

KIC 008265953

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})
008265953-01	OBS	No	0.779910	132.208875	46.2	4.267	9.5	6.5	0.93	5562	0.64	2925.27
008265953-02	OBS	No	510.039578	402.891131	989.9	26.158	8.4	6.1	0.93	5562	3.18	0.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008265953-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—EPHEM_MATCH
008265953-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—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.

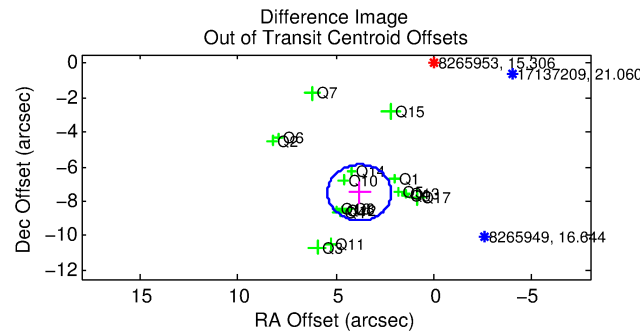
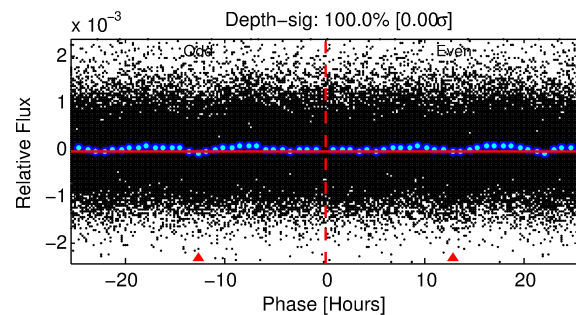
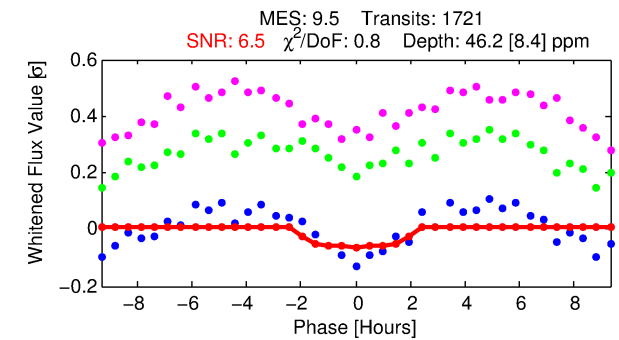
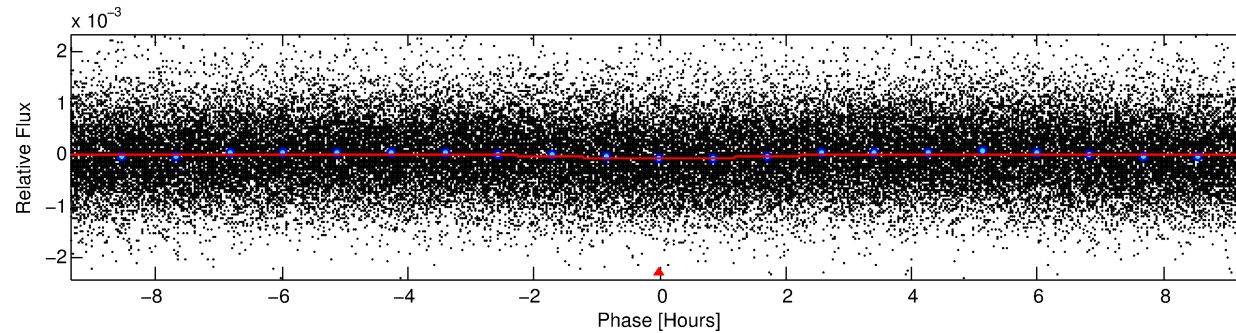
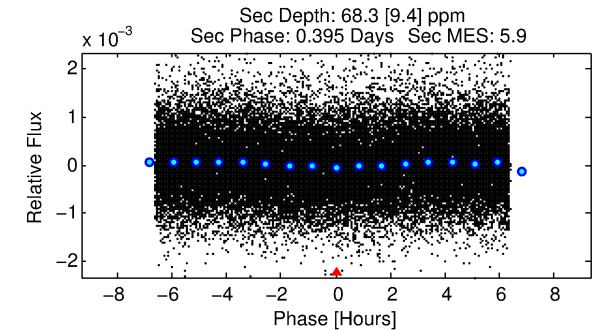
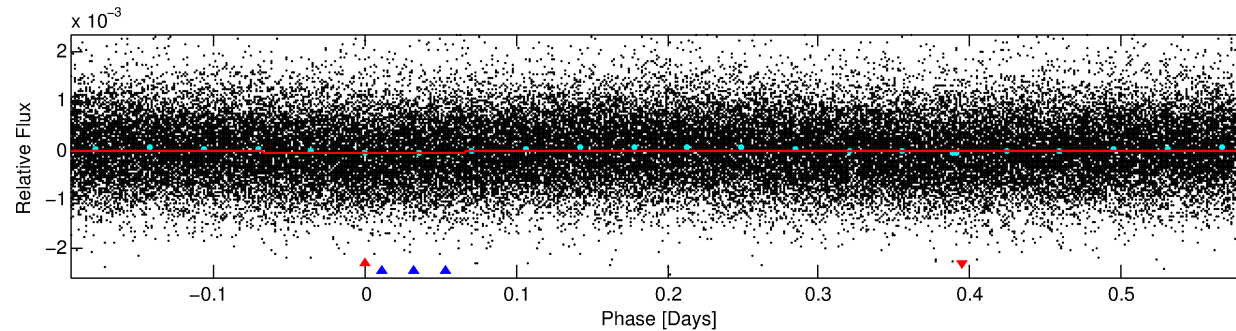
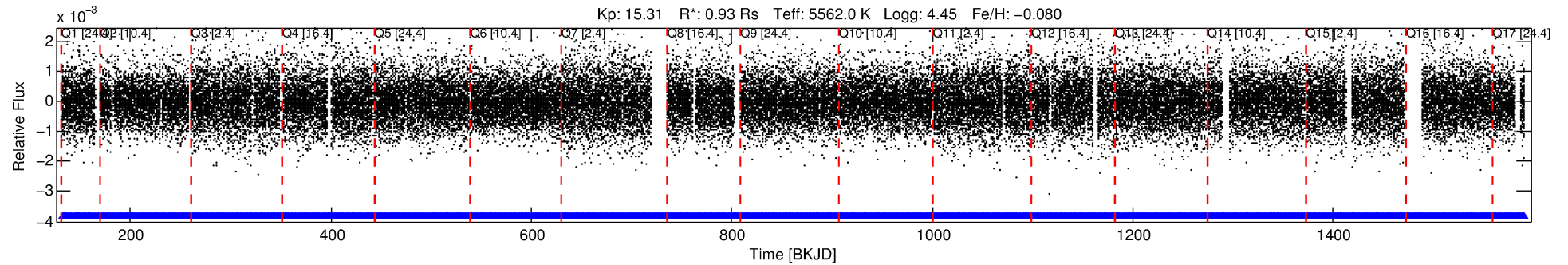
Ephemeris Match Information For 008265953-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist ($''$)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
008265953-01	8265953	008265993-01	8265993	1:1	54.3	4	13	13.03	15.31	0.26	Direct-PRF	1	0.89	1.62

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 8265953 Candidate: 1 of 2 Period: 0.780 d



DV Fit Results:

Period = 0.77991 [0.00002] d
Epoch = 132.2089 [0.0070] BKJD
Rp/R* = 0.0063 [0.0082]
a/R* = 1.42 [3.81]
b = 0.50 [8.11]
Seff = 2925.27 [996.41]
Teq = 1875 [160] K
Rp = 0.64 [0.84] Re
a = 0.0159 [0.0035] AU
Ag = 22.97 [59.66] [0.37σ]
Teff = 6347 [4095] K [1.09σ]

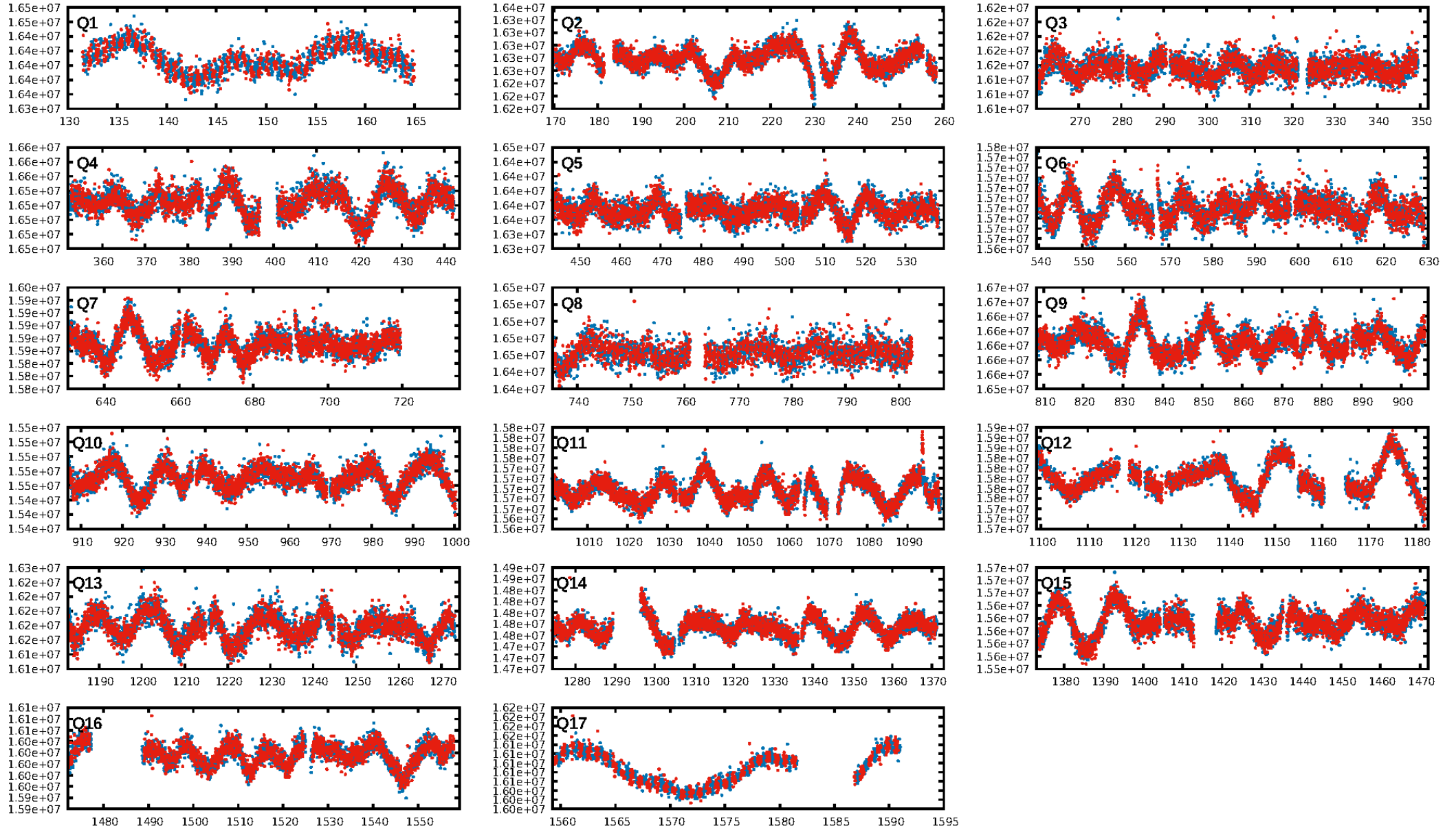
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [461.15σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.35e-15
RollingBand-fgt: 1.00 [1642/1642]
GhostDiagnostic-chr: -0.654
Centroid-sig: 87.1%
Centroid-so: 1.336 arcsec [0.69σ]
OotOffset-rm: 8.415 arcsec [15.56σ]
KicOffset-rm: 8.506 arcsec [16.17σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

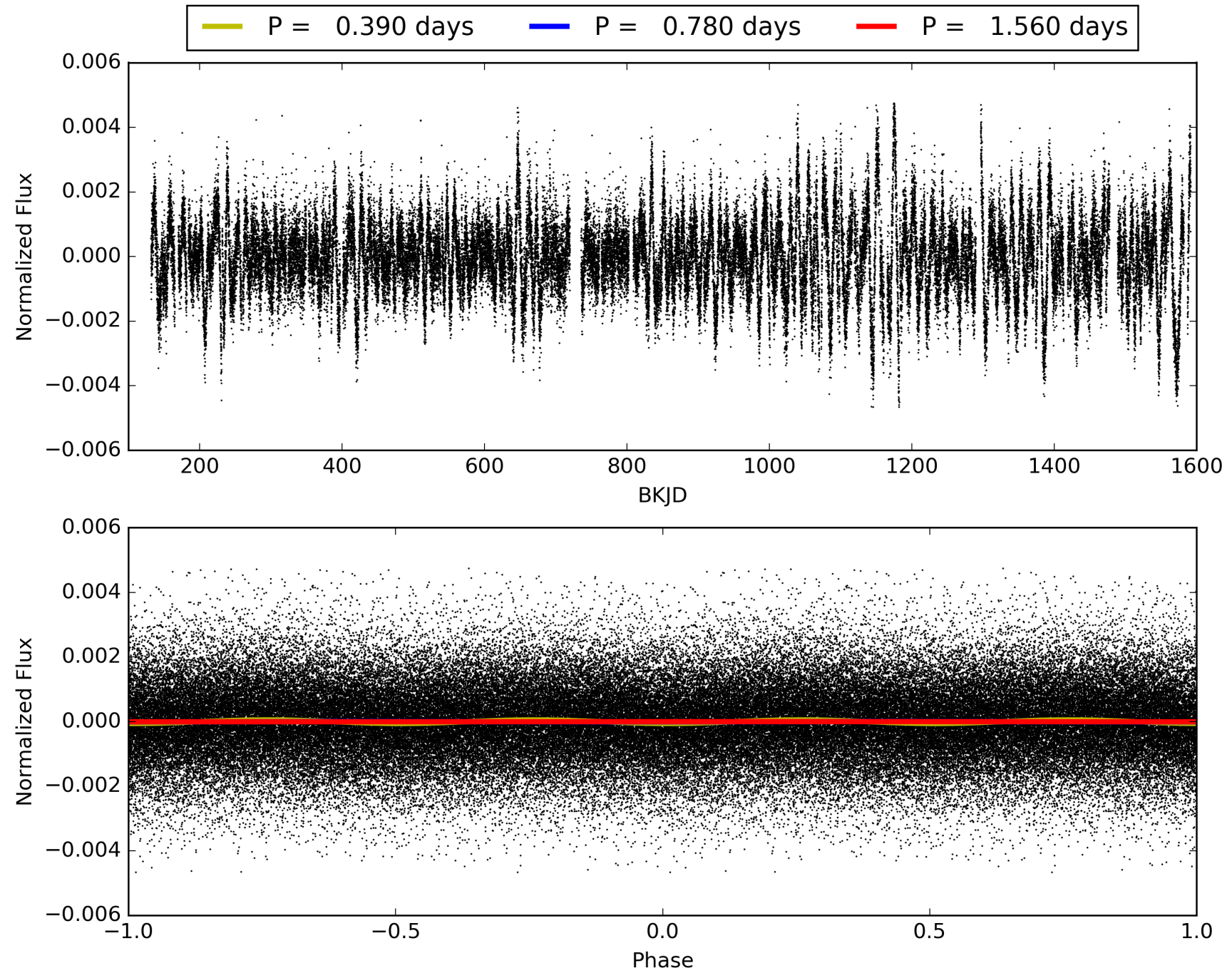
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008265953-01, PDC Light Curves

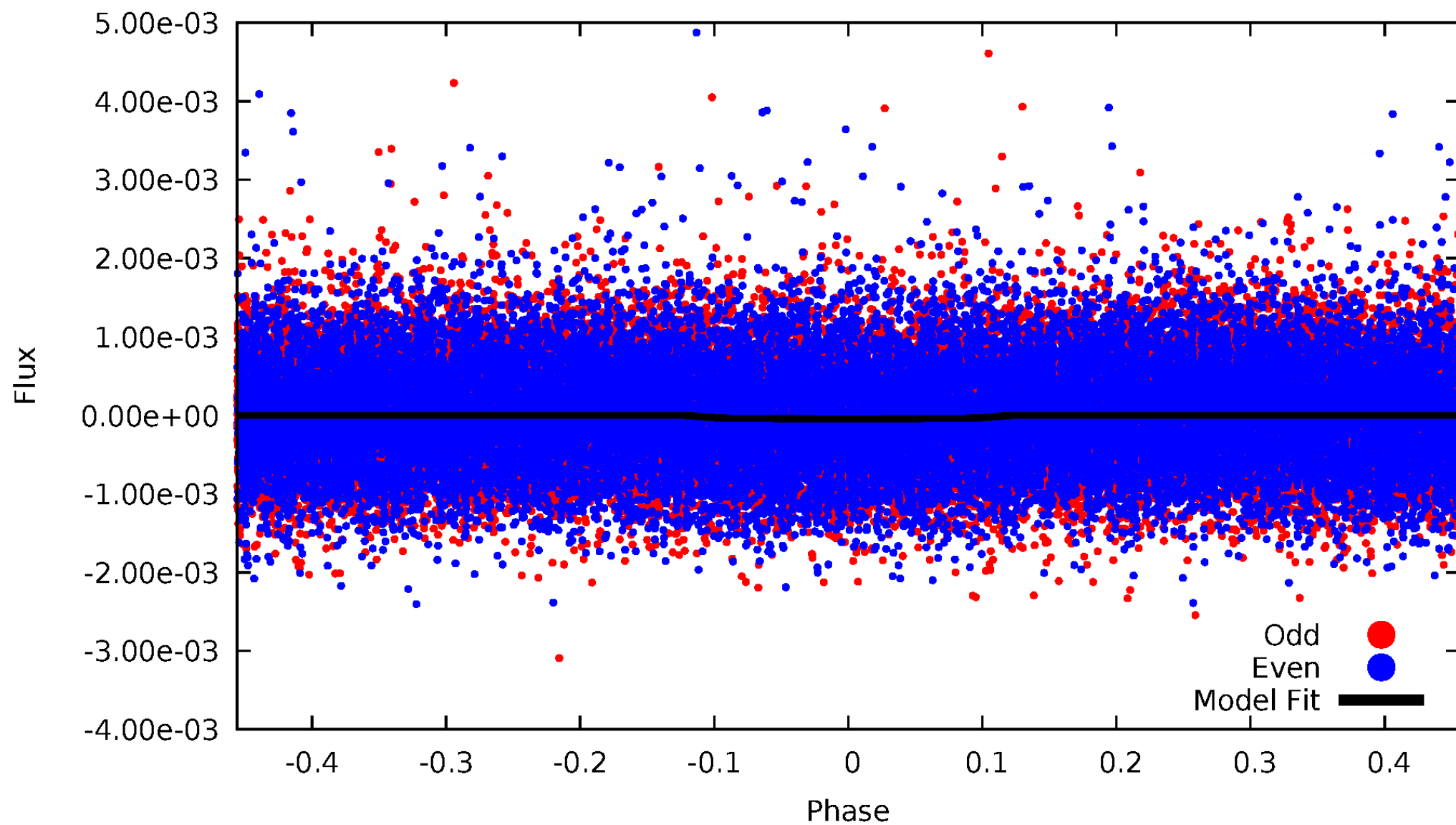


TCE 008265953-01



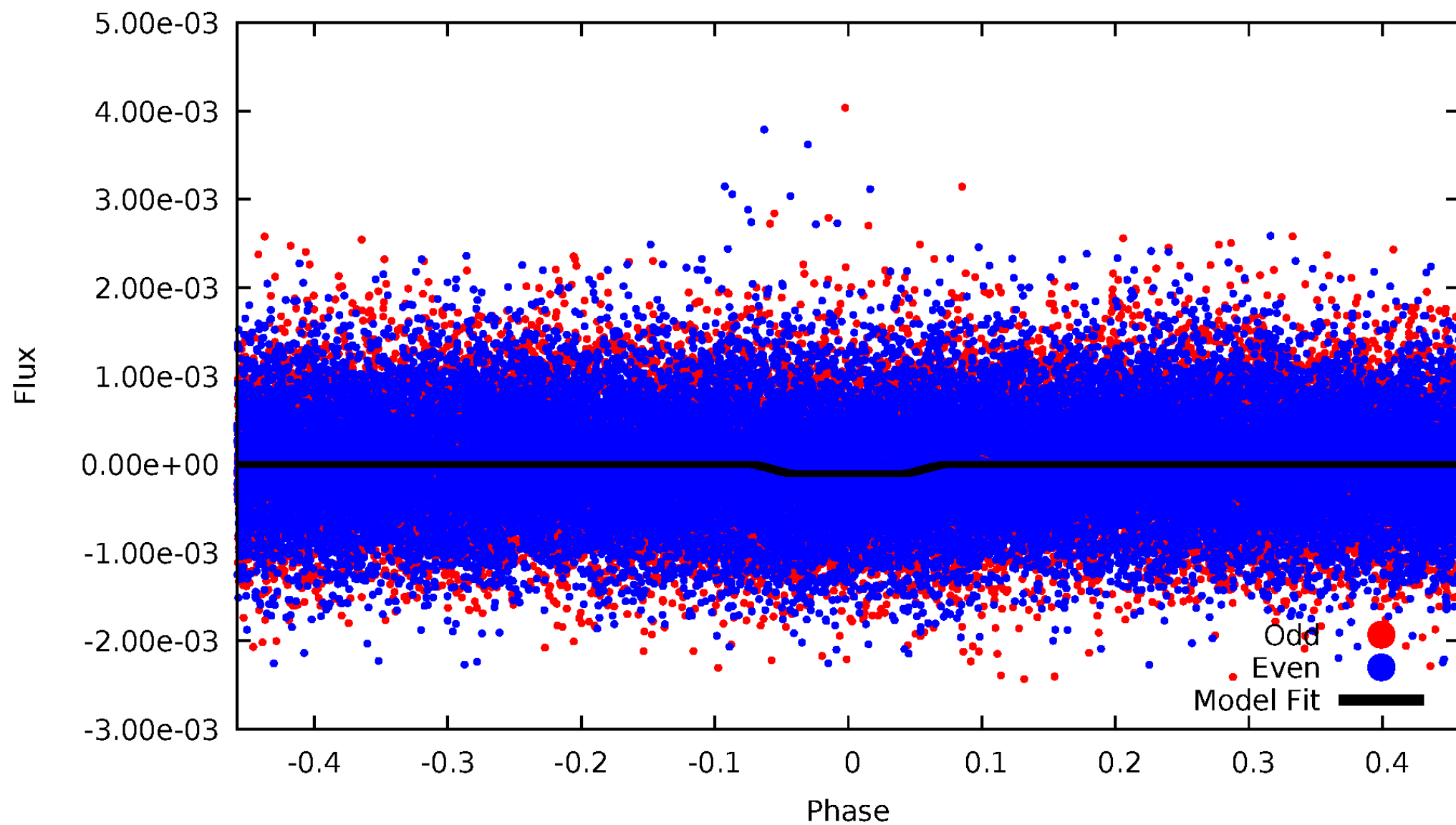
DV Odd/Even

TCE 008265953-01

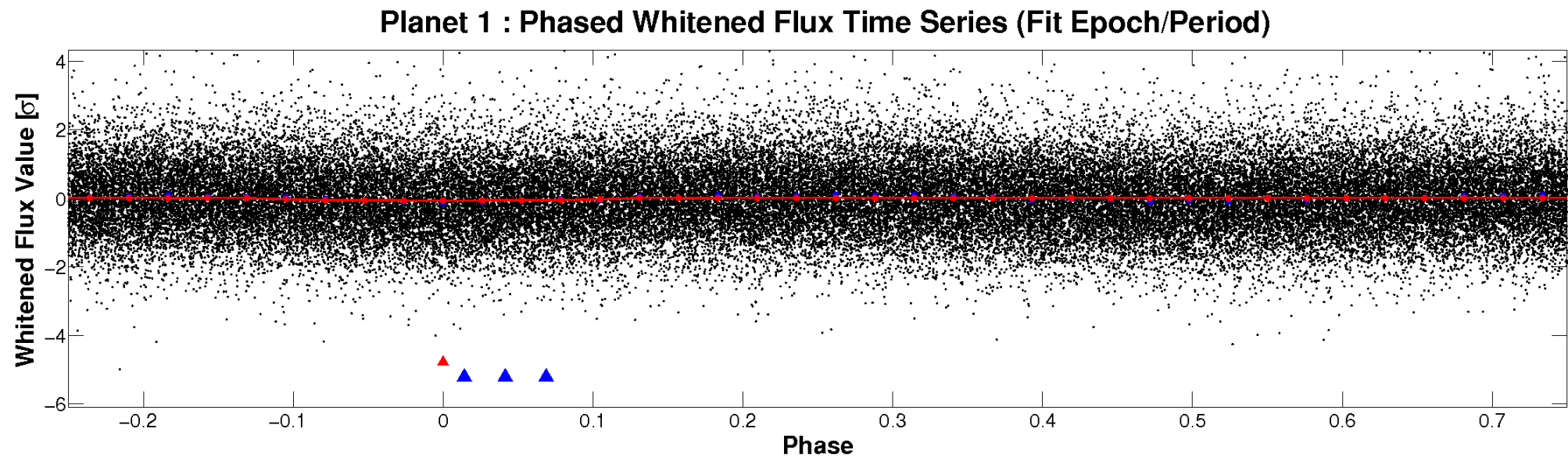
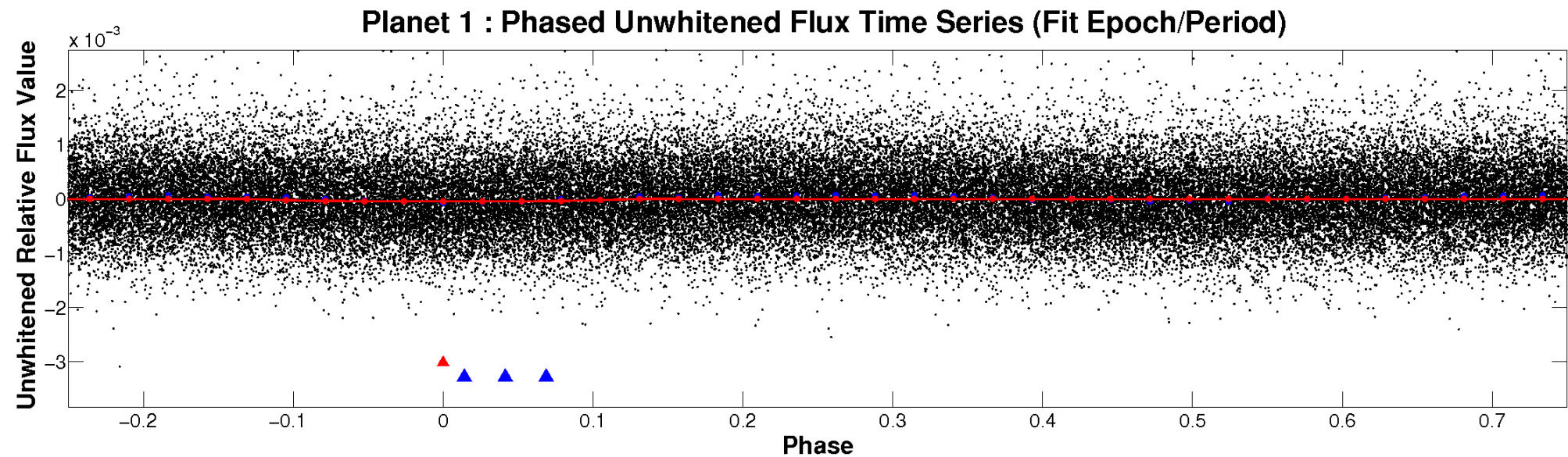


ALT Odd/Even

TCE 008265953-01

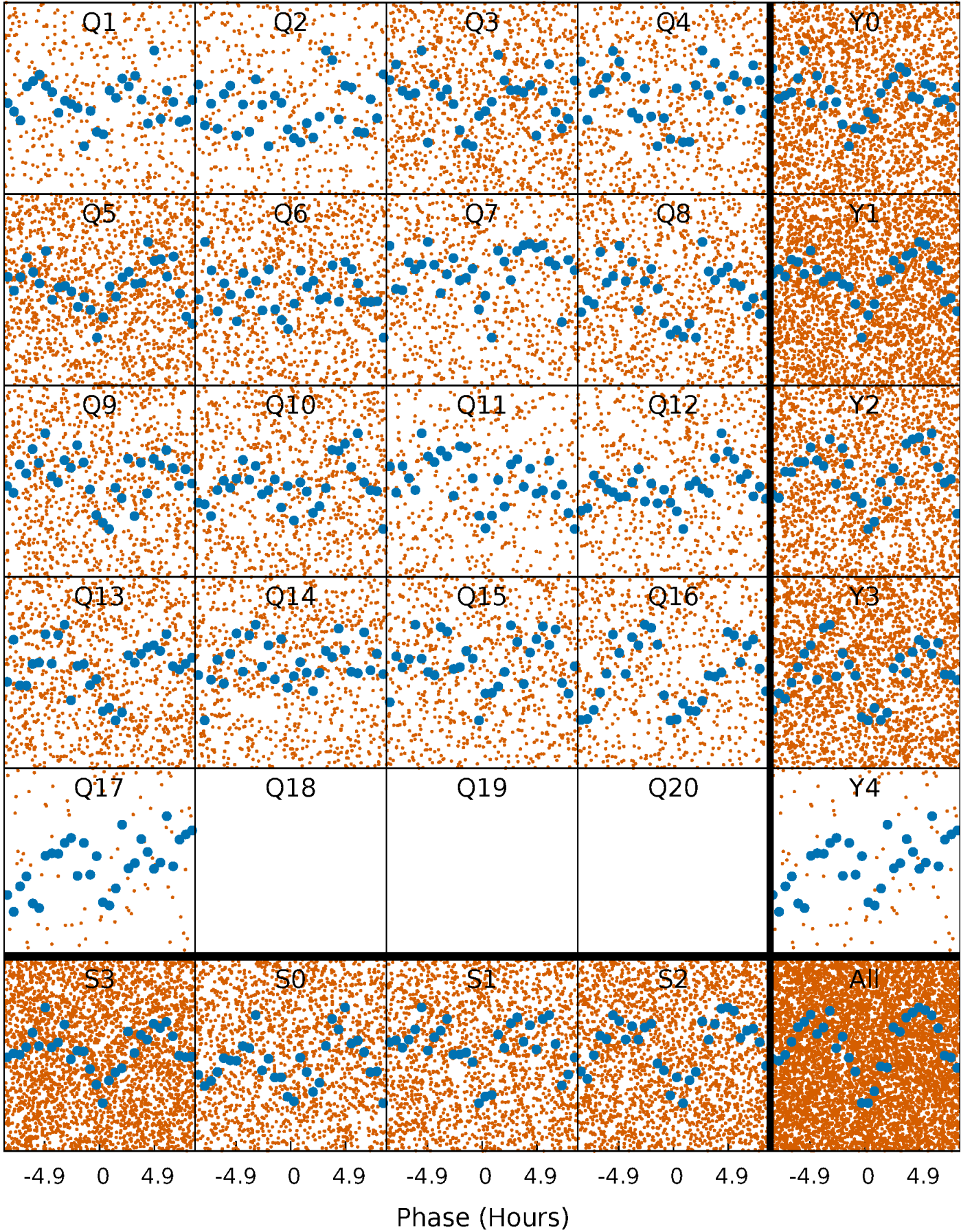


Non-Whitened Vs. Whitened Light Curve



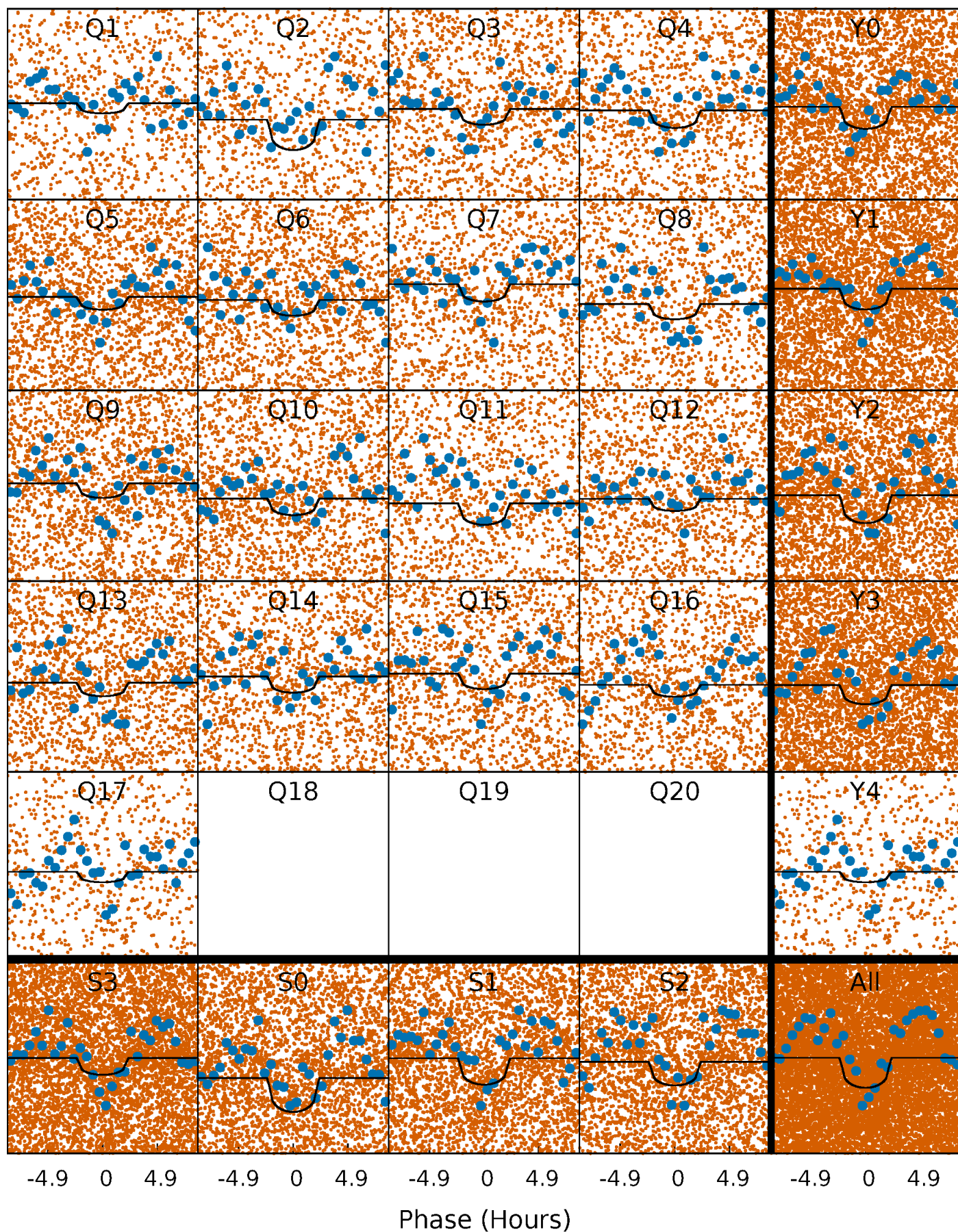
PDC Quarter-Phased Transit Curves

TCE 008265953-01 P= 0.779910 Days $T_0=132.208875$ (BKJD)



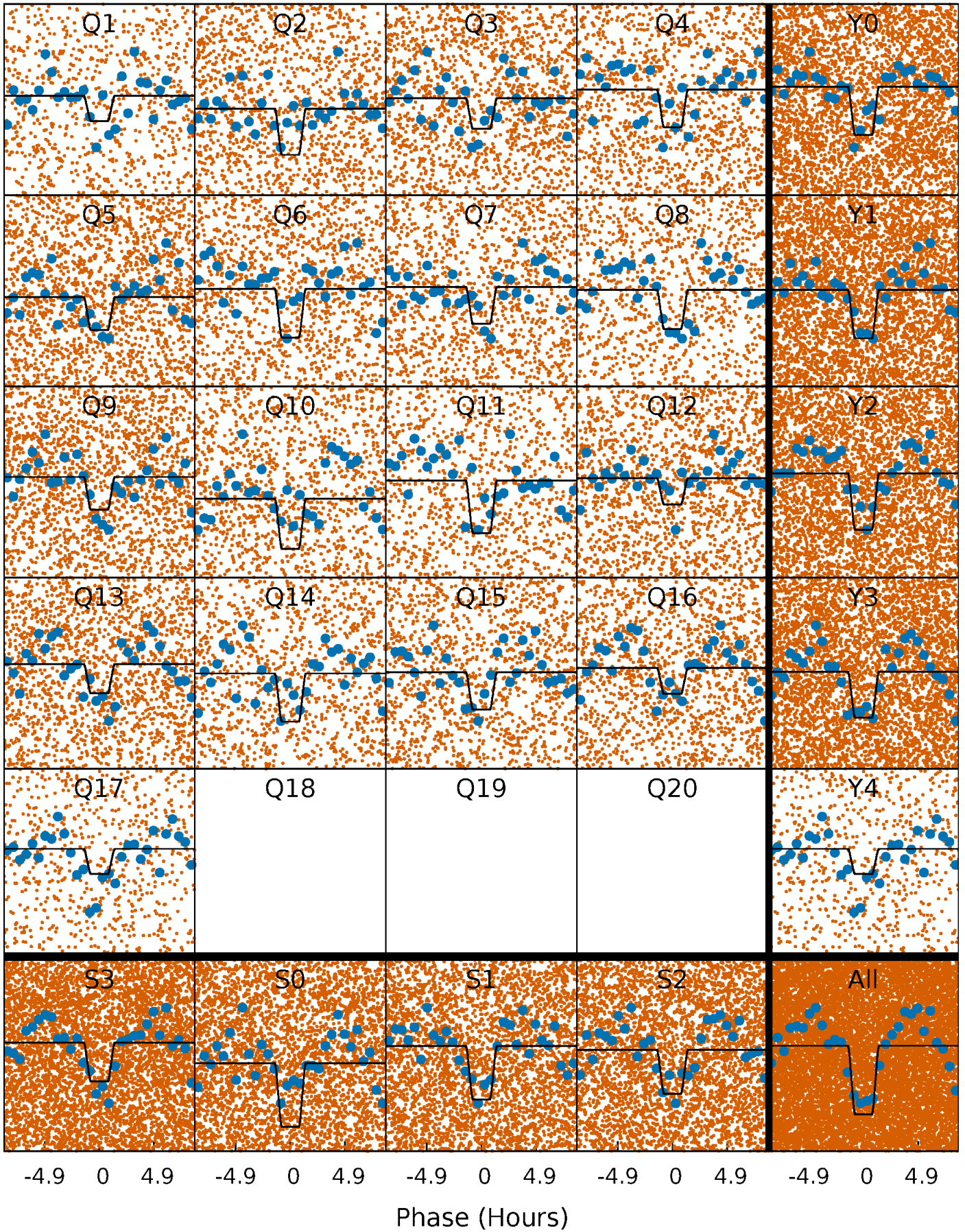
DV Quarter-Phased Transit Curves

TCE 008265953-01 P= 0.779910 Days $T_0=132.208875$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

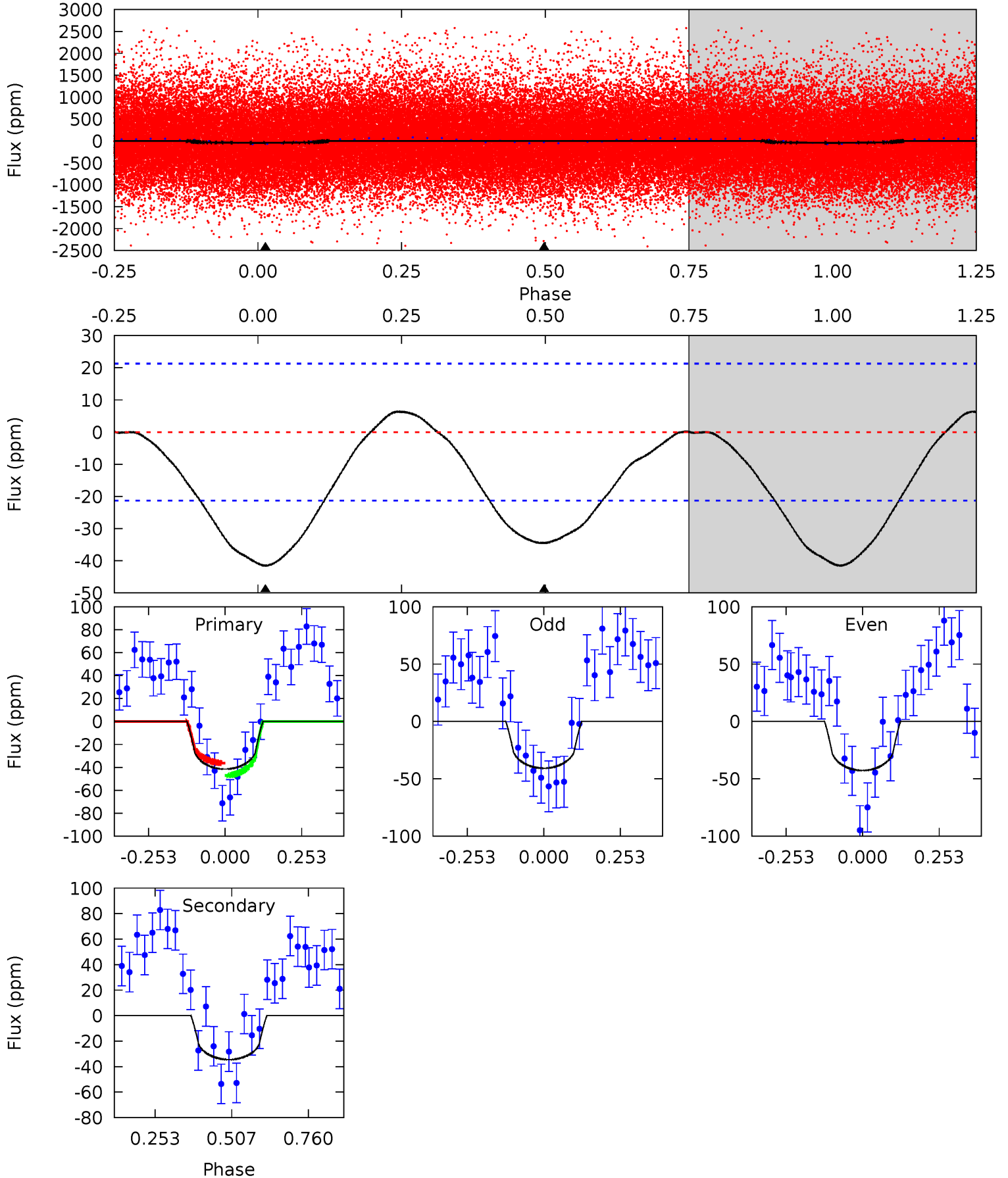
TCE 008265953-01 P= 0.779958 Days $T_0=132.169607$ (BKJD)



DV Model-Shift Uniqueness Test

008265953-01, P = 0.779910 Days, E = 131.428965 Days

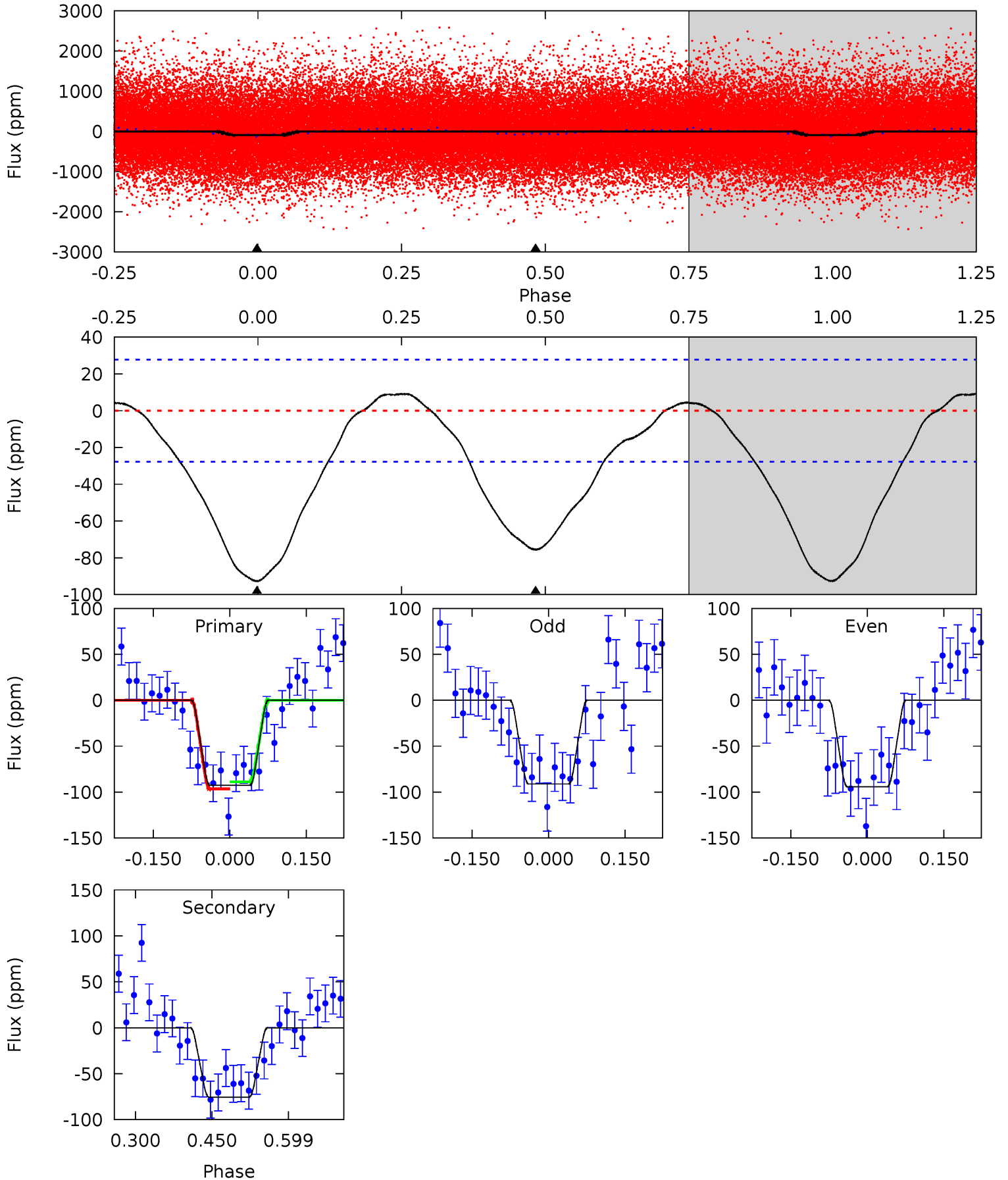
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.51	7.07	0	0	4.37	1.14	0.61	8.51	8.51	7.07	7.07	0.20	0.86	0.13	1.10



Alt Model-Shift Uniqueness Test

008265953-01, P = 0.779958 Days, E = 131.389649 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.0	12.2	0	0	4.48	1.44	1.28	15.0	15.0	12.2	12.2	0.24	0.98	0.09	0.62



Stellar Parameters For KIC 008265953

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5562^{+166}_{-166}	$4.446^{+0.094}_{-0.175}$	$-0.080^{+0.300}_{-0.300}$	$0.926^{+0.239}_{-0.129}$	$0.874^{+0.111}_{-0.083}$	$1.551^{+0.750}_{-0.733}$
	+3%/-3%	+2%/-4%	+375%/-375%	+26%/-14%	+13%/-9%	+48%/-47%
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 008265953-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-34 ± 5	$0.87^{+0.69}_{-0.56}$	2644^{+175}_{-133}	4758^{+3029}_{-1048}	$6.232^{+42.380}_{-4.428}$
Alt.	-75 ± 6	$1.19^{+0.87}_{-0.74}$	2649^{+178}_{-139}	4886^{+3070}_{-965}	$7.399^{+42.892}_{-5.003}$

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 $A_{obs} \gg 1.0$

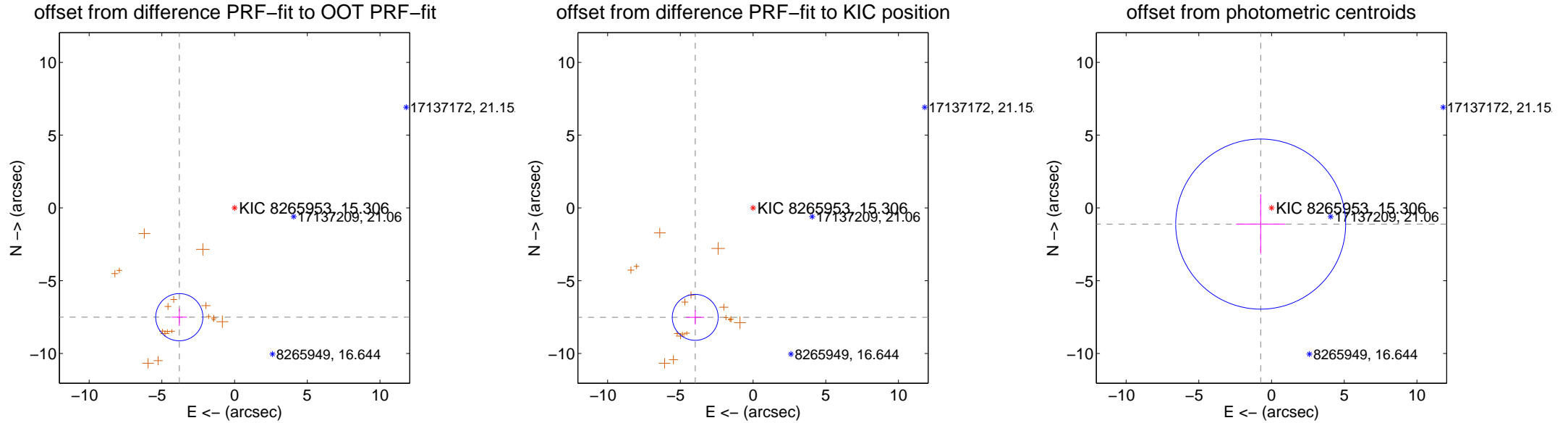
DV Centroid Data

Supplemental centroid analysis for 008265953-01. Kepler magnitude: 15.31. Transit SNR 6.47

There are 0 quarters with good PRF difference image offsets

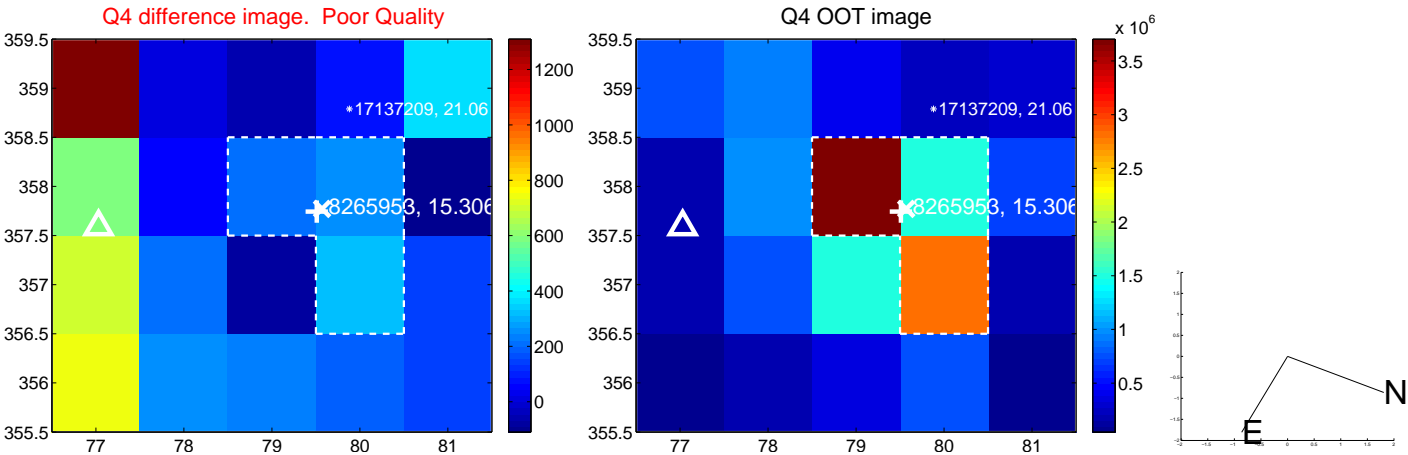
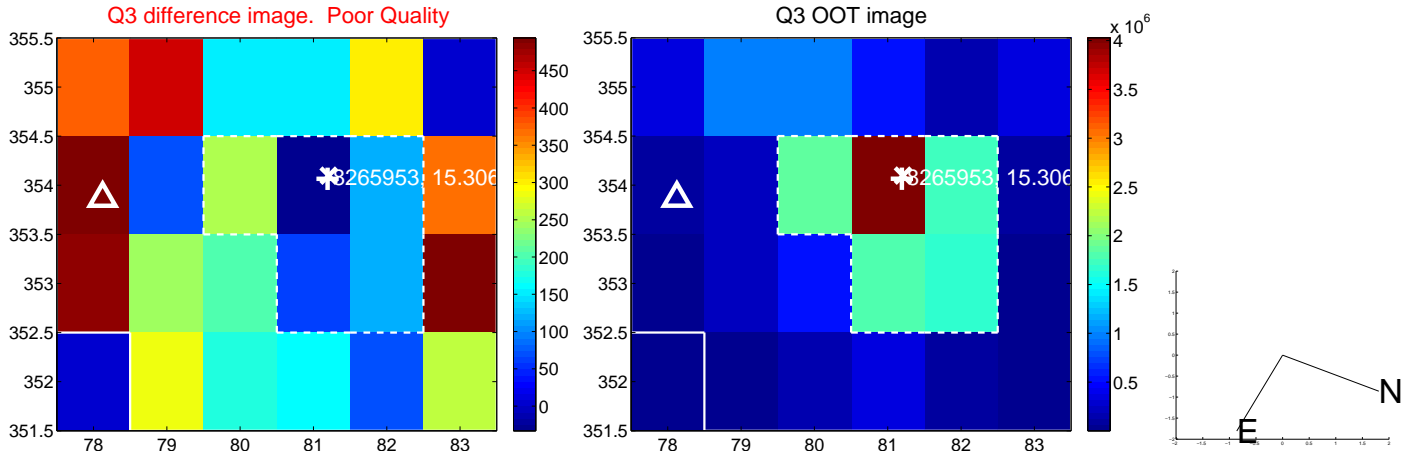
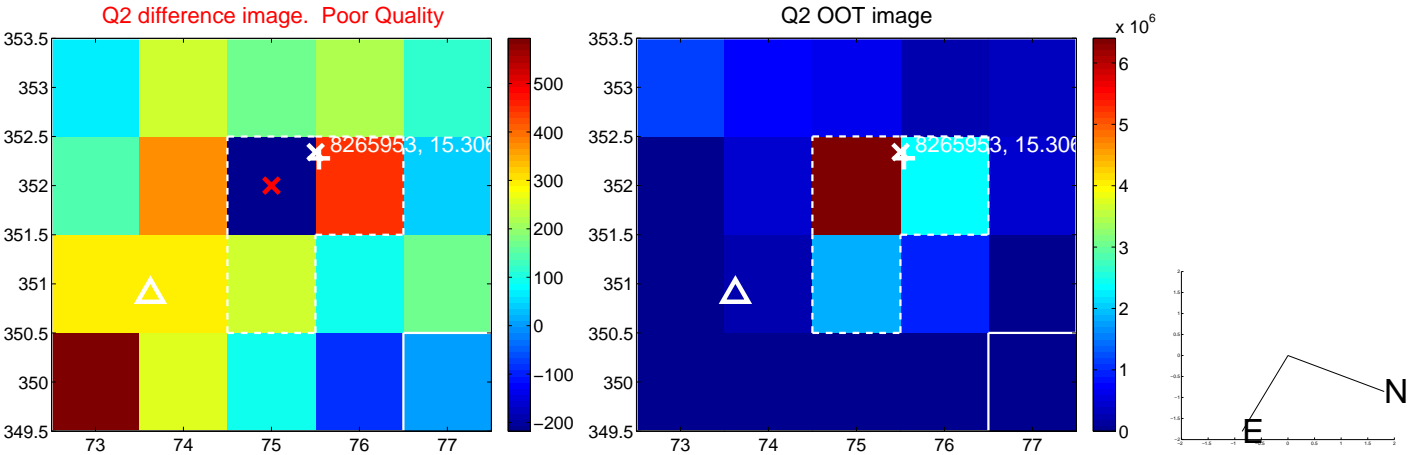
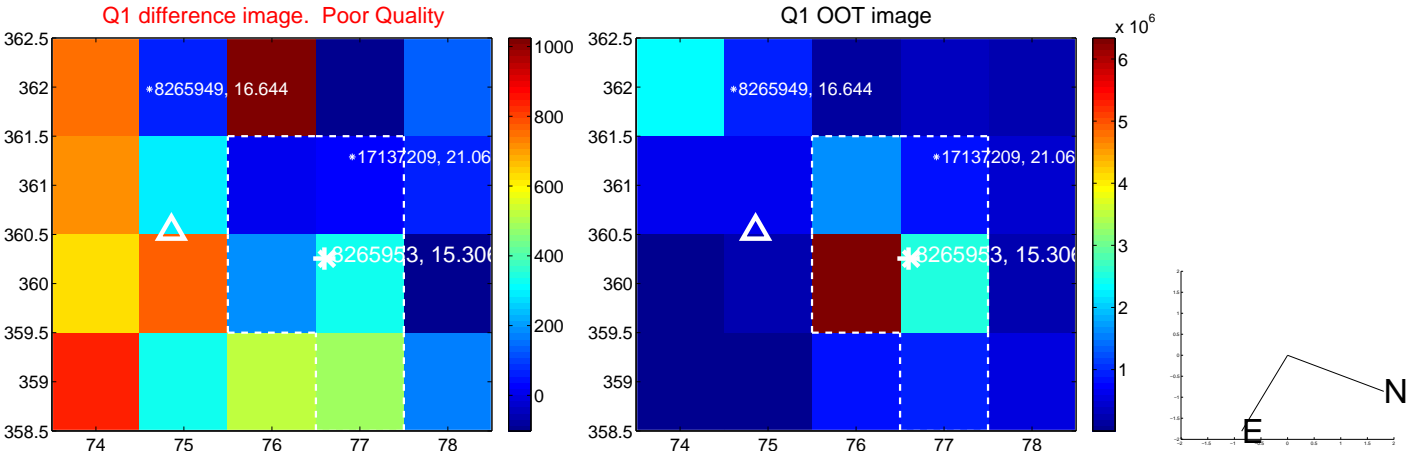
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.415 \pm 0.541	15.56	3.801 \pm 0.524	-7.507 \pm 0.597
PRF-fit source offset from KIC position	8.506 \pm 0.526	16.17	3.977 \pm 0.622	-7.519 \pm 0.496
photometric centroid source offset	1.34 \pm 1.95	0.69	0.75 \pm 1.69	-1.11 \pm 2.05

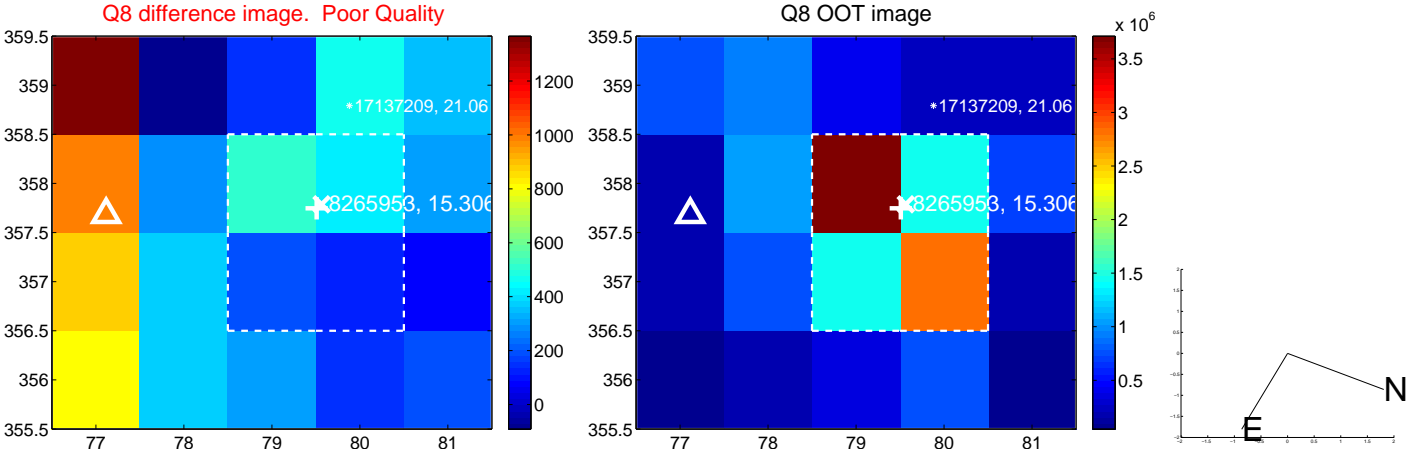
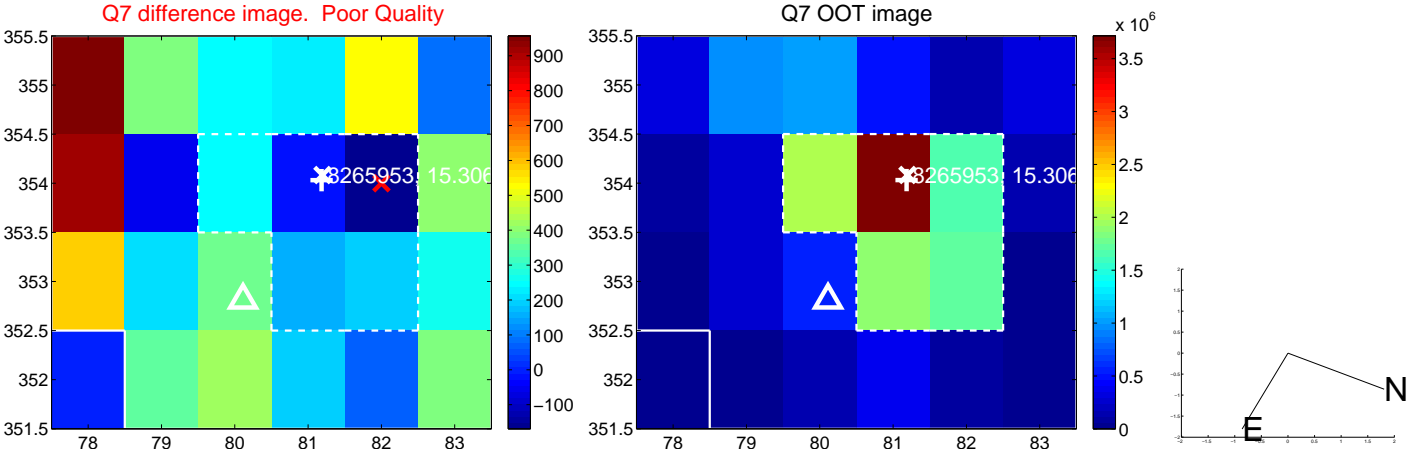
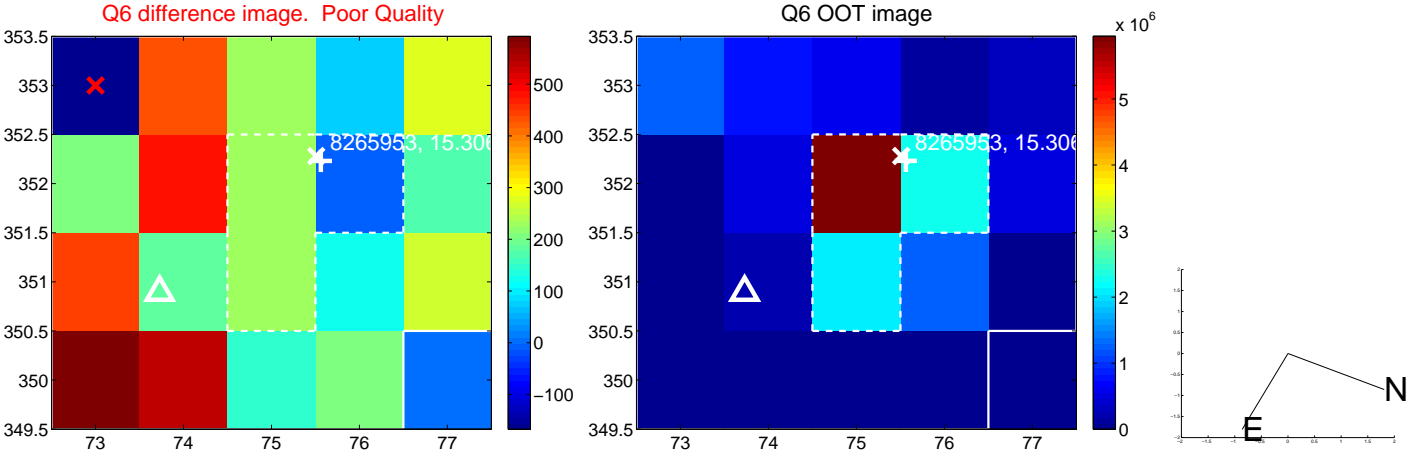
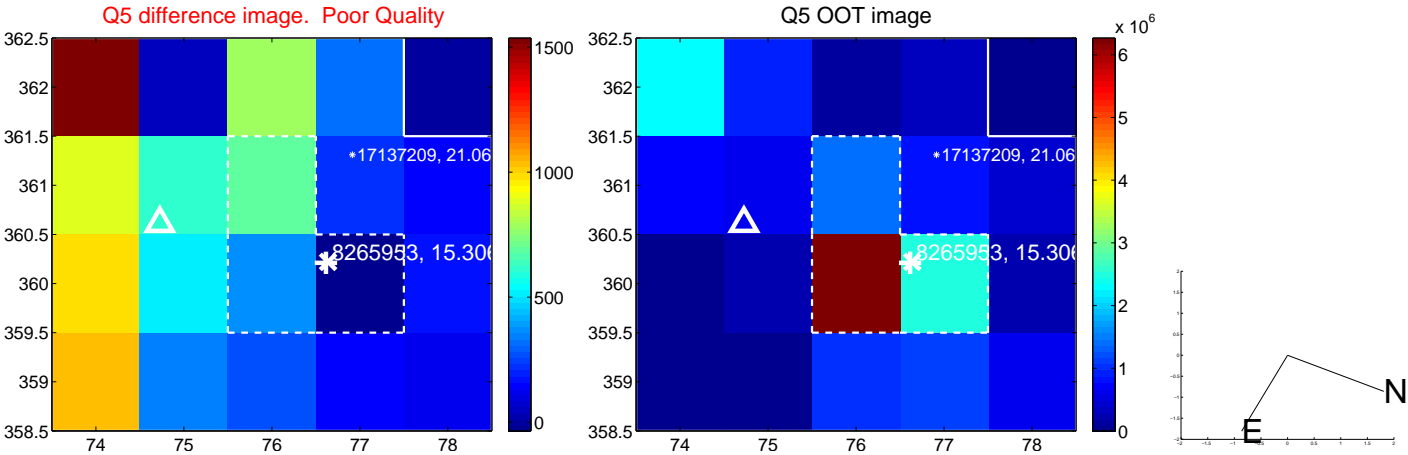


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

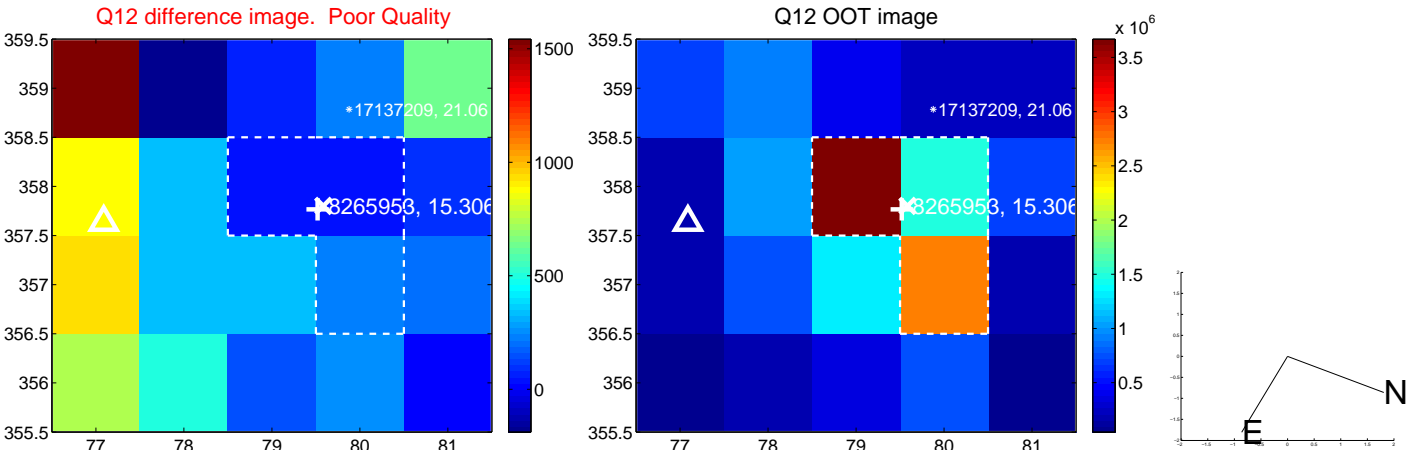
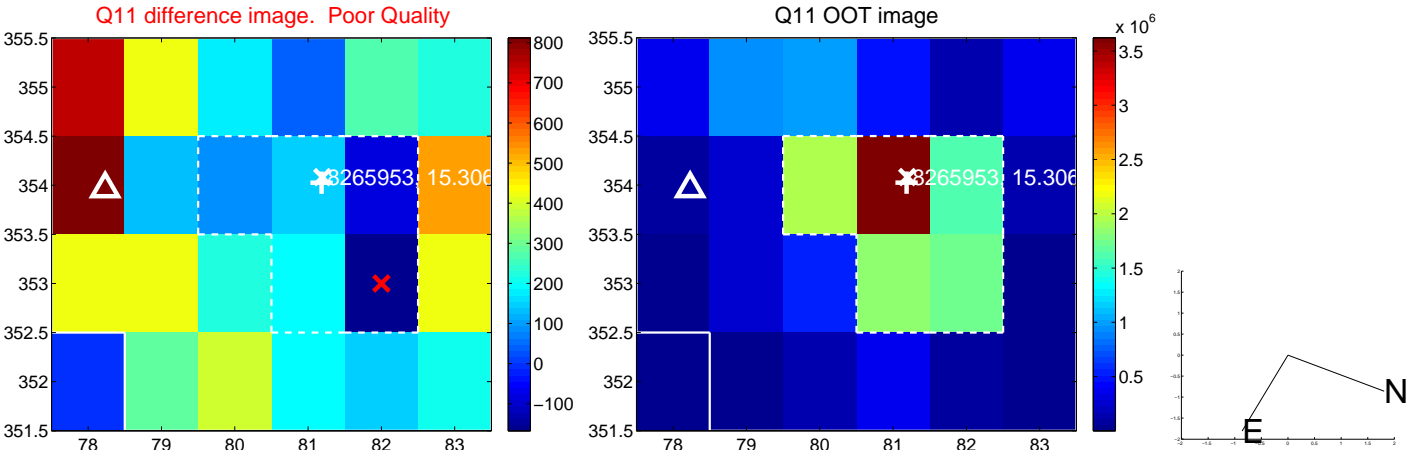
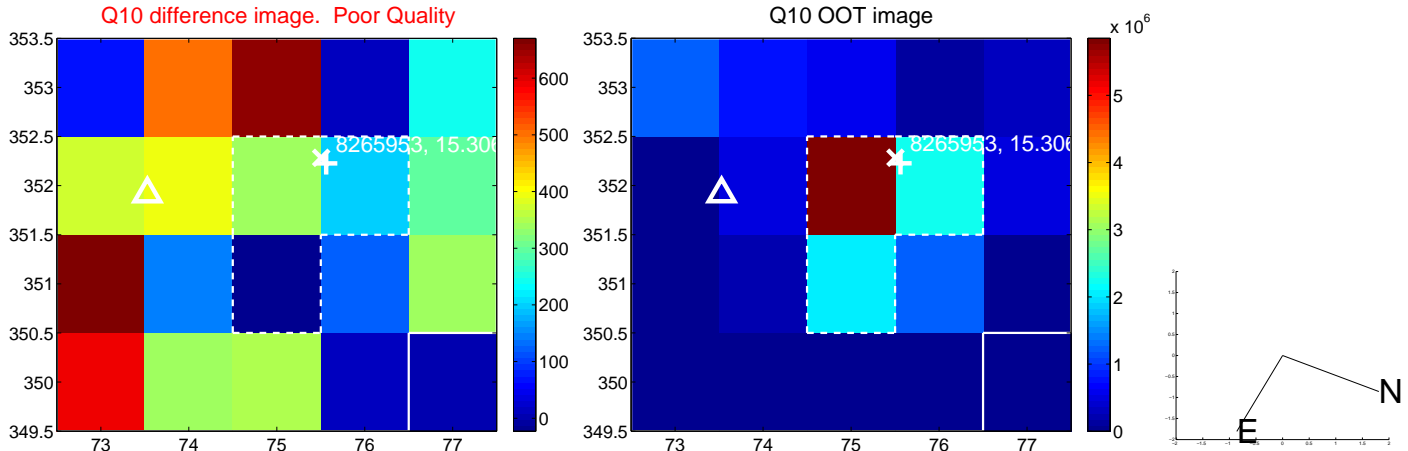
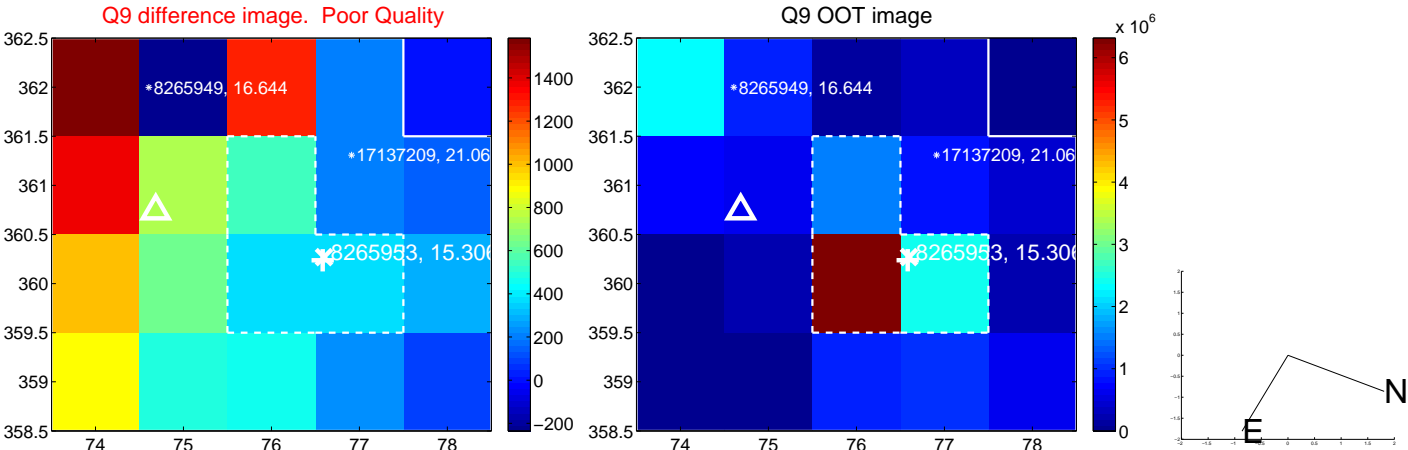
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



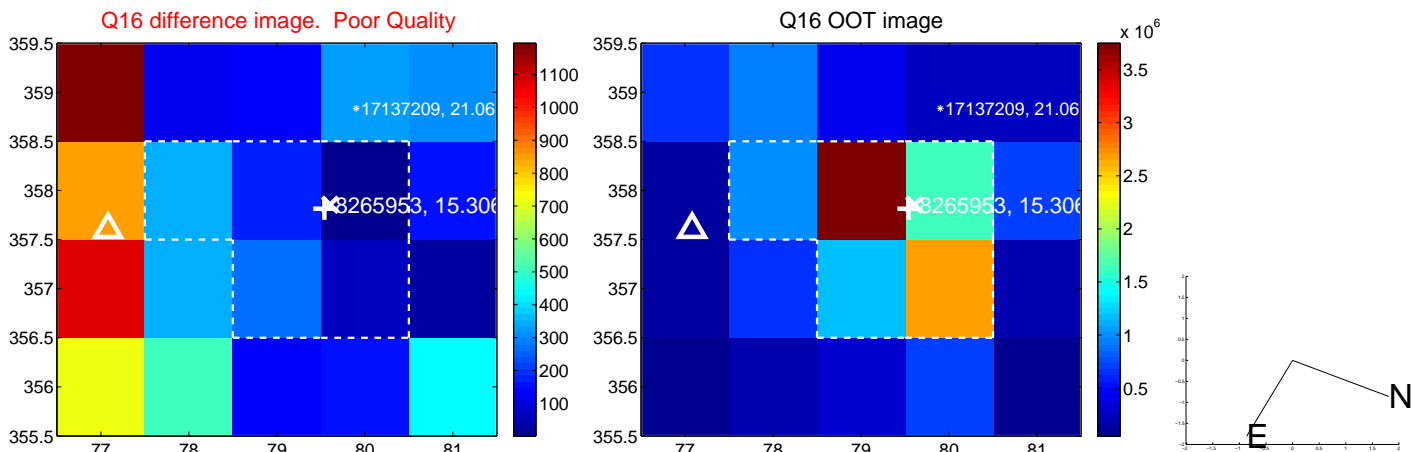
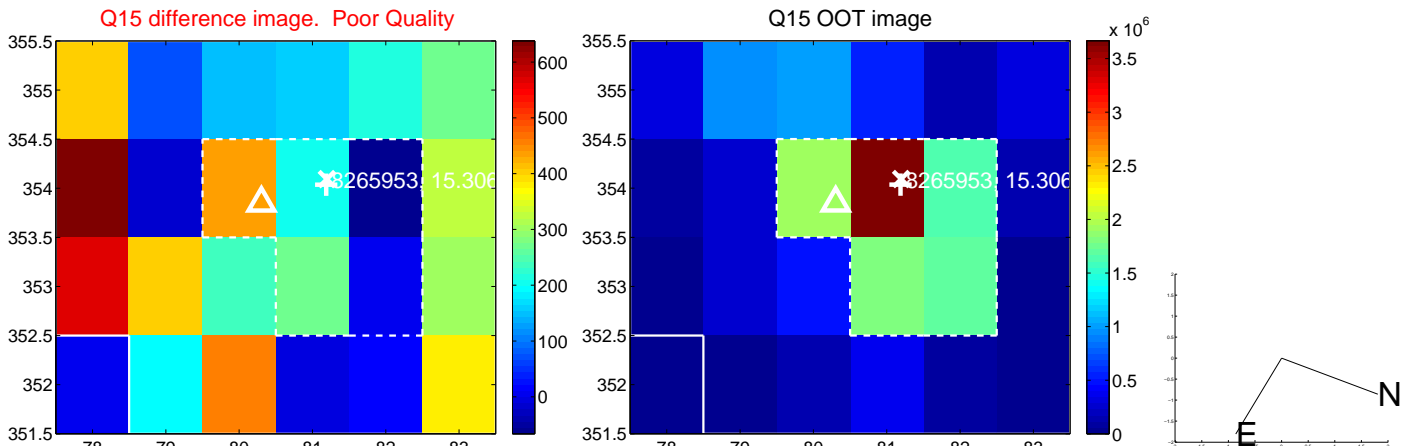
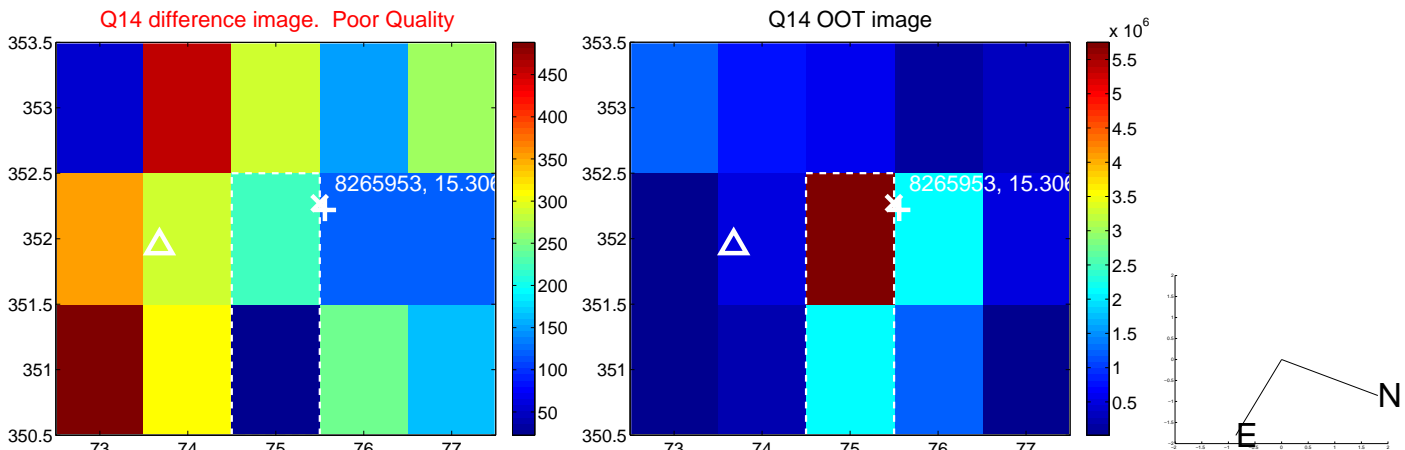
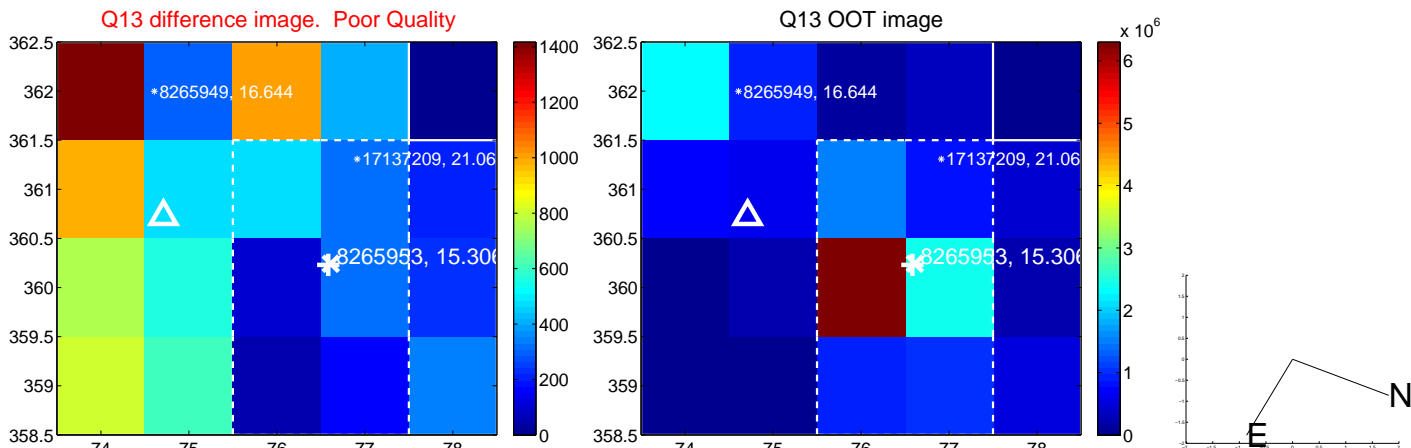
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



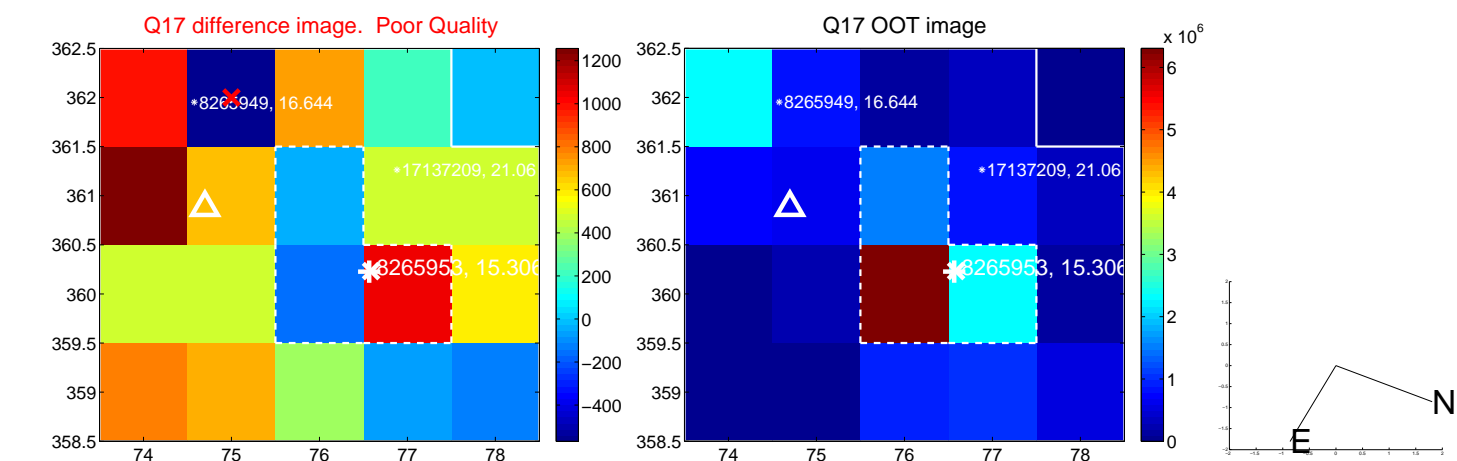
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



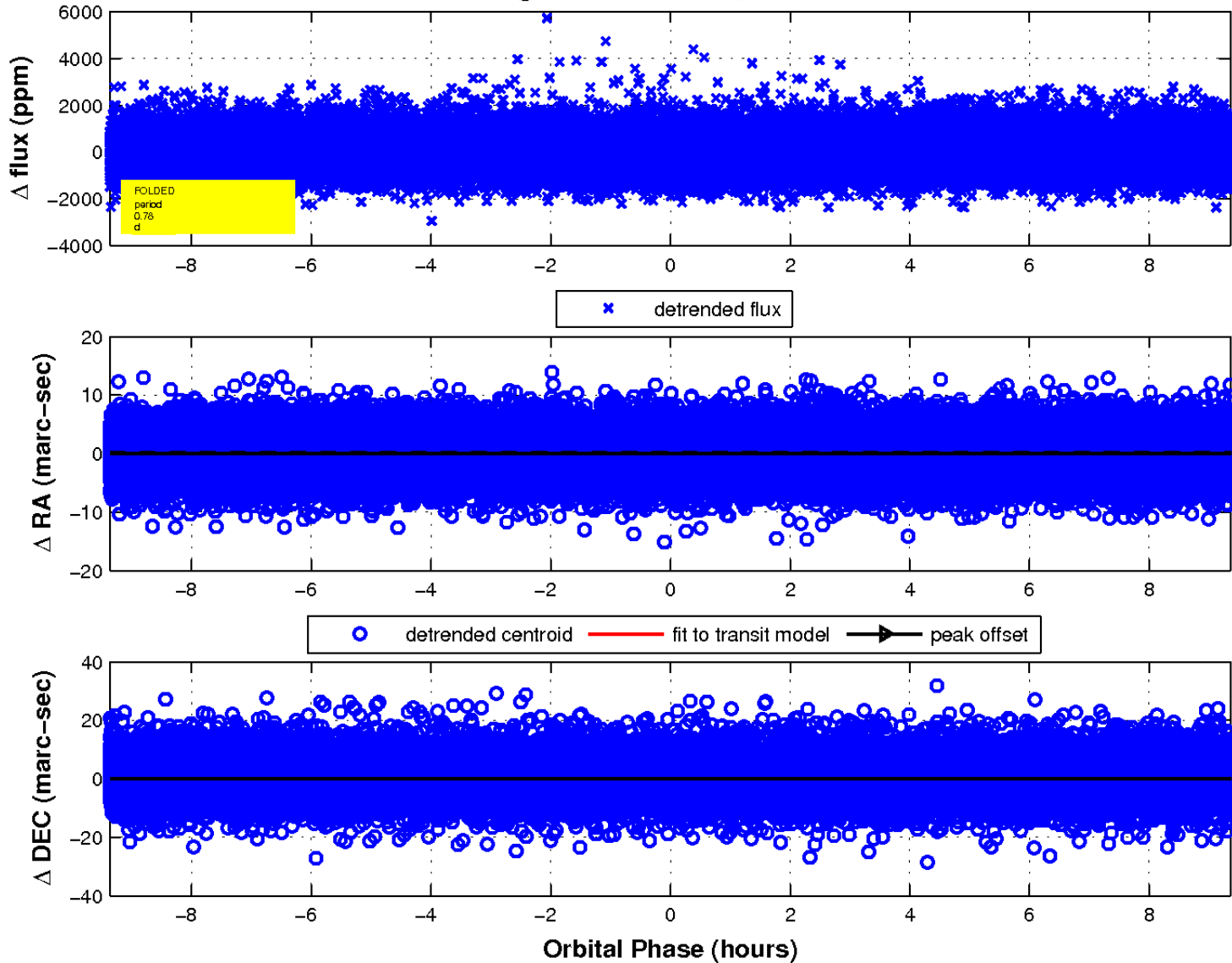
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

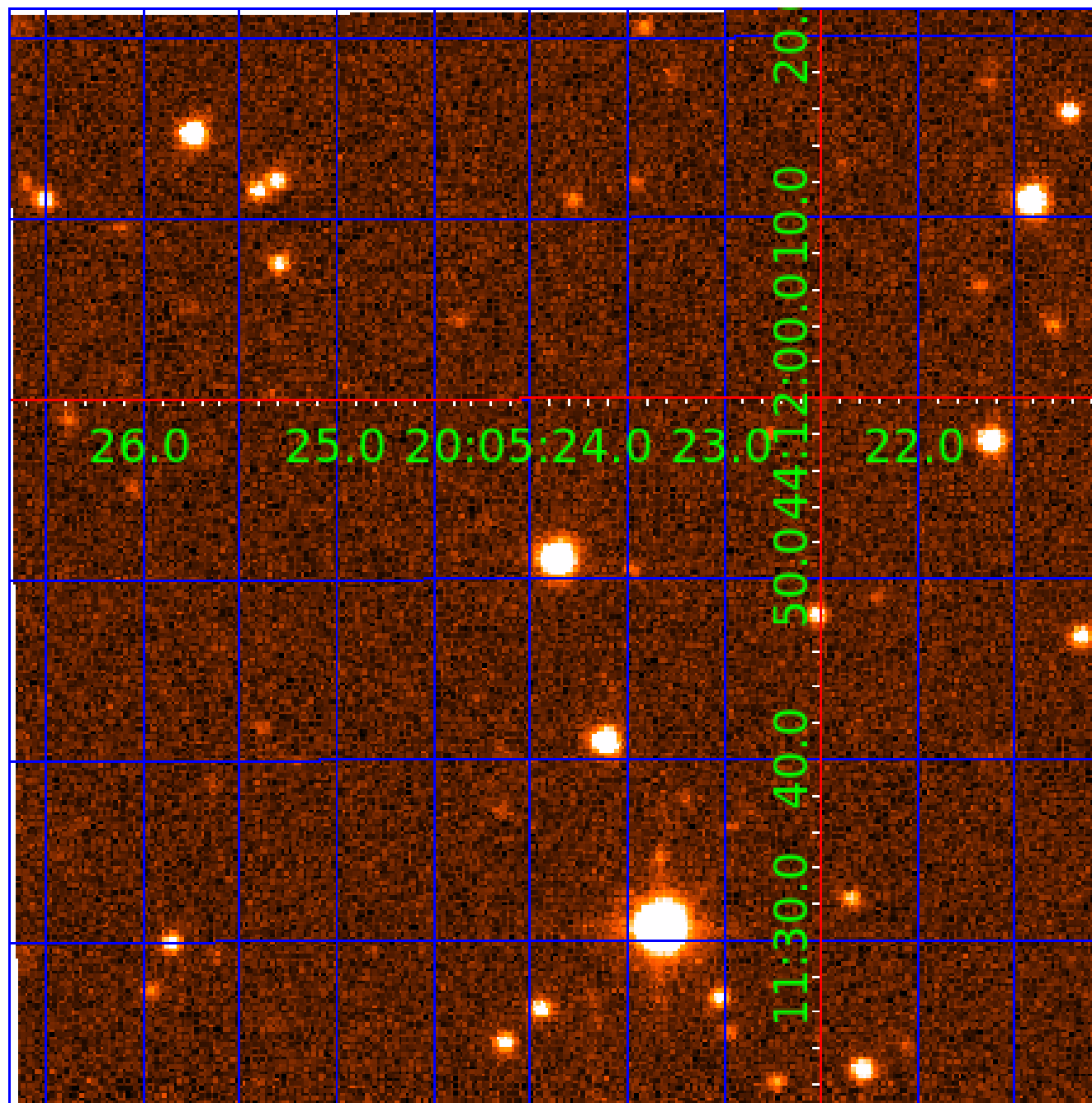


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 008265953

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})
008265953-01	OBS	No	0.779910	132.208875	46.2	4.267	9.5	6.5	0.93	5562	0.64	2925.27
008265953-02	OBS	No	510.039578	402.891131	989.9	26.158	8.4	6.1	0.93	5562	3.18	0.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008265953-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—EPHEM_MATCH
008265953-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—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.

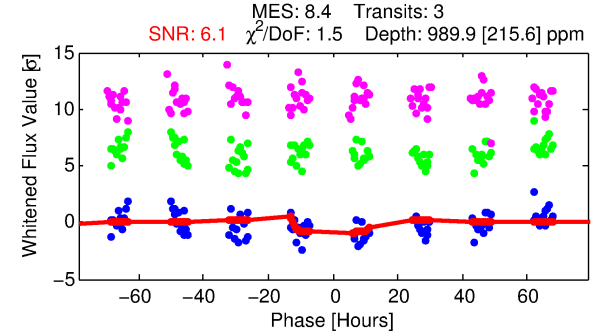
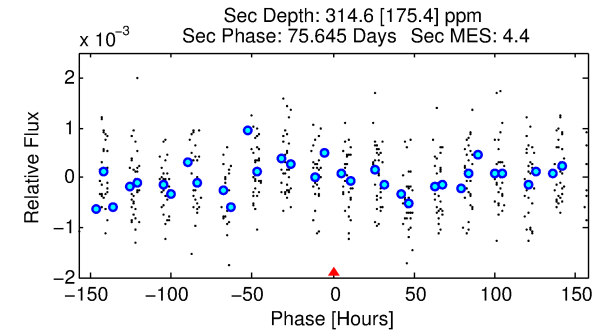
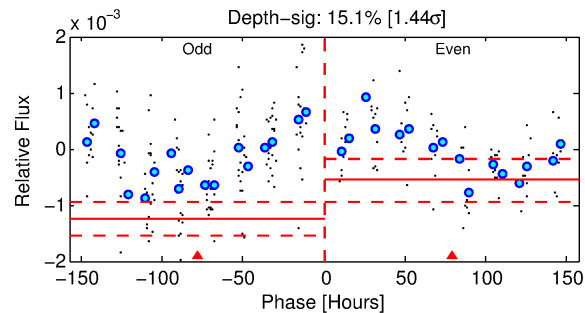
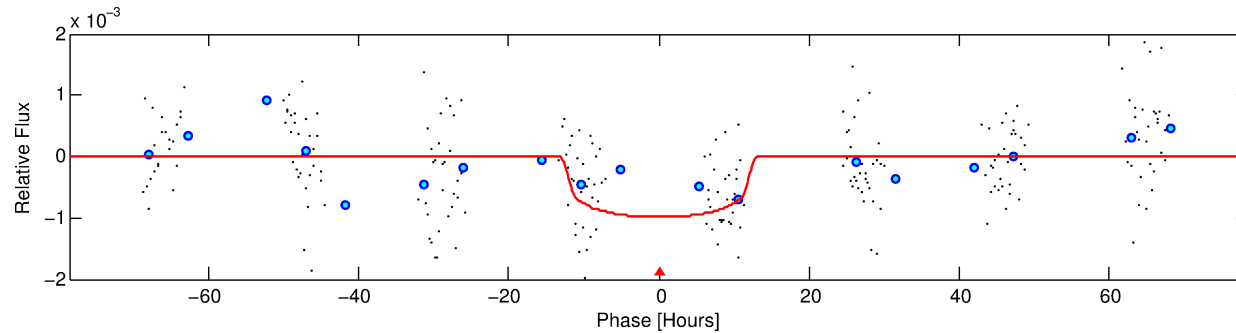
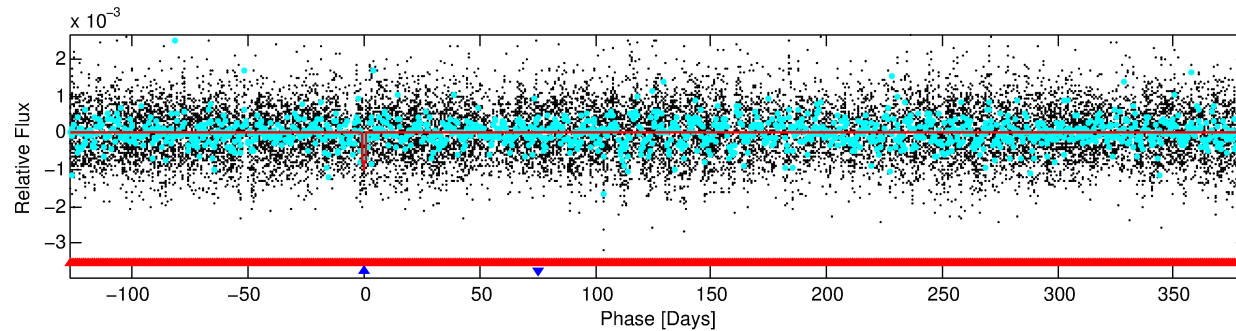
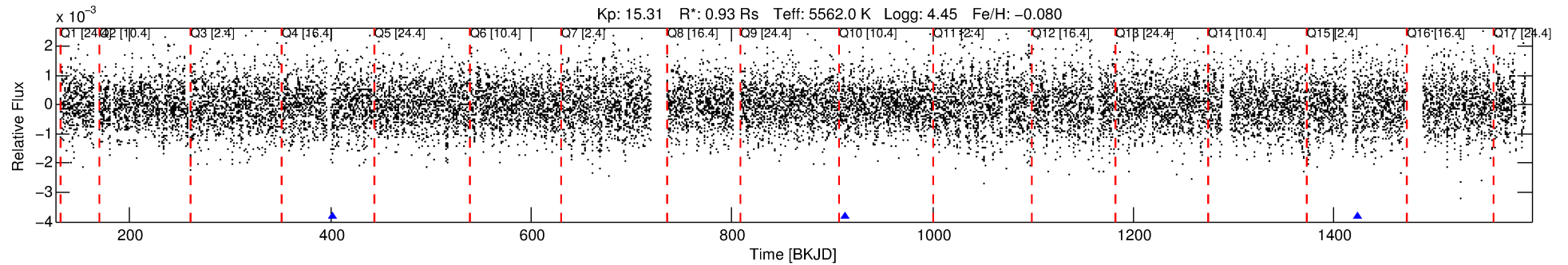
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008265953-02

No Significant Match Found

DV One-Page Summary

KIC: 8265953 Candidate: 2 of 2 Period: 510.040 d



DV Fit Results:

Period = 510.03958 [0.03379] d
Epoch = 402.8911 [0.0683] BKJD
Rp/R* = 0.0314 [0.0065]
a/R* = 104.18 [78.67]
b = 0.76 [0.42]
Seff = 0.52 [0.18]
Teq = 216 [18] K
Rp = 3.18 [1.05] Re
a = 1.1945 [0.2607] AU
Ag = 24478.60 [18657.49] [1.31 σ]
Teffp = 4178 [734] K [5.40 σ]

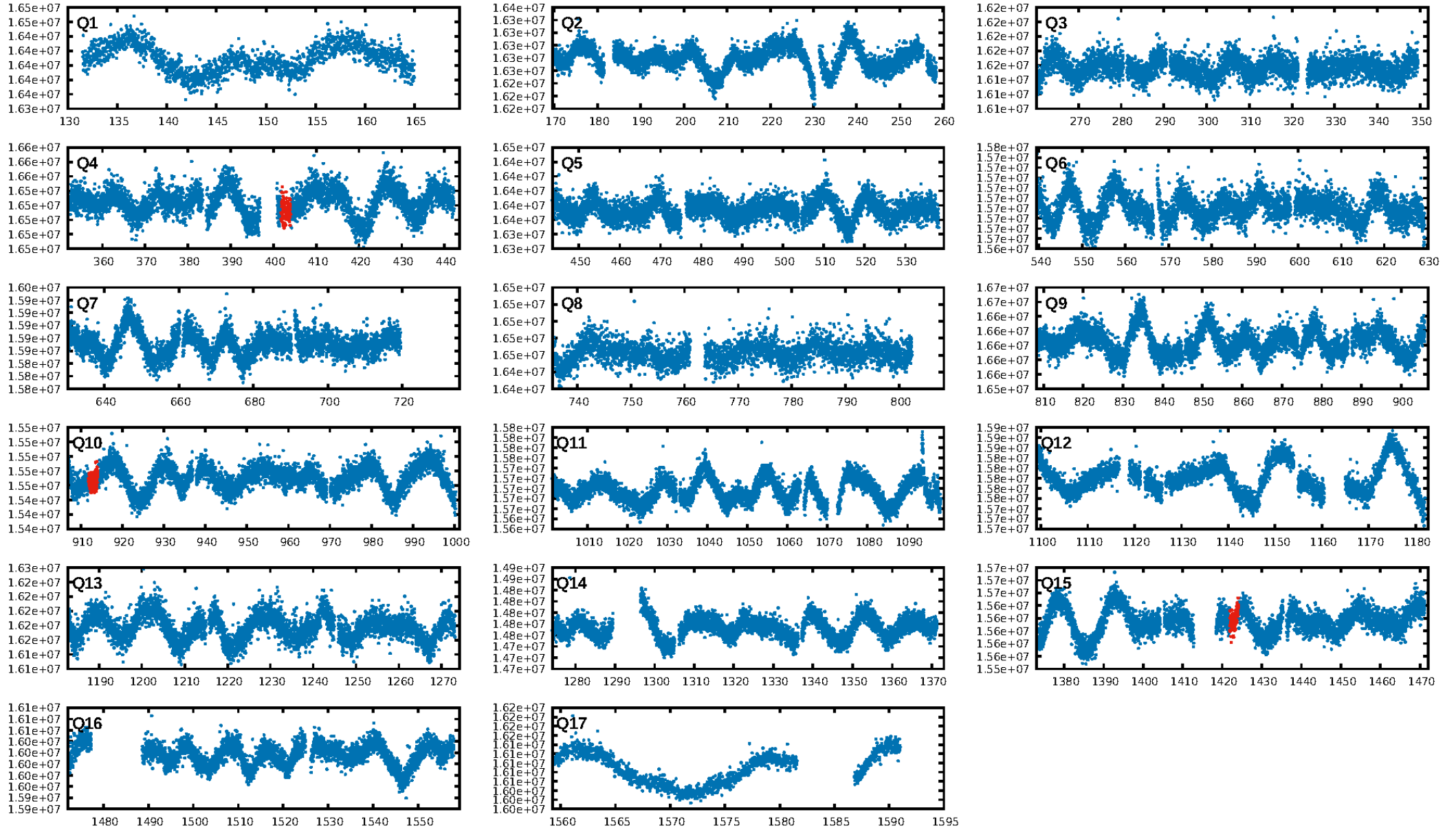
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [461.15 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.99e-08
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 6.893
Centroid-sig: 15.1%
Centroid-so: 0.780 arcsec [0.49 σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/2]

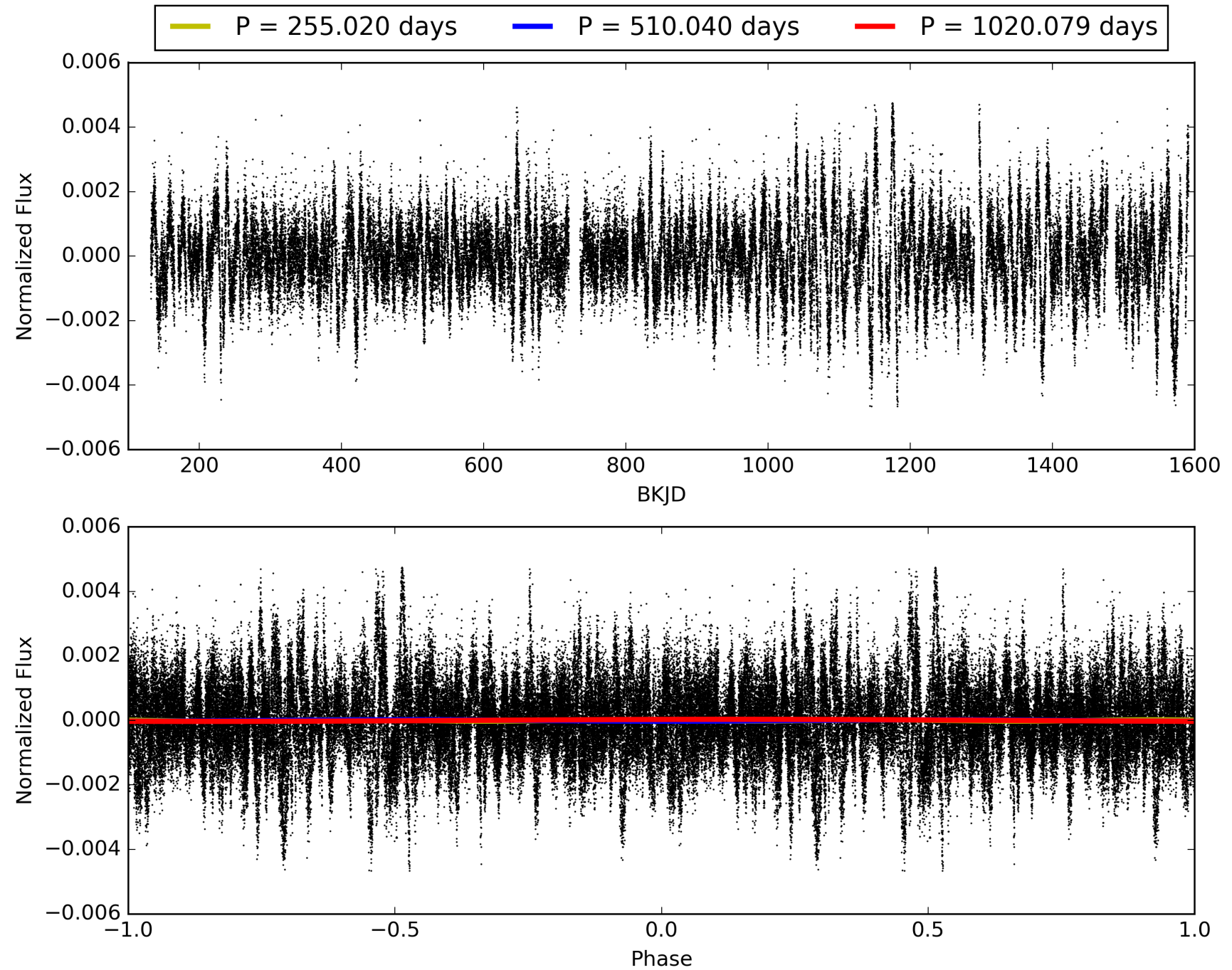
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:51:51 Z

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

TCE 008265953-02, PDC Light Curves

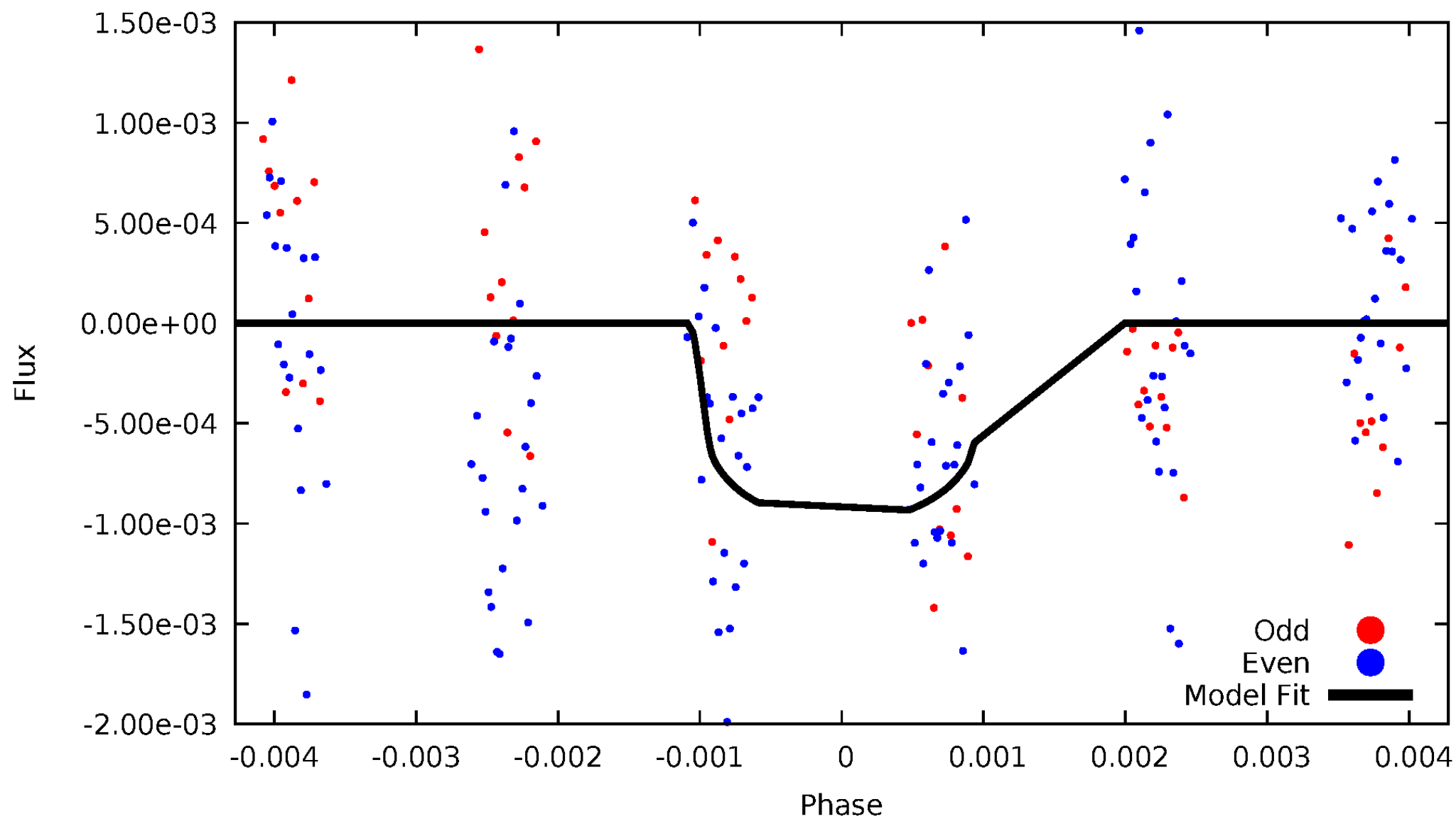


TCE 008265953-02



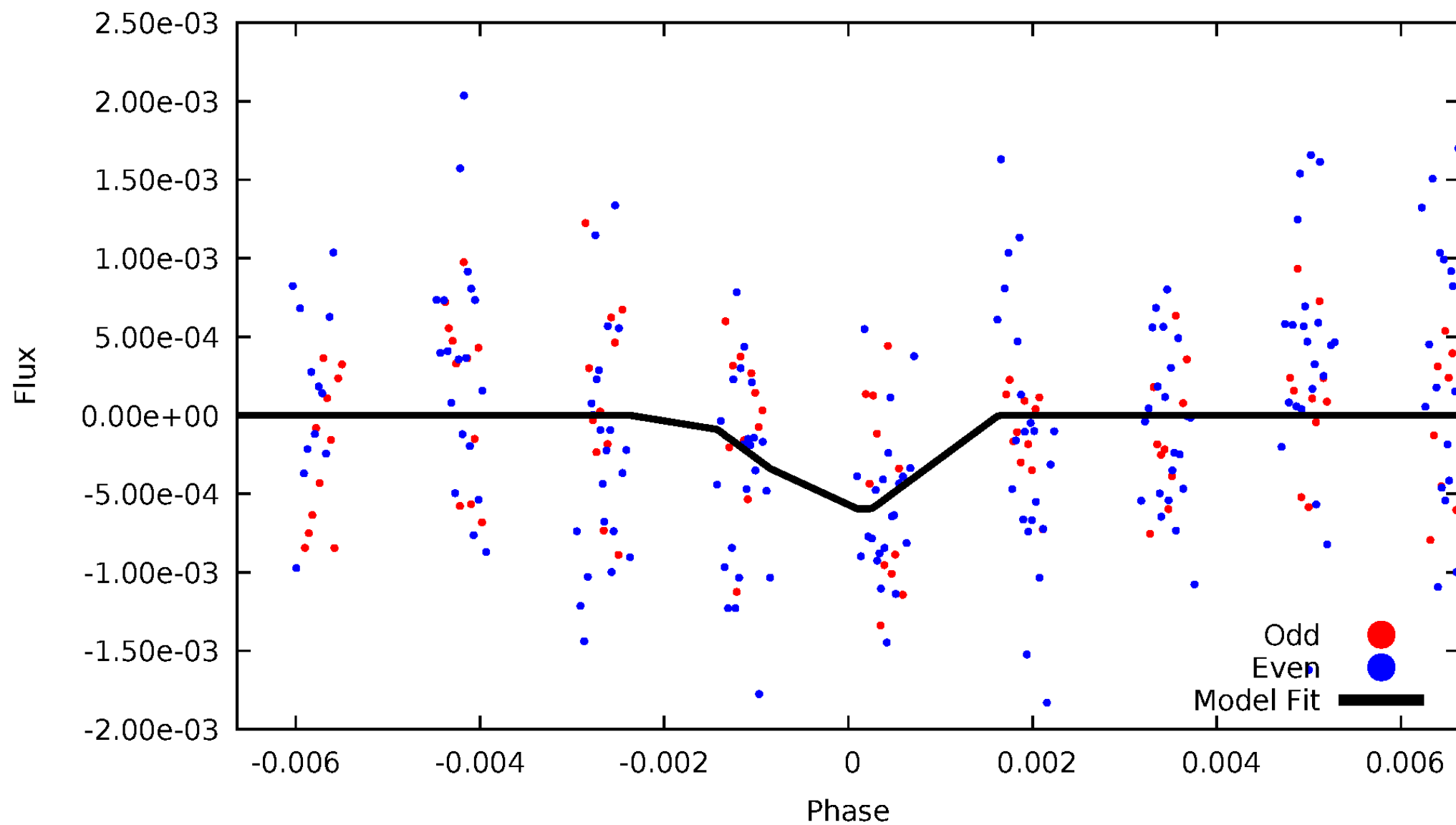
DV Odd/Even

TCE 008265953-02



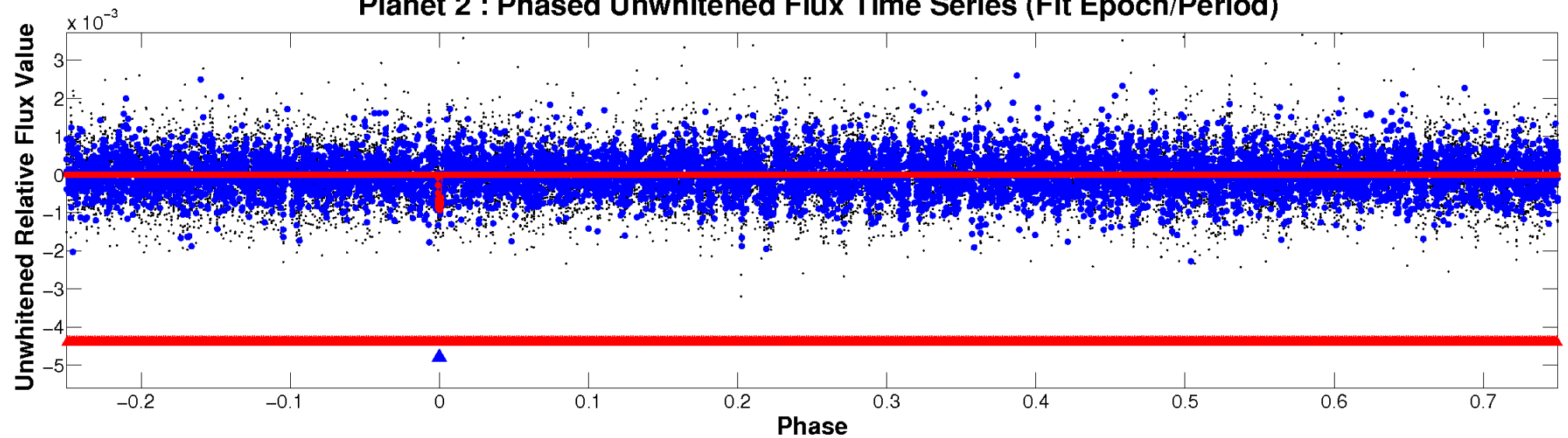
ALT Odd/Even

TCE 008265953-02

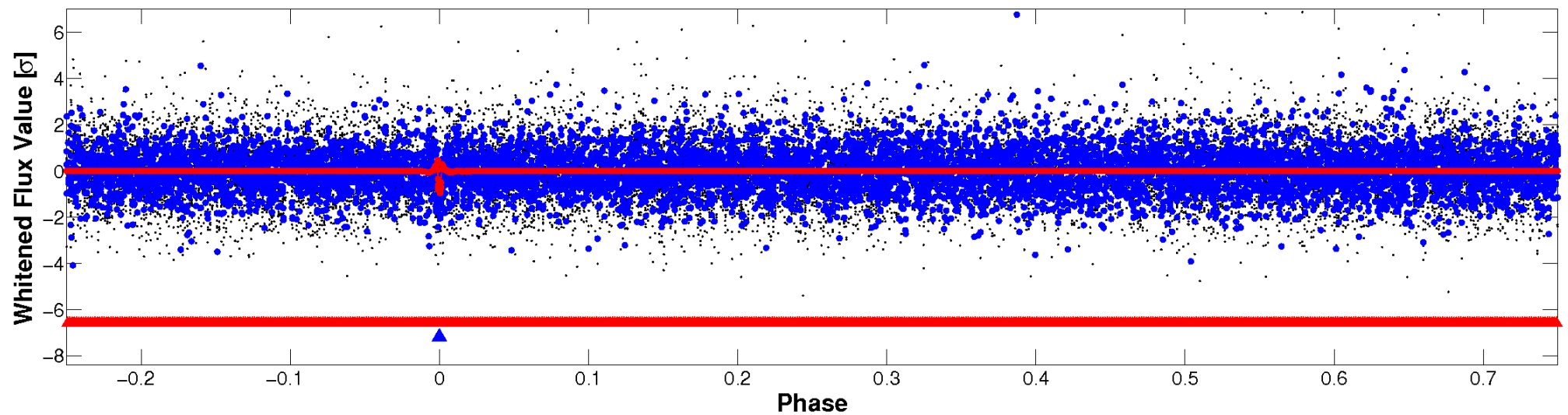


Non-Whitened Vs. Whitened Light Curve

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



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



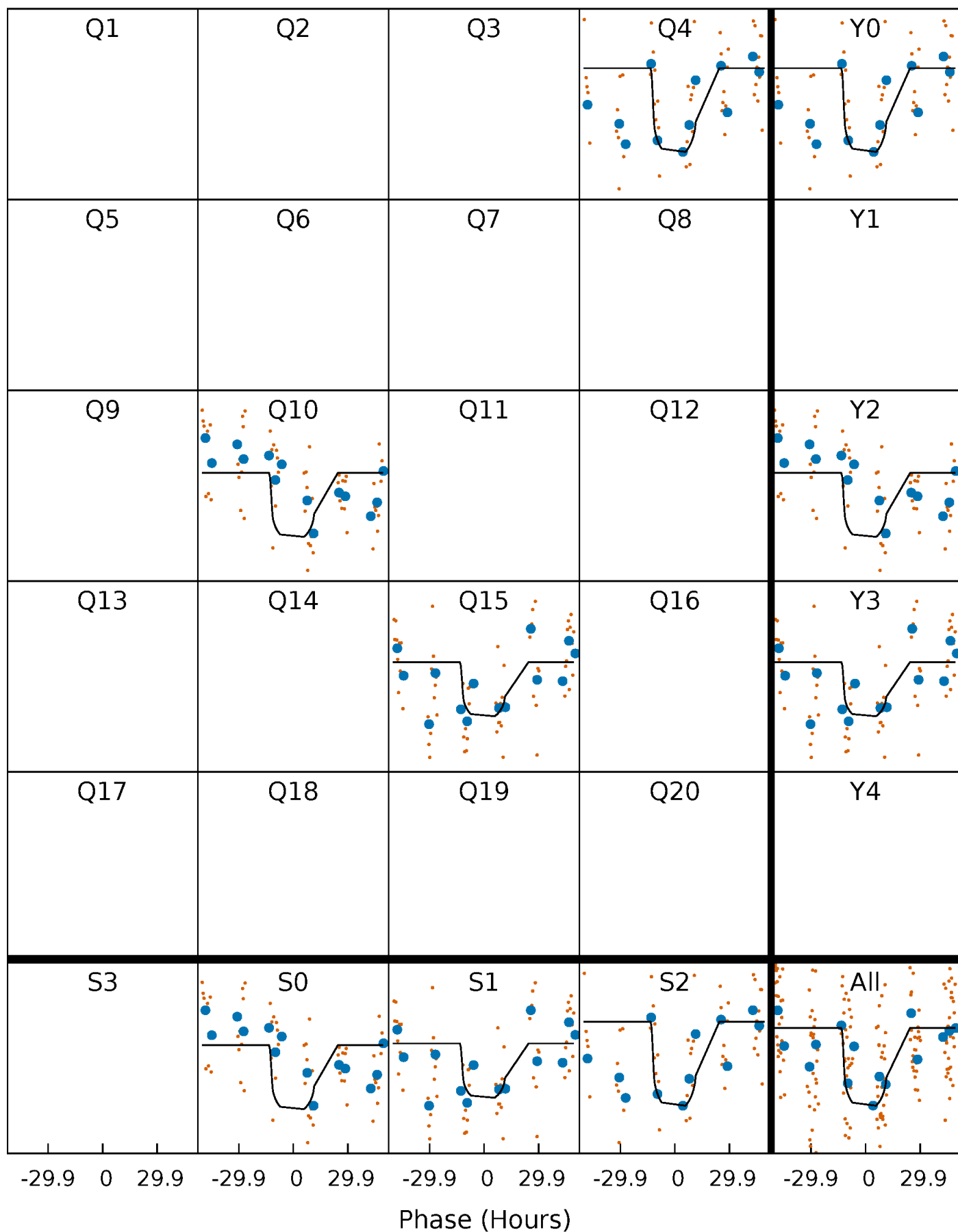
PDC Quarter-Phased Transit Curves

TCE 008265953-02 P=510.039578 Days $T_0=402.891131$ (BKJD)



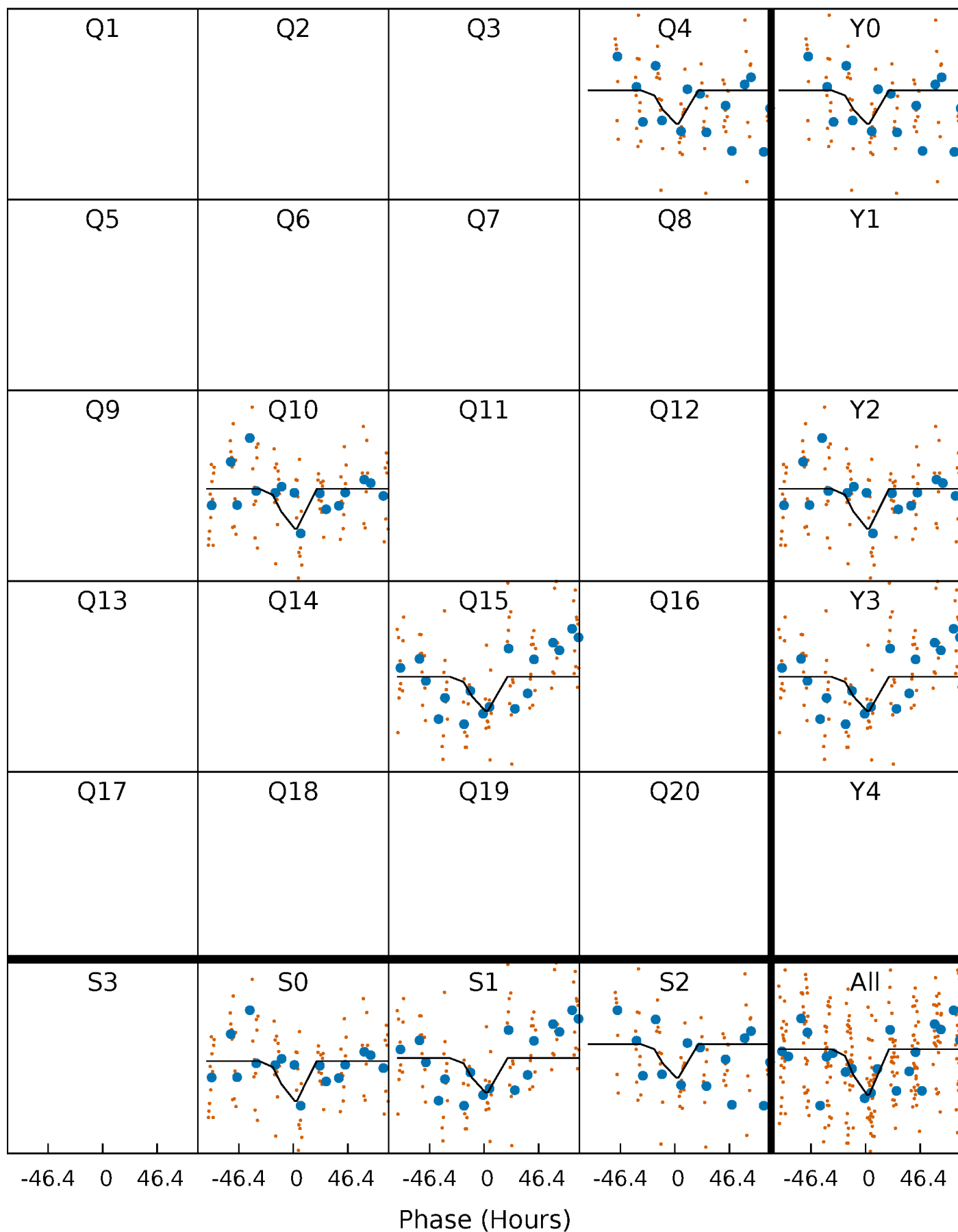
DV Quarter-Phased Transit Curves

TCE 008265953-02 P=510.039578 Days $T_0=402.891131$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

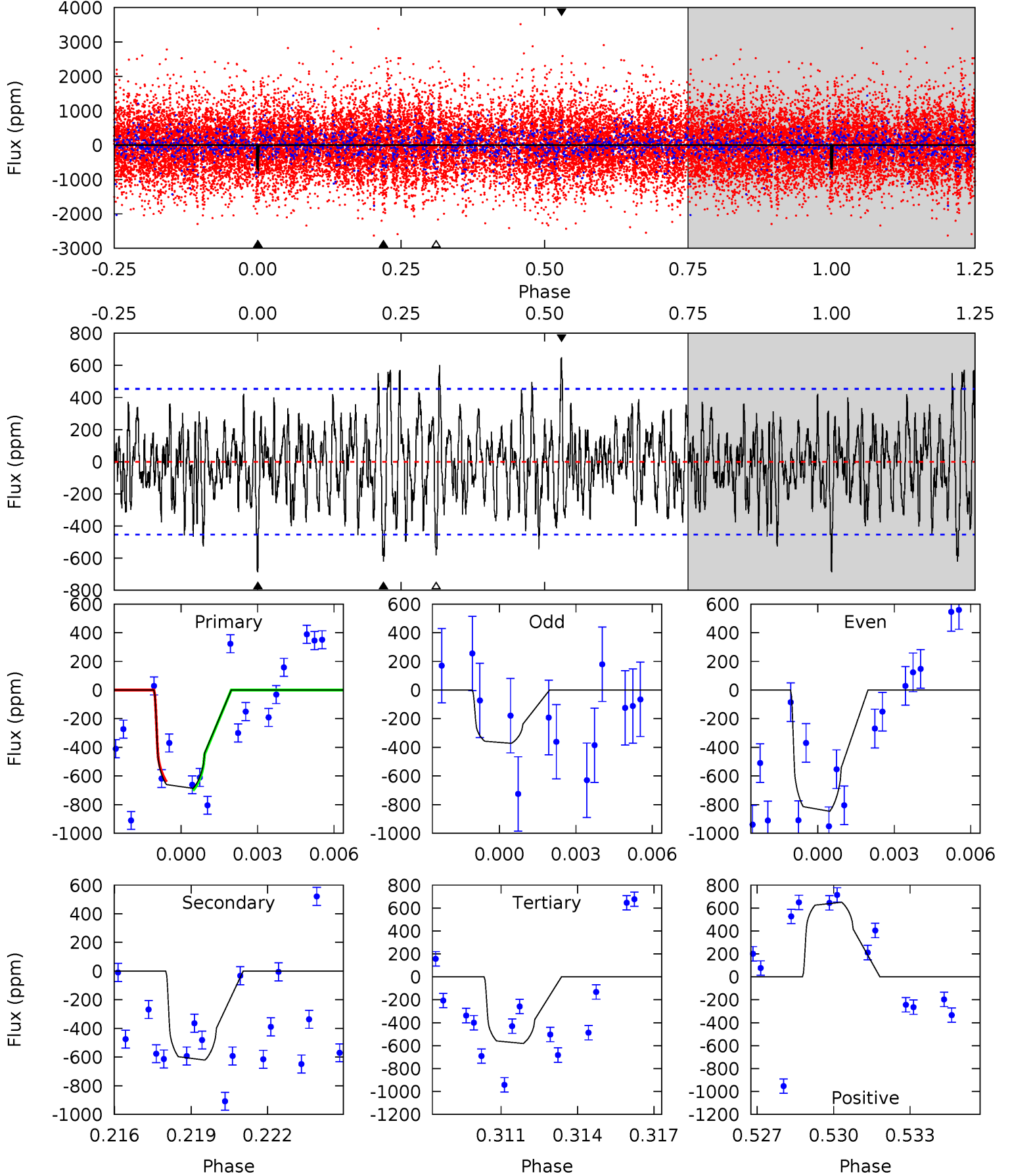
TCE 008265953-02 P=510.110203 Days $T_0=402.973207$ (BKJD)



DV Model-Shift Uniqueness Test

008265953-02, P = 510.039578 Days, E = 402.891131 Days

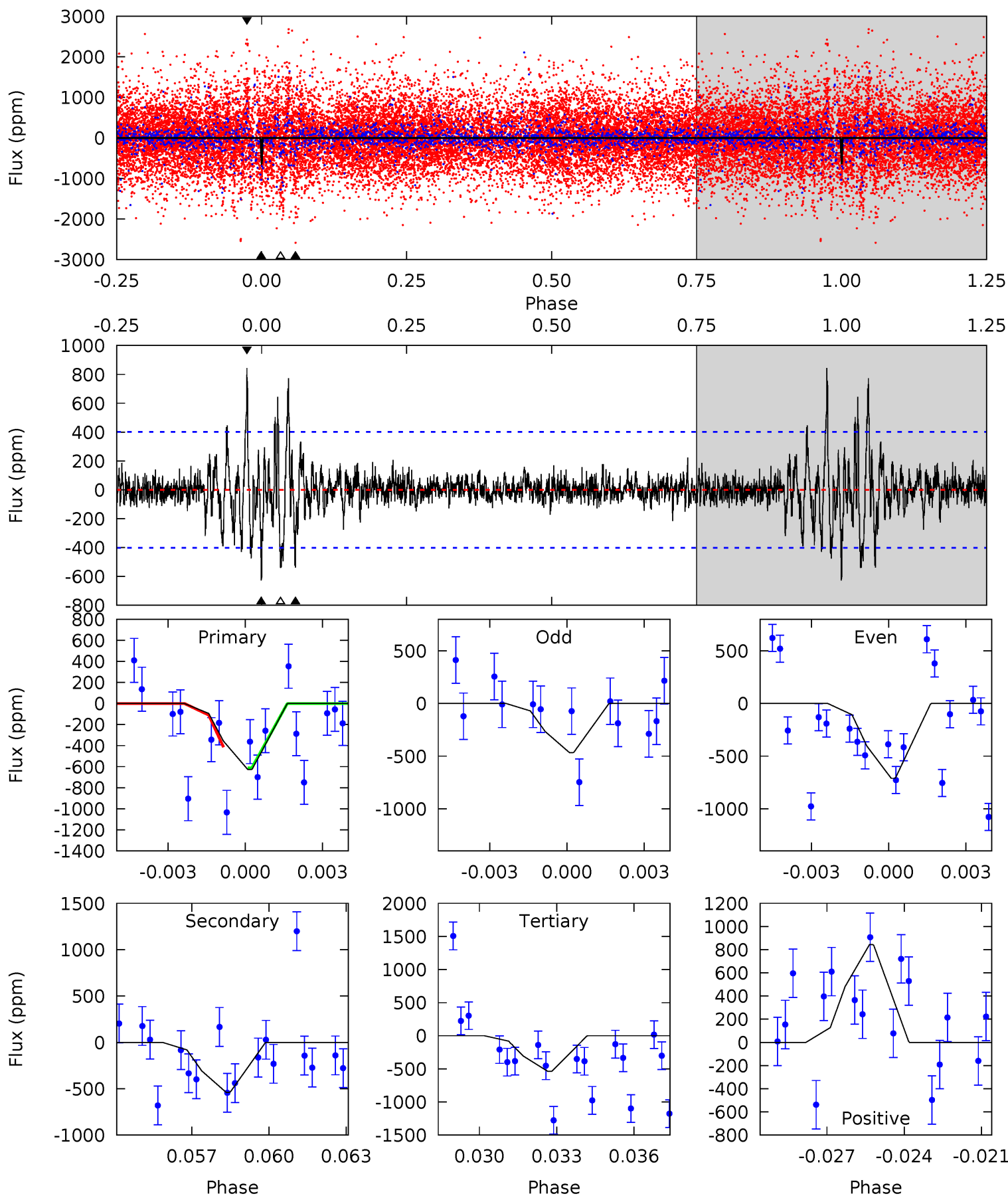
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.94	7.19	6.73	7.52	5.25	2.96	2.25	1.21	0.42	0.46	-0.33	2.59	0.98	0.49	0.35



Alt Model-Shift Uniqueness Test

008265953-02, P = 510.110203 Days, E = 402.973207 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.20	7.04	7.02	11.0	5.25	2.97	1.54	1.18	-2.81	0.01	-3.98	1.54	0.91	0.57	1.28



Stellar Parameters For KIC 008265953

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5562^{+166}_{-166}	$4.446^{+0.094}_{-0.175}$	$-0.080^{+0.300}_{-0.300}$	$0.926^{+0.239}_{-0.129}$	$0.874^{+0.111}_{-0.083}$	$1.551^{+0.750}_{-0.733}$
	+3%/-3%	+2%/-4%	+375%/-375%	+26%/-14%	+13%/-9%	+48%/-47%
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 008265953-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-621 ± 86	$3.28^{+0.80}_{-0.75}$	304^{+22}_{-15}	5007^{+580}_{-435}	44829^{+32819}_{-16760}
Alt.	-538 ± 77	$2.53^{+0.79}_{-0.71}$	304^{+20}_{-15}	5389^{+893}_{-532}	65589^{+63812}_{-27946}

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

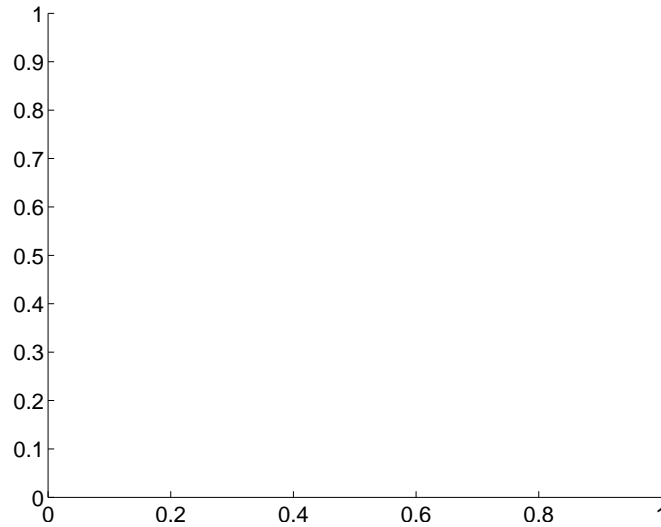
Supplemental centroid analysis for 008265953-02. Kepler magnitude: 15.31. Transit SNR 6.07

There are 0 quarters with good PRF difference image offsets

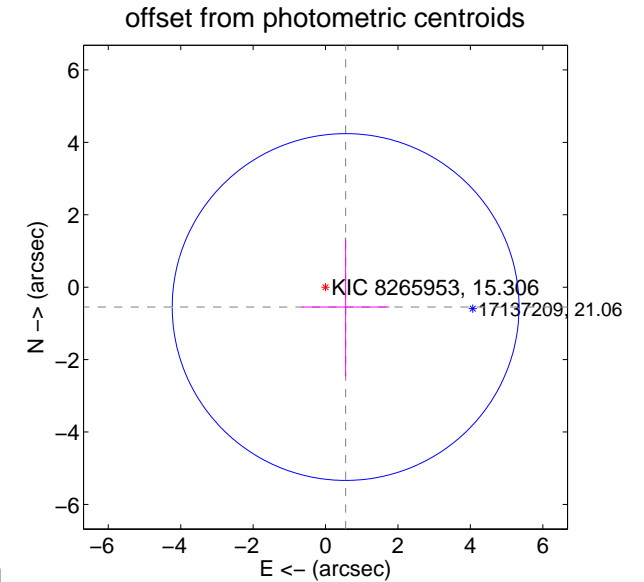
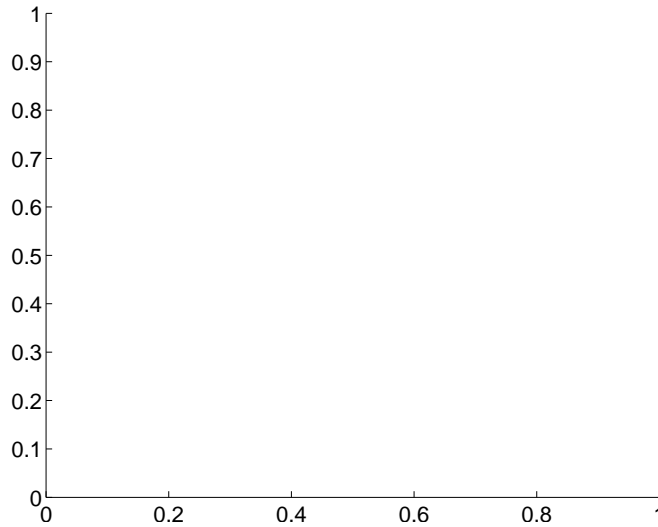
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.78 ± 1.60	0.49	-0.55 ± 1.21	-0.55 ± 1.91

There is no PRF-fit offset from OOT-fit



There is no PRF-fit offset from KIC



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

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



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



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

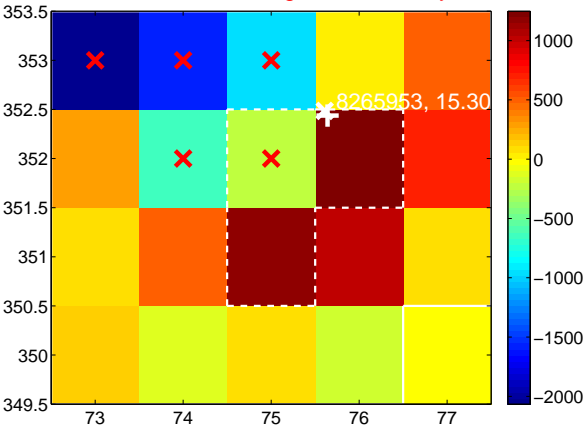
Q9 no difference image



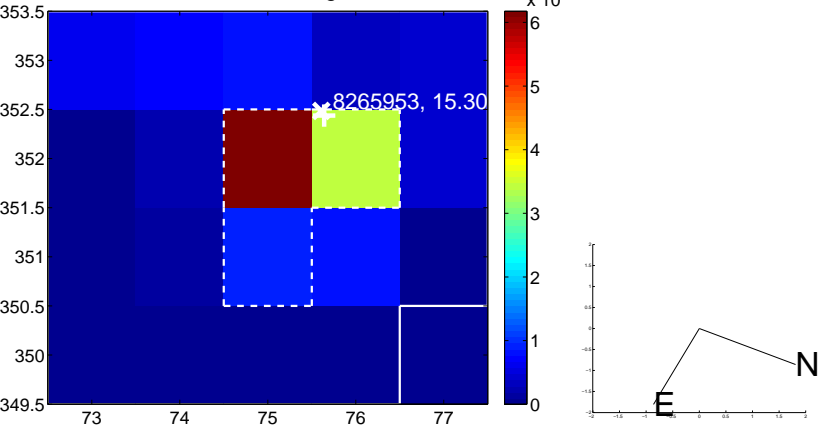
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



Q11 no difference image



Q11 no OOT image



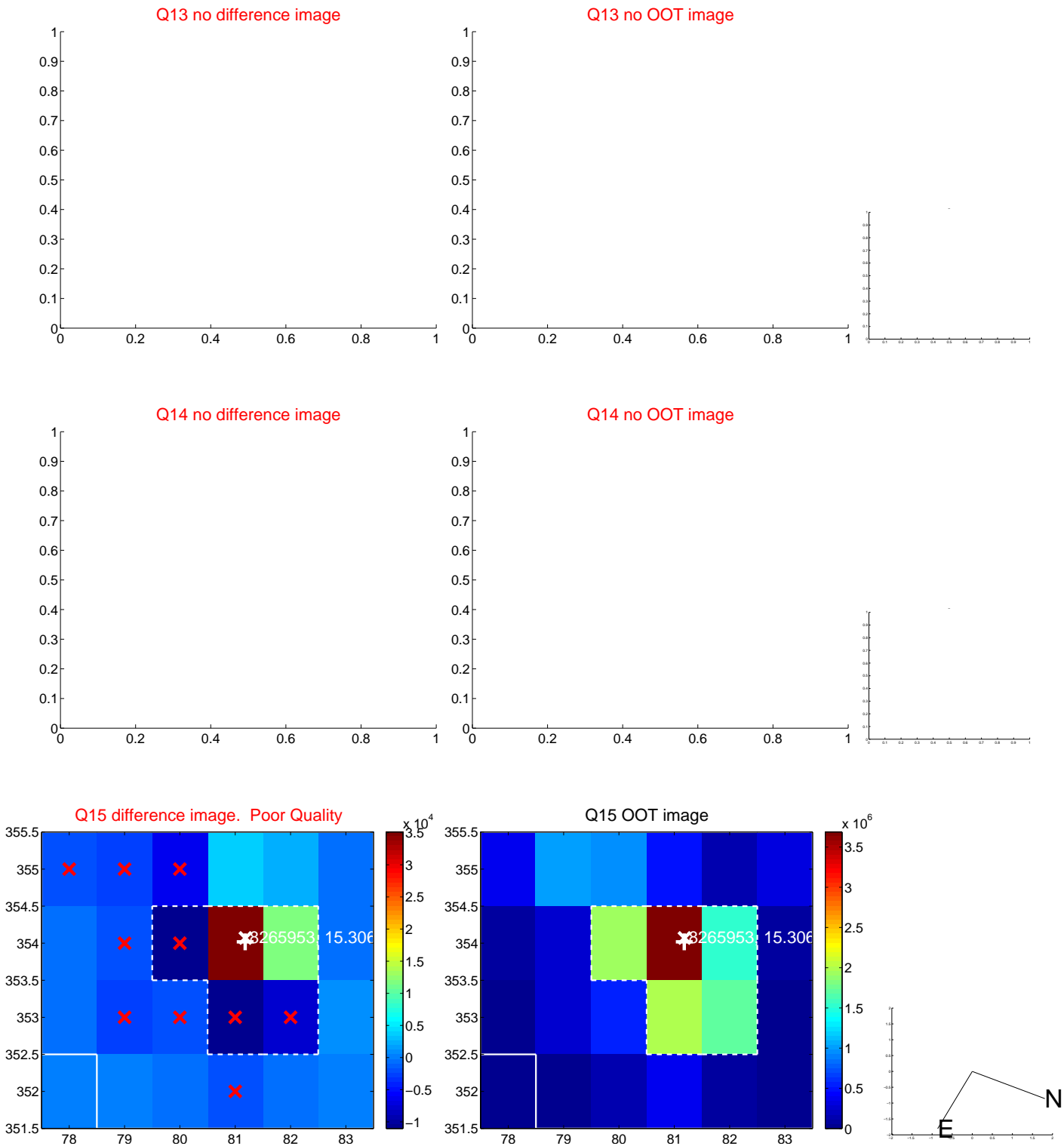
Q12 no difference image



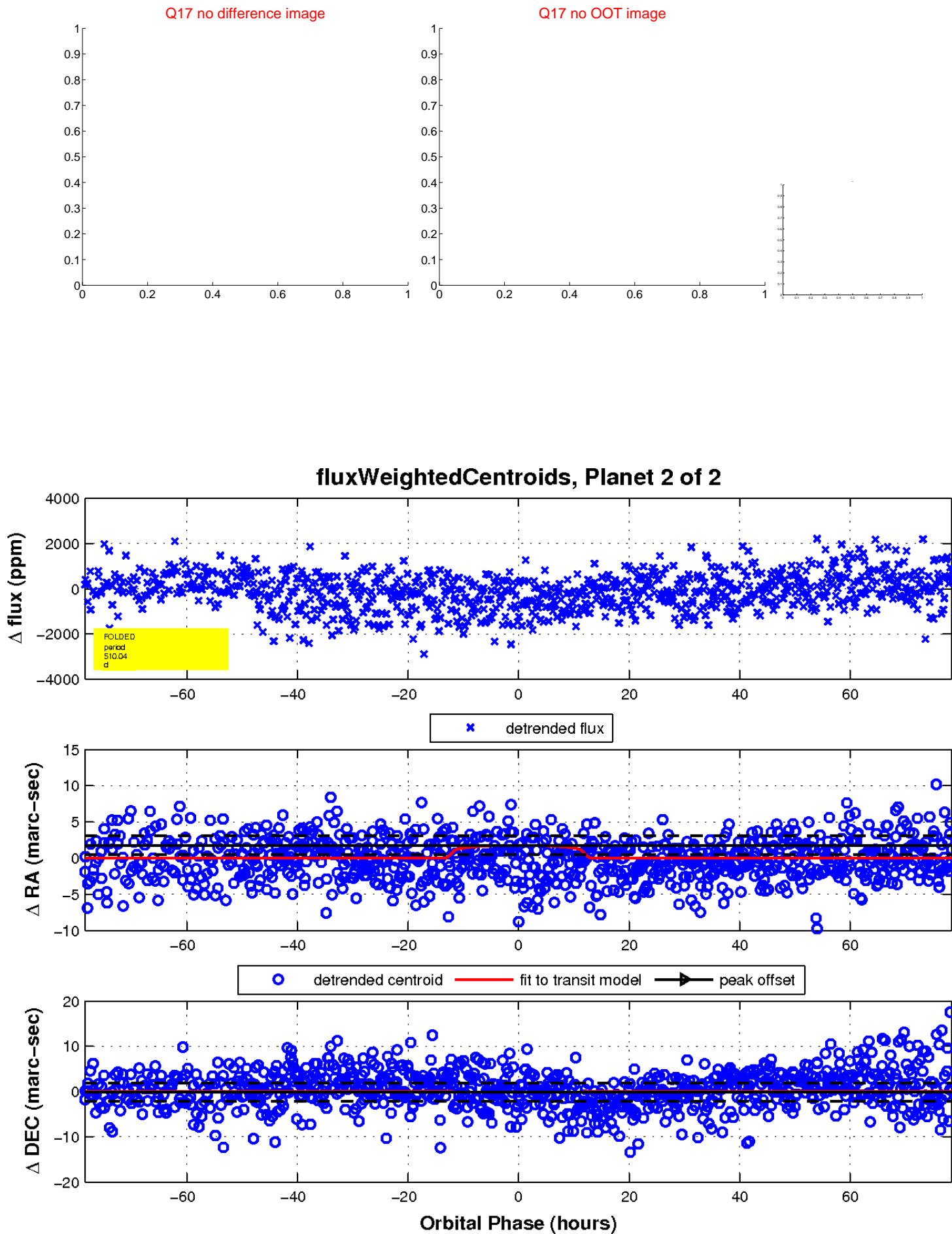
Q12 no OOT image



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



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



UKIRT Image

Declination

