

KIC 002583234

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})
002583234-01	OBS	No	0.666126	131.853369	10.7	2.727	7.9	7.4	2.24	8016	0.85	55517.21
002583234-02	OBS	No	277.597179	342.749002	317.6	11.260	9.9	10.5	2.24	8016	4.43	17.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002583234-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002583234-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

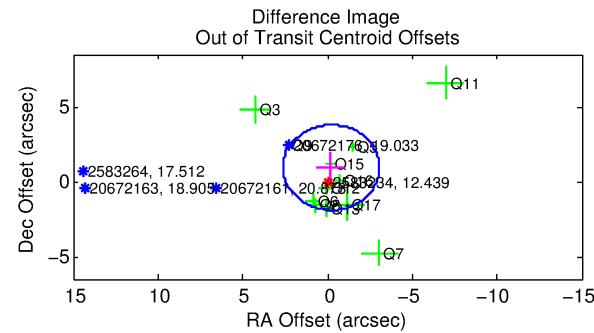
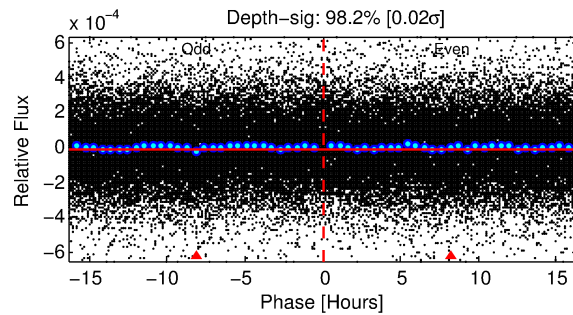
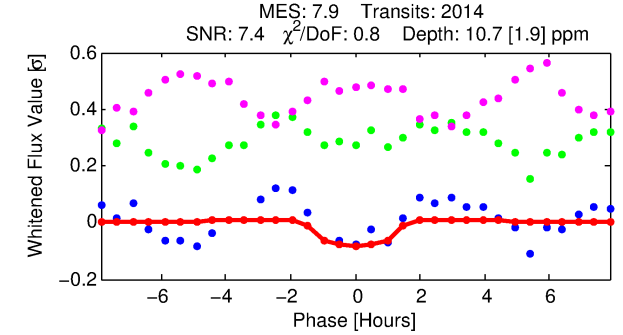
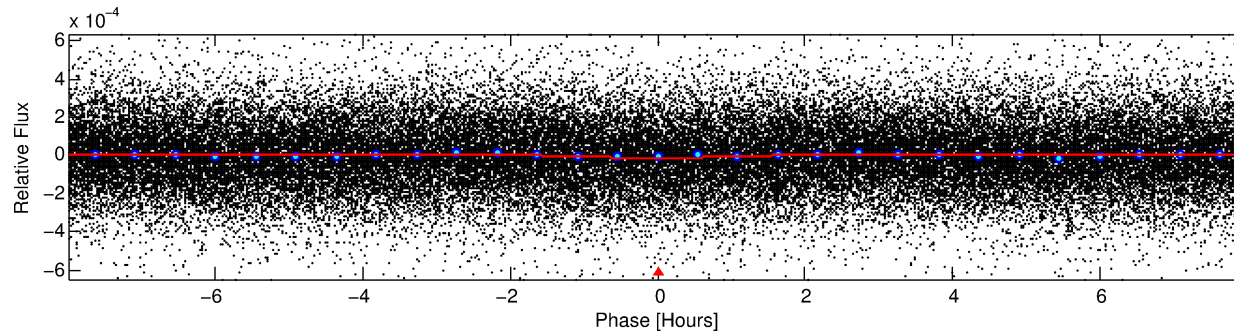
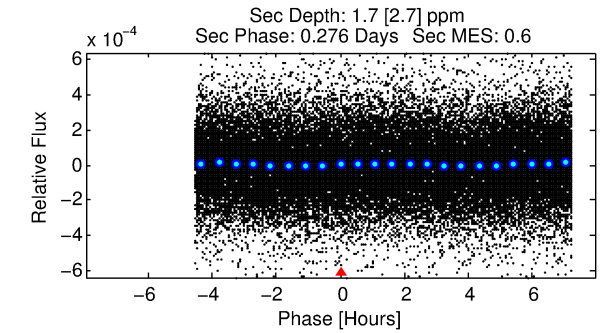
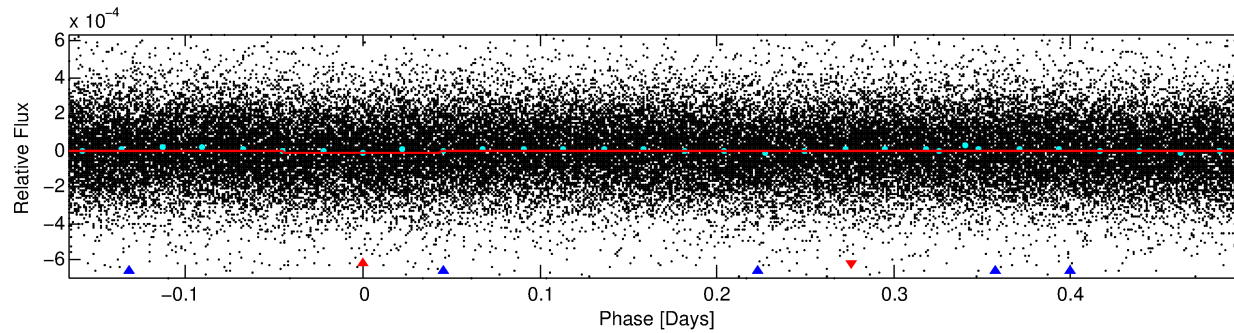
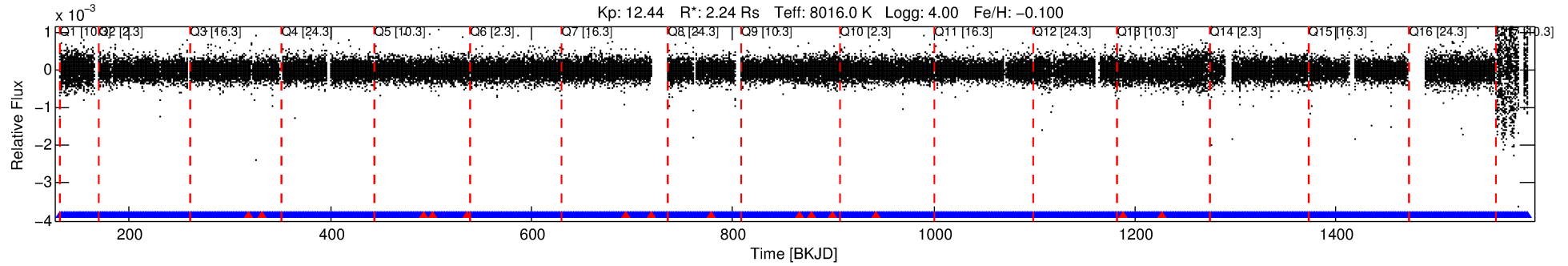
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002583234-01

No Significant Match Found

DV One-Page Summary

KIC: 2583234 Candidate: 1 of 2 Period: 0.666 d



DV Fit Results:

Period = 0.66613 [0.00001] d
Epoch = 131.8534 [0.0050] BKJD
Rp/R* = 0.0035 [0.0018]
a/R* = 1.25 [1.43]
b = 0.90 [0.68]
Seff = 55517.21 [14496.19]
Teq = 3914 [256] K
Rp = 0.85 [0.46] Re
a = 0.0183 [0.0032] AU
Ag = 0.44 [0.82] [-0.68σ]
Teffp = 4942 [2254] K [0.45σ]

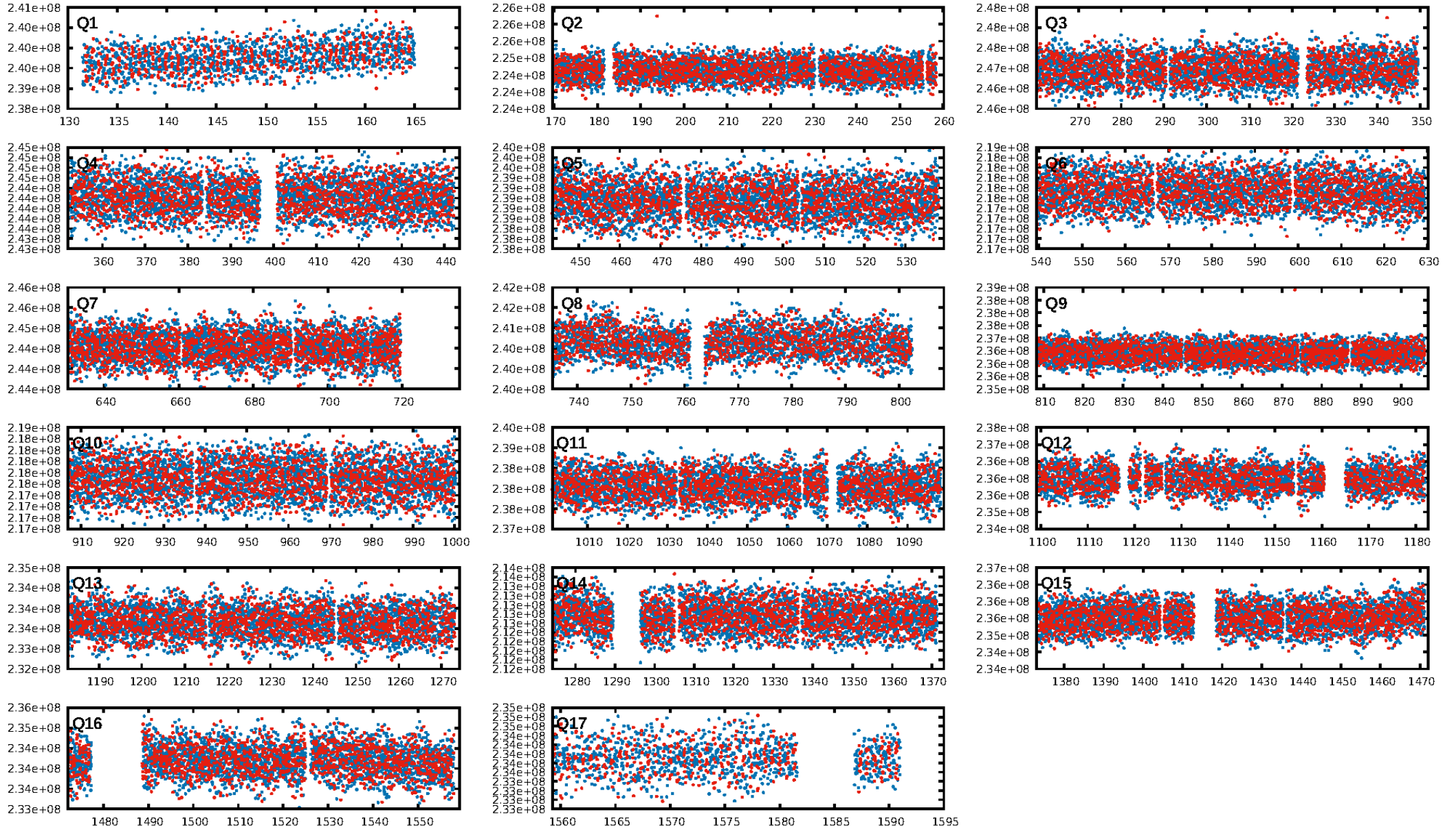
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [573.68σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.99e-16
RollingBand-fgt: 0.99 [1910/1924]
GhostDiagnostic-chr: -29.34
Centroid-sig: 77.3%
Centroid-so: 0.689 arcsec [0.44σ]
OotOffset-rm: 0.966 arcsec [1.02σ]
OotOffset-st: 1/4/3/4 [12]
KicOffset-rm: 1.008 arcsec [1.19σ]
KicOffset-st: 1/4/3/4 [12]
DiffImageQuality-fgm: 0.67 [8/12]
DiffImageOverlap-fno: 1.00 [17/17]

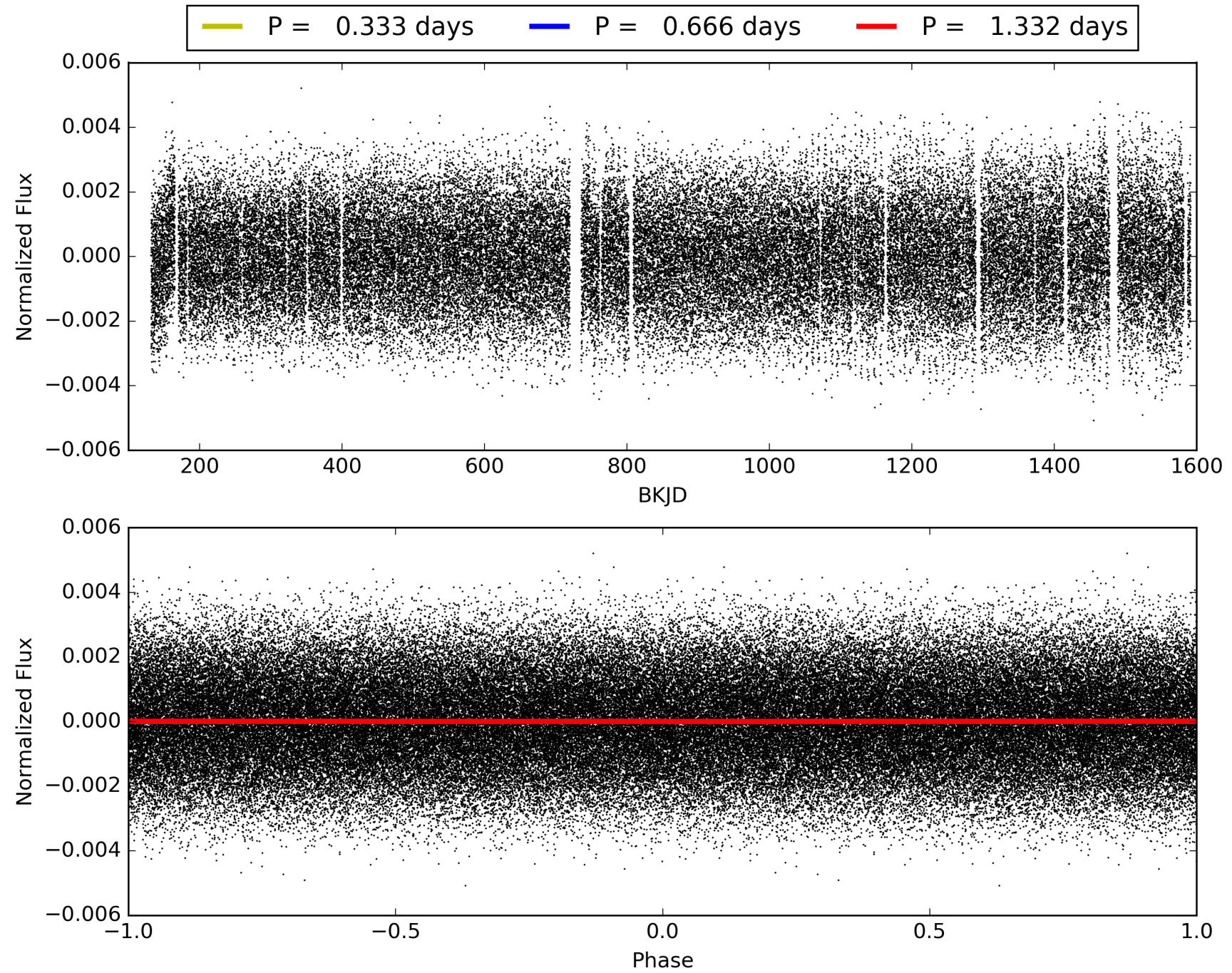
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:07:56 Z

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

TCE 002583234-01, PDC Light Curves

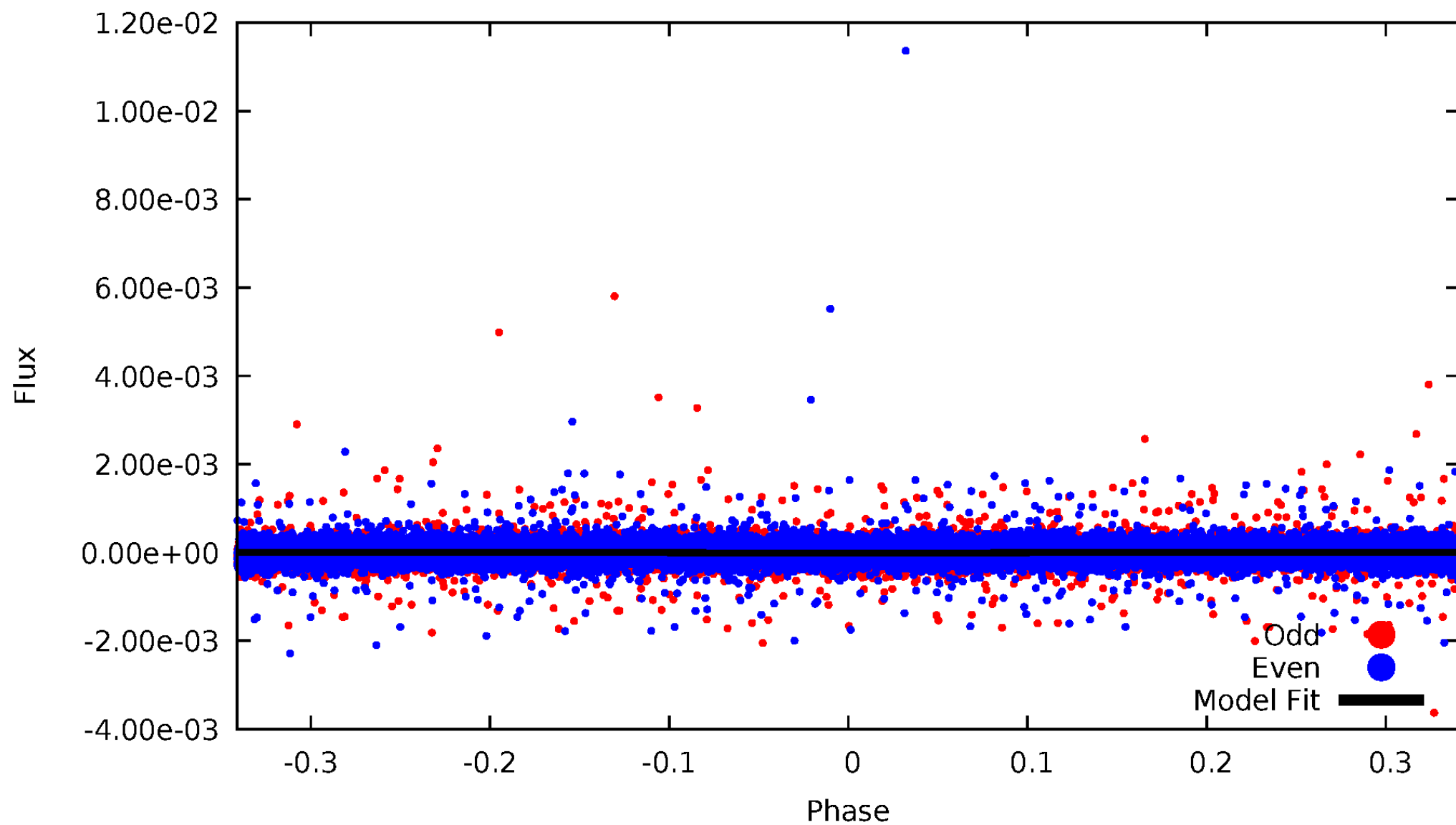


TCE 002583234-01



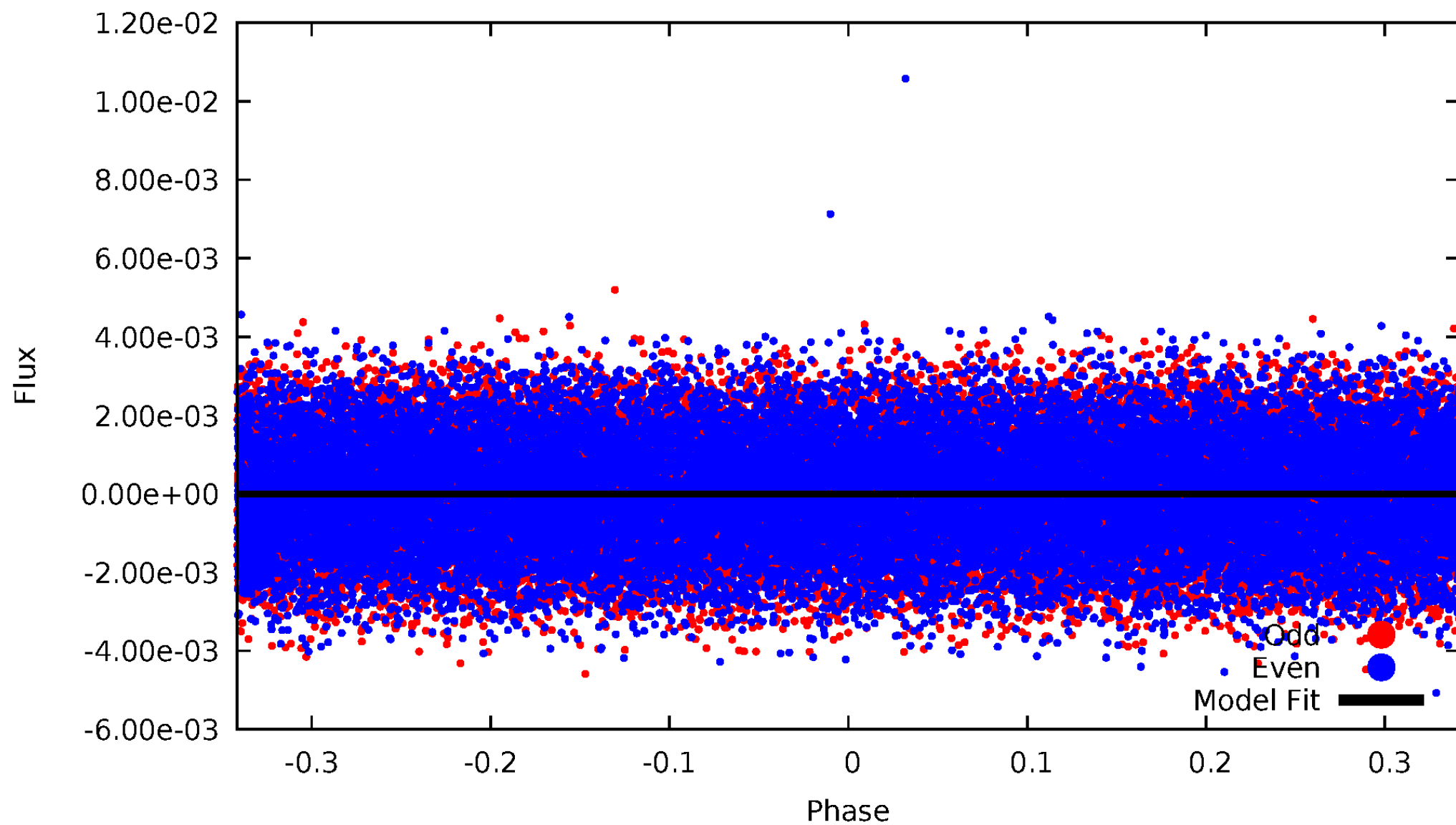
DV Odd/Even

TCE 002583234-01



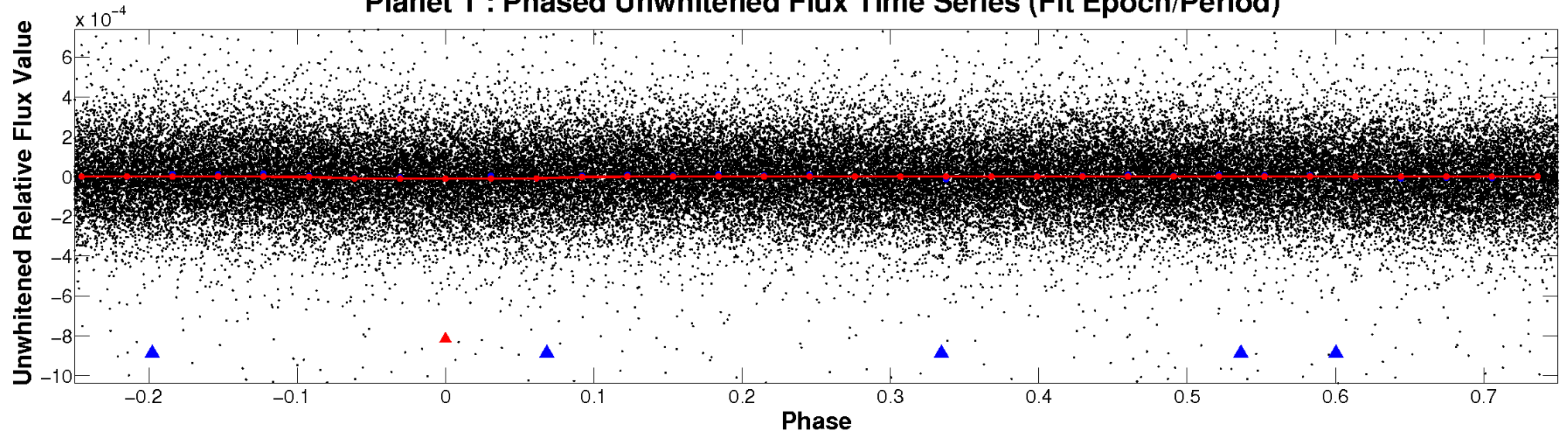
ALT Odd/Even

TCE 002583234-01

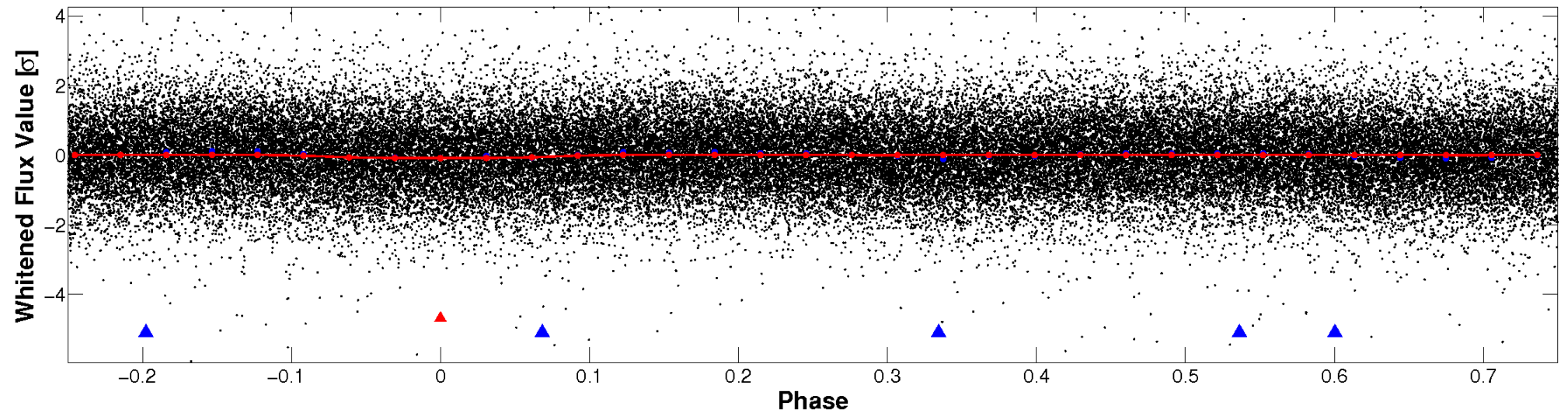


Non-Whitened Vs. Whitened Light Curve

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

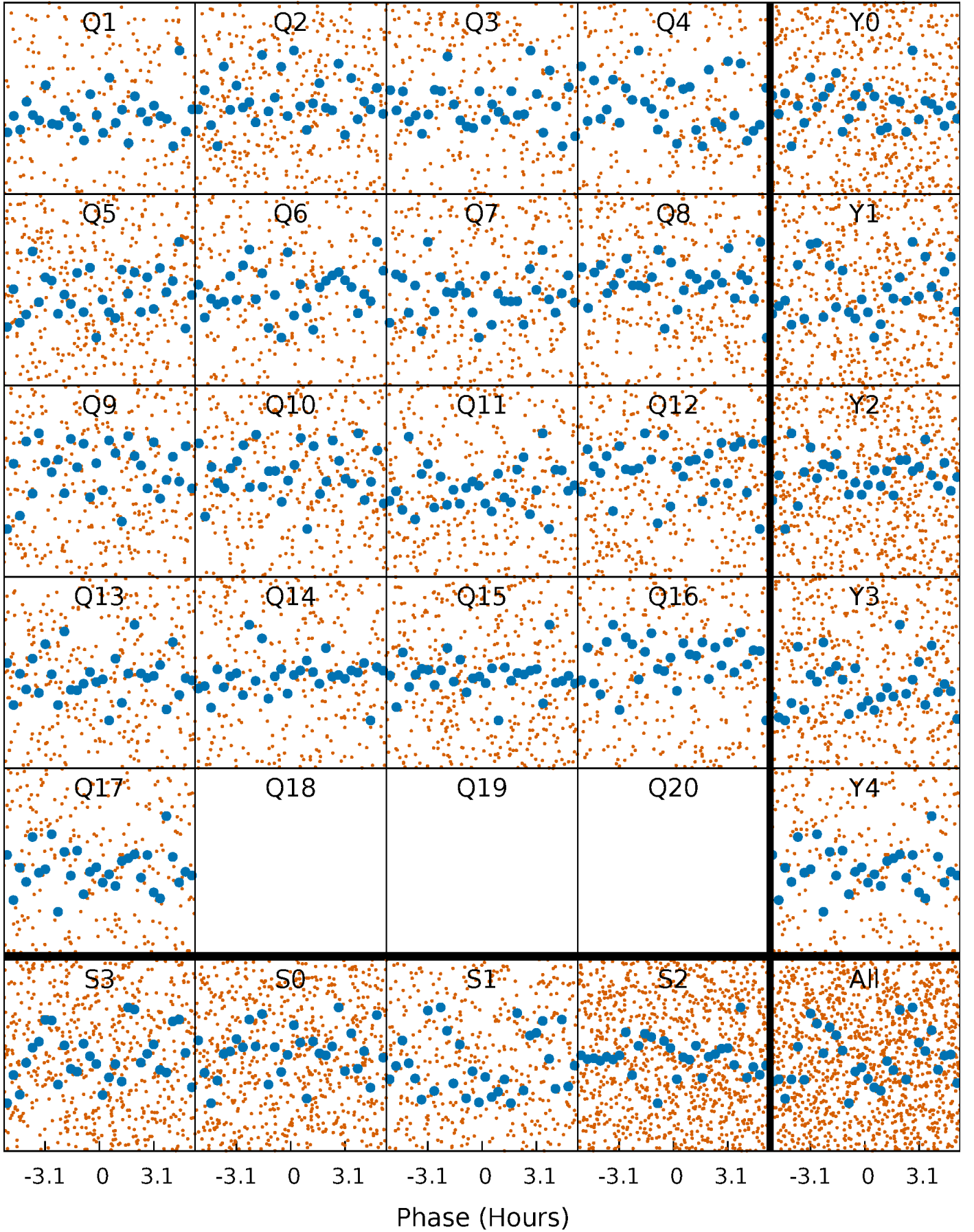


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



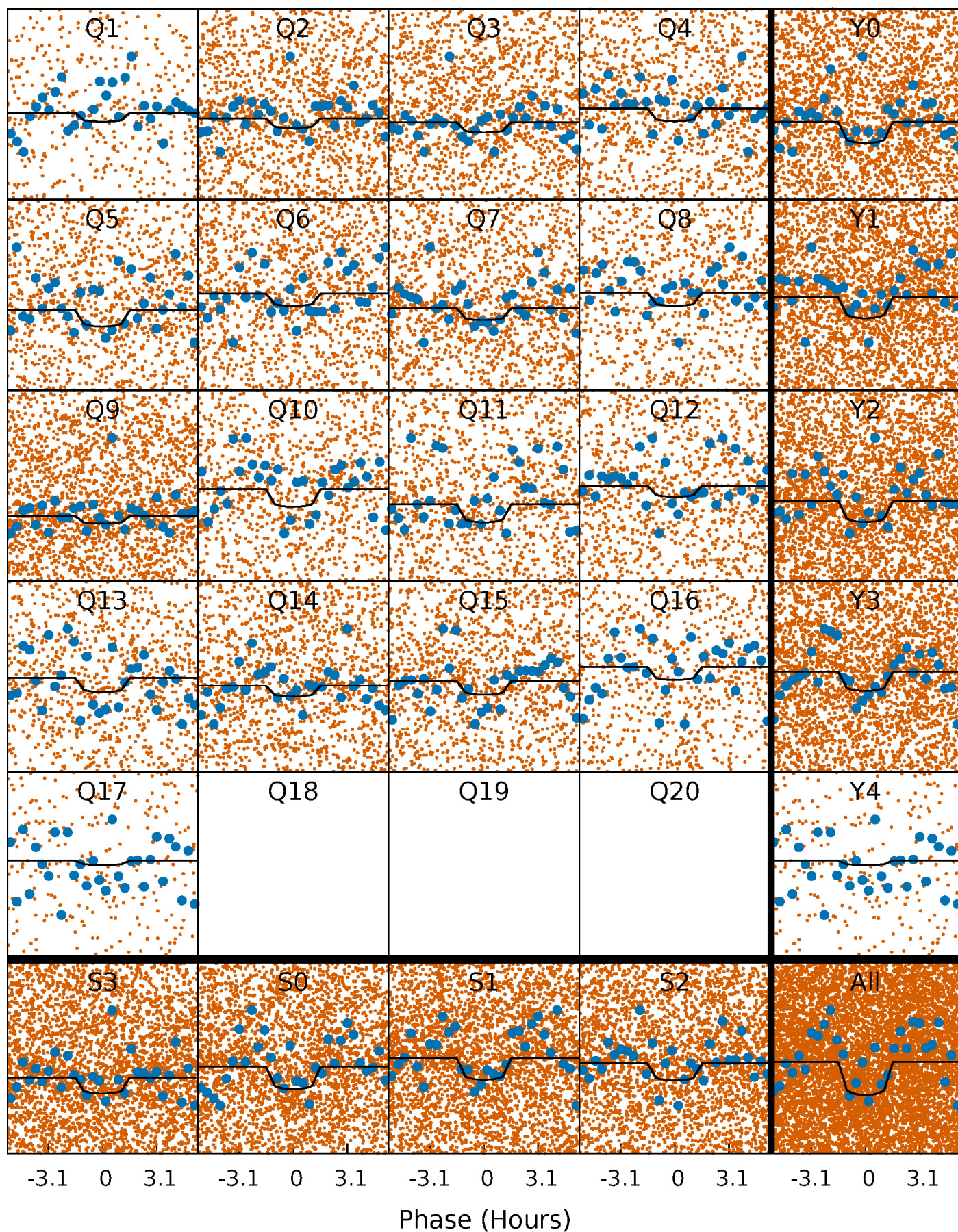
PDC Quarter-Phased Transit Curves

TCE 002583234-01 P= 0.666126 Days $T_0=131.853369$ (BKJD)



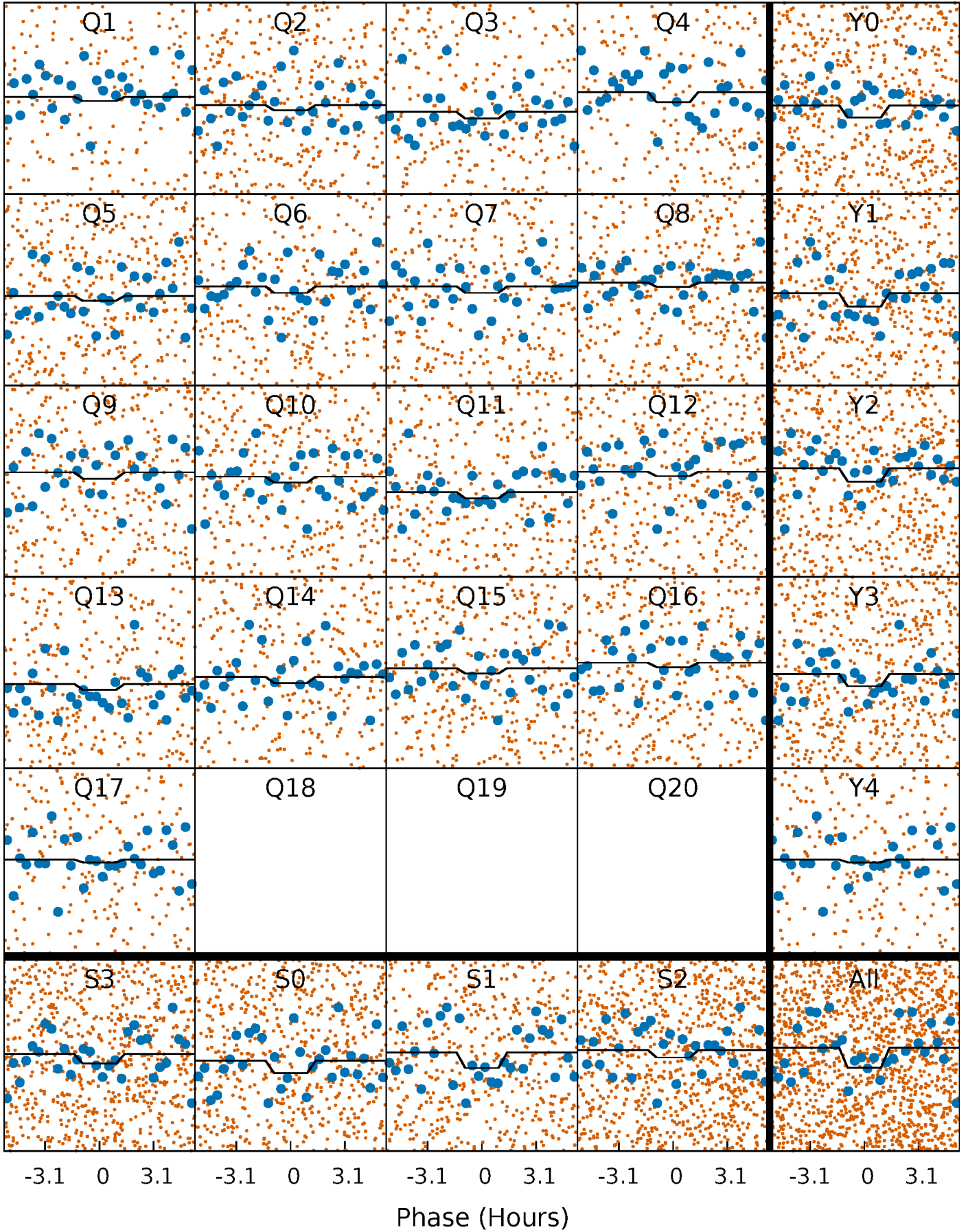
DV Quarter-Phased Transit Curves

TCE 002583234-01 P= 0.666126 Days $T_0=131.853369$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

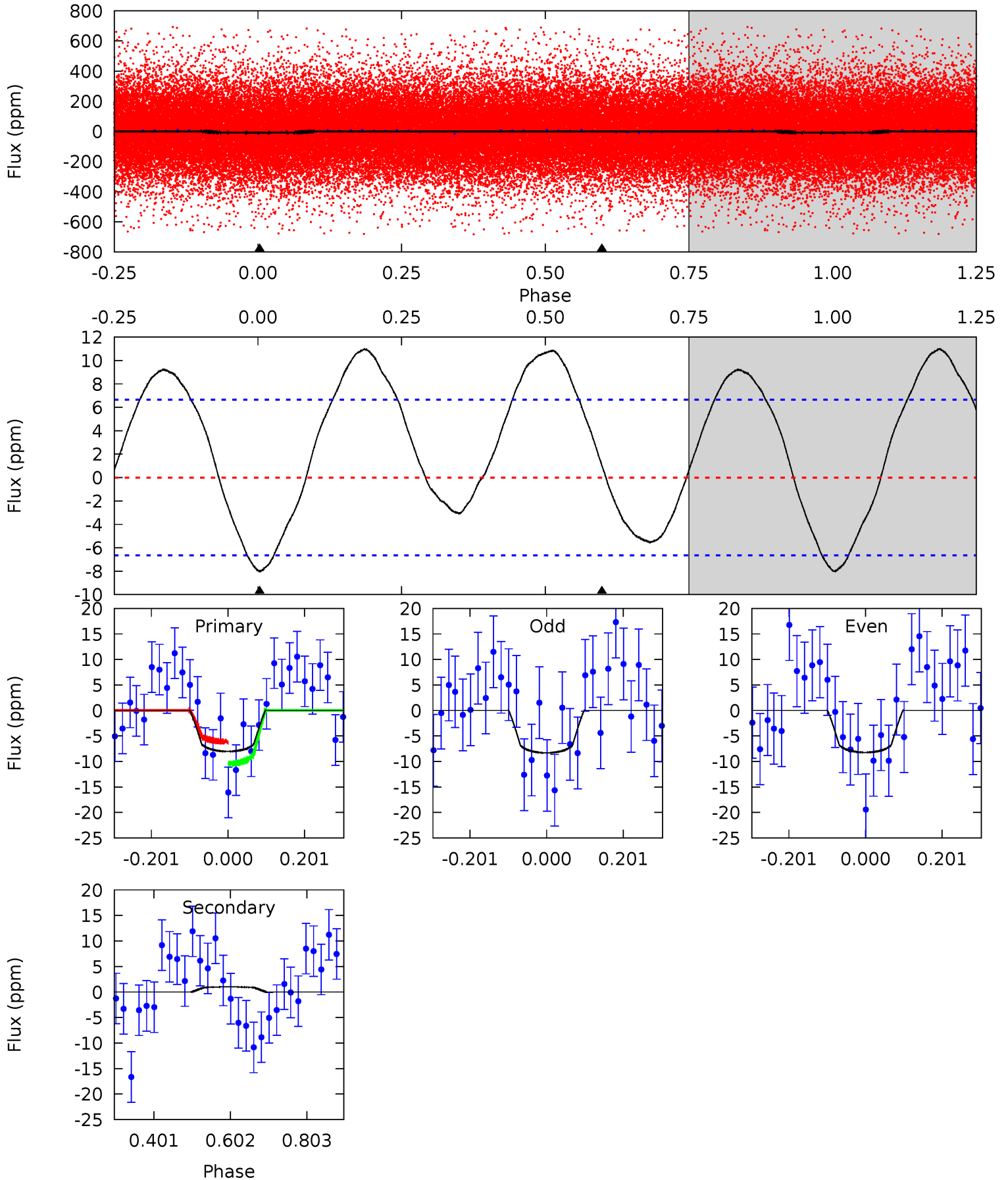
TCE 002583234-01 P= 0.666126 Days $T_0=131.853327$ (BKJD)



DV Model-Shift Uniqueness Test

002583234-01, P = 0.666126 Days, E = 131.187243 Days

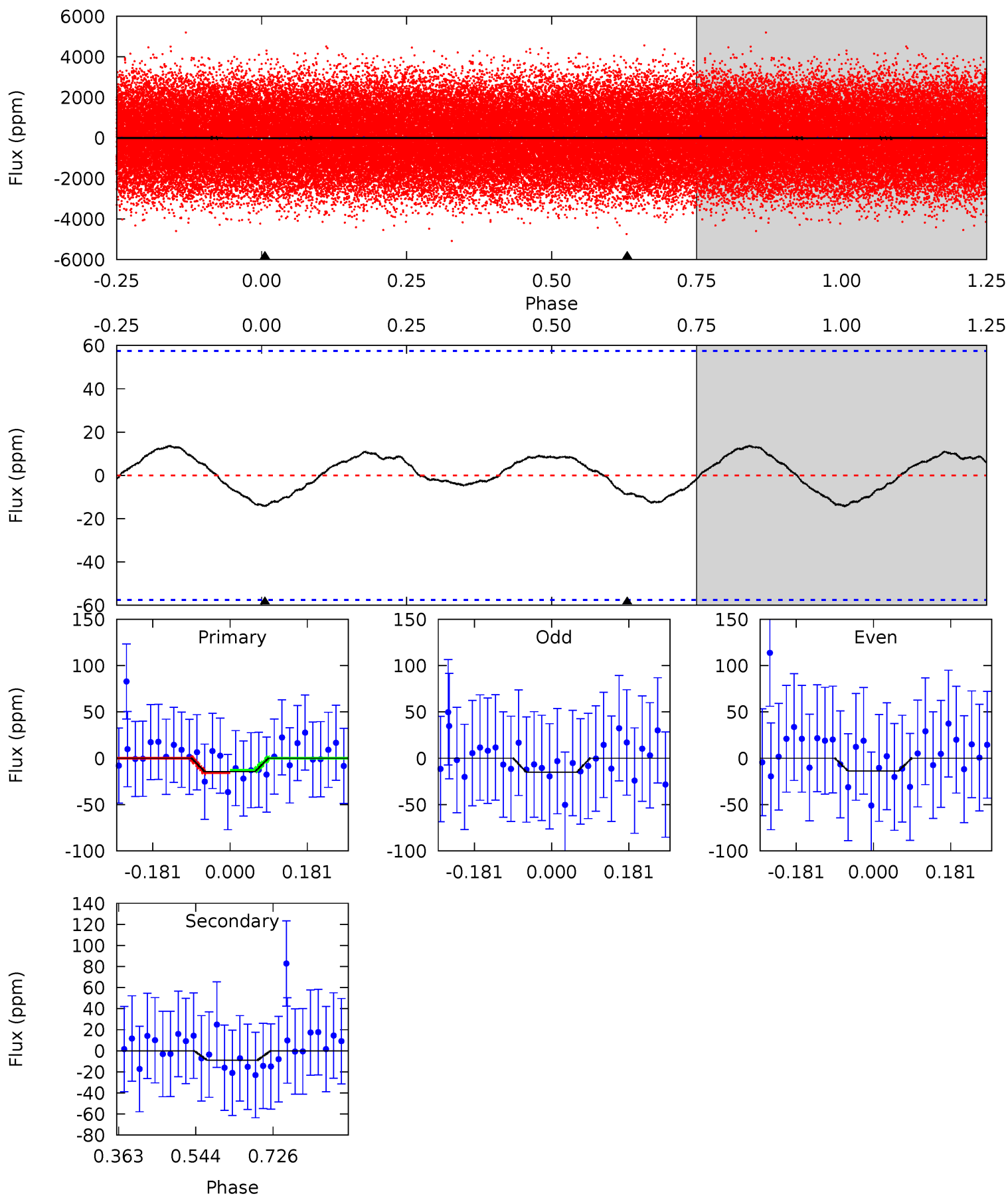
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.33	-0.67	0	0	4.42	1.28	2.83	5.33	5.33	-0.67	-0.67	0.03	0.75	0.58	1.43



Alt Model-Shift Uniqueness Test

002583234-01, P = 0.666126 Days, E = 131.187201 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.10	0.68	0	0	4.44	1.34	0.40	1.10	1.10	0.68	0.68	0.05	1.22	0.49	0.10



Stellar Parameters For KIC 002583234

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8016^{+72}_{-88}	$4.001^{+0.143}_{-0.088}$	$-0.100^{+0.050}_{-0.200}$	$2.237^{+0.277}_{-0.451}$	$1.831^{+0.063}_{-0.203}$	$0.230^{+0.171}_{-0.060}$
	+1%/-1%	+4%/-2%	+50%/-200%	+12%/-20%	+3%/-11%	+74%/-26%
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 002583234-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	1 ± 2	$0.85^{+0.42}_{-0.42}$	5454^{+189}_{-254}	-5048^{+858}_{-1315}	$-0.212^{+0.309}_{-0.897}$
Alt.	-9 ± 13	$0.84^{+0.41}_{-0.41}$	5452^{+205}_{-283}	6687^{+4948}_{-12741}	$1.970^{+7.864}_{-2.848}$

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

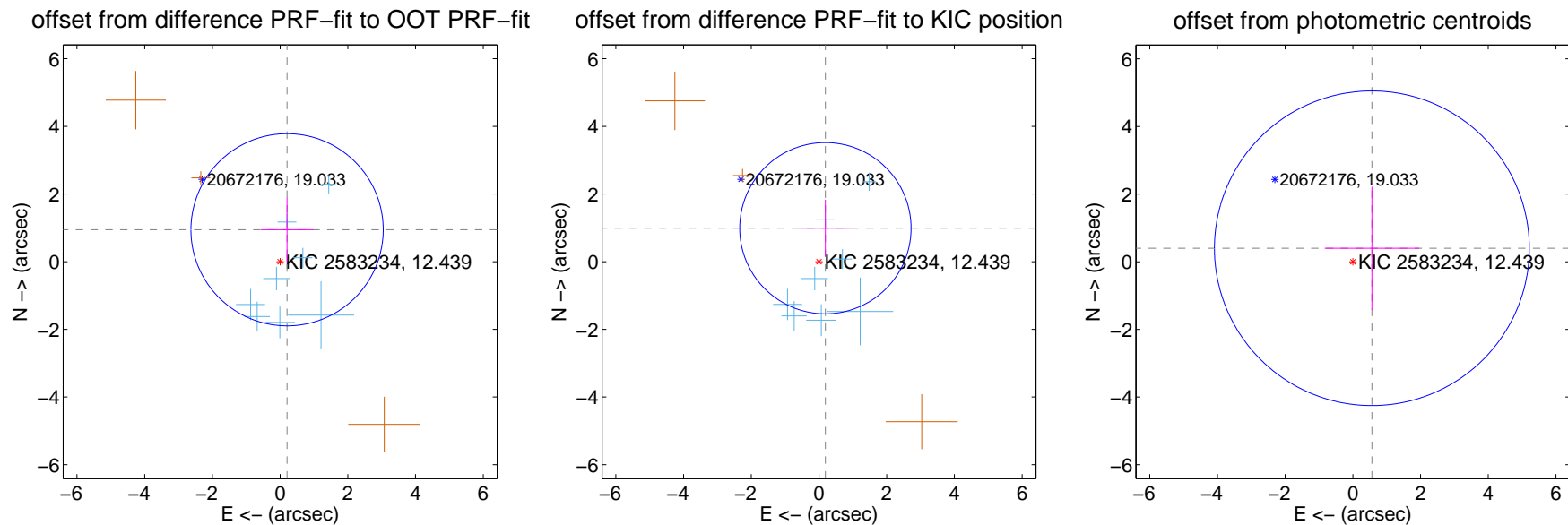
DV Centroid Data

Supplemental centroid analysis for 002583234-01. Kepler magnitude: 12.44. Transit SNR 7.38

There are 8 quarters with good PRF difference image offsets

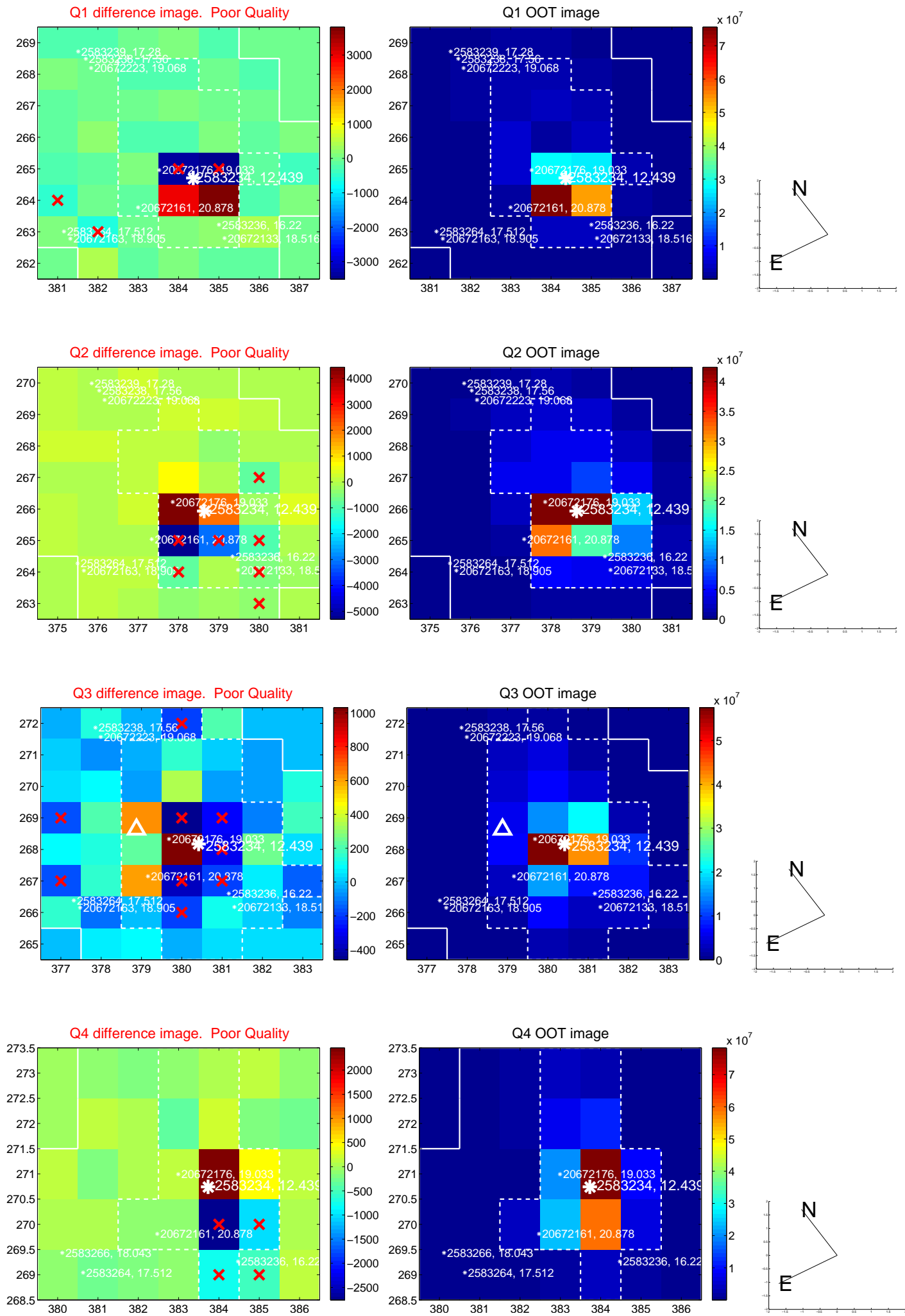
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.966 ± 0.947	1.02	-0.206 ± 0.771	0.943 ± 0.951
PRF-fit source offset from KIC position	1.008 ± 0.844	1.19	-0.189 ± 0.771	0.990 ± 0.840
photometric centroid source offset	0.69 ± 1.55	0.44	-0.56 ± 1.40	0.40 ± 1.82

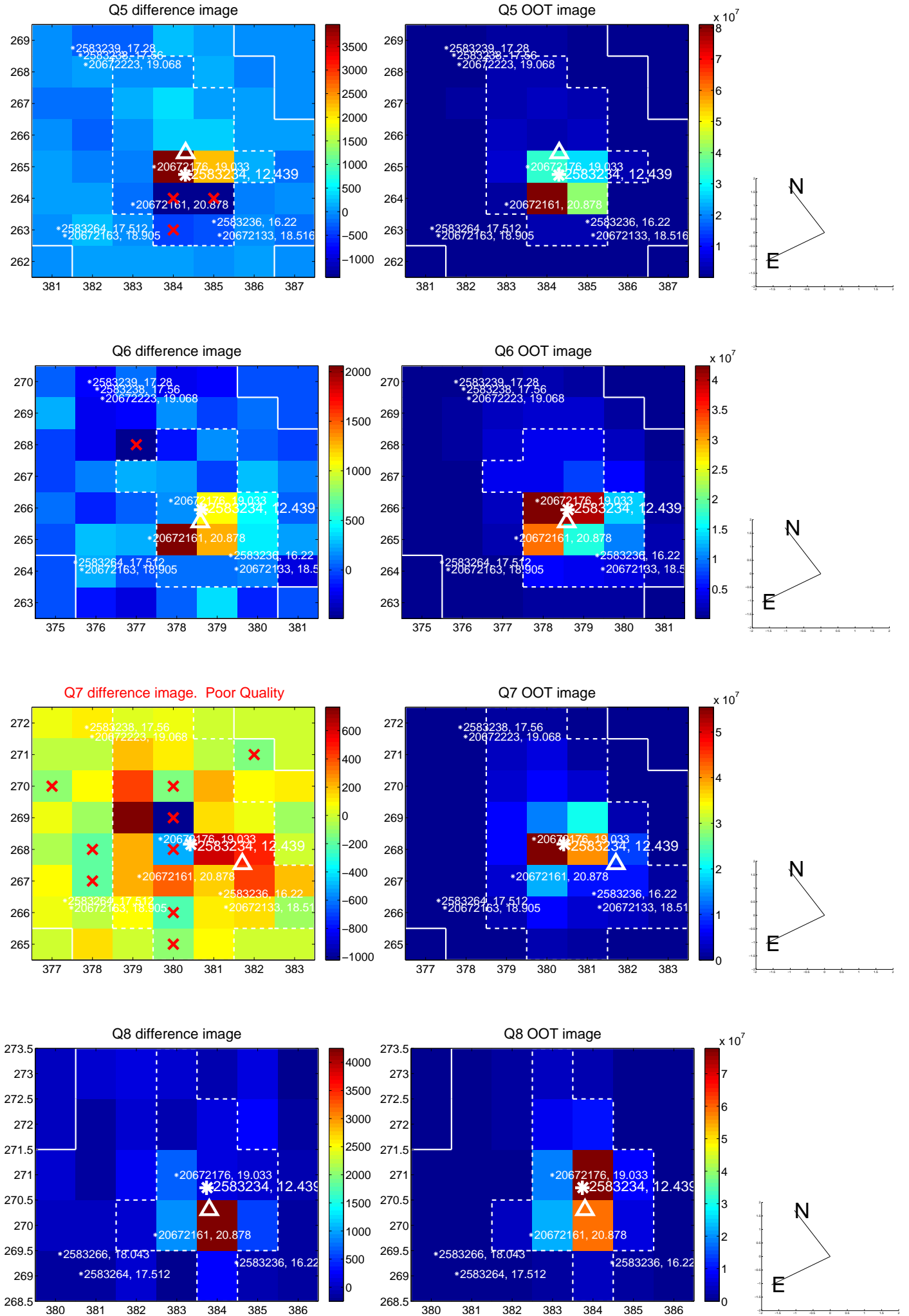


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

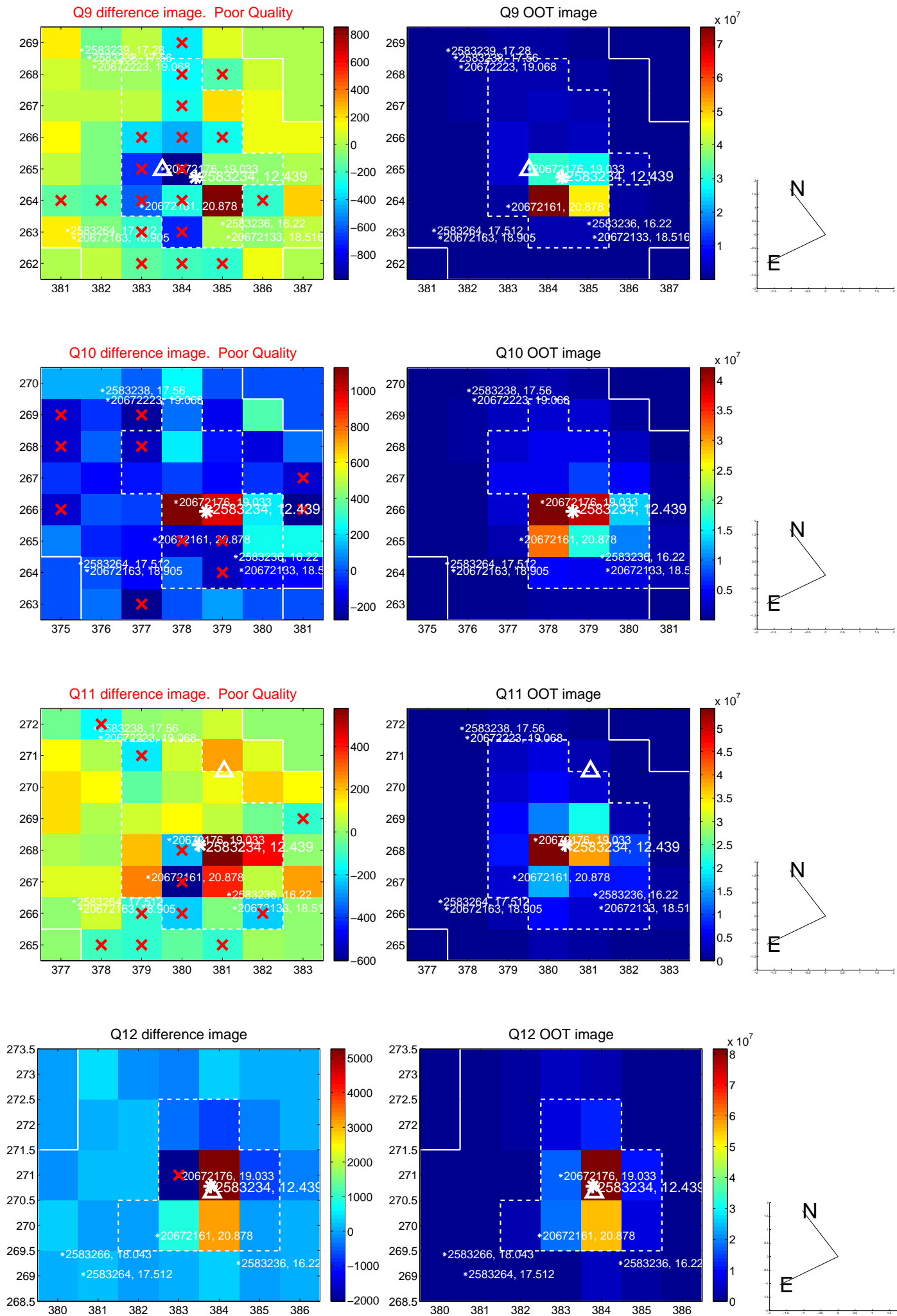
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



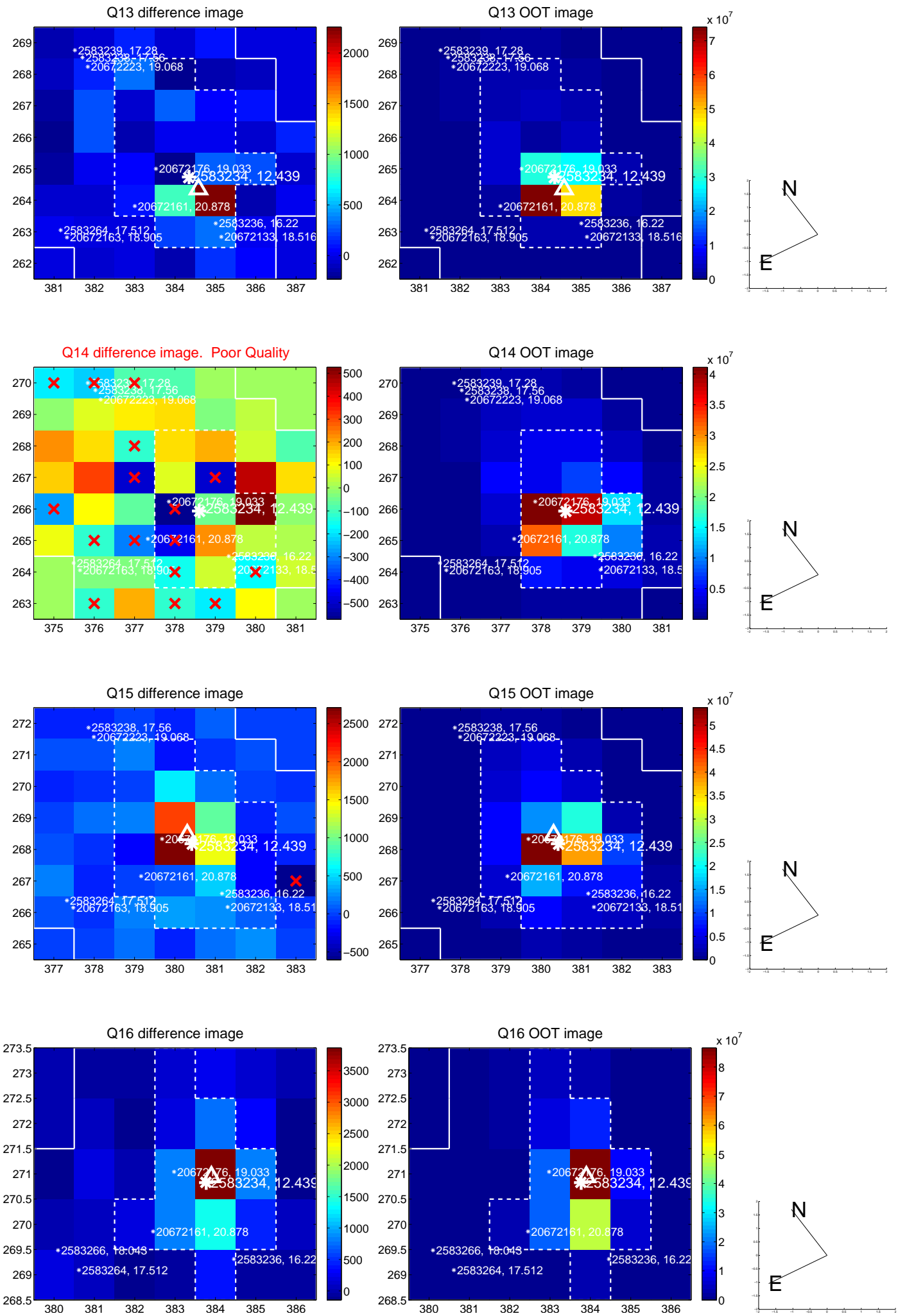
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



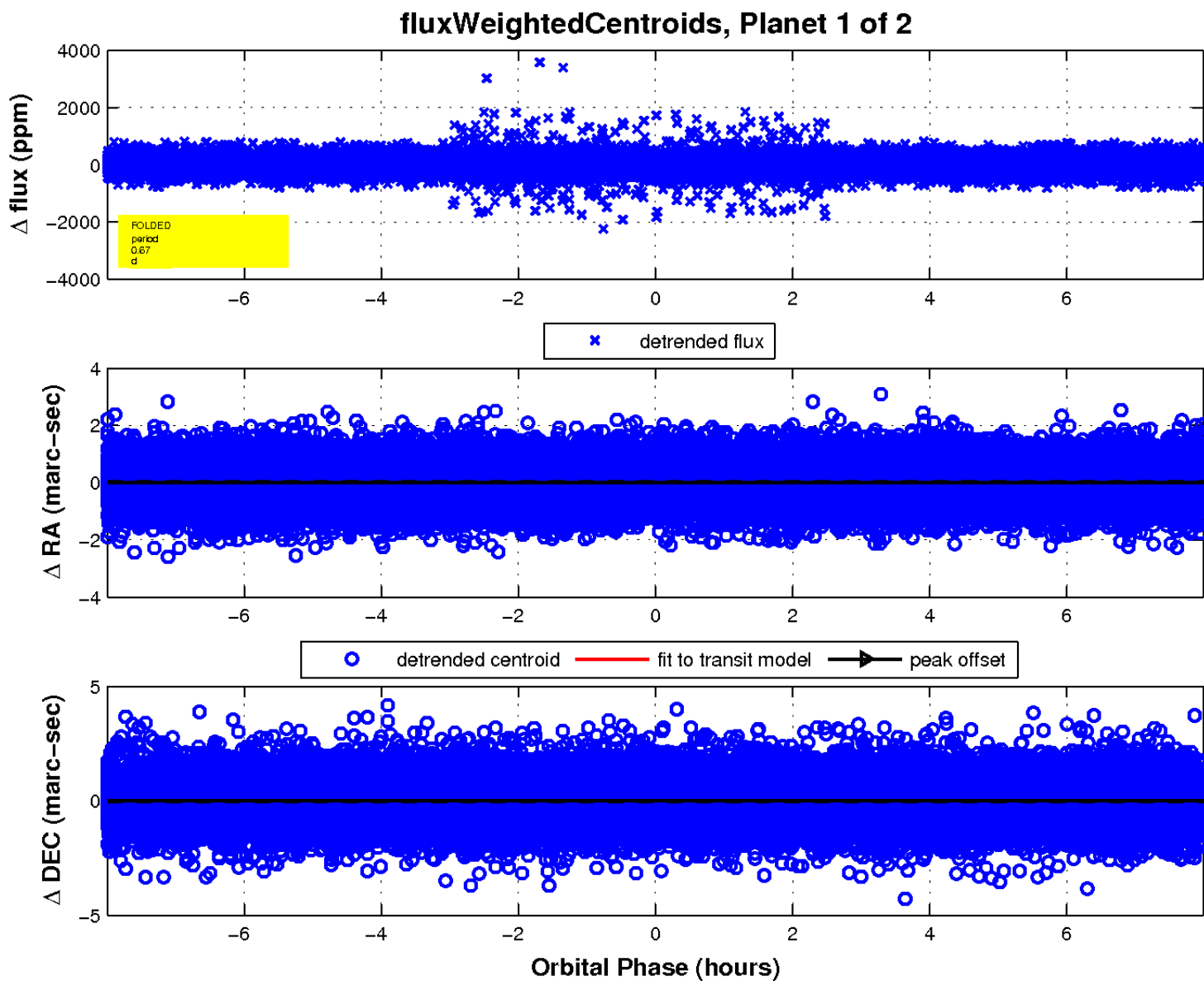
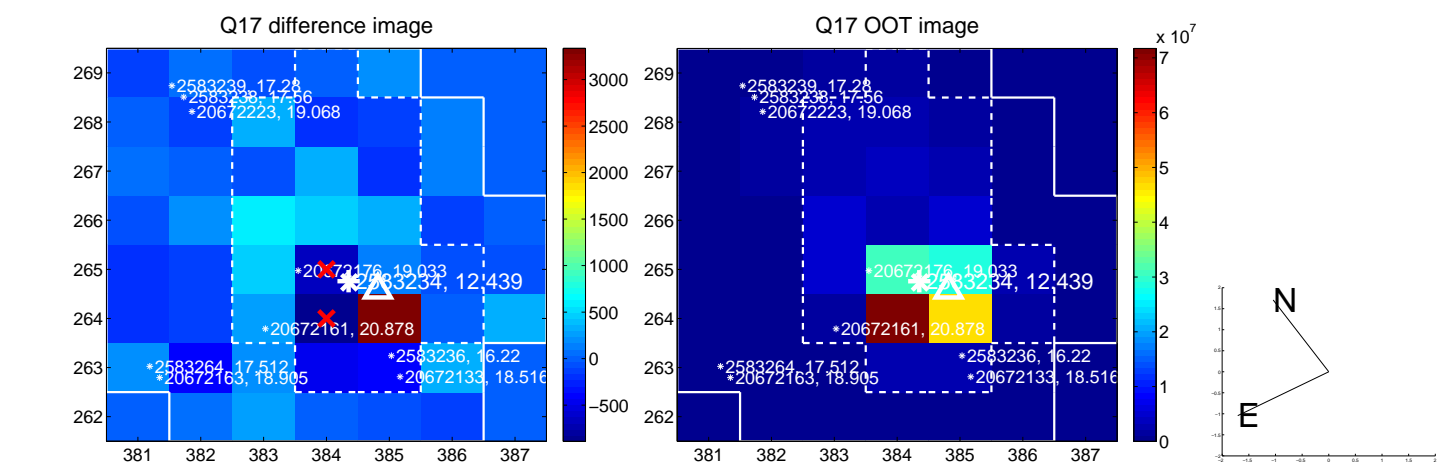
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

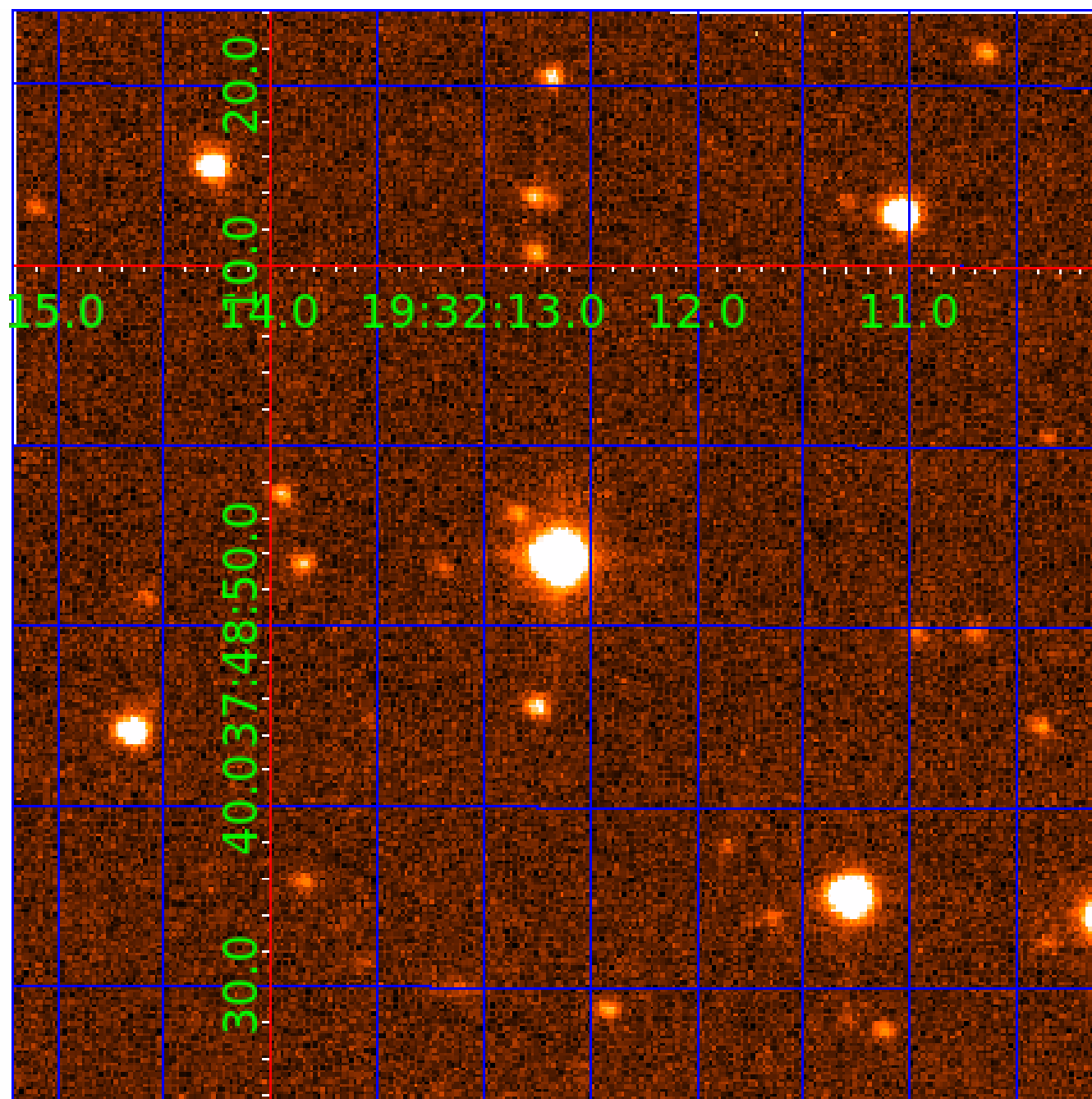


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002583234

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})
002583234-01	OBS	No	0.666126	131.853369	10.7	2.727	7.9	7.4	2.24	8016	0.85	55517.21
002583234-02	OBS	No	277.597179	342.749002	317.6	11.260	9.9	10.5	2.24	8016	4.43	17.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002583234-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
002583234-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

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

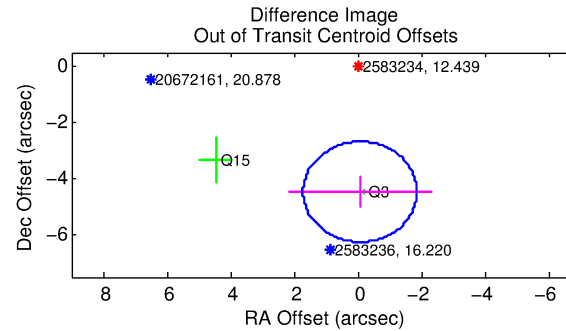
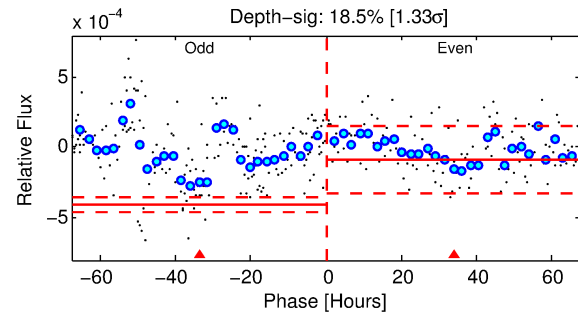
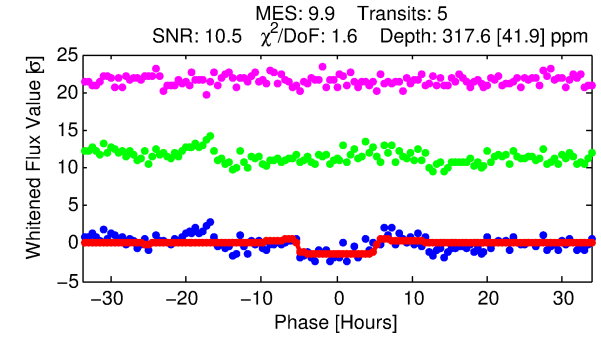
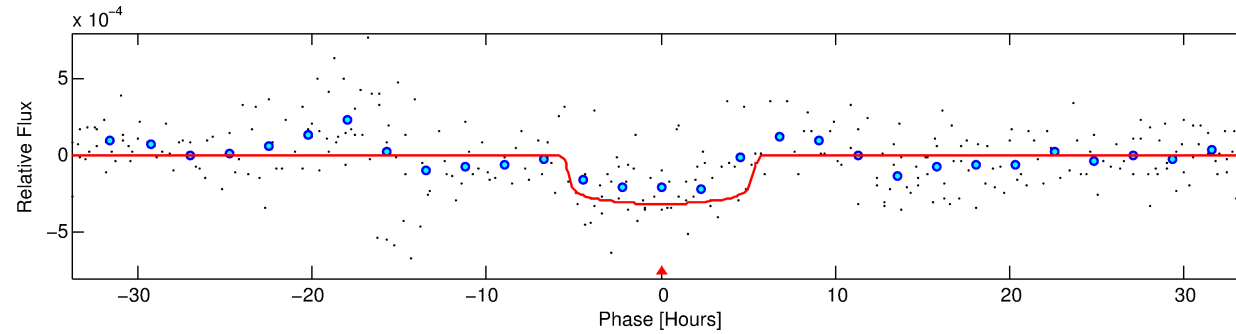
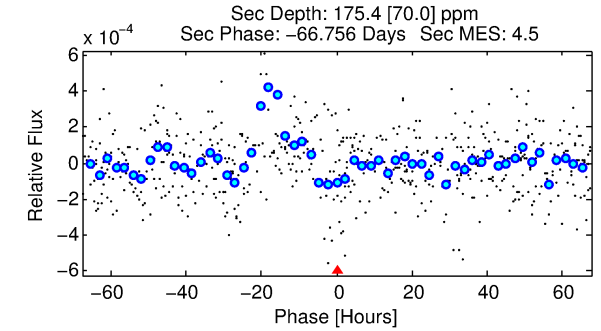
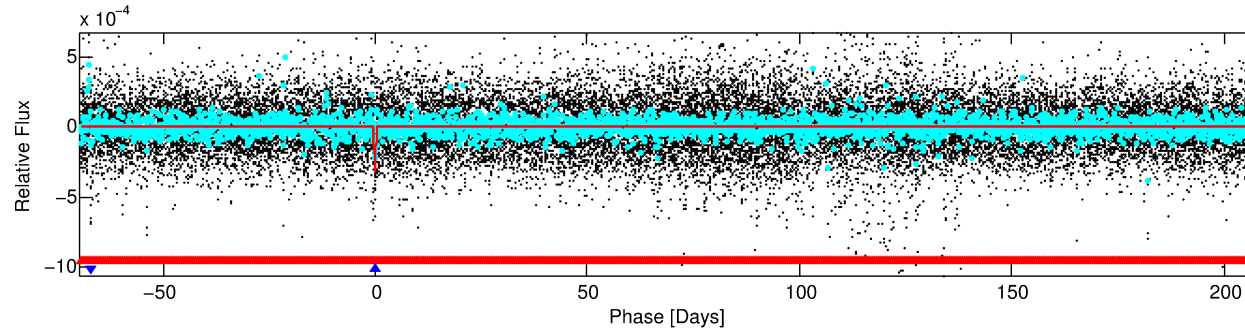
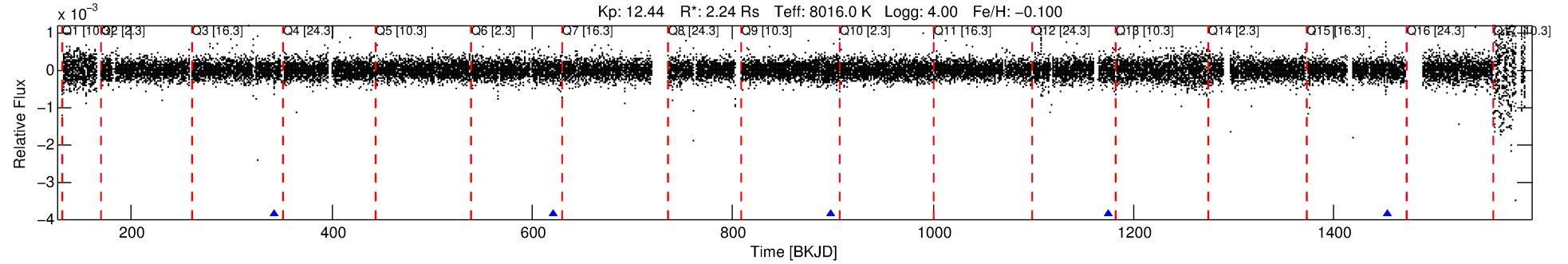
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002583234-02

No Significant Match Found

DV One-Page Summary

KIC: 2583234 Candidate: 2 of 2 Period: 277.597 d



DV Fit Results:

Period = 277.59718 [0.01658] d
Epoch = 342.7490 [0.0353] BKJD
Rp/R* = 0.0182 [0.0071]
a/R* = 113.28 [262.15]
b = 0.82 [0.92]
Seff = 17.84 [4.66]
Teq = 524 [34] K
Rp = 4.43 [1.95] Re
a = 1.0188 [0.1768] AU
Ag = 5094.74 [4657.45] [1.09σ]
Teffp = 6845 [1503] K [4.20σ]

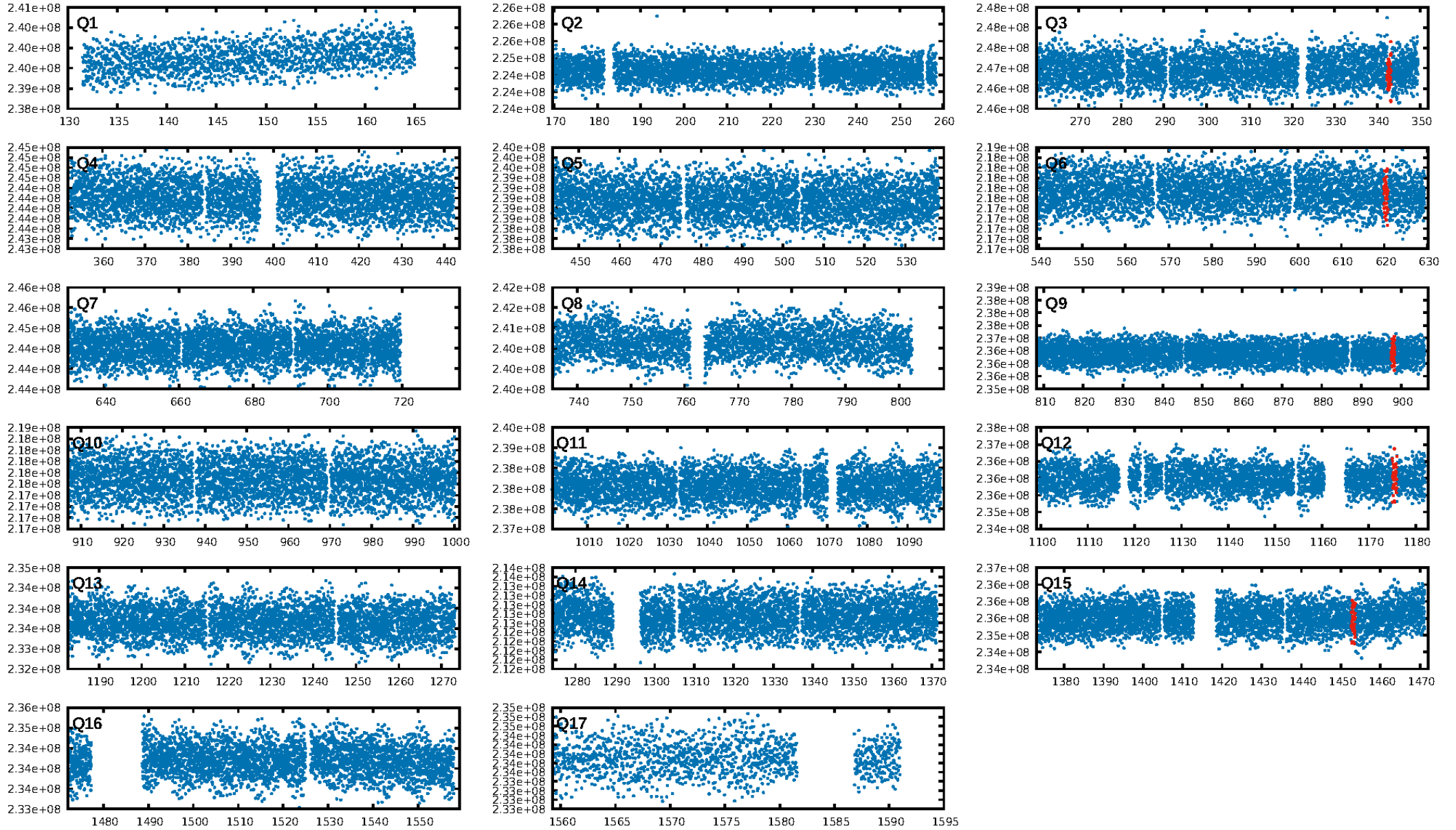
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [573.68σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.24e-17
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.2429
Centroid-sig: 33.7%
Centroid-so: 0.600 arcsec [0.98σ]
OotOffset-rm: 4.468 arcsec [7.50σ]
KicOffset-rm: 4.545 arcsec [11.31σ]
OotOffset-st: 0/2/0/0 [2]
KicOffset-st: 0/2/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/5]

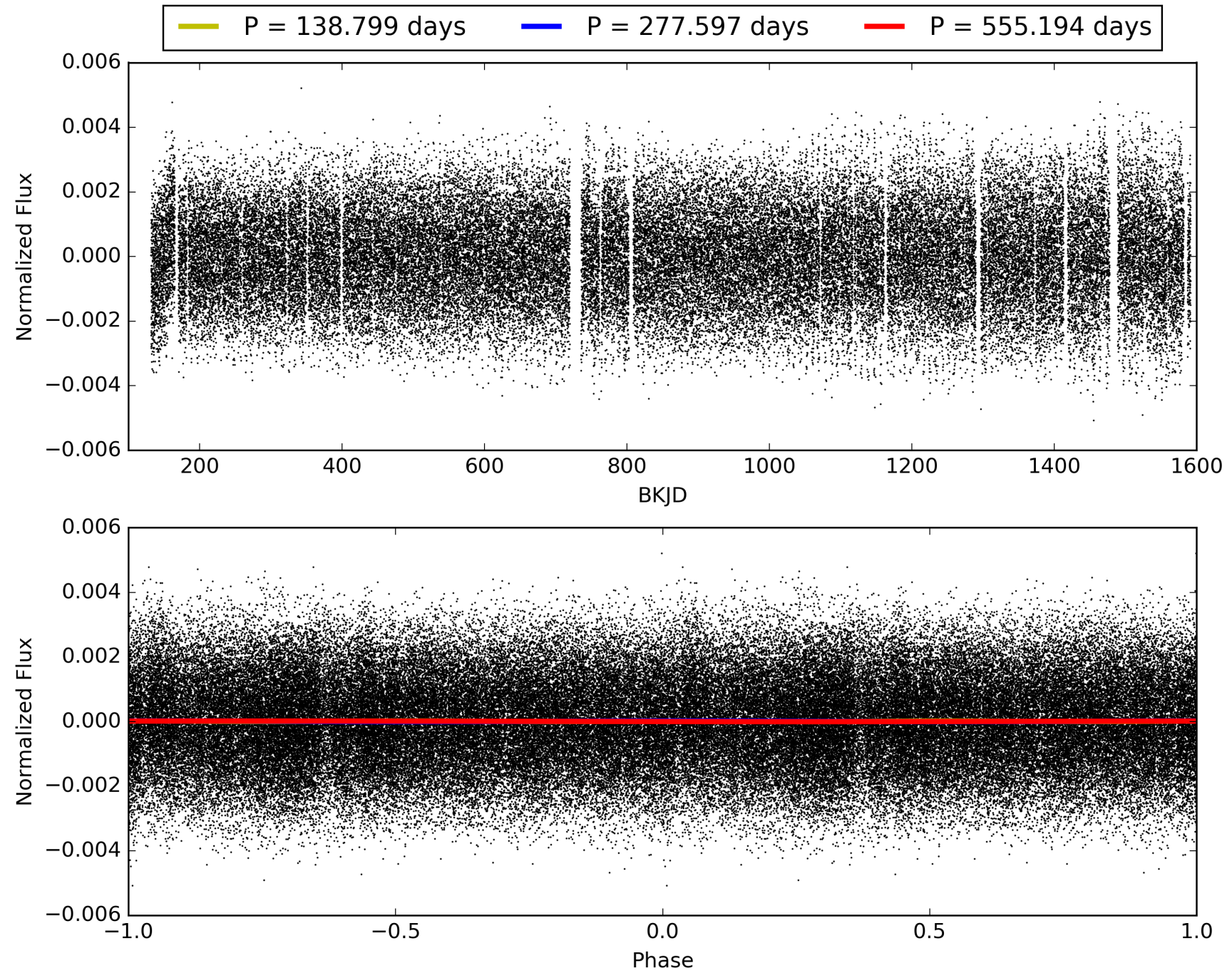
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:08:08 Z

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

TCE 002583234-02, PDC Light Curves

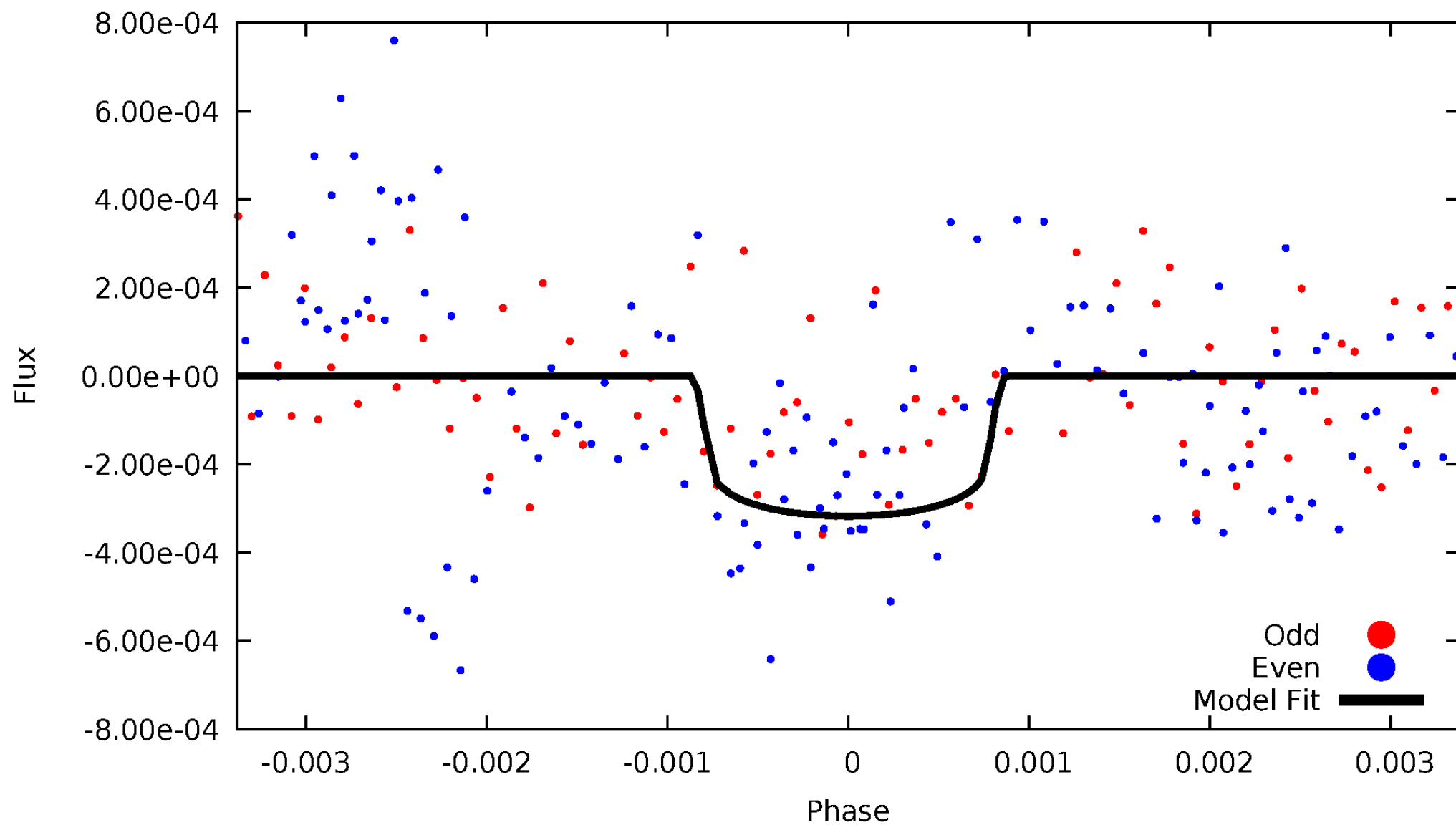


TCE 002583234-02



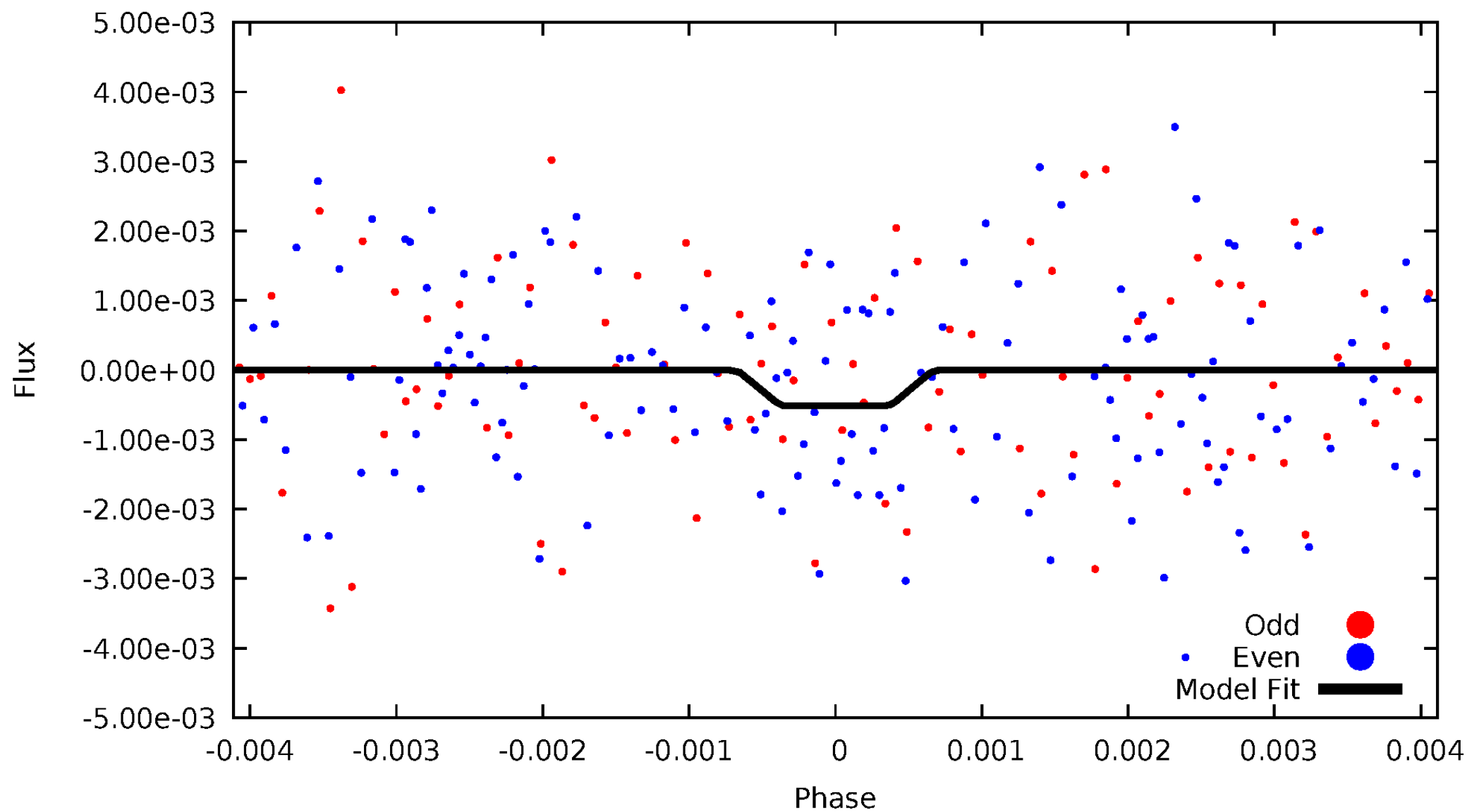
DV Odd/Even

TCE 002583234-02



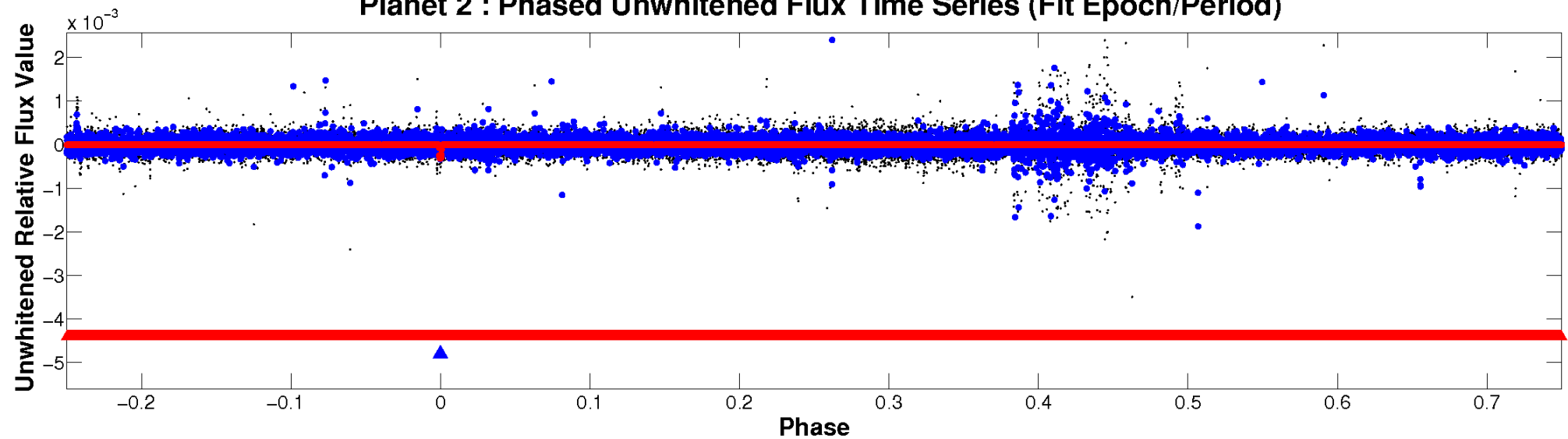
ALT Odd/Even

TCE 002583234-02

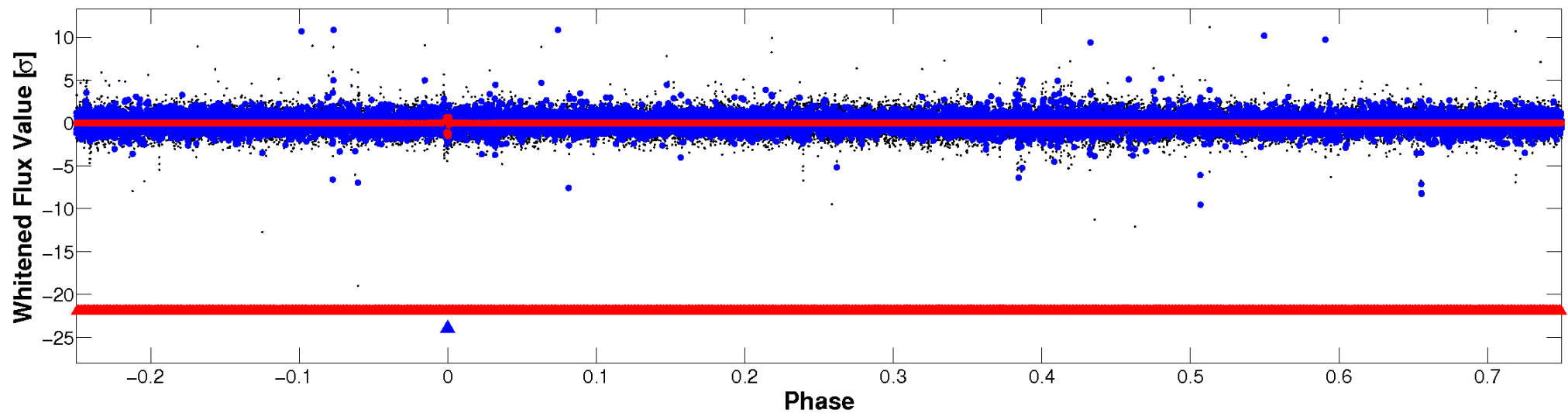


Non-Whitened Vs. Whitened Light Curve

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

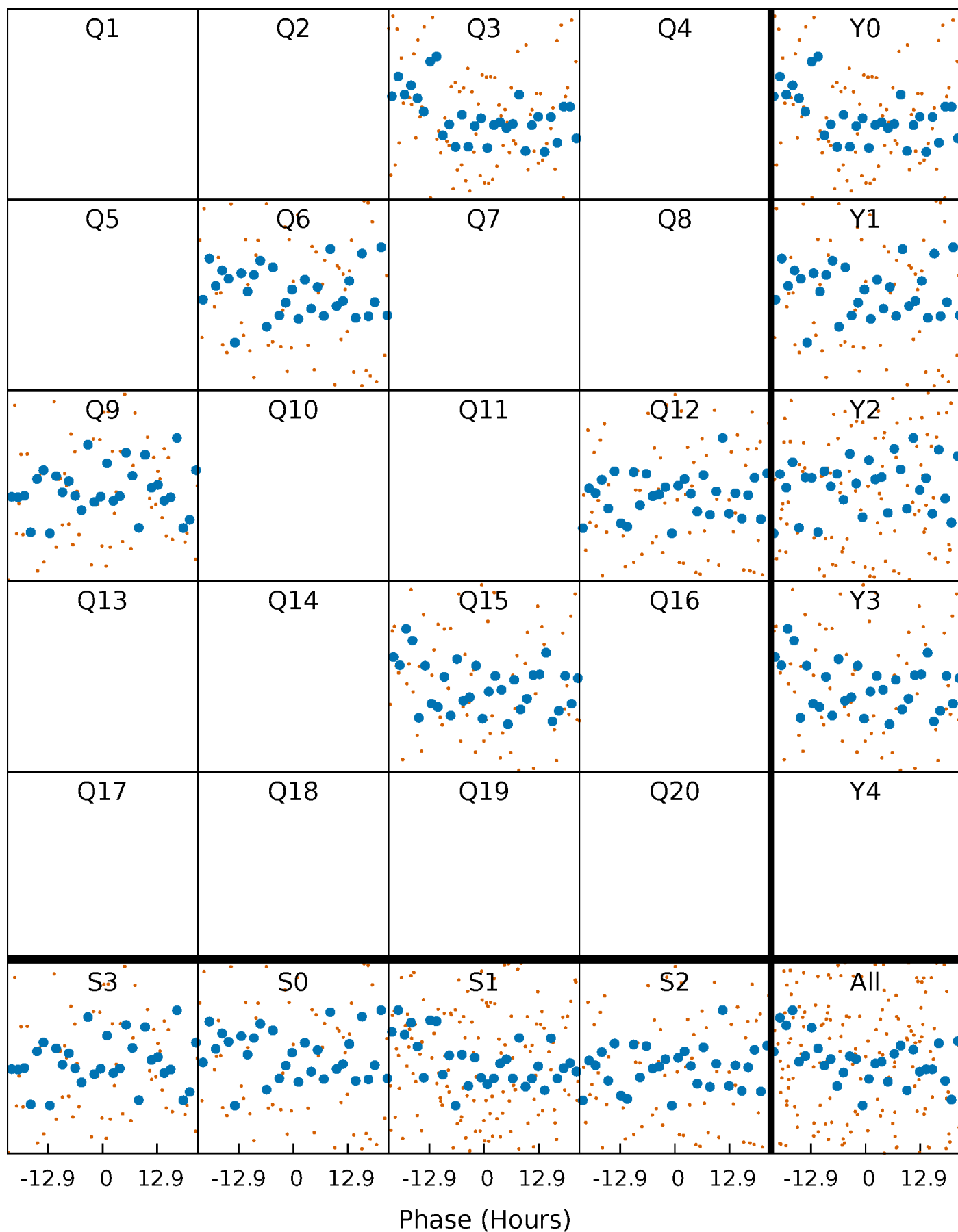


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 002583234-02 P=277.597179 Days $T_0=342.749002$ (BKJD)



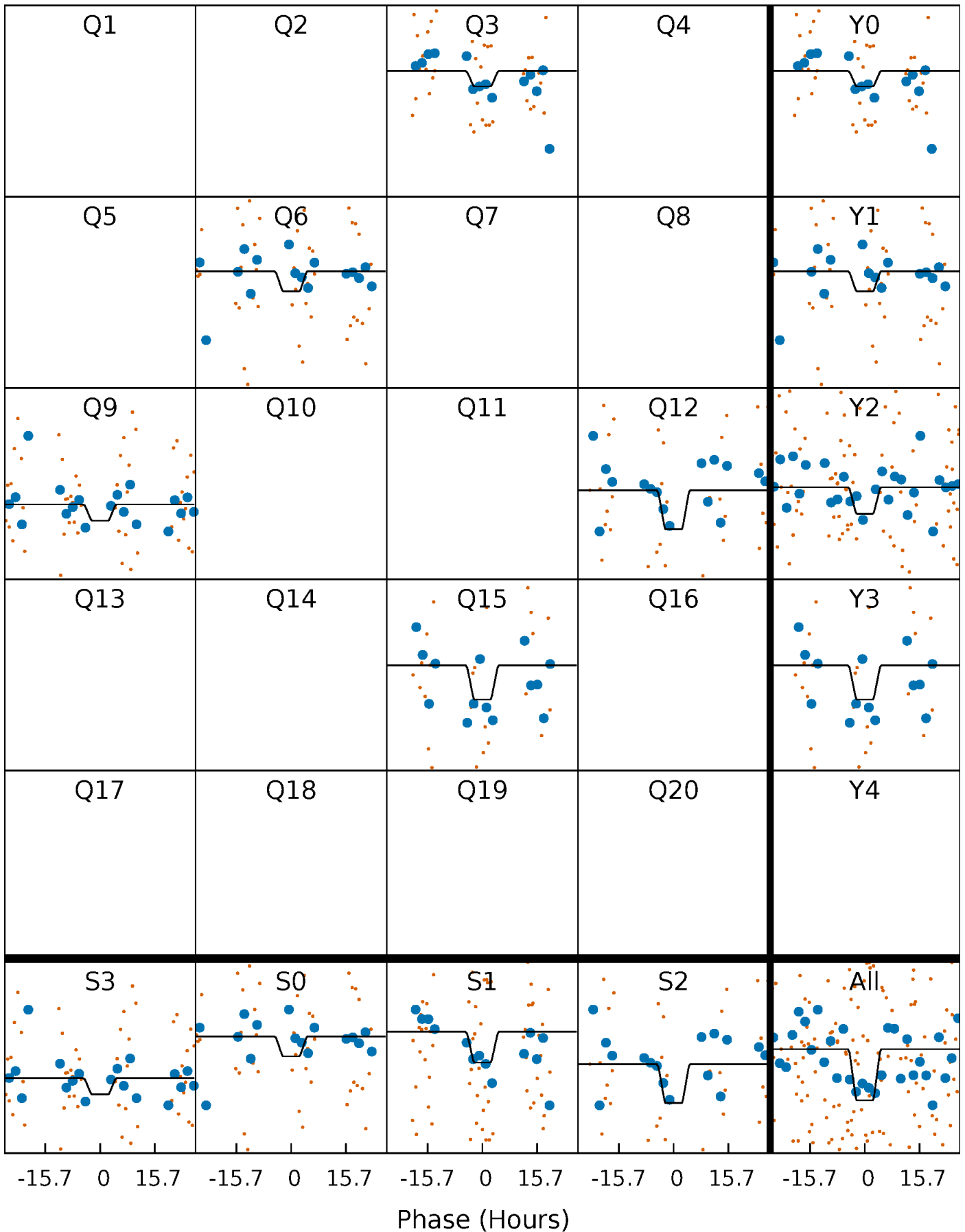
DV Quarter-Phased Transit Curves

TCE 002583234-02 $P=277.597179$ Days $T_0=342.749002$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

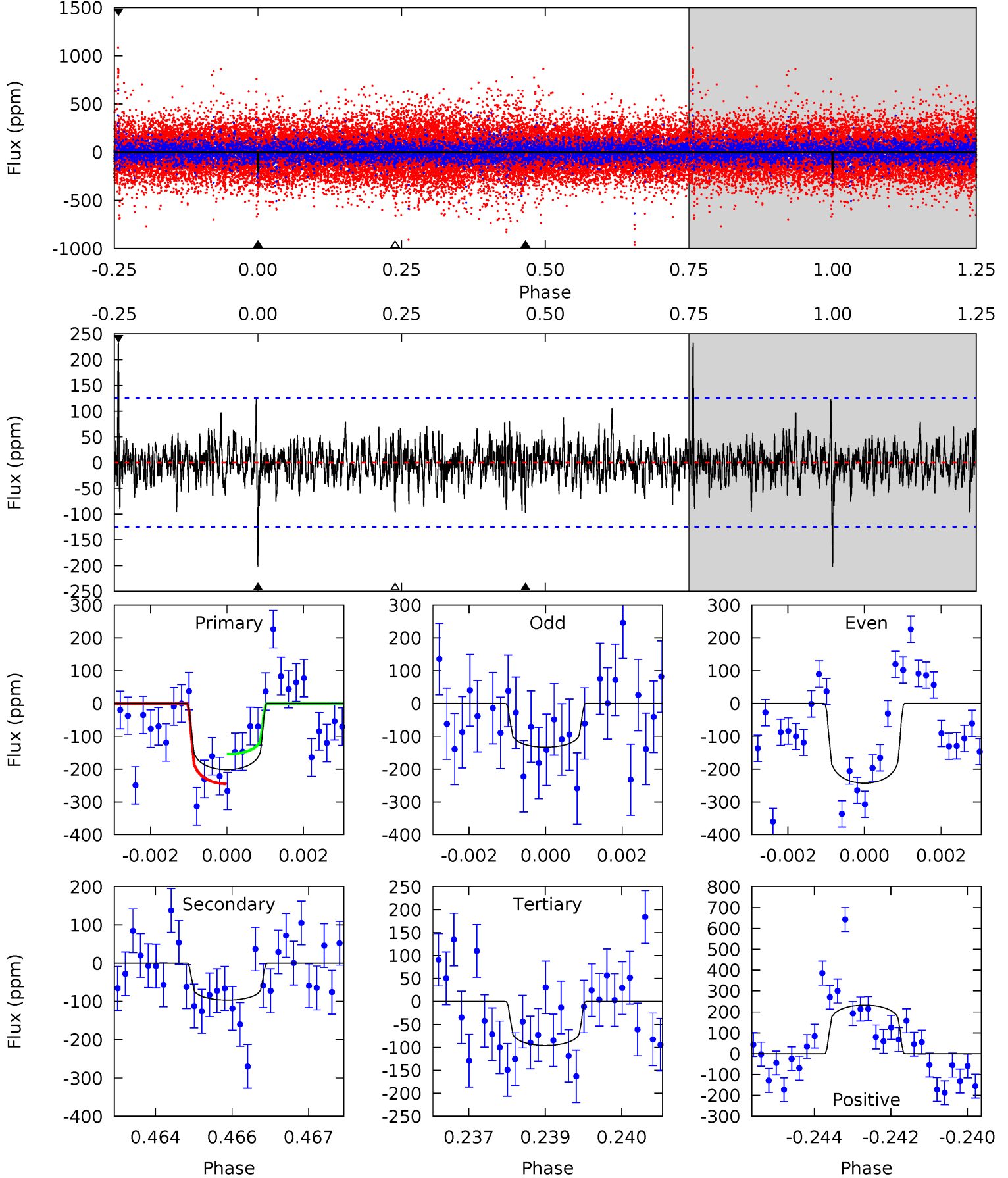
TCE 002583234-02 $P=277.603535$ Days $T_0=342.710230$ (BKJD)



DV Model-Shift Uniqueness Test

002583234-02, P = 277.597179 Days, E = 65.151823 Days

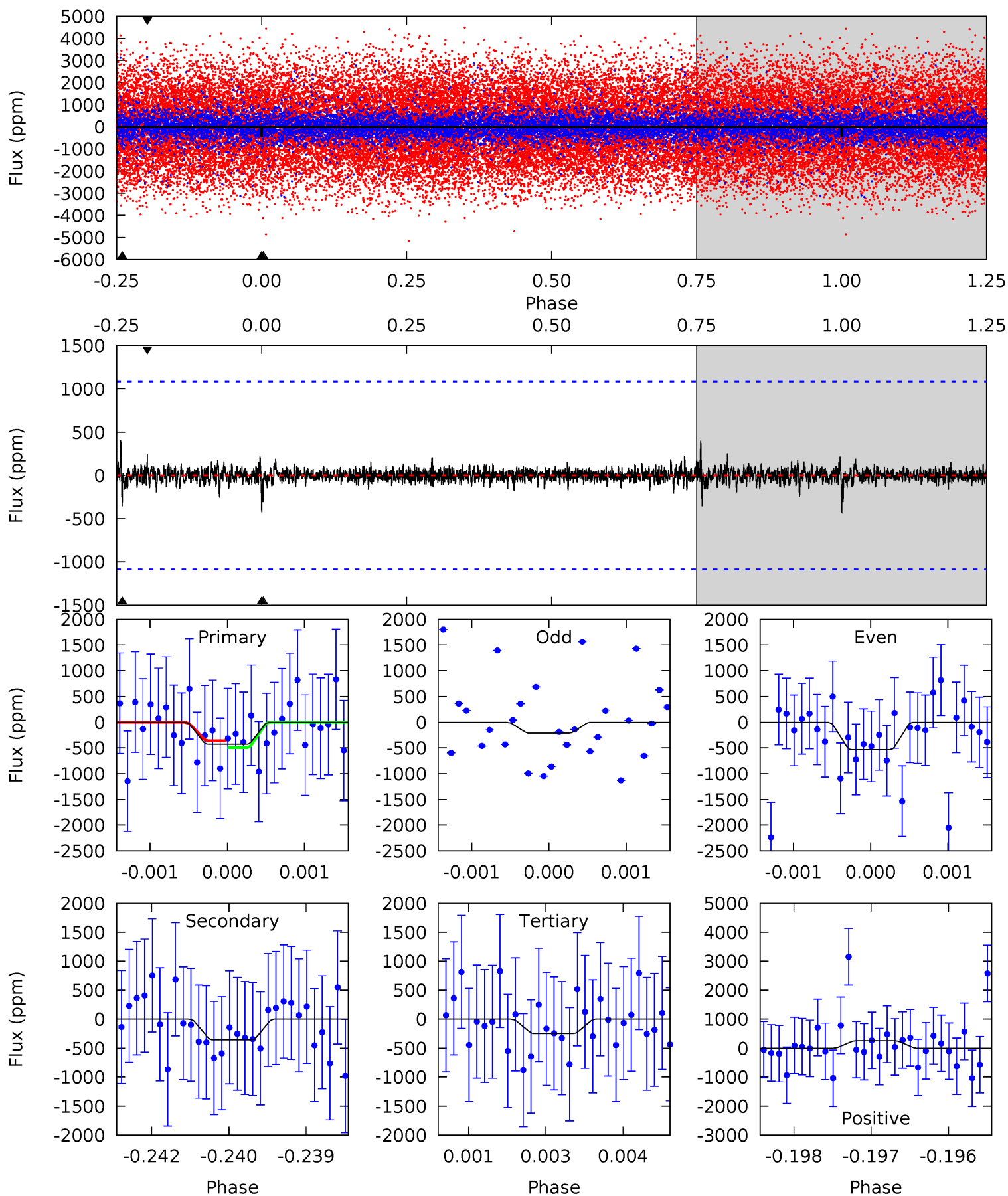
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.66	4.14	4.11	9.97	5.36	3.14	1.23	4.55	-1.31	0.03	-5.83	2.31	0.91	0.54	1.93



Alt Model-Shift Uniqueness Test

002583234-02, P = 277.603535 Days, E = 65.106695 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.12	1.77	1.23	1.26	5.40	3.21	0.28	0.89	0.86	0.54	0.51	0.77	0.88	0.49	0.33



Stellar Parameters For KIC 002583234

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	8016^{+72}_{-88}	$4.001^{+0.143}_{-0.088}$	$-0.100^{+0.050}_{-0.200}$	$2.237^{+0.277}_{-0.451}$	$1.831^{+0.063}_{-0.203}$	$0.230^{+0.171}_{-0.060}$
	+1%/-1%	+4%/-2%	+50%/-200%	+12%/-20%	+3%/-11%	+74%/-26%
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 002583234-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-97 ± 23	$4.27^{+1.72}_{-1.67}$	729^{+28}_{-34}	5773^{+1740}_{-876}	3021^{+4874}_{-1624}
Alt.	-356 ± 201	$5.48^{+1.74}_{-1.78}$	730^{+27}_{-34}	7133^{+2062}_{-1566}	6825^{+9302}_{-4430}

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

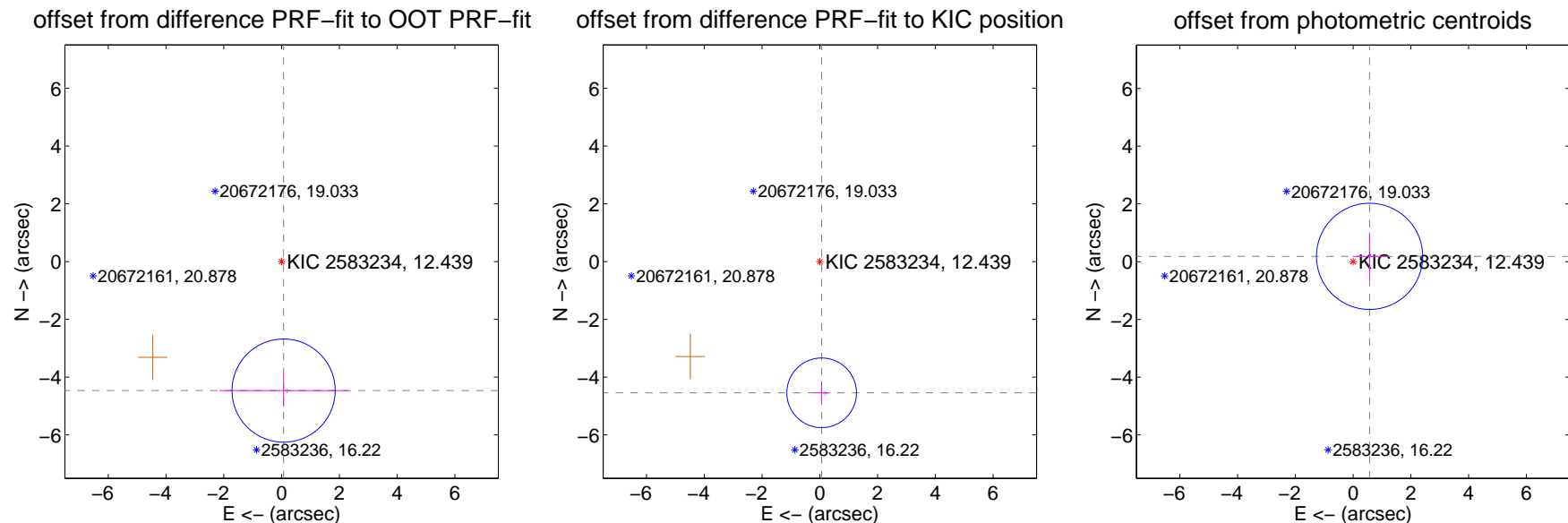
DV Centroid Data

Supplemental centroid analysis for 002583234-02. Kepler magnitude: 12.44. Transit SNR 10.53

There are 1 quarters with good PRF difference image offsets

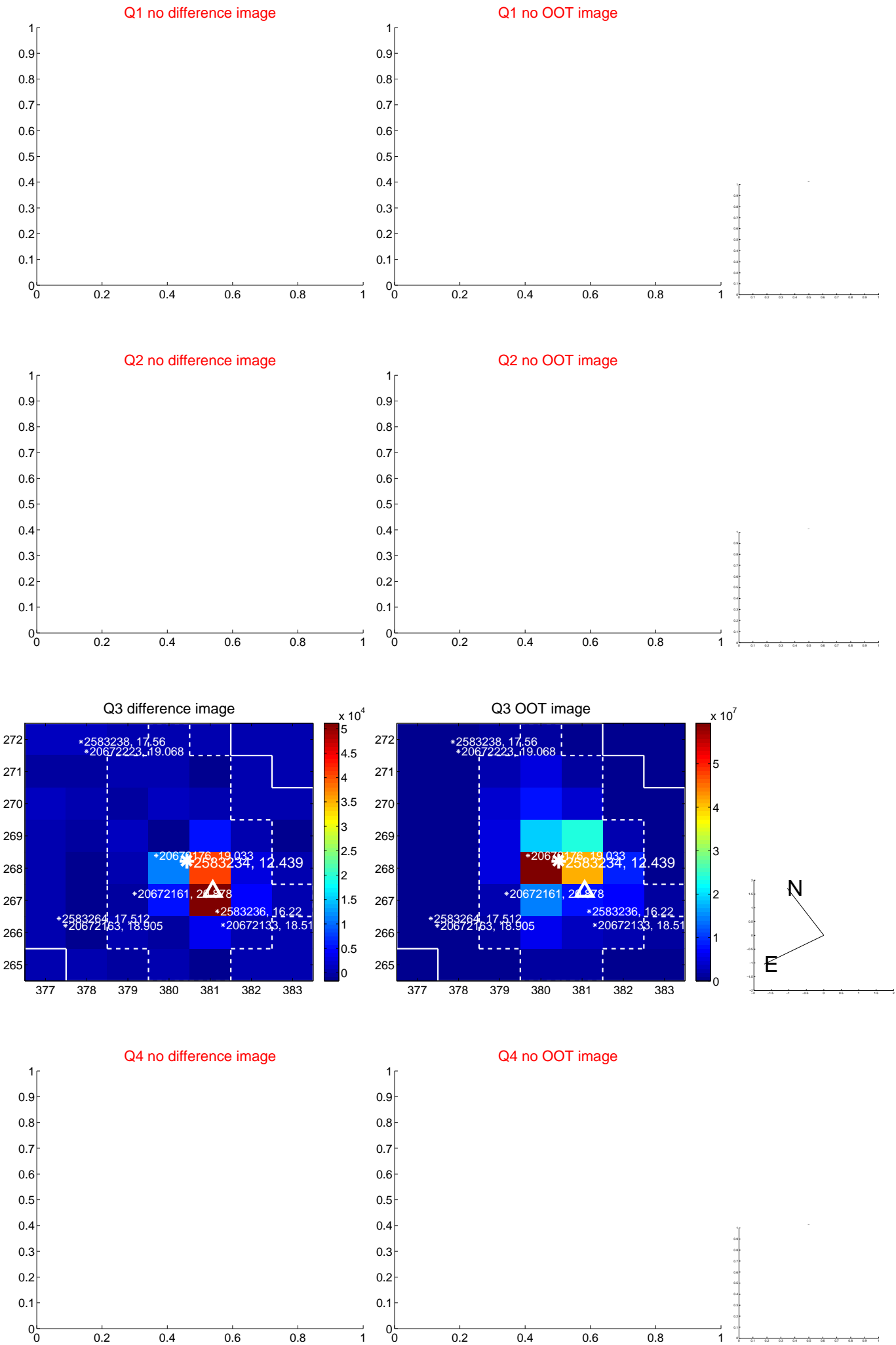
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.468 ± 0.595	7.50	-0.070 ± 2.228	-4.467 ± 0.561
PRF-fit source offset from KIC position	4.545 ± 0.402	11.31	-0.063 ± 0.264	-4.544 ± 0.402
photometric centroid source offset	0.60 ± 0.61	0.98	-0.57 ± 0.59	0.18 ± 0.82



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.

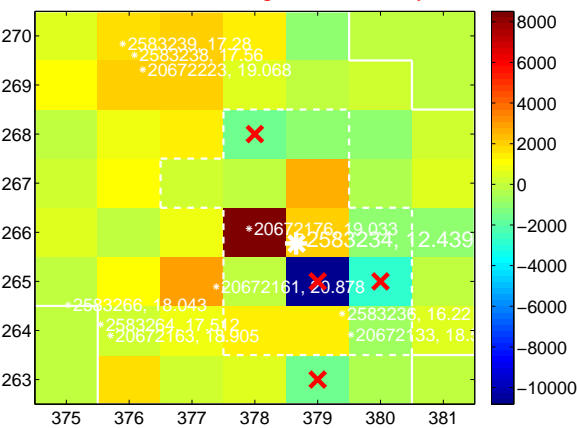
Q5 no difference image



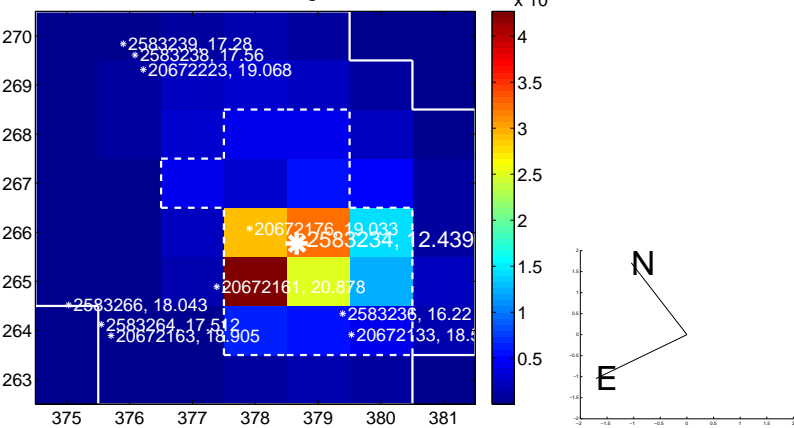
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



Q7 no difference image



Q7 no OOT image



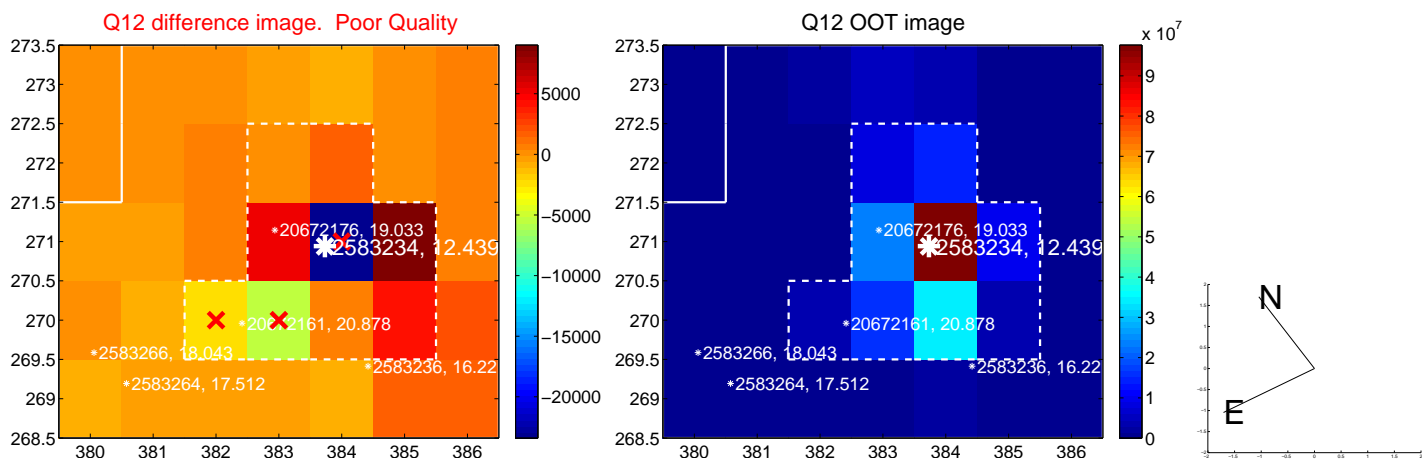
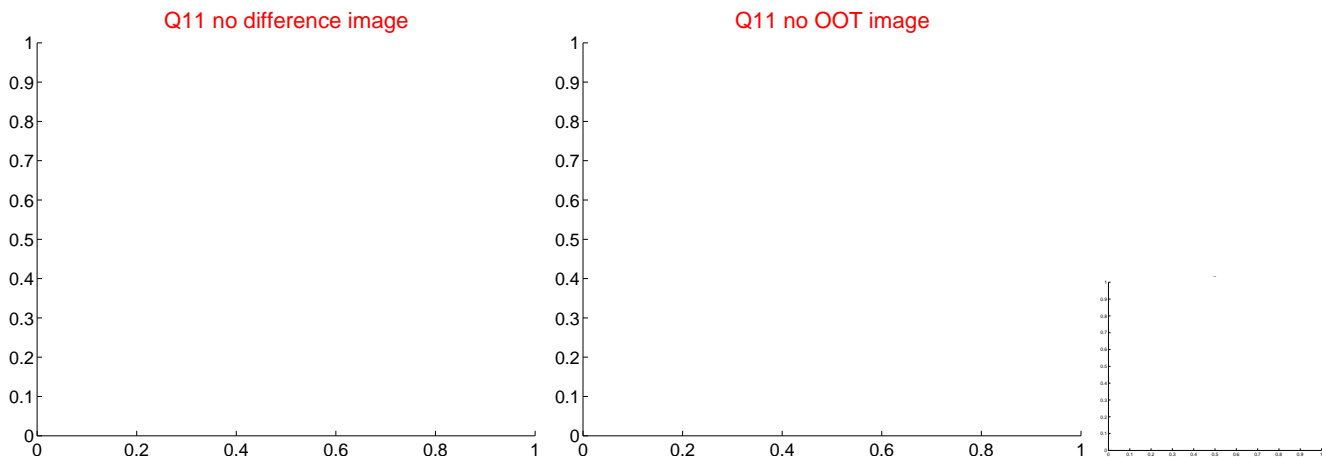
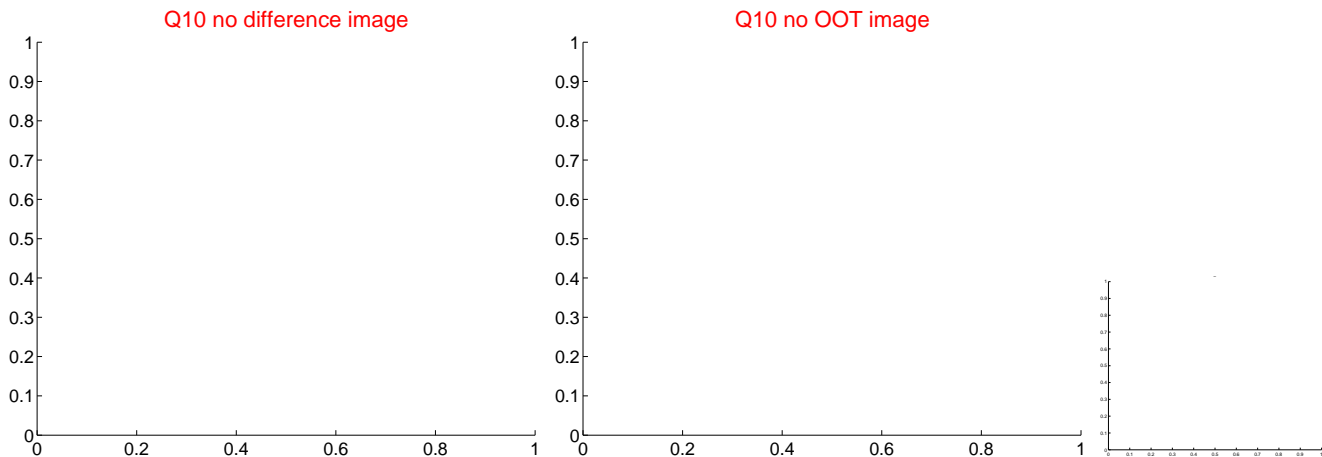
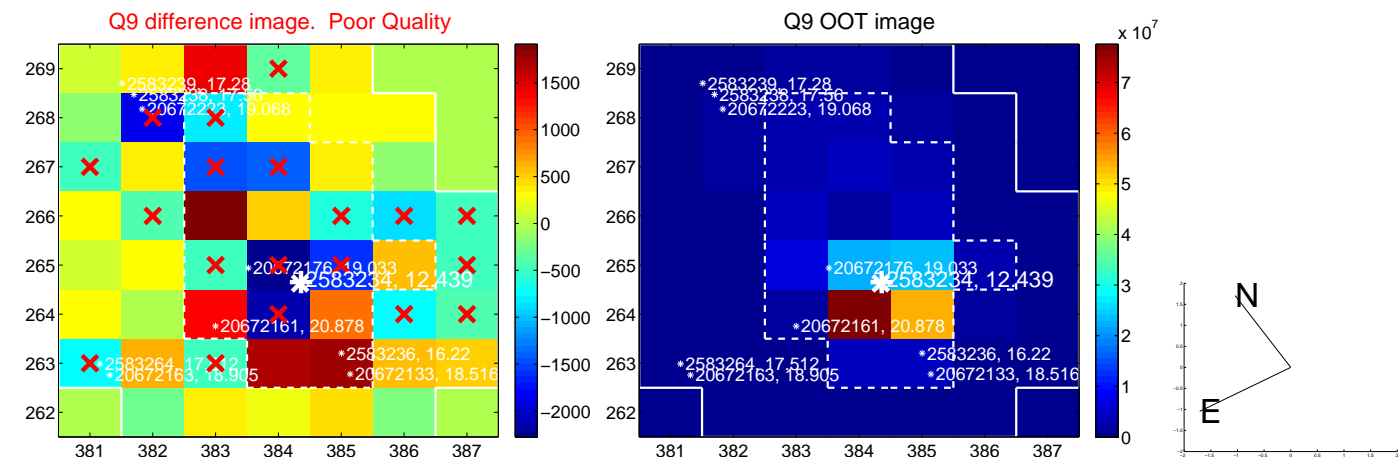
Q8 no difference image



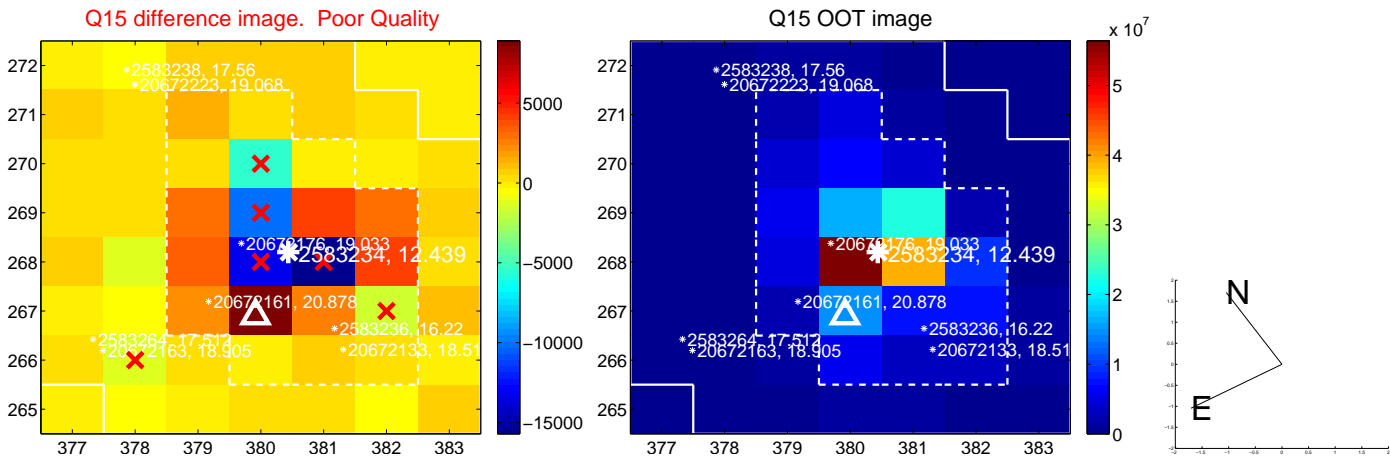
Q8 no OOT image



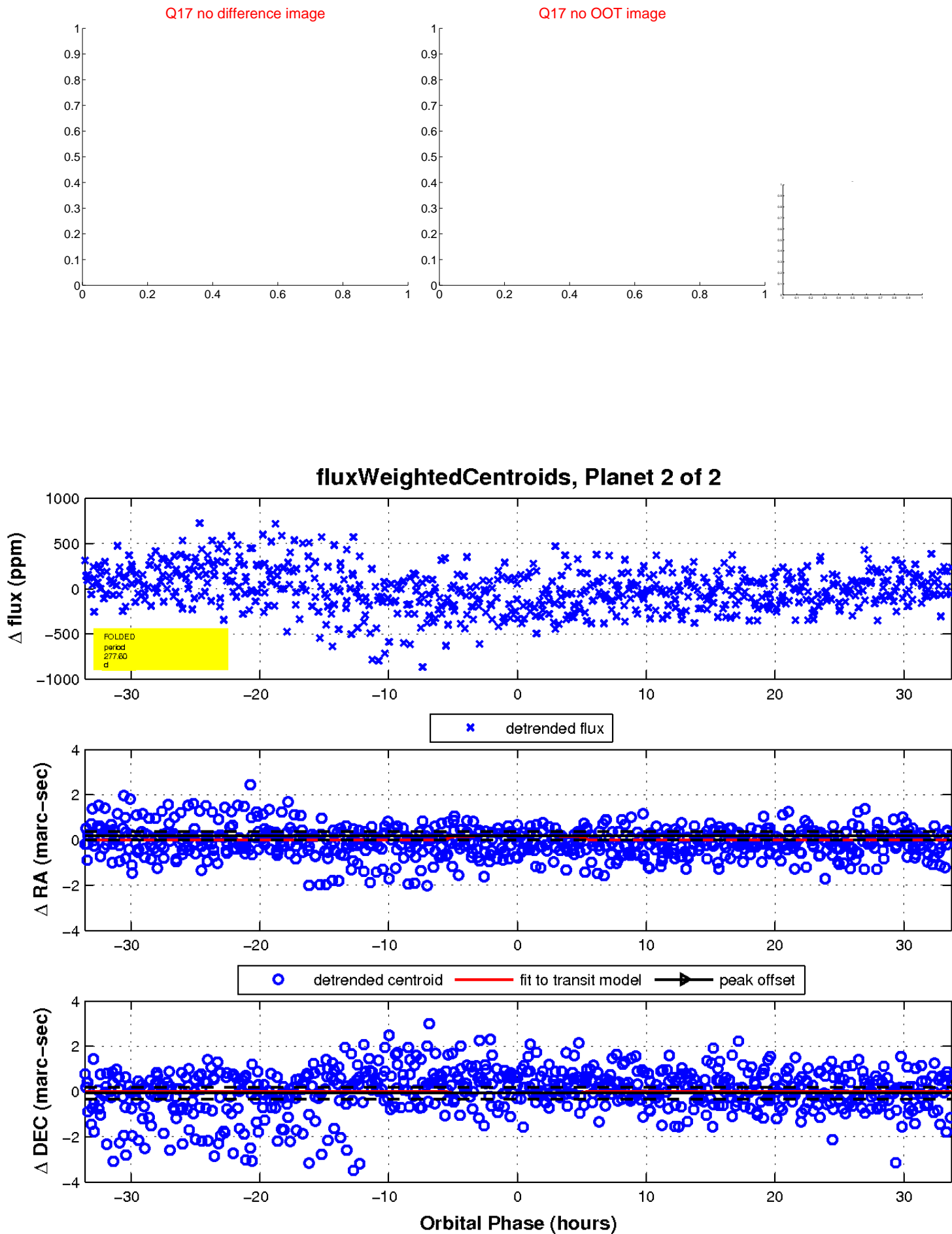
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: 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

