

KIC 002447832

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})
002447832-01	OBS	No	0.921355	132.186367	15.1	5.945	9.4	6.5	1.39	6446	0.58	9192.92
002447832-02	OBS	No	47.346945	153.110230	96.1	31.858	9.9	6.6	1.39	6446	1.37	48.12
002447832-03	OBS	No	181.379735	189.859579	433.2	7.910	9.8	9.1	1.39	6446	3.22	8.03
002447832-04	OBS	No	70.423650	170.402747	325.5	0.740	8.3	5.5	1.39	6446	2.84	28.34
002447832-05	OBS	No	204.995092	137.361467	455.9	6.102	9.2	8.8	1.39	6446	3.79	6.82
002447832-06	OBS	No	24.391322	148.019870	244.0	3.650	9.5	9.3	1.39	6446	2.42	116.51
002447832-07	OBS	No	43.687604	134.829277	292.8	1.394	8.8	9.6	1.39	6446	2.41	53.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002447832-01	OBS	FP	0.00	1	0	0	0	LPP_DV
002447832-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
002447832-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002447832-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002447832-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002447832-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
002447832-07	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—HALO_GHOST

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

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

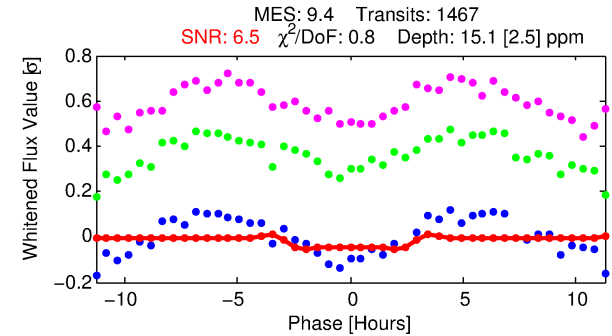
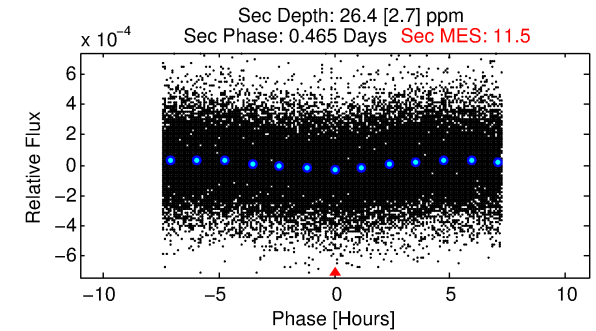
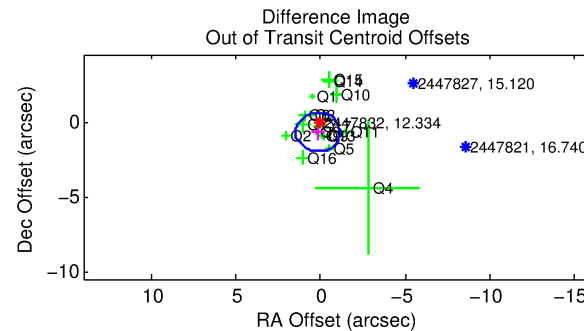
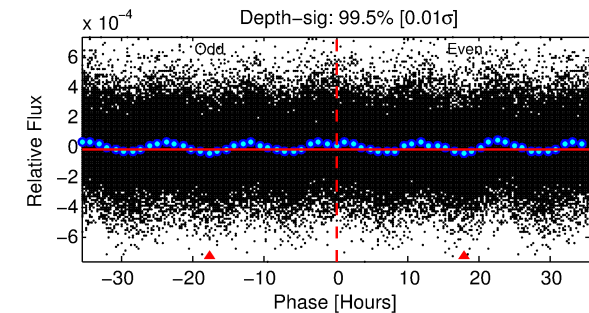
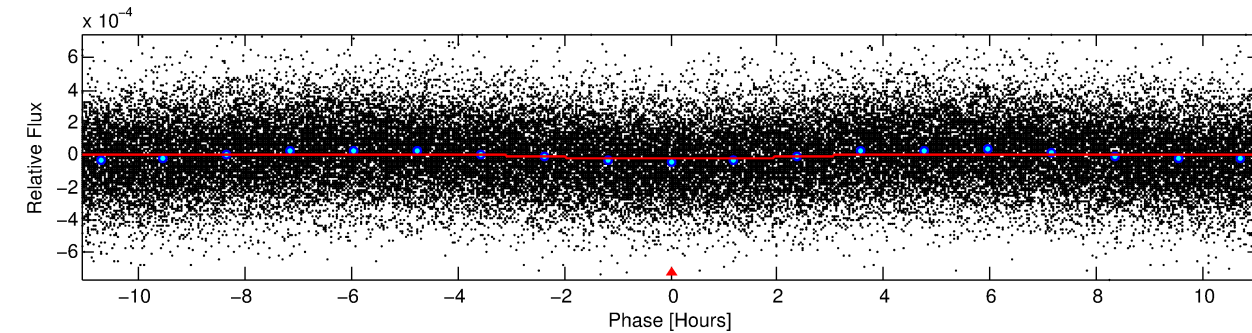
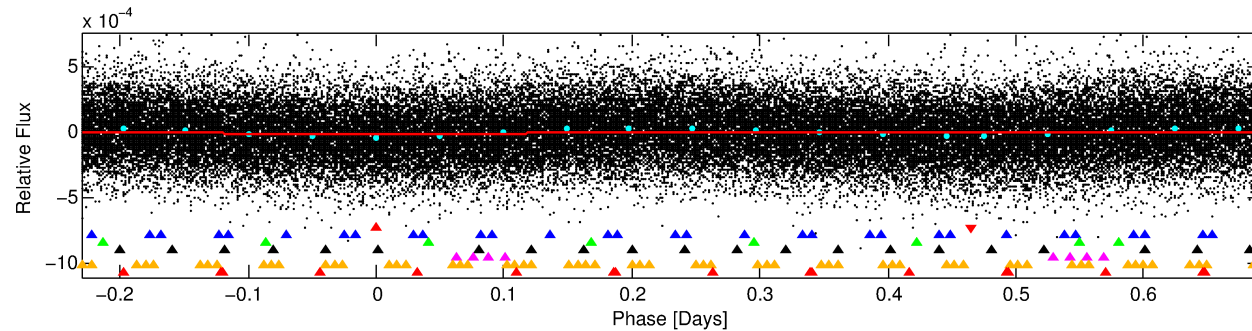
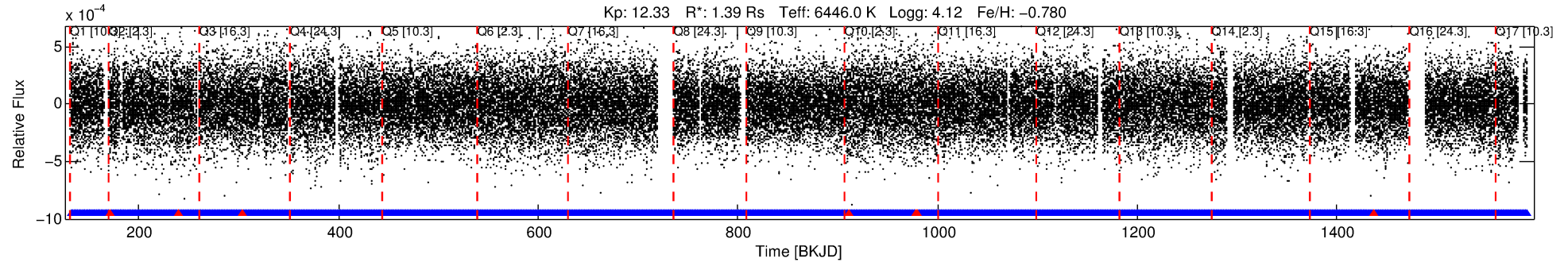
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002447832-01

No Significant Match Found

DV One-Page Summary

KIC: 2447832 Candidate: 1 of 7 Period: 0.921 d



DV Fit Results:

Period = 0.92135 [0.00002] d
Epoch = 132.1864 [0.0066] BKJD
Rp/R* = 0.0038 [0.0027]
a/R* = 1.19 [1.40]
b = 0.70 [2.94]
Seff = 9192.92 [5282.43]
Teff = 2497 [359] K
Rp = 0.58 [0.45] Re
a = 0.0181 [0.0060] AU
Ag = 14.11 [21.64] [0.61σ]
Teffp = 7482 [2686] K [1.84σ]

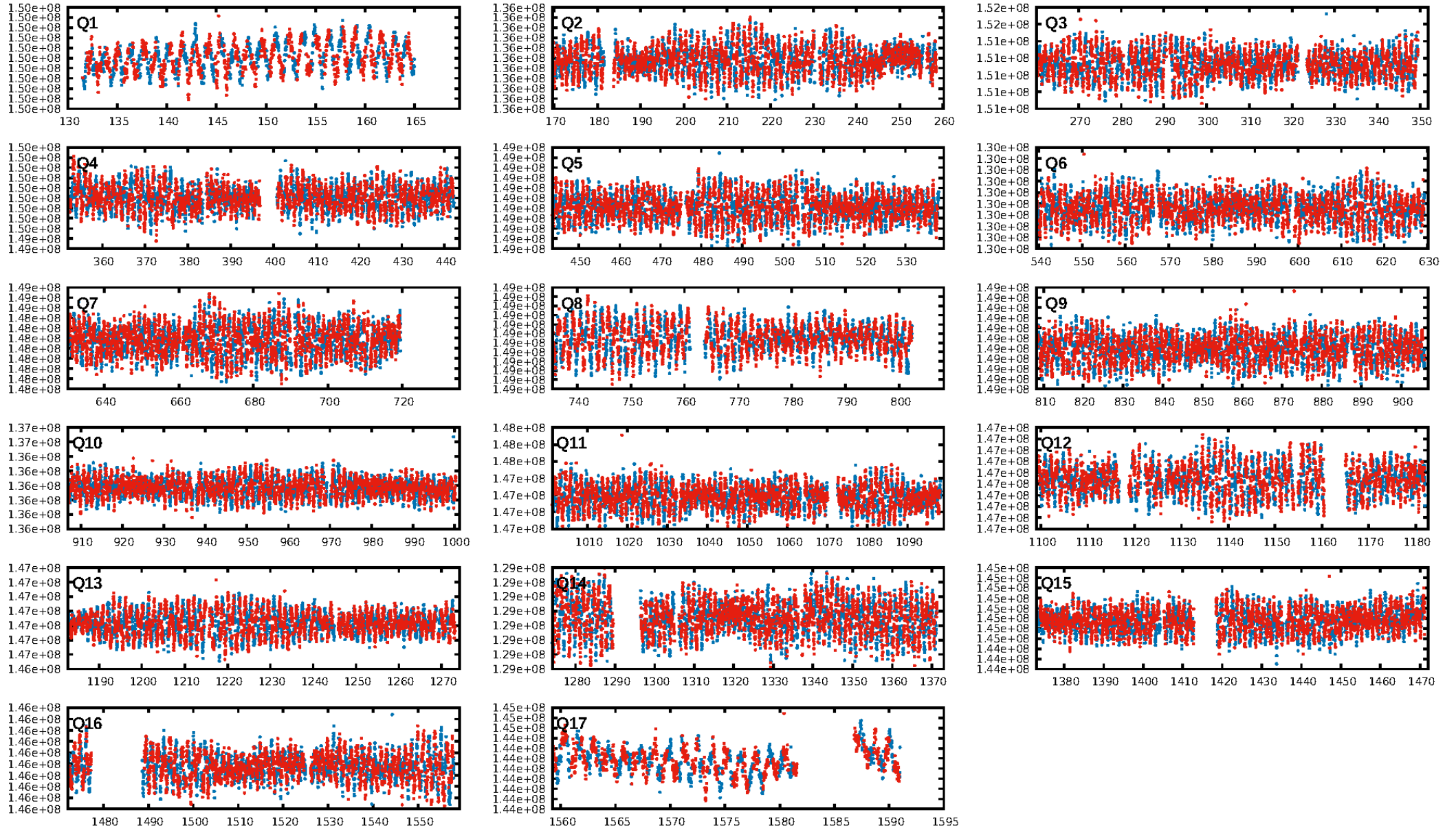
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [80.75σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.72e-10
RollingBand-fgt: 1.00 [1394/1401]
GhostDiagnostic-chr: 1.947
Centroid-sig: 1.0%
Centroid-so: 2.091 arcsec [1.67σ]
OotOffset-rm: 0.714 arcsec [1.65σ]
KicOffset-rm: 0.744 arcsec [1.71σ]
OotOffset-st: 4/4/3/5 [16]
KicOffset-st: 4/4/3/5 [16]
DiffImageQuality-fgm: 0.88 [14/16]
DiffImageOverlap-fno: 1.00 [17/17]

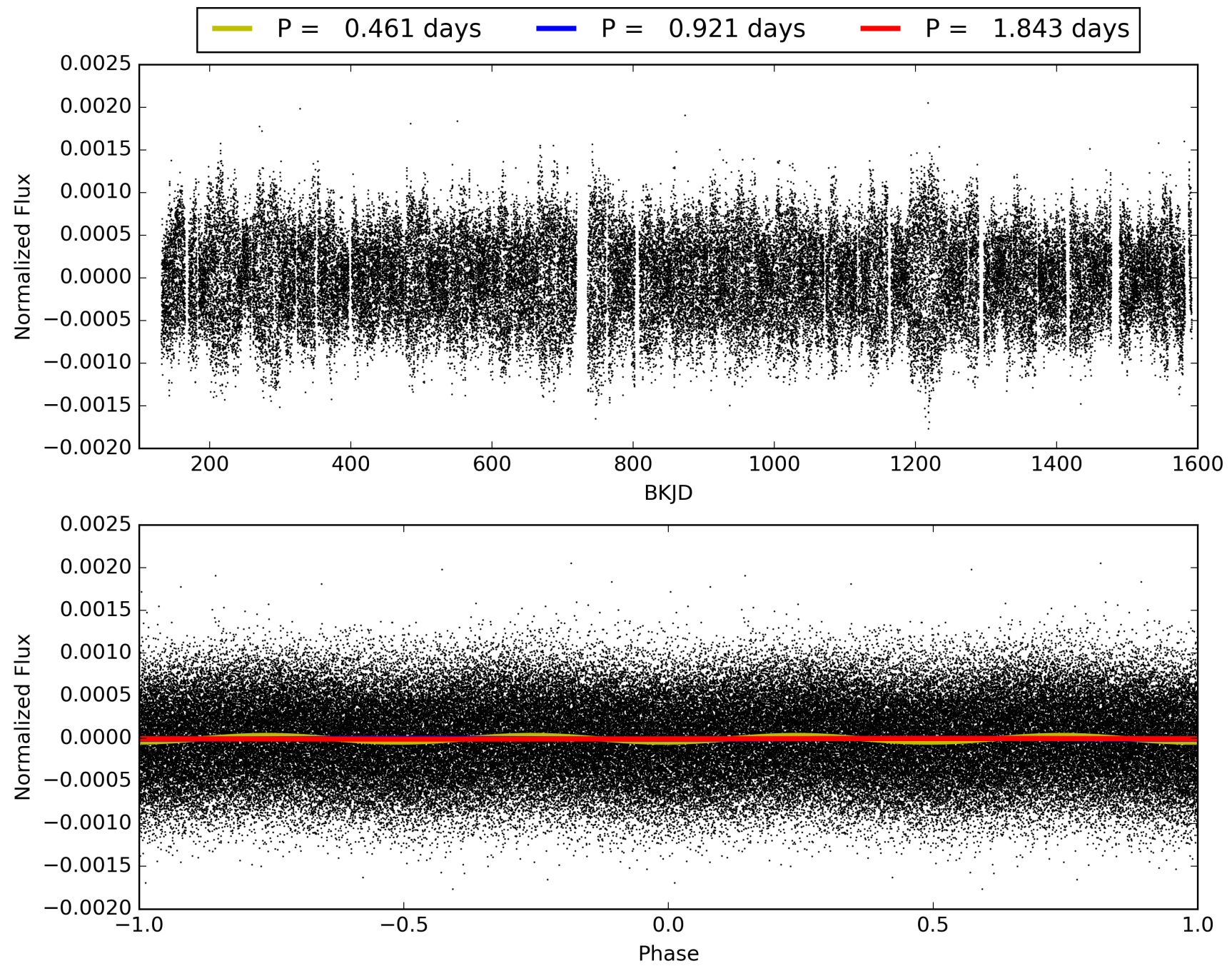
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 002447832-01, PDC Light Curves

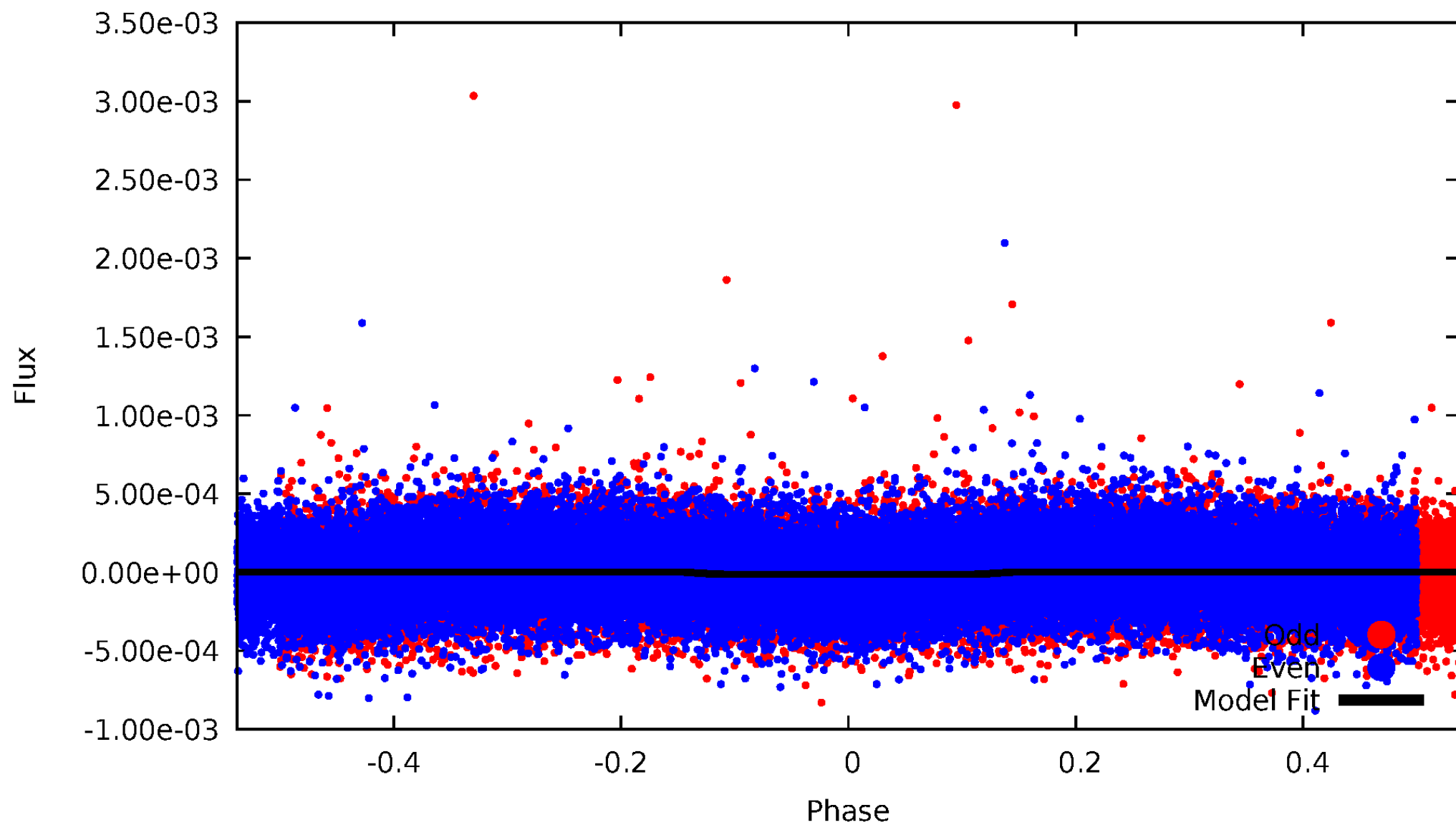


TCE 002447832-01



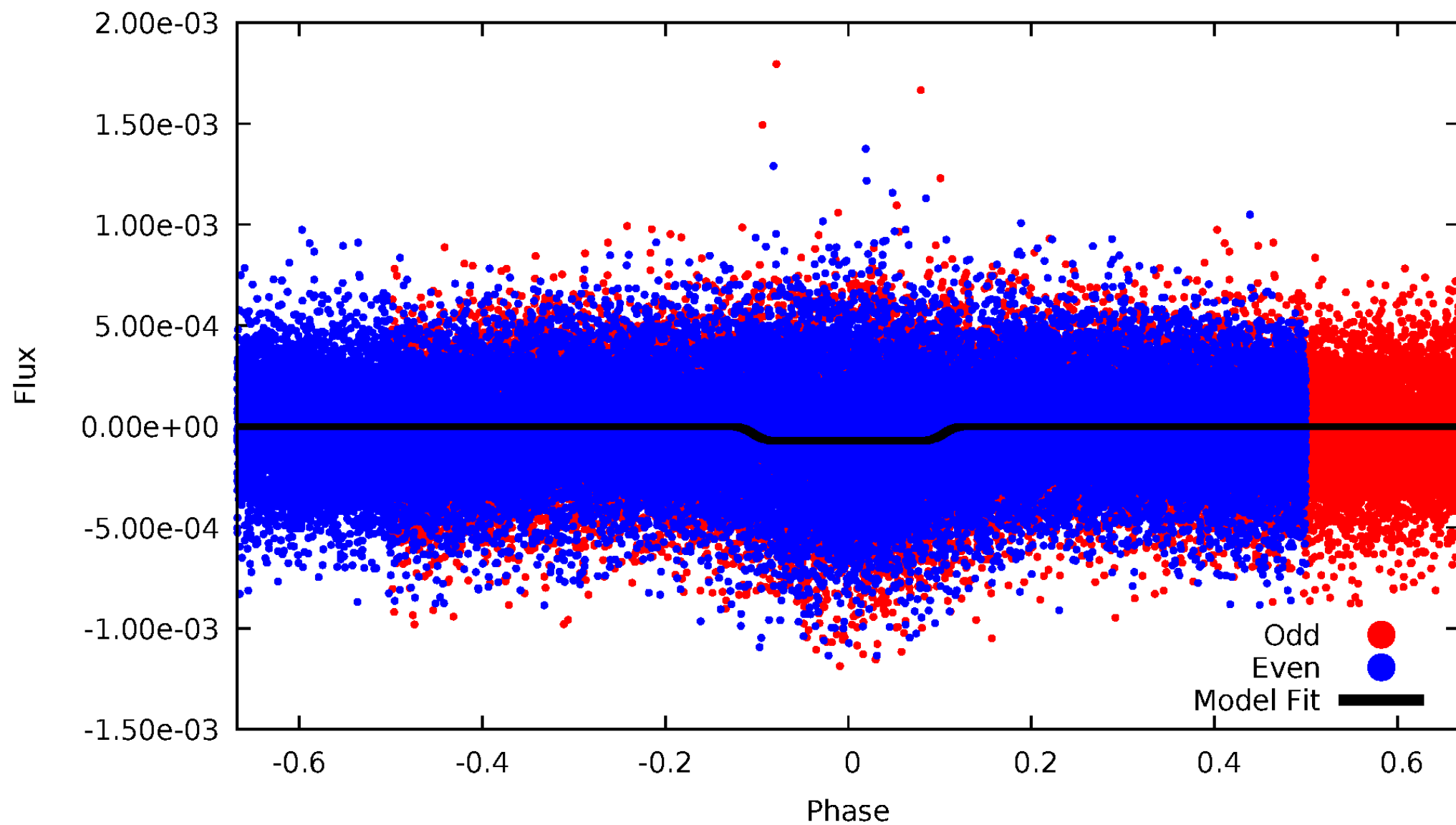
DV Odd/Even

TCE 002447832-01



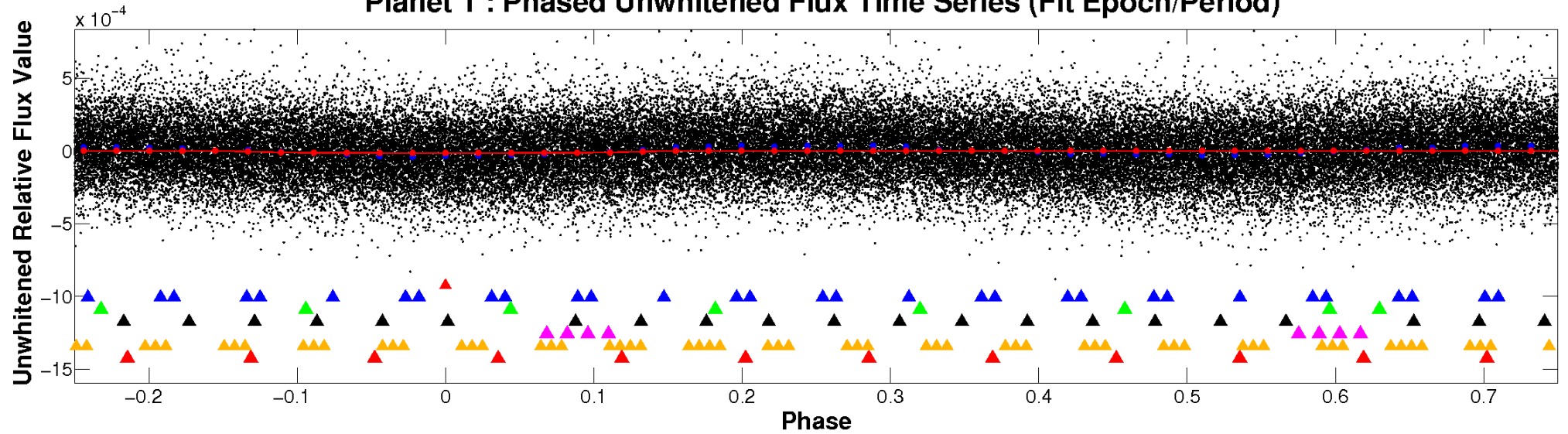
ALT Odd/Even

TCE 002447832-01

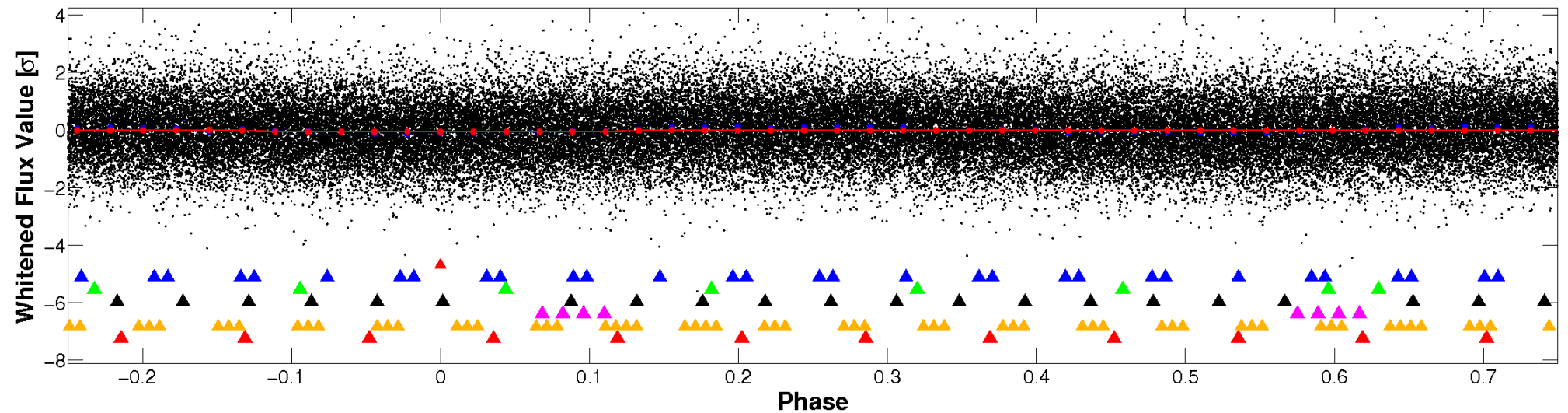


Non-Whitened Vs. Whitened Light Curve

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

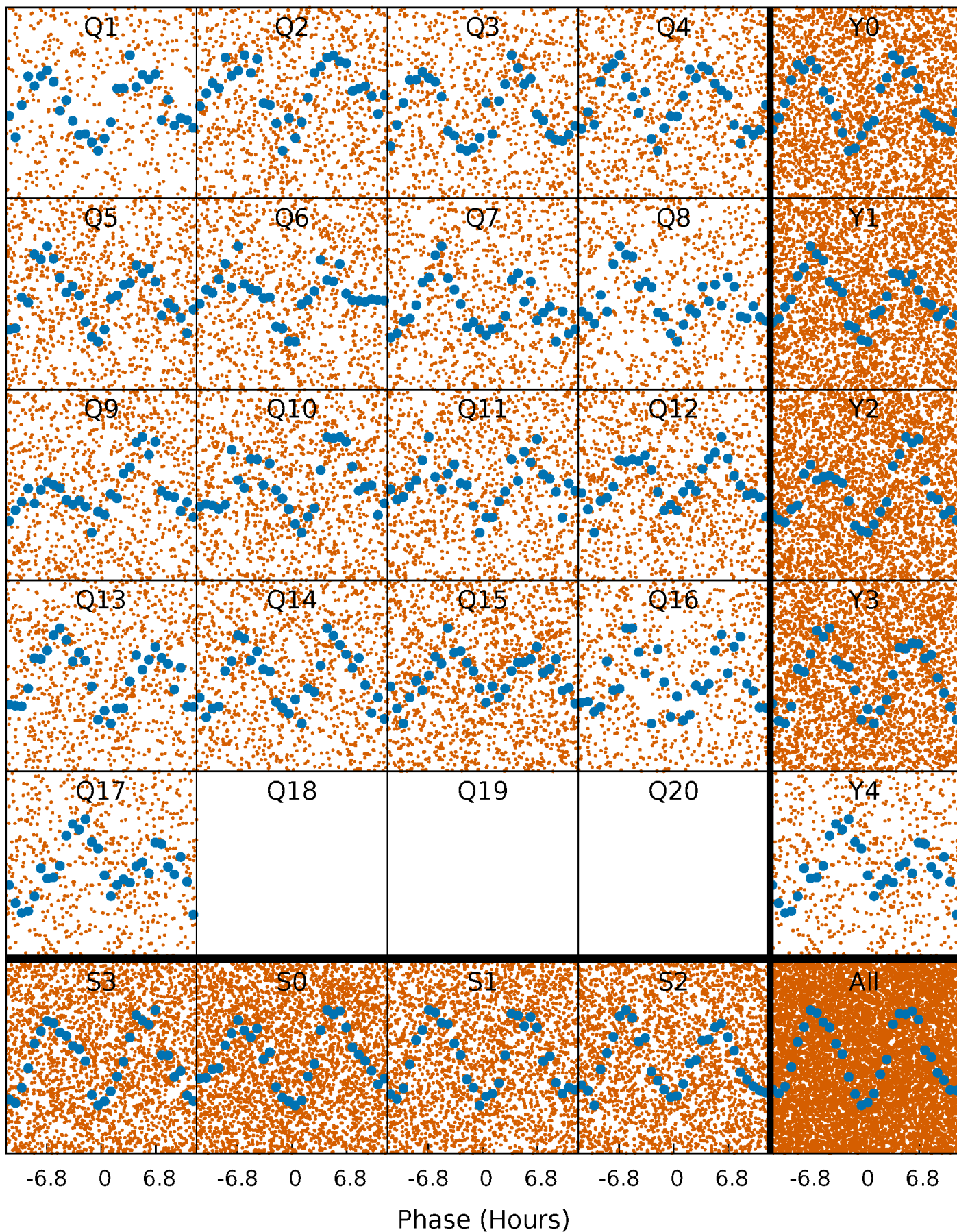


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



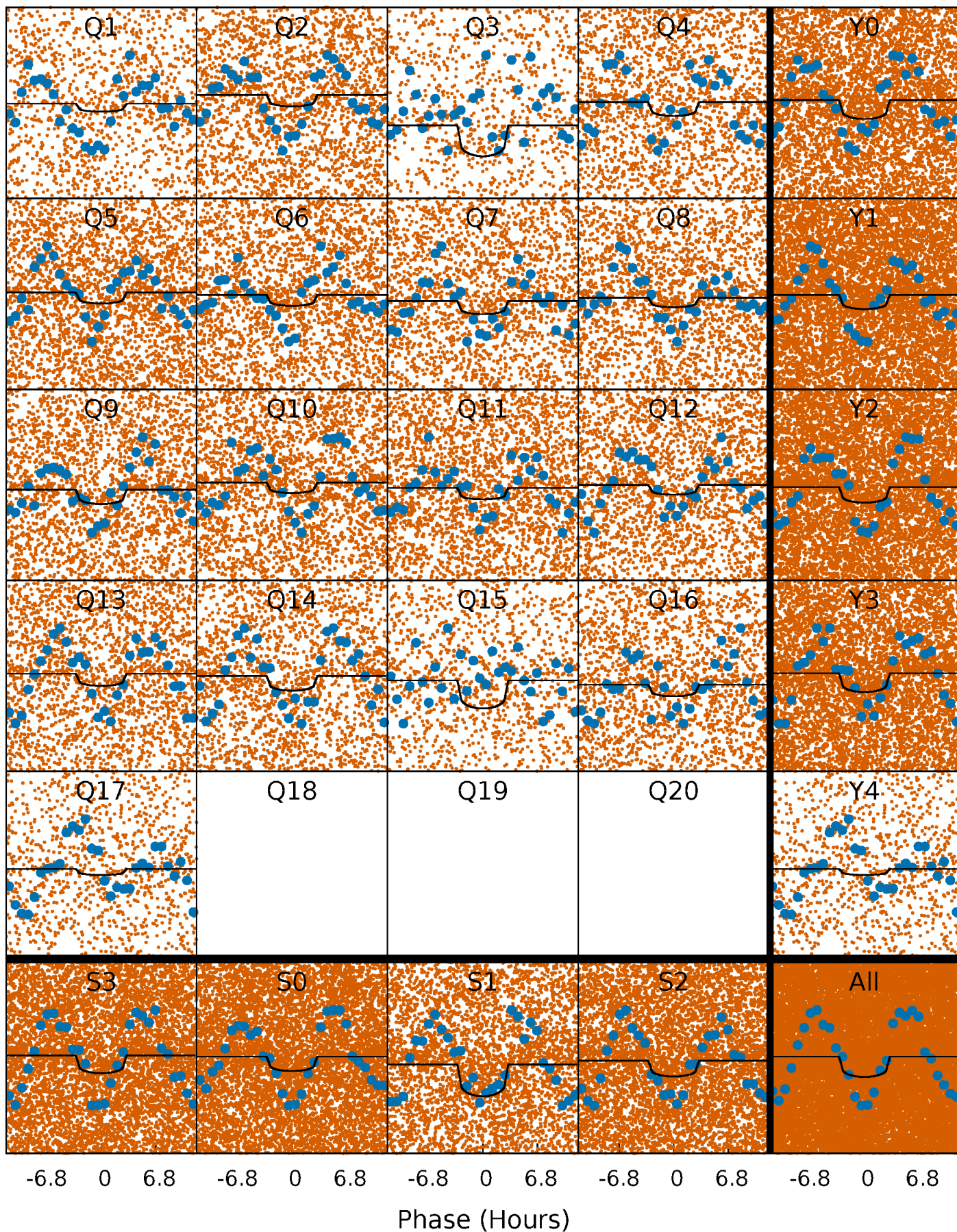
PDC Quarter-Phased Transit Curves

TCE 002447832-01 P= 0.921355 Days $T_0=132.186367$ (BKJD)



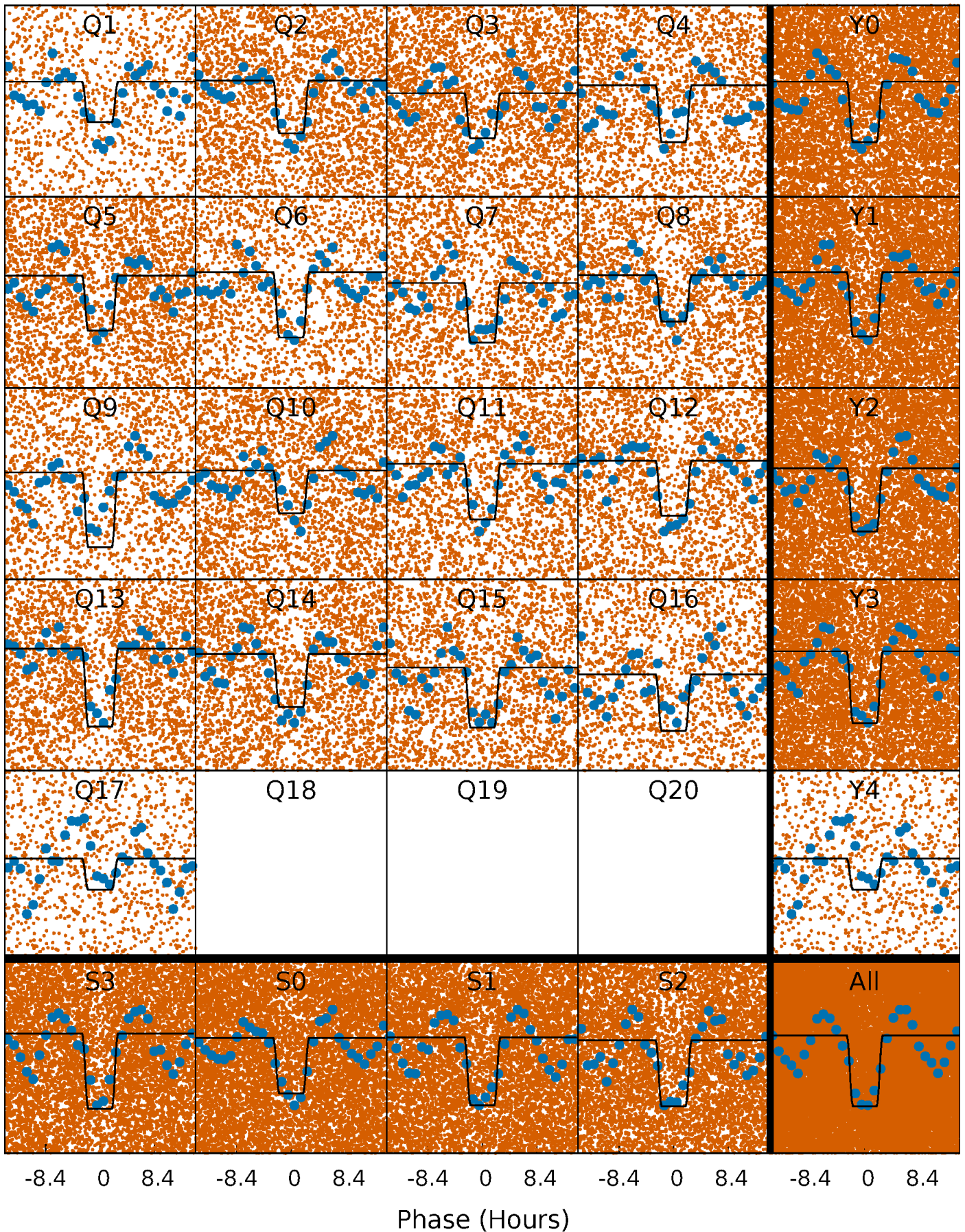
DV Quarter-Phased Transit Curves

TCE 002447832-01 P= 0.921355 Days $T_0=132.186367$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

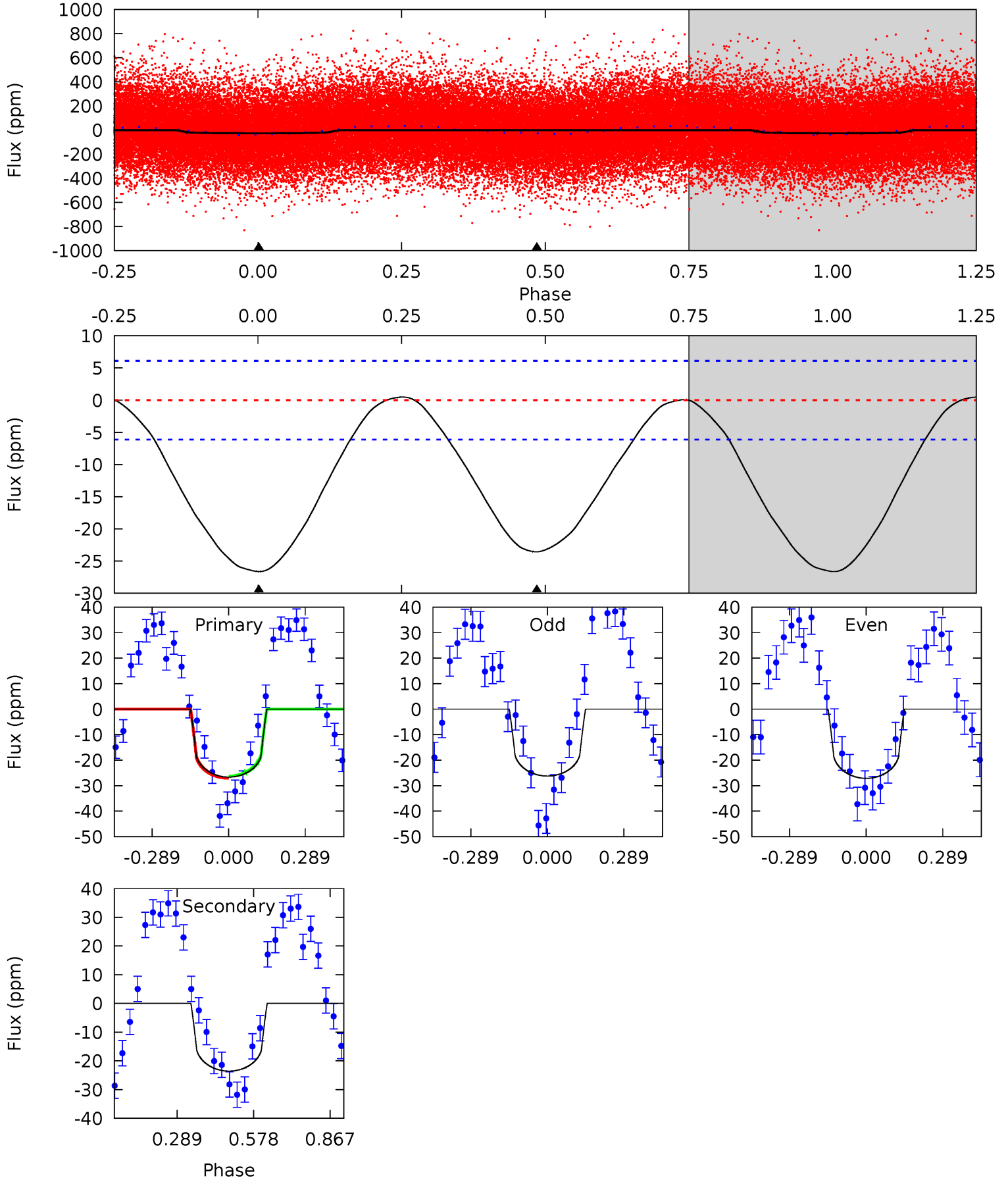
TCE 002447832-01 P= 0.921418 Days $T_0=132.131544$ (BKJD)



DV Model-Shift Uniqueness Test

002447832-01, P = 0.921355 Days, E = 131.265012 Days

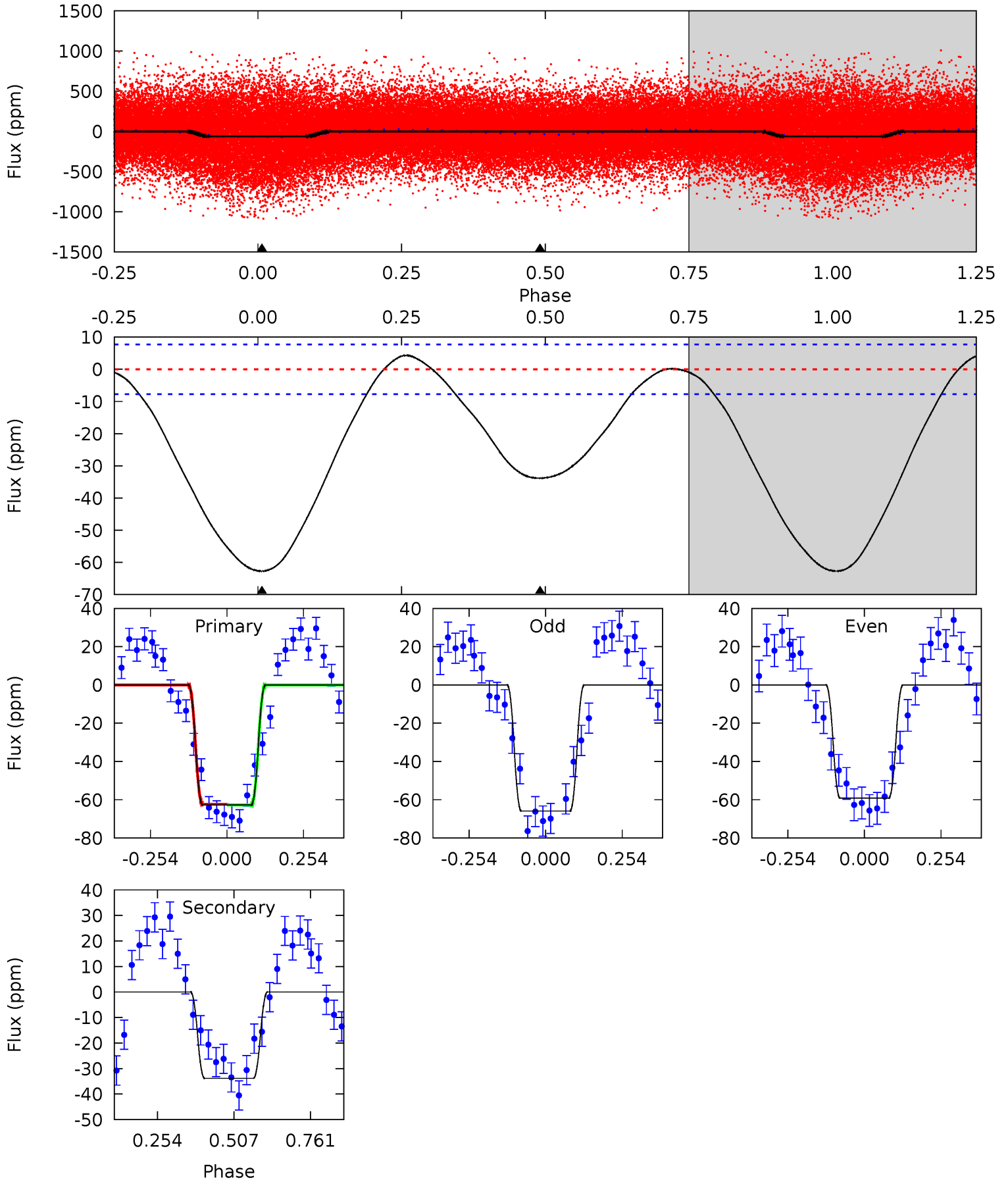
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.9	16.7	0	0	4.34	1.06	0.37	18.9	18.9	16.7	16.7	0.32	1.05	0.02	0.27



Alt Model-Shift Uniqueness Test

002447832-01, P = 0.921418 Days, E = 131.210126 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.4	19.1	0	0	4.37	1.14	1.56	35.4	35.4	19.1	19.1	1.91	1.13	0.06	0.09



Stellar Parameters For KIC 002447832

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6446^{+205}_{-228}	$4.117^{+0.336}_{-0.168}$	$-0.780^{+0.300}_{-0.300}$	$1.393^{+0.359}_{-0.439}$	$0.926^{+0.123}_{-0.089}$	$0.483^{+0.952}_{-0.211}$
	+3%/-4%	+8%/-4%	+38%/-38%	+26%/-32%	+13%/-10%	+197%/-44%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 002447832-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-24 ± 1	$0.60^{+0.40}_{-0.35}$	3438^{+288}_{-326}	7017^{+5421}_{-1625}	12^{+58}_{-8}
Alt.	-34 ± 2	$1.22^{+0.50}_{-0.42}$	3451^{+266}_{-319}	5333^{+1088}_{-687}	$4.198^{+5.390}_{-2.106}$

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 $A_{obs} \gg 1.0$

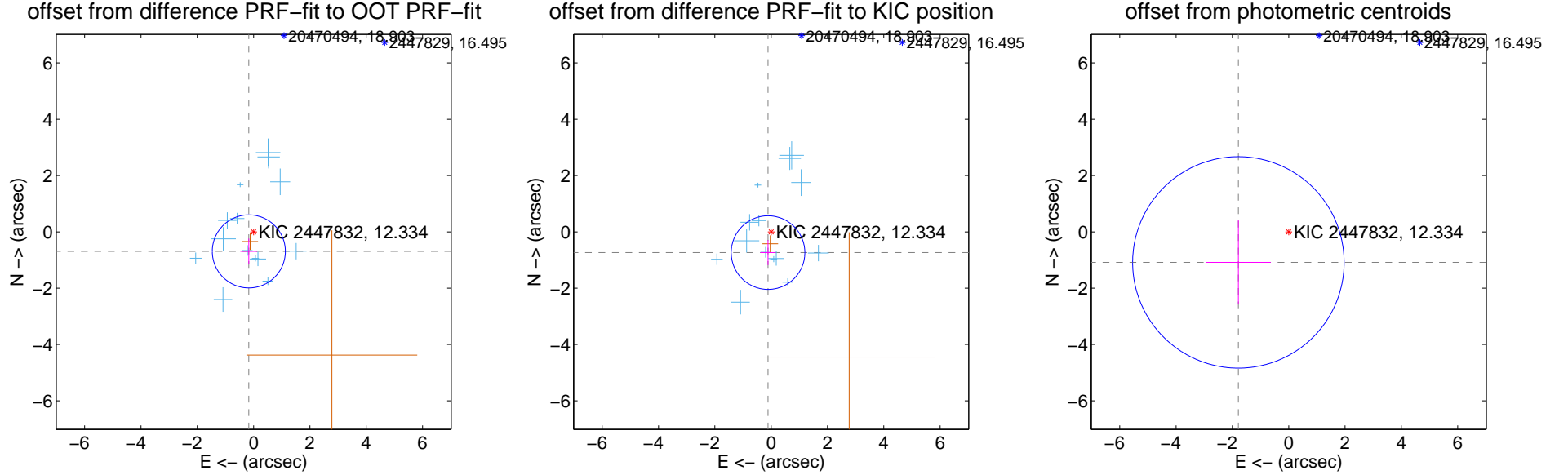
DV Centroid Data

Supplemental centroid analysis for 002447832-01. Kepler magnitude: 12.33. Transit SNR 6.54

There are 14 quarters with good PRF difference image offsets

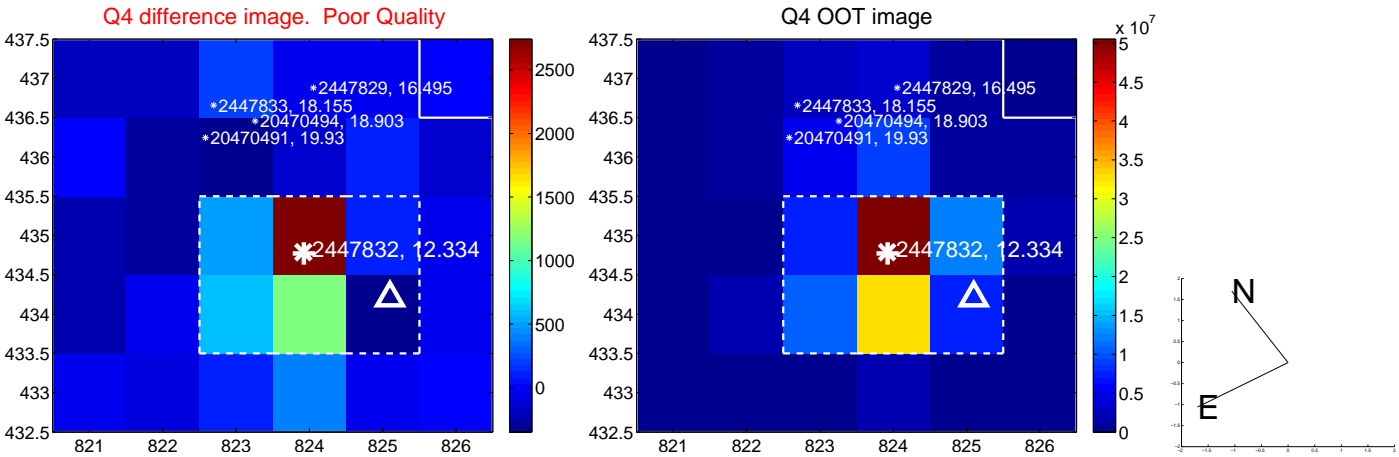
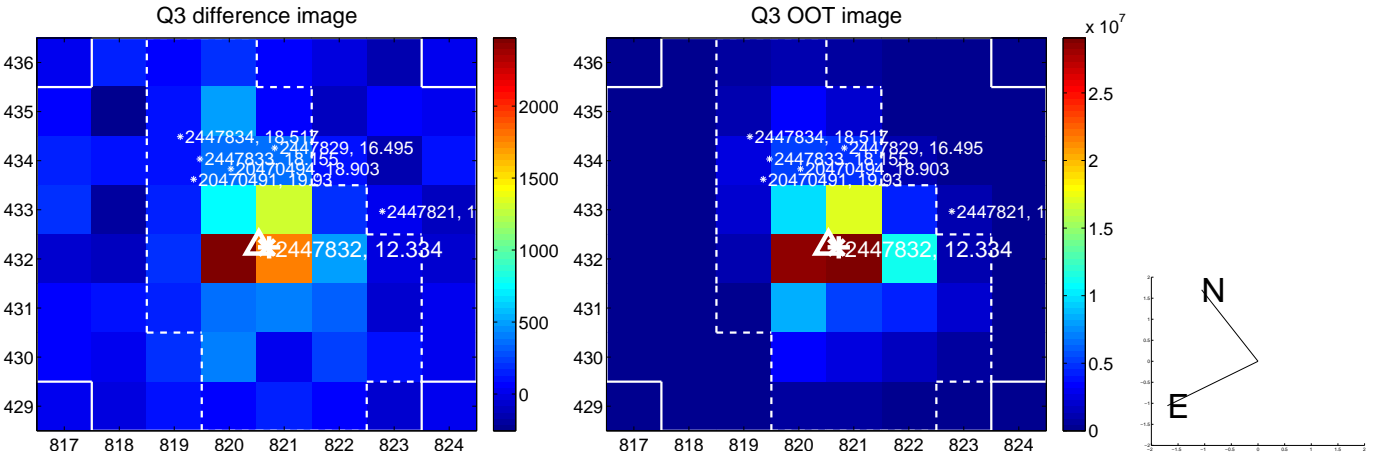
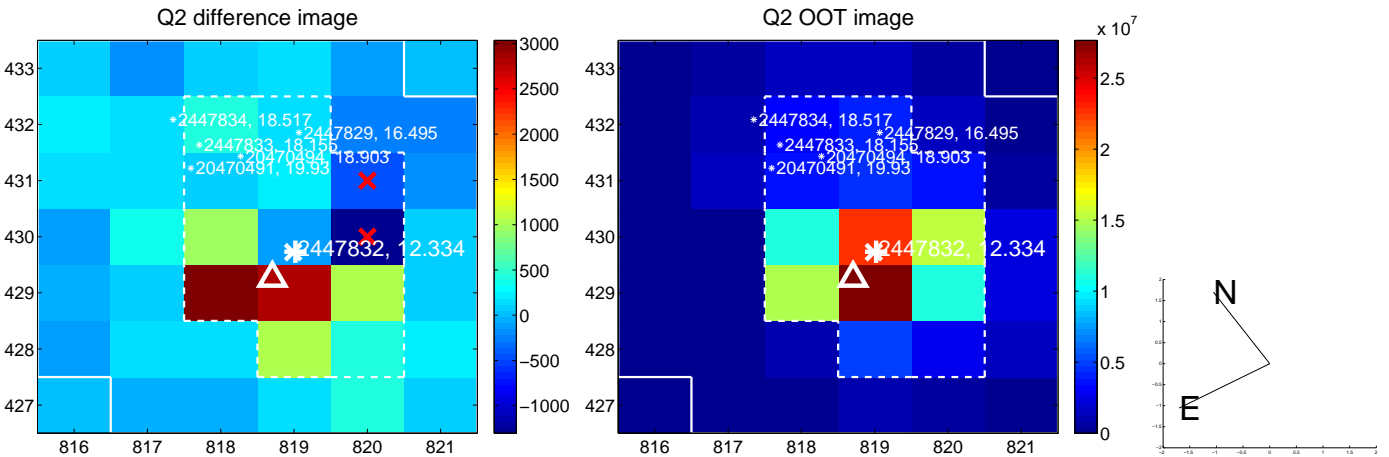
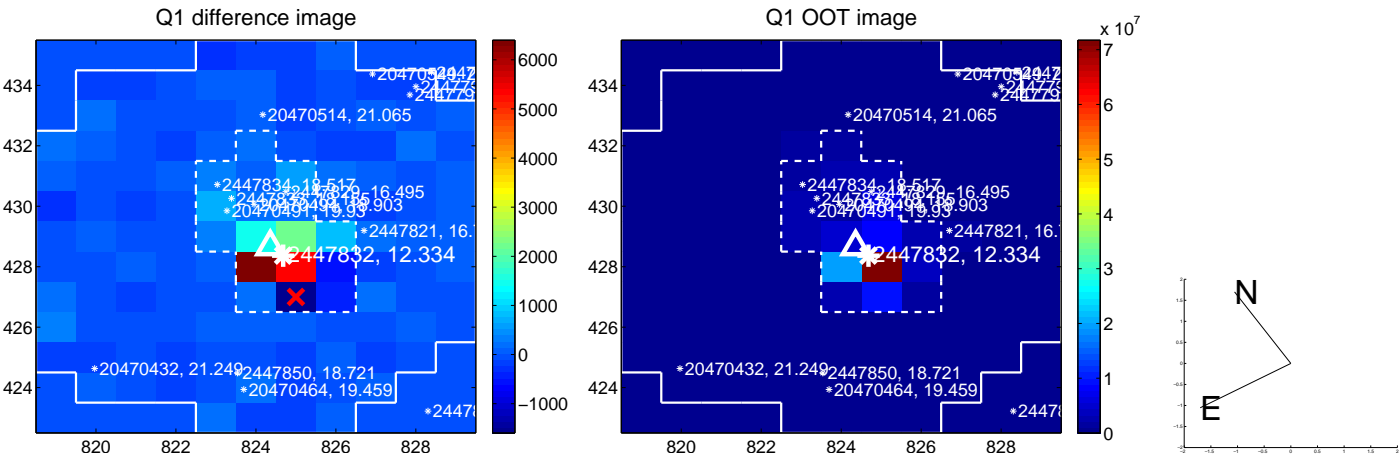
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.714 ± 0.433	1.65	0.170 ± 0.299	-0.693 ± 0.456
PRF-fit source offset from KIC position	0.744 ± 0.436	1.71	0.111 ± 0.272	-0.736 ± 0.444
photometric centroid source offset	2.09 ± 1.25	1.67	1.79 ± 1.15	-1.08 ± 1.49

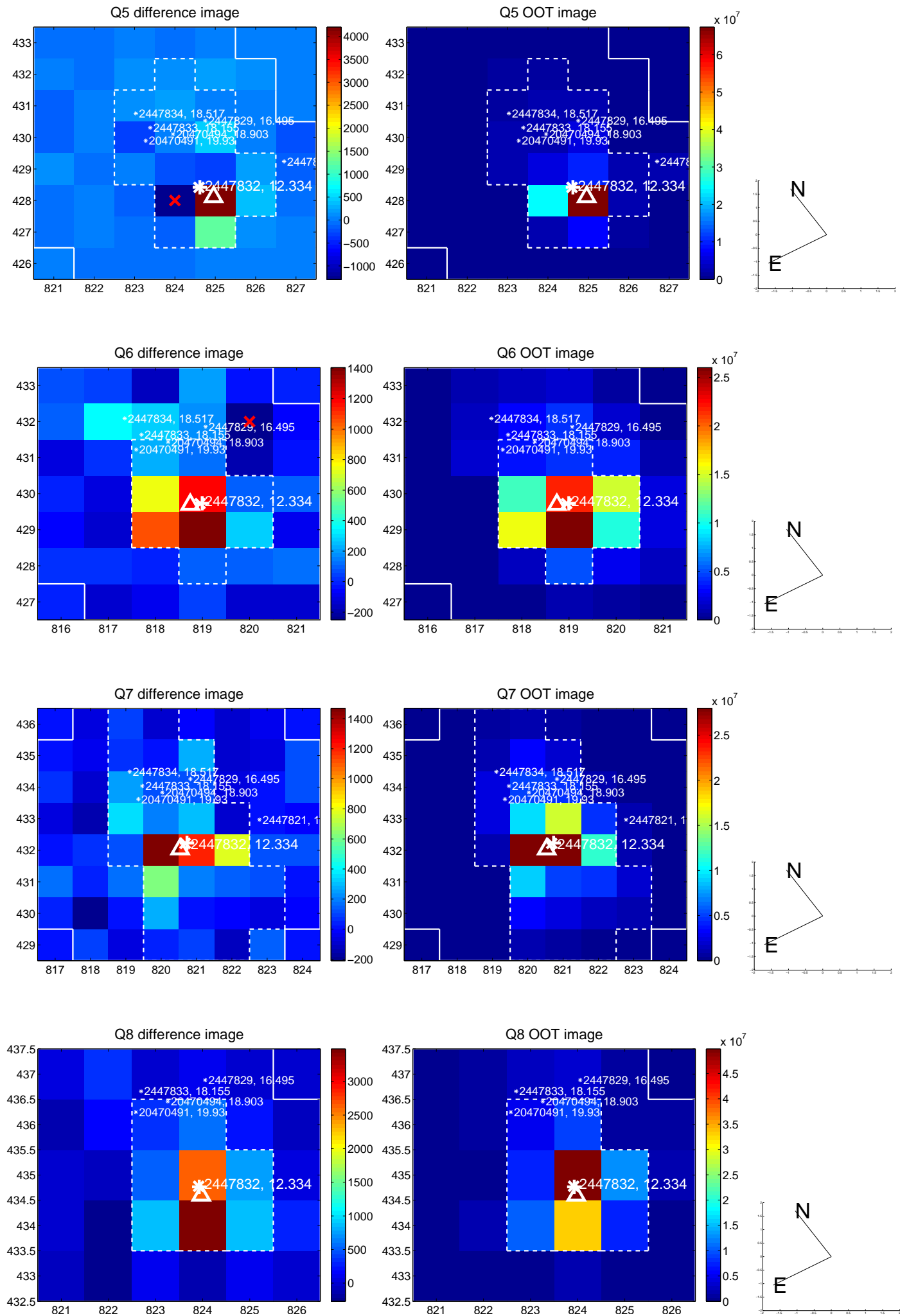


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

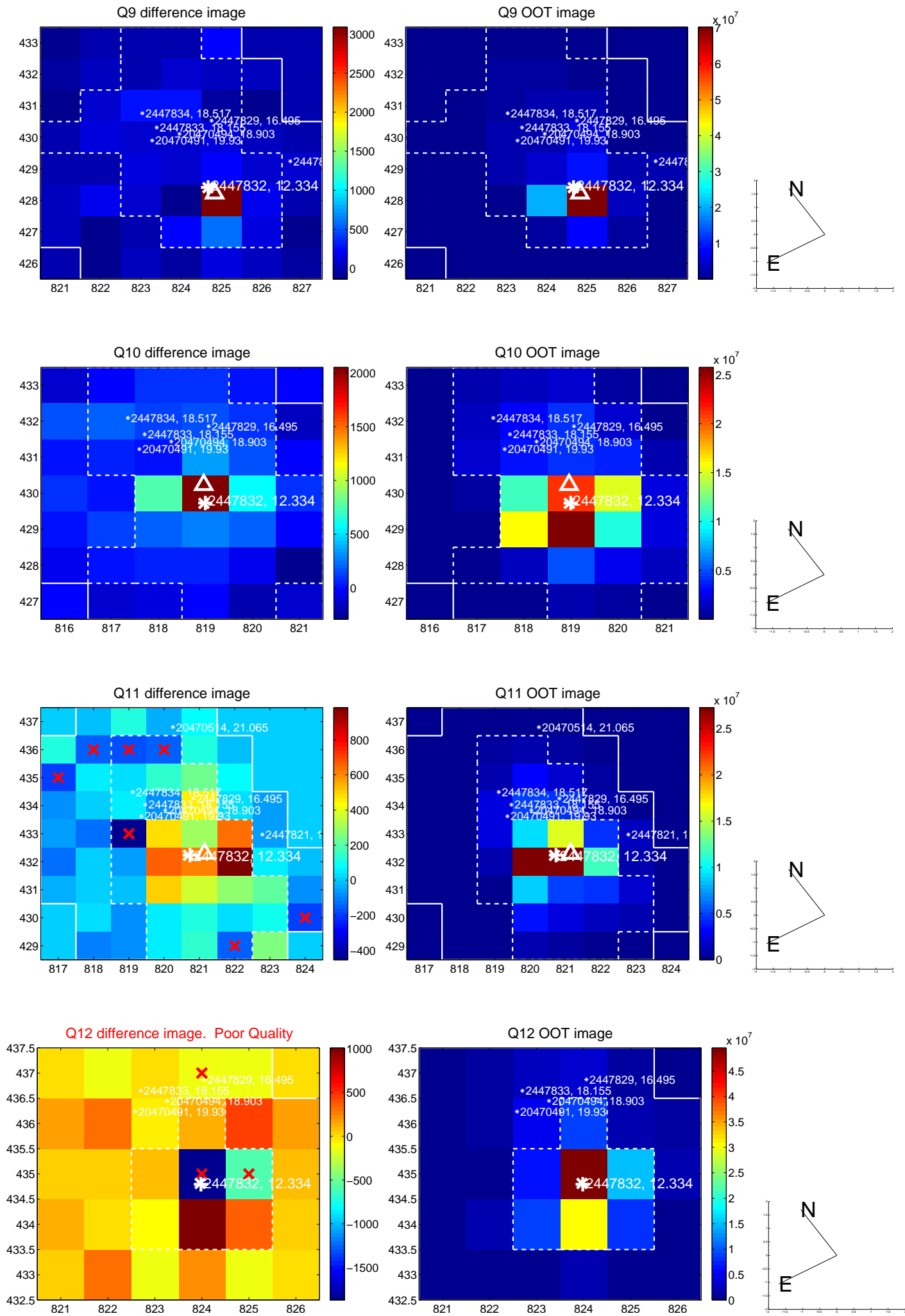
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



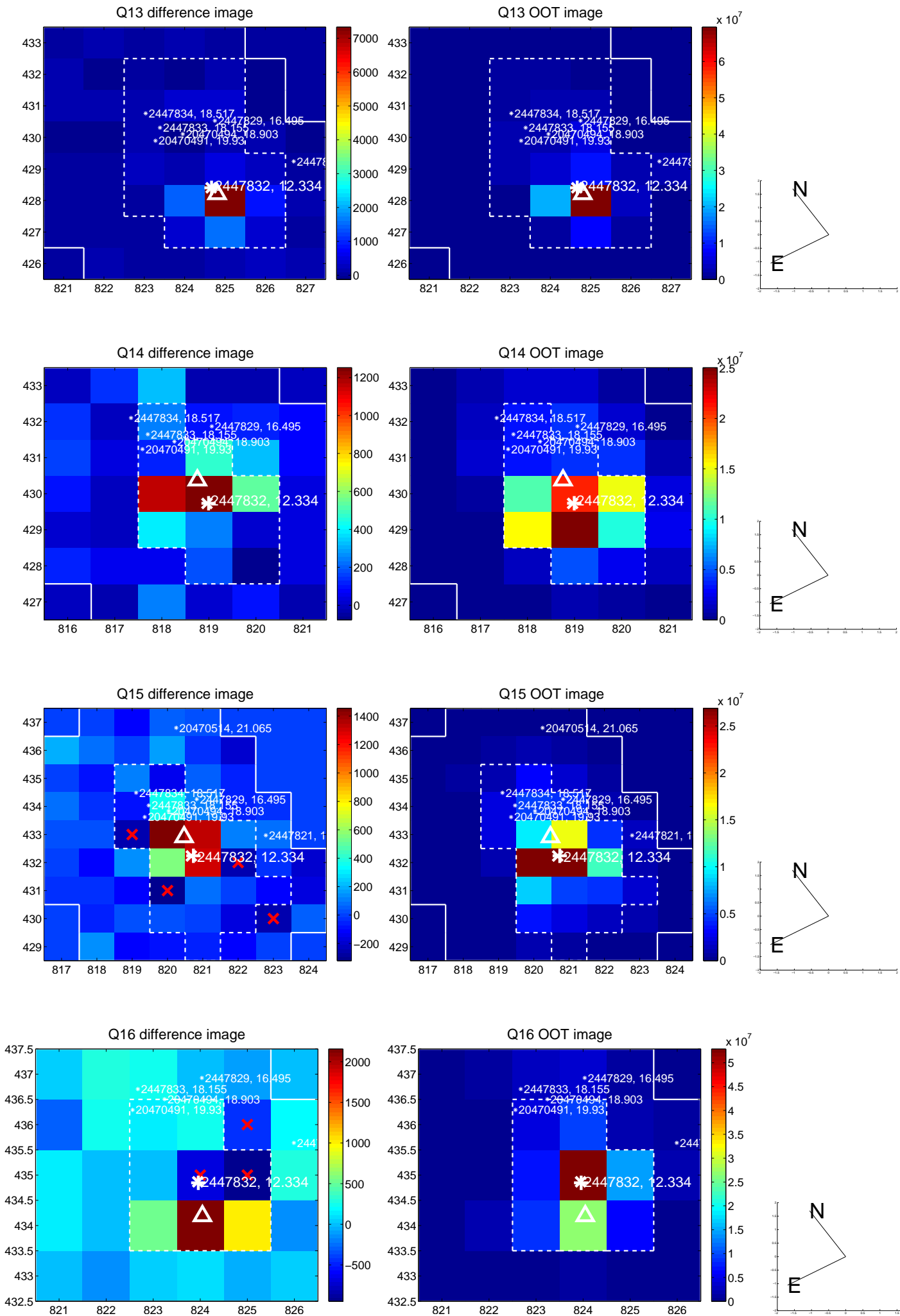
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



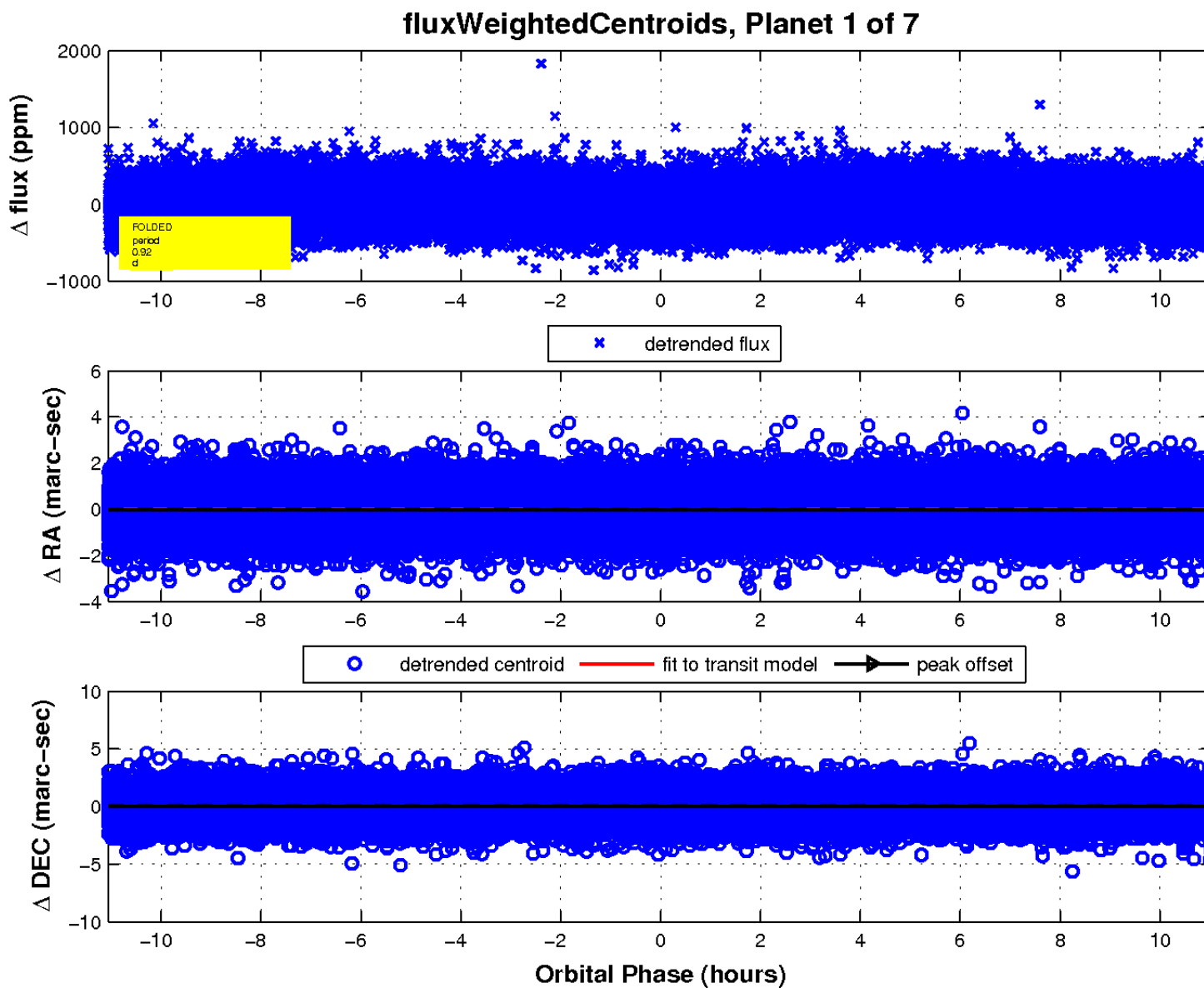
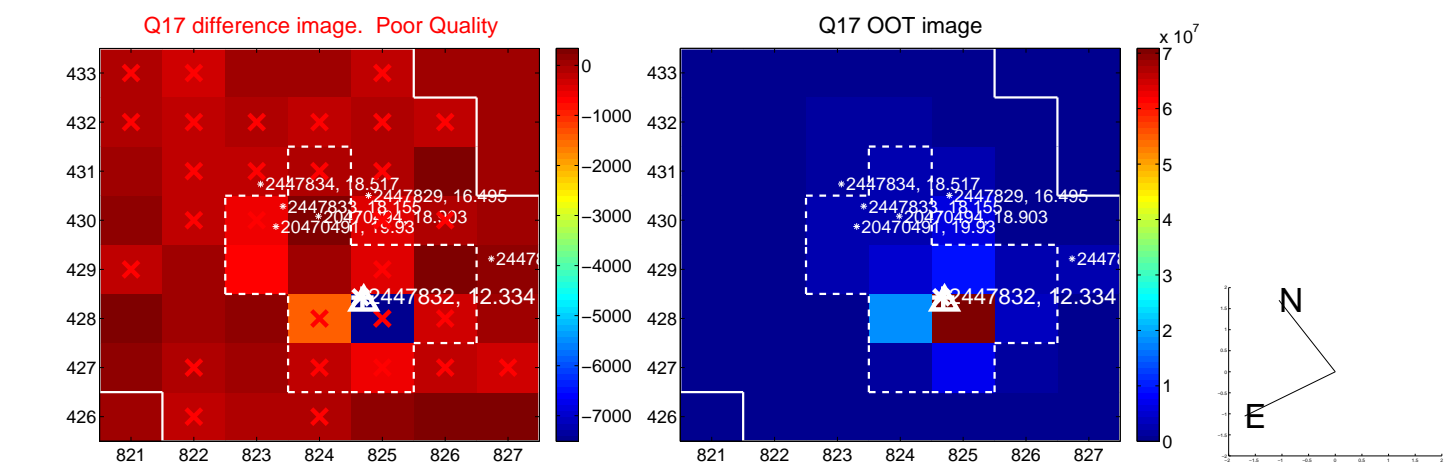
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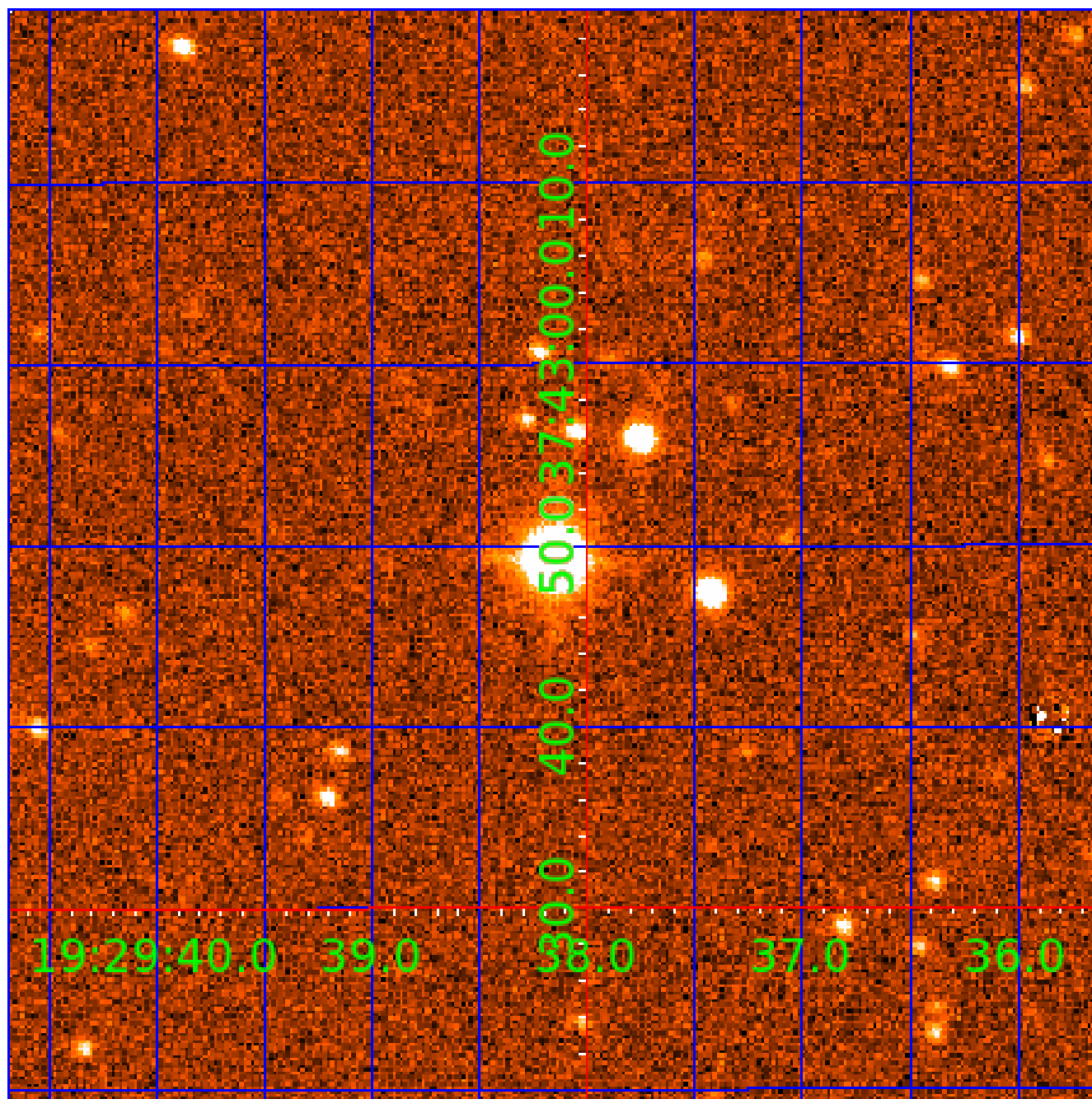


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002447832

Q1-17 DR25 TCE Parameters

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Robovetter Results

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002447832-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002447832-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002447832-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002447832-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
002447832-07	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—HALO_GHOST

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

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

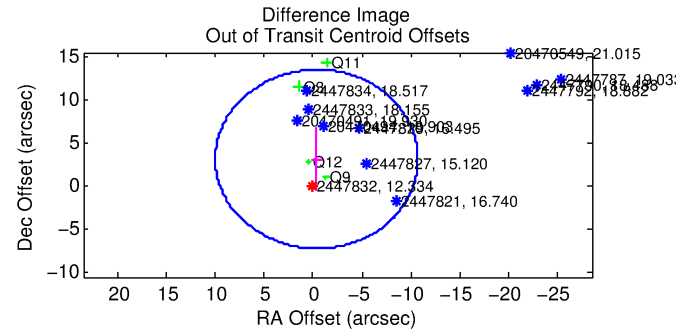
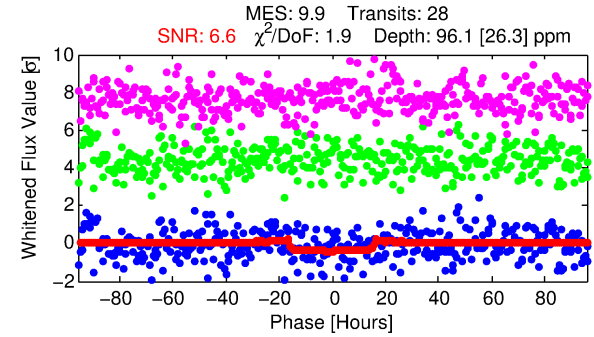
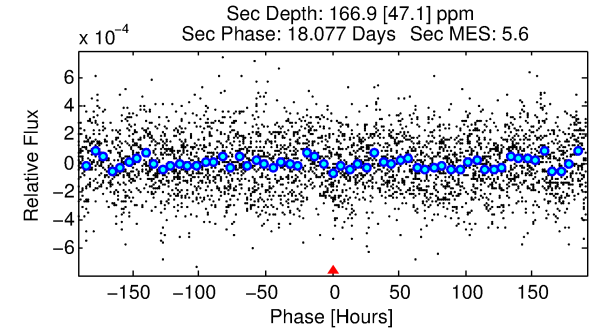
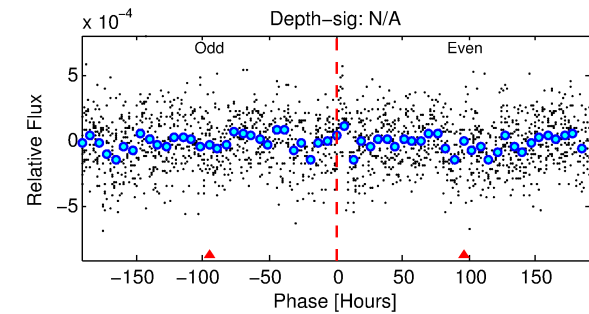
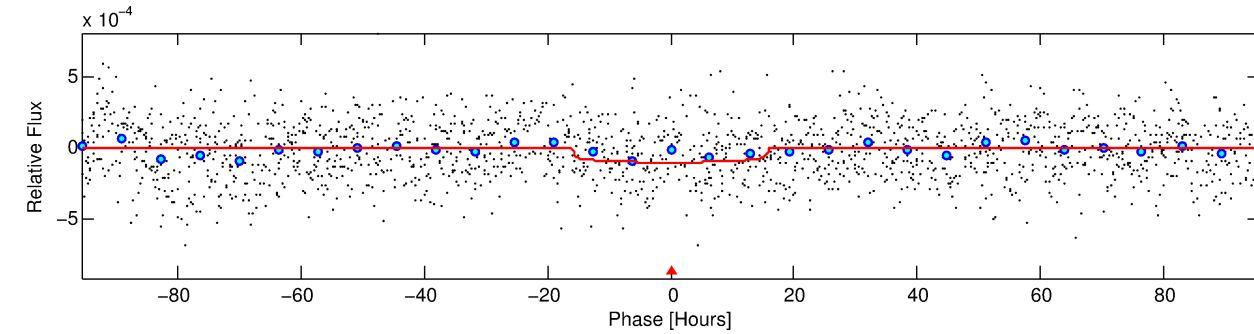
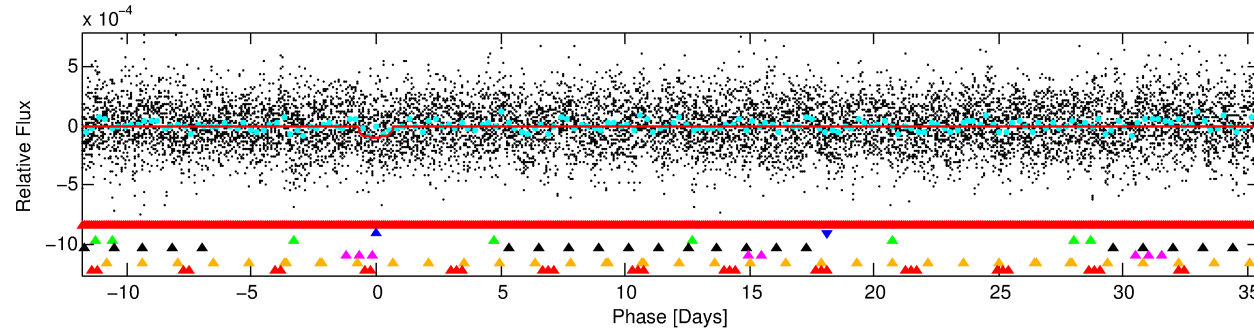
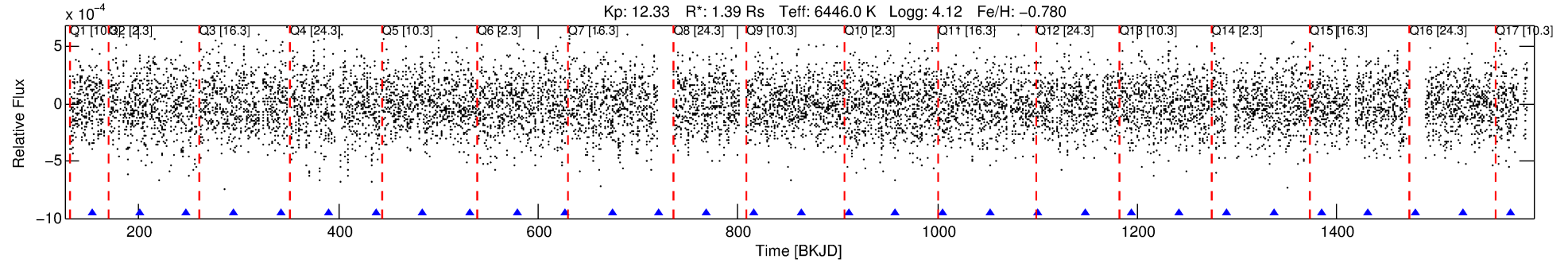
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002447832-02

No Significant Match Found

DV One-Page Summary

KIC: 2447832 Candidate: 2 of 7 Period: 47.347 d



DV Fit Results:

Period = 47.34695 [0.00220] d
Epoch = 153.1102 [0.0353] BKJD
Rp/R* = 0.0090 [0.0150]
a/R* = 11.47 [101.35]
b = 0.01 [1631.84]
Seff = 48.12 [27.65]
Teq = 672 [96] K
Rp = 1.37 [2.31] Re
a = 0.2498 [0.0831] AU
Ag = 3037.29 [10236.31] [0.30σ]
Teffp = 7708 [6411] K [1.10σ]

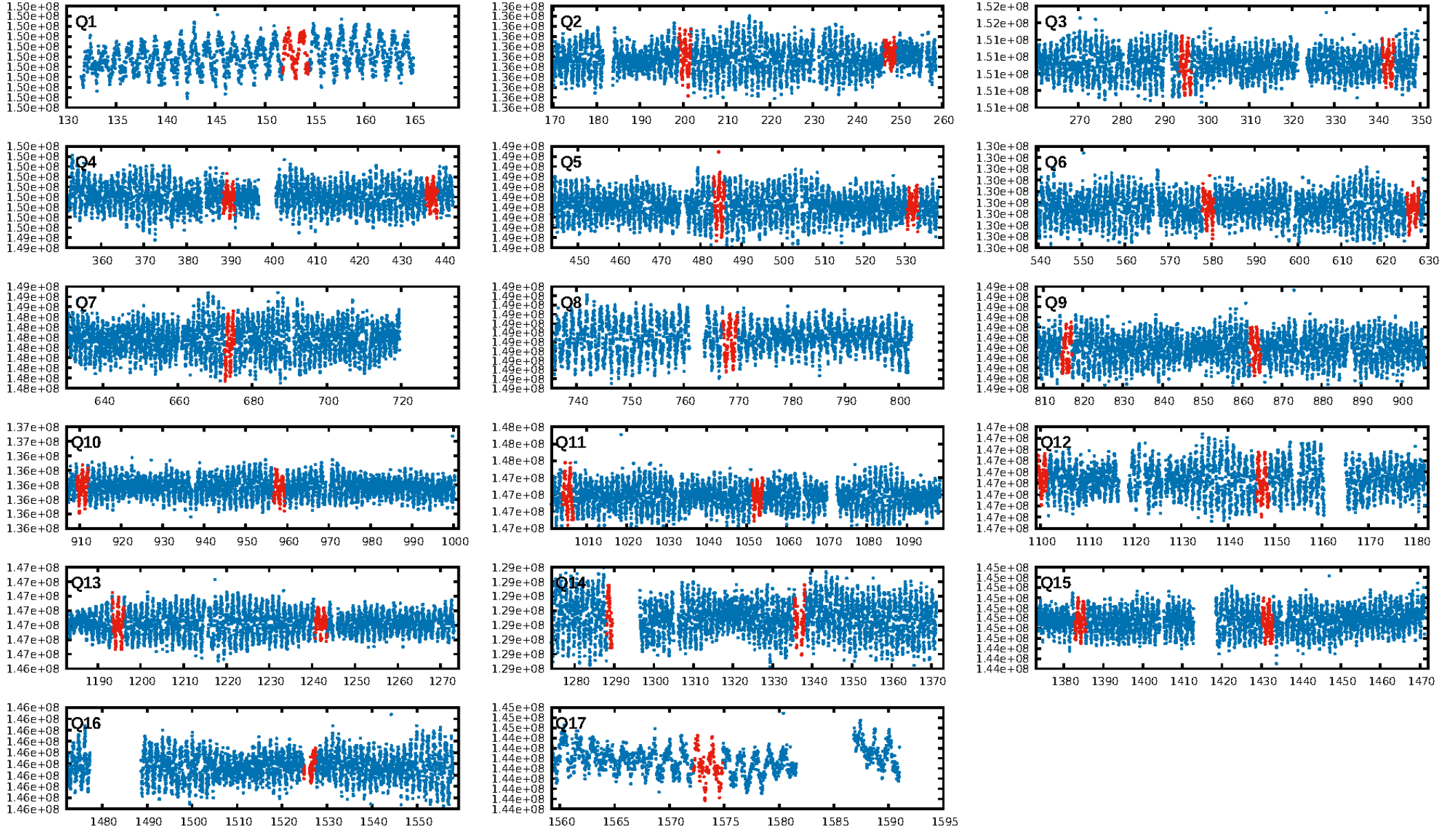
DV Diagnostic Results:

ShortPeriod-sig: 99.4% [2.75σ]
LongPeriod-sig: 100.0% [17.38σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.38e-09
RollingBand-fgt: 1.00 [26/26]
GhostDiagnostic-chr: -6.514
Centroid-sig: 0.1%
Centroid-so: 2.002 arcsec [1.95σ]
OotOffset-rm: 3.163 arcsec [0.92σ]
KicOffset-rm: 3.145 arcsec [1.28σ]
OotOffset-st: 0/2/1/1 [4]
KicOffset-st: 0/2/1/1 [4]
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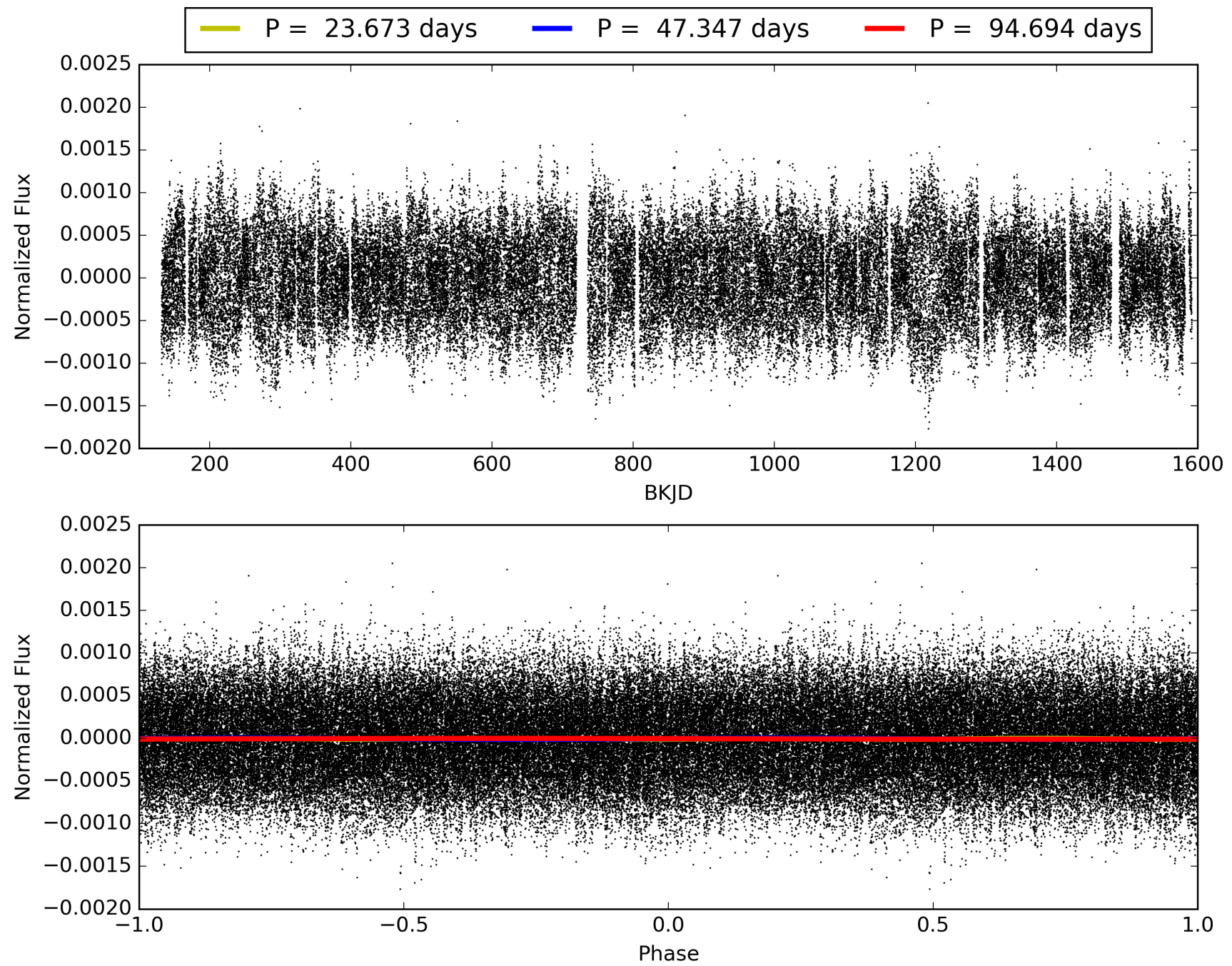
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 002447832-02, PDC Light Curves

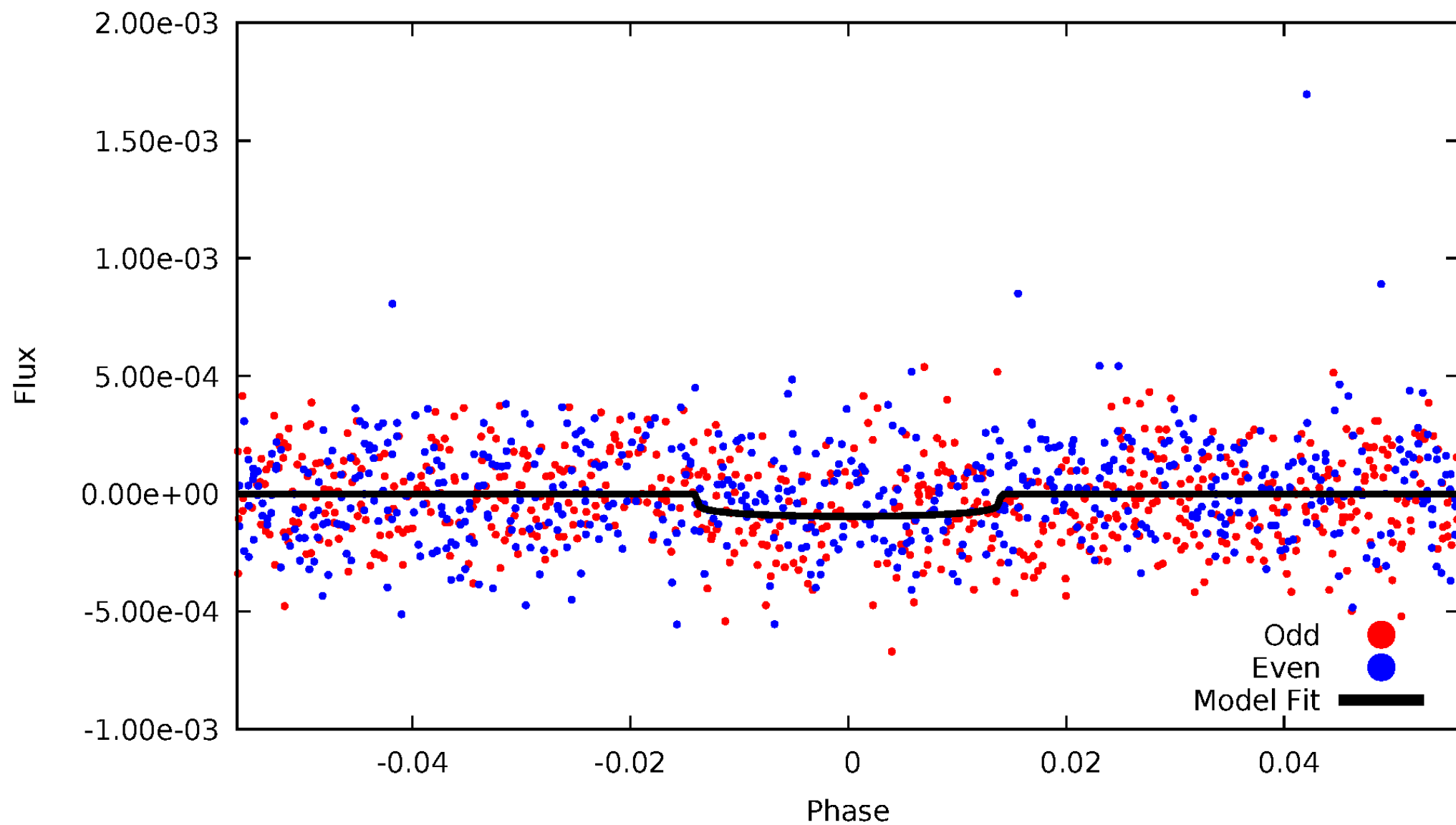


TCE 002447832-02



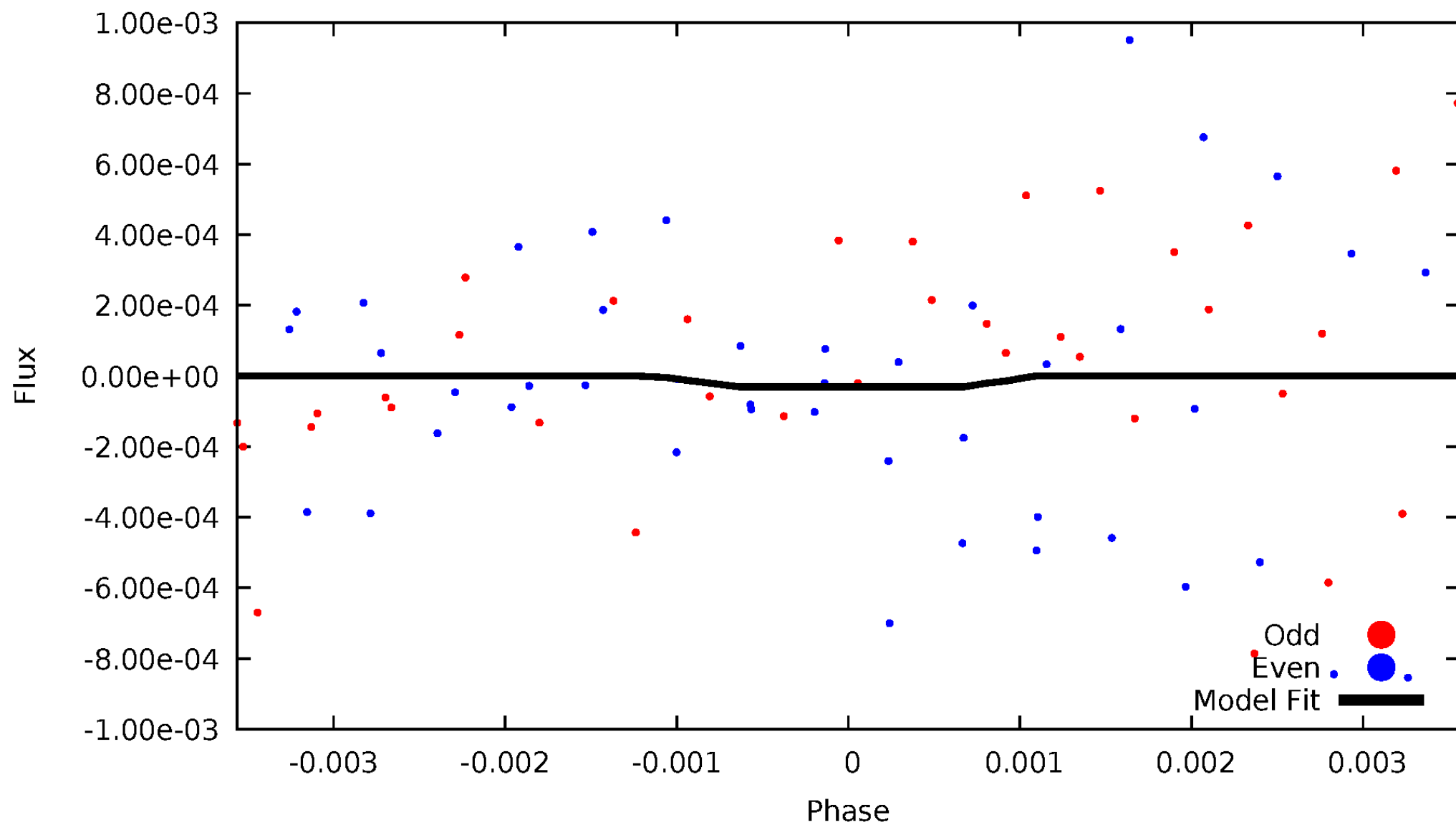
DV Odd/Even

TCE 002447832-02



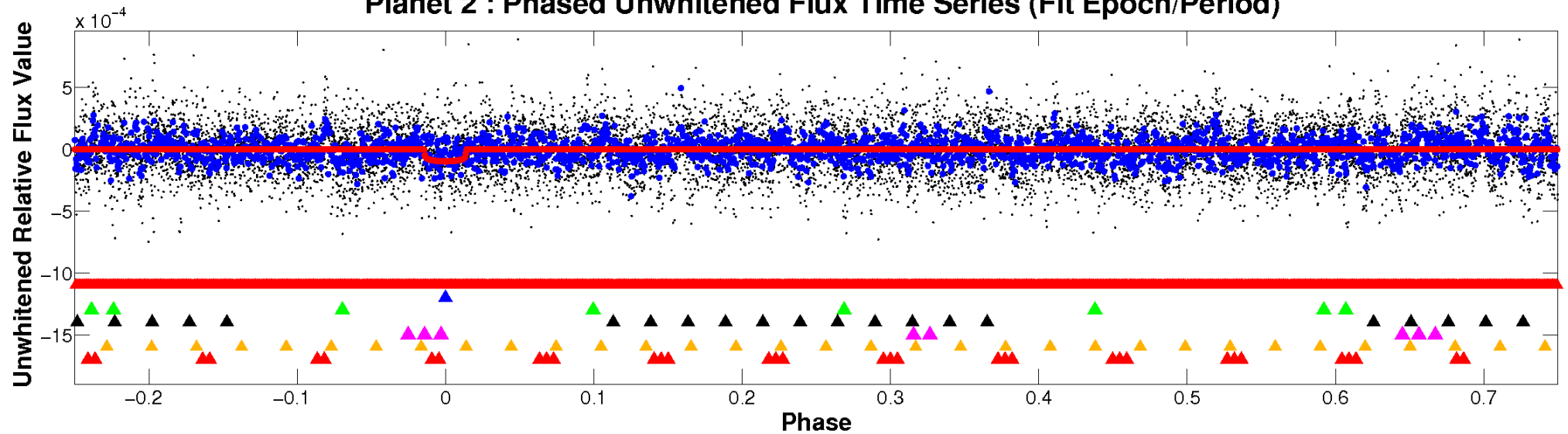
ALT Odd/Even

TCE 002447832-02

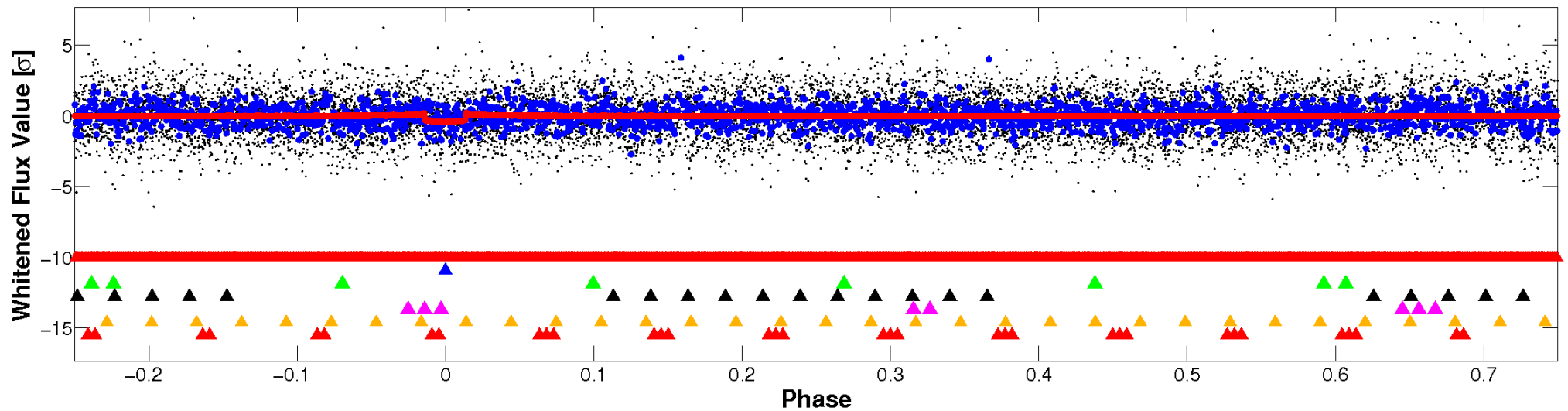


Non-Whitened Vs. Whitened Light Curve

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

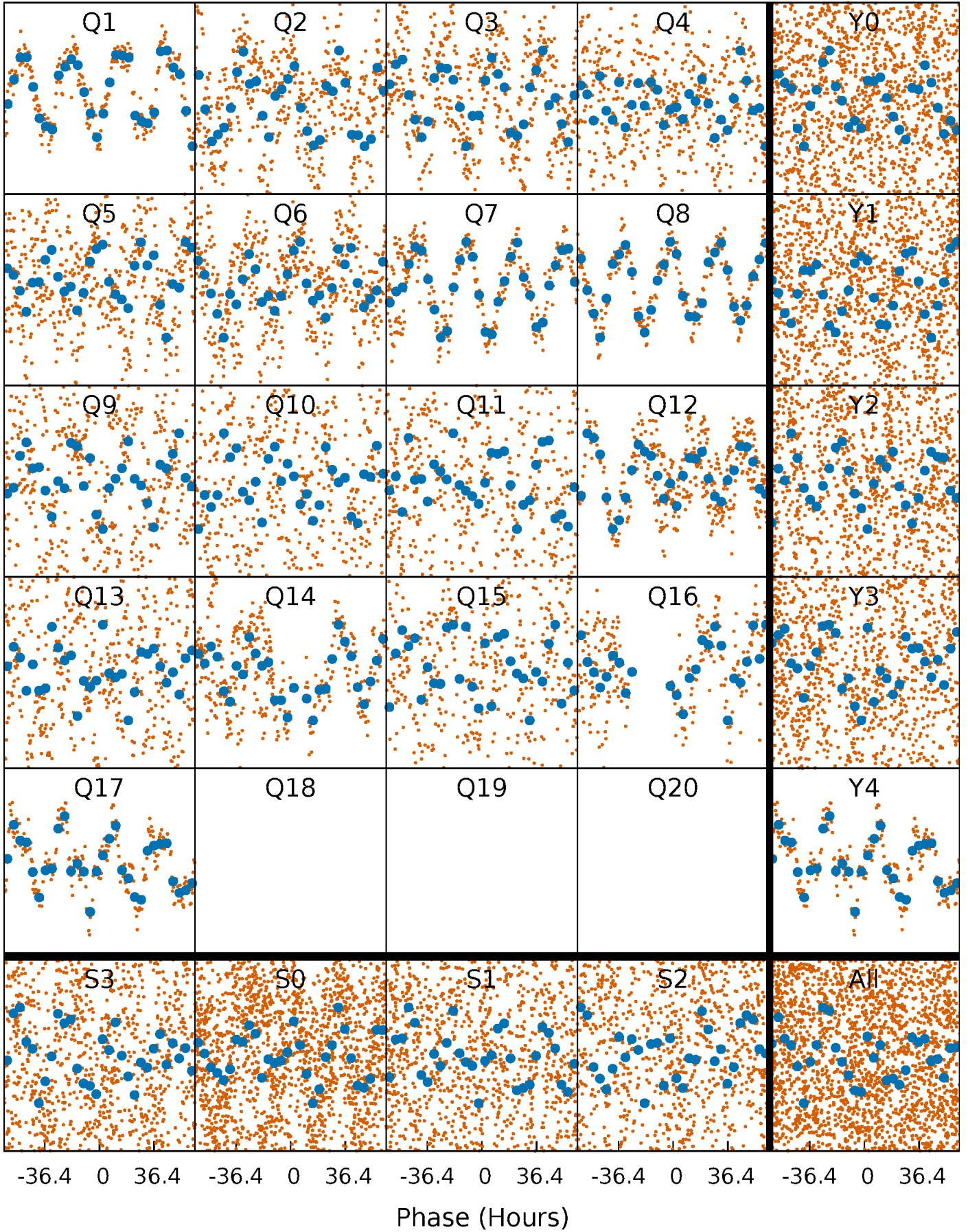


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



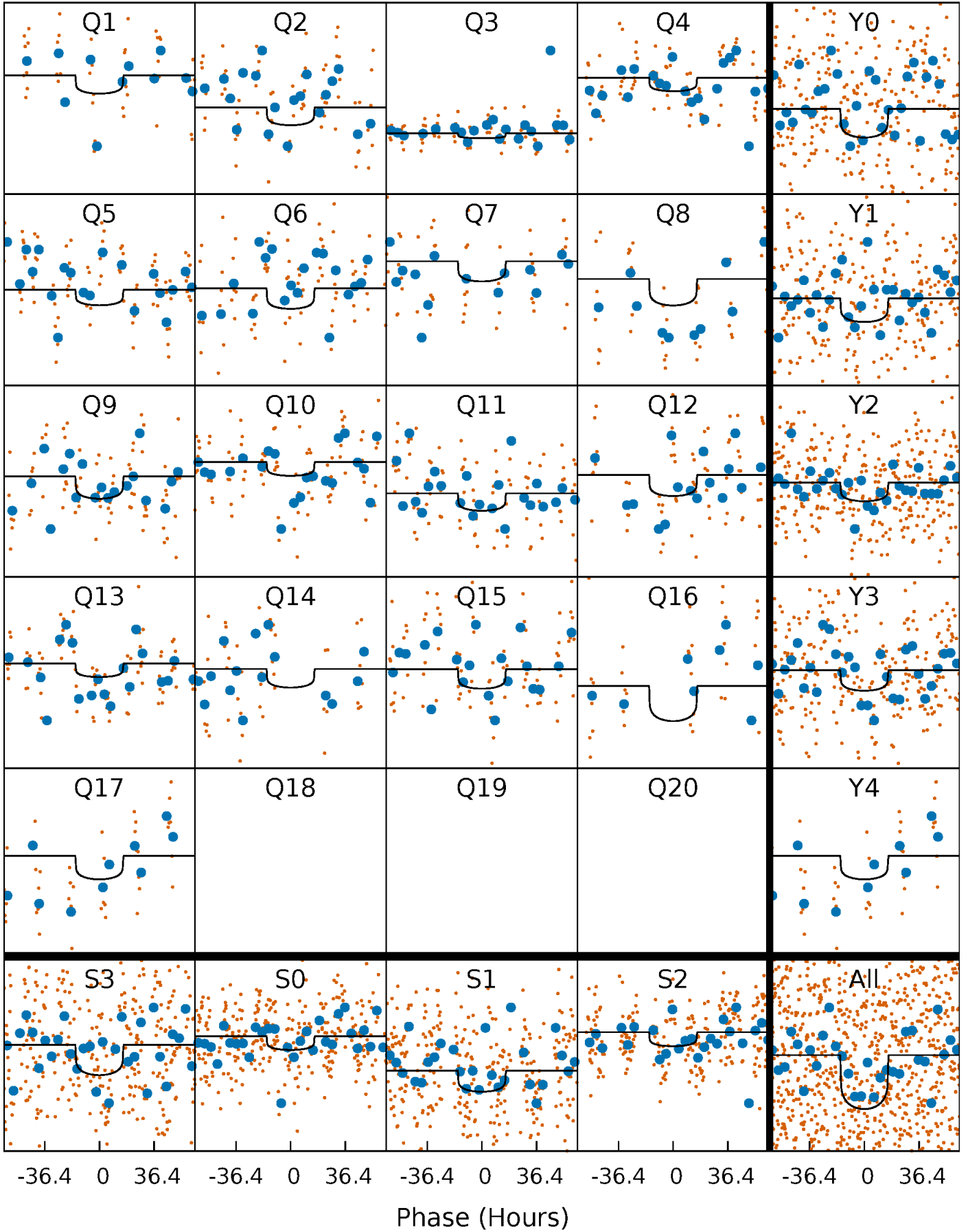
PDC Quarter-Phased Transit Curves

TCE 002447832-02 P= 47.346945 Days $T_0=153.110230$ (BKJD)



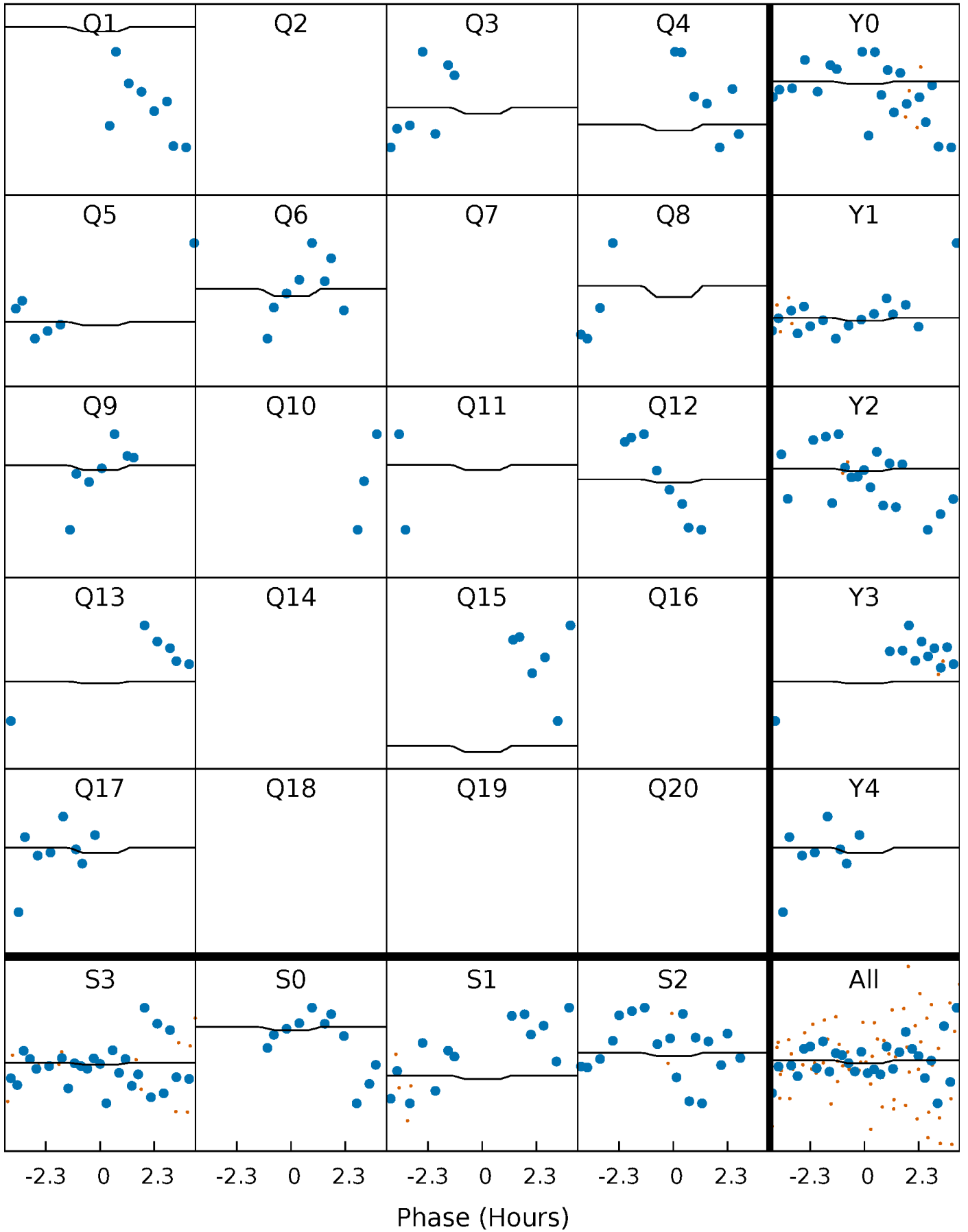
DV Quarter-Phased Transit Curves

TCE 002447832-02 $P = 47.346945$ Days $T_0 = 153.110230$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

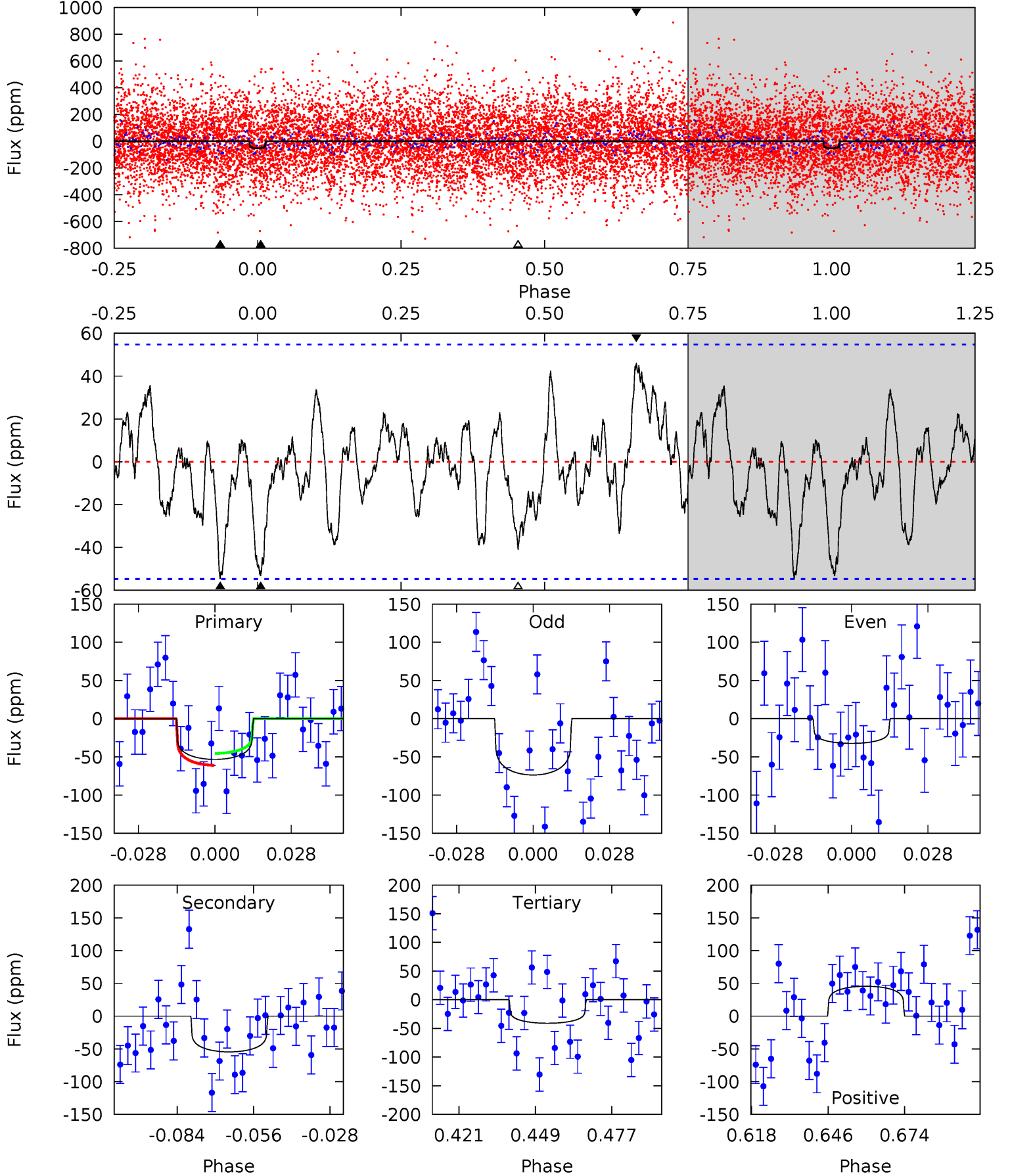
TCE 002447832-02 P= 47.362844 Days $T_0=152.834813$ (BKJD)



DV Model-Shift Uniqueness Test

002447832-02, P = 47.346945 Days, E = 105.763285 Days

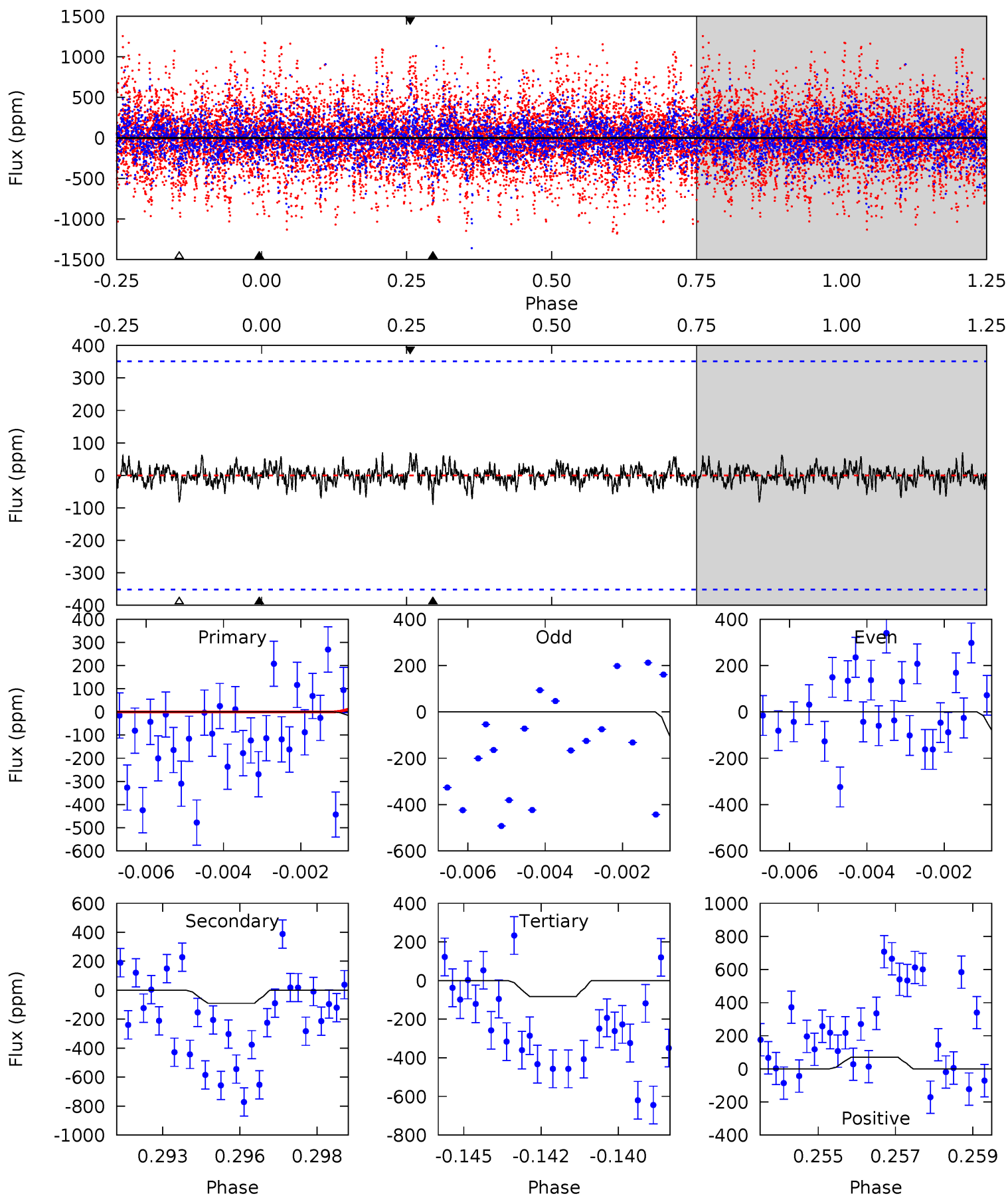
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.70	4.81	3.61	4.02	4.82	2.20	1.55	1.09	0.68	1.20	0.79	1.83	0.65	0.46	0.68



Alt Model-Shift Uniqueness Test

002447832-02, P = 47.362844 Days, E = 105.471969 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.37	1.37	1.25	1.07	5.31	3.07	0.32	-0.88	-0.70	0.12	0.30	0.32	-15.9	0.44	0.35



Stellar Parameters For KIC 002447832

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6446^{+205}_{-228}	$4.117^{+0.336}_{-0.168}$	$-0.780^{+0.300}_{-0.300}$	$1.393^{+0.359}_{-0.439}$	$0.926^{+0.123}_{-0.089}$	$0.483^{+0.952}_{-0.211}$
	+3%/-4%	+8%/-4%	+38%/-38%	+26%/-32%	+13%/-10%	+197%/-44%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 002447832-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-55 ± 11	$2.00^{+1.88}_{-1.32}$	934^{+73}_{-93}	4843^{+3796}_{-1076}	493^{+3843}_{-374}
Alt.	-90 ± 66	$1.80^{+1.82}_{-1.24}$	925^{+73}_{-91}	5322^{+5500}_{-1791}	719^{+8722}_{-643}

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 $A_{obs} \gg 1.0$

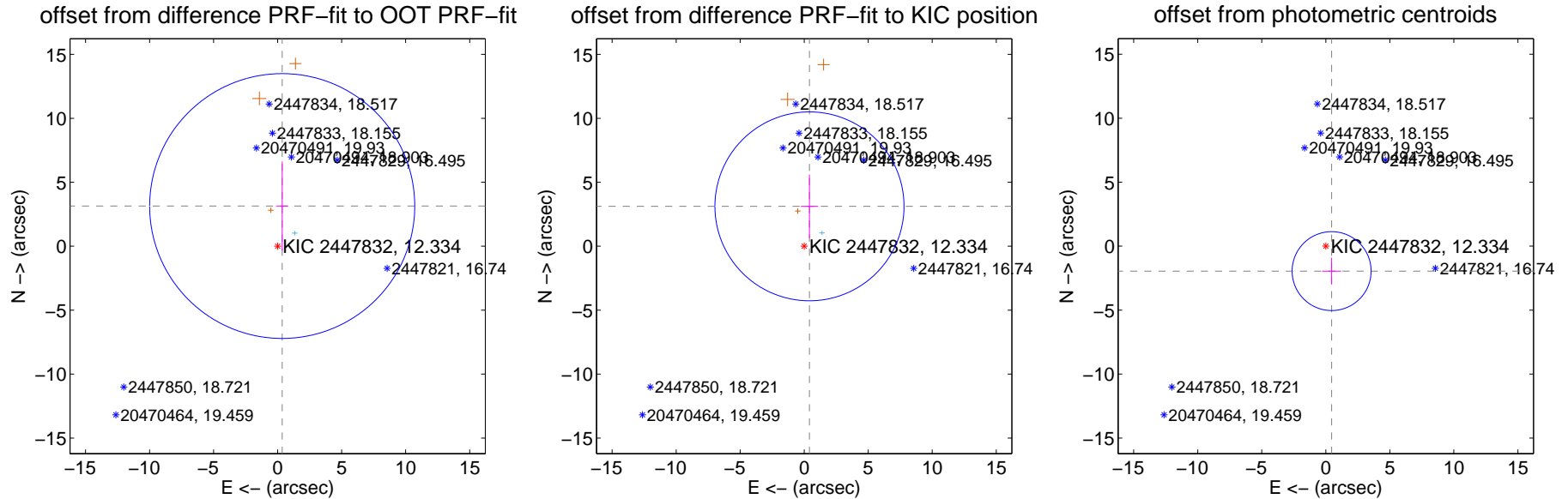
DV Centroid Data

Supplemental centroid analysis for 002447832-02. Kepler magnitude: 12.33. Transit SNR 6.58

There are 1 quarters with good PRF difference image offsets

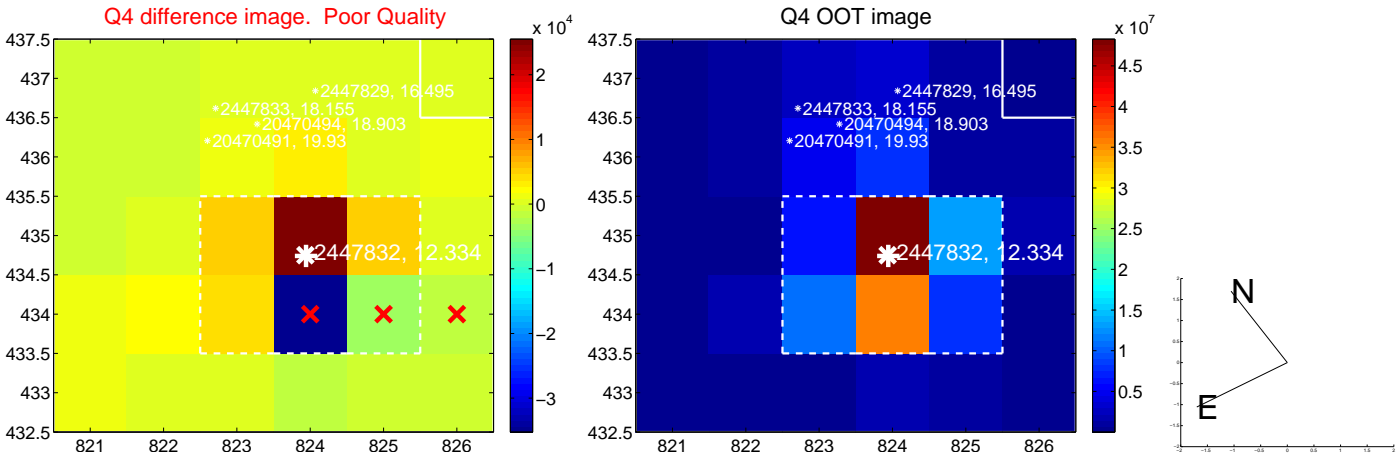
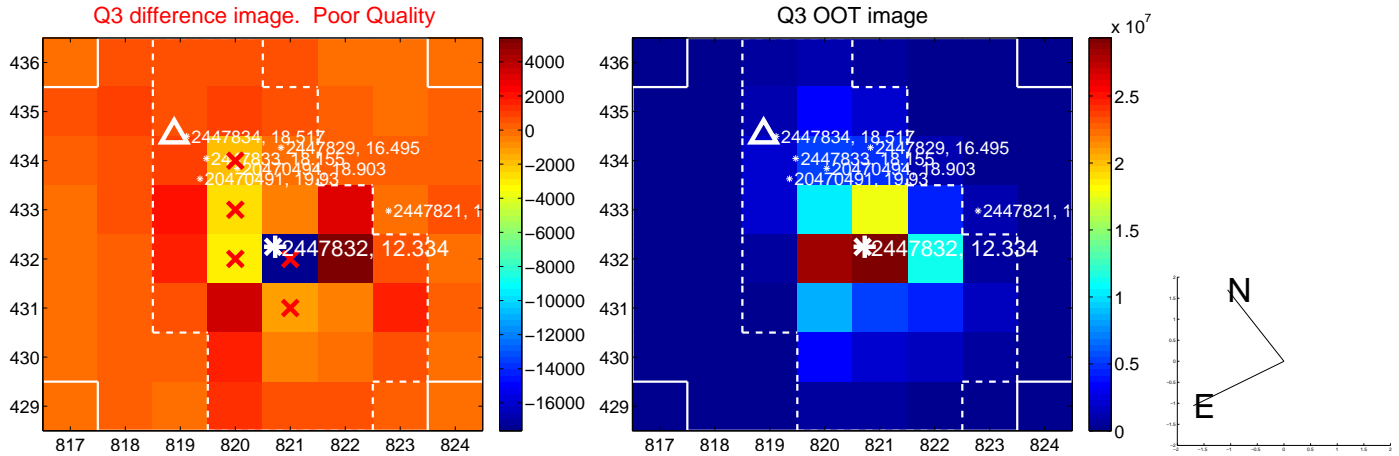
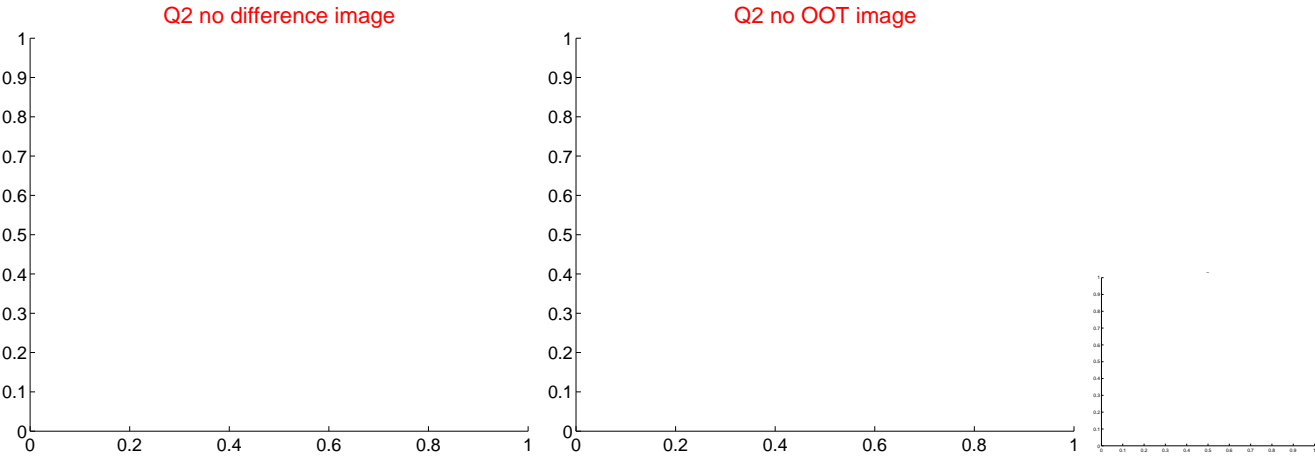
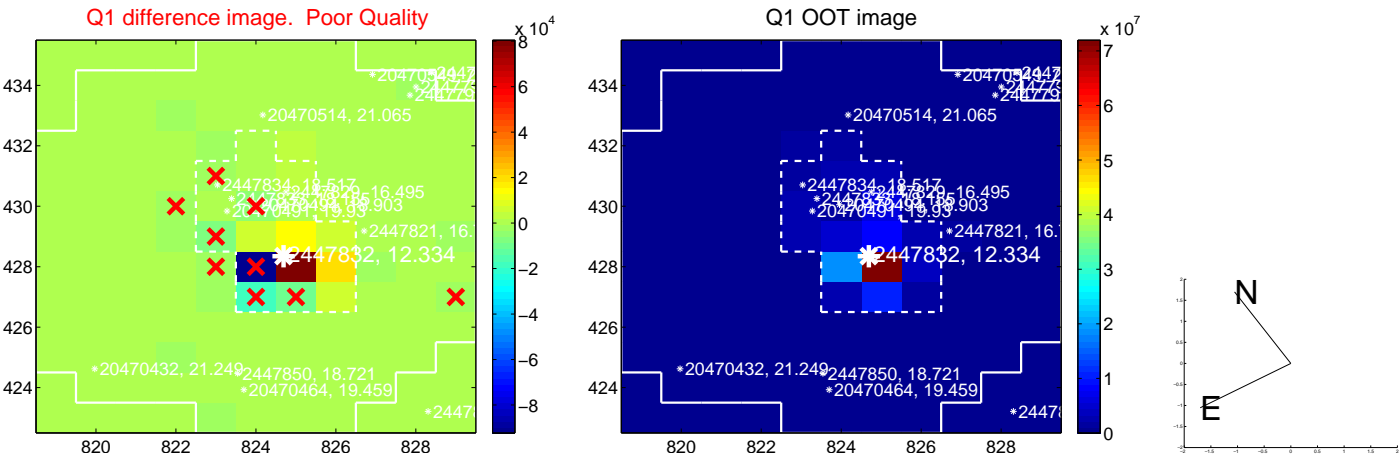
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.163 ± 3.451	0.92	-0.358 ± 0.473	3.143 ± 3.478
PRF-fit source offset from KIC position	3.145 ± 2.461	1.28	-0.413 ± 0.672	3.118 ± 2.481
photometric centroid source offset	2.00 ± 1.03	1.95	-0.46 ± 0.74	-1.95 ± 1.04

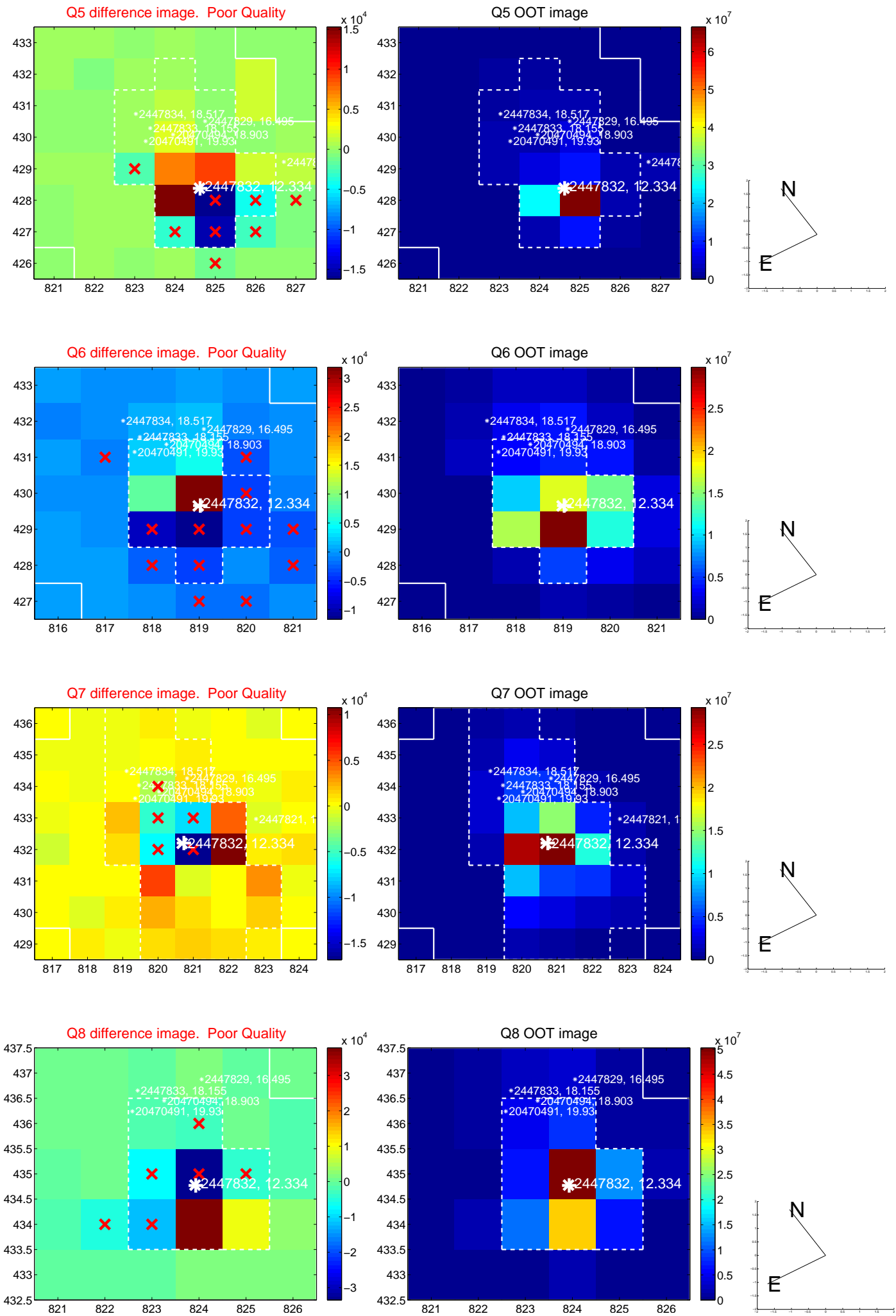


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

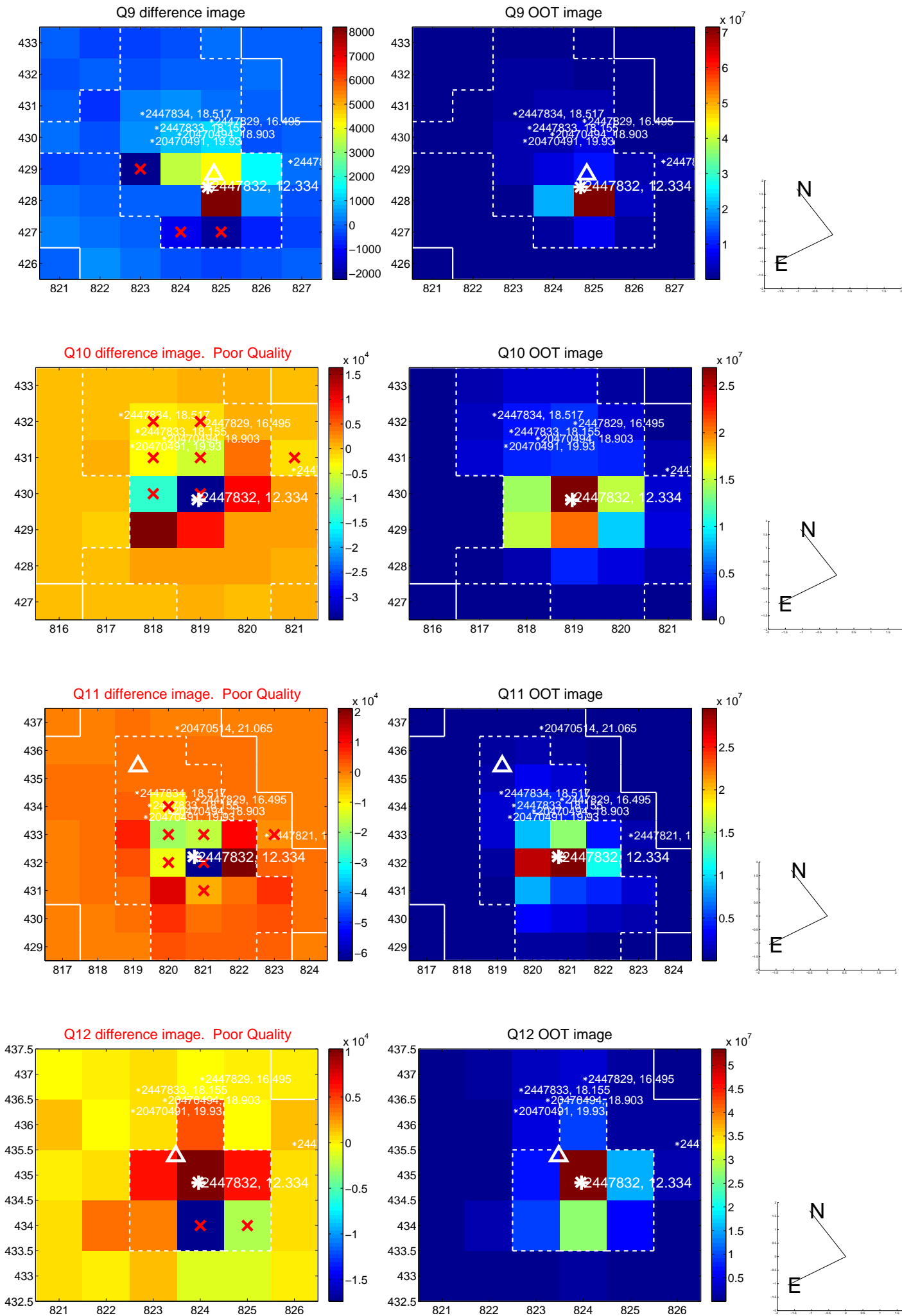
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



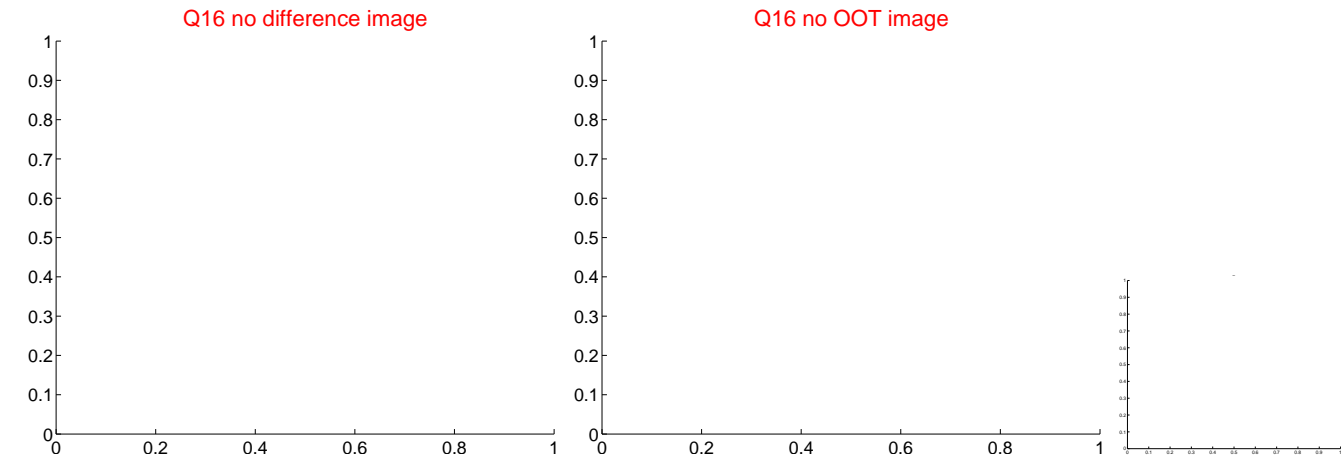
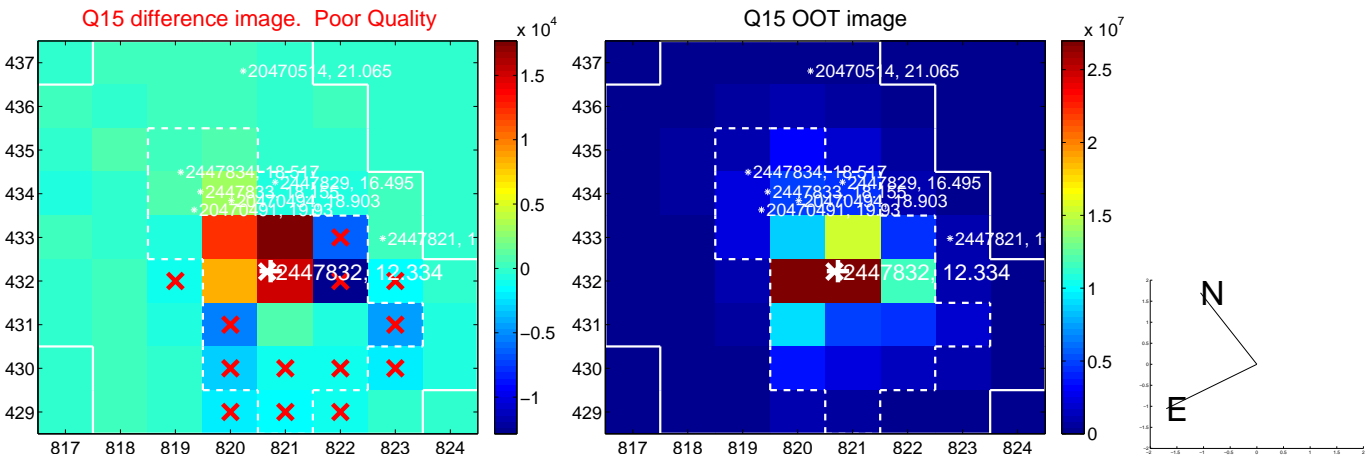
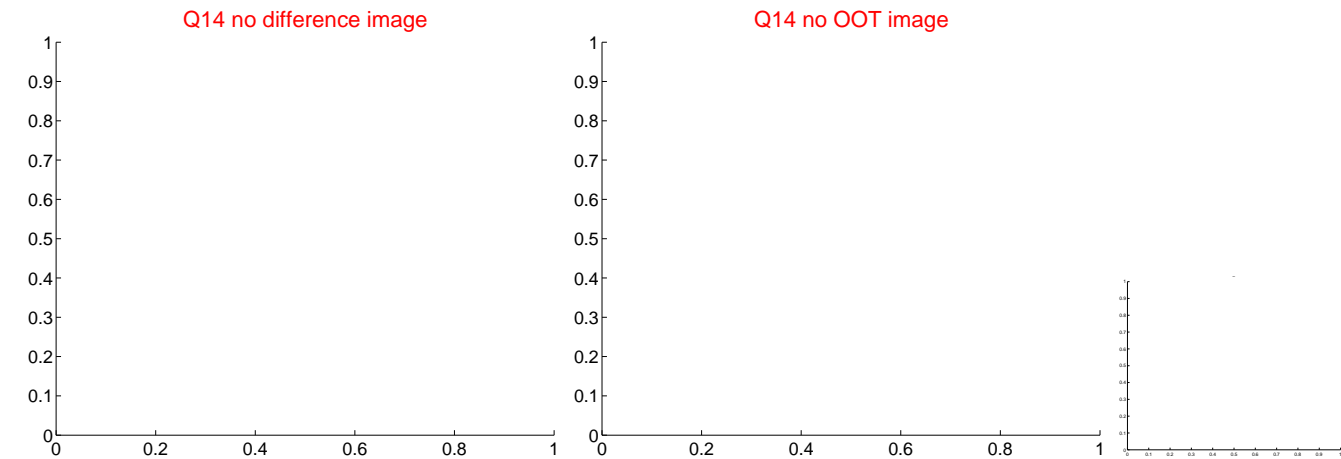
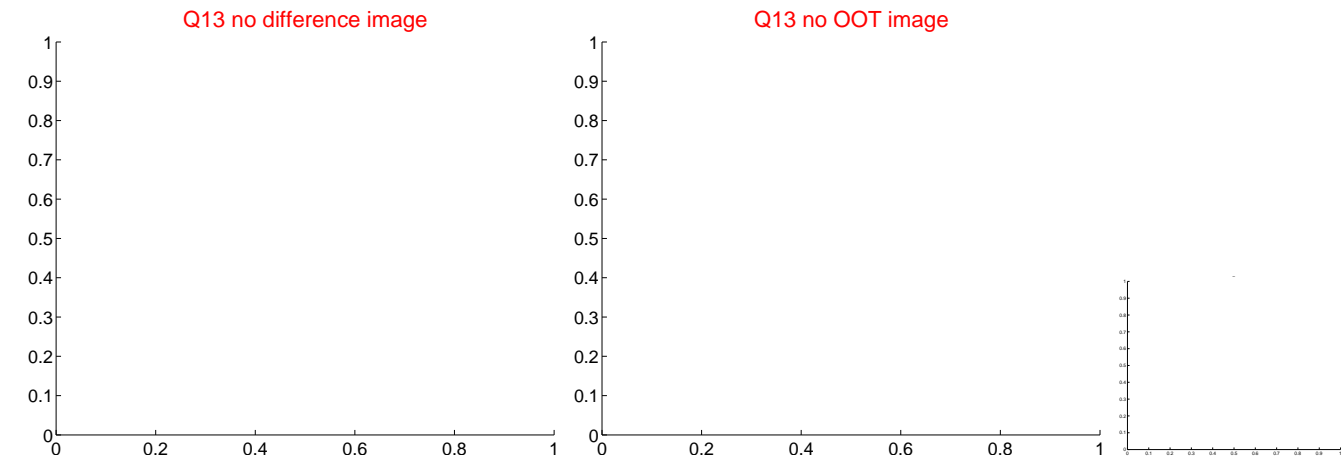
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



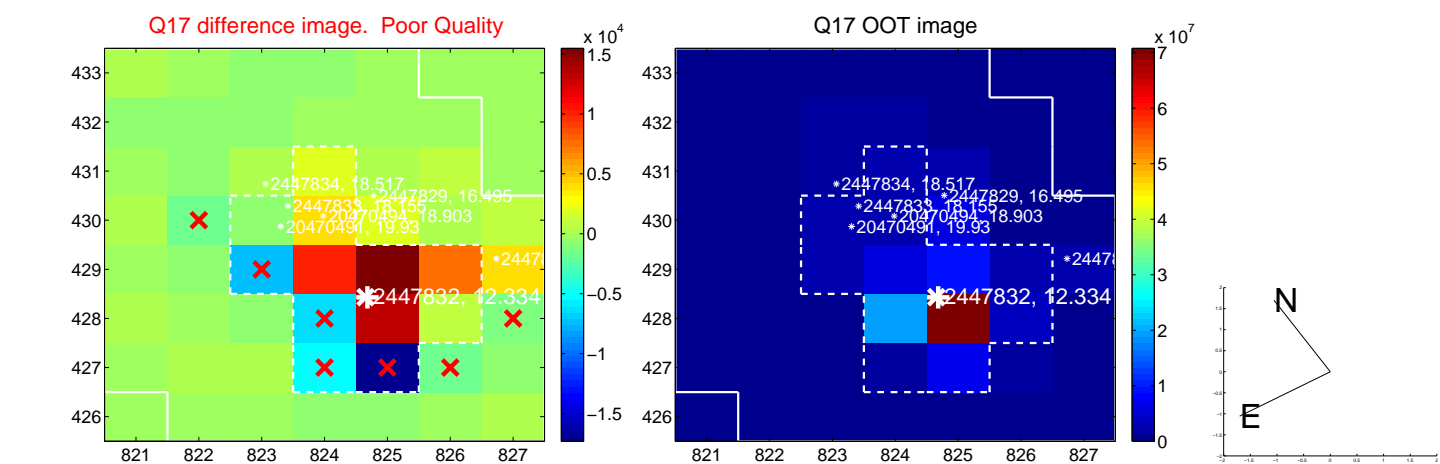
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



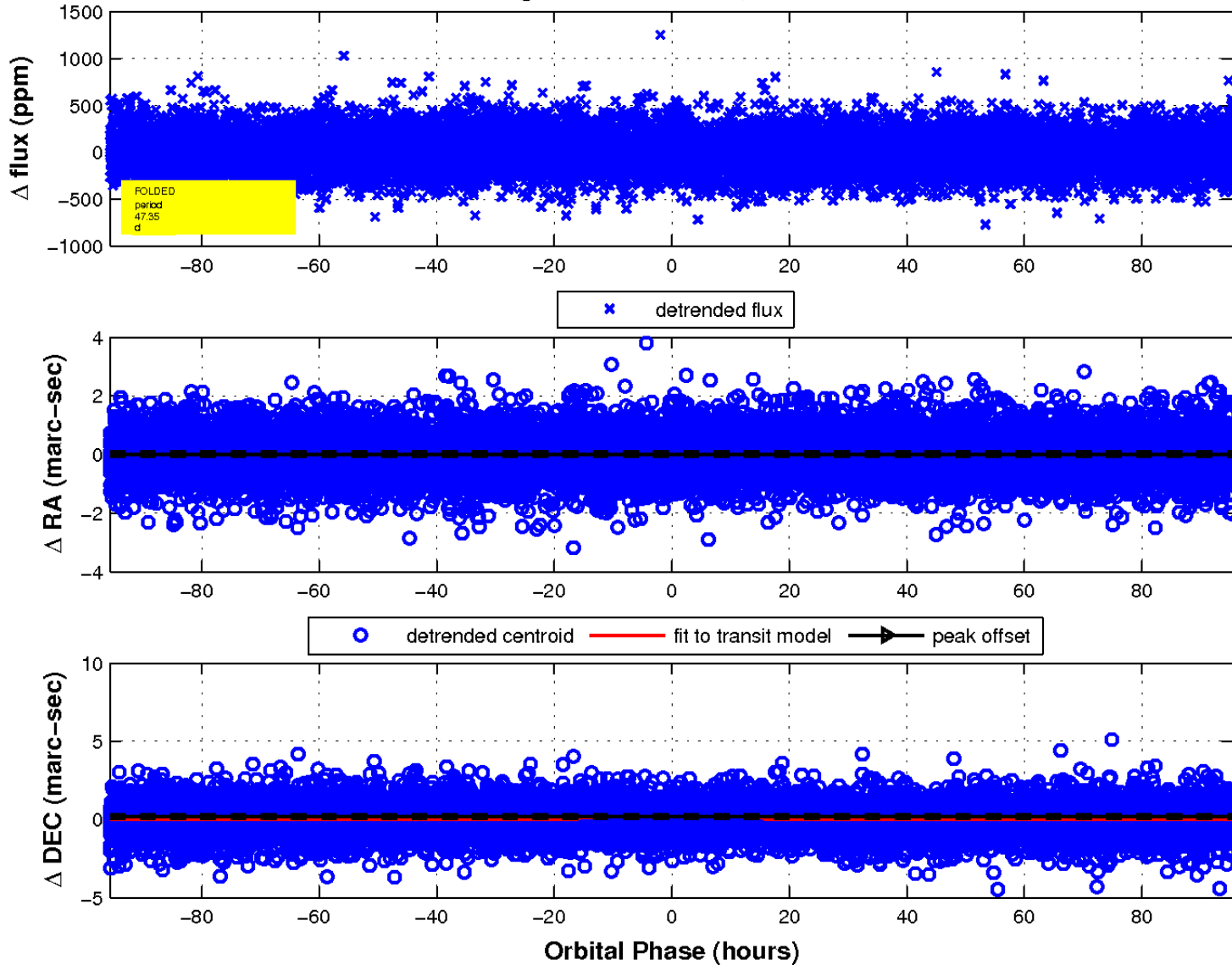
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

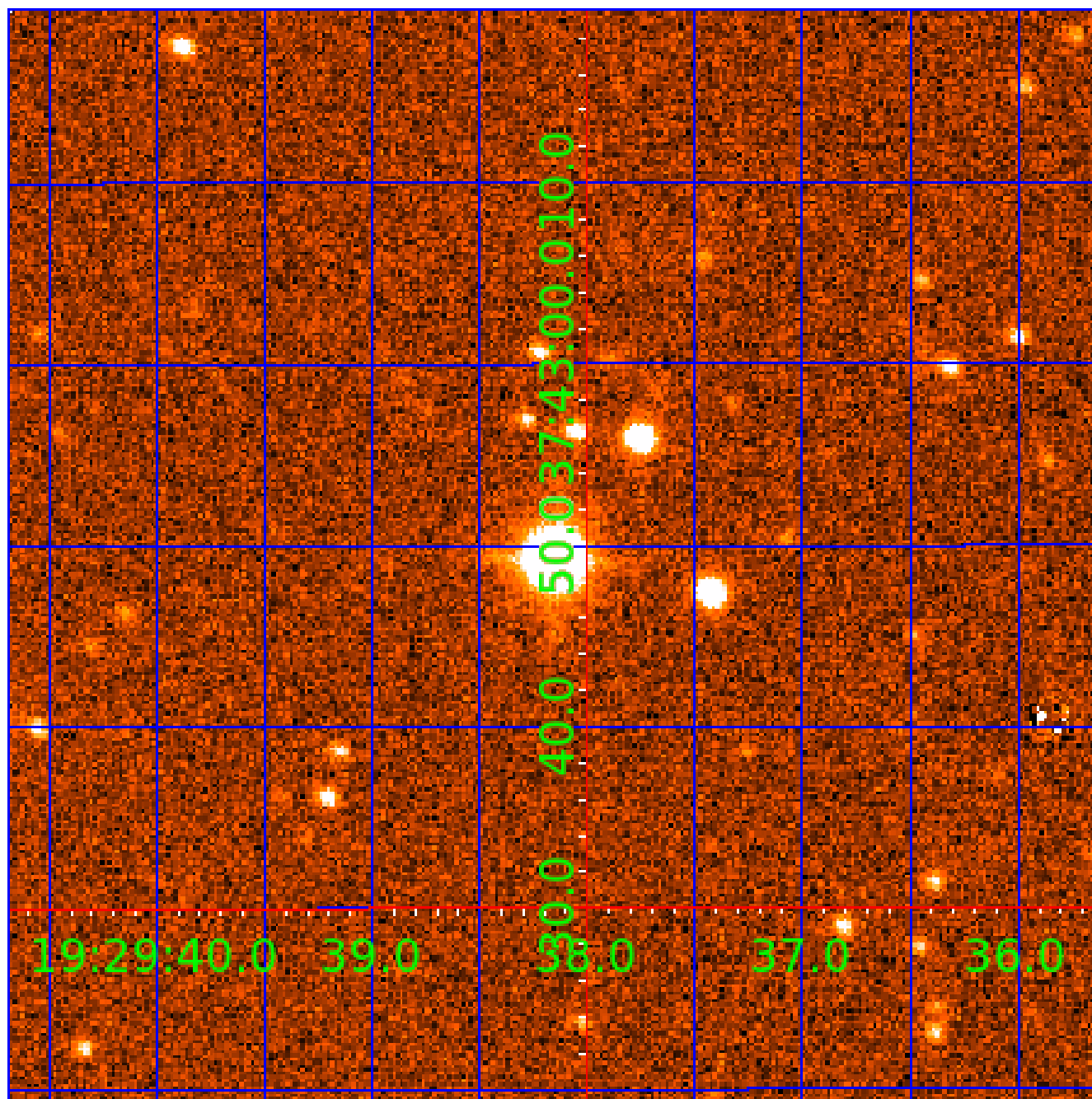


fluxWeightedCentroids, Planet 2 of 7



UKIRT Image

Declination



KIC 002447832

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})
002447832-01	OBS	No	0.921355	132.186367	15.1	5.945	9.4	6.5	1.39	6446	0.58	9192.92
002447832-02	OBS	No	47.346945	153.110230	96.1	31.858	9.9	6.6	1.39	6446	1.37	48.12
002447832-03	OBS	No	181.379735	189.859579	433.2	7.910	9.8	9.1	1.39	6446	3.22	8.03
002447832-04	OBS	No	70.423650	170.402747	325.5	0.740	8.3	5.5	1.39	6446	2.84	28.34
002447832-05	OBS	No	204.995092	137.361467	455.9	6.102	9.2	8.8	1.39	6446	3.79	6.82
002447832-06	OBS	No	24.391322	148.019870	244.0	3.650	9.5	9.3	1.39	6446	2.42	116.51
002447832-07	OBS	No	43.687604	134.829277	292.8	1.394	8.8	9.6	1.39	6446	2.41	53.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002447832-01	OBS	FP	0.00	1	0	0	0	LPP_DV
002447832-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
002447832-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002447832-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002447832-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002447832-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
002447832-07	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—HALO_GHOST

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

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

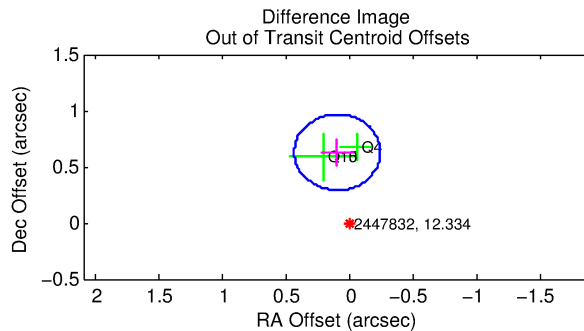
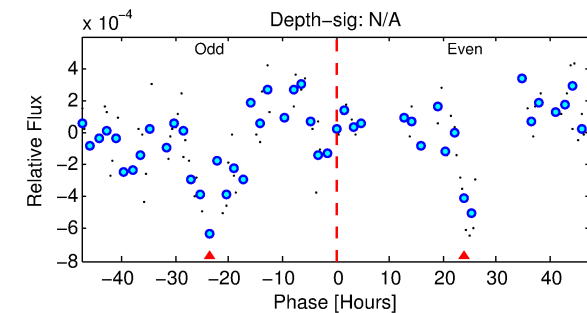
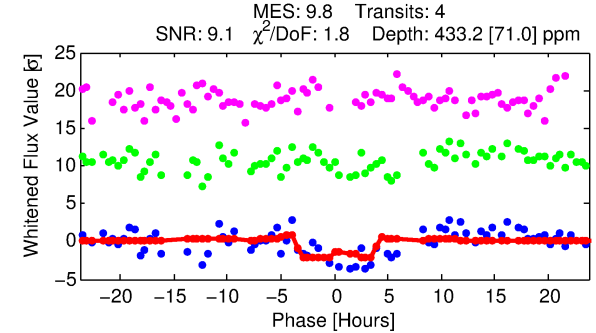
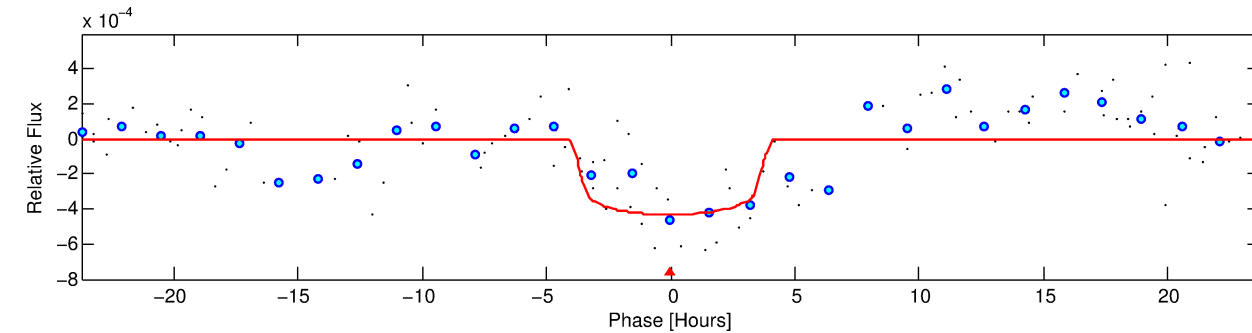
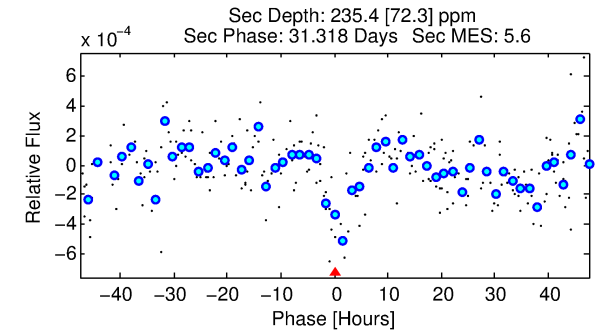
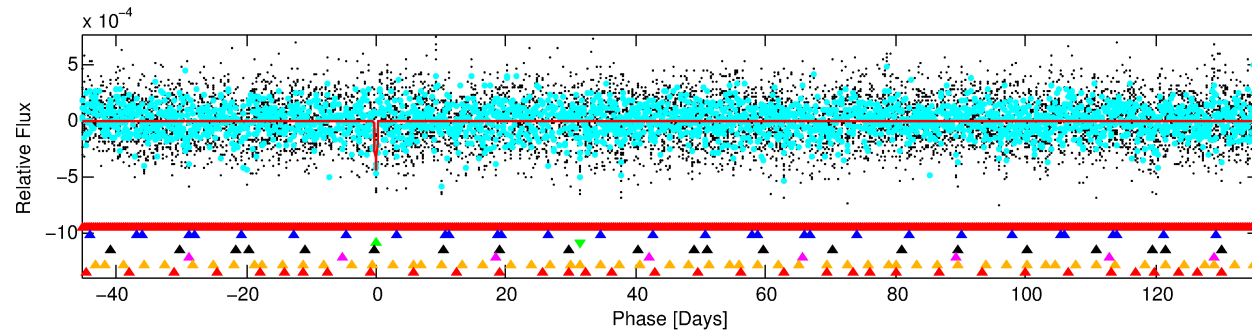
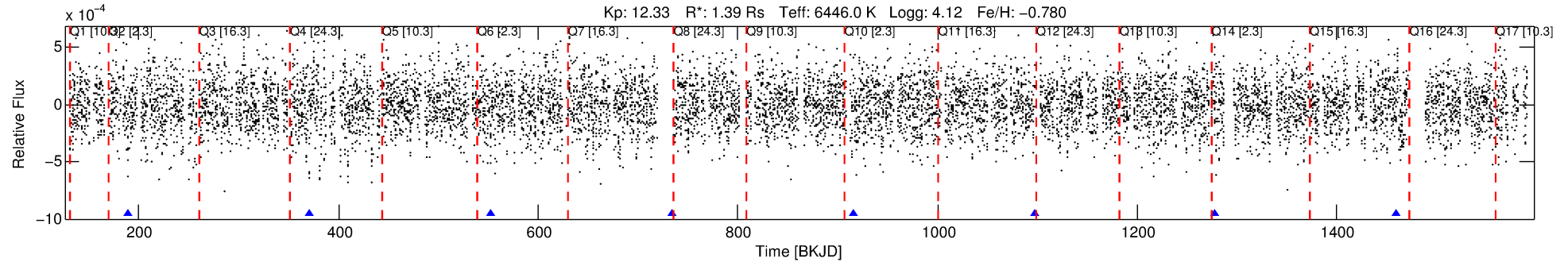
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002447832-03

No Significant Match Found

DV One-Page Summary

KIC: 2447832 Candidate: 3 of 7 Period: 181.380 d



DV Fit Results:

Period = 181.37974 [0.00260] d
Epoch = 189.8596 [0.0129] BKJD
Rp/R* = 0.0212 [0.0180]
a/R* = 107.23 [523.53]
b = 0.82 [1.98]
Seff = 8.03 [4.61]
Teq = 429 [62] K
Rp = 3.22 [2.91] Re
a = 0.6115 [0.2034] AU
Ag = 4658.59 [8428.15] [0.55σ]
Teffp = 5482 [2367] K [2.13σ]

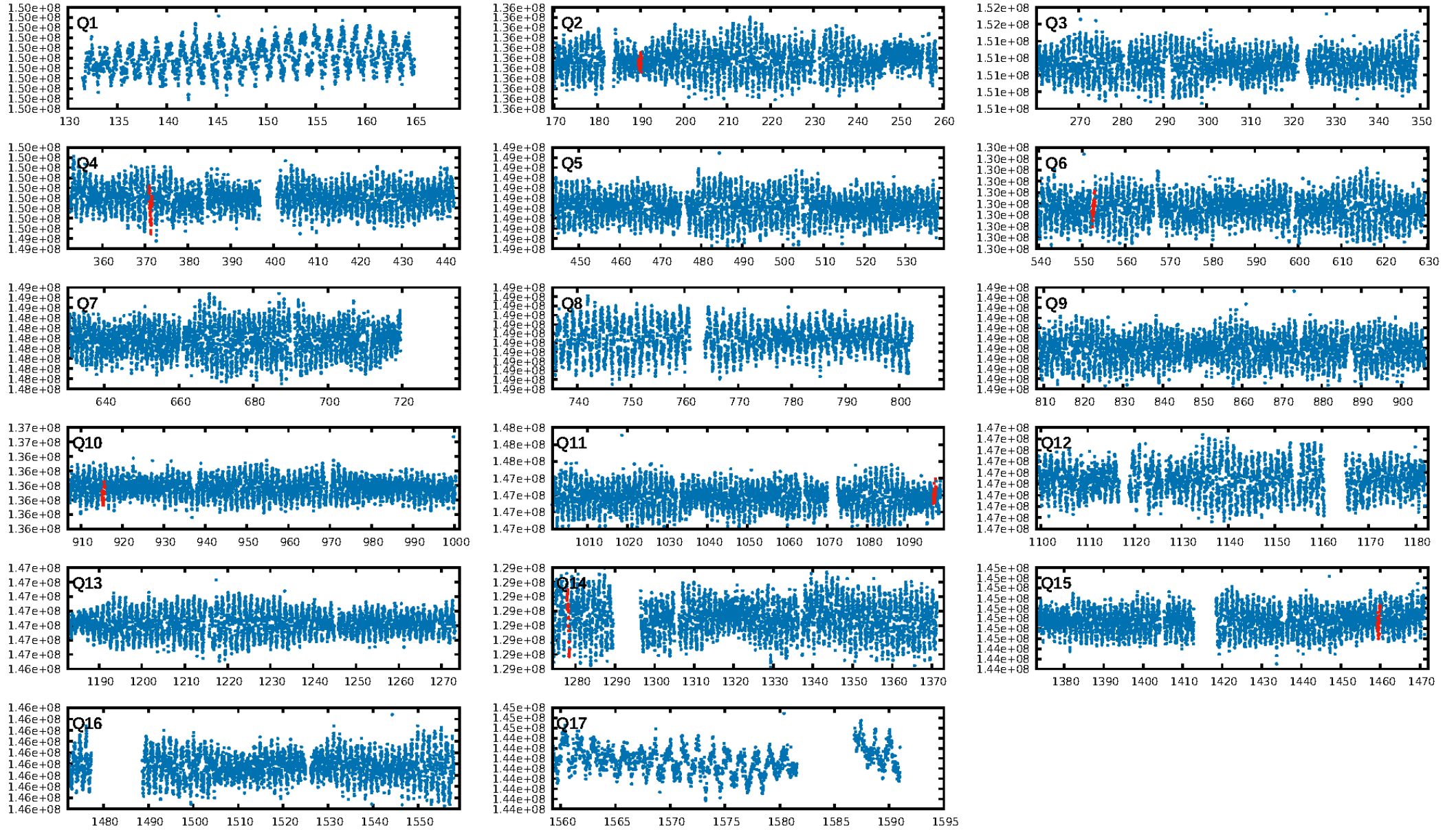
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [335.19σ]
LongPeriod-sig: 100.0% [56.73σ]
ModelChiSquare2-sig: 3.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.36e-10
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -1.201
Centroid-sig: 23.7%
Centroid-so: 1.020 arcsec [1.71σ]
OotOffset-rm: 0.636 arcsec [5.64σ]
KicOffset-rm: 0.567 arcsec [5.04σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.00 [0/5]

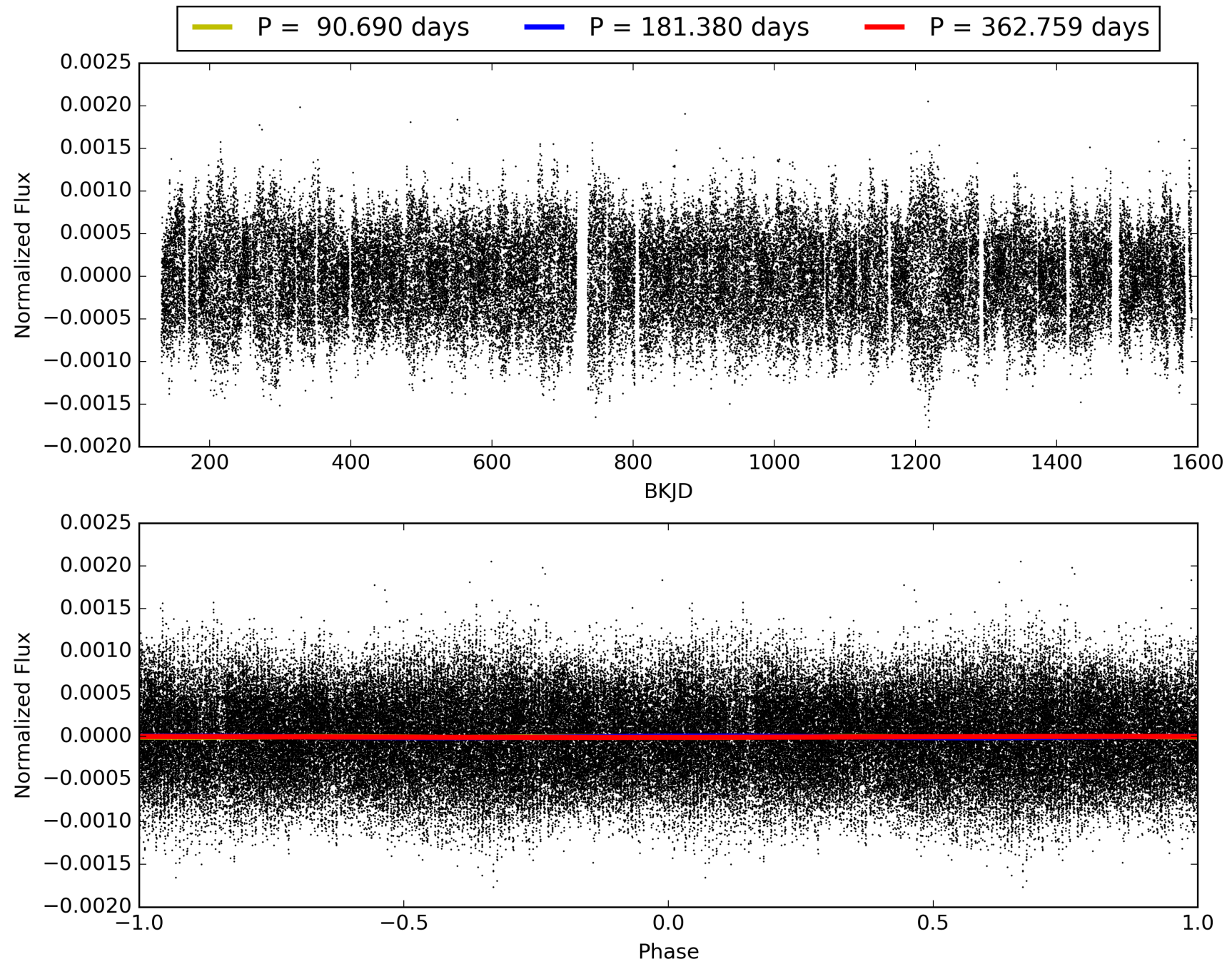
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:12:51 Z

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

TCE 002447832-03, PDC Light Curves

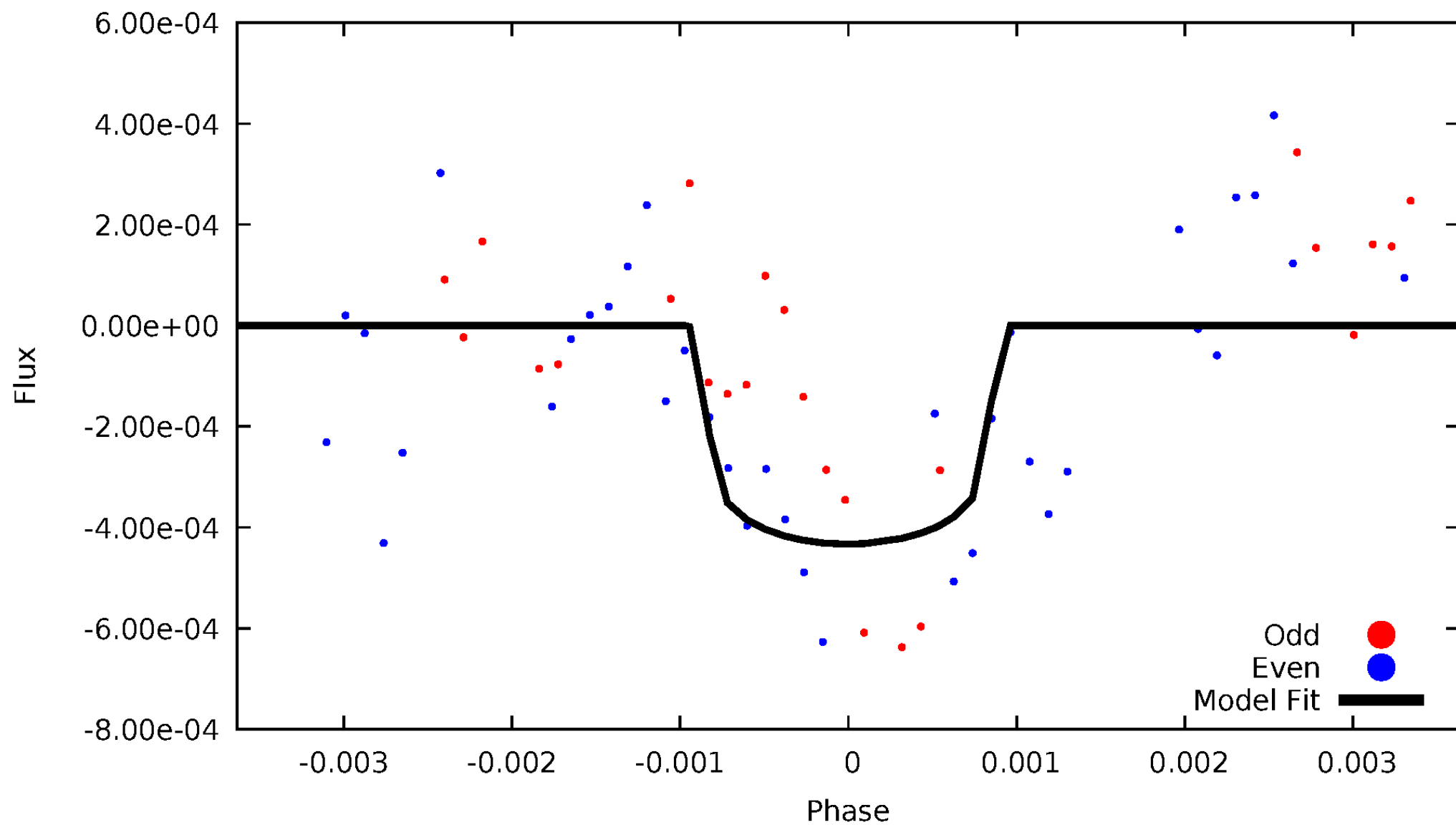


TCE 002447832-03



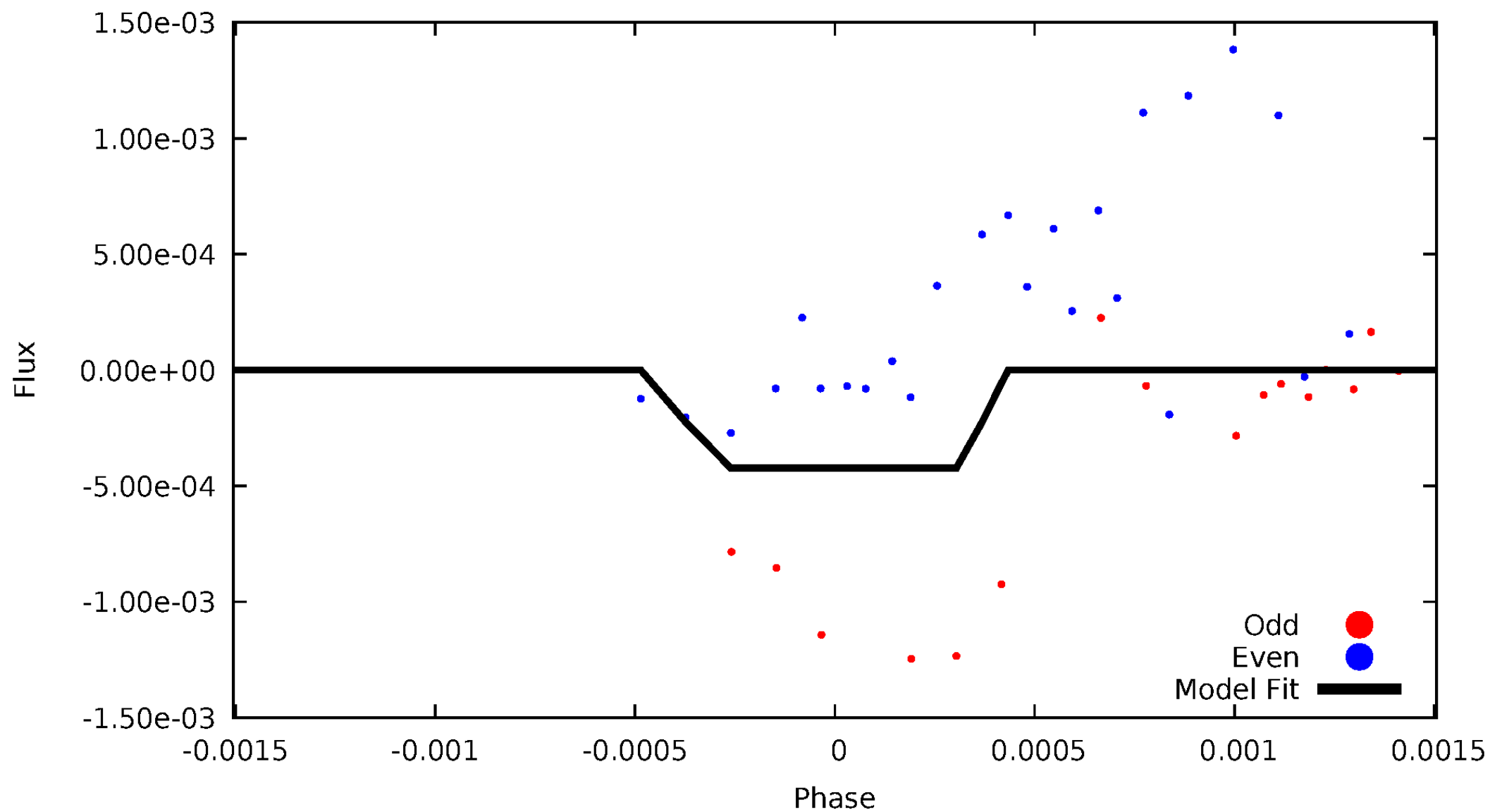
DV Odd/Even

TCE 002447832-03



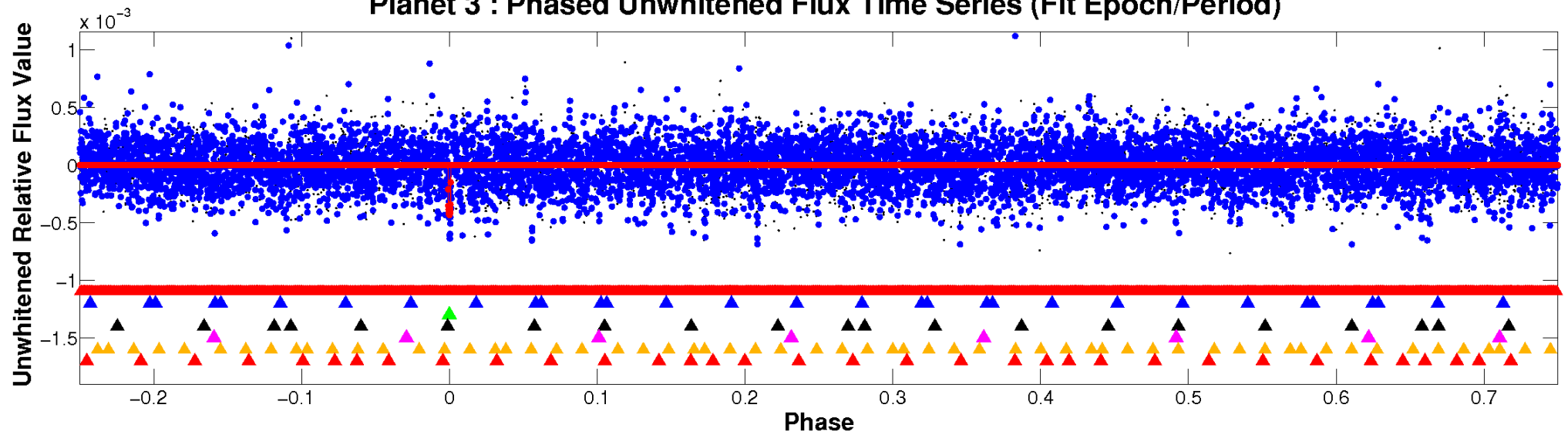
ALT Odd/Even

TCE 002447832-03

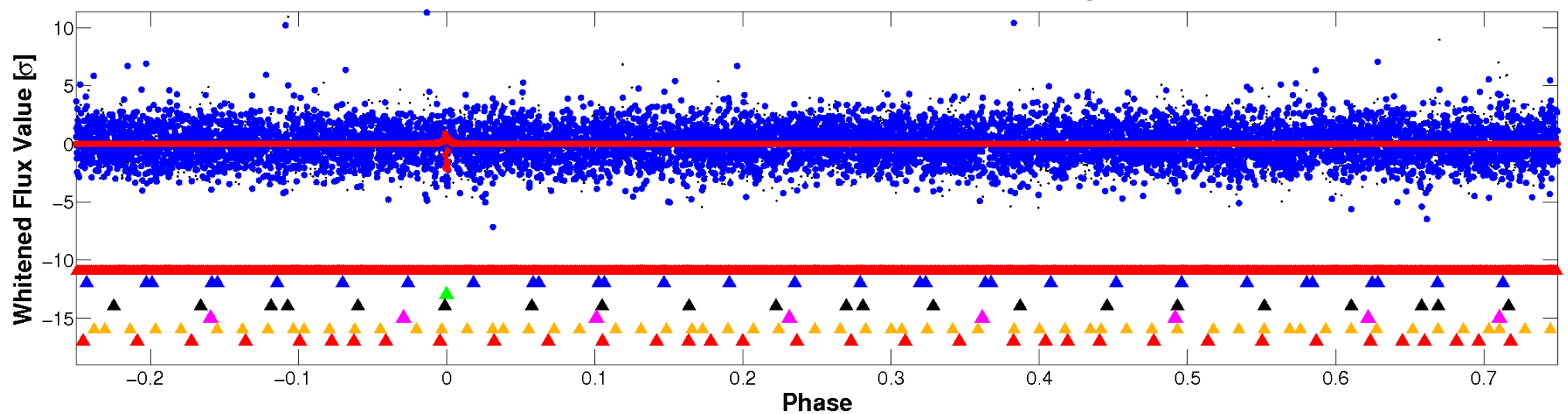


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

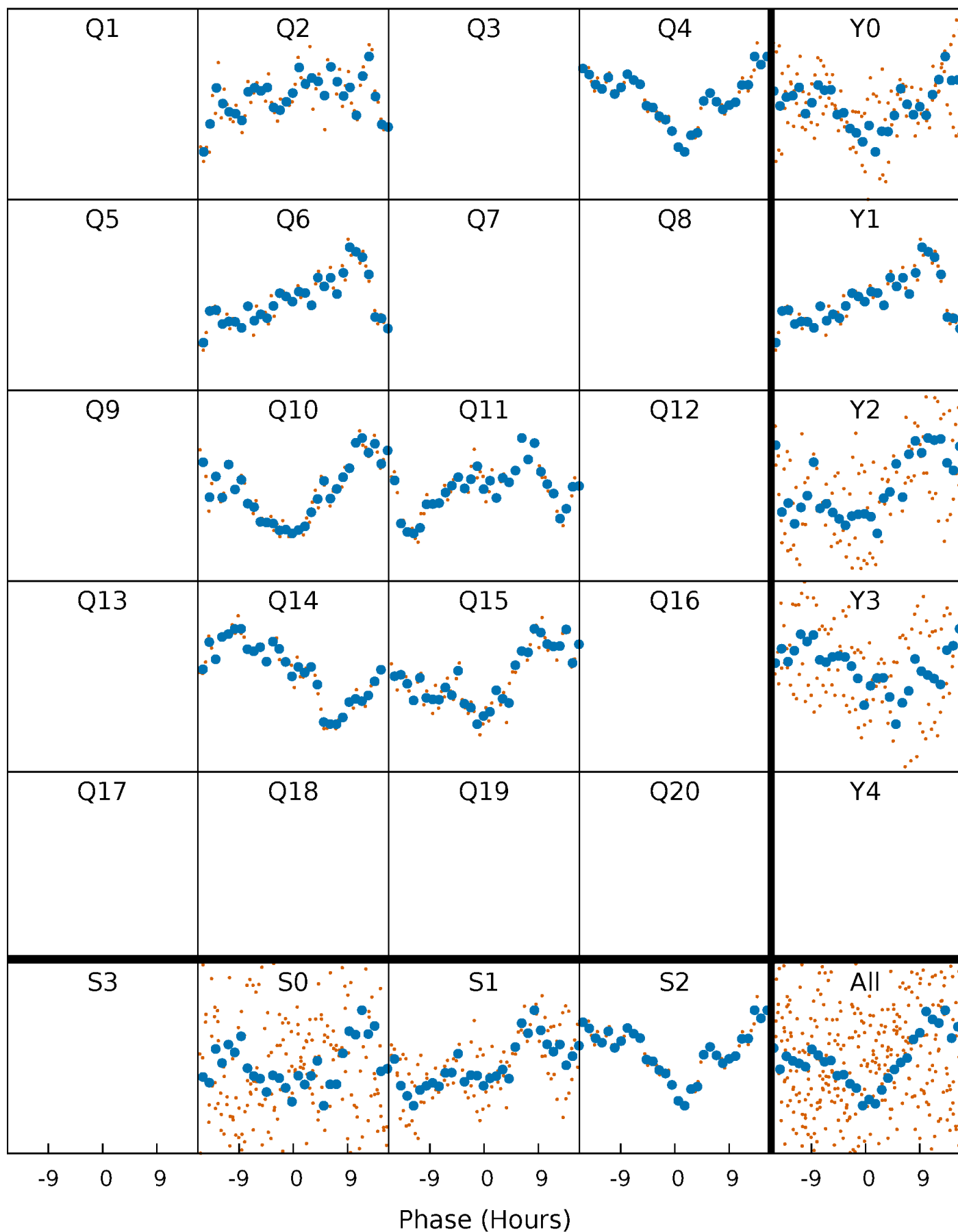


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



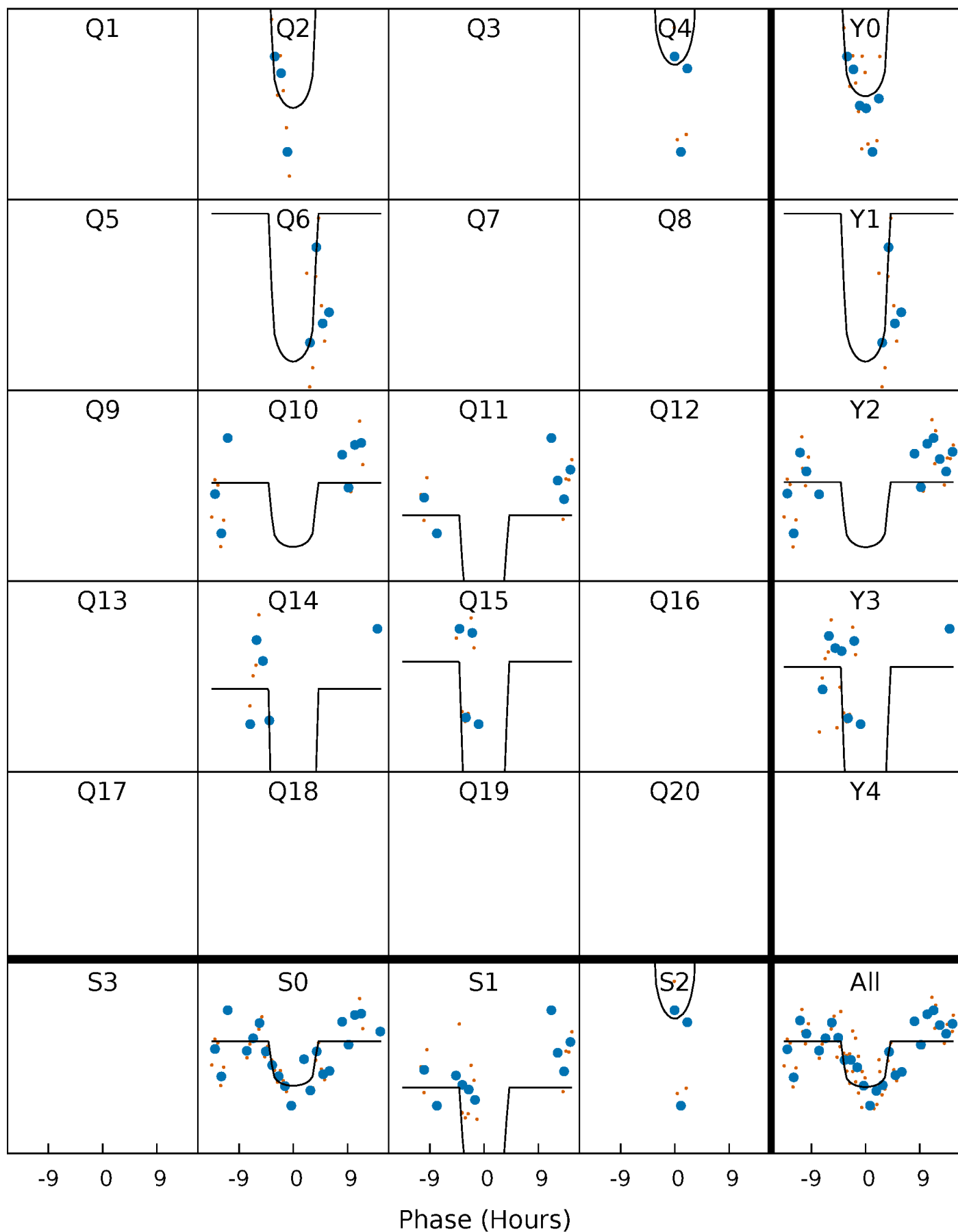
PDC Quarter-Phased Transit Curves

TCE 002447832-03 $P=181.379735$ Days $T_0=189.859579$ (BKJD)



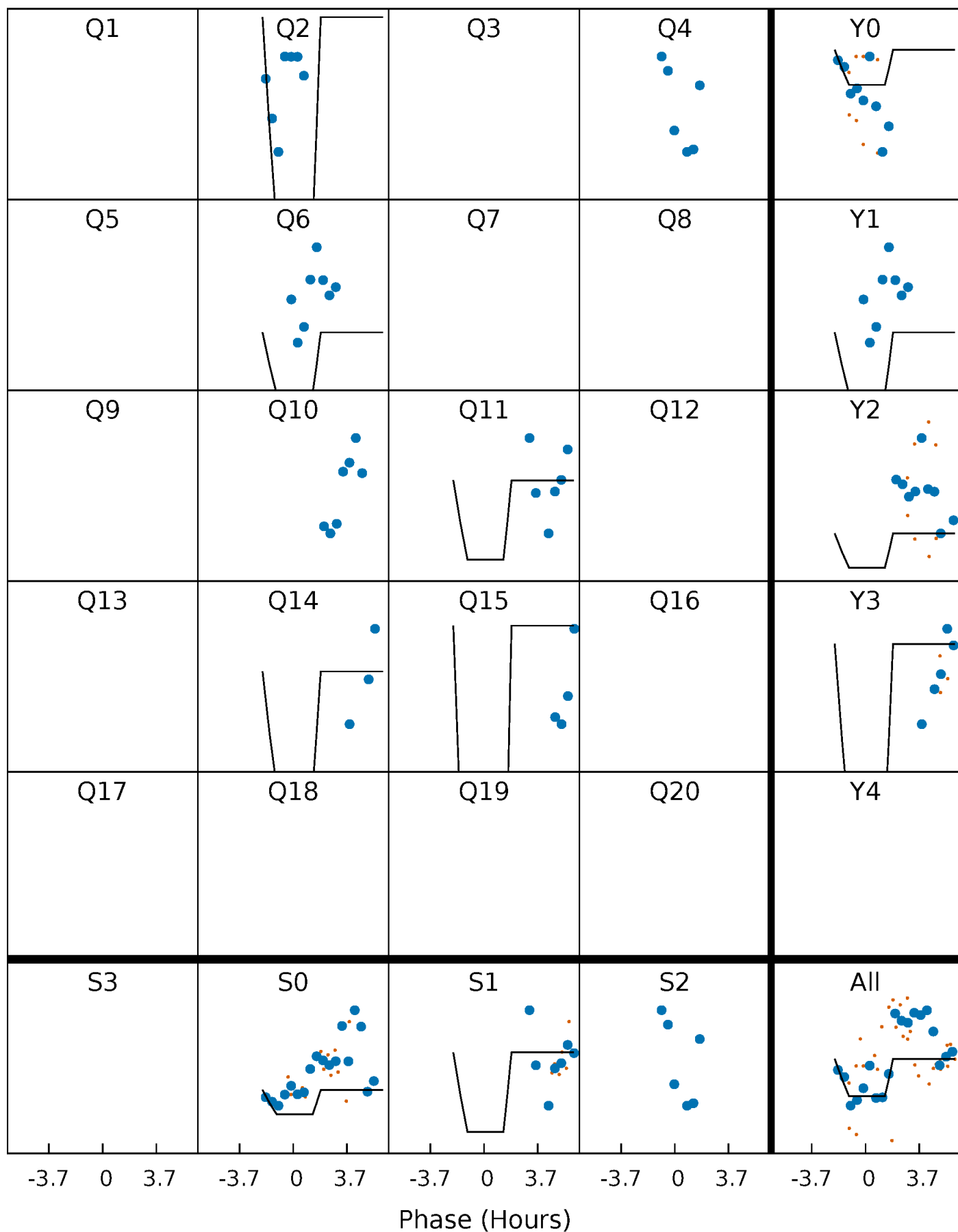
DV Quarter-Phased Transit Curves

TCE 002447832-03 P=181.379735 Days $T_0=189.859579$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

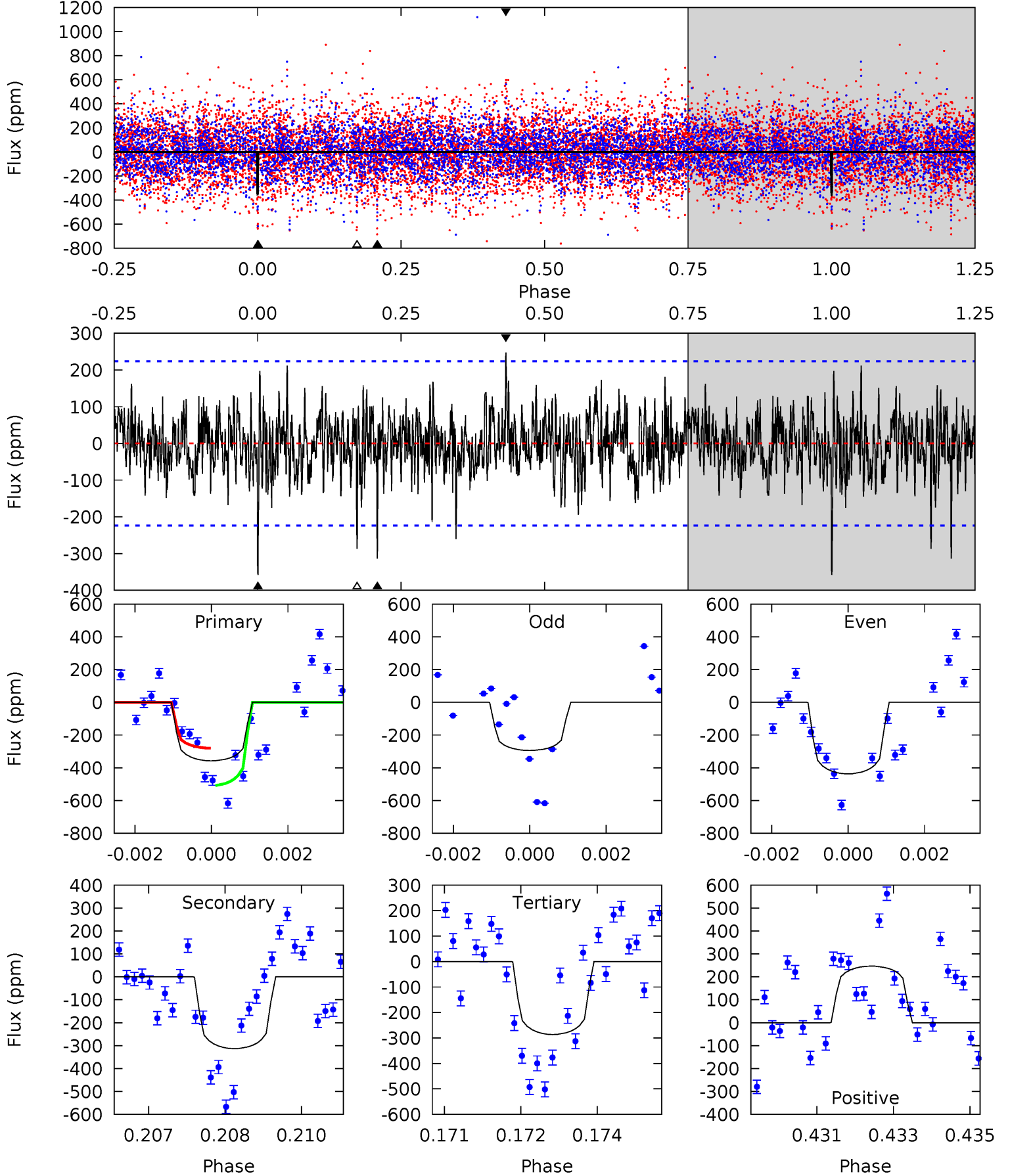
TCE 002447832-03 P=181.464713 Days $T_0=189.797739$ (BKJD)



DV Model-Shift Uniqueness Test

002447832-03, P = 181.379735 Days, E = 8.479844 Days

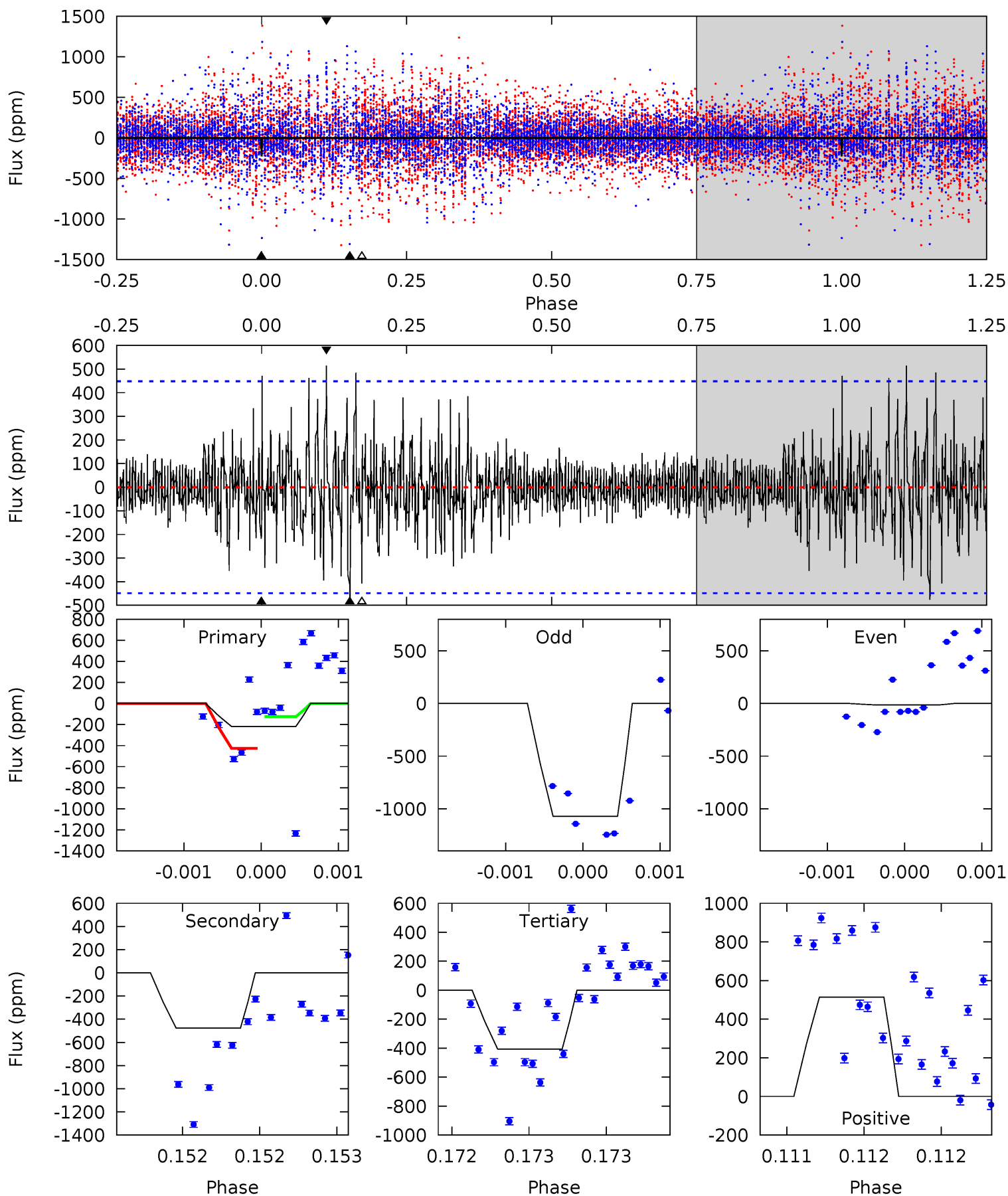
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.54	7.49	6.85	5.90	5.35	3.12	1.54	1.70	2.65	0.64	1.59	1.75	0.81	0.41	2.52



Alt Model-Shift Uniqueness Test

002447832-03, P = 181.464713 Days, E = 8.333026 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.68	5.86	5.01	6.33	5.52	3.40	1.21	-2.33	-3.65	0.85	-0.47	7.00	2.41	0.52	1.93



Stellar Parameters For KIC 002447832

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6446^{+205}_{-228}	$4.117^{+0.336}_{-0.168}$	$-0.780^{+0.300}_{-0.300}$	$1.393^{+0.359}_{-0.439}$	$0.926^{+0.123}_{-0.089}$	$0.483^{+0.952}_{-0.211}$
	+3%/-4%	+8%/-4%	+38%/-38%	+26%/-32%	+13%/-10%	+197%/-44%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 002447832-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-313 ± 42	$3.52^{+2.33}_{-2.19}$	589^{+47}_{-57}	5533^{+3801}_{-1095}	5272^{+31014}_{-3407}
Alt.	-476 ± 81	$3.38^{+2.71}_{-2.08}$	593^{+48}_{-57}	6202^{+5102}_{-1359}	8805^{+47115}_{-6078}

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

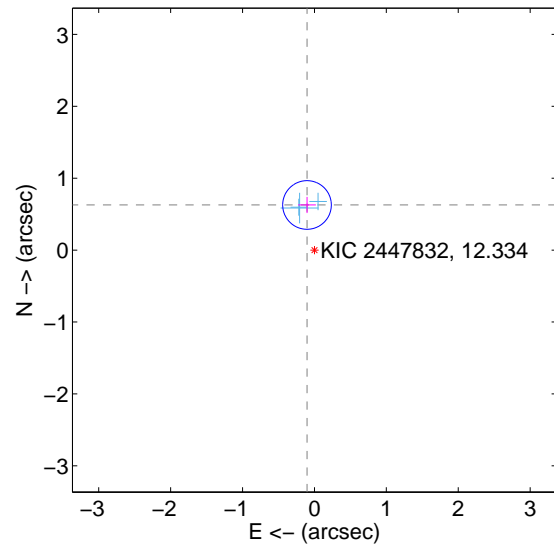
Supplemental centroid analysis for 002447832-03. Kepler magnitude: 12.33. Transit SNR 9.07

There are 3 quarters with good PRF difference image offsets

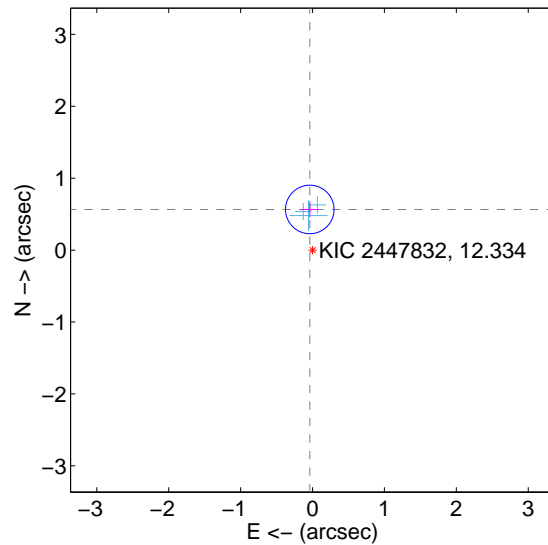
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.636 ± 0.113	5.64	0.103 ± 0.124	0.628 ± 0.112
PRF-fit source offset from KIC position	0.567 ± 0.112	5.04	0.038 ± 0.124	0.565 ± 0.112
photometric centroid source offset	1.02 ± 0.60	1.71	-1.01 ± 0.59	-0.14 ± 0.76

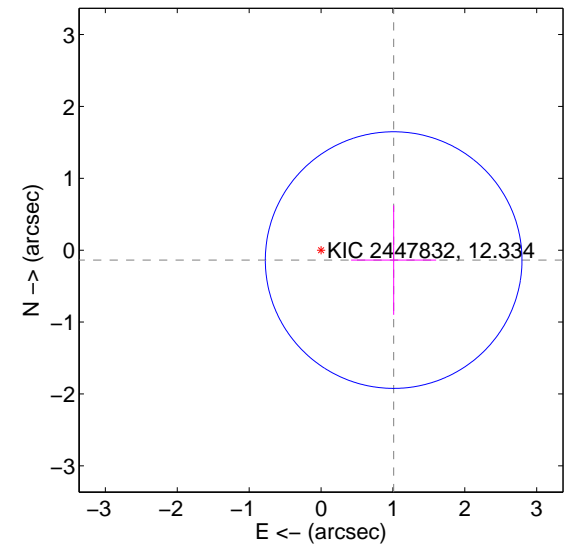
offset from difference PRF-fit to OOT PRF-fit



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.

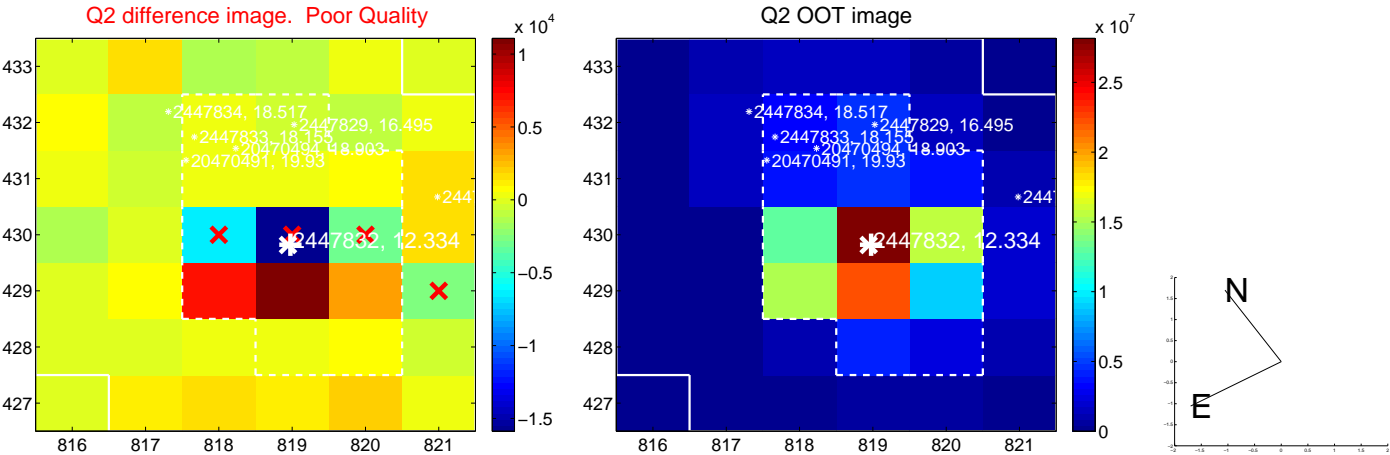
Q1 no difference image



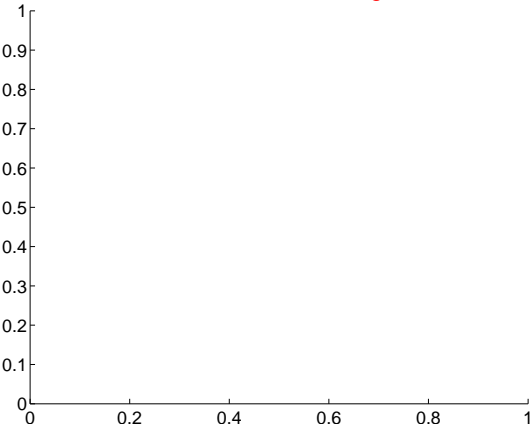
Q1 no OOT image



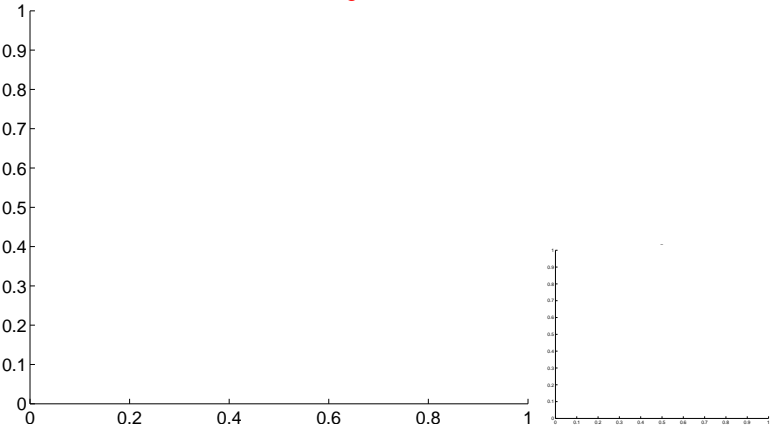
Q2 difference image. Poor Quality



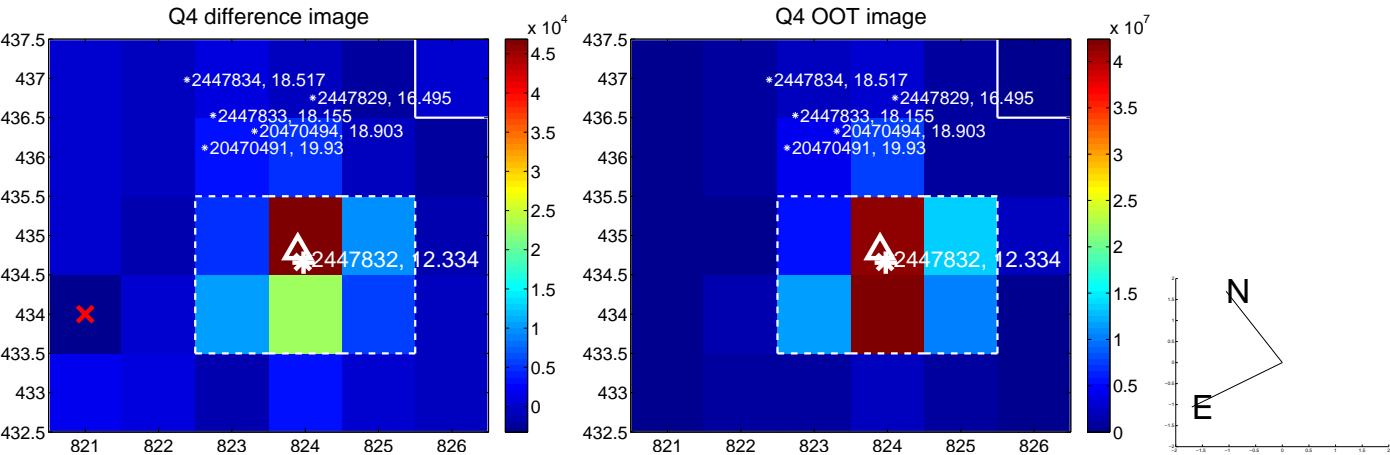
Q3 no difference image



Q3 no OOT image



Q4 difference image



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

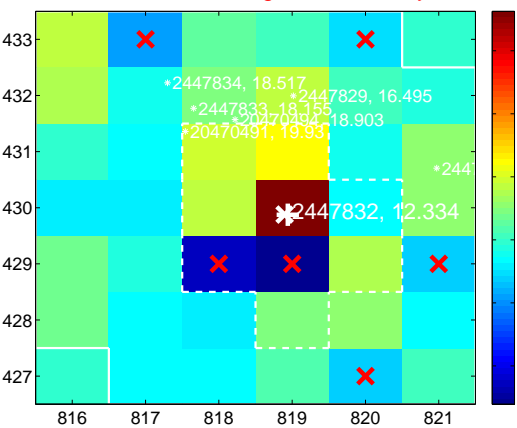
Q5 no difference image



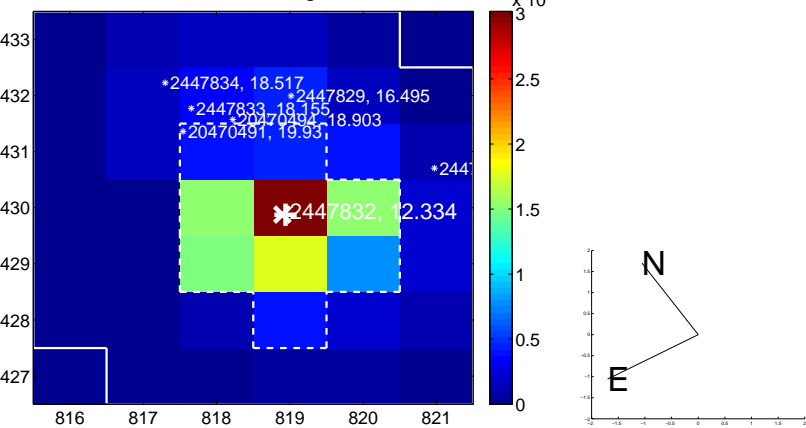
Q5 no OOT image



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.

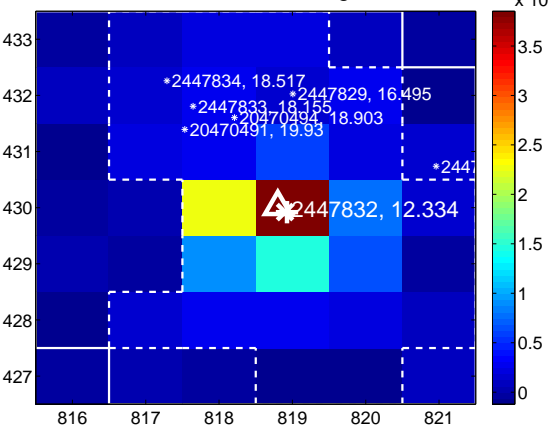
Q9 no difference image



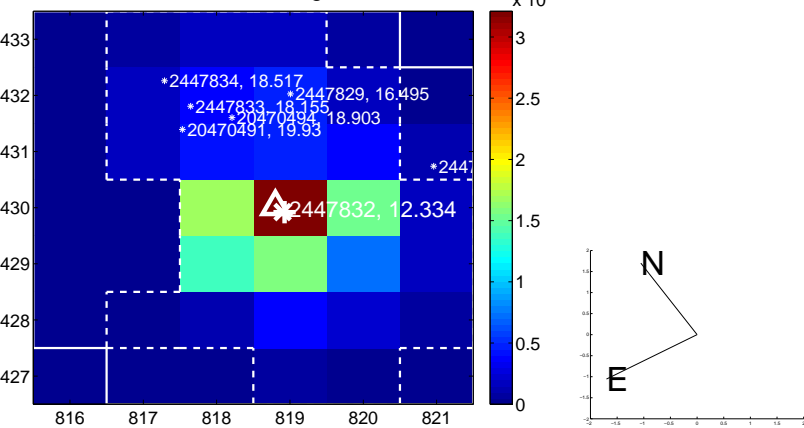
Q9 no OOT image



Q10 difference image



Q10 OOT image



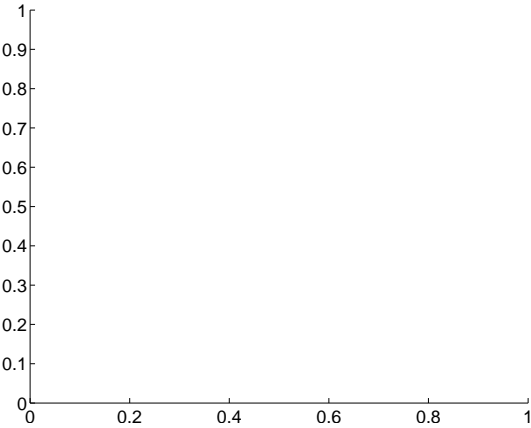
Q11 no difference image



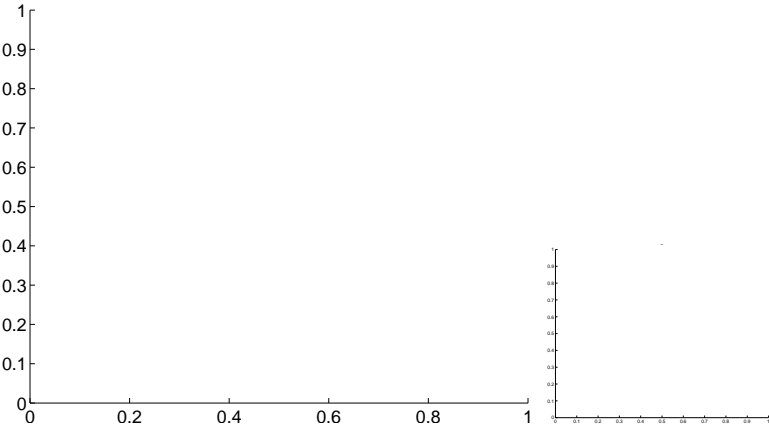
Q11 no OOT image



Q12 no difference image



Q12 no OOT image



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

Q13 no difference image



Q13 no OOT image



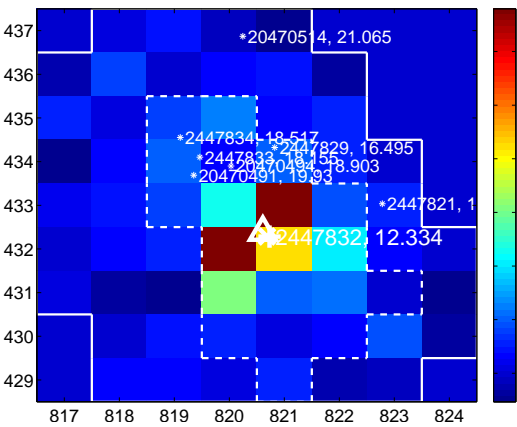
Q14 no difference image



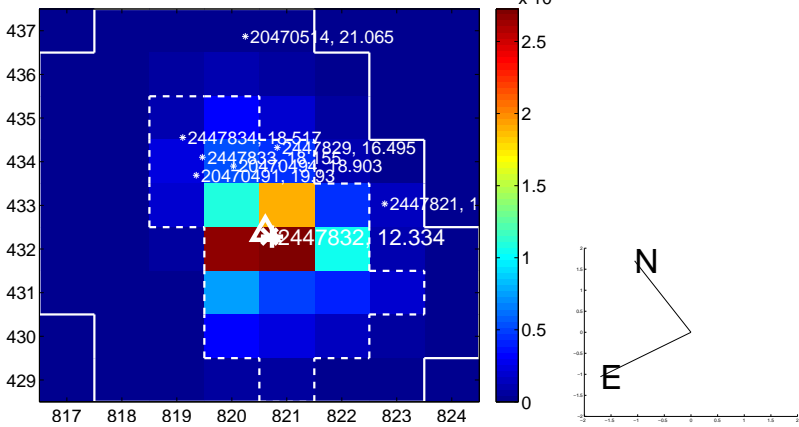
Q14 no OOT image



Q15 difference image



Q15 OOT image



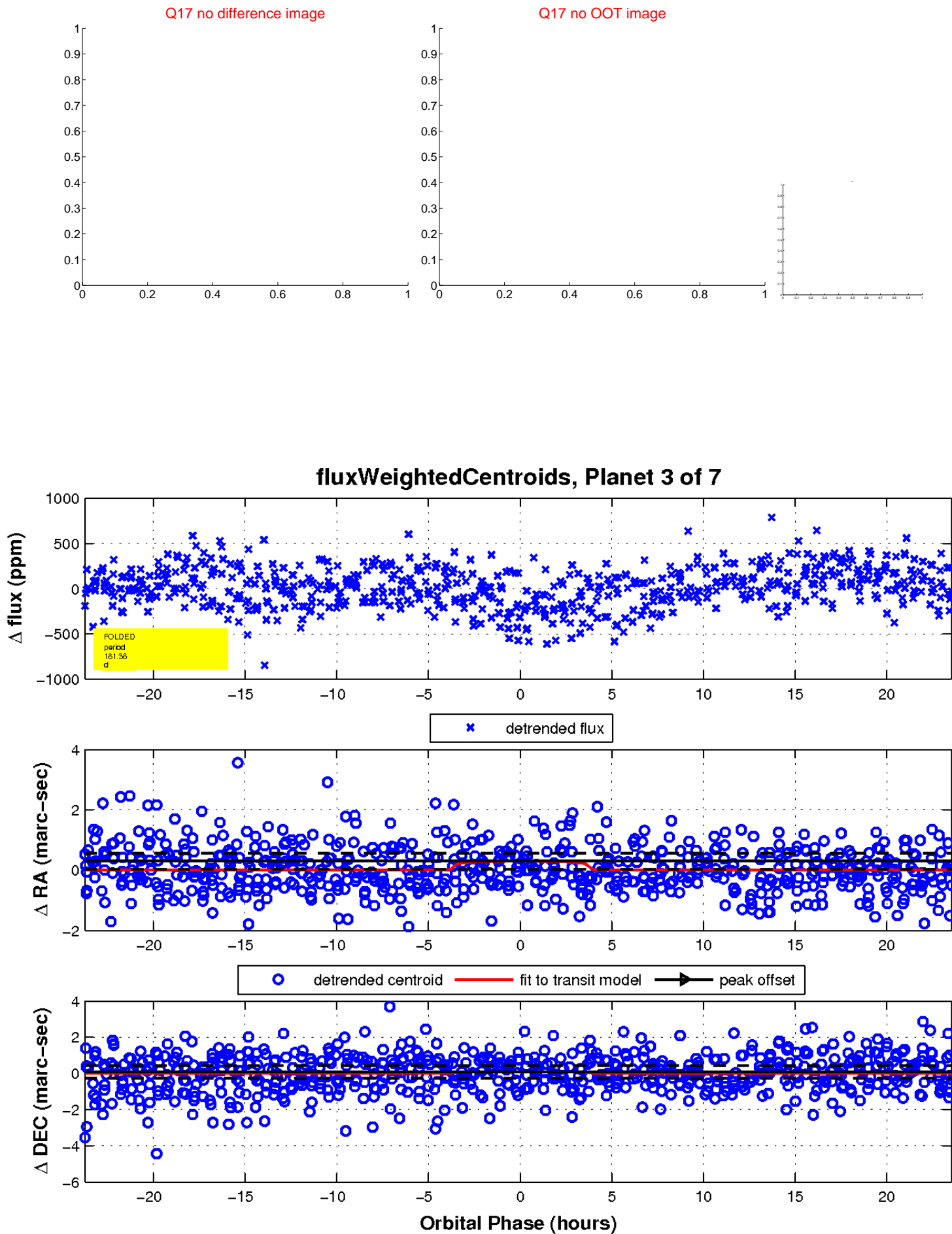
Q16 no difference image



Q16 no OOT image

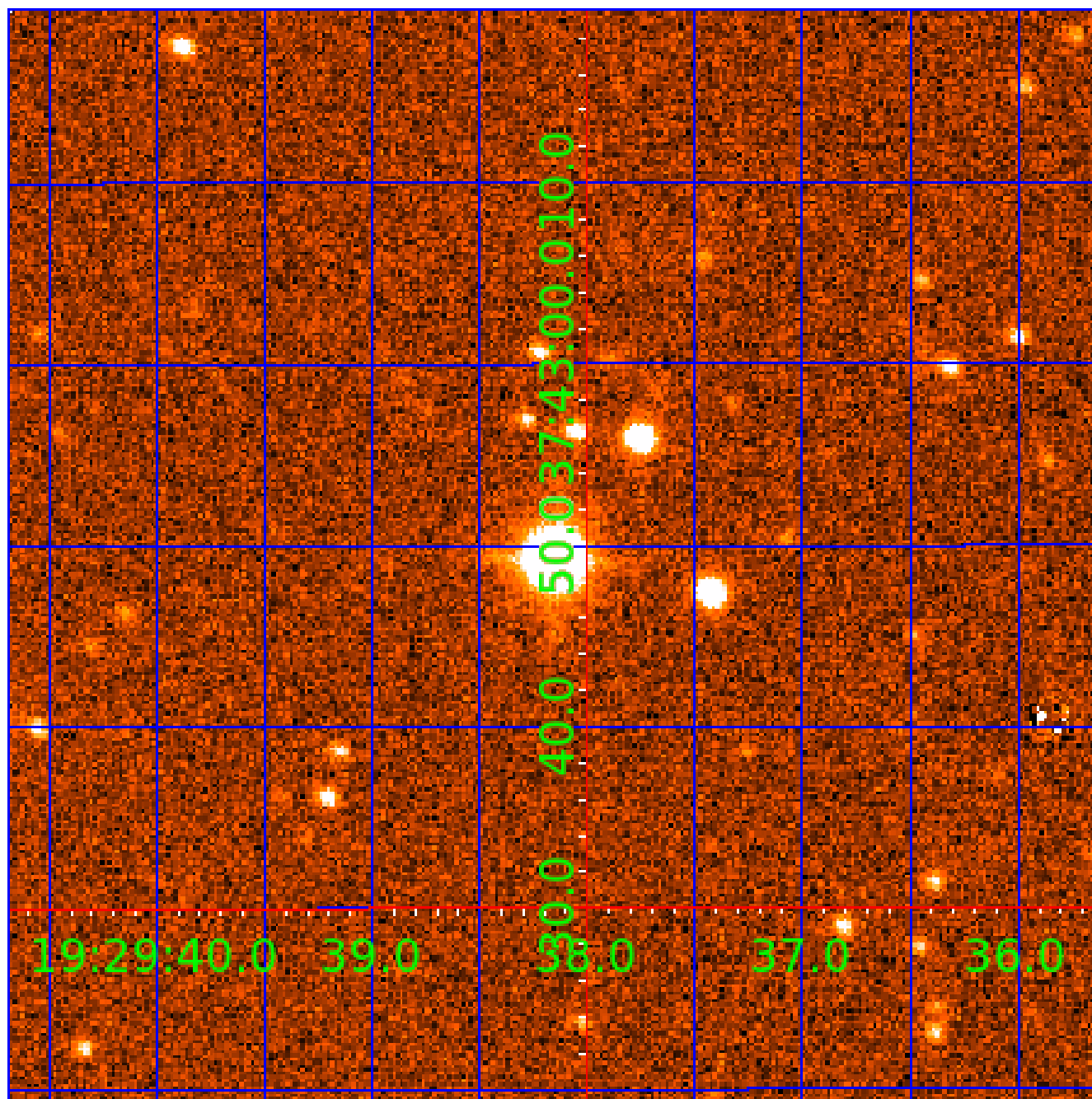


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002447832

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})
002447832-01	OBS	No	0.921355	132.186367	15.1	5.945	9.4	6.5	1.39	6446	0.58	9192.92
002447832-02	OBS	No	47.346945	153.110230	96.1	31.858	9.9	6.6	1.39	6446	1.37	48.12
002447832-03	OBS	No	181.379735	189.859579	433.2	7.910	9.8	9.1	1.39	6446	3.22	8.03
002447832-04	OBS	No	70.423650	170.402747	325.5	0.740	8.3	5.5	1.39	6446	2.84	28.34
002447832-05	OBS	No	204.995092	137.361467	455.9	6.102	9.2	8.8	1.39	6446	3.79	6.82
002447832-06	OBS	No	24.391322	148.019870	244.0	3.650	9.5	9.3	1.39	6446	2.42	116.51
002447832-07	OBS	No	43.687604	134.829277	292.8	1.394	8.8	9.6	1.39	6446	2.41	53.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002447832-01	OBS	FP	0.00	1	0	0	0	LPP_DV
002447832-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
002447832-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002447832-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002447832-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002447832-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
002447832-07	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—HALO_GHOST

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

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

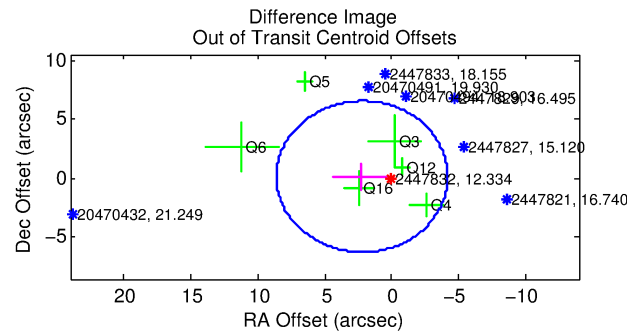
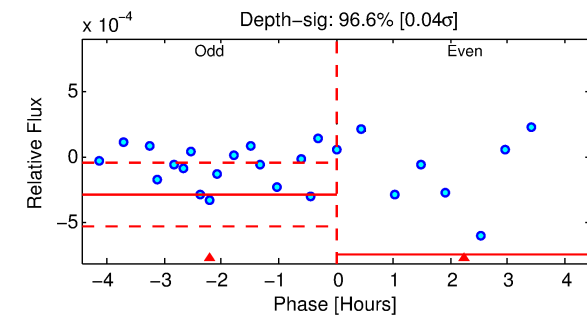
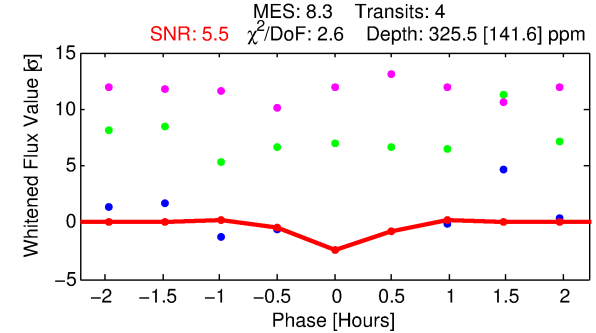
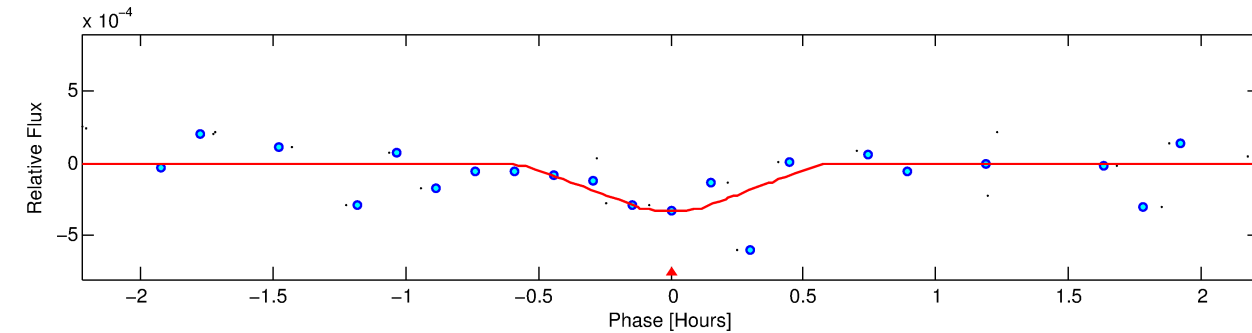
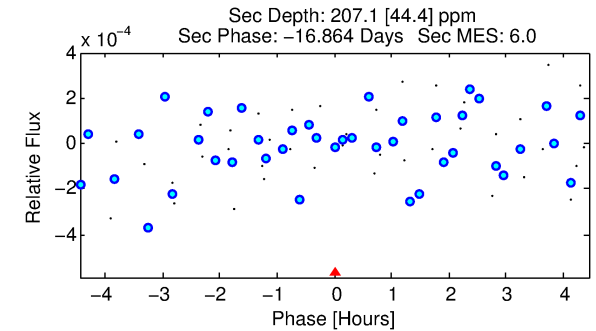
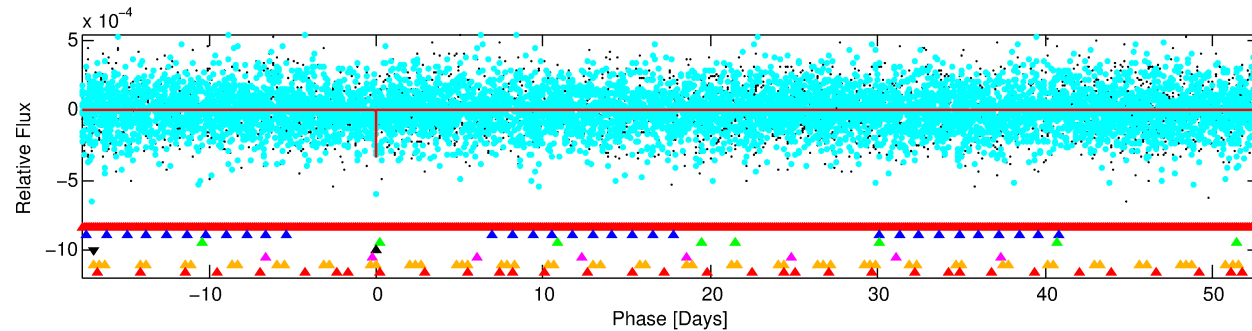
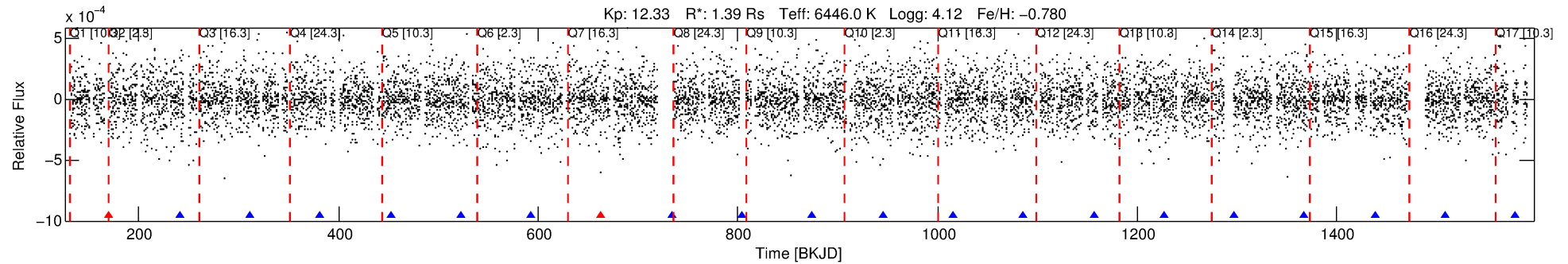
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002447832-04

No Significant Match Found

DV One-Page Summary

KIC: 2447832 Candidate: 4 of 7 Period: 70.424 d



DV Fit Results:

Period = 70.42365 [0.00107] d
Epoch = 170.4027 [0.0096] BKJD
Rp/R* = 0.0187 [0.0327]
a/R* = 444.78 [4409.53]
b = 0.81 [4.15]
Seff = 28.34 [16.28]
Teq = 588 [85] K
Rp = 2.84 [5.04] Re
a = 0.3254 [0.1083] AU
Ag = 1498.43 [5316.75] [0.28σ]
Teffp = 5659 [4962] K [1.02σ]

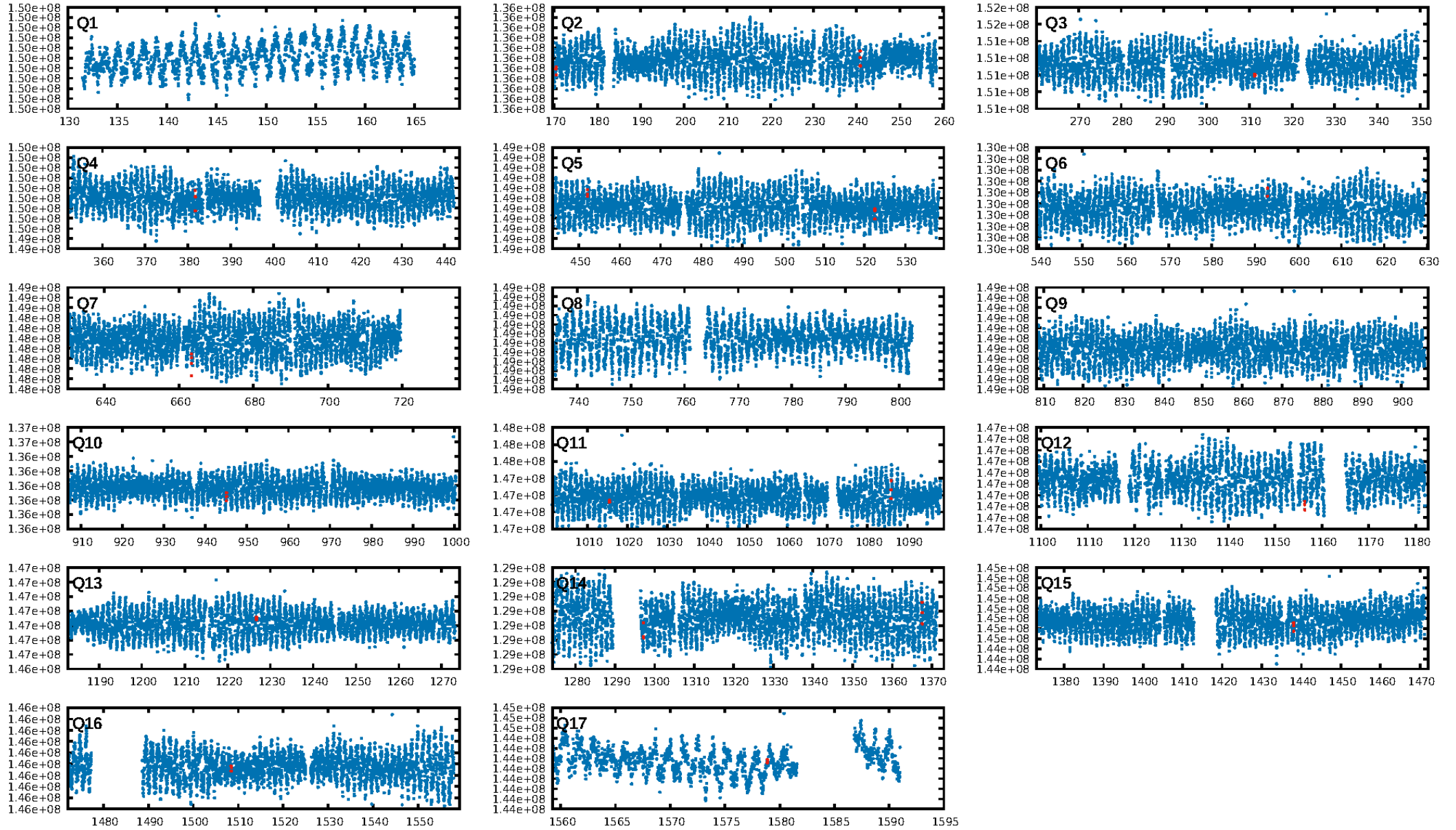
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [17.38σ]
LongPeriod-sig: 100.0% [335.19σ]
ModelChiSquare2-sig: 1.6%
ModelChiSquareGof-sig: 29.2%
Bootstrap-pfa: 9.72e-08
RollingBand-fgt: 0.50 [2/4]
GhostDiagnostic-chr: 0.2155
Centroid-sig: 34.9%
Centroid-so: 1.681 arcsec [1.10σ]
OotOffset-rm: 2.217 arcsec [1.04σ]
KicOffset-rm: 2.157 arcsec [1.16σ]
OotOffset-st: 1/1/3/1 [6]
KicOffset-st: 1/1/3/1 [6]
DiffImageQuality-fgm: 0.17 [1/6]
DiffImageOverlap-fno: 0.09 [1/11]

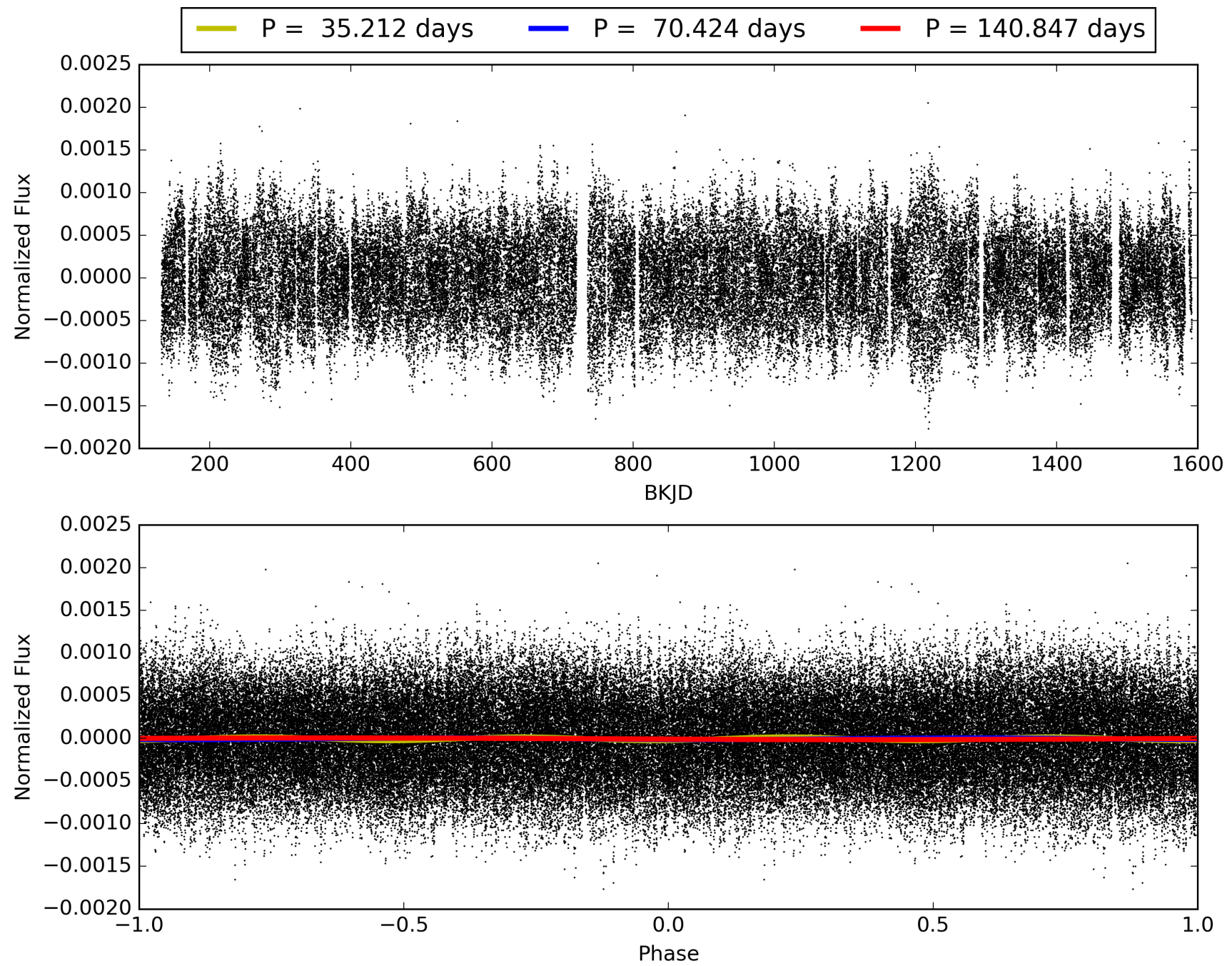
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:12:57 Z

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

TCE 002447832-04, PDC Light Curves

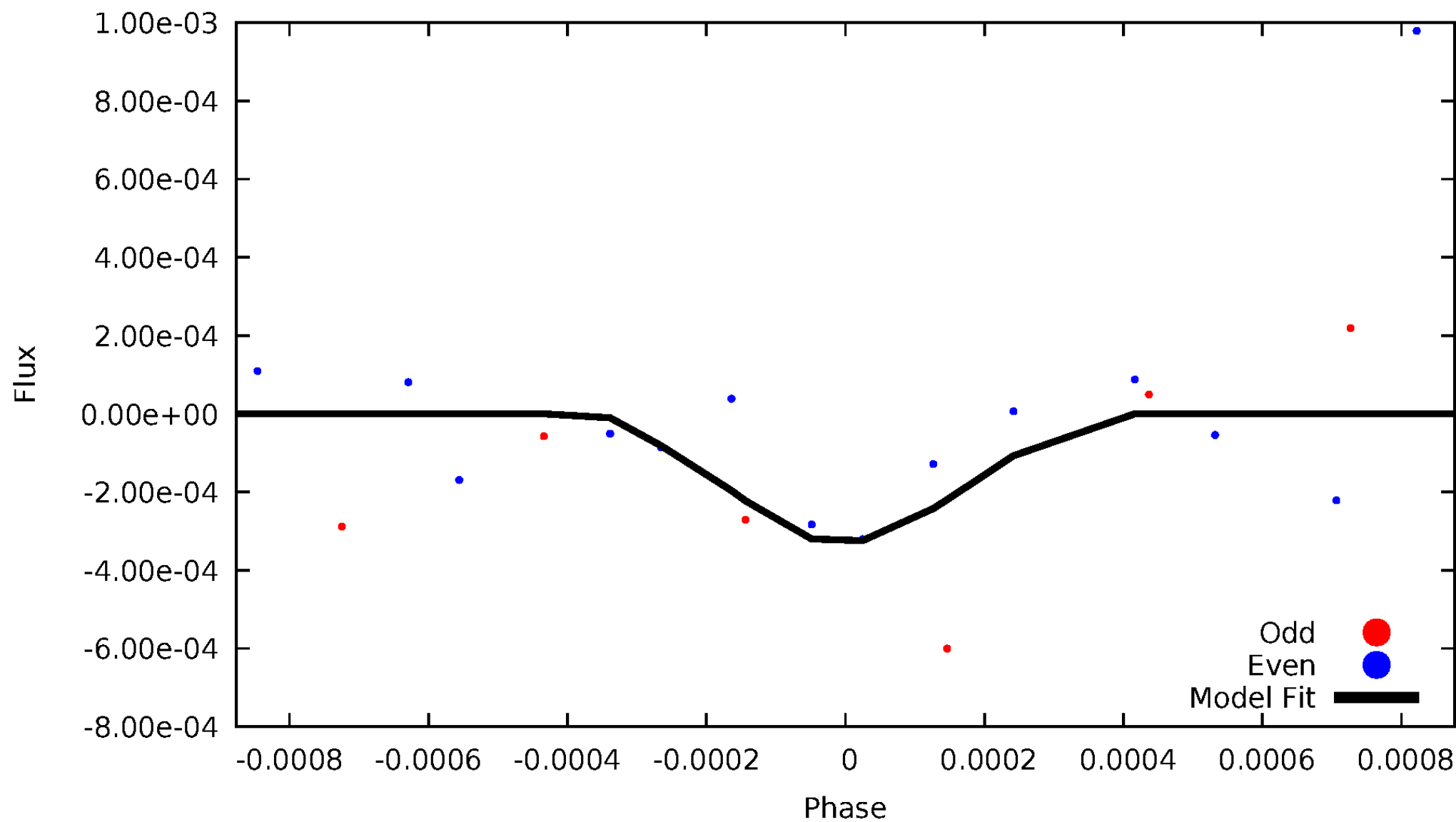


TCE 002447832-04



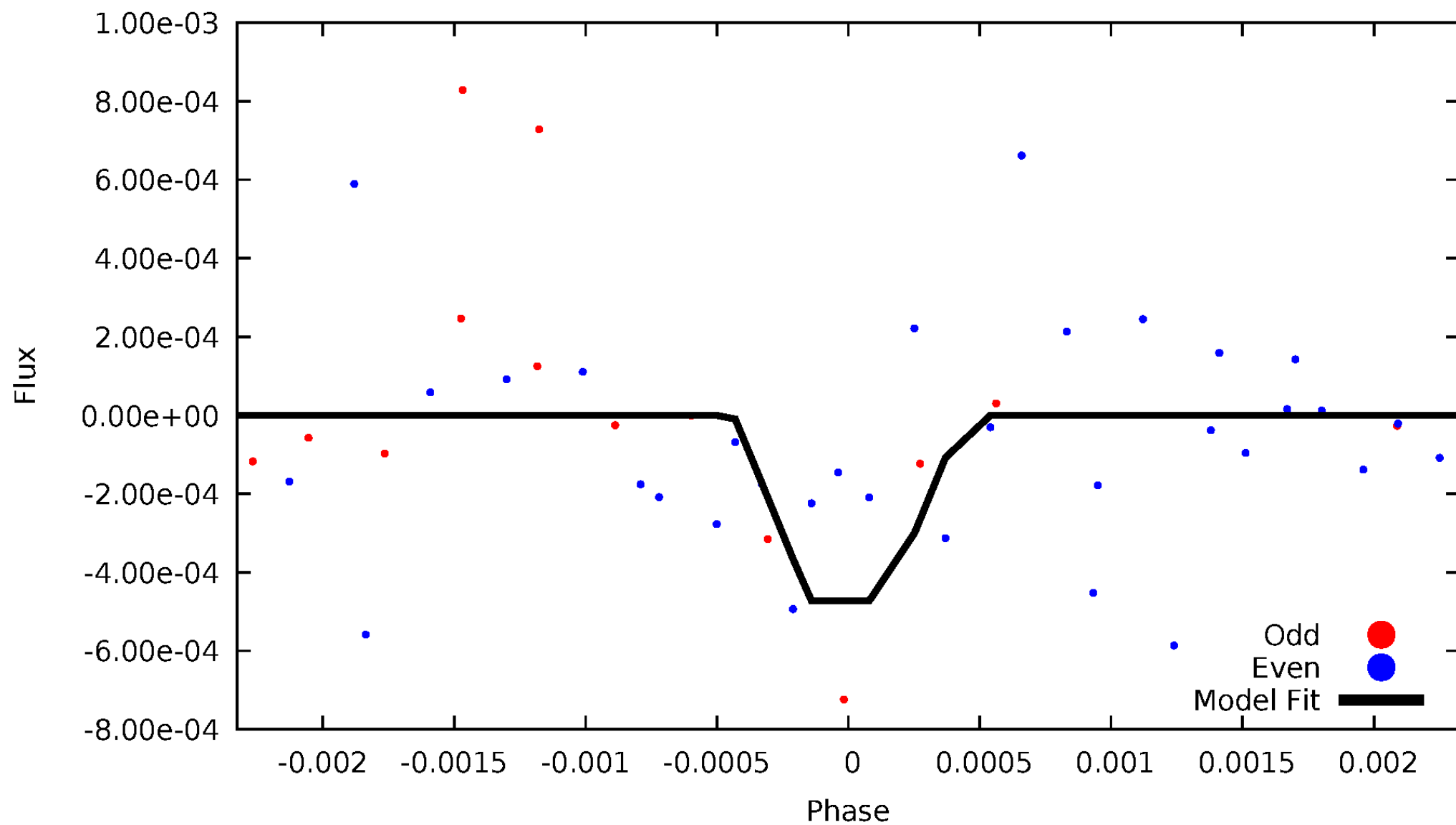
DV Odd/Even

TCE 002447832-04



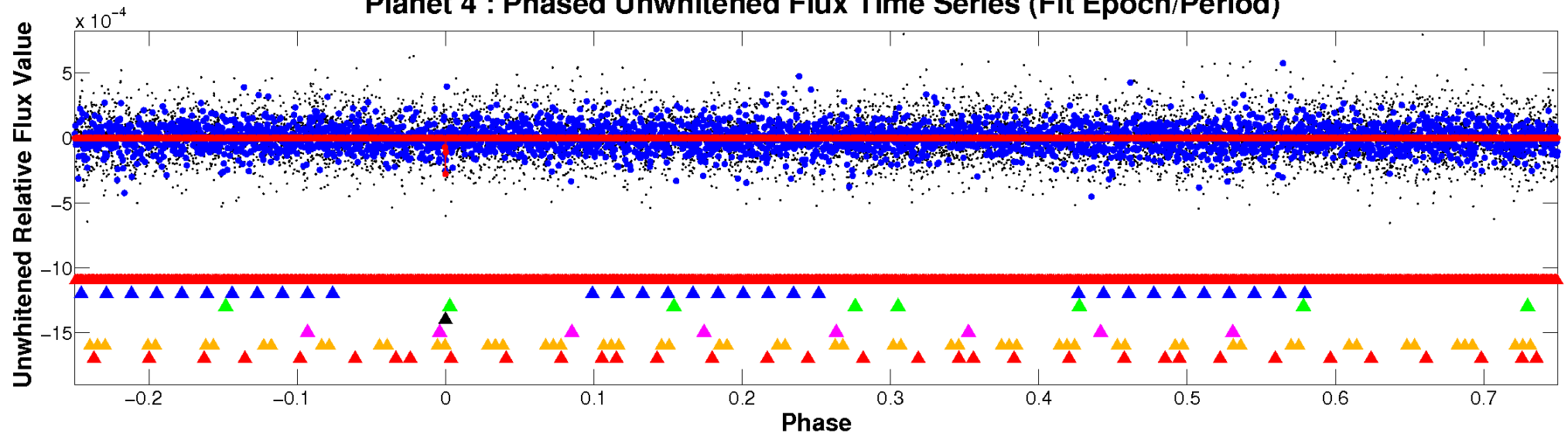
ALT Odd/Even

TCE 002447832-04

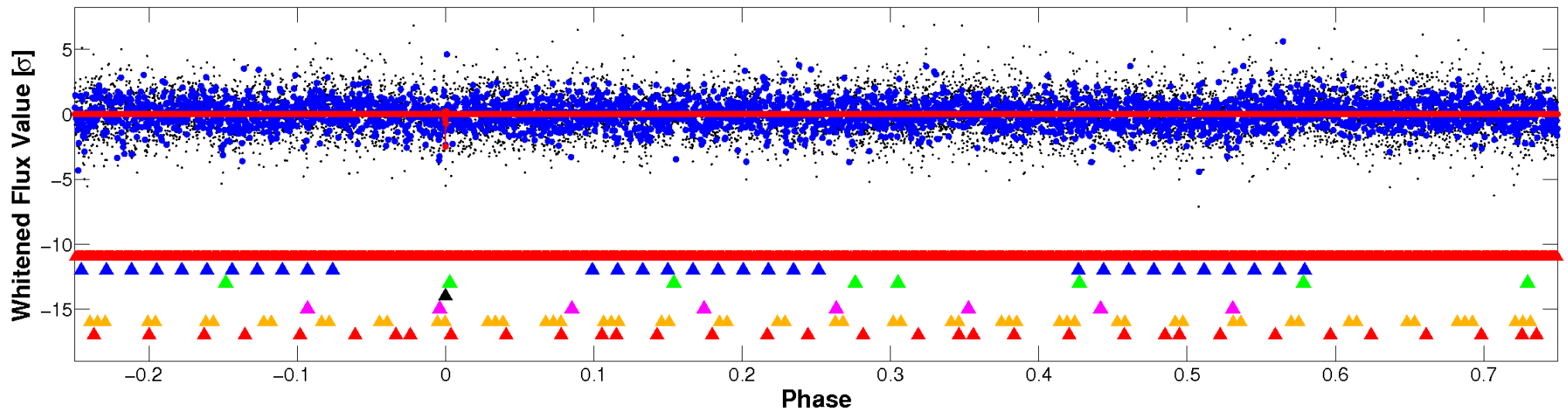


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

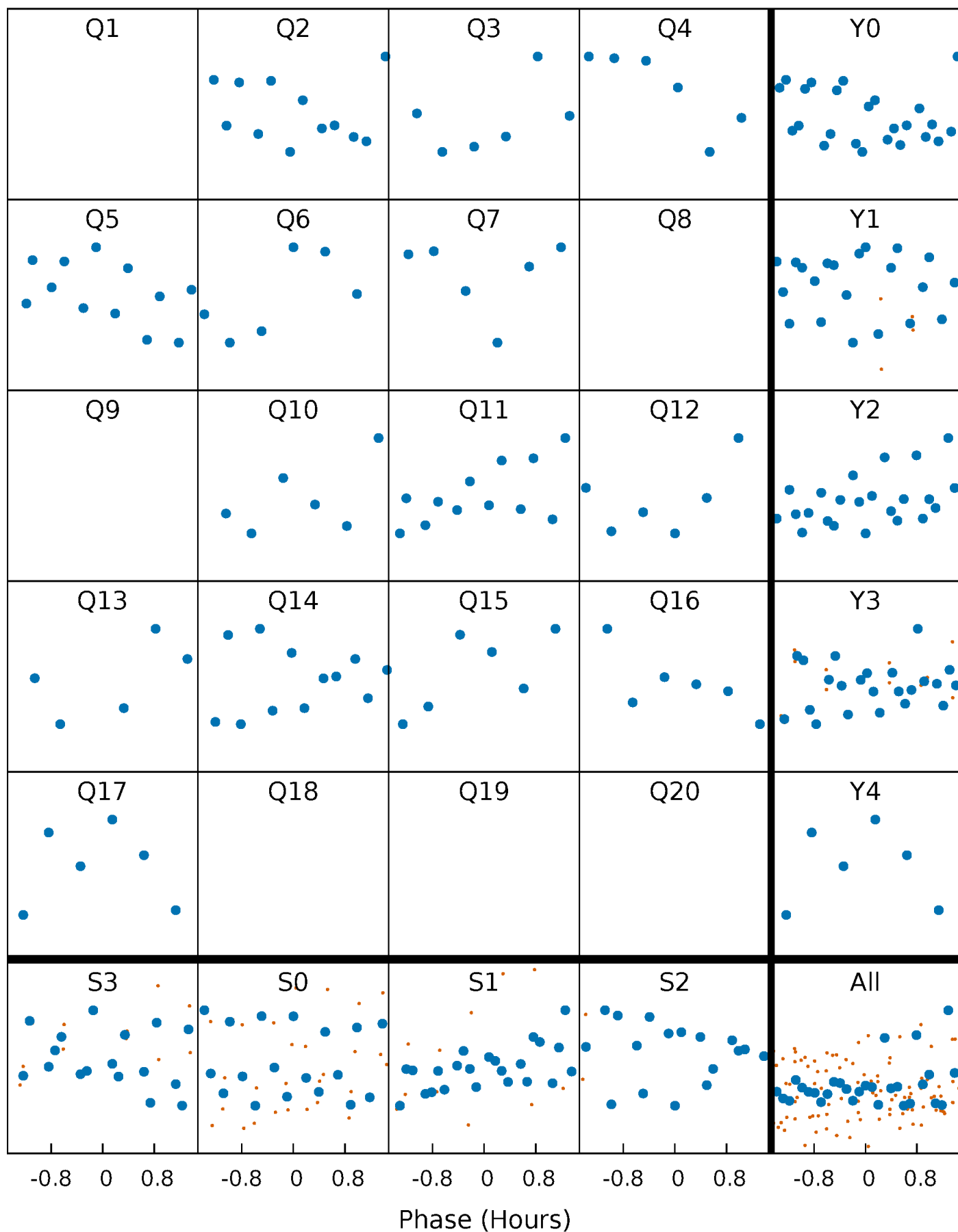


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



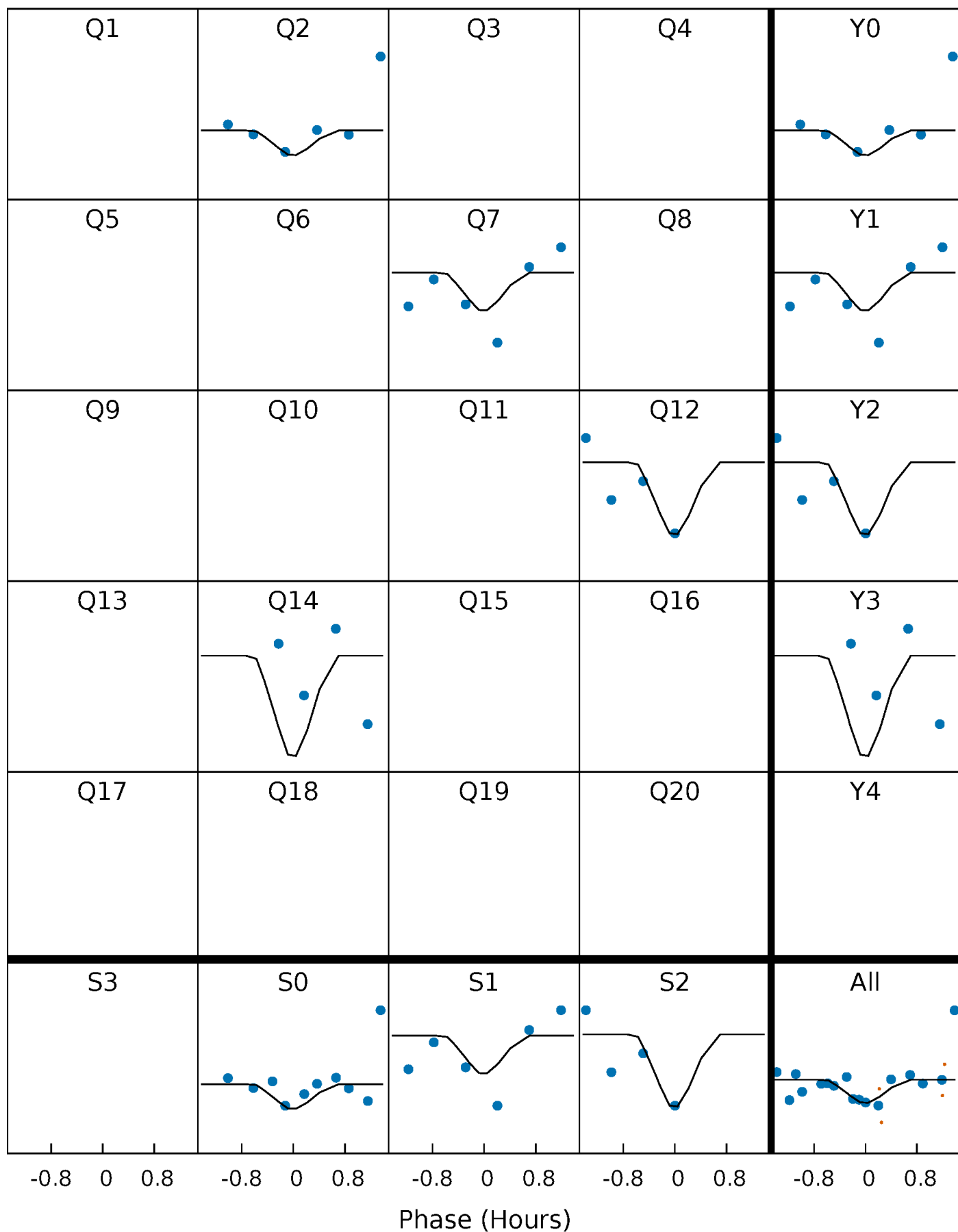
PDC Quarter-Phased Transit Curves

TCE 002447832-04 $P = 70.423650$ Days $T_0 = 170.402747$ (BKJD)



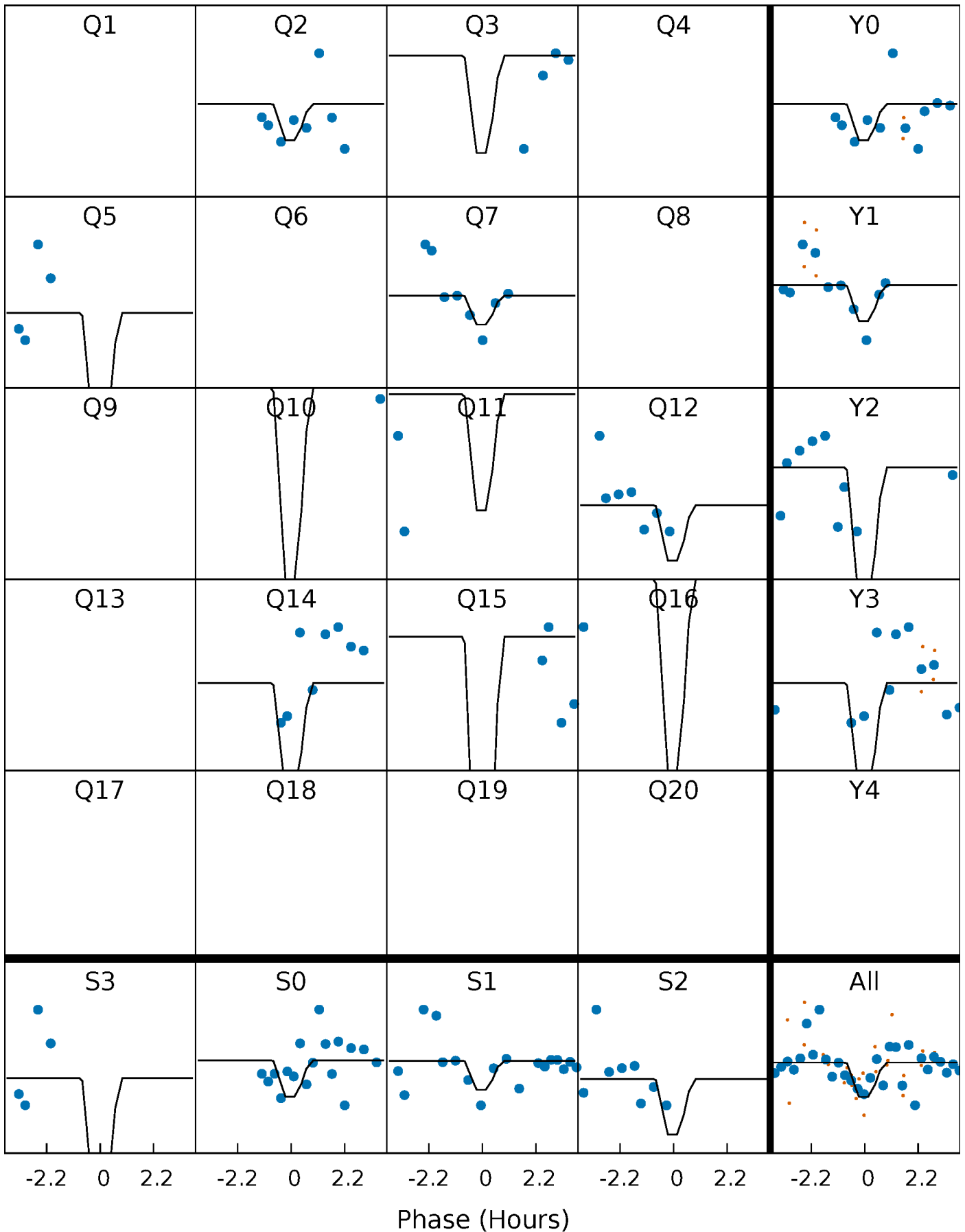
DV Quarter-Phased Transit Curves

TCE 002447832-04 $P = 70.423650$ Days $T_0 = 170.402747$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

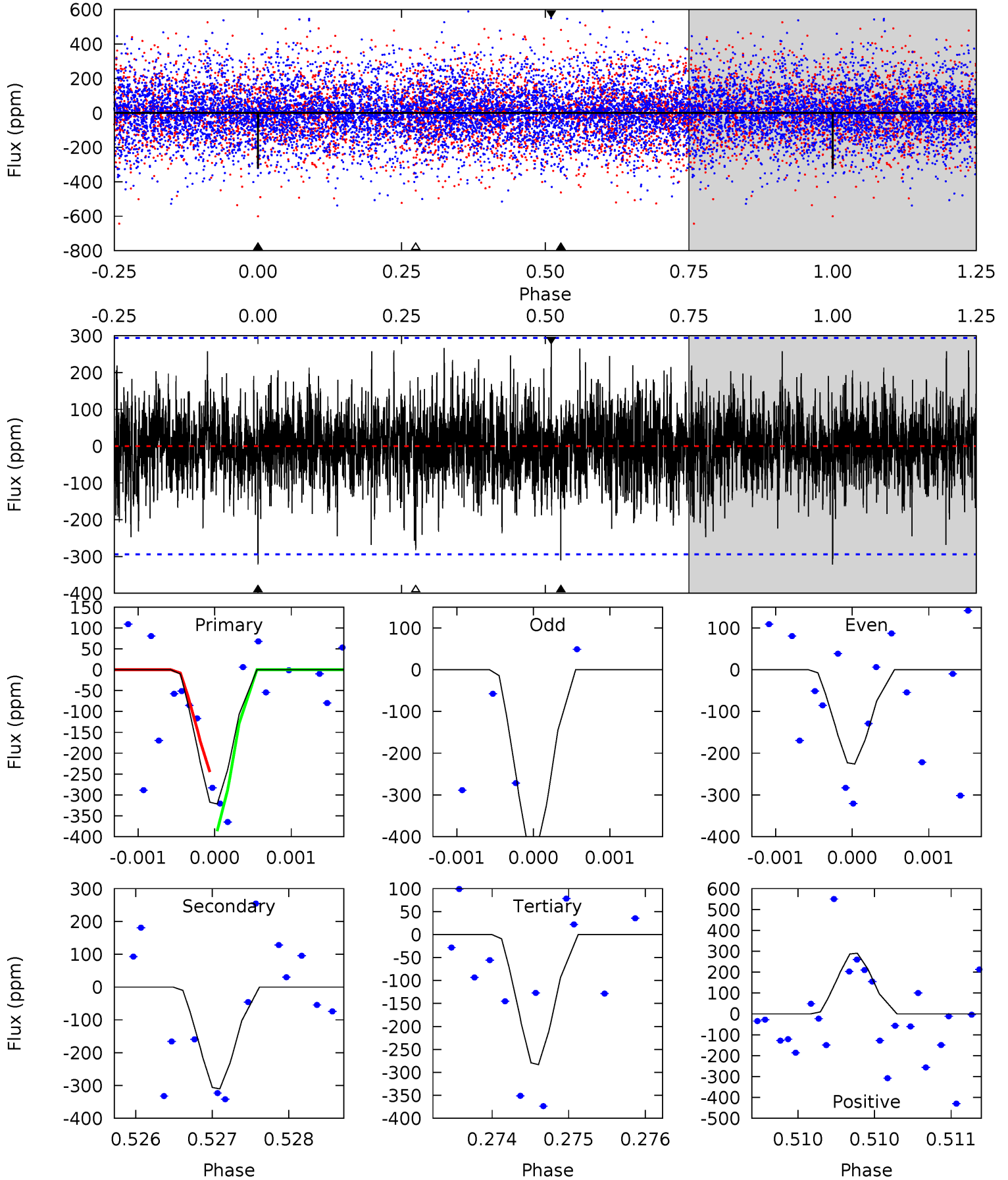
TCE 002447832-04 $P = 70.423665$ Days $T_0 = 170.414164$ (BKJD)



DV Model-Shift Uniqueness Test

002447832-04, P = 70.423650 Days, E = 99.979097 Days

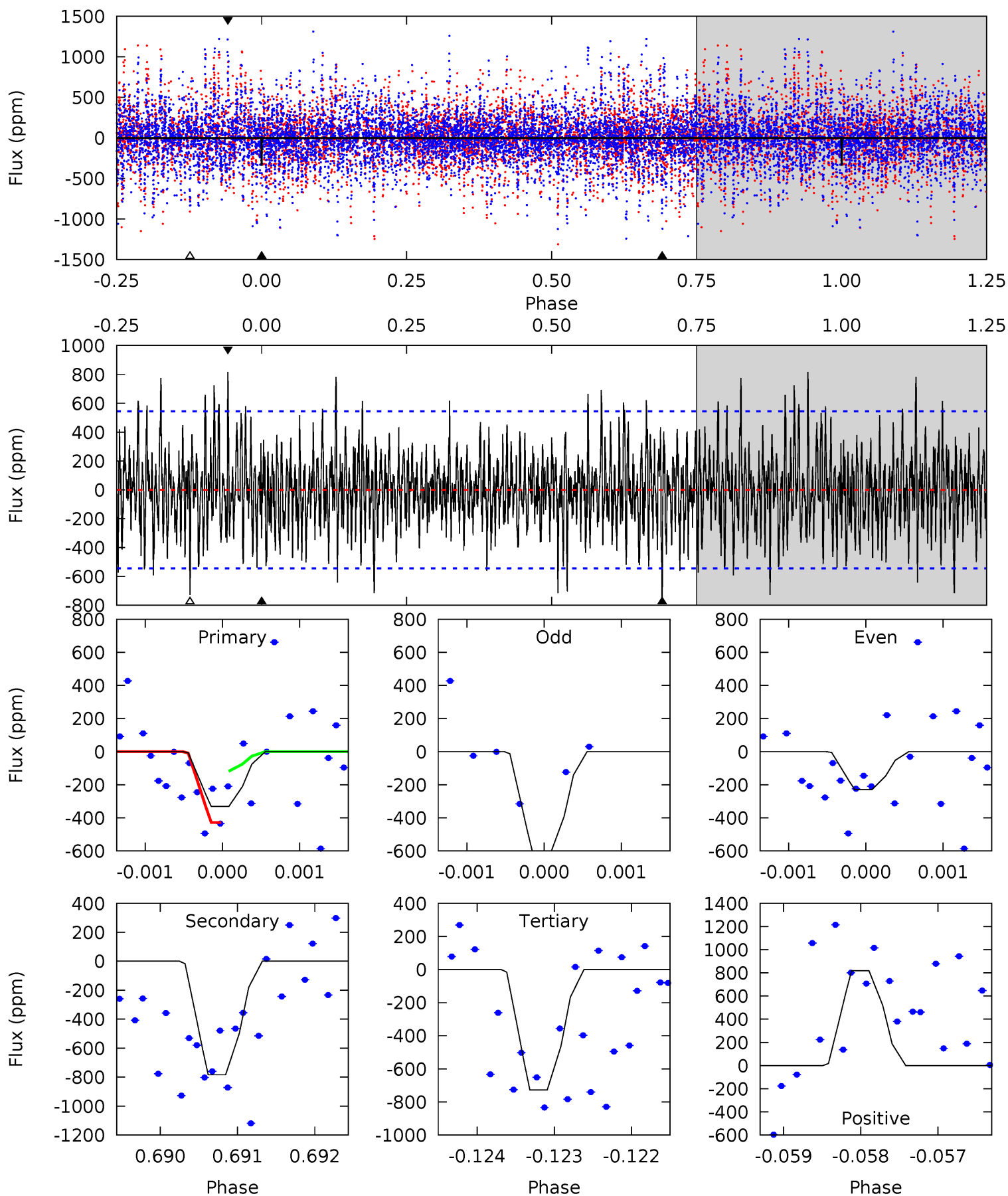
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.01	5.80	5.29	5.43	5.50	3.37	1.41	0.72	0.58	0.51	0.37	1.70	1.12	0.47	1.33



Alt Model-Shift Uniqueness Test

002447832-04, P = 70.423665 Days, E = 99.990499 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.33	7.85	7.29	8.19	5.46	3.30	2.20	-3.96	-4.87	0.57	-0.34	1.74	1.03	0.51	1.55



Stellar Parameters For KIC 002447832

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6446^{+205}_{-228}	$4.117^{+0.336}_{-0.168}$	$-0.780^{+0.300}_{-0.300}$	$1.393^{+0.359}_{-0.439}$	$0.926^{+0.123}_{-0.089}$	$0.483^{+0.952}_{-0.211}$
	+3%/-4%	+8%/-4%	+38%/-38%	+26%/-32%	+13%/-10%	+197%/-44%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 002447832-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-310 ± 54	$4.36^{+4.25}_{-2.87}$	811^{+67}_{-78}	4965^{+3867}_{-1090}	938^{+7313}_{-701}
Alt.	-783 ± 100	$4.54^{+4.43}_{-2.88}$	809^{+66}_{-78}	5957^{+5540}_{-1416}	2136^{+13486}_{-1591}

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 $A_{obs} \gg 1.0$

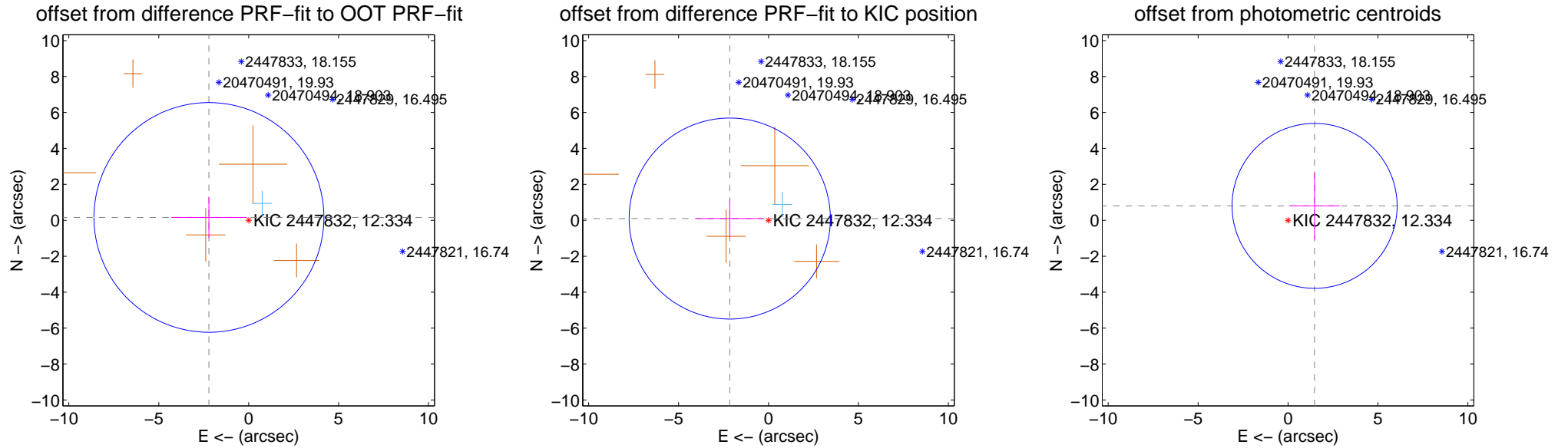
DV Centroid Data

Supplemental centroid analysis for 002447832-04. Kepler magnitude: 12.33. Transit SNR 5.49

There are 1 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.217 ± 2.131	1.04	2.211 ± 2.095	0.160 ± 1.136
PRF-fit source offset from KIC position	2.157 ± 1.865	1.16	2.155 ± 1.866	0.097 ± 1.052
photometric centroid source offset	1.68 ± 1.53	1.10	-1.48 ± 1.41	0.80 ± 1.88



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.

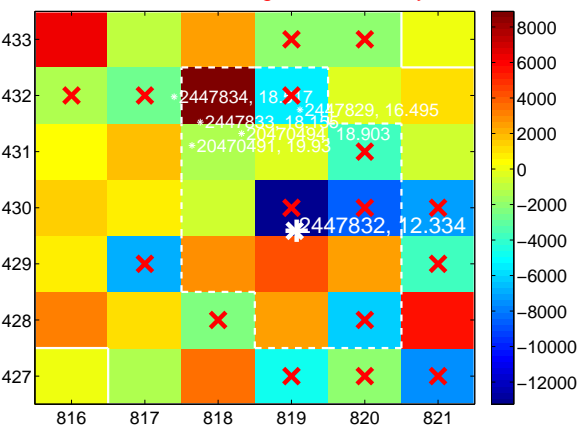
Q1 no difference image



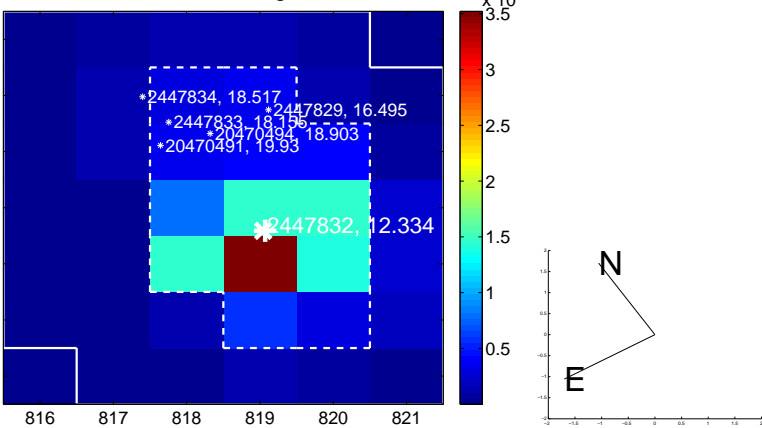
Q1 no OOT image



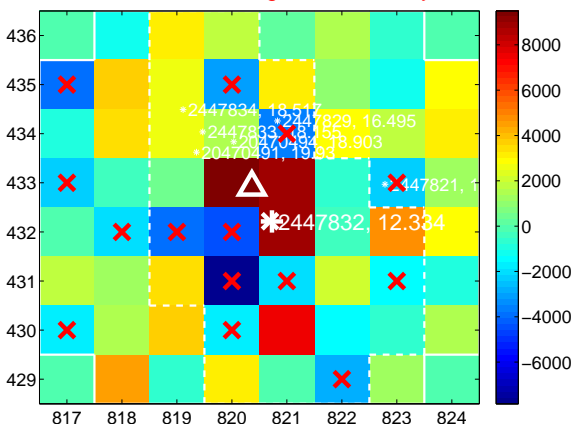
Q2 difference image. Poor Quality



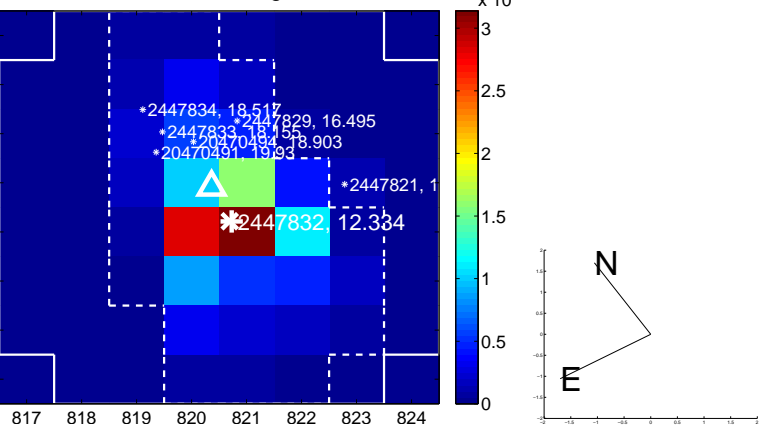
Q2 OOT image



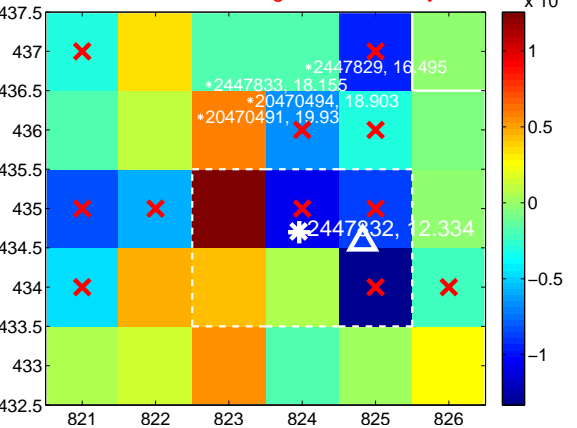
Q3 difference image. Poor Quality



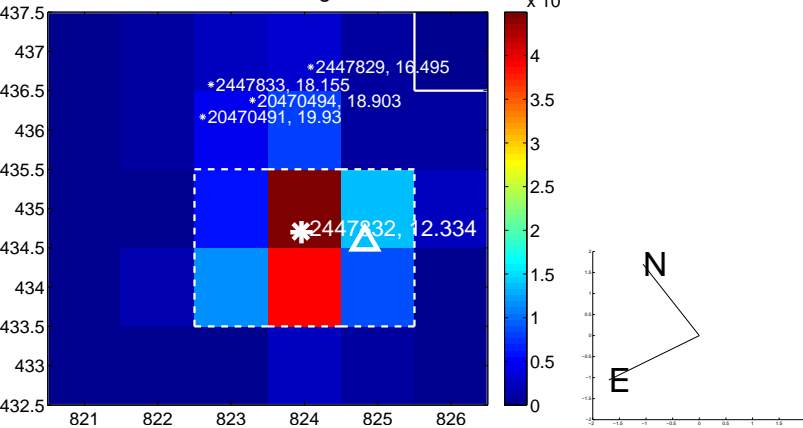
Q3 OOT image



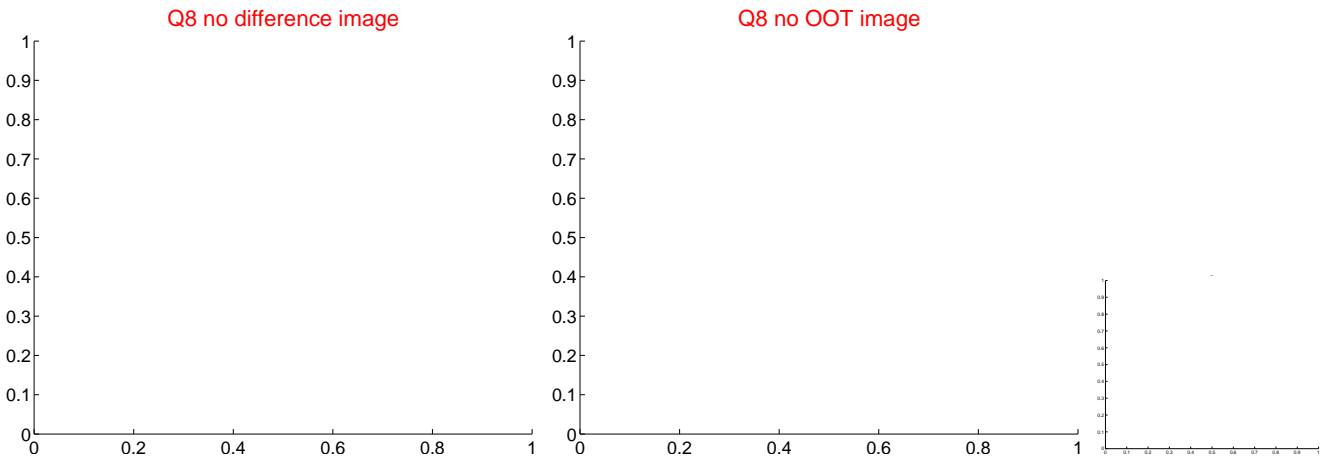
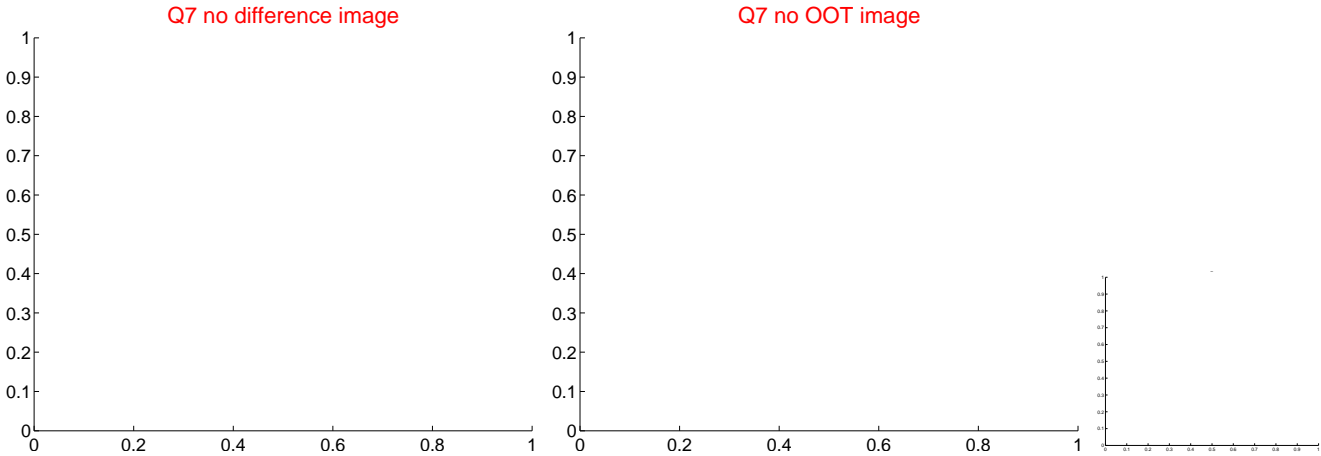
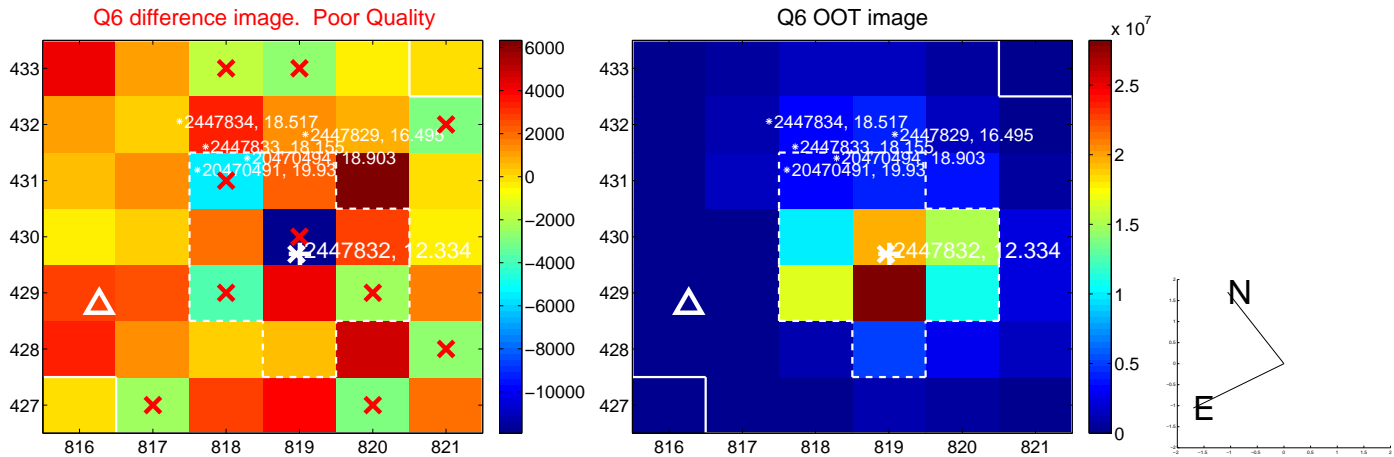
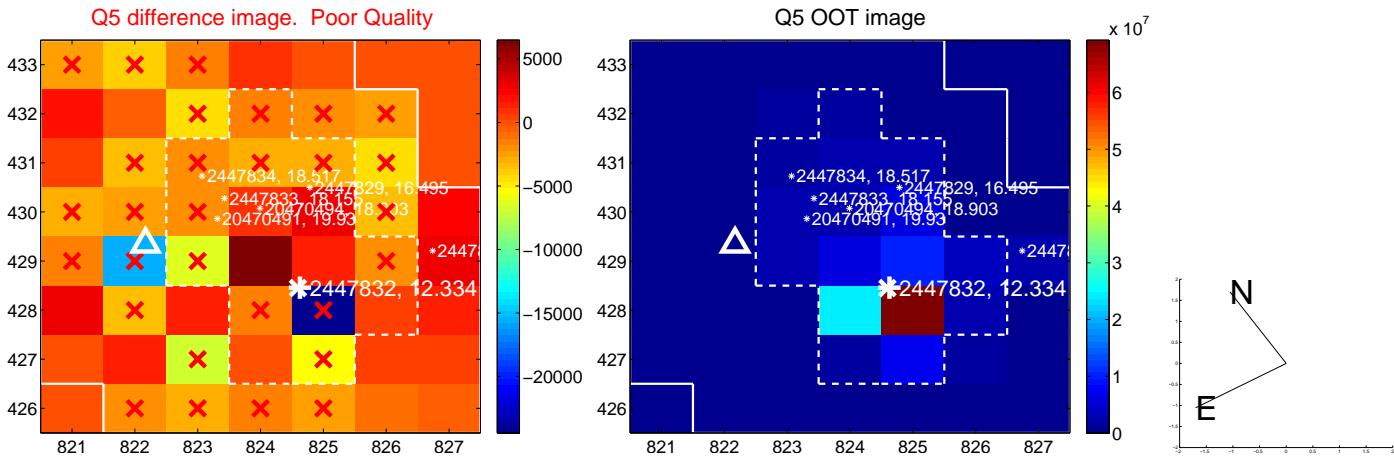
Q4 difference image. Poor Quality



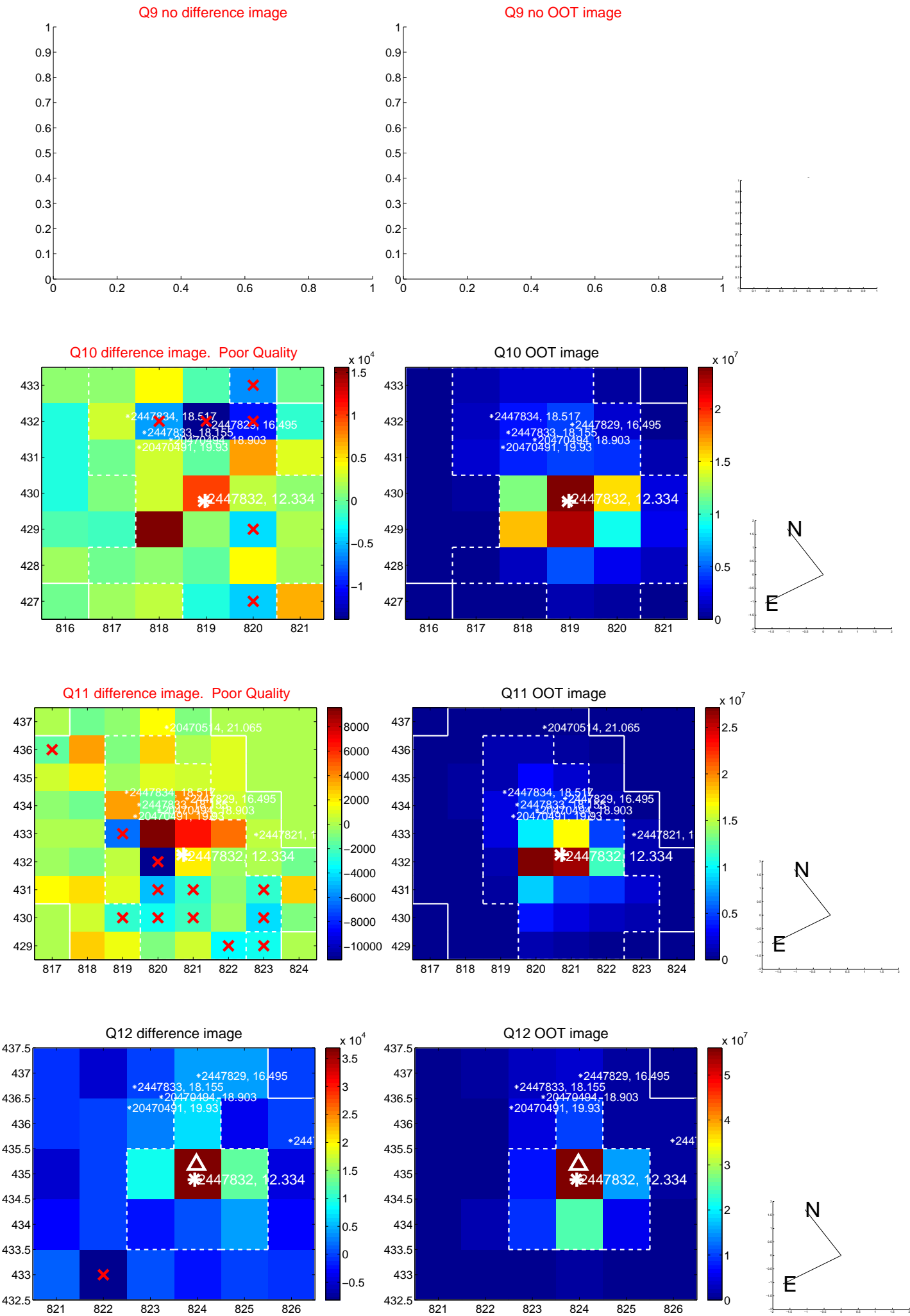
Q4 OOT image



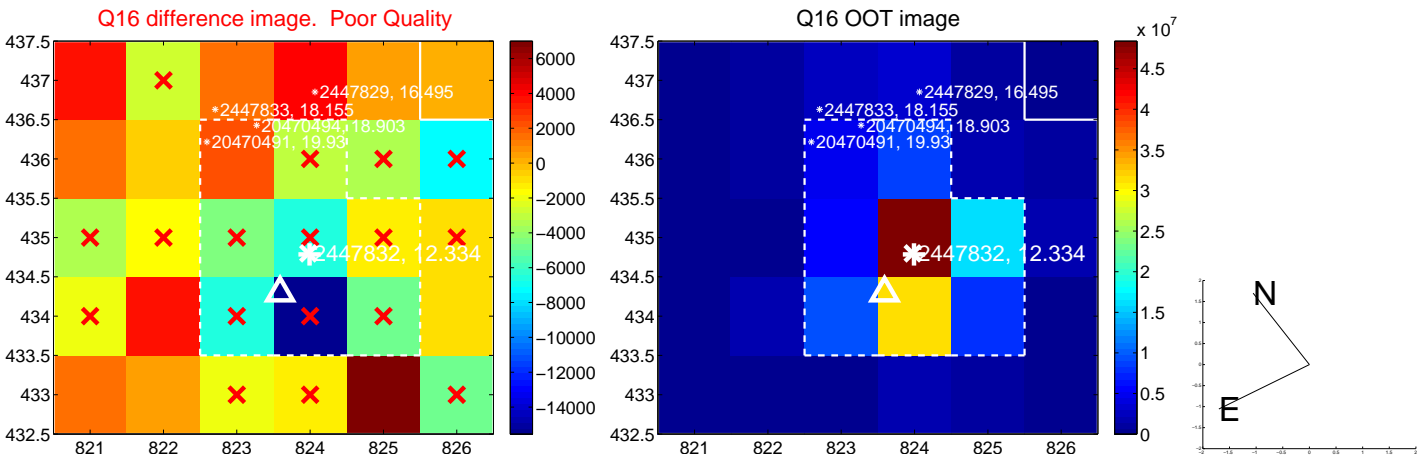
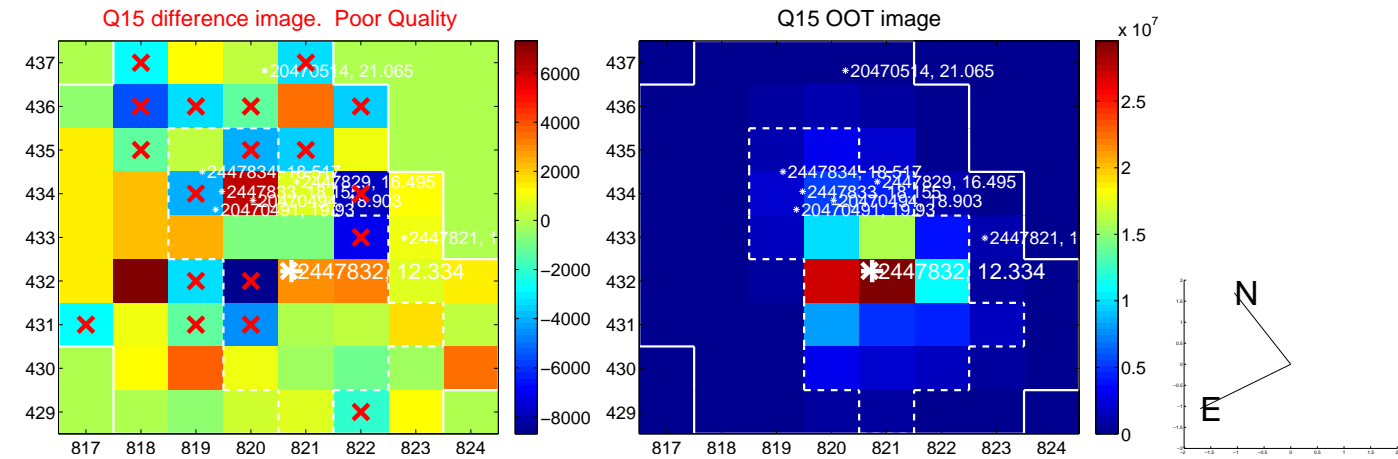
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



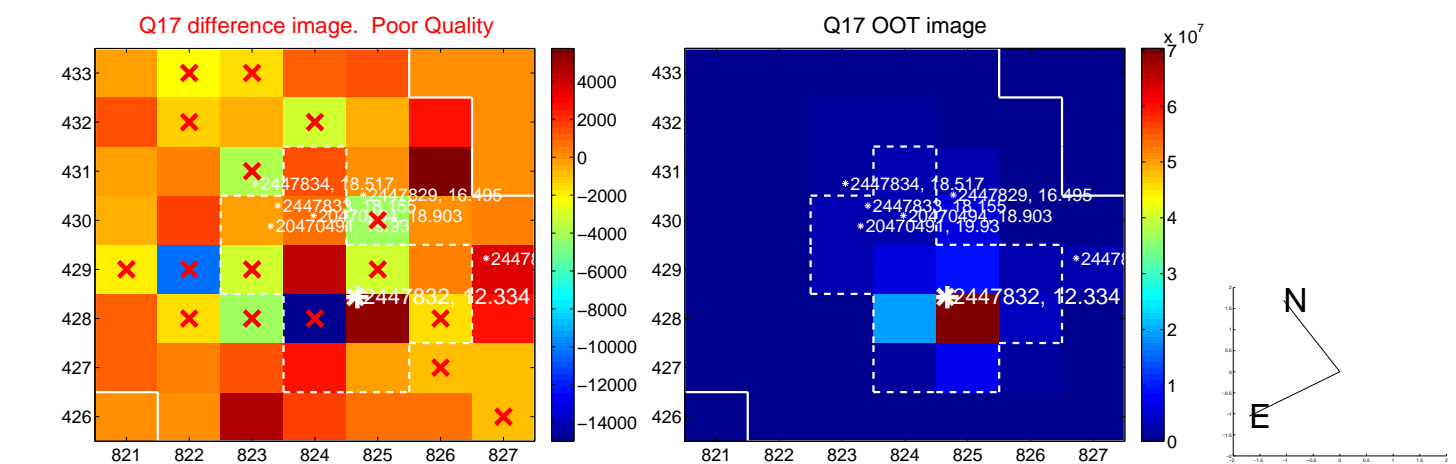
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



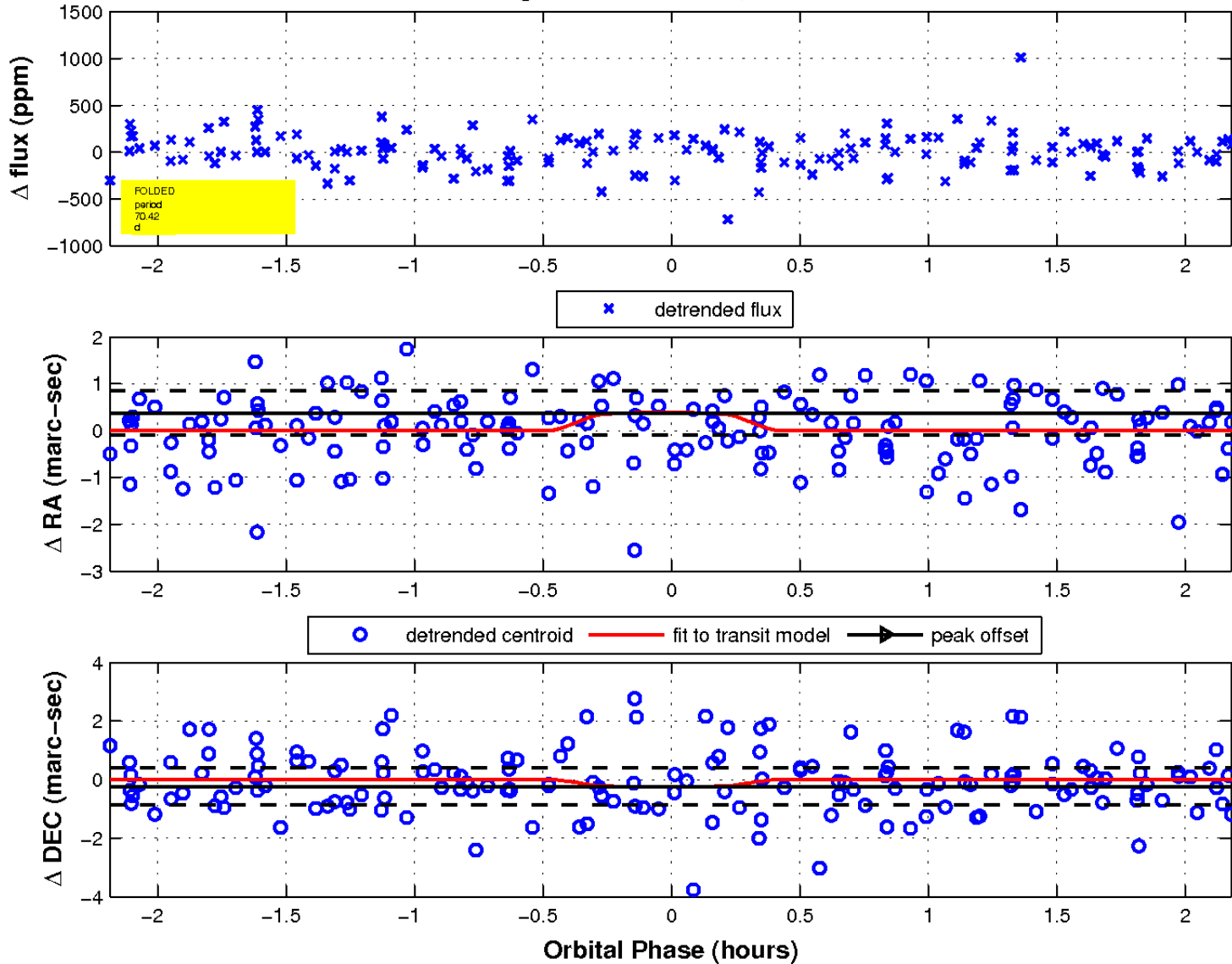
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

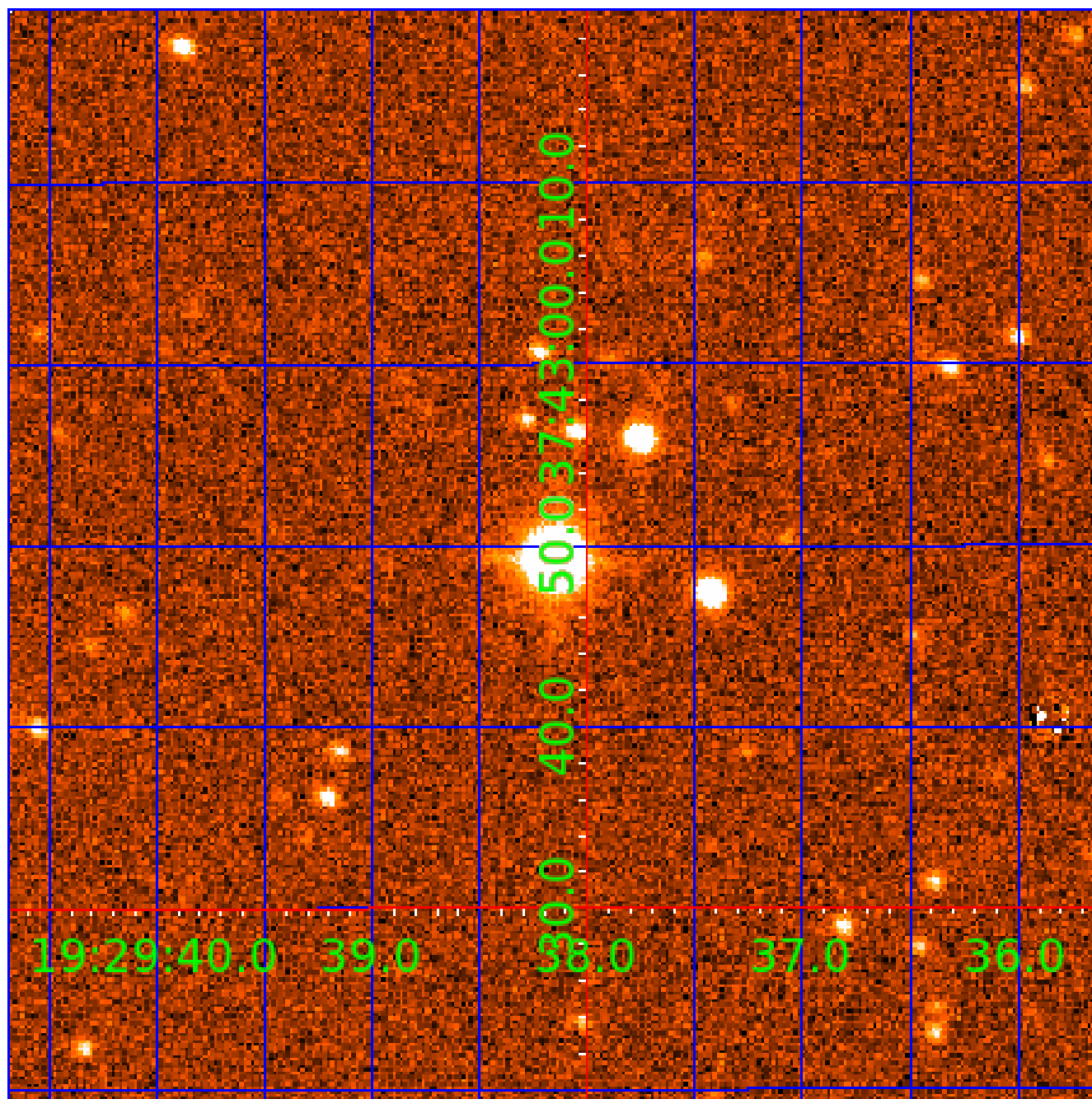


fluxWeightedCentroids, Planet 4 of 7



UKIRT Image

Declination



KIC 002447832

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})
002447832-01	OBS	No	0.921355	132.186367	15.1	5.945	9.4	6.5	1.39	6446	0.58	9192.92
002447832-02	OBS	No	47.346945	153.110230	96.1	31.858	9.9	6.6	1.39	6446	1.37	48.12
002447832-03	OBS	No	181.379735	189.859579	433.2	7.910	9.8	9.1	1.39	6446	3.22	8.03
002447832-04	OBS	No	70.423650	170.402747	325.5	0.740	8.3	5.5	1.39	6446	2.84	28.34
002447832-05	OBS	No	204.995092	137.361467	455.9	6.102	9.2	8.8	1.39	6446	3.79	6.82
002447832-06	OBS	No	24.391322	148.019870	244.0	3.650	9.5	9.3	1.39	6446	2.42	116.51
002447832-07	OBS	No	43.687604	134.829277	292.8	1.394	8.8	9.6	1.39	6446	2.41	53.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002447832-01	OBS	FP	0.00	1	0	0	0	LPP_DV
002447832-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
002447832-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002447832-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002447832-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002447832-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
002447832-07	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—HALO_GHOST

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

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

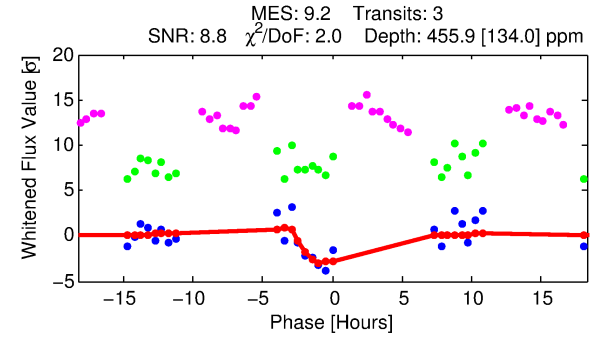
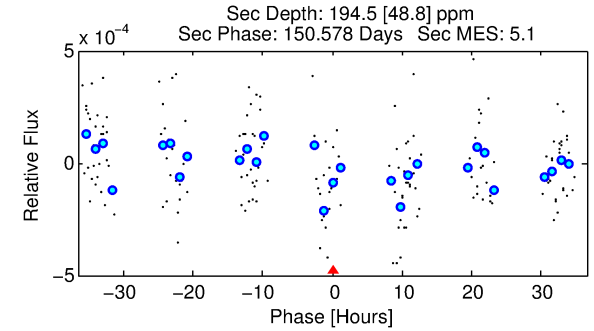
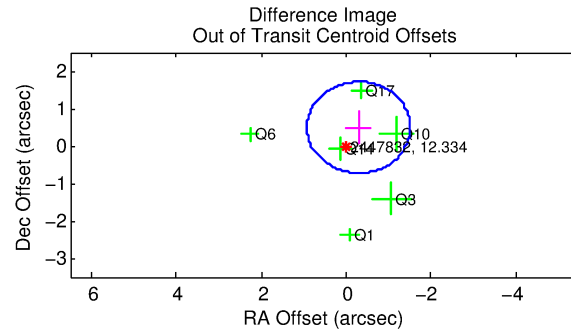
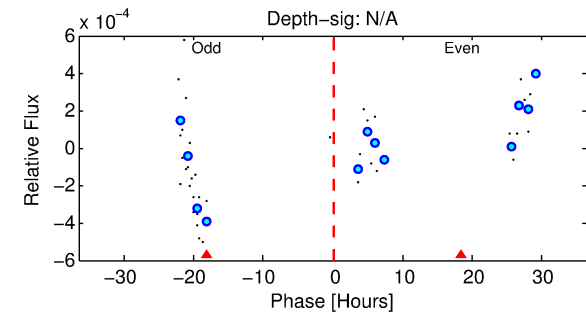
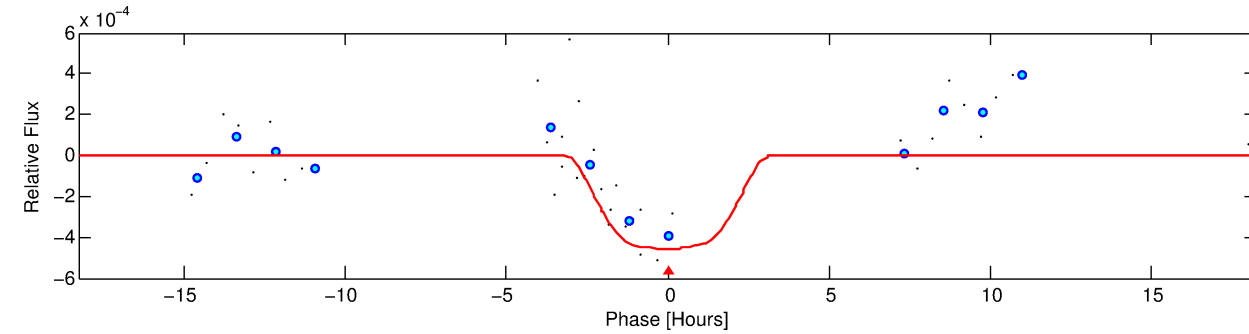
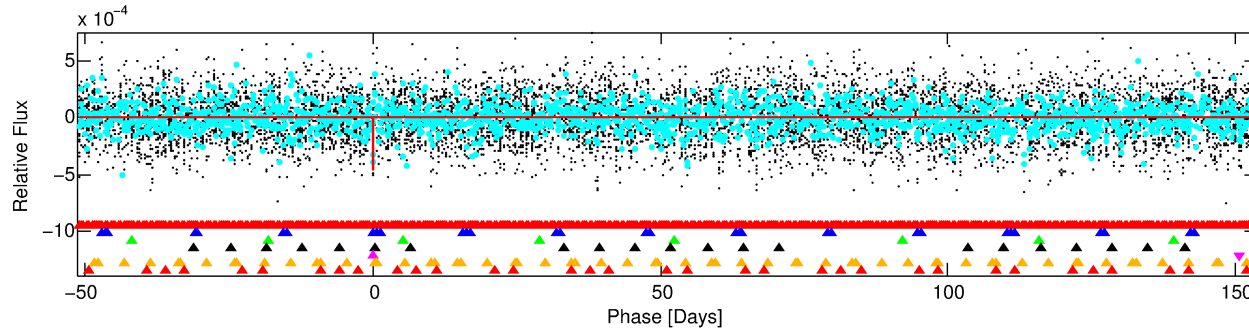
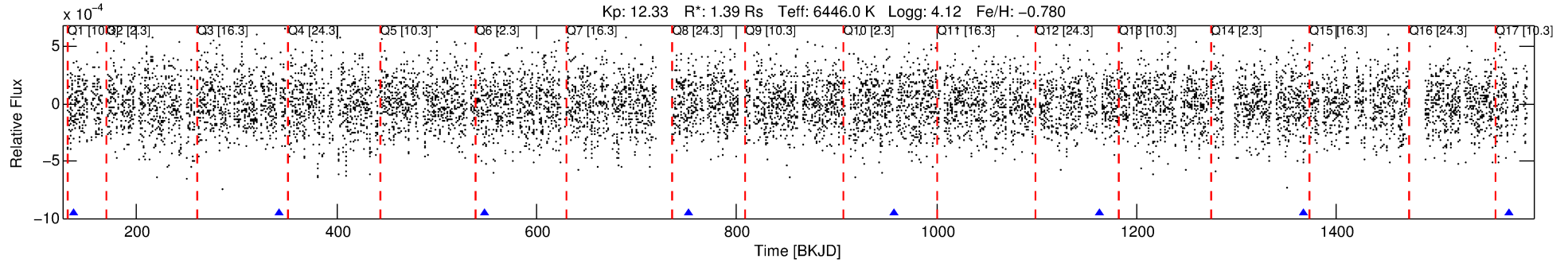
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002447832-05

No Significant Match Found

DV One-Page Summary

KIC: 2447832 Candidate: 5 of 7 Period: 204.995 d



DV Fit Results:

Period = 204.99509 [0.00371] d
Epoch = 137.3615 [0.0699] BKJD
Rp/R* = 0.0249 [0.0036]
a/R* = 88.10 [33.46]
b = 0.97 [0.04]
Seff = 6.82 [3.92]
Teq = 412 [59] K
Rp = 3.78 [1.31] Re
a = 0.6635 [0.2207] AU
Ag = 3289.10 [2226.86] [1.48σ]
Teffp = 4825 [495] K [8.86σ]

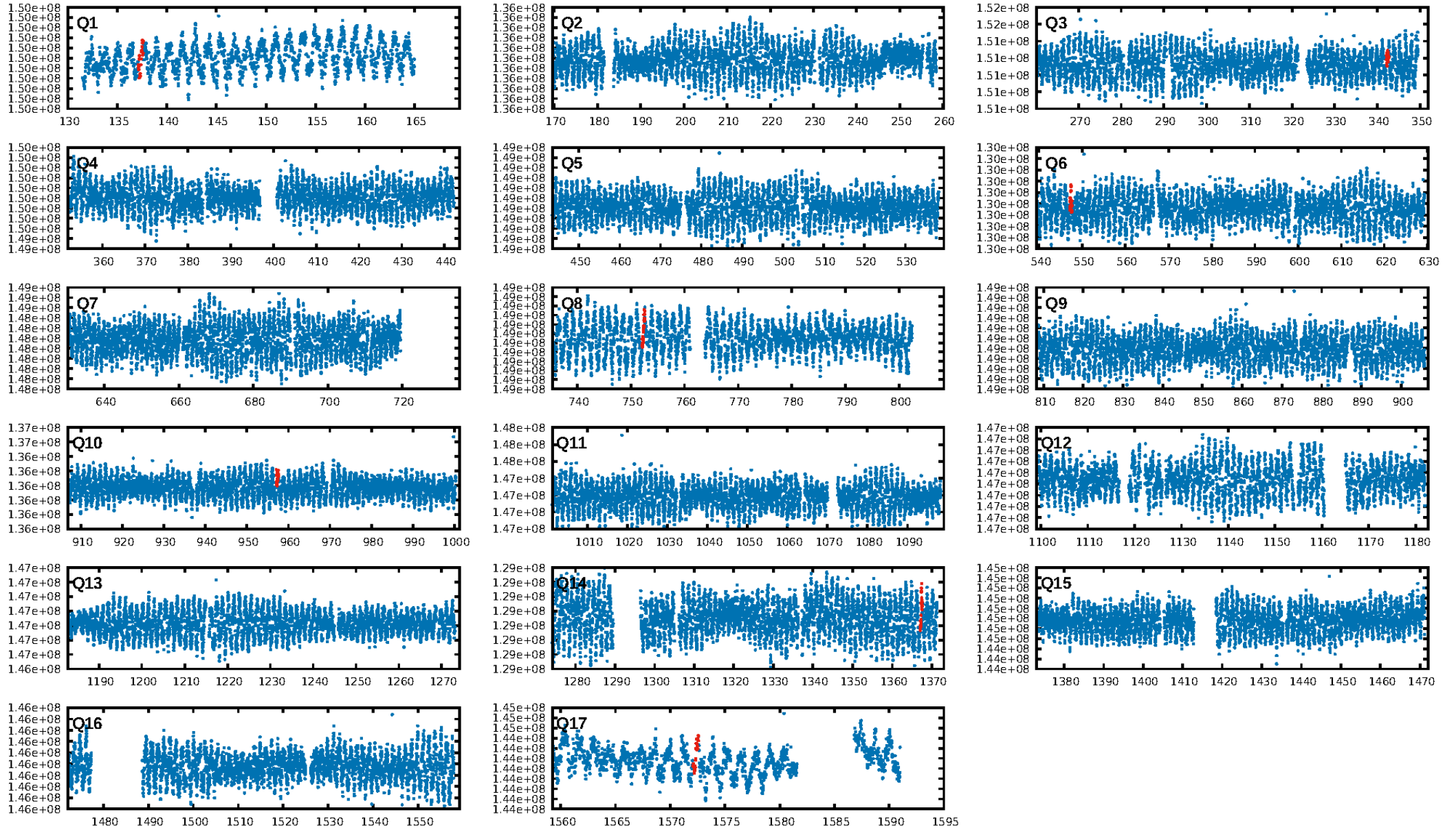
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [56.73σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 93.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.02e-08
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.3576
Centroid-sig: 33.6%
Centroid-so: 0.474 arcsec [0.59σ]
OotOffset-rm: 0.578 arcsec [1.42σ]
OotOffset-st: 3/1/0/2 [6]
KicOffset-rm: 0.563 arcsec [1.21σ]
KicOffset-st: 3/1/0/2 [6]
DiffImageQuality-fgm: 0.17 [1/6]
DiffImageOverlap-fno: 0.00 [0/7]

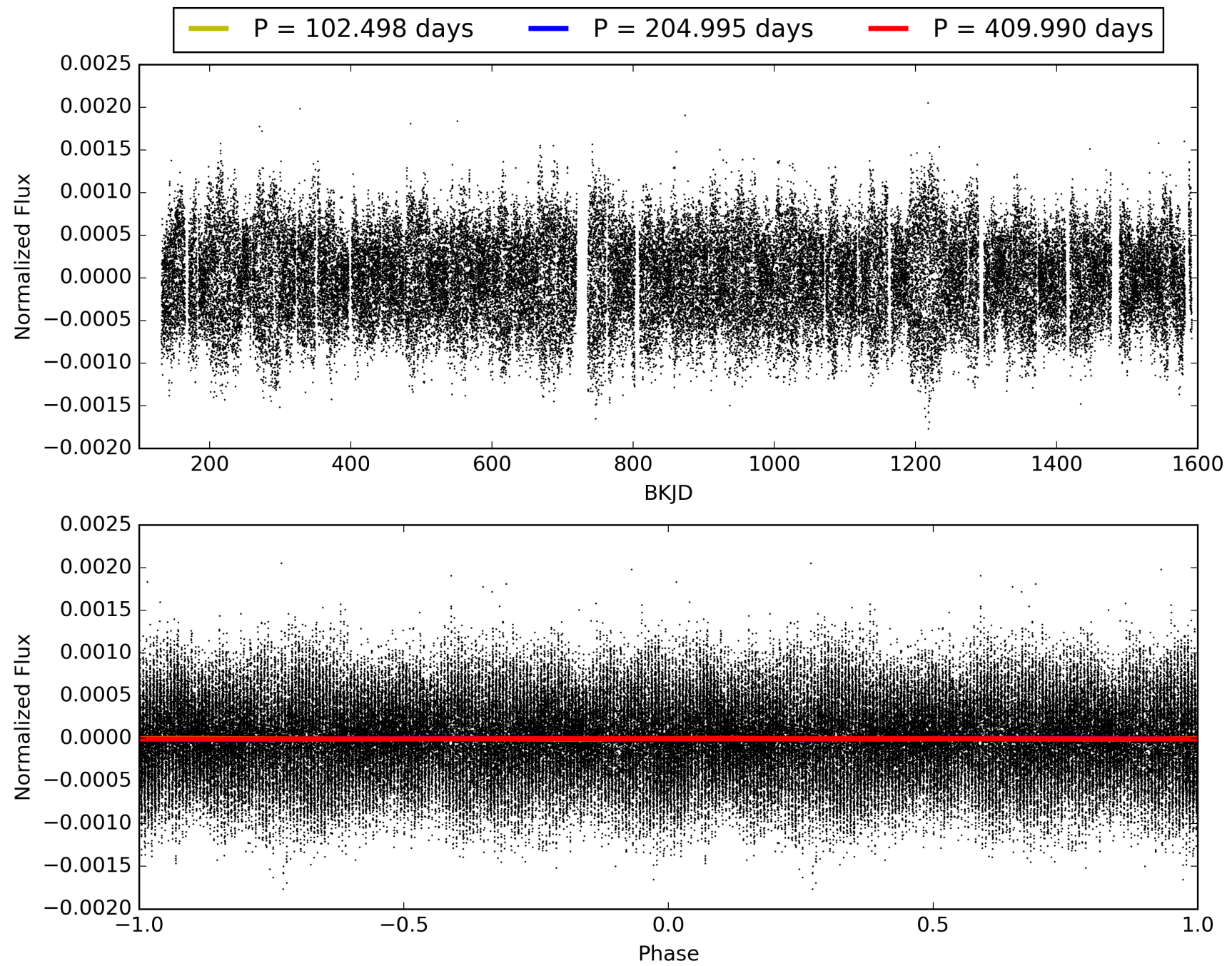
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:13:01 Z

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

TCE 002447832-05, PDC Light Curves

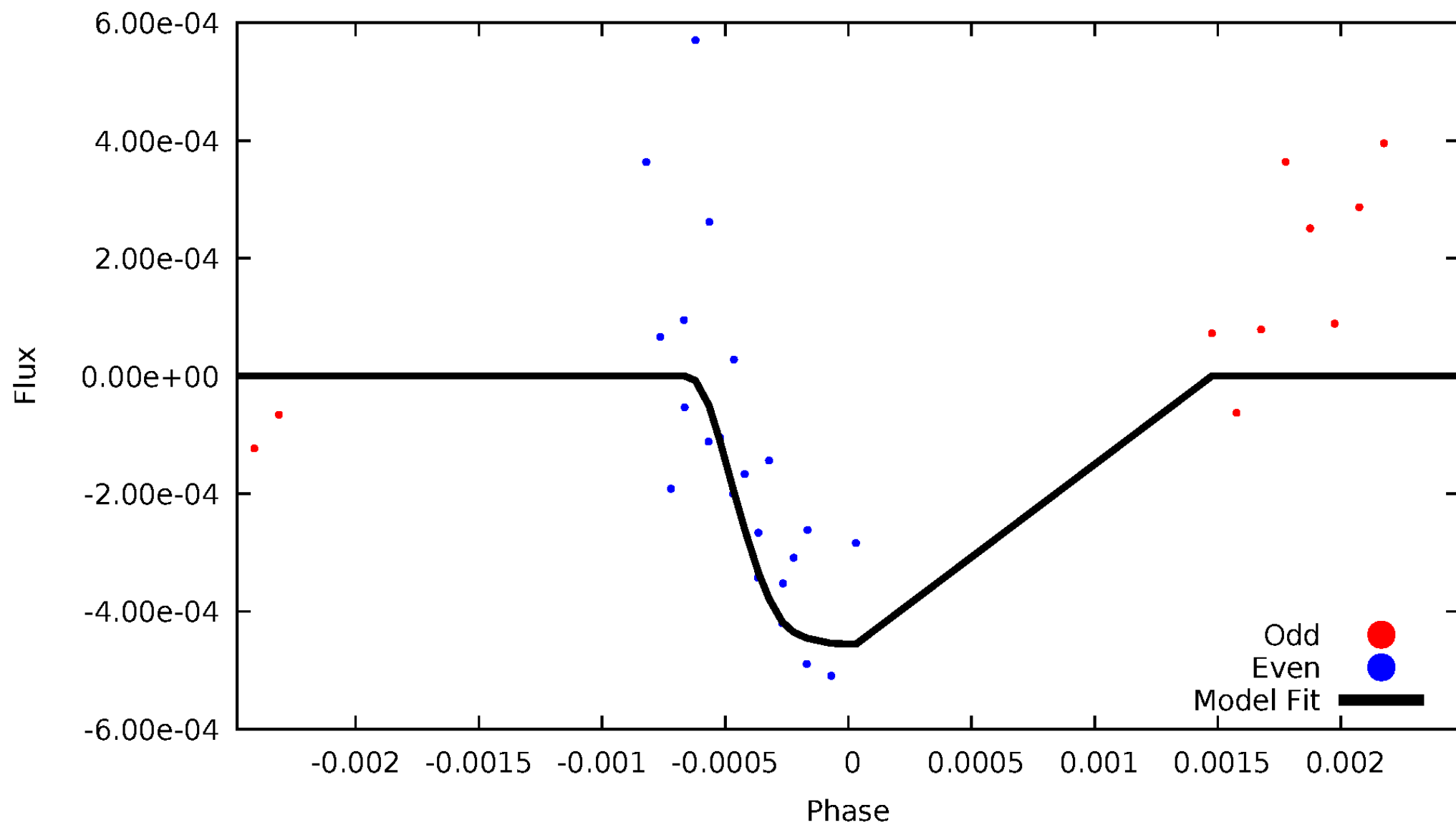


TCE 002447832-05



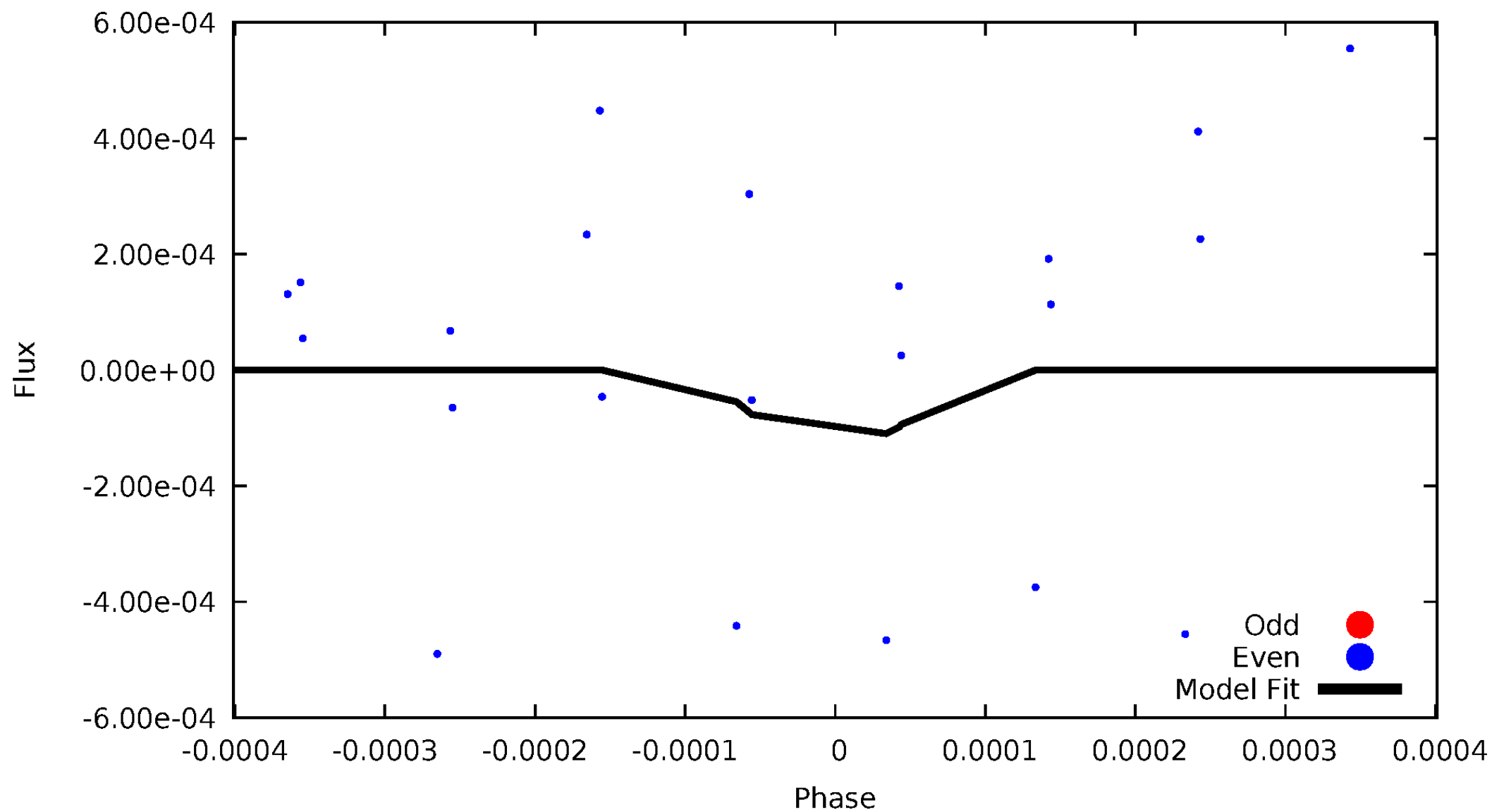
DV Odd/Even

TCE 002447832-05



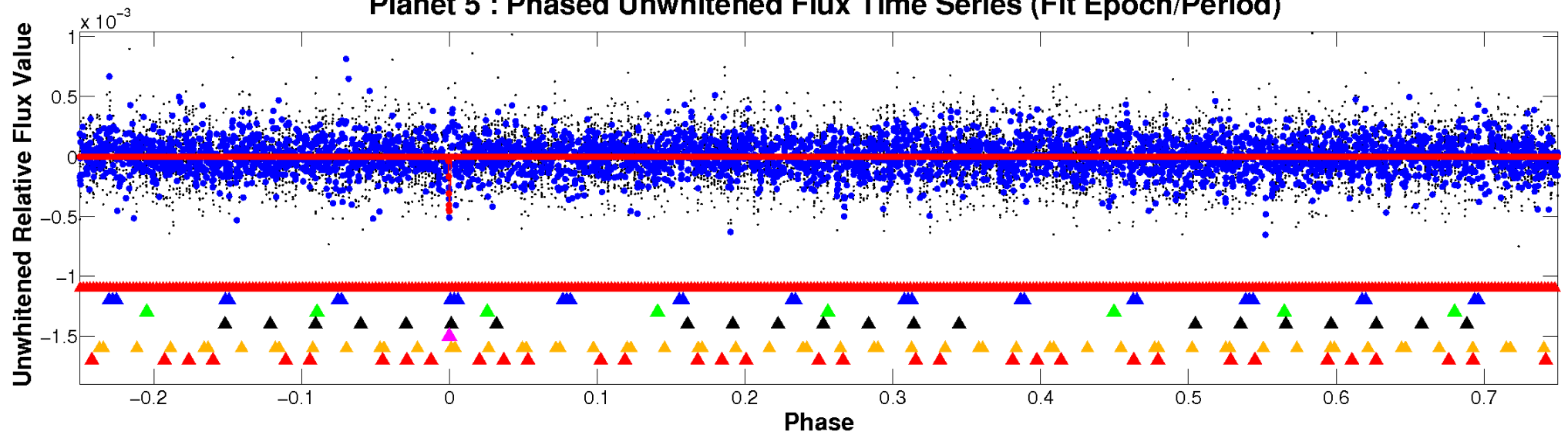
ALT Odd/Even

TCE 002447832-05

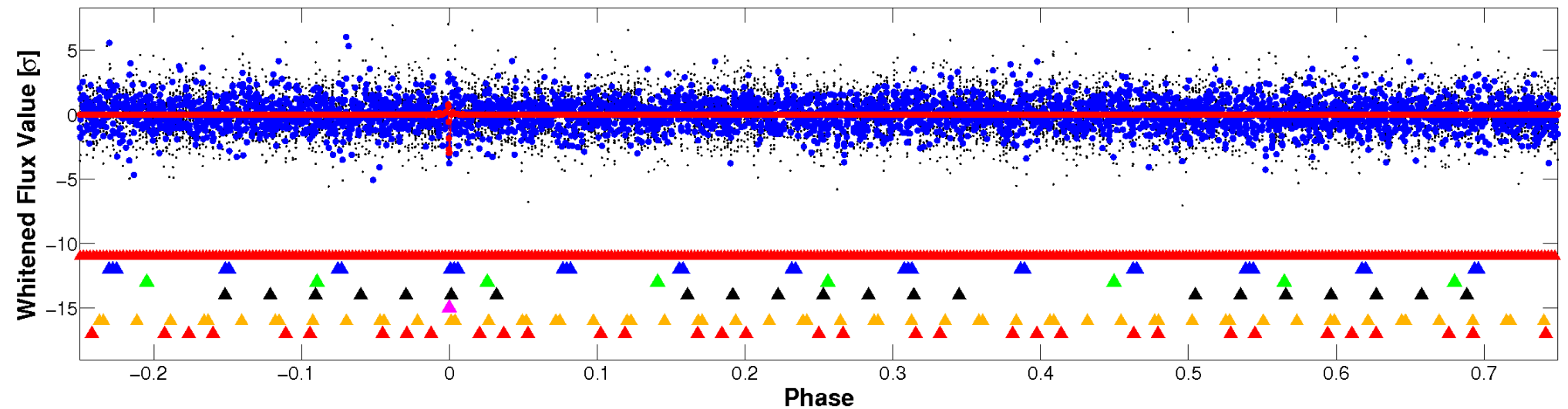


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

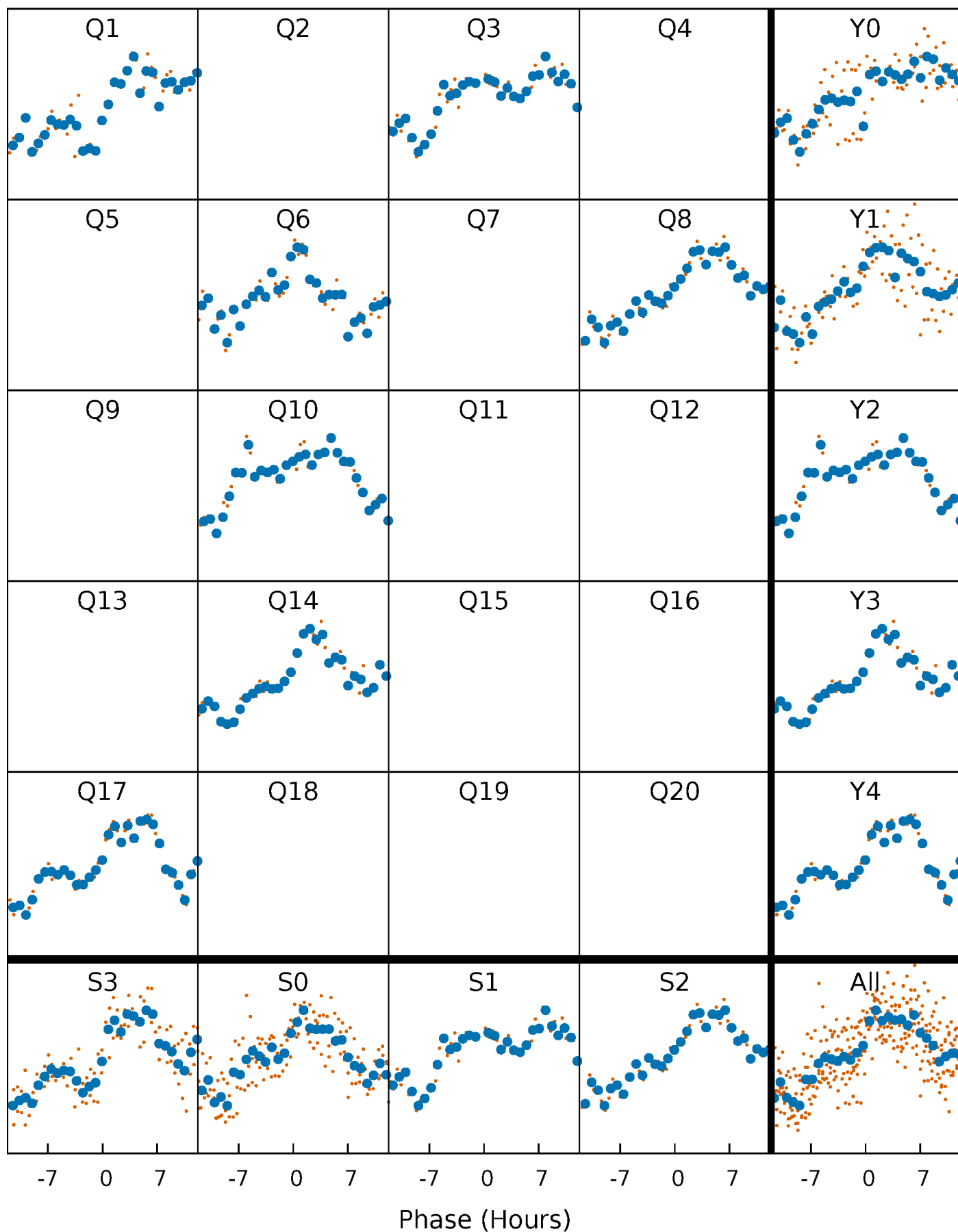


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



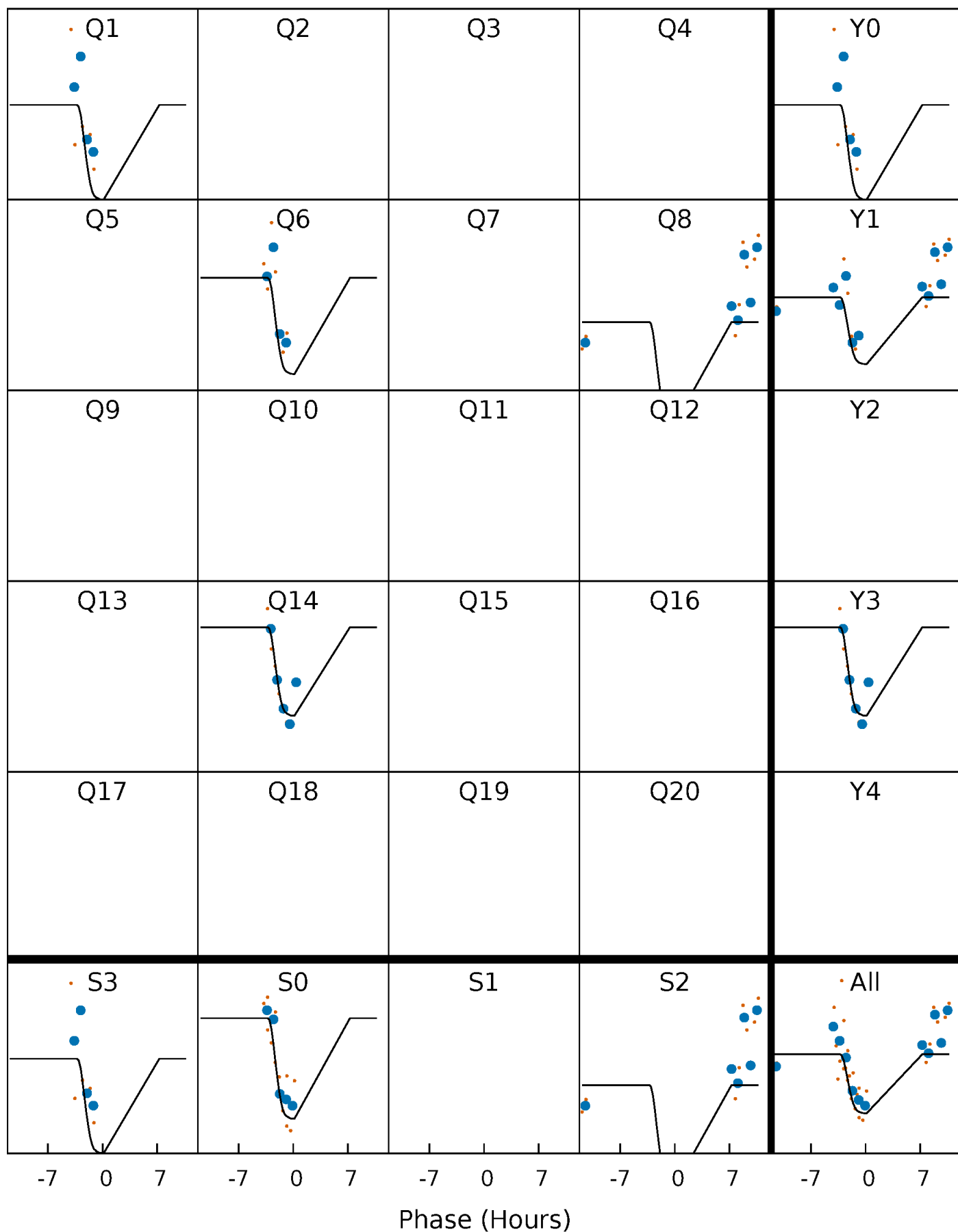
PDC Quarter-Phased Transit Curves

TCE 002447832-05 $P=204.995092$ Days $T_0=137.361467$ (BKJD)



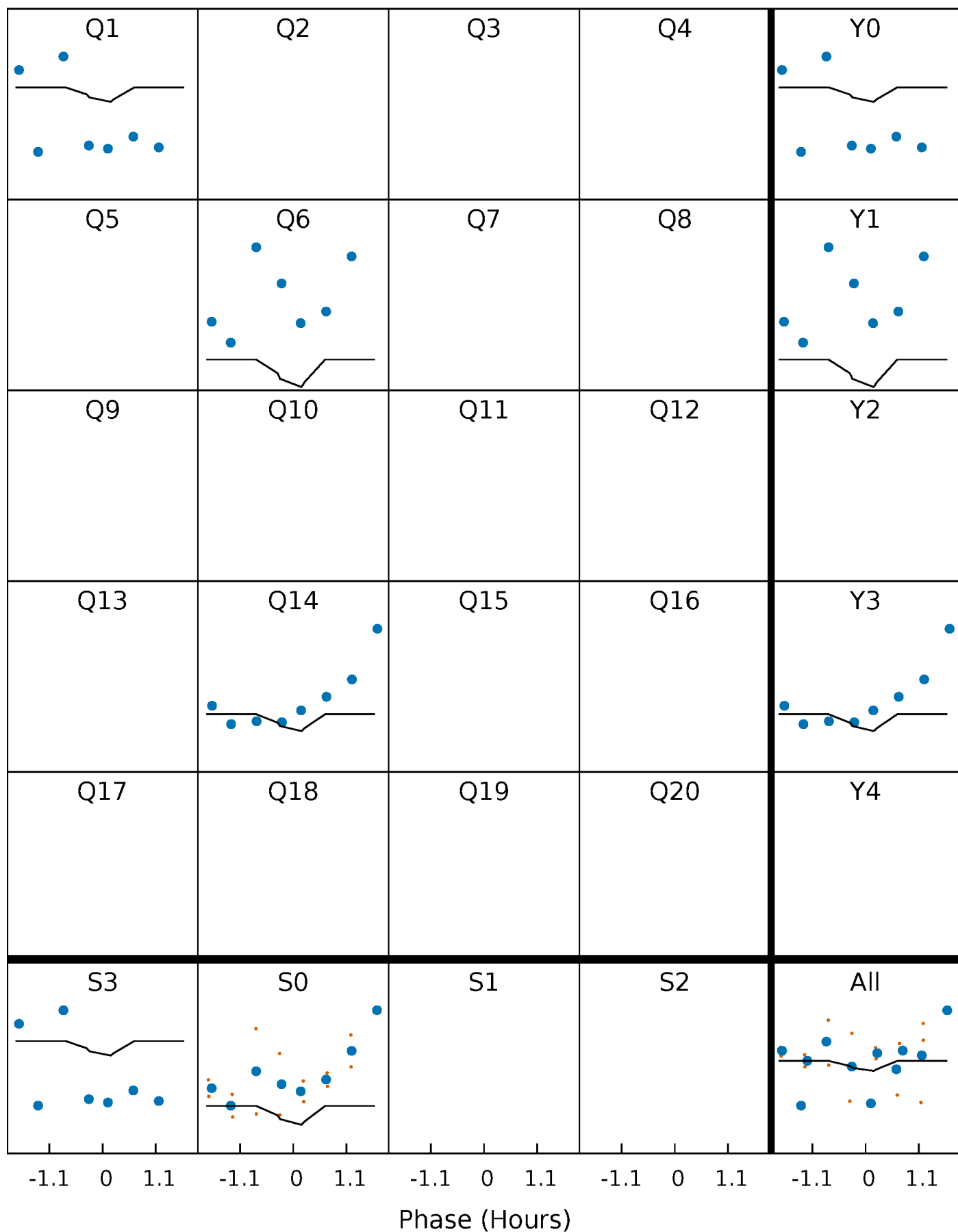
DV Quarter-Phased Transit Curves

TCE 002447832-05 $P=204.995092$ Days $T_0=137.361467$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

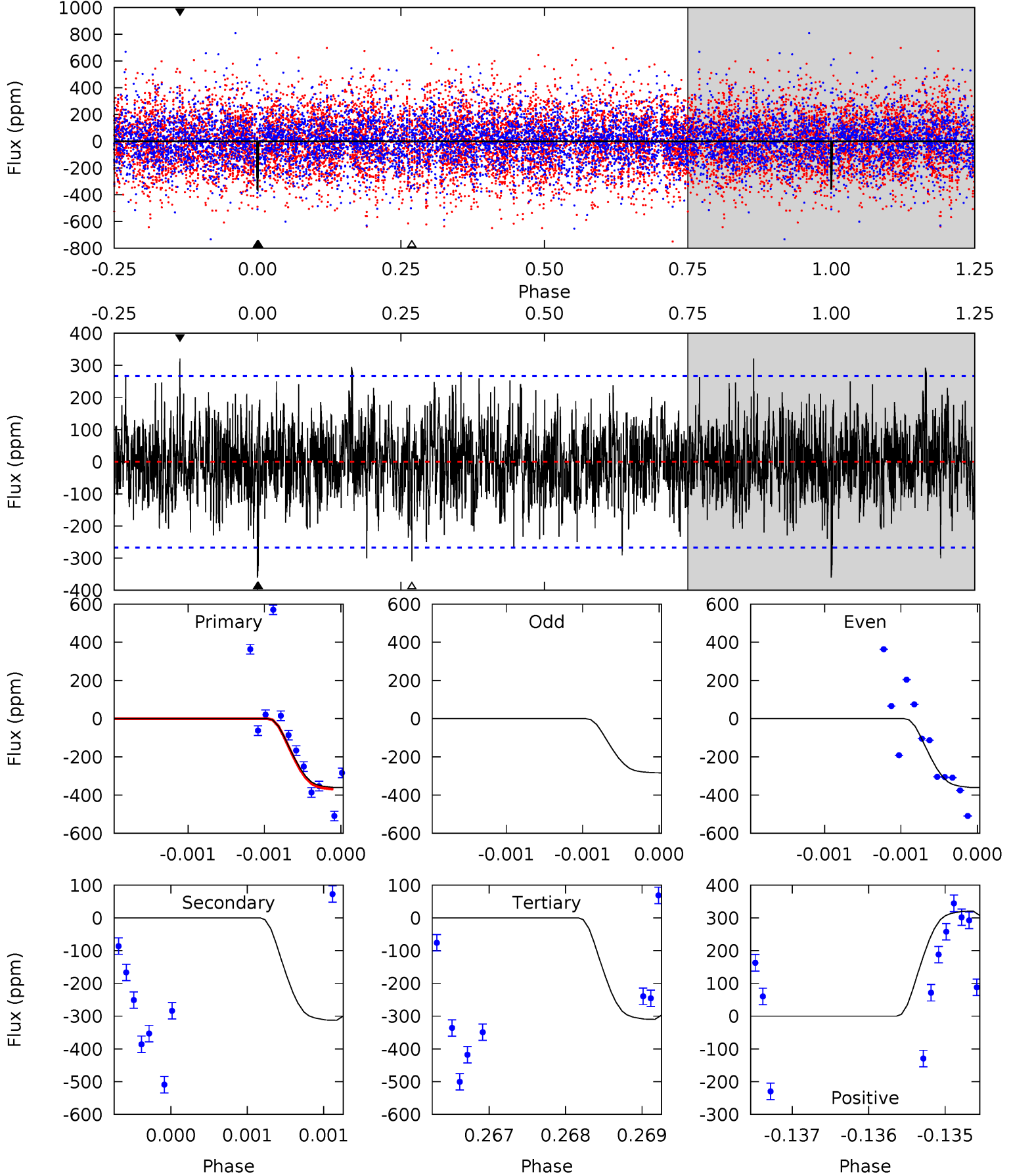
TCE 002447832-05 P=204.999964 Days $T_0=137.268173$ (BKJD)



DV Model-Shift Uniqueness Test

002447832-05, P = 204.995092 Days, E = 137.361467 Days

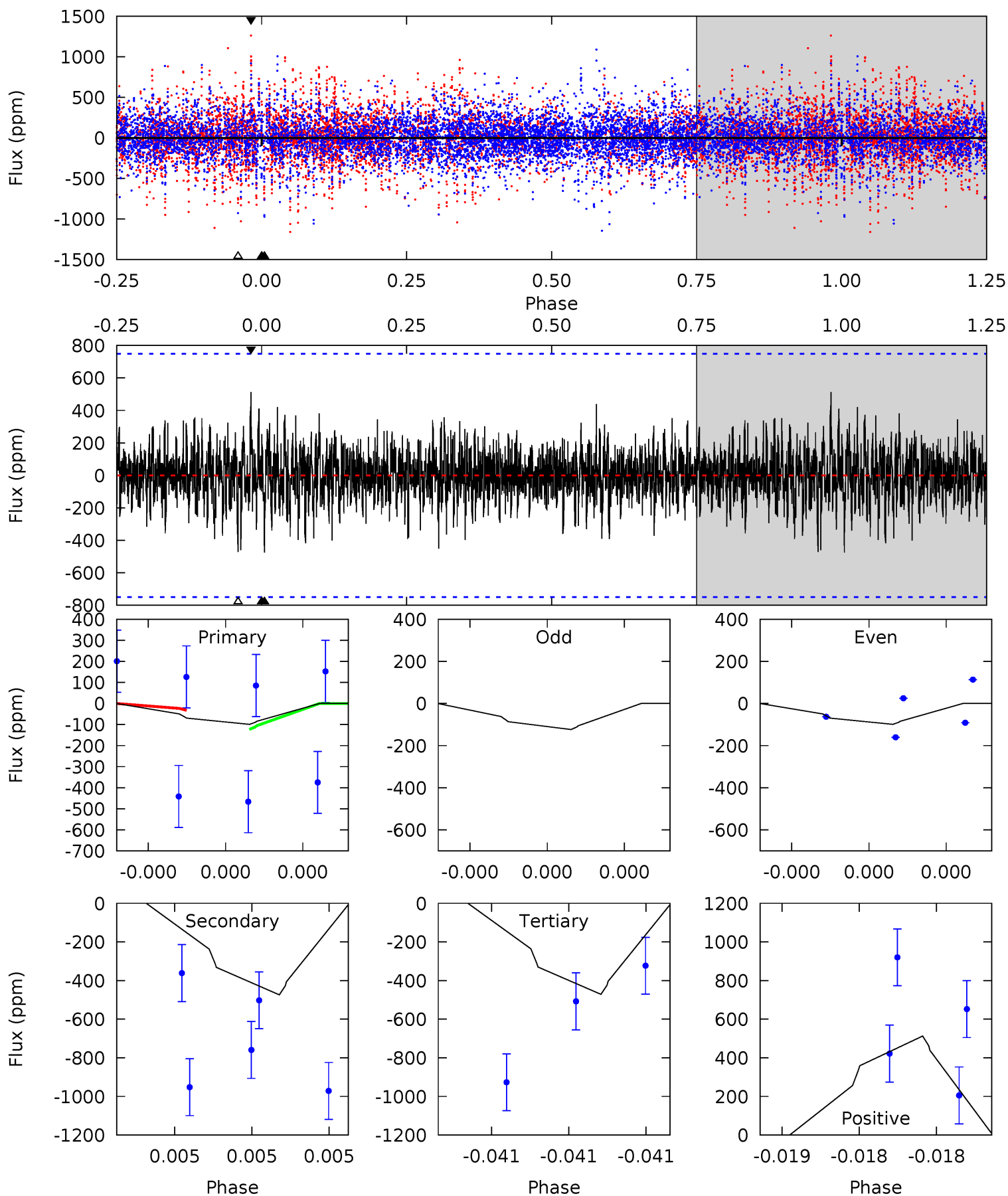
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.46	6.46	6.41	6.63	5.52	3.39	1.77	1.05	0.82	0.06	-0.17	1.14	0	0.47	1.27



Alt Model-Shift Uniqueness Test

002447832-05, P = 204.999964 Days, E = 137.268173 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.77	3.69	3.67	3.99	5.83	3.87	0.92	-2.90	-3.22	0.02	-0.30	0.11	8.11	0.52	0.35



Stellar Parameters For KIC 002447832

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6446^{+205}_{-228}	$4.117^{+0.336}_{-0.168}$	$-0.780^{+0.300}_{-0.300}$	$1.393^{+0.359}_{-0.439}$	$0.926^{+0.123}_{-0.089}$	$0.483^{+0.952}_{-0.211}$
	+3%/-4%	+8%/-4%	+38%/-38%	+26%/-32%	+13%/-10%	+197%/-44%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 002447832-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-313 ± 48	$3.72^{+0.92}_{-0.84}$	568^{+51}_{-48}	5432^{+460}_{-375}	5623^{+3292}_{-2204}
Alt.	-474 ± 128	$1.84^{+0.70}_{-0.55}$	568^{+45}_{-47}	8847^{+2556}_{-1515}	33709^{+36462}_{-17430}

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 $A_{obs} \gg 1.0$

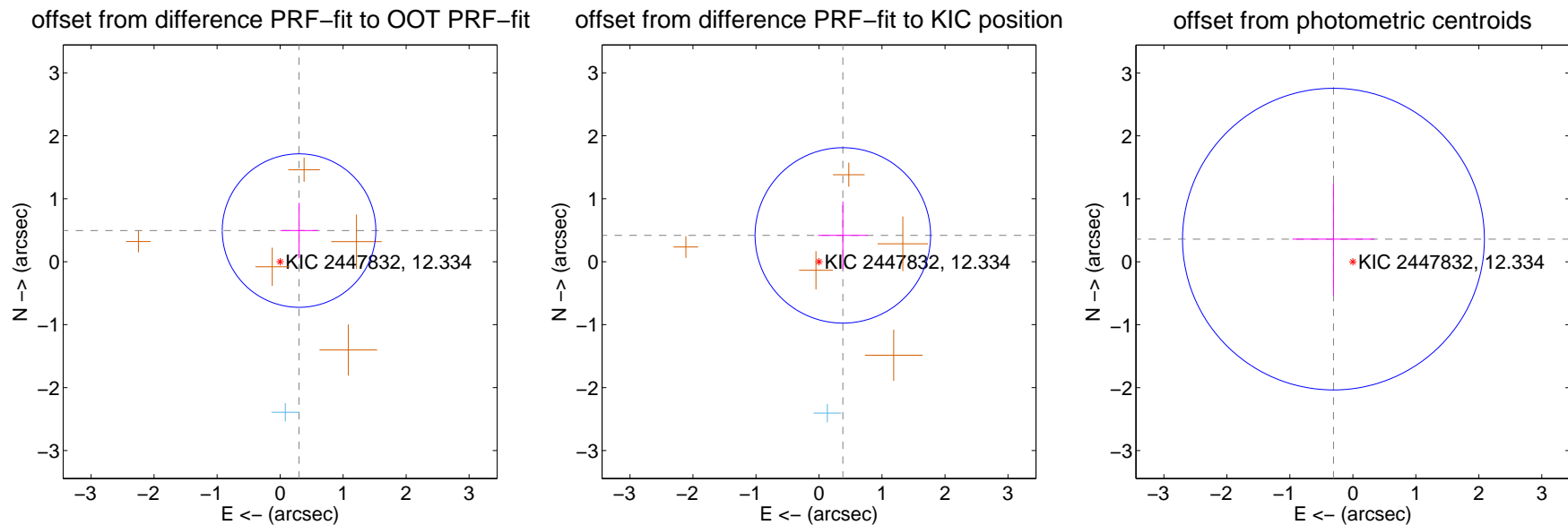
DV Centroid Data

Supplemental centroid analysis for 002447832-05. Kepler magnitude: 12.33. Transit SNR 8.84

There are 1 quarters with good PRF difference image offsets

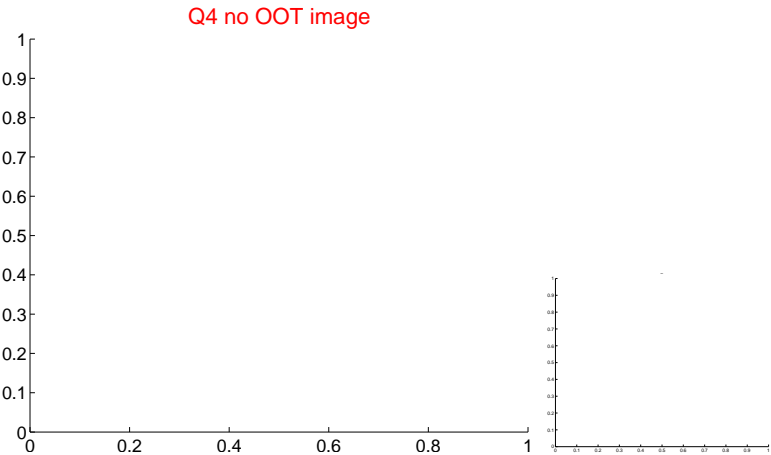
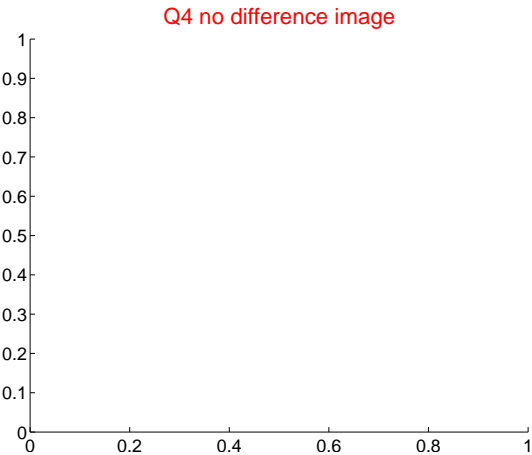
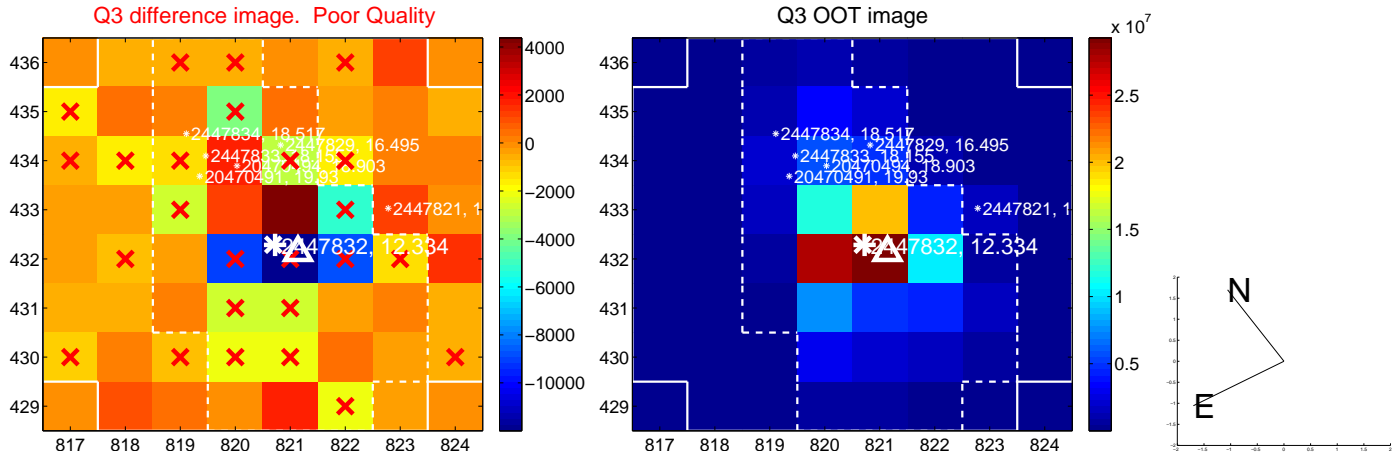
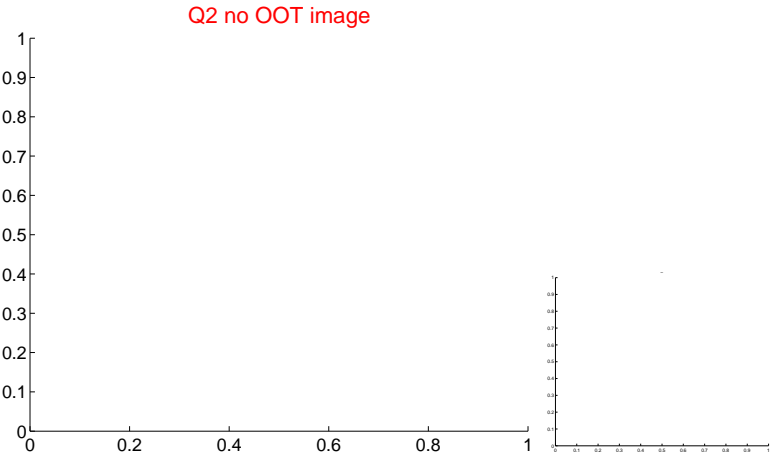
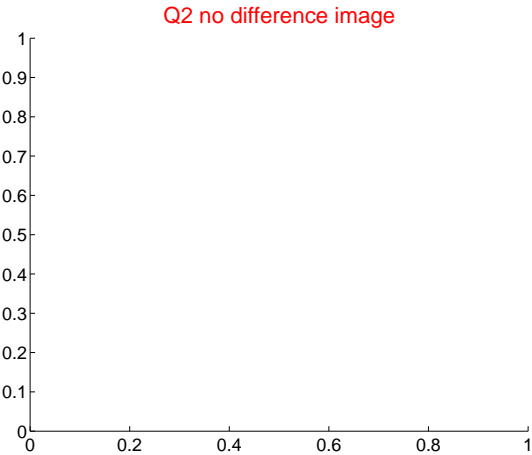
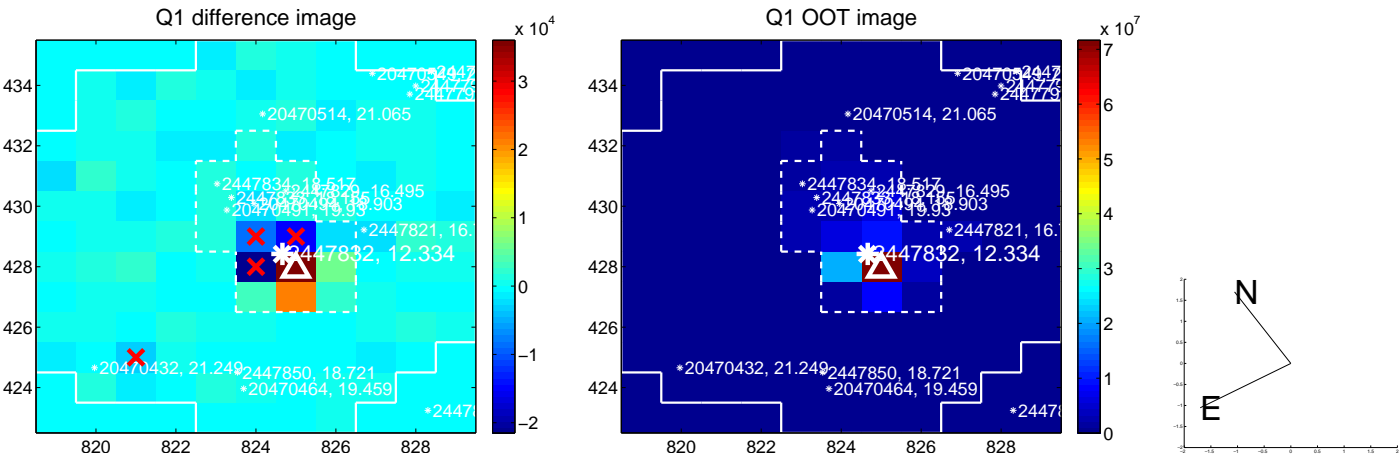
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.578 ± 0.406	1.42	-0.300 ± 0.297	0.494 ± 0.440
PRF-fit source offset from KIC position	0.563 ± 0.464	1.21	-0.378 ± 0.394	0.417 ± 0.536
photometric centroid source offset	0.47 ± 0.80	0.59	0.31 ± 0.65	0.36 ± 0.89

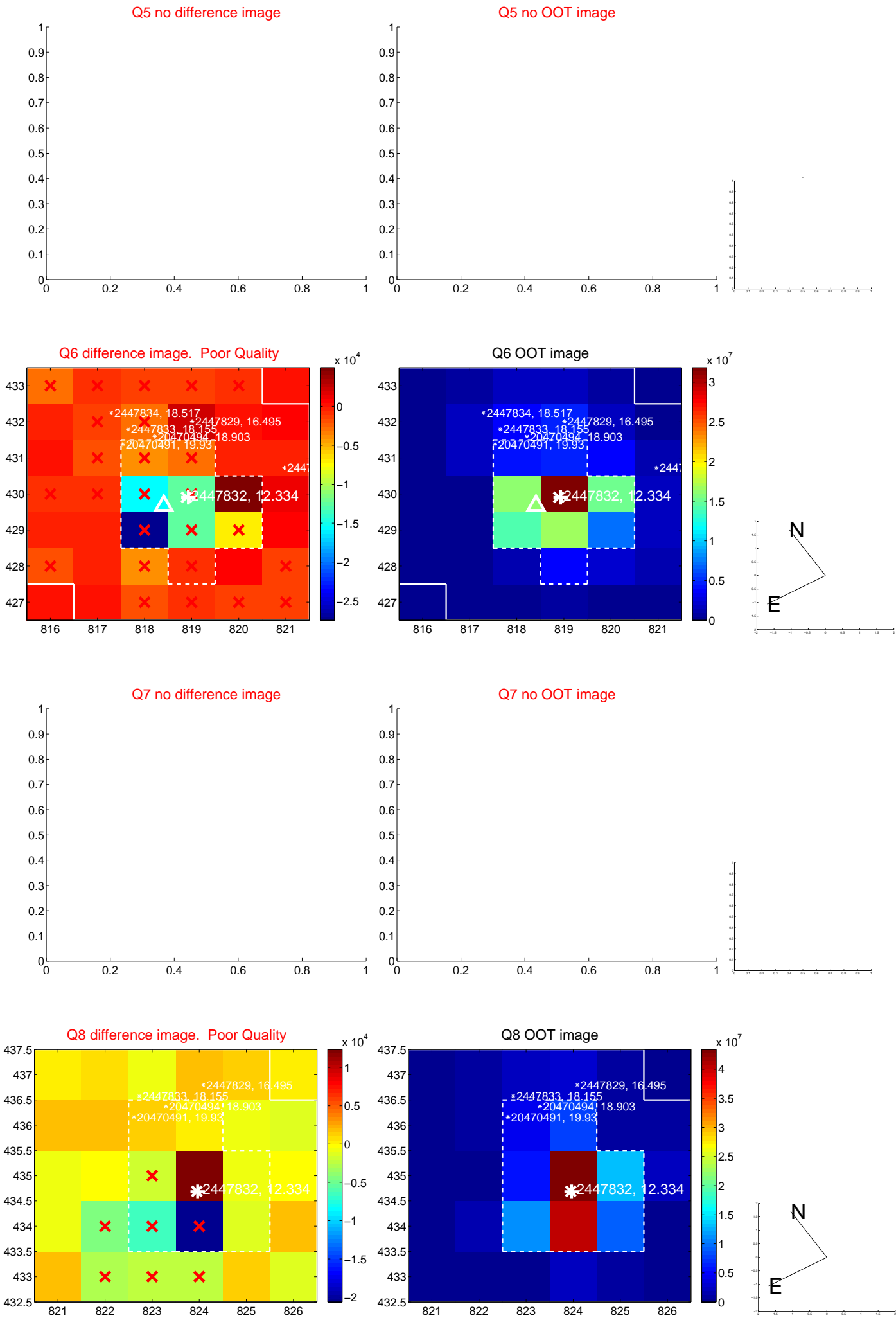


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

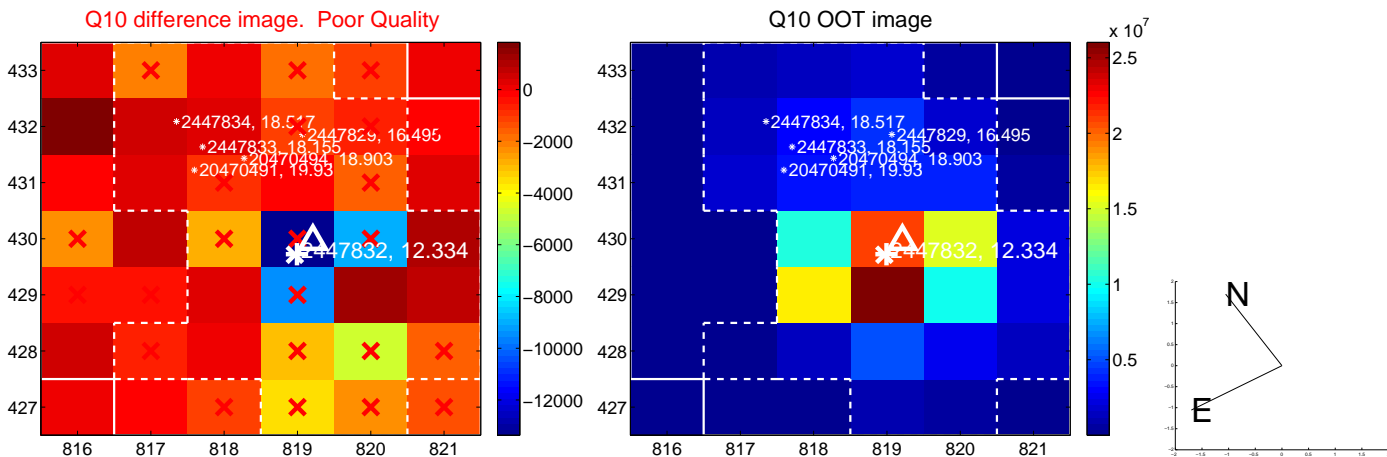
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

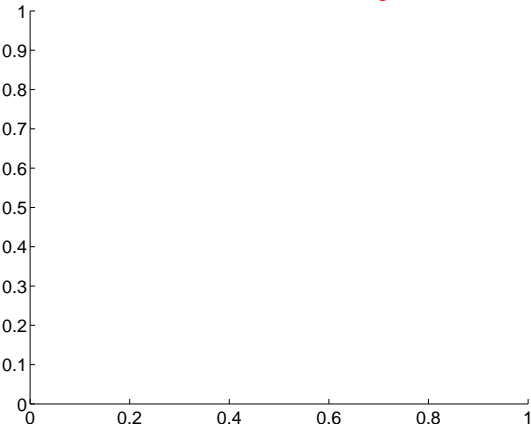


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value

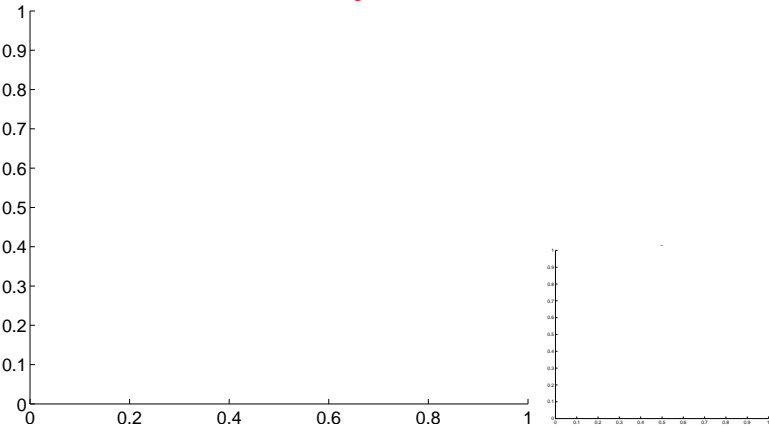


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

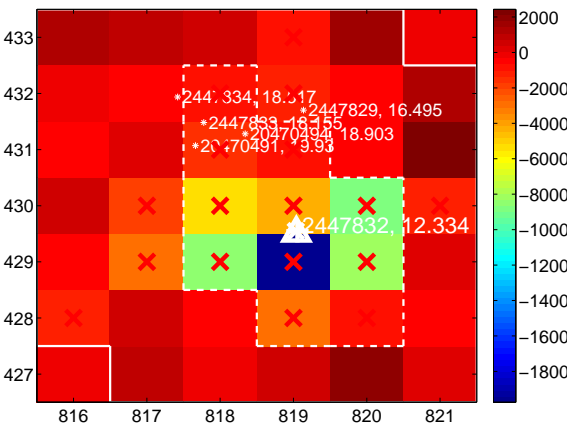
Q13 no difference image



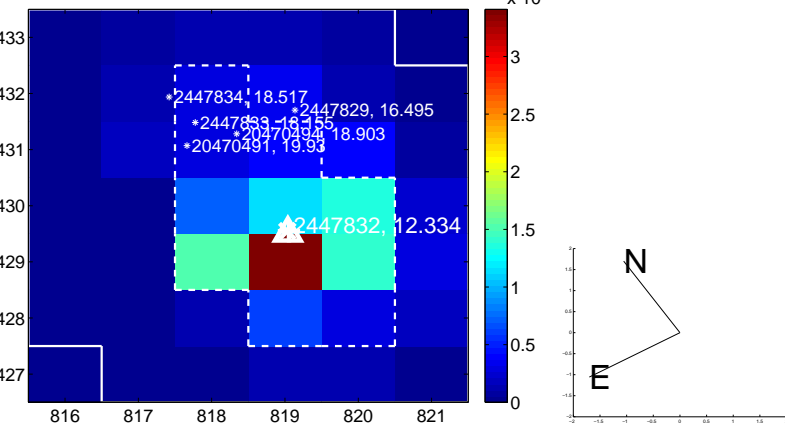
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



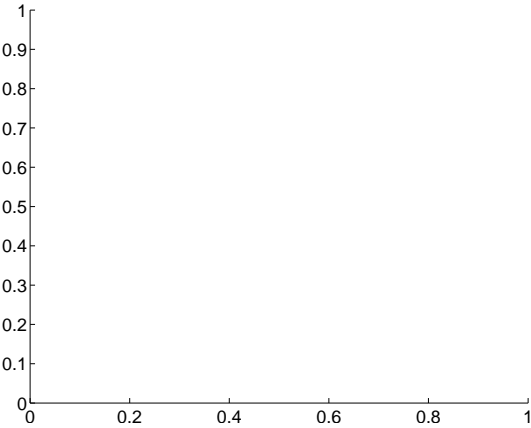
Q15 no difference image



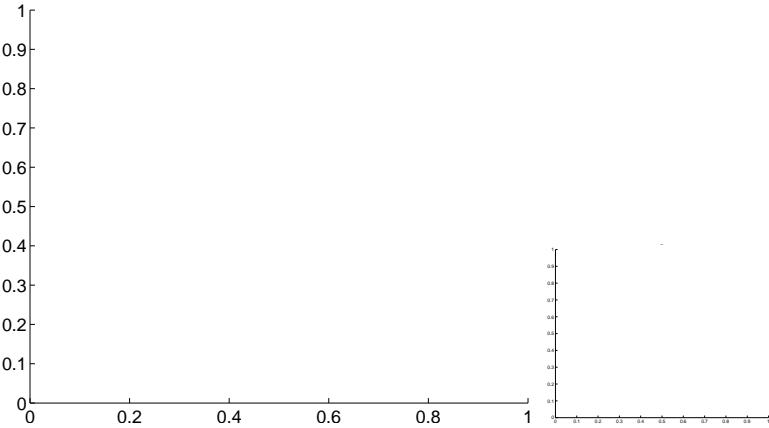
Q15 no OOT image



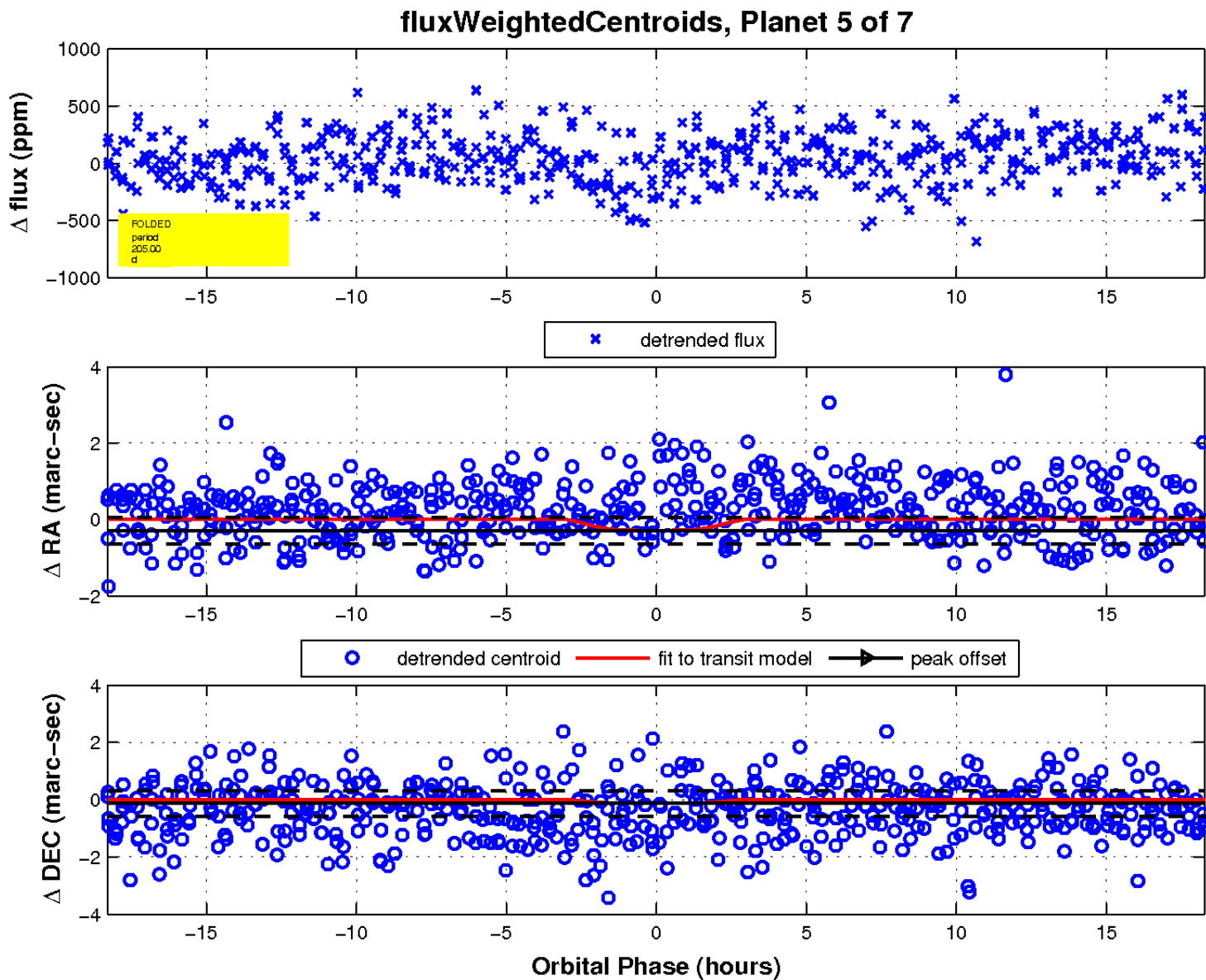
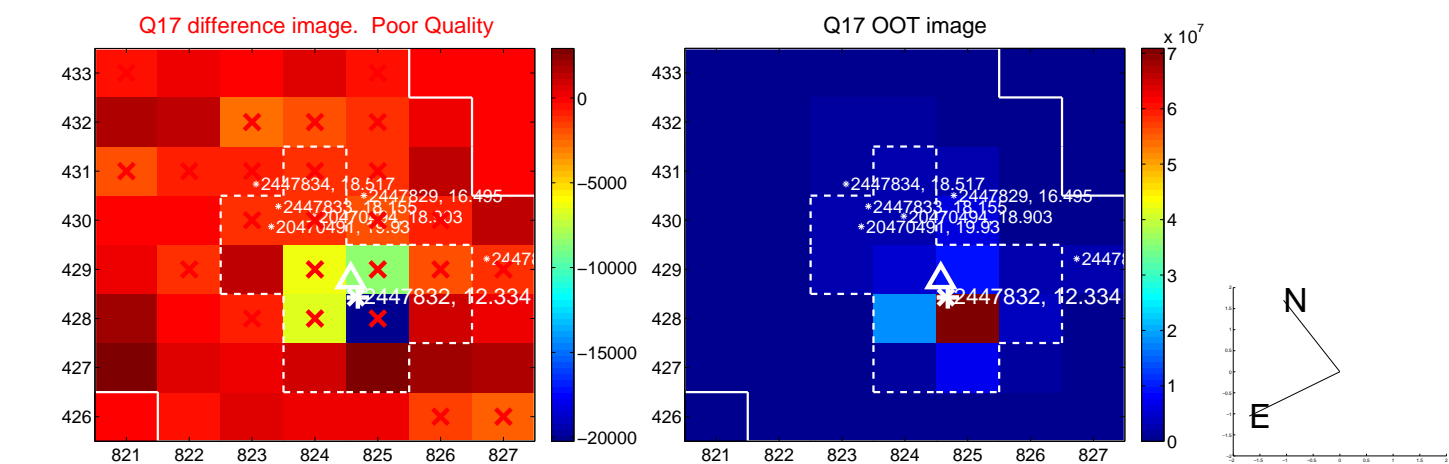
Q16 no difference image



Q16 no OOT image

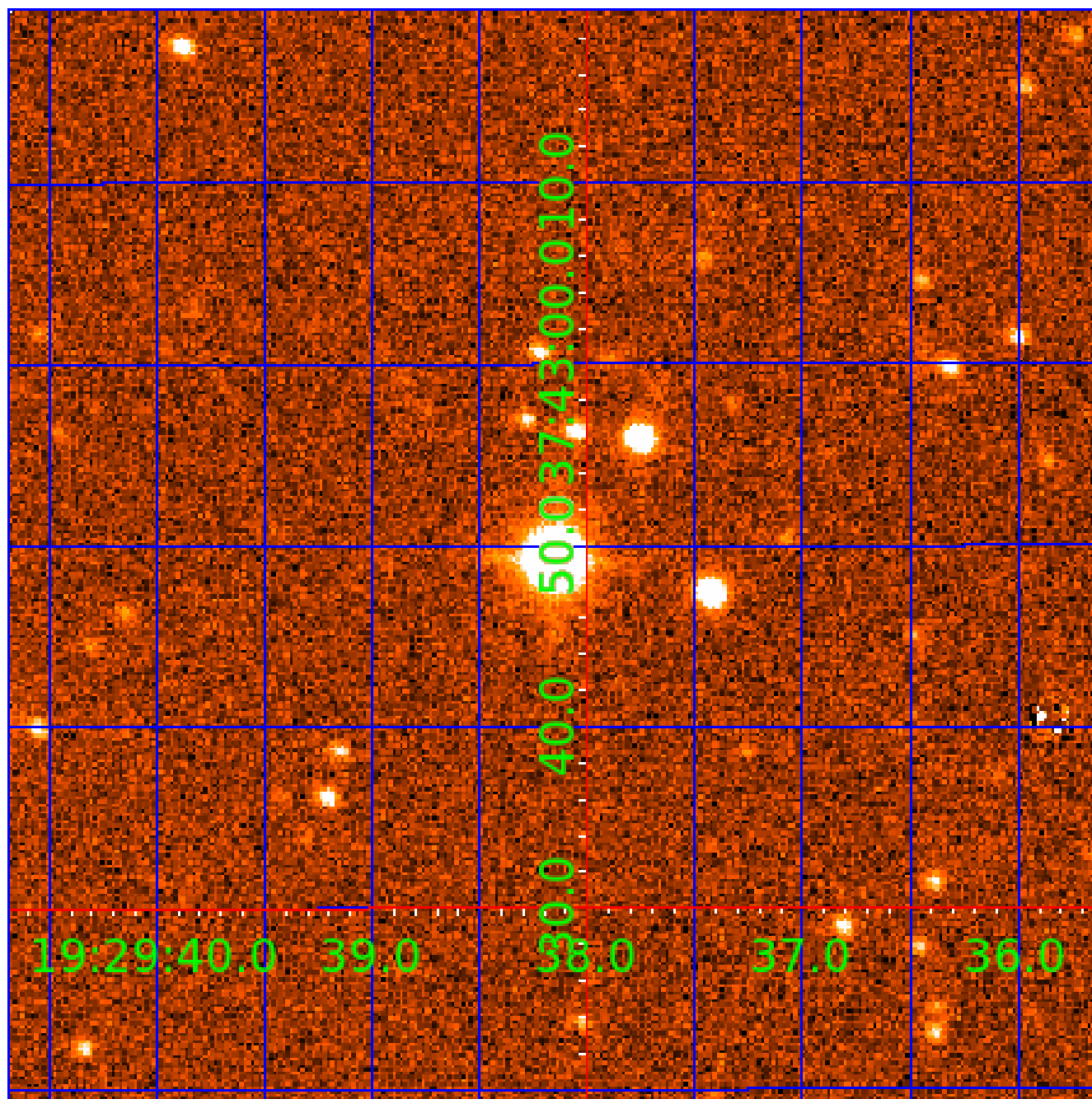


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002447832

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})
002447832-01	OBS	No	0.921355	132.186367	15.1	5.945	9.4	6.5	1.39	6446	0.58	9192.92
002447832-02	OBS	No	47.346945	153.110230	96.1	31.858	9.9	6.6	1.39	6446	1.37	48.12
002447832-03	OBS	No	181.379735	189.859579	433.2	7.910	9.8	9.1	1.39	6446	3.22	8.03
002447832-04	OBS	No	70.423650	170.402747	325.5	0.740	8.3	5.5	1.39	6446	2.84	28.34
002447832-05	OBS	No	204.995092	137.361467	455.9	6.102	9.2	8.8	1.39	6446	3.79	6.82
002447832-06	OBS	No	24.391322	148.019870	244.0	3.650	9.5	9.3	1.39	6446	2.42	116.51
002447832-07	OBS	No	43.687604	134.829277	292.8	1.394	8.8	9.6	1.39	6446	2.41	53.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002447832-01	OBS	FP	0.00	1	0	0	0	LPP_DV
002447832-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
002447832-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002447832-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002447832-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002447832-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
002447832-07	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—HALO_GHOST

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

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

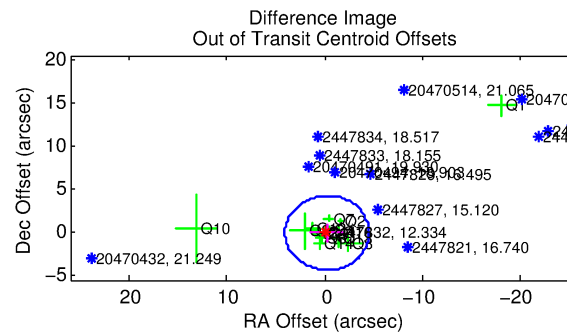
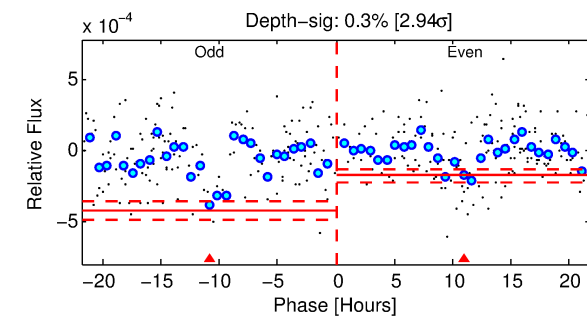
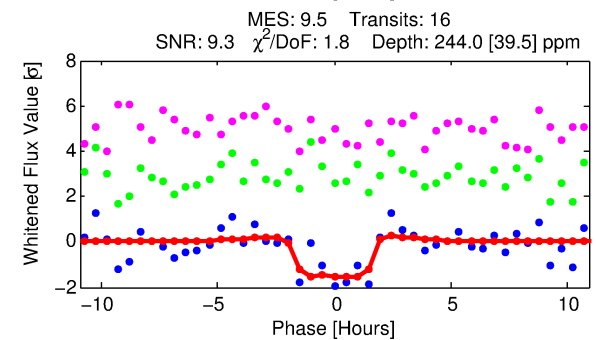
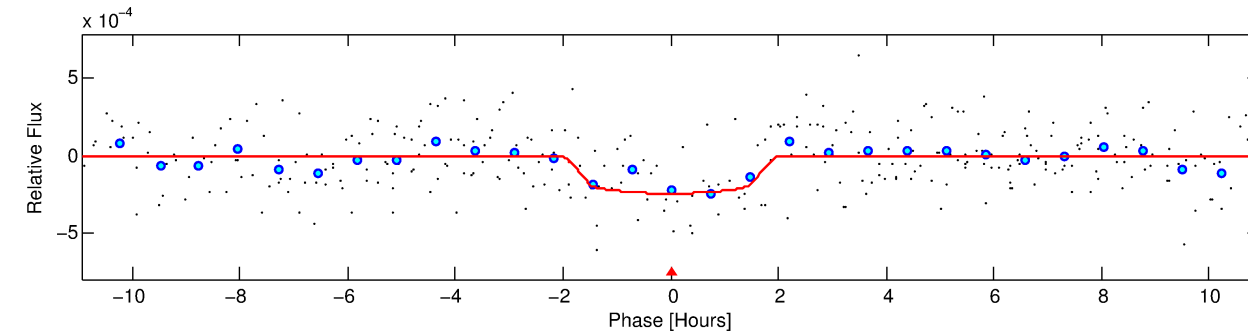
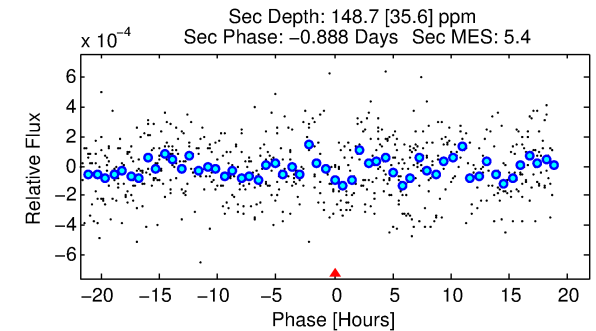
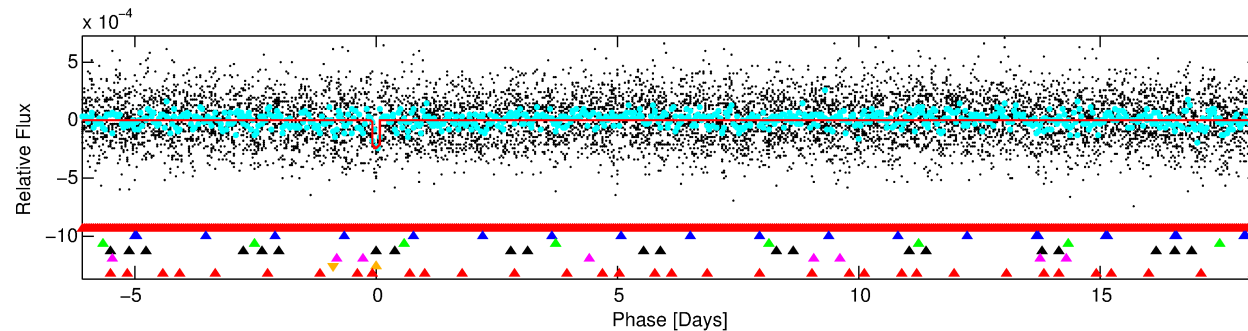
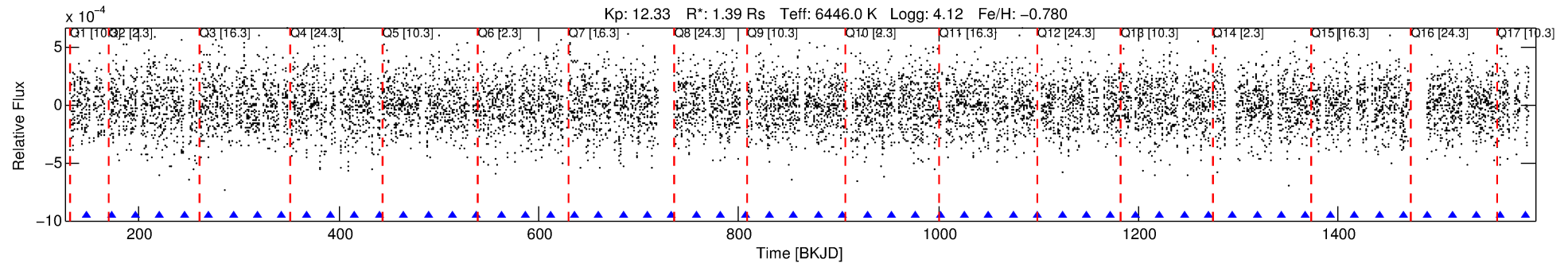
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002447832-06

No Significant Match Found

DV One-Page Summary

KIC: 2447832 Candidate: 6 of 7 Period: 24.391 d



DV Fit Results:

Period = 24.39132 [0.00030] d
Epoch = 148.0199 [0.0085] BKJD
Rp/R* = 0.0159 [0.0155]
a/R* = 31.07 [170.16]
b = 0.81 [2.32]
Seff = 116.51 [66.95]
Teq = 838 [120] K
Rp = 2.42 [2.47] Re
a = 0.1605 [0.0534] AU
Ag = 360.99 [735.86] [0.49σ]
Teffp = 5646 [2775] K [1.73σ]

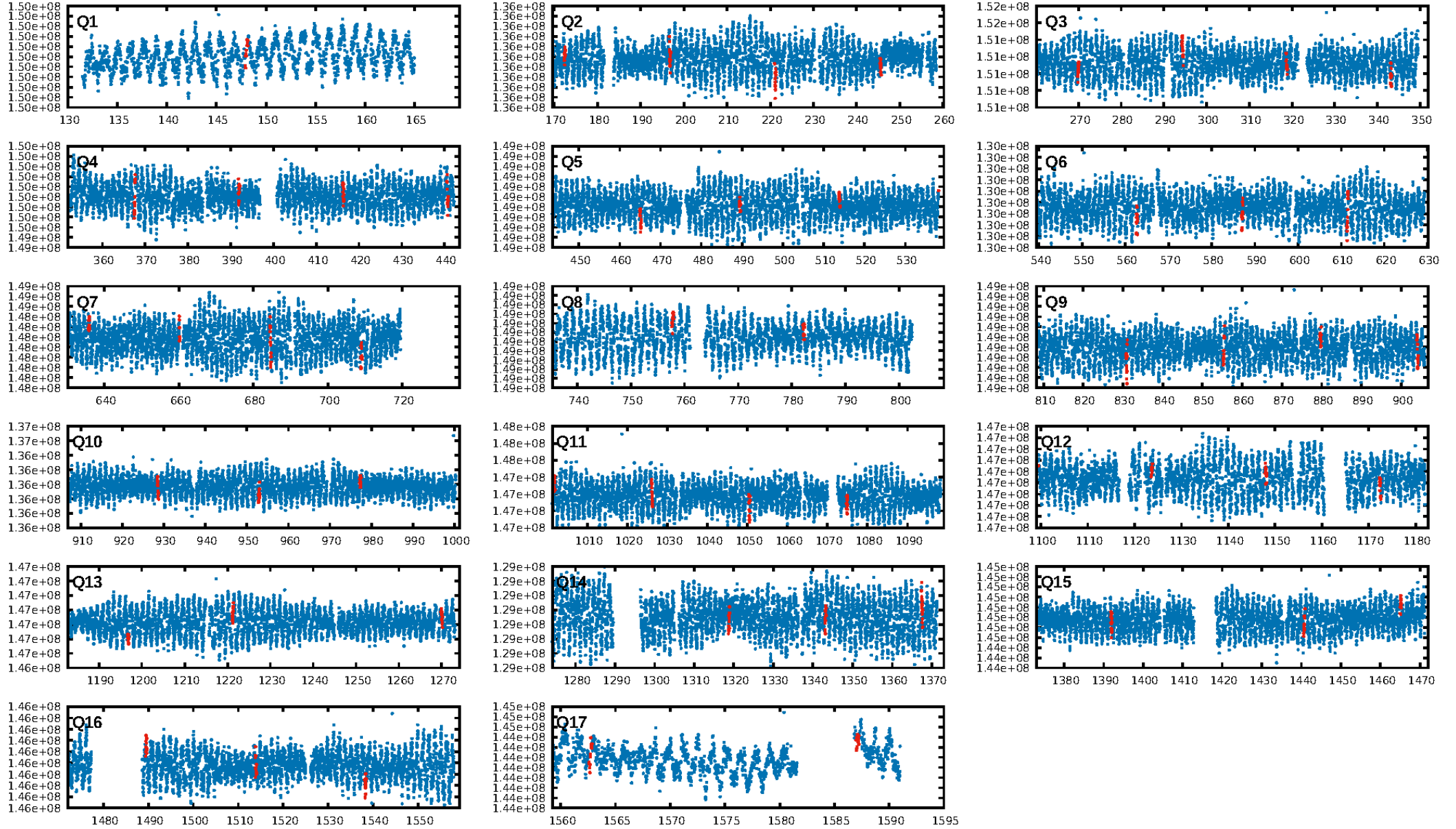
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [80.75σ]
LongPeriod-sig: 100.0% [118.52σ]
ModelChiSquare2-sig: 0.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.73e-09
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: -5.828
Centroid-sig: 40.4%
Centroid-so: 0.426 arcsec [0.67σ]
OotOffset-rm: 0.246 arcsec [0.17σ]
KicOffset-rm: 0.280 arcsec [0.22σ]
OotOffset-st: 4/3/4/4 [15]
KicOffset-st: 4/3/4/4 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 0.00 [0/17]

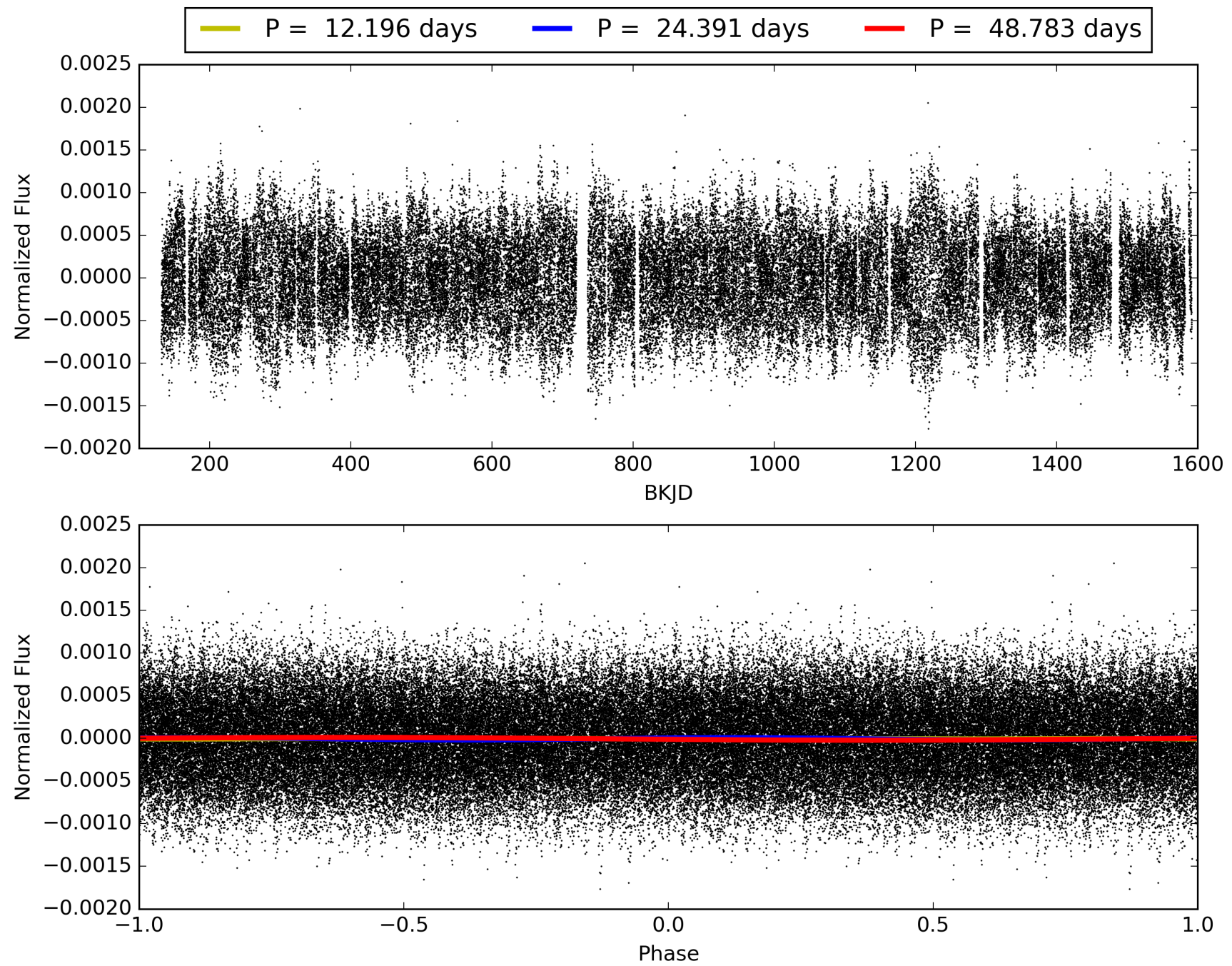
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:13:04 Z

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

TCE 002447832-06, PDC Light Curves

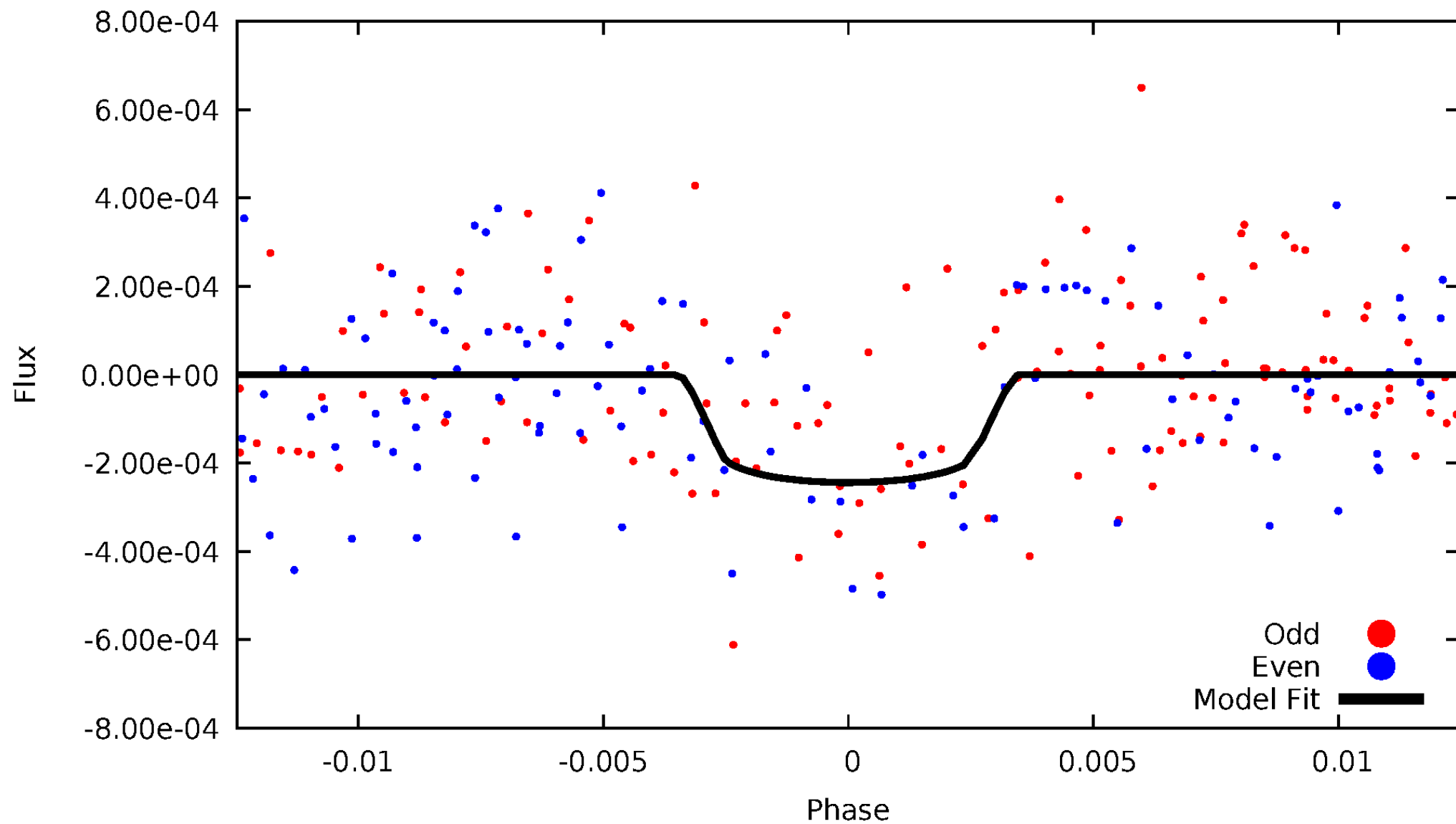


TCE 002447832-06



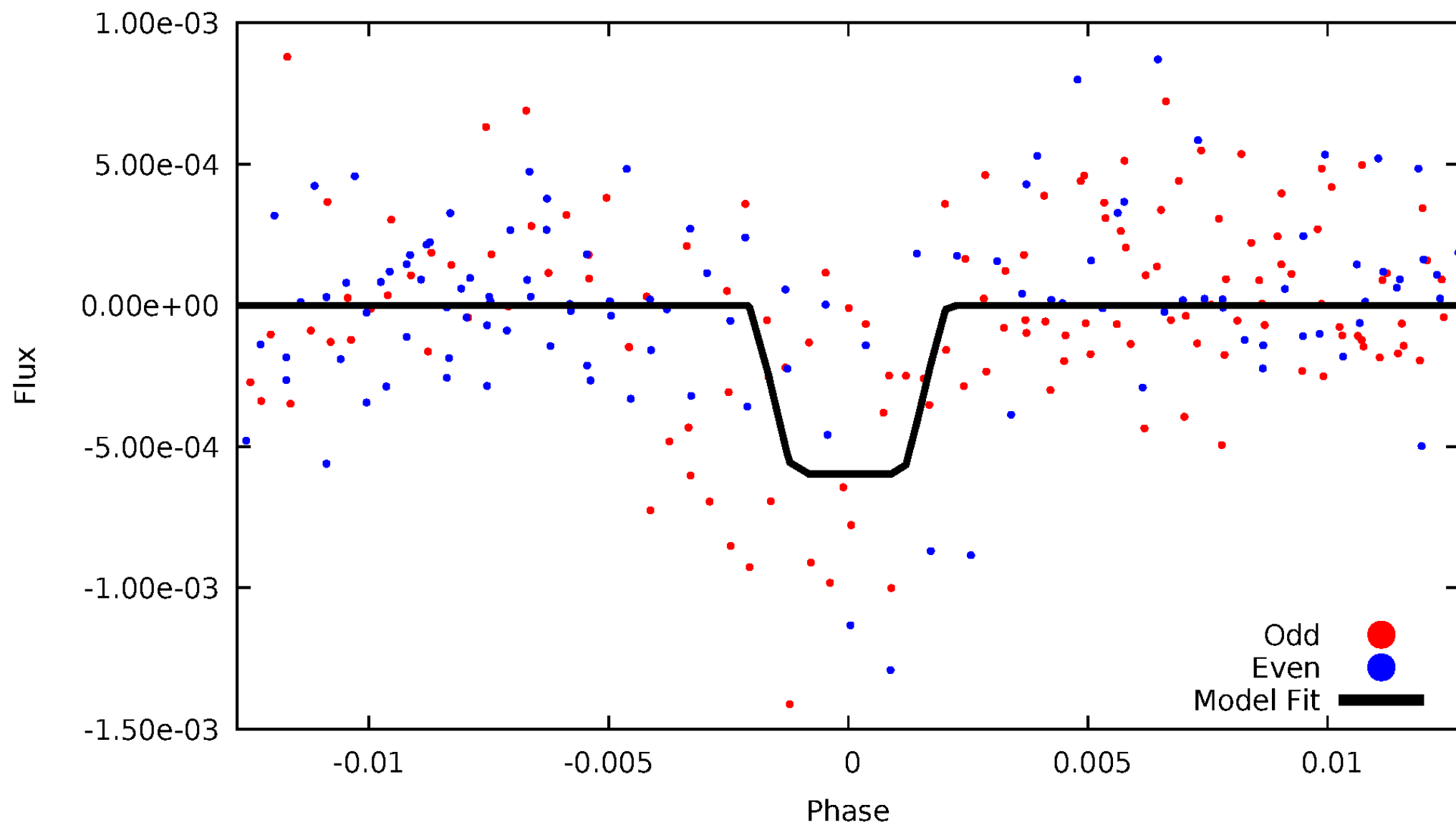
DV Odd/Even

TCE 002447832-06



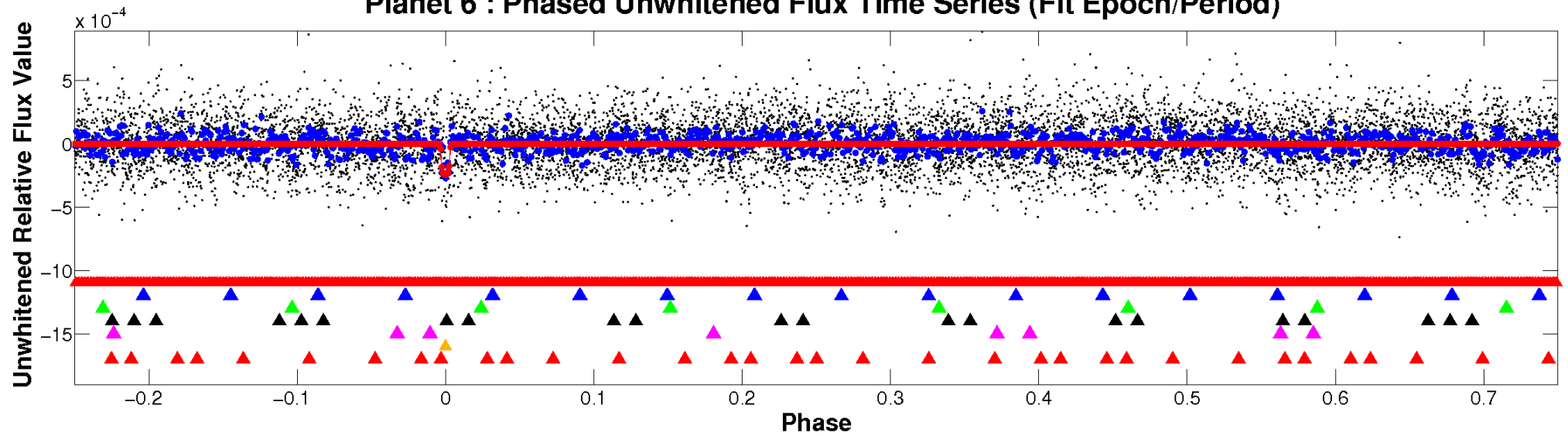
ALT Odd/Even

TCE 002447832-06

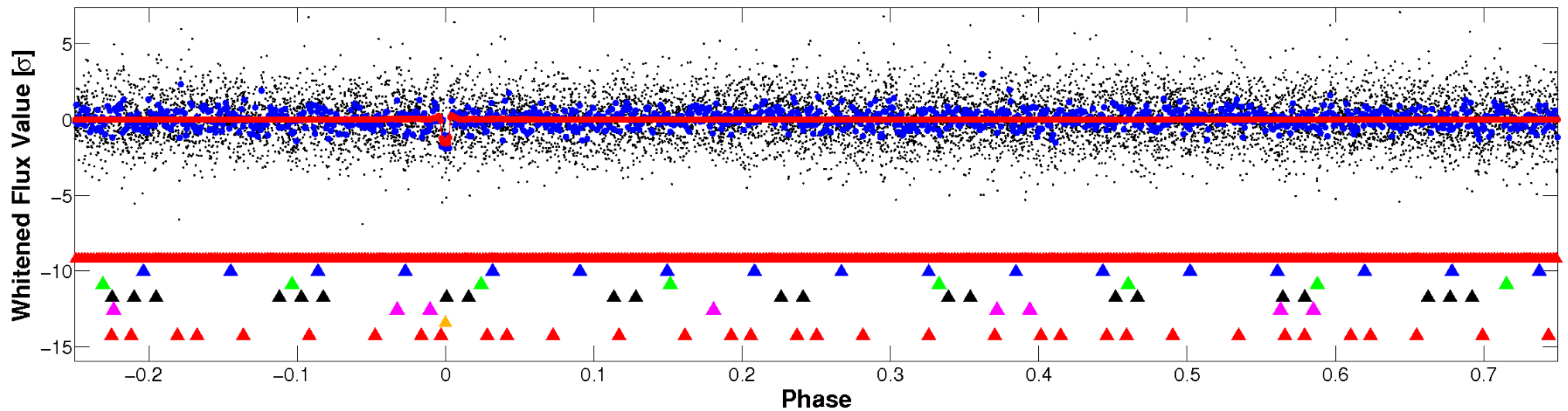


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

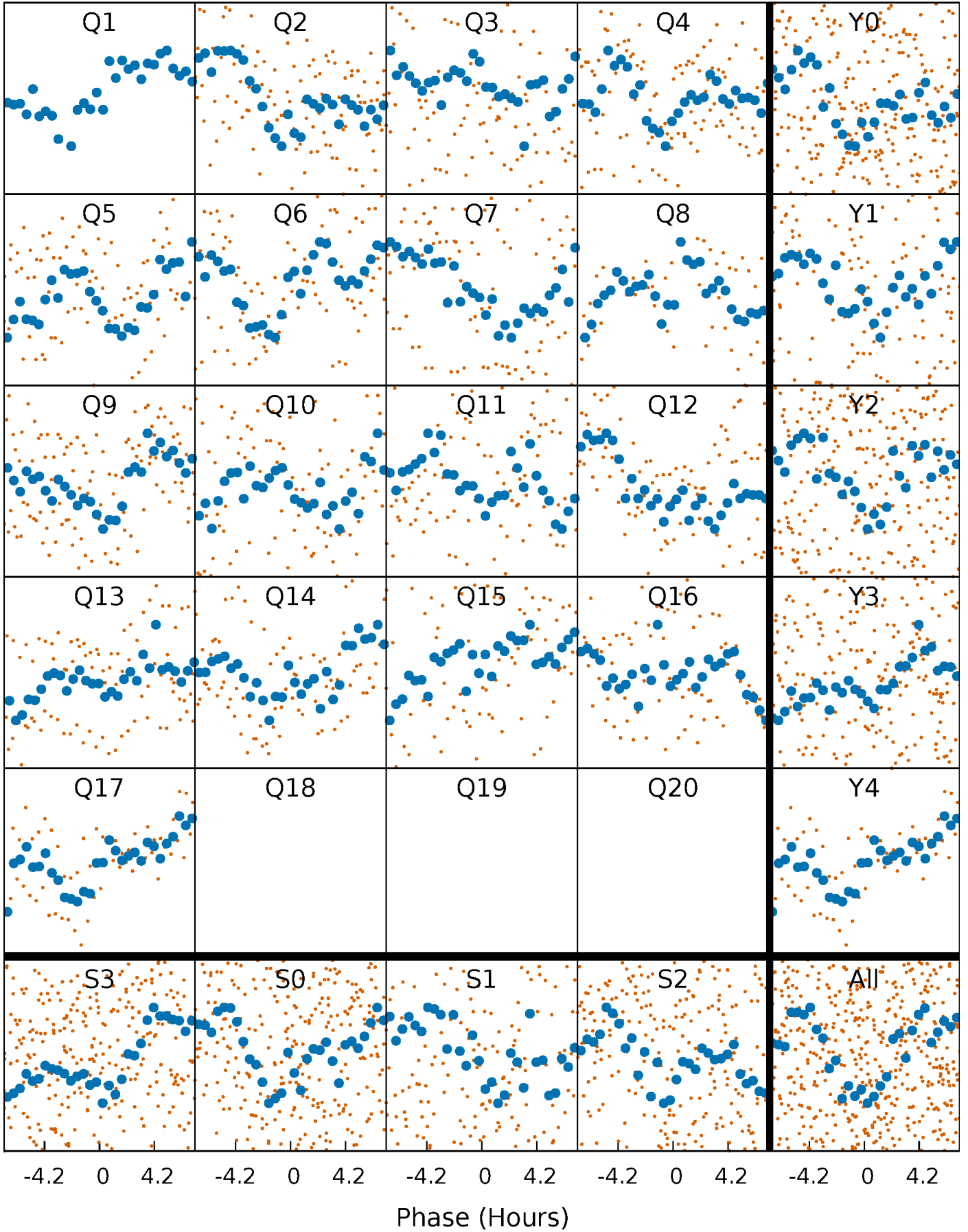


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



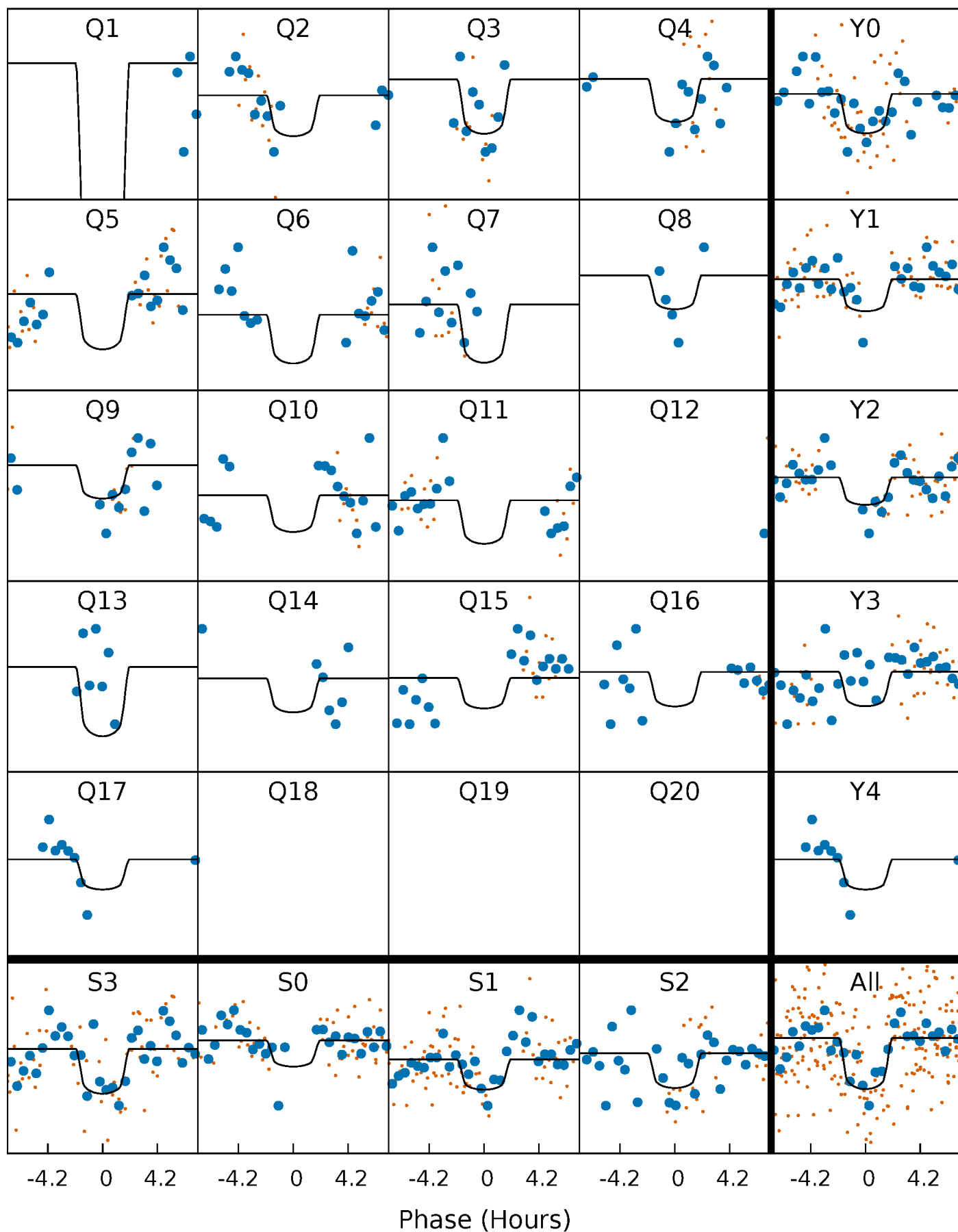
PDC Quarter-Phased Transit Curves

TCE 002447832-06 P= 24.391322 Days $T_0=148.019870$ (BKJD)



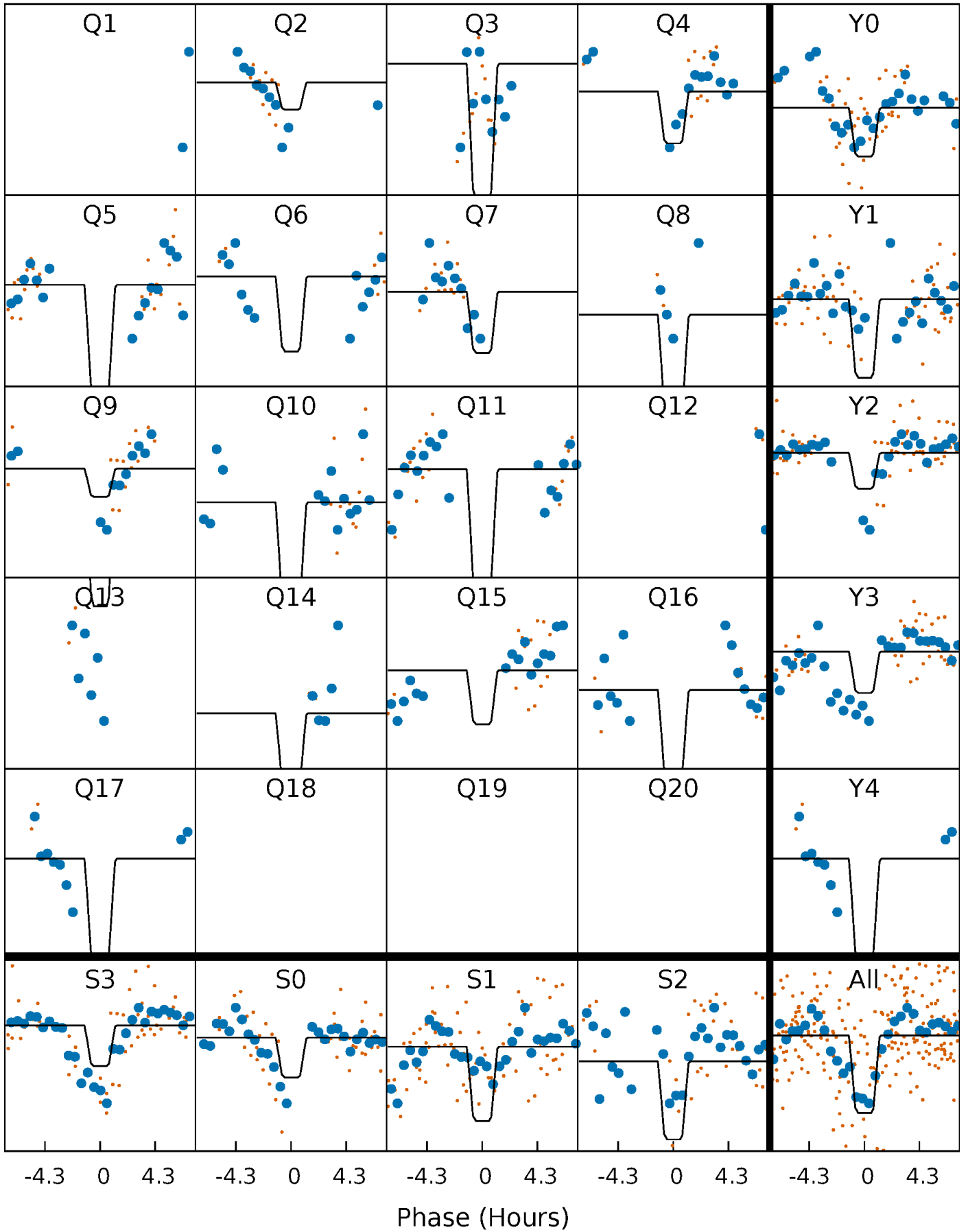
DV Quarter-Phased Transit Curves

TCE 002447832-06 P= 24.391322 Days $T_0=148.019870$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

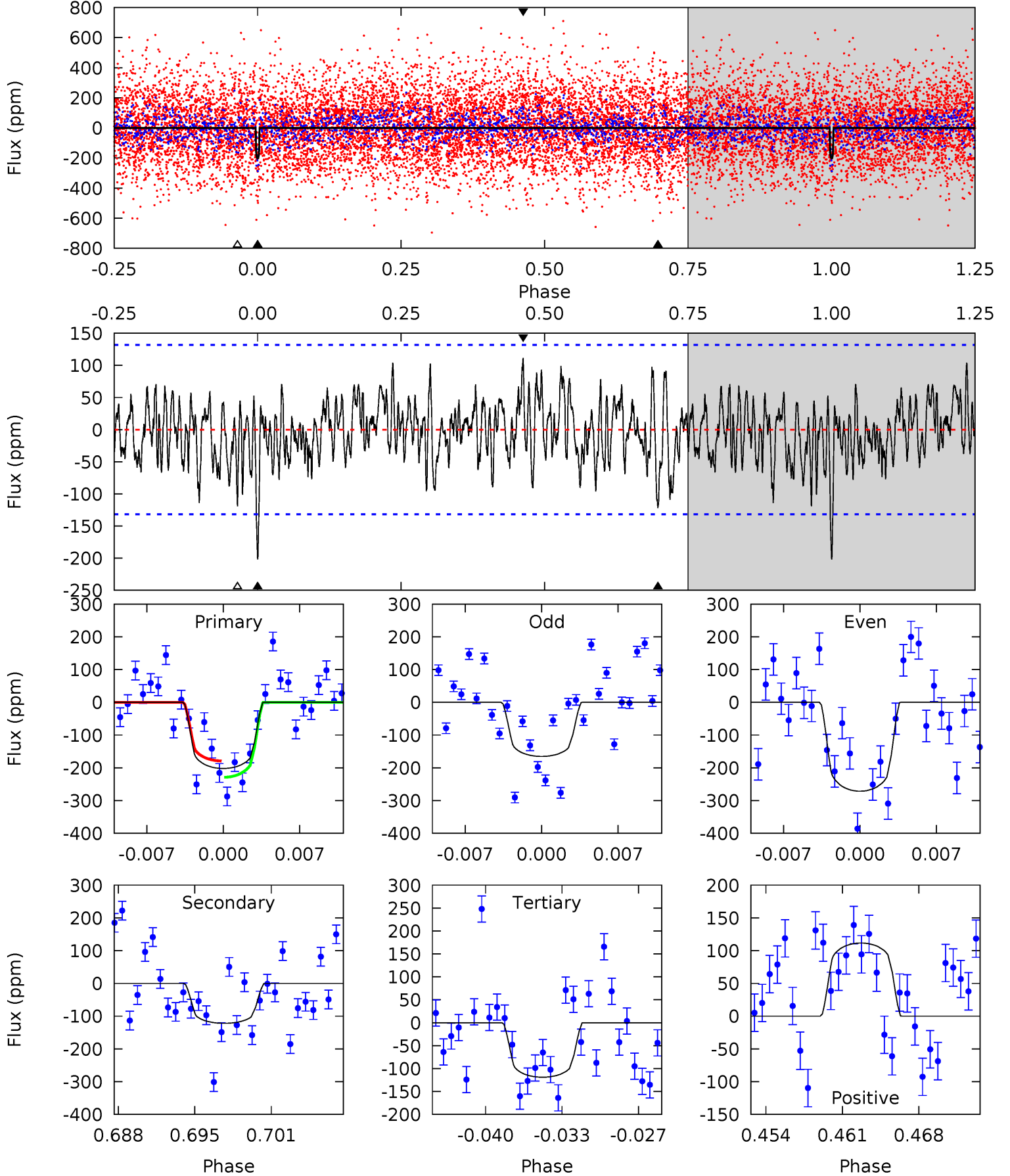
TCE 002447832-06 P= 24.392223 Days $T_0=147.989664$ (BKJD)



DV Model-Shift Uniqueness Test

002447832-06, $P = 24.391322$ Days, $E = 123.628548$ Days

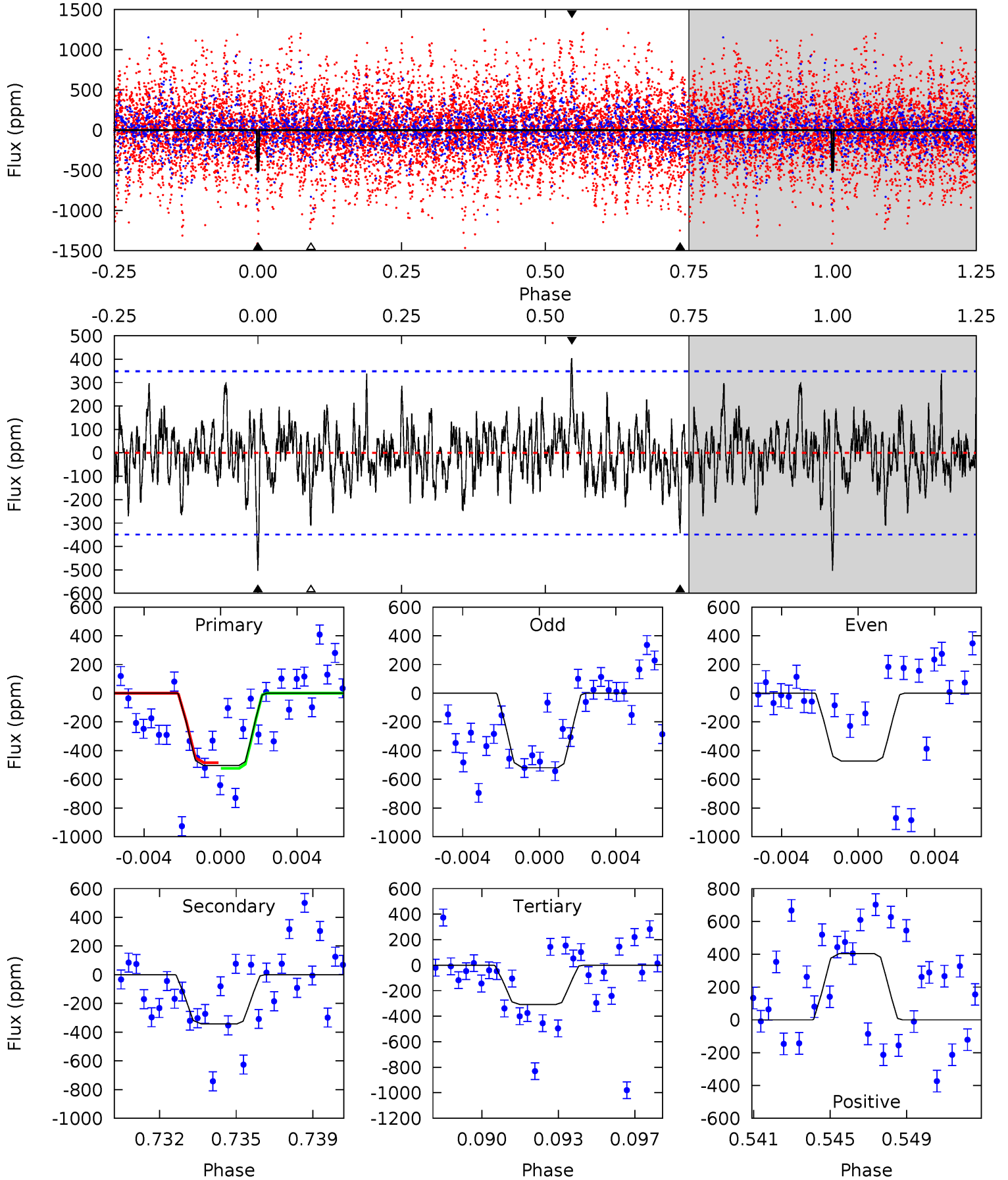
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.82	4.72	4.60	4.32	5.10	2.71	1.58	3.22	3.50	0.11	0.40	1.96	0.75	0.36	0.96



Alt Model-Shift Uniqueness Test

002447832-06, P = 24.392223 Days, E = 123.597441 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.53	5.12	4.61	6.03	5.21	2.90	1.45	2.92	1.50	0.50	-0.92	0.33	1.33	0.44	0.30



Stellar Parameters For KIC 002447832

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6446^{+205}_{-228}	$4.117^{+0.336}_{-0.168}$	$-0.780^{+0.300}_{-0.300}$	$1.393^{+0.359}_{-0.439}$	$0.926^{+0.123}_{-0.089}$	$0.483^{+0.952}_{-0.211}$
	+3%/-4%	+8%/-4%	+38%/-38%	+26%/-32%	+13%/-10%	+197%/-44%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 002447832-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-122 ± 26	$2.84^{+2.18}_{-1.83}$	1158^{+92}_{-106}	4957^{+3364}_{-966}	223^{+1446}_{-153}
Alt.	-343 ± 67	$3.72^{+2.54}_{-1.94}$	1158^{+95}_{-111}	5580^{+2307}_{-1079}	353^{+1256}_{-231}

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 $A_{obs} \gg 1.0$

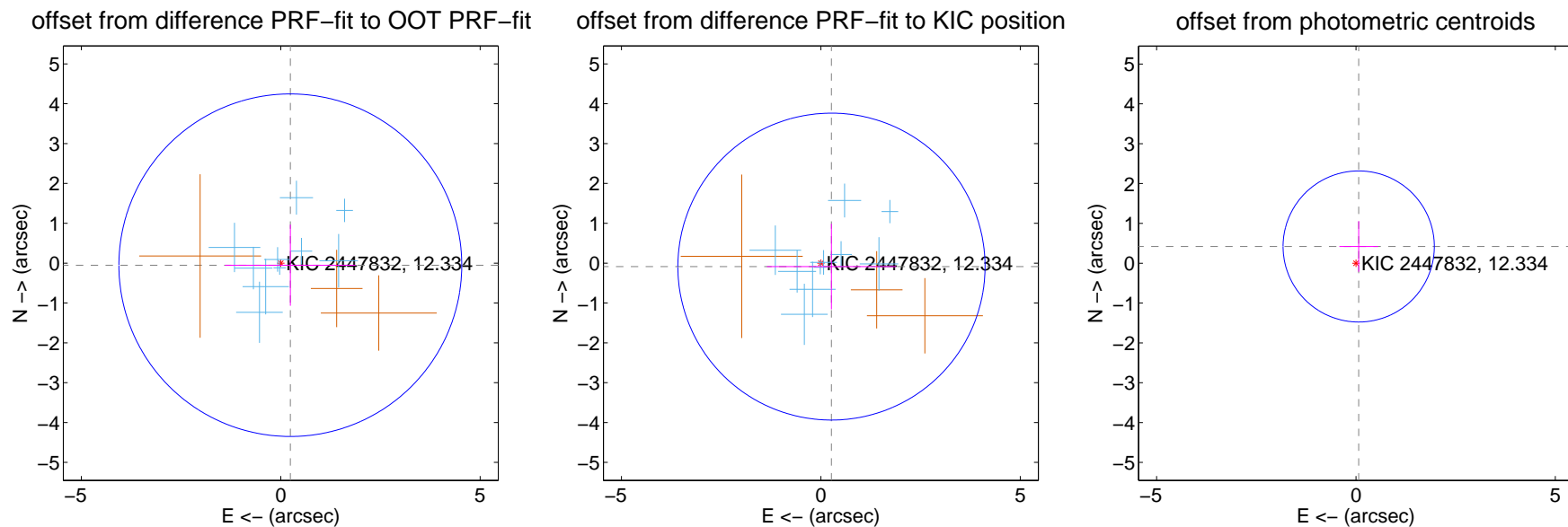
DV Centroid Data

Supplemental centroid analysis for 002447832-06. Kepler magnitude: 12.33. Transit SNR 9.30

There are 10 quarters with good PRF difference image offsets

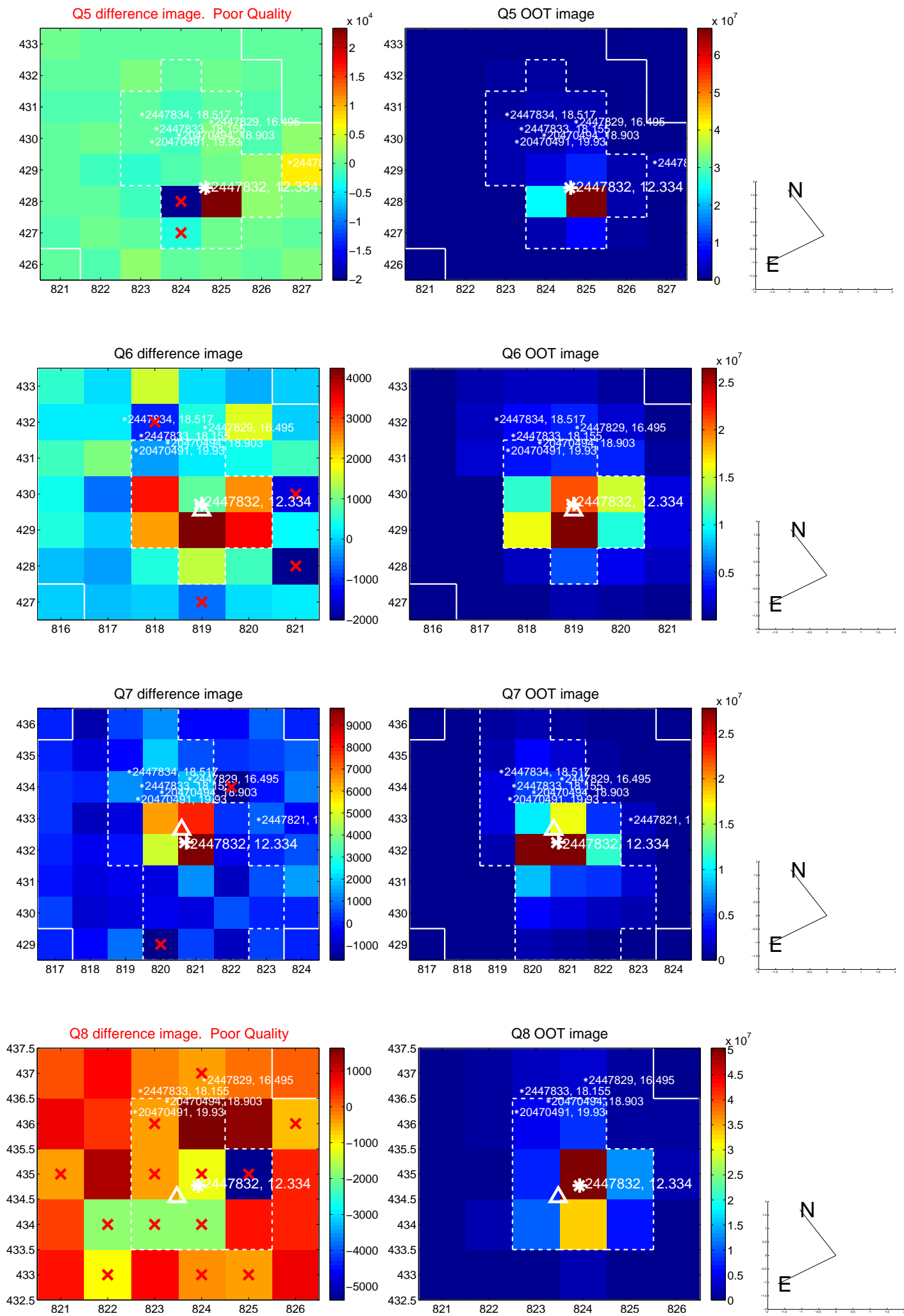
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.246 ± 1.432	0.17	-0.240 ± 1.635	-0.052 ± 1.018
PRF-fit source offset from KIC position	0.280 ± 1.284	0.22	-0.266 ± 1.620	-0.087 ± 1.074
photometric centroid source offset	0.43 ± 0.63	0.67	-0.07 ± 0.49	0.42 ± 0.64

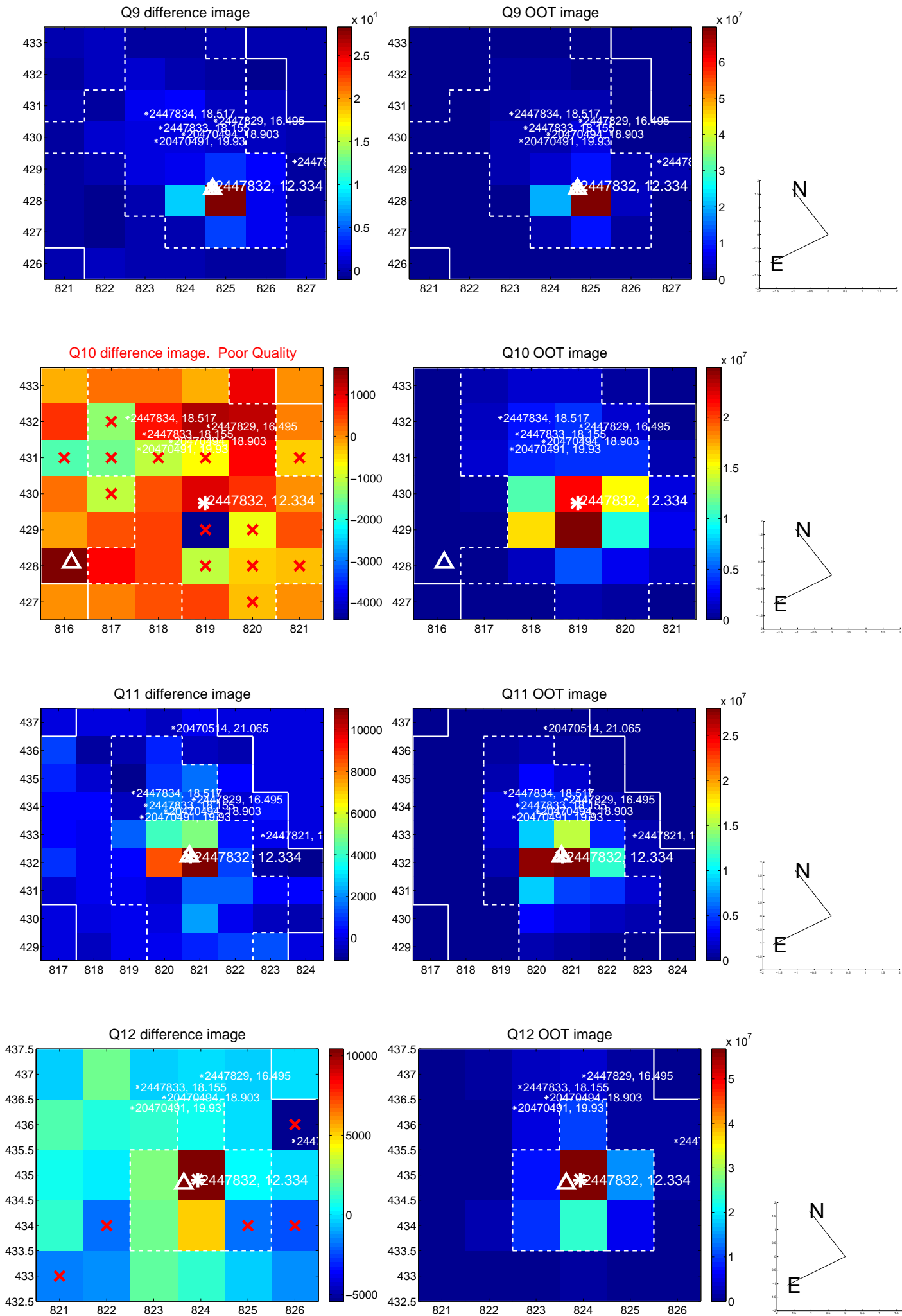


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

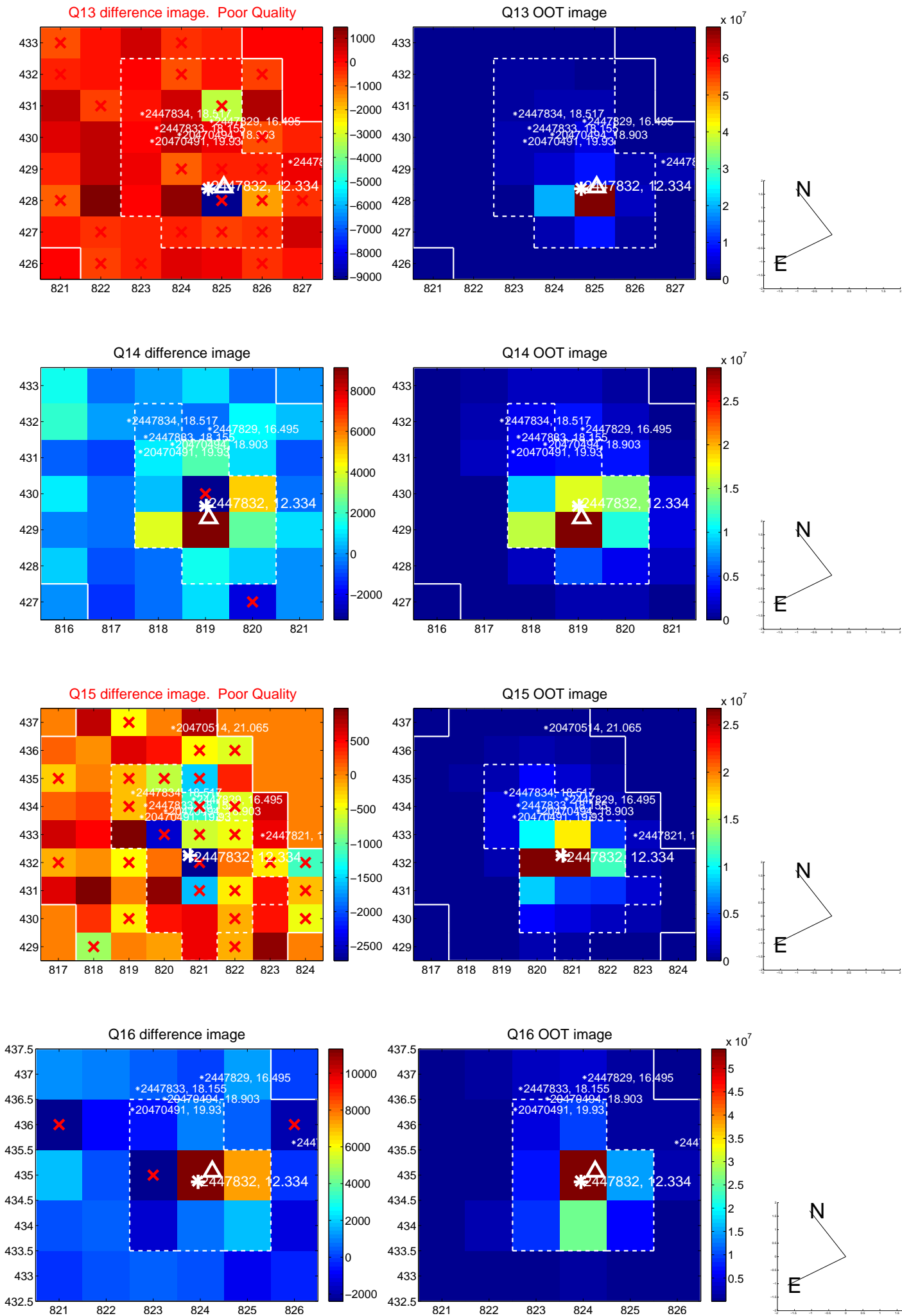
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



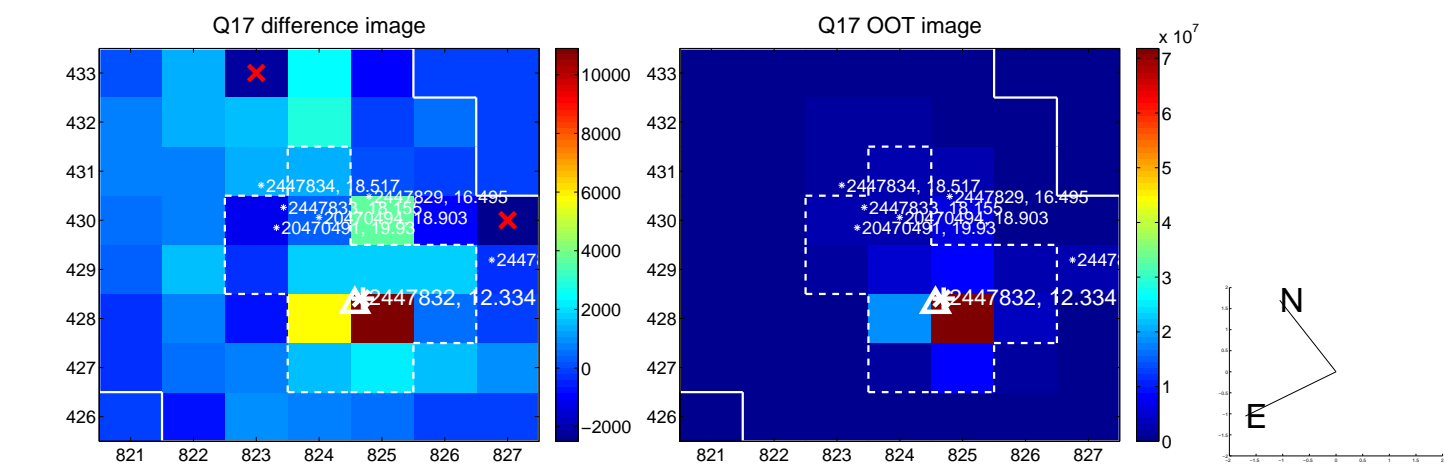
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



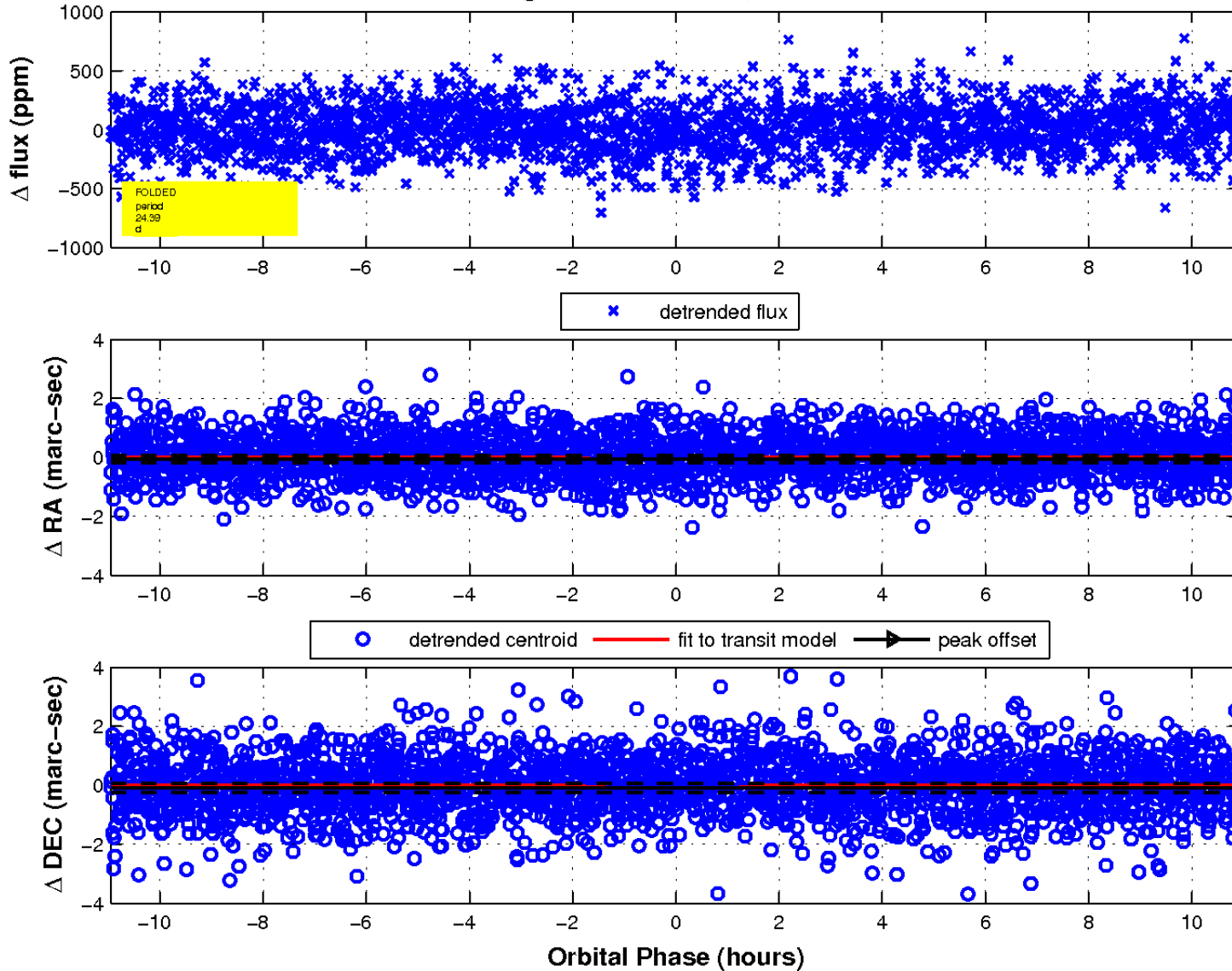
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

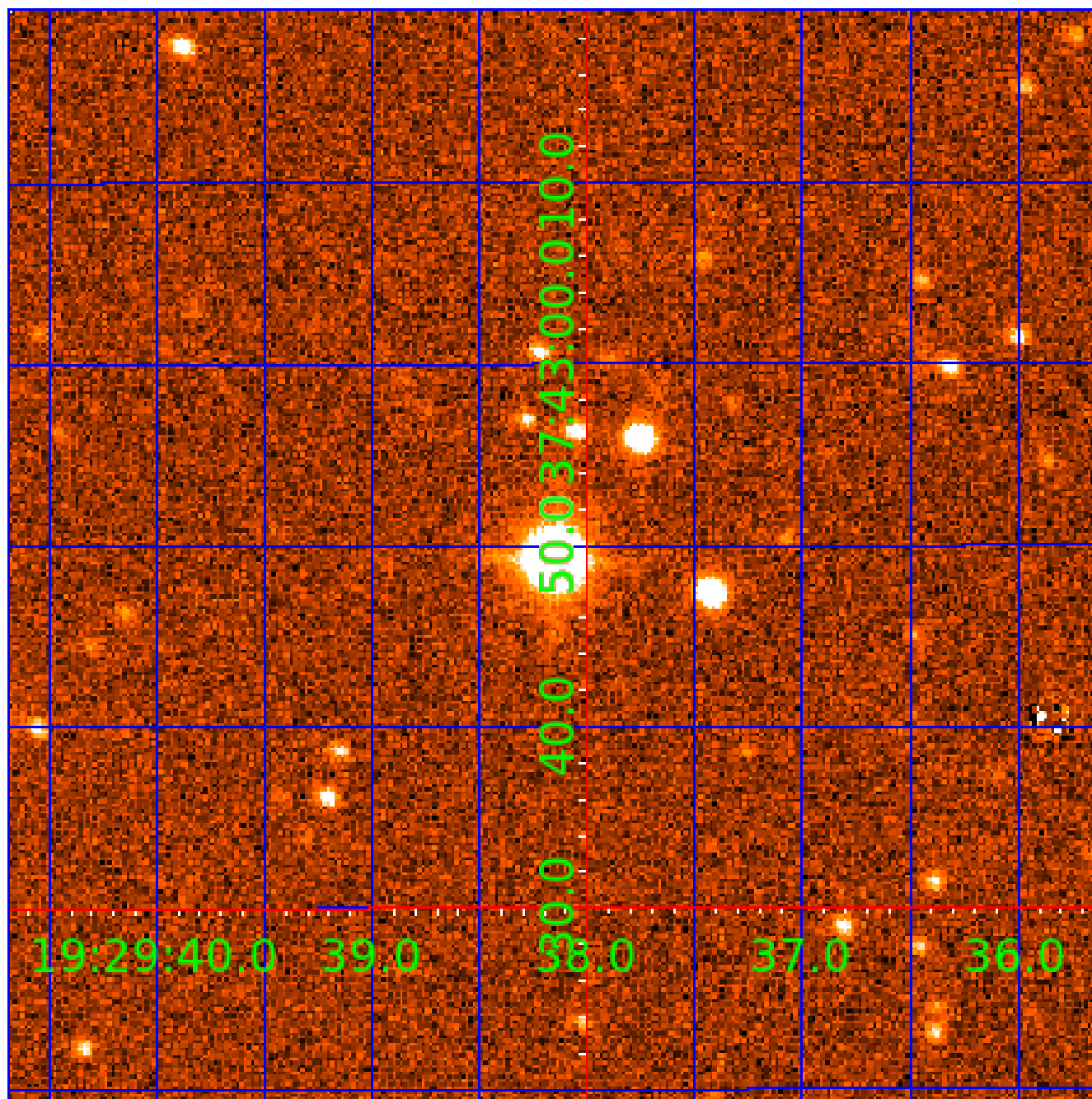


fluxWeightedCentroids, Planet 6 of 7



UKIRT Image

Declination



KIC 002447832

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})
002447832-01	OBS	No	0.921355	132.186367	15.1	5.945	9.4	6.5	1.39	6446	0.58	9192.92
002447832-02	OBS	No	47.346945	153.110230	96.1	31.858	9.9	6.6	1.39	6446	1.37	48.12
002447832-03	OBS	No	181.379735	189.859579	433.2	7.910	9.8	9.1	1.39	6446	3.22	8.03
002447832-04	OBS	No	70.423650	170.402747	325.5	0.740	8.3	5.5	1.39	6446	2.84	28.34
002447832-05	OBS	No	204.995092	137.361467	455.9	6.102	9.2	8.8	1.39	6446	3.79	6.82
002447832-06	OBS	No	24.391322	148.019870	244.0	3.650	9.5	9.3	1.39	6446	2.42	116.51
002447832-07	OBS	No	43.687604	134.829277	292.8	1.394	8.8	9.6	1.39	6446	2.41	53.56

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002447832-01	OBS	FP	0.00	1	0	0	0	LPP_DV
002447832-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_MEAS
002447832-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
002447832-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS—HALO_GHOST
002447832-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
002447832-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT
002447832-07	OBS	FP	0.00	1	0	1	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—HALO_GHOST

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

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

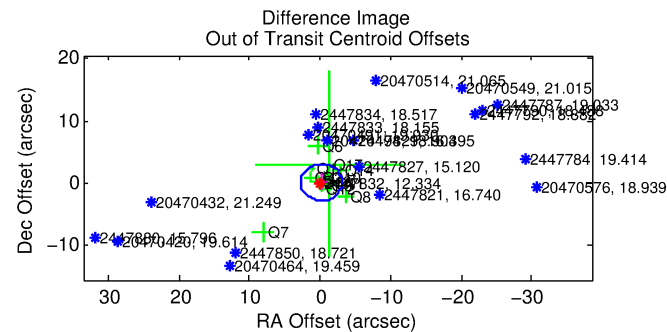
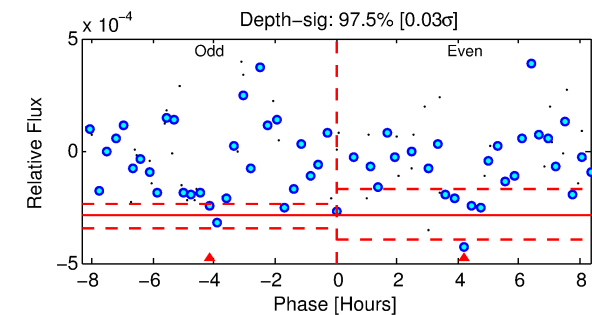
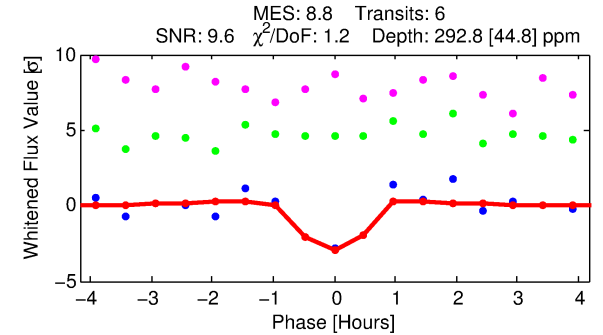
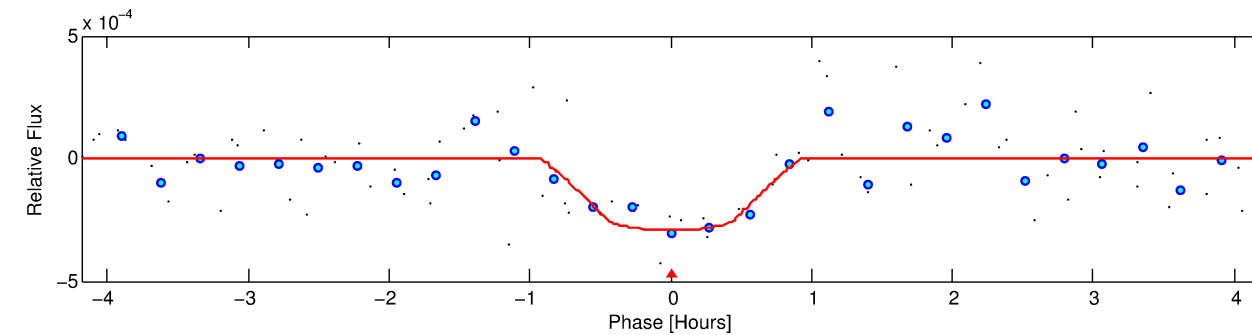
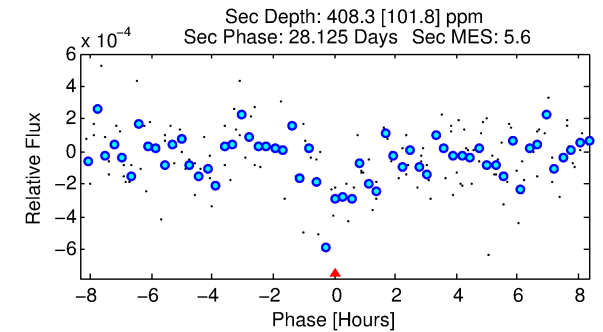
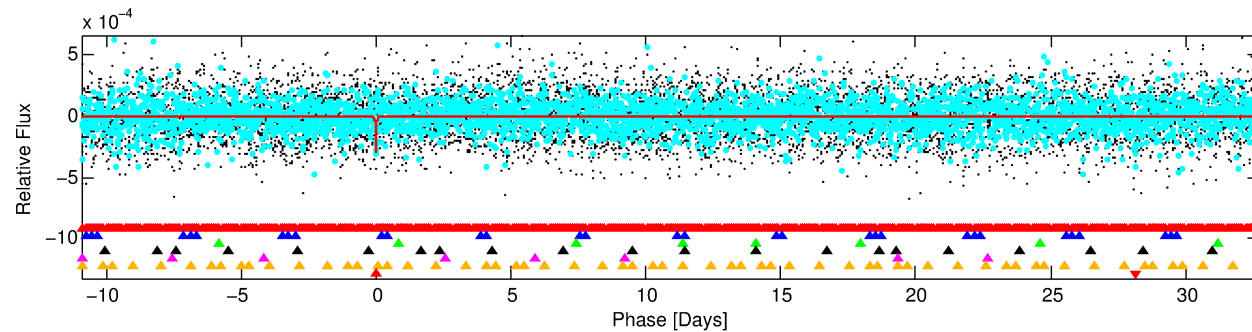
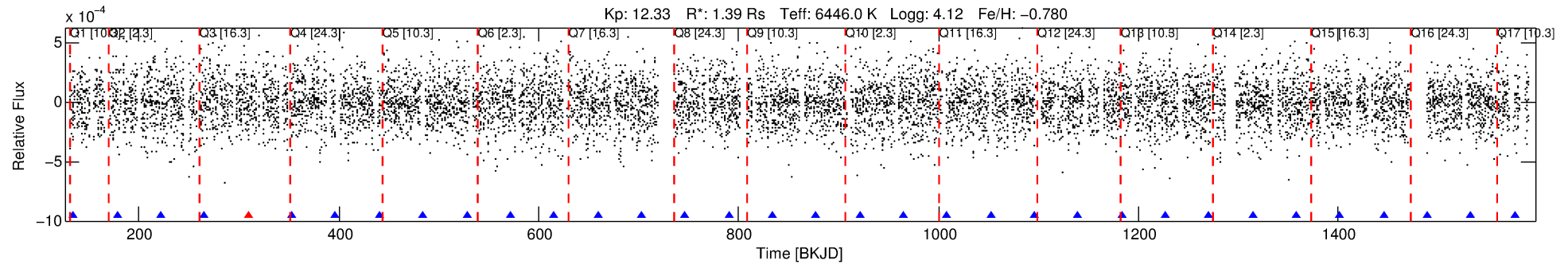
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002447832-07

No Significant Match Found

DV One-Page Summary

KIC: 2447832 Candidate: 7 of 7 Period: 43.688 d



DV Fit Results:

Period = 43.68760 [0.00027] d
Epoch = 134.8293 [0.0053] BKJD
Rp/R* = 0.0158 [0.0244]
a/R* = 242.16 [1960.98]
b = 0.09 [86.77]
Seff = 53.56 [30.78]
Teq = 690 [99] K
Rp = 2.41 [3.79] Re
a = 0.2367 [0.0787] AU
Ag = 2169.52 [6819.60] [0.32 σ]
Teffp = 7279 [5636] K [1.17 σ]

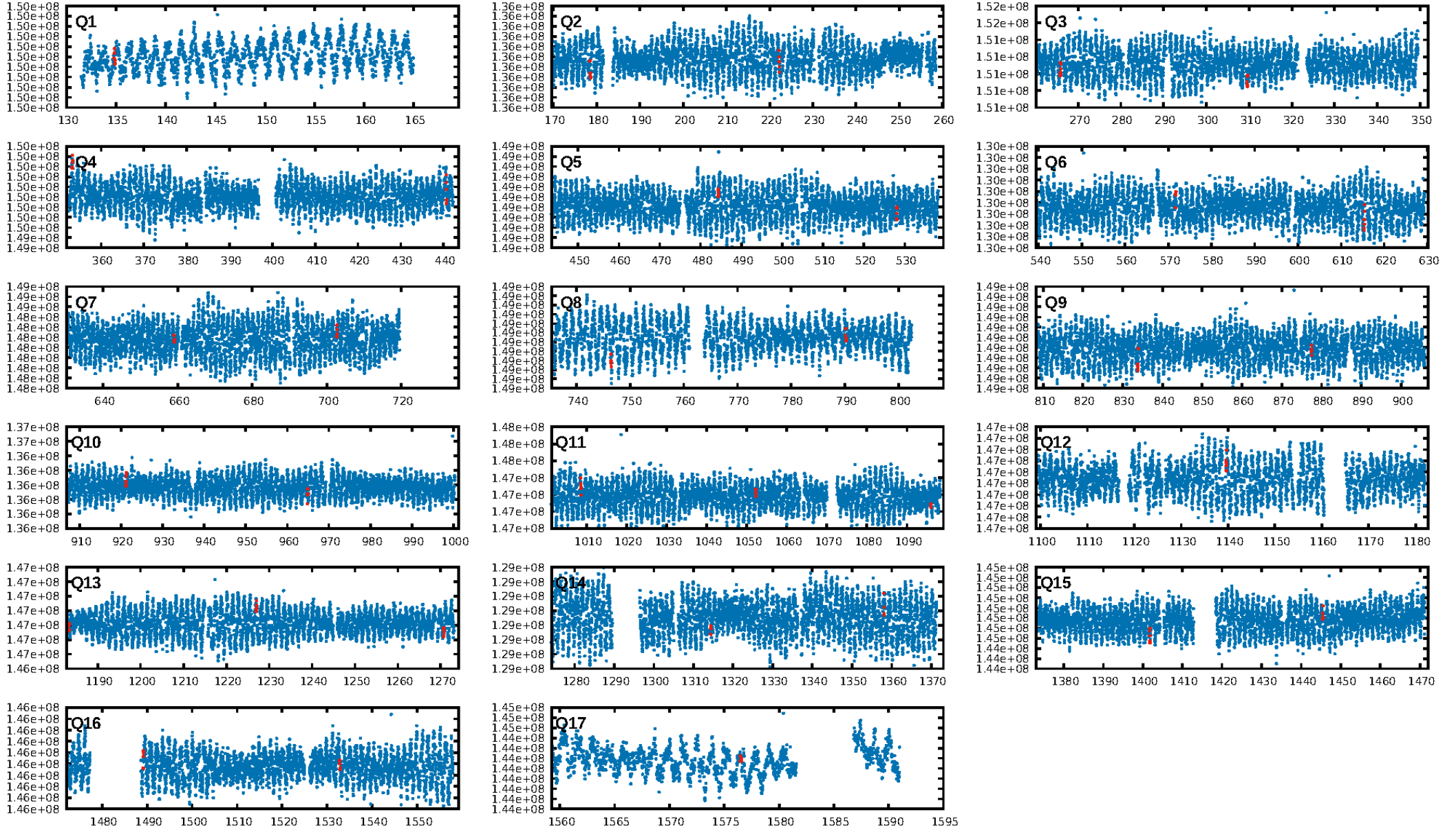
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [118.52 σ]
LongPeriod-sig: 99.4% [2.75 σ]
ModelChiSquare2-sig: 61.7%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 3.27e-08
RollingBand-fgt: 0.83 [5/6]
GhostDiagnostic-chr: 0.2424
Centroid-sig: 0.3%
Centroid-so: 2.018 arcsec [1.97 σ]
OotOffset-rm: 0.225 arcsec [0.23 σ]
KicOffset-rm: 0.245 arcsec [0.26 σ]
OotOffset-st: 3/3/3/4 [13]
KicOffset-st: 3/3/3/4 [13]
DiffImageQuality-fgm: 0.23 [3/13]
DiffImageOverlap-fno: 0.35 [6/17]

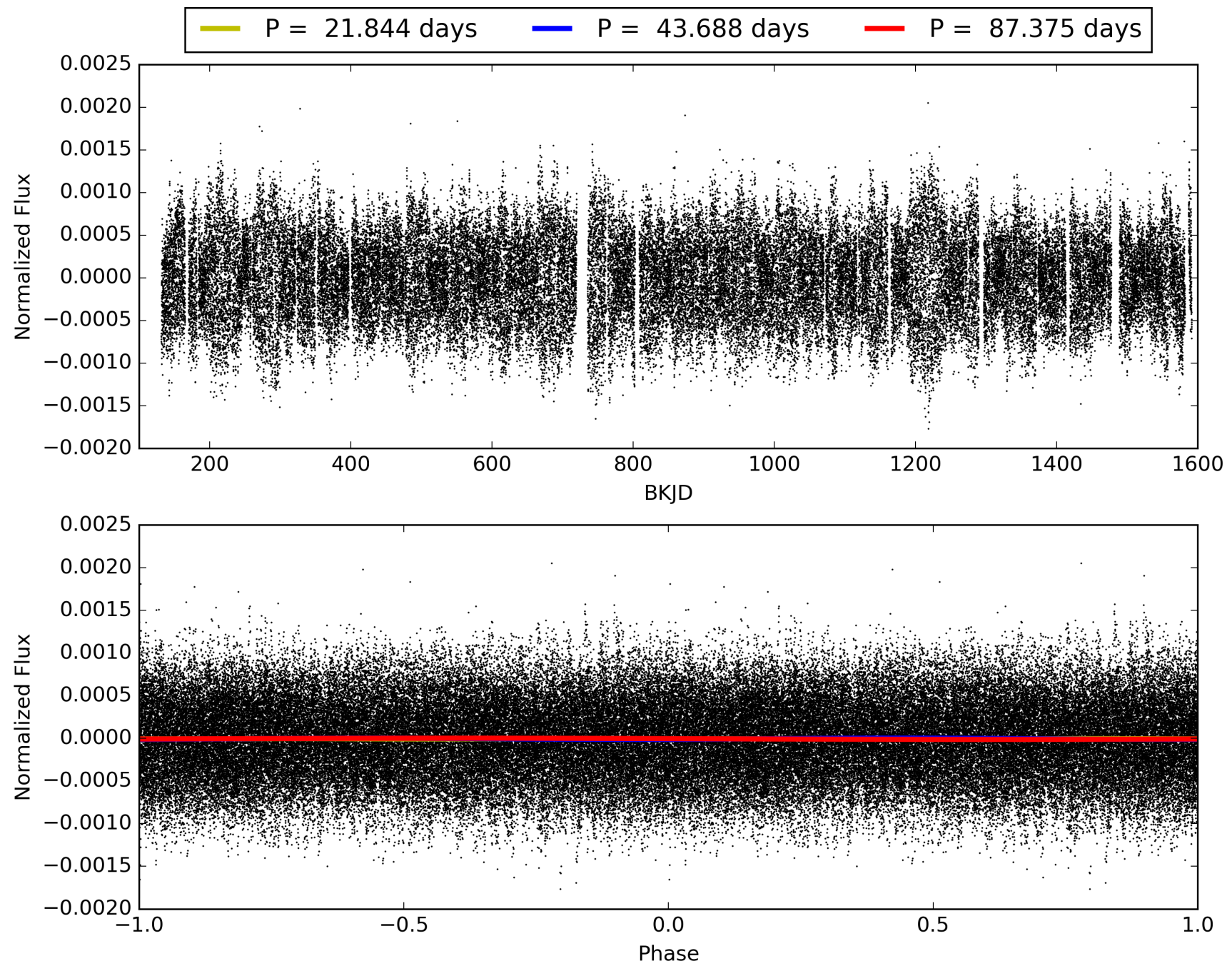
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 20:13:08 Z

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

TCE 002447832-07, PDC Light Curves

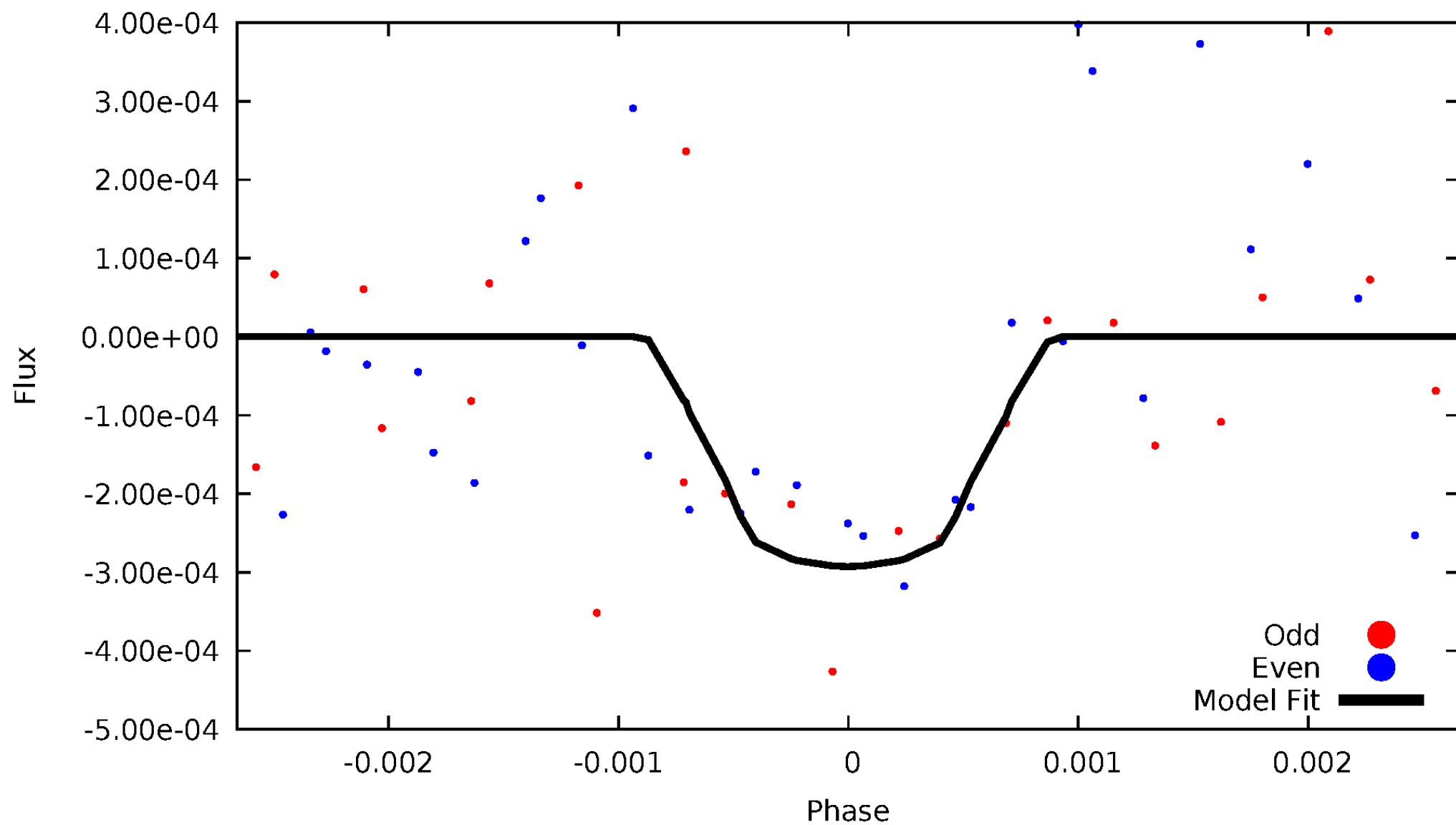


TCE 002447832-07



DV Odd/Even

TCE 002447832-07

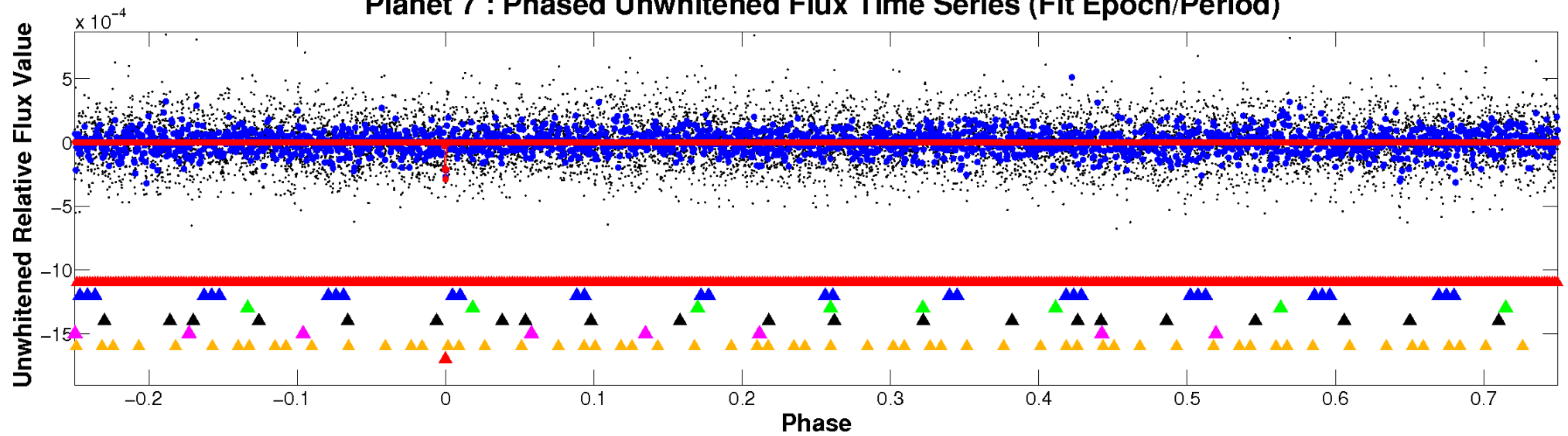


ALT Odd/Even

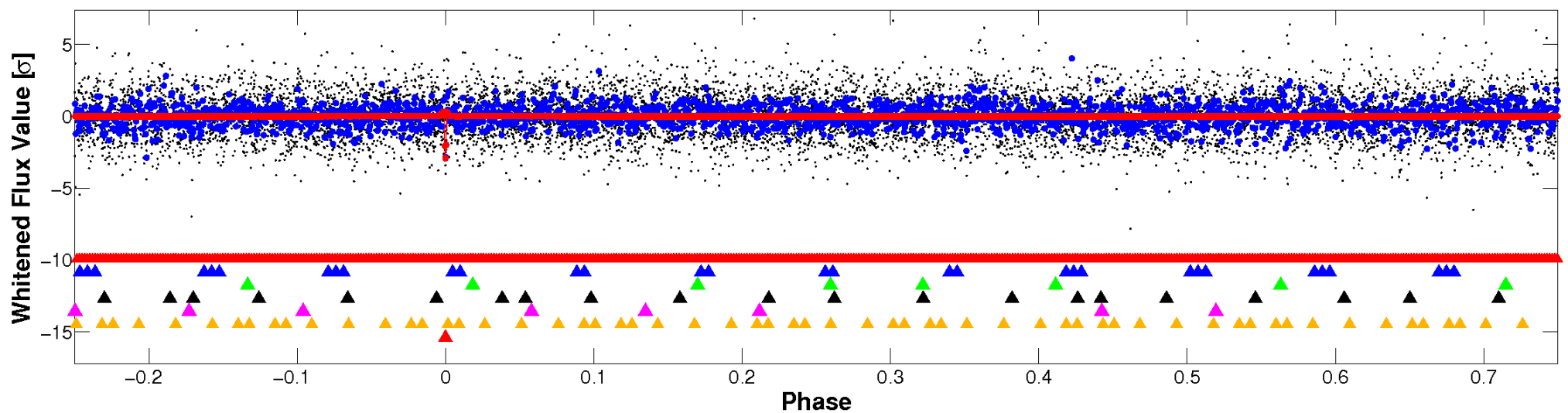
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

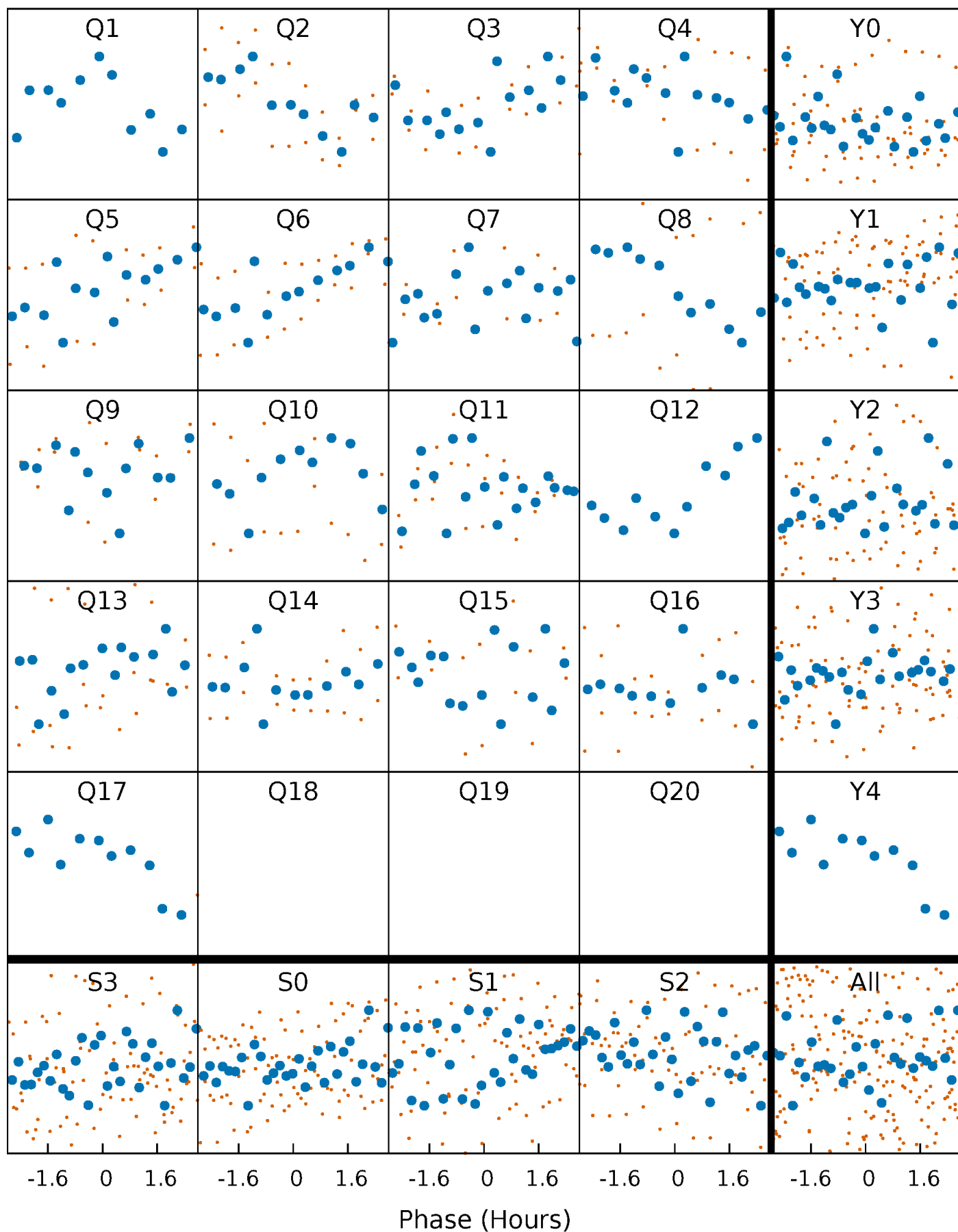


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



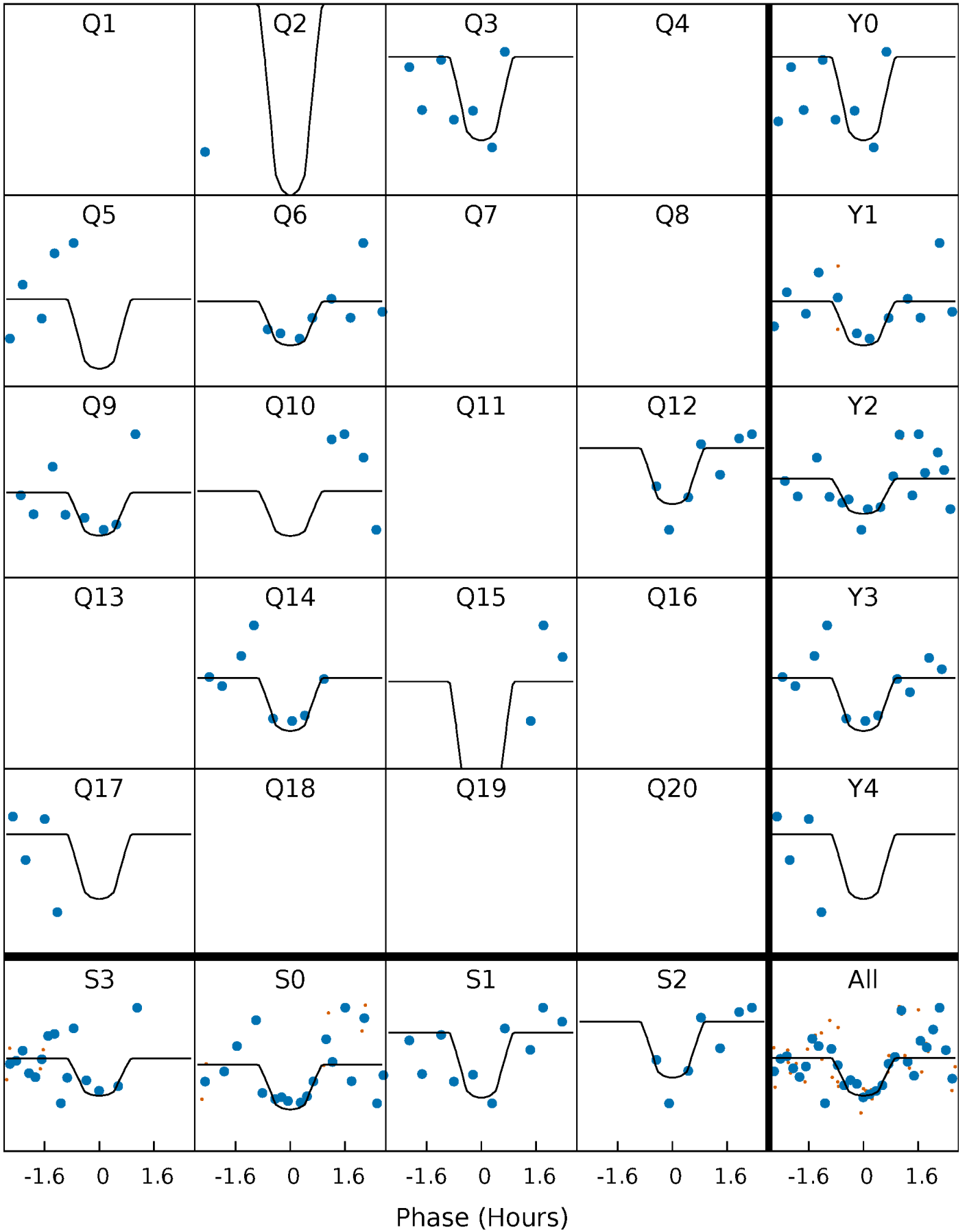
PDC Quarter-Phased Transit Curves

TCE 002447832-07 $P = 43.687604$ Days $T_0 = 134.829277$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 002447832-07 $P = 43.687604$ Days $T_0 = 134.829277$ (BKJD)

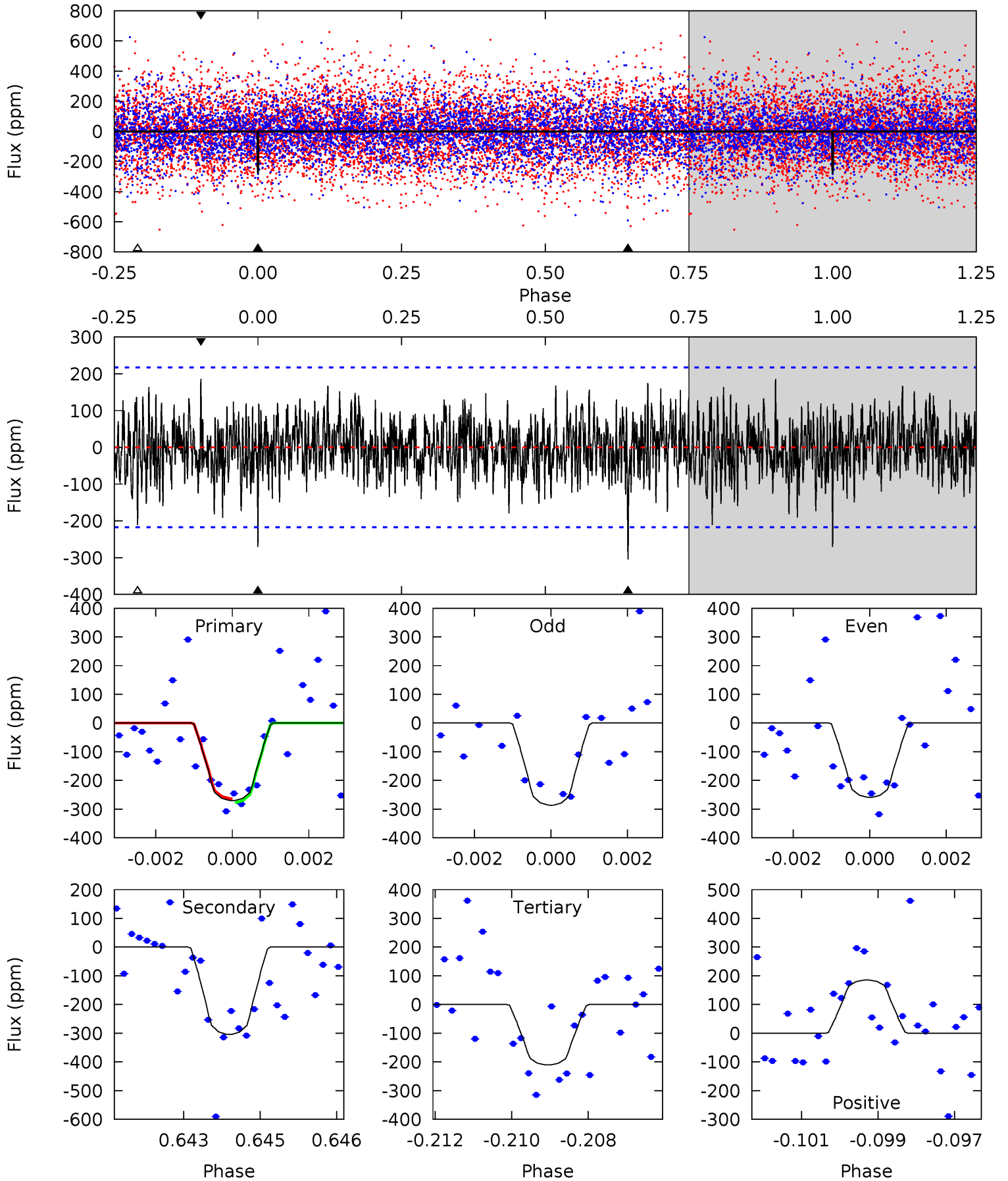


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

002447832-07, P = 43.687604 Days, E = 91.141673 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.66	7.50	5.19	4.56	5.35	3.13	1.47	1.47	2.09	2.31	2.94	0.34	1.08	0.38	0.17



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 002447832

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6446^{+205}_{-228}	$4.117^{+0.336}_{-0.168}$	$-0.780^{+0.300}_{-0.300}$	$1.393^{+0.359}_{-0.439}$	$0.926^{+0.123}_{-0.089}$	$0.483^{+0.952}_{-0.211}$
	+3%/-4%	+8%/-4%	+38%/-38%	+26%/-32%	+13%/-10%	+197%/-44%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 002447832-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-305 ± 41	$3.60^{+3.16}_{-2.39}$	951^{+82}_{-93}	5439^{+4459}_{-1206}	738^{+5374}_{-527}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

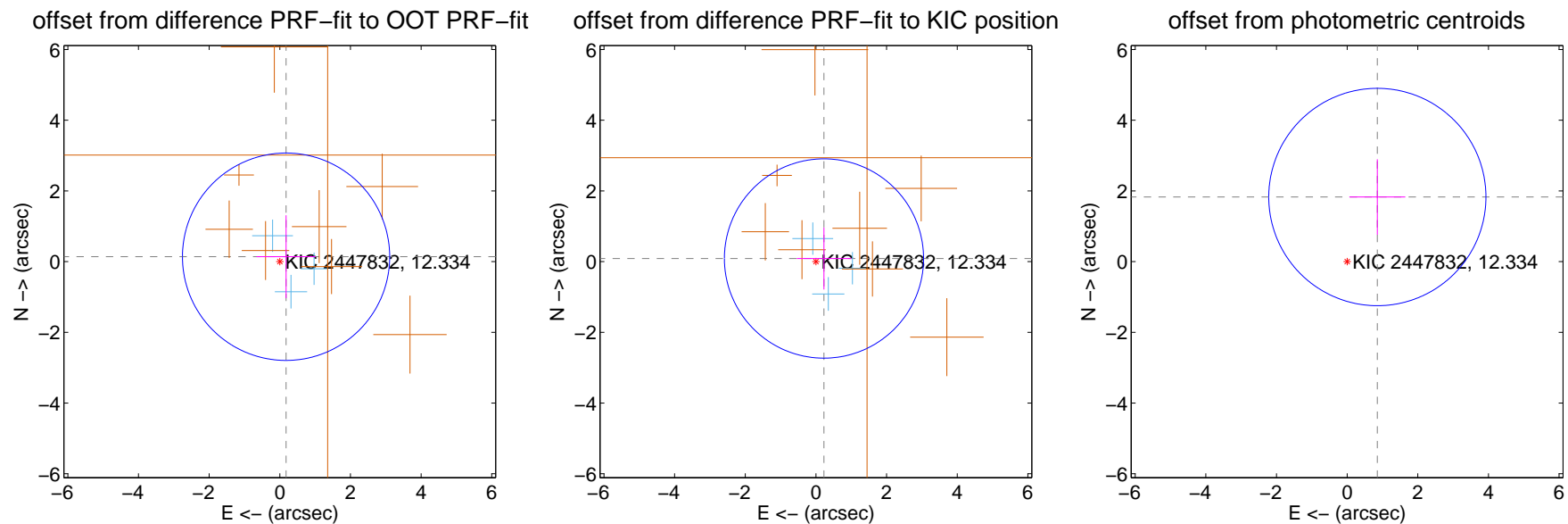
DV Centroid Data

Supplemental centroid analysis for 002447832-07. Kepler magnitude: 12.33. Transit SNR 9.64

There are 3 quarters with good PRF difference image offsets

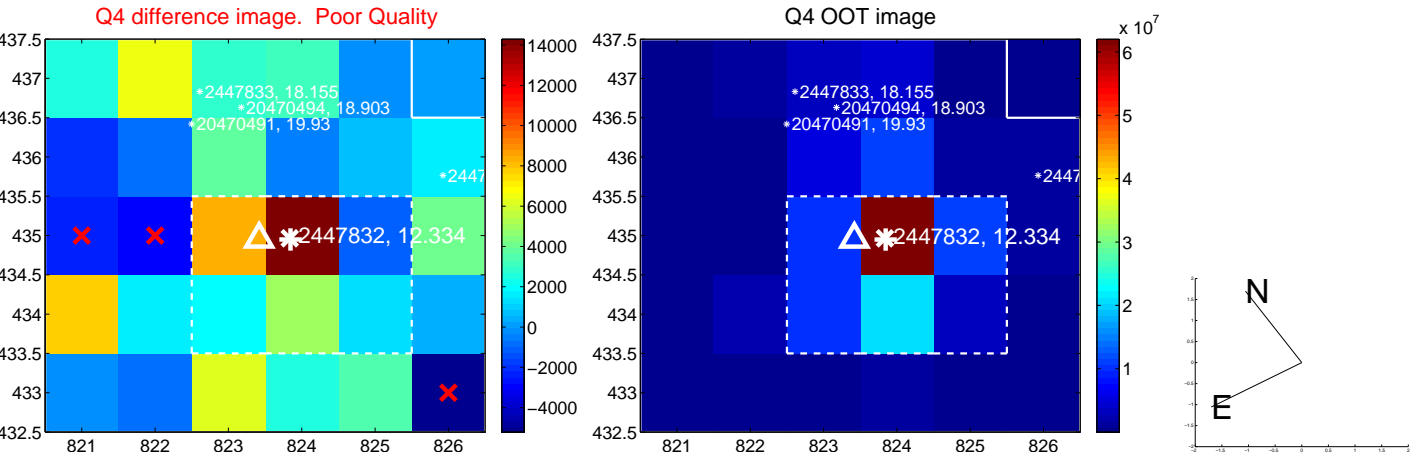
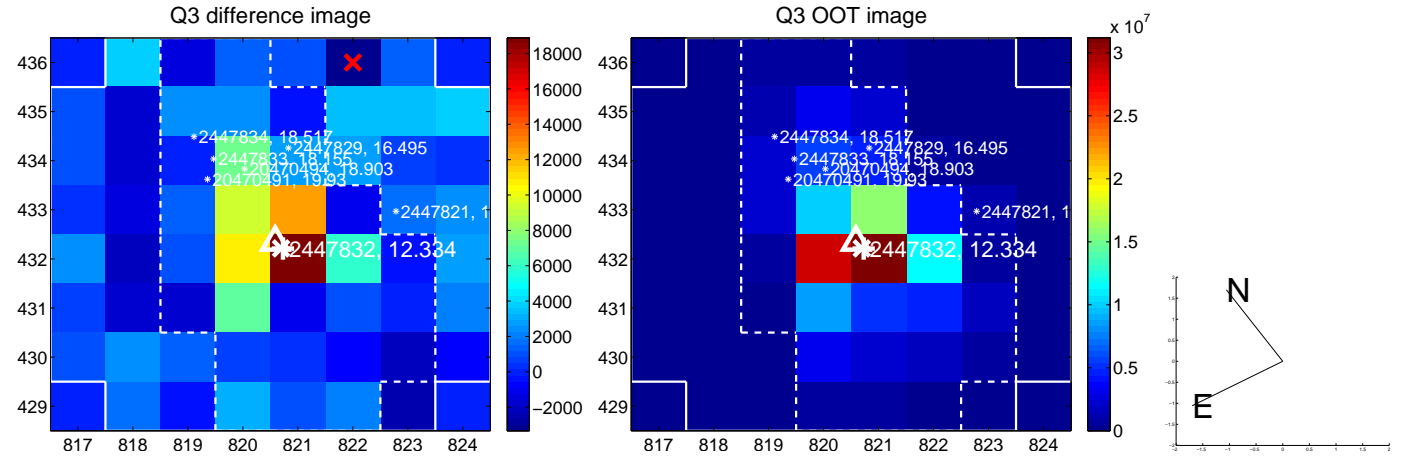
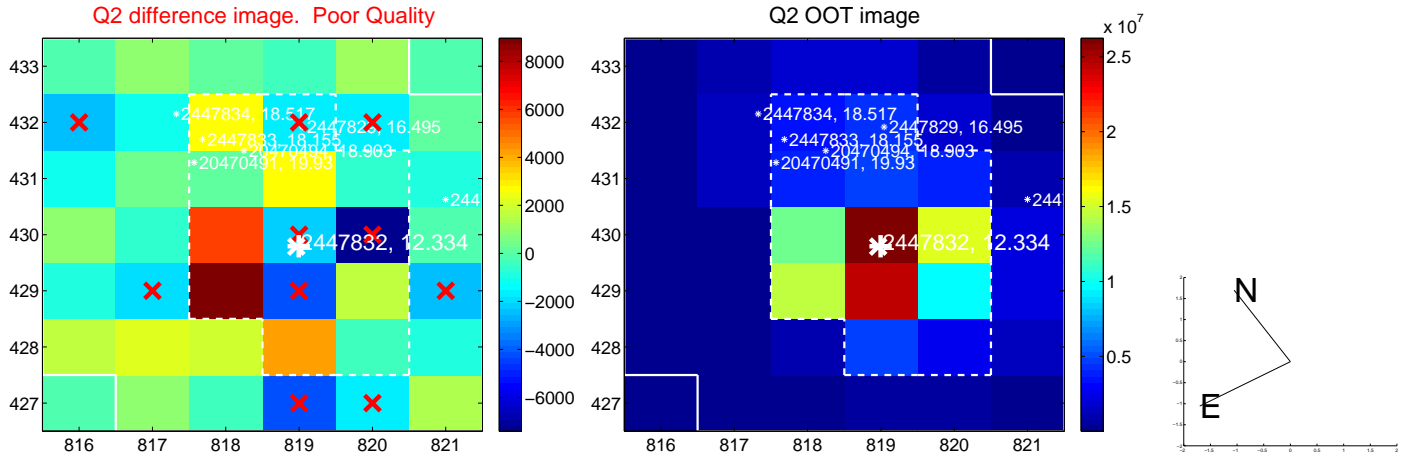
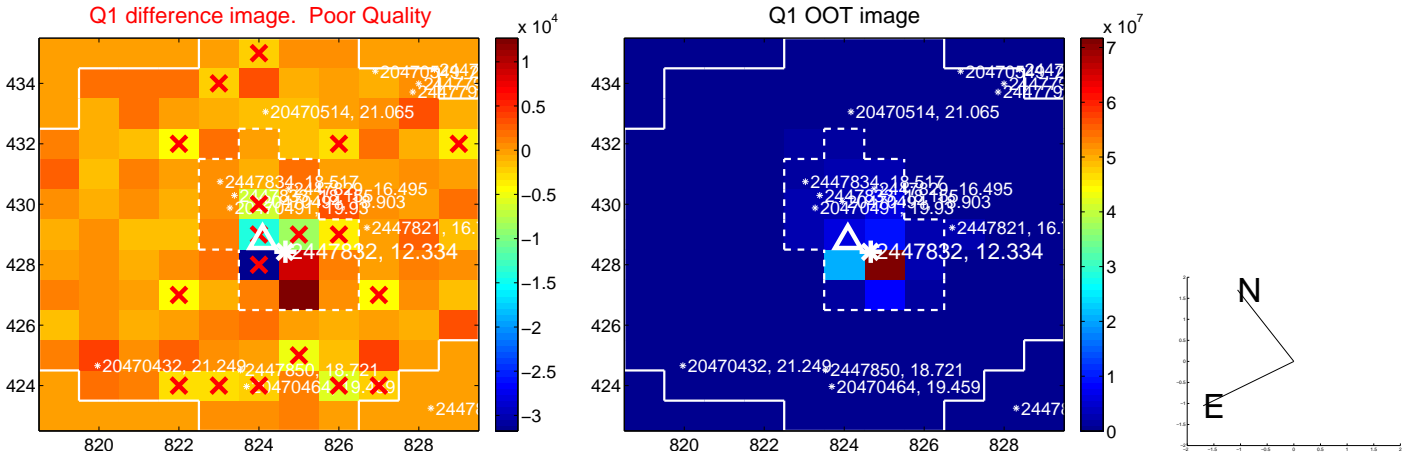
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.225 ± 0.978	0.23	-0.177 ± 0.836	0.139 ± 1.172
PRF-fit source offset from KIC position	0.245 ± 0.940	0.26	-0.228 ± 0.770	0.089 ± 0.877
photometric centroid source offset	2.02 ± 1.02	1.97	-0.85 ± 0.79	1.83 ± 1.07

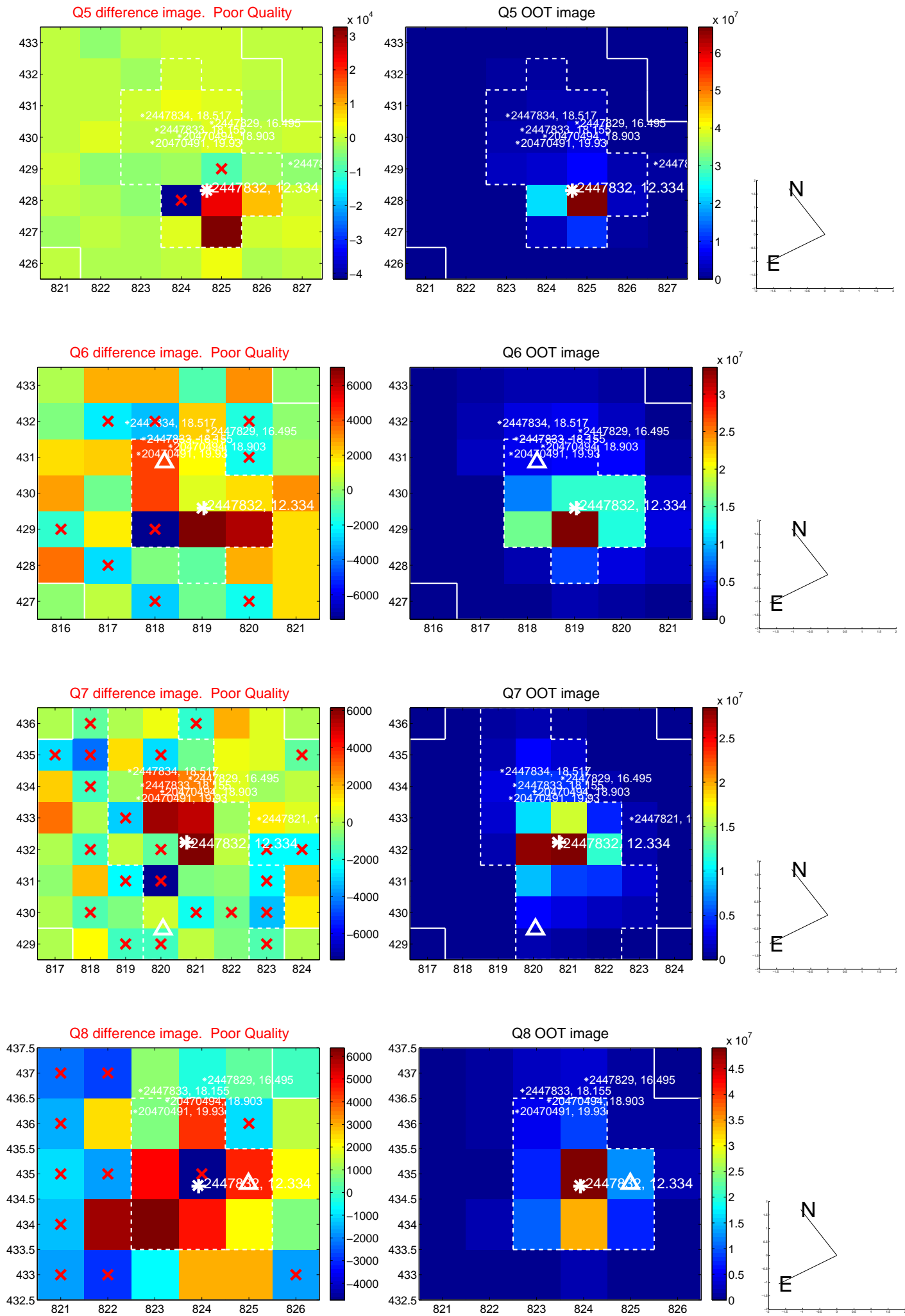


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

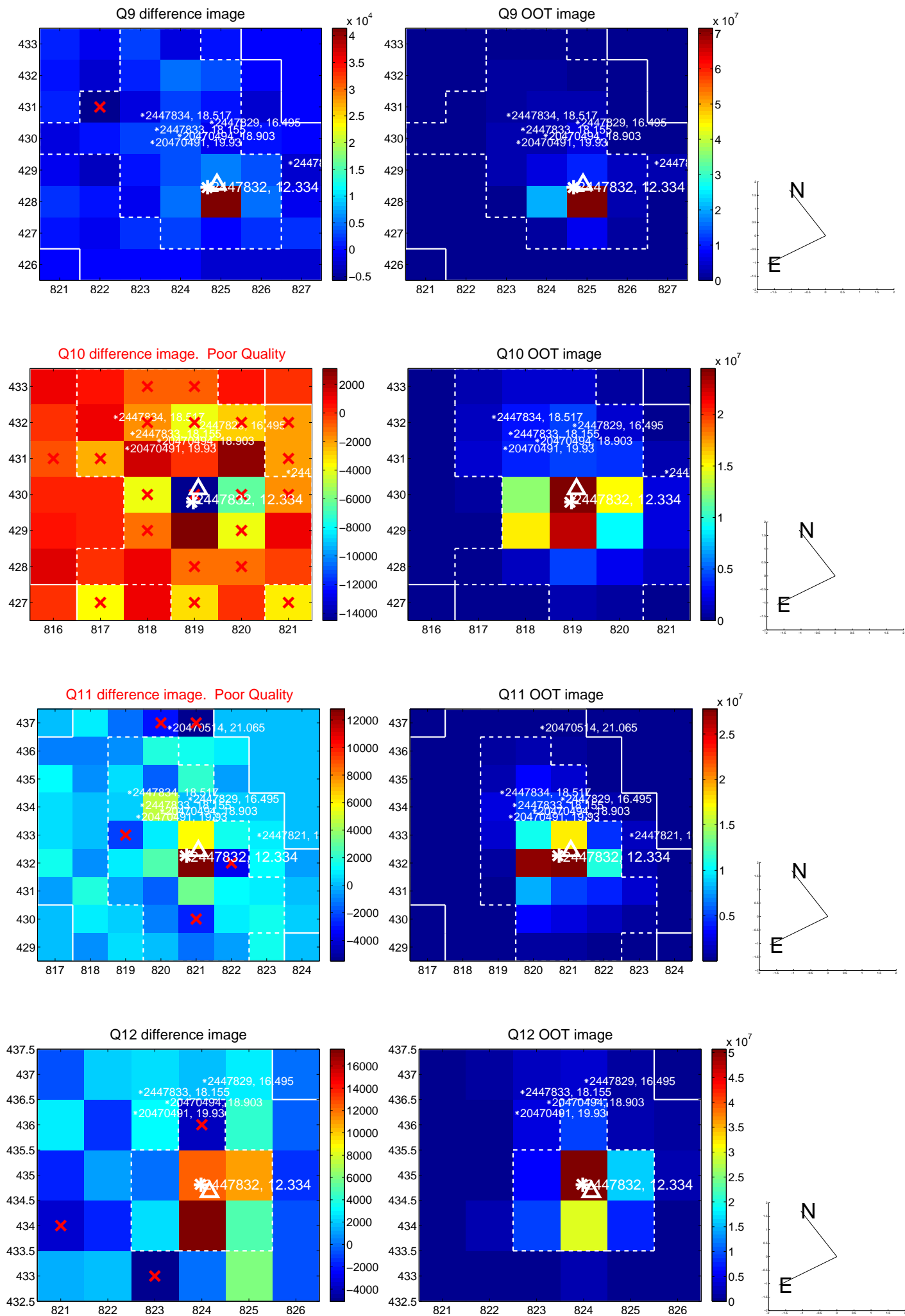
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



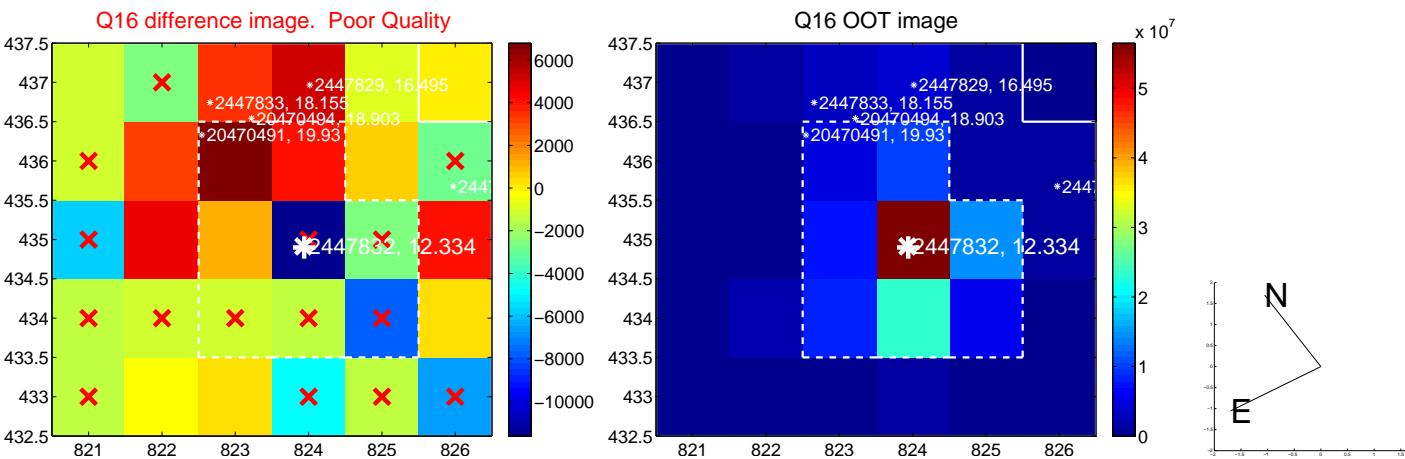
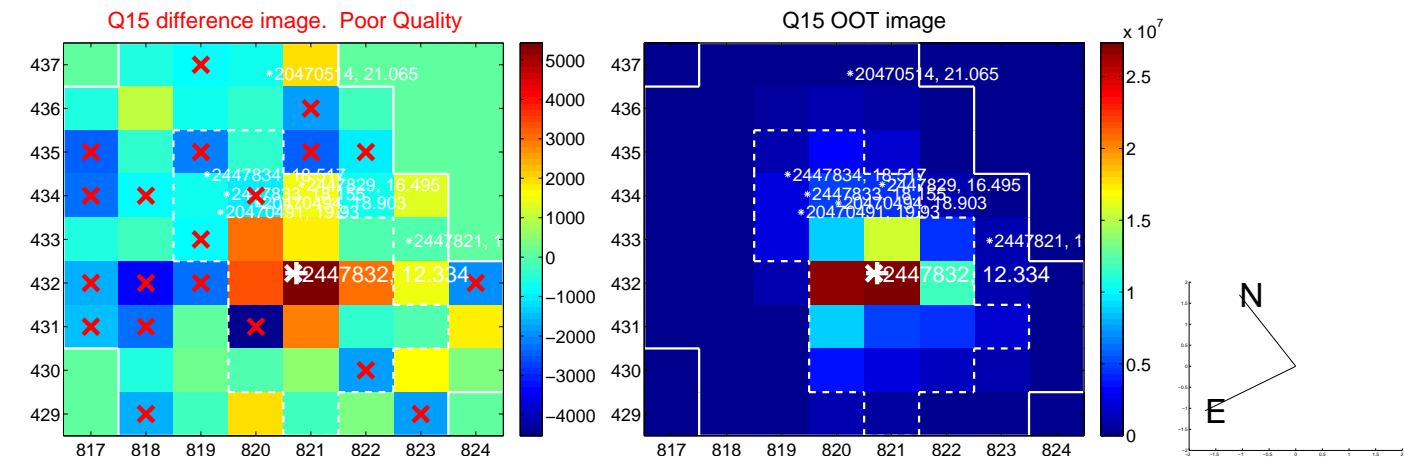
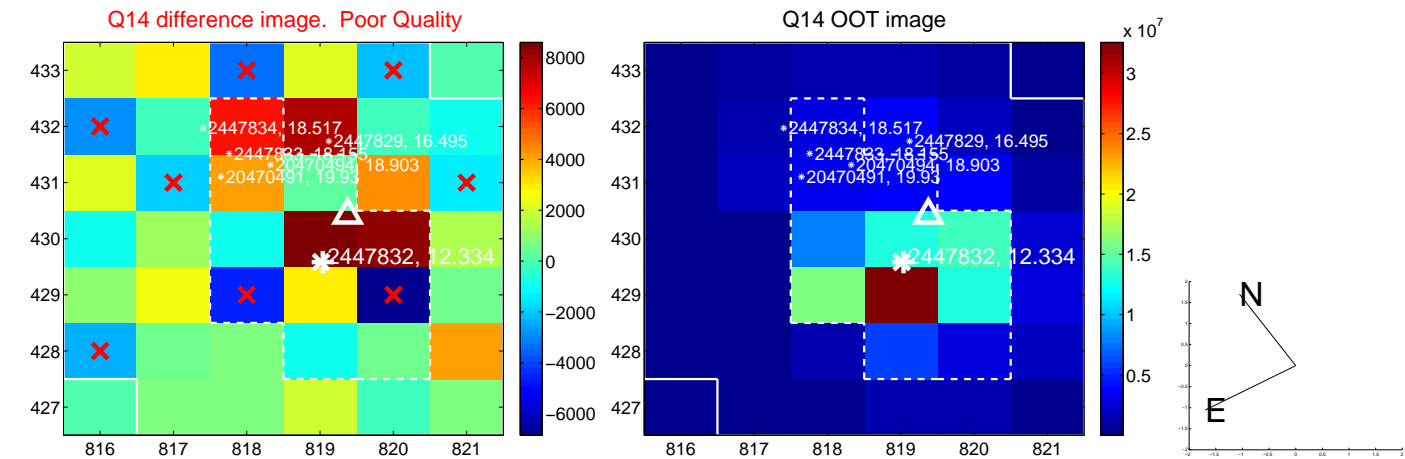
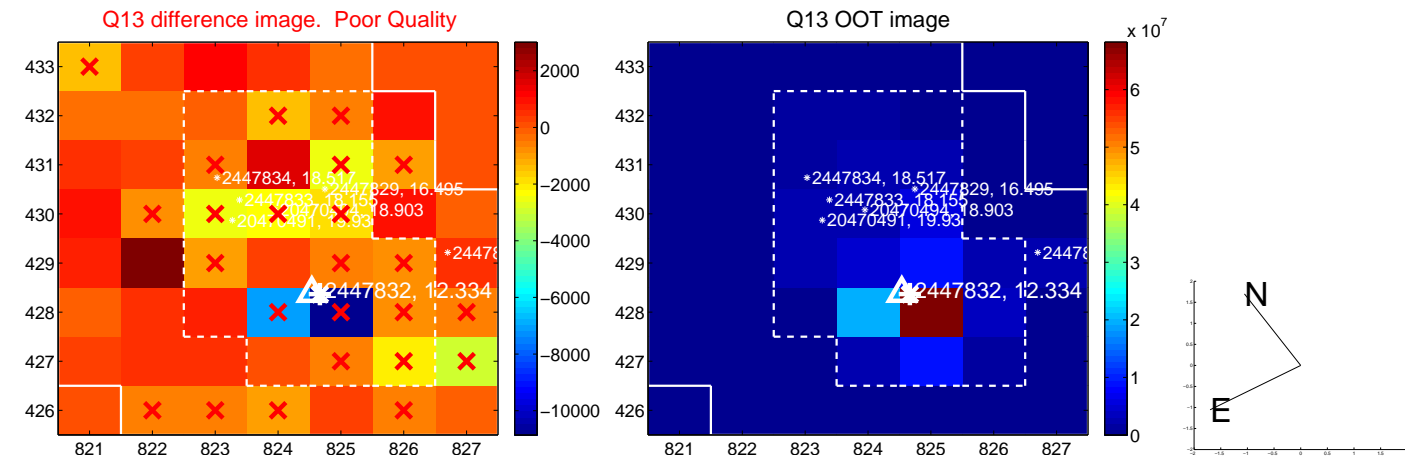
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



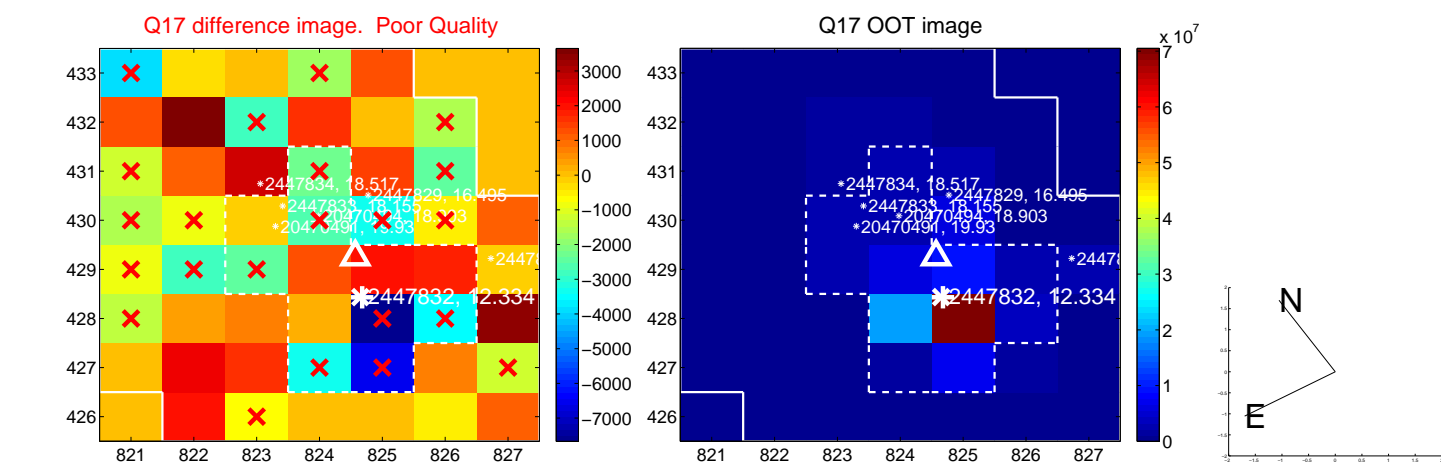
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



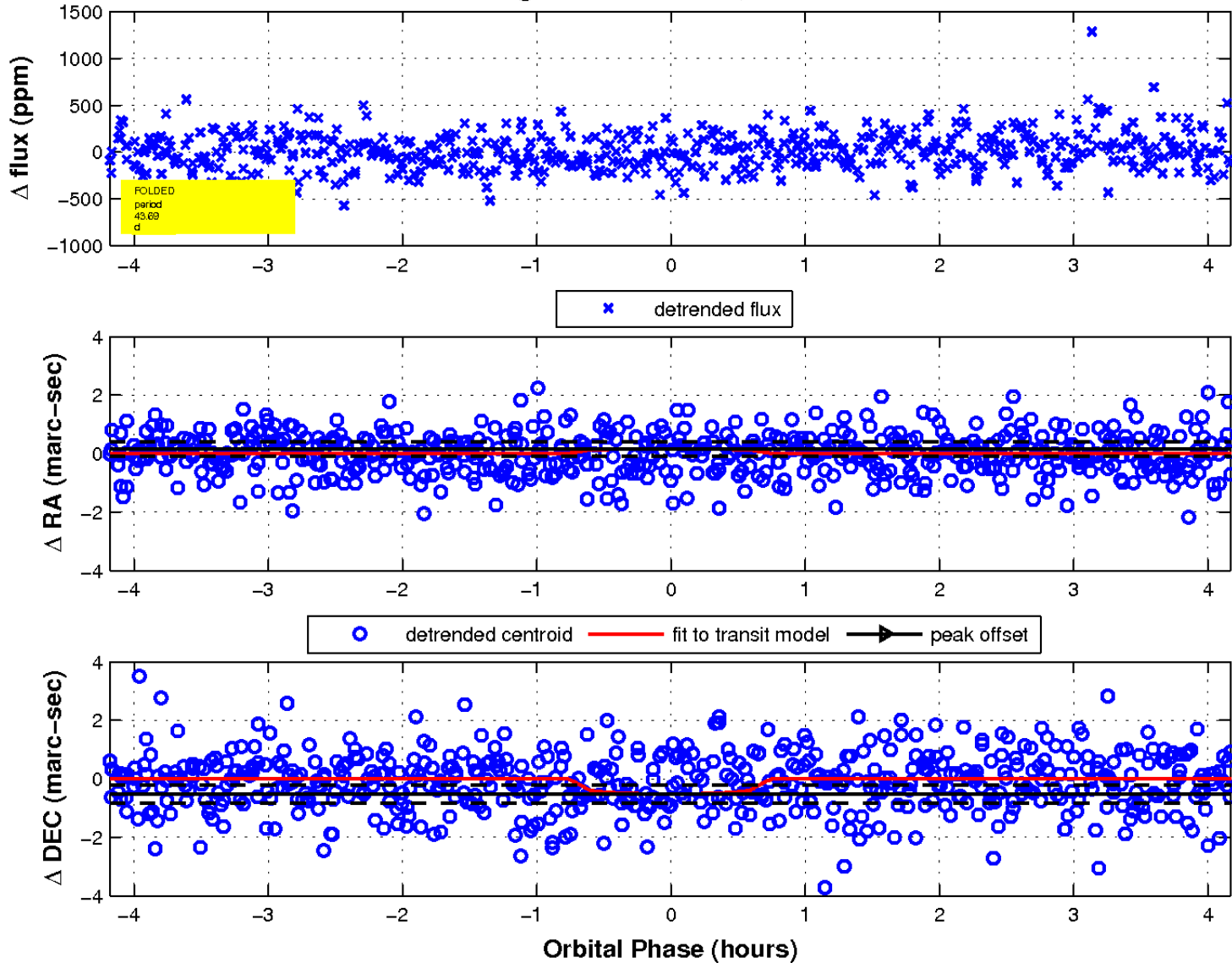
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 7 of 7



UKIRT Image

Declination

