

KIC 006301745

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})
006301745-01	OBS	No	0.692557	131.855087	3.5	4.475	13.0	0.8	1.78	6735	0.34	22186.05
006301745-02	OBS	No	76.214239	202.800249	1298.7	6.099	9.9	9.1	1.78	6735	9.22	42.07
006301745-03	OBS	No	67.441722	154.263295	1481.8	2.424	12.0	9.2	1.78	6735	7.08	49.52
006301745-04	OBS	No	137.445167	153.731639	1962.7	4.376	9.4	8.9	1.78	6735	14.54	19.16
006301745-05	OBS	No	78.078464	190.540303	1172.8	2.314	9.0	8.4	1.78	6735	6.51	40.74
006301745-06	OBS	No	178.734227	208.450655	1783.3	10.025	7.8	6.6	1.78	6735	12.37	13.50
006301745-07	OBS	No	42.666979	167.272969	180.0	1.994	8.8	1.8	1.78	6735	2.67	91.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006301745-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006301745-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006301745-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006301745-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED—HALO_GHOST
006301745-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

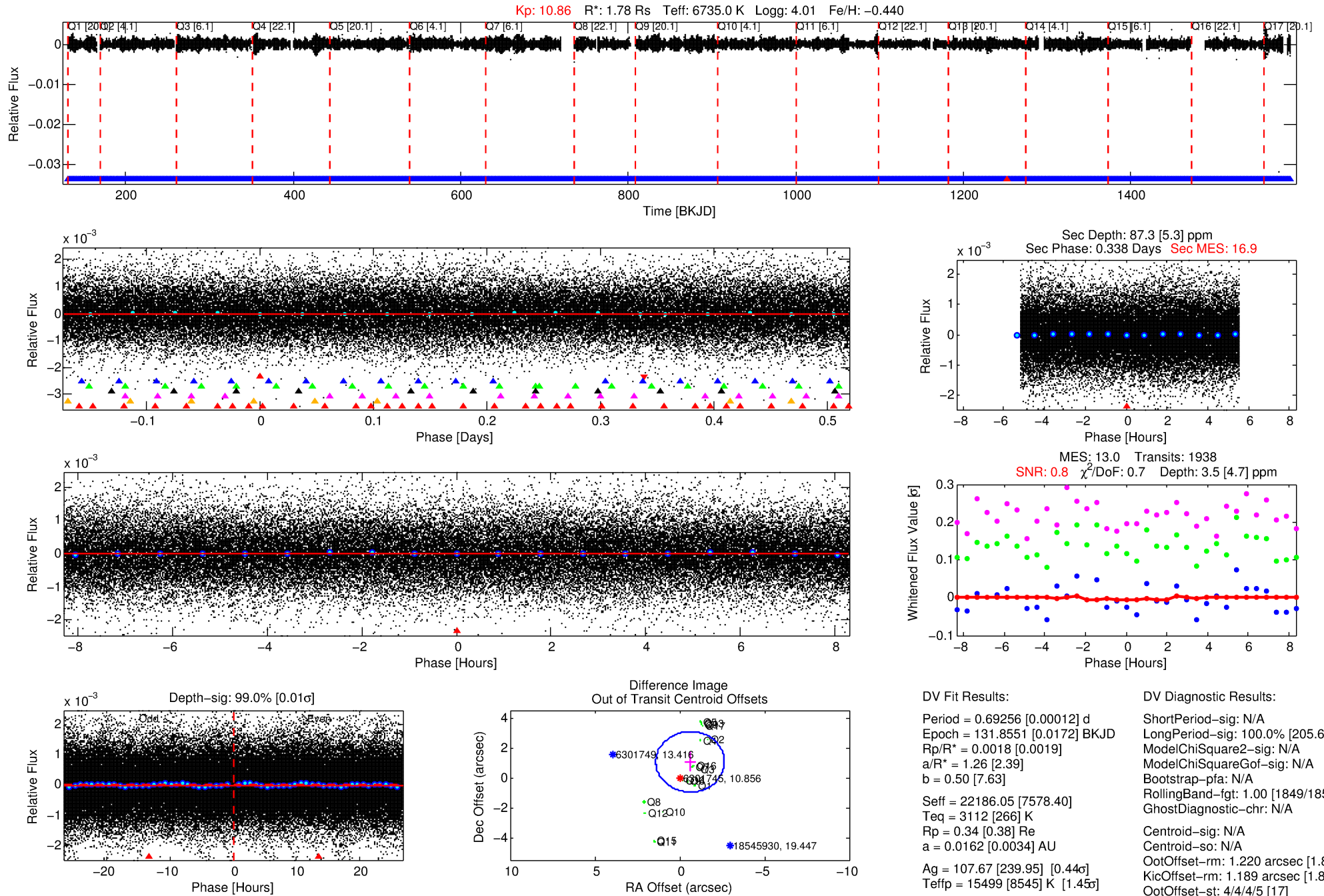
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006301745-01

No Significant Match Found

DV One-Page Summary

KIC: 6301745 Candidate: 1 of 7 Period: 0.693 d



DV Fit Results:

Period = 0.69256 [0.00012] d
Epoch = 131.8551 [0.0172] BKJD
Rp/R* = 0.0018 [0.0019]
a/R* = 1.26 [2.39]
b = 0.50 [7.63]
Seff = 22186.05 [7578.40]
Teq = 3112 [266] K
Rp = 0.34 [0.38] Re
a = 0.0162 [0.0034] AU
Ag = 107.67 [239.95] [0.44σ]
Teffp = 15499 [8545] K [1.45σ]

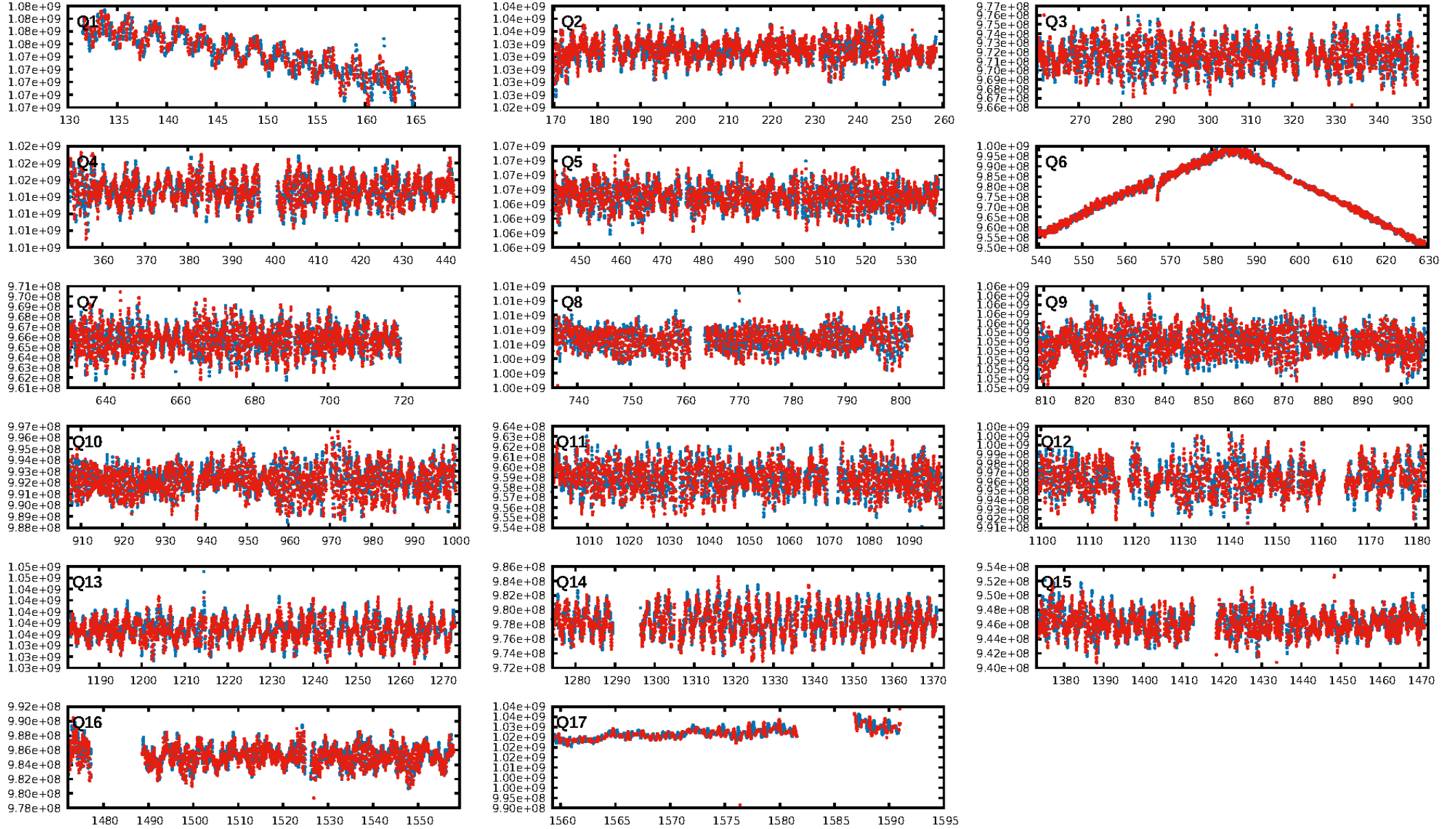
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [205.61σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1849/1850]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 1.220 arcsec [1.81σ]
KicOffset-rm: 1.189 arcsec [1.82σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.29 [5/17]
DiffImageOverlap-fno: 1.00 [17/17]

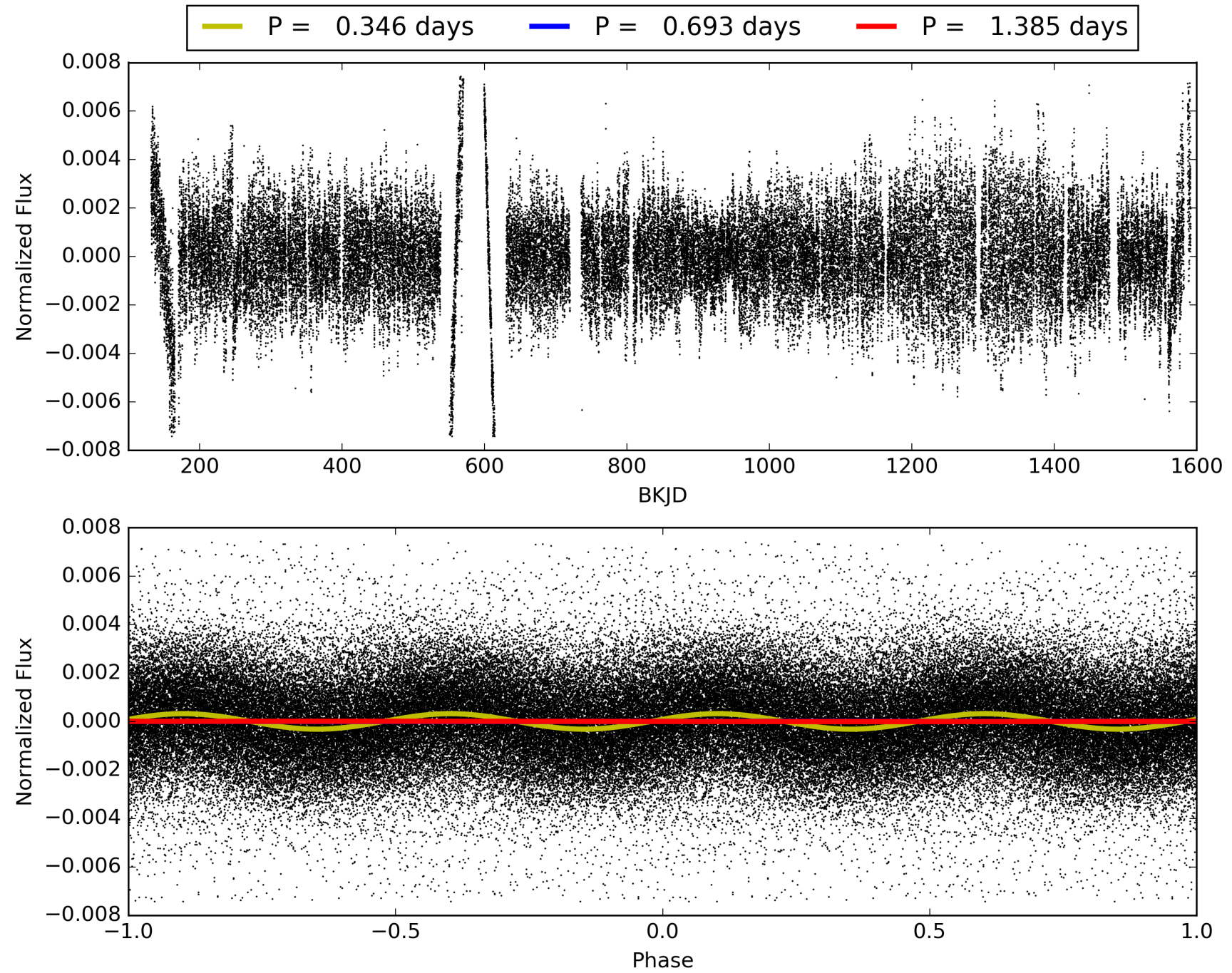
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:11:12 Z

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

TCE 006301745-01, PDC Light Curves

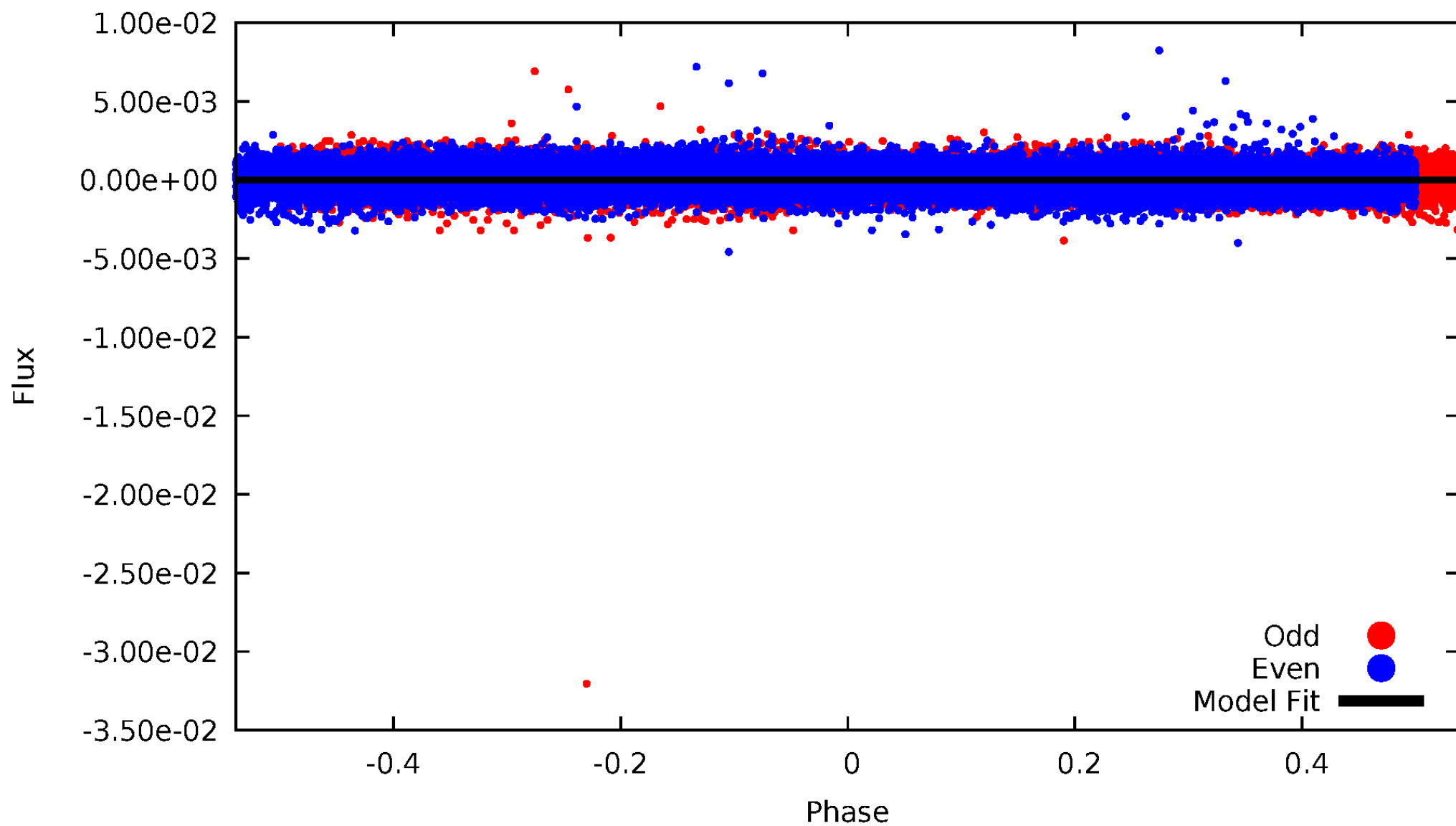


TCE 006301745-01



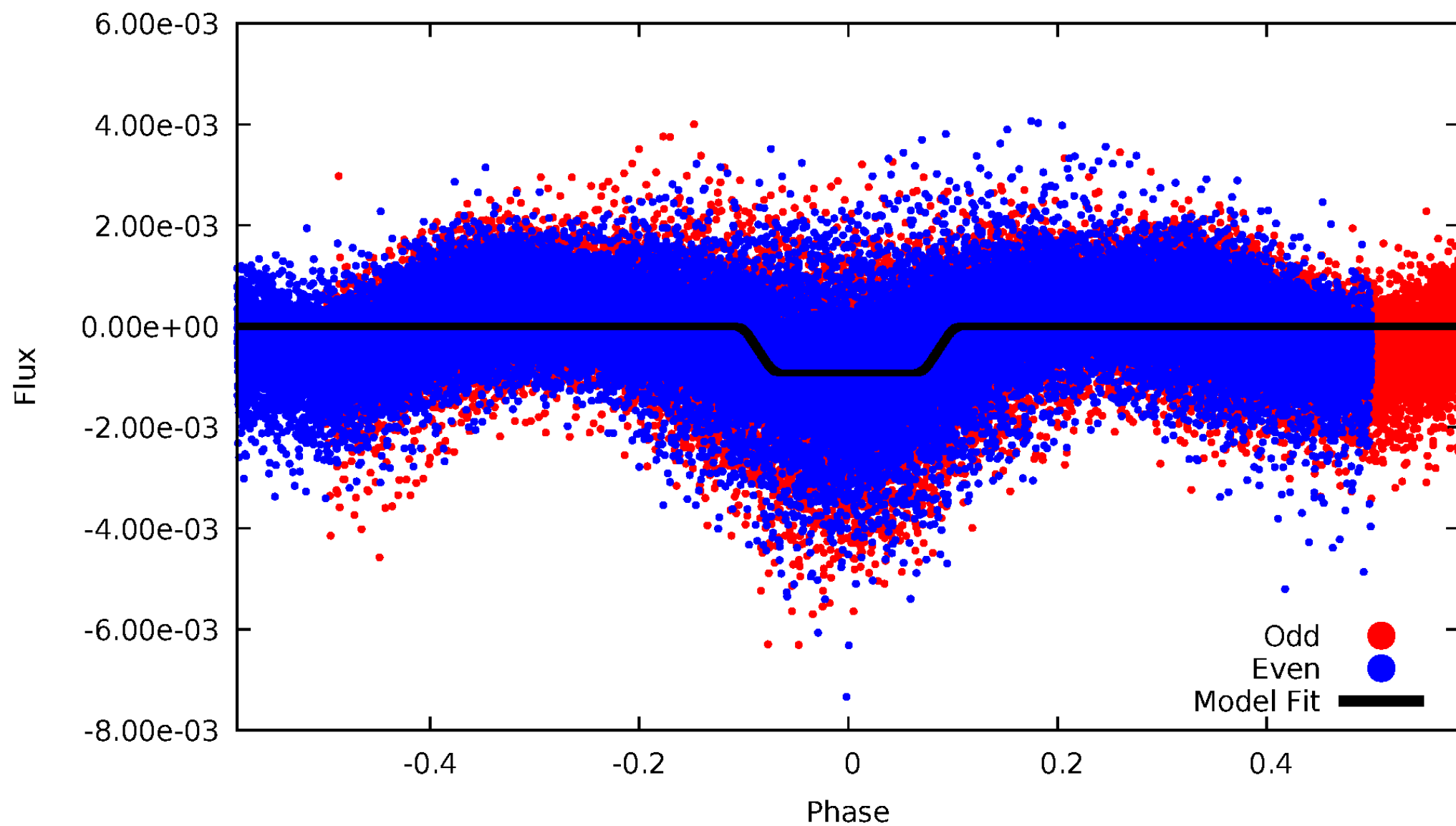
DV Odd/Even

TCE 006301745-01

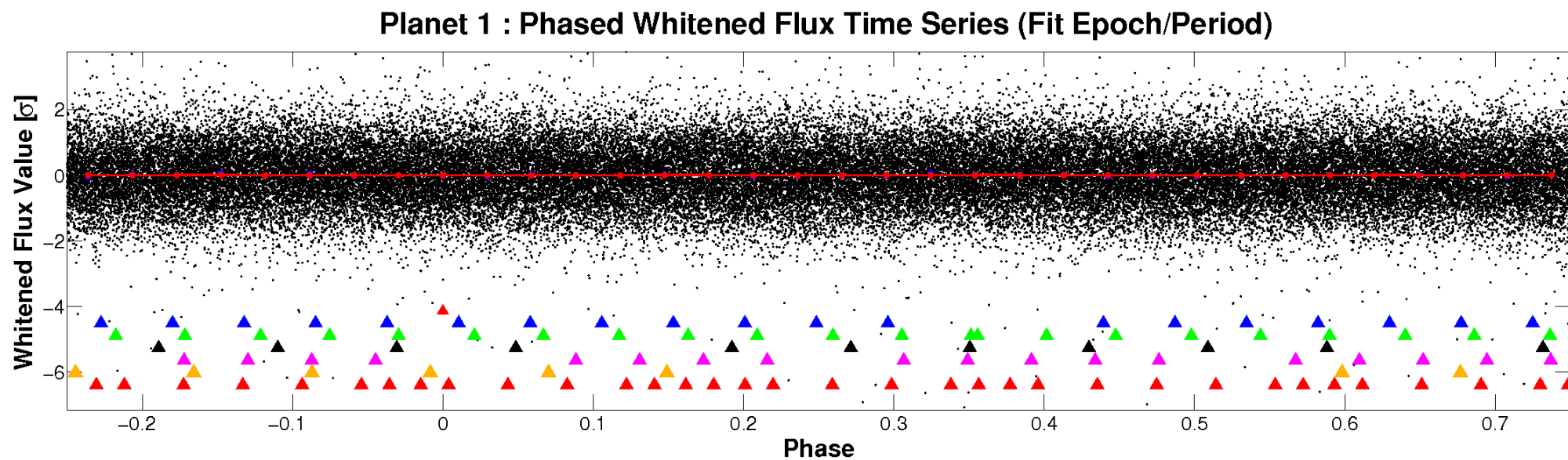
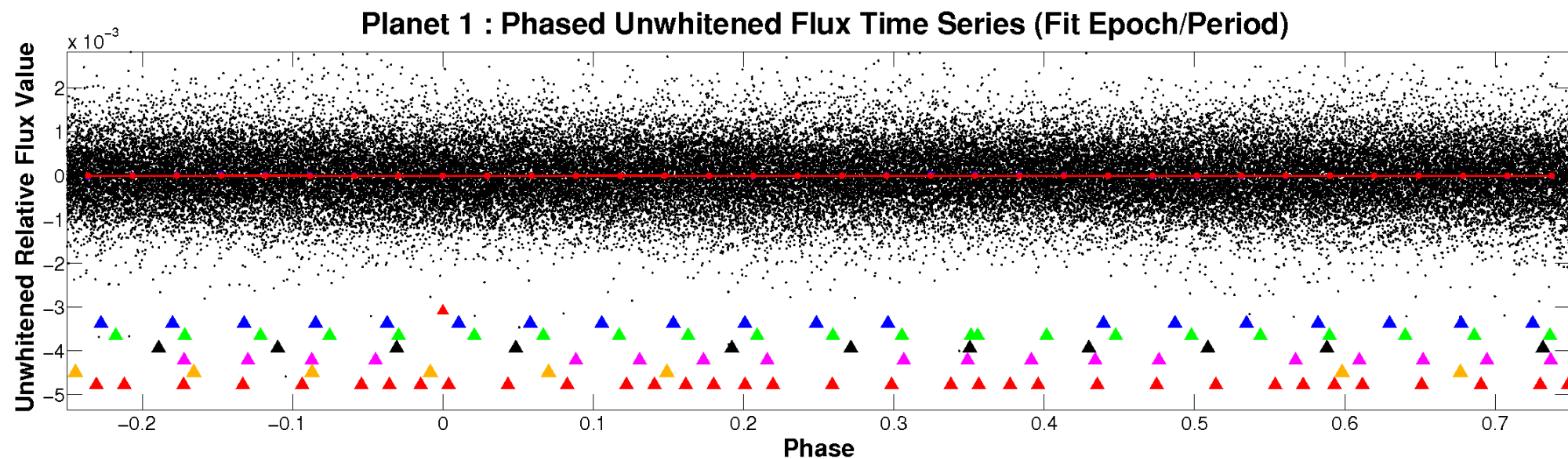


ALT Odd/Even

TCE 006301745-01

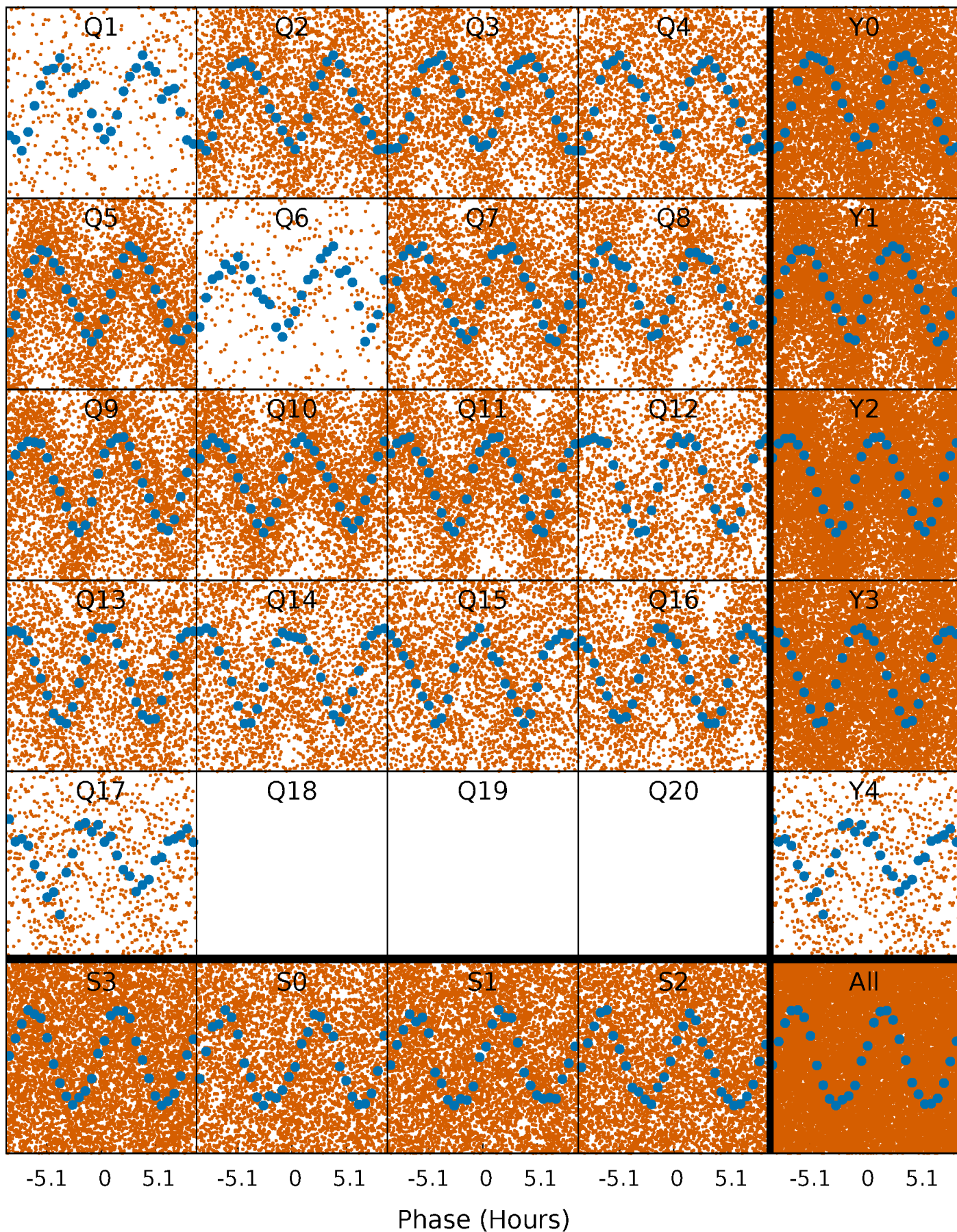


Non-Whitened Vs. Whitened Light Curve



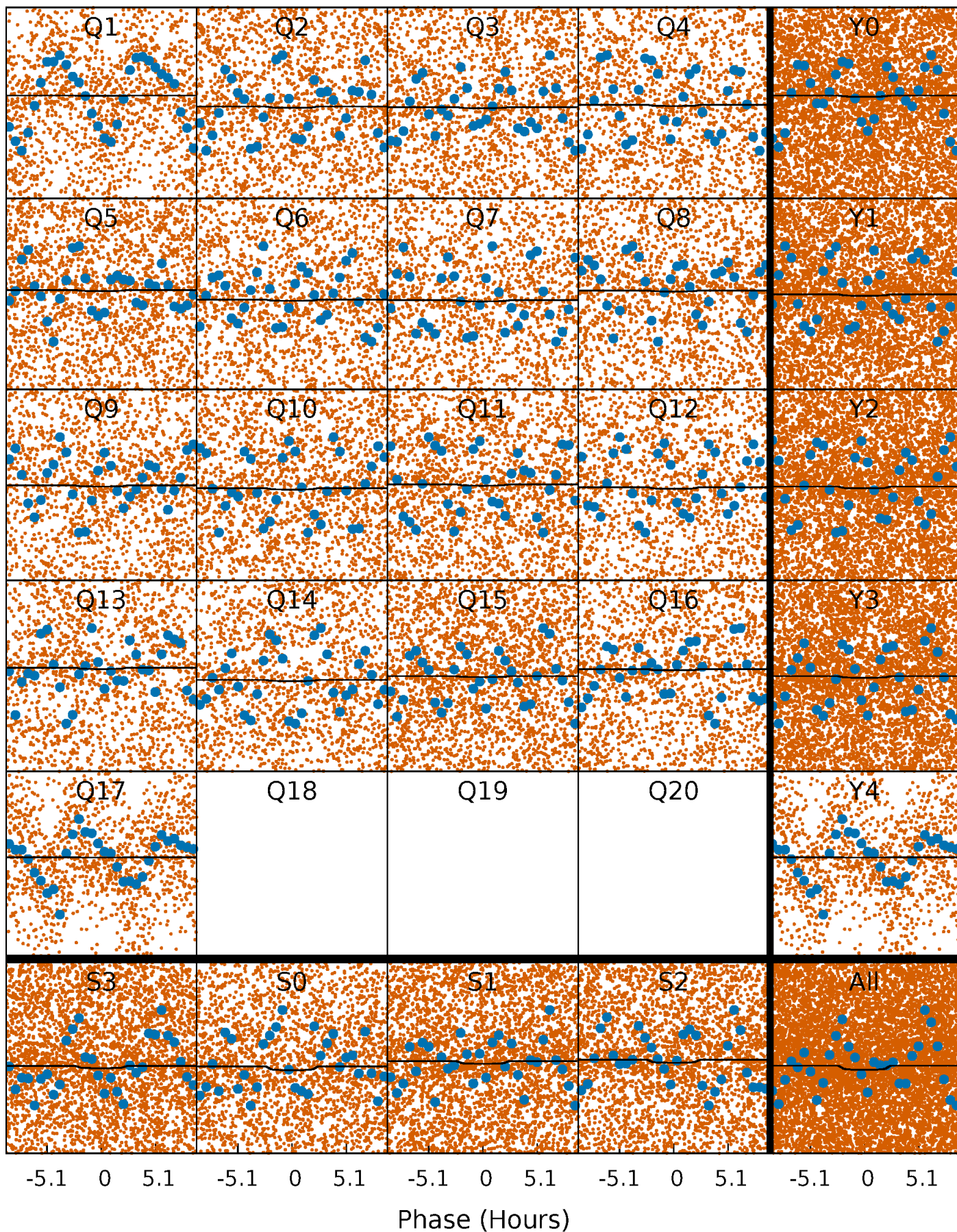
PDC Quarter-Phased Transit Curves

TCE 006301745-01 P= 0.692557 Days $T_0=131.855087$ (BKJD)



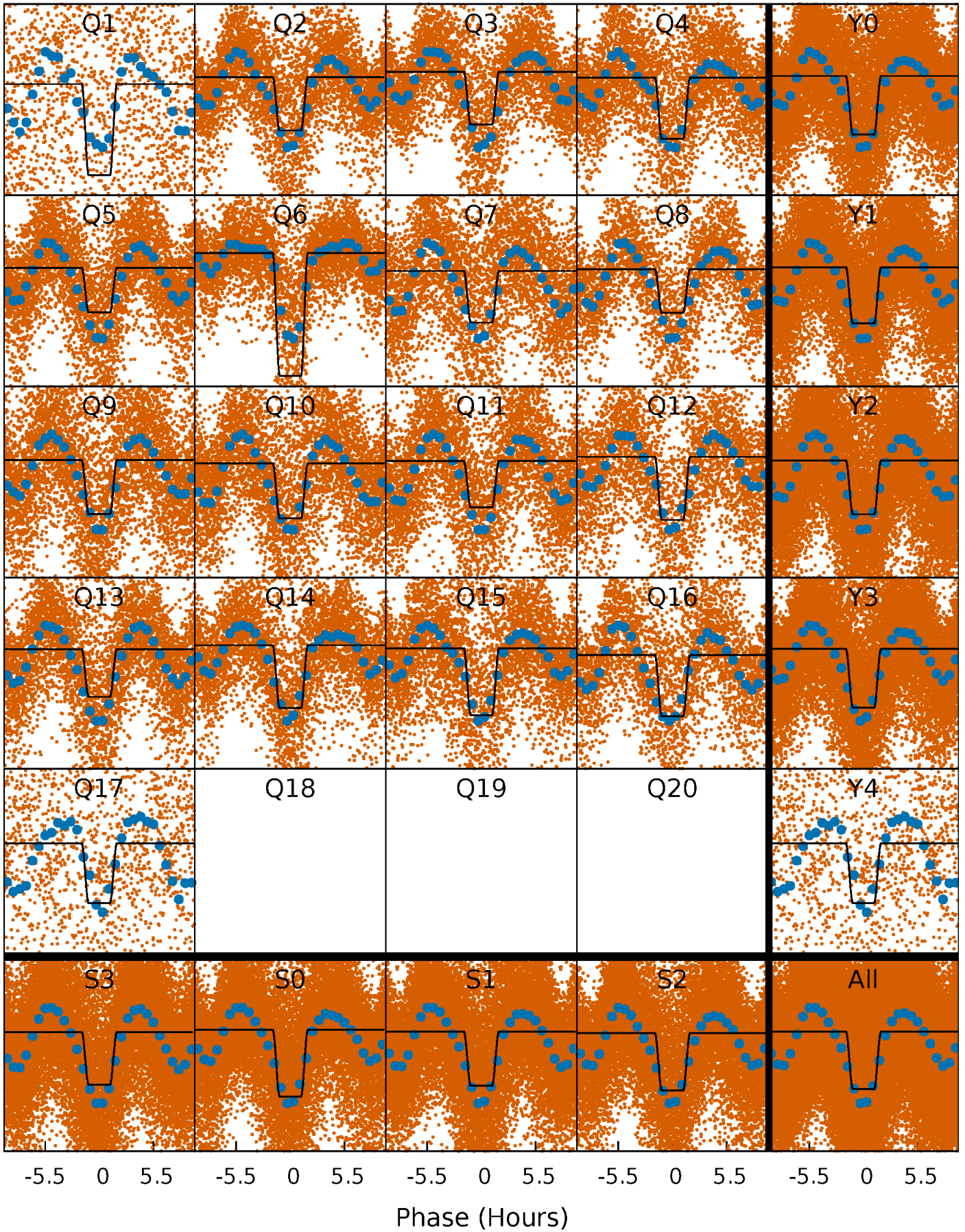
DV Quarter-Phased Transit Curves

TCE 006301745-01 P= 0.692557 Days $T_0=131.855087$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

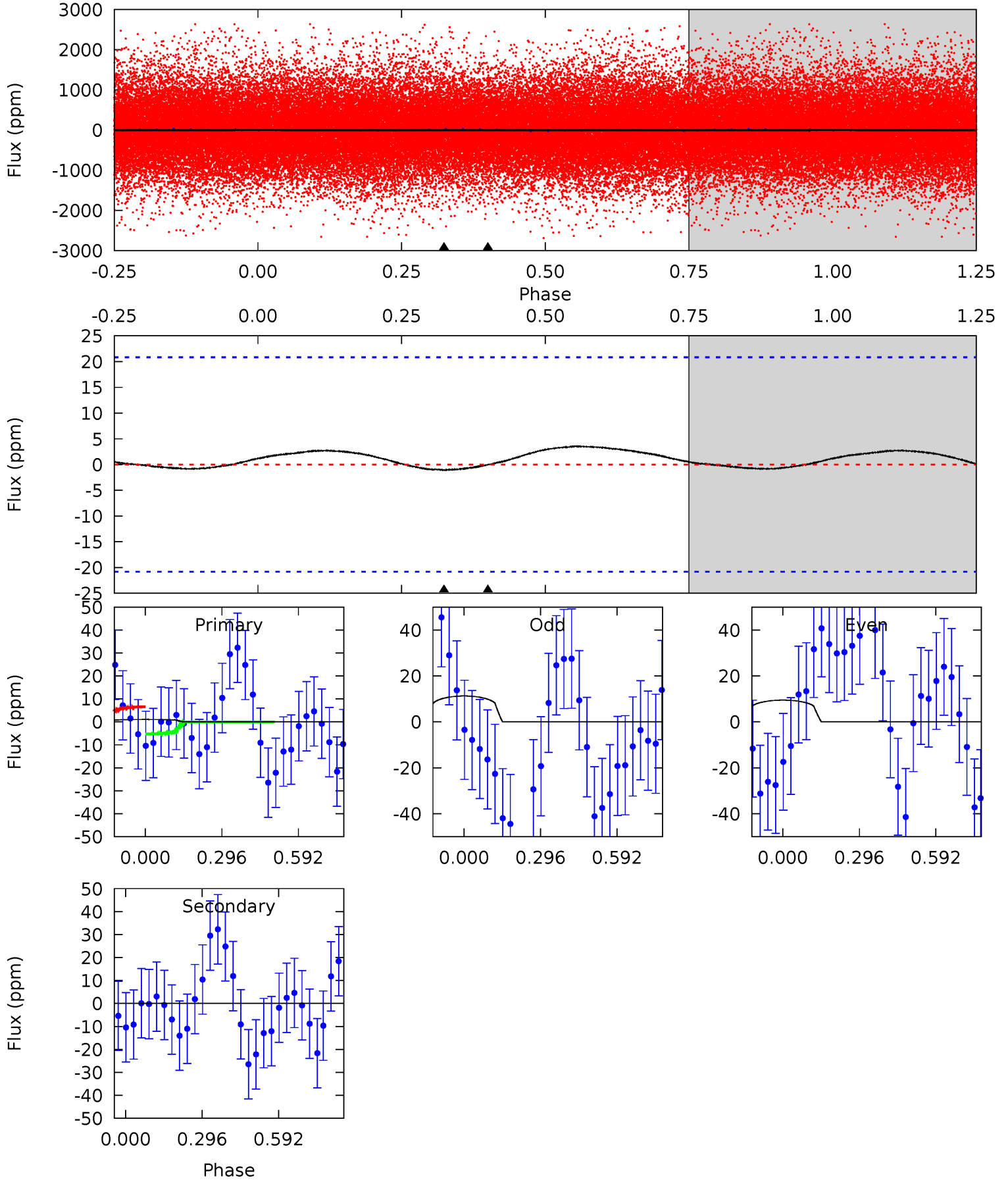
TCE 006301745-01 P= 0.692451 Days $T_0=131.876352$ (BKJD)



DV Model-Shift Uniqueness Test

006301745-01, P = 0.692557 Days, E = 131.162530 Days

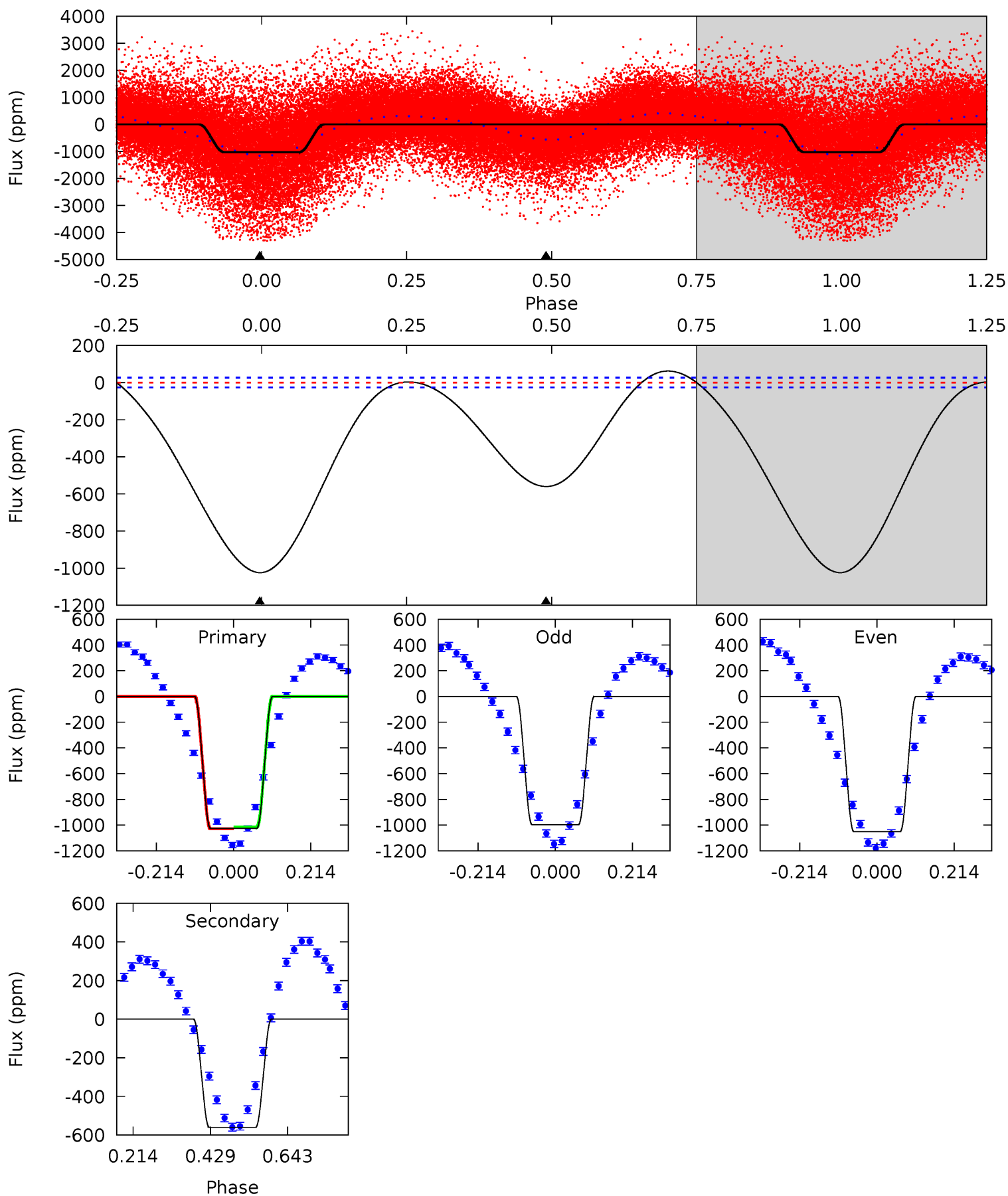
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.22	0	0	0	4.33	1.05	0.16	0.22	0.22	0	0	0.19	-4.34	0.77	0.14



Alt Model-Shift Uniqueness Test

006301745-01, P = 0.692451 Days, E = 131.183901 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
171.1	93.5	0	0	4.40	1.24	5.99	171.1	171.1	93.5	93.5	4.59	1.08	0.06	1.17



Stellar Parameters For KIC 006301745

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6735^{+122}_{-136}	$4.012^{+0.195}_{-0.105}$	$-0.440^{+0.150}_{-0.150}$	$1.781^{+0.313}_{-0.383}$	$1.190^{+0.146}_{-0.097}$	$0.297^{+0.310}_{-0.095}$
	+2%/-2%	+5%/-3%	+34%/-34%	+18%/-22%	+12%/-8%	+104%/-32%
Source	SPE4	SPE4	SPE4	DSEP		

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

Secondary Eclipse Parameters for KIC 006301745-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-0 ± 5	$0.43^{+0.32}_{-0.27}$	4324^{+204}_{-266}	-3823^{+11235}_{-3926}	$0.019^{+6.097}_{-6.203}$
Alt.	-560 ± 6	$5.83^{+0.75}_{-0.75}$	4319^{+219}_{-264}	5745^{+224}_{-216}	$2.430^{+0.732}_{-0.510}$

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

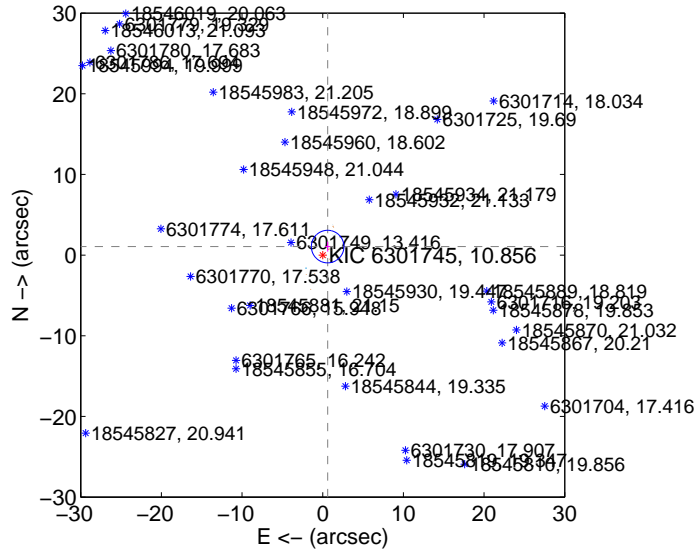
Supplemental centroid analysis for 006301745-01. **Kepler magnitude: 10.86.** Transit SNR 0.78

There are 5 quarters with good PRF difference image offsets

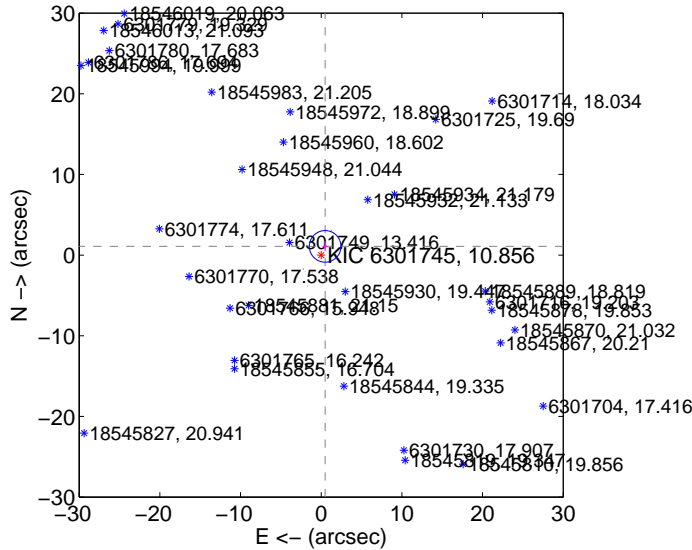
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.220 ± 0.673	1.81	-0.611 ± 0.310	1.056 ± 0.618
PRF-fit source offset from KIC position	1.189 ± 0.653	1.82	-0.491 ± 0.319	1.083 ± 0.587
photometric centroid source offset	—	—	—	—

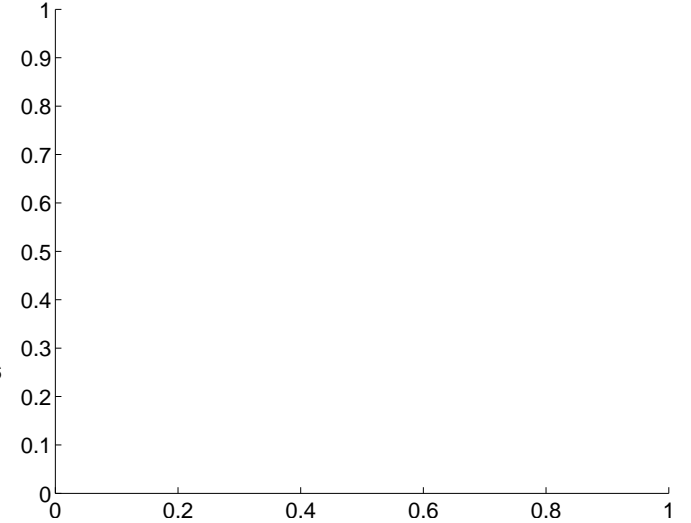
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

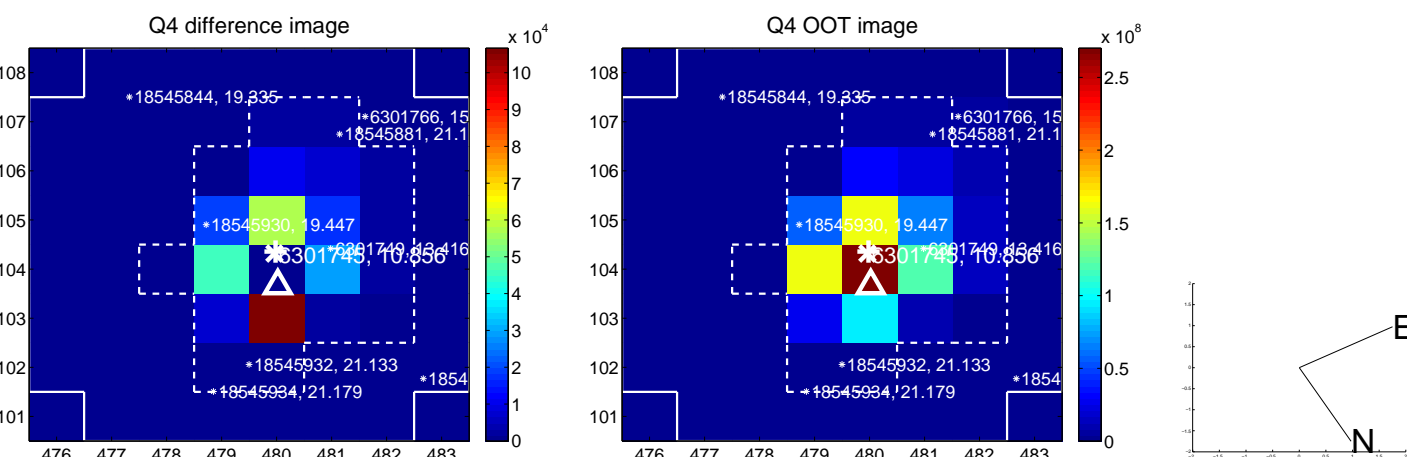
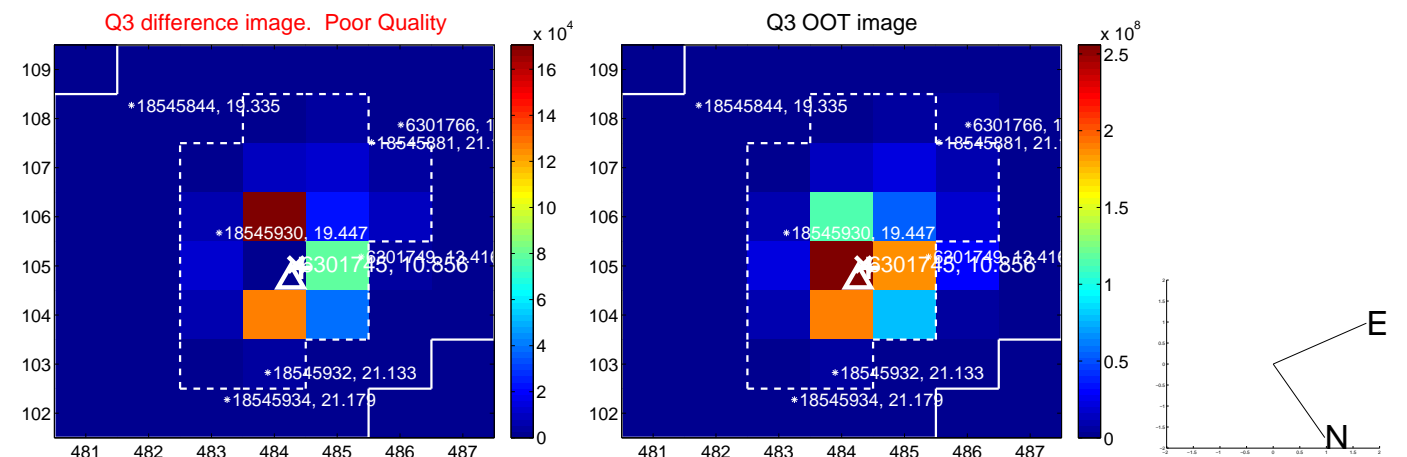
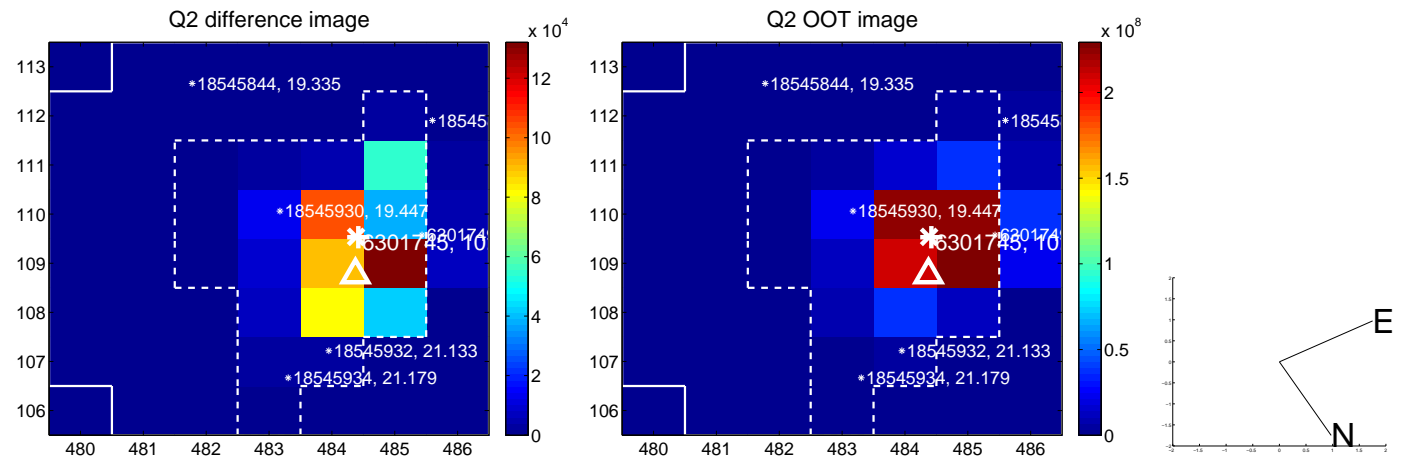
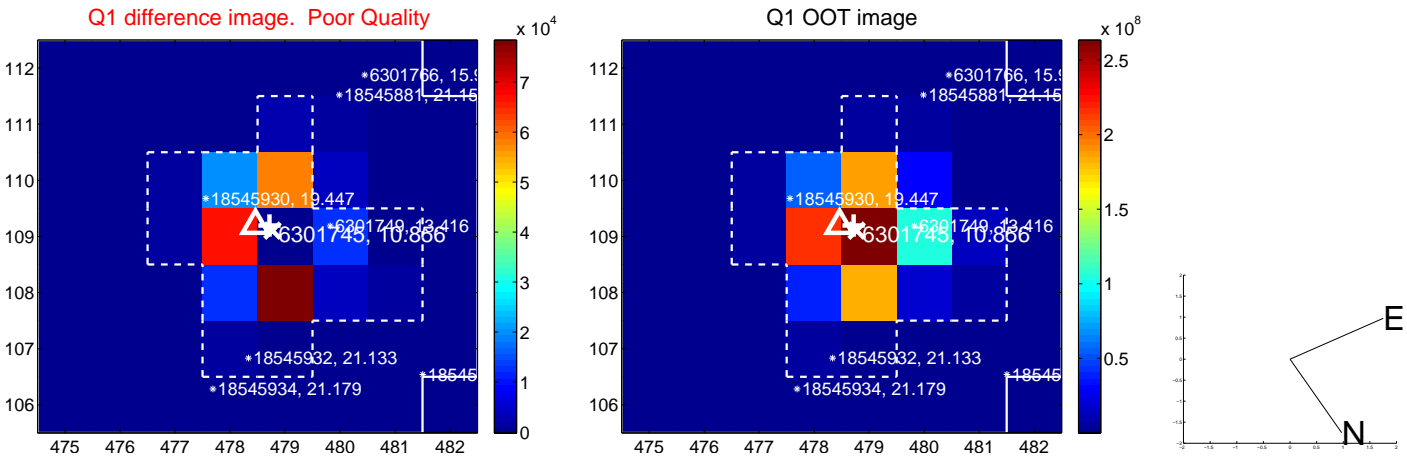


There are no photometric centroids

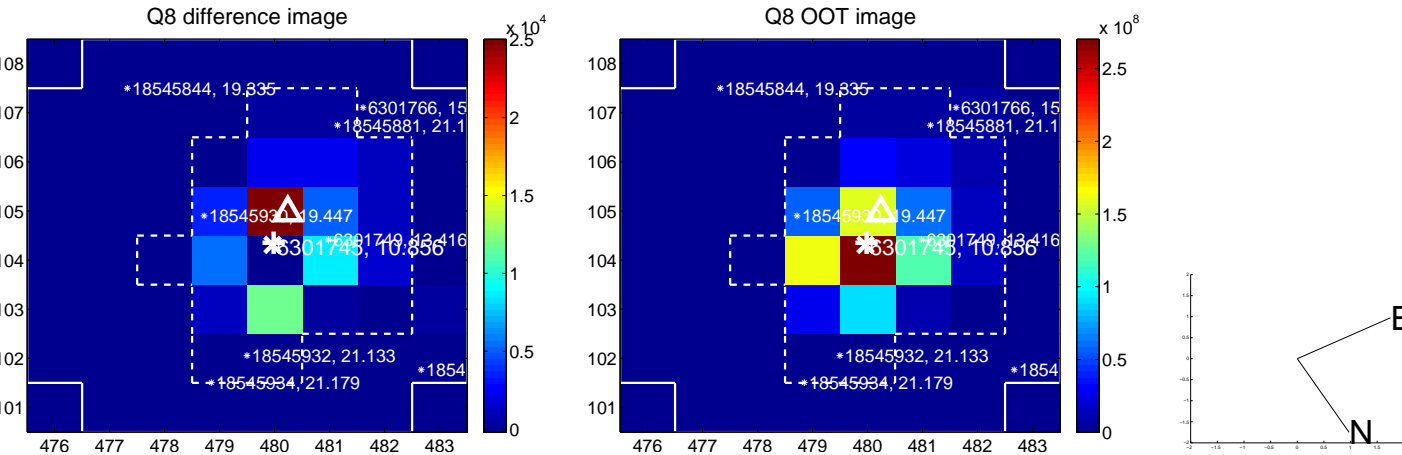
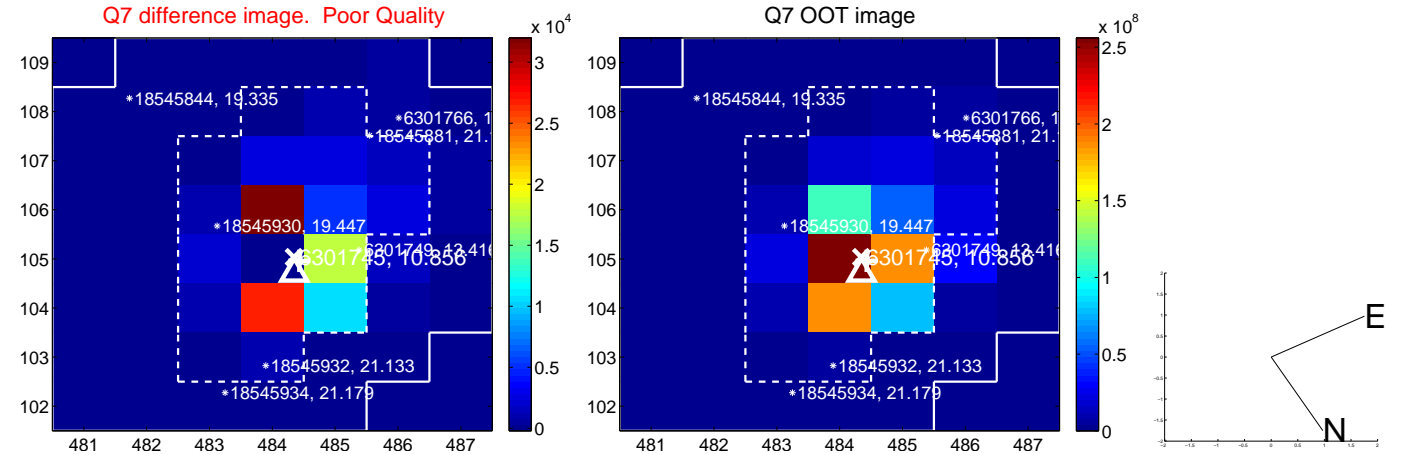
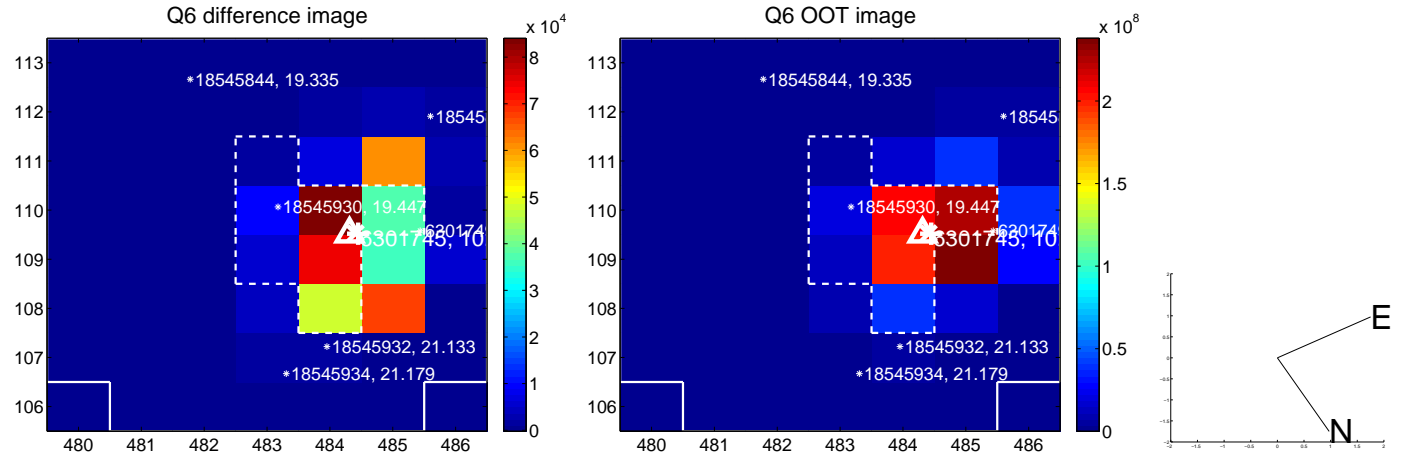
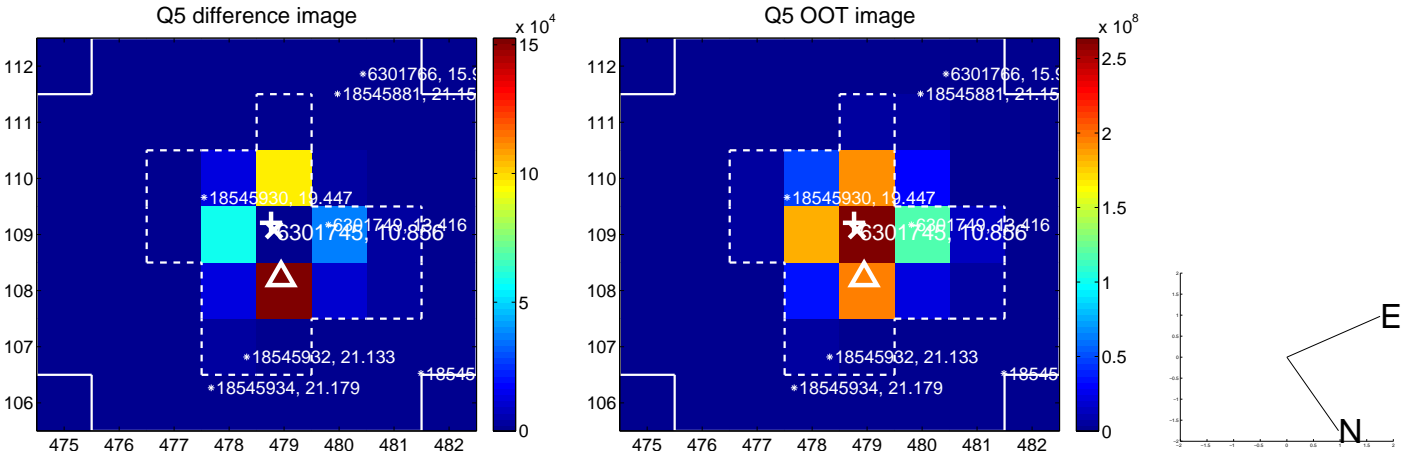


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

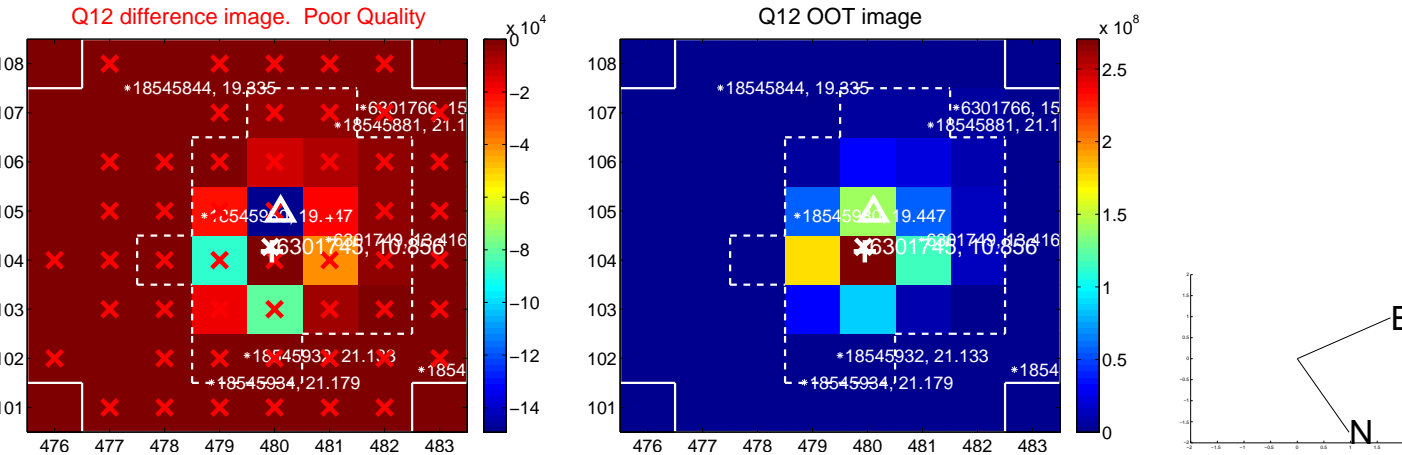
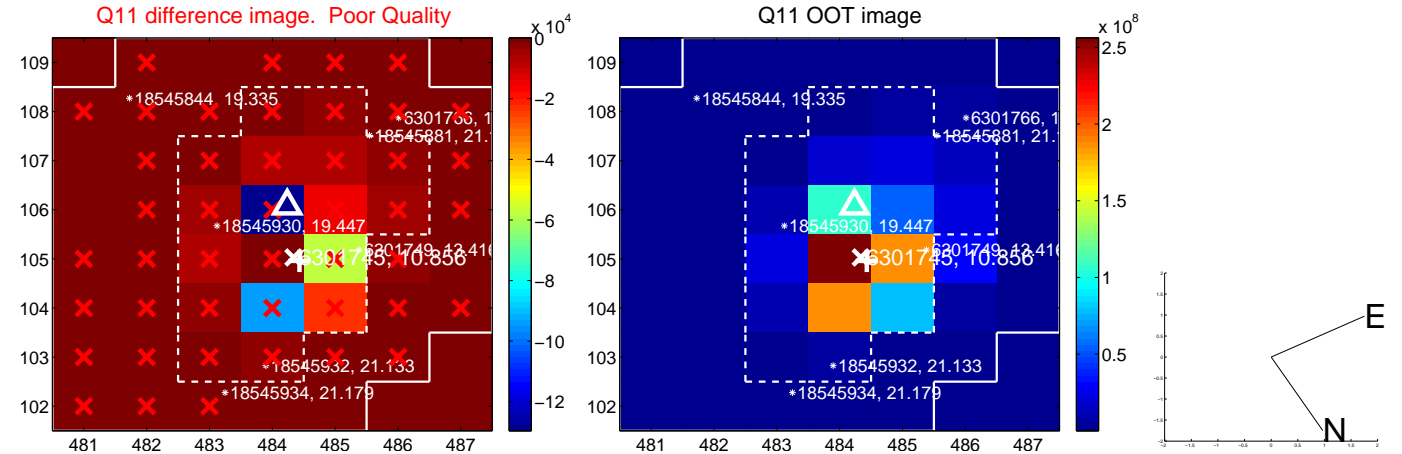
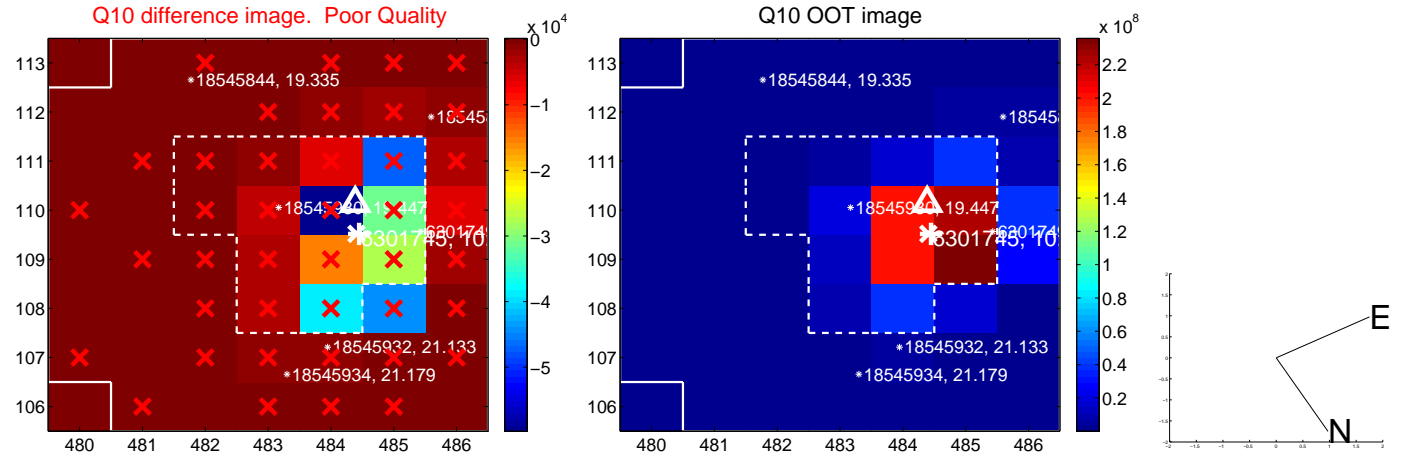
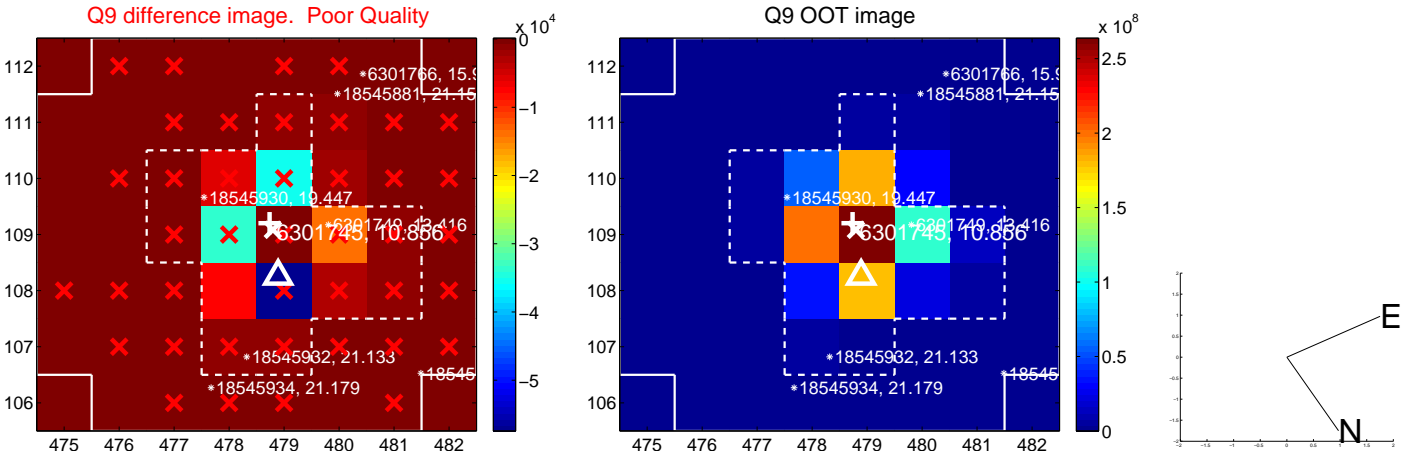
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



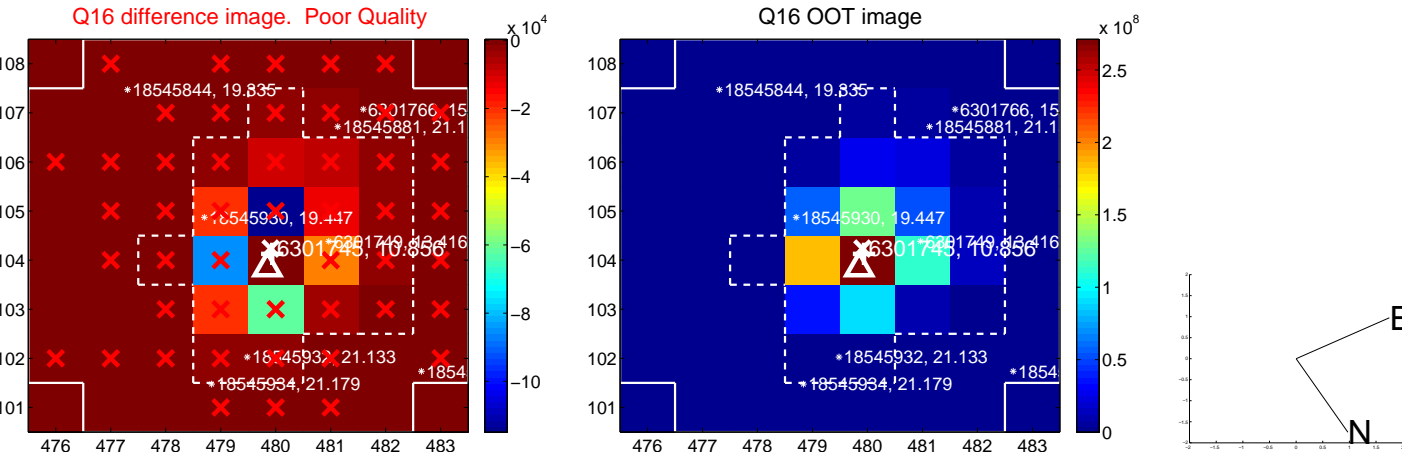
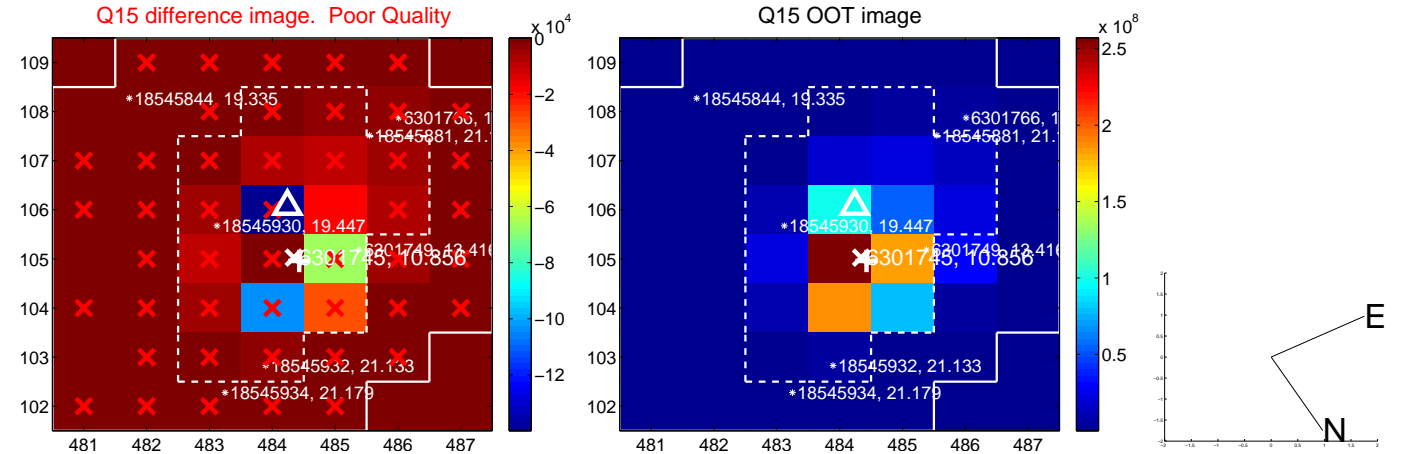
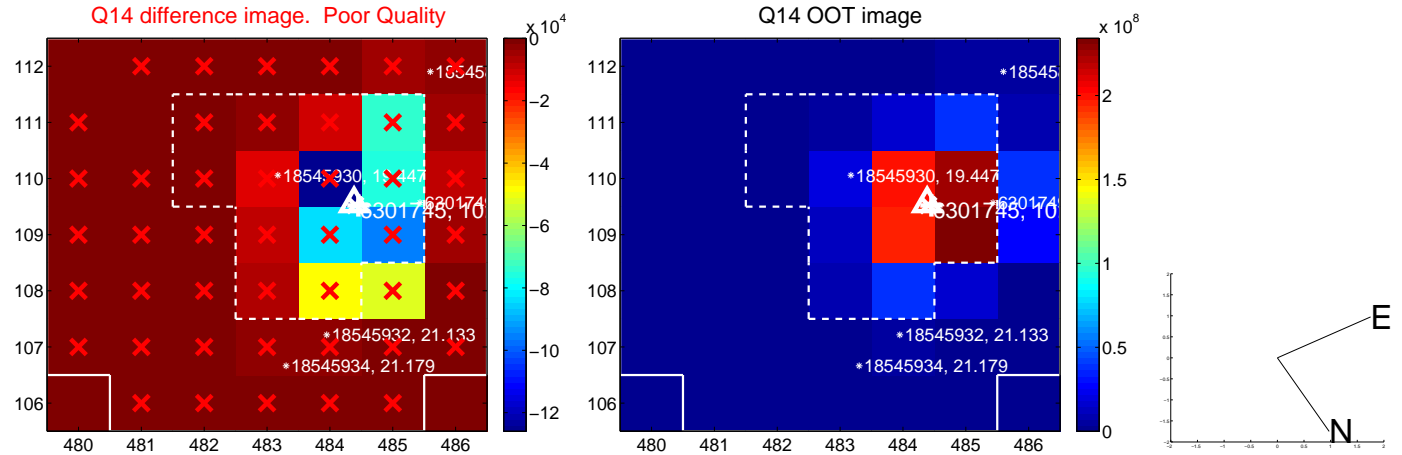
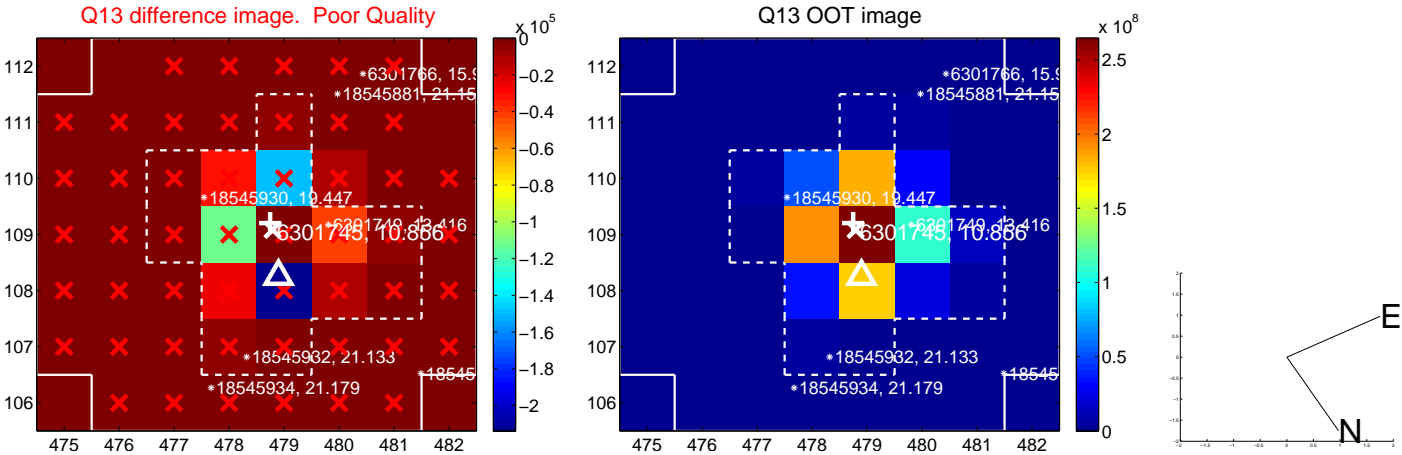
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



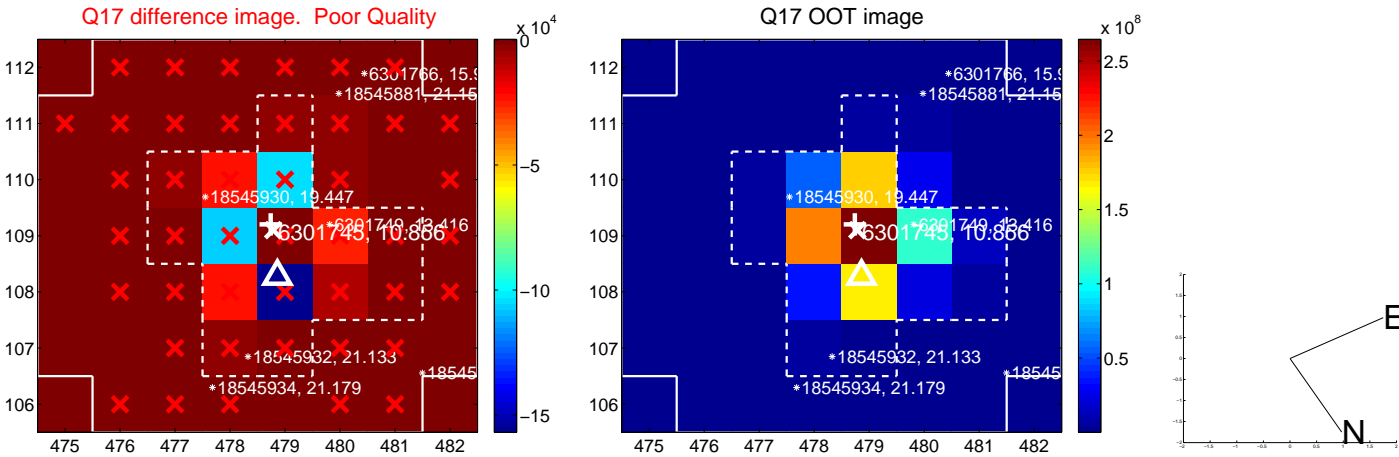
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

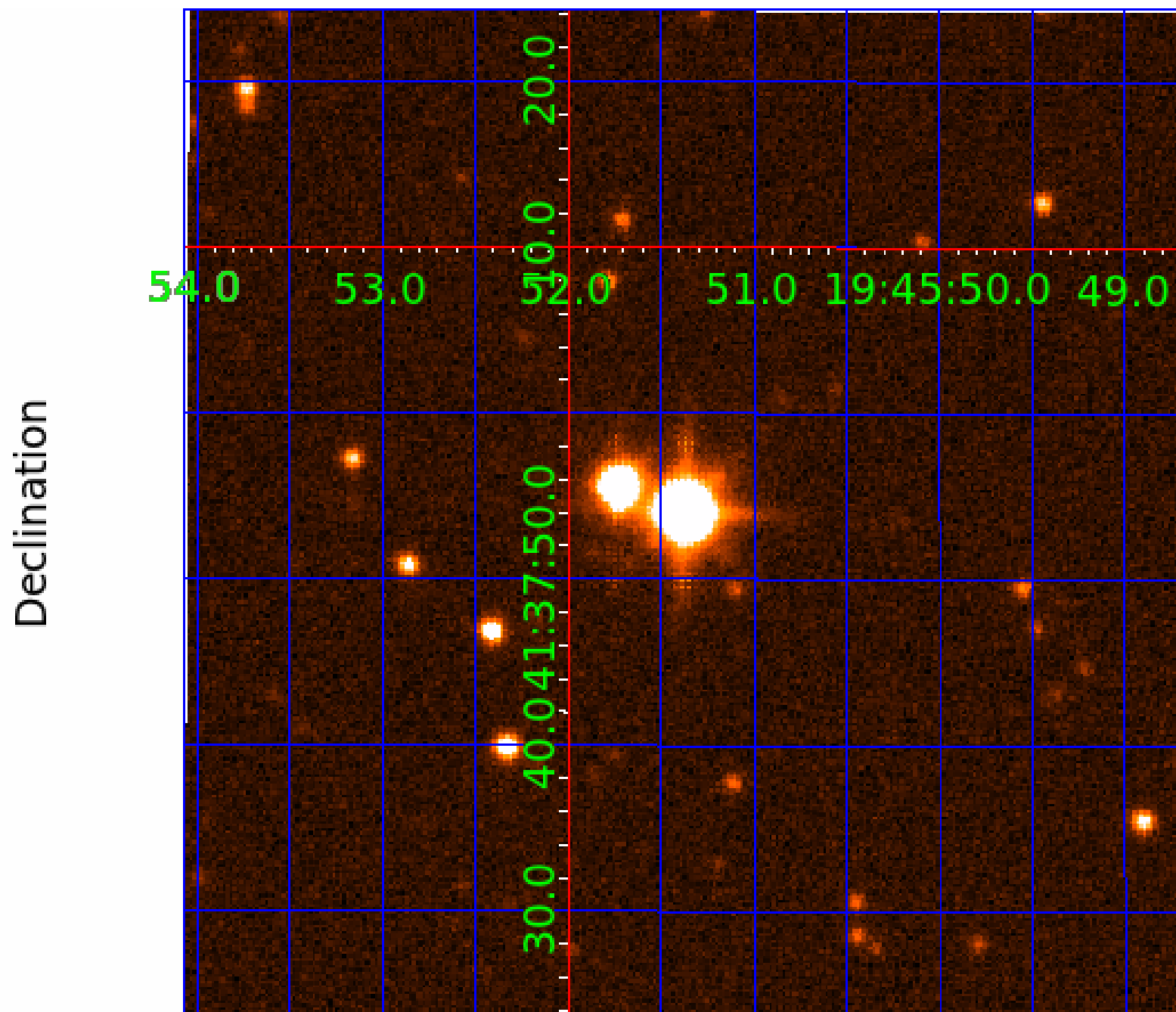


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image



KIC 006301745

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})
006301745-01	OBS	No	0.692557	131.855087	3.5	4.475	13.0	0.8	1.78	6735	0.34	22186.05
006301745-02	OBS	No	76.214239	202.800249	1298.7	6.099	9.9	9.1	1.78	6735	9.22	42.07
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006301745-06	OBS	No	178.734227	208.450655	1783.3	10.025	7.8	6.6	1.78	6735	12.37	13.50
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Robovetter Results

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006301745-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006301745-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006301745-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006301745-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED—HALO_GHOST
006301745-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

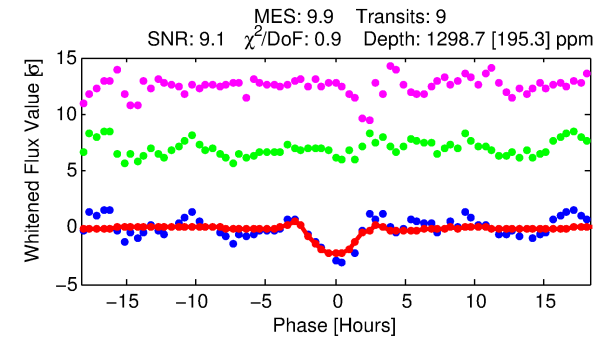
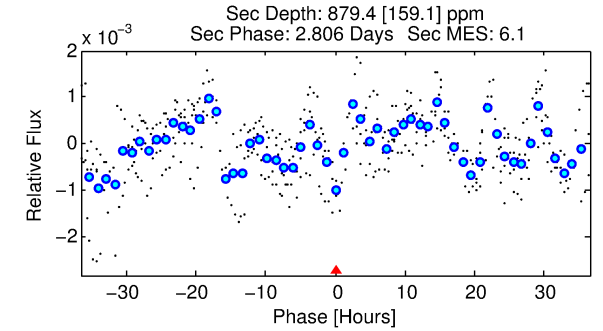
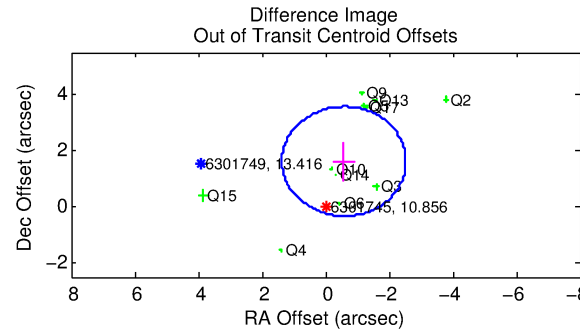
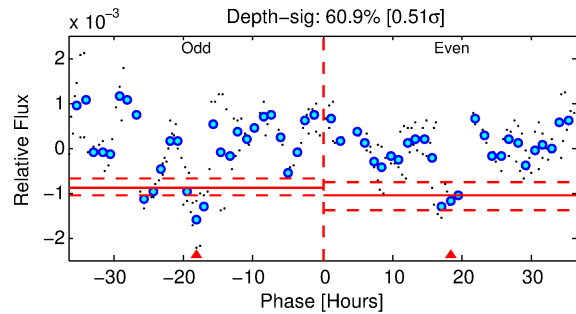
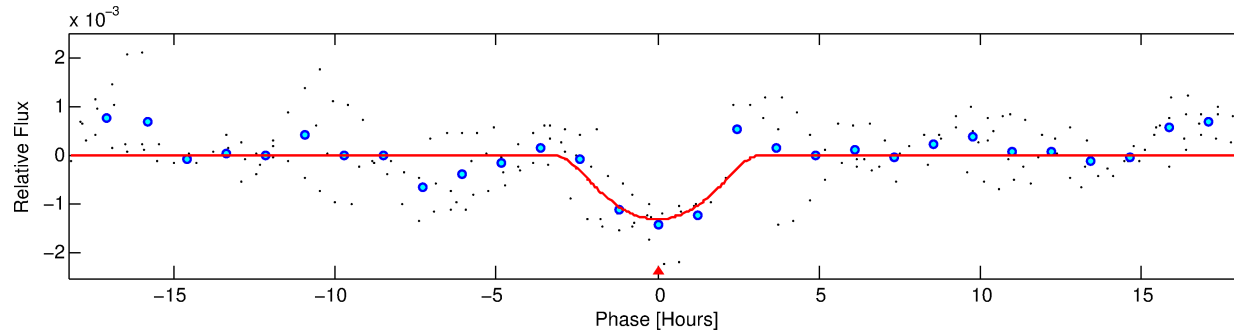
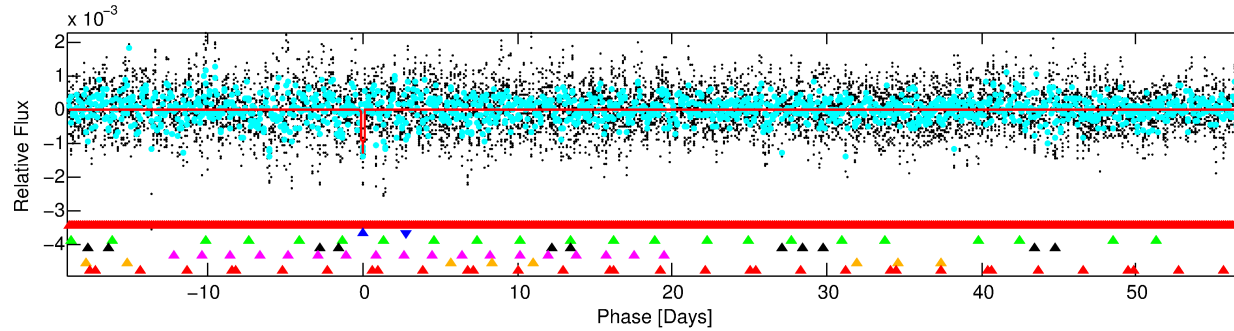
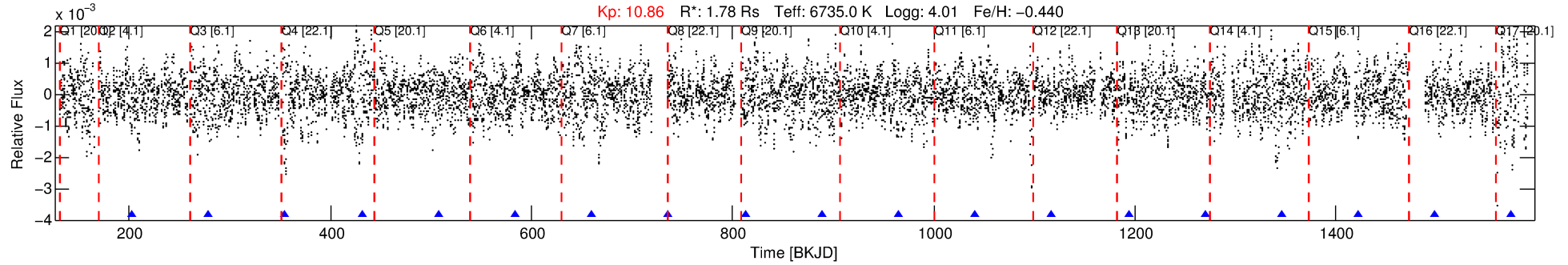
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006301745-02

No Significant Match Found

DV One-Page Summary

KIC: 6301745 Candidate: 2 of 7 Period: 76.214 d



DV Fit Results:

Period = 76.21424 [0.00207] d
Epoch = 202.8002 [0.0109] BKJD
Rp/R* = 0.0474 [0.0351]
a/R* = 36.29 [12.21]
b = 0.98 [0.07]
Seff = 42.07 [14.37]
Teq = 649 [55] K
Rp = 9.22 [7.11] Re
a = 0.3728 [0.0773] AU
Ag = 791.51 [1210.42] [0.65 σ]
Teffp = 5326 [1990] K [2.35 σ]

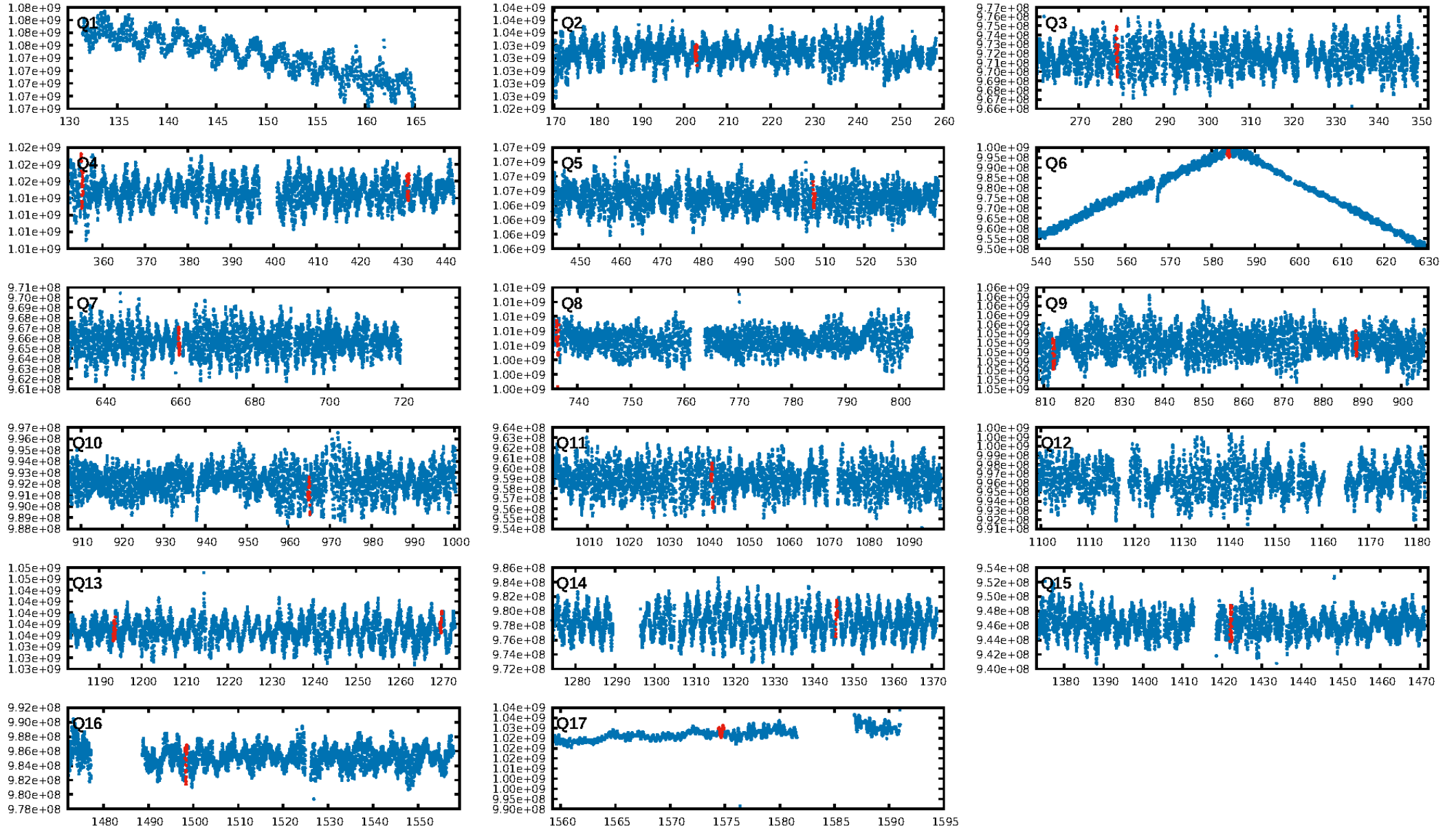
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [32.08 σ]
LongPeriod-sig: 100.0% [6.86 σ]
ModelChiSquare2-sig: 58.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -4.77
Centroid-sig: 51.6%
Centroid-so: 0.536 arcsec [3.23 σ]
OotOffset-rm: 1.719 arcsec [2.64 σ]
KicOffset-rm: 1.847 arcsec [2.92 σ]
OotOffset-st: 4/2/1/4 [11]
KicOffset-st: 4/2/1/4 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.00 [0/11]

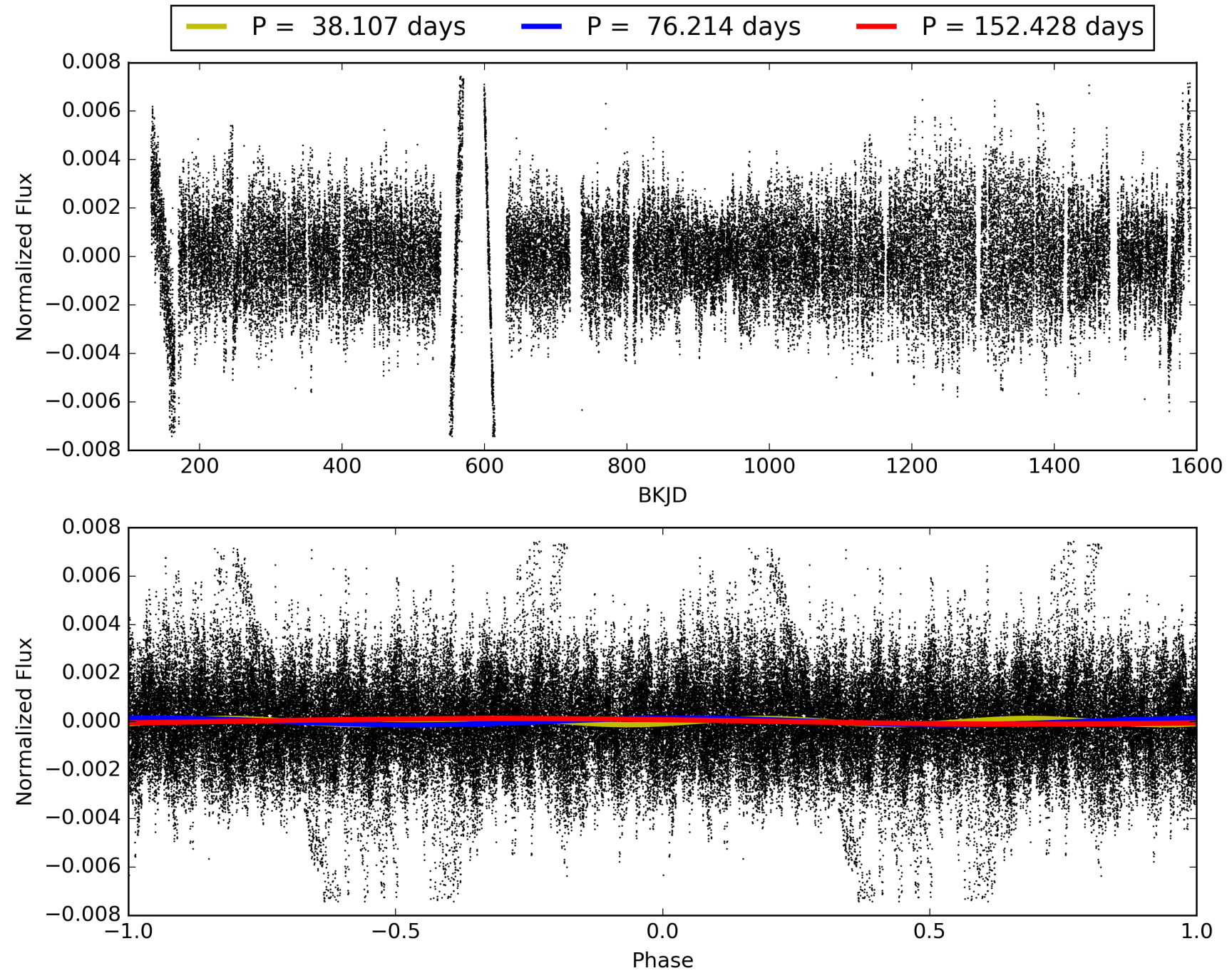
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:11:23 Z

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

TCE 006301745-02, PDC Light Curves

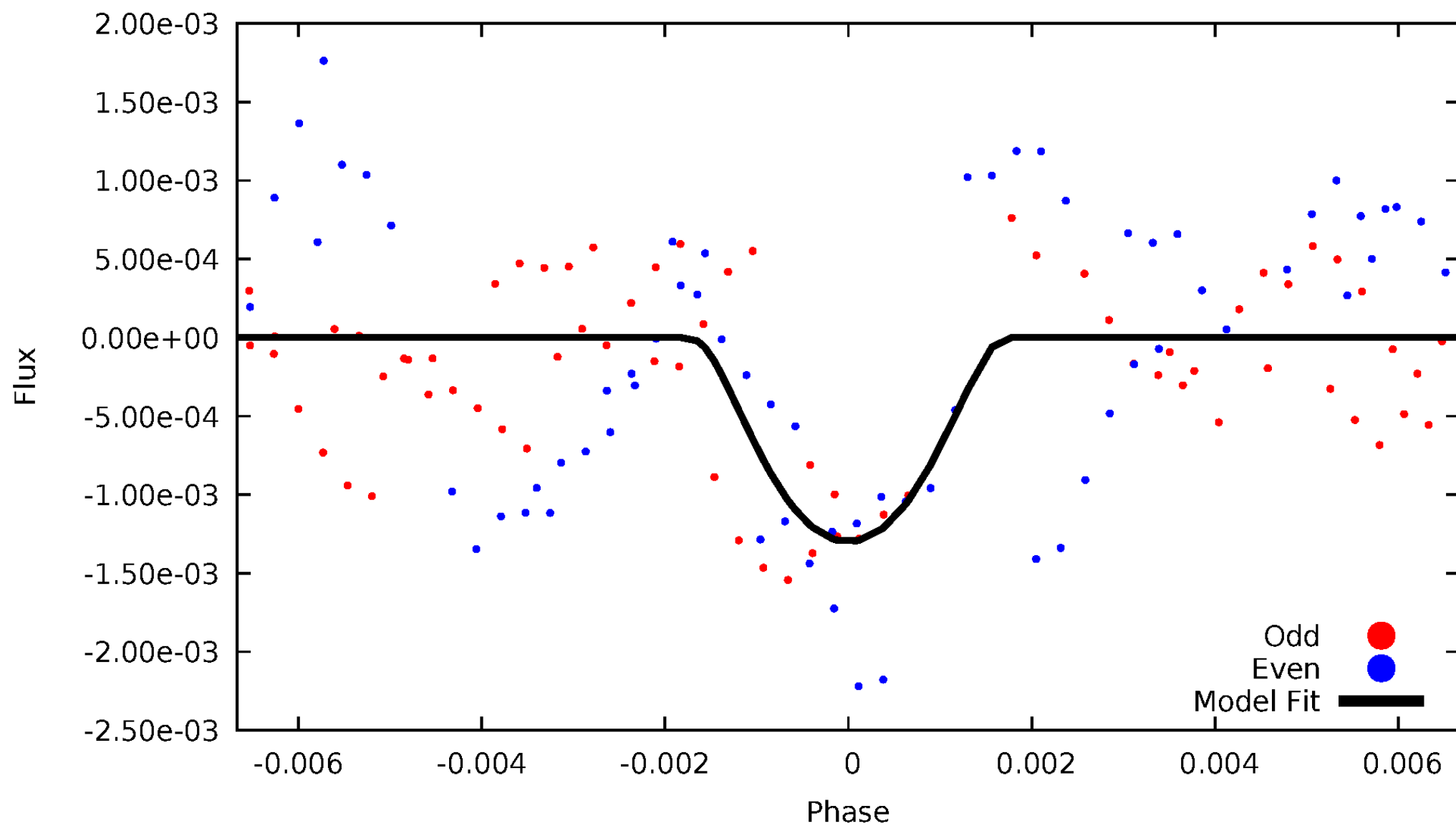


TCE 006301745-02



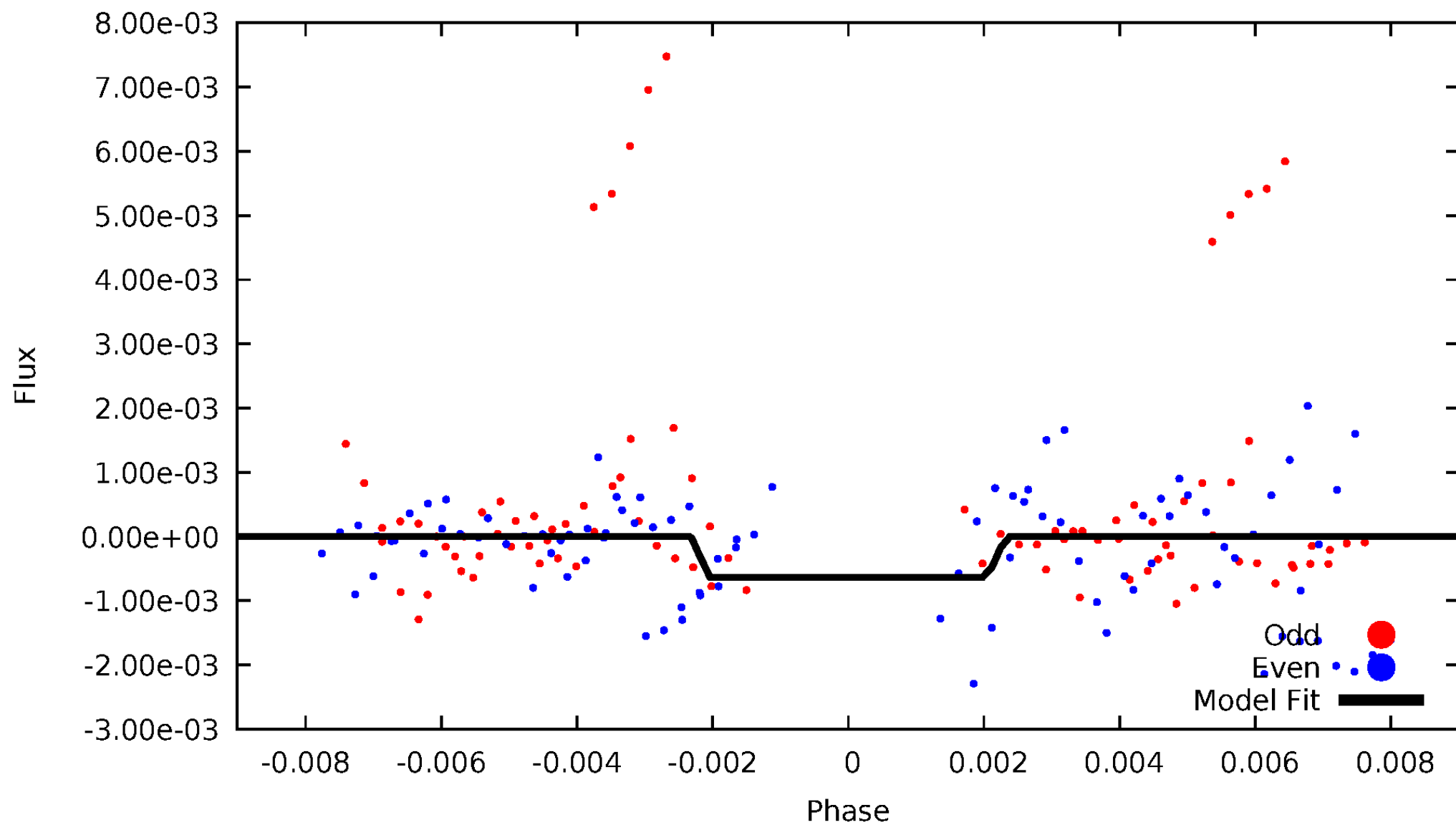
DV Odd/Even

TCE 006301745-02



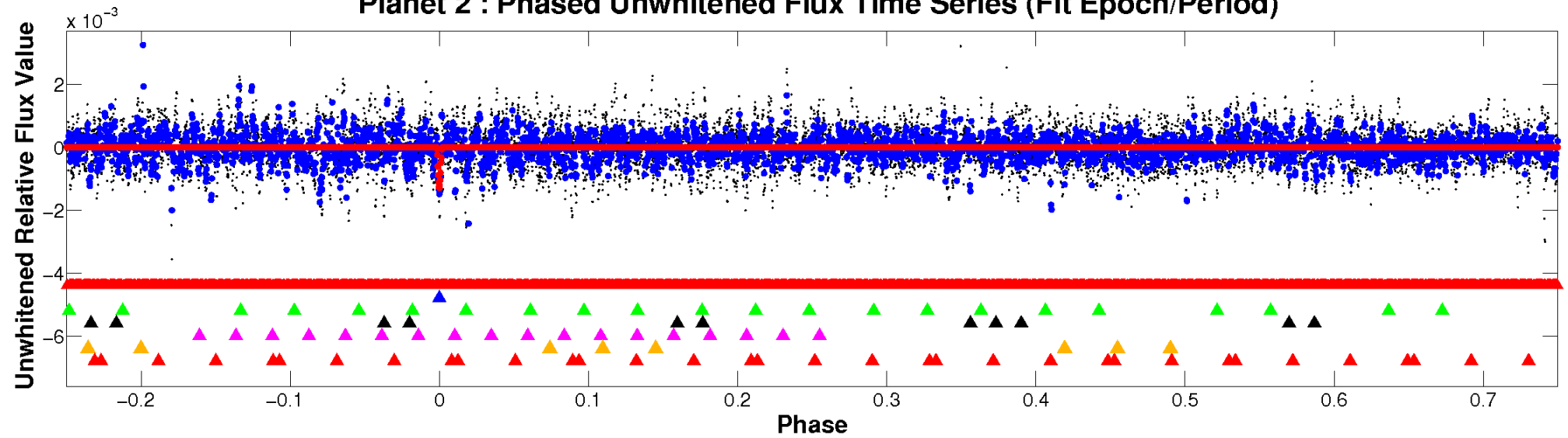
ALT Odd/Even

TCE 006301745-02

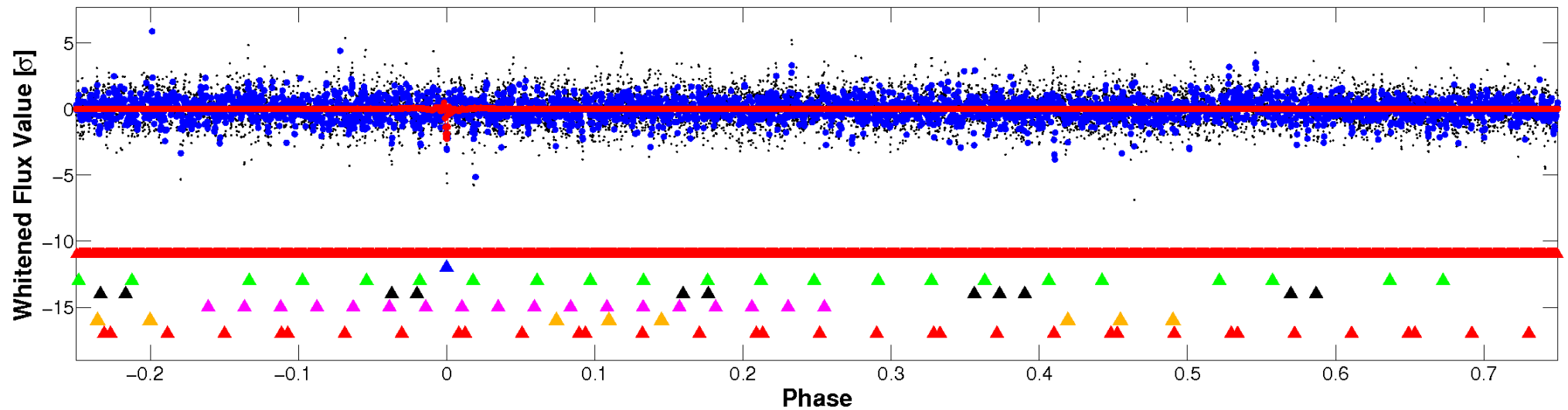


Non-Whitened Vs. Whitened Light Curve

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

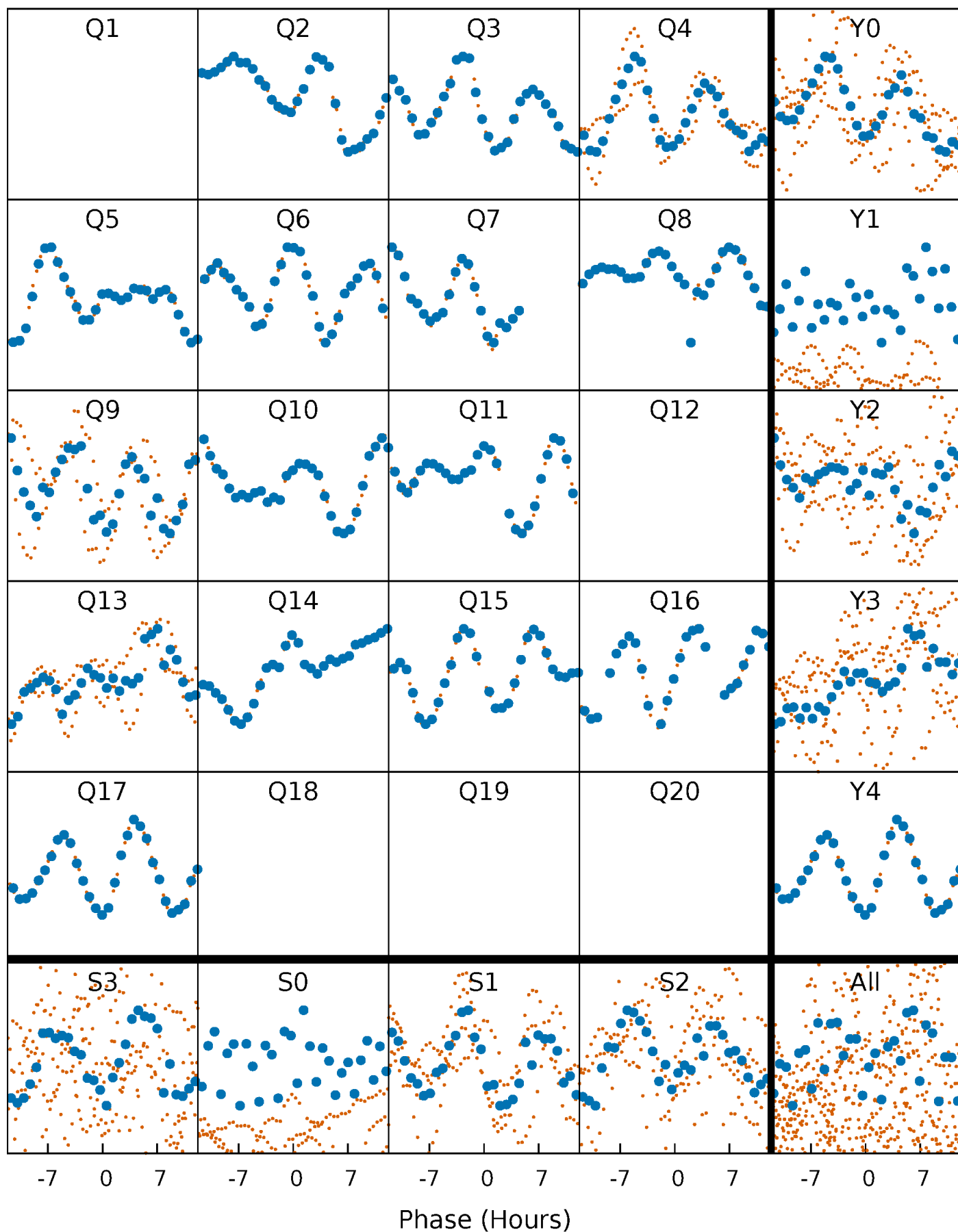


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



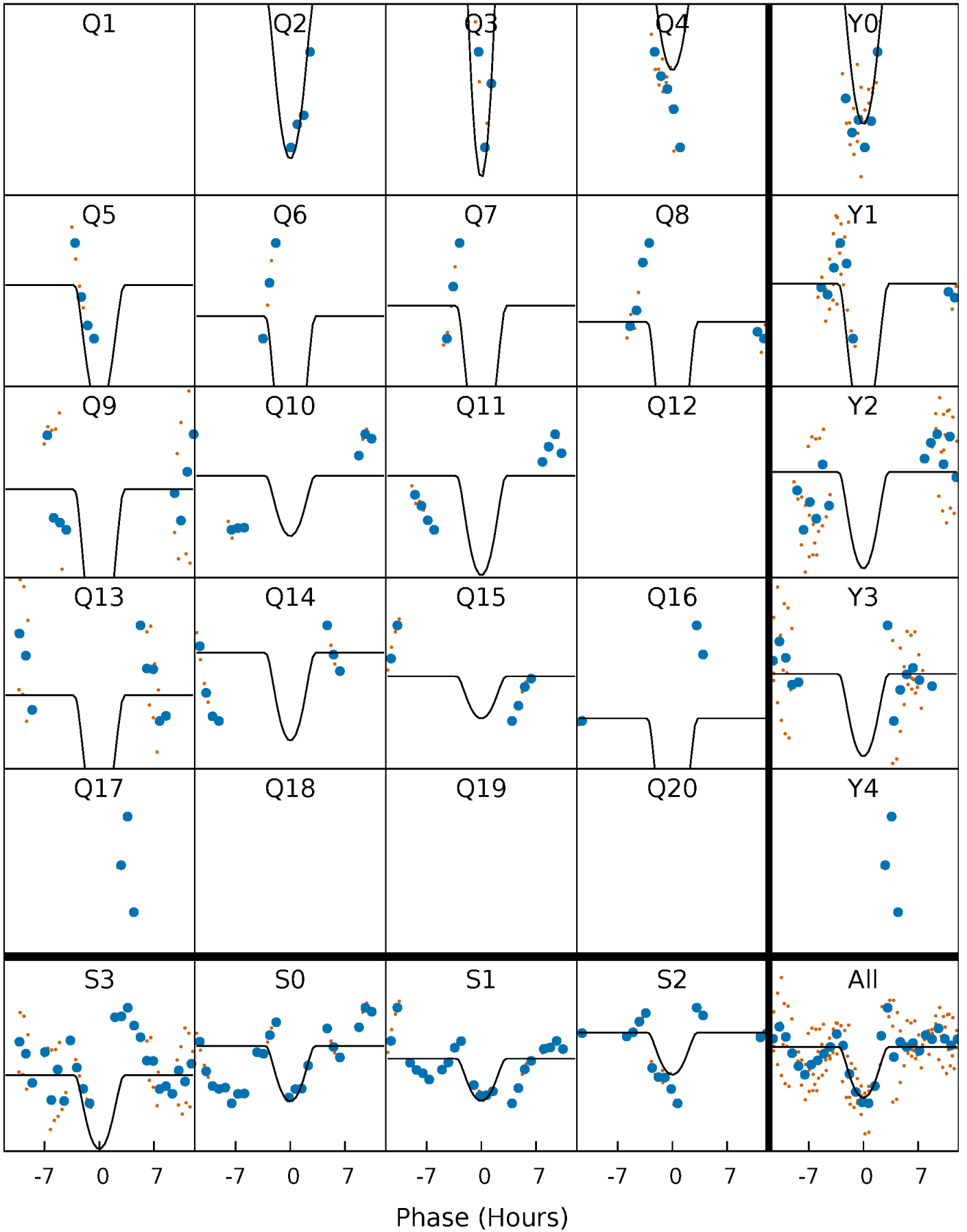
PDC Quarter-Phased Transit Curves

TCE 006301745-02 P= 76.214239 Days $T_0=202.800249$ (BKJD)



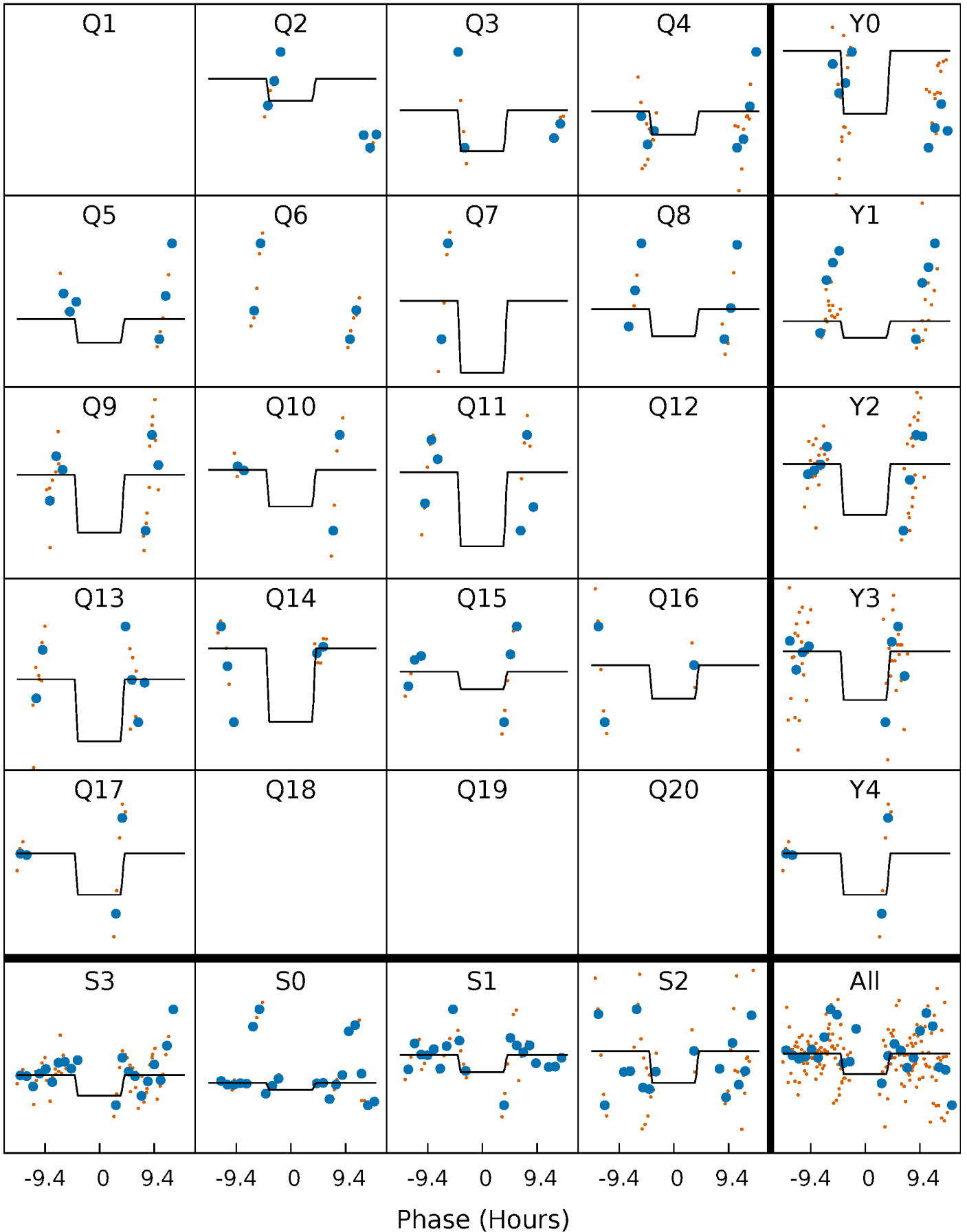
DV Quarter-Phased Transit Curves

TCE 006301745-02 P= 76.214239 Days $T_0=202.800249$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

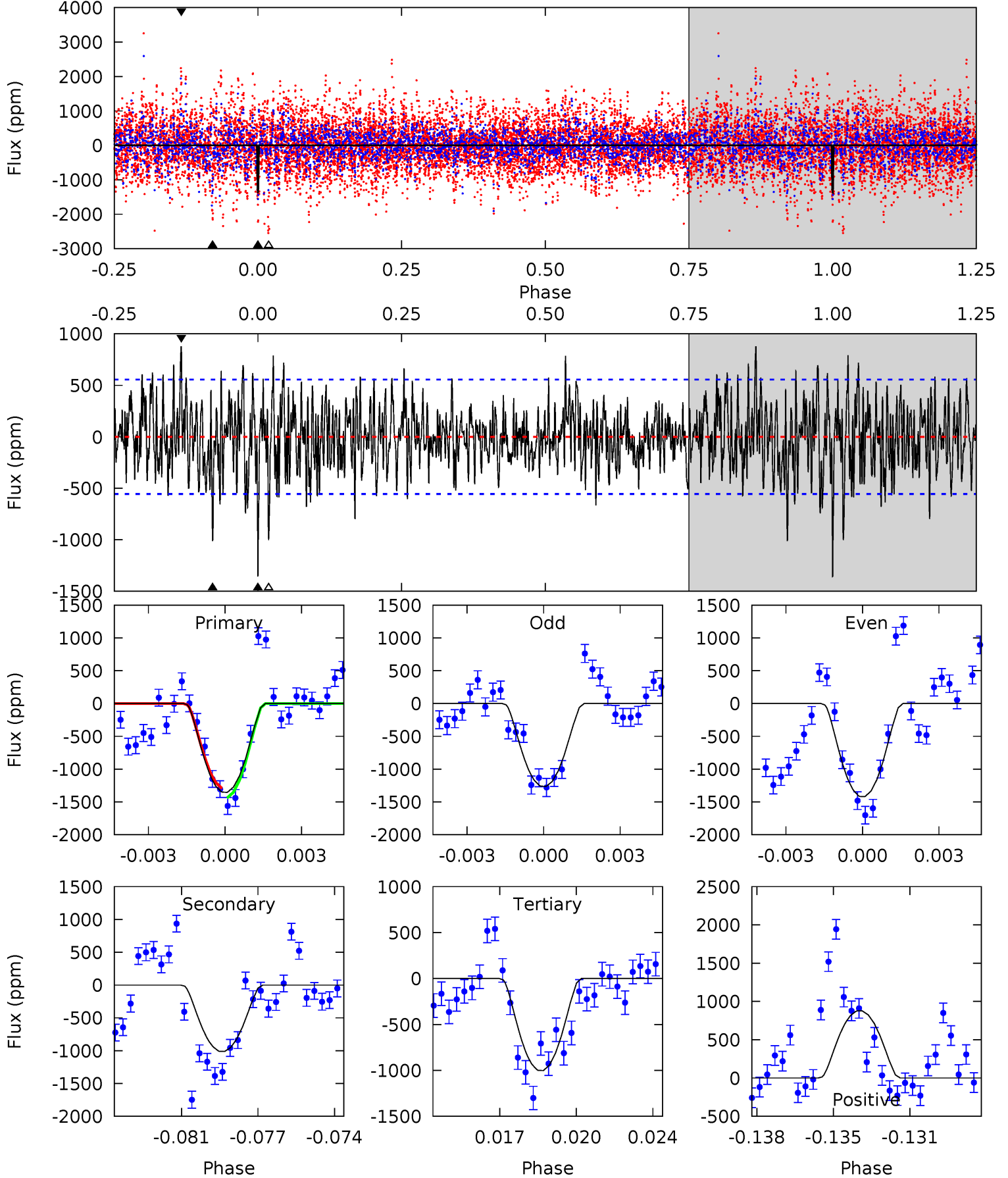
TCE 006301745-02 P= 76.204313 Days $T_0=202.974538$ (BKJD)



DV Model-Shift Uniqueness Test

006301745-02, P = 76.214239 Days, E = 126.586010 Days

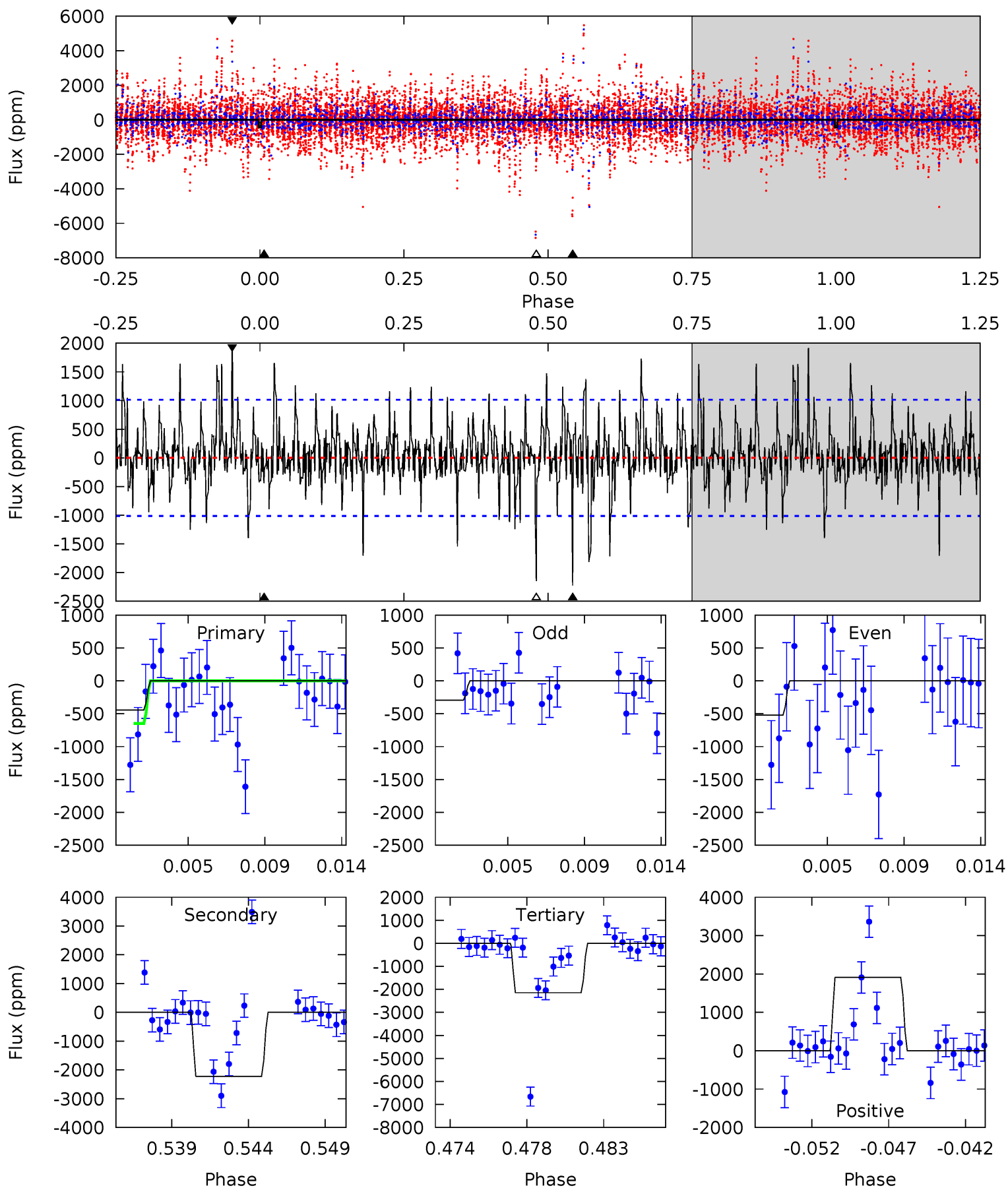
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	9.54	9.45	8.27	5.23	2.93	2.40	3.32	4.49	0.09	1.27	0.72	0.11	0.39	0.67



Alt Model-Shift Uniqueness Test

006301745-02, P = 76.204313 Days, E = 126.770225 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.26	11.4	11.0	9.76	5.17	2.83	2.20	-8.69	-7.50	0.41	1.60	0.40	1.71	0.46	0.87



Stellar Parameters For KIC 006301745

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6735^{+122}_{-136}	$4.012^{+0.195}_{-0.105}$	$-0.440^{+0.150}_{-0.150}$	$1.781^{+0.313}_{-0.383}$	$1.190^{+0.146}_{-0.097}$	$0.297^{+0.310}_{-0.095}$
	+2%/-2%	+5%/-3%	+34%/-34%	+18%/-22%	+12%/-8%	+104%/-32%
Source	SPE4	SPE4	SPE4	DSEP		

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

Secondary Eclipse Parameters for KIC 006301745-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1012 ± 106	$9.99^{+5.98}_{-5.78}$	899^{+44}_{-53}	5298^{+2956}_{-954}	799^{+3485}_{-497}
Alt.	-2226 ± 196	$6.91^{+5.69}_{-4.32}$	899^{+47}_{-57}	7853^{+9373}_{-2236}	3635^{+22453}_{-2592}

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

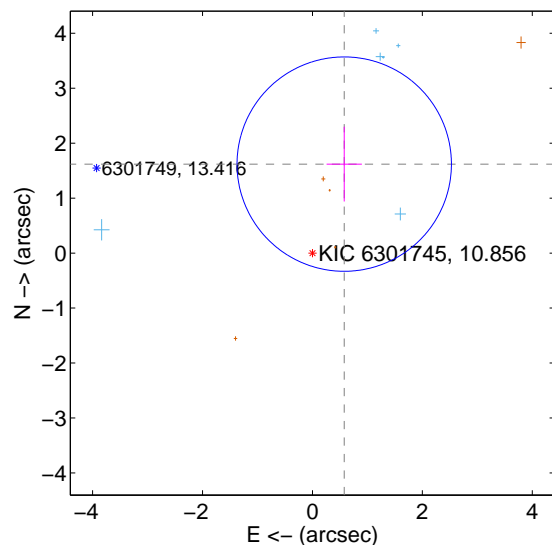
Supplemental centroid analysis for 006301745-02. **Kepler magnitude: 10.86.** Transit SNR 9.09

There are 6 quarters with good PRF difference image offsets

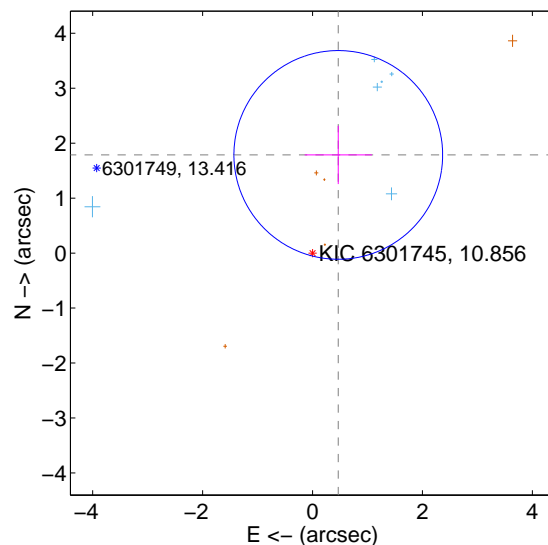
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.719 ± 0.650	2.64	-0.578 ± 0.320	1.619 ± 0.681
PRF-fit source offset from KIC position	1.847 ± 0.633	2.92	-0.468 ± 0.611	1.786 ± 0.531
photometric centroid source offset	0.54 ± 0.17	3.23	0.43 ± 0.17	0.32 ± 0.15

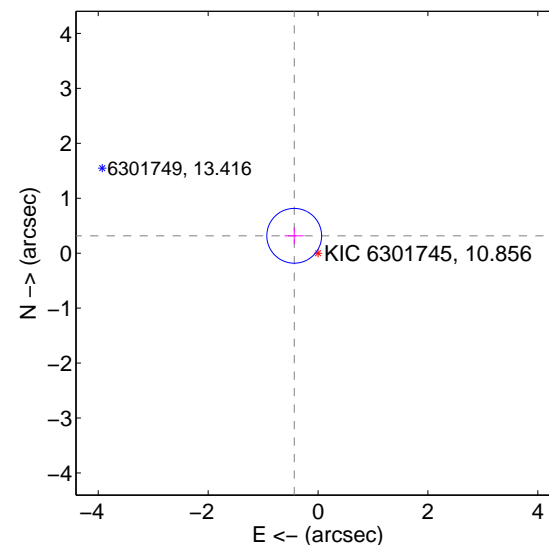
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



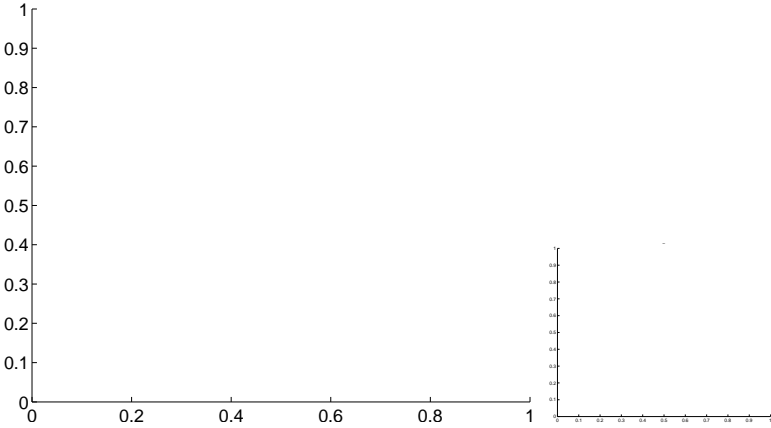
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

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

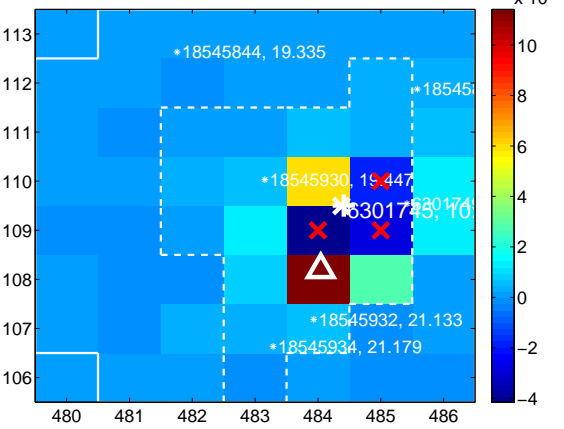
Q1 no difference image



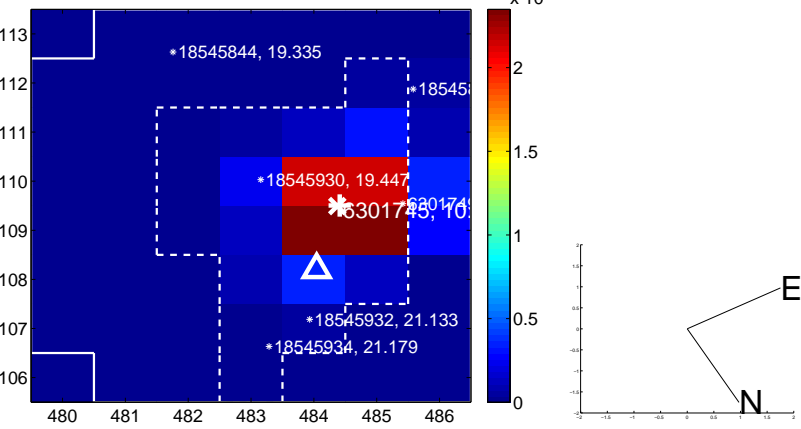
Q1 no OOT image



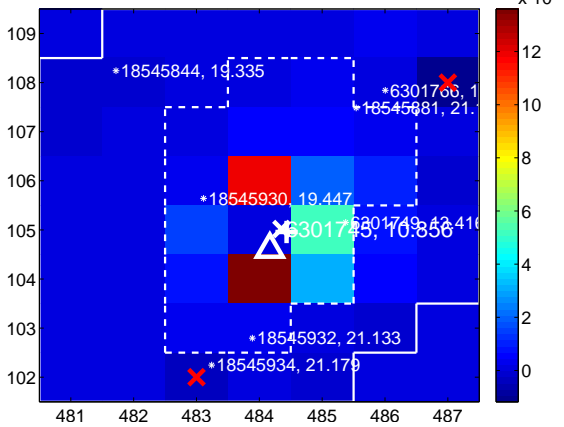
Q2 difference image. Poor Quality



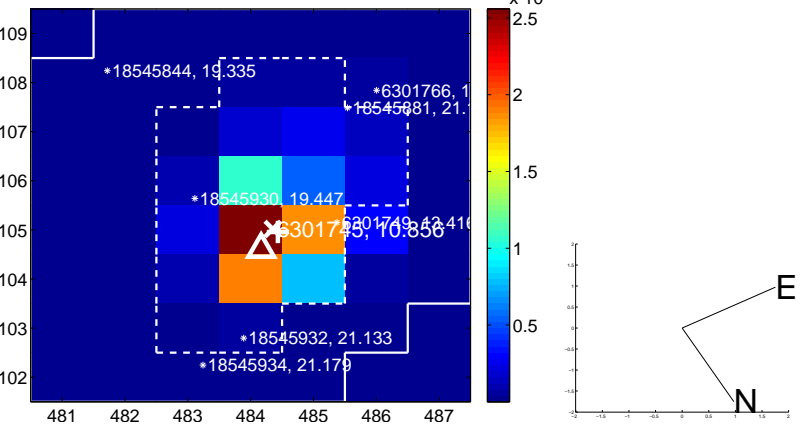
Q2 OOT image



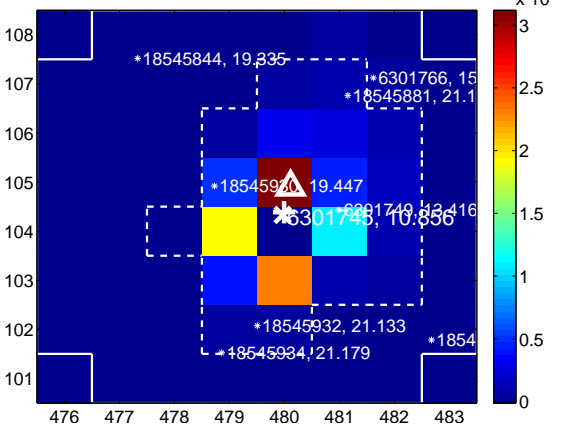
Q3 difference image



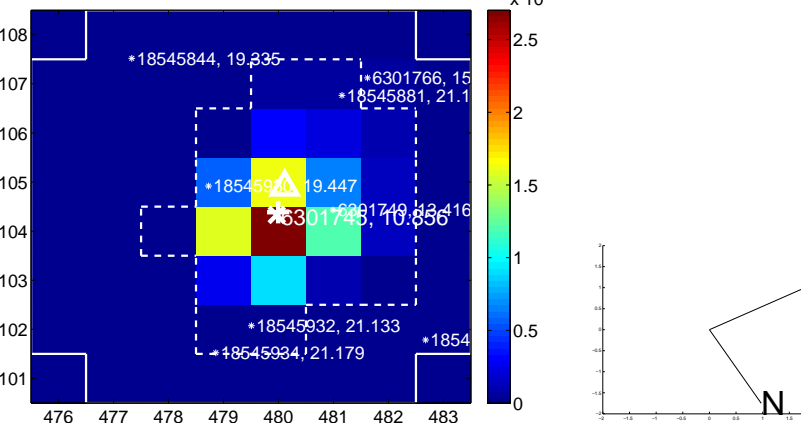
Q3 OOT image



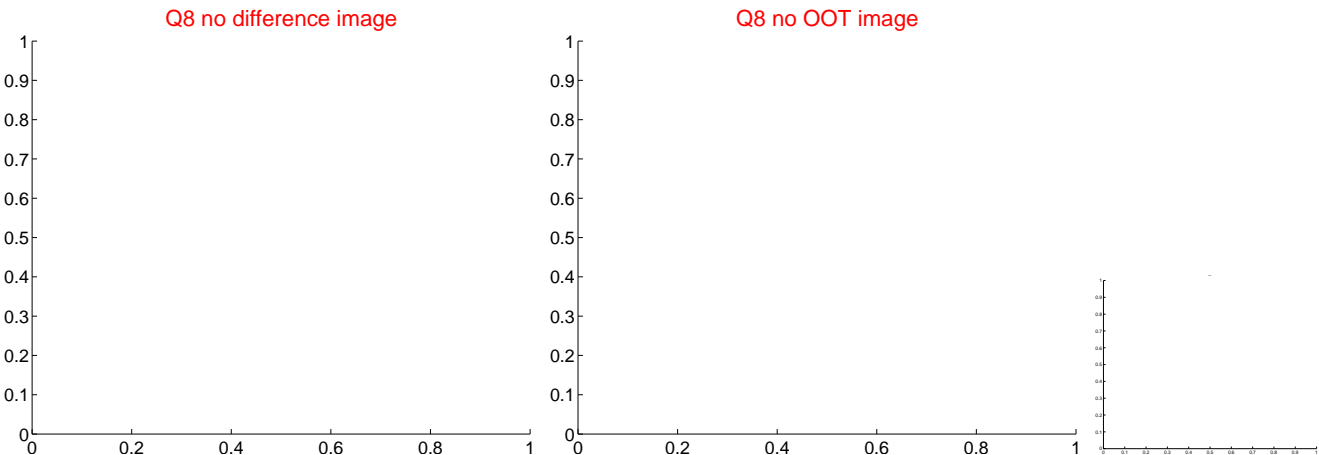
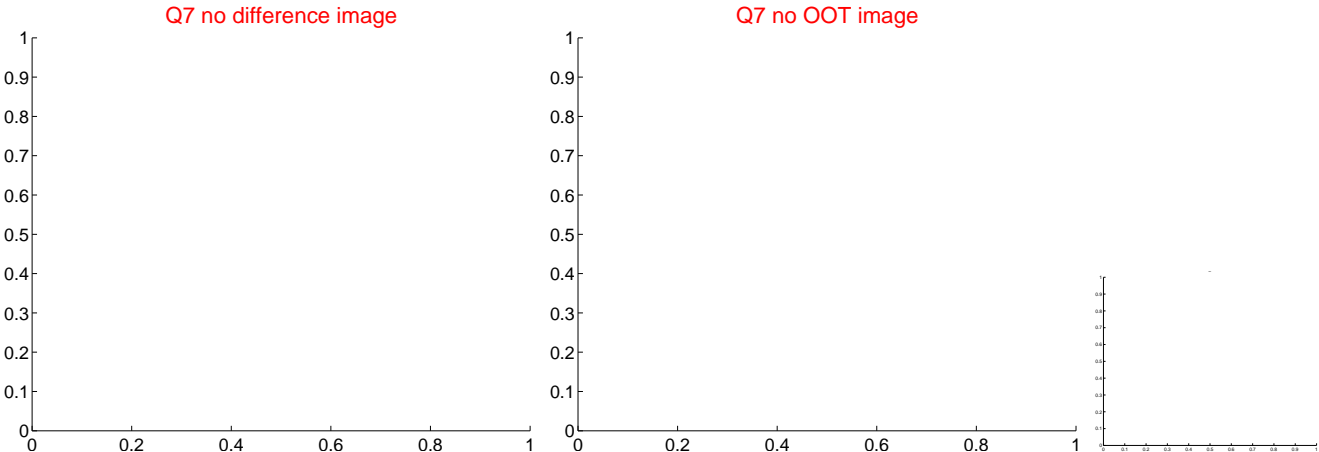
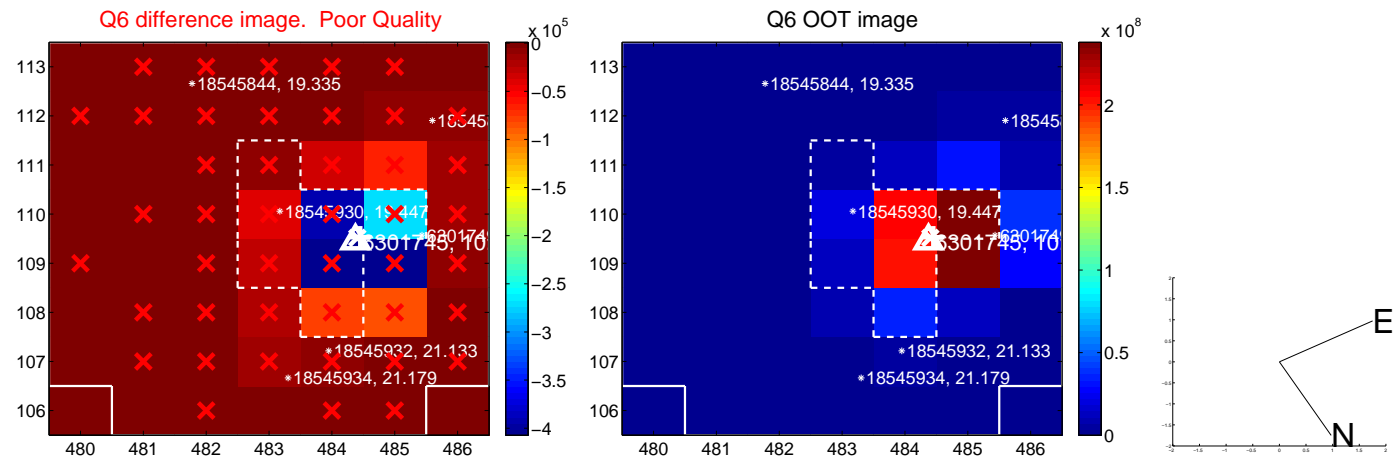
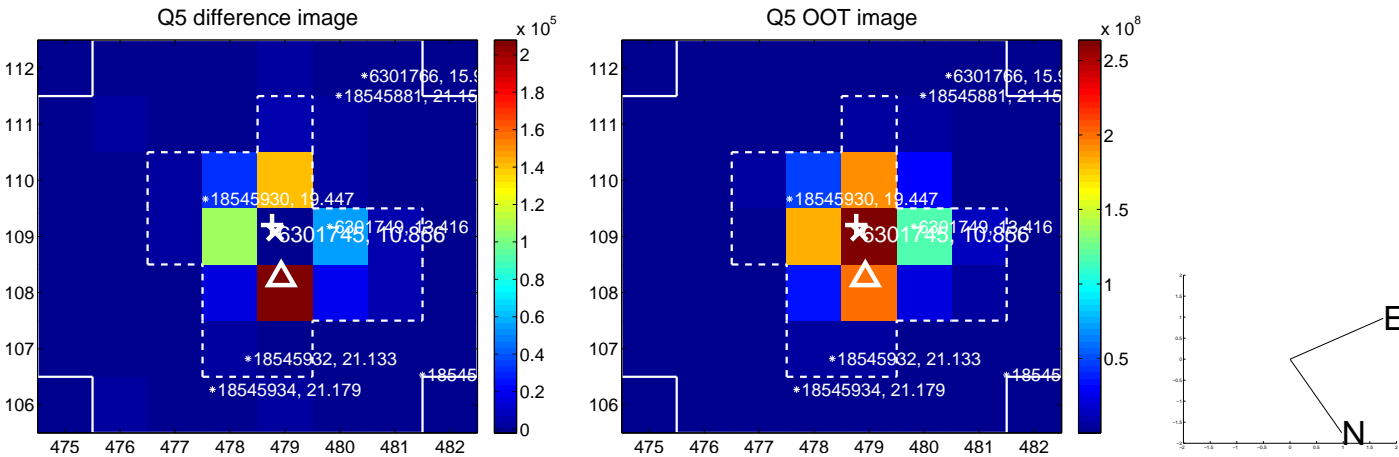
Q4 difference image. Poor Quality



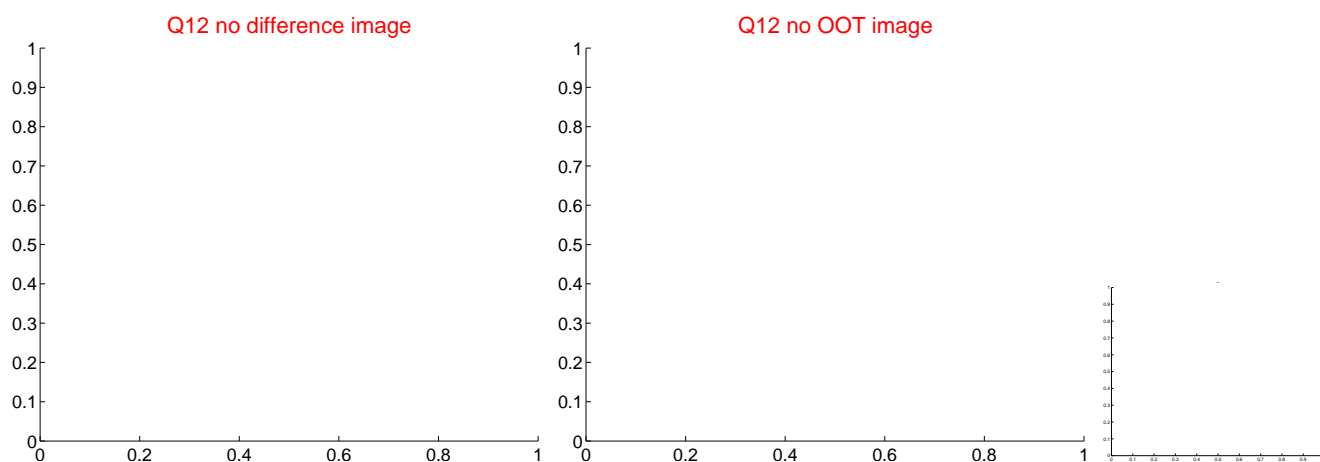
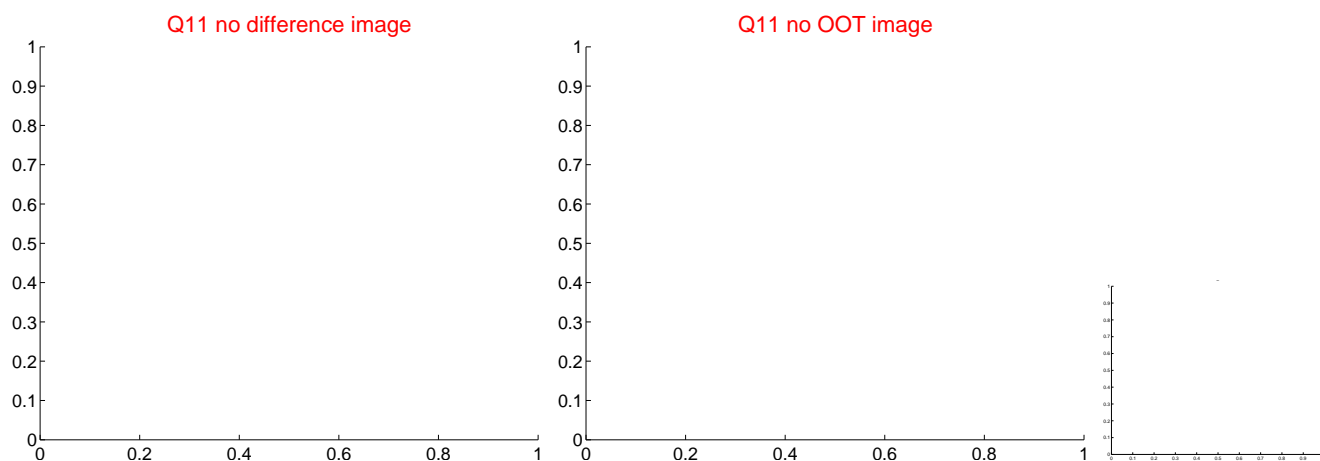
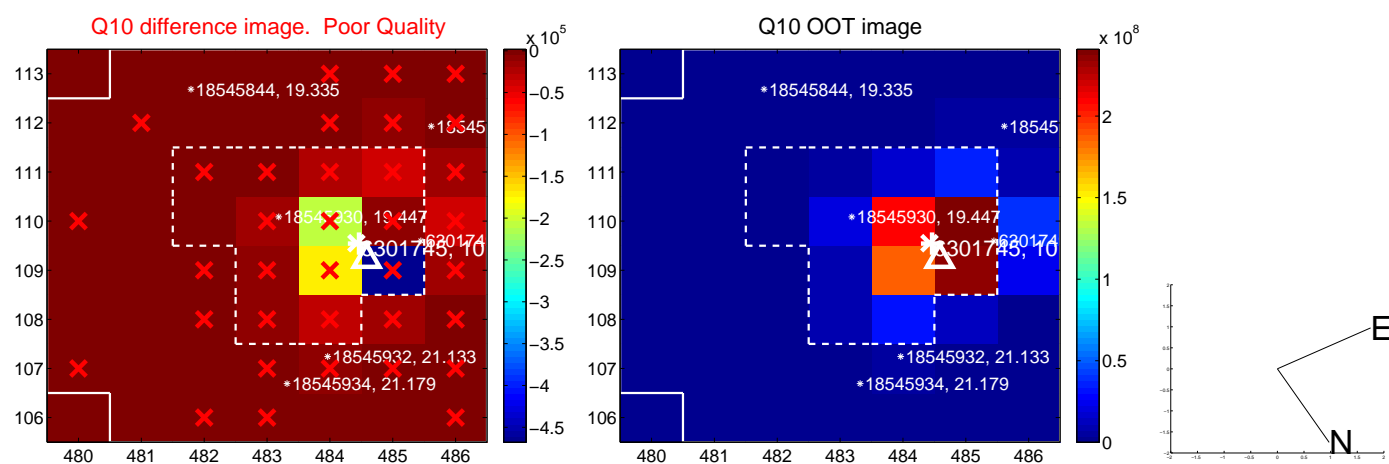
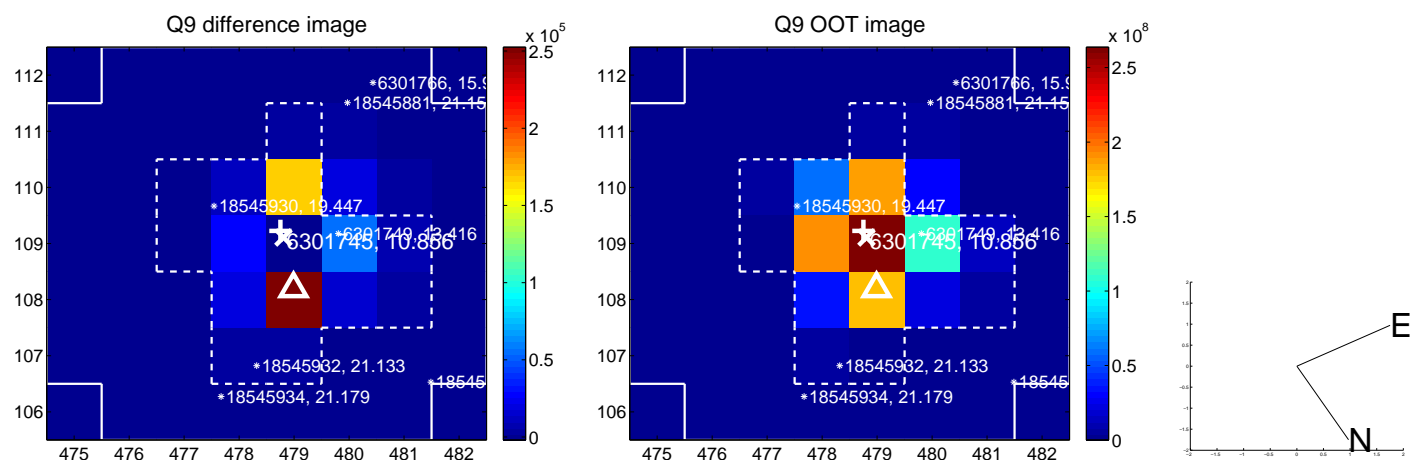
Q4 OOT image



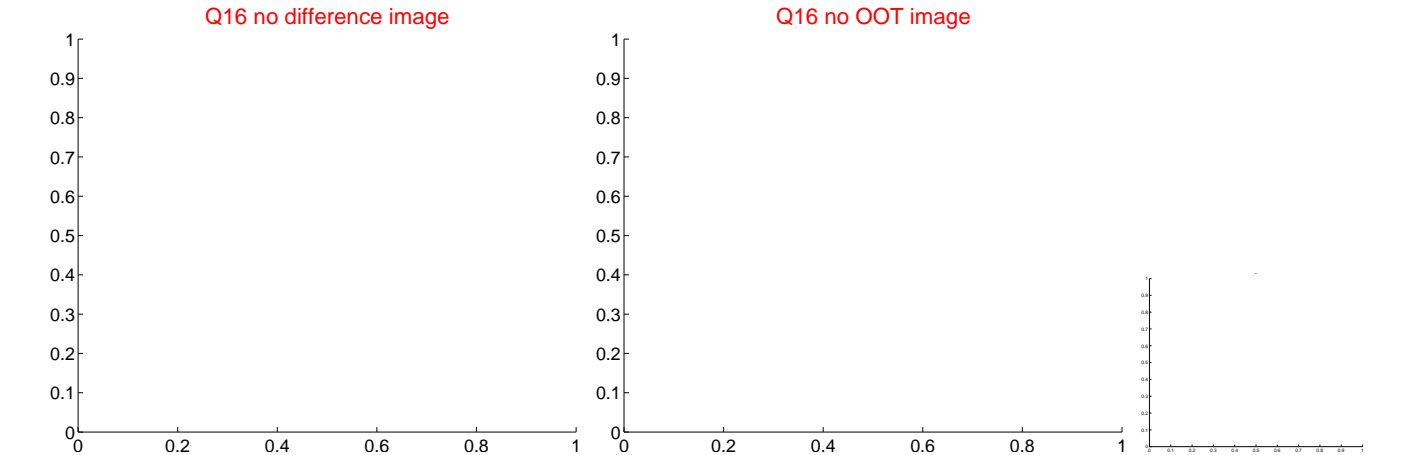
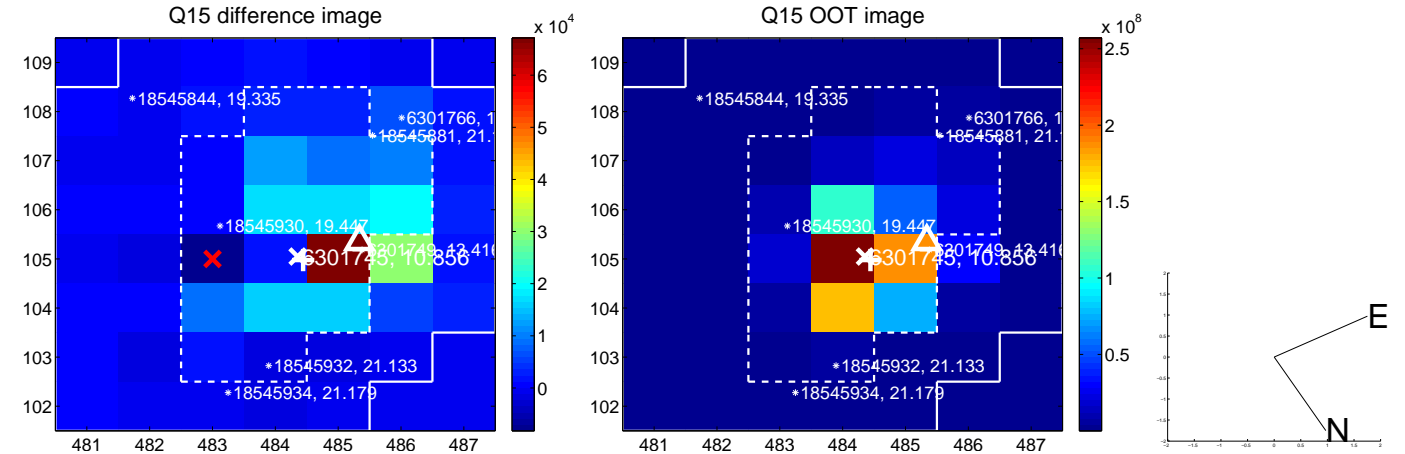
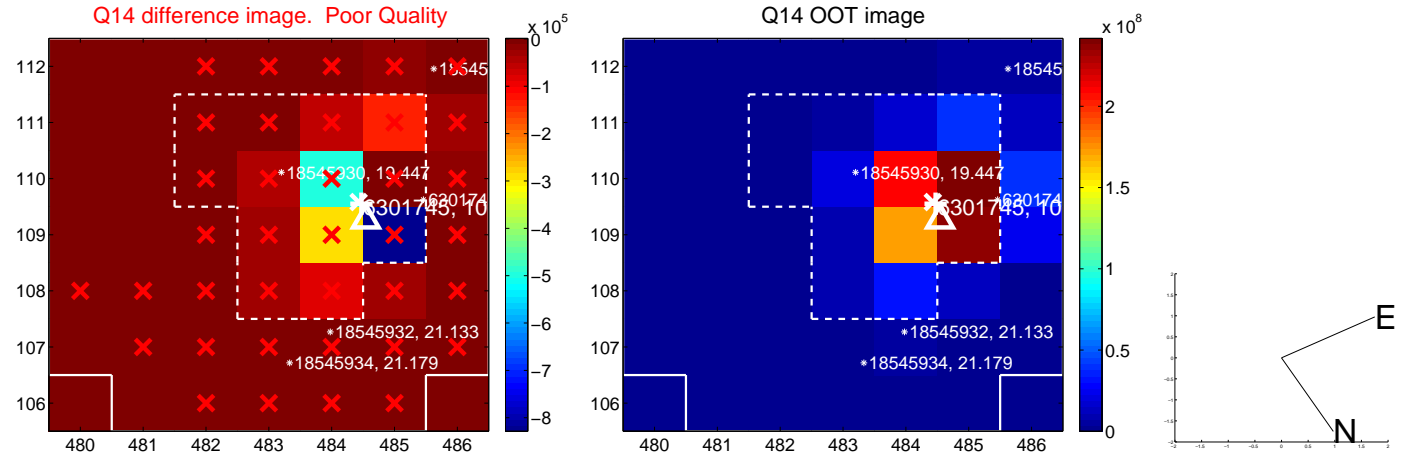
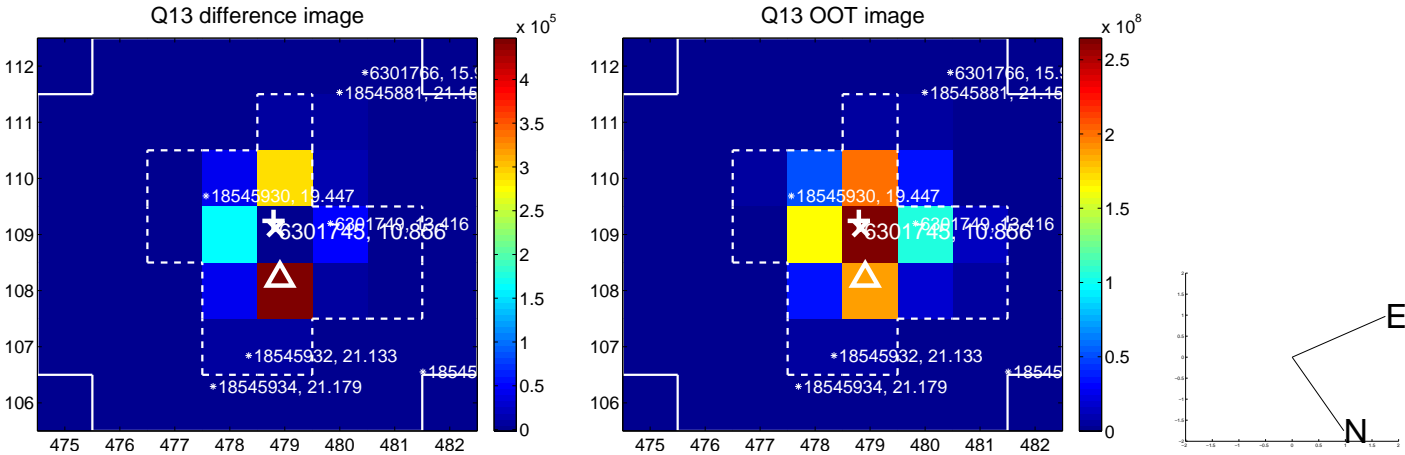
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



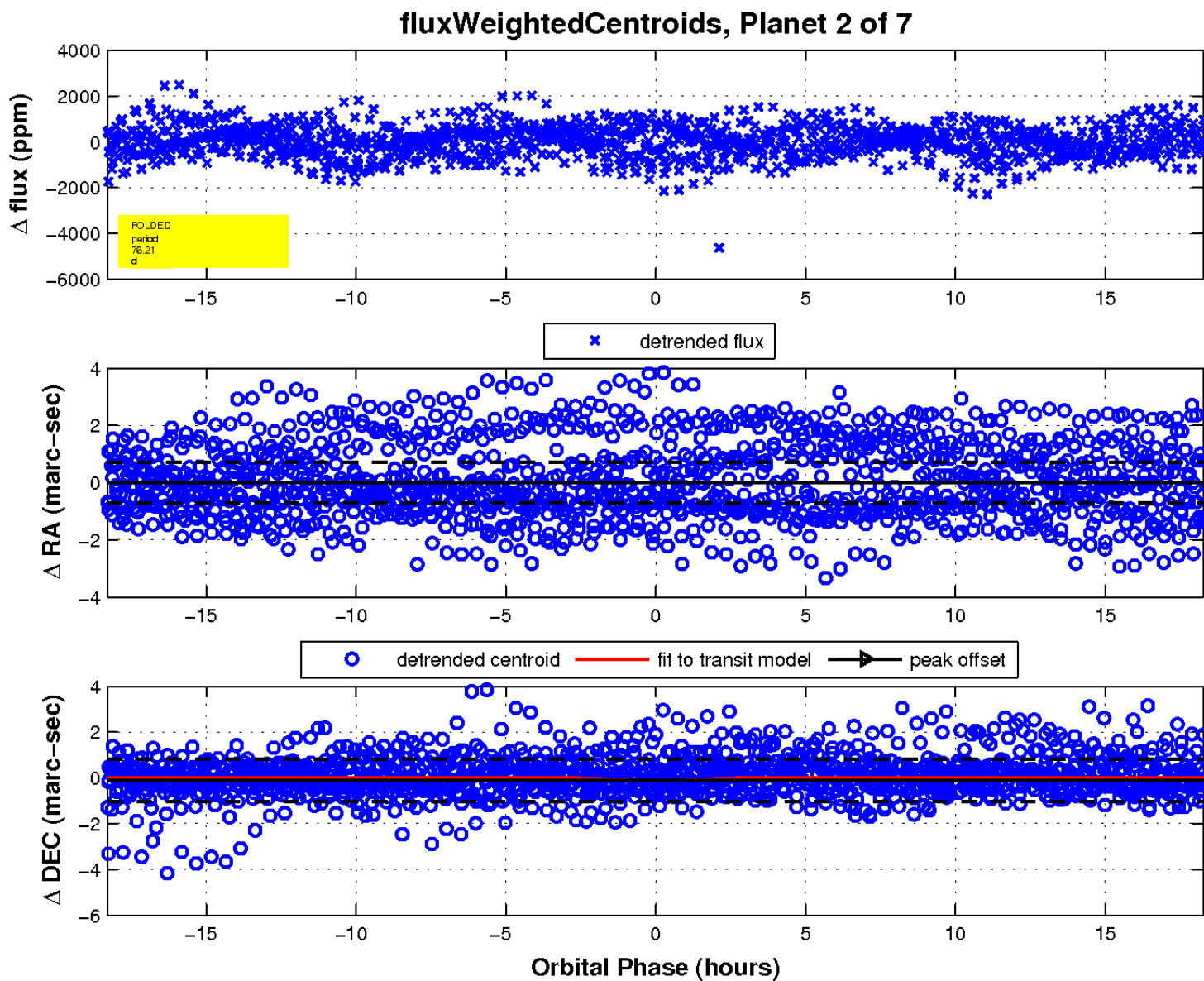
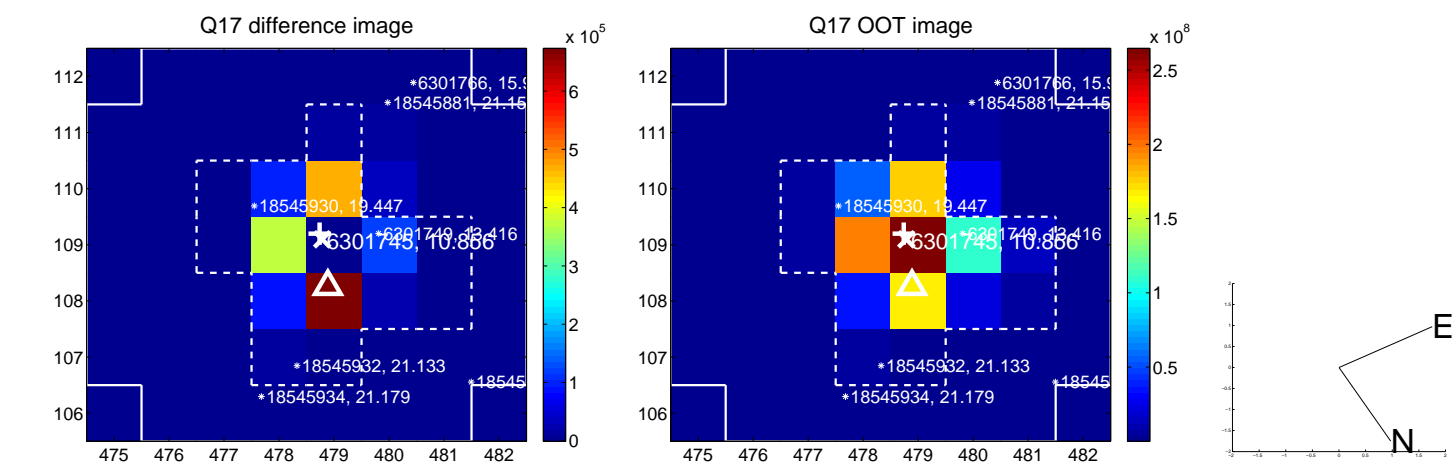
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



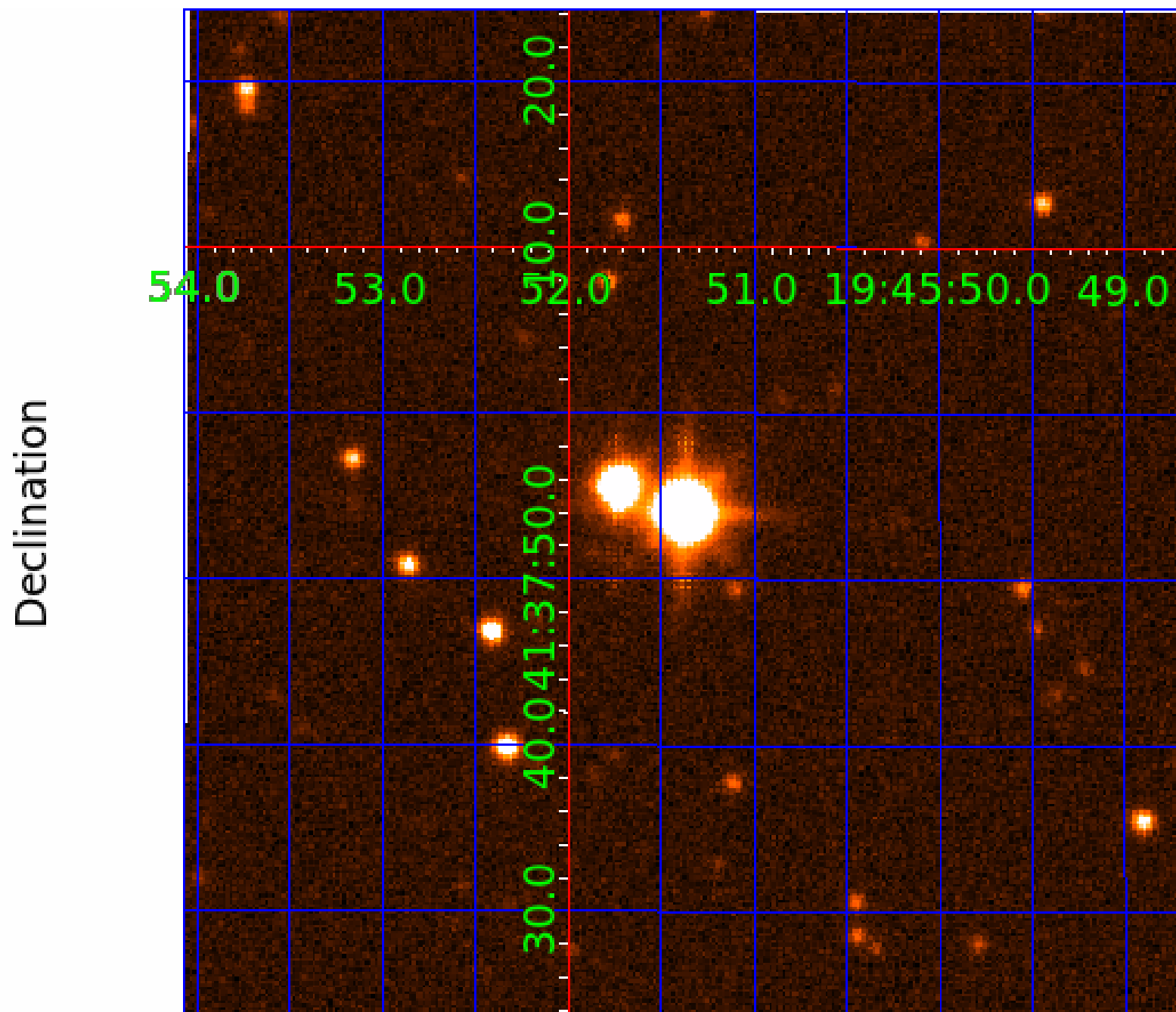
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006301745

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})
006301745-01	OBS	No	0.692557	131.855087	3.5	4.475	13.0	0.8	1.78	6735	0.34	22186.05
006301745-02	OBS	No	76.214239	202.800249	1298.7	6.099	9.9	9.1	1.78	6735	9.22	42.07
006301745-03	OBS	No	67.441722	154.263295	1481.8	2.424	12.0	9.2	1.78	6735	7.08	49.52
006301745-04	OBS	No	137.445167	153.731639	1962.7	4.376	9.4	8.9	1.78	6735	14.54	19.16
006301745-05	OBS	No	78.078464	190.540303	1172.8	2.314	9.0	8.4	1.78	6735	6.51	40.74
006301745-06	OBS	No	178.734227	208.450655	1783.3	10.025	7.8	6.6	1.78	6735	12.37	13.50
006301745-07	OBS	No	42.666979	167.272969	180.0	1.994	8.8	1.8	1.78	6735	2.67	91.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006301745-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006301745-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006301745-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006301745-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED—HALO_GHOST
006301745-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

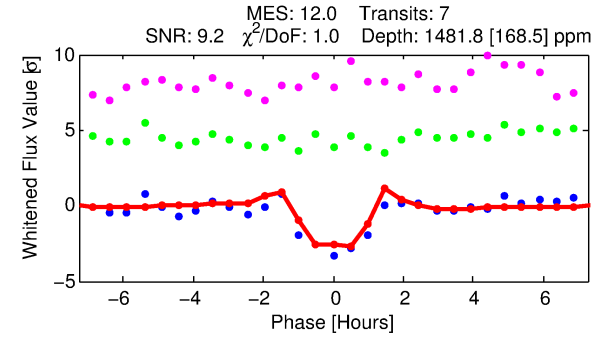
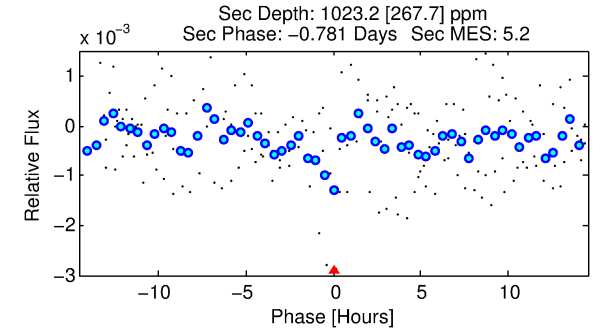
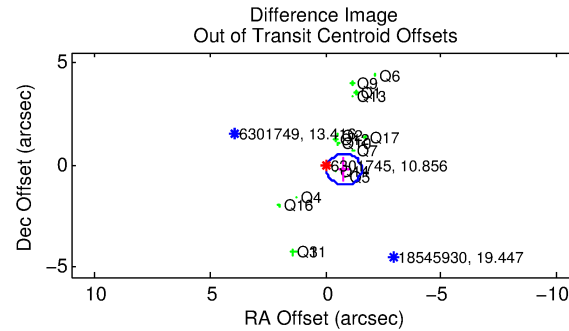
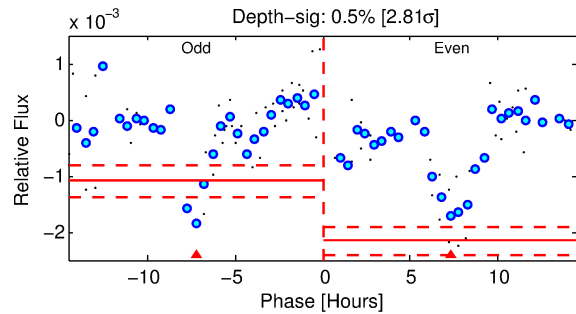
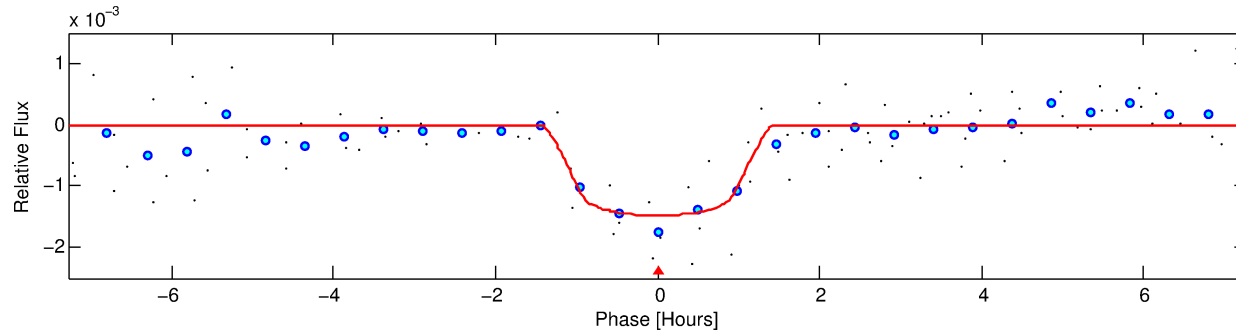
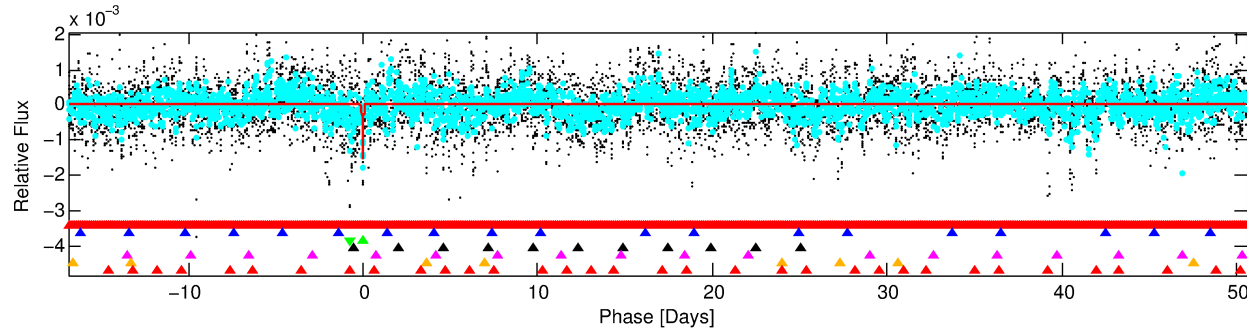
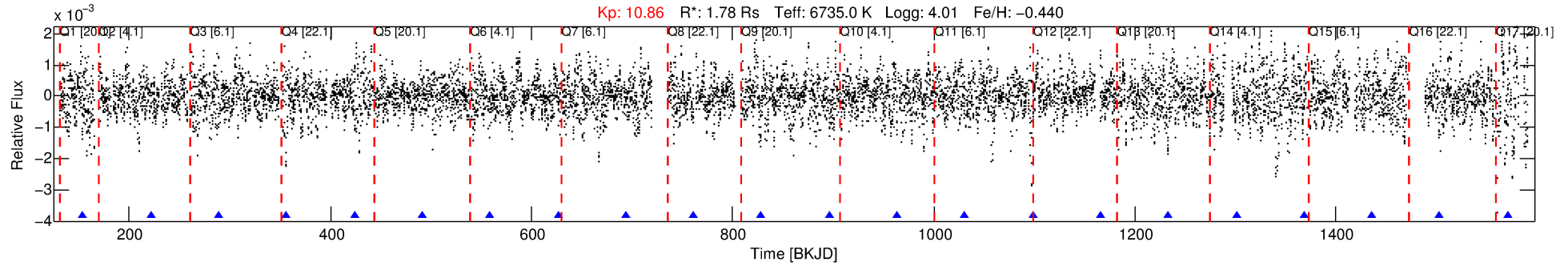
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006301745-03

No Significant Match Found

DV One-Page Summary

KIC: 6301745 Candidate: 3 of 7 Period: 67.442 d



DV Fit Results:

Period = 67.44172 [0.00035] d
Epoch = 154.2633 [0.0033] BKJD
Rp/R* = 0.0364 [0.0513]
a/R* = 195.97 [1510.99]
b = 0.47 [12.72]
Seff = 49.52 [16.92]
Teq = 676 [58] K
Rp = 7.08 [10.09] Re
a = 0.3436 [0.0712] AU
Ag = 1325.32 [3776.73] [0.35 σ]
Teff = 6310 [4467] K [1.26 σ]

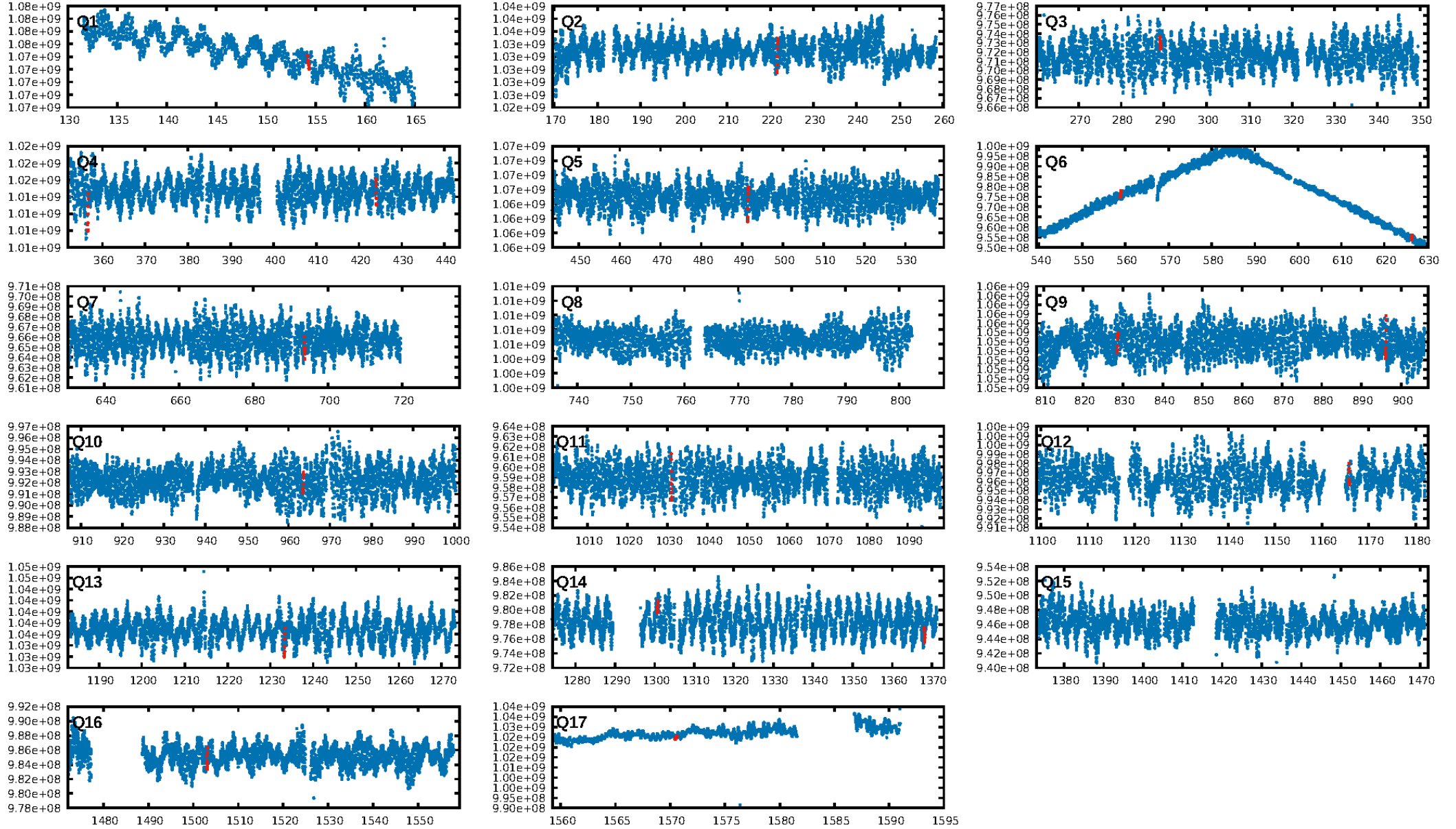
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [189.43 σ]
LongPeriod-sig: 100.0% [32.08 σ]
ModelChiSquare2-sig: 5.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -3.754
Centroid-sig: 74.3%
Centroid-so: 0.472 arcsec [3.76 σ]
OotOffset-rm: 0.841 arcsec [3.31 σ]
KicOffset-rm: 0.769 arcsec [1.79 σ]
OotOffset-st: 4/3/3/5 [15]
KicOffset-st: 4/3/3/5 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 0.00 [0/15]

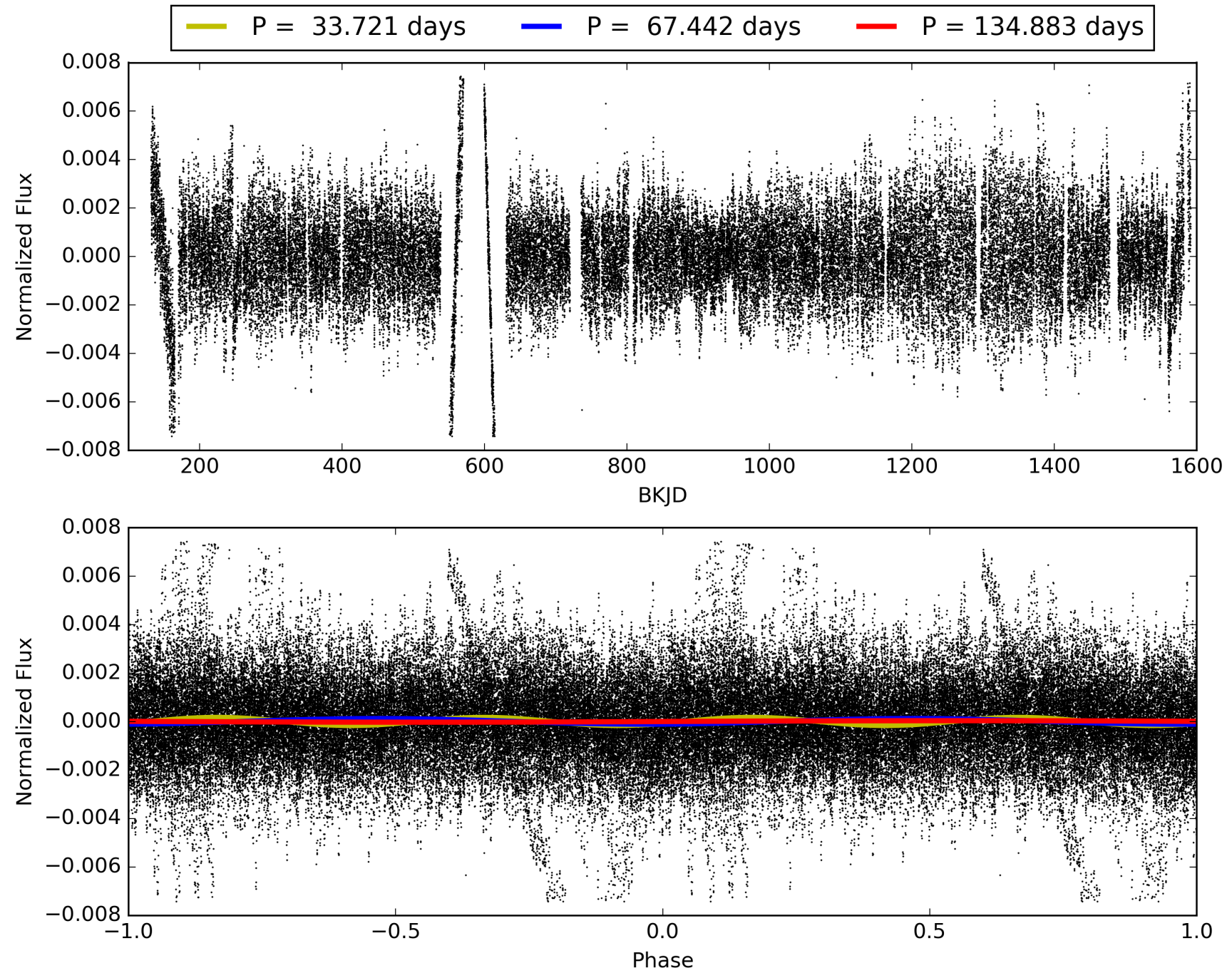
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:11:27 Z

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

TCE 006301745-03, PDC Light Curves

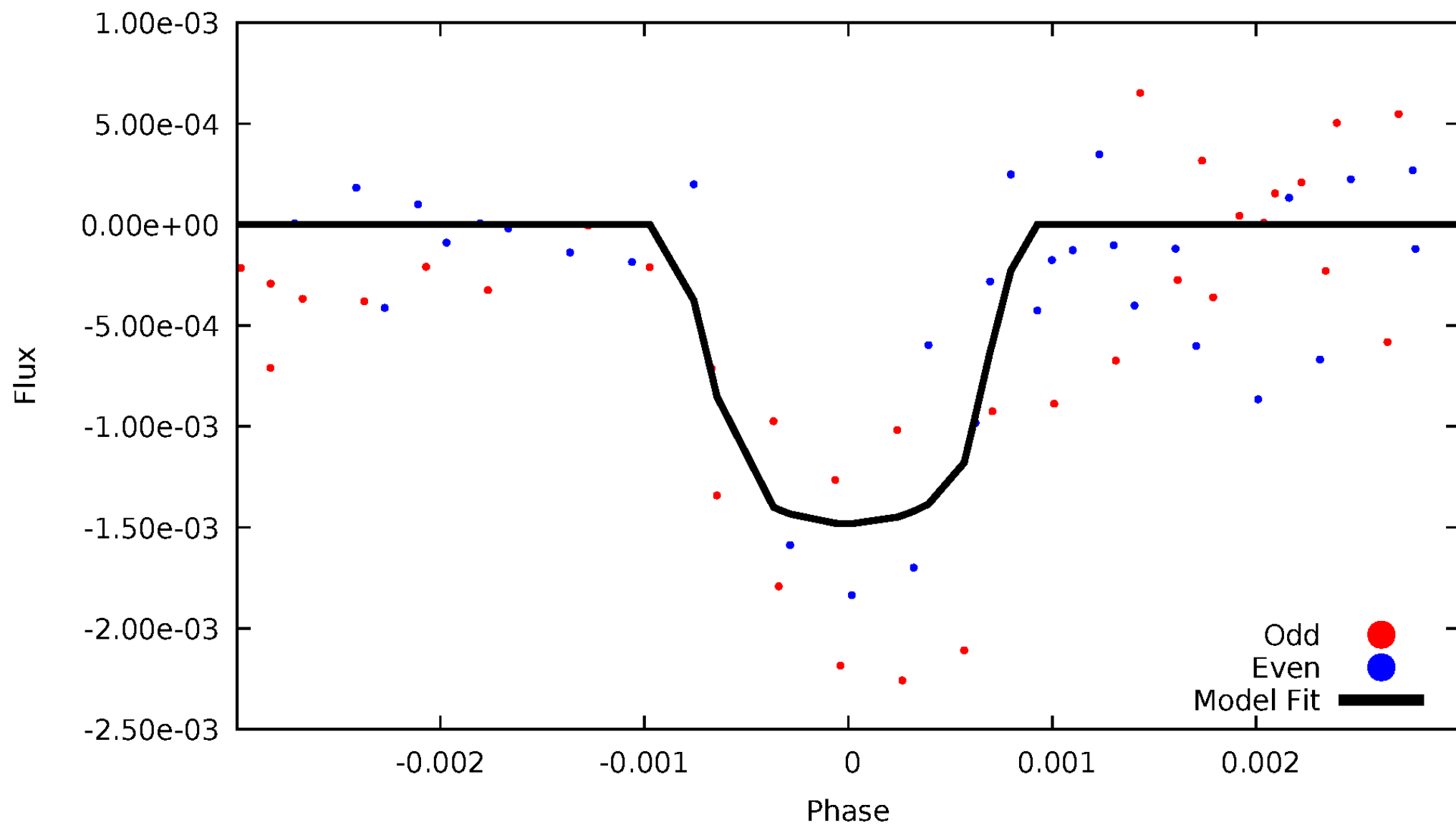


TCE 006301745-03



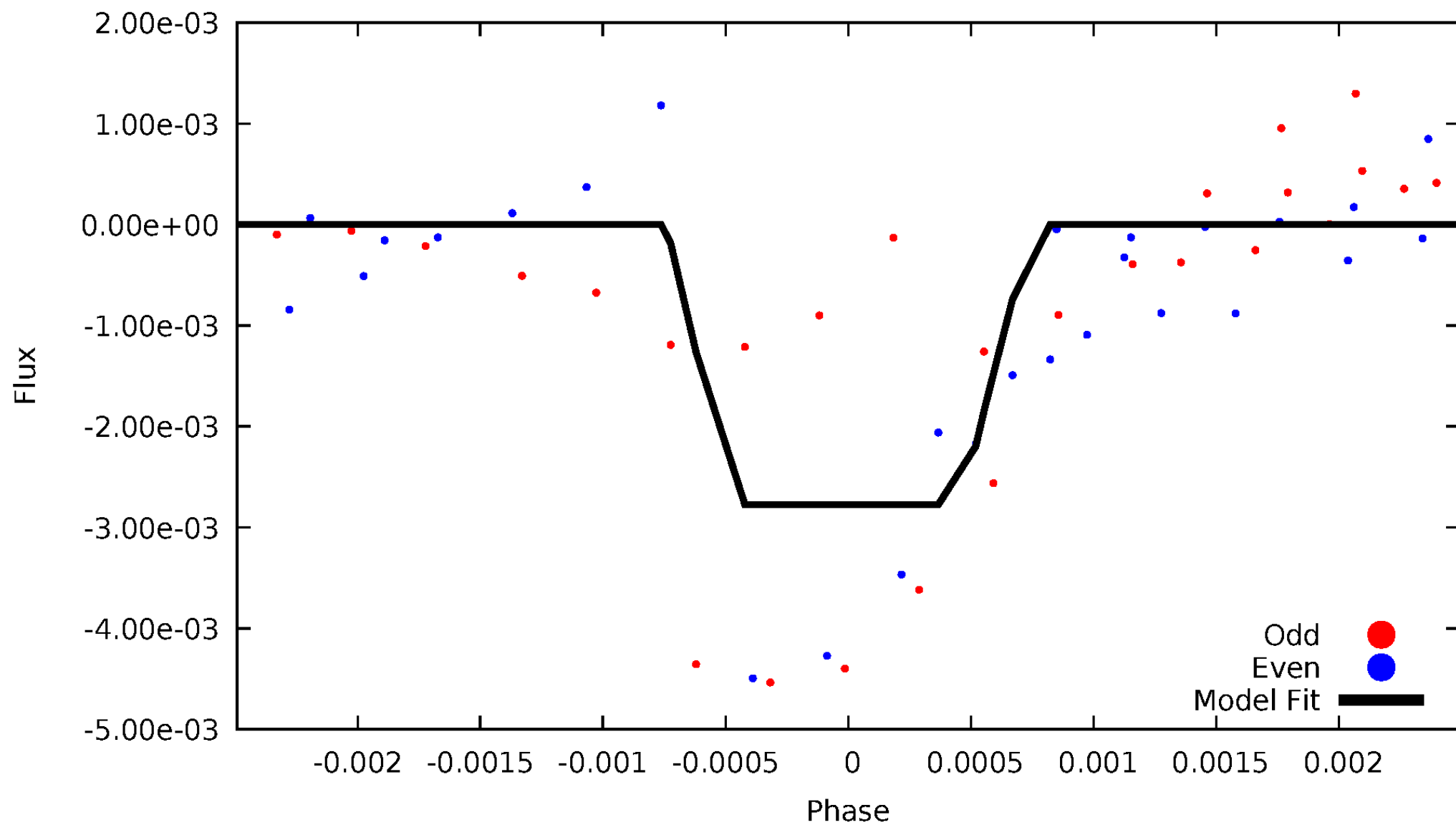
DV Odd/Even

TCE 006301745-03



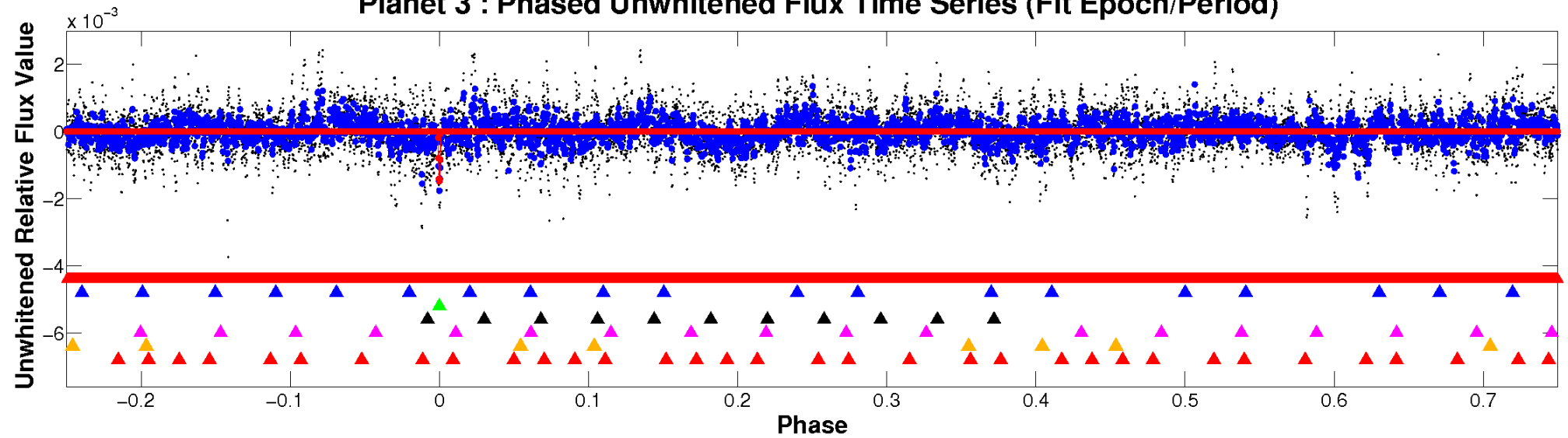
ALT Odd/Even

TCE 006301745-03

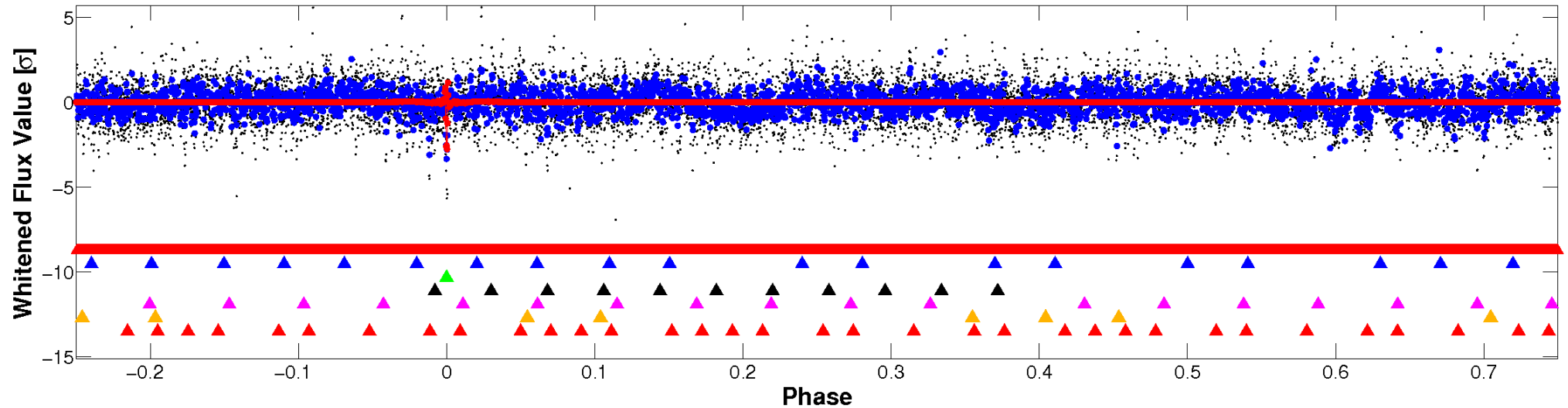


Non-Whitened Vs. Whitened Light Curve

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

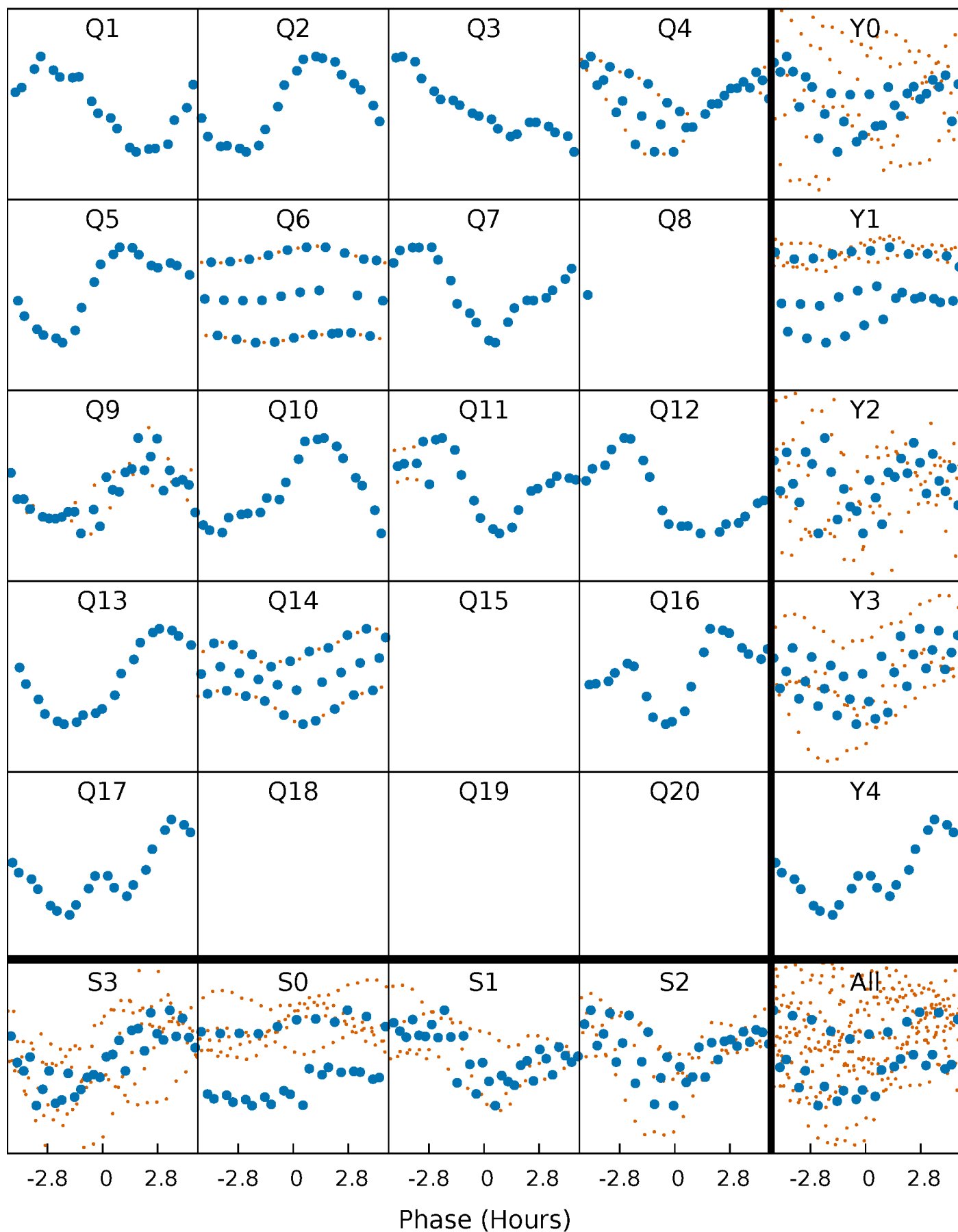


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



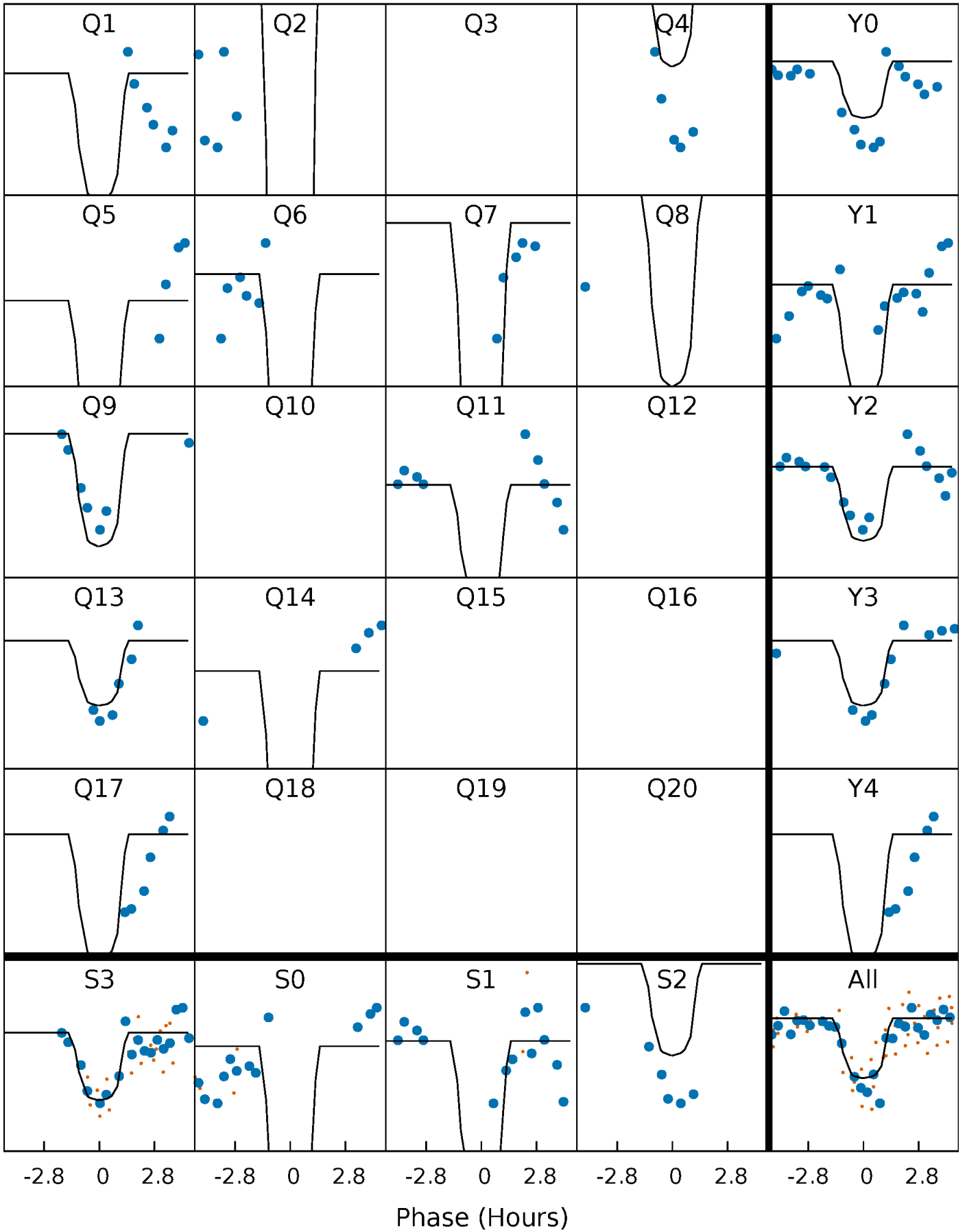
PDC Quarter-Phased Transit Curves

TCE 006301745-03 $P = 67.441722$ Days $T_0 = 154.263295$ (BKJD)



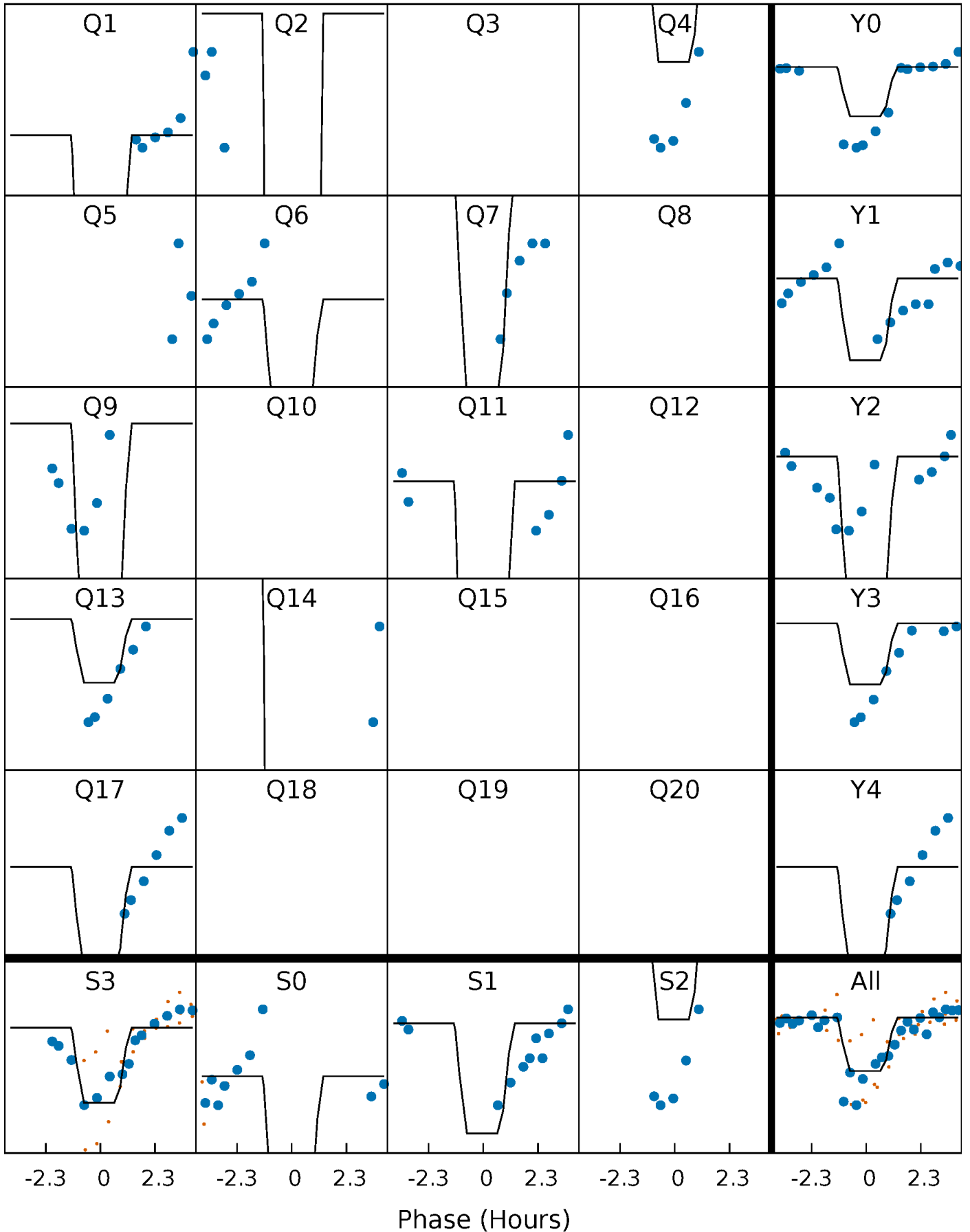
DV Quarter-Phased Transit Curves

TCE 006301745-03 $P = 67.441722$ Days $T_0 = 154.263295$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

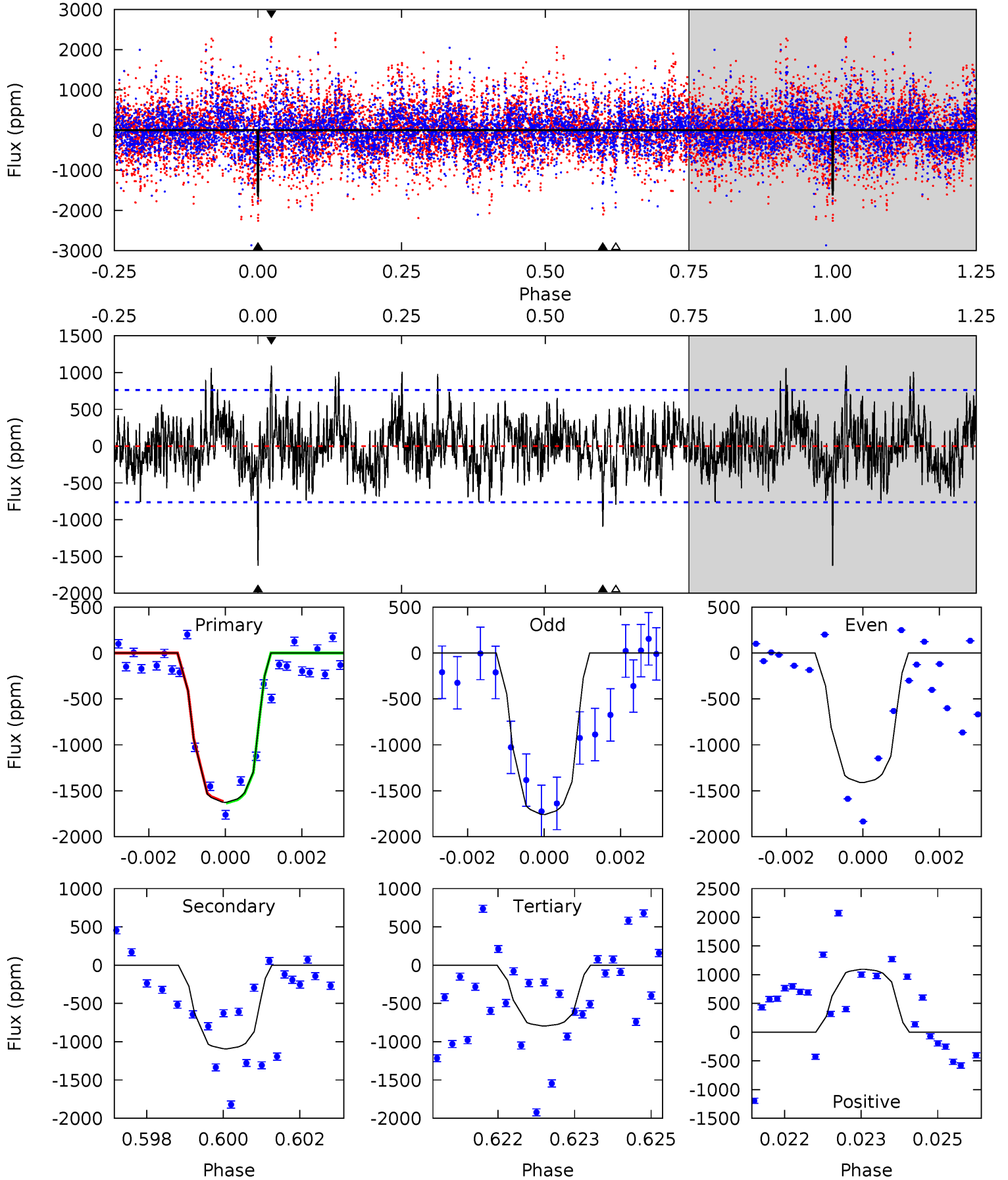
TCE 006301745-03 $P = 67.442380$ Days $T_0 = 154.259760$ (BKJD)



DV Model-Shift Uniqueness Test

006301745-03, P = 67.441722 Days, E = 86.821573 Days

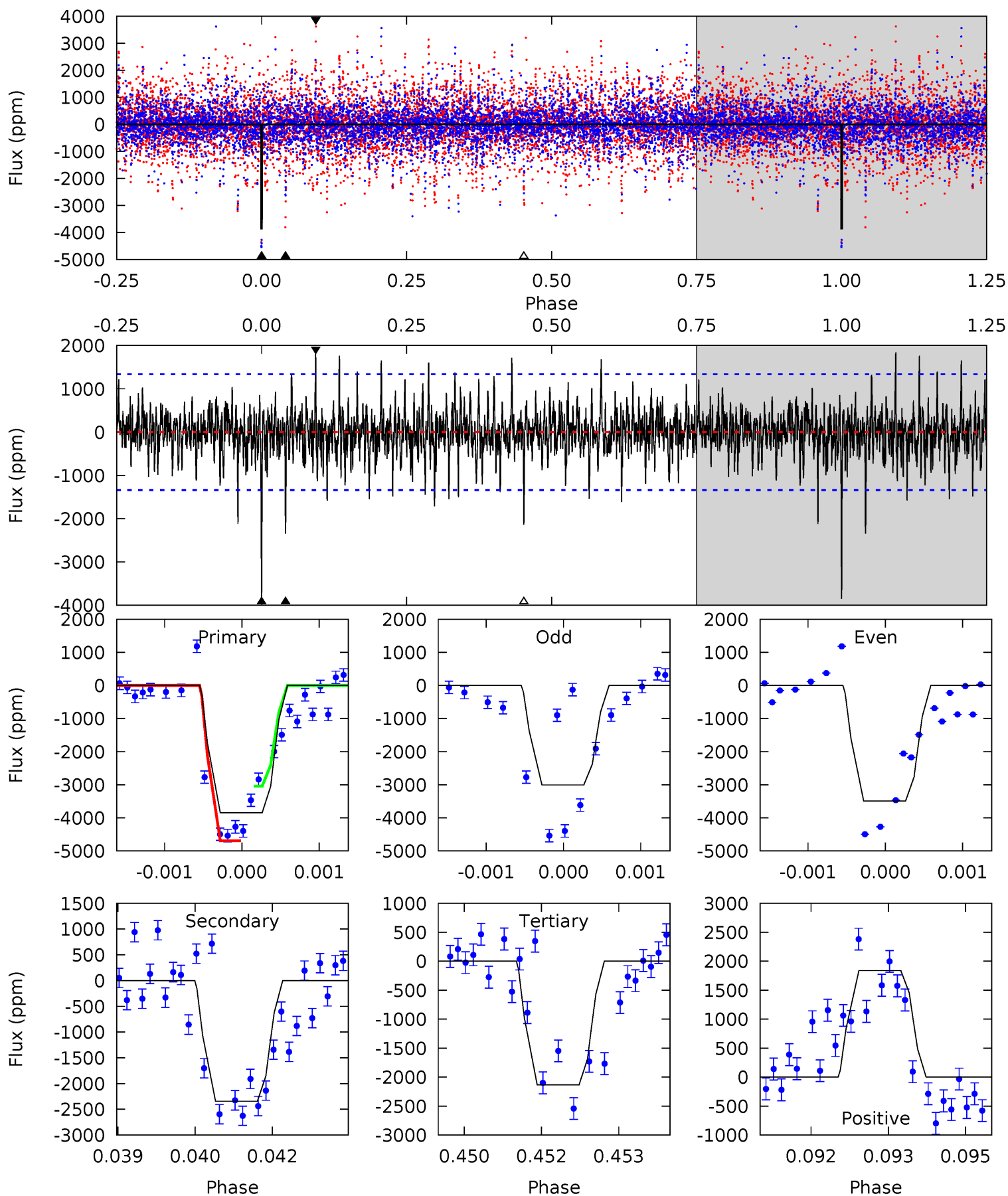
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.4	7.69	5.58	7.72	5.37	3.16	2.03	5.86	3.73	2.11	-0.03	1.17	1.00	0.40	0.07



Alt Model-Shift Uniqueness Test

006301745-03, P = 67.442380 Days, E = 86.817380 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	9.45	8.60	7.42	5.39	3.20	1.77	6.91	8.10	0.85	2.03	0.98	0.93	0.32	3.34



Stellar Parameters For KIC 006301745

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6735^{+122}_{-136}	$4.012^{+0.195}_{-0.105}$	$-0.440^{+0.150}_{-0.150}$	$1.781^{+0.313}_{-0.383}$	$1.190^{+0.146}_{-0.097}$	$0.297^{+0.310}_{-0.095}$
	+2%/-2%	+5%/-3%	+34%/-34%	+18%/-22%	+12%/-8%	+104%/-32%
Source	SPE4	SPE4	SPE4	DSEP		

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

Secondary Eclipse Parameters for KIC 006301745-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1092 ± 142	$9.31^{+8.48}_{-6.13}$	937^{+46}_{-53}	5532^{+4466}_{-1294}	846^{+5903}_{-620}
Alt.	-2343 ± 248	$11.13^{+9.06}_{-7.27}$	934^{+47}_{-57}	6019^{+6045}_{-1387}	1241^{+9463}_{-881}

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

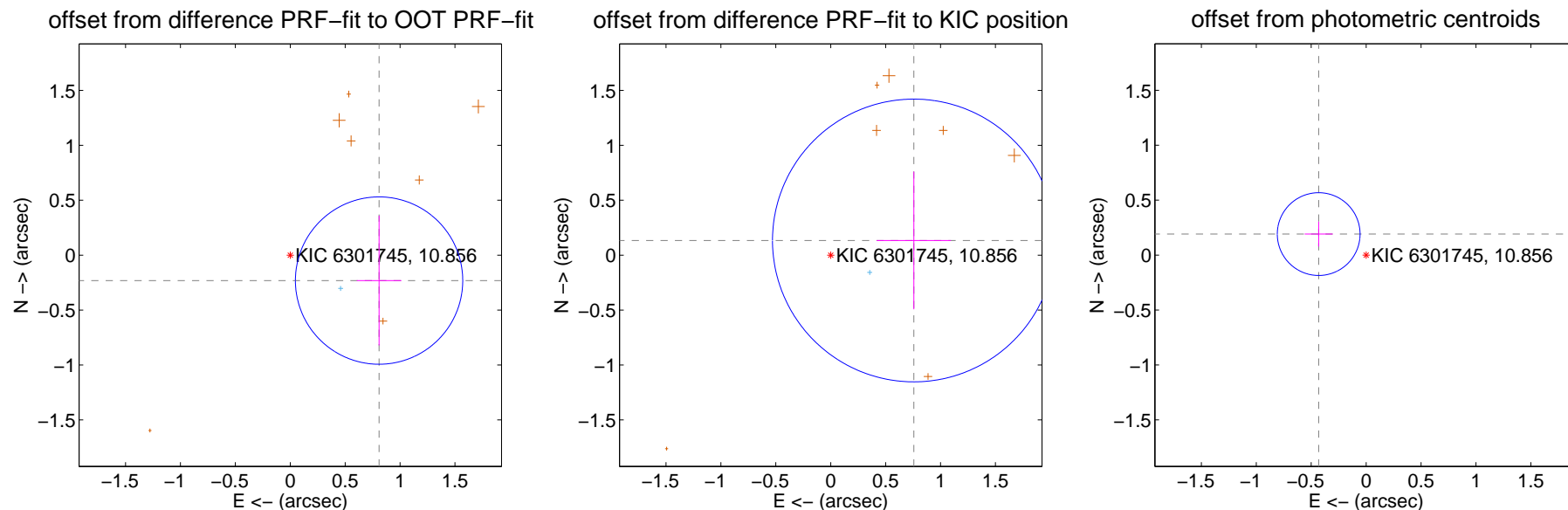
DV Centroid Data

Supplemental centroid analysis for 006301745-03. **Kepler magnitude: 10.86.** Transit SNR 9.21

There are 7 quarters with good PRF difference image offsets

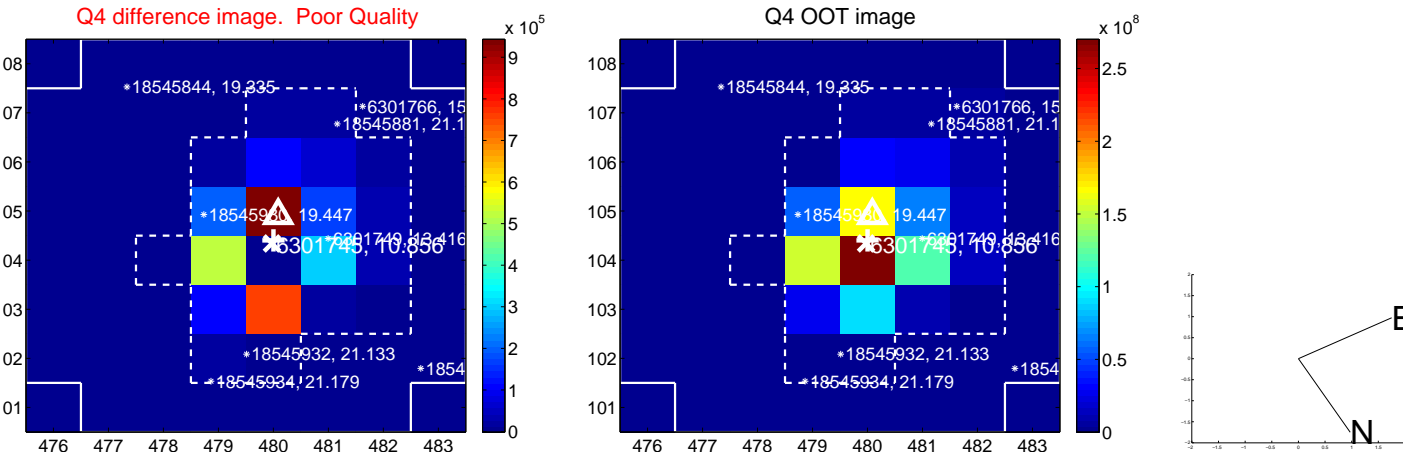
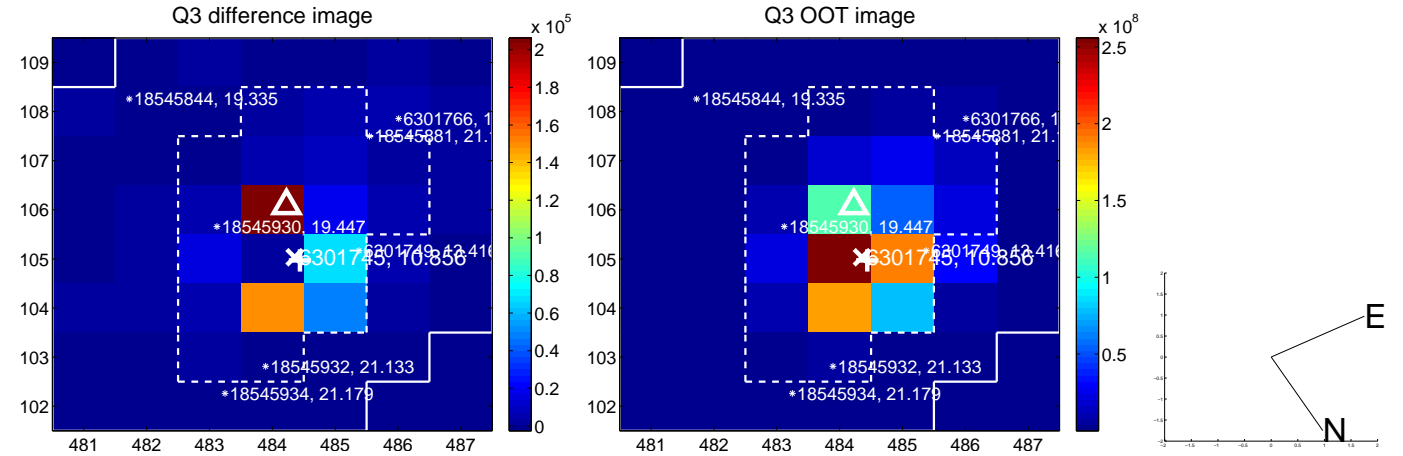
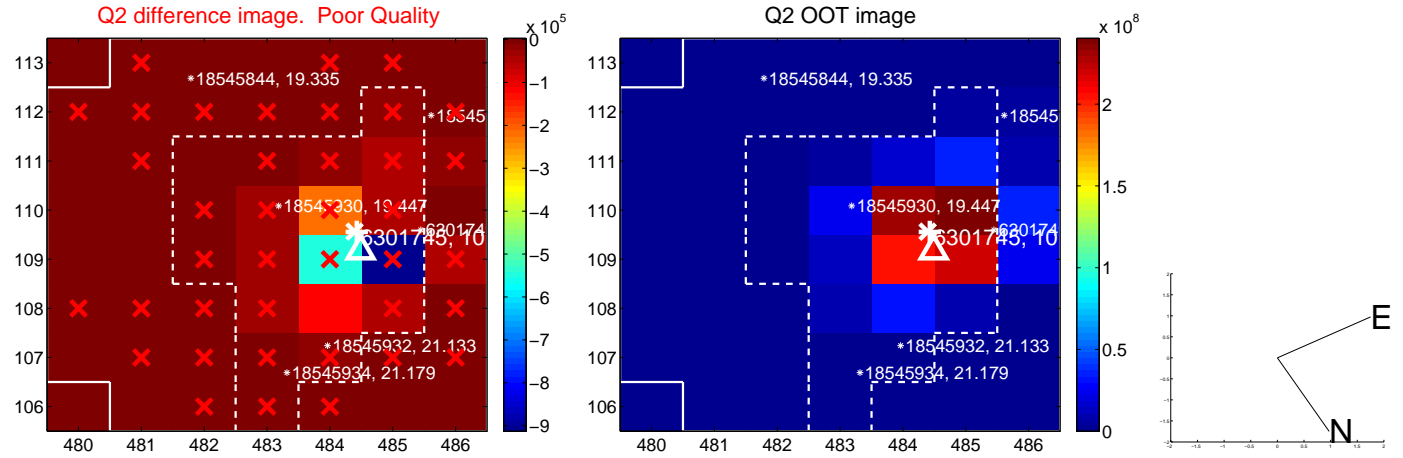
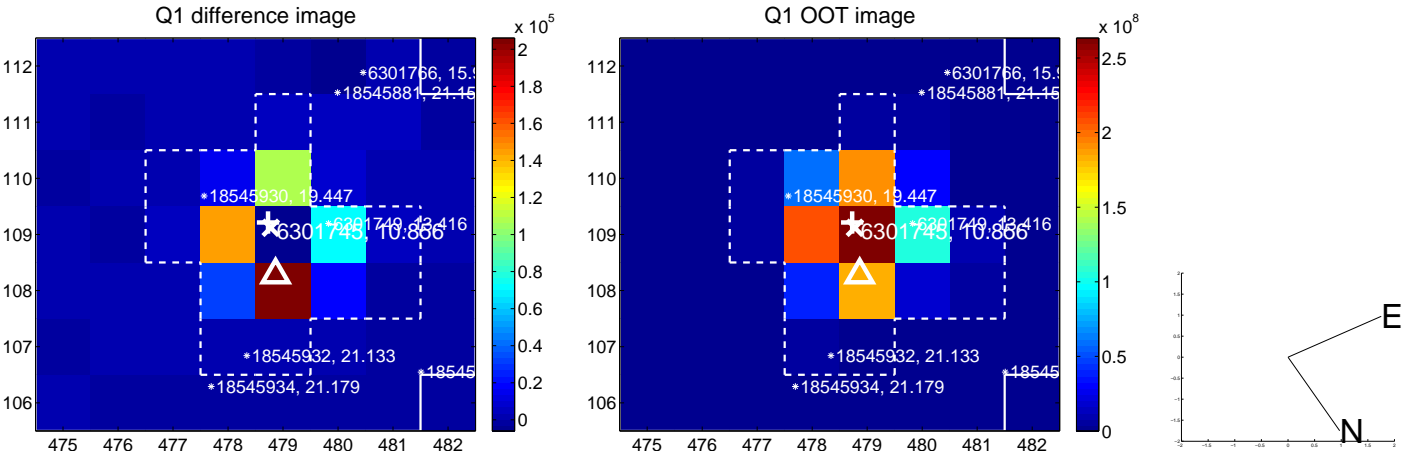
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.841 ± 0.254	3.31	-0.809 ± 0.203	-0.231 ± 0.590
PRF-fit source offset from KIC position	0.769 ± 0.429	1.79	-0.757 ± 0.338	0.134 ± 0.626
photometric centroid source offset	0.47 ± 0.13	3.76	0.43 ± 0.13	0.19 ± 0.11

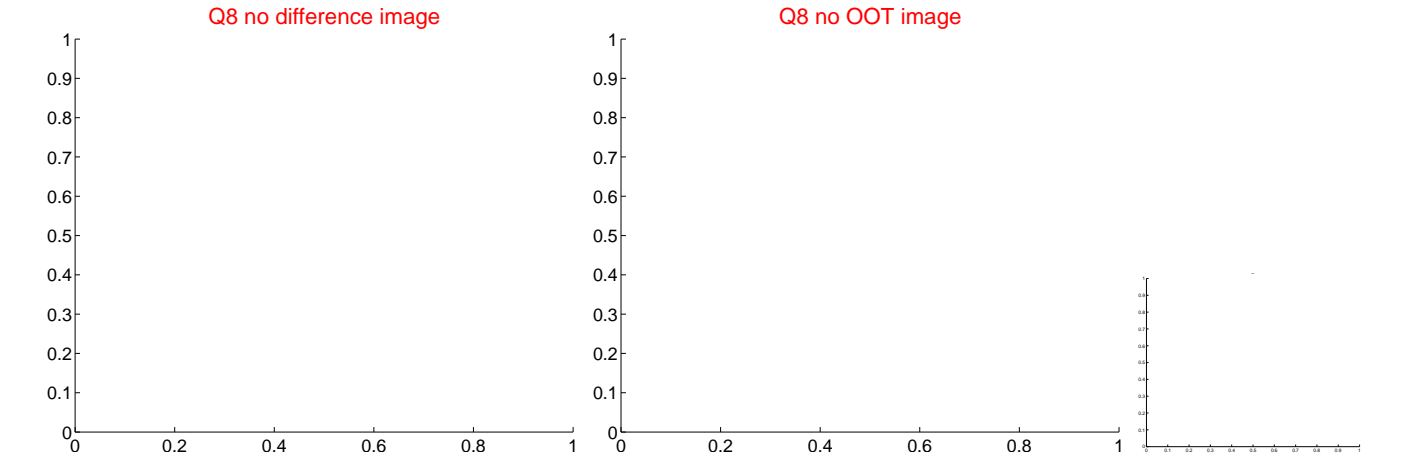
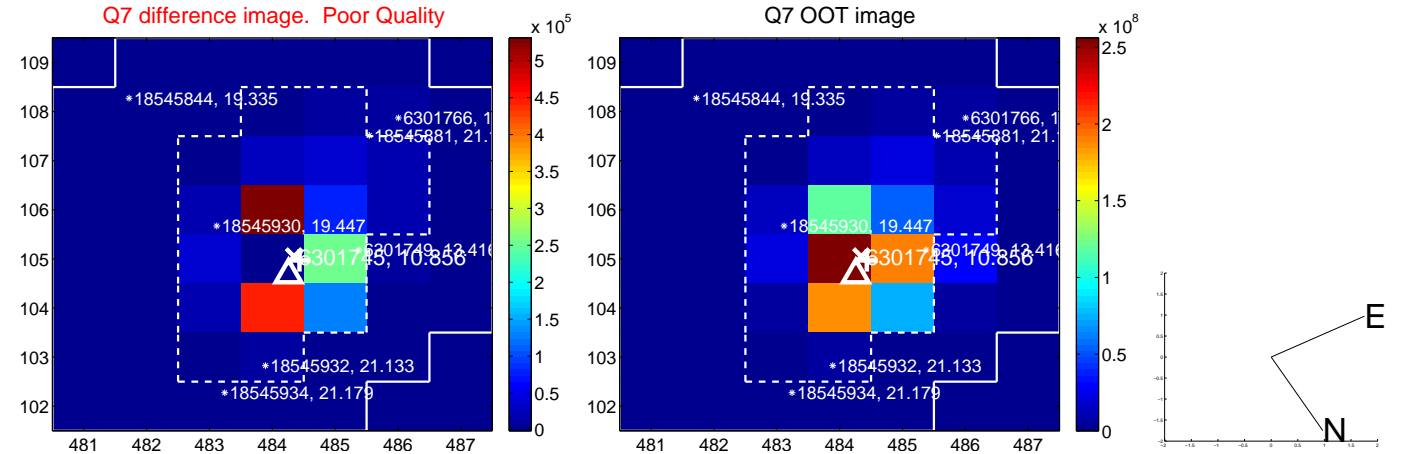
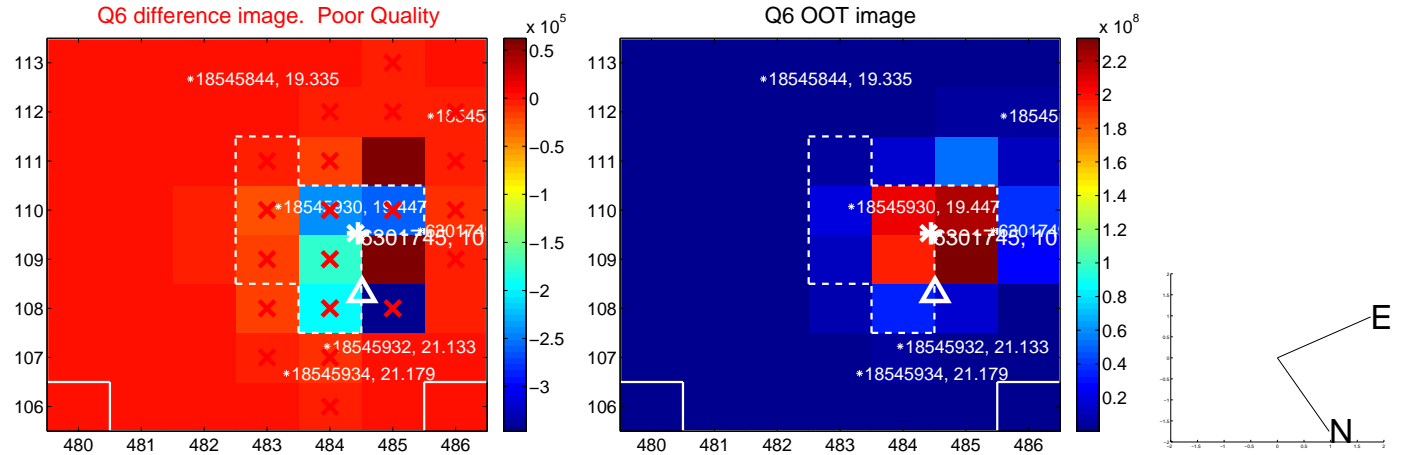
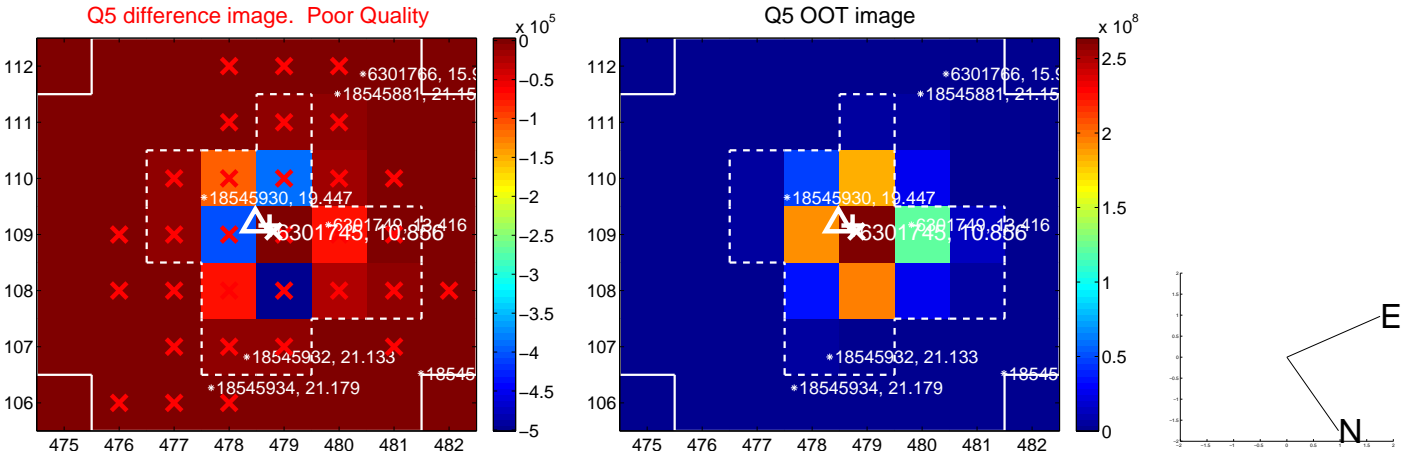


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

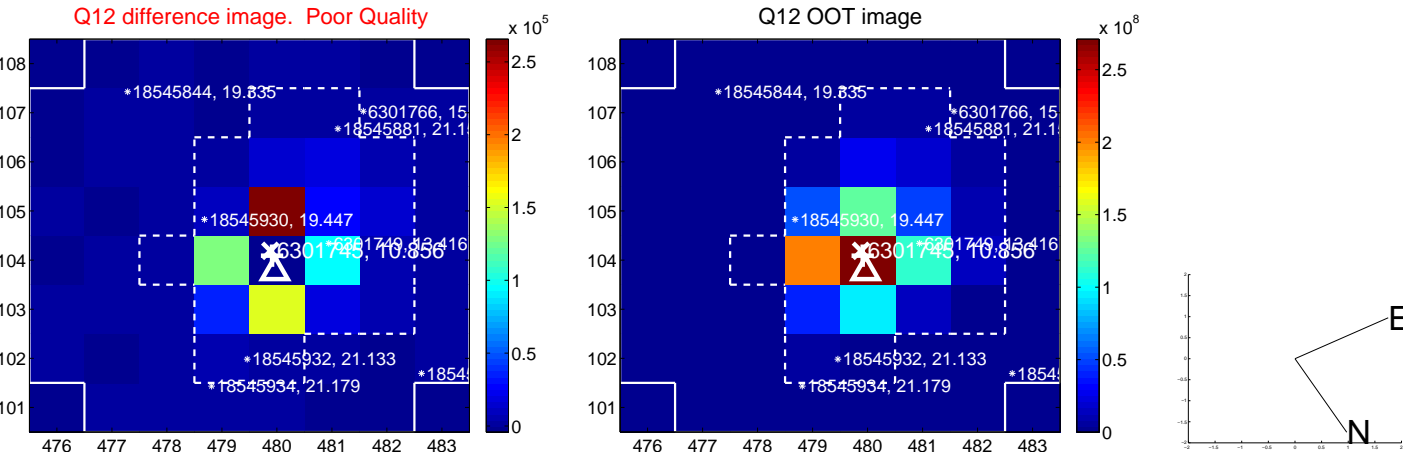
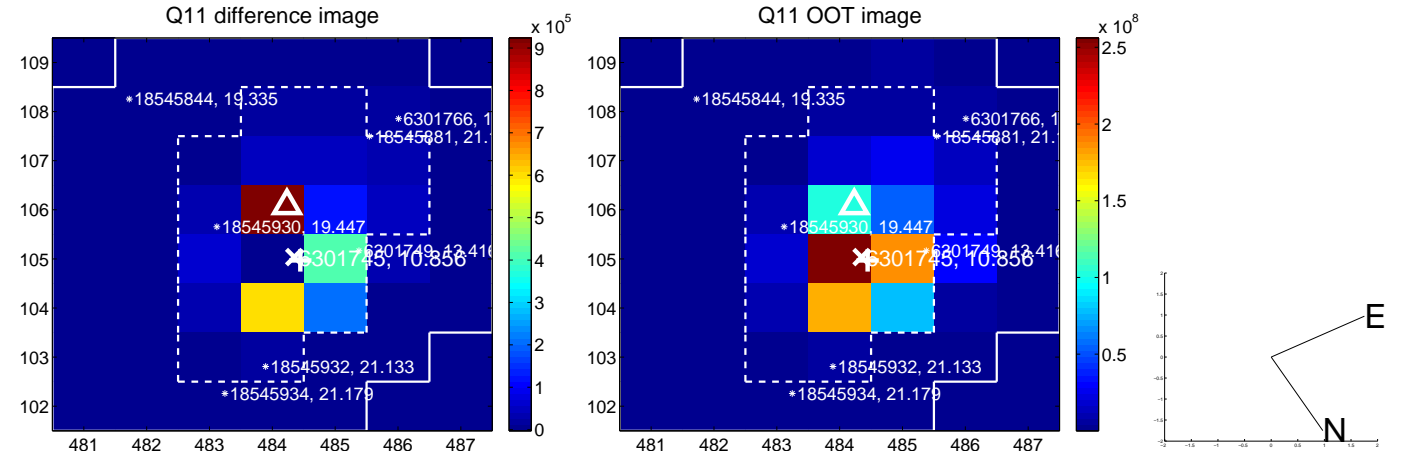
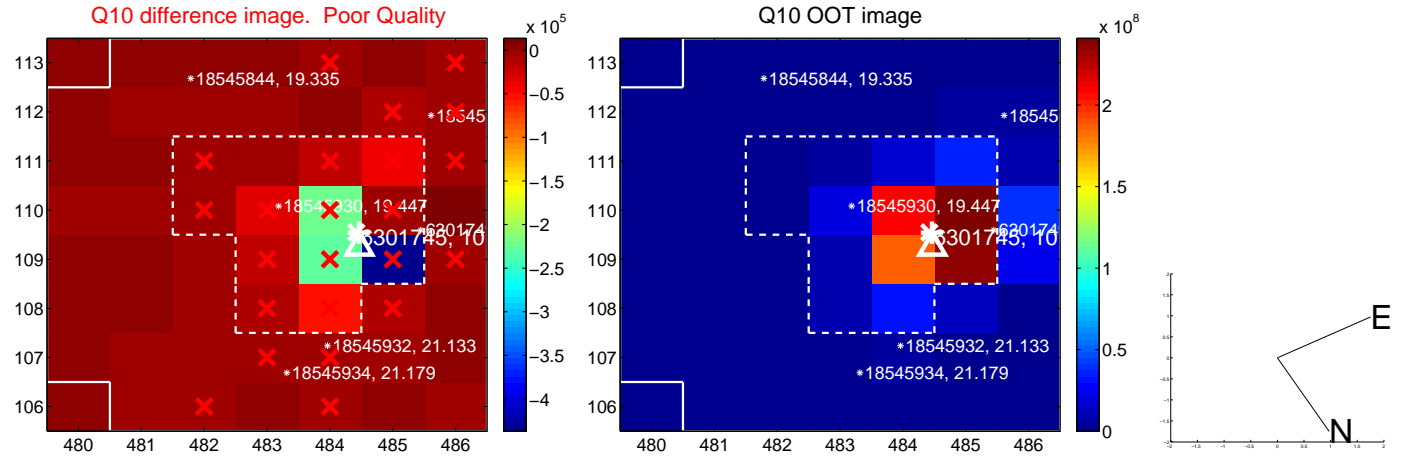
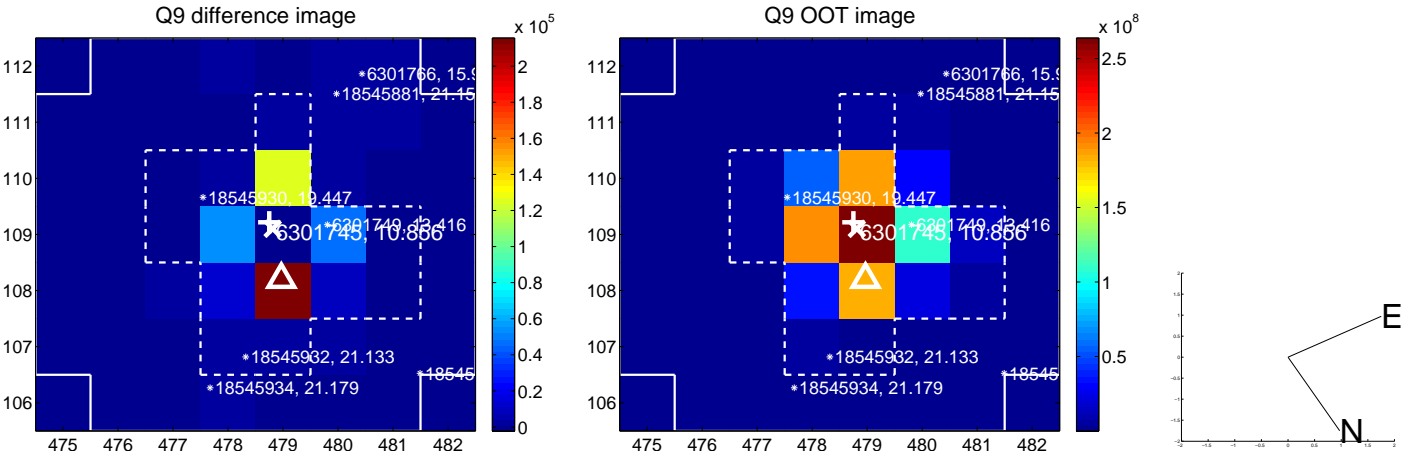
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



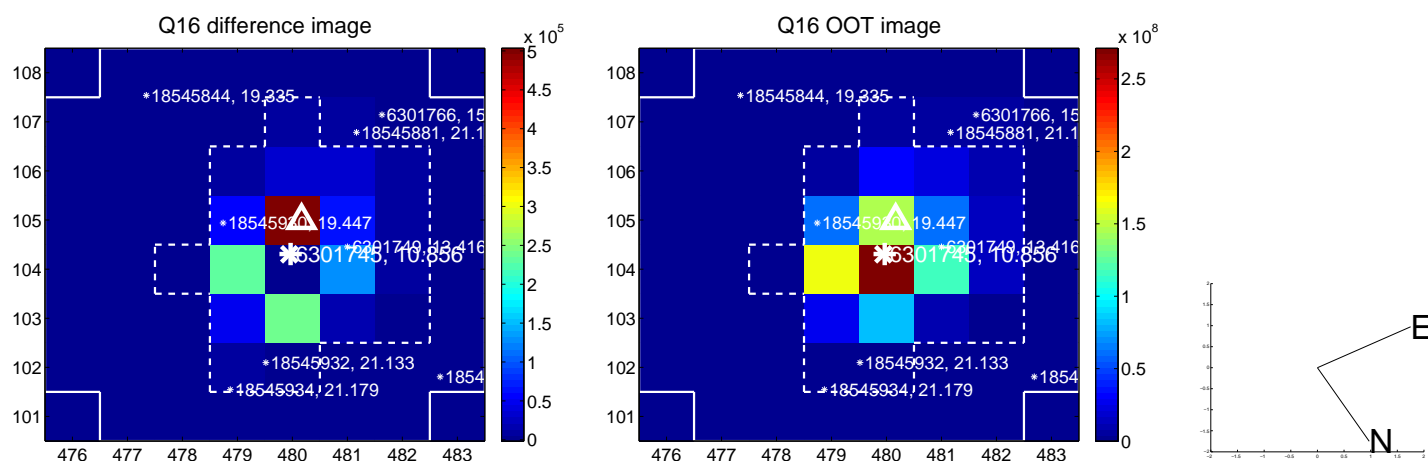
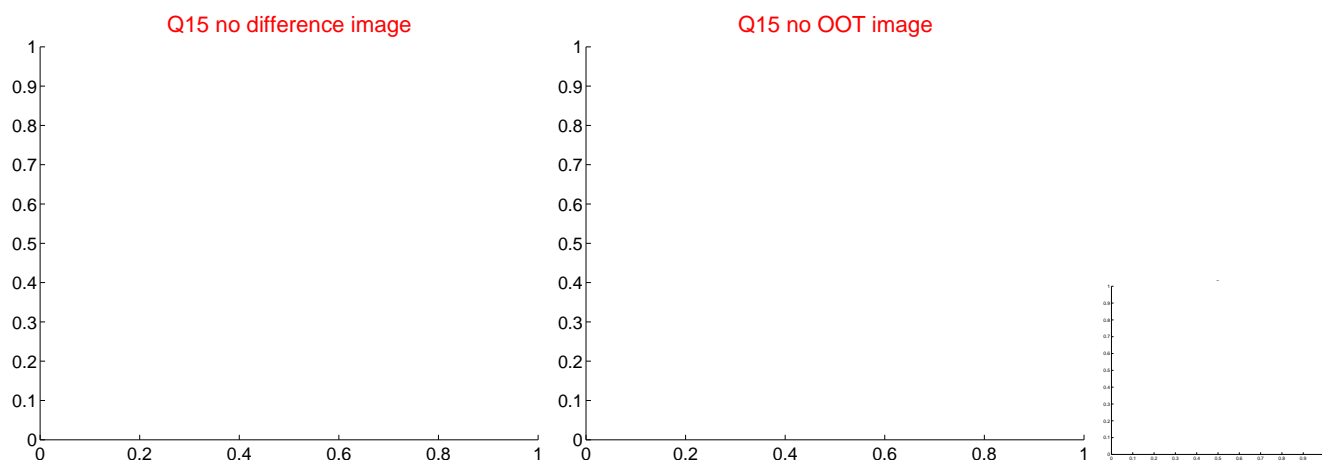
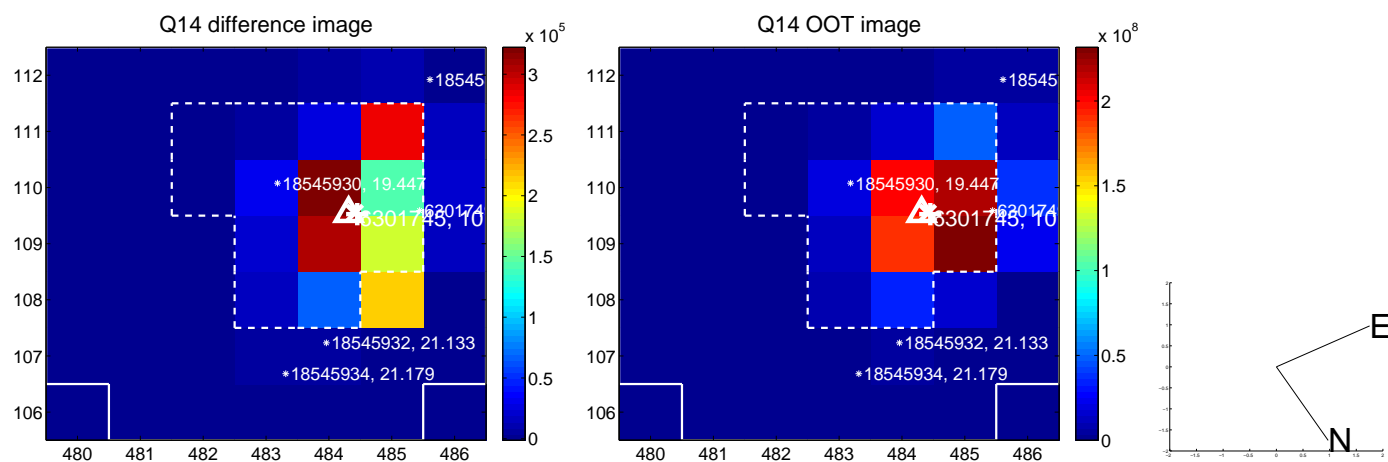
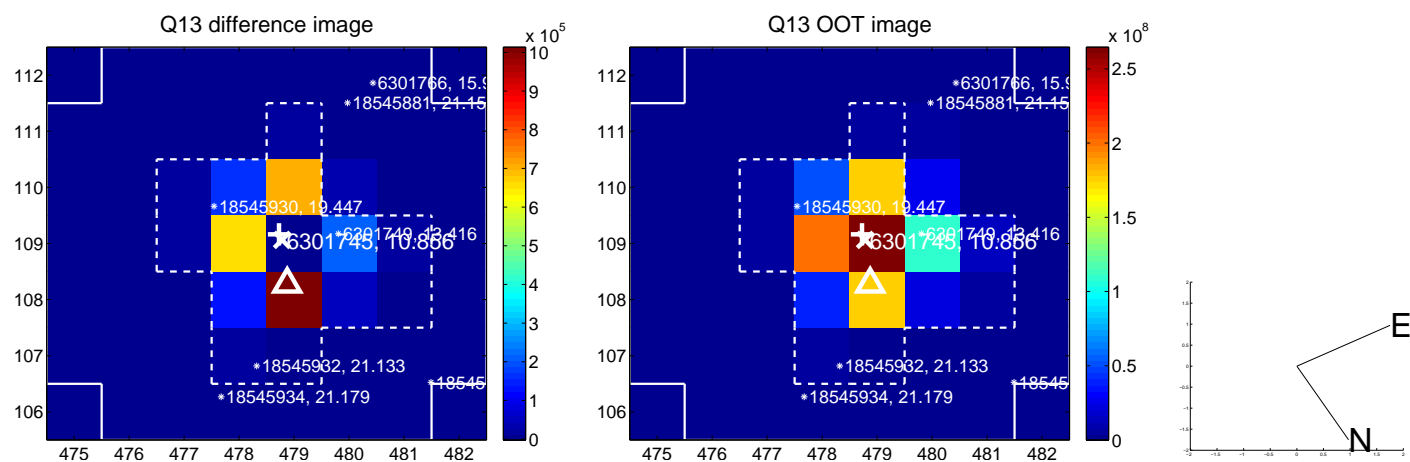
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



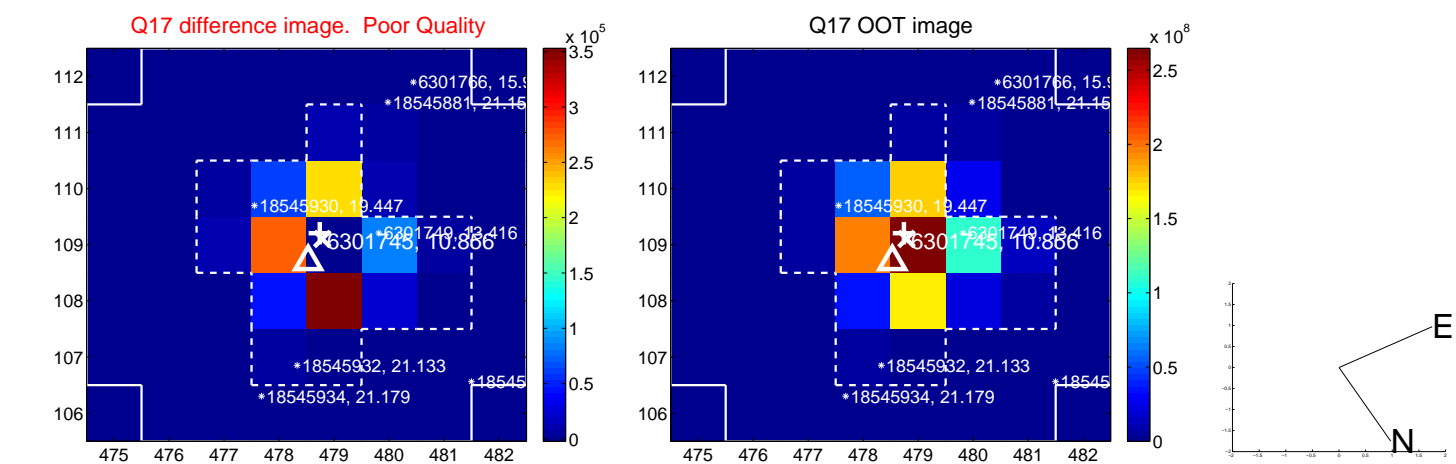
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



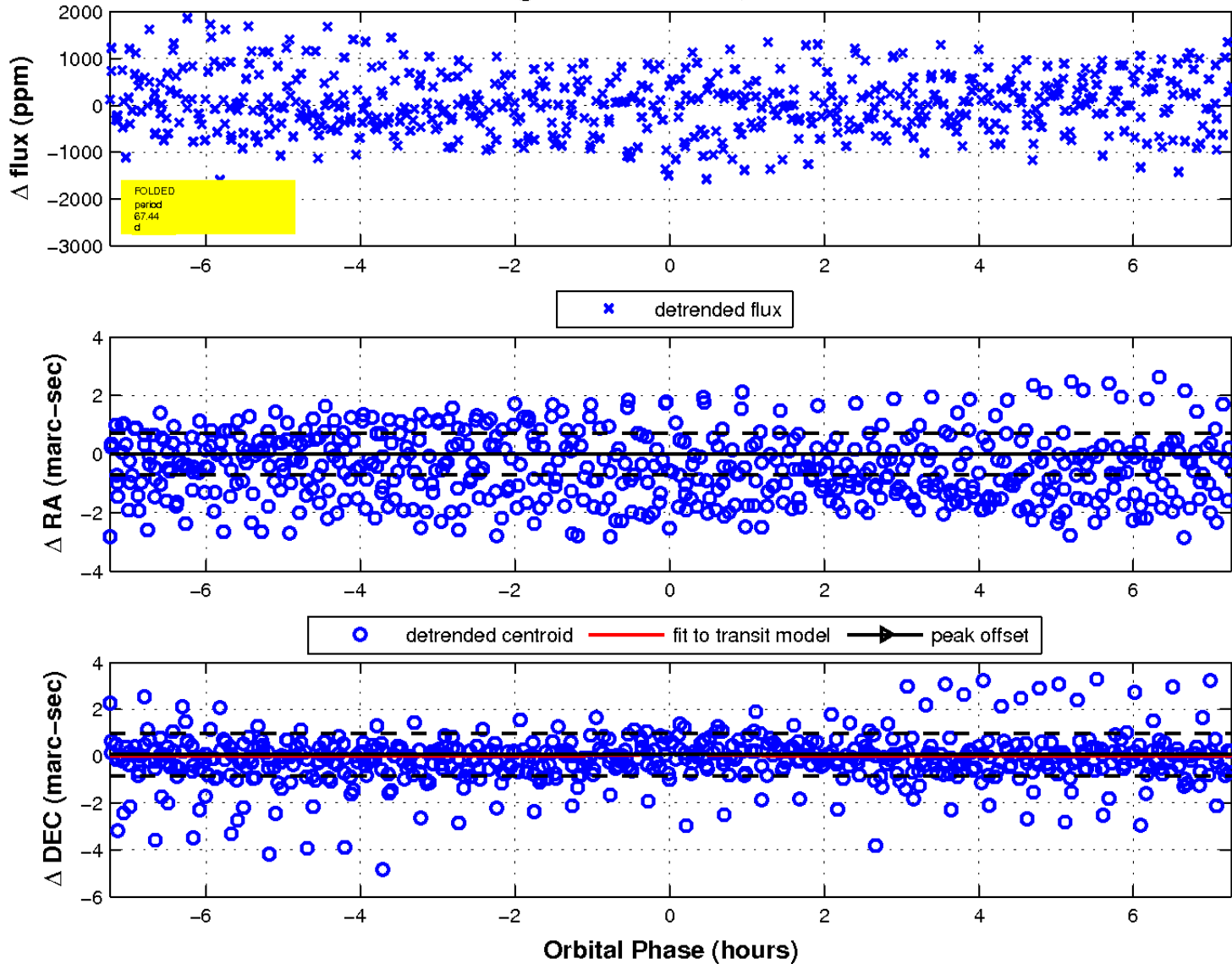
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



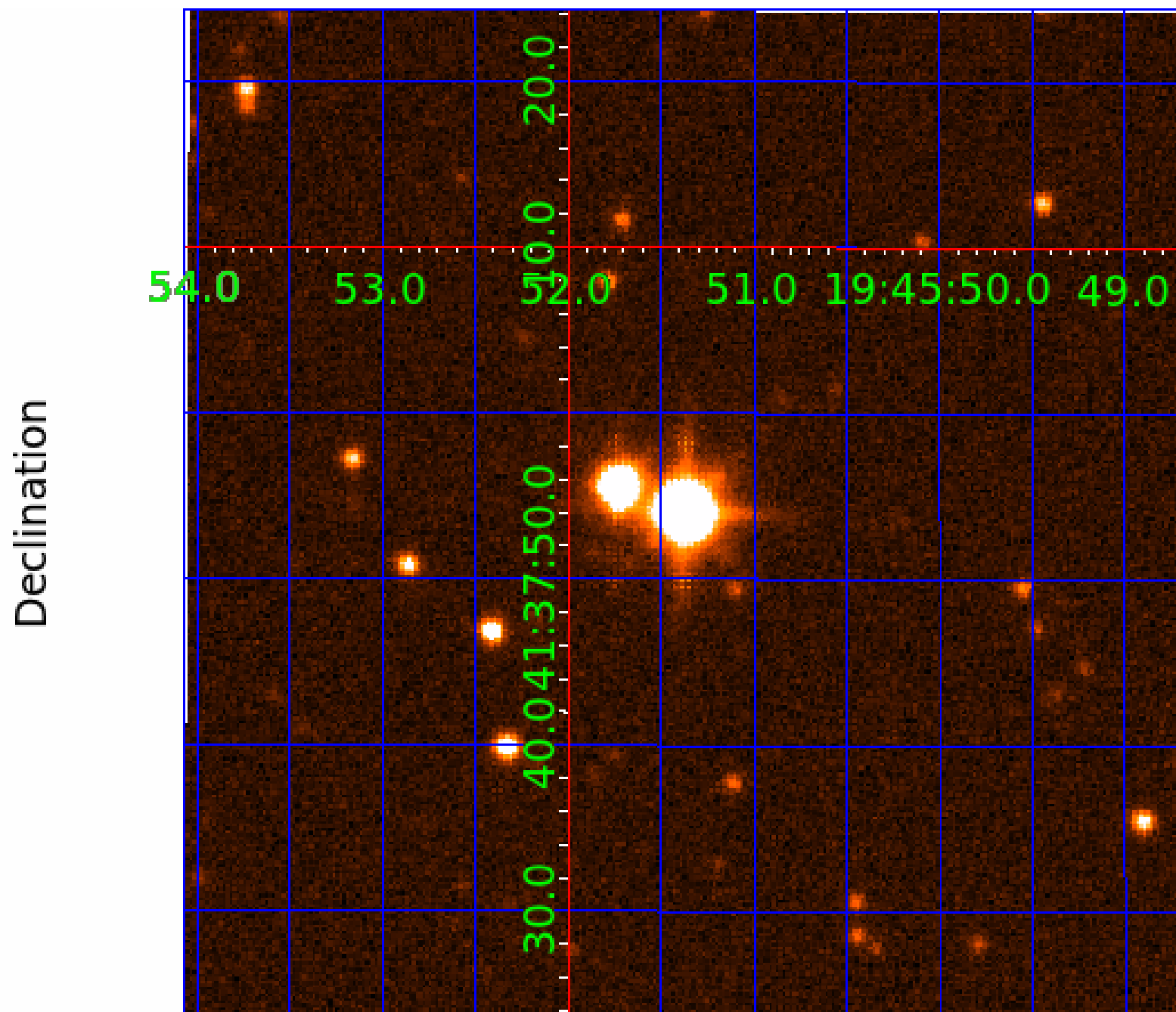
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 3 of 7



UKIRT Image



KIC 006301745

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})
006301745-01	OBS	No	0.692557	131.855087	3.5	4.475	13.0	0.8	1.78	6735	0.34	22186.05
006301745-02	OBS	No	76.214239	202.800249	1298.7	6.099	9.9	9.1	1.78	6735	9.22	42.07
006301745-03	OBS	No	67.441722	154.263295	1481.8	2.424	12.0	9.2	1.78	6735	7.08	49.52
006301745-04	OBS	No	137.445167	153.731639	1962.7	4.376	9.4	8.9	1.78	6735	14.54	19.16
006301745-05	OBS	No	78.078464	190.540303	1172.8	2.314	9.0	8.4	1.78	6735	6.51	40.74
006301745-06	OBS	No	178.734227	208.450655	1783.3	10.025	7.8	6.6	1.78	6735	12.37	13.50
006301745-07	OBS	No	42.666979	167.272969	180.0	1.994	8.8	1.8	1.78	6735	2.67	91.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006301745-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006301745-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006301745-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006301745-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED—HALO_GHOST
006301745-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

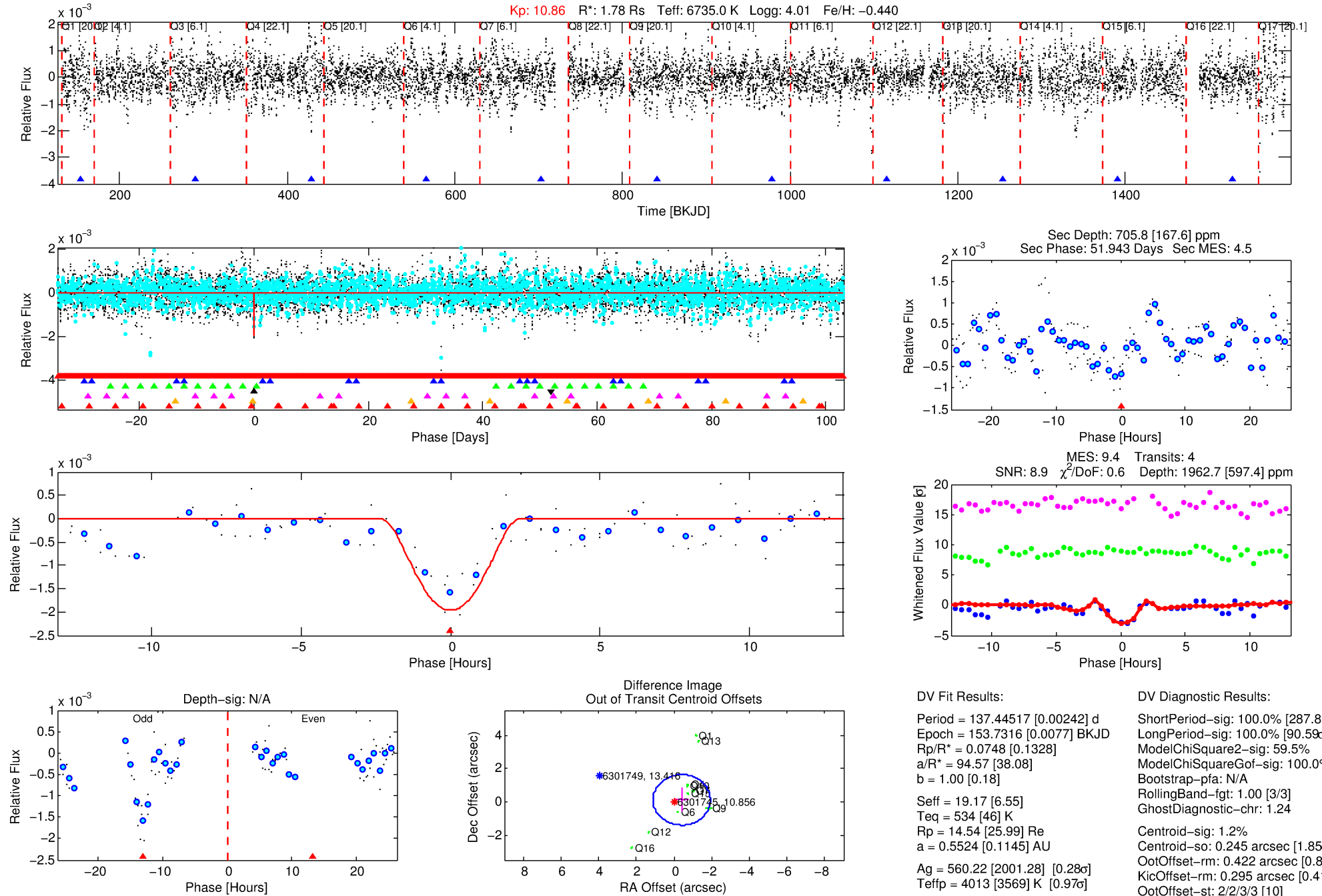
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006301745-04

No Significant Match Found

DV One-Page Summary

KIC: 6301745 Candidate: 4 of 7 Period: 137.445 d



DV Fit Results:

Period = 137.44517 [0.00242] d
Epoch = 153.7316 [0.0077] BKJD
Rp/R* = 0.0748 [0.1328]
a/R* = 94.57 [38.08]
b = 1.00 [0.18]
Seff = 19.17 [6.55]
Teq = 534 [46] K
Rp = 14.54 [25.99] Re
a = 0.5524 [0.1145] AU
Ag = 560.22 [2001.28] [0.28 σ]
Teff = 4013 [3569] K [0.97 σ]

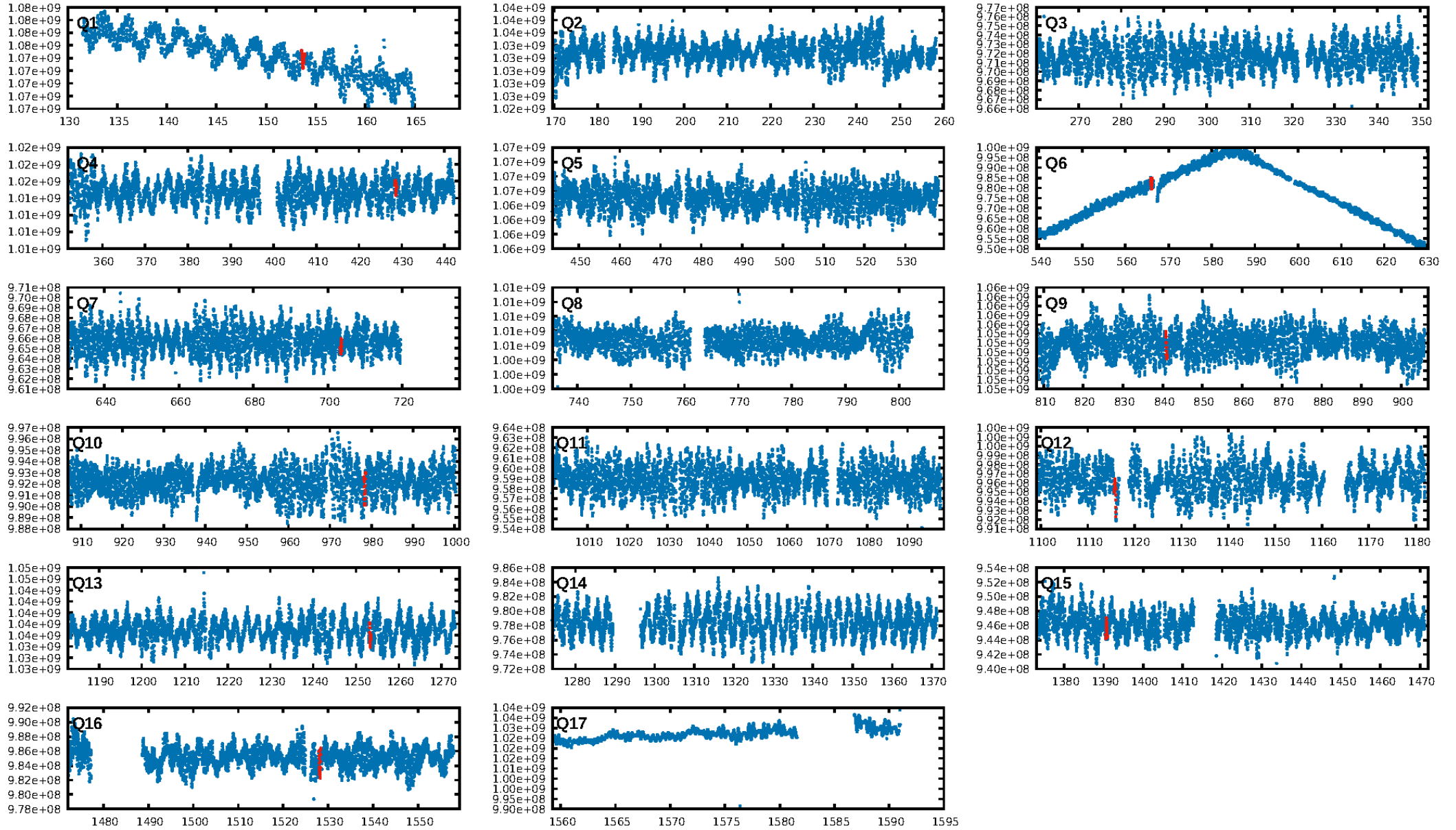
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [287.82 σ]
LongPeriod-sig: 100.0% [90.59 σ]
ModelChiSquare2-sig: 59.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.24
Centroid-sig: 1.2%
Centroid-so: 0.245 arcsec [1.85 σ]
OotOffset-rm: 0.422 arcsec [0.83 σ]
KicOffset-rm: 0.295 arcsec [0.41 σ]
OotOffset-st: 2/2/3/3 [10]
KicOffset-st: 2/2/3/3 [10]
DiffImageQuality-fgm: 0.60 [6/10]
DiffImageOverlap-fno: 0.00 [0/10]

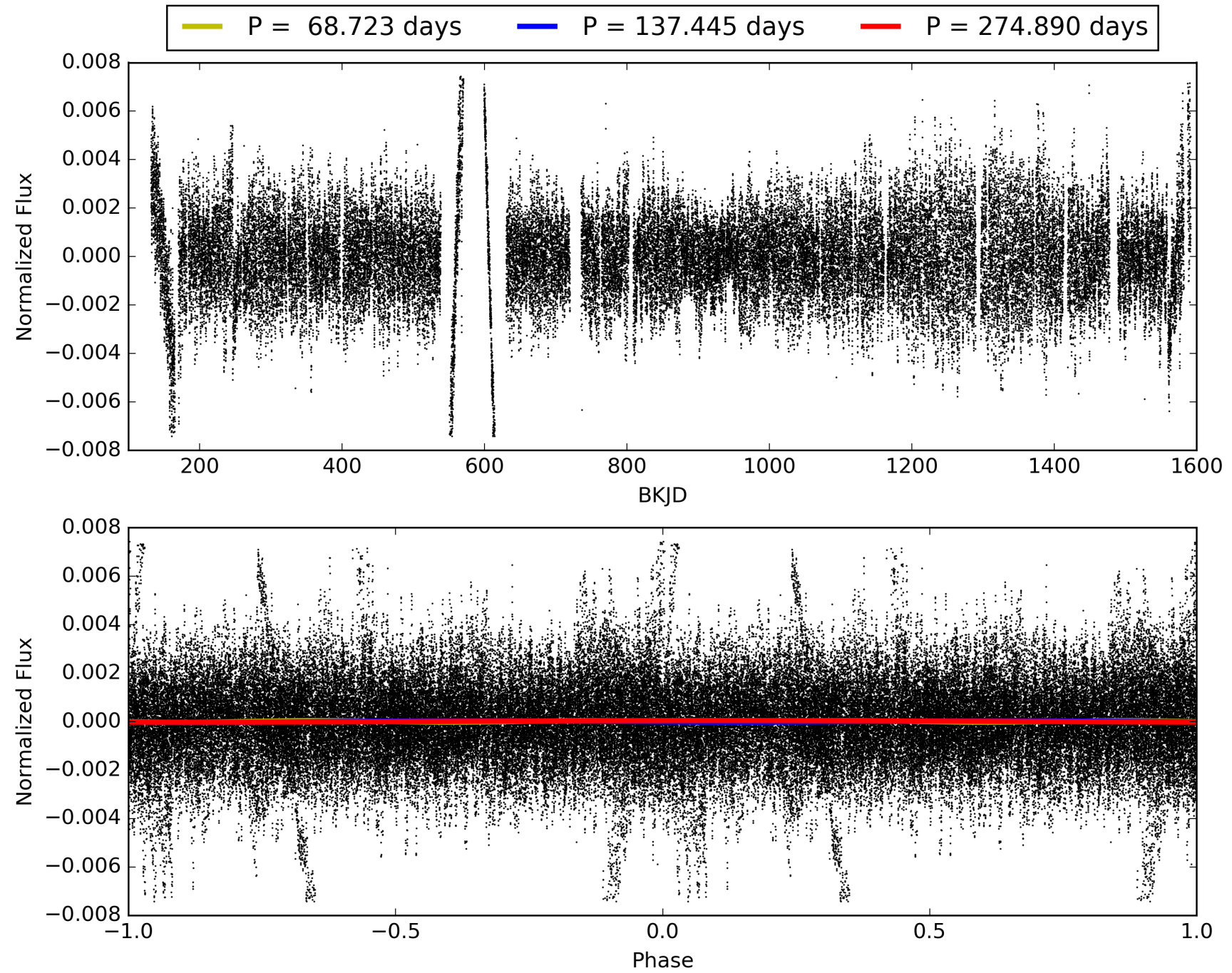
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:11:31 Z

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

TCE 006301745-04, PDC Light Curves

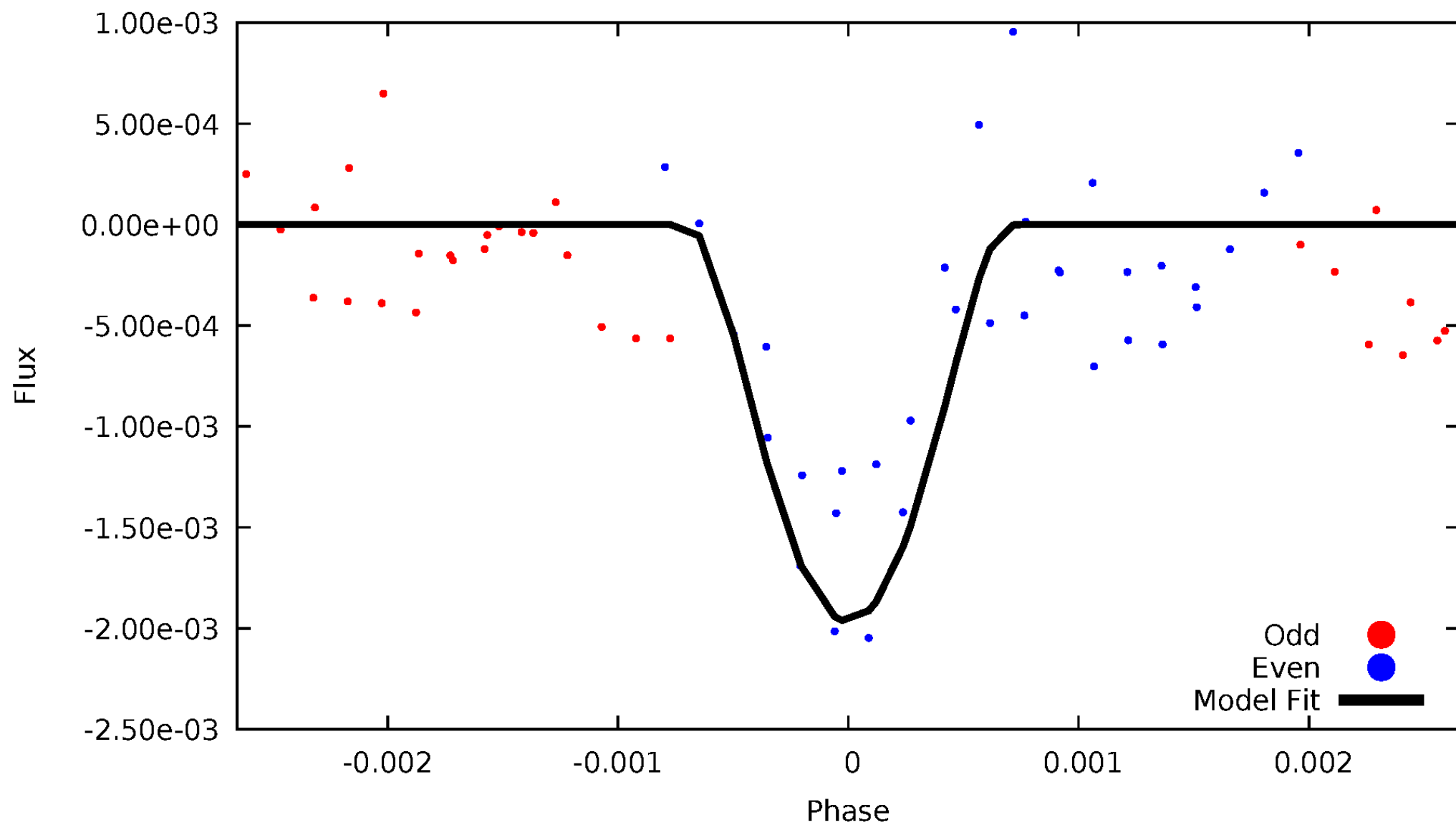


TCE 006301745-04



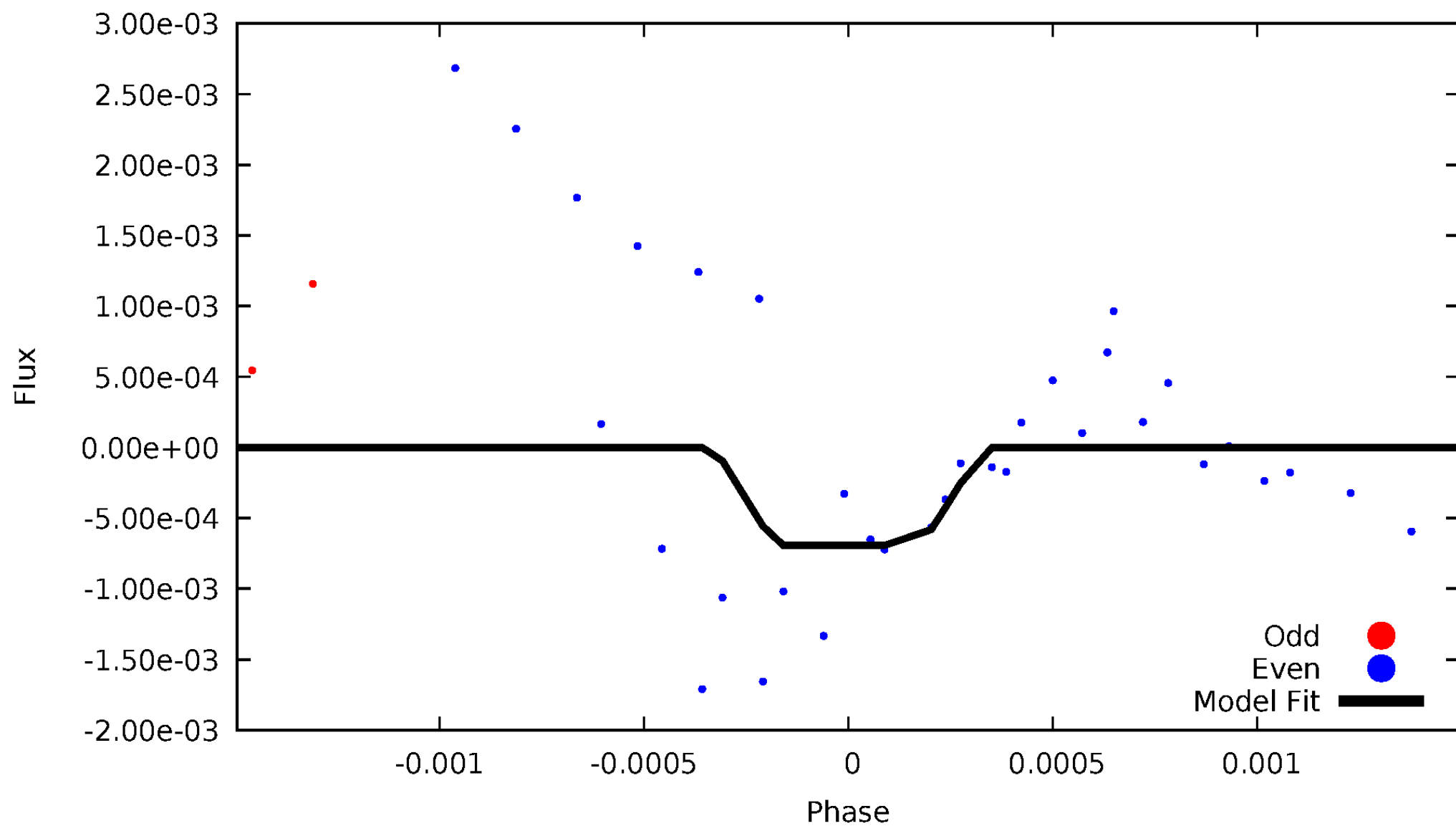
DV Odd/Even

TCE 006301745-04



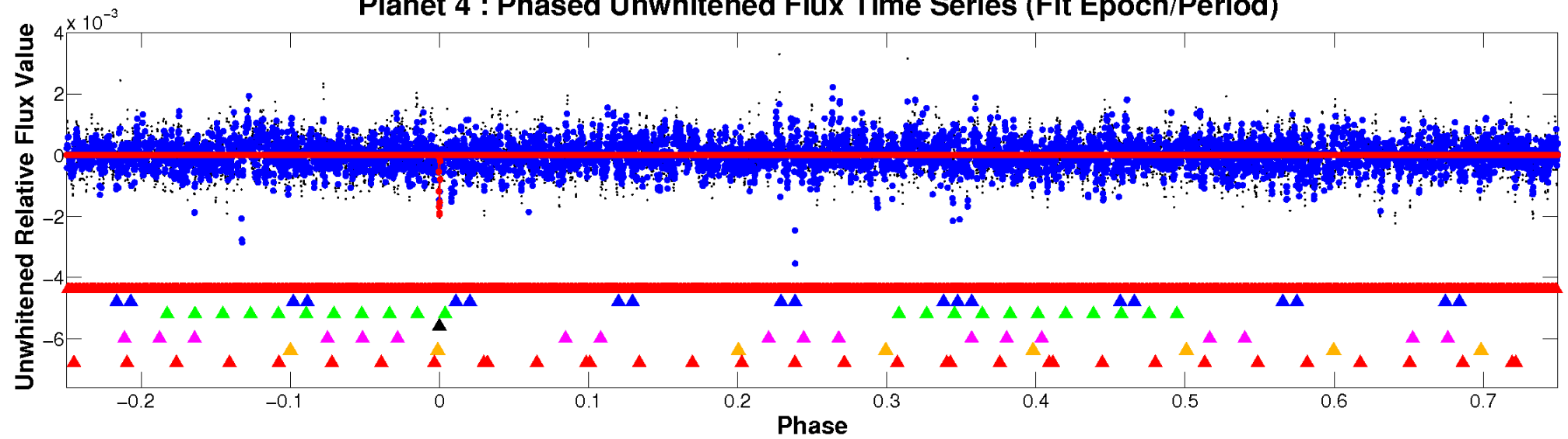
ALT Odd/Even

TCE 006301745-04

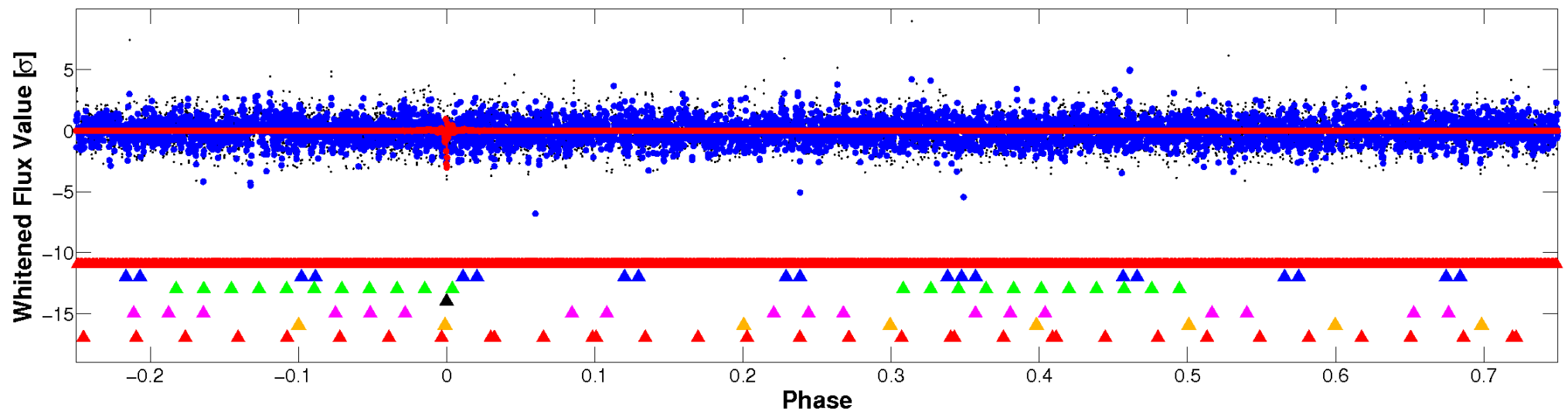


Non-Whitened Vs. Whitened Light Curve

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

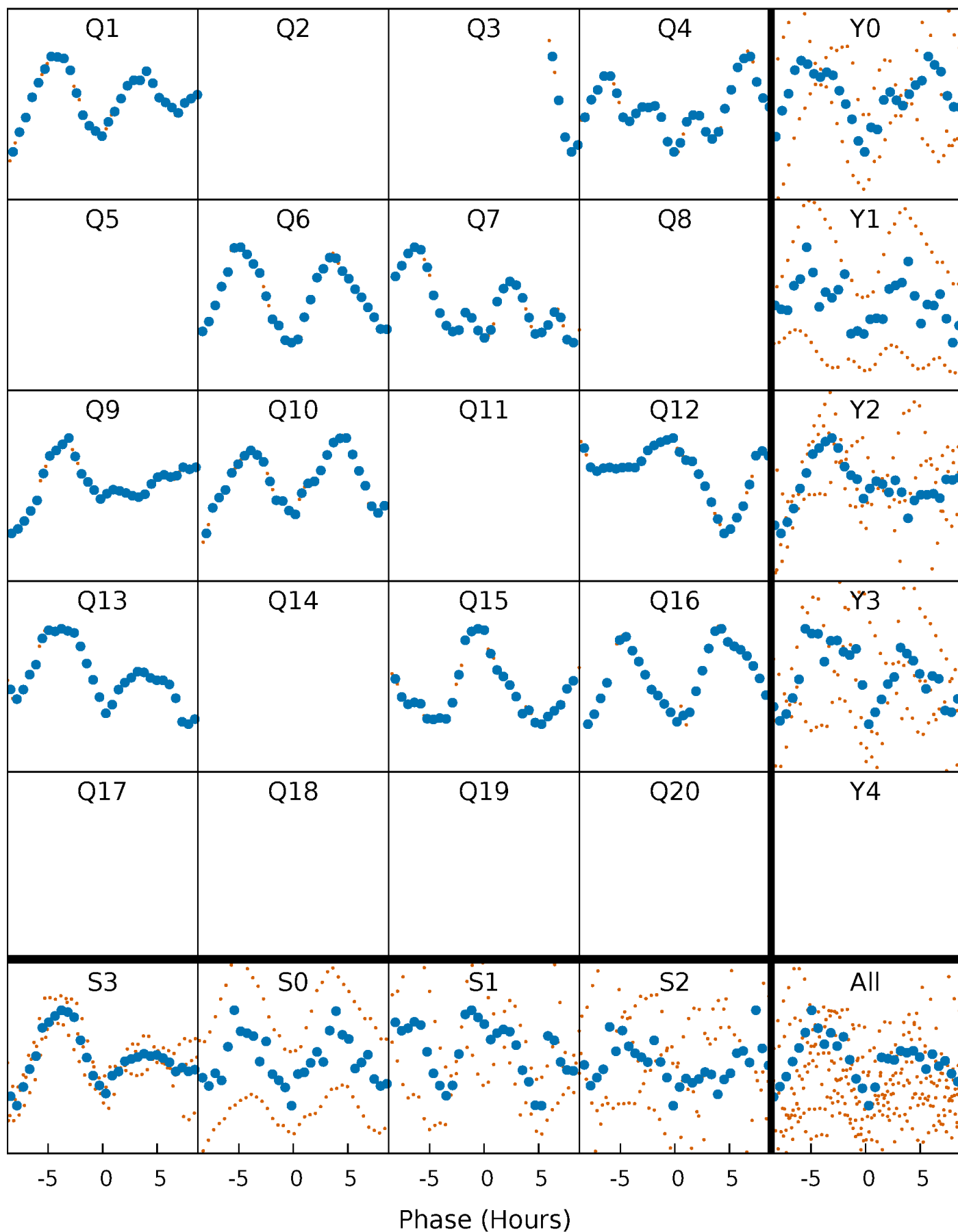


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



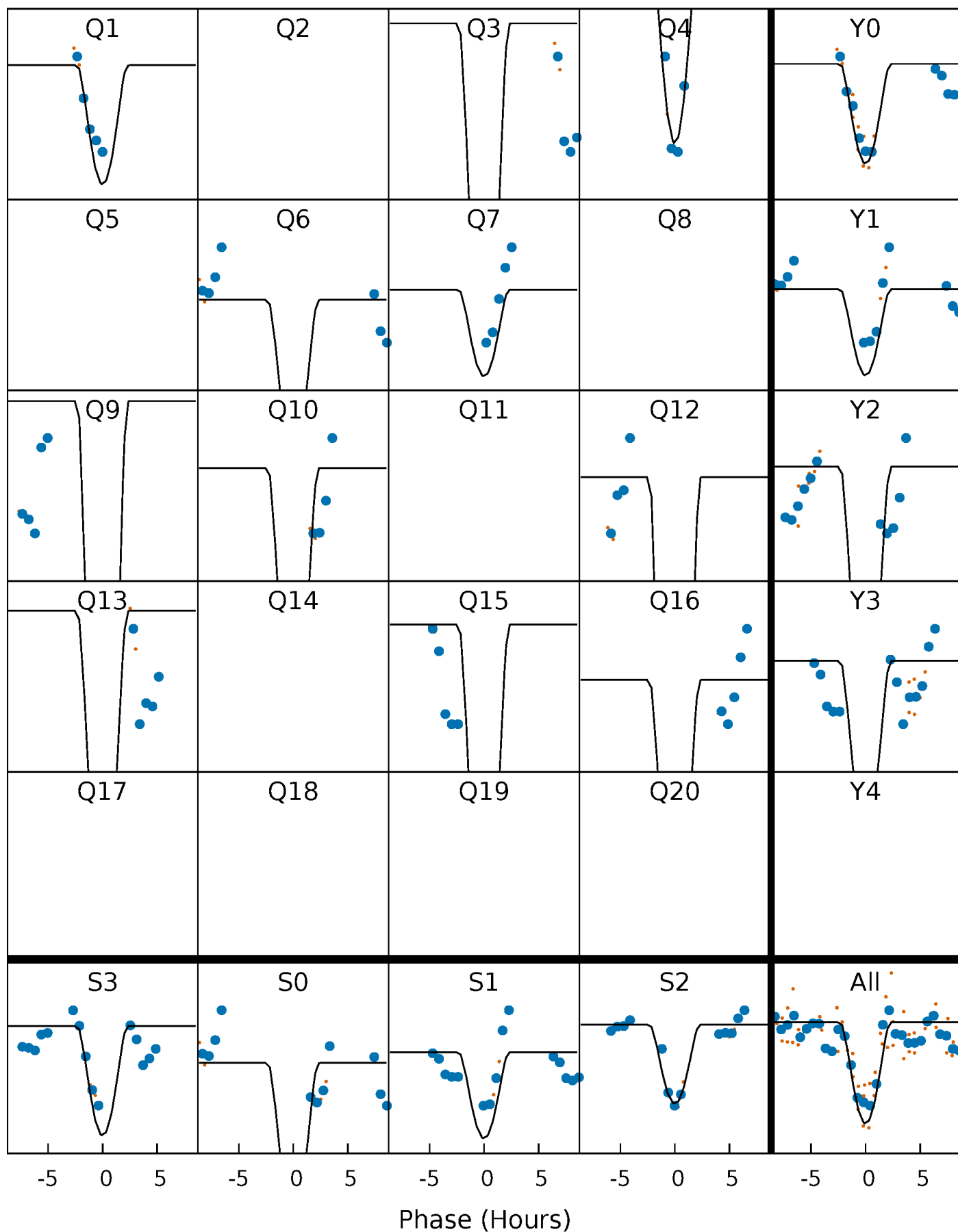
PDC Quarter-Phased Transit Curves

TCE 006301745-04 P=137.445167 Days $T_0=153.731639$ (BKJD)



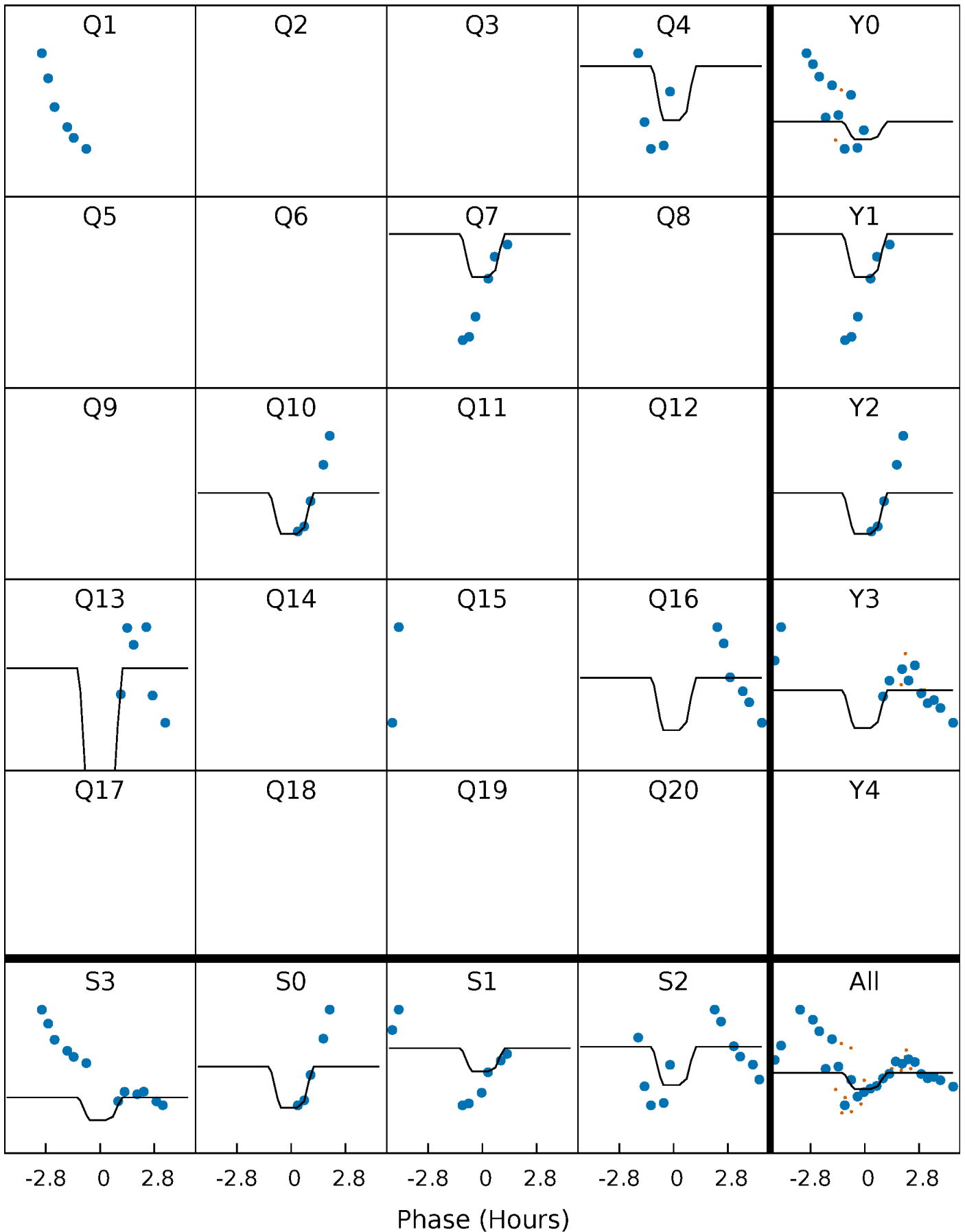
DV Quarter-Phased Transit Curves

TCE 006301745-04 P=137.445167 Days $T_0=153.731639$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

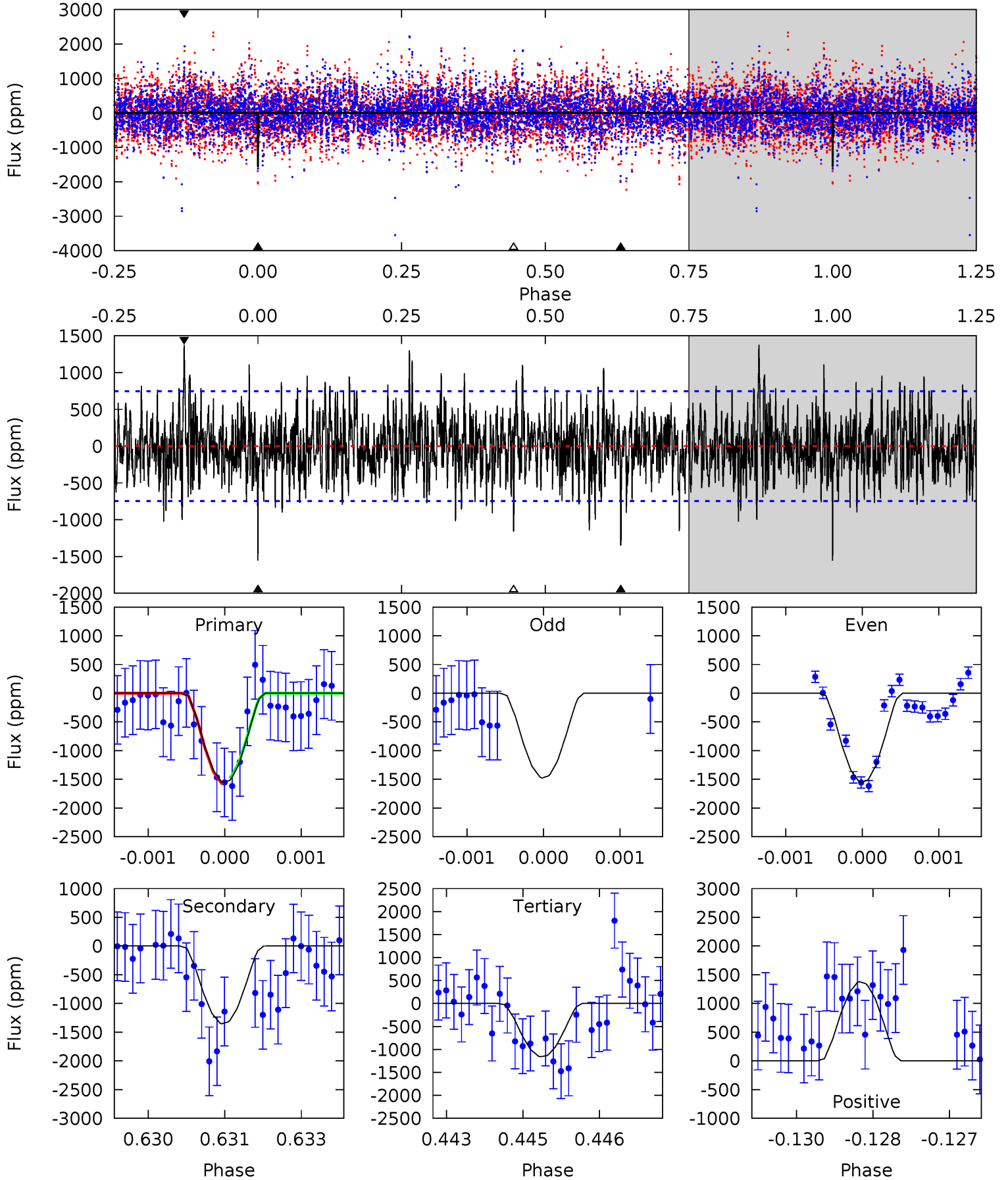
TCE 006301745-04 P=137.450831 Days $T_0=153.754369$ (BKJD)



DV Model-Shift Uniqueness Test

006301745-04, $P = 137.445167$ Days, $E = 16.286472$ Days

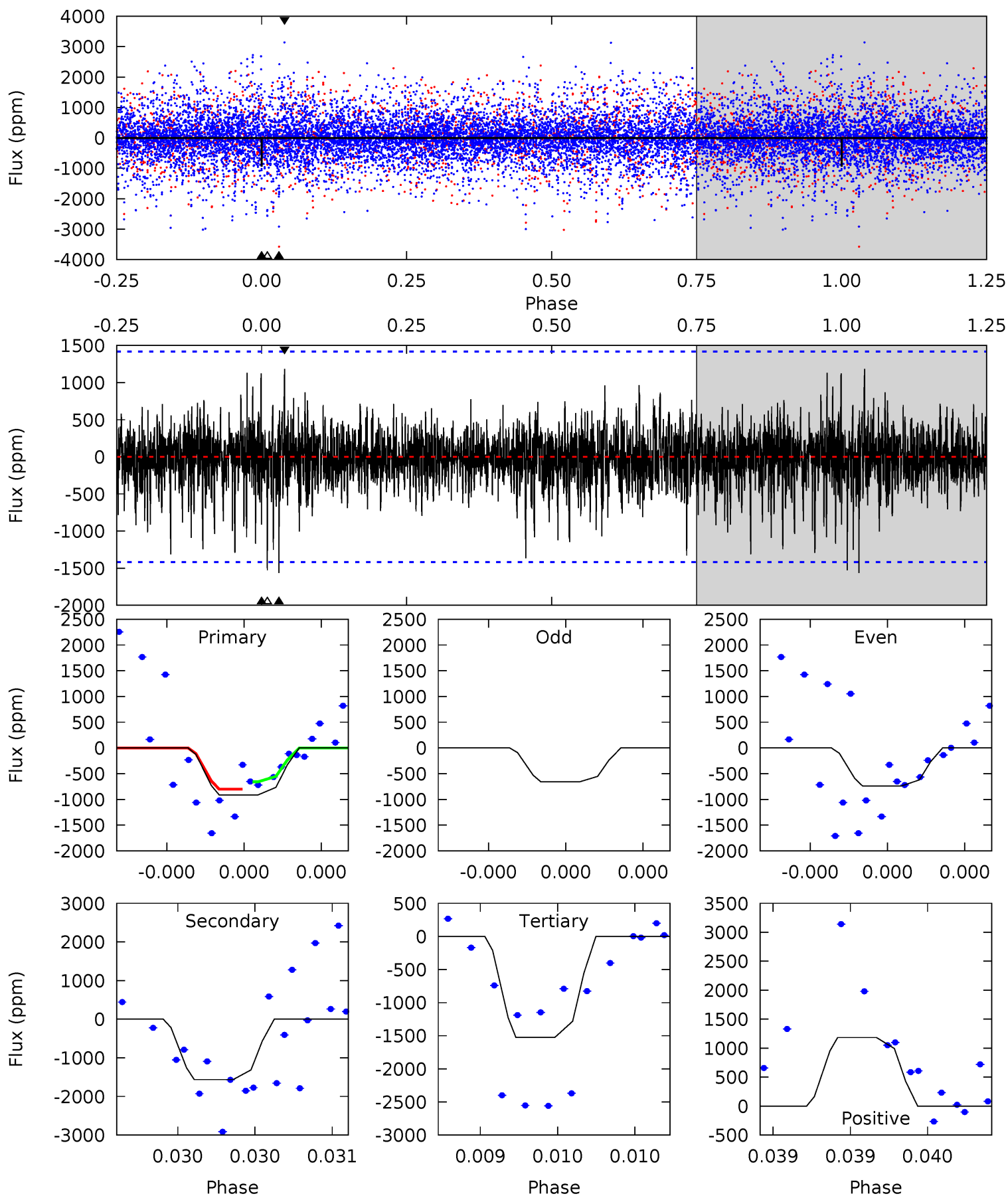
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	9.80	8.40	9.97	5.40	3.20	2.45	2.85	1.28	1.40	-0.17	0.33	1.02	0.47	0.38



Alt Model-Shift Uniqueness Test

006301745-04, P = 137.450831 Days, E = 16.303538 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.58	6.15	6.00	4.65	5.58	3.48	1.17	-2.41	-1.07	0.15	1.50	0.19	1.17	0.43	0.28



Stellar Parameters For KIC 006301745

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6735^{+122}_{-136}	$4.012^{+0.195}_{-0.105}$	$-0.440^{+0.150}_{-0.150}$	$1.781^{+0.313}_{-0.383}$	$1.190^{+0.146}_{-0.097}$	$0.297^{+0.310}_{-0.095}$
	+2%/-2%	+5%/-3%	+34%/-34%	+18%/-22%	+12%/-8%	+104%/-32%
Source	SPE4	SPE4	SPE4	DSEP		

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

Secondary Eclipse Parameters for KIC 006301745-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1355 ± 138	$22.27^{+23.66}_{-15.24}$	737^{+33}_{-45}	4043^{+2653}_{-838}	465^{+4506}_{-355}
Alt.	-1564 ± 255	$18.43^{+20.03}_{-12.44}$	741^{+34}_{-46}	4464^{+3306}_{-979}	769^{+6650}_{-589}

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

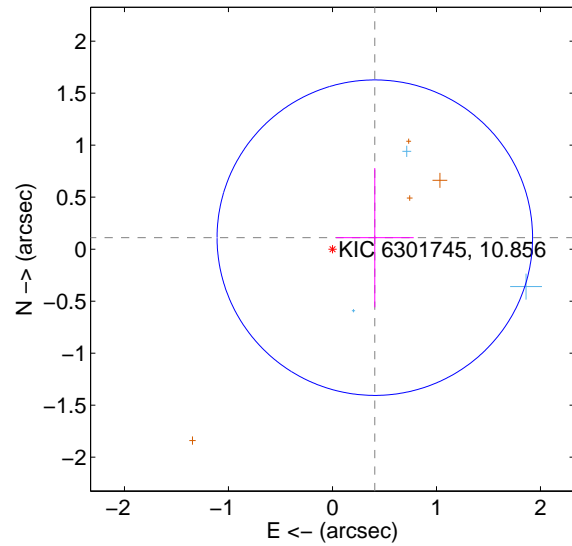
Supplemental centroid analysis for 006301745-04. **Kepler magnitude: 10.86.** Transit SNR 8.87

There are 6 quarters with good PRF difference image offsets

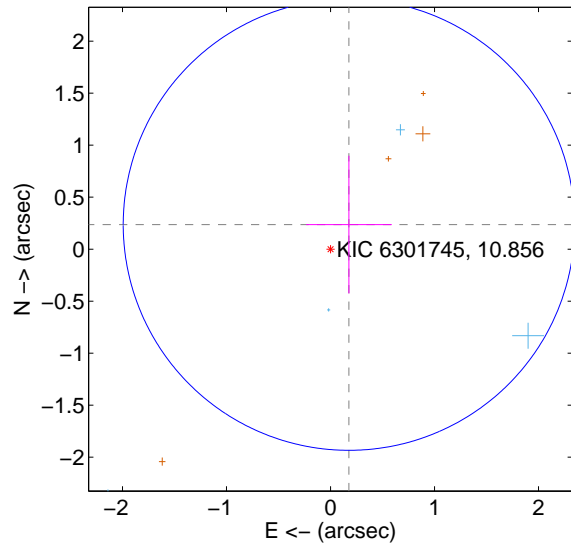
The direct PRF centroid is offset from the target star catalog position by about 0.42 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.422 ± 0.506	0.83	-0.407 ± 0.374	0.111 ± 0.669
PRF-fit source offset from KIC position	0.295 ± 0.724	0.41	-0.177 ± 0.411	0.236 ± 0.661
photometric centroid source offset	0.24 ± 0.13	1.85	0.09 ± 0.15	0.23 ± 0.13

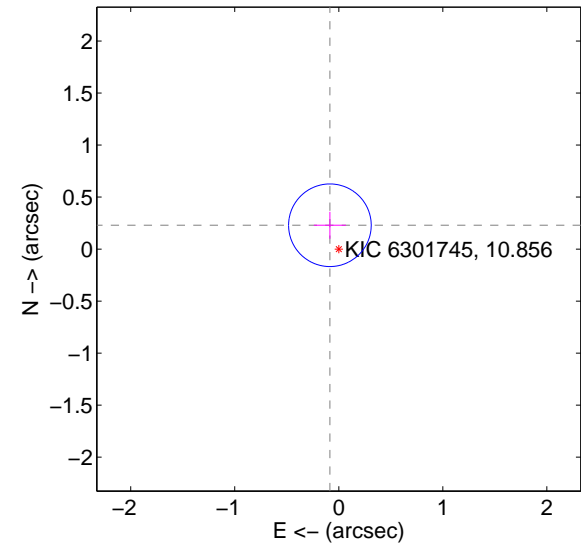
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

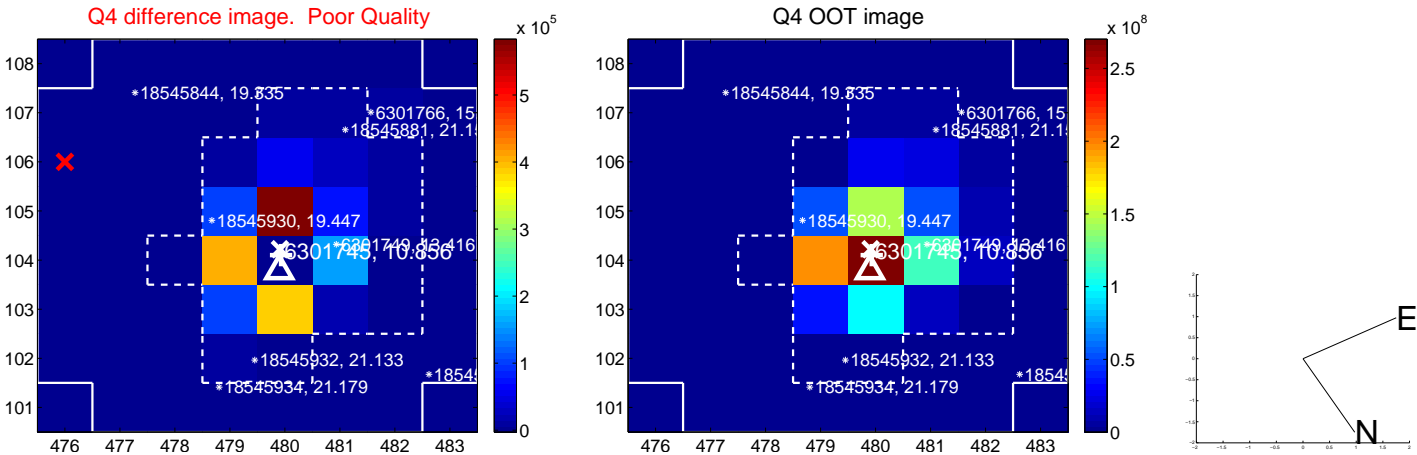
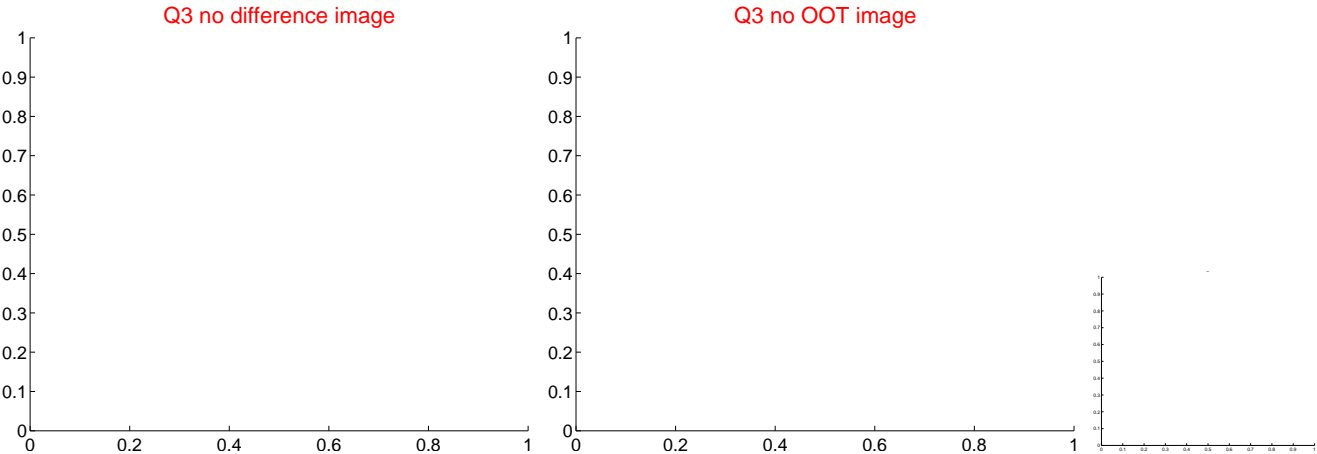
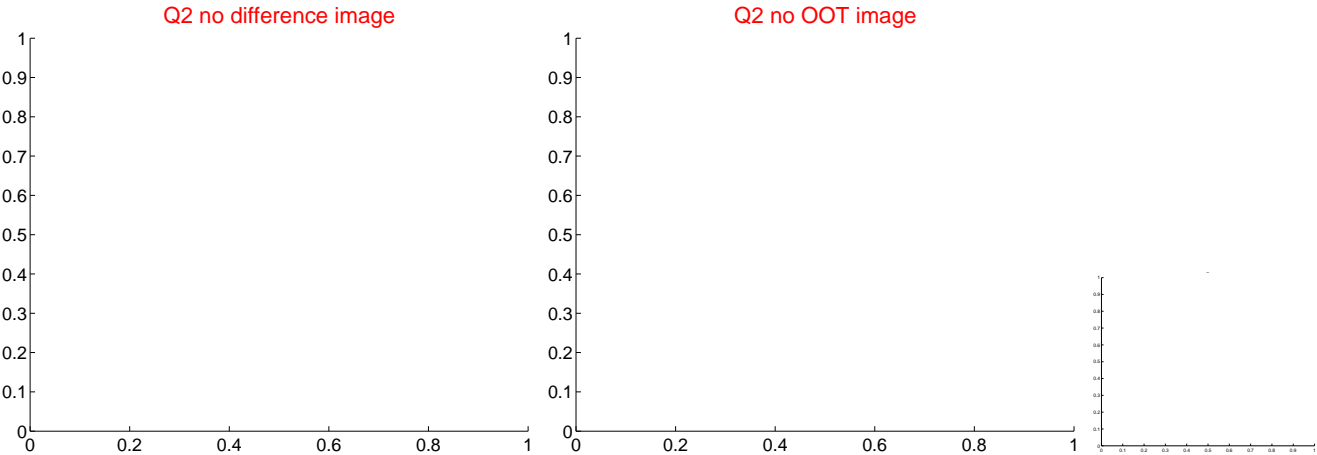
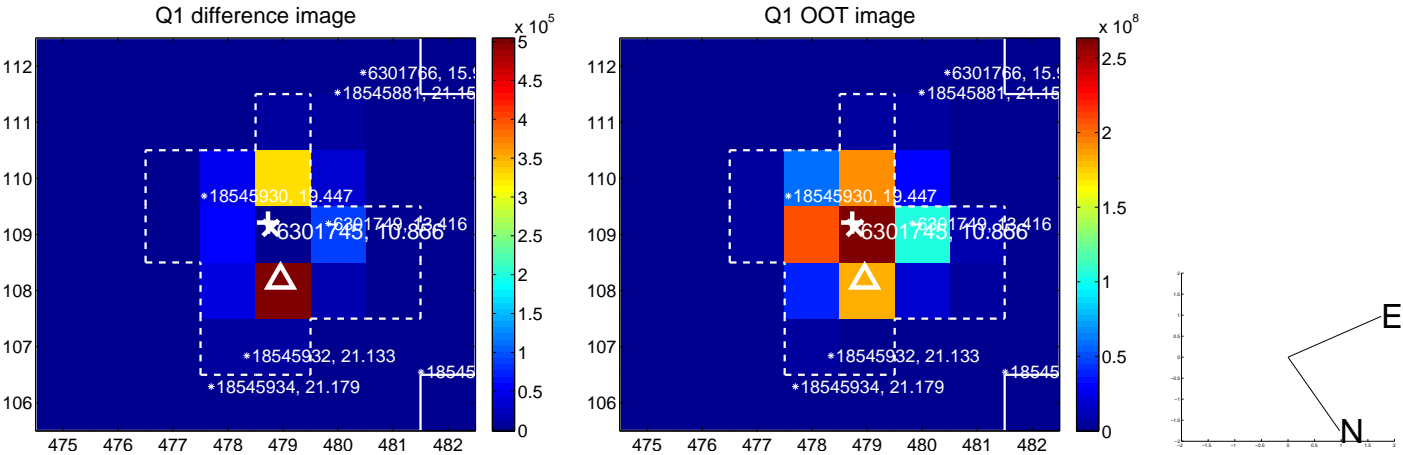


offset from photometric centroids

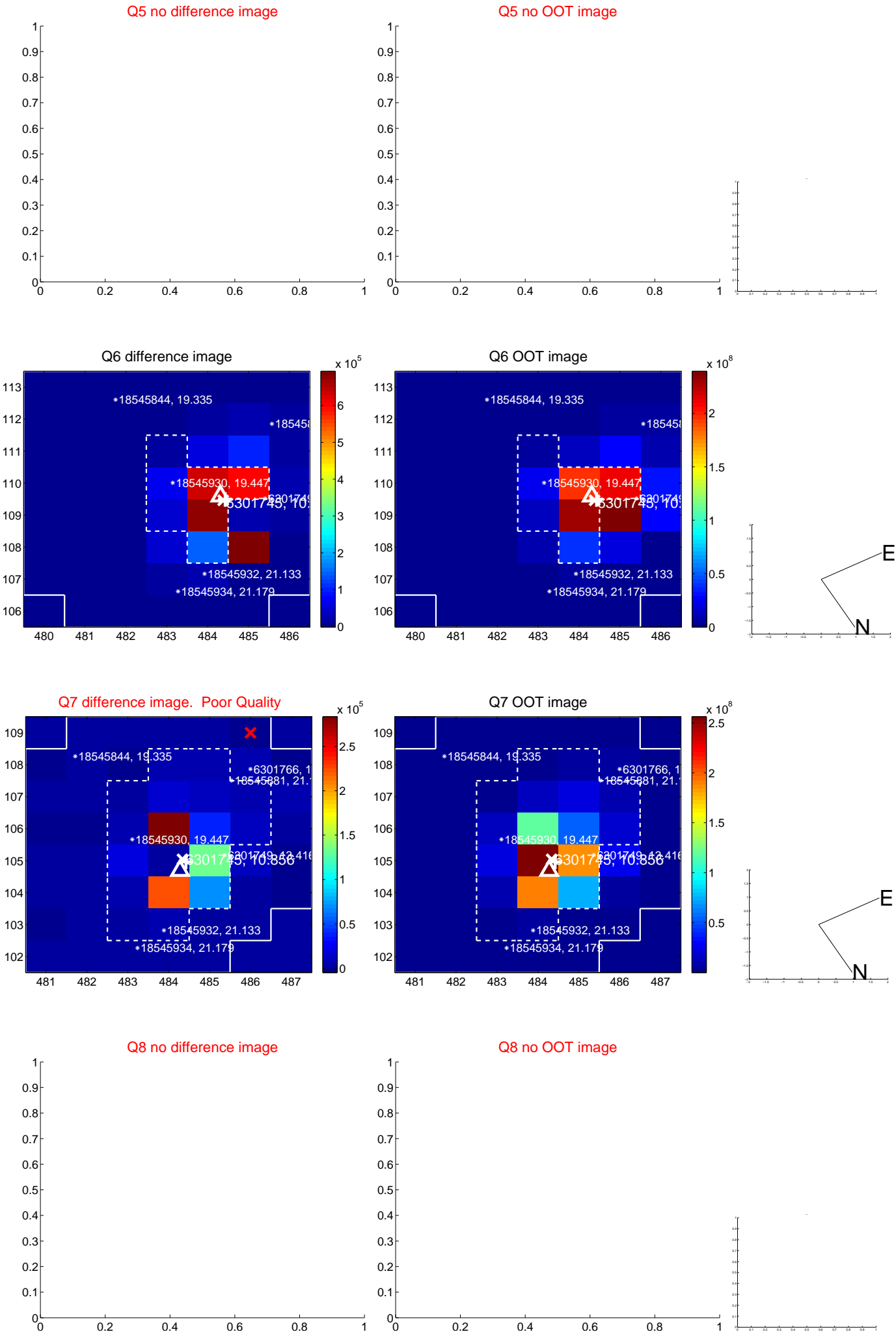


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

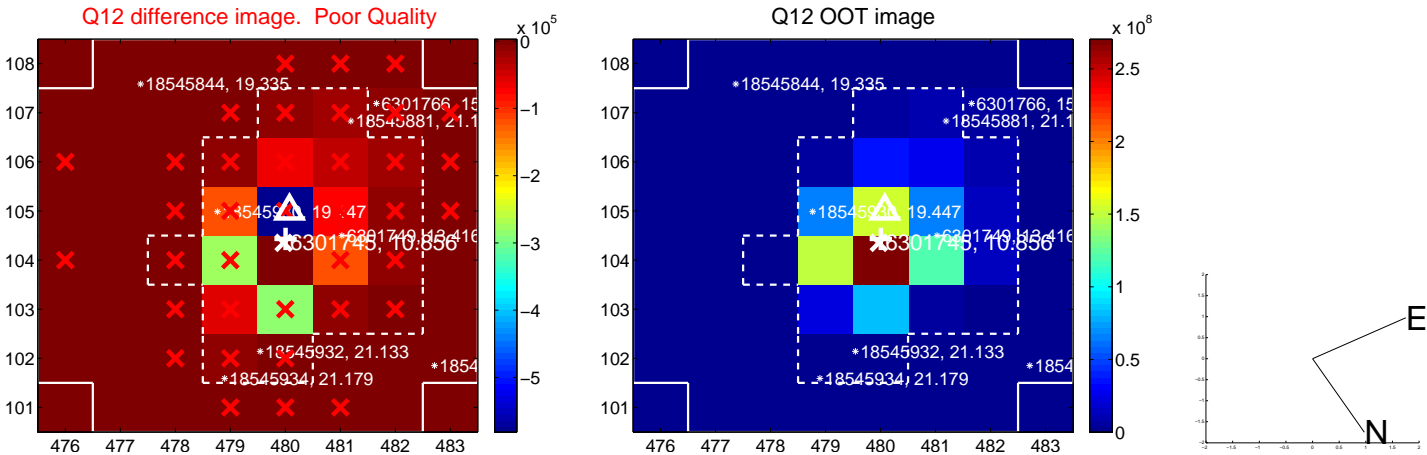
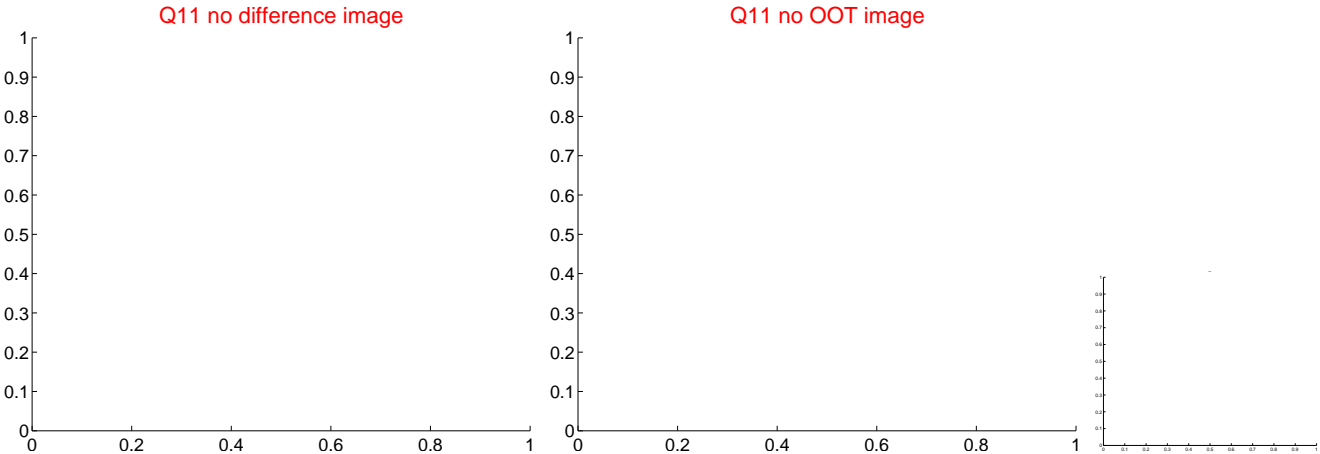
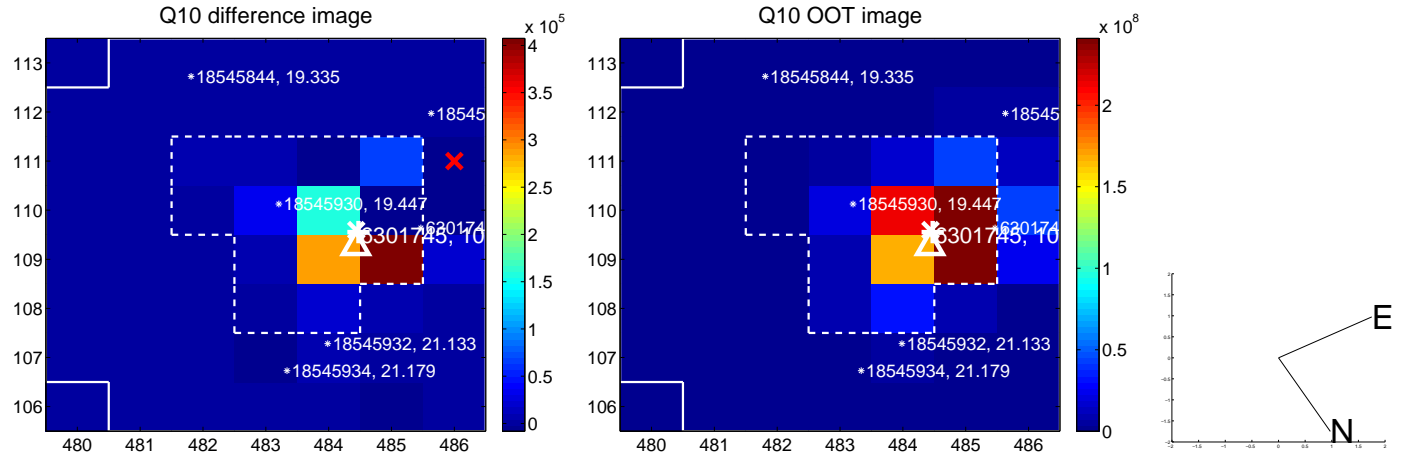
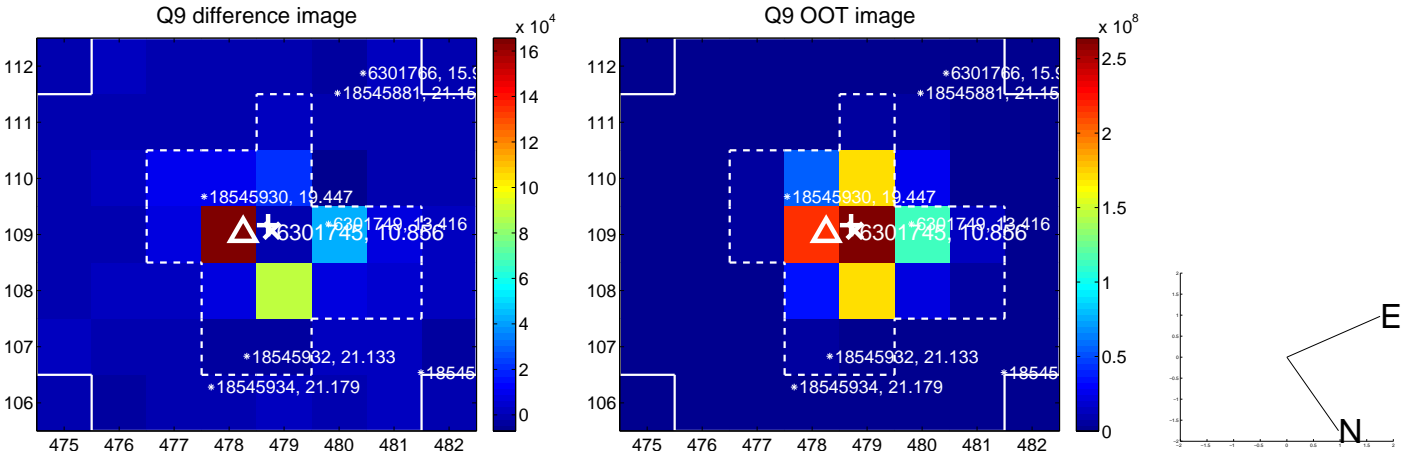
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



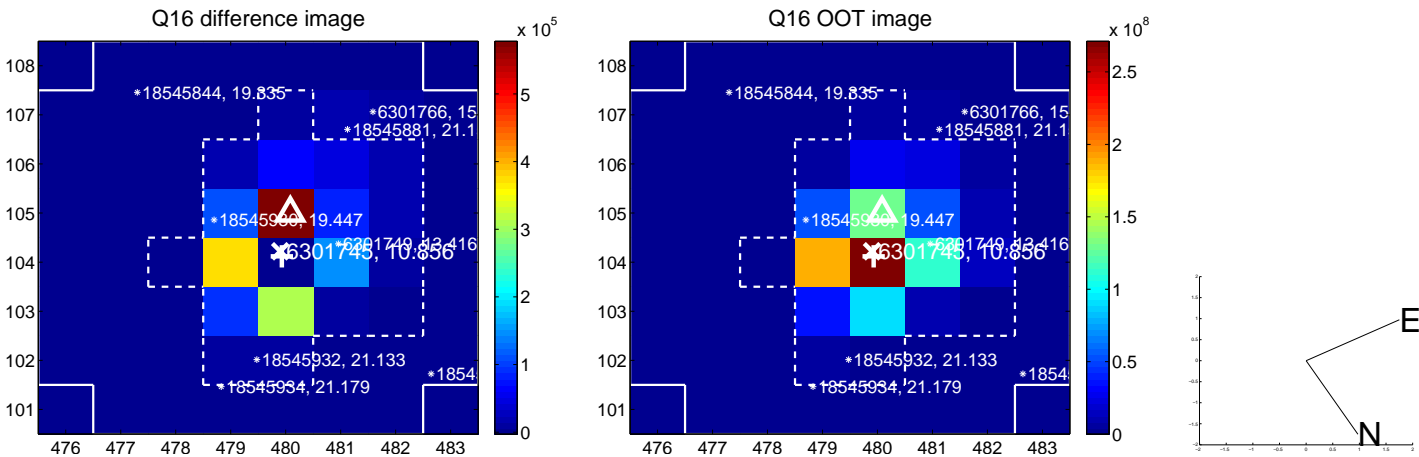
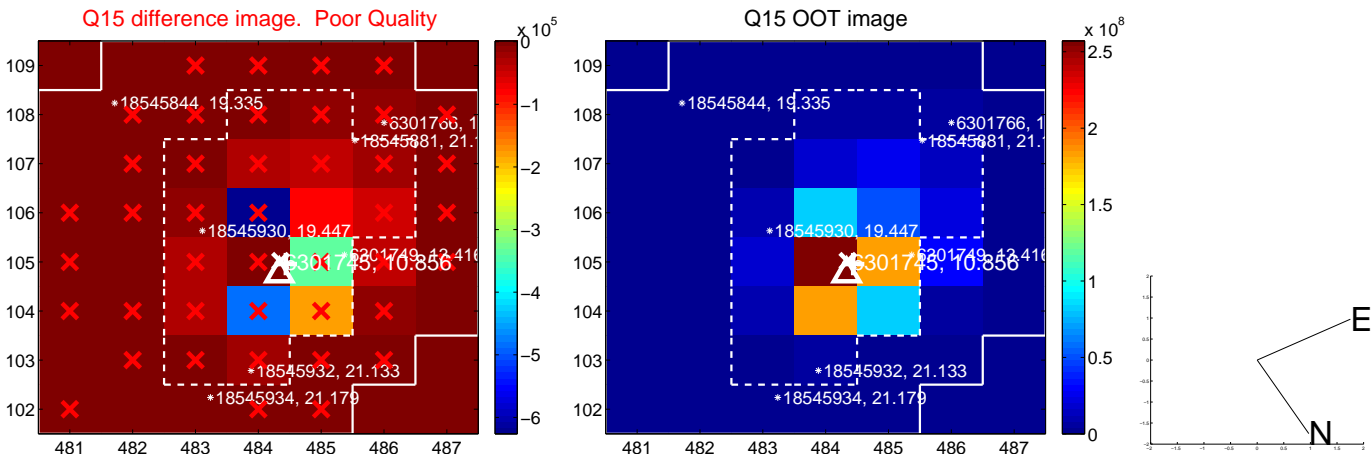
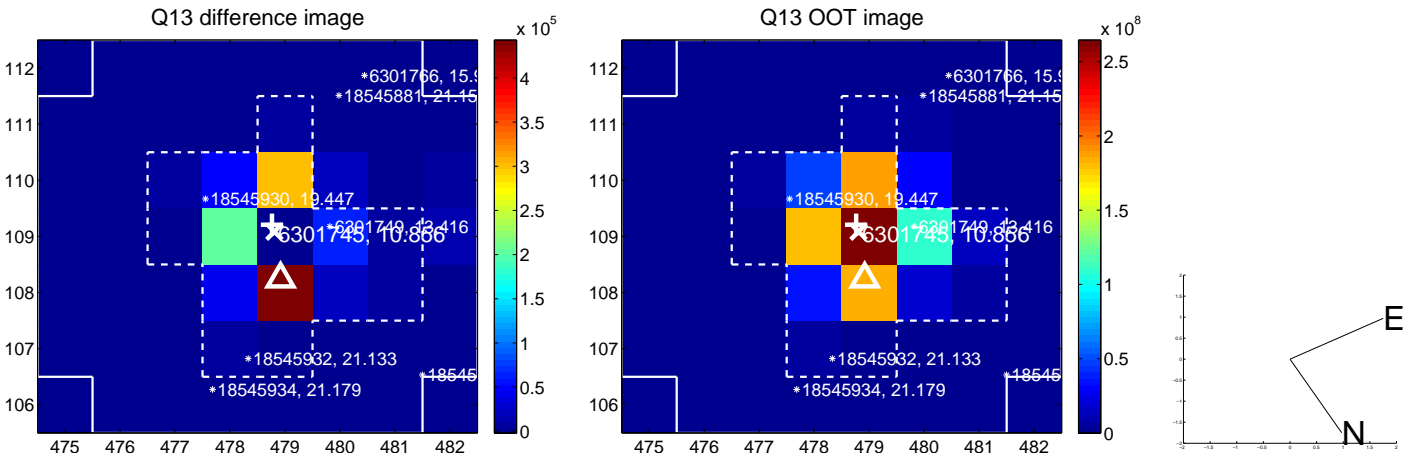
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



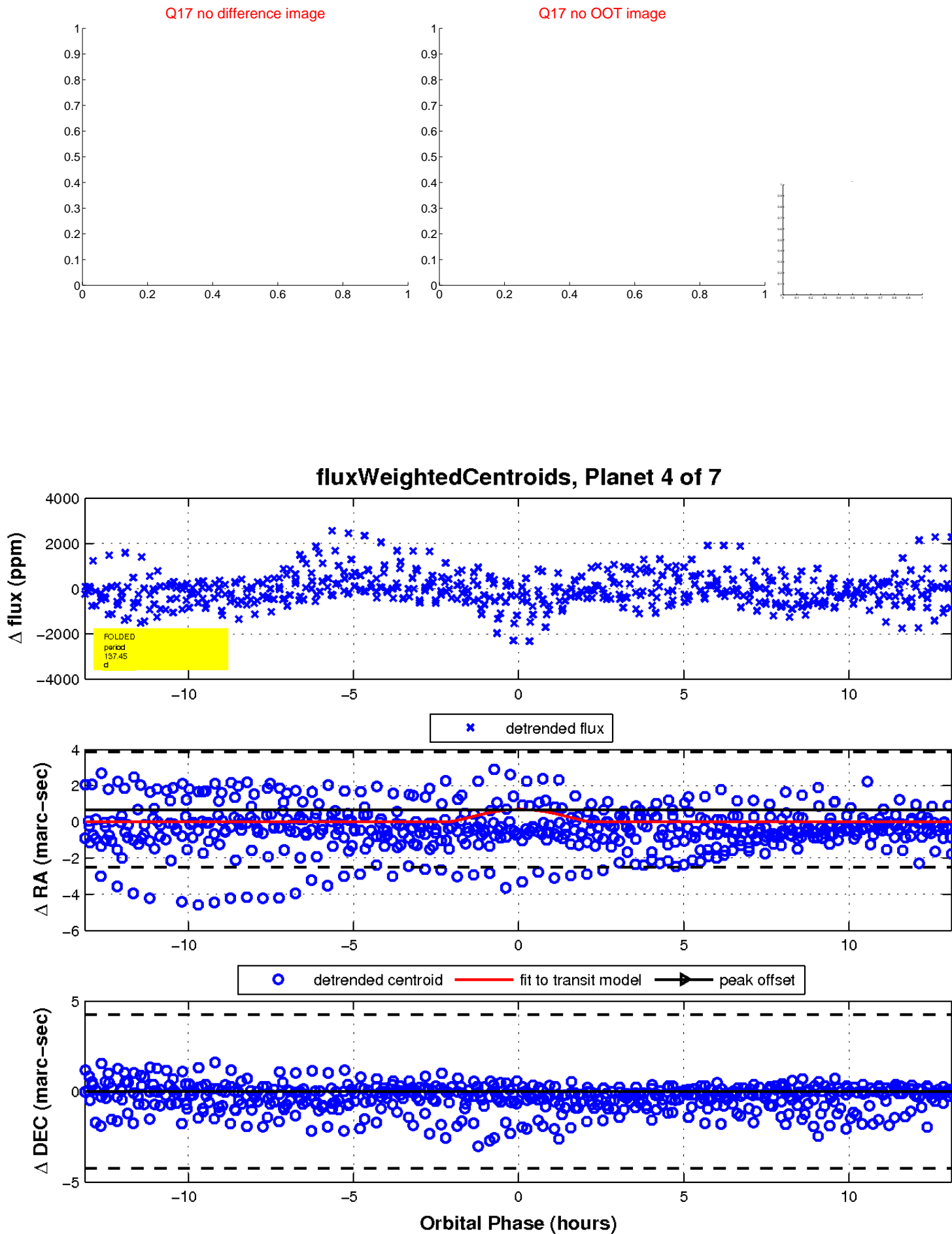
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



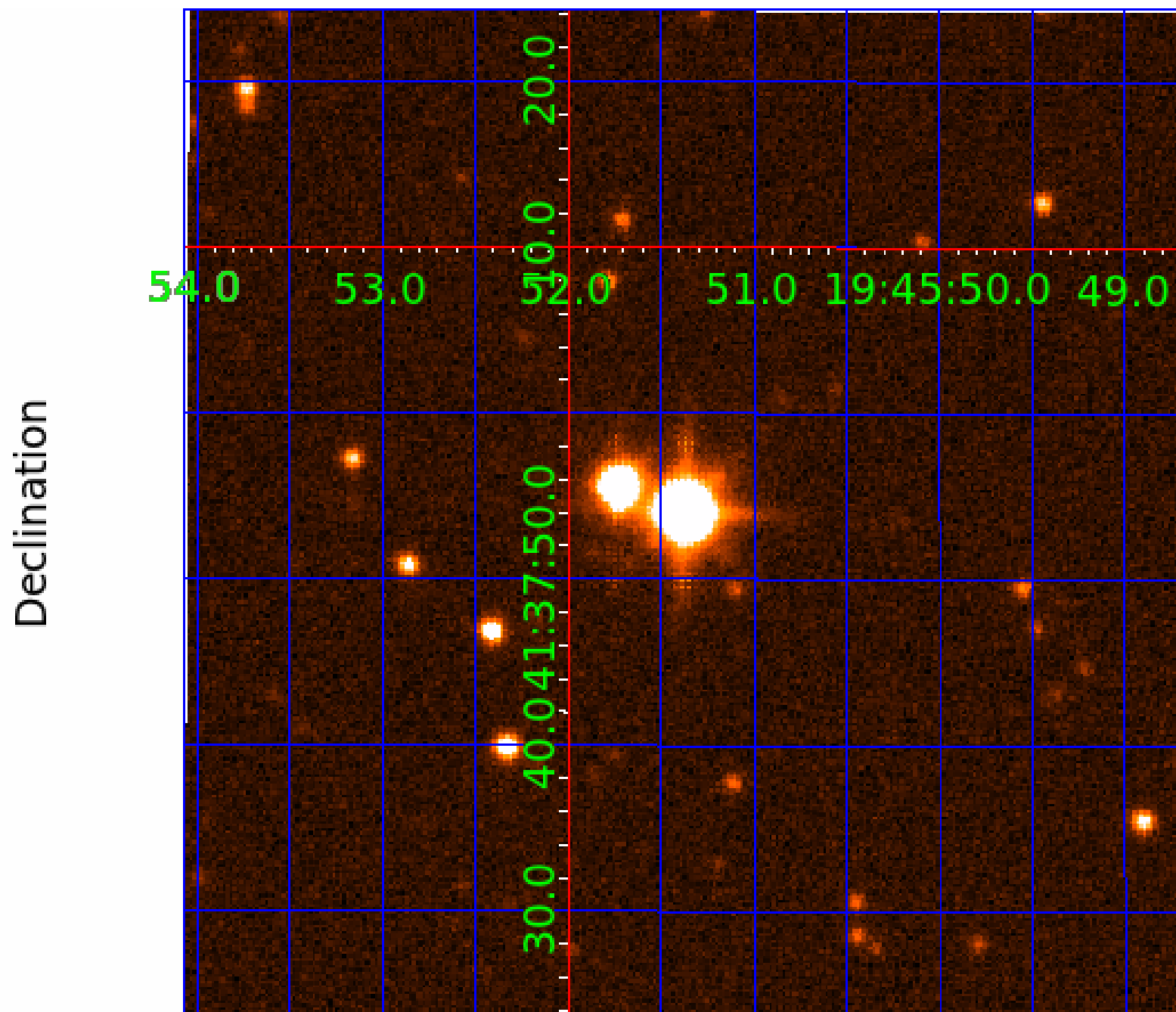
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006301745

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})
006301745-01	OBS	No	0.692557	131.855087	3.5	4.475	13.0	0.8	1.78	6735	0.34	22186.05
006301745-02	OBS	No	76.214239	202.800249	1298.7	6.099	9.9	9.1	1.78	6735	9.22	42.07
006301745-03	OBS	No	67.441722	154.263295	1481.8	2.424	12.0	9.2	1.78	6735	7.08	49.52
006301745-04	OBS	No	137.445167	153.731639	1962.7	4.376	9.4	8.9	1.78	6735	14.54	19.16
006301745-05	OBS	No	78.078464	190.540303	1172.8	2.314	9.0	8.4	1.78	6735	6.51	40.74
006301745-06	OBS	No	178.734227	208.450655	1783.3	10.025	7.8	6.6	1.78	6735	12.37	13.50
006301745-07	OBS	No	42.666979	167.272969	180.0	1.994	8.8	1.8	1.78	6735	2.67	91.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006301745-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006301745-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006301745-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006301745-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED—HALO_GHOST
006301745-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

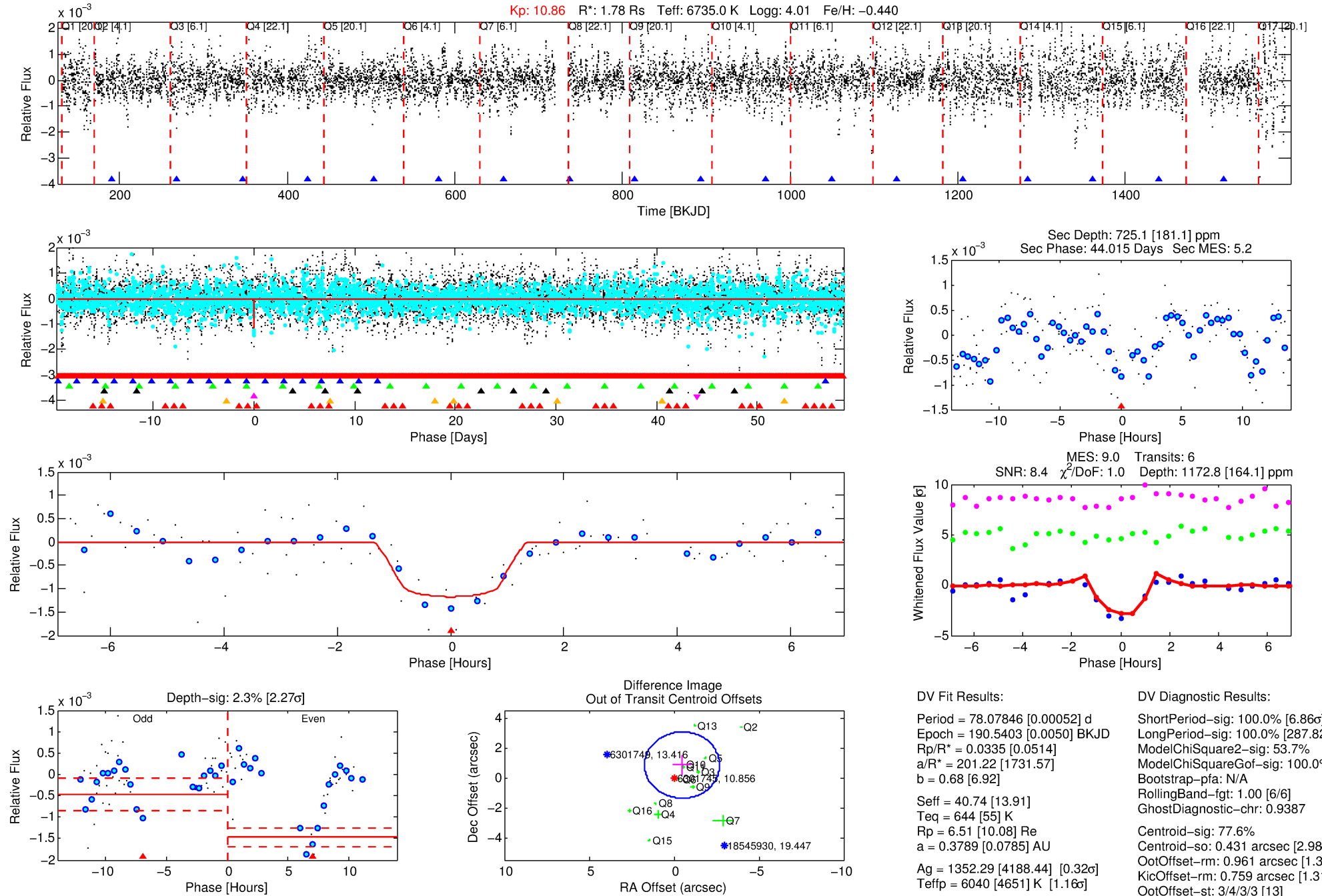
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006301745-05

No Significant Match Found

DV One-Page Summary

KIC: 6301745 Candidate: 5 of 7 Period: 78.078 d



DV Fit Results:

Period = 78.07846 [0.00052] d
Epoch = 190.5403 [0.0050] BKJD
Rp/R* = 0.0335 [0.0514]
a/R* = 201.22 [1731.57]
b = 0.68 [6.92]
Seff = 40.74 [13.91]
Teq = 644 [55] K
Rp = 6.51 [10.08] Re
a = 0.3789 [0.0785] AU
Ag = 1352.29 [4188.44] [0.32σ]
Teff = 6040 [4651] K [1.16σ]

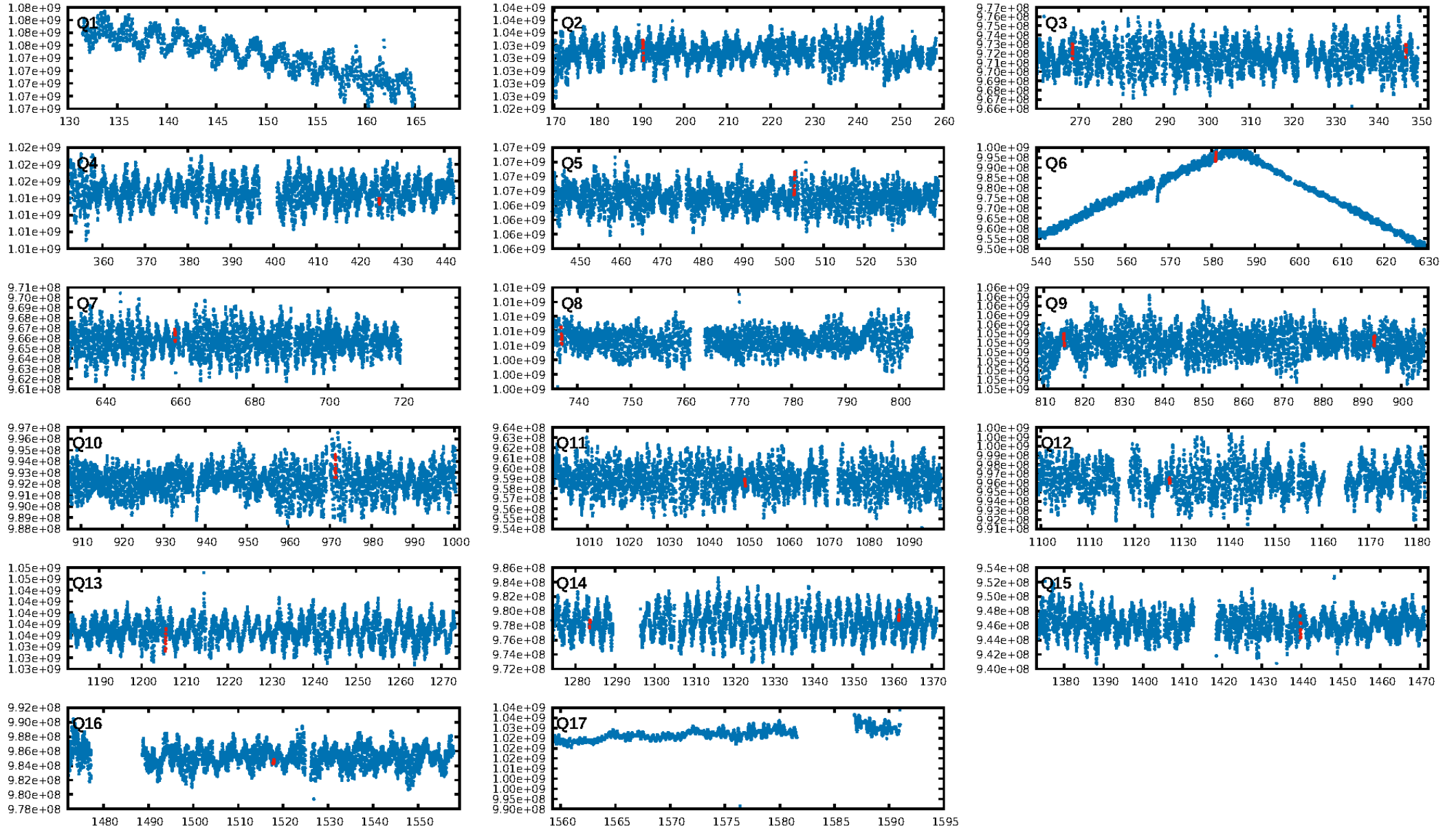
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.86σ]
LongPeriod-sig: 100.0% [287.82σ]
ModelChiSquare2-sig: 53.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 0.9387
Centroid-sig: 77.6%
Centroid-so: 0.431 arcsec [2.98σ]
OotOffset-rm: 0.961 arcsec [1.30σ]
KicOffset-rm: 0.759 arcsec [1.31σ]
OotOffset-st: 3/4/3/3 [13]
KicOffset-st: 3/4/3/3 [13]
DiffImageQuality-fgm: 0.38 [5/13]
DiffImageOverlap-fno: 0.00 [0/14]

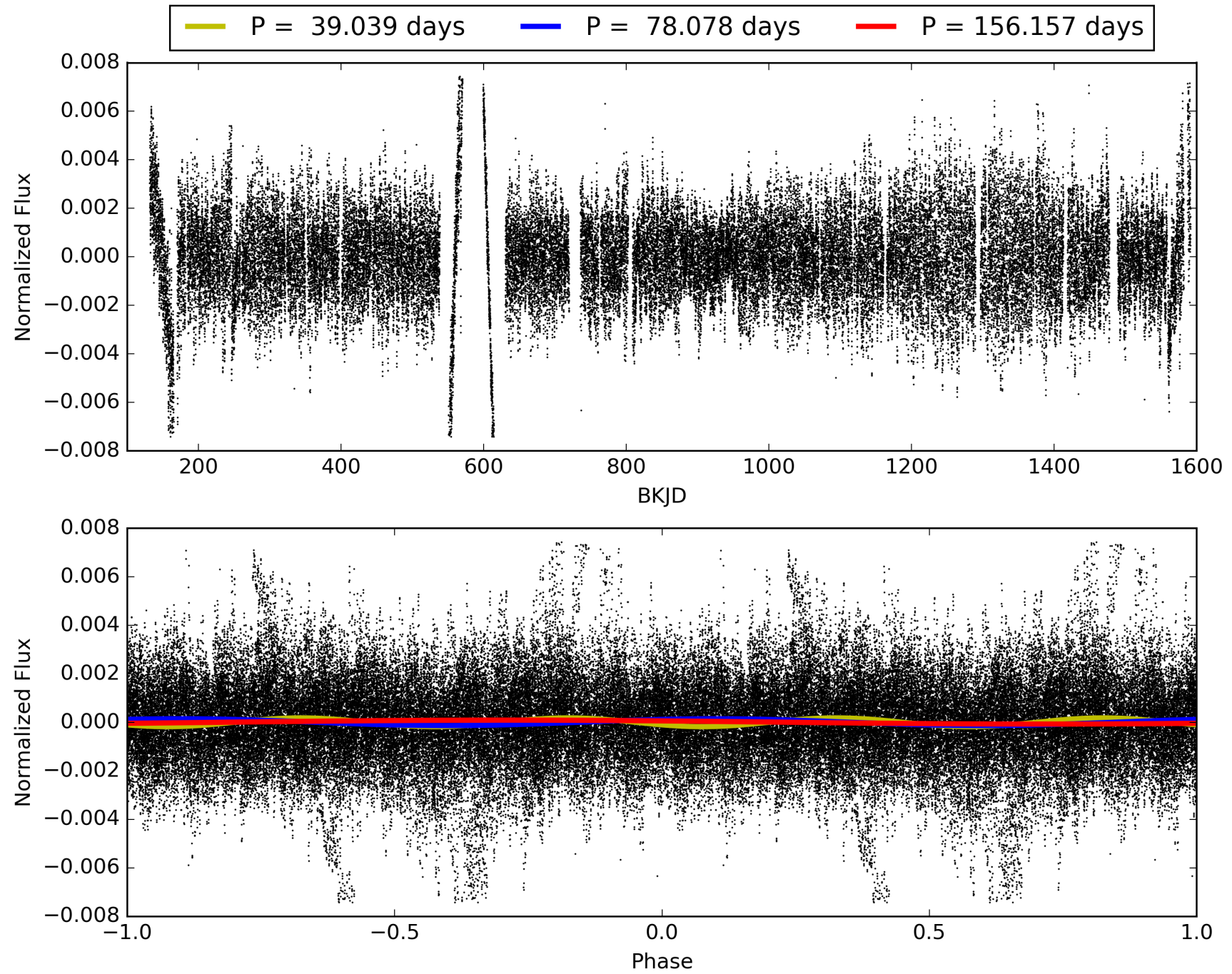
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:11:35 Z

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

TCE 006301745-05, PDC Light Curves

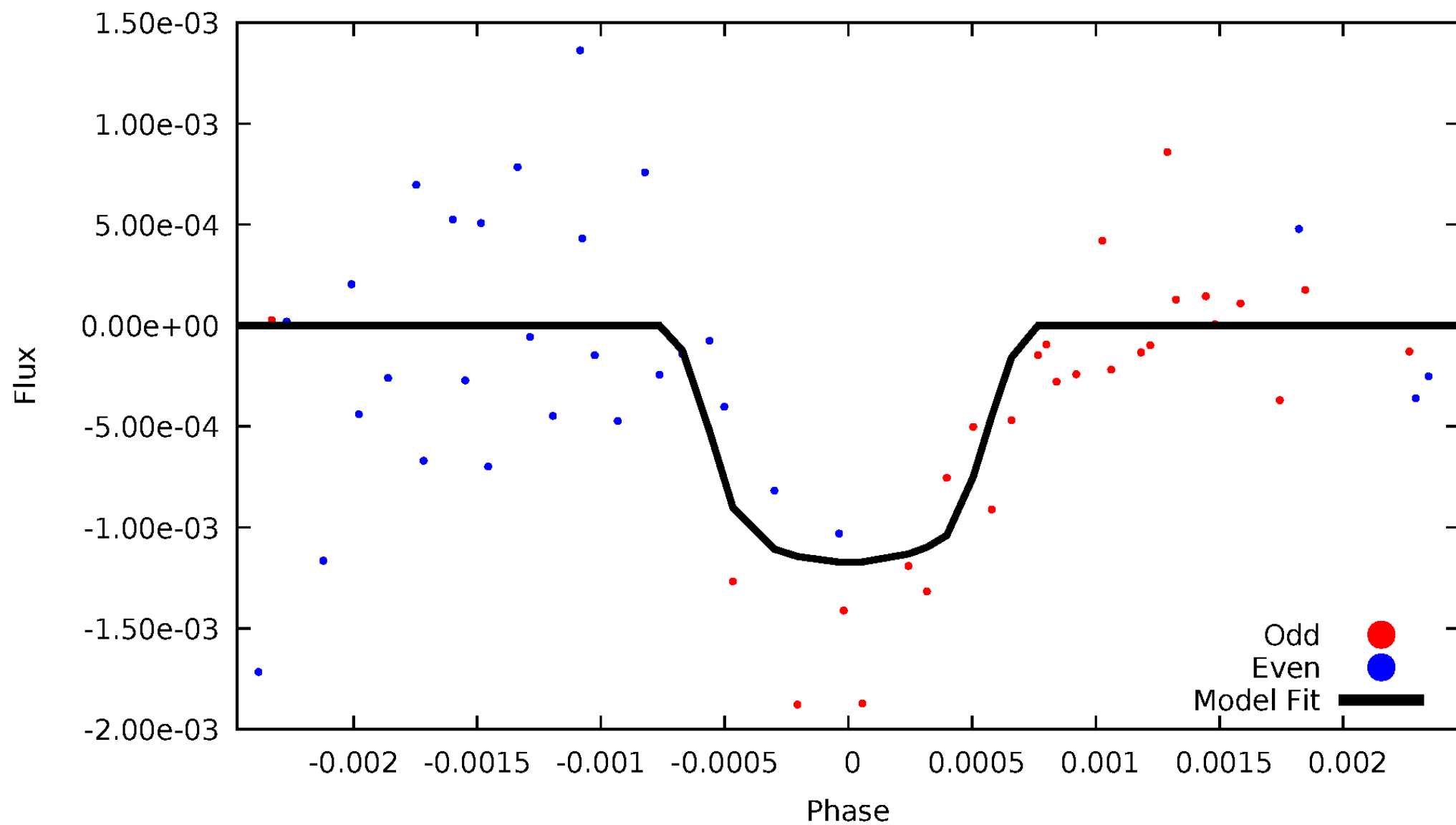


TCE 006301745-05



DV Odd/Even

TCE 006301745-05

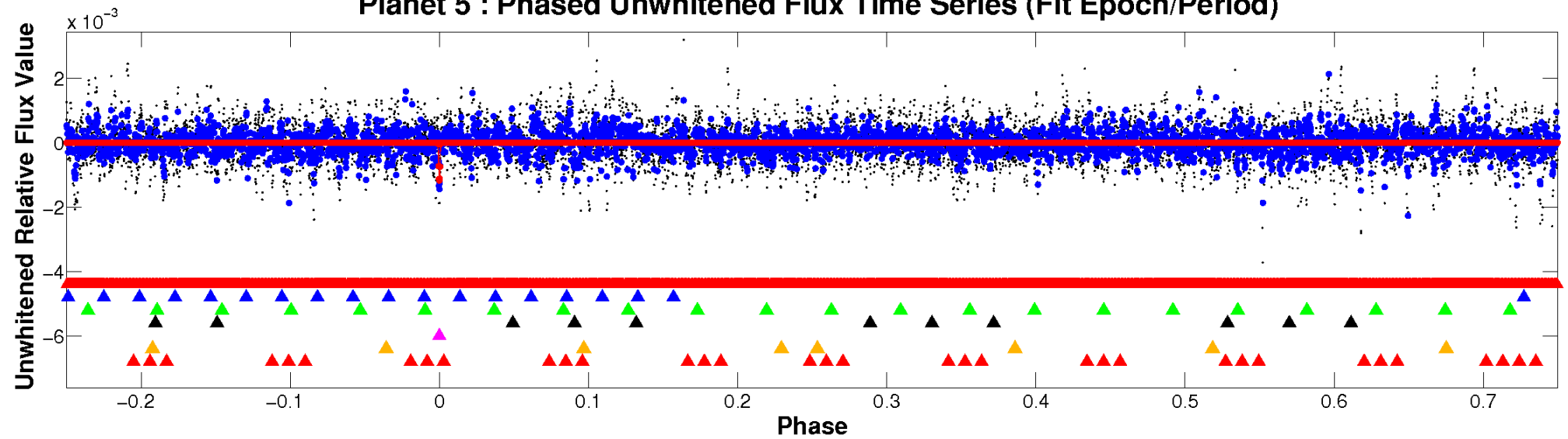


ALT Odd/Even

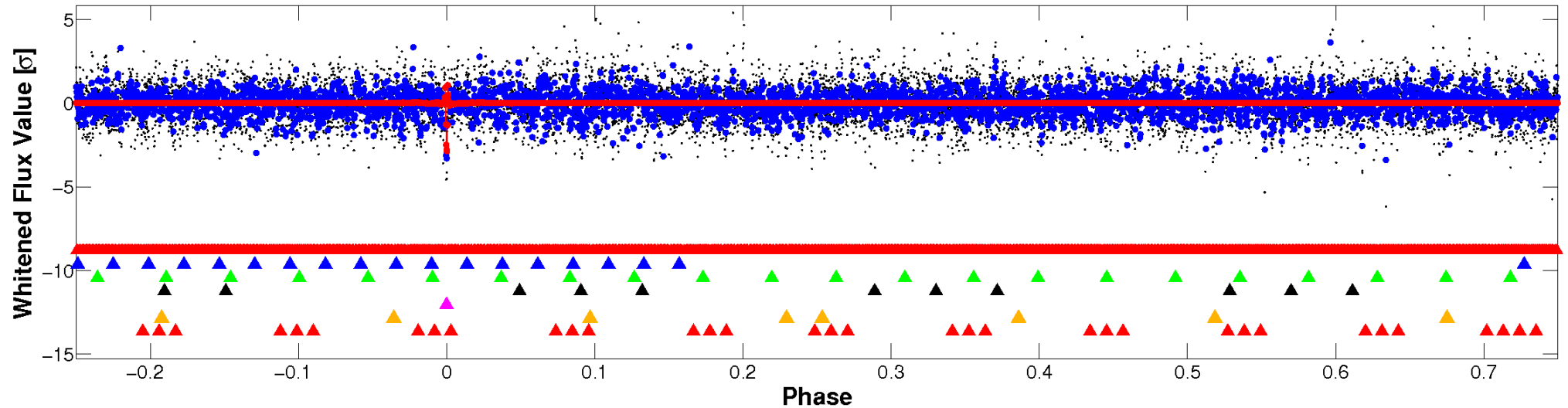
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

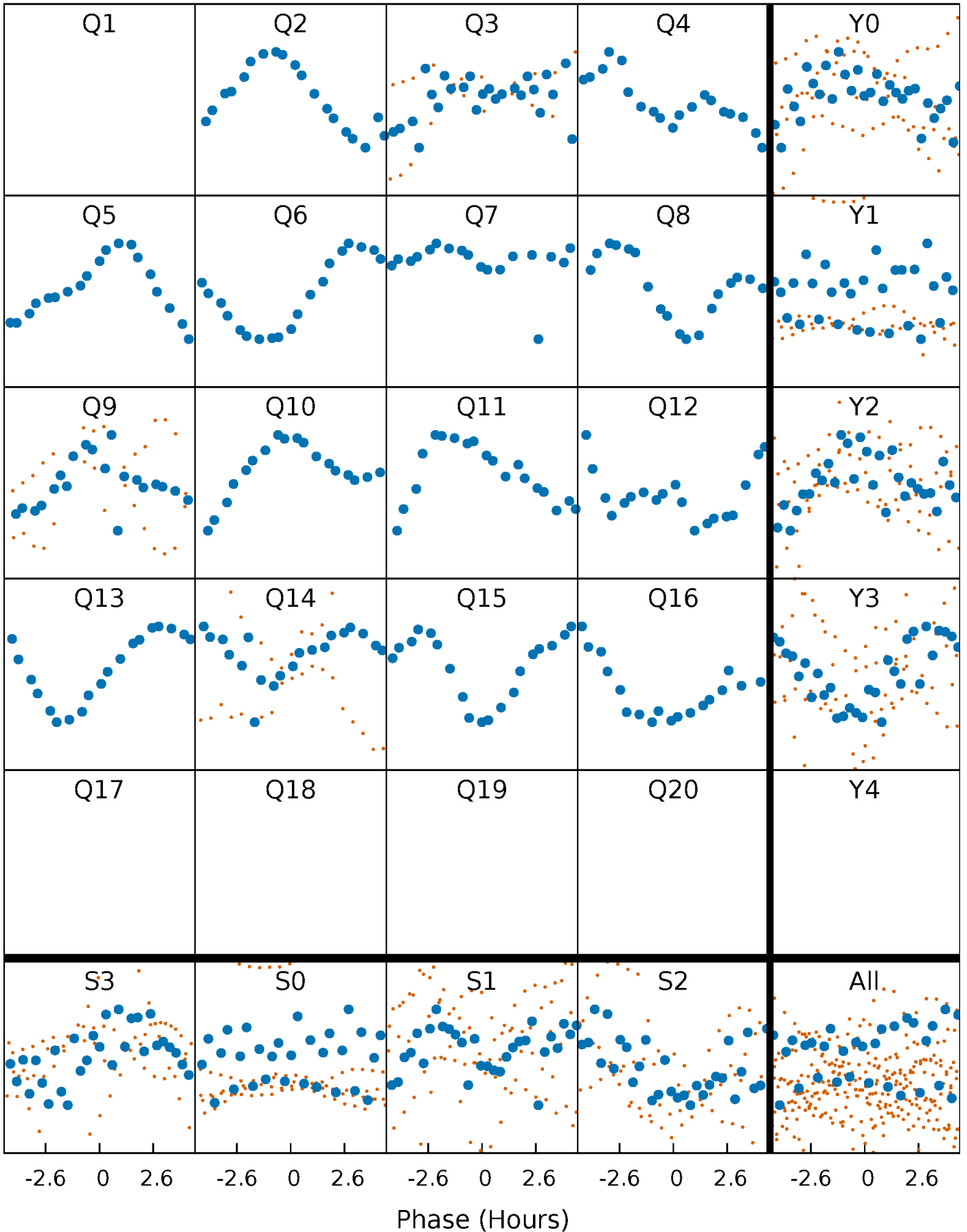


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



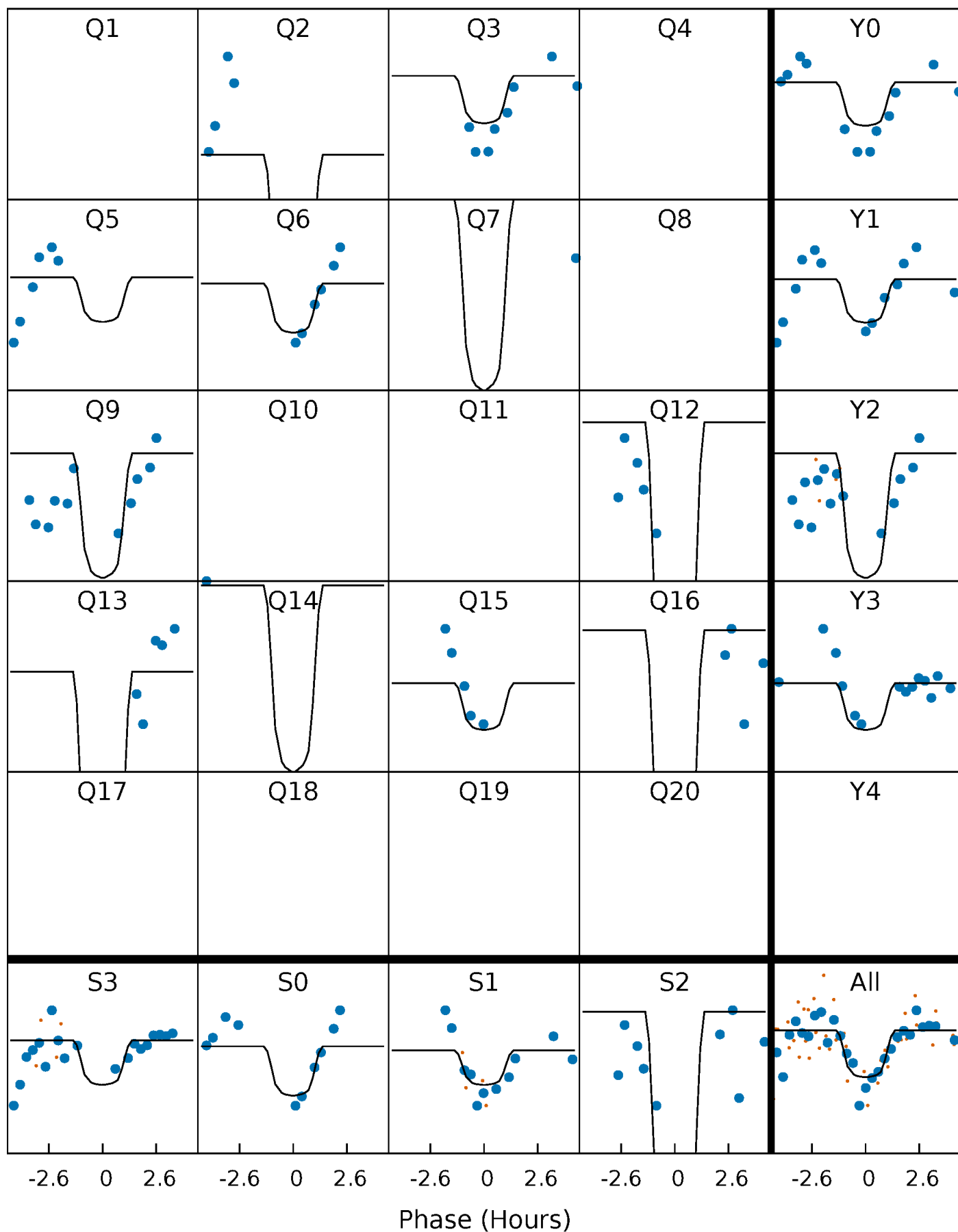
PDC Quarter-Phased Transit Curves

TCE 006301745-05 $P = 78.078464$ Days $T_0 = 190.540303$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 006301745-05 P= 78.078464 Days $T_0=190.540303$ (BKJD)

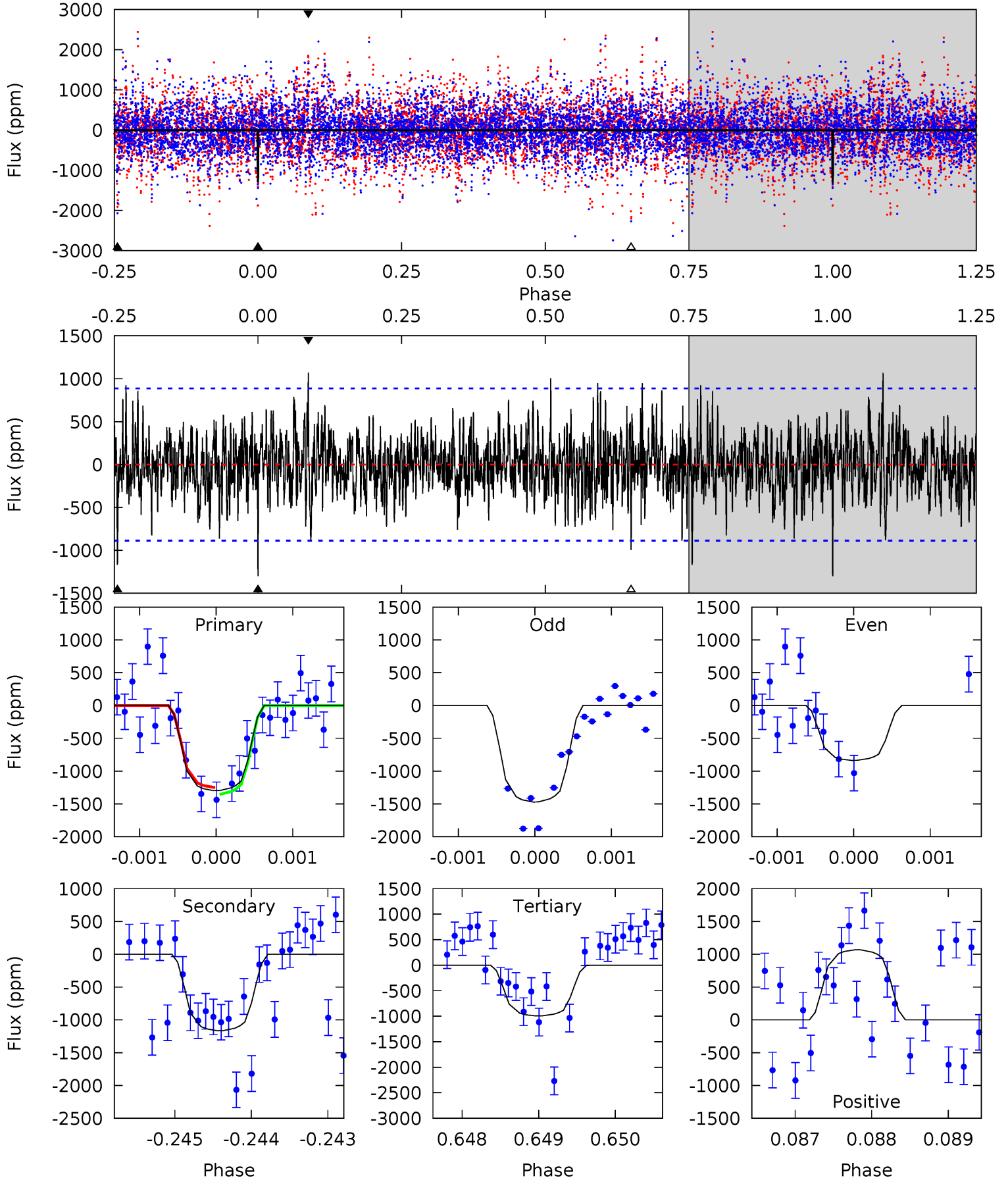


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

006301745-05, P = 78.078464 Days, E = 112.461839 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.93	7.12	6.08	6.52	5.42	3.23	1.72	1.85	1.40	1.05	0.60	1.65	1.12	0.45	0.32



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 006301745

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6735^{+122}_{-136}	$4.012^{+0.195}_{-0.105}$	$-0.440^{+0.150}_{-0.150}$	$1.781^{+0.313}_{-0.383}$	$1.190^{+0.146}_{-0.097}$	$0.297^{+0.310}_{-0.095}$
	+2%/-2%	+5%/-3%	+34%/-34%	+18%/-22%	+12%/-8%	+104%/-32%
Source	SPE4	SPE4	SPE4	DSEP		

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

Secondary Eclipse Parameters for KIC 006301745-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1167 ± 164	$9.48^{+8.59}_{-5.88}$	892^{+45}_{-55}	5460^{+4016}_{-1182}	1031^{+5737}_{-742}
Alt.	N/A	N/A	N/A	N/A	N/A

T_{max} = Theoretical Maximum Planetary Temperature

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

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

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

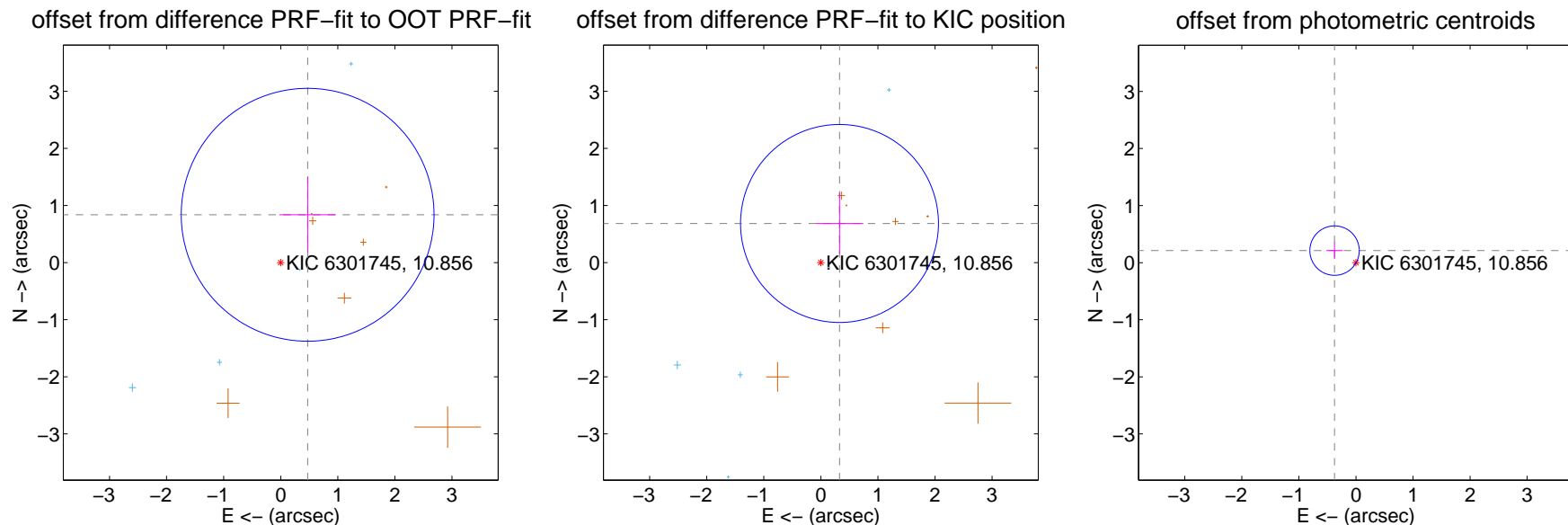
DV Centroid Data

Supplemental centroid analysis for 006301745-05. **Kepler magnitude: 10.86.** Transit SNR 8.37

There are 5 quarters with good PRF difference image offsets

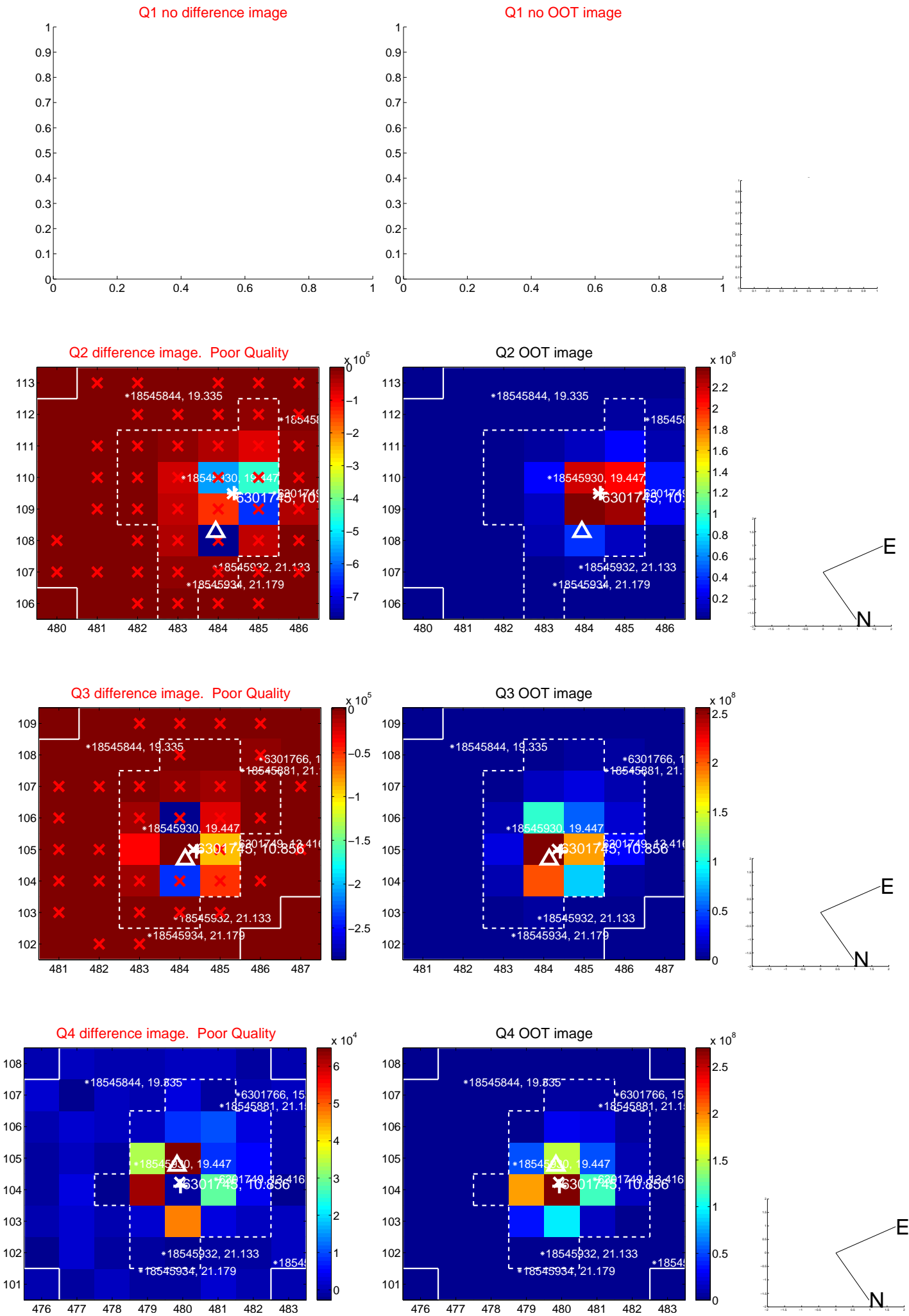
The direct PRF centroid is offset from the target star catalog position by about 0.40 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.961 ± 0.738	1.30	-0.471 ± 0.493	0.837 ± 0.660
PRF-fit source offset from KIC position	0.759 ± 0.578	1.31	-0.326 ± 0.417	0.685 ± 0.531
photometric centroid source offset	0.43 ± 0.14	2.98	0.38 ± 0.14	0.21 ± 0.15

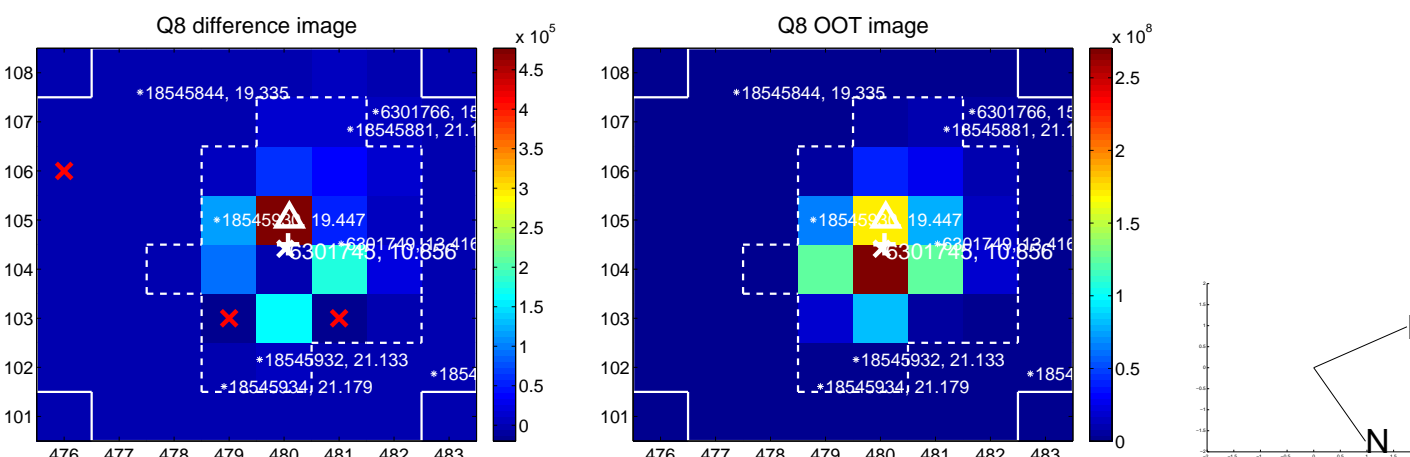
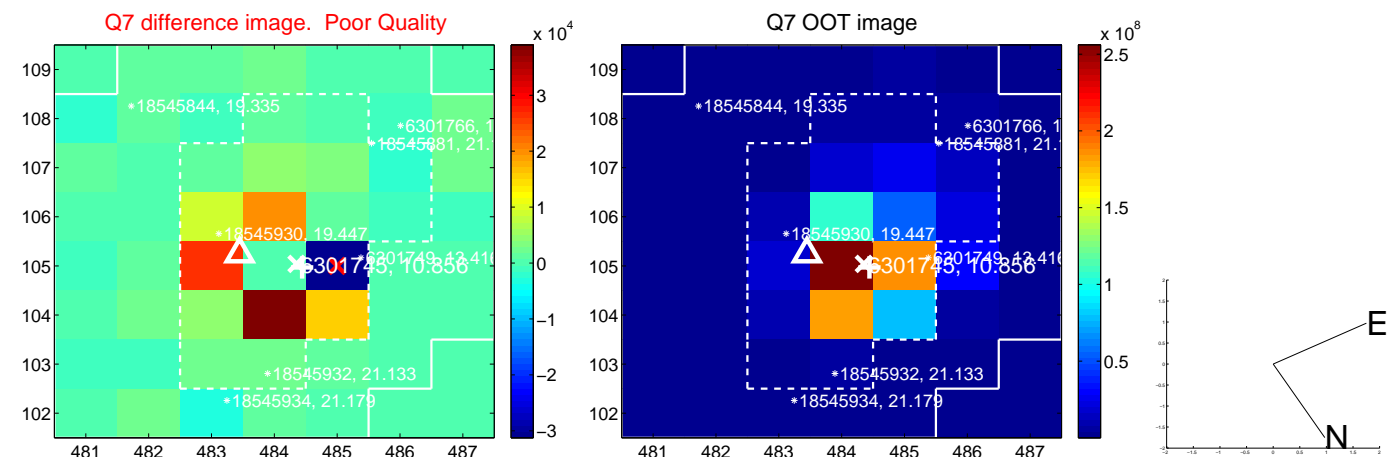
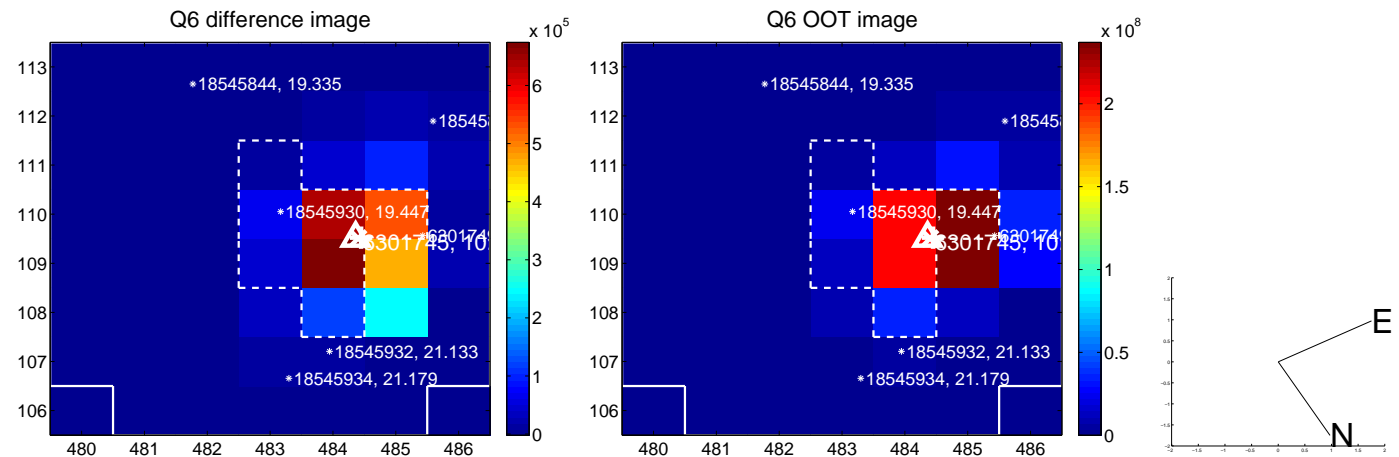
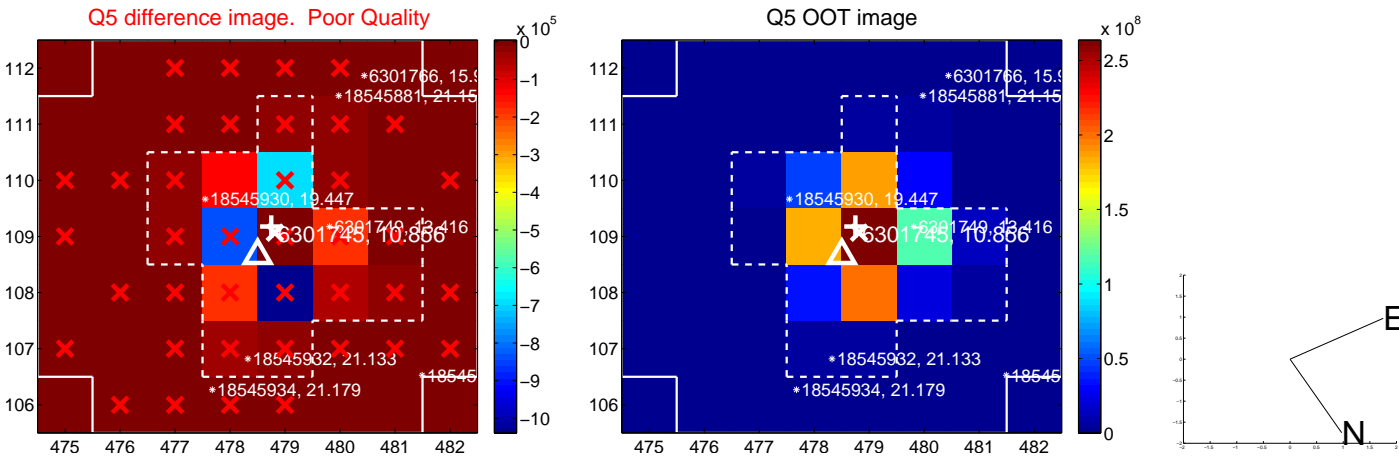


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

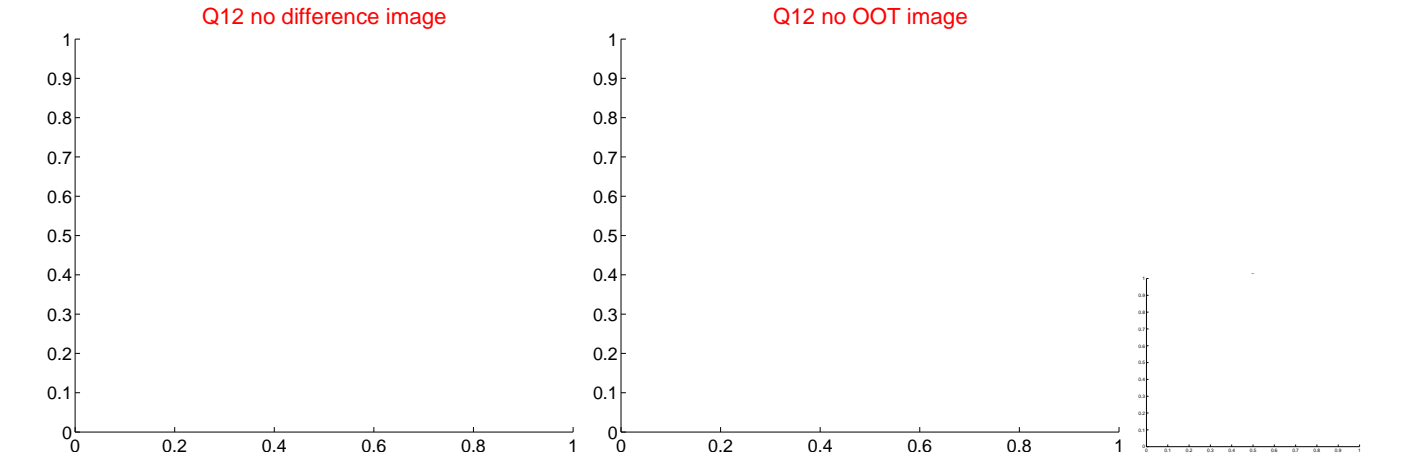
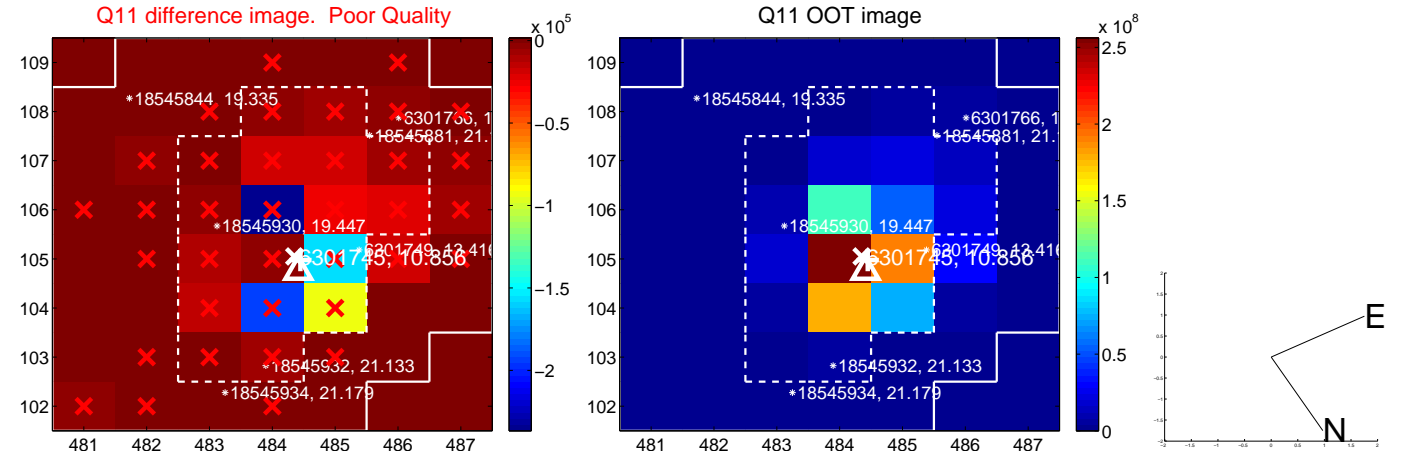
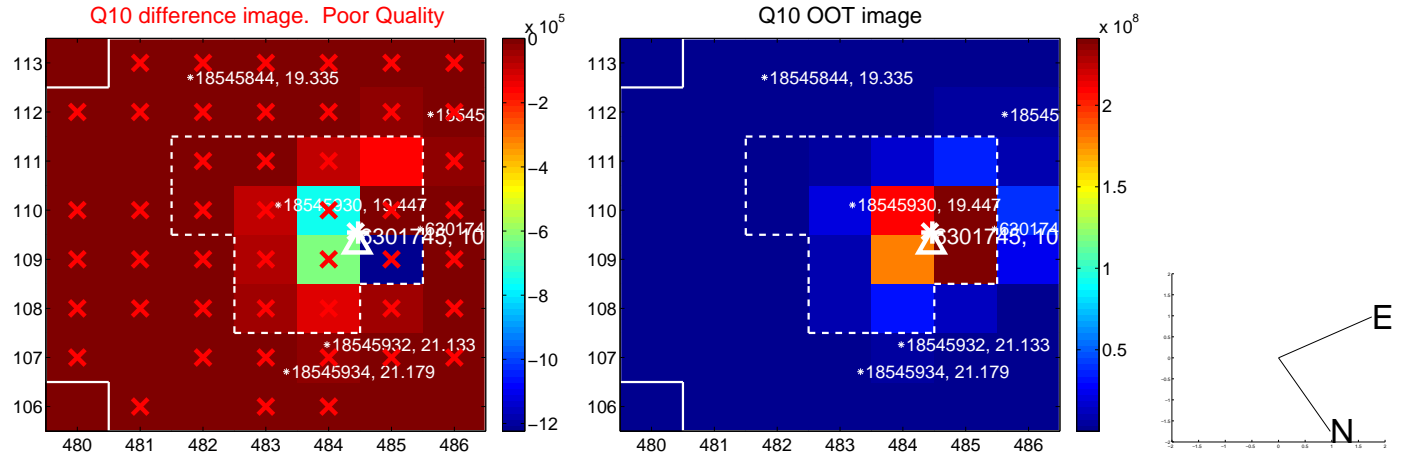
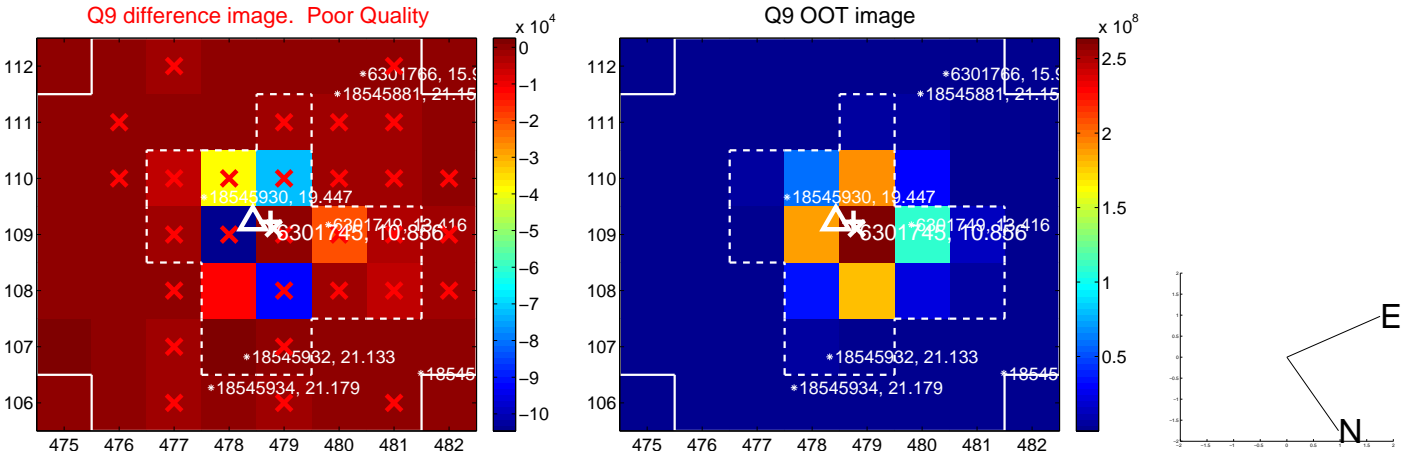
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



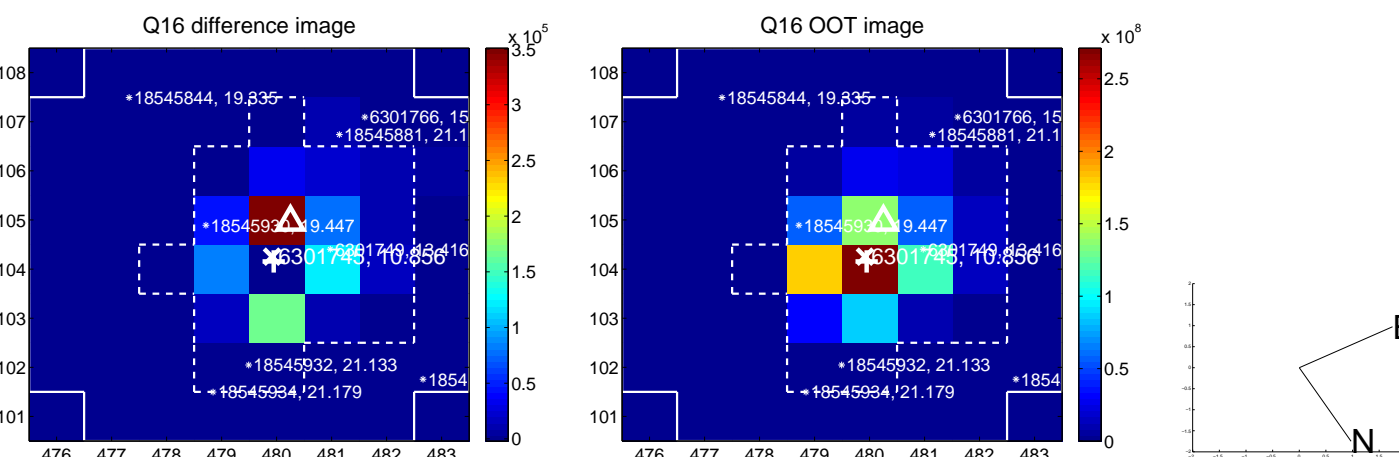
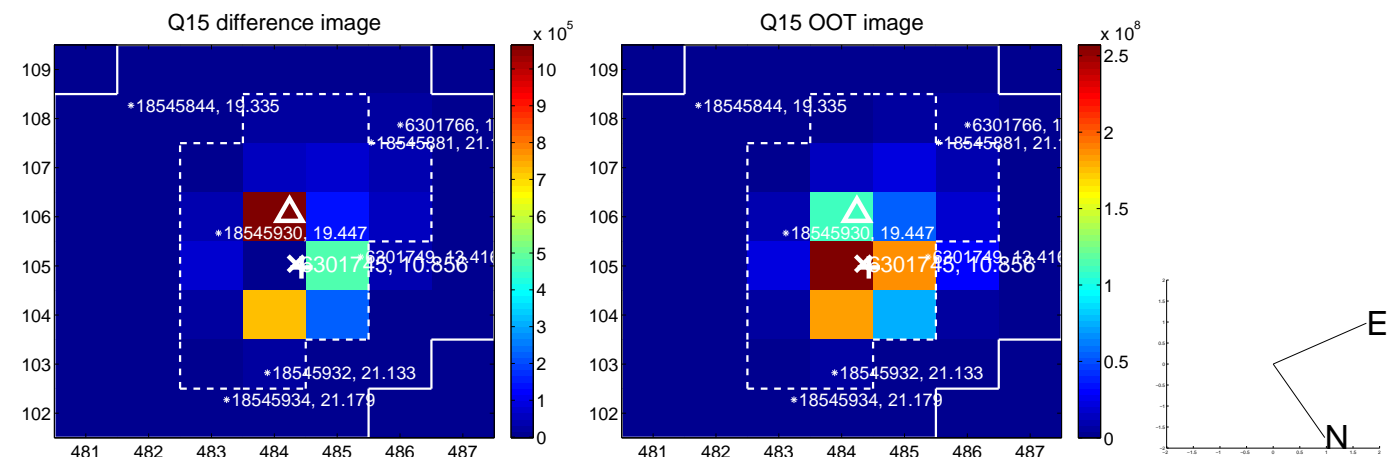
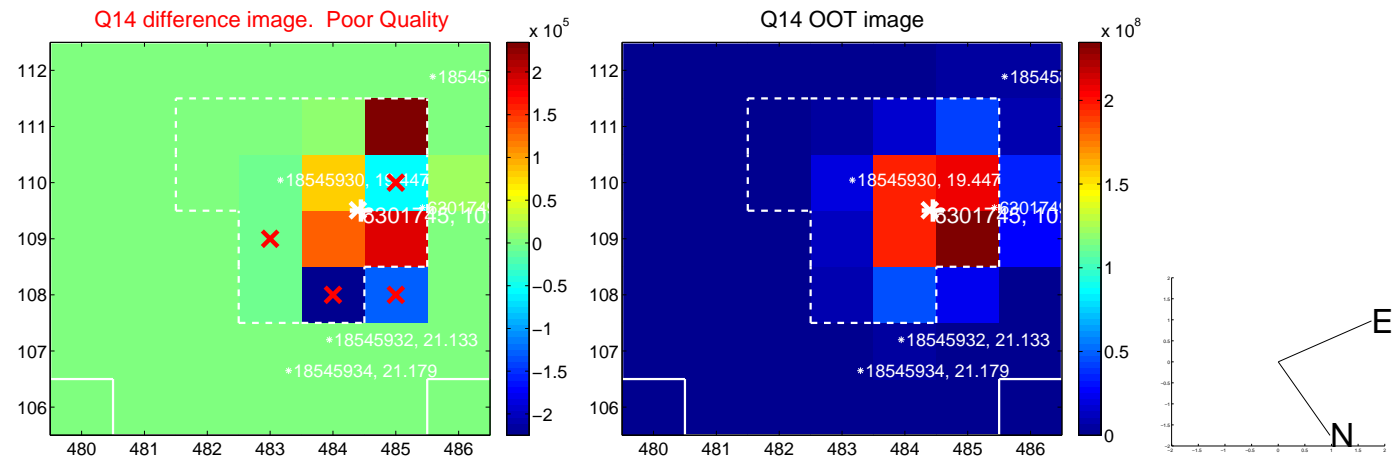
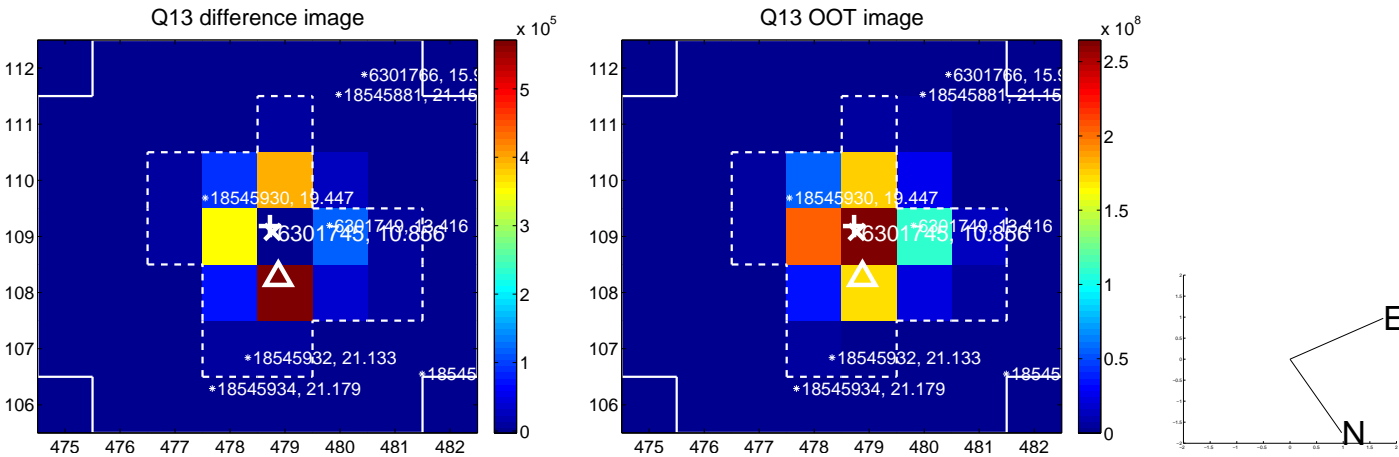
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



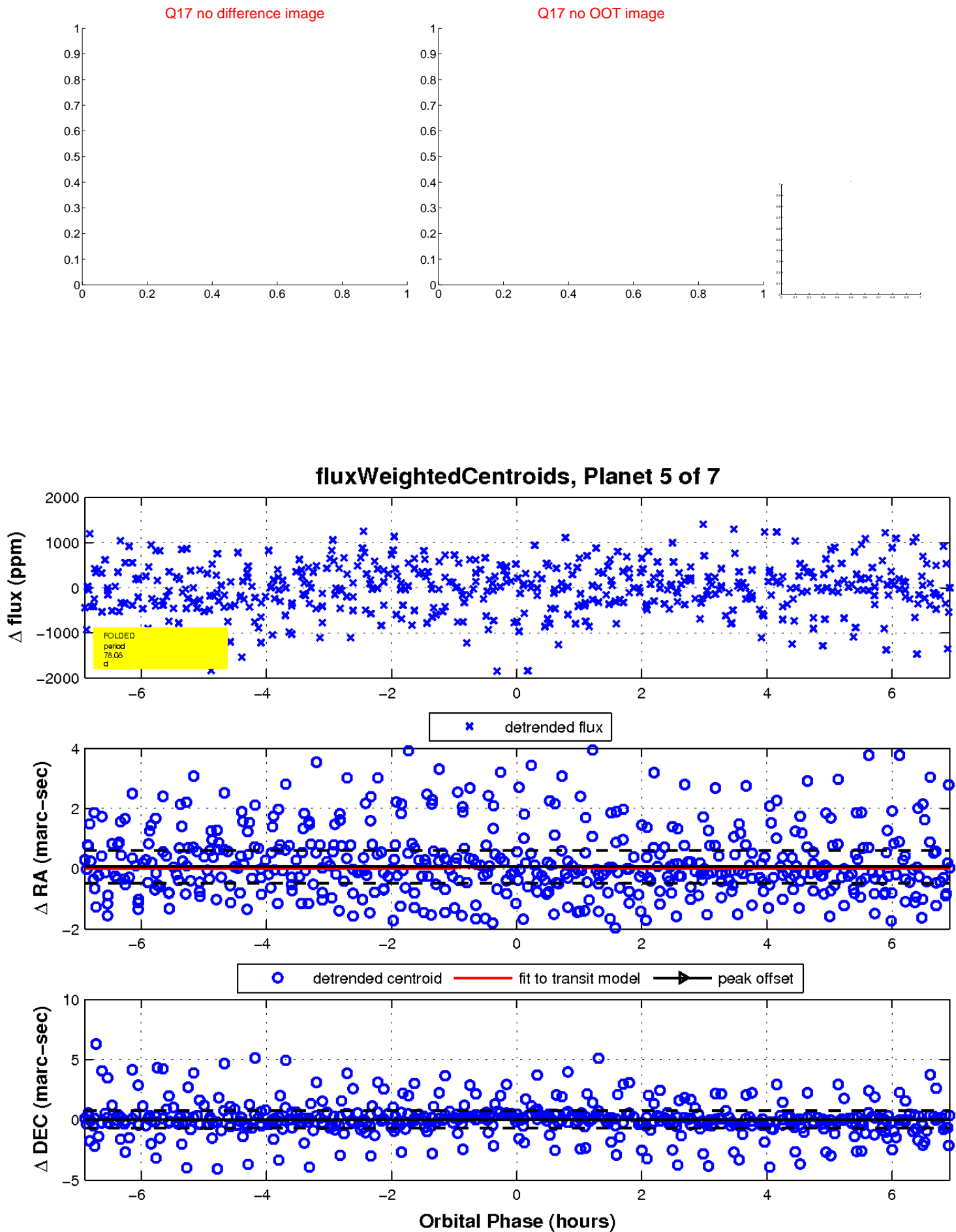
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



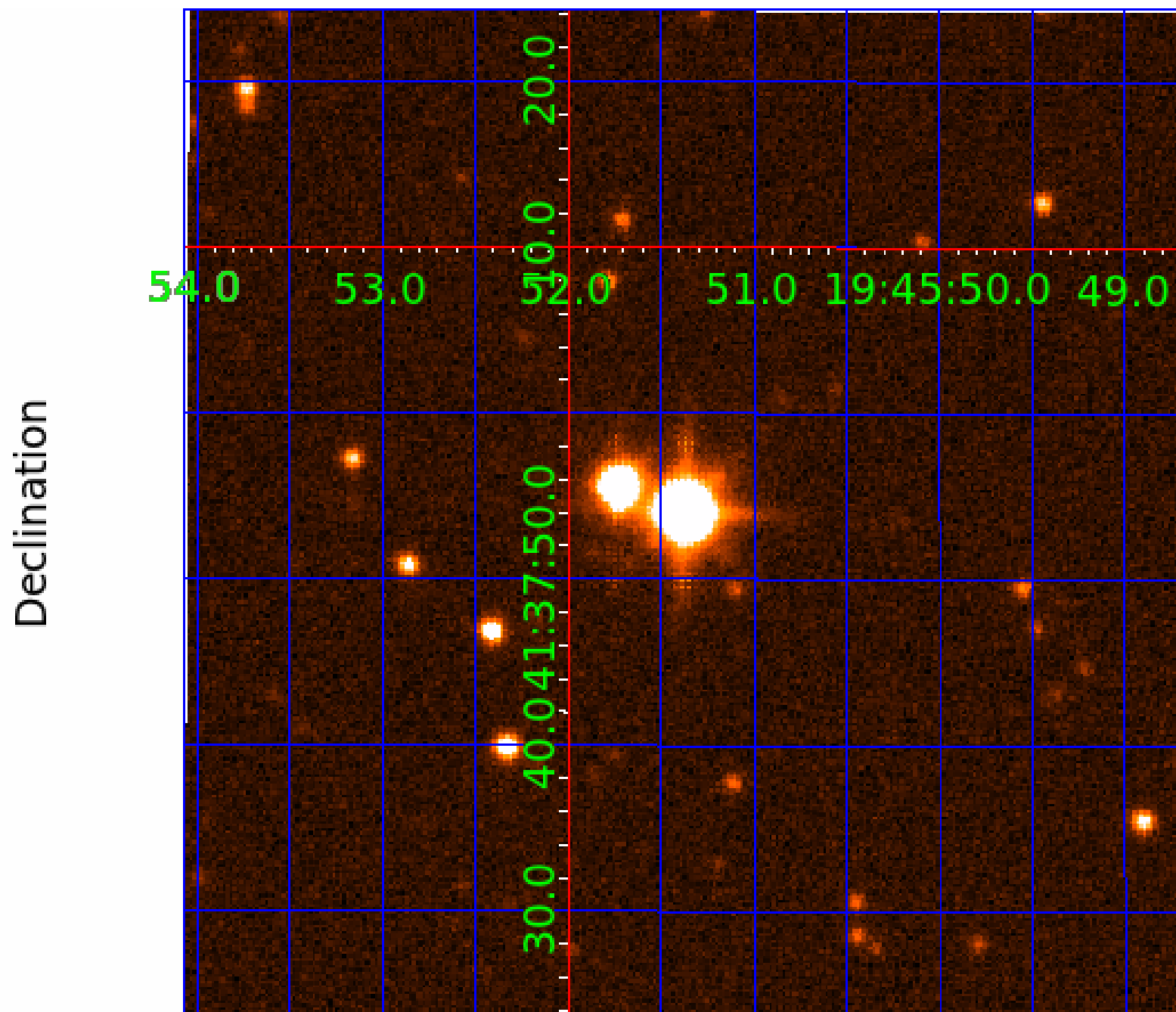
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006301745

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})
006301745-01	OBS	No	0.692557	131.855087	3.5	4.475	13.0	0.8	1.78	6735	0.34	22186.05
006301745-02	OBS	No	76.214239	202.800249	1298.7	6.099	9.9	9.1	1.78	6735	9.22	42.07
006301745-03	OBS	No	67.441722	154.263295	1481.8	2.424	12.0	9.2	1.78	6735	7.08	49.52
006301745-04	OBS	No	137.445167	153.731639	1962.7	4.376	9.4	8.9	1.78	6735	14.54	19.16
006301745-05	OBS	No	78.078464	190.540303	1172.8	2.314	9.0	8.4	1.78	6735	6.51	40.74
006301745-06	OBS	No	178.734227	208.450655	1783.3	10.025	7.8	6.6	1.78	6735	12.37	13.50
006301745-07	OBS	No	42.666979	167.272969	180.0	1.994	8.8	1.8	1.78	6735	2.67	91.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006301745-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006301745-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006301745-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006301745-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED—HALO_GHOST
006301745-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

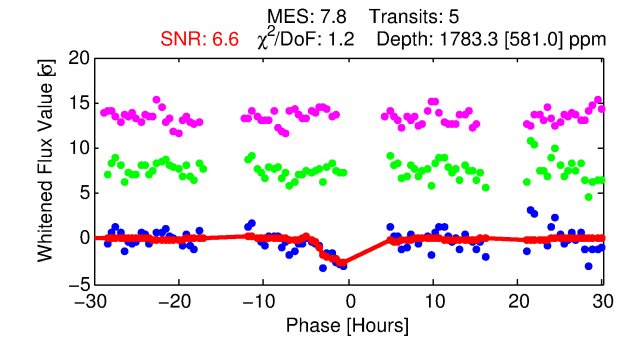
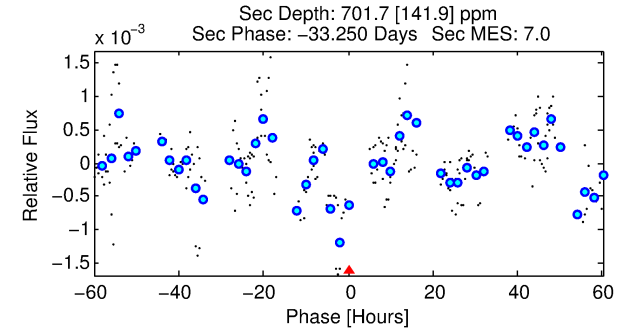
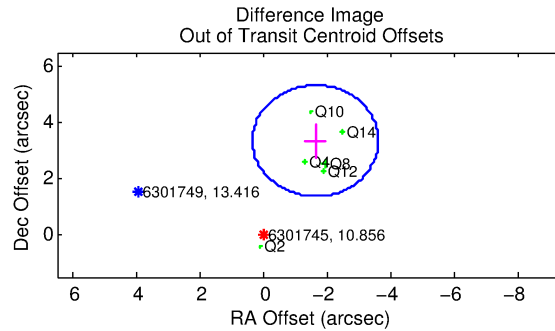
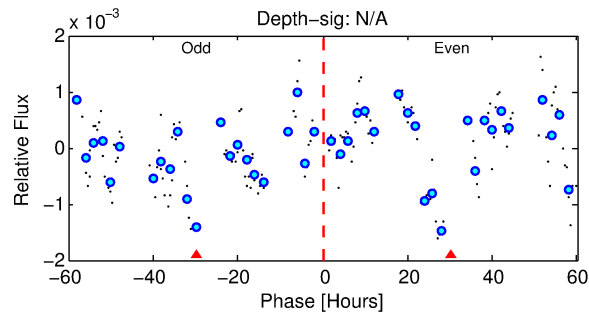
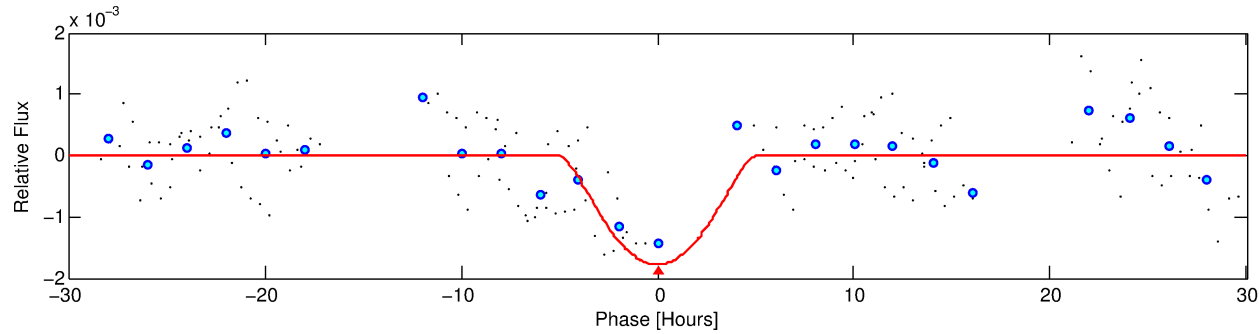
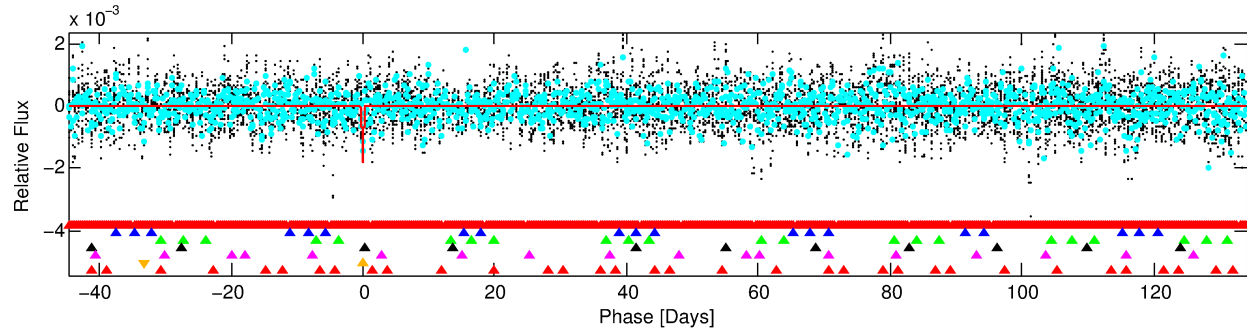
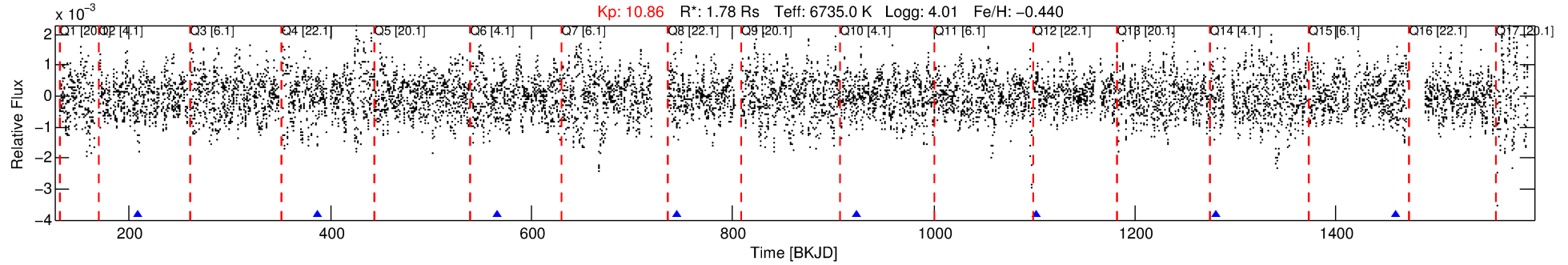
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006301745-06

No Significant Match Found

DV One-Page Summary

KIC: 6301745 Candidate: 6 of 7 Period: 178.734 d



DV Fit Results:

Period = 178.73423 [0.01691] d
Epoch = 208.4507 [0.0710] BKJD
Rp/R* = 0.0637 [0.2129]
a/R* = 53.62 [41.59]
b = 0.99 [0.35]
Seff = 13.50 [4.61]
Teq = 489 [42] K
Rp = 12.37 [41.47] Re
a = 0.6581 [0.1364] AU
Ag = 1092.26 [7319.19] [0.15σ]
Teff = 4345 [7270] K [0.53σ]

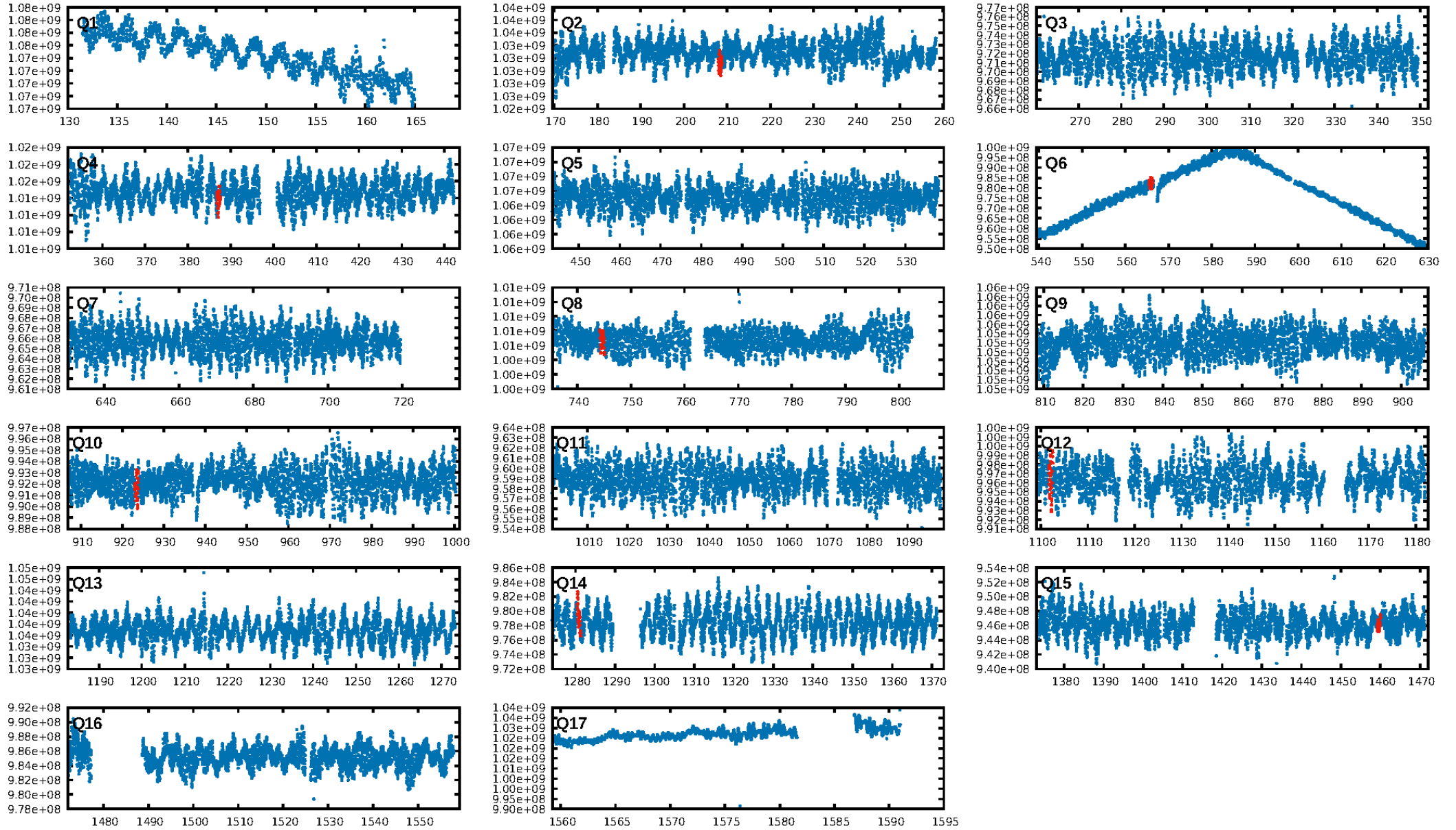
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [90.59σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 27.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.03291
Centroid-sig: 4.8%
Centroid-so: 0.137 arcsec [0.52σ]
OotOffset-rm: 3.721 arcsec [5.64σ]
KicOffset-rm: 3.517 arcsec [5.55σ]
OotOffset-st: 3/0/3/0 [6]
KicOffset-st: 3/0/3/0 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 0.00 [0/7]

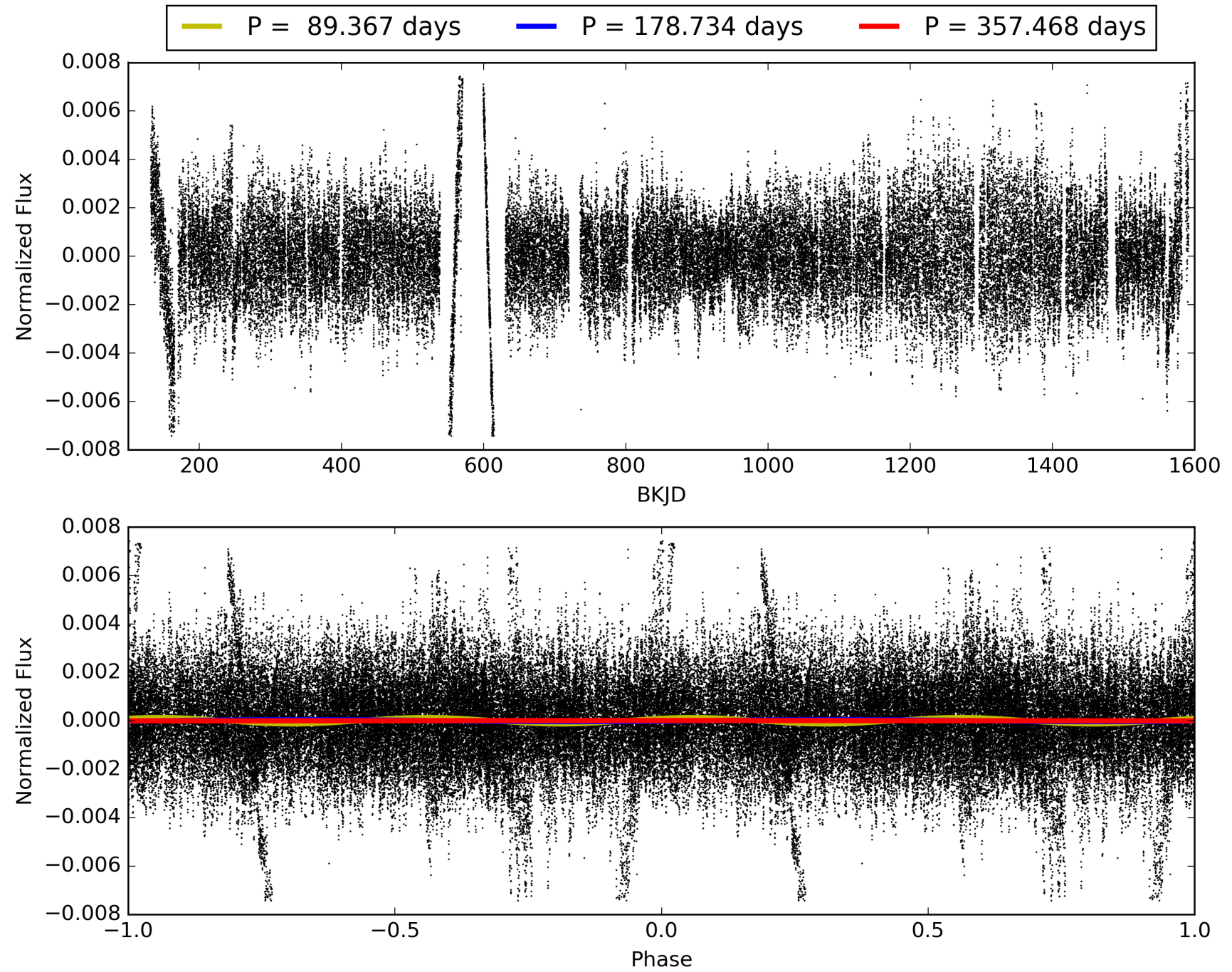
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:11:38 Z

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

TCE 006301745-06, PDC Light Curves

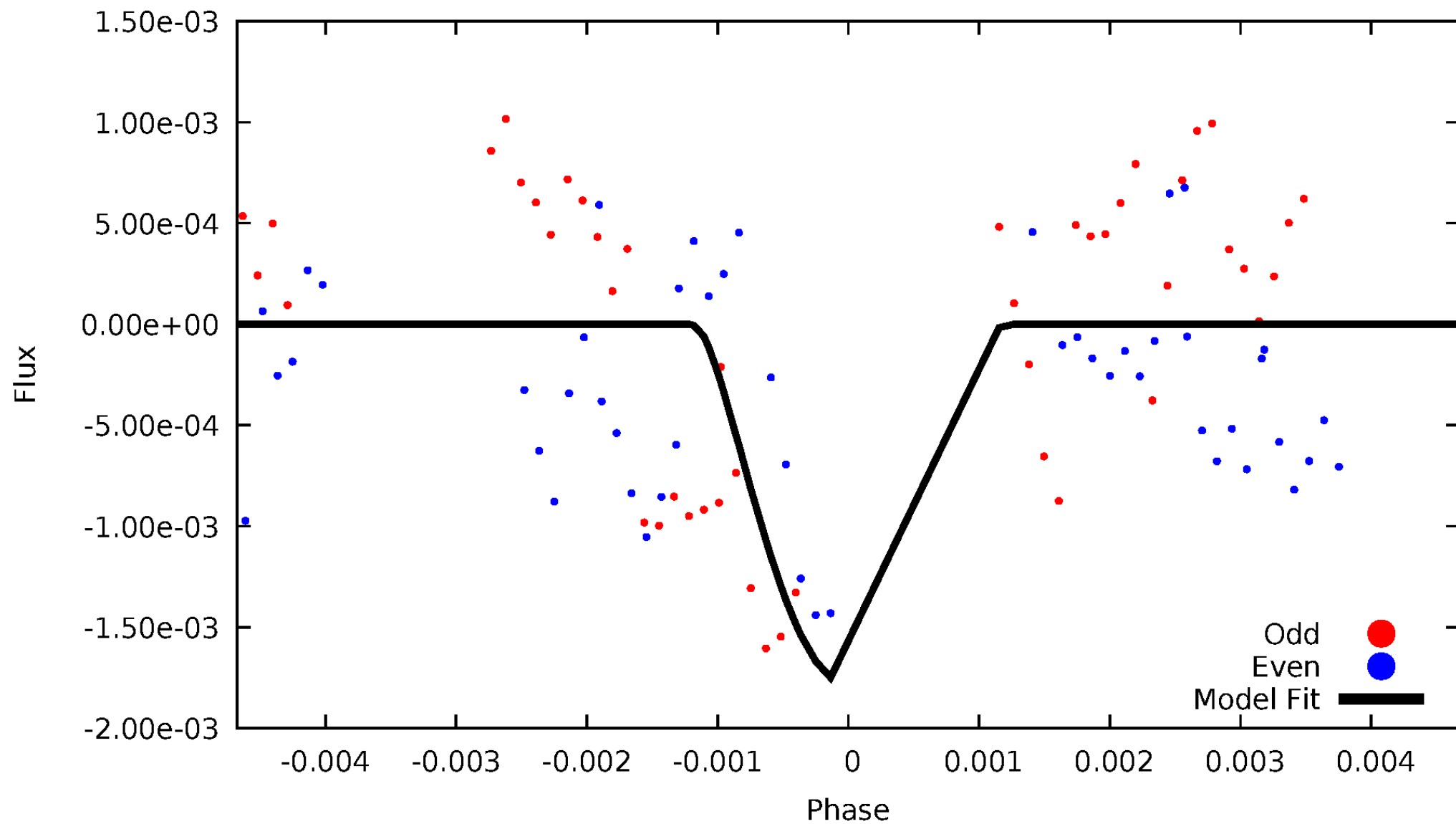


TCE 006301745-06



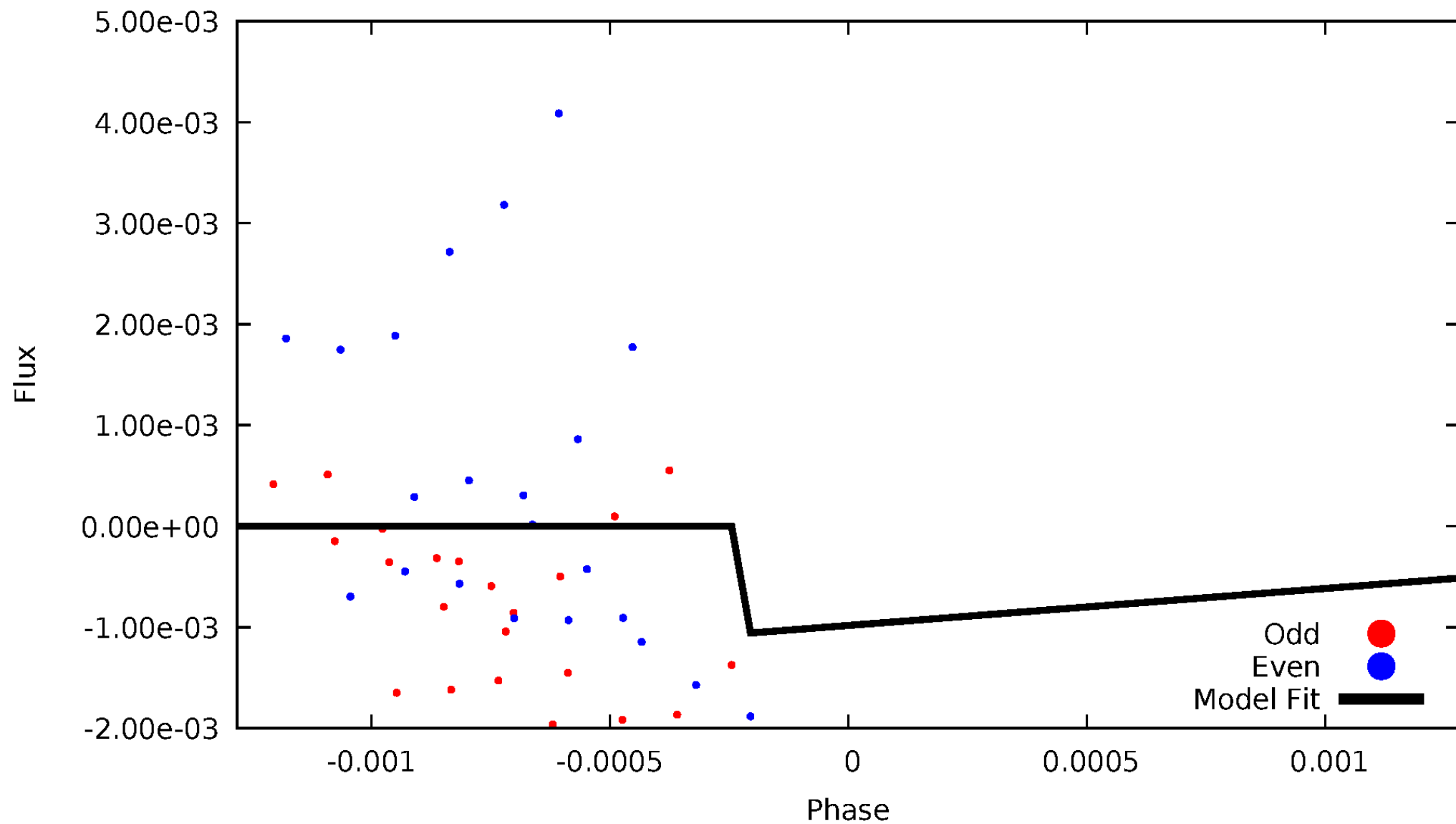
DV Odd/Even

TCE 006301745-06



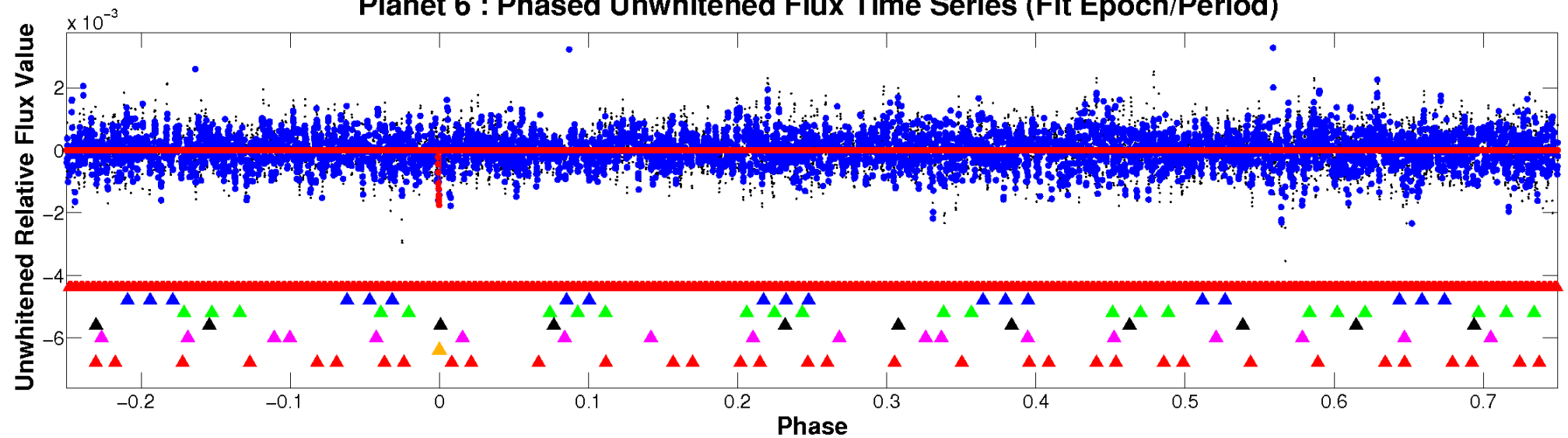
ALT Odd/Even

TCE 006301745-06

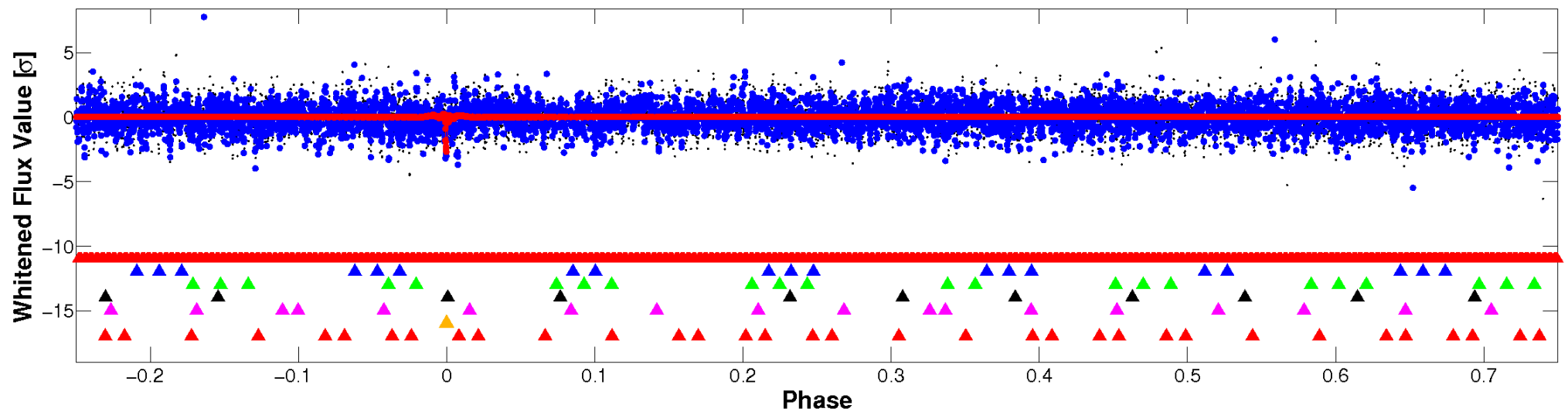


Non-Whitened Vs. Whitened Light Curve

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

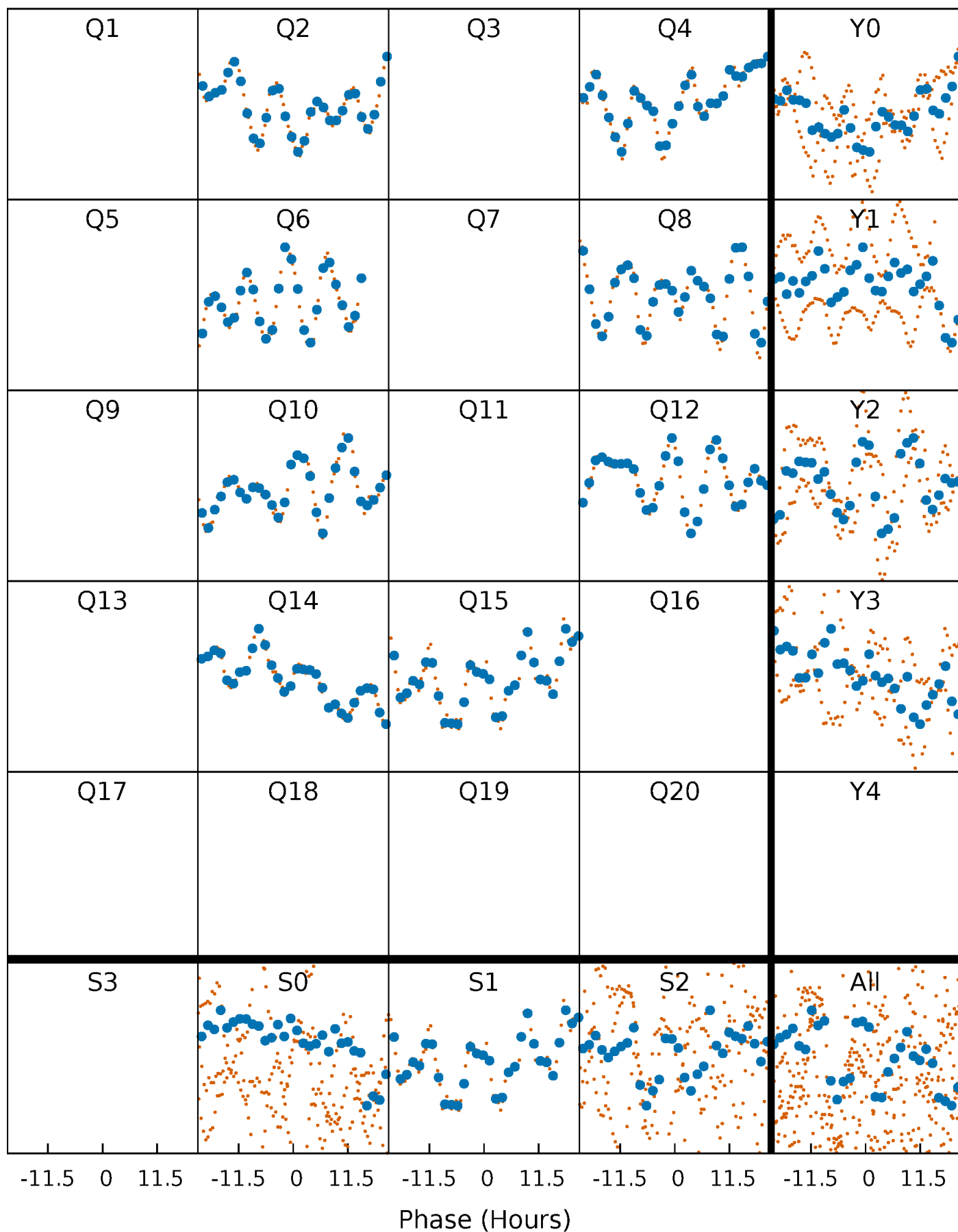


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



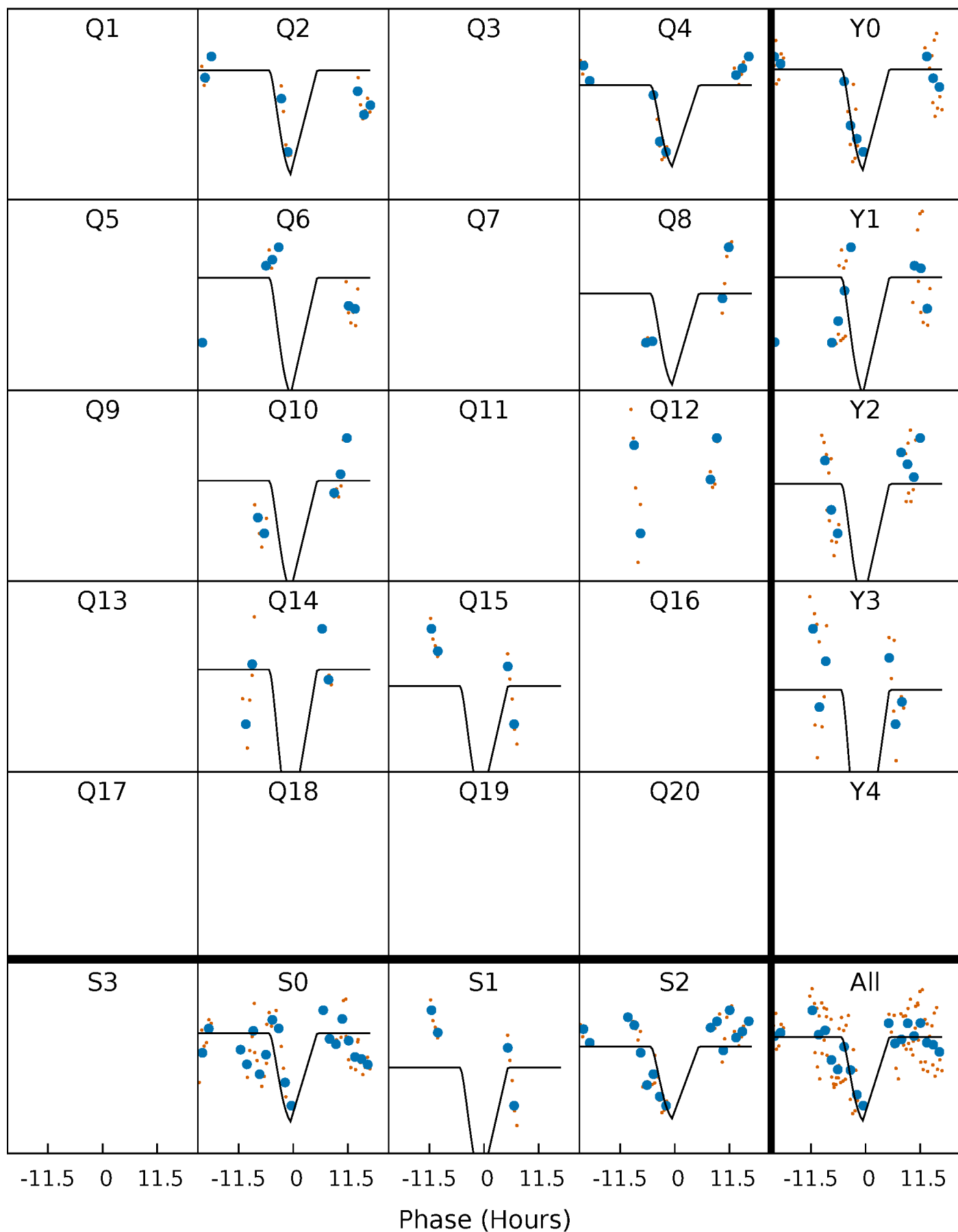
PDC Quarter-Phased Transit Curves

TCE 006301745-06 P=178.734227 Days $T_0=208.450655$ (BKJD)



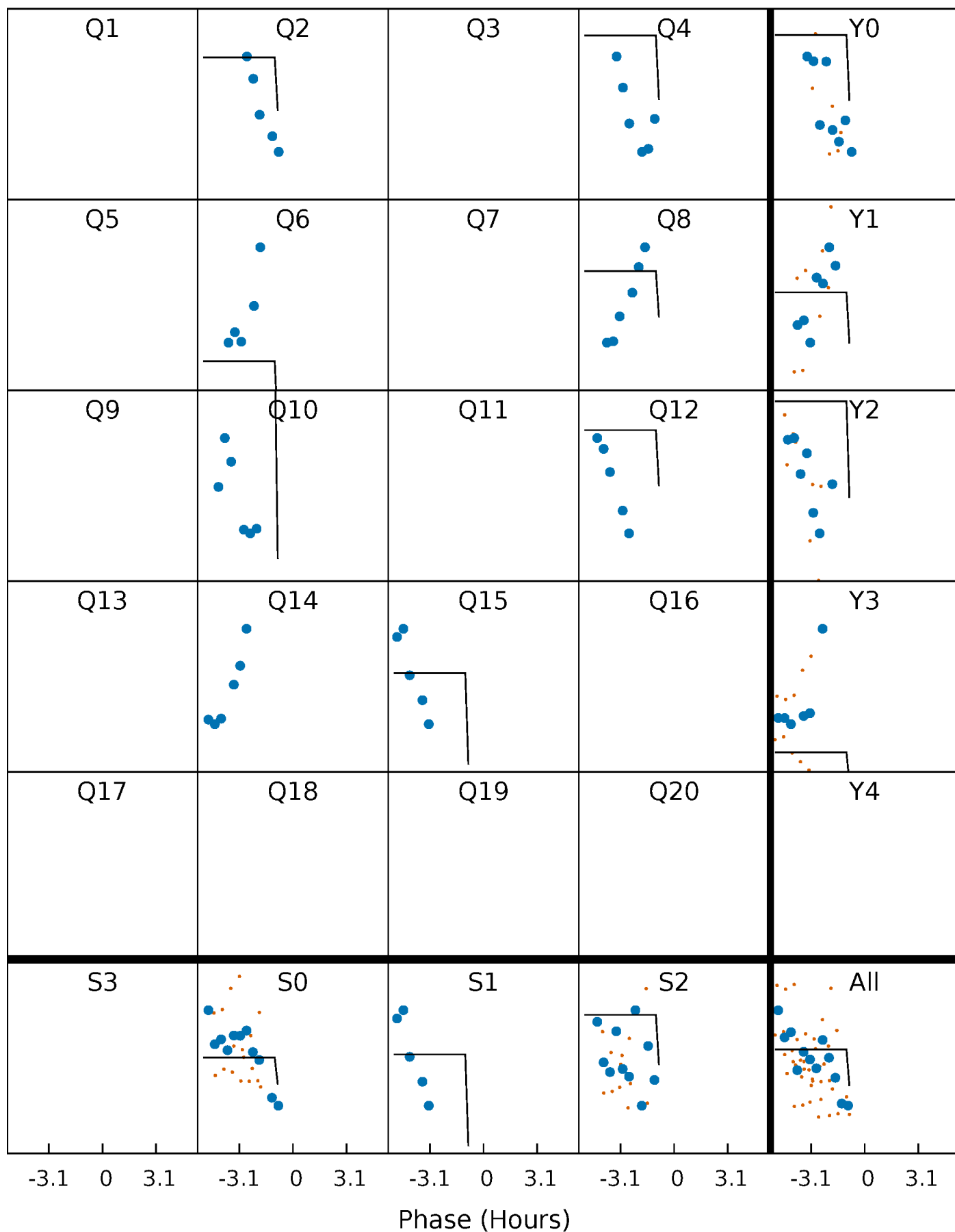
DV Quarter-Phased Transit Curves

TCE 006301745-06 P=178.734227 Days $T_0=208.450655$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

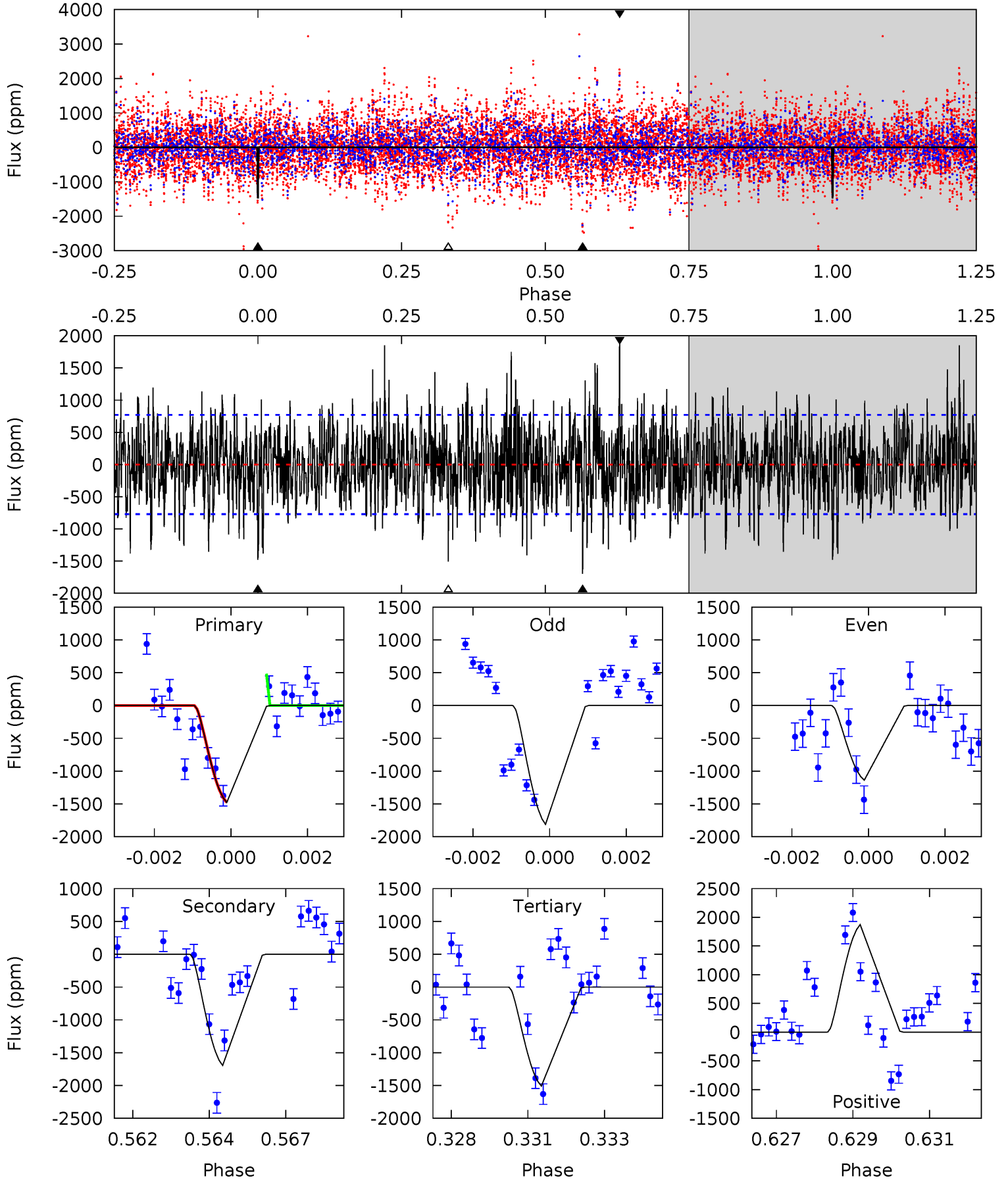
TCE 006301745-06 P=178.693420 Days $T_0=208.463241$ (BKJD)



DV Model-Shift Uniqueness Test

006301745-06, P = 178.734227 Days, E = 29.716428 Days

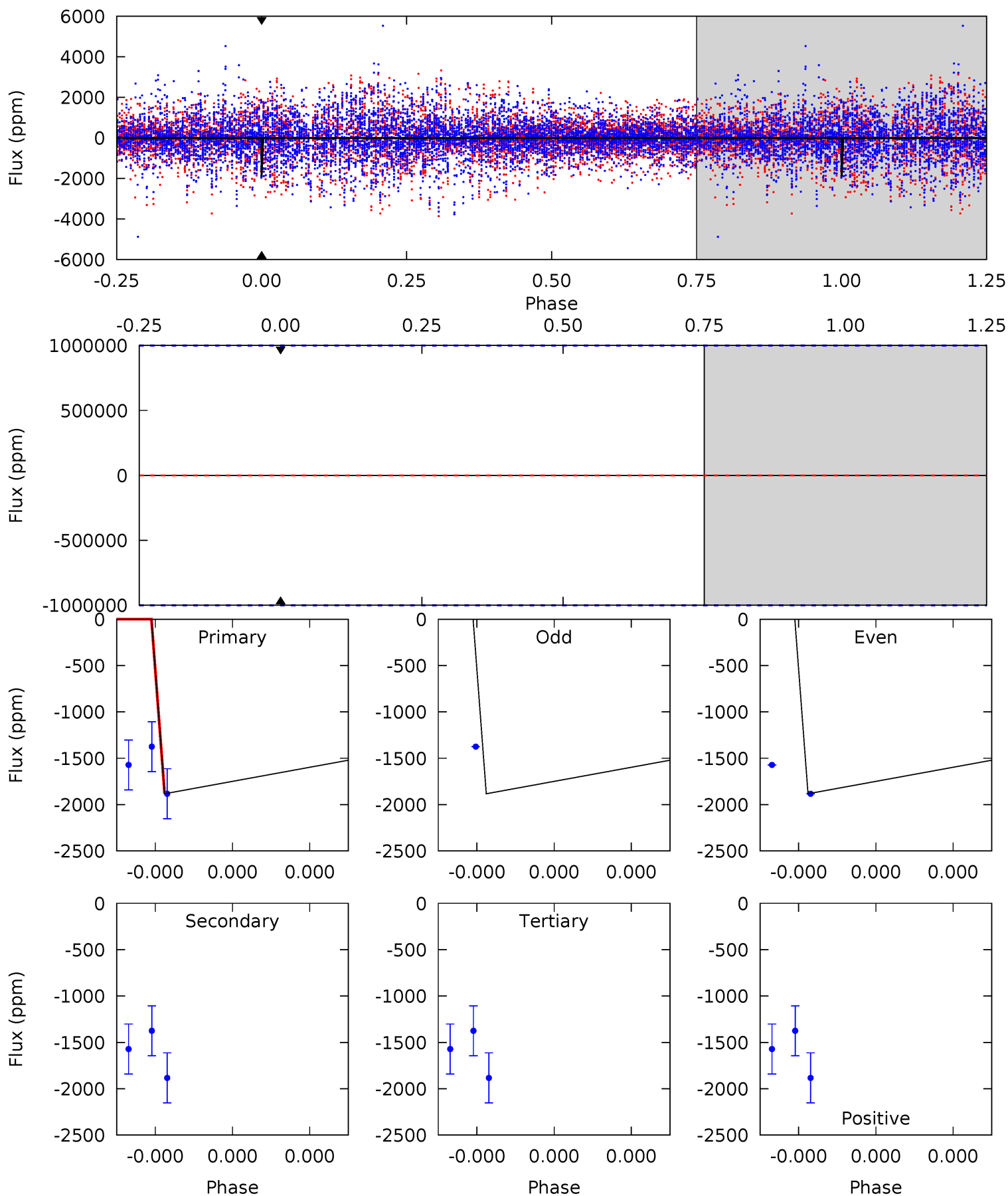
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.1	11.6	10.3	12.9	5.29	3.03	3.03	-0.21	-2.72	1.28	-1.23	2.32	1.36	0.53	1.59



Alt Model-Shift Uniqueness Test

006301745-06, P = 178.693420 Days, E = 29.769821 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



Stellar Parameters For KIC 006301745

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6735^{+122}_{-136}	$4.012^{+0.195}_{-0.105}$	$-0.440^{+0.150}_{-0.150}$	$1.781^{+0.313}_{-0.383}$	$1.190^{+0.146}_{-0.097}$	$0.297^{+0.310}_{-0.095}$
	+2%/-2%	+5%/-3%	+34%/-34%	+18%/-22%	+12%/-8%	+104%/-32%
Source	SPE4	SPE4	SPE4	DSEP		

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

Secondary Eclipse Parameters for KIC 006301745-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1695 ± 146	$28.68^{+33.49}_{-18.59}$	677^{+34}_{-42}	3813^{+2109}_{-748}	480^{+3405}_{-373}
Alt.	-0 ± 1000000	$32.37^{+35.08}_{-22.37}$	677^{+34}_{-37}	-3443^{+15333}_{-9290}	$-240.398^{+39052.167}_{-42978.486}$

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

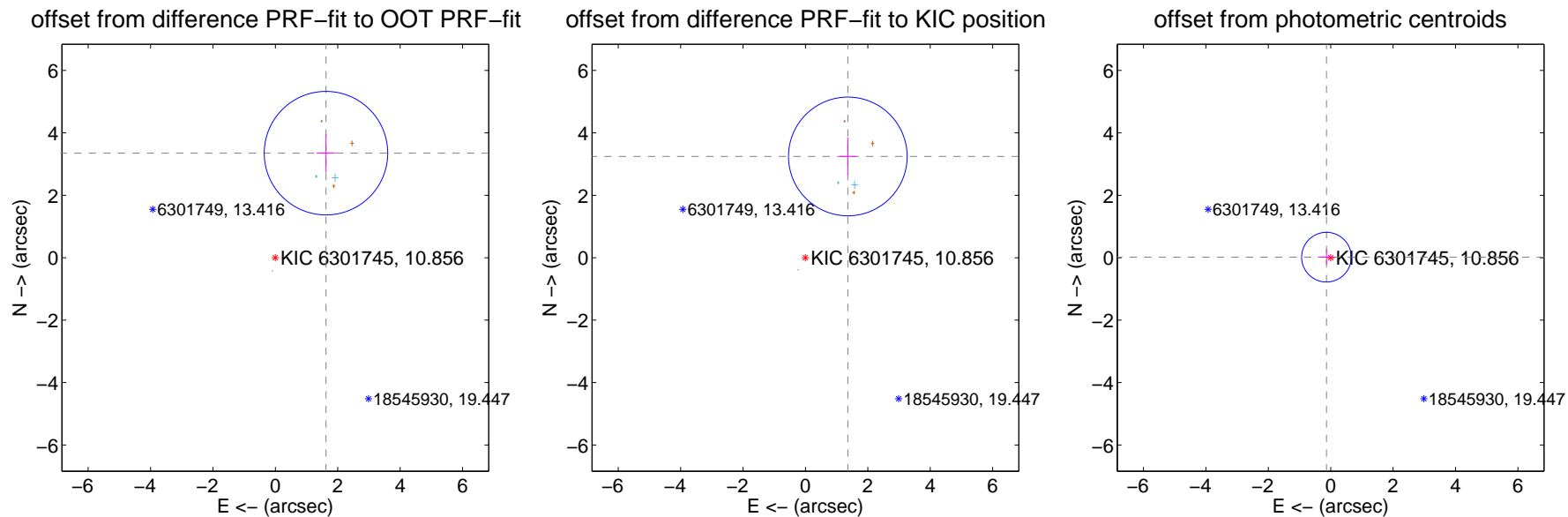
DV Centroid Data

Supplemental centroid analysis for 006301745-06. **Kepler magnitude: 10.86.** Transit SNR 6.60

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.721 ± 0.660	5.64	-1.622 ± 0.301	3.349 ± 0.616
PRF-fit source offset from KIC position	3.517 ± 0.634	5.55	-1.358 ± 0.266	3.244 ± 0.605
photometric centroid source offset	0.14 ± 0.27	0.52	0.14 ± 0.27	0.02 ± 0.24



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.

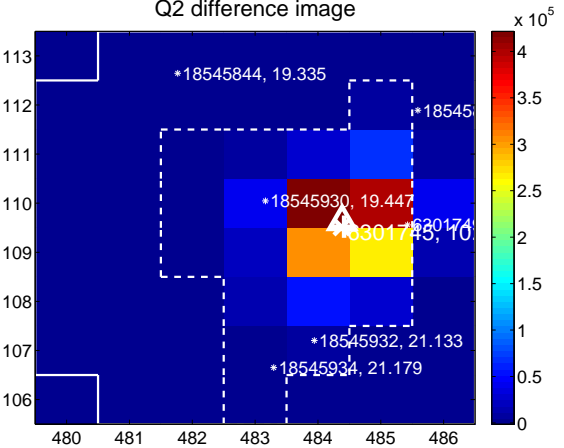
Q1 no difference image



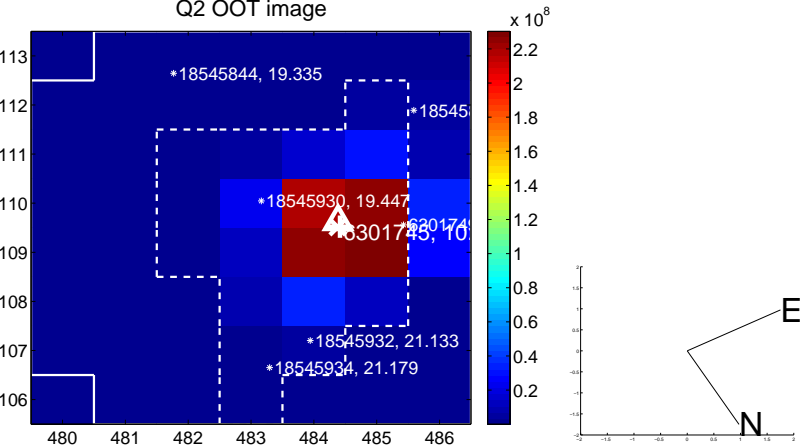
Q1 no OOT image



Q2 difference image



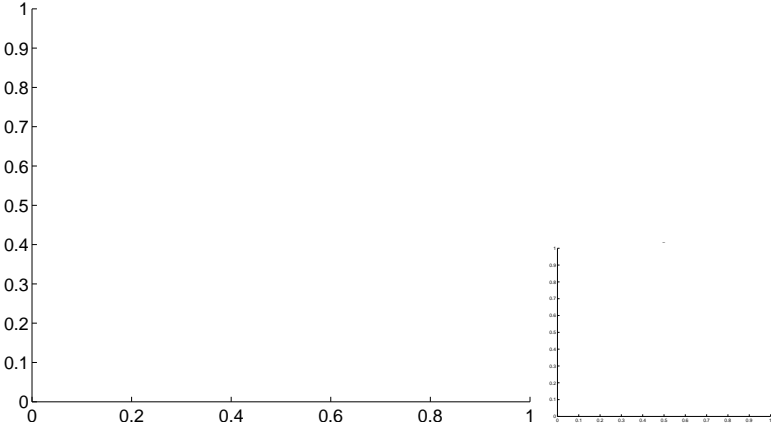
Q2 OOT image



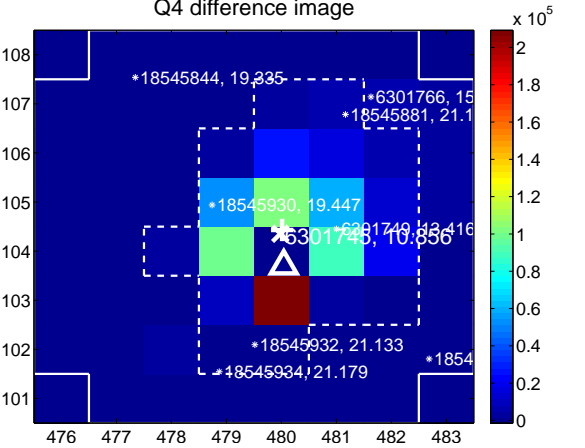
Q3 no difference image



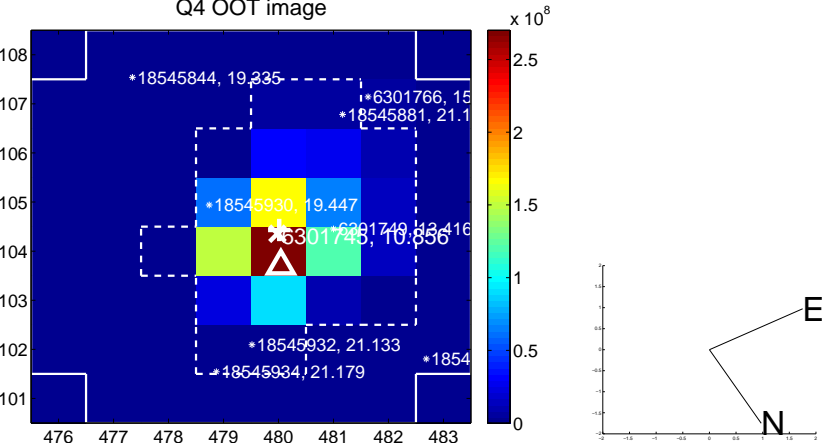
Q3 no OOT image



Q4 difference image



Q4 OOT image



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

Q5 no difference image



Q5 no OOT image



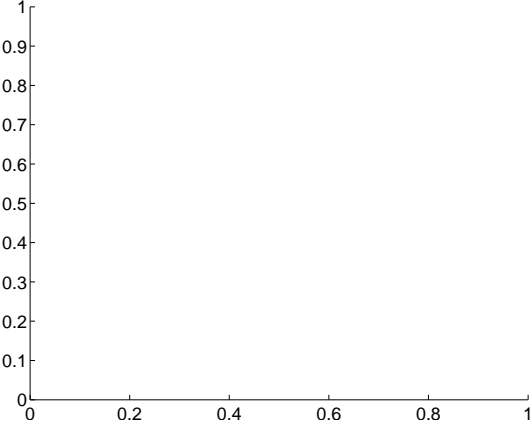
Q6 no difference image



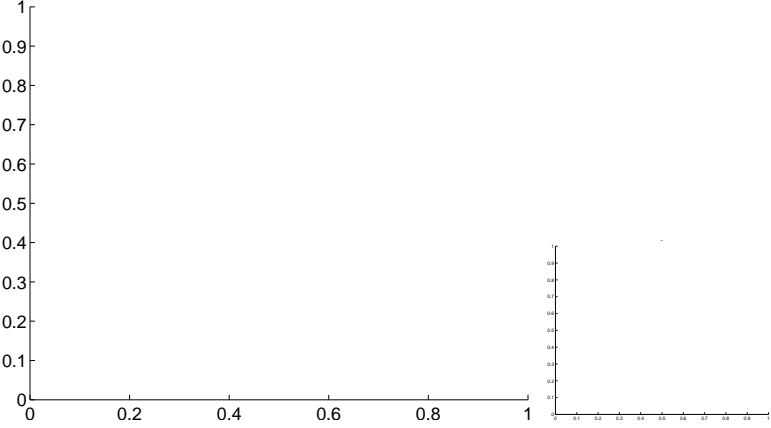
Q6 no OOT image



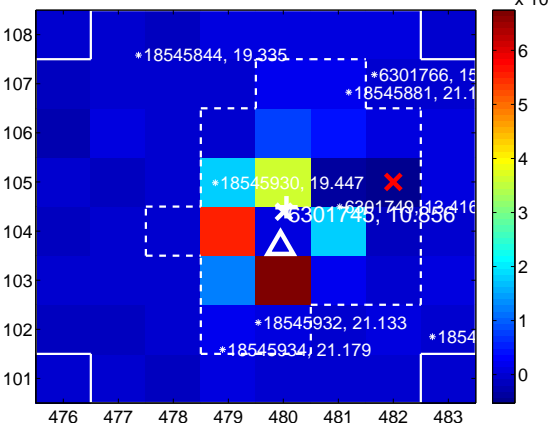
Q7 no difference image



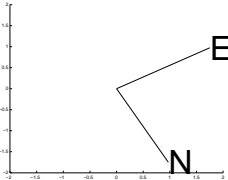
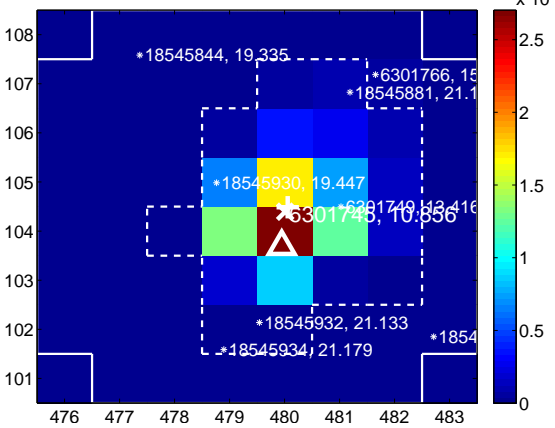
Q7 no OOT image



Q8 difference image



Q8 OOT image



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

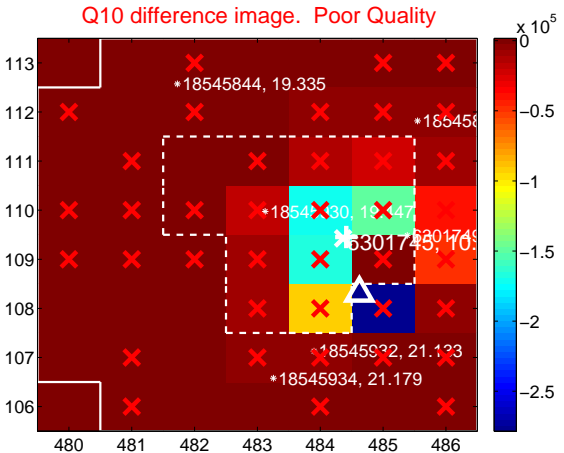
Q9 no difference image



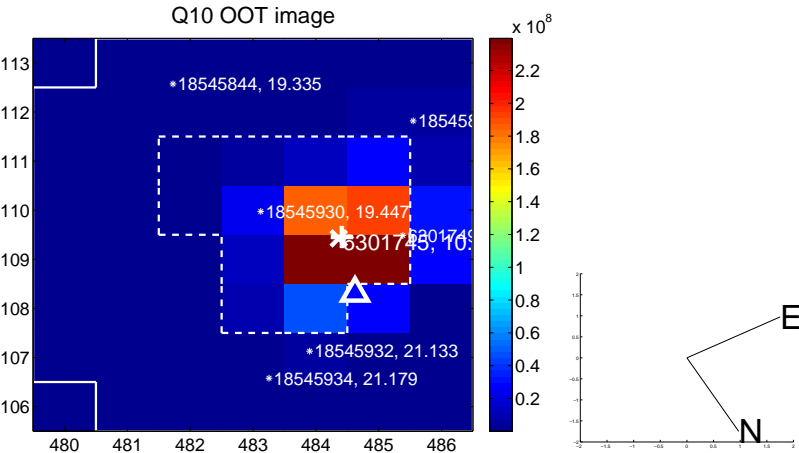
Q9 no OOT image



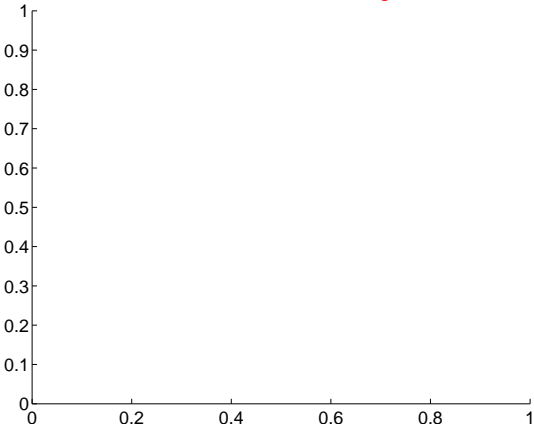
Q10 difference image. Poor Quality



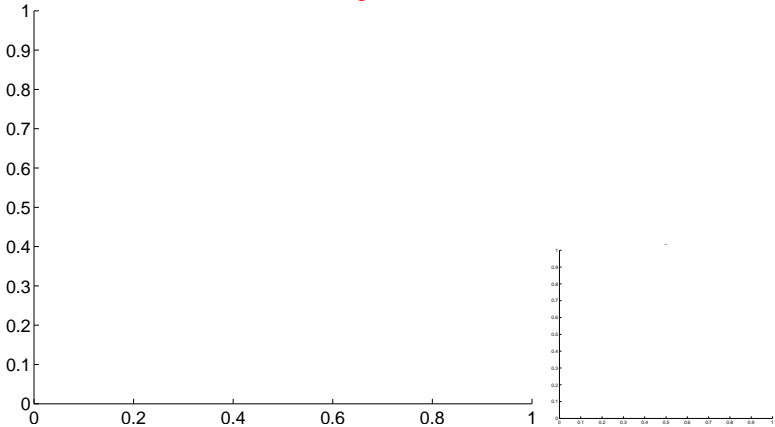
Q10 OOT image



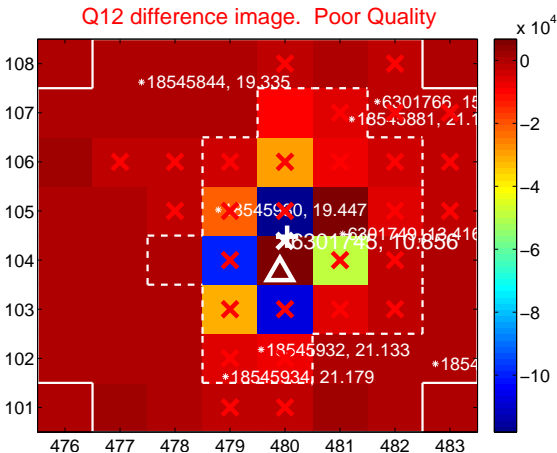
Q11 no difference image



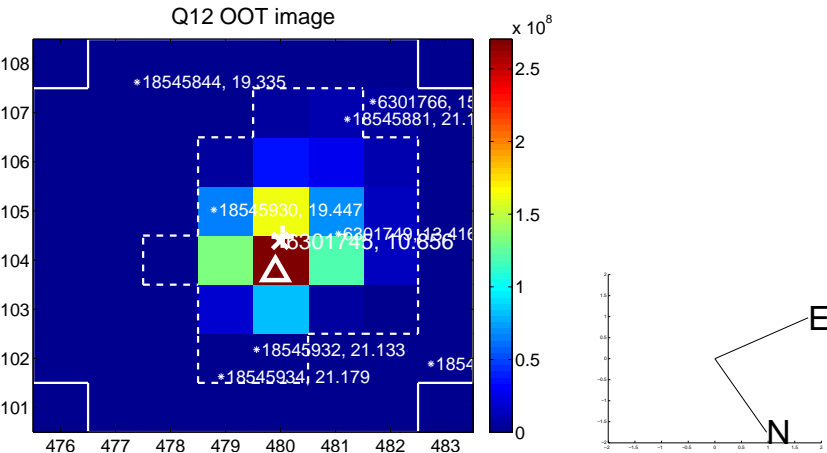
Q11 no OOT image



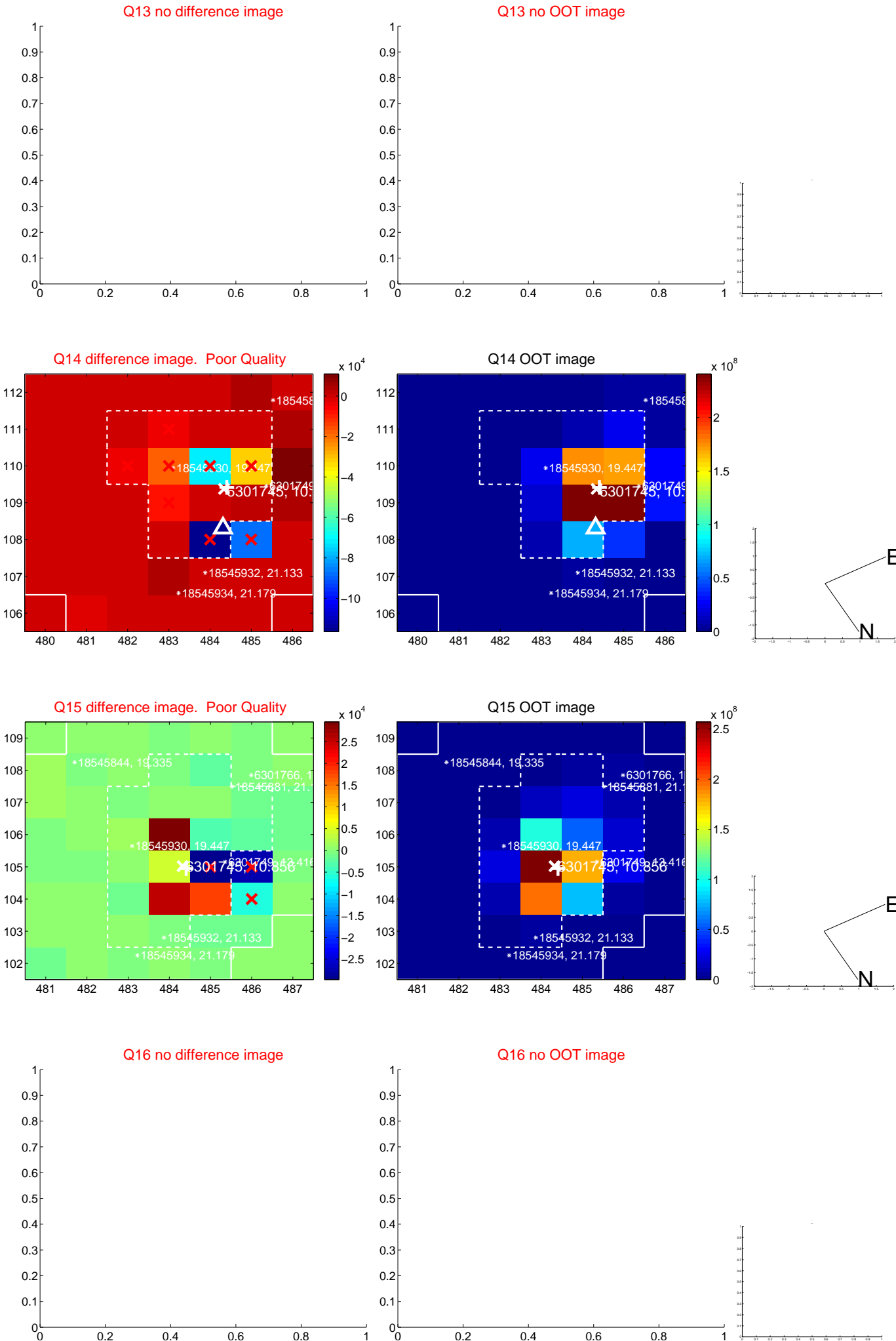
Q12 difference image. Poor Quality



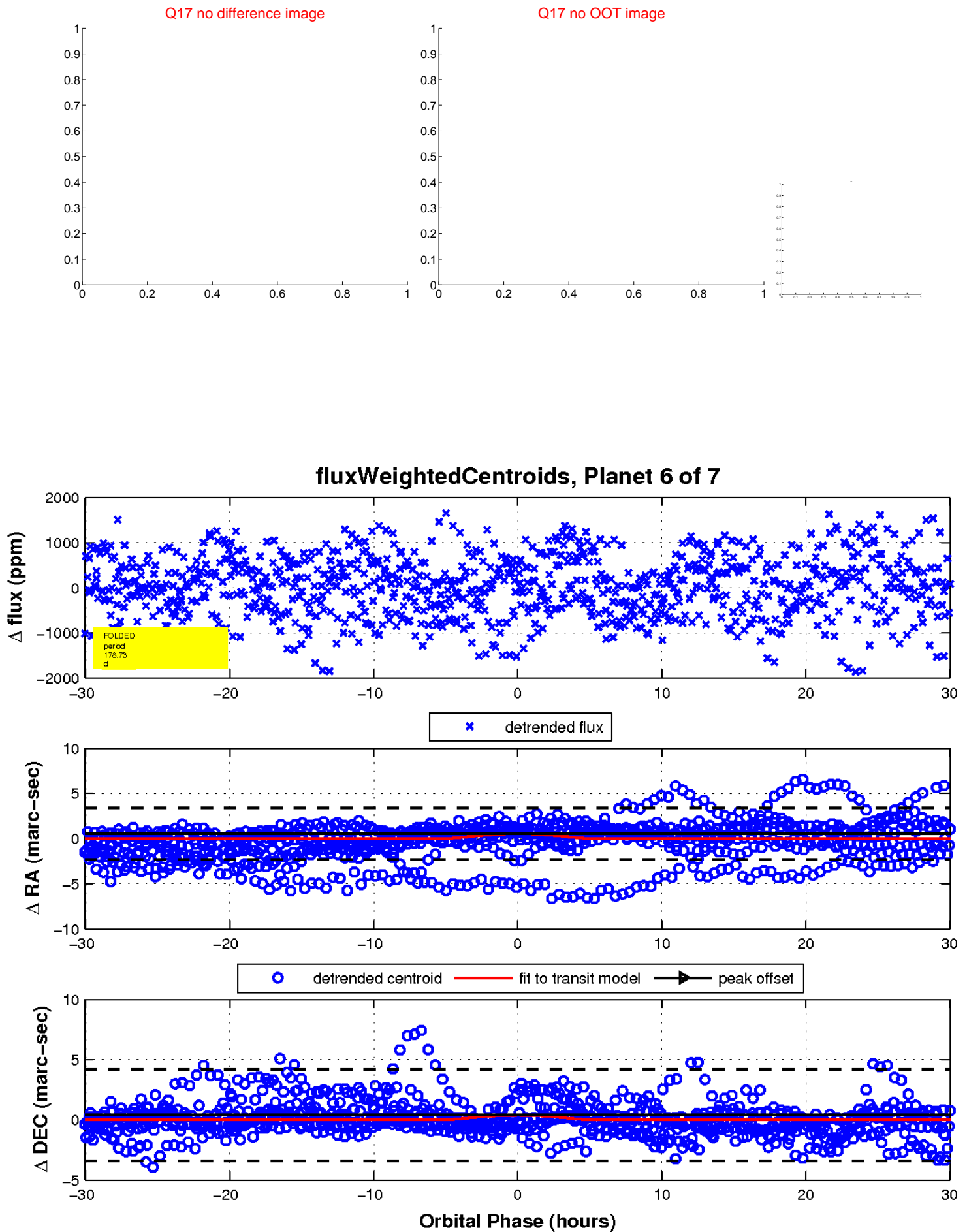
Q12 OOT image



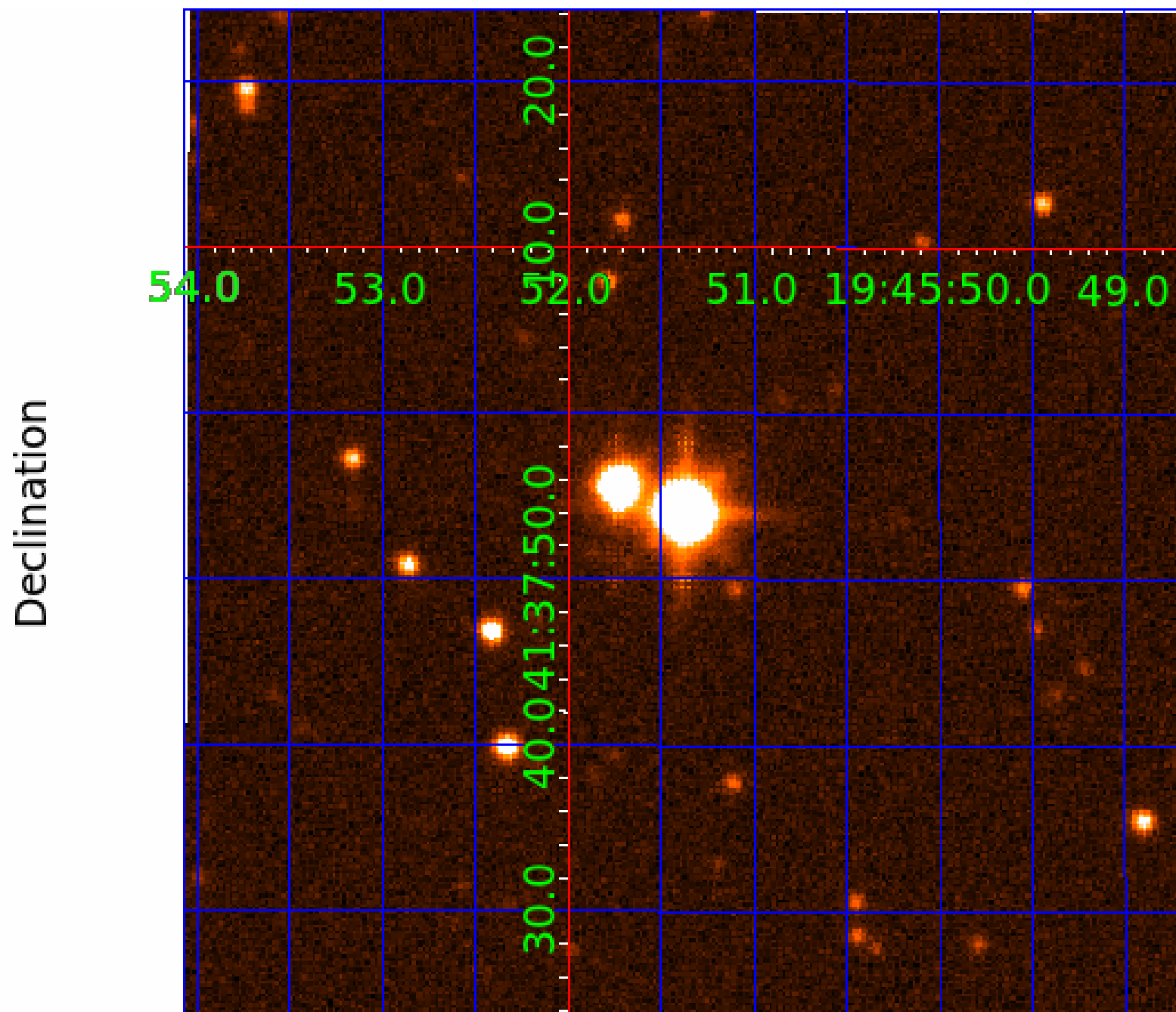
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 006301745

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})
006301745-01	OBS	No	0.692557	131.855087	3.5	4.475	13.0	0.8	1.78	6735	0.34	22186.05
006301745-02	OBS	No	76.214239	202.800249	1298.7	6.099	9.9	9.1	1.78	6735	9.22	42.07
006301745-03	OBS	No	67.441722	154.263295	1481.8	2.424	12.0	9.2	1.78	6735	7.08	49.52
006301745-04	OBS	No	137.445167	153.731639	1962.7	4.376	9.4	8.9	1.78	6735	14.54	19.16
006301745-05	OBS	No	78.078464	190.540303	1172.8	2.314	9.0	8.4	1.78	6735	6.51	40.74
006301745-06	OBS	No	178.734227	208.450655	1783.3	10.025	7.8	6.6	1.78	6735	12.37	13.50
006301745-07	OBS	No	42.666979	167.272969	180.0	1.994	8.8	1.8	1.78	6735	2.67	91.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006301745-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
006301745-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
006301745-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
006301745-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—ALL_TRANS_CHASES—CENT_SATURATED
006301745-06	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_SATURATED—HALO_GHOST
006301745-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

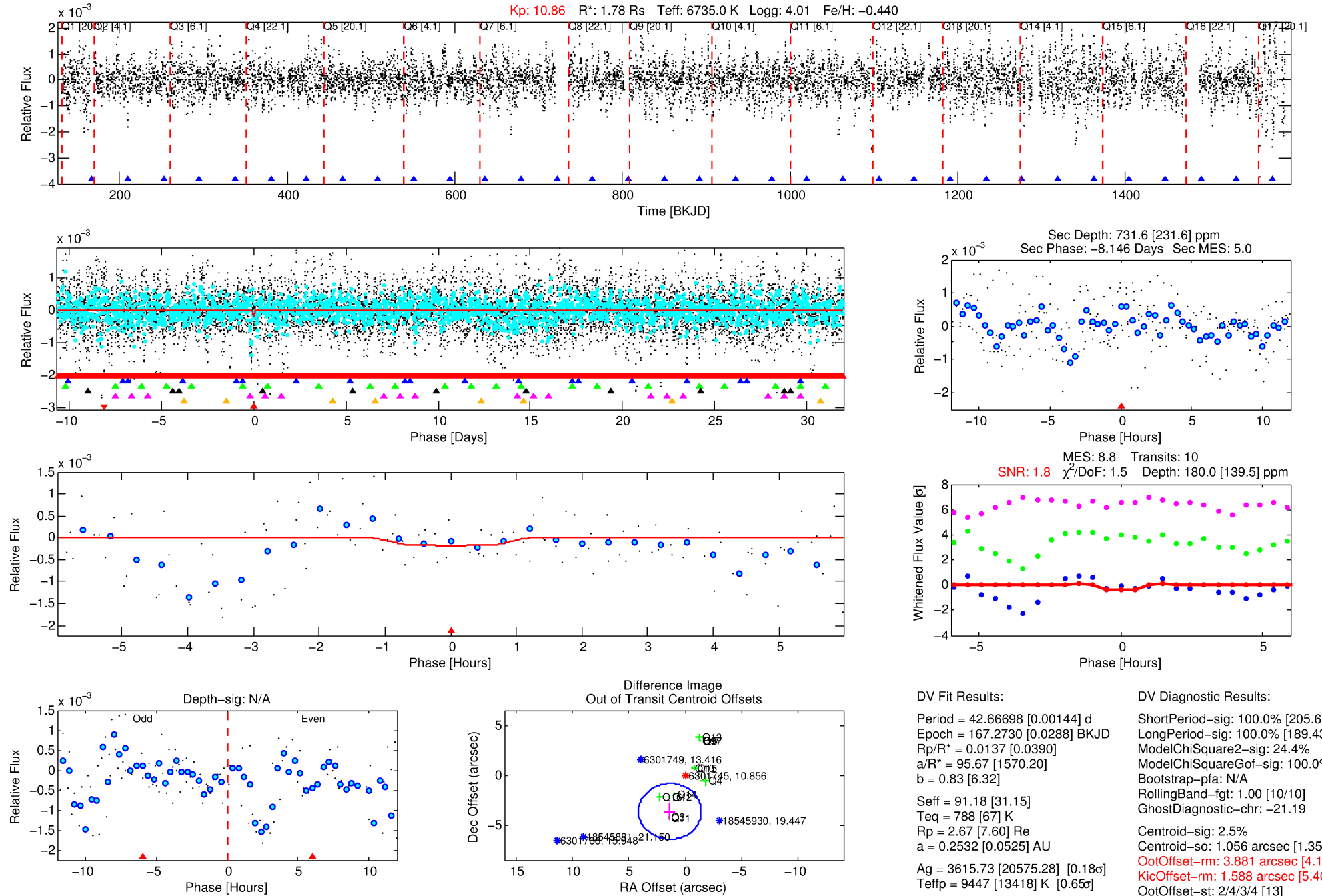
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 006301745-07

No Significant Match Found

DV One-Page Summary

KIC: 6301745 Candidate: 7 of 7 Period: 42.667 d



DV Fit Results:

Period = 42.66698 [0.00144] d
Epoch = 167.2730 [0.0288] BKJD
Rp/R* = 0.0137 [0.0390]
a/R* = 95.67 [1570.20]
b = 0.83 [6.32]
Seff = 91.18 [31.15]
Teq = 788 [67] K
Rp = 2.67 [7.60] Re
a = 0.2532 [0.0525] AU
Ag = 3615.73 [20575.28] [0.18] σ
Teff = 9447 [13418] K [0.65] σ

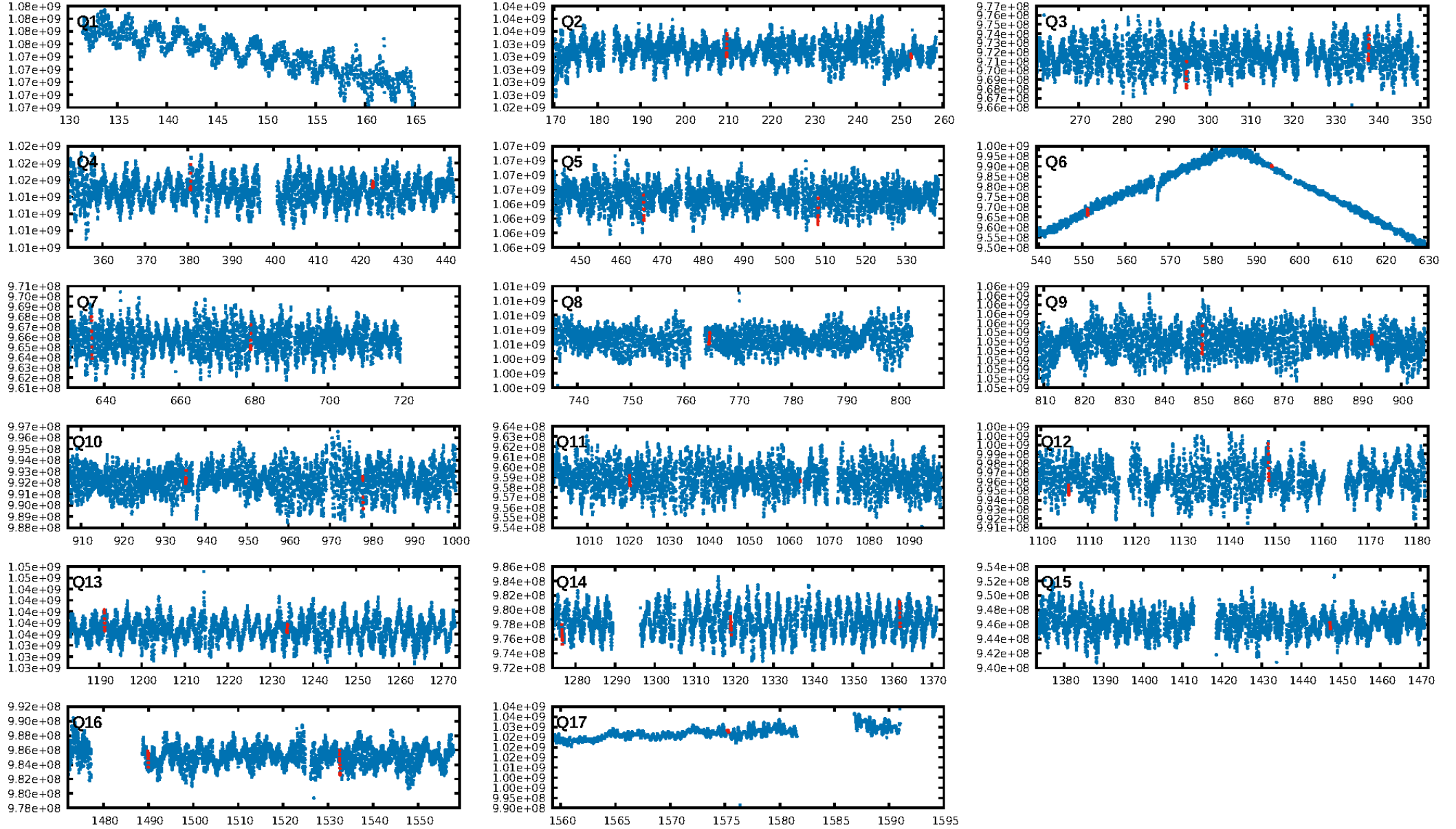
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [205.61] σ
LongPeriod-sig: 100.0% [189.43] σ
ModelChiSquare2-sig: 24.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: -21.19
Centroid-sig: 2.5%
Centroid-so: 1.056 arcsec [1.35] σ
OotOffset-rm: 3.881 arcsec [4.18] σ
KicOffset-rm: 1.588 arcsec [5.40] σ
OotOffset-st: 2/4/3/4 [13]
KicOffset-st: 2/4/3/4 [13]
DiffImageQuality-fgm: 0.46 [6/13]
DiffImageOverlap-fno: 0.00 [0/15]

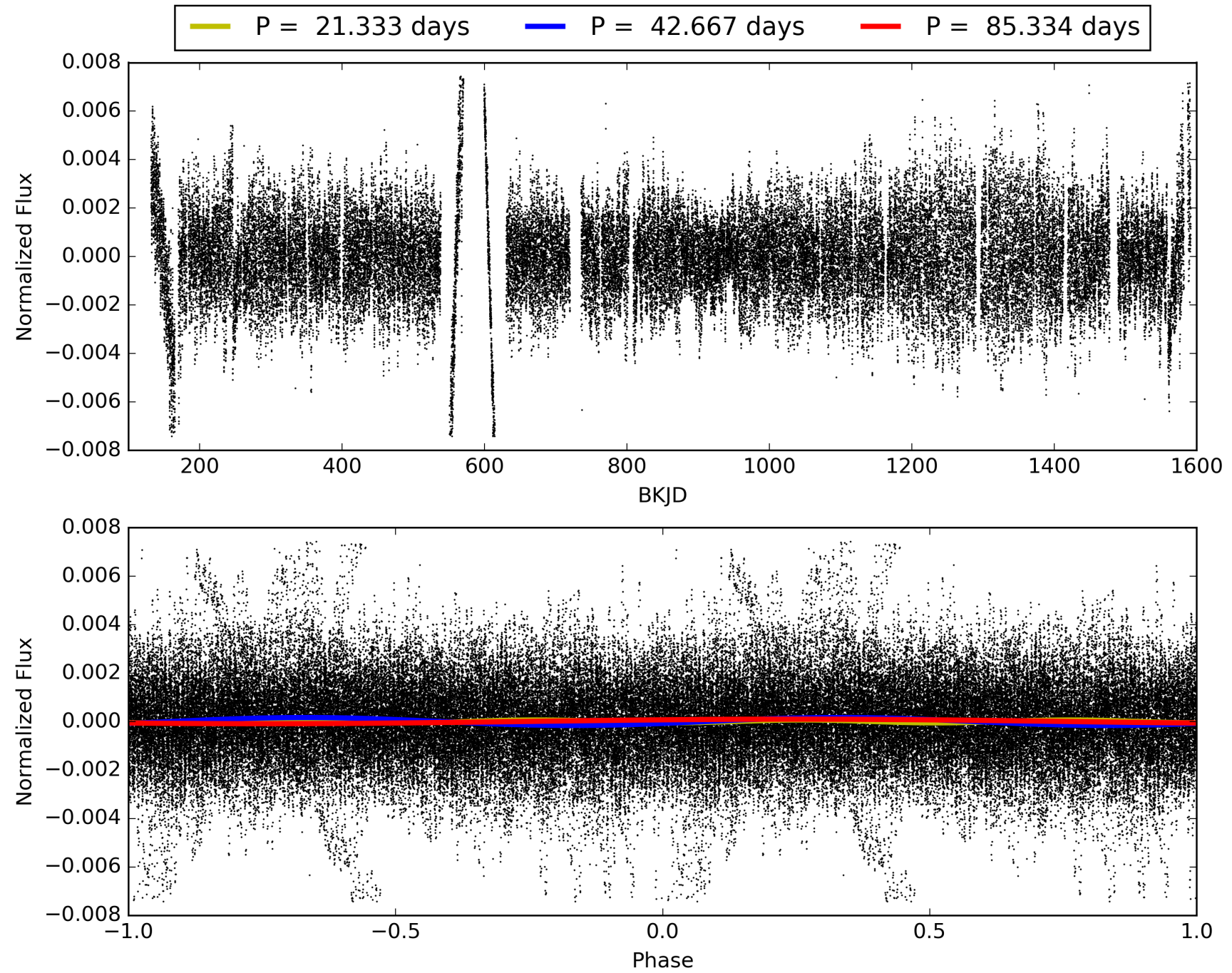
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 03-Feb-2016 08:11:42 Z

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

TCE 006301745-07, PDC Light Curves

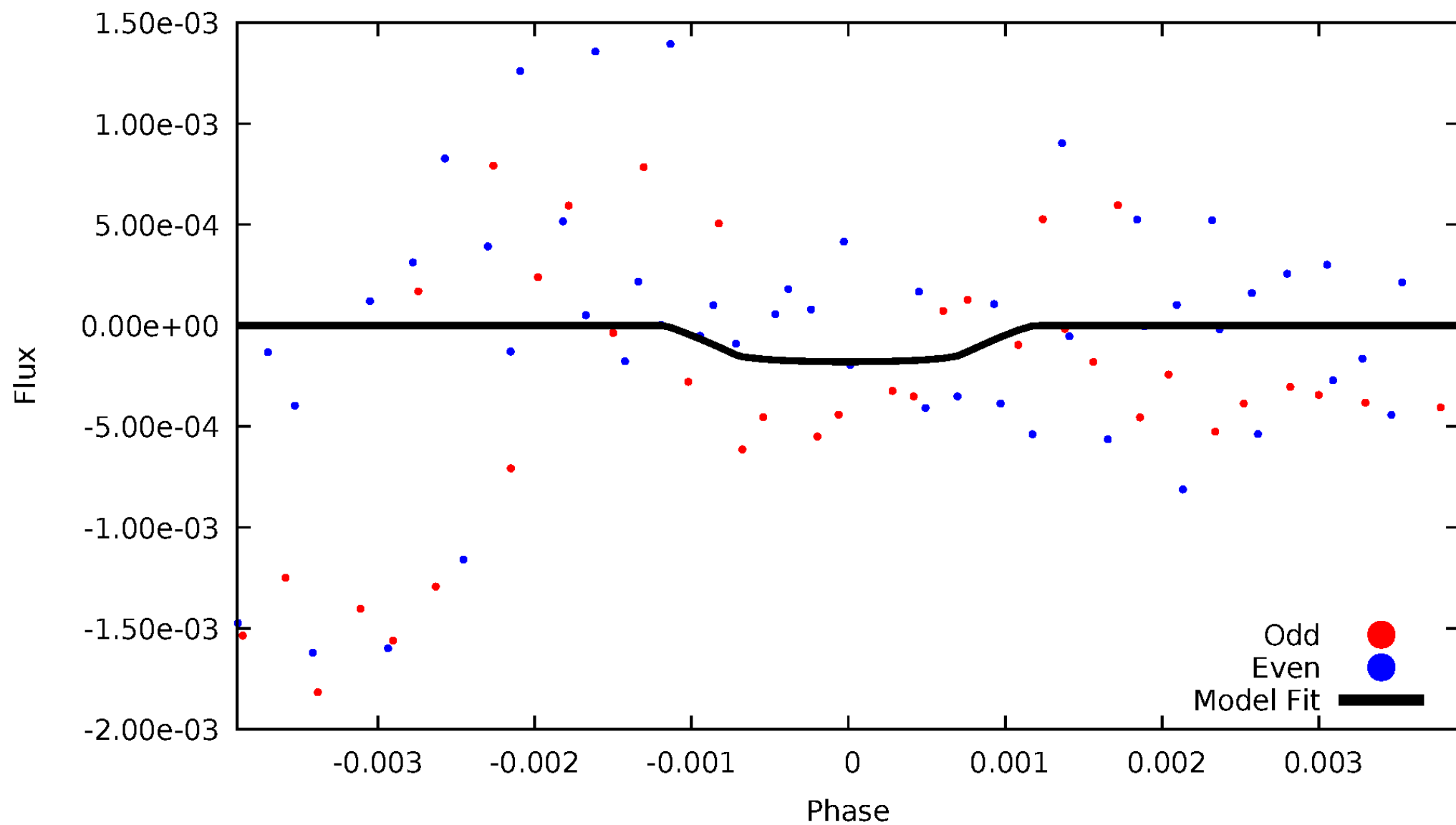


TCE 006301745-07



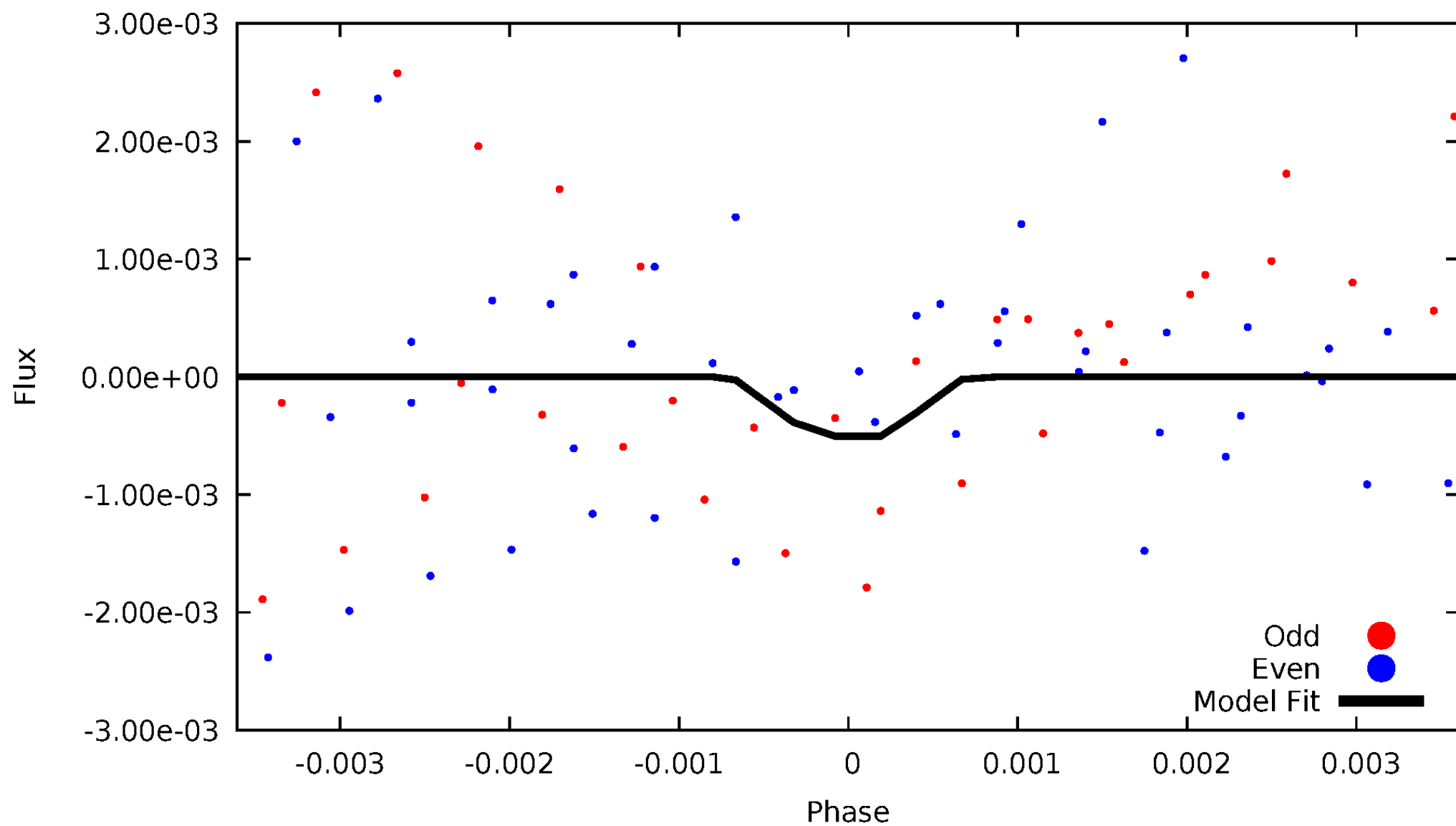
DV Odd/Even

TCE 006301745-07



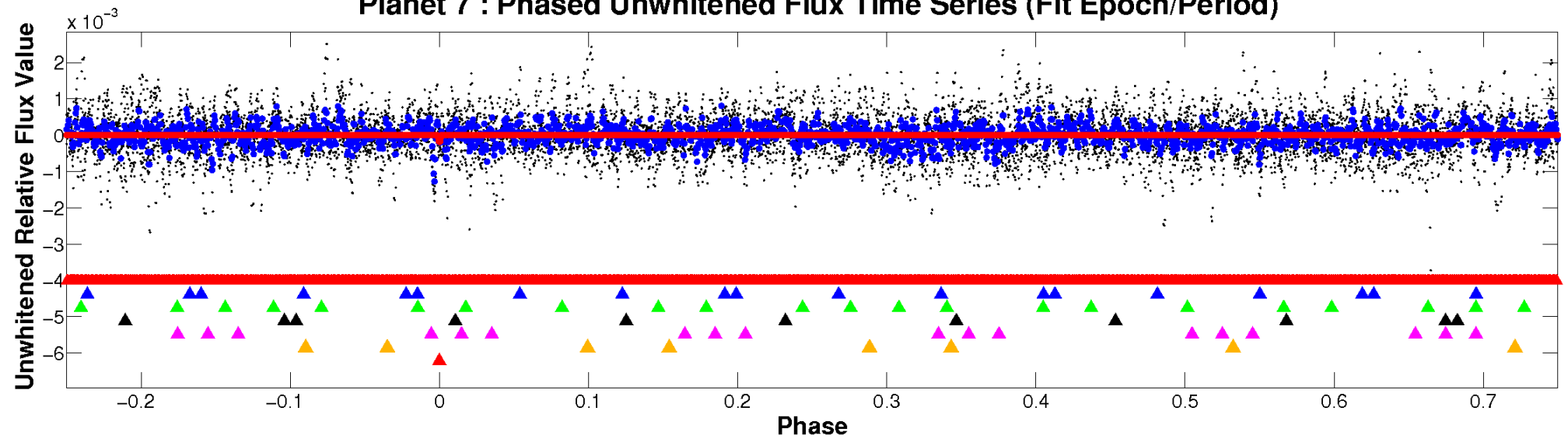
ALT Odd/Even

TCE 006301745-07

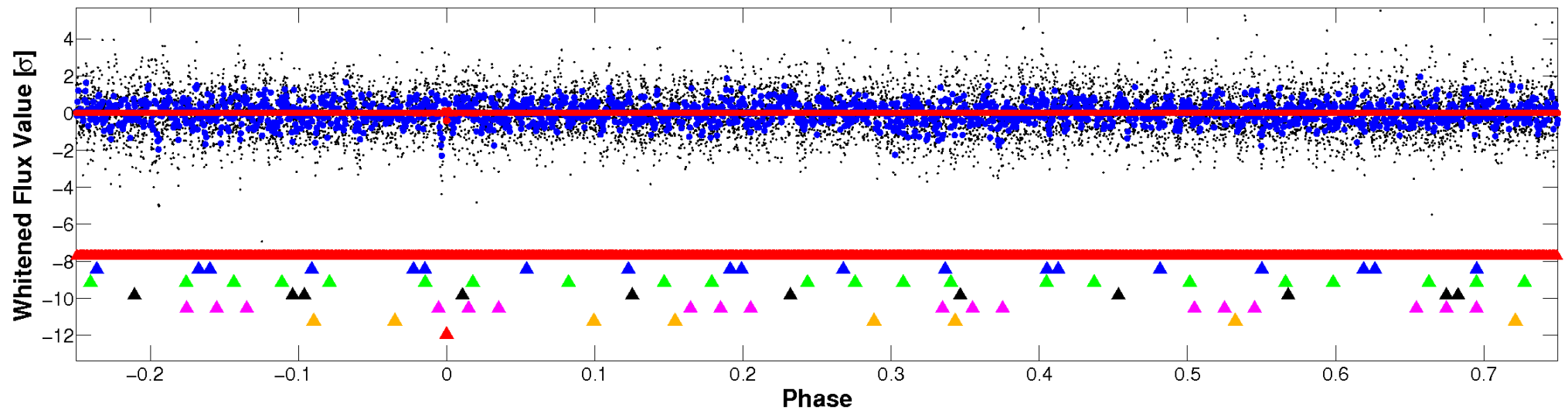


Non-Whitened Vs. Whitened Light Curve

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

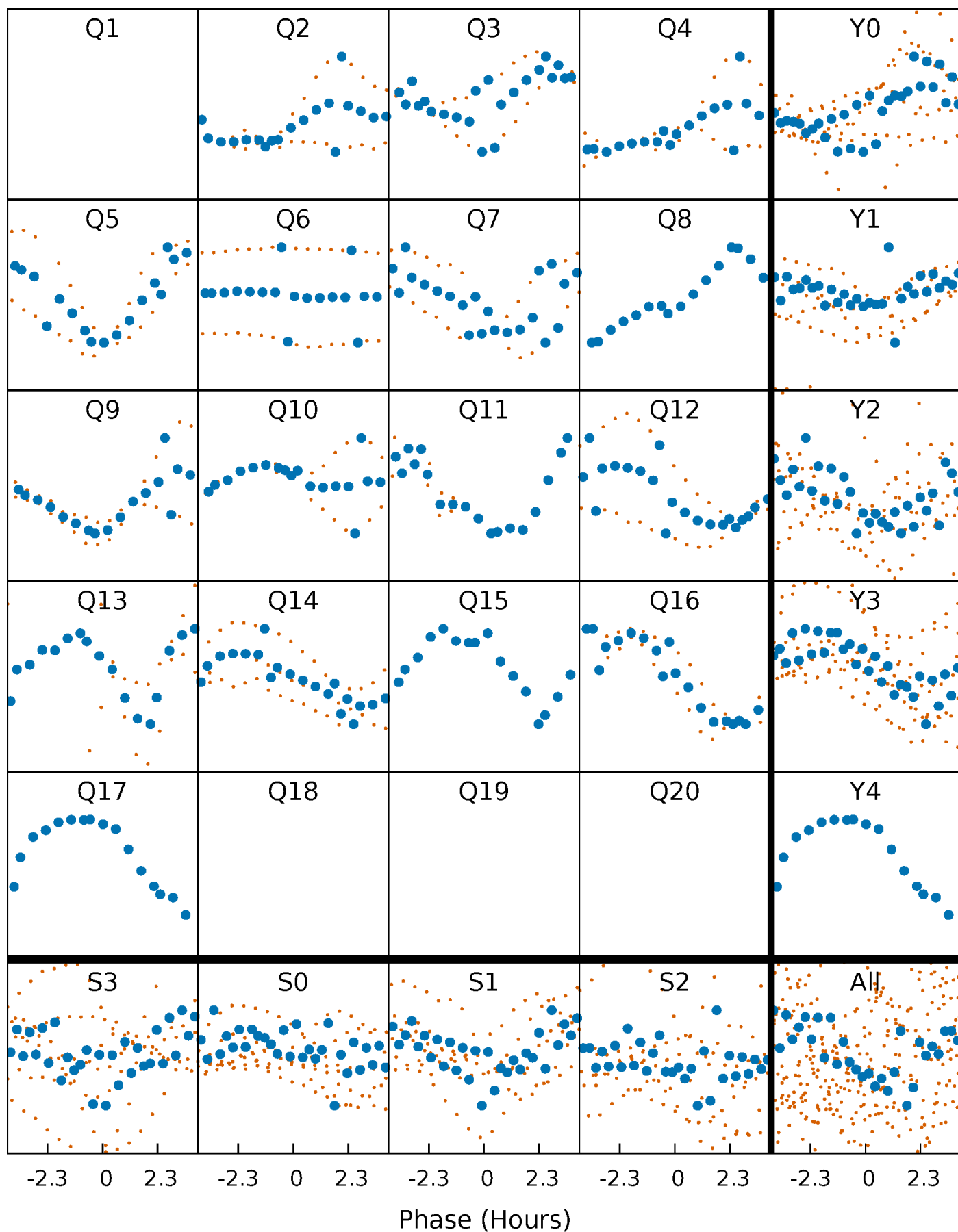


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



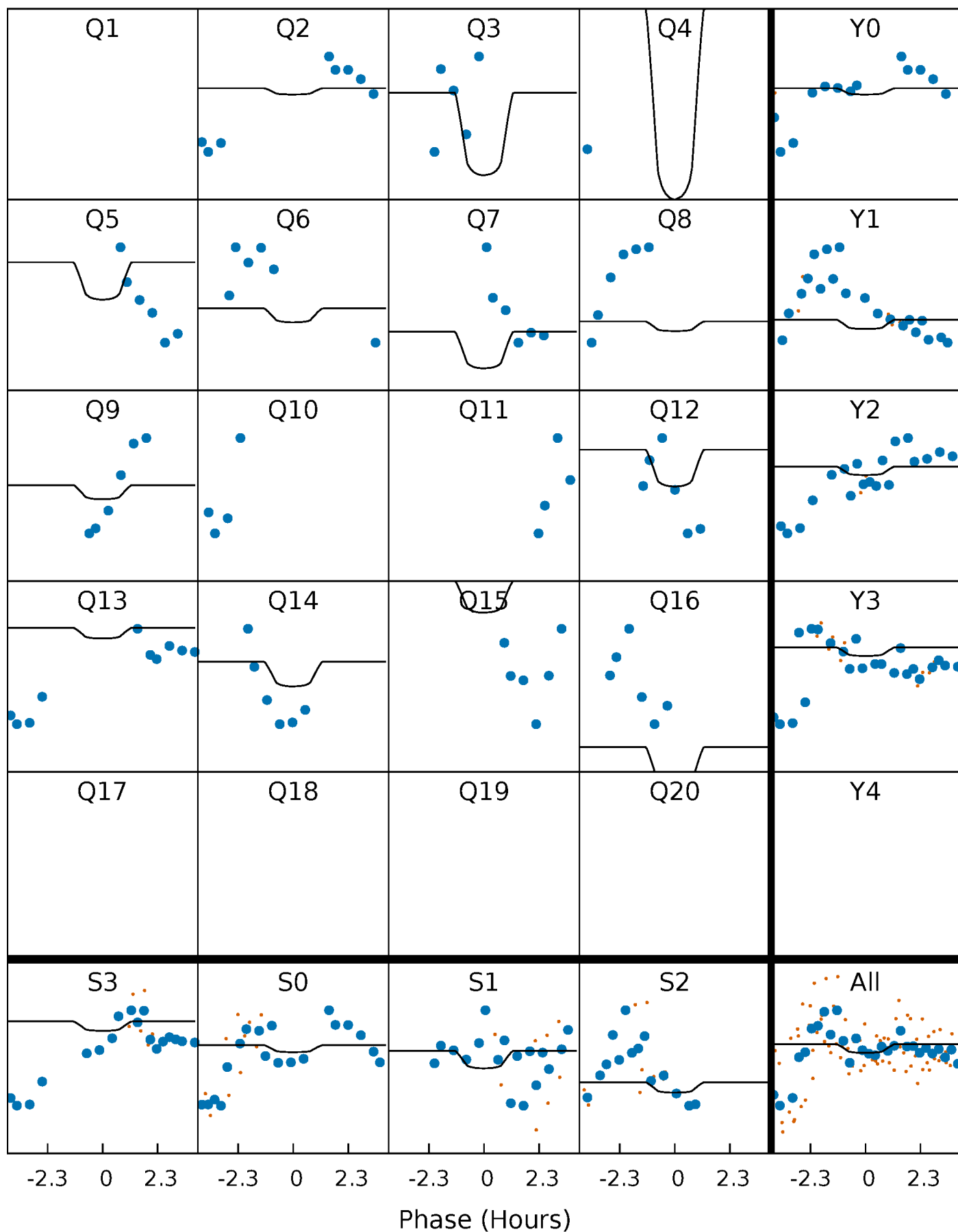
PDC Quarter-Phased Transit Curves

TCE 006301745-07 P= 42.666979 Days $T_0=167.272969$ (BKJD)



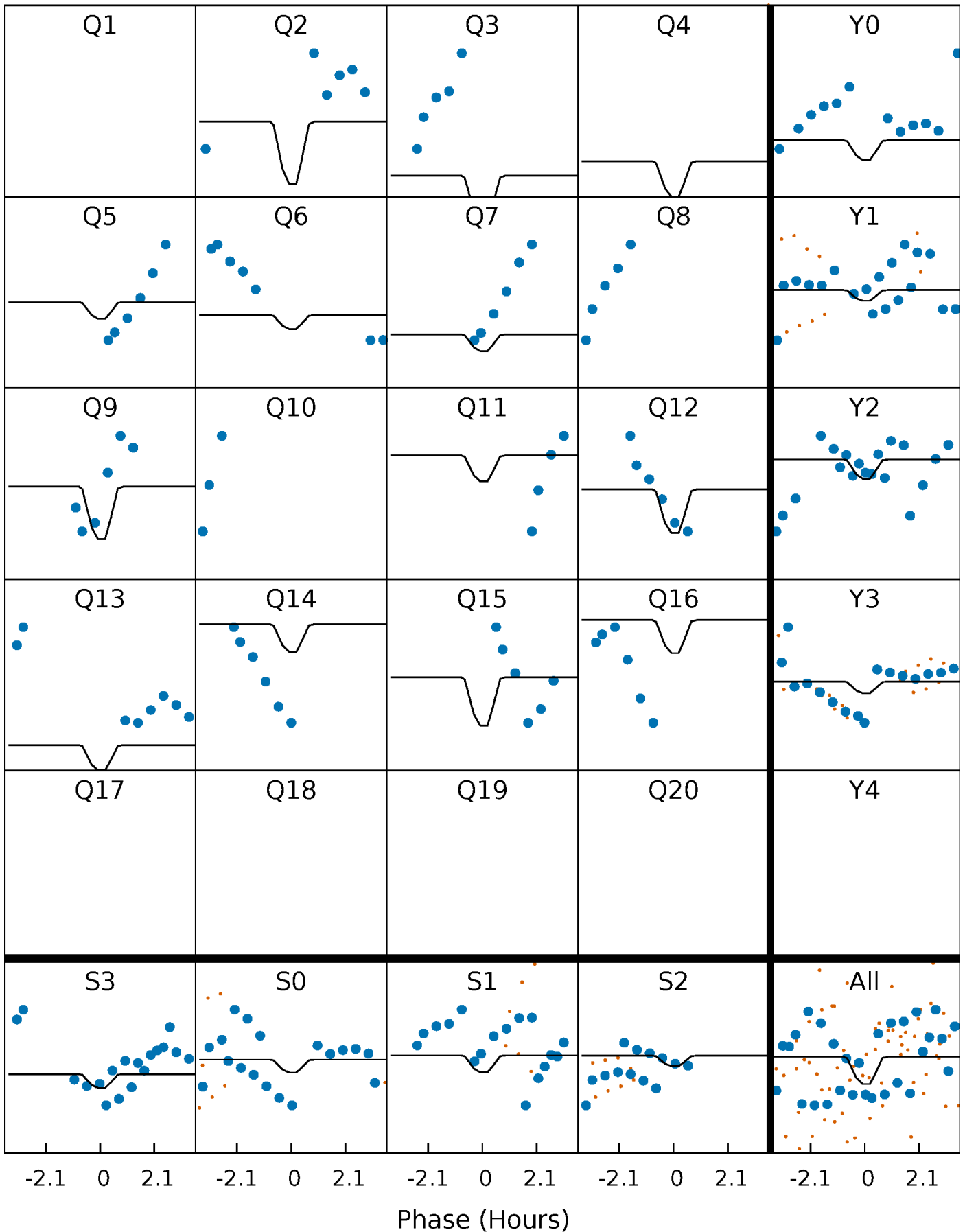
DV Quarter-Phased Transit Curves

TCE 006301745-07 $P = 42.666979$ Days $T_0 = 167.272969$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

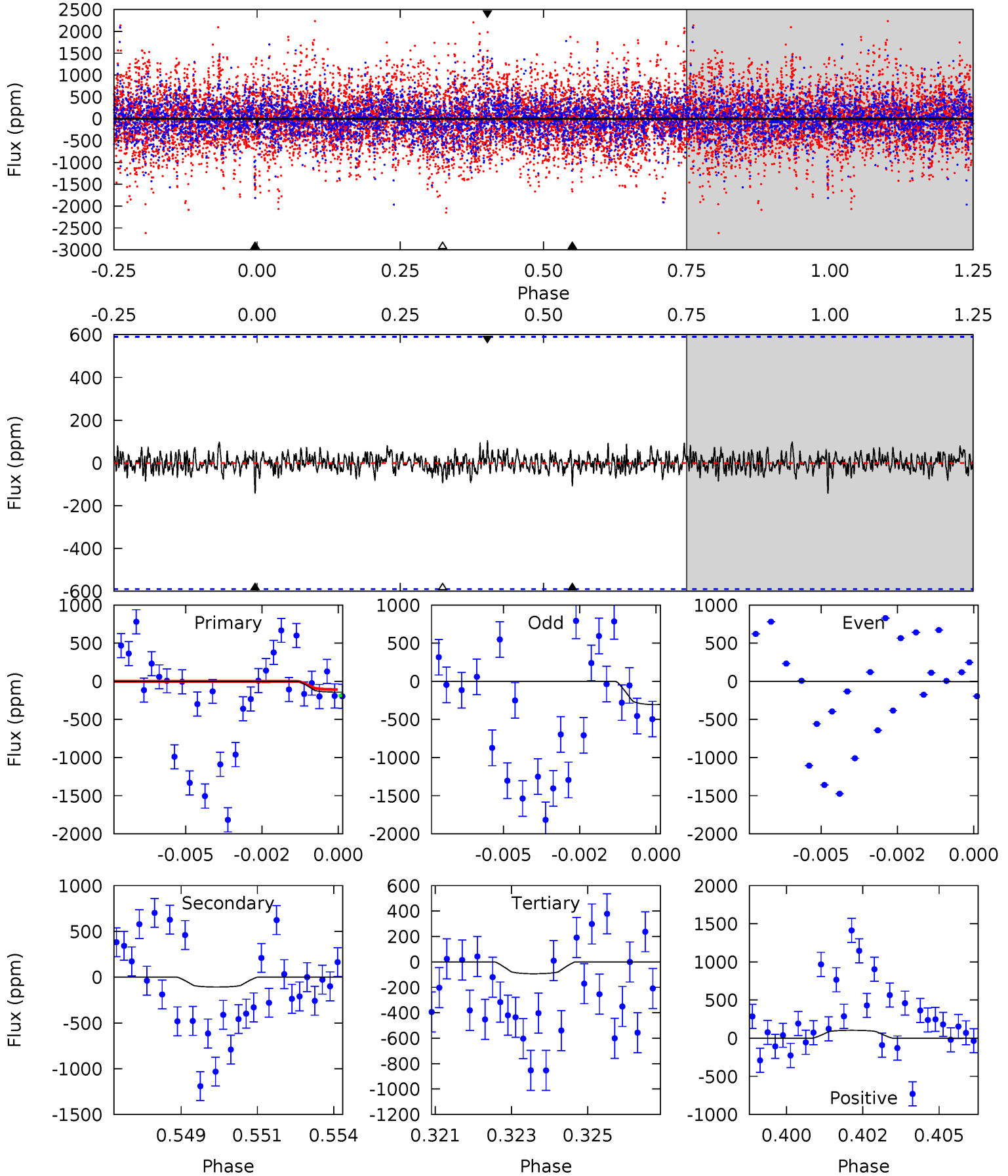
TCE 006301745-07 $P = 42.666757$ Days $T_0 = 167.292124$ (BKJD)



DV Model-Shift Uniqueness Test

006301745-07, $P = 42.666979$ Days, $E = 124.605990$ Days

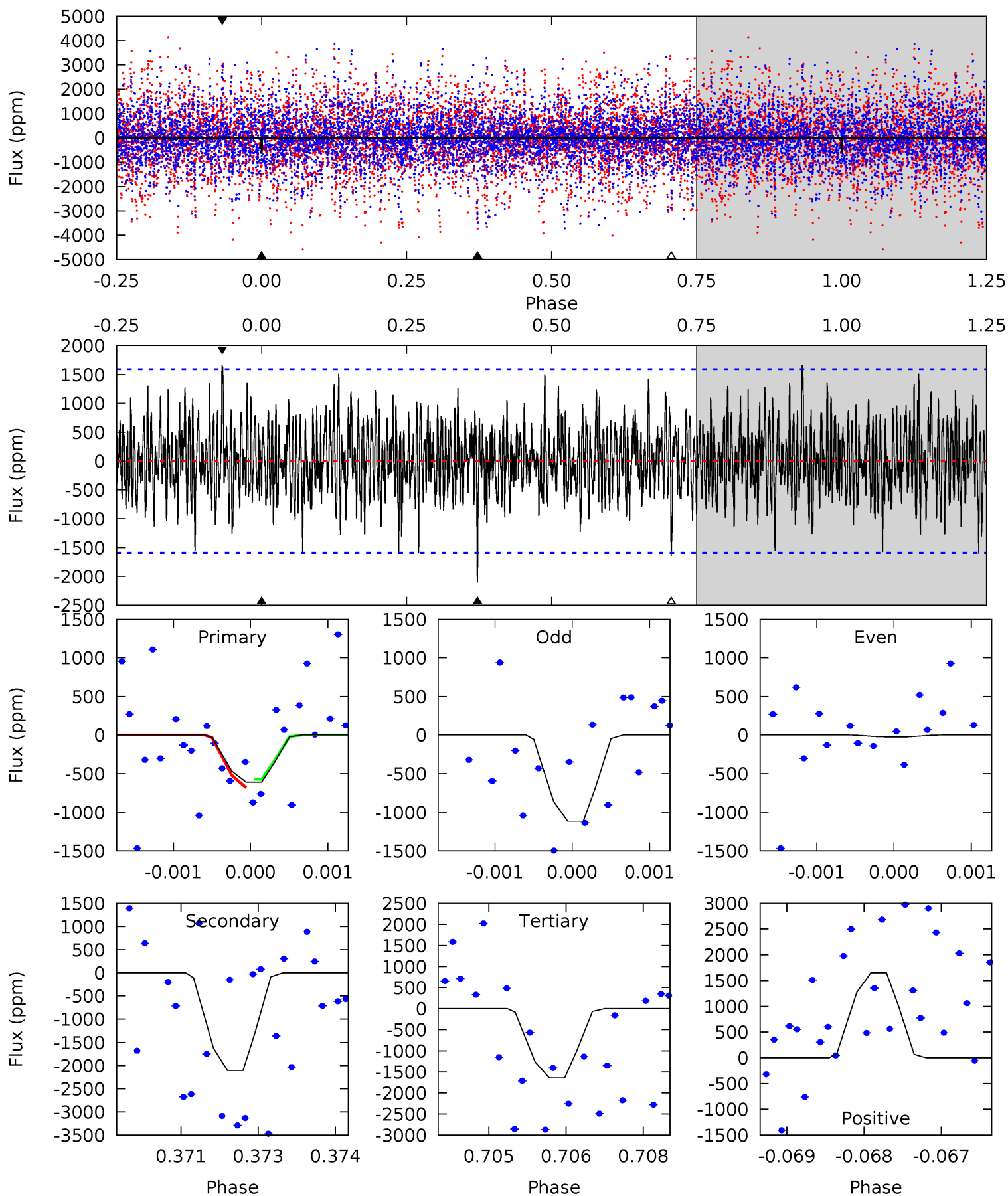
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.28	0.97	0.84	0.93	5.30	3.05	0.28	0.45	0.35	0.13	0.04	1.32	1.08	0.42	0.36



Alt Model-Shift Uniqueness Test

006301745-07, $P = 42.666757$ Days, $E = 124.625367$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.07	7.15	5.57	5.61	5.40	3.21	1.73	-3.50	-3.54	1.58	1.55	1.83	2.20	0.44	0.18



Stellar Parameters For KIC 006301745

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6735^{+122}_{-136}	$4.012^{+0.195}_{-0.105}$	$-0.440^{+0.150}_{-0.150}$	$1.781^{+0.313}_{-0.383}$	$1.190^{+0.146}_{-0.097}$	$0.297^{+0.310}_{-0.095}$
	+2%/-2%	+5%/-3%	+34%/-34%	+18%/-22%	+12%/-8%	+104%/-32%
Source	SPE4	SPE4	SPE4	DSEP		

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

Secondary Eclipse Parameters for KIC 006301745-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-108 ± 111	$5.45^{+6.51}_{-3.83}$	1092^{+57}_{-65}	3943^{+3282}_{-6235}	84^{+1208}_{-85}
Alt.	-2106 ± 294	$6.95^{+6.27}_{-4.59}$	1089^{+55}_{-63}	7666^{+10176}_{-2219}	1618^{+12265}_{-1189}

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

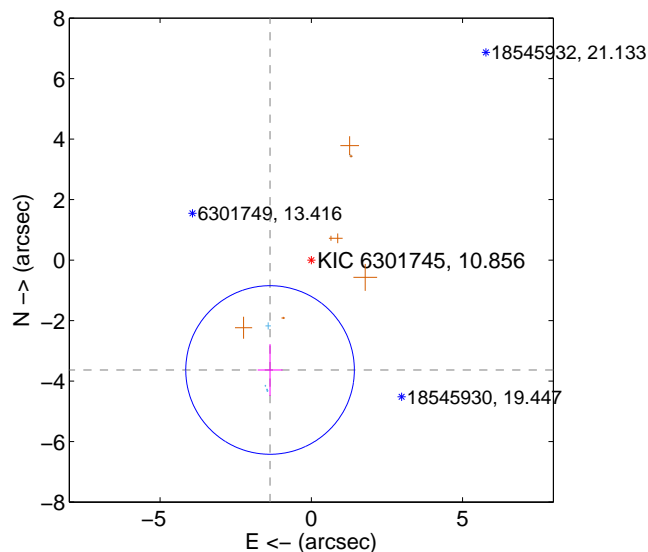
Supplemental centroid analysis for 006301745-07. **Kepler magnitude: 10.86**. Transit SNR 1.82

There are 6 quarters with good PRF difference image offsets

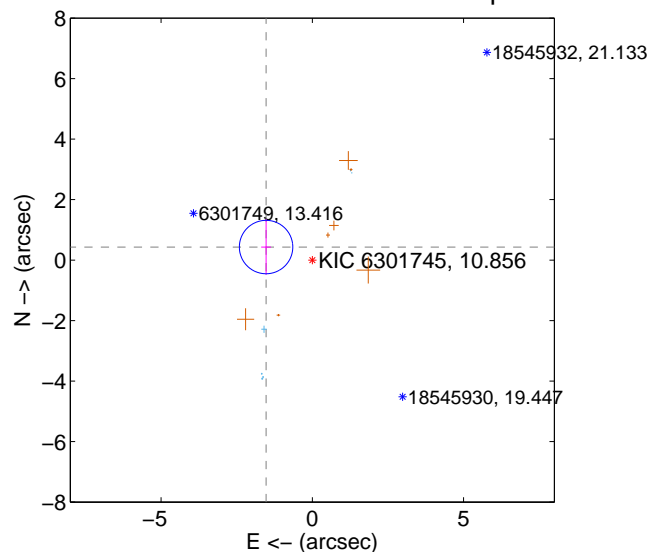
The direct PRF centroid is offset from the target star catalog position by about 0.45 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.881 ± 0.929	4.18	1.364 ± 0.411	-3.633 ± 0.858
PRF-fit source offset from KIC position	1.588 ± 0.294	5.40	1.529 ± 0.162	0.432 ± 0.918
photometric centroid source offset	1.06 ± 0.78	1.35	-1.00 ± 0.78	0.34 ± 0.77

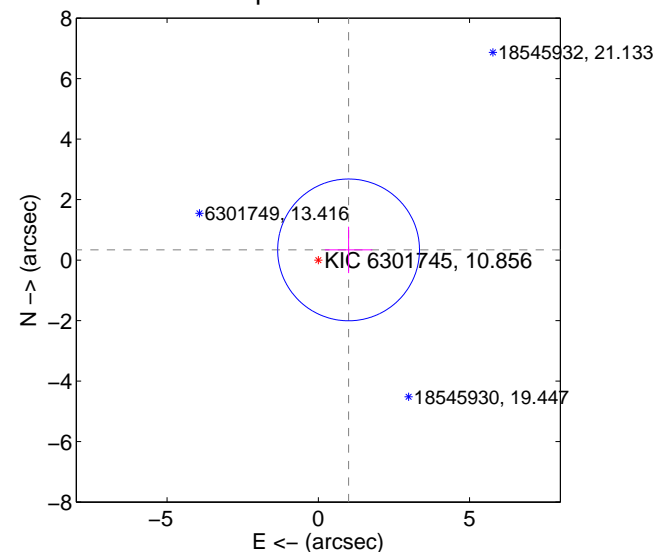
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

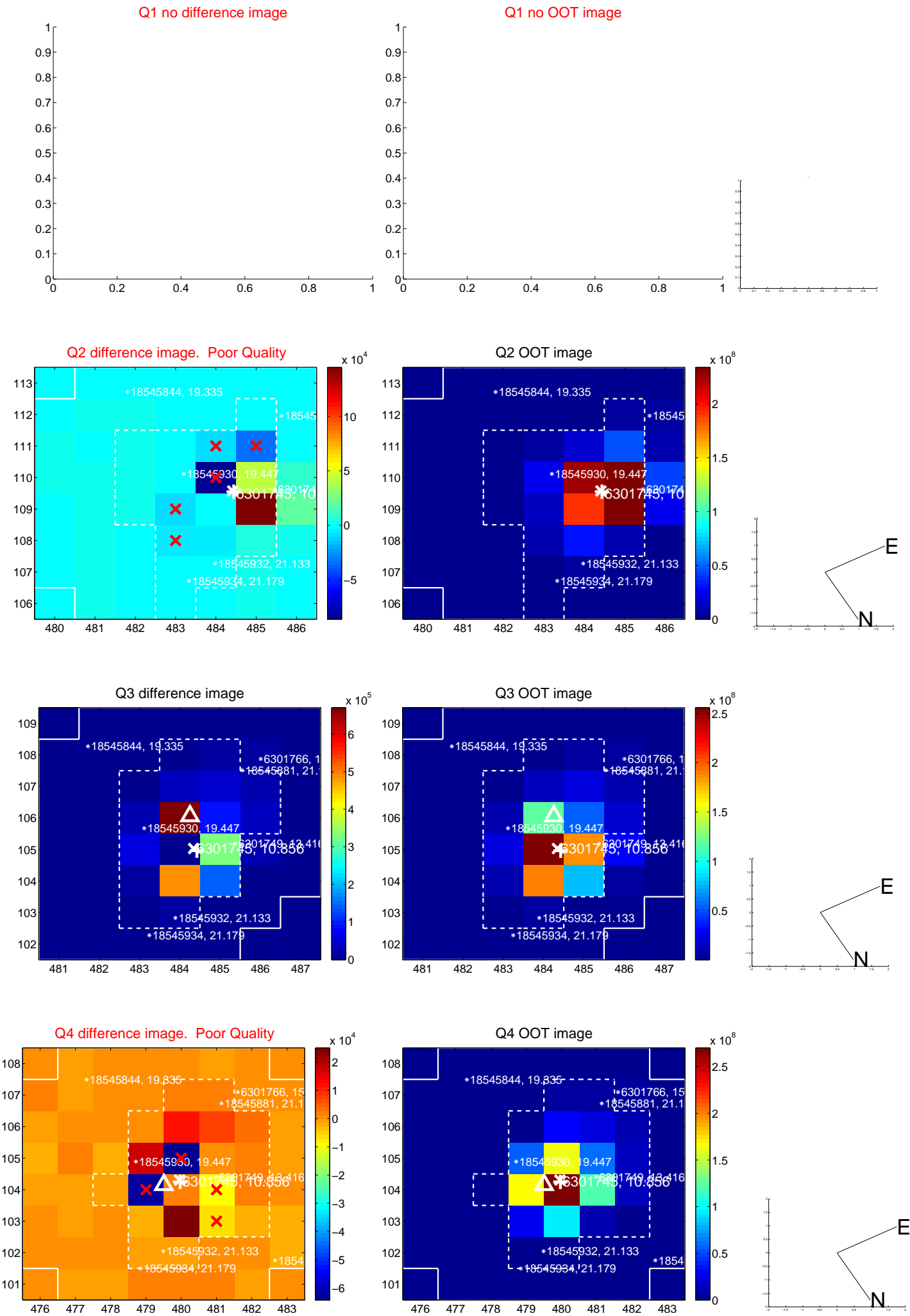


offset from photometric centroids

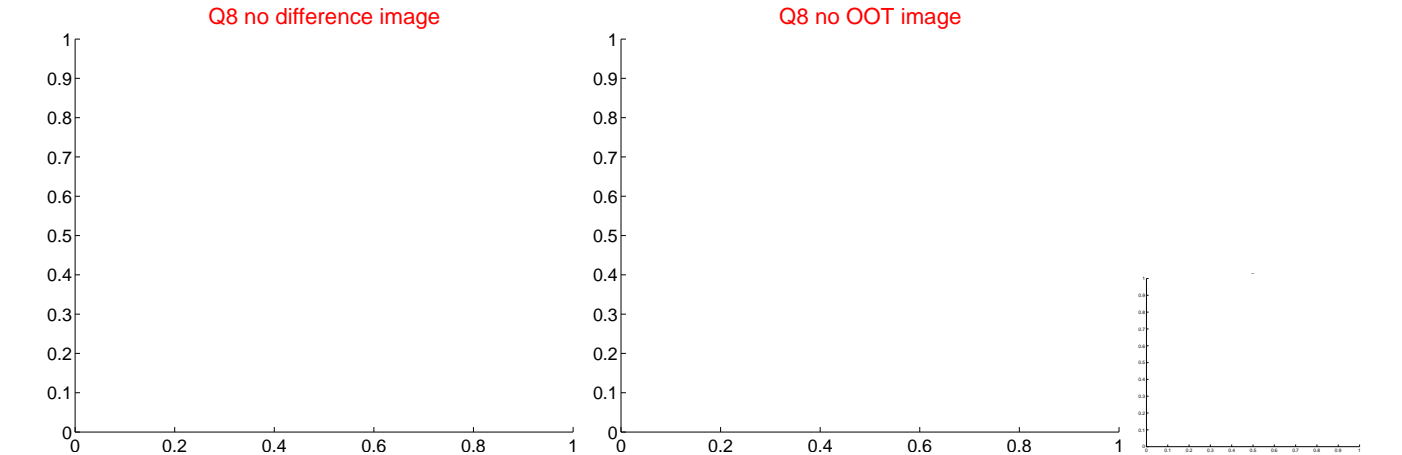
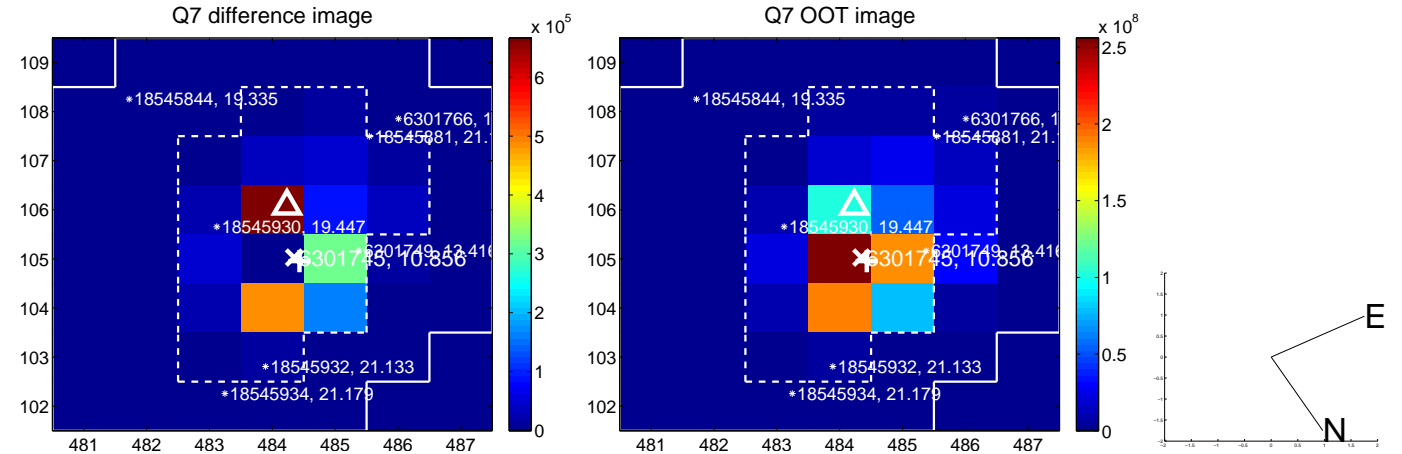
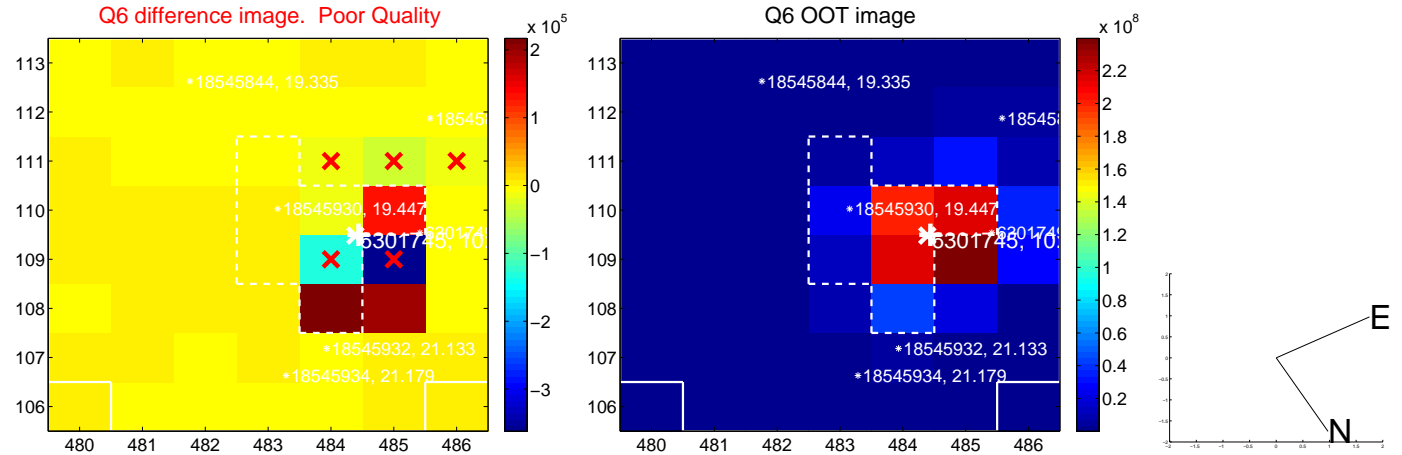
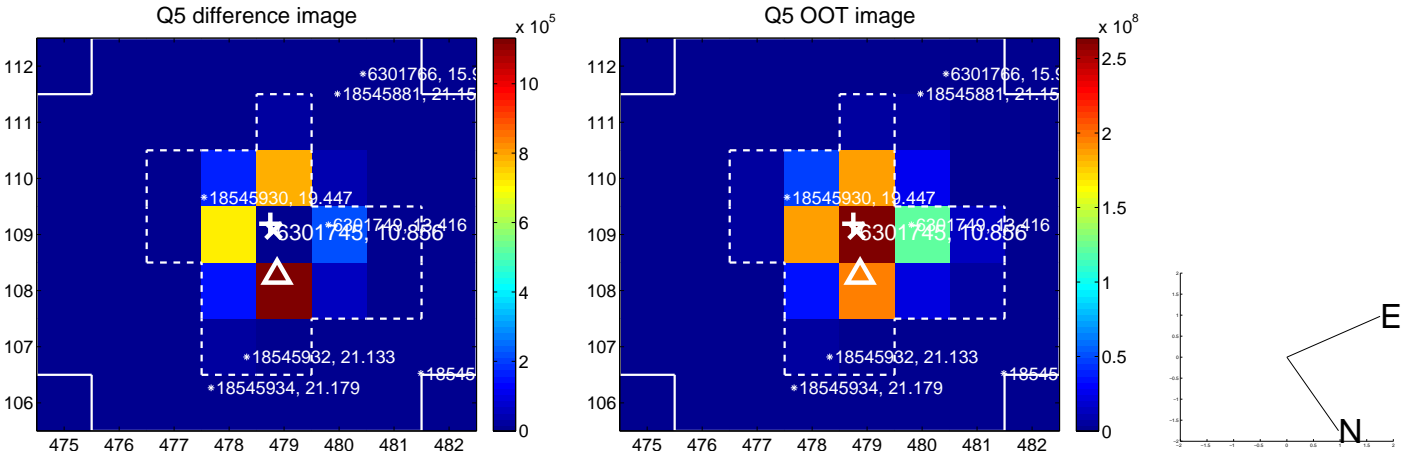


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

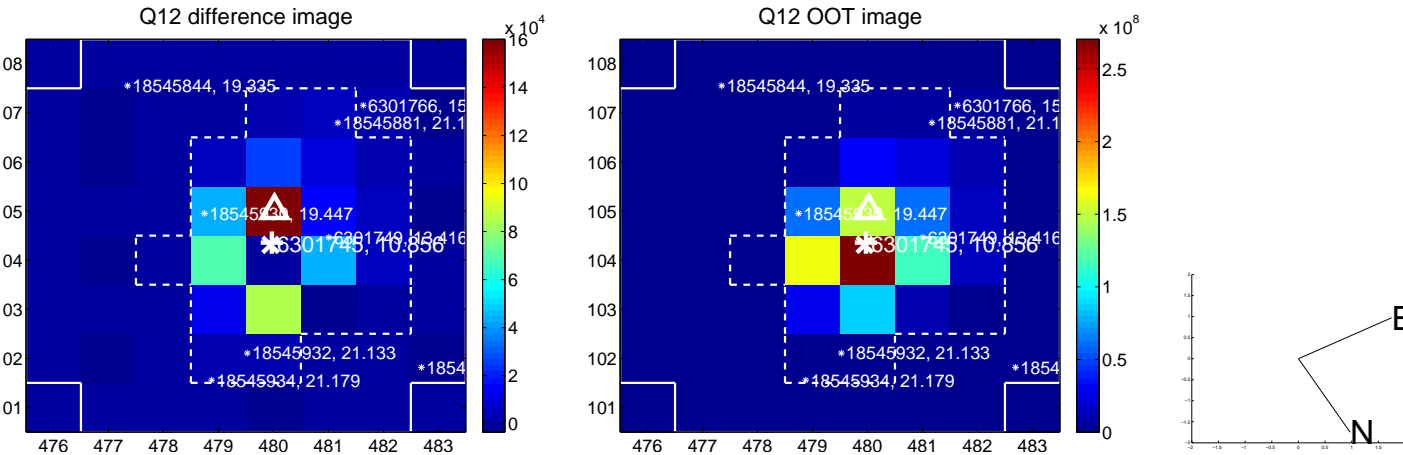
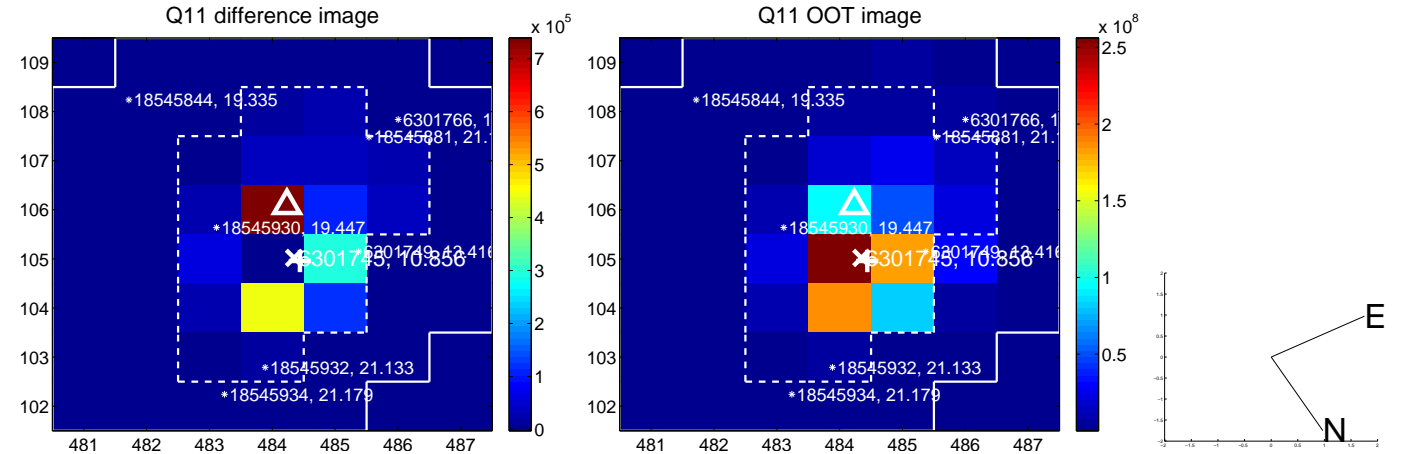
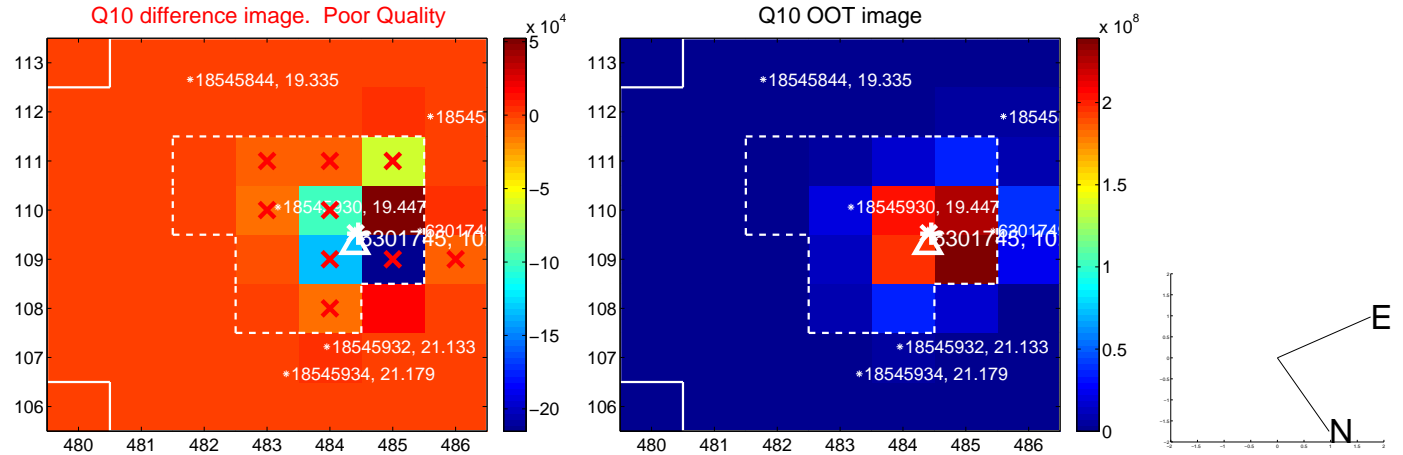
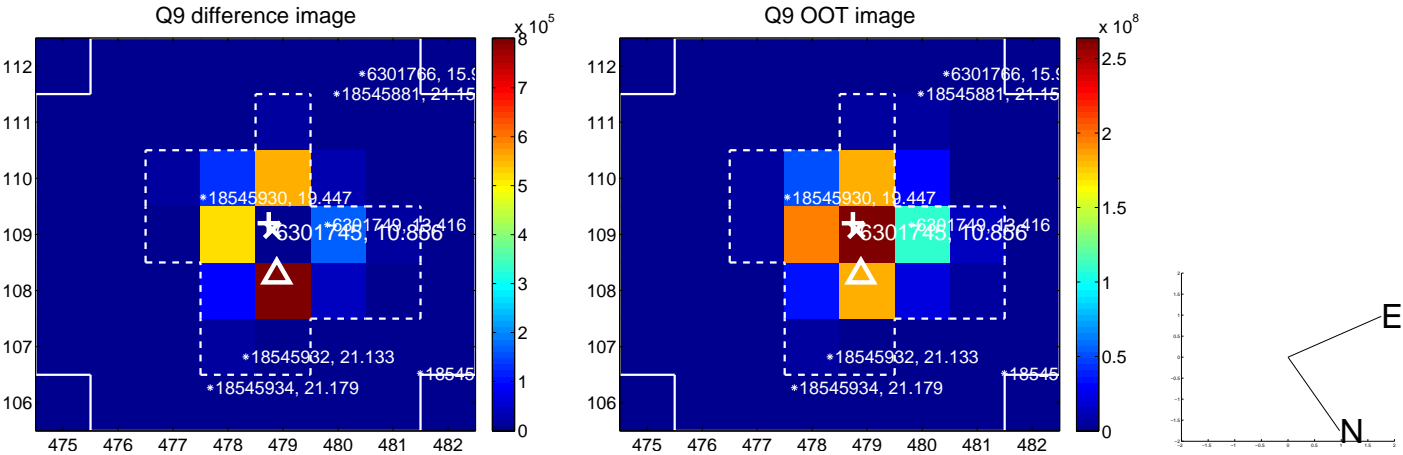
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



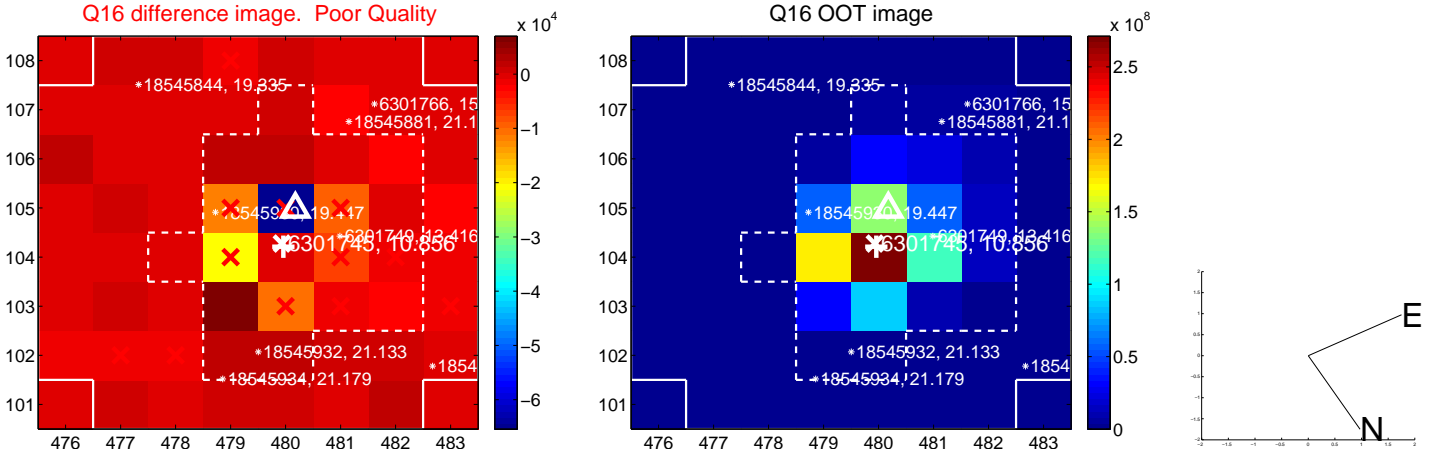
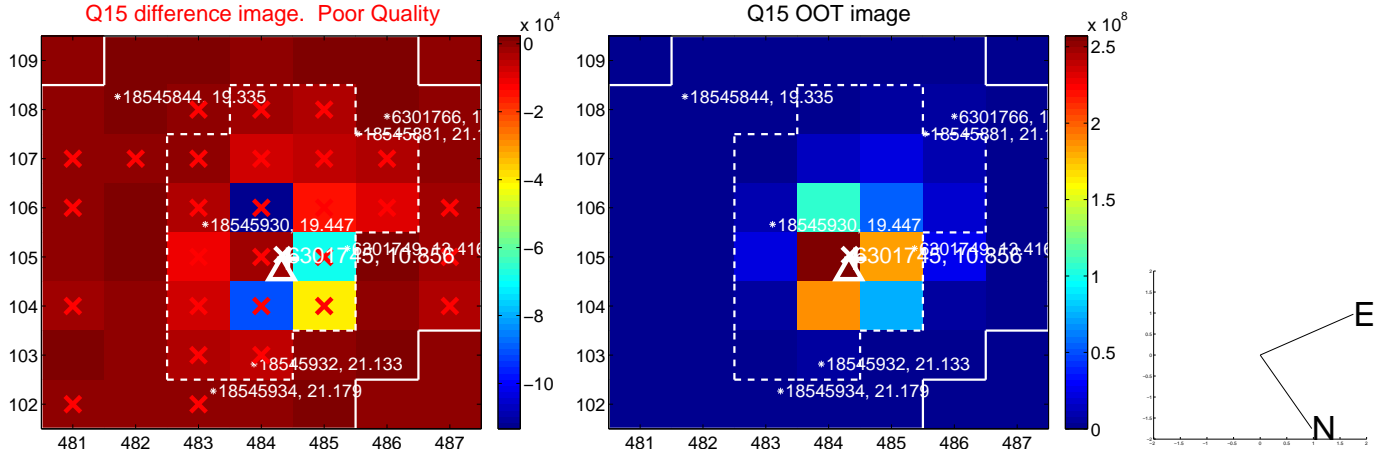
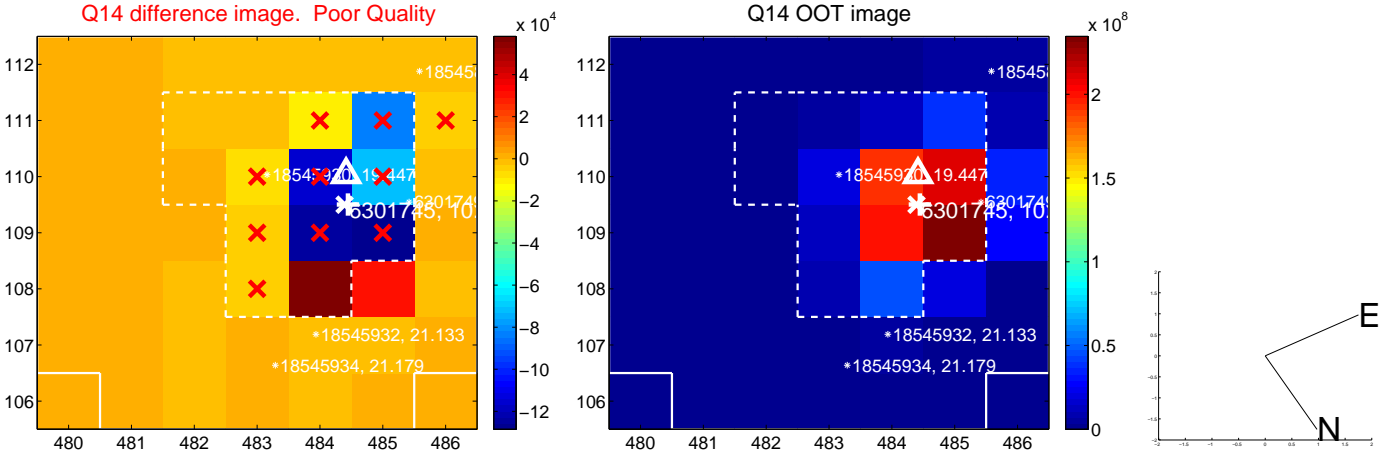
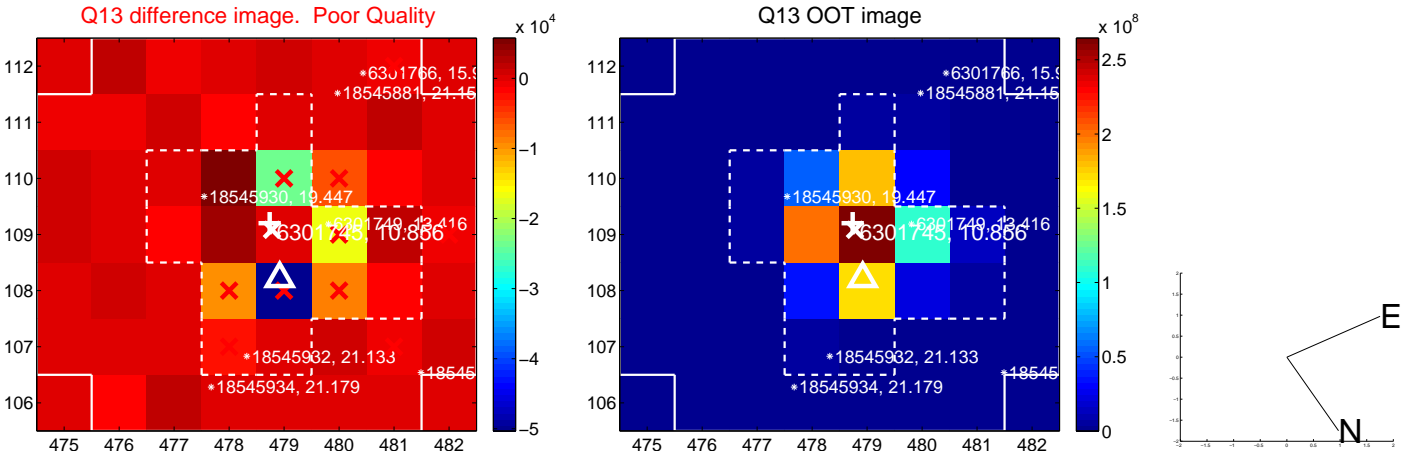
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



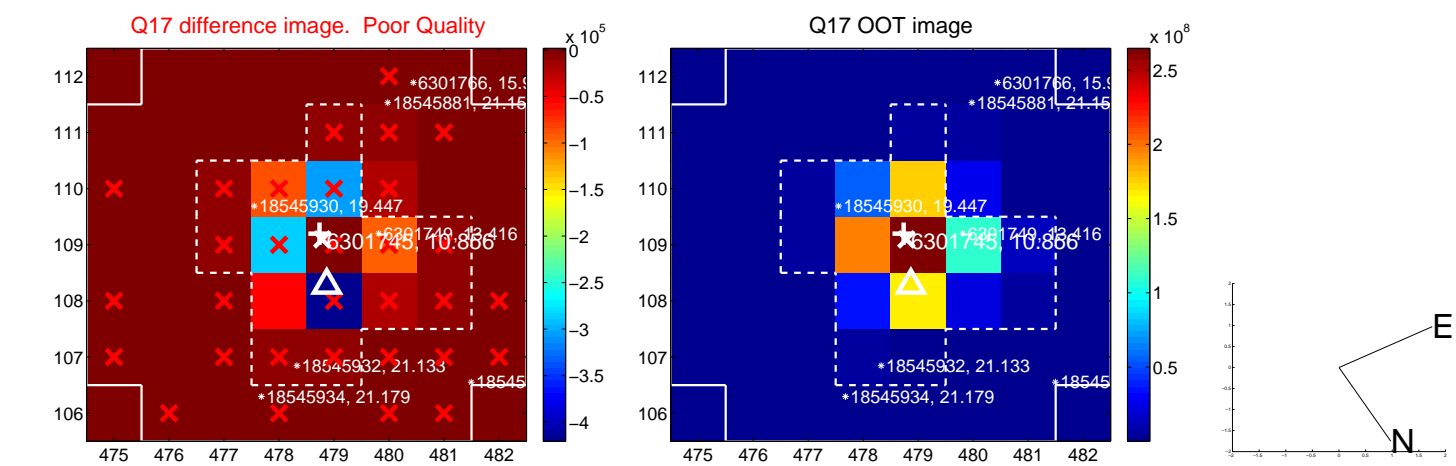
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



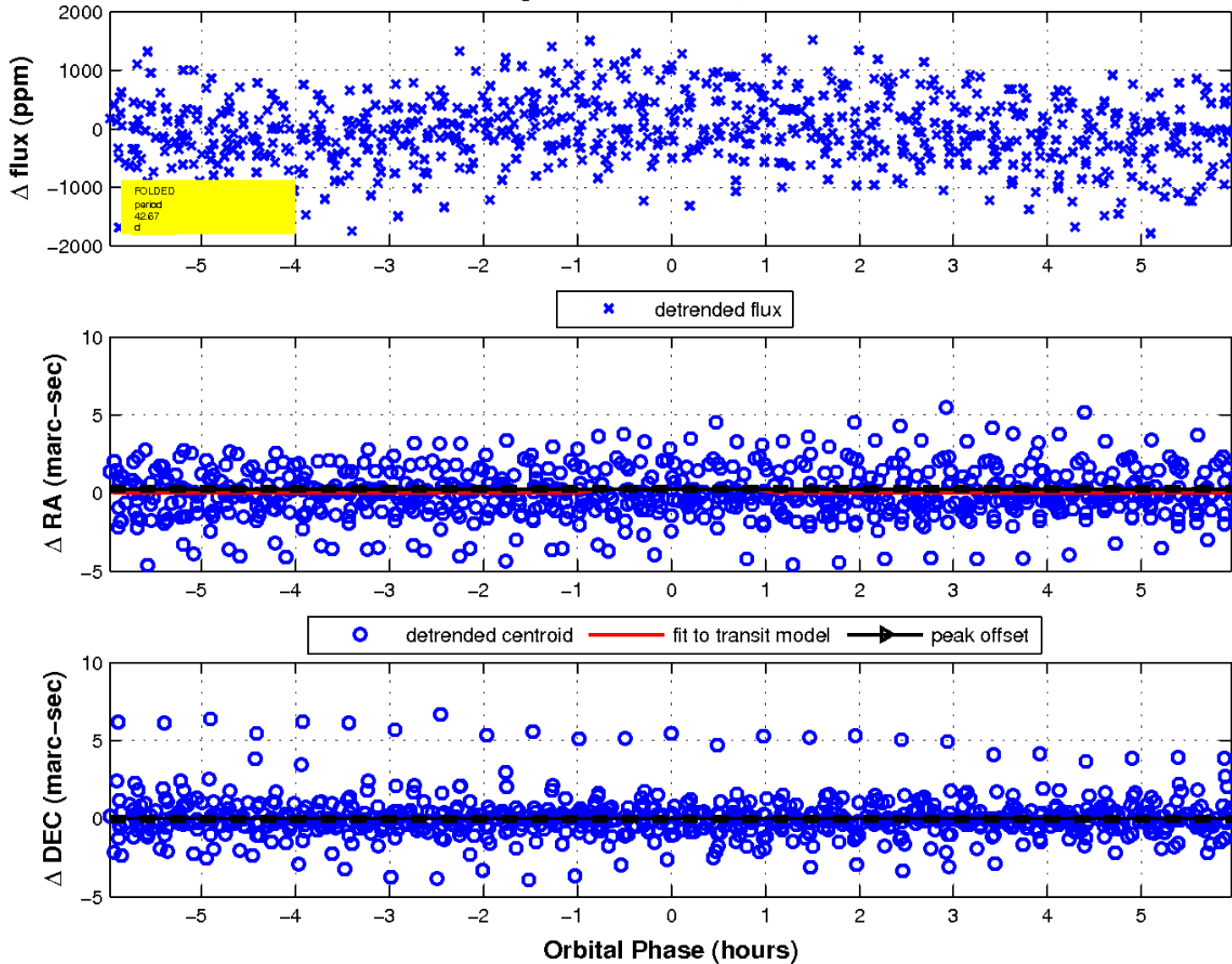
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 7 of 7



UKIRT Image

