

KIC 005358323

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})
005358323-01	OBS	No	1.296215	131.994527	179.3	3.000	8.3	-1.0	1.95	6988	2.65	11641.79
005358323-02	OBS	No	425.476252	268.340537	246.3	13.336	7.2	5.4	1.95	6988	3.41	5.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005358323-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
005358323-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

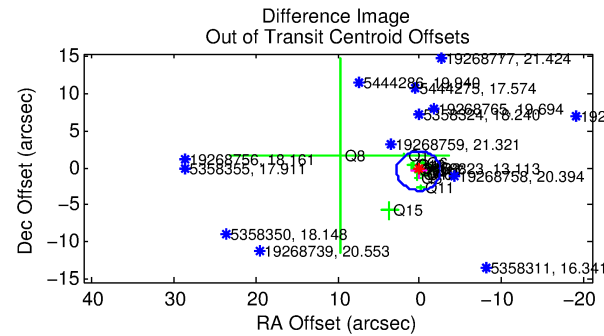
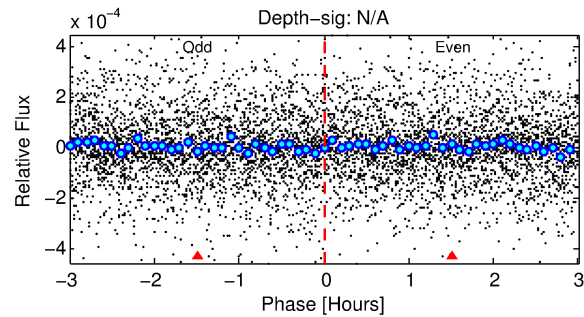
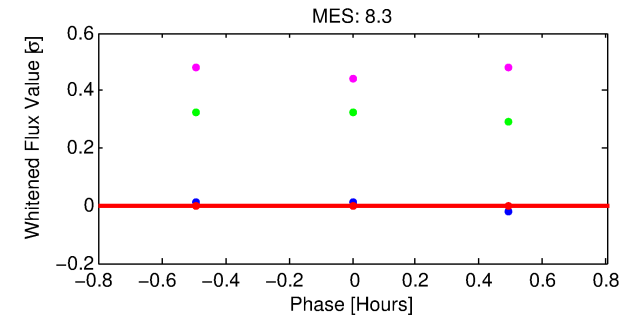
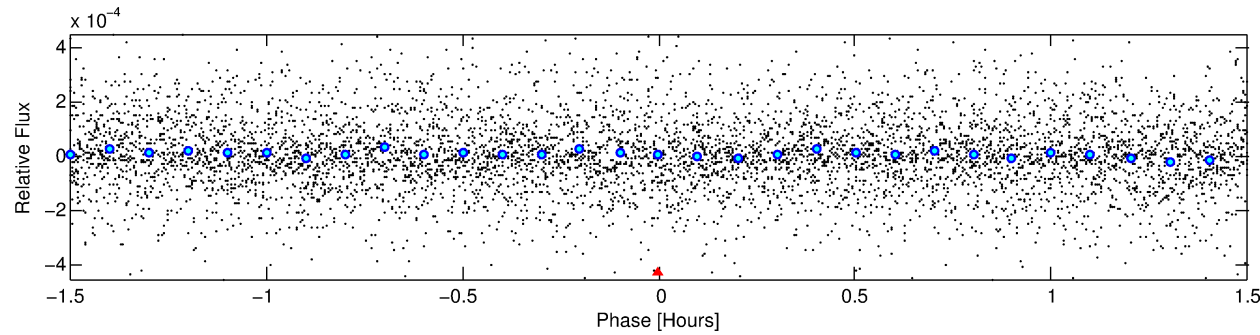
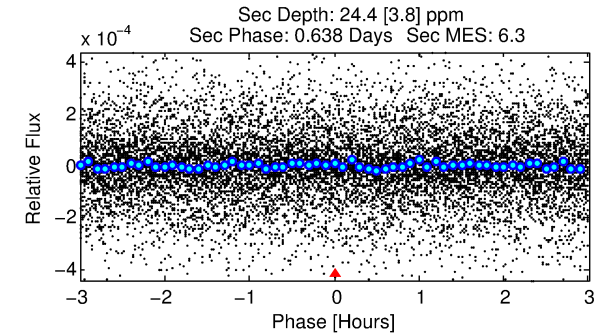
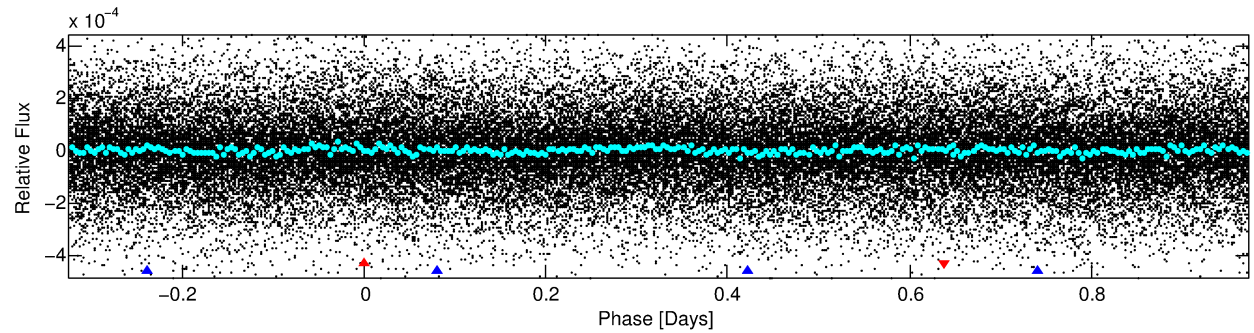
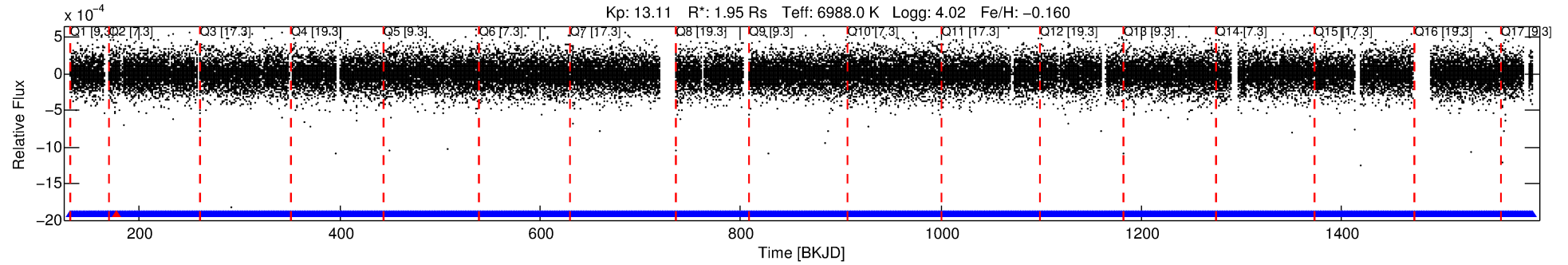
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005358323-01

No Significant Match Found

DV One-Page Summary

KIC: 5358323 Candidate: 1 of 2 Period: 1.296 d



TPS TCE Results:

Period = 1.29621 d
Epoch = 131.9945 BKJD

DV fit results are unavailable

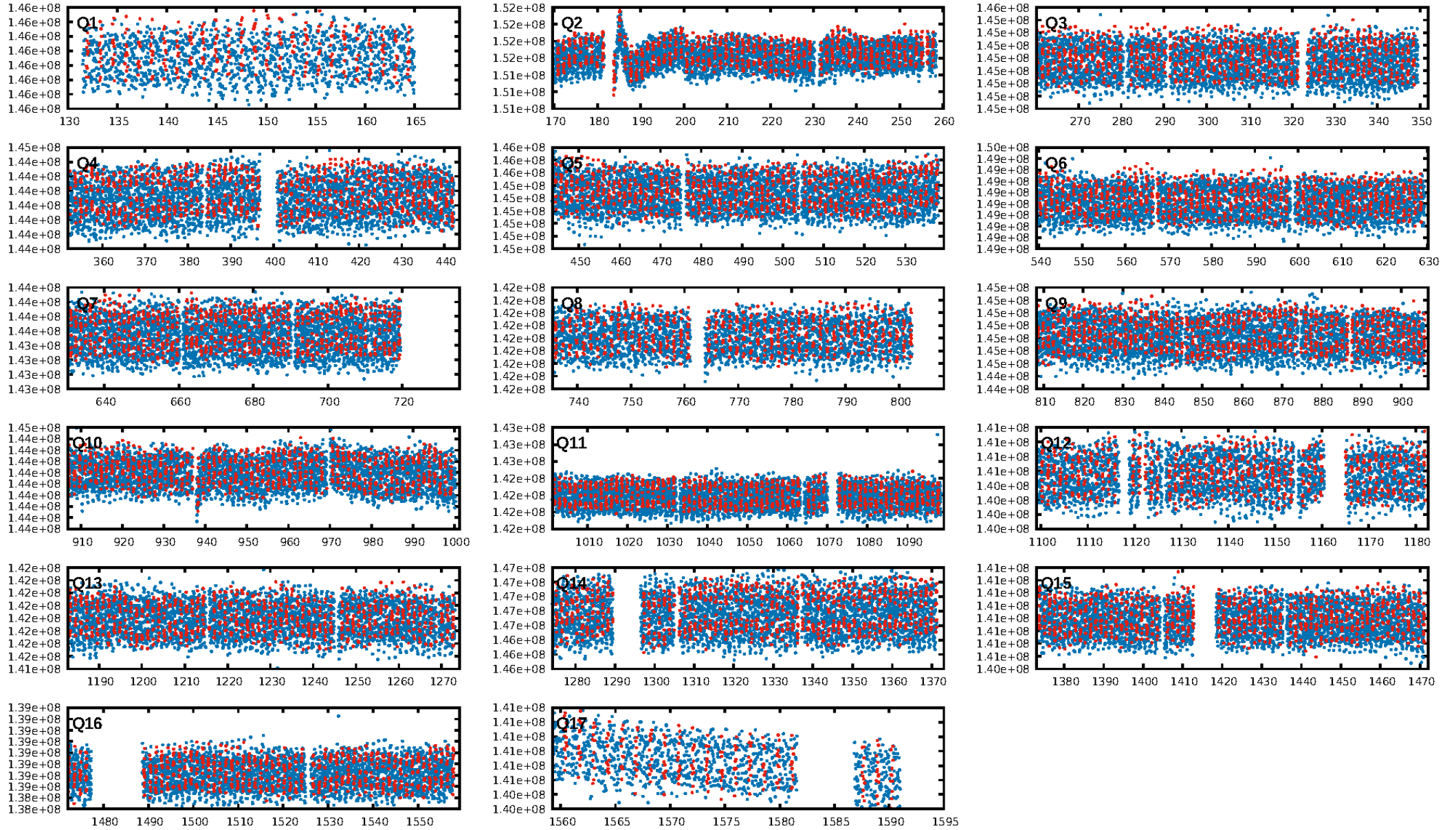
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [744.74]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.81e-13
RollingBand-fgt: 1.00 [982/983]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.452 arcsec [0.51]
KicOffset-rm: 0.370 arcsec [0.42]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.73 [11/15]
DiffImageOverlap-fno: 1.00 [17/17]

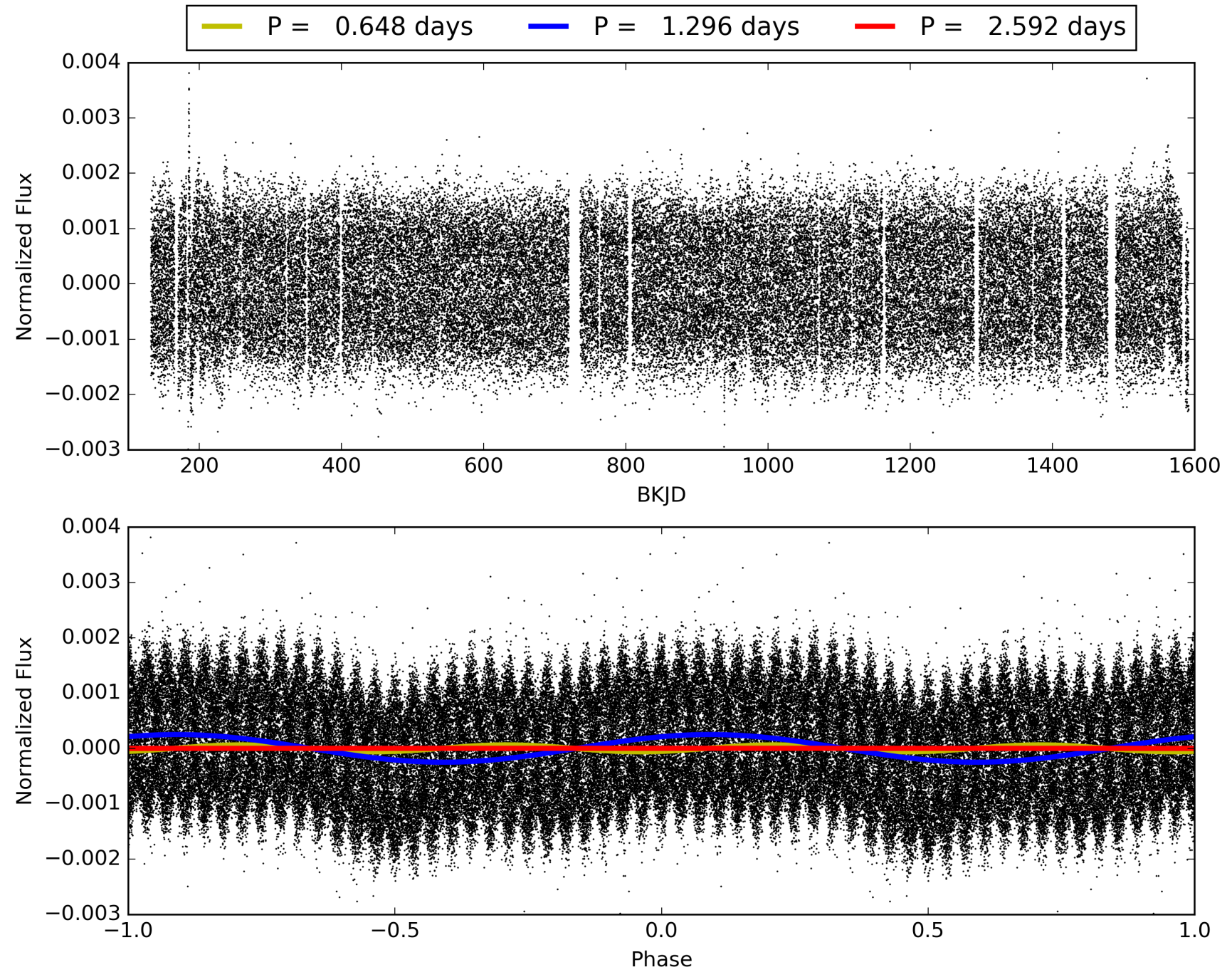
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005358323-01, PDC Light Curves

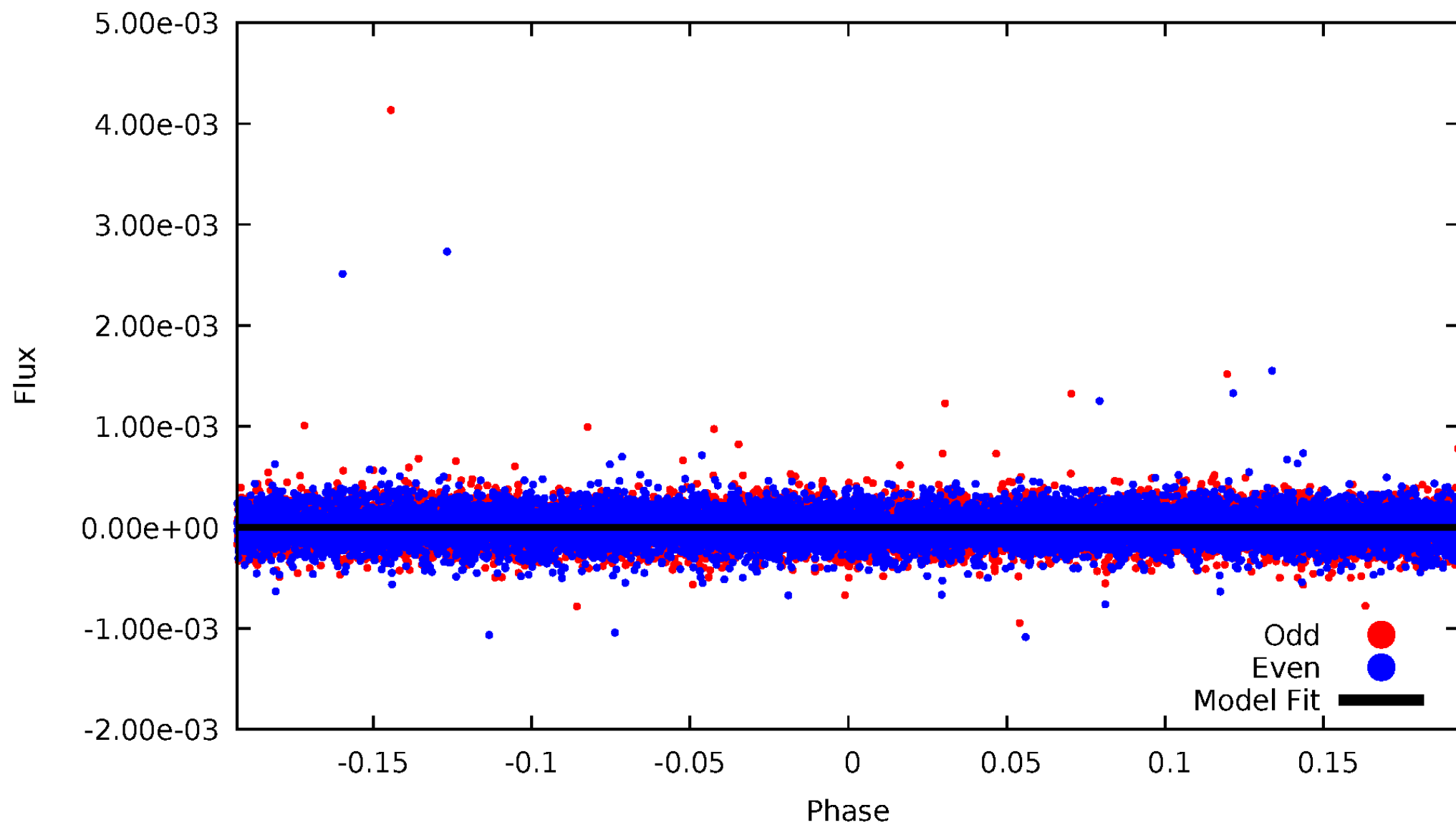


TCE 005358323-01



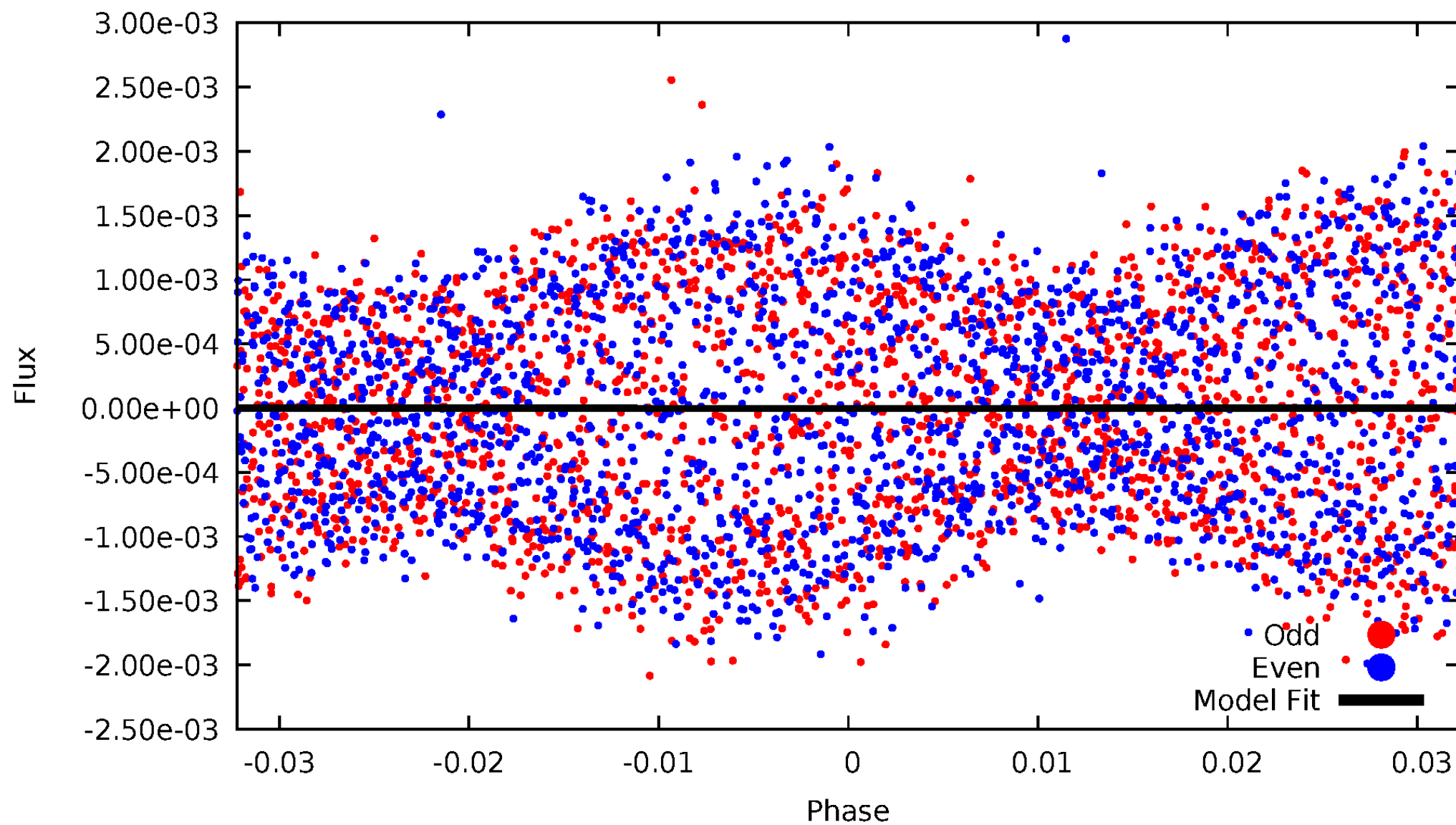
DV Odd/Even

TCE 005358323-01

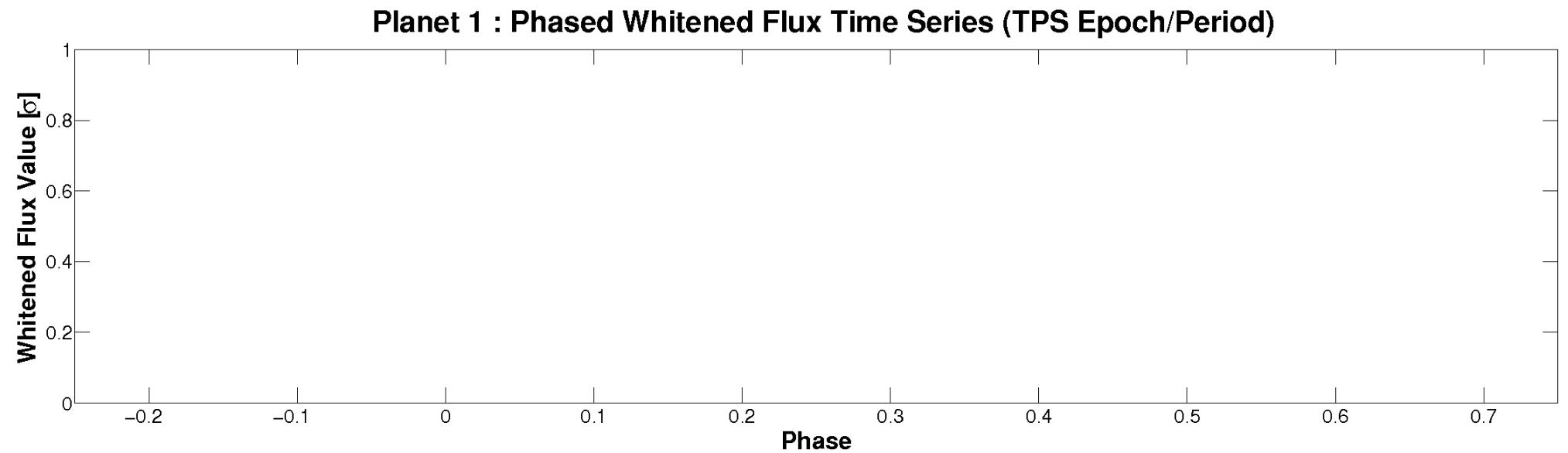
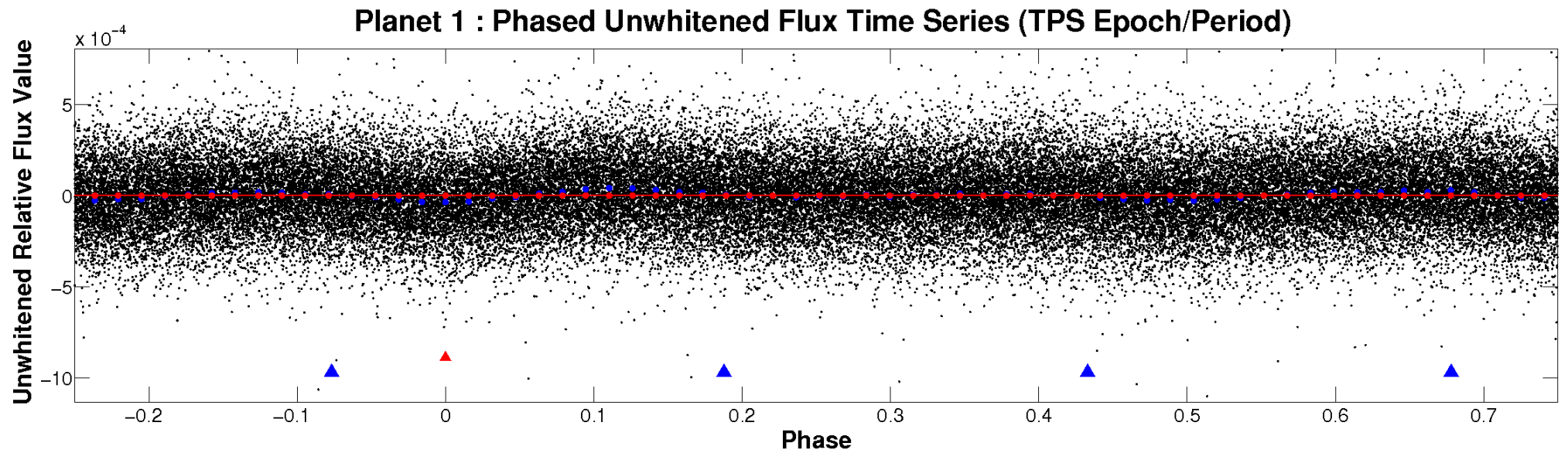


ALT Odd/Even

TCE 005358323-01

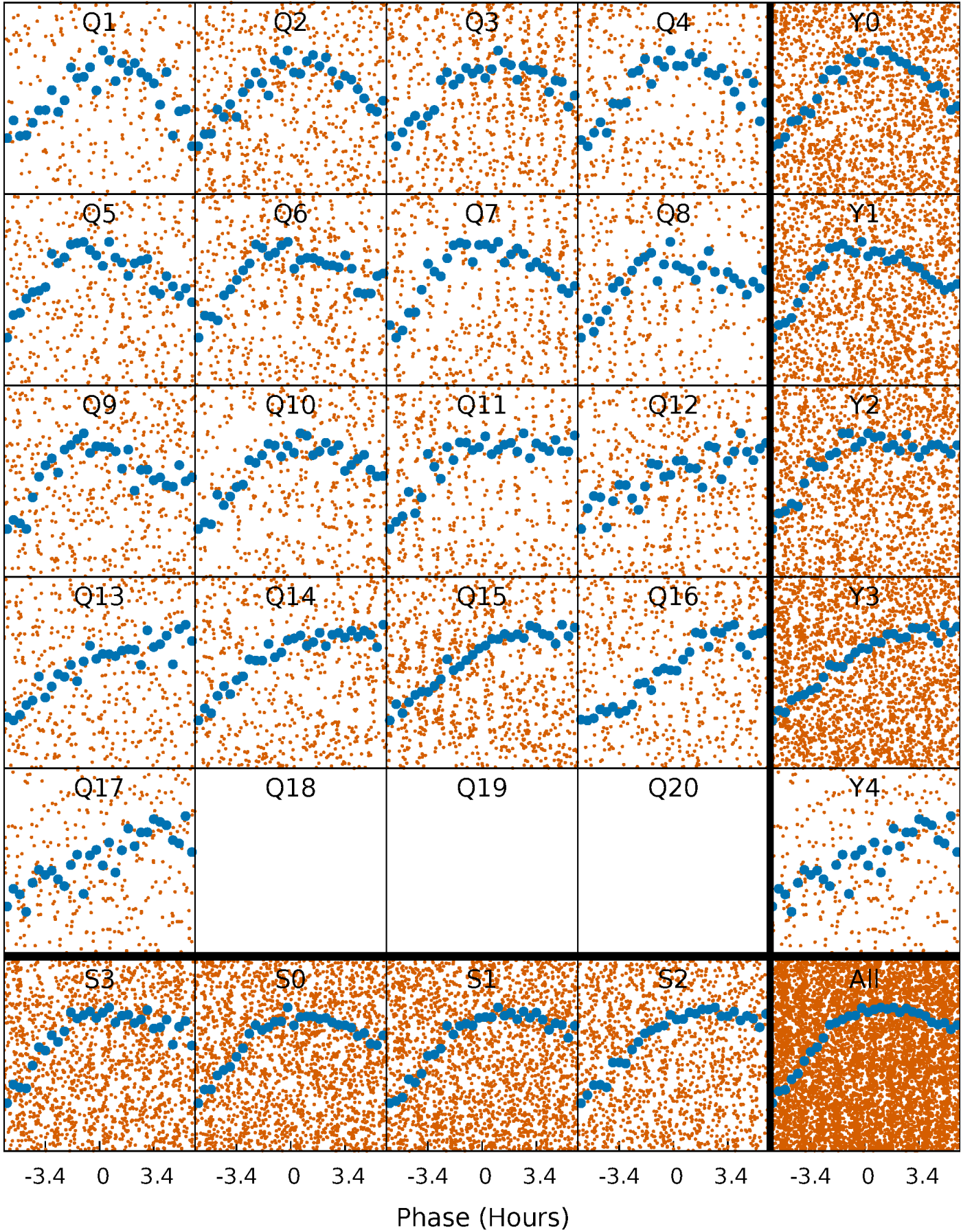


Non-Whitened Vs. Whitened Light Curve



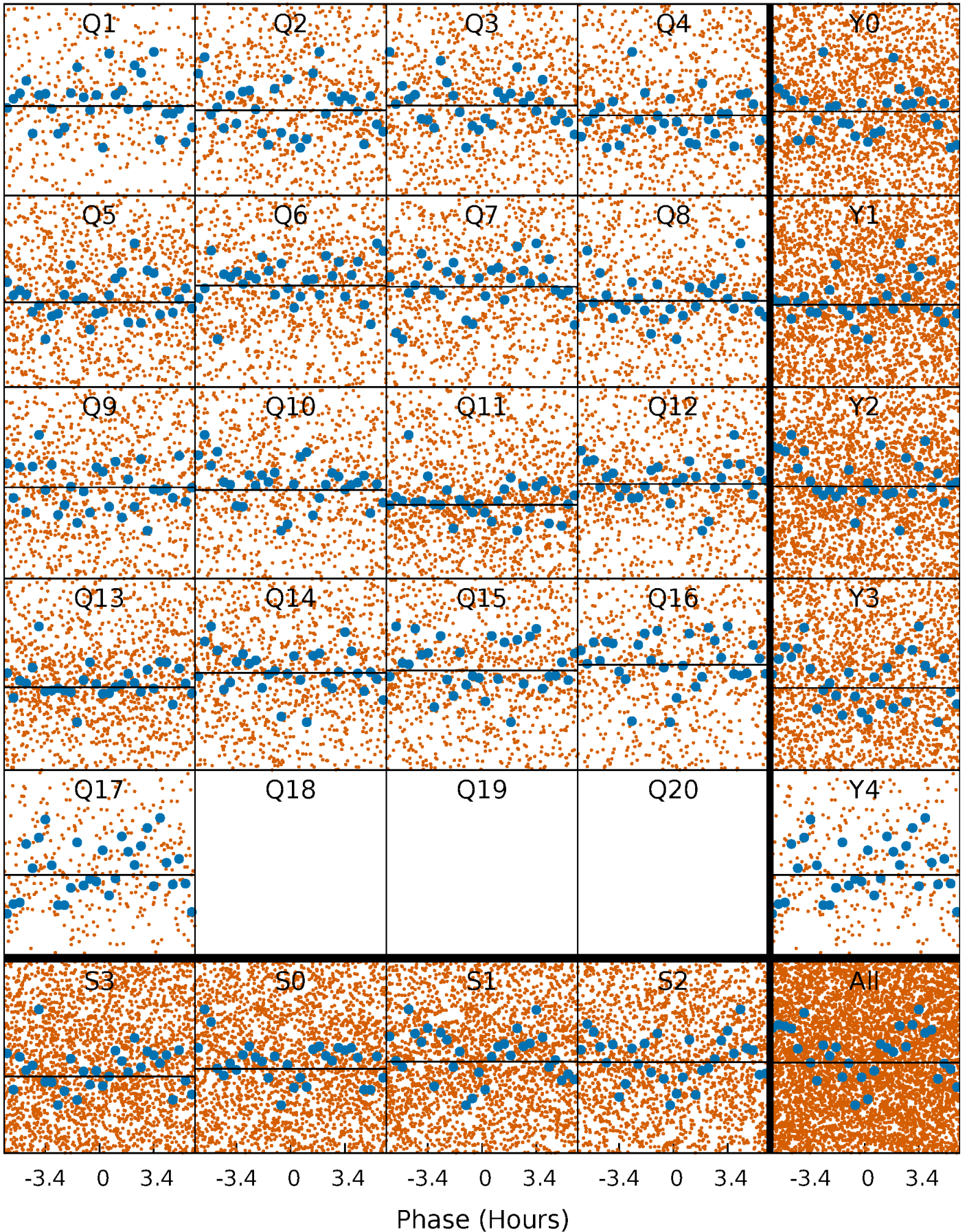
PDC Quarter-Phased Transit Curves

TCE 005358323-01 P= 1.296215 Days $T_0=131.994527$ (BKJD)



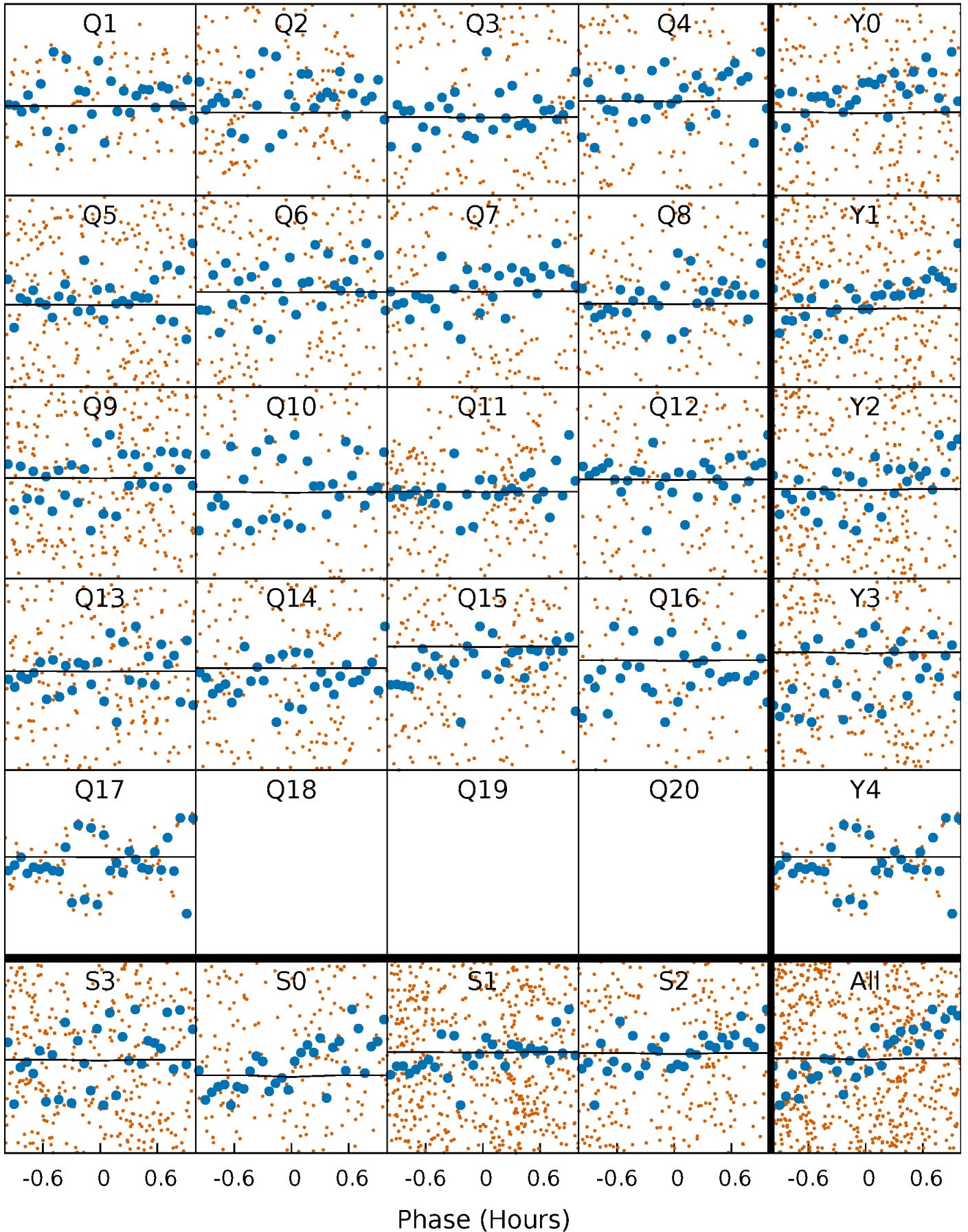
DV Quarter-Phased Transit Curves

TCE 005358323-01 P= 1.296215 Days $T_0=131.994527$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

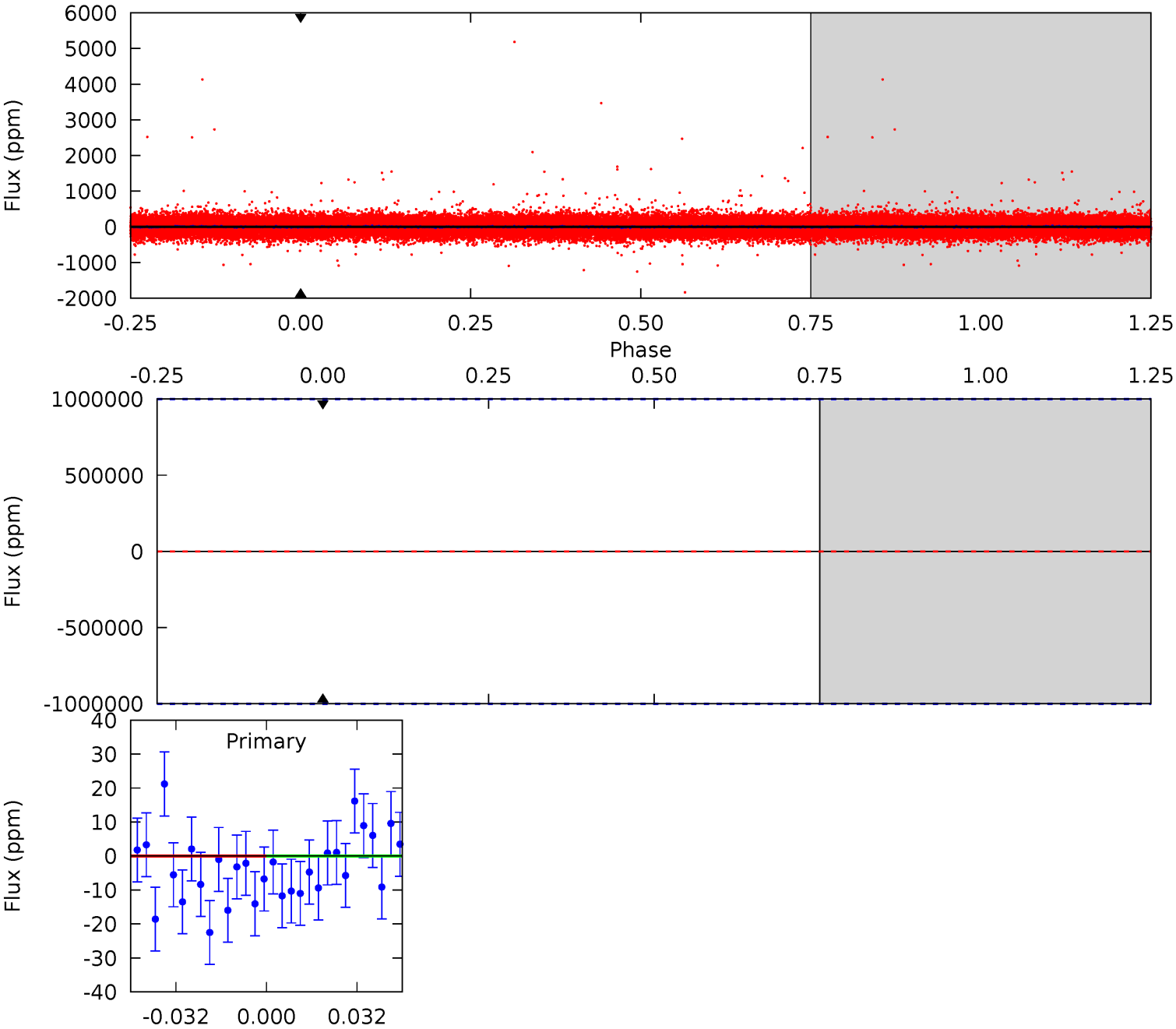
TCE 005358323-01 P= 1.296215 Days $T_0=131.815499$ (BKJD)



DV Model-Shift Uniqueness Test

005358323-01, P = 1.296215 Days, E = 130.698312 Days

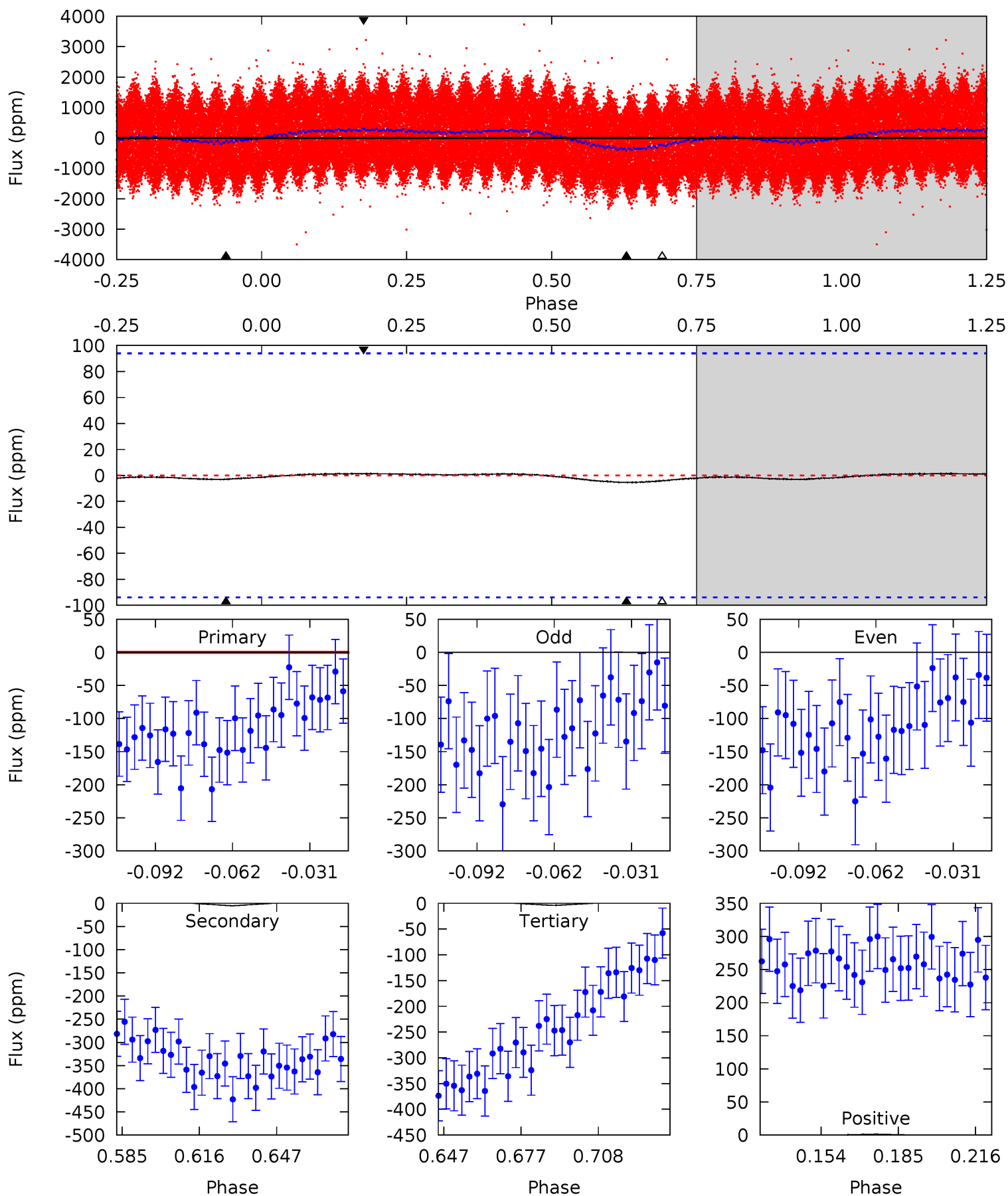
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005358323-01, P = 1.296215 Days, E = 130.519284 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.15	0.28	0.21	0.07	4.81	2.16	0.09	-0.06	0.08	0.07	0.21	0.15	-16.7	0.20	0.16



Stellar Parameters For KIC 005358323

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6988^{+83}_{-76}	$4.024^{+0.154}_{-0.126}$	$-0.160^{+0.200}_{-0.150}$	$1.954^{+0.402}_{-0.366}$	$1.470^{+0.132}_{-0.119}$	$0.278^{+0.204}_{-0.100}$
	+1%/-1%	+4%/-3%	+125%/-94%	+21%/-19%	+9%/-8%	+74%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005358323-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$15.84^{+16.40}_{-11.52}$	3692^{+171}_{-188}	-3893^{+39592}_{-28283}	$-0.174^{+270.503}_{-257.285}$
Alt.	-5 ± 20	$13.68^{+16.28}_{-9.14}$	3702^{+181}_{-191}	-3473^{+312}_{-177}	$0.006^{+0.120}_{-0.036}$

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

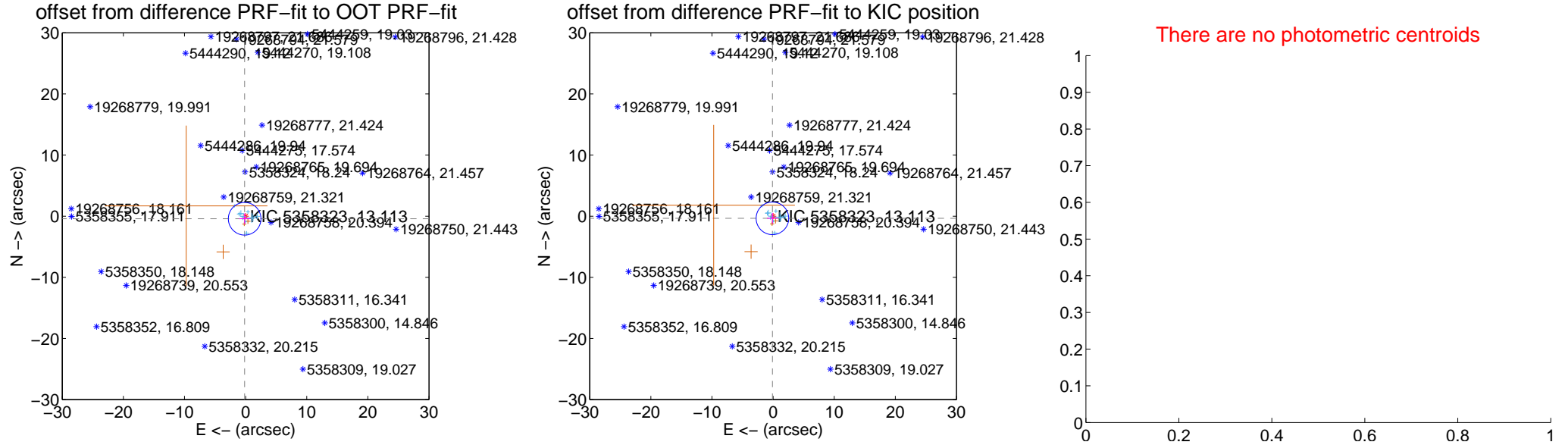
DV Centroid Data

Supplemental centroid analysis for 005358323-01. Kepler magnitude: 13.11. Transit SNR -1.00

There are 11 quarters with good PRF difference image offsets

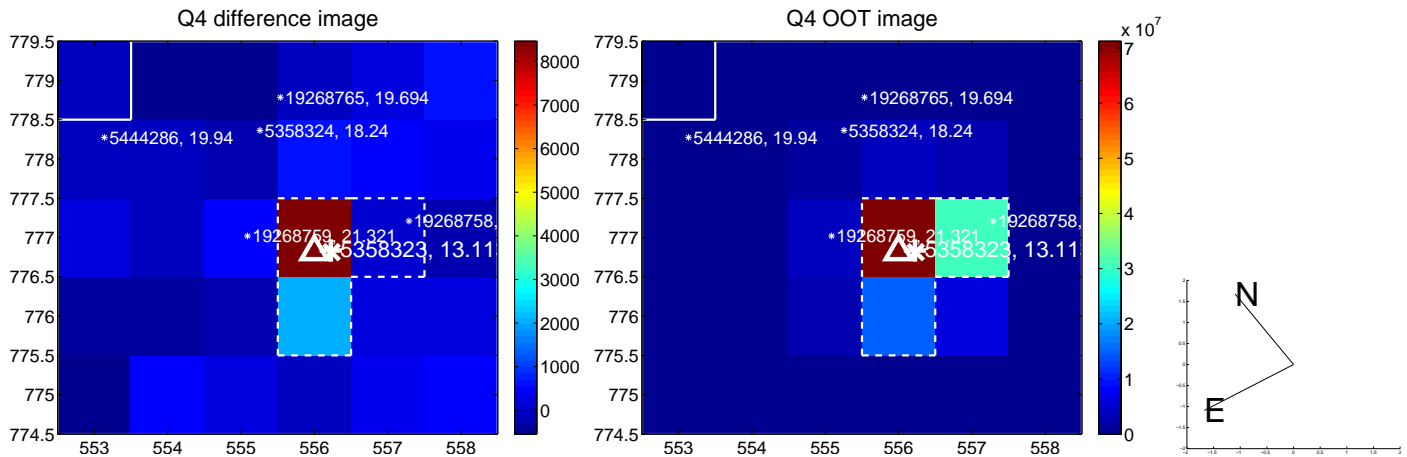
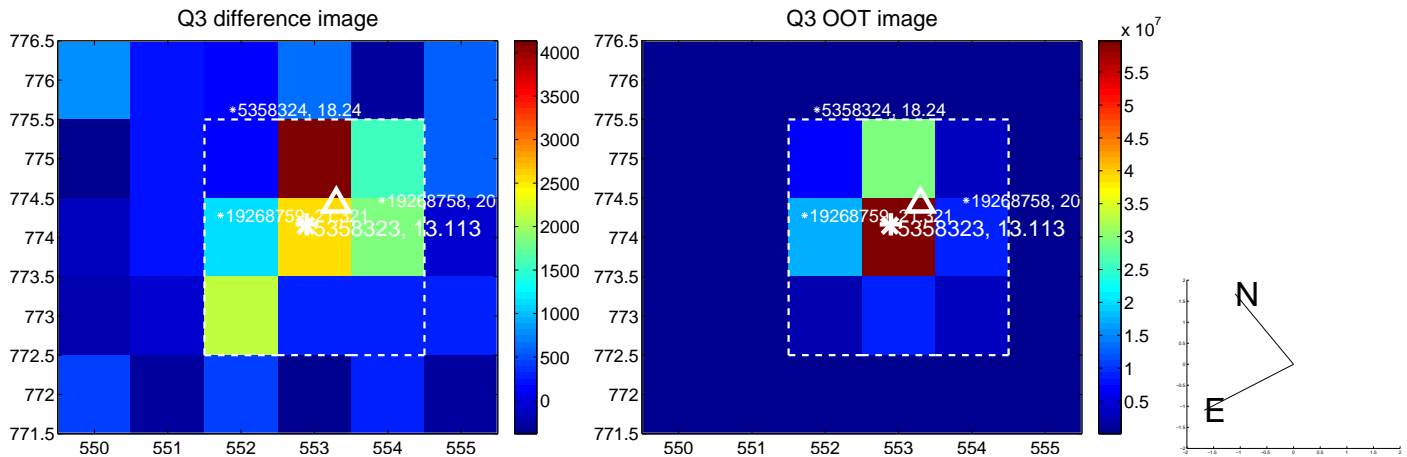
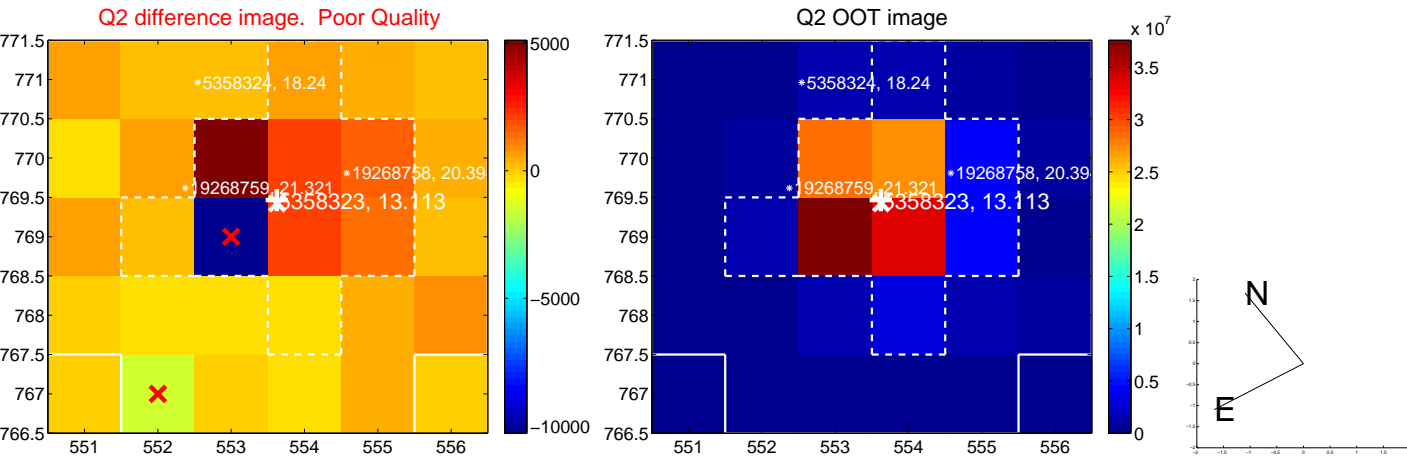
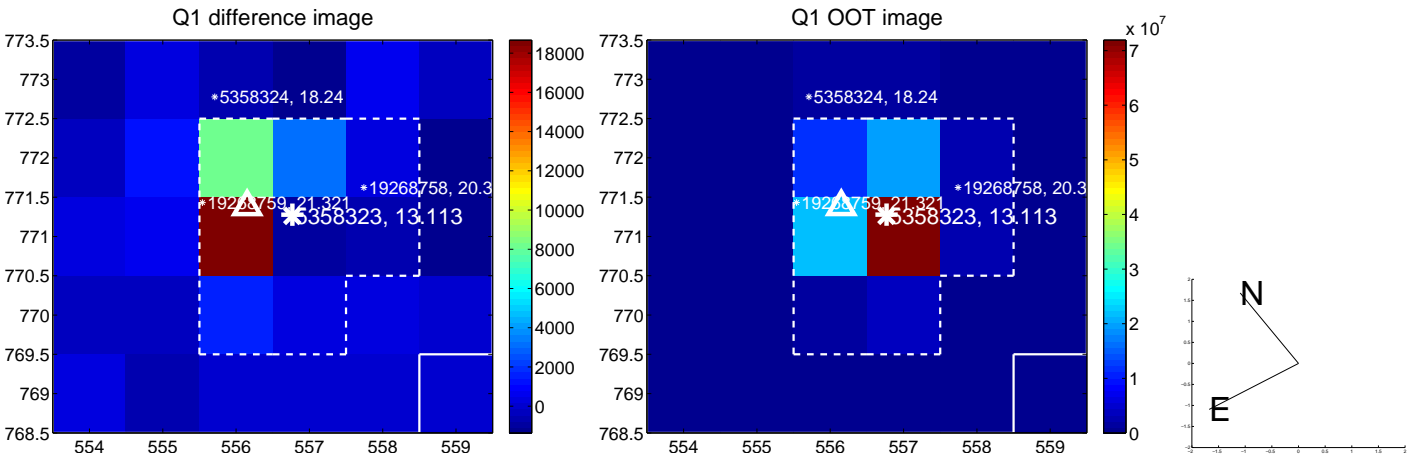
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.452 ± 0.889	0.51	0.158 ± 0.898	-0.423 ± 0.888
PRF-fit source offset from KIC position	0.370 ± 0.889	0.42	0.110 ± 0.898	-0.353 ± 0.888
photometric centroid source offset	—	—	—	—

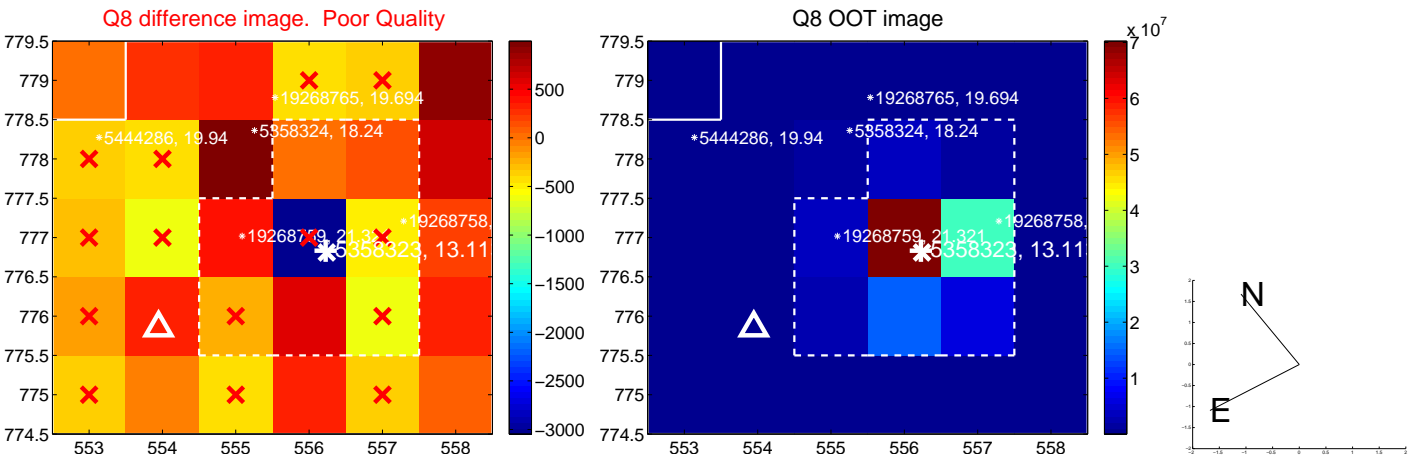
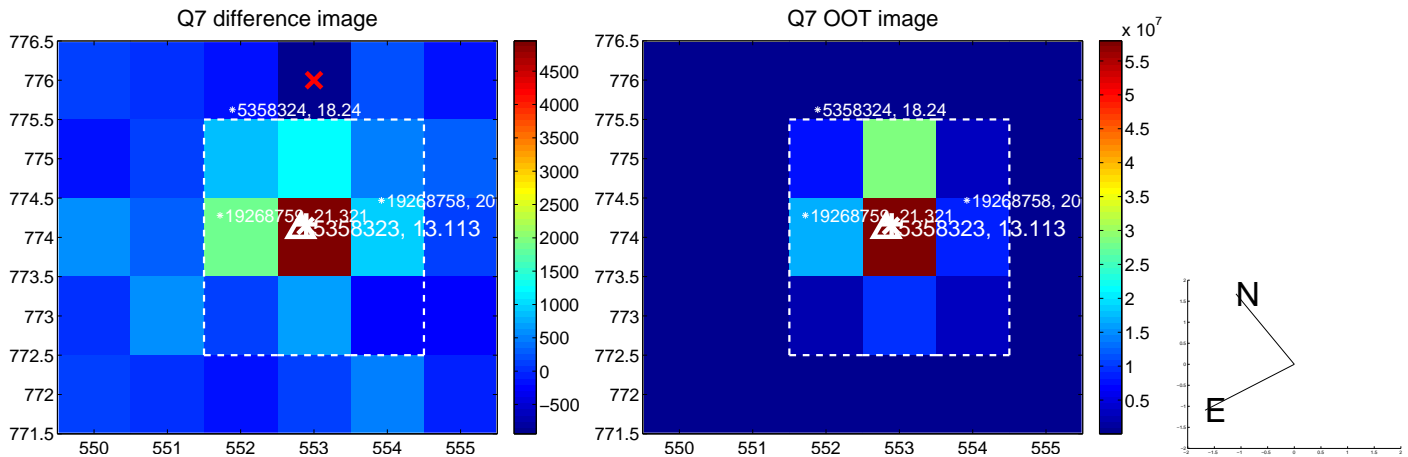
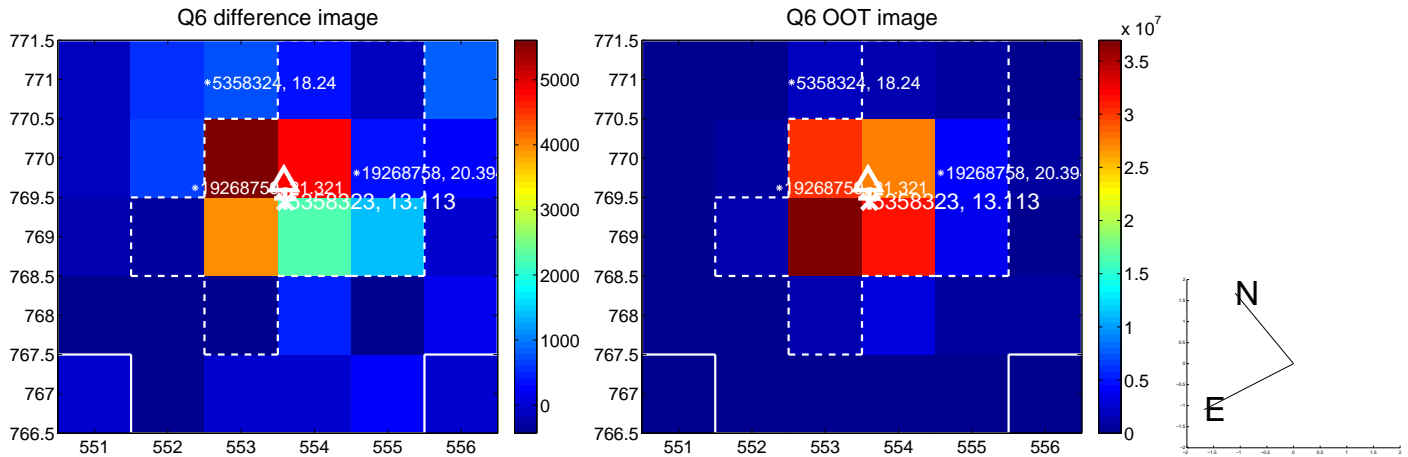
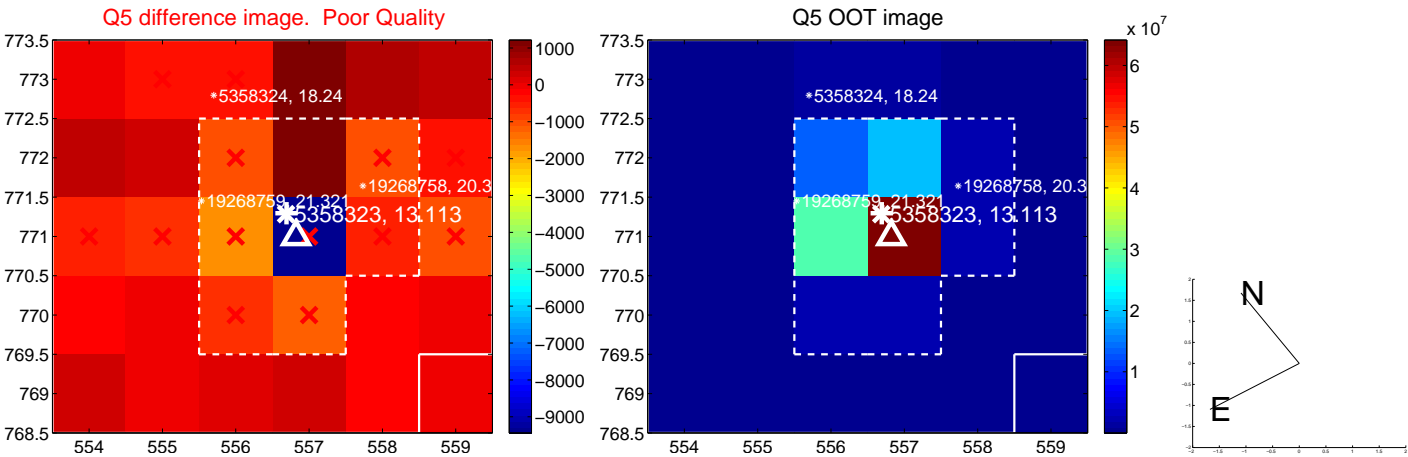


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

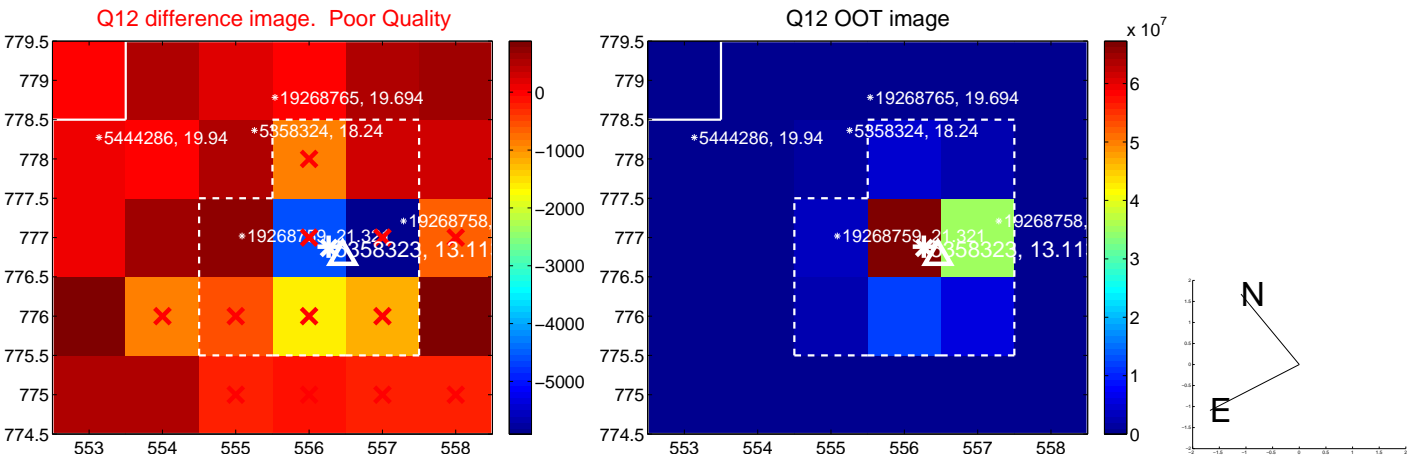
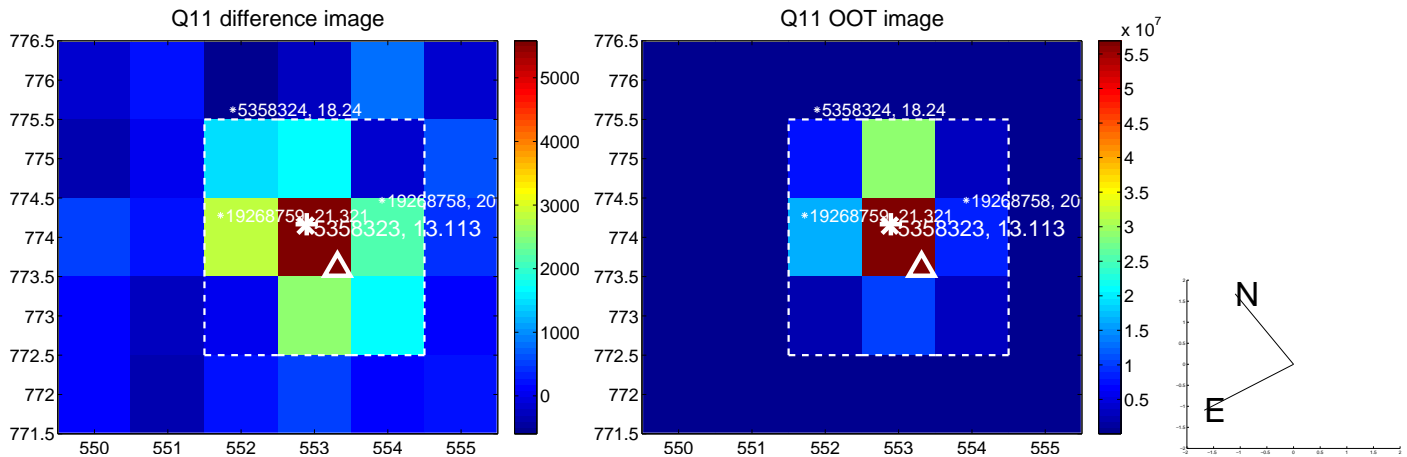
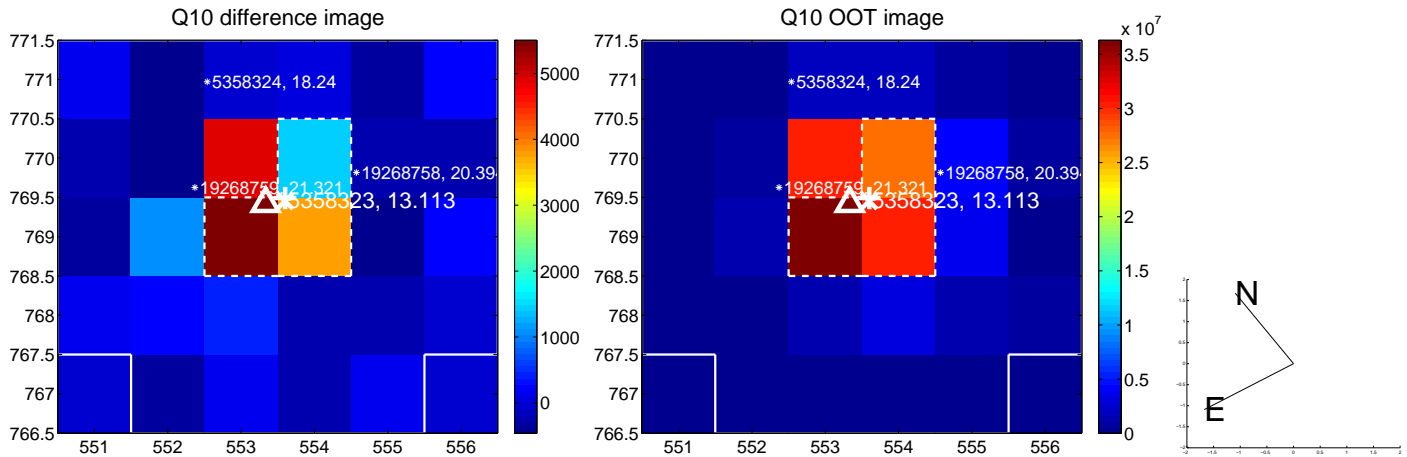
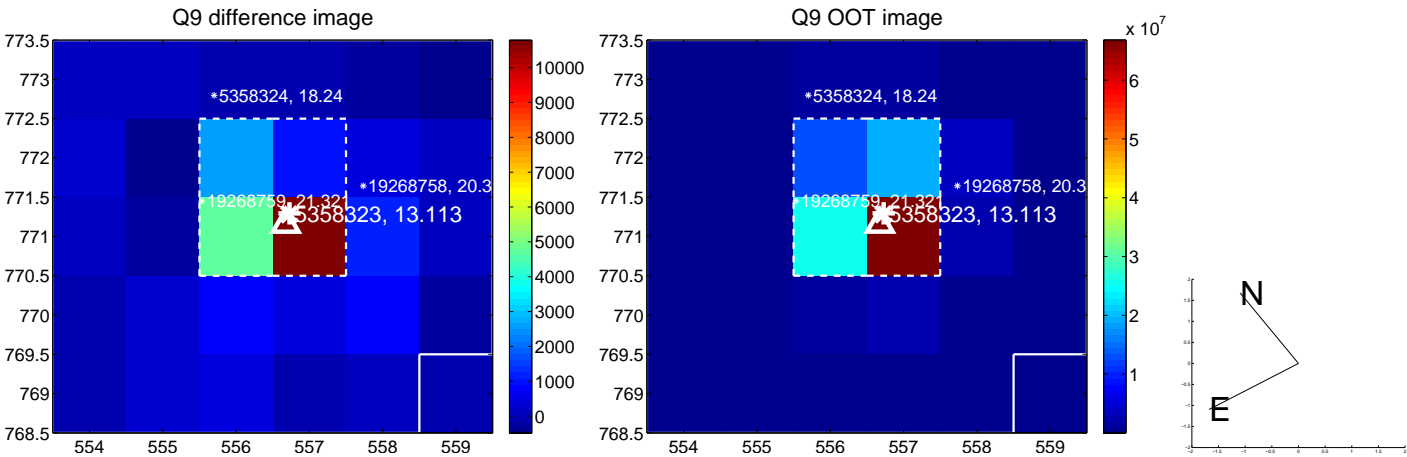
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



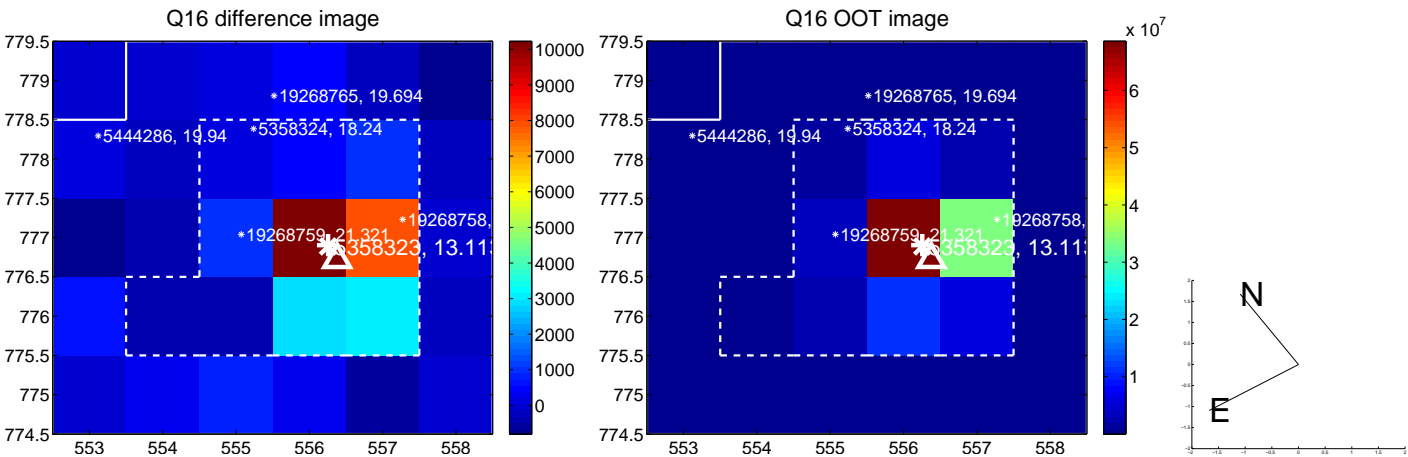
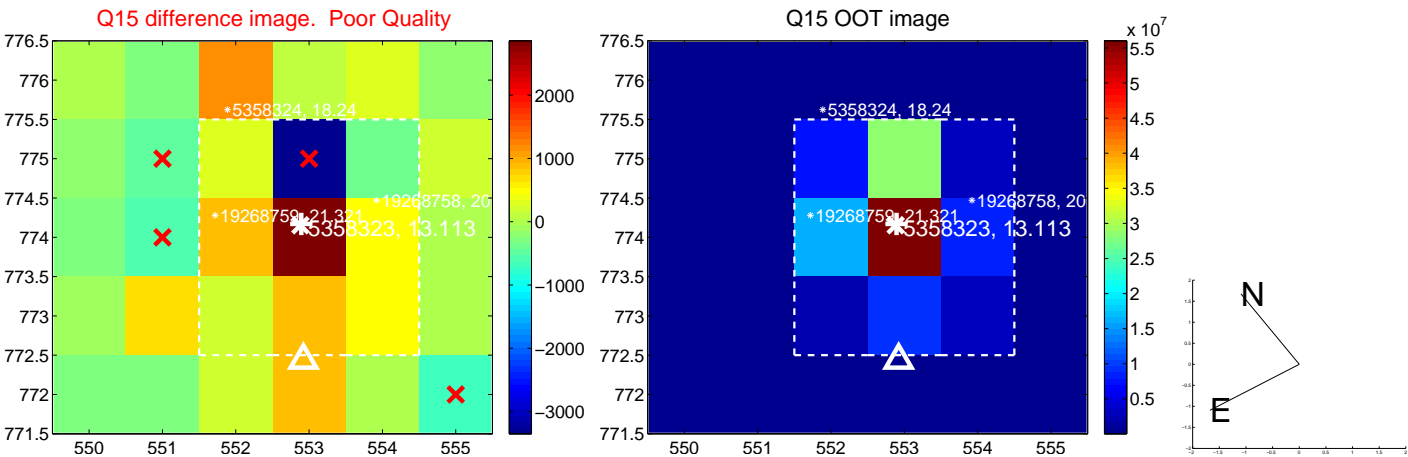
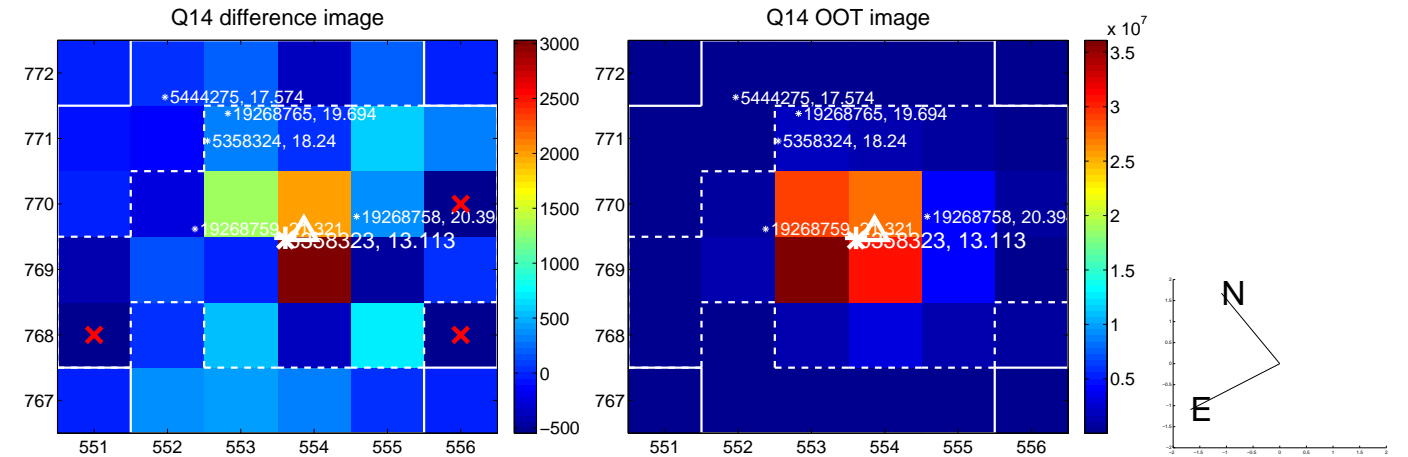
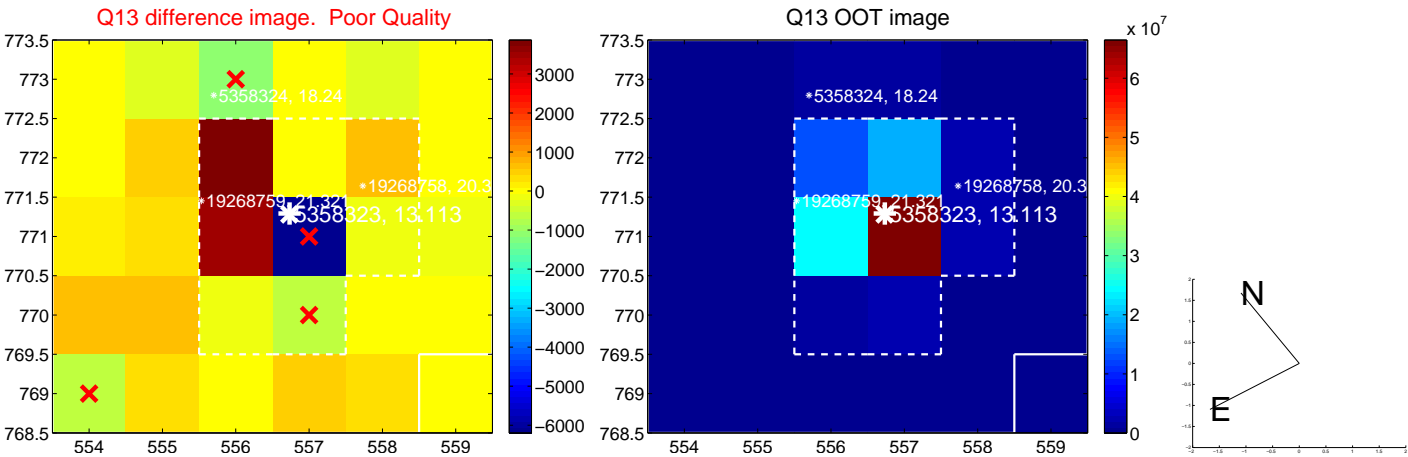
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



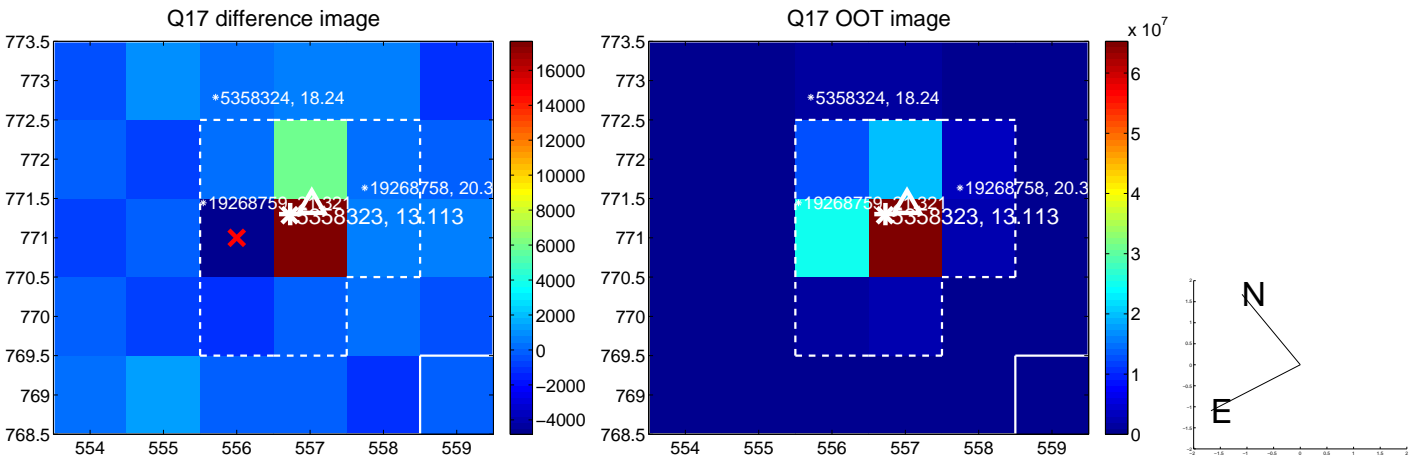
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

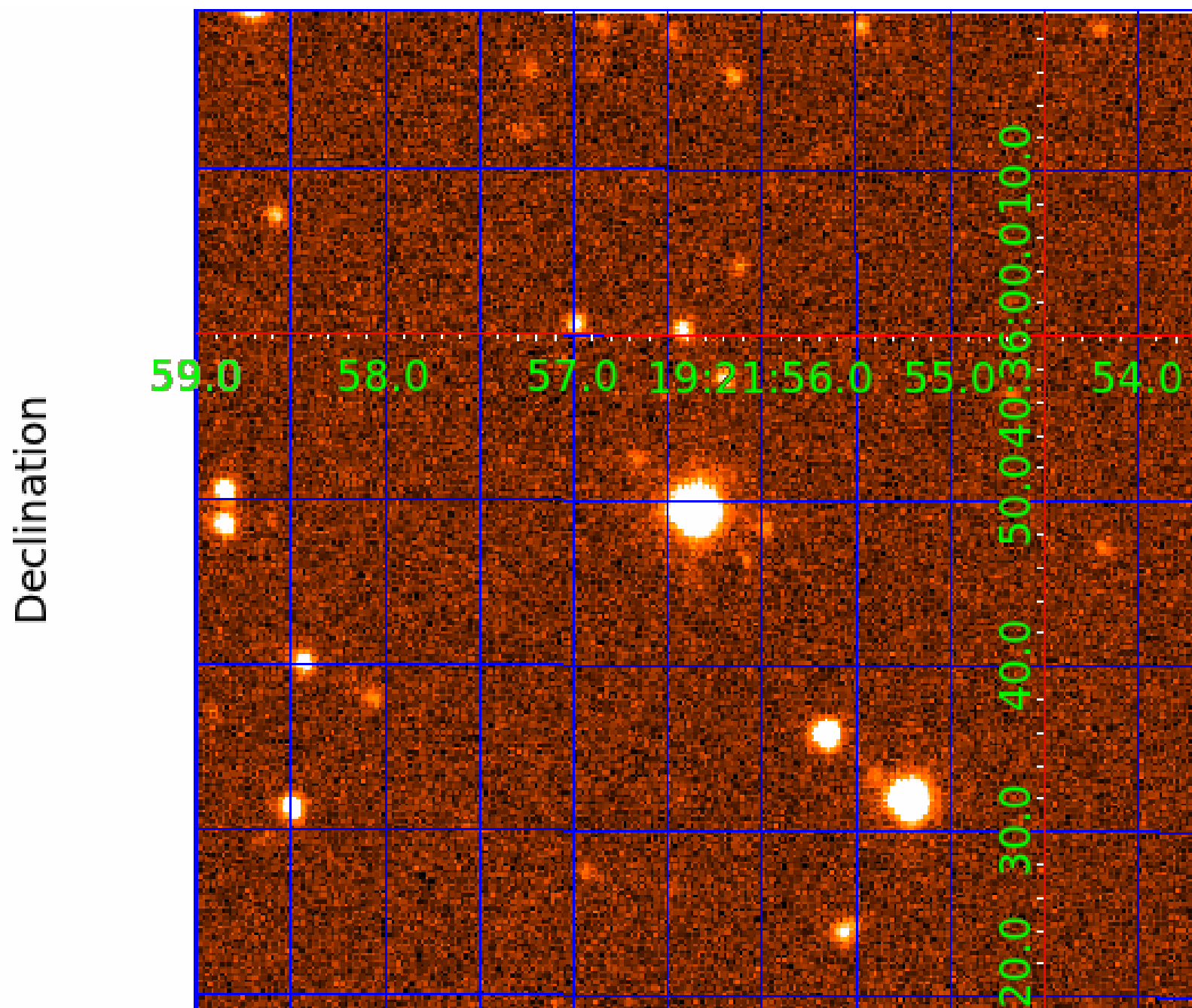


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image



KIC 005358323

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})
005358323-01	OBS	No	1.296215	131.994527	179.3	3.000	8.3	-1.0	1.95	6988	2.65	11641.79
005358323-02	OBS	No	425.476252	268.340537	246.3	13.336	7.2	5.4	1.95	6988	3.41	5.14

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005358323-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS
005358323-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

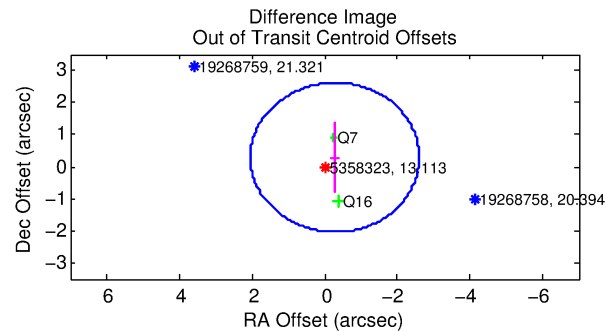
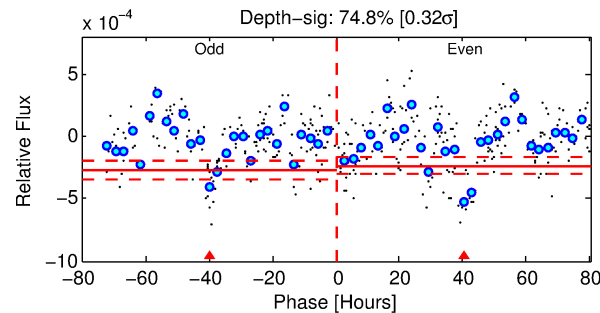
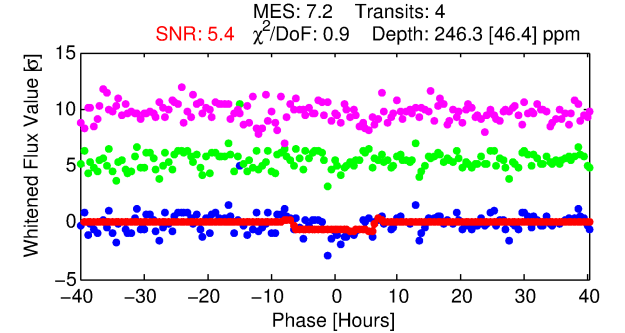
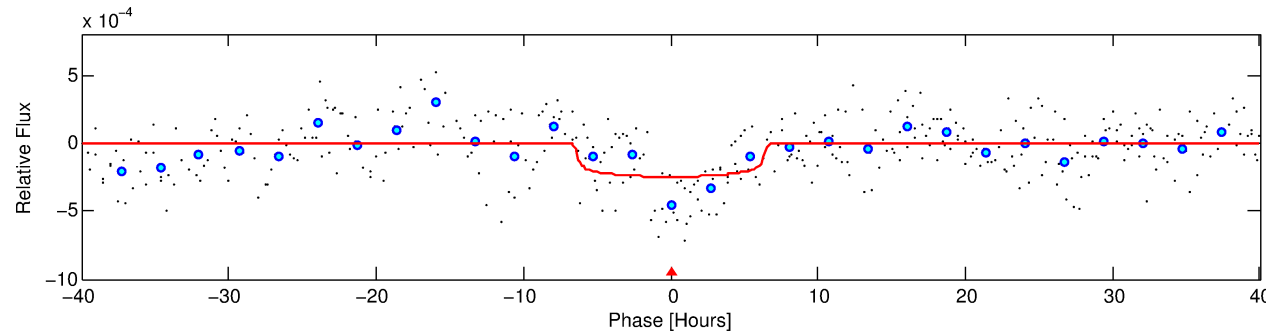
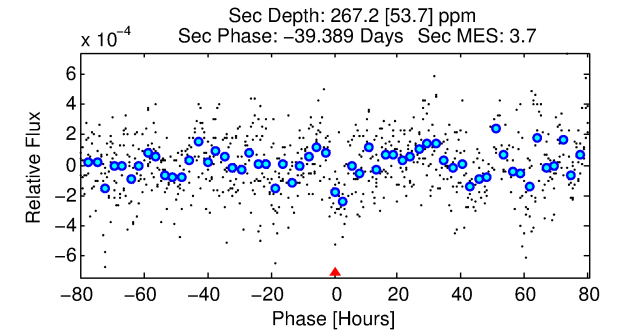
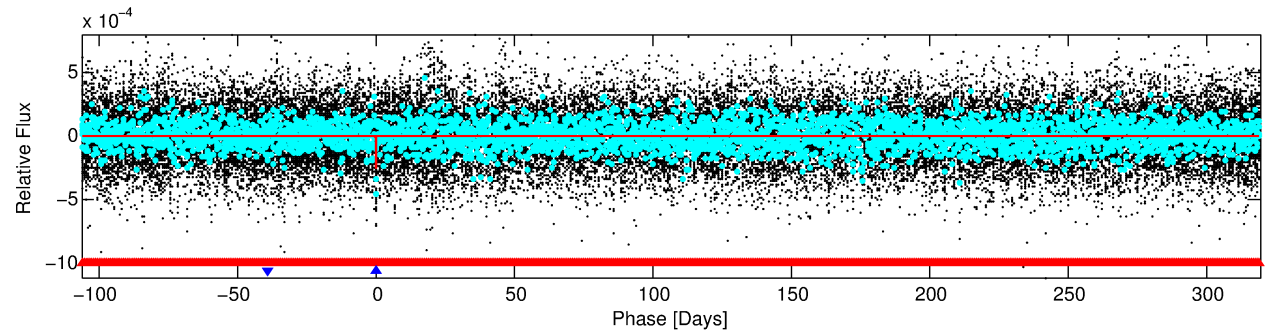
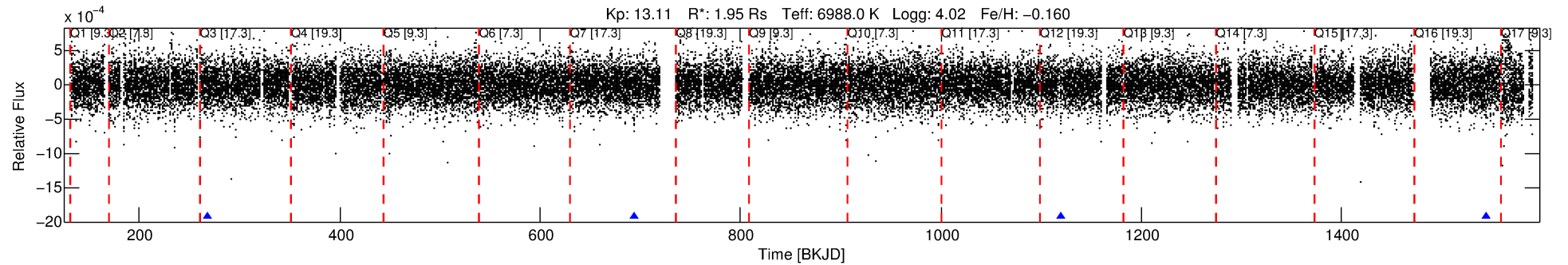
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005358323-02

No Significant Match Found

DV One-Page Summary

KIC: 5358323 Candidate: 2 of 2 Period: 425.476 d



DV Fit Results:

Period = 425.47625 [0.01771] d
Epoch = 268.3405 [0.0228] BKJD
Rp/R* = 0.0160 [0.0034]
a/R* = 146.73 [166.91]
b = 0.82 [0.45]
Seff = 5.14 [1.43]
Teq = 384 [27] K
Rp = 3.41 [1.02] Re
a = 1.2596 [0.2281] AU
Ag = 20107.92 [11042.25] [1.82σ]
Teffp = 7069 [846] K [7.90σ]

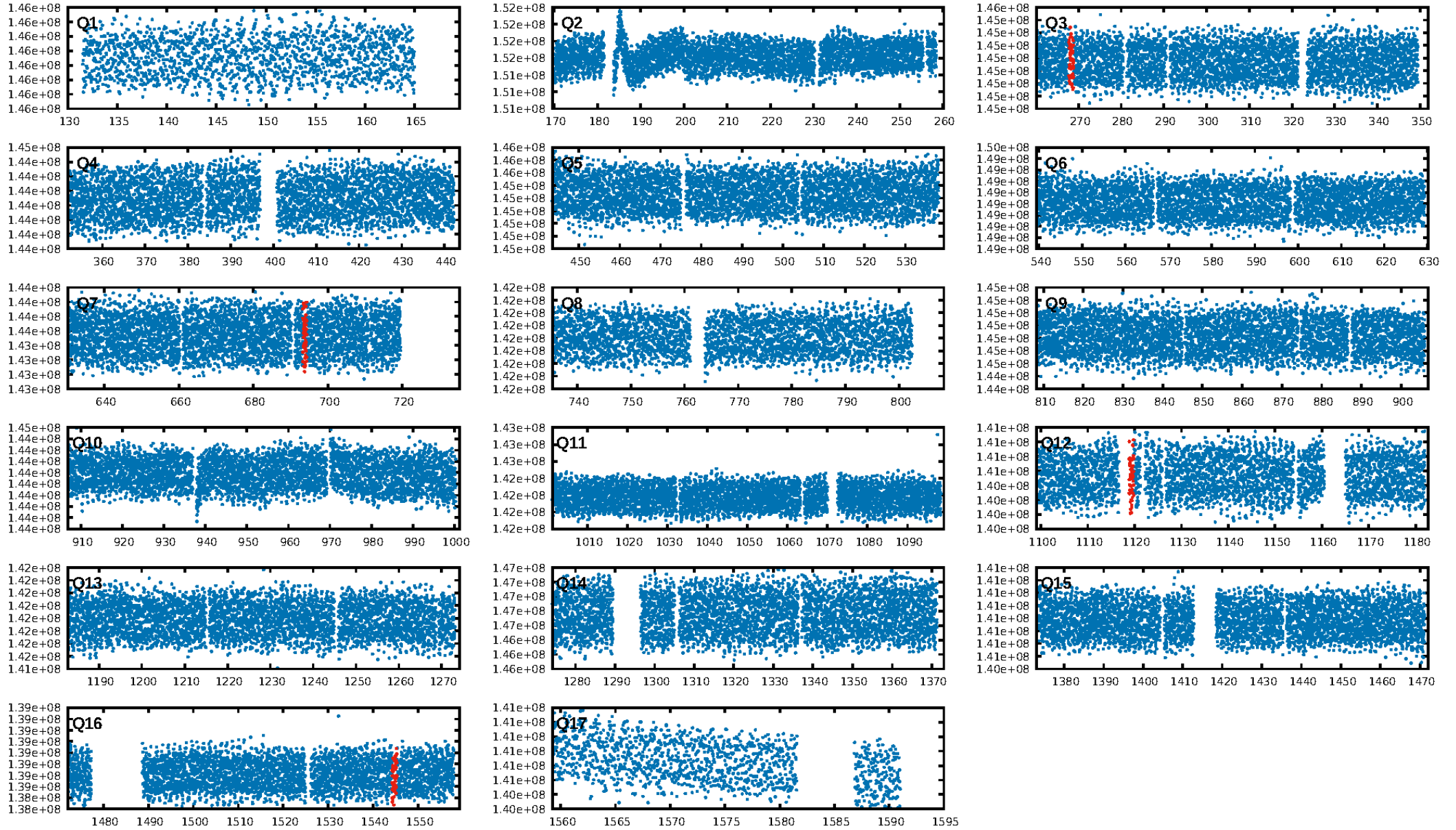
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [744.74σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 53.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.46e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.033
Centroid-sig: 2.0%
Centroid-so: 1.331 arcsec [1.87σ]
OotOffset-rm: 0.400 arcsec [0.52σ]
OotOffset-st: 0/1/1/0 [2]
KicOffset-rm: 0.472 arcsec [0.63σ]
KicOffset-st: 0/1/1/0 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 0.00 [0/2]

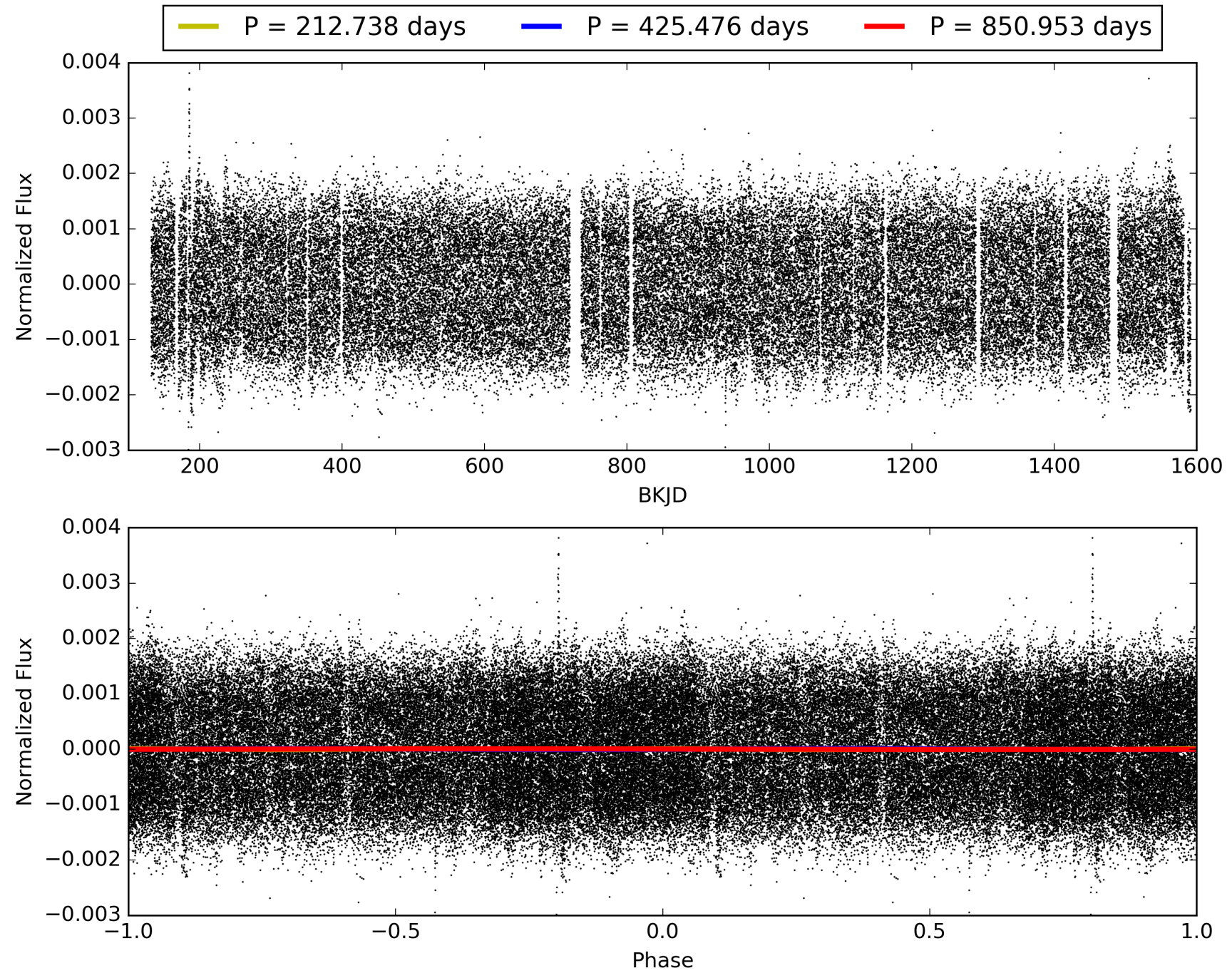
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:47:03 Z

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

TCE 005358323-02, PDC Light Curves

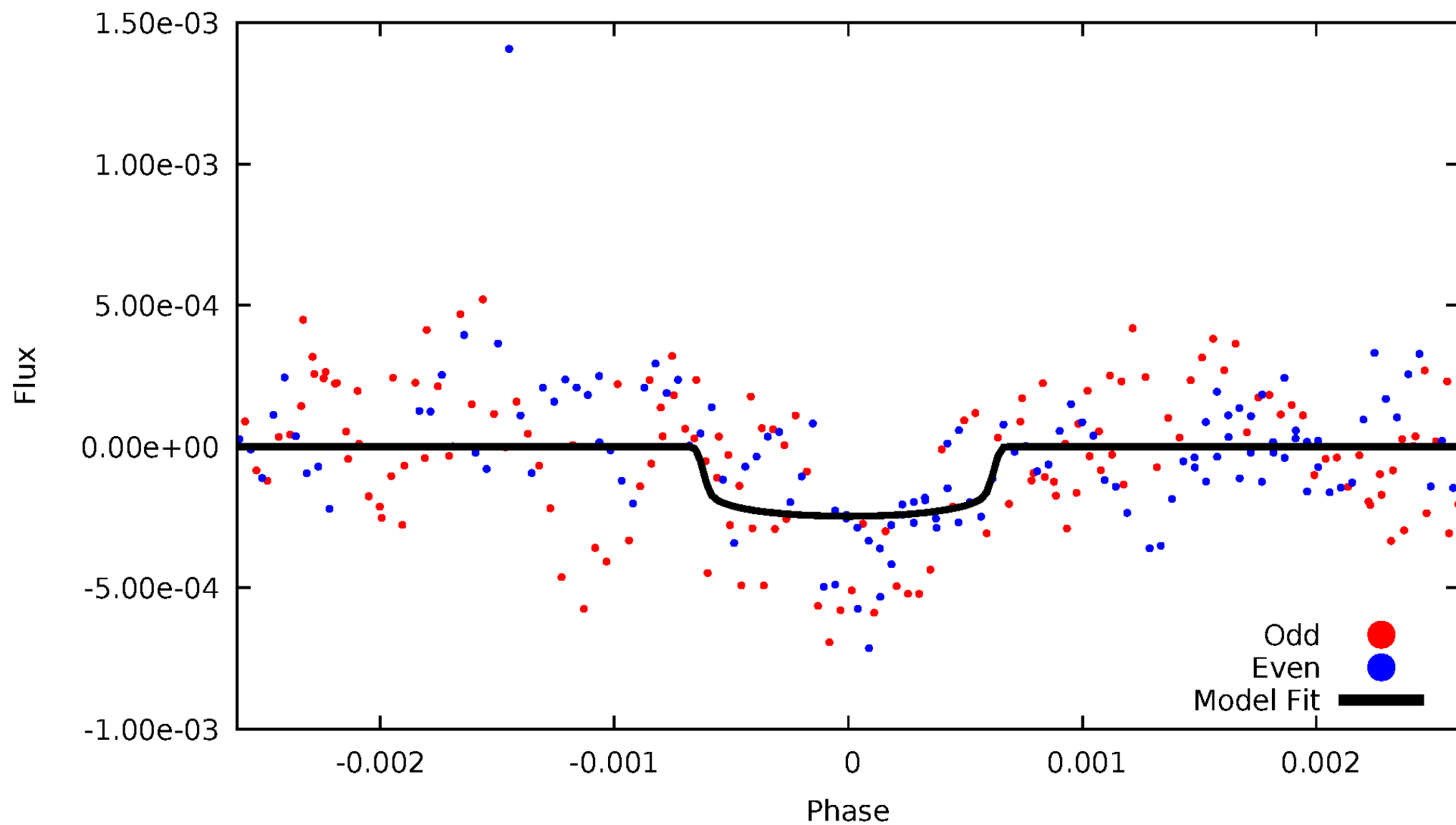


TCE 005358323-02



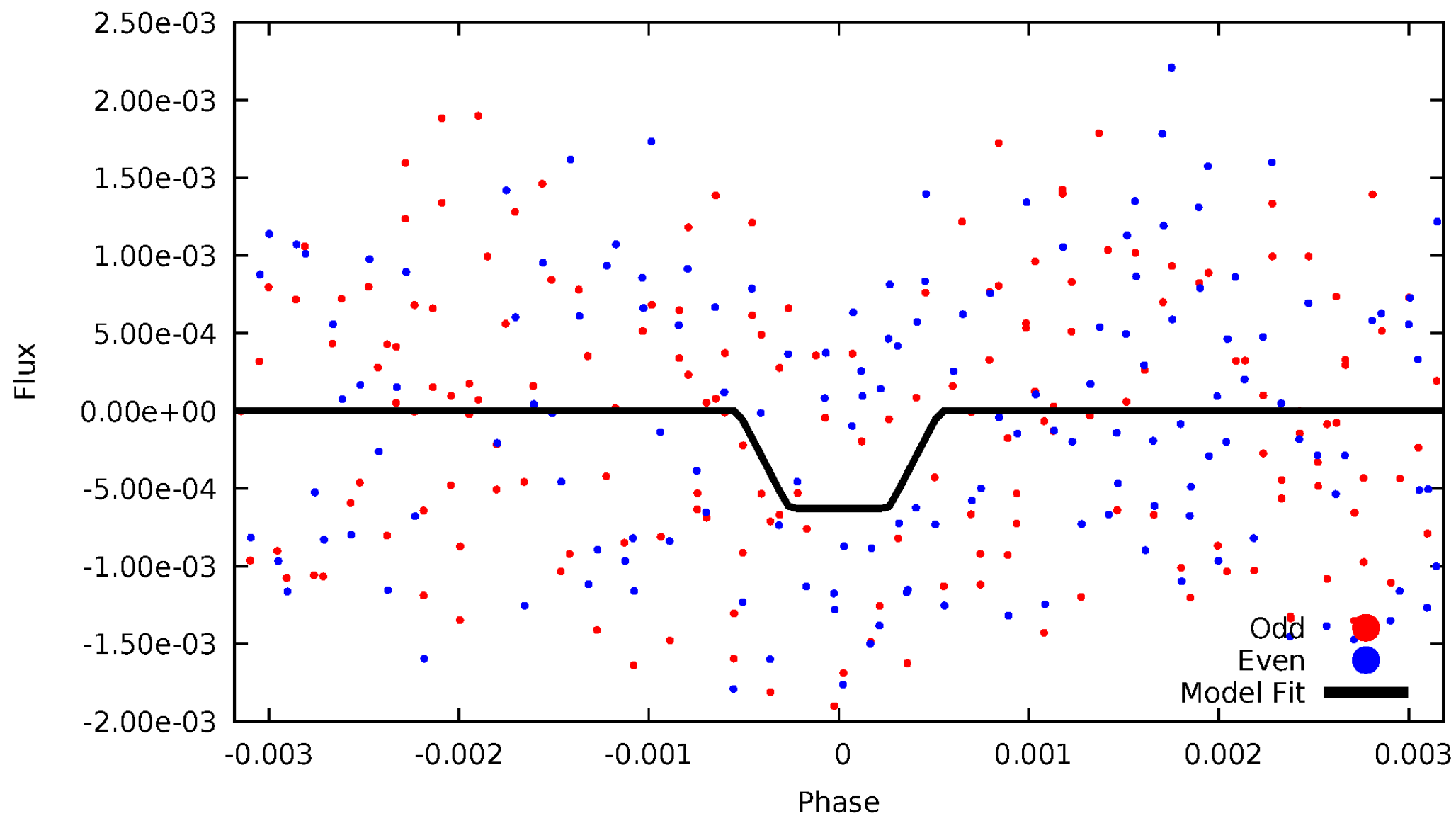
DV Odd/Even

TCE 005358323-02



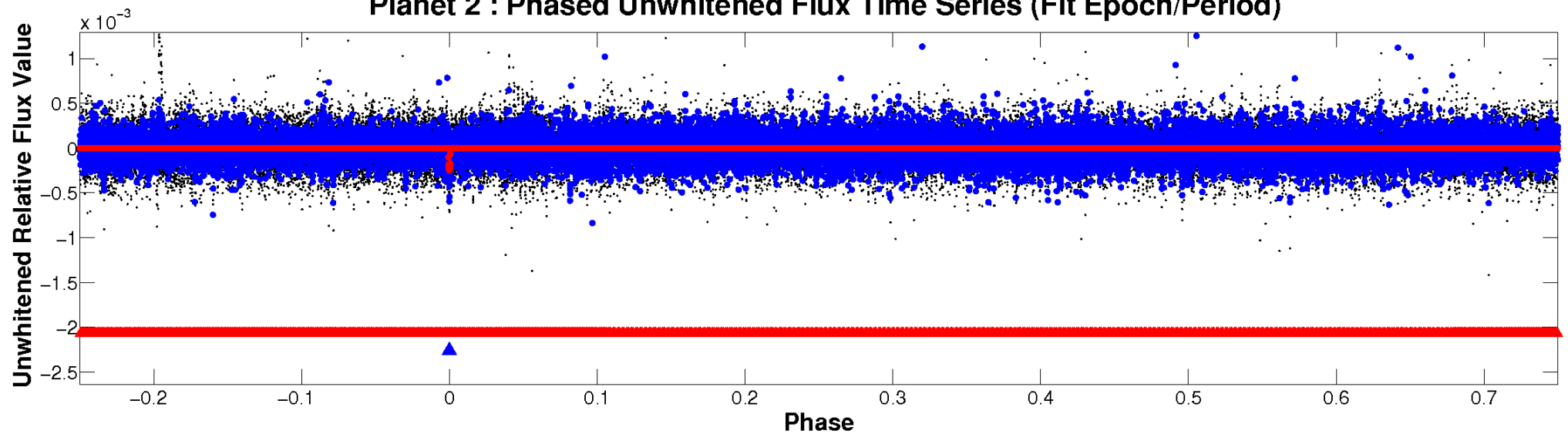
ALT Odd/Even

TCE 005358323-02

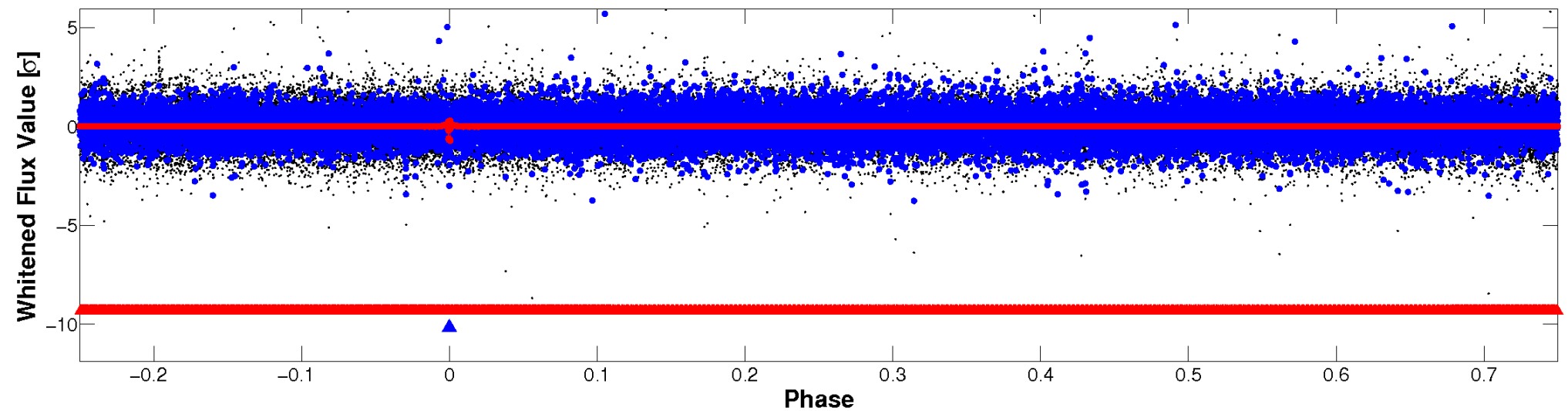


Non-Whitened Vs. Whitened Light Curve

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

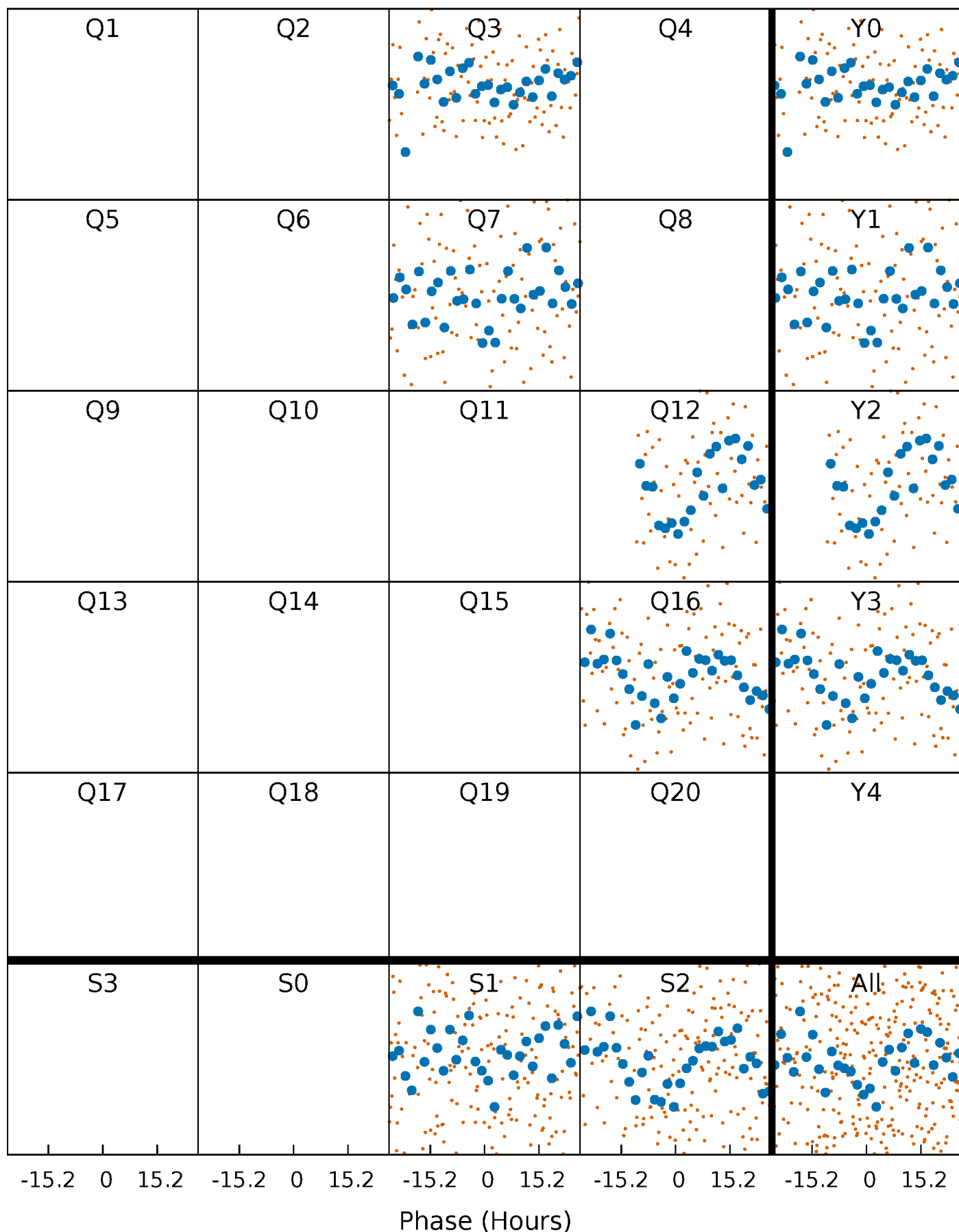


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



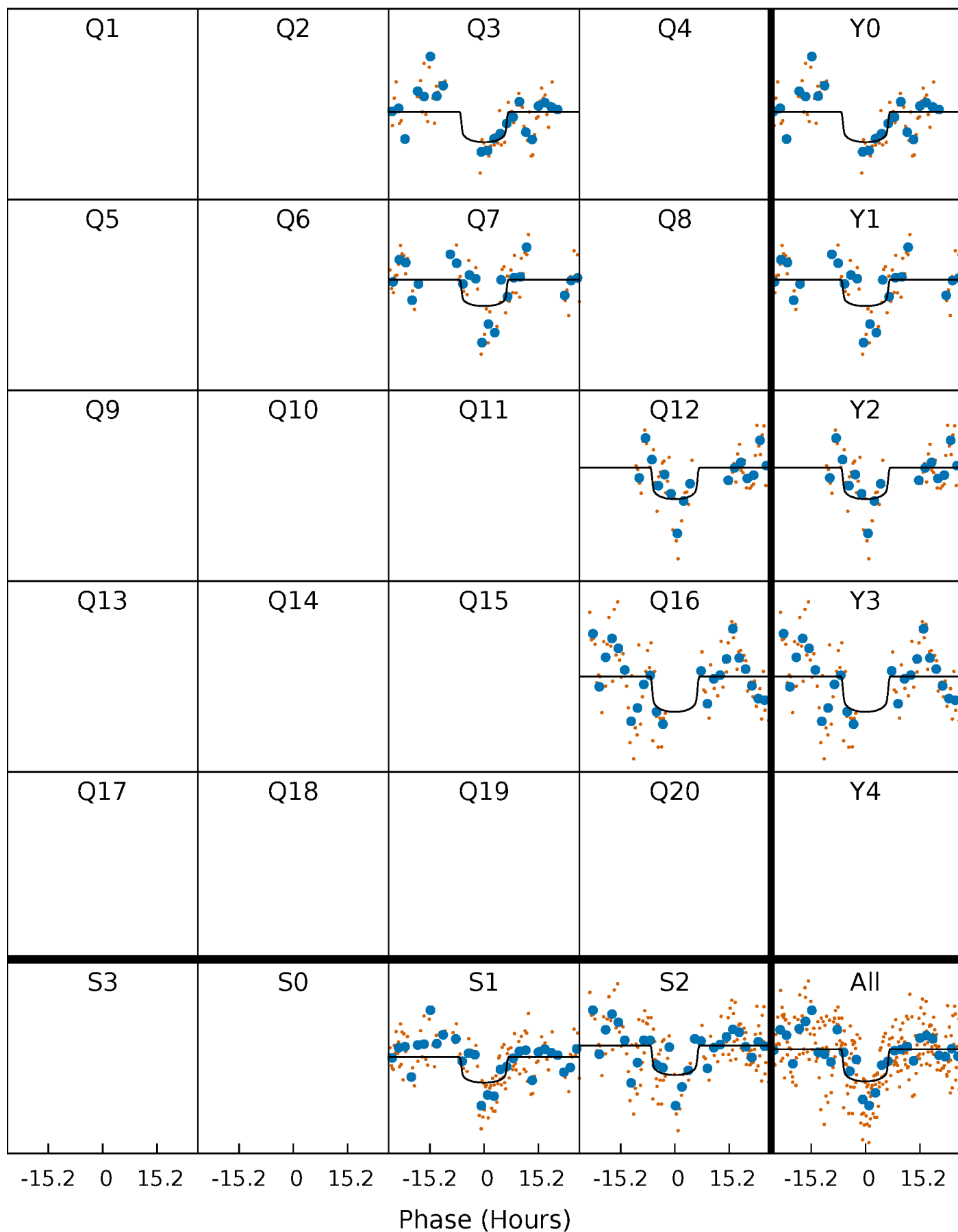
PDC Quarter-Phased Transit Curves

TCE 005358323-02 P=425.476252 Days $T_0=268.340537$ (BKJD)



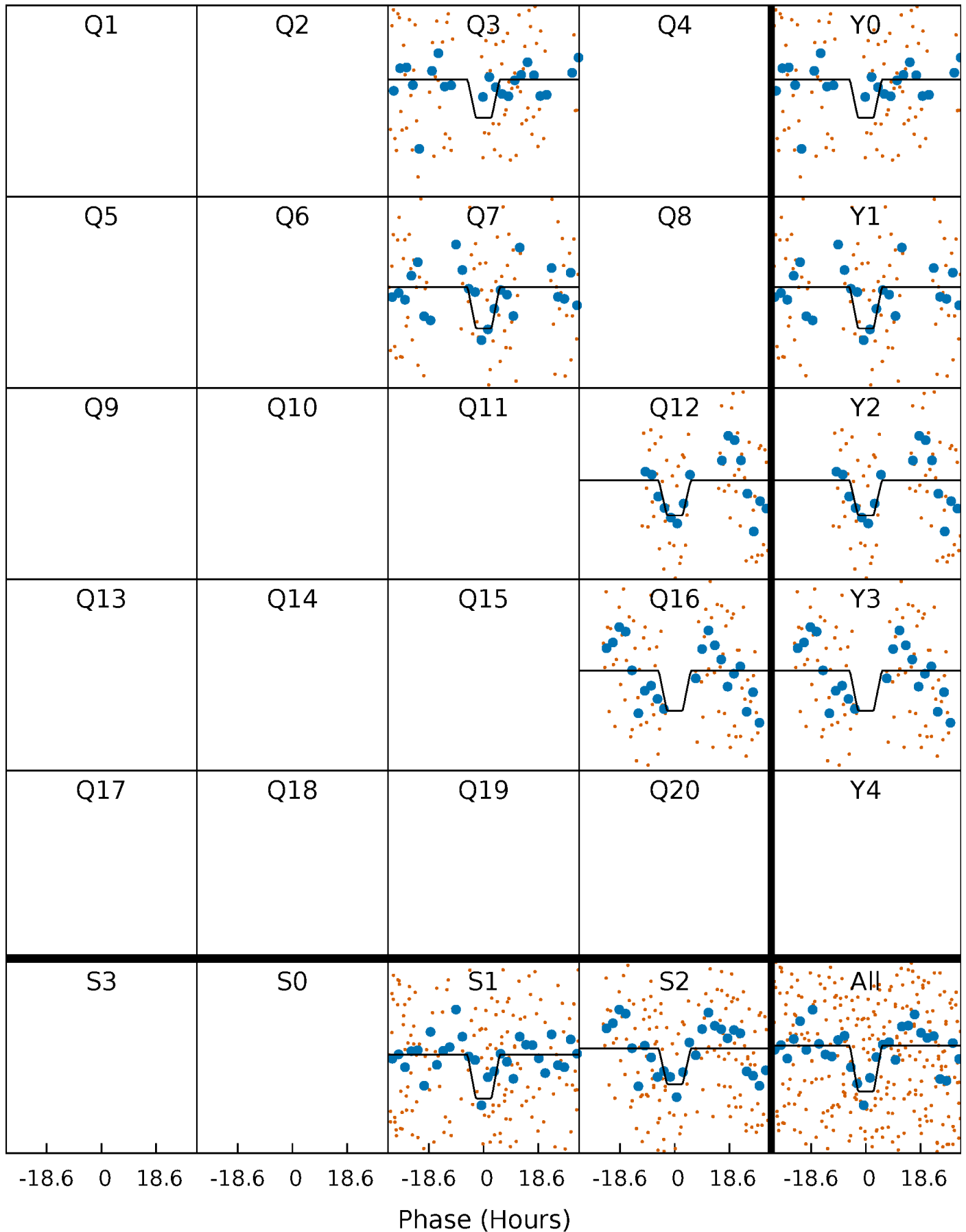
DV Quarter-Phased Transit Curves

TCE 005358323-02 $P=425.476252$ Days $T_0=268.340537$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

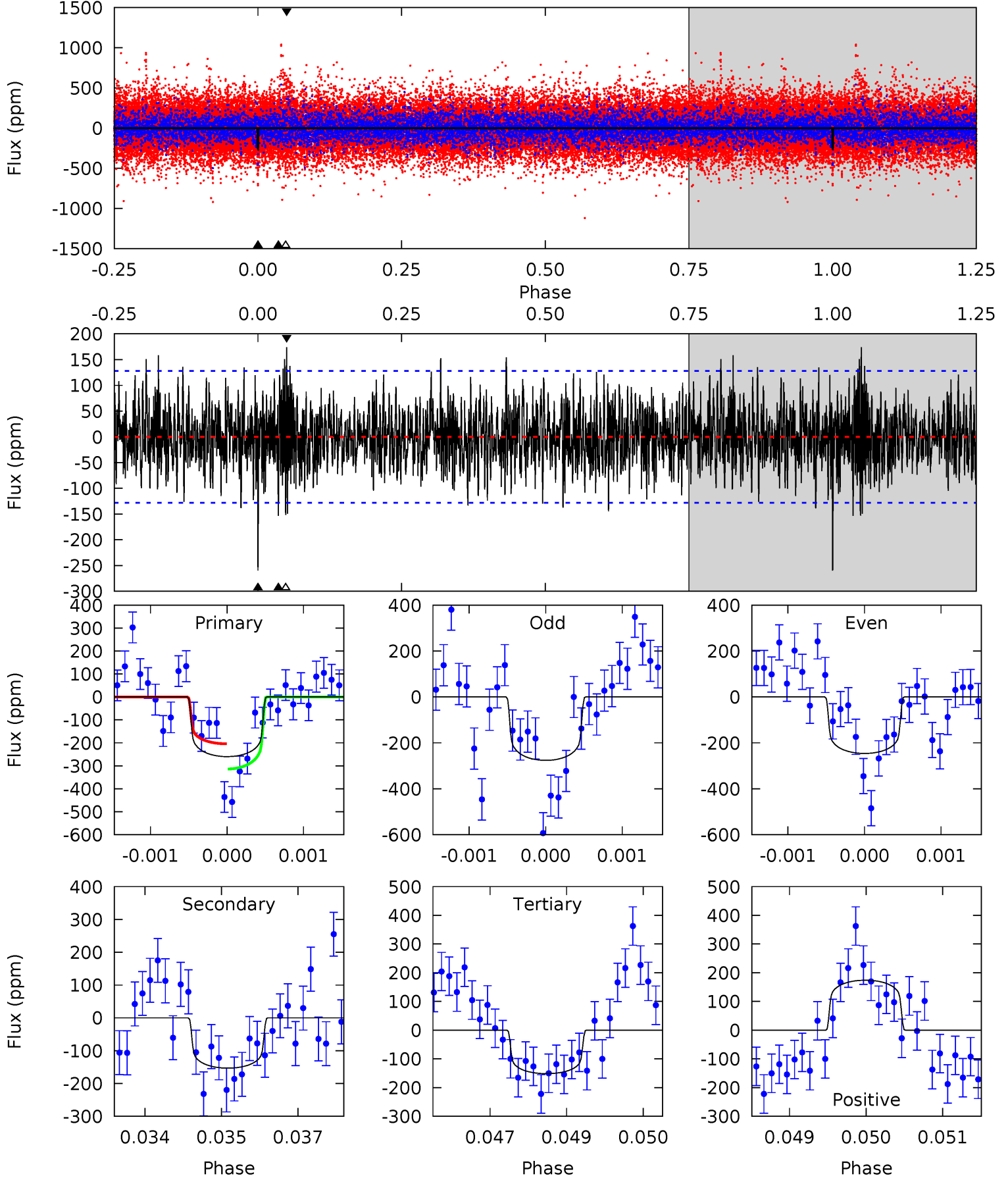
TCE 005358323-02 P=425.488020 Days $T_0=268.324936$ (BKJD)



DV Model-Shift Uniqueness Test

005358323-02, P = 425.476252 Days, E = 268.340537 Days

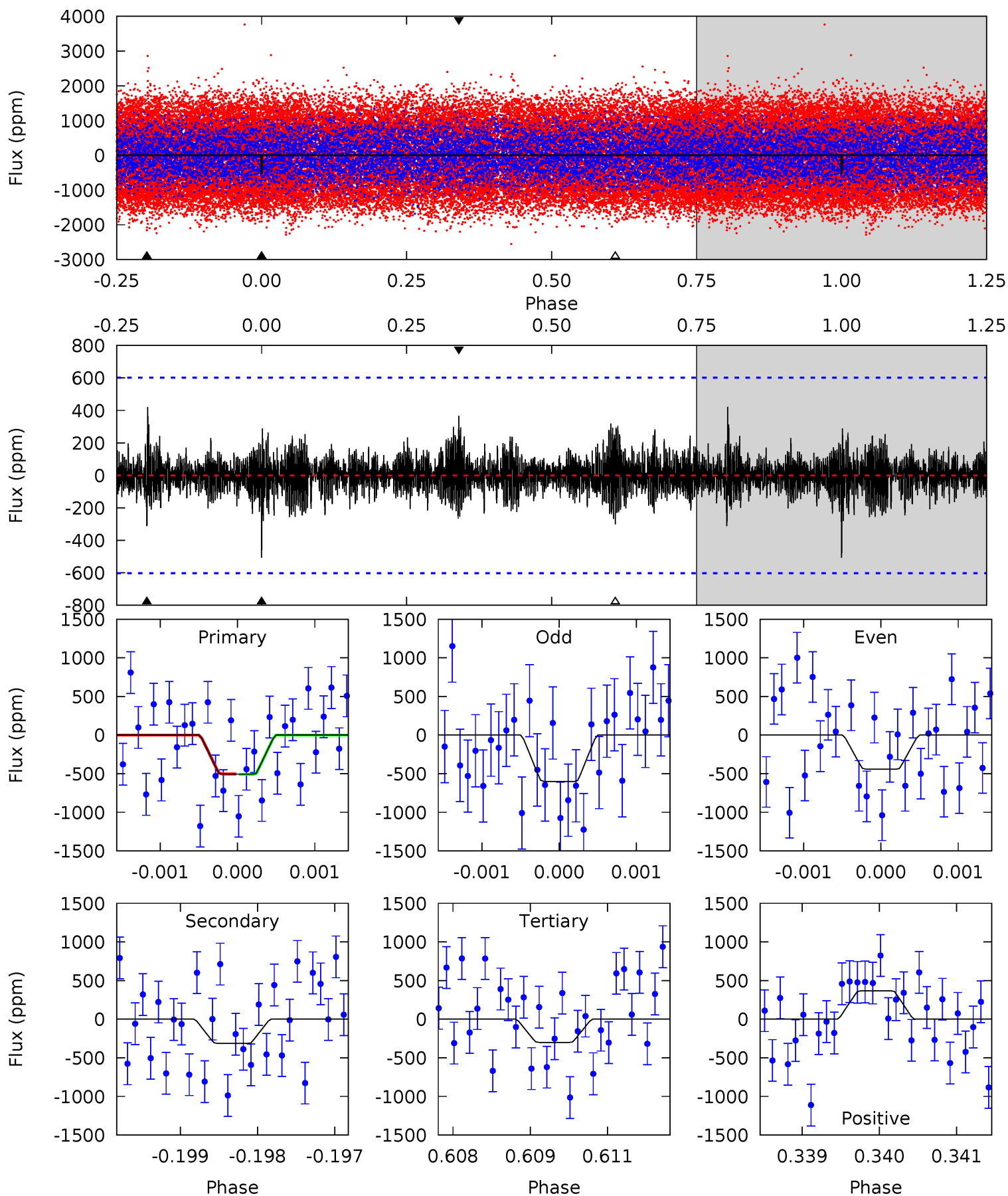
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	6.47	6.39	7.35	5.40	3.21	2.02	4.58	3.63	0.07	-0.88	0.63	1.05	0.40	2.32



Alt Model-Shift Uniqueness Test

005358323-02, P = 425.488020 Days, E = 268.324936 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.57	2.82	2.71	3.31	5.43	3.26	0.81	1.86	1.27	0.11	-0.48	0.71	1.18	0.45	0.02



Stellar Parameters For KIC 005358323

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6988^{+83}_{-76}	$4.024^{+0.154}_{-0.126}$	$-0.160^{+0.200}_{-0.150}$	$1.954^{+0.402}_{-0.366}$	$1.470^{+0.132}_{-0.119}$	$0.278^{+0.204}_{-0.100}$
	+1%/-1%	+4%/-3%	+125%/-94%	+21%/-19%	+9%/-8%	+74%/-36%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005358323-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-153 ± 24	$3.42^{+0.84}_{-0.77}$	535^{+29}_{-27}	6068^{+799}_{-568}	11640^{+7965}_{-4400}
Alt.	-313 ± 111	$5.36^{+0.97}_{-0.87}$	535^{+28}_{-27}	5782^{+666}_{-617}	9221^{+6000}_{-3816}

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

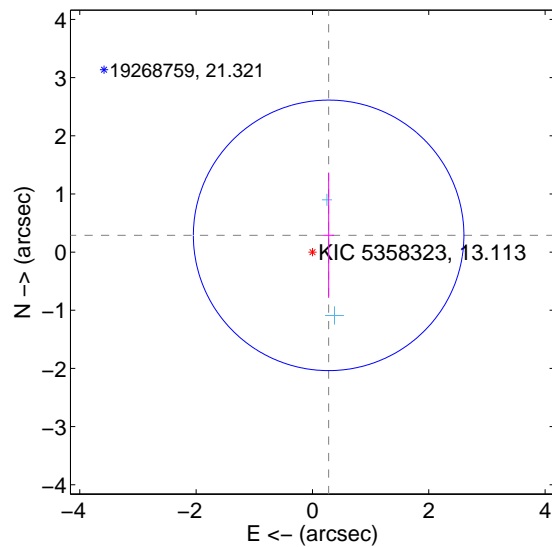
Supplemental centroid analysis for 005358323-02. Kepler magnitude: 13.11. Transit SNR 5.42

There are 2 quarters with good PRF difference image offsets

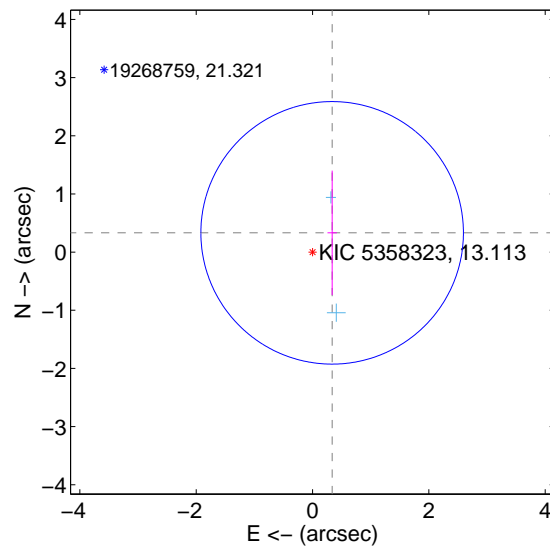
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.400 ± 0.775	0.52	-0.278 ± 0.092	0.288 ± 1.074
PRF-fit source offset from KIC position	0.472 ± 0.752	0.63	-0.337 ± 0.080	0.331 ± 1.071
photometric centroid source offset	1.33 ± 0.71	1.87	-1.12 ± 0.71	-0.72 ± 0.73

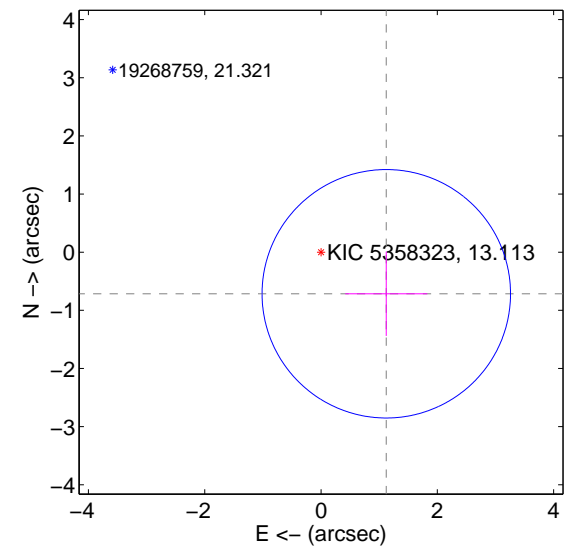
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids



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

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



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

Q5 no difference image



Q5 no OOT image



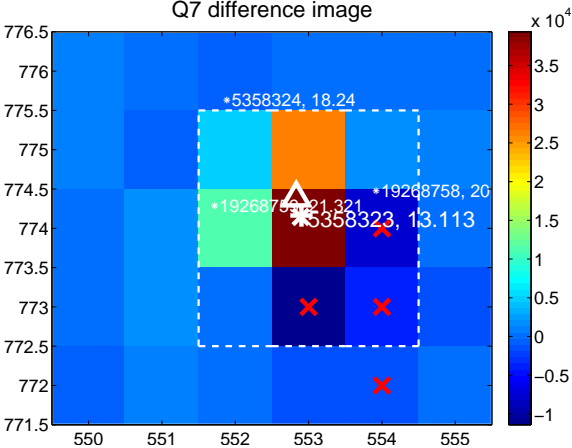
Q6 no difference image



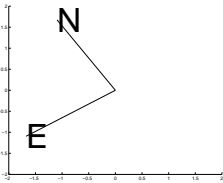
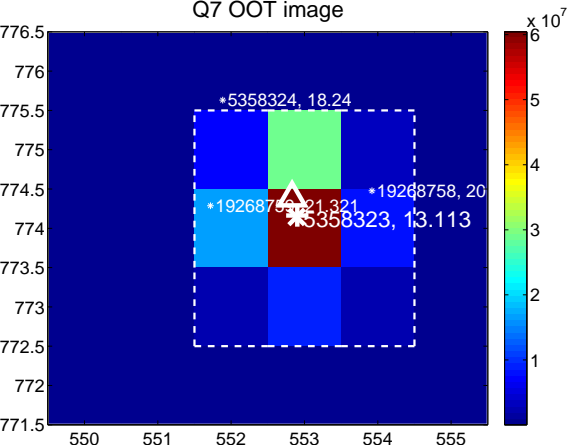
Q6 no OOT image



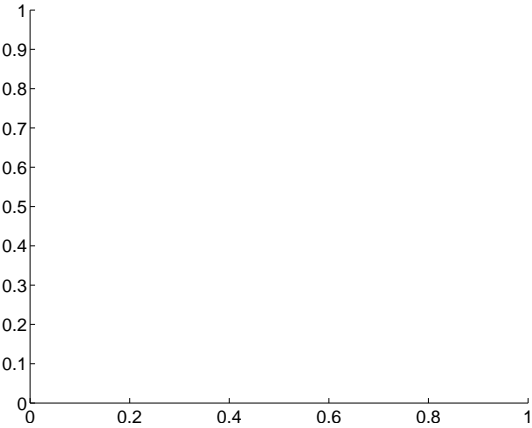
Q7 difference image



Q7 OOT image



Q8 no difference image



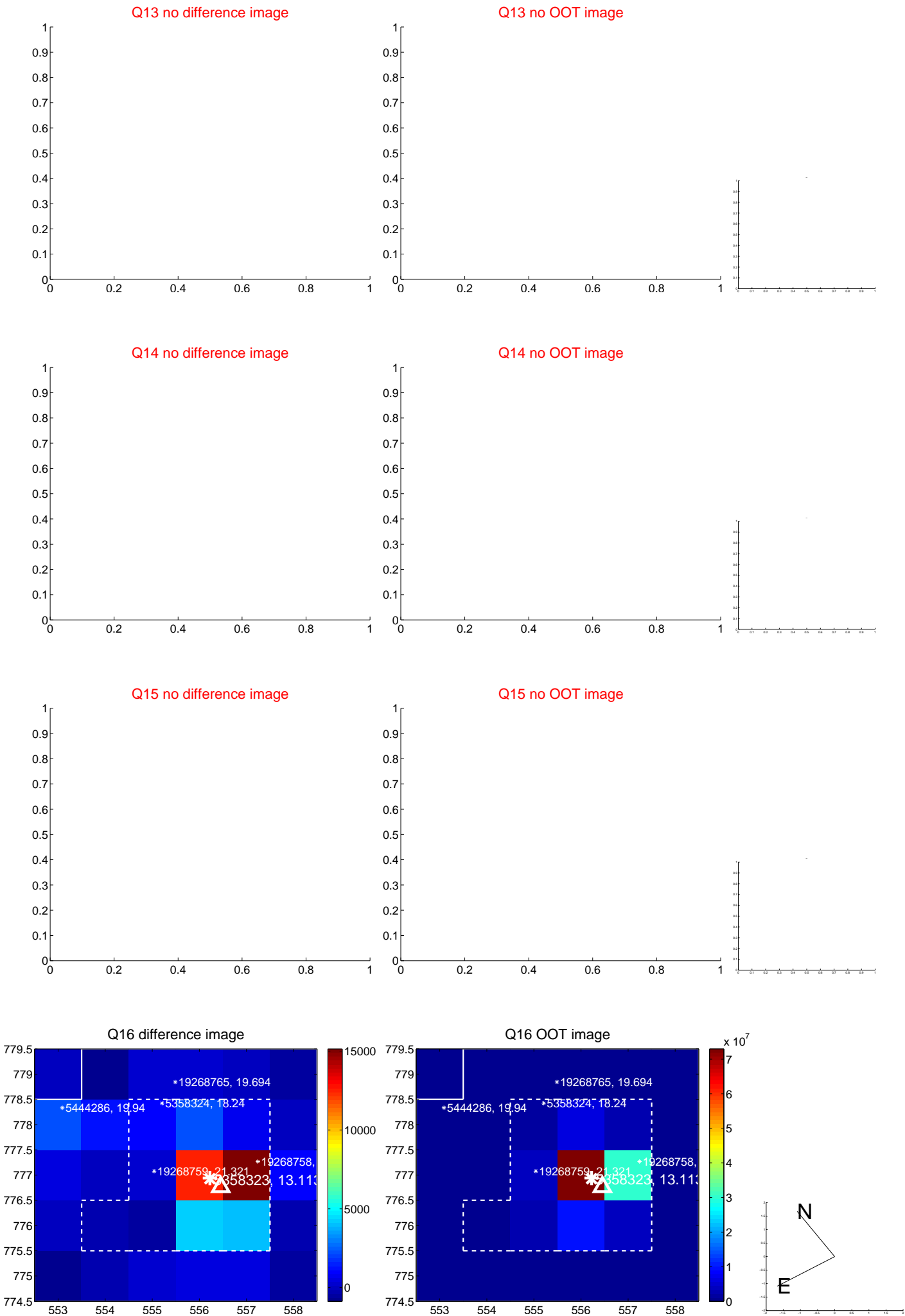
Q8 no OOT image



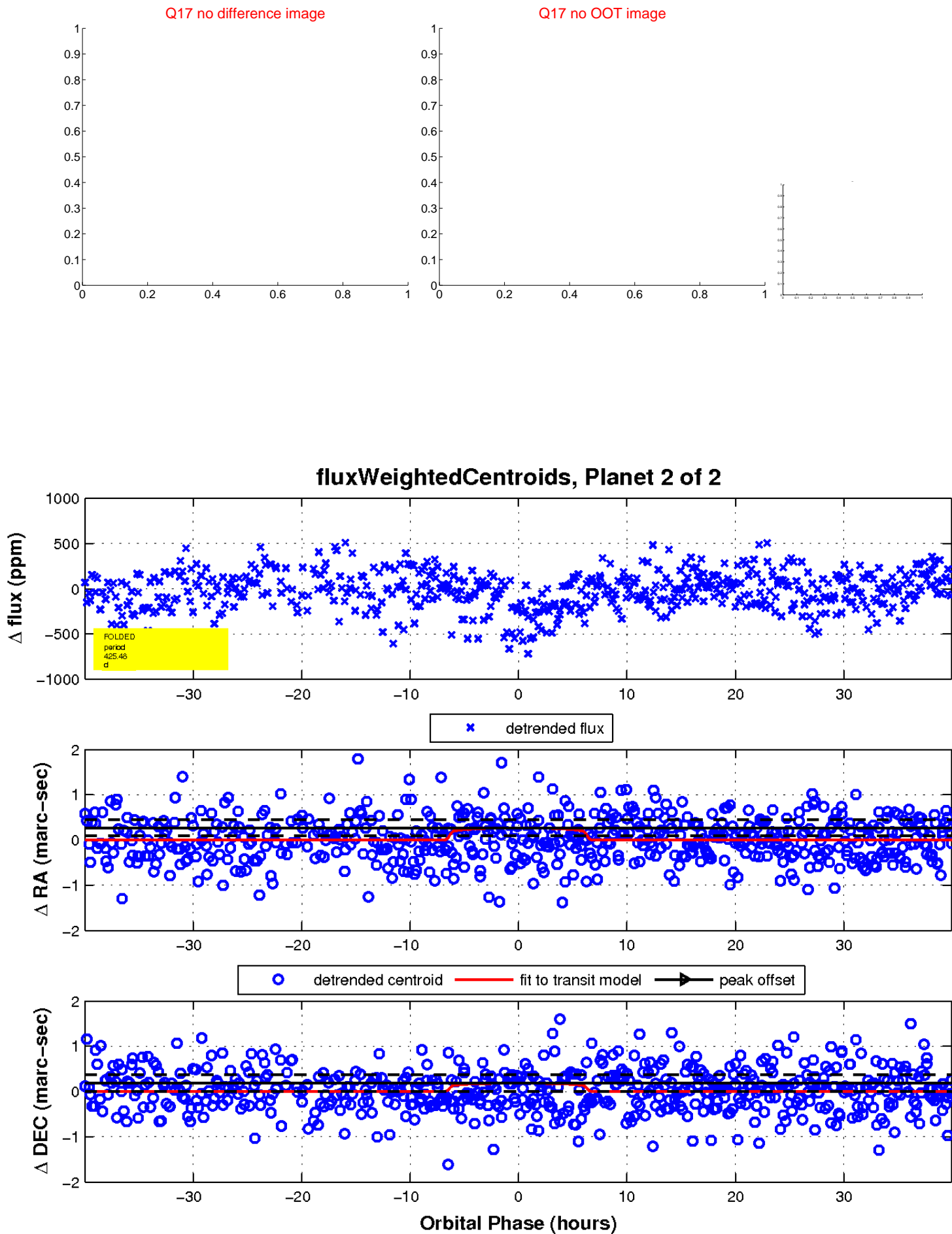
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

