

KIC 010991377

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})
010991377-01	OBS	No	1.105342	132.412297	43.7	2.391	10.2	9.8	8.01	4866	6.47	0.00
010991377-02	OBS	No	252.239687	183.237703	1438.2	7.357	9.1	8.3	8.01	4866	59.82	36.65

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010991377-01	OBS	FP	0.00	1	0	1	0	LPP_DV—CENT_RESOLVED_OFFSET
010991377-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_POS_DV—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.

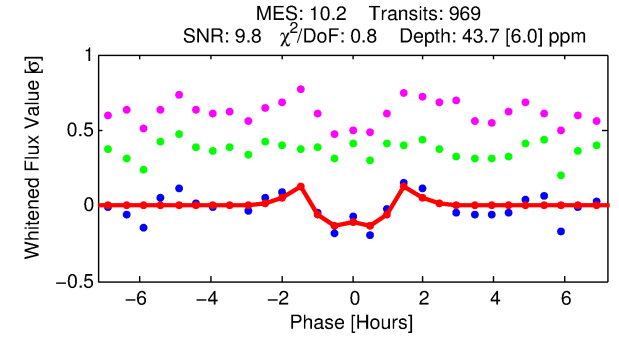
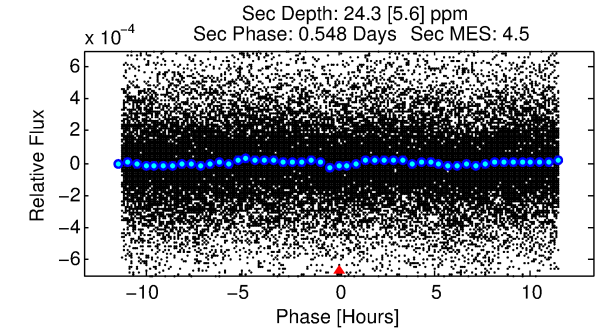
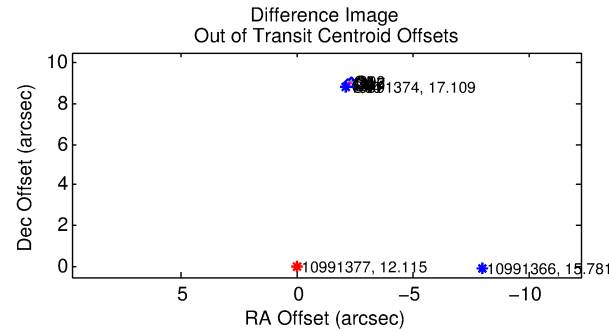
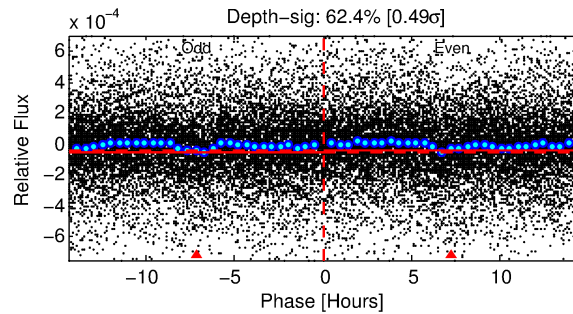
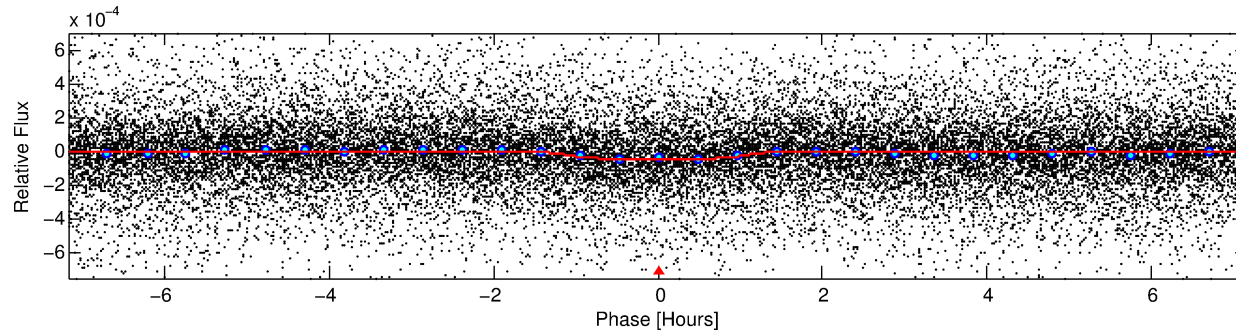
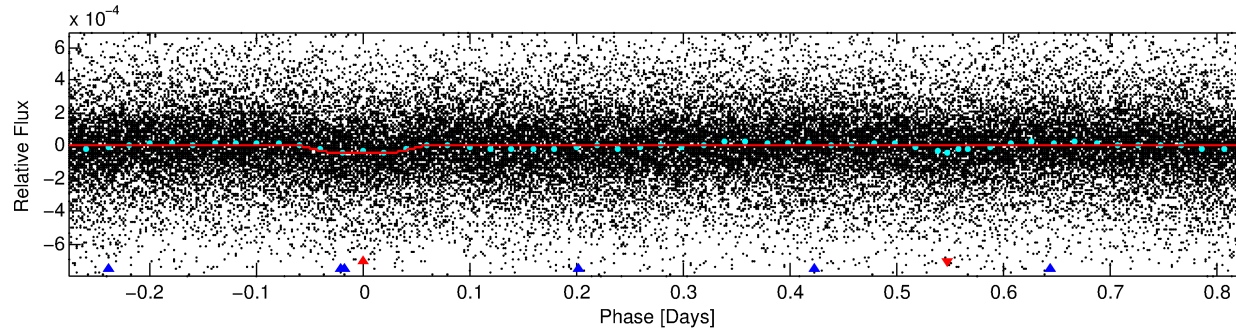
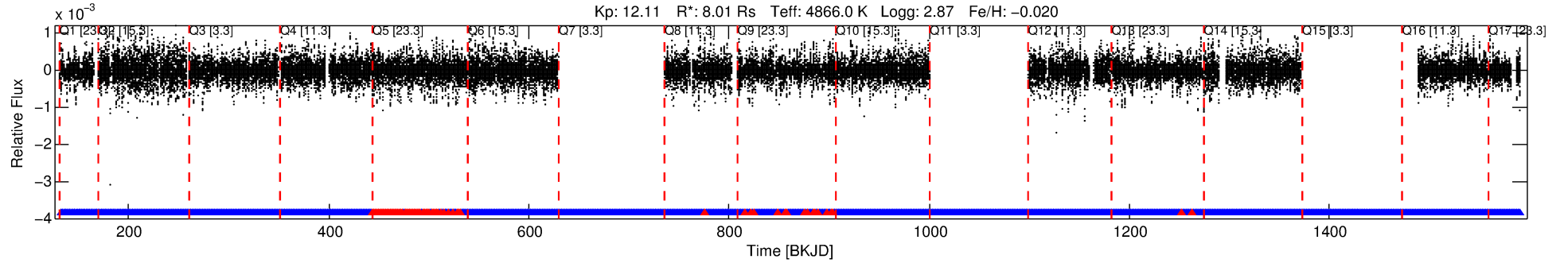
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010991377-01

No Significant Match Found

DV One-Page Summary

KIC: 10991377 Candidate: 1 of 2 Period: 1.105 d



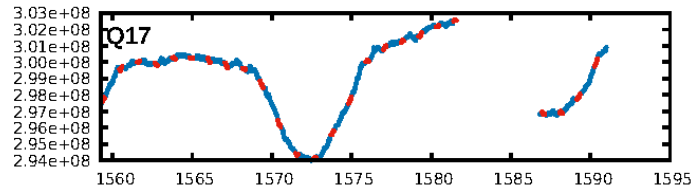
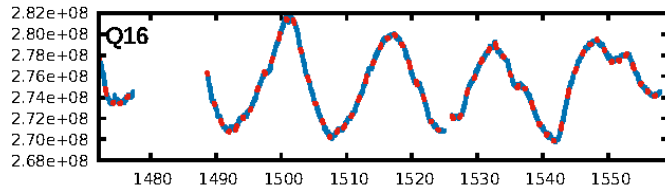
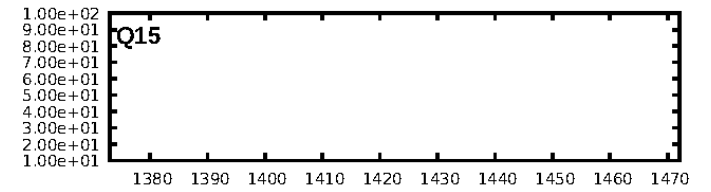
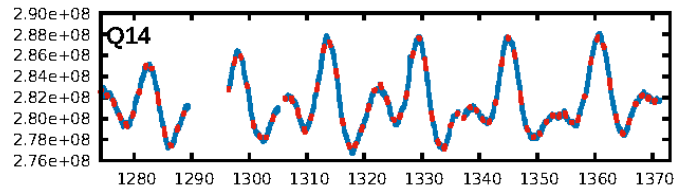
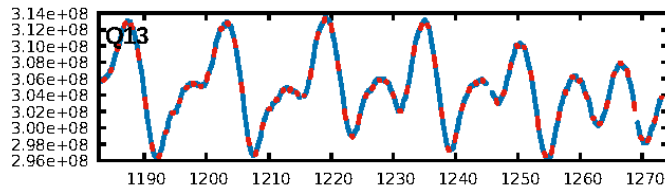
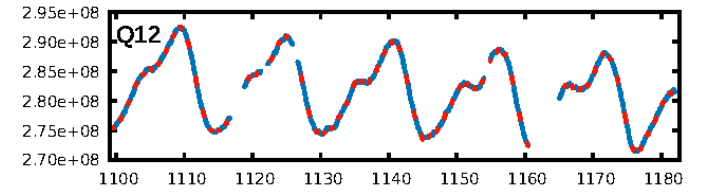
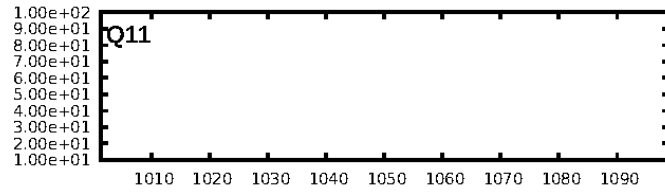
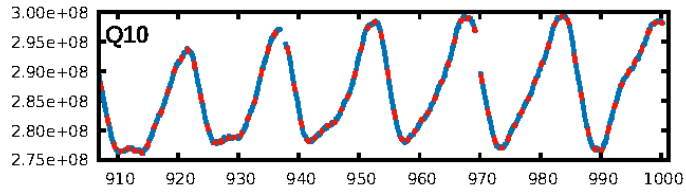
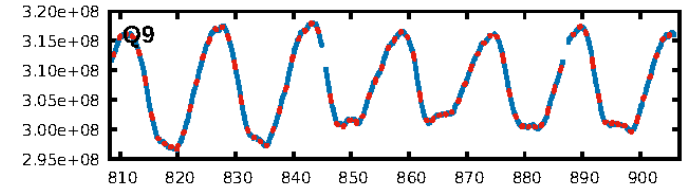
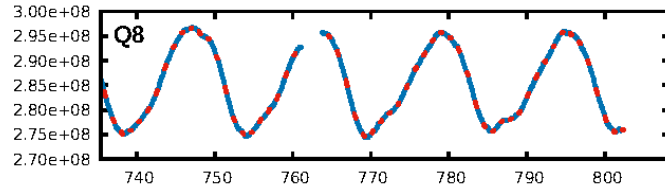
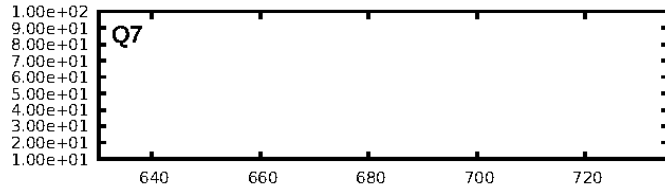
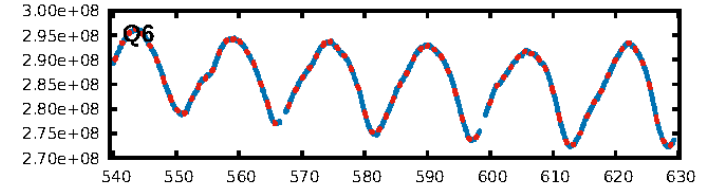
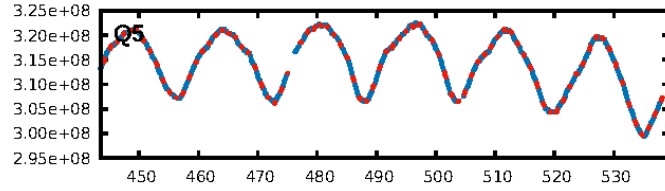
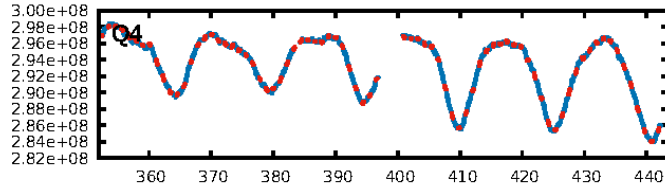
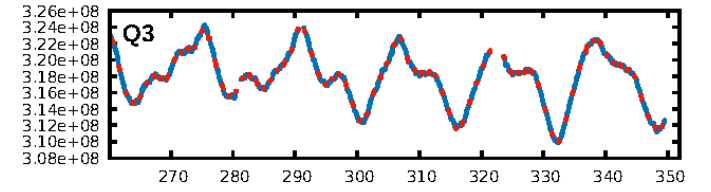
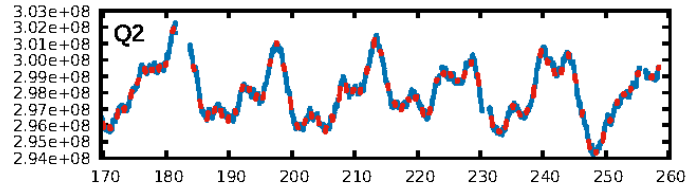
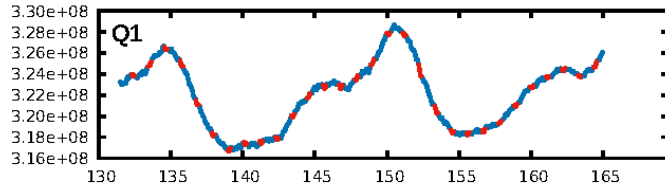
DV Fit Results:

Period = 1.10534 [0.00001] d
Epoch = 132.4123 [0.0015] BKJD
Rp/R* = 0.0074 [0.0020]
a/R* = 1.85 [1.38]
b = 0.90 [0.23]
Seff = N/A
Teq = N/A
Rp = 6.47 [3.91] Re
a = N/A
Ag = N/A
Teff = N/A

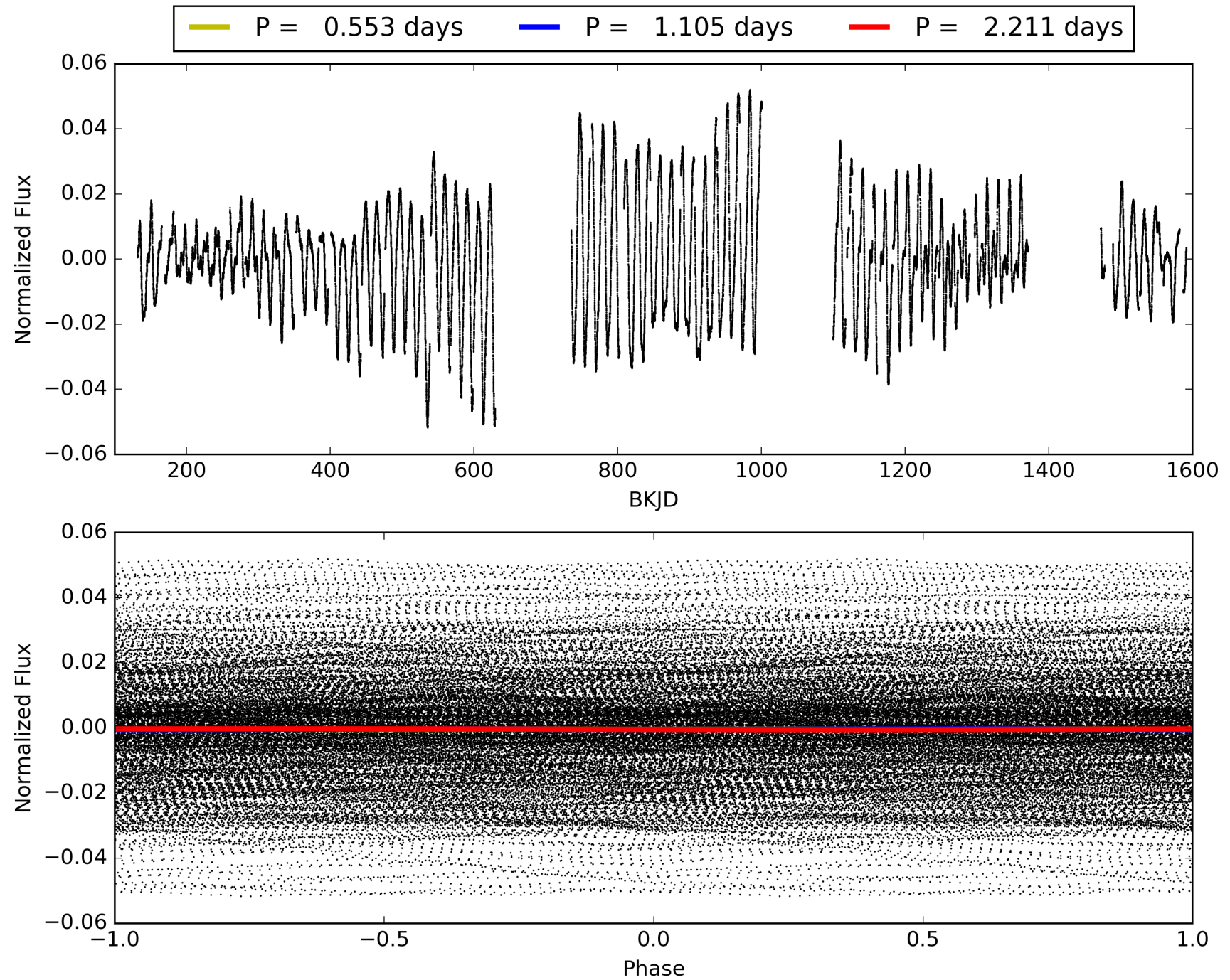
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [779.15σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 3.59e-22
RollingBand-fgt: 0.91 [835/914]
GhostDiagnostic-chr: -11.07
Centroid-sig: N/A
Centroid-so: 4.134 arcsec [5.43σ]
OotOffset-rm: 9.286 arcsec [128.32σ]
KicOffset-rm: 9.232 arcsec [133.39σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010991377-01, PDC Light Curves

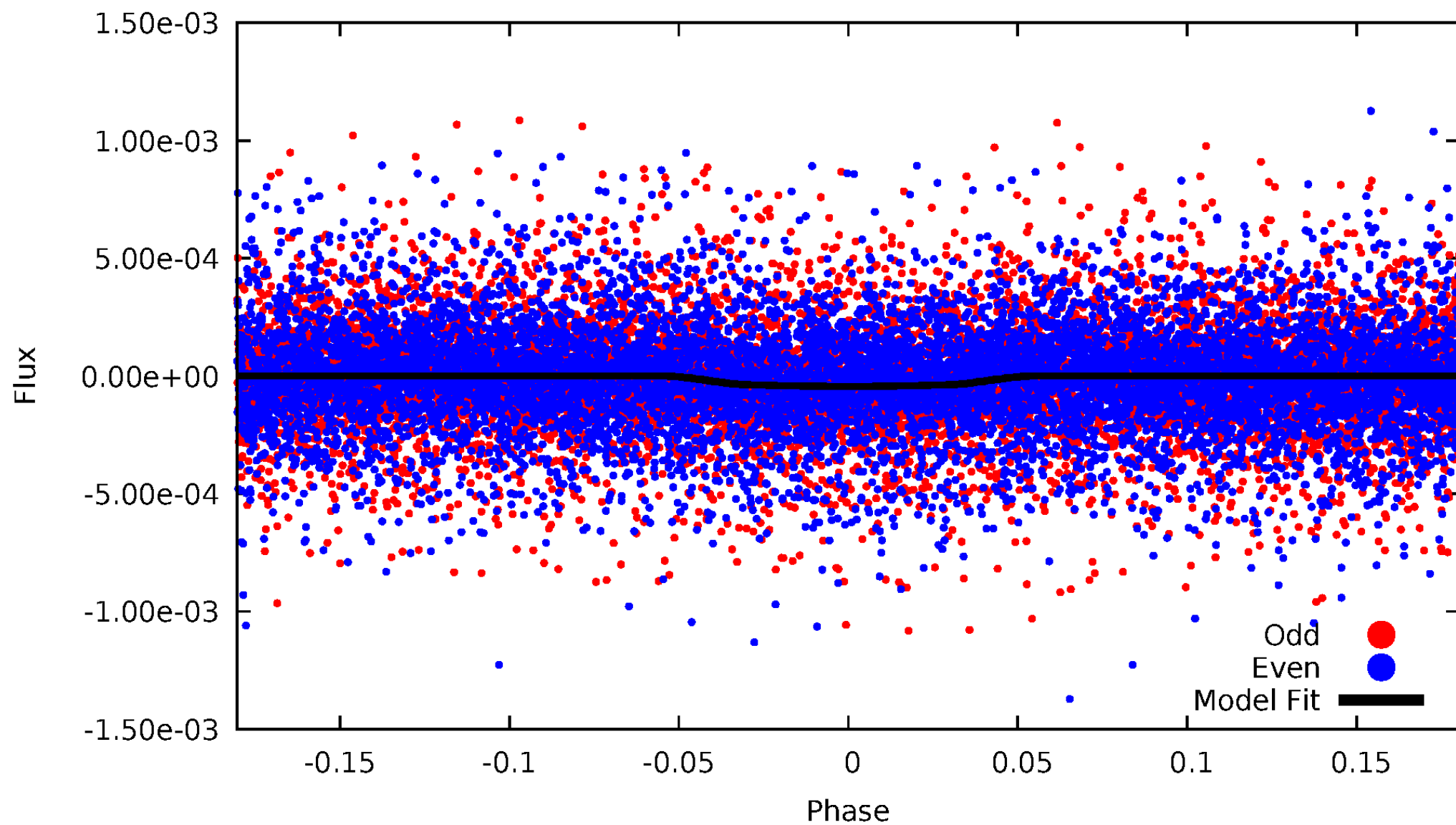


TCE 010991377-01



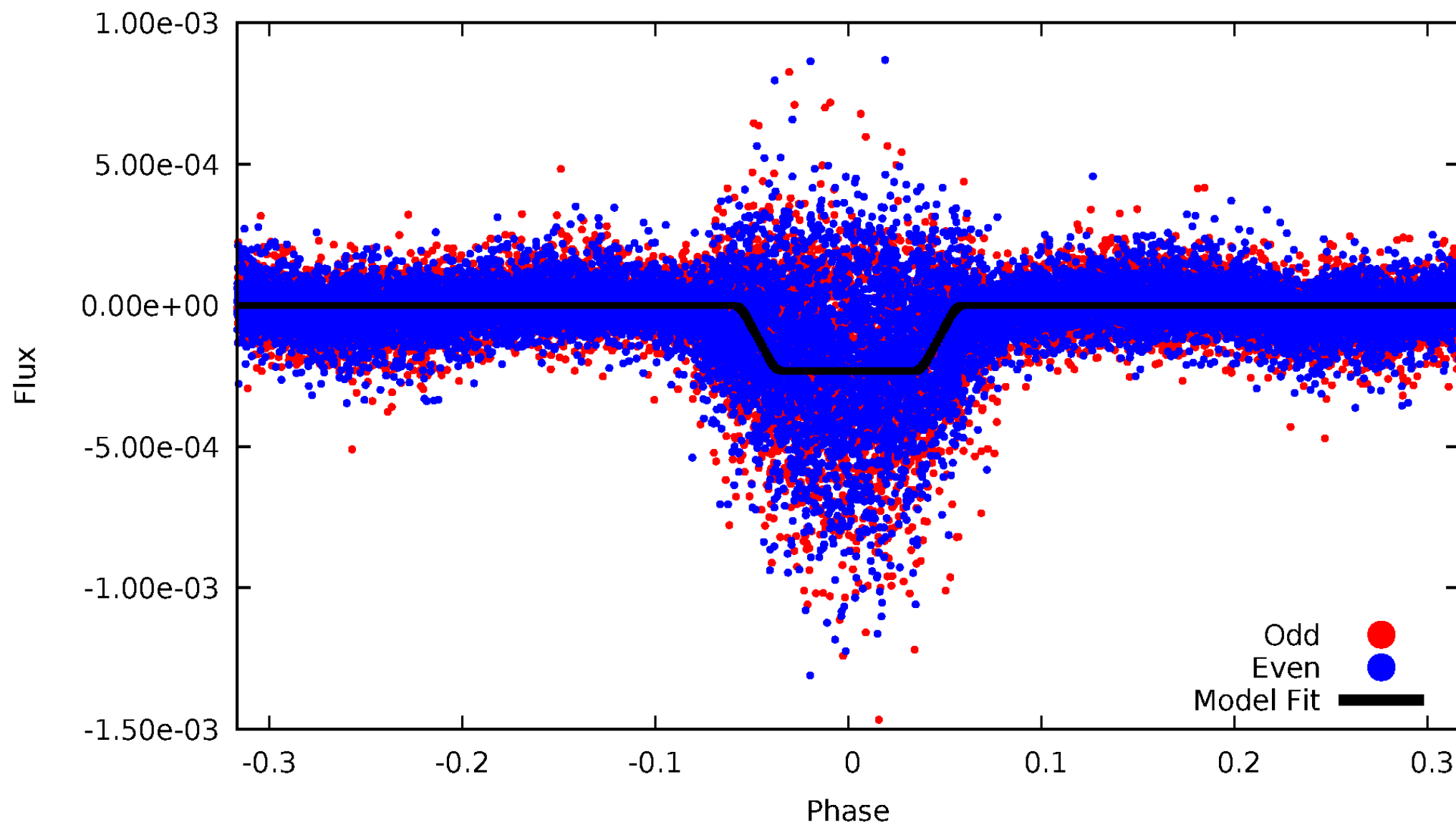
DV Odd/Even

TCE 010991377-01

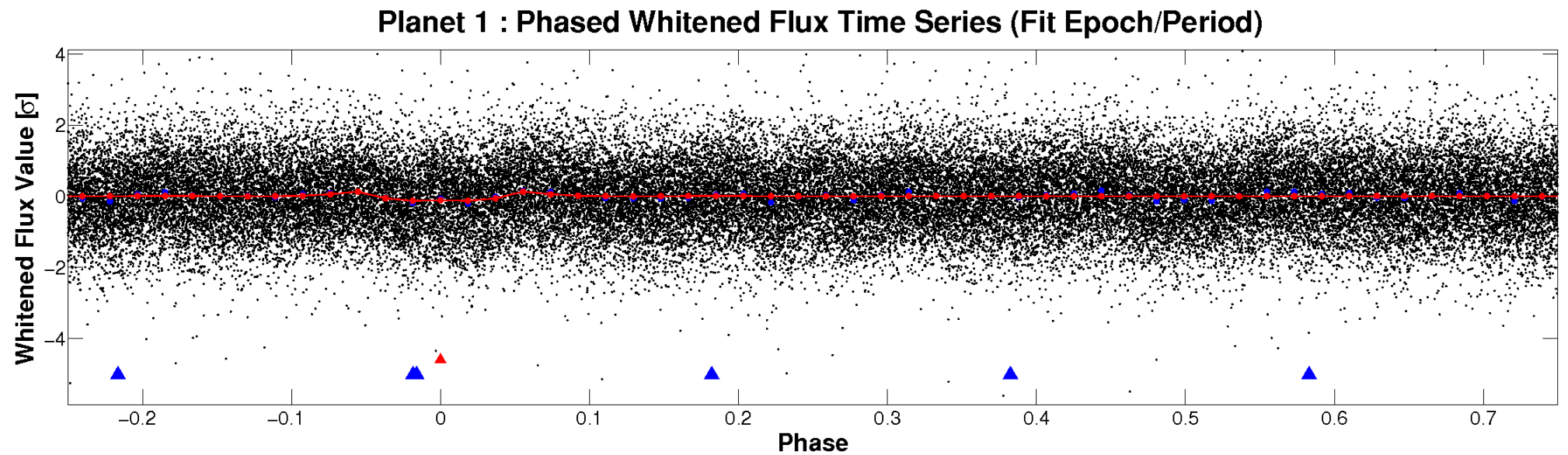
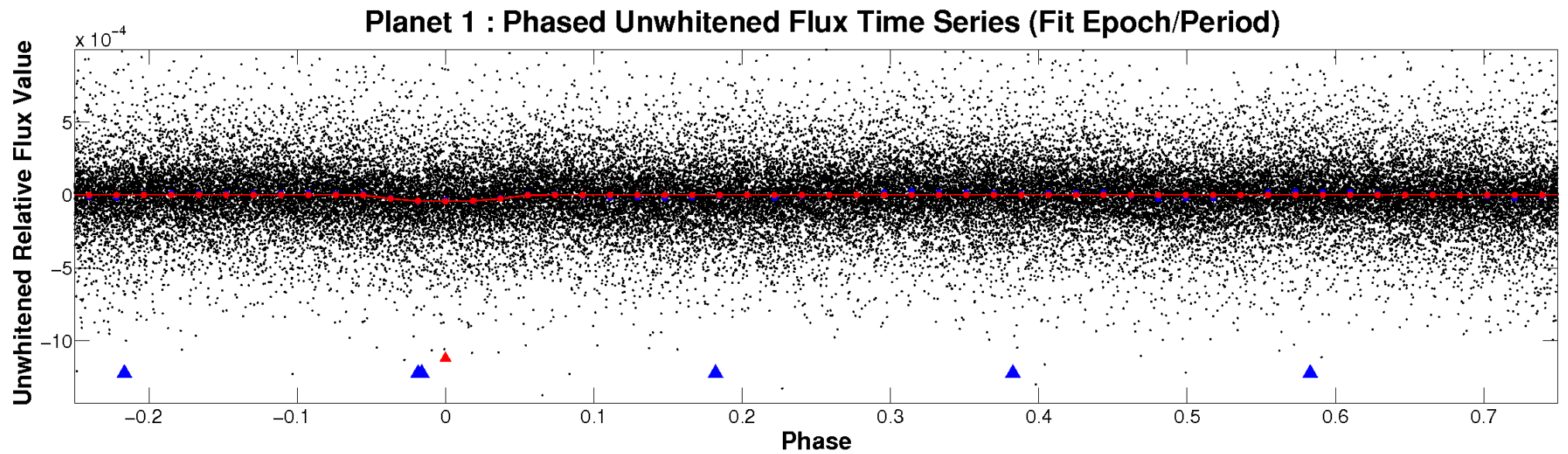


ALT Odd/Even

TCE 010991377-01

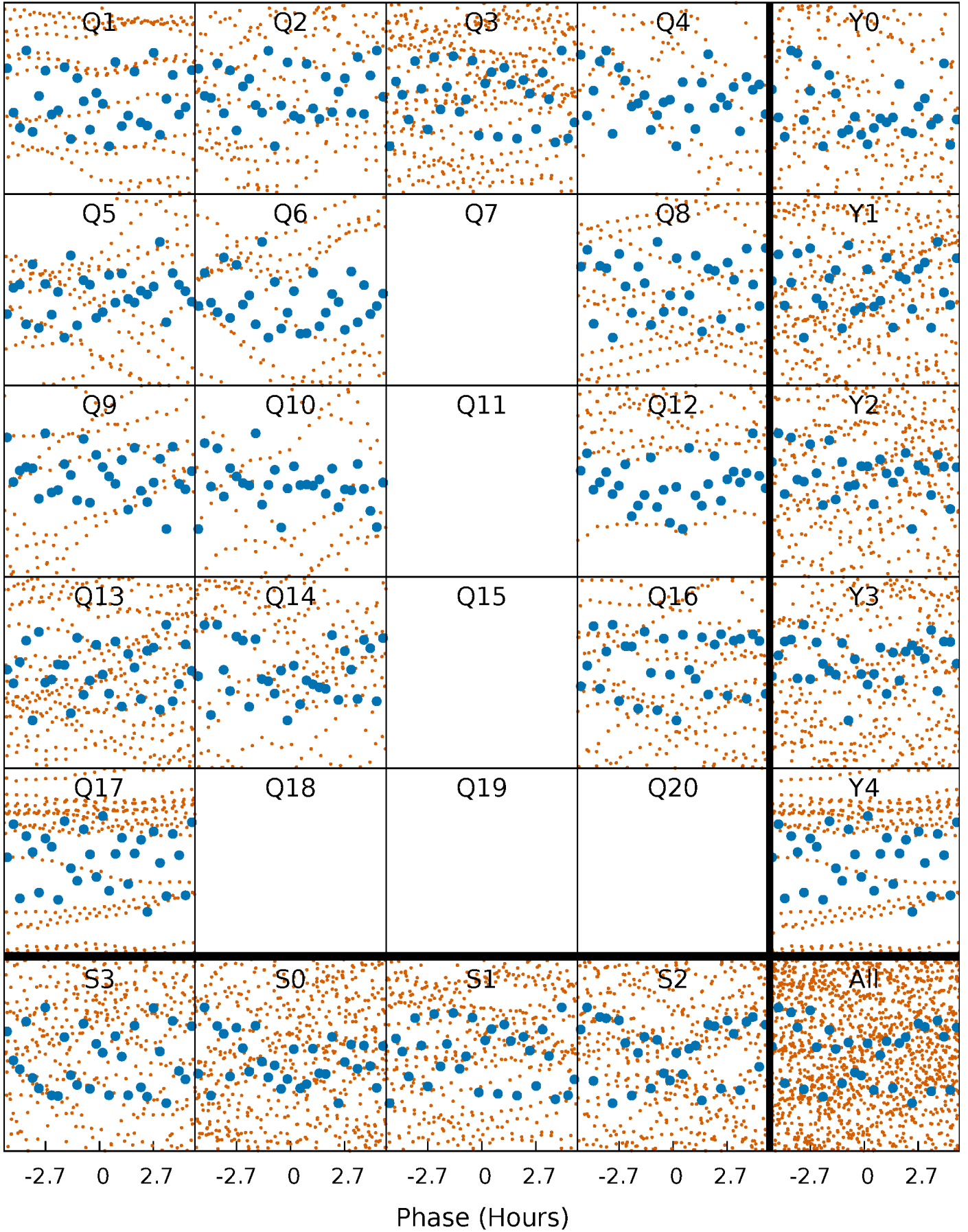


Non-Whitened Vs. Whitened Light Curve



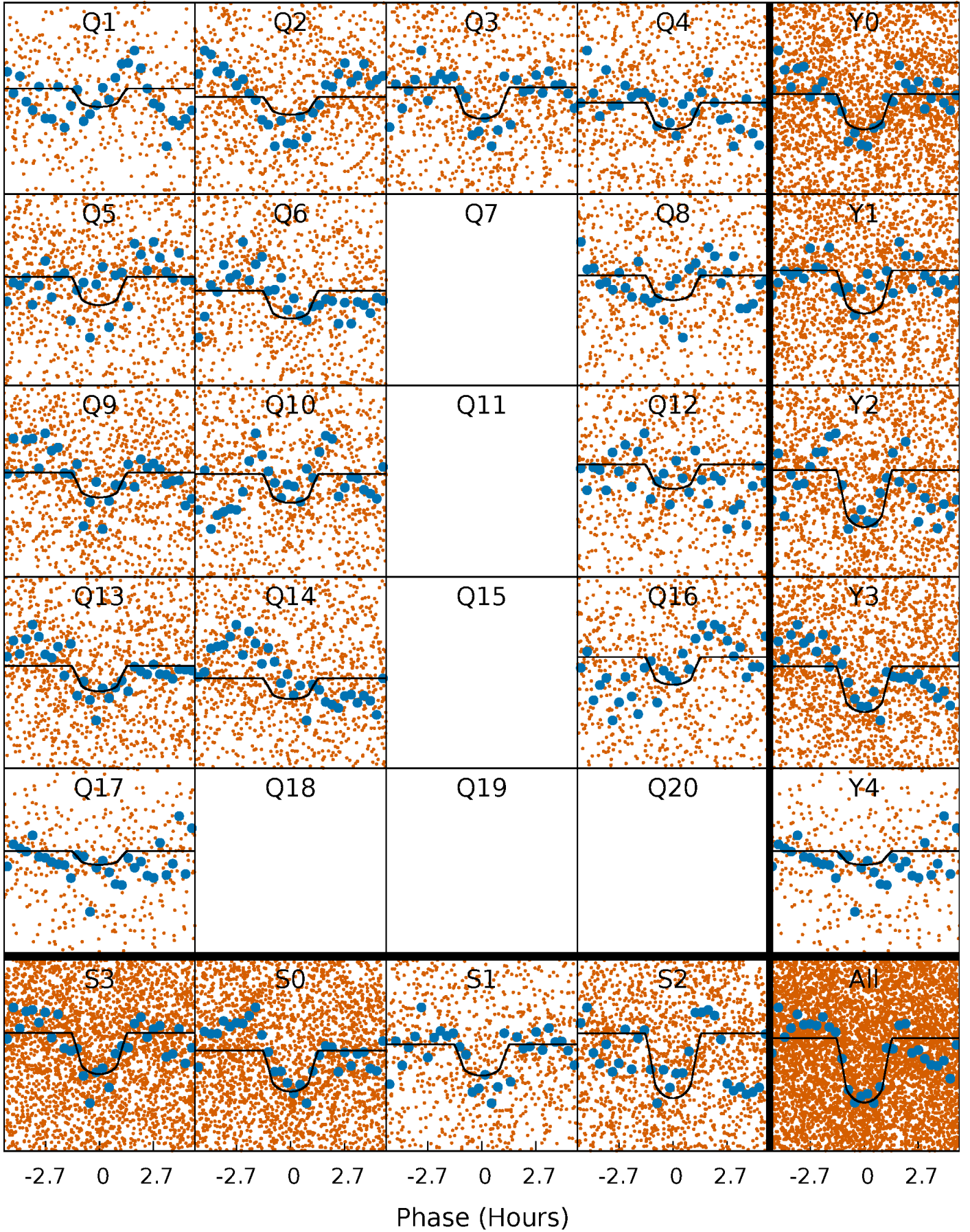
PDC Quarter-Phased Transit Curves

TCE 010991377-01 P= 1.105342 Days $T_0=132.412297$ (BKJD)



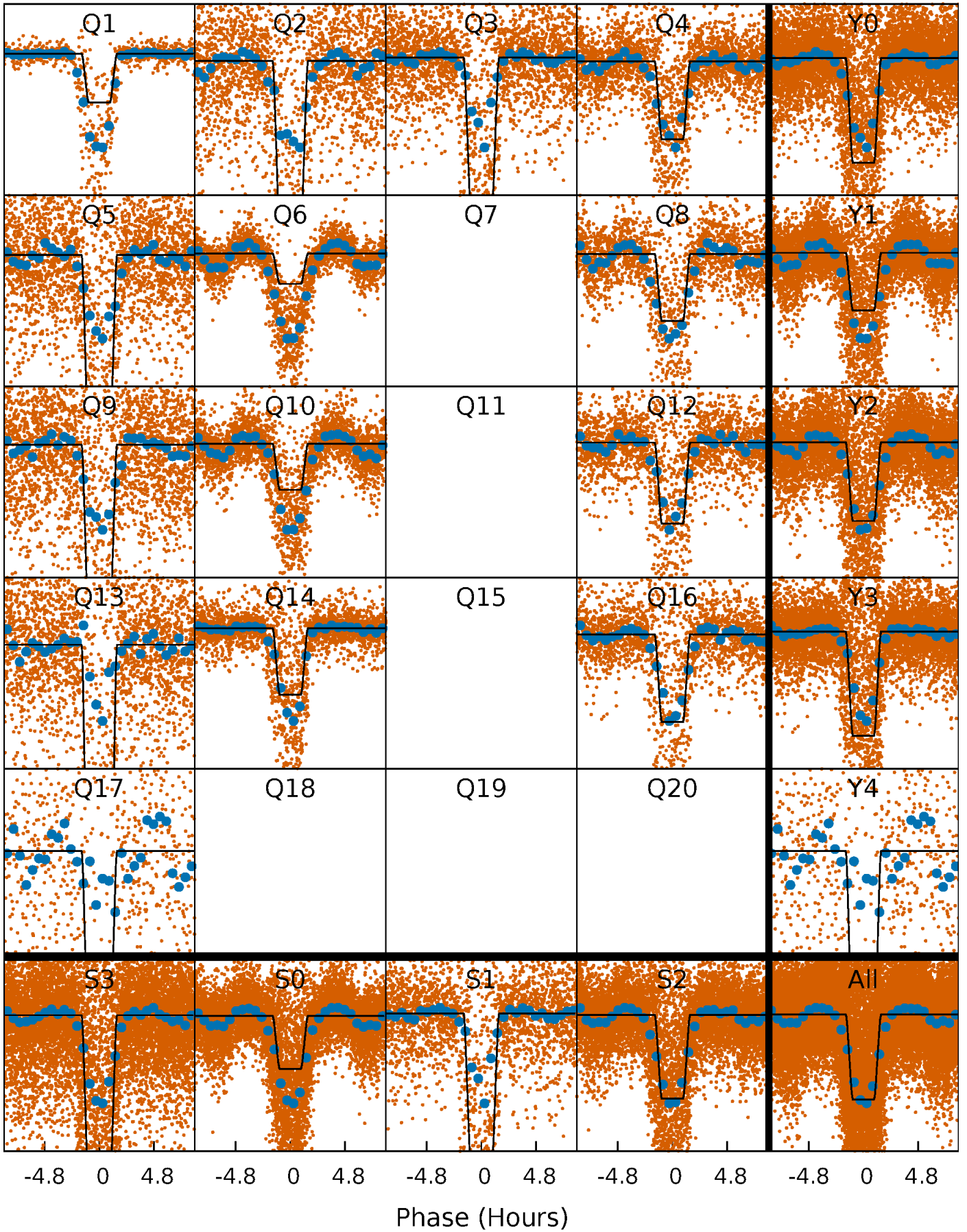
DV Quarter-Phased Transit Curves

TCE 010991377-01 P= 1.105342 Days $T_0=132.412297$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

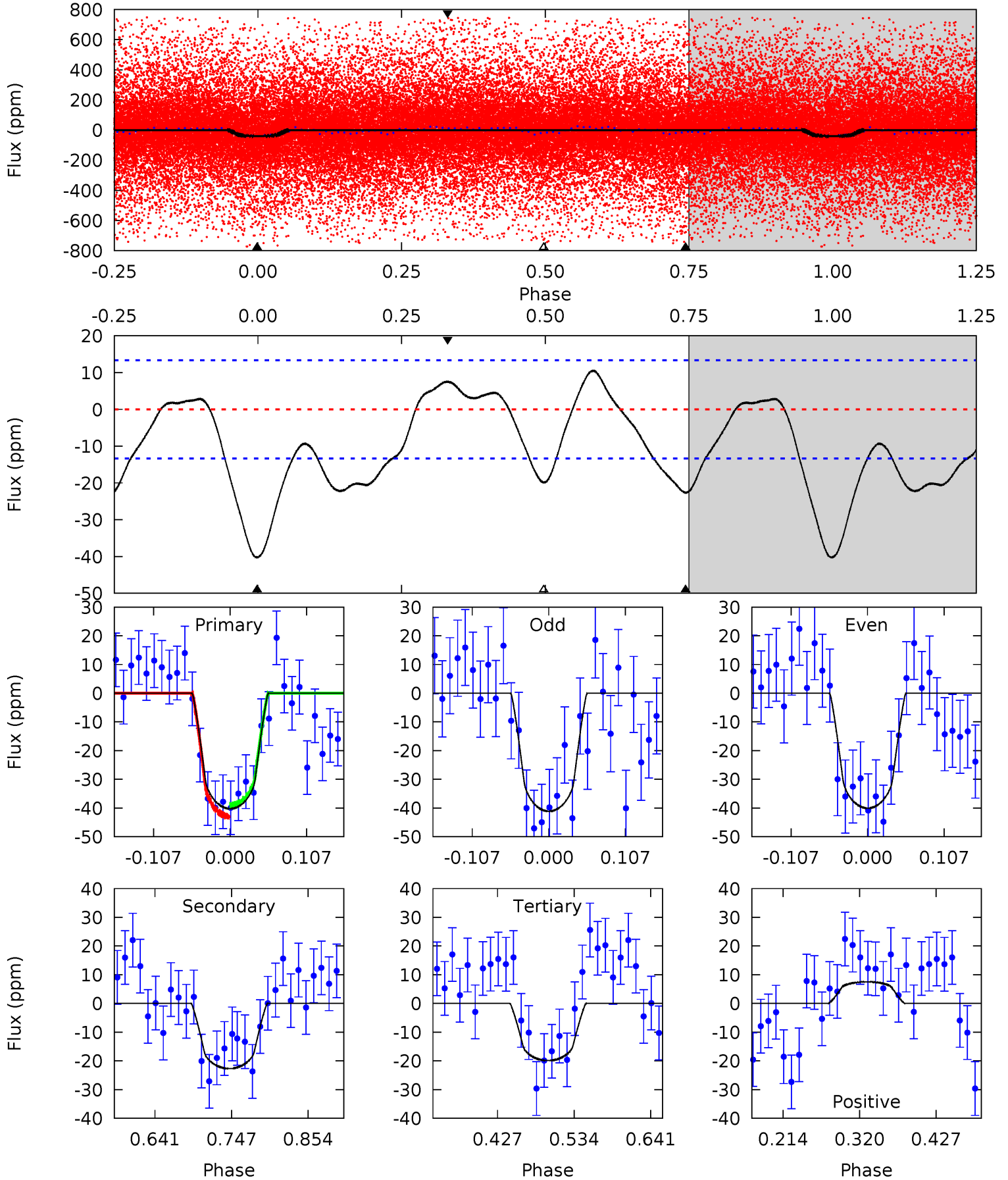
TCE 010991377-01 P= 1.105333 Days $T_0=132.410839$ (BKJD)



DV Model-Shift Uniqueness Test

010991377-01, P = 1.105342 Days, E = 131.306955 Days

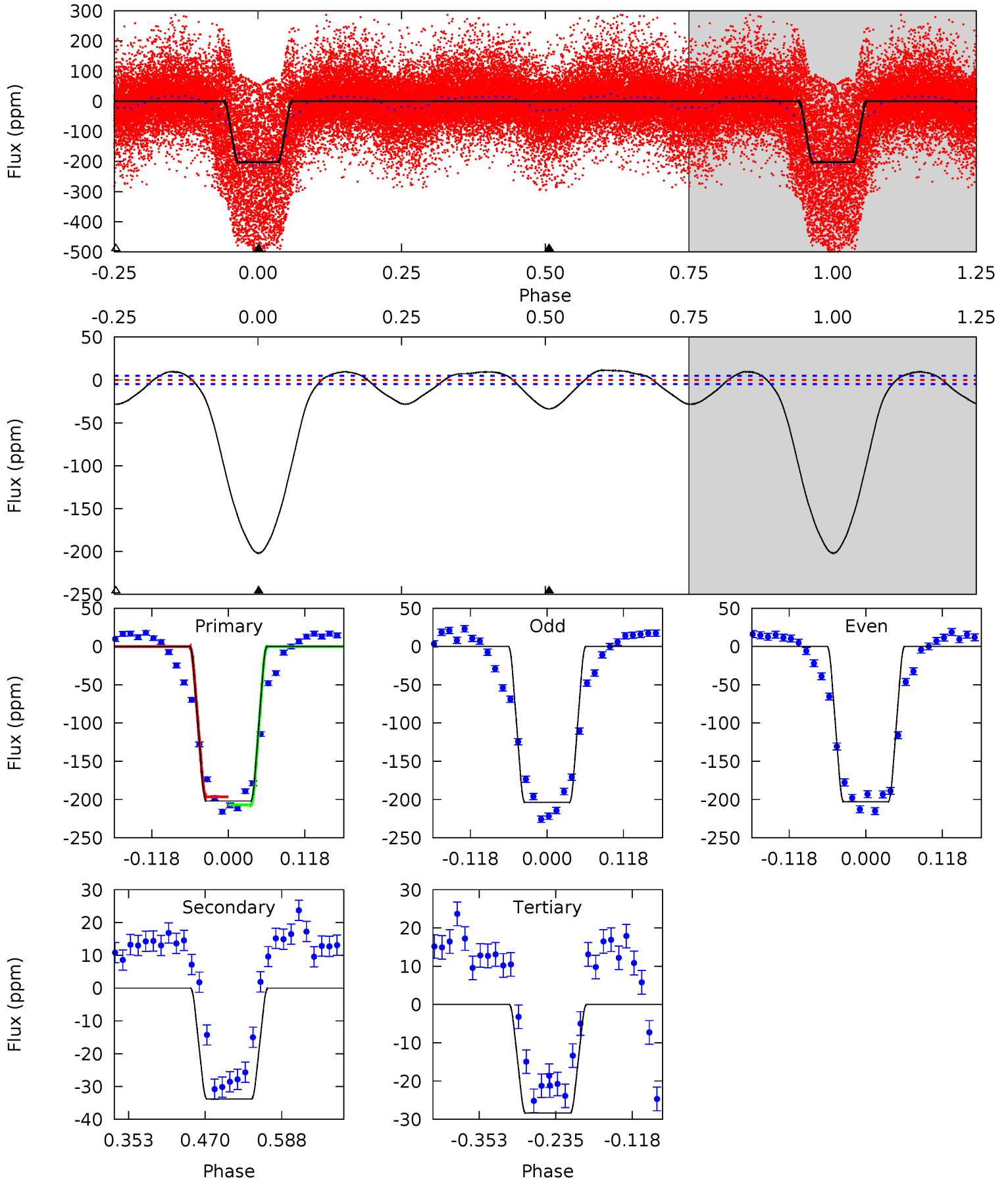
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	7.73	6.78	2.57	4.55	1.61	3.60	6.93	11.1	0.95	5.16	0.18	0.97	0.21	0



Alt Model-Shift Uniqueness Test

010991377-01, P = 1.105333 Days, E = 131.305506 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
190.5	31.9	26.8	0	4.53	1.57	12.5	163.8	190.5	5.10	31.9	0.35	1.06	0.05	5.00



Stellar Parameters For KIC 010991377

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4866^{+109}_{-121}	$2.868^{+0.487}_{-0.263}$	$-0.020^{+0.250}_{-0.250}$	$8.006^{+2.890}_{-4.335}$	$1.726^{+0.389}_{-0.666}$	$0.005^{+0.025}_{-0.003}$
	+2%/-2%	+17%/-9%	+1250%/-1250%	+36%/-54%	+23%/-39%	+534%/-66%
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 010991377-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-23 ± 3	$6.36^{+2.47}_{-2.37}$	5340^{+597}_{-703}	-3662^{+7282}_{-689}	$0.192^{+0.266}_{-0.095}$
Alt.	-34 ± 1	$13.09^{+3.69}_{-3.74}$	5339^{+600}_{-706}	-4243^{+598}_{-442}	$0.069^{+0.059}_{-0.027}$

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 $A_{obs} \gg 1.0$

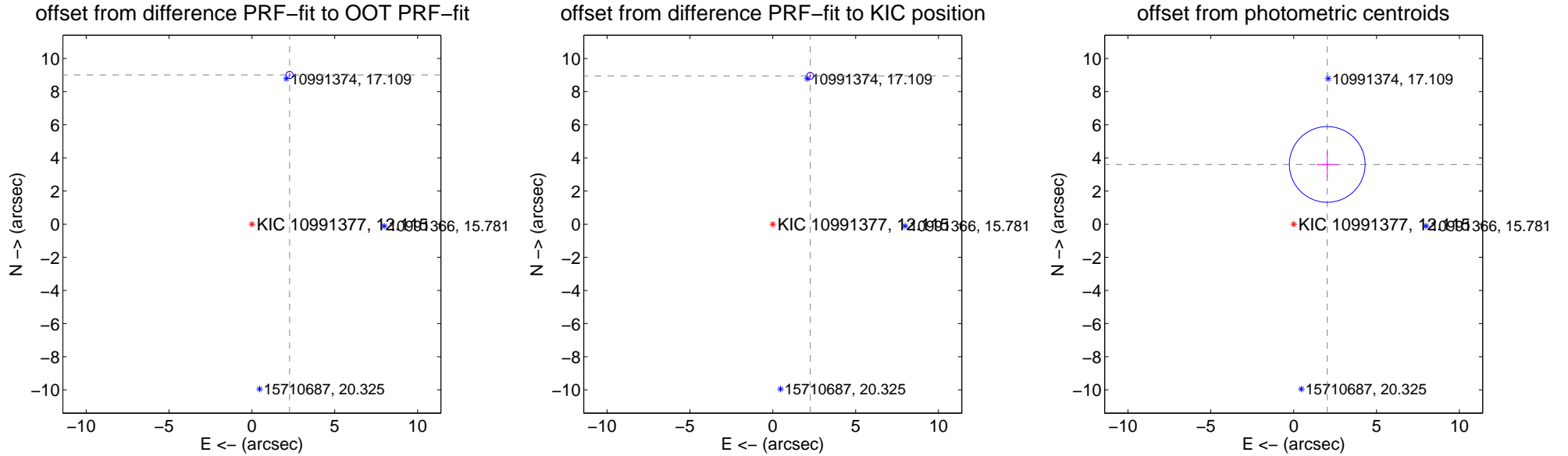
DV Centroid Data

Supplemental centroid analysis for 010991377-01. Kepler magnitude: 12.12. Transit SNR 9.80

There are 14 quarters with good PRF difference image offsets

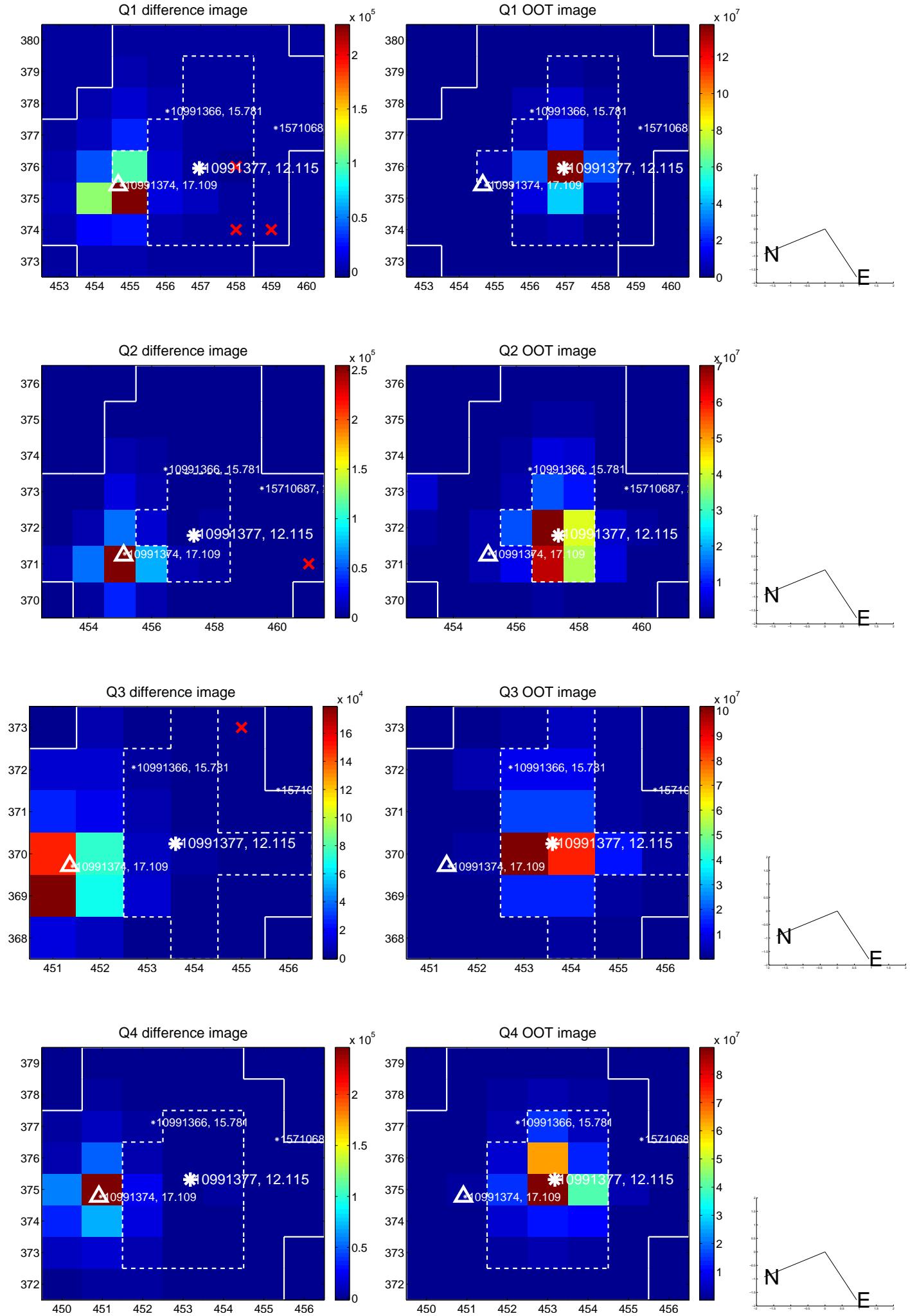
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.286 \pm 0.072	128.32	-2.274 \pm 0.069	9.003 \pm 0.071
PRF-fit source offset from KIC position	9.232 \pm 0.069	133.39	-2.256 \pm 0.068	8.953 \pm 0.069
photometric centroid source offset	4.13 \pm 0.76	5.43	-2.02 \pm 0.64	3.60 \pm 0.80

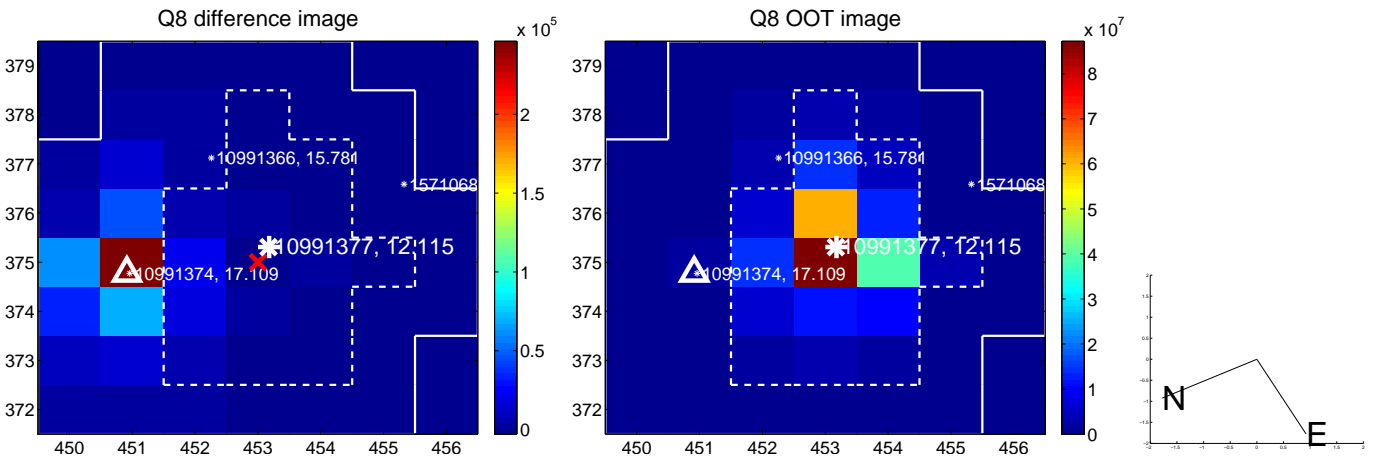
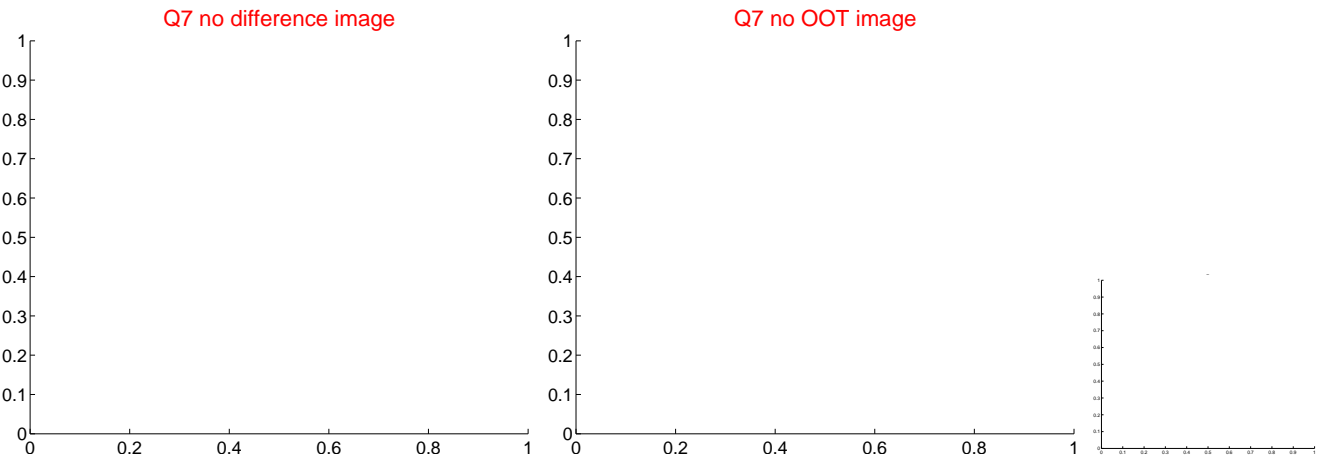
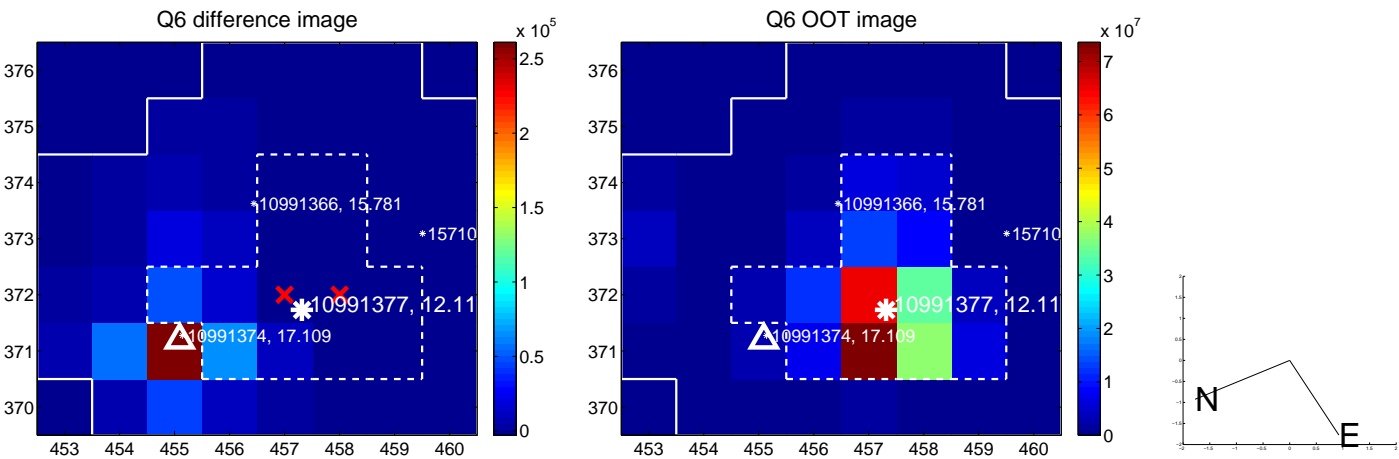
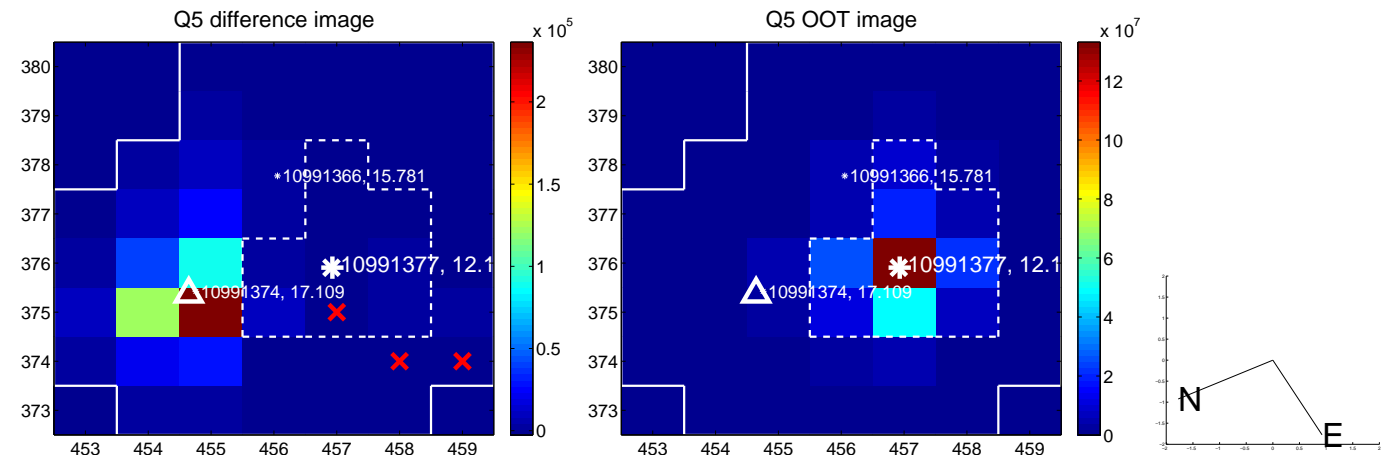


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

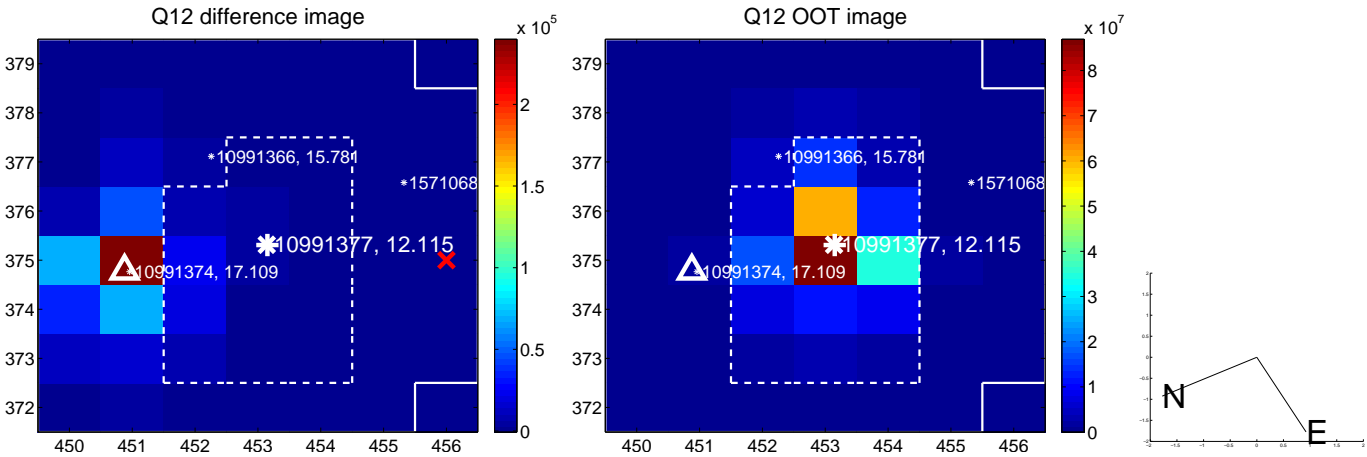
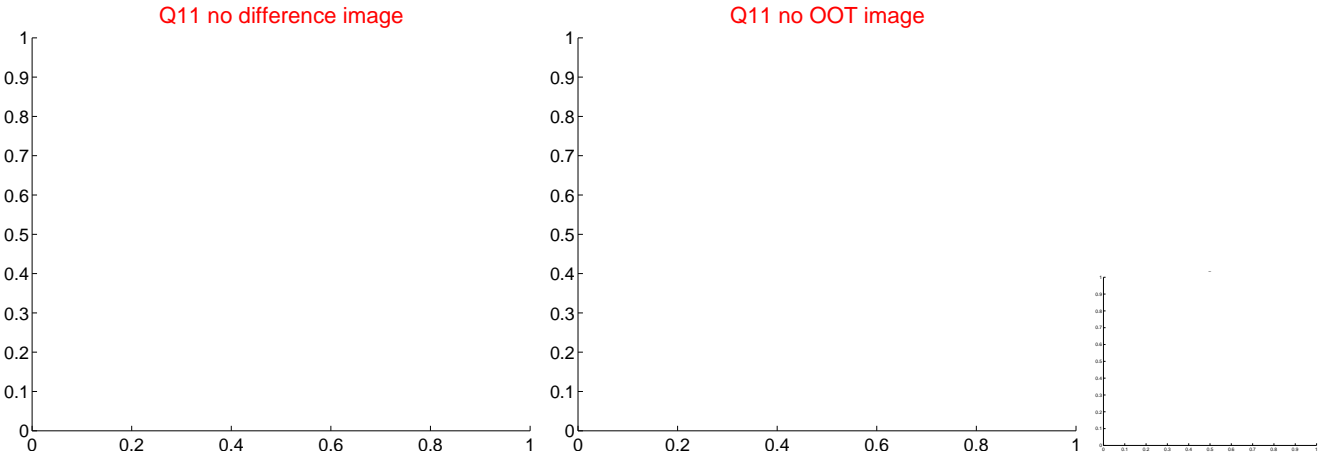
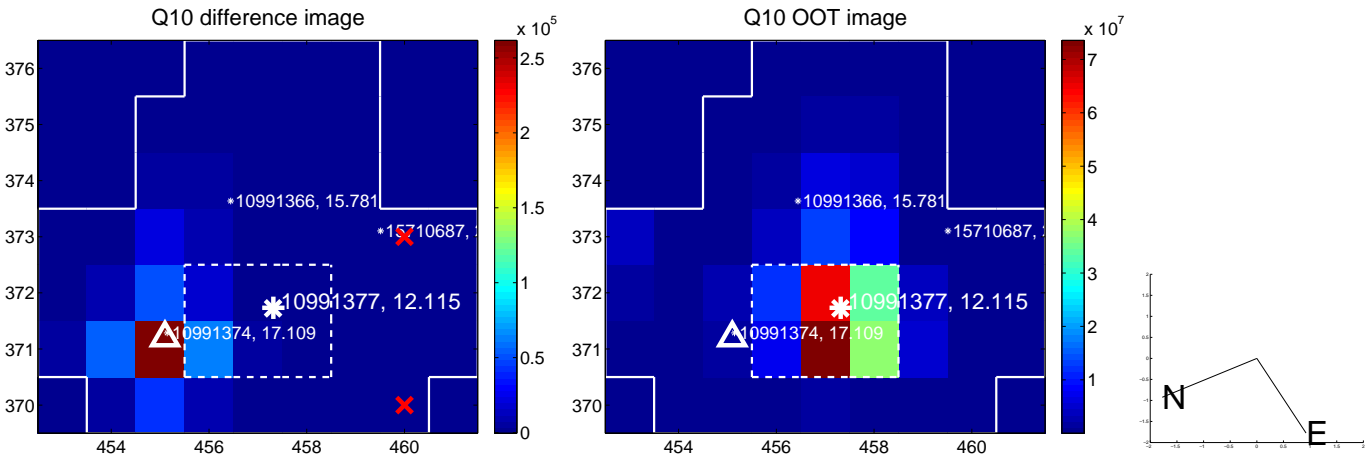
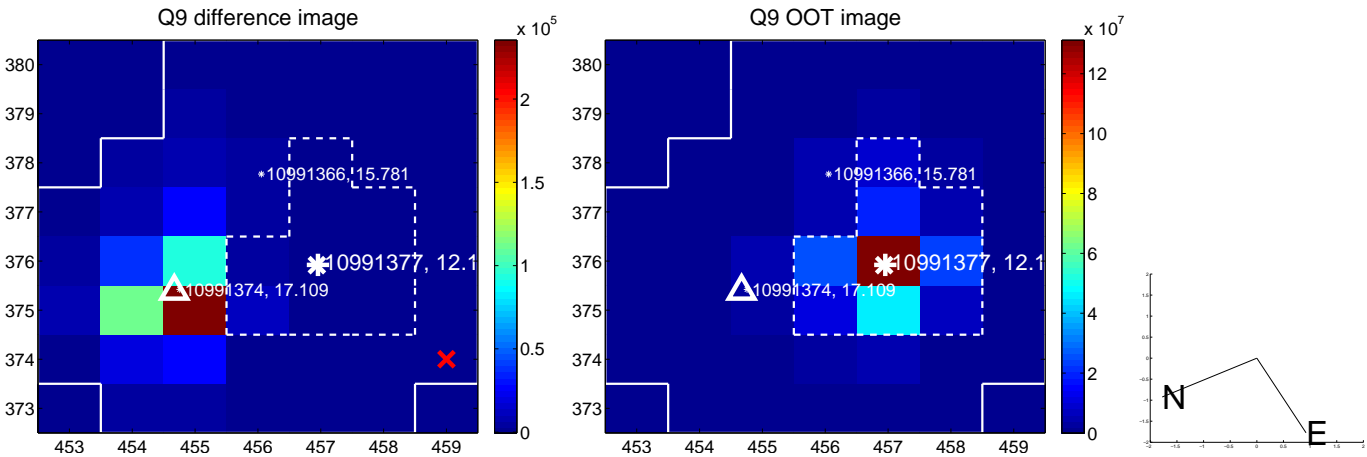
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



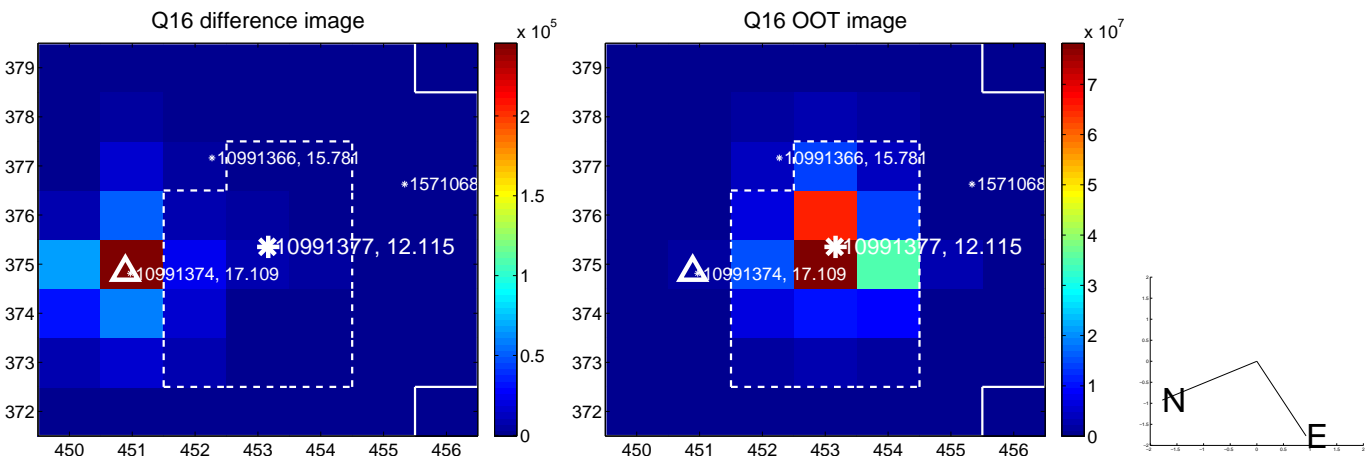
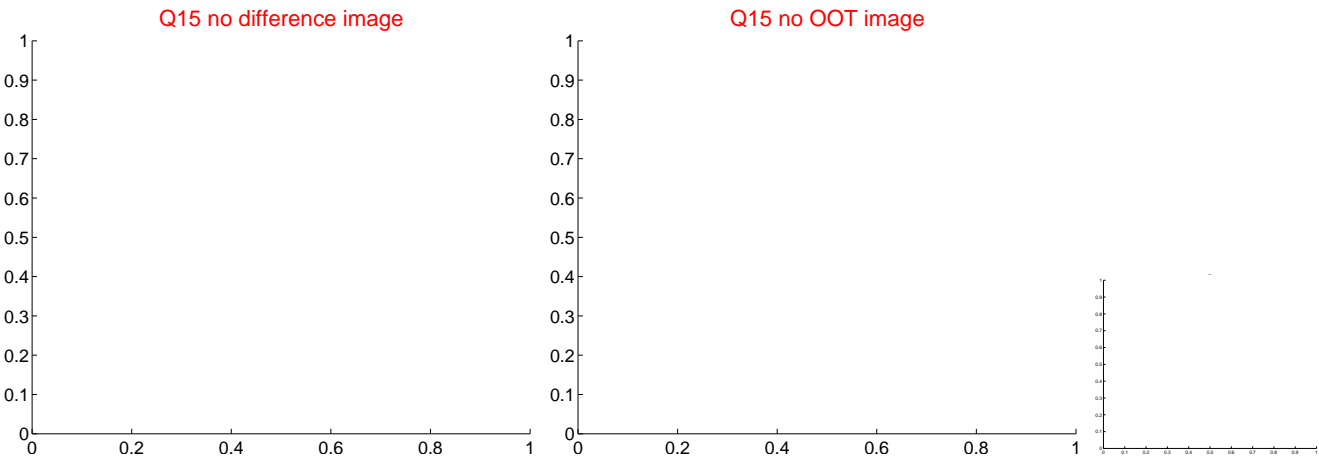
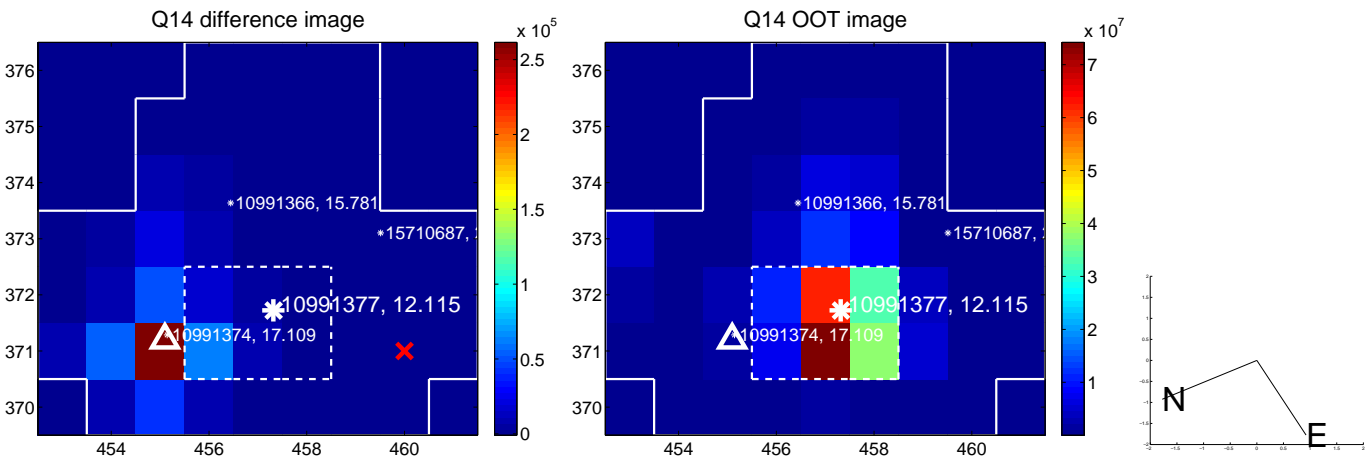
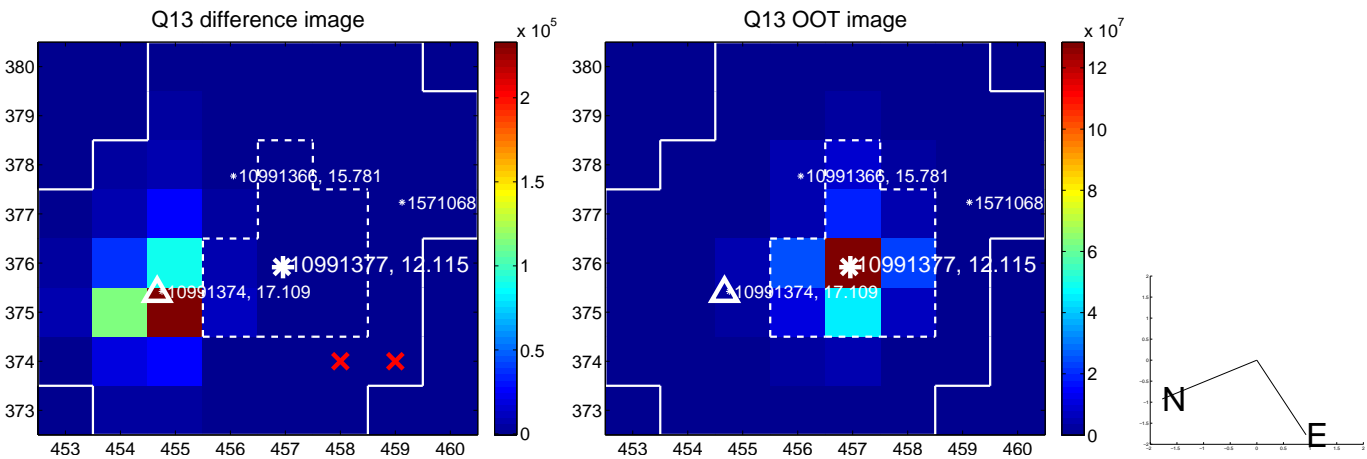
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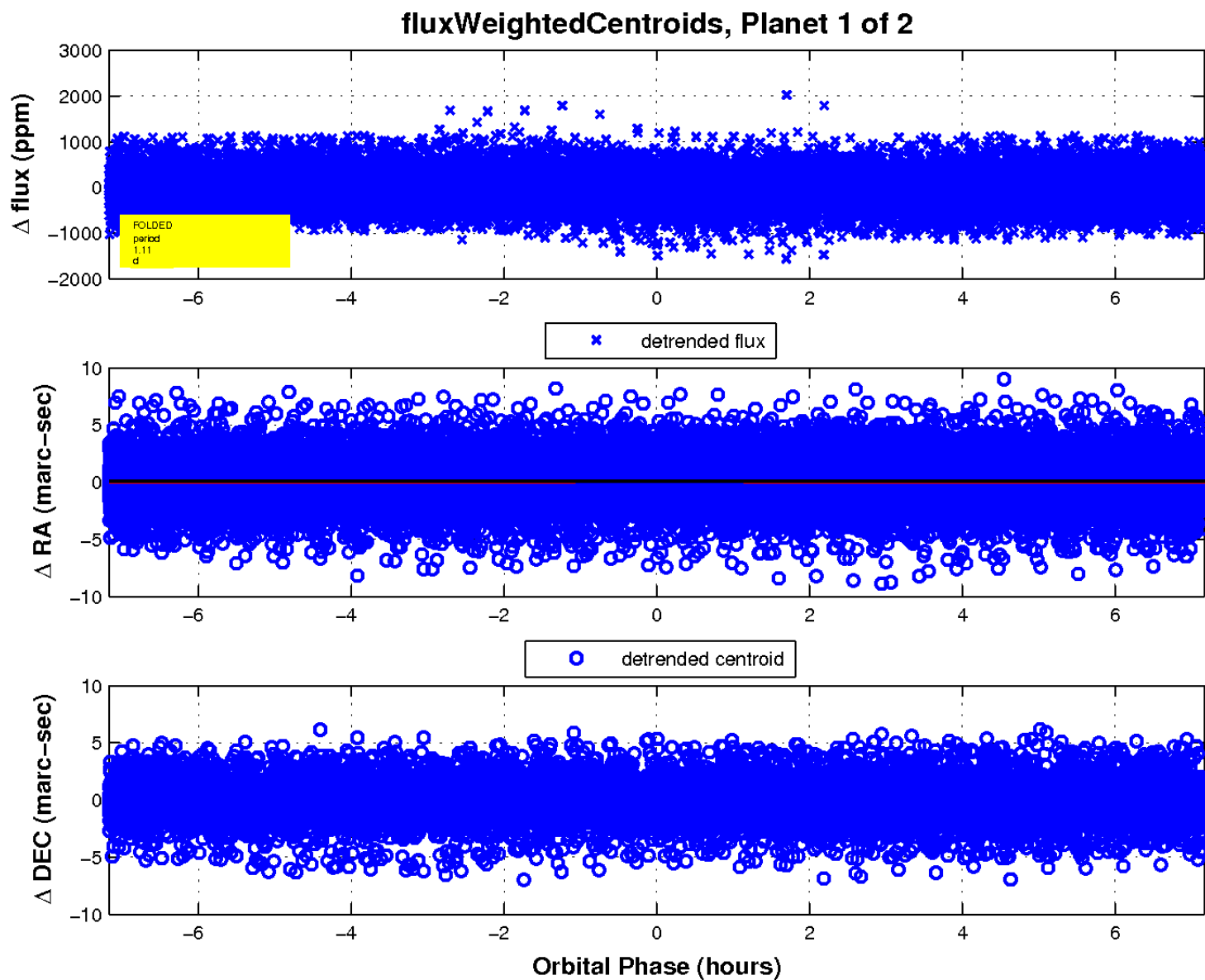
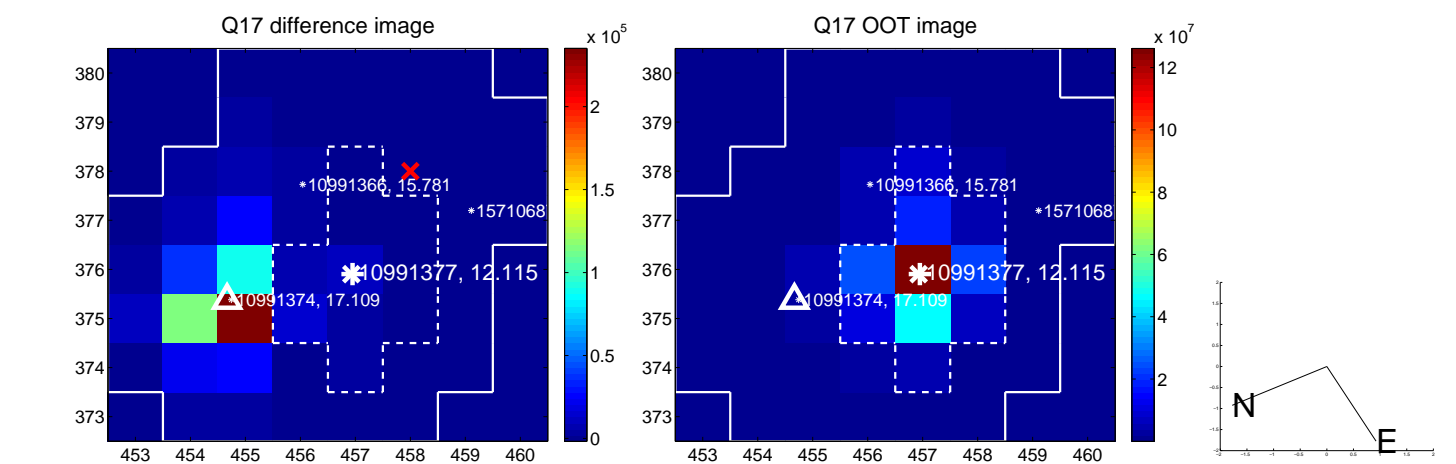
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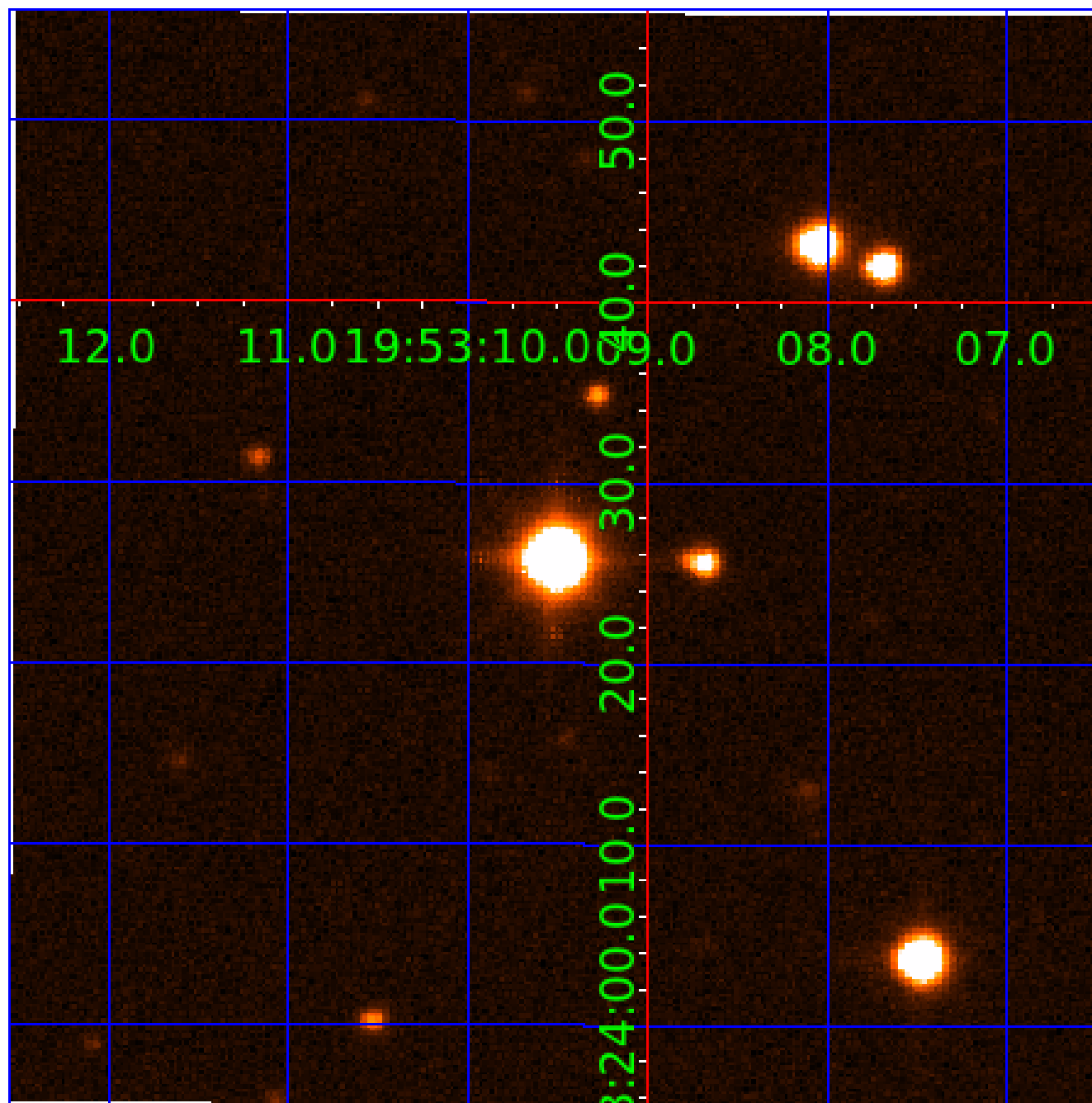


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UKIRT Image

Declination



KIC 010991377

Q1-17 DR25 TCE Parameters

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010991377-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_CHASES—ALL_TRANS_CHASES—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST

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

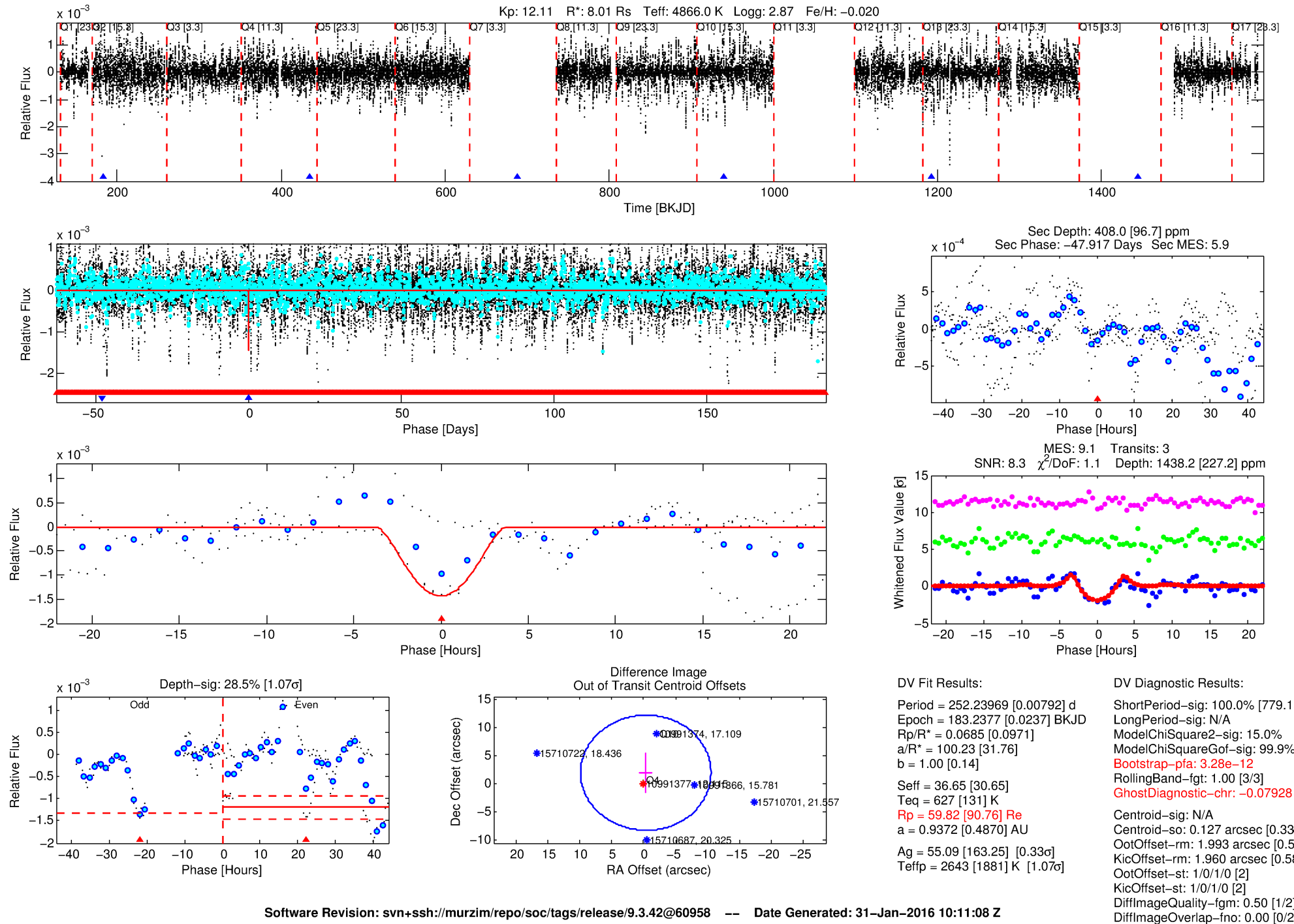
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010991377-02

No Significant Match Found

DV One-Page Summary

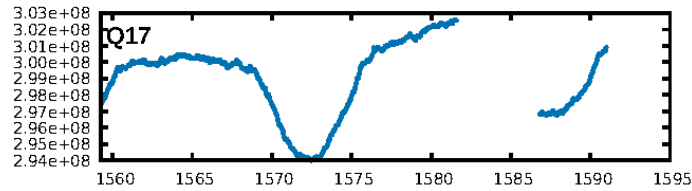
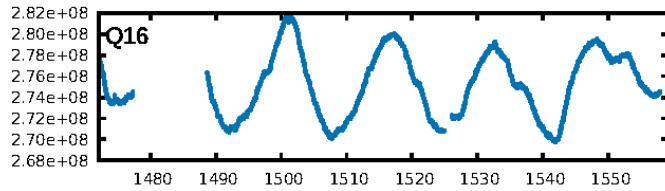
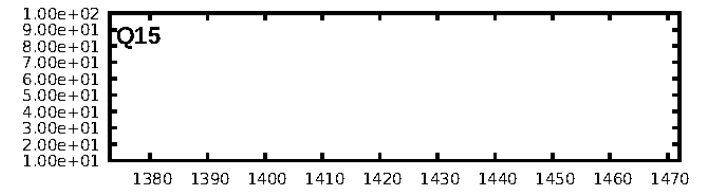
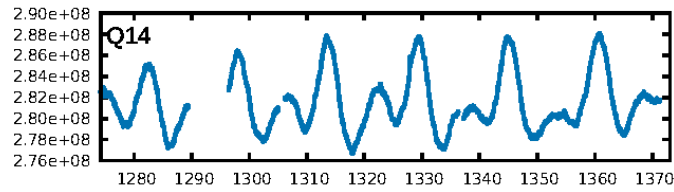
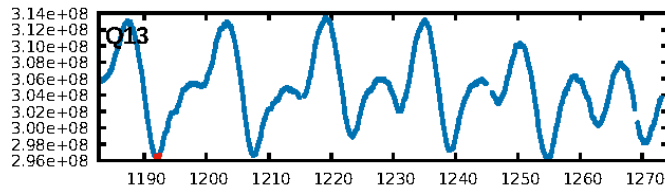
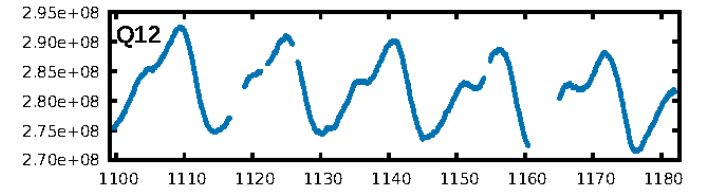
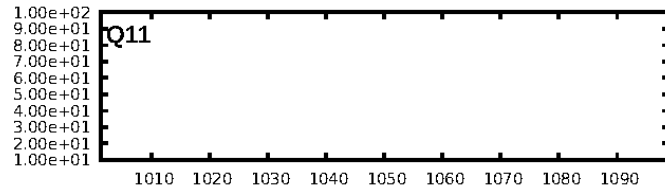
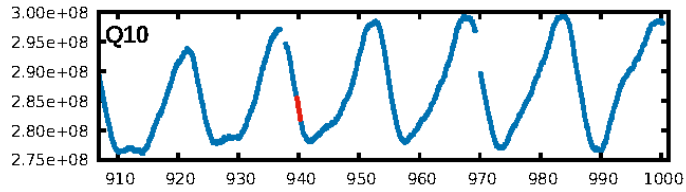
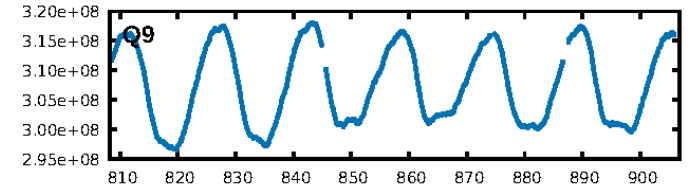
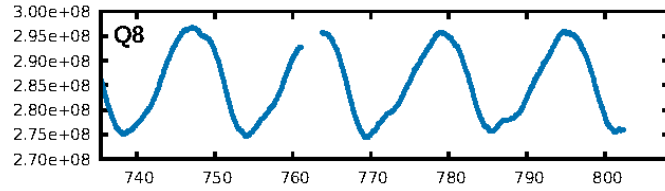
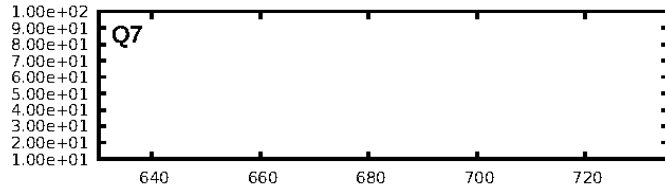
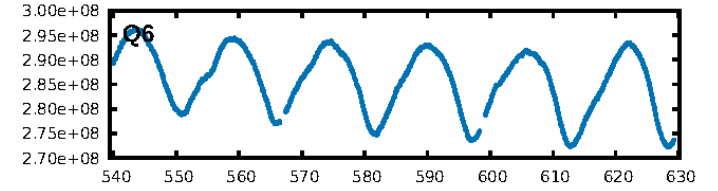
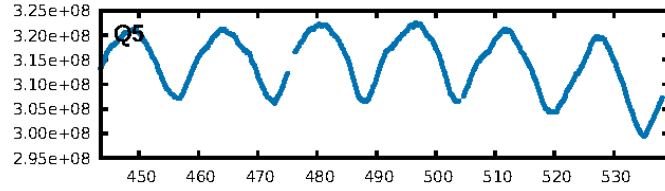
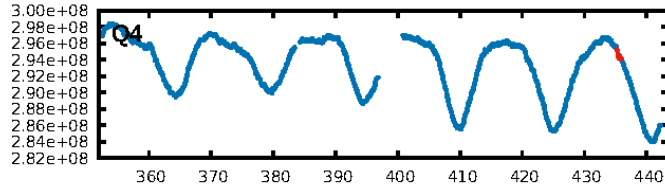
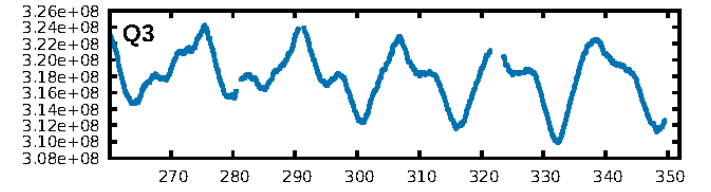
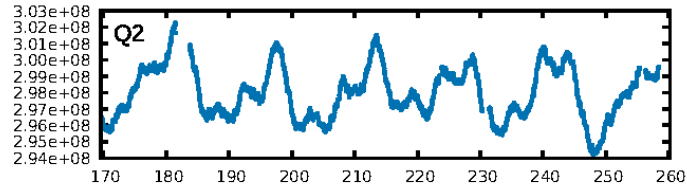
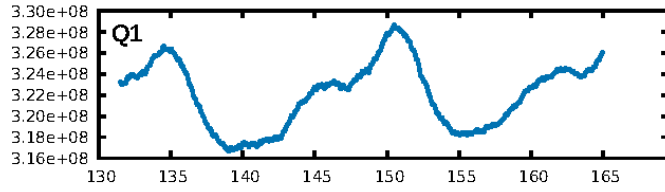
KIC: 10991377 Candidate: 2 of 2 Period: 252.240 d



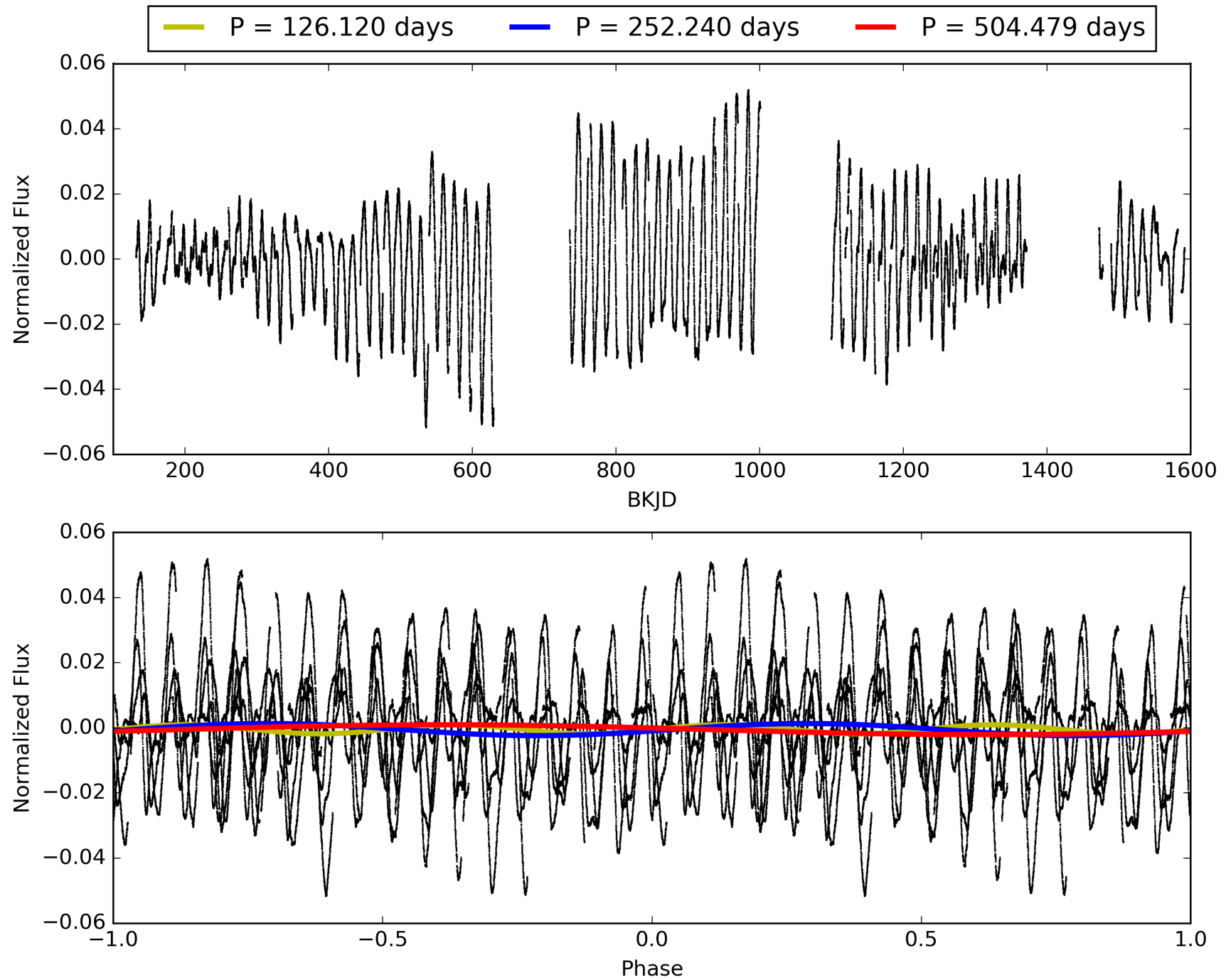
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:11:08 Z

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

TCE 010991377-02, PDC Light Curves

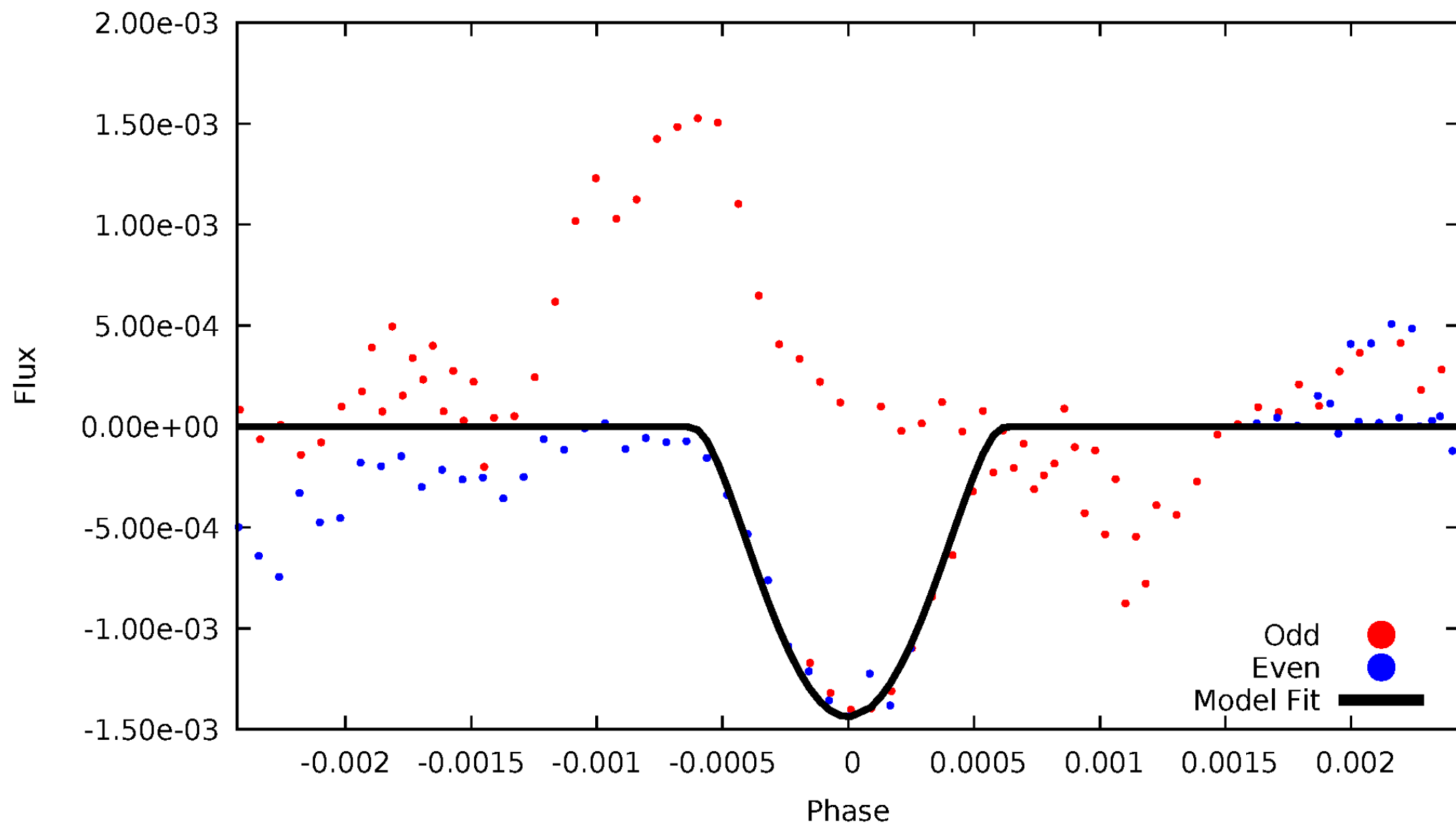


TCE 010991377-02



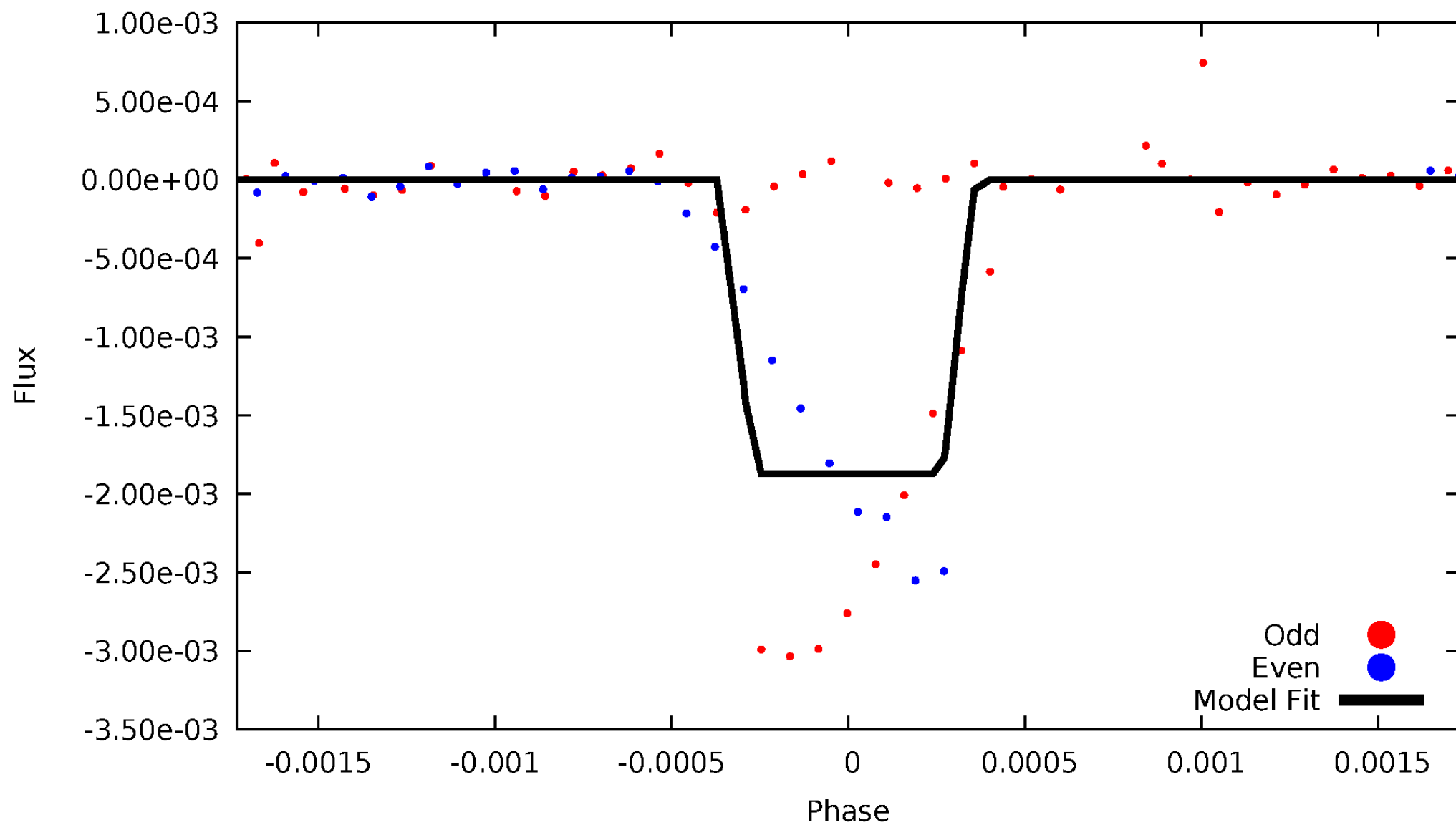
DV Odd/Even

TCE 010991377-02



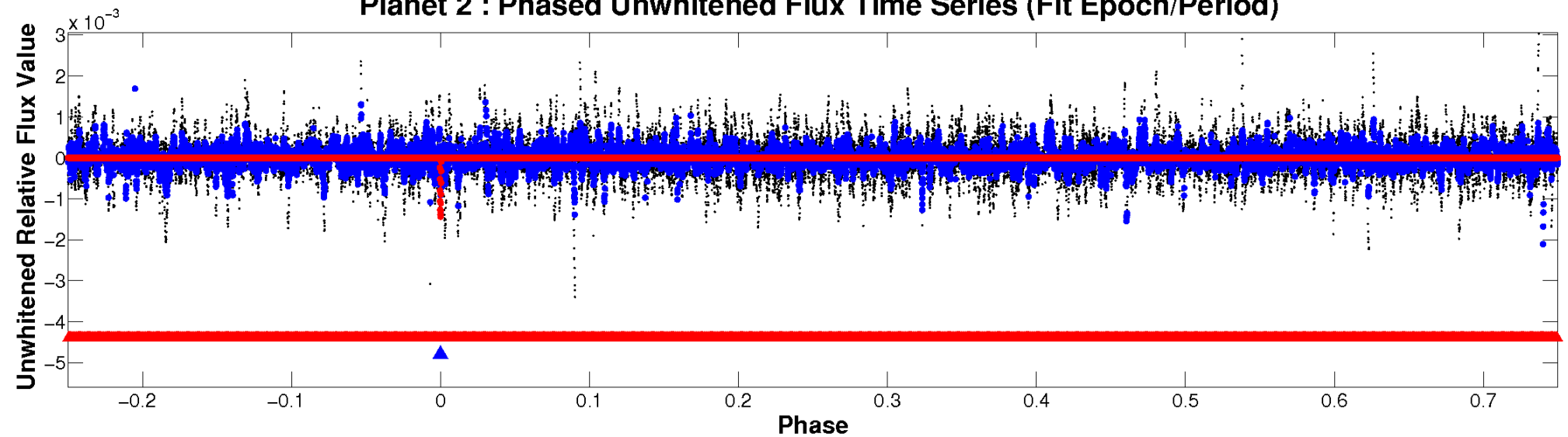
ALT Odd/Even

TCE 010991377-02

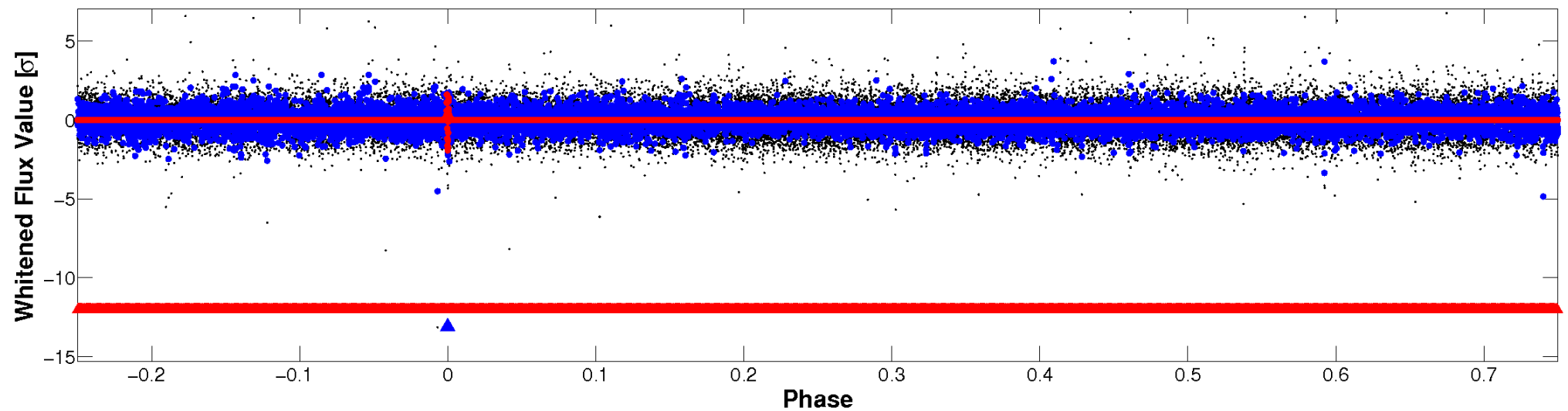


Non-Whitened Vs. Whitened Light Curve

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

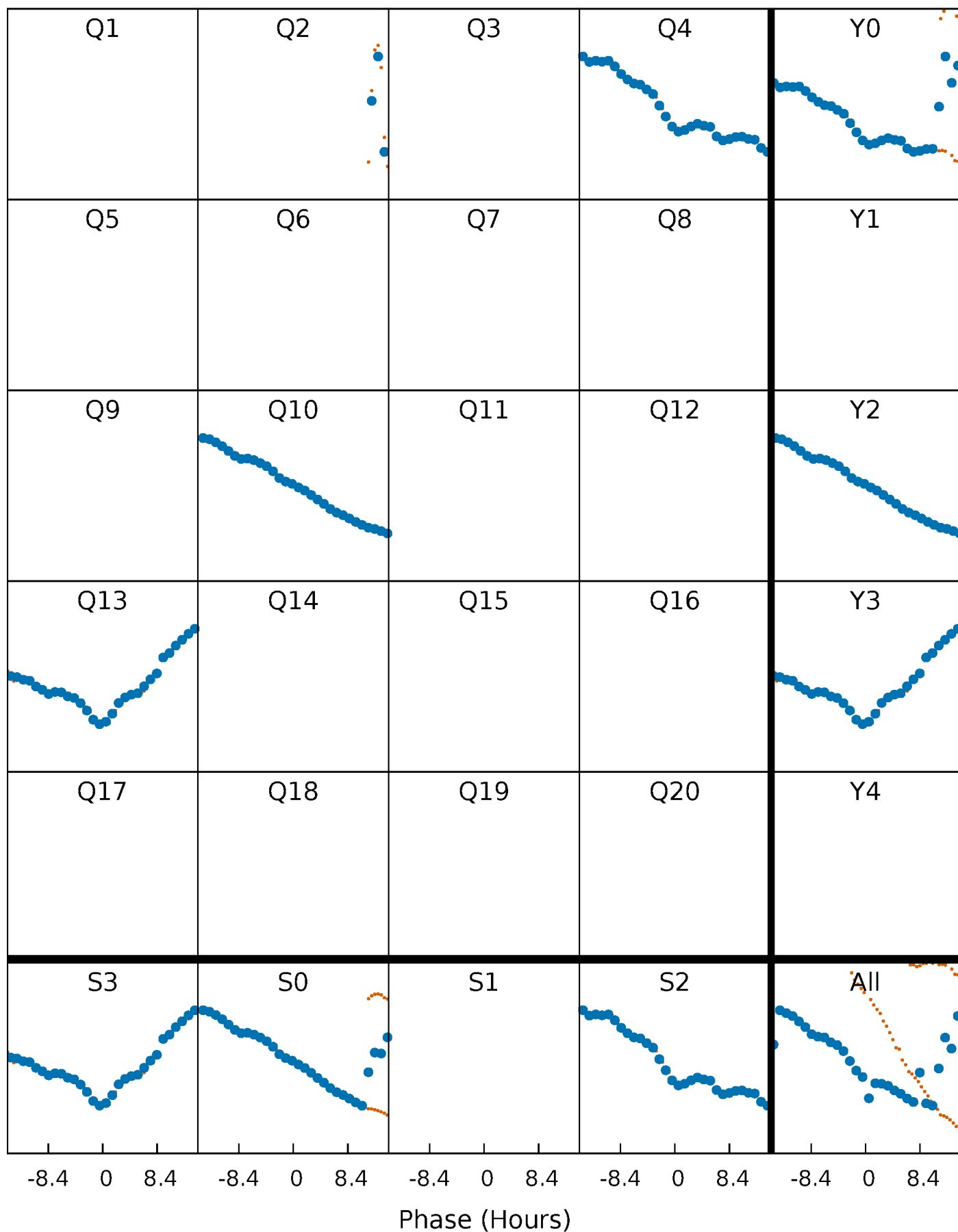


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



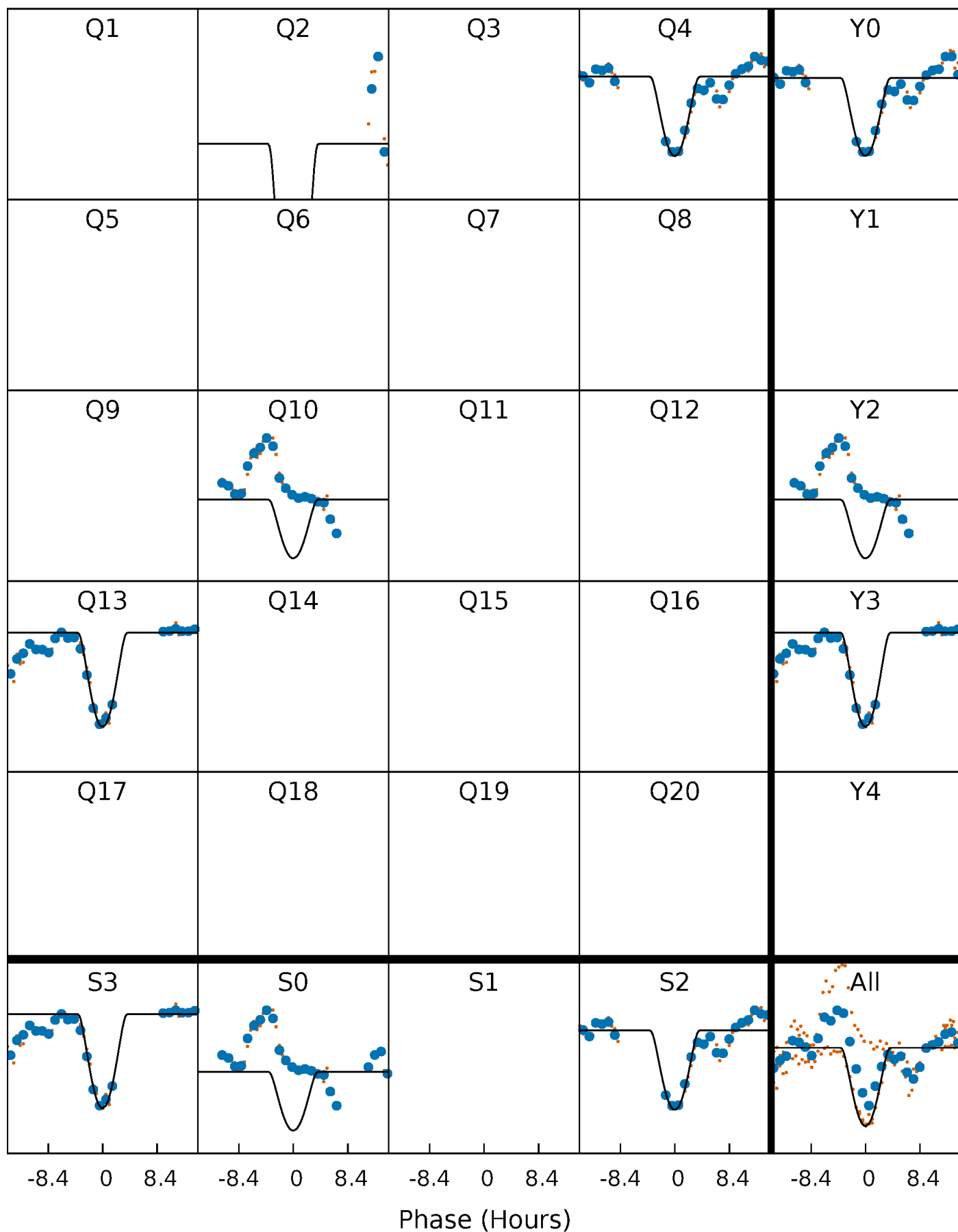
PDC Quarter-Phased Transit Curves

TCE 010991377-02 $P=252.239687$ Days $T_0=183.237703$ (BKJD)



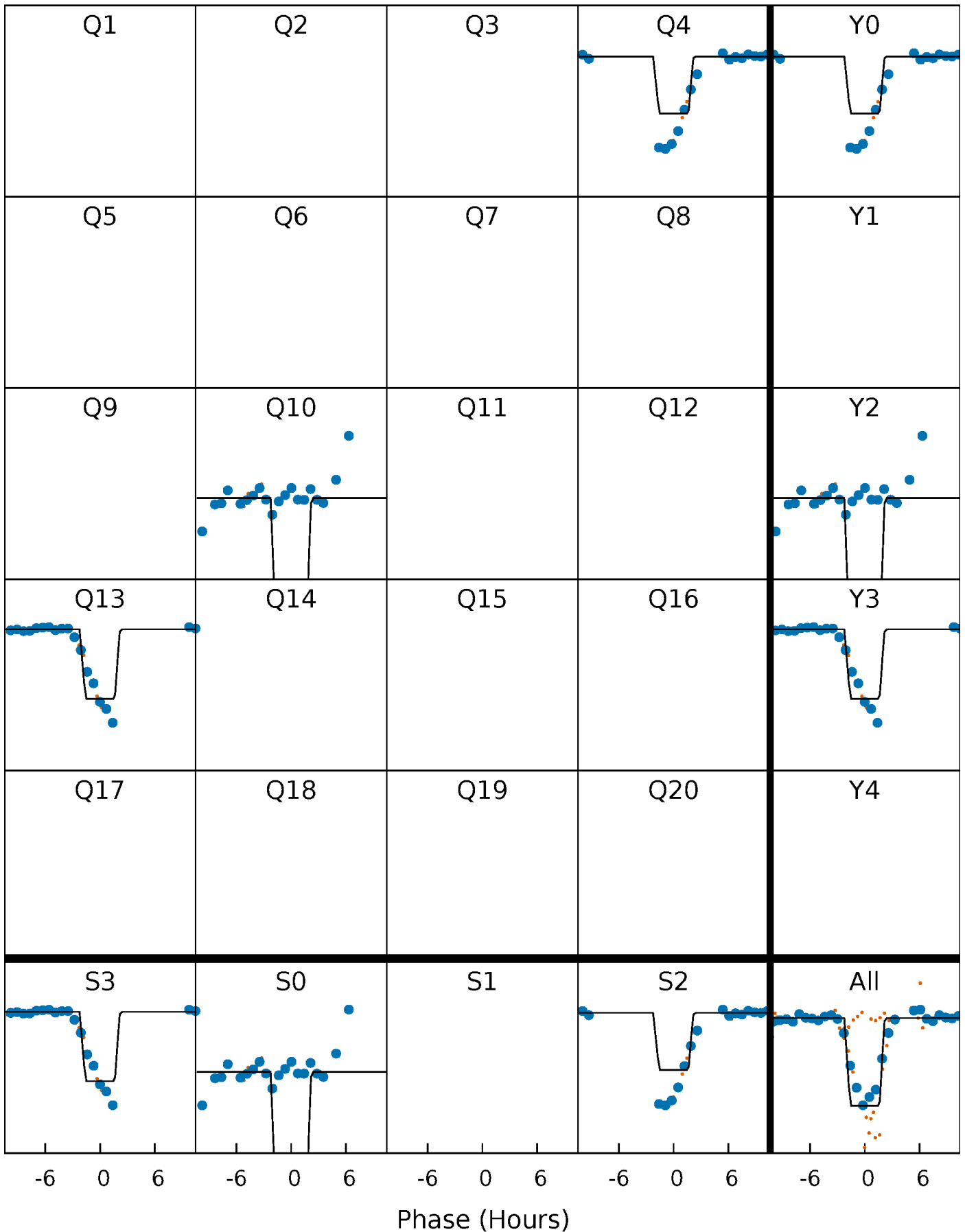
DV Quarter-Phased Transit Curves

TCE 010991377-02 $P=252.239687$ Days $T_0=183.237703$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

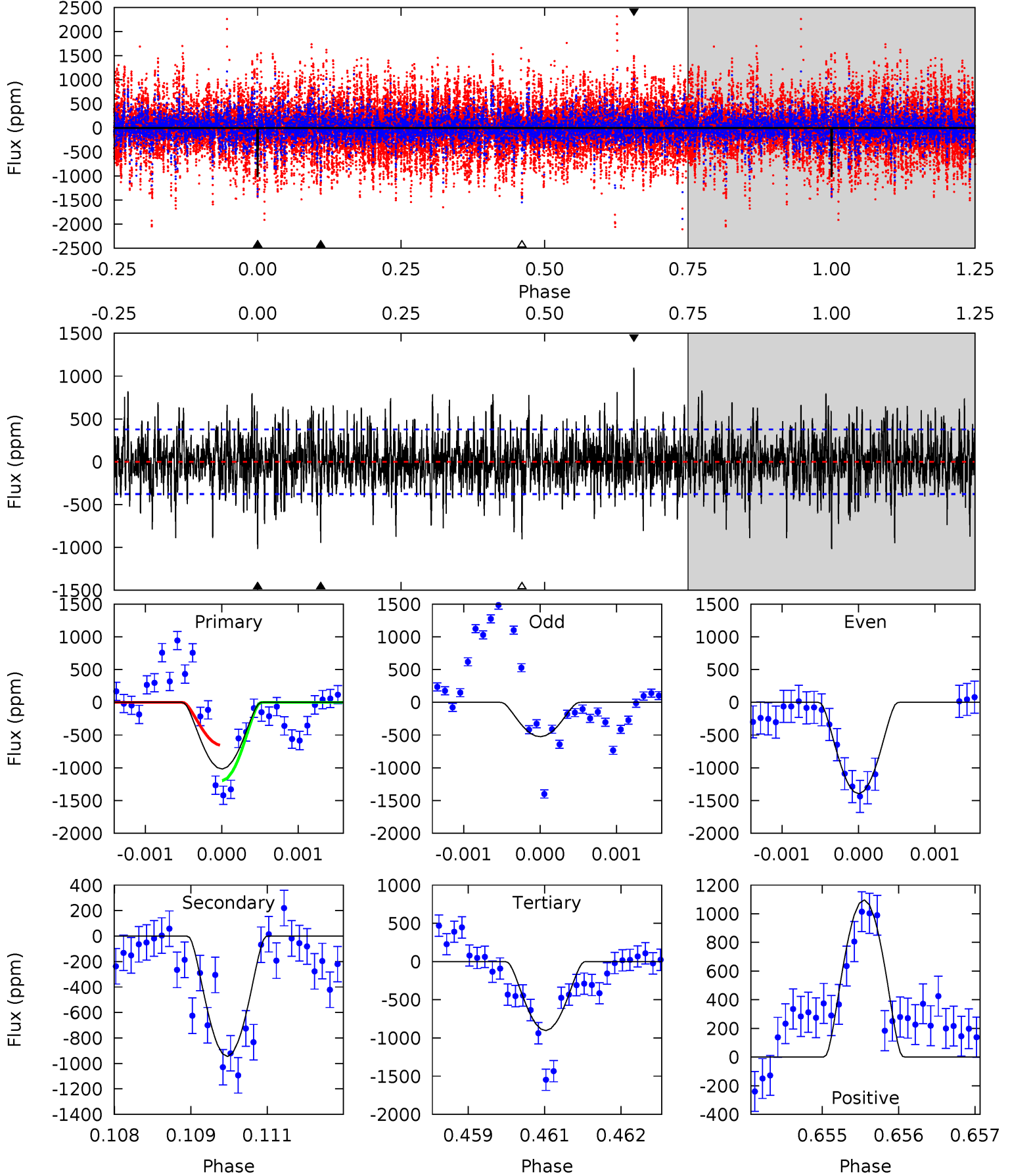
TCE 010991377-02 P=252.229796 Days $T_0=183.271425$ (BKJD)



DV Model-Shift Uniqueness Test

010991377-02, P = 252.239687 Days, E = 183.237703 Days

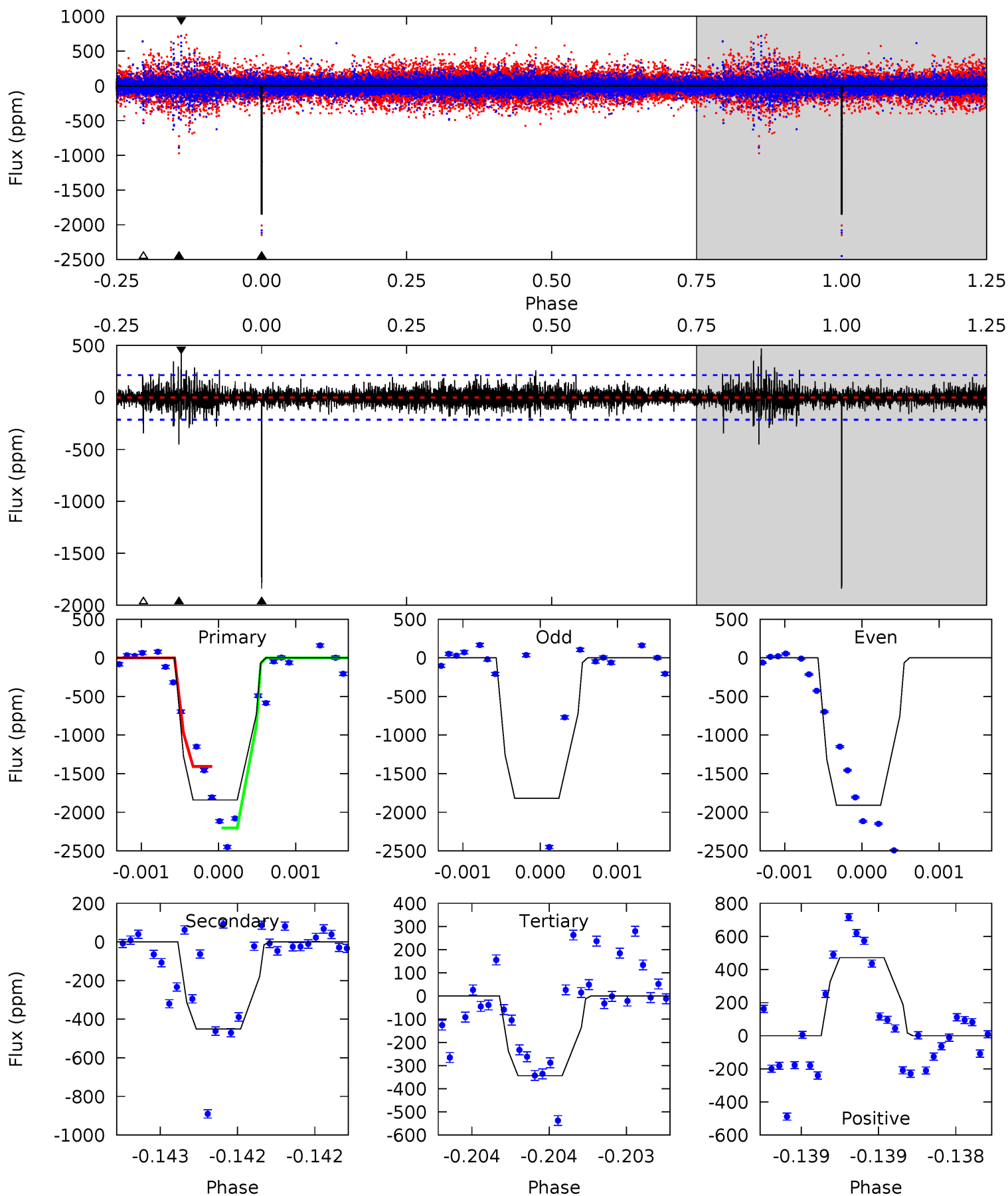
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	13.6	13.0	15.8	5.42	3.24	3.39	1.67	-1.12	0.61	-2.17	5.79	0.59	0.52	3.99



Alt Model-Shift Uniqueness Test

010991377-02, P = 252.229796 Days, E = 183.271425 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.4	11.6	8.87	12.2	5.53	3.41	1.34	38.6	35.3	2.77	-0.53	1.45	0.78	0.20	0



Stellar Parameters For KIC 010991377

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4866^{+109}_{-121}	$2.868^{+0.487}_{-0.263}$	$-0.020^{+0.250}_{-0.250}$	$8.006^{+2.890}_{-4.335}$	$1.726^{+0.389}_{-0.666}$	$0.005^{+0.025}_{-0.003}$
	+2%/-2%	+17%/-9%	+1250%/-1250%	+36%/-54%	+23%/-39%	+534%/-66%
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 010991377-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-945 ± 70	$76.77^{+86.20}_{-52.64}$	872^{+93}_{-110}	3274^{+1564}_{-540}	73^{+693}_{-57}
Alt.	-451 ± 39	$70.78^{+75.68}_{-49.58}$	871^{+94}_{-121}	2993^{+1521}_{-457}	44^{+448}_{-34}

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

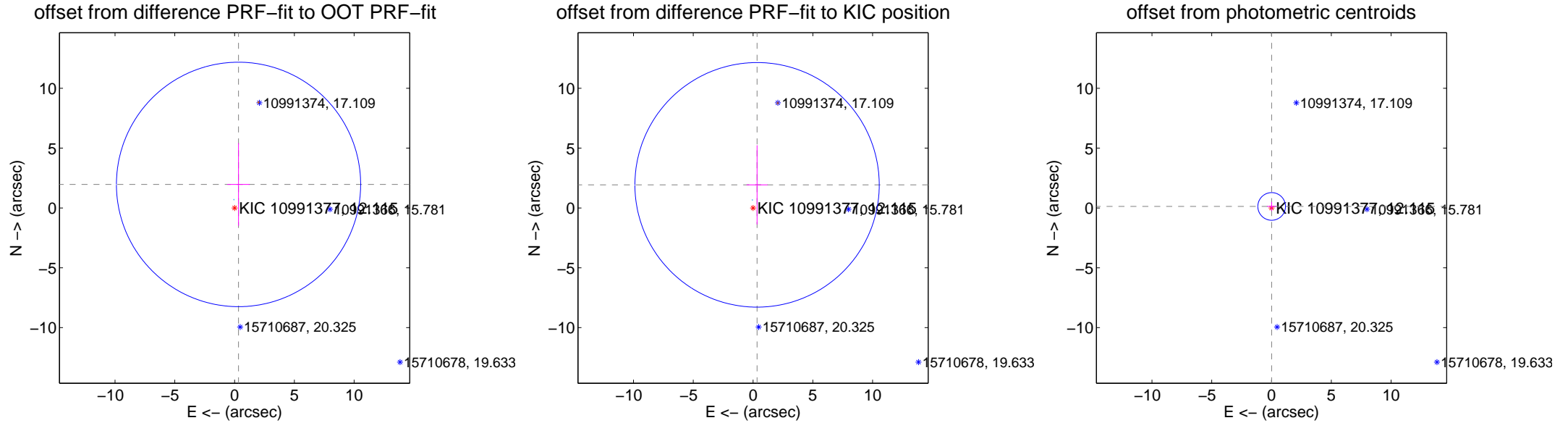
DV Centroid Data

Supplemental centroid analysis for 010991377-02. Kepler magnitude: 12.12. Transit SNR 8.32

There are 1 quarters with good PRF difference image offsets

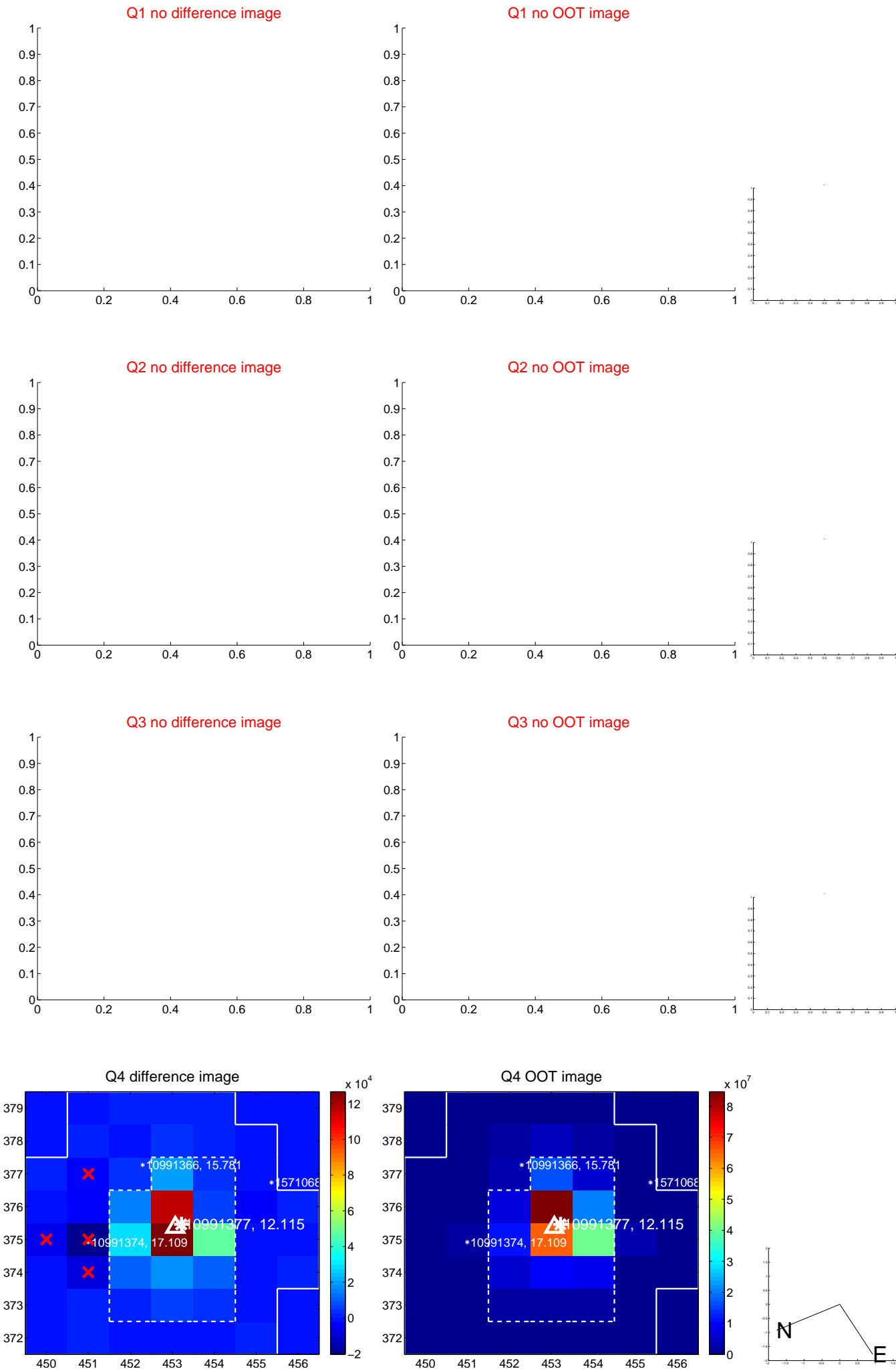
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.993 ± 3.404	0.59	-0.332 ± 0.936	1.965 ± 3.449
PRF-fit source offset from KIC position	1.960 ± 3.406	0.58	-0.337 ± 0.871	1.931 ± 3.306
photometric centroid source offset	0.13 ± 0.39	0.33	-0.01 ± 0.38	0.13 ± 0.39

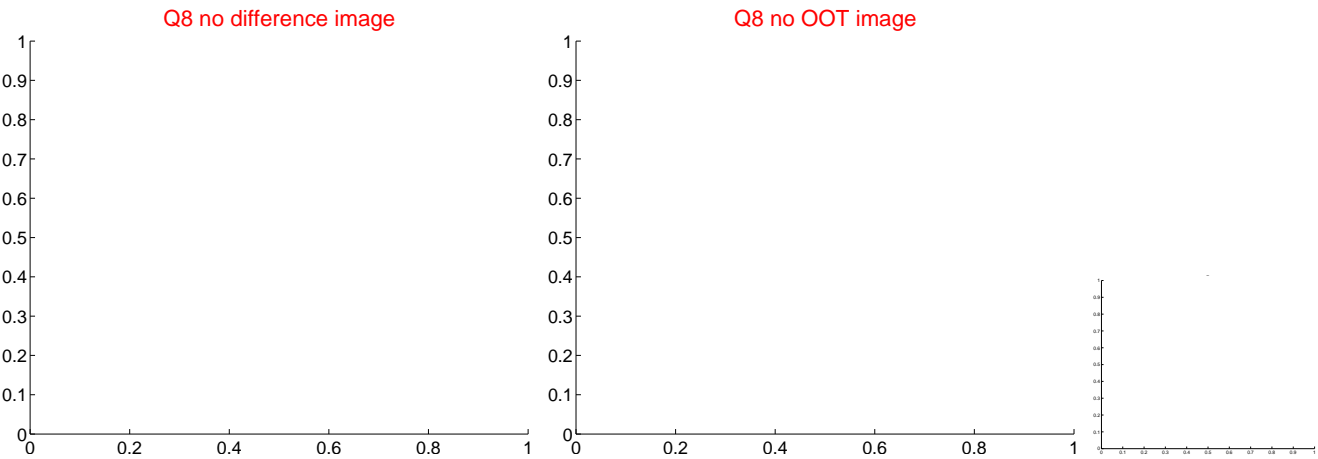
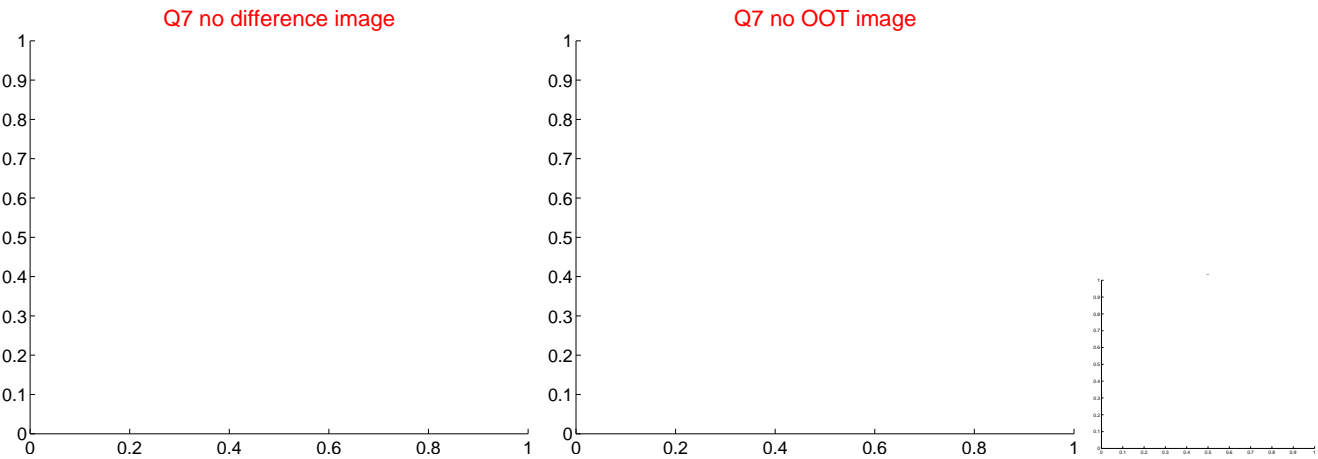
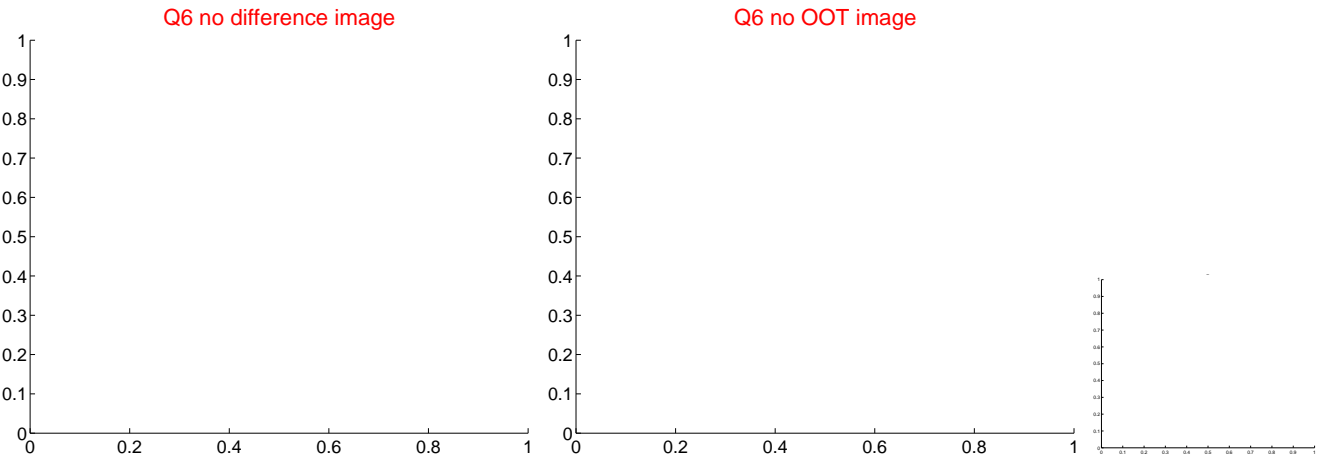
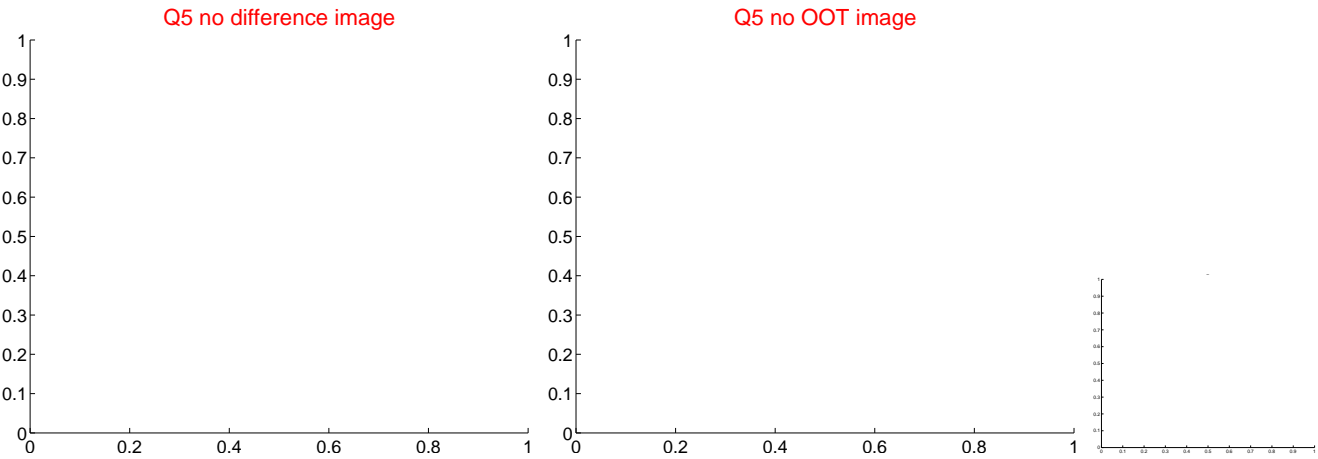


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

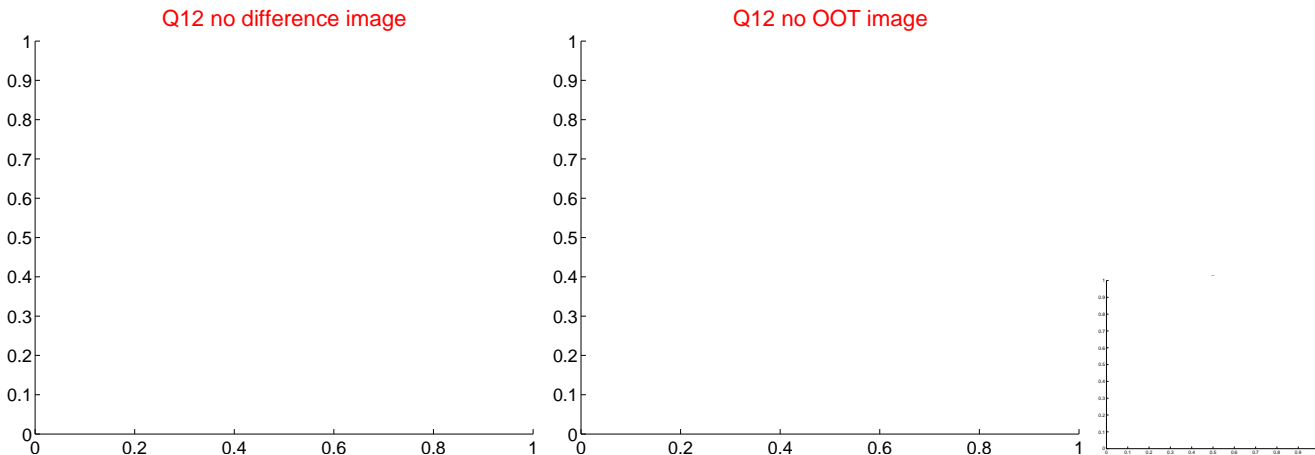
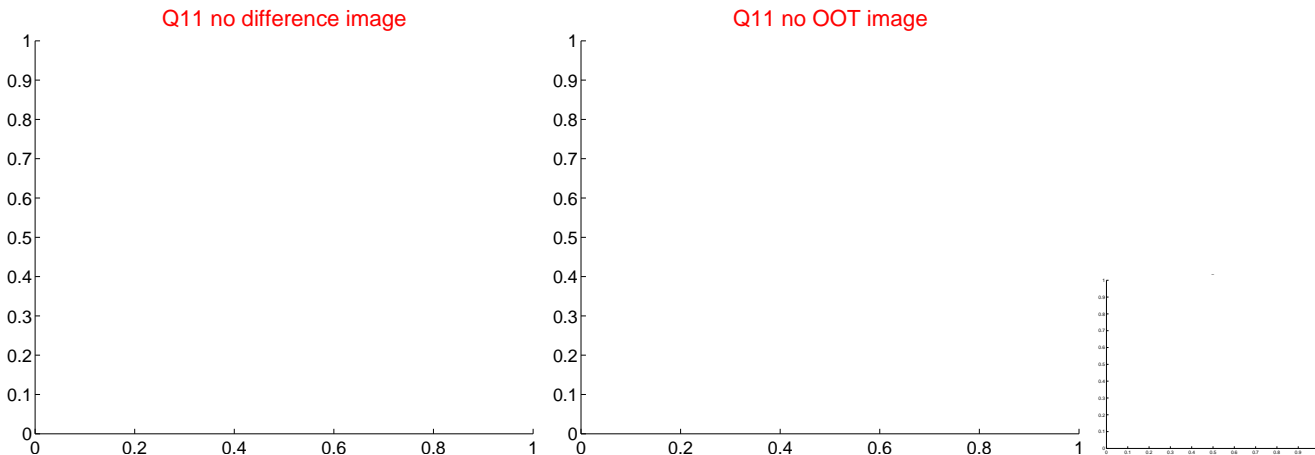
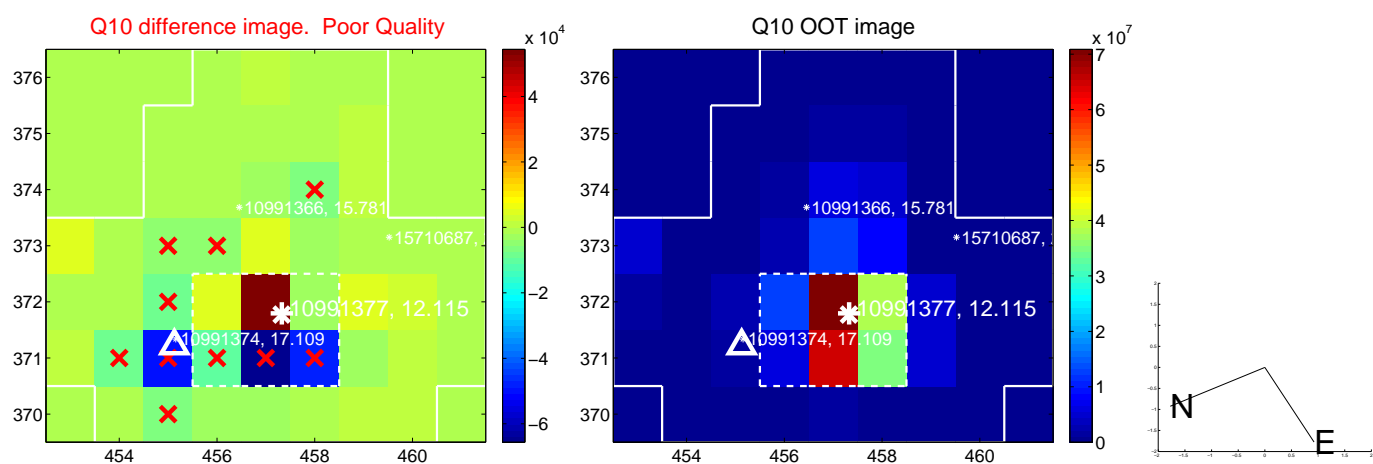
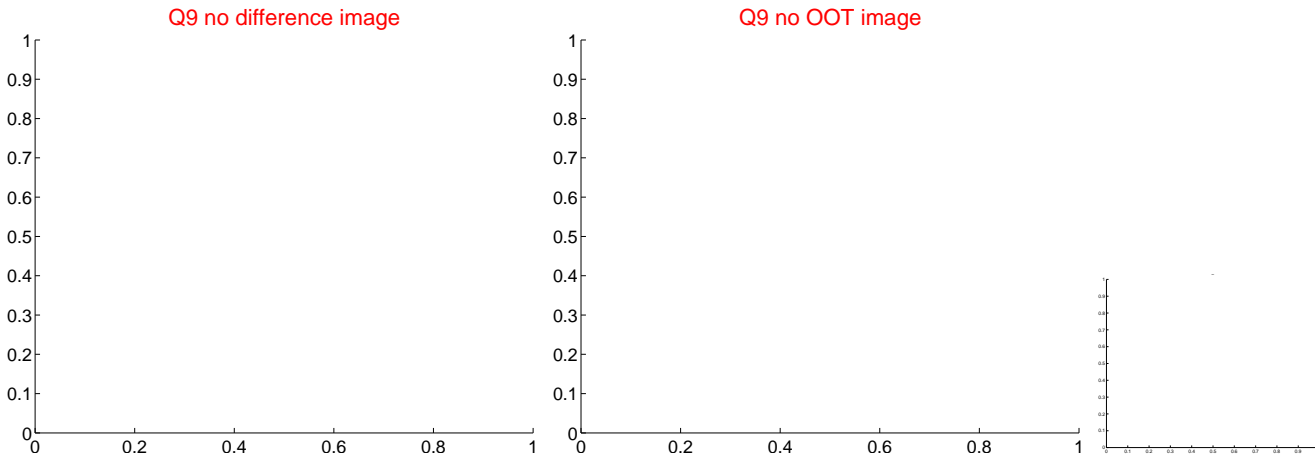
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



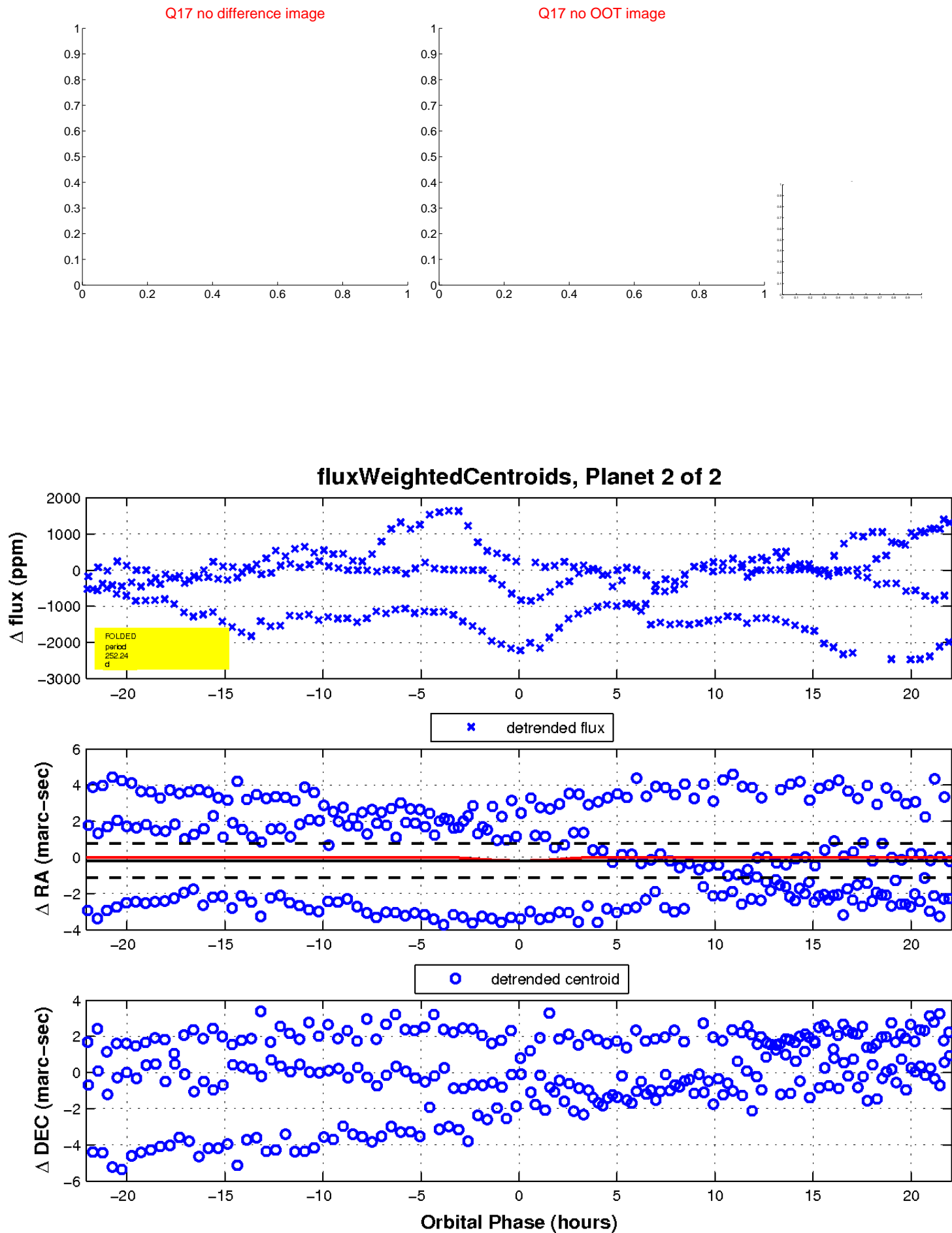
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

