

KIC 003425756

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})
003425756-01	OBS	No	662.567790	196.013486	1928.9	9.338	16.6	6.6	0.73	5600	3.20	0.27
003425756-02	OBS	No	562.236546	236.600467	1822.6	5.038	11.1	6.5	0.73	5600	3.11	0.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003425756-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003425756-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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.

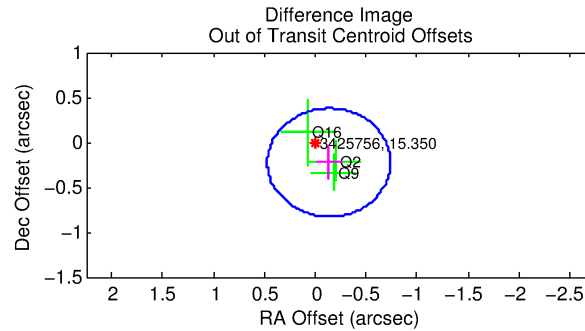
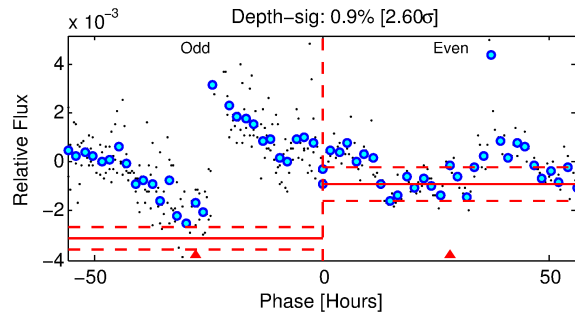
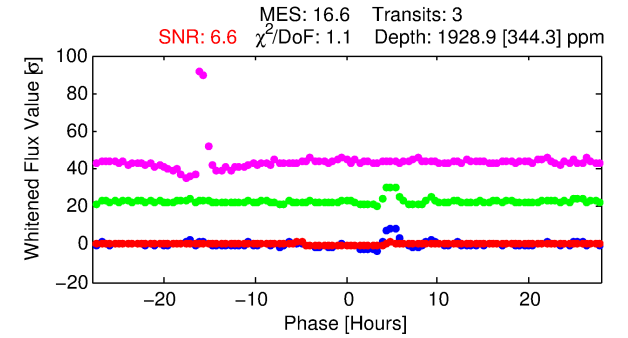
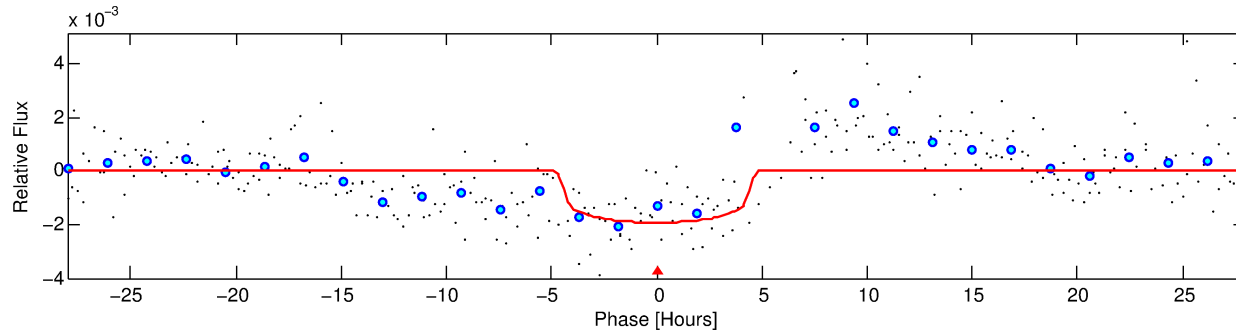
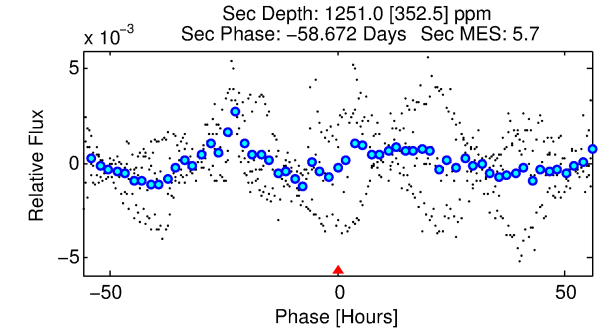
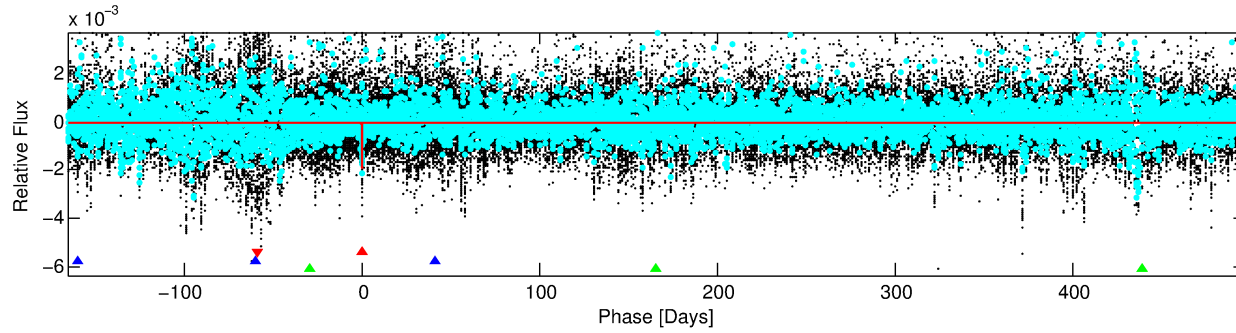
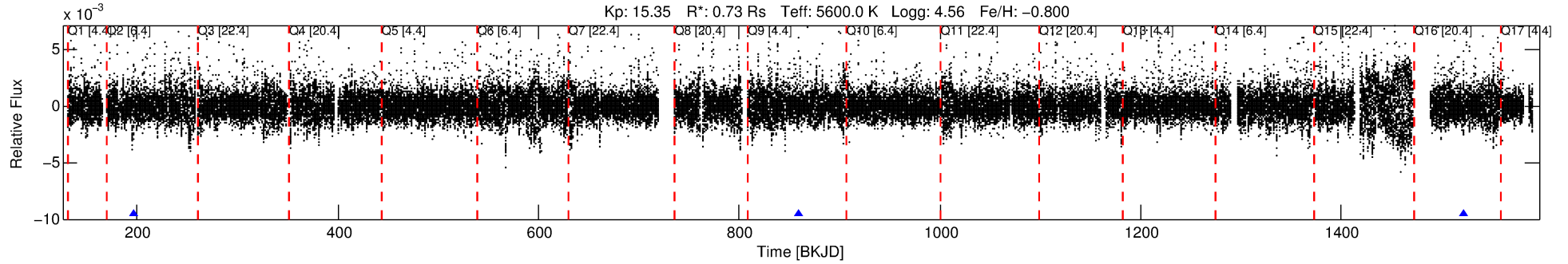
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003425756-01

No Significant Match Found

DV One-Page Summary

KIC: 3425756 Candidate: 1 of 3 Period: 662.568 d



DV Fit Results:

Period = 662.56779 [0.00956] d
Epoch = 196.0135 [0.0121] BKJD
Rp/R* = 0.0401 [0.0213]
a/R* = 563.78 [1339.61]
b = 0.00 [2509.98]
Seff = 0.27 [0.06]
Teq = 183 [10] K
Rp = 3.20 [1.76] Re
a = 1.3268 [0.1547] AU
Ag = 118584.78 [131613.97] [0.90 σ]
Teffp = 5261 [1454] K [3.49 σ]

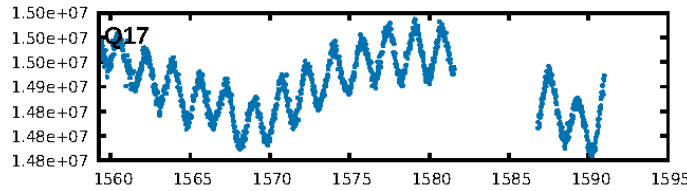
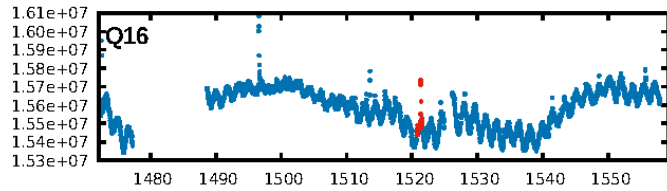
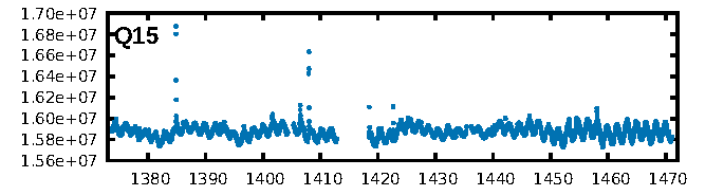
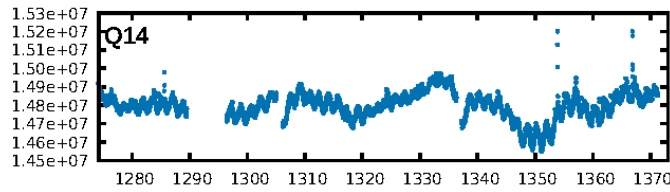
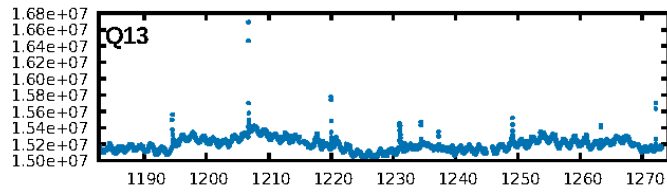
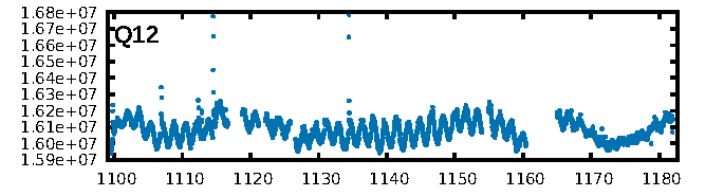
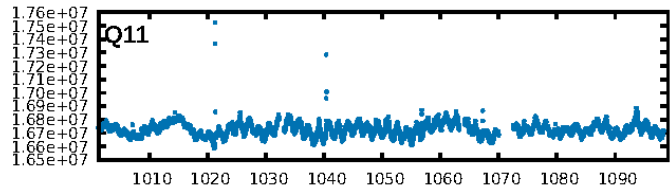
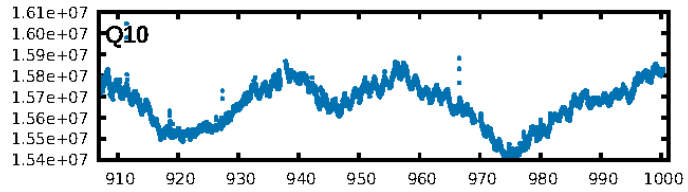
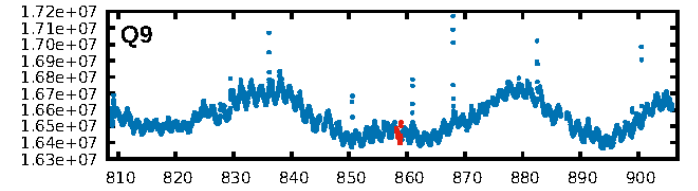
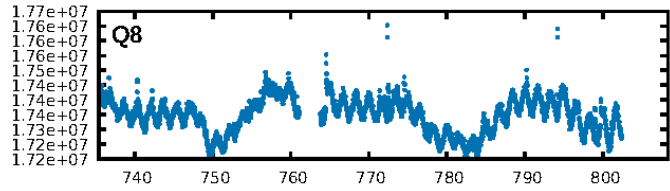
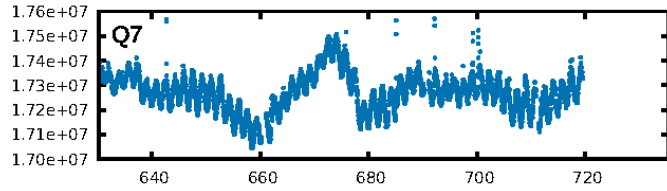
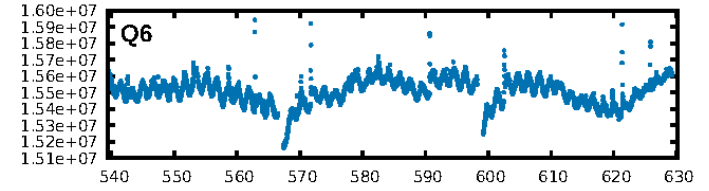
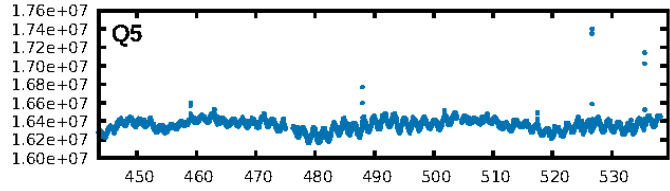
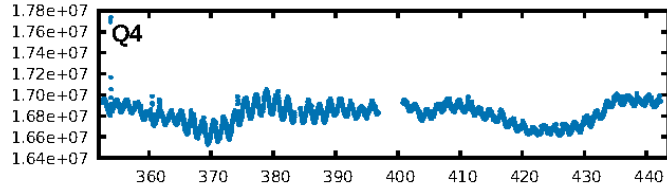
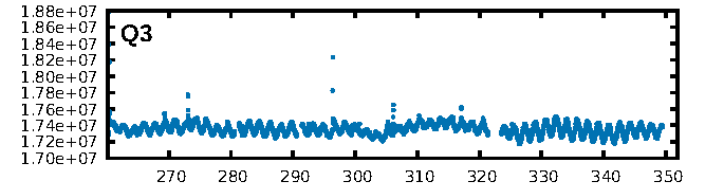
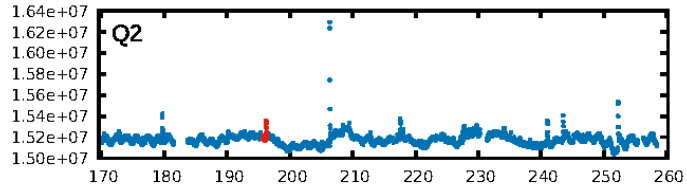
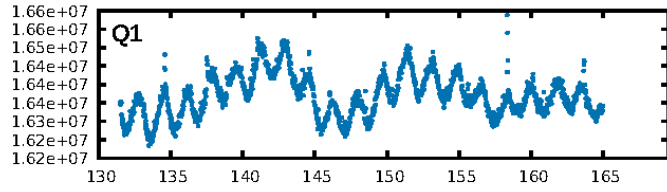
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [226.94 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 97.0%
Bootstrap-pfa: 2.39e-14
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.4343
Centroid-sig: 13.0%
Centroid-so: 0.480 arcsec [0.76 σ]
OotOffset-rm: 0.264 arcsec [1.31 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-rm: 0.144 arcsec [0.92 σ]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

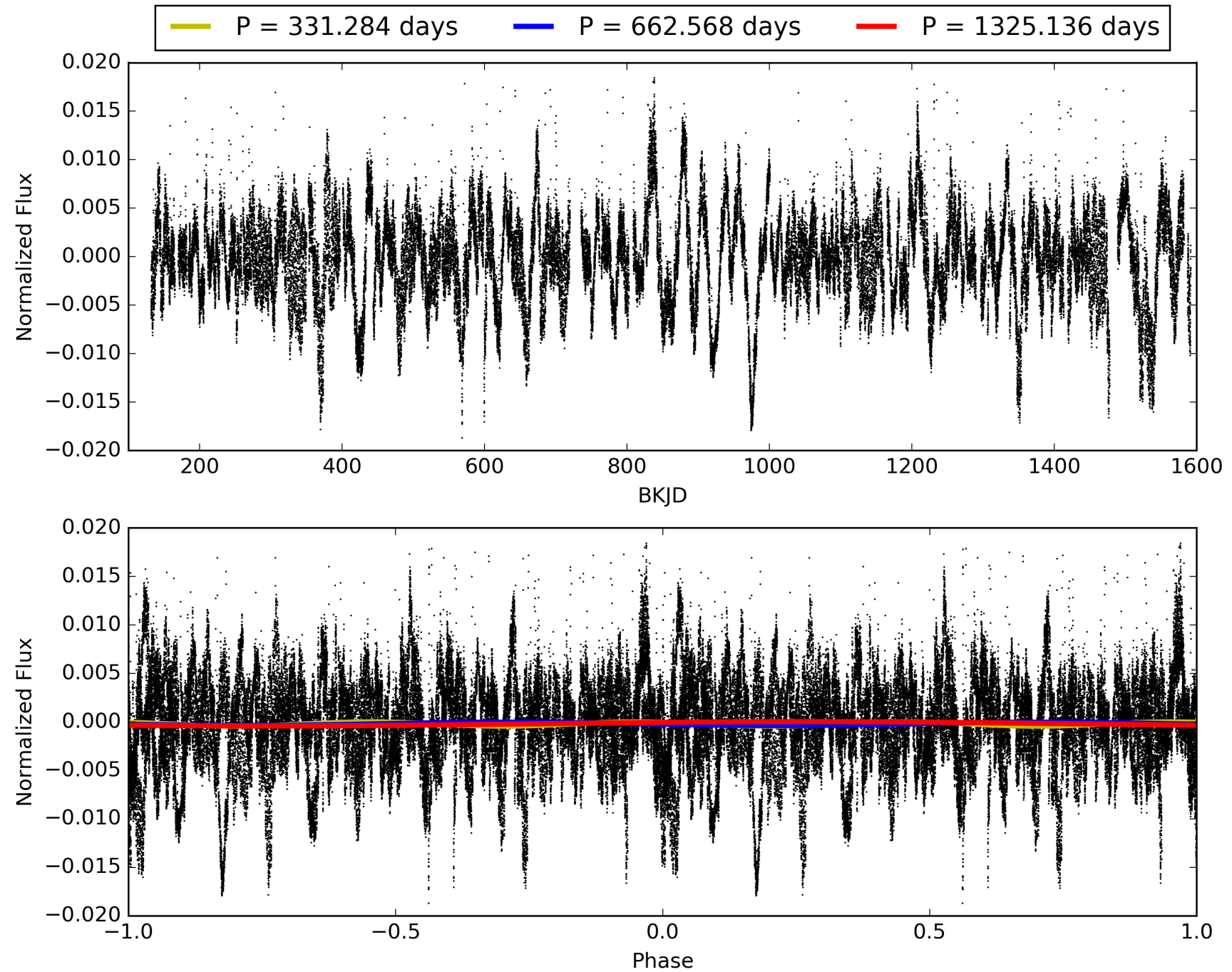
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 04:53:37 Z

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

TCE 003425756-01, PDC Light Curves

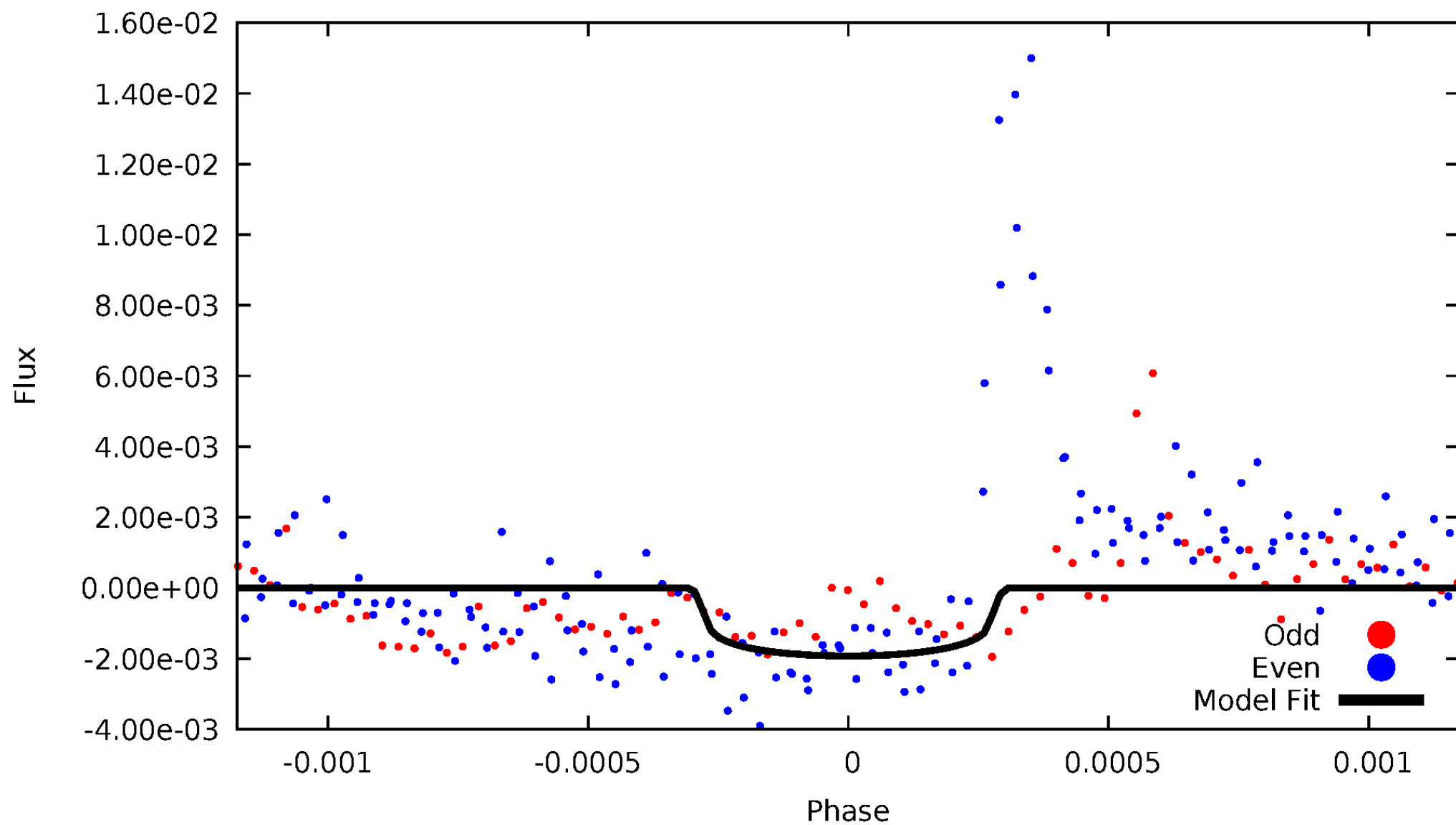


TCE 003425756-01



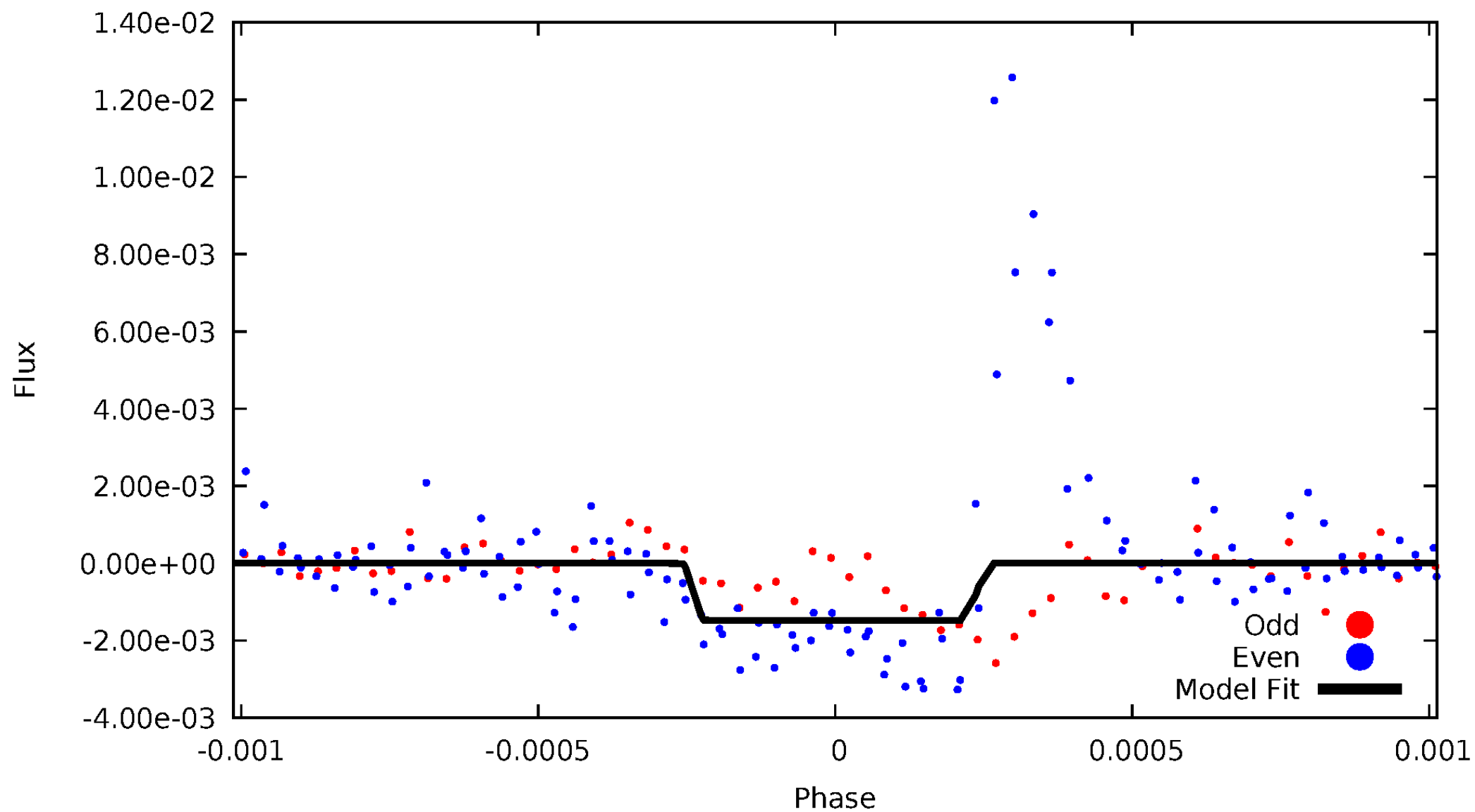
DV Odd/Even

TCE 003425756-01



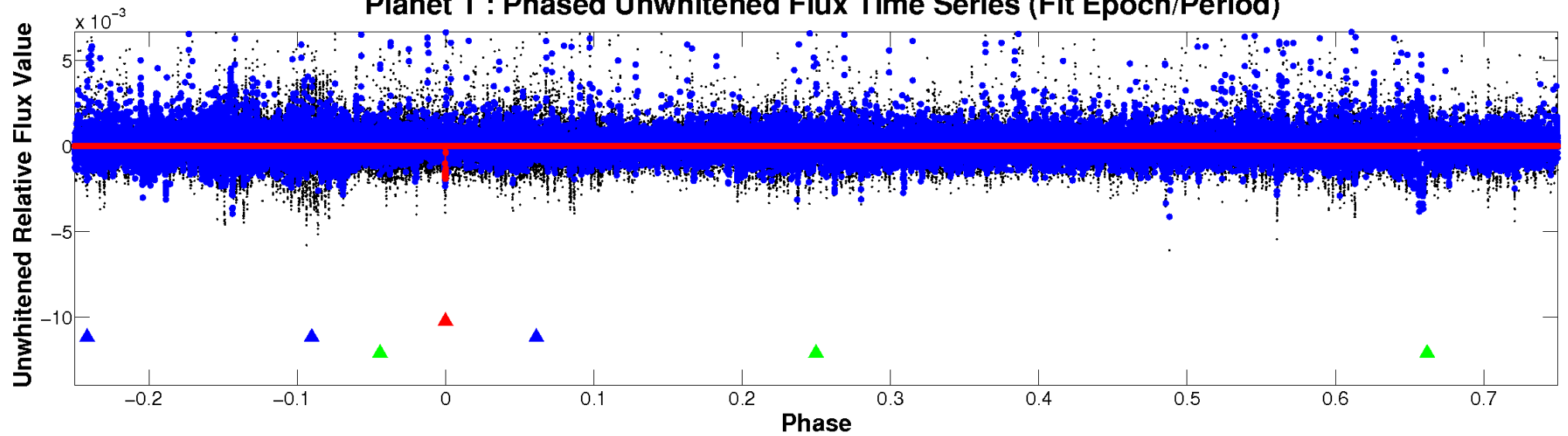
ALT Odd/Even

TCE 003425756-01

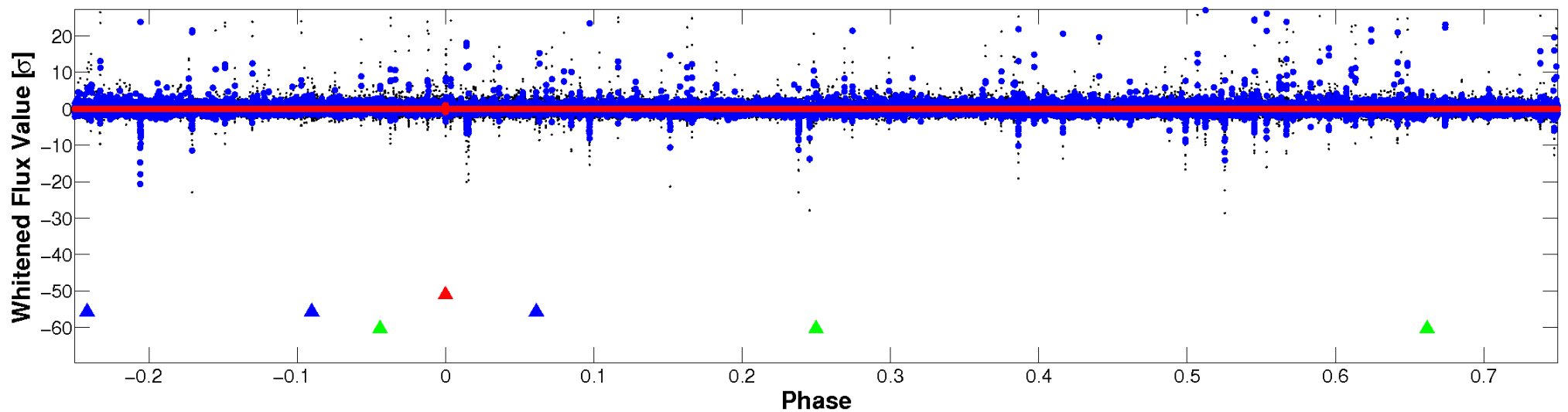


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

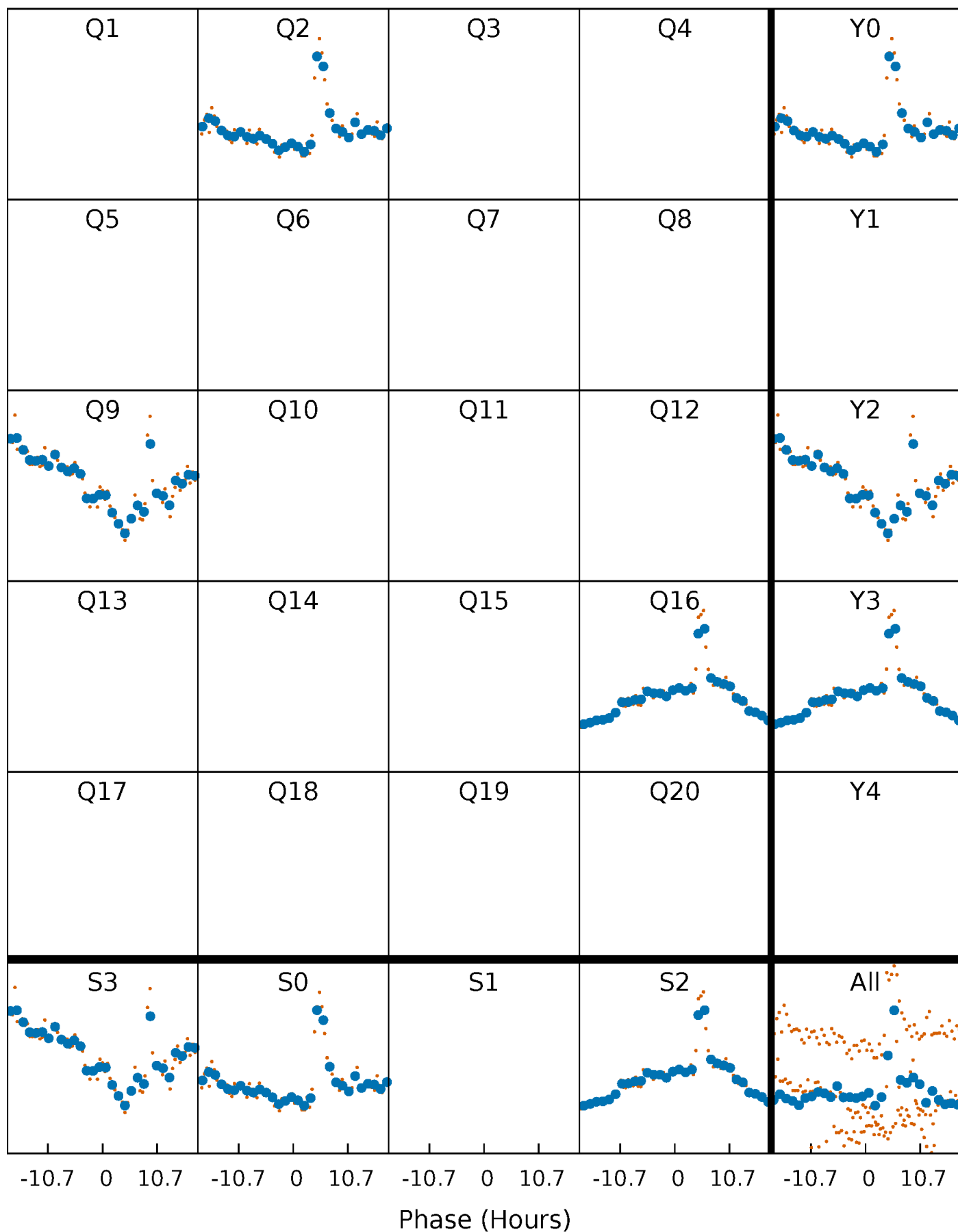


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



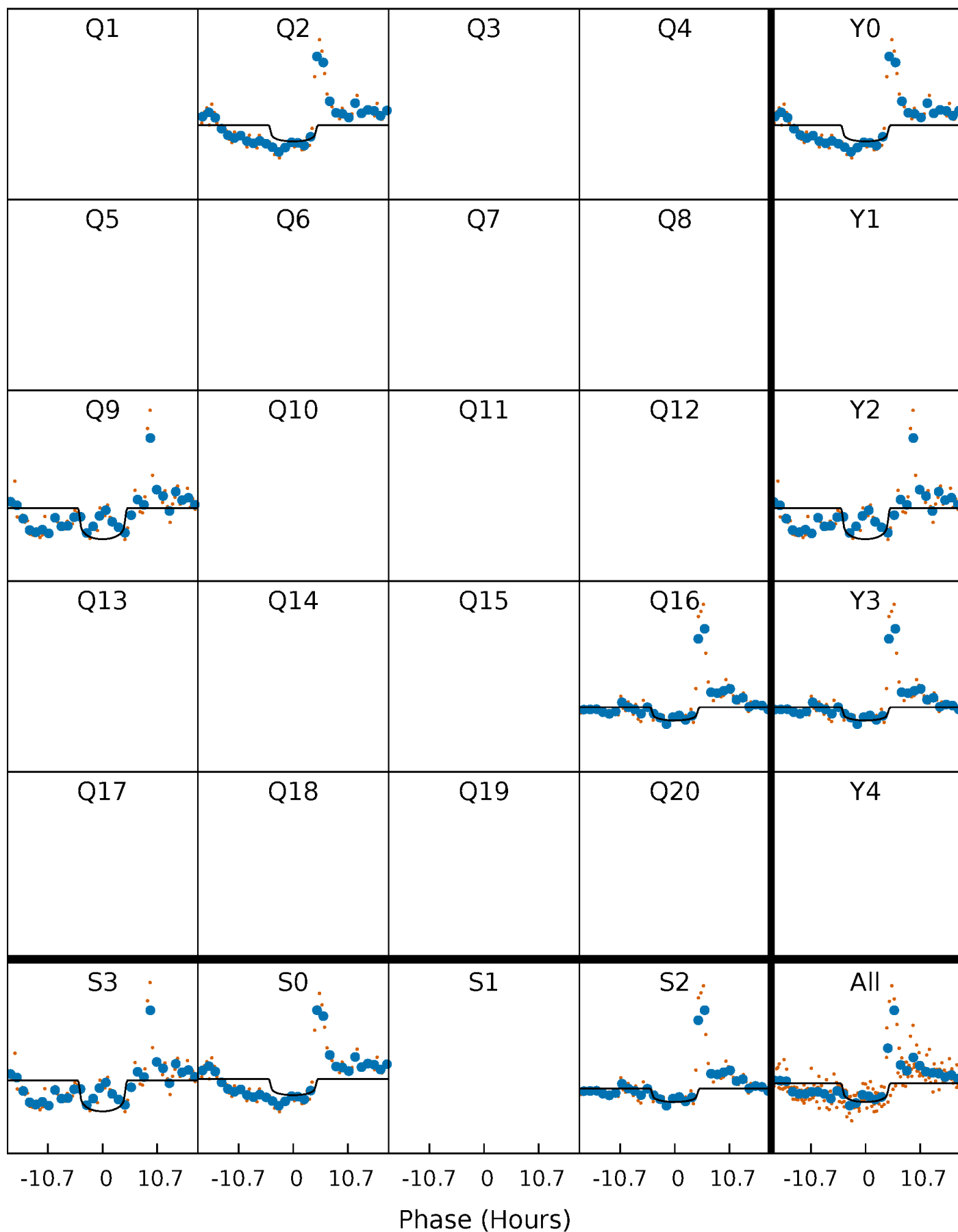
PDC Quarter-Phased Transit Curves

TCE 003425756-01 P=662.567790 Days $T_0=196.013486$ (BKJD)



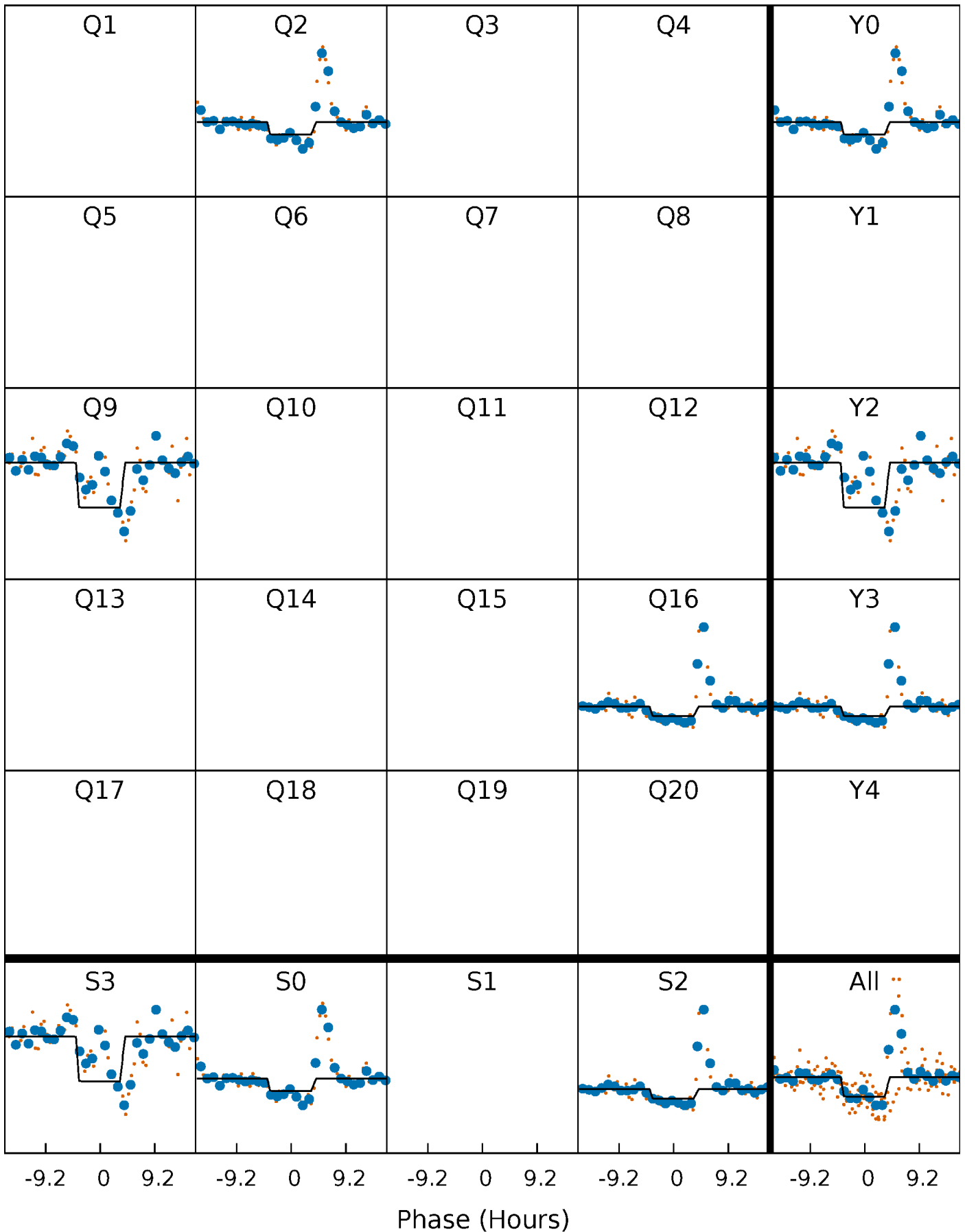
DV Quarter-Phased Transit Curves

TCE 003425756-01 P=662.567790 Days $T_0=196.013486$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

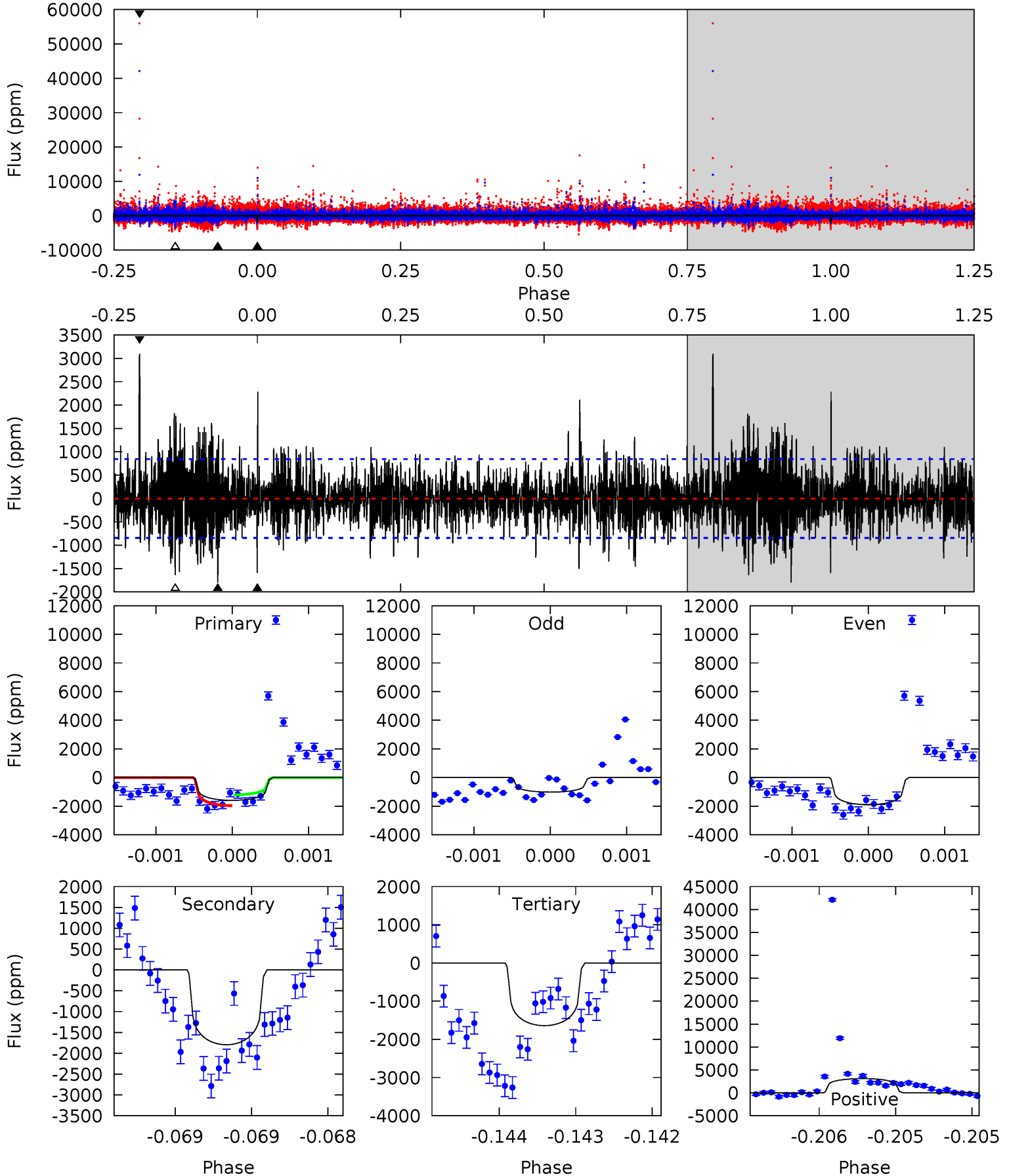
TCE 003425756-01 P=662.578616 Days $T_0=196.006635$ (BKJD)



DV Model-Shift Uniqueness Test

003425756-01, P = 662.567790 Days, E = 196.013486 Days

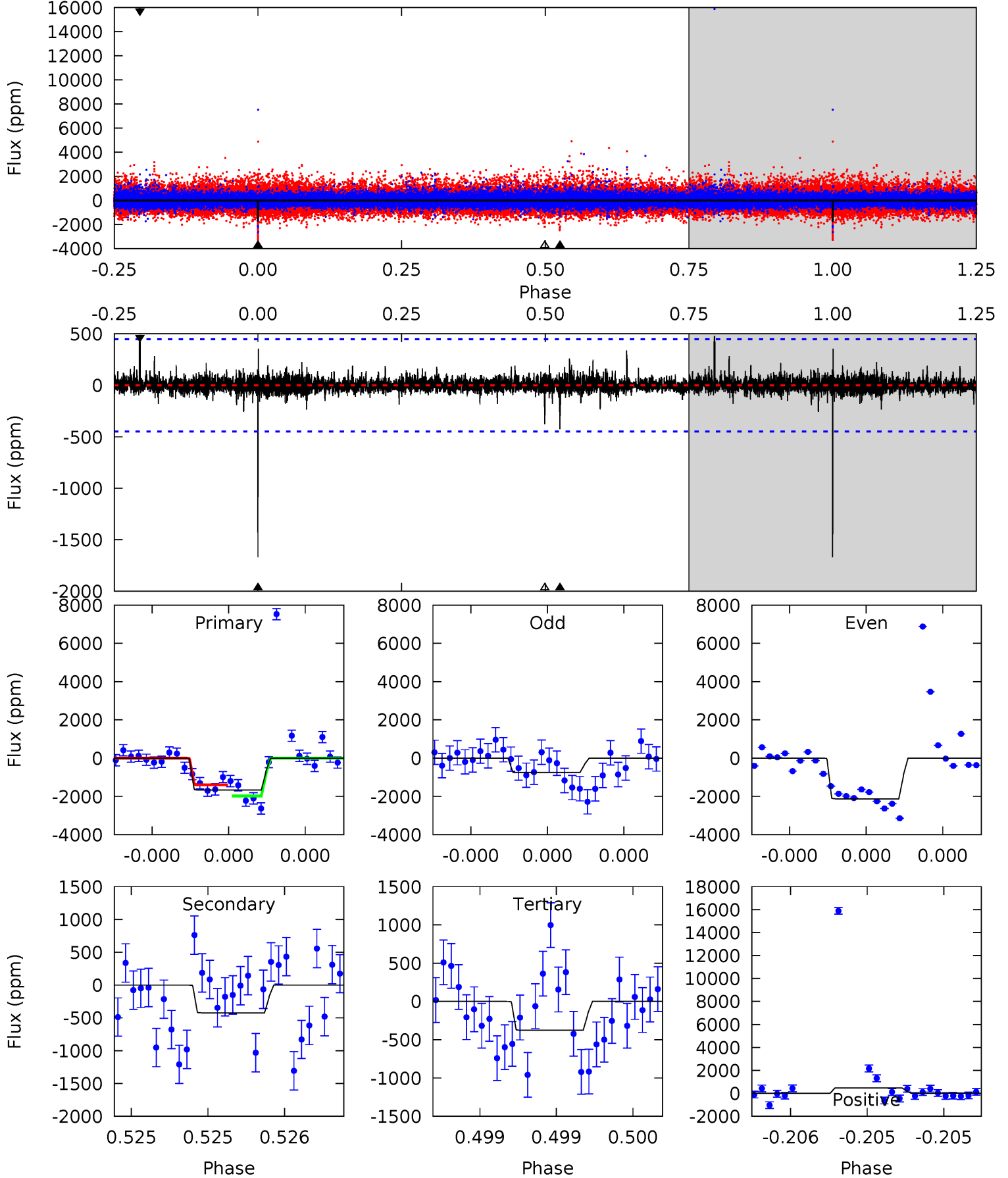
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	11.8	10.8	20.4	5.54	3.43	3.01	-0.30	-9.88	1.02	-8.57	2.13	1.10	0.63	2.49



Alt Model-Shift Uniqueness Test

003425756-01, P = 662.578616 Days, E = 196.006635 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.8	5.28	4.68	5.95	5.57	3.48	0.60	16.1	14.8	0.60	-0.67	8.05	0.83	0.22	3.63



Stellar Parameters For KIC 003425756

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5600^{+183}_{-166}	$4.561^{+0.085}_{-0.085}$	$-0.800^{+0.300}_{-0.300}$	$0.731^{+0.106}_{-0.070}$	$0.709^{+0.078}_{-0.039}$	$2.552^{+0.791}_{-0.718}$
	+3%/-3%	+2%/-2%	+37%/-37%	+15%/-10%	+11%/-6%	+31%/-28%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003425756-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1796 ± 152	$3.23^{+1.76}_{-1.72}$	256^{+11}_{-11}	5714^{+3052}_{-994}	$164591^{+638517}_{-95718}$
Alt.	-424 ± 80	$3.15^{+1.85}_{-1.58}$	256^{+12}_{-11}	4303^{+1415}_{-671}	$41551^{+128625}_{-25369}$

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

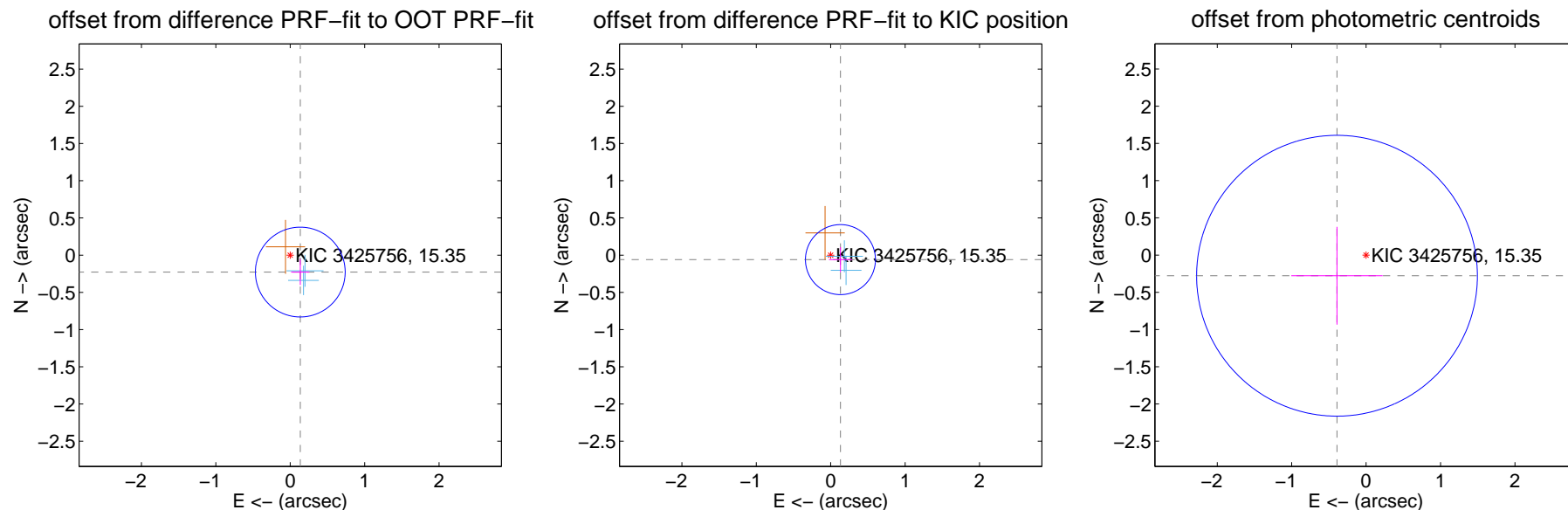
DV Centroid Data

Supplemental centroid analysis for 003425756-01. Kepler magnitude: 15.35. Transit SNR 6.57

There are 2 quarters with good PRF difference image offsets

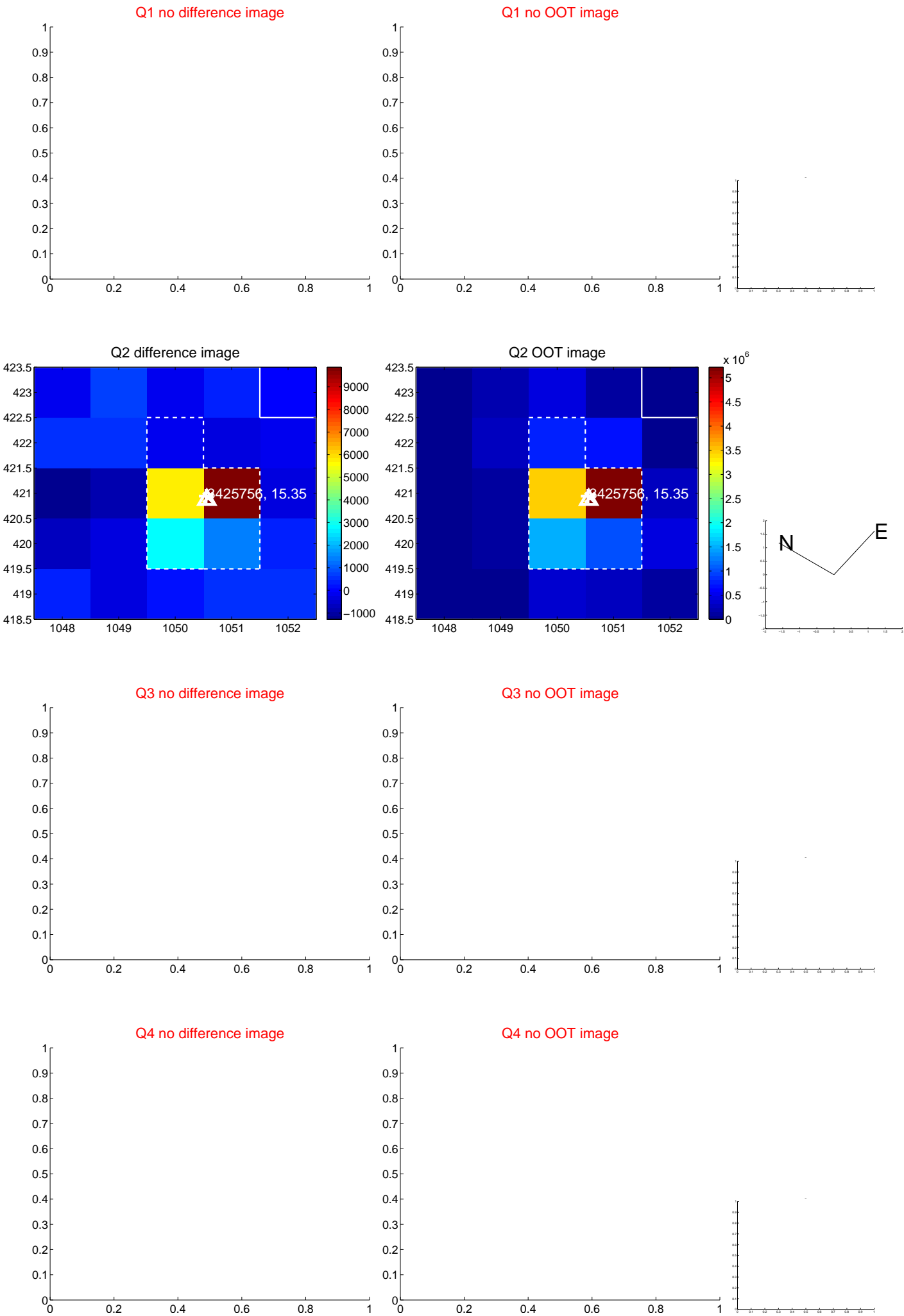
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.264 ± 0.201	1.31	-0.135 ± 0.123	-0.227 ± 0.174
PRF-fit source offset from KIC position	0.144 ± 0.157	0.92	-0.131 ± 0.154	-0.060 ± 0.169
photometric centroid source offset	0.48 ± 0.63	0.76	0.39 ± 0.61	-0.28 ± 0.66



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.

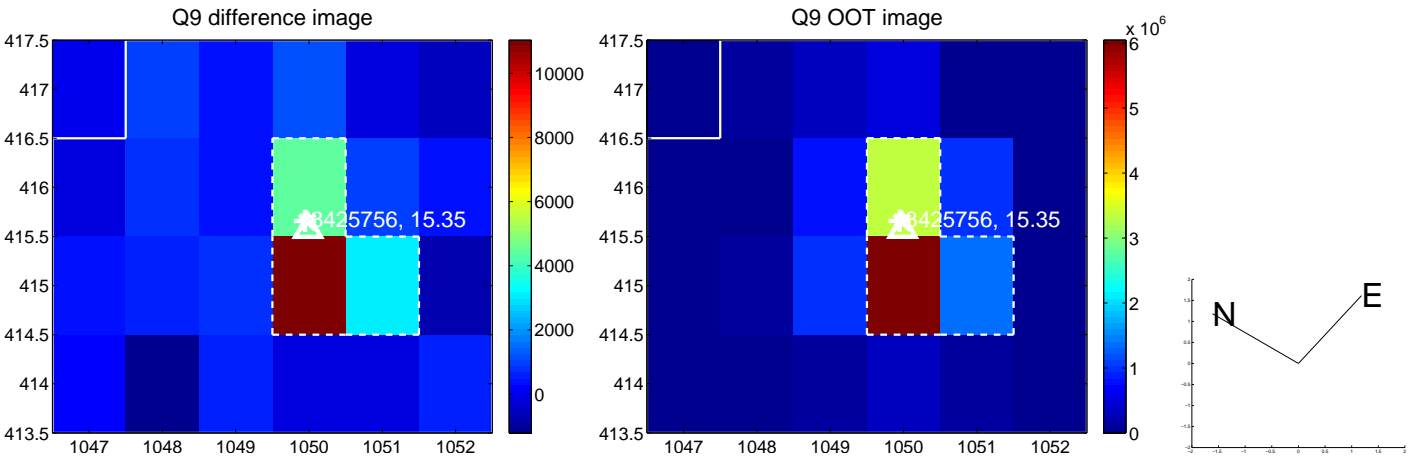
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



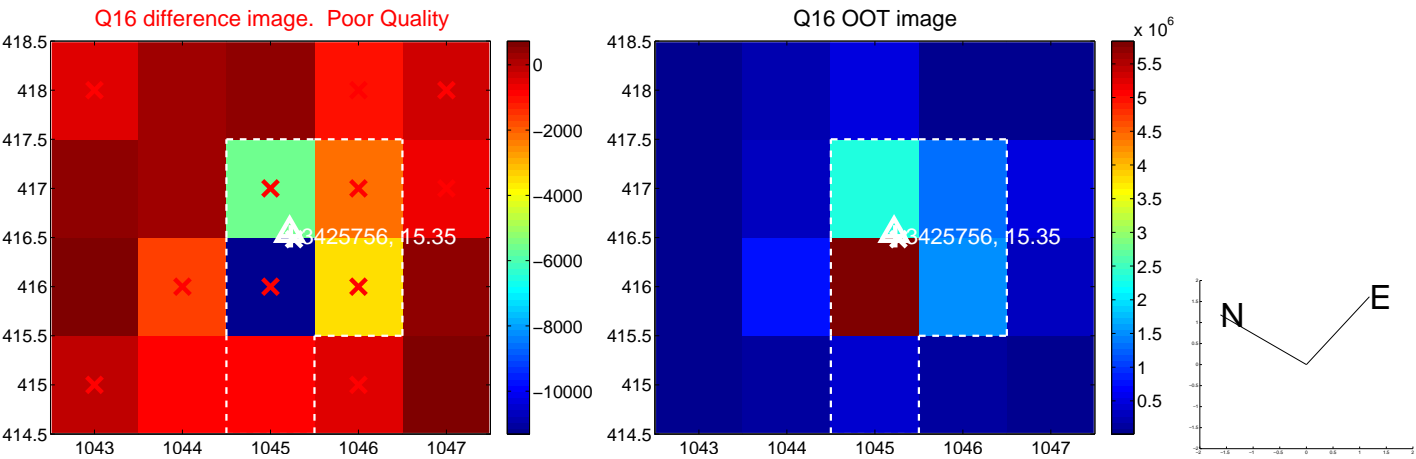
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



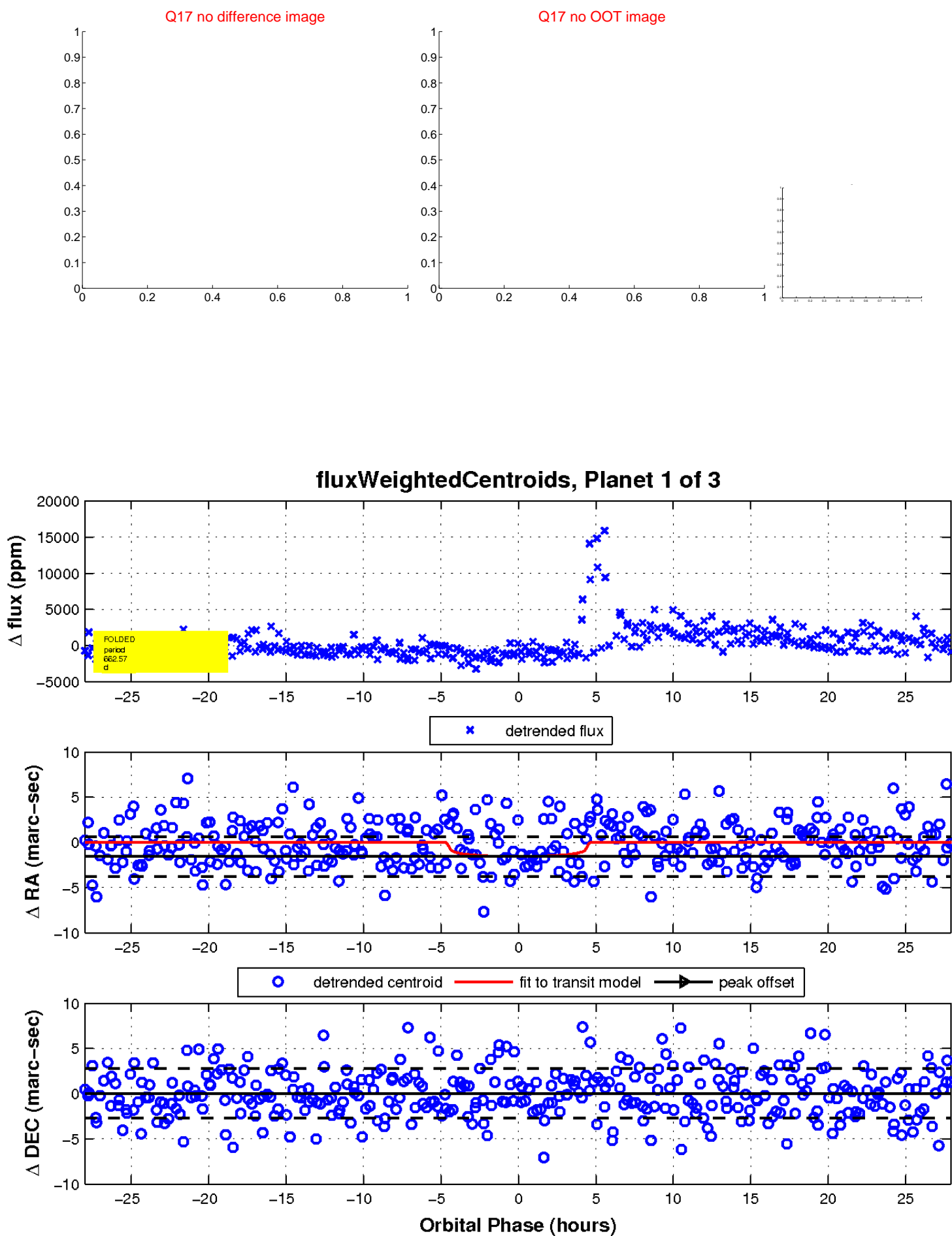
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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

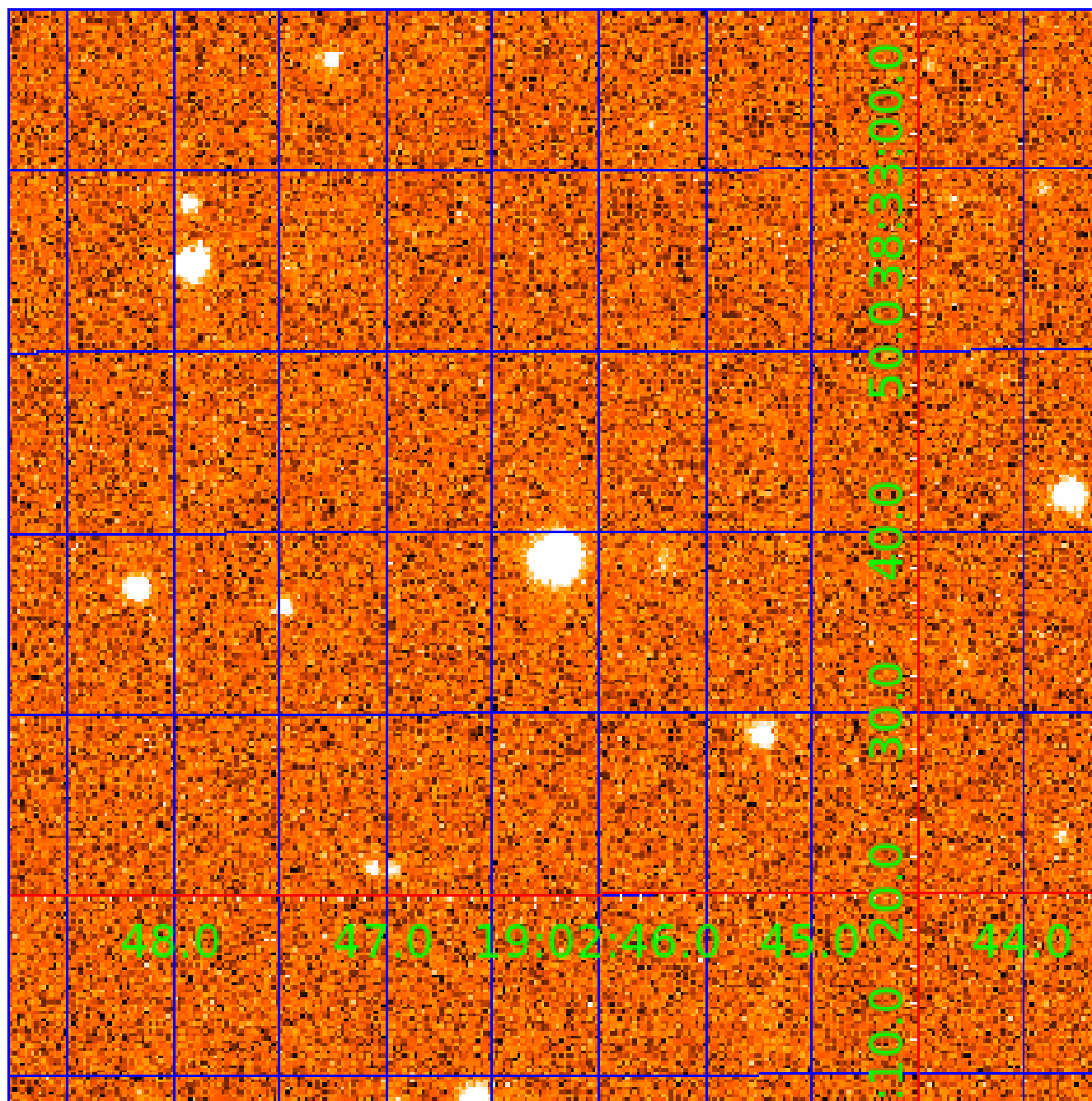


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003425756

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})
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003425756-02	OBS	No	562.236546	236.600467	1822.6	5.038	11.1	6.5	0.73	5600	3.11	0.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003425756-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
003425756-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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.

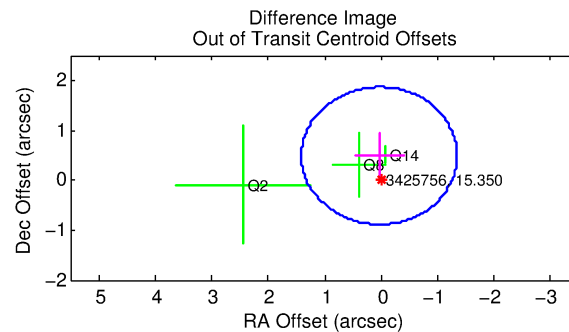
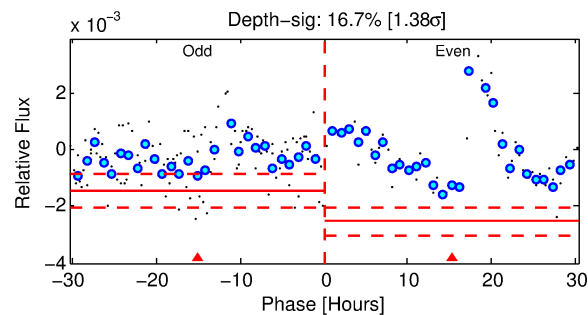
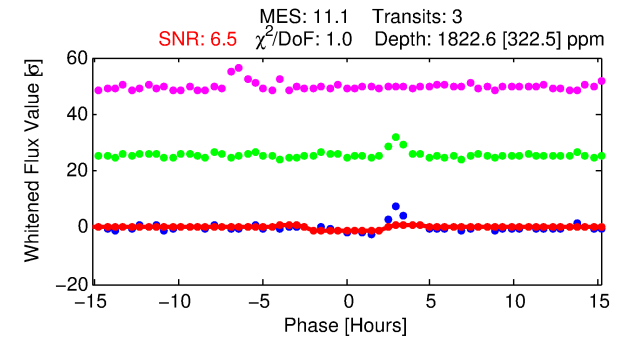
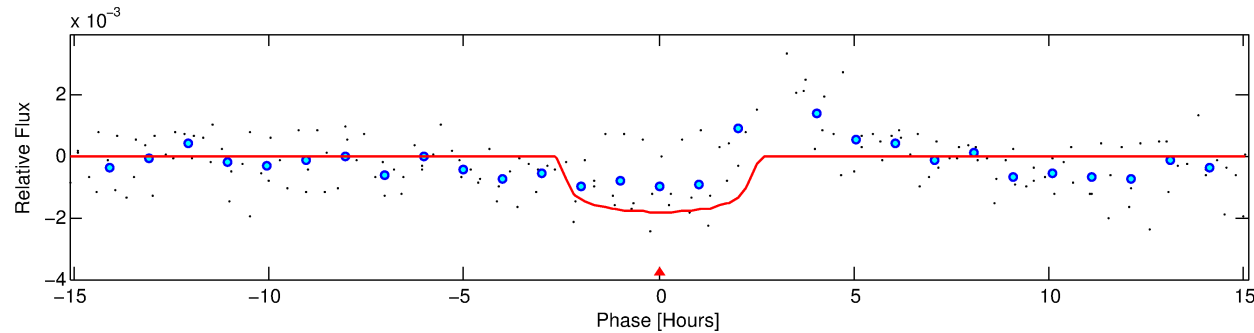
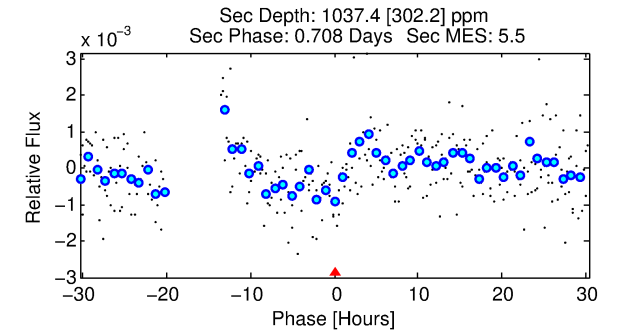
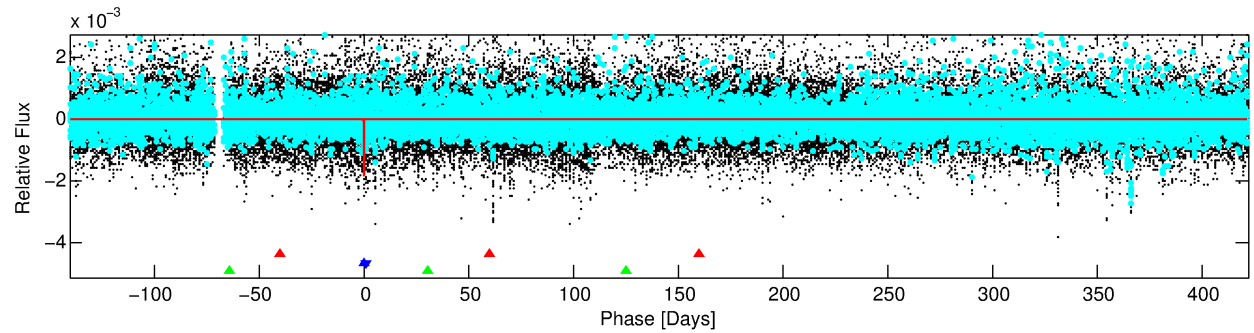
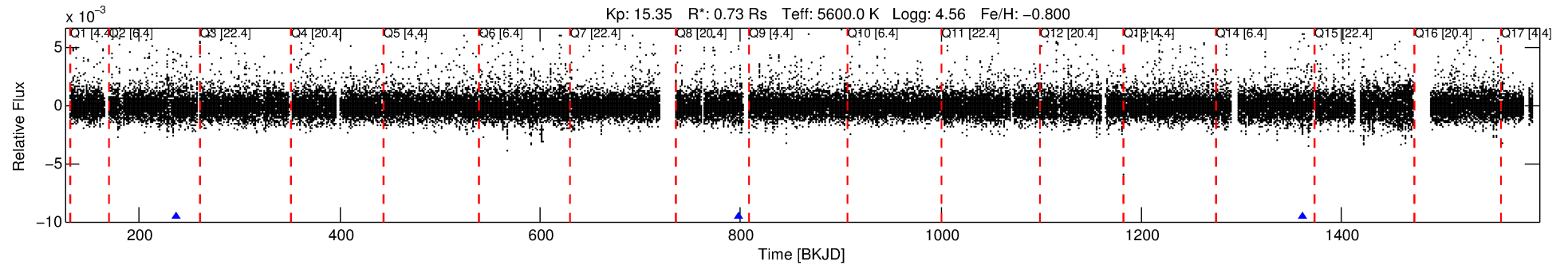
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003425756-02

No Significant Match Found

DV One-Page Summary

KIC: 3425756 Candidate: 2 of 3 Period: 562.237 d



DV Fit Results:

Period = 562.23655 [0.00663] d
Epoch = 236.6005 [0.0080] BKJD
Rp/R* = 0.0390 [0.0527]
a/R* = 882.48 [5557.92]
b = 0.09 [70.60]
Seff = 0.33 [0.07]
Teq = 194 [10] K
Rp = 3.11 [4.22] Re
a = 1.1892 [0.1387] AU
Ag = 83401.45 [226916.60] [0.37 σ]
Teffp = 5089 [3459] K [1.42 σ]

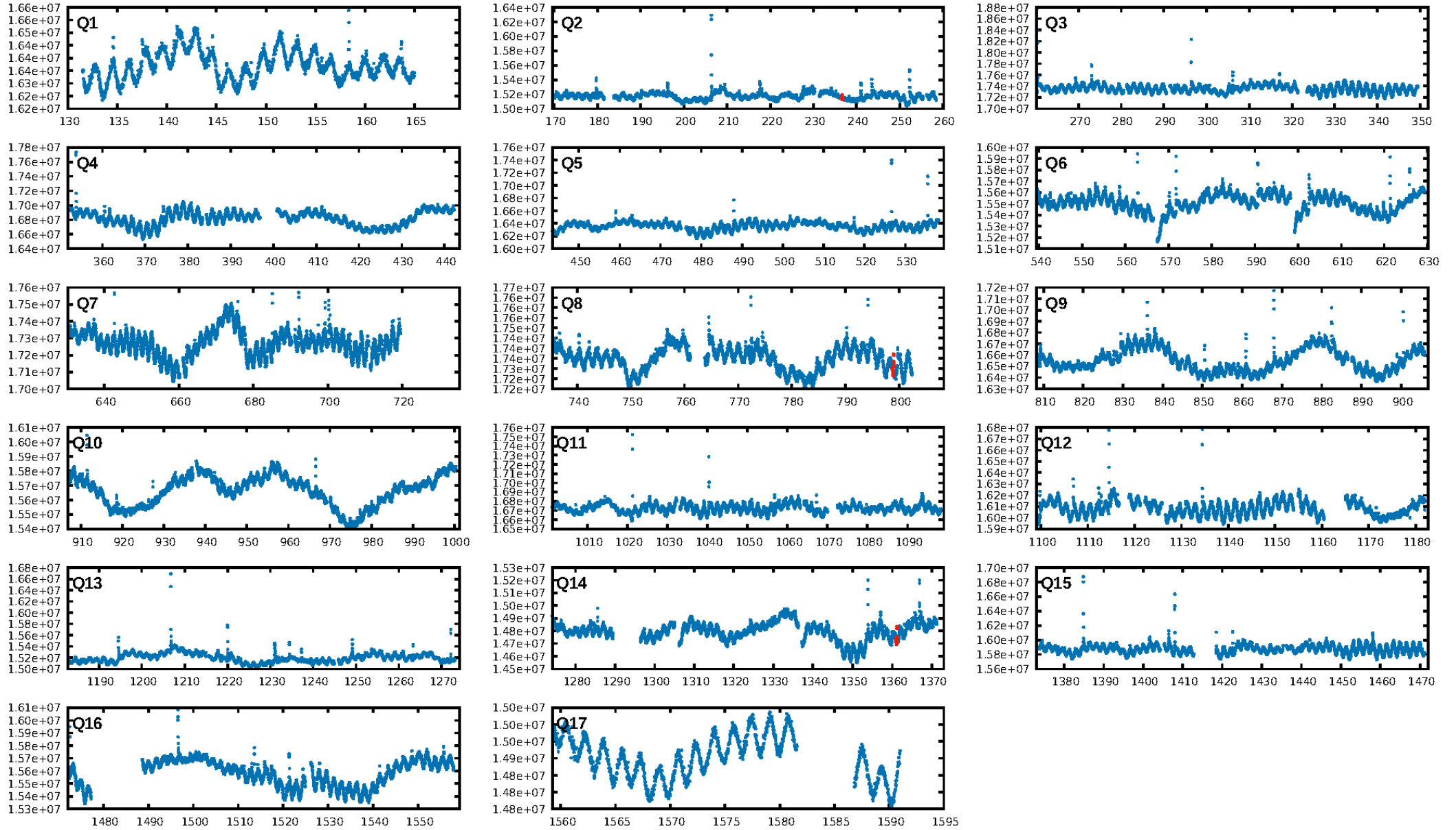
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [381.27 σ]
LongPeriod-sig: 100.0% [226.94 σ]
ModelChiSquare2-sig: 0.9%
ModelChiSquareGof-sig: 88.5%
Bootstrap-pfa: 1.22e-09
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.178
Centroid-sig: 35.8%
Centroid-so: 0.405 arcsec [0.42 σ]
OotOffset-rm: 0.489 arcsec [1.07 σ]
OotOffset-st: 2/0/1/0 [3]
KicOffset-rm: 0.763 arcsec [1.66 σ]
KicOffset-st: 2/0/1/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

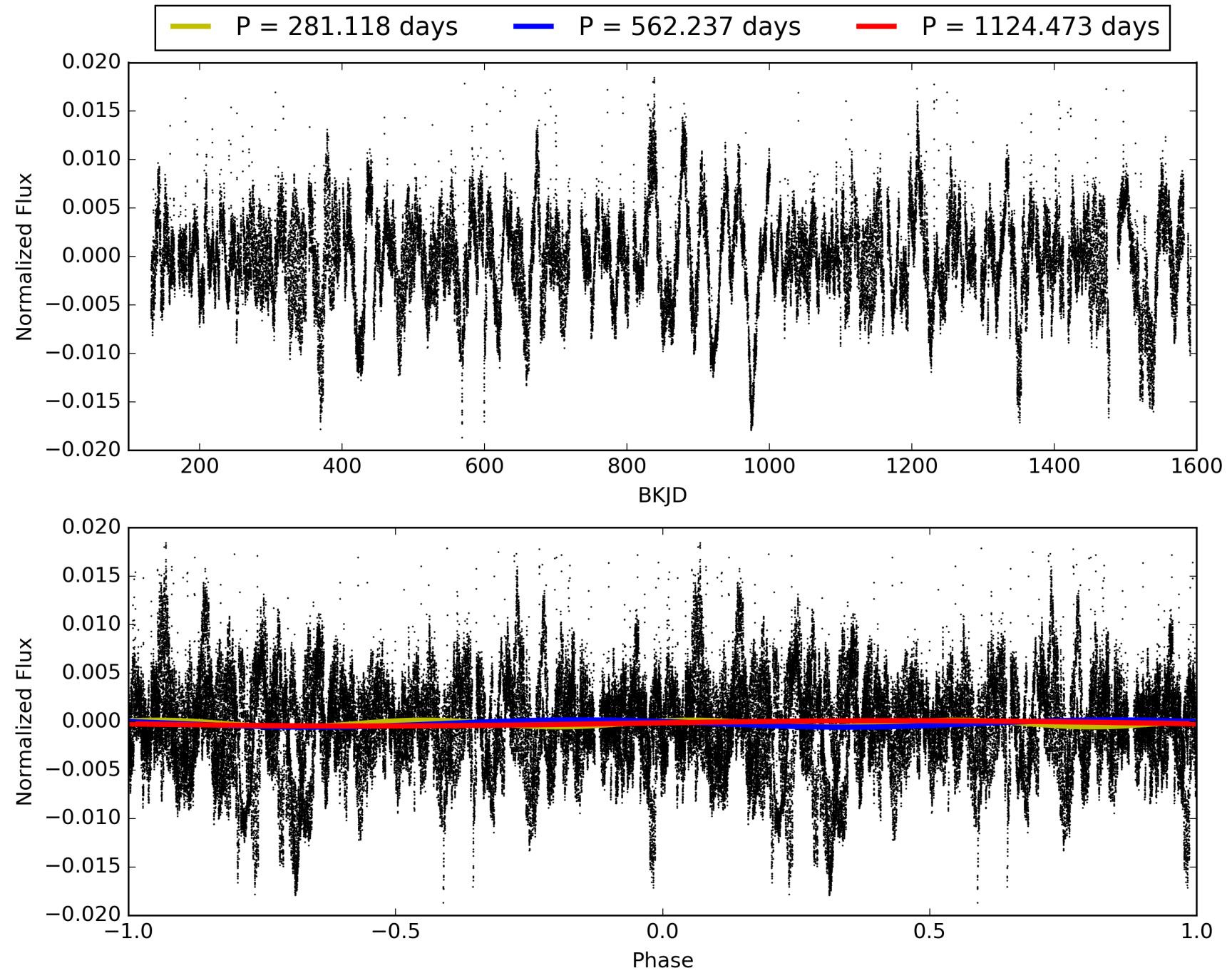
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 04:53:55 Z

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

TCE 003425756-02, PDC Light Curves

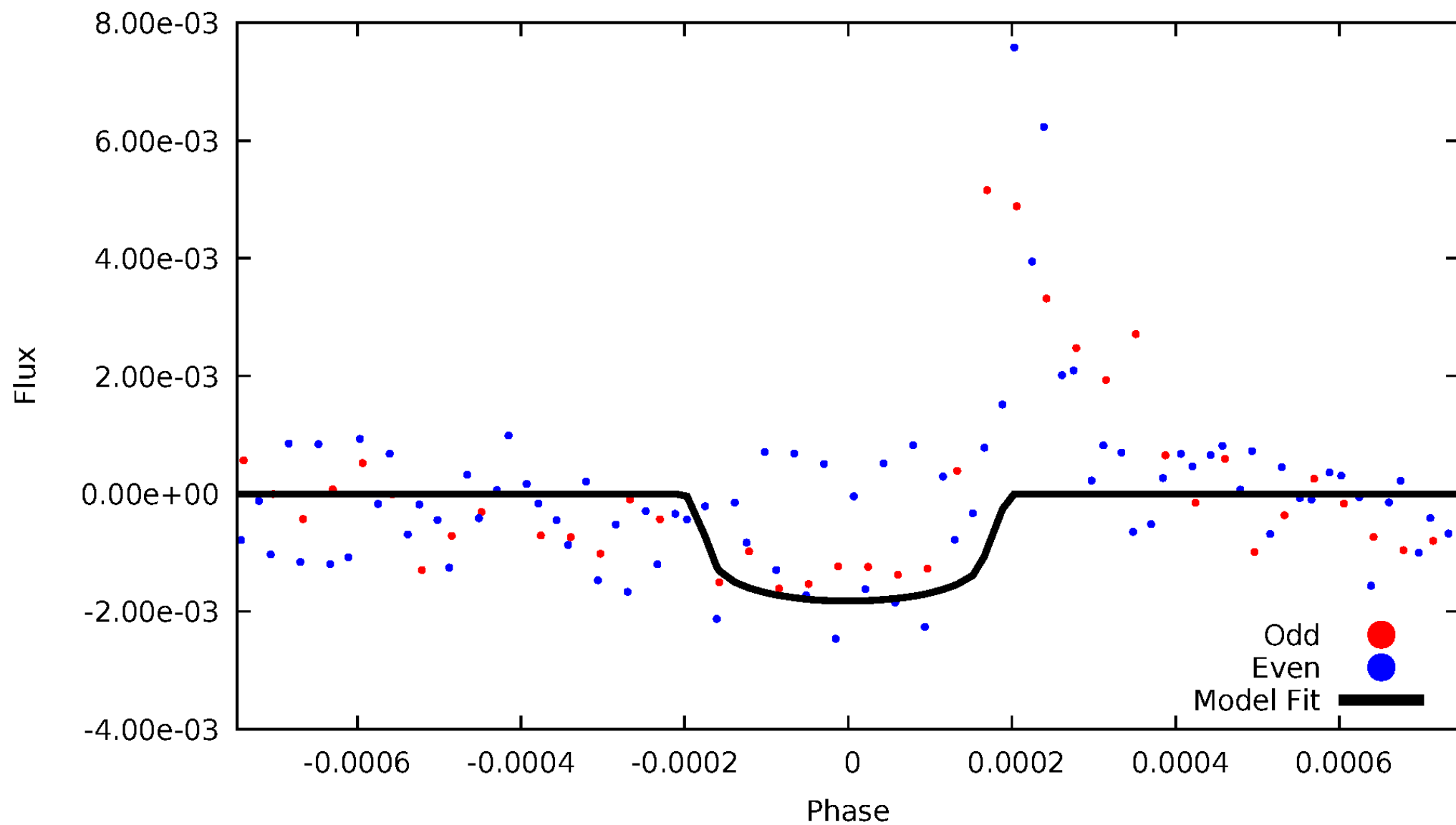


TCE 003425756-02



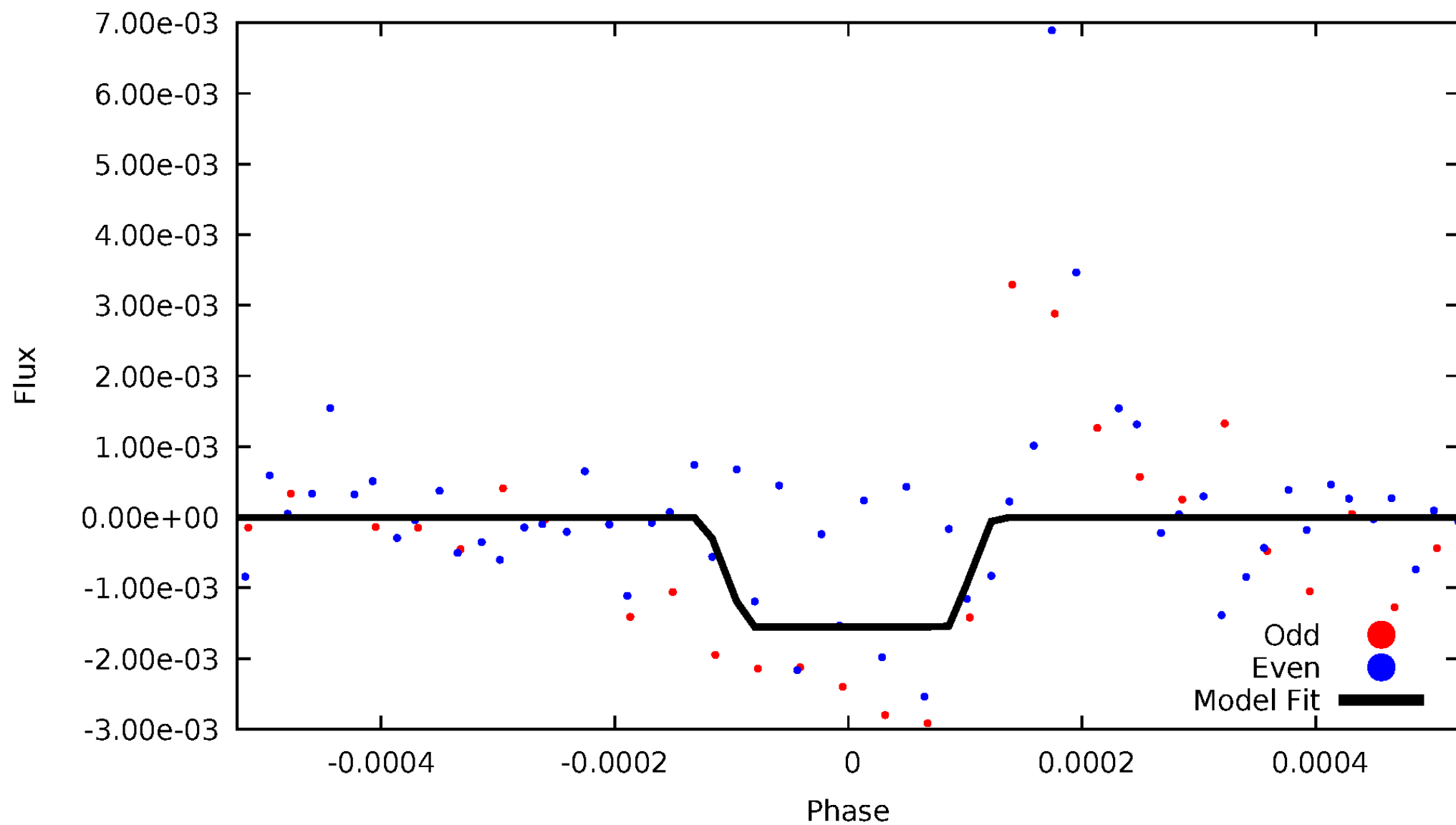
DV Odd/Even

TCE 003425756-02



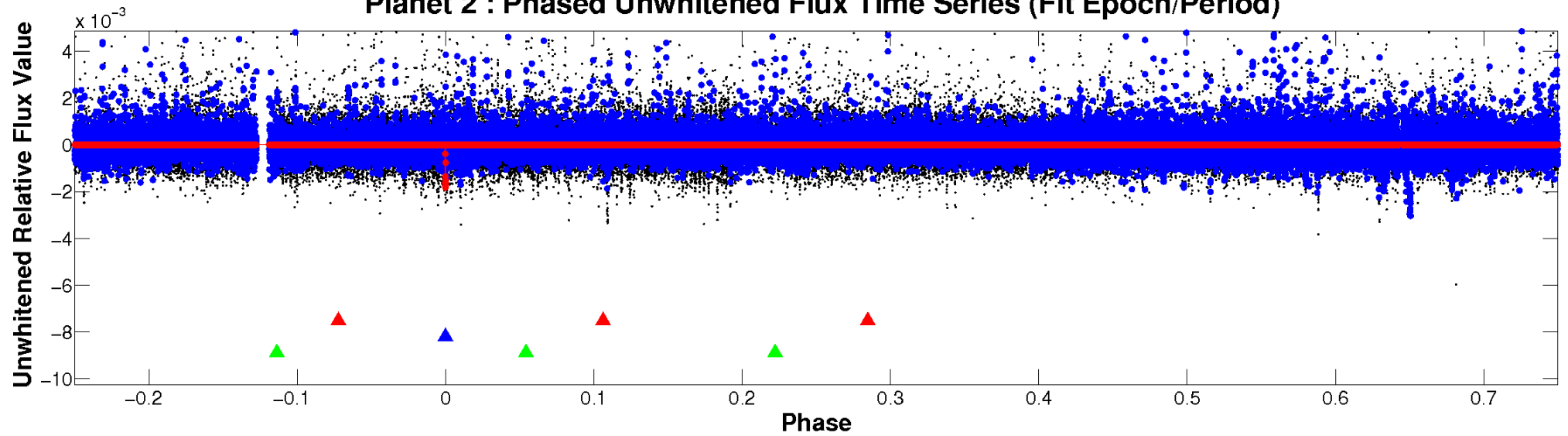
ALT Odd/Even

TCE 003425756-02

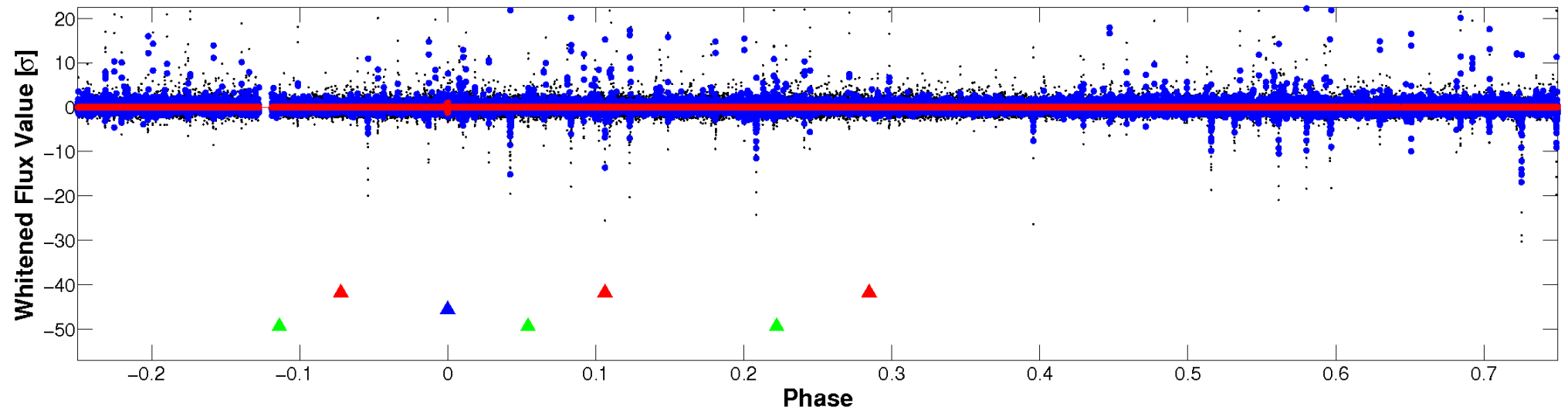


Non-Whitened Vs. Whitened Light Curve

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

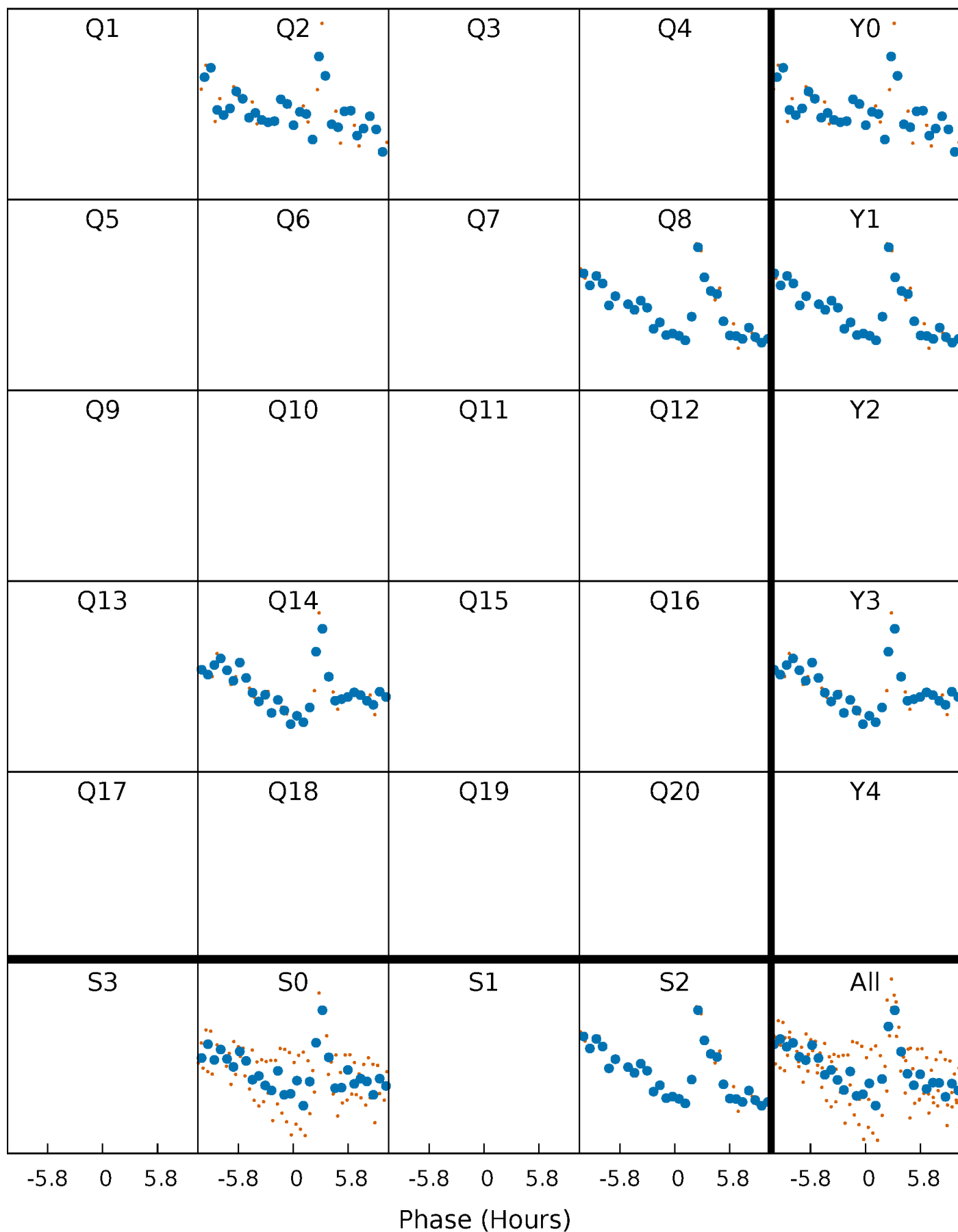


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



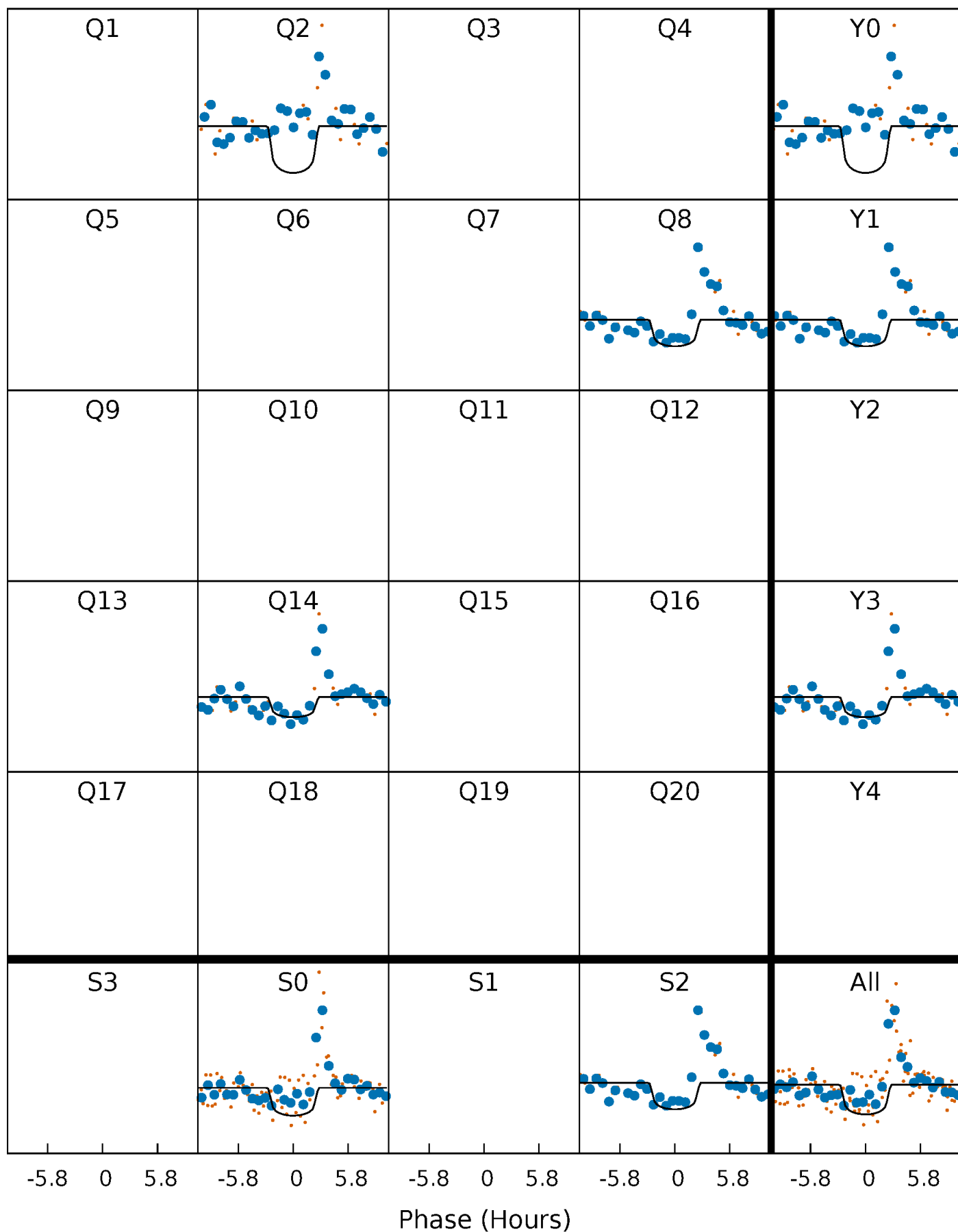
PDC Quarter-Phased Transit Curves

TCE 003425756-02 P=562.236546 Days $T_0=236.600467$ (BKJD)



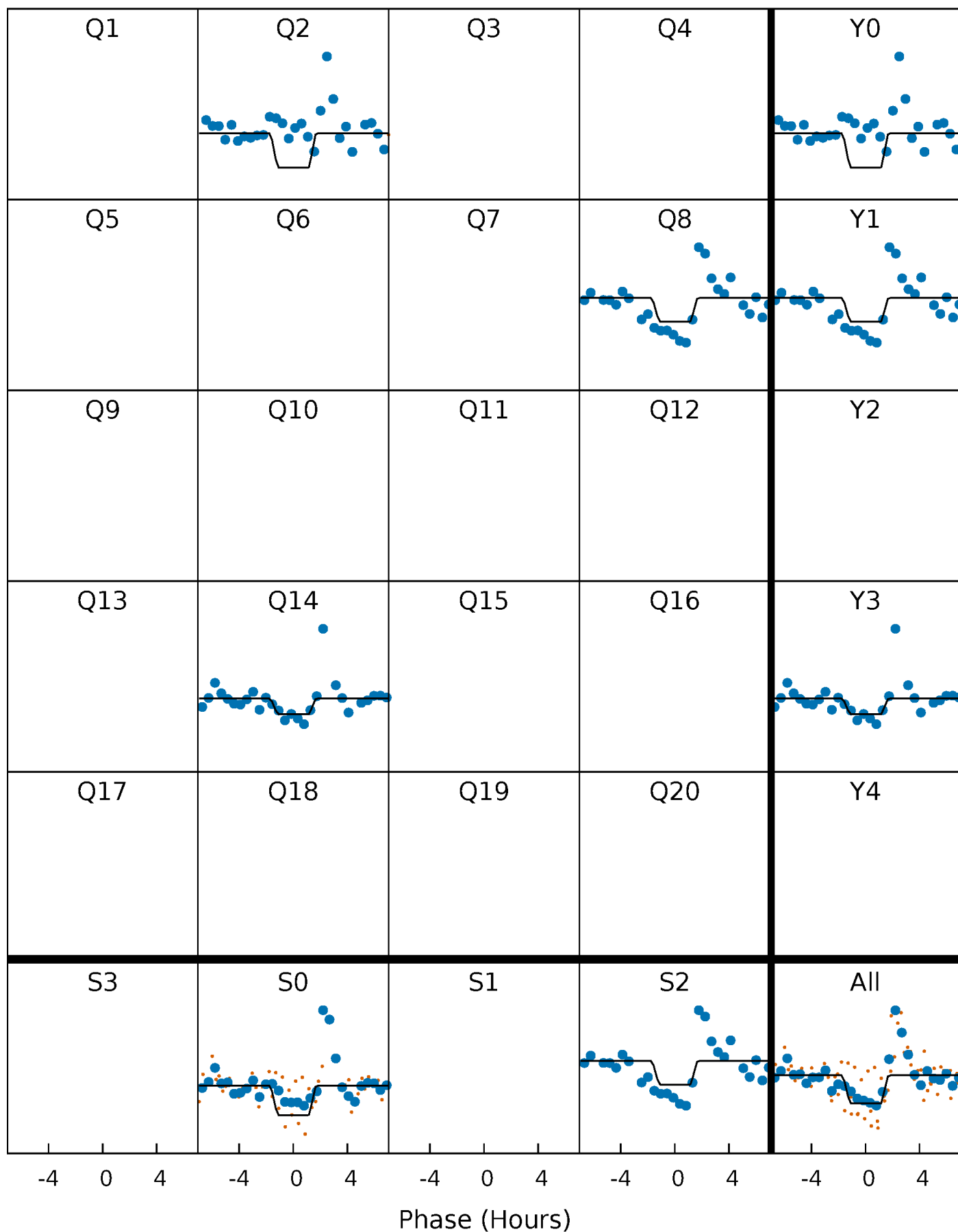
DV Quarter-Phased Transit Curves

TCE 003425756-02 P=562.236546 Days $T_0=236.600467$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

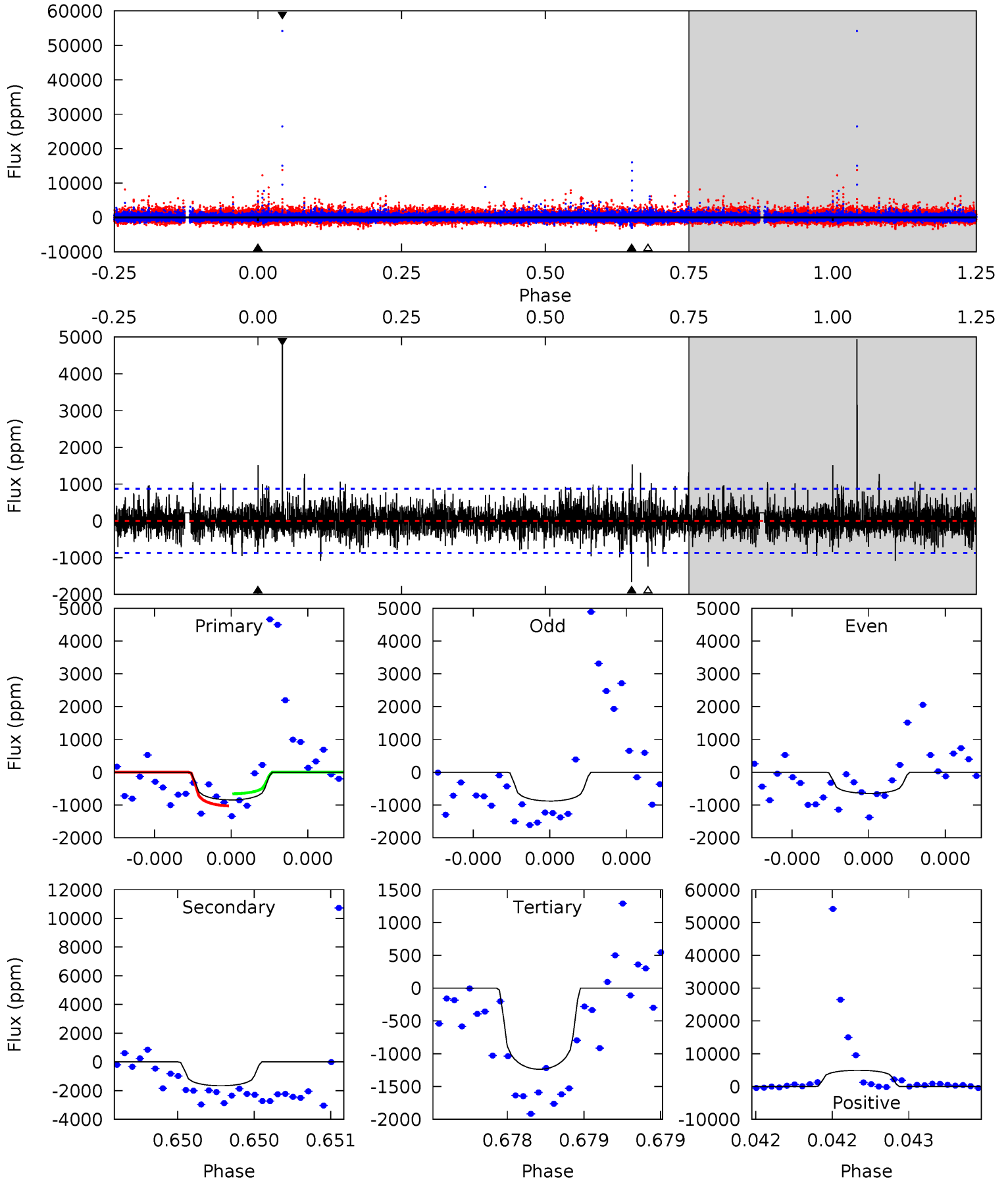
TCE 003425756-02 P=562.236215 Days $T_0=236.617114$ (BKJD)



DV Model-Shift Uniqueness Test

003425756-02, P = 562.236546 Days, E = 236.600467 Days

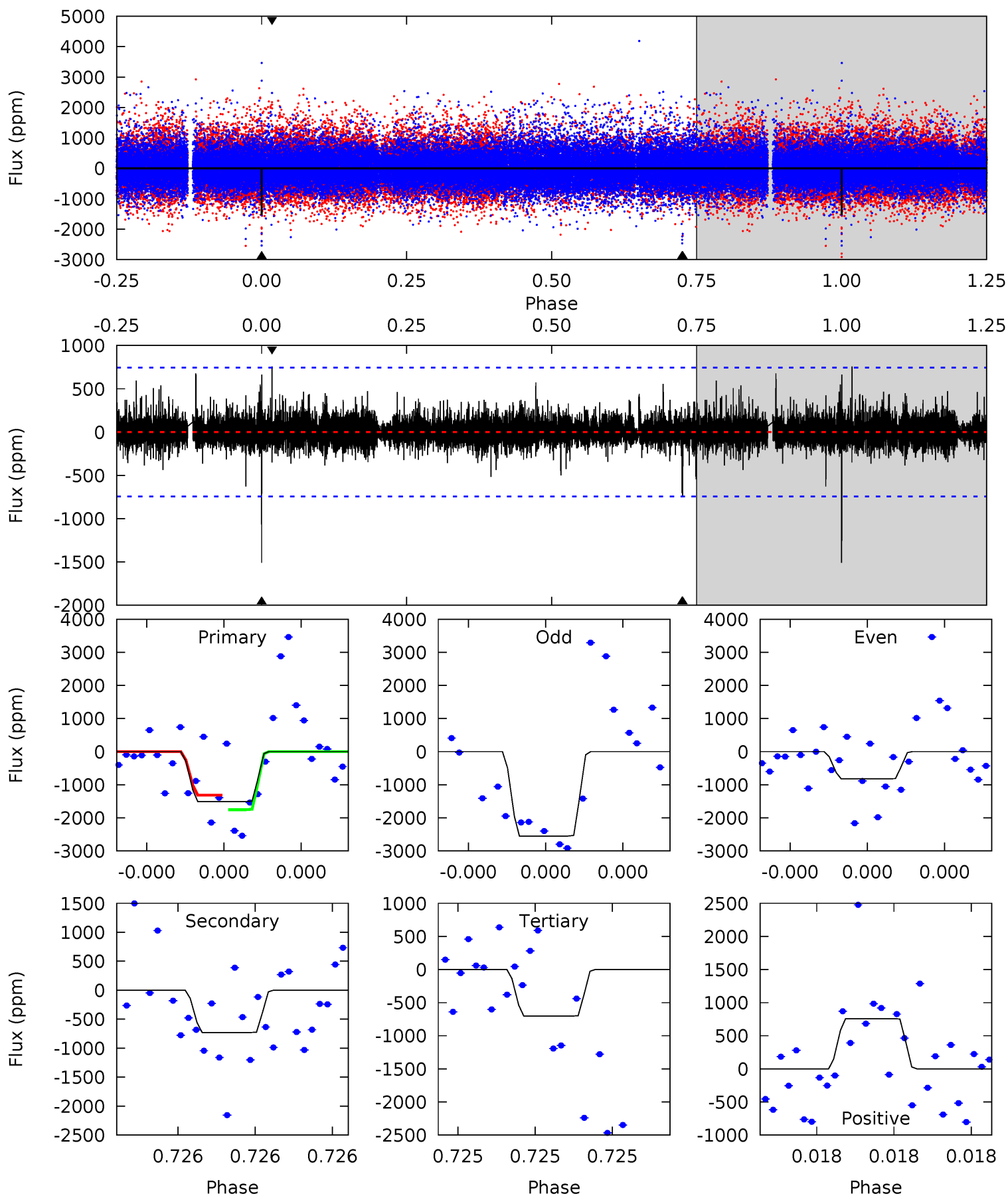
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.44	10.7	7.96	31.8	5.62	3.56	1.84	-2.53	-26.4	2.75	-21.1	0.50	0.82	0.75	1.20



Alt Model-Shift Uniqueness Test

003425756-02, P = 562.236215 Days, E = 236.617114 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	5.60	5.39	5.81	5.70	3.68	0.82	6.16	5.74	0.21	-0.21	6.40	0.74	0.33	1.68



Stellar Parameters For KIC 003425756

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5600^{+183}_{-166}	$4.561^{+0.085}_{-0.085}$	$-0.800^{+0.300}_{-0.300}$	$0.731^{+0.106}_{-0.070}$	$0.709^{+0.078}_{-0.039}$	$2.552^{+0.791}_{-0.718}$
	+3%/-3%	+2%/-2%	+37%/-37%	+15%/-10%	+11%/-6%	+31%/-28%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 003425756-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1664 ± 155	$4.45^{+3.84}_{-2.87}$	271^{+13}_{-12}	4937^{+3589}_{-1064}	$68058^{+459444}_{-48773}$
Alt.	-730 ± 130	$4.42^{+3.80}_{-2.77}$	271^{+12}_{-11}	4178^{+2240}_{-787}	$28841^{+176696}_{-20355}$

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 $A_{obs} \gg 1.0$

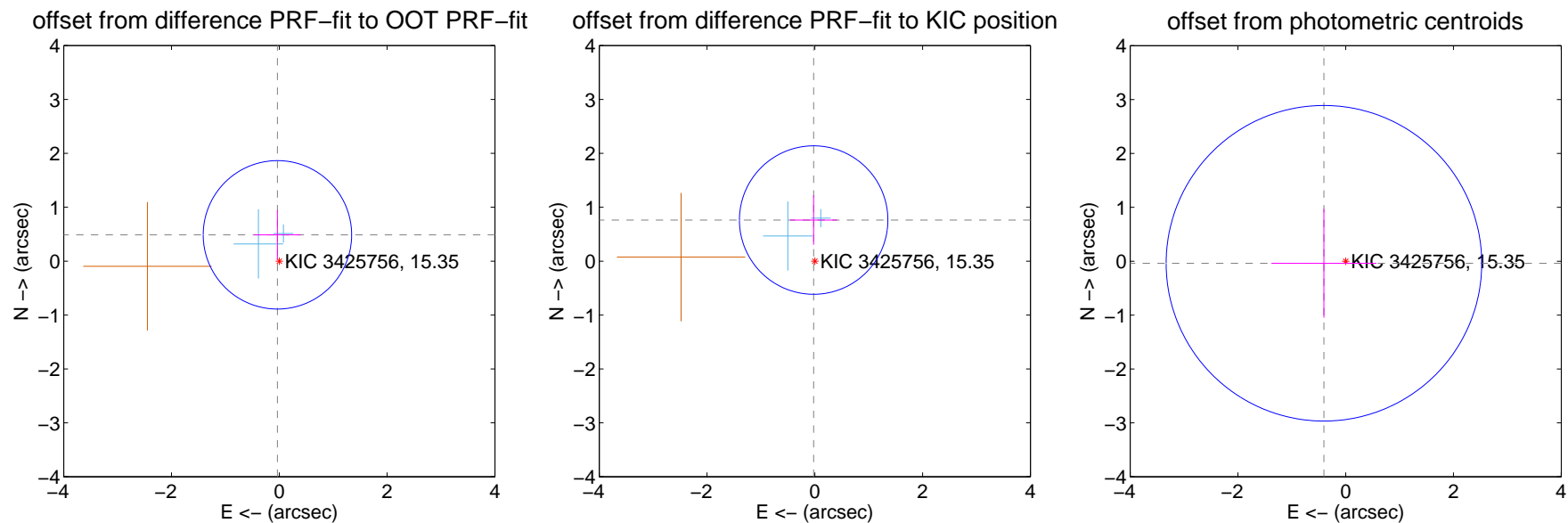
DV Centroid Data

Supplemental centroid analysis for 003425756-02. Kepler magnitude: 15.35. Transit SNR 6.53

There are 2 quarters with good PRF difference image offsets

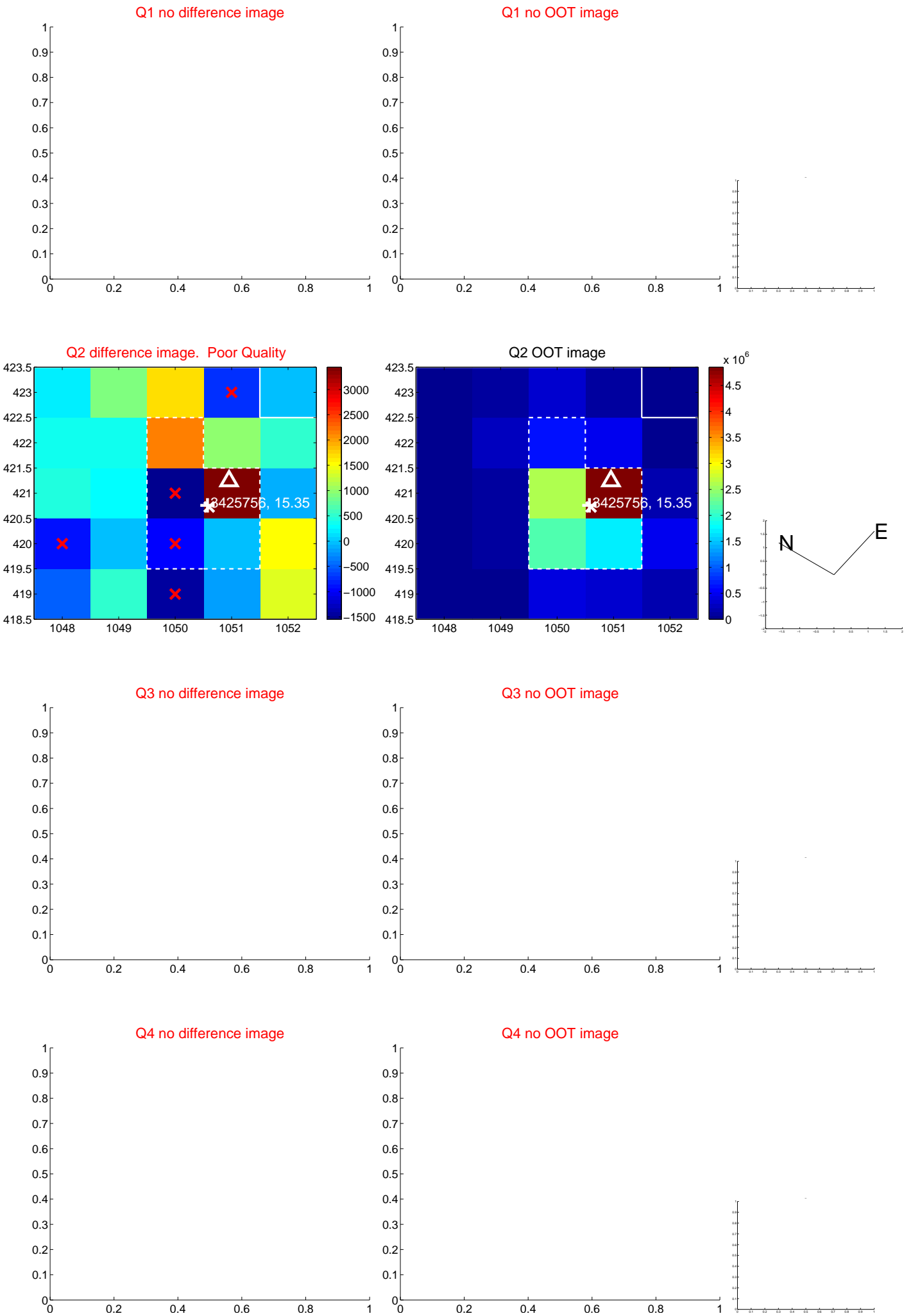
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.489 ± 0.459	1.07	0.035 ± 0.435	0.488 ± 0.459
PRF-fit source offset from KIC position	0.763 ± 0.459	1.66	0.022 ± 0.435	0.762 ± 0.459
photometric centroid source offset	0.41 ± 0.98	0.42	0.40 ± 0.98	-0.04 ± 1.01

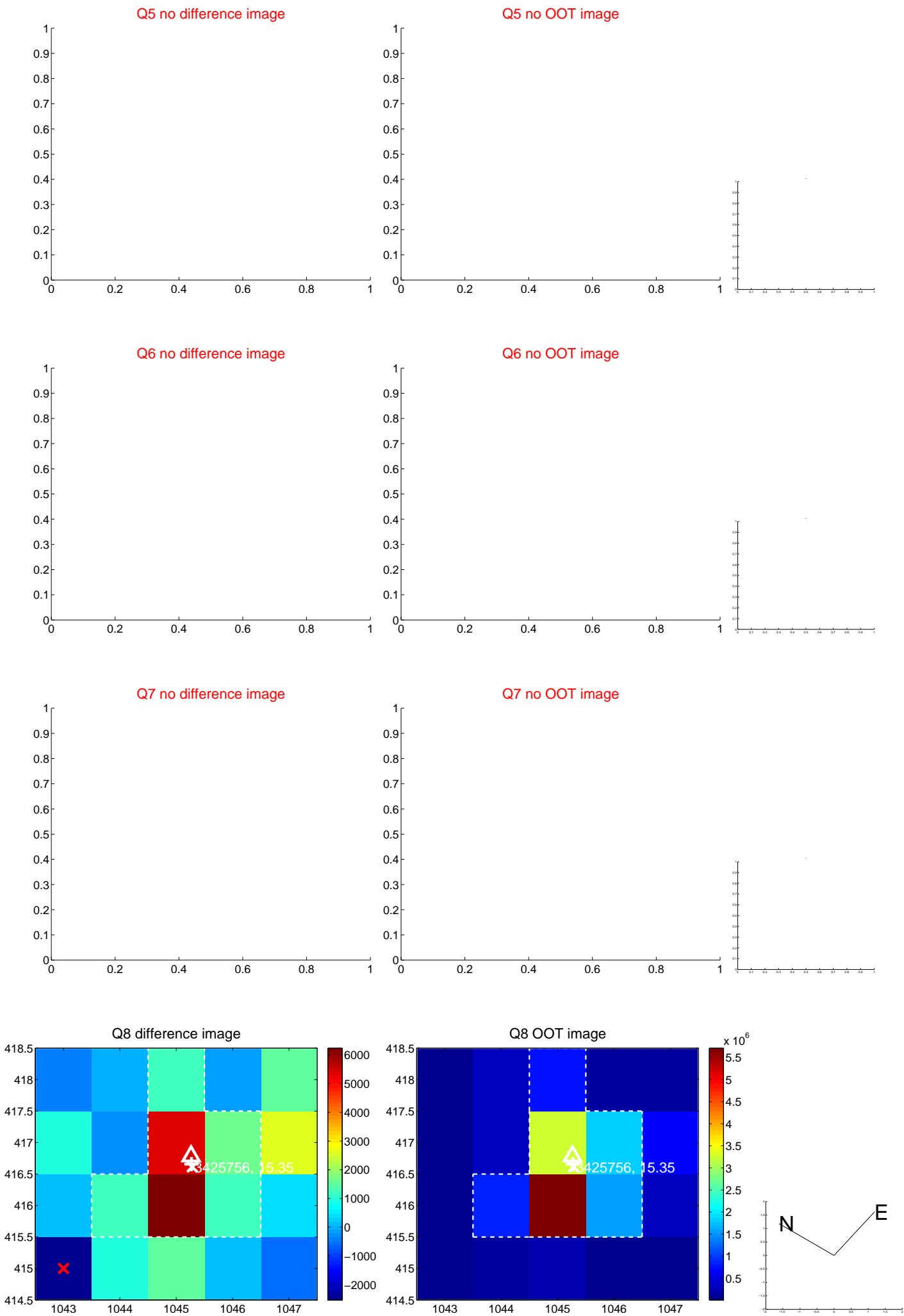


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



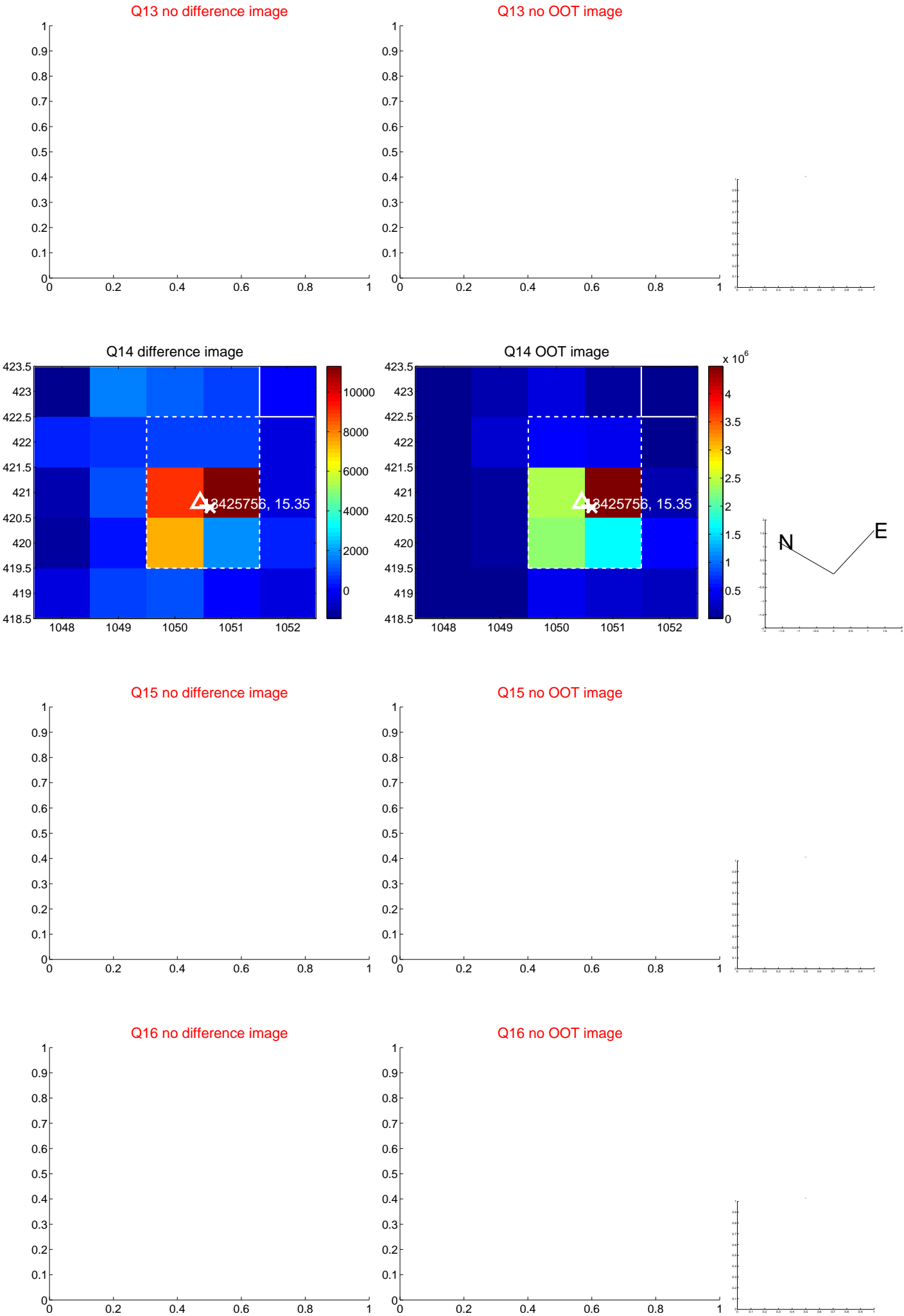
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



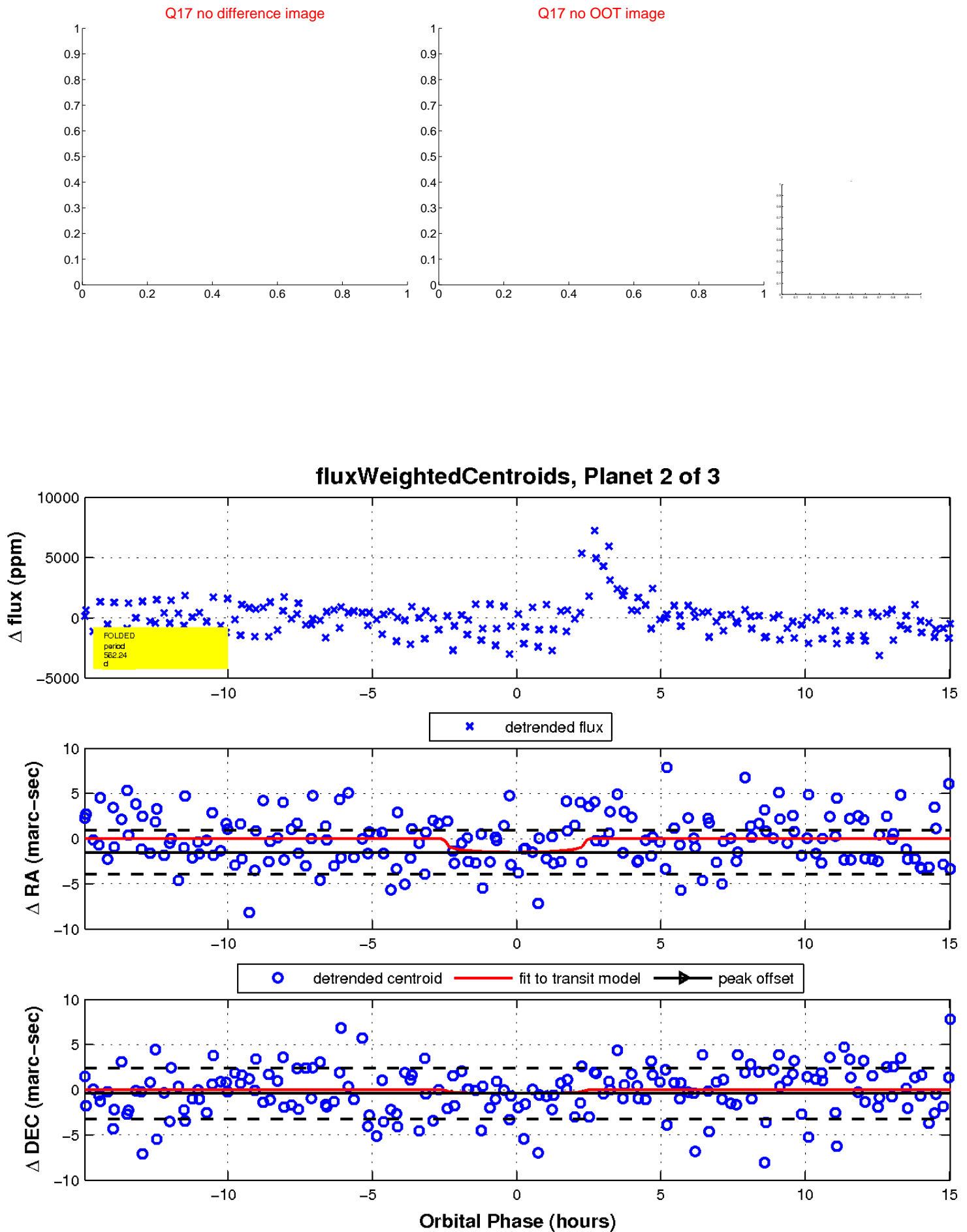
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

