

KIC 007461436

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})
007461436-01	OBS	No	0.962490	131.517805	223.5	3.500	11.9	-1.0	1.59	7379	2.42	13463.76
007461436-02	OBS	No	245.215200	288.172625	155.6	13.988	10.2	7.3	1.59	7379	2.17	8.34
007461436-03	OBS	No	403.425138	379.322005	264.8	16.706	9.5	9.7	1.59	7379	2.82	4.29
007461436-04	OBS	No	376.185715	420.905096	356.3	13.098	8.4	9.3	1.59	7379	3.28	4.71
007461436-05	OBS	No	221.947394	196.225956	145.1	17.460	7.7	7.5	1.59	7379	2.04	9.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007461436-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
007461436-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007461436-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007461436-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
007461436-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—CENT_FEW_DIFFS

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

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

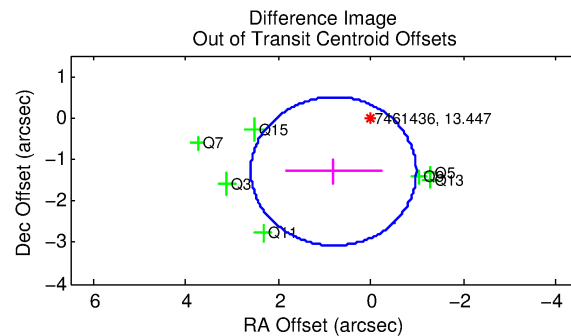
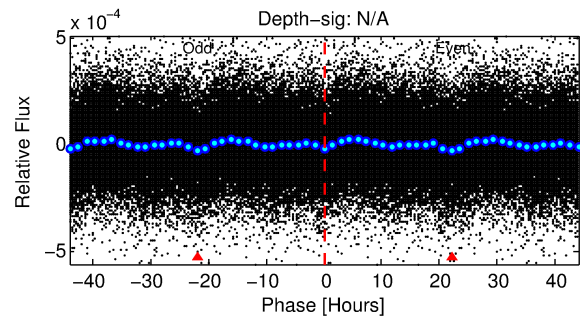
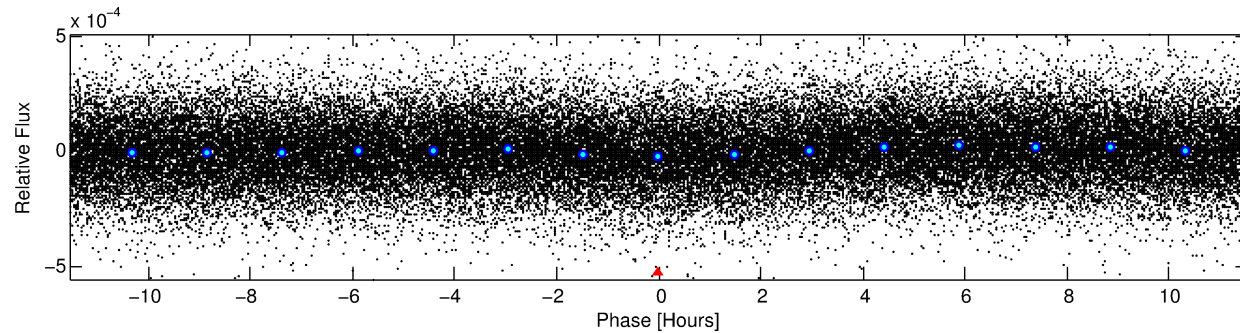
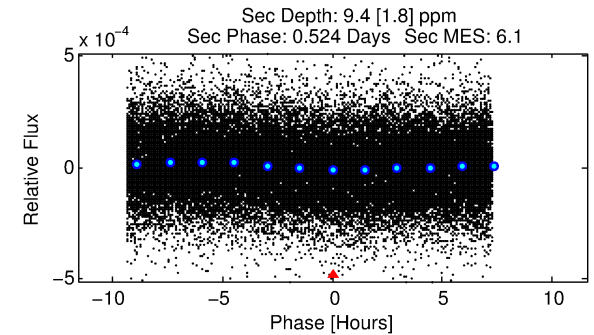
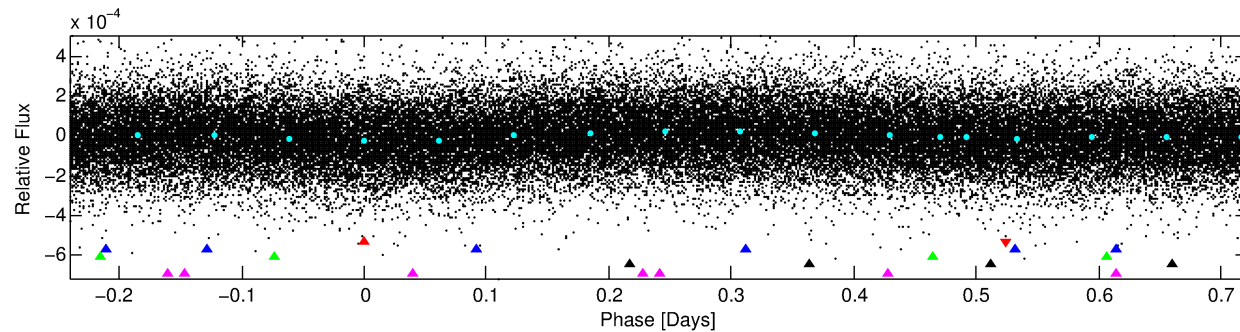
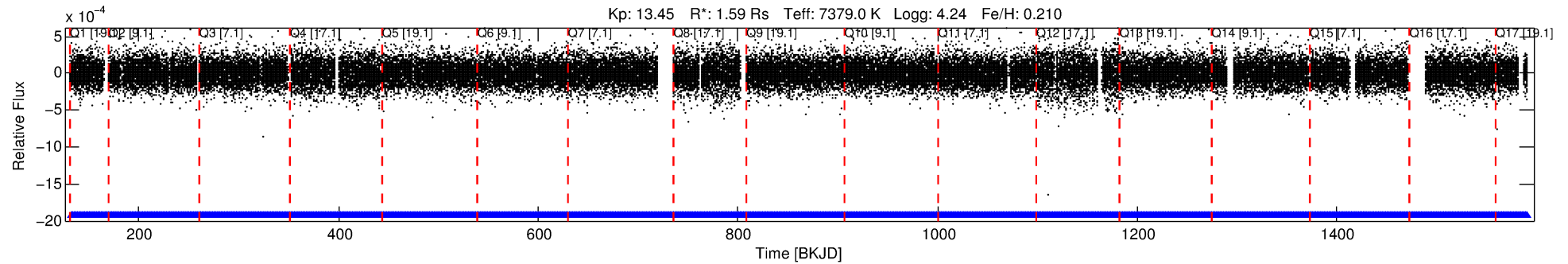
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007461436-01

No Significant Match Found

DV One-Page Summary

KIC: 7461436 Candidate: 1 of 5 Period: 0.962 d



TPS TCE Results:

Period = 0.96249 d
Epoch = 131.5178 BKJD

DV fit results are unavailable

DV Diagnostic Results:

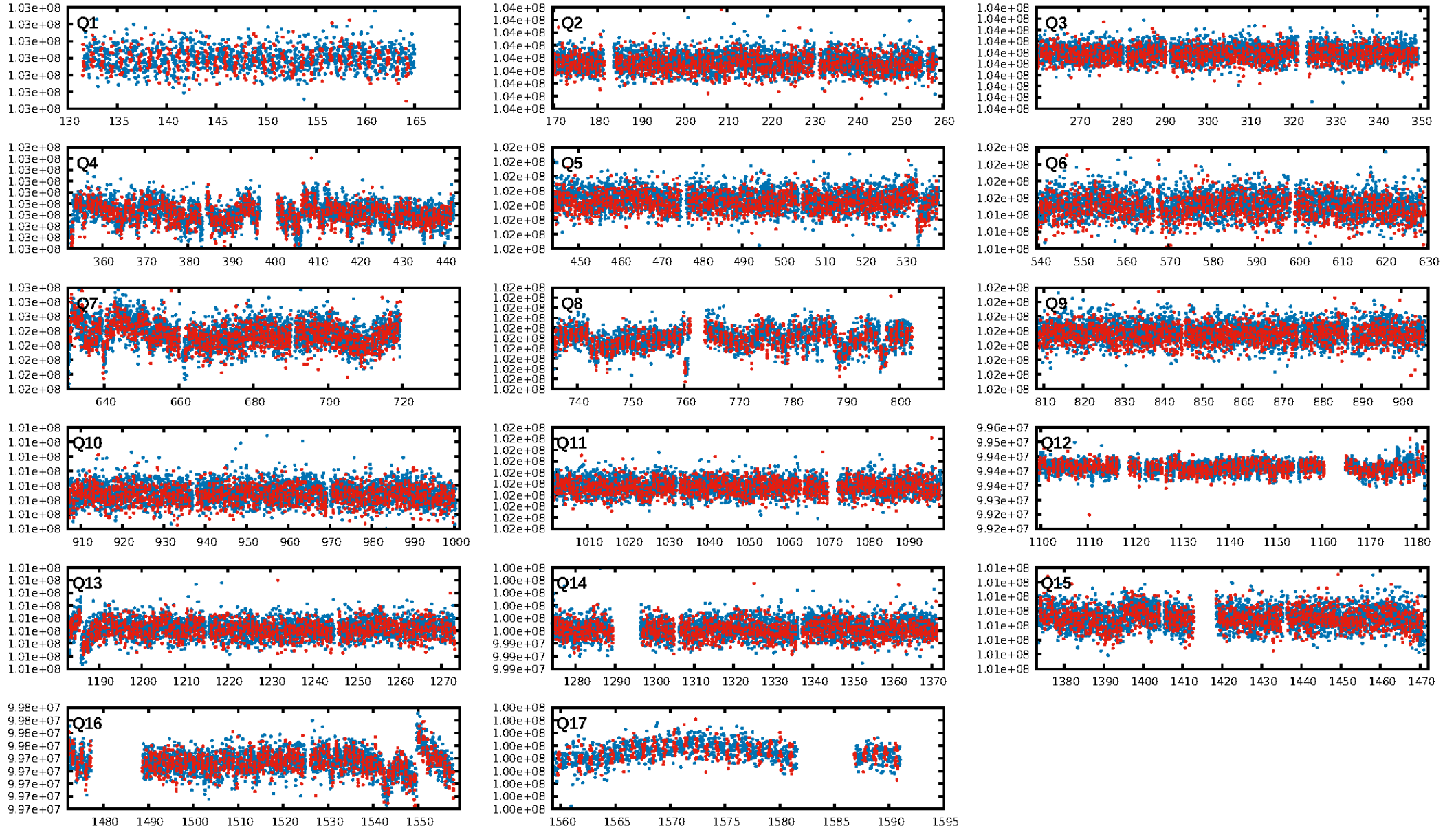
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [297.83σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.06e-28
RollingBand-fgt: 1.00 [1341/1341]
GhostDiagnostic-chr: 1.952

Centroid-sig: 0.1%
Centroid-so: 0.609 arcsec [2.14σ]
OotOffset-rm: 1.518 arcsec [2.55σ]
KicOffset-rm: 1.478 arcsec [2.53σ]
OotOffset-st: 0/4/0/3 [7]
KicOffset-st: 0/4/0/3 [7]
DiffImageQuality-fgm: 1.00 [7/7]
DiffImageOverlap-fno: 1.00 [17/17]

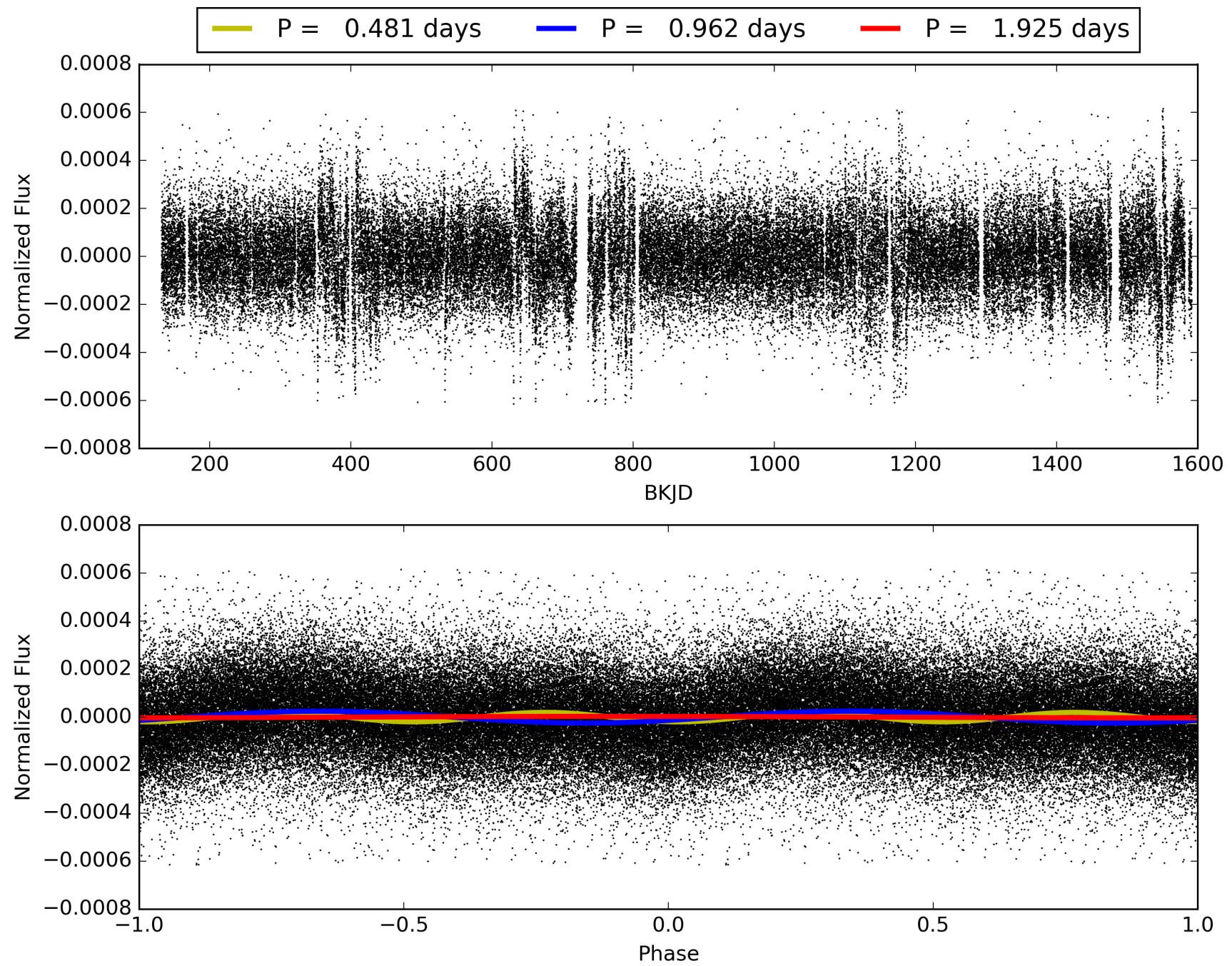
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:43:30 Z

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

TCE 007461436-01, PDC Light Curves

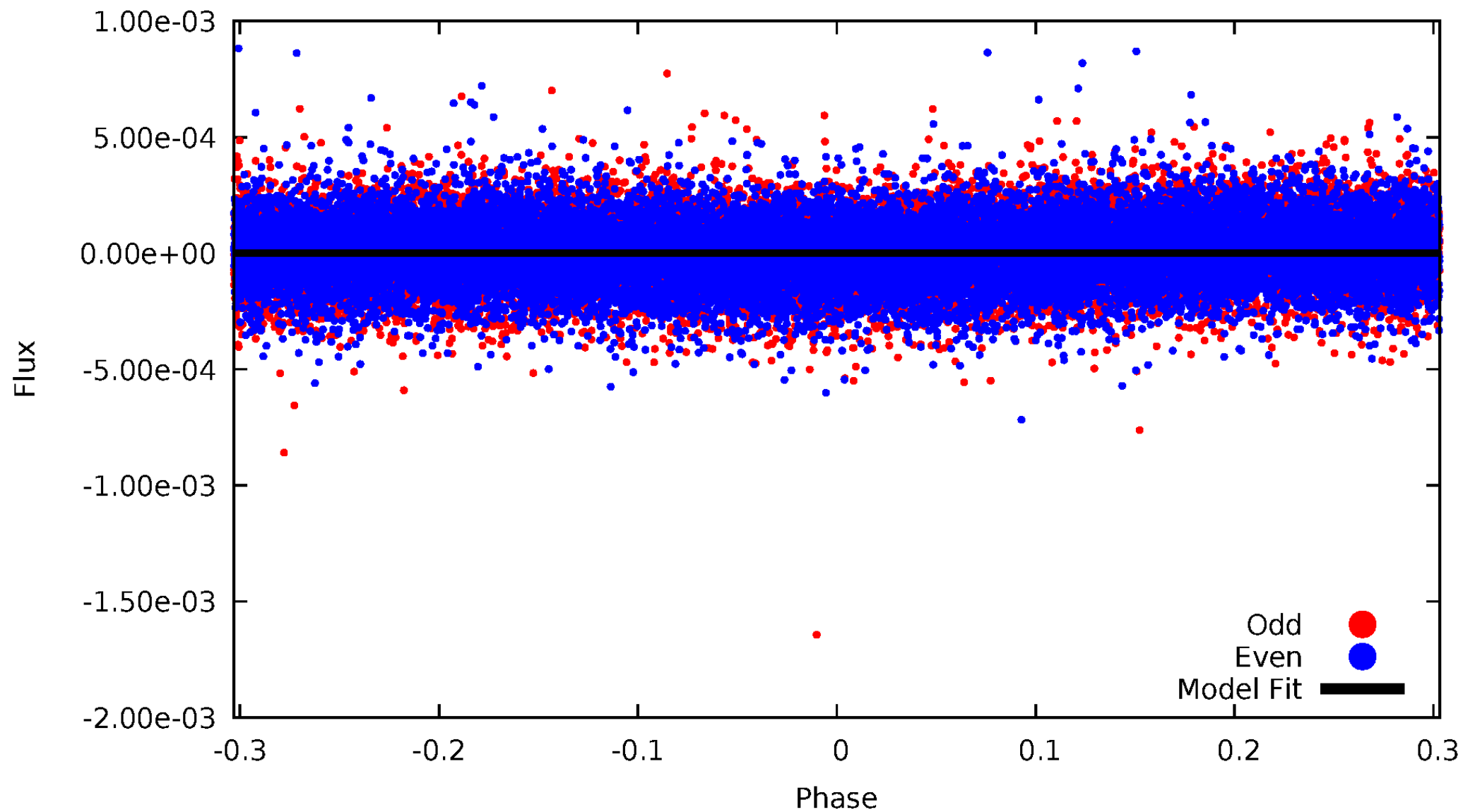


TCE 007461436-01



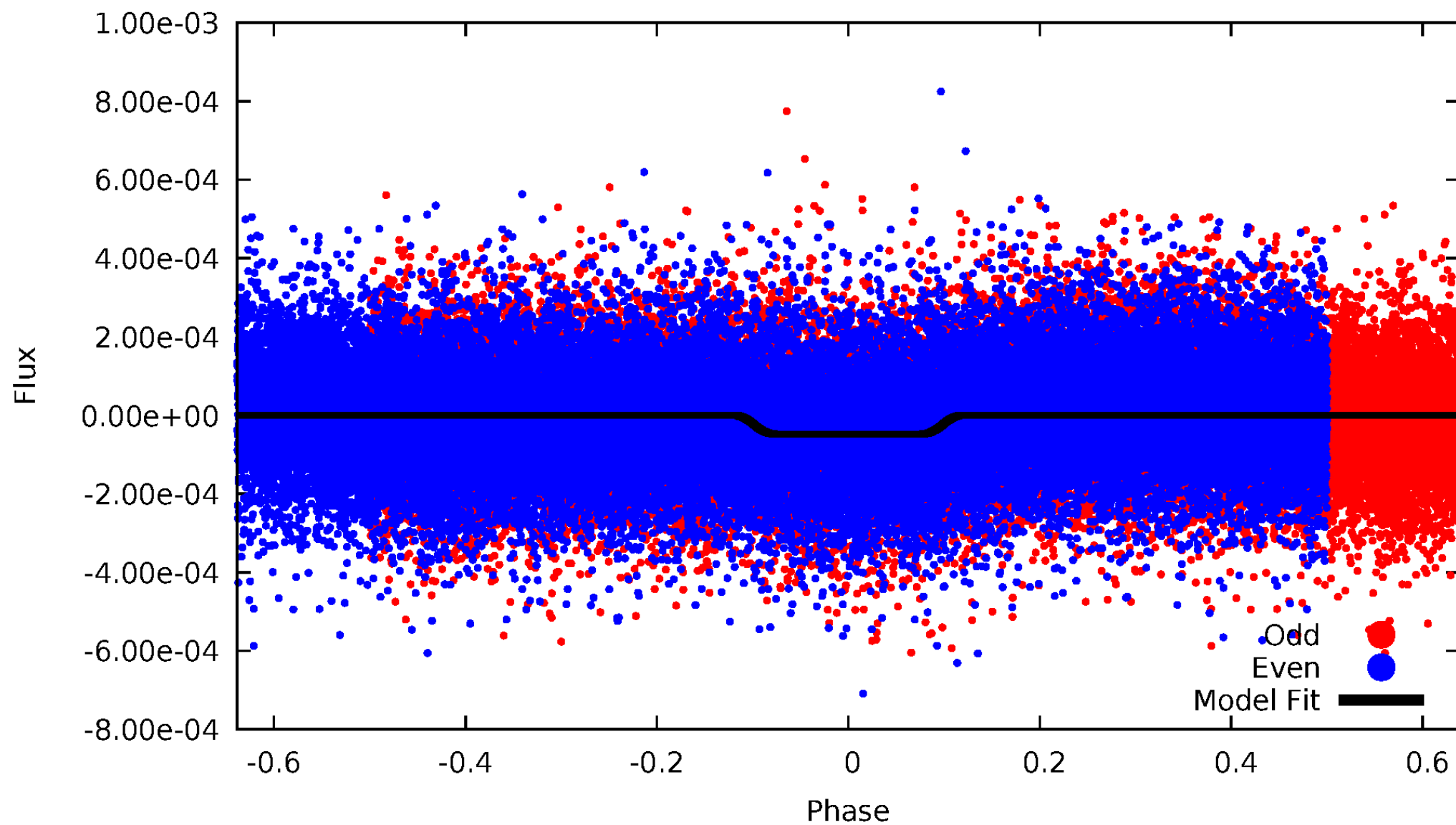
DV Odd/Even

TCE 007461436-01

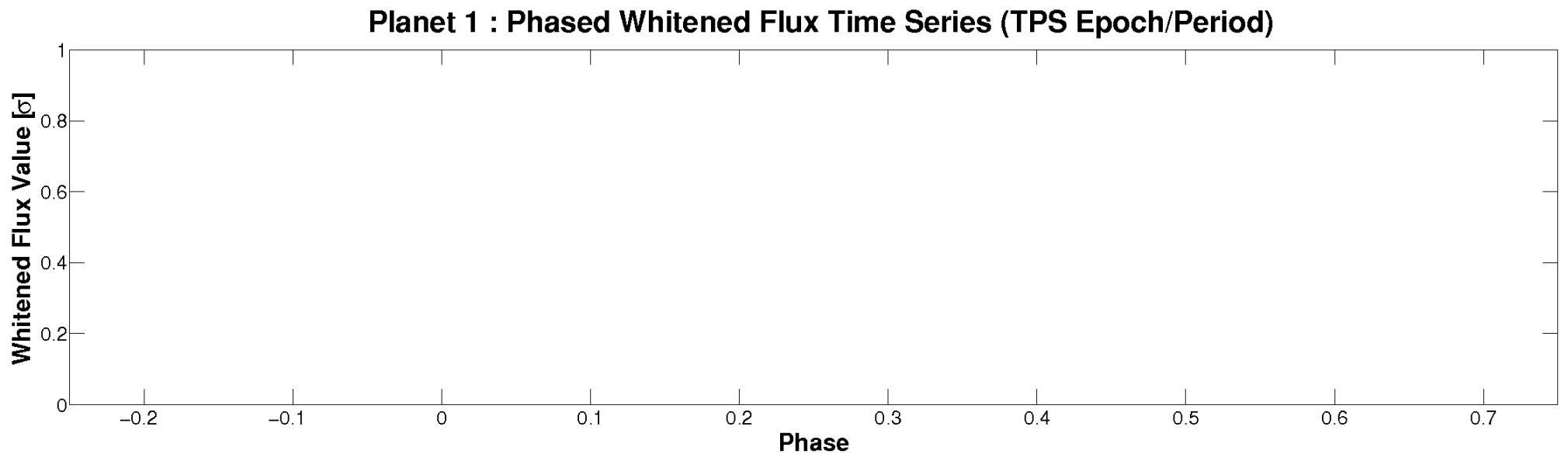
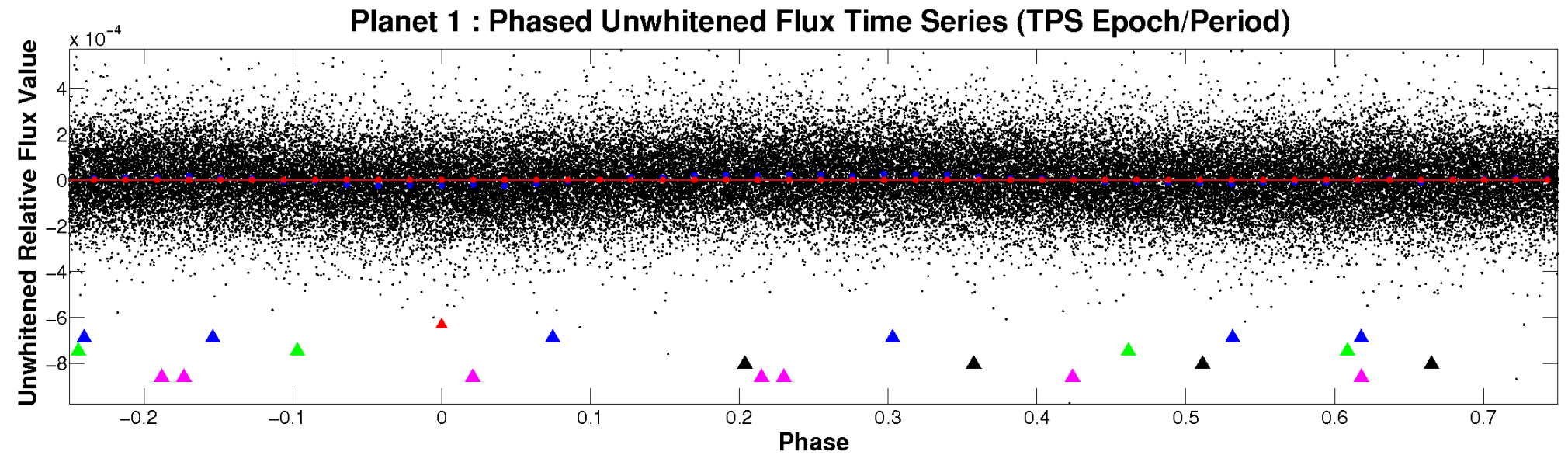


ALT Odd/Even

TCE 007461436-01

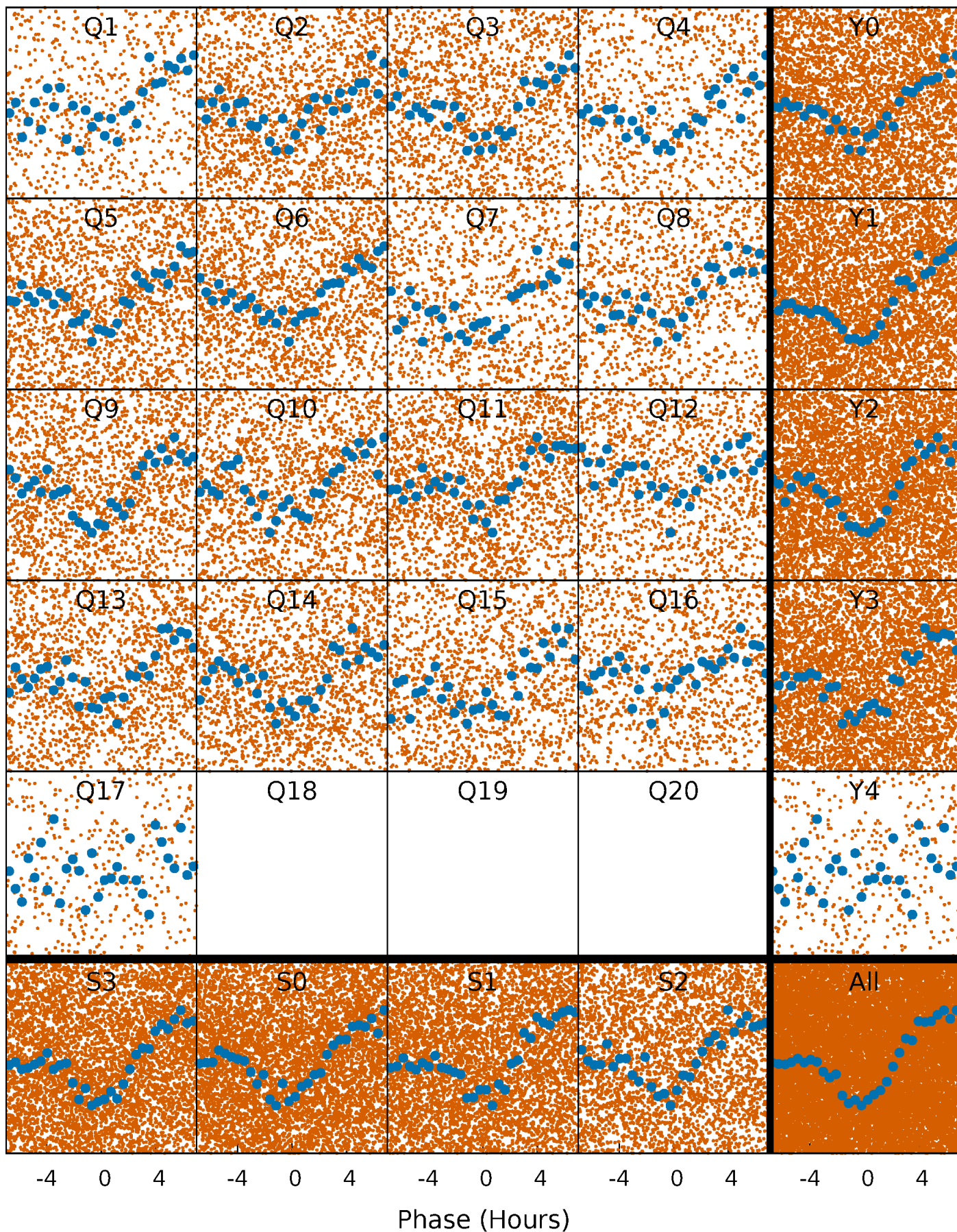


Non-Whitened Vs. Whitened Light Curve



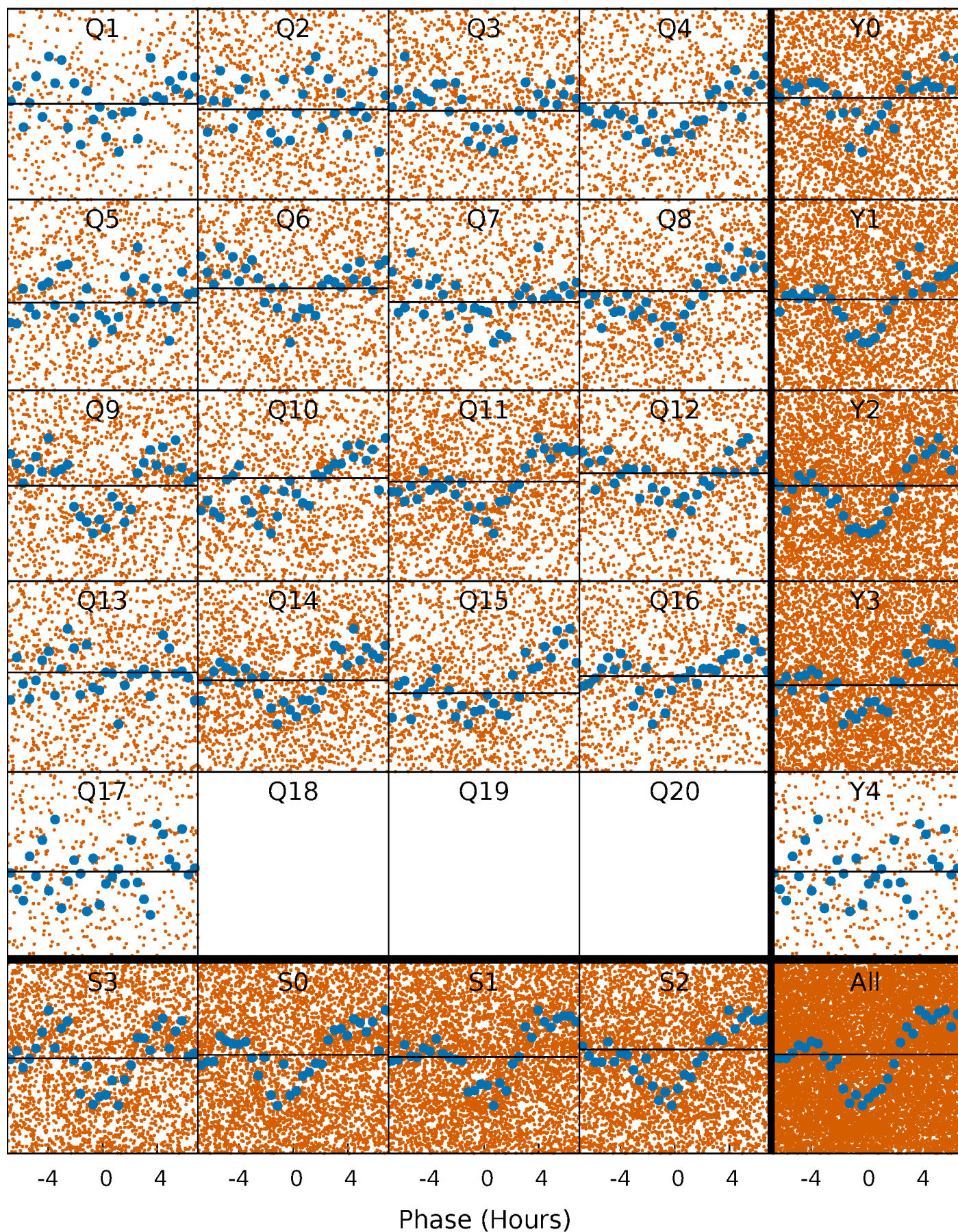
PDC Quarter-Phased Transit Curves

TCE 007461436-01 P= 0.962490 Days $T_0=131.517805$ (BKJD)



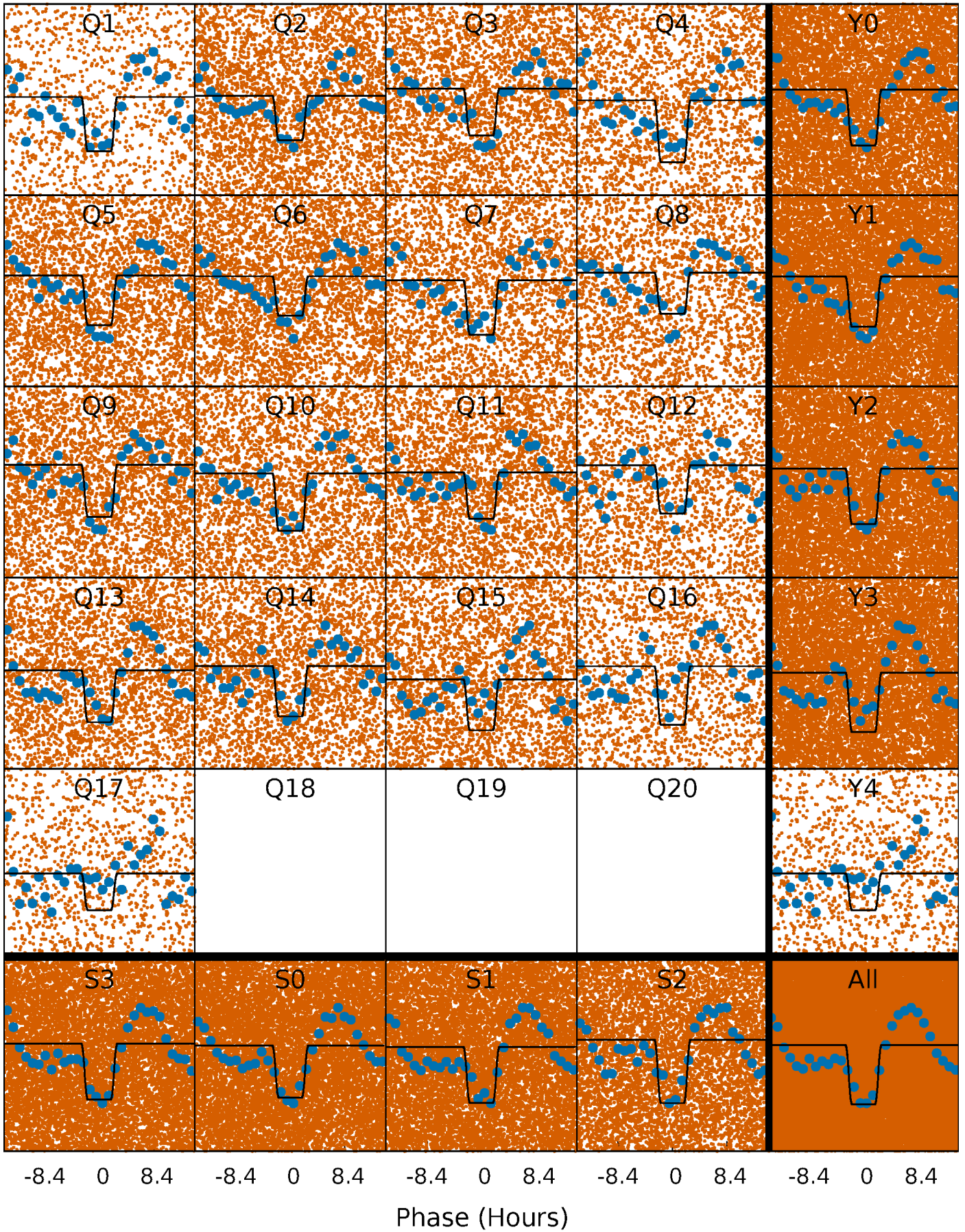
DV Quarter-Phased Transit Curves

TCE 007461436-01 P= 0.962490 Days $T_0=131.517805$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

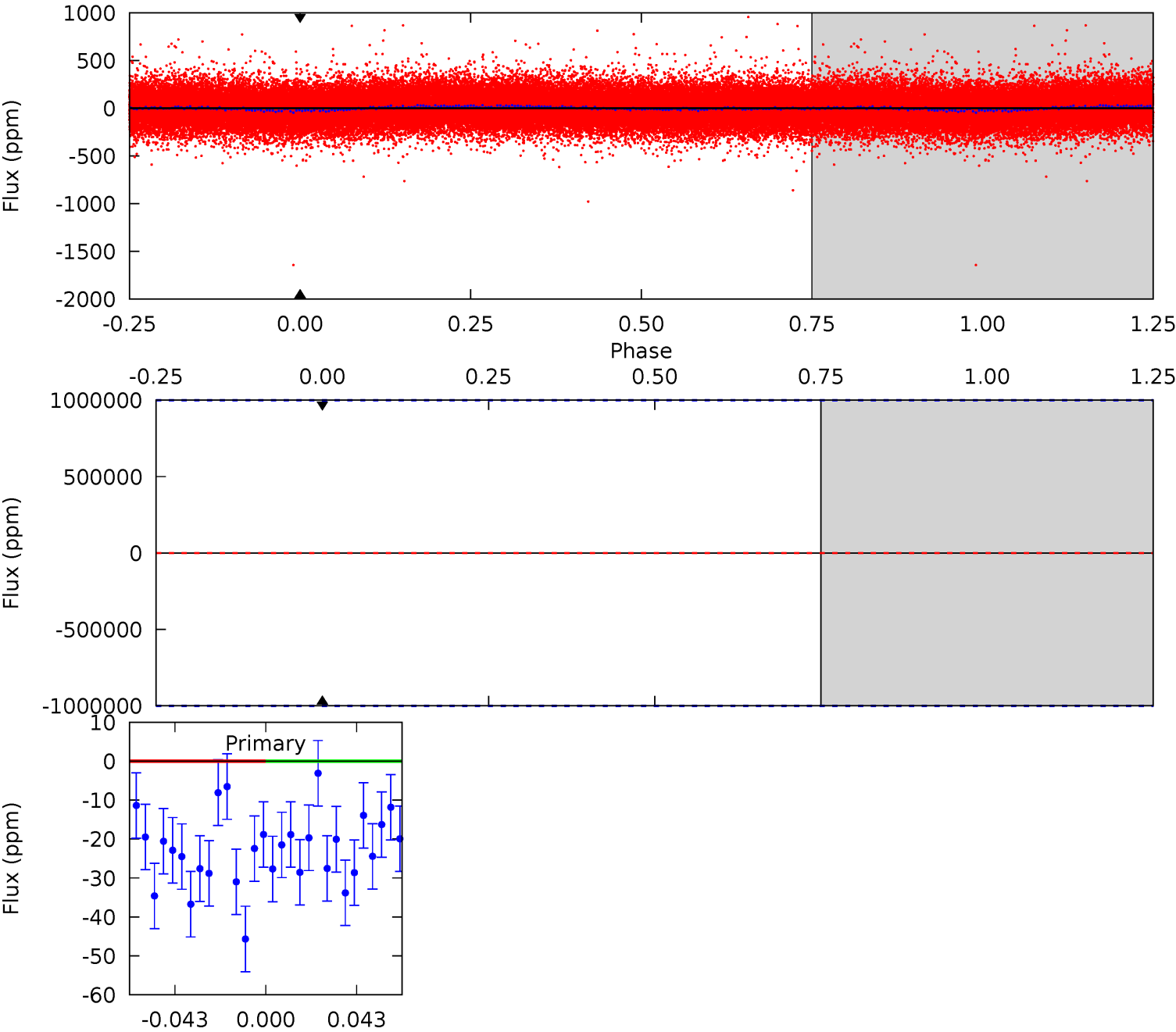
TCE 007461436-01 P= 0.962490 Days $T_0=132.460214$ (BKJD)



DV Model-Shift Uniqueness Test

007461436-01, P = 0.962490 Days, E = 130.555315 Days

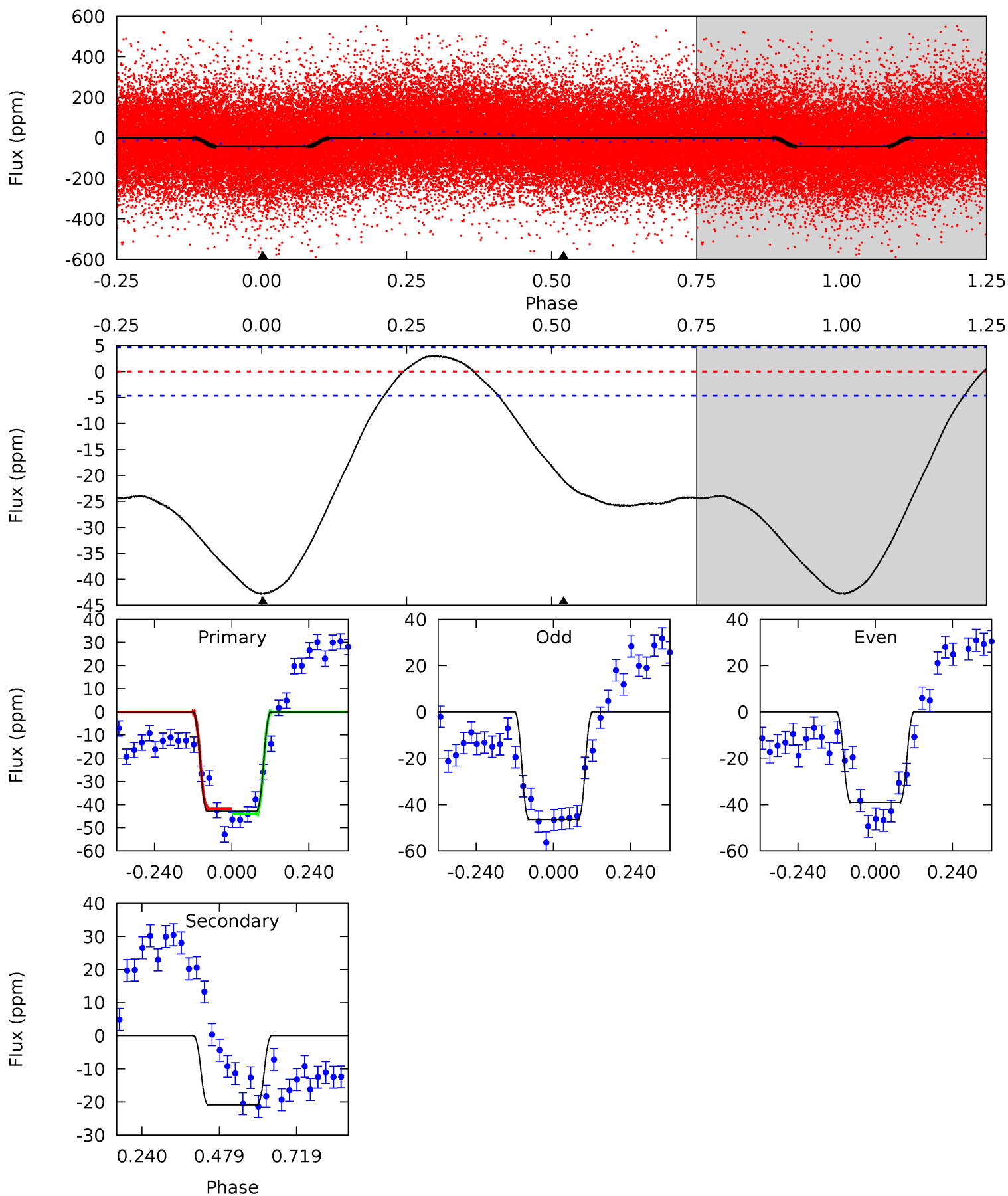
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007461436-01, P = 0.962490 Days, E = 131.497724 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
39.8	19.5	0	0	4.38	1.18	11.1	39.8	39.8	19.5	19.5	3.47	0.96	0.07	1.07



Stellar Parameters For KIC 007461436

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7379^{+206}_{-353}	$4.241^{+0.060}_{-0.240}$	$0.210^{+0.150}_{-0.350}$	$1.593^{+0.602}_{-0.161}$	$1.626^{+0.214}_{-0.193}$	$0.567^{+0.184}_{-0.323}$
	+3%/-5%	+1%/-6%	+71%/-167%	+38%/-10%	+13%/-12%	+32%/-57%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007461436-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$14.36^{+15.68}_{-10.03}$	3918^{+305}_{-215}	-4375^{+43343}_{-28356}	$-0.703^{+266.950}_{-203.585}$
Alt.	-21 ± 1	$12.47^{+14.17}_{-8.76}$	3914^{+335}_{-228}	-3476^{+6544}_{-228}	$0.037^{+0.374}_{-0.029}$

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 $A_{obs} \gg 1.0$

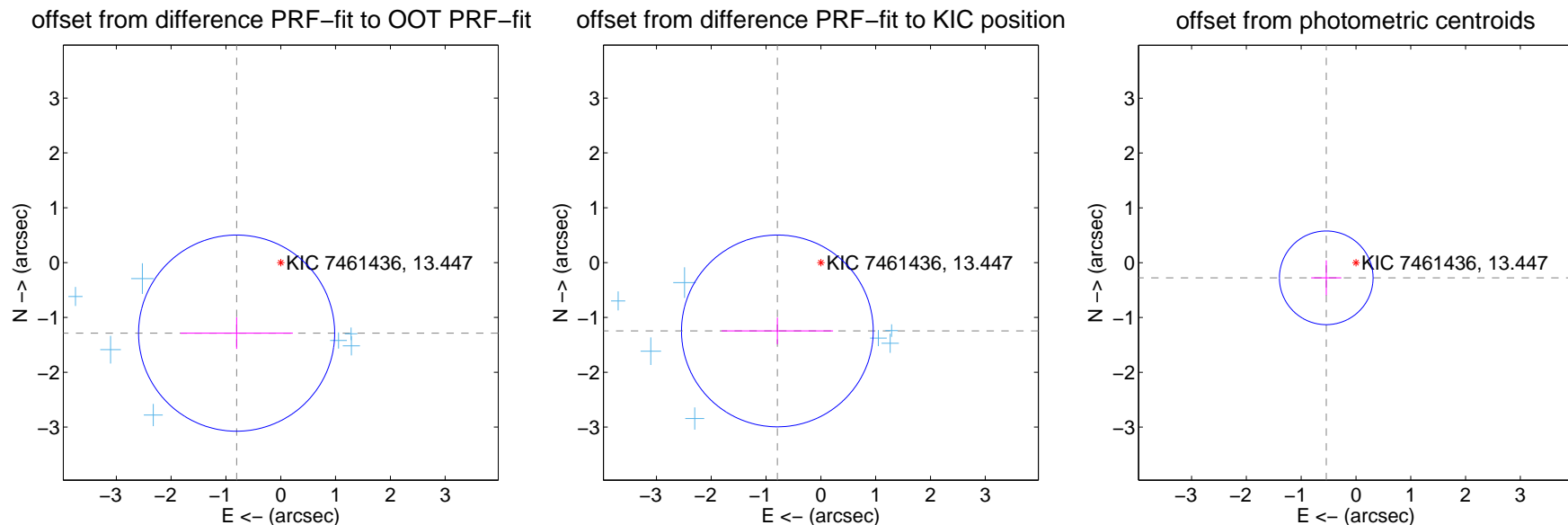
DV Centroid Data

Supplemental centroid analysis for 007461436-01. Kepler magnitude: 13.45. Transit SNR -1.00

There are 7 quarters with good PRF difference image offsets

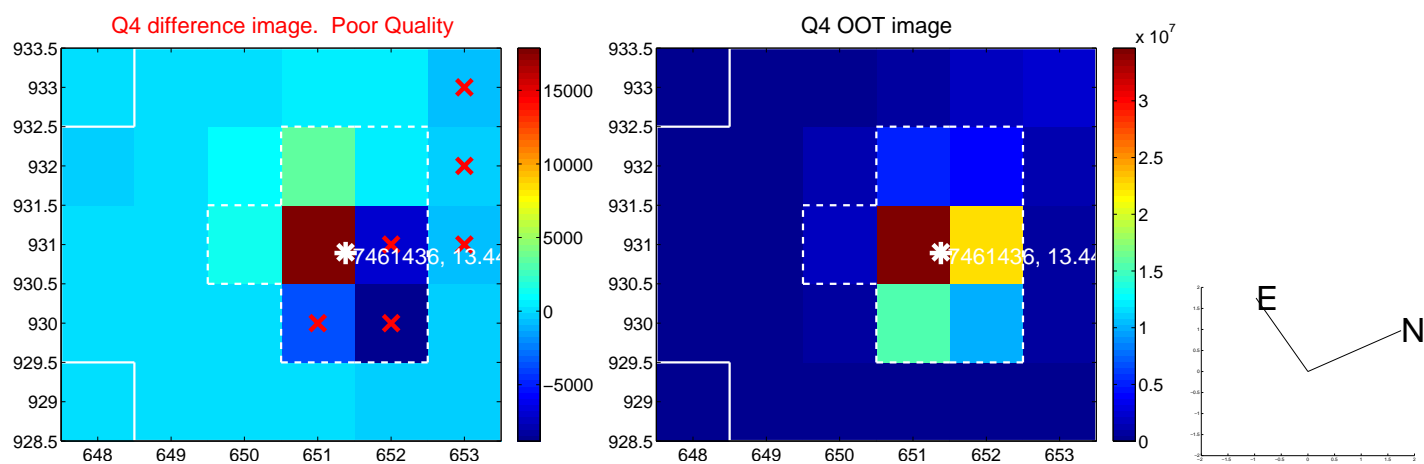
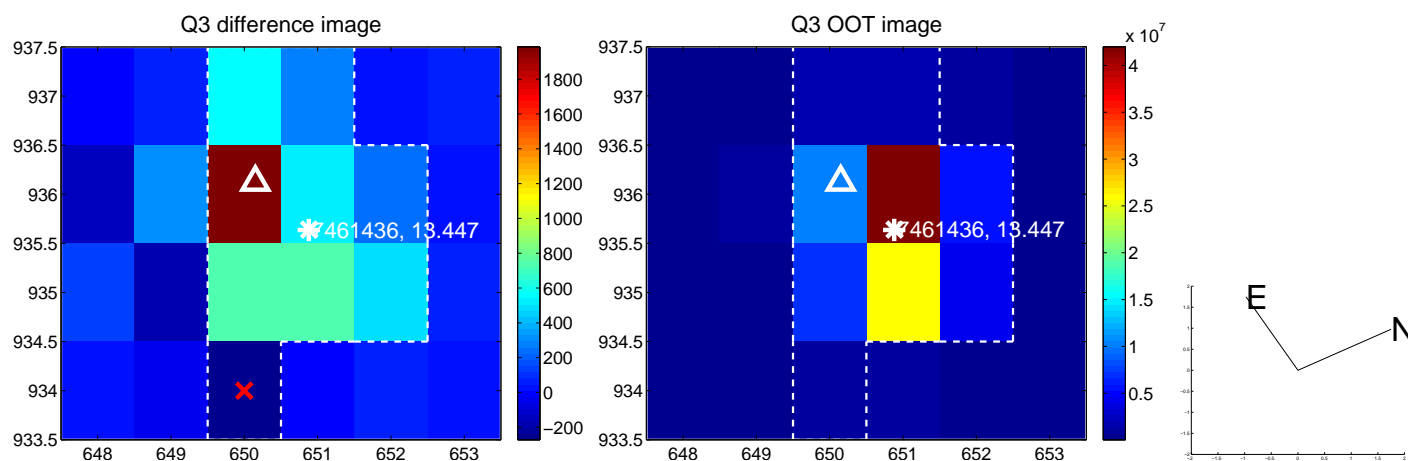
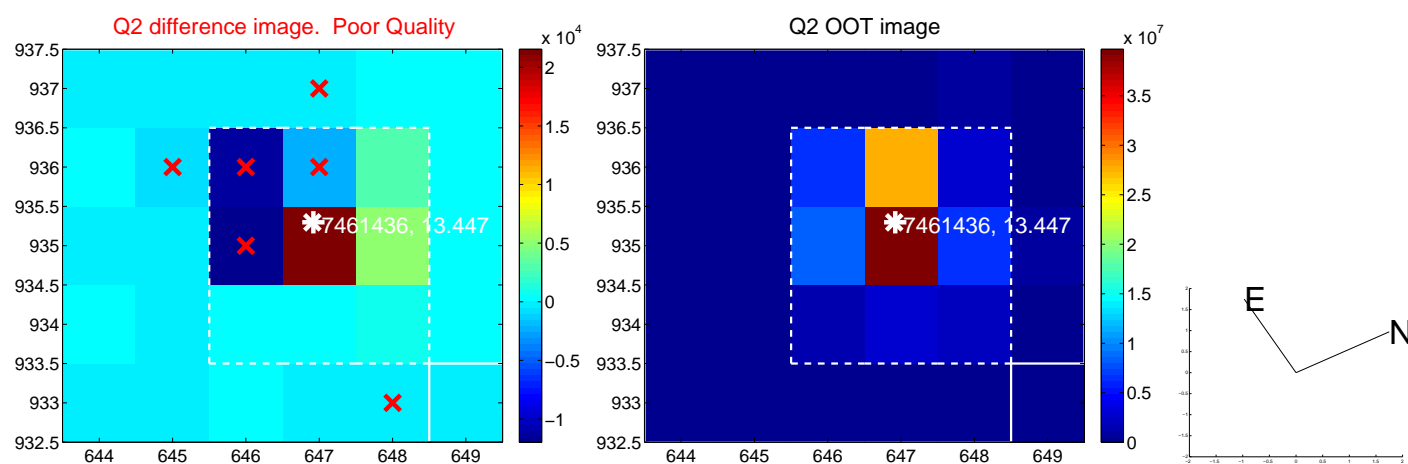
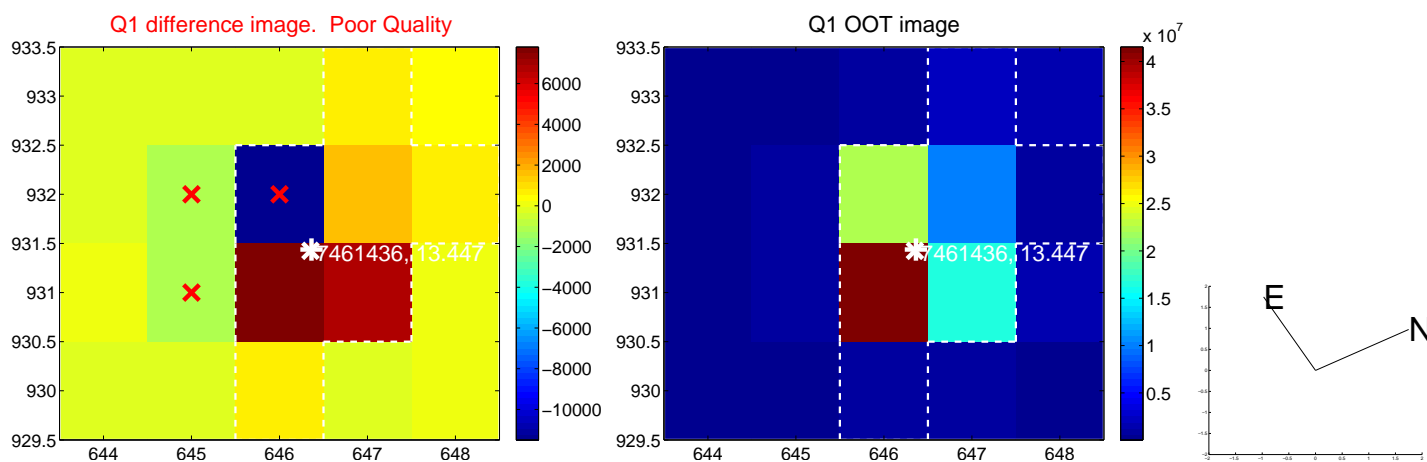
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.518 ± 0.596	2.55	0.805 ± 1.025	-1.286 ± 0.289
PRF-fit source offset from KIC position	1.478 ± 0.583	2.53	0.794 ± 1.017	-1.246 ± 0.242
photometric centroid source offset	0.61 ± 0.28	2.14	0.54 ± 0.28	-0.28 ± 0.32

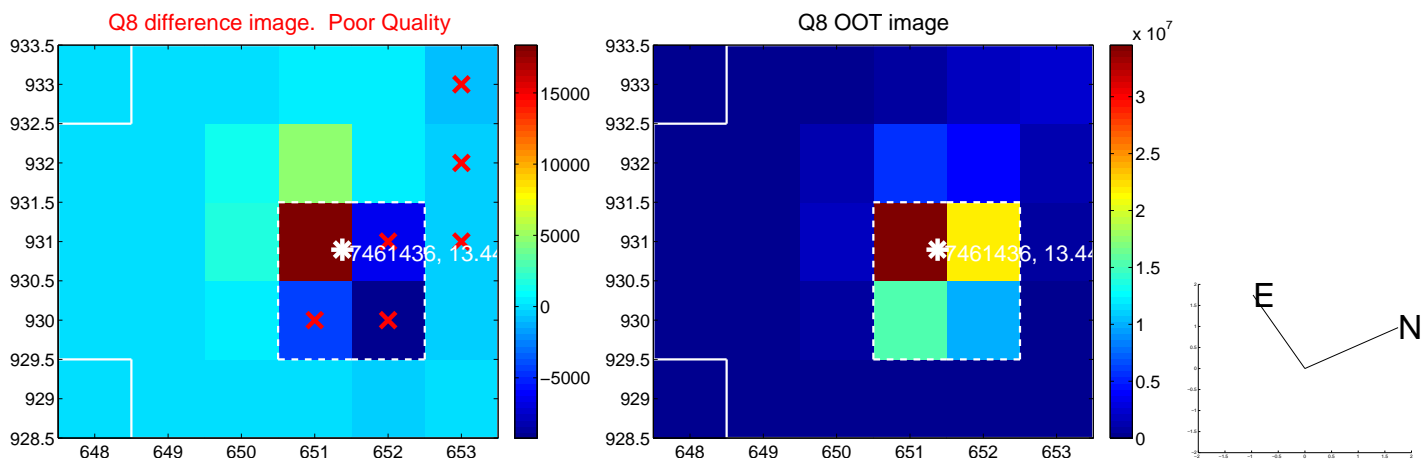
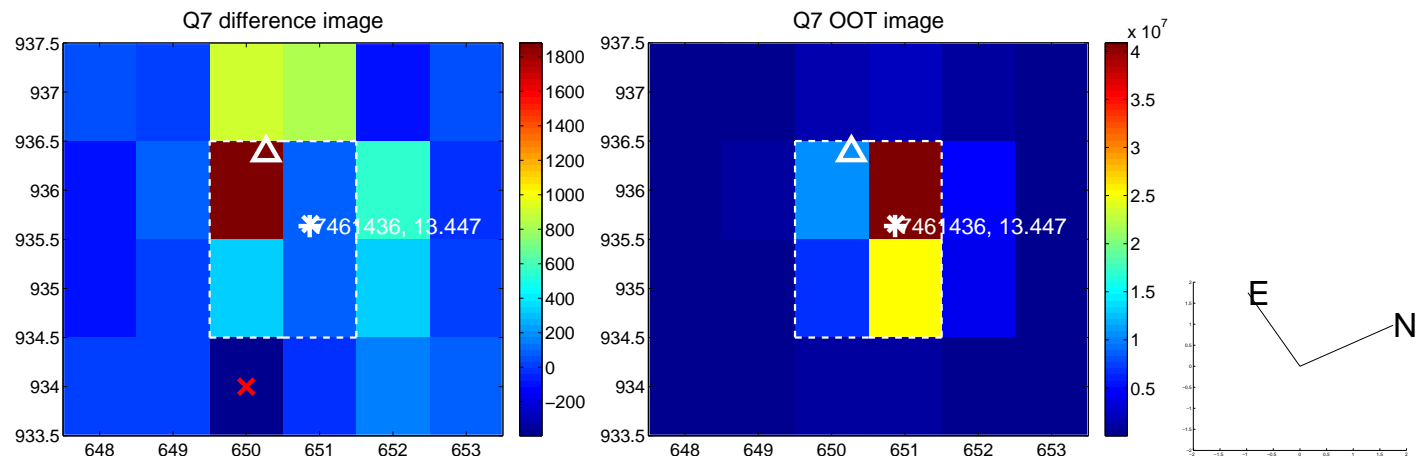
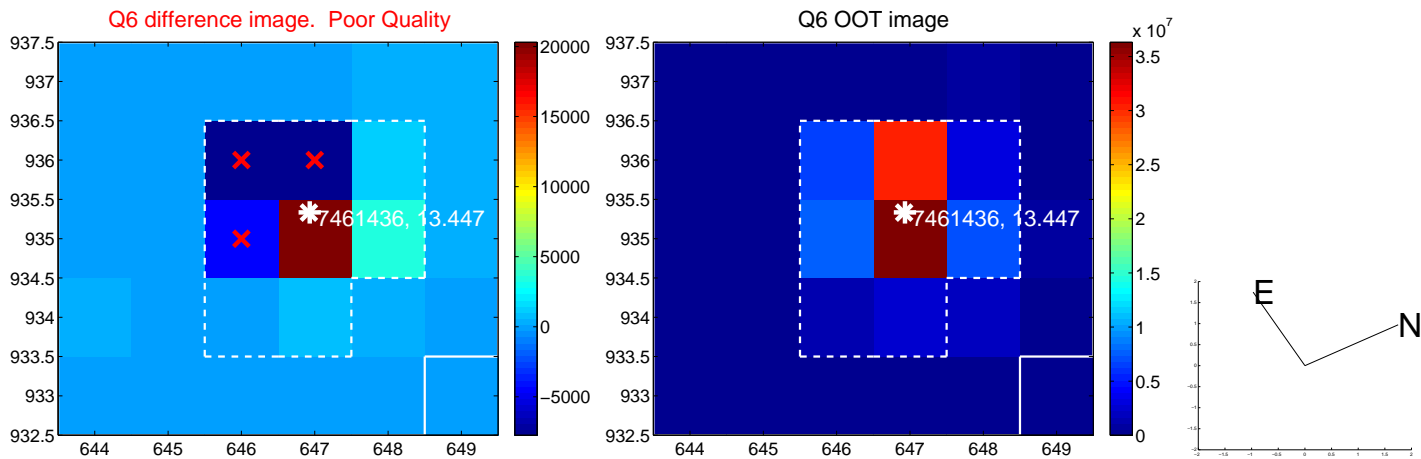
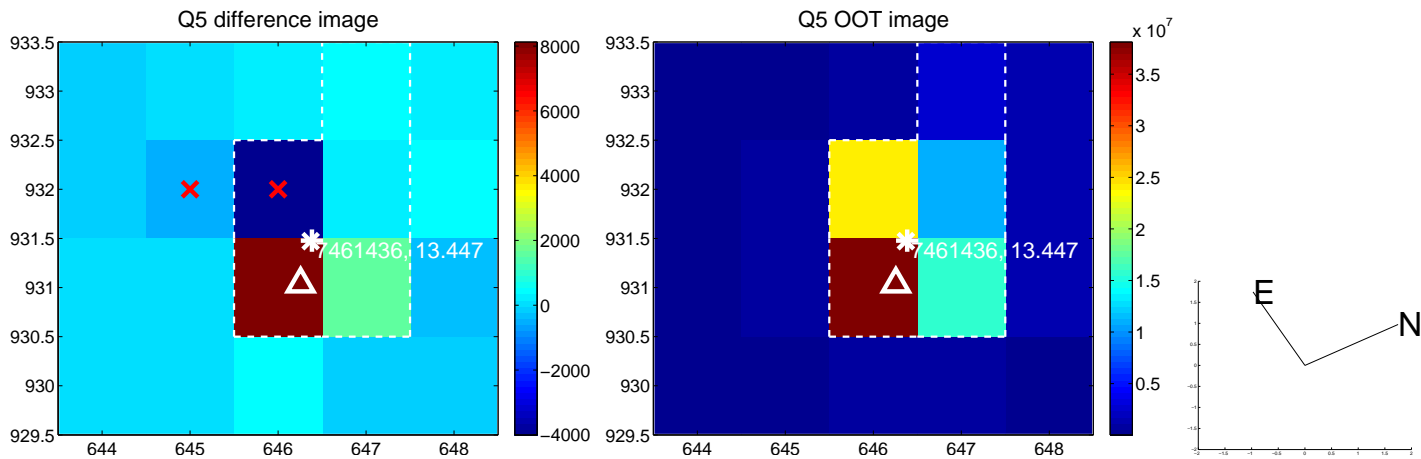


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

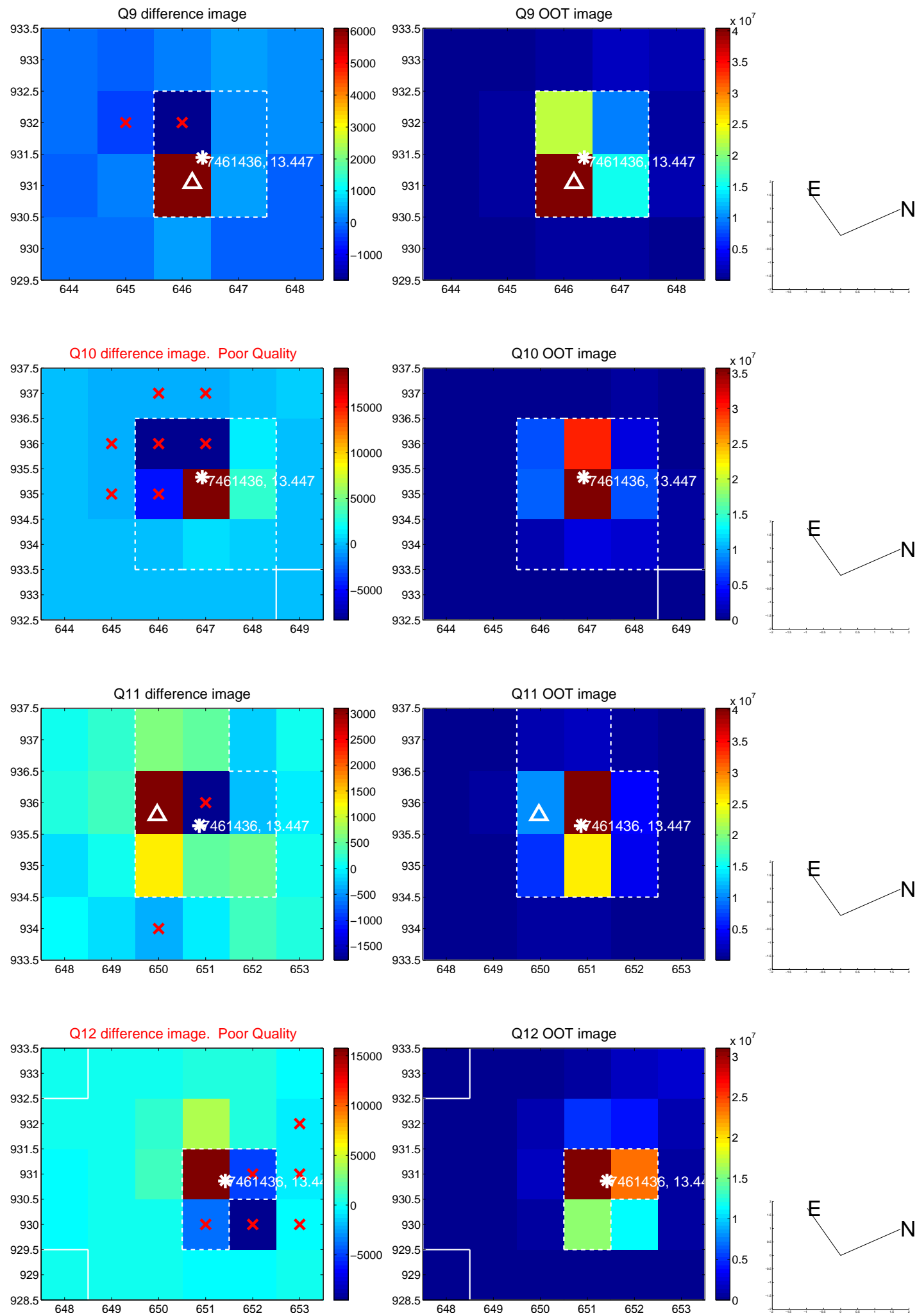
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



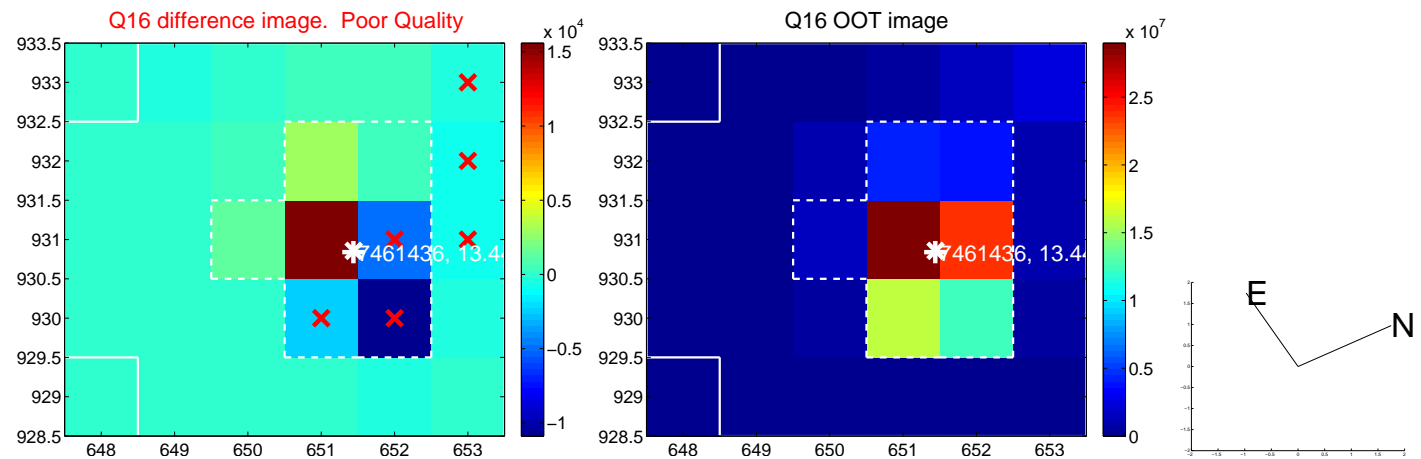
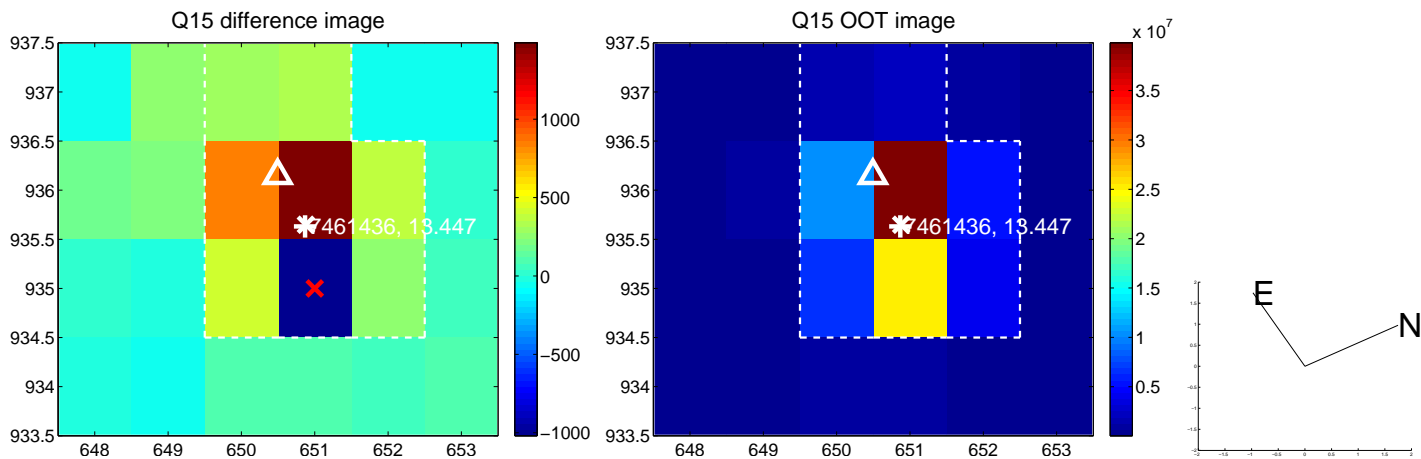
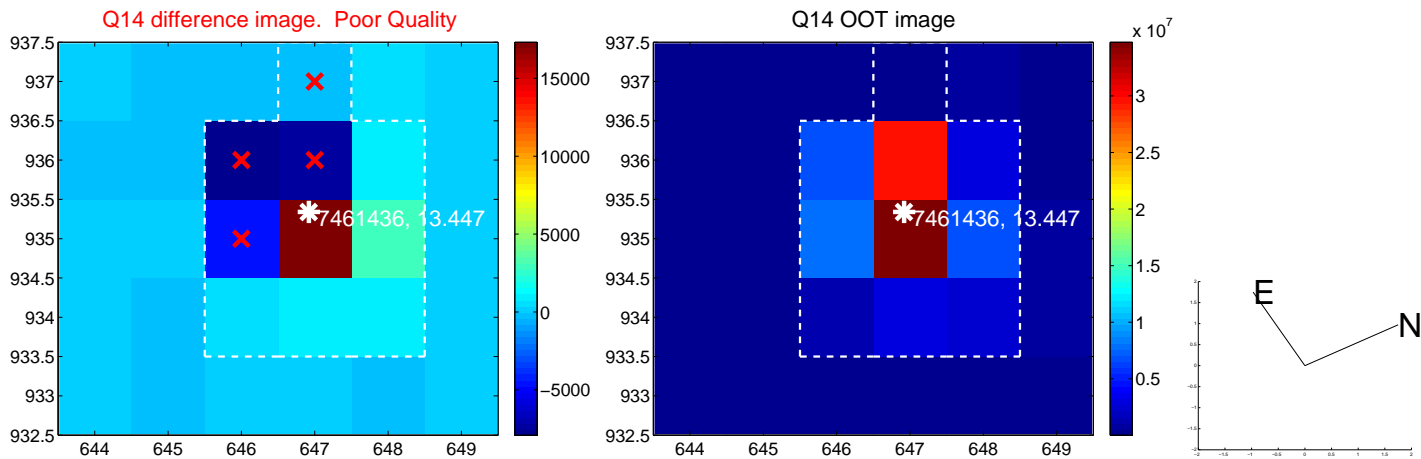
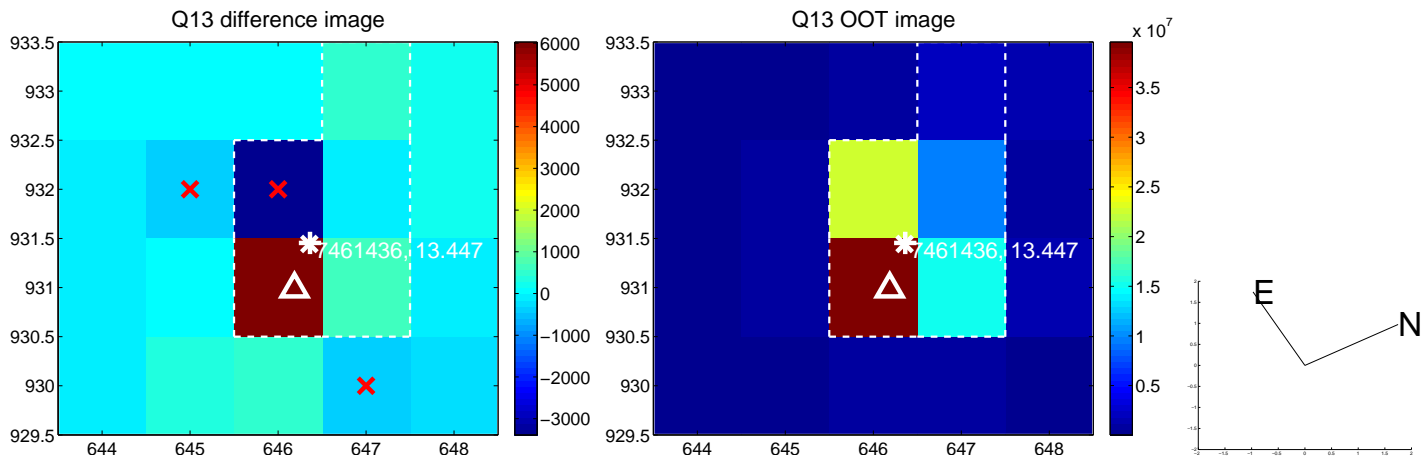
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



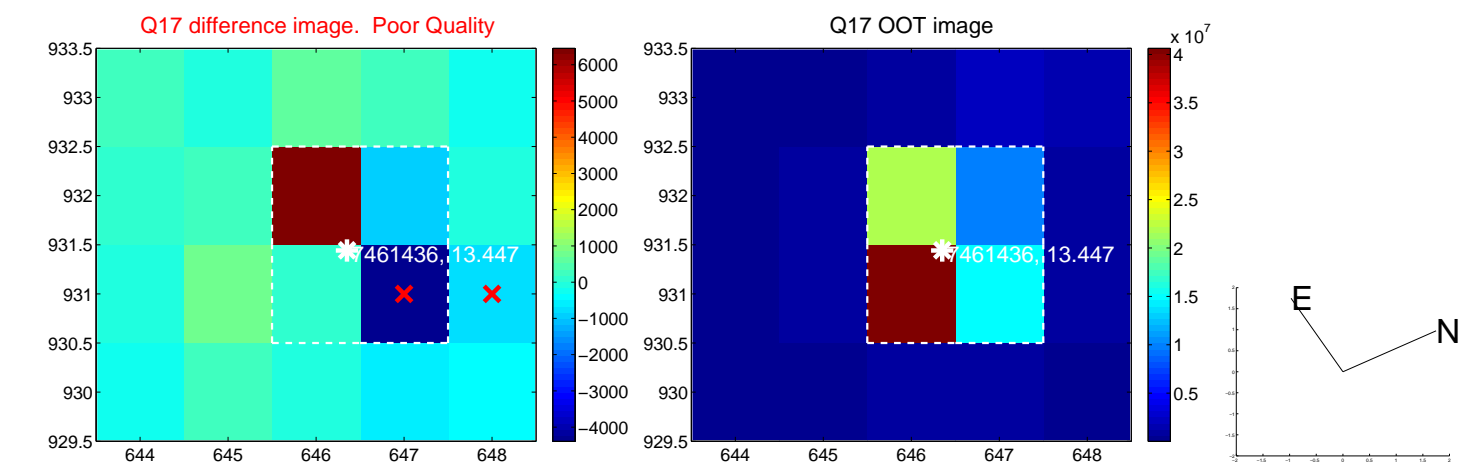
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



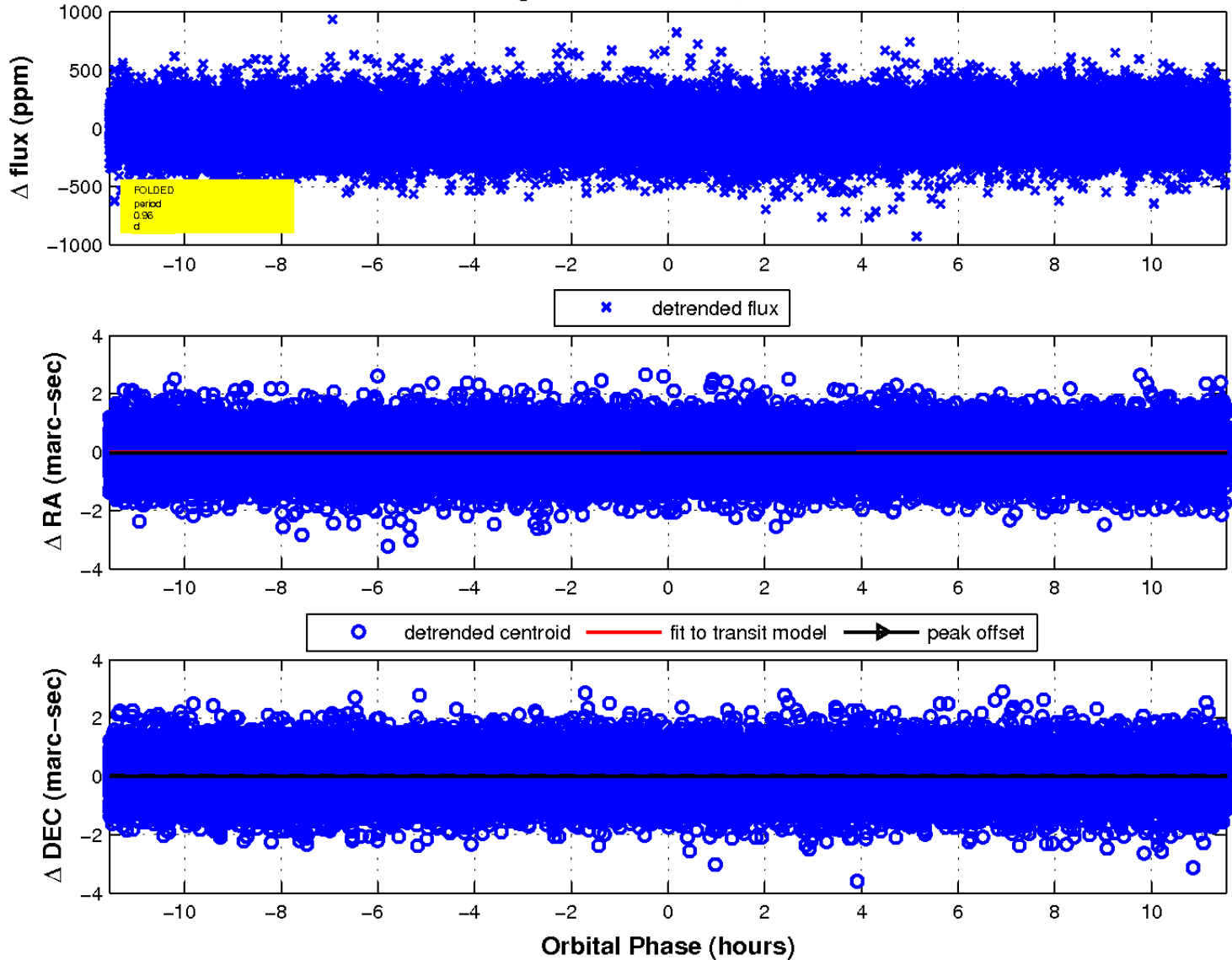
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

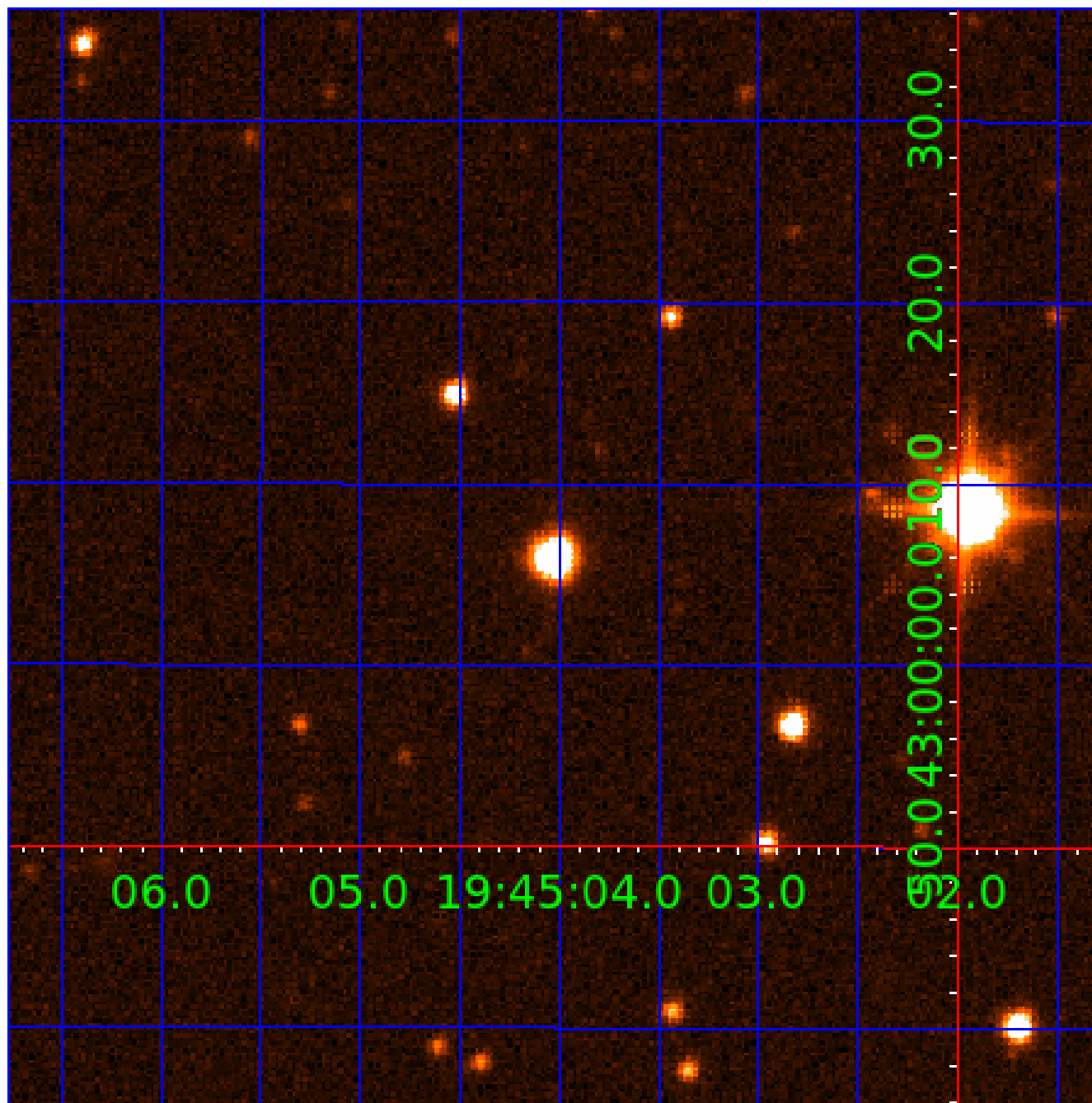


fluxWeightedCentroids, Planet 1 of 5



UKIRT Image

Declination



KIC 007461436

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})
007461436-01	OBS	No	0.962490	131.517805	223.5	3.500	11.9	-1.0	1.59	7379	2.42	13463.76
007461436-02	OBS	No	245.215200	288.172625	155.6	13.988	10.2	7.3	1.59	7379	2.17	8.34
007461436-03	OBS	No	403.425138	379.322005	264.8	16.706	9.5	9.7	1.59	7379	2.82	4.29
007461436-04	OBS	No	376.185715	420.905096	356.3	13.098	8.4	9.3	1.59	7379	3.28	4.71
007461436-05	OBS	No	221.947394	196.225956	145.1	17.460	7.7	7.5	1.59	7379	2.04	9.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007461436-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
007461436-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007461436-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007461436-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
007461436-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—CENT_FEW_DIFFS

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

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

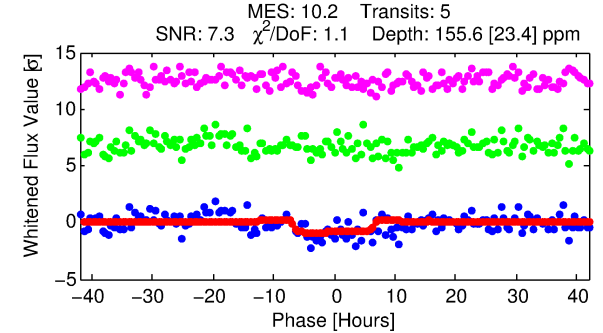
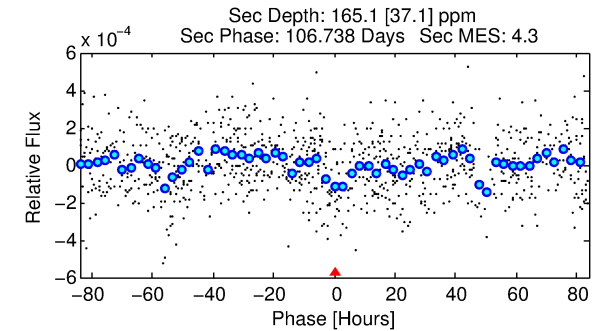
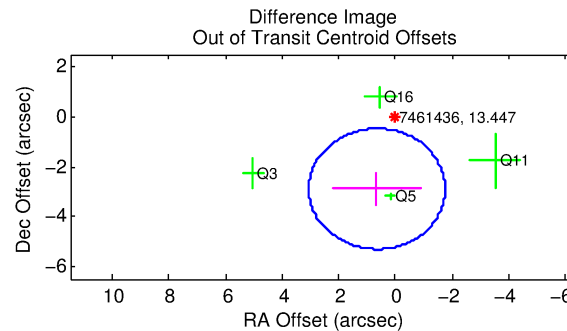
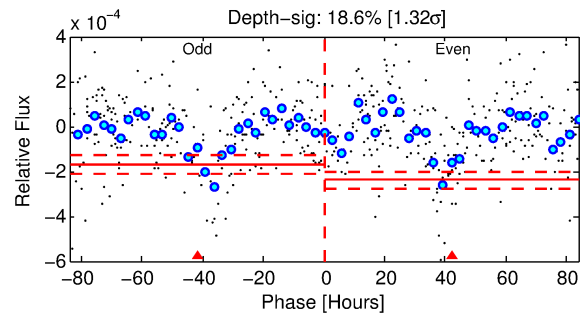
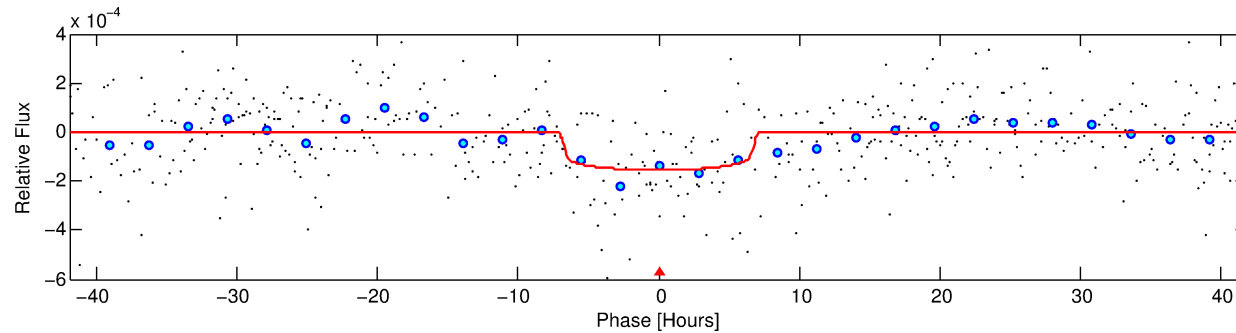
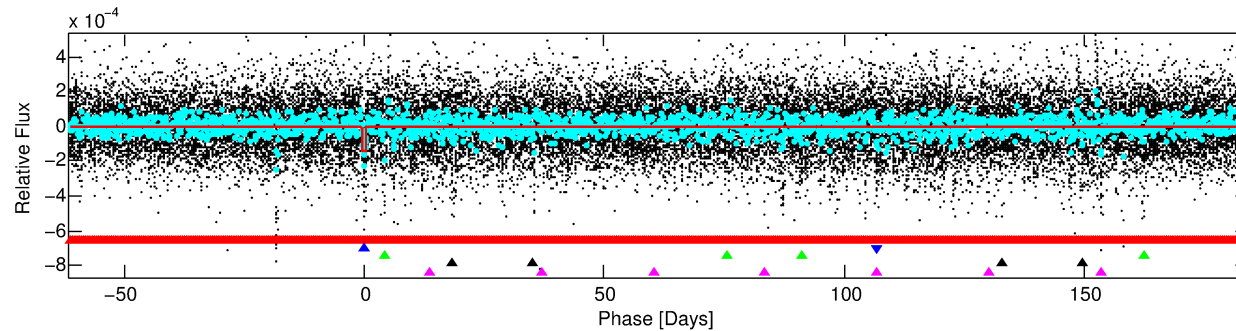
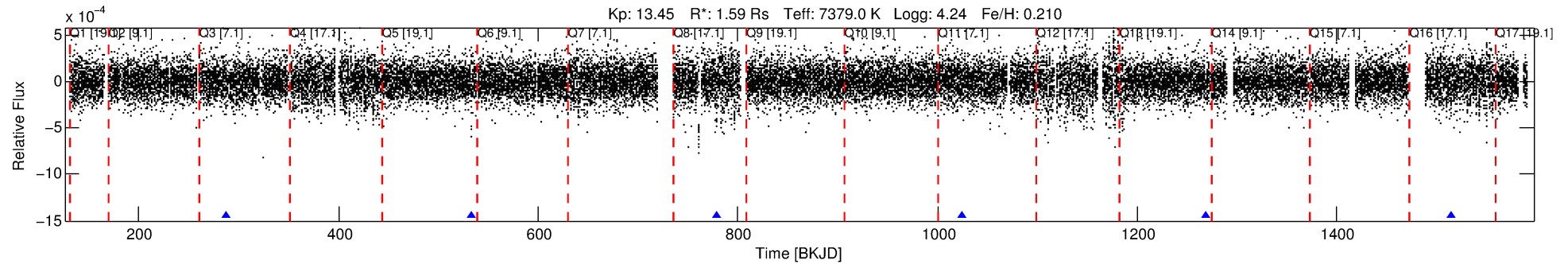
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007461436-02

No Significant Match Found

DV One-Page Summary

KIC: 7461436 Candidate: 2 of 5 Period: 245.215 d



DV Fit Results:

Period = 245.21520 [0.00829] d
Epoch = 288.1726 [0.0245] BKJD
Rp/R* = 0.0125 [0.0073]
a/R* = 87.79 [326.27]
b = 0.77 [1.94]
Seff = 8.34 [4.05]
Teq = 433 [53] K
Rp = 2.17 [1.52] Re
a = 0.8992 [0.2806] AU
Ag = 15616.89 [19967.50] [0.78 σ]
Teffp = 7489 [2272] K [3.11 σ]

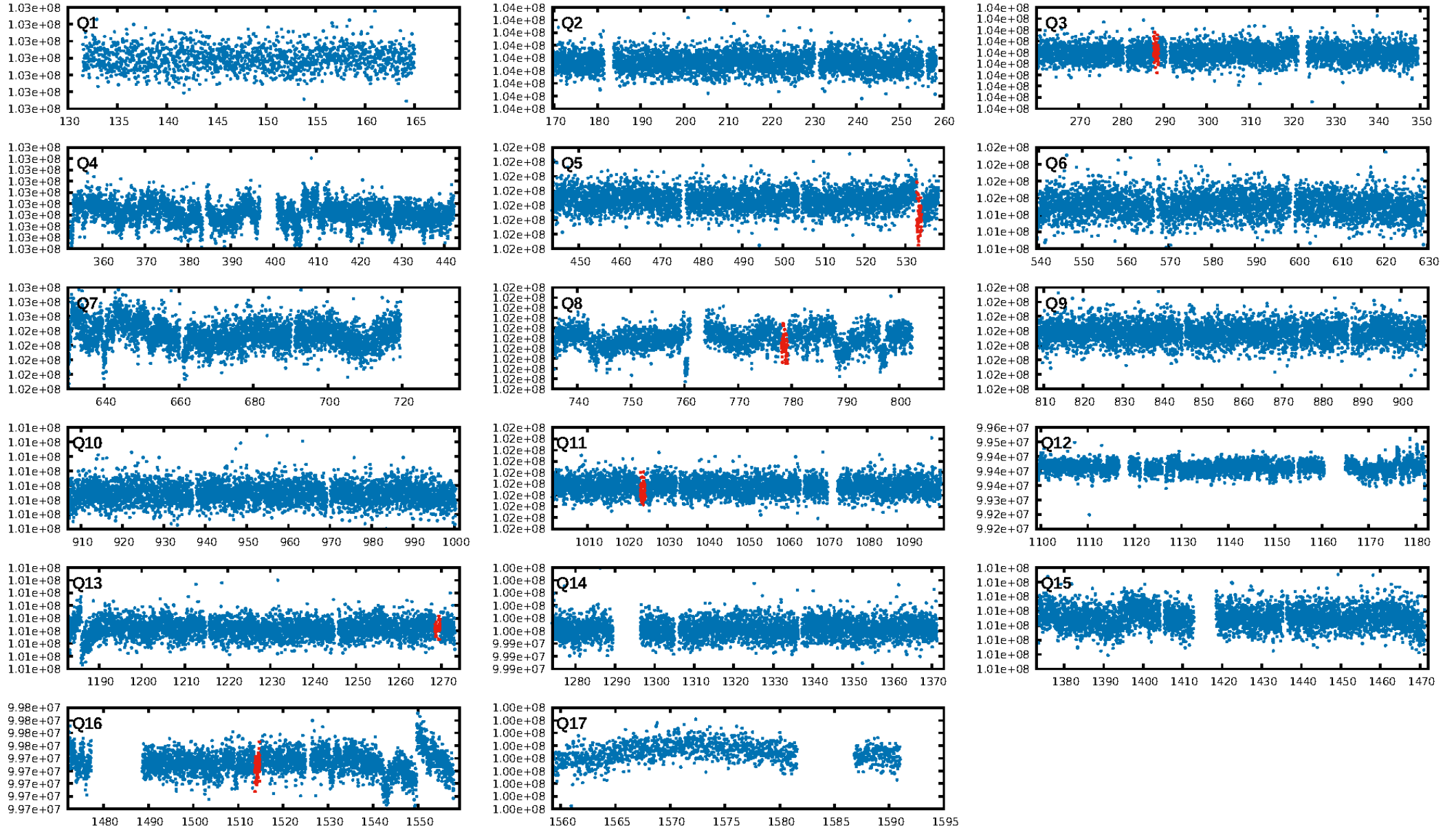
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [24.96 σ]
LongPeriod-sig: 100.0% [164.03 σ]
ModelChiSquare2-sig: 2.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.98e-18
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.623
Centroid-sig: 88.1%
Centroid-so: 0.407 arcsec [0.45 σ]
OotOffset-rm: 2.965 arcsec [3.68 σ]
KicOffset-rm: 2.882 arcsec [3.82 σ]
OotOffset-st: 0/2/1/1 [4]
KicOffset-st: 0/2/1/1 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.00 [0/5]

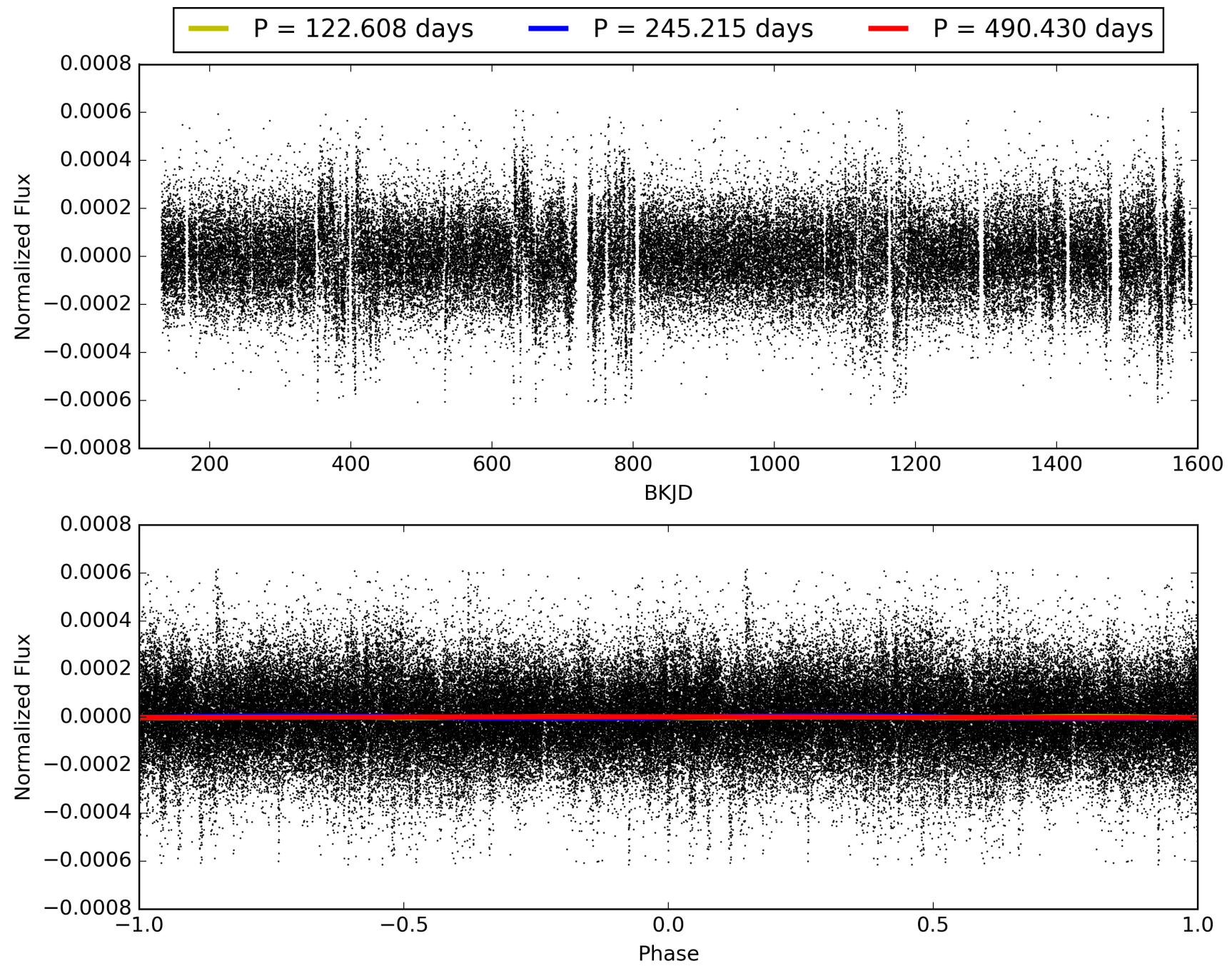
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:43:43 Z

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

TCE 007461436-02, PDC Light Curves

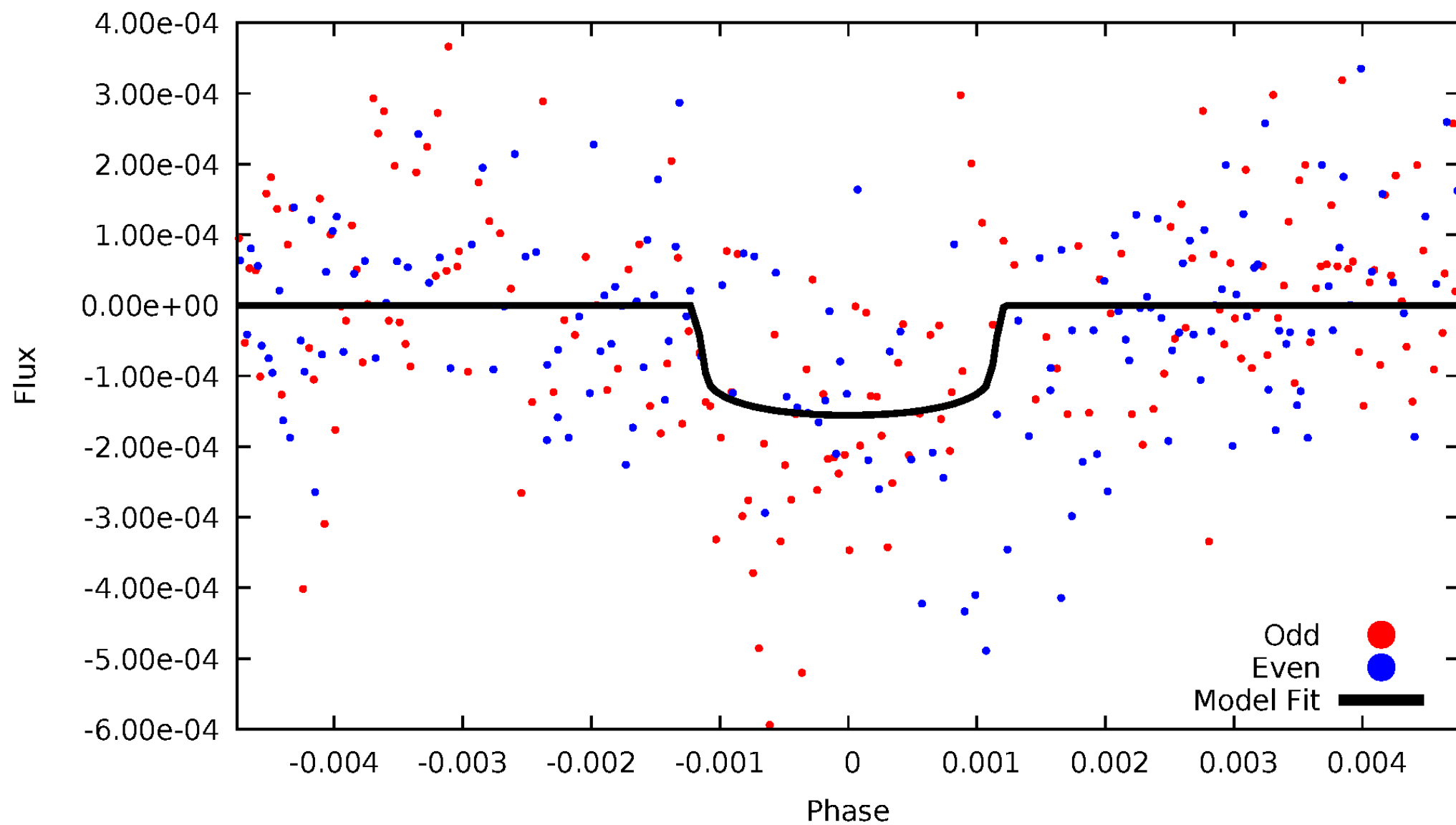


TCE 007461436-02



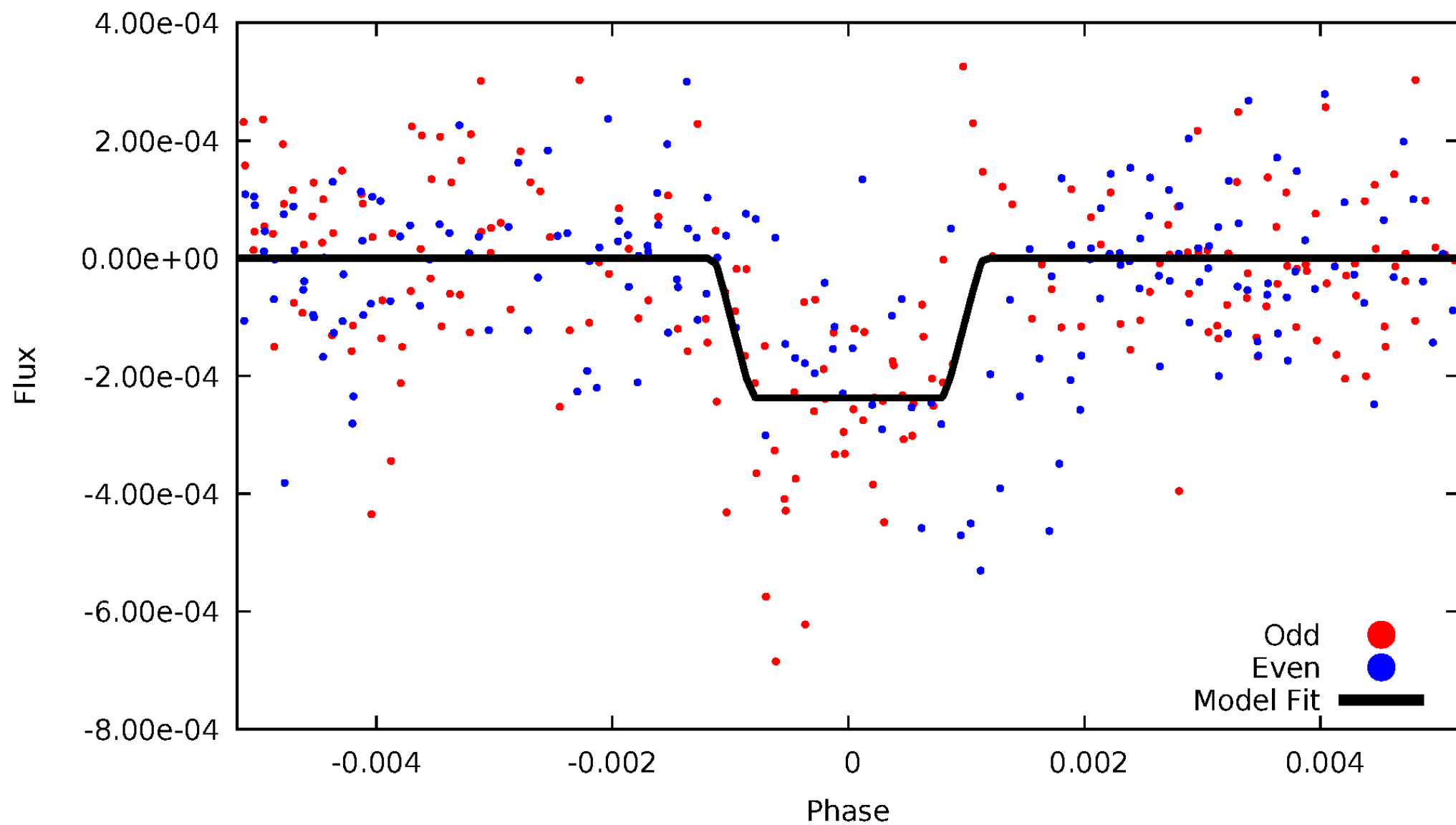
DV Odd/Even

TCE 007461436-02



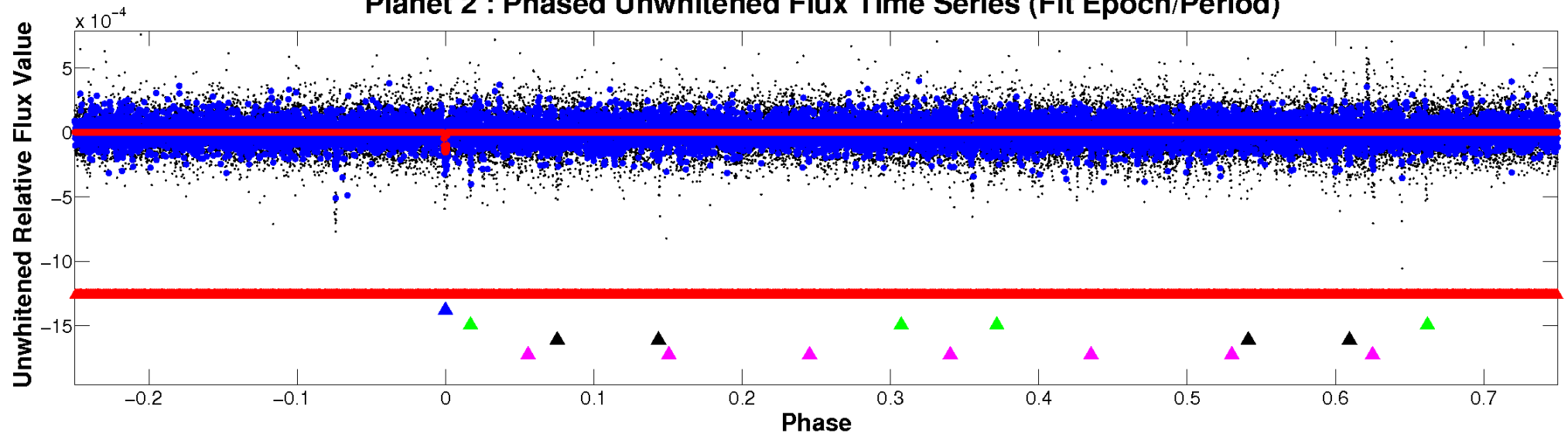
ALT Odd/Even

TCE 007461436-02

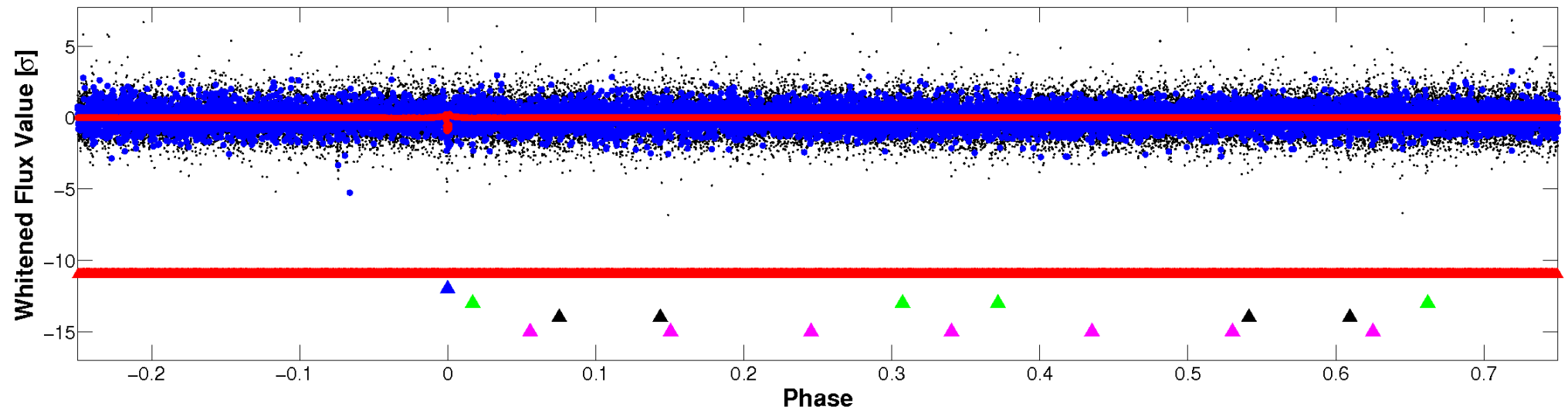


Non-Whitened Vs. Whitened Light Curve

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



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



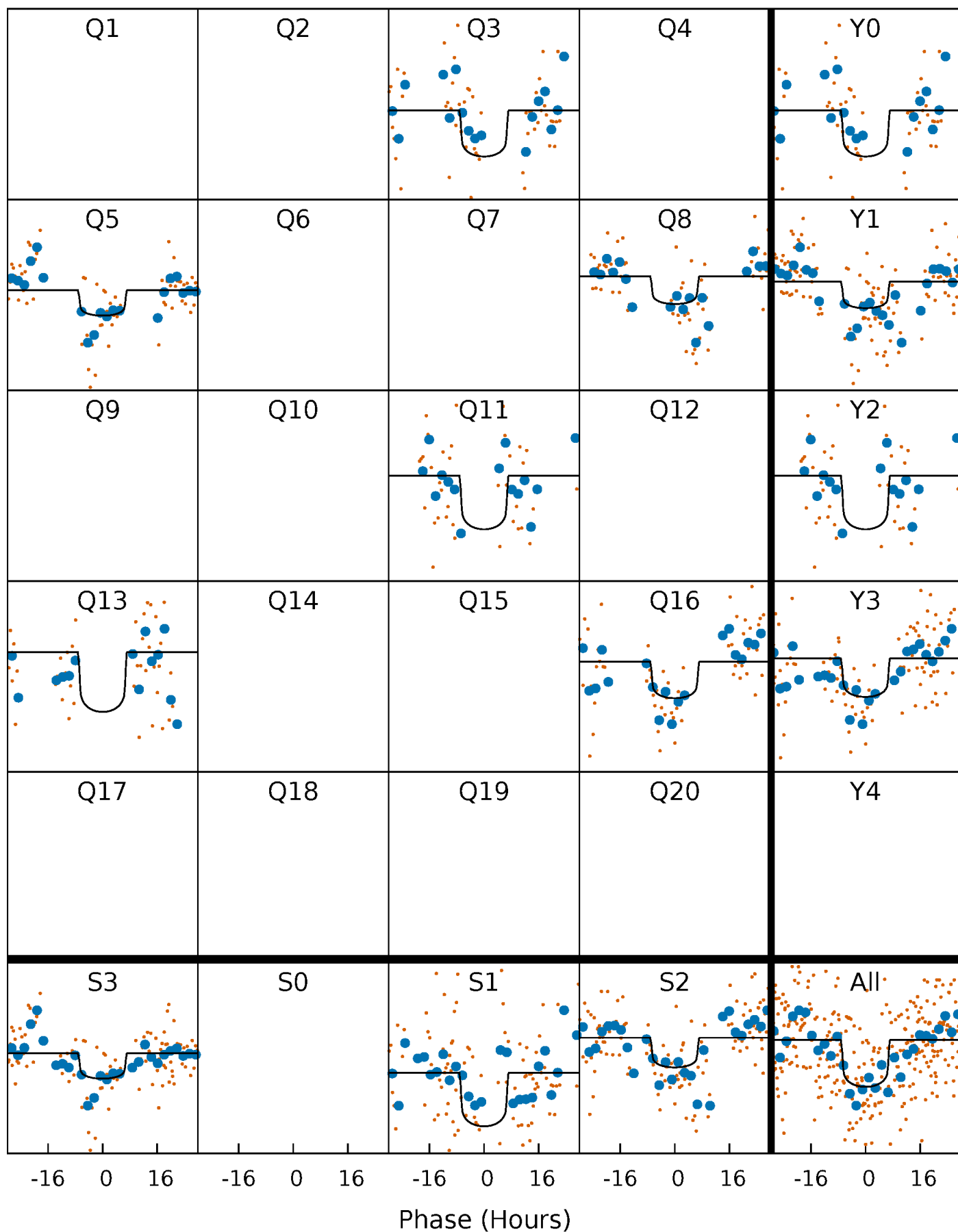
PDC Quarter-Phased Transit Curves

TCE 007461436-02 P=245.215200 Days $T_0=288.172625$ (BKJD)



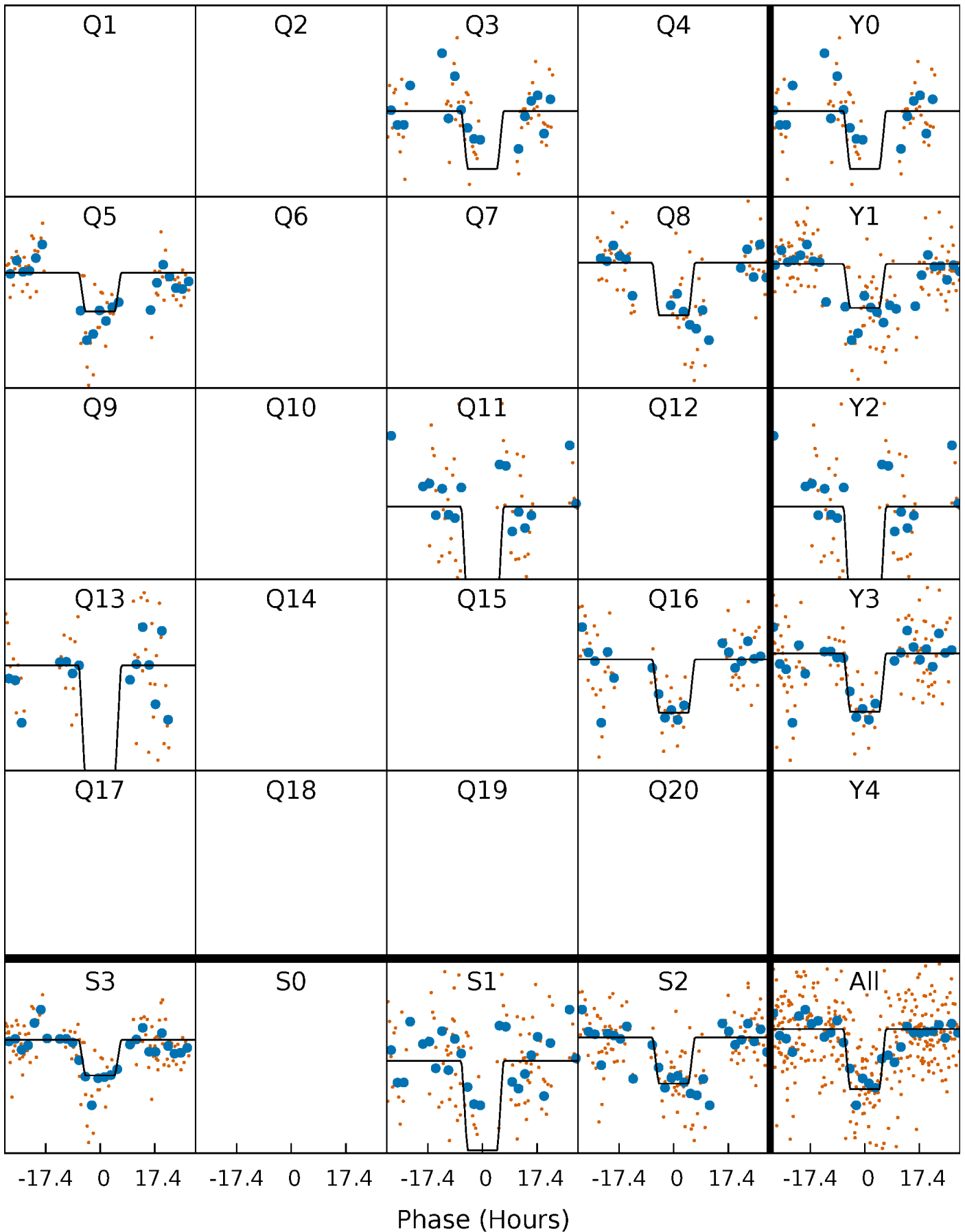
DV Quarter-Phased Transit Curves

TCE 007461436-02 $P=245.215200$ Days $T_0=288.172625$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

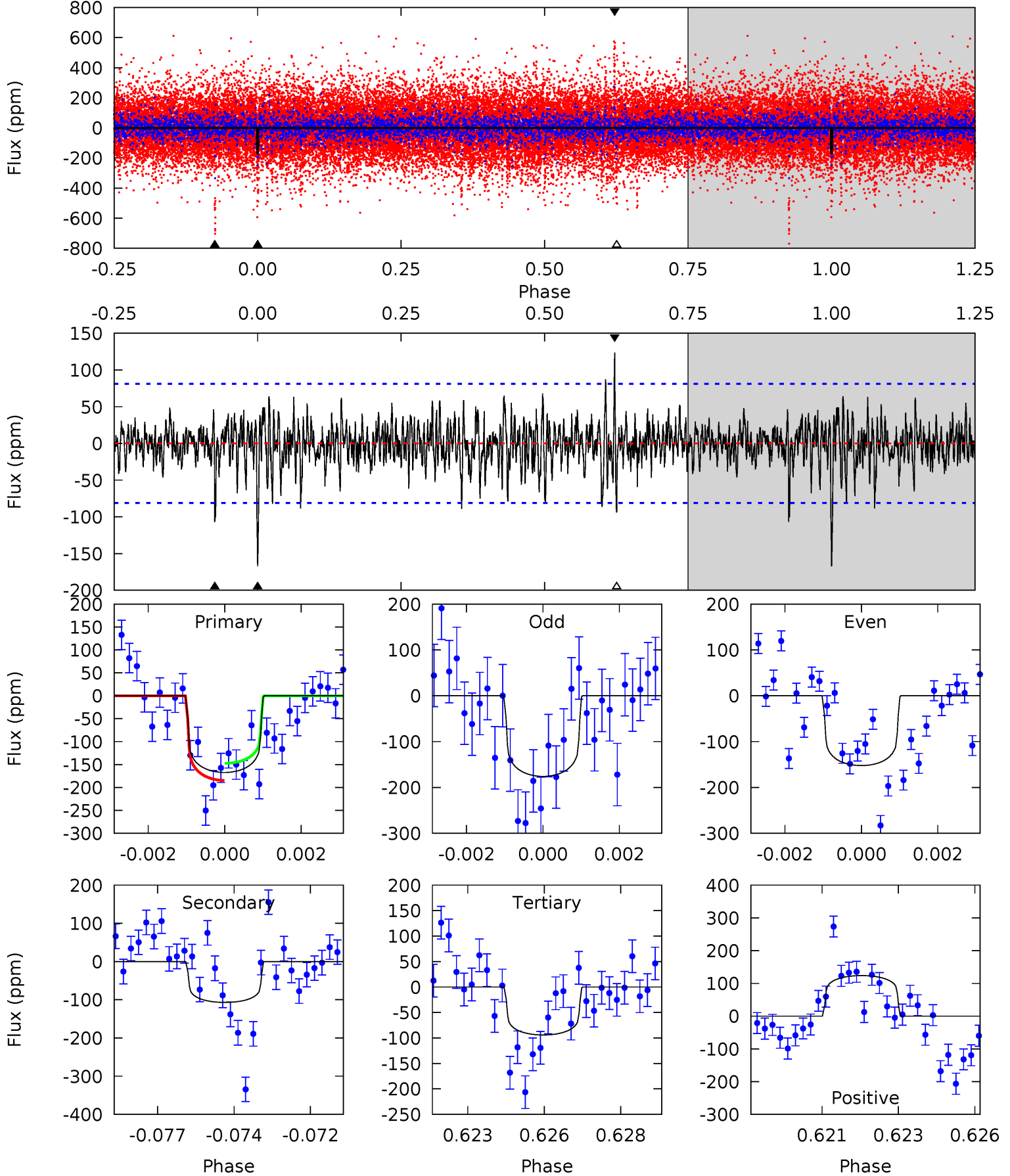
TCE 007461436-02 P=245.202720 Days $T_0=288.185831$ (BKJD)



DV Model-Shift Uniqueness Test

007461436-02, P = 245.215200 Days, E = 42.957425 Days

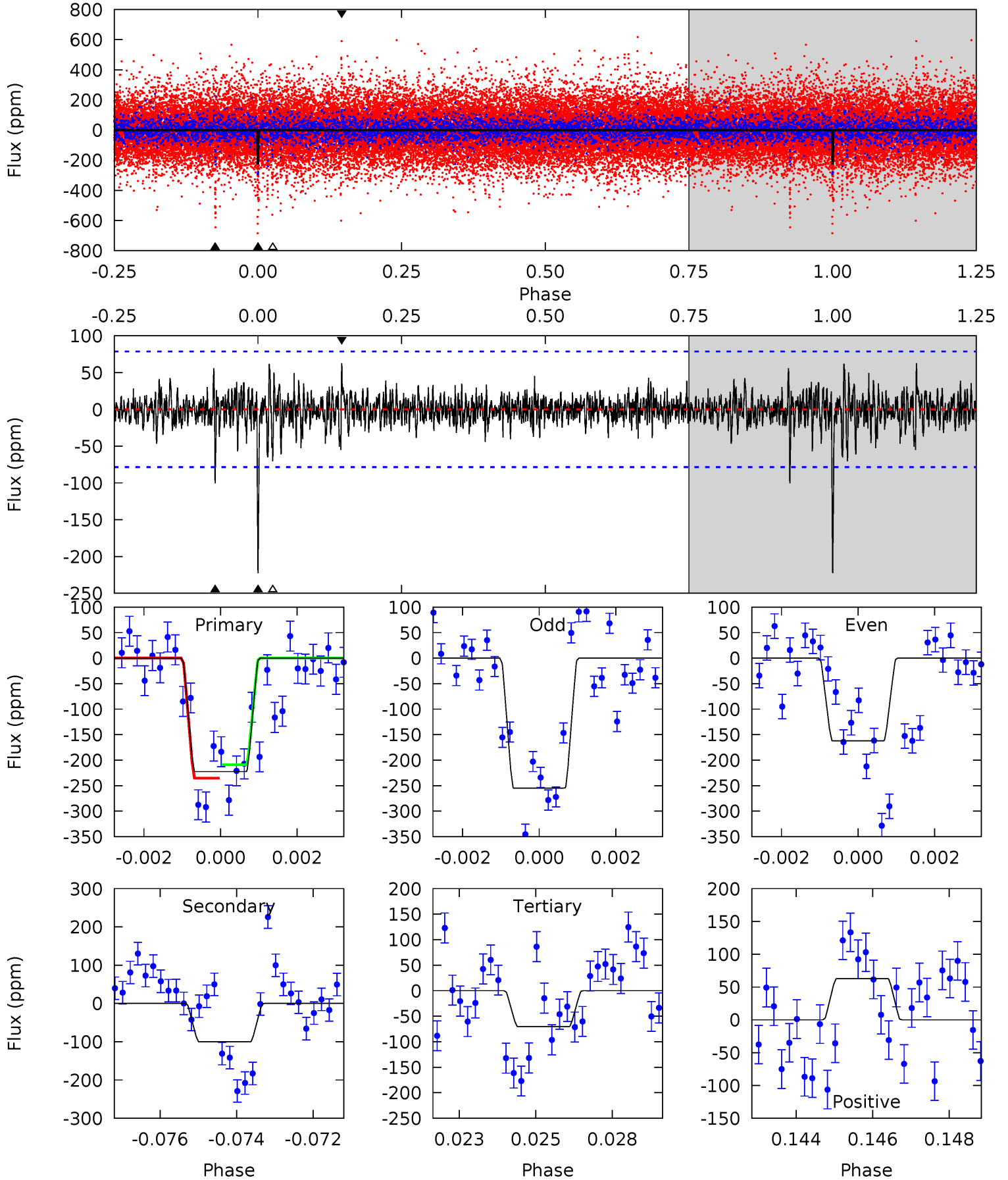
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.9	6.99	6.14	8.08	5.29	3.04	1.58	4.78	2.84	0.84	-1.10	0.74	0.62	0.43	1.22



Alt Model-Shift Uniqueness Test

007461436-02, P = 245.202720 Days, E = 42.983111 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.0	6.76	4.74	4.23	5.30	3.05	1.01	10.3	10.8	2.02	2.53	3.00	0.77	0.22	0.88



Stellar Parameters For KIC 007461436

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7379^{+206}_{-353}	$4.241^{+0.060}_{-0.240}$	$0.210^{+0.150}_{-0.350}$	$1.593^{+0.602}_{-0.161}$	$1.626^{+0.214}_{-0.193}$	$0.567^{+0.184}_{-0.323}$
	+3%/-5%	+1%/-6%	+71%/-167%	+38%/-10%	+13%/-12%	+32%/-57%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007461436-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-107 ± 15	$2.33^{+1.42}_{-1.17}$	618^{+57}_{-36}	6583^{+3469}_{-1316}	8920^{+25995}_{-5585}
Alt.	-100 ± 15	$2.82^{+1.43}_{-1.27}$	615^{+49}_{-36}	5842^{+2421}_{-935}	5653^{+13059}_{-3270}

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 $A_{obs} \gg 1.0$

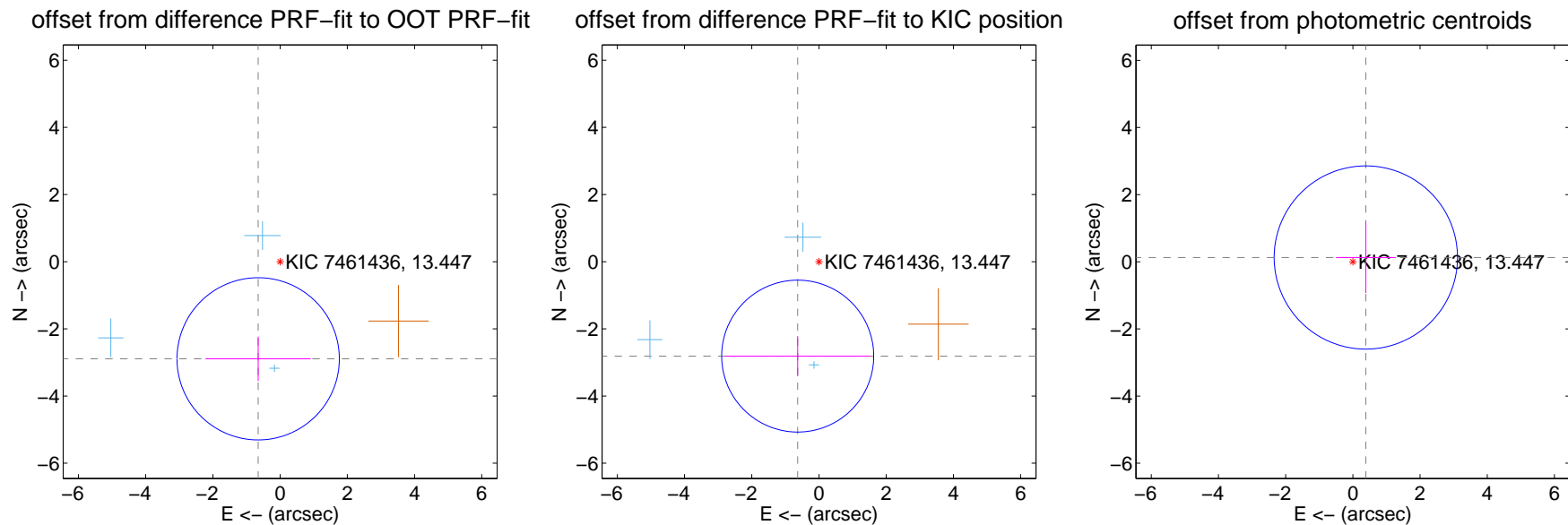
DV Centroid Data

Supplemental centroid analysis for 007461436-02. Kepler magnitude: 13.45. Transit SNR 7.34

There are 3 quarters with good PRF difference image offsets

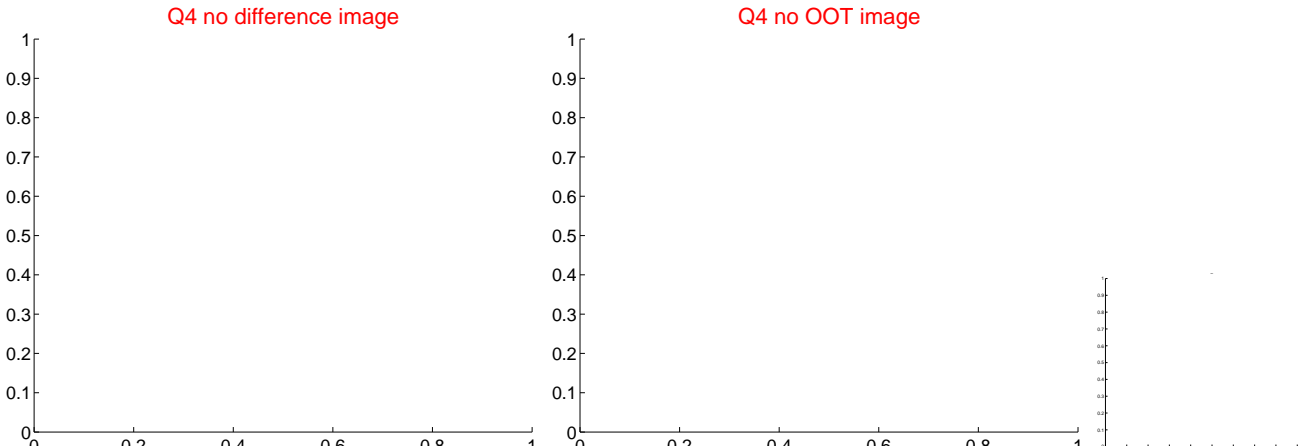
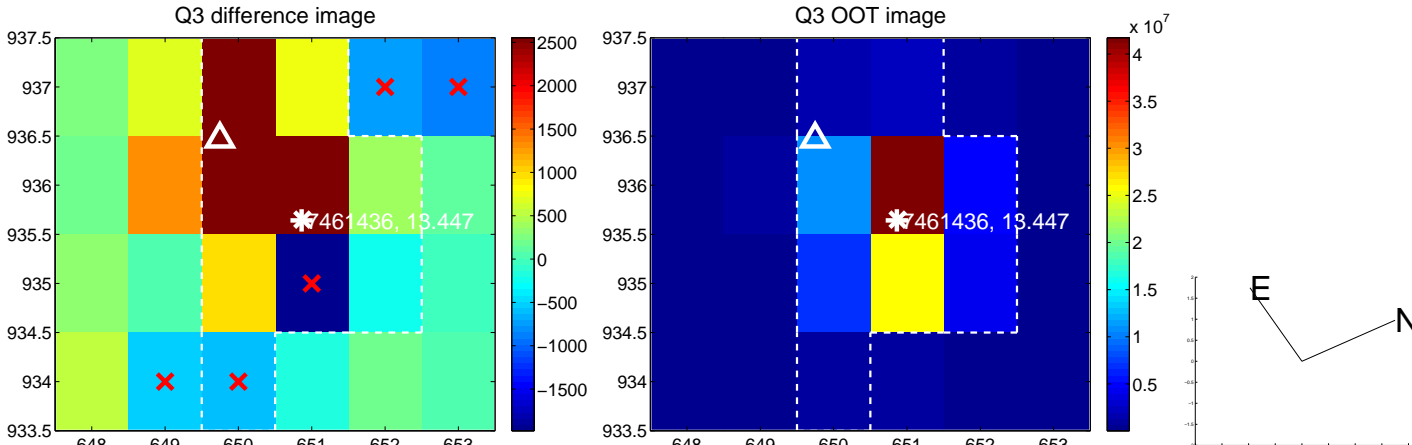
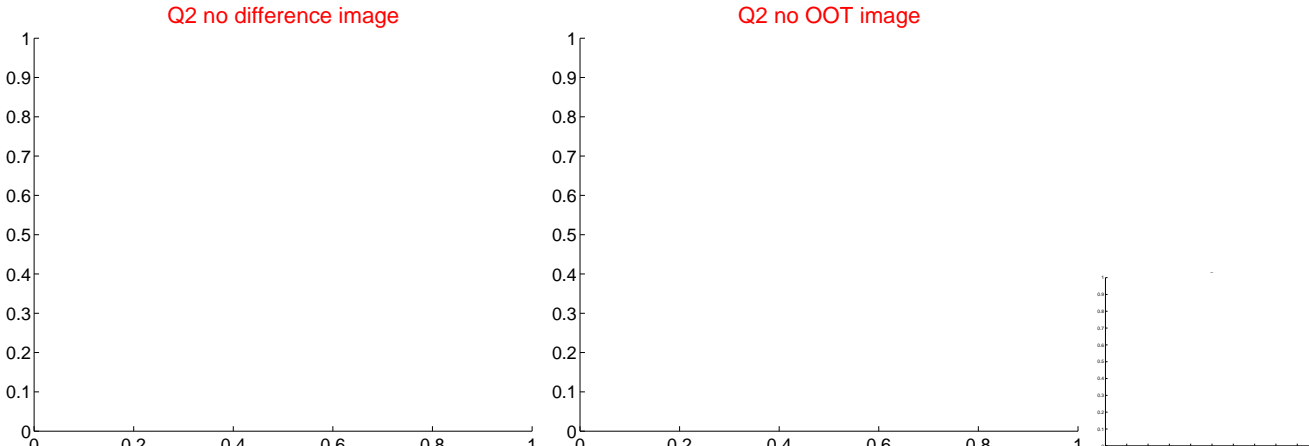
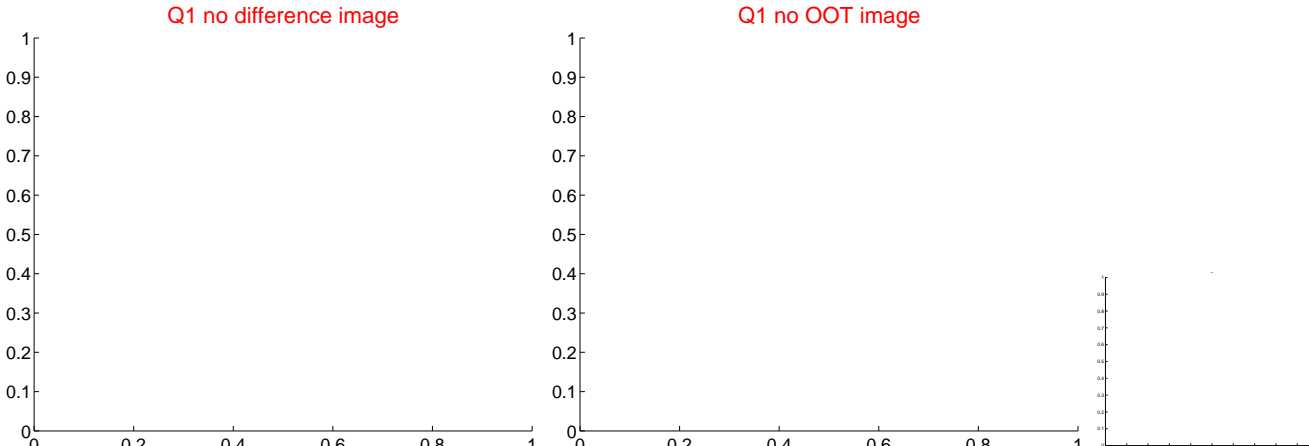
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.965 ± 0.805	3.68	0.653 ± 1.566	-2.892 ± 0.661
PRF-fit source offset from KIC position	2.882 ± 0.754	3.82	0.633 ± 2.163	-2.811 ± 0.597
photometric centroid source offset	0.41 ± 0.91	0.45	-0.39 ± 0.89	0.13 ± 1.06

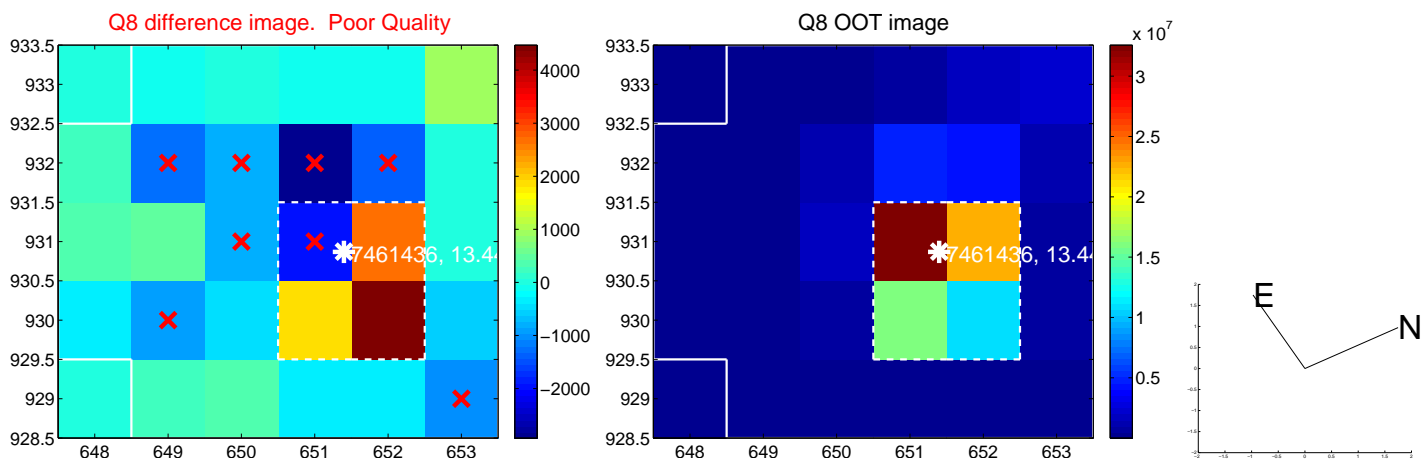
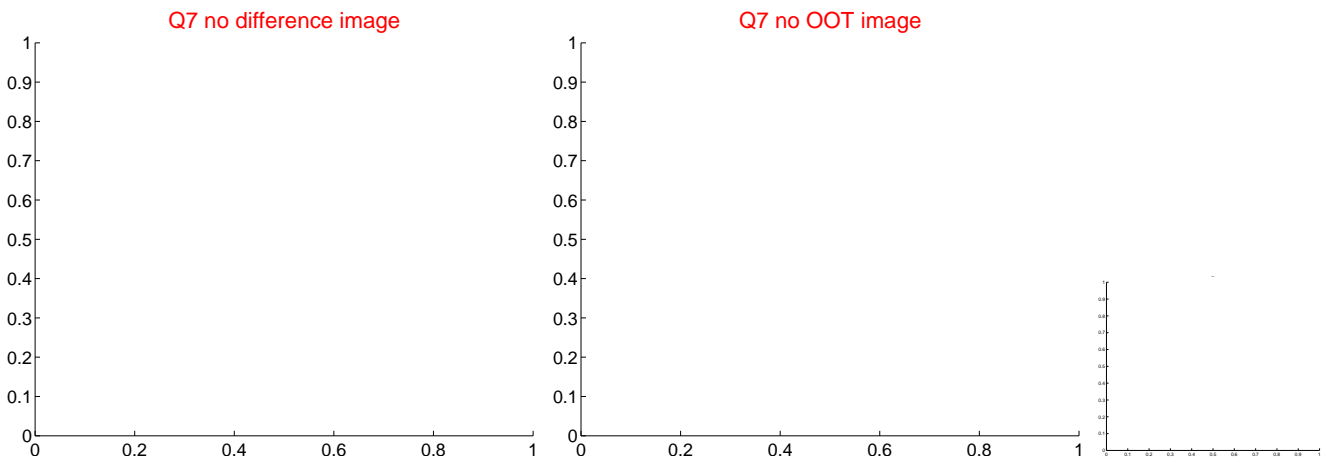
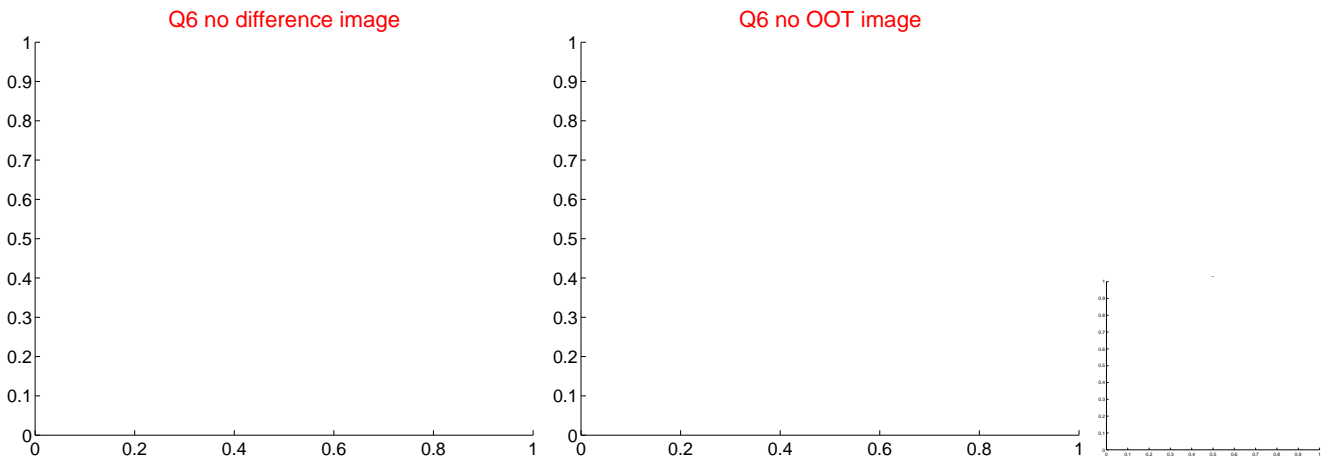
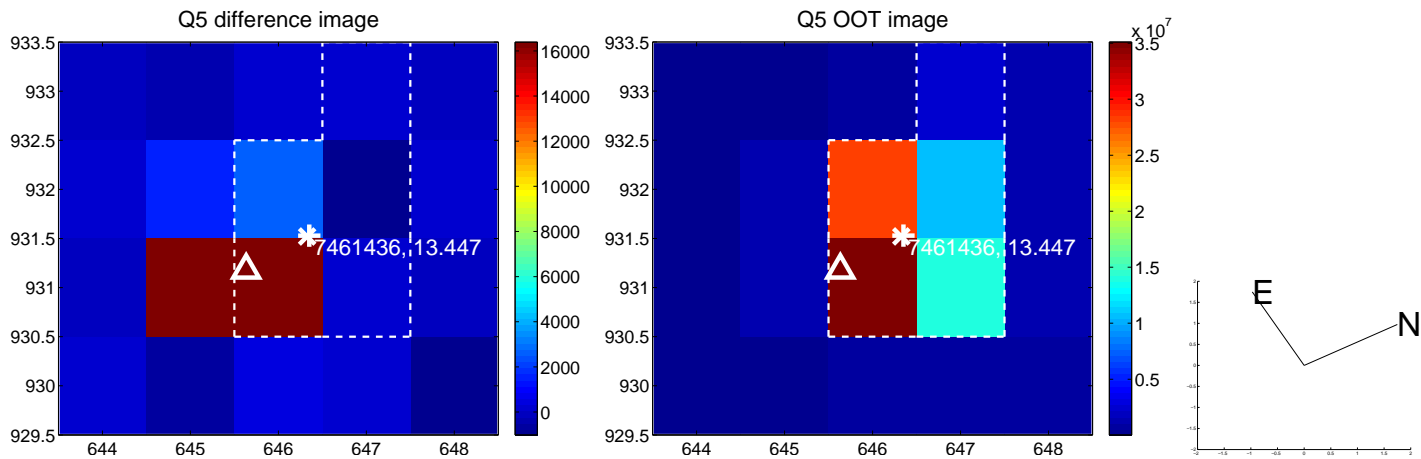


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

Q9 no difference image



Q9 no OOT image



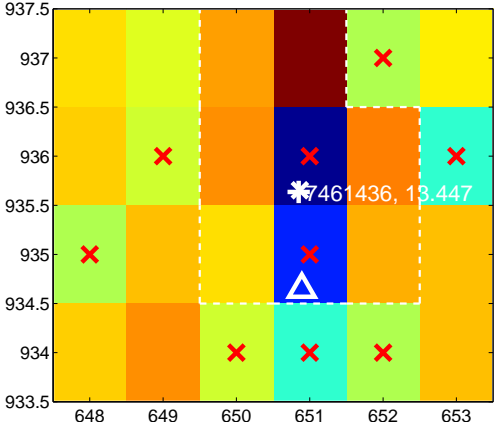
Q10 no difference image



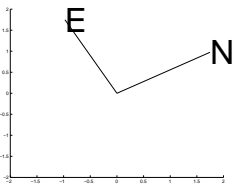
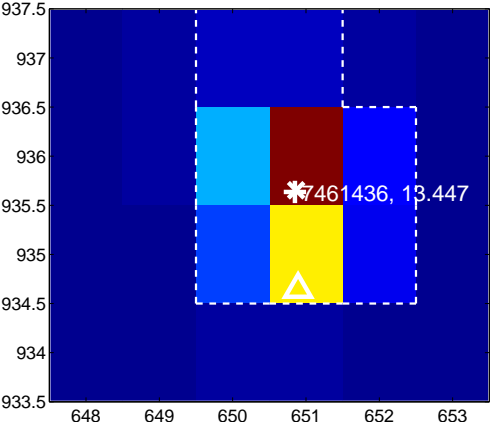
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



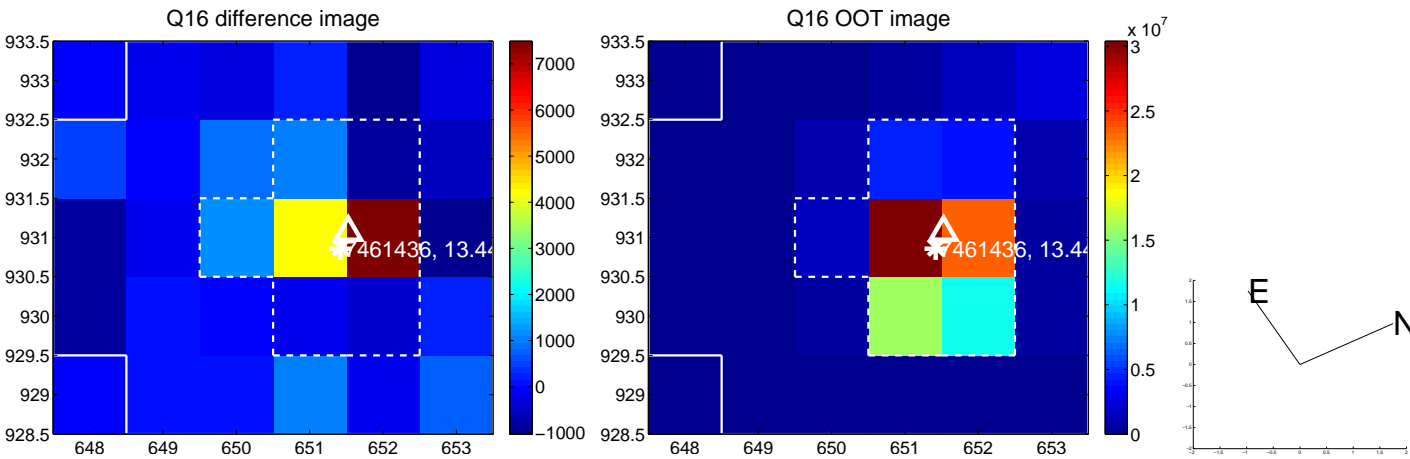
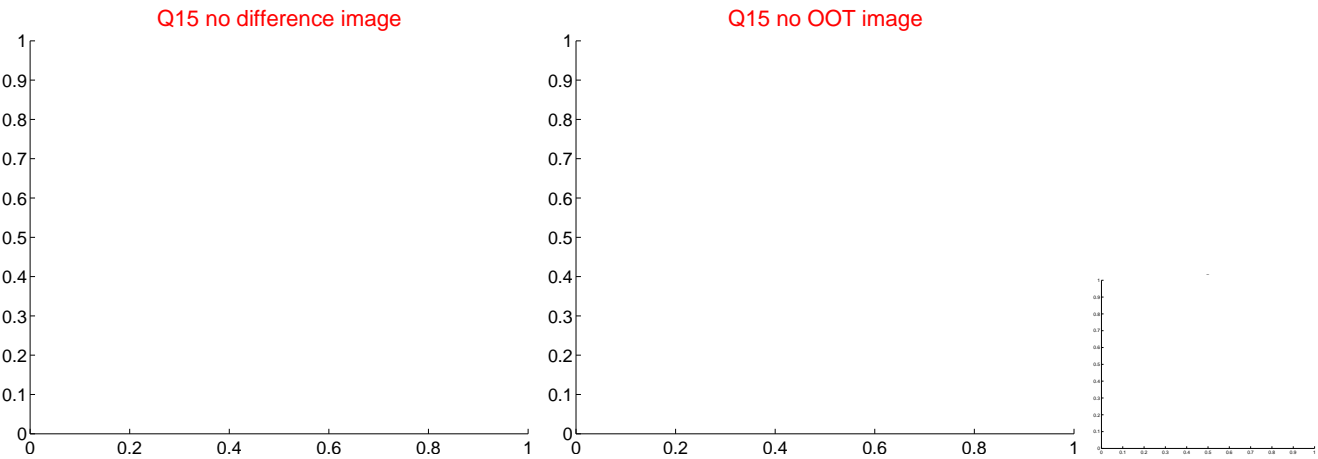
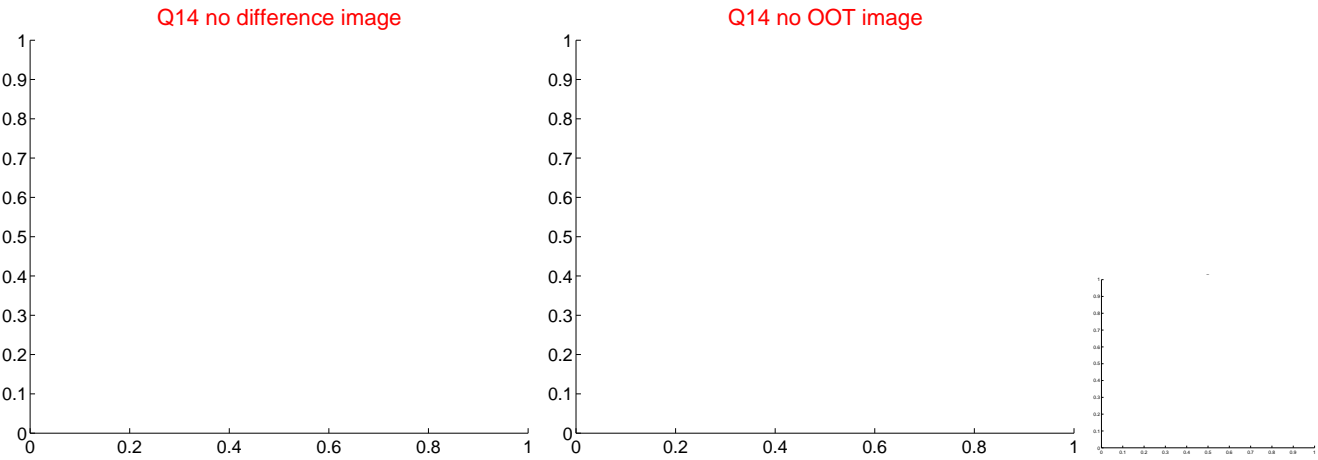
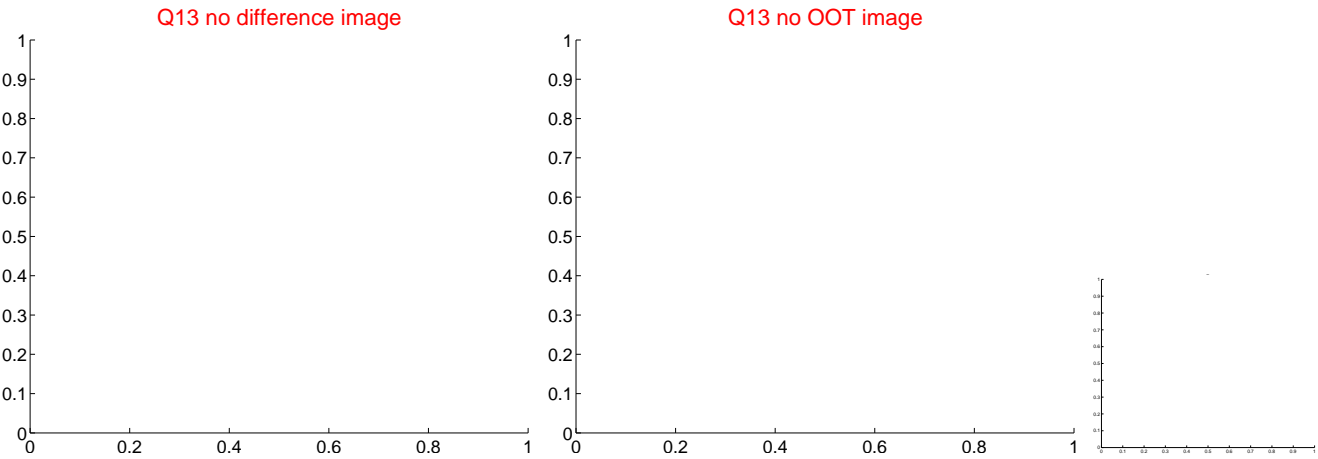
Q12 no difference image



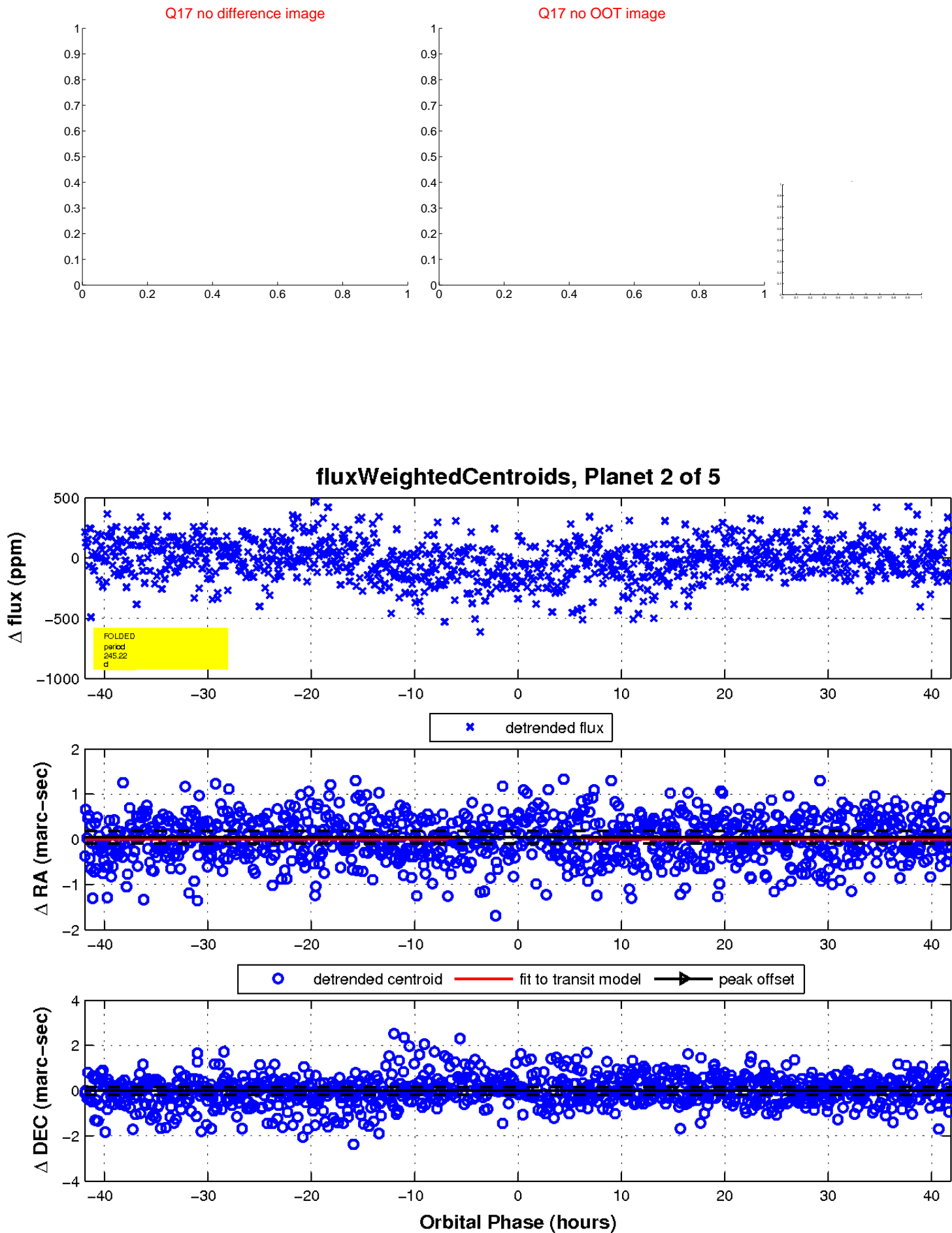
Q12 no OOT image



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

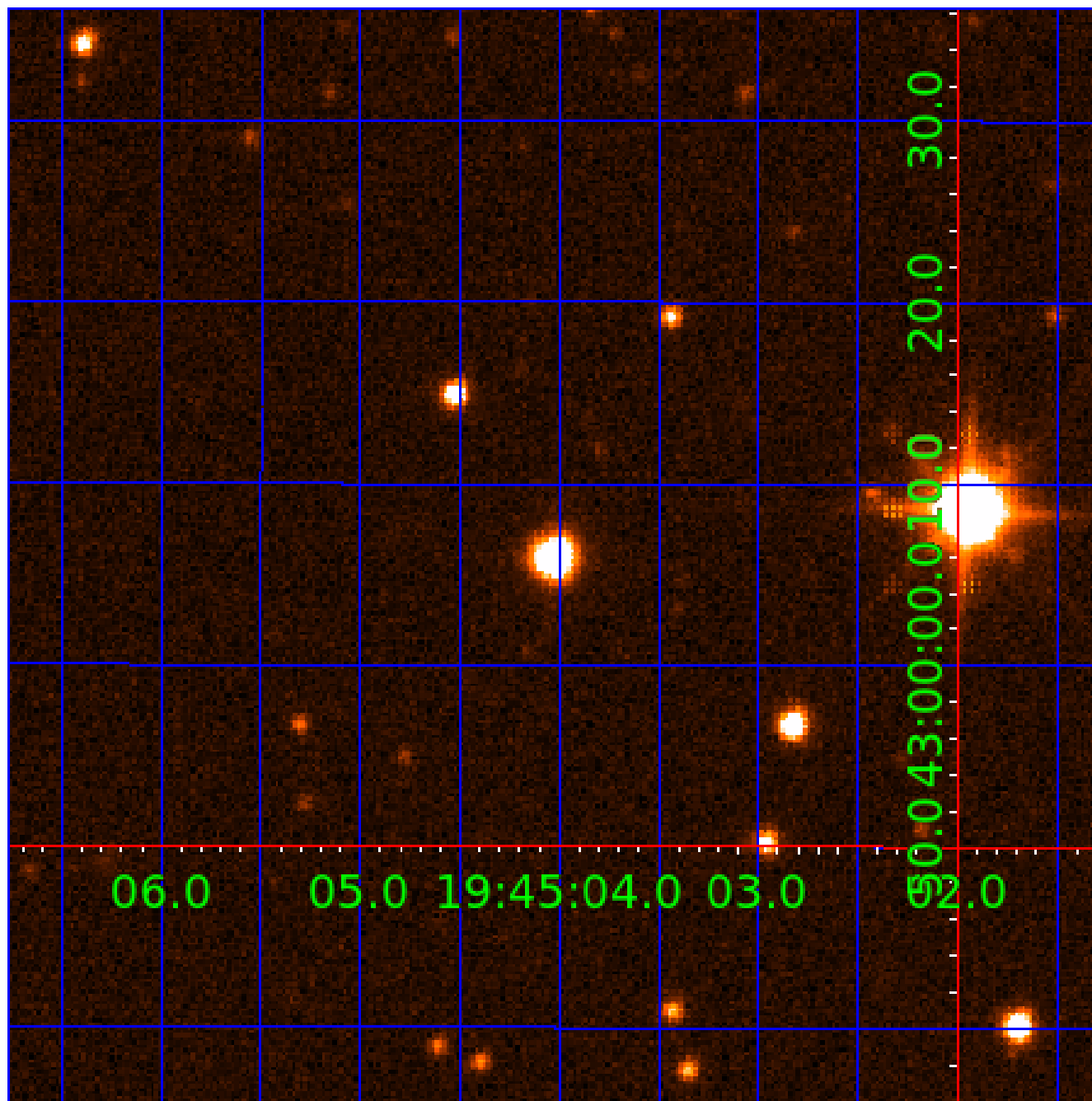


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007461436

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})
007461436-01	OBS	No	0.962490	131.517805	223.5	3.500	11.9	-1.0	1.59	7379	2.42	13463.76
007461436-02	OBS	No	245.215200	288.172625	155.6	13.988	10.2	7.3	1.59	7379	2.17	8.34
007461436-03	OBS	No	403.425138	379.322005	264.8	16.706	9.5	9.7	1.59	7379	2.82	4.29
007461436-04	OBS	No	376.185715	420.905096	356.3	13.098	8.4	9.3	1.59	7379	3.28	4.71
007461436-05	OBS	No	221.947394	196.225956	145.1	17.460	7.7	7.5	1.59	7379	2.04	9.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007461436-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
007461436-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007461436-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007461436-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
007461436-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—CENT_FEW_DIFFS

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

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

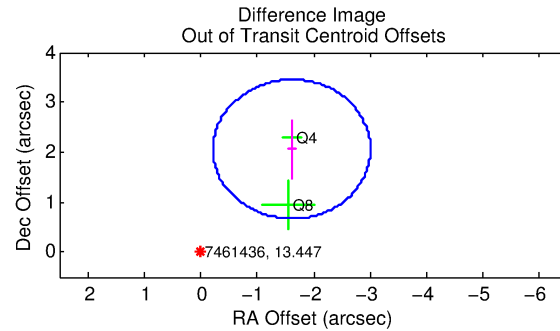
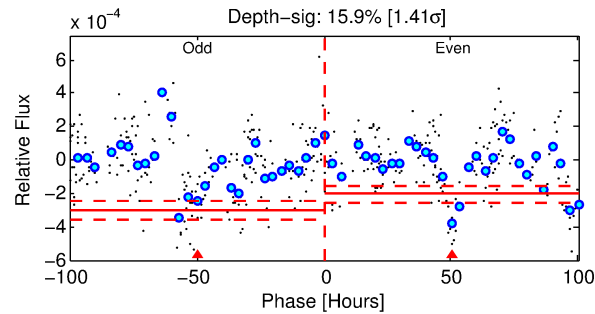
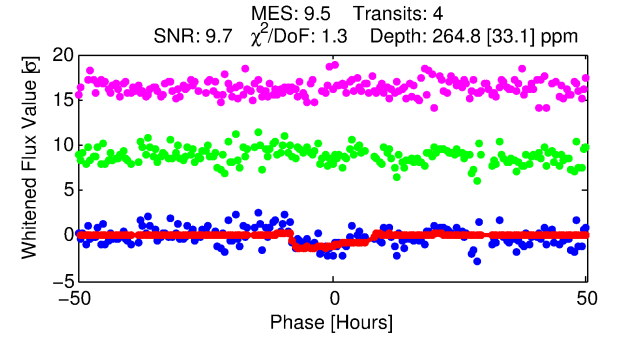
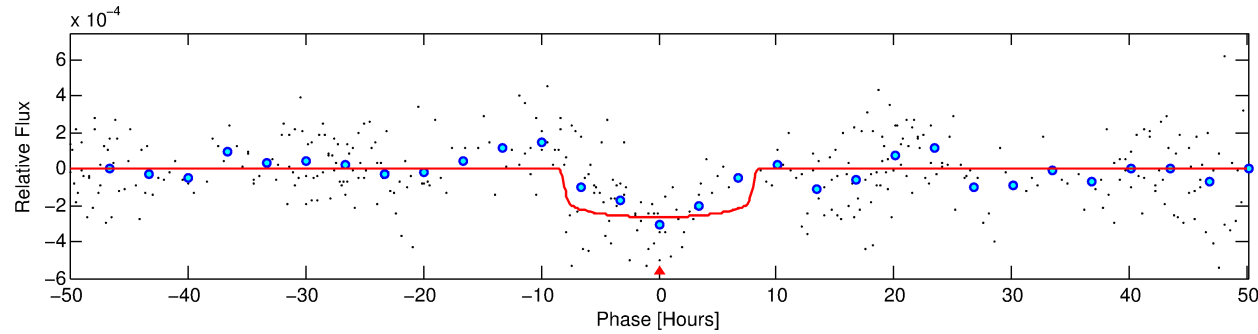
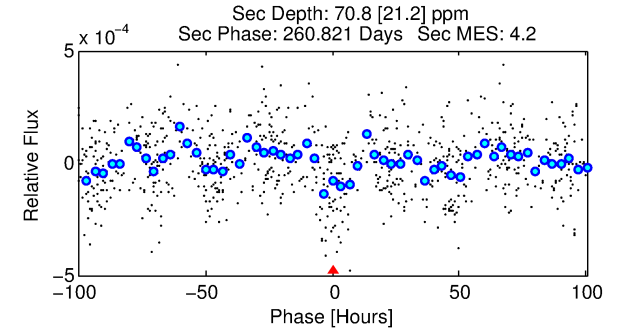
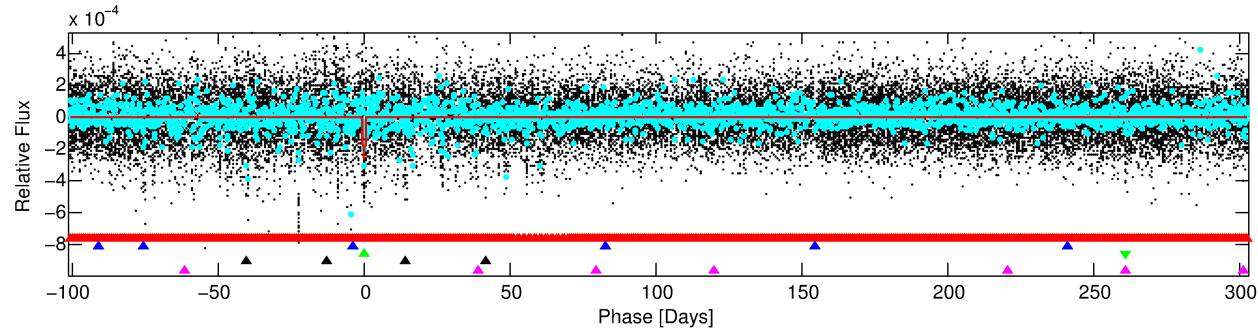
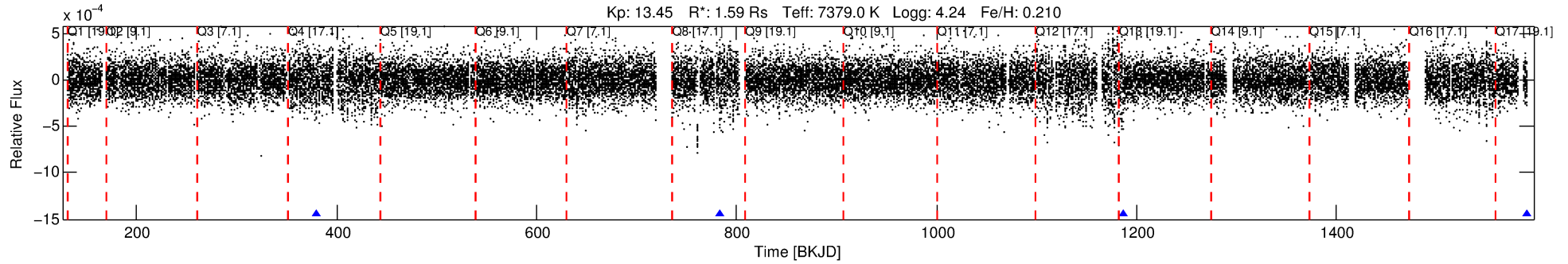
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007461436-03

No Significant Match Found

DV One-Page Summary

KIC: 7461436 Candidate: 3 of 5 Period: 403.425 d



DV Fit Results:

Period = 403.42514 [0.01487] d
Epoch = 379.3220 [0.0434] BKJD
Rp/R* = 0.0162 [0.0043]
a/R* = 124.40 [197.94]
b = 0.76 [0.90]
Seff = 4.29 [2.08]
Teff = 367 [45] K
Rp = 2.82 [1.30] Re
a = 1.2532 [0.3911] AU
Ag = 7691.92 [5791.61] [1.33σ]
Teffp = 5314 [845] K [5.85σ]

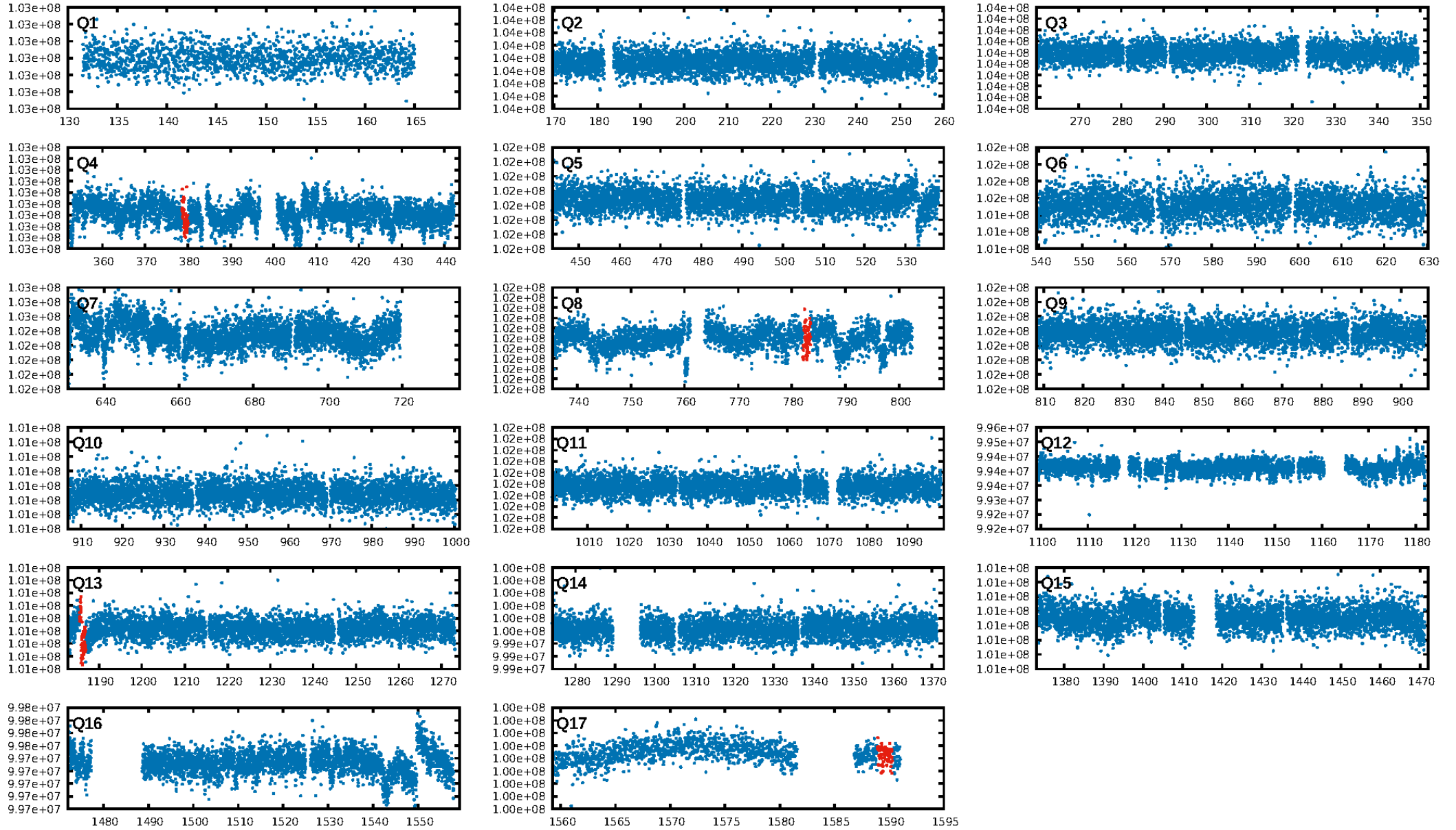
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [30.80σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 4.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.31e-13
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.514
Centroid-sig: 27.4%
Centroid-so: 0.601 arcsec [1.02σ]
OotOffset-rm: 2.616 arcsec [5.63σ]
KicOffset-rm: 2.632 arcsec [4.08σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/3]

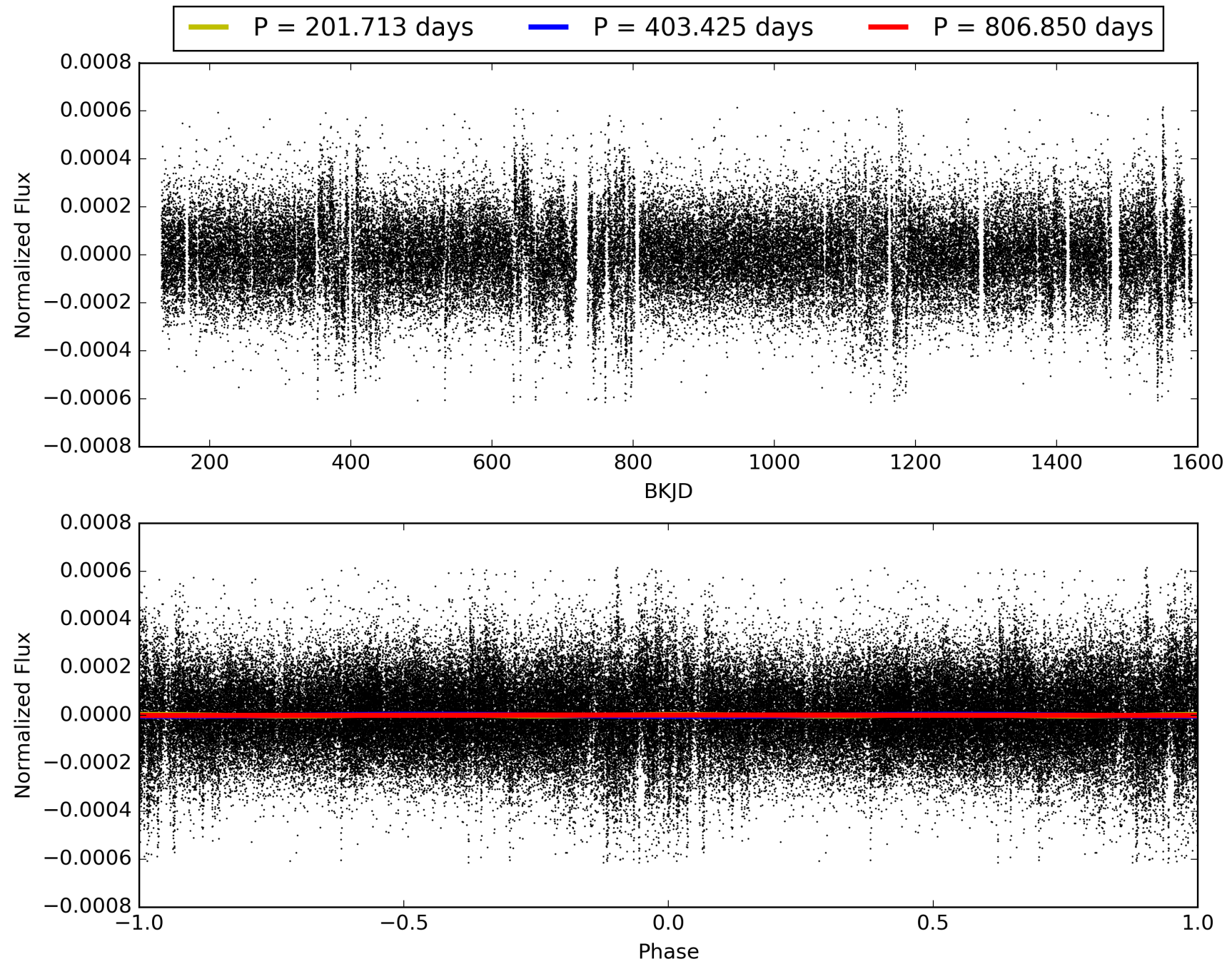
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:43:54 Z

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

TCE 007461436-03, PDC Light Curves

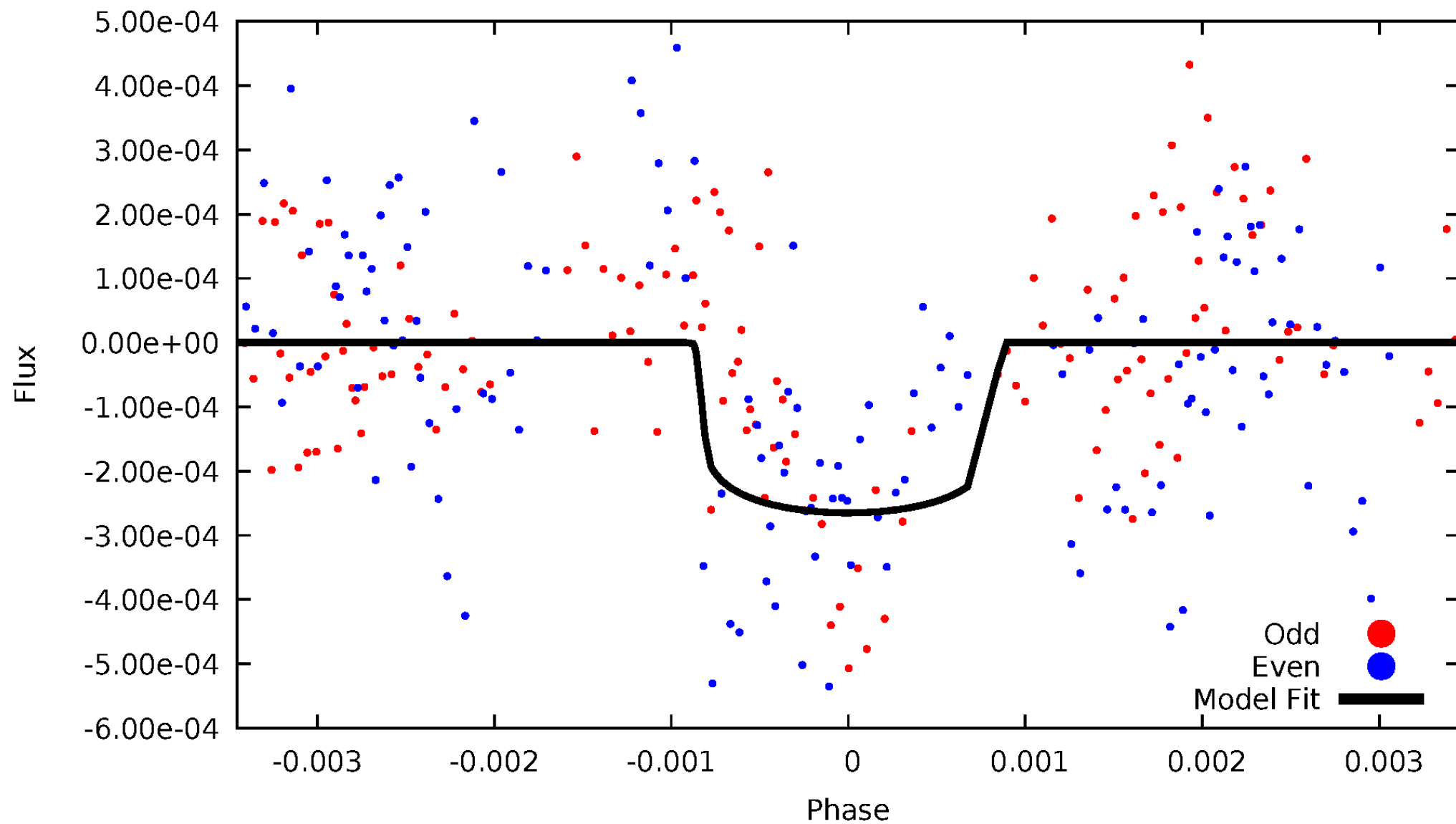


TCE 007461436-03



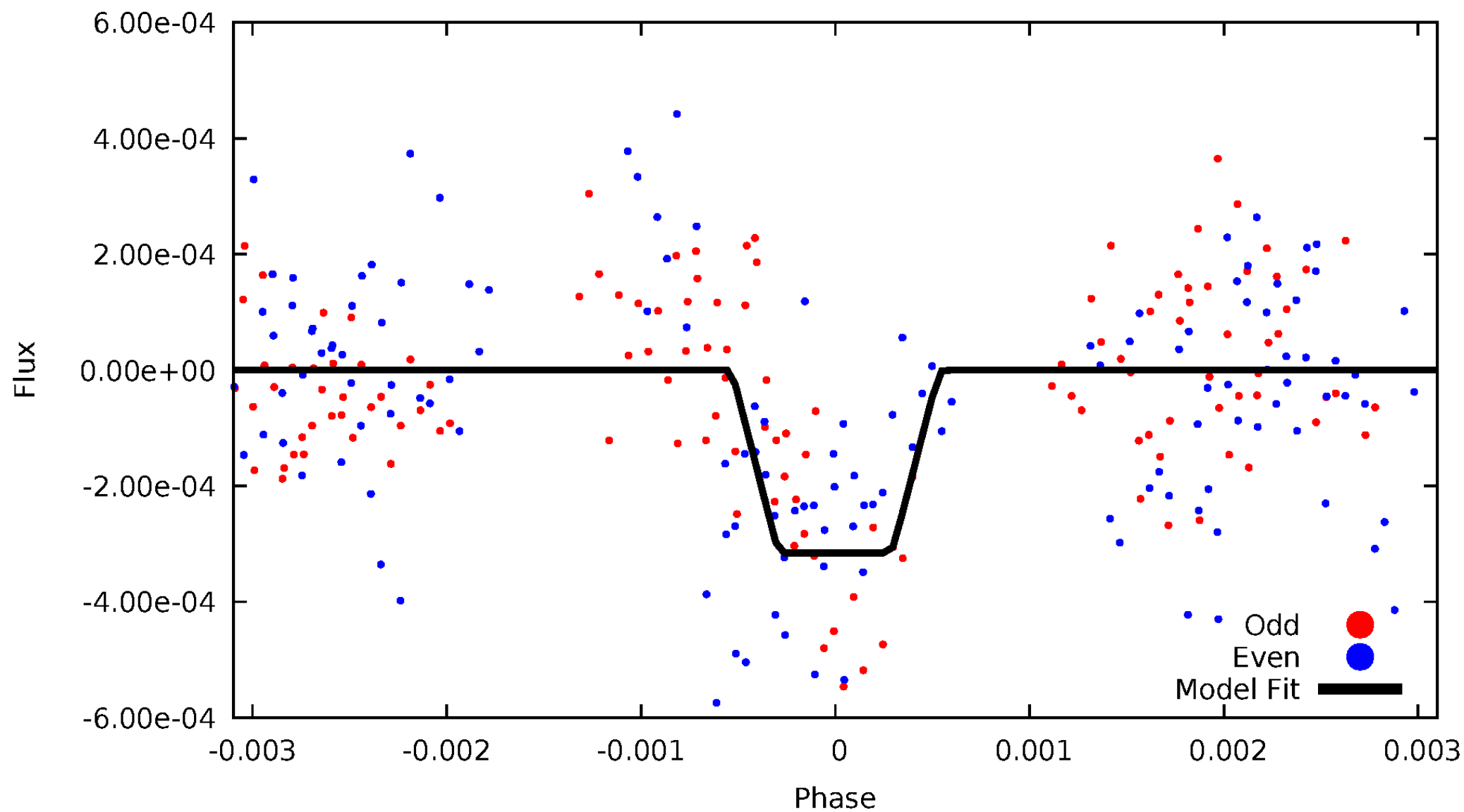
DV Odd/Even

TCE 007461436-03



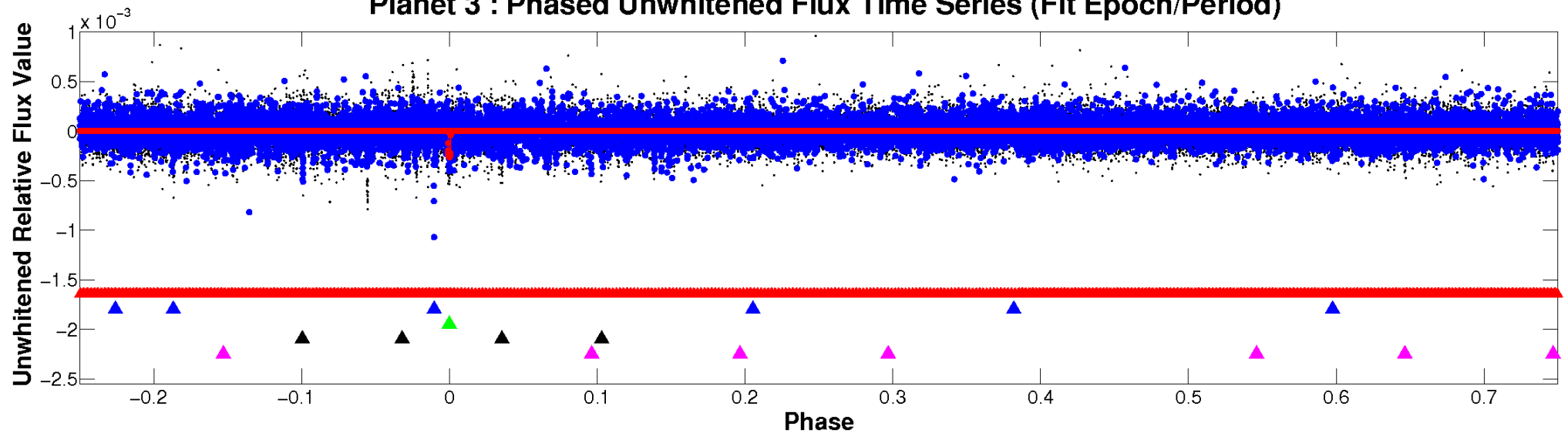
ALT Odd/Even

TCE 007461436-03

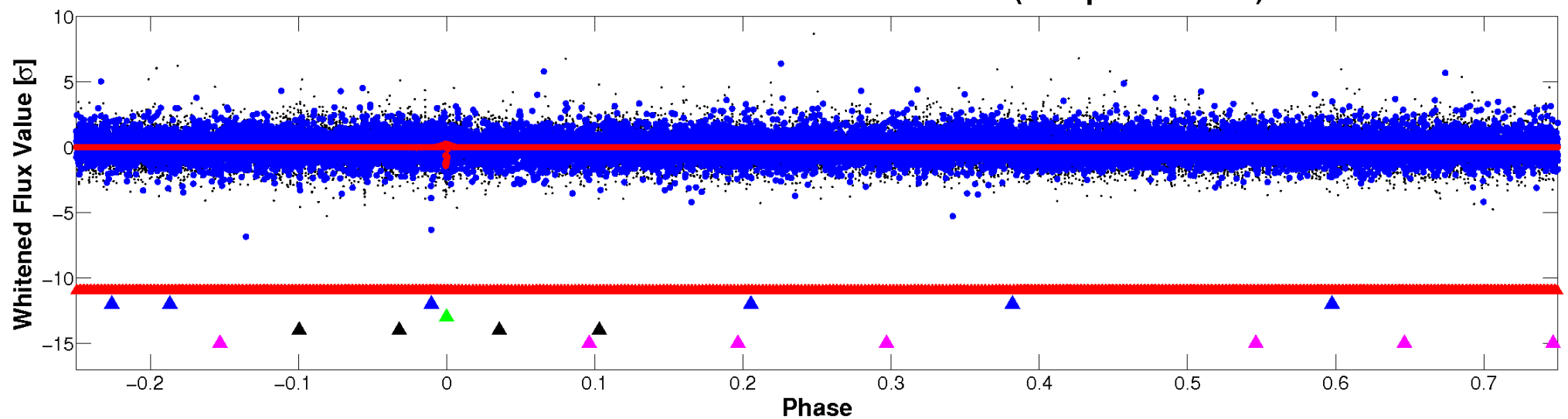


Non-Whitened Vs. Whitened Light Curve

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 007461436-03 $P=403.425138$ Days $T_0=379.322005$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007461436-03 $P=403.425138$ Days $T_0=379.322005$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

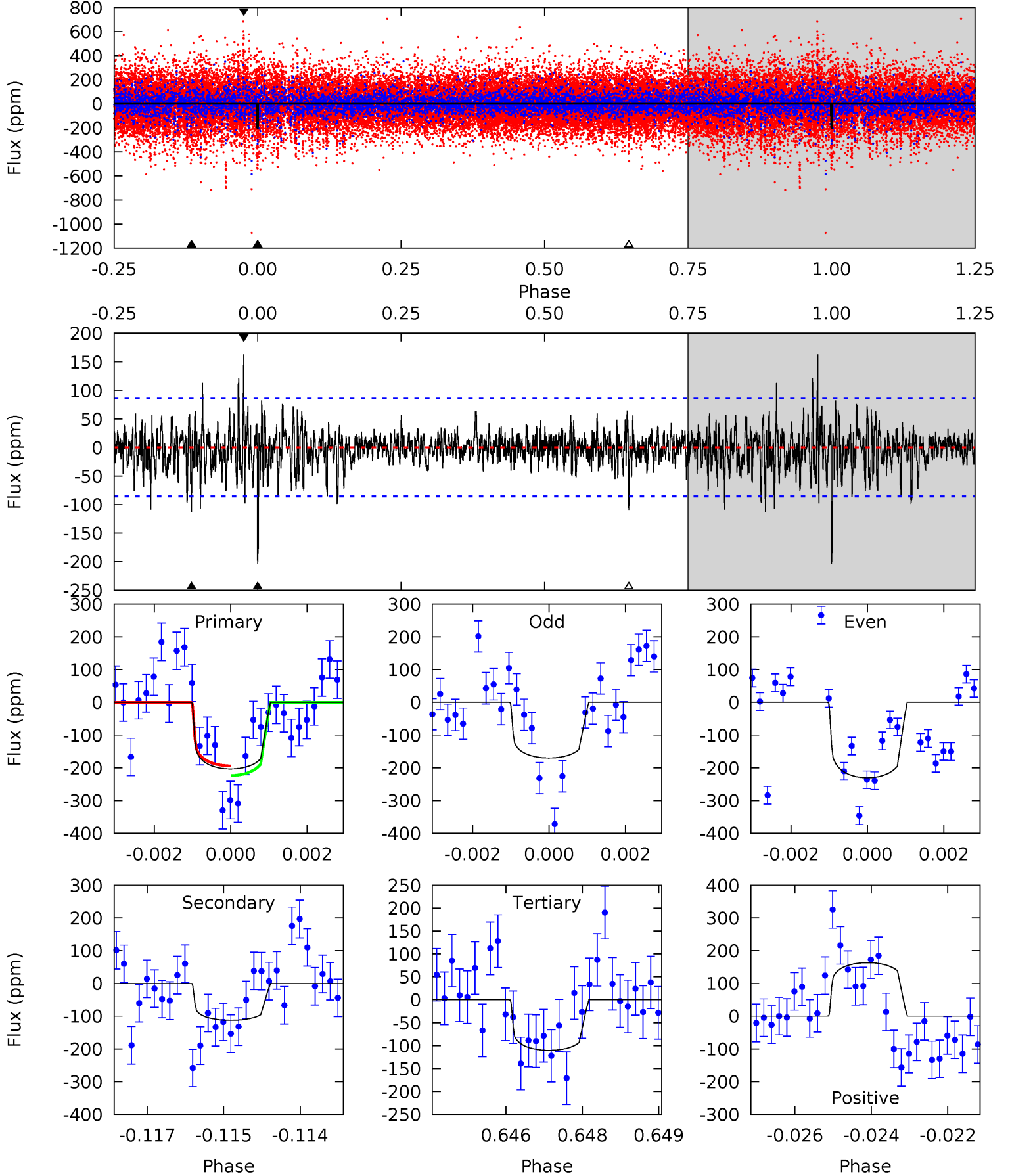
TCE 007461436-03 $P=403.378908$ Days $T_0=379.352159$ (BKJD)



DV Model-Shift Uniqueness Test

007461436-03, P = 403.425138 Days, E = 379.322005 Days

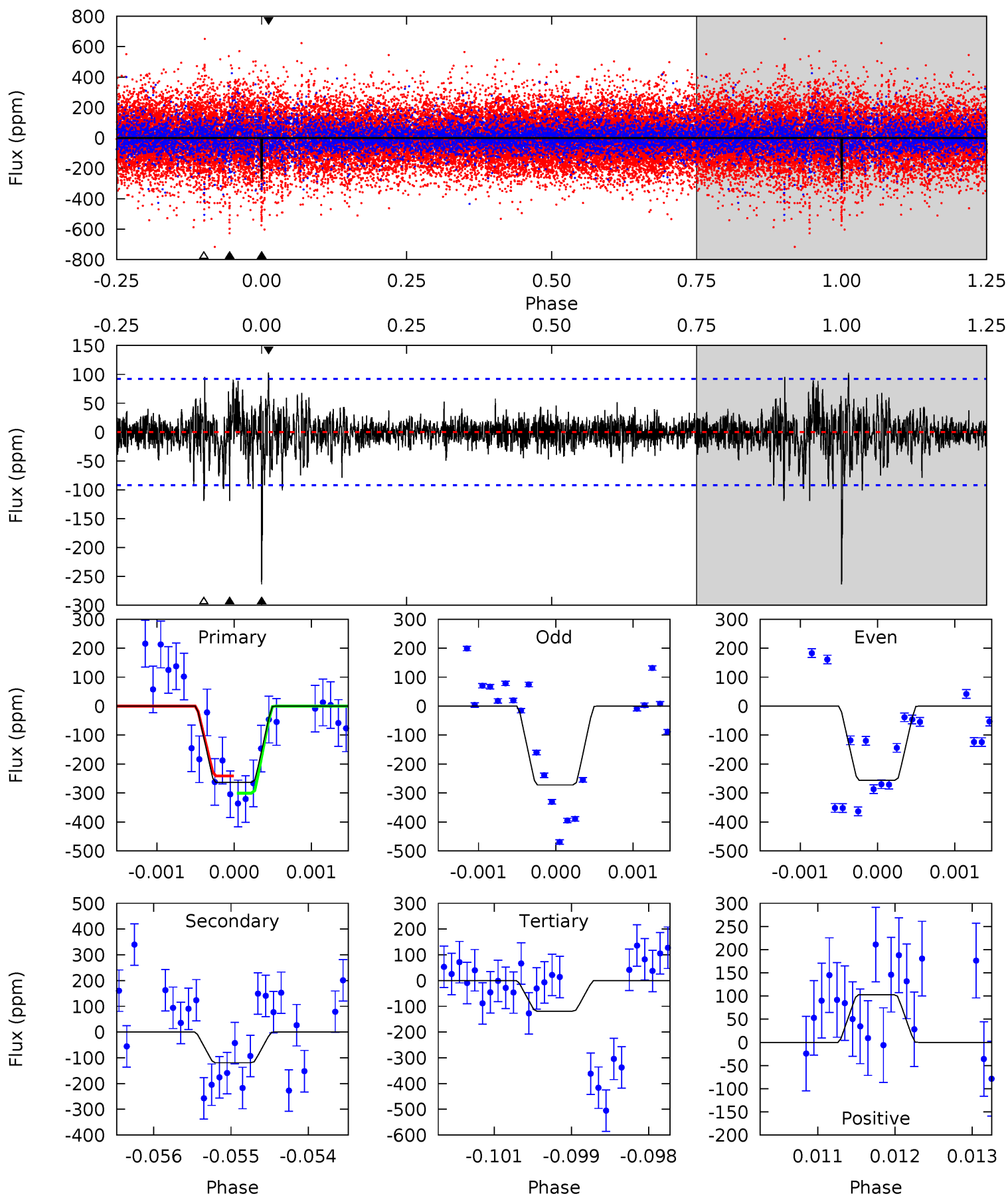
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.7	7.04	6.89	10.2	5.35	3.13	1.60	5.83	2.53	0.15	-3.15	1.89	1.02	0.44	0.85



Alt Model-Shift Uniqueness Test

007461436-03, P = 403.378908 Days, E = 379.352159 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	7.03	7.02	6.06	5.43	3.26	1.25	8.53	9.49	0.01	0.97	0.47	0.92	0.28	1.68



Stellar Parameters For KIC 007461436

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7379^{+206}_{-353}	$4.241^{+0.060}_{-0.240}$	$0.210^{+0.150}_{-0.350}$	$1.593^{+0.602}_{-0.161}$	$1.626^{+0.214}_{-0.193}$	$0.567^{+0.184}_{-0.323}$
	+3%/-5%	+1%/-6%	+71%/-167%	+38%/-10%	+13%/-12%	+32%/-57%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007461436-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-113 \pm 16	$2.96^{+0.88}_{-0.80}$	521^{+46}_{-29}	5884^{+1003}_{-654}	11025^{+10063}_{-4566}
Alt.	-119 \pm 17	$3.31^{+0.97}_{-0.85}$	522^{+44}_{-33}	5658^{+851}_{-585}	9315^{+7581}_{-3872}

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

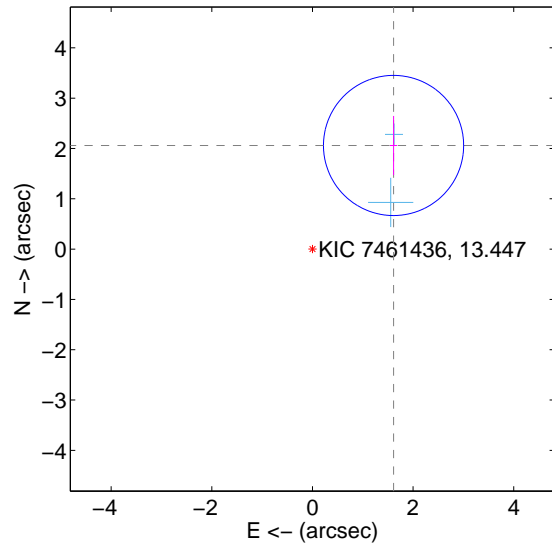
Supplemental centroid analysis for 007461436-03. Kepler magnitude: 13.45. Transit SNR 9.68

There are 2 quarters with good PRF difference image offsets

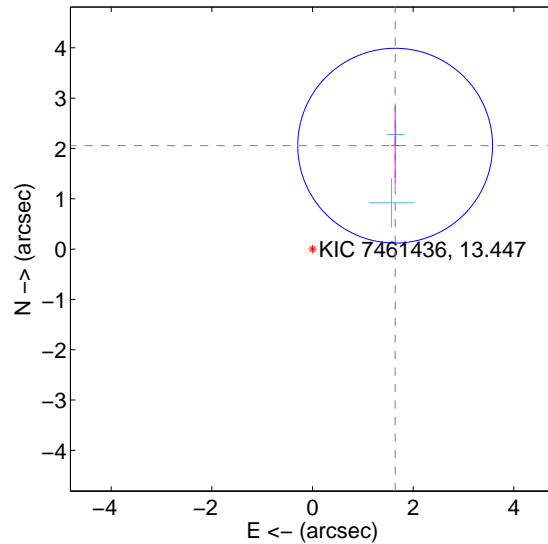
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.616 ± 0.464	5.63	-1.612 ± 0.072	2.060 ± 0.587
PRF-fit source offset from KIC position	2.632 ± 0.645	4.08	-1.643 ± 0.082	2.056 ± 0.786
photometric centroid source offset	0.60 ± 0.59	1.02	-0.37 ± 0.54	0.47 ± 0.62

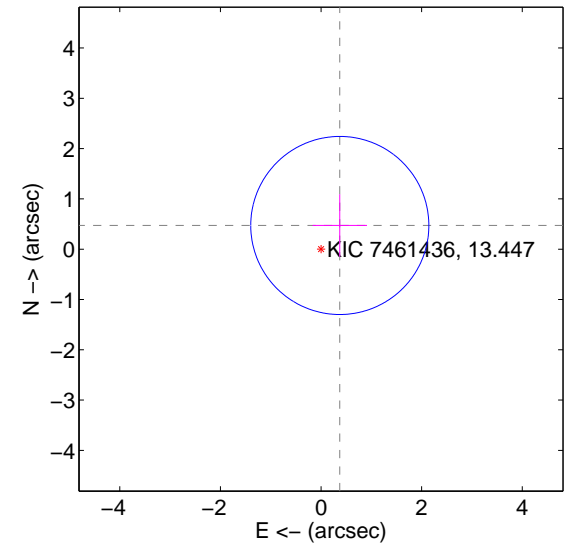
offset from difference PRF-fit to OOT PRF-fit



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 no difference image



Q2 no OOT image



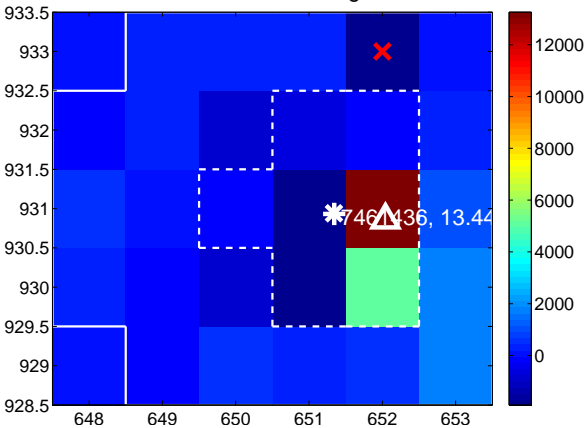
Q3 no difference image



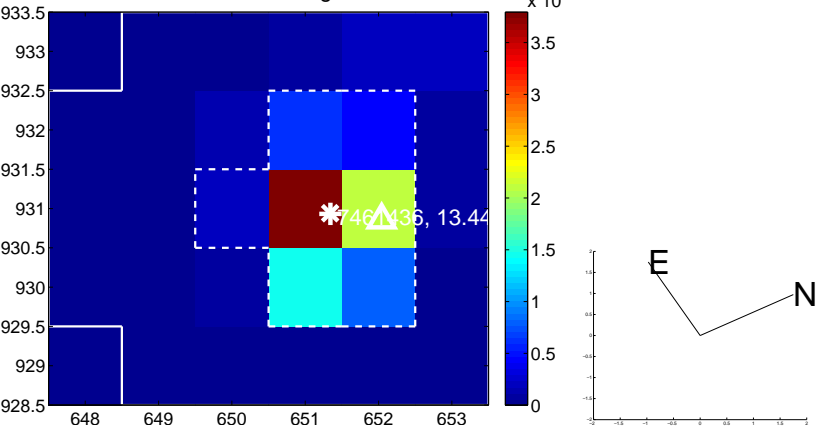
Q3 no OOT image



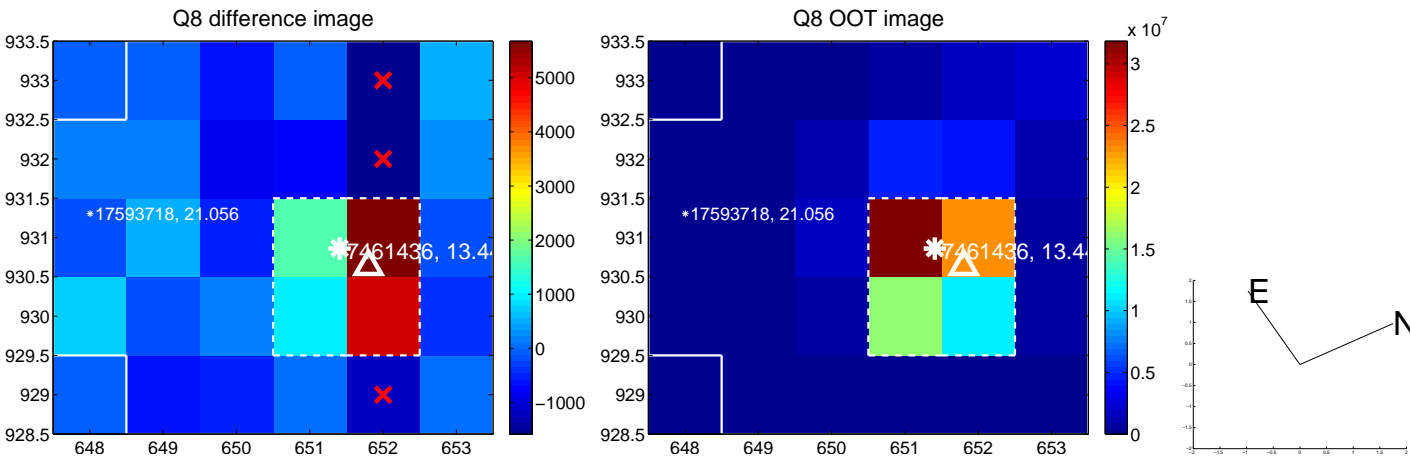
Q4 difference image



Q4 OOT image



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



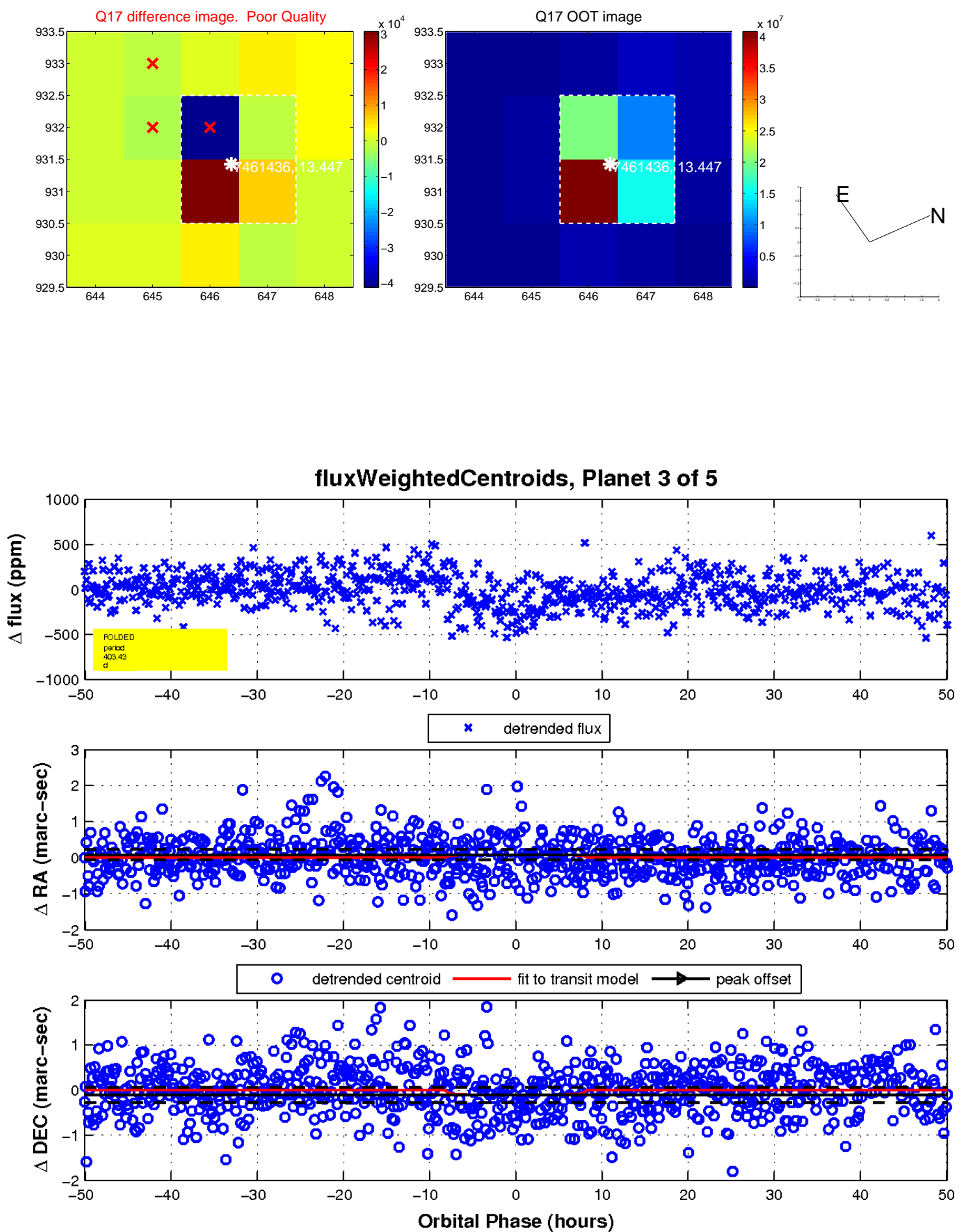
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

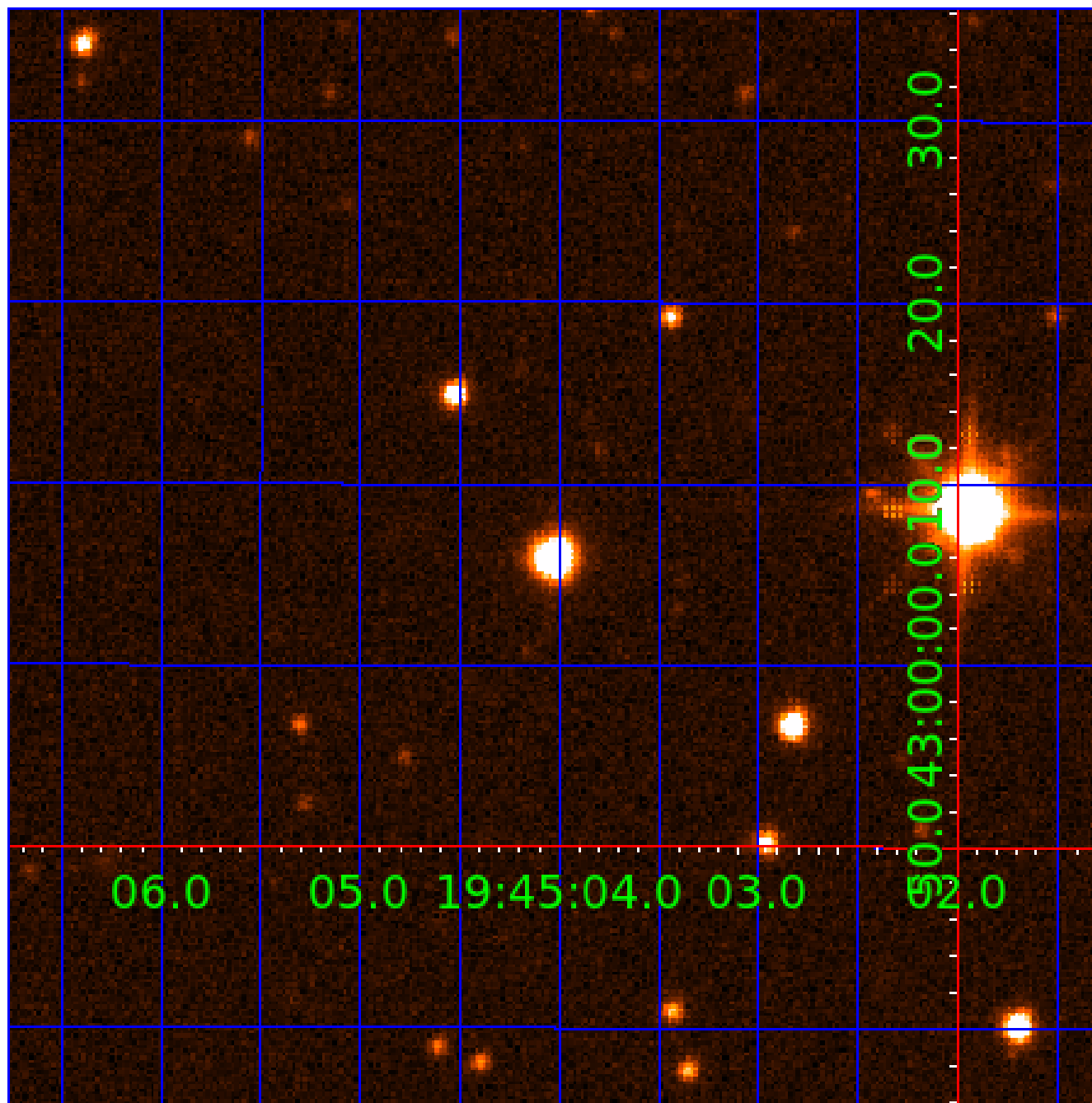


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007461436

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})
007461436-01	OBS	No	0.962490	131.517805	223.5	3.500	11.9	-1.0	1.59	7379	2.42	13463.76
007461436-02	OBS	No	245.215200	288.172625	155.6	13.988	10.2	7.3	1.59	7379	2.17	8.34
007461436-03	OBS	No	403.425138	379.322005	264.8	16.706	9.5	9.7	1.59	7379	2.82	4.29
007461436-04	OBS	No	376.185715	420.905096	356.3	13.098	8.4	9.3	1.59	7379	3.28	4.71
007461436-05	OBS	No	221.947394	196.225956	145.1	17.460	7.7	7.5	1.59	7379	2.04	9.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007461436-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
007461436-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007461436-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007461436-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
007461436-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—CENT_FEW_DIFFS

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

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

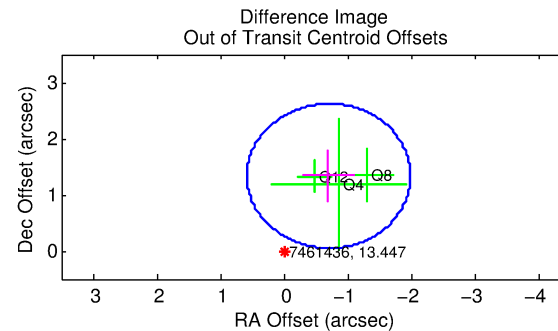
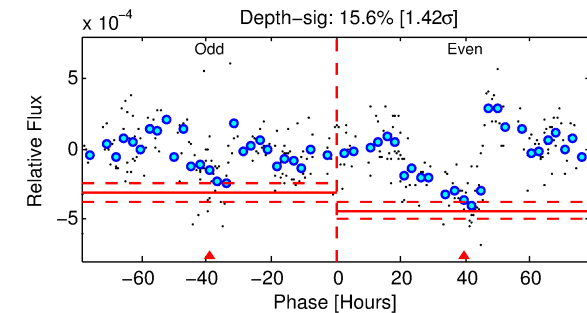
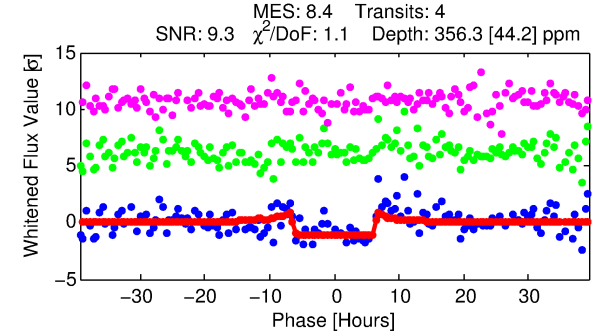
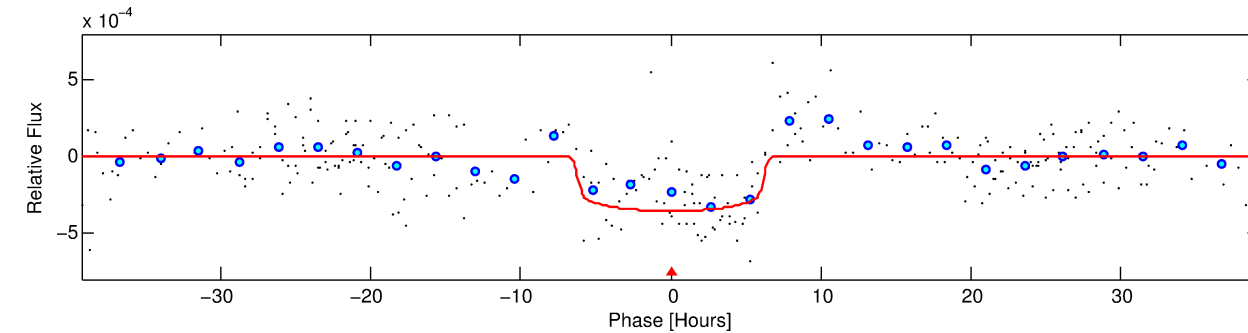
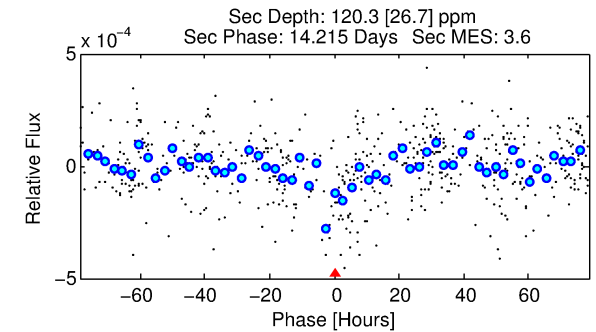
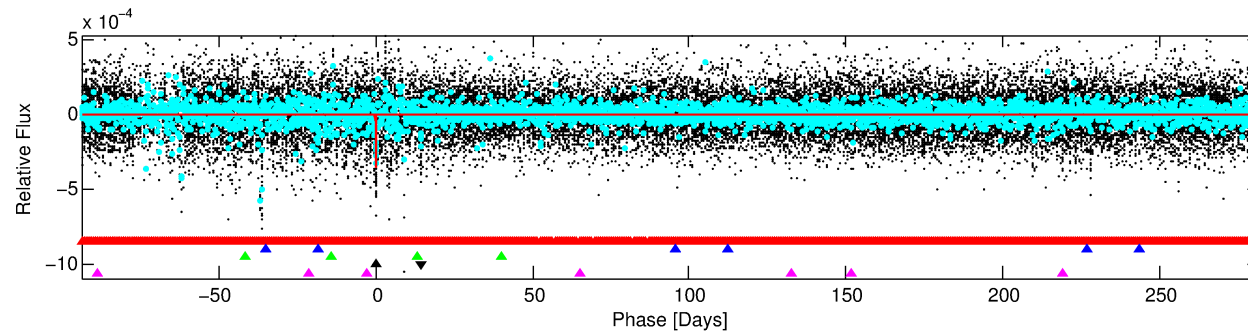
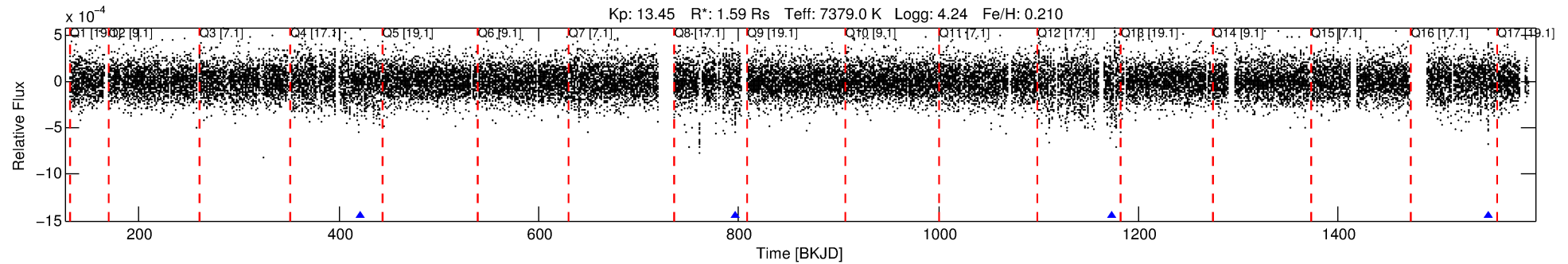
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007461436-04

No Significant Match Found

DV One-Page Summary

KIC: 7461436 Candidate: 4 of 5 Period: 376.186 d



DV Fit Results:

Period = 376.18571 [0.01731] d
Epoch = 420.9051 [0.0250] BKJD
Rp/R* = 0.0189 [0.0048]
a/R* = 146.94 [220.80]
b = 0.77 [0.83]
Seff = 4.71 [2.29]
Teq = 376 [46] K
Rp = 3.28 [1.49] Re
a = 1.1961 [0.3733] AU
Ag = 8814.82 [6287.65] [1.40σ]
Teffp = 5628 [828] K [6.33σ]

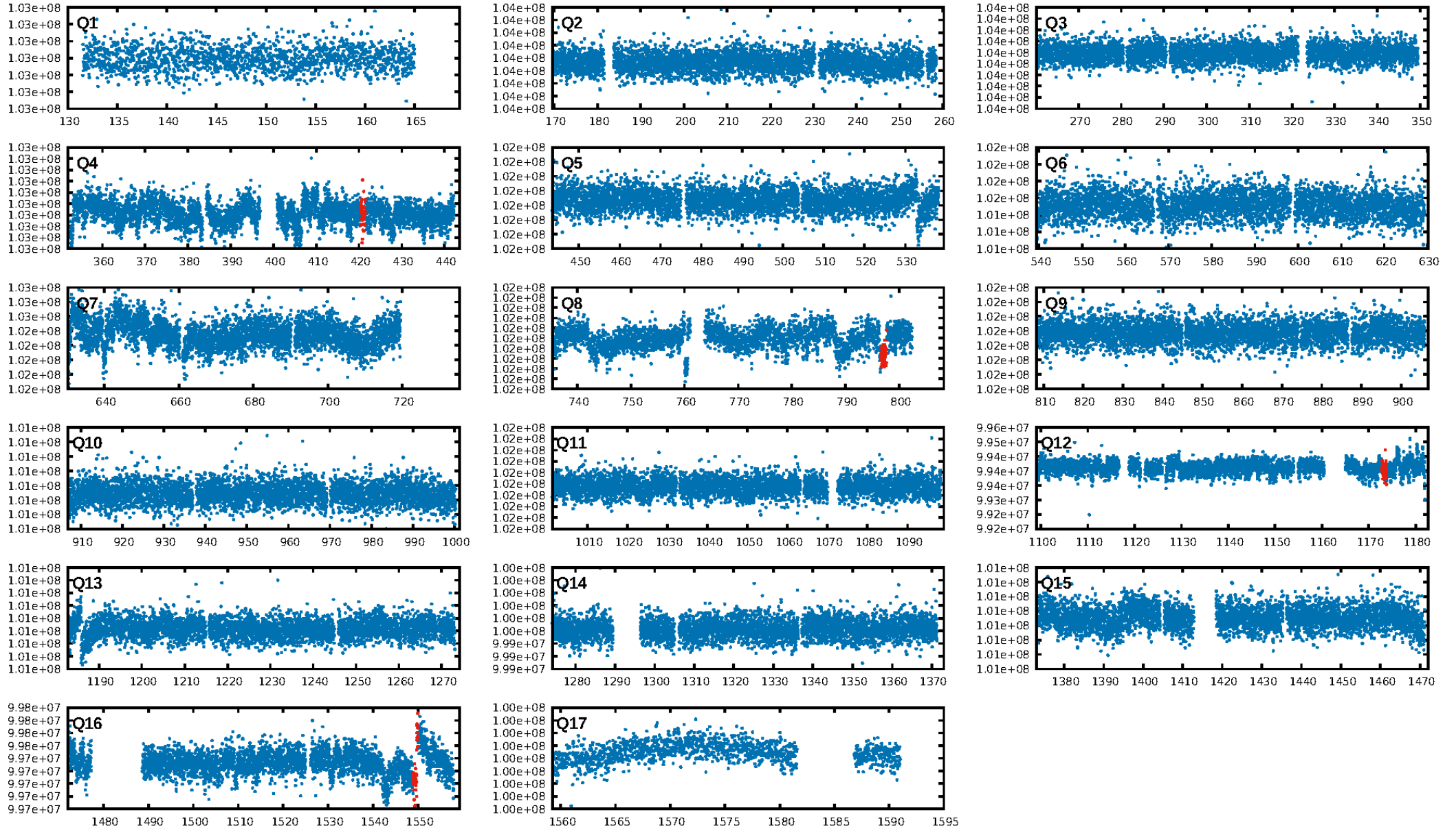
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [164.03σ]
LongPeriod-sig: 100.0% [30.80σ]
ModelChiSquare2-sig: 5.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.13e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.9655
Centroid-sig: 2.1%
Centroid-so: 0.891 arcsec [1.52σ]
OotOffset-rm: 1.509 arcsec [3.52σ]
KicOffset-rm: 1.510 arcsec [3.53σ]
OotOffset-st: 0/0/3/0 [3]
KicOffset-st: 0/0/3/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.00 [0/3]

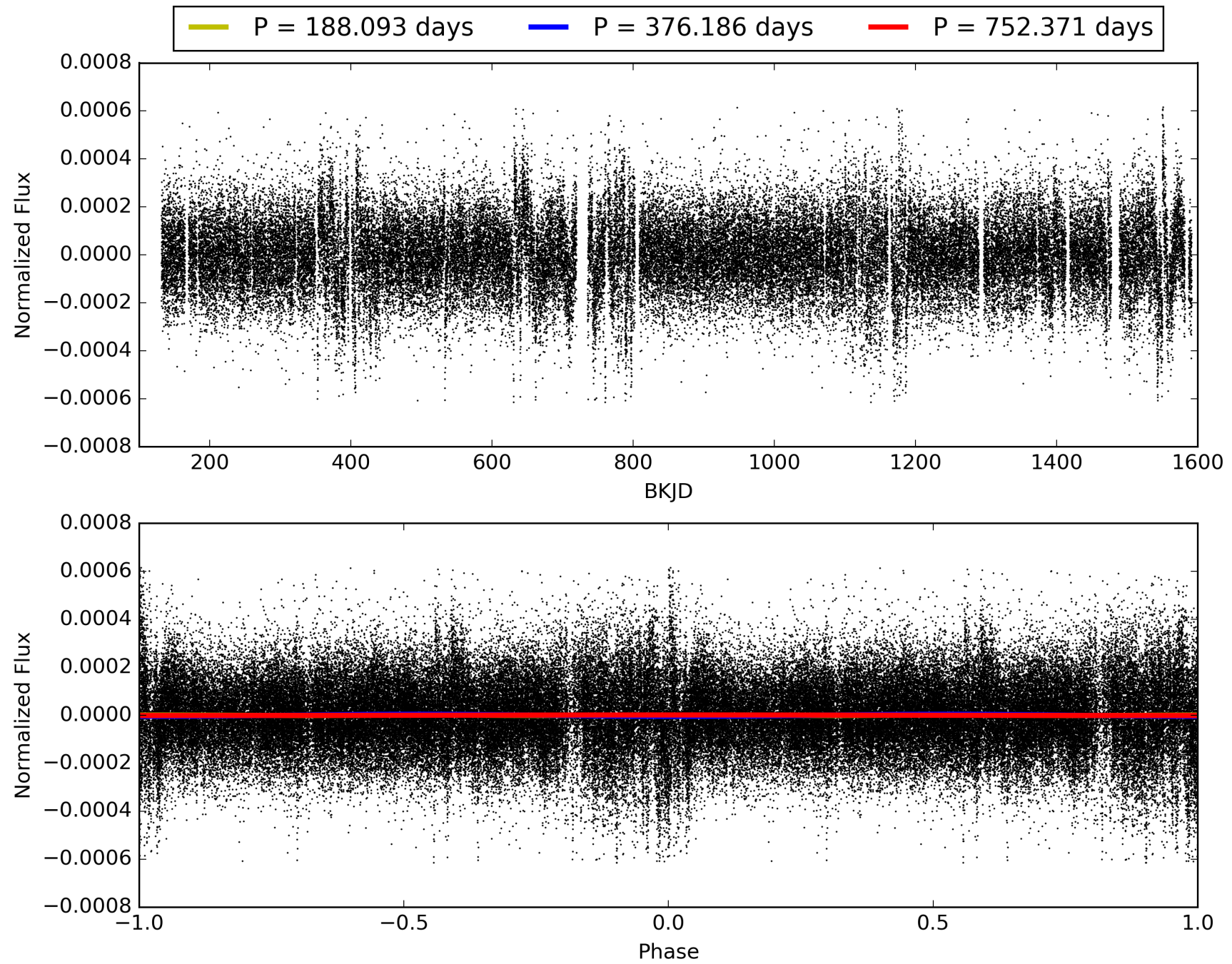
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:44:05 Z

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

TCE 007461436-04, PDC Light Curves

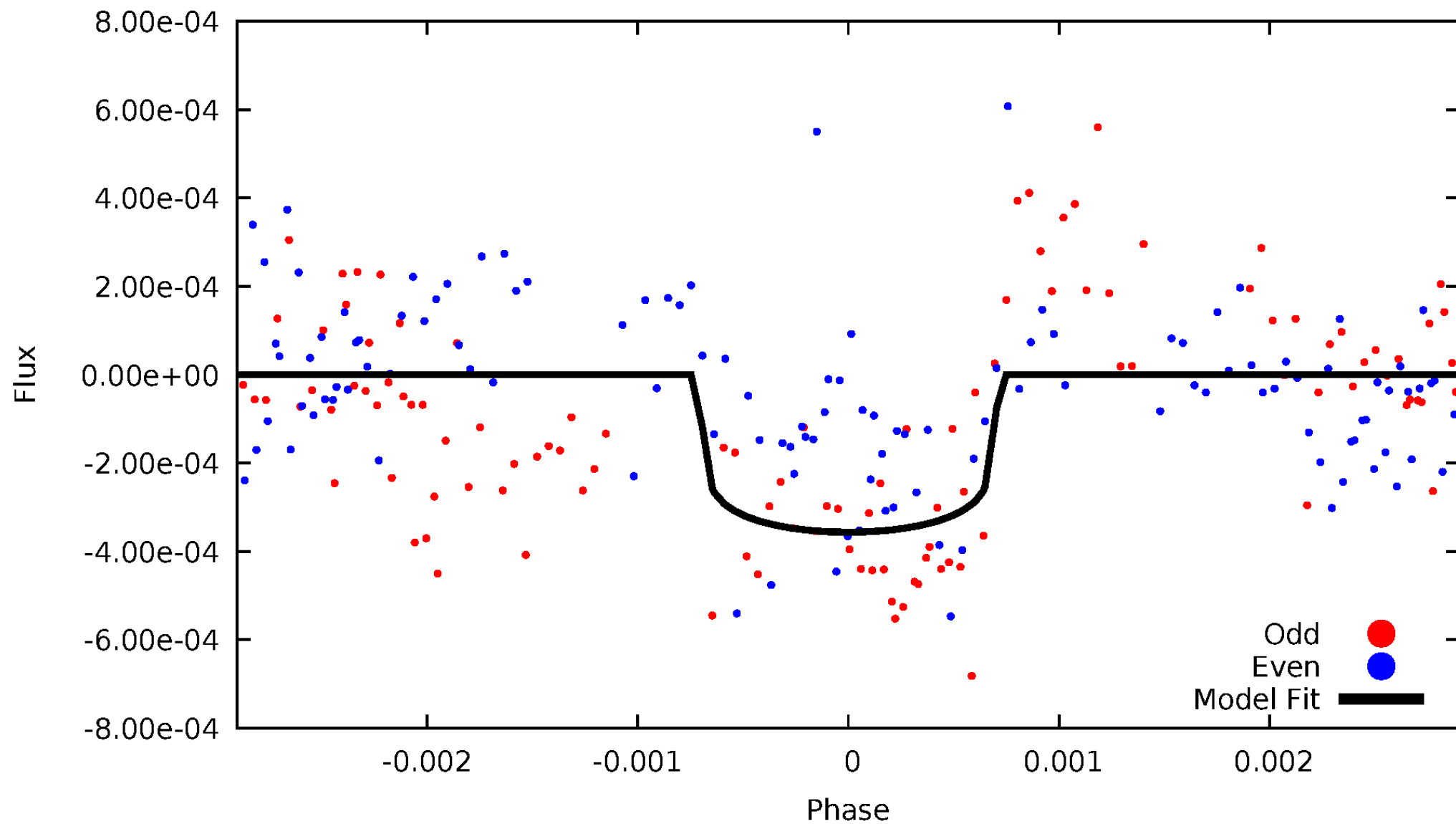


TCE 007461436-04



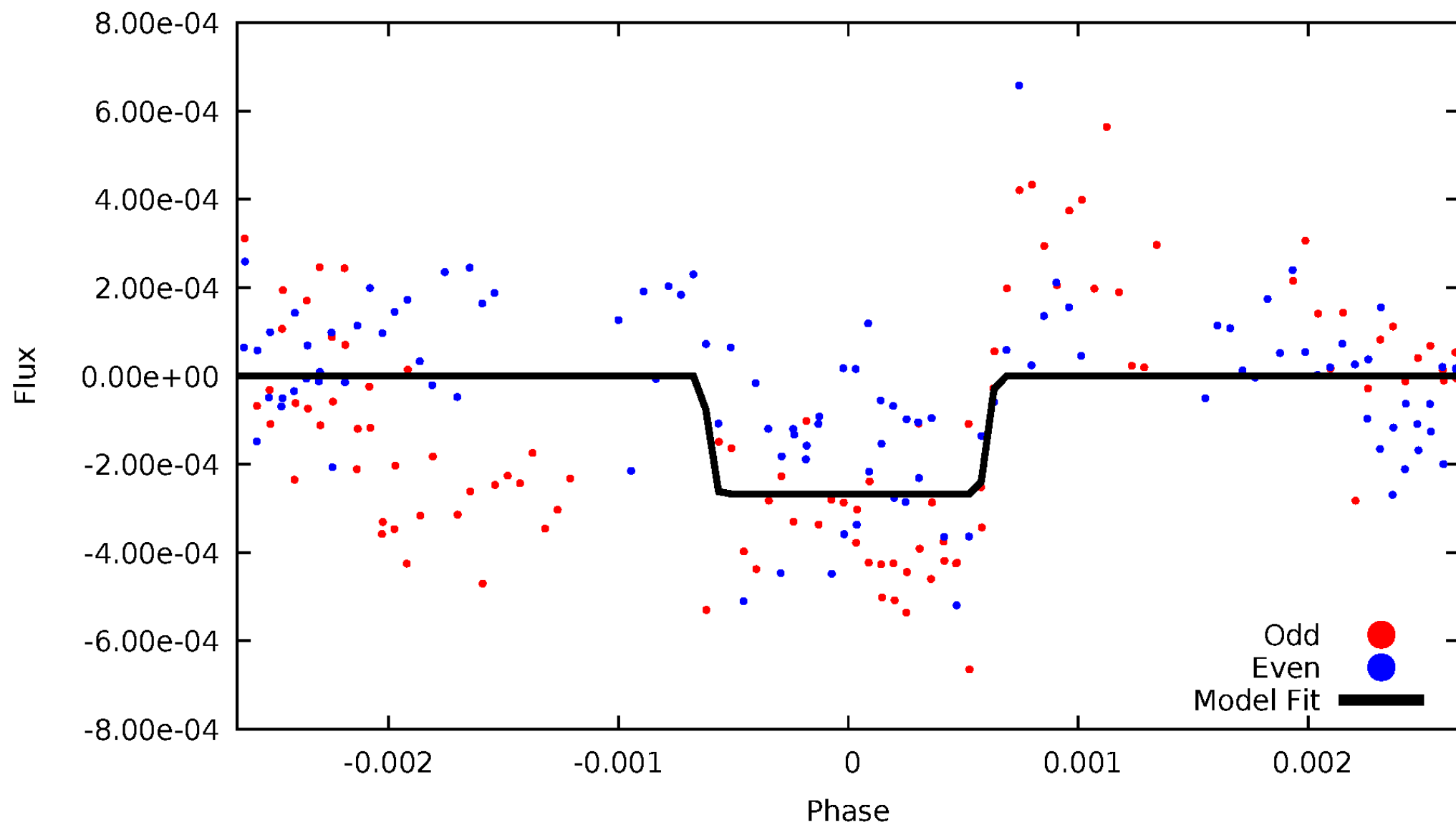
DV Odd/Even

TCE 007461436-04



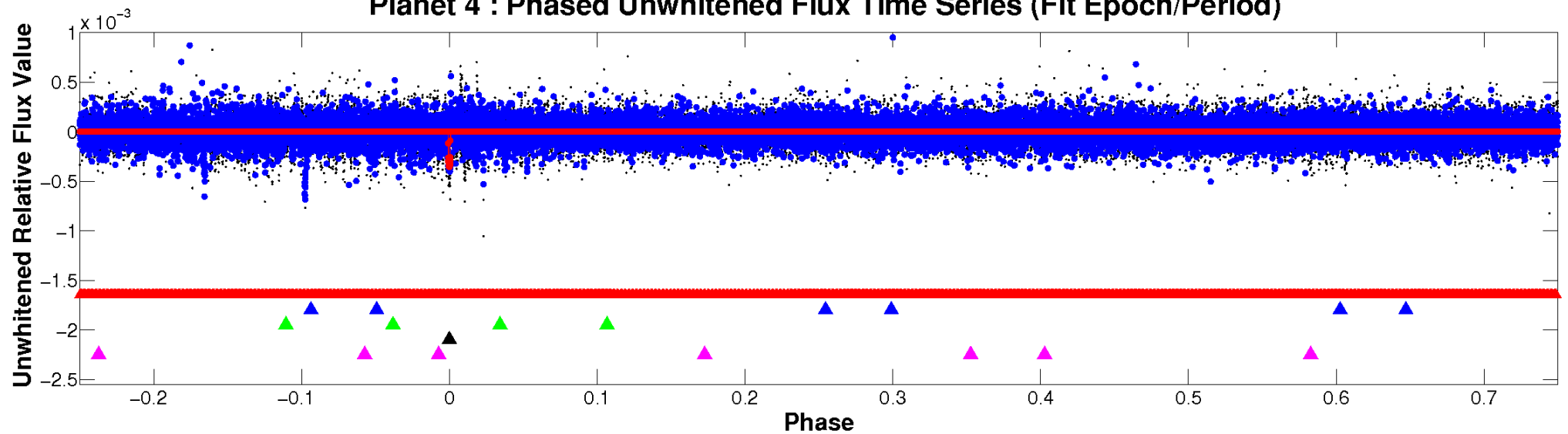
ALT Odd/Even

TCE 007461436-04

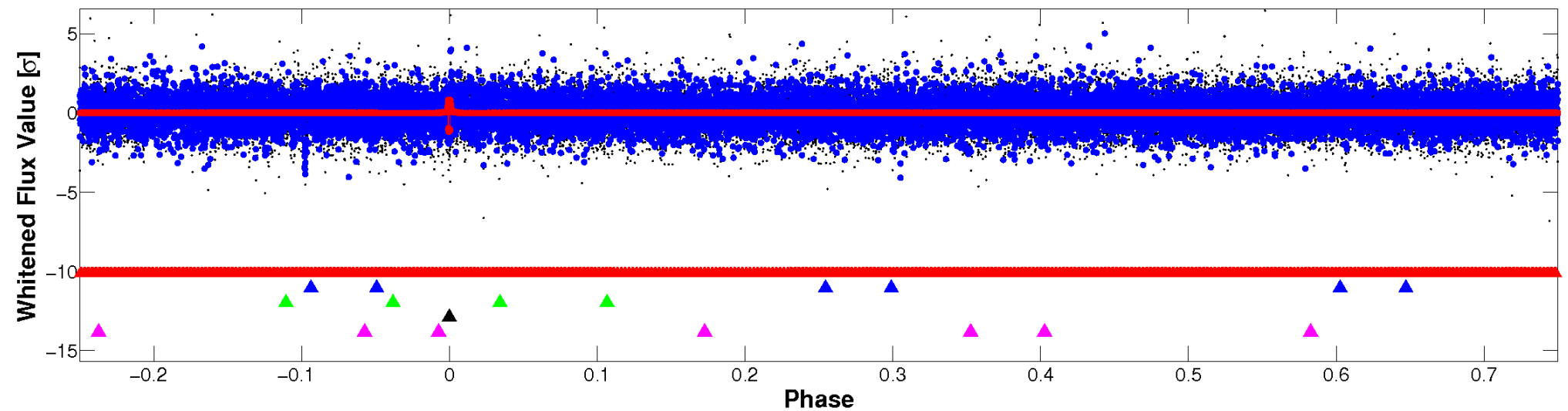


Non-Whitened Vs. Whitened Light Curve

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



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



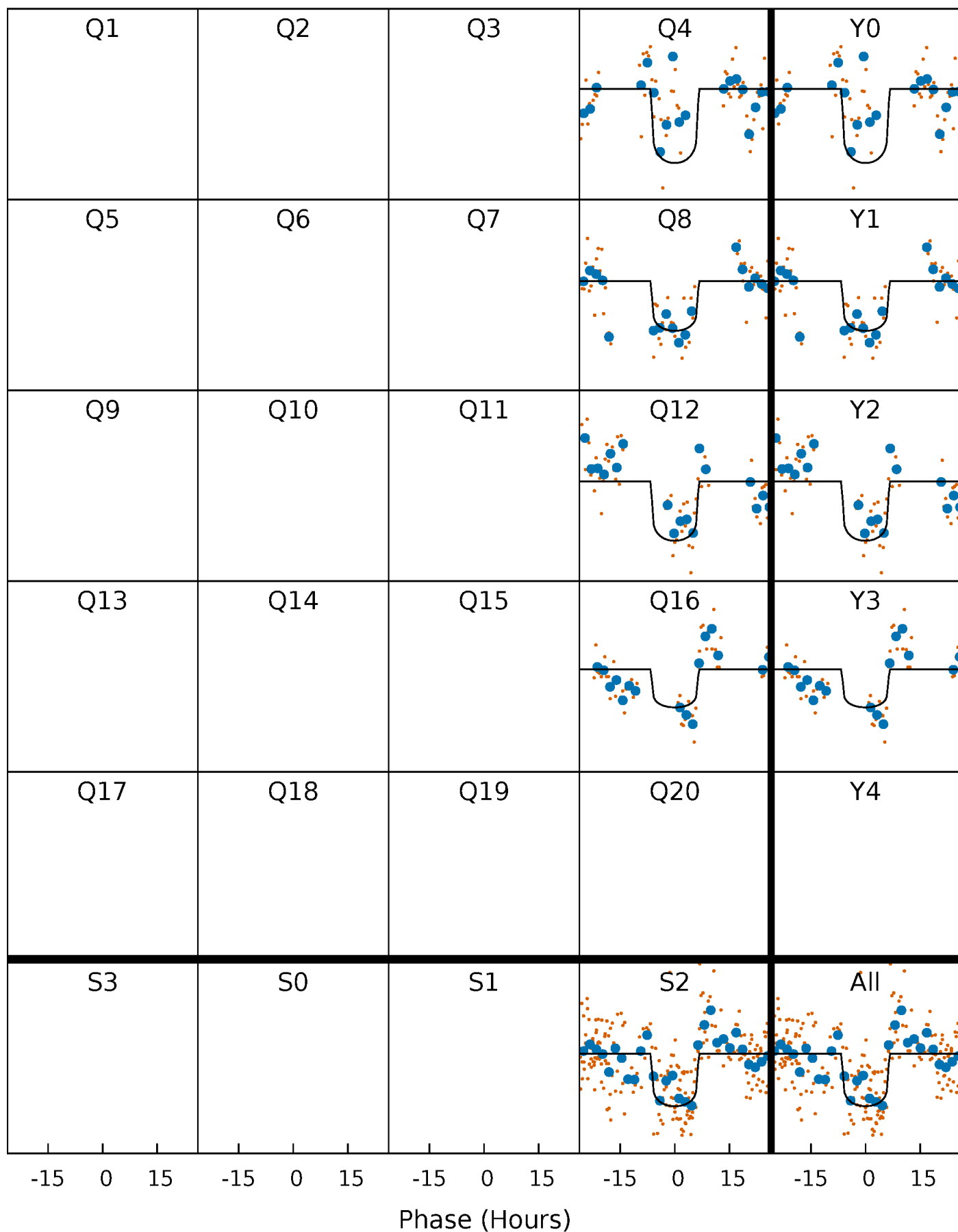
PDC Quarter-Phased Transit Curves

TCE 007461436-04 P=376.185715 Days $T_0=420.905096$ (BKJD)



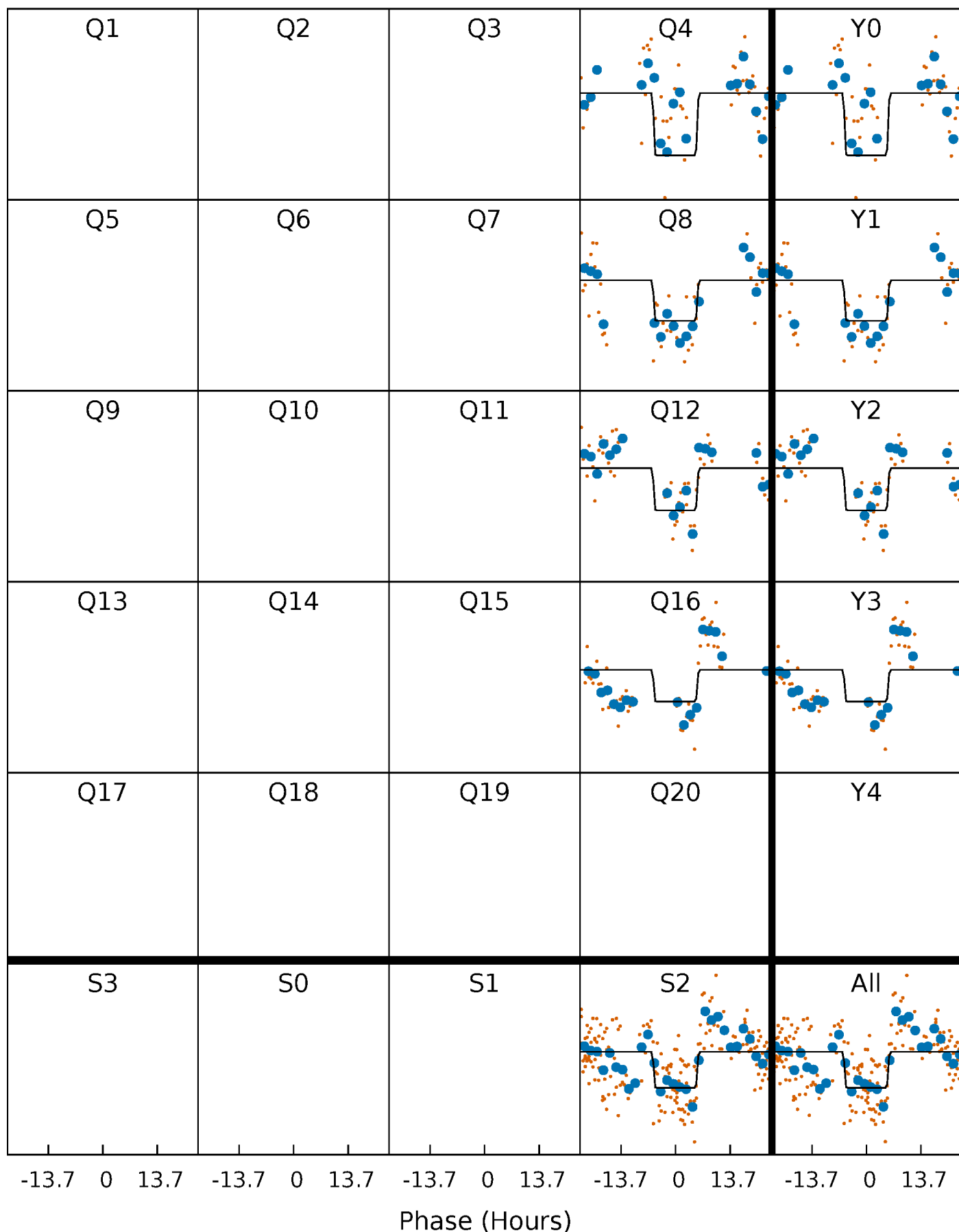
DV Quarter-Phased Transit Curves

TCE 007461436-04 $P=376.185715$ Days $T_0=420.905096$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

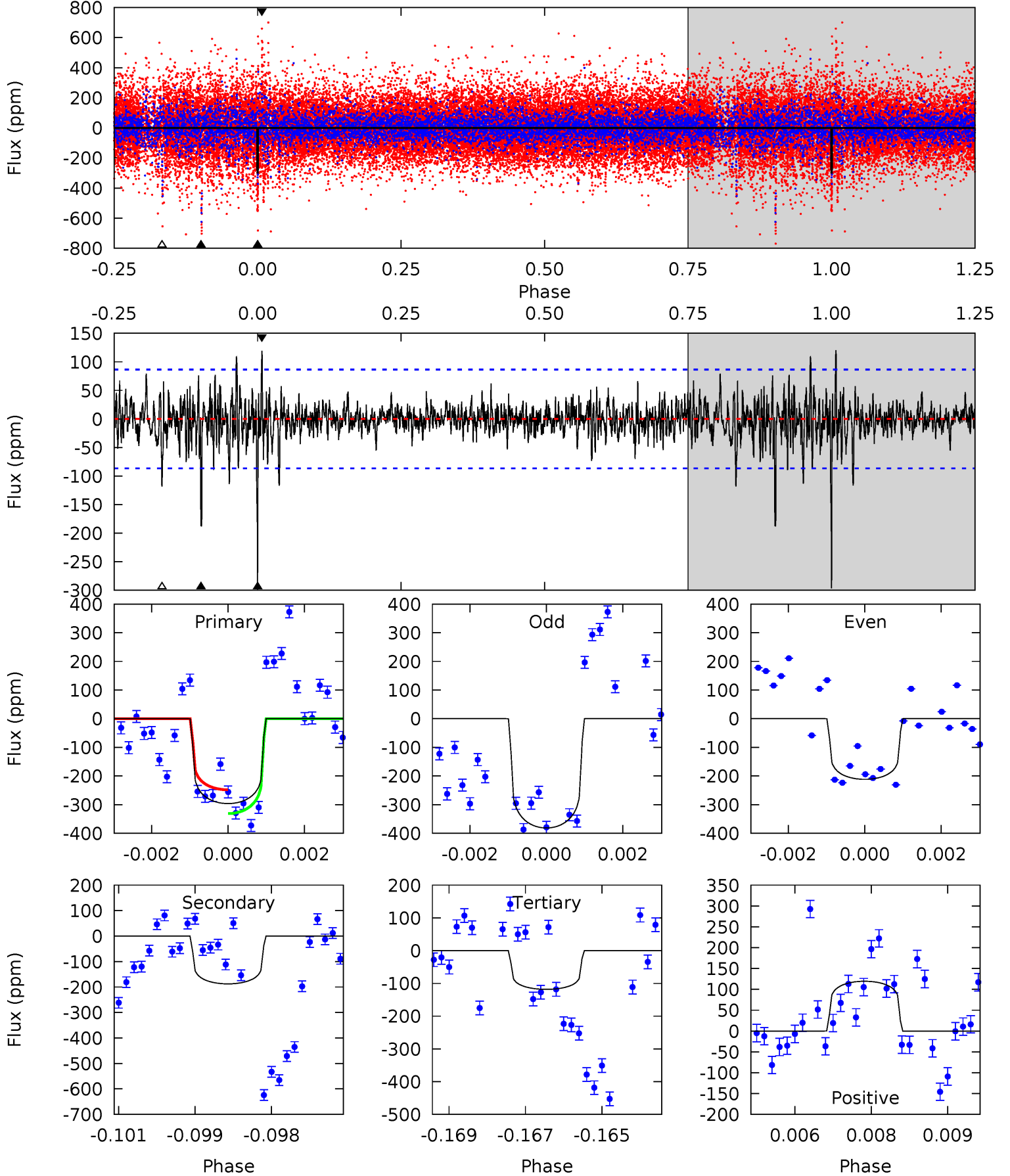
TCE 007461436-04 $P=376.202273$ Days $T_0=420.877757$ (BKJD)



DV Model-Shift Uniqueness Test

007461436-04, $P = 376.185715$ Days, $E = 44.719381$ Days

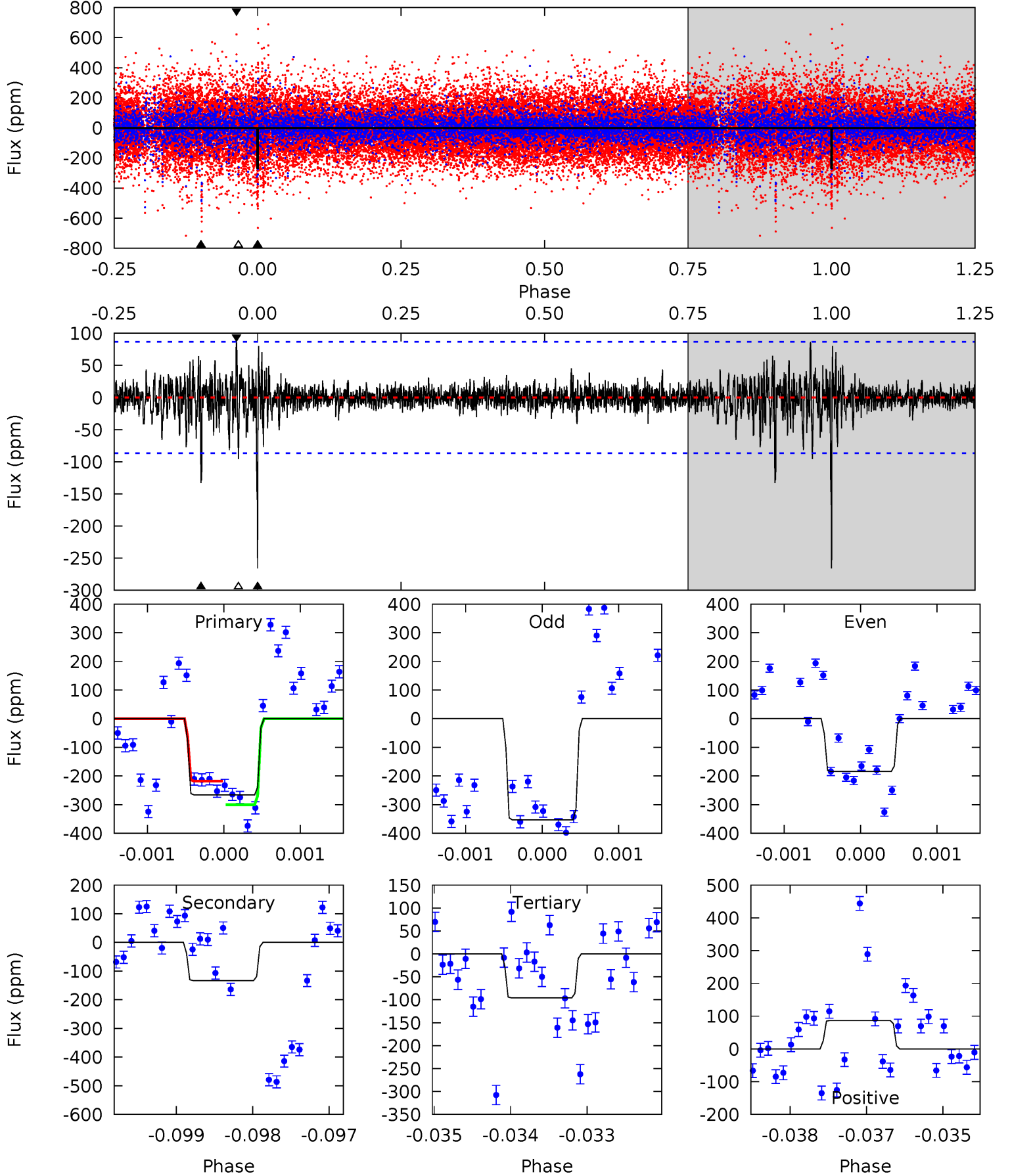
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	11.7	7.36	7.43	5.38	3.17	1.47	11.1	11.0	4.32	4.25	5.29	0.95	0.29	2.52



Alt Model-Shift Uniqueness Test

007461436-04, P = 376.202273 Days, E = 44.675484 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	8.28	5.97	5.39	5.40	3.21	0.97	10.6	11.2	2.31	2.89	5.30	0.97	0.25	2.50



Stellar Parameters For KIC 007461436

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7379^{+206}_{-353}	$4.241^{+0.060}_{-0.240}$	$0.210^{+0.150}_{-0.350}$	$1.593^{+0.602}_{-0.161}$	$1.626^{+0.214}_{-0.193}$	$0.567^{+0.184}_{-0.323}$
	+3%/-5%	+1%/-6%	+71%/-167%	+38%/-10%	+13%/-12%	+32%/-57%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007461436-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-188 ± 16	$3.45^{+1.02}_{-0.96}$	530^{+40}_{-28}	6152^{+1072}_{-717}	12467^{+11156}_{-5159}
Alt.	-133 ± 16	$2.98^{+1.06}_{-0.99}$	531^{+45}_{-29}	6068^{+1471}_{-708}	11627^{+14438}_{-5196}

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 $A_{obs} \gg 1.0$

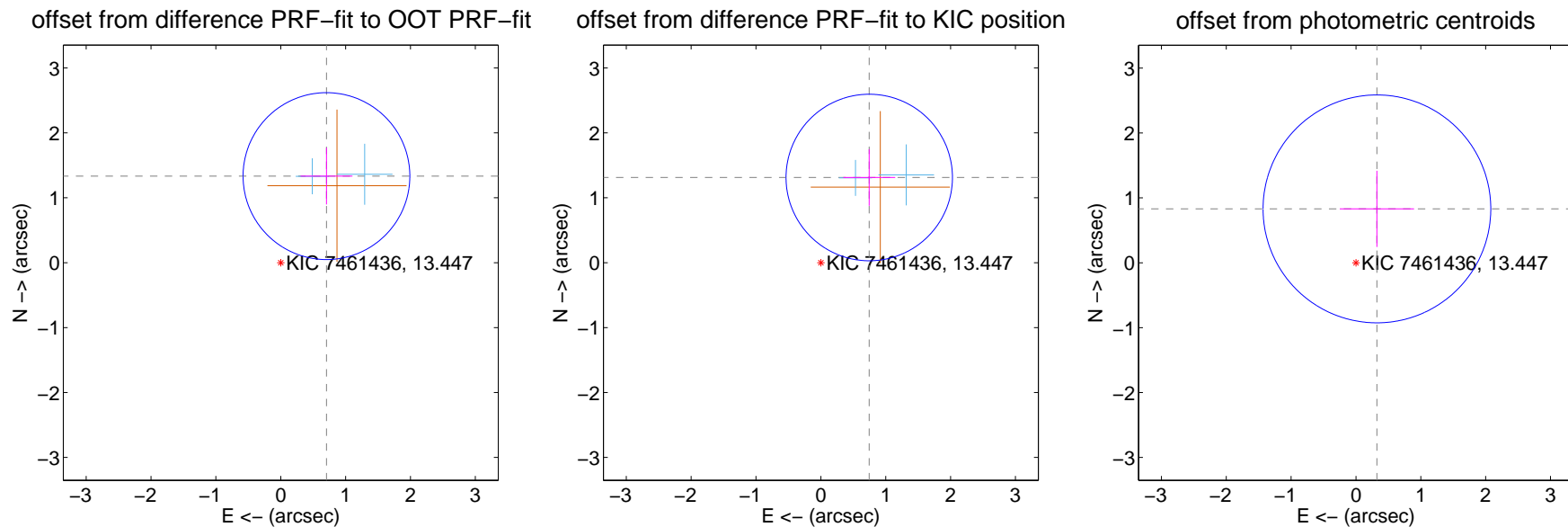
DV Centroid Data

Supplemental centroid analysis for 007461436-04. Kepler magnitude: 13.45. Transit SNR 9.31

There are 2 quarters with good PRF difference image offsets

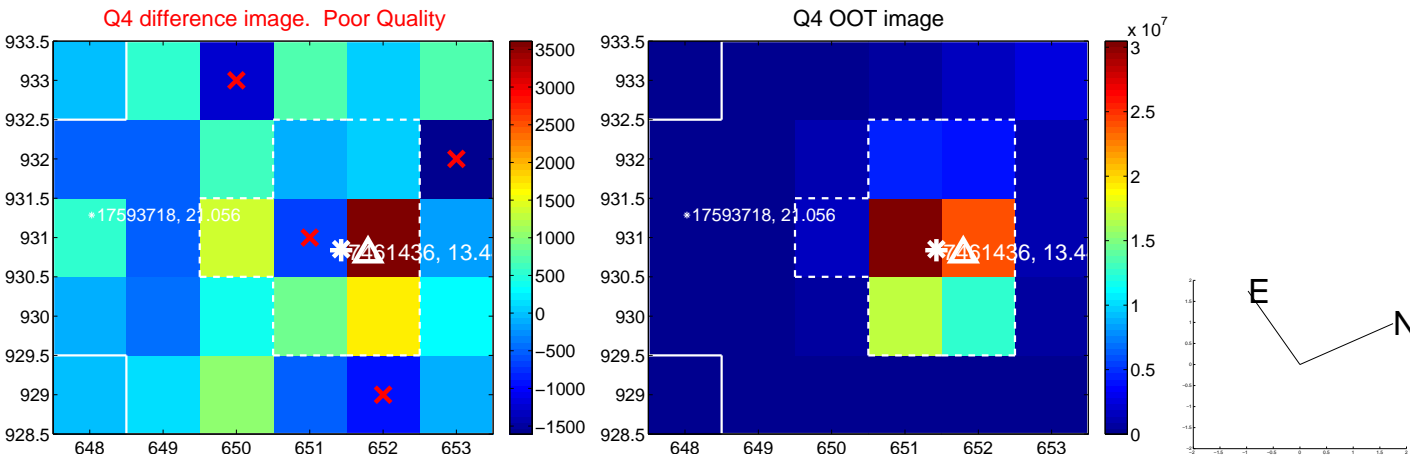
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.509 ± 0.429	3.52	-0.705 ± 0.400	1.334 ± 0.436
PRF-fit source offset from KIC position	1.510 ± 0.428	3.53	-0.746 ± 0.400	1.313 ± 0.436
photometric centroid source offset	0.89 ± 0.59	1.52	-0.32 ± 0.57	0.83 ± 0.59

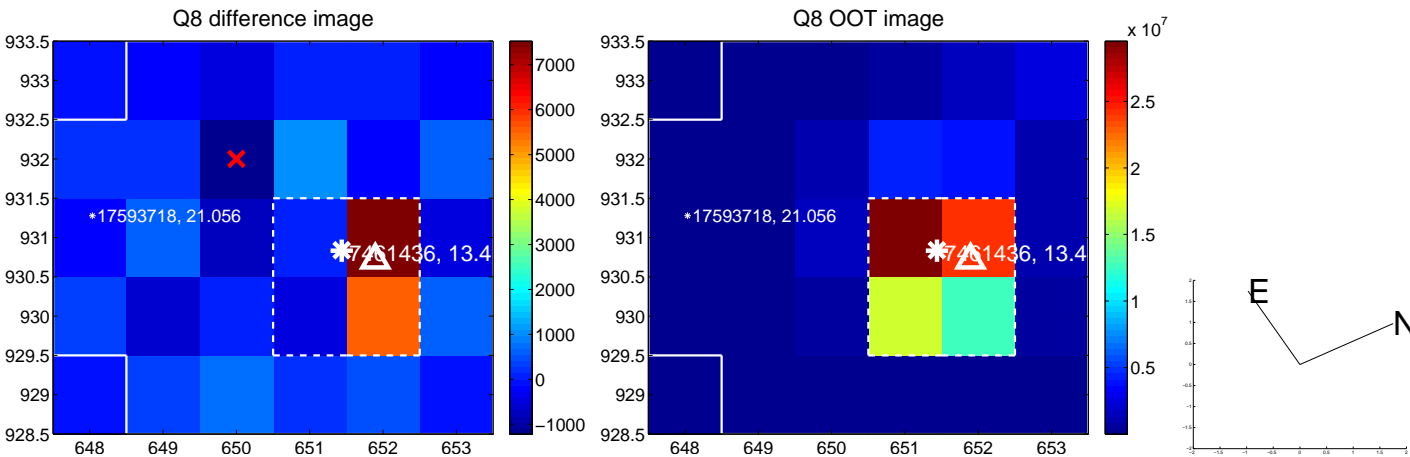


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



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



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

Q9 no difference image



Q9 no OOT image



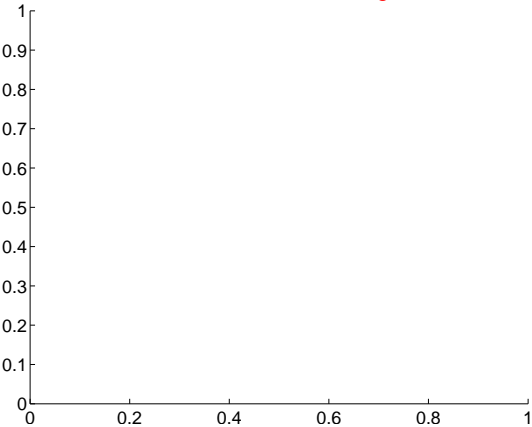
Q10 no difference image



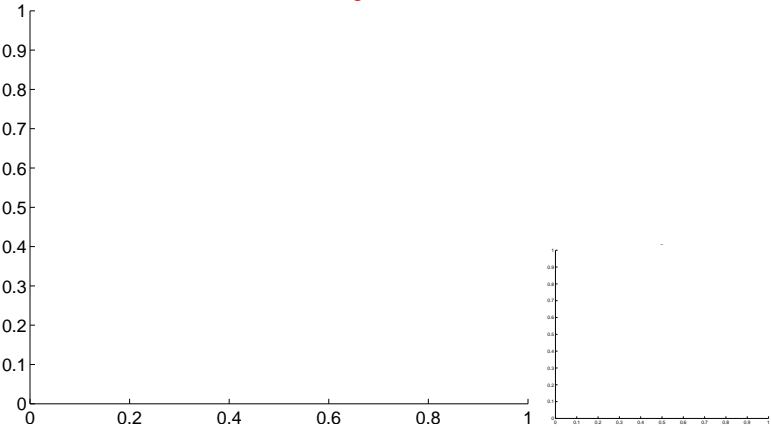
Q10 no OOT image



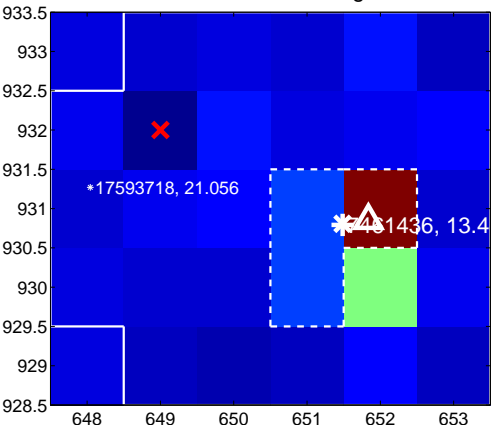
Q11 no difference image



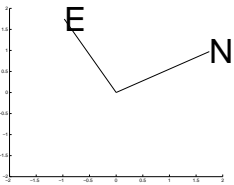
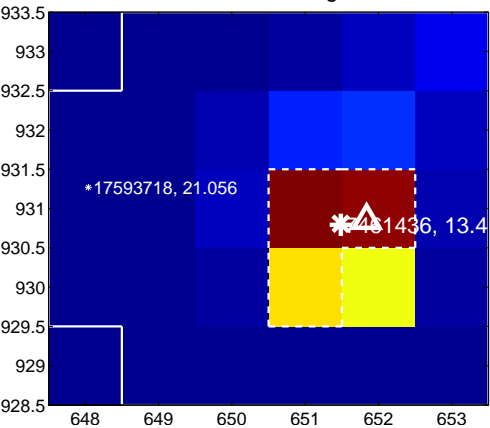
Q11 no OOT image



Q12 difference image



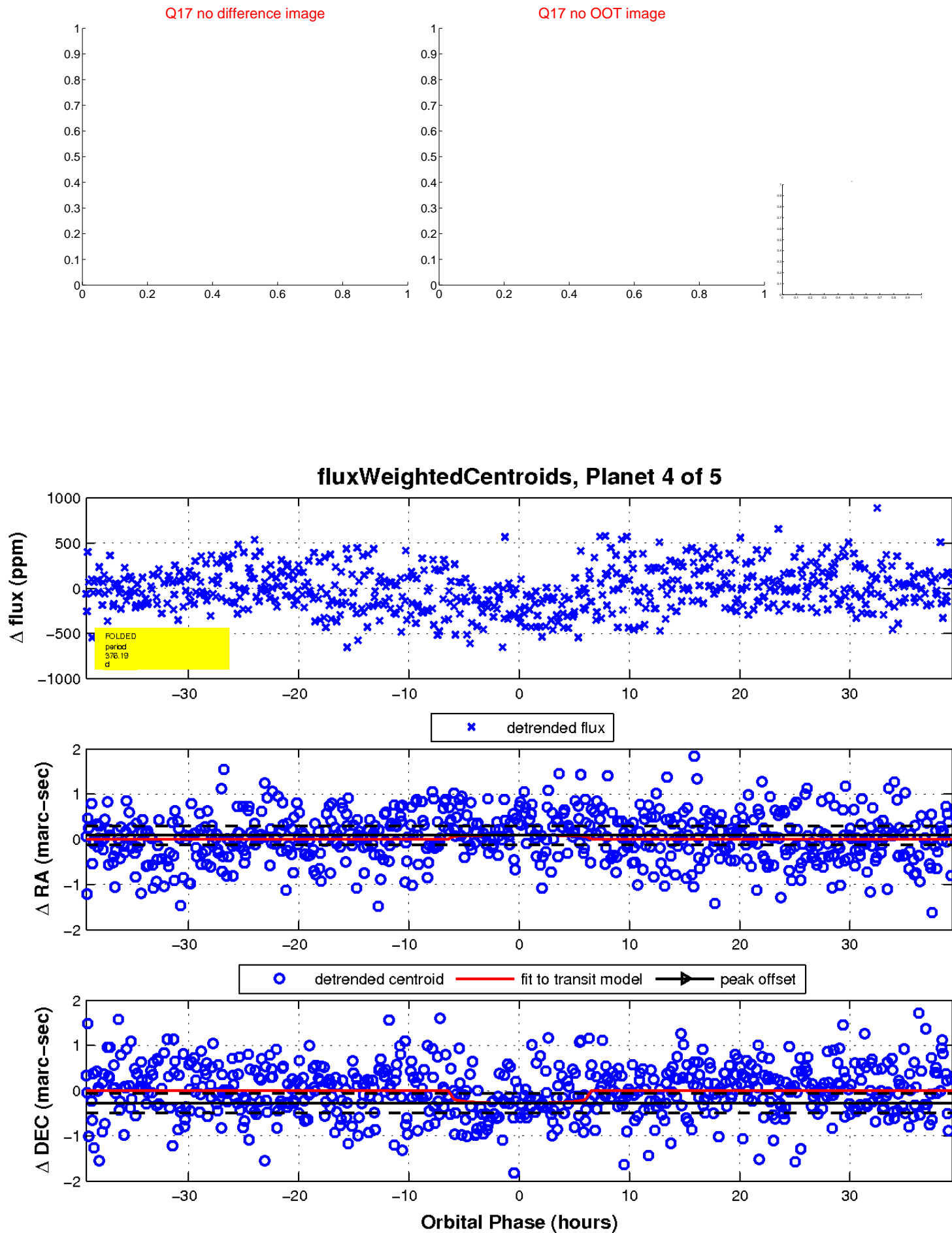
Q12 OOT image



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

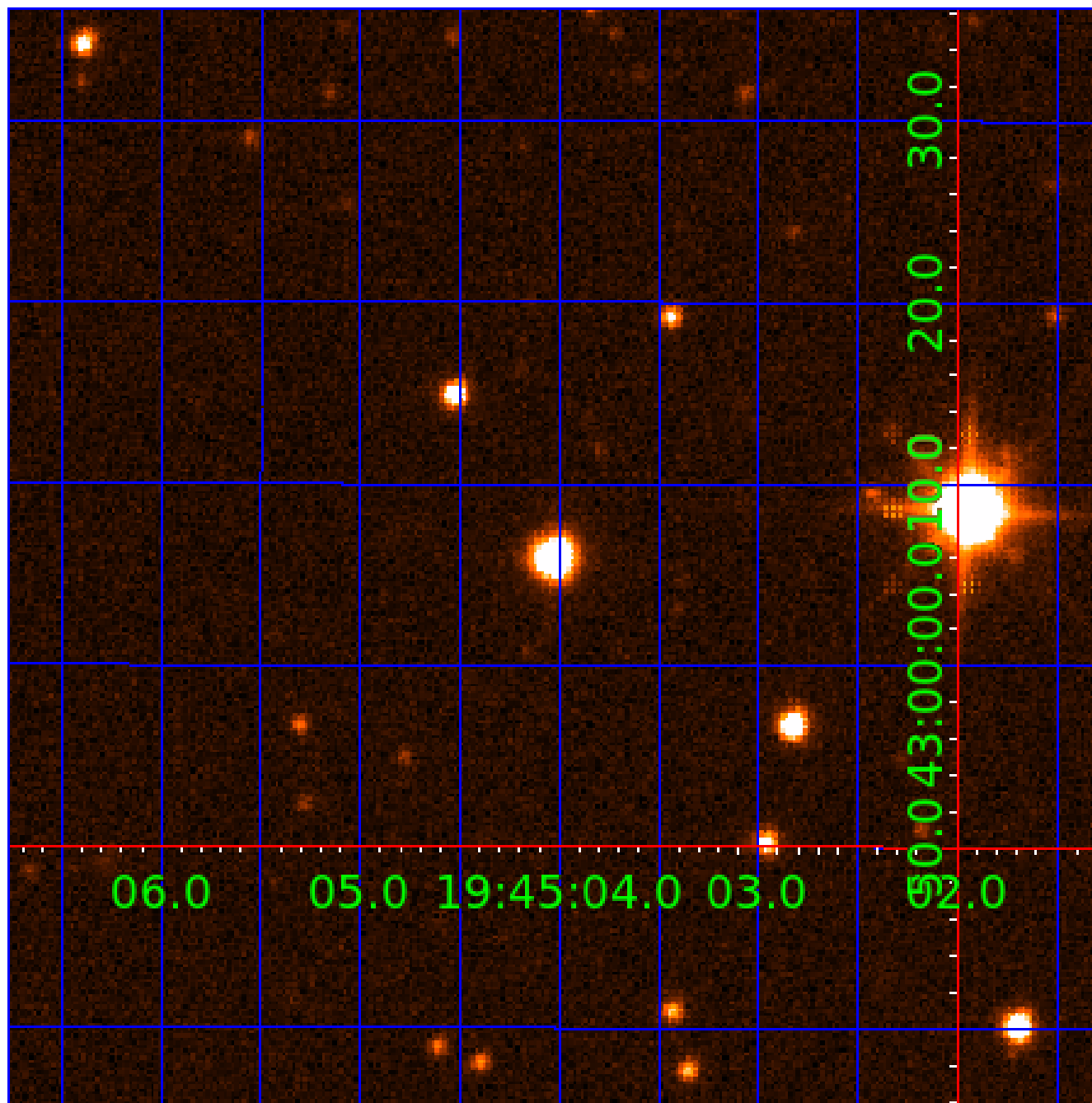


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007461436

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})
007461436-01	OBS	No	0.962490	131.517805	223.5	3.500	11.9	-1.0	1.59	7379	2.42	13463.76
007461436-02	OBS	No	245.215200	288.172625	155.6	13.988	10.2	7.3	1.59	7379	2.17	8.34
007461436-03	OBS	No	403.425138	379.322005	264.8	16.706	9.5	9.7	1.59	7379	2.82	4.29
007461436-04	OBS	No	376.185715	420.905096	356.3	13.098	8.4	9.3	1.59	7379	3.28	4.71
007461436-05	OBS	No	221.947394	196.225956	145.1	17.460	7.7	7.5	1.59	7379	2.04	9.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007461436-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_ALT—CENT_NOFITS
007461436-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007461436-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007461436-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS
007461436-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—CENT_FEW_DIFFS

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

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

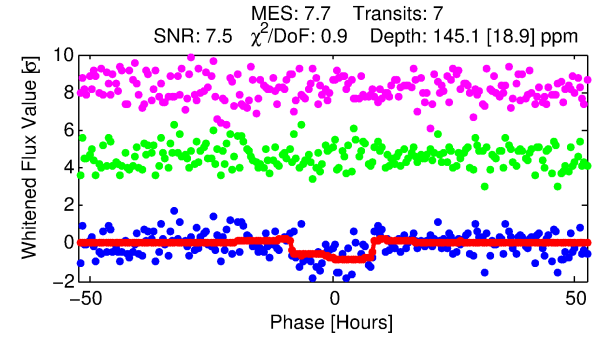
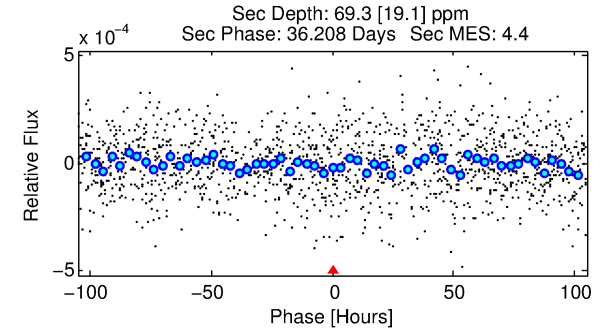
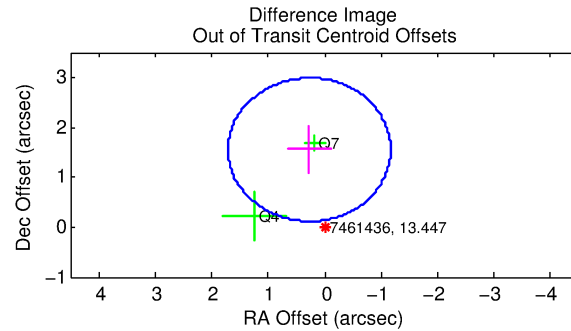
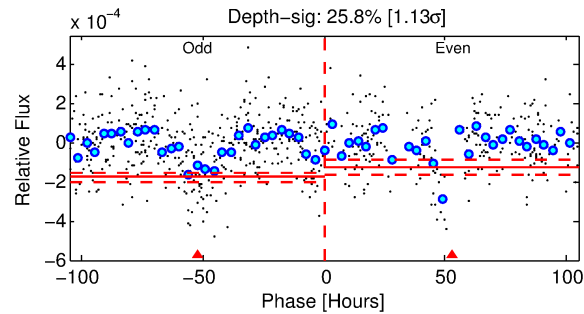
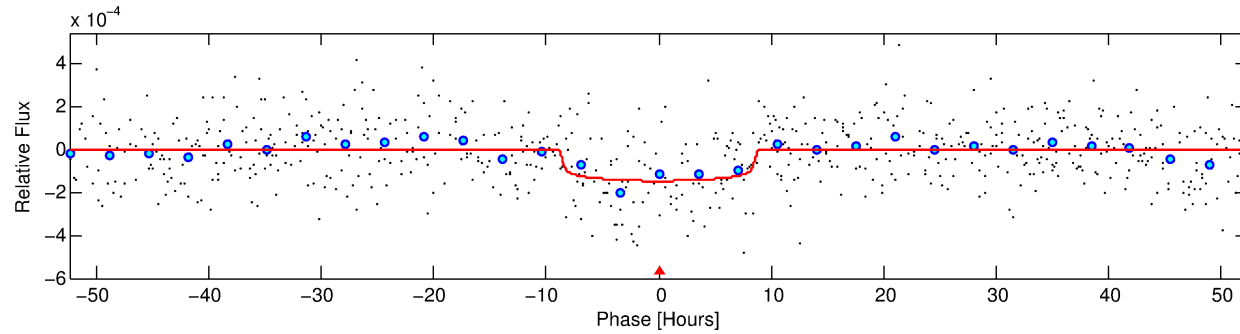
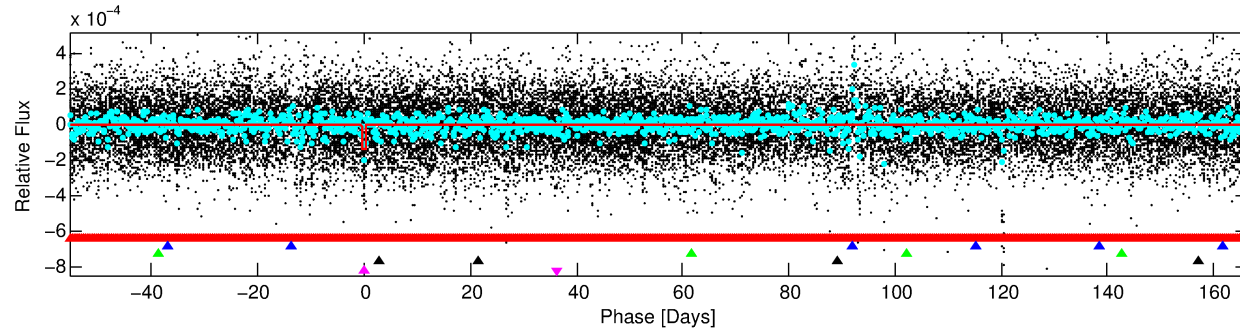
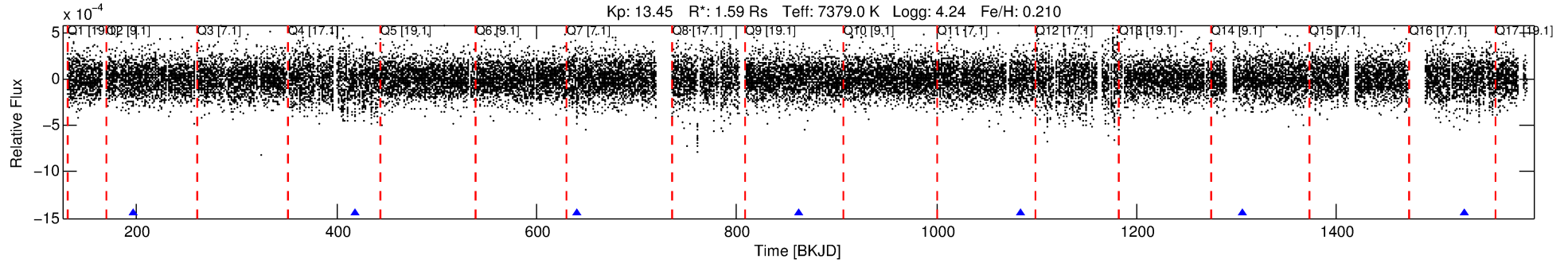
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007461436-05

No Significant Match Found

DV One-Page Summary

KIC: 7461436 Candidate: 5 of 5 Period: 221.947 d



DV Fit Results:

Period = 221.94739 [0.00604] d
Epoch = 196.2260 [0.0230] BKJD
Rp/R* = 0.0117 [0.0042]
a/R* = 74.66 [161.25]
b = 0.66 [1.87]
Seff = 9.52 [4.62]
Teff = 448 [54] K
Rp = 2.04 [1.06] Re
a = 0.8414 [0.2626] AU
Ag = 6500.55 [5758.54] [1.13 σ]
Teffp = 6218 [1226] K [4.70 σ]

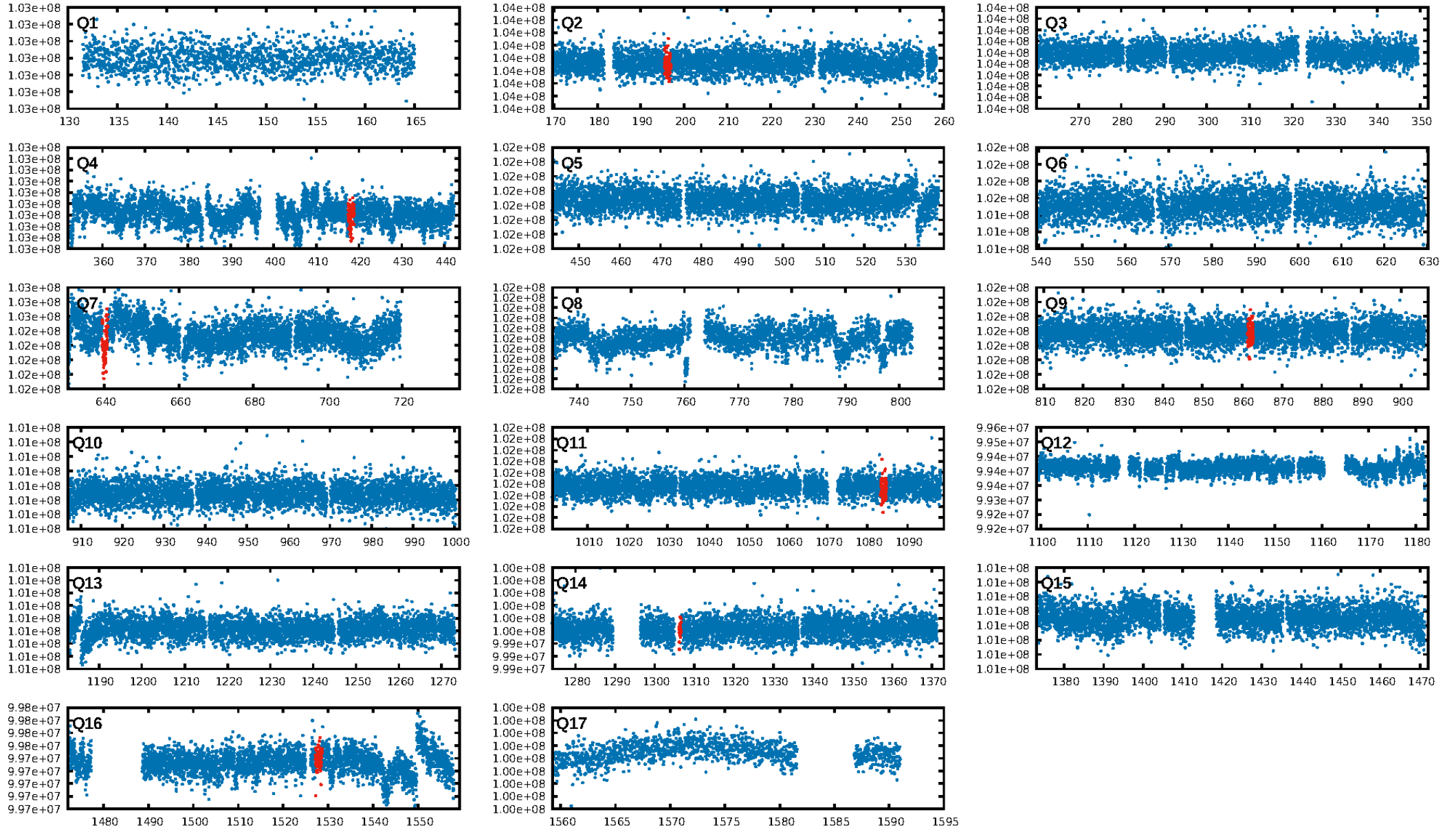
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [297.83 σ]
LongPeriod-sig: 100.0% [24.96 σ]
ModelChiSquare2-sig: 0.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.47e-11
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -1.997
Centroid-sig: 26.2%
Centroid-so: 0.918 arcsec [1.03 σ]
OotOffset-rm: 1.574 arcsec [3.29 σ]
KicOffset-rm: 1.455 arcsec [3.24 σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/4]

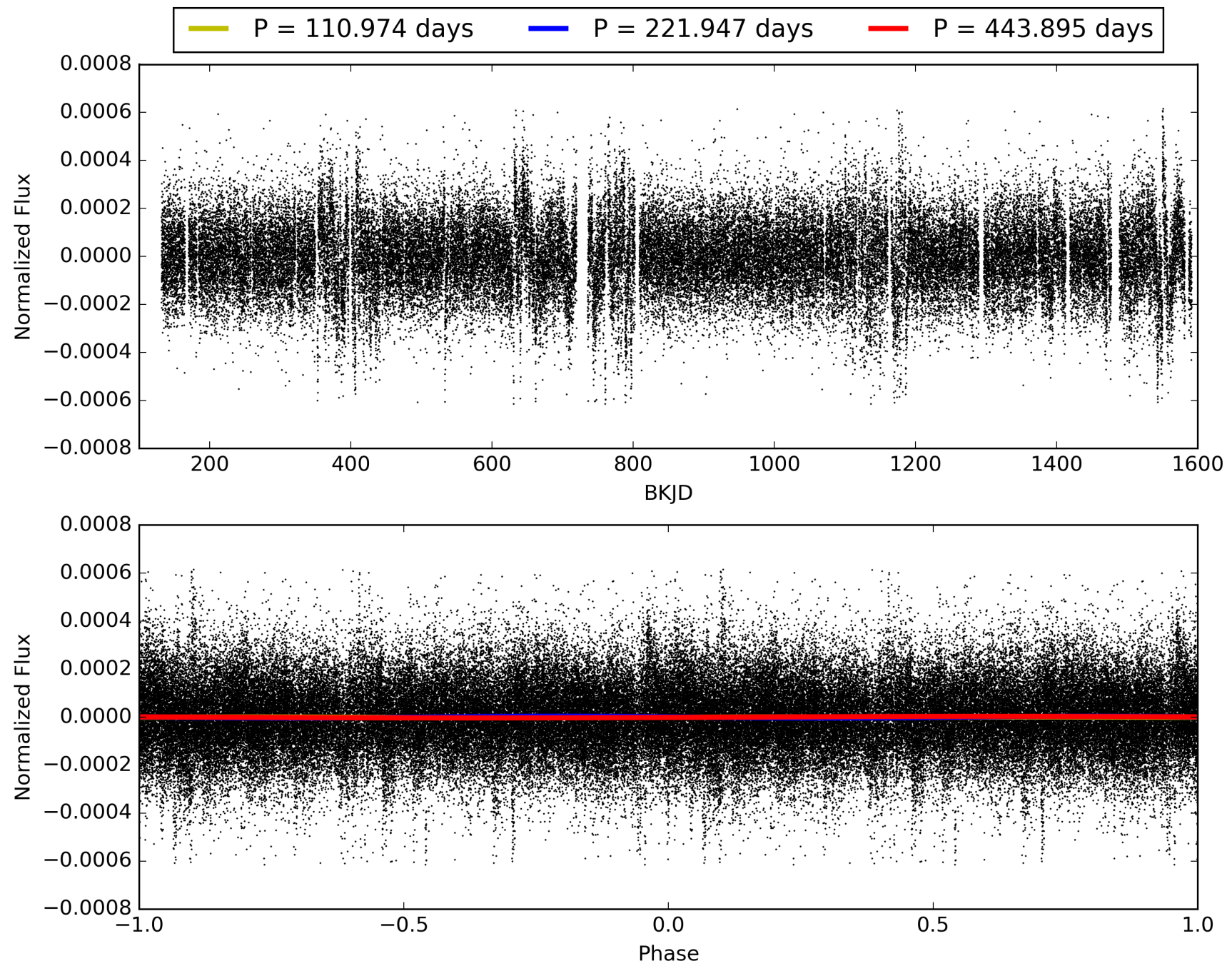
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:44:13 Z

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

TCE 007461436-05, PDC Light Curves

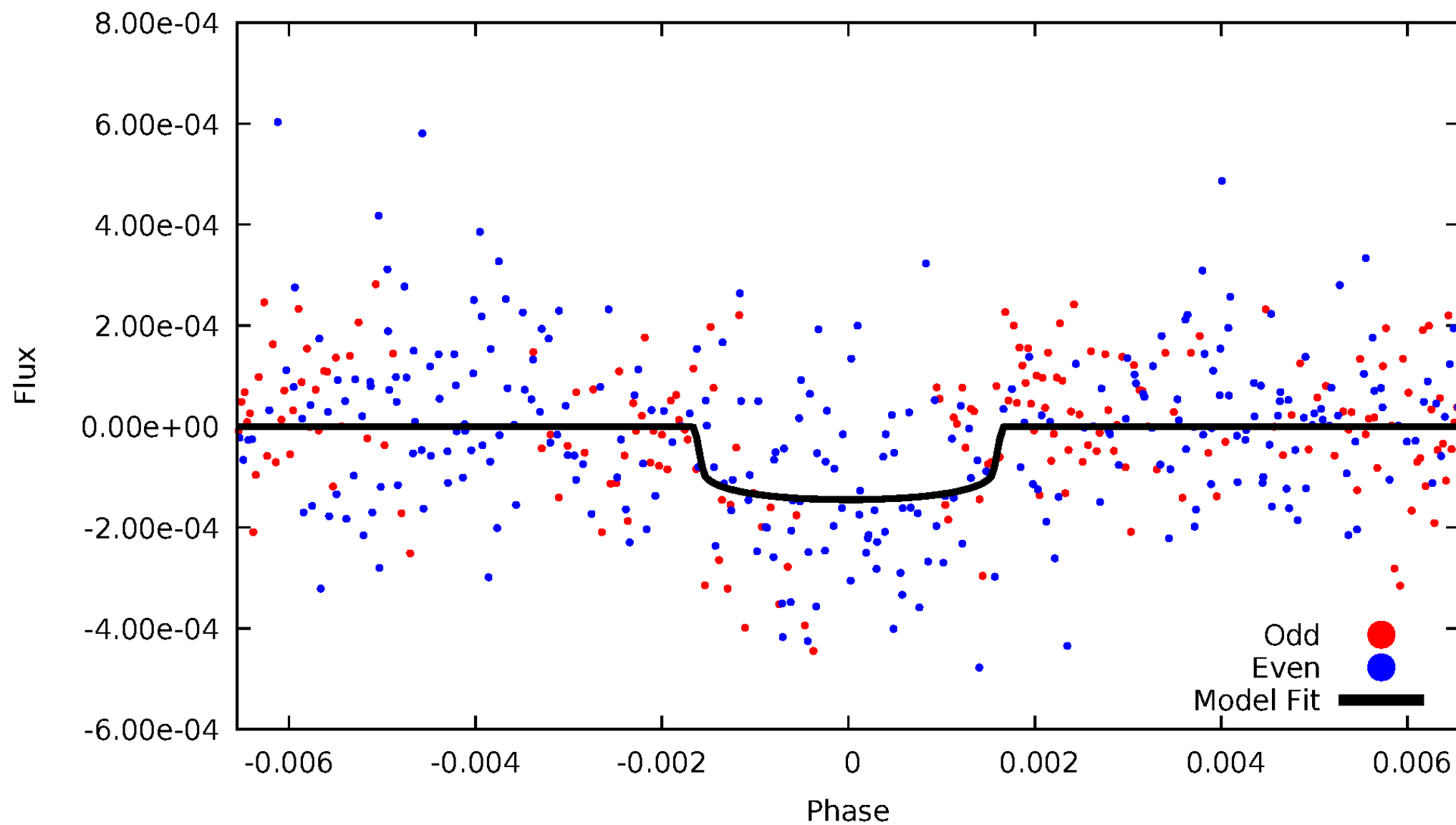


TCE 007461436-05



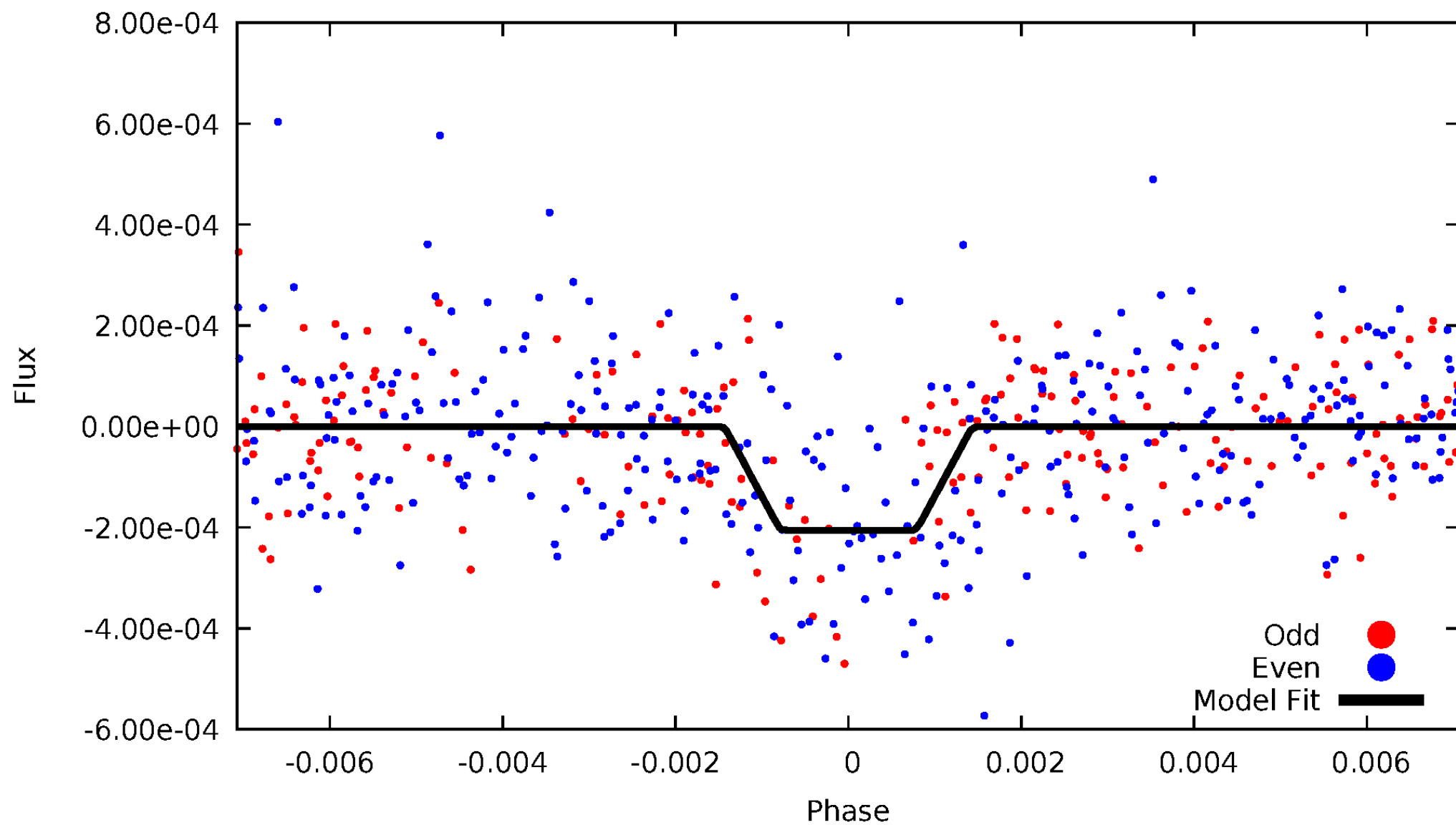
DV Odd/Even

TCE 007461436-05



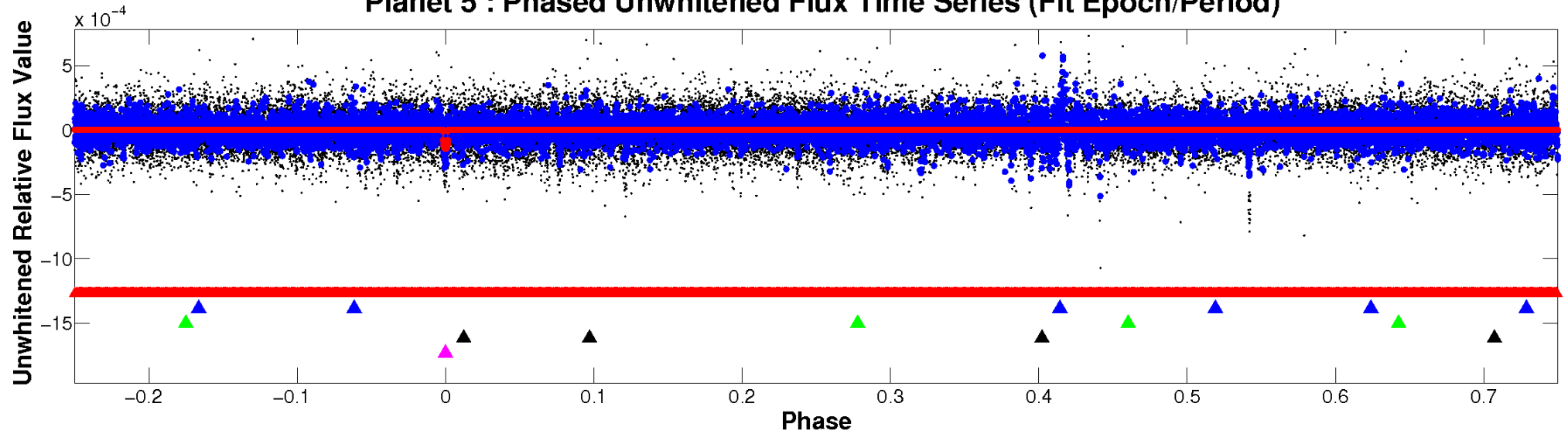
ALT Odd/Even

TCE 007461436-05

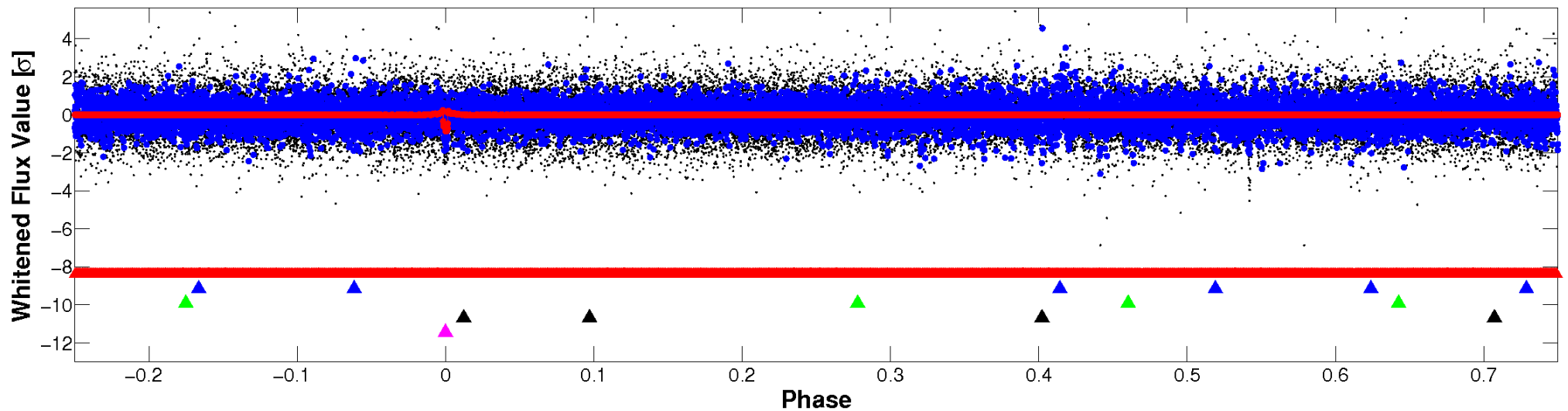


Non-Whitened Vs. Whitened Light Curve

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

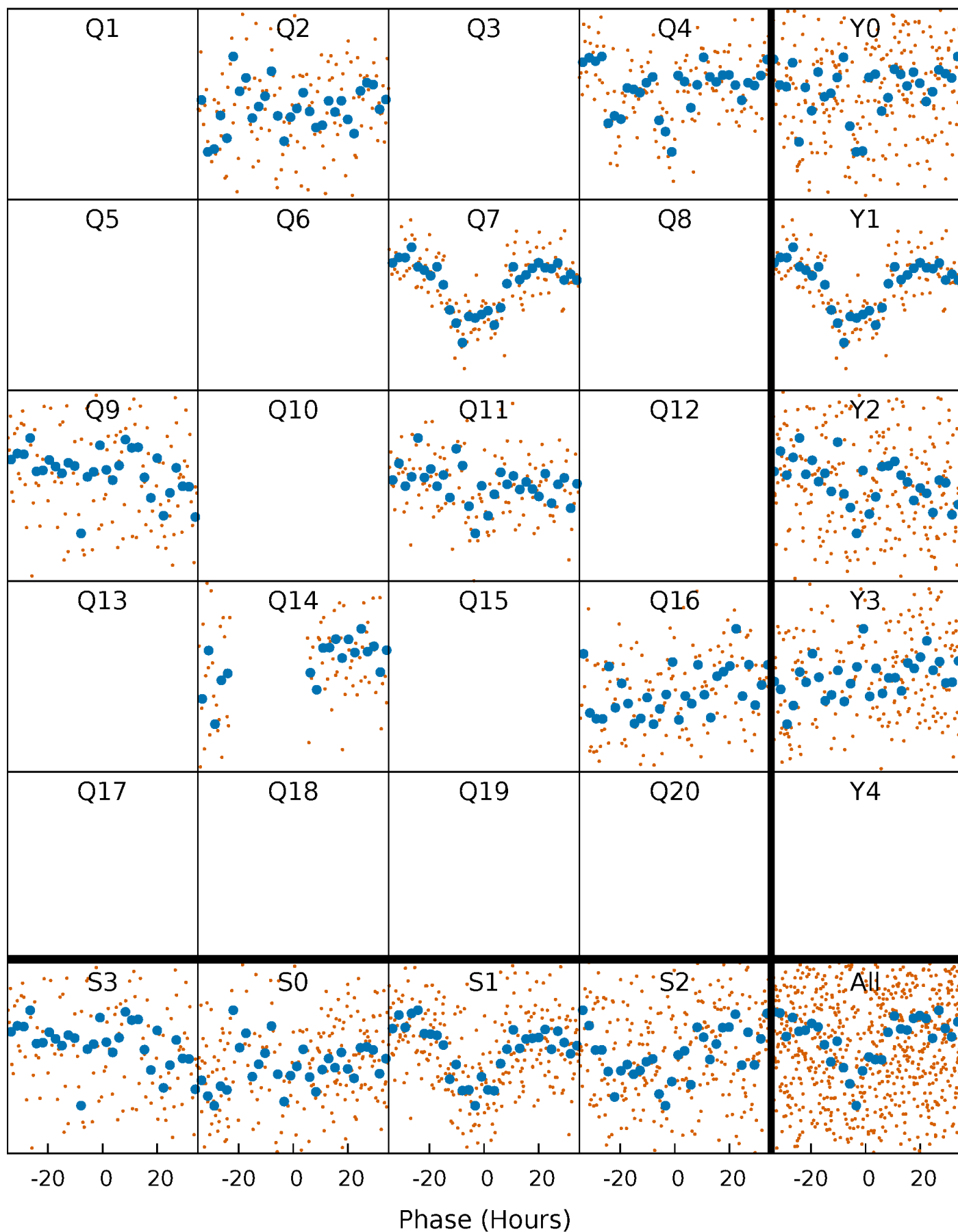


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



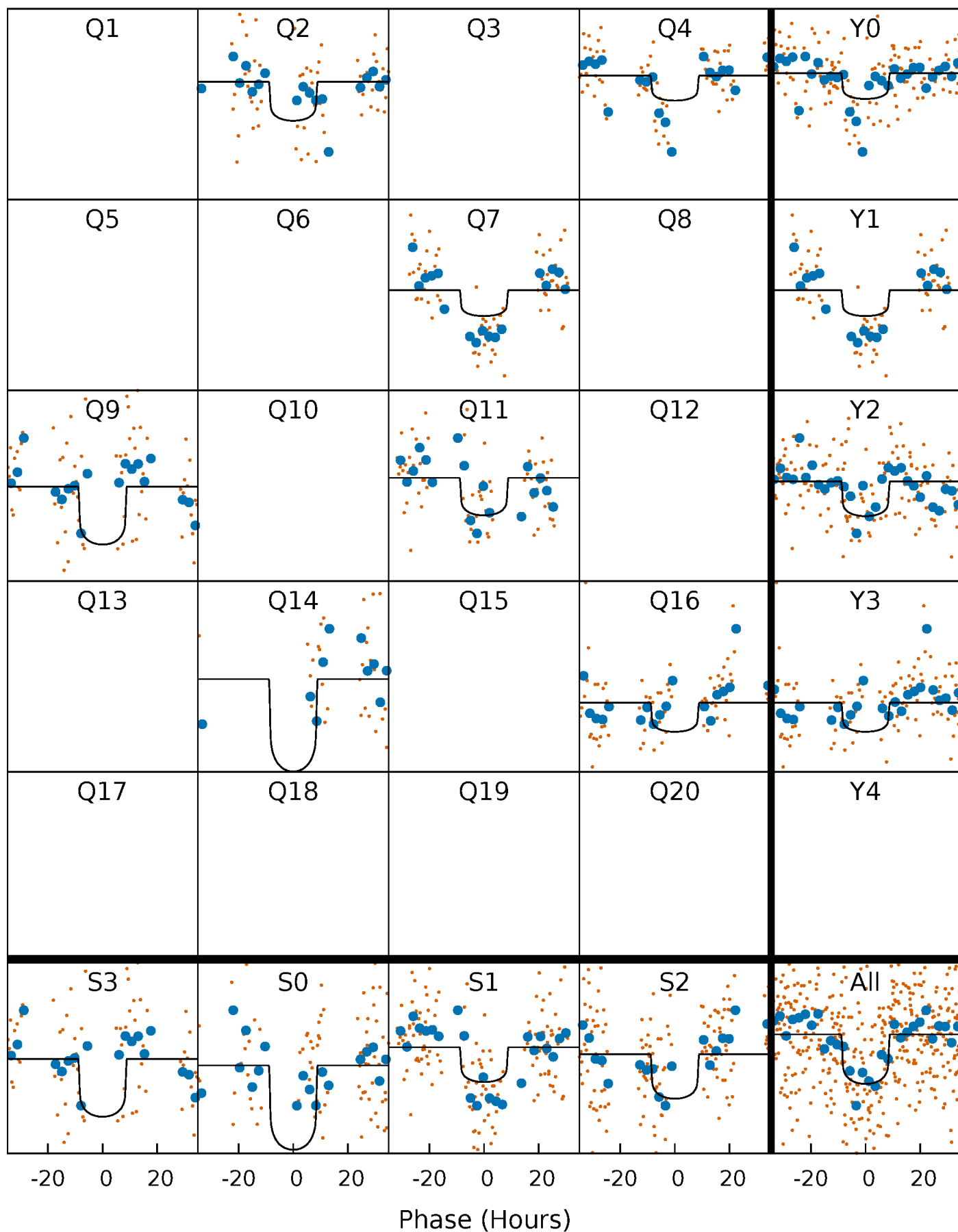
PDC Quarter-Phased Transit Curves

TCE 007461436-05 $P=221.947394$ Days $T_0=196.225956$ (BKJD)



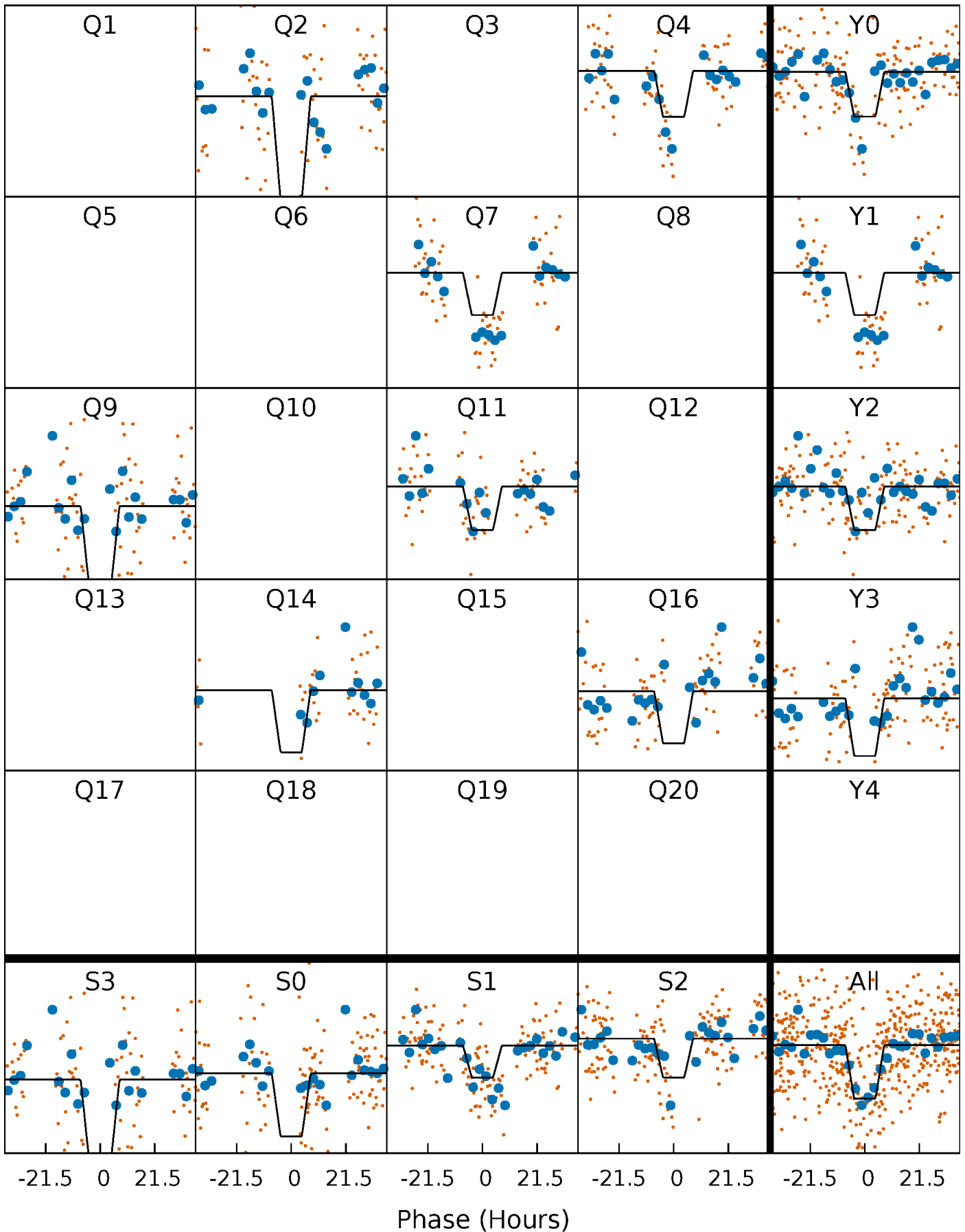
DV Quarter-Phased Transit Curves

TCE 007461436-05 $P=221.947394$ Days $T_0=196.225956$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

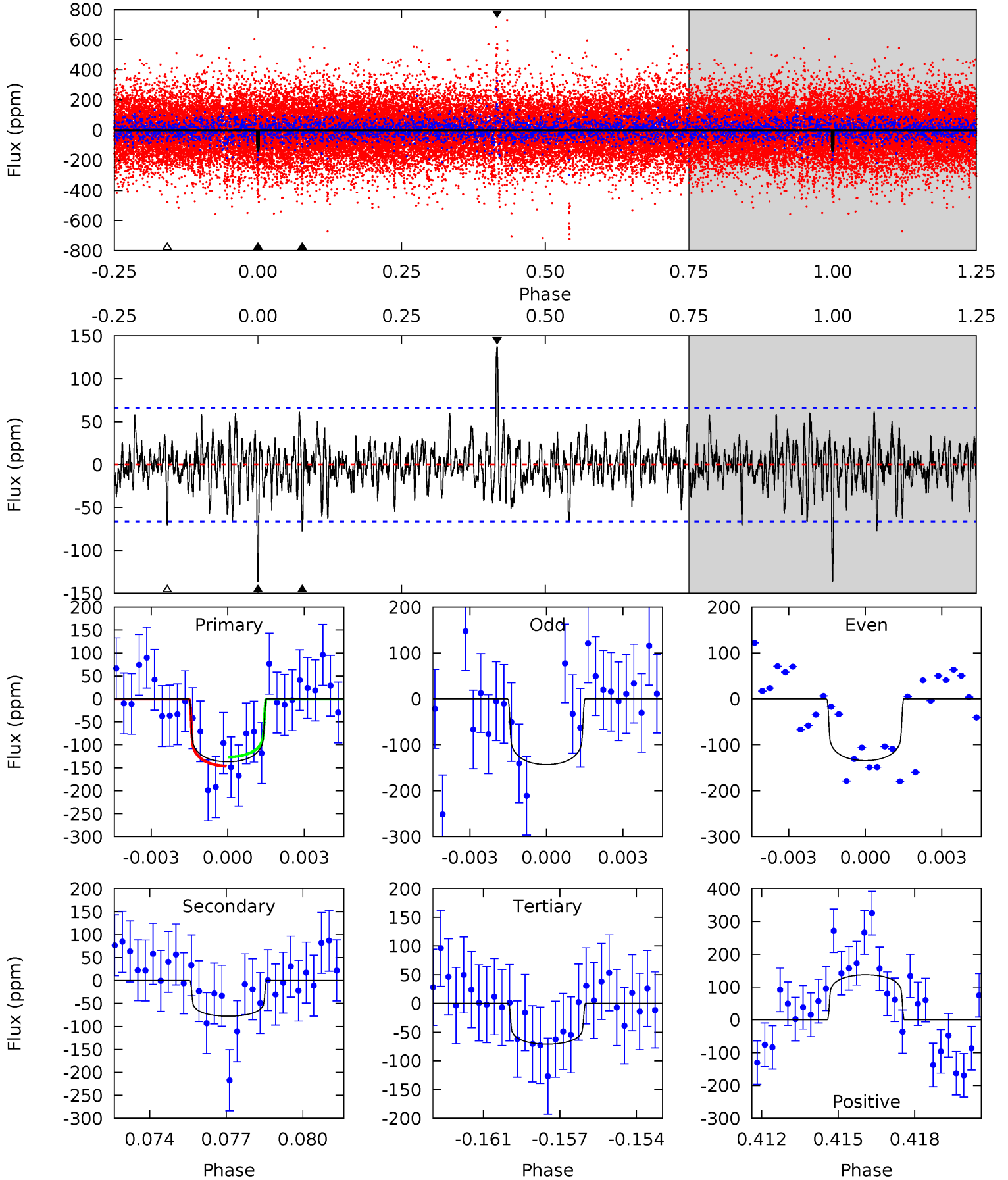
TCE 007461436-05 $P=221.983385$ Days $T_0=196.116478$ (BKJD)



DV Model-Shift Uniqueness Test

007461436-05, P = 221.947394 Days, E = 196.225956 Days

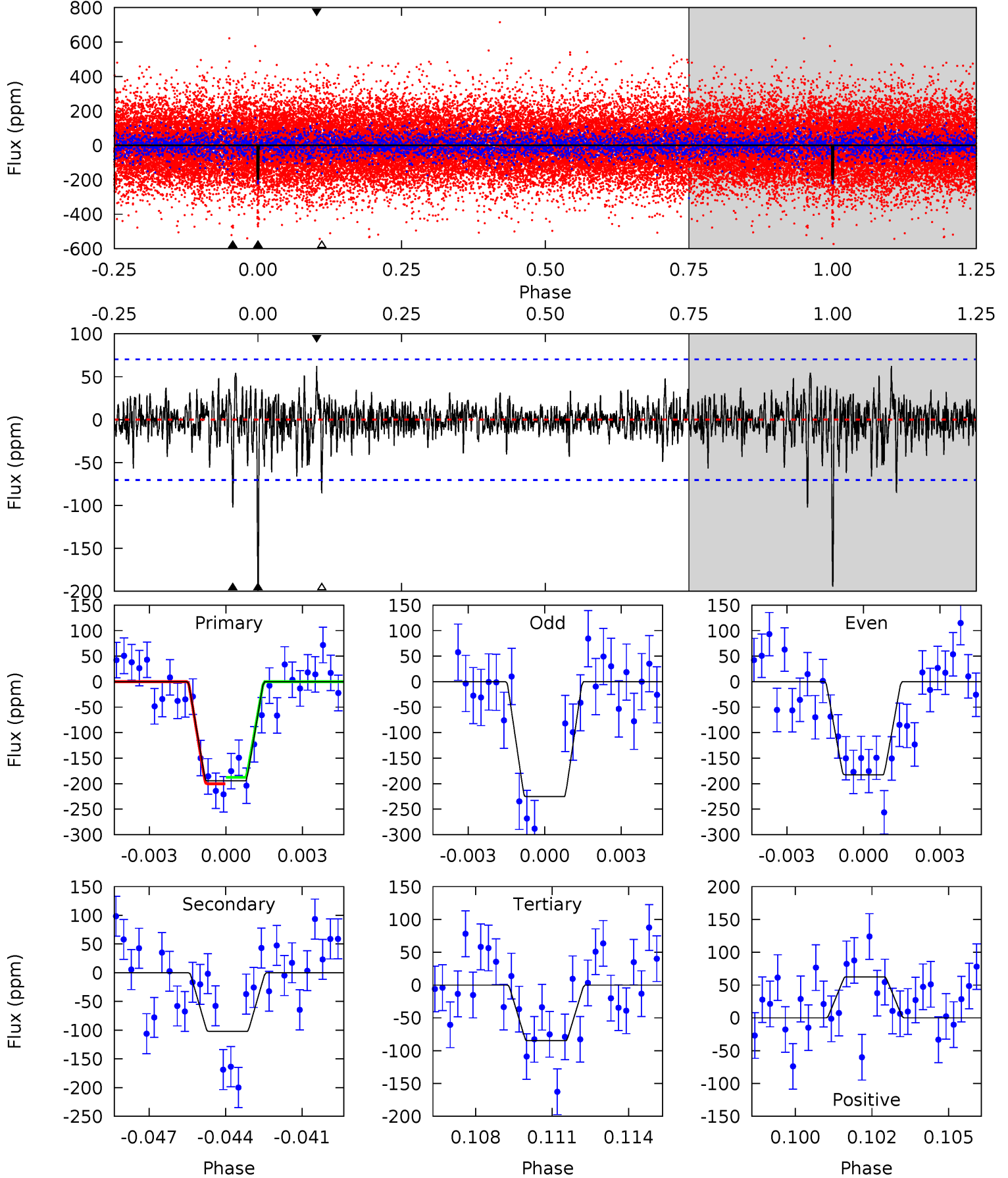
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	6.15	5.60	10.9	5.23	2.93	1.66	5.23	-0.03	0.55	-4.71	0.32	1.45	0.50	0.78



Alt Model-Shift Uniqueness Test

007461436-05, P = 221.983385 Days, E = 196.116478 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.5	7.63	6.34	4.68	5.26	2.98	1.18	8.19	9.86	1.29	2.95	1.55	0.97	0.24	0.47



Stellar Parameters For KIC 007461436

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7379^{+206}_{-353}	$4.241^{+0.060}_{-0.240}$	$0.210^{+0.150}_{-0.350}$	$1.593^{+0.602}_{-0.161}$	$1.626^{+0.214}_{-0.193}$	$0.567^{+0.184}_{-0.323}$
	+3%/-5%	+1%/-6%	+71%/-167%	+38%/-10%	+13%/-12%	+32%/-57%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007461436-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-78 ± 13	$2.17^{+0.83}_{-0.75}$	636^{+55}_{-37}	6210^{+1616}_{-838}	6149^{+8653}_{-2982}
Alt.	-102 ± 13	$2.62^{+0.87}_{-0.77}$	634^{+52}_{-34}	6040^{+1270}_{-686}	5671^{+6047}_{-2622}

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

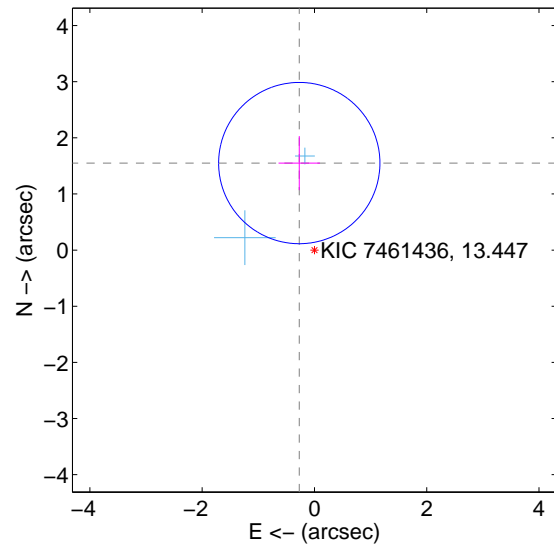
Supplemental centroid analysis for 007461436-05. Kepler magnitude: 13.45. Transit SNR 7.52

There are 2 quarters with good PRF difference image offsets

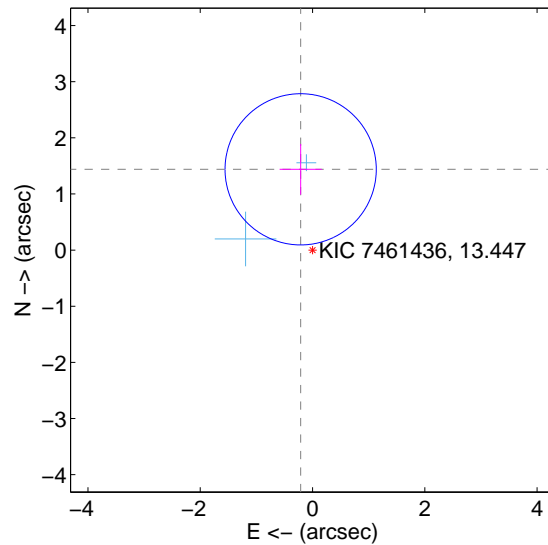
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.574 ± 0.479	3.29	0.270 ± 0.370	1.551 ± 0.482
PRF-fit source offset from KIC position	1.455 ± 0.449	3.24	0.211 ± 0.375	1.439 ± 0.451
photometric centroid source offset	0.92 ± 0.89	1.03	0.85 ± 0.86	0.35 ± 1.06

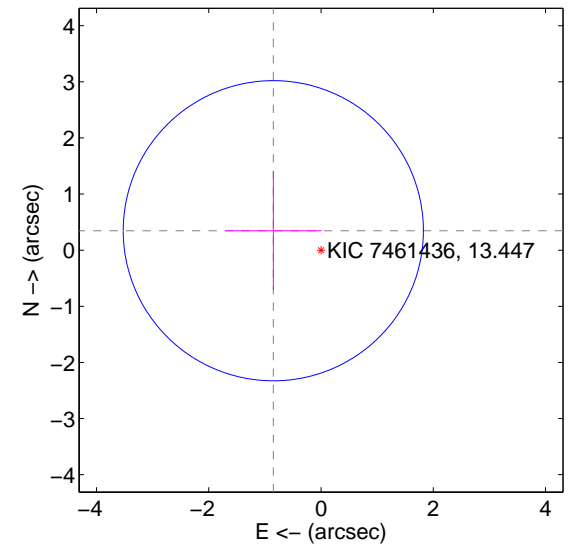
offset from difference PRF-fit to OOT PRF-fit



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.

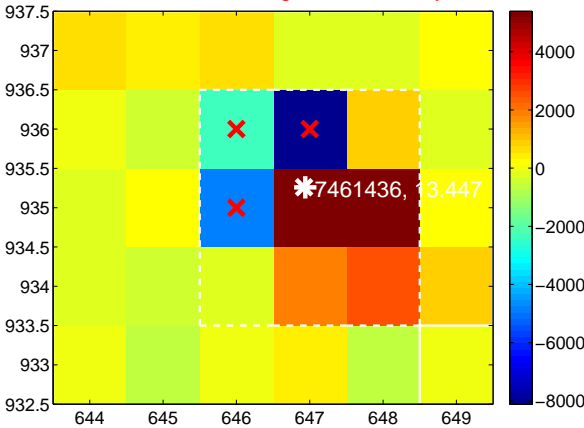
Q1 no difference image



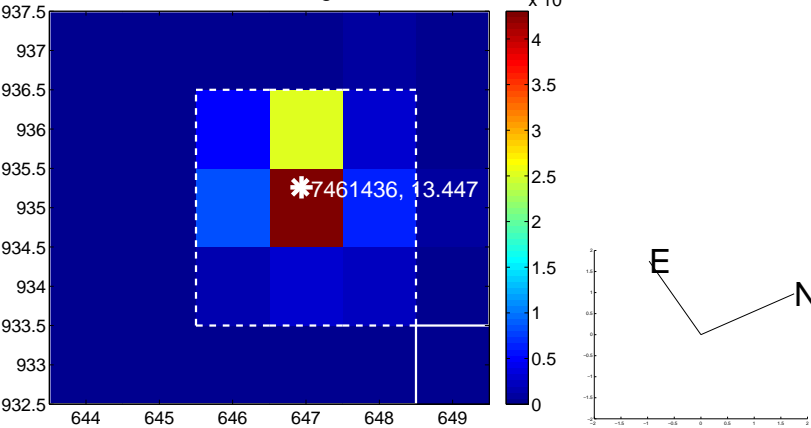
Q1 no OOT image



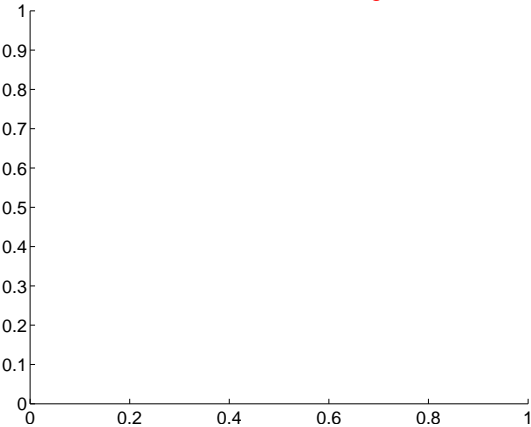
Q2 difference image. Poor Quality



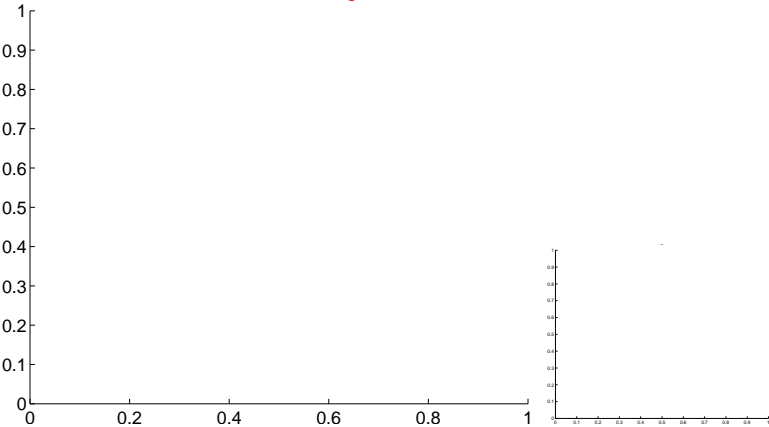
Q2 OOT image



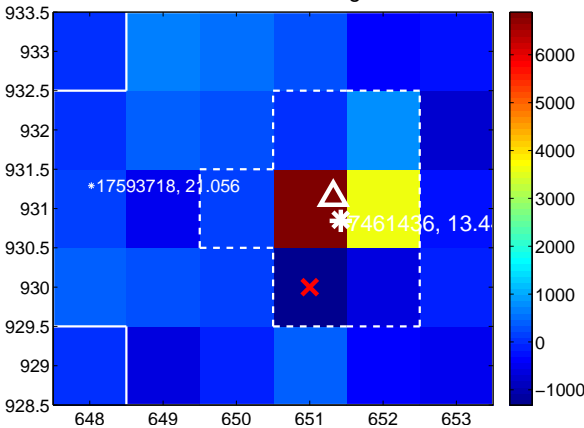
Q3 no difference image



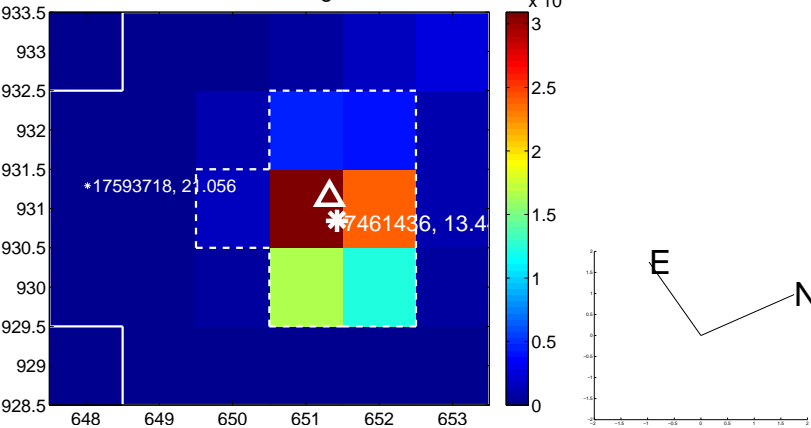
Q3 no OOT image



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



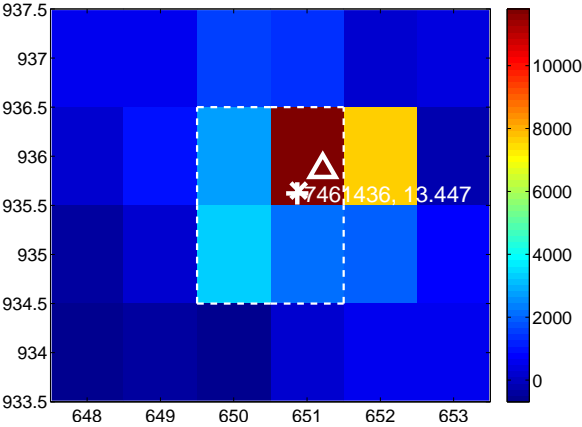
Q6 no difference image



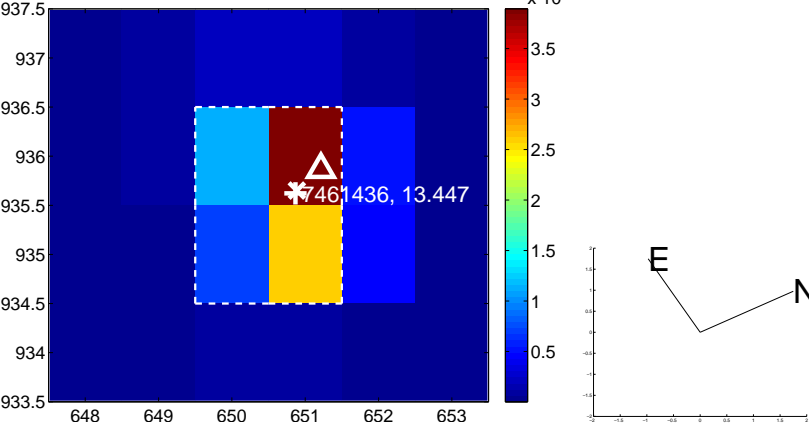
Q6 no OOT image



Q7 difference image



Q7 OOT image



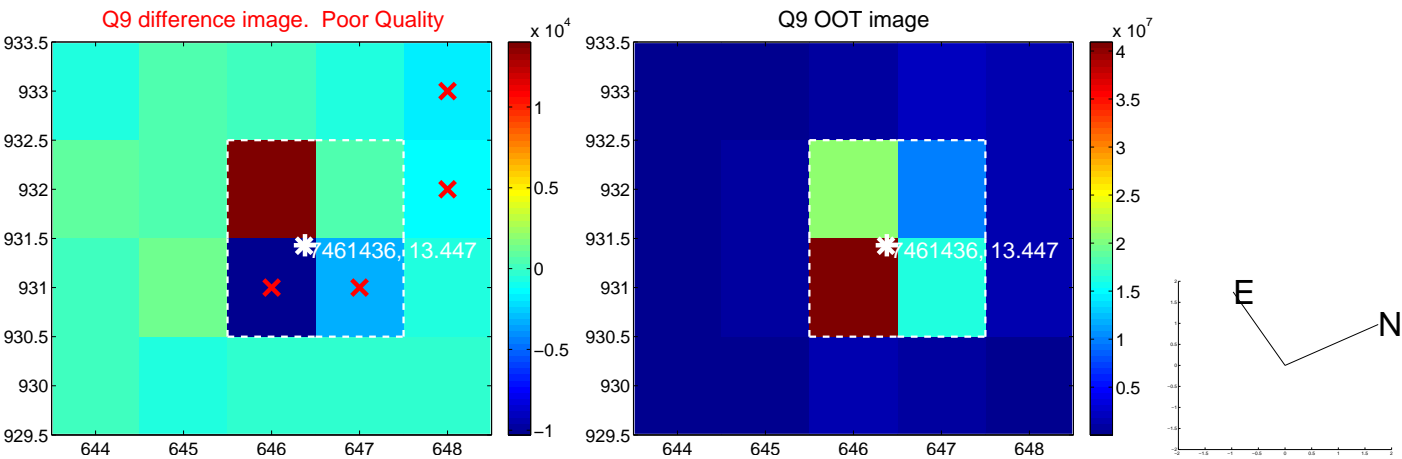
Q8 no difference image



Q8 no OOT image



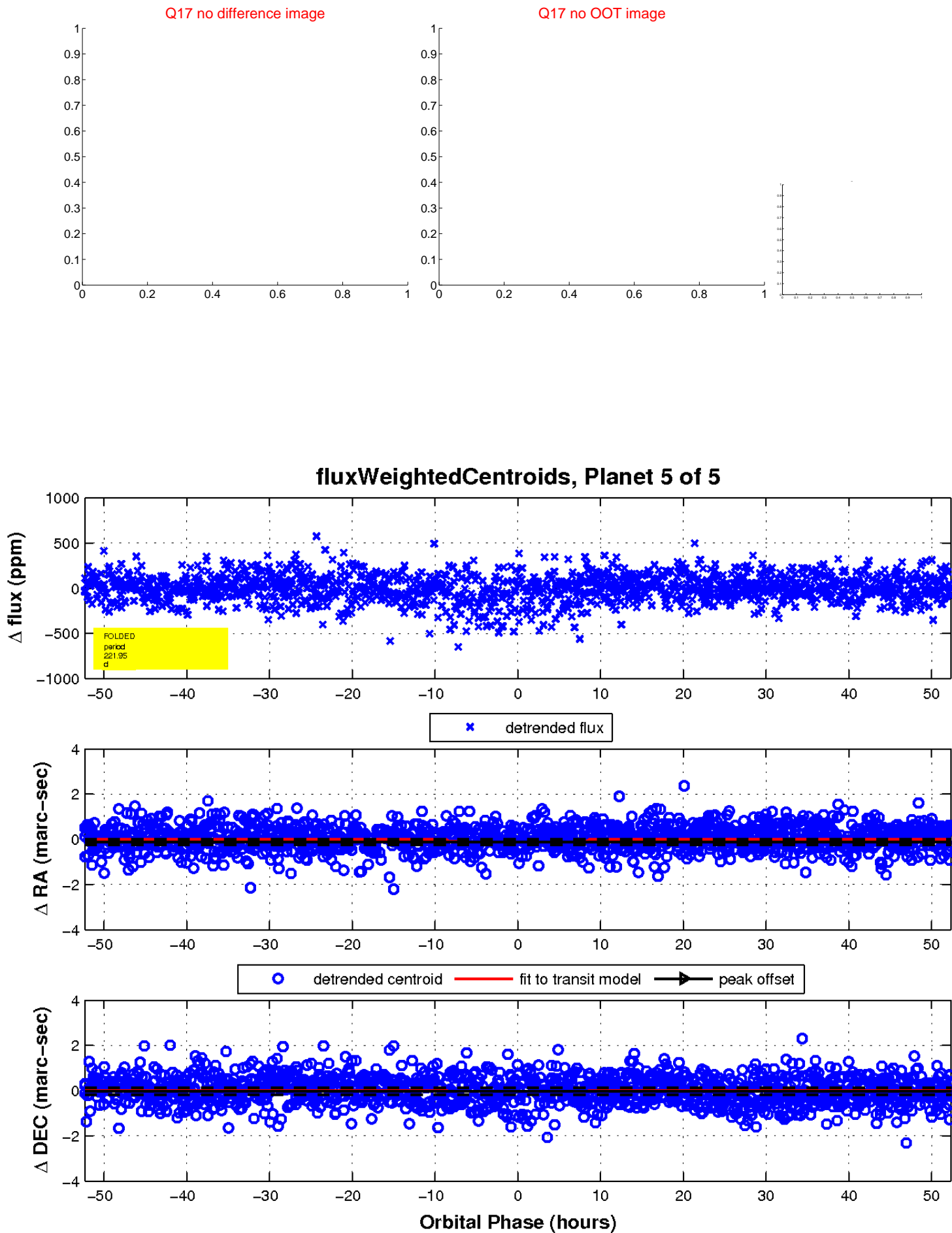
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

