

KIC 007547969

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})
007547969-01	OBS	No	0.679844	131.982918	0.6	2.429	14.6	0.0	0.42	3657	0.03	214.66
007547969-02	OBS	No	297.166962	303.535538	3811.9	7.681	8.8	8.6	0.42	3657	3.45	0.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007547969-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007547969-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS

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

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

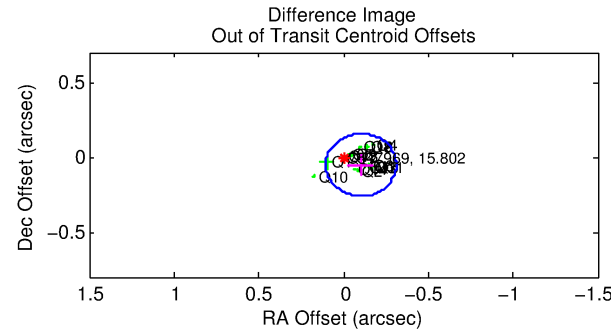
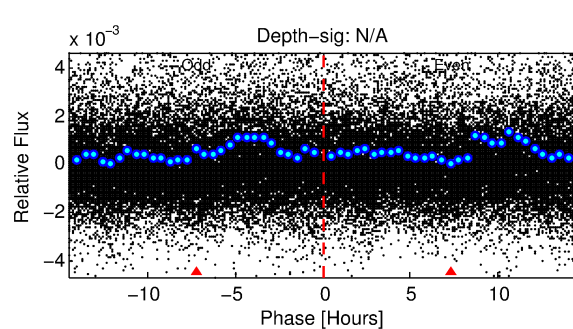
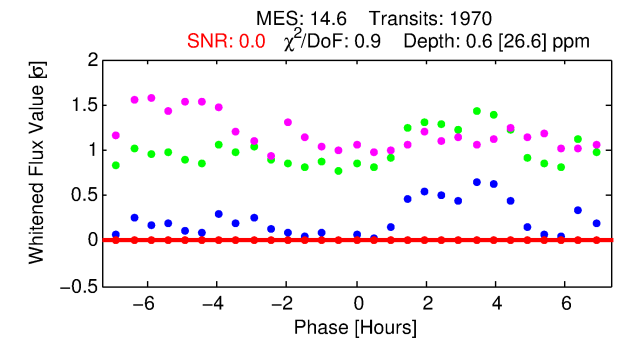
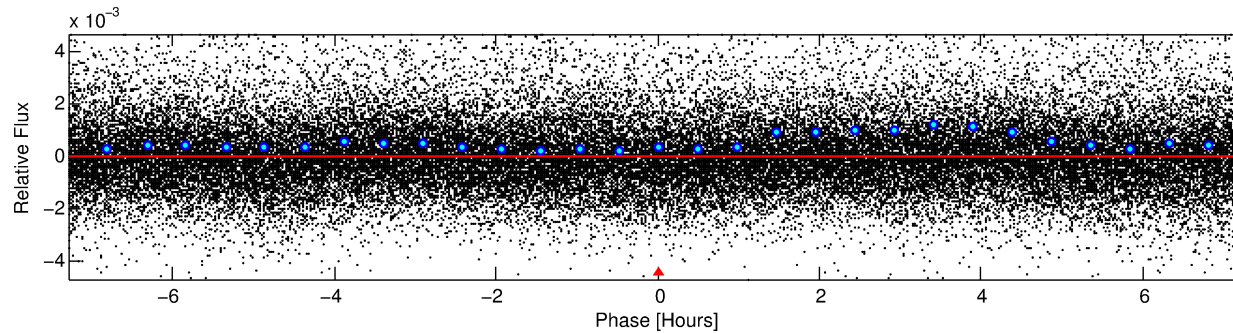
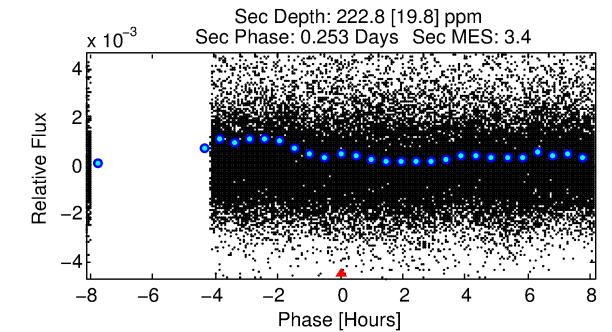
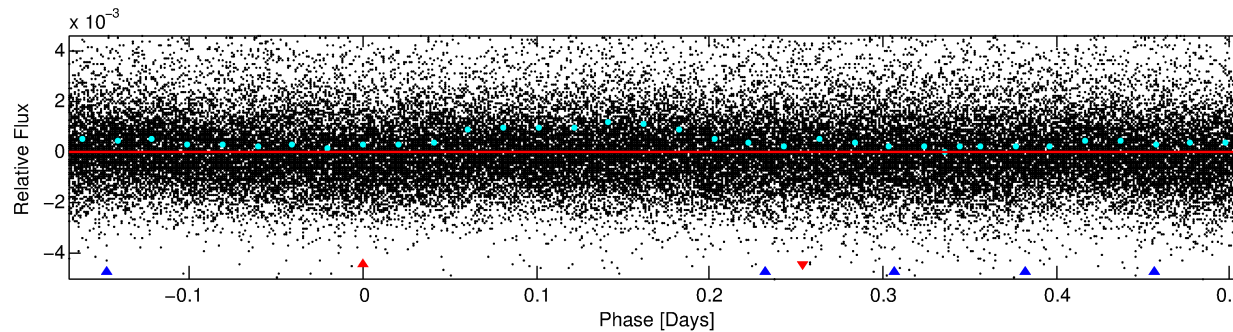
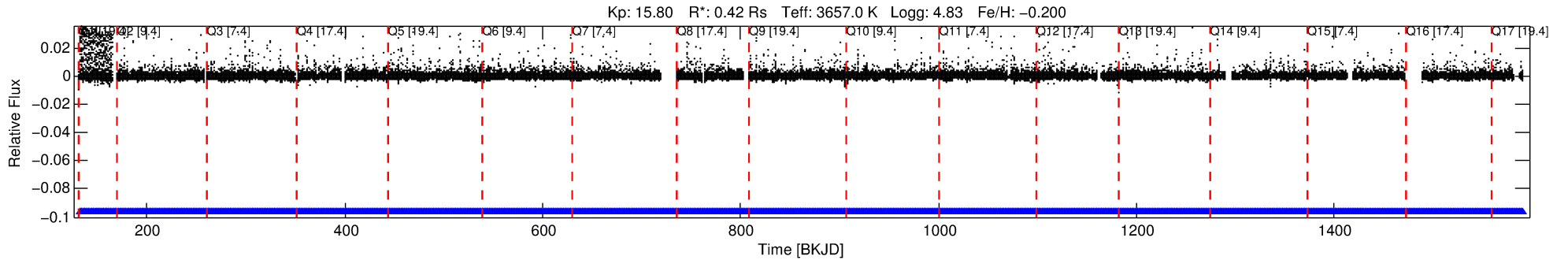
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007547969-01

No Significant Match Found

DV One-Page Summary

KIC: 7547969 Candidate: 1 of 2 Period: 0.680 d



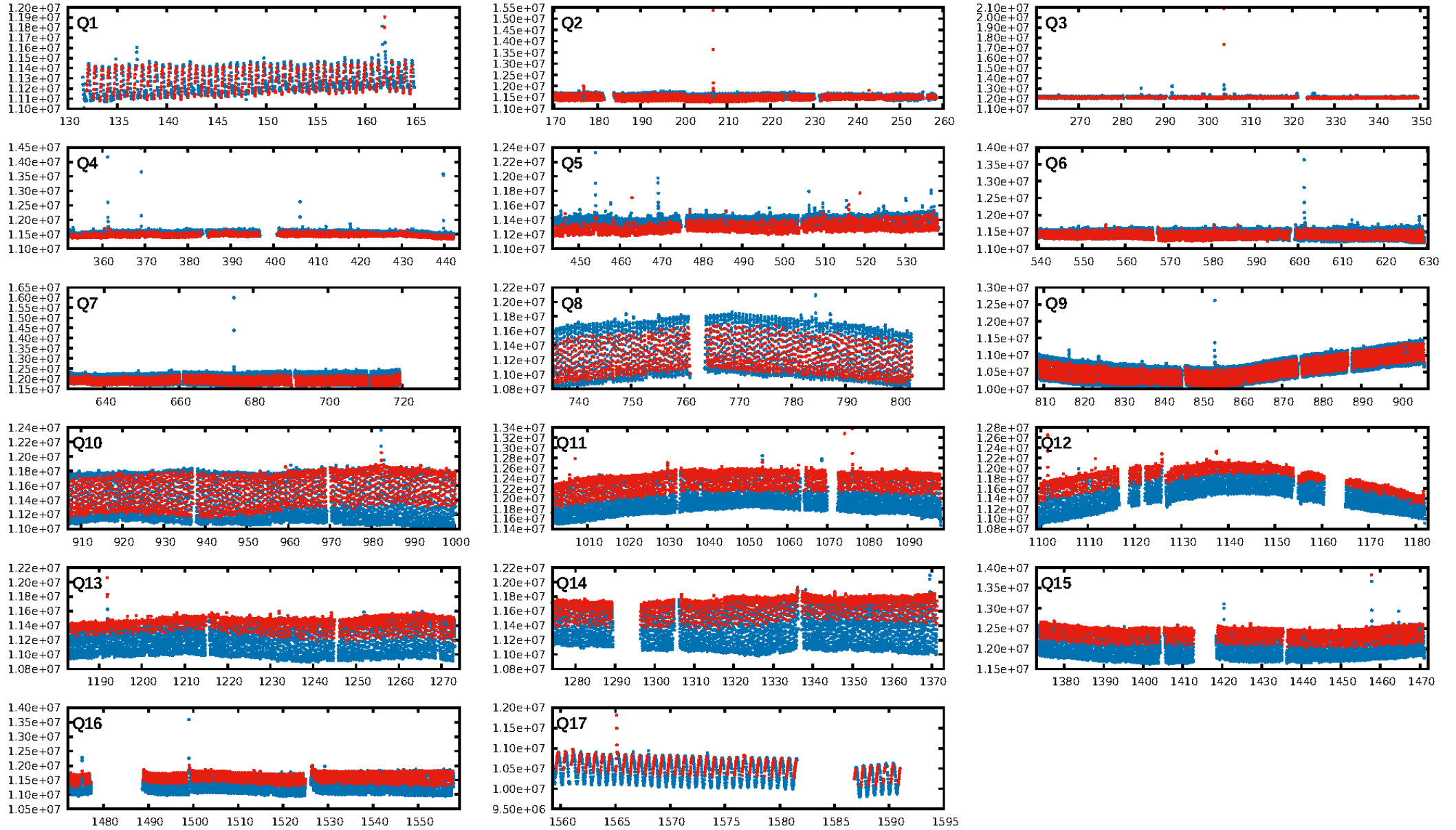
DV Fit Results:

Period = 0.67984 [0.00340] d
Epoch = 131.9829 [0.6513] BKJD
Rp/R* = 0.0007 [0.0186]
a/R* = 2.04 [89.25]
b = 0.44 [104.56]
Seff = 214.66 [27.34]
Teq = 976 [31] K
Rp = 0.03 [0.86] Re
a = 0.0116 [0.0009] AU
Ag = 15393.51 [808723.59] [0.02σ]
Teffp = 16809 [220786] K [0.07σ]

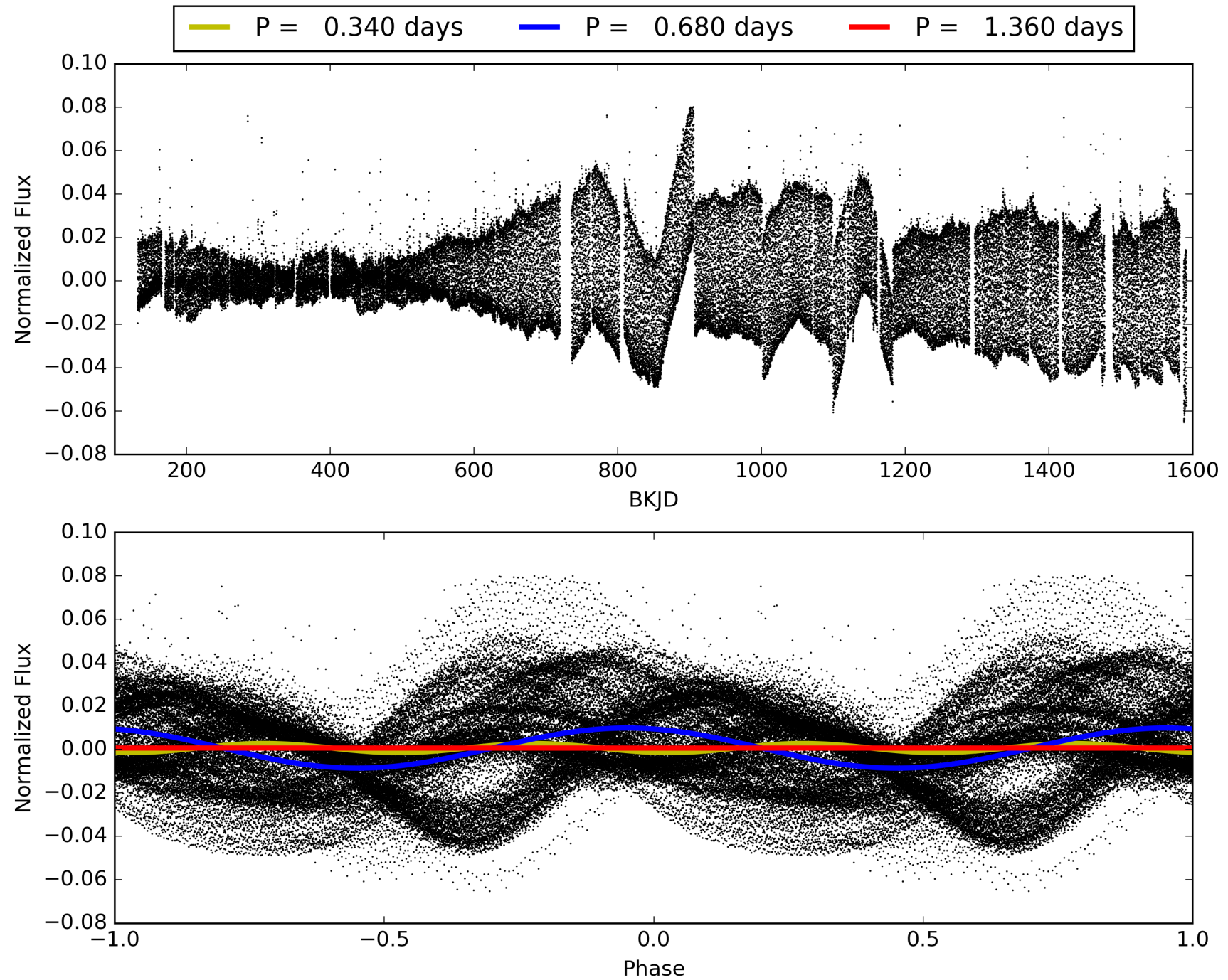
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [883.34σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.99e-50
RollingBand-fgt: 1.00 [1881/1881]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.115 arcsec [1.66σ]
KicOffset-rm: 0.436 arcsec [6.25σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.53 [9/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007547969-01, PDC Light Curves

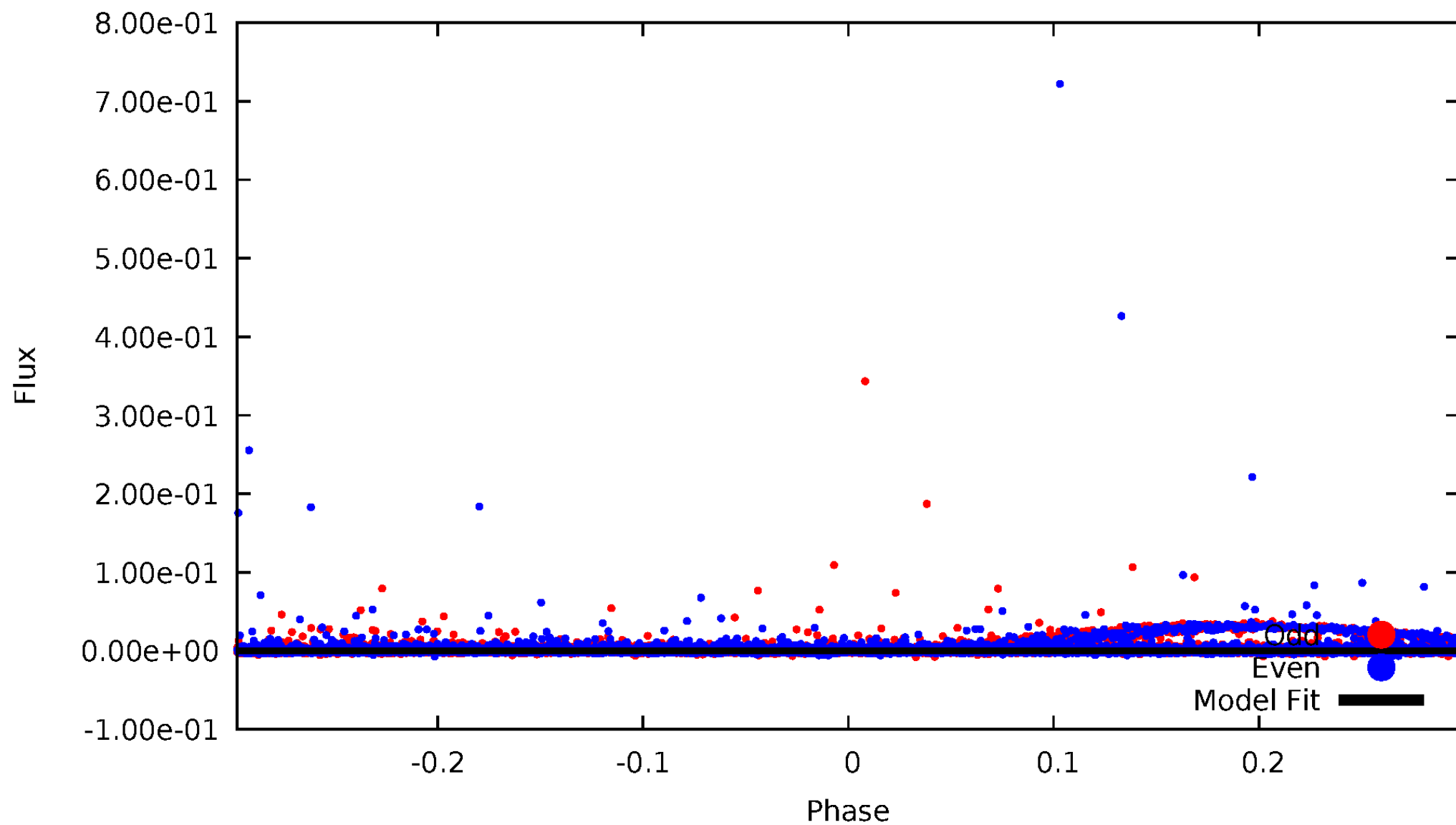


TCE 007547969-01



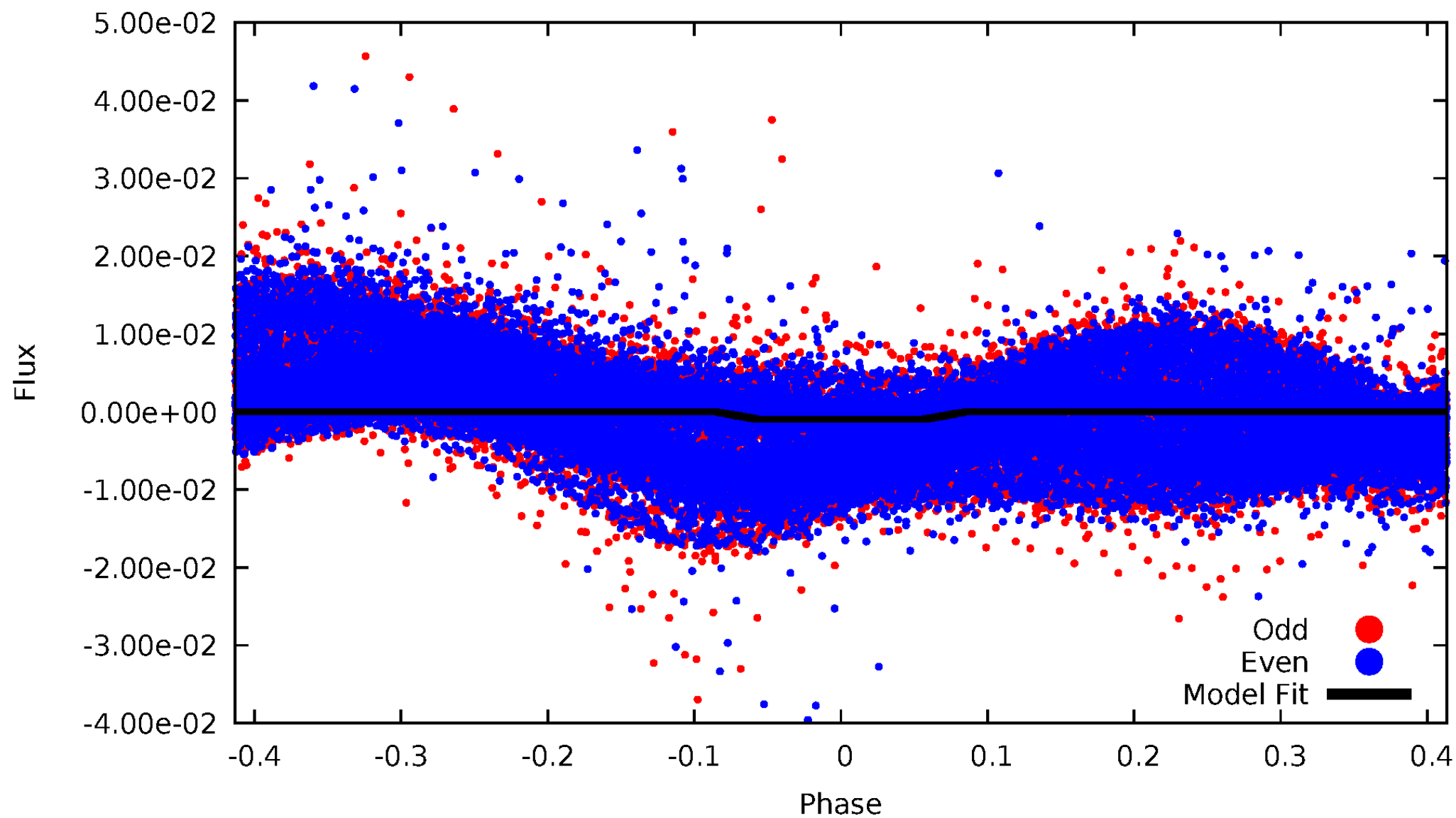
DV Odd/Even

TCE 007547969-01



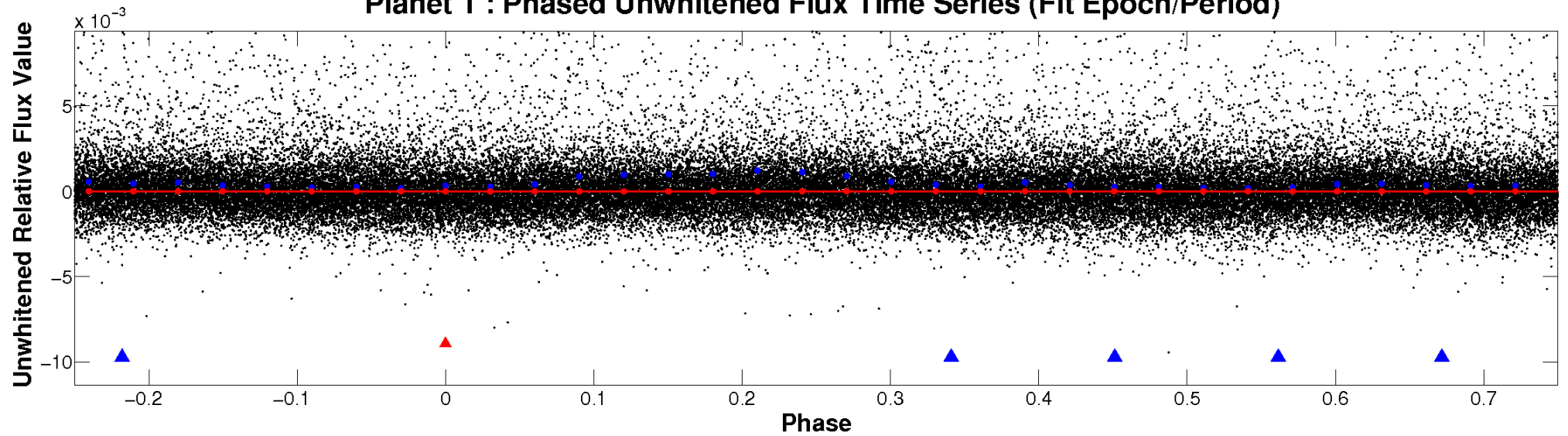
ALT Odd/Even

TCE 007547969-01

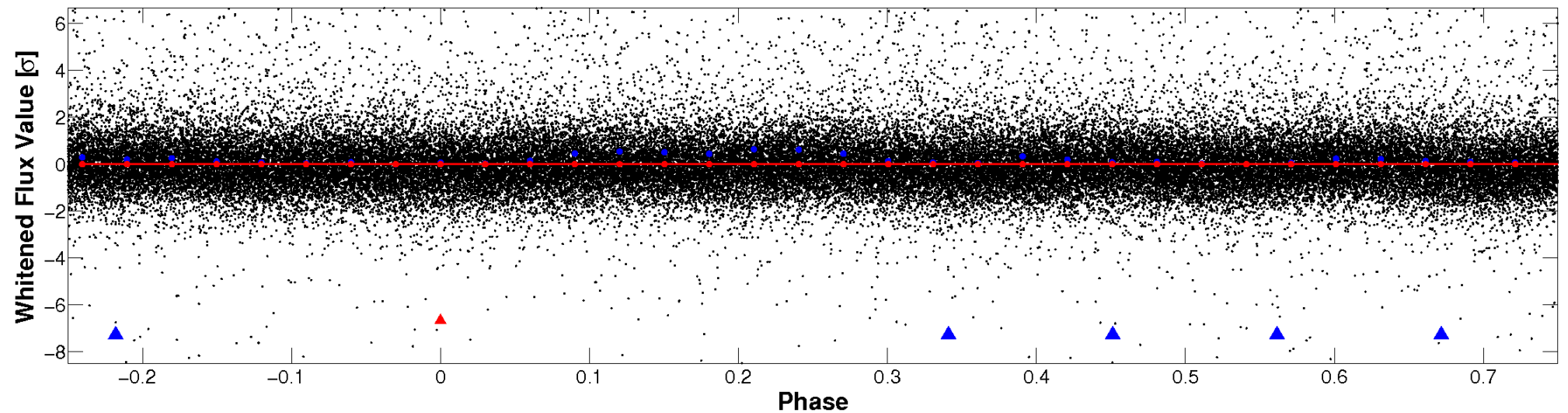


Non-Whitened Vs. Whitened Light Curve

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

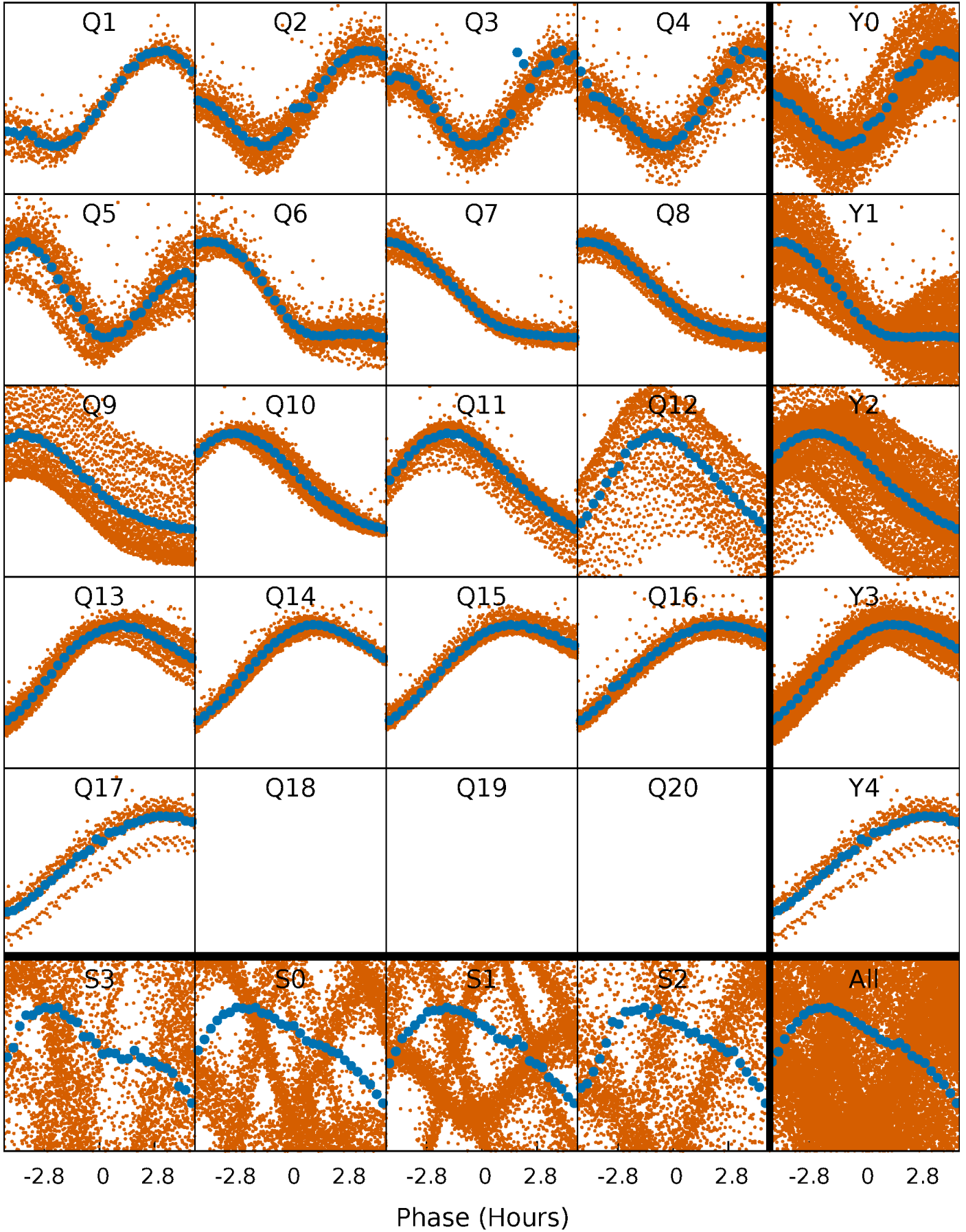


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



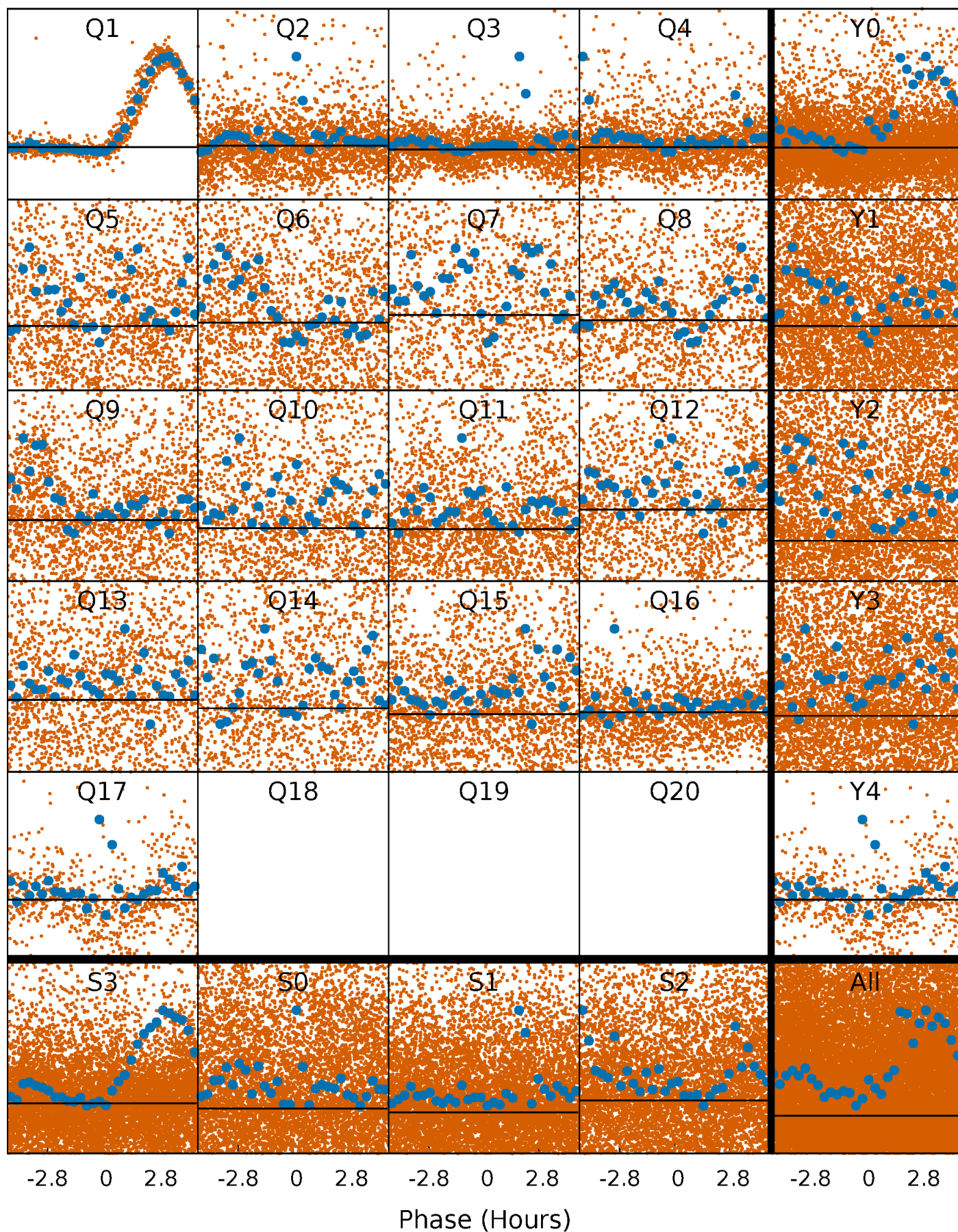
PDC Quarter-Phased Transit Curves

TCE 007547969-01 P= 0.679844 Days $T_0=131.982918$ (BKJD)



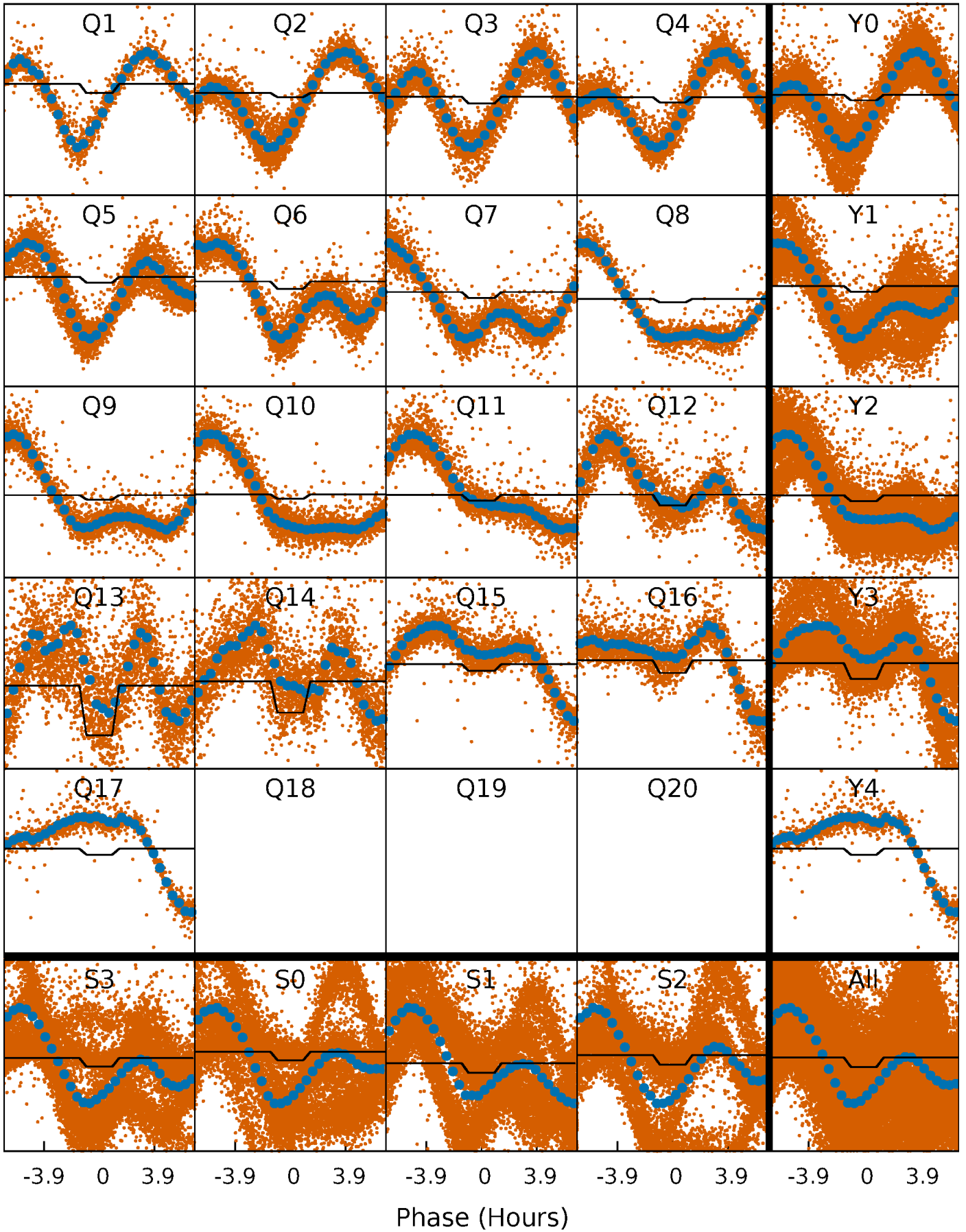
DV Quarter-Phased Transit Curves

TCE 007547969-01 P= 0.679844 Days $T_0=131.982918$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

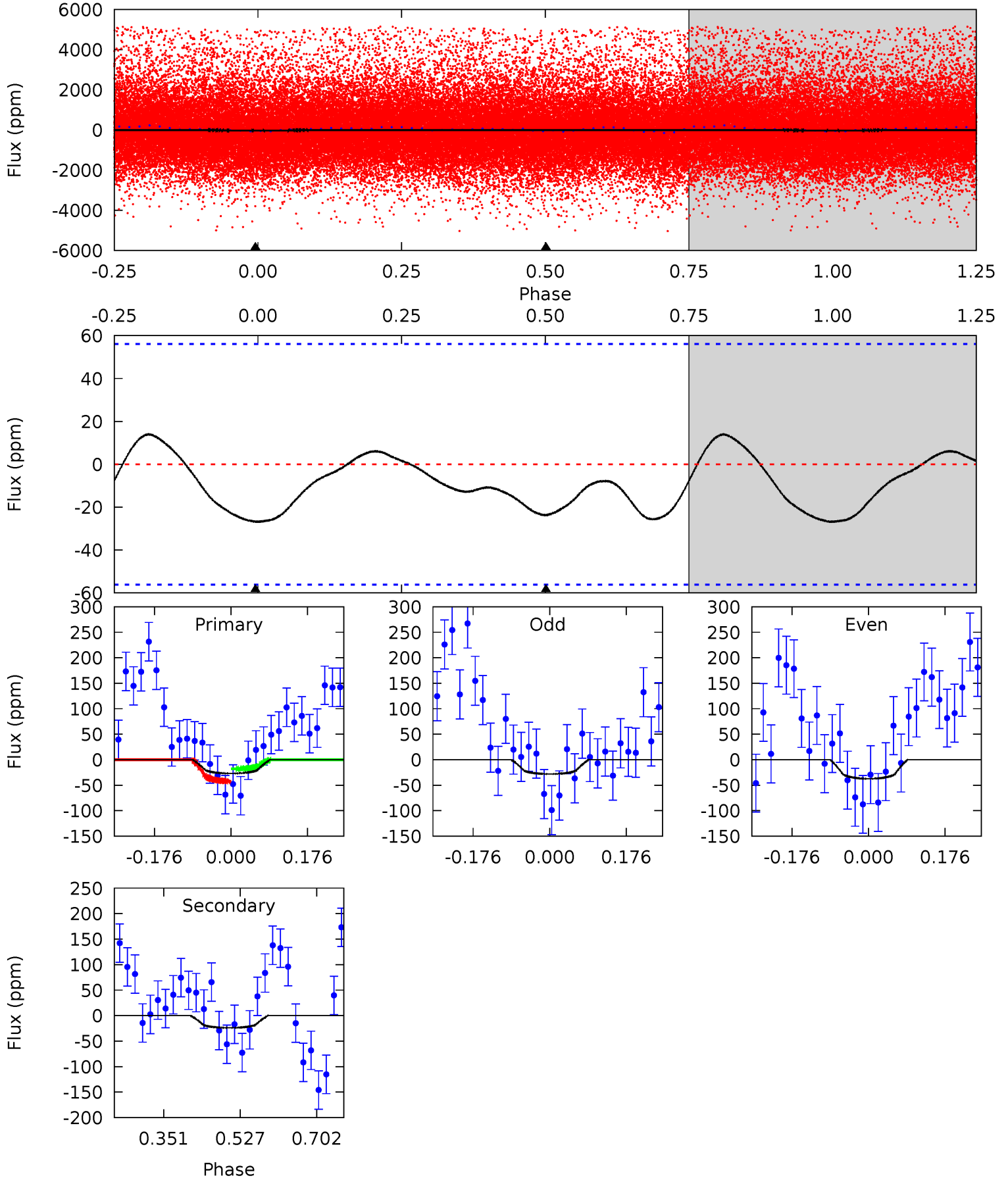
TCE 007547969-01 P= 0.679933 Days $T_0=131.976592$ (BKJD)



DV Model-Shift Uniqueness Test

007547969-01, P = 0.679844 Days, E = 131.303074 Days

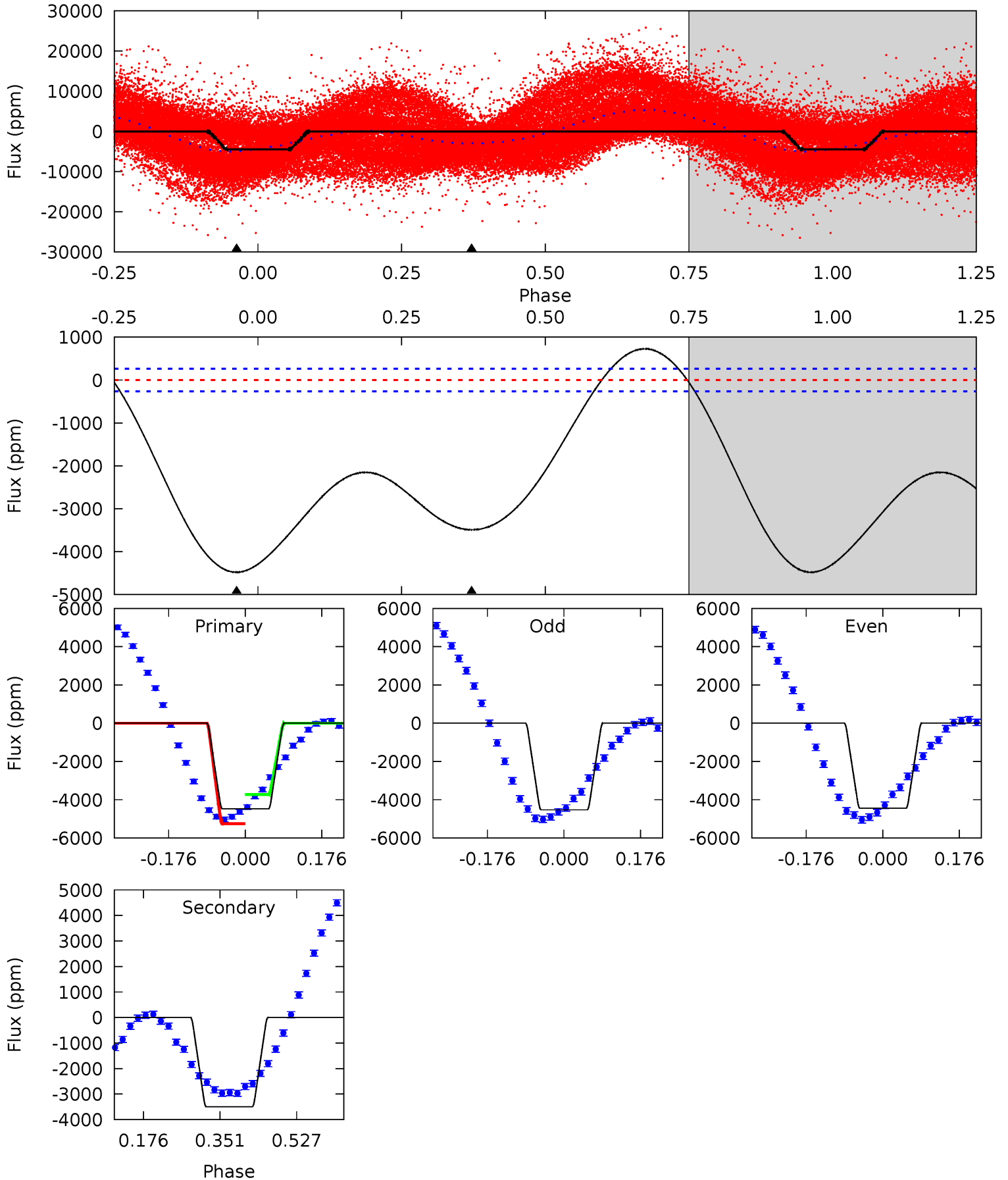
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.13	1.89	0	0	4.45	1.35	0.93	2.13	2.13	1.89	1.89	0.37	-16.7	0.34	0.97



Alt Model-Shift Uniqueness Test

007547969-01, P = 0.679933 Days, E = 131.296659 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
75.4	58.8	0	0	4.45	1.35	17.5	75.4	75.4	58.8	58.8	0.70	0.87	0.14	14.3



Stellar Parameters For KIC 007547969

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3657^{+65}_{-73}	$4.834^{+0.045}_{-0.041}$	$-0.200^{+0.100}_{-0.100}$	$0.423^{+0.037}_{-0.045}$	$0.445^{+0.035}_{-0.049}$	$8.275^{+2.133}_{-1.273}$
	+2%/-2%	+1%/-1%	+50%/-50%	+9%/-11%	+8%/-11%	+26%/-15%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 007547969-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-24 ± 13	$0.57^{+0.69}_{-0.40}$	1363^{+34}_{-40}	2685^{+1294}_{-570}	$4.537^{+54.430}_{-3.694}$
Alt.	-3490 ± 59	$1.53^{+0.86}_{-0.79}$	1364^{+34}_{-36}	4475^{+1666}_{-645}	109^{+335}_{-64}

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

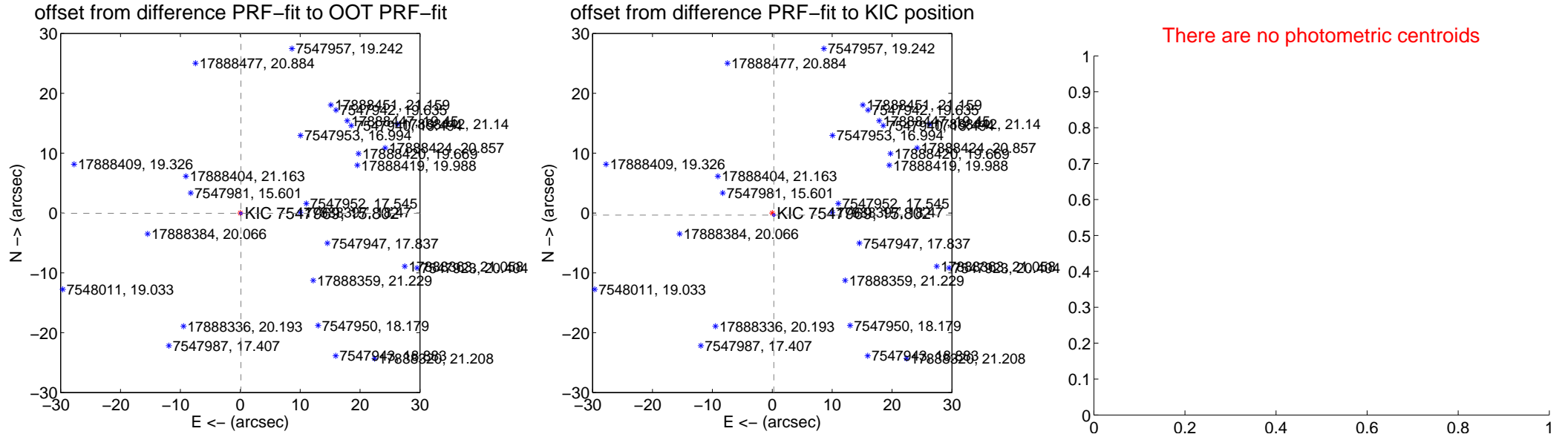
DV Centroid Data

Supplemental centroid analysis for 007547969-01. Kepler magnitude: 15.80. Transit SNR 0.03

There are 9 quarters with good PRF difference image offsets

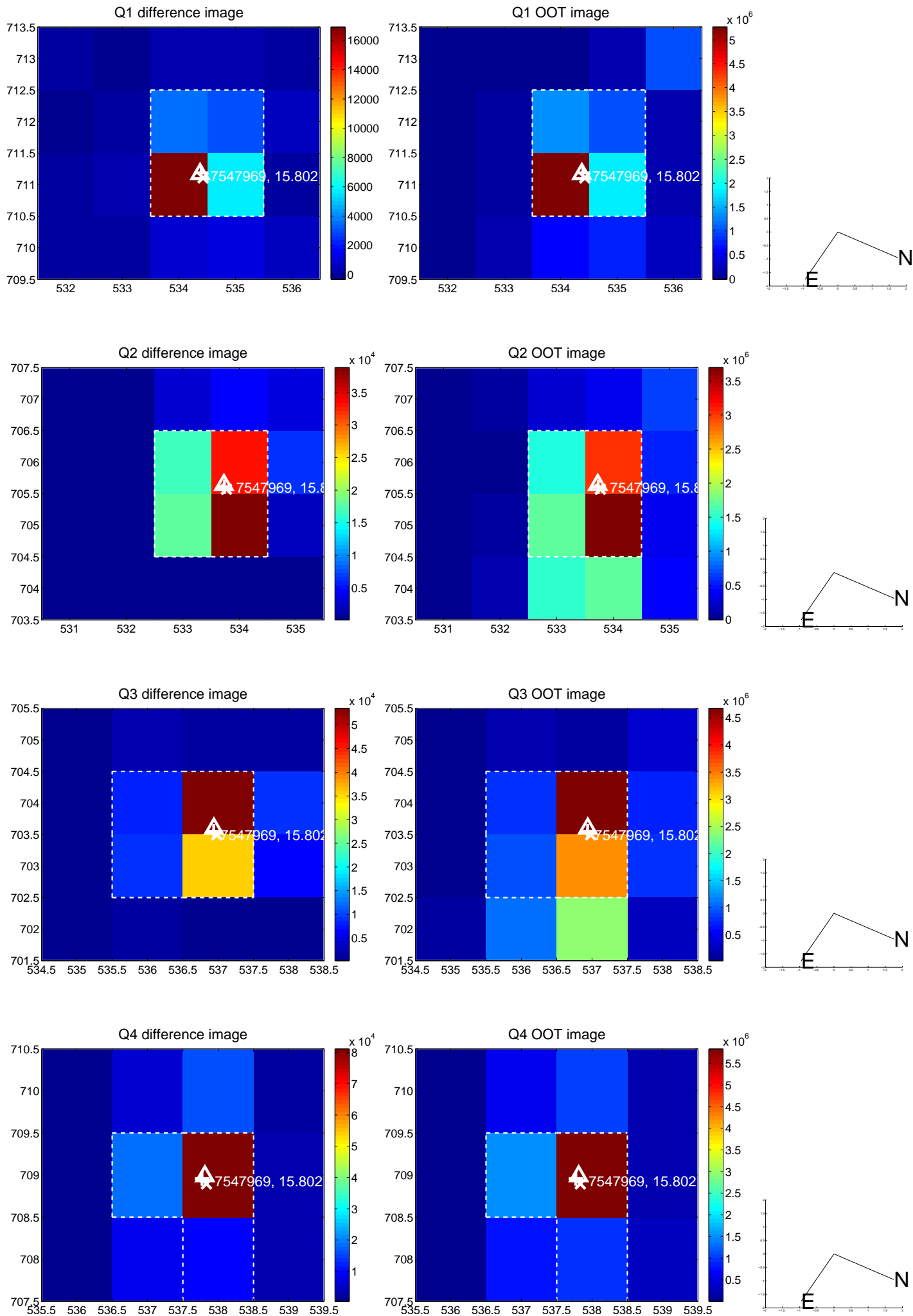
The direct PRF centroid is offset from the target star catalog position by about 0.47 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.115 ± 0.069	1.66	-0.102 ± 0.070	-0.052 ± 0.069
PRF-fit source offset from KIC position	0.436 ± 0.070	6.25	-0.268 ± 0.071	-0.344 ± 0.068
photometric centroid source offset	—	—	—	—

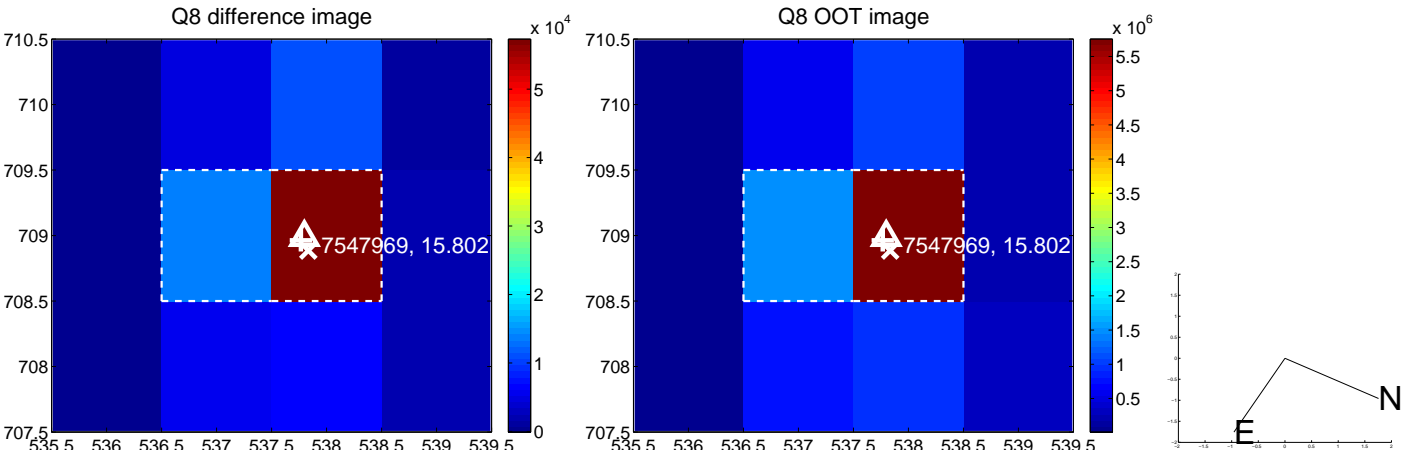
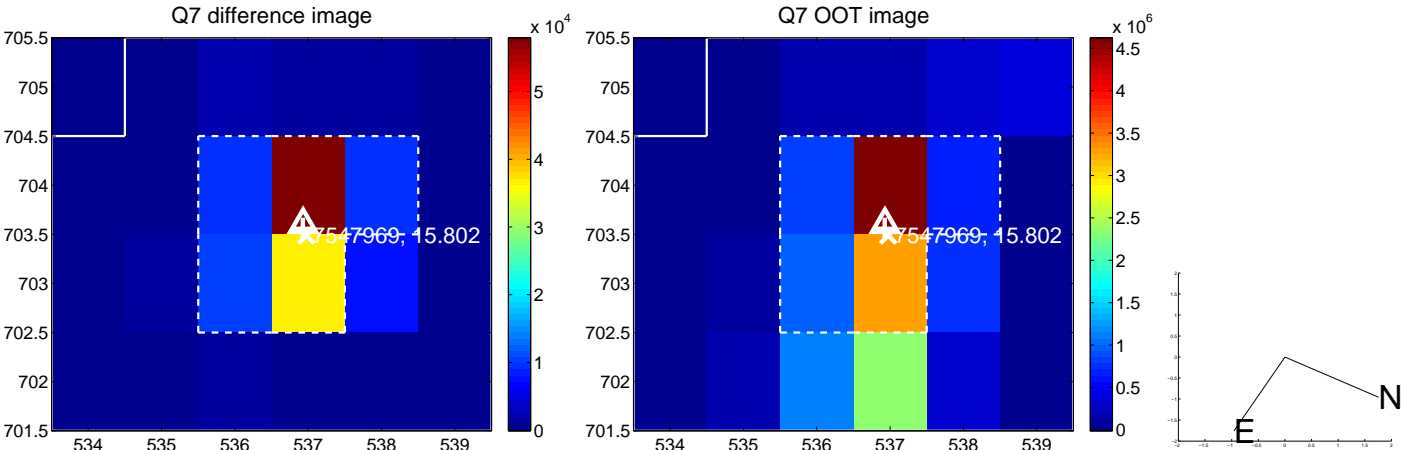
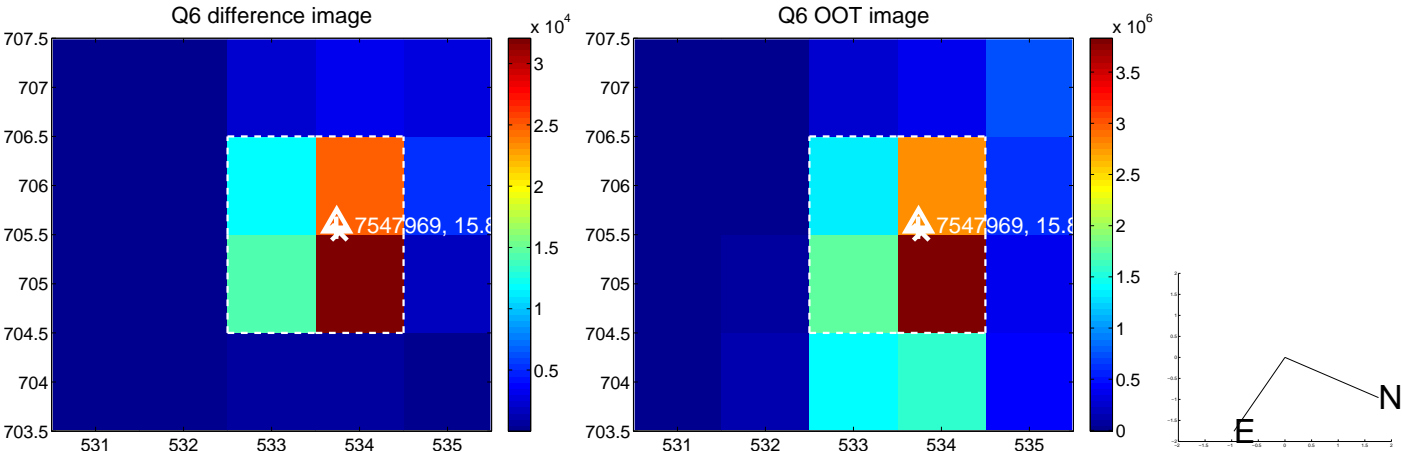
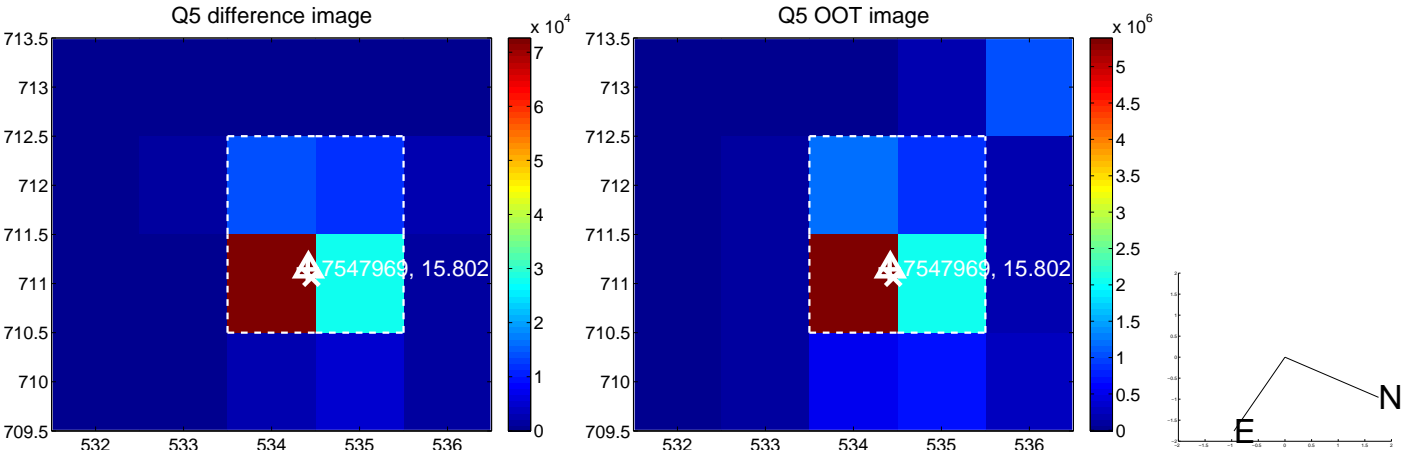


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

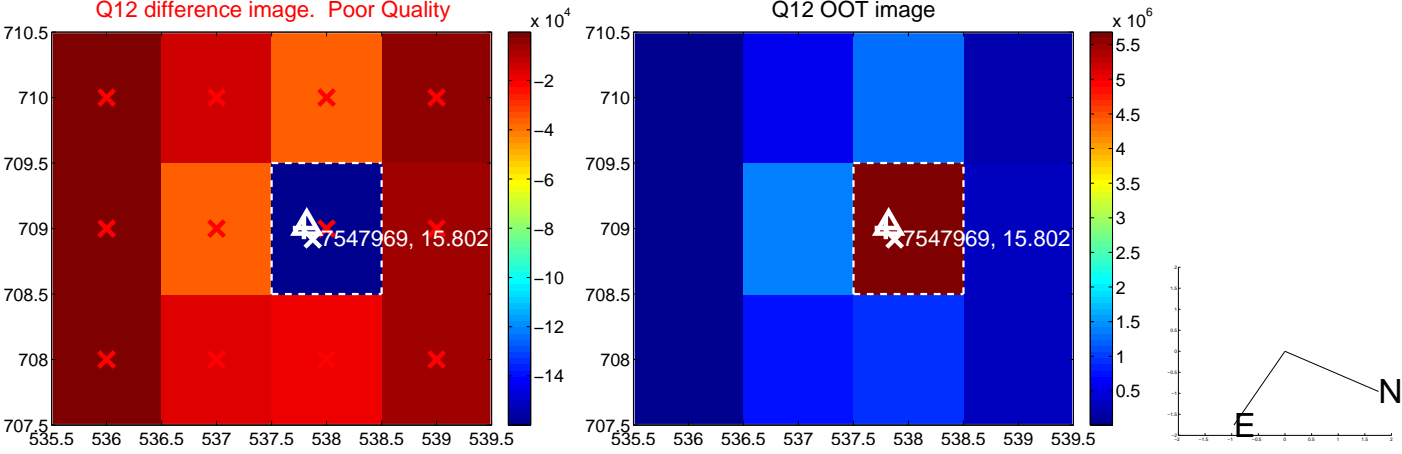
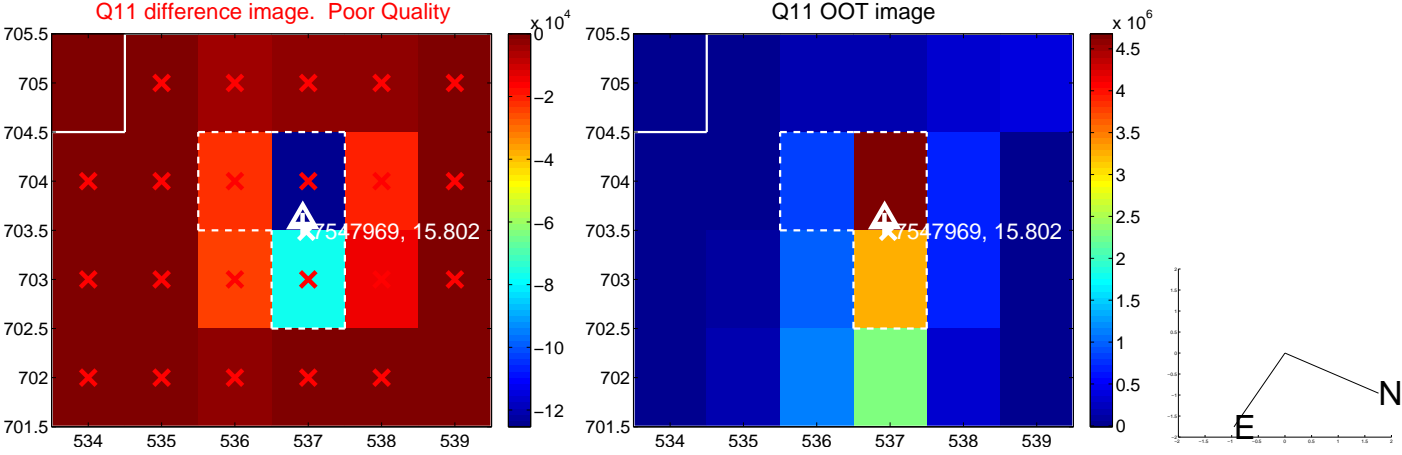
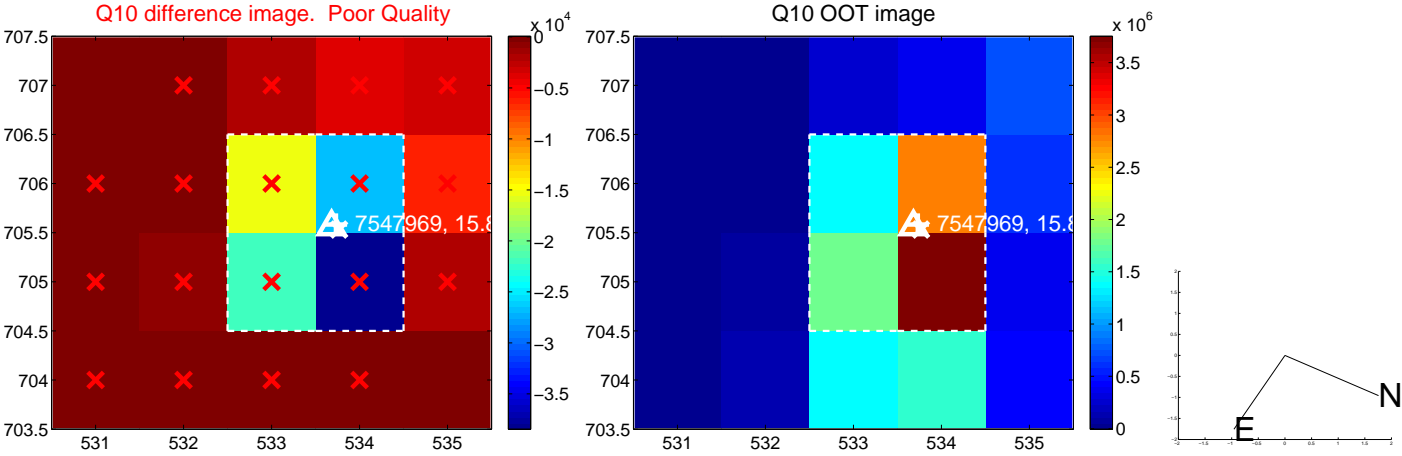
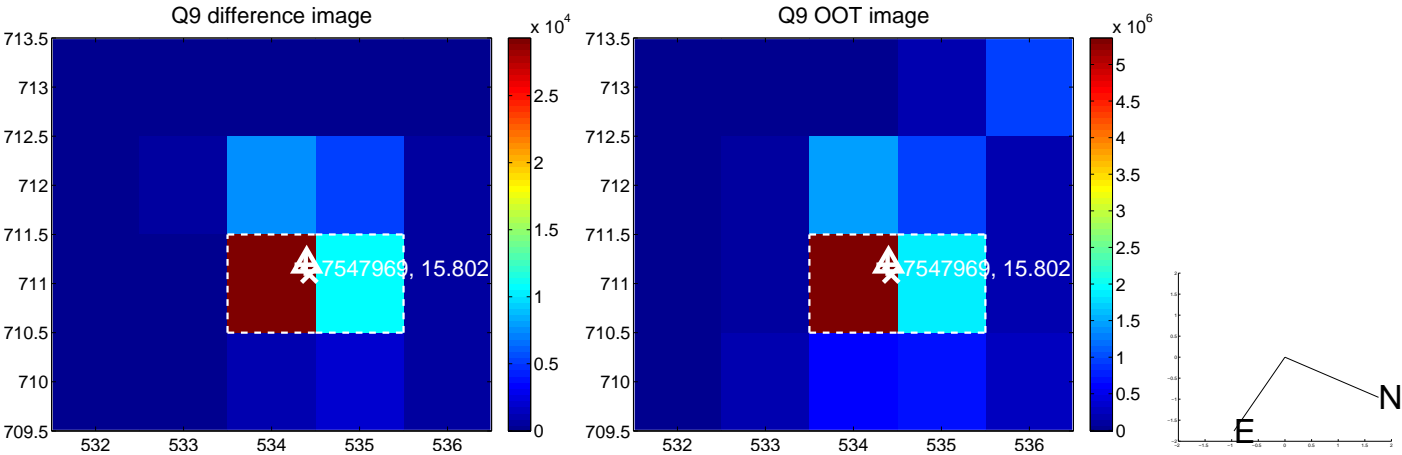
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



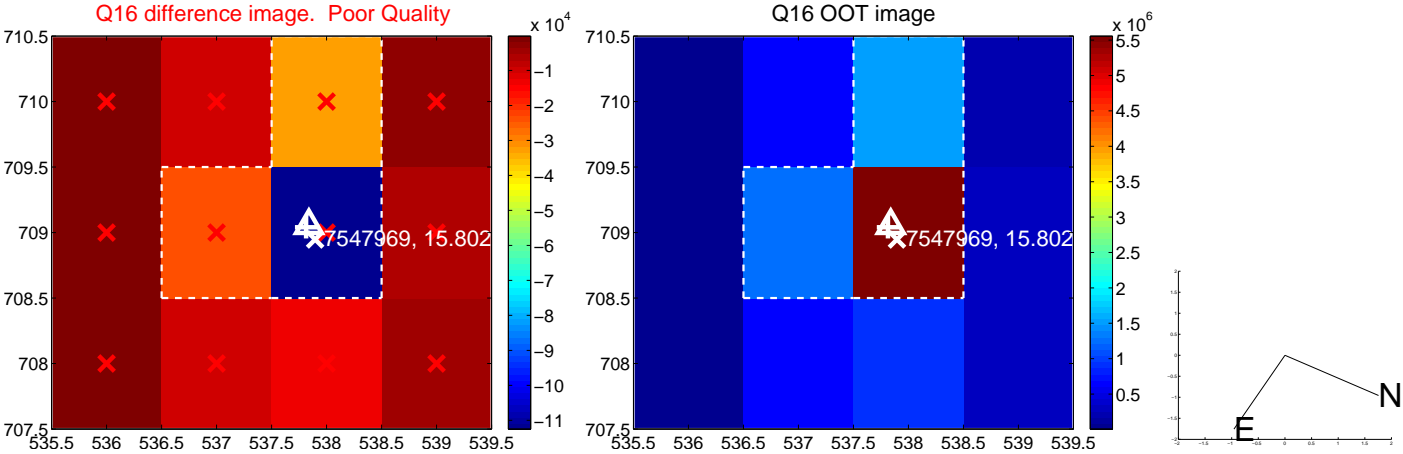
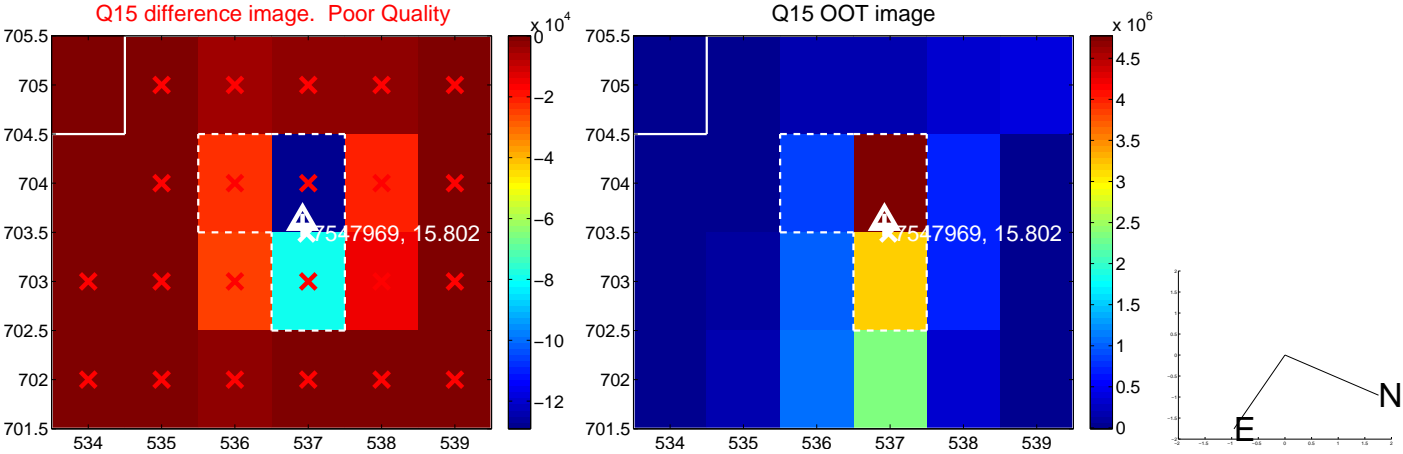
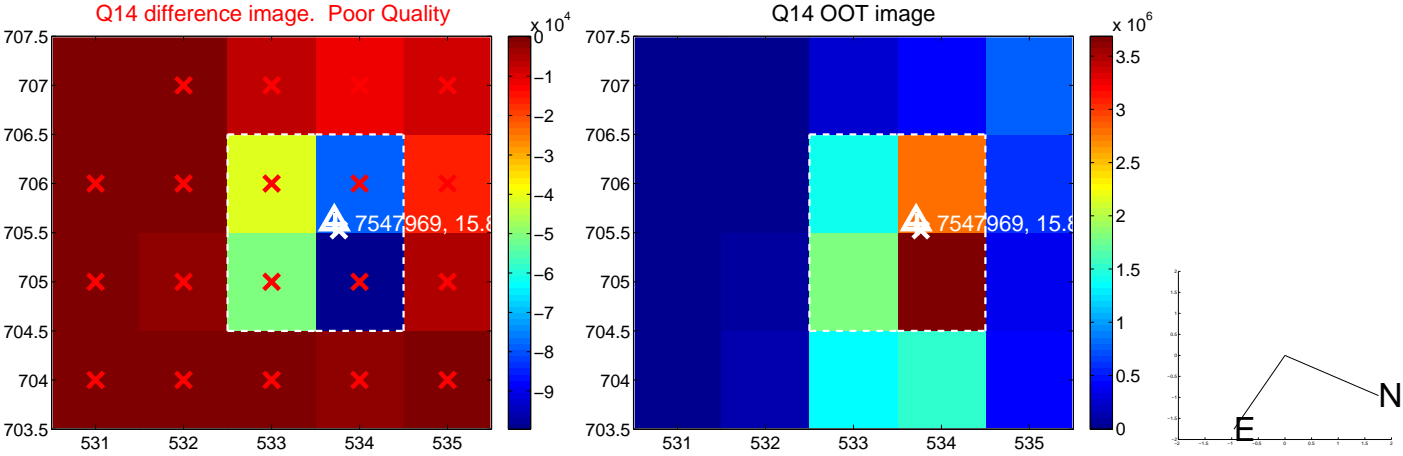
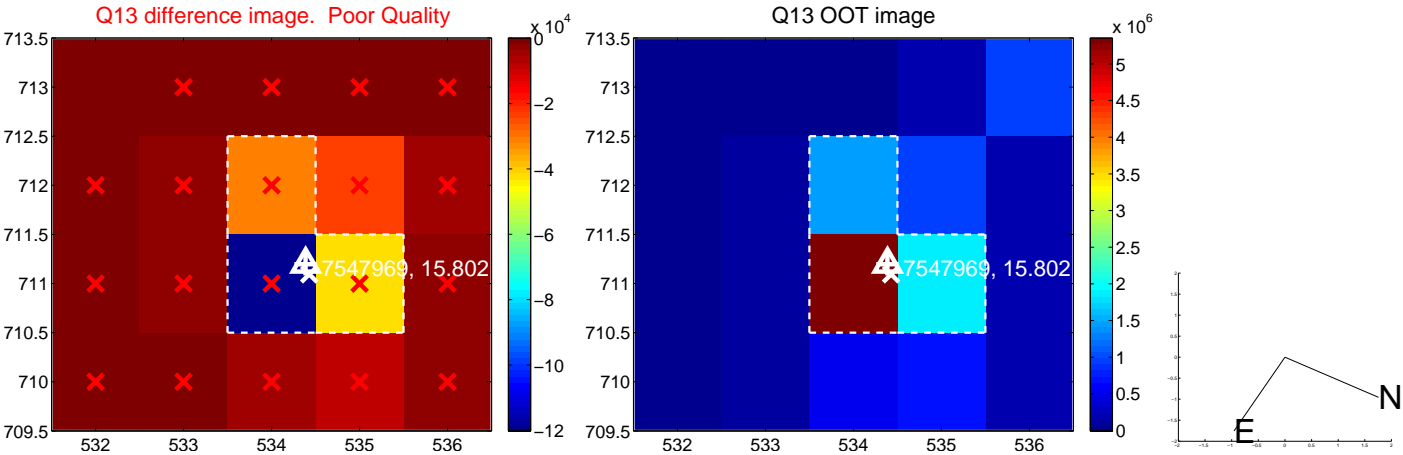
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



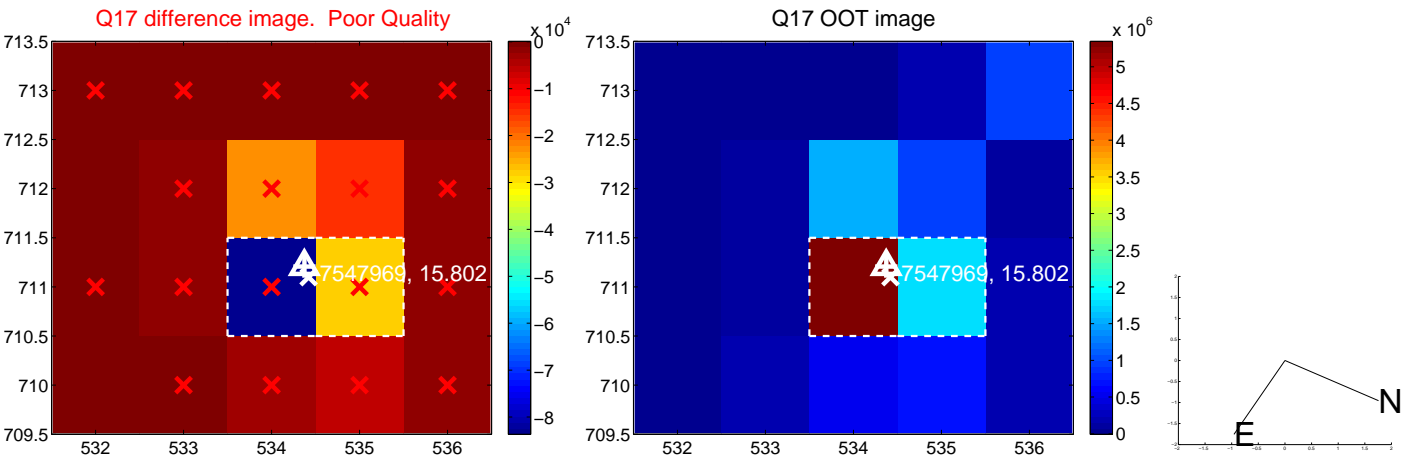
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



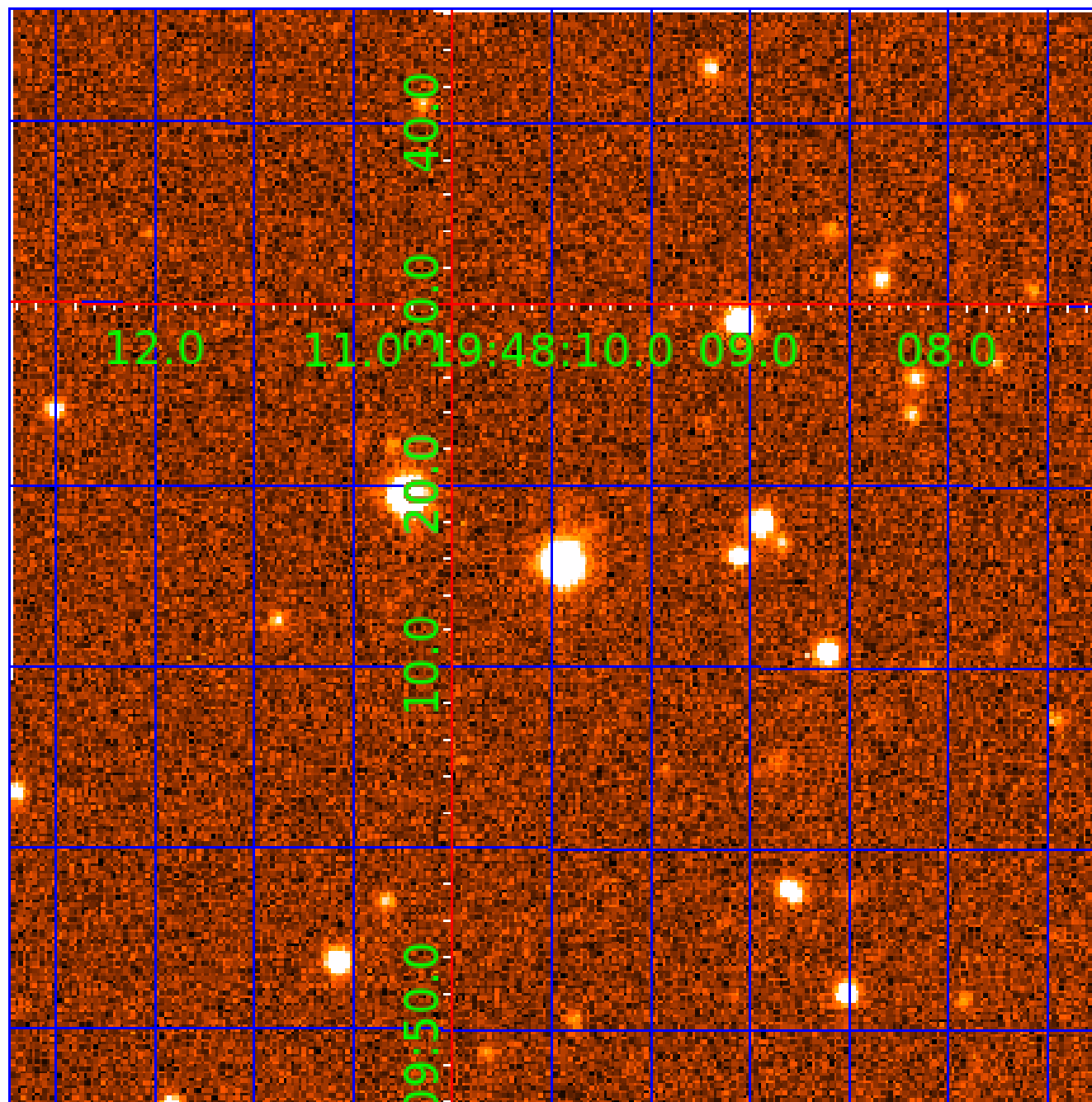
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 007547969

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})
007547969-01	OBS	No	0.679844	131.982918	0.6	2.429	14.6	0.0	0.42	3657	0.03	214.66
007547969-02	OBS	No	297.166962	303.535538	3811.9	7.681	8.8	8.6	0.42	3657	3.45	0.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007547969-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
007547969-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_KIC_POS

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

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

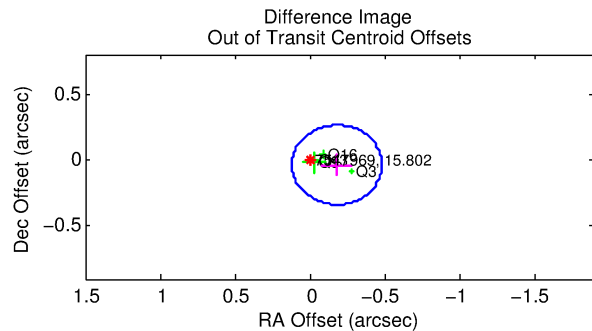
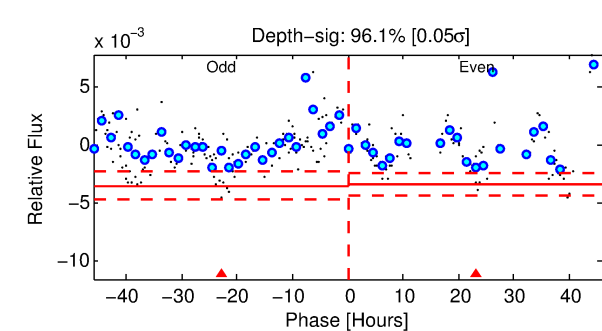
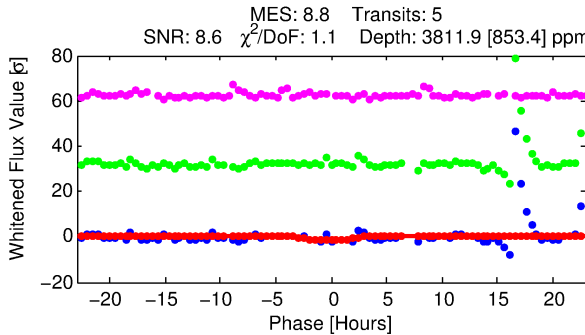
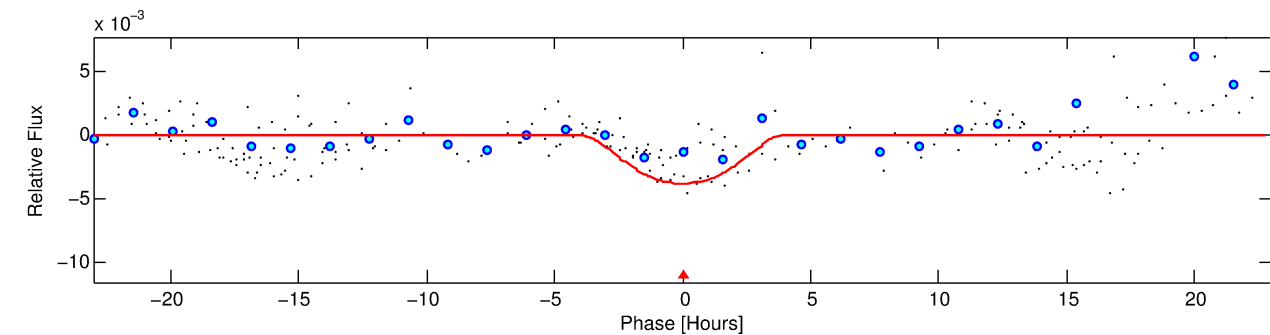
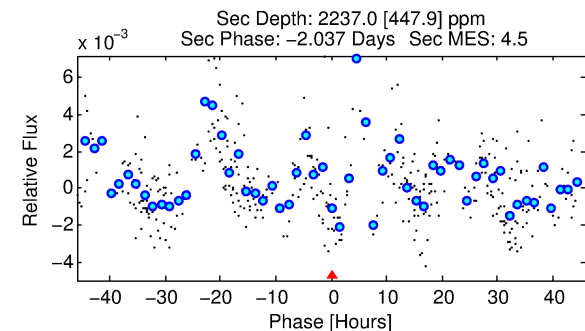
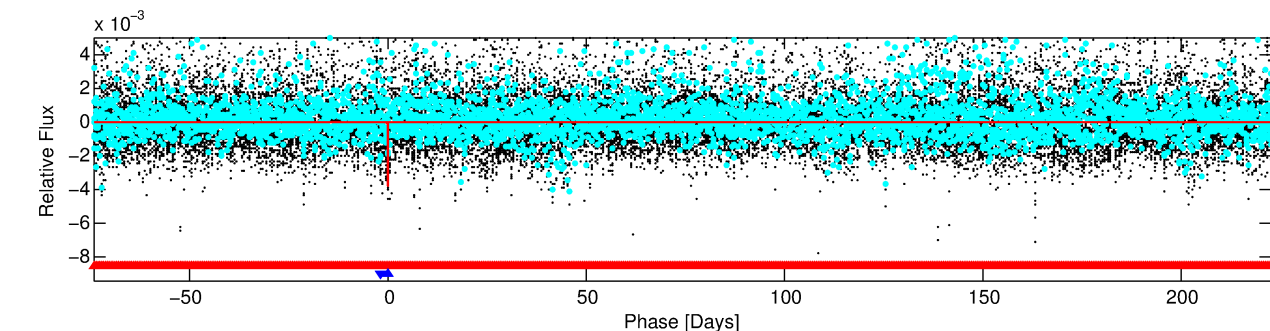
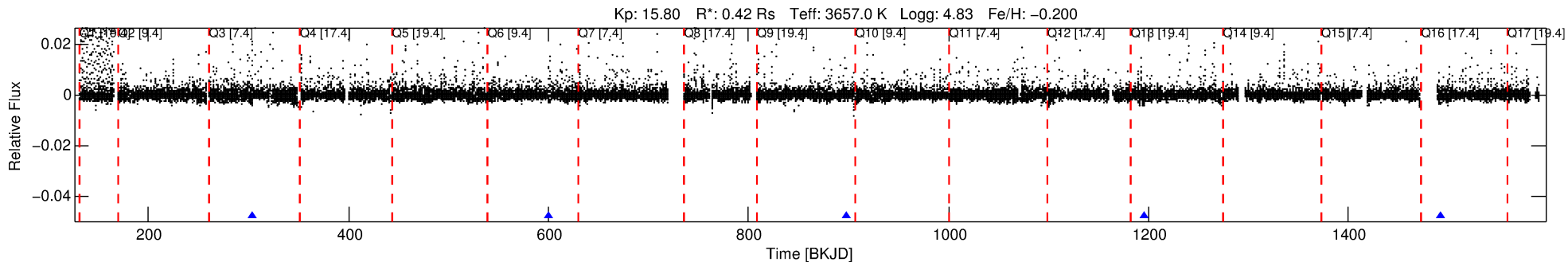
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007547969-02

No Significant Match Found

DV One-Page Summary

KIC: 7547969 Candidate: 2 of 2 Period: 297.167 d



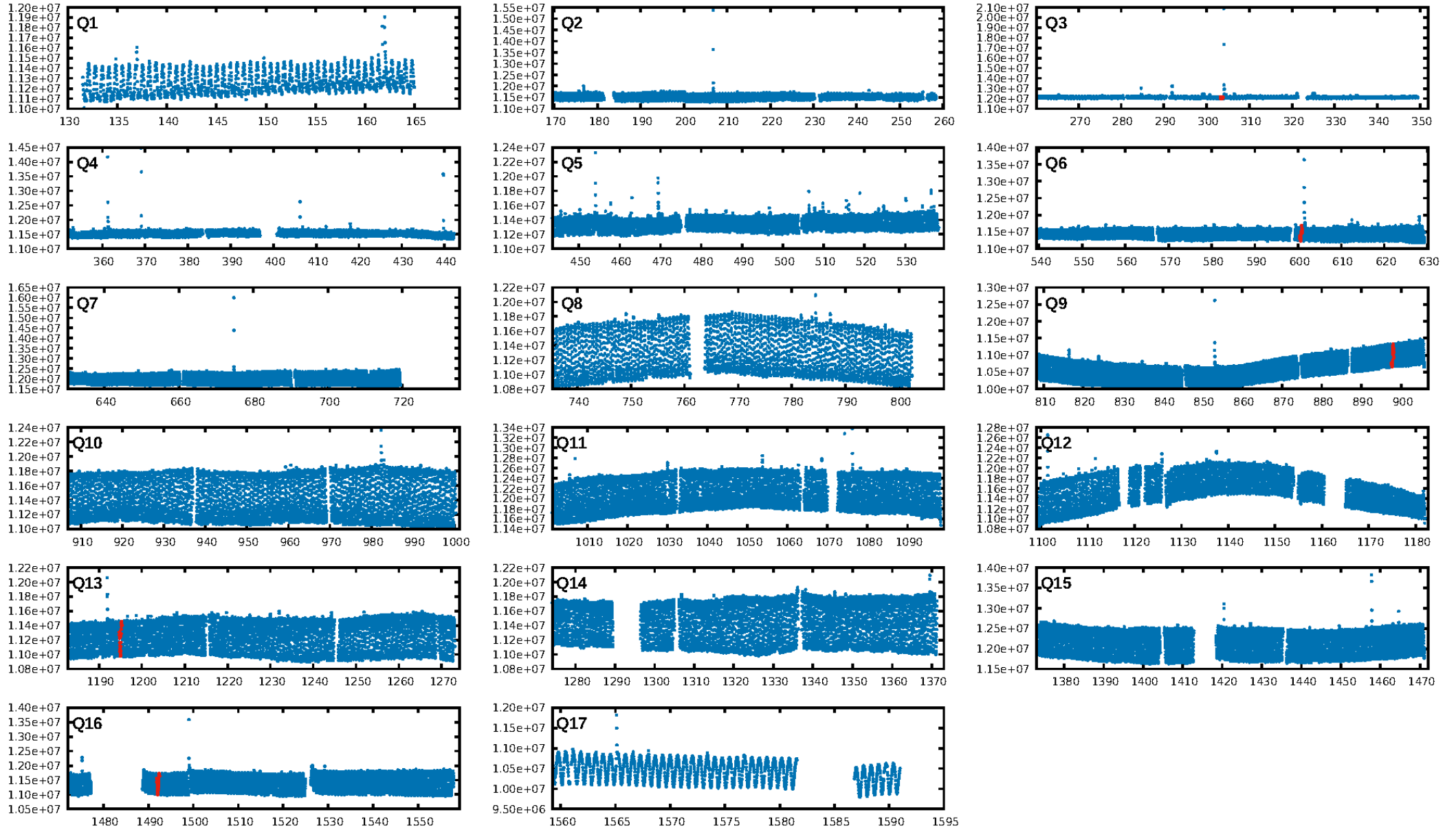
DV Fit Results:

Period = 297.16696 [0.01316] d
Epoch = 303.5355 [0.0246] BKJD
Rp/R* = 0.0748 [0.0486]
a/R* = 151.39 [52.64]
b = 0.94 [0.12]
Seff = 0.06 [0.01]
Teff = 129 [4] K
Rp = 3.45 [2.28] Re
a = 0.6657 [0.0525] AU
Ag = 45760.48 [60406.09] [0.76σ]
Teffp = 2908 [959] K [2.90σ]

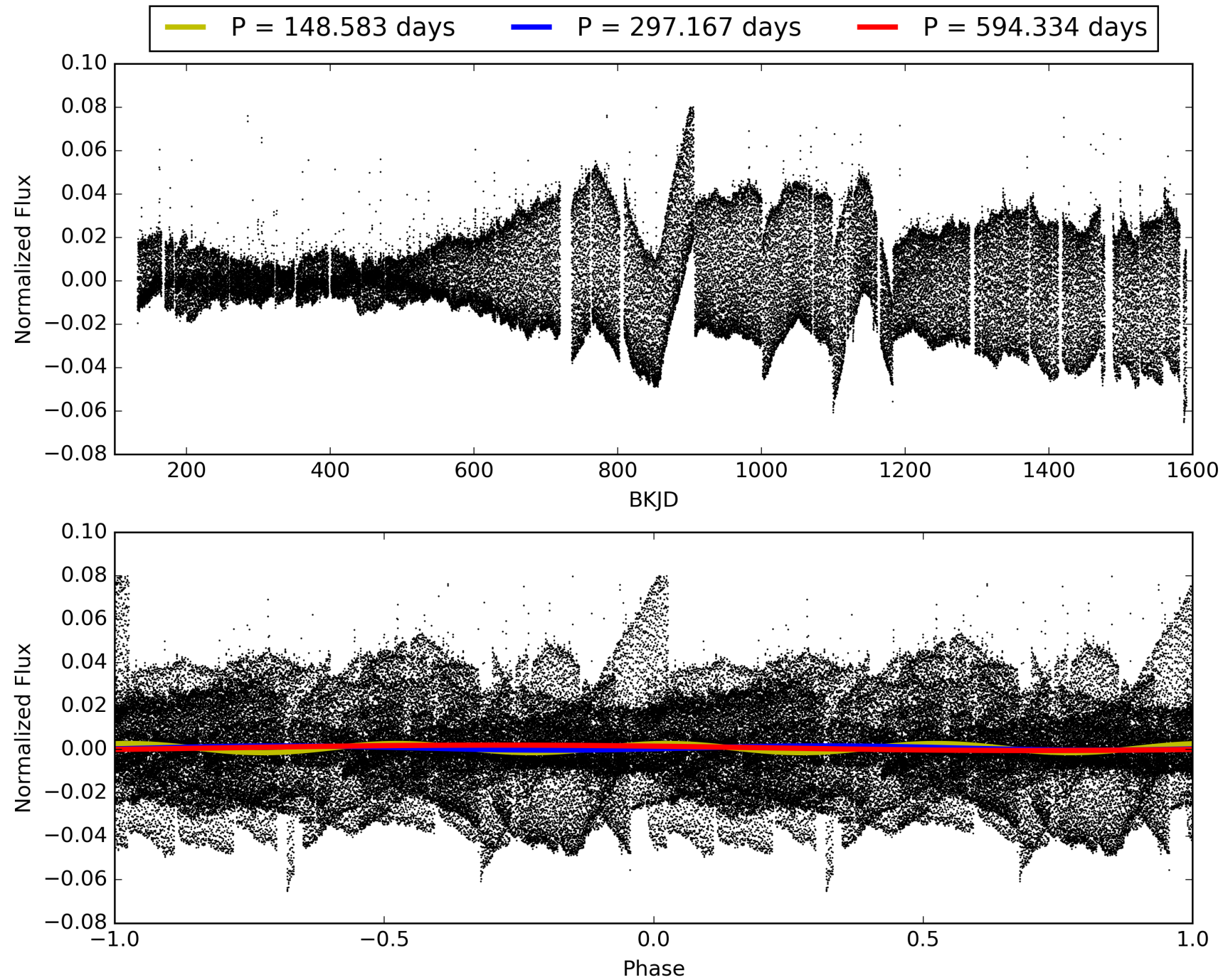
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [883.34σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 10.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 6.71e-10
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.4646
Centroid-sig: 0.0%
Centroid-so: 0.895 arcsec [2.19σ]
OotOffset-rm: 0.185 arcsec [1.85σ]
KicOffset-rm: 0.493 arcsec [6.51σ]
OotOffset-st: 0/1/1/2 [4]
KicOffset-st: 0/1/1/2 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.00 [0/4]

TCE 007547969-02, PDC Light Curves

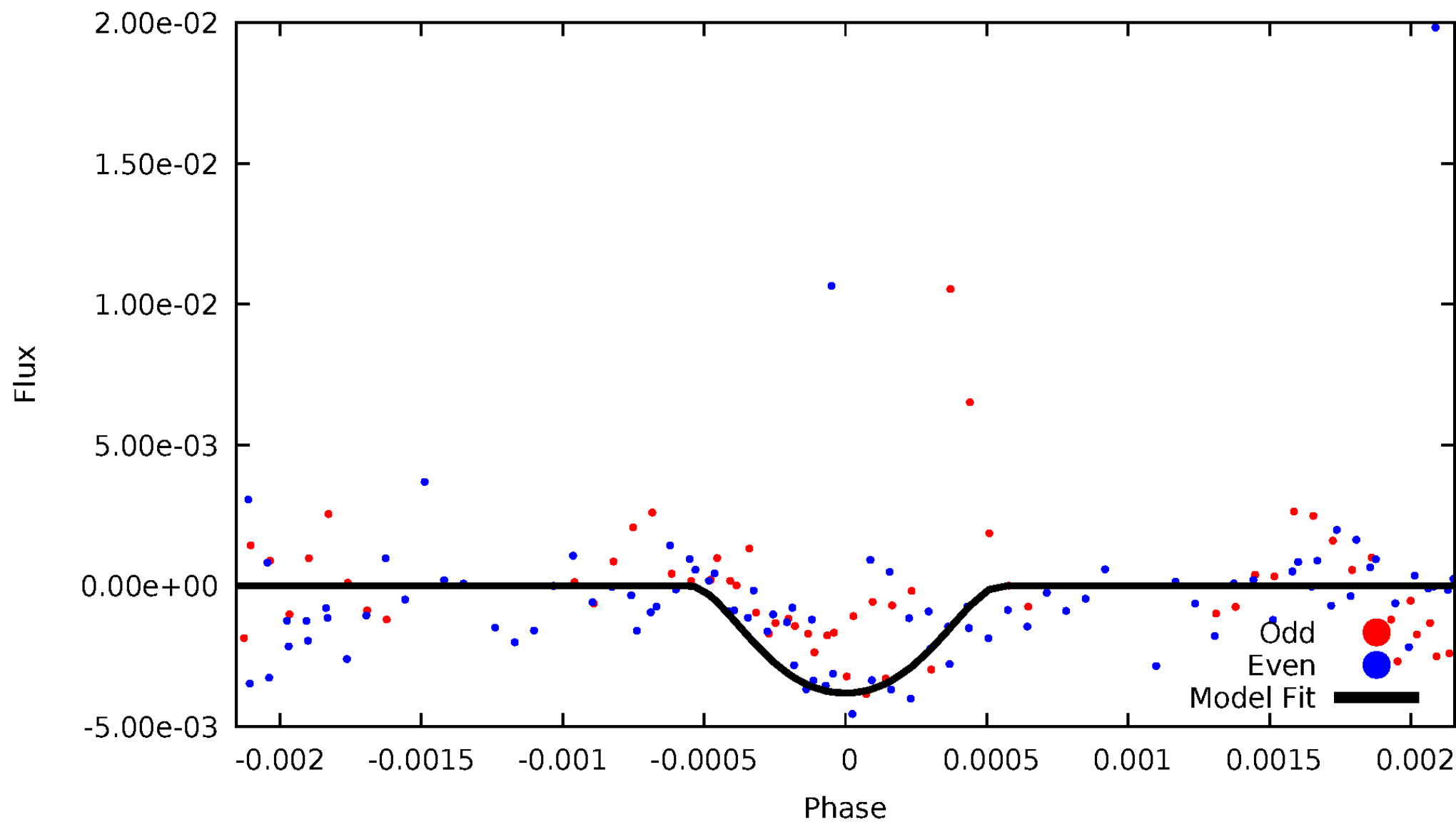


TCE 007547969-02



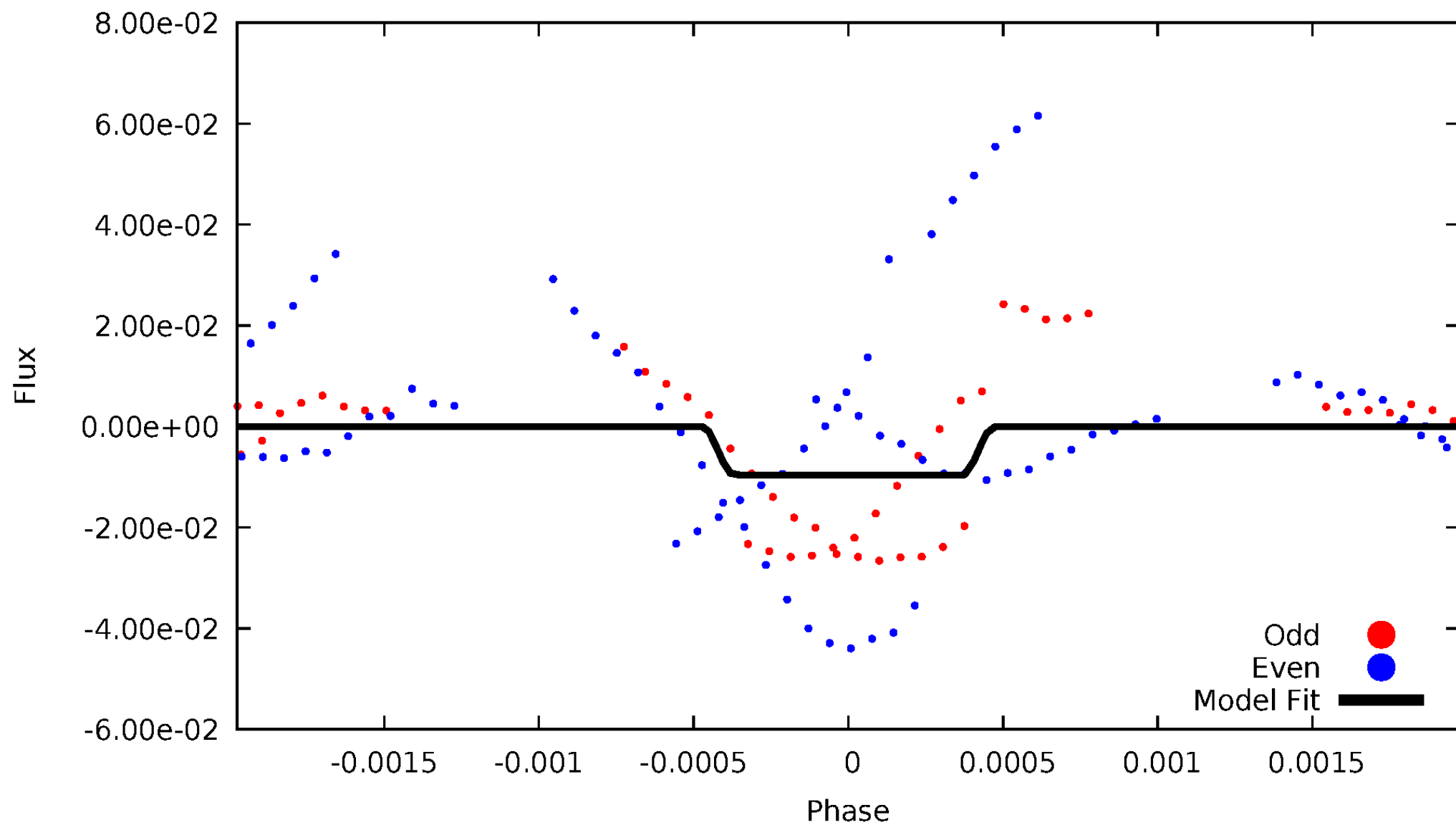
DV Odd/Even

TCE 007547969-02



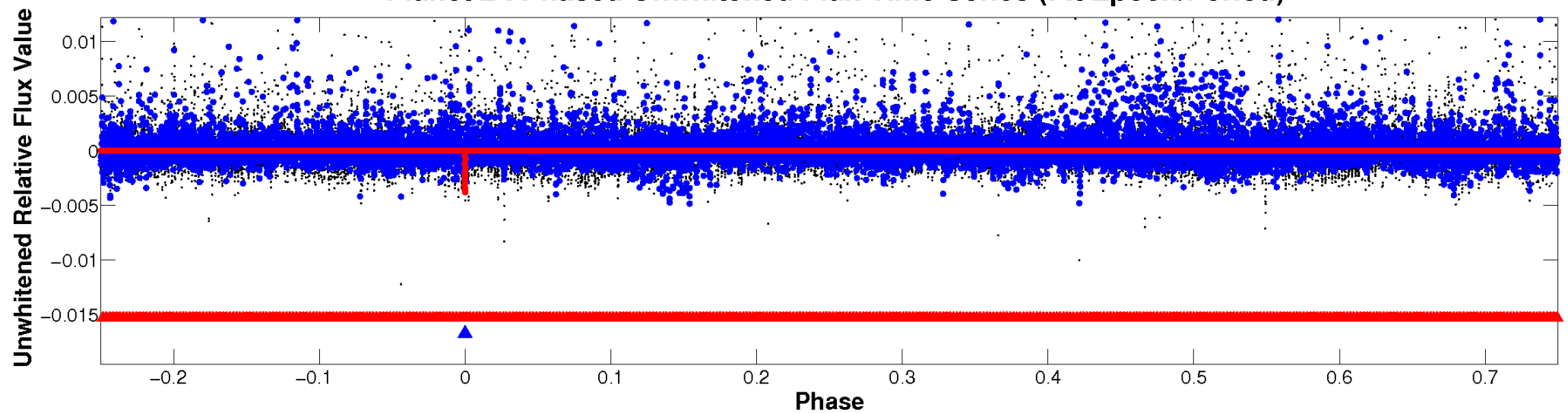
ALT Odd/Even

TCE 007547969-02

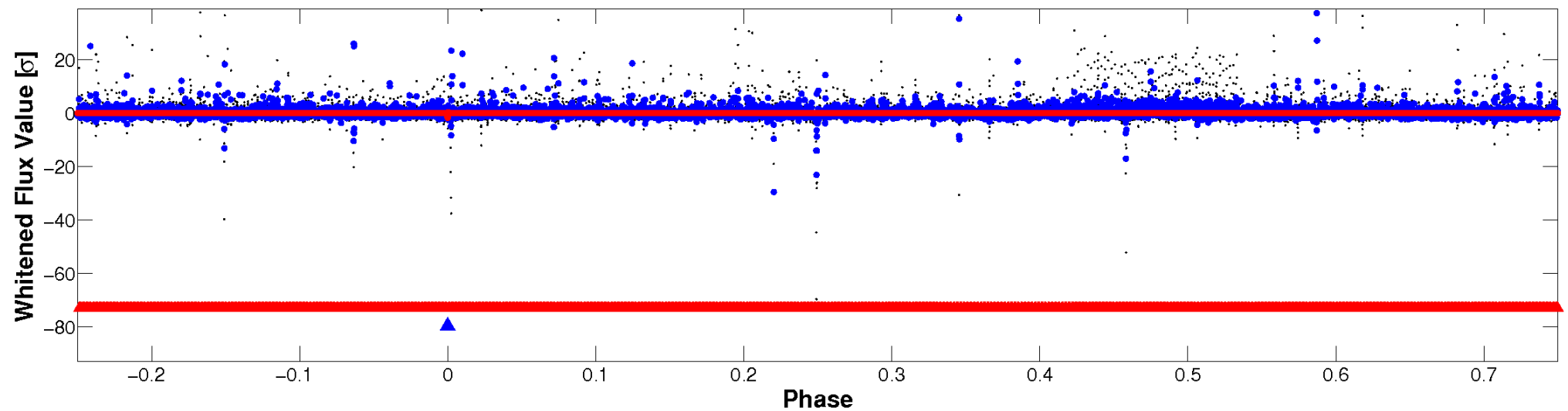


Non-Whitened Vs. Whitened Light Curve

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

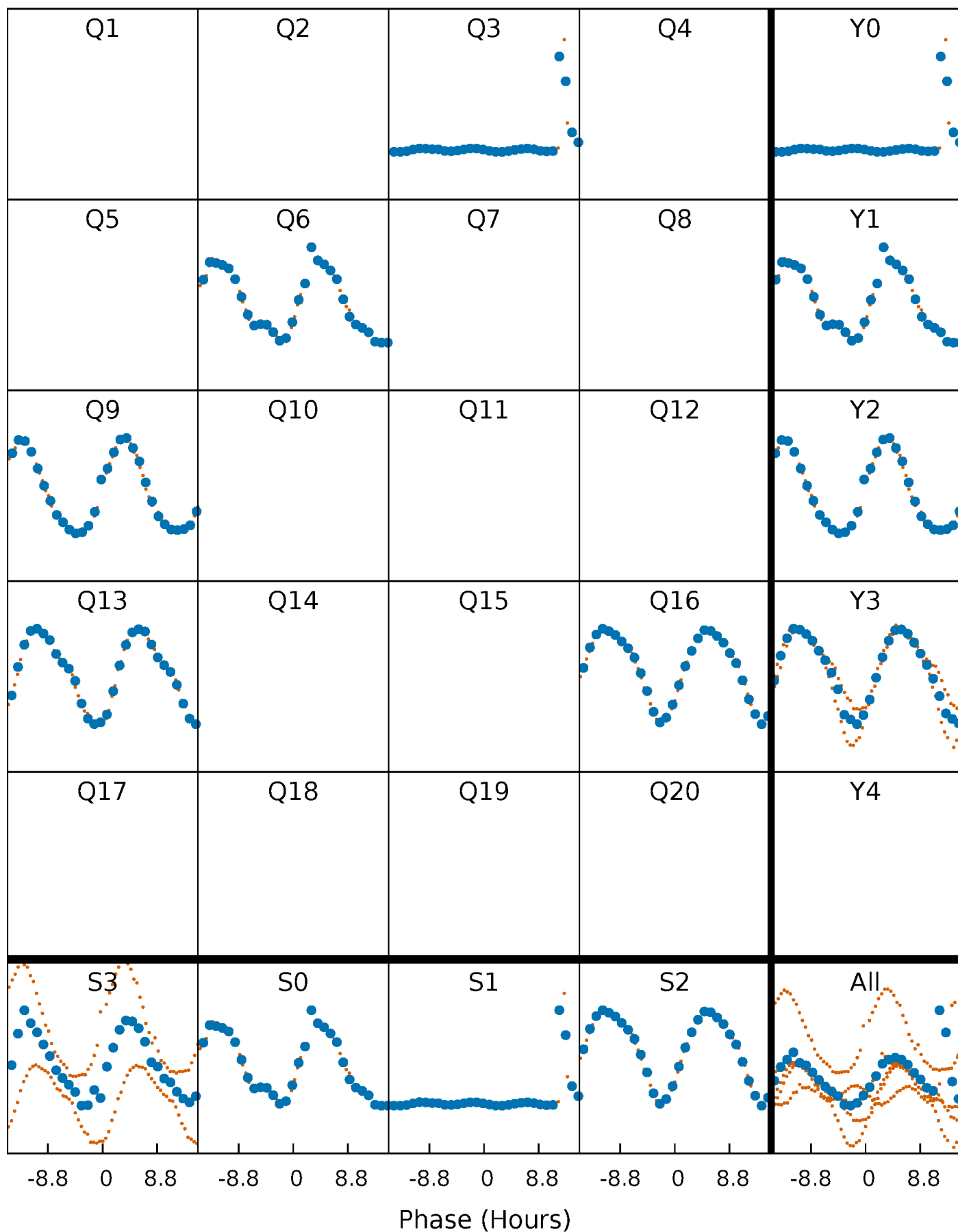


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



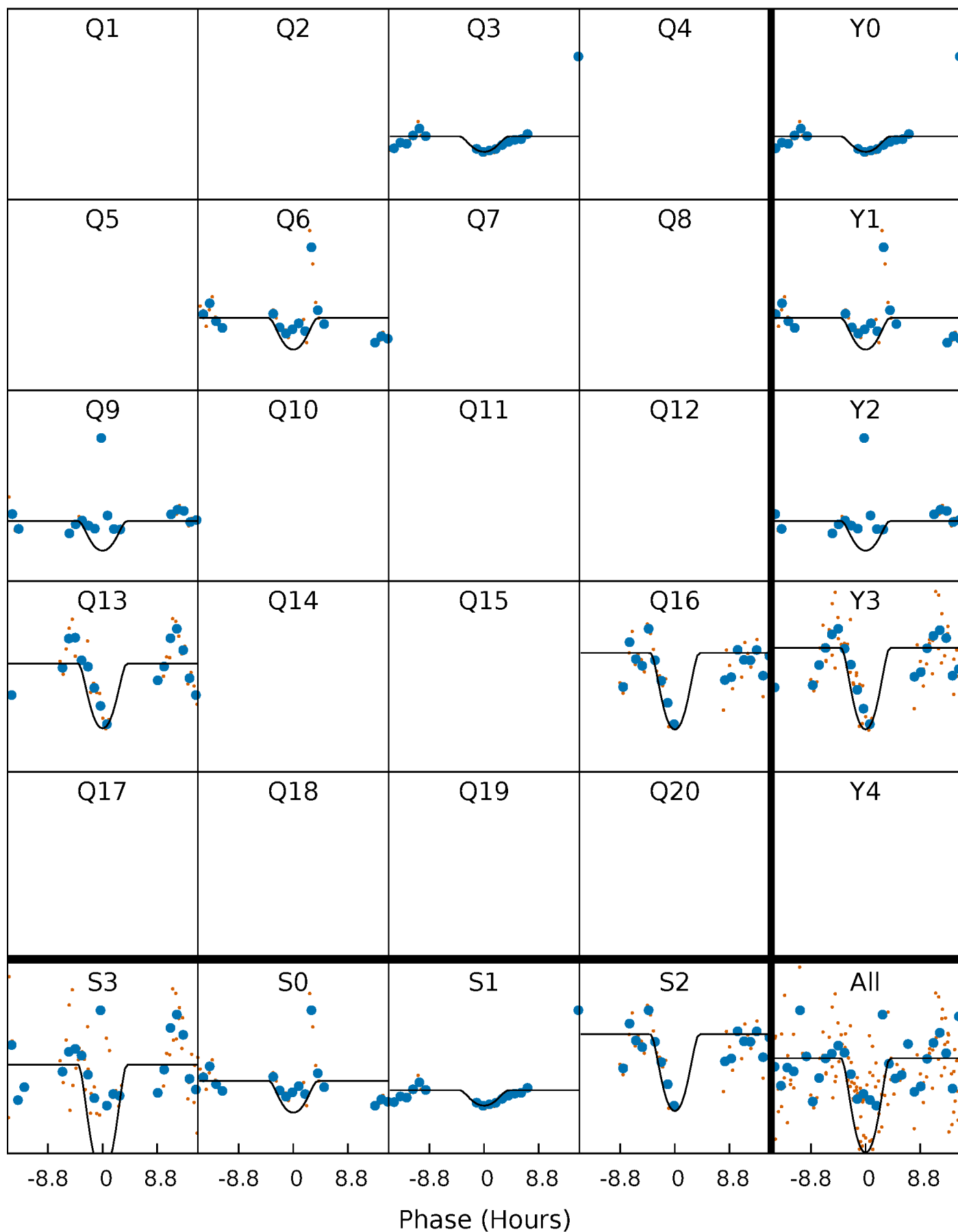
PDC Quarter-Phased Transit Curves

TCE 007547969-02 $P=297.166962$ Days $T_0=303.535538$ (BKJD)



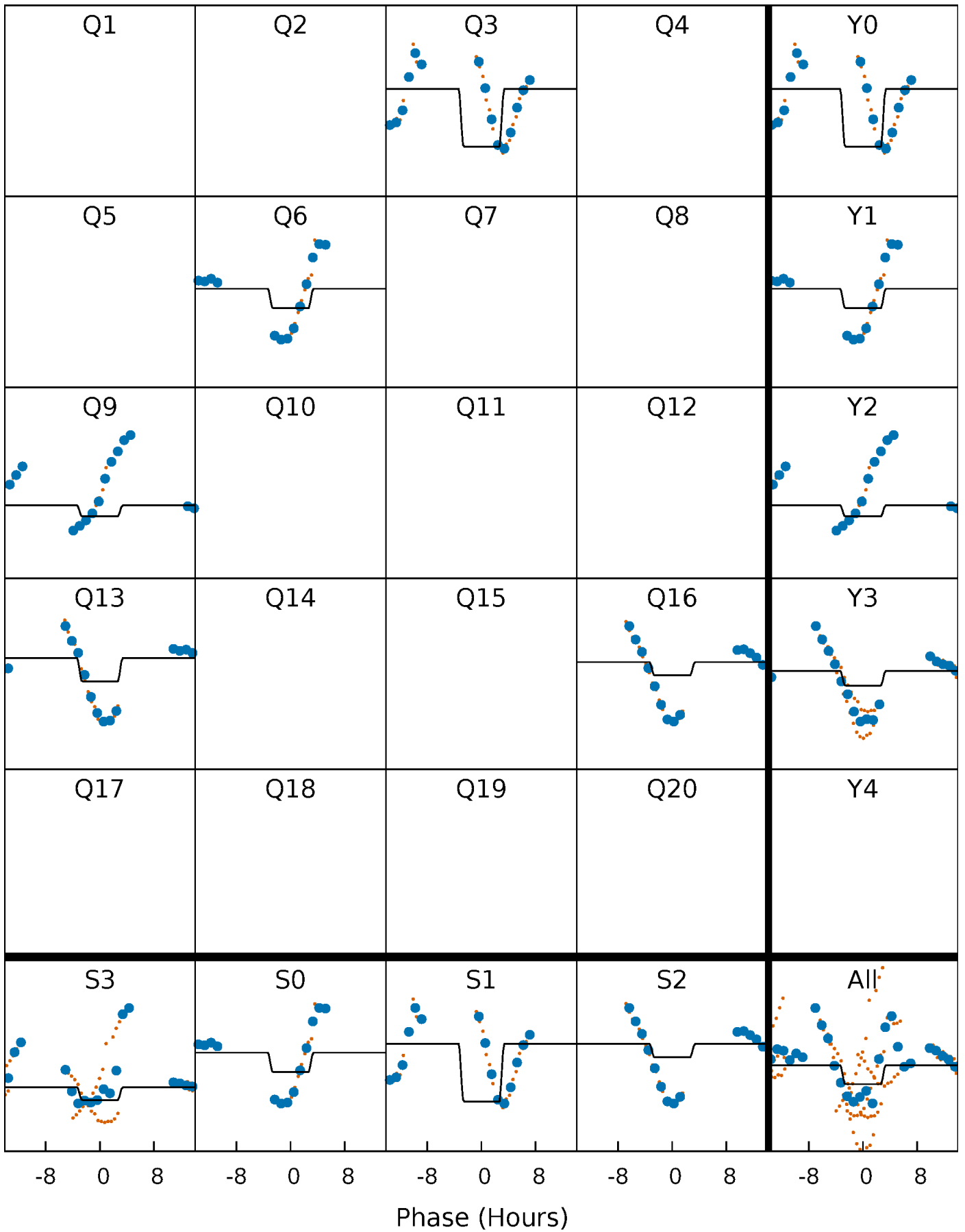
DV Quarter-Phased Transit Curves

TCE 007547969-02 P=297.166962 Days $T_0=303.535538$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

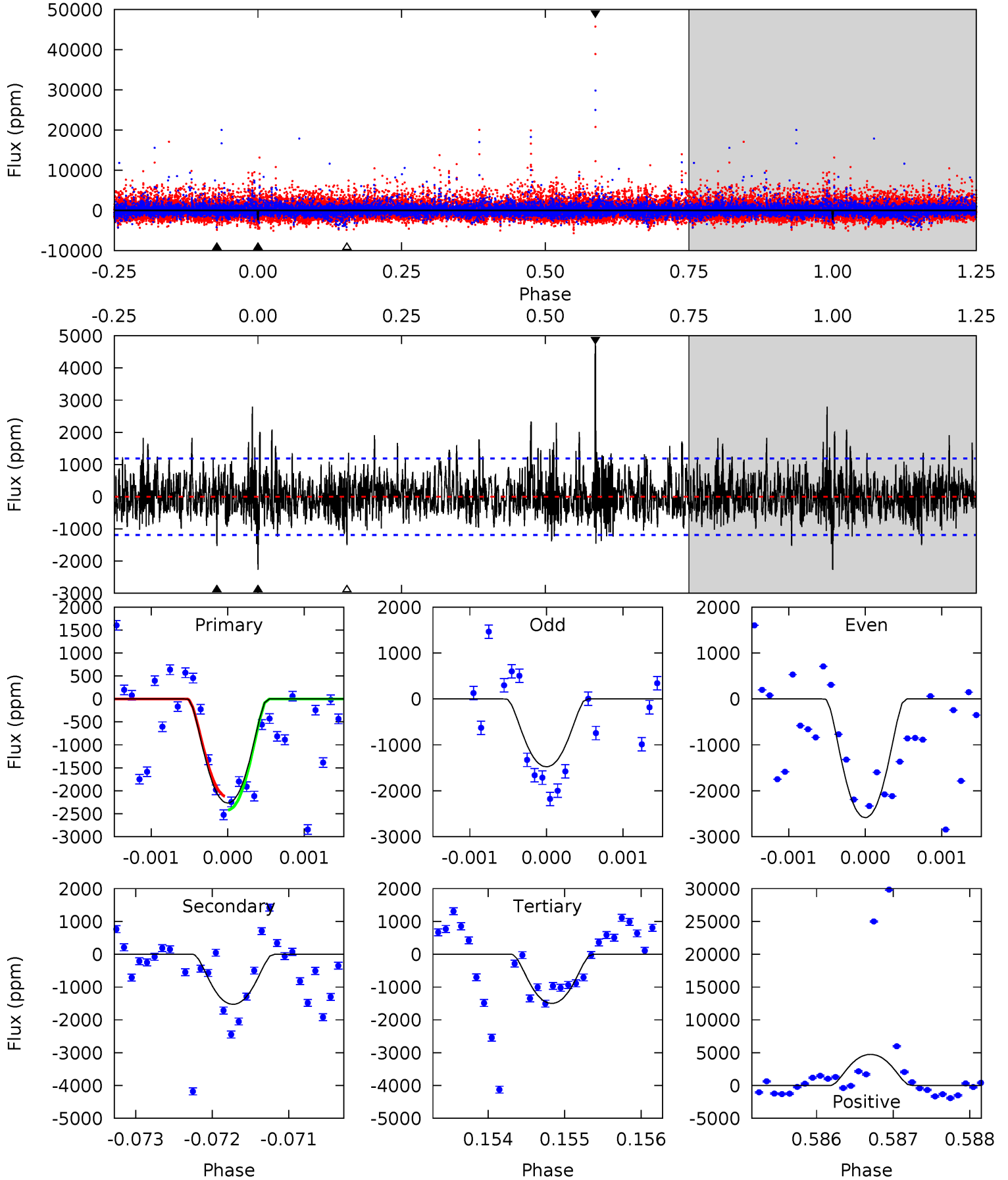
TCE 007547969-02 P=297.151641 Days $T_0=303.512355$ (BKJD)



DV Model-Shift Uniqueness Test

007547969-02, P = 297.166962 Days, E = 6.368576 Days

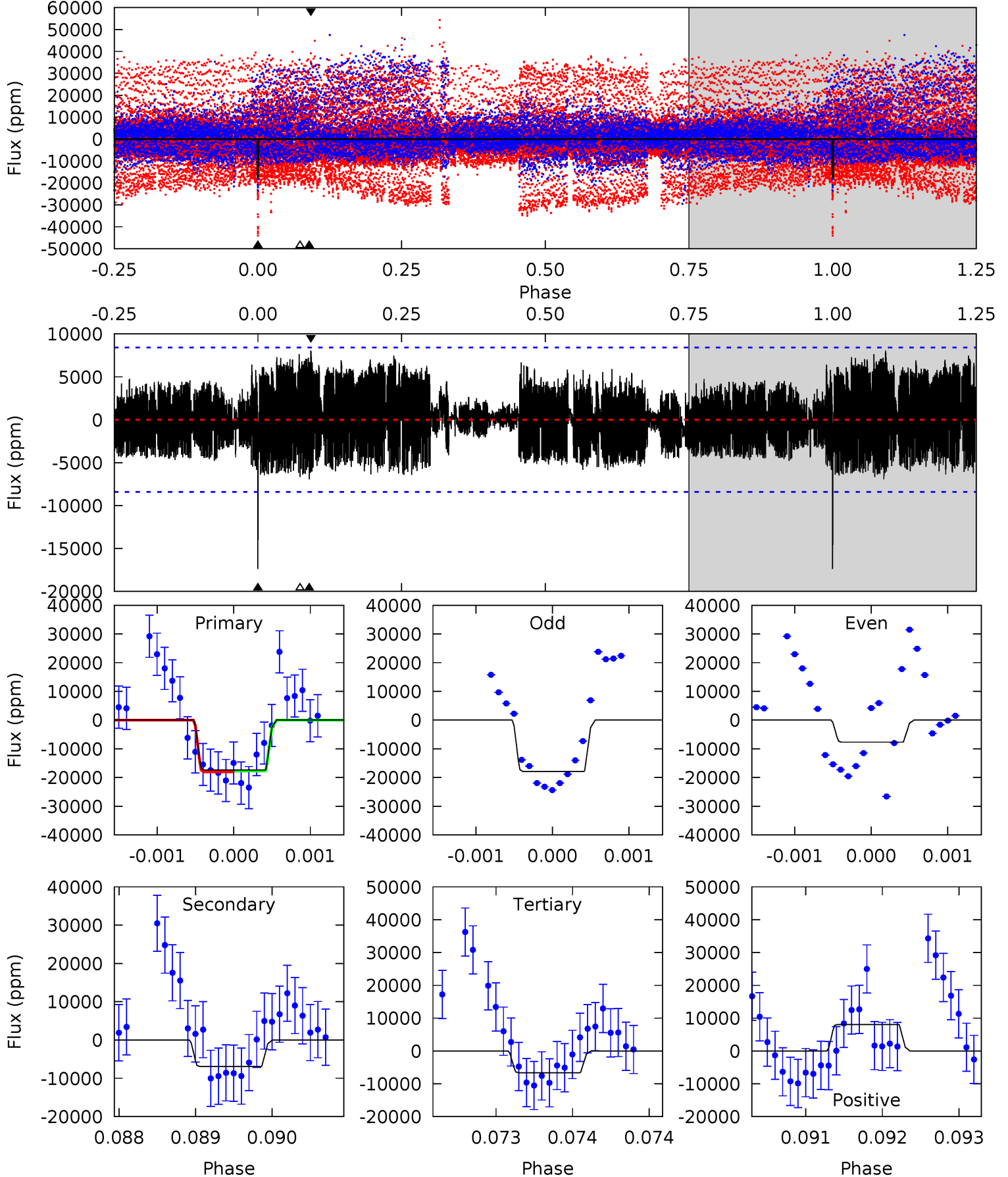
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.4	6.99	6.87	21.7	5.44	3.28	2.42	3.52	-11.3	0.13	-14.7	1.44	0.75	0.68	0.68



Alt Model-Shift Uniqueness Test

007547969-02, P = 297.151641 Days, E = 6.360714 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	4.50	4.32	5.24	5.47	3.32	1.96	6.97	6.06	0.18	-0.74	3.30	0.80	0.32	0.13



Stellar Parameters For KIC 007547969

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	3657^{+65}_{-73}	$4.834^{+0.045}_{-0.041}$	$-0.200^{+0.100}_{-0.100}$	$0.423^{+0.037}_{-0.045}$	$0.445^{+0.035}_{-0.049}$	$8.275^{+2.133}_{-1.273}$
	+2%/-2%	+1%/-1%	+50%/-50%	+9%/-11%	+8%/-11%	+26%/-15%
Source	PHO2	PHO2	PHO2	DSEP		

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

Secondary Eclipse Parameters for KIC 007547969-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1527 ± 218	$3.59^{+2.20}_{-2.07}$	180^{+5}_{-5}	2963^{+938}_{-353}	$28818^{+136852}_{-17849}$
Alt.	-6920 ± 1538	$4.67^{+2.21}_{-2.14}$	179^{+5}_{-5}	3416^{+807}_{-385}	$76891^{+195358}_{-42777}$

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 $A_{obs} \gg 1.0$

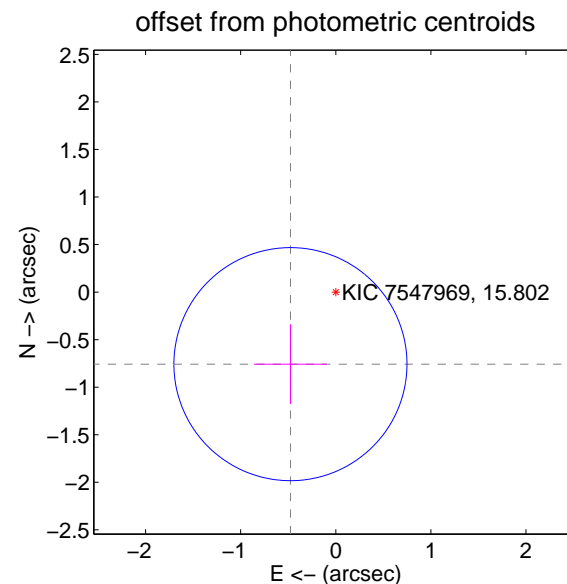
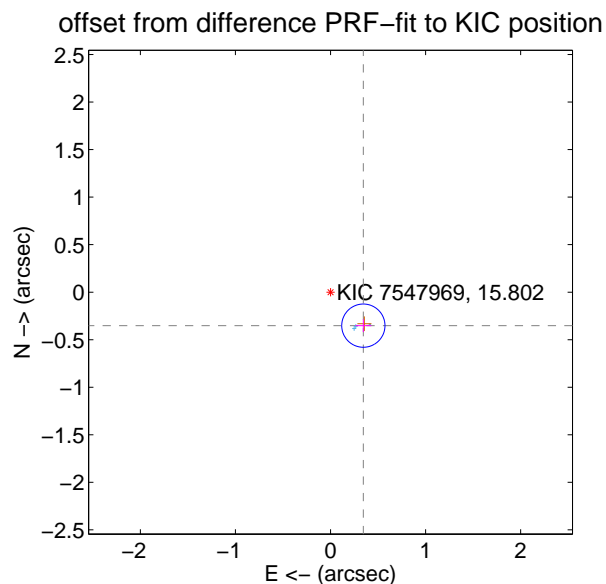
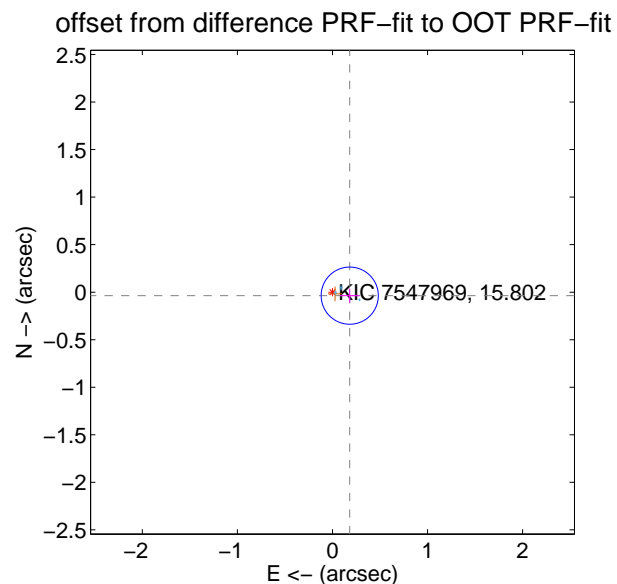
DV Centroid Data

Supplemental centroid analysis for 007547969-02. Kepler magnitude: 15.80. Transit SNR 8.55

There are 3 quarters with good PRF difference image offsets

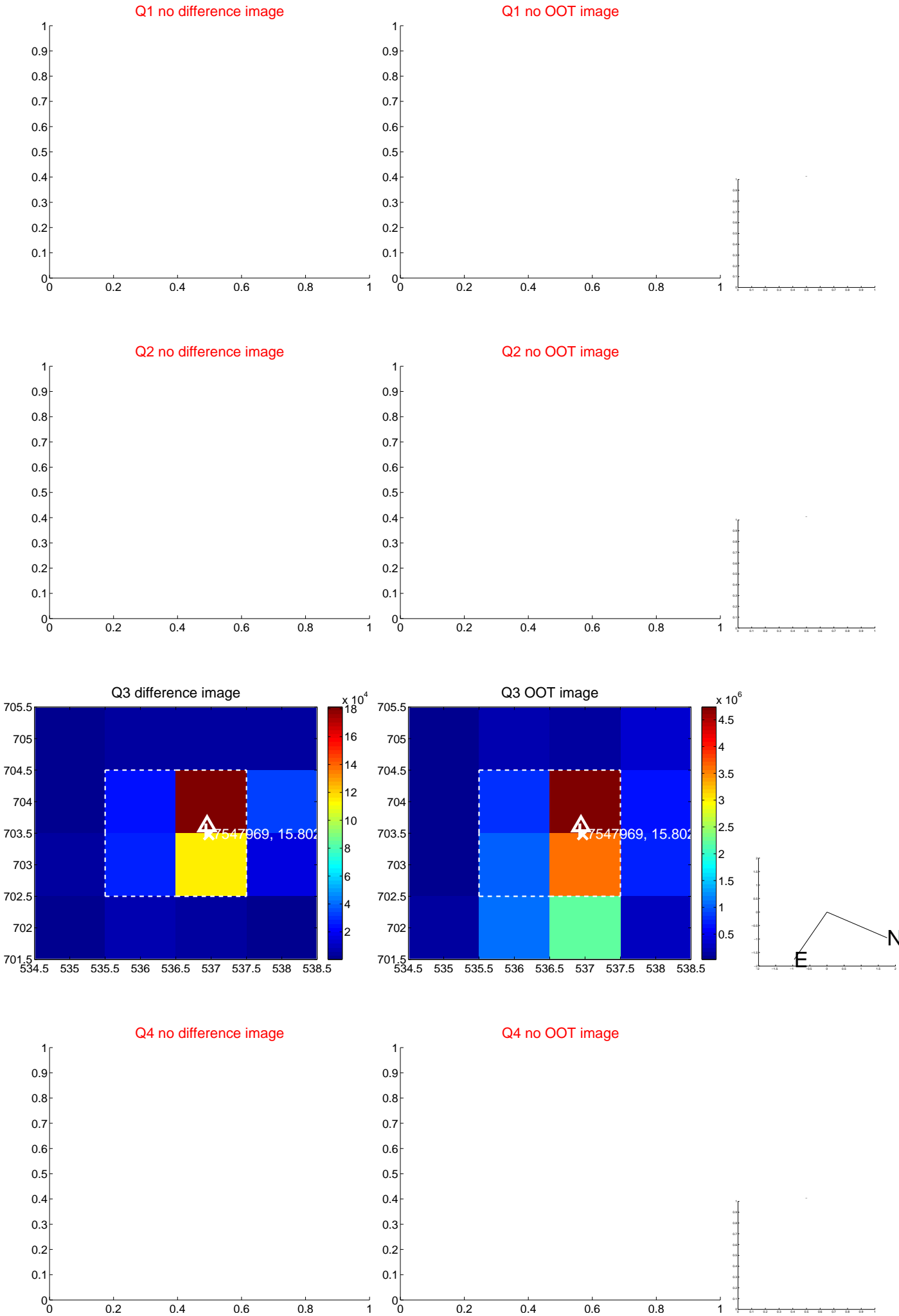
The direct PRF centroid is offset from the target star catalog position by about 0.46 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.185 ± 0.100	1.85	-0.182 ± 0.101	-0.037 ± 0.074
PRF-fit source offset from KIC position	0.493 ± 0.076	6.51	-0.345 ± 0.084	-0.352 ± 0.068
photometric centroid source offset	0.90 ± 0.41	2.19	0.48 ± 0.38	-0.76 ± 0.42



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

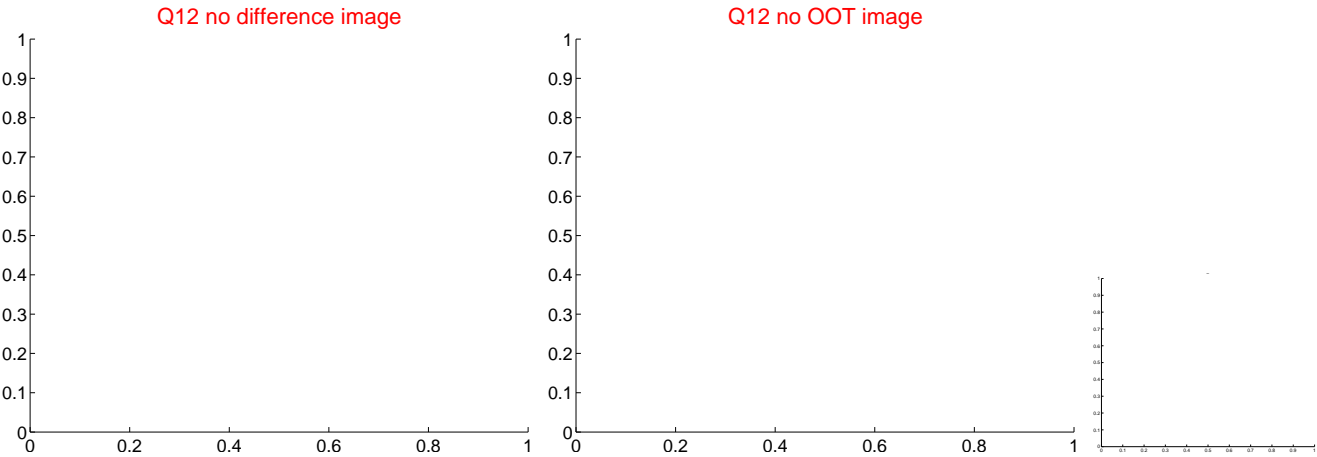
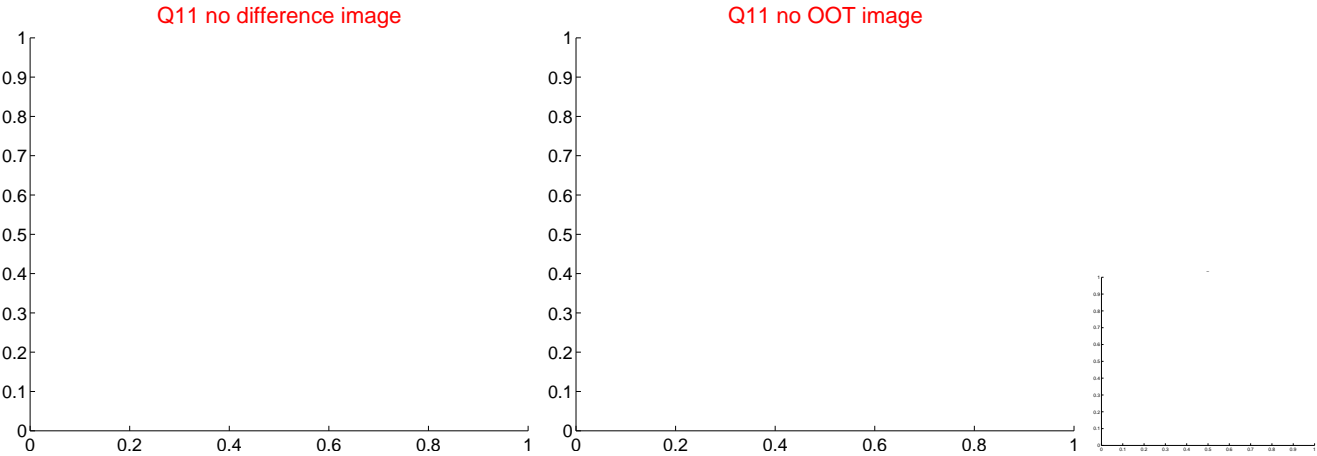
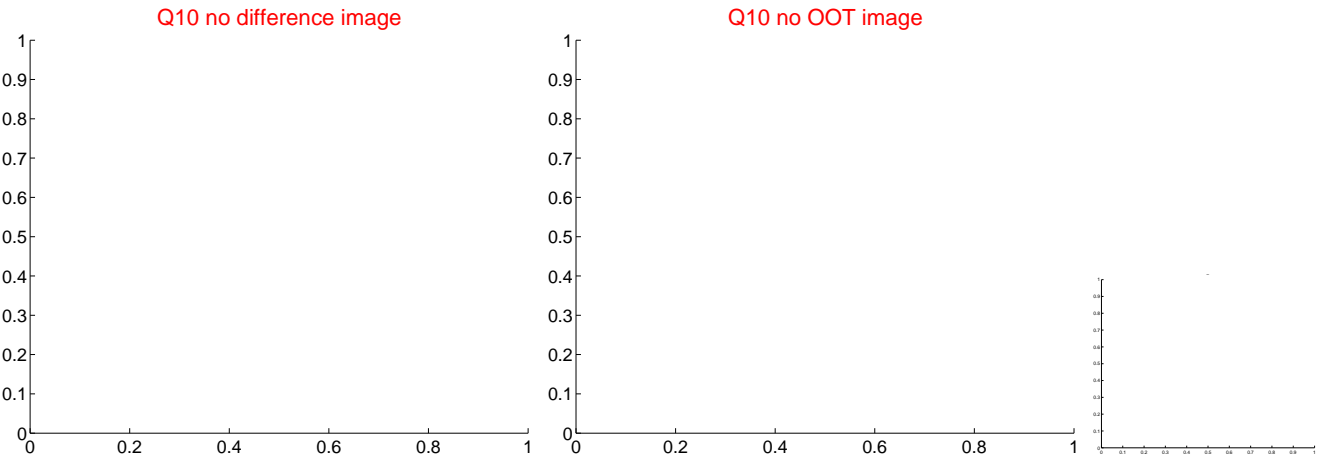
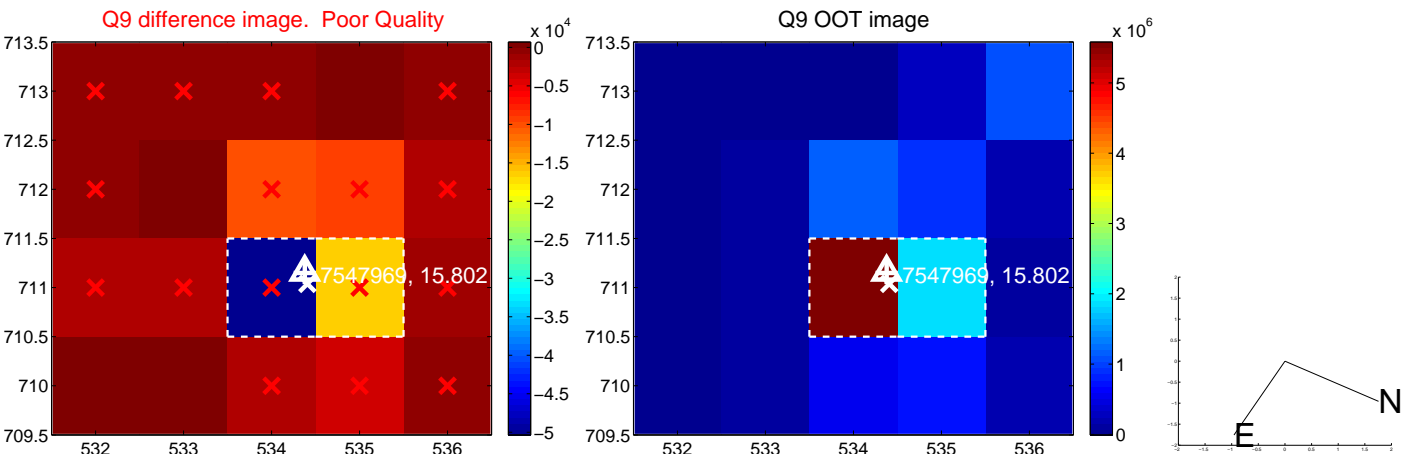
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



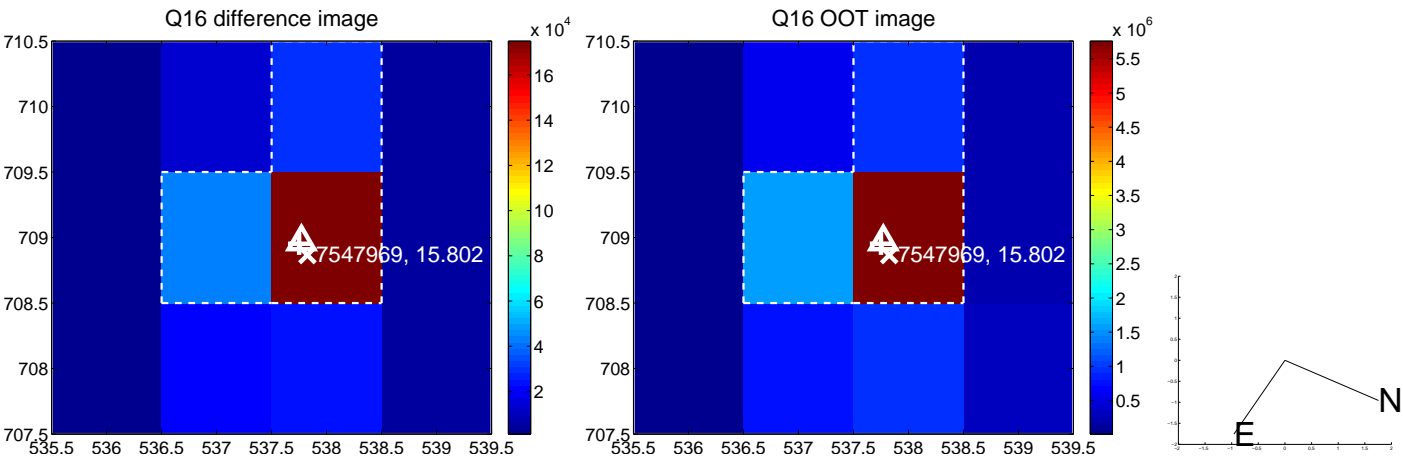
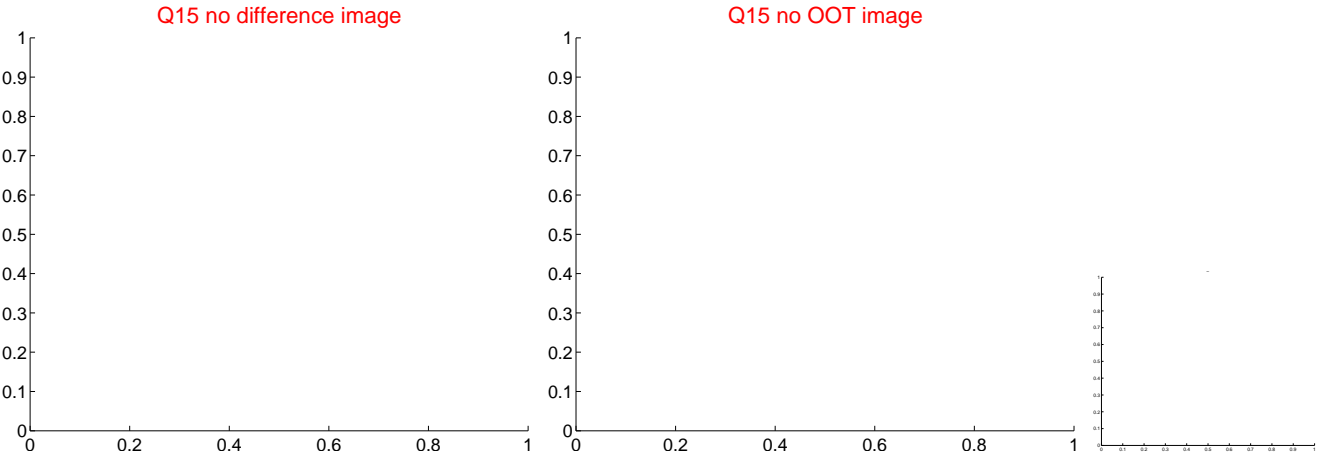
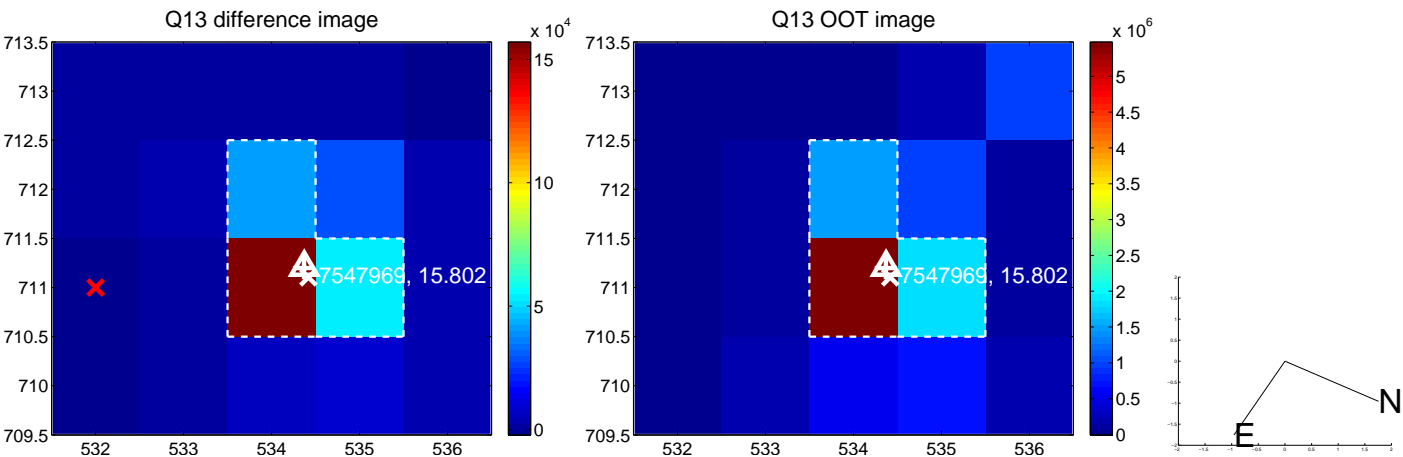
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



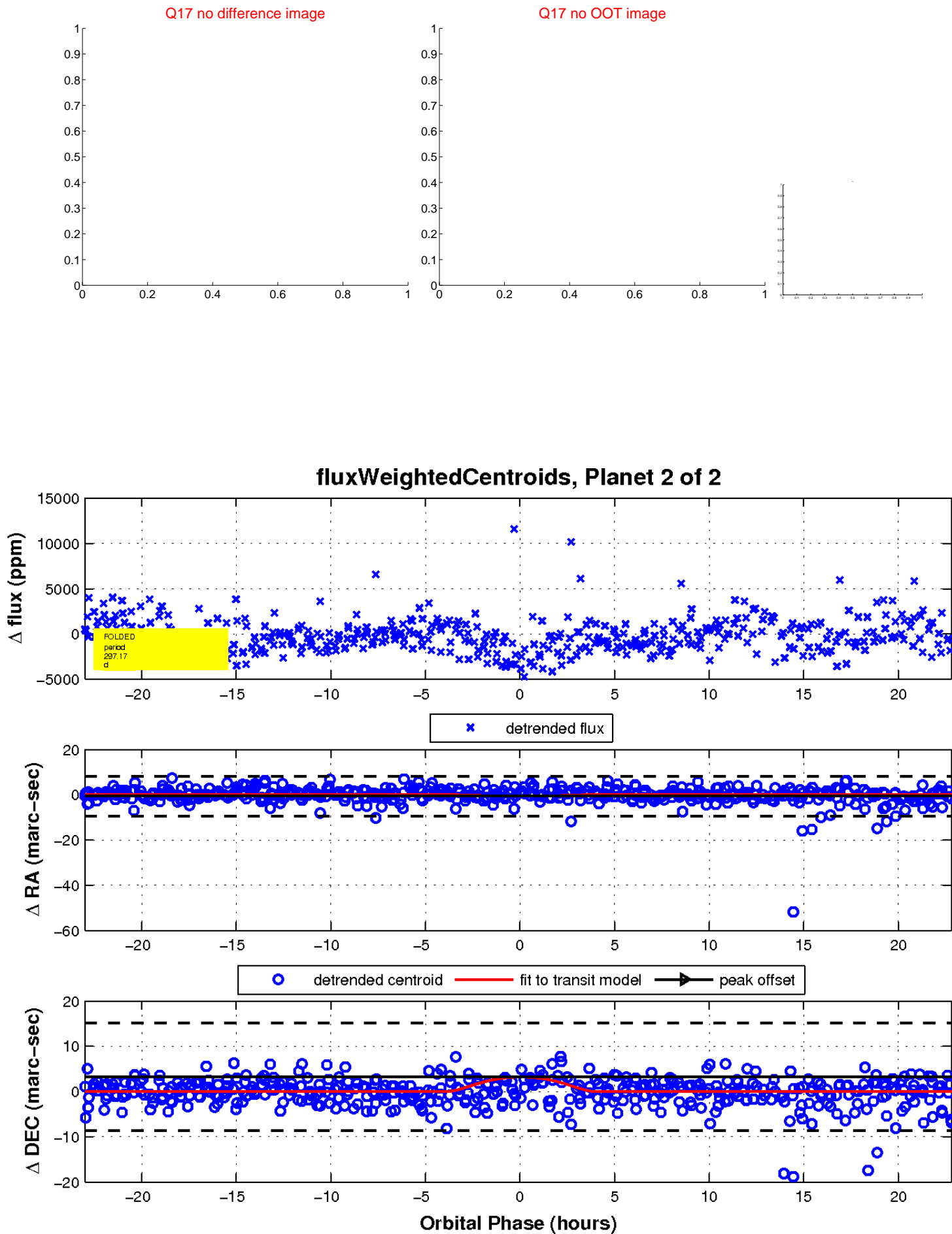
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

