

KIC 002557669

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})
002557669-02	OBS	No	139.121660	165.806838	1063.2	3.228	13.2	6.0	0.43	3671	1.50	0.18
002557669-03	OBS	No	496.754526	272.944826	1796.7	3.822	10.8	7.2	0.43	3671	1.83	0.03
002557669-04	OBS	No	376.016865	486.060508	1713.8	8.481	13.3	7.2	0.43	3671	1.82	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002557669-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
002557669-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002557669-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

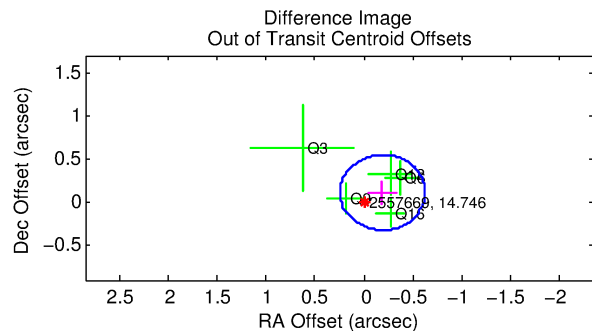
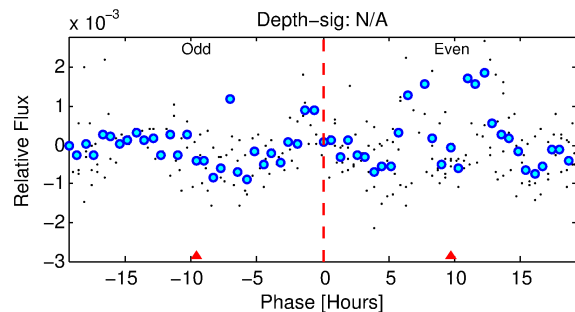
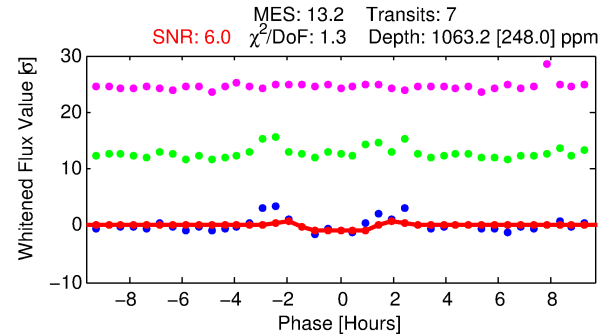
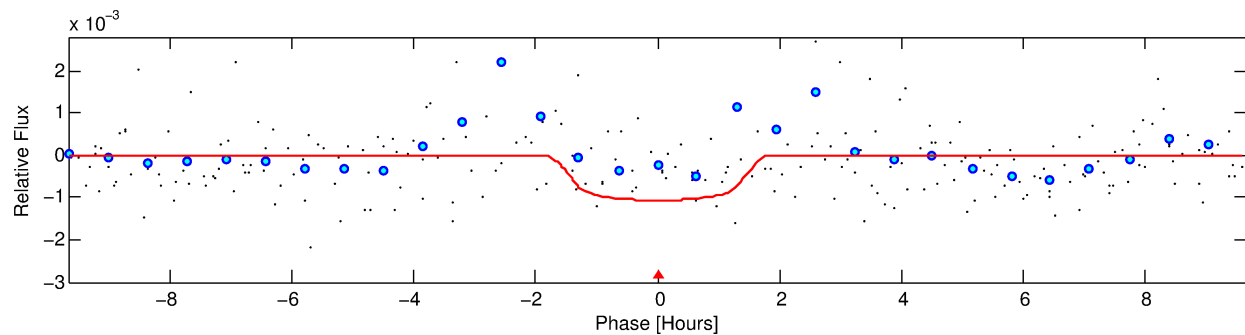
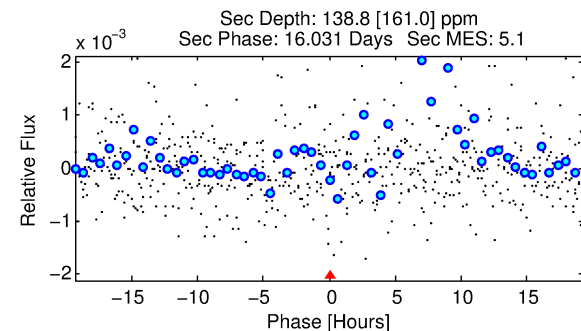
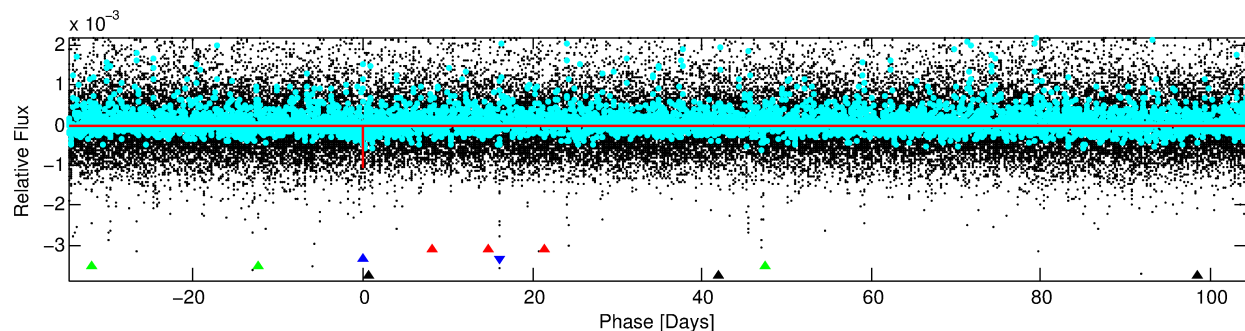
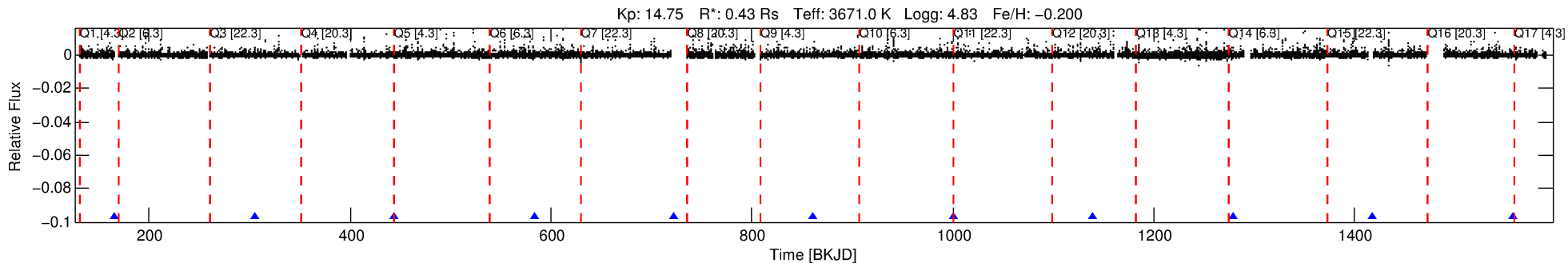
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002557669-02

No Significant Match Found

DV One-Page Summary

KIC: 2557669 Candidate: 2 of 4 Period: 139.122 d



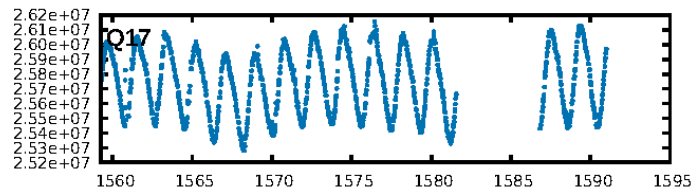
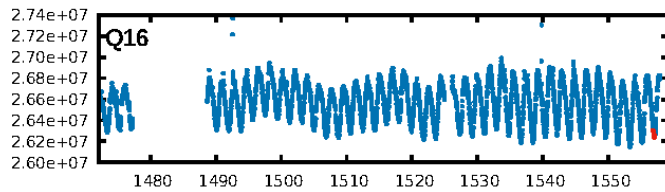
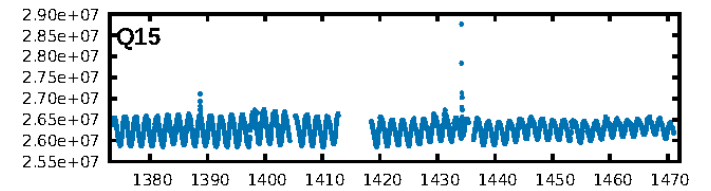
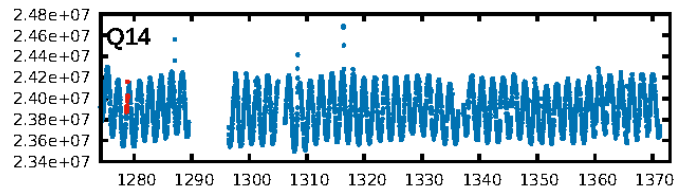
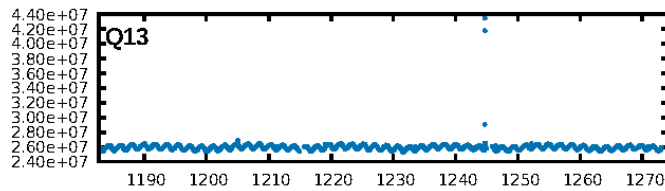
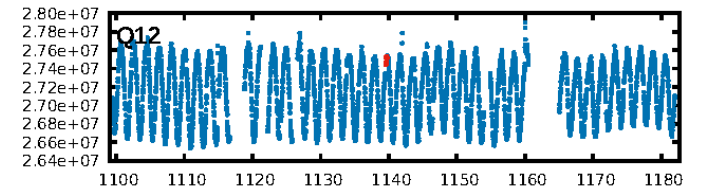
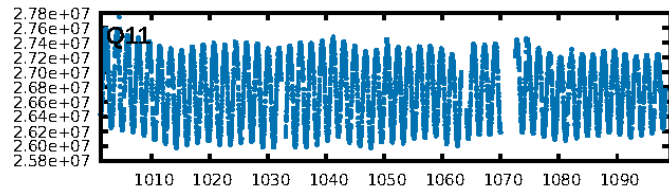
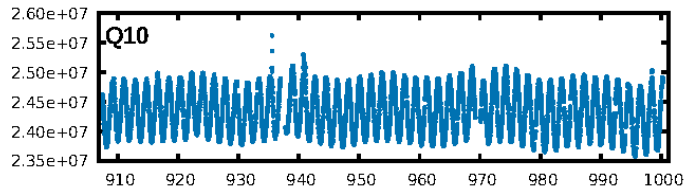
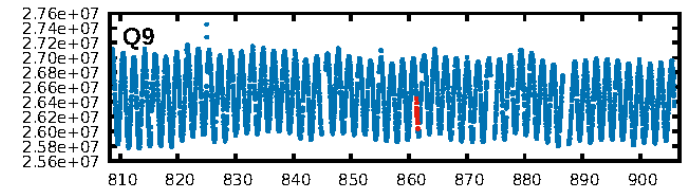
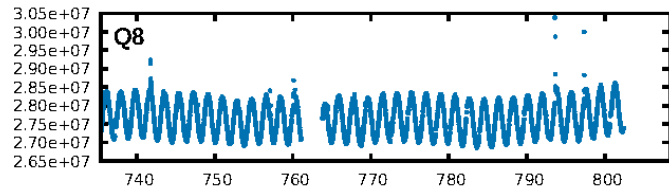
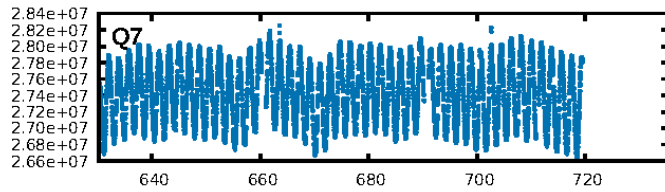
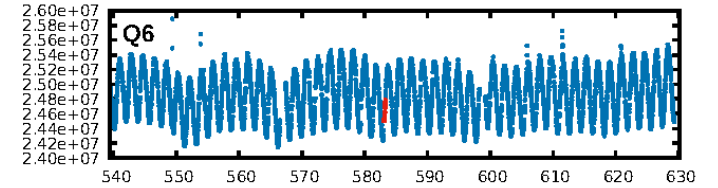
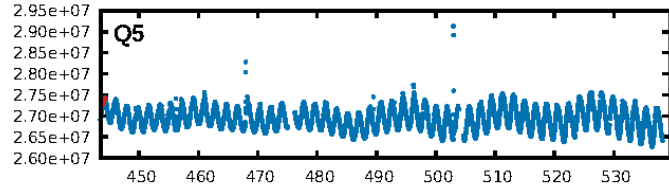
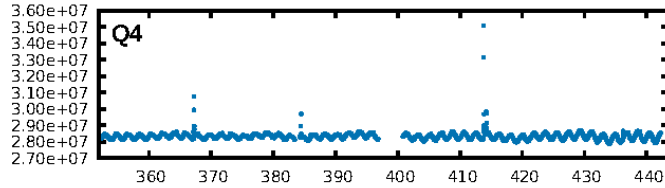
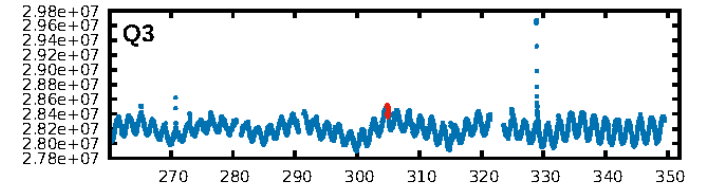
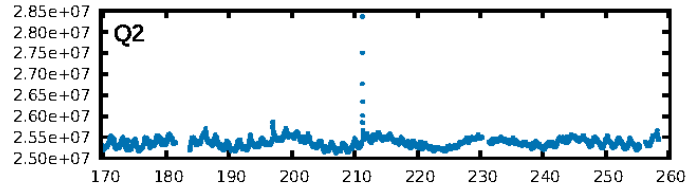
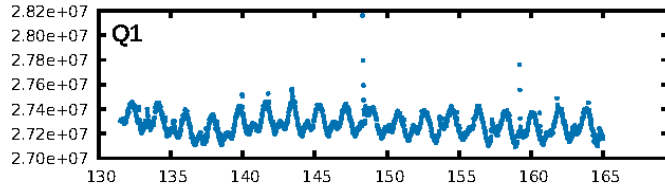
DV Fit Results:

Period = 139.12166 [0.00143] d
Epoch = 165.8068 [0.0094] BKJD
Rp/R* = 0.0319 [0.0428]
a/R* = 250.18 [1547.47]
b = 0.70 [4.56]
Seff = 0.18 [0.02]
Teq = 167 [4] K
Rp = 1.49 [2.01] Re
a = 0.4036 [0.0261] AU
Ag = 5566.36 [16289.98] [0.34σ]
Teffp = 2232 [1633] K [1.26σ]

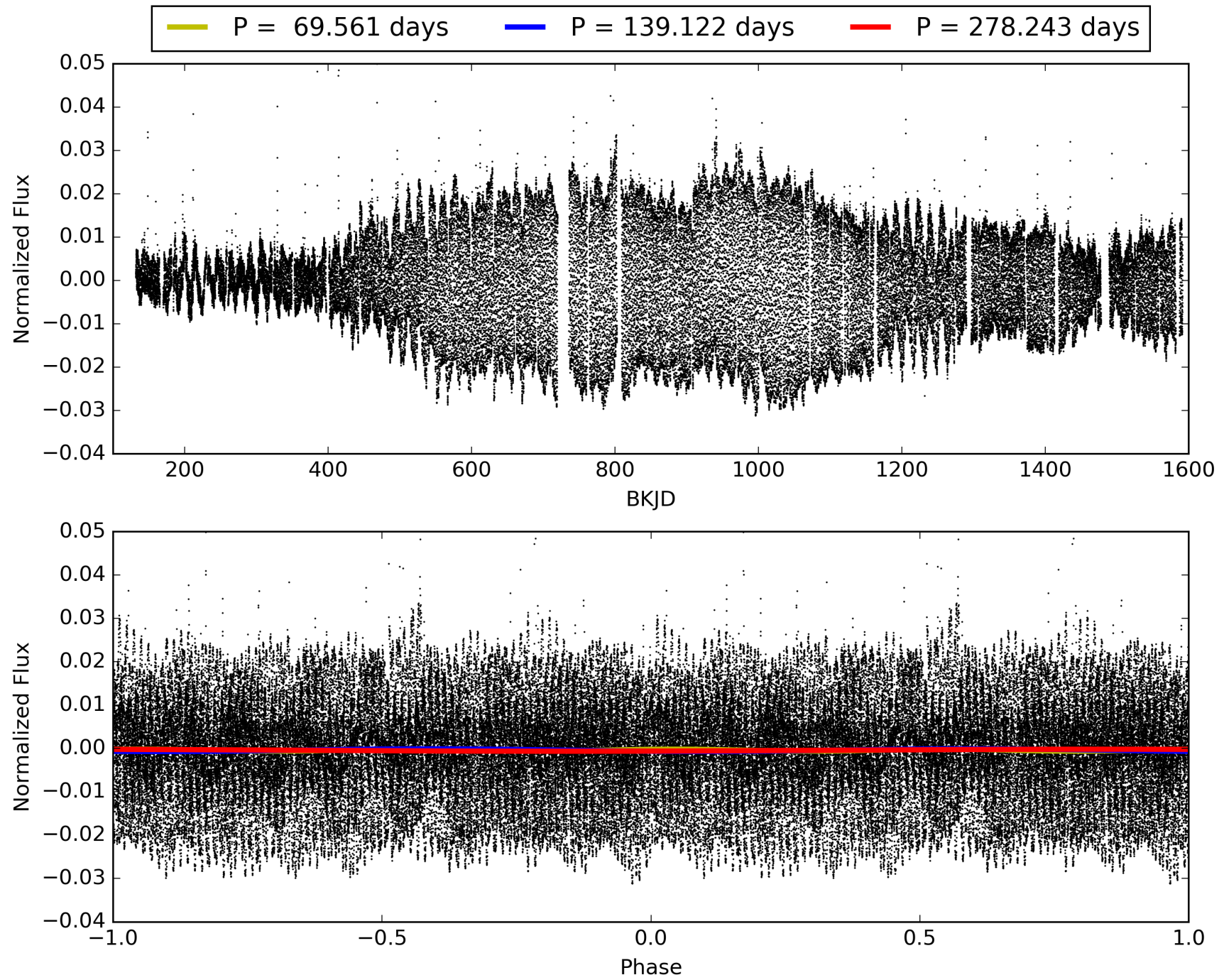
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [626.50σ]
ModelChiSquare2-sig: 0.5%
ModelChiSquareGof-sig: 96.2%
Bootstrap-pfa: 7.88e-15
RollingBand-fgt: 1.00 [7/7]
GhostDiagnostic-chr: -1.682
Centroid-sig: 61.1%
Centroid-so: 0.747 arcsec [0.70σ]
OotOffset-rm: 0.219 arcsec [1.51σ]
OotOffset-st: 1/1/2/1 [5]
KicOffset-rm: 0.229 arcsec [1.60σ]
KicOffset-st: 1/1/2/1 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 1.00 [5/5]

TCE 002557669-02, PDC Light Curves

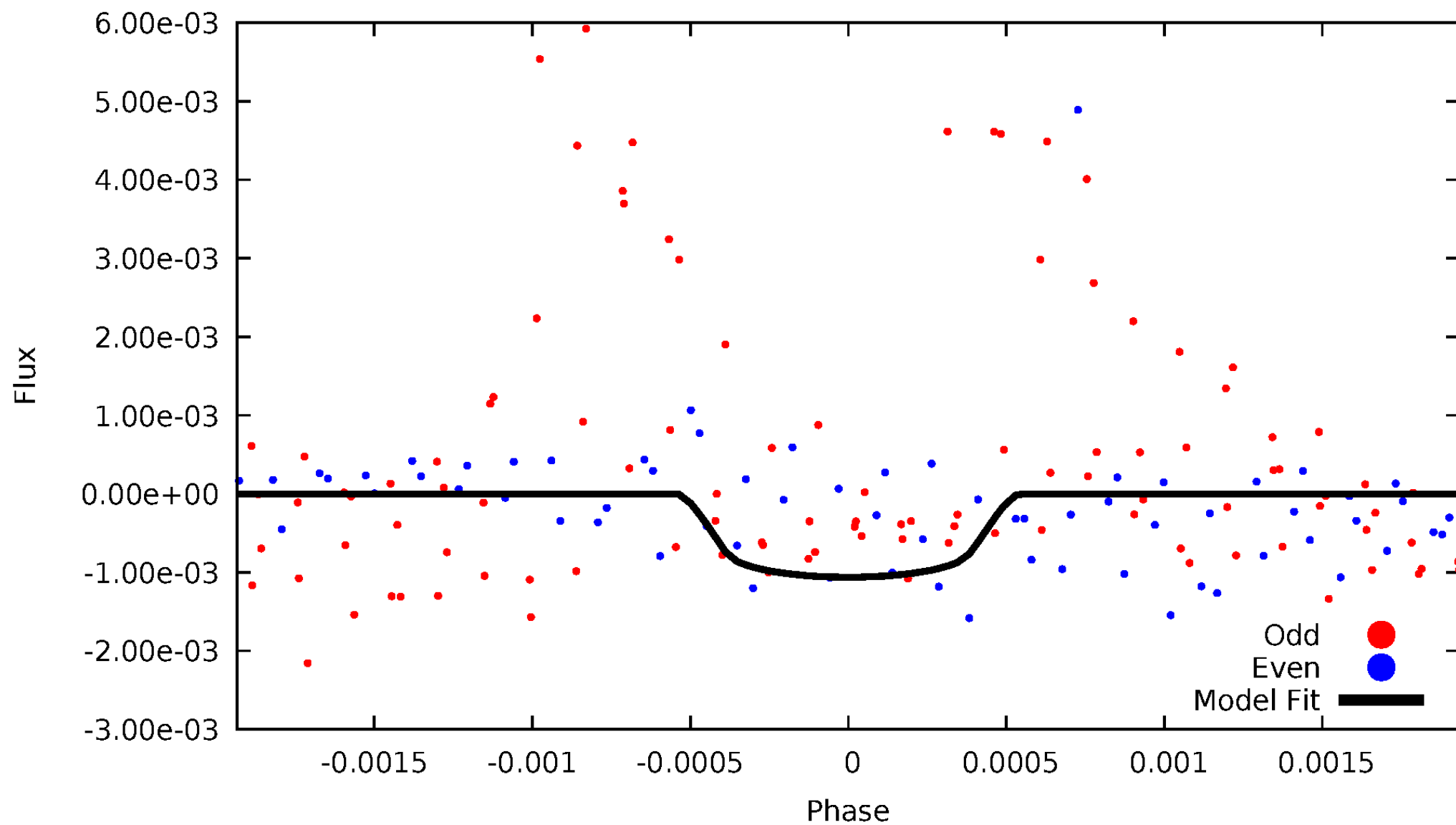


TCE 002557669-02



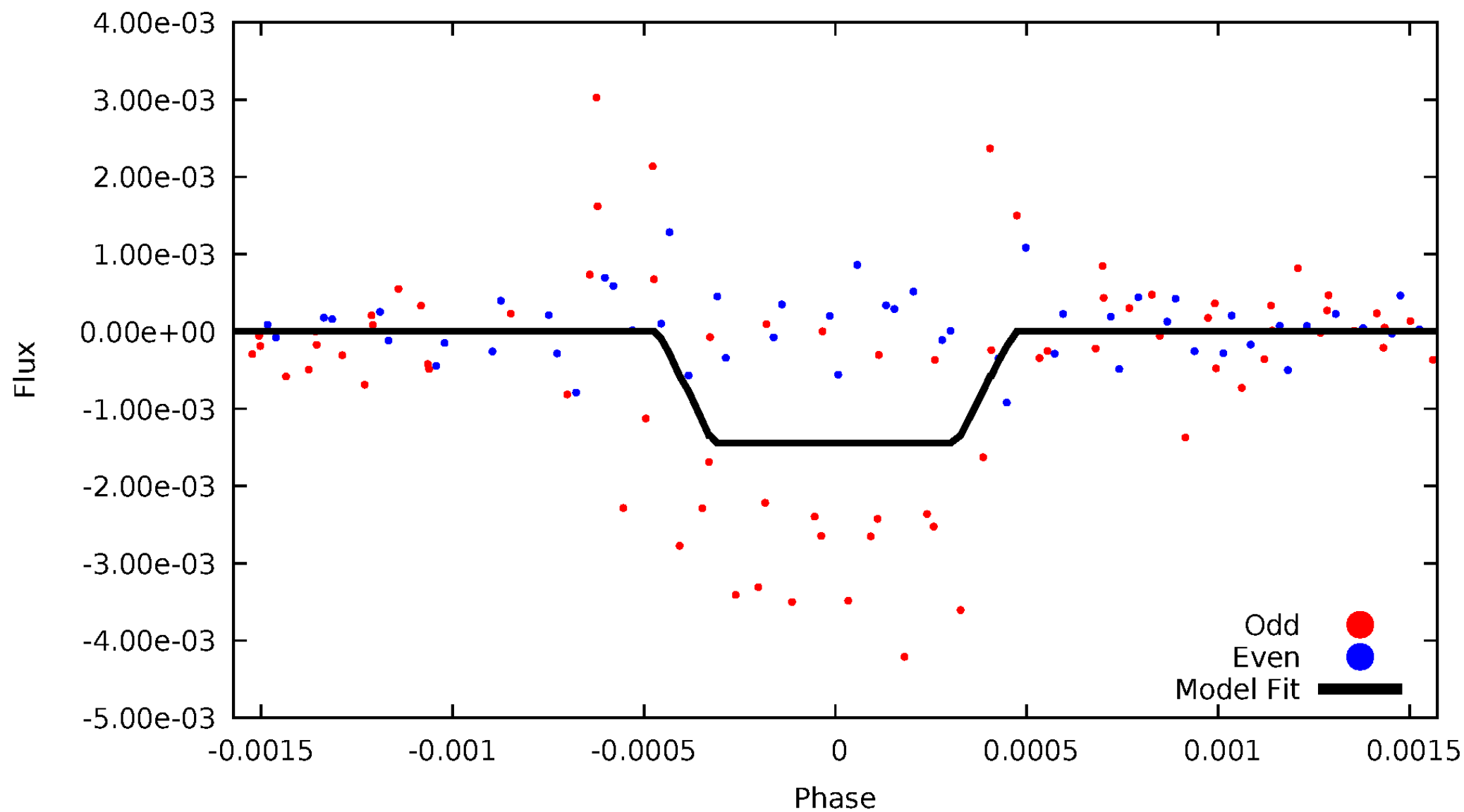
DV Odd/Even

TCE 002557669-02



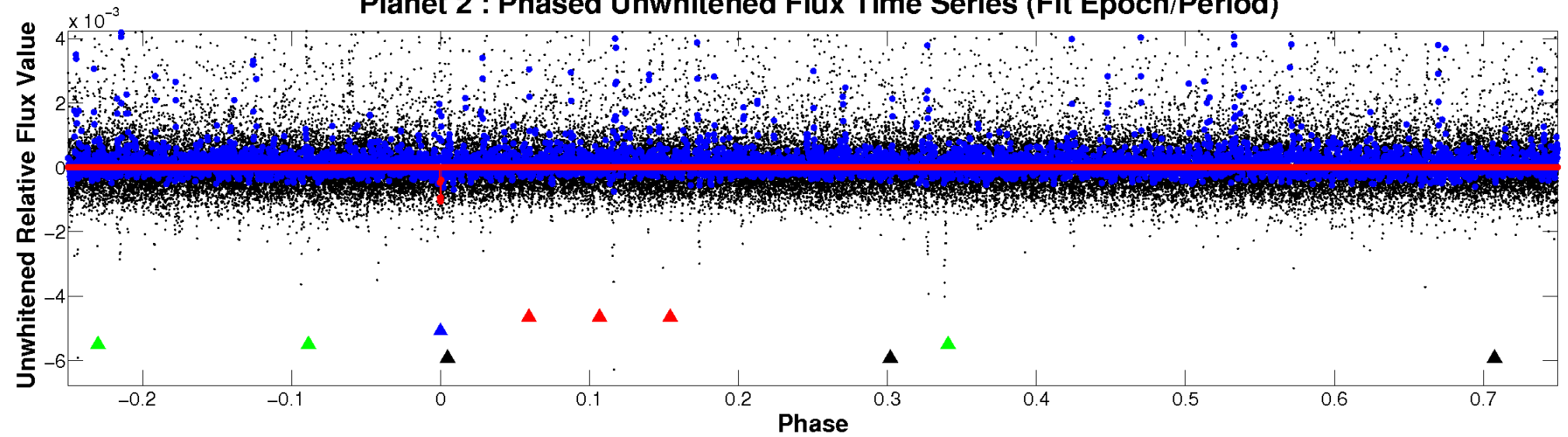
ALT Odd/Even

TCE 002557669-02

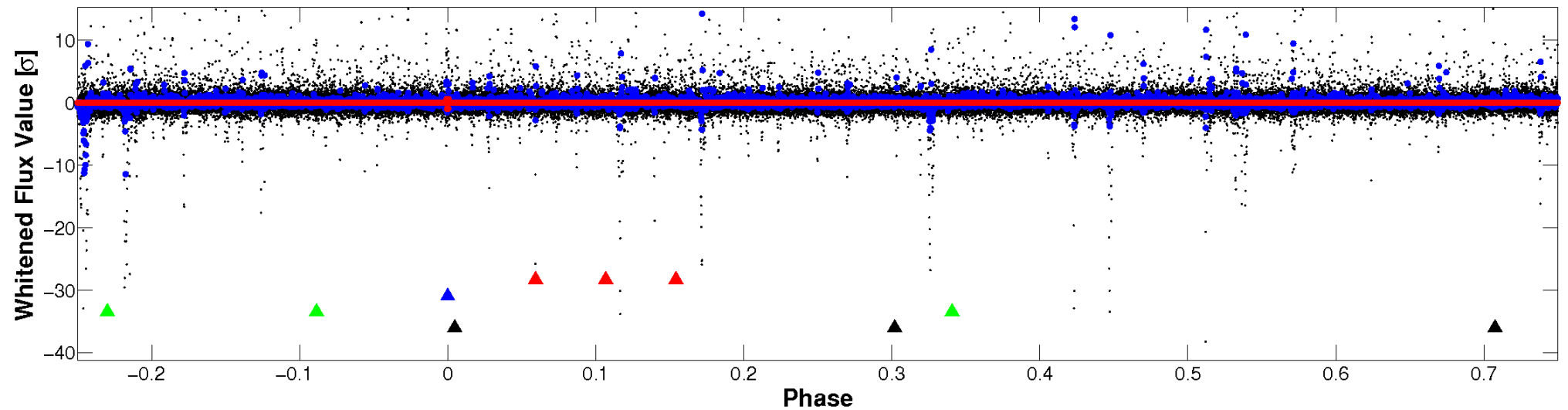


Non-Whitened Vs. Whitened Light Curve

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

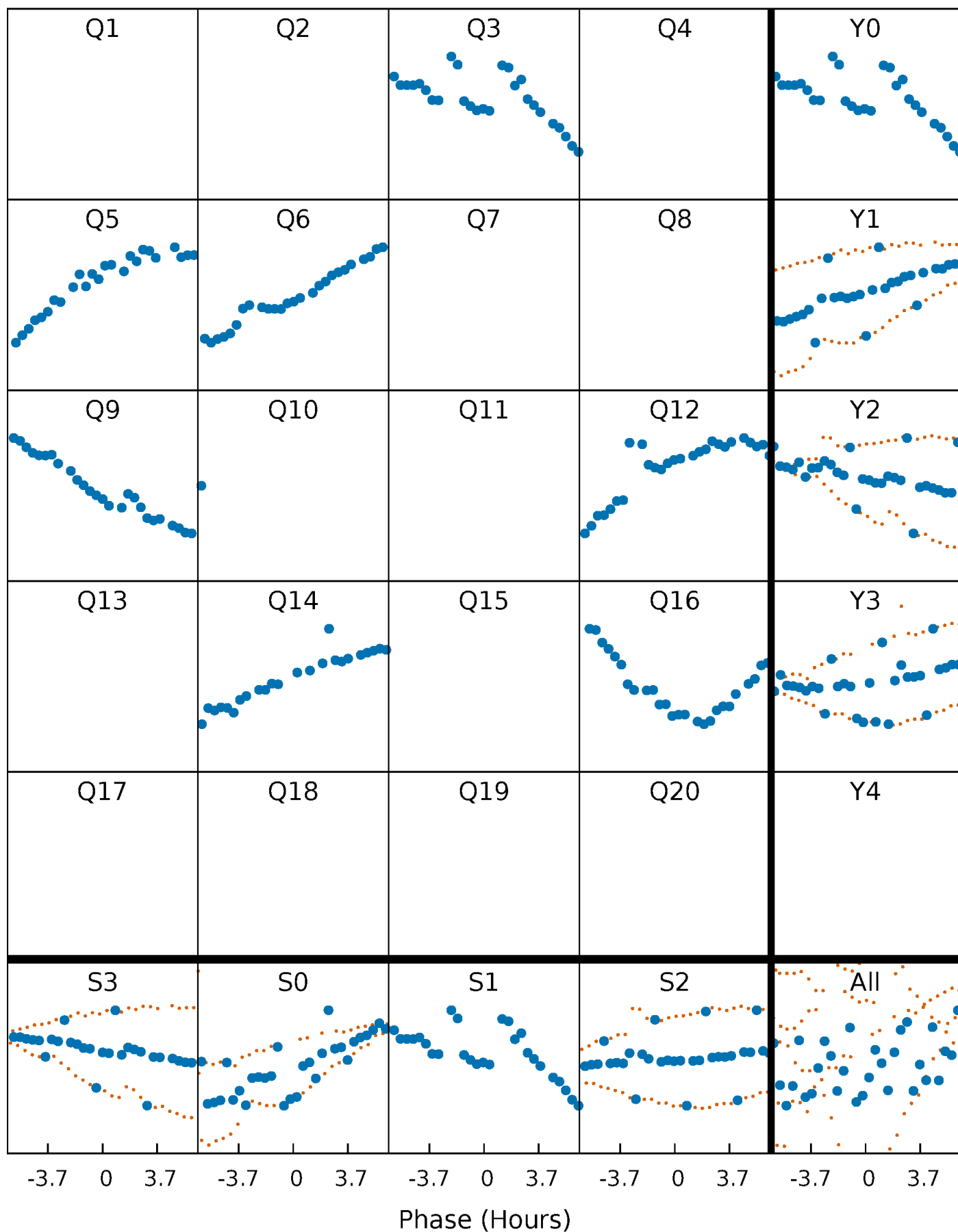


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



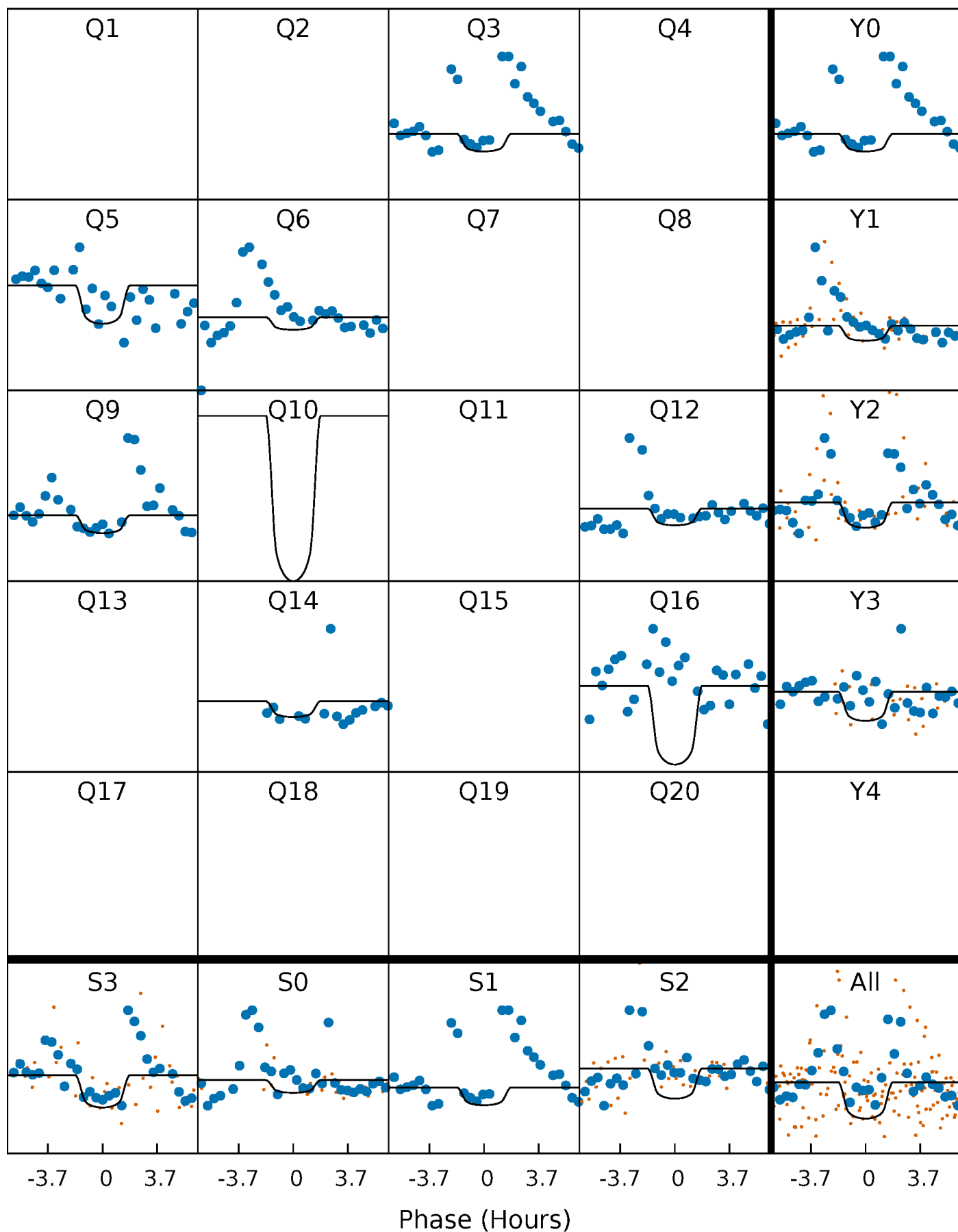
PDC Quarter-Phased Transit Curves

TCE 002557669-02 P=139.121660 Days $T_0=165.806838$ (BKJD)



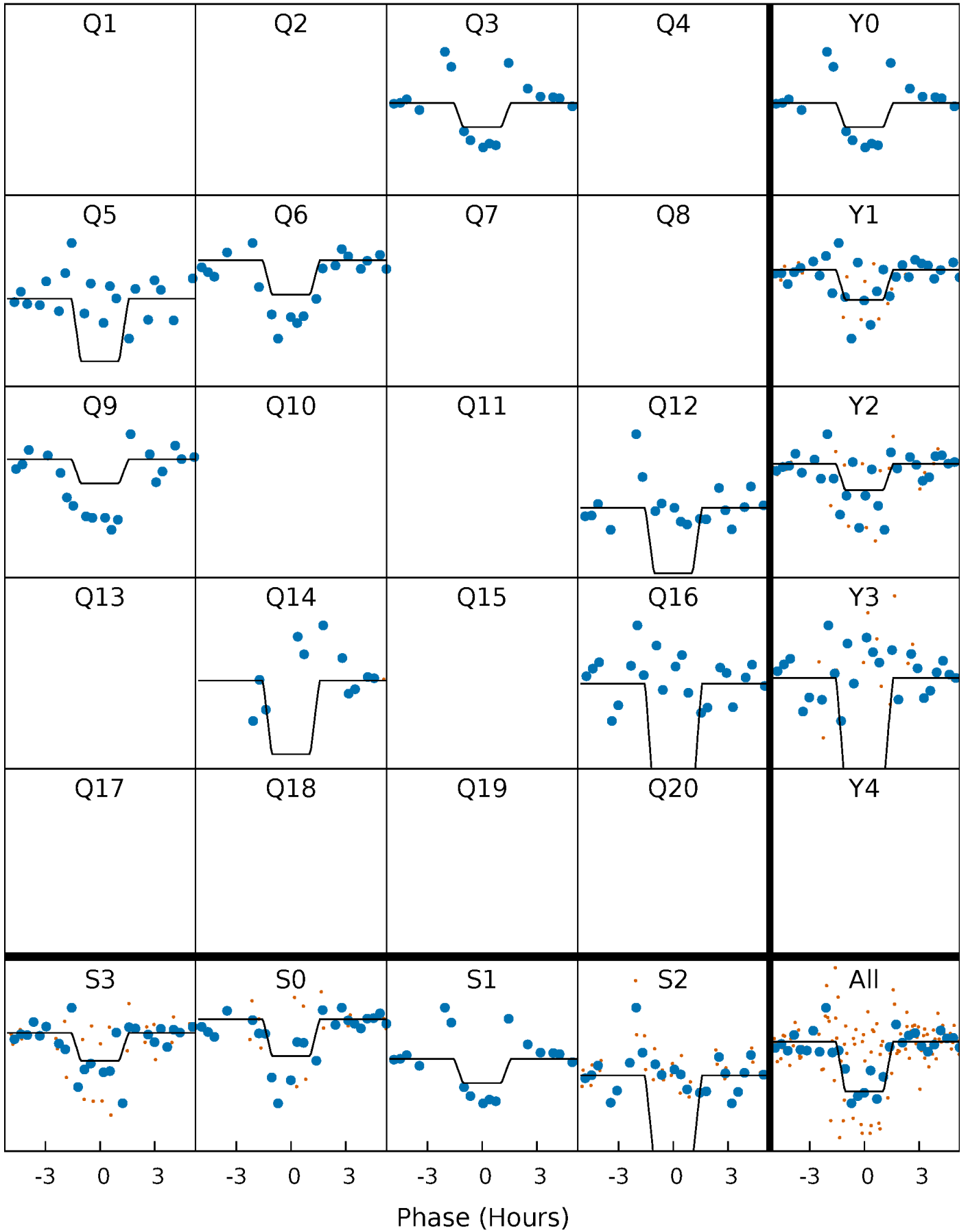
DV Quarter-Phased Transit Curves

TCE 002557669-02 P=139.121660 Days $T_0=165.806838$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

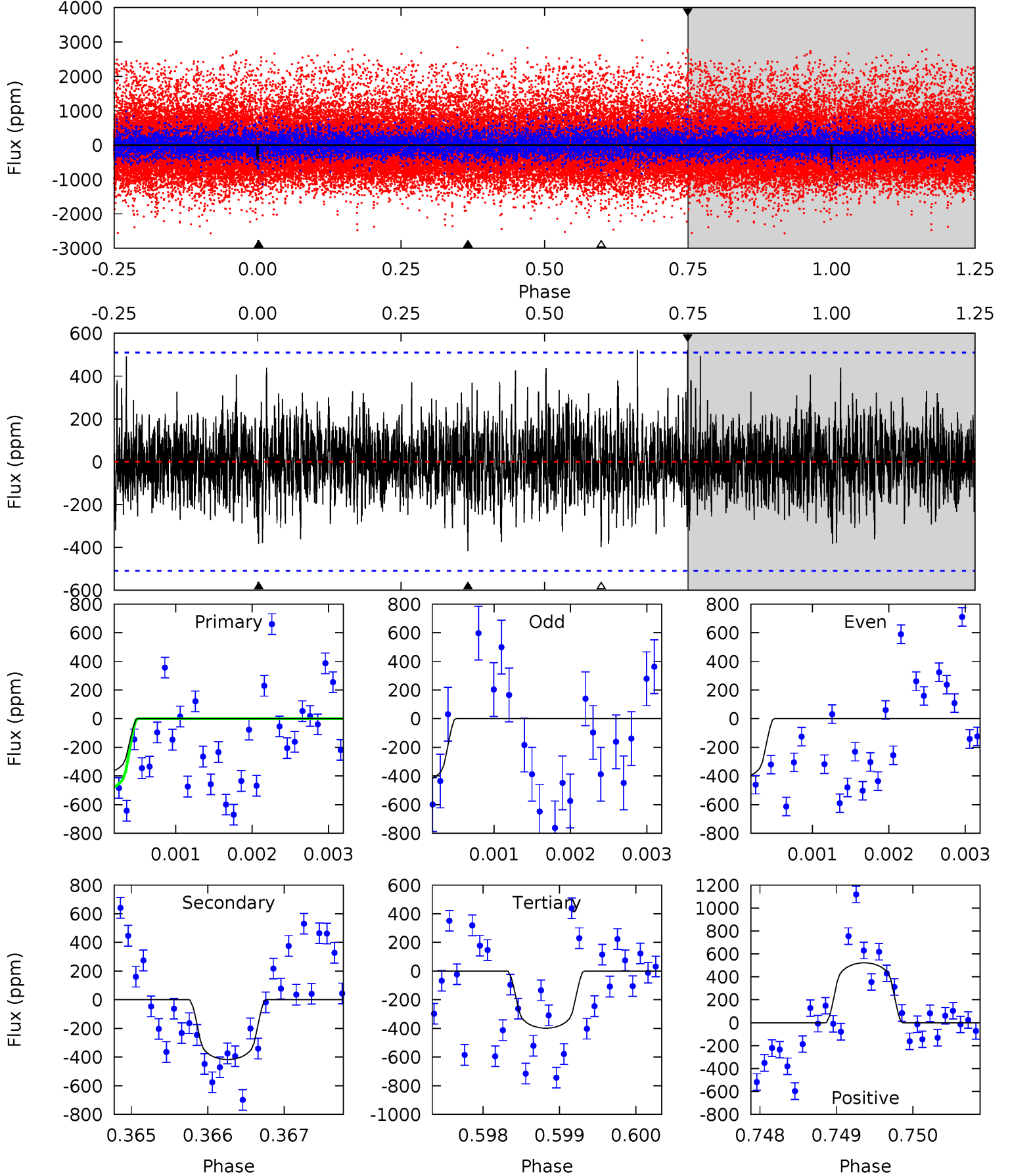
TCE 002557669-02 P=139.125074 Days $T_0=165.790914$ (BKJD)



DV Model-Shift Uniqueness Test

002557669-02, P = 139.121660 Days, E = 26.685178 Days

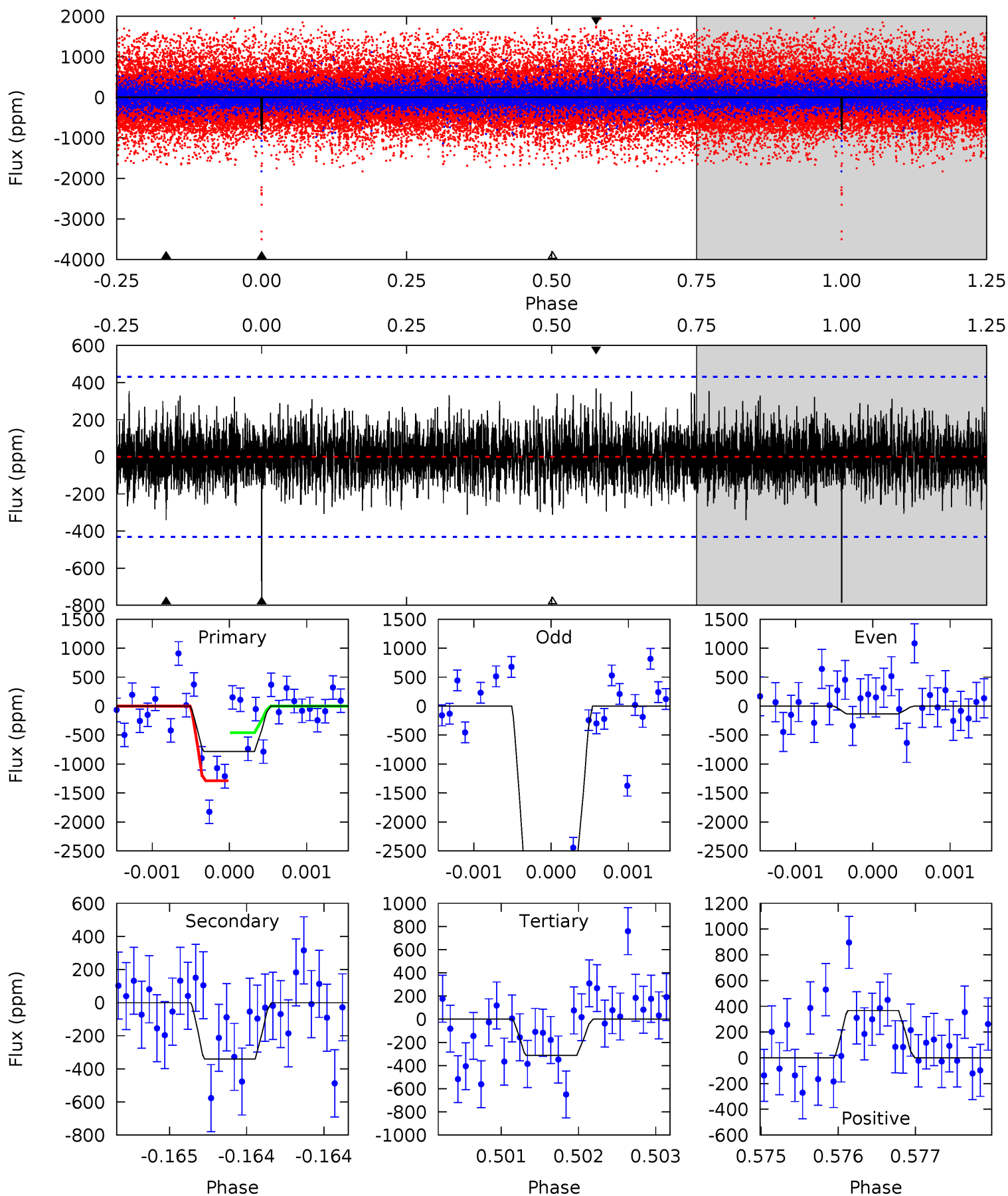
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.08	4.45	4.25	5.57	5.43	3.26	1.25	-0.16	-1.48	0.20	-1.12	0.12	0.46	0.56	1.38



Alt Model-Shift Uniqueness Test

002557669-02, P = 139.125074 Days, E = 26.665840 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.93	4.32	3.95	4.65	5.46	3.31	1.18	5.97	5.27	0.36	-0.33	17.6	7.84	0.32	5.11



Stellar Parameters For KIC 002557669

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3671^{+54}_{-60}	$4.827^{+0.039}_{-0.035}$	$-0.200^{+0.100}_{-0.100}$	$0.430^{+0.030}_{-0.037}$	$0.452^{+0.028}_{-0.039}$	$8.039^{+1.556}_{-1.083}$
	+1%/-2%	+1%/-1%	+50%/-50%	+7%/-9%	+6%/-9%	+19%/-13%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 002557669-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-417 ± 94	$2.01^{+1.77}_{-1.26}$	234^{+5}_{-5}	2927^{+1063}_{-453}	9376^{+59436}_{-6916}
Alt.	-341 ± 79	$2.30^{+1.87}_{-1.55}$	234^{+4}_{-5}	2749^{+1045}_{-379}	5599^{+49071}_{-3923}

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

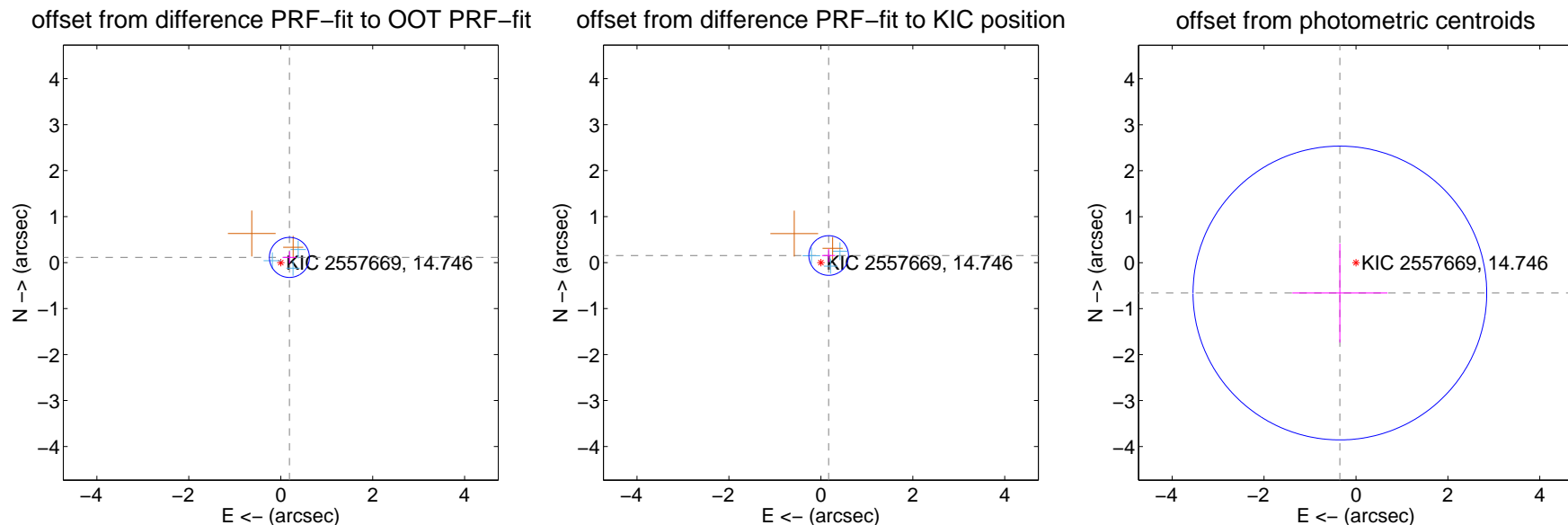
DV Centroid Data

Supplemental centroid analysis for 002557669-02. Kepler magnitude: 14.75. Transit SNR 6.00

There are 3 quarters with good PRF difference image offsets

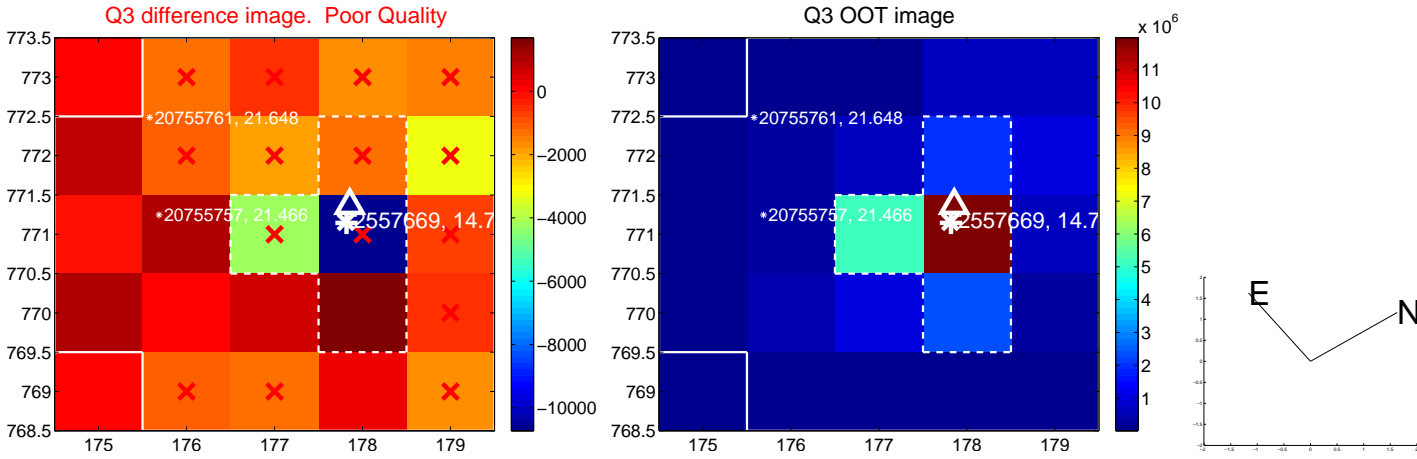
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.219 ± 0.145	1.51	-0.188 ± 0.149	0.112 ± 0.134
PRF-fit source offset from KIC position	0.229 ± 0.144	1.60	-0.170 ± 0.143	0.154 ± 0.144
photometric centroid source offset	0.75 ± 1.07	0.70	0.35 ± 1.04	-0.66 ± 1.07

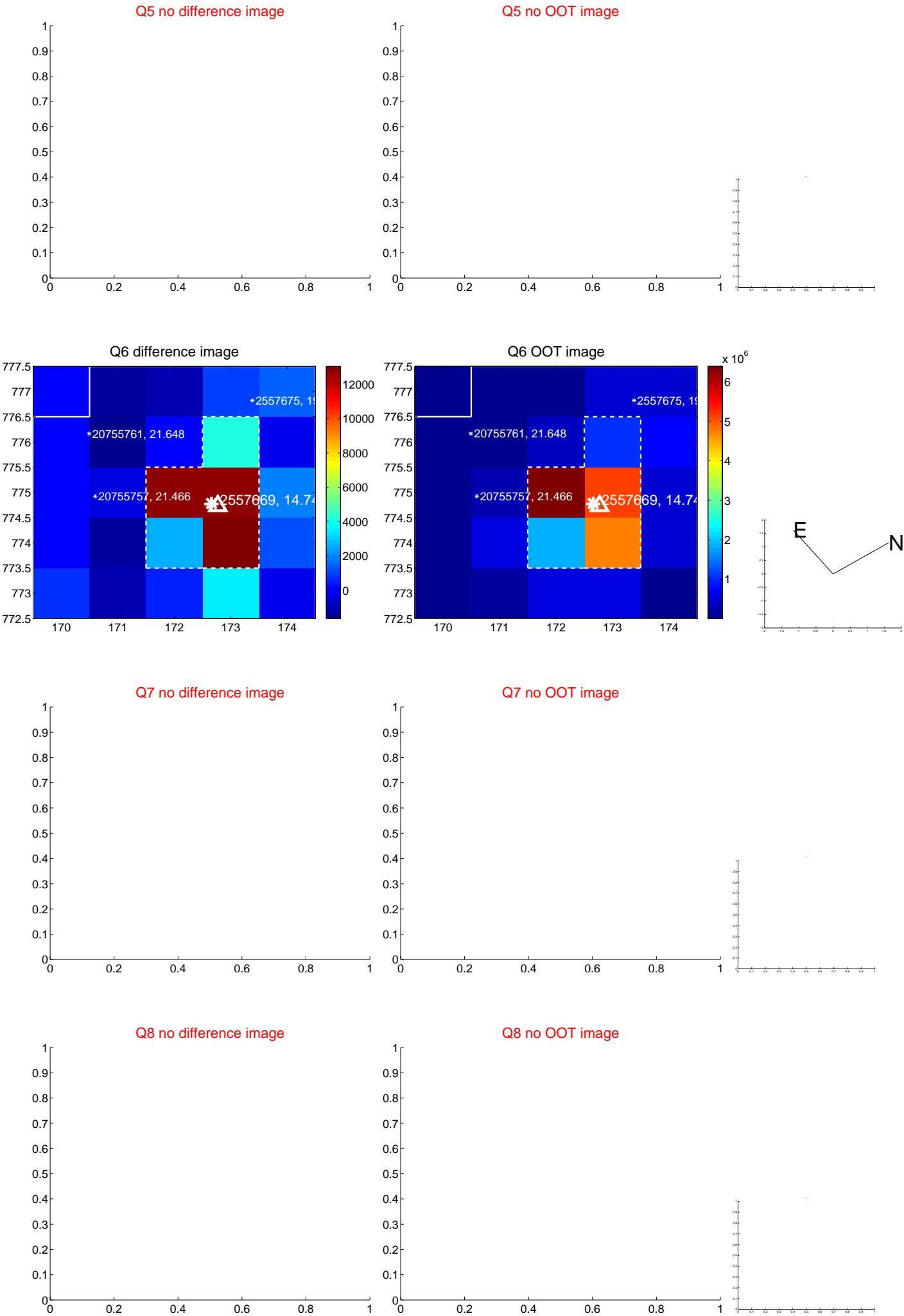


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

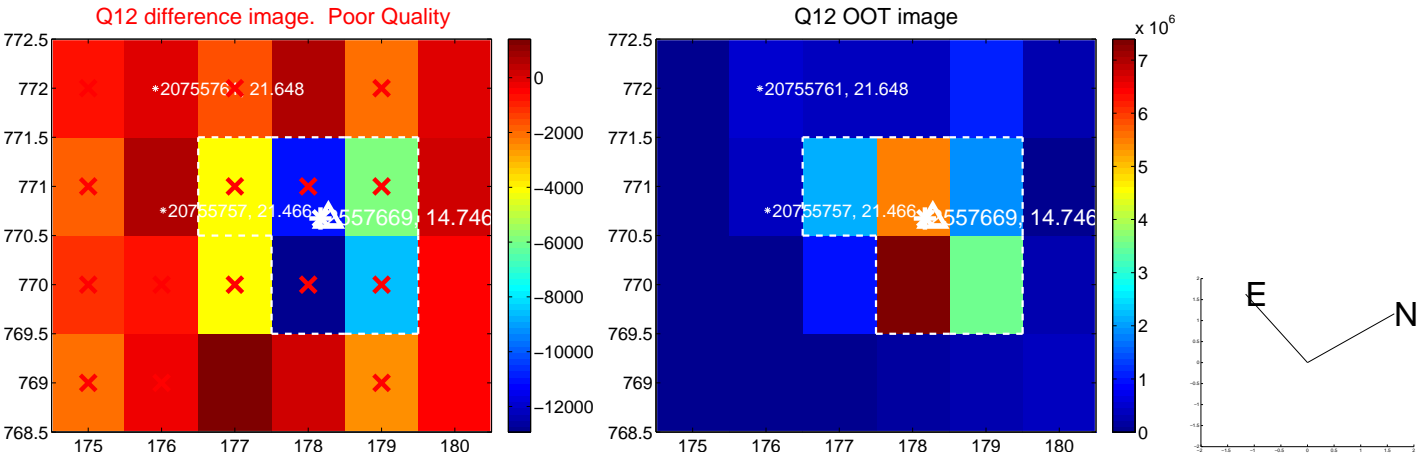
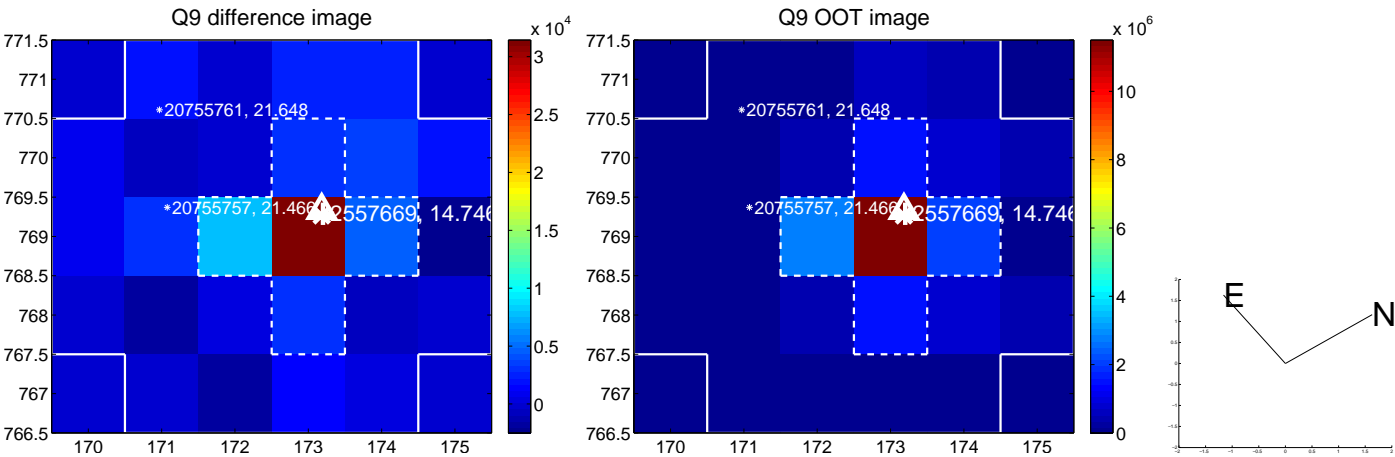
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



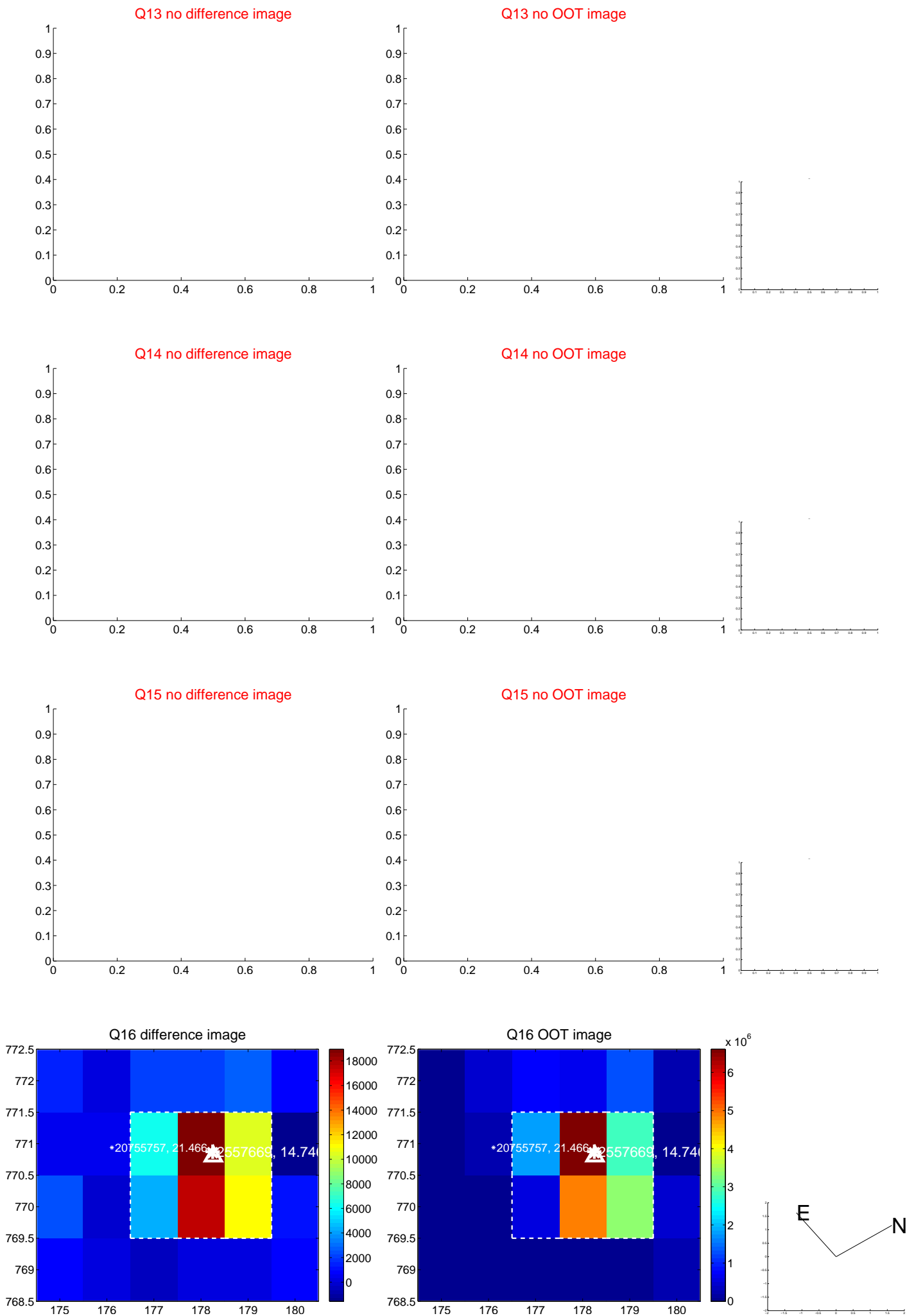
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



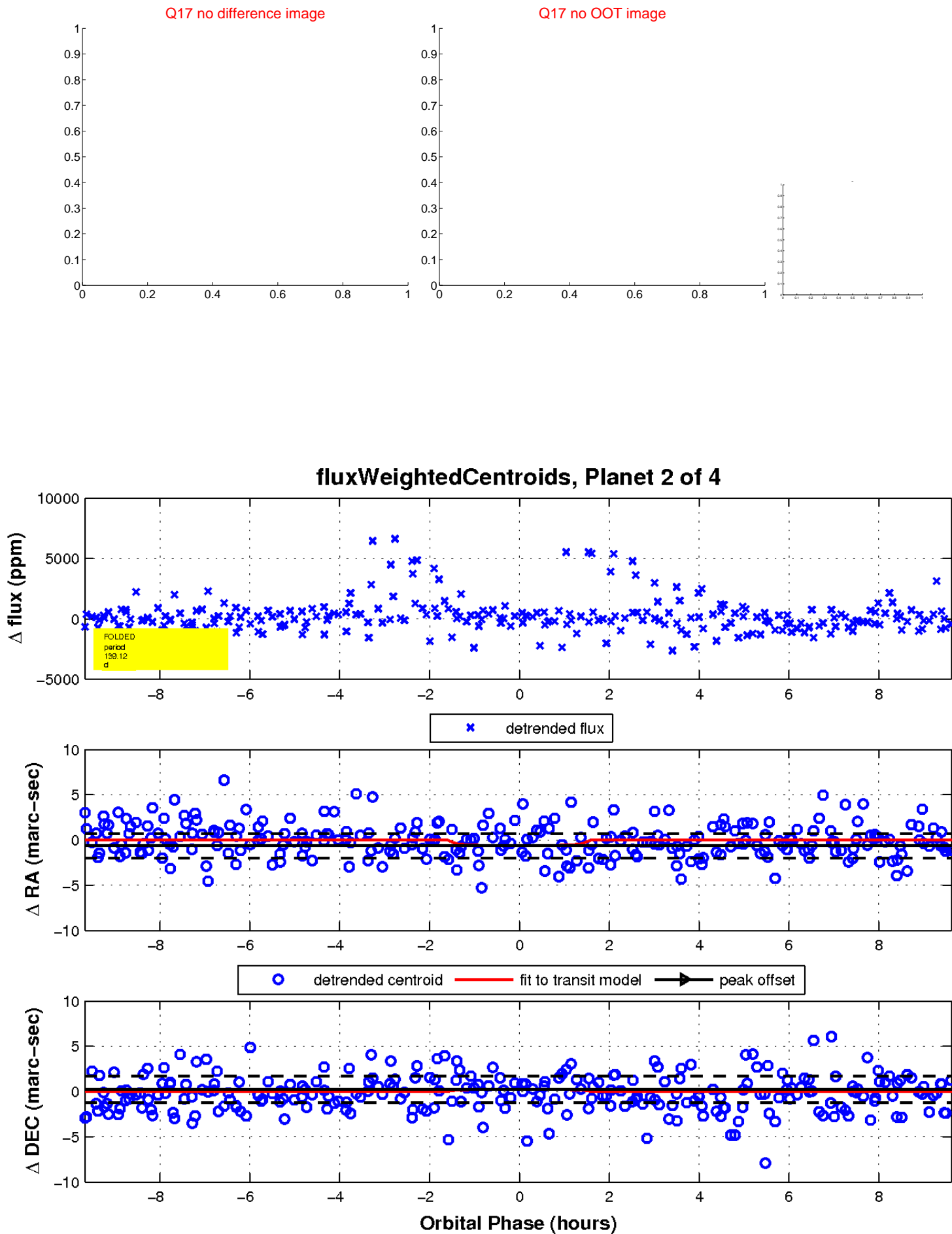
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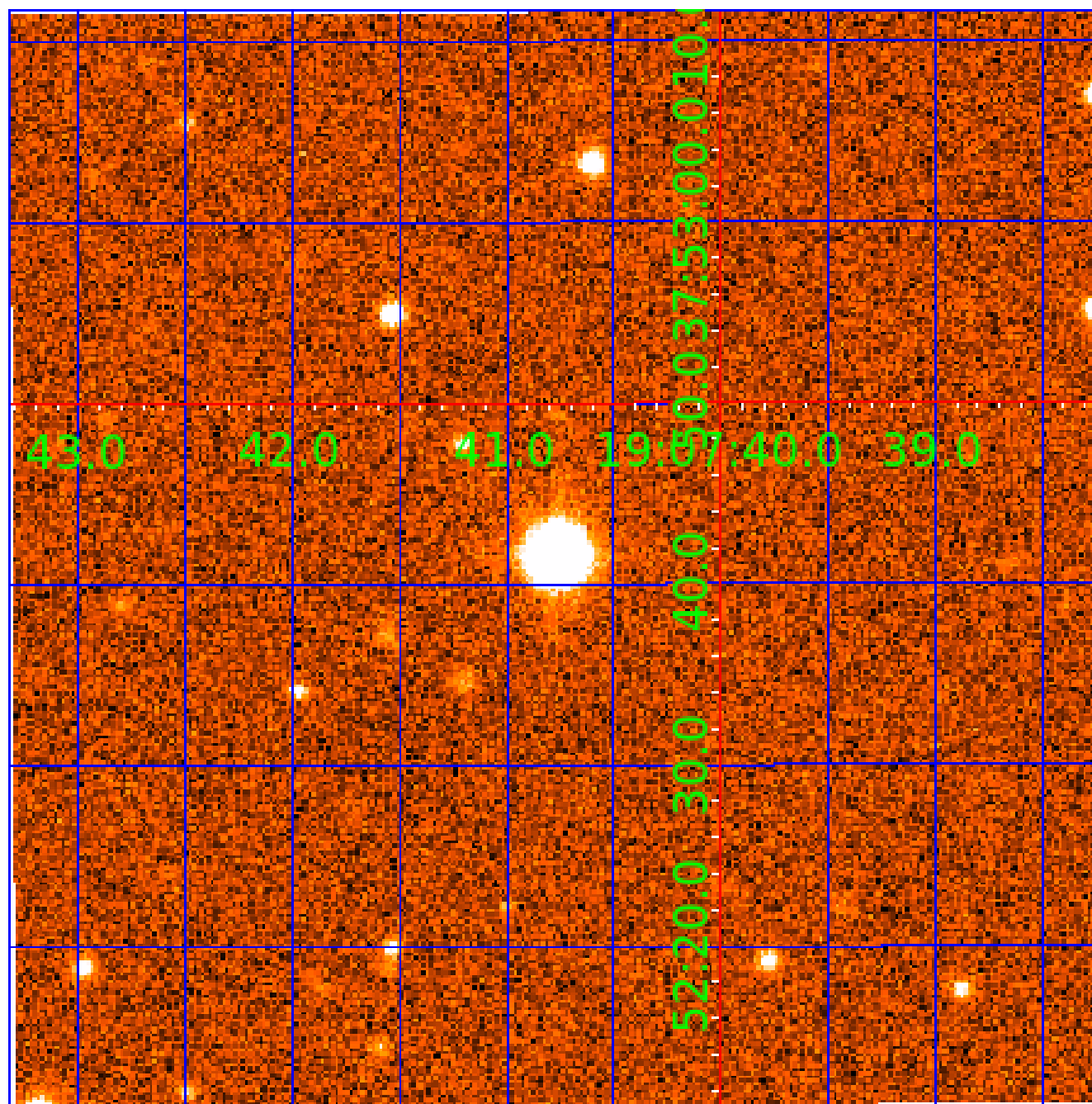


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002557669

Q1-17 DR25 TCE Parameters

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002557669-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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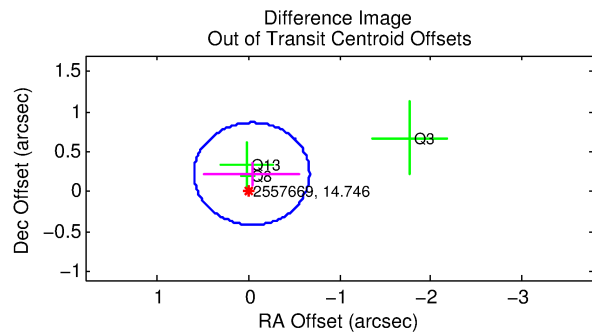
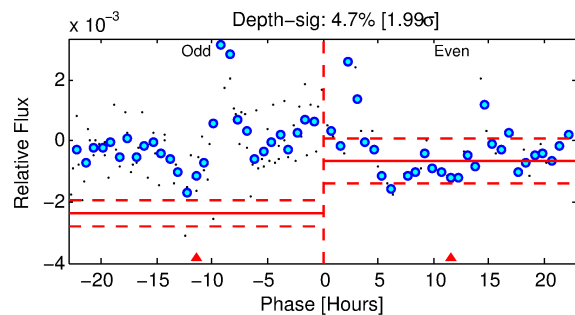
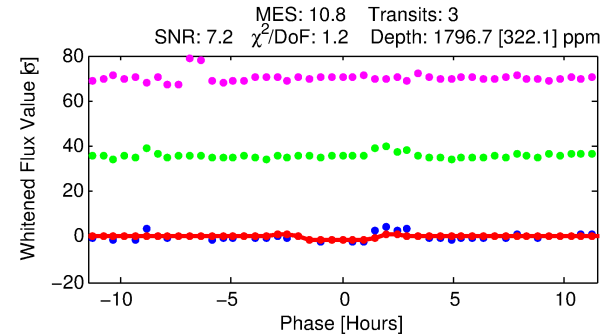
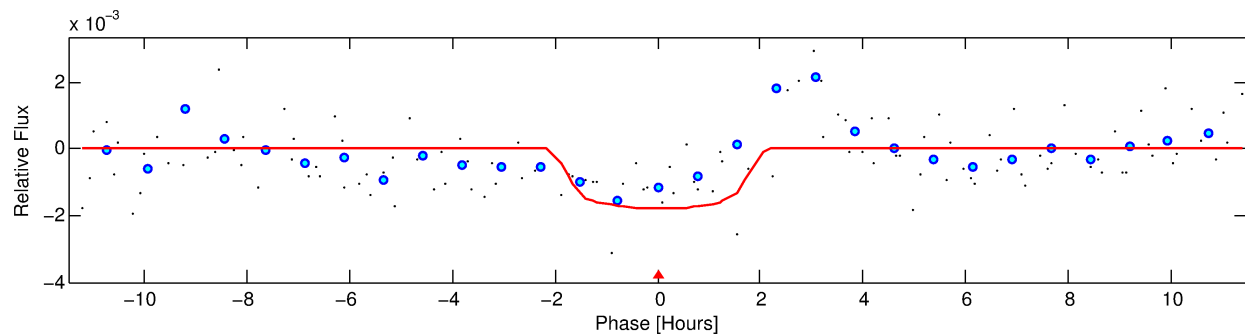
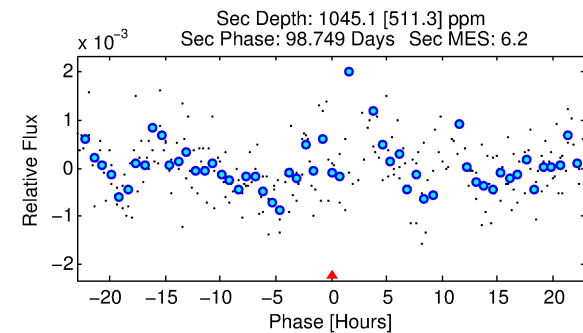
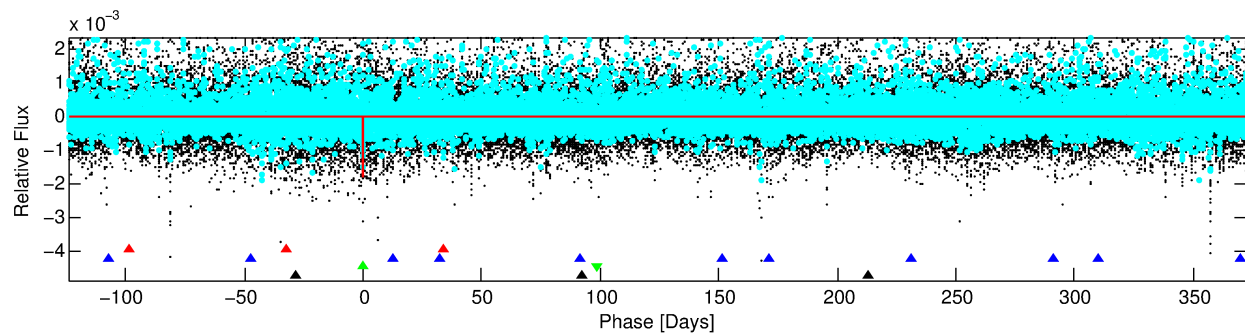
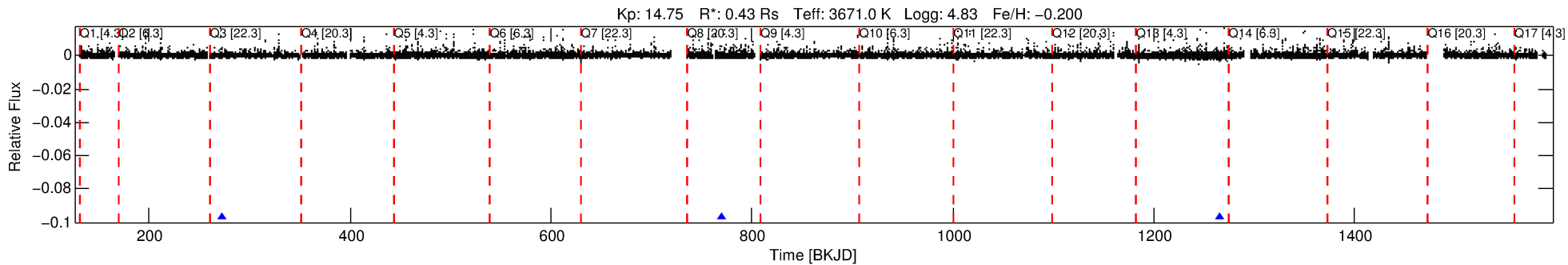
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002557669-03

No Significant Match Found

DV One-Page Summary

KIC: 2557669 Candidate: 3 of 4 Period: 496.755 d



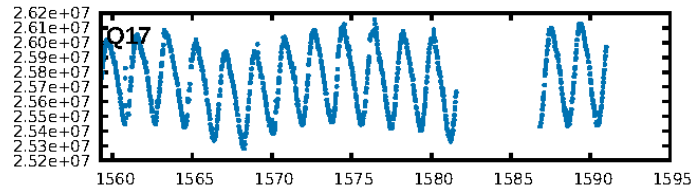
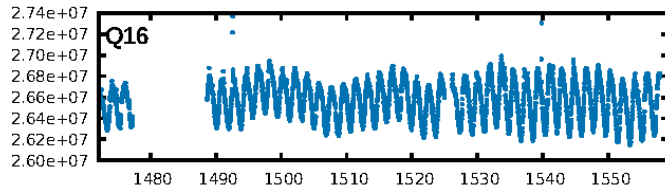
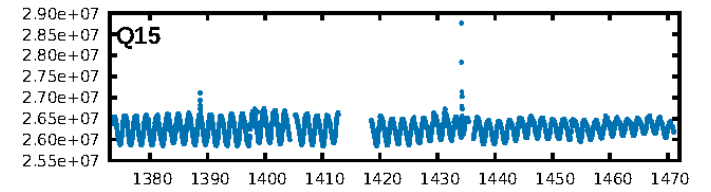
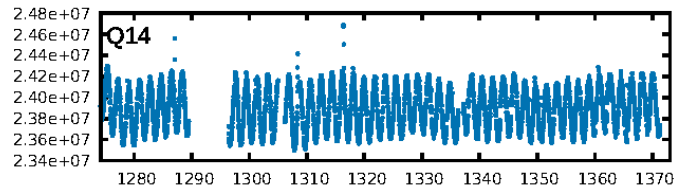
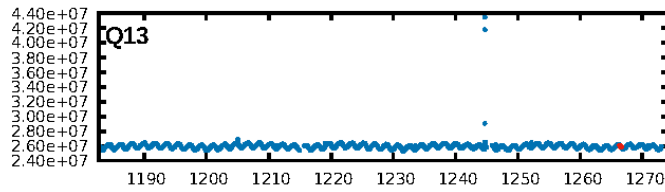
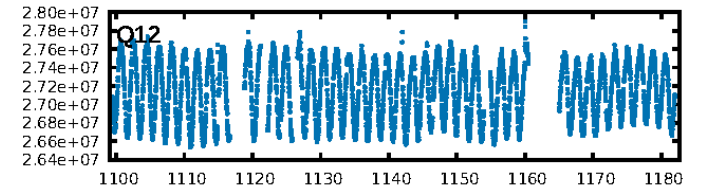
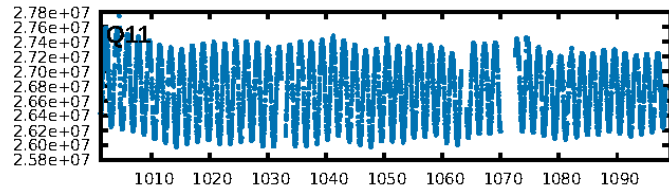
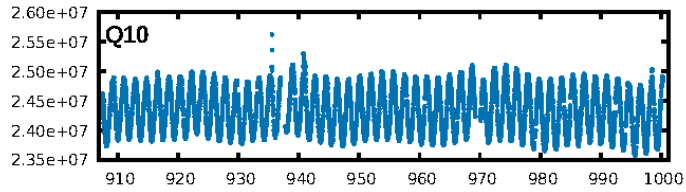
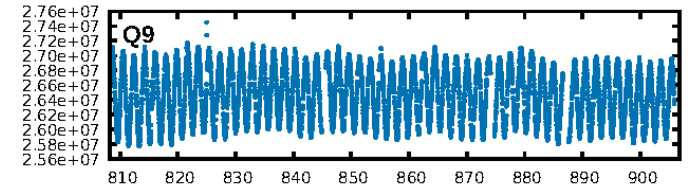
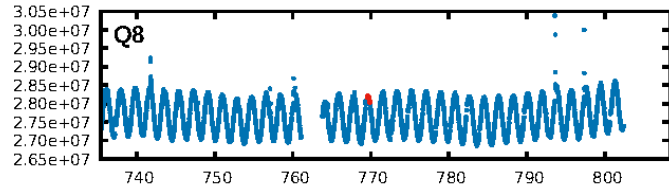
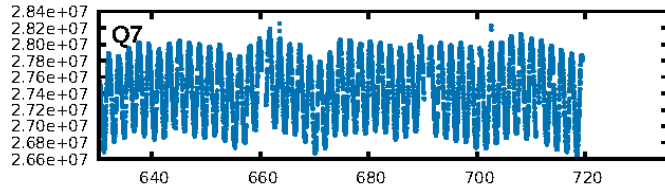
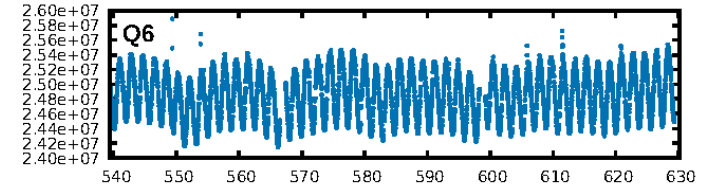
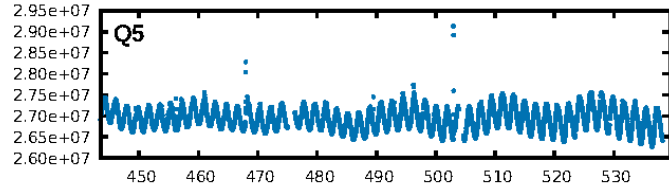
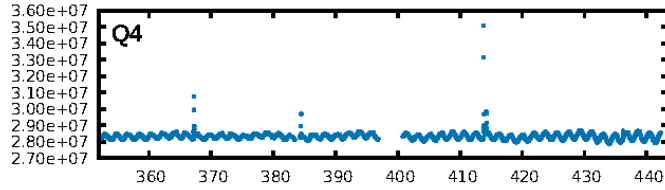
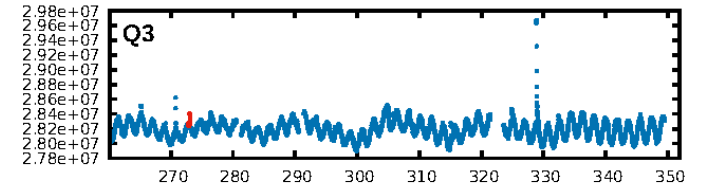
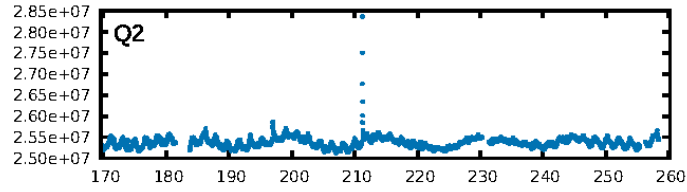
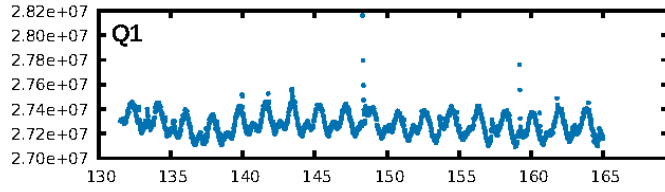
DV Fit Results:

Period = 496.75453 [0.00970] d
Epoch = 272.9448 [0.0074] BKJD
Rp/R* = 0.0389 [0.2228]
a/R* = 992.77 [26657.61]
b = 0.28 [87.54]
Seff = 0.03 [0.00]
Teff = 109 [3] K
Rp = 1.83 [10.46] Re
a = 0.9428 [0.0610] AU
Ag = 153184.09 [1755319.19] [0.09σ]
Teffp = 3345 [9583] K [0.34σ]

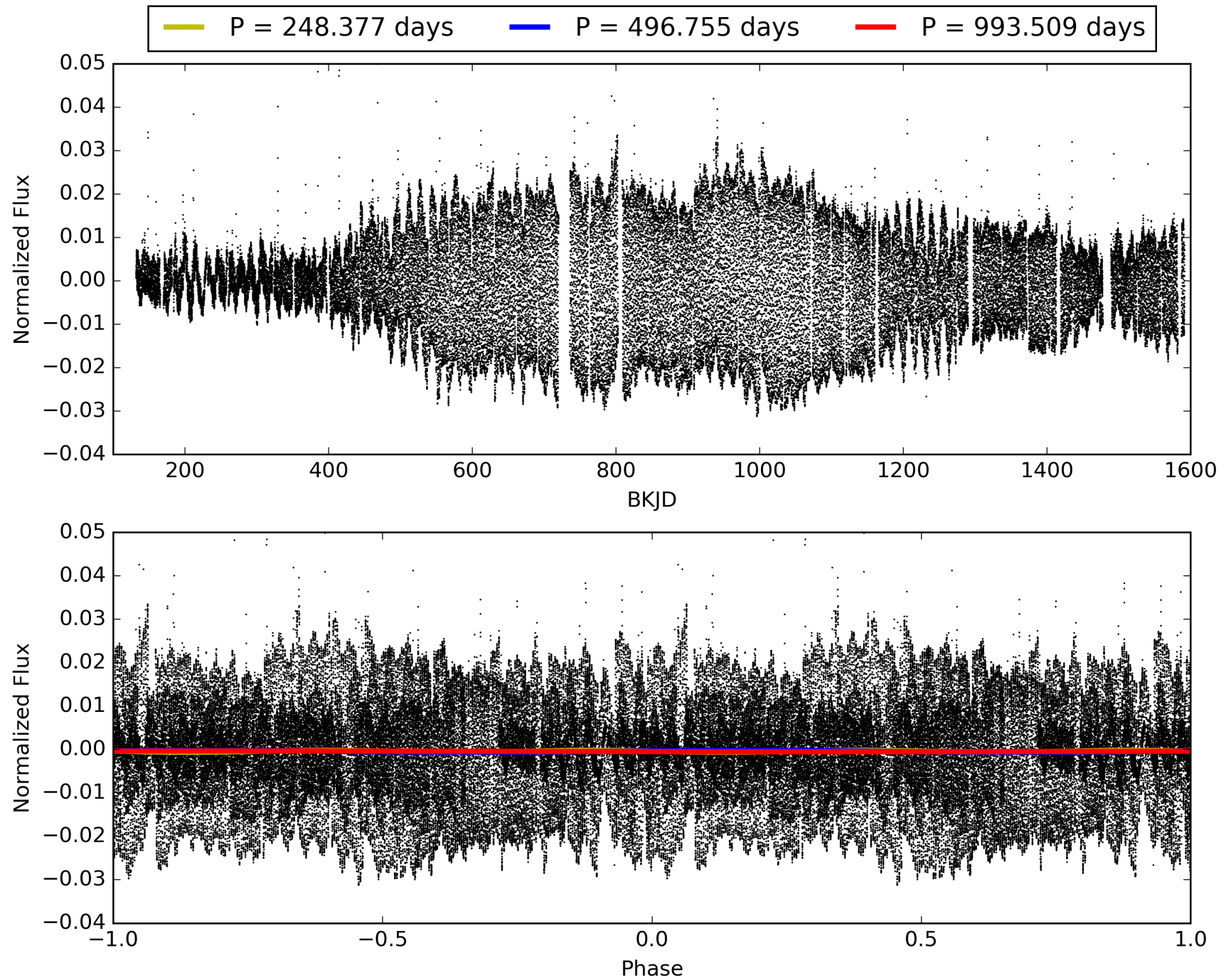
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [311.49σ]
LongPeriod-sig: 100.0% [253.47σ]
ModelChiSquare2-sig: 5.7%
ModelChiSquareGof-sig: 95.0%
Bootstrap-pfa: 1.04e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 4.614
Centroid-sig: 24.2%
Centroid-so: 1.186 arcsec [1.42σ]
OotOffset-rm: 0.227 arcsec [1.07σ]
KicOffset-rm: 0.266 arcsec [1.36σ]
OotOffset-st: 0/1/1/1 [3]
KicOffset-st: 0/1/1/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [3/3]

TCE 002557669-03, PDC Light Curves

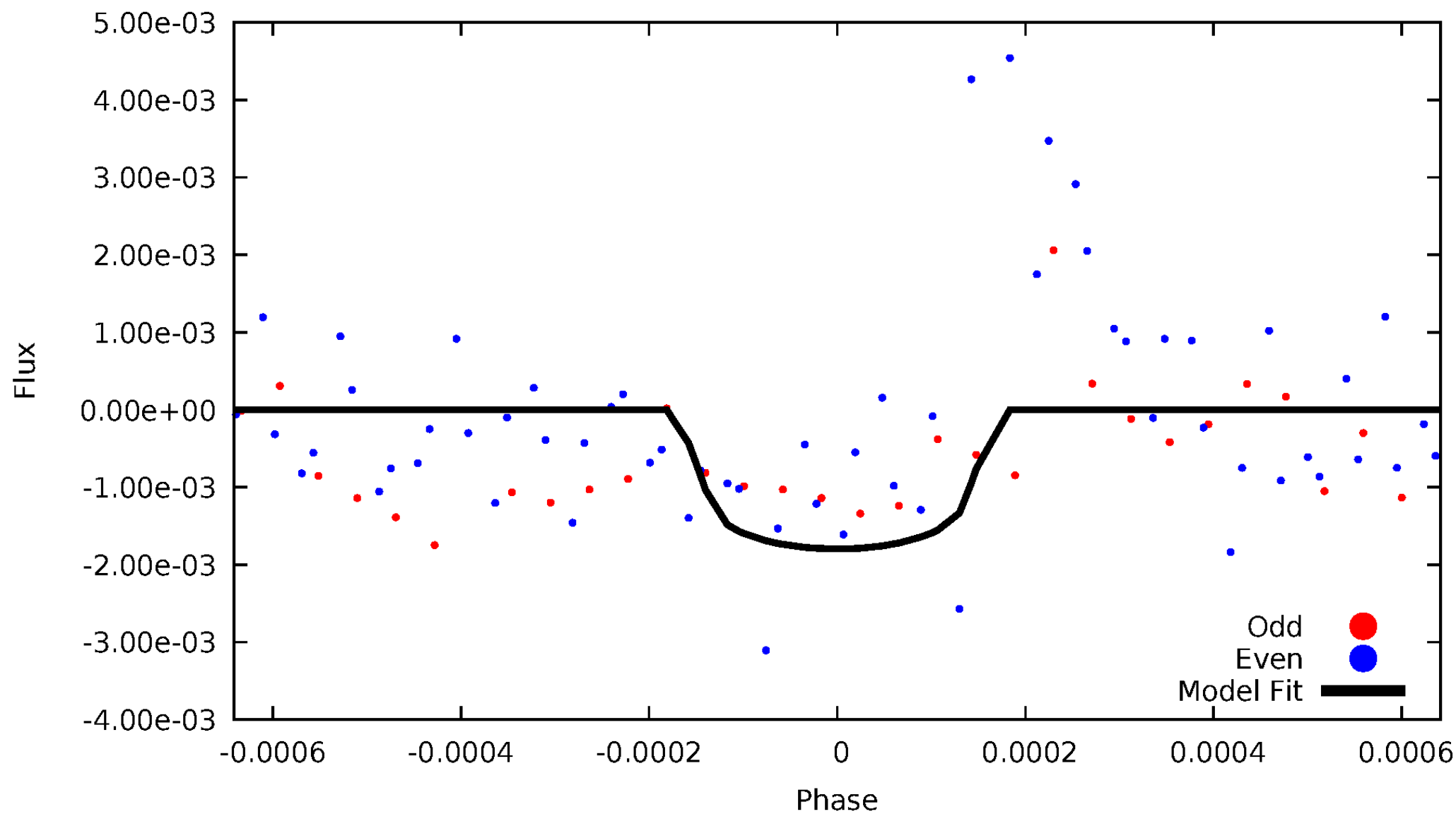


TCE 002557669-03



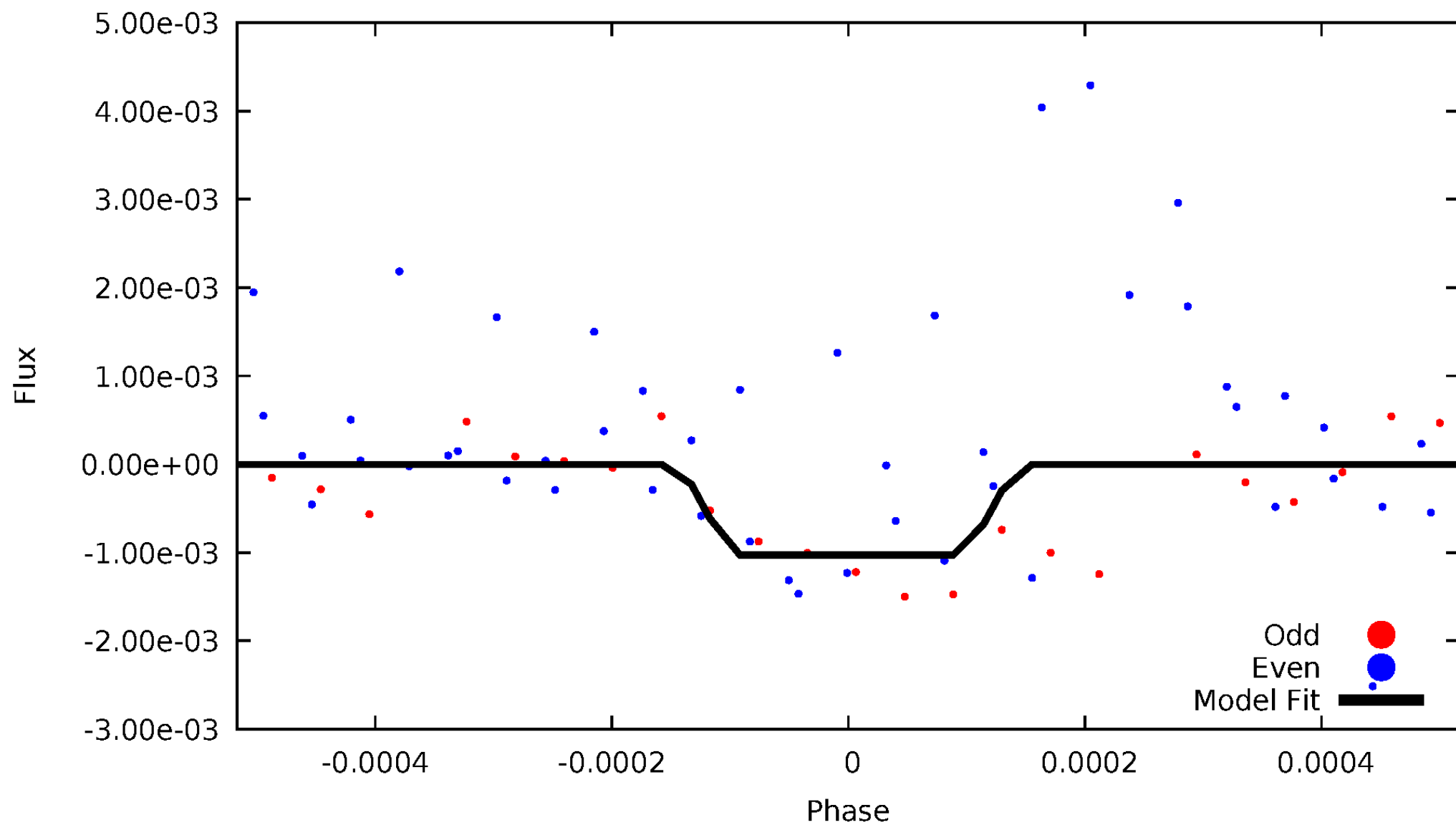
DV Odd/Even

TCE 002557669-03



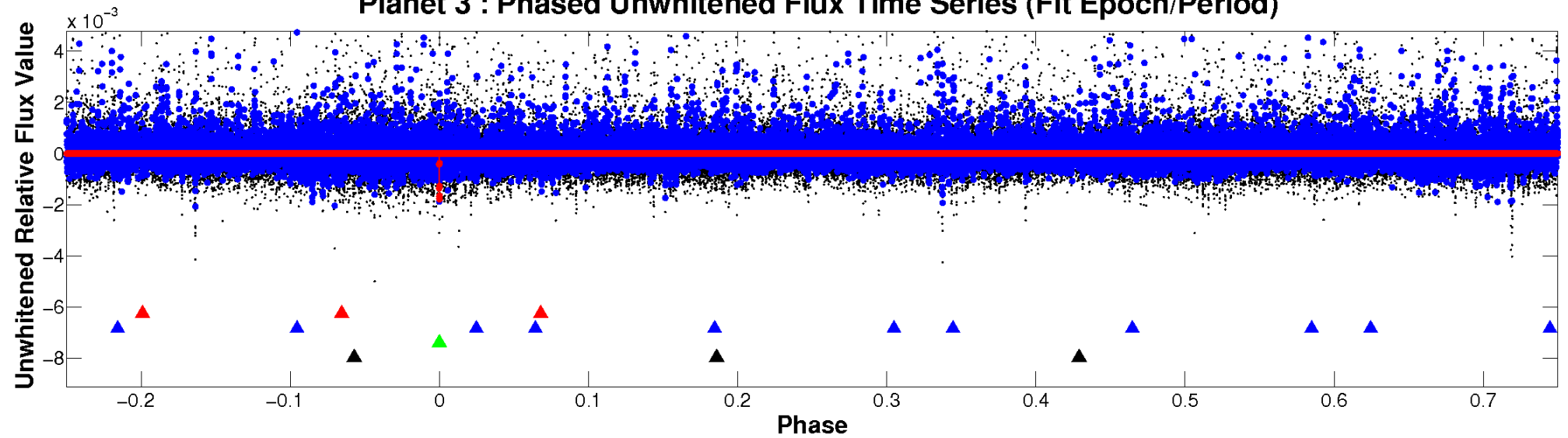
ALT Odd/Even

TCE 002557669-03

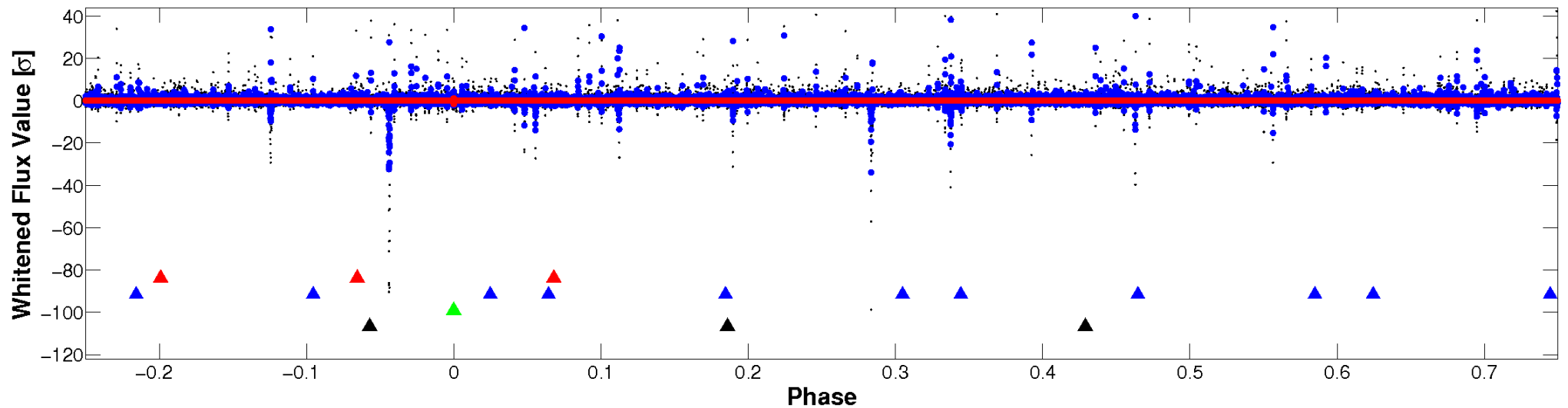


Non-Whitened Vs. Whitened Light Curve

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

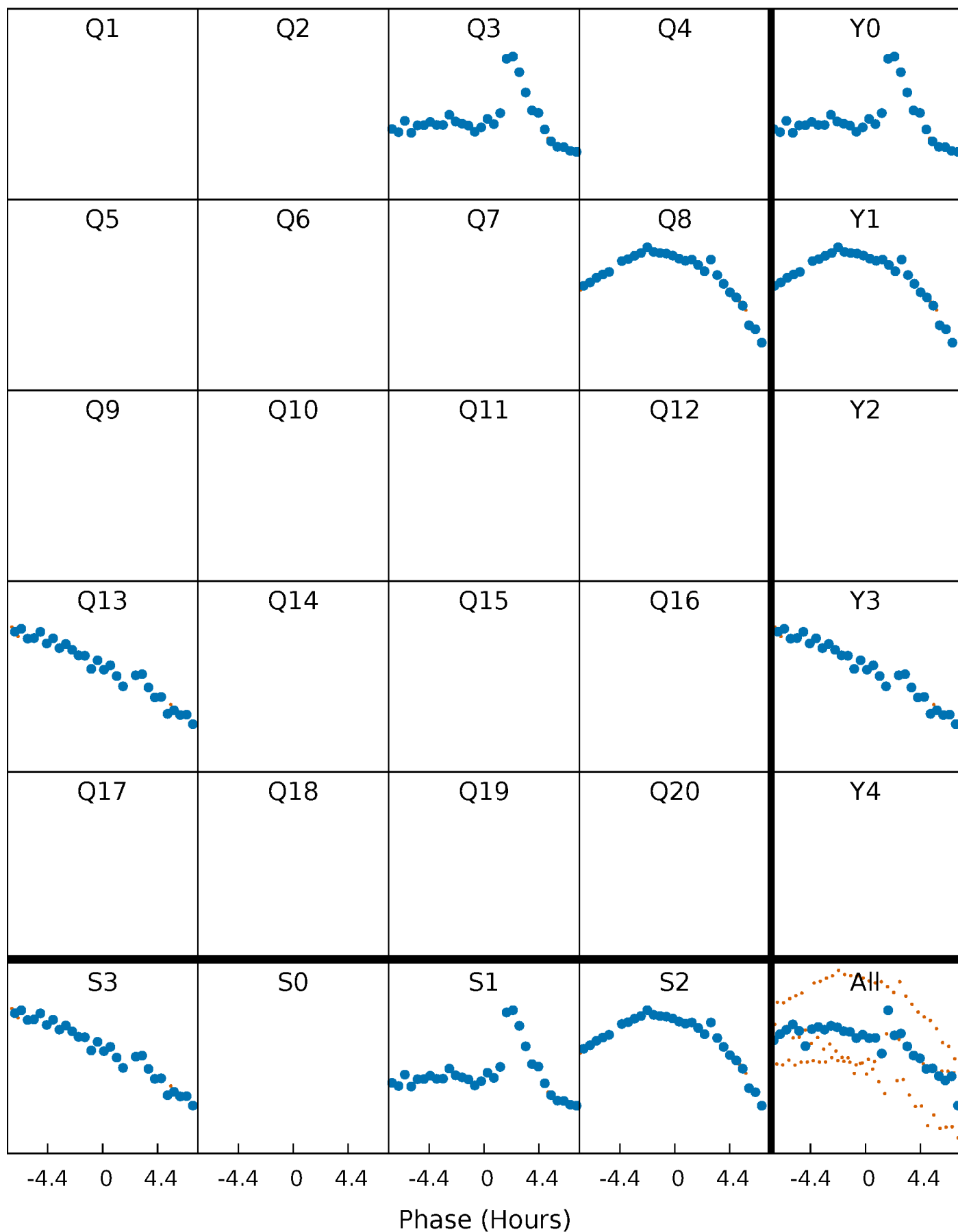


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



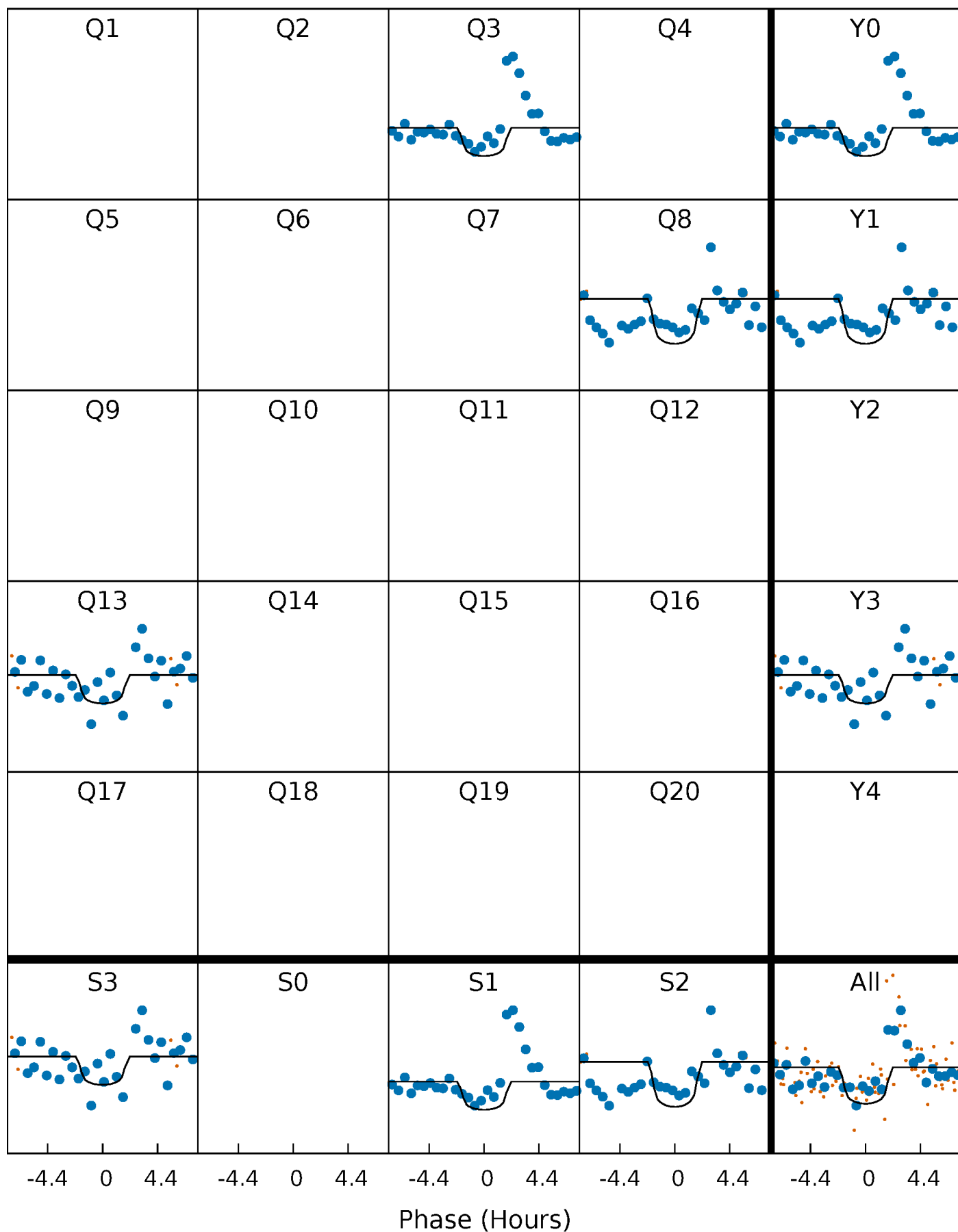
PDC Quarter-Phased Transit Curves

TCE 002557669-03 $P=496.754526$ Days $T_0=272.944826$ (BKJD)



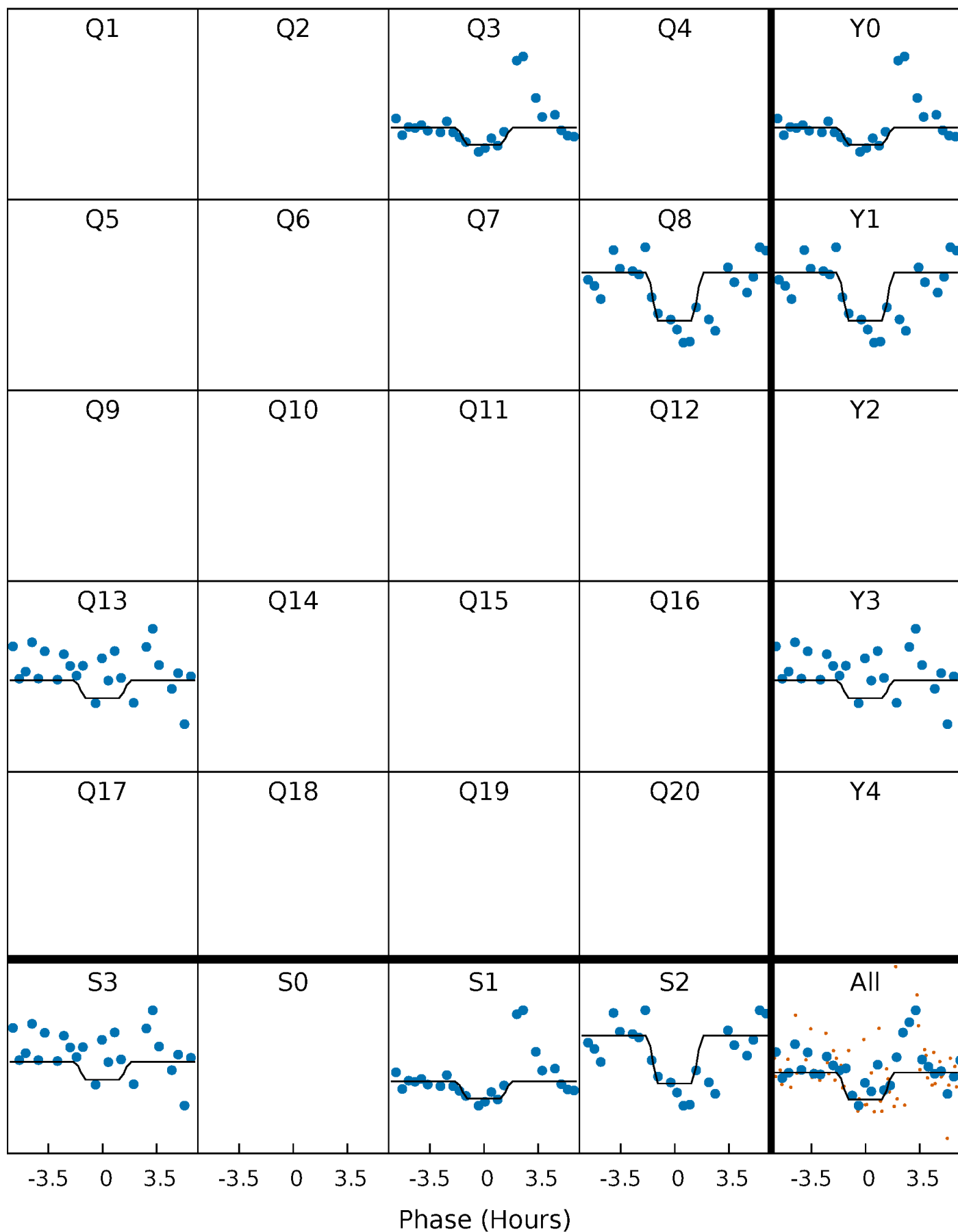
DV Quarter-Phased Transit Curves

TCE 002557669-03 $P=496.754526$ Days $T_0=272.944826$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

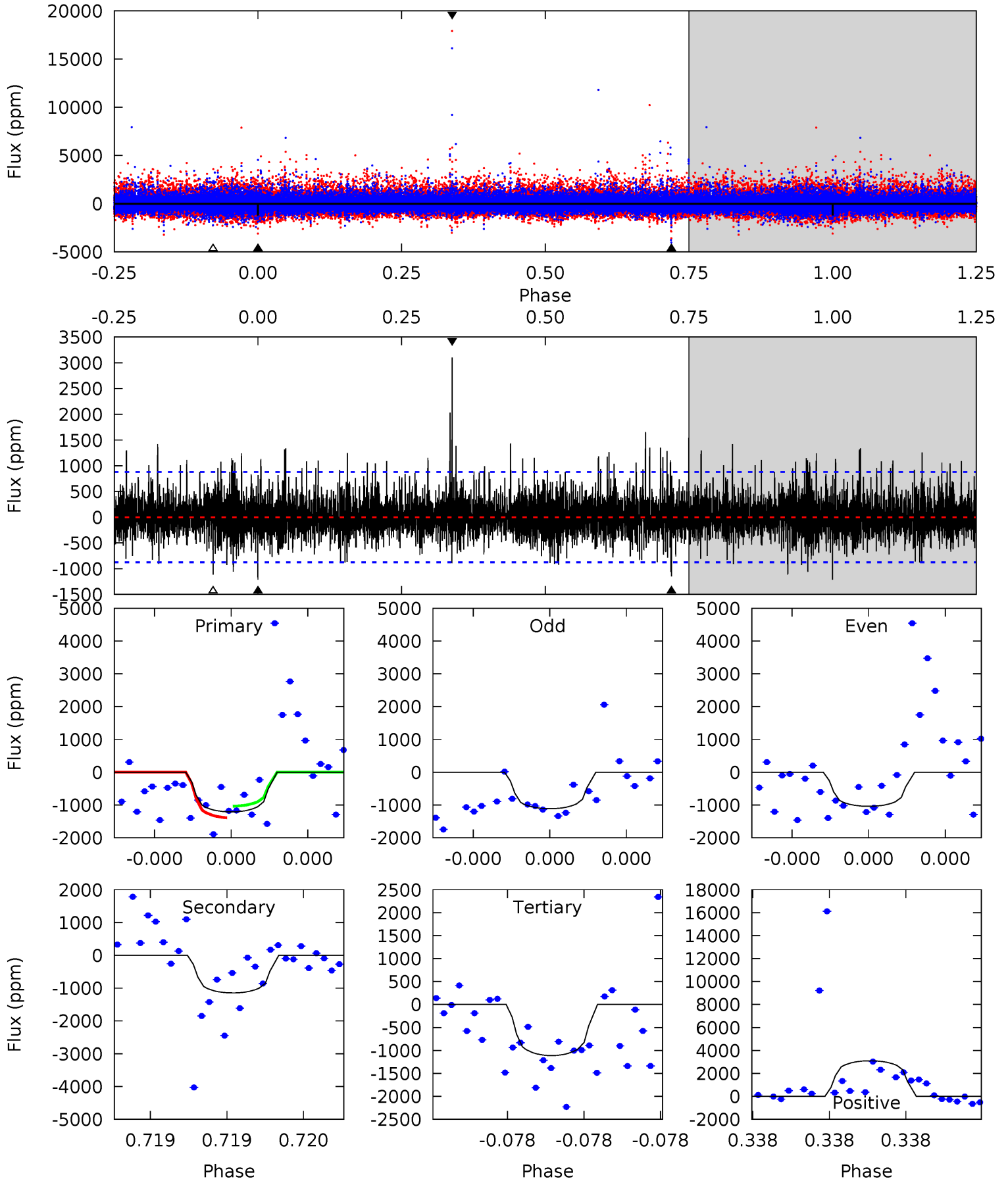
TCE 002557669-03 $P=496.753466$ Days $T_0=272.934386$ (BKJD)



DV Model-Shift Uniqueness Test

002557669-03, P = 496.754526 Days, E = 272.944826 Days

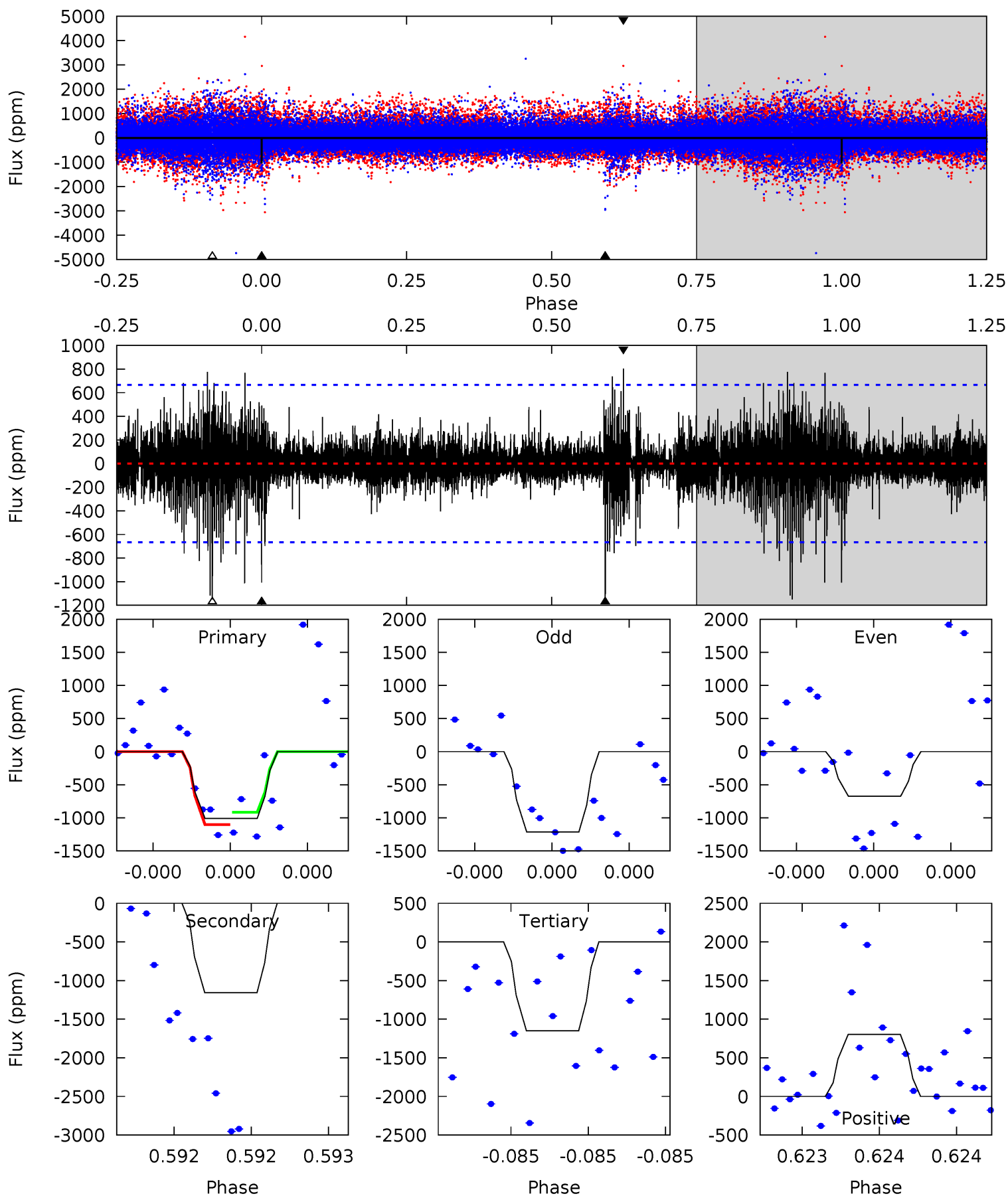
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.82	7.41	7.17	20.0	5.66	3.61	1.95	0.64	-12.2	0.23	-12.6	0.16	0.95	0.72	1.14



Alt Model-Shift Uniqueness Test

002557669-03, P = 496.753466 Days, E = 272.934386 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.60	9.88	9.81	6.85	5.69	3.66	1.16	-1.21	1.75	0.06	3.02	2.31	0.57	0.41	0.79



Stellar Parameters For KIC 002557669

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3671^{+54}_{-60}	$4.827^{+0.039}_{-0.035}$	$-0.200^{+0.100}_{-0.100}$	$0.430^{+0.030}_{-0.037}$	$0.452^{+0.028}_{-0.039}$	$8.039^{+1.556}_{-1.083}$
	+1%/-2%	+1%/-1%	+50%/-50%	+7%/-9%	+6%/-9%	+19%/-13%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 002557669-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1148 ± 155	$7.68^{+7.75}_{-5.11}$	153^{+3}_{-3}	2365^{+806}_{-335}	9176^{+77815}_{-6802}
Alt.	-1157 ± 117	$7.69^{+8.00}_{-5.32}$	153^{+3}_{-3}	2381^{+879}_{-345}	9419^{+92328}_{-7015}

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

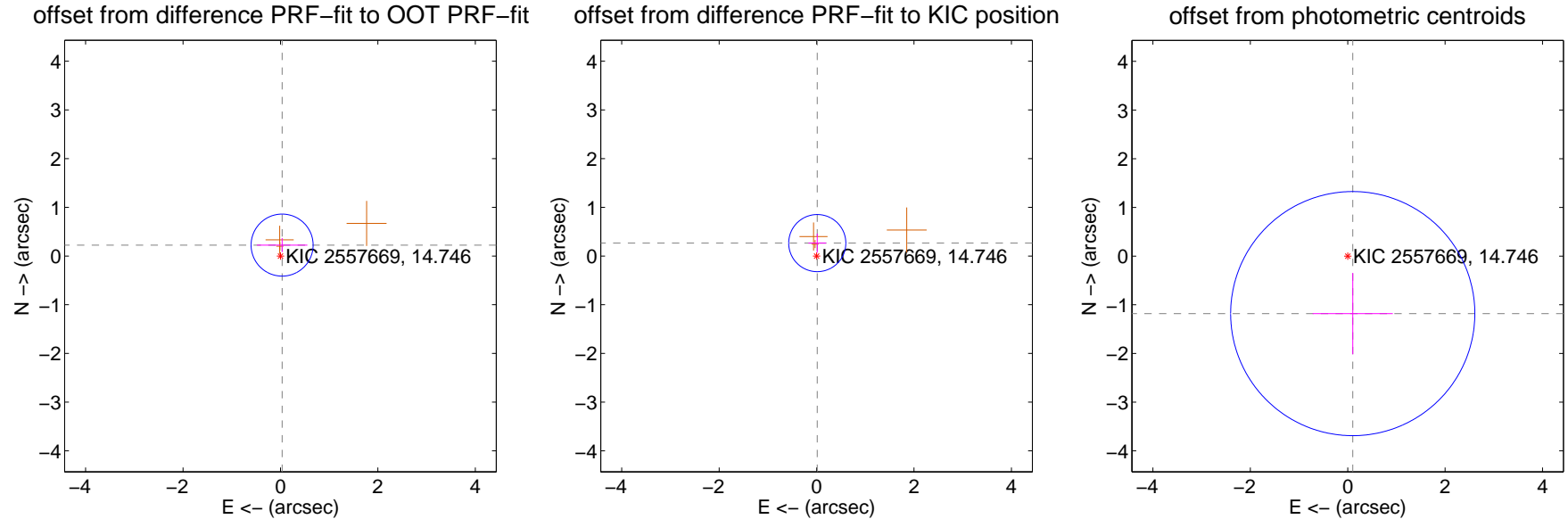
DV Centroid Data

Supplemental centroid analysis for 002557669-03. Kepler magnitude: 14.75. Transit SNR 7.16

There are 0 quarters with good PRF difference image offsets

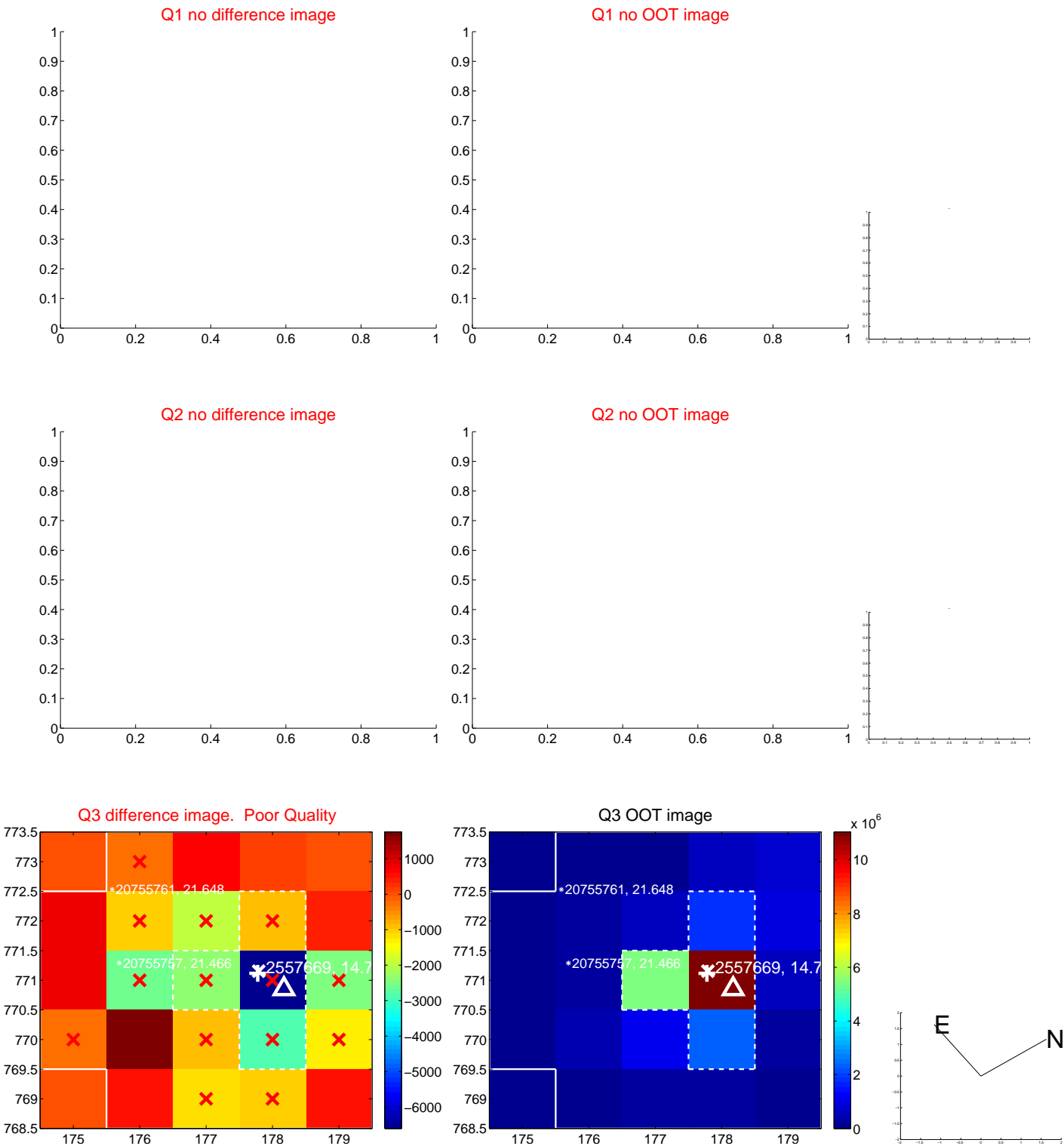
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.227 ± 0.212	1.07	-0.034 ± 0.518	0.224 ± 0.143
PRF-fit source offset from KIC position	0.266 ± 0.195	1.36	-0.014 ± 0.181	0.265 ± 0.195
photometric centroid source offset	1.19 ± 0.84	1.42	-0.10 ± 0.82	-1.18 ± 0.84

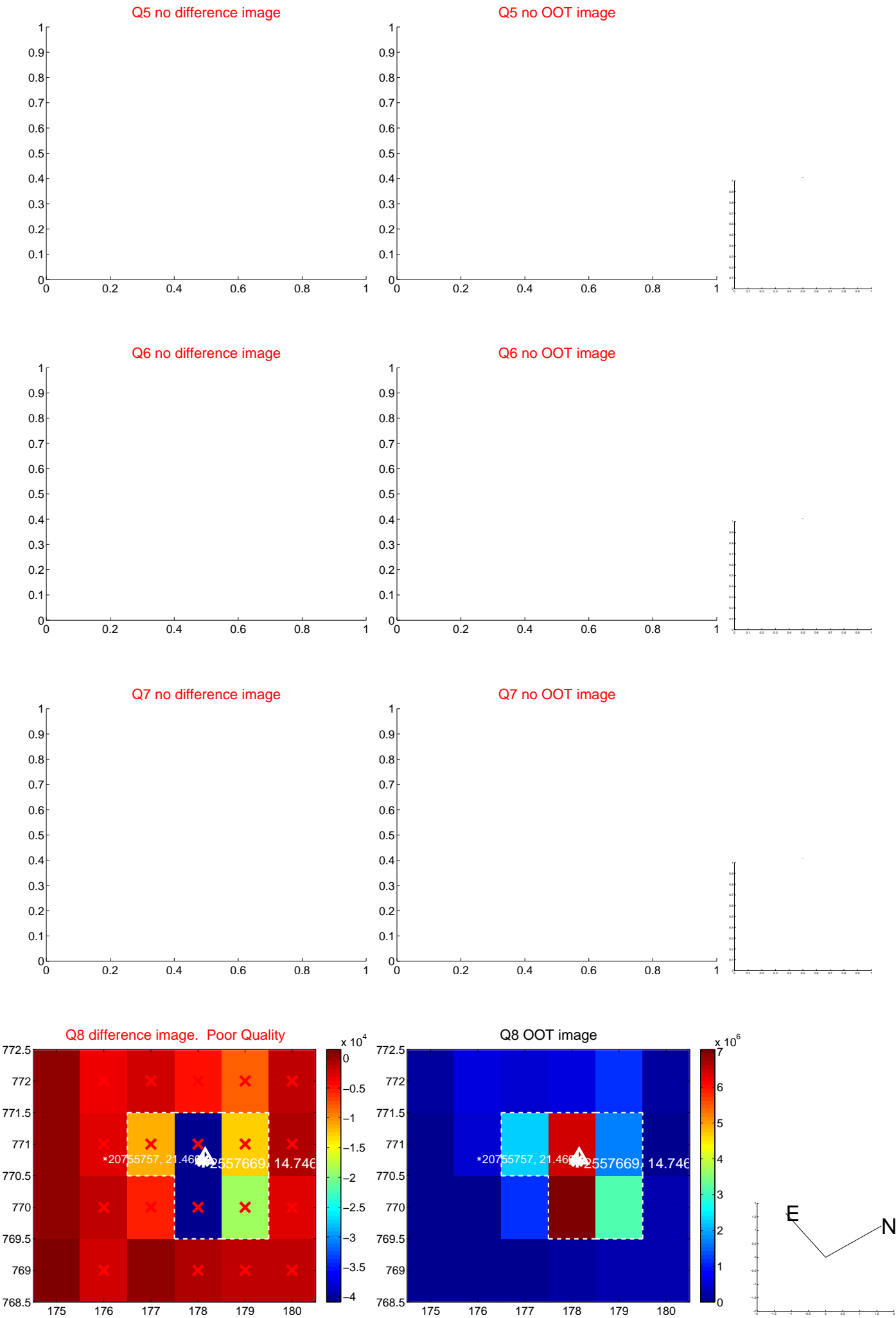


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



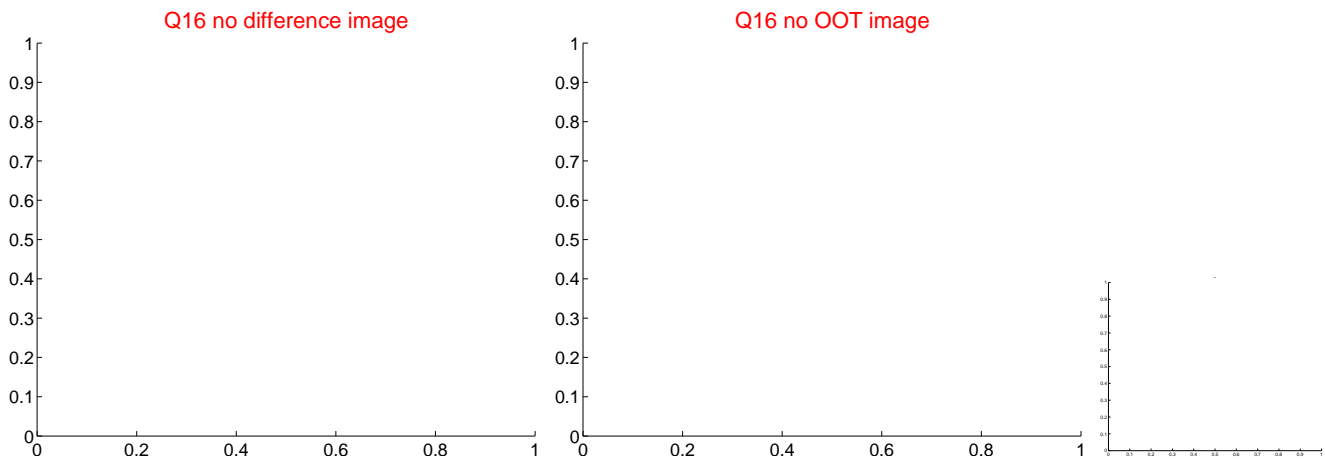
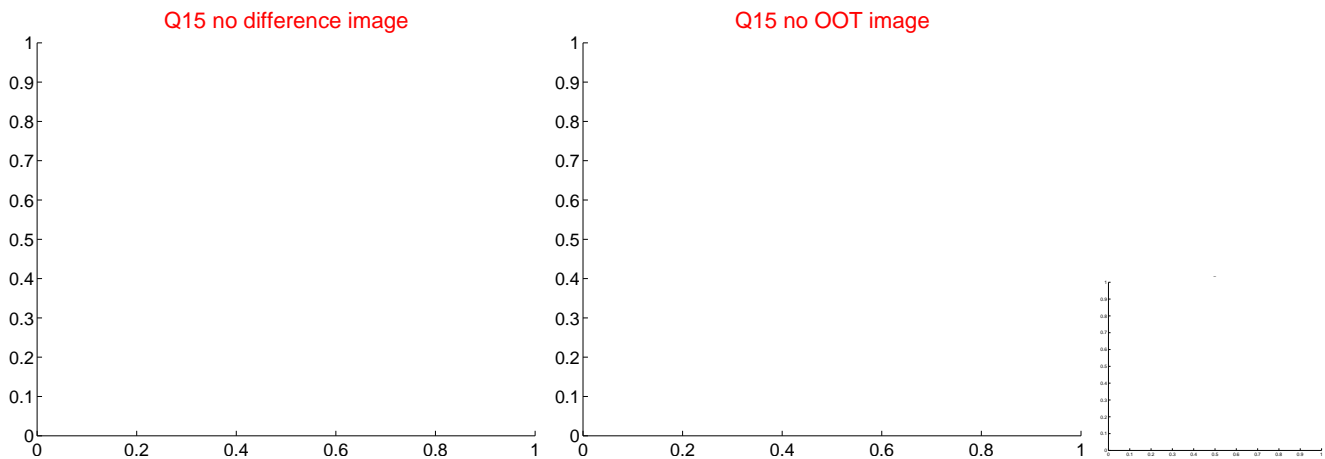
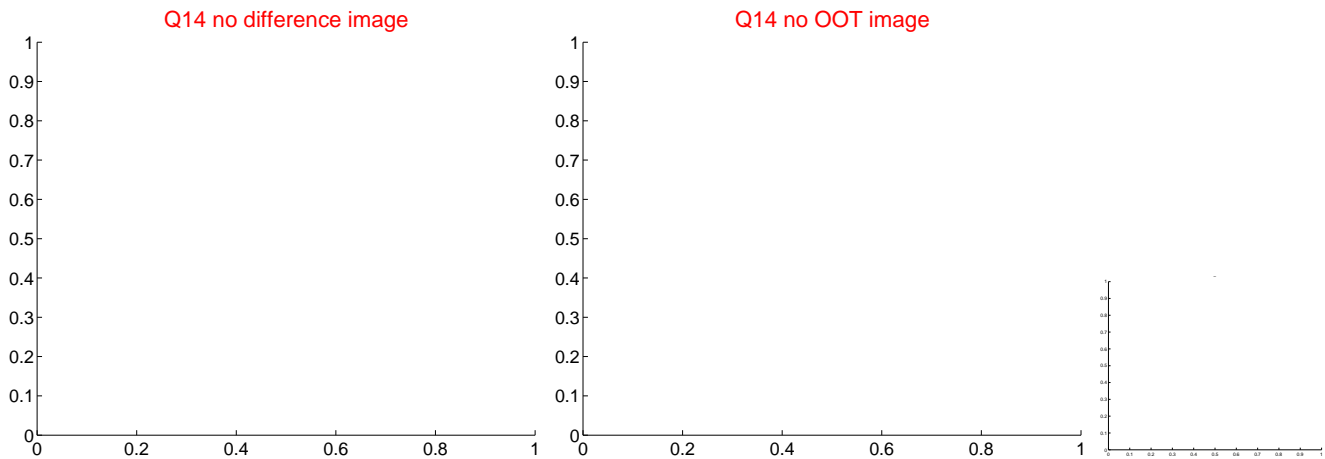
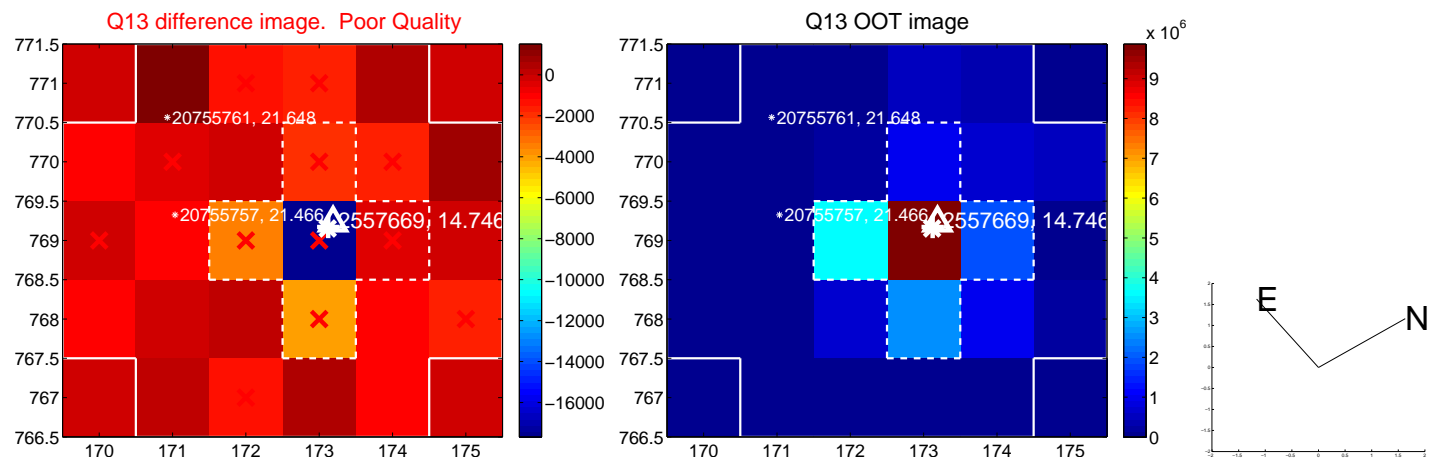
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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



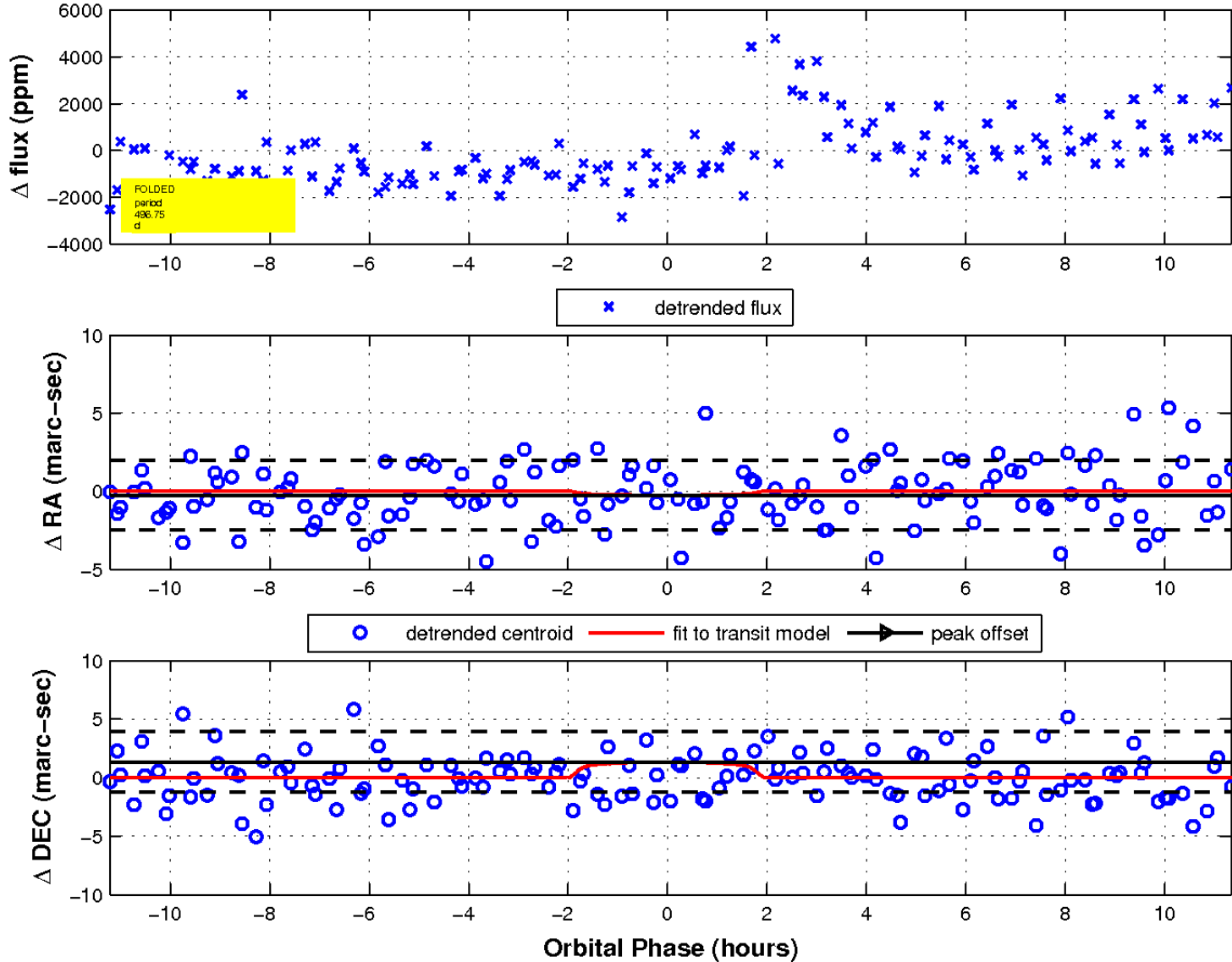
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

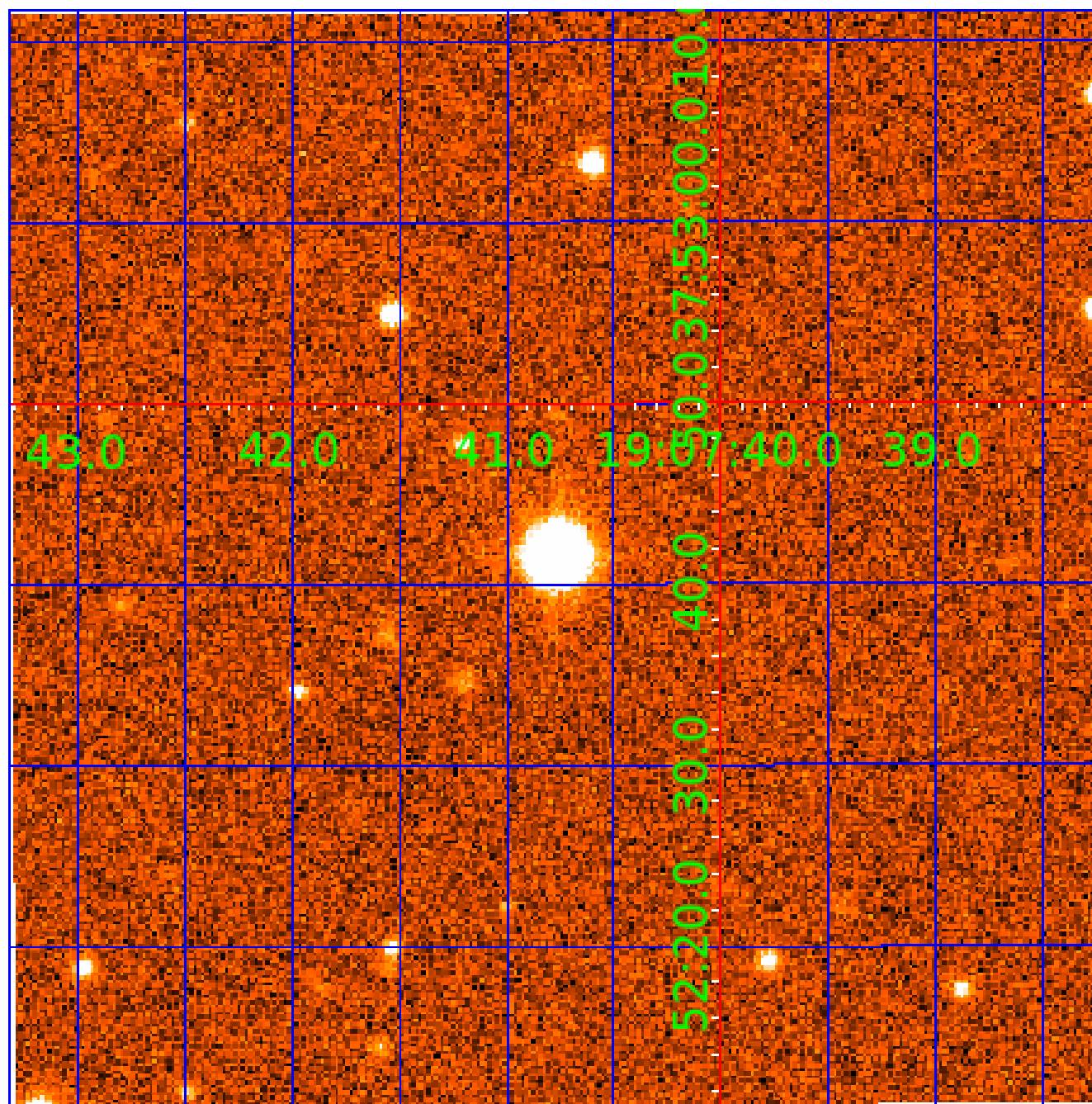


fluxWeightedCentroids, Planet 3 of 4



UKIRT Image

Declination



KIC 002557669

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})
002557669-02	OBS	No	139.121660	165.806838	1063.2	3.228	13.2	6.0	0.43	3671	1.50	0.18
002557669-03	OBS	No	496.754526	272.944826	1796.7	3.822	10.8	7.2	0.43	3671	1.83	0.03
002557669-04	OBS	No	376.016865	486.060508	1713.8	8.481	13.3	7.2	0.43	3671	1.82	0.05

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002557669-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE_ZUMA—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS
002557669-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
002557669-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—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.

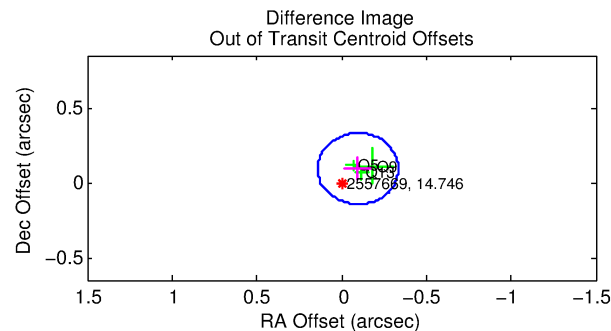
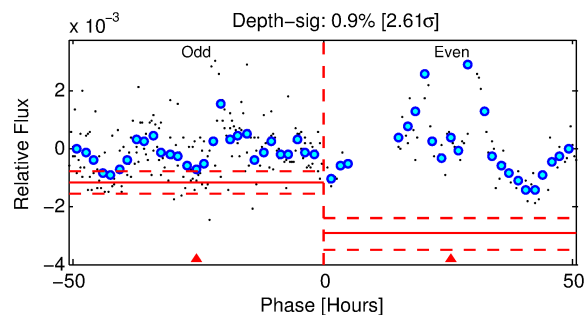
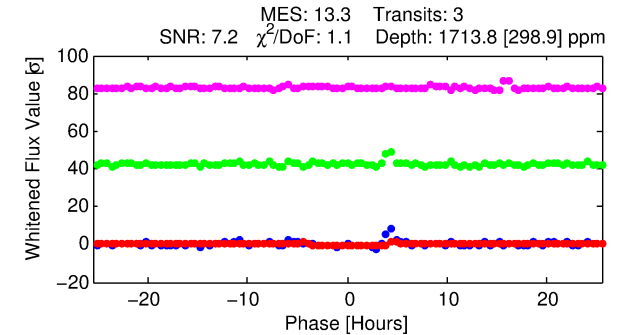
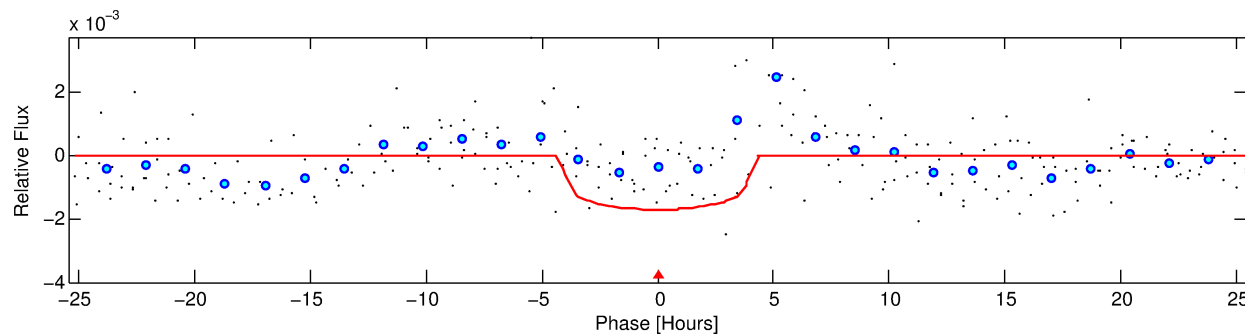
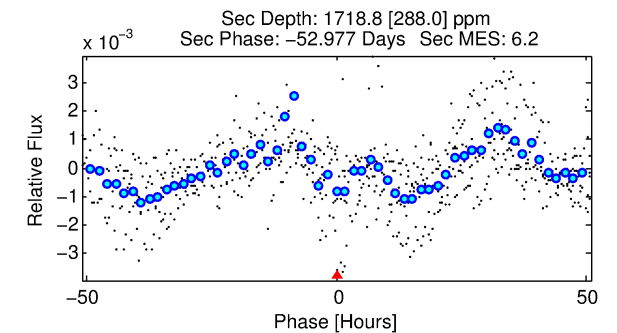
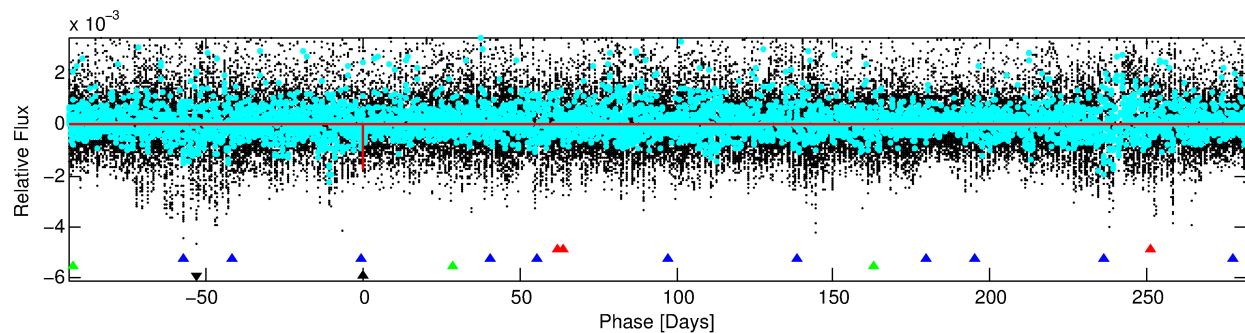
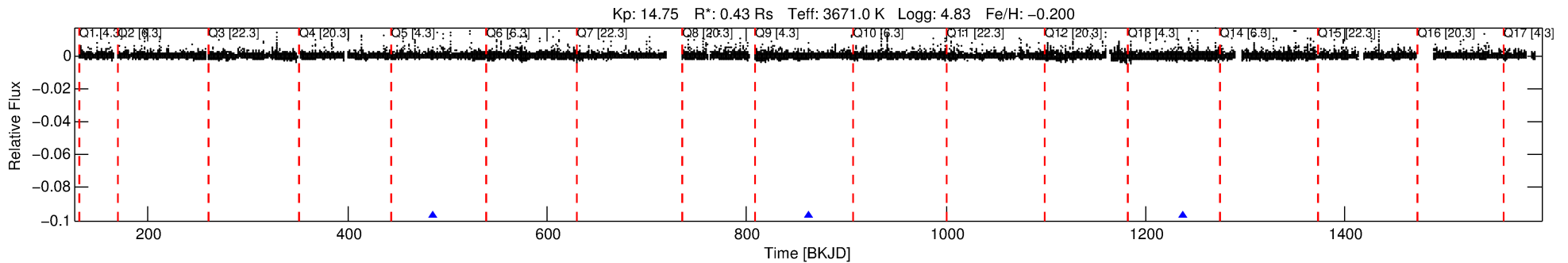
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002557669-04

No Significant Match Found

DV One-Page Summary

KIC: 2557669 Candidate: 4 of 4 Period: 376.017 d



DV Fit Results:

Period = 376.01687 [0.00795] d
Epoch = 486.0605 [0.0094] BKJD
Rp/R* = 0.0389 [0.0172]
a/R* = 306.10 [593.07]
b = 0.51 [2.78]
Seff = 0.05 [0.01]
Teq = 120 [3] K
Rp = 1.83 [0.82] Re
a = 0.7831 [0.0507] AU
Ag = 174100.74 [157057.07] [1.11σ]
Teffp = 3790 [853] K [4.30σ]

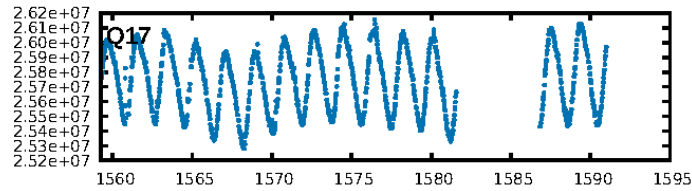
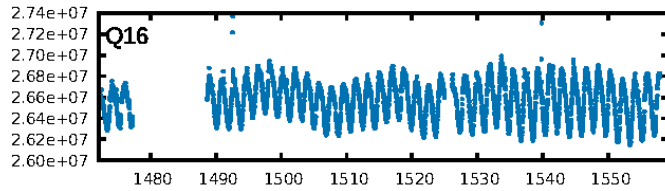
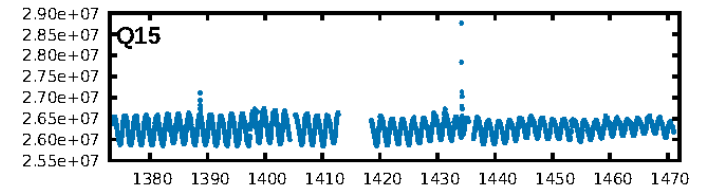
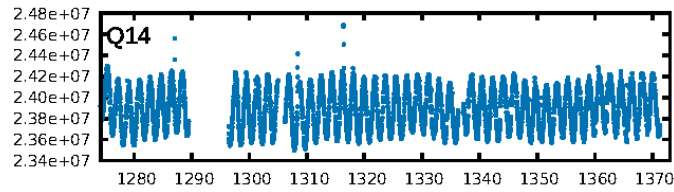
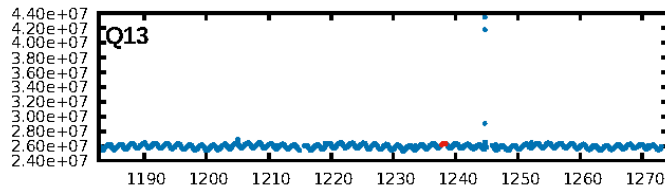
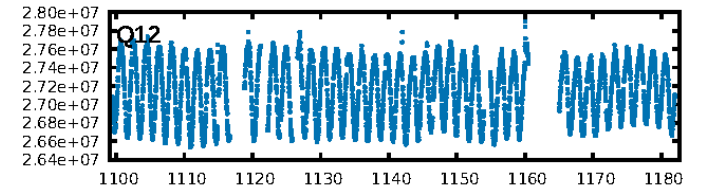
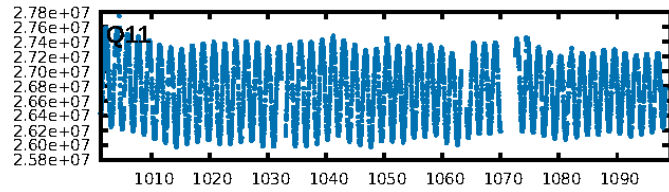
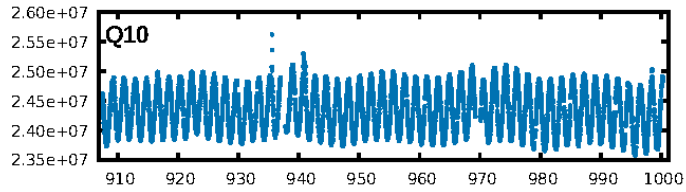
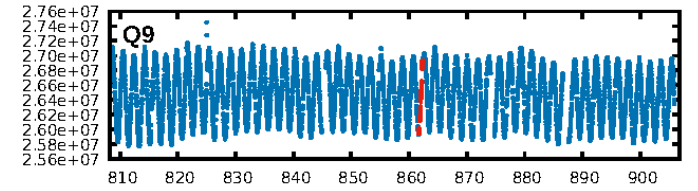
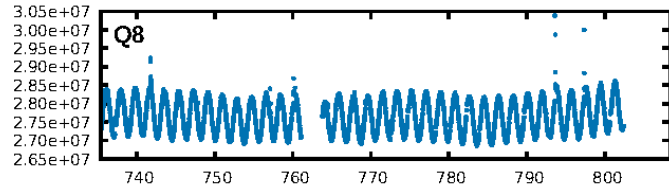
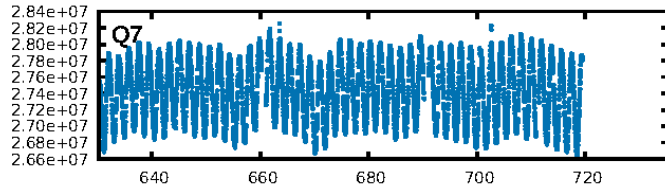
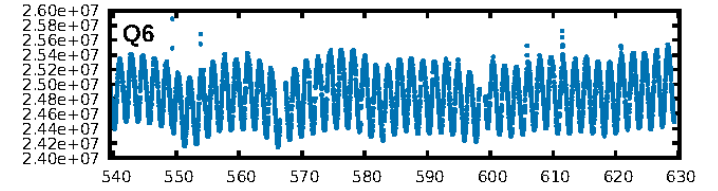
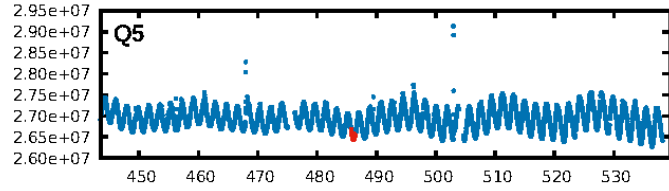
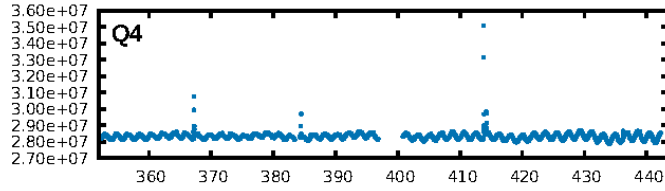
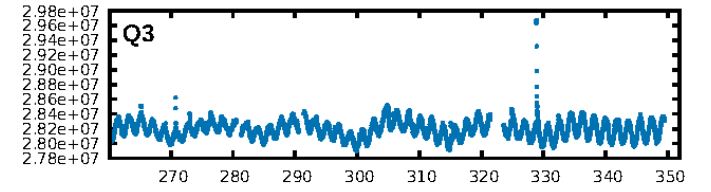
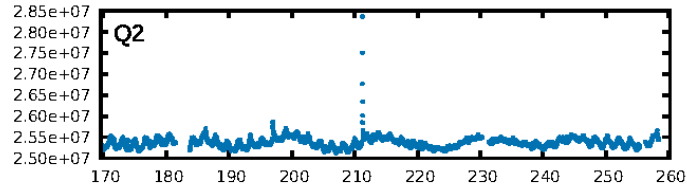
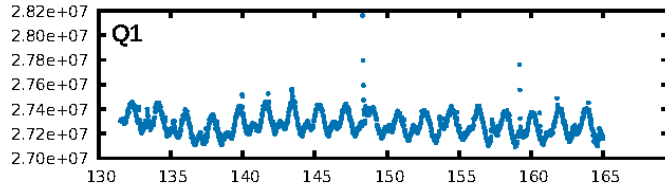
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [626.50σ]
LongPeriod-sig: 100.0% [311.49σ]
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 93.3%
Bootstrap-pfa: 1.06e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -35.01
Centroid-sig: 59.4%
Centroid-so: 0.824 arcsec [1.23σ]
OotOffset-rm: 0.134 arcsec [1.69σ]
KicOffset-rm: 0.195 arcsec [2.46σ]
OotOffset-st: 0/0/0/3 [3]
KicOffset-st: 0/0/0/3 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 0.67 [2/3]

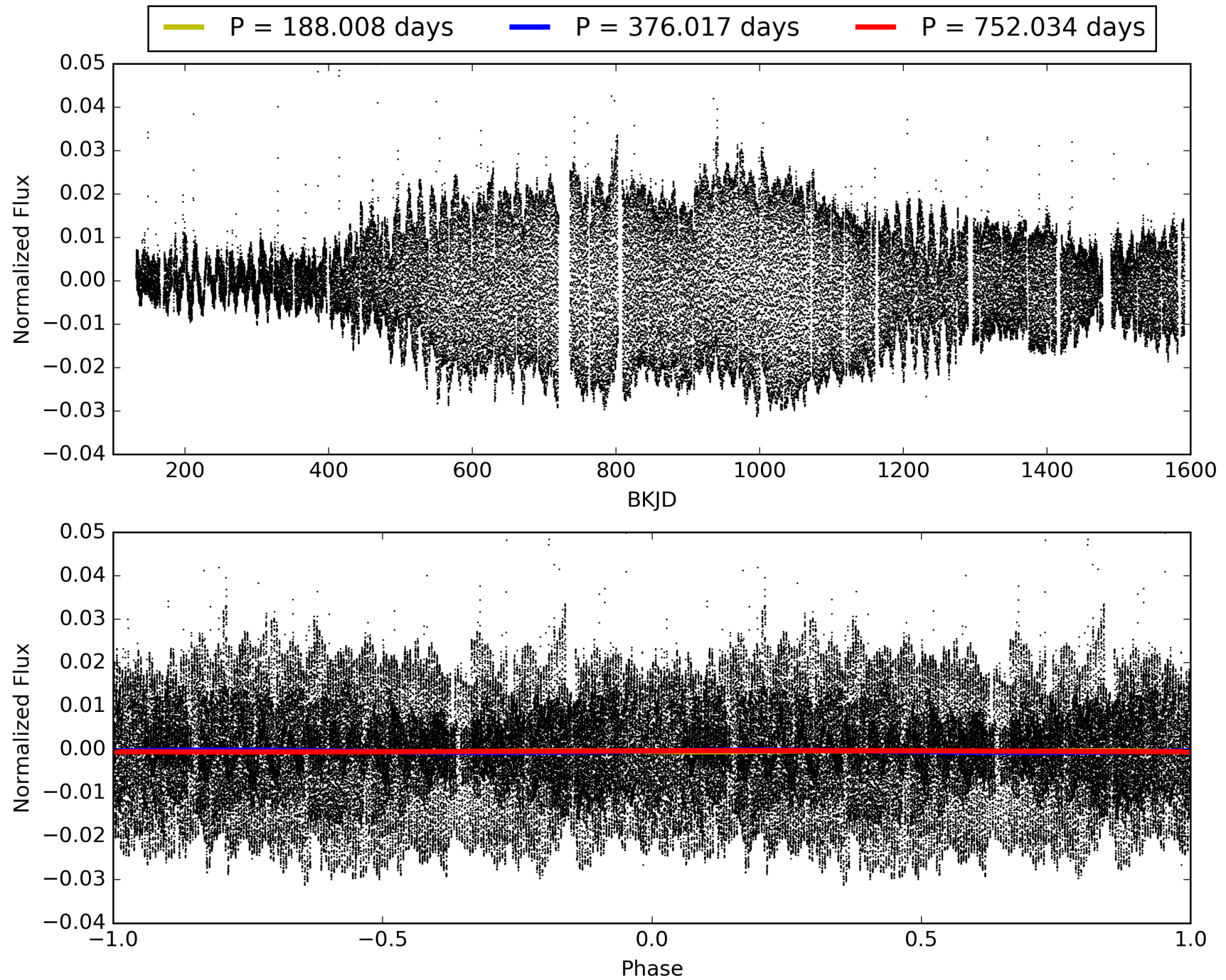
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:40:55 Z

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

TCE 002557669-04, PDC Light Curves

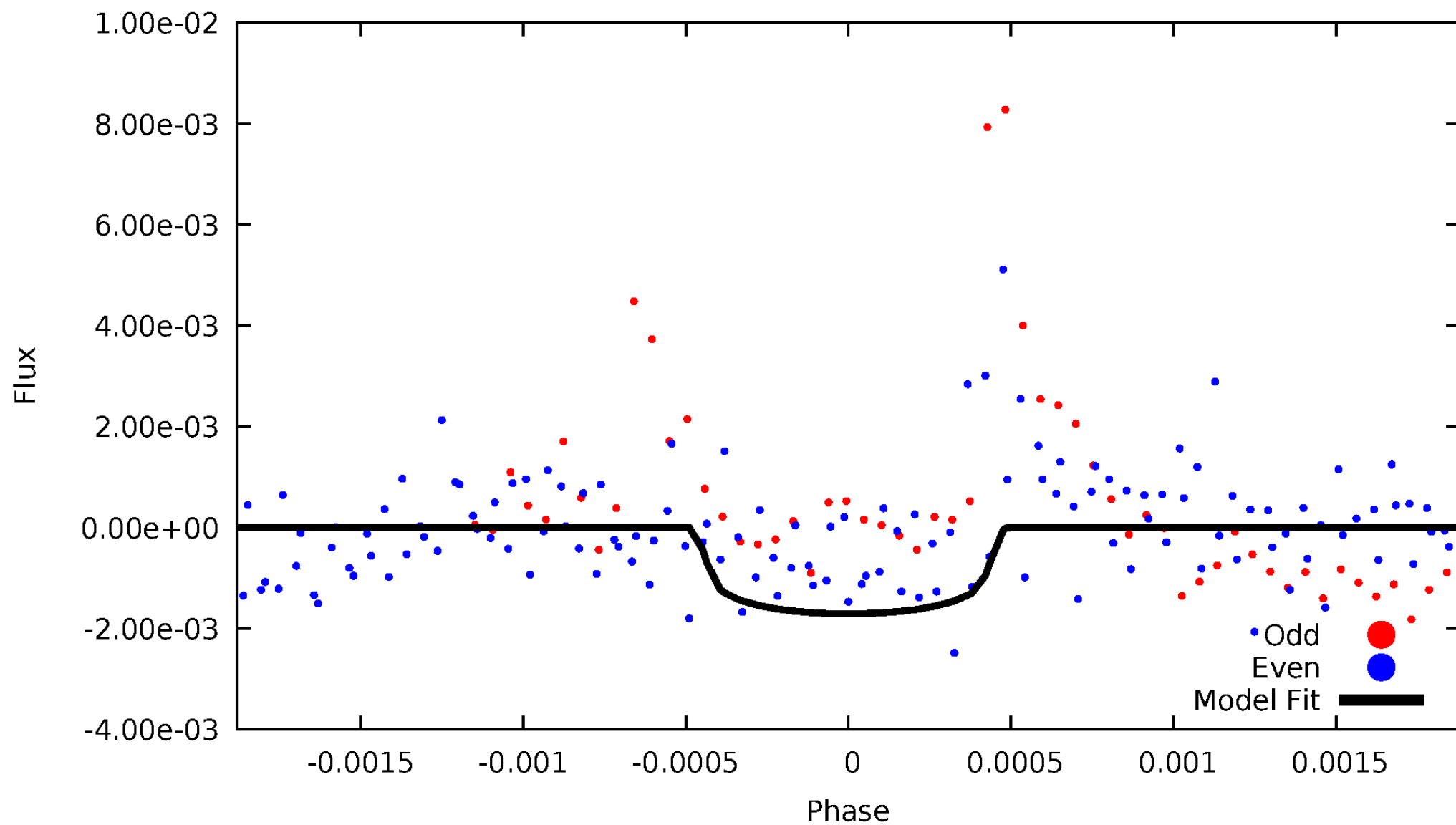


TCE 002557669-04



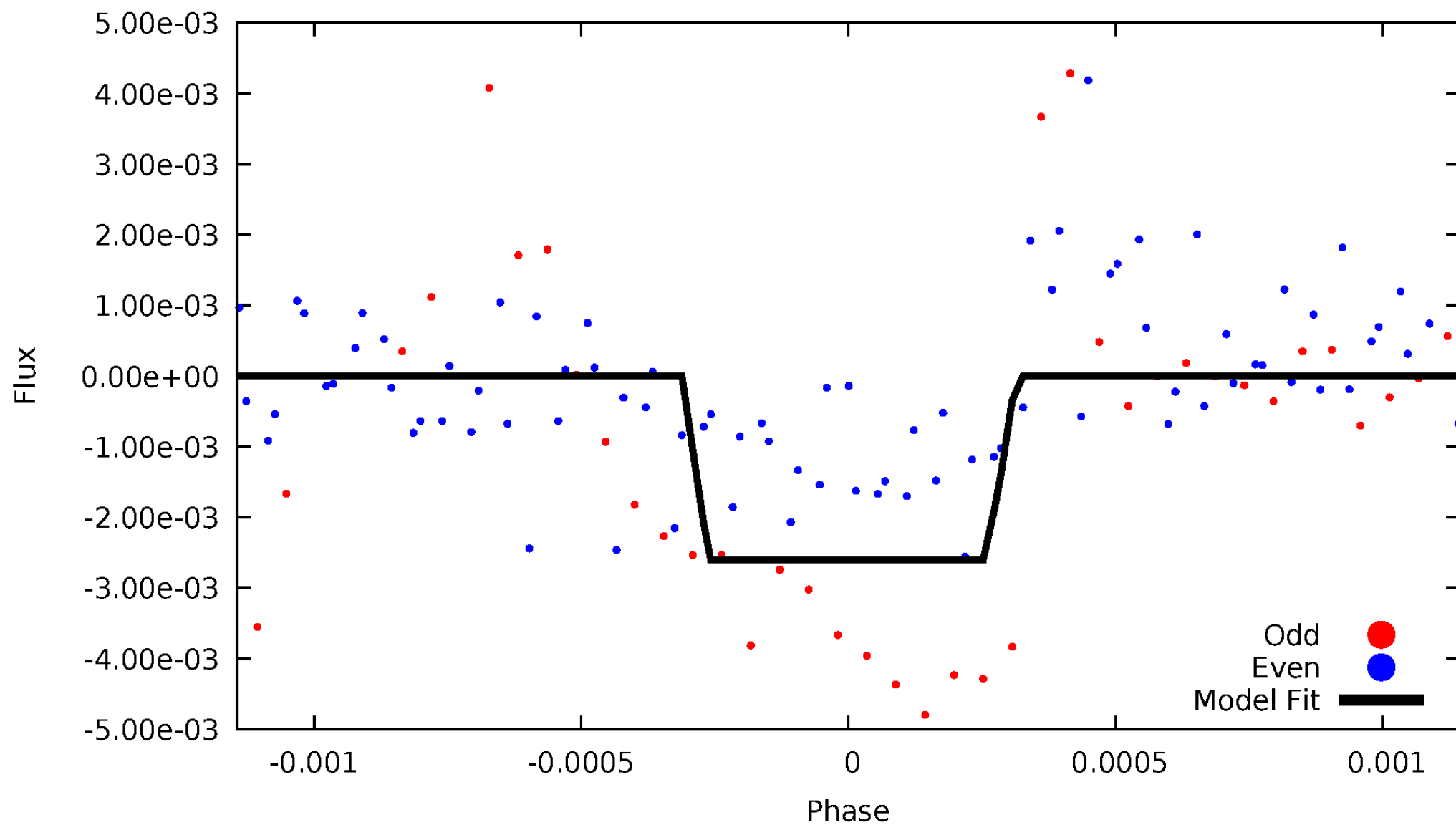
DV Odd/Even

TCE 002557669-04



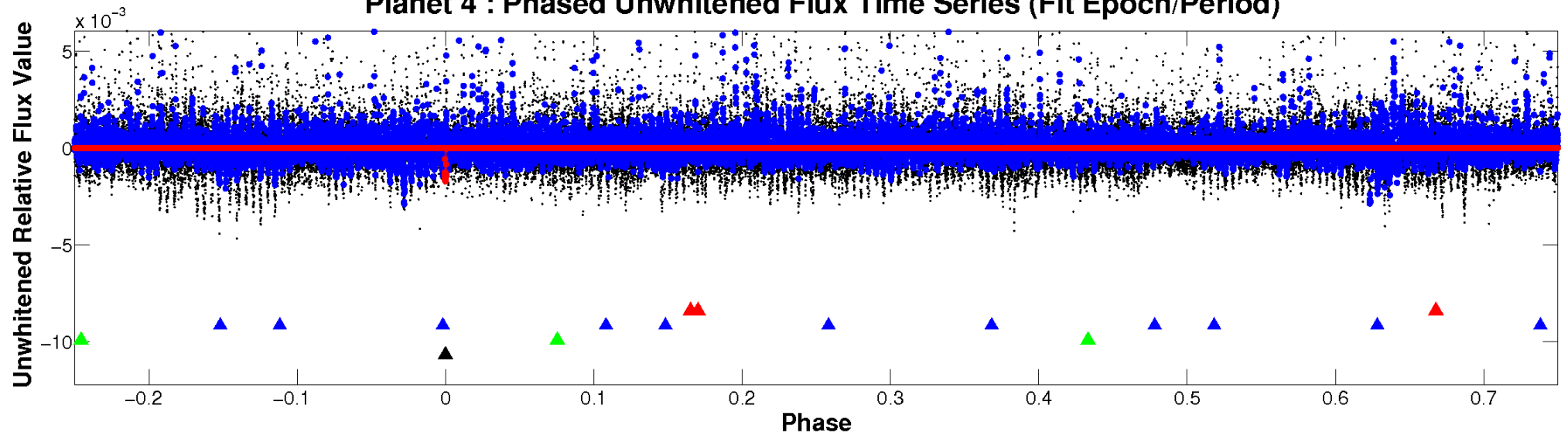
ALT Odd/Even

TCE 002557669-04

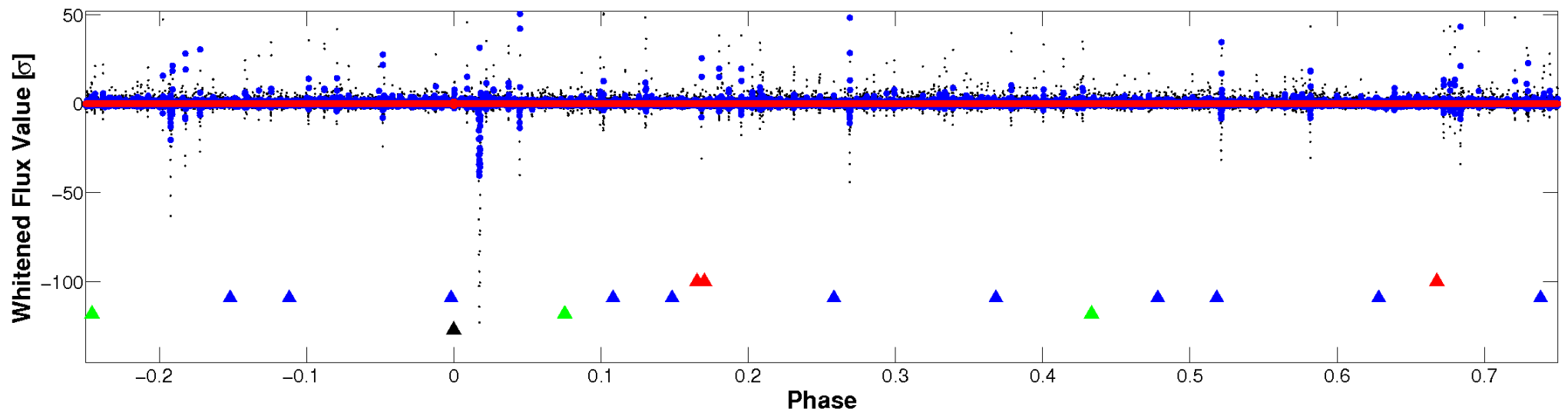


Non-Whitened Vs. Whitened Light Curve

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

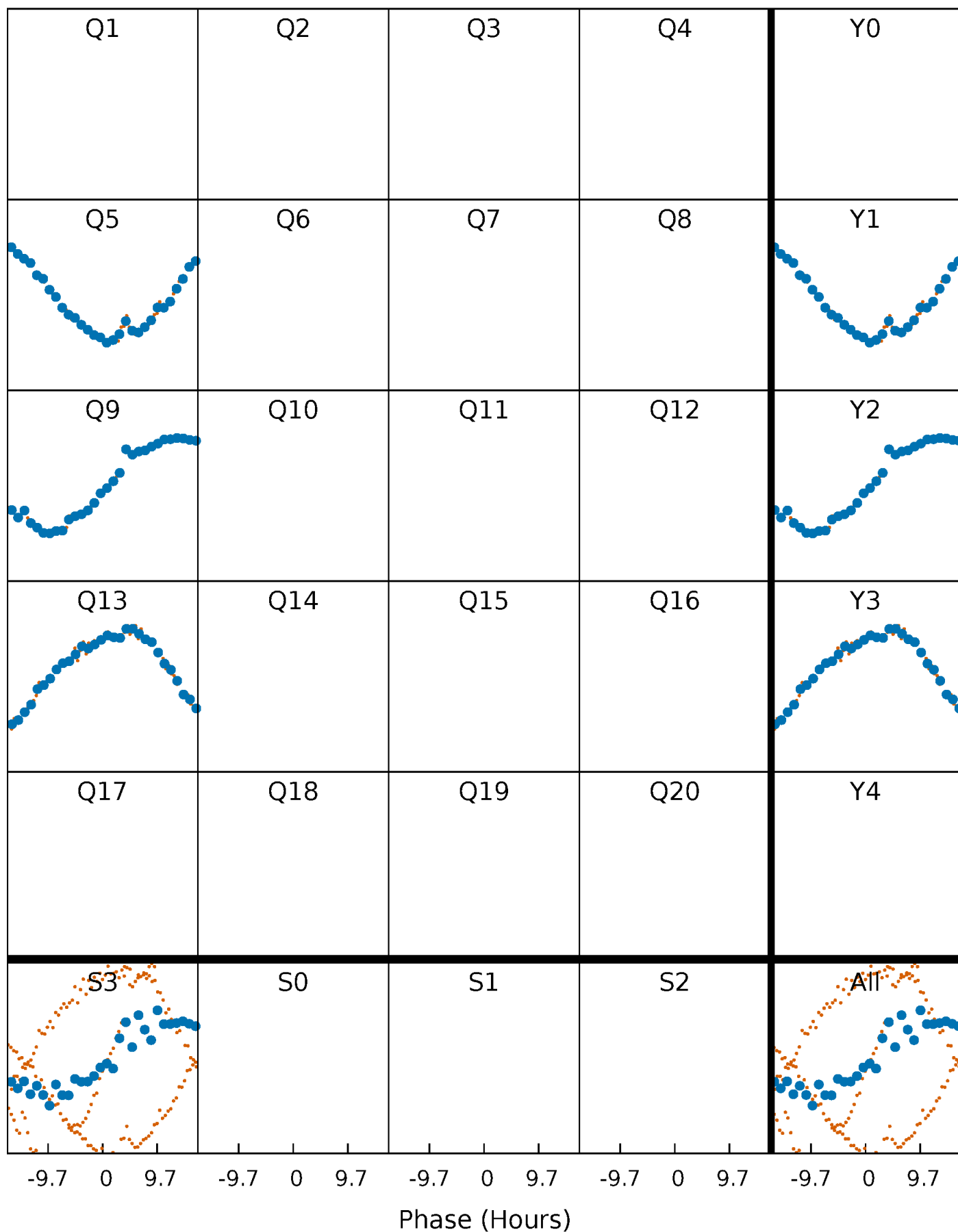


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



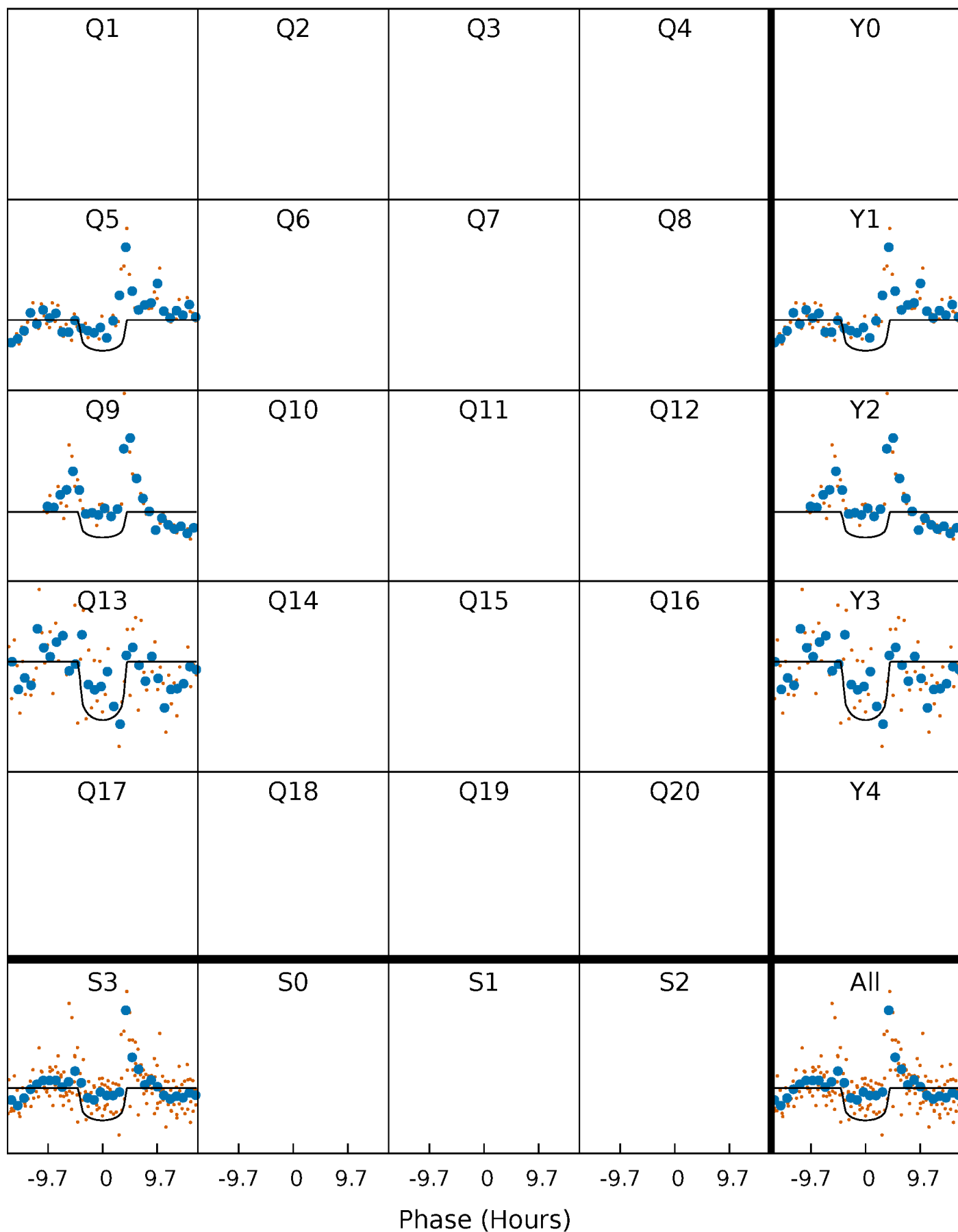
PDC Quarter-Phased Transit Curves

TCE 002557669-04 $P=376.016865$ Days $T_0=486.060508$ (BKJD)



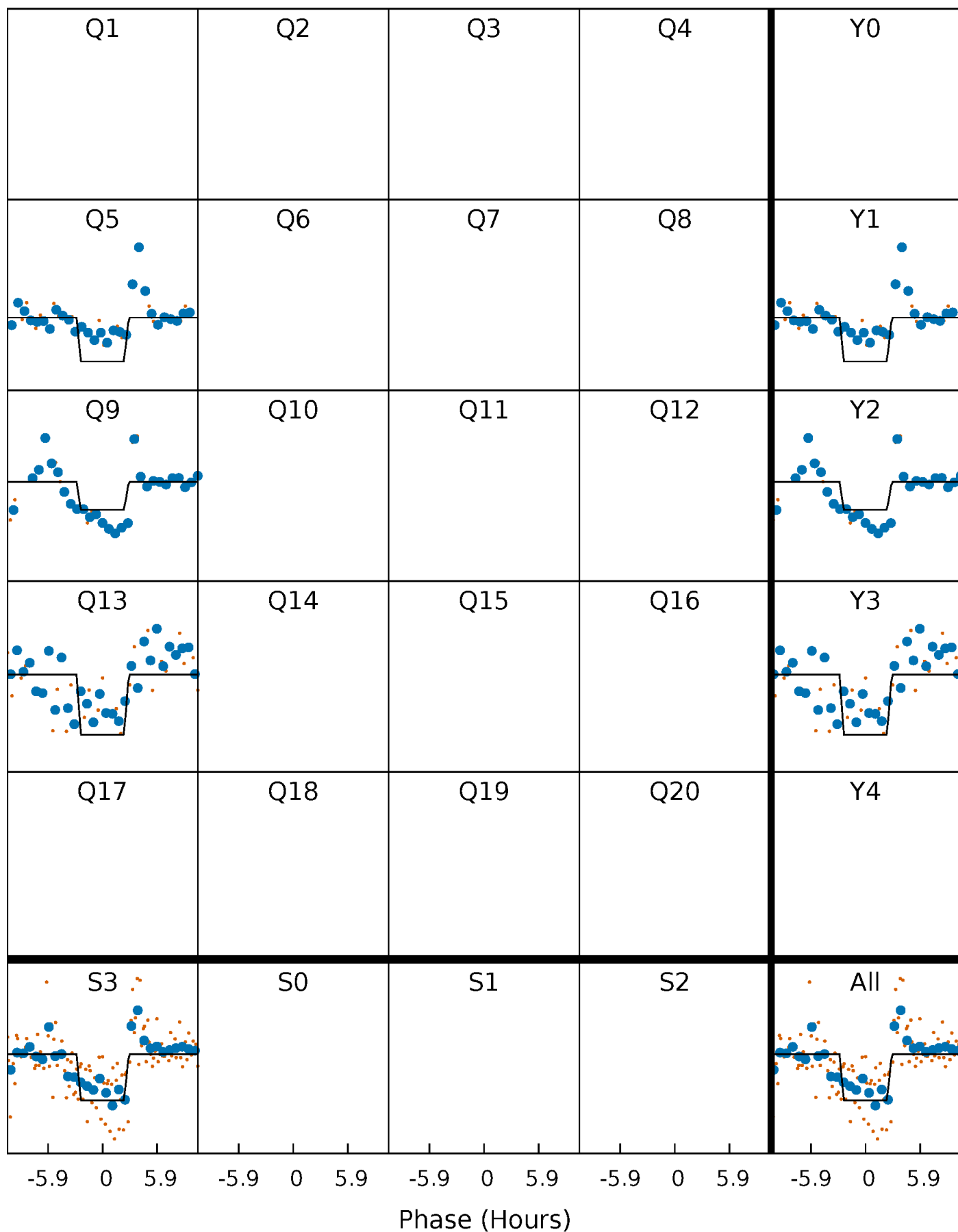
DV Quarter-Phased Transit Curves

TCE 002557669-04 $P=376.016865$ Days $T_0=486.060508$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

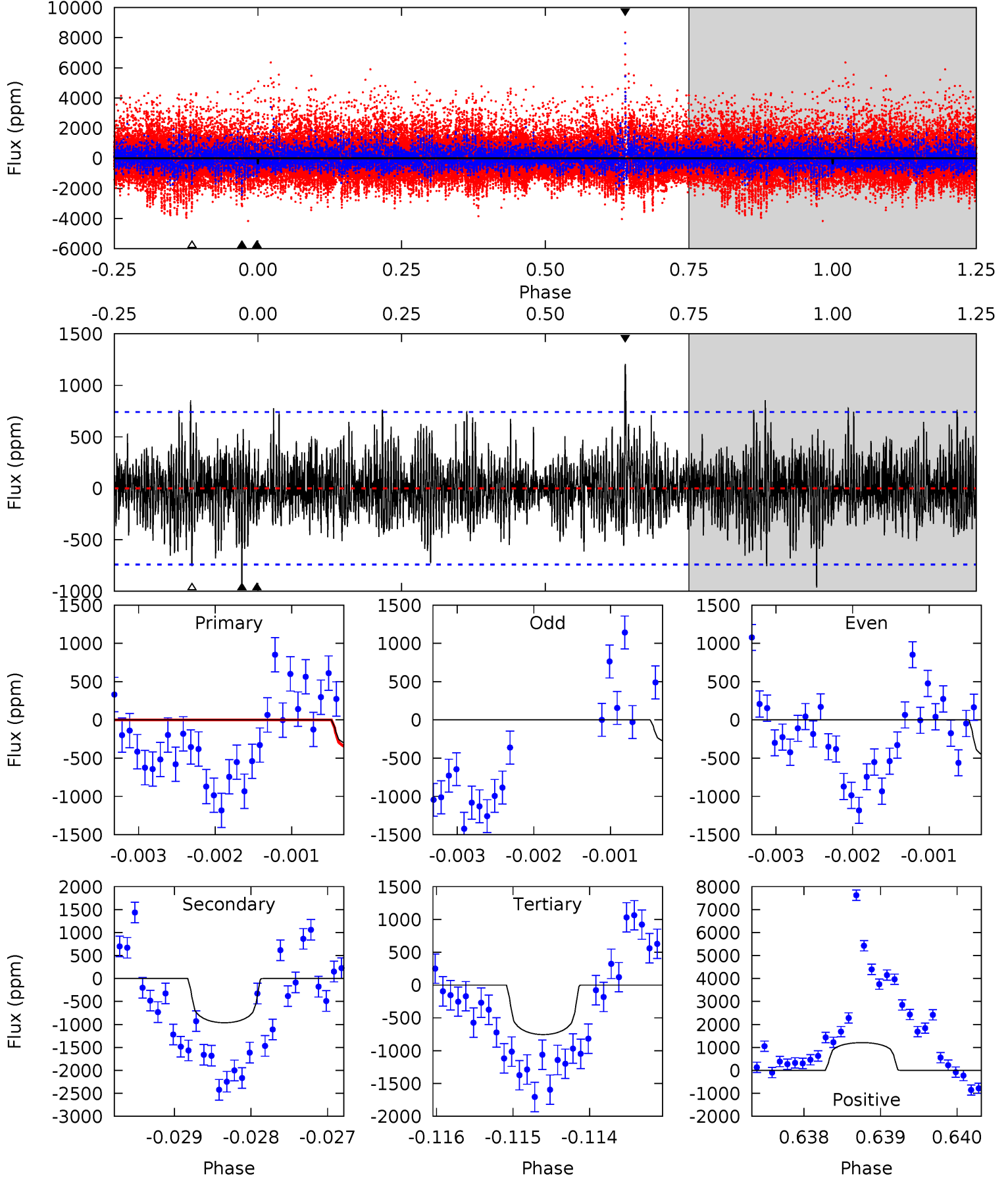
TCE 002557669-04 $P=376.031993$ Days $T_0=486.070670$ (BKJD)



DV Model-Shift Uniqueness Test

002557669-04, P = 376.016865 Days, E = 110.043643 Days

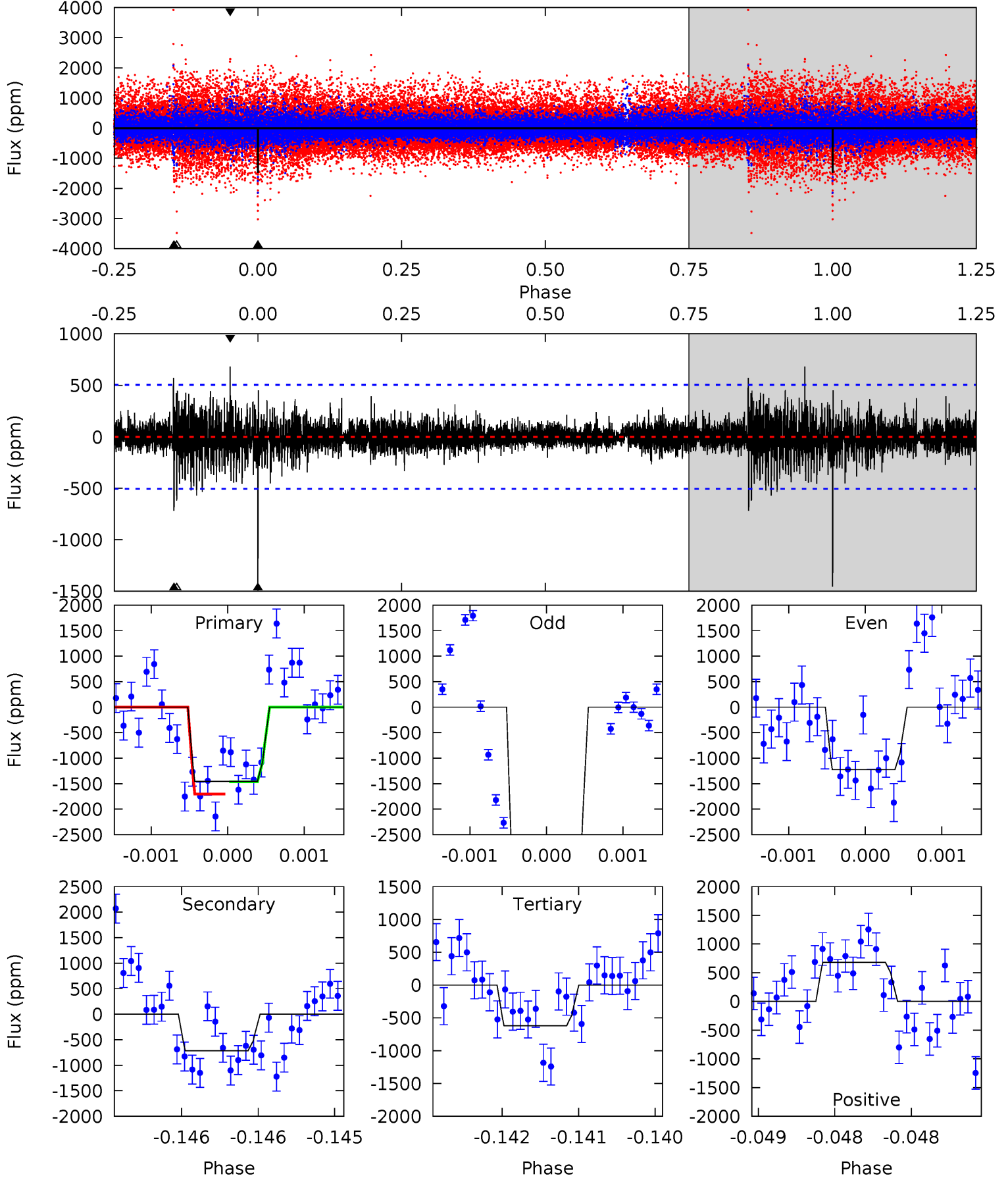
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.57	7.09	5.55	8.89	5.45	3.29	1.67	-2.98	-6.32	1.54	-1.79	0.68	1.23	0.56	0.46



Alt Model-Shift Uniqueness Test

002557669-04, P = 376.031993 Days, E = 110.038677 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.9	7.86	6.78	7.47	5.54	3.43	1.07	9.17	8.48	1.07	0.39	14.4	1.41	0.32	1.33



Stellar Parameters For KIC 002557669

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	3671^{+54}_{-60}	$4.827^{+0.039}_{-0.035}$	$-0.200^{+0.100}_{-0.100}$	$0.430^{+0.030}_{-0.037}$	$0.452^{+0.028}_{-0.039}$	$8.039^{+1.556}_{-1.083}$
	+1%/-2%	+1%/-1%	+50%/-50%	+7%/-9%	+6%/-9%	+19%/-13%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 002557669-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-964 ± 136	$1.79^{+0.84}_{-0.73}$	168^{+3}_{-4}	3427^{+665}_{-380}	$99403^{+194333}_{-53087}$
Alt.	-717 ± 91	$2.40^{+0.77}_{-0.79}$	168^{+3}_{-4}	3010^{+408}_{-230}	42729^{+52726}_{-19245}

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

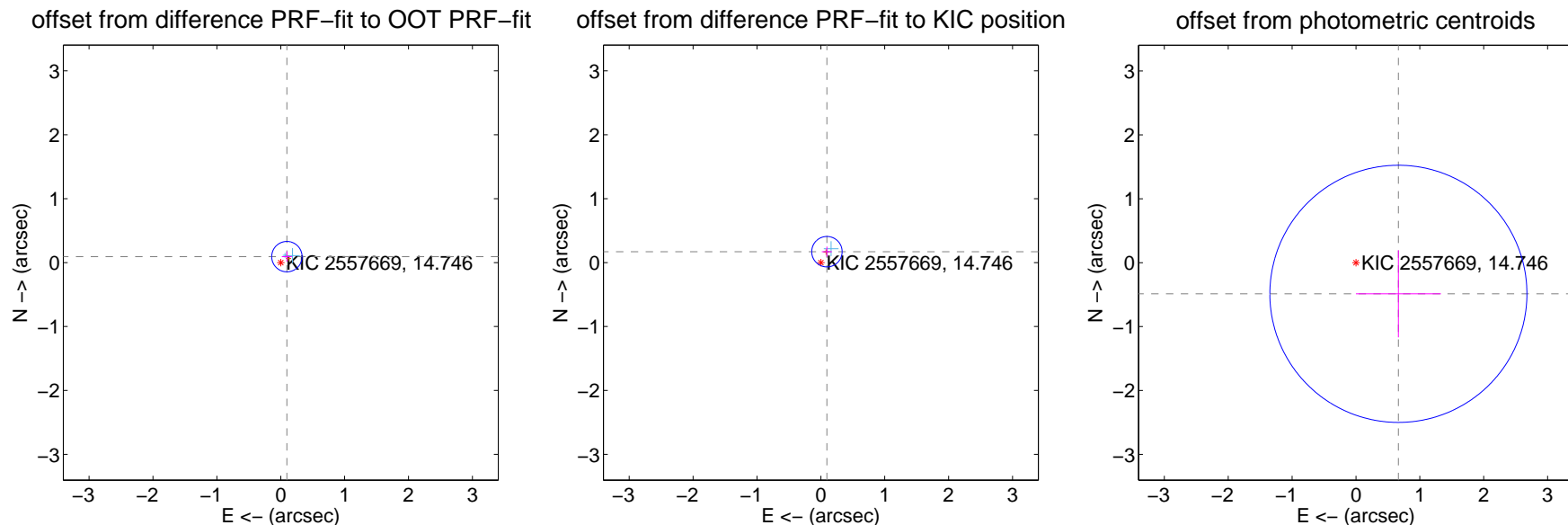
DV Centroid Data

Supplemental centroid analysis for 002557669-04. Kepler magnitude: 14.75. Transit SNR 7.15

There are 2 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.134 ± 0.079	1.69	-0.096 ± 0.079	0.093 ± 0.079
PRF-fit source offset from KIC position	0.195 ± 0.079	2.46	-0.095 ± 0.079	0.171 ± 0.079
photometric centroid source offset	0.82 ± 0.67	1.23	-0.66 ± 0.66	-0.49 ± 0.68

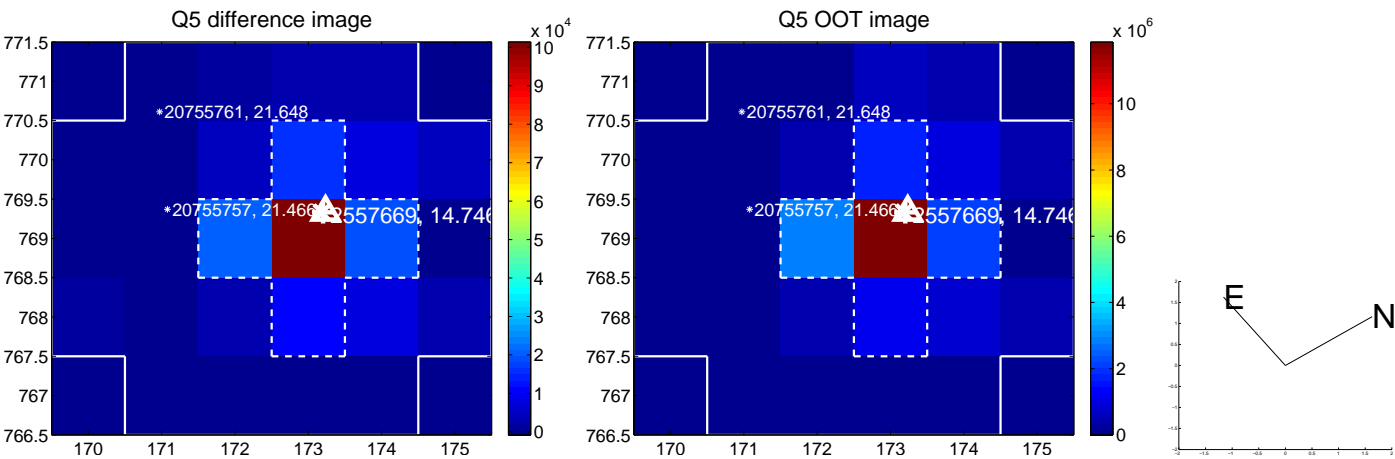


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

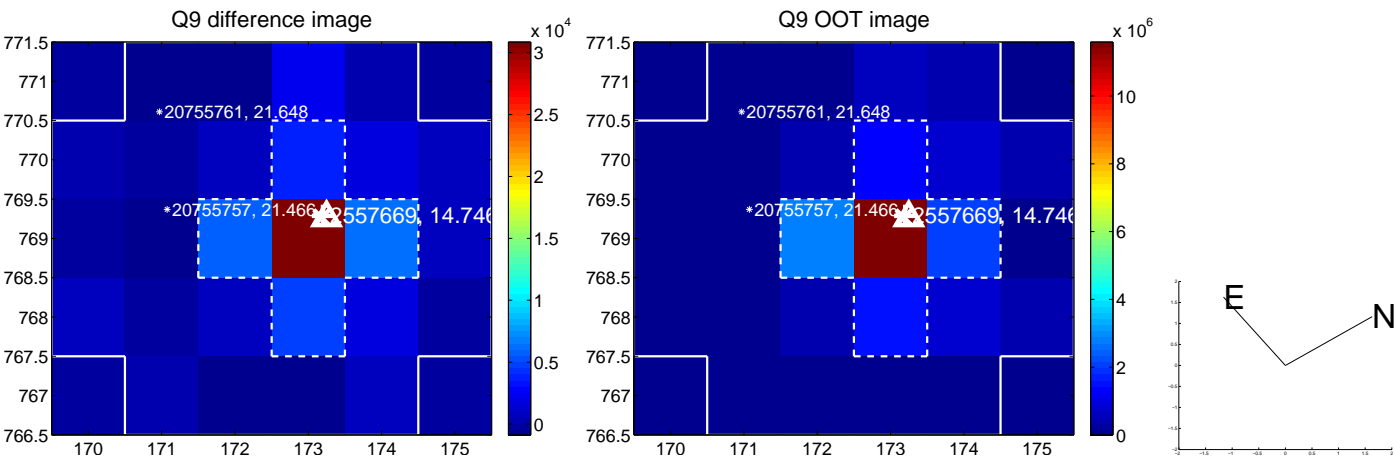
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



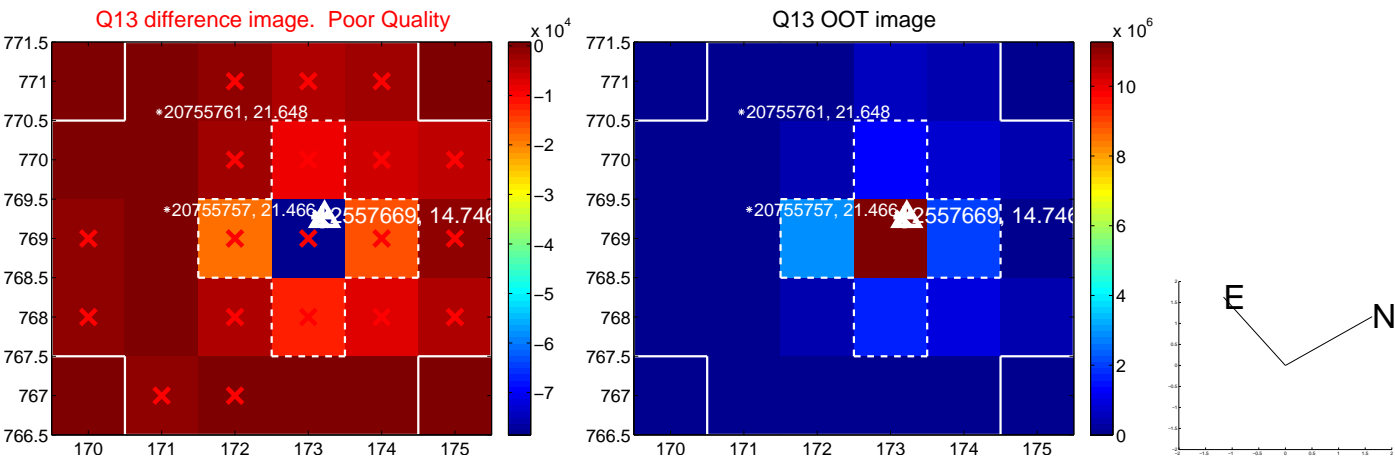
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



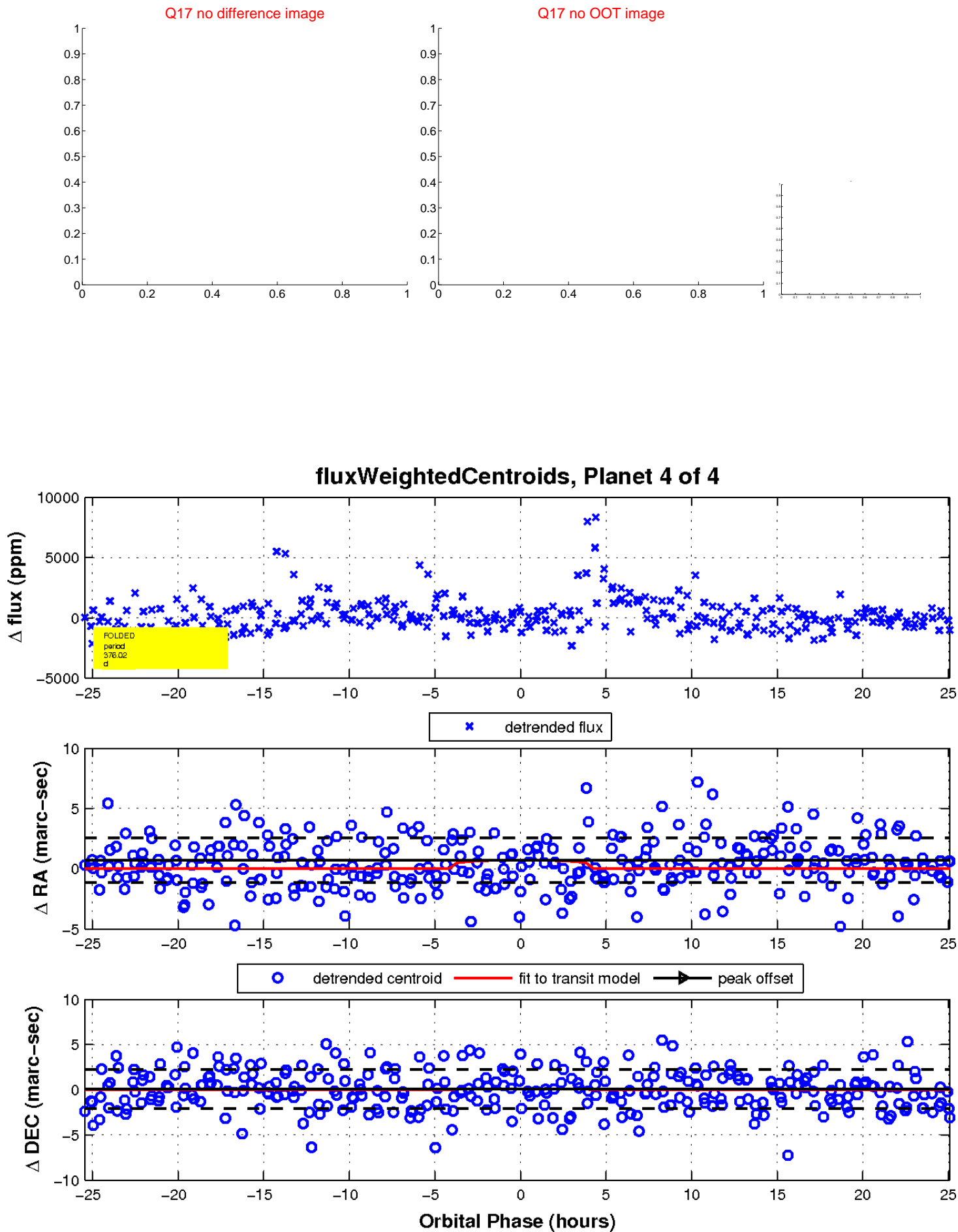
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

