

KIC 007295235

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})
007295235-01	OBS	0987.01	3.179244	134.675527	180.9	1.121	41.7	50.5	0.86	5511	1.39	348.37
007295235-02	OBS	No	320.587690	224.201348	237.7	3.119	8.0	8.0	0.86	5511	1.68	0.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007295235-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007295235-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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.

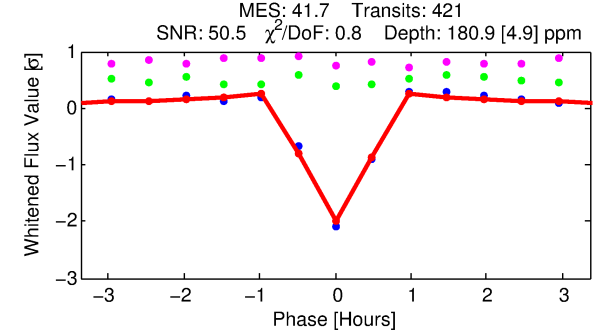
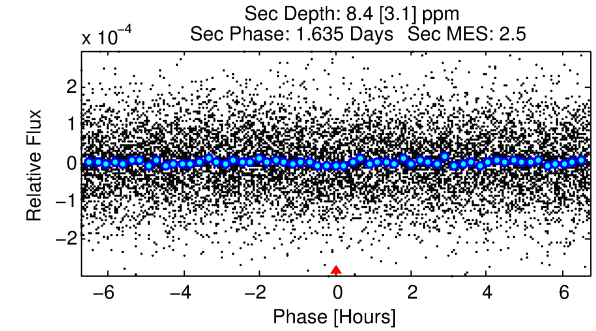
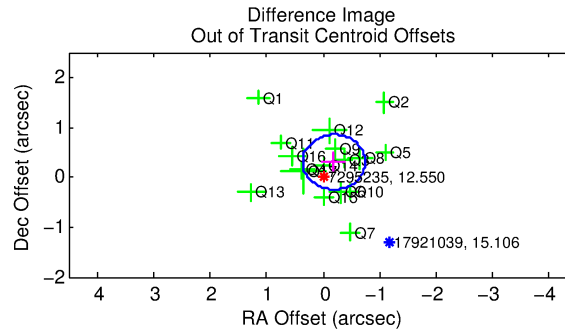
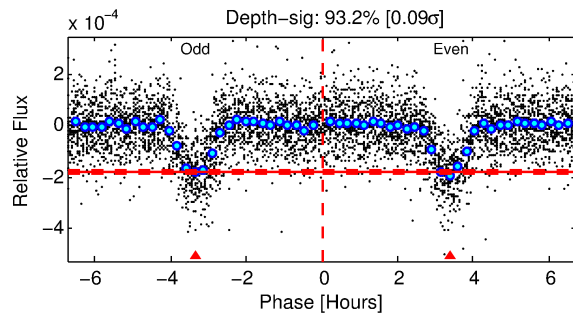
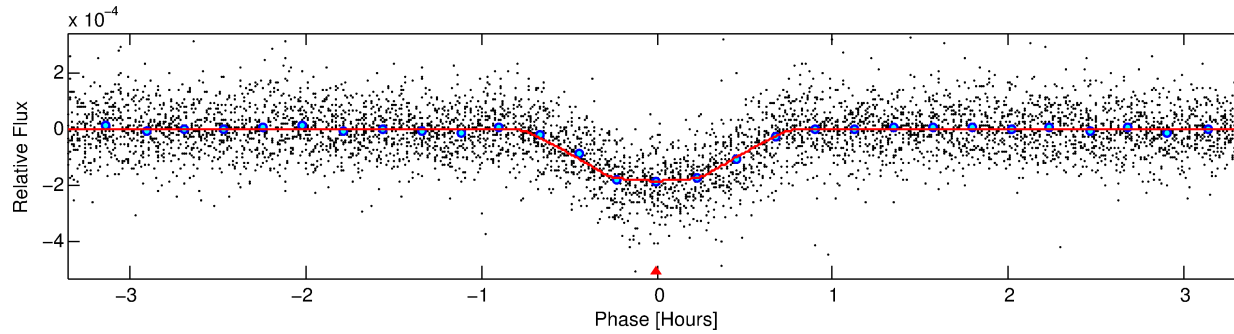
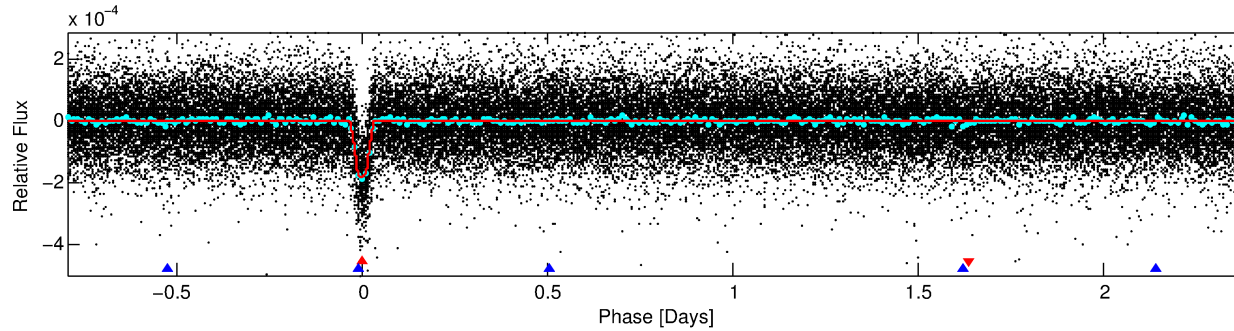
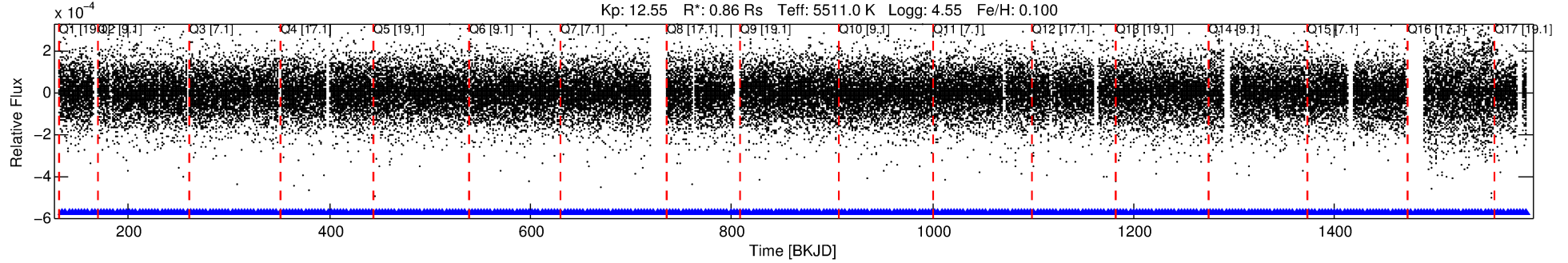
Ephemeris Match Information For 007295235-01

No Significant Match Found

DV One-Page Summary

KIC: 7295235 Candidate: 1 of 2 Period: 3.179 d
KOI: K00987.01 Corr: 0.941

Kp: 12.55 R*: 0.86 Rs Teff: 5511.0 K Logg: 4.55 Fe/H: 0.100



DV Fit Results:

Period = 3.17924 [0.00000] d
Epoch = 134.6755 [0.0004] BKJD
Rp/R* = 0.0149 [0.0023]
a/R* = 10.21 [6.88]
b = 0.90 [0.15]
Seff = 348.37 [68.15]
Teq = 1102 [54] K
Rp = 1.39 [0.27] Re
a = 0.0417 [0.0046] AU
Ag = 4.17 [2.14] [1.48σ]
Teffp = 2434 [298] K [4.40σ]

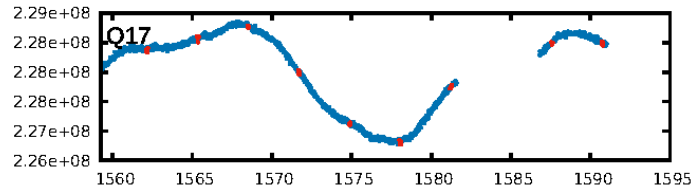
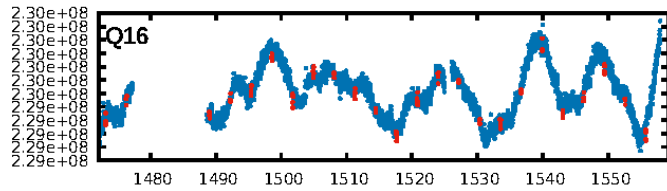
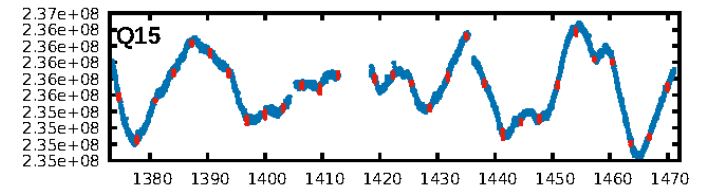
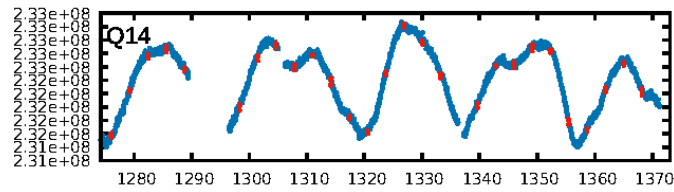
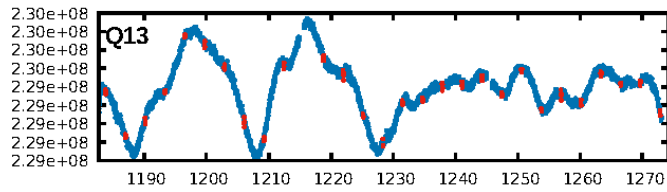
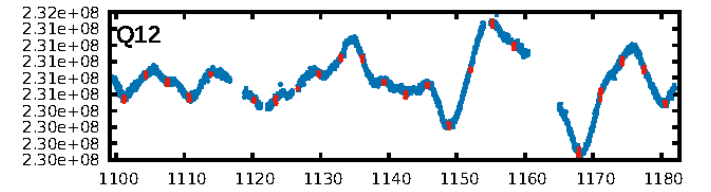
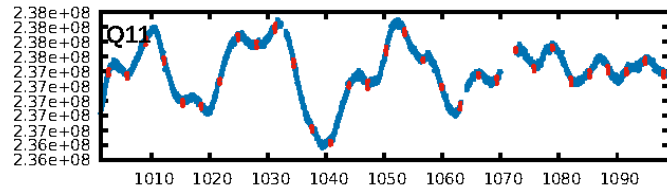
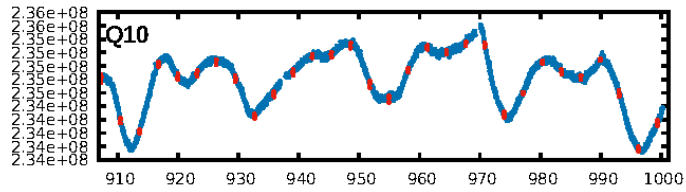
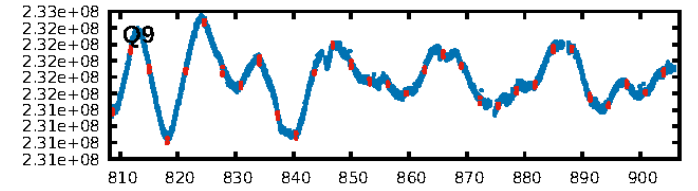
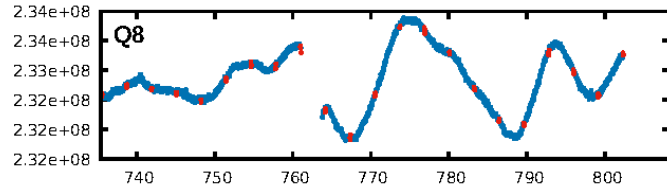
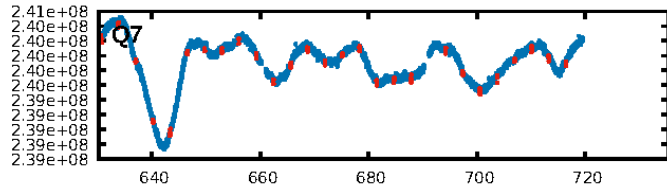
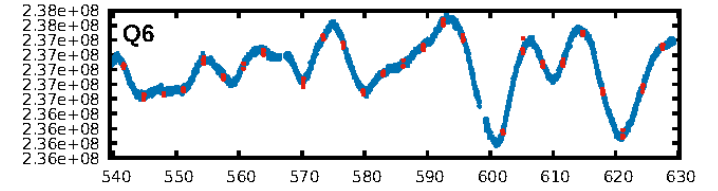
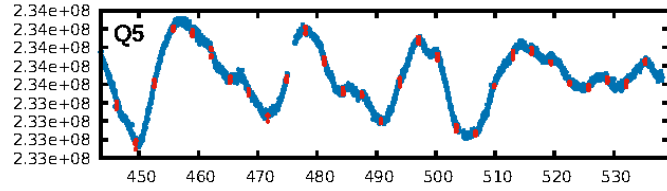
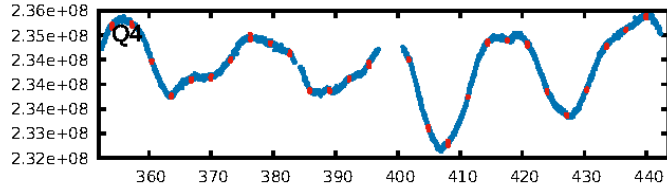
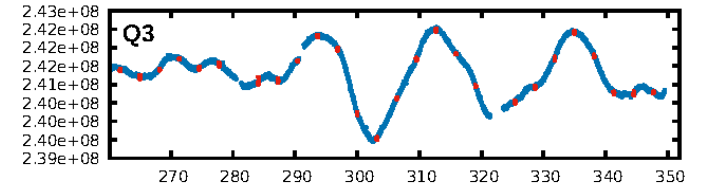
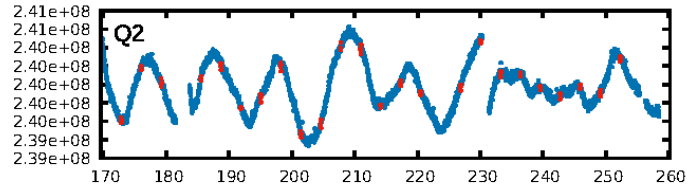
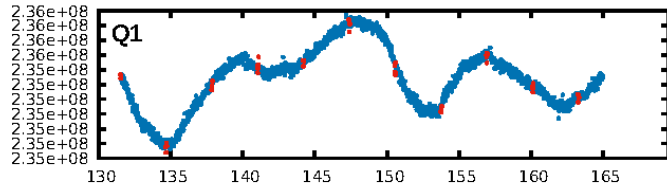
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [2298.88σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [401/401]
GhostDiagnostic-chr: 9.293
Centroid-sig: 93.6%
Centroid-so: 0.176 arcsec [0.88σ]
OotOffset-rm: 0.357 arcsec [1.94σ]
KicOffset-rm: 0.283 arcsec [1.57σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

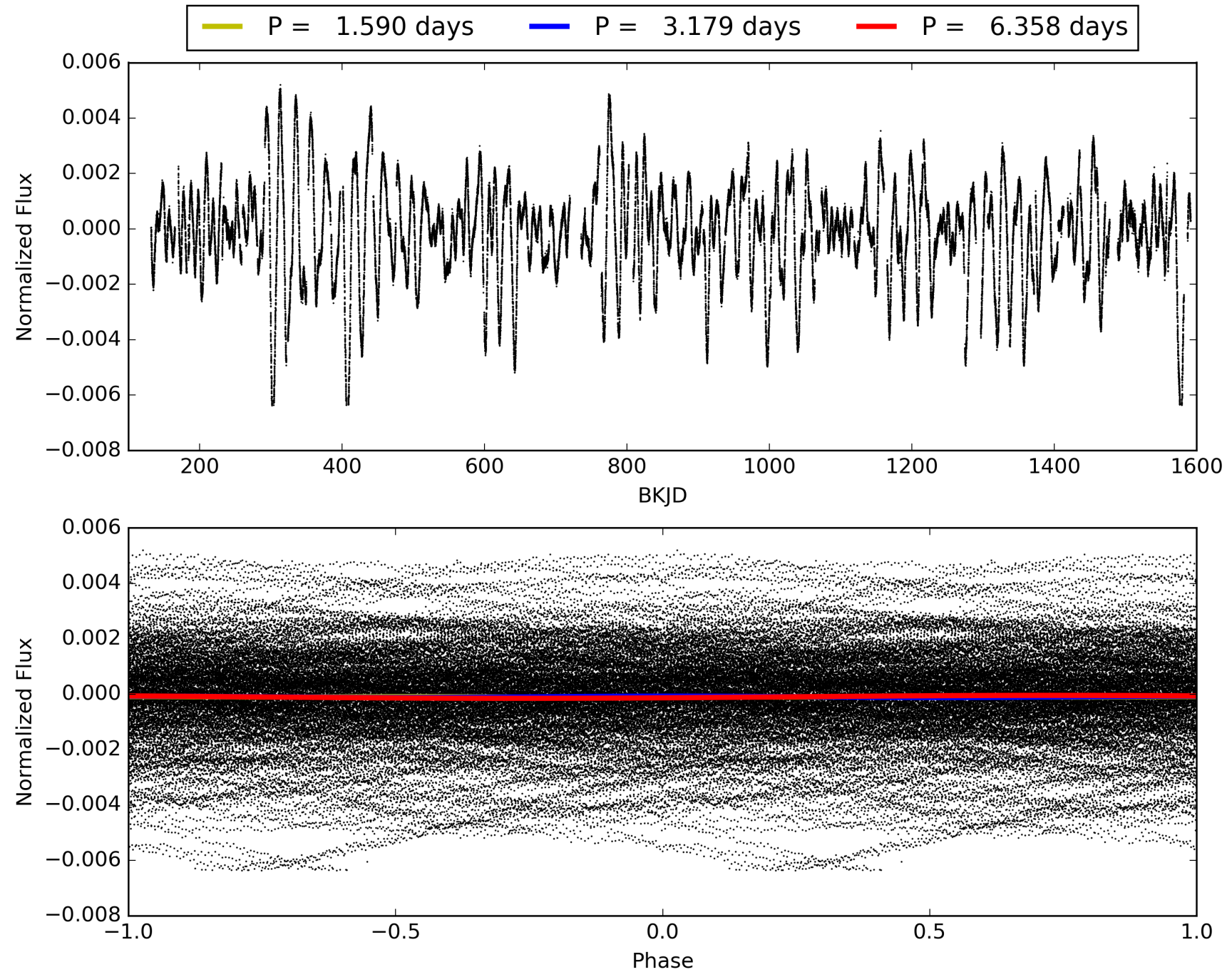
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007295235-01, PDC Light Curves

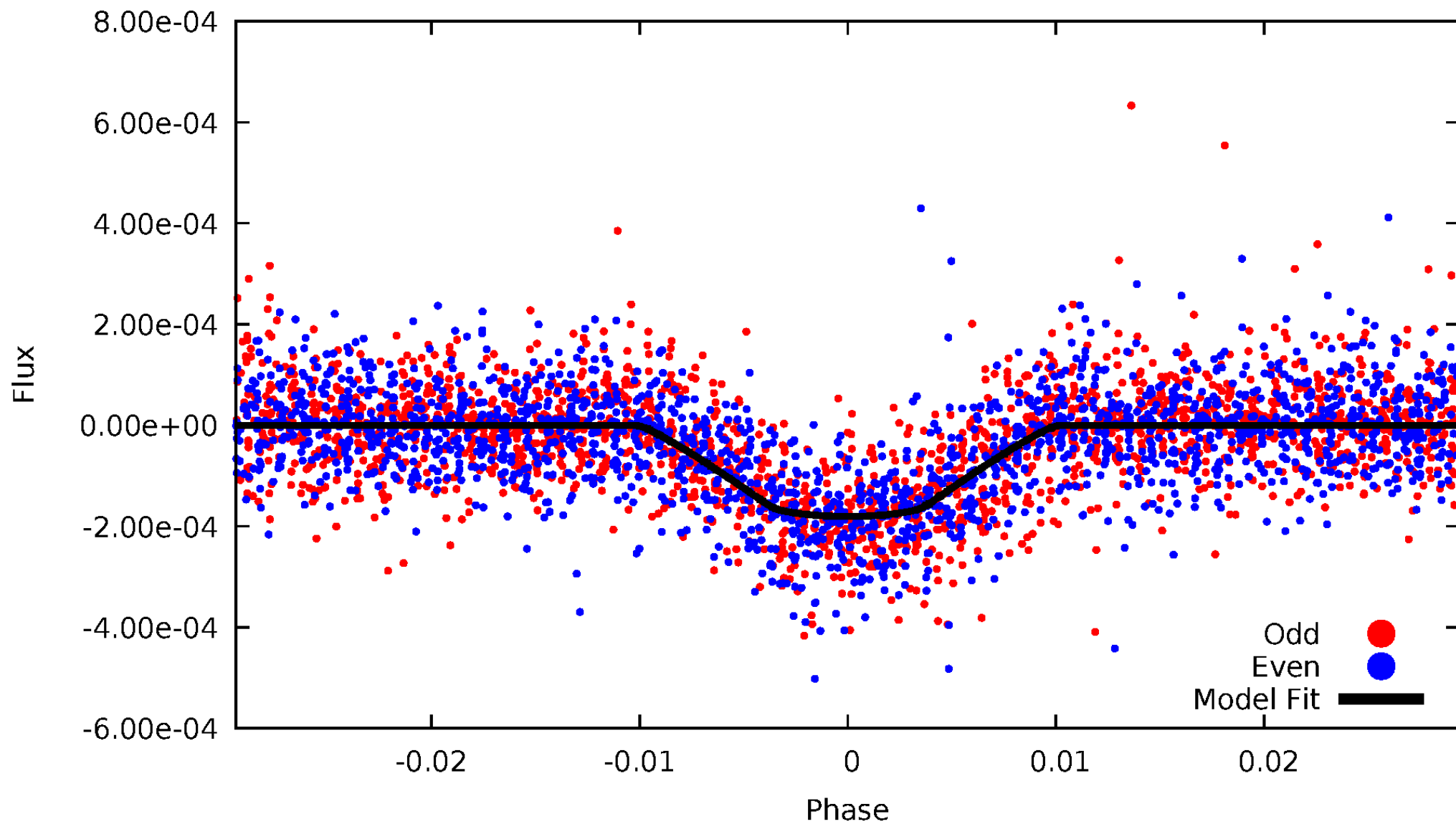


TCE 007295235-01



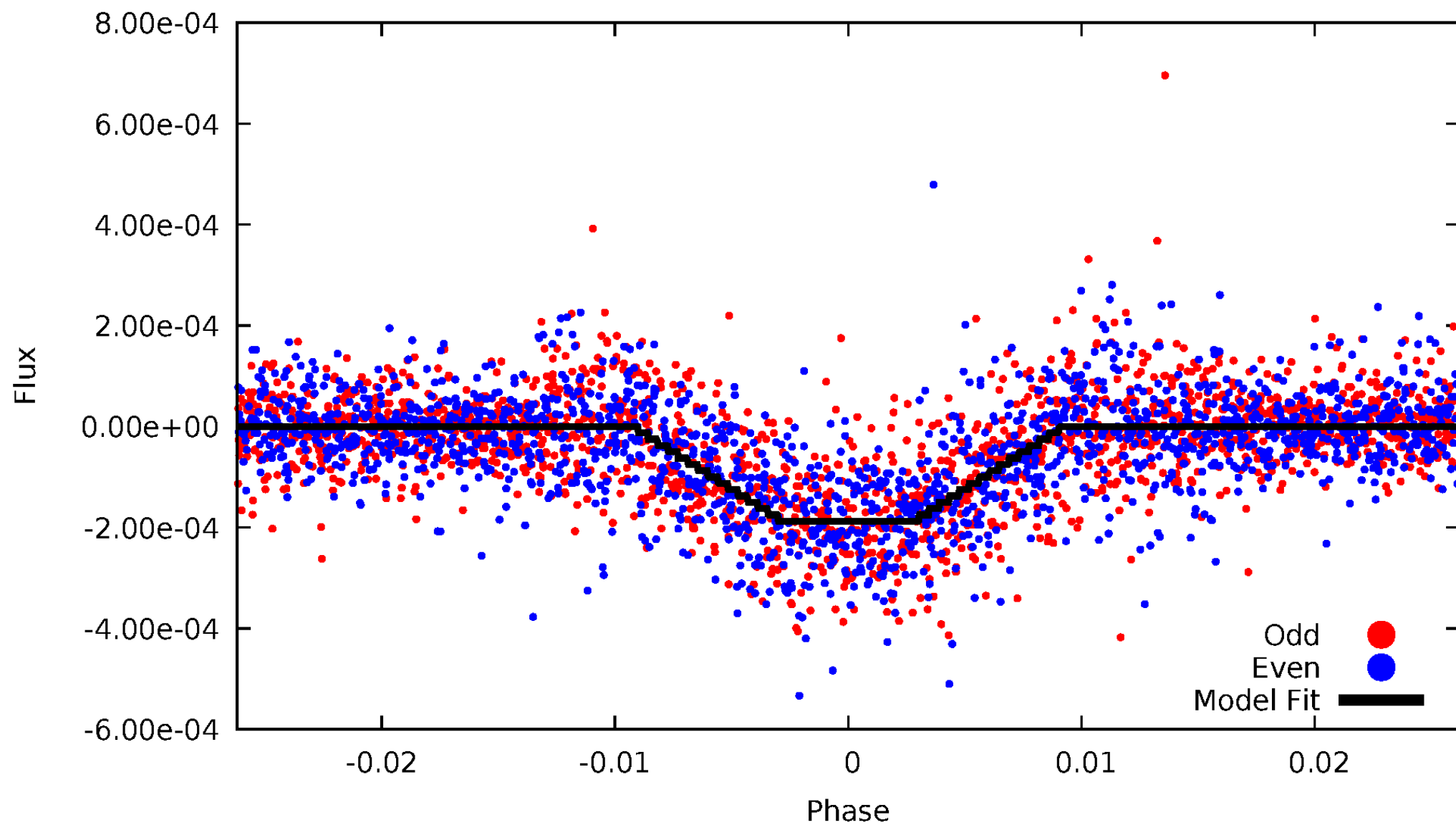
DV Odd/Even

TCE 007295235-01



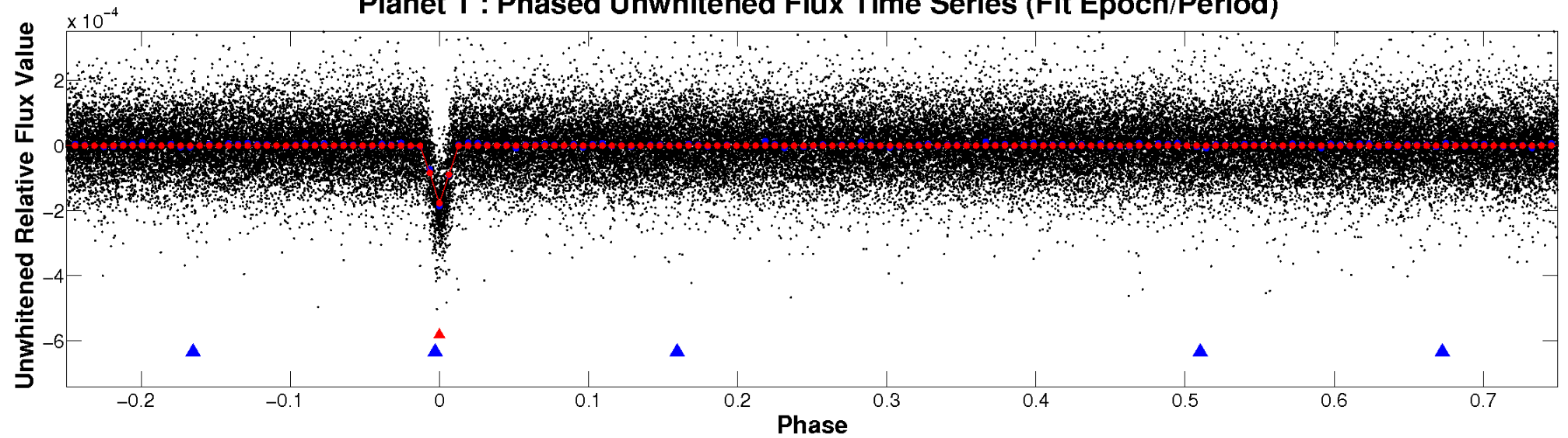
ALT Odd/Even

TCE 007295235-01

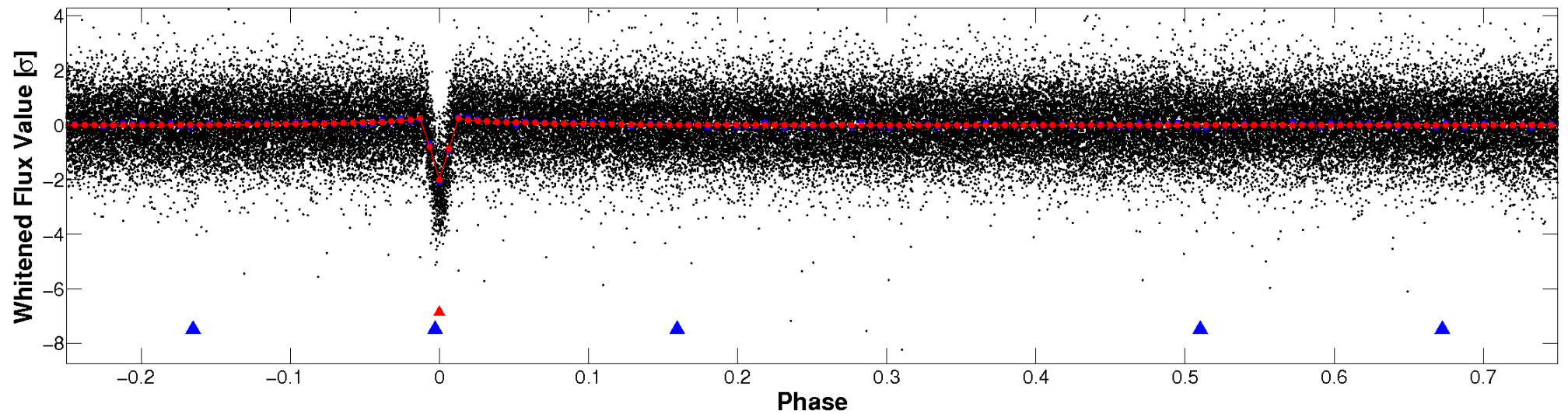


Non-Whitened Vs. Whitened Light Curve

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

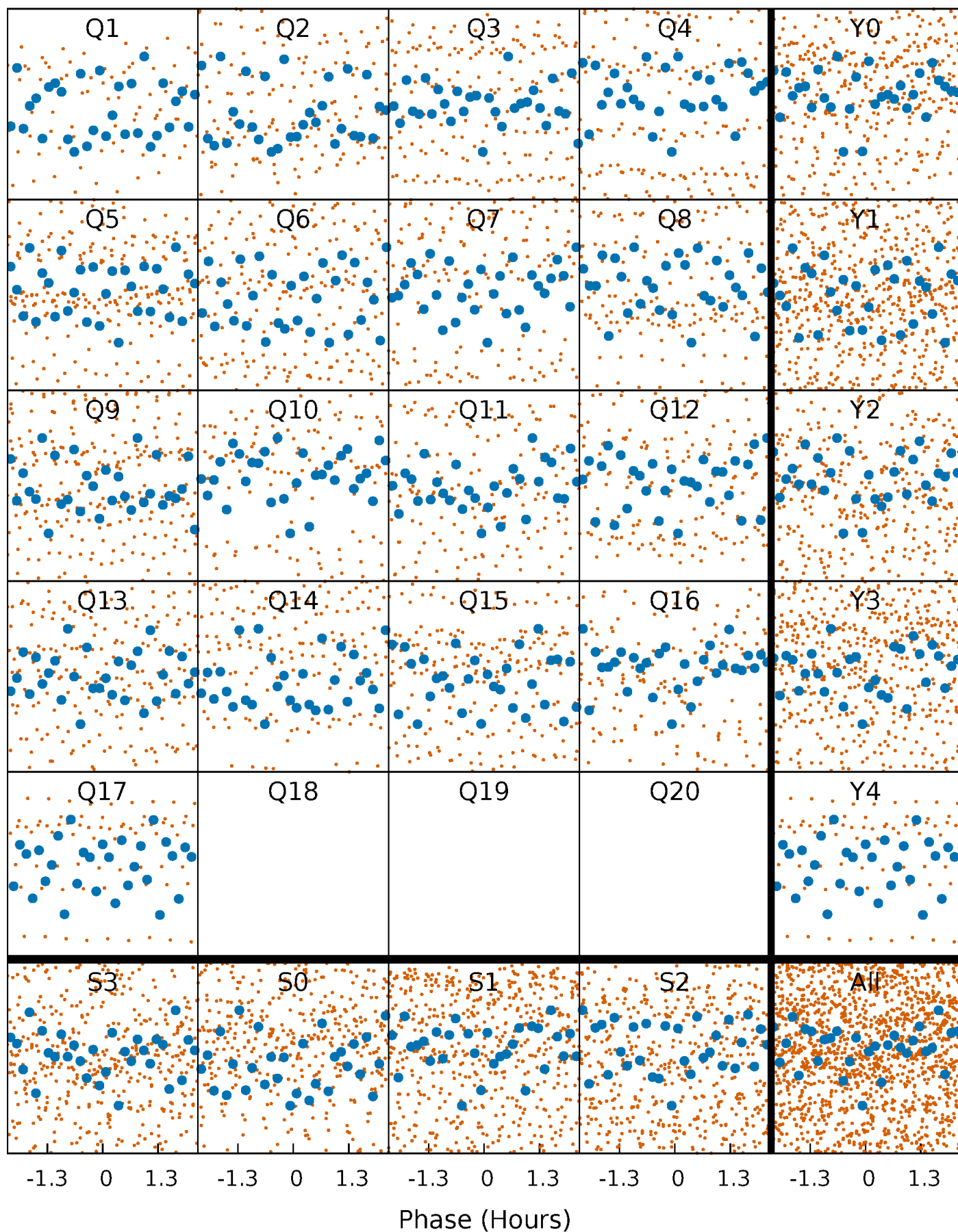


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



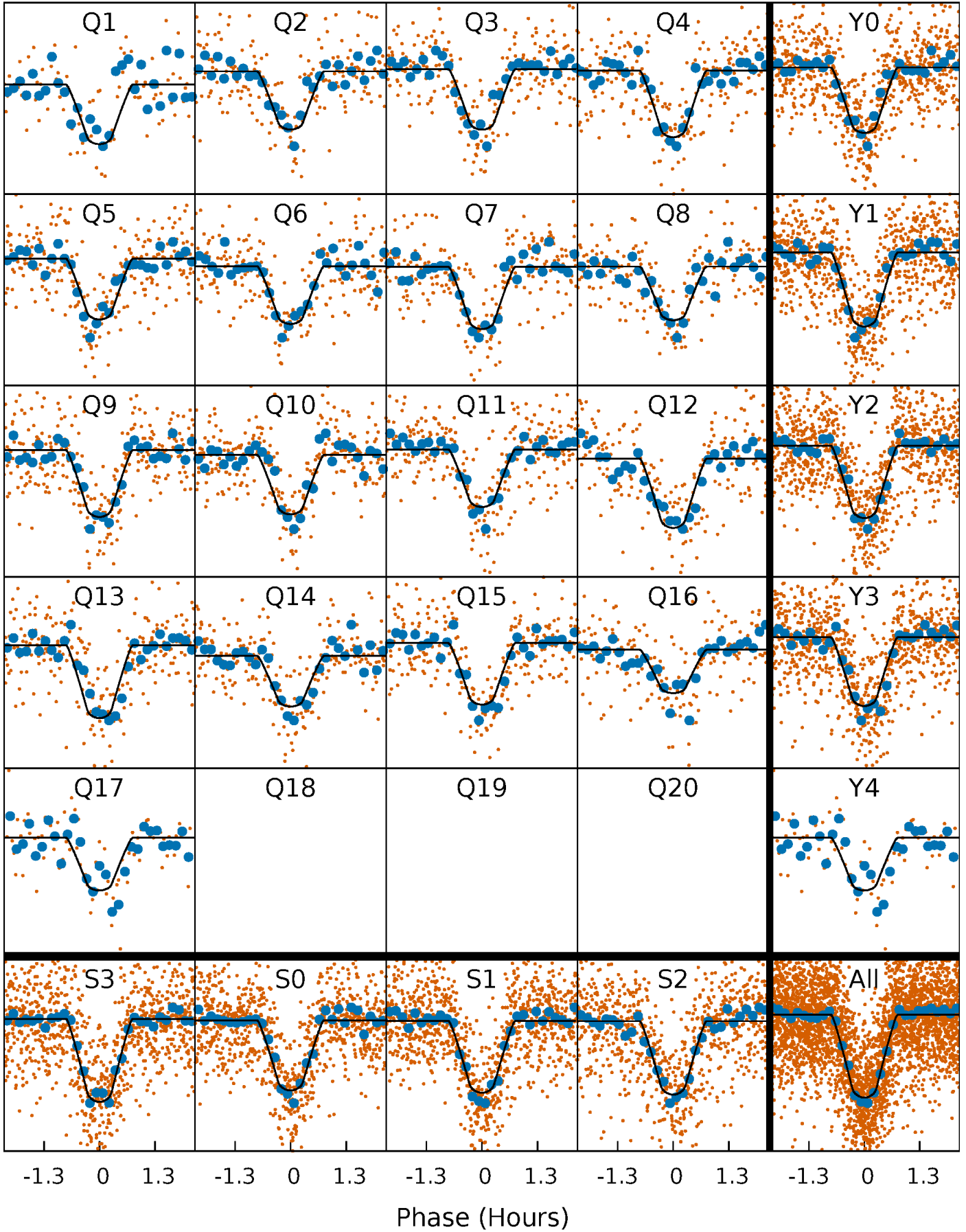
PDC Quarter-Phased Transit Curves

TCE 007295235-01 P= 3.179244 Days $T_0=134.675527$ (BKJD)



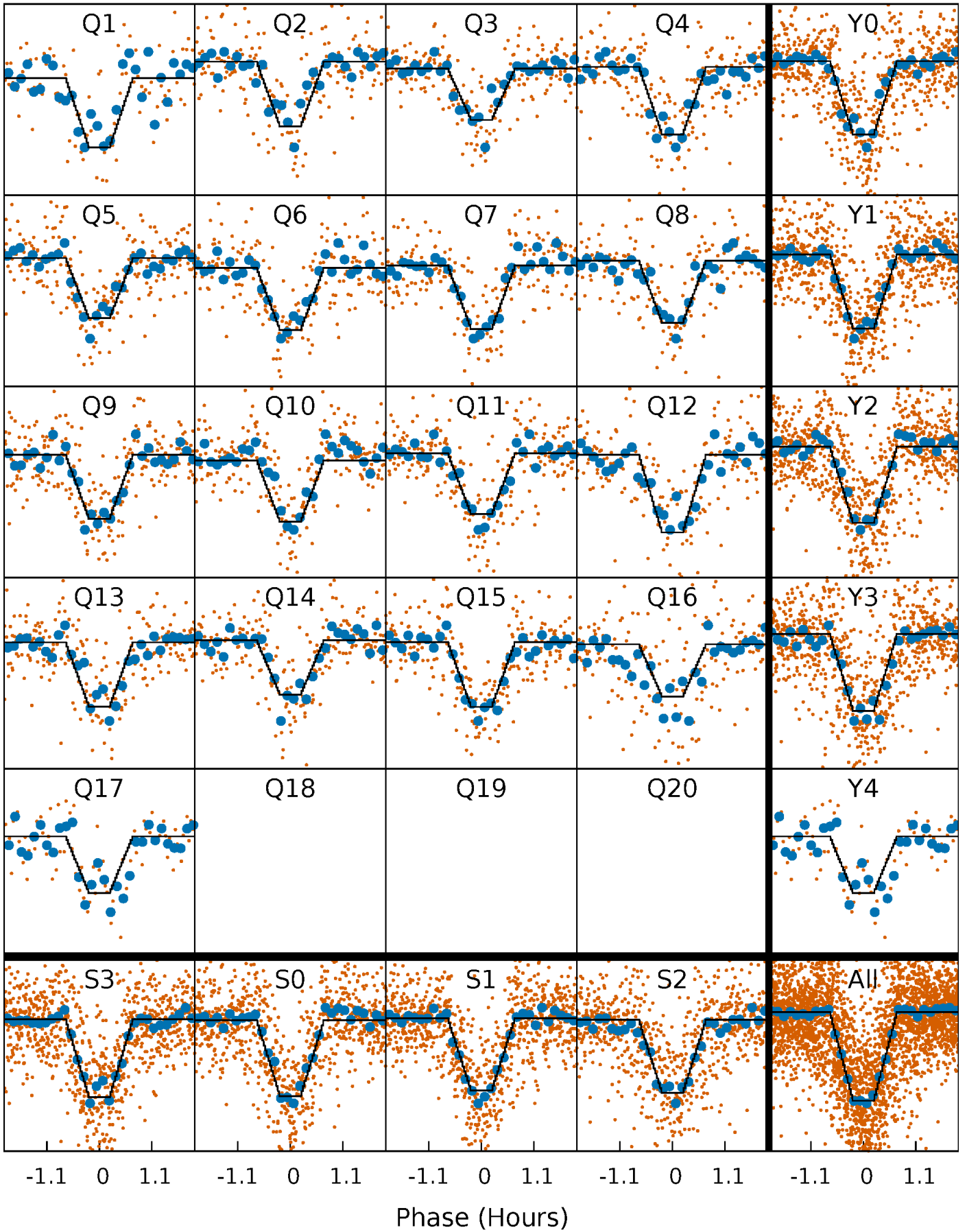
DV Quarter-Phased Transit Curves

TCE 007295235-01 P= 3.179244 Days $T_0=134.675527$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

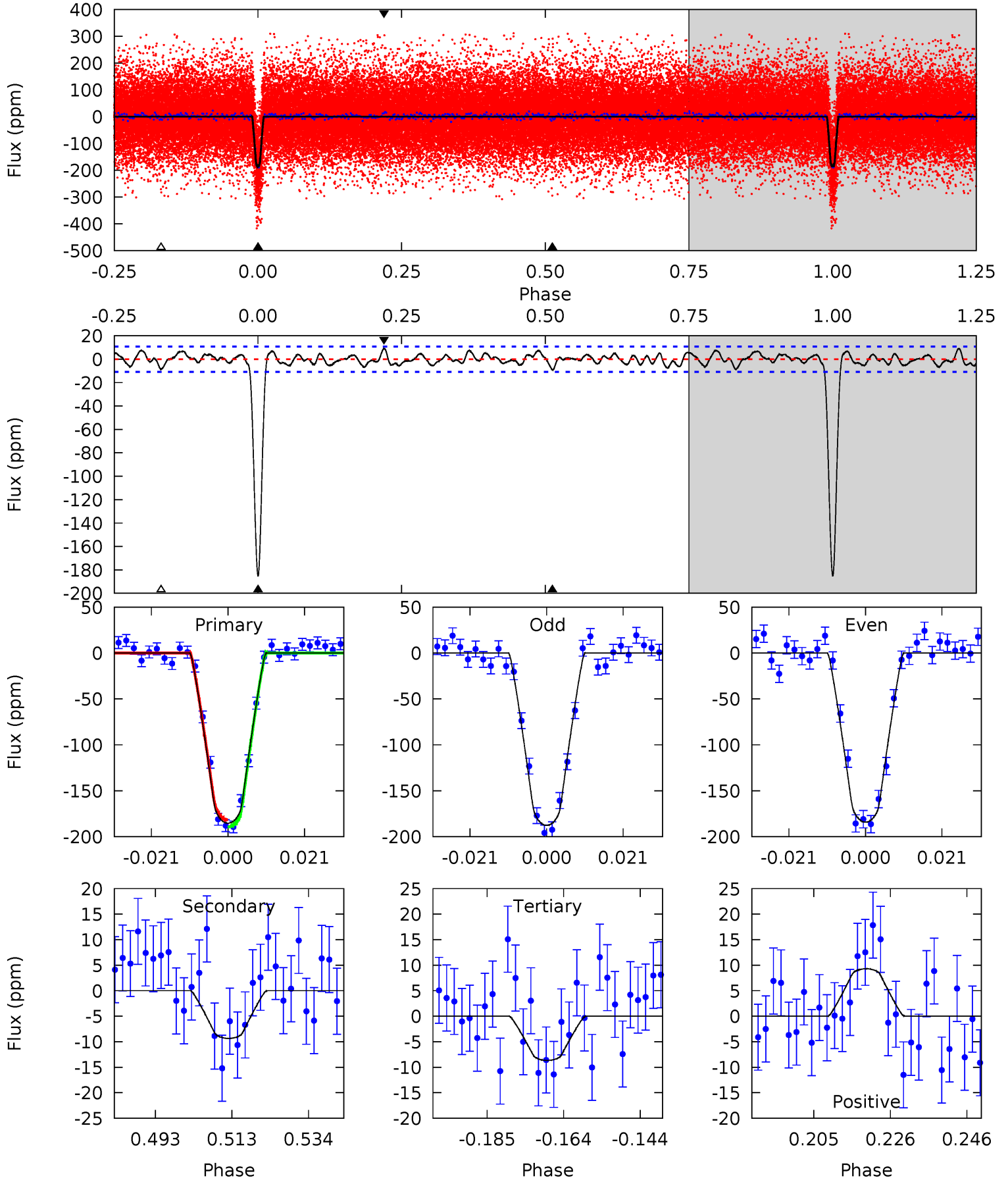
TCE 007295235-01 P= 3.179250 Days $T_0=134.674828$ (BKJD)



DV Model-Shift Uniqueness Test

007295235-01, P = 3.179244 Days, E = 131.496283 Days

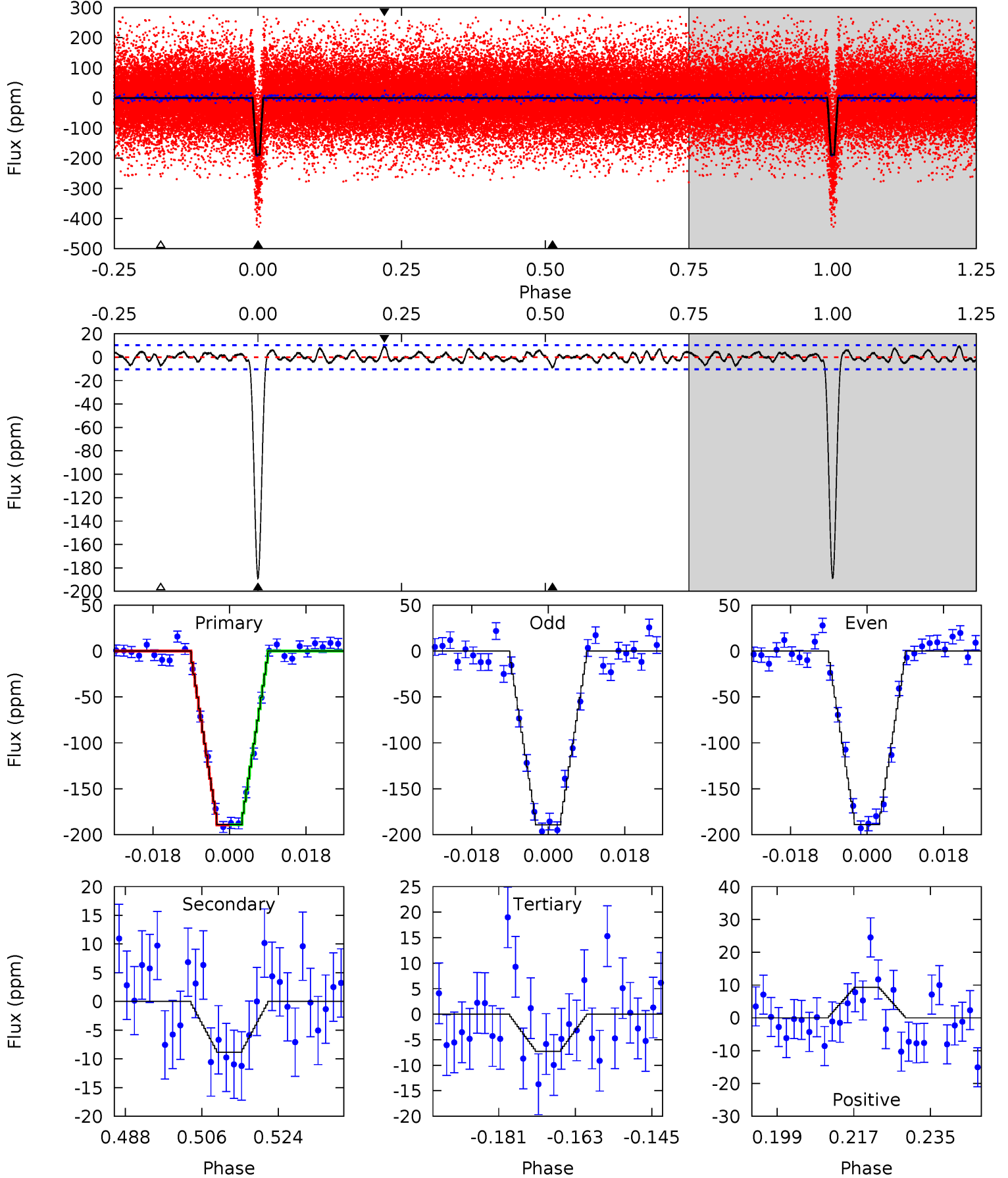
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
83.7	4.22	3.91	4.20	4.89	2.32	1.55	79.8	79.5	0.31	0.02	0.79	1.00	0.05	1.76



Alt Model-Shift Uniqueness Test

007295235-01, P = 3.179250 Days, E = 131.495578 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
90.6	4.23	3.49	4.48	4.91	2.36	1.38	87.2	86.2	0.75	-0.25	0.11	0.97	0.05	0.08



Stellar Parameters For KIC 007295235

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5511^{+98}_{-120}	$4.554^{+0.018}_{-0.102}$	$0.100^{+0.150}_{-0.150}$	$0.857^{+0.101}_{-0.040}$	$0.960^{+0.039}_{-0.073}$	$2.146^{+0.198}_{-0.639}$
	+2%/-2%	+0%/-2%	+150%/-150%	+12%/-5%	+4%/-8%	+9%/-30%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 007295235-01 / KOI 0987.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-9 ± 2	$1.42^{+0.23}_{-0.22}$	1559^{+47}_{-45}	3072^{+193}_{-182}	$4.309^{+2.036}_{-1.456}$
Alt.	-9 ± 2	$1.31^{+0.22}_{-0.24}$	1559^{+49}_{-42}	3144^{+220}_{-202}	$4.972^{+2.686}_{-1.822}$

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 $A_{obs} \gg 1.0$

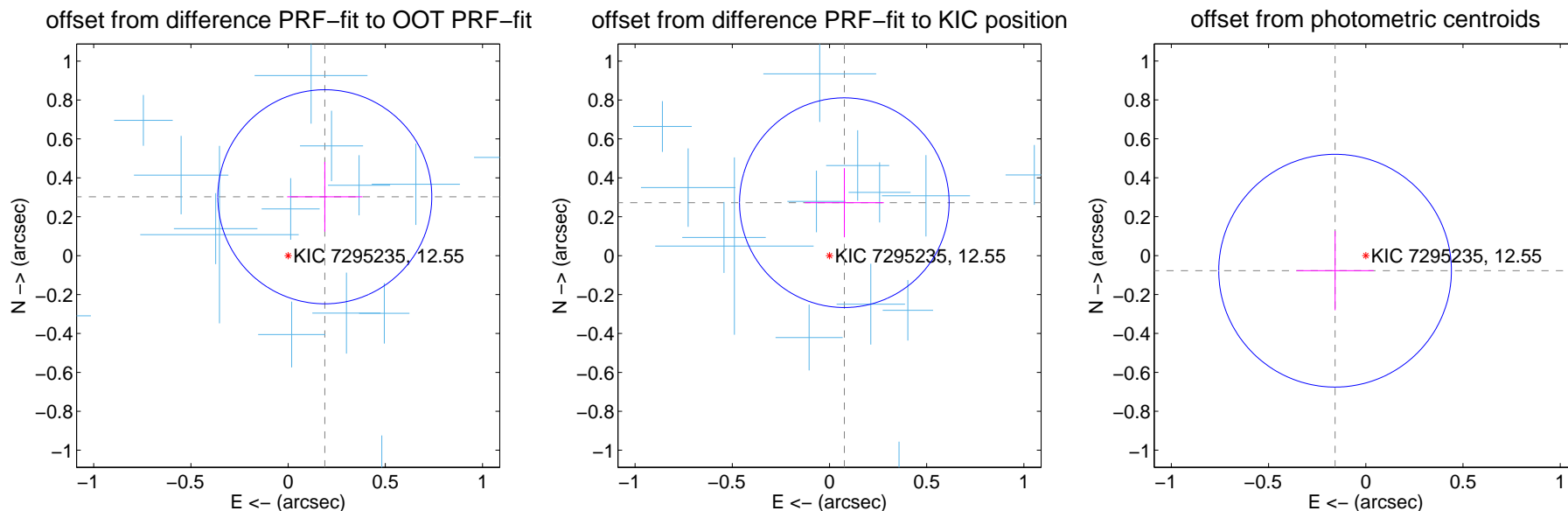
DV Centroid Data

Supplemental centroid analysis for 007295235-01. Kepler magnitude: 12.55. Transit SNR 50.54

There are 17 quarters with good PRF difference image offsets

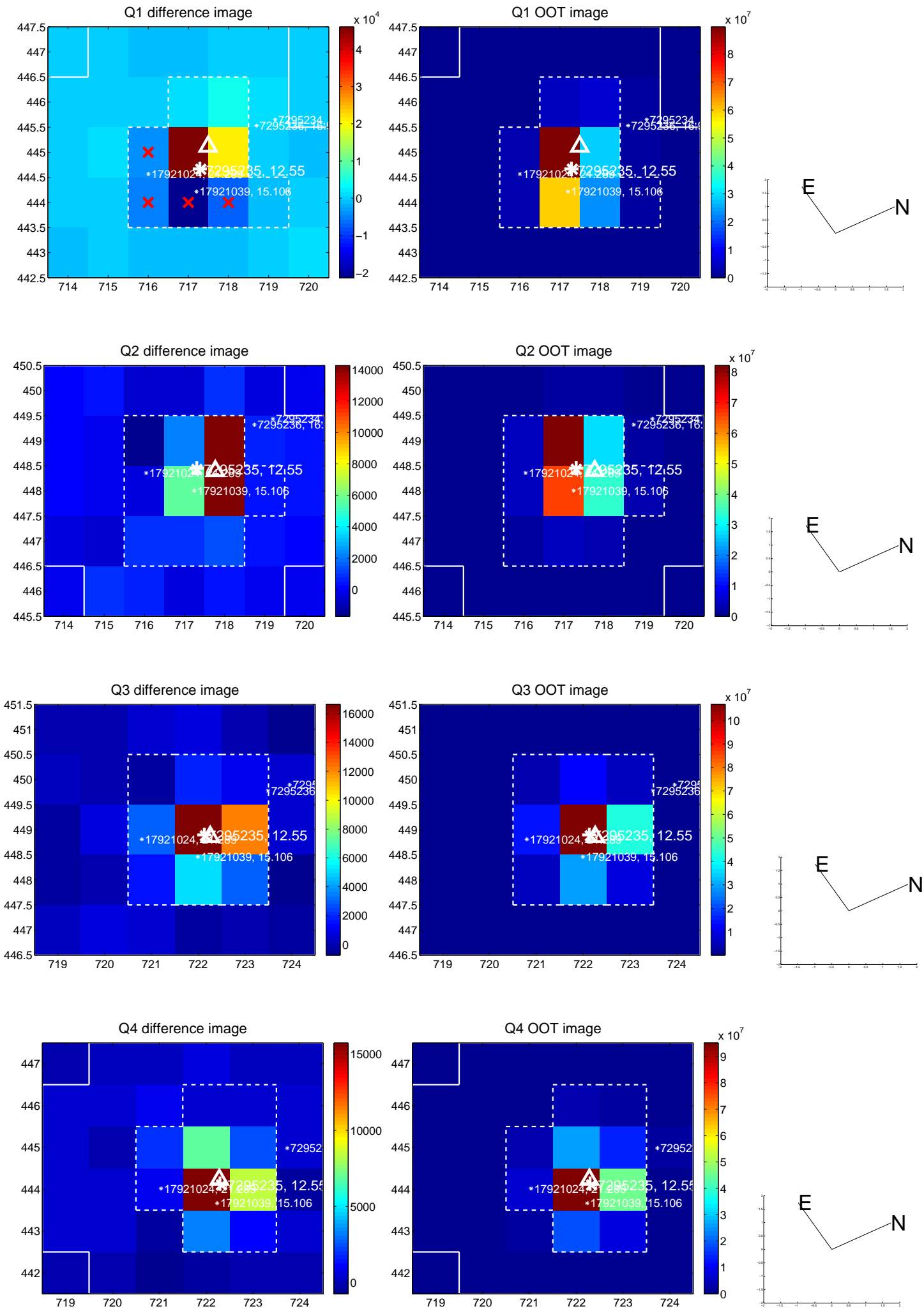
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.357 ± 0.183	1.94	-0.189 ± 0.193	0.303 ± 0.179
PRF-fit source offset from KIC position	0.283 ± 0.180	1.57	-0.076 ± 0.203	0.272 ± 0.178
photometric centroid source offset	0.18 ± 0.20	0.88	0.16 ± 0.20	-0.08 ± 0.20

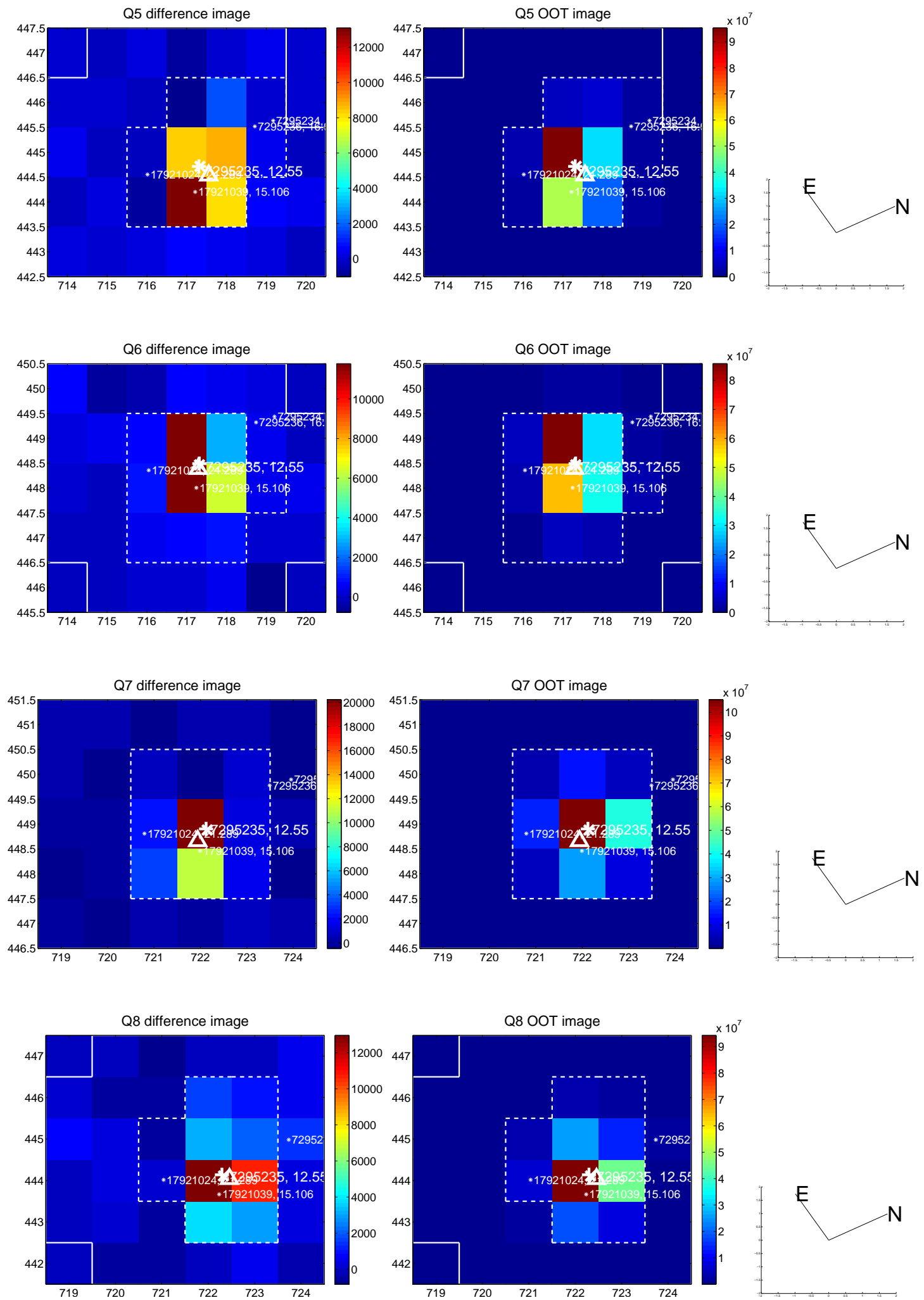


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

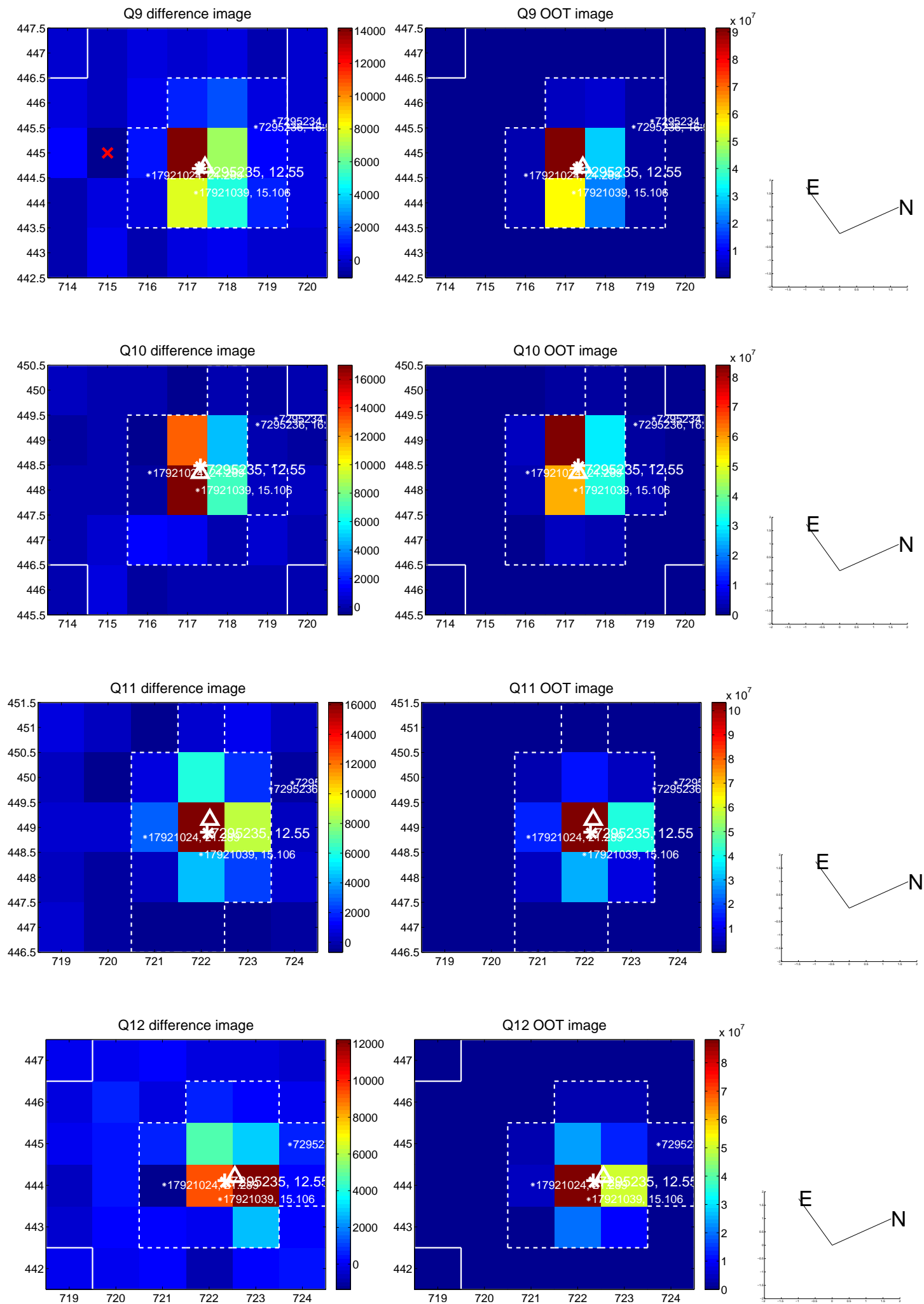
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



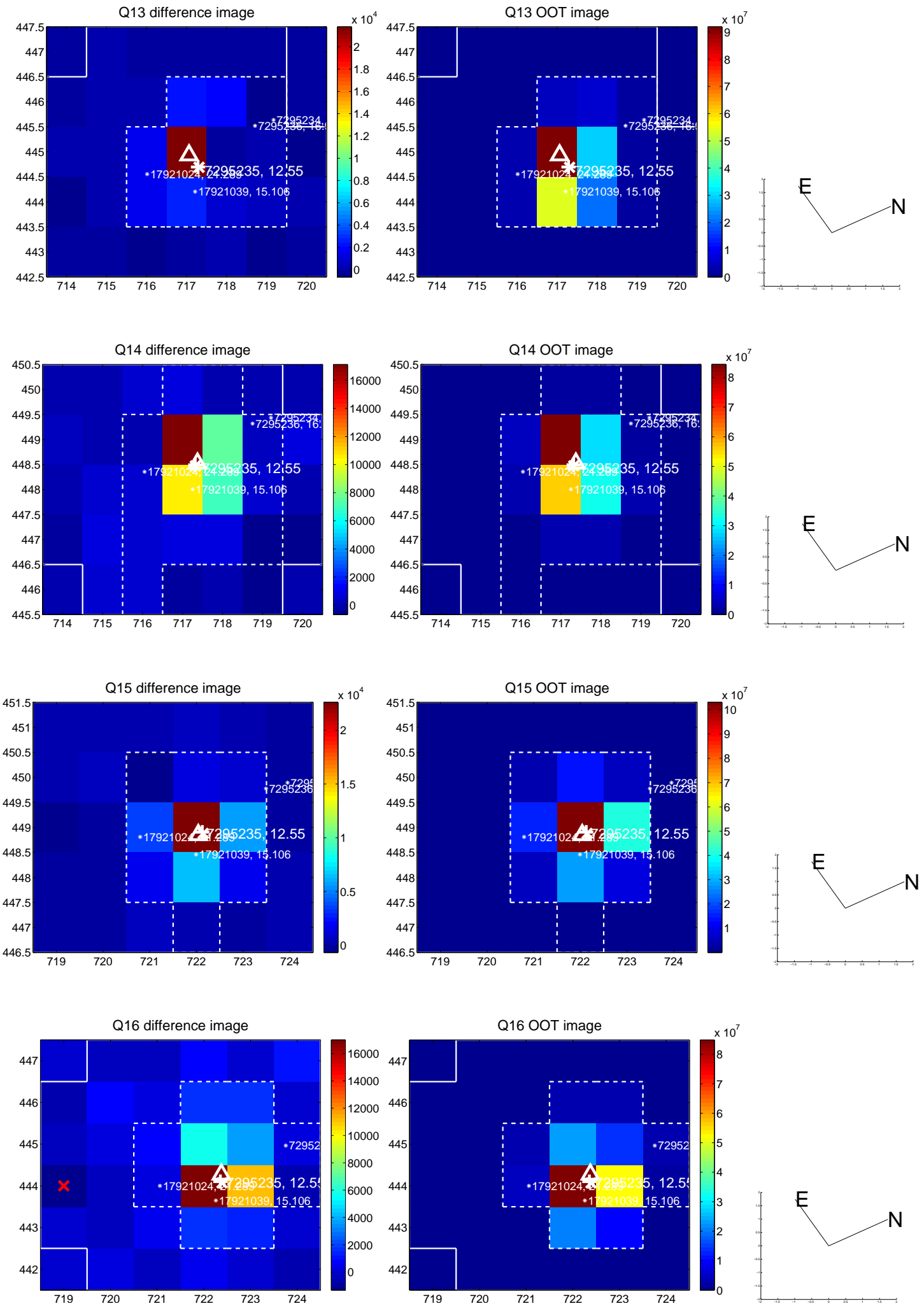
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



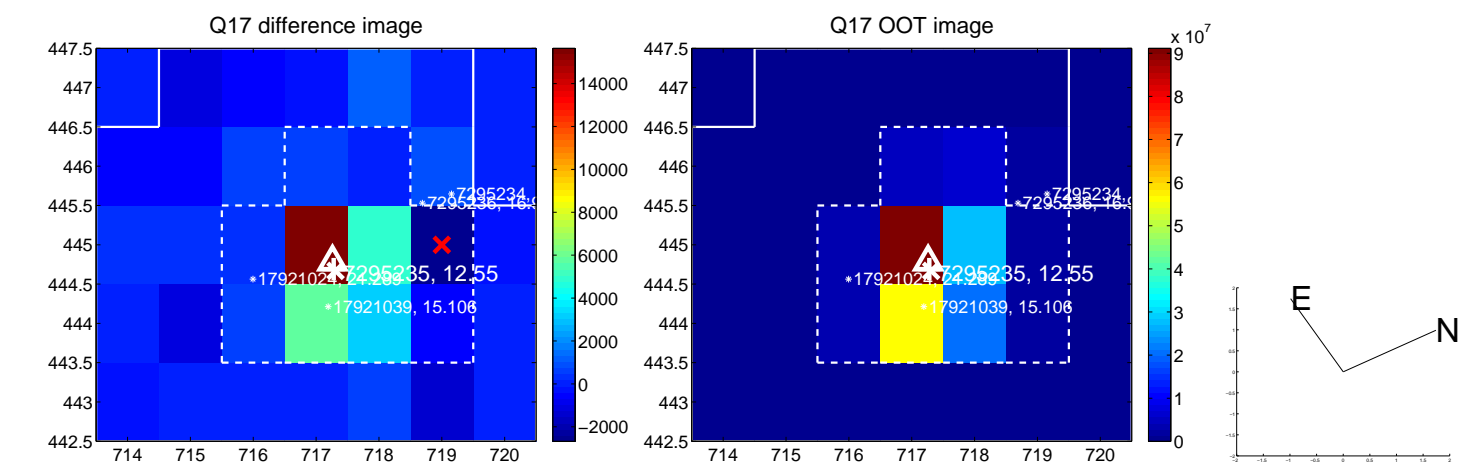
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



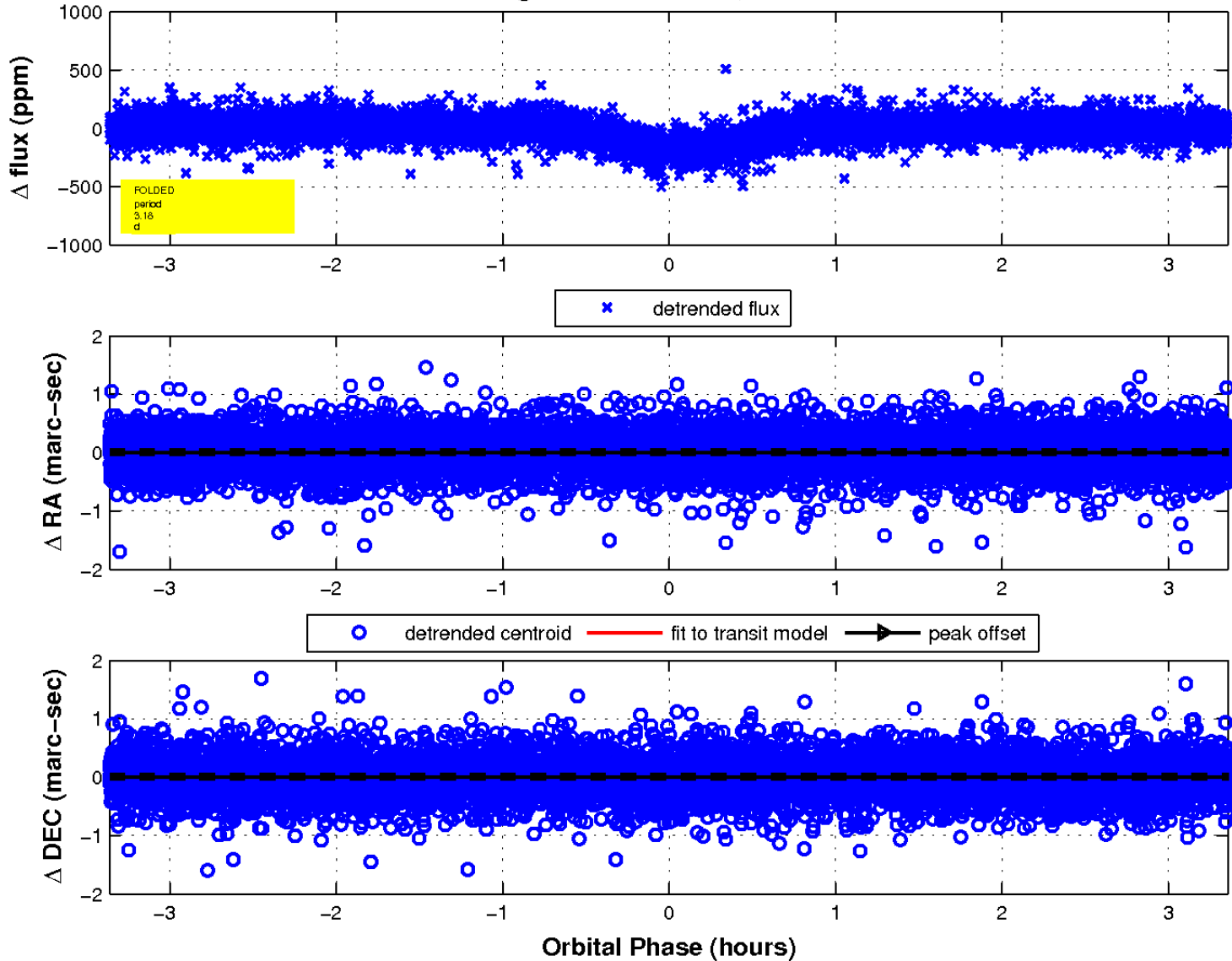
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

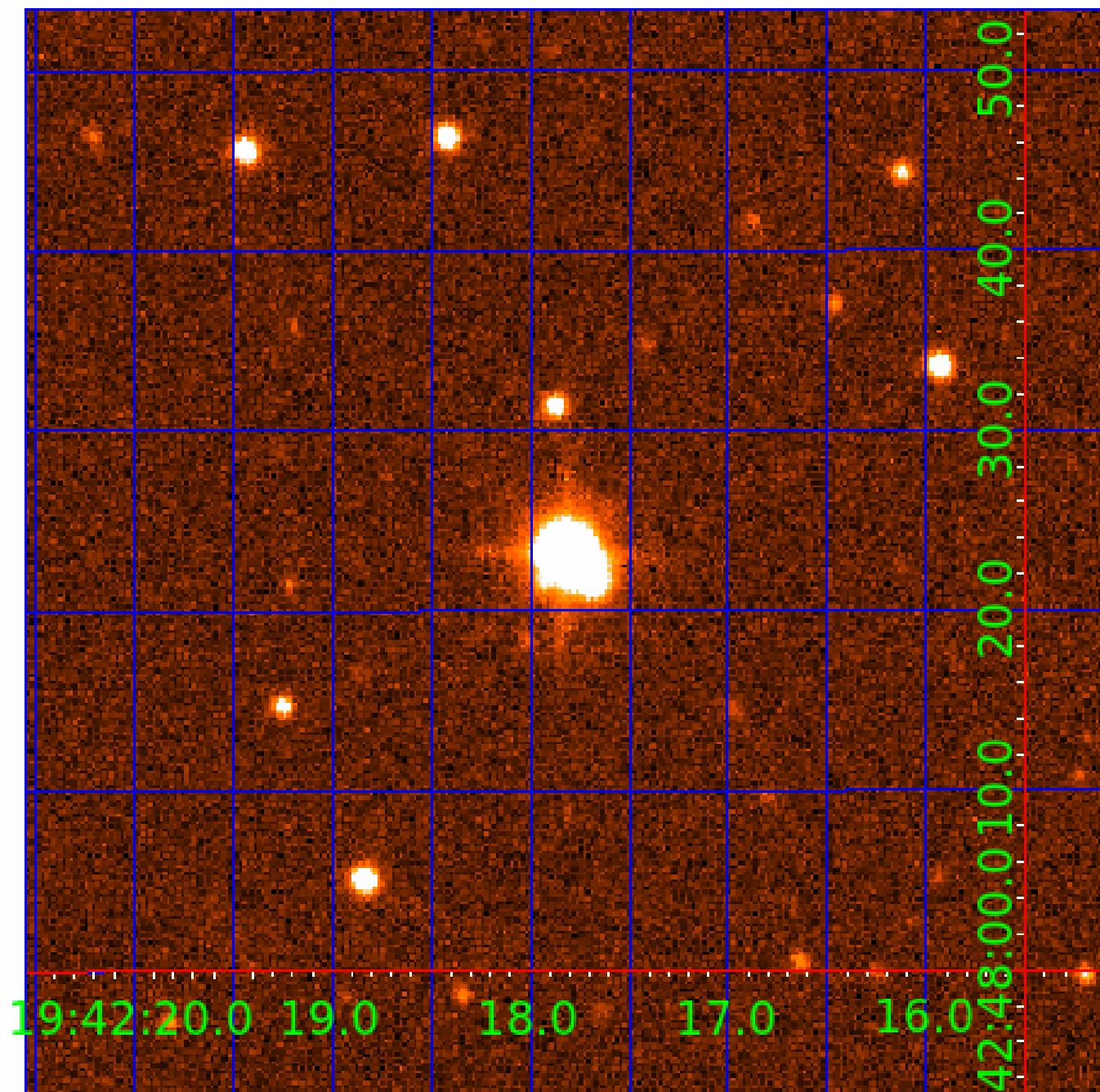


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007295235

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})
007295235-01	OBS	0987.01	3.179244	134.675527	180.9	1.121	41.7	50.5	0.86	5511	1.39	348.37
007295235-02	OBS	No	320.587690	224.201348	237.7	3.119	8.0	8.0	0.86	5511	1.68	0.74

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007295235-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
007295235-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—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.

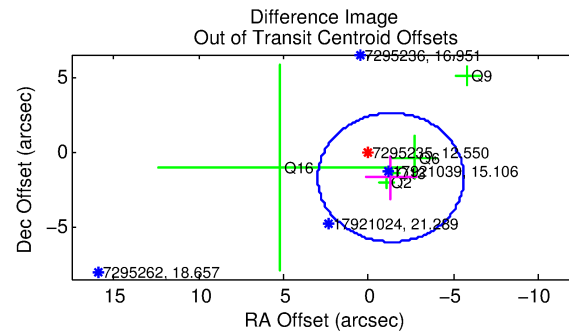
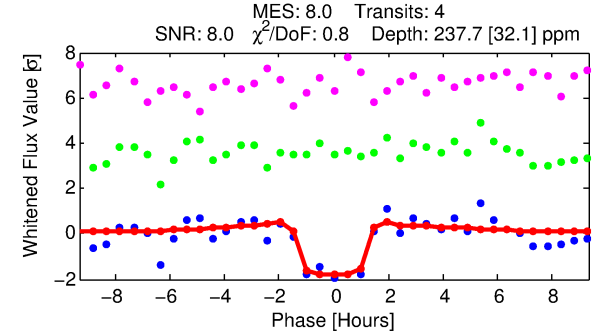
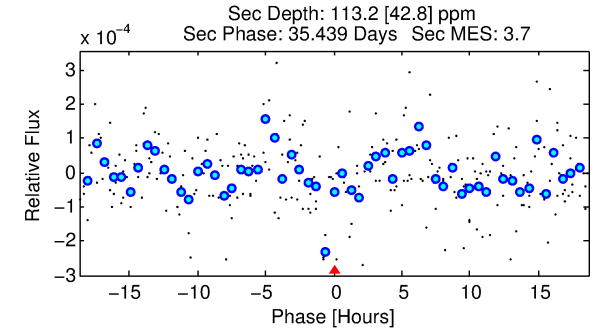
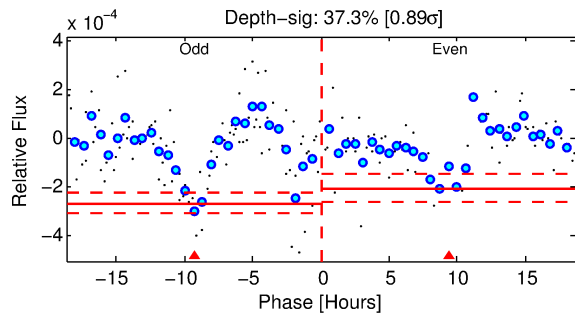
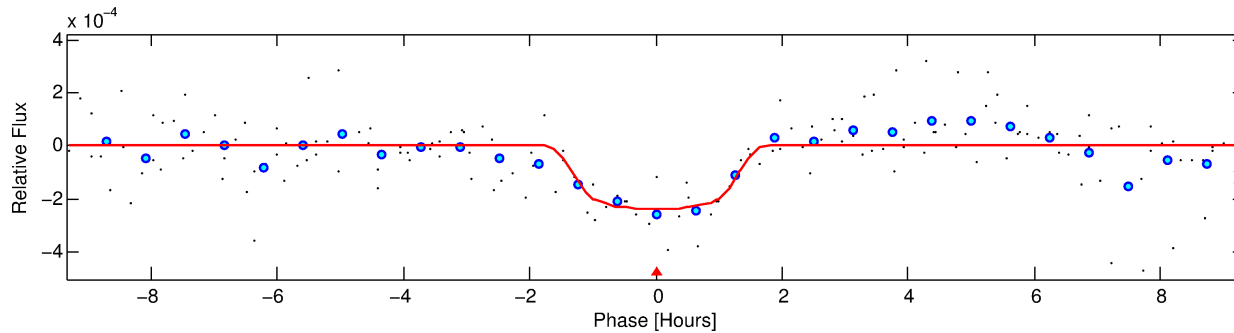
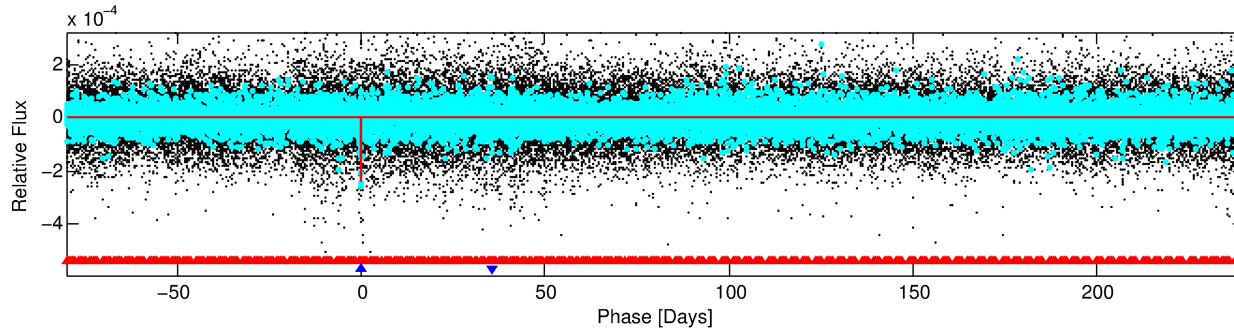
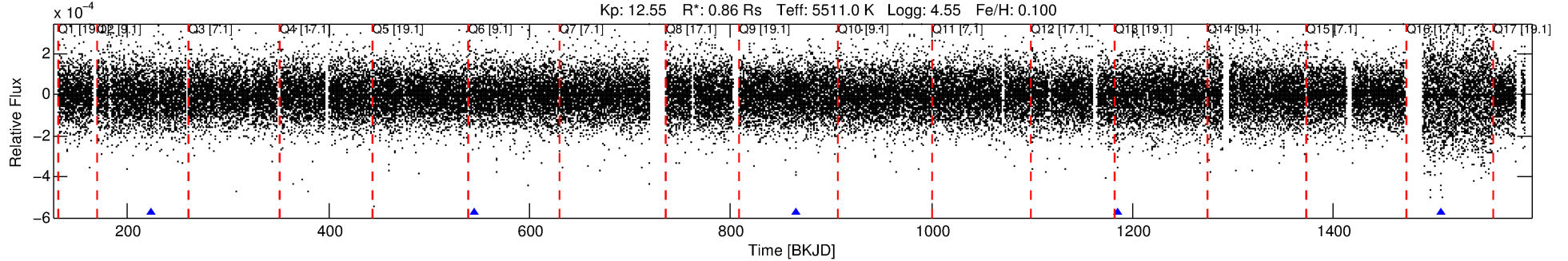
Ephemeris Match Information For 007295235-02

No Significant Match Found

DV One-Page Summary

KIC: 7295235 Candidate: 2 of 2 Period: 320.588 d
KOI: K00987 Corr: No Ephemeris Match

Kp: 12.55 R*: 0.86 Rs Teff: 5511.0 K Logg: 4.55 Fe/H: 0.100



DV Fit Results:

Period = 320.58769 [0.00261] d
Epoch = 224.2013 [0.0066] BKJD
Rp/R* = 0.0180 [0.0038]
a/R* = 301.03 [252.66]
b = 0.94 [0.10]
Seff = 0.74 [0.15]
Teq = 237 [12] K
Rp = 1.68 [0.40] Re
a = 0.9043 [0.1003] AU
Ag = 18034.46 [10642.58] [1.69σ]
Teff = 4241 [605] K [6.6σ]

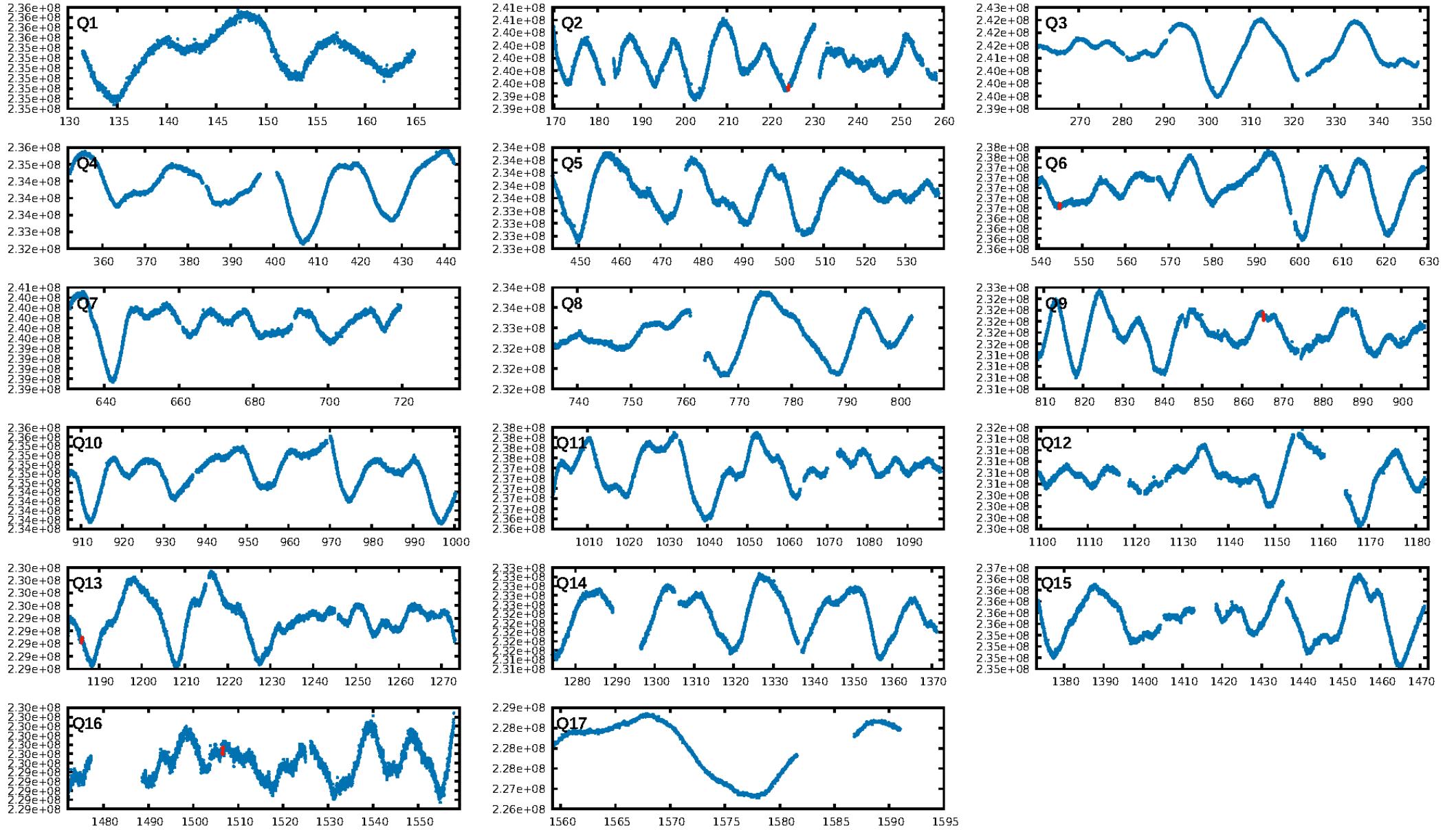
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [2298.88σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 33.3%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 4.57e-11
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.9662
Centroid-sig: 6.2%
Centroid-so: 1.381 arcsec [1.46σ]
OotOffset-rm: 2.181 arcsec [1.52σ]
KicOffset-rm: 2.155 arcsec [1.51σ]
OotOffset-st: 2/0/1/2 [5]
KicOffset-st: 2/0/1/2 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 0.80 [4/5]

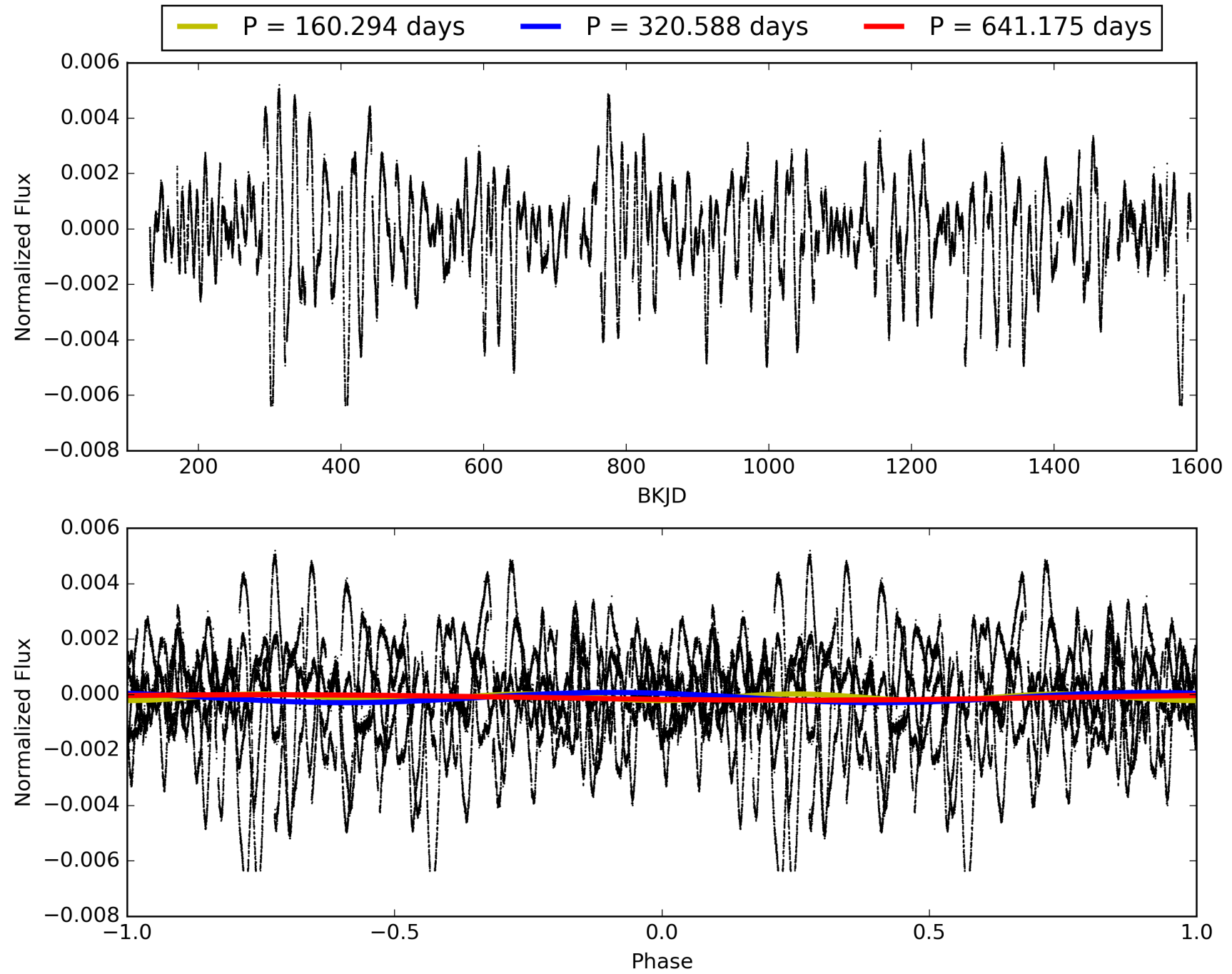
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007295235-02, PDC Light Curves

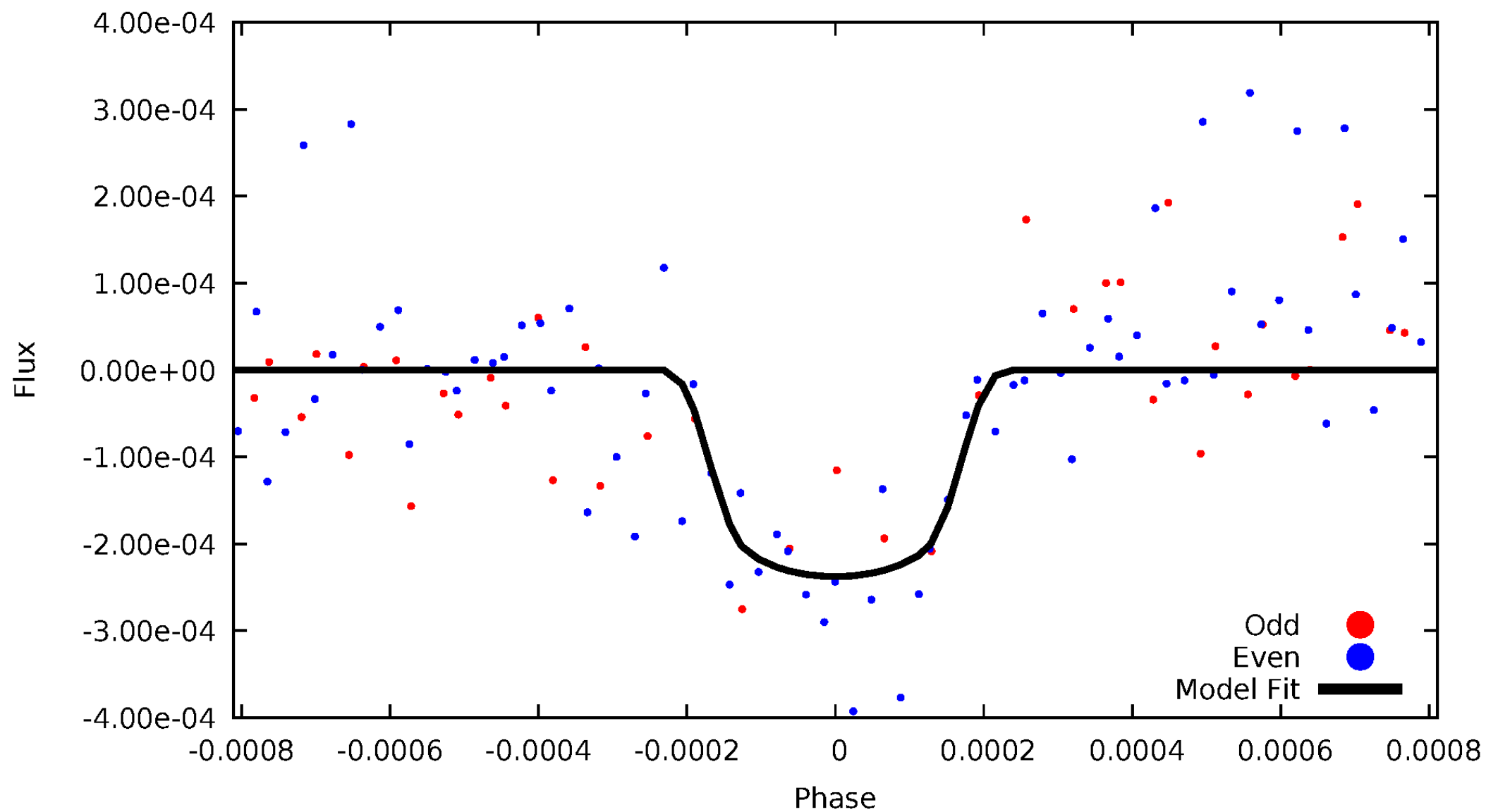


TCE 007295235-02



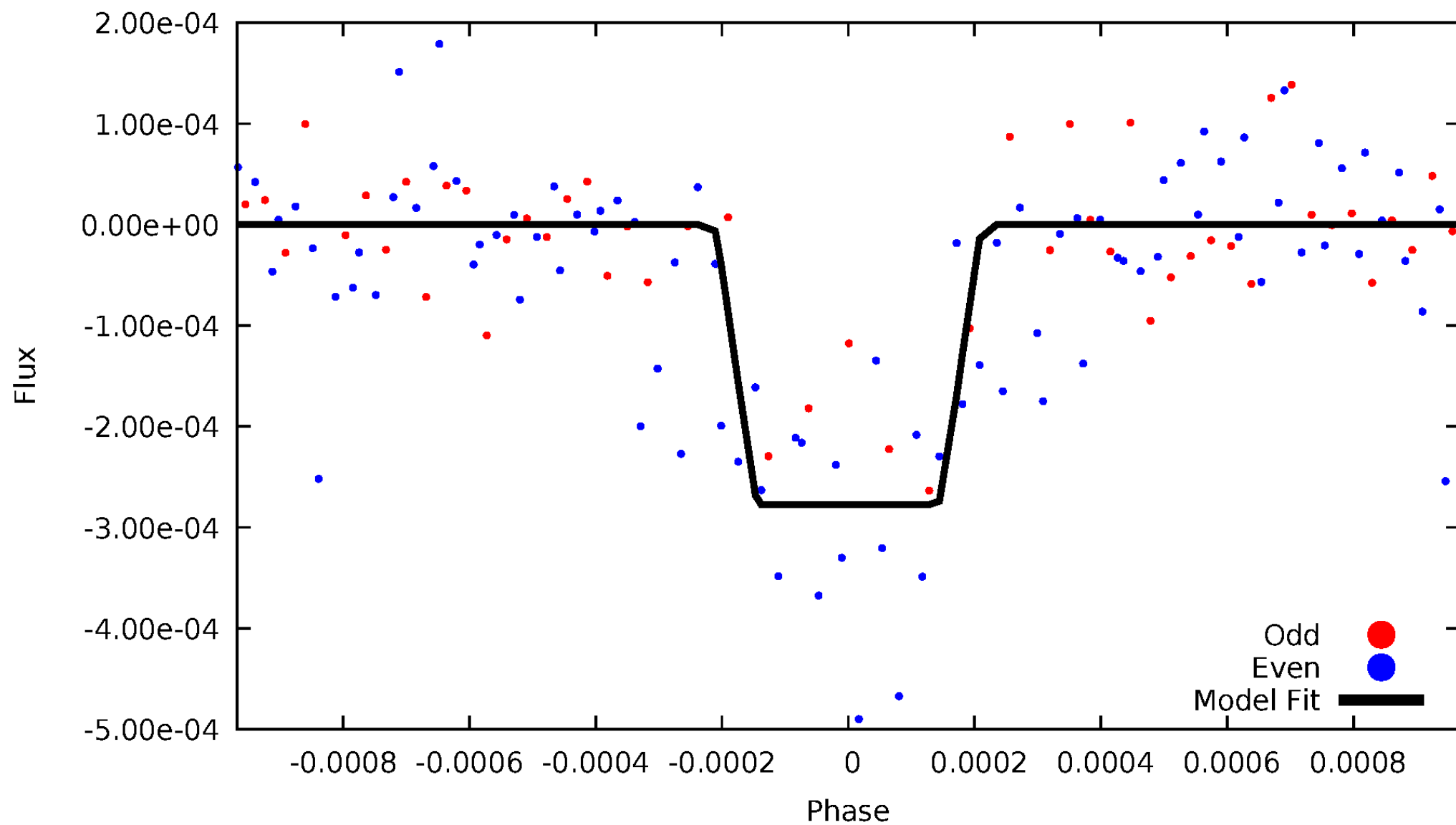
DV Odd/Even

TCE 007295235-02



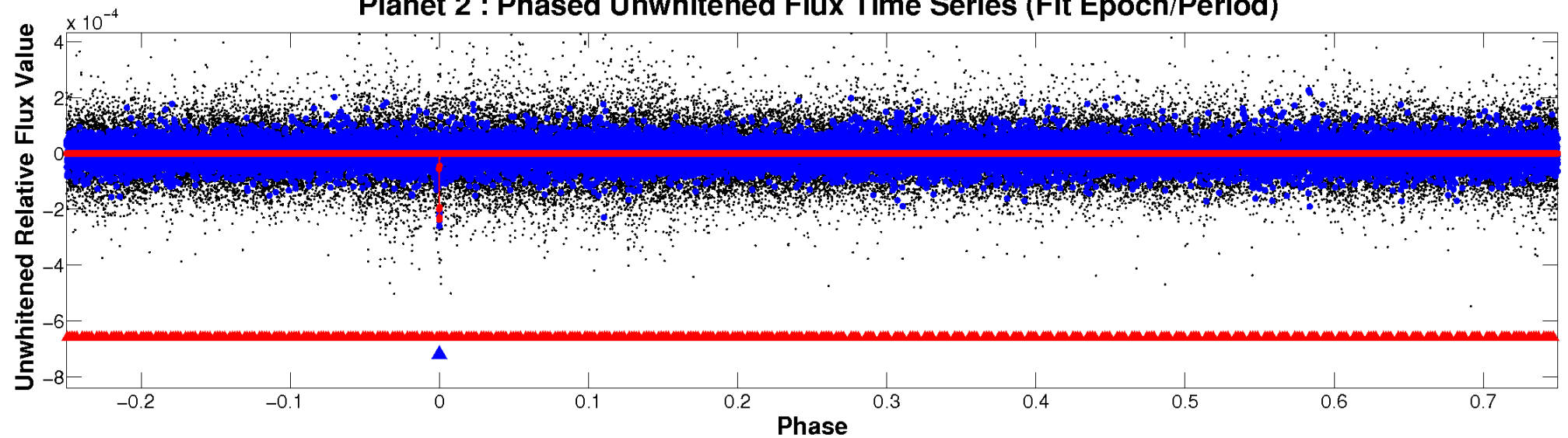
ALT Odd/Even

TCE 007295235-02

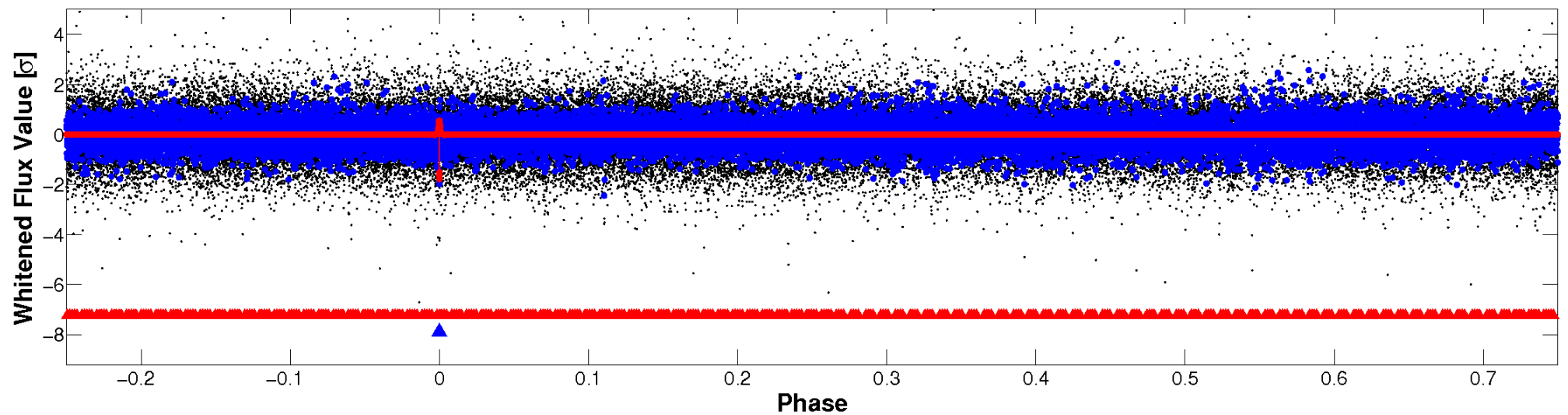


Non-Whitened Vs. Whitened Light Curve

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

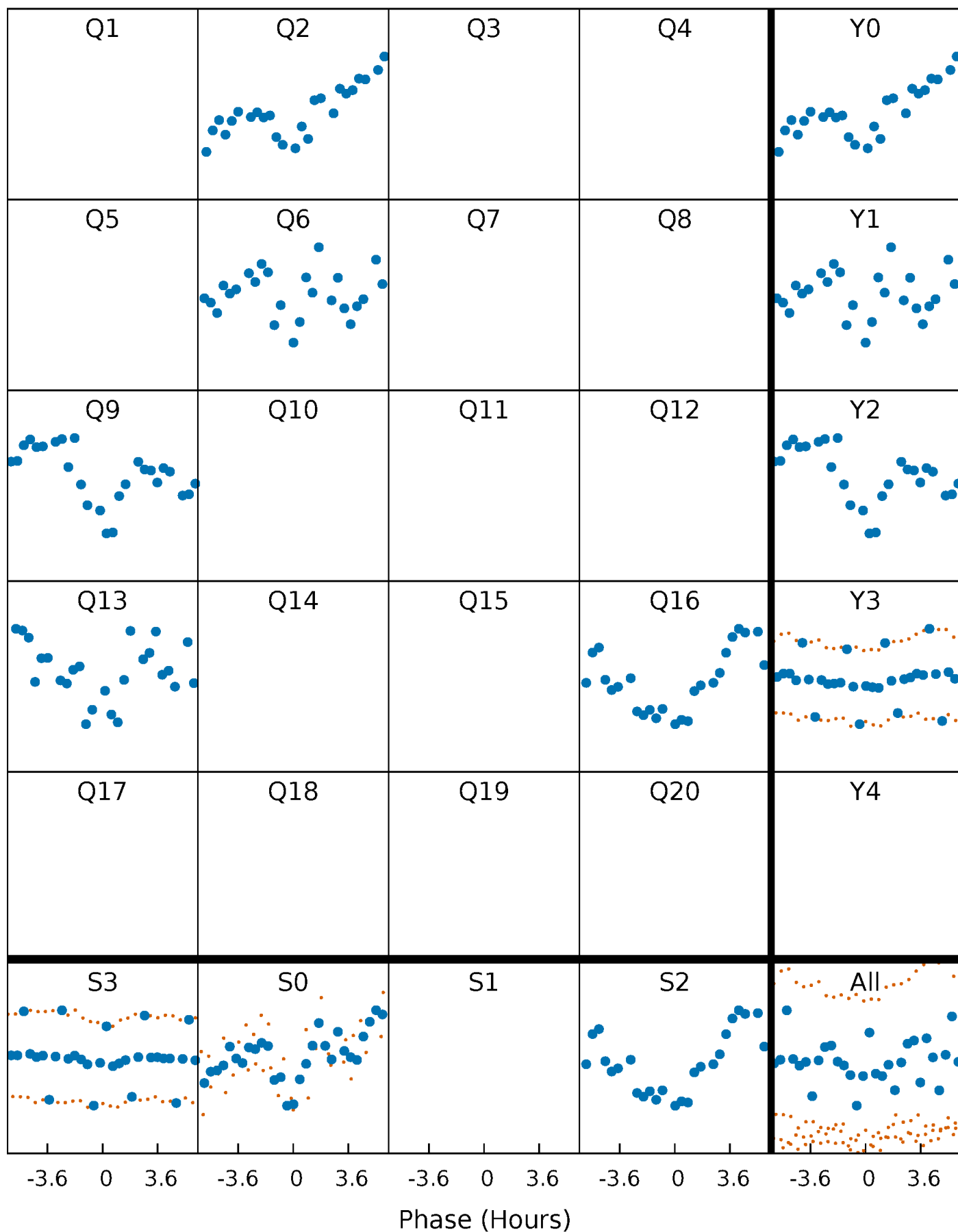


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



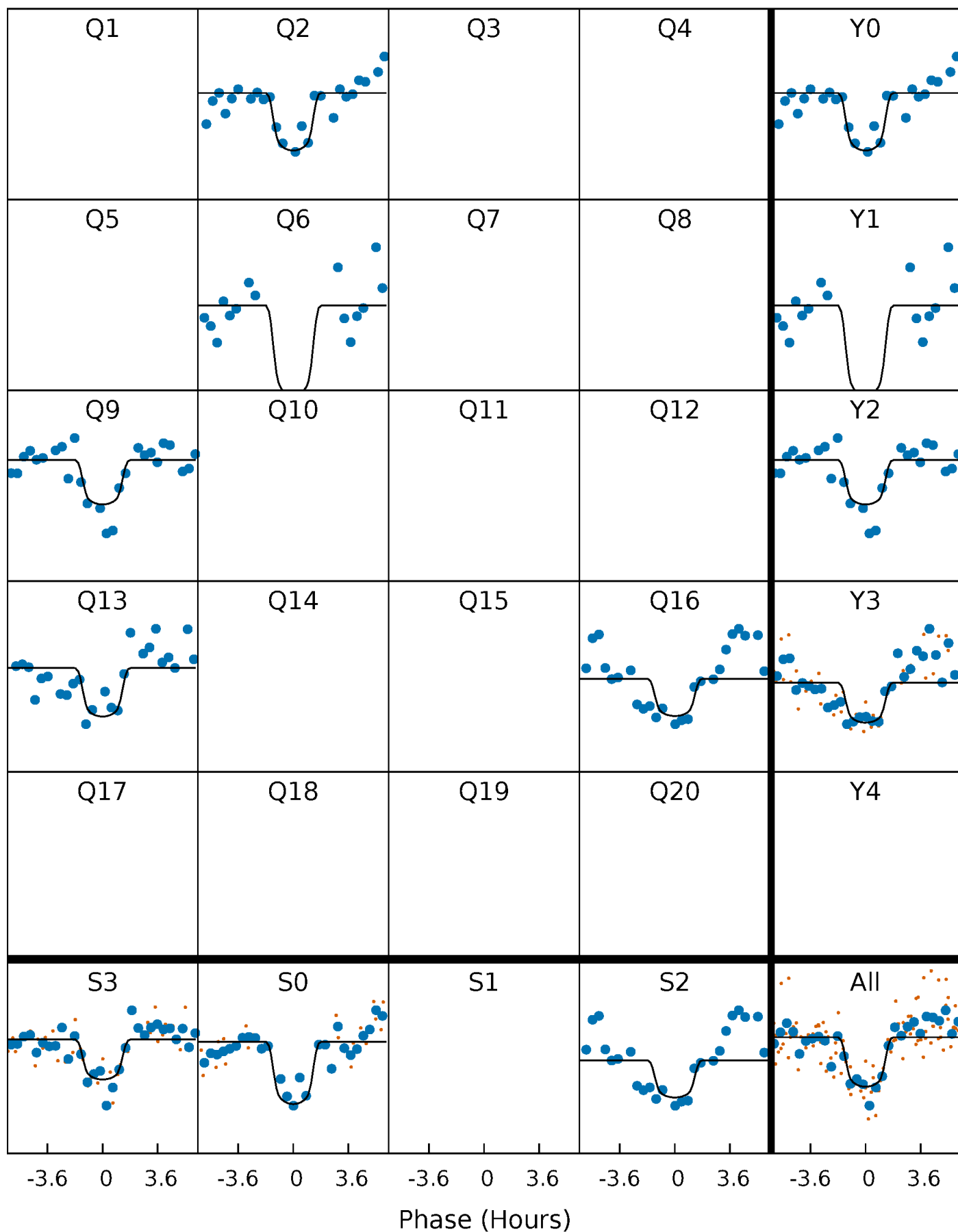
PDC Quarter-Phased Transit Curves

TCE 007295235-02 P=320.587690 Days $T_0=224.201348$ (BKJD)



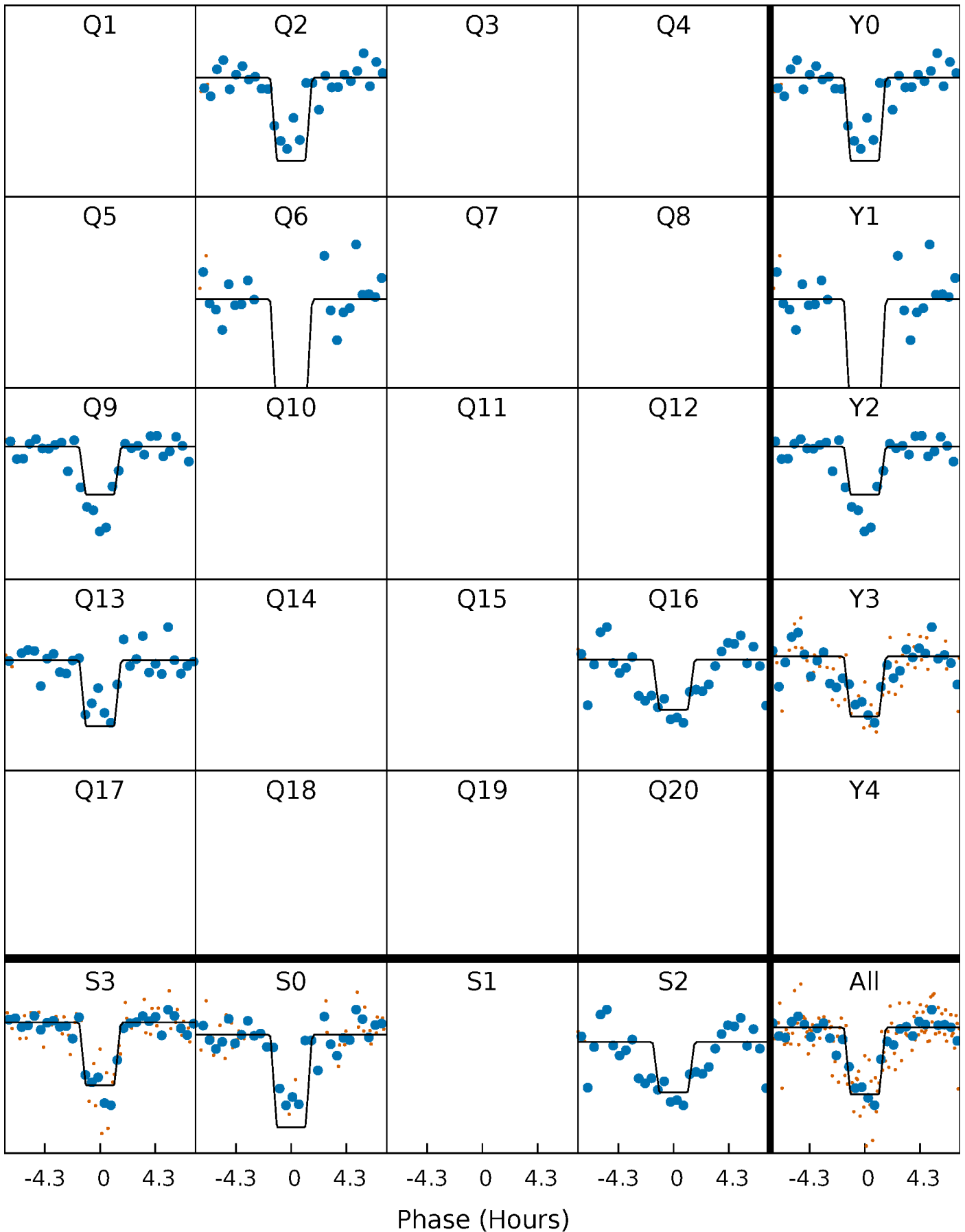
DV Quarter-Phased Transit Curves

TCE 007295235-02 P=320.587690 Days $T_0=224.201348$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

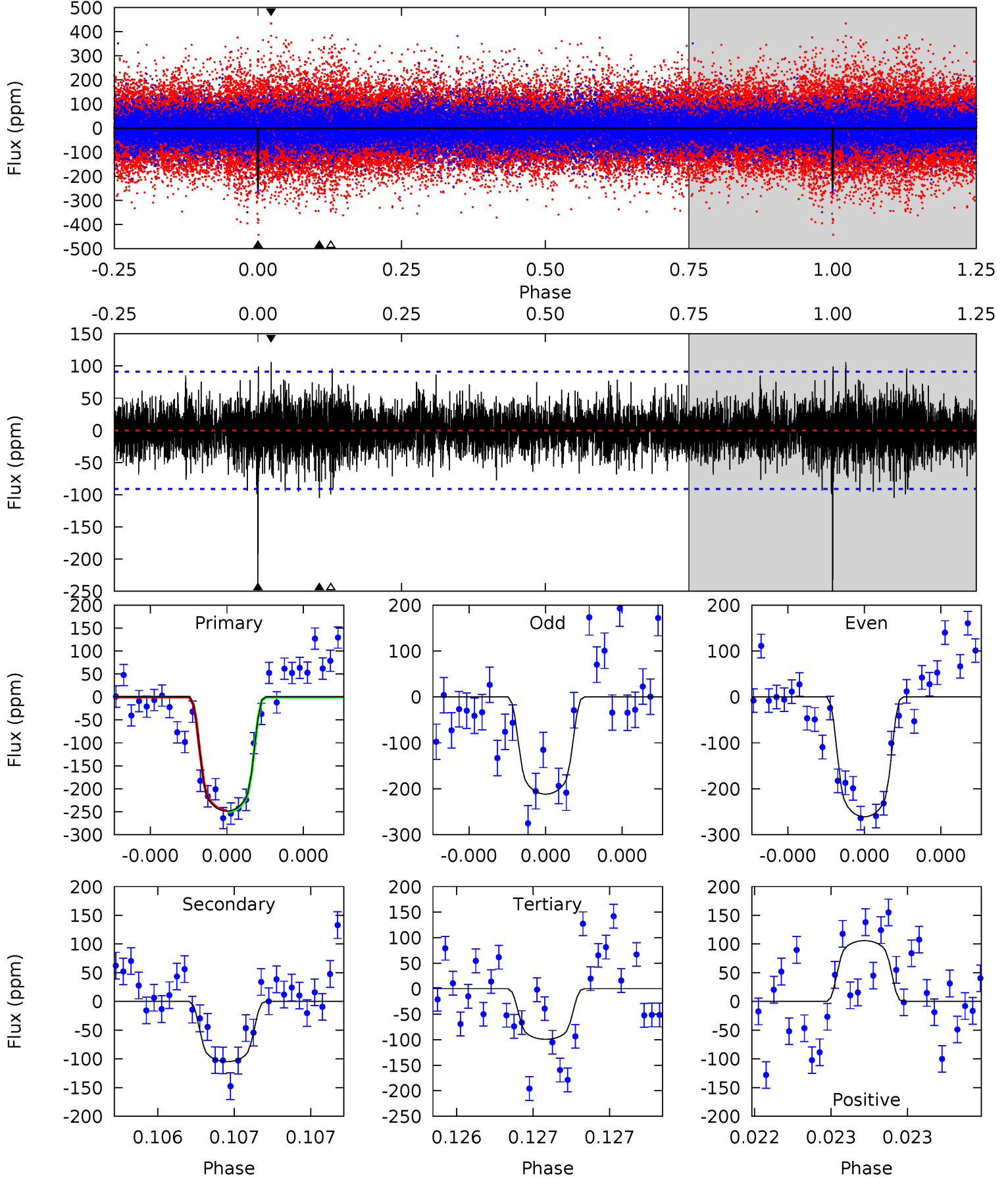
TCE 007295235-02 P=320.585736 Days $T_0=224.207605$ (BKJD)



DV Model-Shift Uniqueness Test

007295235-02, P = 320.587690 Days, E = 224.201348 Days

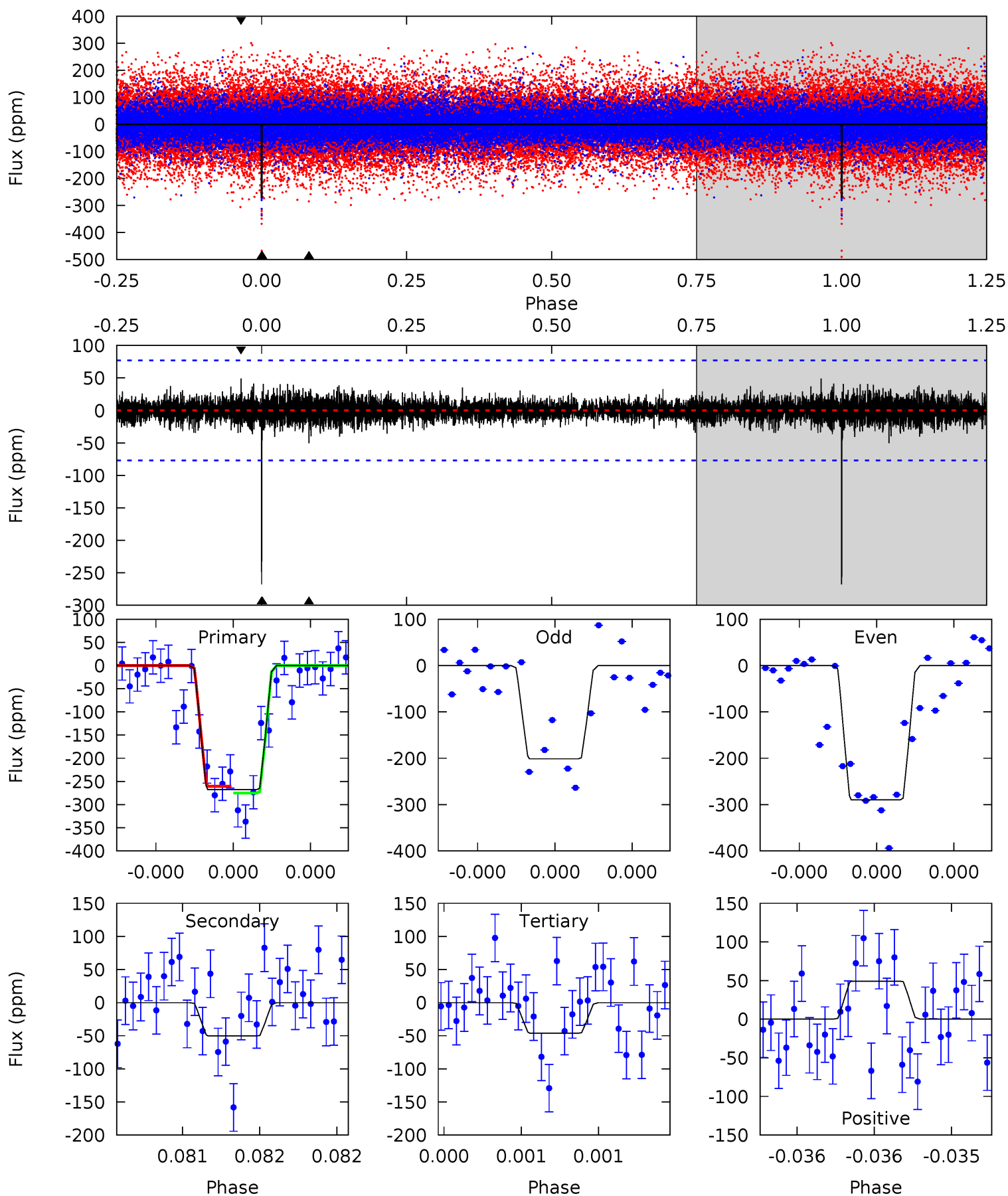
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.2	6.42	6.08	6.49	5.58	3.50	1.46	9.16	8.74	0.35	-0.07	1.33	1.04	0.30	0.10



Alt Model-Shift Uniqueness Test

007295235-02, P = 320.585736 Days, E = 224.207605 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.5	3.65	3.35	3.57	5.60	3.53	0.70	16.2	15.9	0.30	0.08	2.88	1.06	0.15	0.54



Stellar Parameters For KIC 007295235

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5511^{+98}_{-120}	$4.554^{+0.018}_{-0.102}$	$0.100^{+0.150}_{-0.150}$	$0.857^{+0.101}_{-0.040}$	$0.960^{+0.039}_{-0.073}$	$2.146^{+0.198}_{-0.639}$
	+2%/-2%	+0%/-2%	+150%/-150%	+12%/-5%	+4%/-8%	+9%/-30%
Source	SPE59	SPE59	SPE59	DSEP		

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

Secondary Eclipse Parameters for KIC 007295235-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-105 ± 16	$1.72^{+0.37}_{-0.36}$	335^{+11}_{-9}	4344^{+459}_{-319}	15214^{+10425}_{-4775}
Alt.	-50 ± 14	$1.59^{+0.37}_{-0.38}$	335^{+12}_{-9}	3908^{+464}_{-314}	8623^{+7049}_{-3418}

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

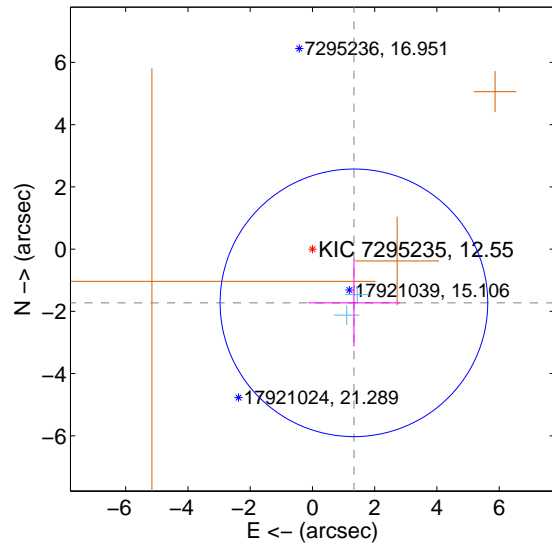
Supplemental centroid analysis for 007295235-02. Kepler magnitude: 12.55. Transit SNR 7.96

There are 2 quarters with good PRF difference image offsets

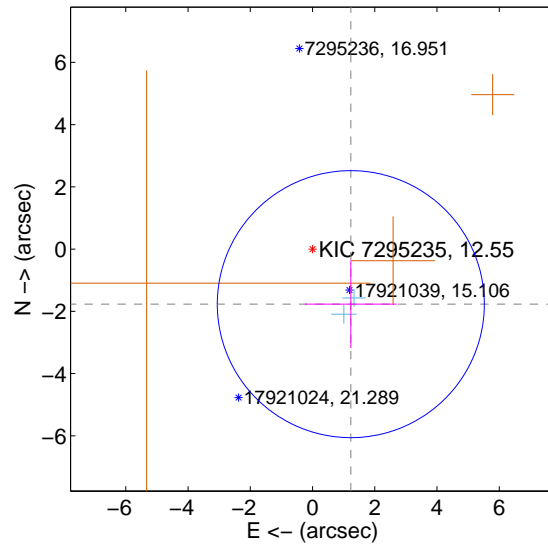
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.181 ± 1.433	1.52	-1.333 ± 1.475	-1.727 ± 1.408
PRF-fit source offset from KIC position	2.155 ± 1.430	1.51	-1.230 ± 1.475	-1.769 ± 1.408
photometric centroid source offset	1.38 ± 0.94	1.46	0.58 ± 0.85	-1.25 ± 0.96

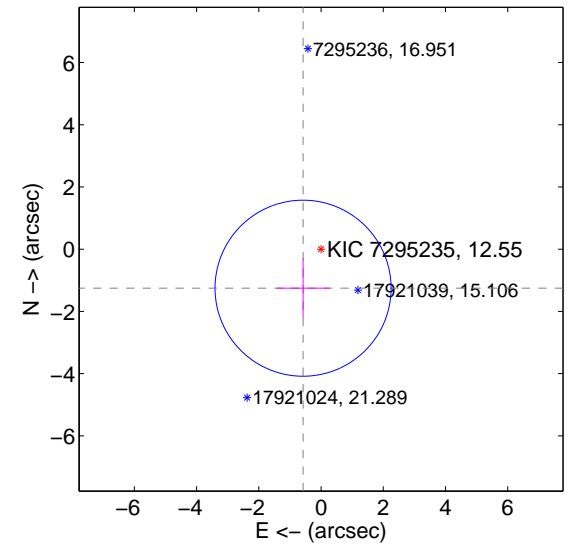
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

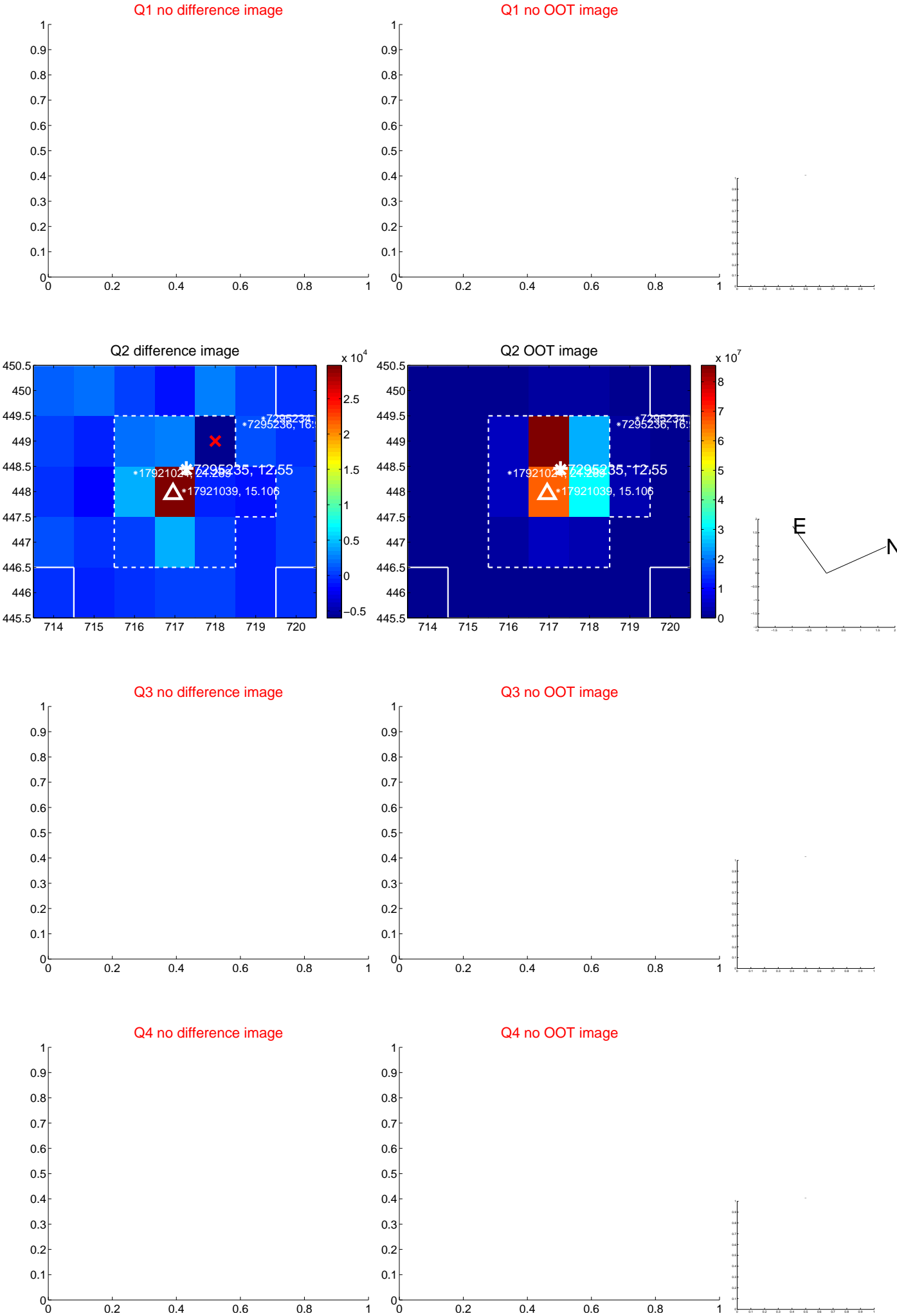


offset from photometric centroids



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.

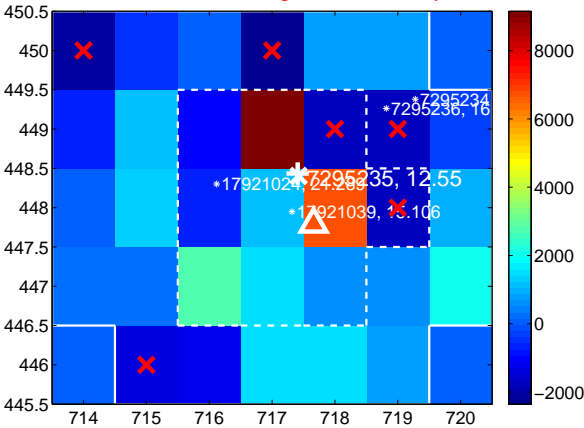
Q5 no difference image



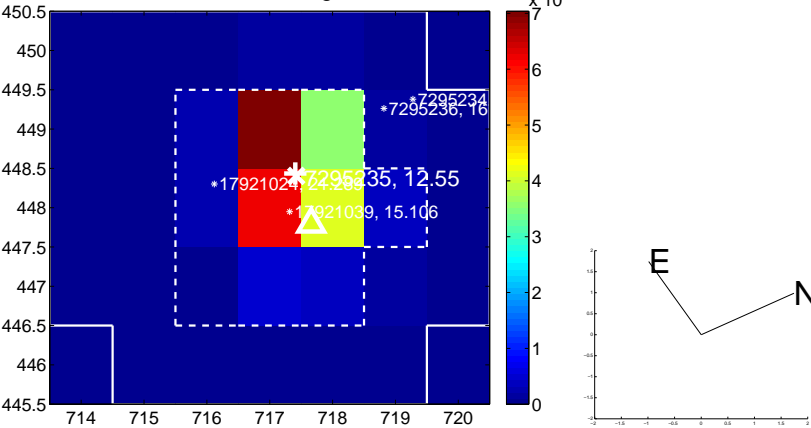
Q5 no OOT image



Q6 difference image. Poor Quality



Q6 OOT image



Q7 no difference image



Q7 no OOT image



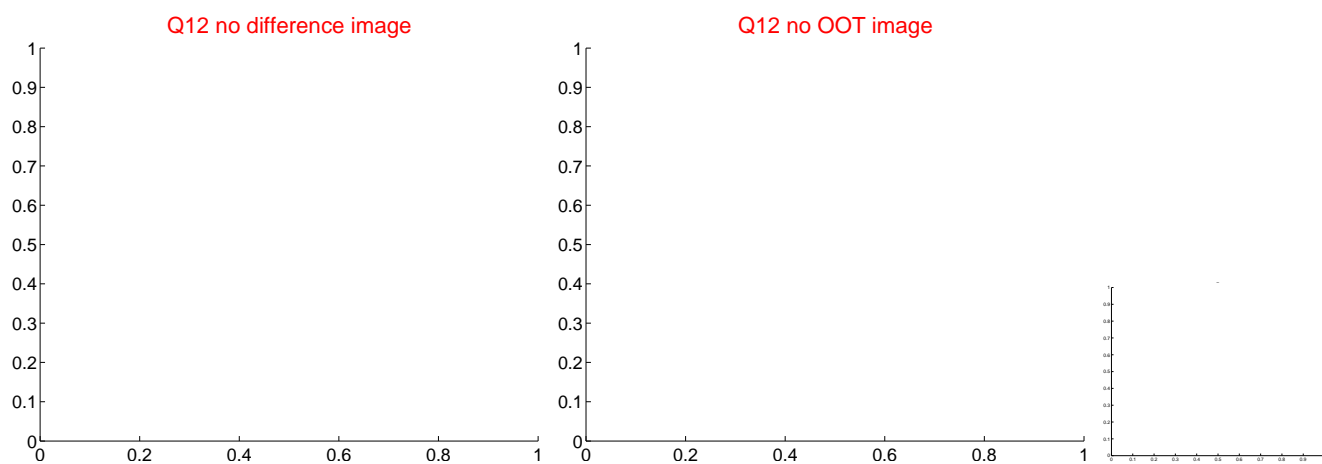
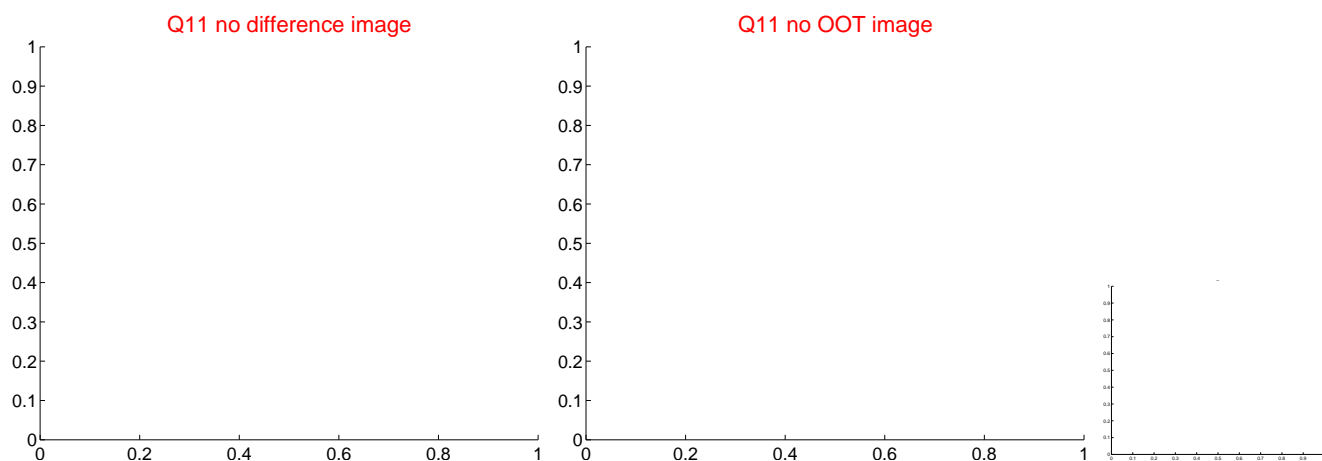
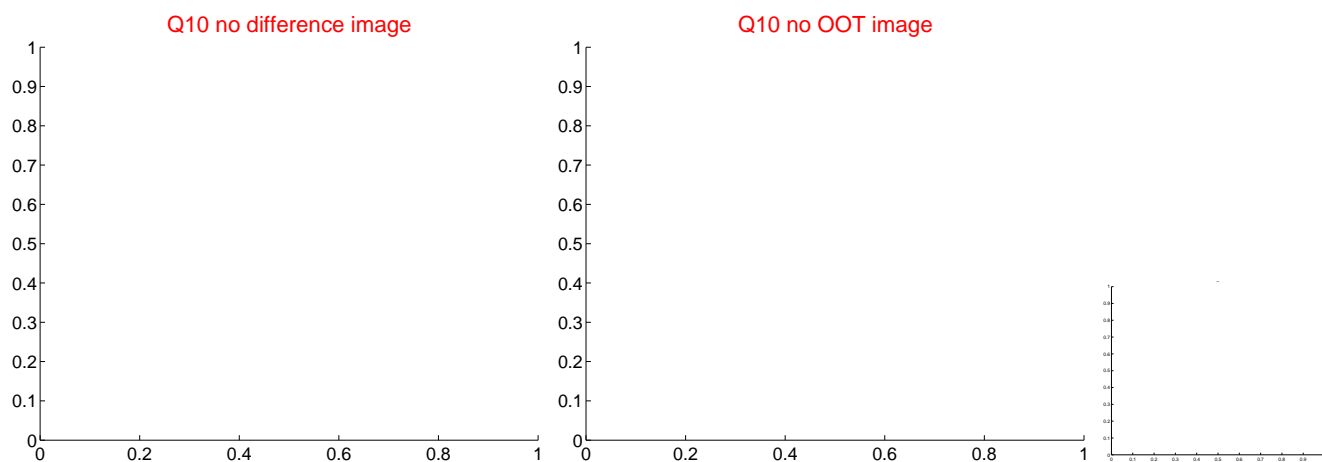
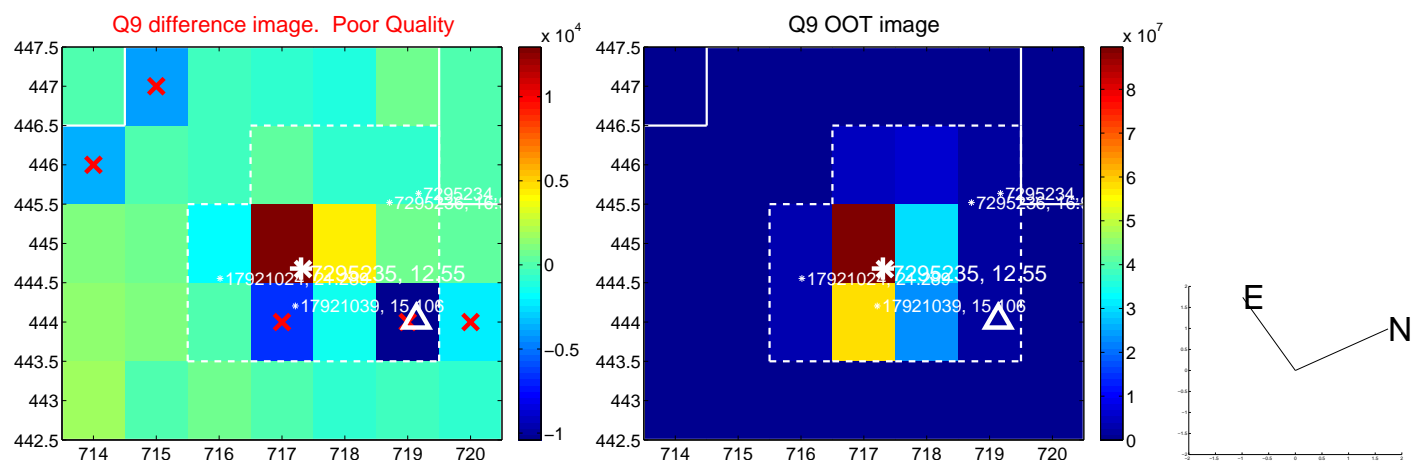
Q8 no difference image



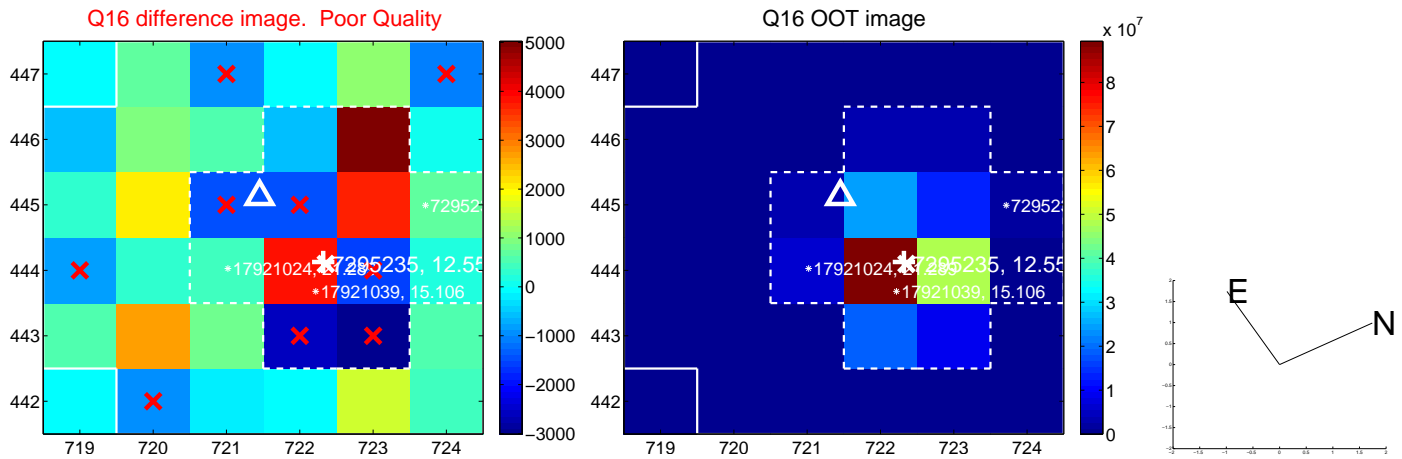
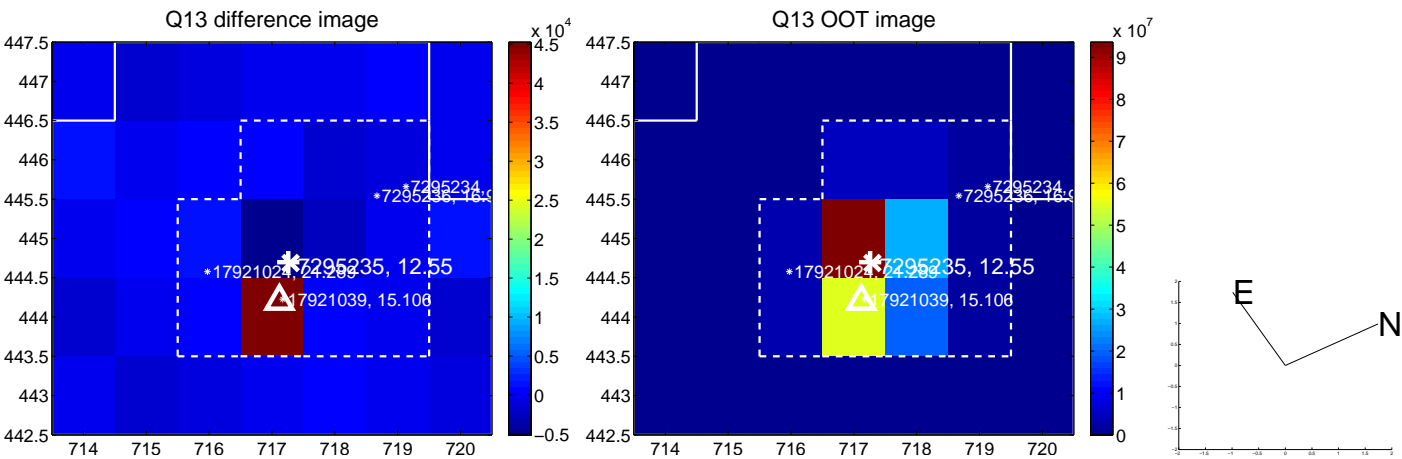
Q8 no OOT image



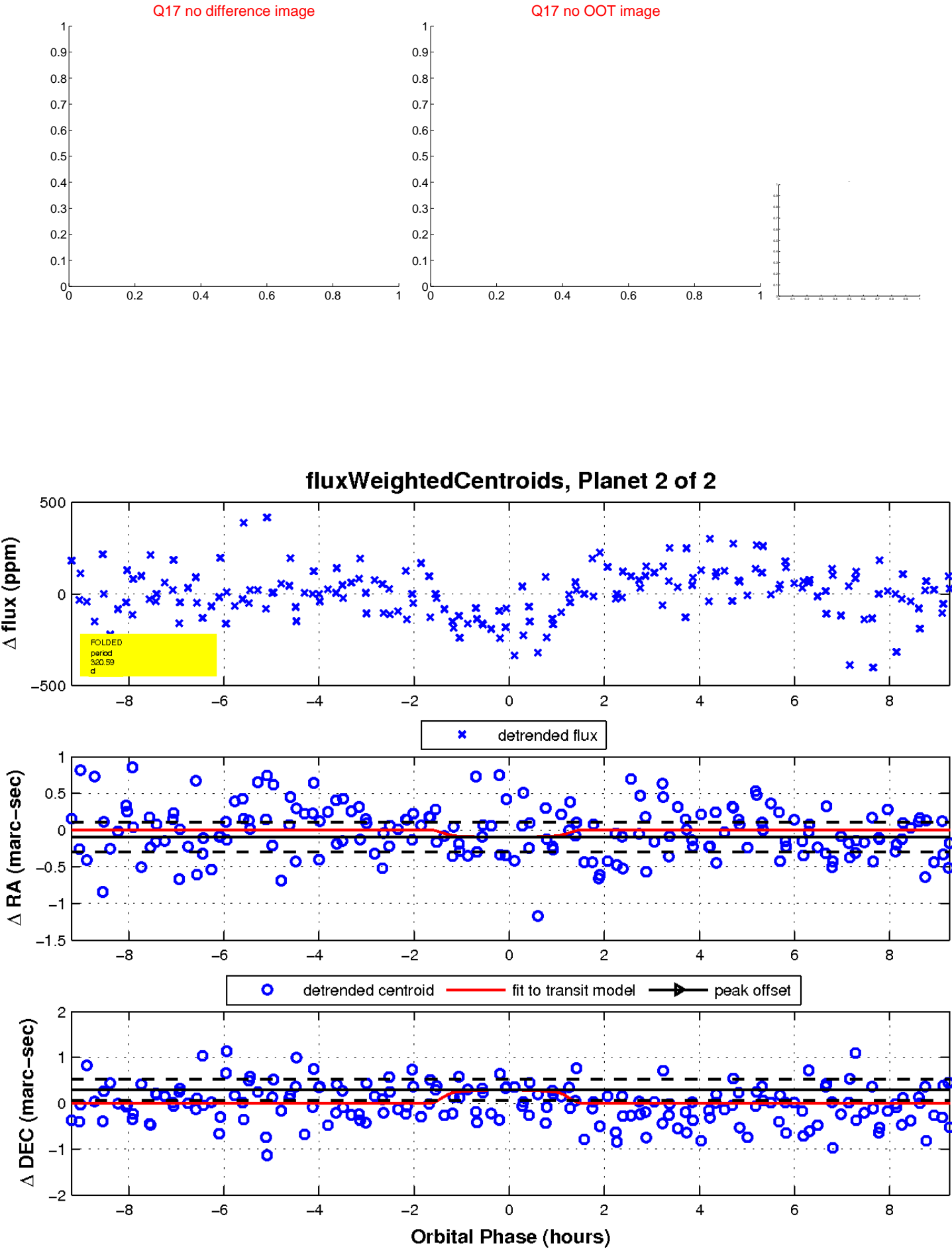
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

