

KIC 008296308

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})
008296308-01	OBS	No	374.156813	260.123207	565.6	42.364	9.1	8.6	0.89	5941	2.11	0.86
008296308-02	OBS	No	272.060799	301.428495	442.7	18.396	8.9	8.0	0.89	5941	2.15	1.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008296308-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008296308-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

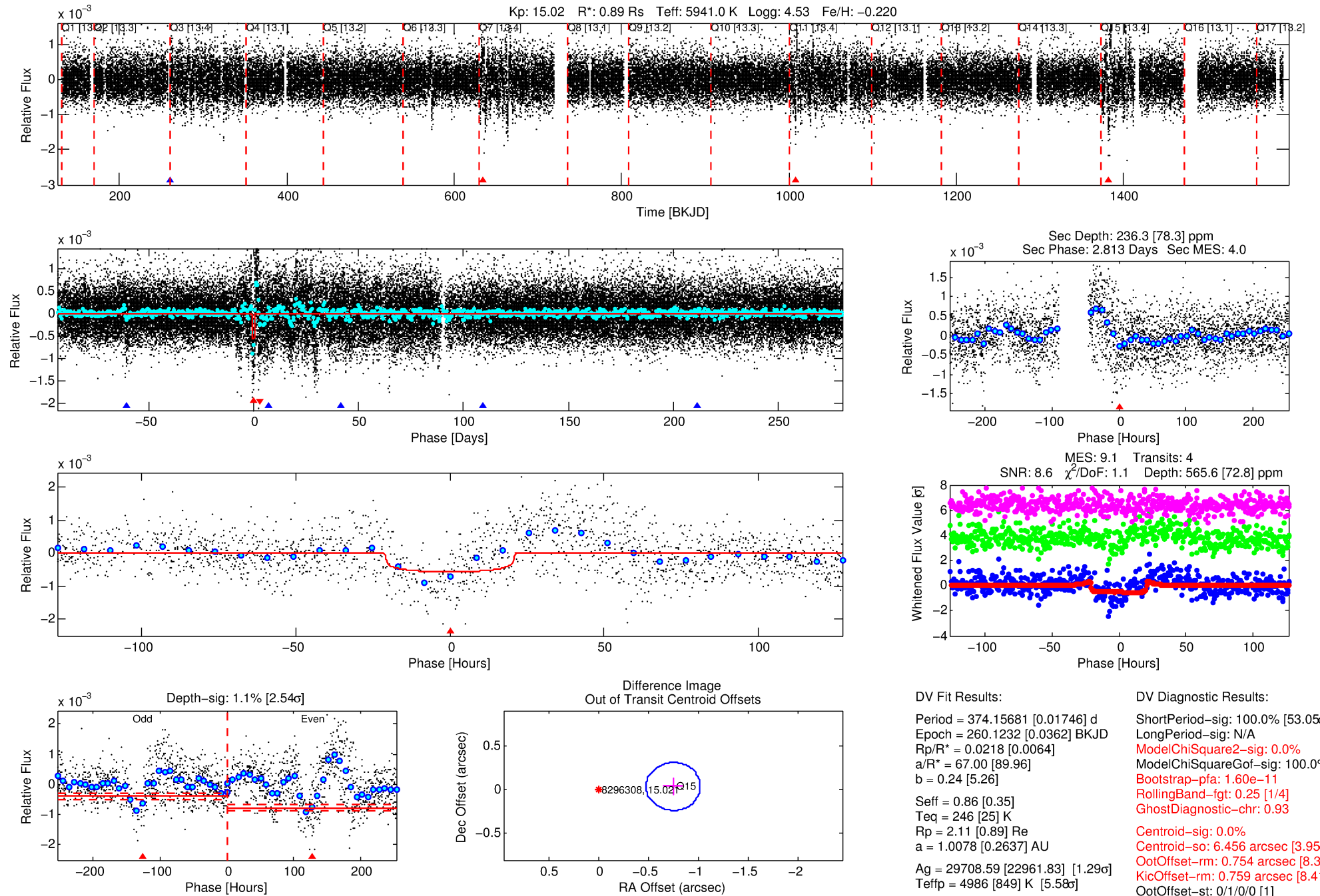
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008296308-01

No Significant Match Found

DV One-Page Summary

KIC: 8296308 Candidate: 1 of 2 Period: 374.157 d



DV Fit Results:

Period = 374.15681 [0.01746] d
Epoch = 260.1232 [0.0362] BKJD
Rp/R* = 0.0218 [0.0064]
a/R* = 67.00 [89.96]
b = 0.24 [5.26]
Seff = 0.86 [0.35]
Teq = 246 [25] K
Rp = 2.11 [0.89] Re
a = 1.0078 [0.2637] AU
Ag = 29708.59 [22961.83] [1.29 σ]
Teffp = 4986 [849] K [5.58 σ]

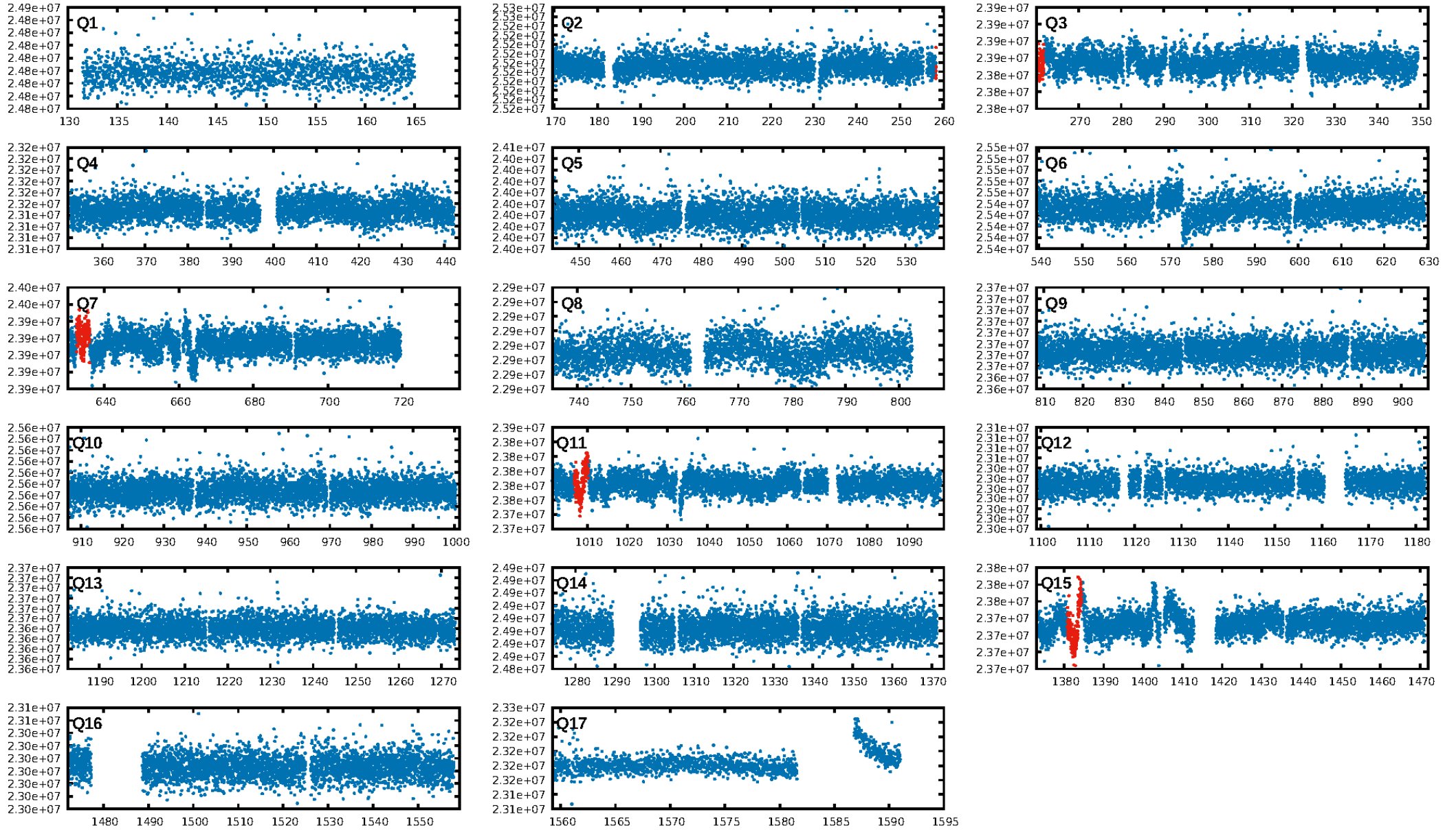
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [53.05 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.60e-11
RollingBand-fgt: 0.25 [1/4]
GhostDiagnostic-chr: 0.93
Centroid-sig: 0.0%
Centroid-so: 6.456 arcsec [3.95 σ]
OotOffset-rm: 0.754 arcsec [8.31 σ]
KicOffset-rm: 0.759 arcsec [8.41 σ]
OotOffset-st: 0/1/0/0 [1]
KicOffset-st: 0/1/0/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [1/1]

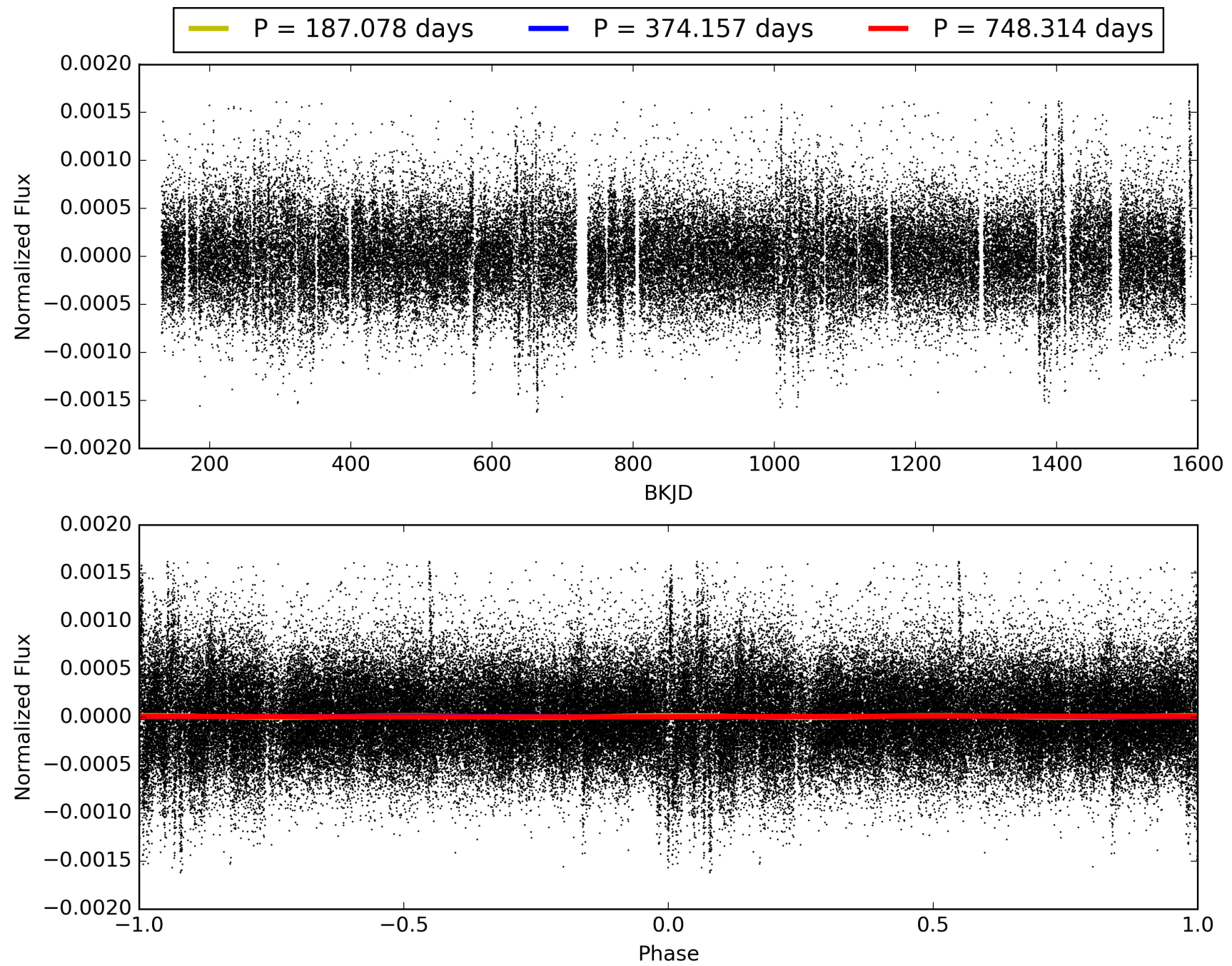
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:31:14 Z

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

TCE 008296308-01, PDC Light Curves

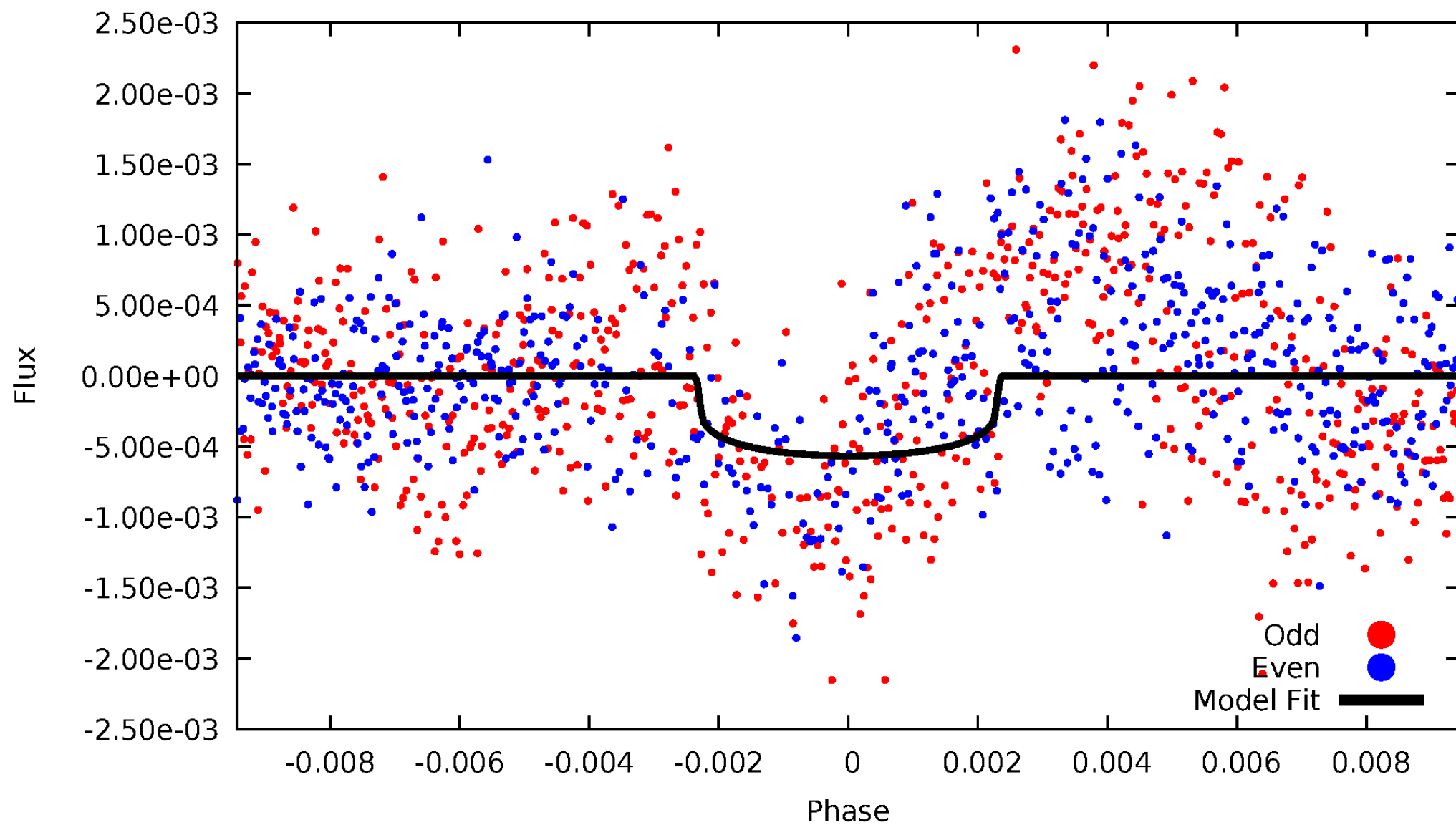


TCE 008296308-01



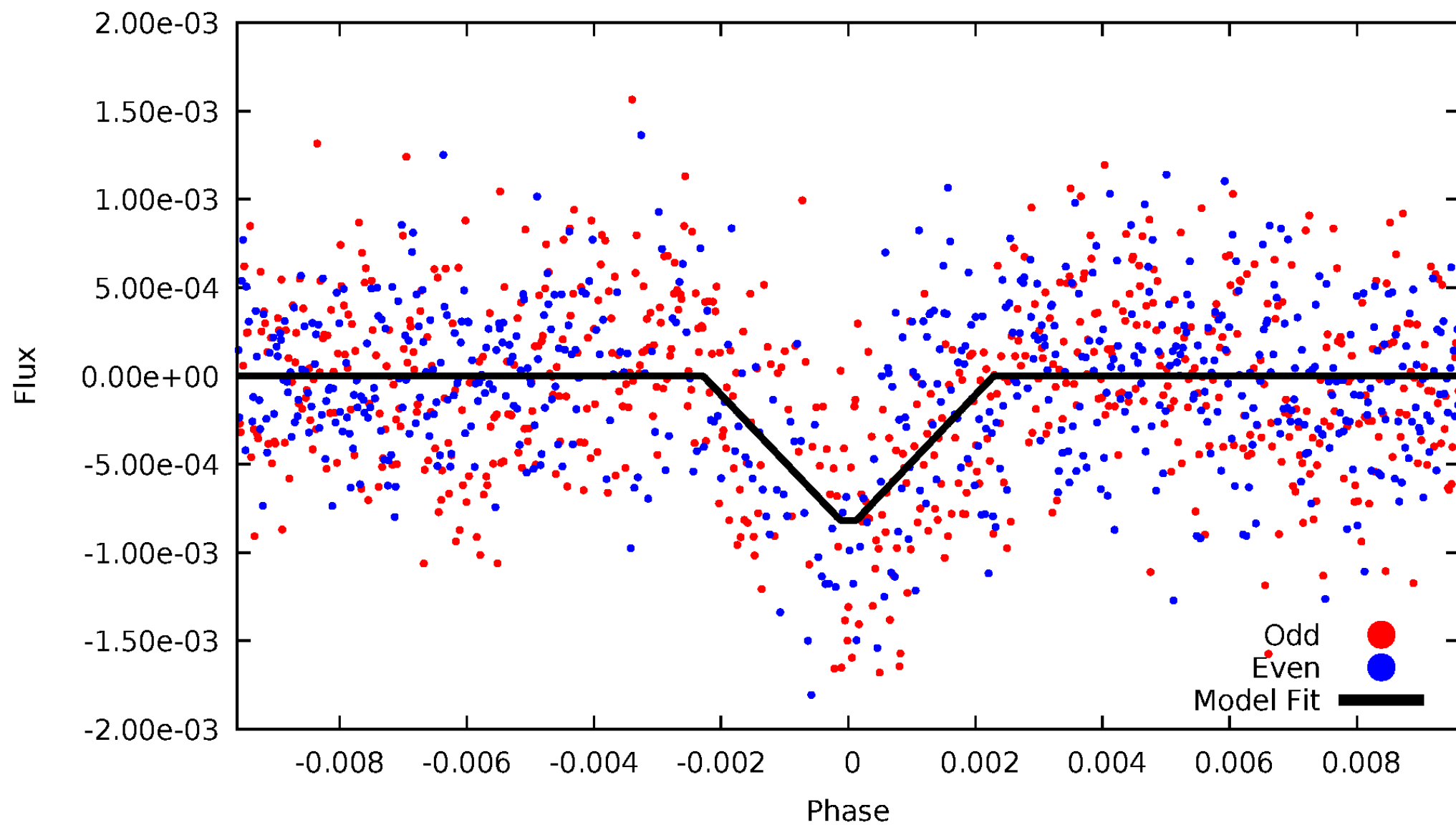
DV Odd/Even

TCE 008296308-01



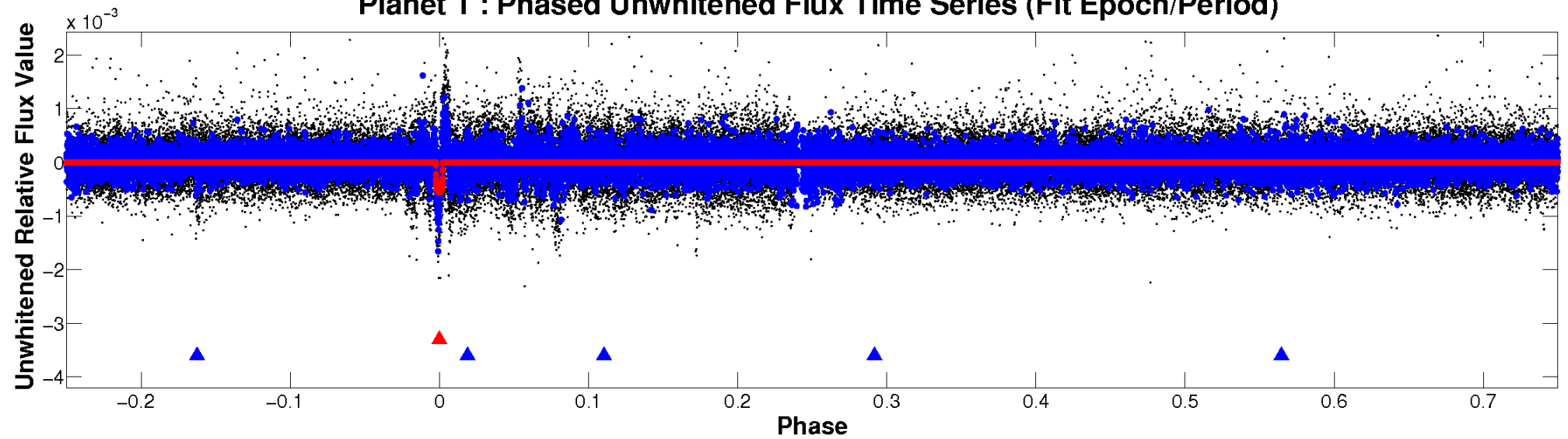
ALT Odd/Even

TCE 008296308-01

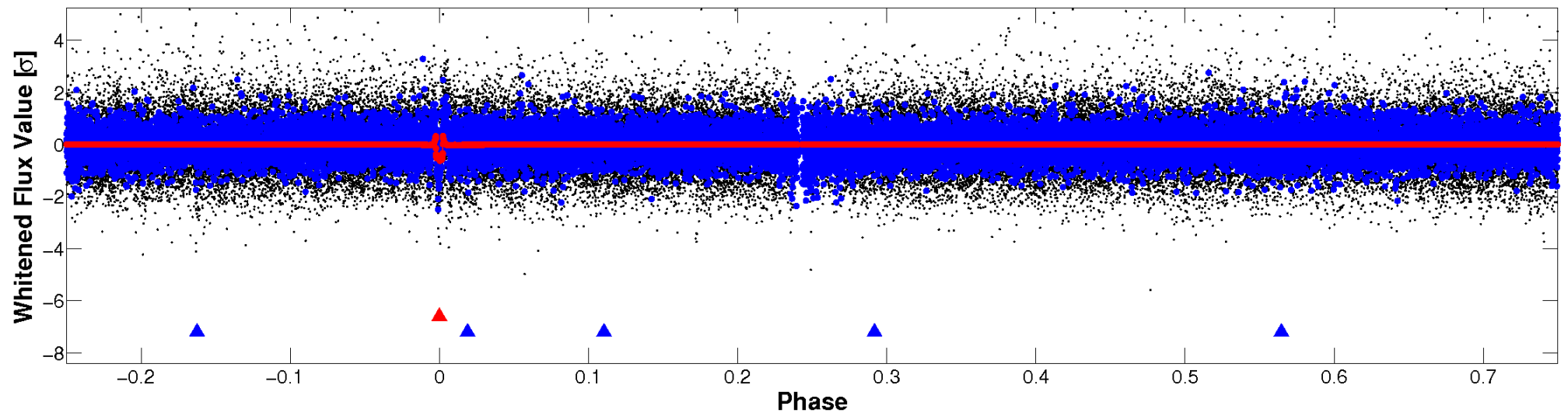


Non-Whitened Vs. Whitened Light Curve

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

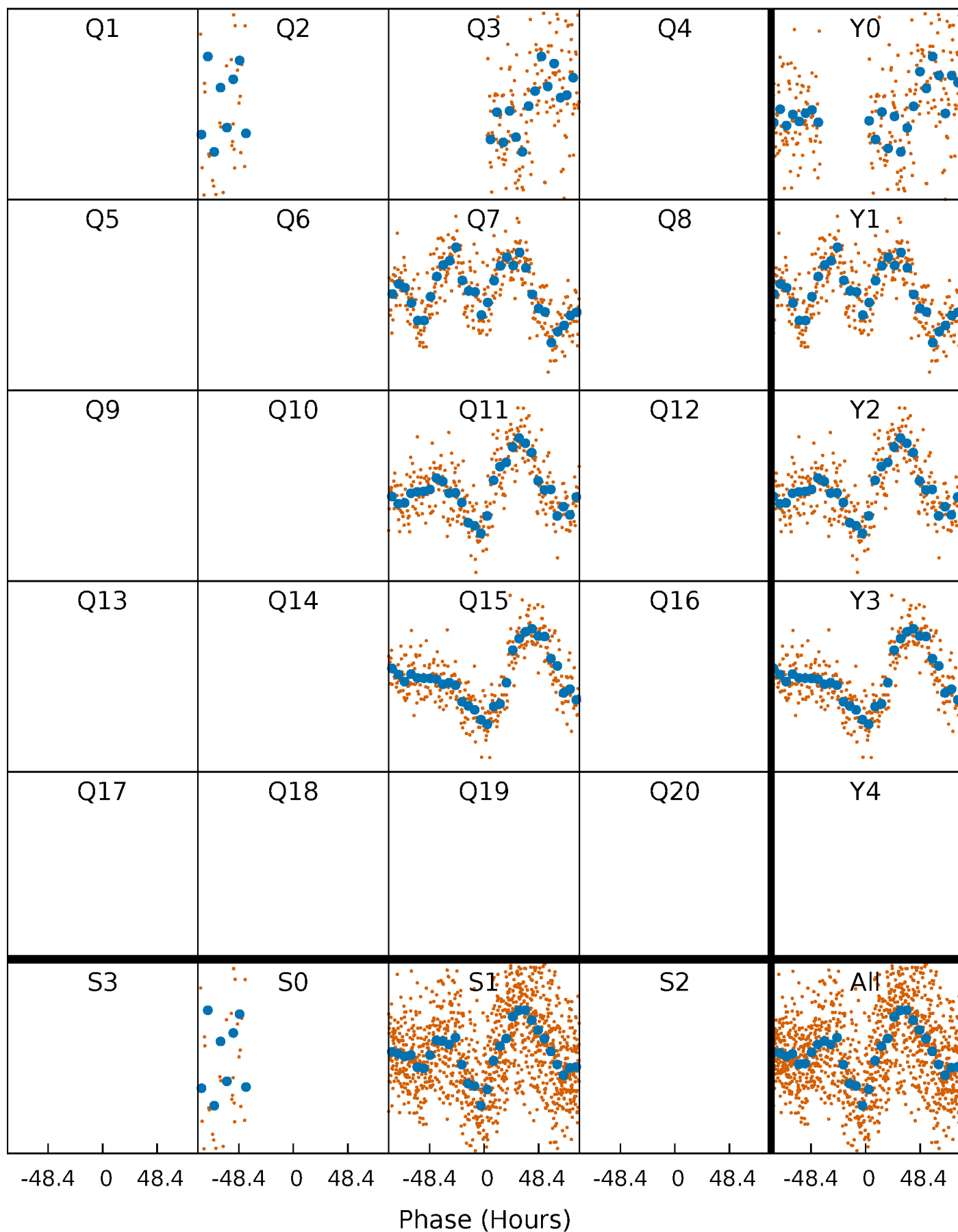


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



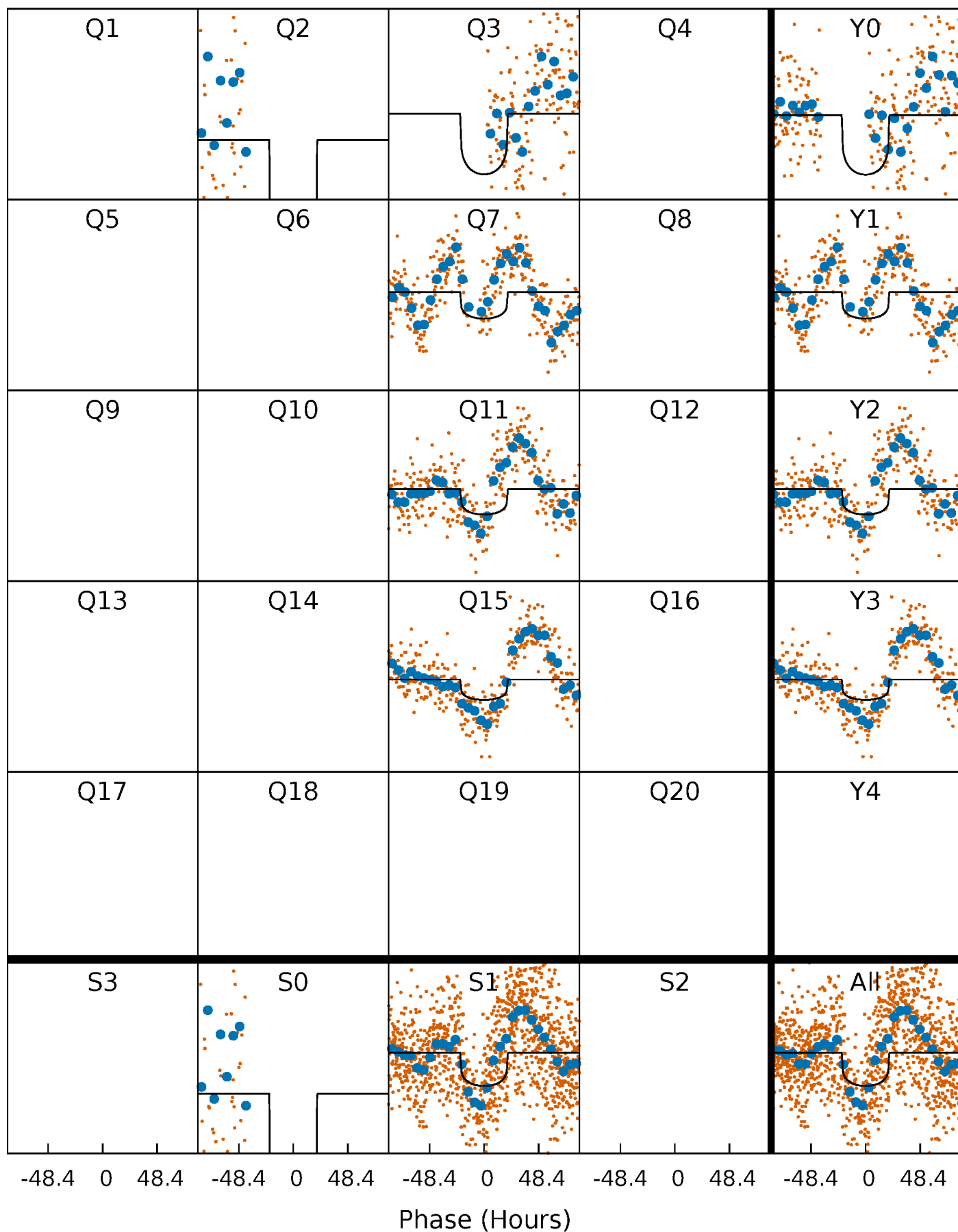
PDC Quarter-Phased Transit Curves

TCE 008296308-01 P=374.156813 Days $T_0=260.123207$ (BKJD)



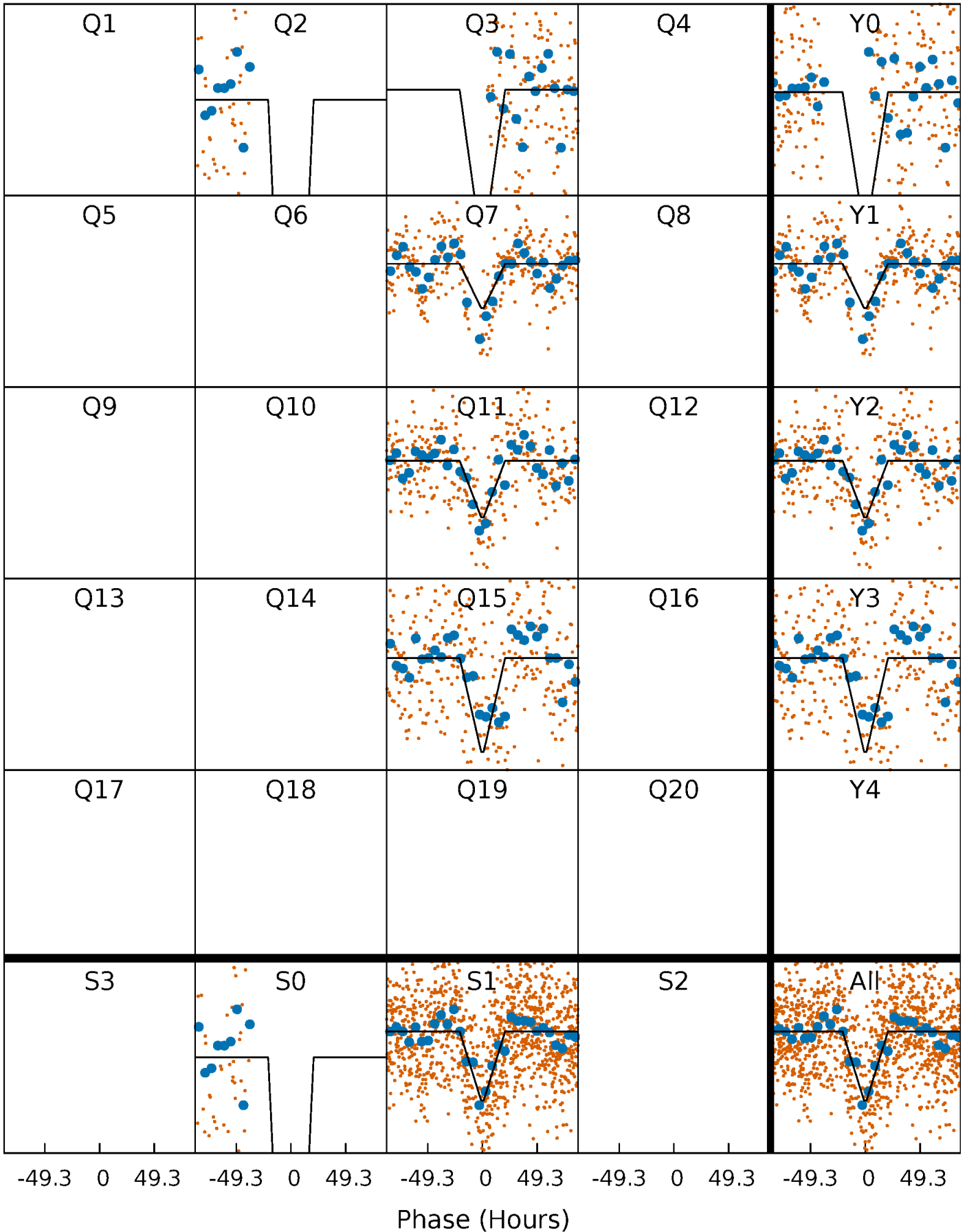
DV Quarter-Phased Transit Curves

TCE 008296308-01 P=374.156813 Days $T_0=260.123207$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

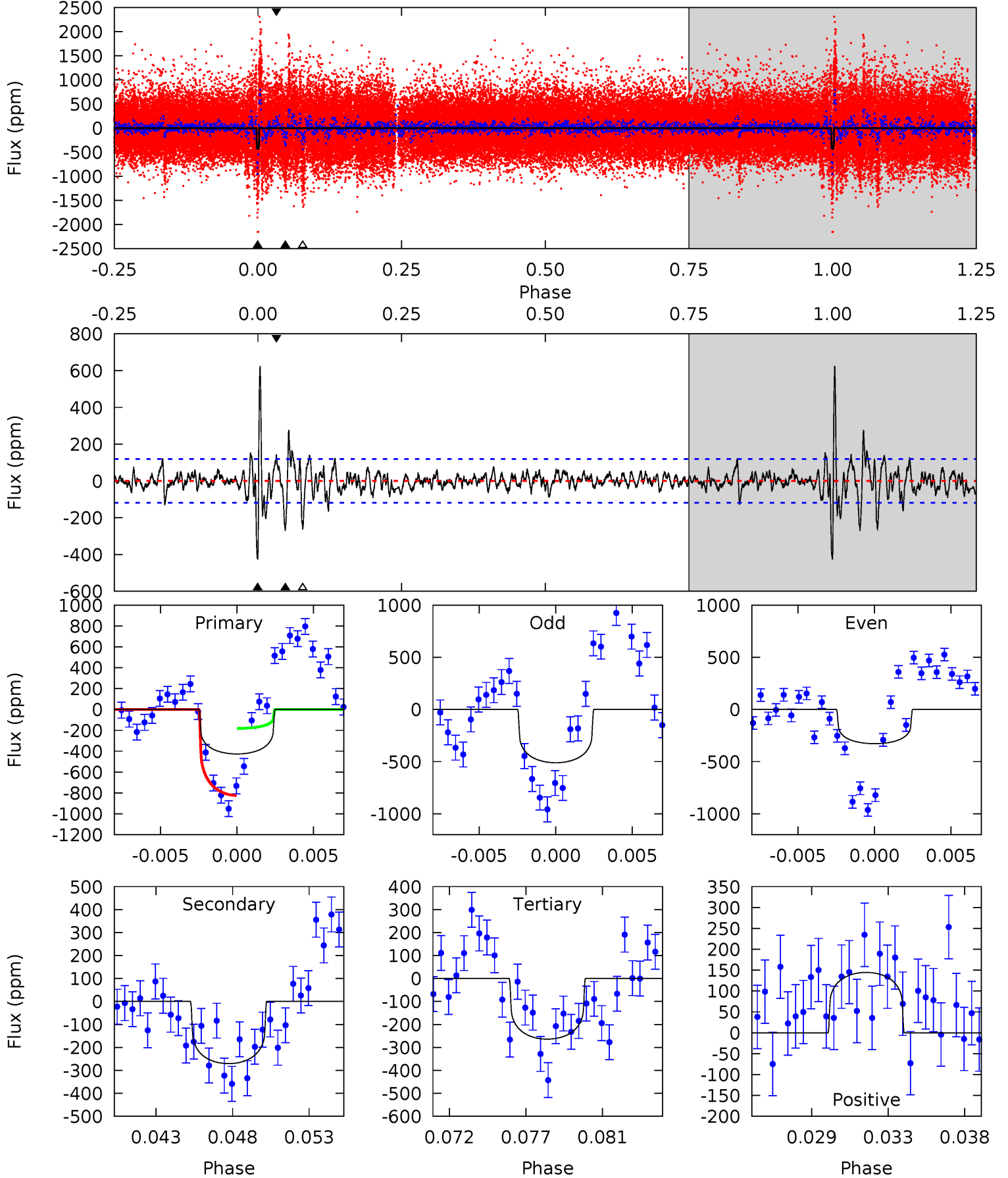
TCE 008296308-01 $P=374.152106$ Days $T_0=260.048191$ (BKJD)



DV Model-Shift Uniqueness Test

008296308-01, P = 374.156813 Days, E = 260.123207 Days

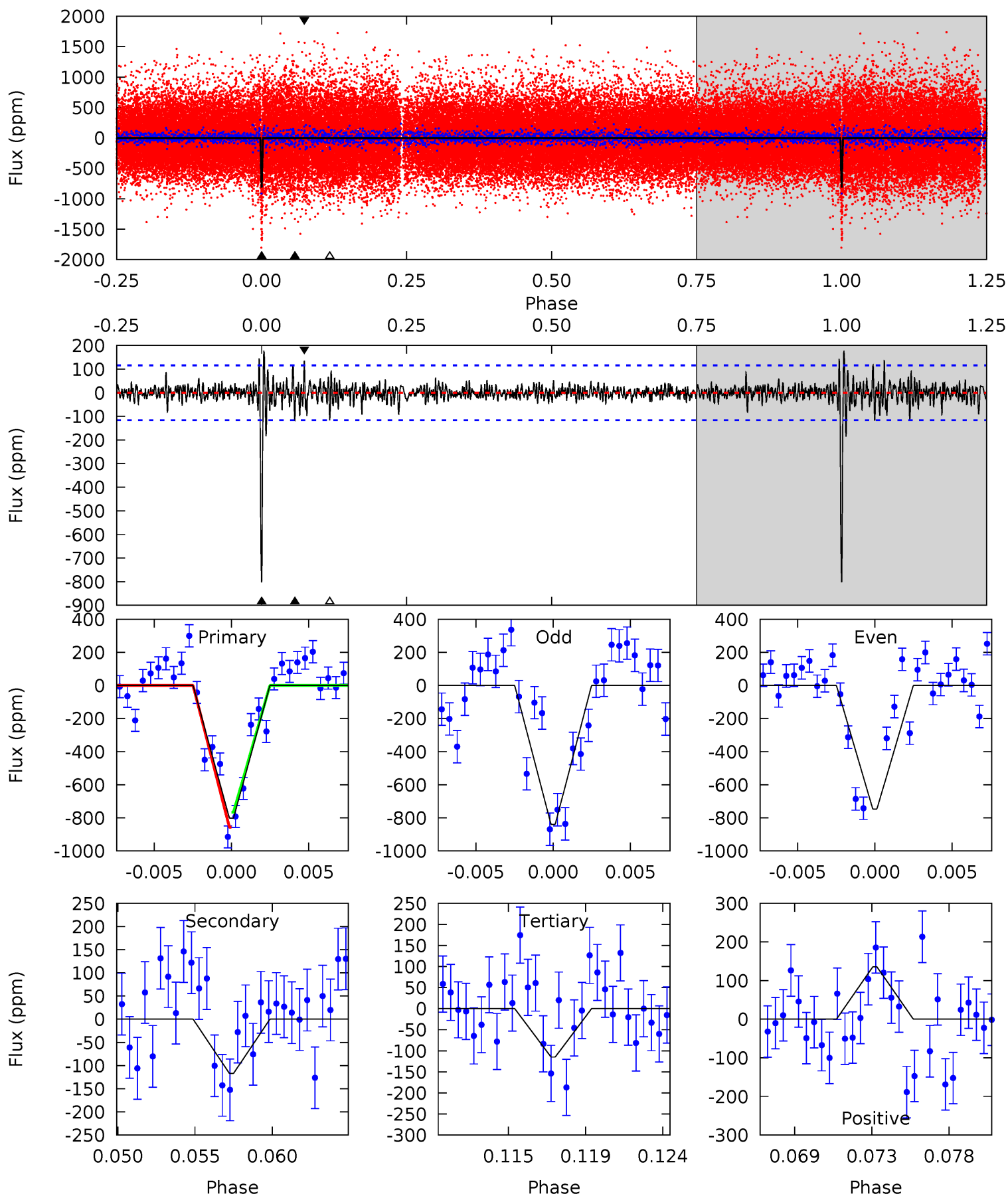
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.5	11.8	11.5	6.28	5.17	2.82	2.17	7.06	12.3	0.29	5.49	3.96	1.26	0.59	13.9



Alt Model-Shift Uniqueness Test

008296308-01, P = 374.152106 Days, E = 260.048191 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.7	5.21	5.12	6.04	5.17	2.83	1.12	30.6	29.7	0.09	-0.83	2.06	0.85	0.18	2.00



Stellar Parameters For KIC 008296308

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5941^{+160}_{-178}	$4.533^{+0.038}_{-0.212}$	$-0.220^{+0.300}_{-0.300}$	$0.885^{+0.272}_{-0.091}$	$0.975^{+0.119}_{-0.131}$	$1.980^{+0.420}_{-1.071}$
	+3%/-3%	+1%/-5%	+136%/-136%	+31%/-10%	+12%/-13%	+21%/-54%
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 008296308-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-271 ± 23	$2.22^{+0.74}_{-0.65}$	353^{+24}_{-17}	5199^{+987}_{-543}	29833^{+30870}_{-12858}
Alt.	-117 ± 22	$2.89^{+0.86}_{-0.69}$	353^{+26}_{-16}	3960^{+447}_{-301}	7350^{+5424}_{-2961}

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 $A_{obs} \gg 1.0$

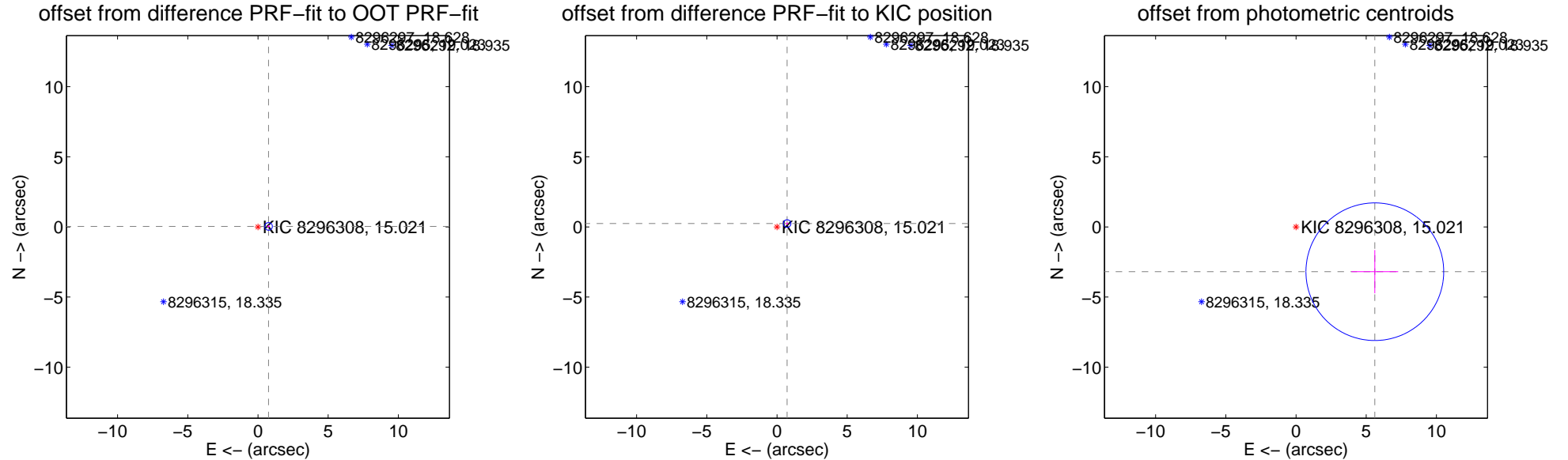
DV Centroid Data

Supplemental centroid analysis for 008296308-01. Kepler magnitude: 15.02. Transit SNR 8.64

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.754 ± 0.091	8.31	-0.753 ± 0.091	0.036 ± 0.087
PRF-fit source offset from KIC position	0.759 ± 0.090	8.41	-0.720 ± 0.091	0.241 ± 0.087
photometric centroid source offset	6.46 ± 1.63	3.95	-5.61 ± 1.66	-3.19 ± 1.54



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.



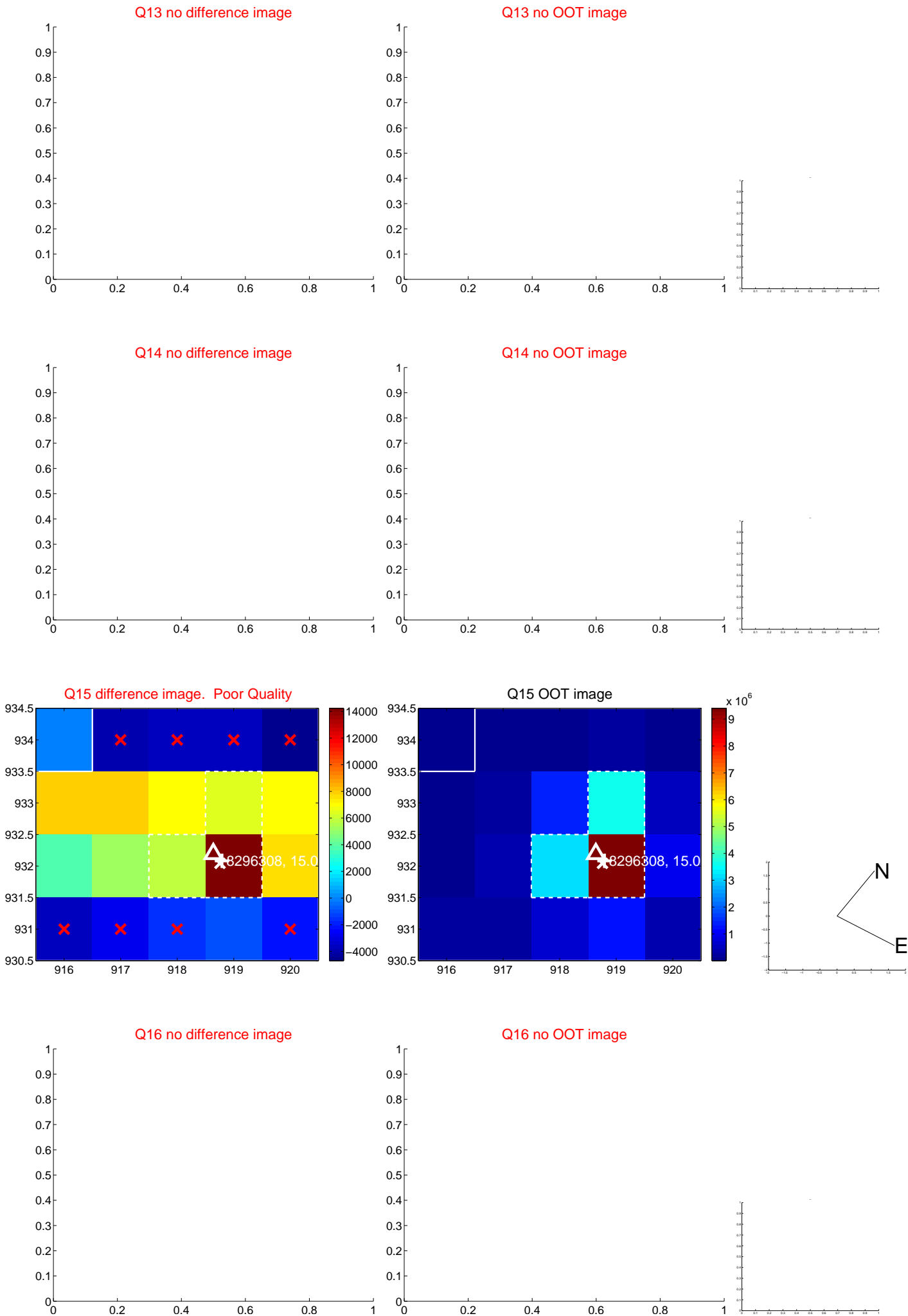
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



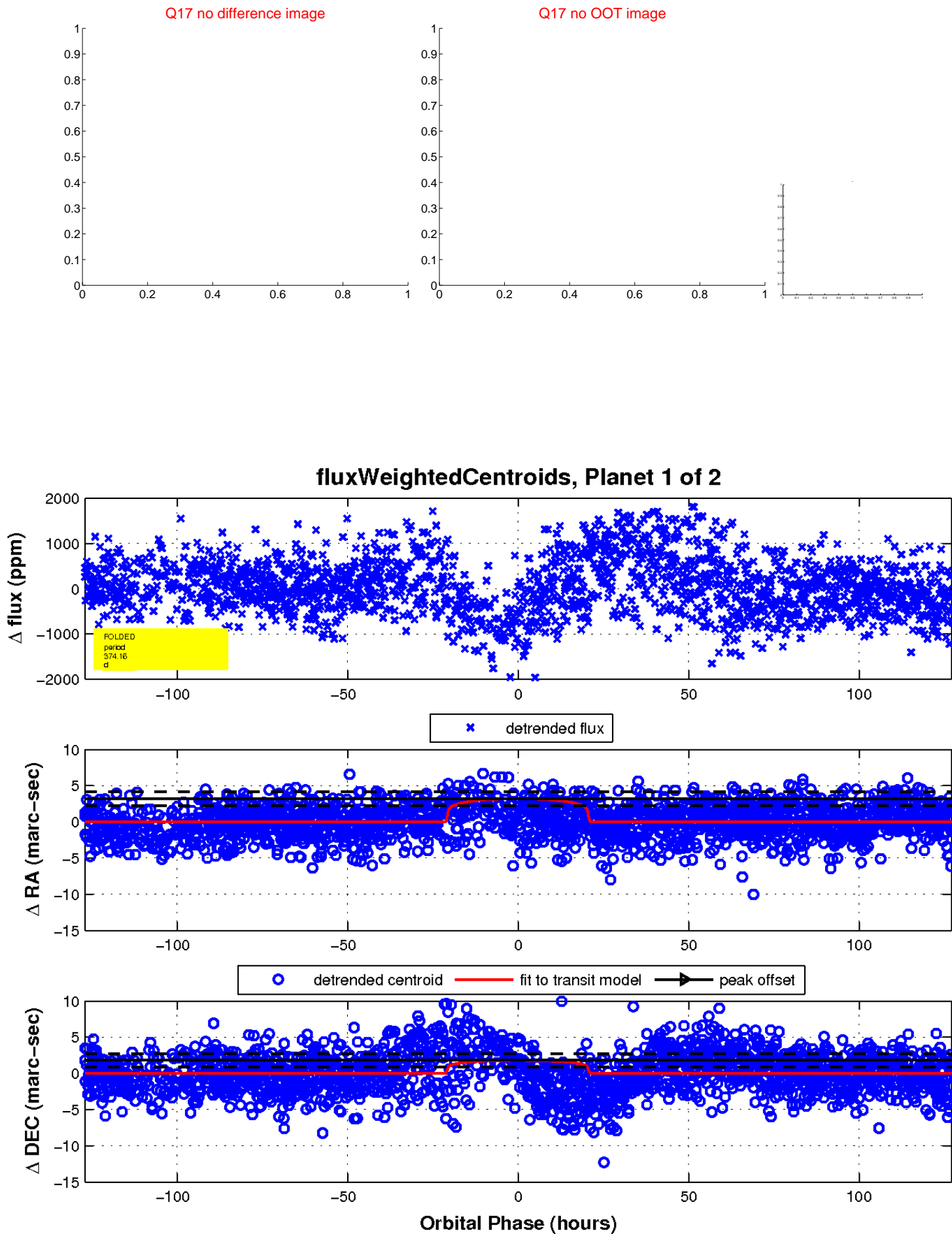
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

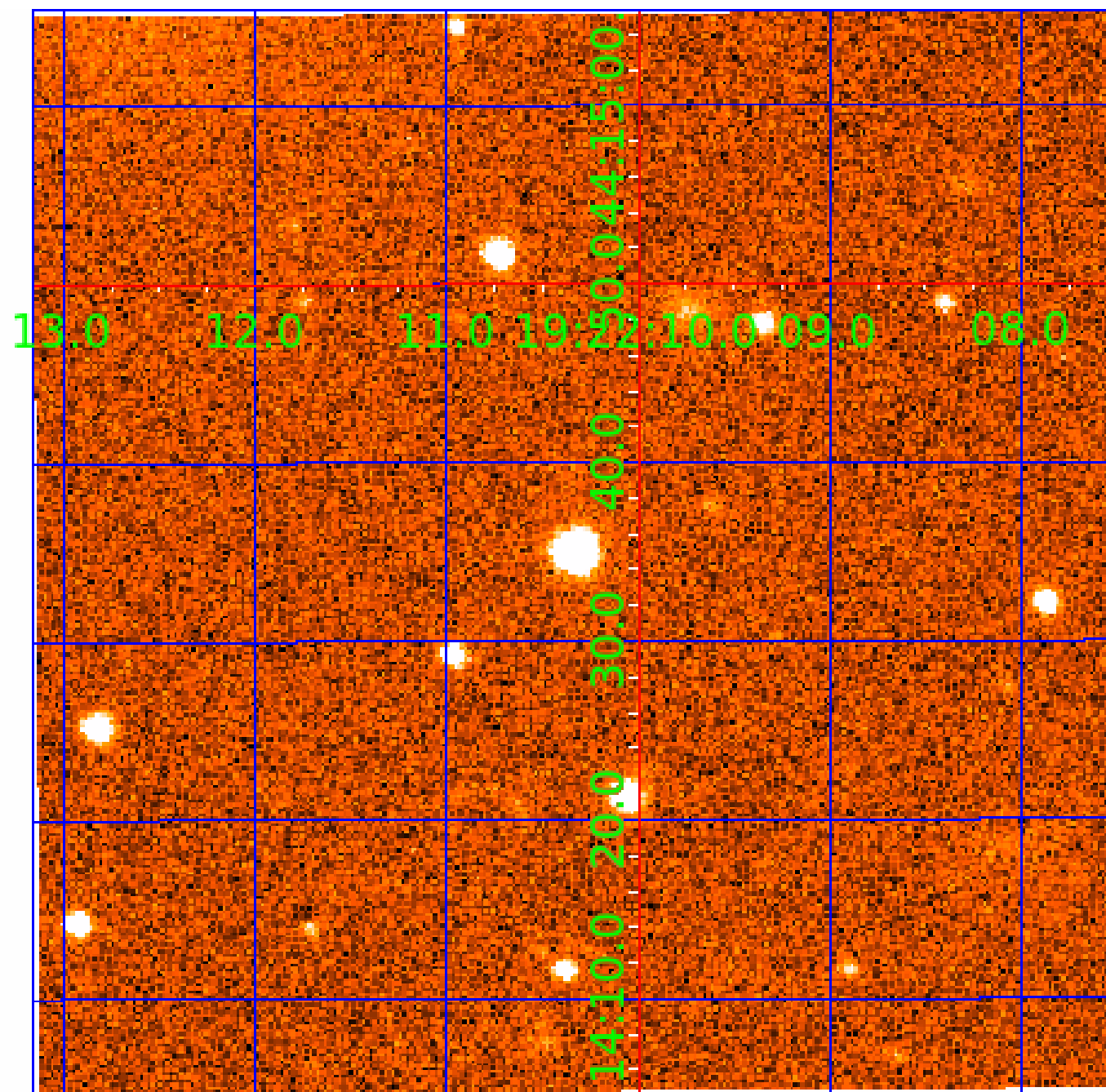


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008296308

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})
008296308-01	OBS	No	374.156813	260.123207	565.6	42.364	9.1	8.6	0.89	5941	2.11	0.86
008296308-02	OBS	No	272.060799	301.428495	442.7	18.396	8.9	8.0	0.89	5941	2.15	1.32

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008296308-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008296308-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—ALL_TRANS_CHASES—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.

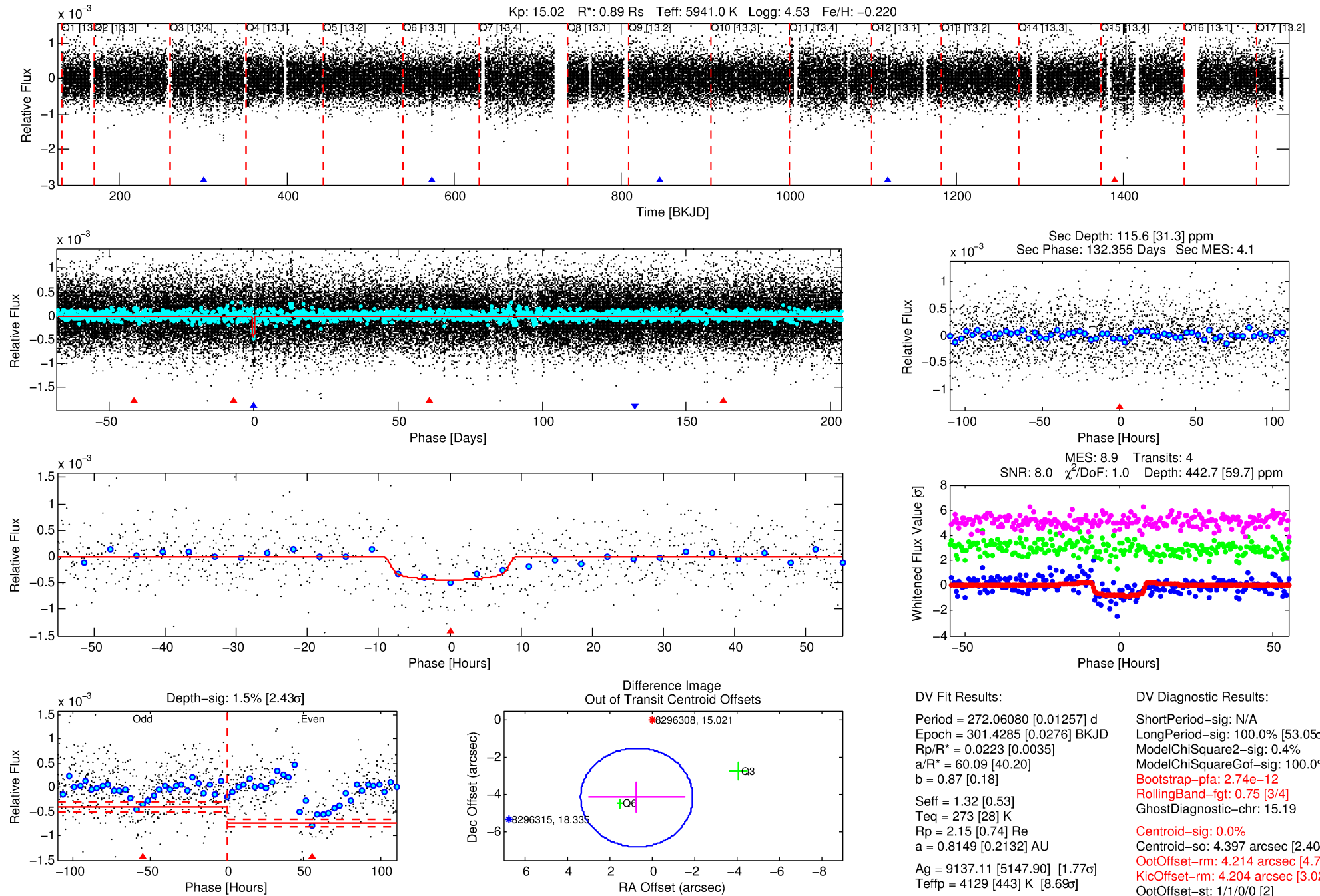
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008296308-02

No Significant Match Found

DV One-Page Summary

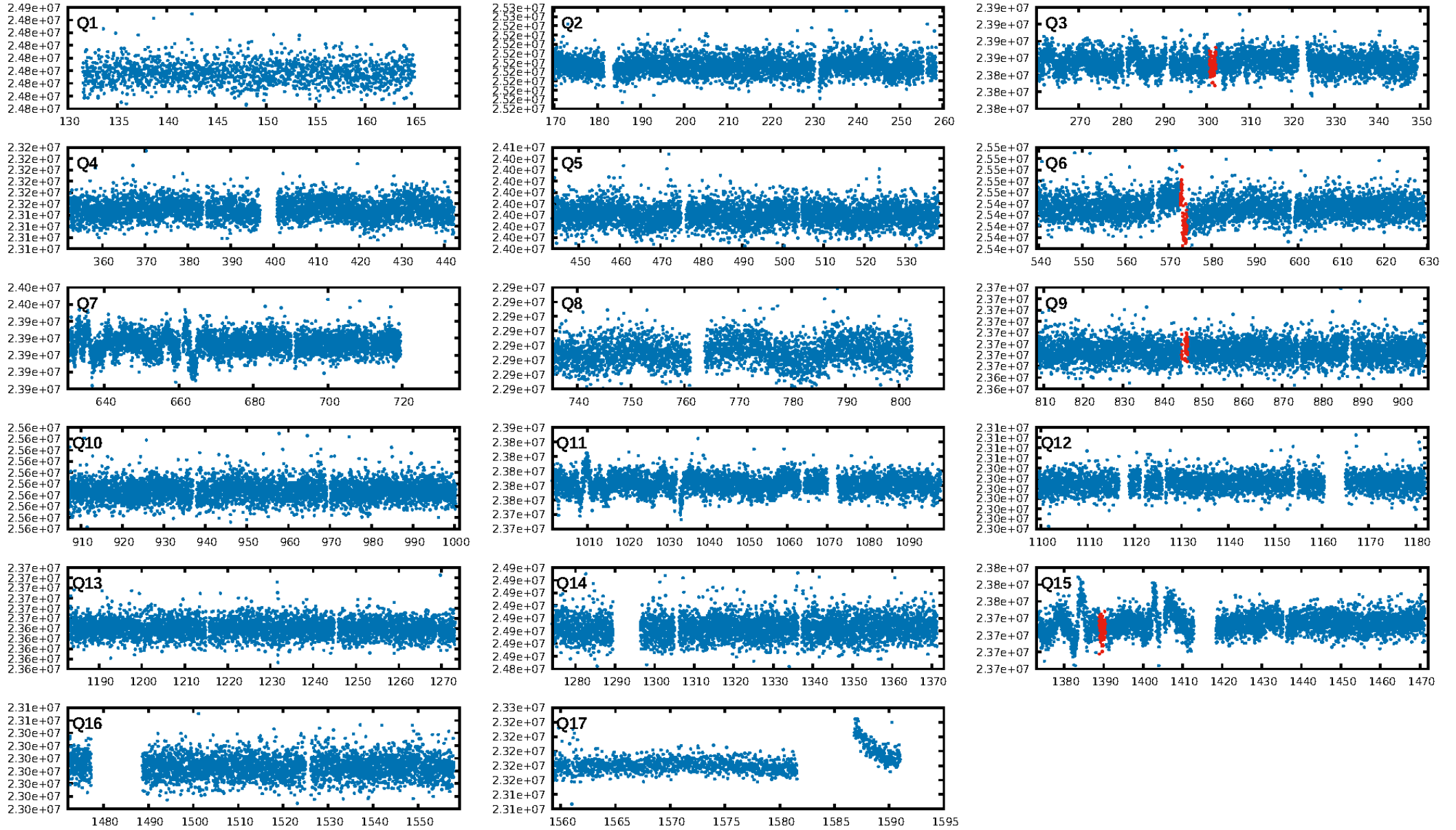
KIC: 8296308 Candidate: 2 of 2 Period: 272.061 d



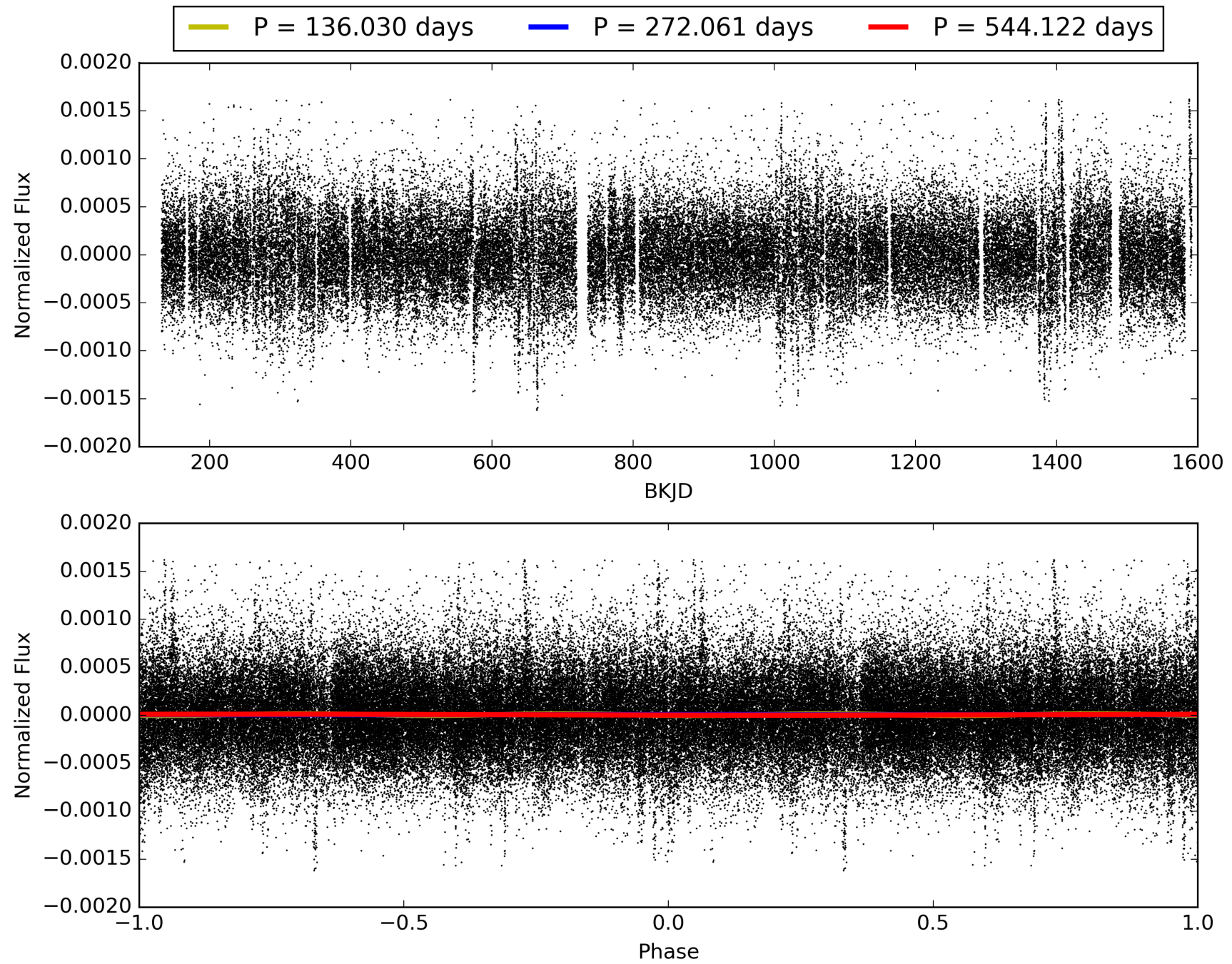
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:31:21 Z

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

TCE 008296308-02, PDC Light Curves

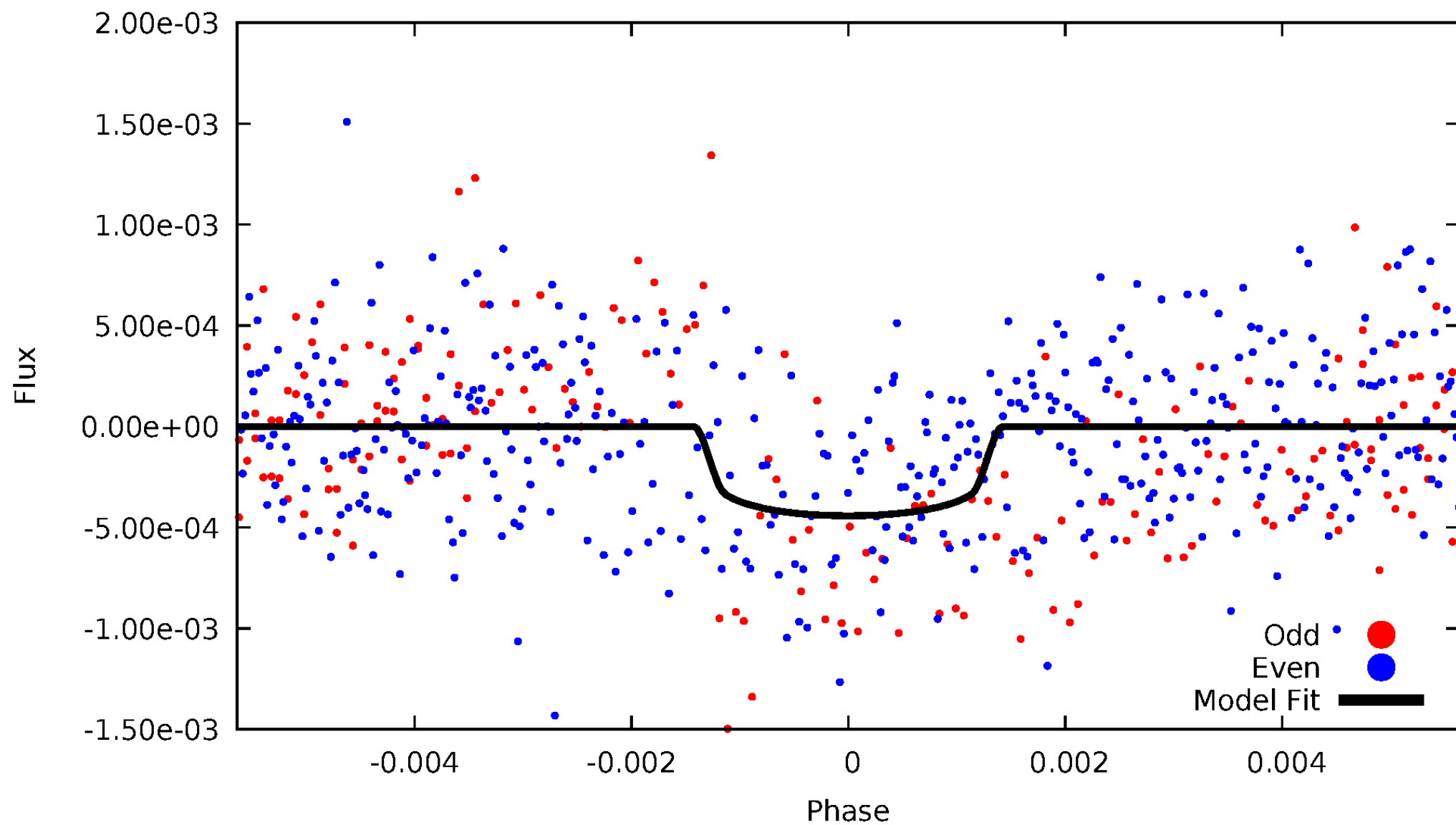


TCE 008296308-02



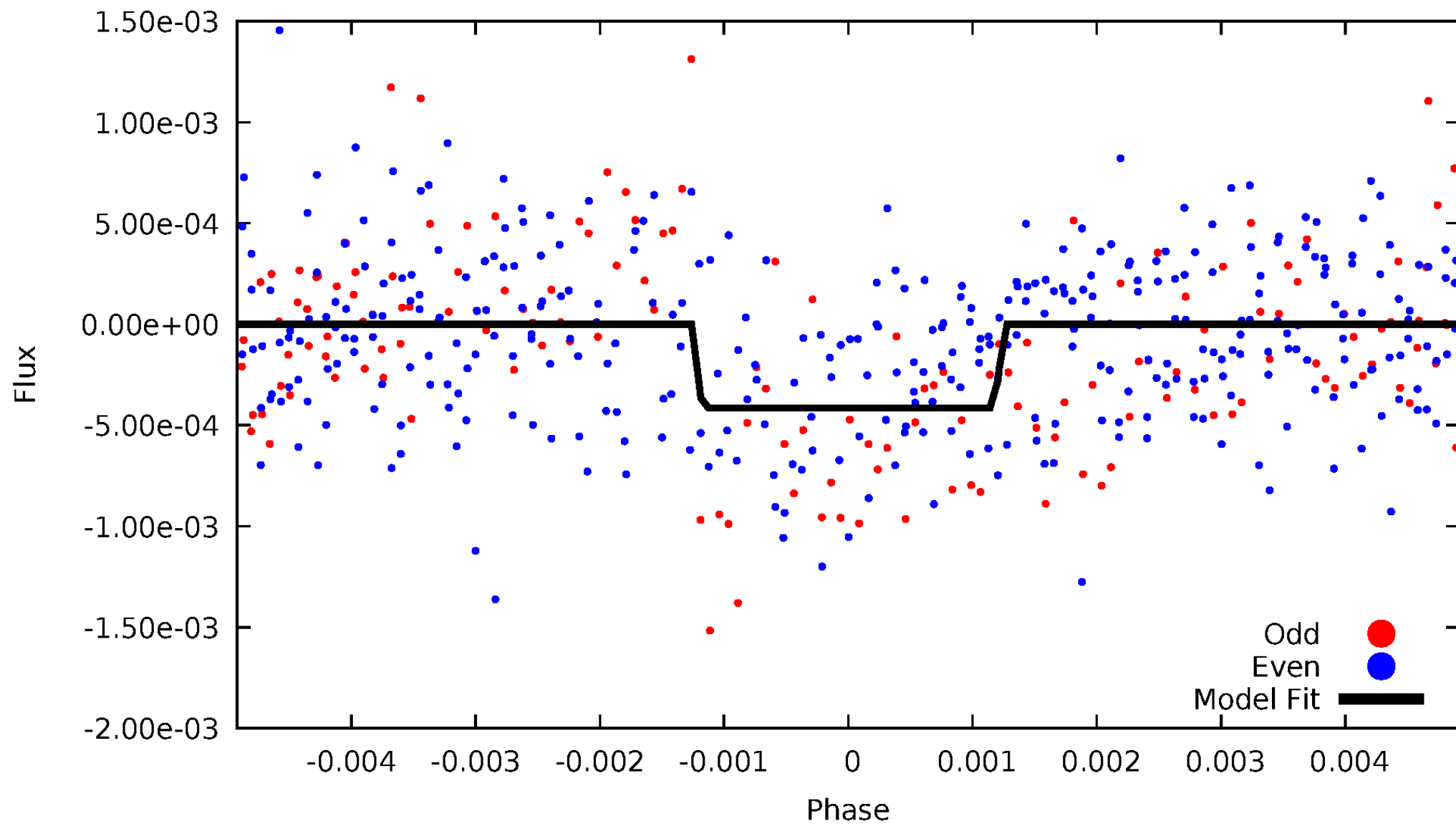
DV Odd/Even

TCE 008296308-02



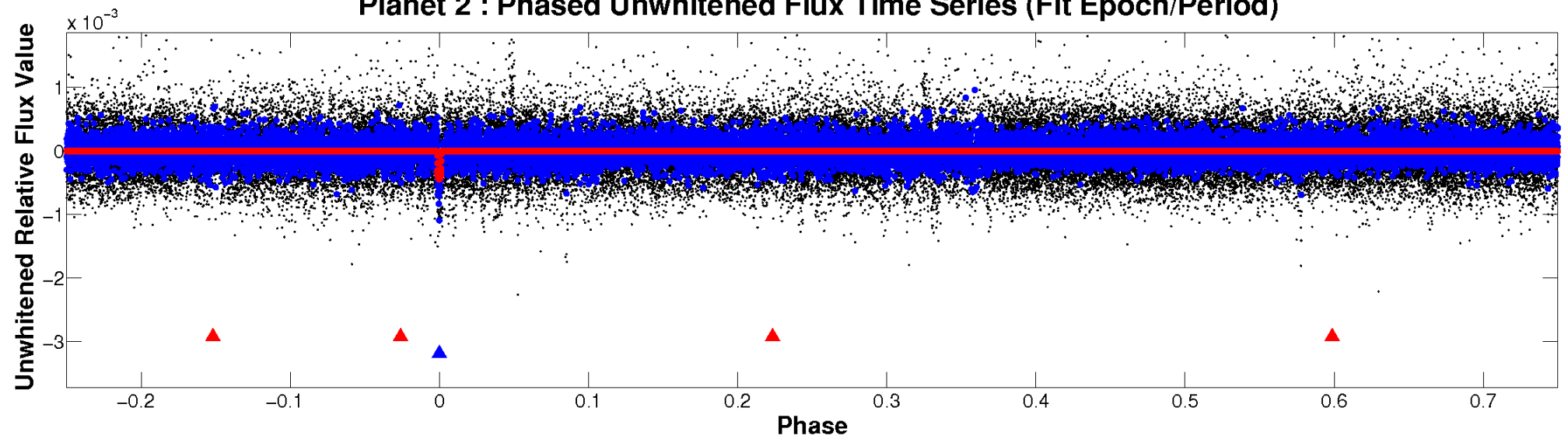
ALT Odd/Even

TCE 008296308-02

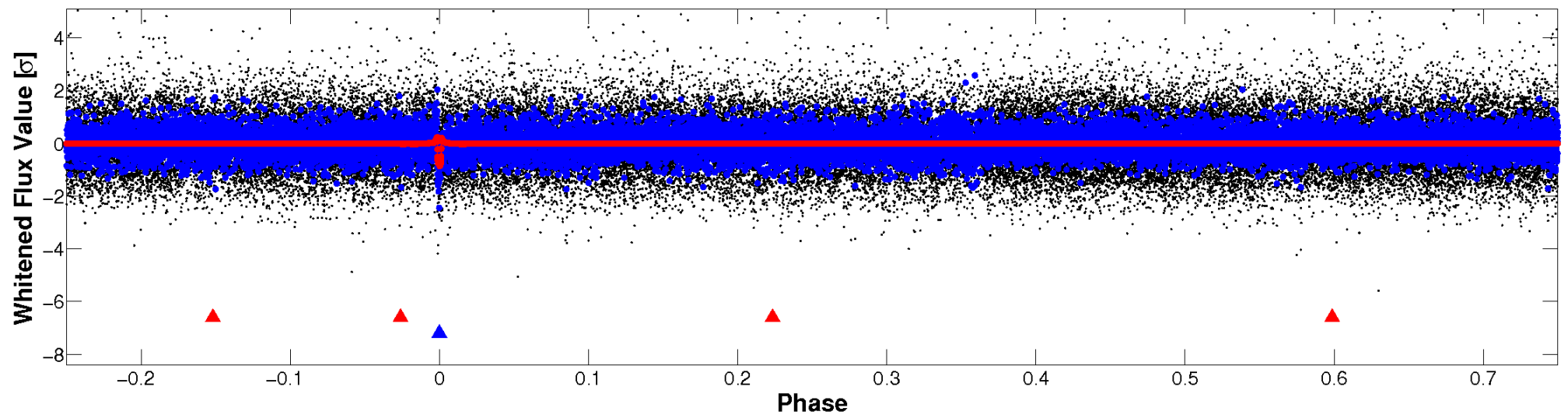


Non-Whitened Vs. Whitened Light Curve

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



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



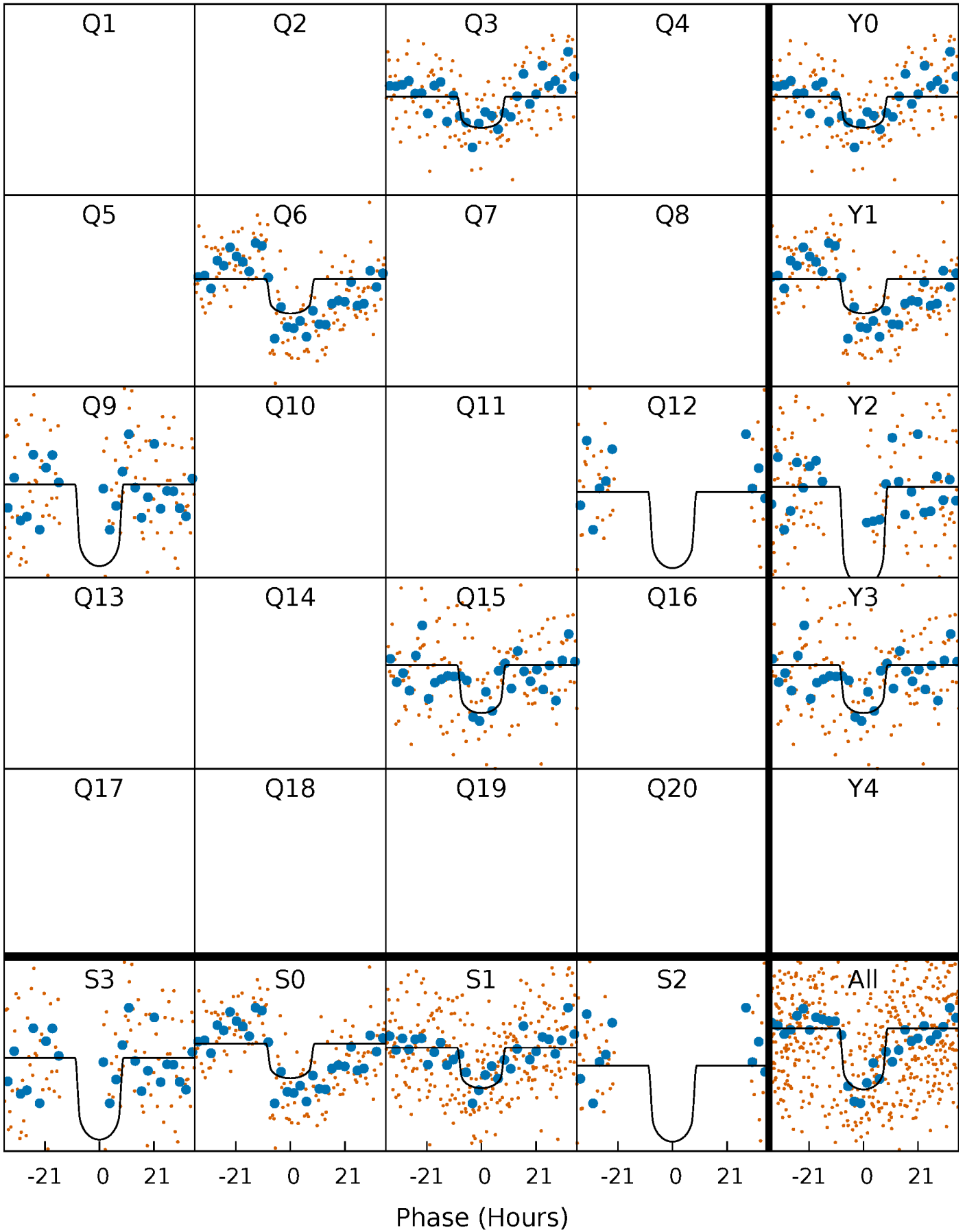
PDC Quarter-Phased Transit Curves

TCE 008296308-02 P=272.060799 Days $T_0=301.428495$ (BKJD)



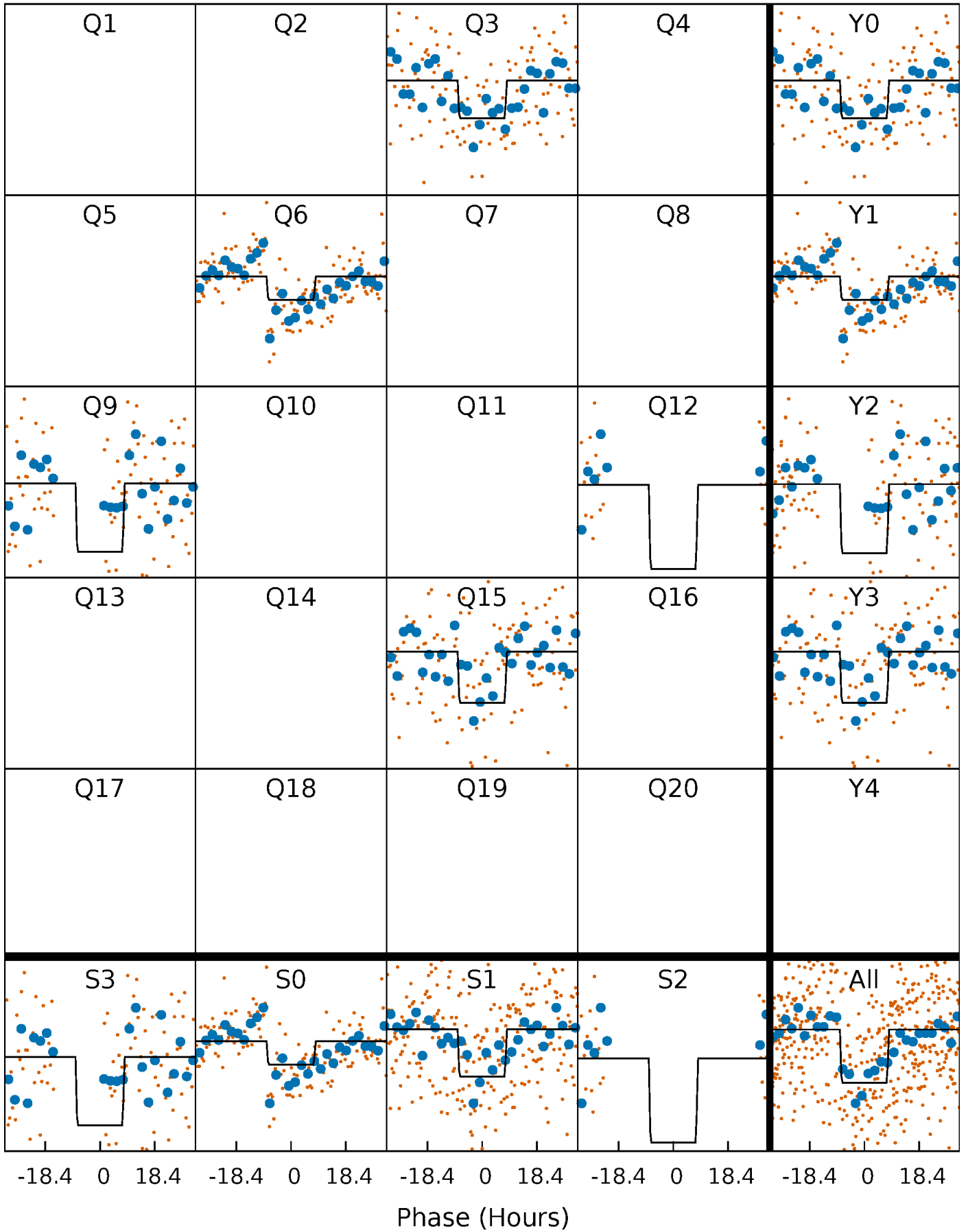
DV Quarter-Phased Transit Curves

TCE 008296308-02 $P=272.060799$ Days $T_0=301.428495$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

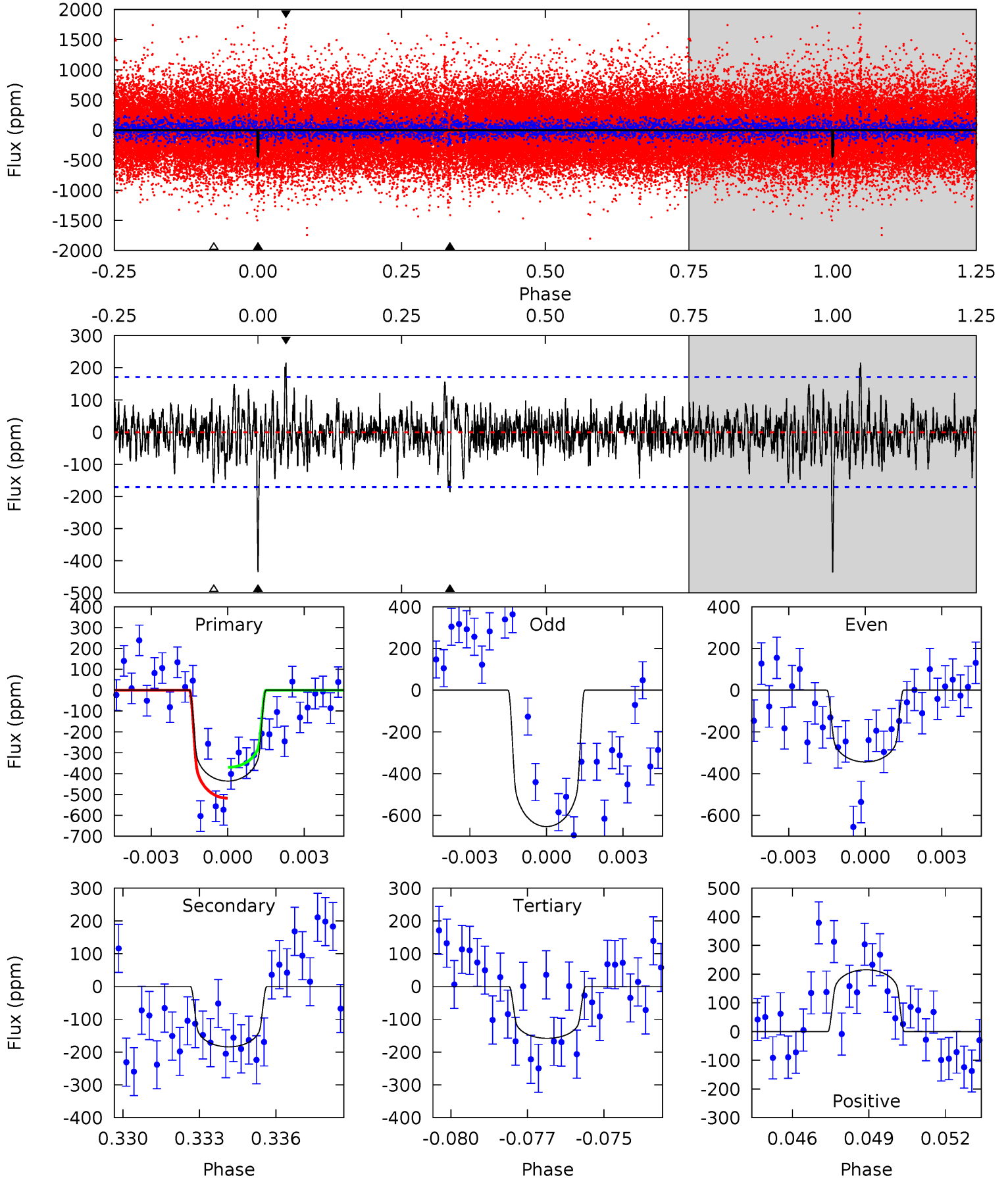
TCE 008296308-02 P=272.072851 Days $T_0=301.416840$ (BKJD)



DV Model-Shift Uniqueness Test

008296308-02, $P = 272.060799$ Days, $E = 29.367696$ Days

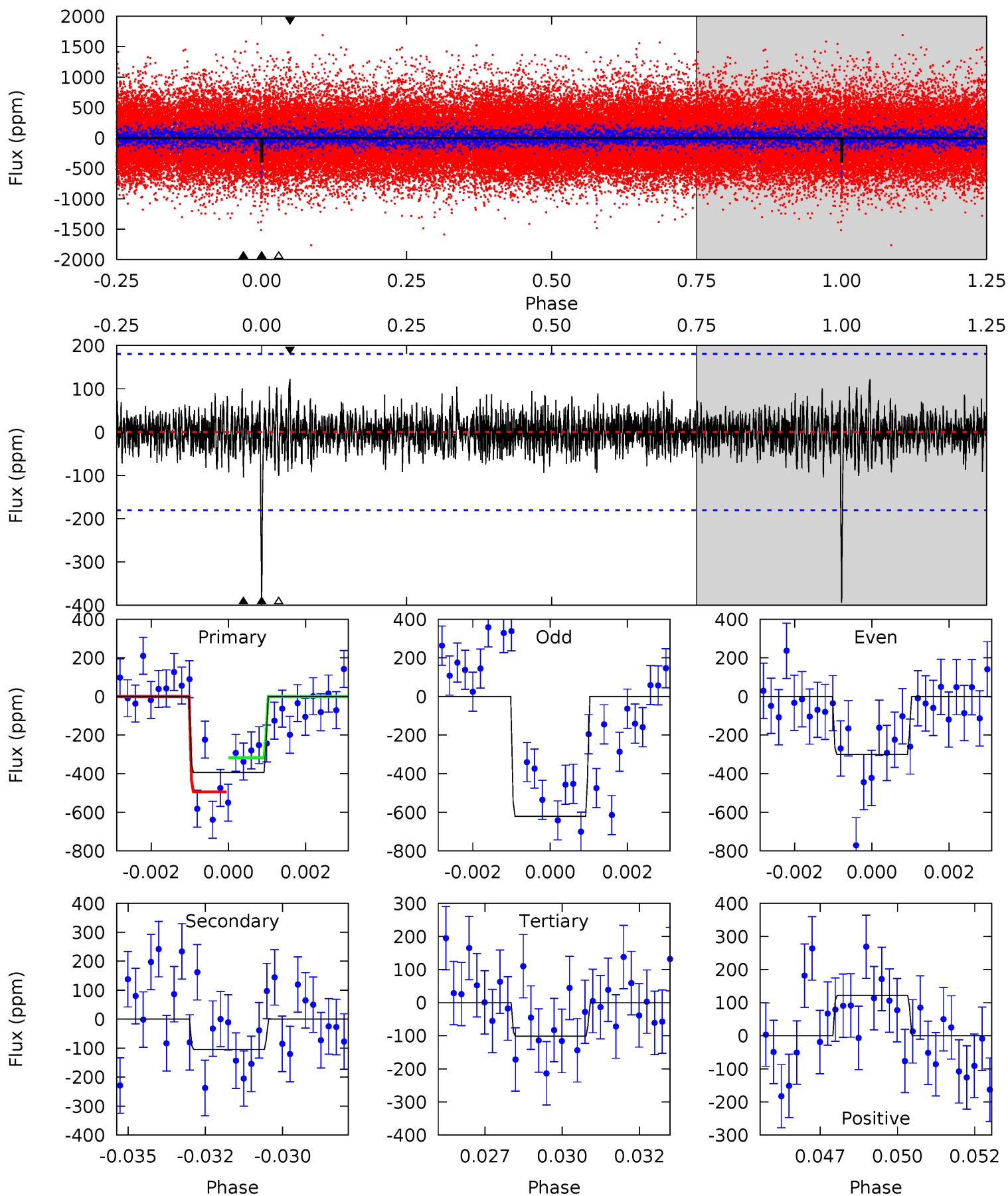
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.4	5.66	4.86	6.62	5.26	2.98	1.41	8.53	6.77	0.80	-0.96	4.32	1.05	0.33	2.26



Alt Model-Shift Uniqueness Test

008296308-02, P = 272.072851 Days, E = 29.343989 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	3.07	2.97	3.57	5.29	3.03	0.87	8.56	7.95	0.10	-0.51	4.30	1.07	0.24	2.56



Stellar Parameters For KIC 008296308

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5941^{+160}_{-178}	$4.533^{+0.038}_{-0.212}$	$-0.220^{+0.300}_{-0.300}$	$0.885^{+0.272}_{-0.091}$	$0.975^{+0.119}_{-0.131}$	$1.980^{+0.420}_{-1.071}$
	+3%/-3%	+1%/-5%	+136%/-136%	+31%/-10%	+12%/-13%	+21%/-54%
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 008296308-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-184 ± 33	$2.27^{+0.50}_{-0.41}$	392^{+27}_{-19}	4746^{+415}_{-338}	12396^{+6738}_{-4228}
Alt.	-105 ± 34	$2.09^{+0.45}_{-0.42}$	391^{+30}_{-18}	4389^{+447}_{-384}	8270^{+5795}_{-3211}

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

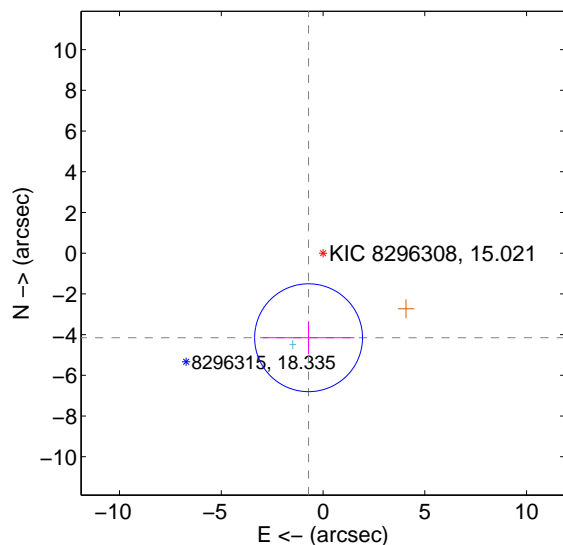
Supplemental centroid analysis for 008296308-02. Kepler magnitude: 15.02. Transit SNR 8.05

There are 1 quarters with good PRF difference image offsets

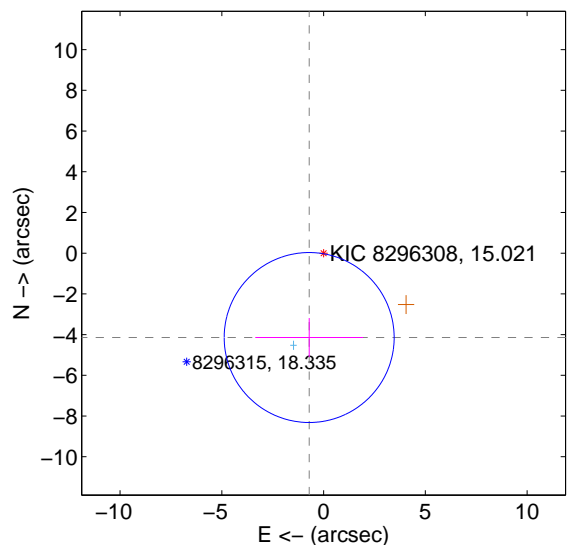
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.214 ± 0.883	4.77	0.711 ± 2.250	-4.154 ± 0.809
PRF-fit source offset from KIC position	4.204 ± 1.391	3.02	0.708 ± 2.649	-4.143 ± 0.960
photometric centroid source offset	4.40 ± 1.84	2.40	2.83 ± 1.67	-3.36 ± 1.94

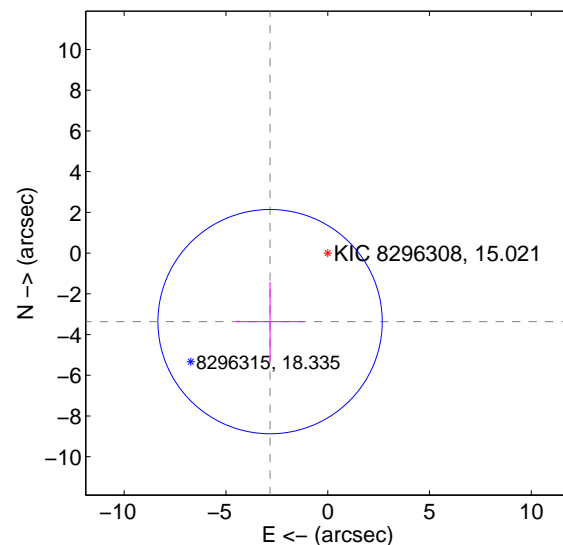
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

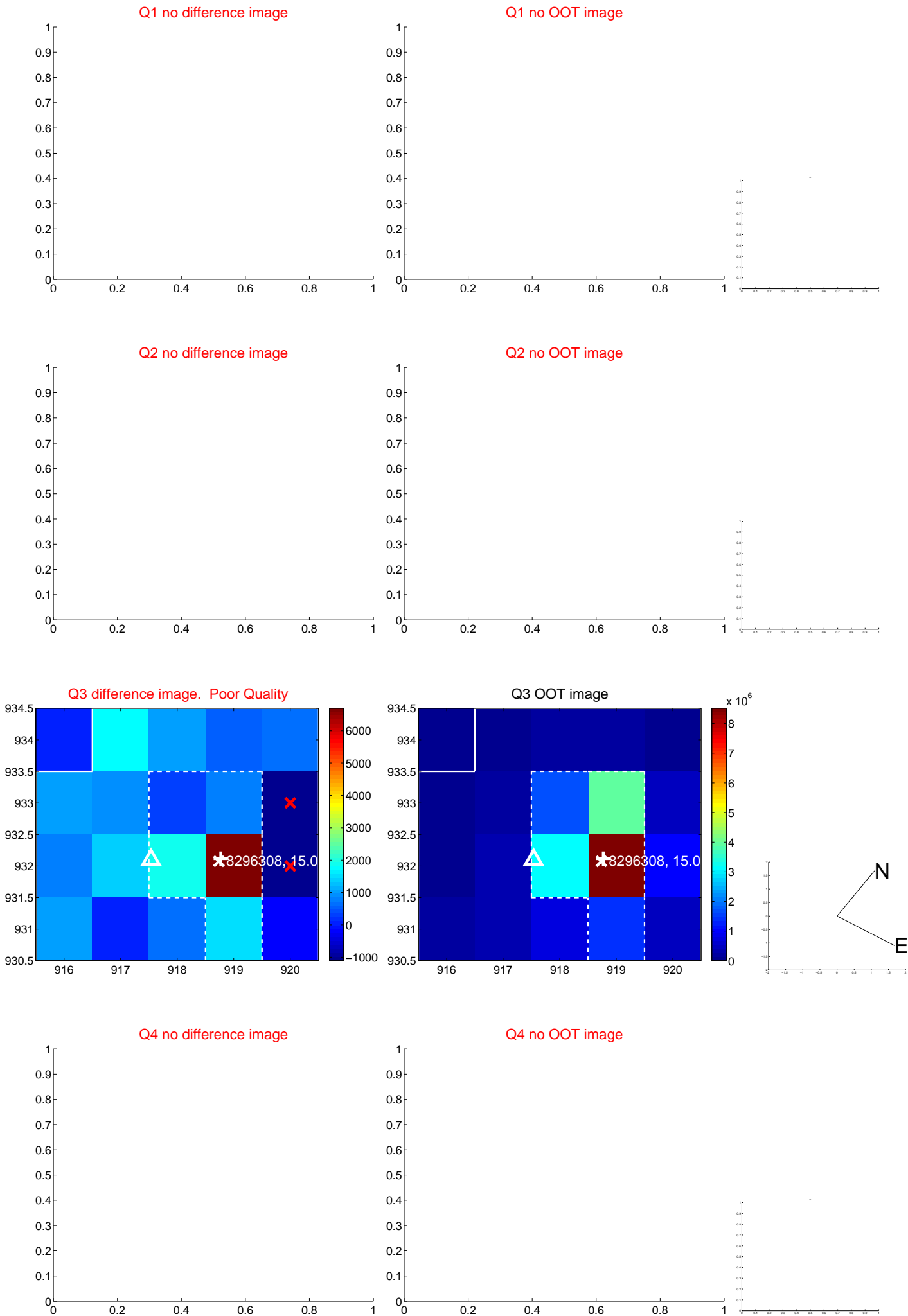


offset from photometric centroids



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.

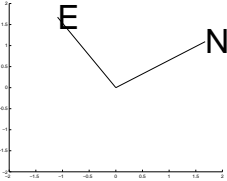
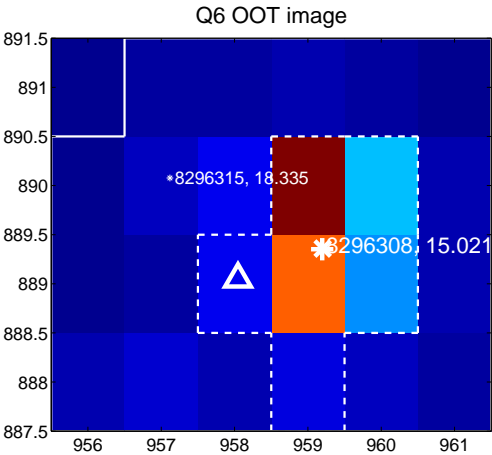
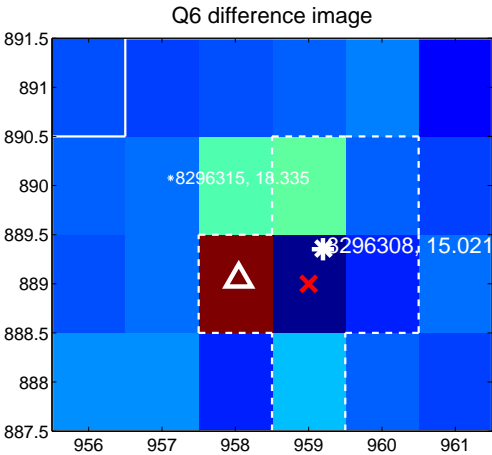


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

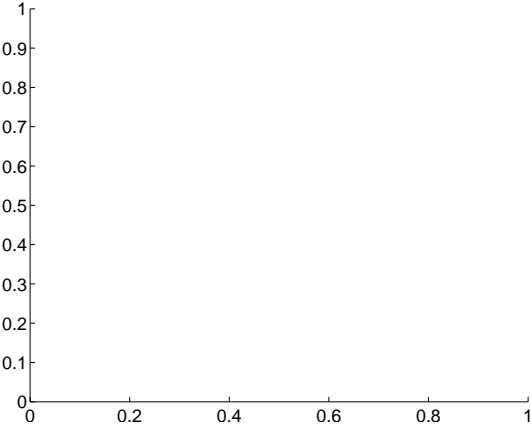
Q5 no difference image



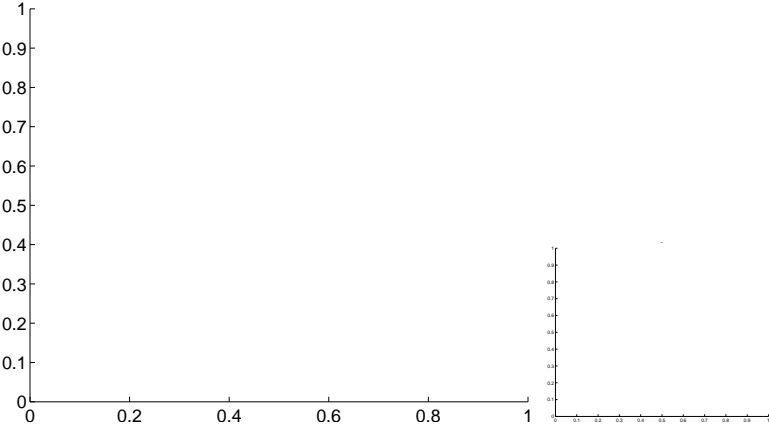
Q5 no OOT image



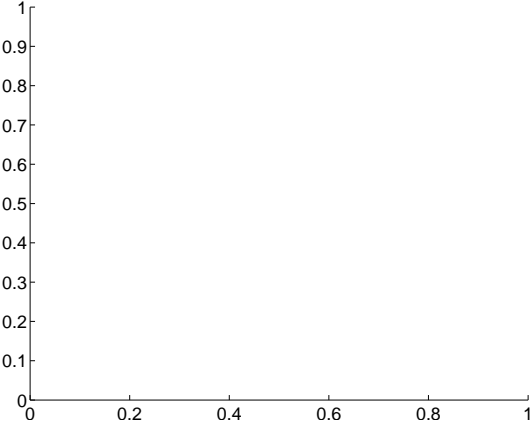
Q7 no difference image



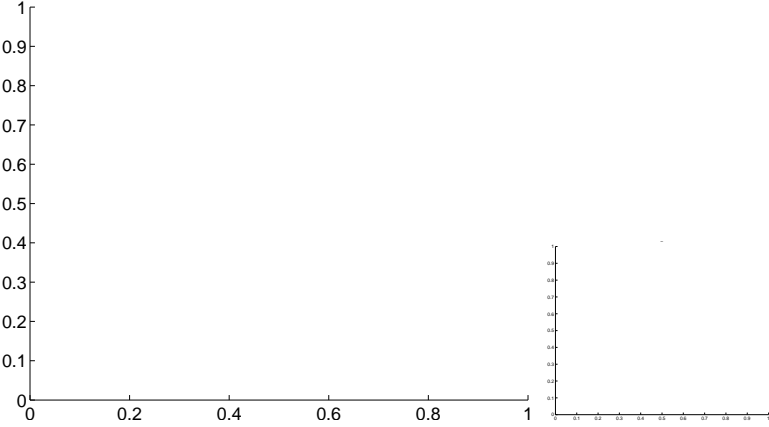
Q7 no OOT image



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

Q13 no difference image



Q13 no OOT image



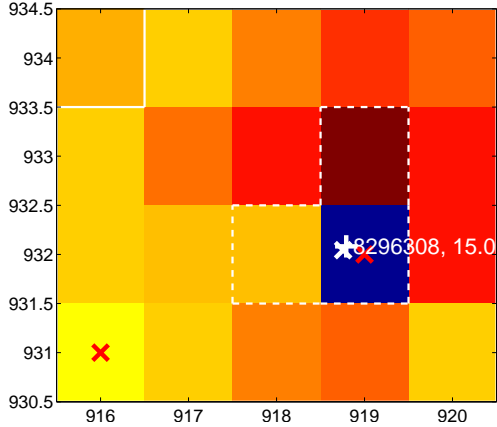
Q14 no difference image



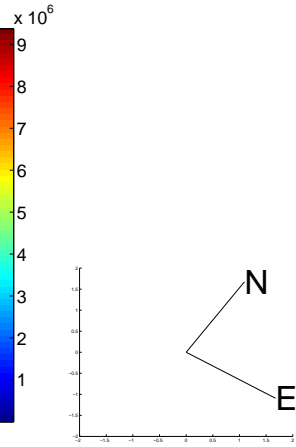
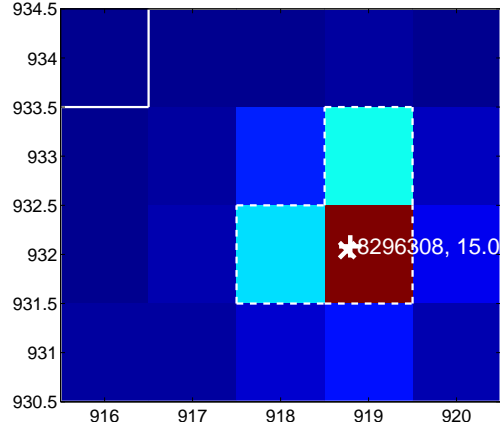
Q14 no OOT image



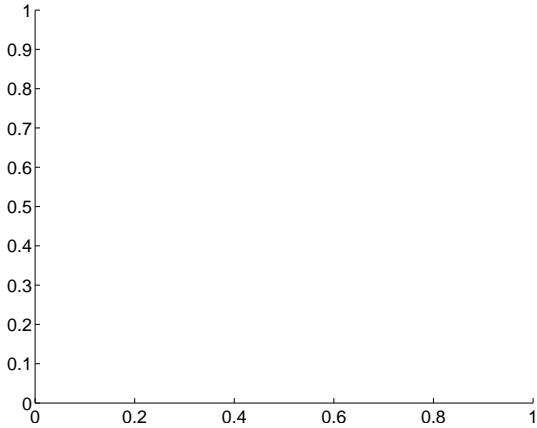
Q15 difference image. Poor Quality



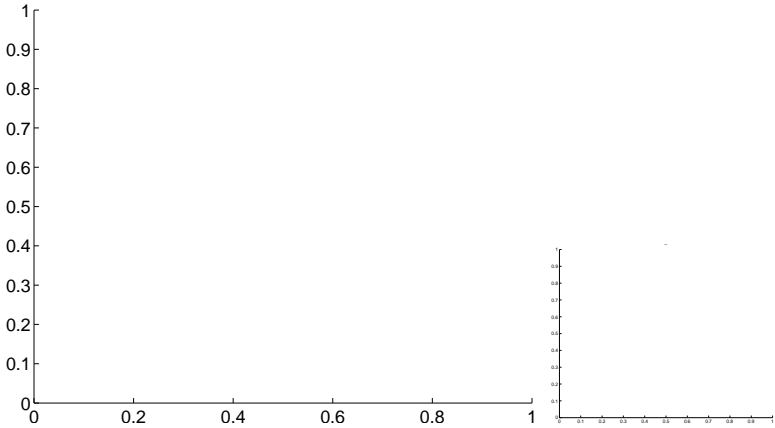
Q15 OOT image



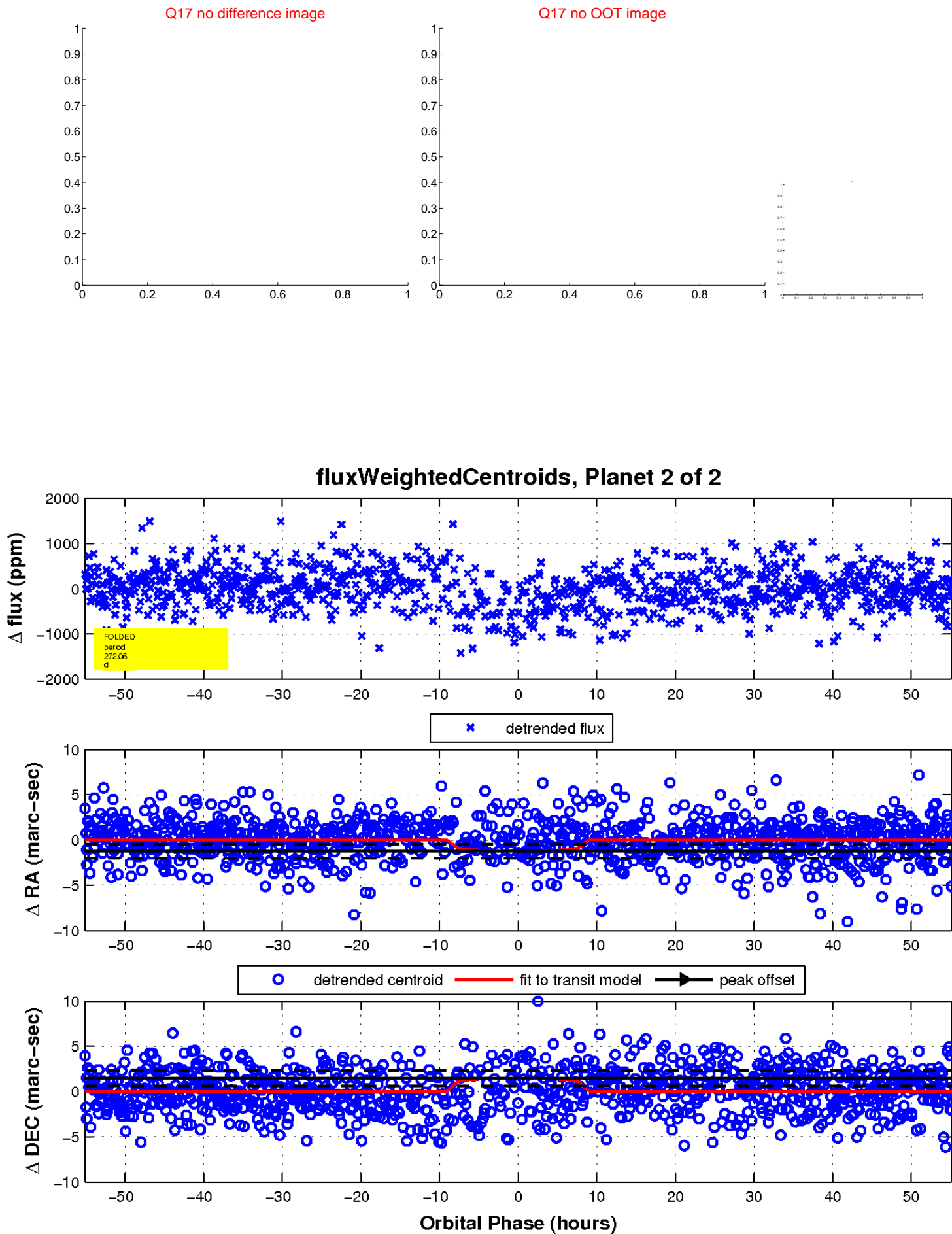
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

Declination

