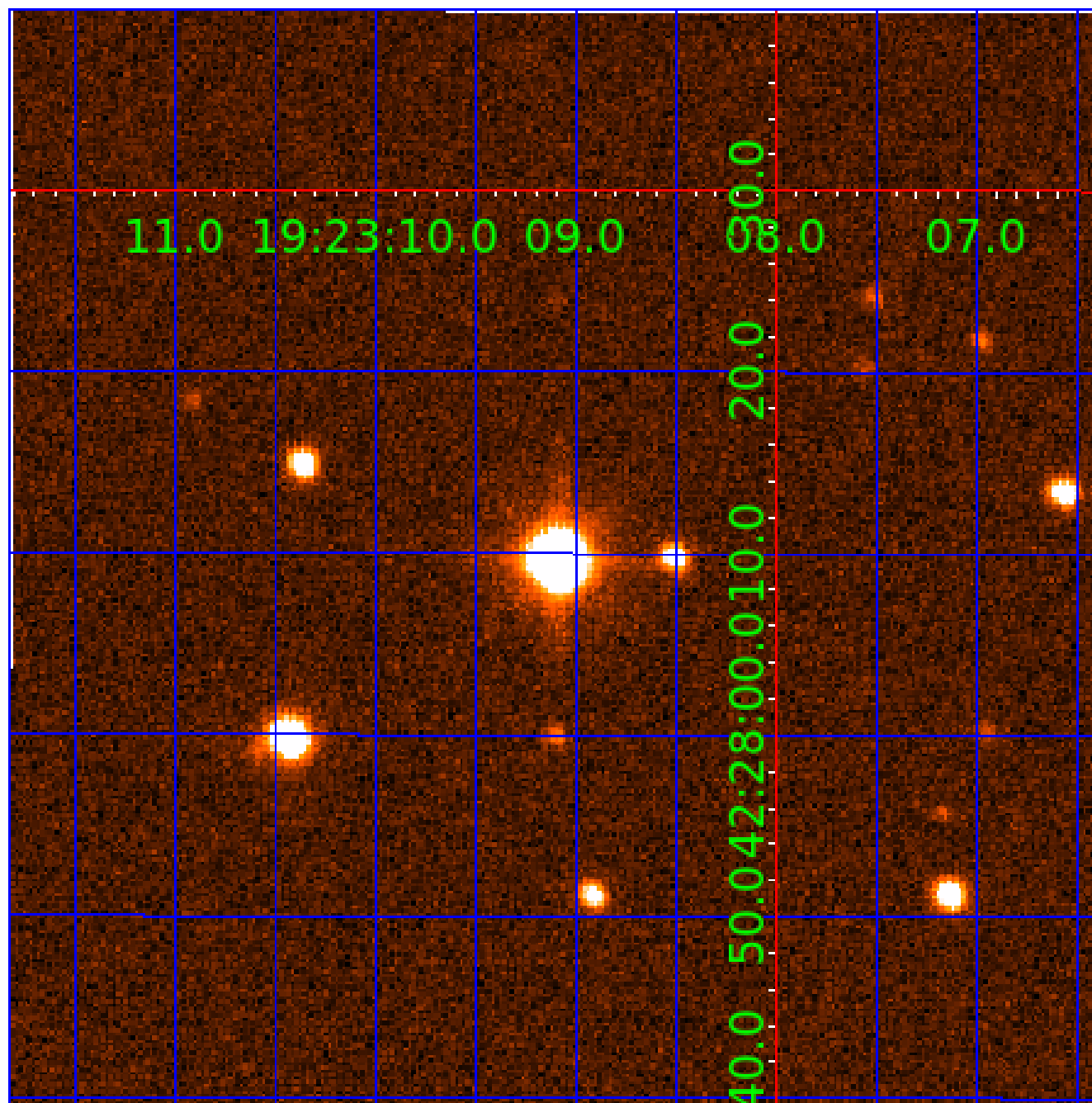


fluxWeightedCentroids, Planet 6 of 9



UKIRT Image

Declination



KIC 006945500

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})
006945500-01	OBS	No	1.755894	133.225592	35.1	12.473	9.1	10.7	1.89	7207	1.31	8143.94
006945500-02	OBS	No	38.648683	160.583197	525.7	22.088	16.0	10.1	1.89	7207	8.21	132.02
006945500-03	OBS	No	59.797470	188.316106	568.7	11.781	12.5	11.0	1.89	7207	8.53	73.78
006945500-05	OBS	No	245.835306	143.036494	483.0	9.931	10.0	9.3	1.89	7207	4.95	11.20
006945500-06	OBS	No	34.477761	140.060283	280.5	2.242	10.1	10.3	1.89	7207	3.68	153.74
006945500-07	OBS	No	36.817043	164.470540	305.2	2.424	9.9	10.0	1.89	7207	6.12	140.85
006945500-08	OBS	No	56.654681	137.107227	315.3	5.291	8.2	9.8	1.89	7207	6.46	79.28
006945500-09	OBS	No	4.866339	135.550778	126.2	3.000	9.0	-1.0	1.89	7207	2.16	2092.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006945500-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006945500-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
006945500-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006945500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
006945500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006945500-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

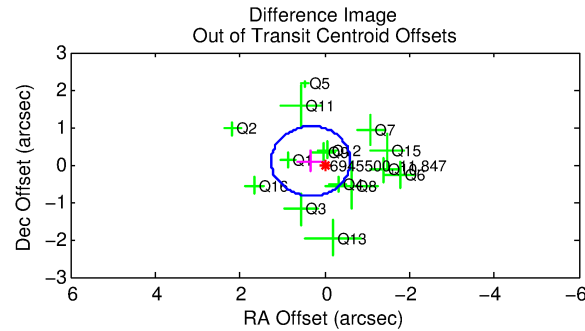
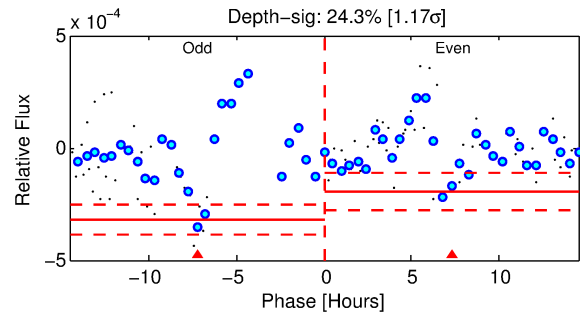
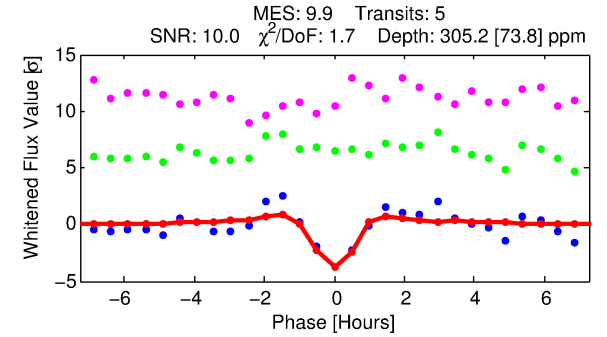
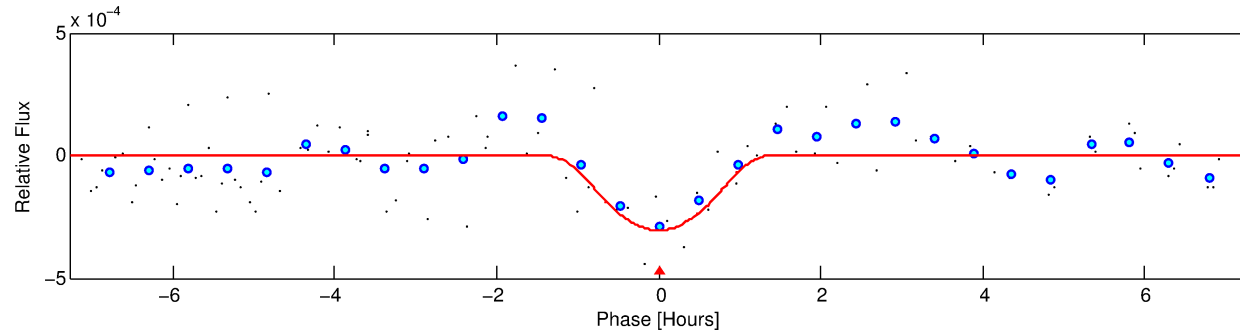
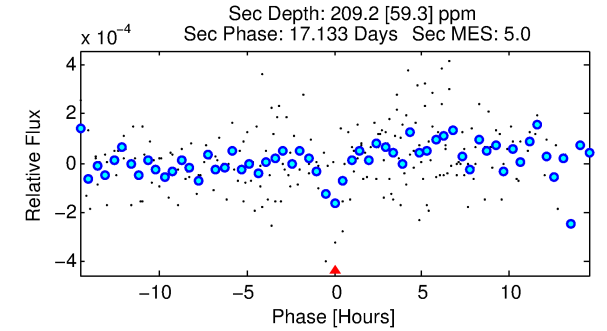
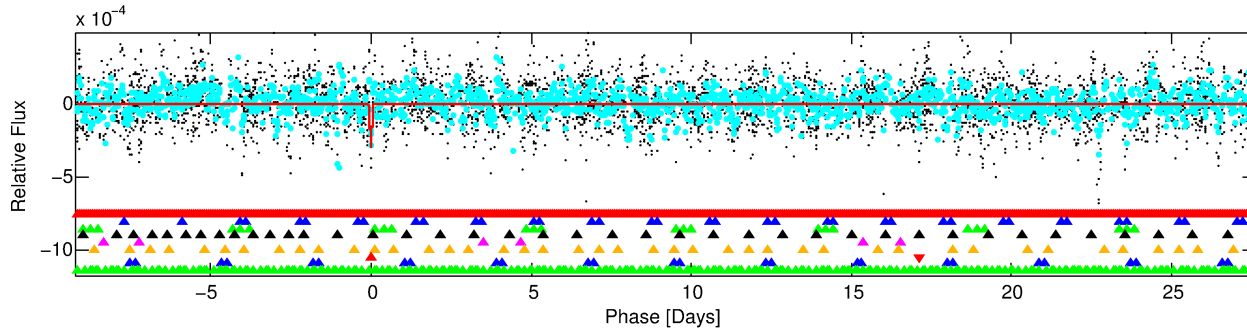
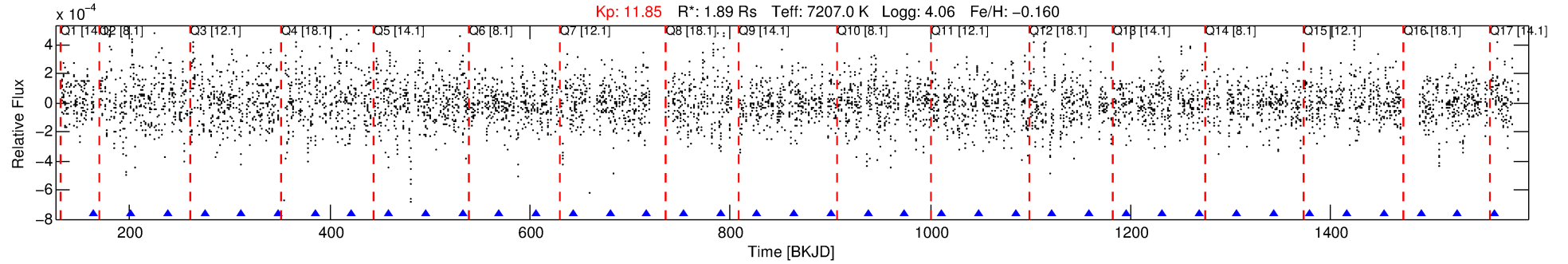
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006945500-07

No Significant Match Found

DV One-Page Summary

KIC: 6945500 Candidate: 7 of 9 Period: 36.817 d



DV Fit Results:

Period = 36.81704 [0.00235] d
Epoch = 164.4705 [0.0217] BKJD
 R_p/R^* = 0.0296 [0.1906]
 a/R^* = 29.45 [54.16]
 b = 1.00 [0.30]
 Seff = 140.85 [55.83]
 T_{eq} = 878 [87] K
 R_p = 6.12 [39.43] R_e
 a = 0.2481 [0.0629] AU
 A_g = 189.00 [2433.36] [0.08σ]
 T_{eff} = 5036 [16204] K [0.26σ]

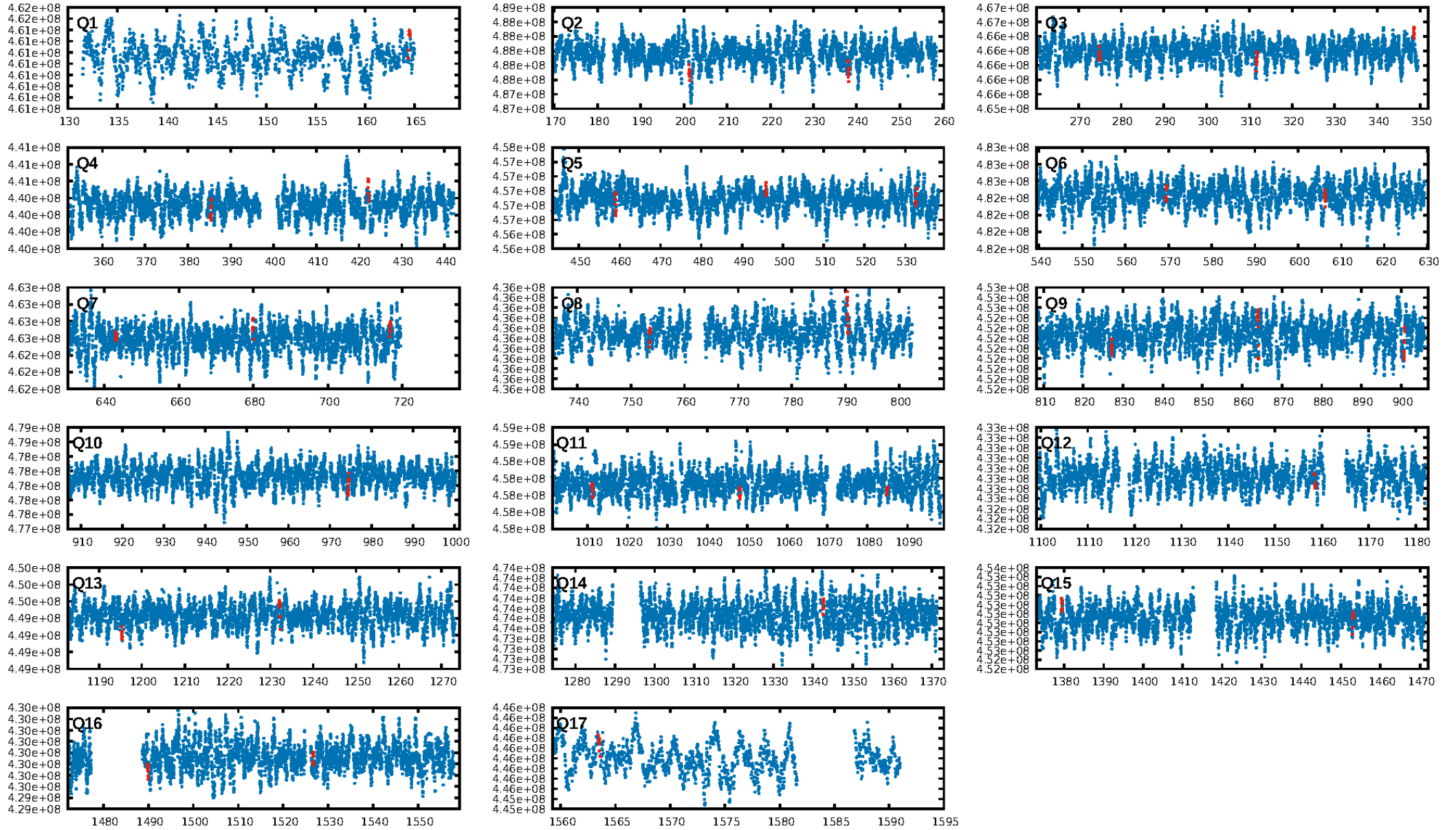
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.61σ]
LongPeriod-sig: 95.2% [1.98σ]
ModelChiSquare2-sig: 22.5%
ModelChiSquareGof-sig: 97.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.7492
Centroid-sig: 1.9%
Centroid-so: 0.358 arcsec [1.32σ]
OotOffset-rm: 0.340 arcsec [1.10σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-rm: 0.177 arcsec [0.60σ]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 0.35 [6/17]

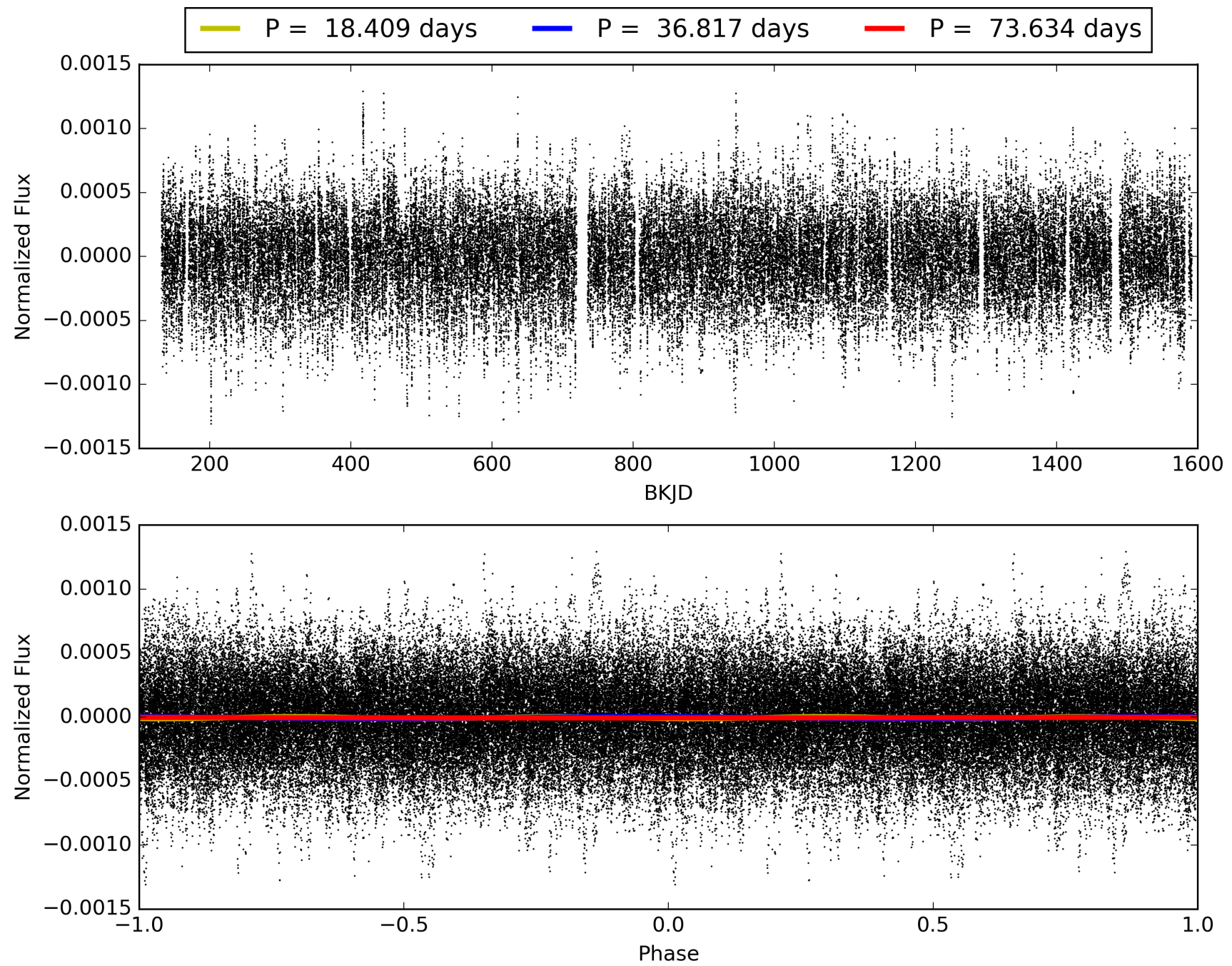
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:13:03 Z

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

TCE 006945500-07, PDC Light Curves

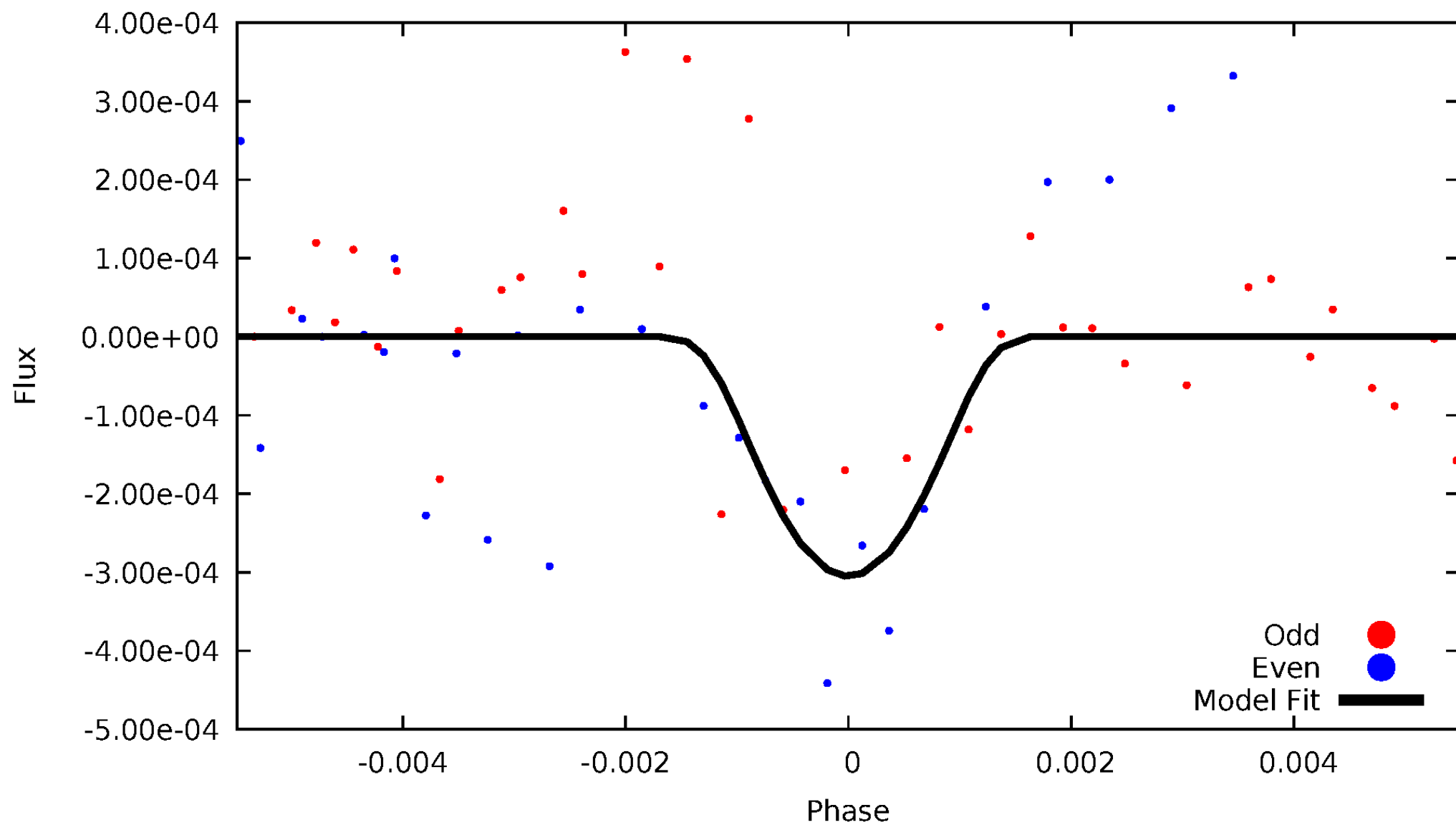


TCE 006945500-07



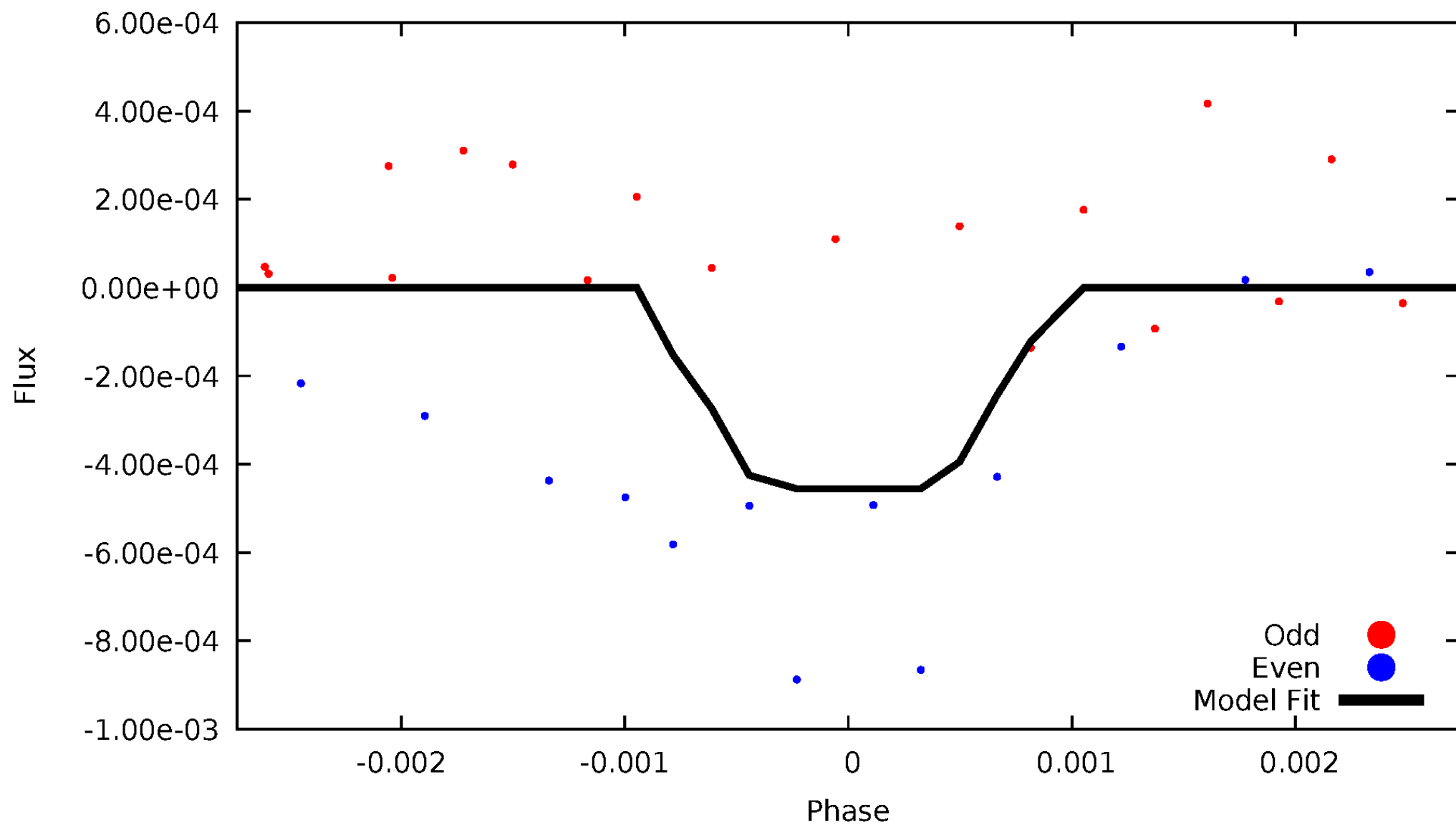
DV Odd/Even

TCE 006945500-07



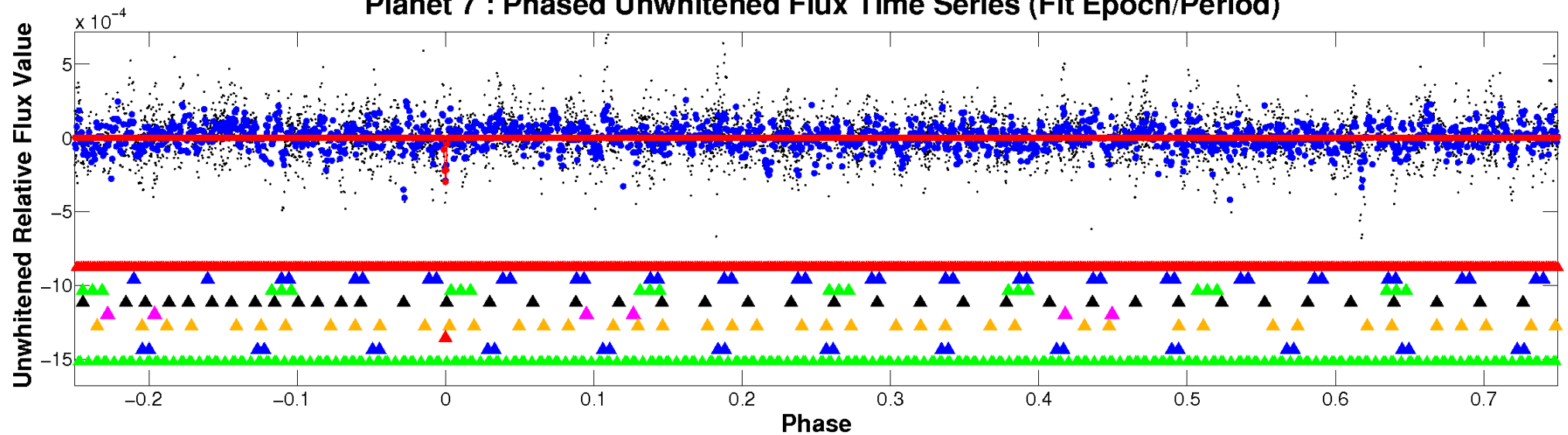
ALT Odd/Even

TCE 006945500-07

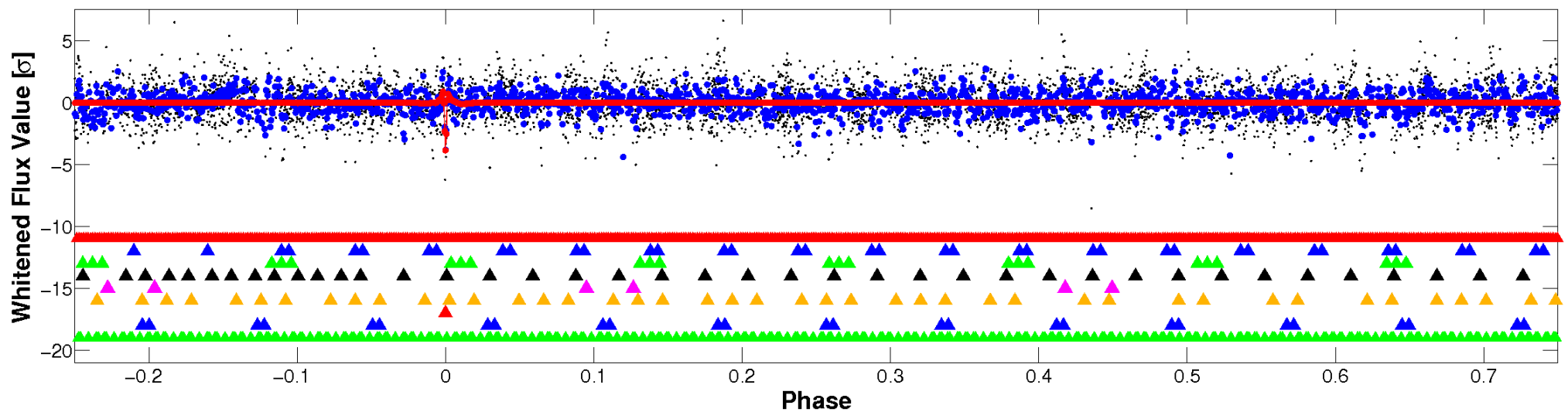


Non-Whitened Vs. Whitened Light Curve

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

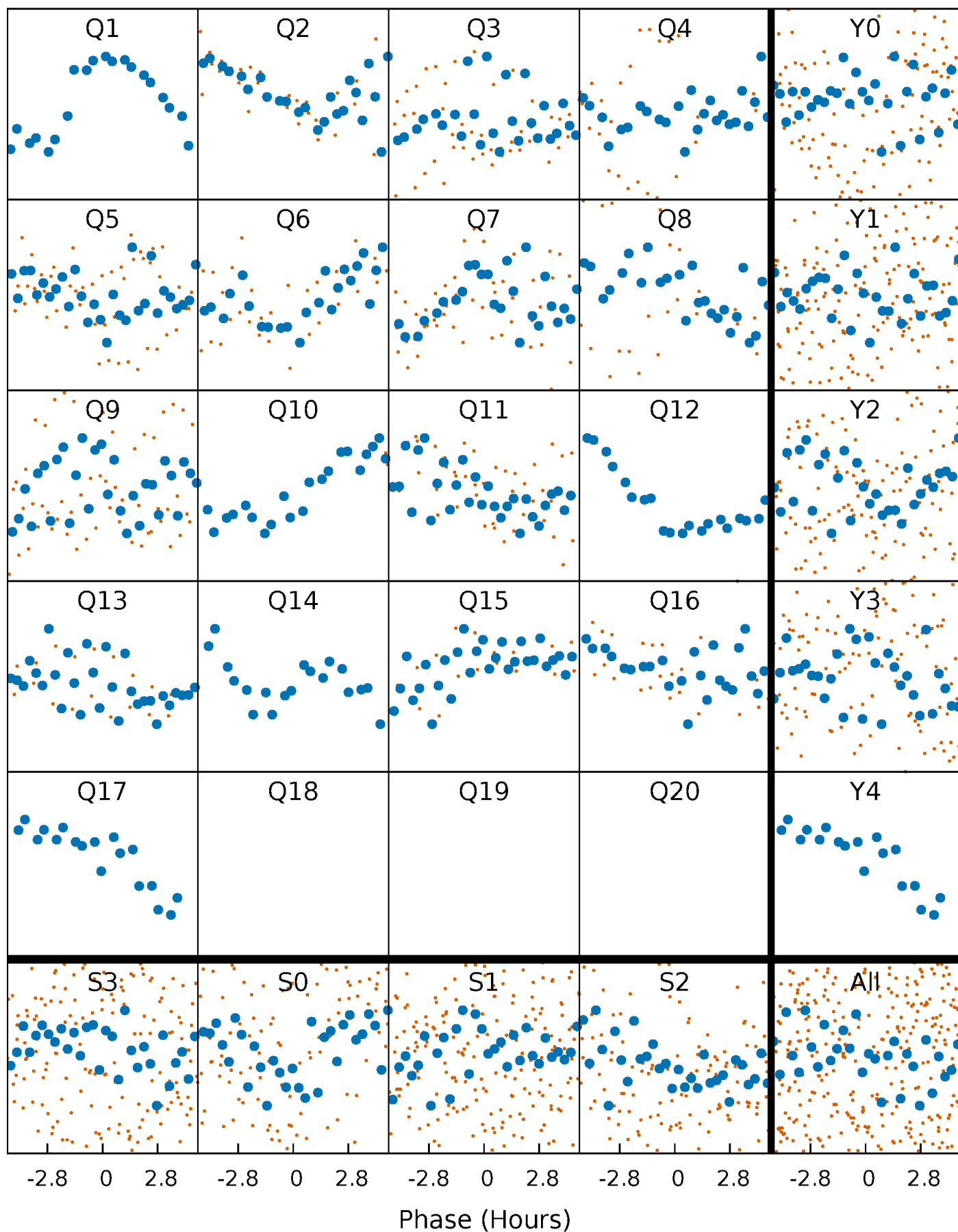


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



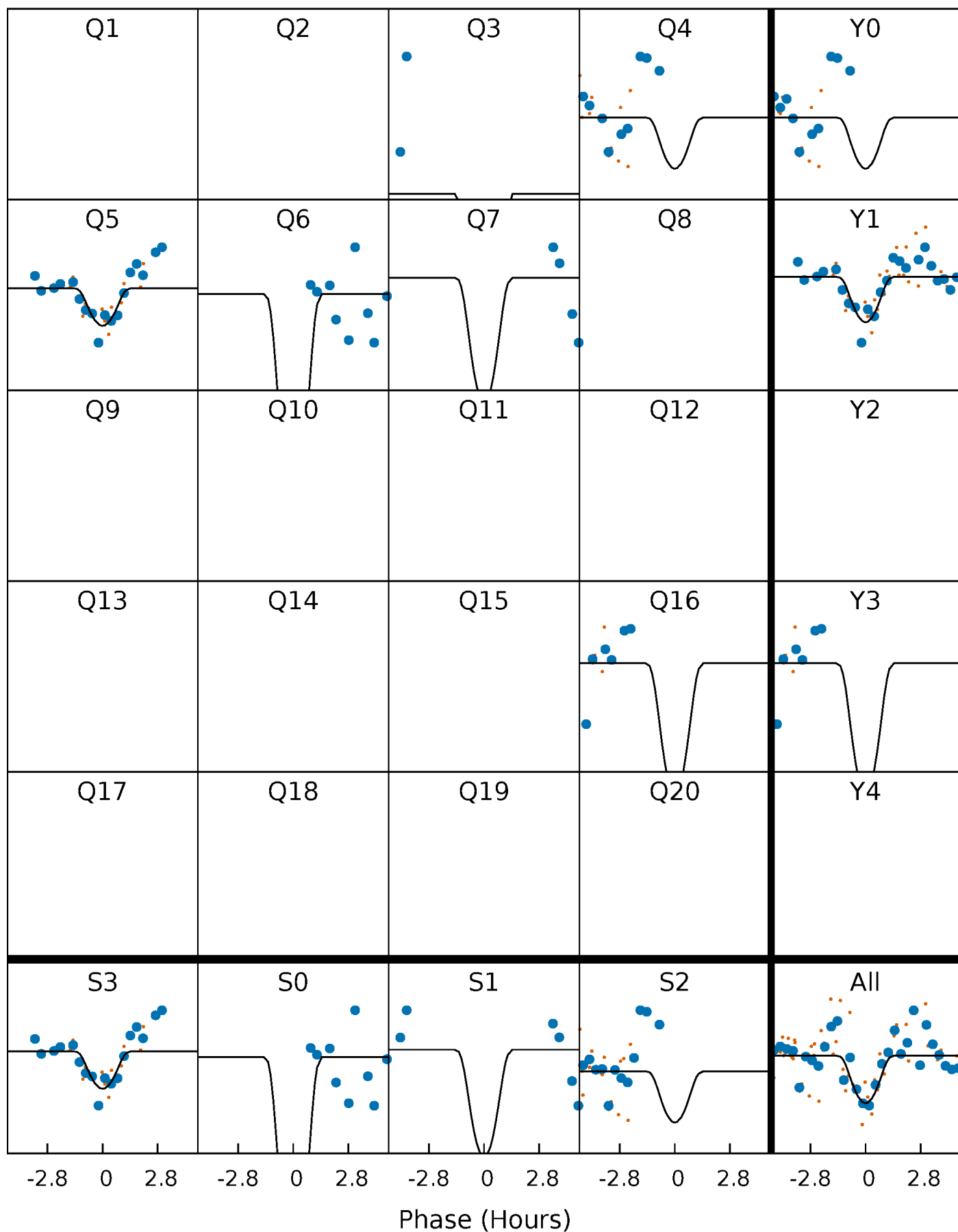
PDC Quarter-Phased Transit Curves

TCE 006945500-07 $P = 36.817043$ Days $T_0 = 164.470540$ (BKJD)



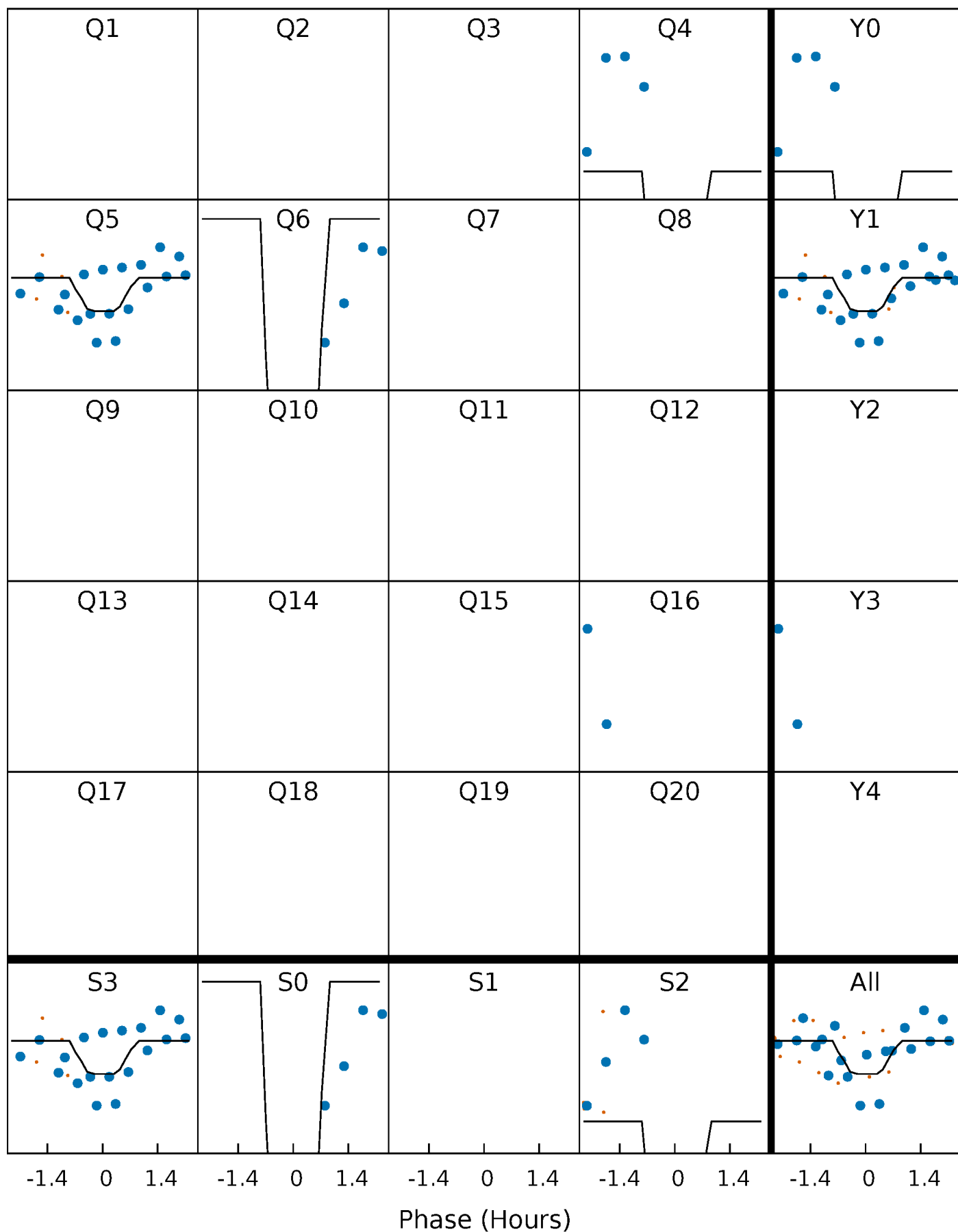
DV Quarter-Phased Transit Curves

TCE 006945500-07 $P = 36.817043$ Days $T_0 = 164.470540$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

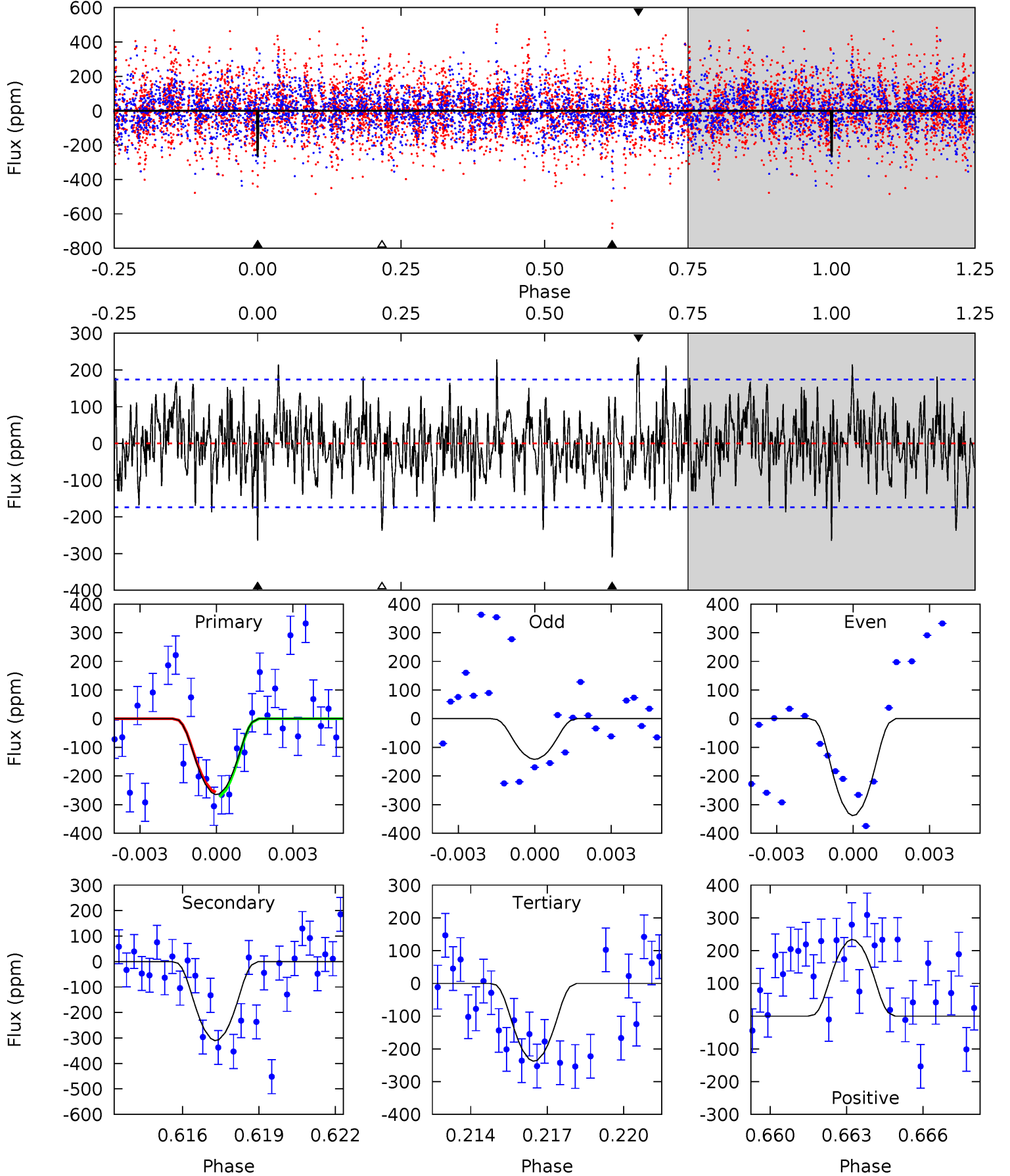
TCE 006945500-07 P= 36.816549 Days $T_0=164.475978$ (BKJD)



DV Model-Shift Uniqueness Test

006945500-07, P = 36.817043 Days, E = 127.653497 Days

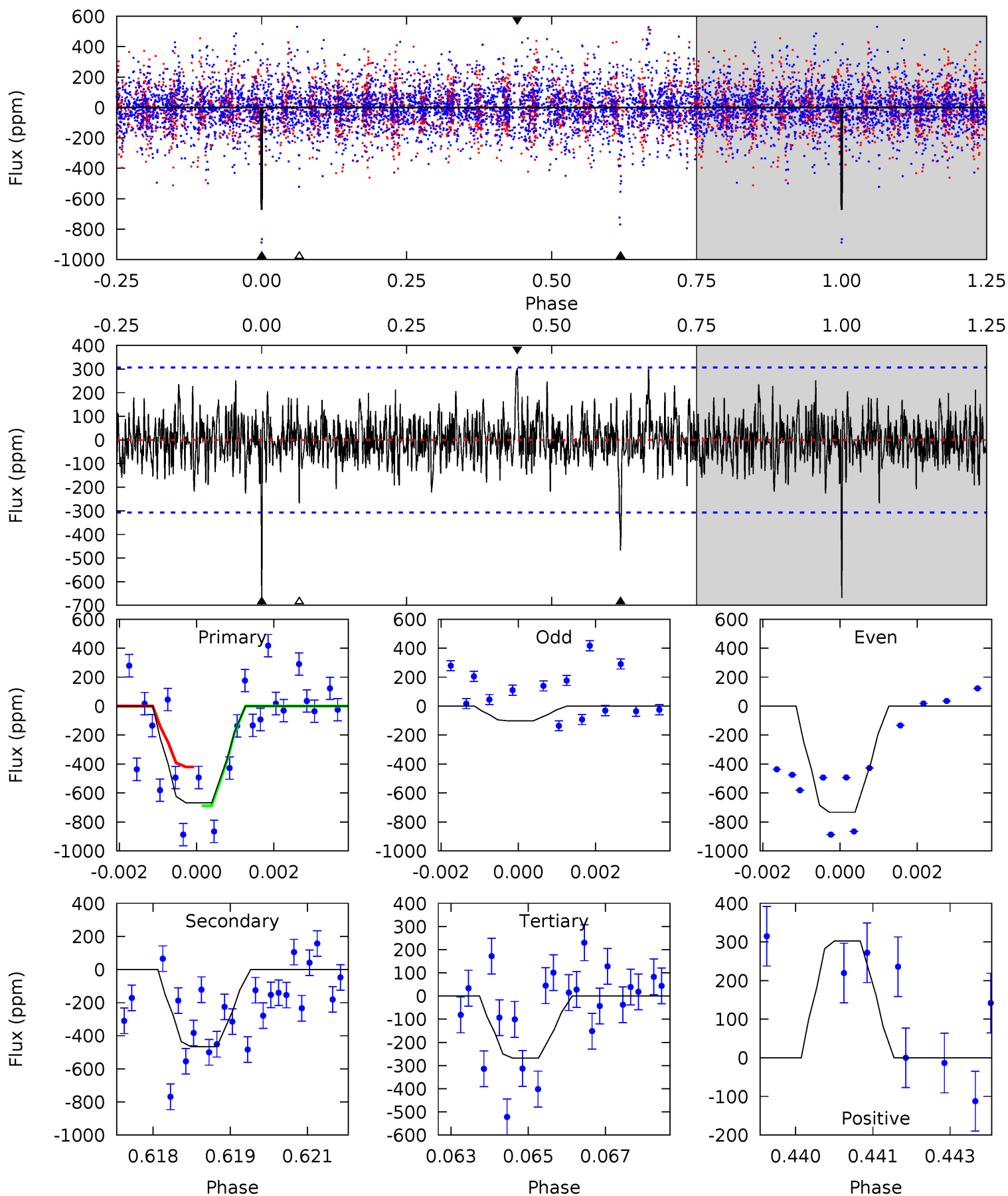
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.00	9.37	7.17	7.07	5.26	2.97	2.10	0.83	0.93	2.20	2.30	2.92	0.21	0.43	0.25



Alt Model-Shift Uniqueness Test

006945500-07, P = 36.816549 Days, E = 127.659429 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	8.15	4.68	5.28	5.36	3.14	1.29	6.98	6.38	3.47	2.87	6.04	0.82	0.31	2.52



Stellar Parameters For KIC 006945500

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+201}_{-277}	$4.060^{+0.198}_{-0.162}$	$-0.160^{+0.250}_{-0.350}$	$1.894^{+0.576}_{-0.471}$	$1.499^{+0.221}_{-0.265}$	$0.311^{+0.320}_{-0.160}$
	+3%/-4%	+5%/-4%	+156%/-219%	+30%/-25%	+15%/-18%	+103%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006945500-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-310 ± 33	$29.67^{+29.65}_{-20.54}$	1220^{+90}_{-89}	3105^{+1488}_{-552}	12^{+111}_{-9}
Alt.	-467 ± 57	$27.82^{+31.31}_{-19.53}$	1217^{+93}_{-94}	3343^{+1879}_{-625}	21^{+211}_{-16}

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

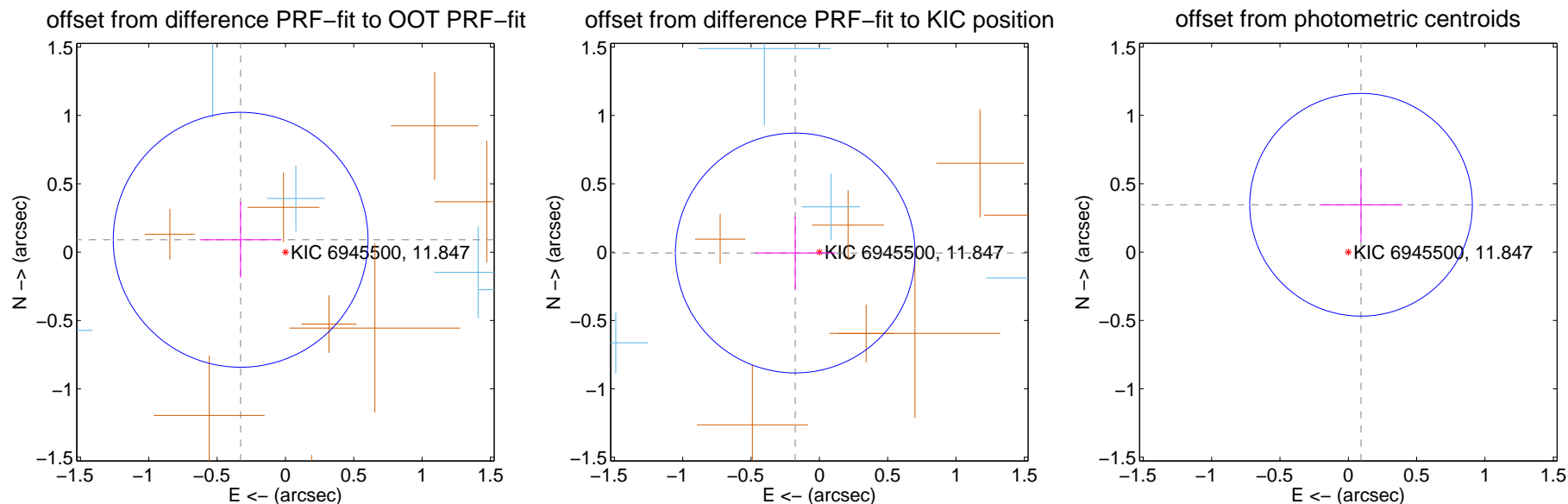
DV Centroid Data

Supplemental centroid analysis for 006945500-07. **Kepler magnitude: 11.85.** Transit SNR 10.01

There are 7 quarters with good PRF difference image offsets

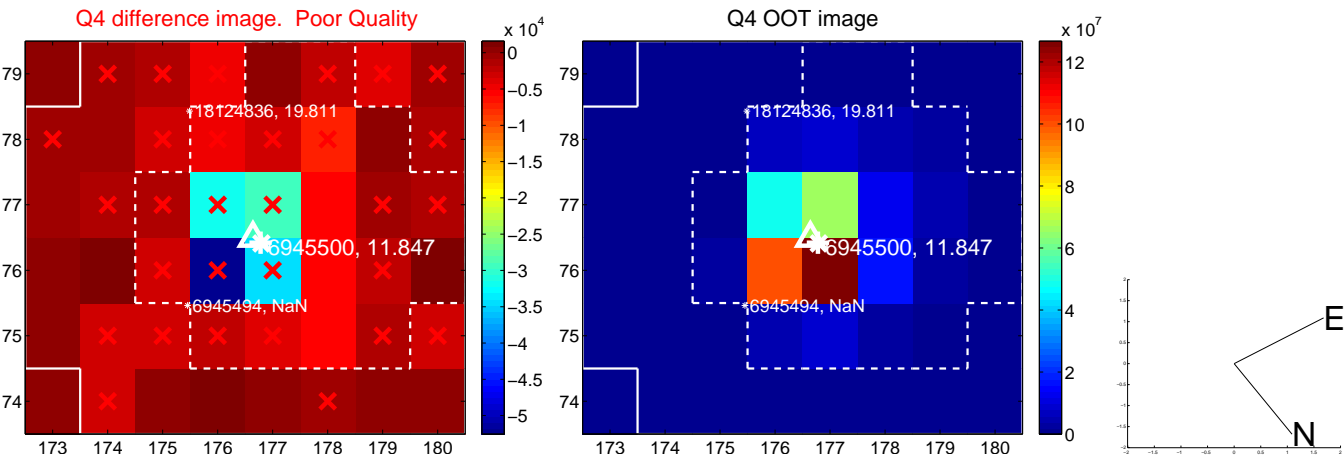
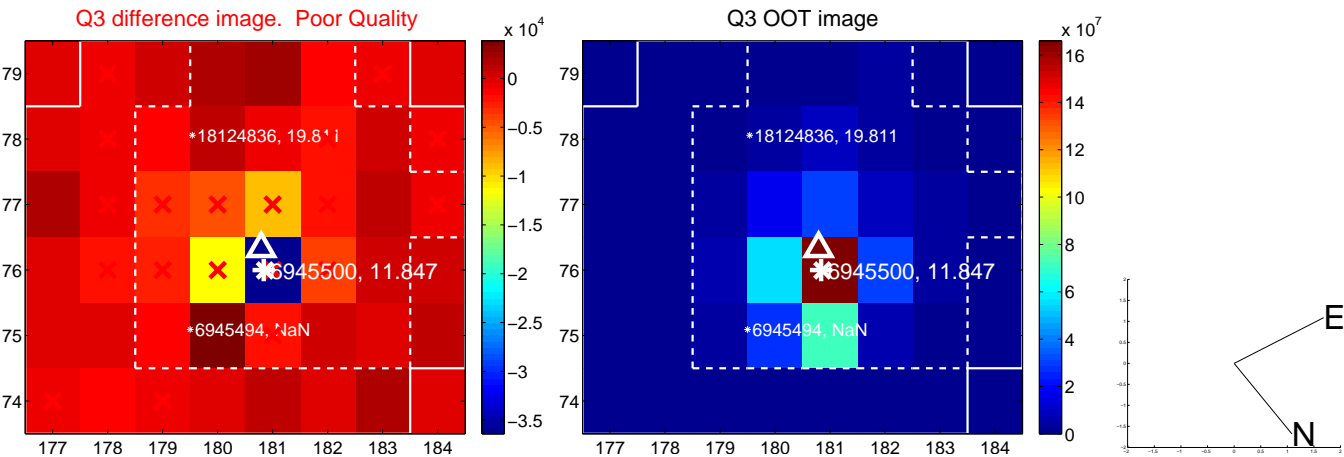
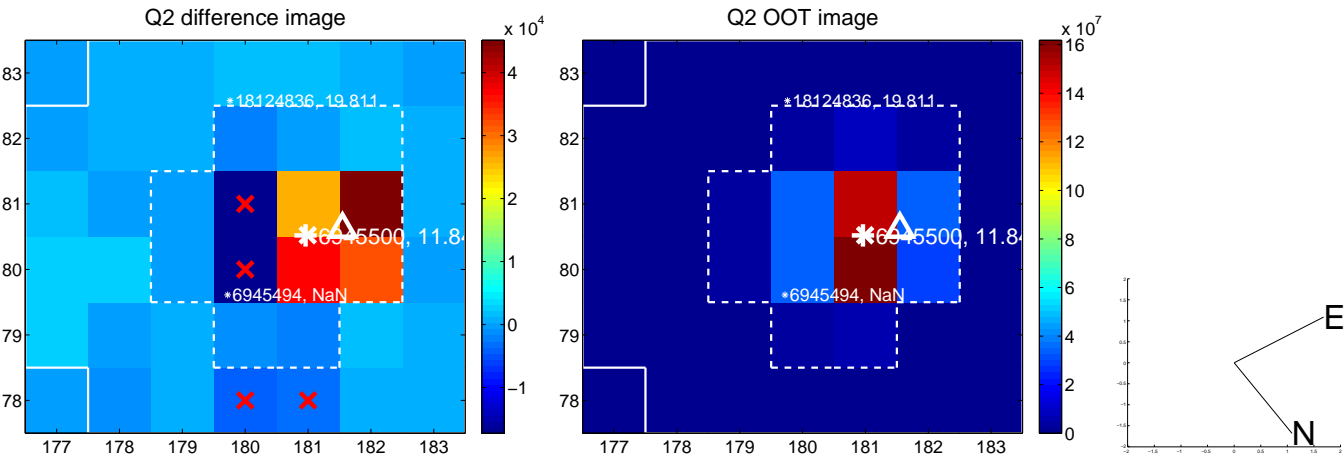
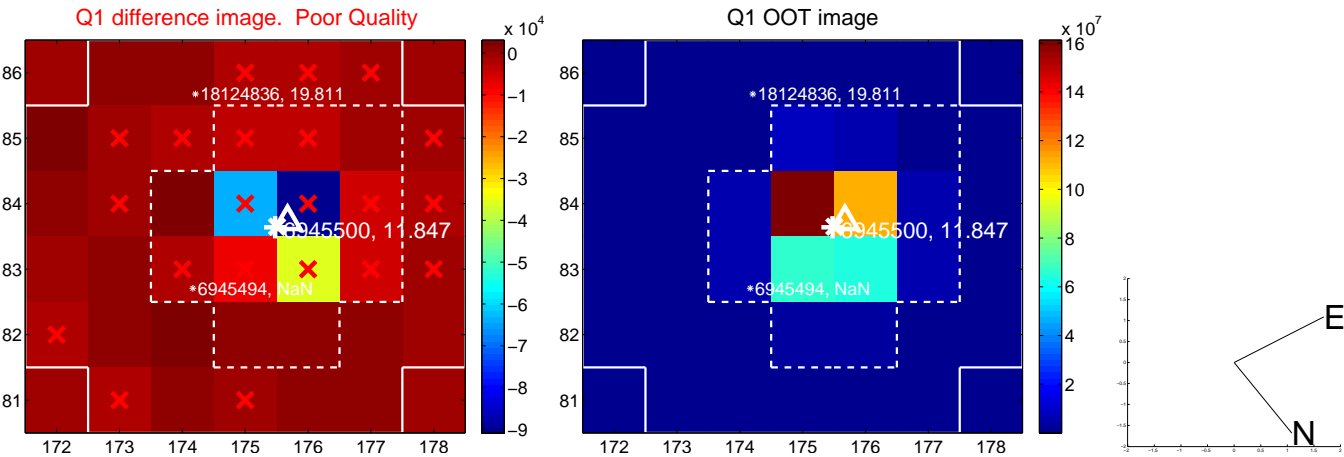
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.340 ± 0.311	1.10	0.328 ± 0.299	0.091 ± 0.277
PRF-fit source offset from KIC position	0.177 ± 0.292	0.60	0.177 ± 0.293	-0.006 ± 0.266
photometric centroid source offset	0.36 ± 0.27	1.32	-0.09 ± 0.30	0.35 ± 0.27

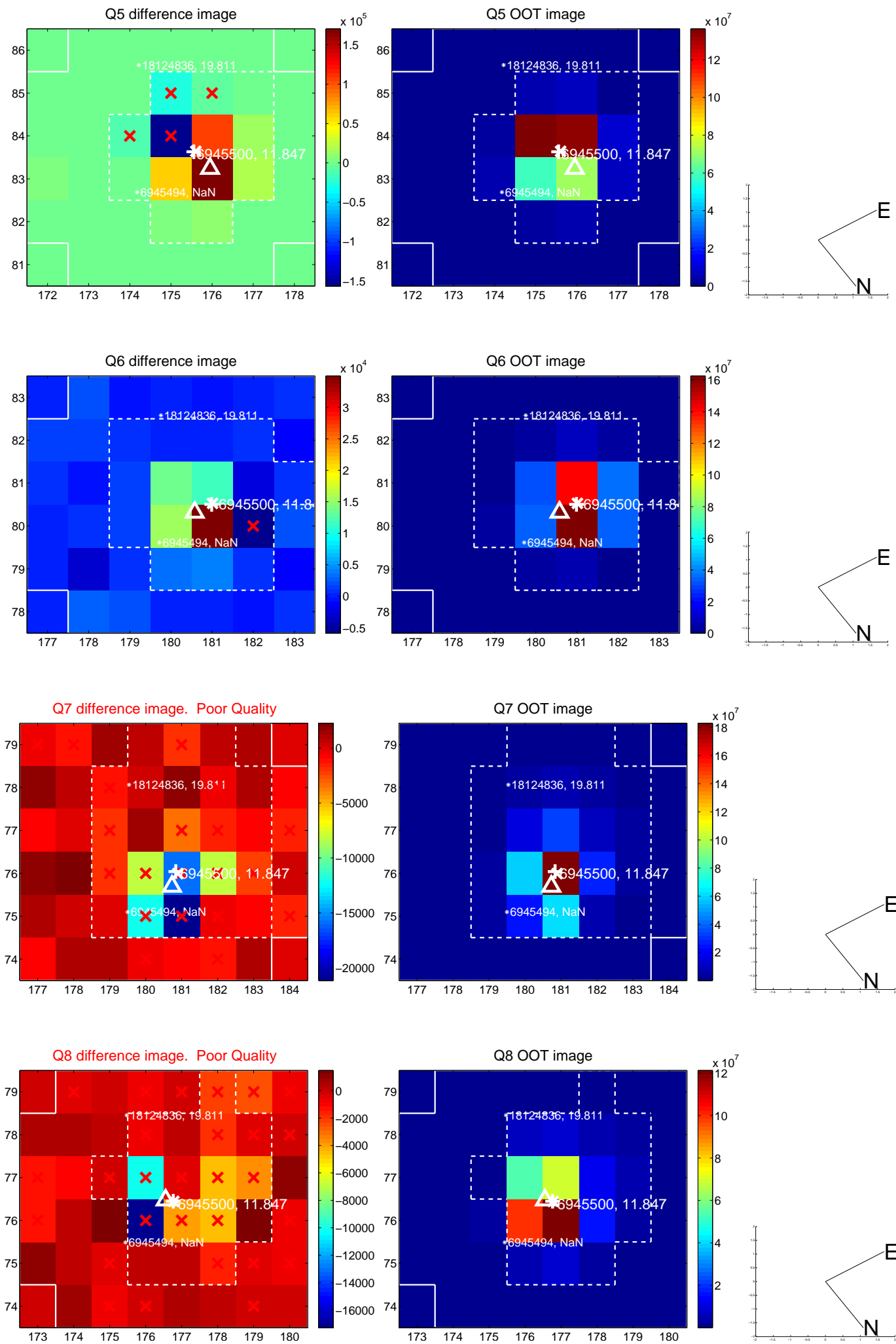


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

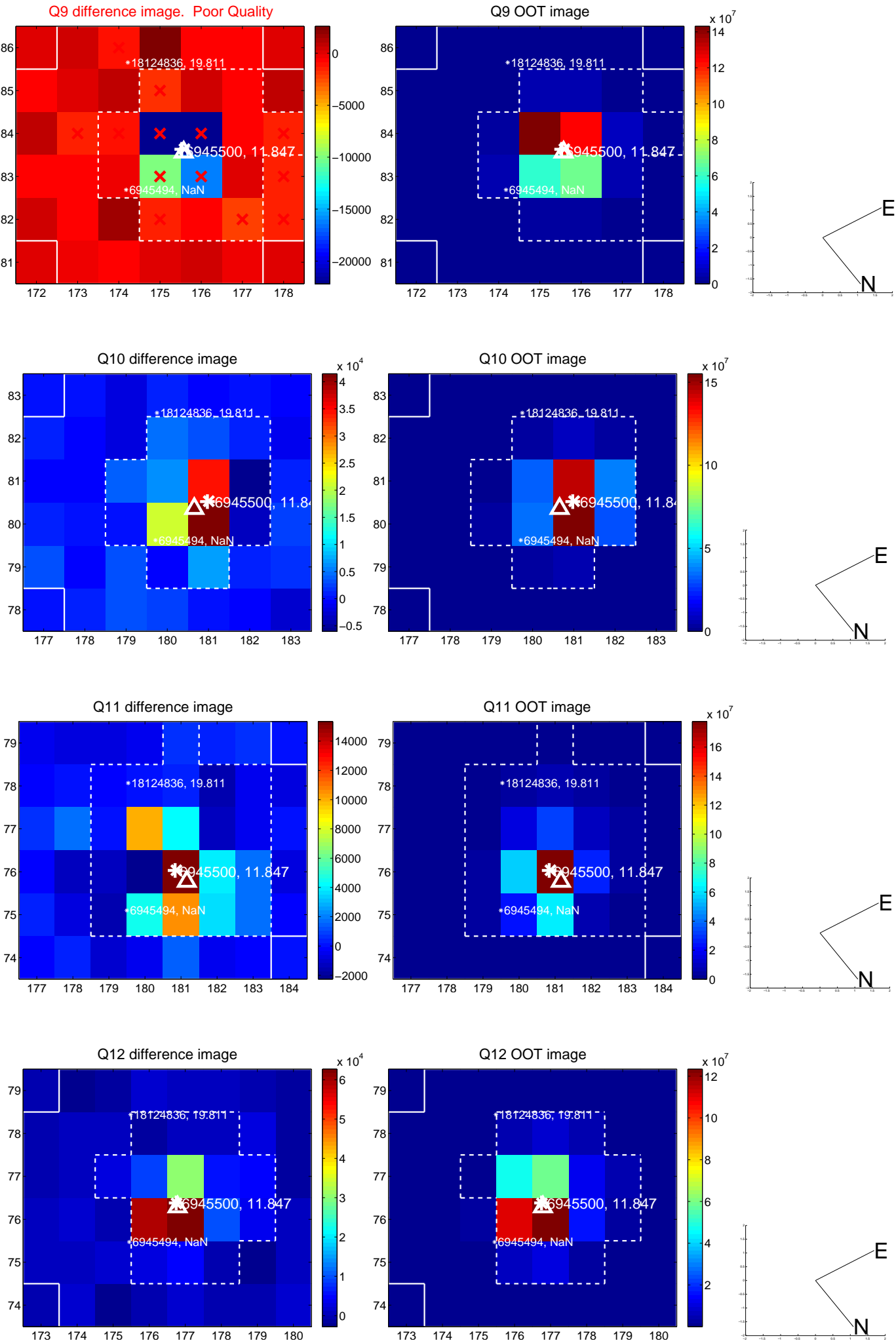
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



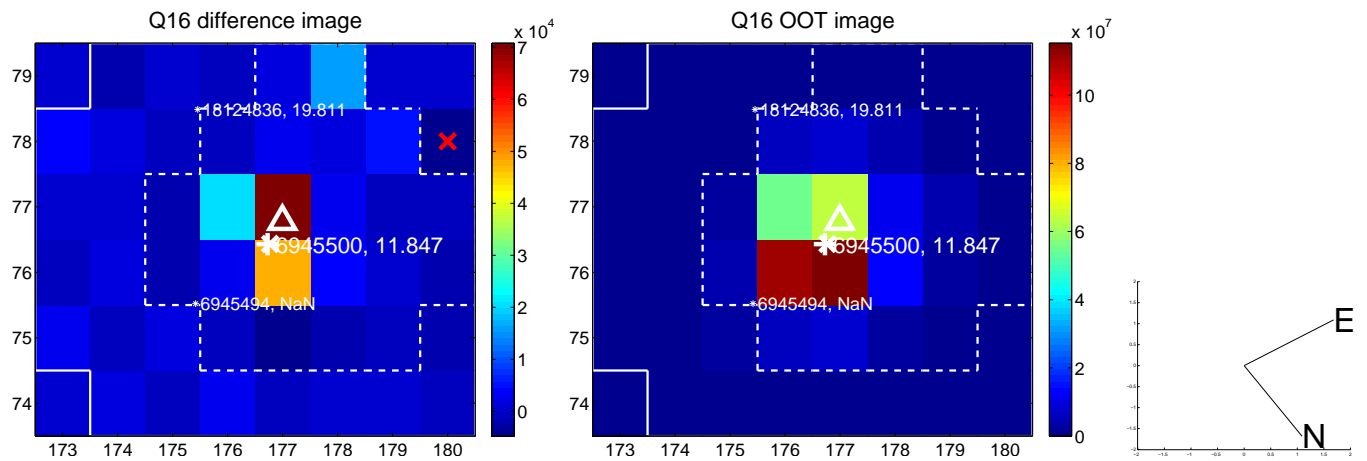
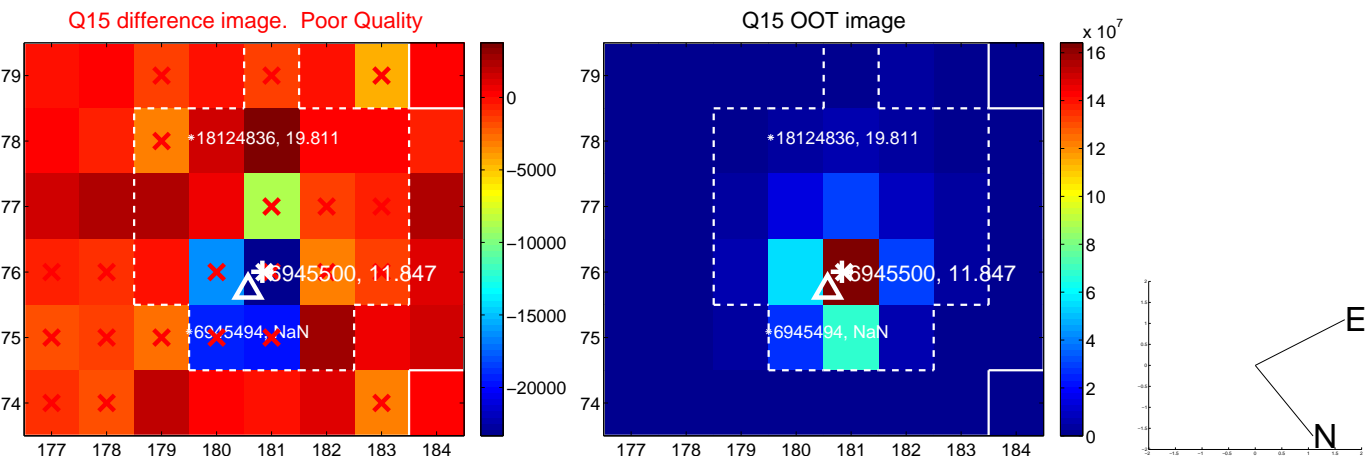
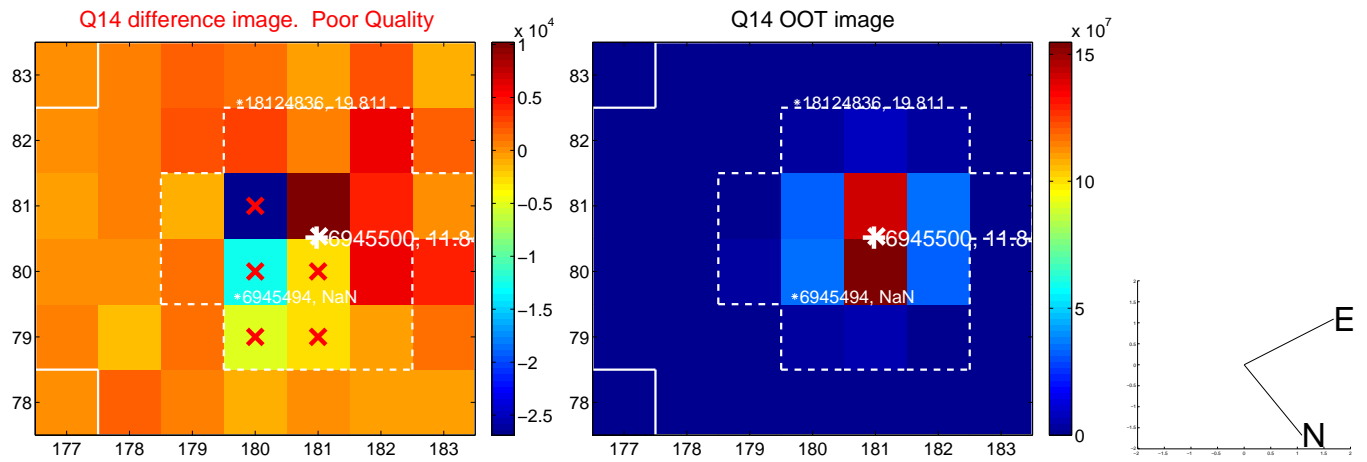
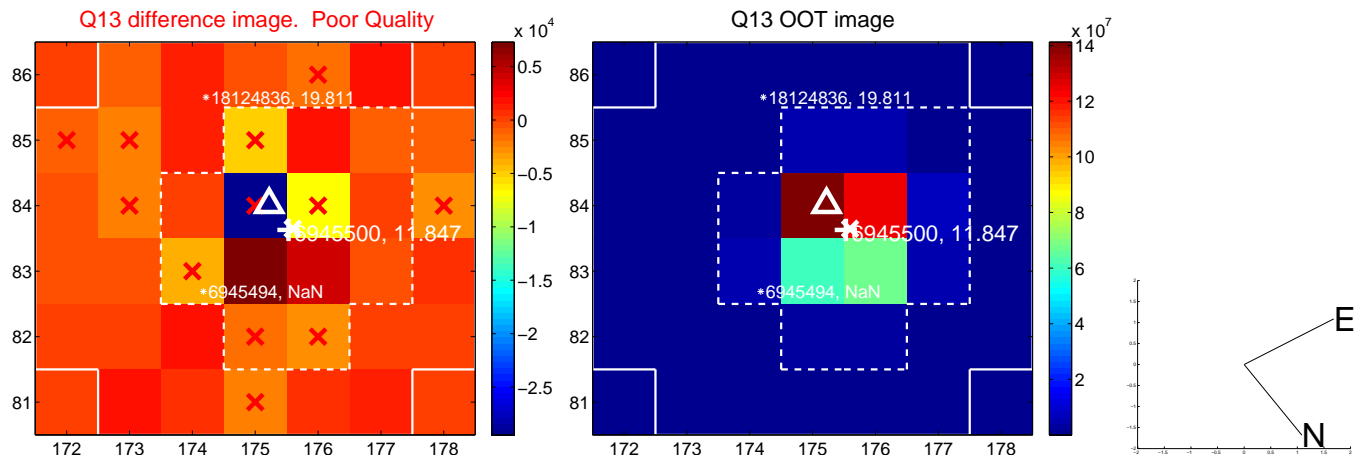
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



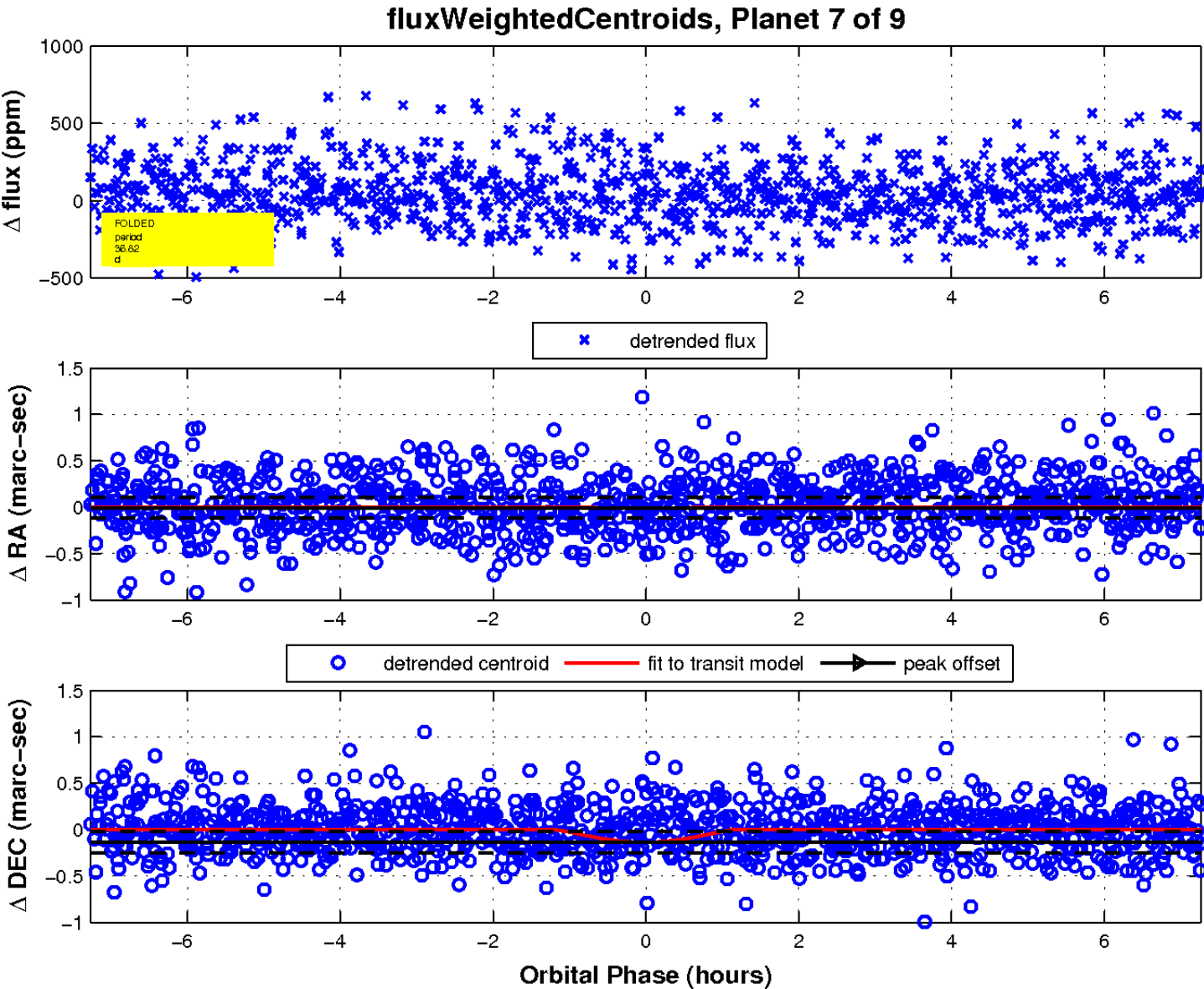
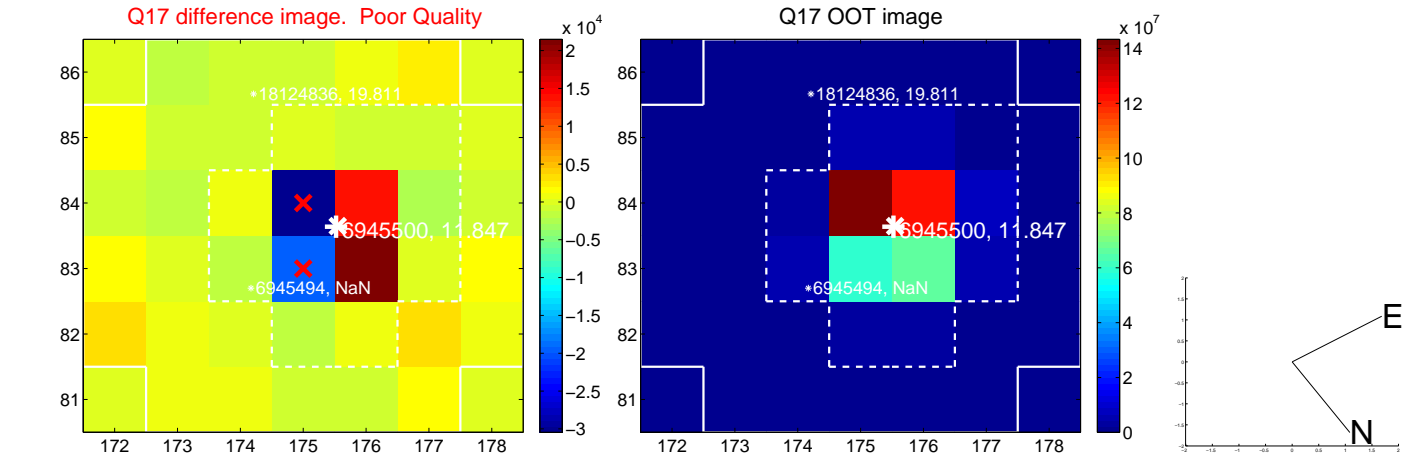
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

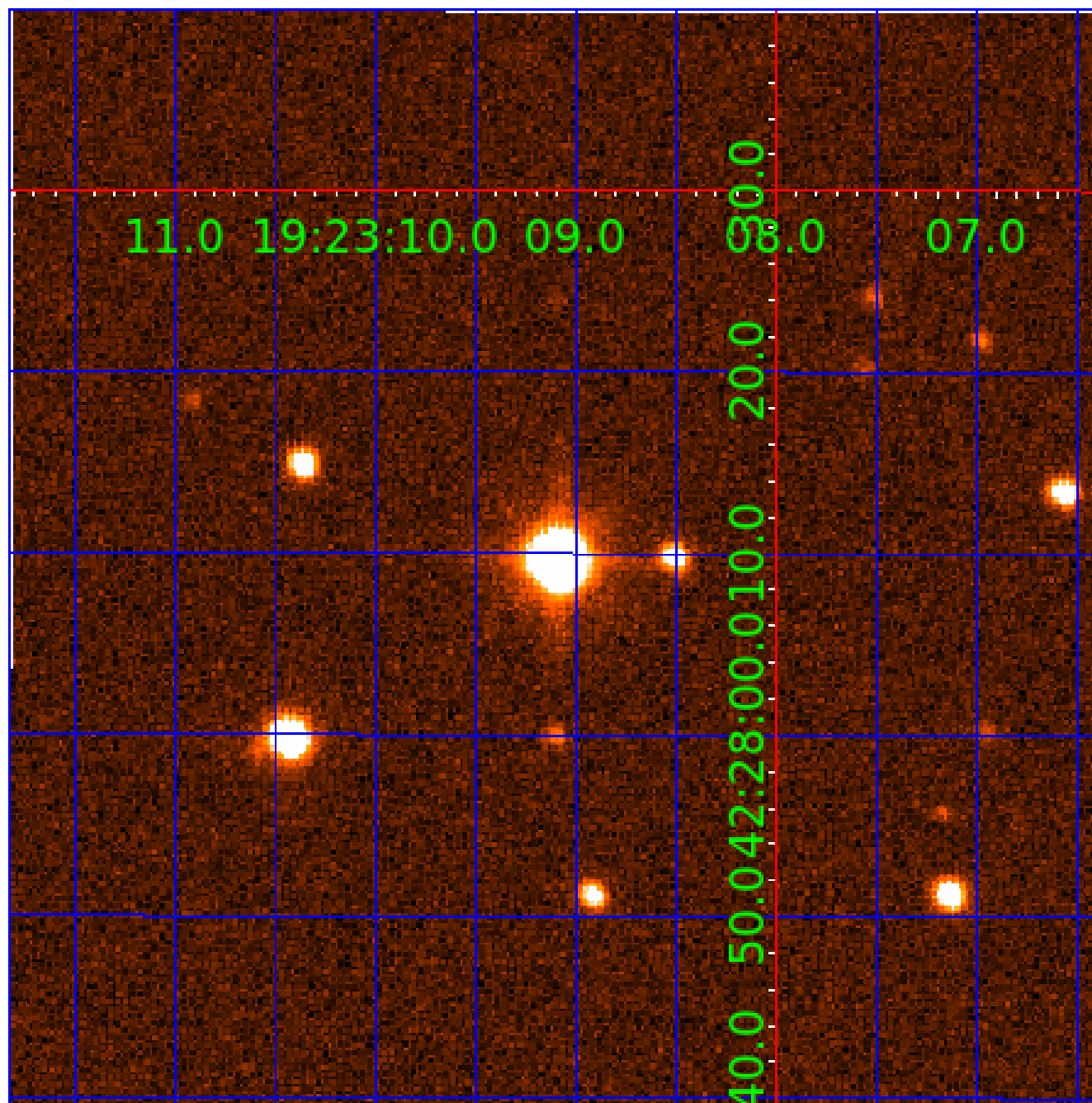


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006945500

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})
006945500-01	OBS	No	1.755894	133.225592	35.1	12.473	9.1	10.7	1.89	7207	1.31	8143.94
006945500-02	OBS	No	38.648683	160.583197	525.7	22.088	16.0	10.1	1.89	7207	8.21	132.02
006945500-03	OBS	No	59.797470	188.316106	568.7	11.781	12.5	11.0	1.89	7207	8.53	73.78
006945500-05	OBS	No	245.835306	143.036494	483.0	9.931	10.0	9.3	1.89	7207	4.95	11.20
006945500-06	OBS	No	34.477761	140.060283	280.5	2.242	10.1	10.3	1.89	7207	3.68	153.74
006945500-07	OBS	No	36.817043	164.470540	305.2	2.424	9.9	10.0	1.89	7207	6.12	140.85
006945500-08	OBS	No	56.654681	137.107227	315.3	5.291	8.2	9.8	1.89	7207	6.46	79.28
006945500-09	OBS	No	4.866339	135.550778	126.2	3.000	9.0	-1.0	1.89	7207	2.16	2092.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006945500-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006945500-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
006945500-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006945500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
006945500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006945500-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

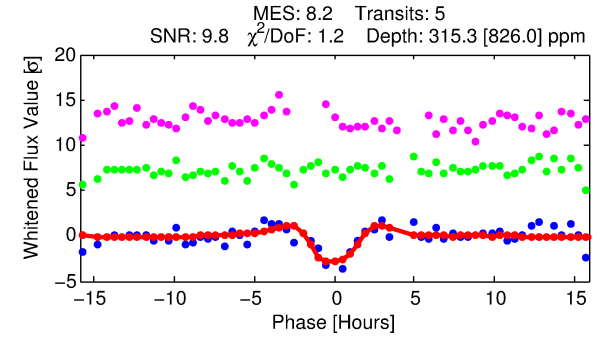
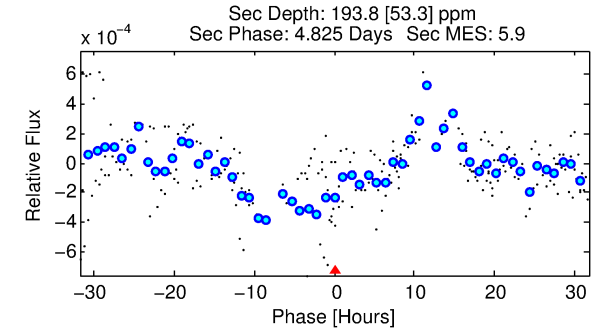
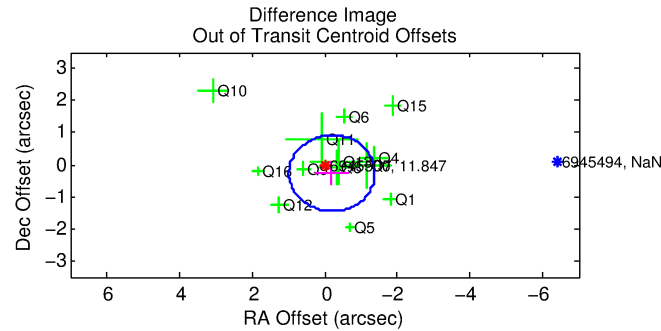
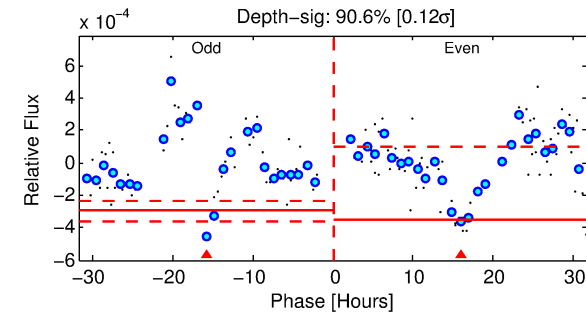
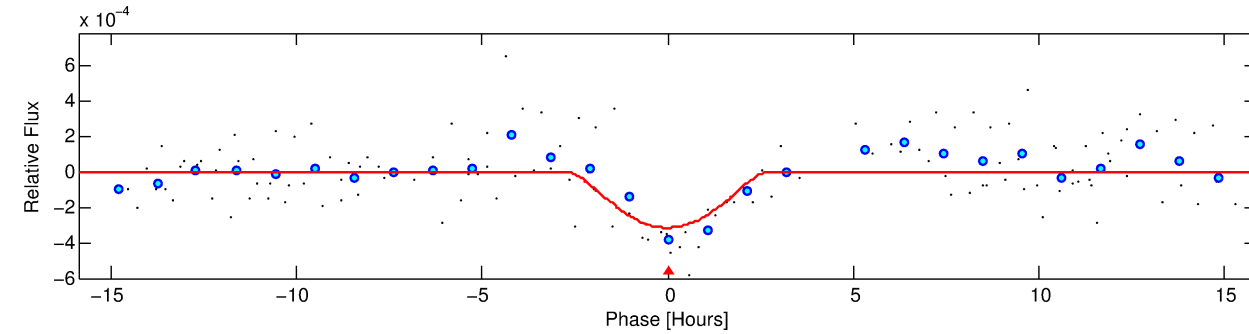
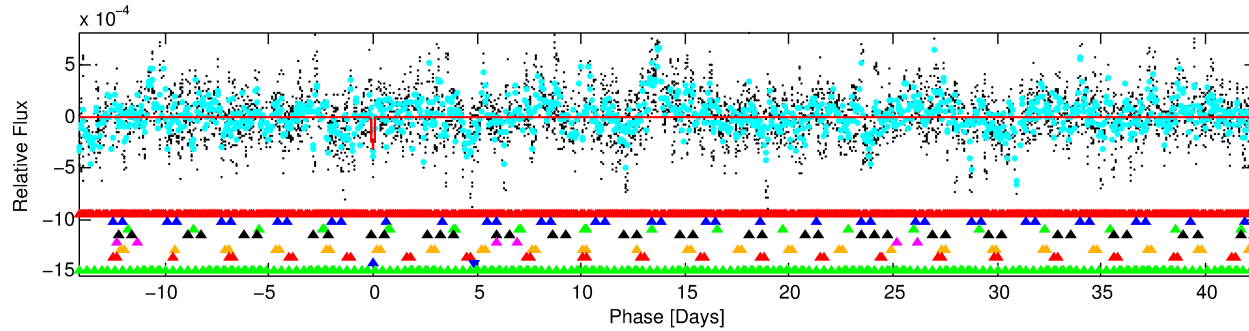
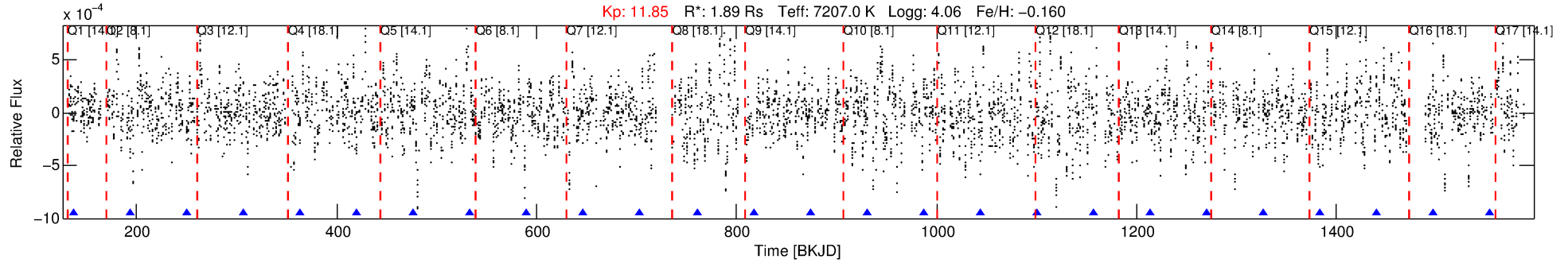
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006945500-08

No Significant Match Found

DV One-Page Summary

KIC: 6945500 Candidate: 8 of 9 Period: 56.655 d



DV Fit Results:

Period = 56.65468 [0.00076] d
Epoch = 137.1072 [0.0099] BKJD
Rp/R* = 0.0313 [0.1134]
a/R* = 20.64 [20.09]
b = 1.00 [0.22]
Seff = 79.28 [31.43]
Teq = 761 [75] K
Rp = 6.46 [23.52] Re
a = 0.3307 [0.0838] AU
Ag = 279.37 [2030.98] [0.14 σ]
Teffp = 4810 [8732] K [0.46 σ]

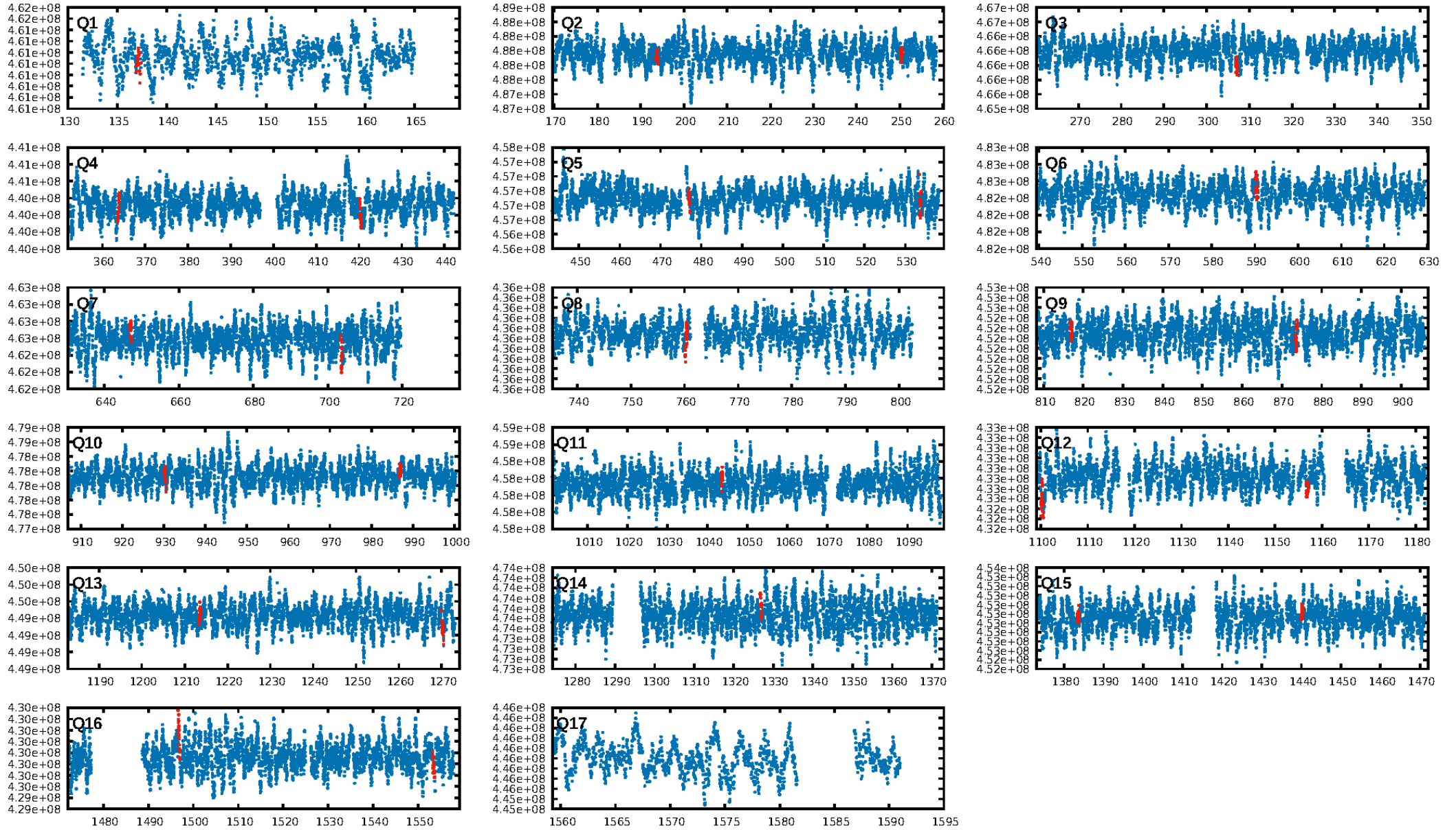
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [19.03 σ]
LongPeriod-sig: 100.0% [5.84 σ]
ModelChiSquare2-sig: 41.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.5841
Centroid-sig: 29.8%
Centroid-so: 0.424 arcsec [1.70 σ]
OotOffset-rm: 0.336 arcsec [0.85 σ]
KicOffset-rm: 0.528 arcsec [1.34 σ]
OotOffset-st: 2/3/4/4 [13]
KicOffset-st: 2/3/4/4 [13]
DiffImageQuality-fgm: 0.31 [4/13]
DiffImageOverlap-fno: 0.19 [3/16]

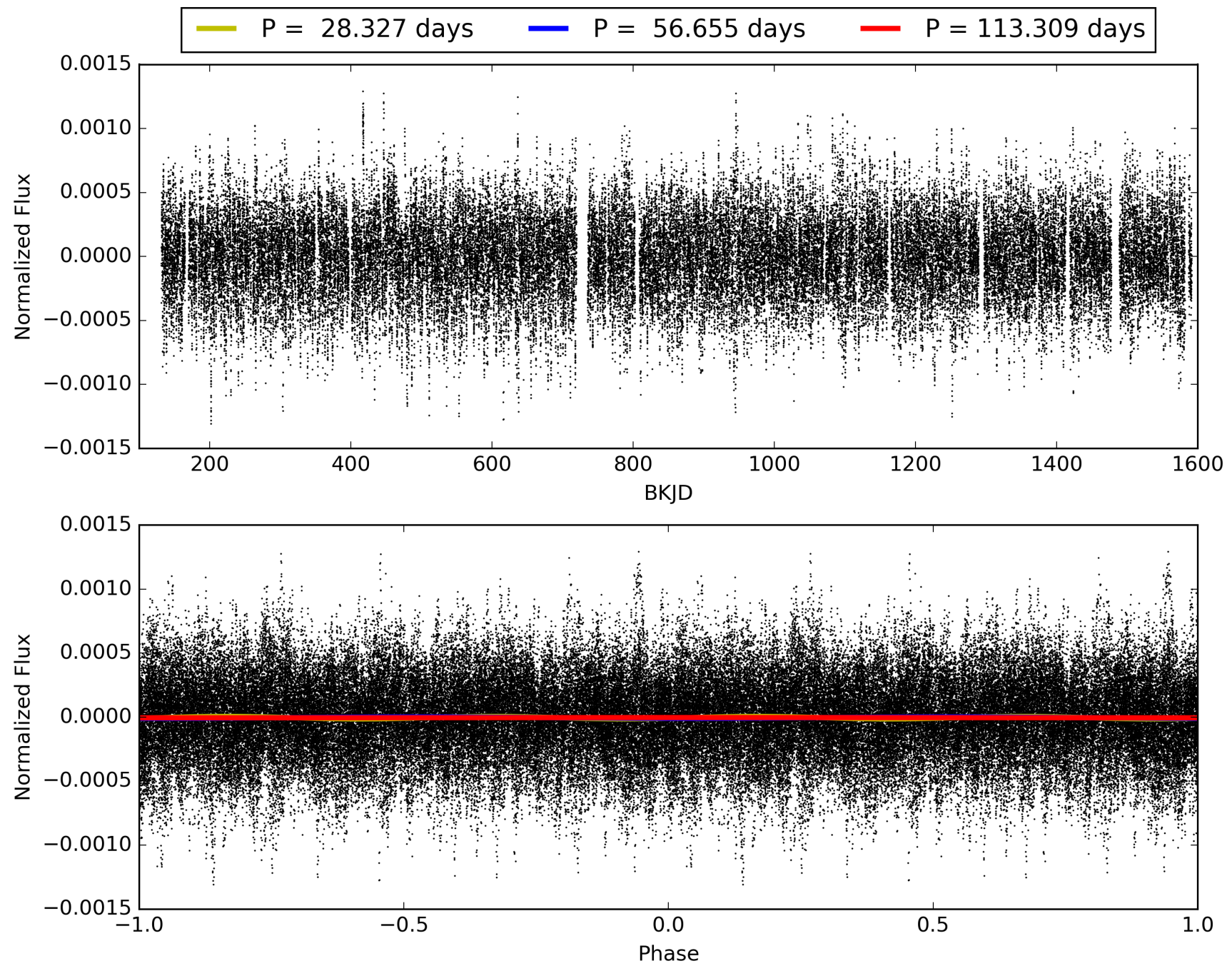
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:13:07 Z

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

TCE 006945500-08, PDC Light Curves

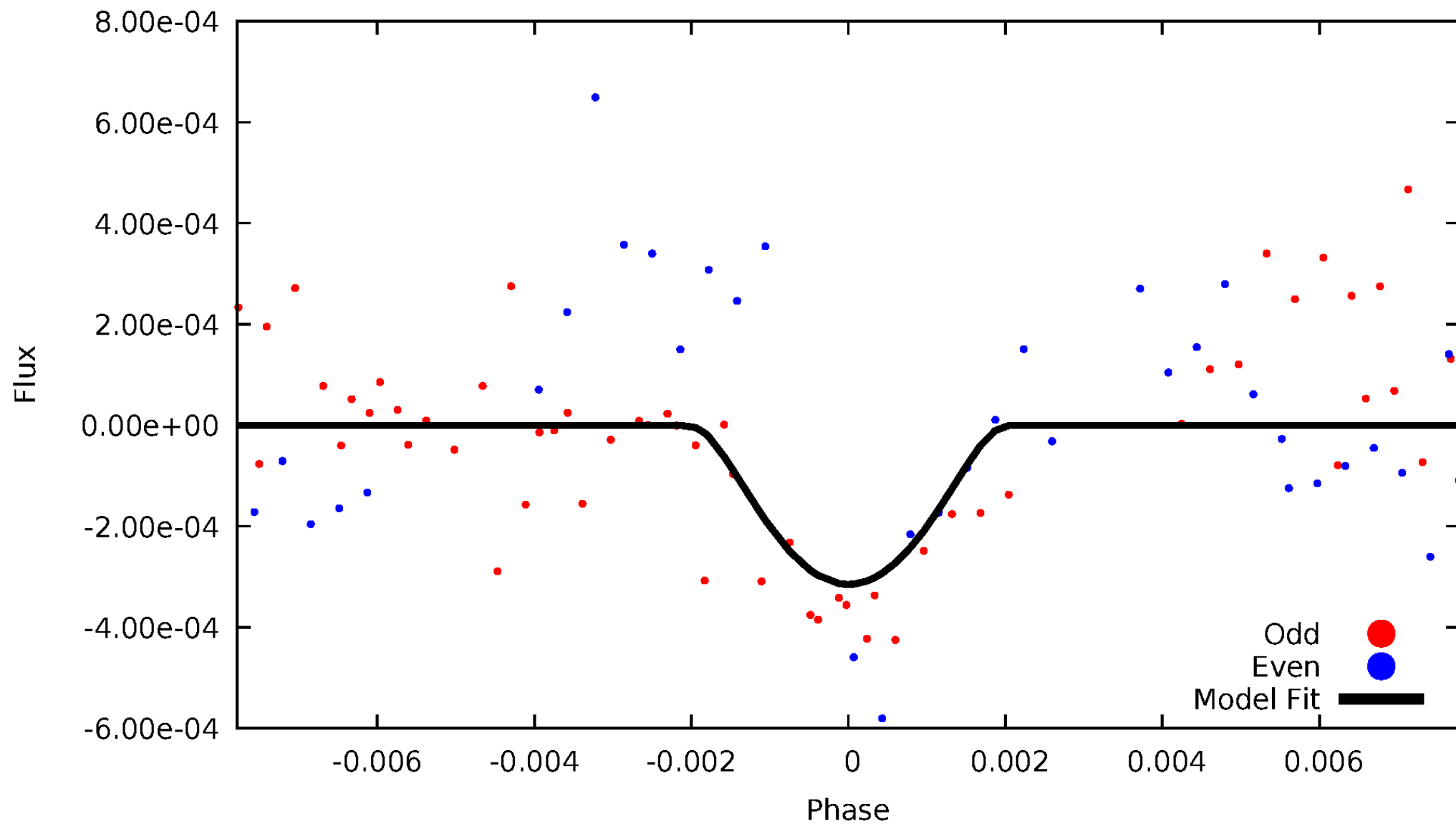


TCE 006945500-08



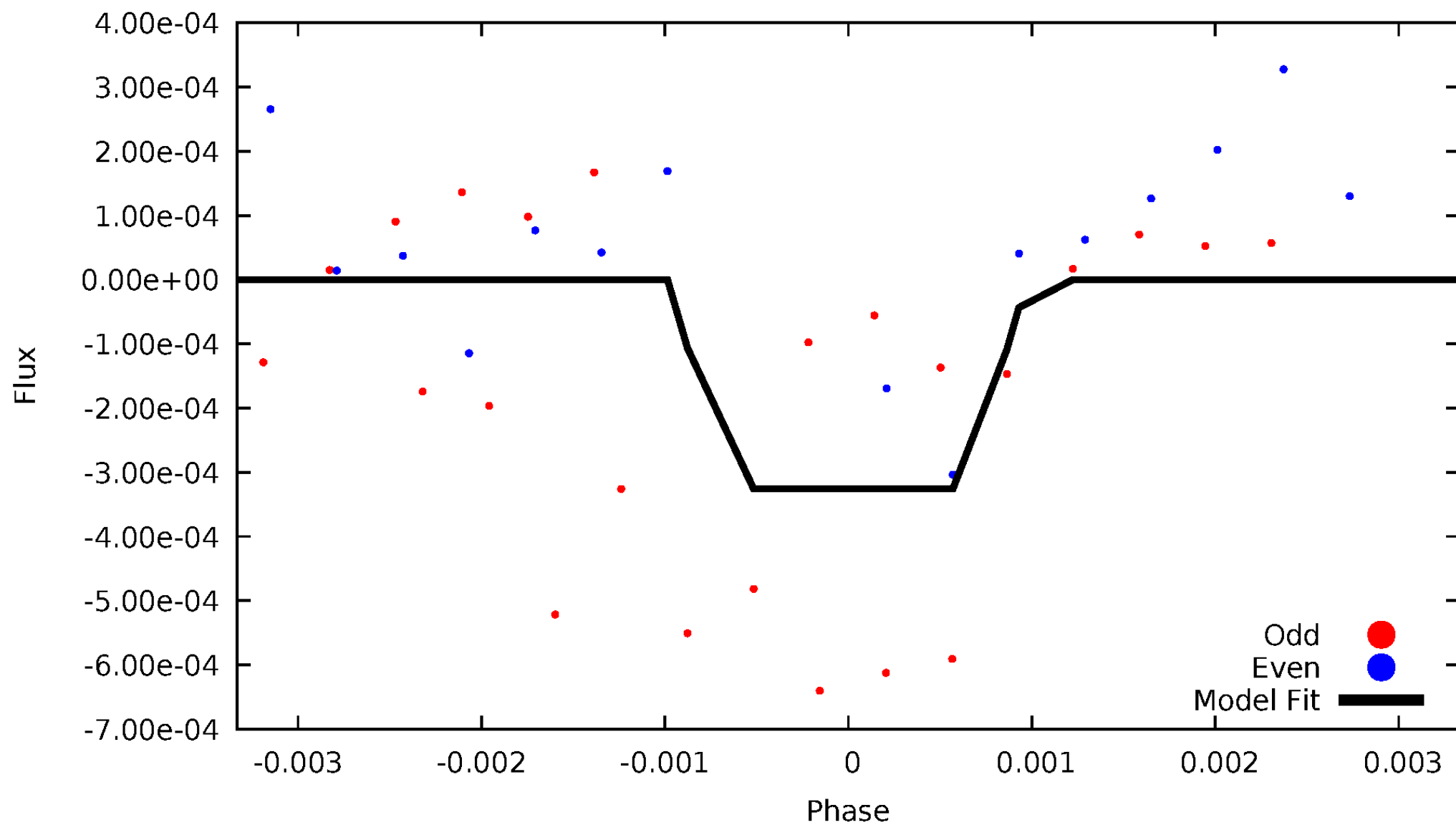
DV Odd/Even

TCE 006945500-08



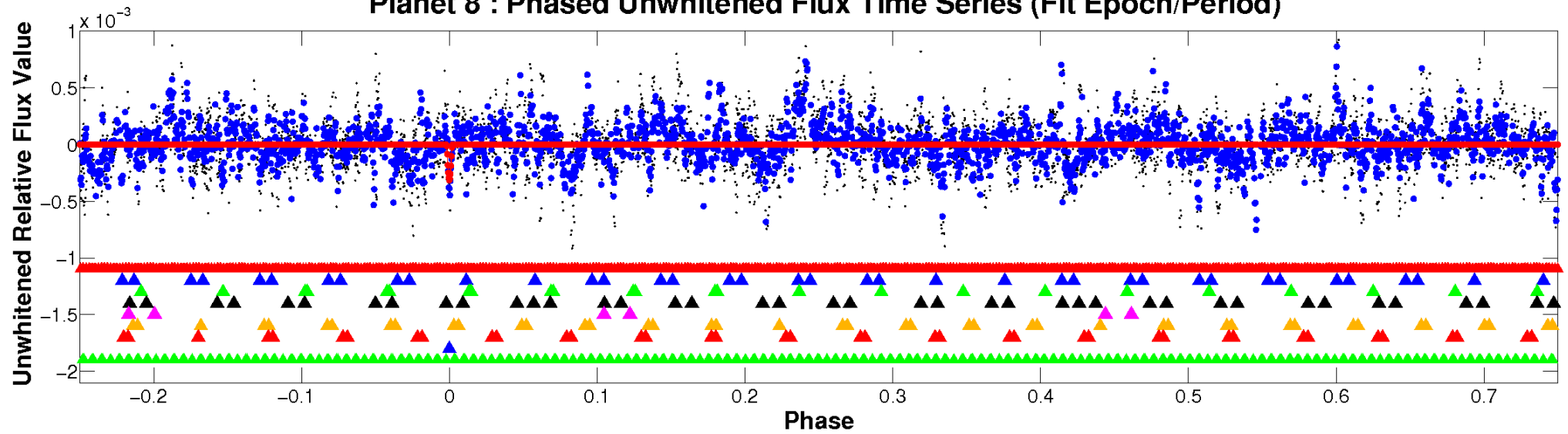
ALT Odd/Even

TCE 006945500-08

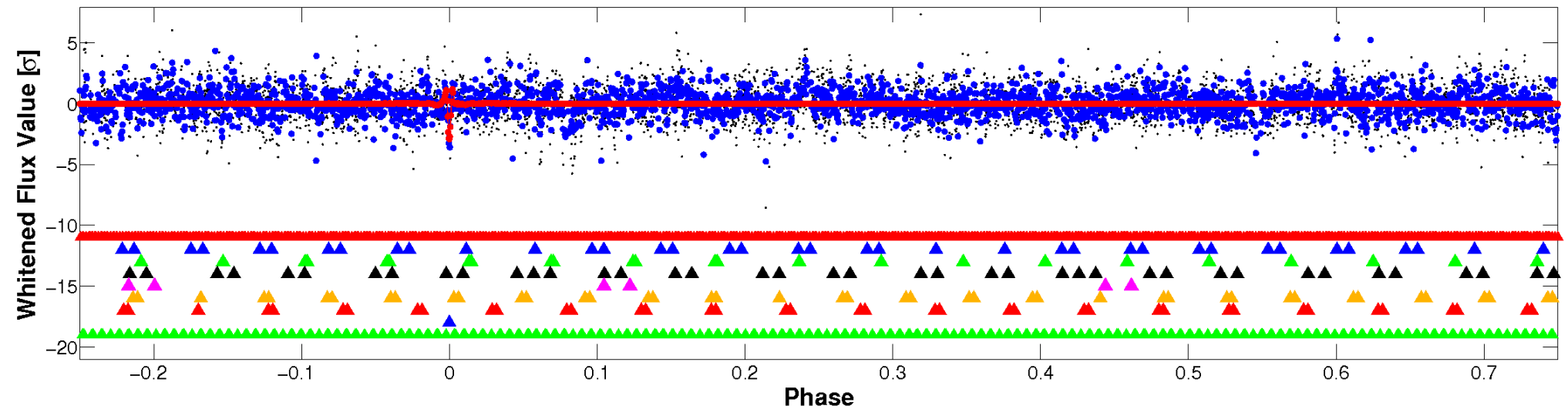


Non-Whitened Vs. Whitened Light Curve

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

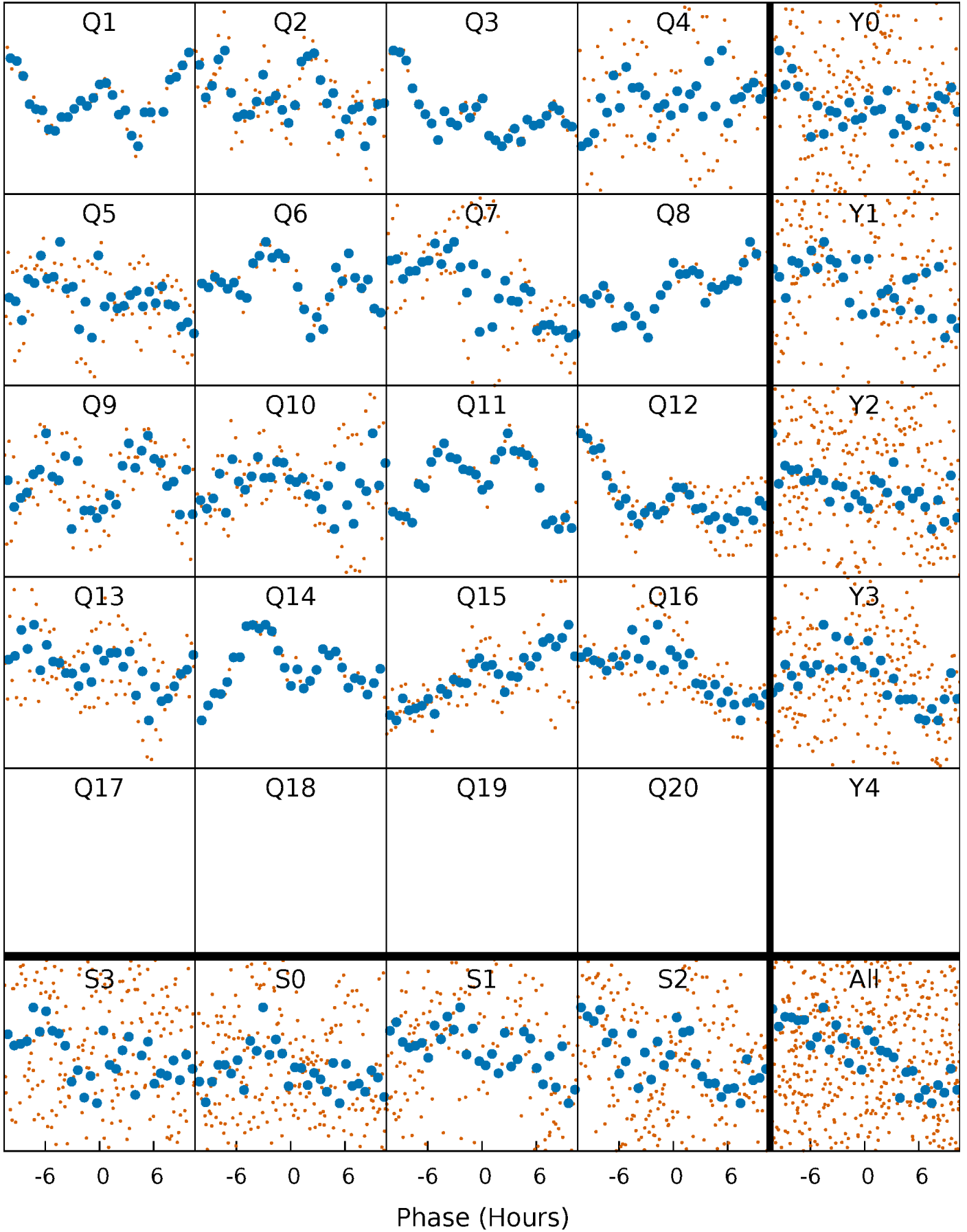


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



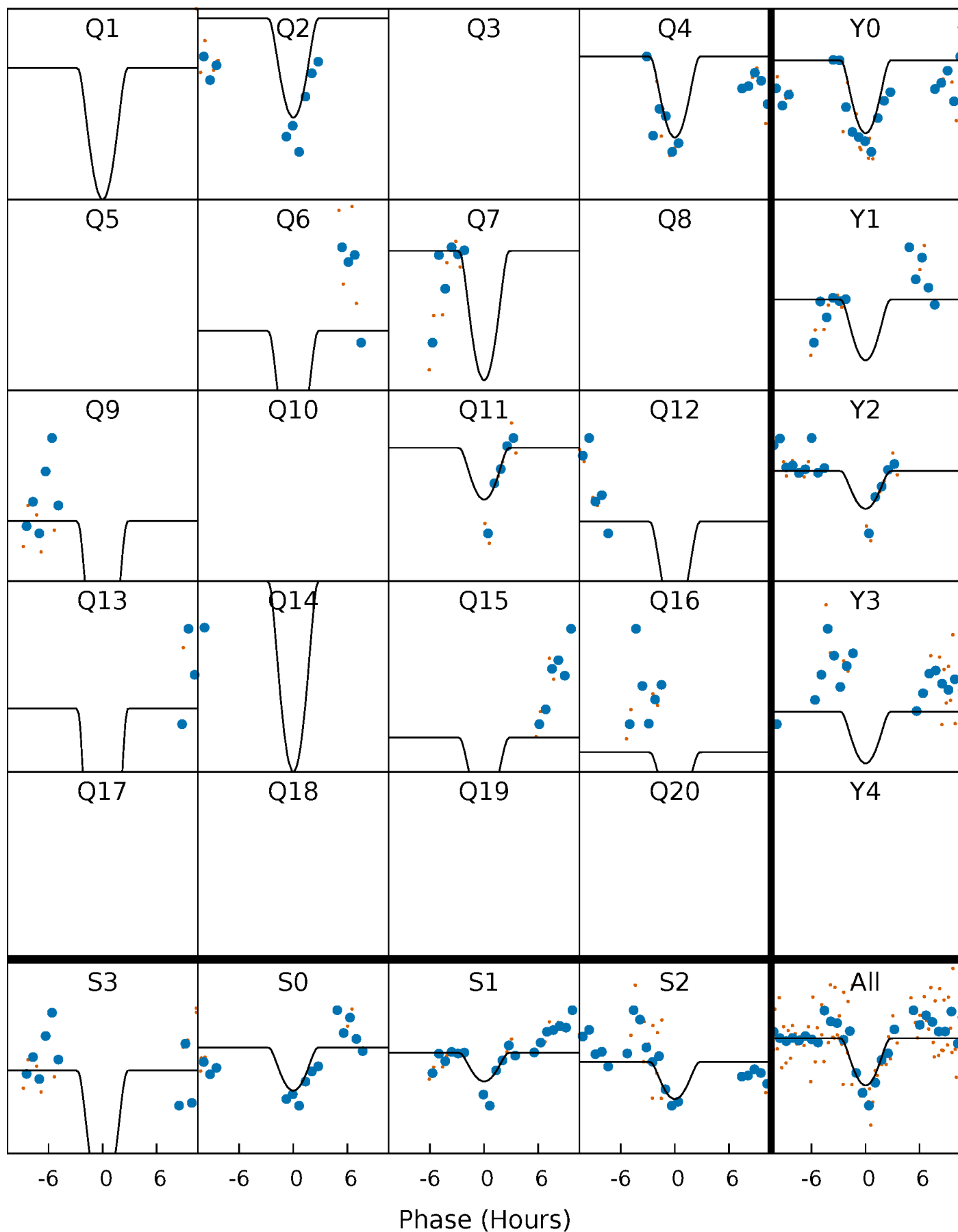
PDC Quarter-Phased Transit Curves

TCE 006945500-08 P= 56.654681 Days $T_0=137.107227$ (BKJD)



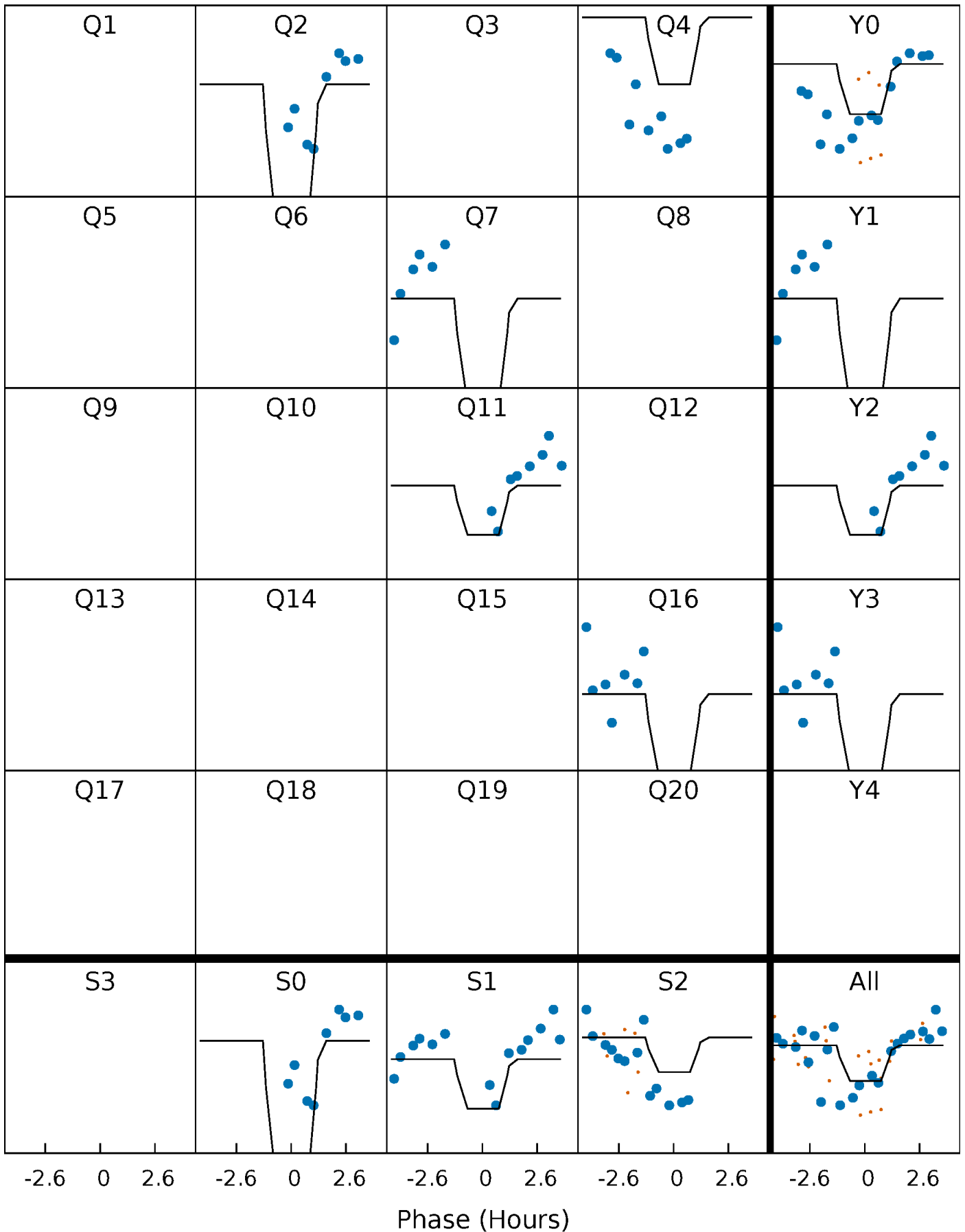
DV Quarter-Phased Transit Curves

TCE 006945500-08 P= 56.654681 Days $T_0=137.107227$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

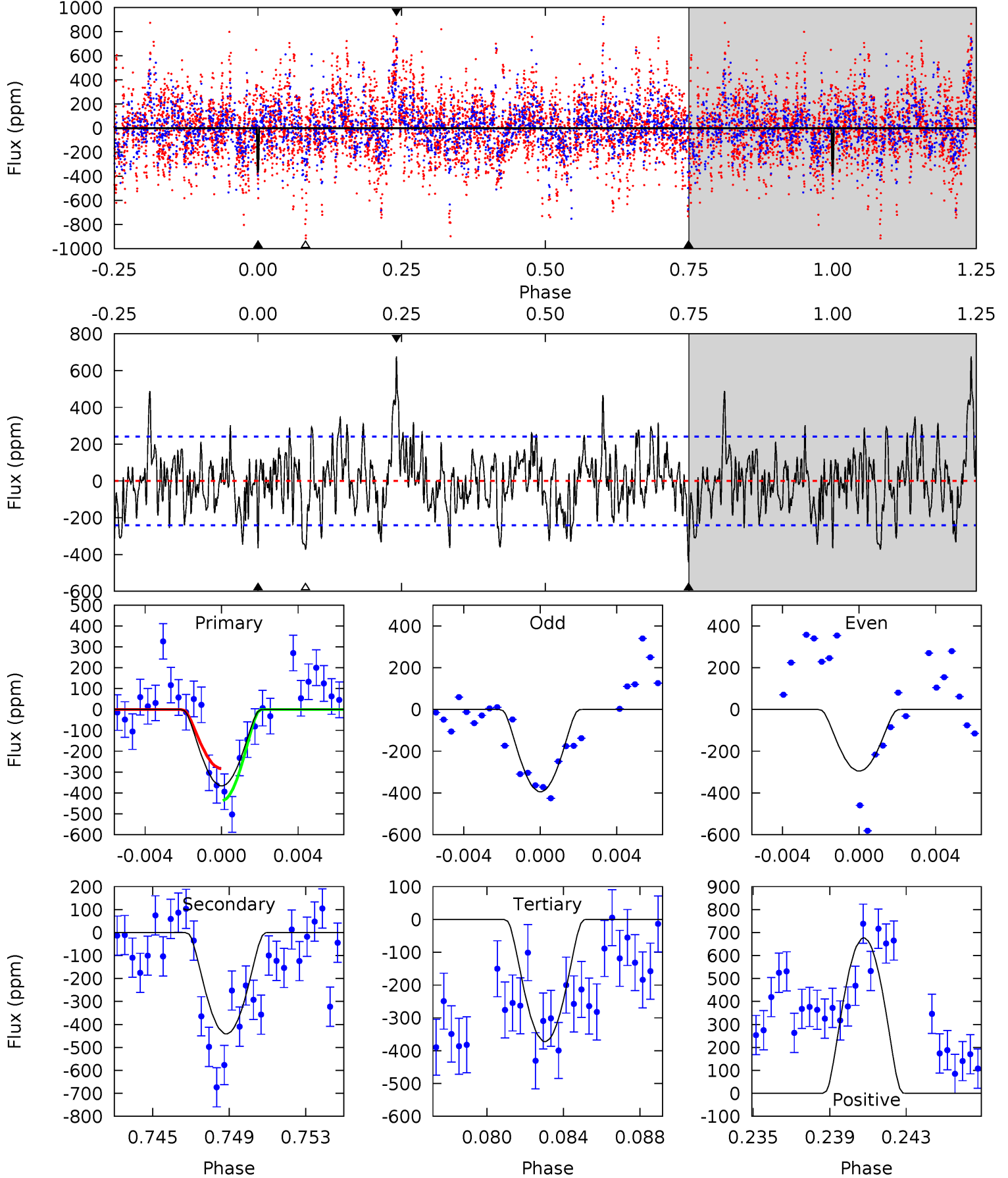
TCE 006945500-08 P= 56.655155 Days $T_0=137.091809$ (BKJD)



DV Model-Shift Uniqueness Test

006945500-08, P = 56.654681 Days, E = 80.452546 Days

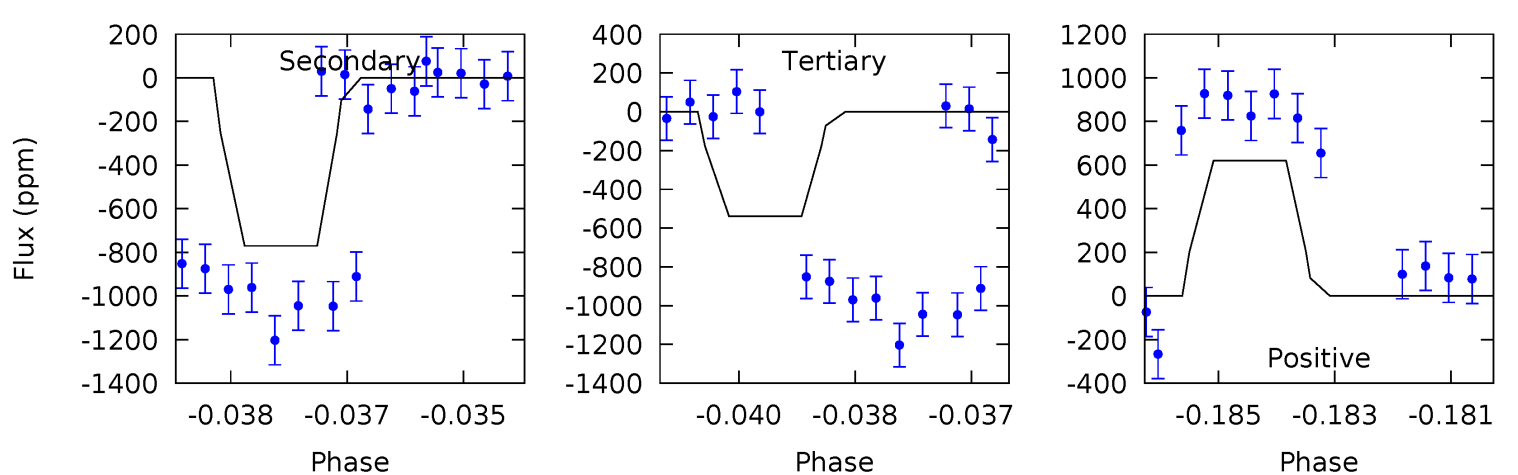
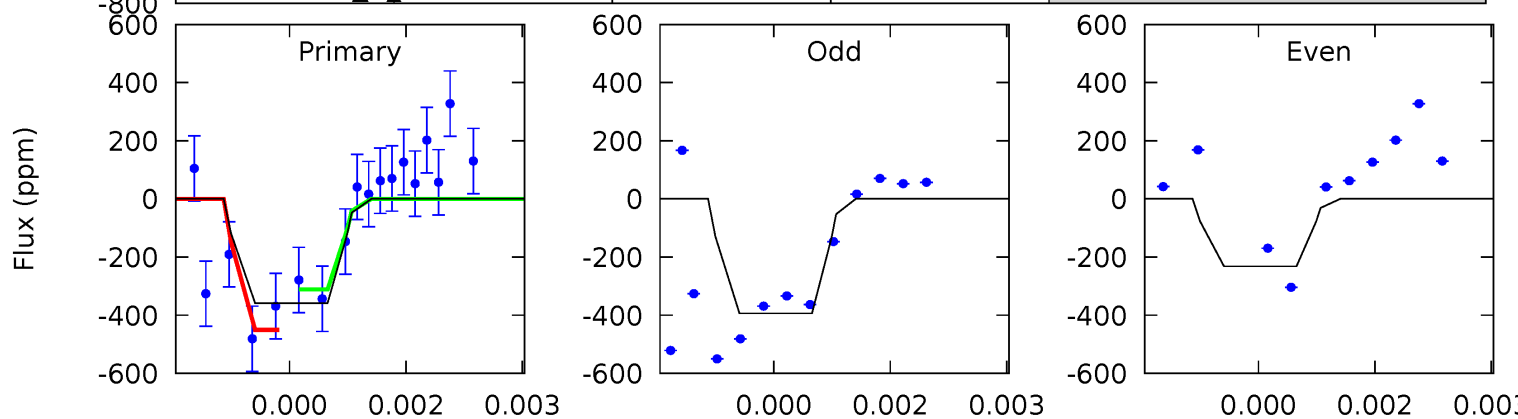
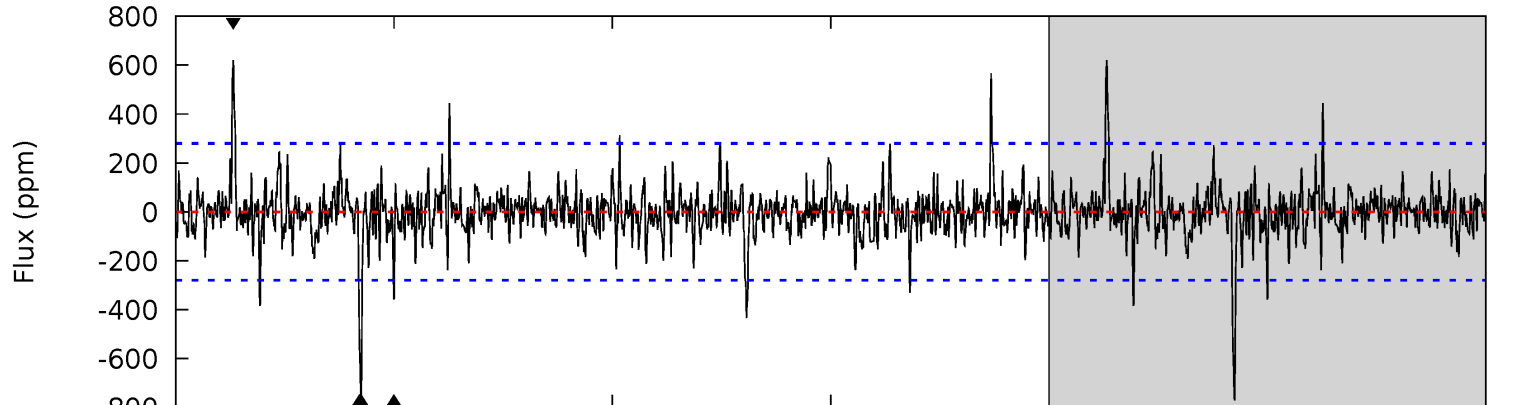
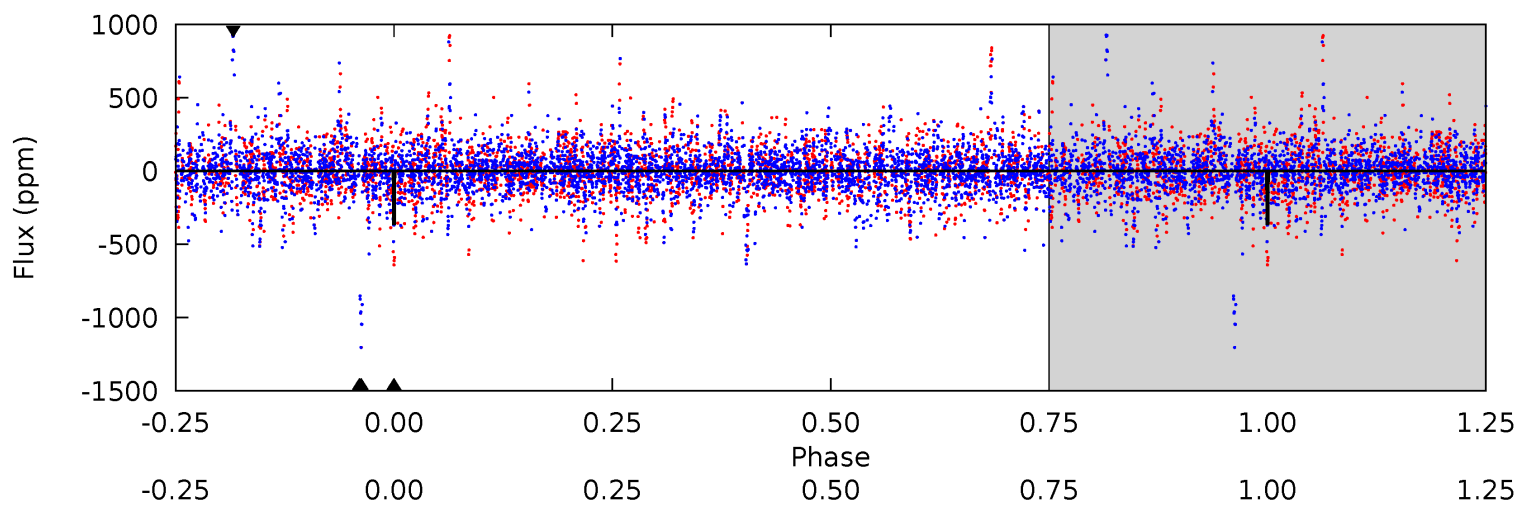
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.90	9.53	8.03	14.6	5.20	2.88	3.06	-0.13	-6.71	1.49	-5.08	1.04	0.31	0.61	1.66



Alt Model-Shift Uniqueness Test

006945500-08, P = 56.655155 Days, E = 80.436654 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.86	14.7	10.3	11.9	5.35	3.13	1.63	-3.45	-5.01	4.44	2.87	1.39	1.37	0.45	1.04



Stellar Parameters For KIC 006945500

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+201}_{-277}	$4.060^{+0.198}_{-0.162}$	$-0.160^{+0.250}_{-0.350}$	$1.894^{+0.576}_{-0.471}$	$1.499^{+0.221}_{-0.265}$	$0.311^{+0.320}_{-0.160}$
	+3%/-4%	+5%/-4%	+156%/-219%	+30%/-25%	+15%/-18%	+103%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006945500-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-442 ± 46	$17.45^{+19.00}_{-11.94}$	1055^{+77}_{-78}	3866^{+2417}_{-795}	85^{+809}_{-66}
Alt.	-771 ± 52	$18.06^{+18.44}_{-12.43}$	1057^{+80}_{-83}	4253^{+2857}_{-882}	139^{+1263}_{-104}

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

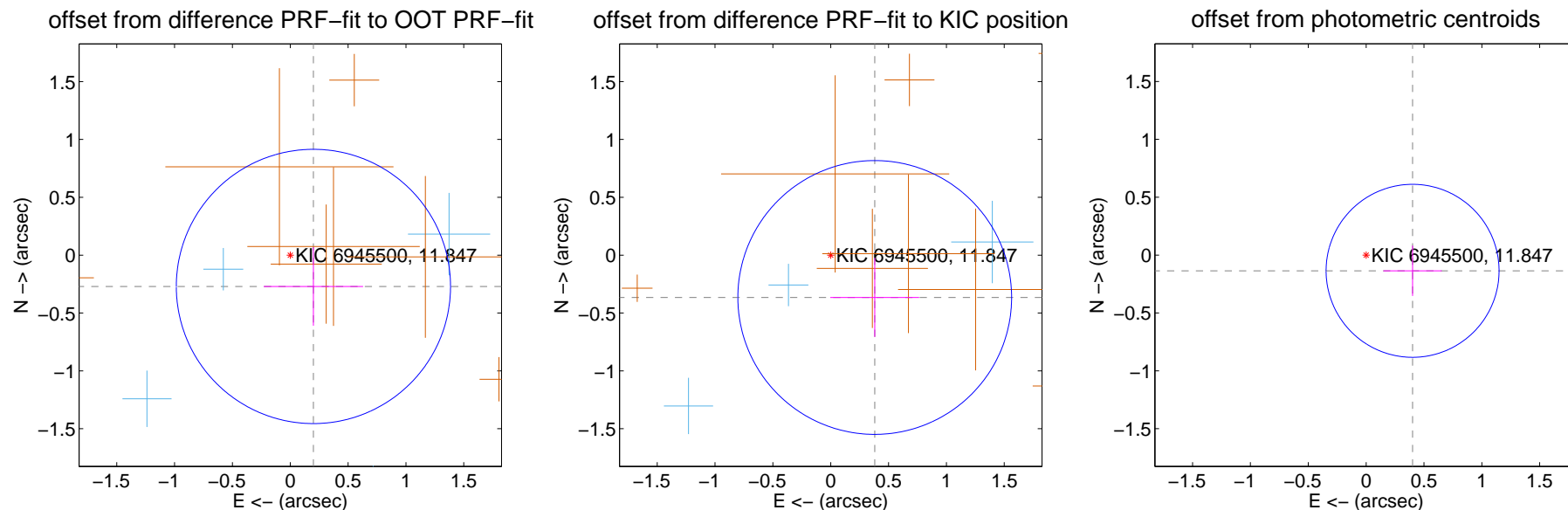
DV Centroid Data

Supplemental centroid analysis for 006945500-08. **Kepler magnitude: 11.85.** Transit SNR 9.76

There are 4 quarters with good PRF difference image offsets

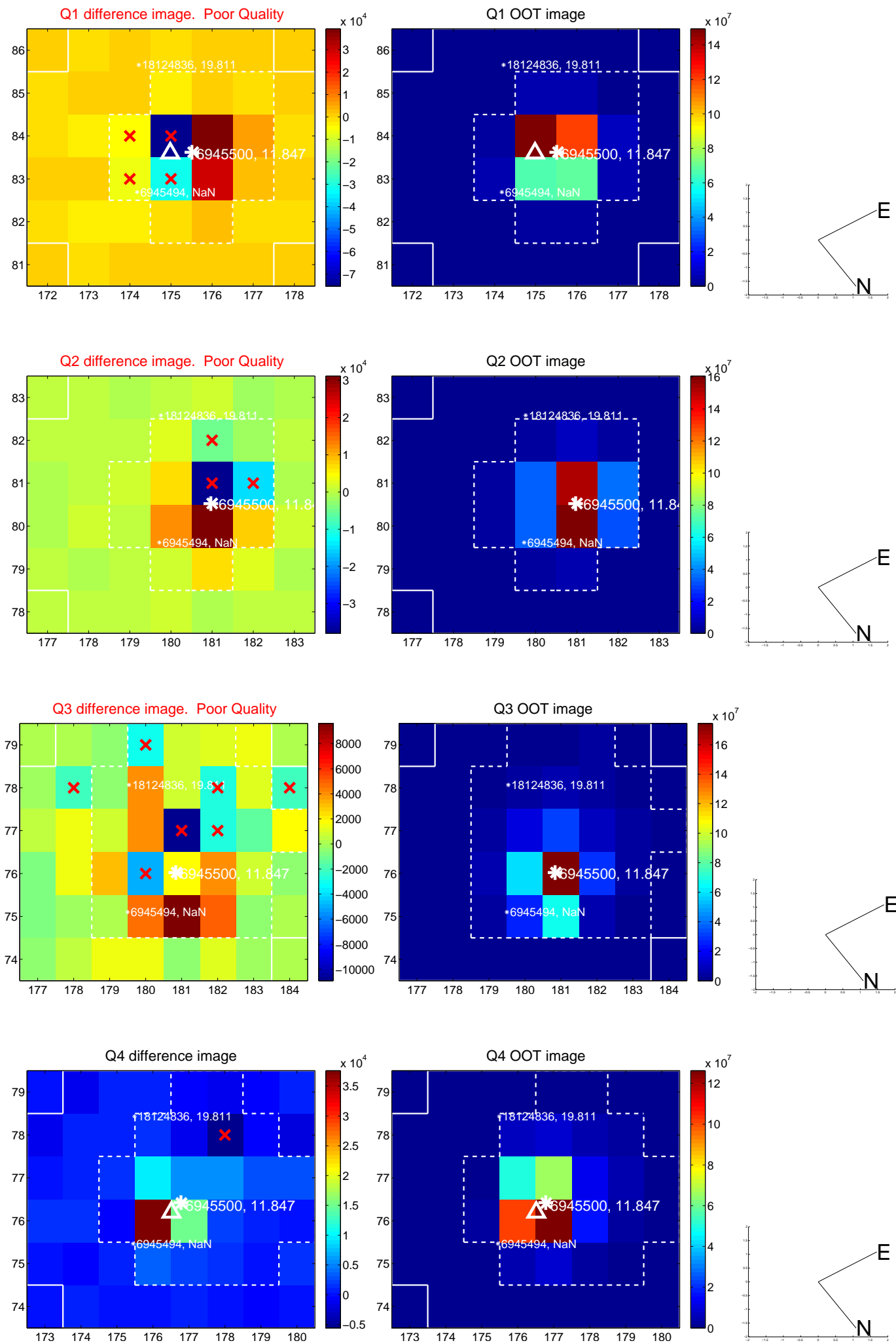
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.336 ± 0.395	0.85	-0.200 ± 0.429	-0.270 ± 0.339
PRF-fit source offset from KIC position	0.528 ± 0.394	1.34	-0.380 ± 0.384	-0.366 ± 0.341
photometric centroid source offset	0.42 ± 0.25	1.70	-0.40 ± 0.25	-0.14 ± 0.22

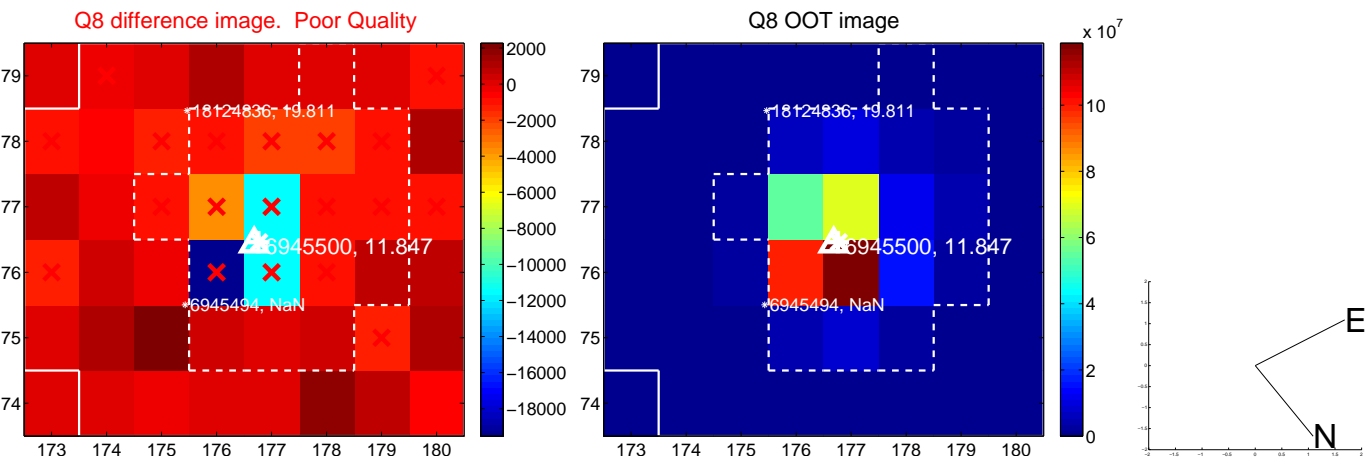
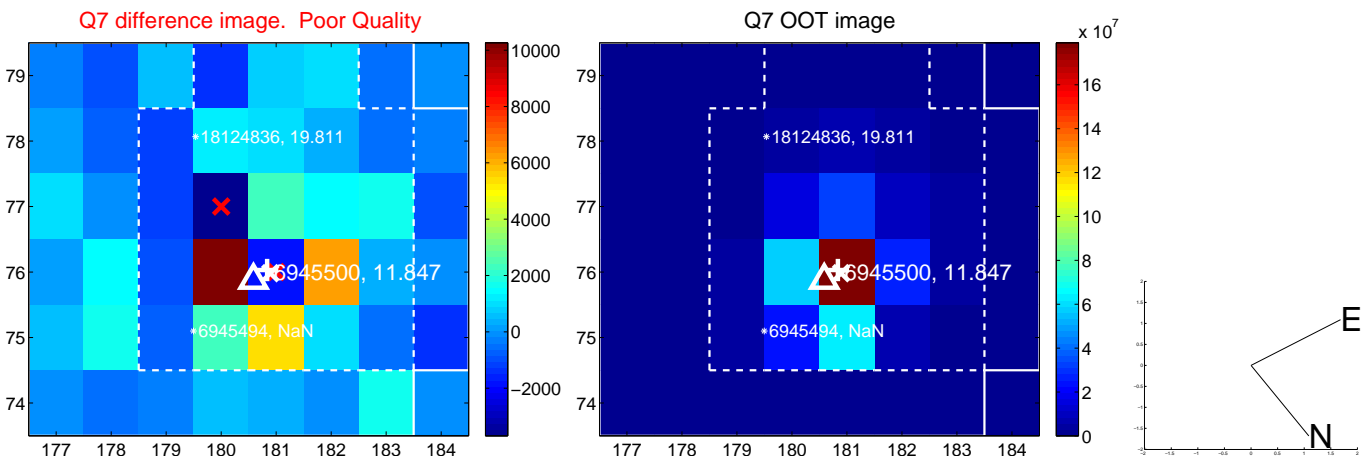
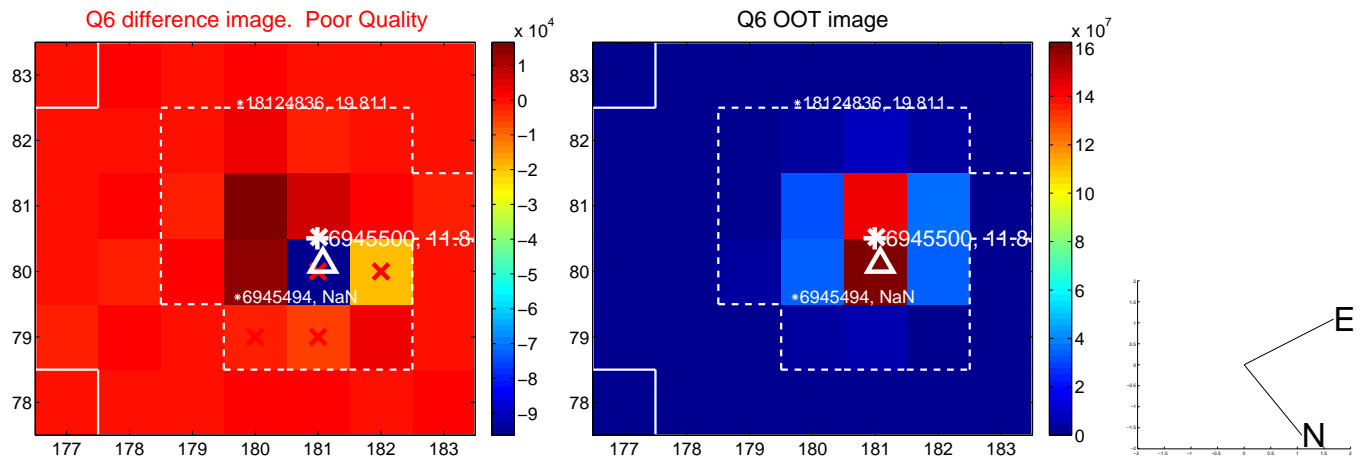
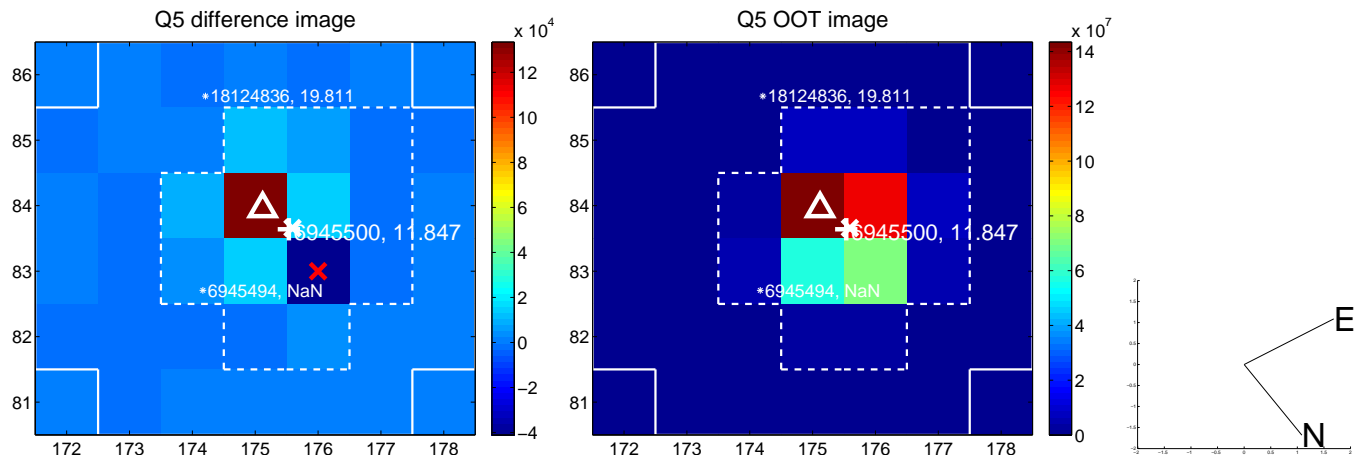


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

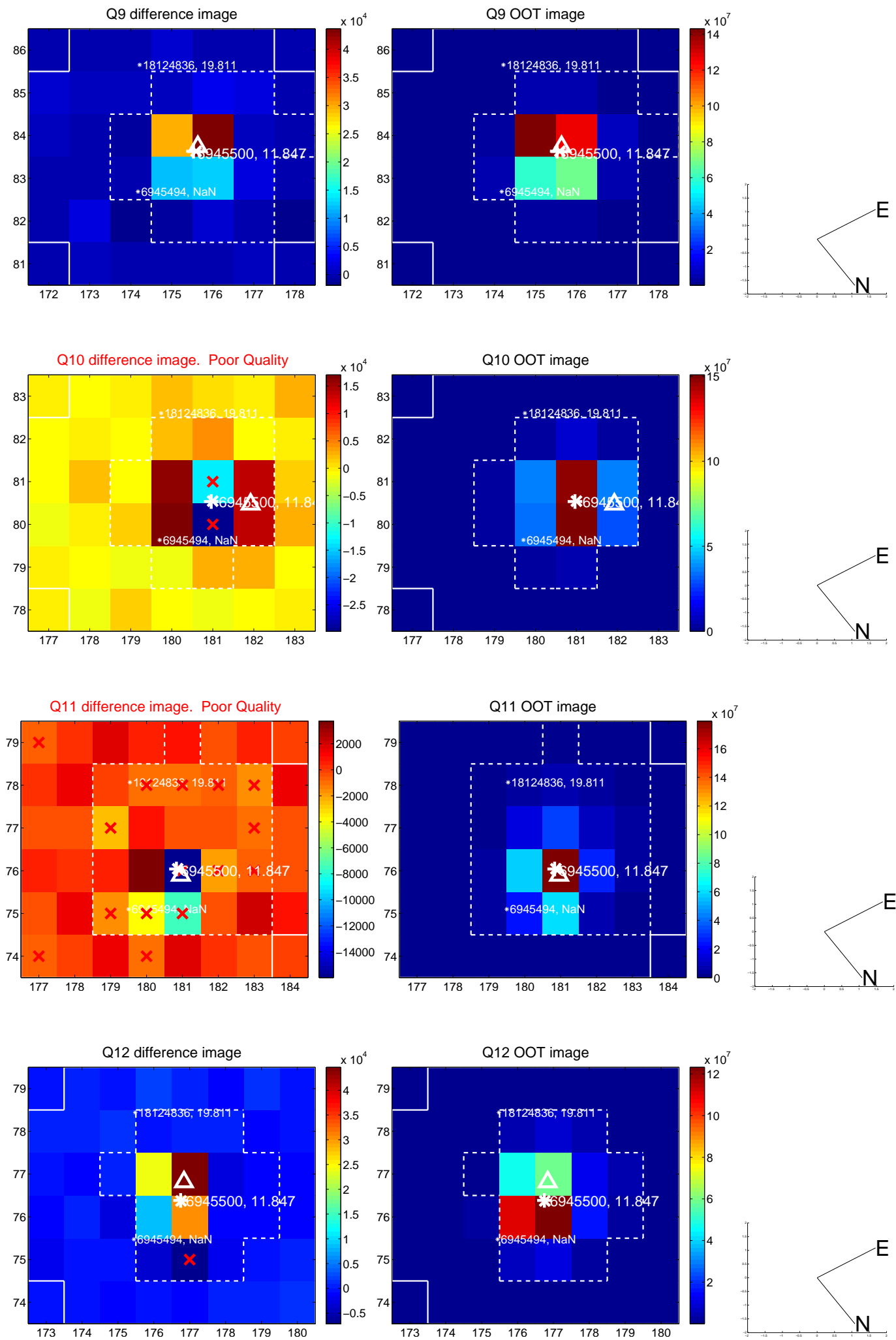
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



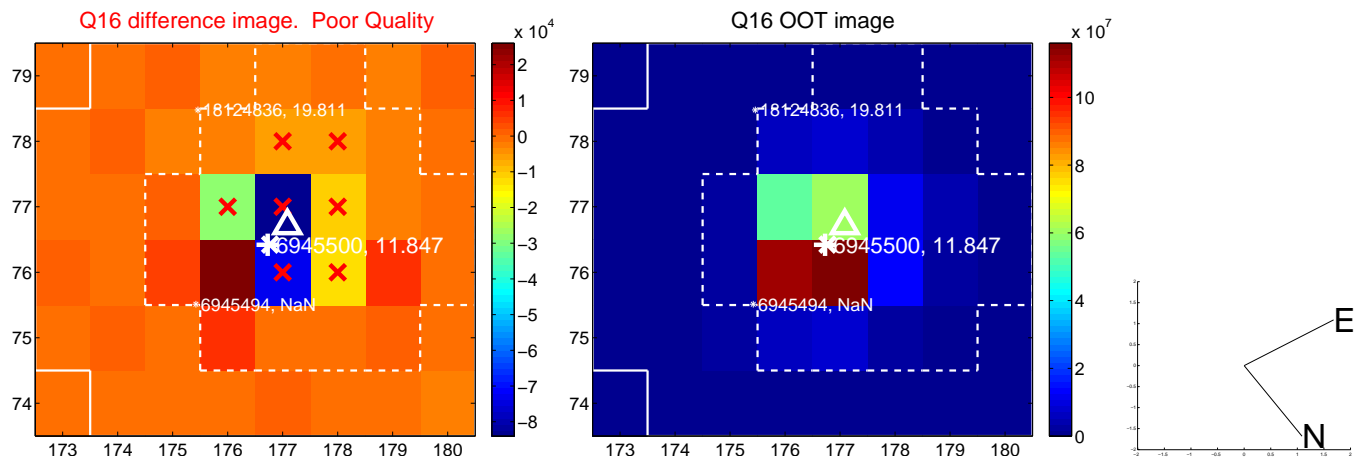
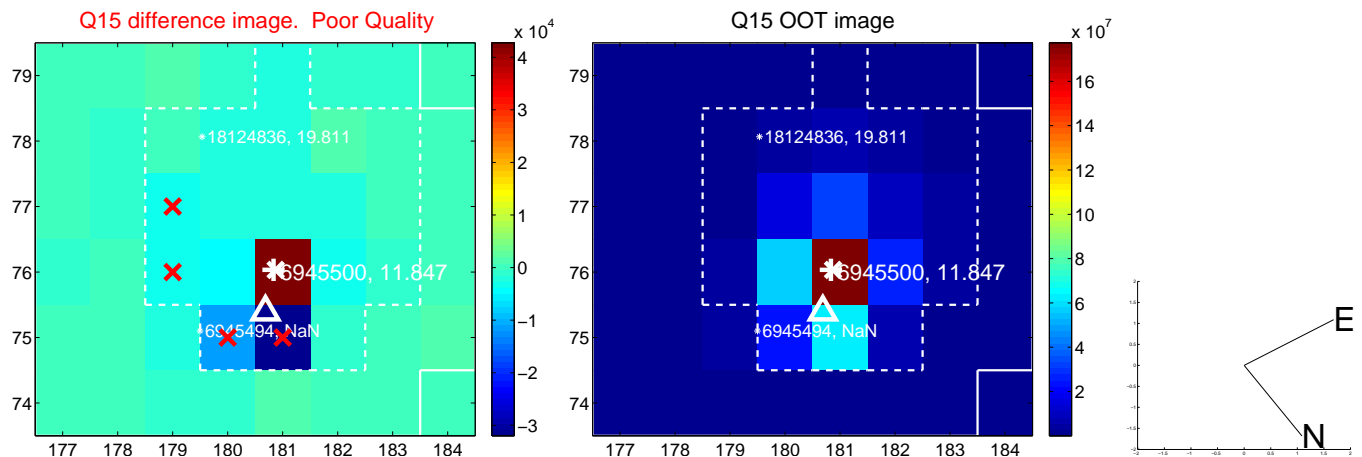
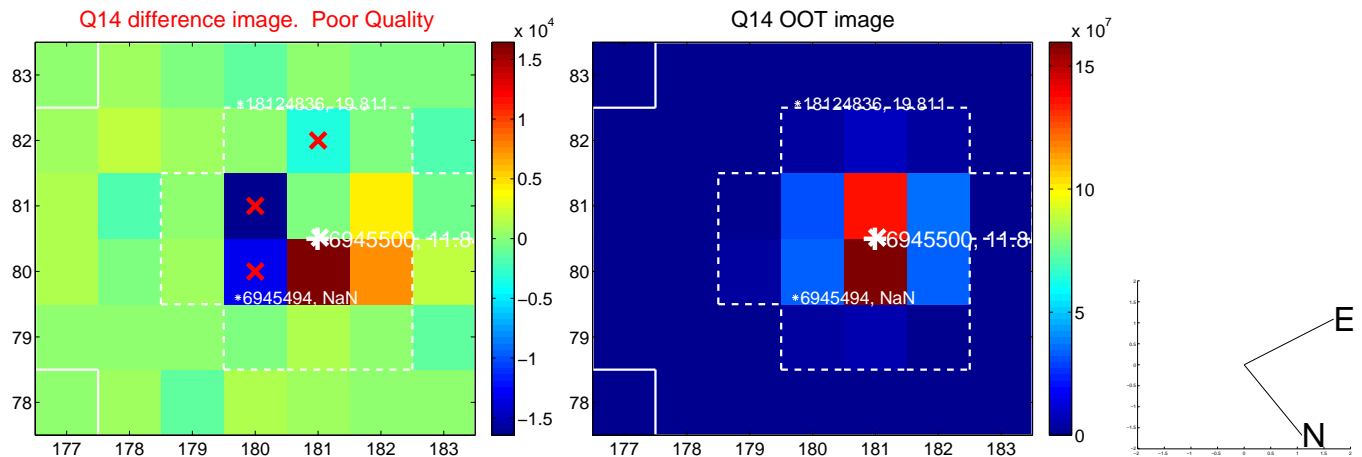
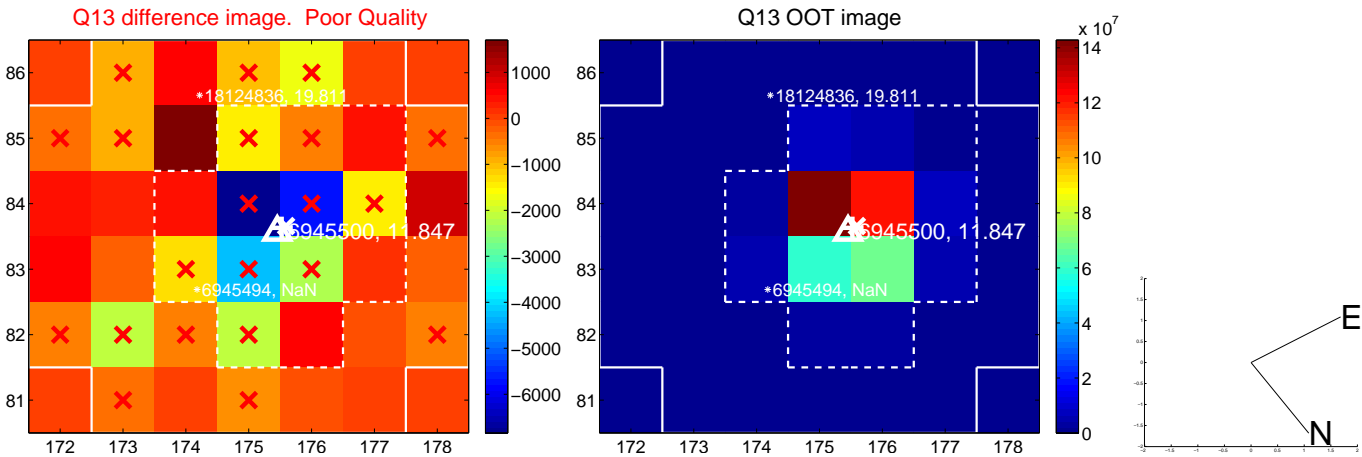
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



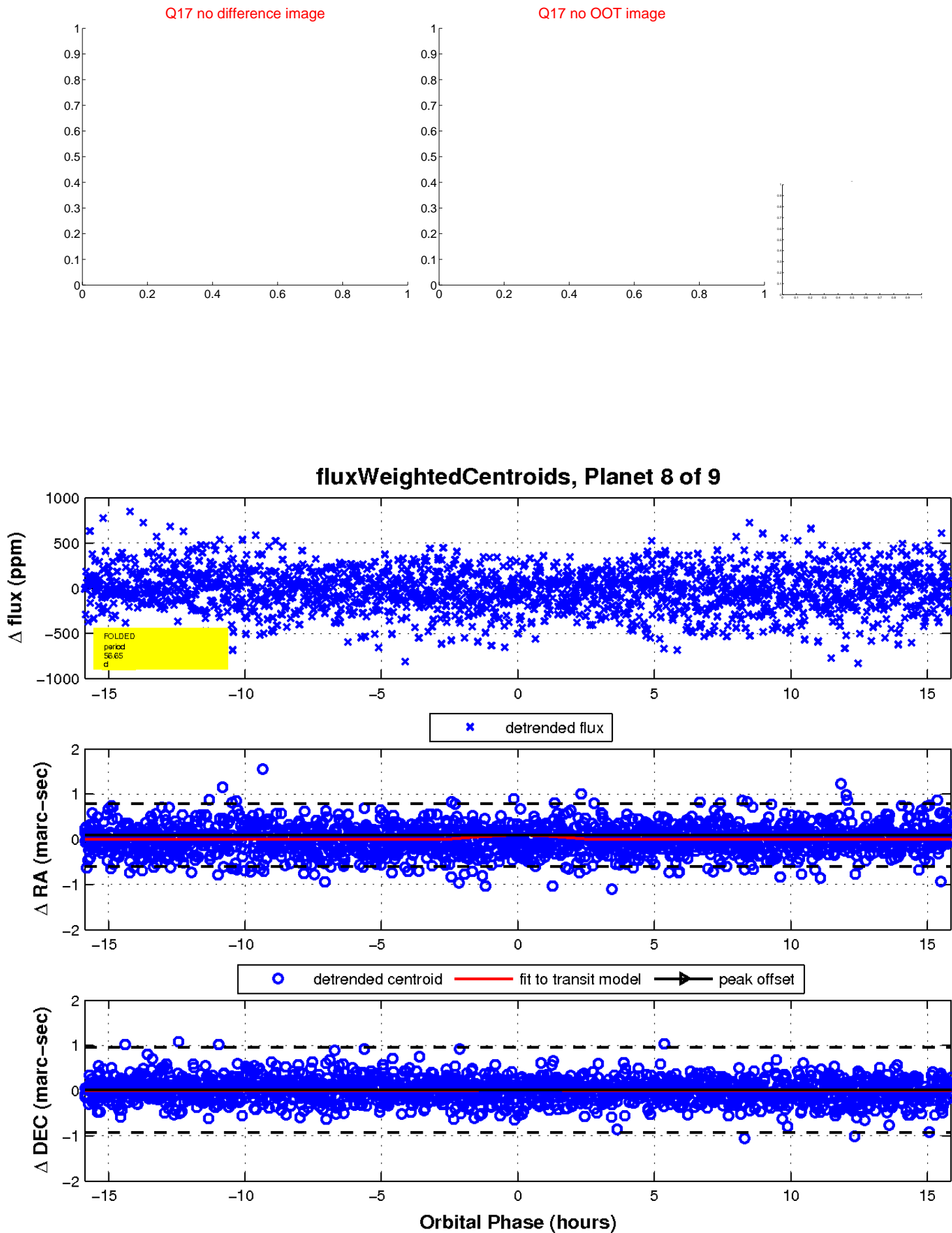
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

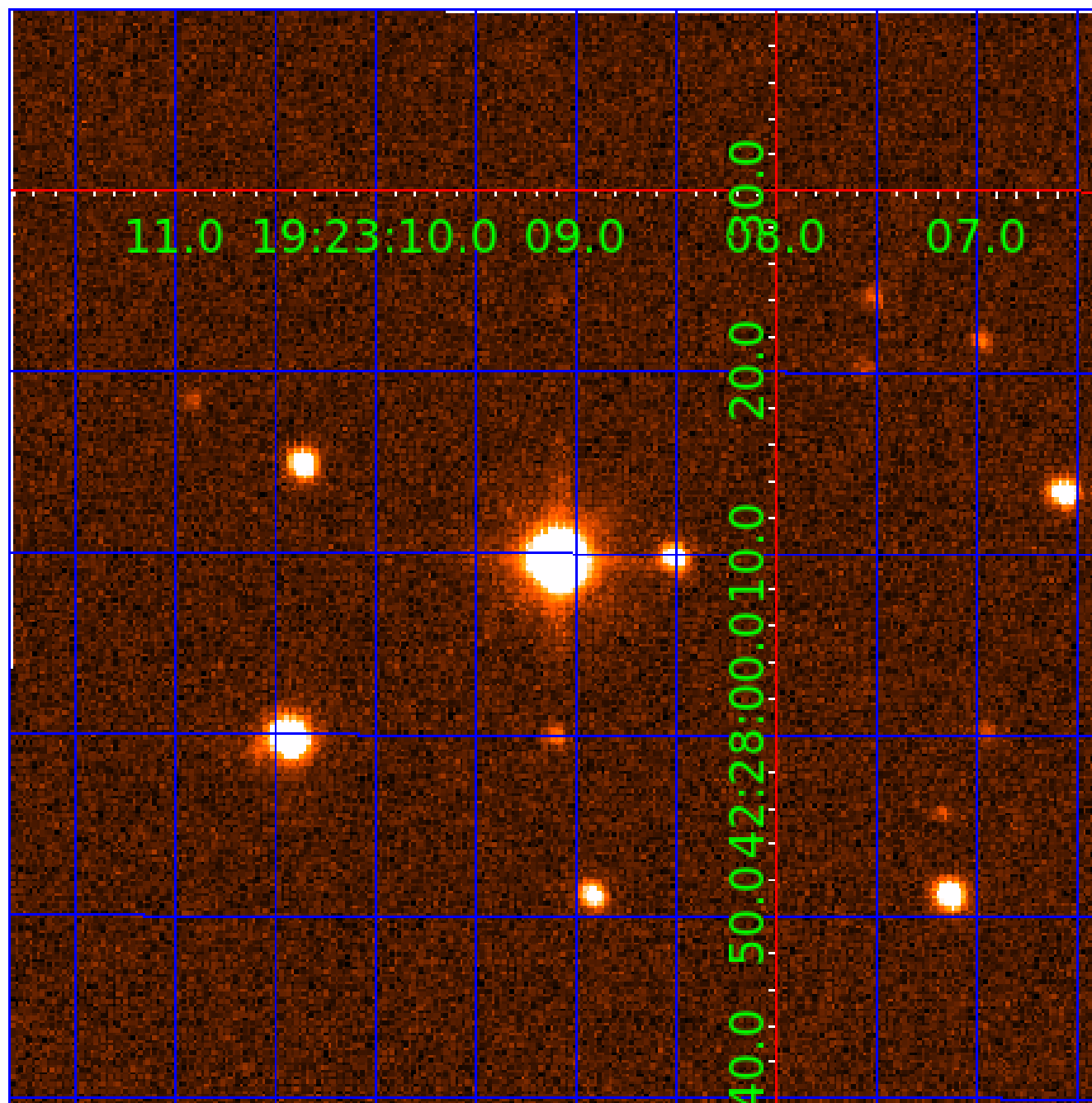


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006945500

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})
006945500-01	OBS	No	1.755894	133.225592	35.1	12.473	9.1	10.7	1.89	7207	1.31	8143.94
006945500-02	OBS	No	38.648683	160.583197	525.7	22.088	16.0	10.1	1.89	7207	8.21	132.02
006945500-03	OBS	No	59.797470	188.316106	568.7	11.781	12.5	11.0	1.89	7207	8.53	73.78
006945500-05	OBS	No	245.835306	143.036494	483.0	9.931	10.0	9.3	1.89	7207	4.95	11.20
006945500-06	OBS	No	34.477761	140.060283	280.5	2.242	10.1	10.3	1.89	7207	3.68	153.74
006945500-07	OBS	No	36.817043	164.470540	305.2	2.424	9.9	10.0	1.89	7207	6.12	140.85
006945500-08	OBS	No	56.654681	137.107227	315.3	5.291	8.2	9.8	1.89	7207	6.46	79.28
006945500-09	OBS	No	4.866339	135.550778	126.2	3.000	9.0	-1.0	1.89	7207	2.16	2092.01

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006945500-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV
006945500-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT
006945500-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
006945500-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
006945500-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT
006945500-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
006945500-09	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS

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

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

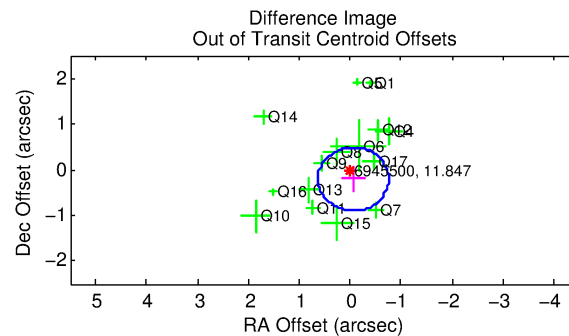
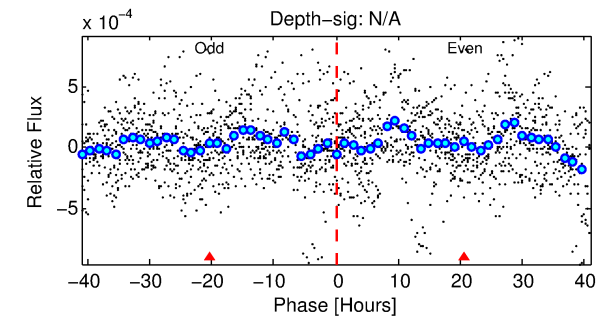
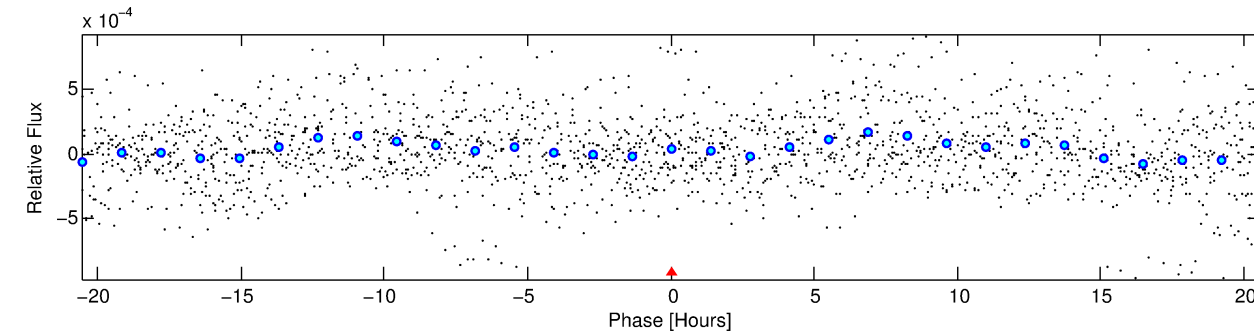
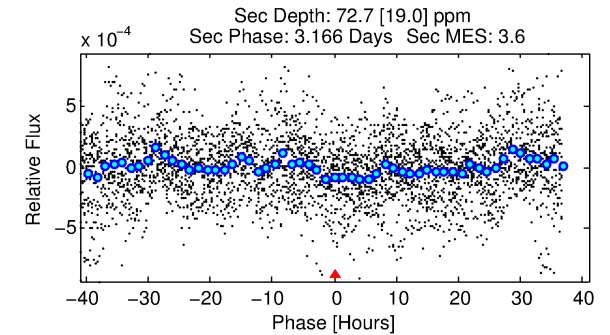
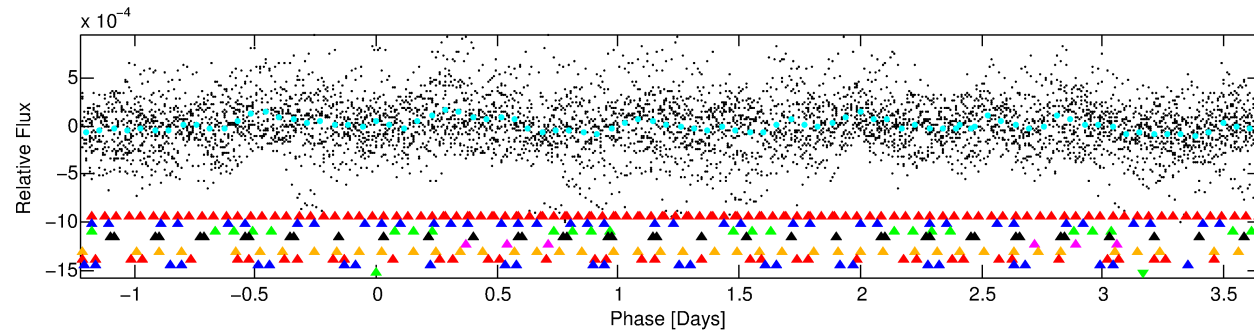
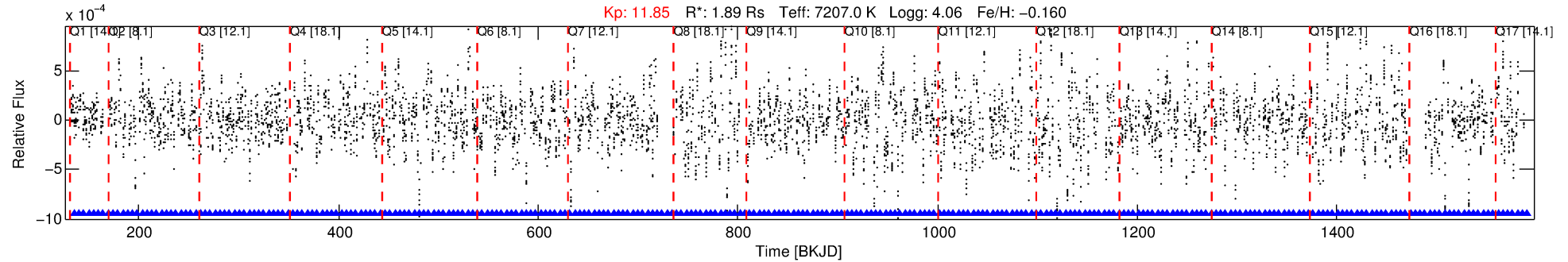
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006945500-09

No Significant Match Found

DV One-Page Summary

KIC: 6945500 Candidate: 9 of 9 Period: 4.866 d



TPS TCE Results:

Period = 4.86634 d
Epoch = 135.5508 BKJD

DV fit results are unavailable

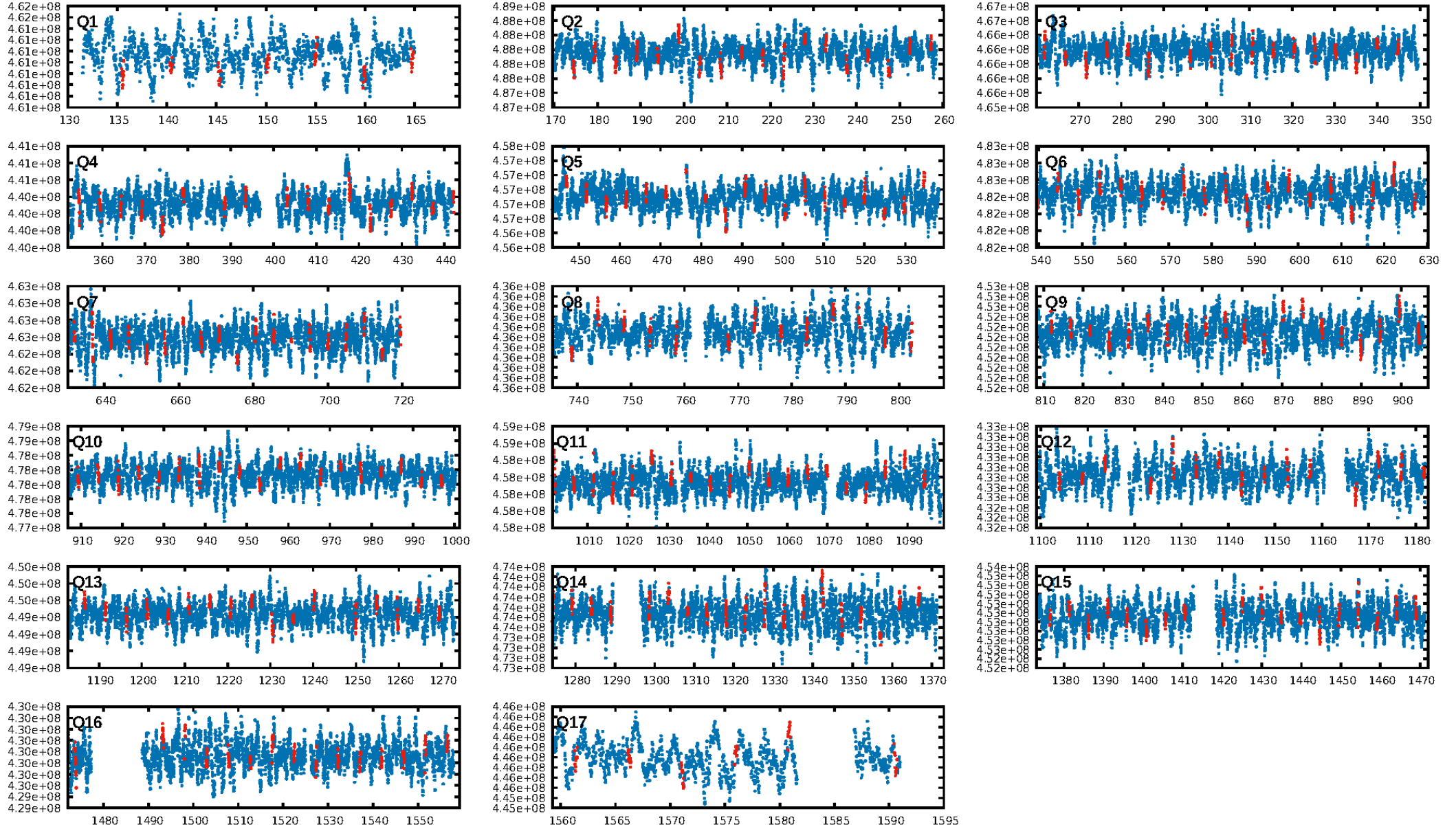
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.82 σ]
LongPeriod-sig: 100.0% [189.75 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [58/58]
GhostDiagnostic-chr: 1.781
Centroid-sig: 1.2%
Centroid-so: 0.684 arcsec [1.82 σ]
OotOffset-rm: 0.213 arcsec [0.92 σ]
KicOffset-rm: 0.368 arcsec [1.80 σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.40 [6/15]
DiffImageOverlap-fno: 0.71 [12/17]

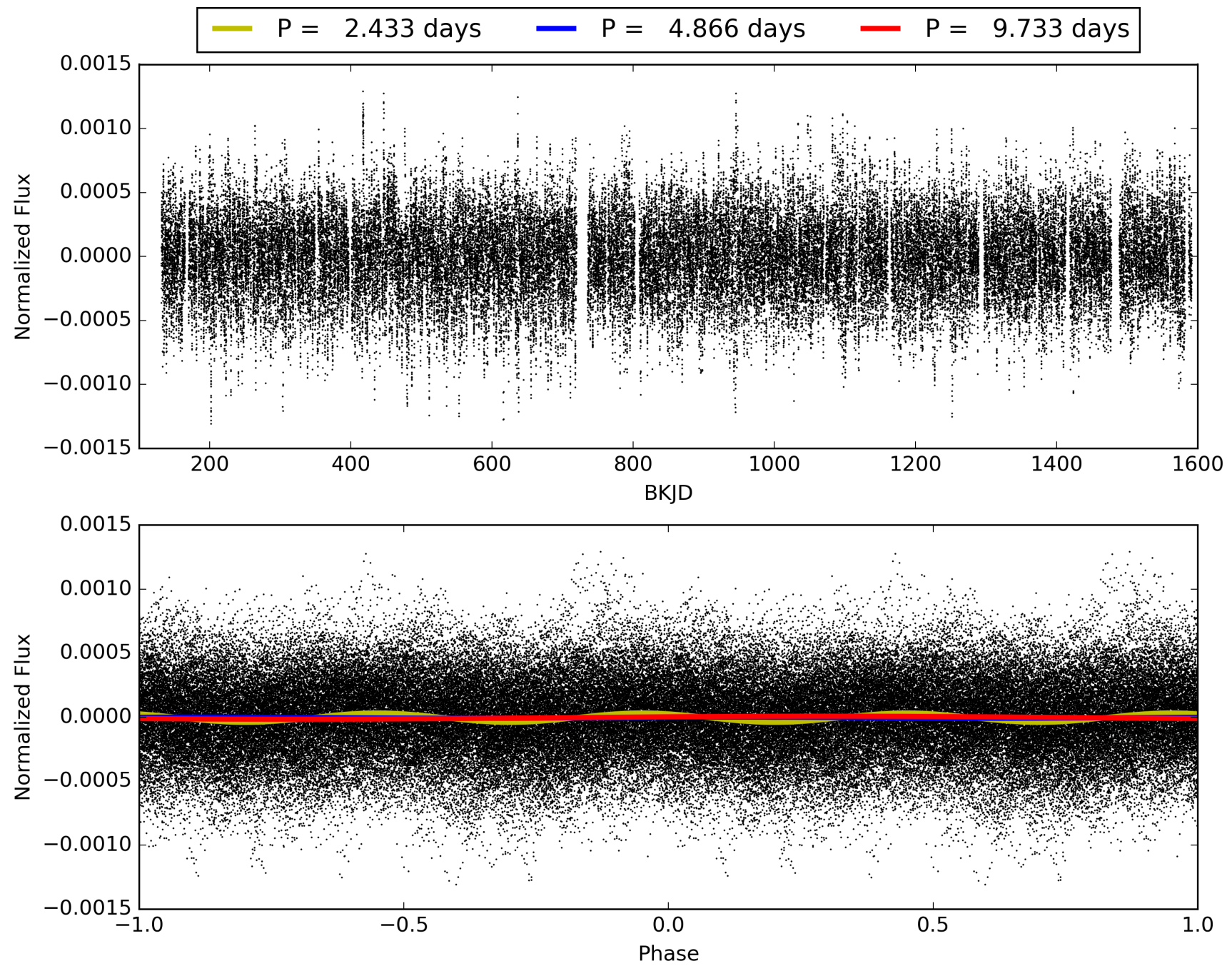
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:13:10 Z

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

TCE 006945500-09, PDC Light Curves

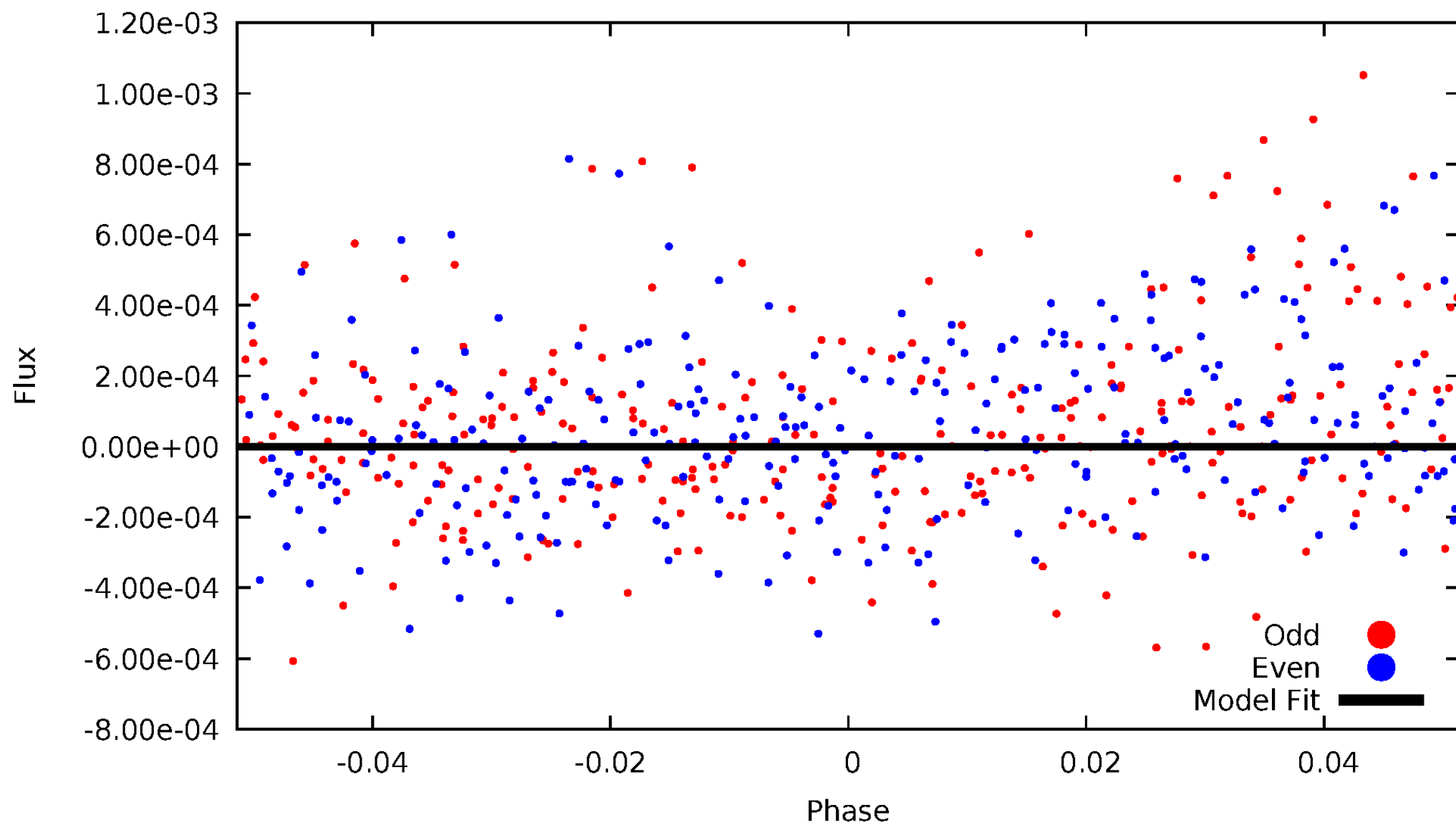


TCE 006945500-09



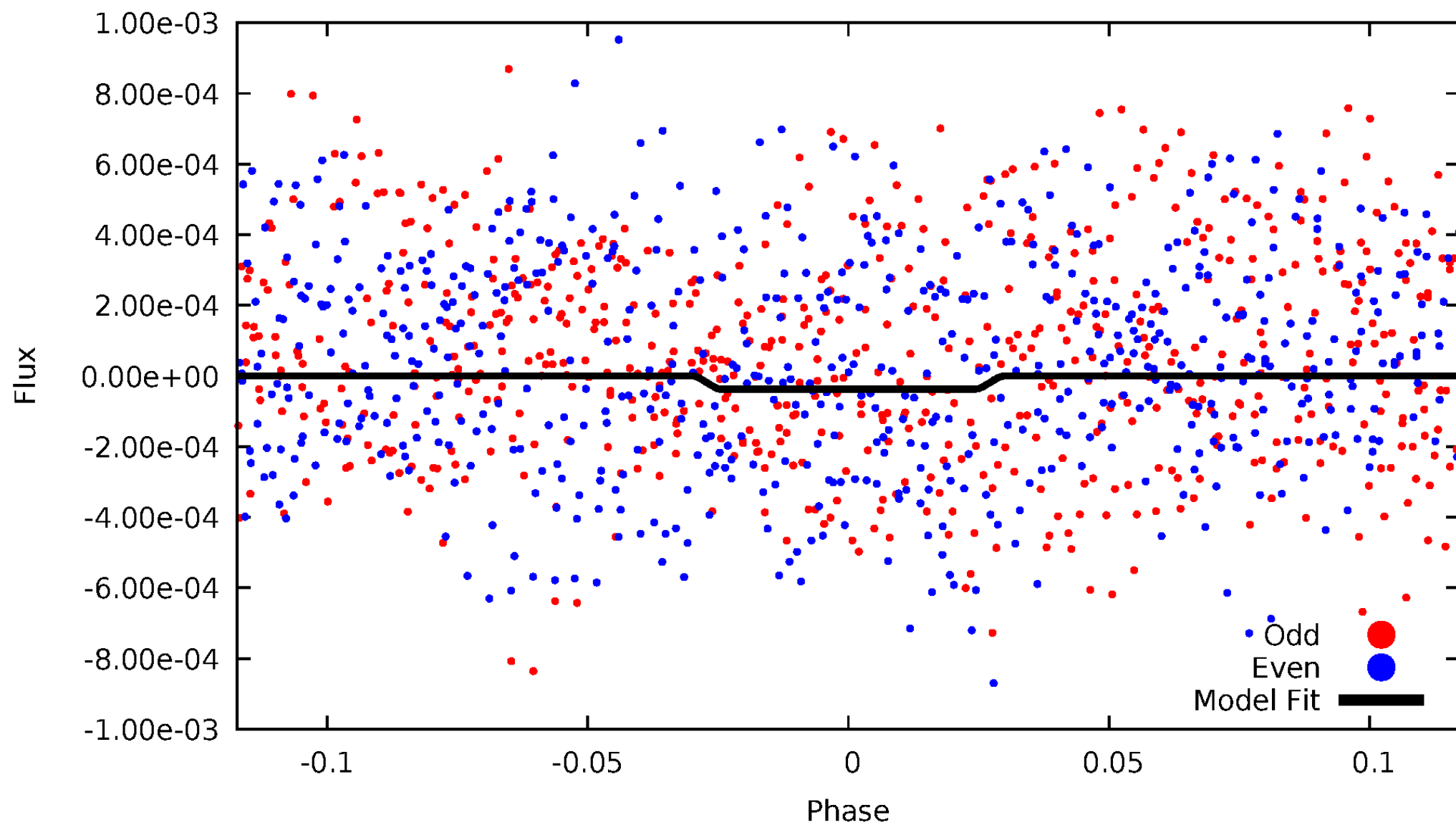
DV Odd/Even

TCE 006945500-09

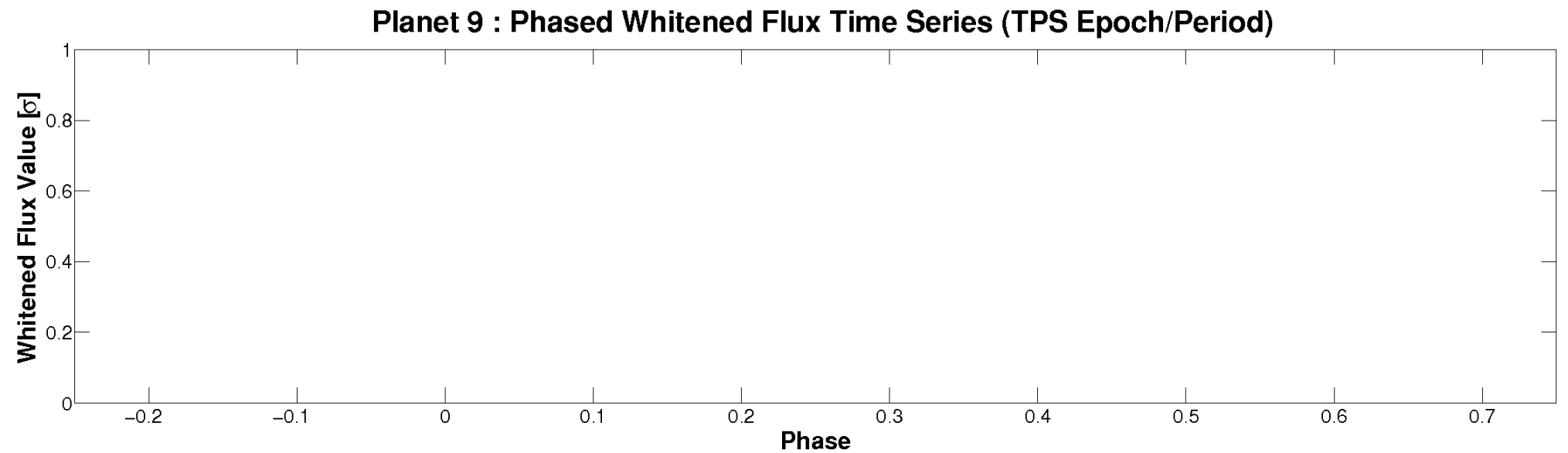
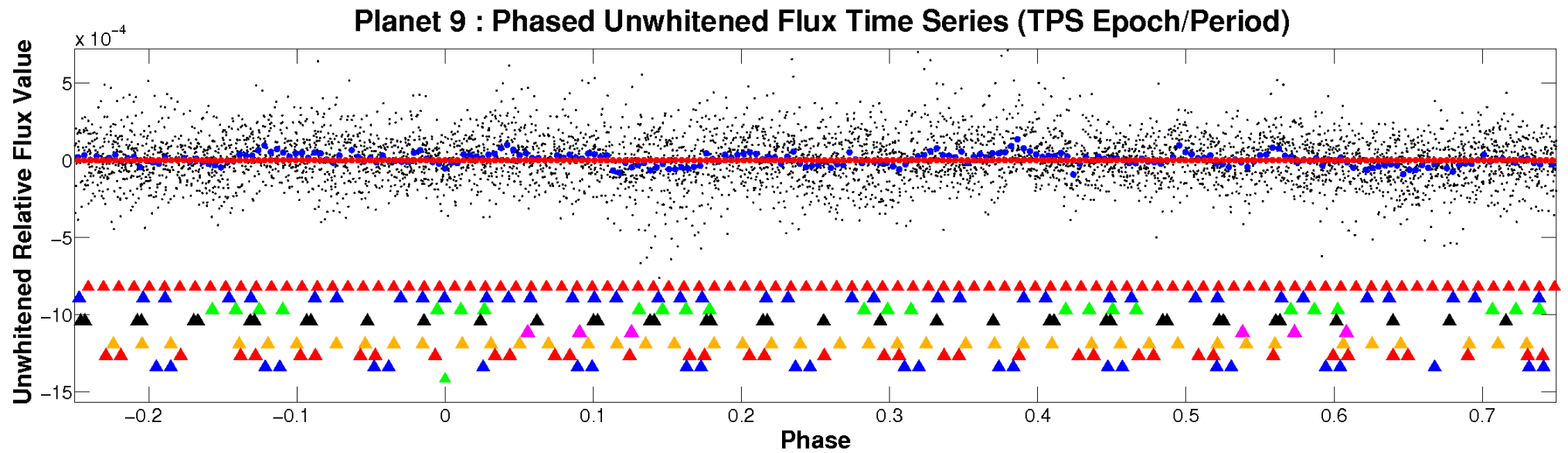


ALT Odd/Even

TCE 006945500-09

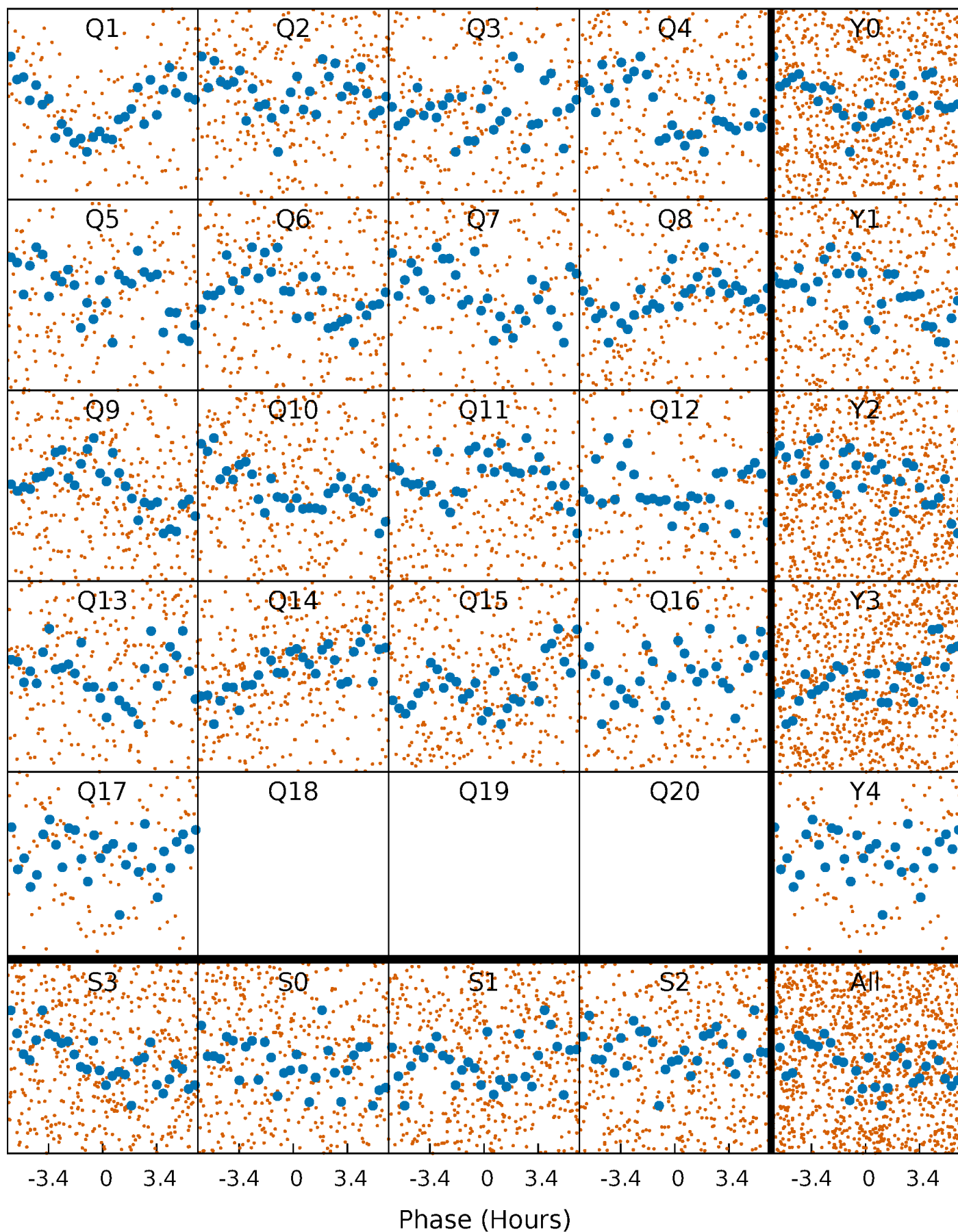


Non-Whitened Vs. Whitened Light Curve



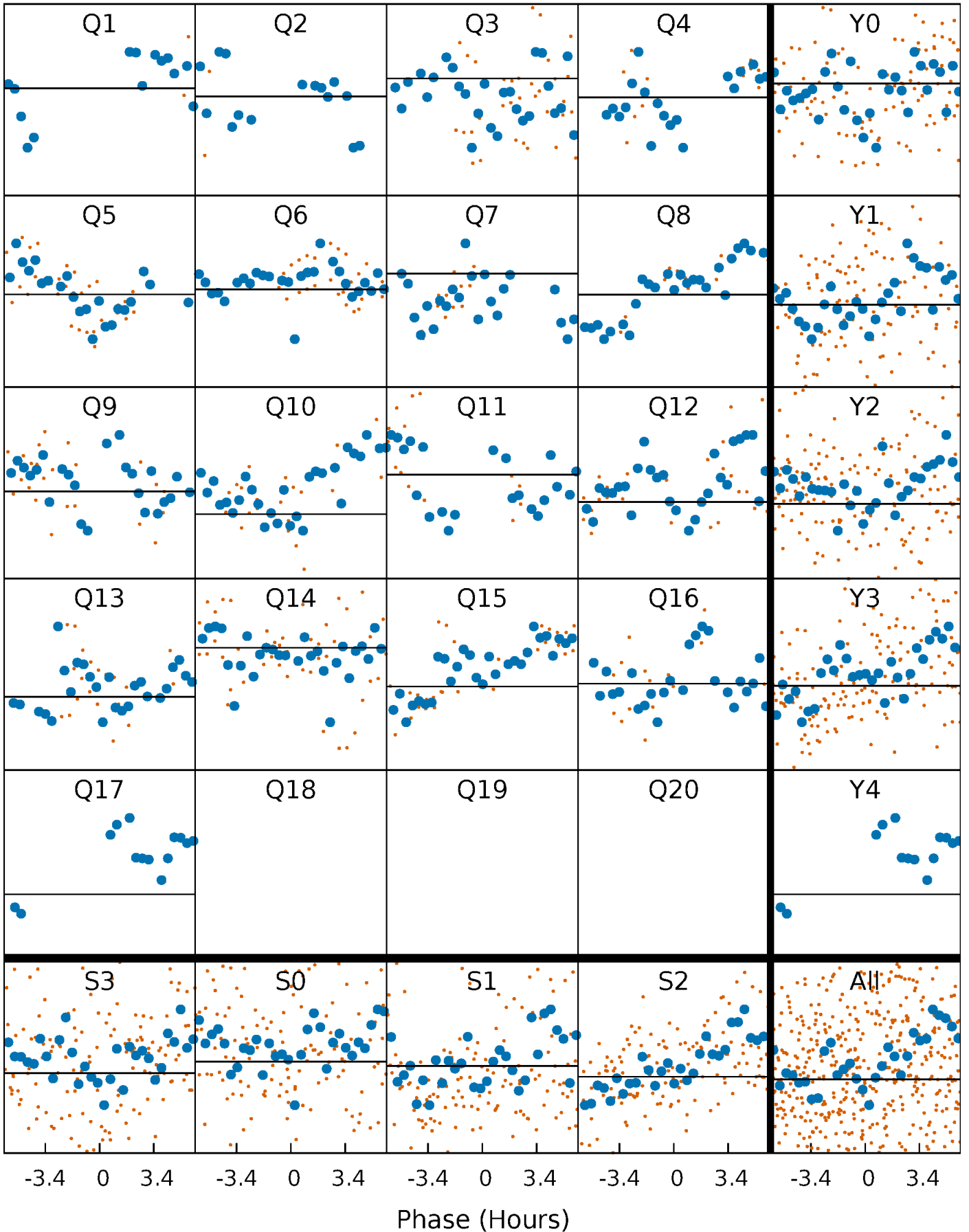
PDC Quarter-Phased Transit Curves

TCE 006945500-09 P= 4.866339 Days $T_0=135.550778$ (BKJD)



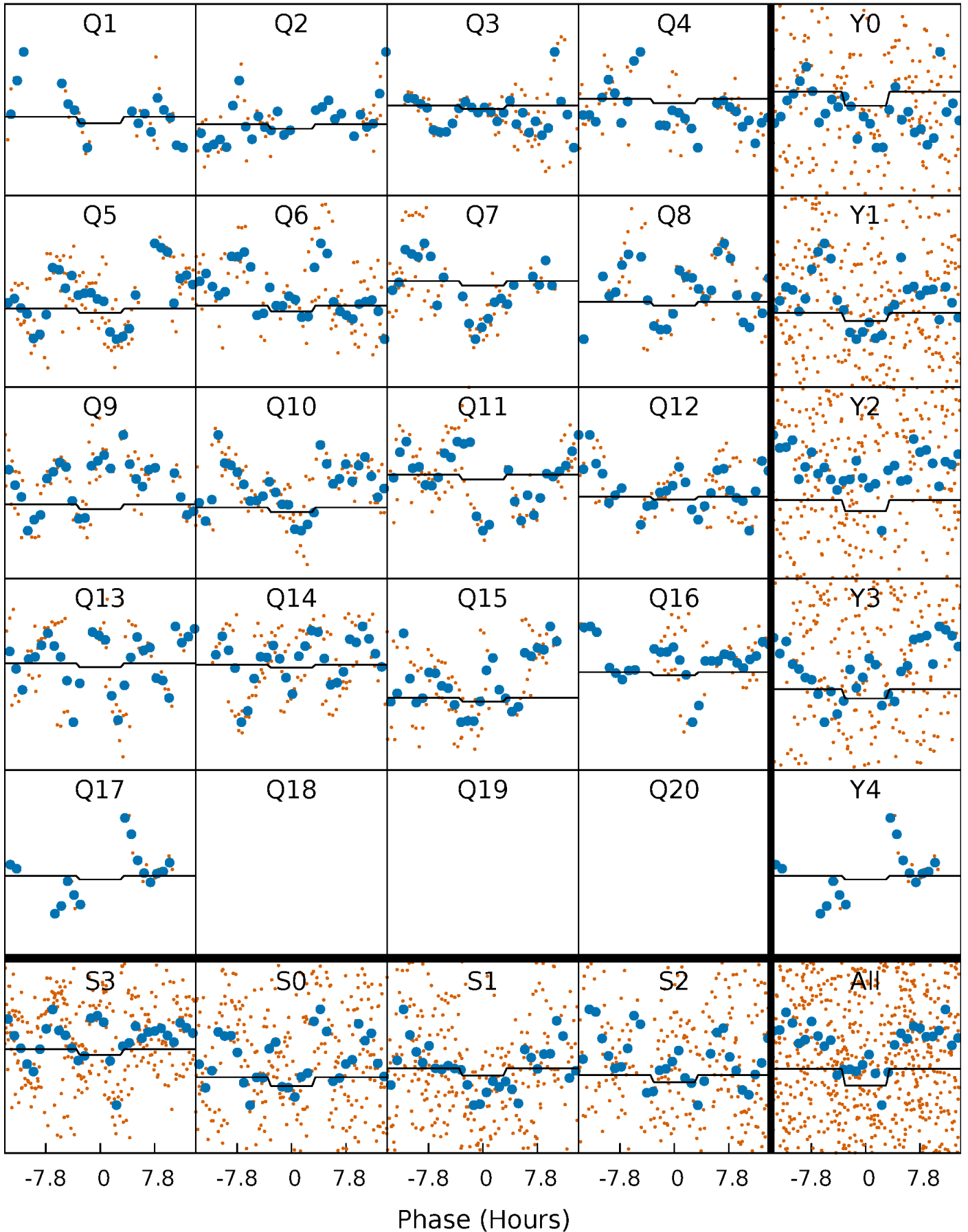
DV Quarter-Phased Transit Curves

TCE 006945500-09 $P = 4.866339$ Days $T_0 = 135.550778$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

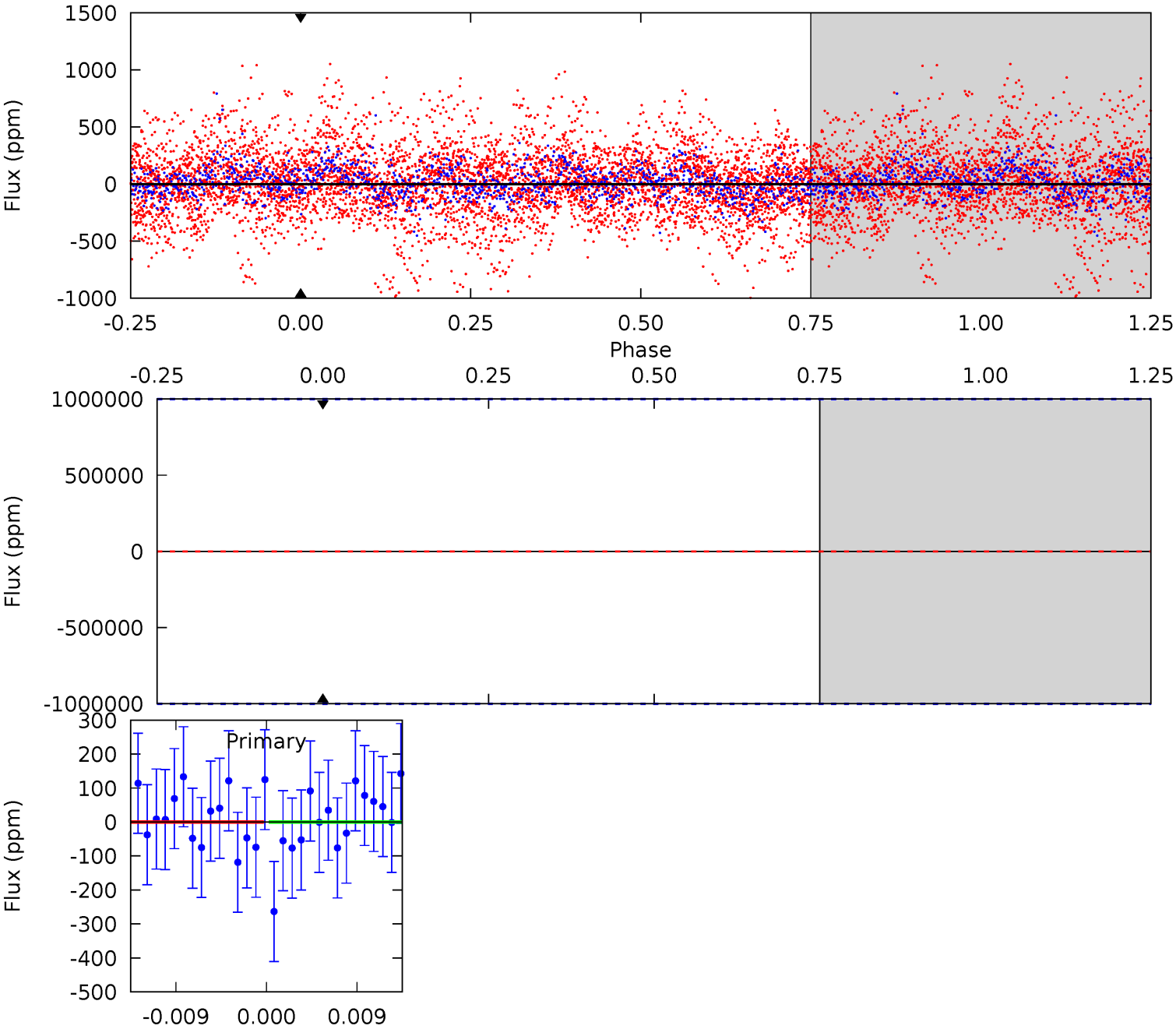
TCE 006945500-09 $P = 4.866339$ Days $T_0 = 135.450693$ (BKJD)



DV Model-Shift Uniqueness Test

006945500-09, P = 4.866339 Days, E = 130.684439 Days

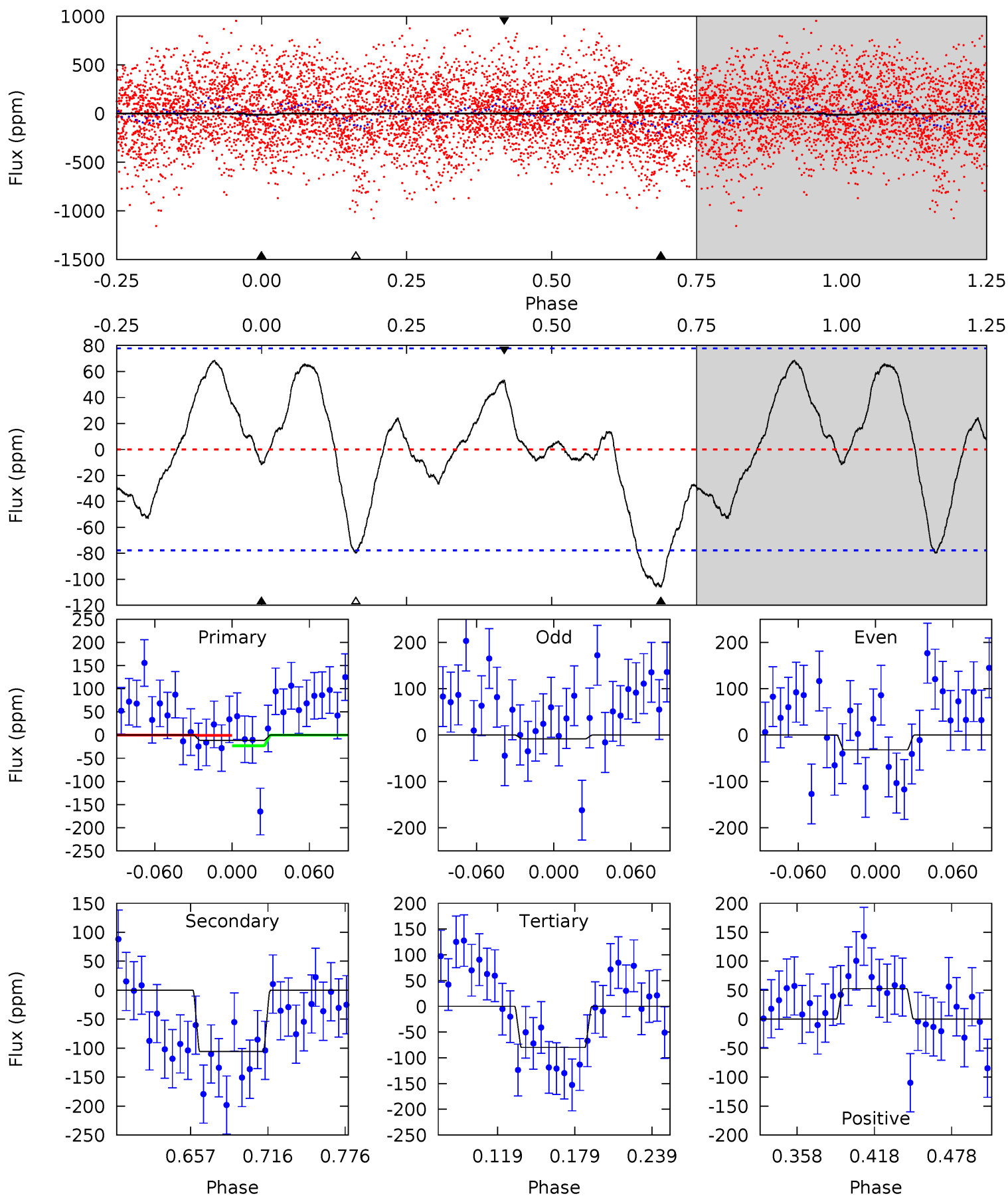
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006945500-09, P = 4.866339 Days, E = 130.584354 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.69	6.36	4.81	3.17	4.67	1.88	2.05	-4.11	-2.48	1.55	3.18	0.72	0.20	0.39	0.68



Stellar Parameters For KIC 006945500

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+201}_{-277}	$4.060^{+0.198}_{-0.162}$	$-0.160^{+0.250}_{-0.350}$	$1.894^{+0.576}_{-0.471}$	$1.499^{+0.221}_{-0.265}$	$0.311^{+0.320}_{-0.160}$
	+3%/-4%	+5%/-4%	+156%/-219%	+30%/-25%	+15%/-18%	+103%/-52%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 006945500-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$15.60^{+14.46}_{-11.07}$	2392^{+197}_{-181}	-5221^{+41838}_{-30012}	$-15.478^{+1761.961}_{-1767.463}$
Alt.	-106 ± 17	$14.52^{+15.41}_{-10.06}$	2396^{+187}_{-183}	3137^{+1702}_{-5250}	$1.095^{+11.139}_{-0.834}$

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

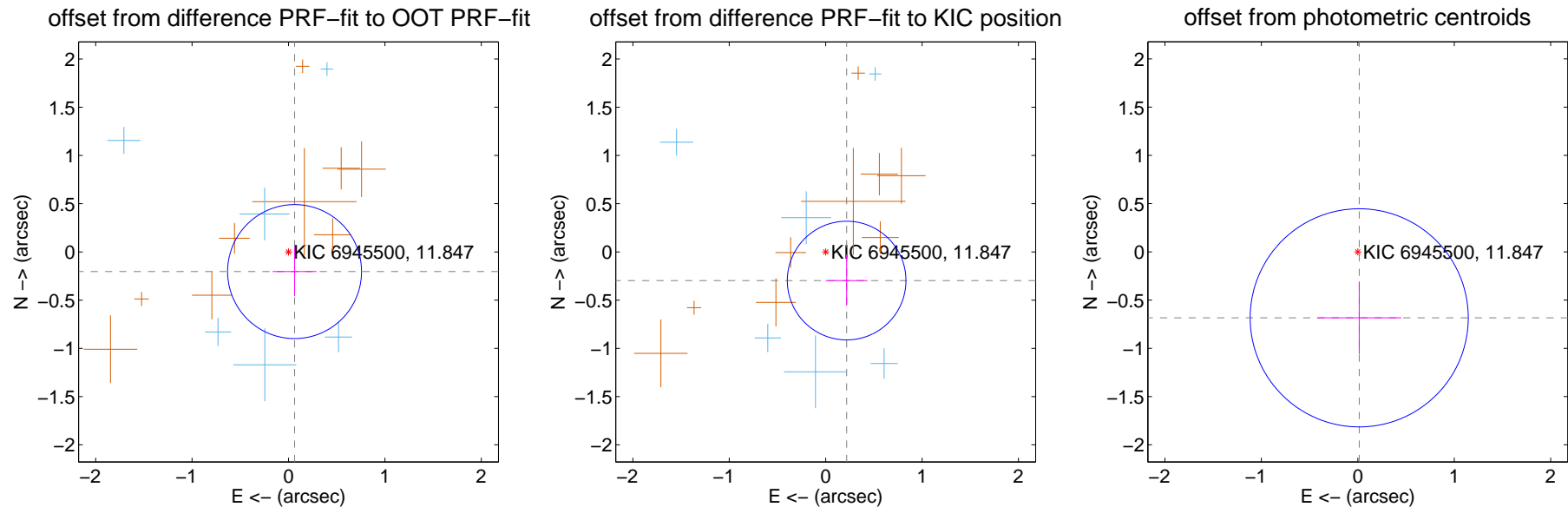
DV Centroid Data

Supplemental centroid analysis for 006945500-09. **Kepler magnitude: 11.85.** Transit SNR -1.00

There are 6 quarters with good PRF difference image offsets

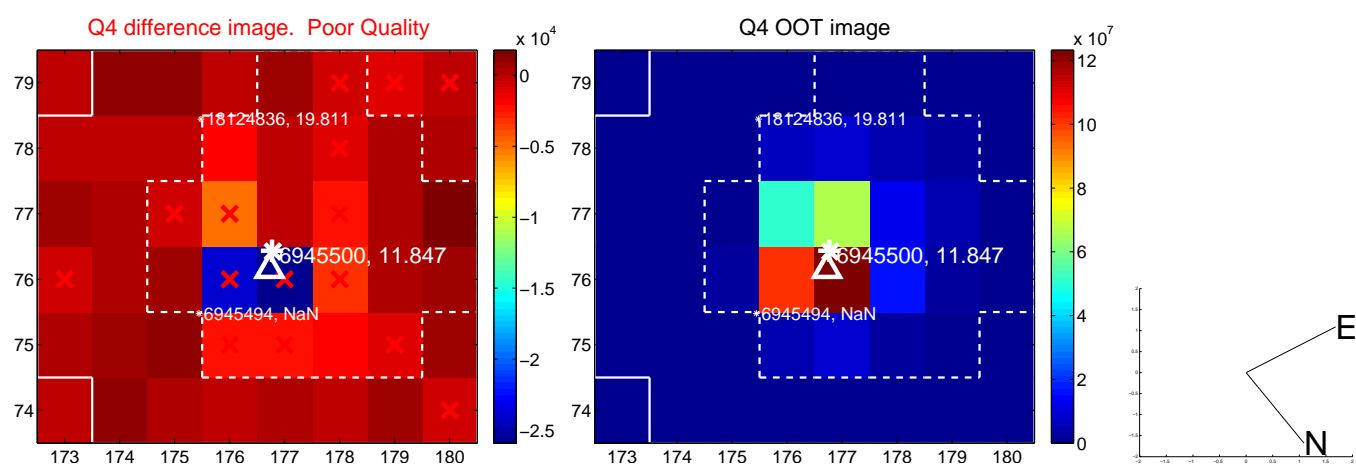
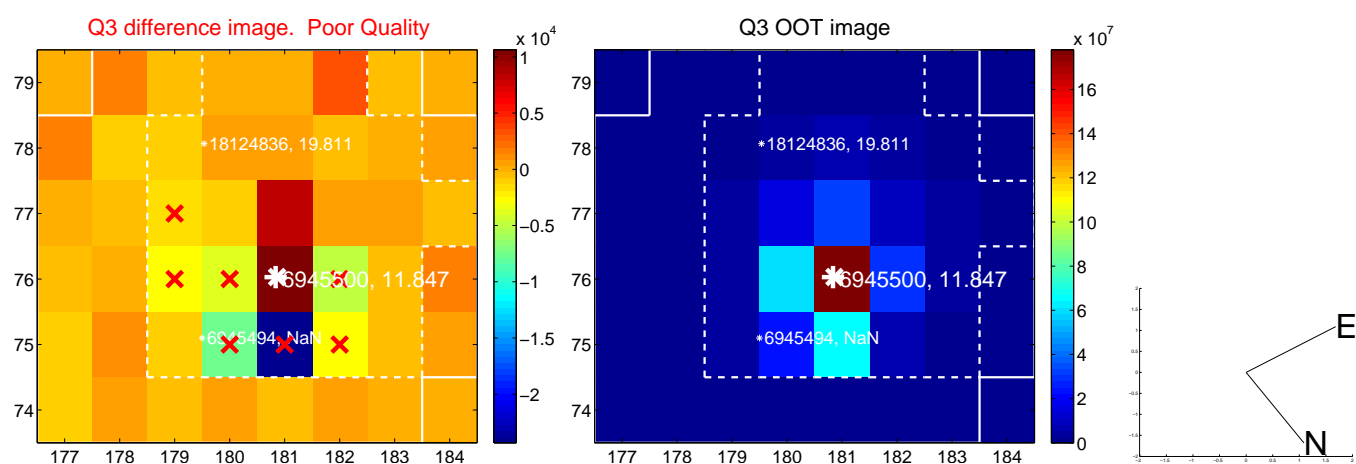
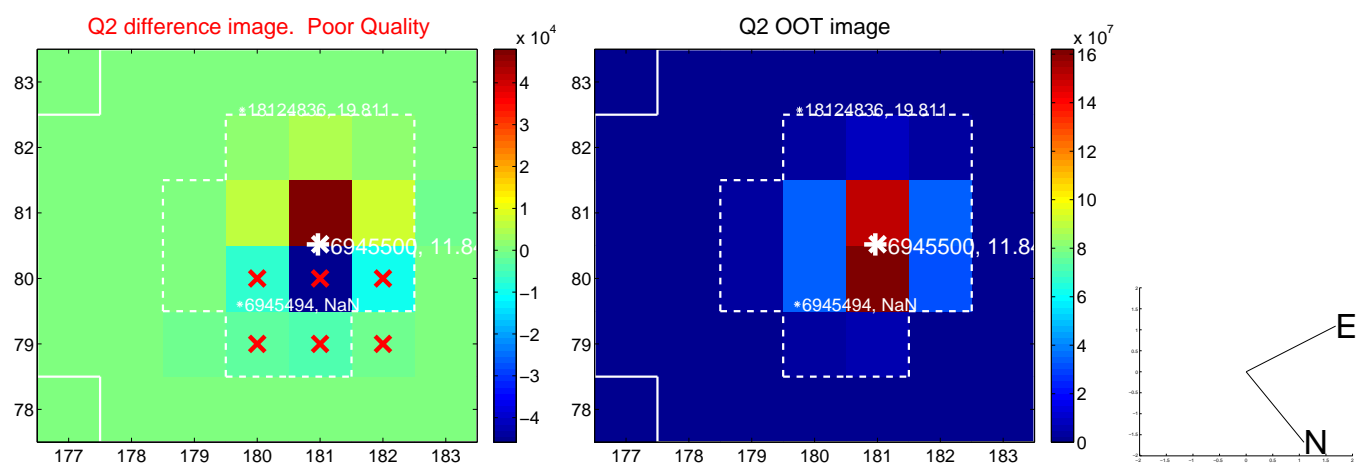
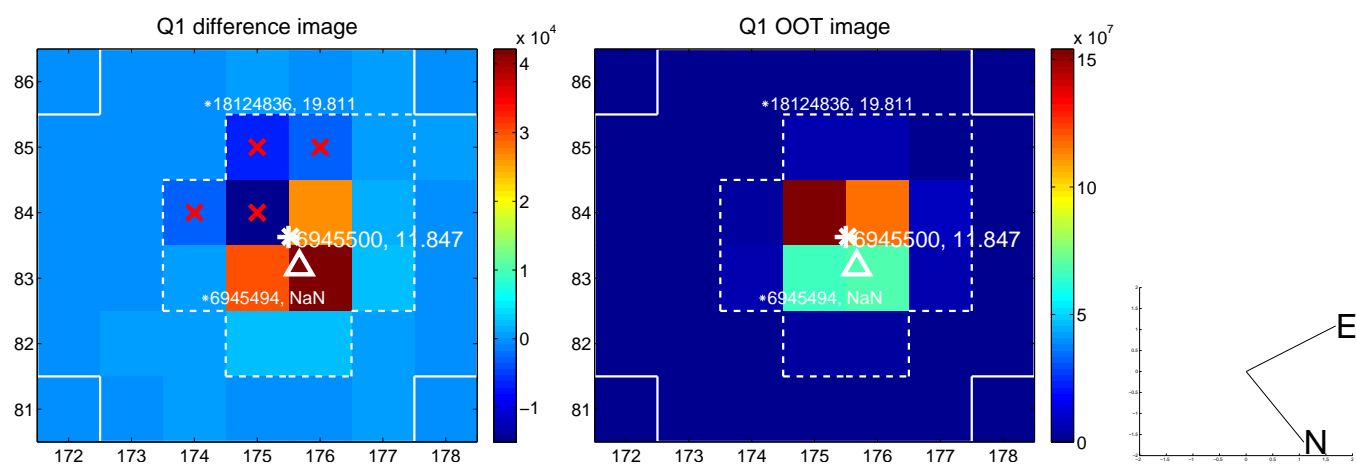
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.213 ± 0.231	0.92	-0.063 ± 0.229	-0.204 ± 0.255
PRF-fit source offset from KIC position	0.368 ± 0.205	1.80	-0.218 ± 0.217	-0.297 ± 0.260
photometric centroid source offset	0.68 ± 0.38	1.82	-0.01 ± 0.44	-0.68 ± 0.38

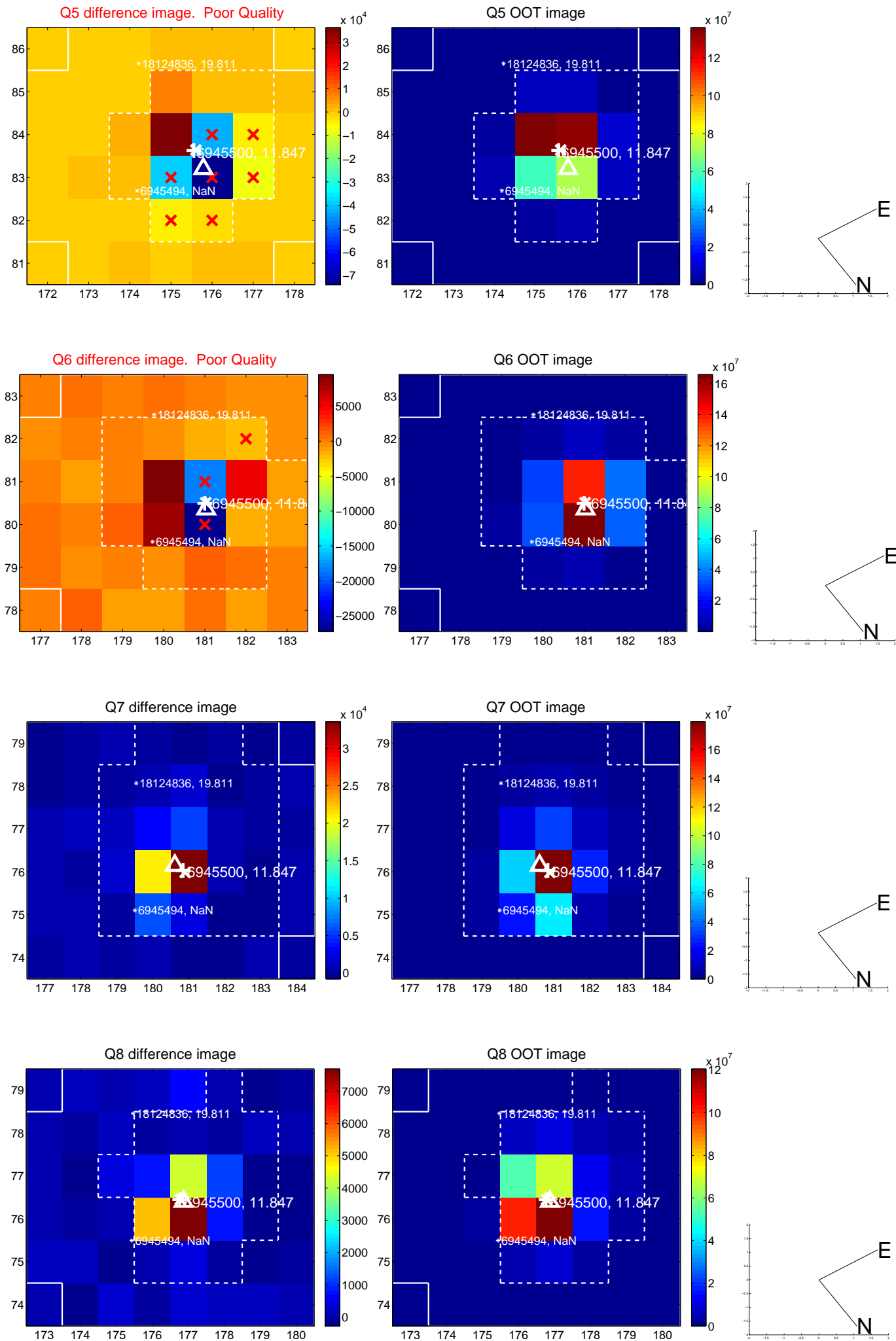


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

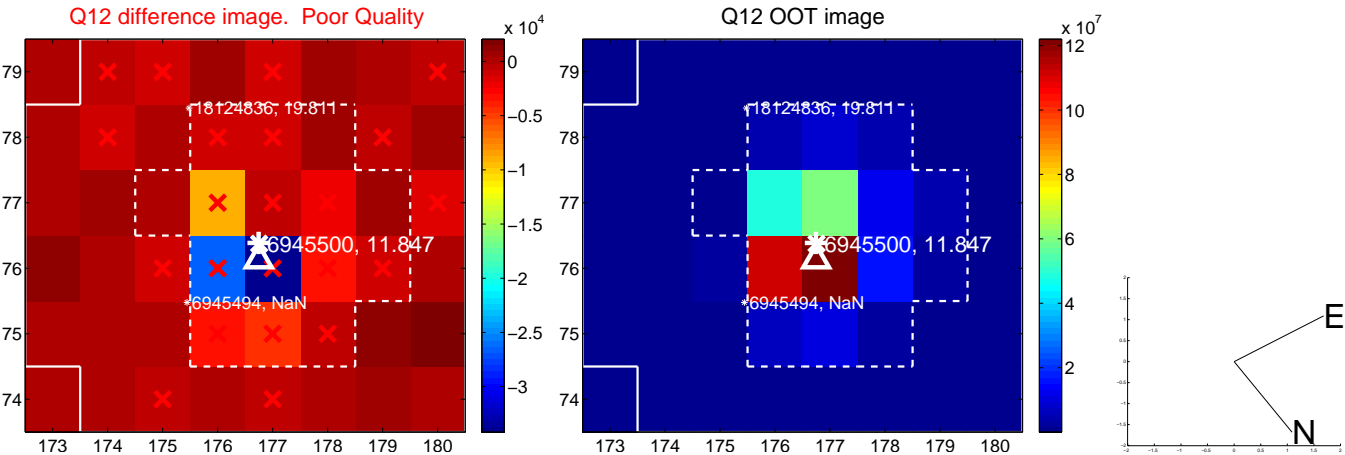
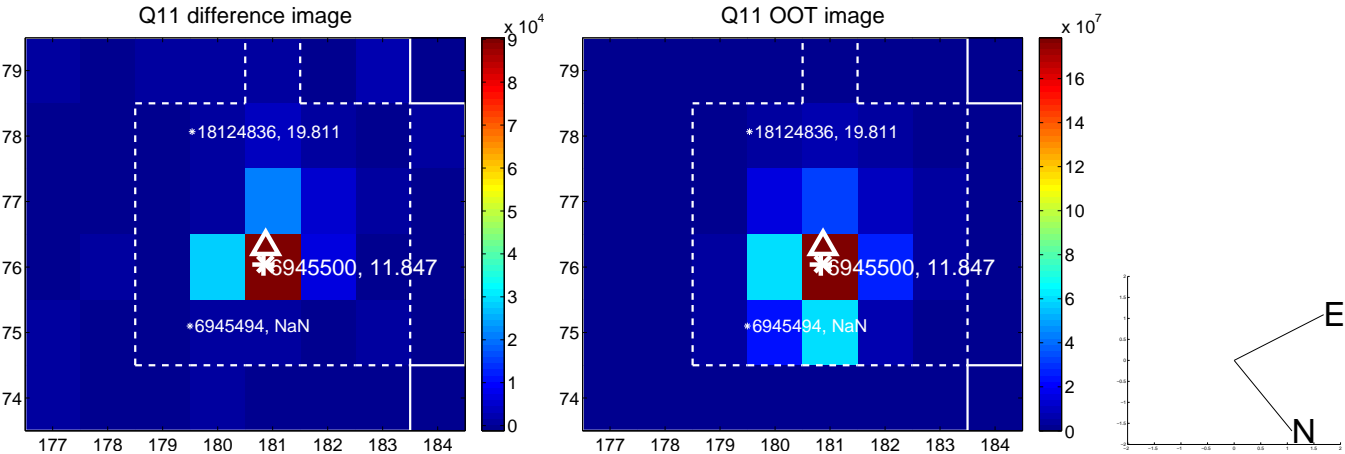
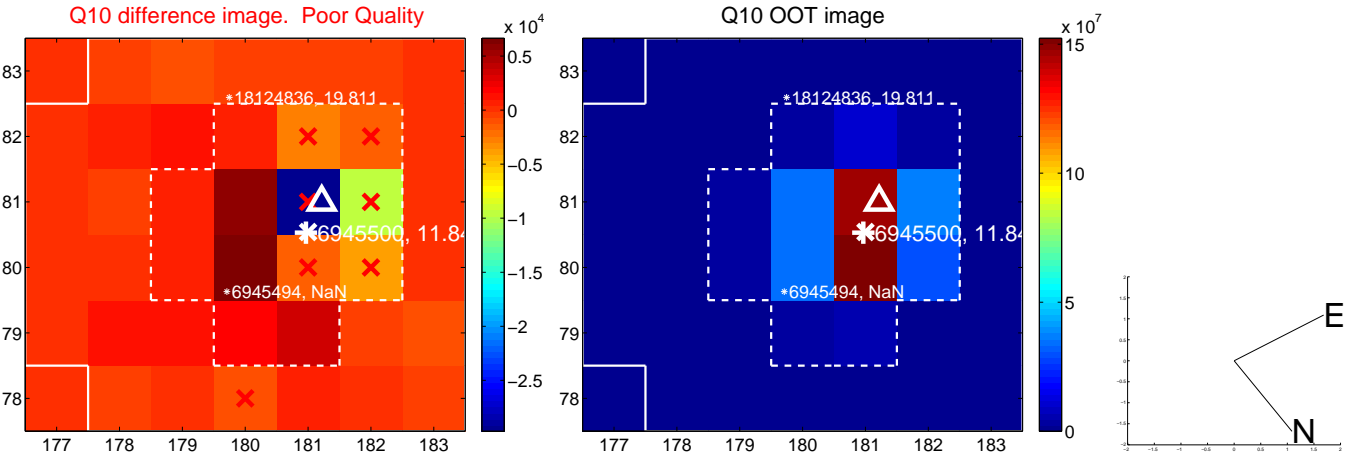
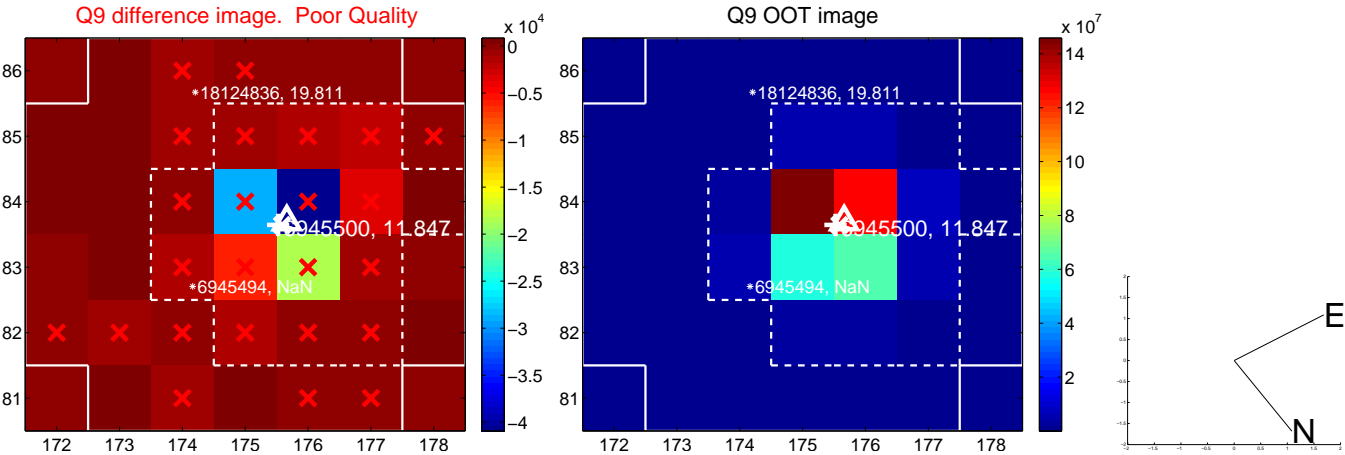
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



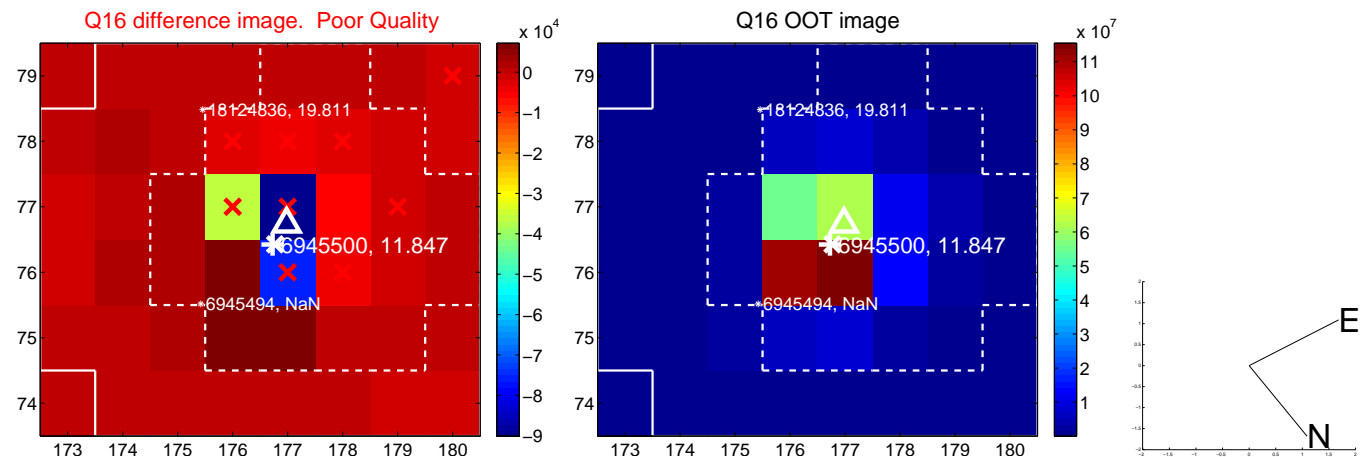
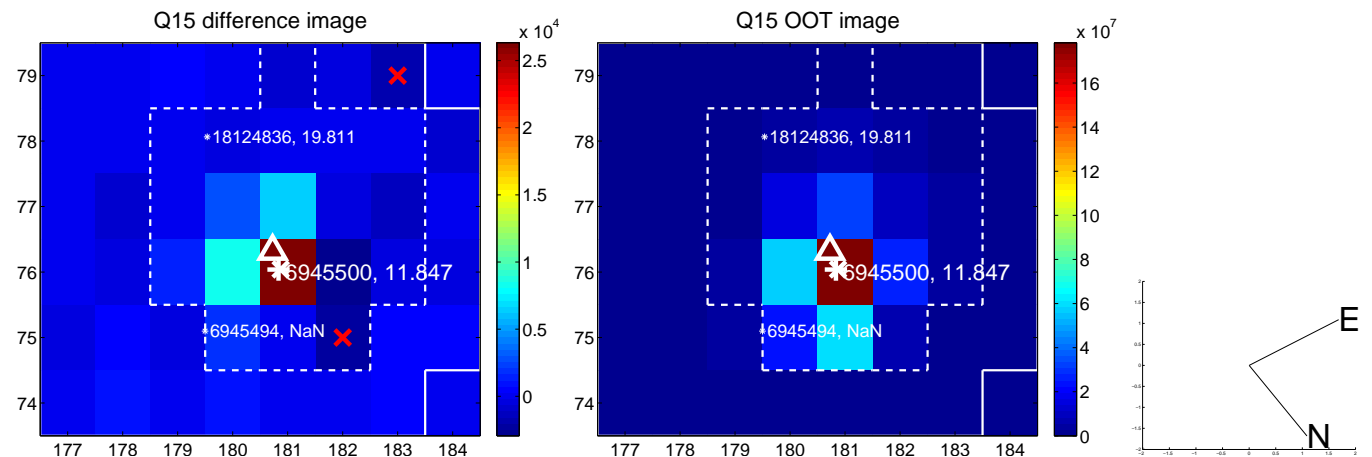
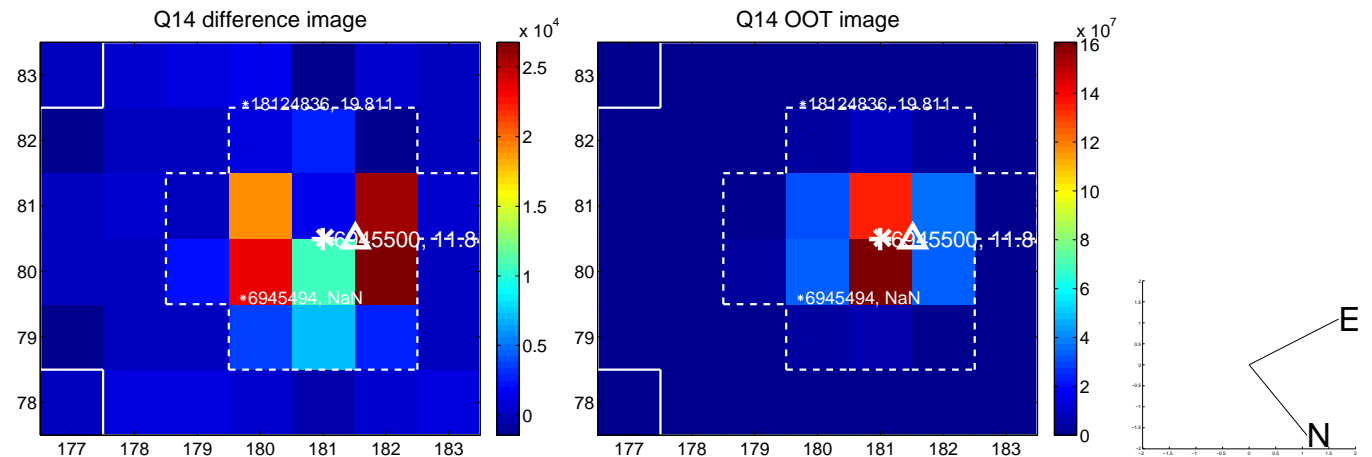
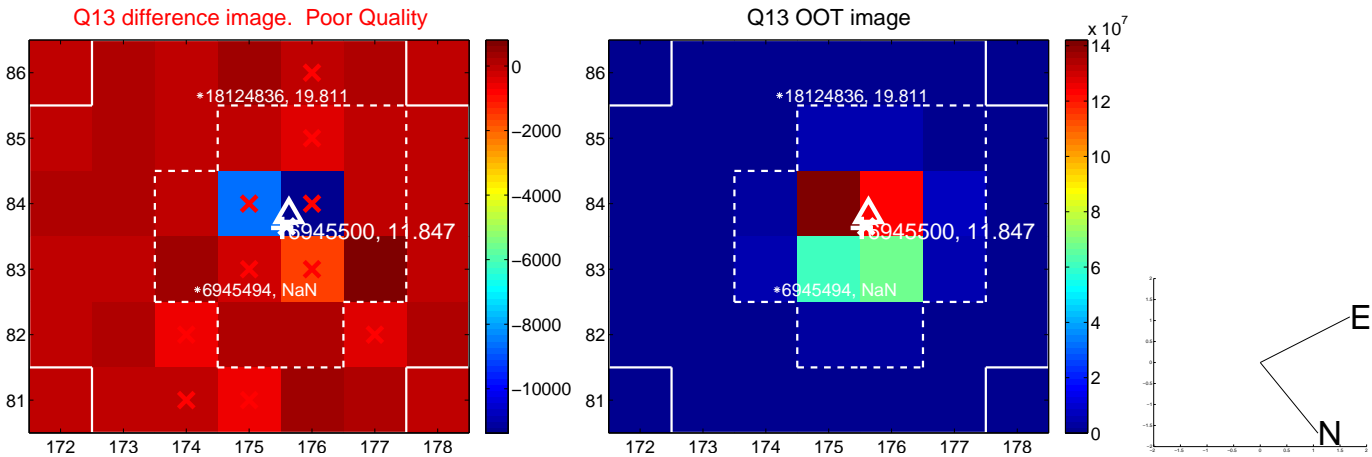
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



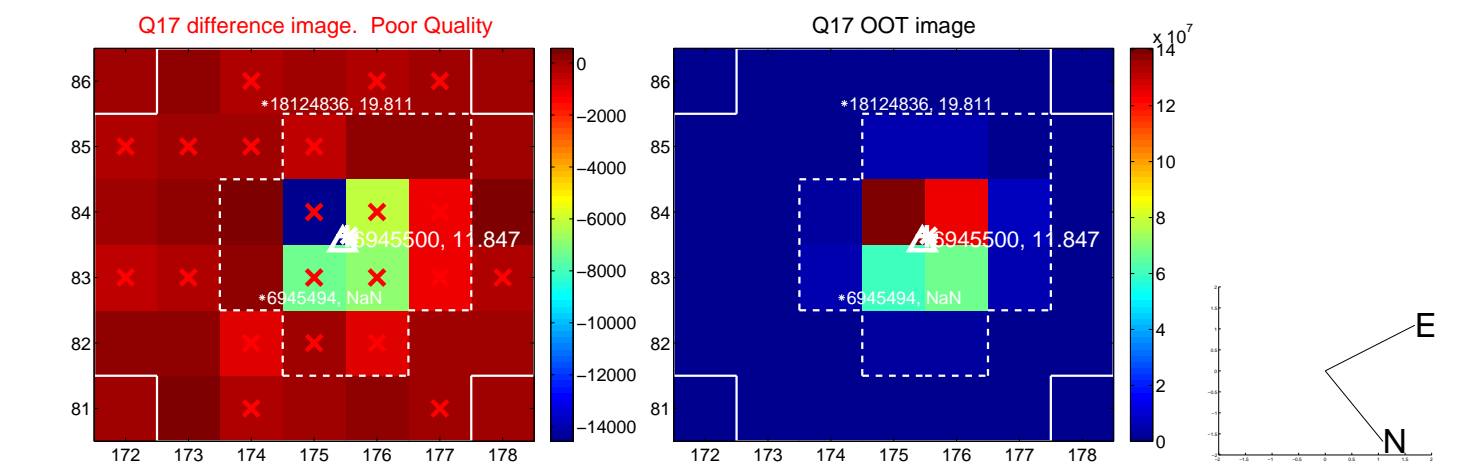
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



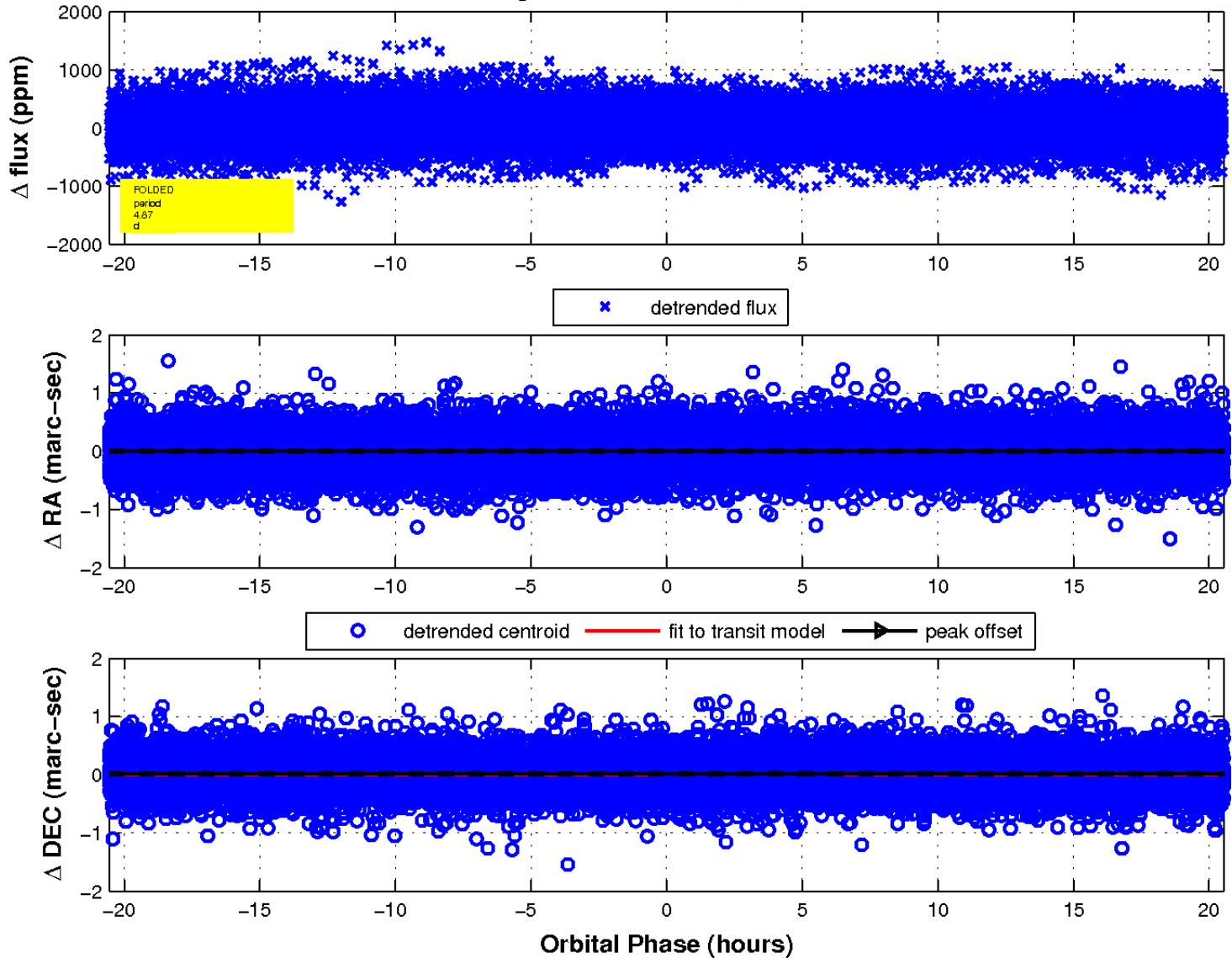
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 9 of 9



UKIRT Image

Declination

