

KIC 004725292

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})
004725292-01	OBS	No	266.566193	397.197064	4367.3	4.206	12.5	5.5	0.62	4254	3.98	0.24
004725292-02	OBS	6437.01	0.576927	131.791812	75.5	4.742	11.2	3.3	0.62	4254	0.61	861.75

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004725292-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004725292-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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.

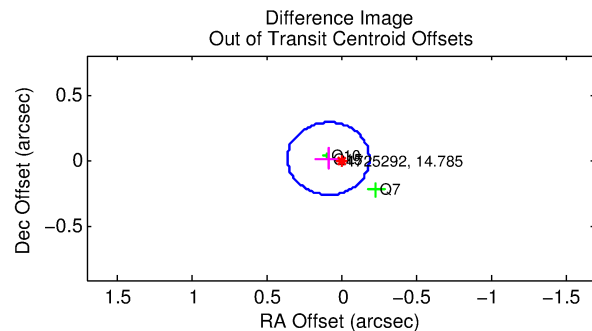
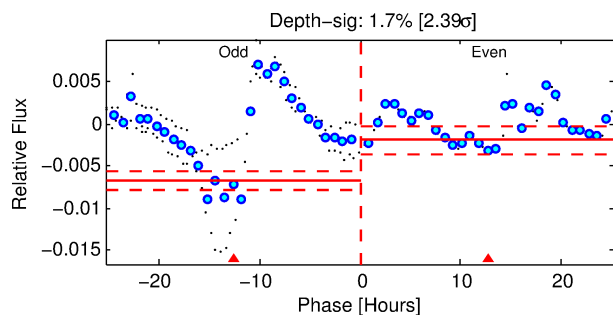
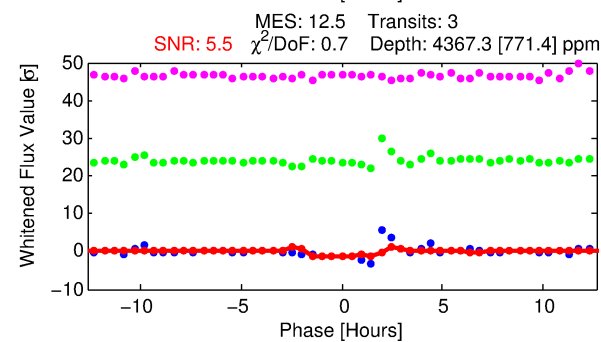
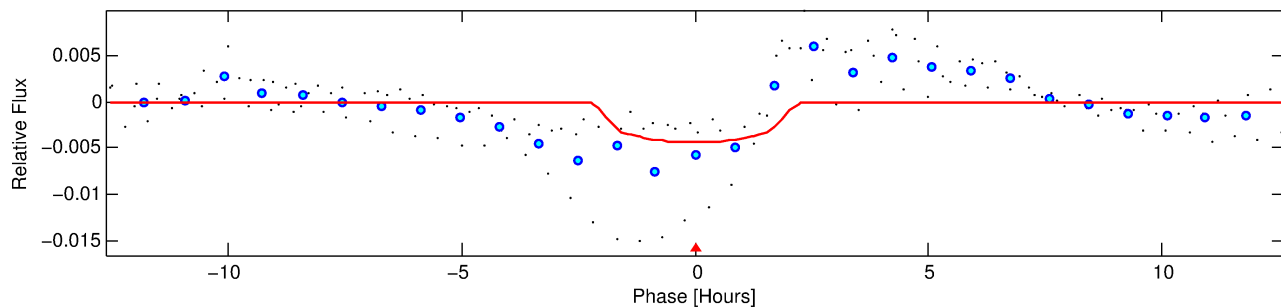
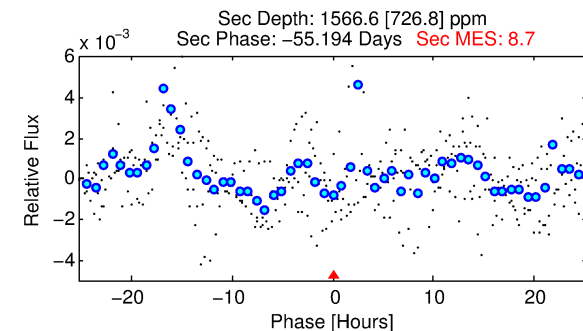
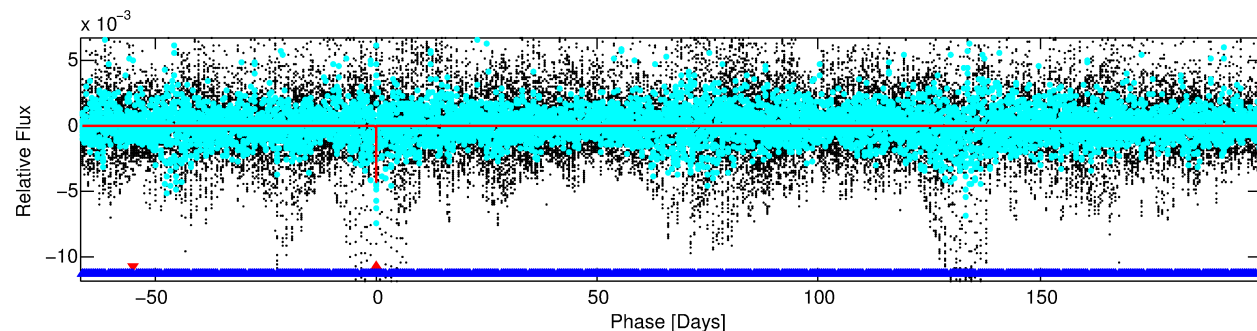
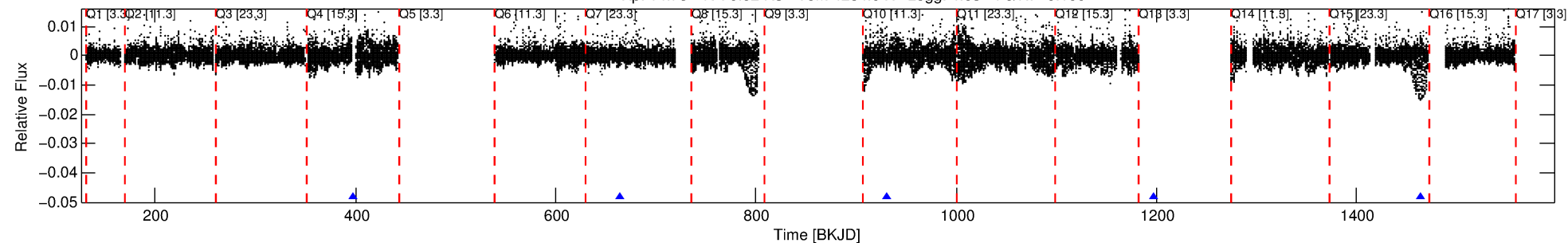
Ephemeris Match Information For 004725292-01

No Significant Match Found

DV One-Page Summary

KIC: 4725292 Candidate: 1 of 2 Period: 266.566 d
KOI: K06437 Corr: No Ephemeris Match

Kp: 14.78 R*: 0.62 Rs Teff: 4254.0 K Logg: 4.63 Fe/H: -0.160



DV Fit Results:

Period = 266.56619 [0.00269] d
Epoch = 397.1971 [0.0060] BKJD
Rp/R* = 0.0585 [0.0436]
a/R* = 505.90 [1158.85]
b = 0.17 [13.49]
Seff = 0.24 [0.04]
Teq = 179 [7] K
Rp = 3.98 [2.99] Re
a = 0.6882 [0.0492] AU
Ag = 25764.12 [40346.75] [0.64σ]
Teffp = 3501 [1372] K [2.42σ]

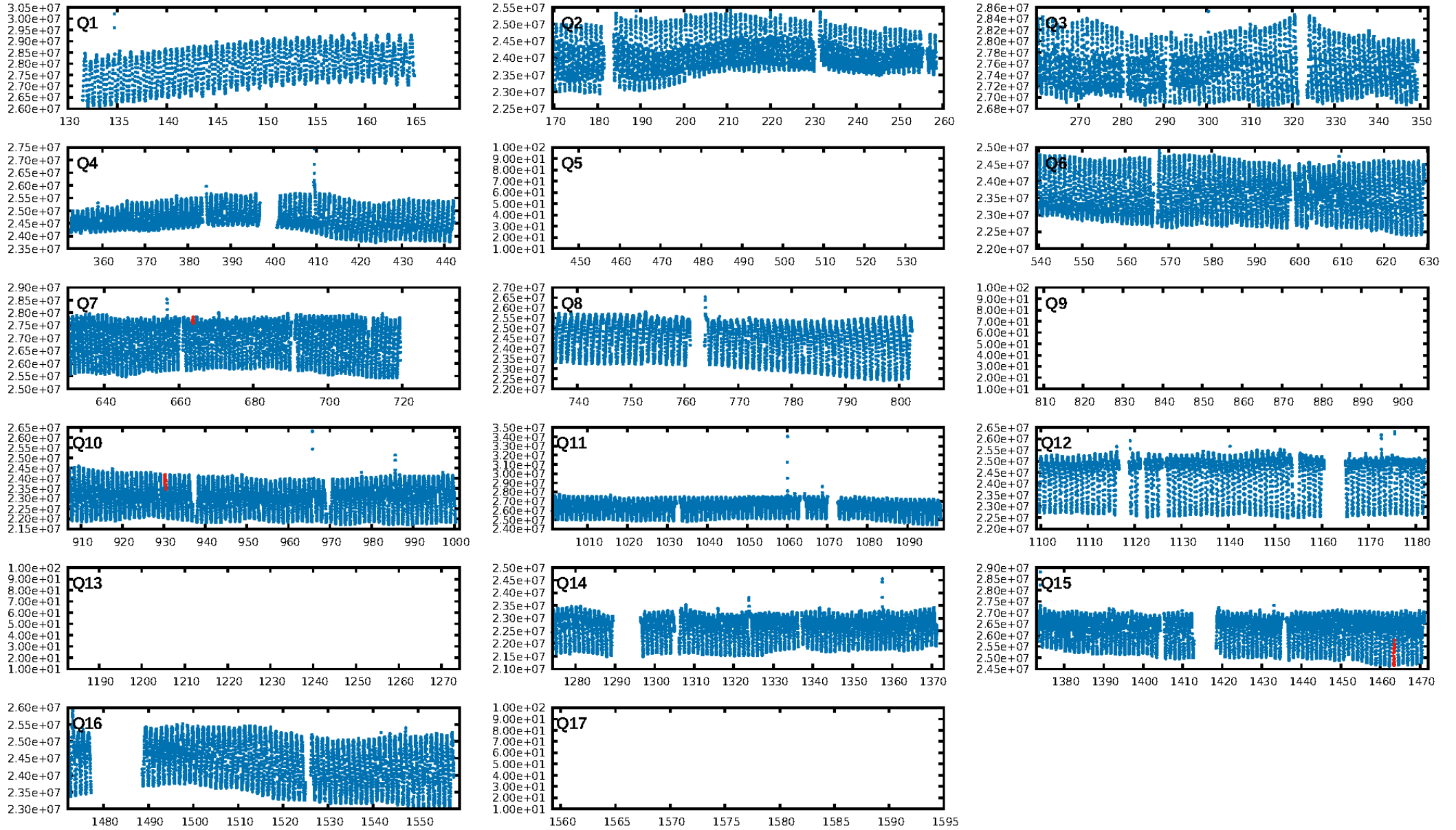
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [1007.09σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 96.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.836
Centroid-sig: 62.2%
Centroid-so: 0.712 arcsec [1.58σ]
OotOffset-rm: 0.086 arcsec [0.95σ]
KicOffset-rm: 0.112 arcsec [1.35σ]
OotOffset-st: 1/2/0/0 [3]
KicOffset-st: 1/2/0/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/3]

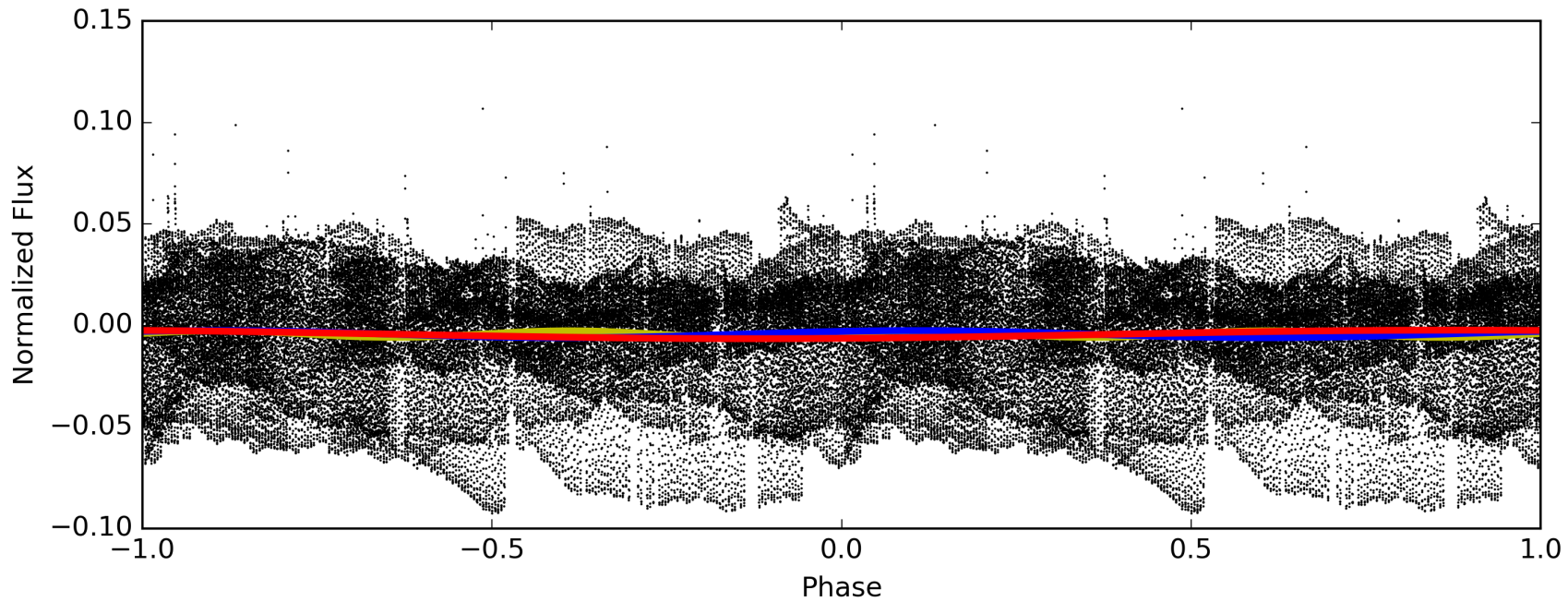
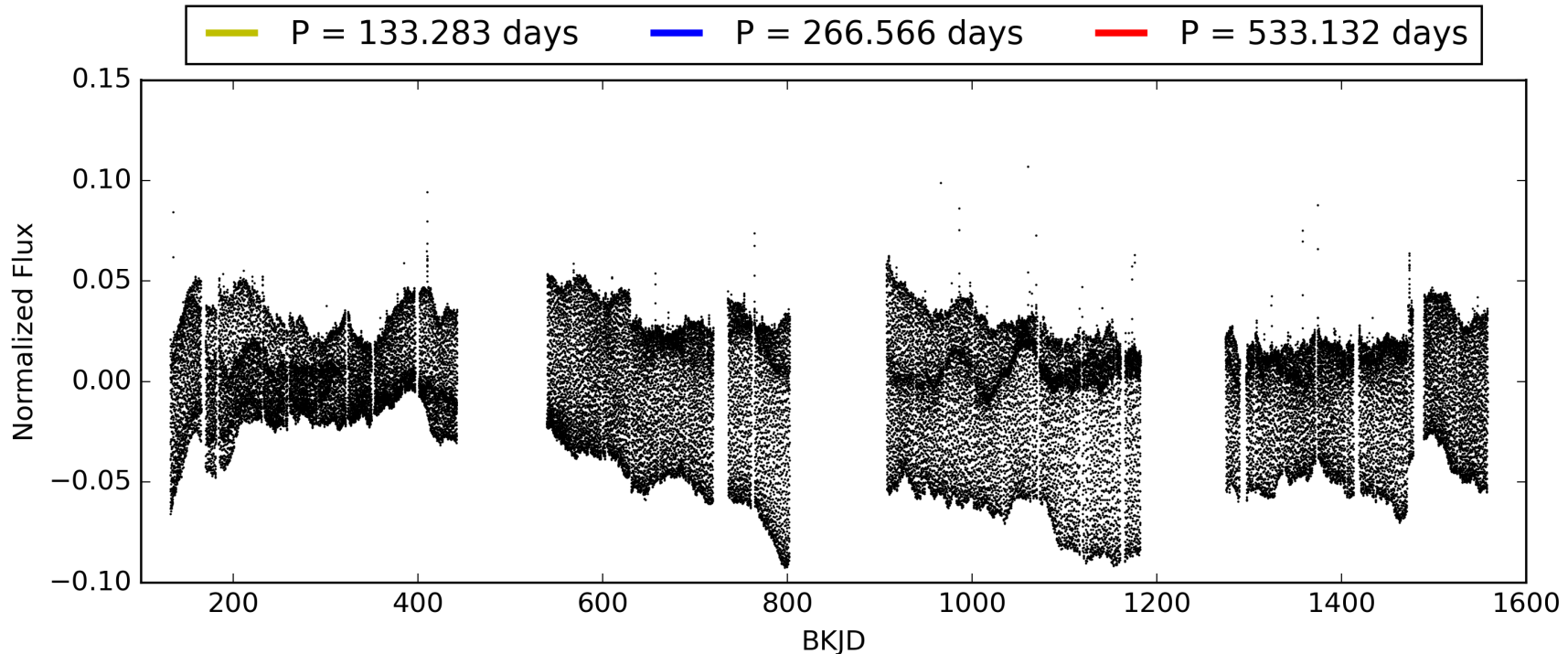
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 11:59:31 Z

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

TCE 004725292-01, PDC Light Curves

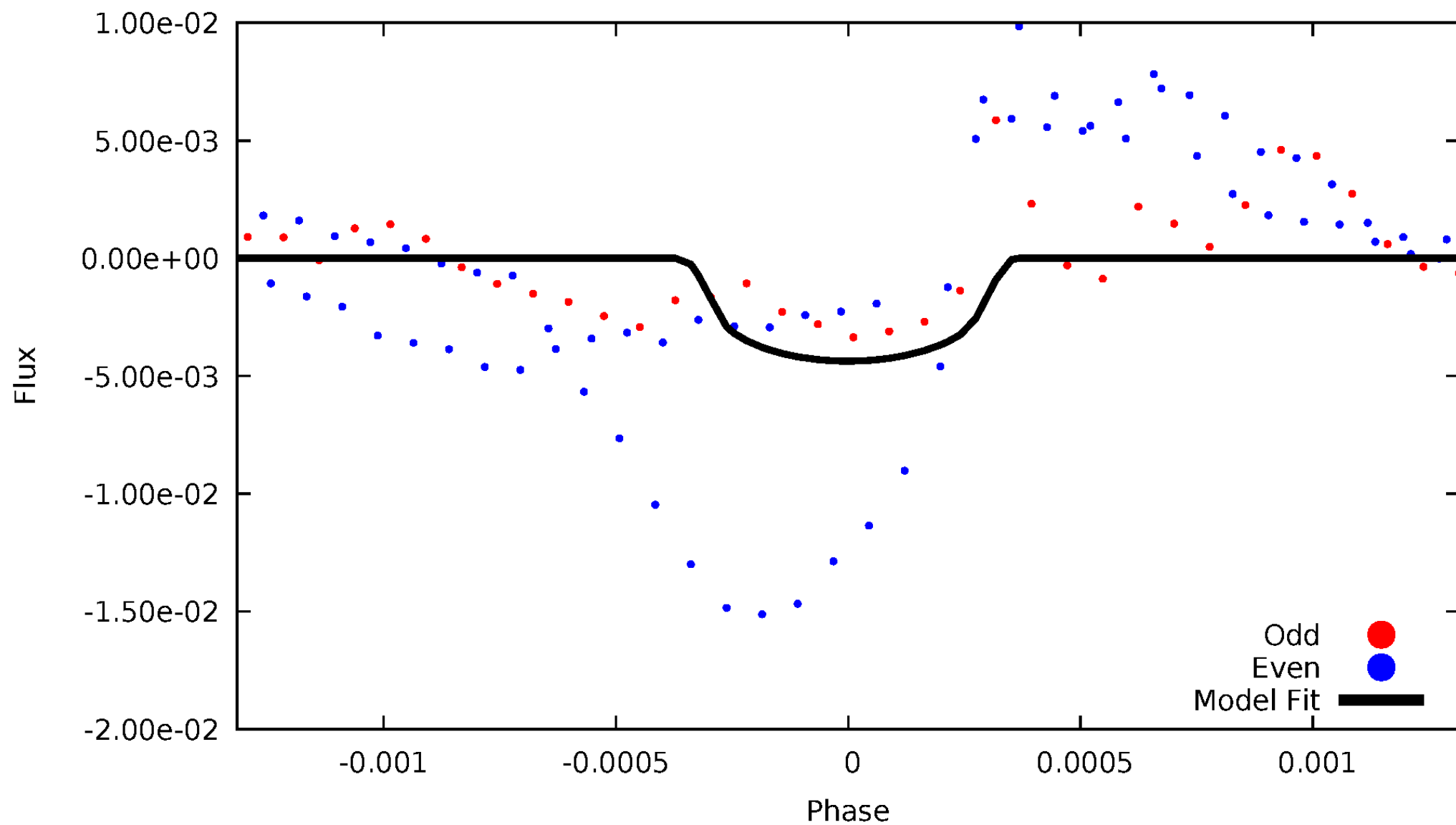


TCE 004725292-01



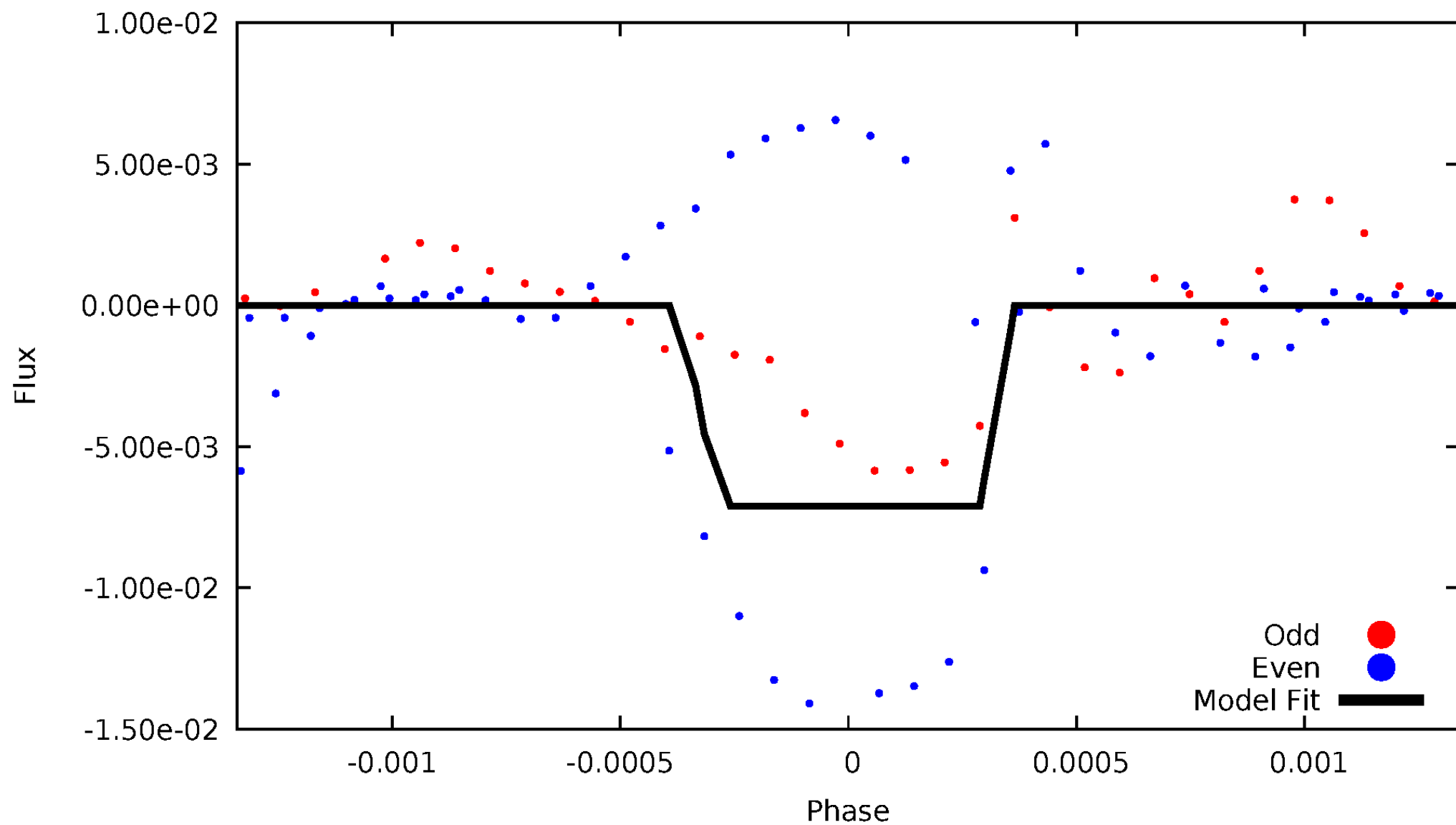
DV Odd/Even

TCE 004725292-01



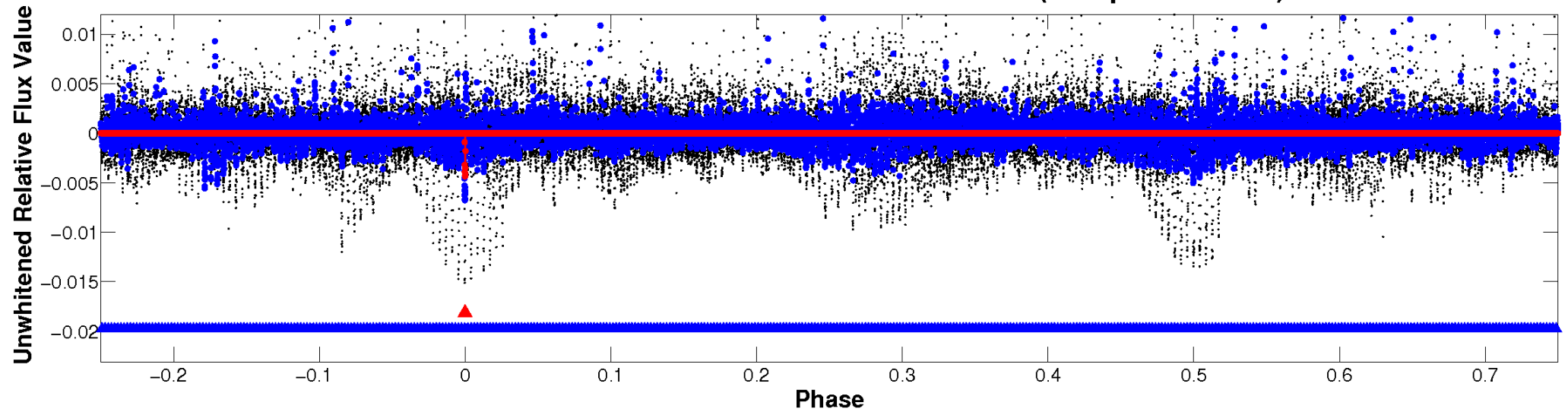
ALT Odd/Even

TCE 004725292-01

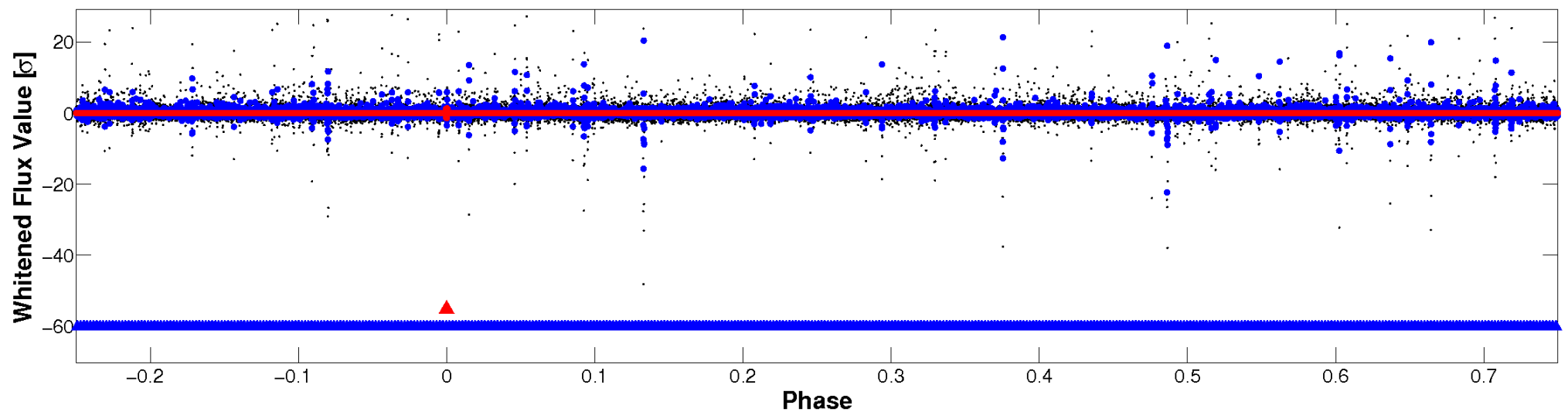


Non-Whitened Vs. Whitened Light Curve

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

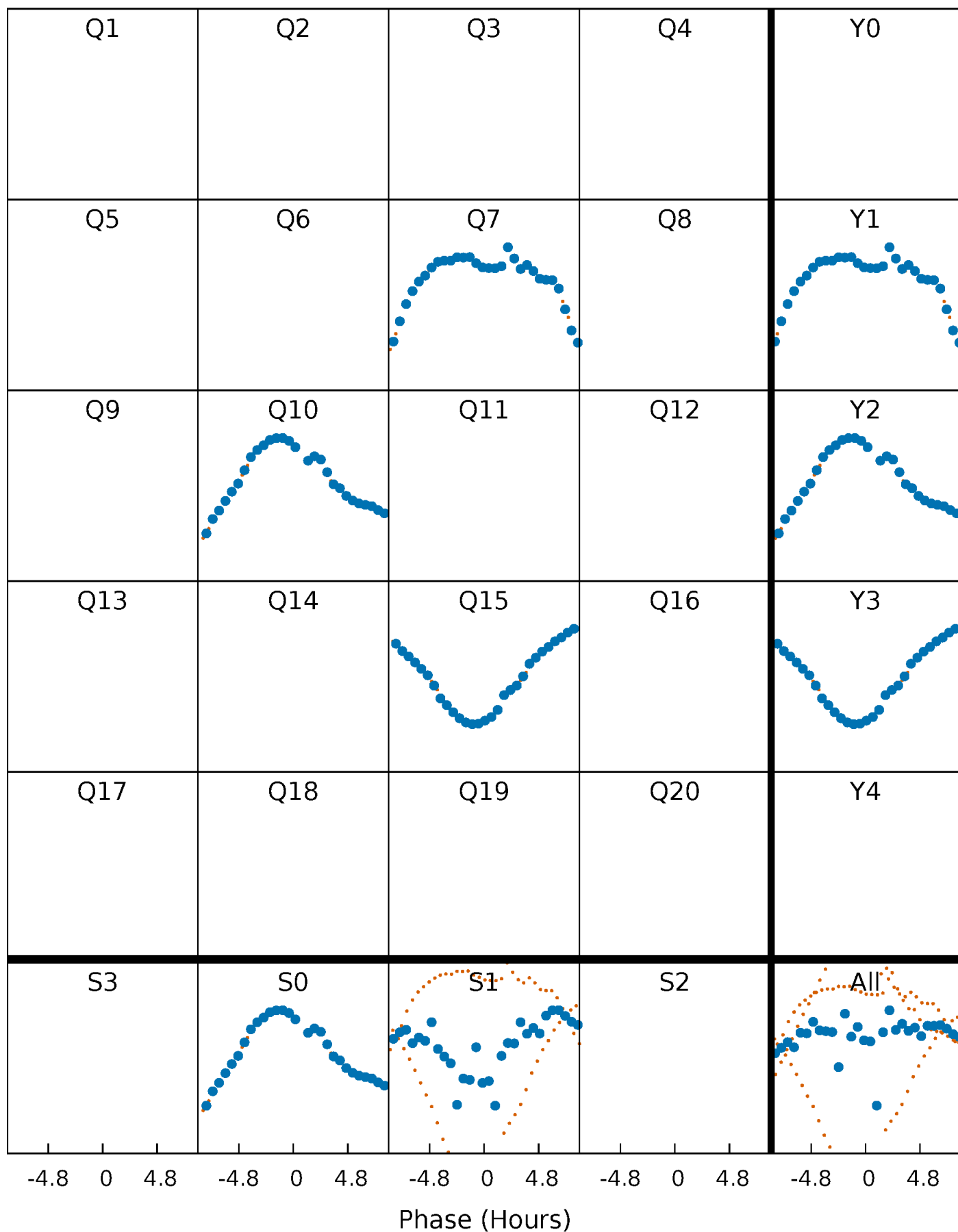


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



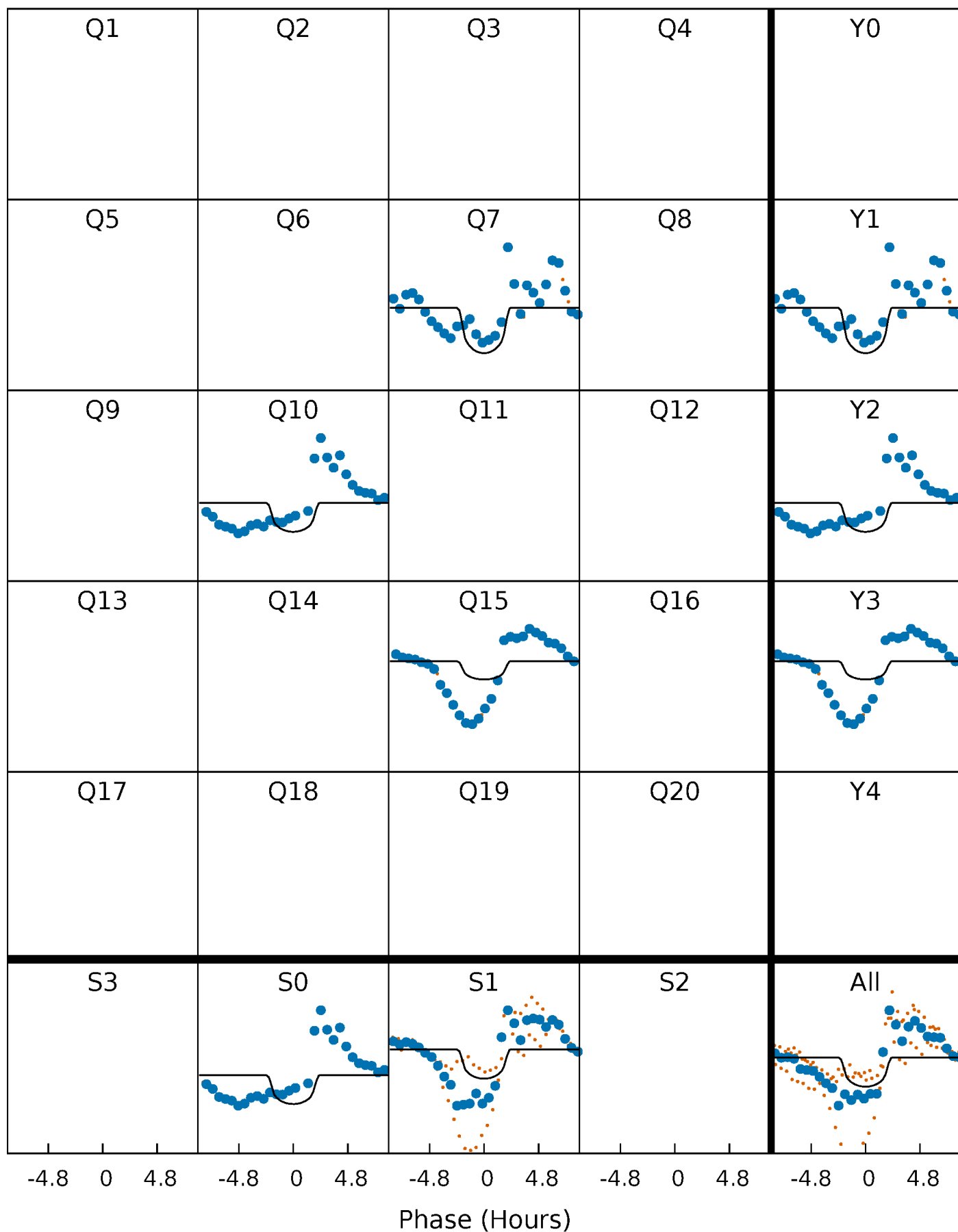
PDC Quarter-Phased Transit Curves

TCE 004725292-01 $P=266.566193$ Days $T_0=397.197064$ (BKJD)



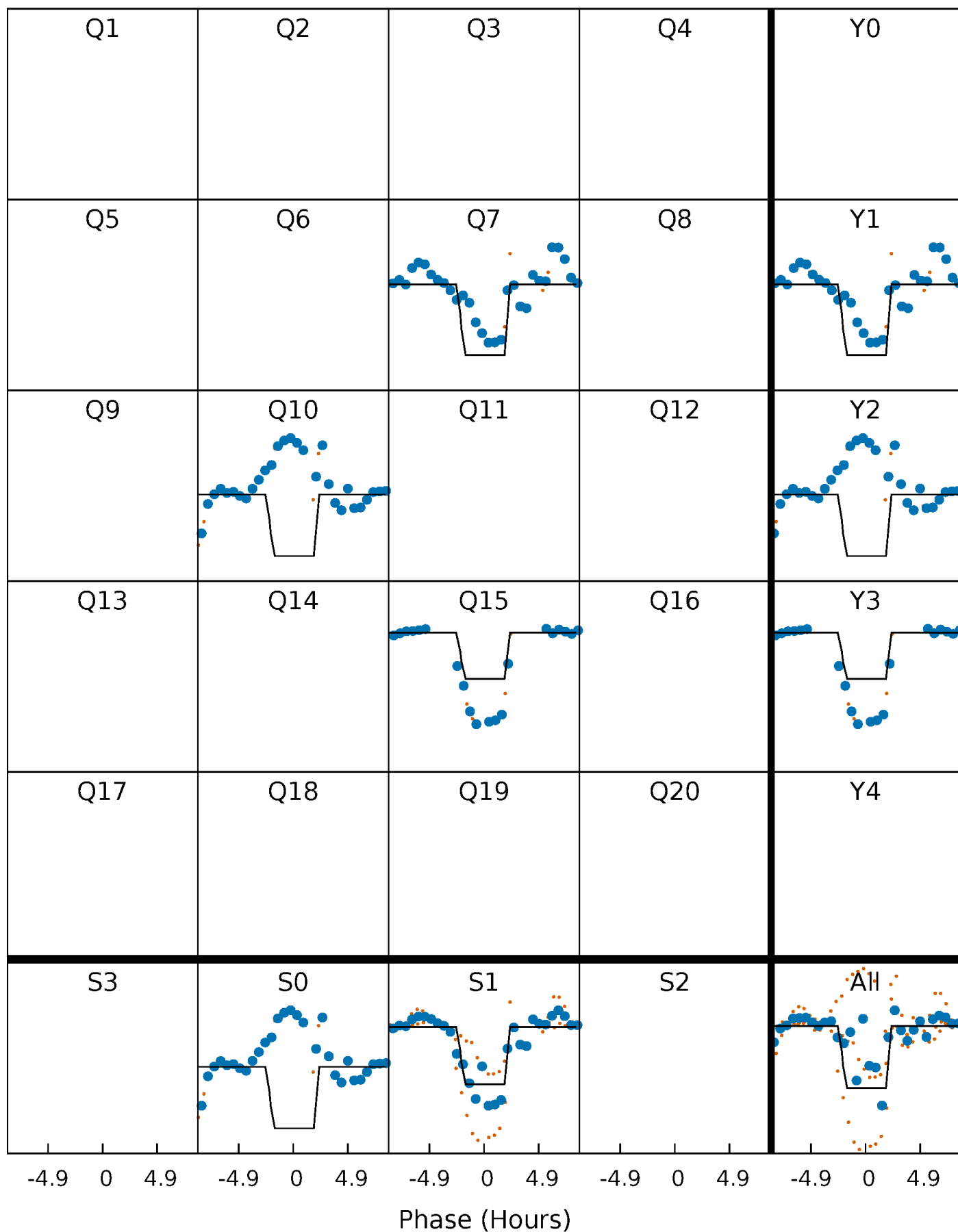
DV Quarter-Phased Transit Curves

TCE 004725292-01 P=266.566193 Days $T_0=397.197064$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

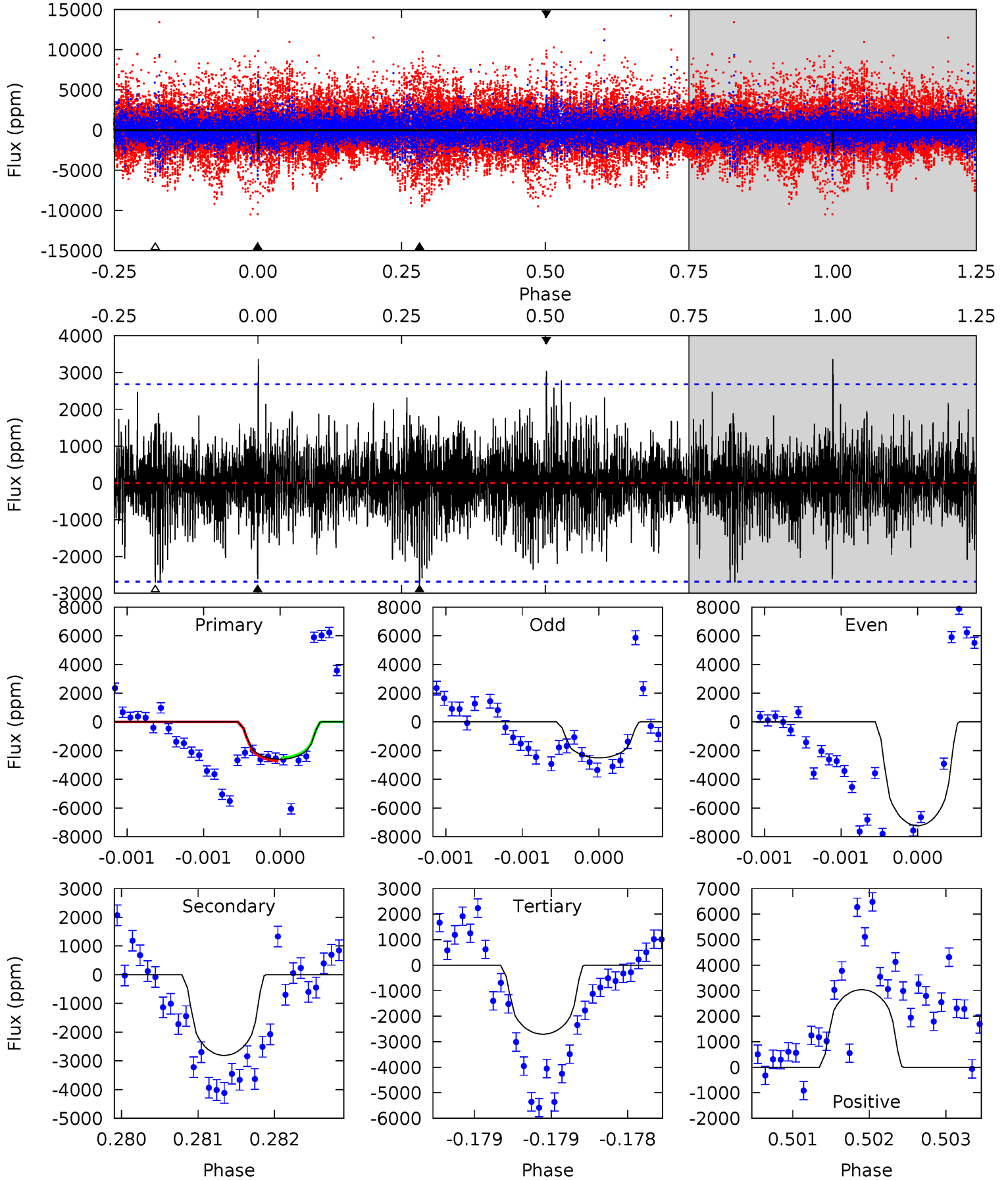
TCE 004725292-01 P=266.561497 Days $T_0=397.189270$ (BKJD)



DV Model-Shift Uniqueness Test

004725292-01, P = 266.566193 Days, E = 130.630871 Days

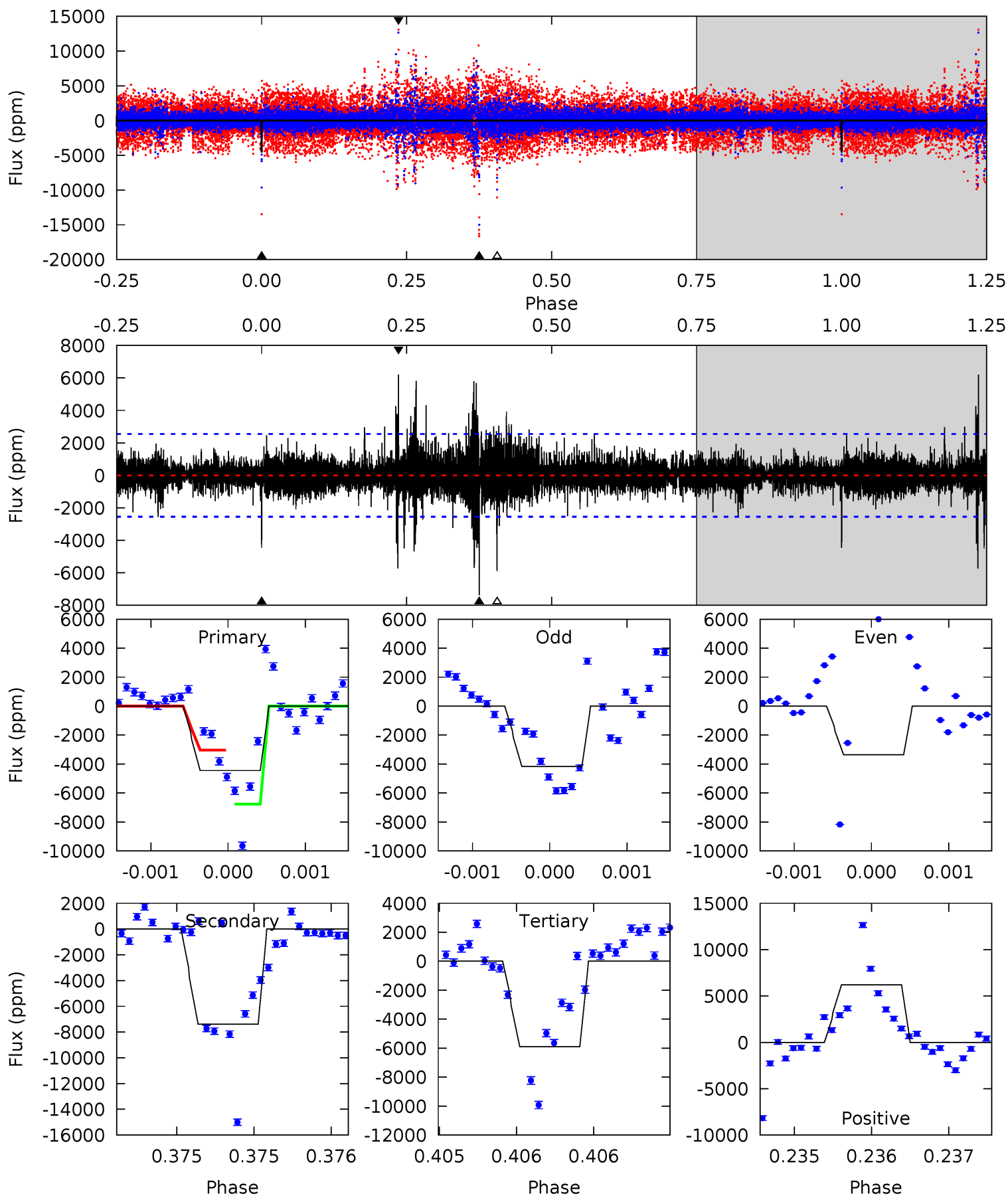
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.37	5.78	5.57	6.26	5.52	3.40	1.45	-0.20	-0.89	0.22	-0.47	4.81	2.15	0.54	0.23



Alt Model-Shift Uniqueness Test

004725292-01, P = 266.561497 Days, E = 130.627773 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.63	16.0	12.8	13.4	5.52	3.39	1.72	-3.12	-3.79	3.22	2.55	0.79	0.95	0.46	4.19



Stellar Parameters For KIC 004725292

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4254^{+128}_{-128}	$4.634^{+0.053}_{-0.021}$	$-0.160^{+0.300}_{-0.300}$	$0.624^{+0.045}_{-0.055}$	$0.612^{+0.067}_{-0.050}$	$3.544^{+0.828}_{-0.379}$
	+3%/-3%	+1%/-0%	+188%/-188%	+7%/-9%	+11%/-8%	+23%/-11%
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 004725292-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-2811 ± 486	$4.50^{+2.54}_{-2.47}$	248^{+8}_{-8}	3899^{+1434}_{-550}	$35967^{+141247}_{-21725}$
Alt.	-7382 ± 462	$5.89^{+3.05}_{-2.76}$	247^{+8}_{-8}	4240^{+1213}_{-602}	$56620^{+144453}_{-32229}$

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

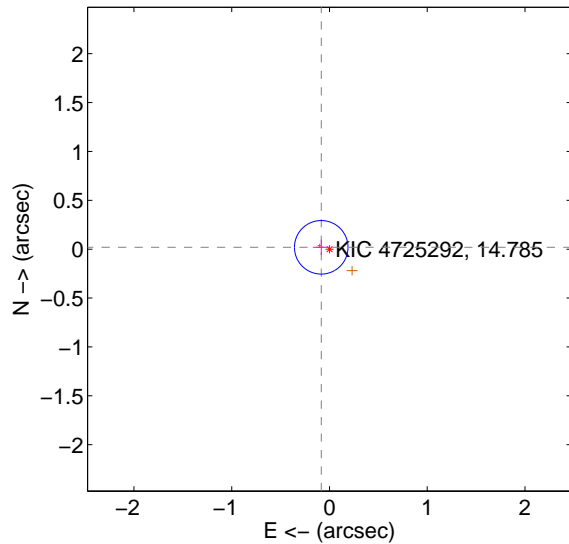
Supplemental centroid analysis for 004725292-01. Kepler magnitude: 14.79. Transit SNR 5.52

There are 1 quarters with good PRF difference image offsets

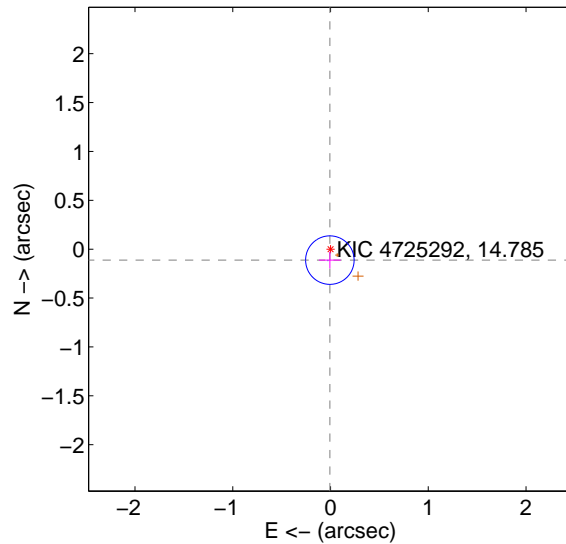
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.086 ± 0.091	0.95	0.084 ± 0.086	0.019 ± 0.078
PRF-fit source offset from KIC position	0.112 ± 0.083	1.35	0.007 ± 0.112	-0.112 ± 0.086
photometric centroid source offset	0.71 ± 0.45	1.58	-0.69 ± 0.45	-0.19 ± 0.41

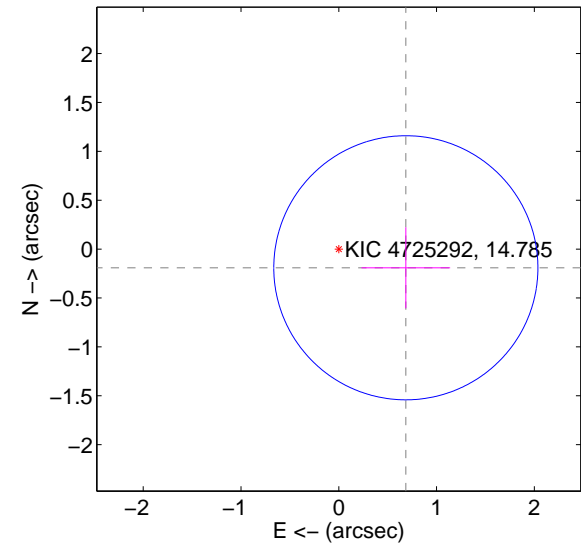
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

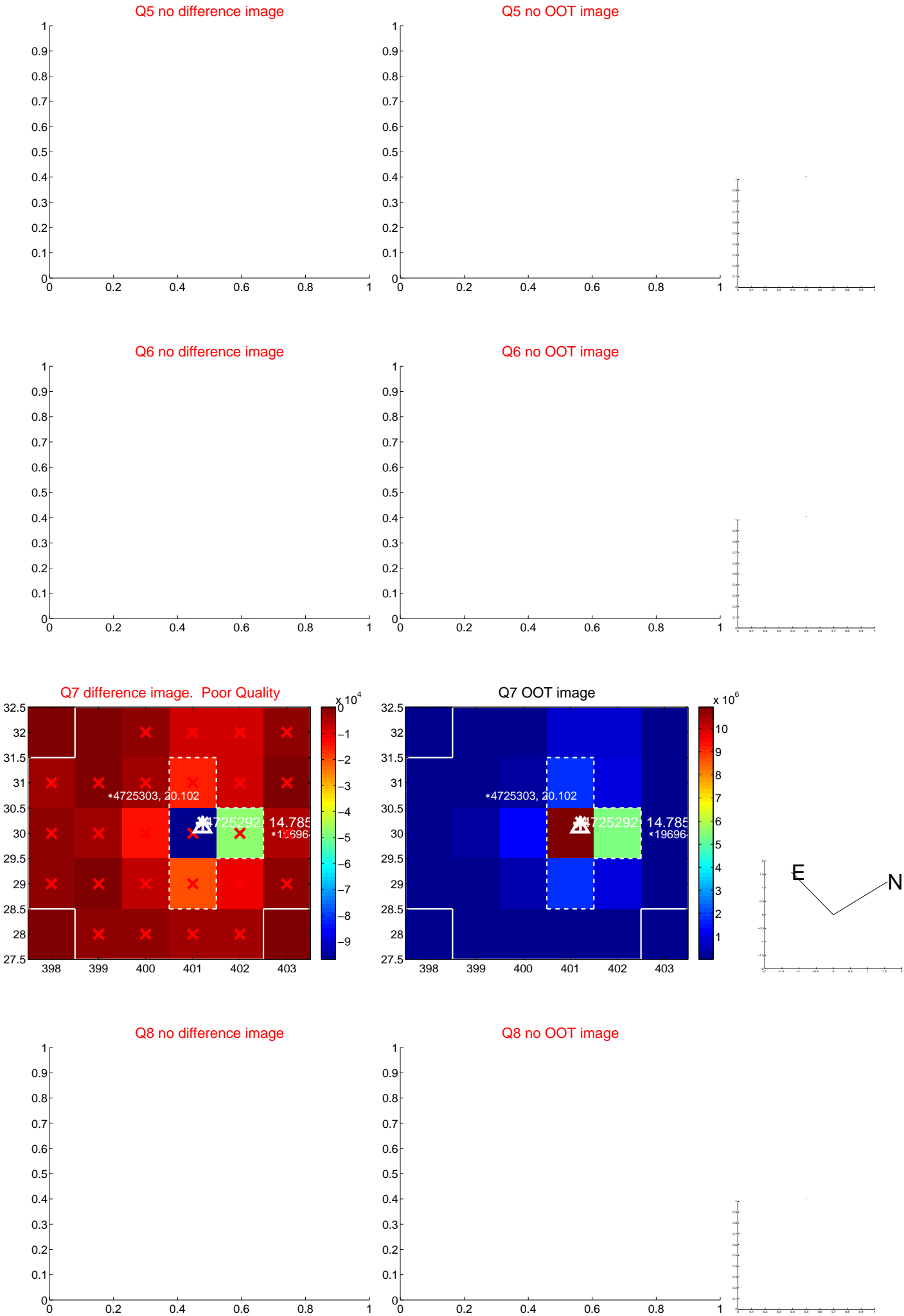


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

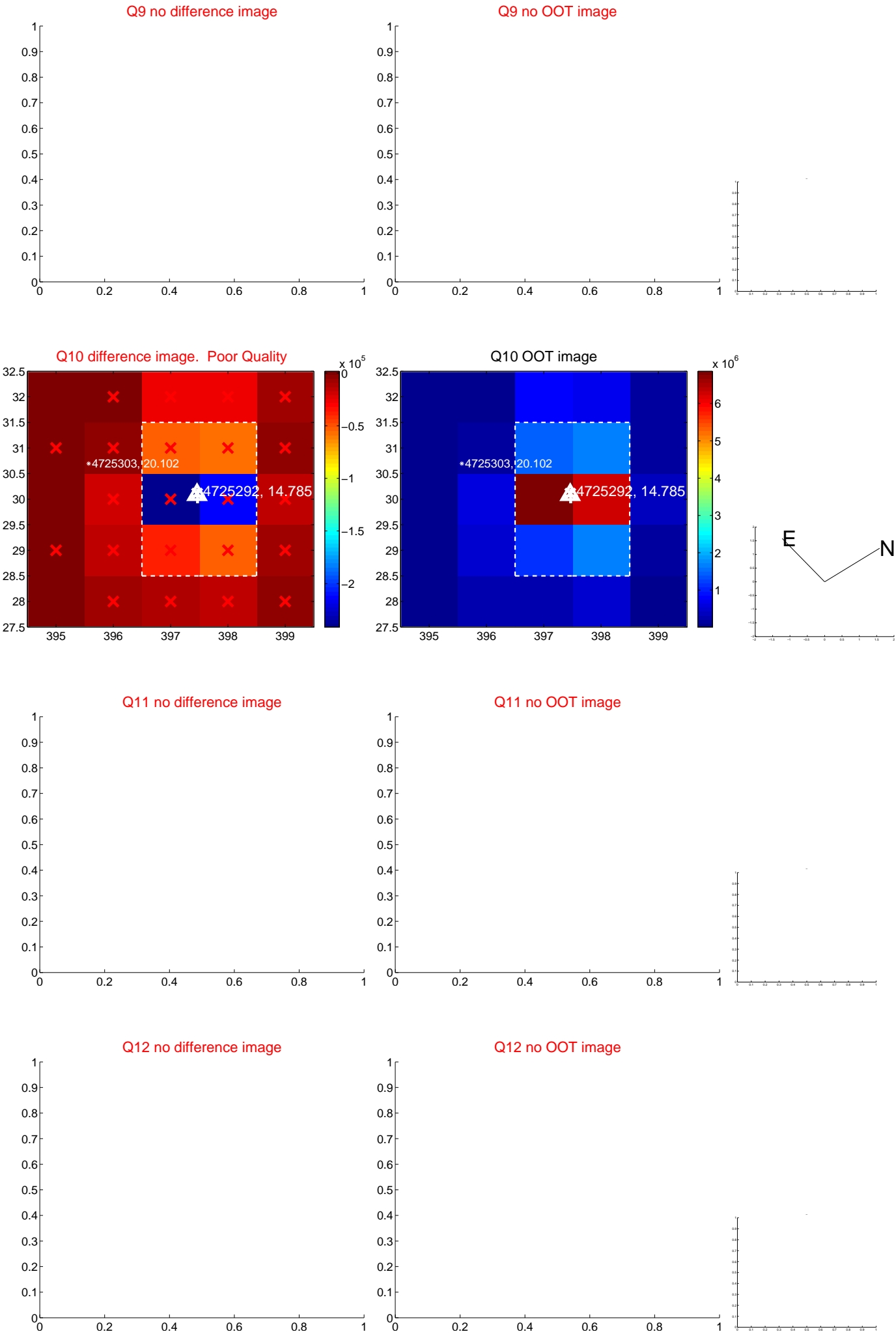
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



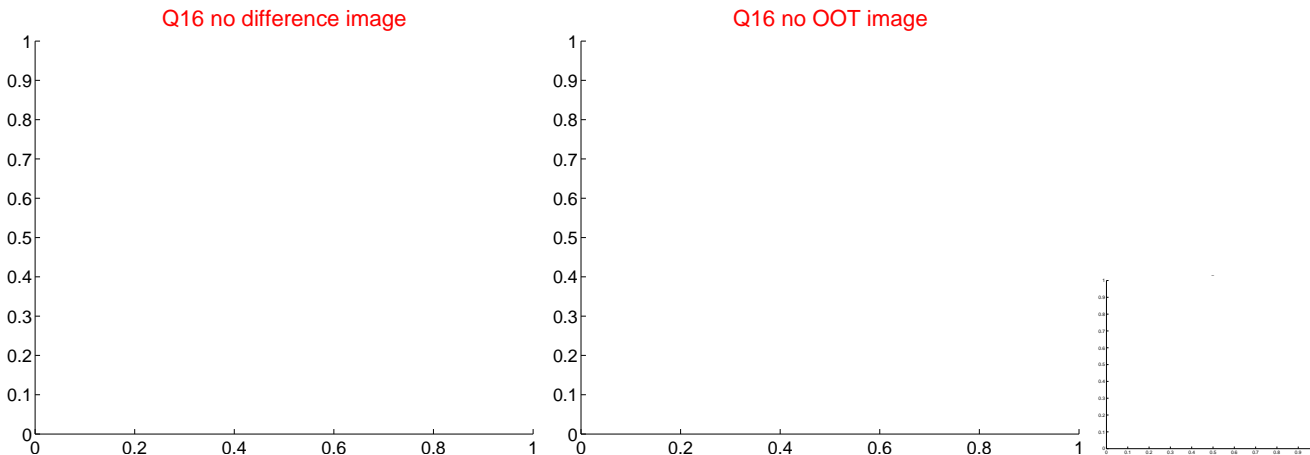
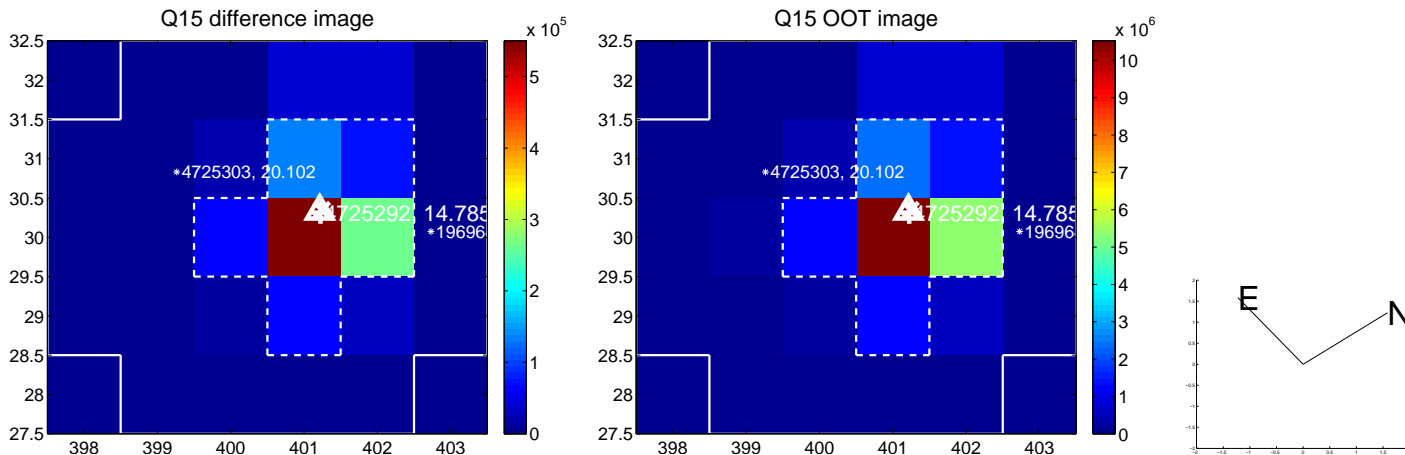
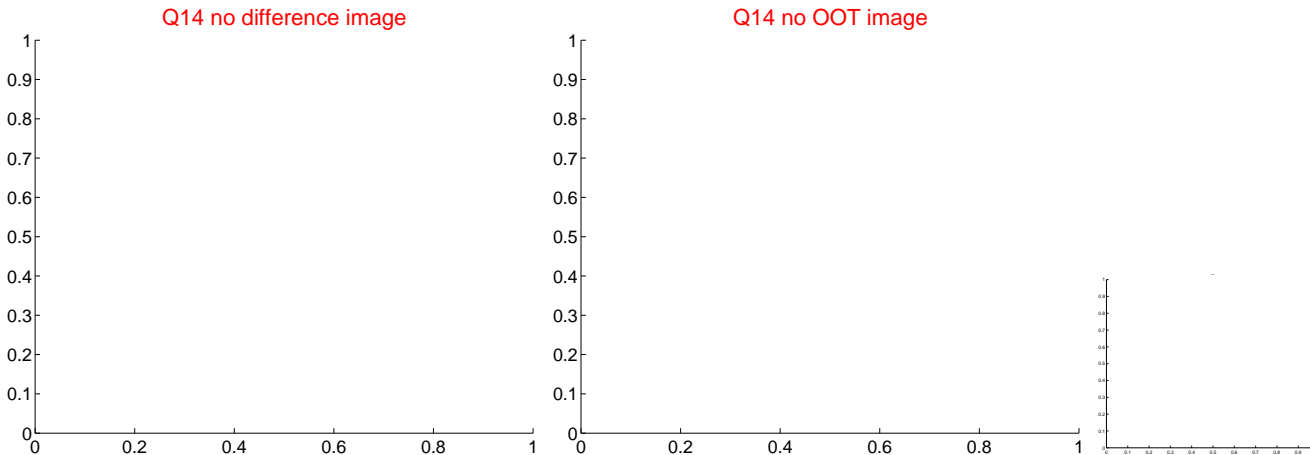
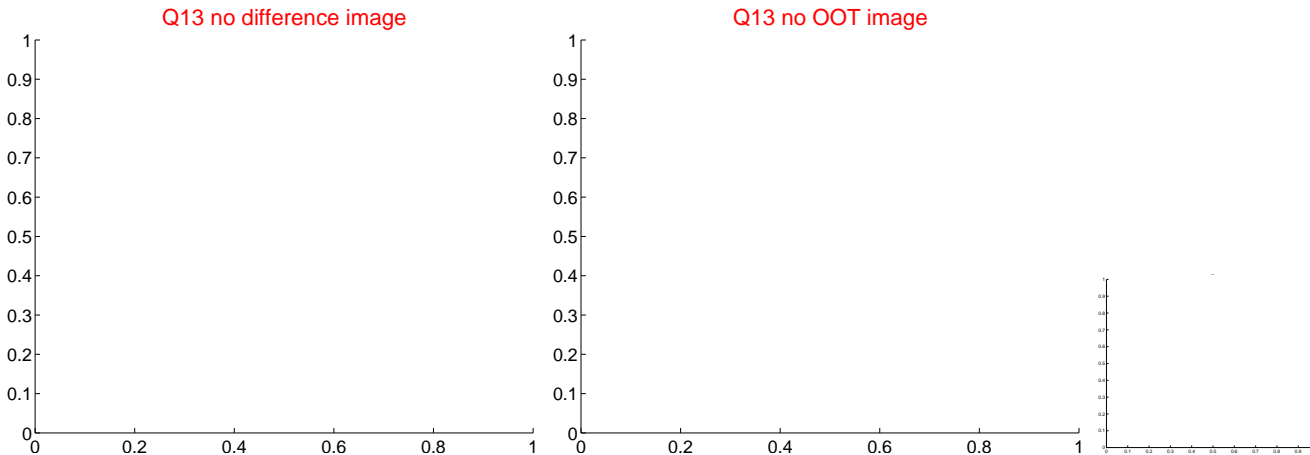
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



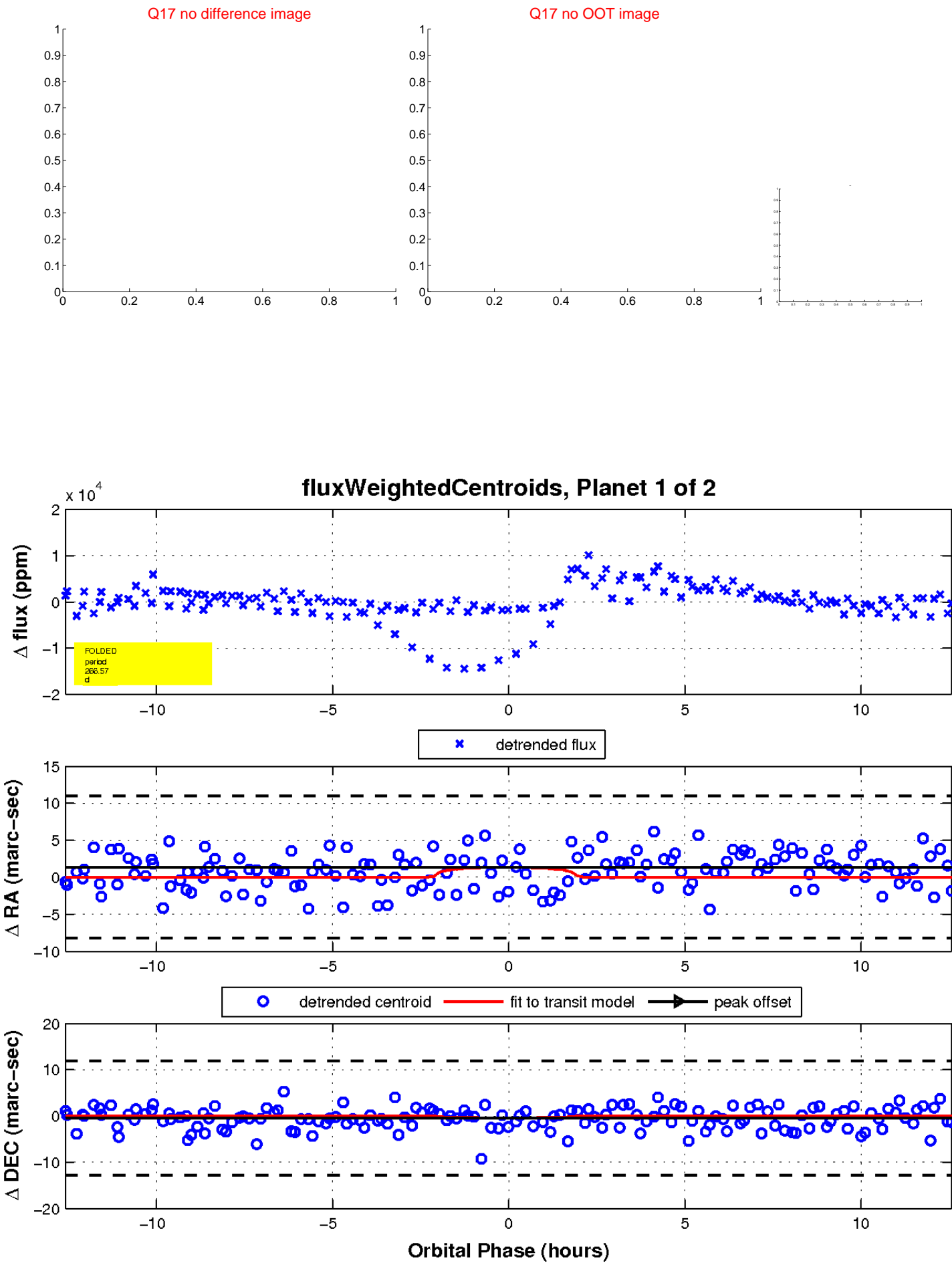
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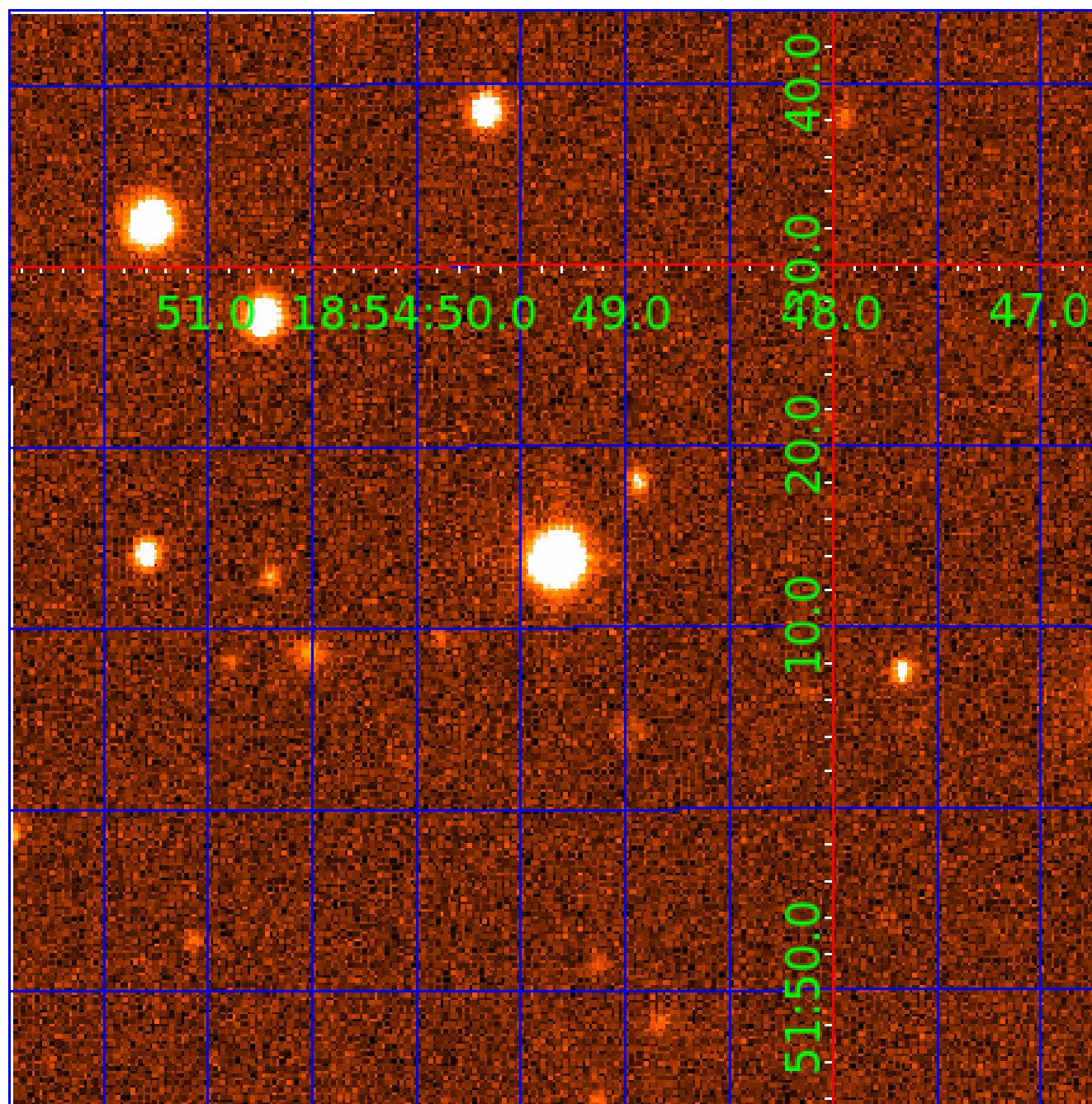


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004725292

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})
004725292-01	OBS	No	266.566193	397.197064	4367.3	4.206	12.5	5.5	0.62	4254	3.98	0.24
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004725292-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
004725292-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT

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.

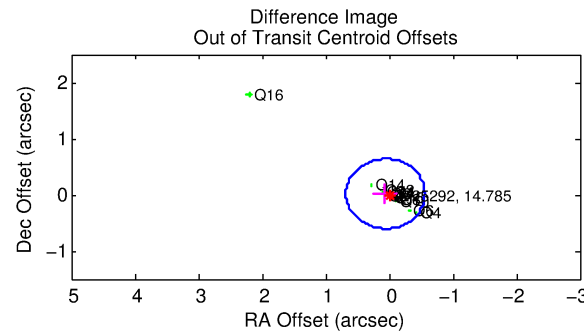
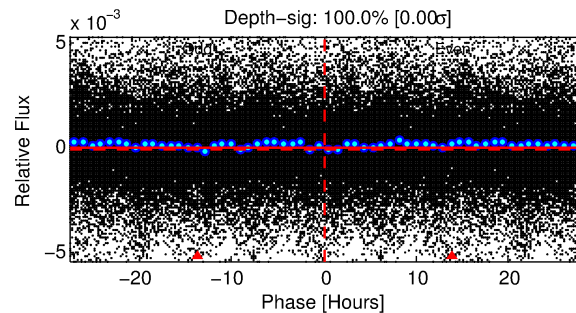
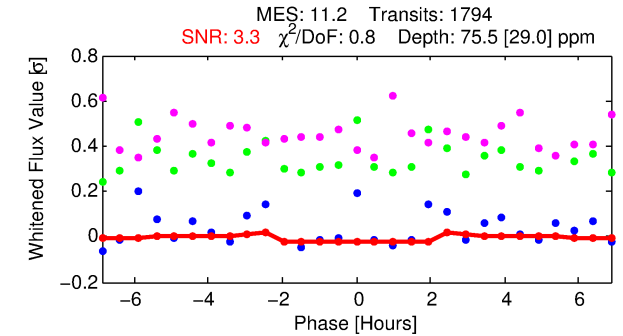
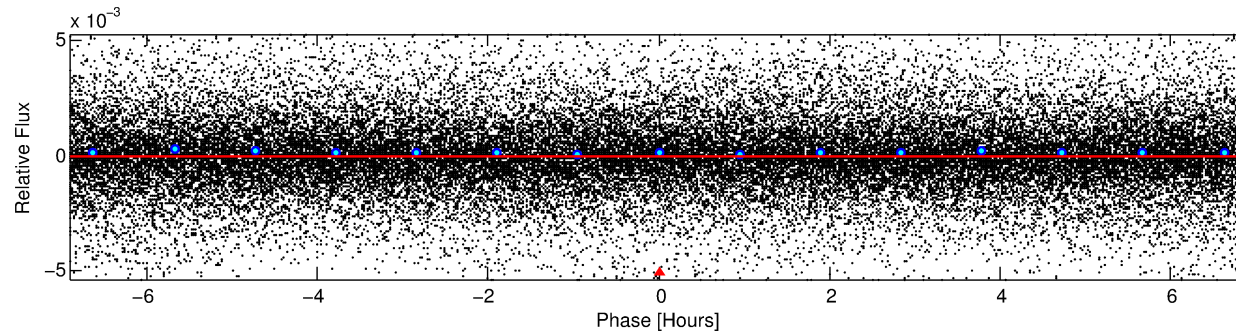
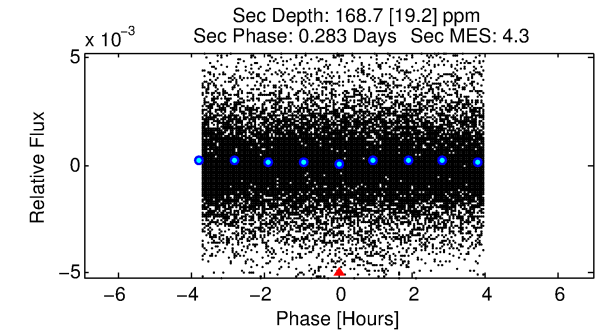
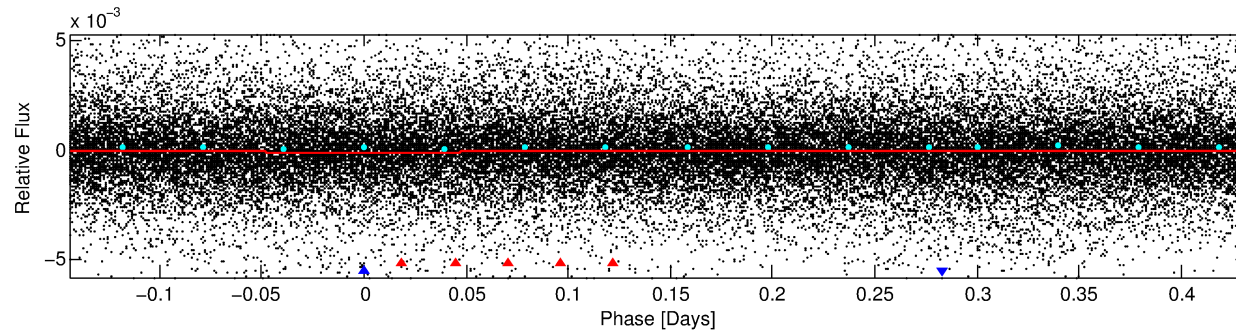
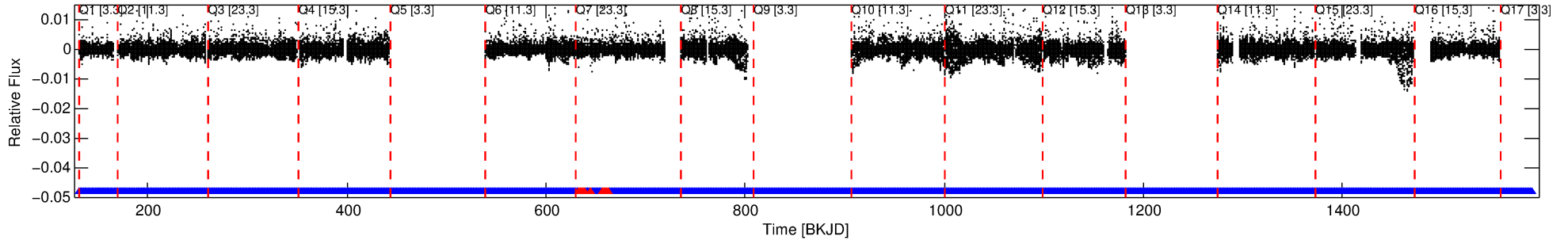
Ephemeris Match Information For 004725292-02

No Significant Match Found

DV One-Page Summary

KIC: 4725292 Candidate: 2 of 2 Period: 0.577 d
KOI: K06437 Corr: No Ephemeris Match

Kp: 14.78 R*: 0.62 Rs Teff: 4254.0 K Logg: 4.63 Fe/H: -0.160



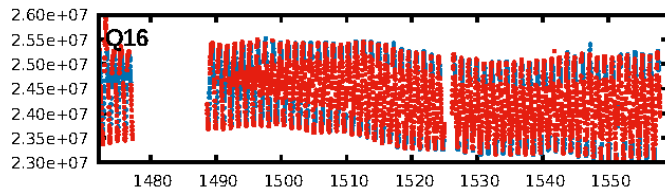
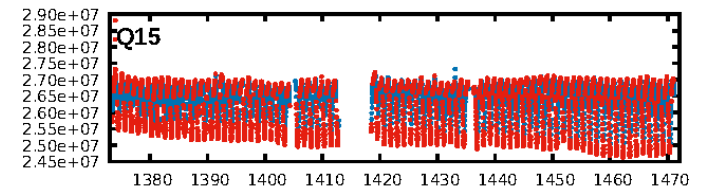
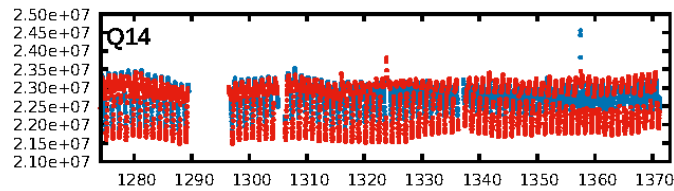
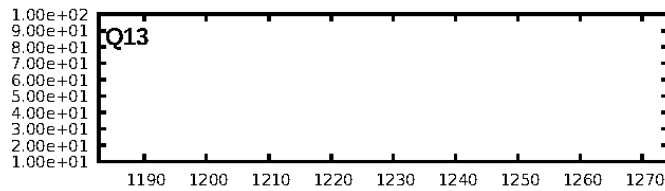
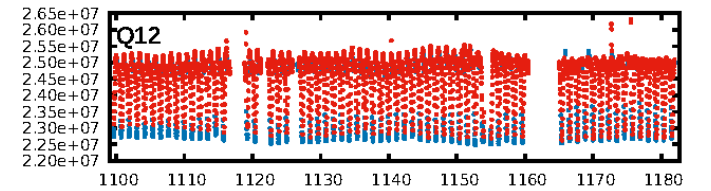
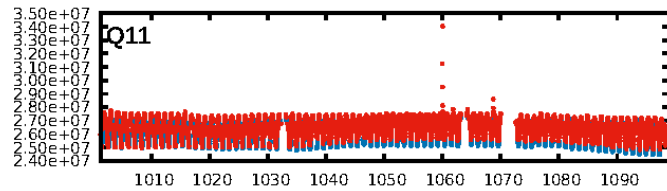
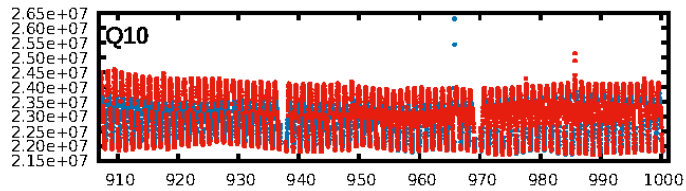
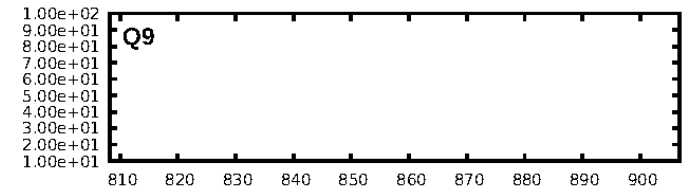
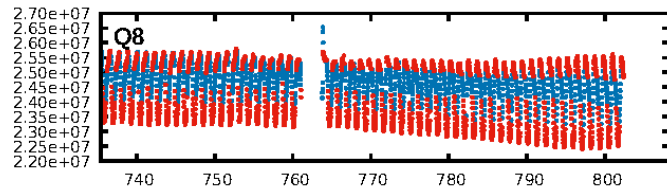
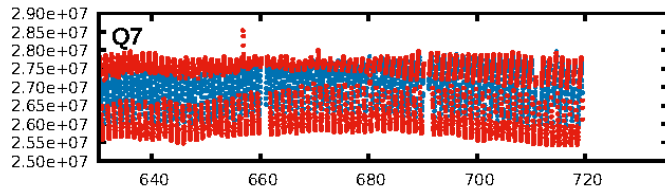
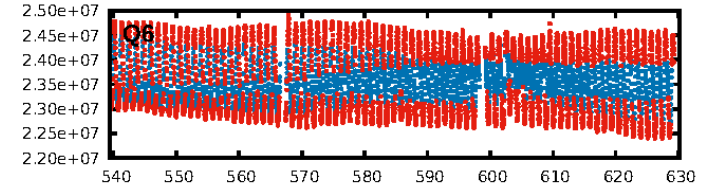
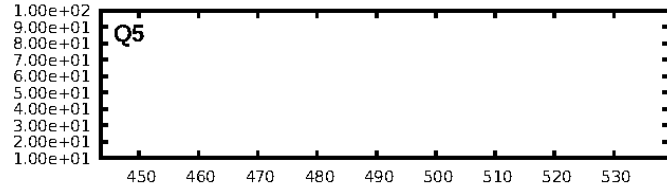
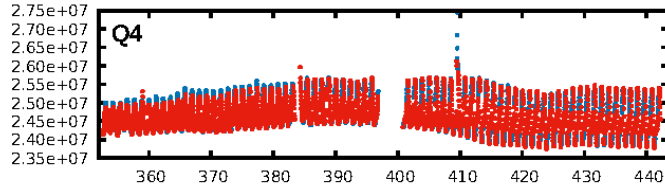
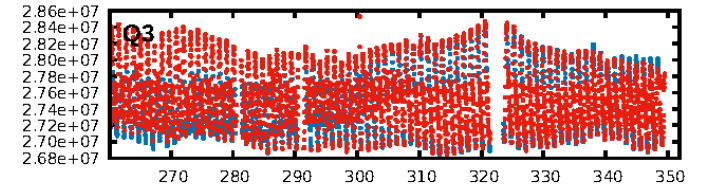
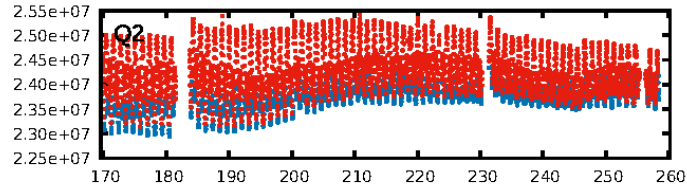
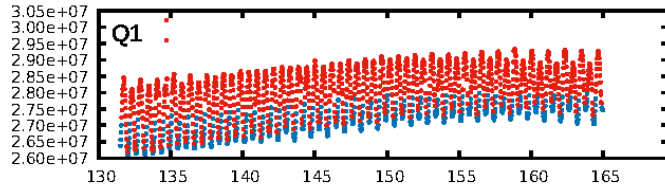
DV Fit Results:

Period = 0.57693 [0.00003] d
Epoch = 131.7918 [0.0054] BKJD
Rp/R* = 0.0090 [0.0069]
a/R* = 1.06 [0.33]
b = 0.81 [1.26]
Seff = 861.75 [135.04]
Teff = 1382 [54] K
Rp = 0.61 [0.47] Re
a = 0.0115 [0.0008] AU
Ag = 32.80 [50.68] [0.63σ]
Teffp = 5112 [1976] K [1.89σ]

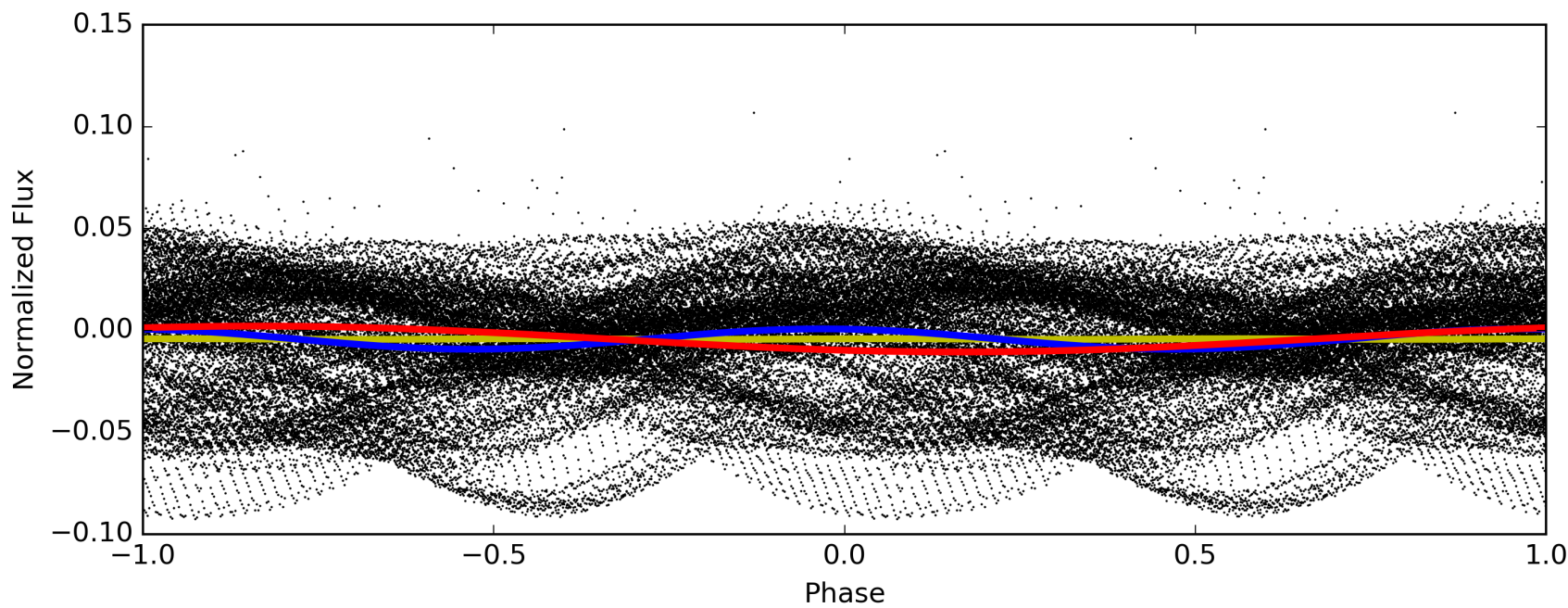
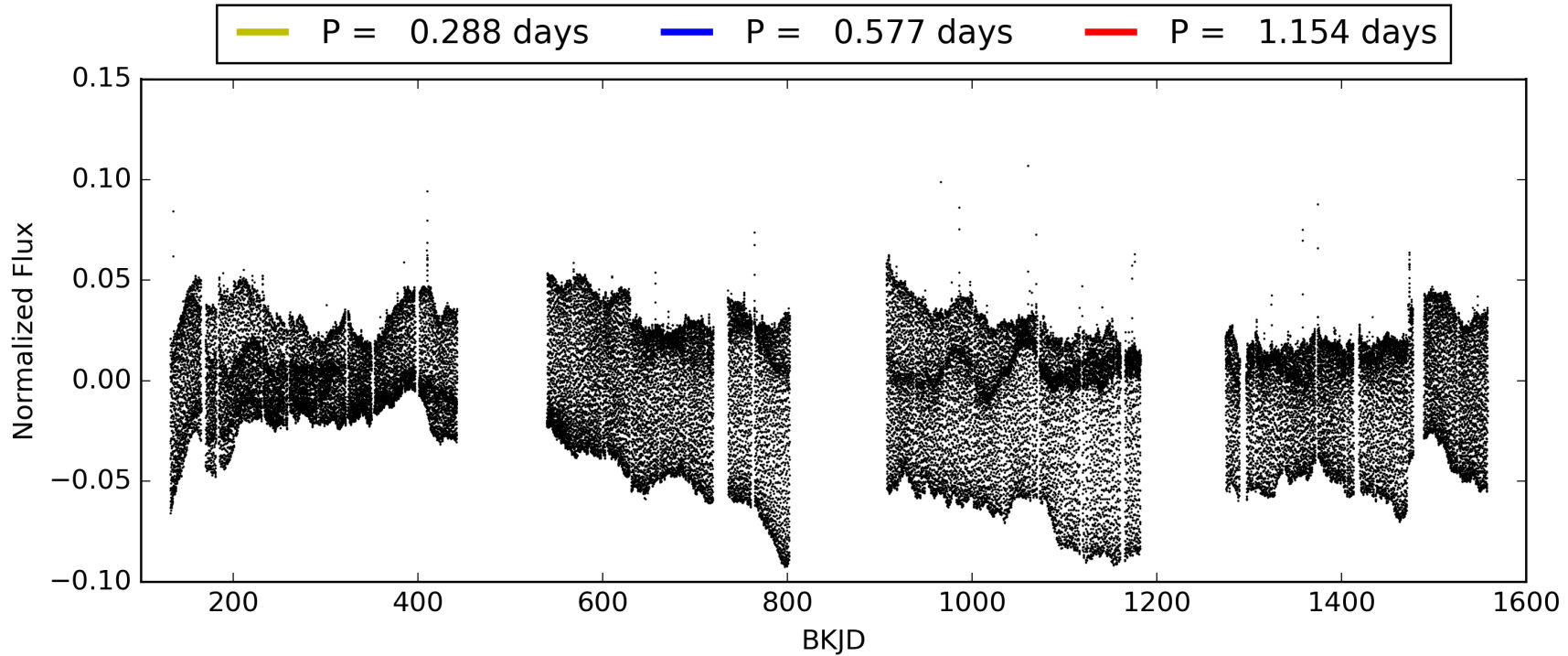
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [1007.09σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1719/1736]
GhostDiagnostic-chr: 1.02
Centroid-sig: 6.9%
Centroid-so: 1.055 arcsec [1.34σ]
OotOffset-rm: 0.063 arcsec [0.30σ]
KicOffset-rm: 0.077 arcsec [0.45σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.38 [5/13]
DiffImageOverlap-fno: 1.00 [13/13]

TCE 004725292-02, PDC Light Curves

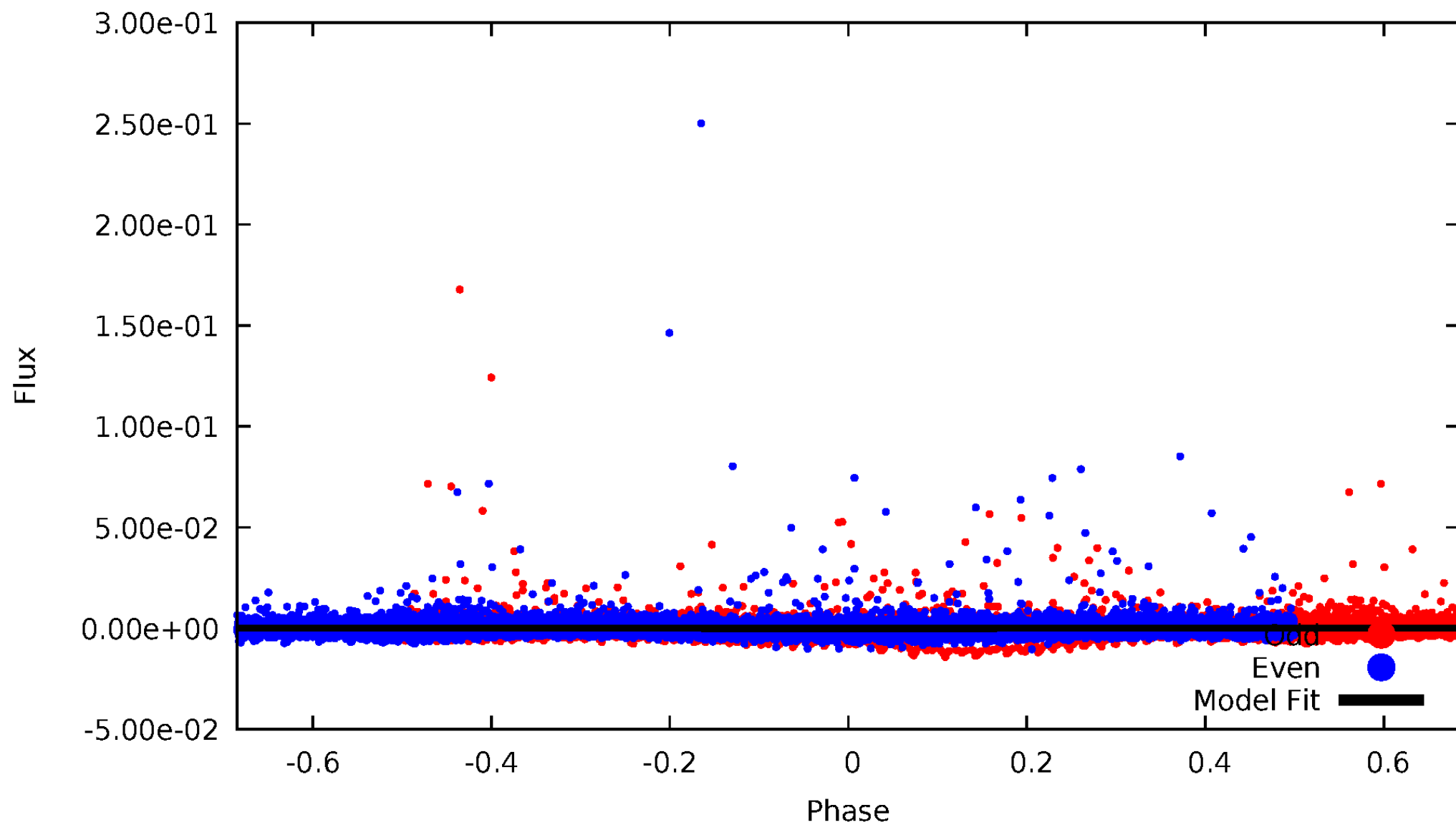


TCE 004725292-02



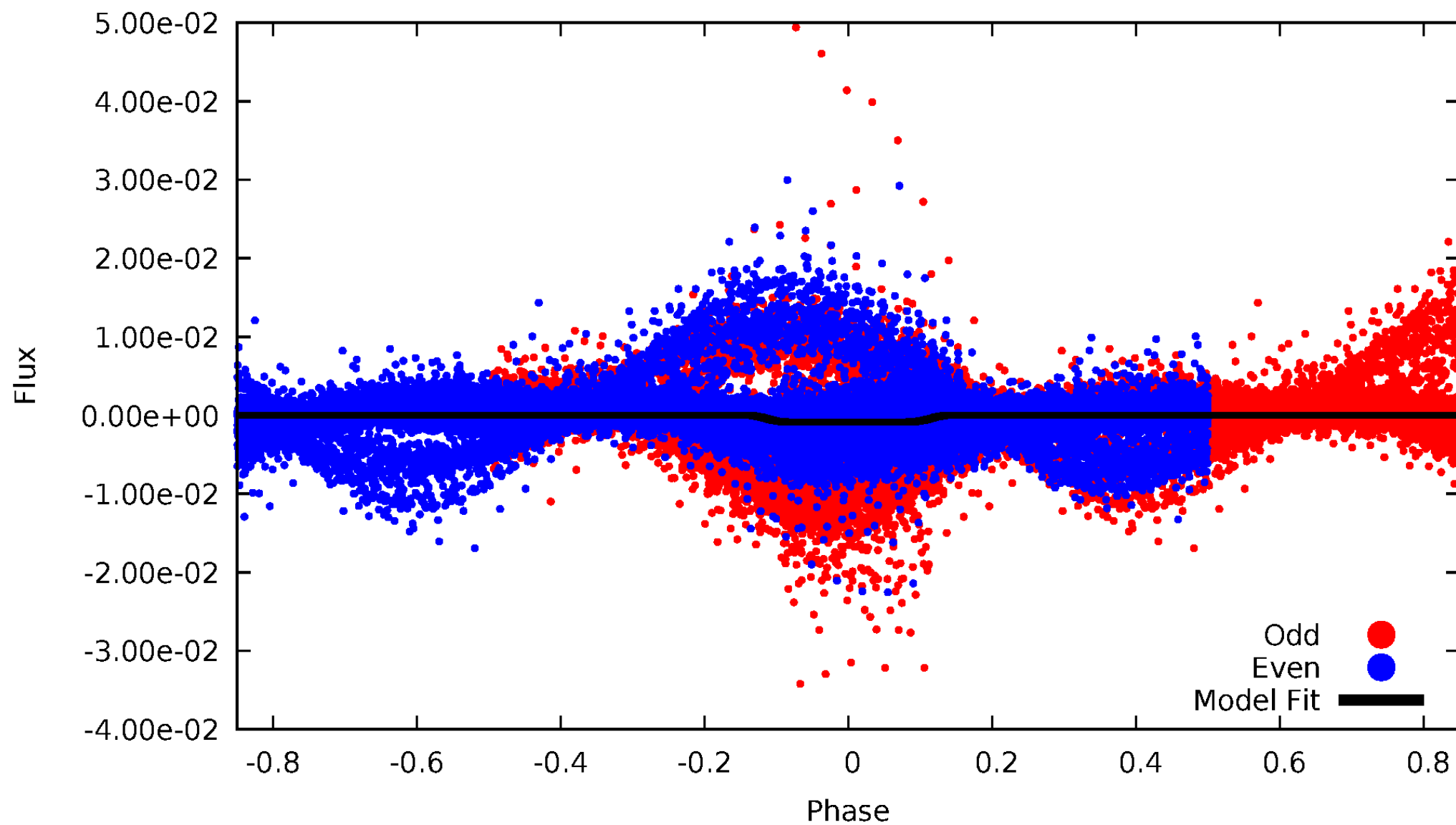
DV Odd/Even

TCE 004725292-02



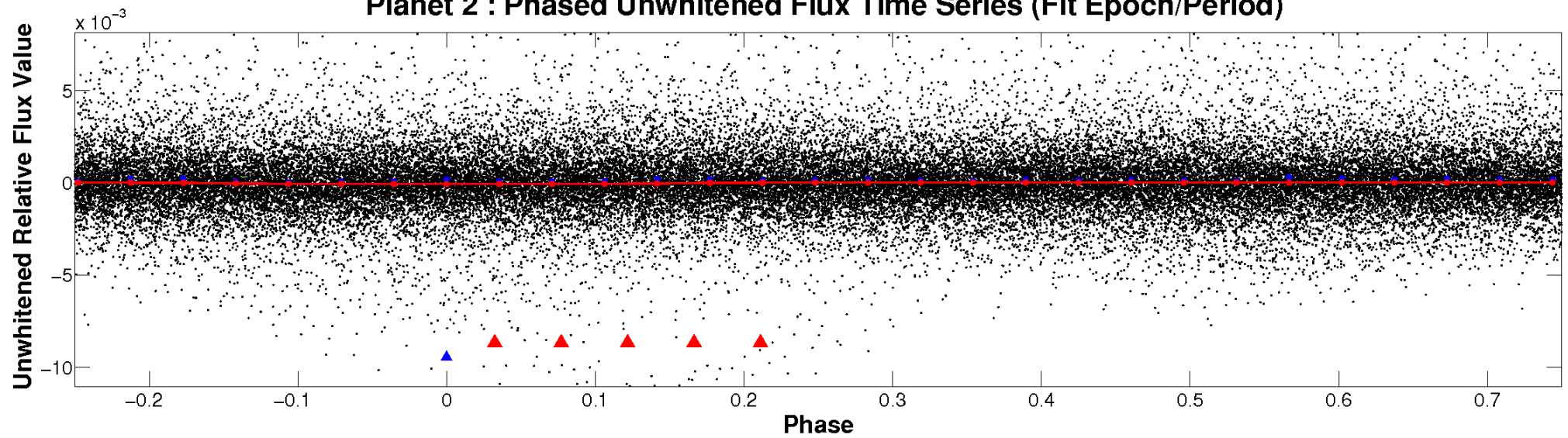
ALT Odd/Even

TCE 004725292-02

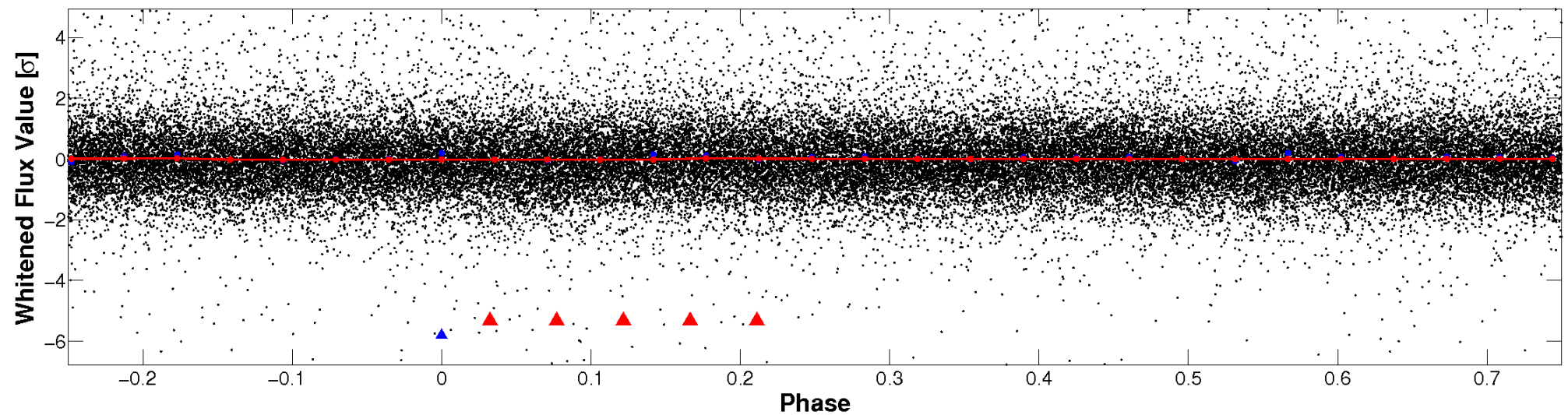


Non-Whitened Vs. Whitened Light Curve

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

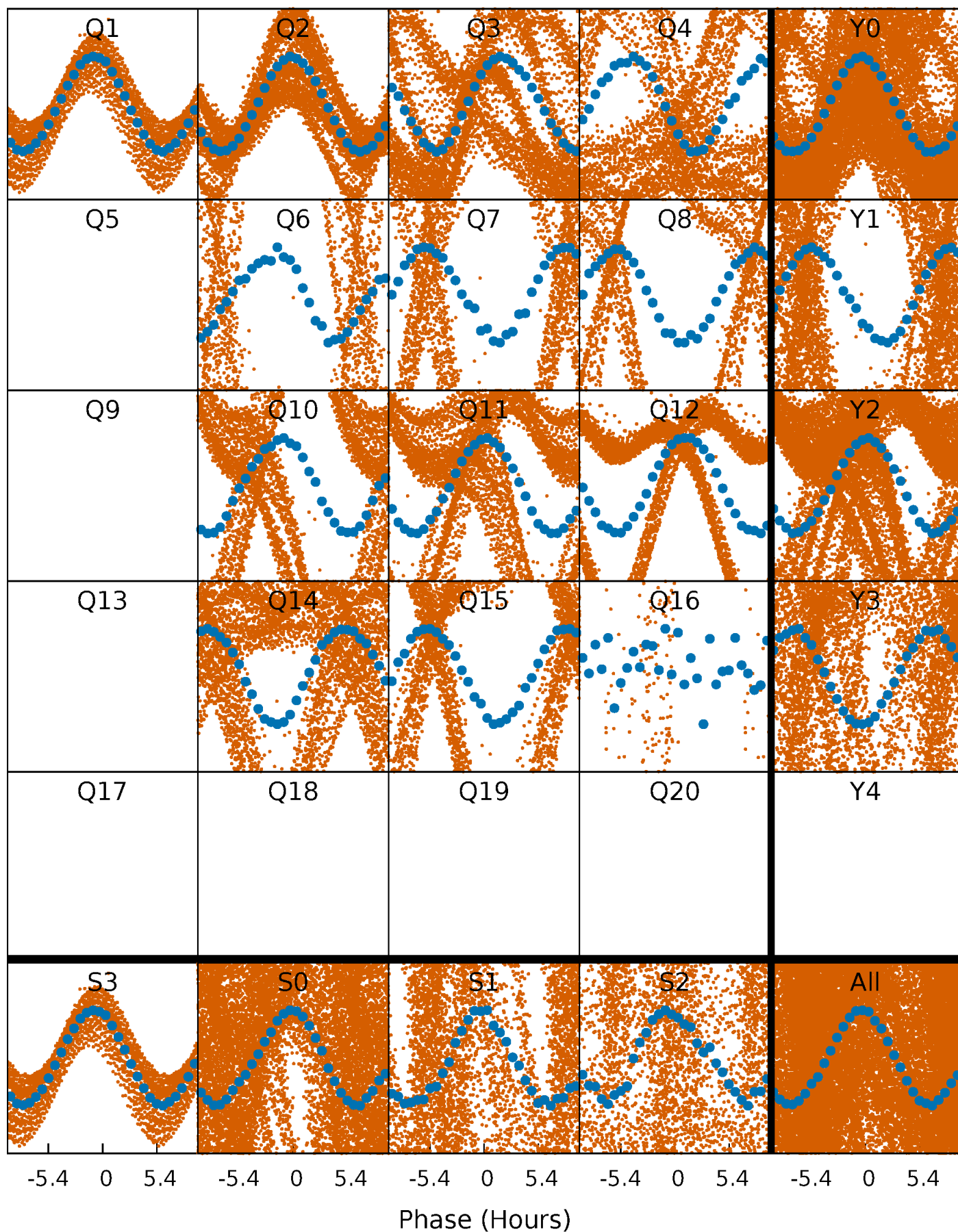


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



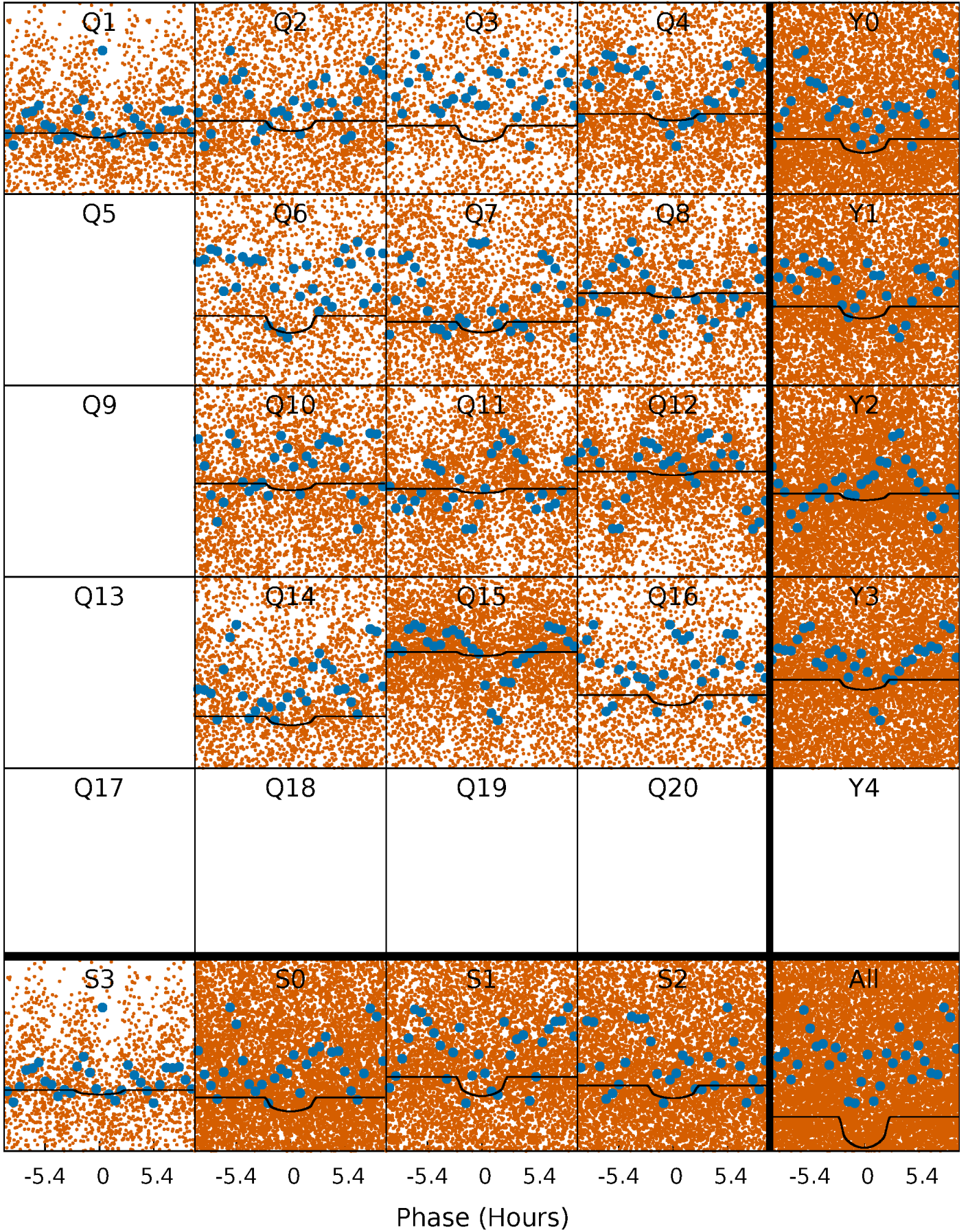
PDC Quarter-Phased Transit Curves

TCE 004725292-02 P= 0.576927 Days $T_0=131.791811$ (BKJD)



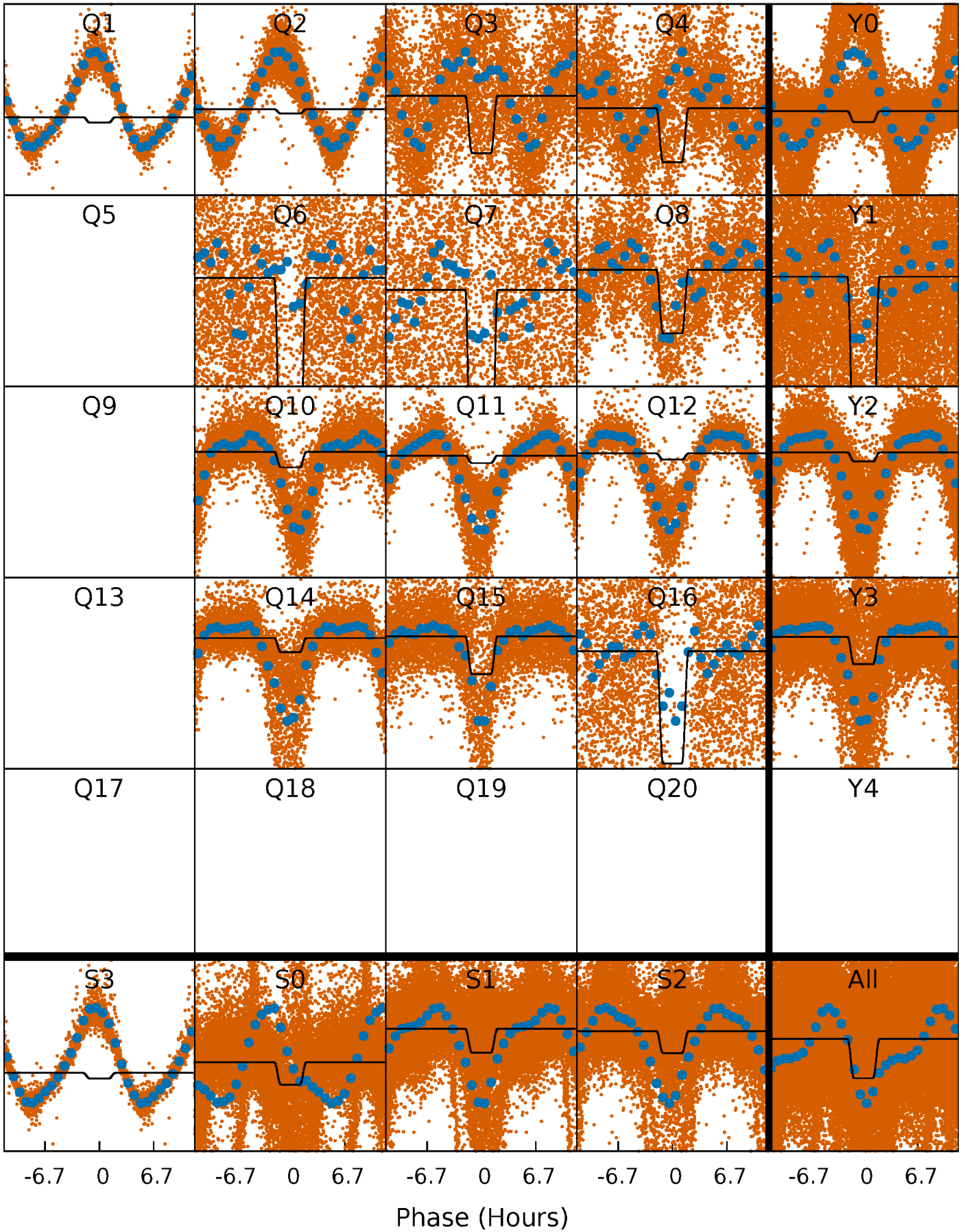
DV Quarter-Phased Transit Curves

TCE 004725292-02 P= 0.576927 Days $T_0=131.791811$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

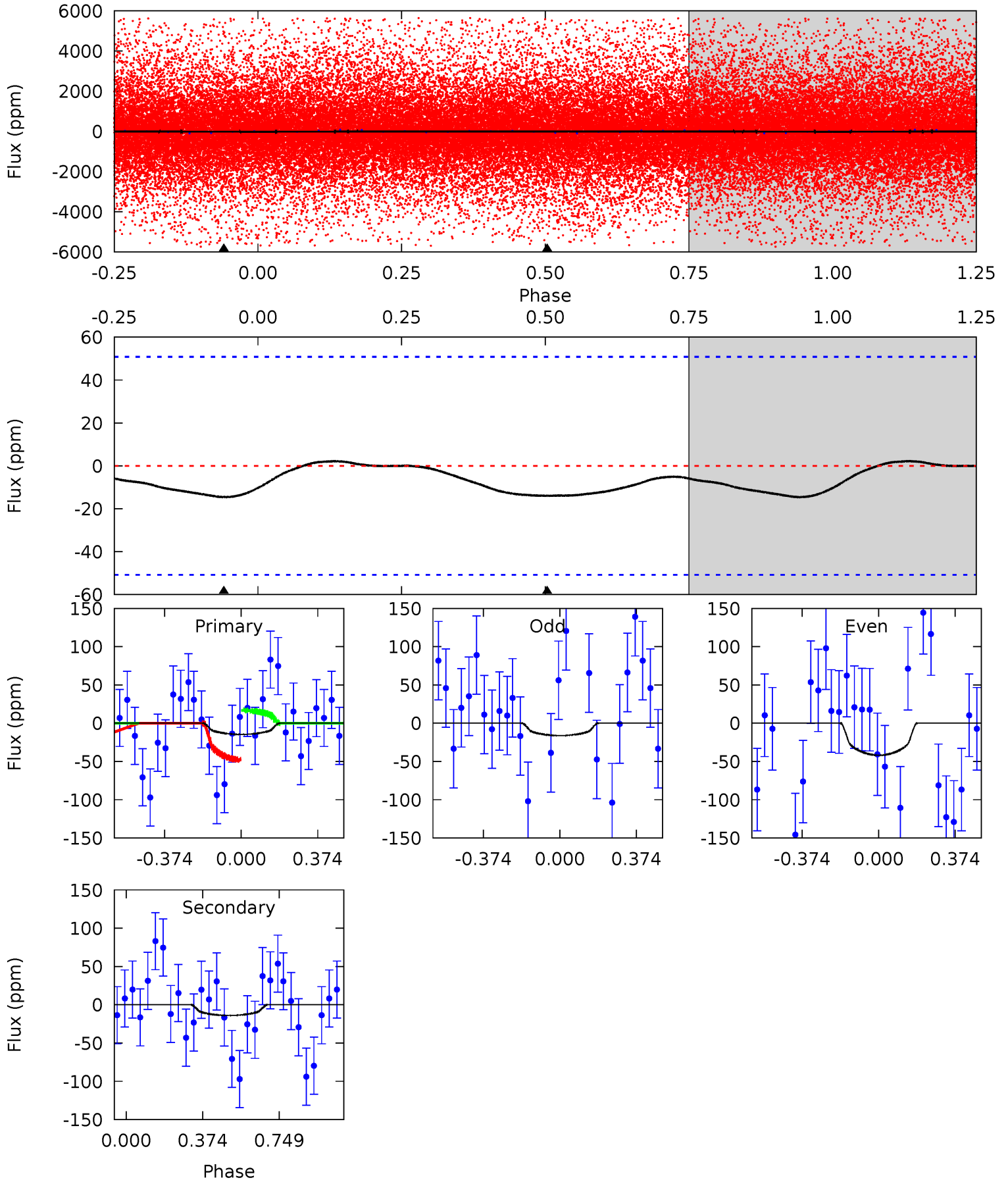
TCE 004725292-02 P= 0.577461 Days $T_0=131.792873$ (BKJD)



DV Model-Shift Uniqueness Test

004725292-02, P = 0.576927 Days, E = 131.214884 Days

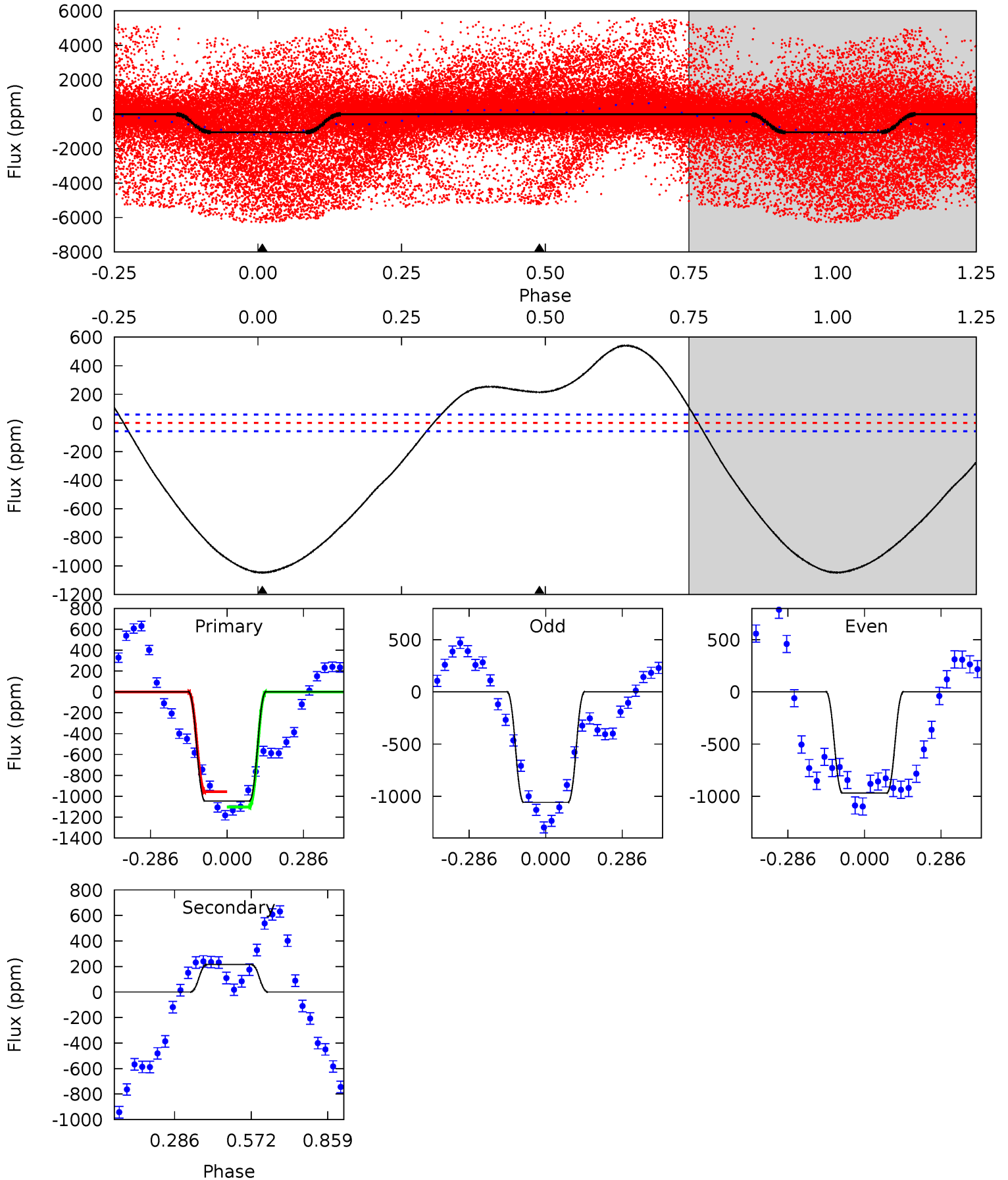
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.23	1.18	0	0	4.28	0.89	0.02	1.23	1.23	1.18	1.18	1.08	1.95	0.13	1.34



Alt Model-Shift Uniqueness Test

004725292-02, P = 0.577461 Days, E = 131.215412 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
78.1	-16.1	0	0	4.34	1.07	16.1	78.1	78.1	-16.1	-16.1	2.91	1.36	0.34	0



Stellar Parameters For KIC 004725292

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4254^{+128}_{-128}	$4.634^{+0.053}_{-0.021}$	$-0.160^{+0.300}_{-0.300}$	$0.624^{+0.045}_{-0.055}$	$0.612^{+0.067}_{-0.050}$	$3.544^{+0.828}_{-0.379}$
	+3%/-3%	+1%/-0%	+188%/-188%	+7%/-9%	+11%/-8%	+23%/-11%
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 004725292-02 / KOI 6437.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-14 ± 12	$0.66^{+0.47}_{-0.37}$	1917^{+61}_{-64}	2963^{+1039}_{-4618}	$1.910^{+10.377}_{-1.617}$
Alt.	215 ± 13	$1.99^{+0.47}_{-0.48}$	1916^{+62}_{-70}	-3403^{+203}_{-293}	$-4.080^{+1.425}_{-2.800}$

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

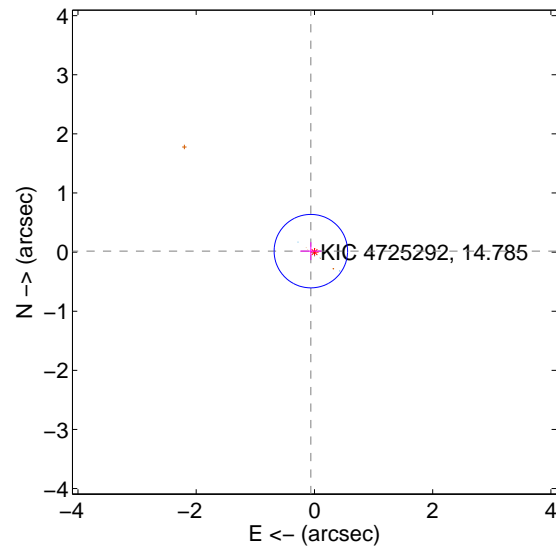
Supplemental centroid analysis for 004725292-02. Kepler magnitude: 14.79. Transit SNR 3.32

There are 5 quarters with good PRF difference image offsets

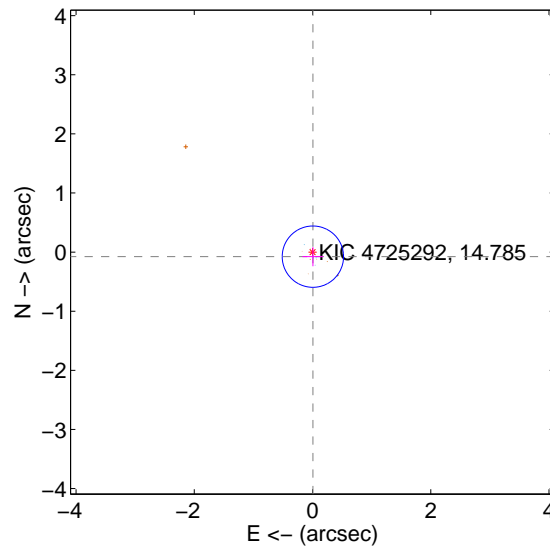
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.063 ± 0.207	0.30	0.061 ± 0.180	0.016 ± 0.151
PRF-fit source offset from KIC position	0.077 ± 0.173	0.45	-0.006 ± 0.177	-0.077 ± 0.162
photometric centroid source offset	1.06 ± 0.79	1.34	0.92 ± 0.78	-0.52 ± 0.79

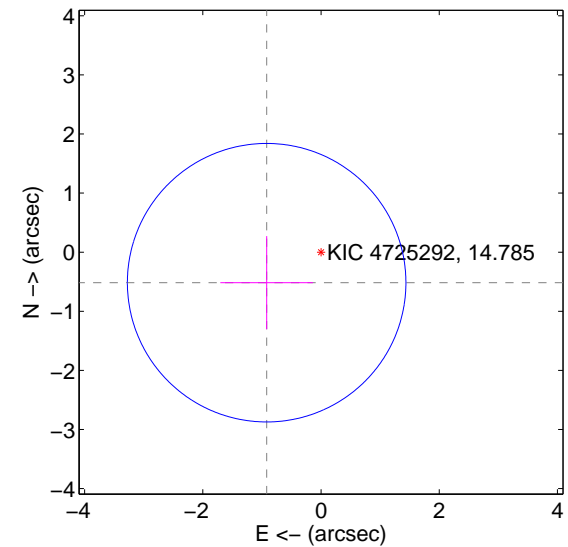
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

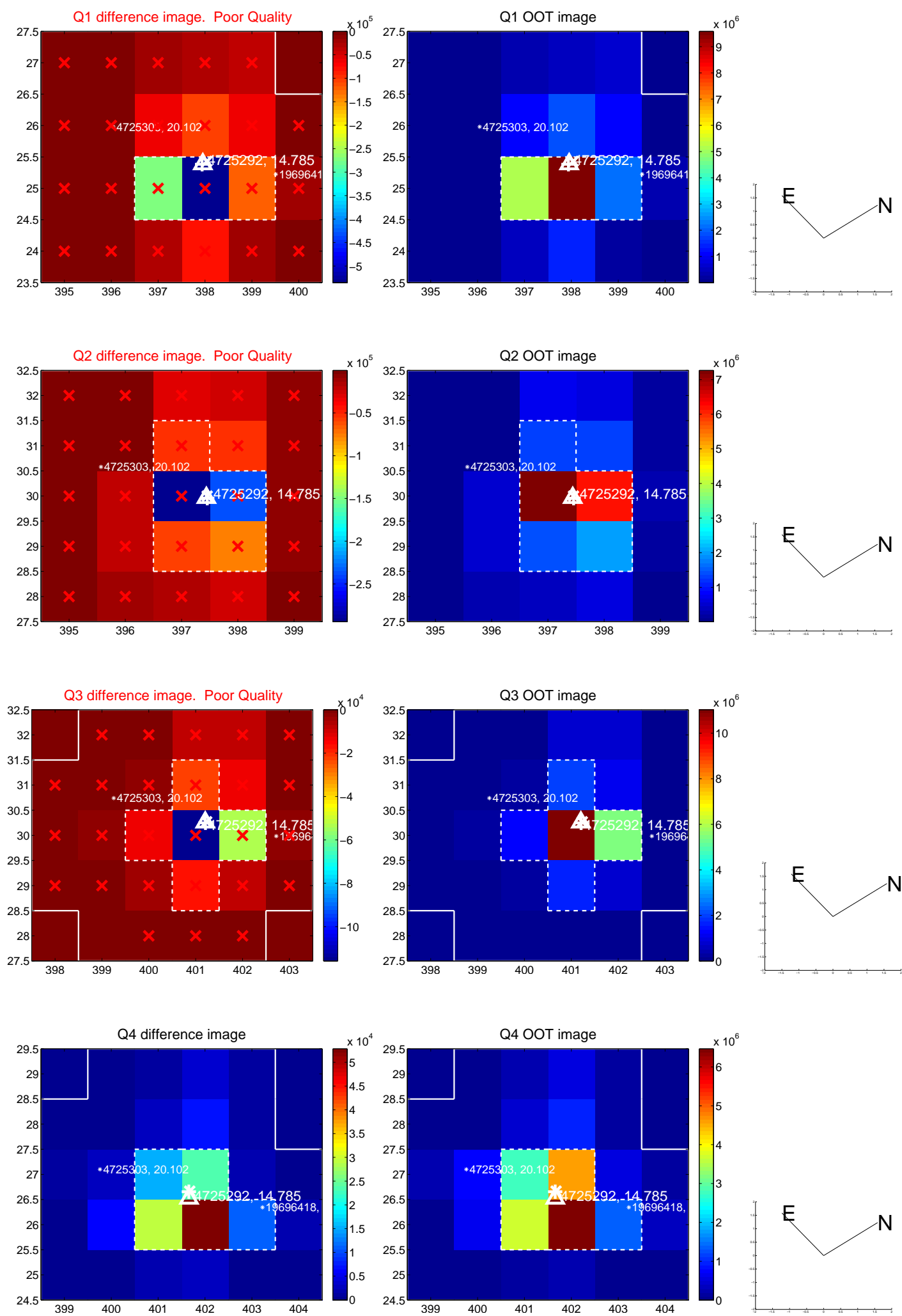


offset from photometric centroids

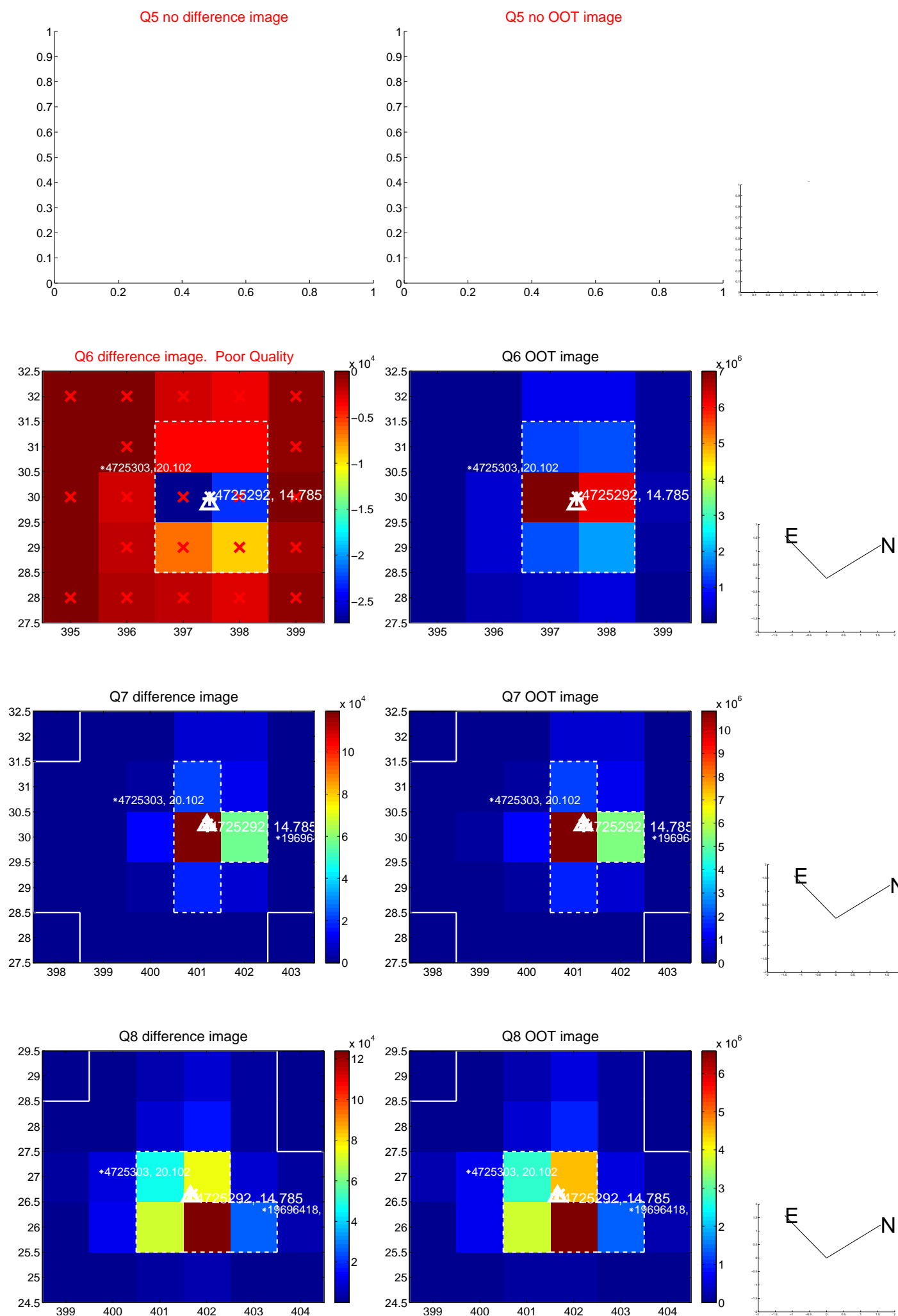


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

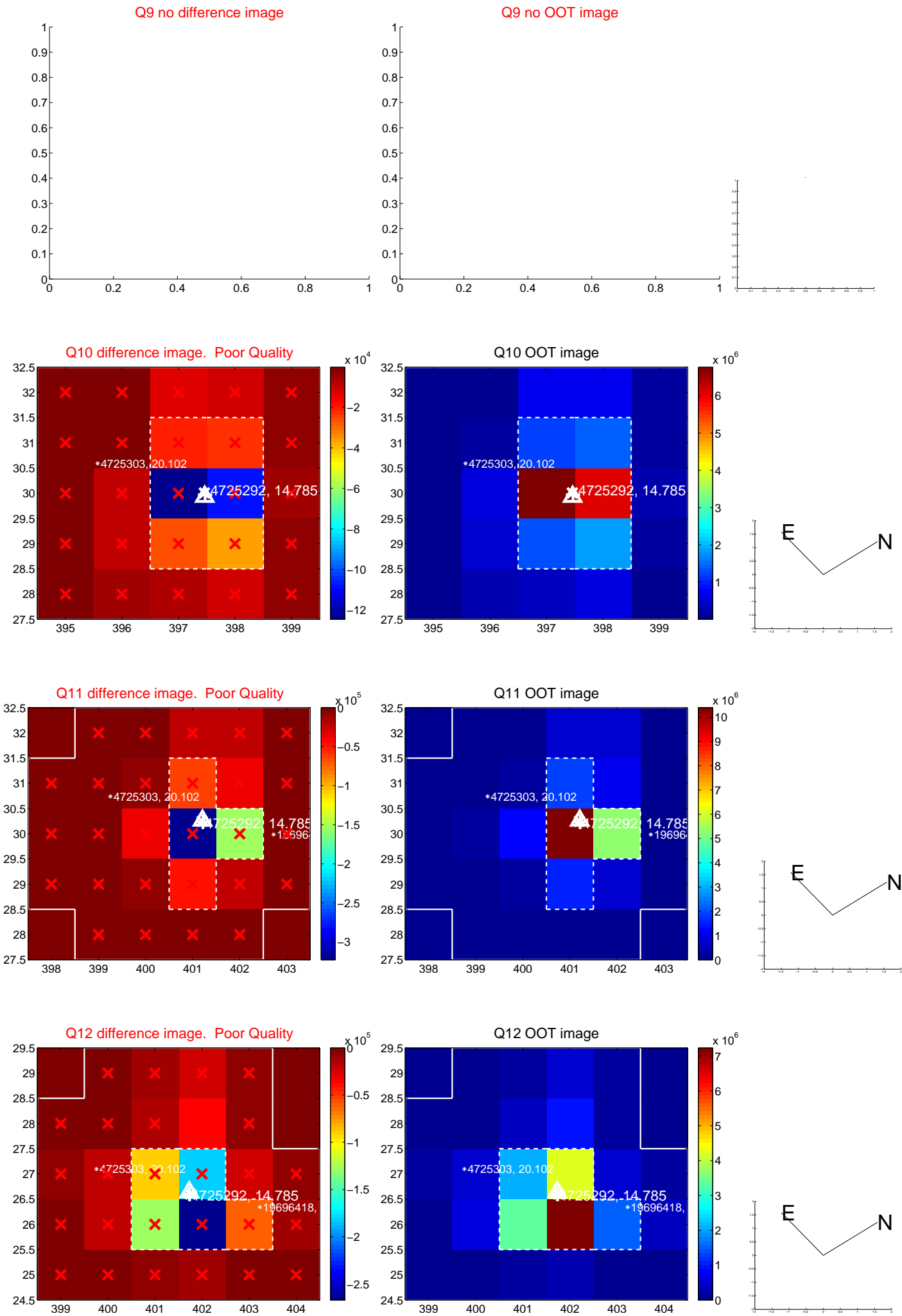
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



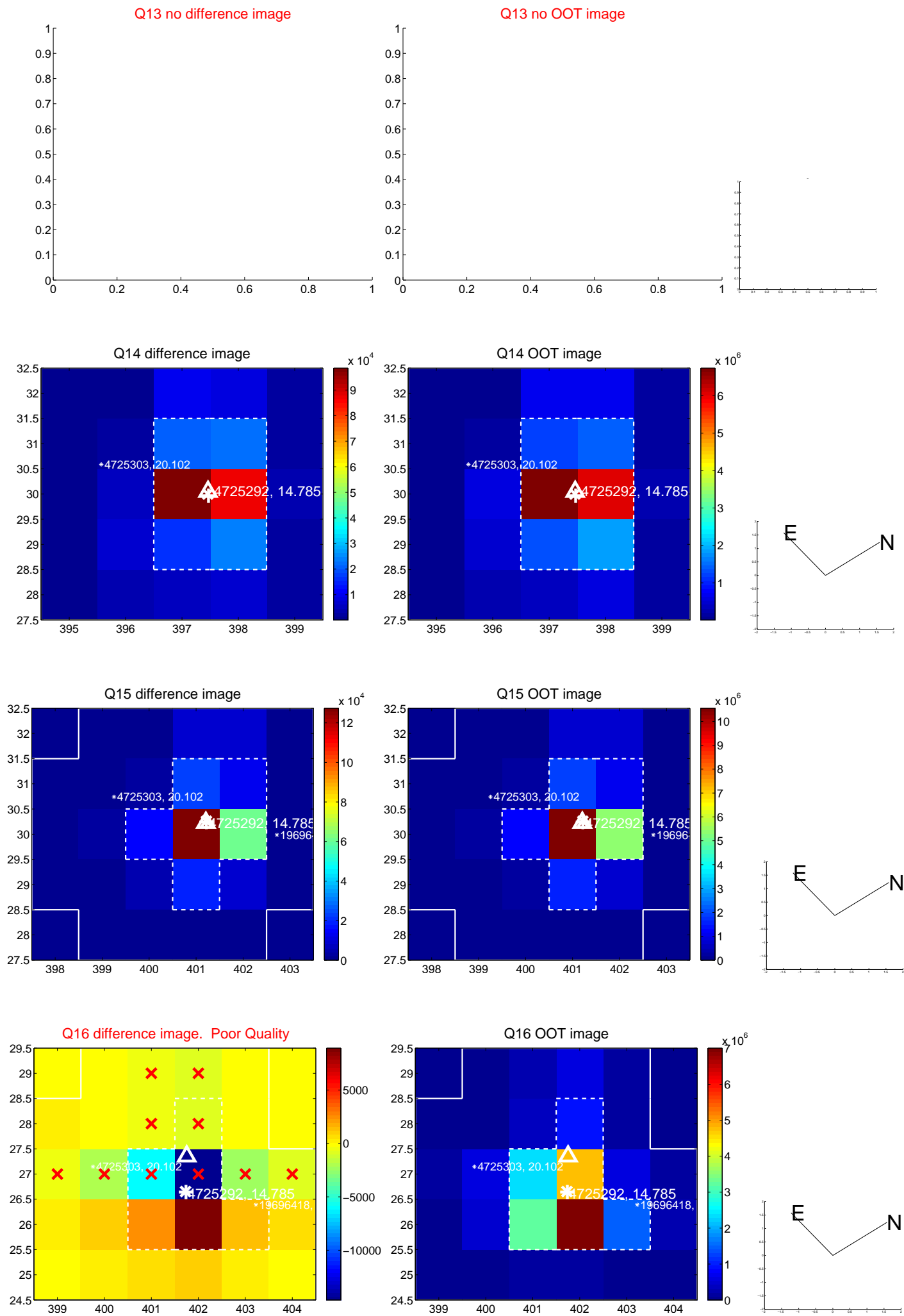
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



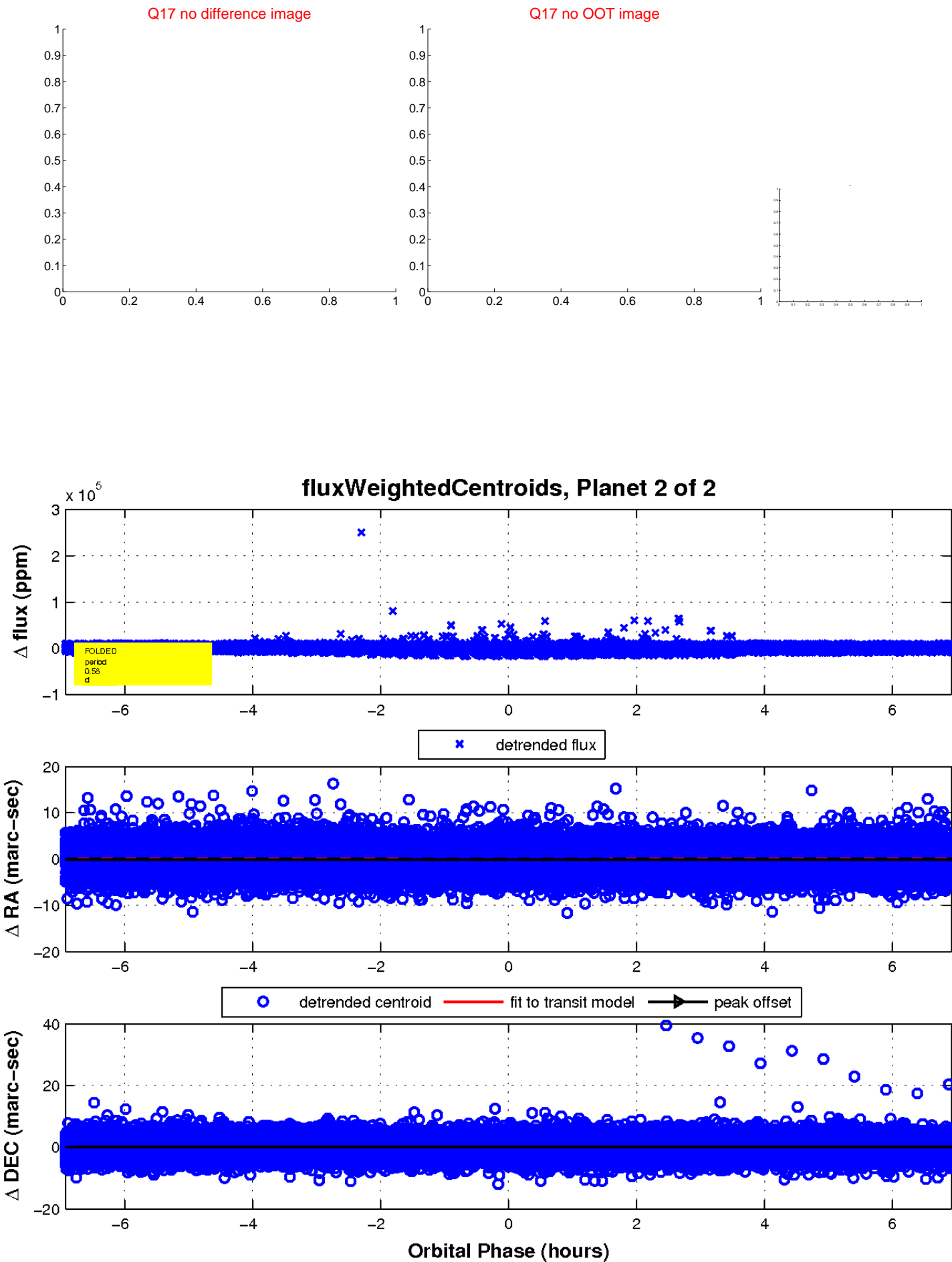
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

