

KIC 005430471

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})
005430471-01	OBS	No	2.205505	132.769905	131.1	16.382	7.9	8.8	3.46	7854	4.13	23092.20
005430471-02	OBS	No	32.386569	145.542038	502.9	15.000	19.8	-1.0	3.46	7854	7.84	642.18
005430471-03	OBS	No	24.341919	149.156725	1738.0	3.645	17.2	17.2	3.46	7854	15.62	939.73
005430471-04	OBS	No	136.957587	160.113256	2069.3	15.681	12.8	12.3	3.46	7854	18.61	93.91
005430471-05	OBS	No	12.103672	137.474230	854.0	6.731	15.5	8.6	3.46	7854	10.48	2385.54
005430471-06	OBS	No	13.614745	142.274136	1515.4	1.523	10.8	10.2	3.46	7854	22.17	2039.22
005430471-07	OBS	No	28.323761	143.908841	1603.3	1.660	8.8	7.9	3.46	7854	14.02	767.85
005430471-08	OBS	No	27.343349	138.754746	588.3	1.500	8.8	-1.0	3.46	7854	8.51	804.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005430471-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005430471-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
005430471-03	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
005430471-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005430471-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
005430471-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

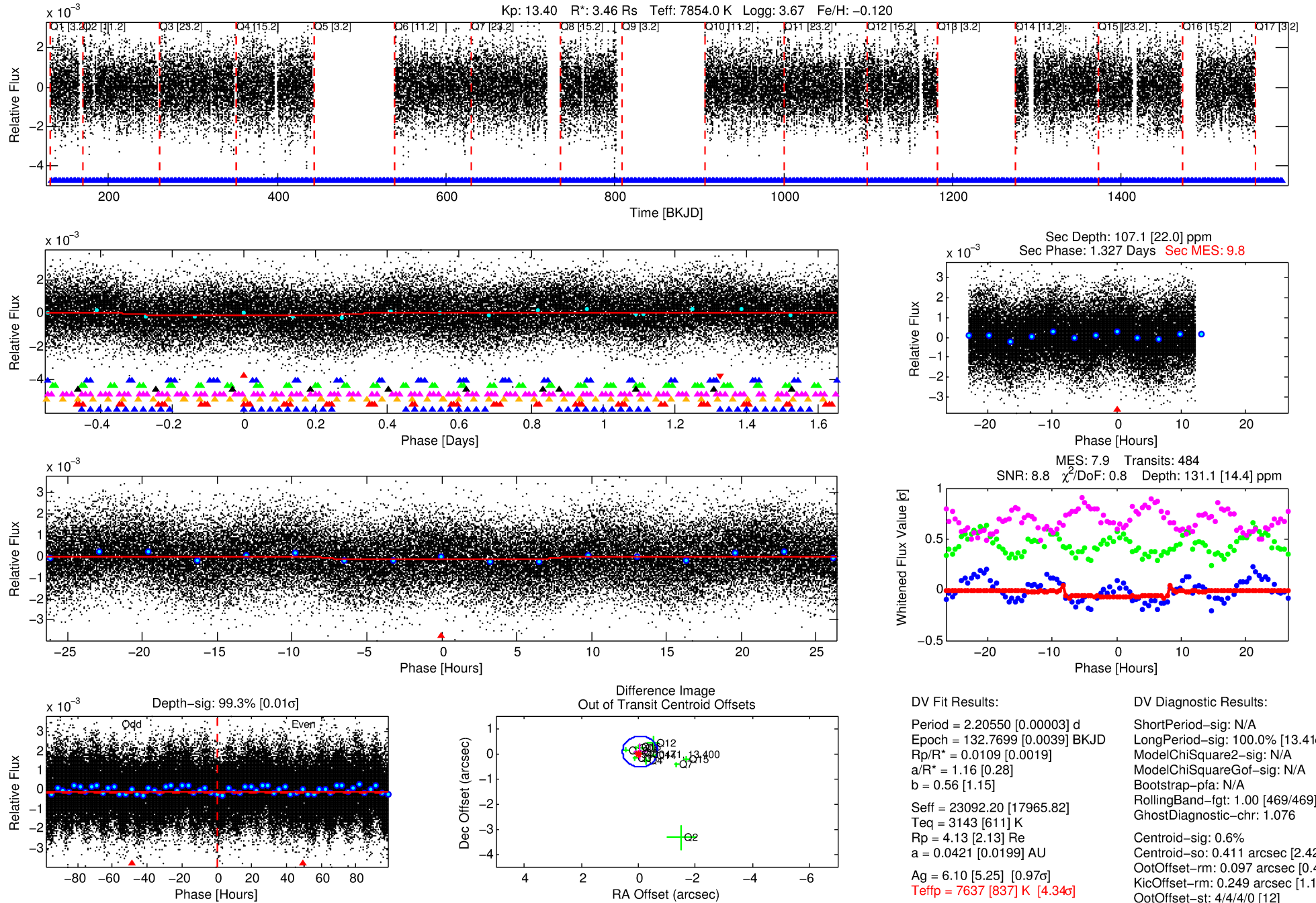
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005430471-01

No Significant Match Found

DV One-Page Summary

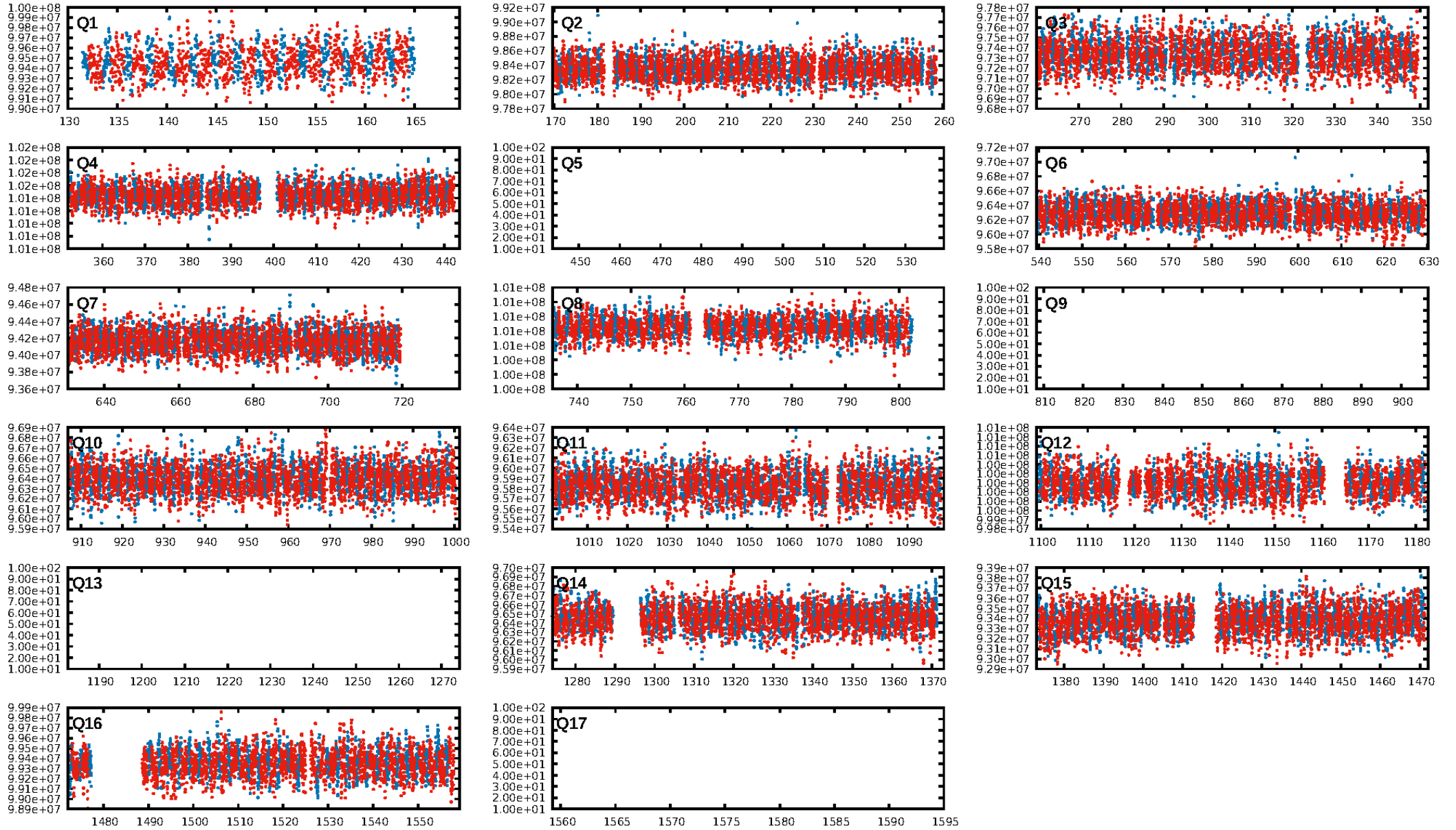
KIC: 5430471 Candidate: 1 of 8 Period: 2.206 d



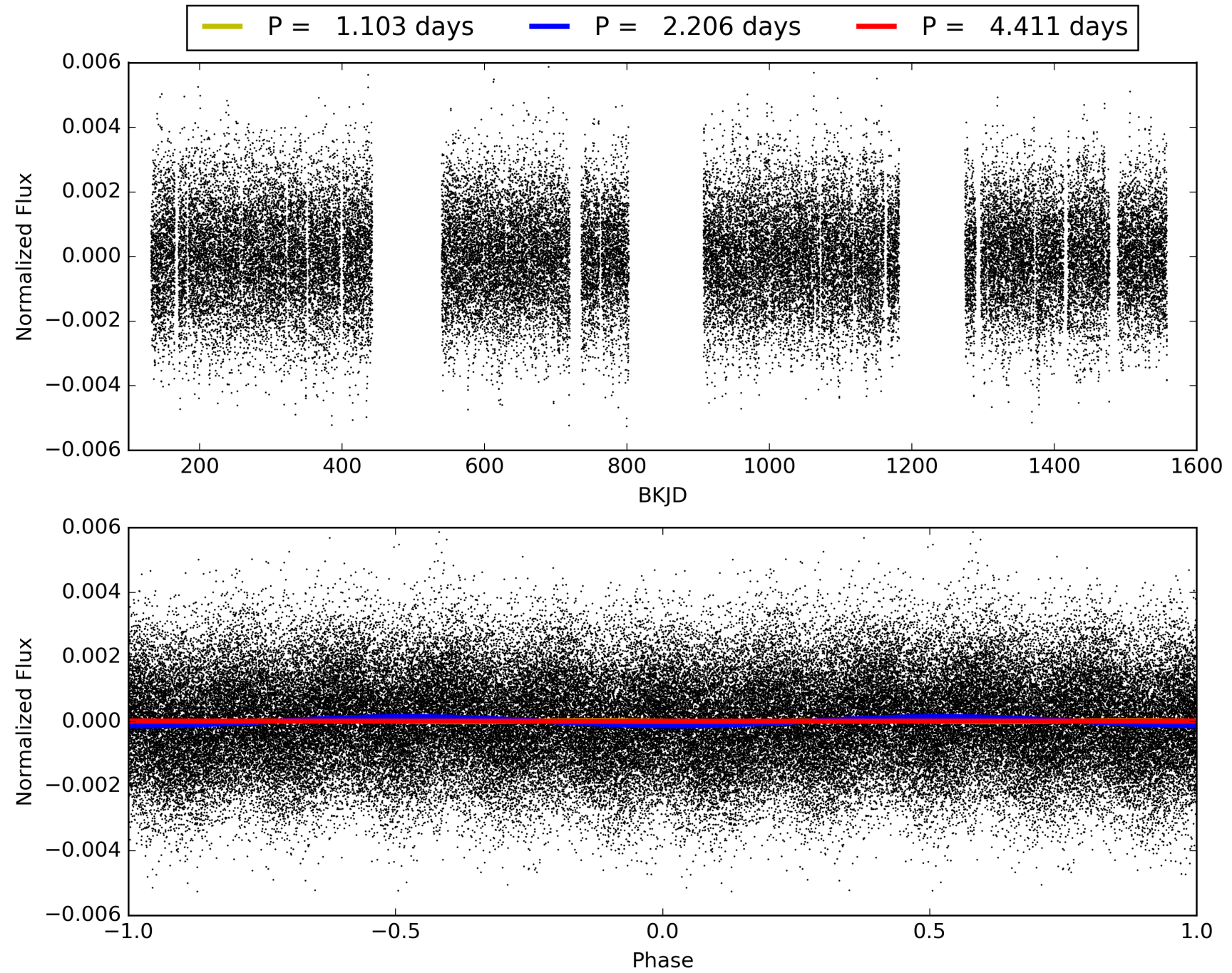
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:31:25 Z

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

TCE 005430471-01, PDC Light Curves

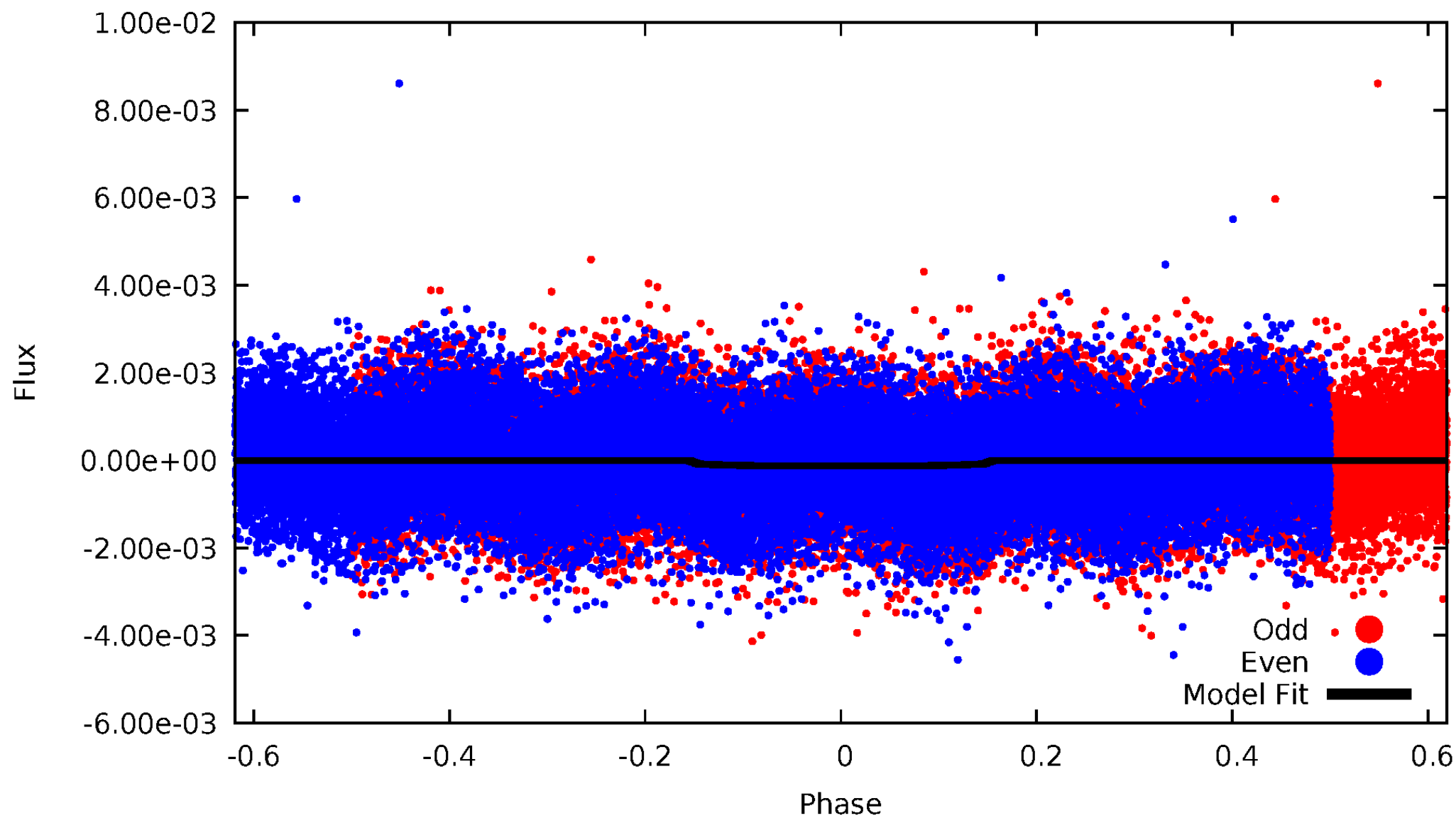


TCE 005430471-01



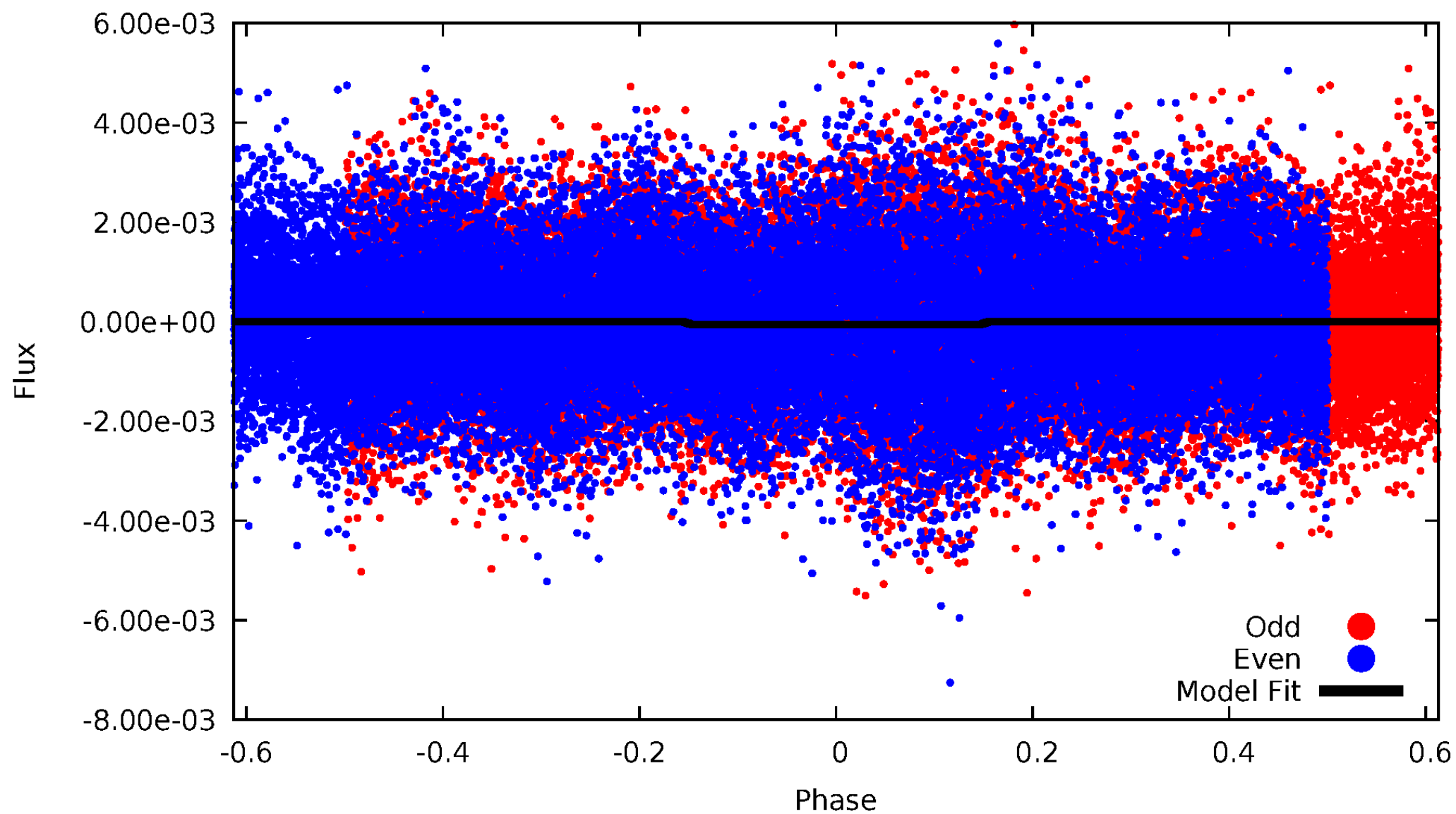
DV Odd/Even

TCE 005430471-01

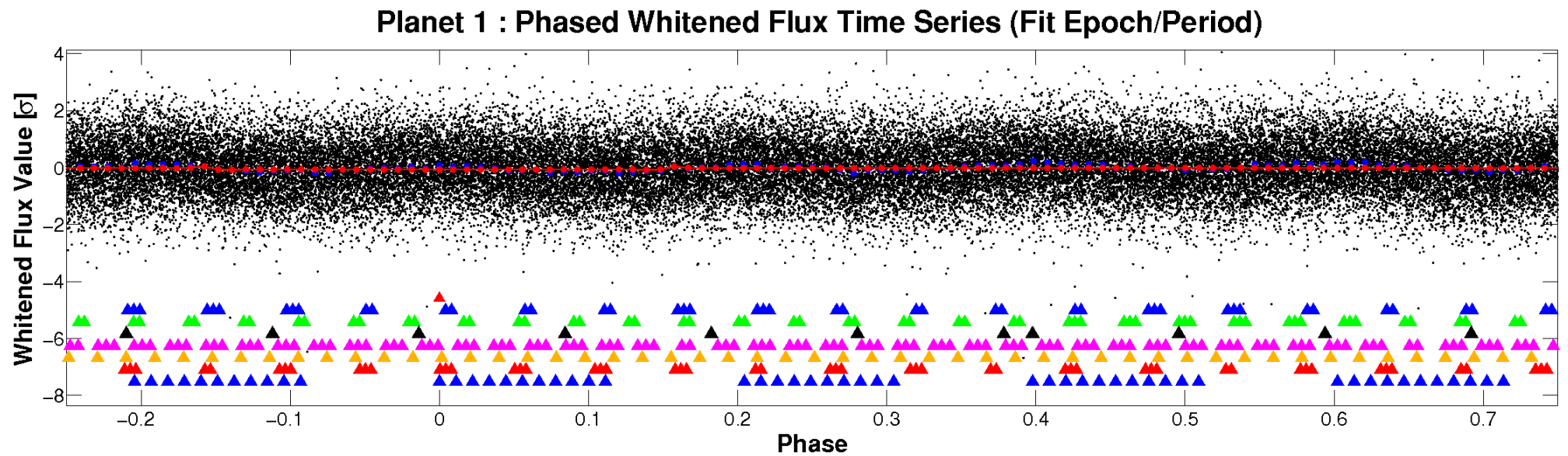
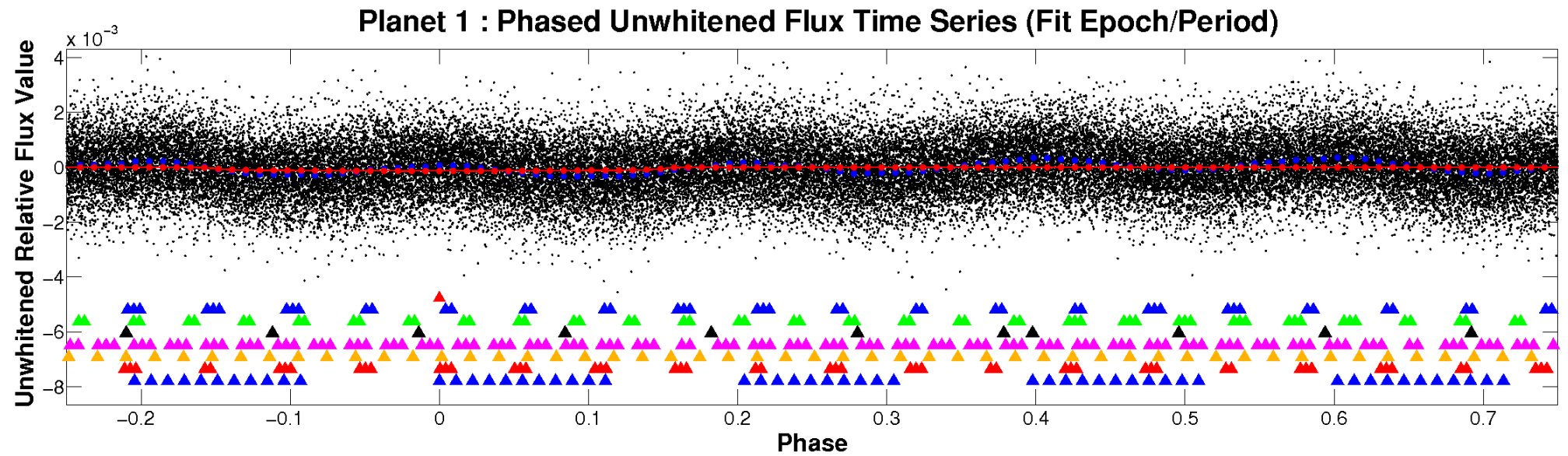


ALT Odd/Even

TCE 005430471-01

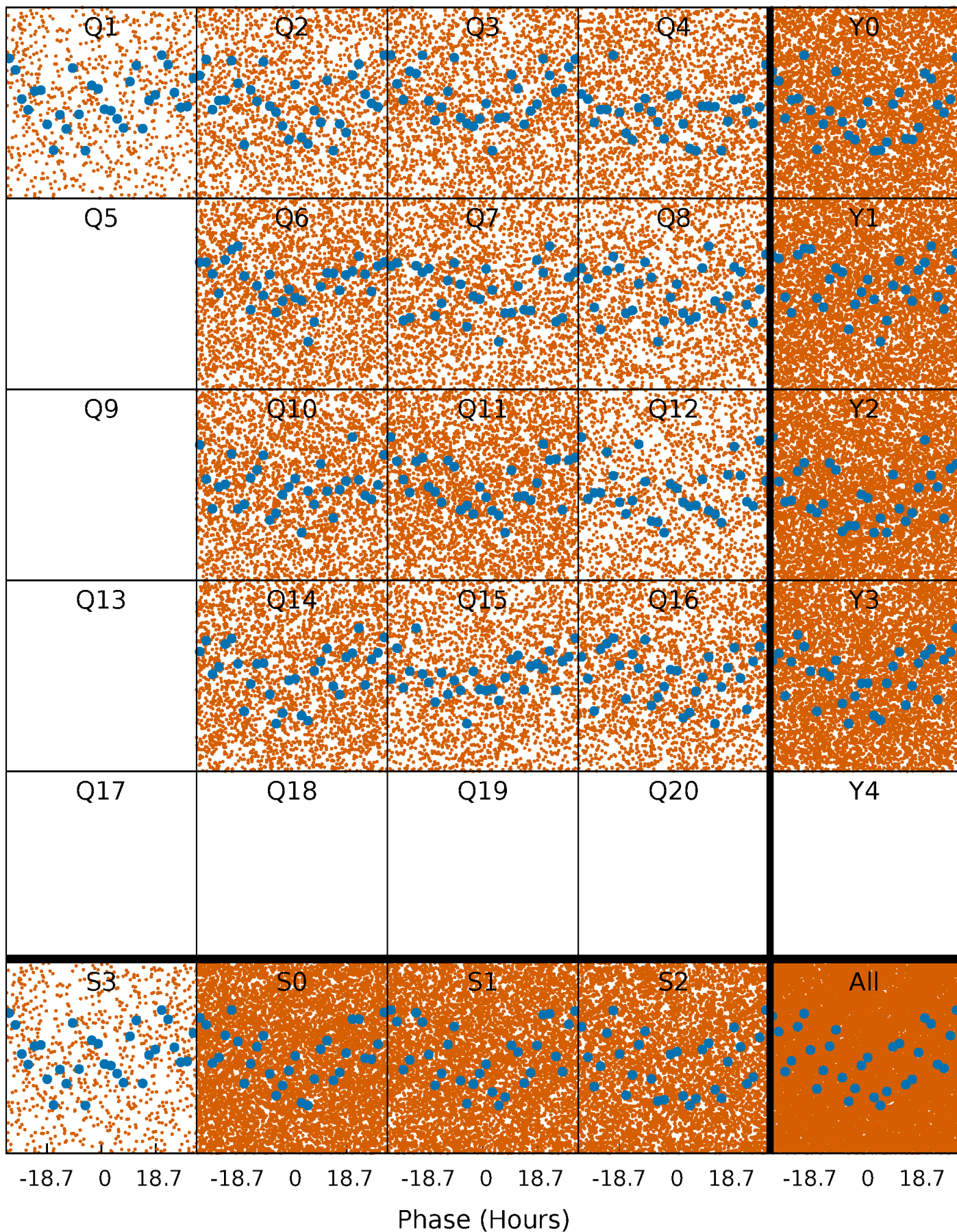


Non-Whitened Vs. Whitened Light Curve



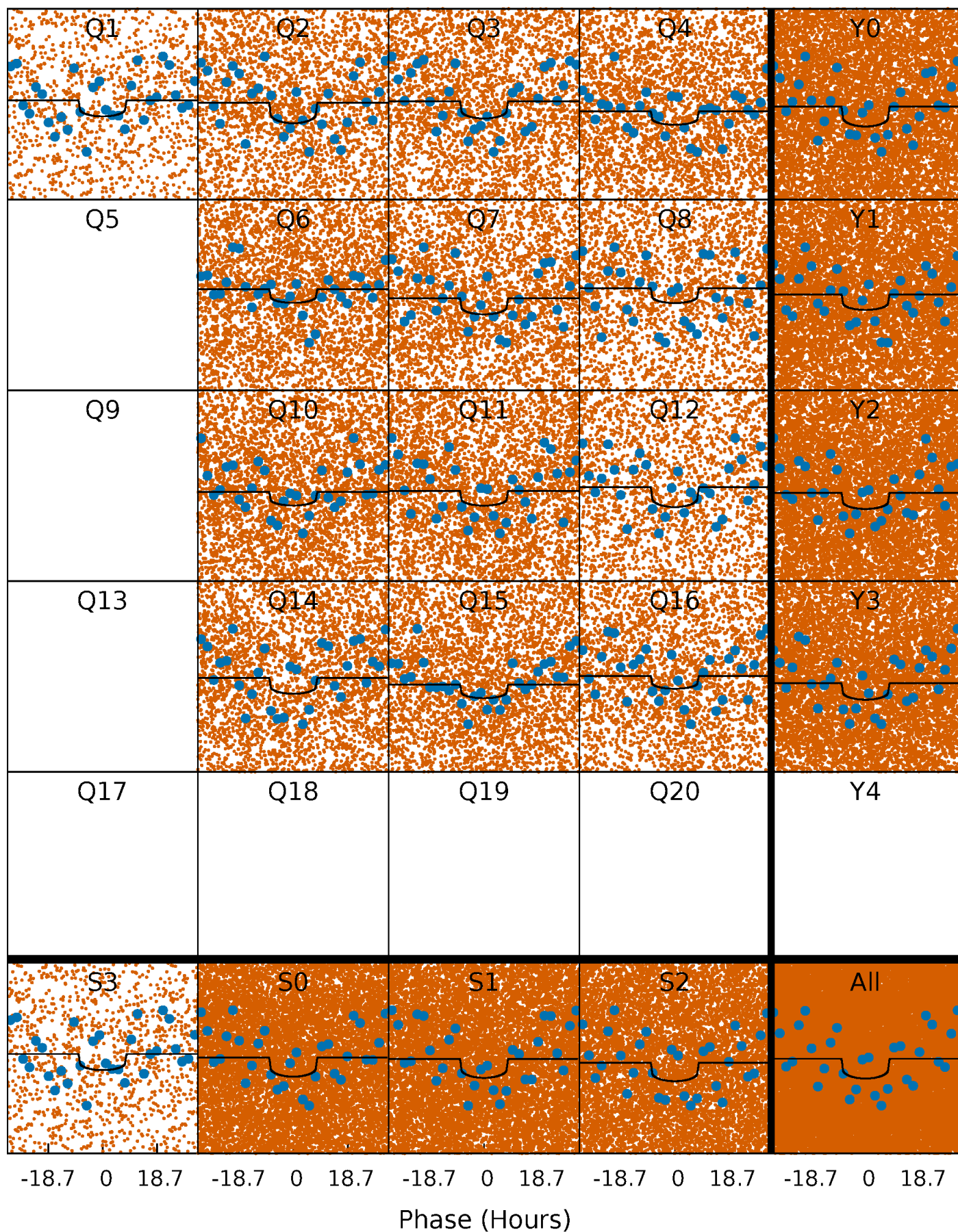
PDC Quarter-Phased Transit Curves

TCE 005430471-01 P= 2.205505 Days $T_0=132.769905$ (BKJD)



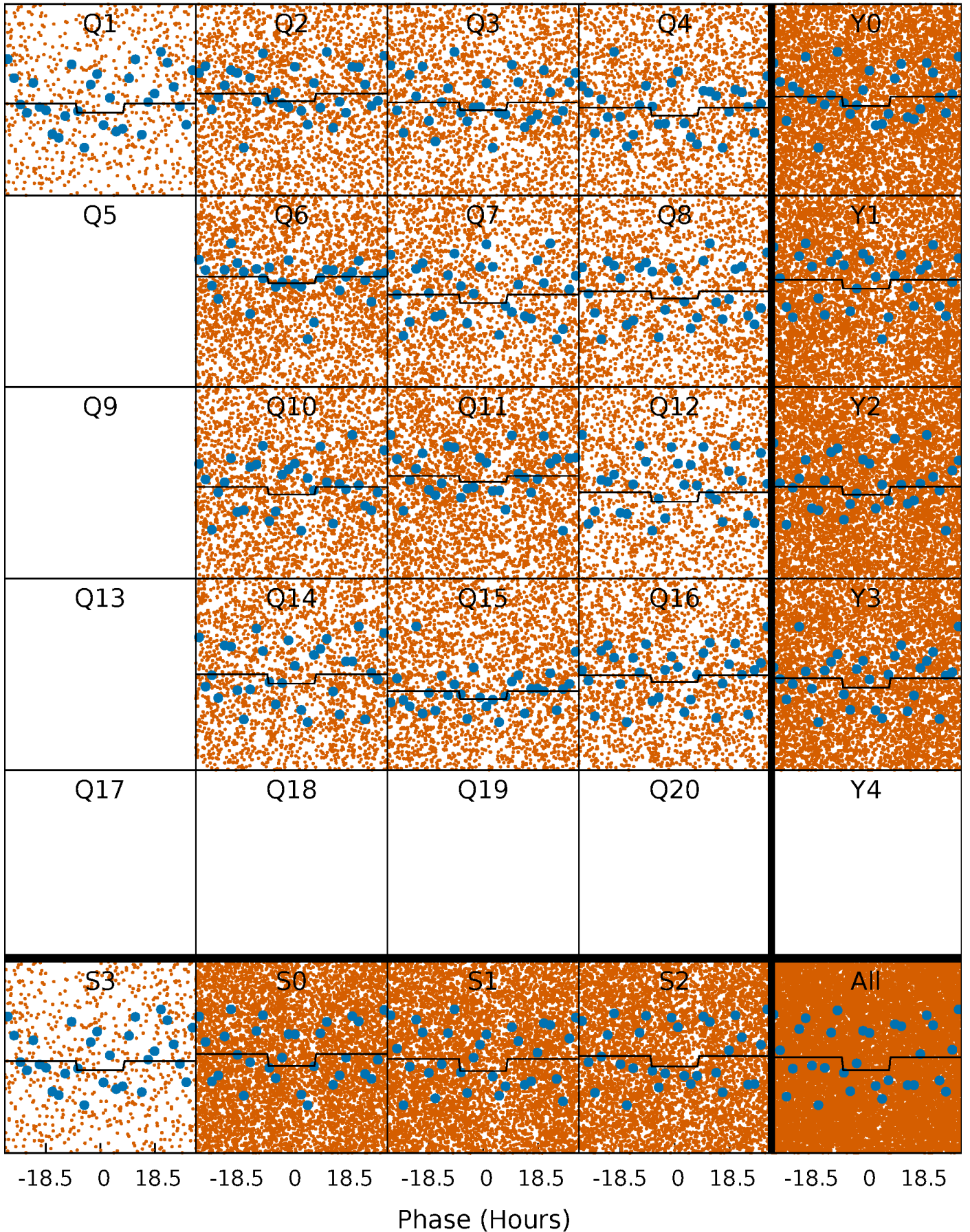
DV Quarter-Phased Transit Curves

TCE 005430471-01 P= 2.205505 Days $T_0=132.769905$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

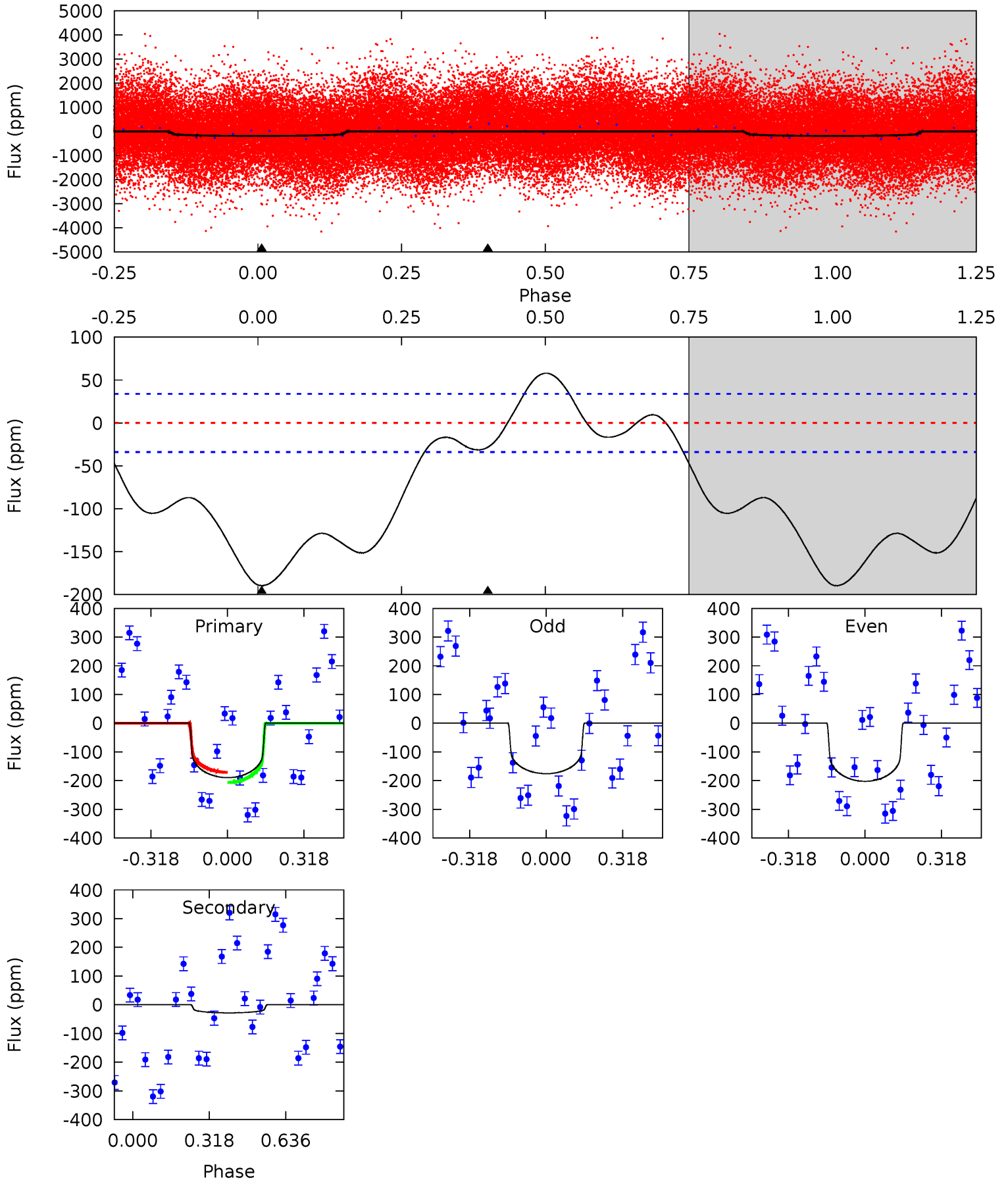
TCE 005430471-01 P= 2.205508 Days $T_0=132.776491$ (BKJD)



DV Model-Shift Uniqueness Test

005430471-01, P = 2.205505 Days, E = 130.564400 Days

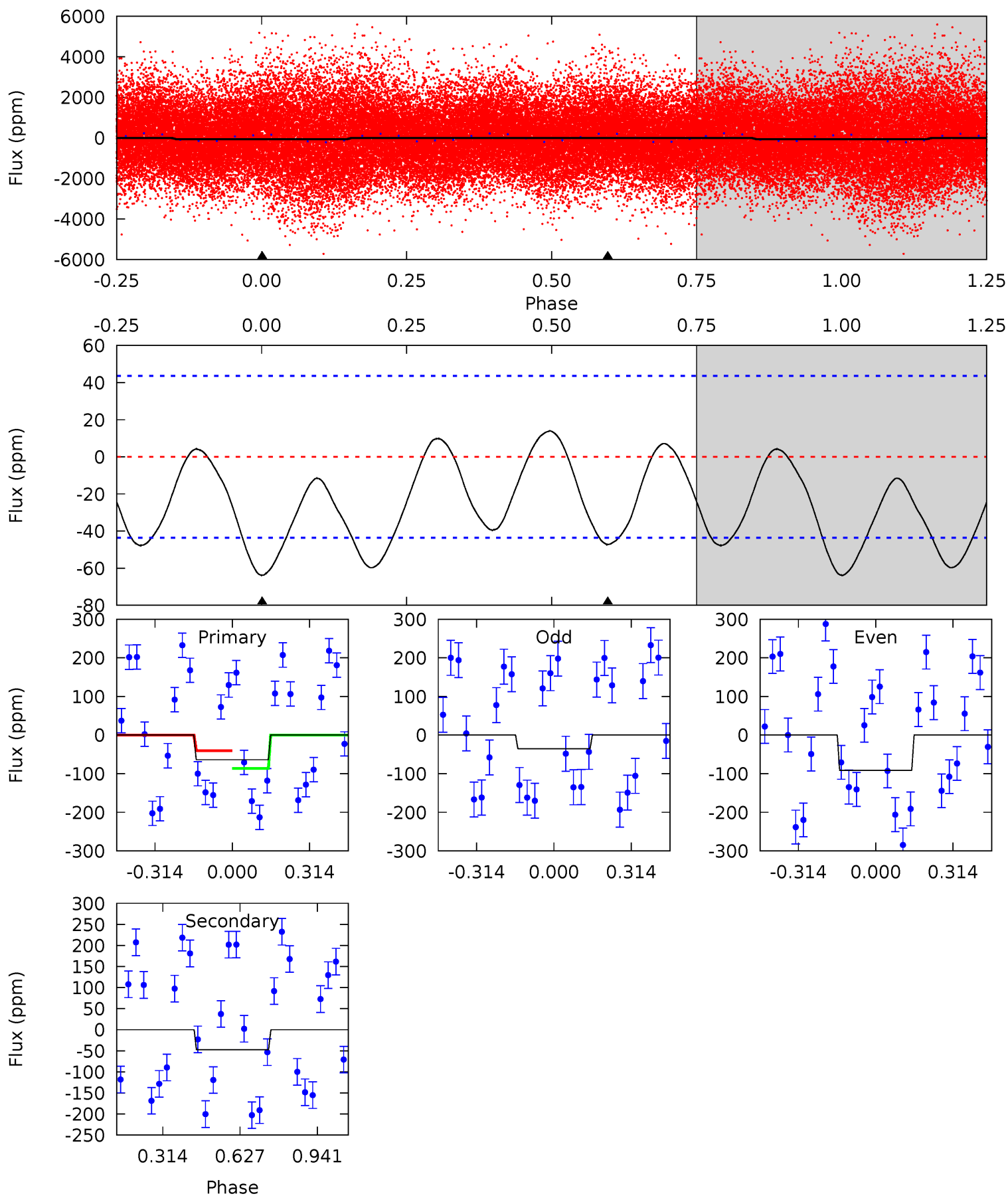
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.1	3.60	0	0	4.32	1.00	2.29	24.1	24.1	3.60	3.60	1.70	1.10	0.23	2.25



Alt Model-Shift Uniqueness Test

005430471-01, P = 2.205508 Days, E = 130.570983 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.32	4.68	0	0	4.32	1.01	1.03	6.32	6.32	4.68	4.68	2.56	1.07	0.18	2.27



Stellar Parameters For KIC 005430471

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7854^{+217}_{-326}	$3.669^{+0.448}_{-0.084}$	$-0.120^{+0.200}_{-0.350}$	$3.462^{+0.600}_{-1.681}$	$2.039^{+0.329}_{-0.535}$	$0.069^{+0.321}_{-0.020}$
	+3%/-4%	+12%/-2%	+167%/-292%	+17%/-49%	+16%/-26%	+464%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005430471-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-28 ± 8	$3.79^{+1.06}_{-1.01}$	4226^{+323}_{-514}	5146^{+666}_{-606}	$1.877^{+1.684}_{-0.794}$
Alt.	-47 ± 10	$2.72^{+0.85}_{-0.79}$	4240^{+298}_{-476}	7138^{+1322}_{-988}	$6.369^{+5.898}_{-2.886}$

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 $A_{obs} \gg 1.0$

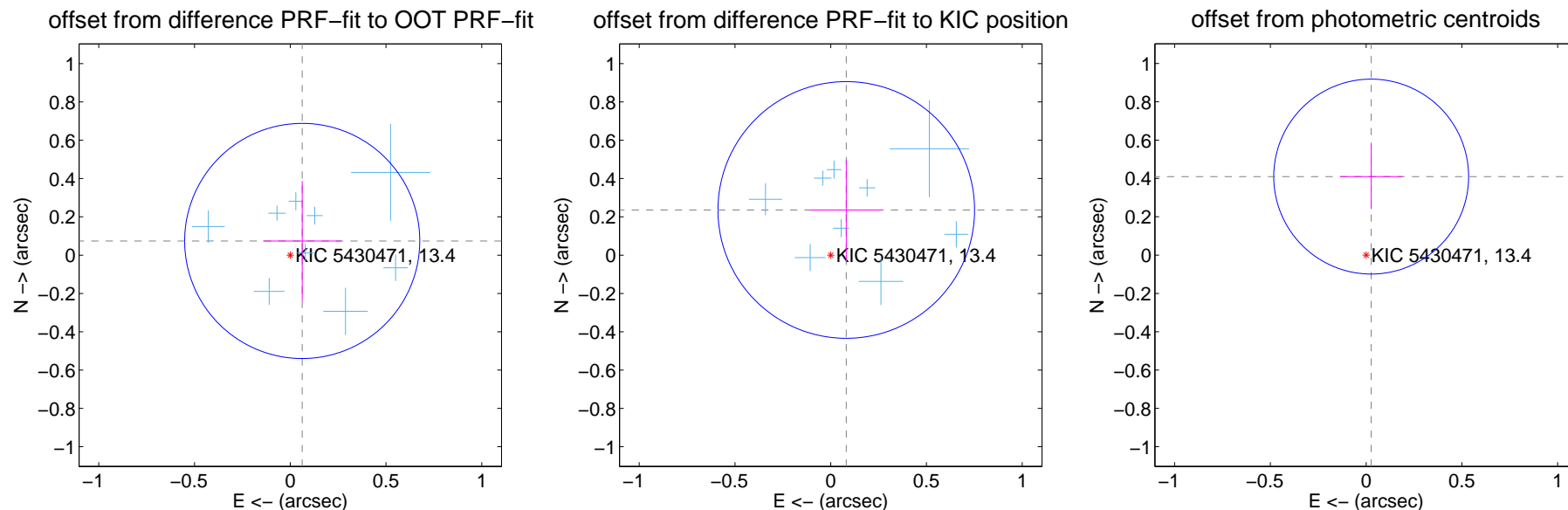
DV Centroid Data

Supplemental centroid analysis for 005430471-01. Kepler magnitude: 13.40. Transit SNR 8.80

There are 12 quarters with good PRF difference image offsets

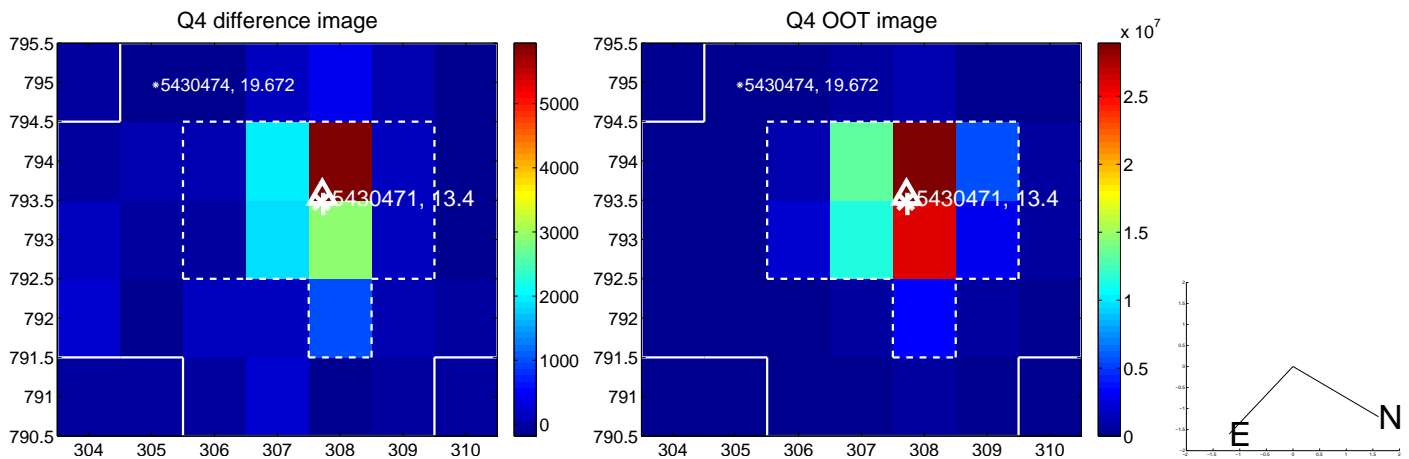
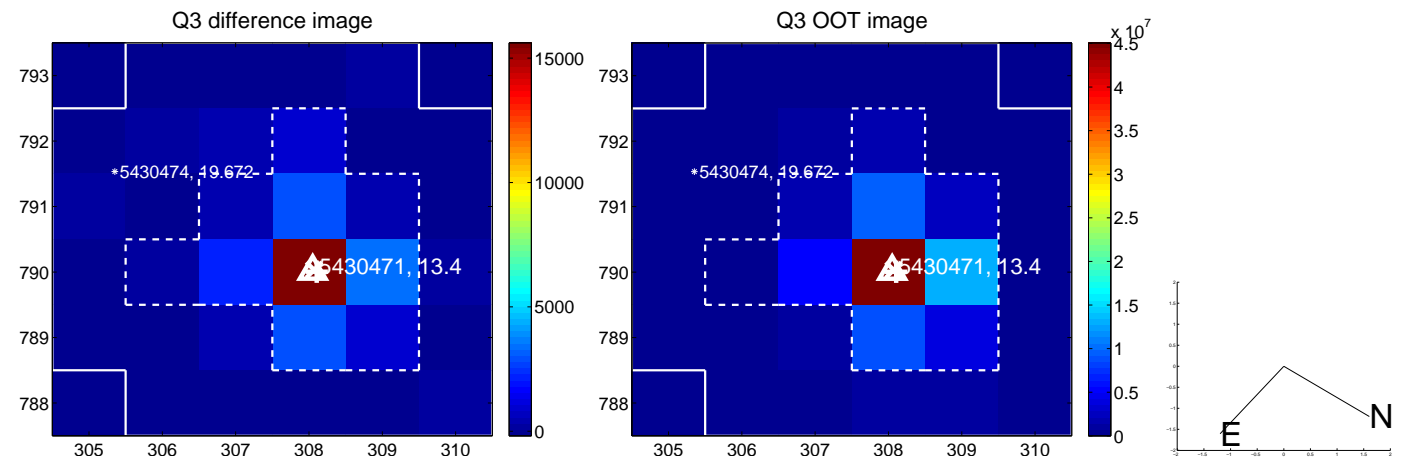
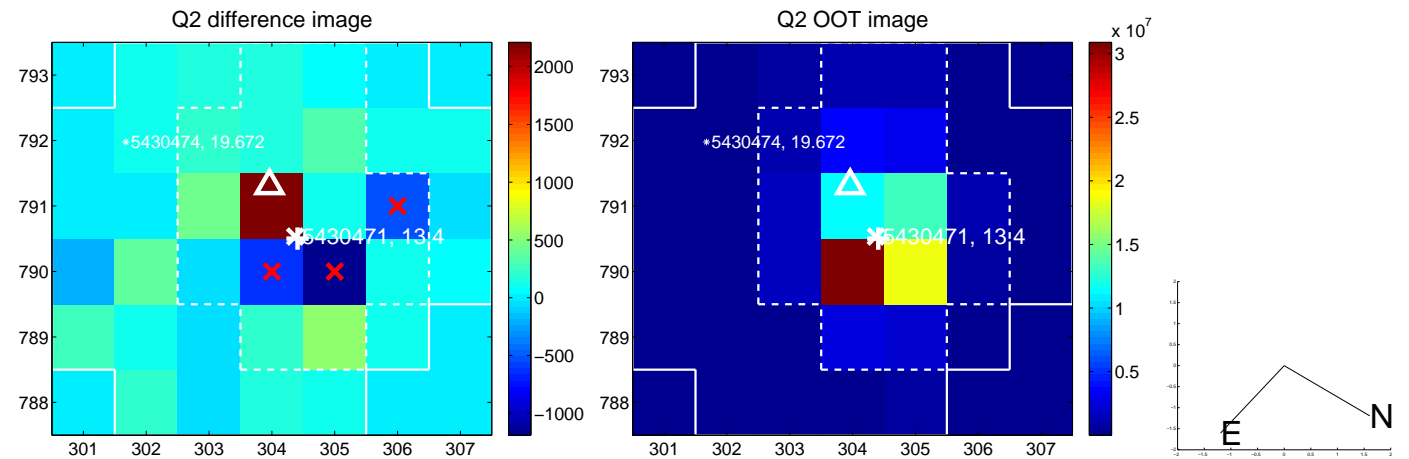
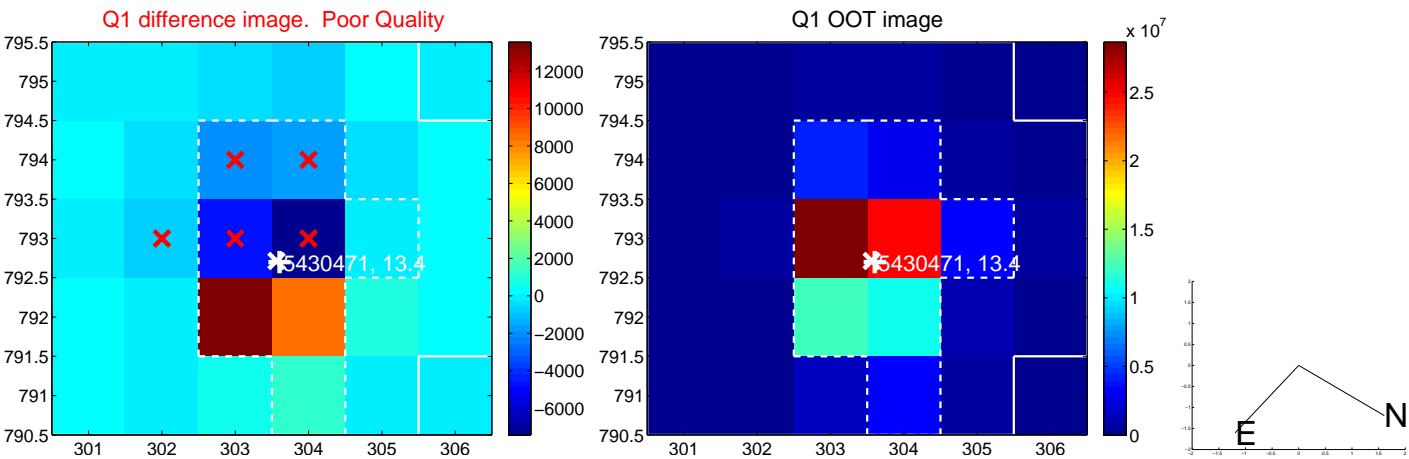
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.097 ± 0.205	0.47	-0.062 ± 0.204	0.074 ± 0.313
PRF-fit source offset from KIC position	0.249 ± 0.223	1.12	-0.081 ± 0.189	0.236 ± 0.259
photometric centroid source offset	0.41 ± 0.17	2.42	-0.03 ± 0.16	0.41 ± 0.17

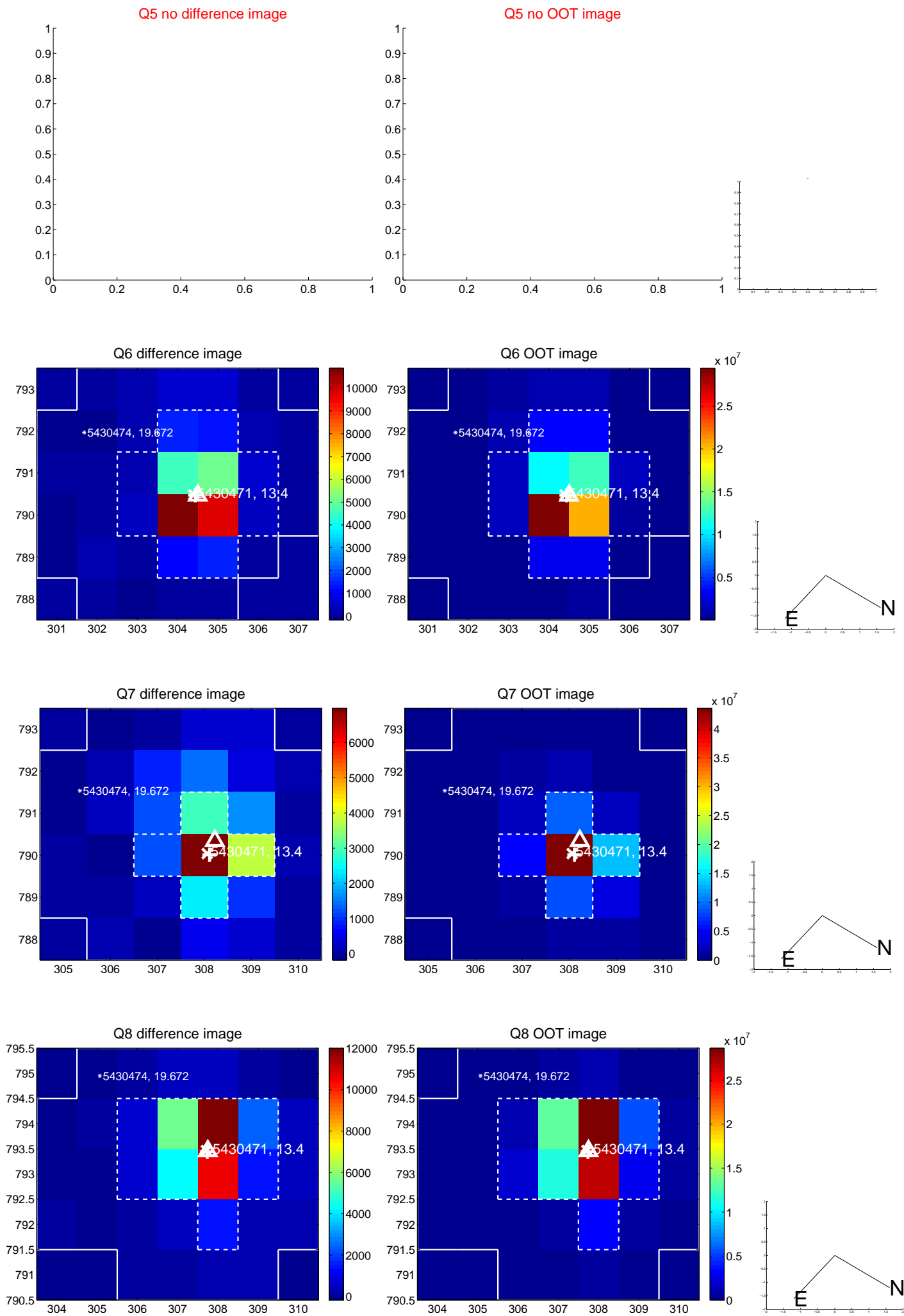


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

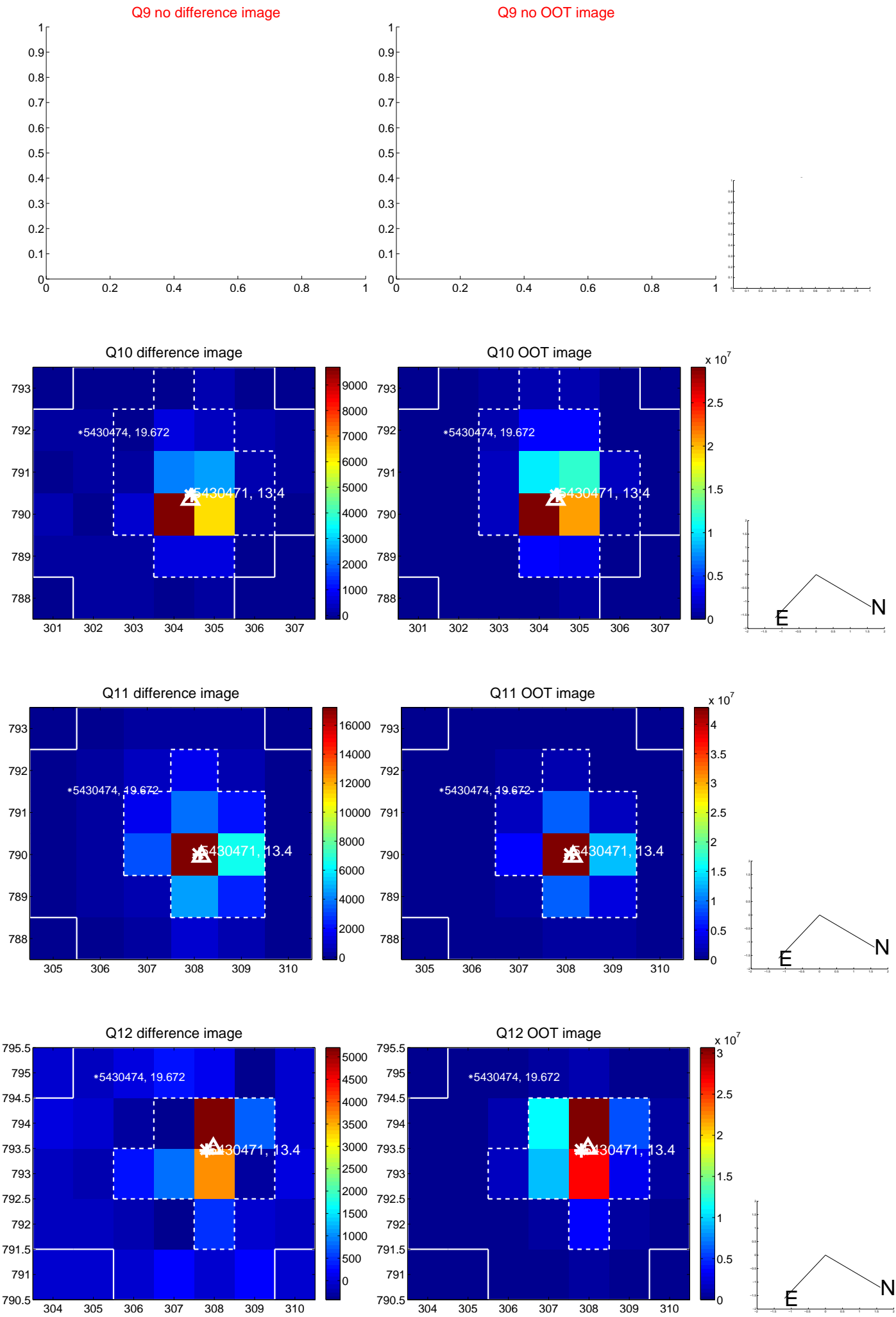
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



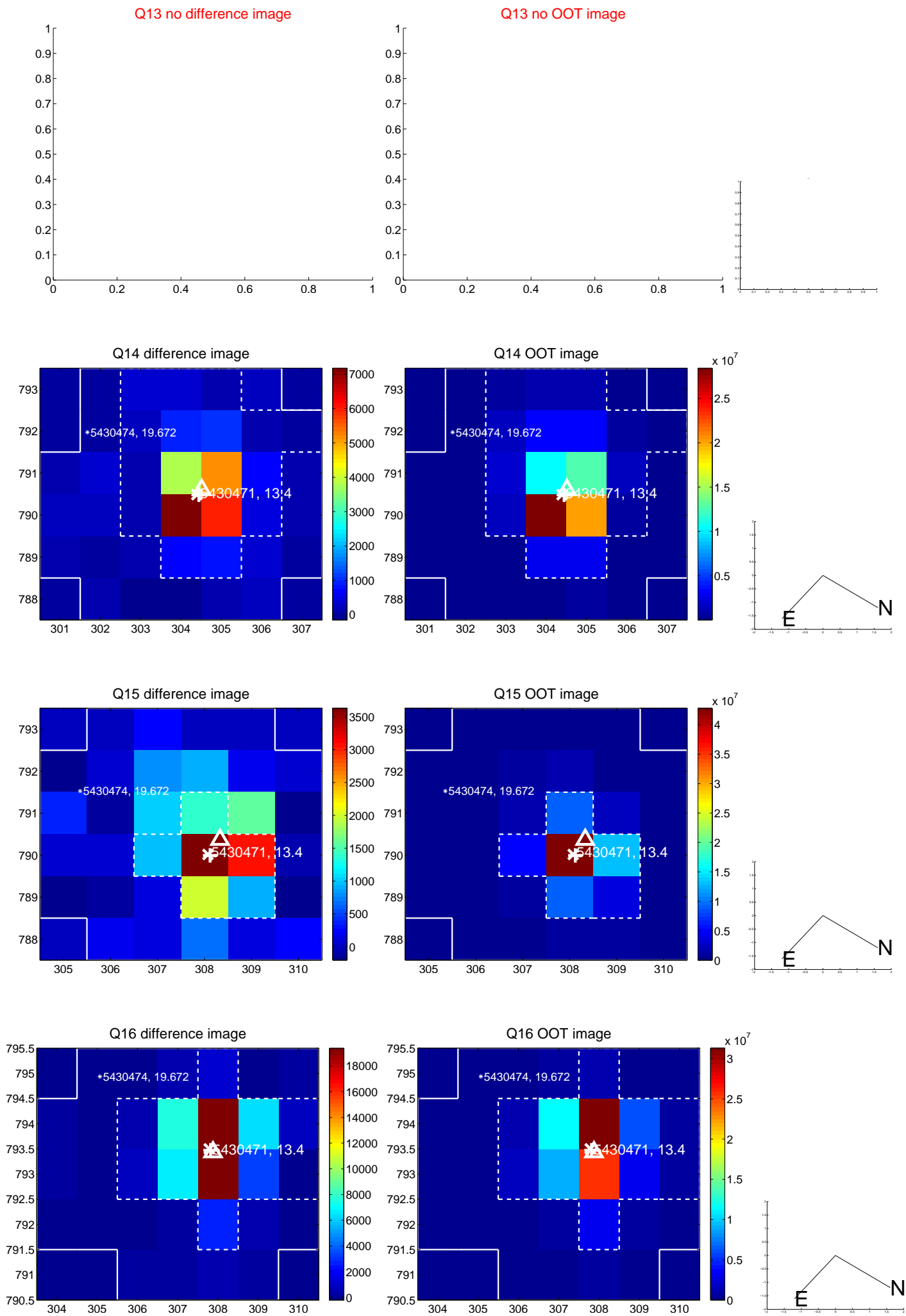
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



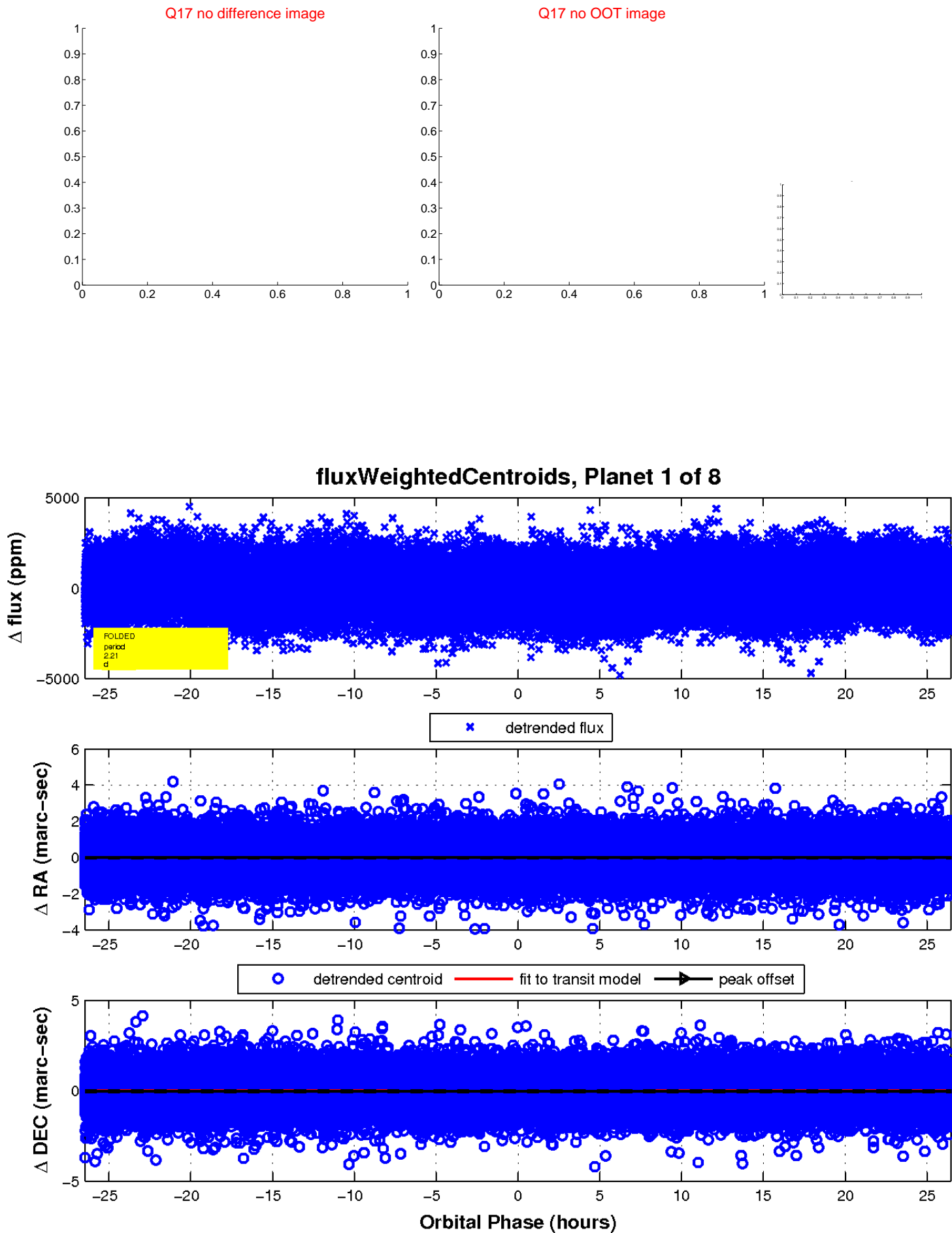
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

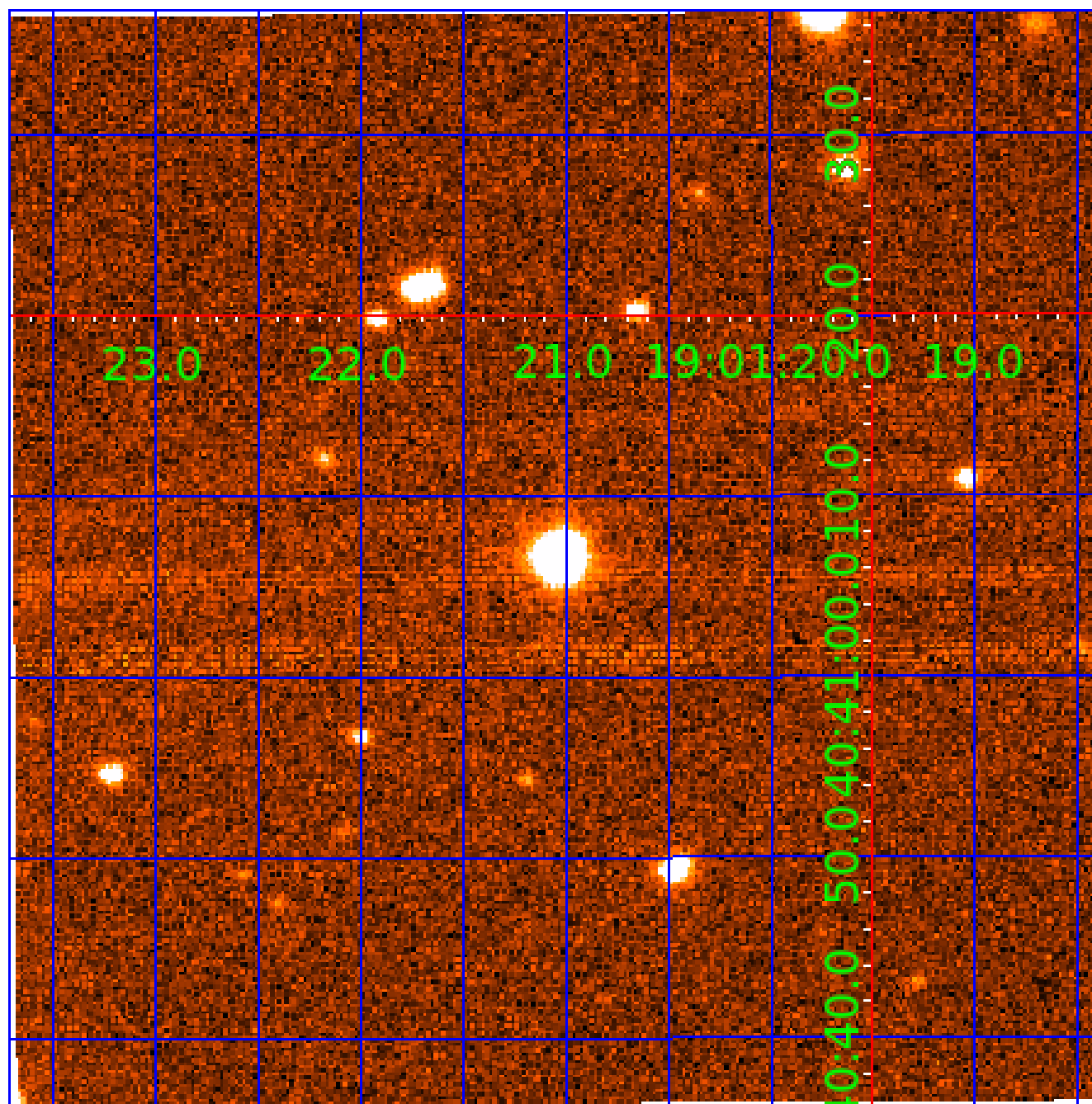


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005430471

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})
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005430471-02	OBS	No	32.386569	145.542038	502.9	15.000	19.8	-1.0	3.46	7854	7.84	642.18
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005430471-07	OBS	No	28.323761	143.908841	1603.3	1.660	8.8	7.9	3.46	7854	14.02	767.85
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005430471-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005430471-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
005430471-03	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
005430471-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005430471-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
005430471-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

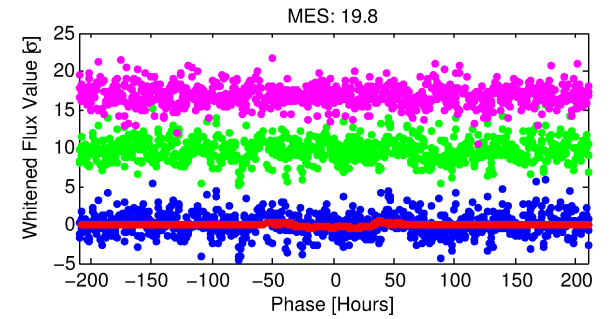
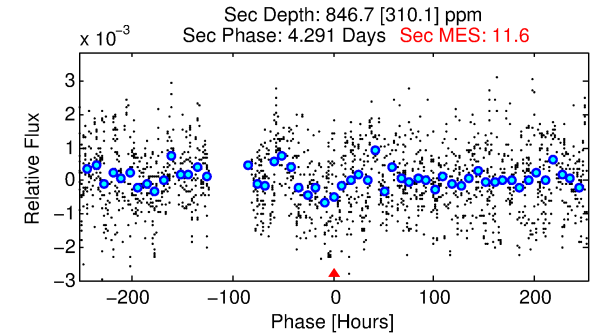
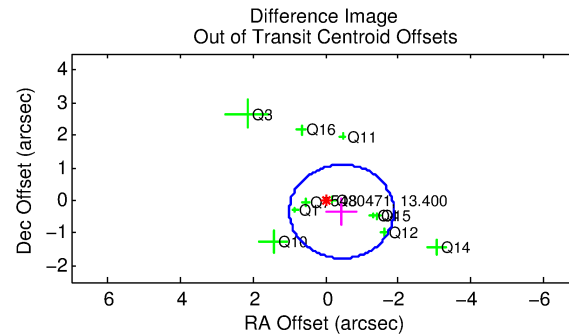
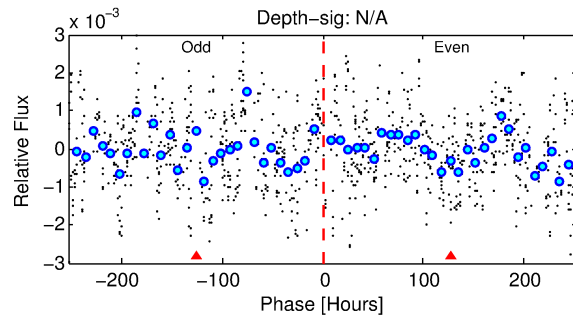
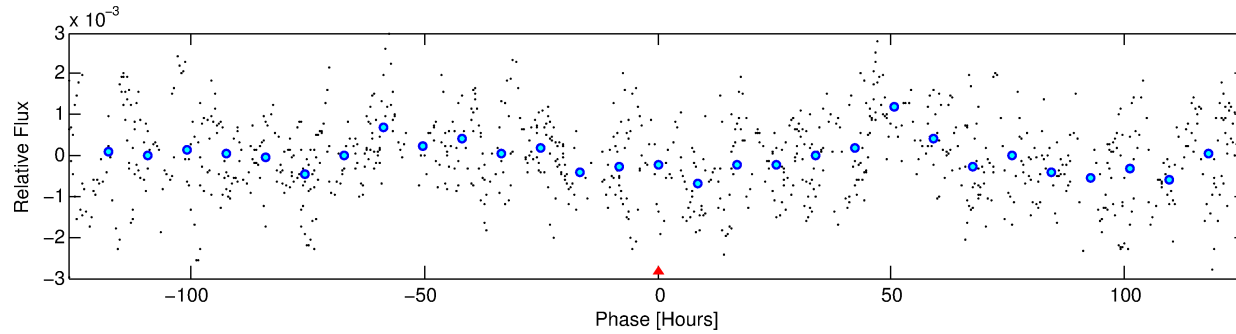
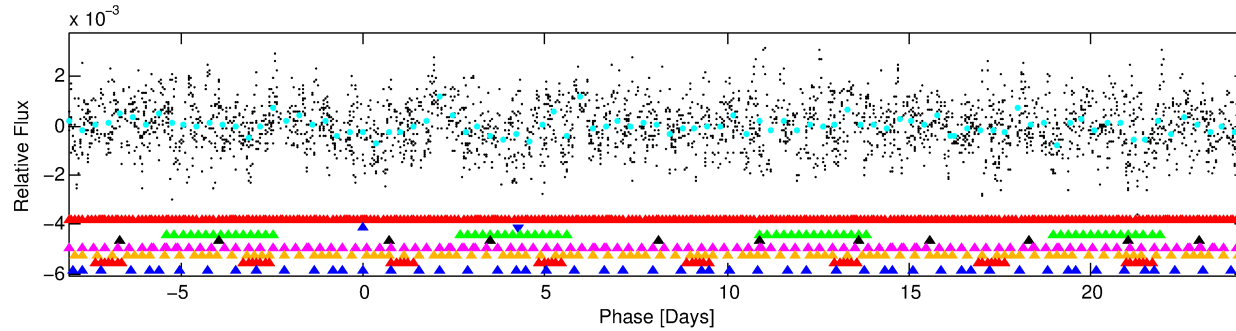
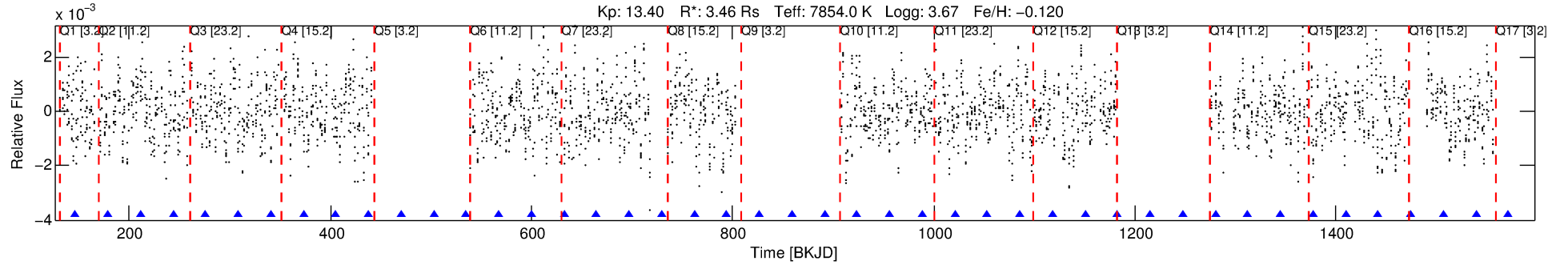
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005430471-02

No Significant Match Found

DV One-Page Summary

KIC: 5430471 Candidate: 2 of 8 Period: 32.387 d



TPS TCE Results:

Period = 32.38657 d
Epoch = 145.5420 BKJD

DV fit results are unavailable

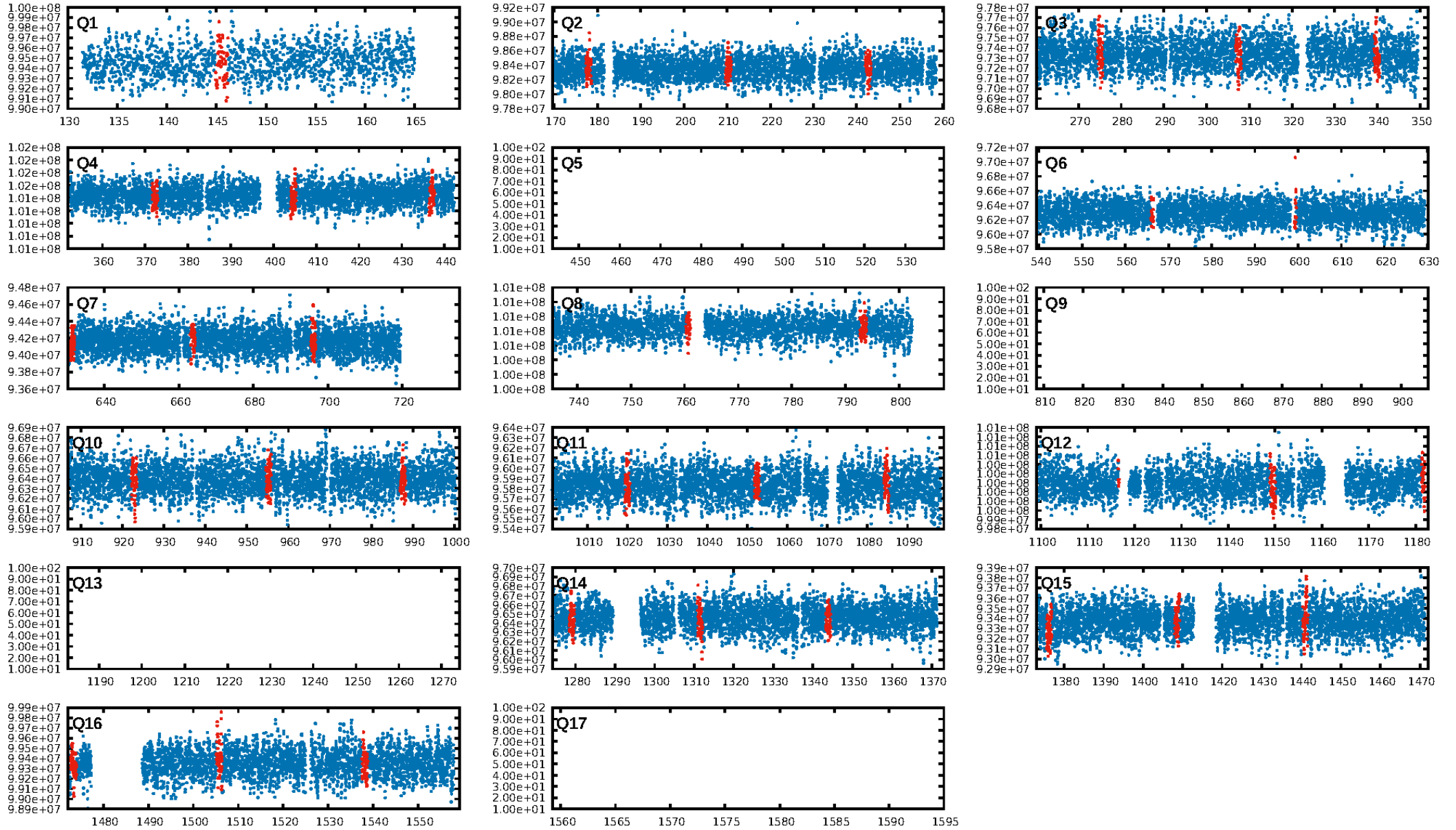
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [6.46 σ]
LongPeriod-sig: 100.0% [115.66 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [25/25]
GhostDiagnostic-chr: -0.007358
Centroid-sig: 0.0%
Centroid-so: 0.598 arcsec [3.14 σ]
OotOffset-rm: 0.560 arcsec [1.17 σ]
KicOffset-rm: 0.499 arcsec [0.88 σ]
OotOffset-st: 2/4/4/1 [11]
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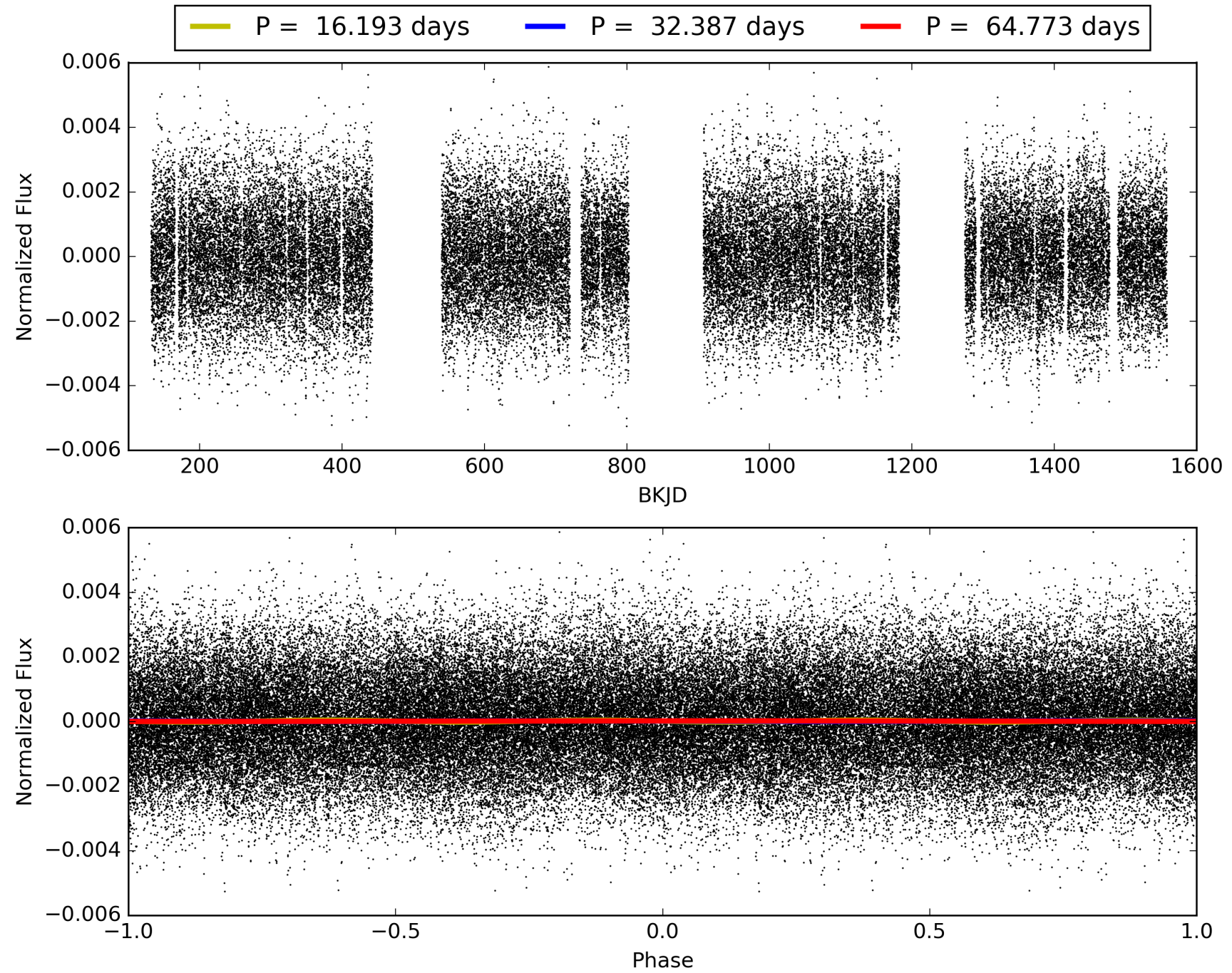
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TCE 005430471-02, PDC Light Curves

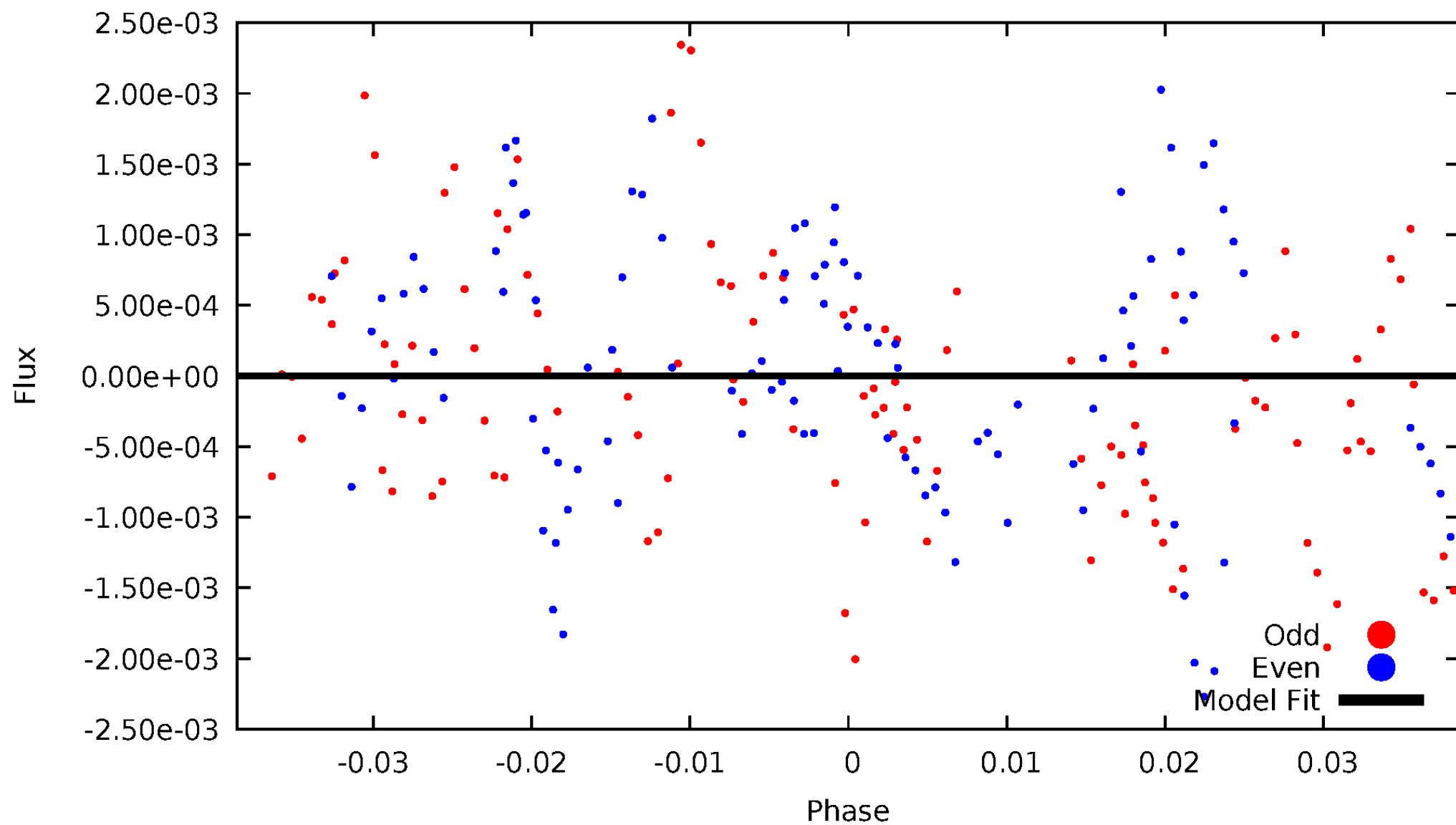


TCE 005430471-02



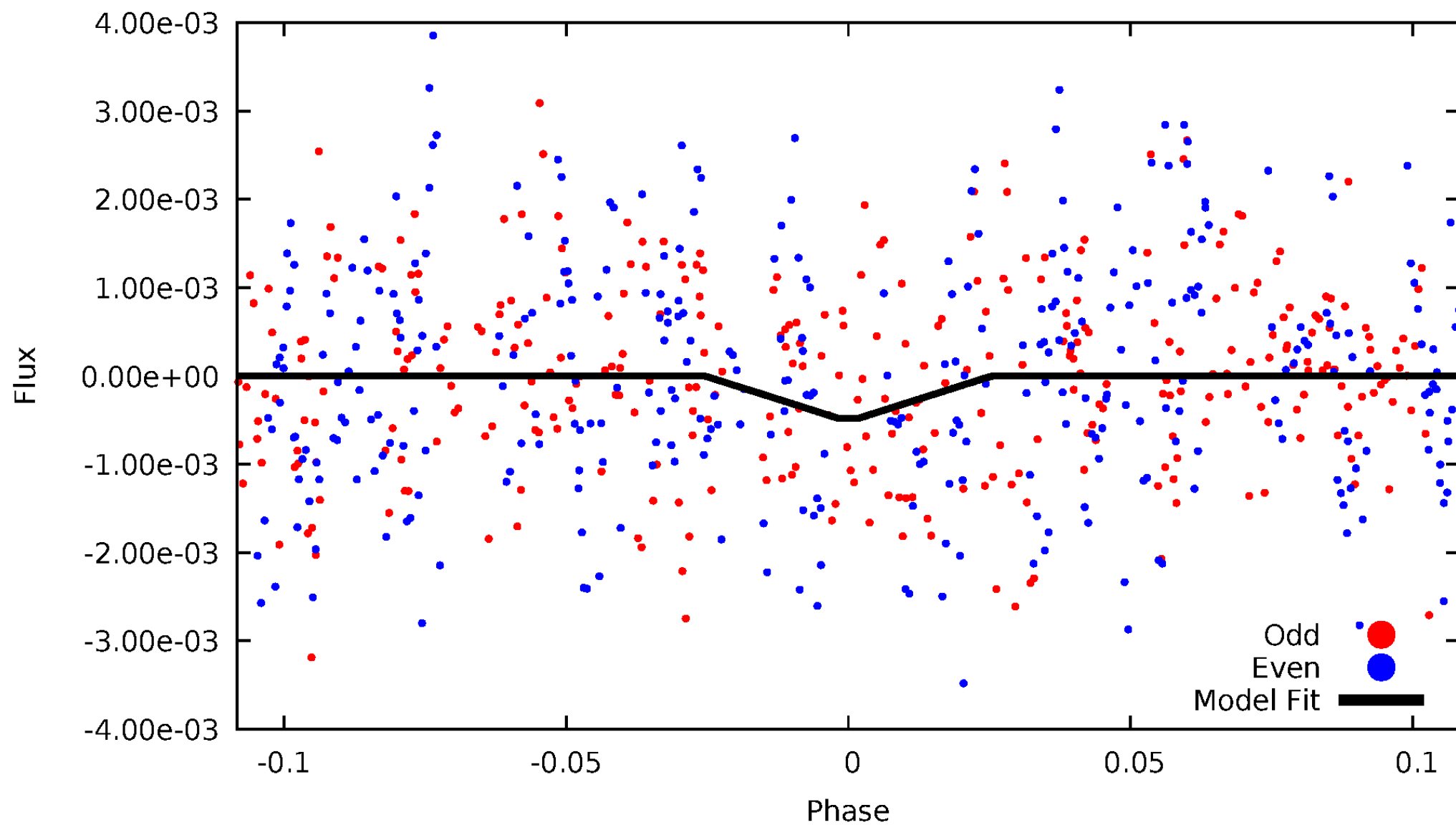
DV Odd/Even

TCE 005430471-02



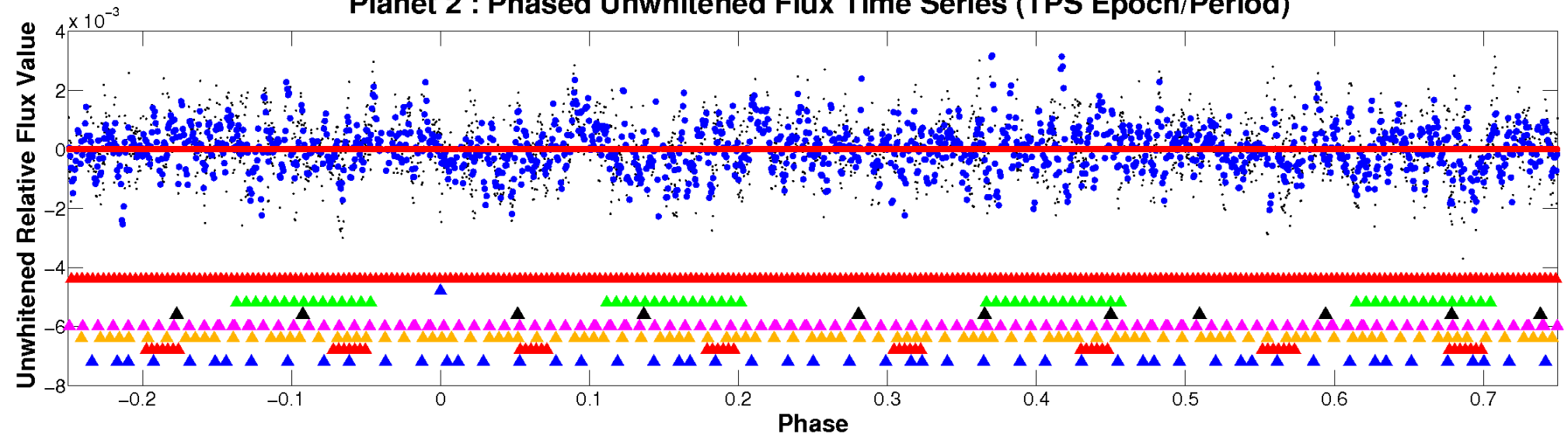
ALT Odd/Even

TCE 005430471-02

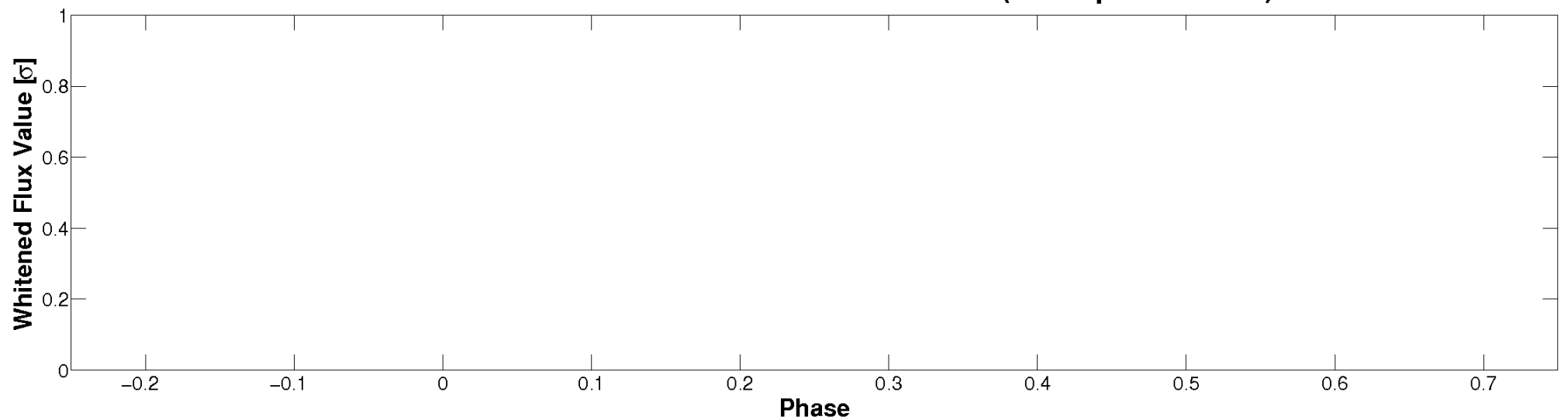


Non-Whitened Vs. Whitened Light Curve

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

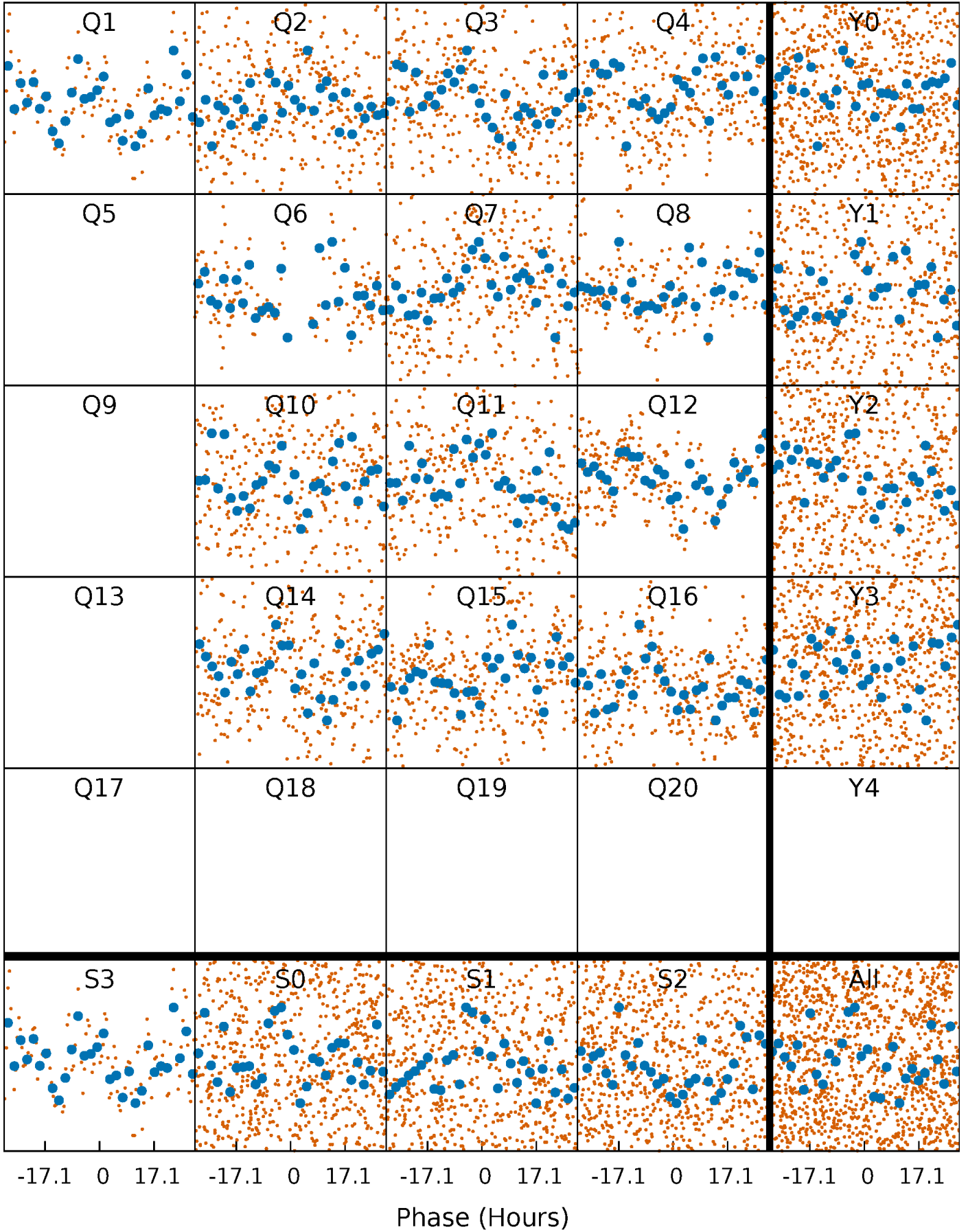


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



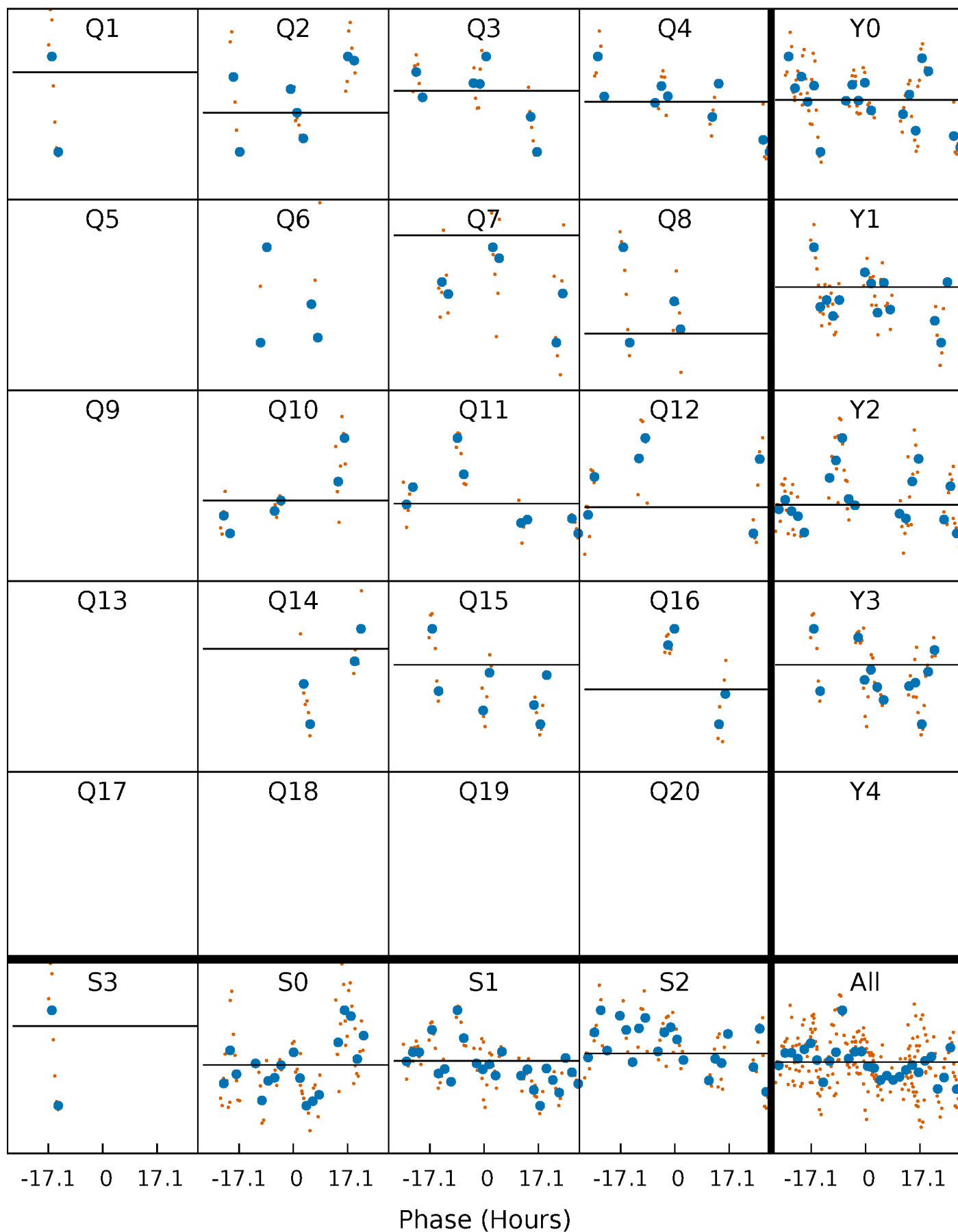
PDC Quarter-Phased Transit Curves

TCE 005430471-02 $P = 32.386569$ Days $T_0 = 145.542038$ (BKJD)



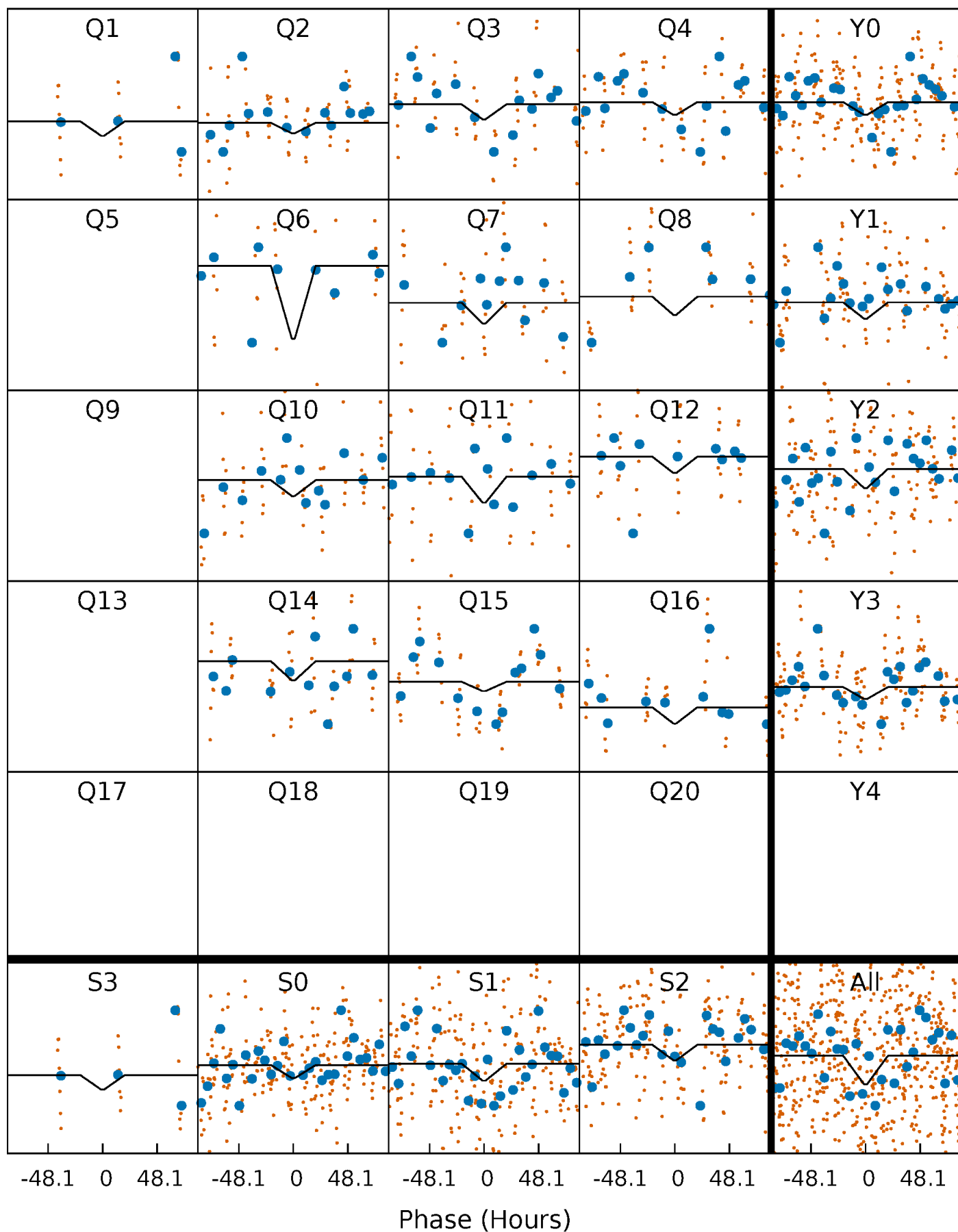
DV Quarter-Phased Transit Curves

TCE 005430471-02 P= 32.386569 Days $T_0=145.542038$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

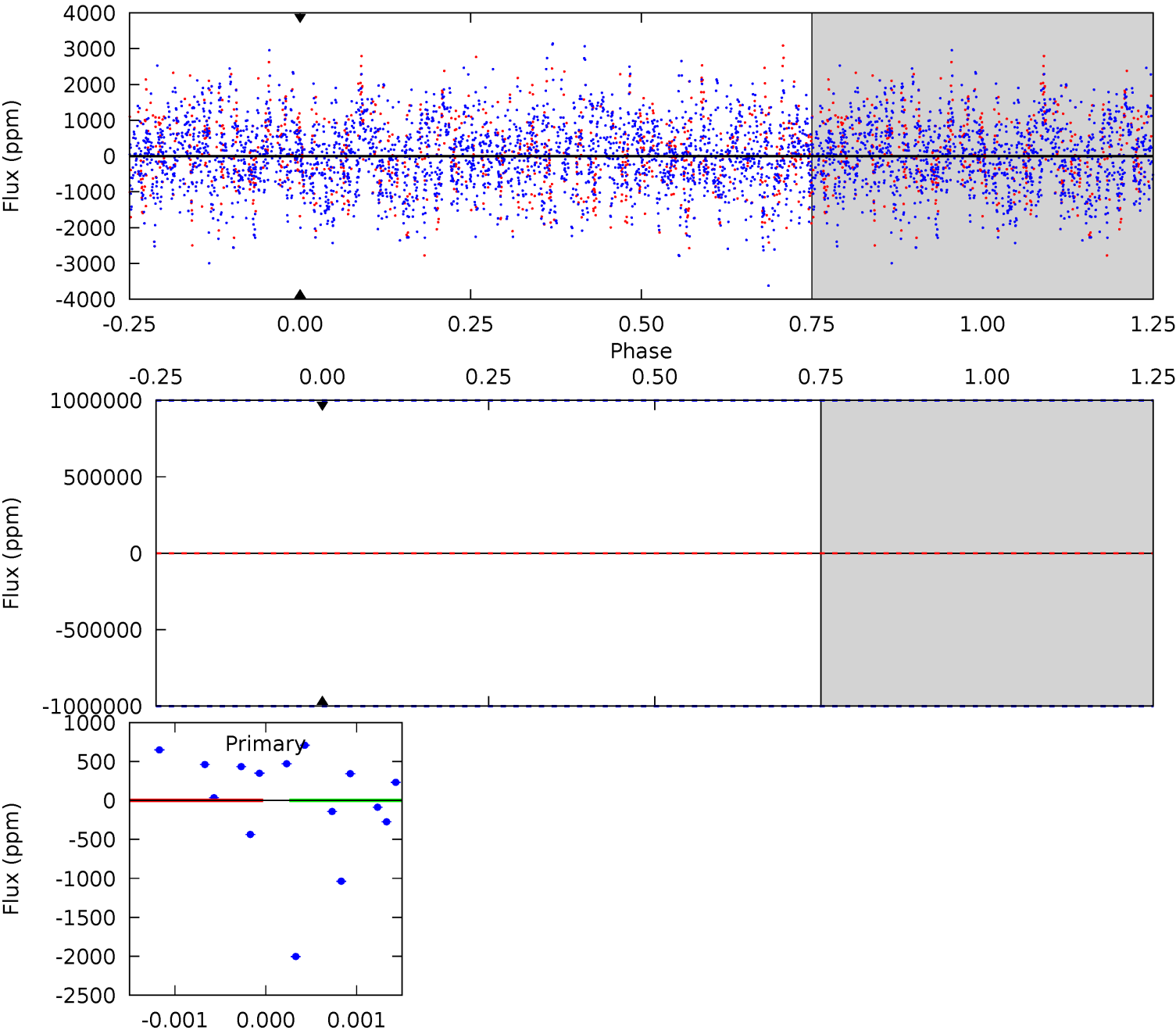
TCE 005430471-02 $P = 32.386569$ Days $T_0 = 146.488603$ (BKJD)



DV Model-Shift Uniqueness Test

005430471-02, P = 32.386569 Days, E = 113.155469 Days

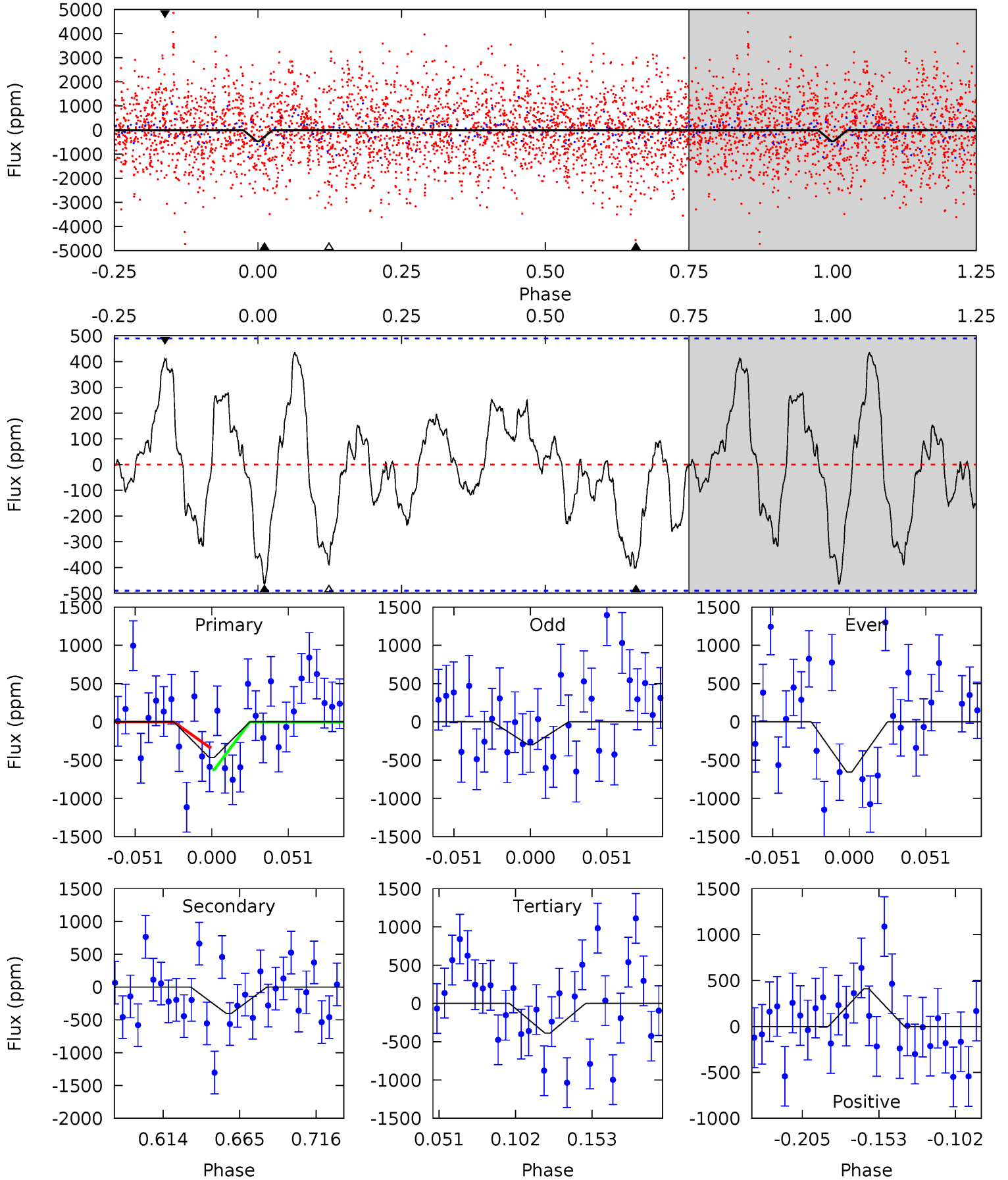
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005430471-02, P = 32.386569 Days, E = 114.102034 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.47	3.87	3.73	3.95	4.70	1.95	1.63	0.74	0.52	0.14	-0.08	1.71	-0.20	0.48	1.43



Stellar Parameters For KIC 005430471

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7854^{+217}_{-326}	$3.669^{+0.448}_{-0.084}$	$-0.120^{+0.200}_{-0.350}$	$3.462^{+0.600}_{-1.681}$	$2.039^{+0.329}_{-0.535}$	$0.069^{+0.321}_{-0.020}$
	+3%/-4%	+12%/-2%	+167%/-292%	+17%/-49%	+16%/-26%	+464%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005430471-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$25.41^{+27.41}_{-17.57}$	1726^{+131}_{-207}	4308^{+39540}_{-42394}	31^{+10076}_{-8144}
Alt.	-403 ± 104	$26.38^{+27.72}_{-19.12}$	1734^{+120}_{-202}	4152^{+2854}_{-911}	21^{+213}_{-16}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

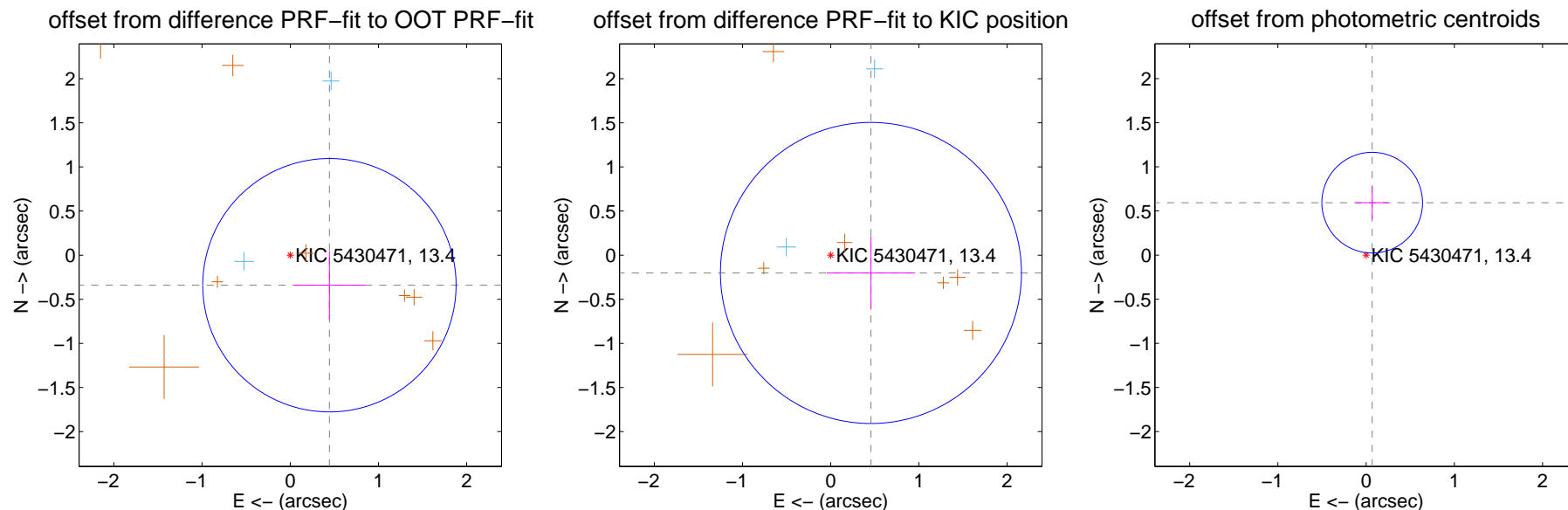
DV Centroid Data

Supplemental centroid analysis for 005430471-02. Kepler magnitude: 13.40. Transit SNR -1.00

There are 3 quarters with good PRF difference image offsets

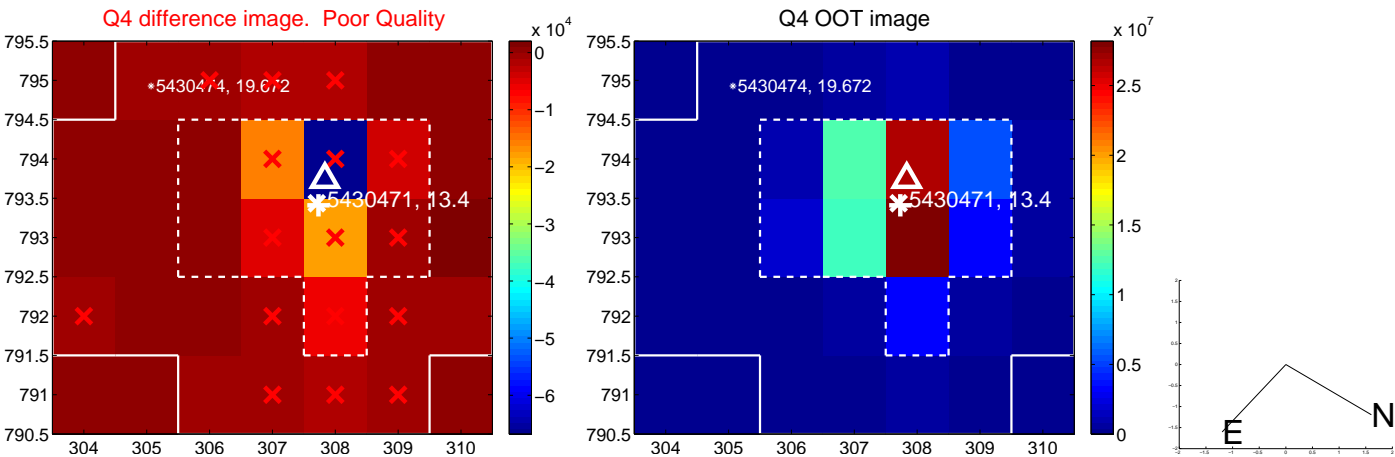
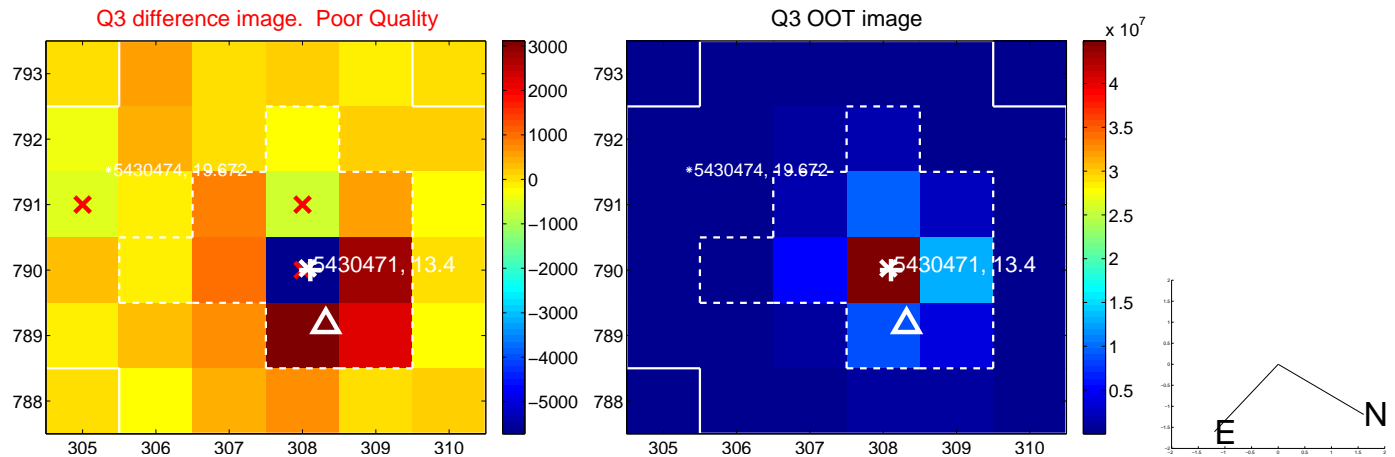
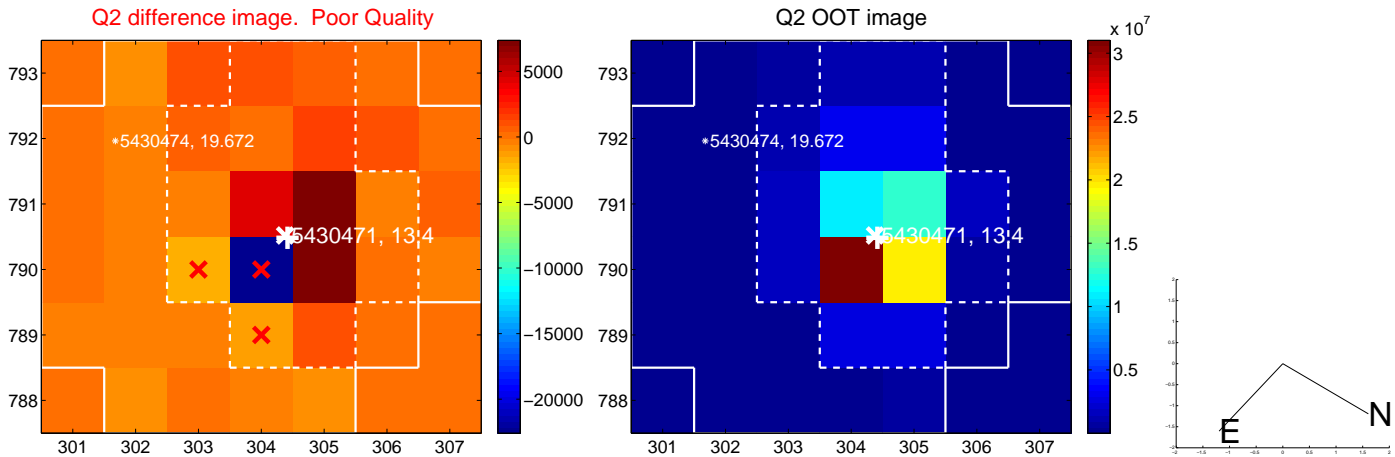
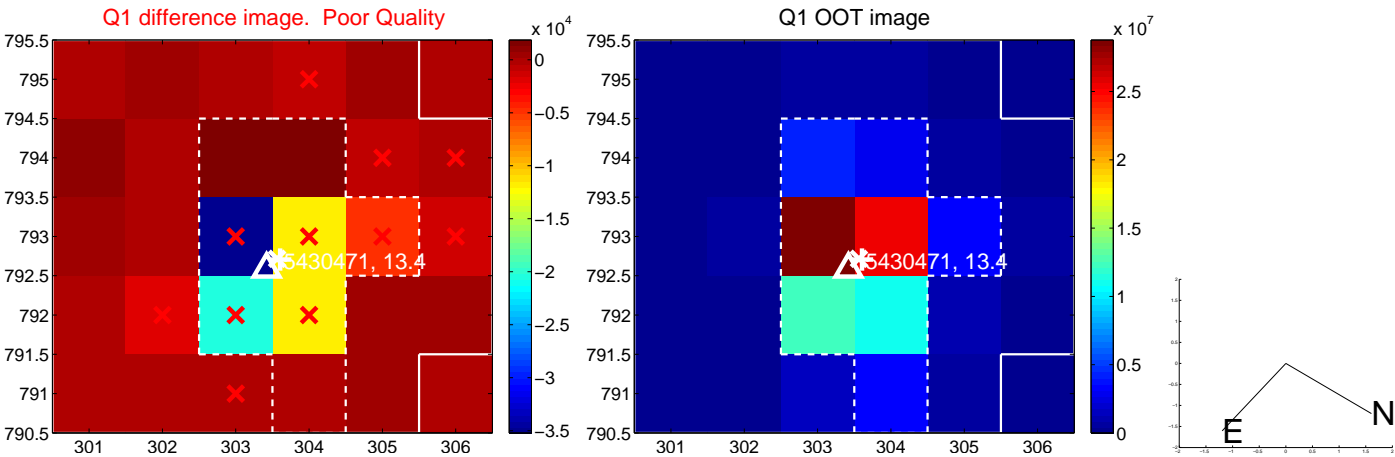
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.560 ± 0.479	1.17	-0.444 ± 0.409	-0.341 ± 0.388
PRF-fit source offset from KIC position	0.499 ± 0.569	0.88	-0.456 ± 0.503	-0.202 ± 0.414
photometric centroid source offset	0.60 ± 0.19	3.14	-0.07 ± 0.19	0.59 ± 0.19



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

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



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

Q5 no difference image



Q5 no OOT image



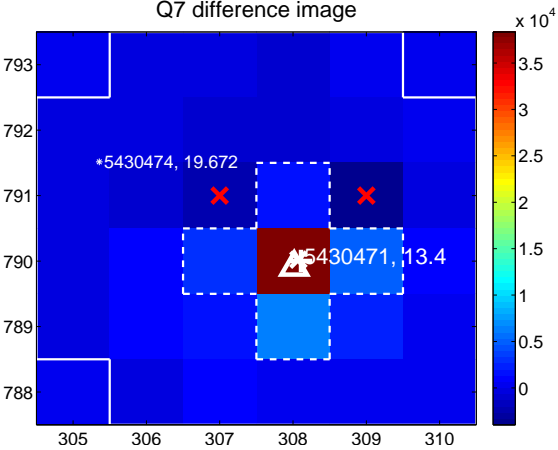
Q6 no difference image



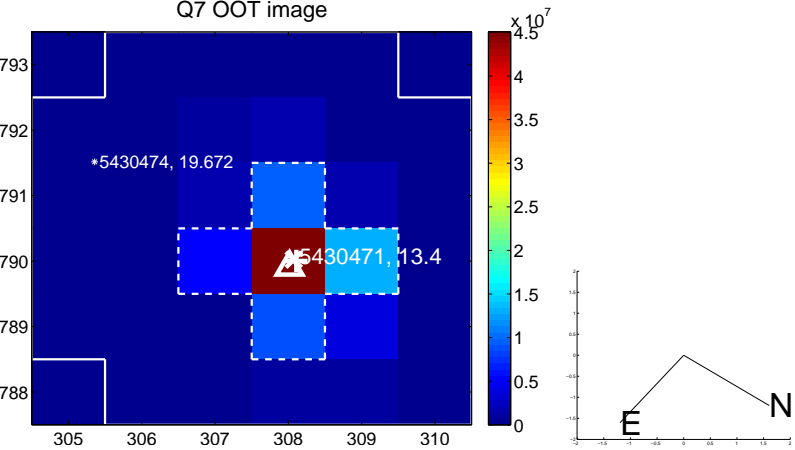
Q6 no OOT image



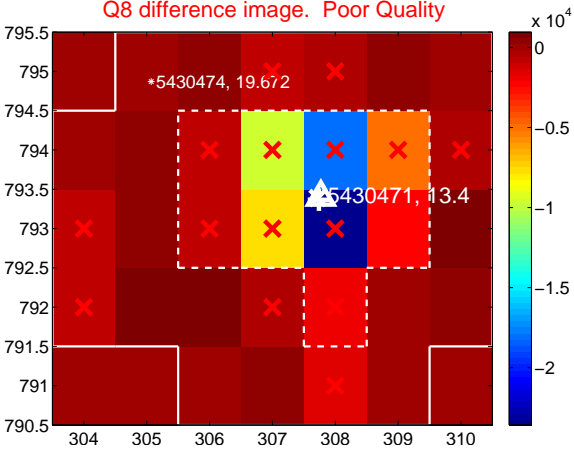
Q7 difference image



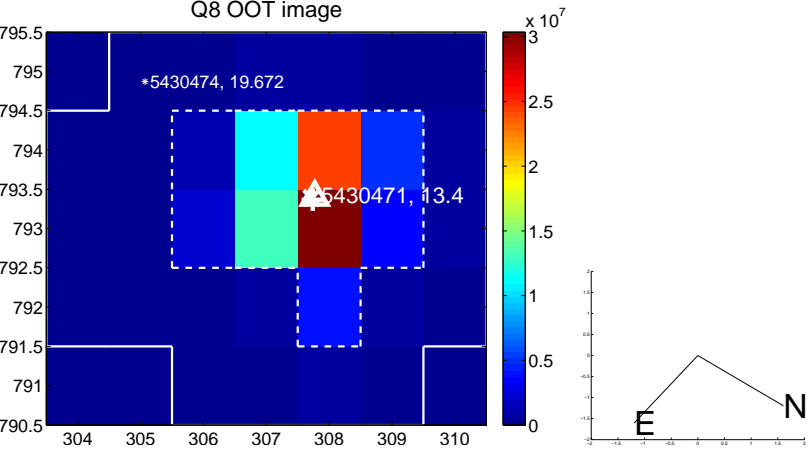
Q7 OOT image



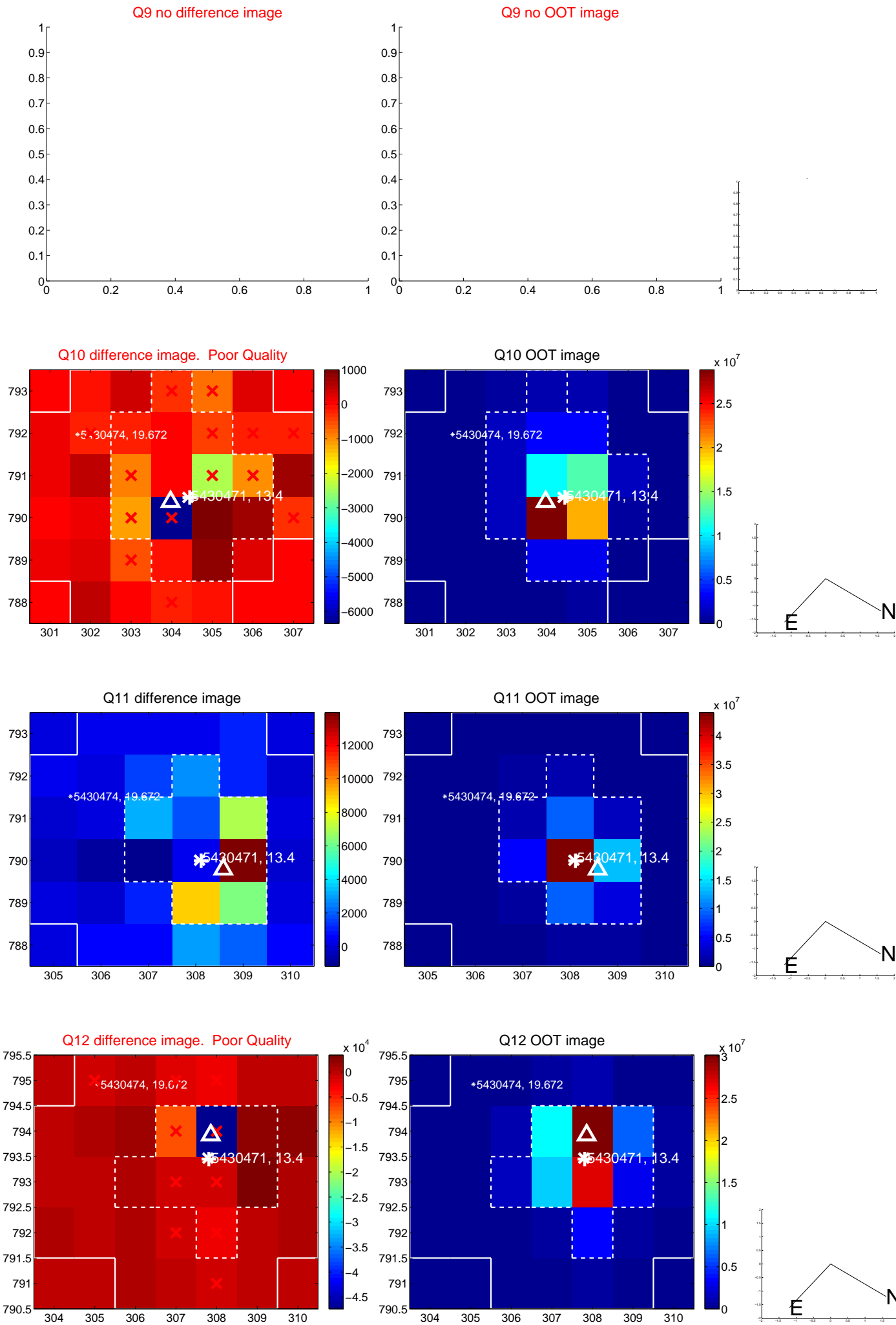
Q8 difference image. Poor Quality



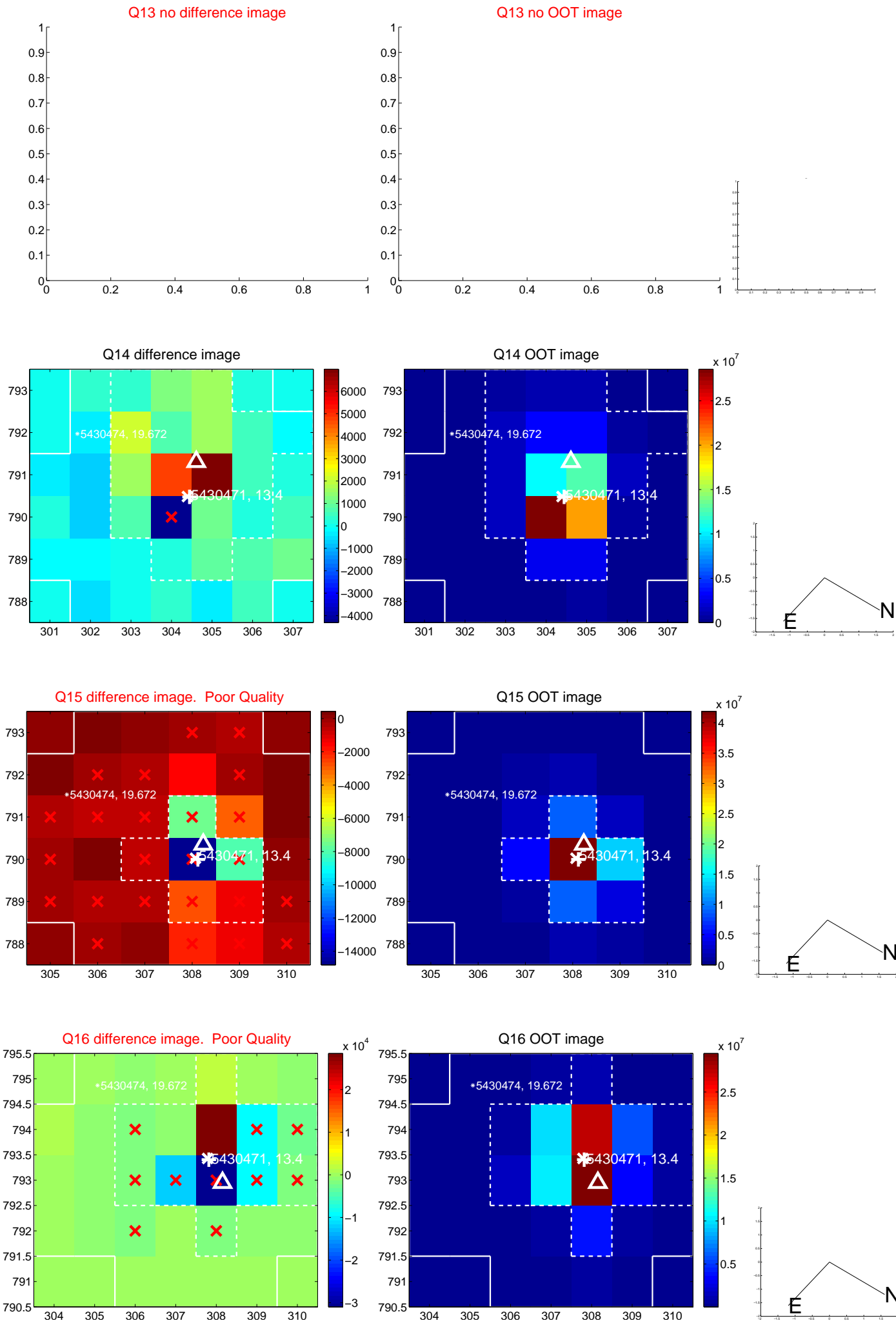
Q8 OOT image



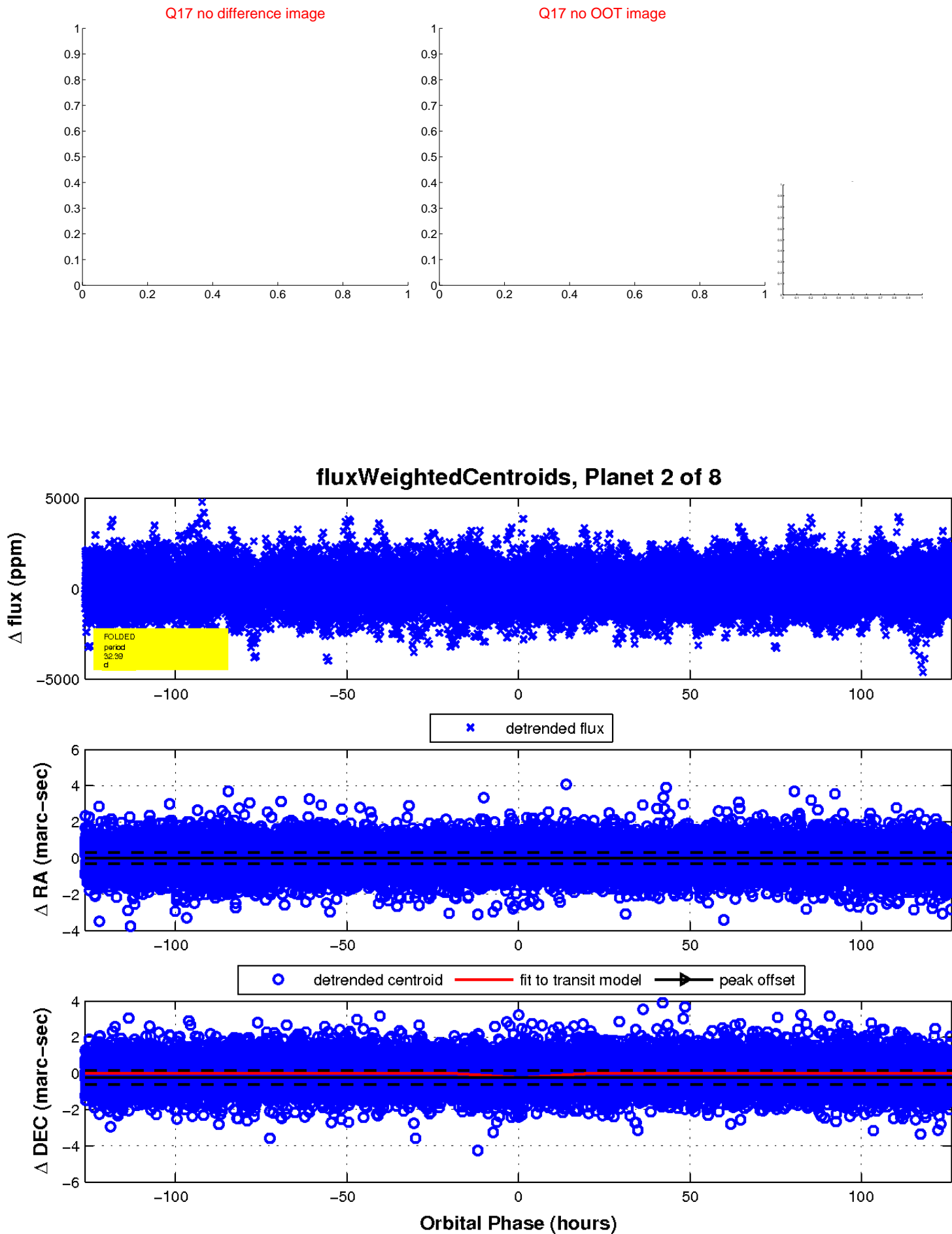
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

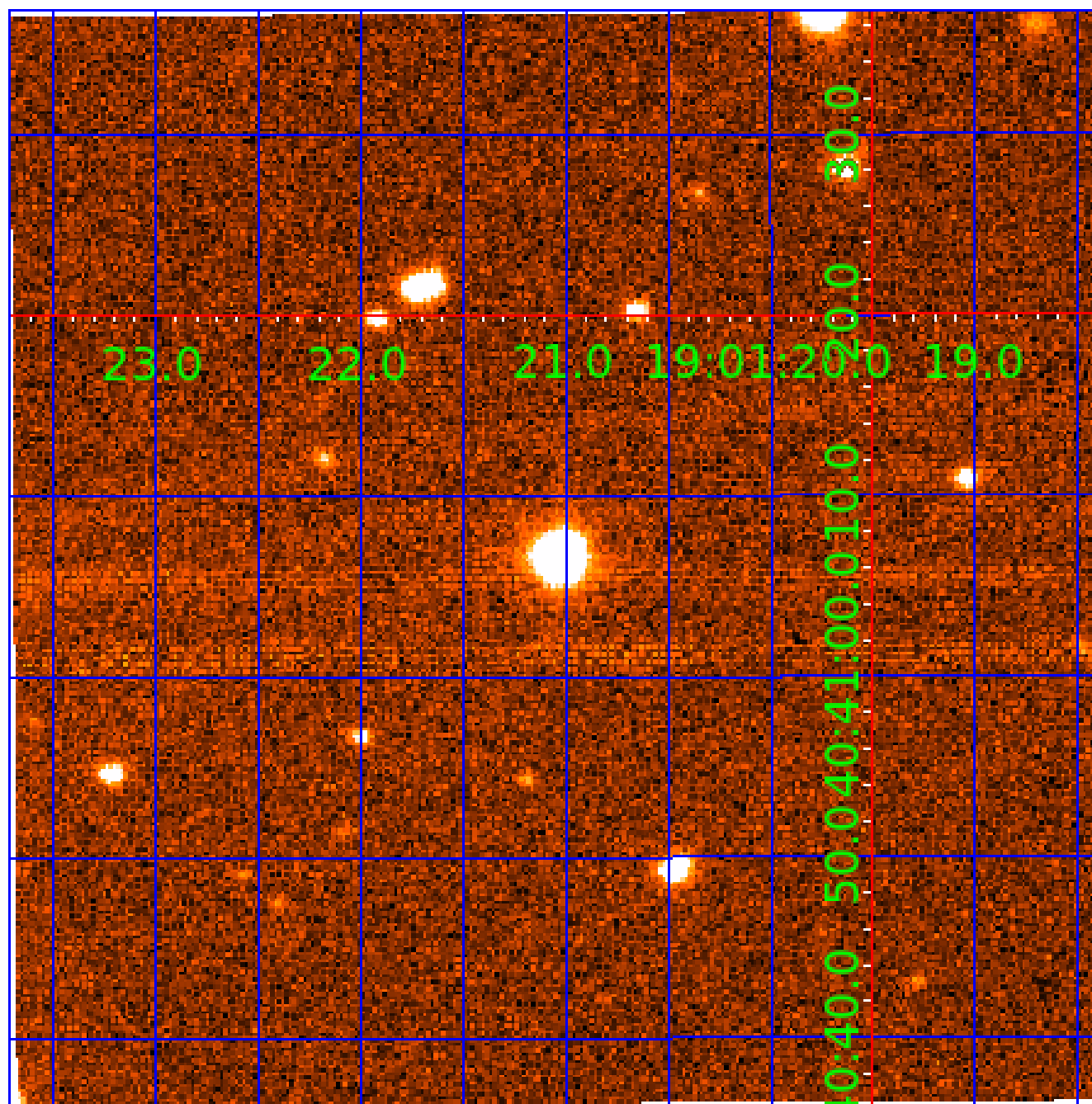


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005430471

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})
005430471-01	OBS	No	2.205505	132.769905	131.1	16.382	7.9	8.8	3.46	7854	4.13	23092.20
005430471-02	OBS	No	32.386569	145.542038	502.9	15.000	19.8	-1.0	3.46	7854	7.84	642.18
005430471-03	OBS	No	24.341919	149.156725	1738.0	3.645	17.2	17.2	3.46	7854	15.62	939.73
005430471-04	OBS	No	136.957587	160.113256	2069.3	15.681	12.8	12.3	3.46	7854	18.61	93.91
005430471-05	OBS	No	12.103672	137.474230	854.0	6.731	15.5	8.6	3.46	7854	10.48	2385.54
005430471-06	OBS	No	13.614745	142.274136	1515.4	1.523	10.8	10.2	3.46	7854	22.17	2039.22
005430471-07	OBS	No	28.323761	143.908841	1603.3	1.660	8.8	7.9	3.46	7854	14.02	767.85
005430471-08	OBS	No	27.343349	138.754746	588.3	1.500	8.8	-1.0	3.46	7854	8.51	804.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005430471-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005430471-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
005430471-03	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
005430471-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005430471-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
005430471-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

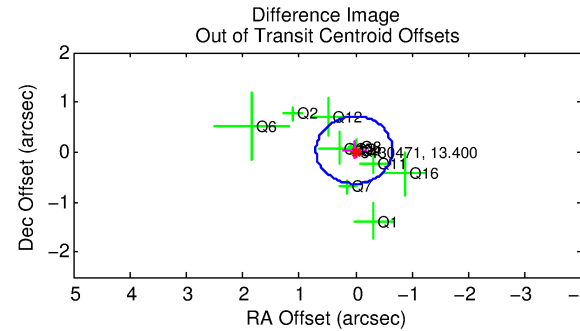
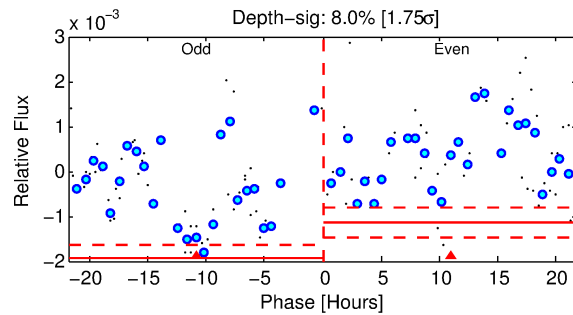
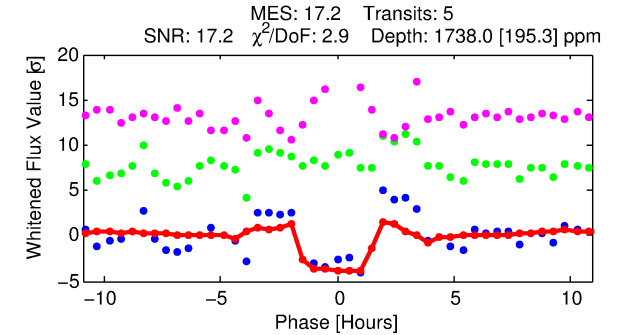
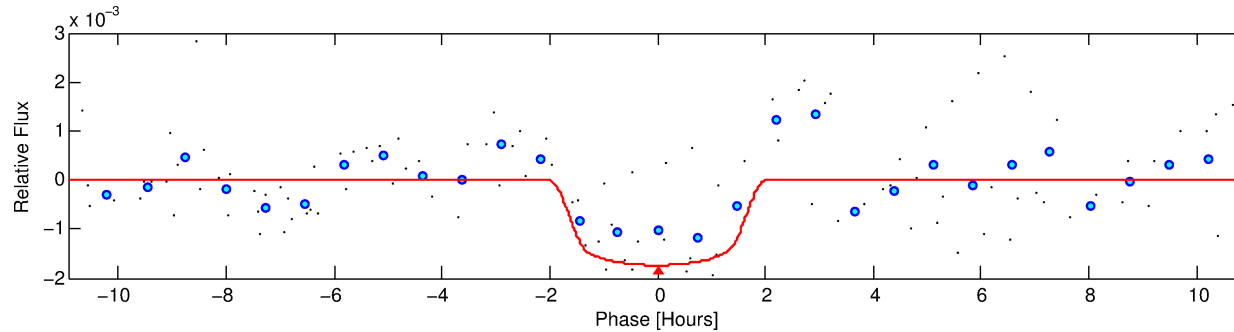
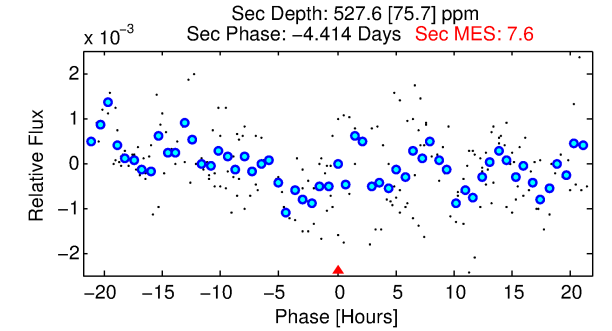
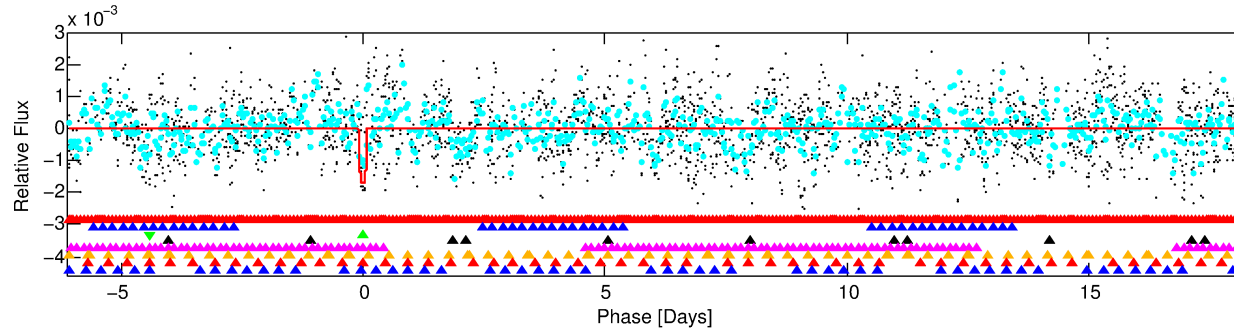
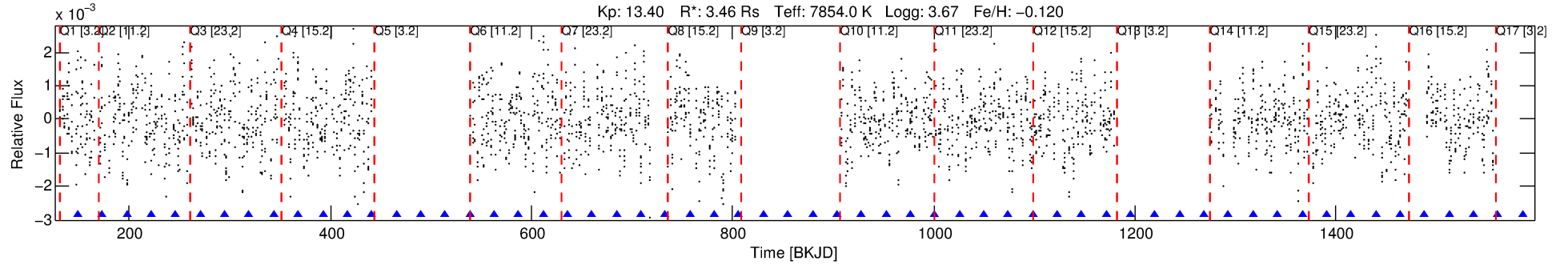
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005430471-03

No Significant Match Found

DV One-Page Summary

KIC: 5430471 Candidate: 3 of 8 Period: 24.342 d



DV Fit Results:

Period = 24.34192 [0.00015] d
Epoch = 149.1567 [0.0044] BKJD
Rp/R* = 0.0413 [0.0181]
a/R* = 37.56 [91.18]
b = 0.74 [1.51]
Seff = 939.73 [731.11]
Teq = 1412 [275] K
Rp = 15.62 [10.20] Re
a = 0.2085 [0.0985] AU
Ag = 51.73 [60.39] [0.84σ]
Teffp = 5854 [1319] K [3.30σ]

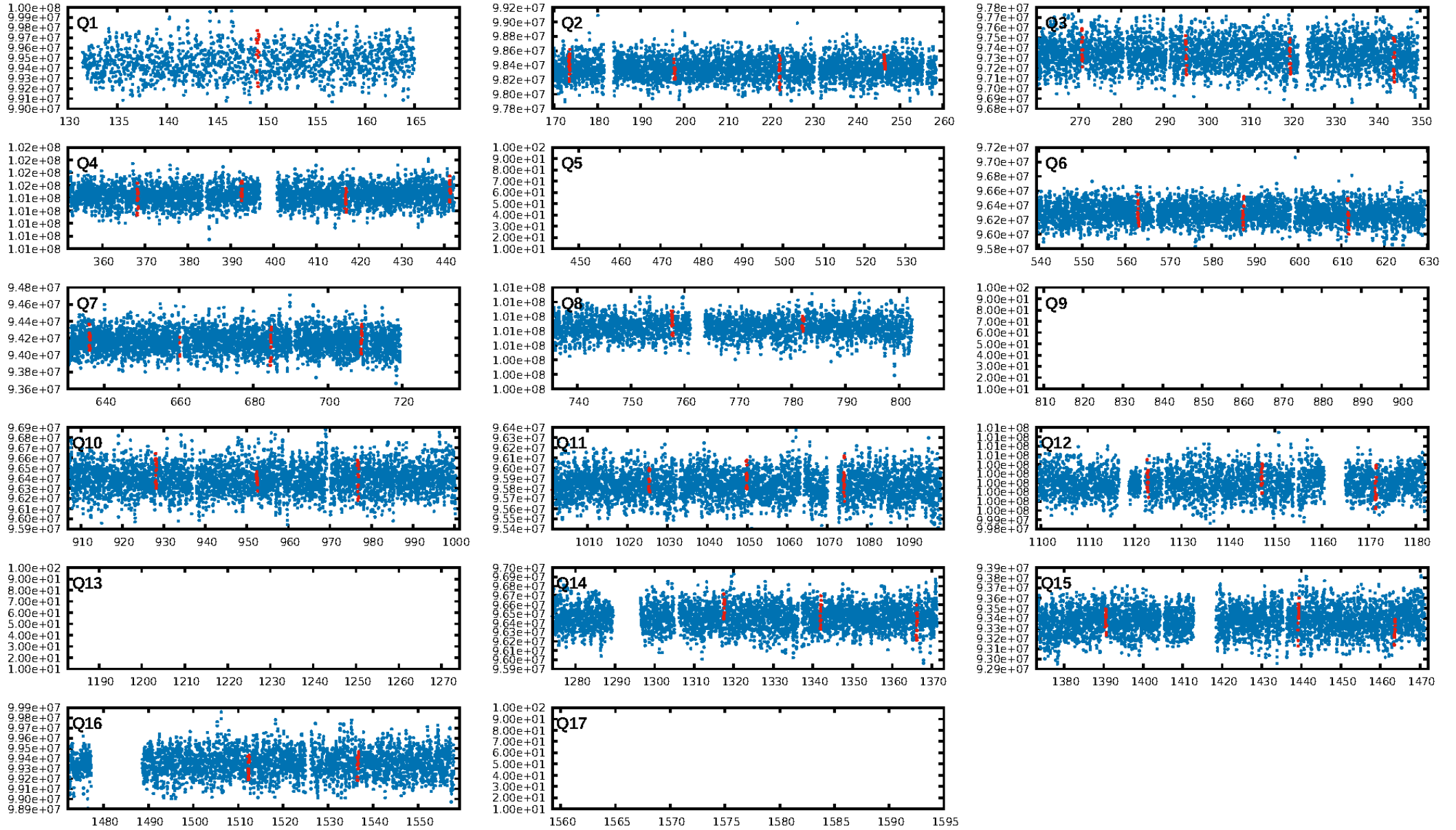
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [65.17σ]
LongPeriod-sig: 100.0% [18.27σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 80.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.4884
Centroid-sig: 39.6%
Centroid-so: 0.175 arcsec [1.99σ]
OotOffset-rm: 0.052 arcsec [0.23σ]
OotOffset-st: 2/4/4/1 [11]
KicOffset-rm: 0.196 arcsec [0.88σ]
KicOffset-st: 2/4/4/1 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 0.31 [4/13]

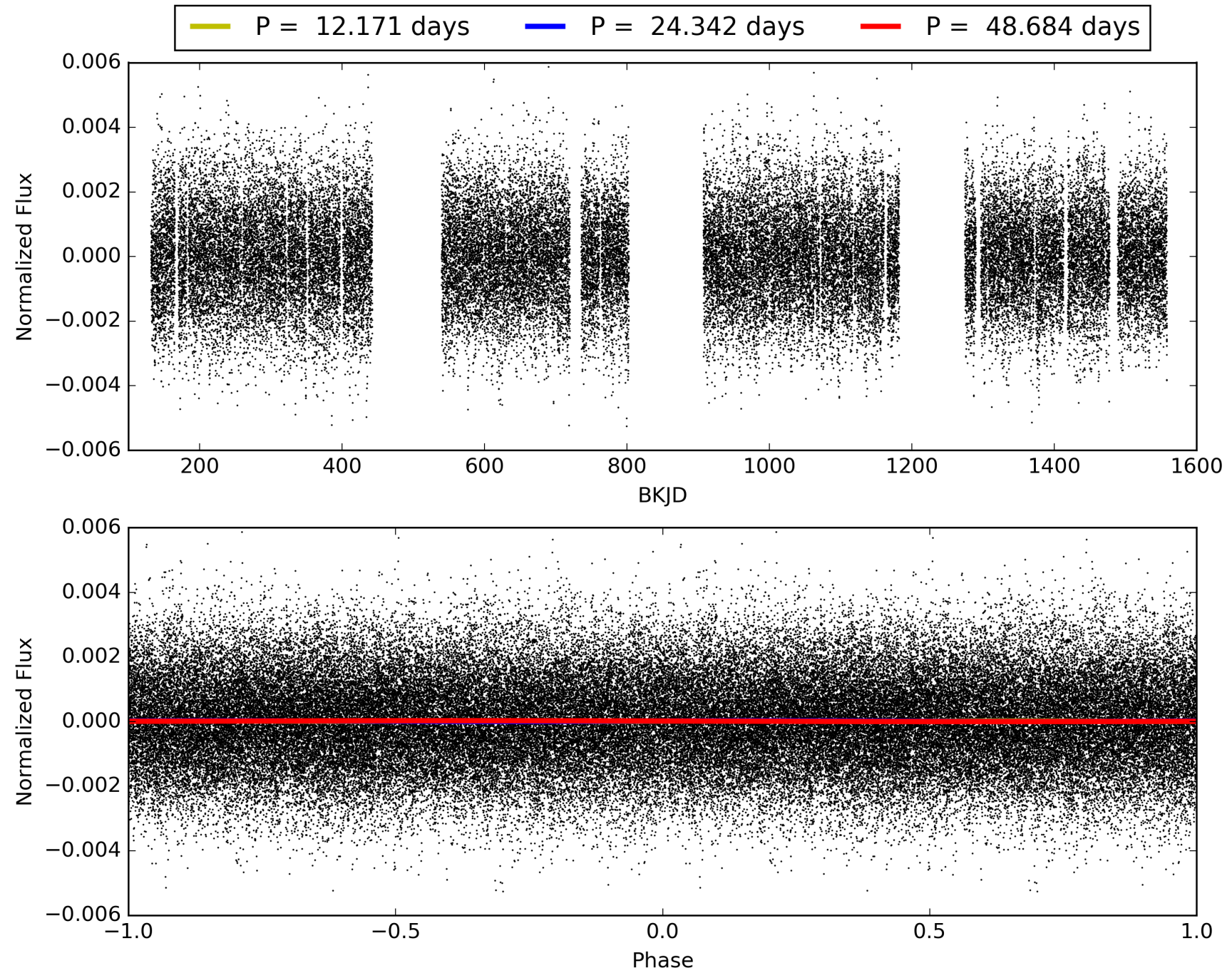
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:31:40 Z

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

TCE 005430471-03, PDC Light Curves

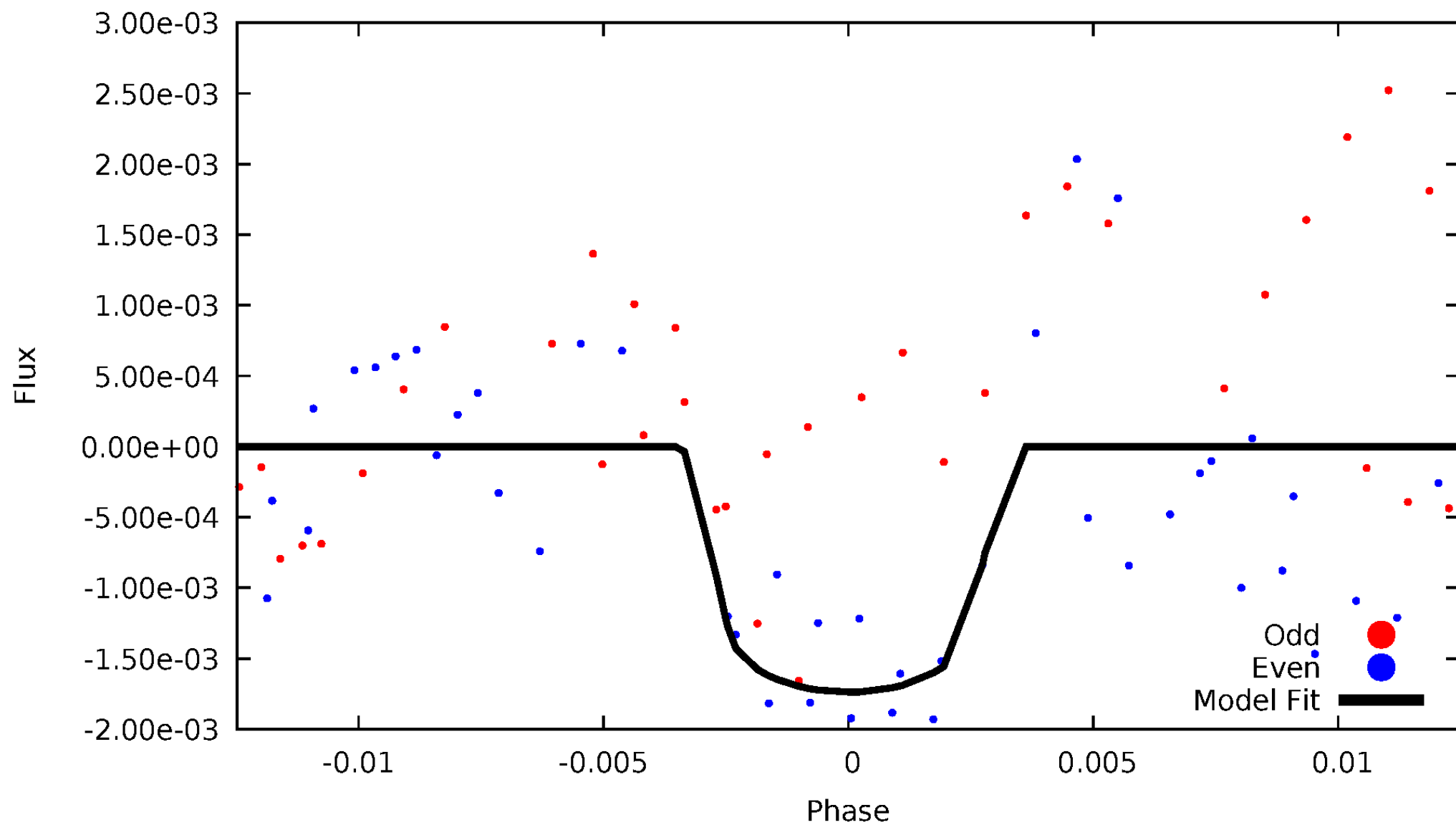


TCE 005430471-03



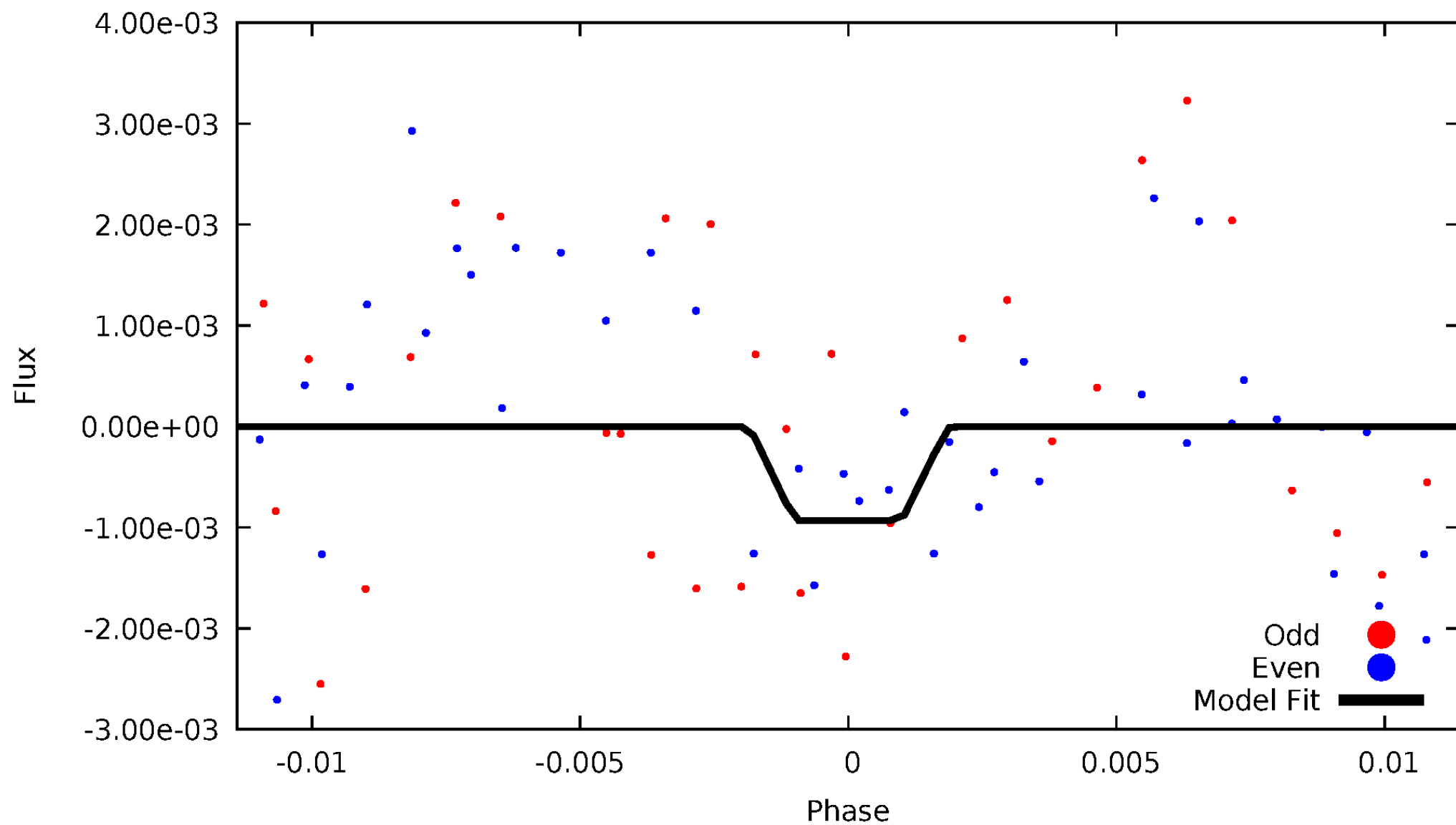
DV Odd/Even

TCE 005430471-03



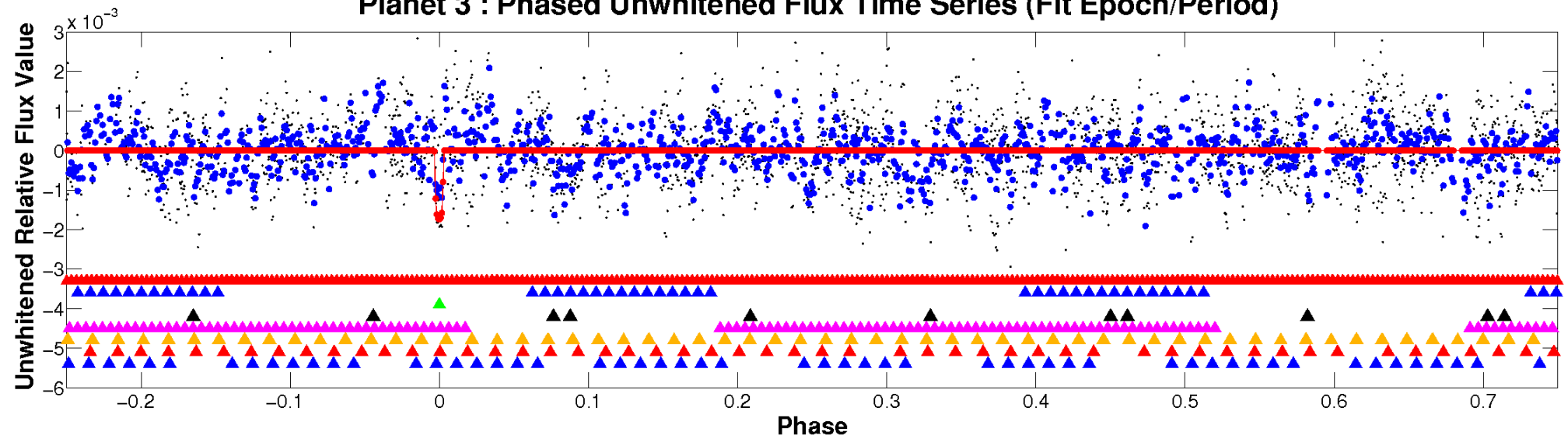
ALT Odd/Even

TCE 005430471-03

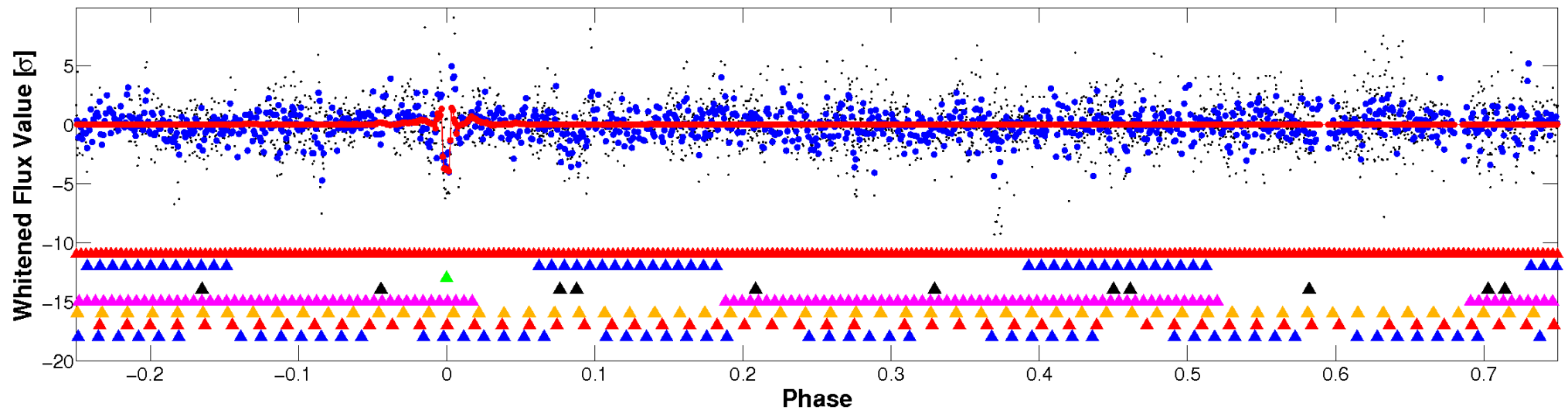


Non-Whitened Vs. Whitened Light Curve

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

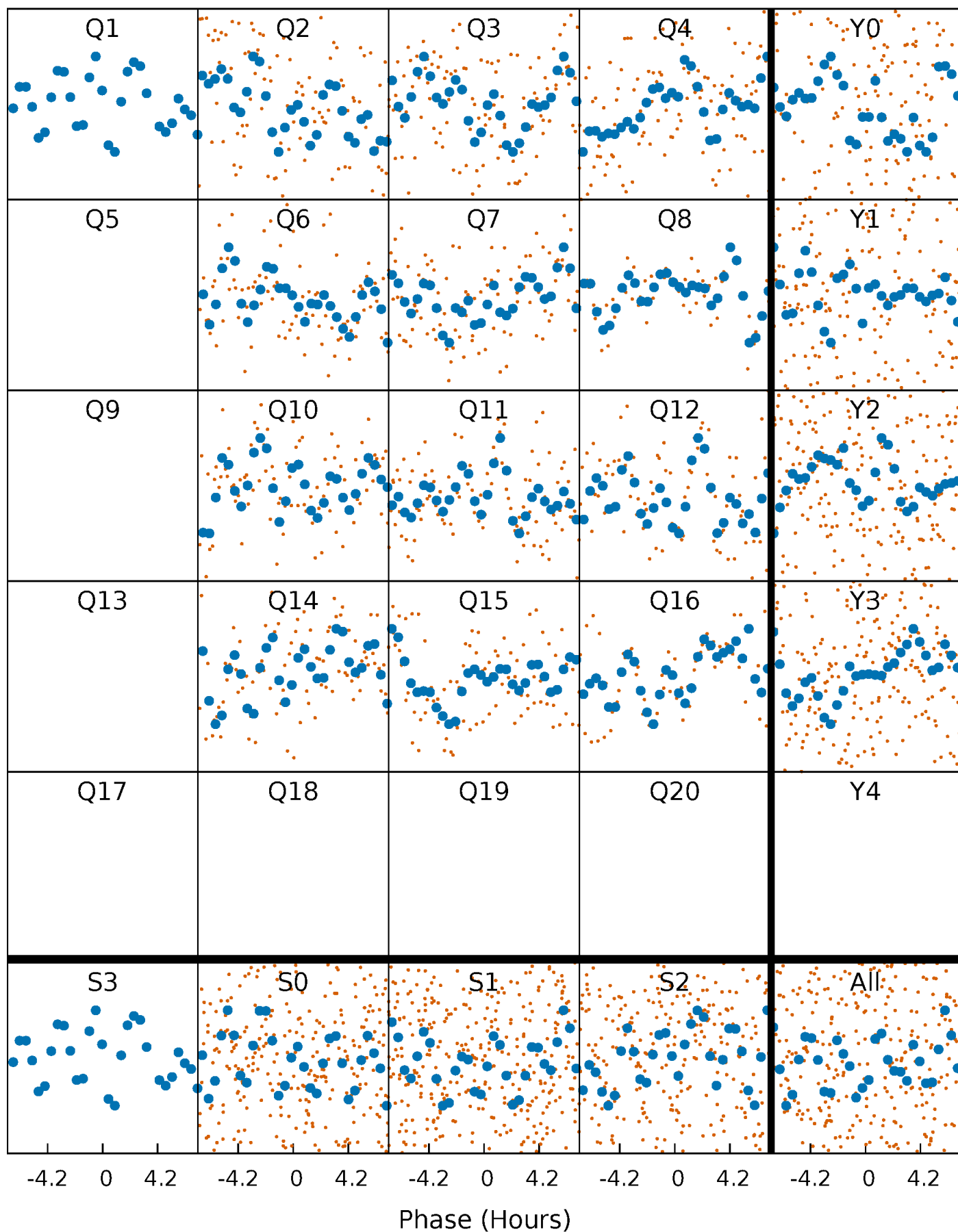


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



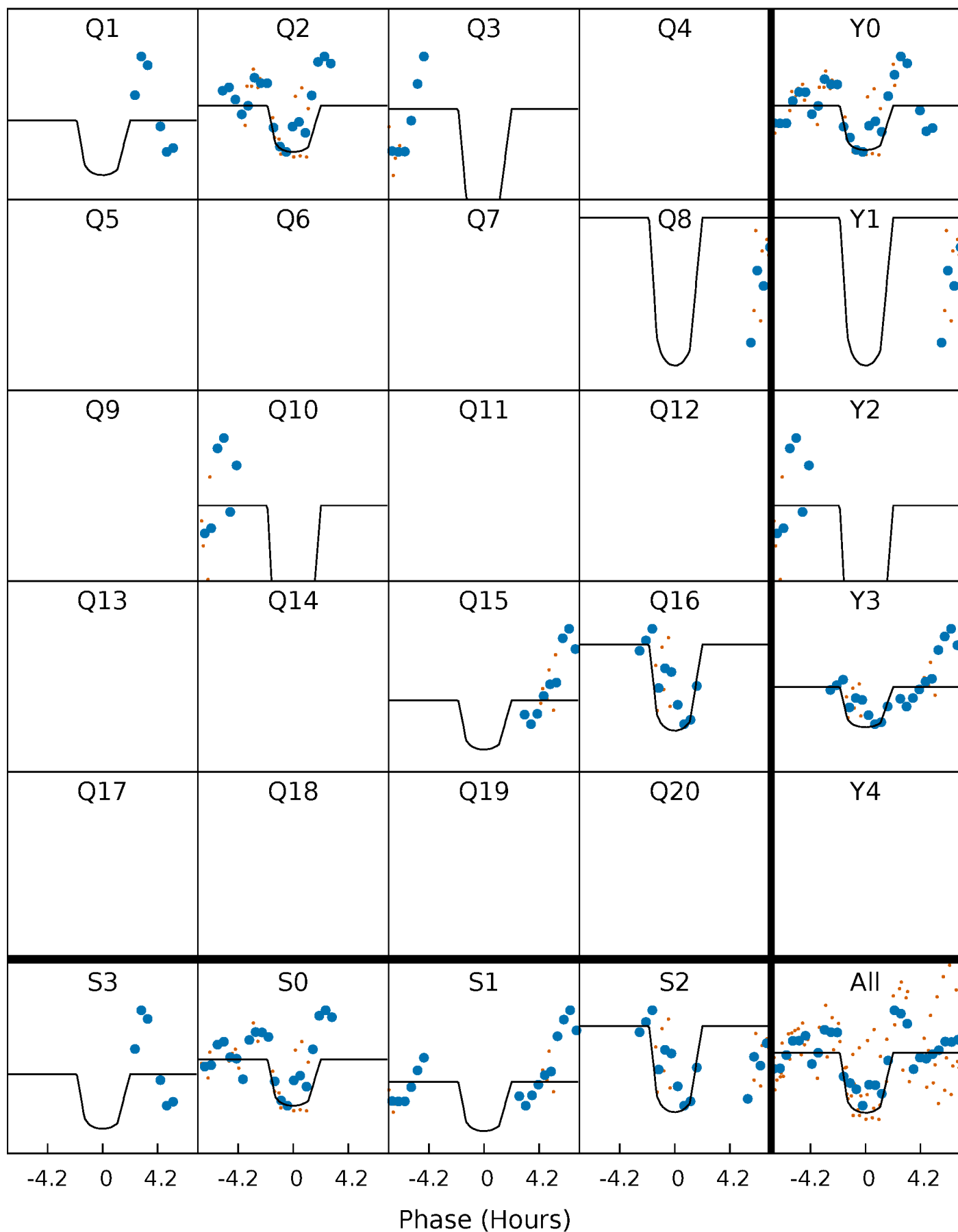
PDC Quarter-Phased Transit Curves

TCE 005430471-03 P= 24.341919 Days $T_0=149.156725$ (BKJD)



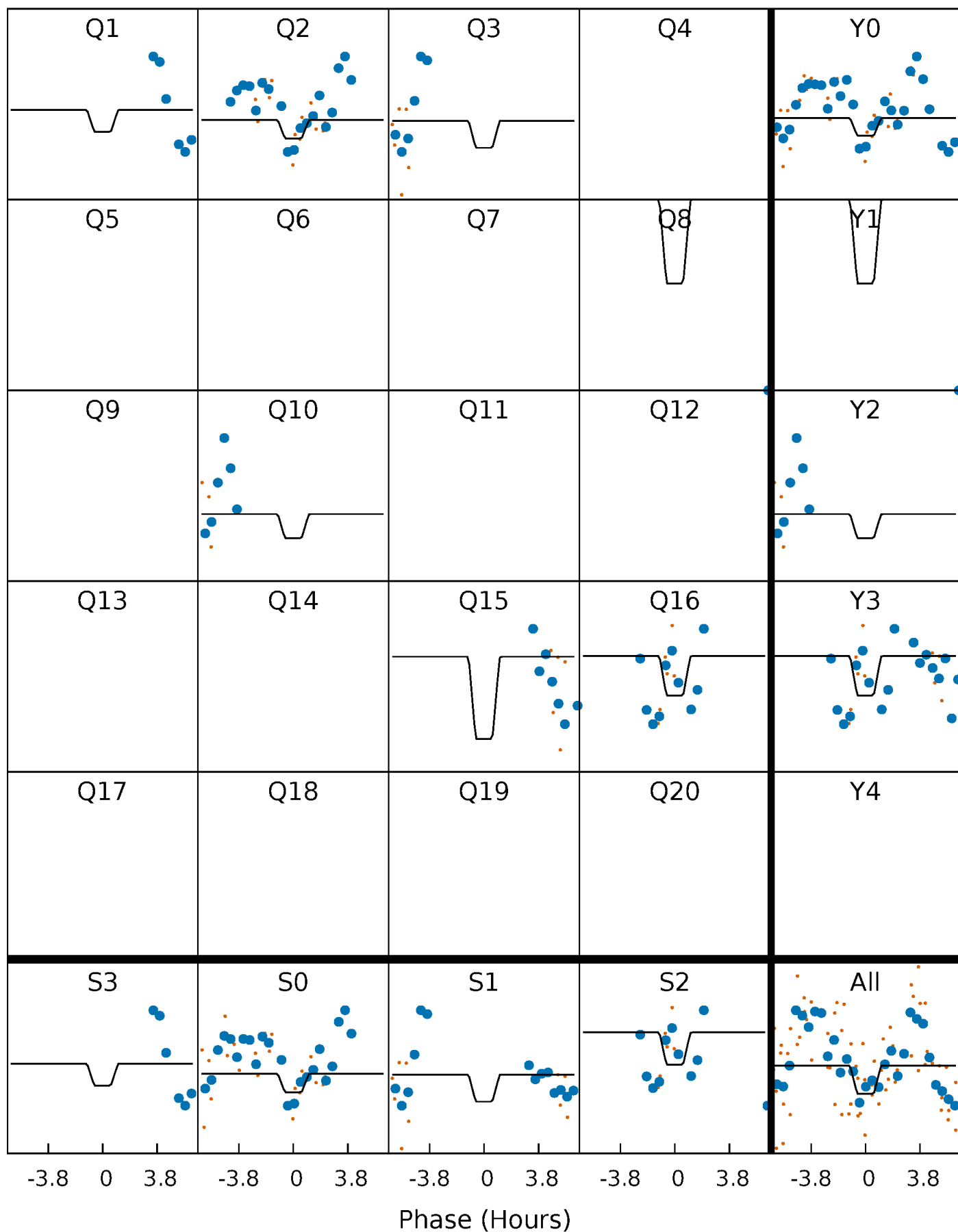
DV Quarter-Phased Transit Curves

TCE 005430471-03 P= 24.341919 Days $T_0=149.156725$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

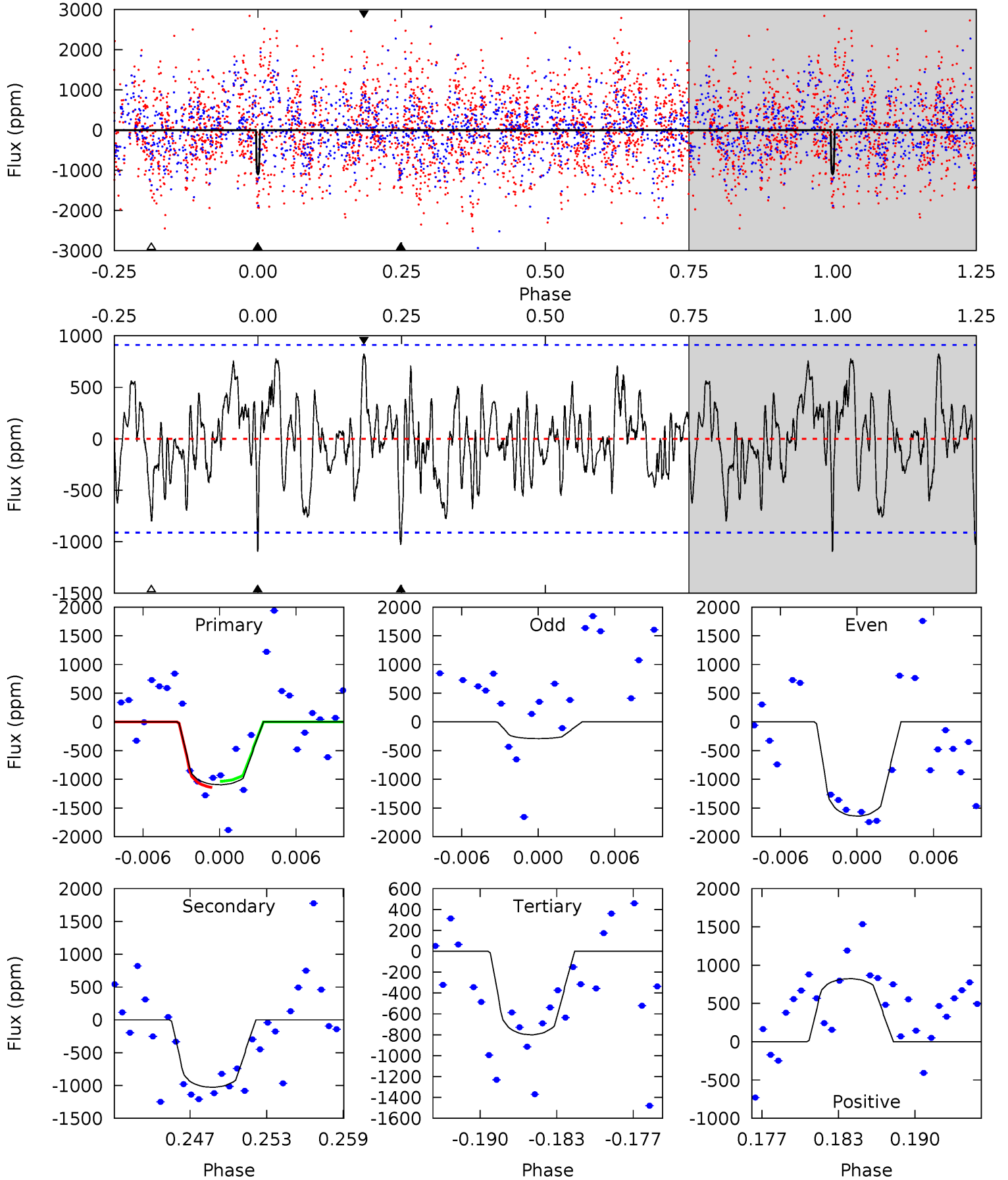
TCE 005430471-03 P= 24.342501 Days $T_0=149.111105$ (BKJD)



DV Model-Shift Uniqueness Test

005430471-03, P = 24.341919 Days, E = 124.814806 Days

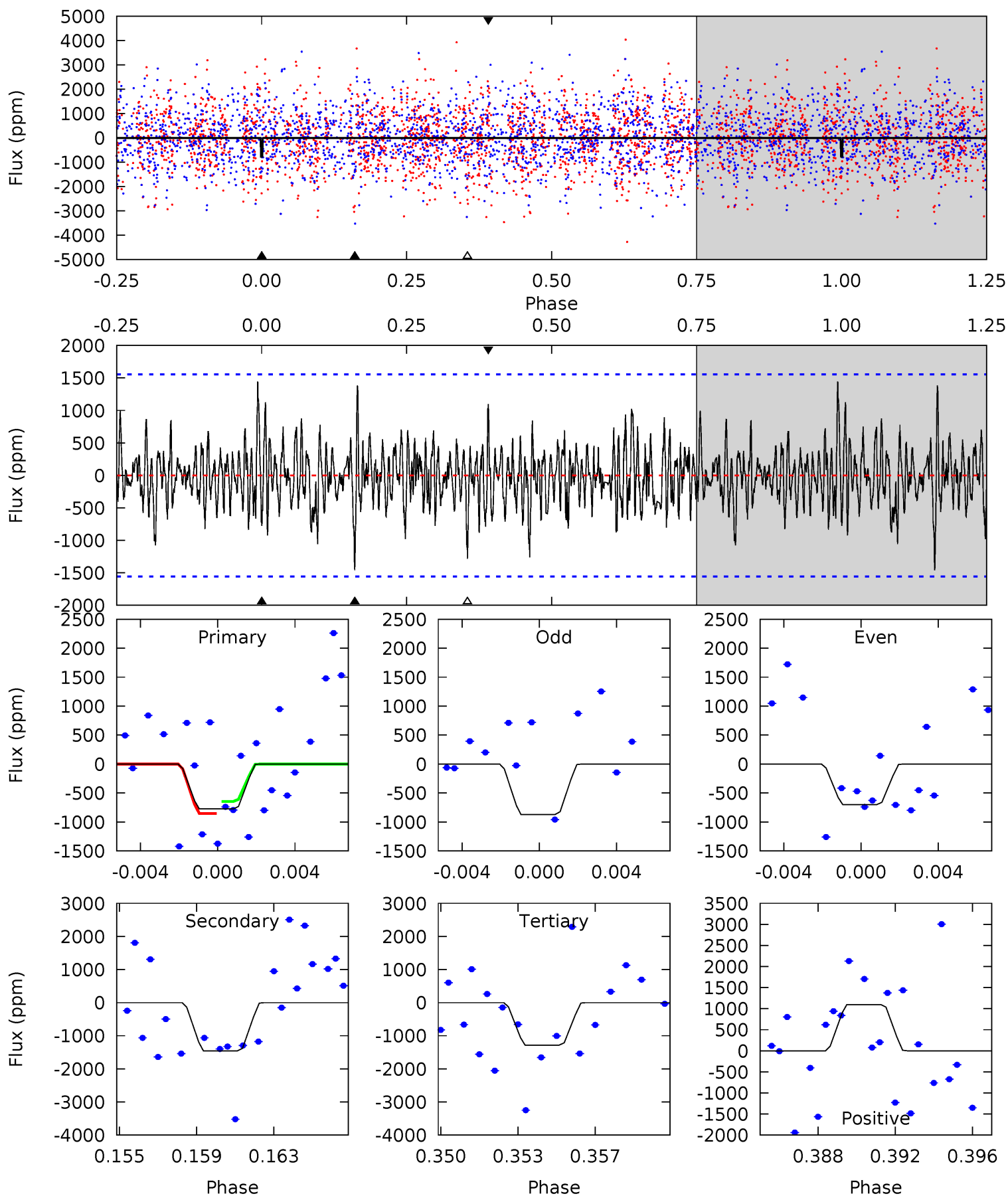
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.15	5.77	4.49	4.63	5.11	2.73	1.71	1.66	1.52	1.28	1.14	3.75	0.64	0.43	0.30



Alt Model-Shift Uniqueness Test

005430471-03, P = 24.342501 Days, E = 124.768604 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.59	4.88	4.29	3.67	5.20	2.89	1.30	-1.70	-1.07	0.58	1.21	0.29	0.92	0.50	0.35



Stellar Parameters For KIC 005430471

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7854^{+217}_{-326}	$3.669^{+0.448}_{-0.084}$	$-0.120^{+0.200}_{-0.350}$	$3.462^{+0.600}_{-1.681}$	$2.039^{+0.329}_{-0.535}$	$0.069^{+0.321}_{-0.020}$
	+3%/-4%	+12%/-2%	+167%/-292%	+17%/-49%	+16%/-26%	+464%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005430471-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1028 ± 178	$13.91^{+7.71}_{-6.35}$	1906^{+134}_{-242}	6670^{+2835}_{-1103}	126^{+291}_{-73}
Alt.	-1457 ± 299	$10.52^{+7.01}_{-5.62}$	1897^{+145}_{-227}	8817^{+7128}_{-2181}	309^{+1112}_{-198}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

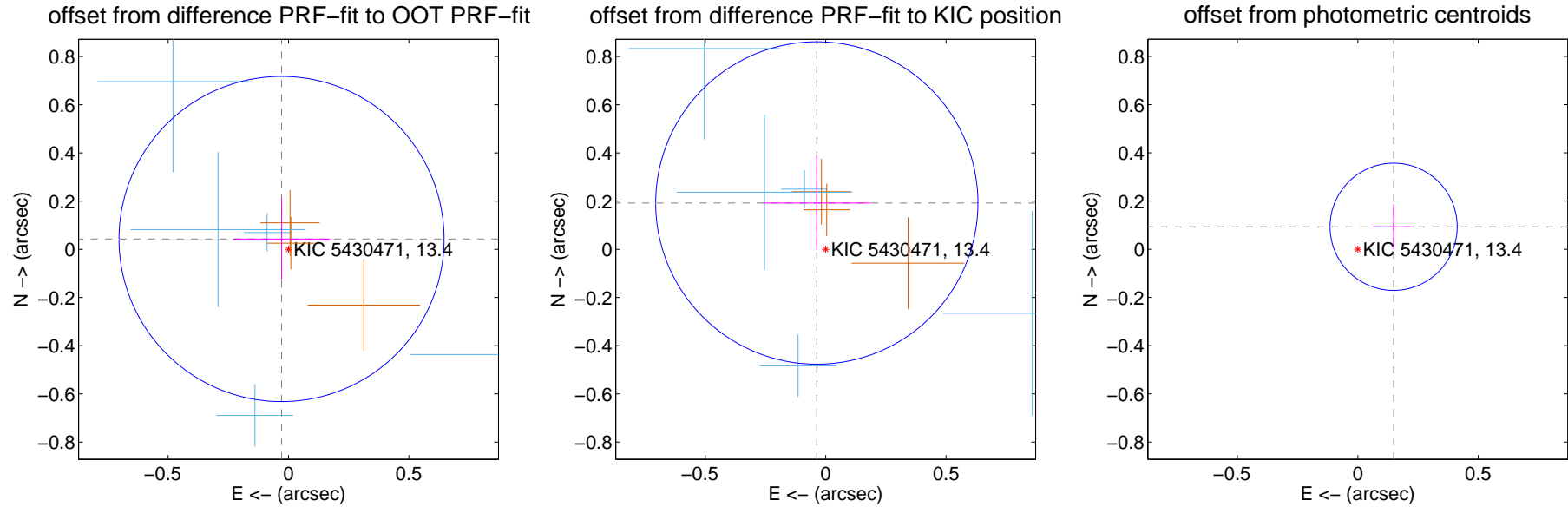
DV Centroid Data

Supplemental centroid analysis for 005430471-03. Kepler magnitude: 13.40. Transit SNR 17.25

There are 6 quarters with good PRF difference image offsets

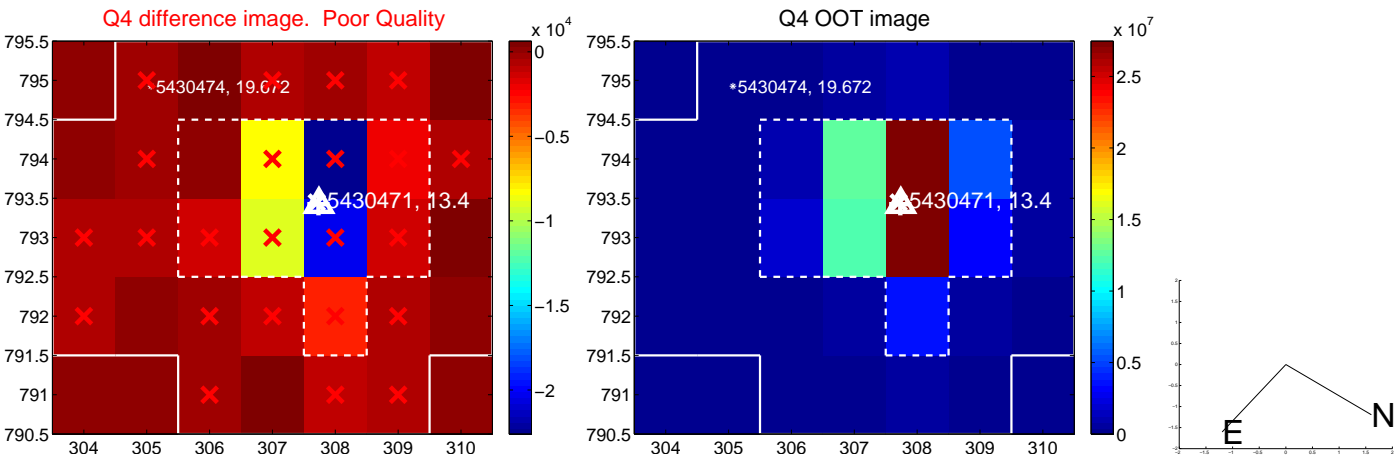
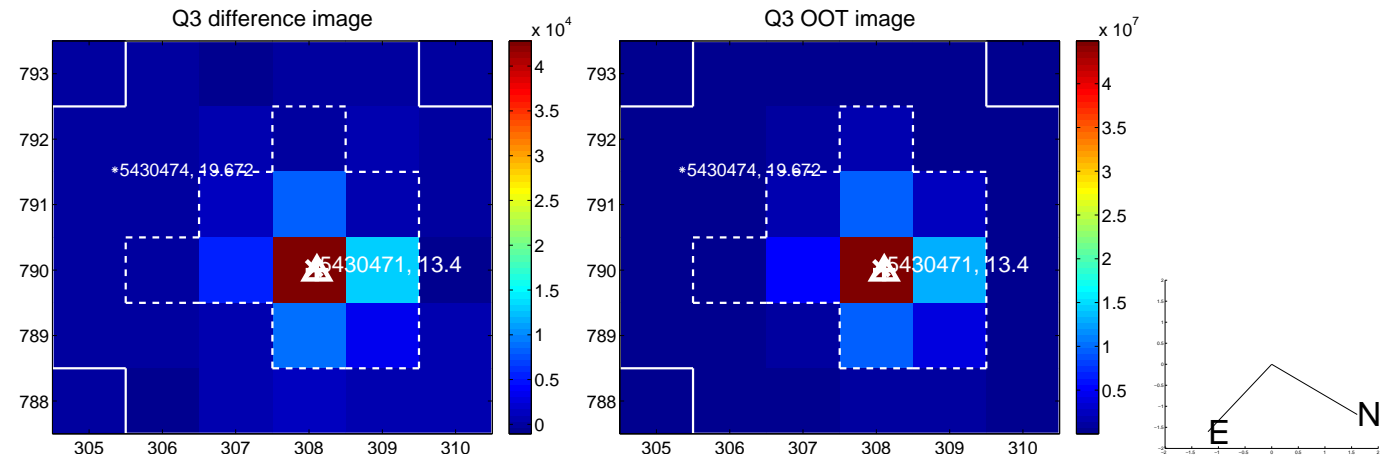
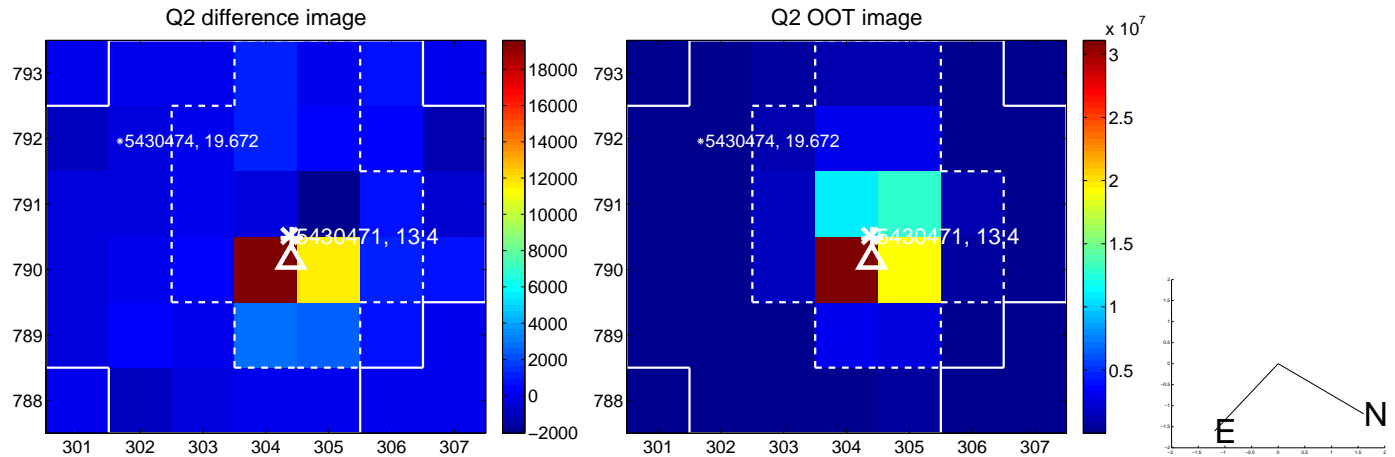
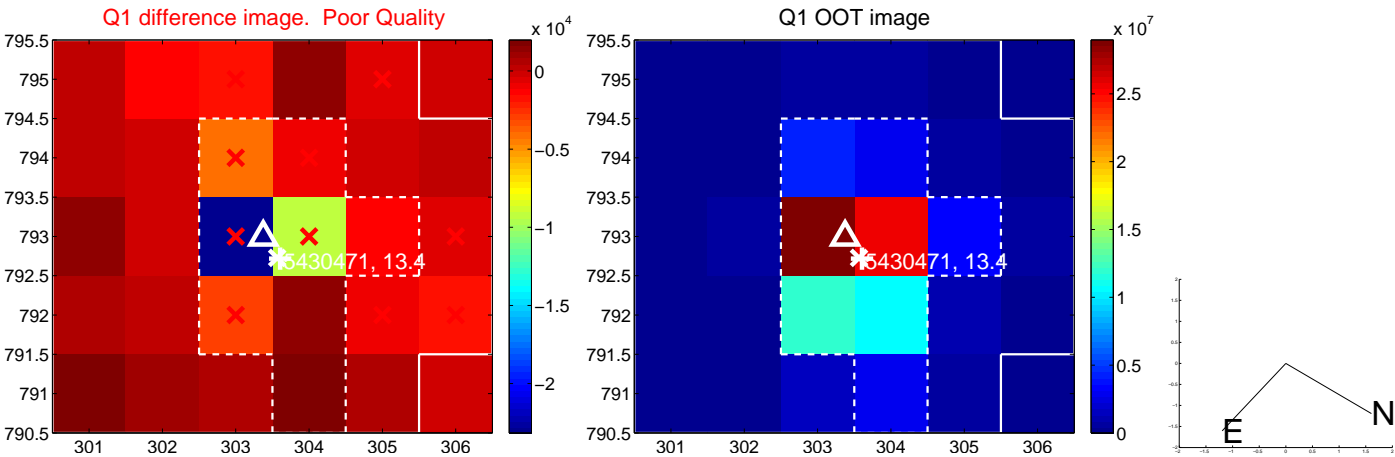
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.052 ± 0.225	0.23	0.029 ± 0.202	0.043 ± 0.169
PRF-fit source offset from KIC position	0.196 ± 0.223	0.88	0.037 ± 0.223	0.192 ± 0.198
photometric centroid source offset	0.18 ± 0.09	1.99	-0.15 ± 0.09	0.09 ± 0.09

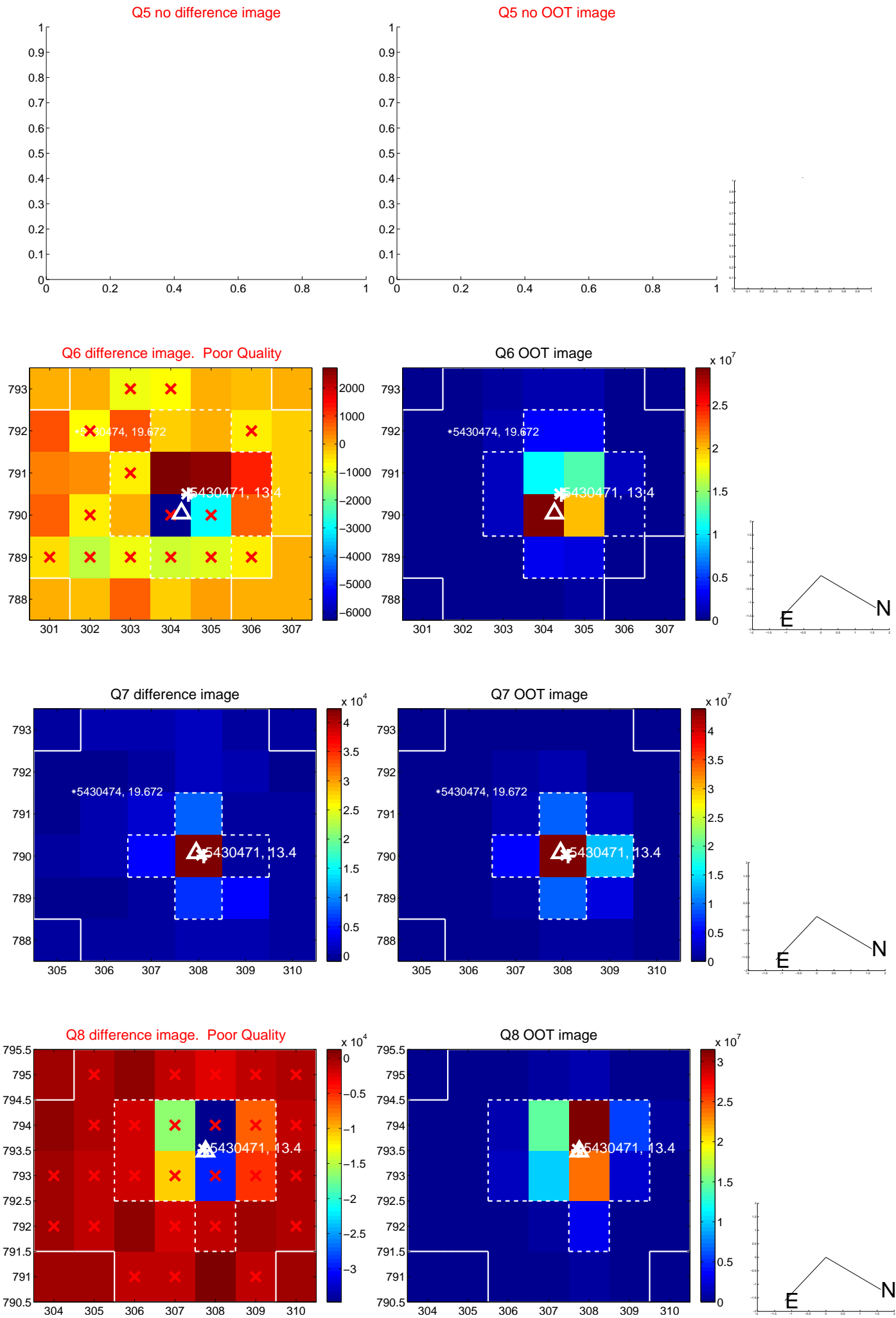


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

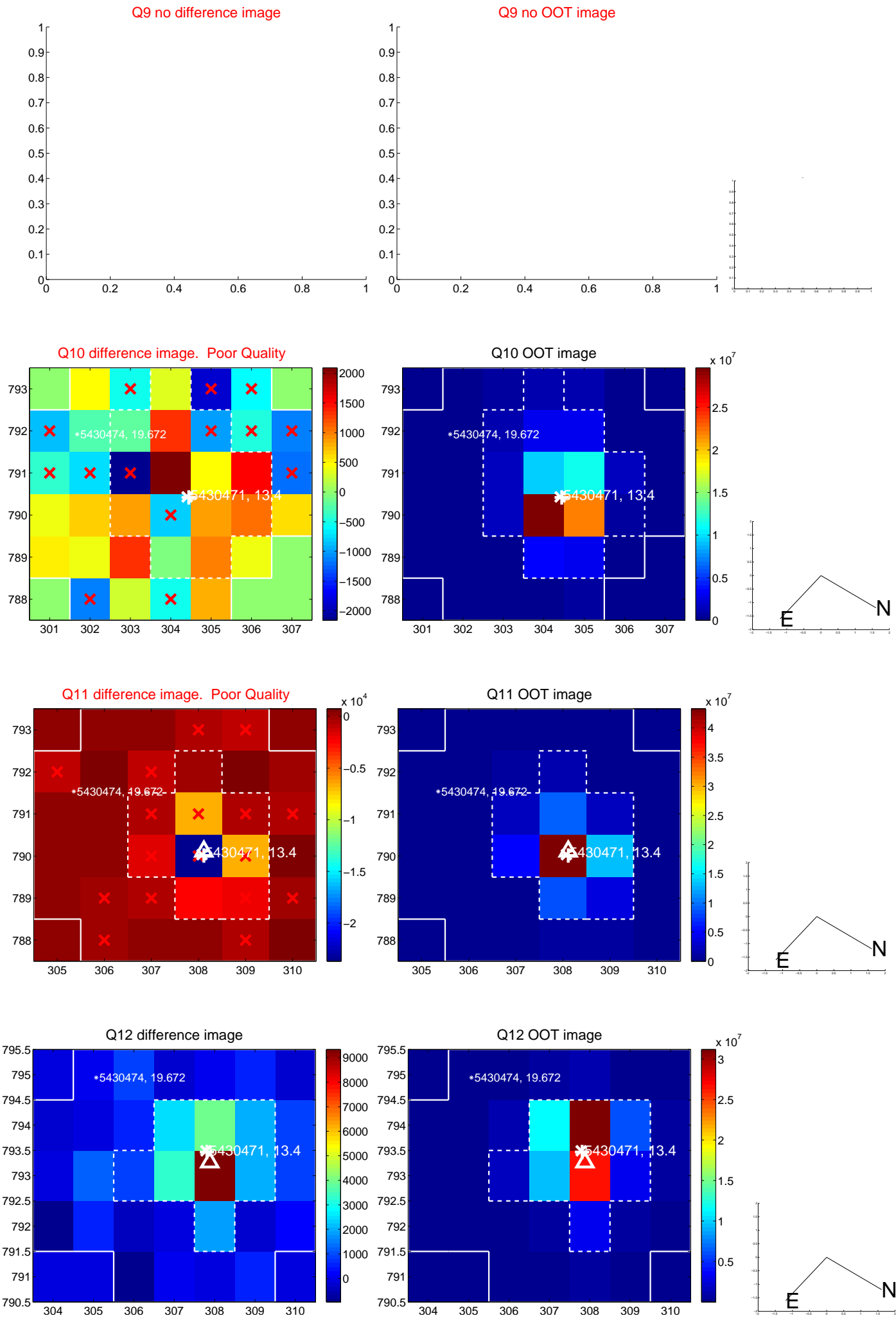
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



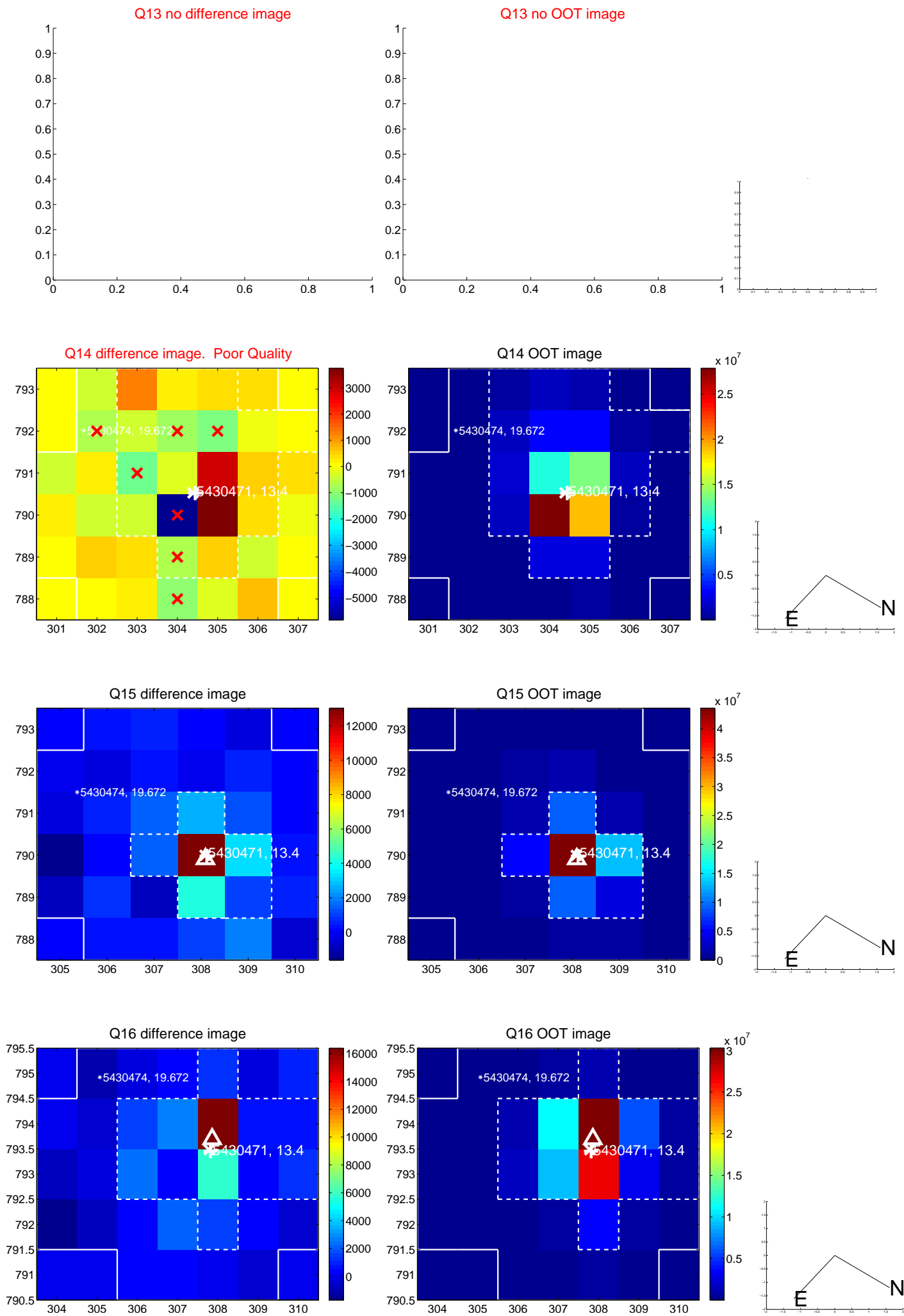
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



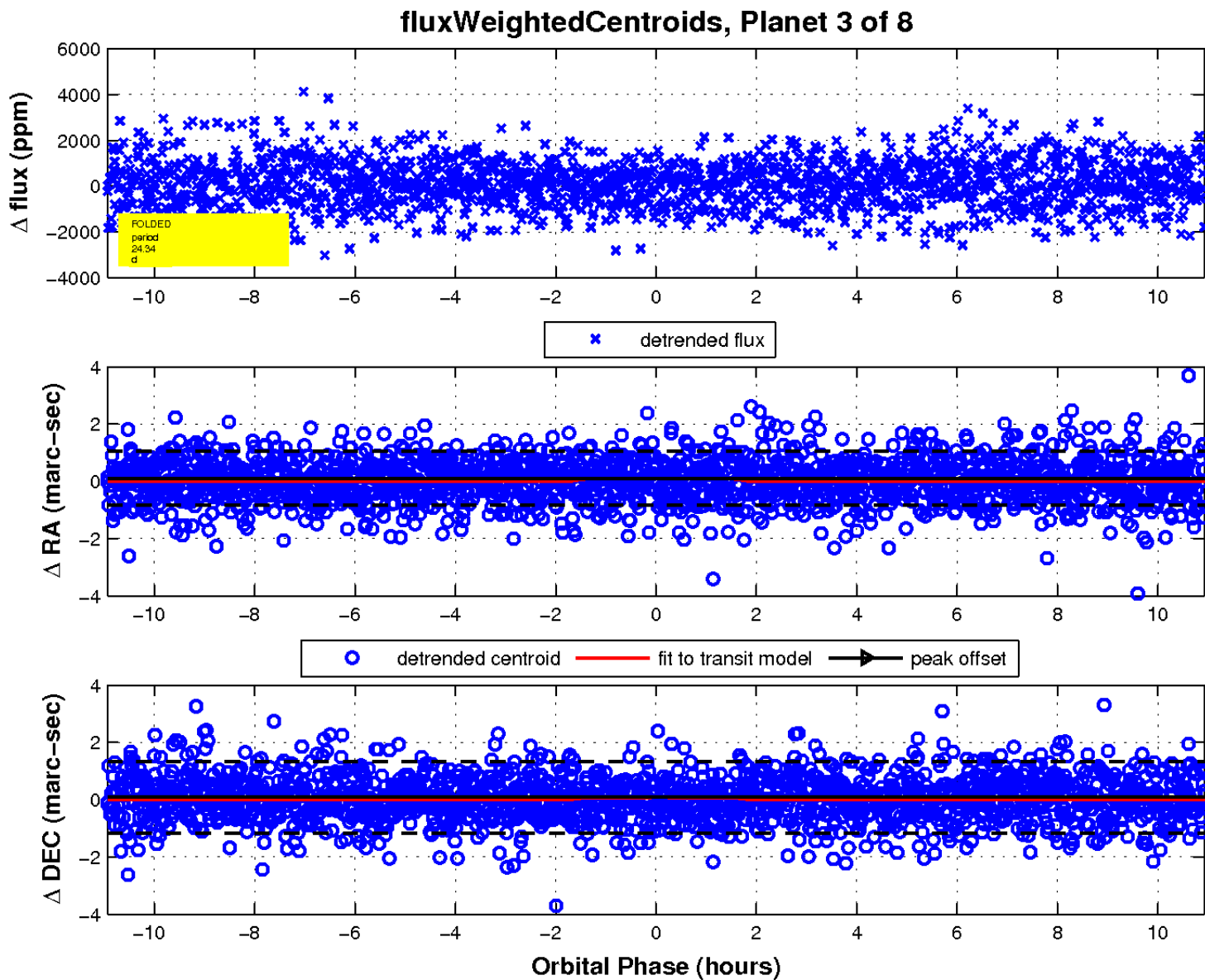
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

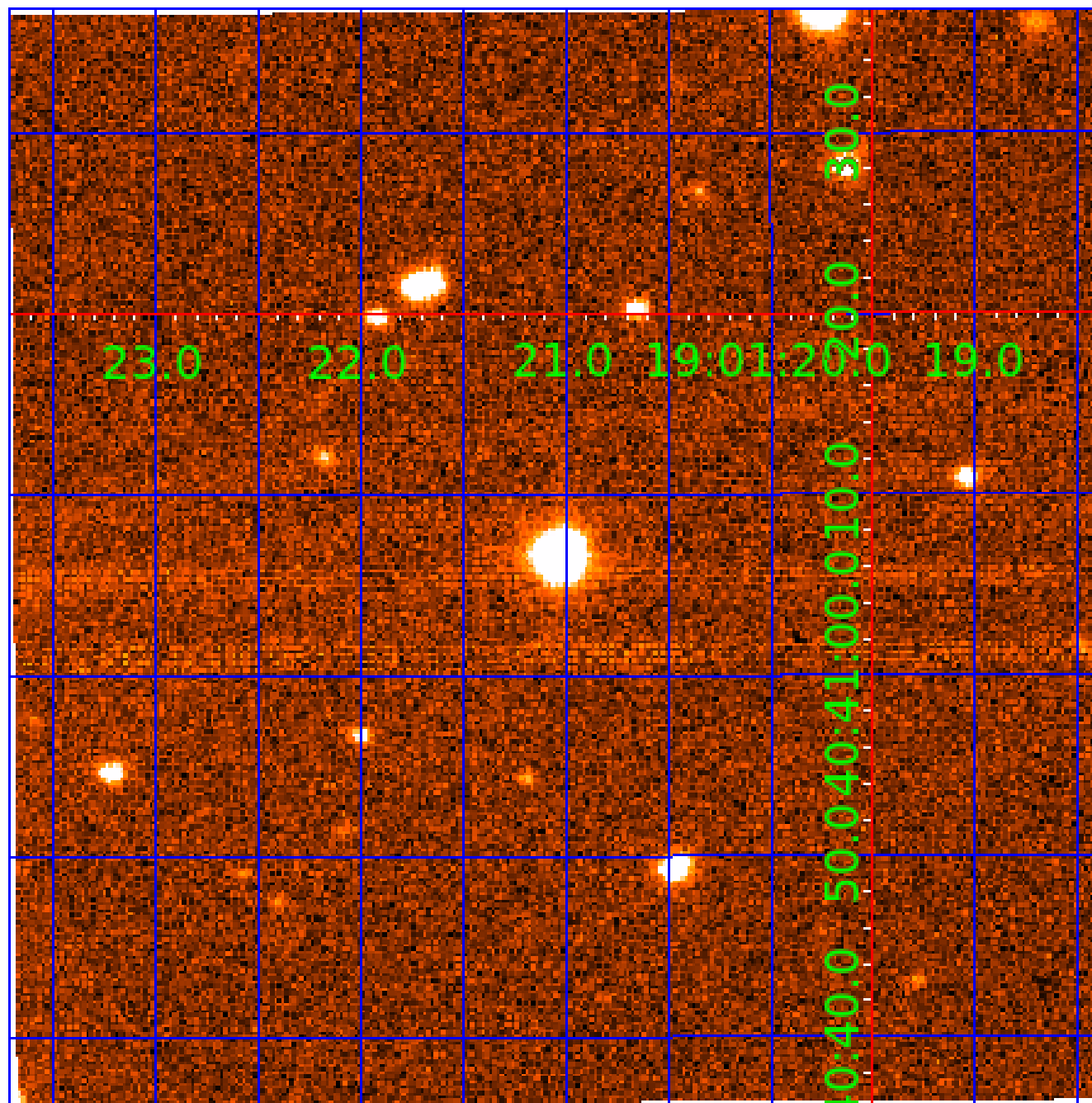


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005430471

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})
005430471-01	OBS	No	2.205505	132.769905	131.1	16.382	7.9	8.8	3.46	7854	4.13	23092.20
005430471-02	OBS	No	32.386569	145.542038	502.9	15.000	19.8	-1.0	3.46	7854	7.84	642.18
005430471-03	OBS	No	24.341919	149.156725	1738.0	3.645	17.2	17.2	3.46	7854	15.62	939.73
005430471-04	OBS	No	136.957587	160.113256	2069.3	15.681	12.8	12.3	3.46	7854	18.61	93.91
005430471-05	OBS	No	12.103672	137.474230	854.0	6.731	15.5	8.6	3.46	7854	10.48	2385.54
005430471-06	OBS	No	13.614745	142.274136	1515.4	1.523	10.8	10.2	3.46	7854	22.17	2039.22
005430471-07	OBS	No	28.323761	143.908841	1603.3	1.660	8.8	7.9	3.46	7854	14.02	767.85
005430471-08	OBS	No	27.343349	138.754746	588.3	1.500	8.8	-1.0	3.46	7854	8.51	804.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005430471-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005430471-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
005430471-03	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
005430471-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005430471-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
005430471-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

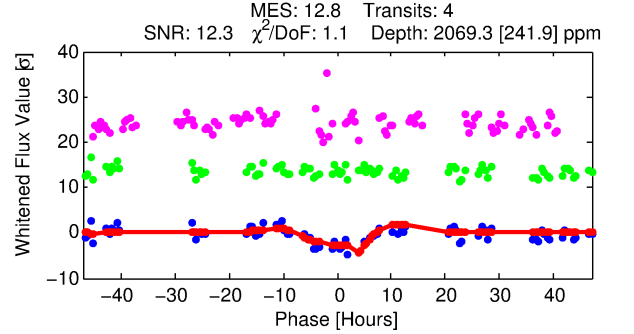
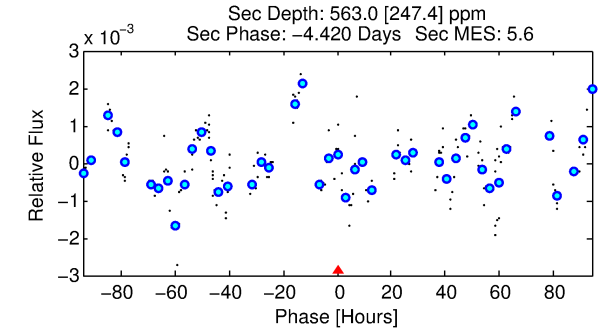
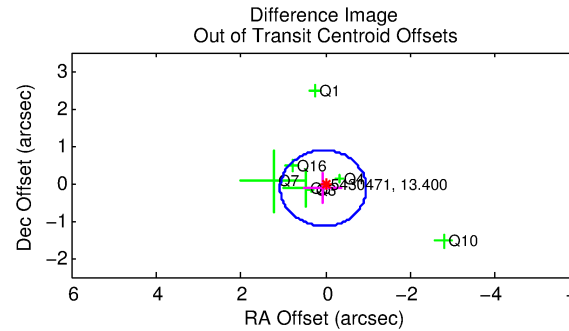
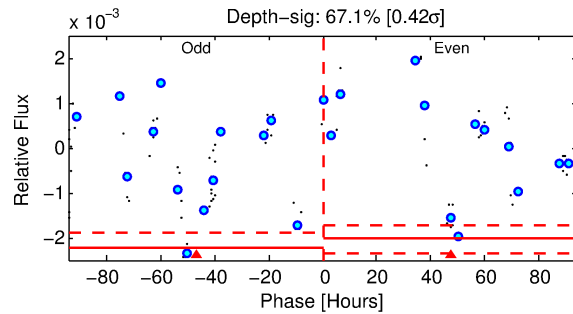
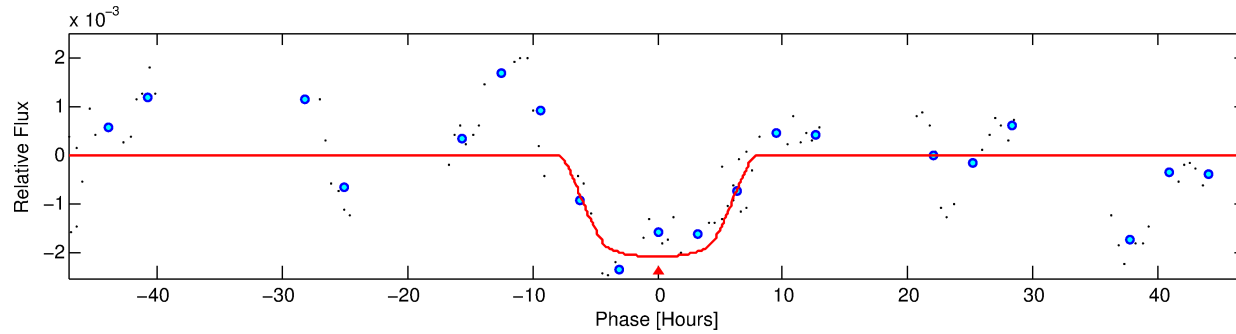
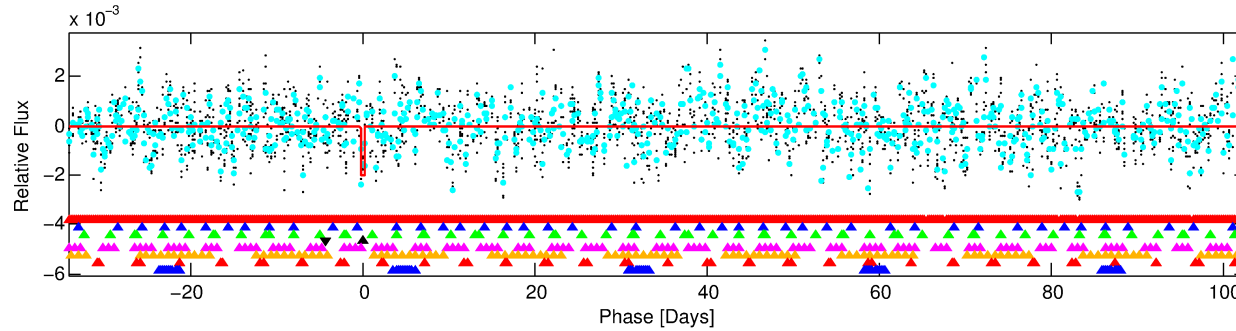
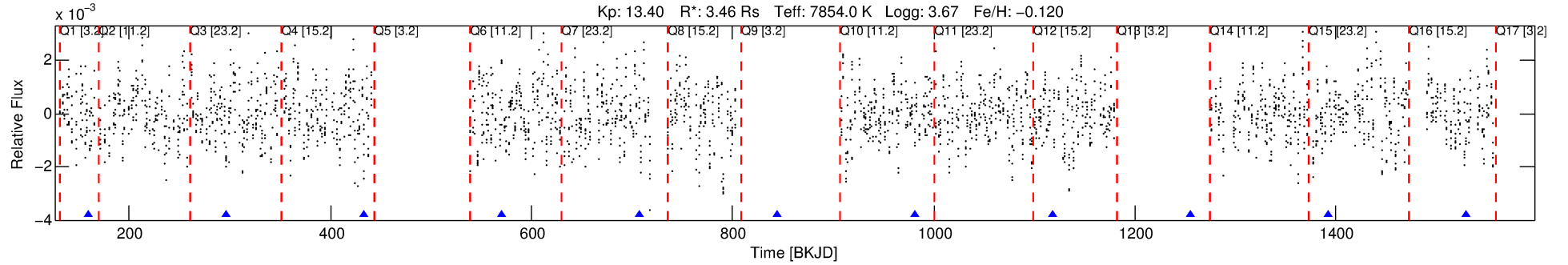
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005430471-04

No Significant Match Found

DV One-Page Summary

KIC: 5430471 Candidate: 4 of 8 Period: 136.958 d



DV Fit Results:

Period = 136.95759 [0.00226] d
Epoch = 160.1133 [0.0176] BKJD
Rp/R* = 0.0493 [0.0036]
a/R* = 34.31 [5.44]
b = 0.91 [0.03]
Seff = 93.91 [73.06]
Teq = 794 [154] K
Rp = 18.61 [9.14] Re
a = 0.6596 [0.3115] AU
Ag = 388.97 [346.31] [1.12 σ]
Teffp = 5450 [671] K [6.76 σ]

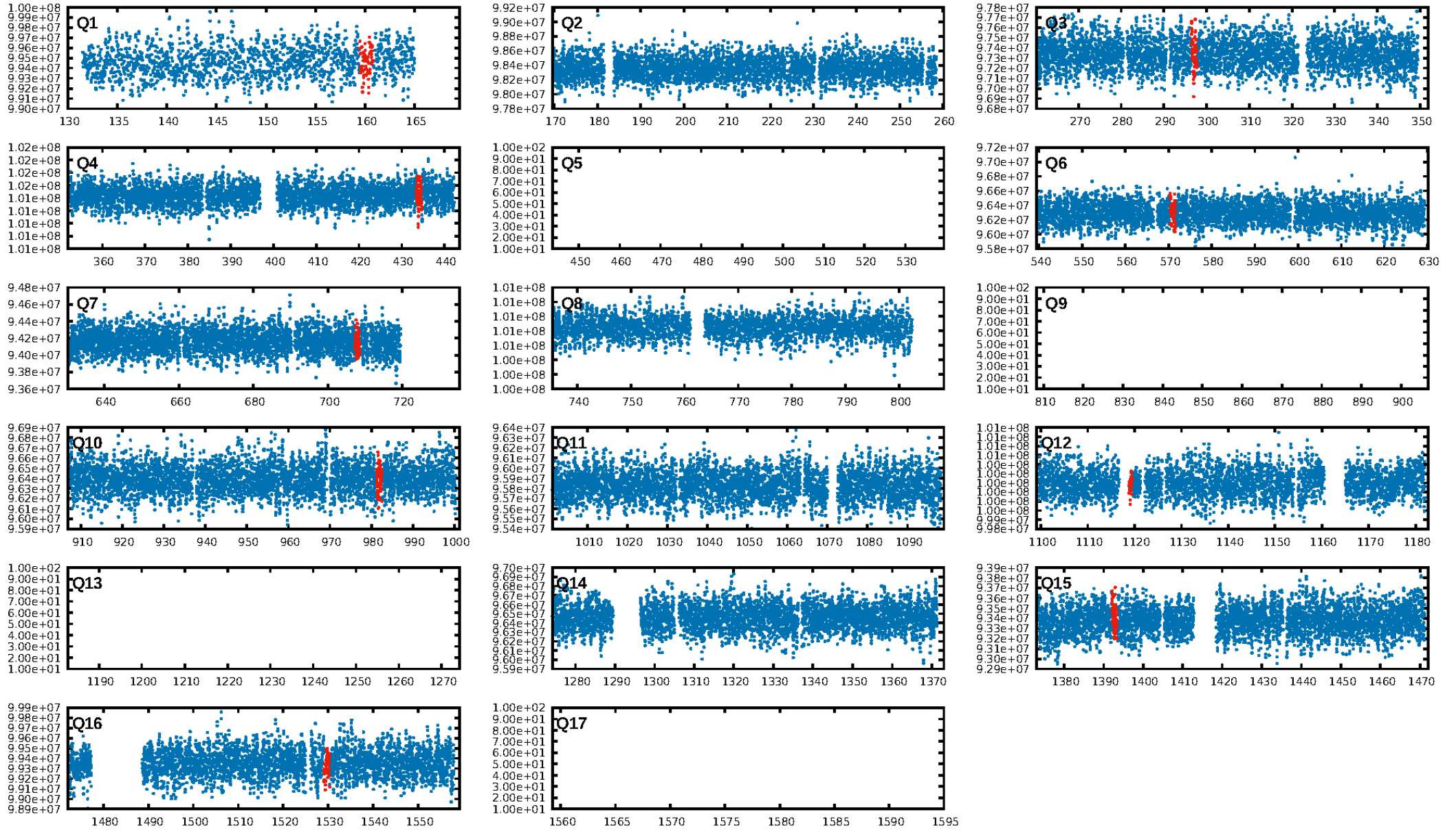
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [115.66 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 29.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 0.1654
Centroid-sig: 7.0%
Centroid-so: 0.256 arcsec [2.95 σ]
OotOffset-rm: 0.140 arcsec [0.41 σ]
KicOffset-rm: 0.070 arcsec [0.13 σ]
OotOffset-st: 2/2/2/1 [7]
KicOffset-st: 2/2/2/1 [7]
DiffImageQuality-fgm: 0.57 [4/7]
DiffImageOverlap-fno: 0.00 [0/7]

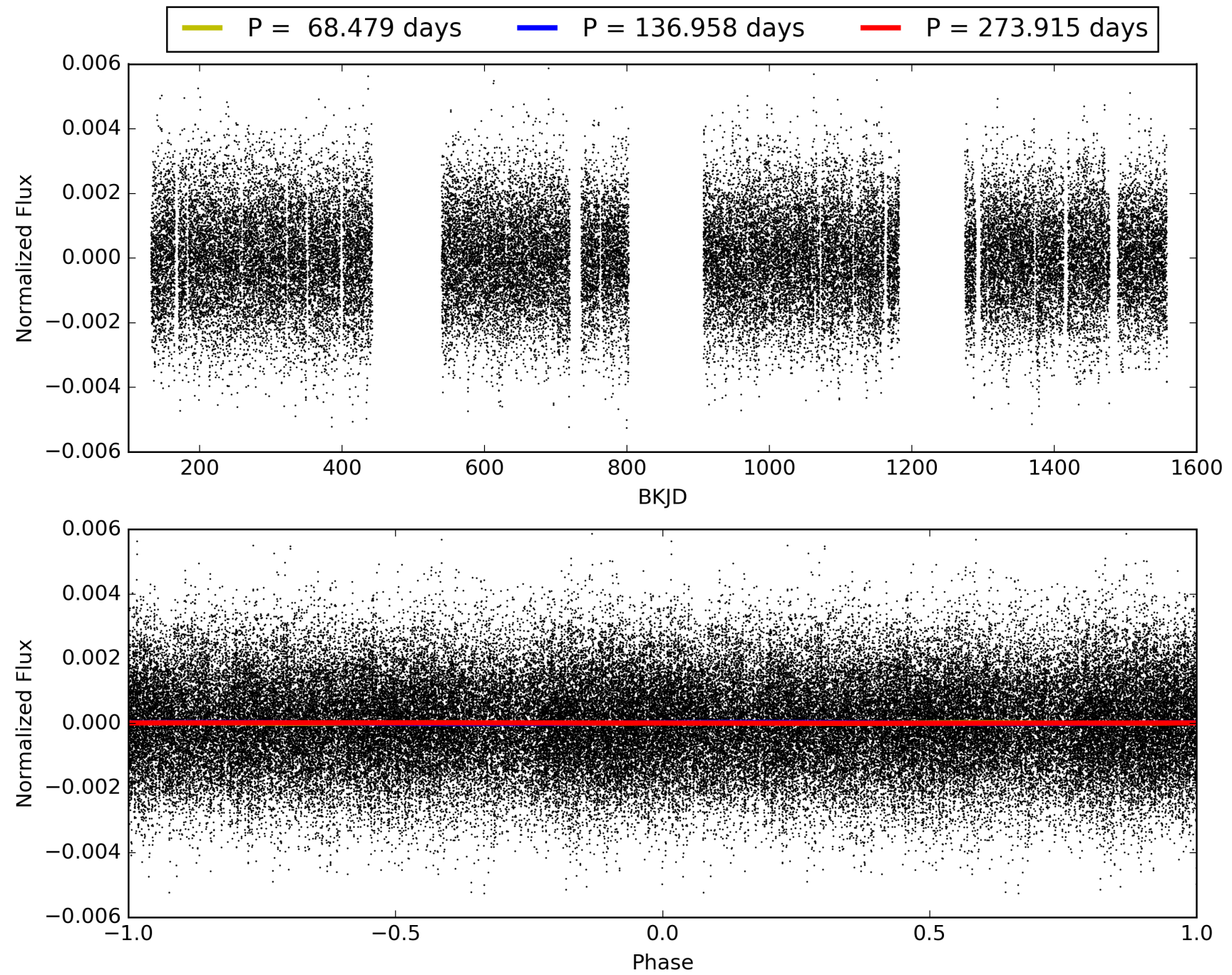
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:31:43 Z

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

TCE 005430471-04, PDC Light Curves

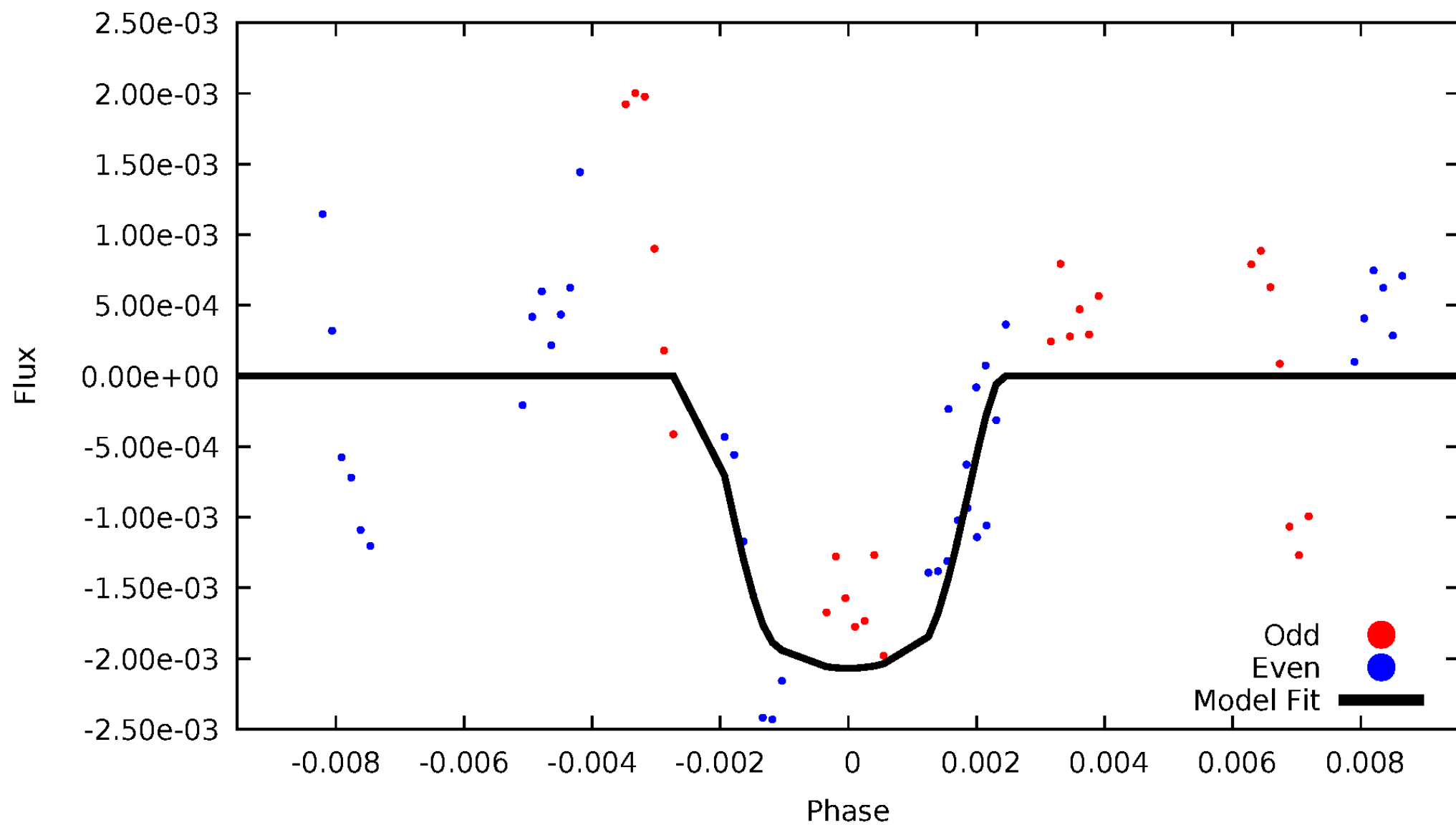


TCE 005430471-04



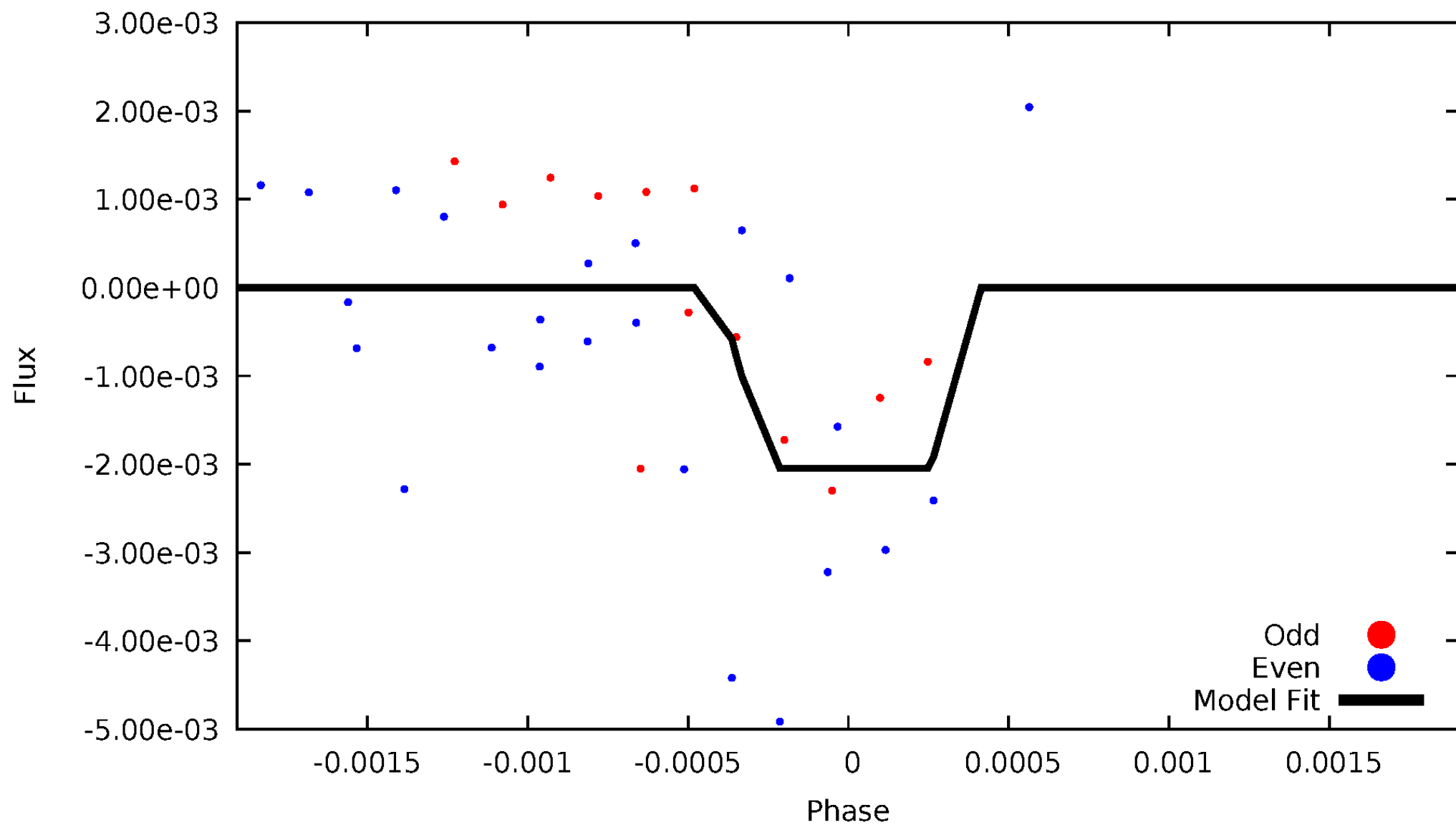
DV Odd/Even

TCE 005430471-04



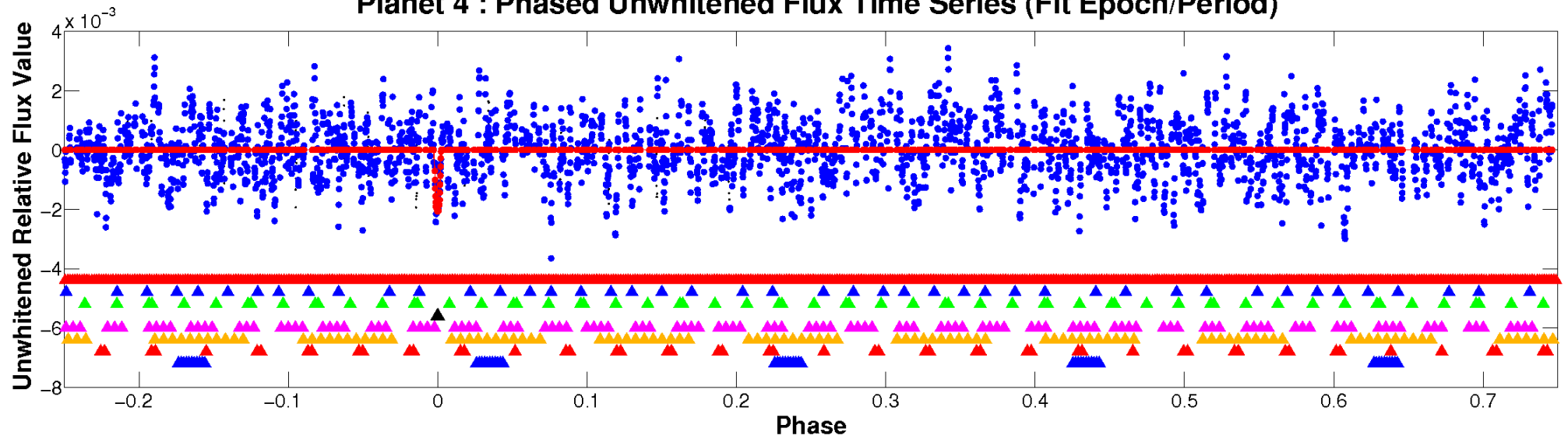
ALT Odd/Even

TCE 005430471-04

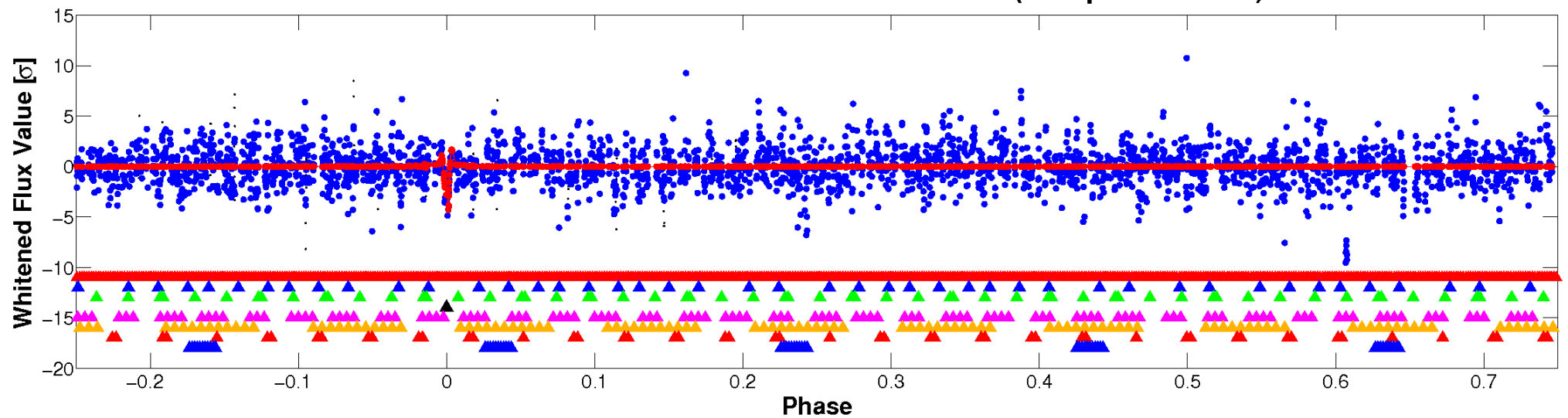


Non-Whitened Vs. Whitened Light Curve

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



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



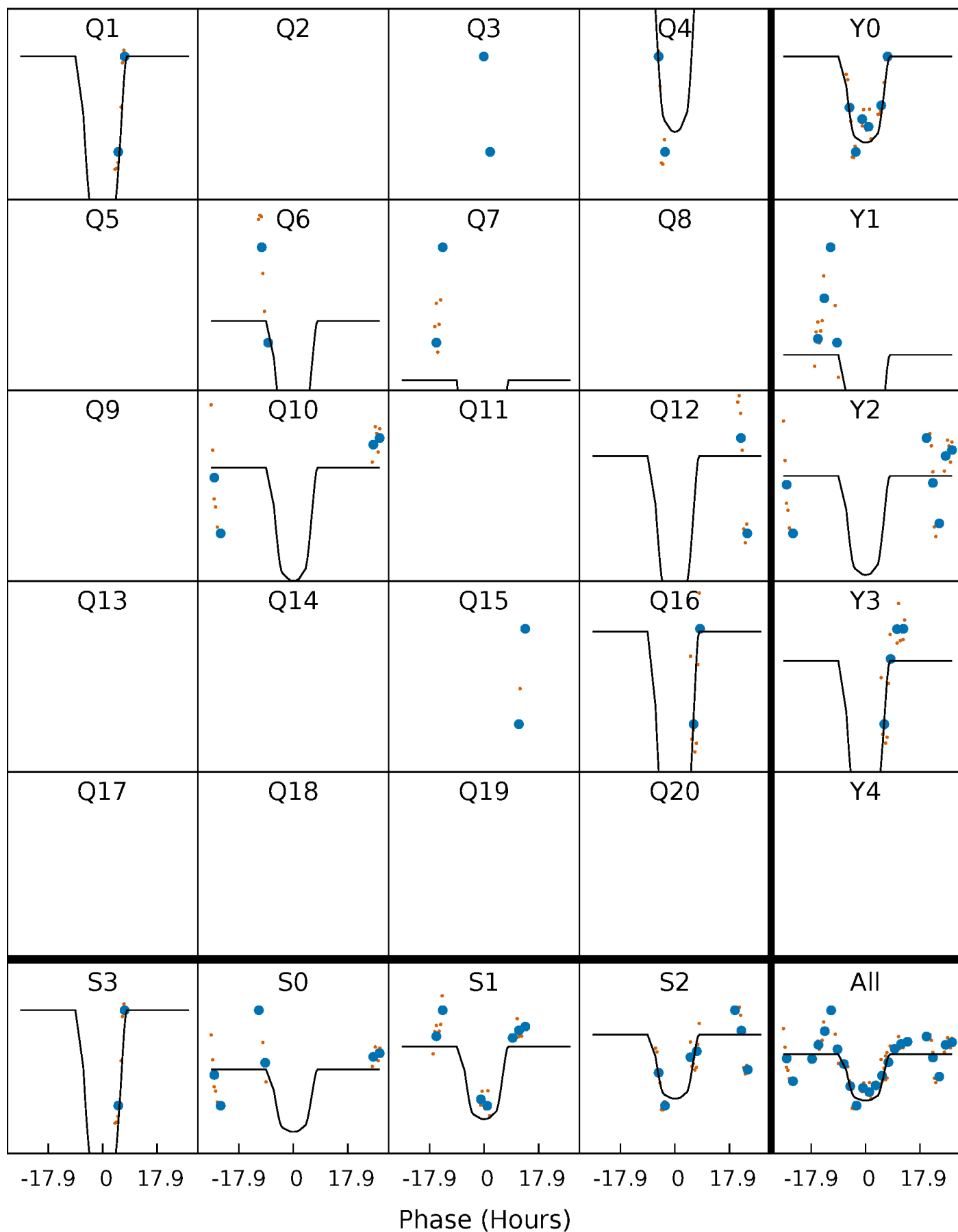
PDC Quarter-Phased Transit Curves

TCE 005430471-04 P=136.957587 Days $T_0=160.113256$ (BKJD)



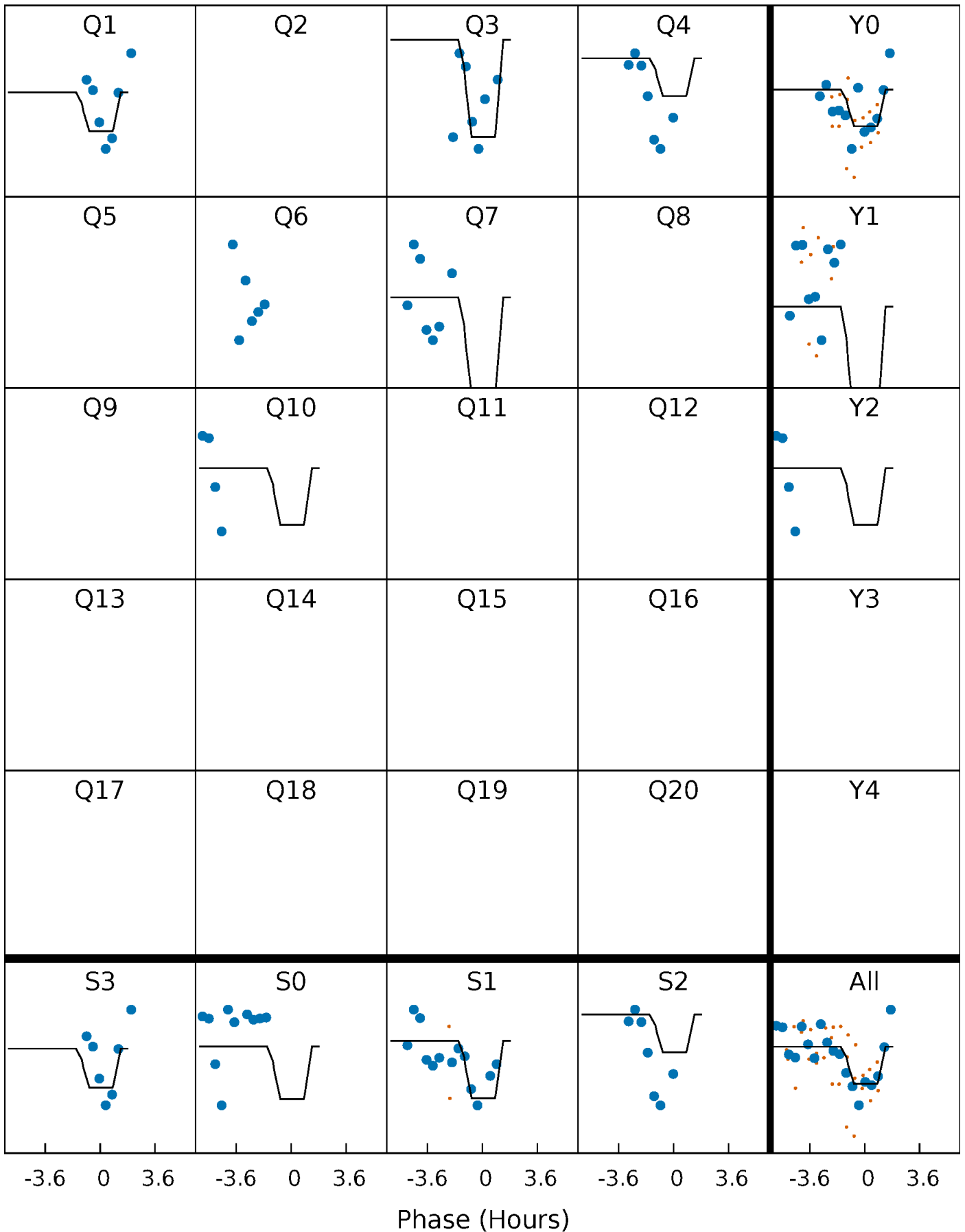
DV Quarter-Phased Transit Curves

TCE 005430471-04 P=136.957587 Days $T_0=160.113256$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

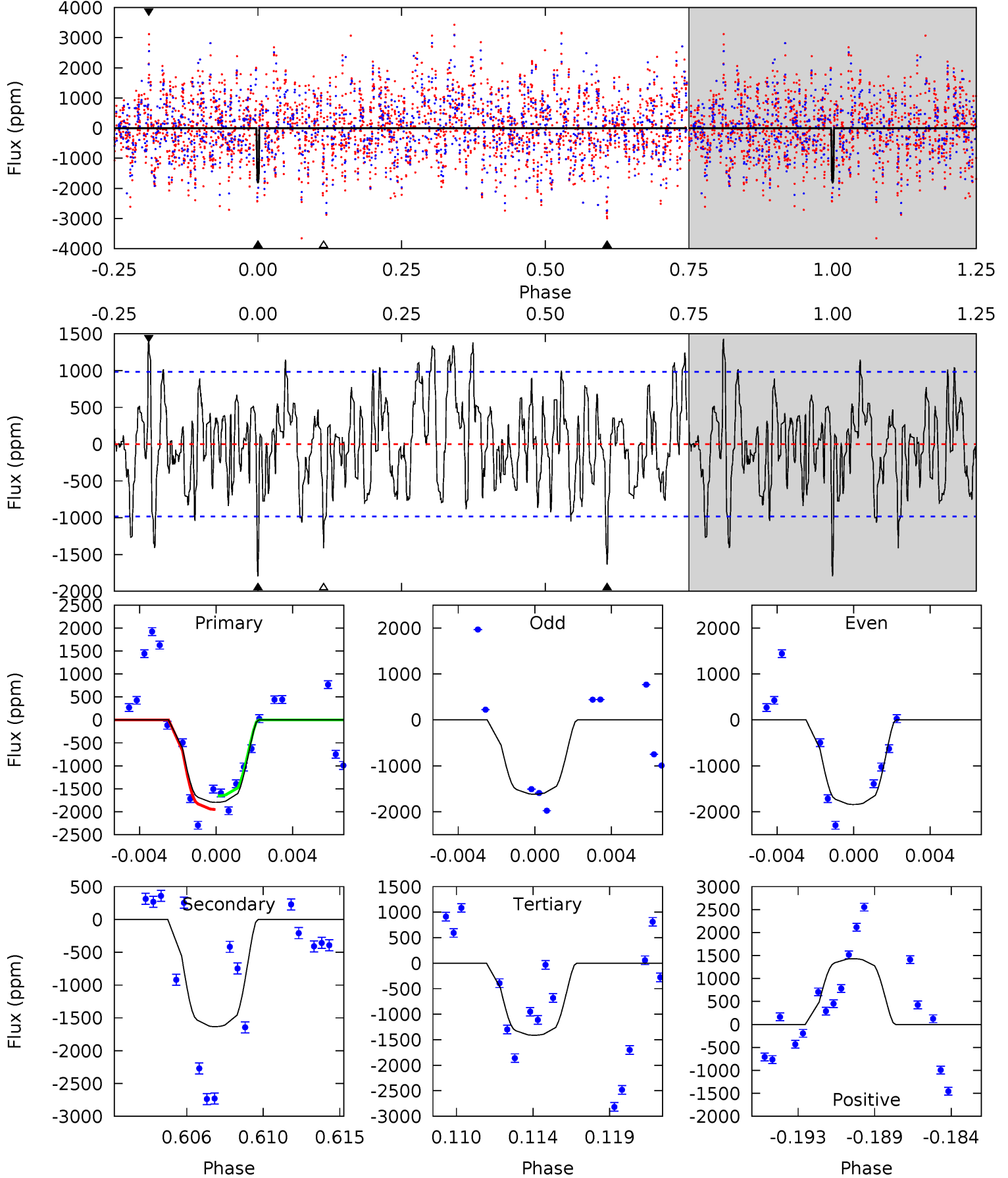
TCE 005430471-04 P=136.782691 Days $T_0=160.329824$ (BKJD)



DV Model-Shift Uniqueness Test

005430471-04, P = 136.957587 Days, E = 23.155669 Days

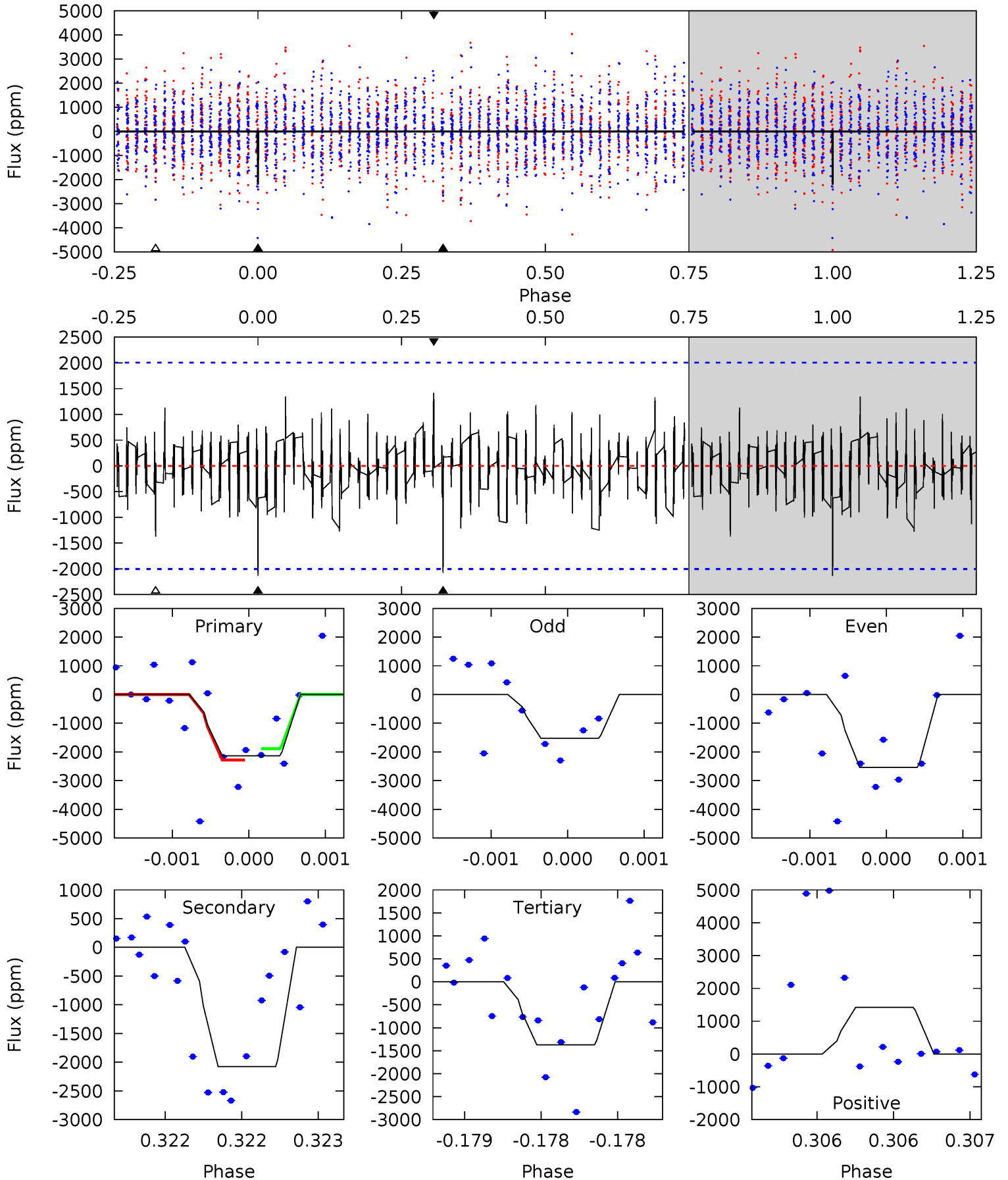
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.47	8.62	7.45	7.54	5.18	2.85	2.76	2.02	1.93	1.17	1.07	0.52	1.08	0.44	0.74



Alt Model-Shift Uniqueness Test

005430471-04, P = 136.782691 Days, E = 23.547133 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.90	5.74	3.79	3.92	5.54	3.43	1.18	2.11	1.98	1.95	1.82	1.38	1.63	0.40	0.50



Stellar Parameters For KIC 005430471

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7854^{+217}_{-326}	$3.669^{+0.448}_{-0.084}$	$-0.120^{+0.200}_{-0.350}$	$3.462^{+0.600}_{-1.681}$	$2.039^{+0.329}_{-0.535}$	$0.069^{+0.321}_{-0.020}$
	+3%/-4%	+12%/-2%	+167%/-292%	+17%/-49%	+16%/-26%	+464%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005430471-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1634 ± 190	$17.54^{+2.85}_{-4.31}$	1067^{+77}_{-122}	6987^{+471}_{-442}	1301^{+874}_{-343}
Alt.	-2077 ± 362	$15.85^{+3.14}_{-3.85}$	1068^{+77}_{-132}	7848^{+694}_{-633}	2015^{+1283}_{-636}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

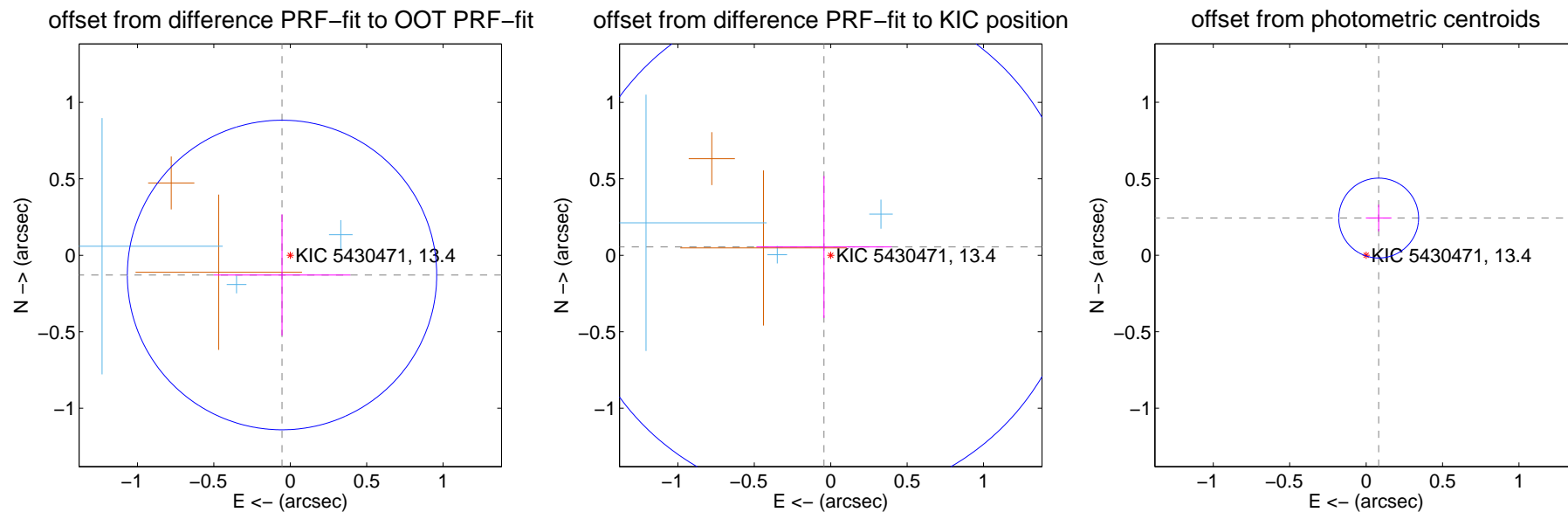
DV Centroid Data

Supplemental centroid analysis for 005430471-04. Kepler magnitude: 13.40. Transit SNR 12.29

There are 4 quarters with good PRF difference image offsets

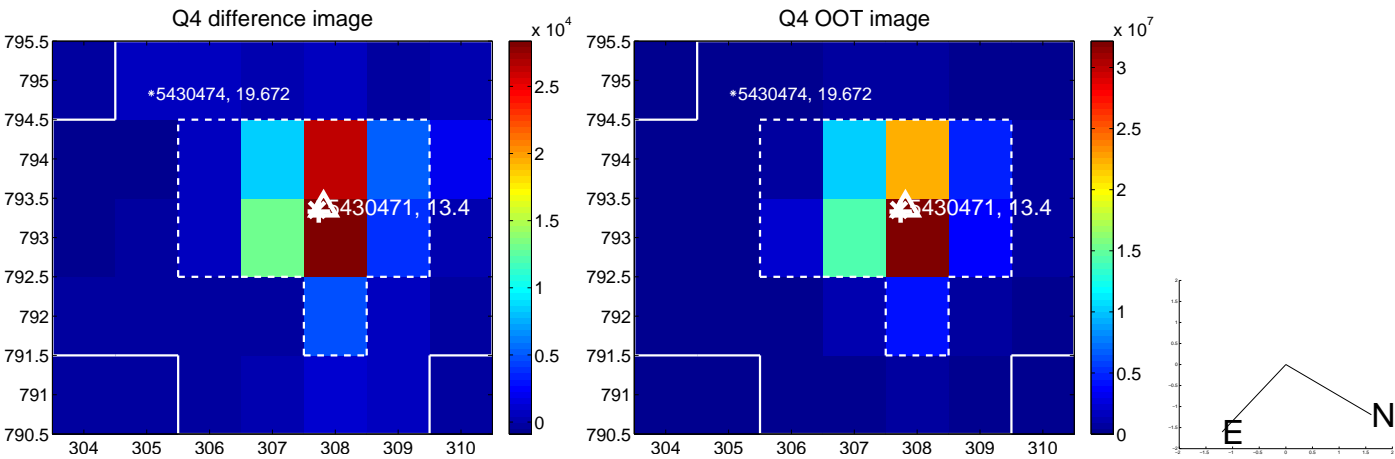
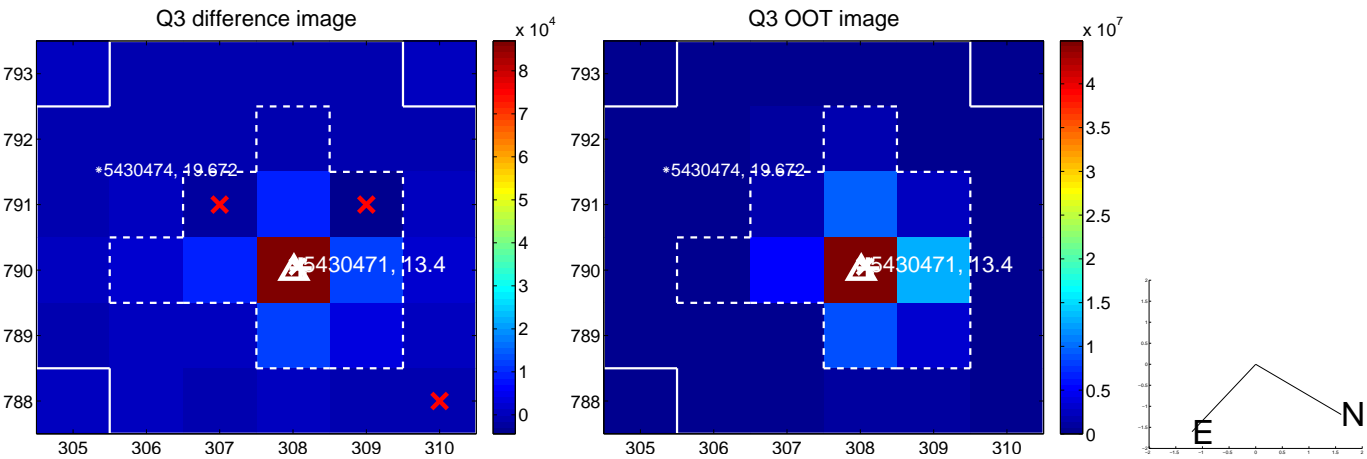
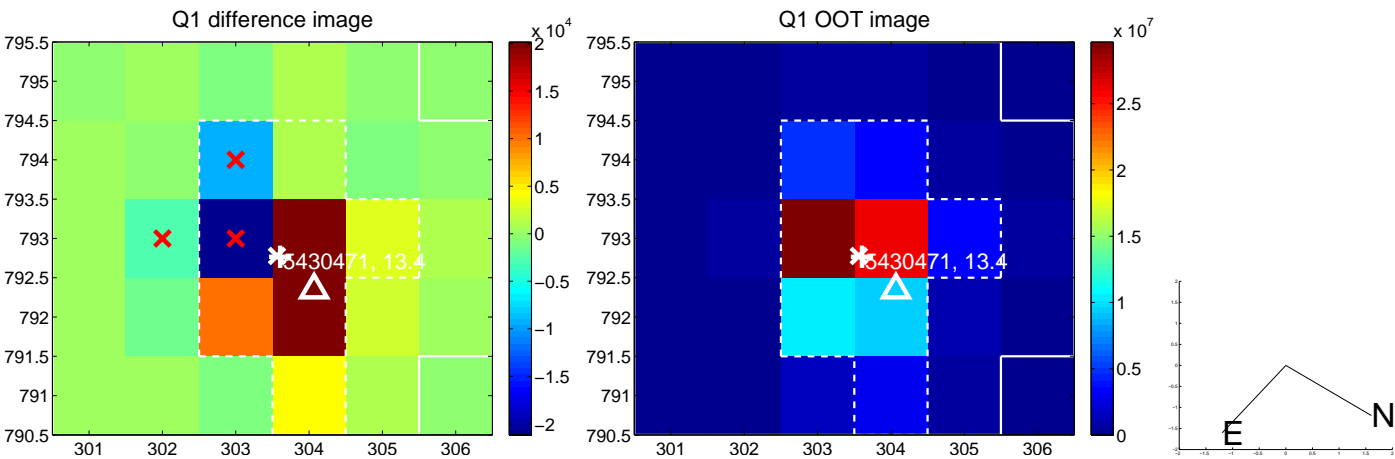
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.140 ± 0.337	0.41	0.054 ± 0.448	-0.129 ± 0.396
PRF-fit source offset from KIC position	0.070 ± 0.553	0.13	0.044 ± 0.443	0.054 ± 0.464
photometric centroid source offset	0.26 ± 0.09	2.95	-0.08 ± 0.08	0.24 ± 0.09



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

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



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

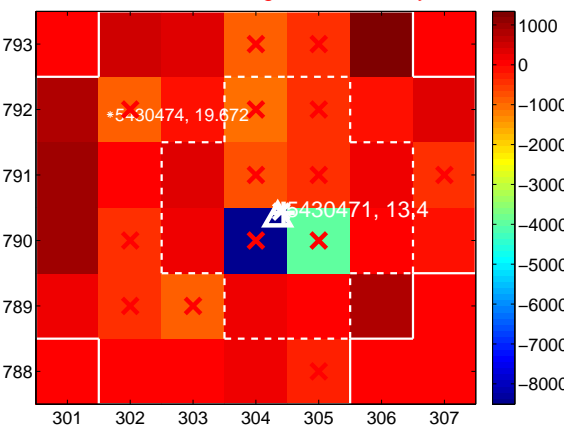
Q5 no difference image



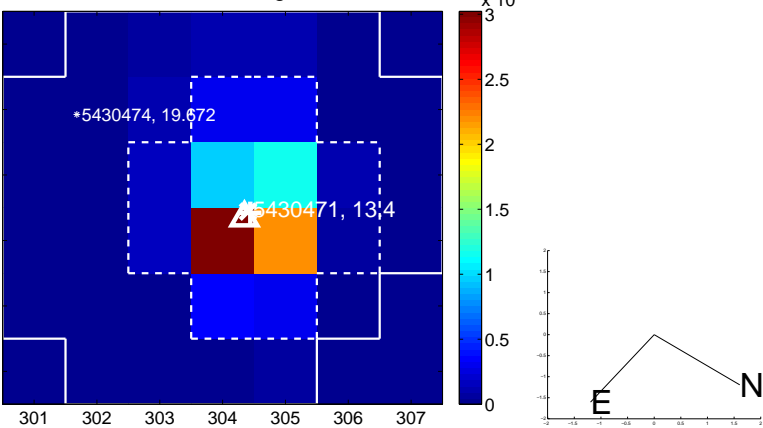
Q5 no OOT image



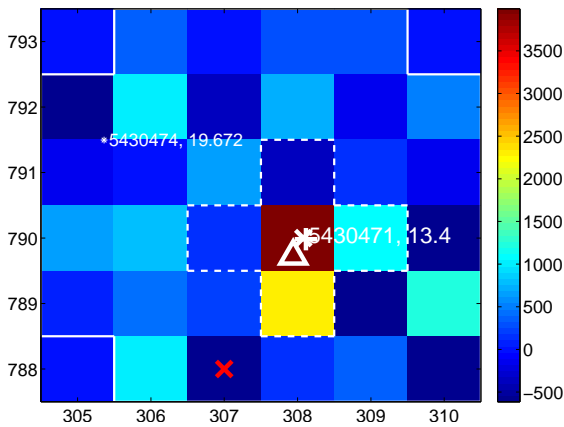
Q6 difference image. Poor Quality



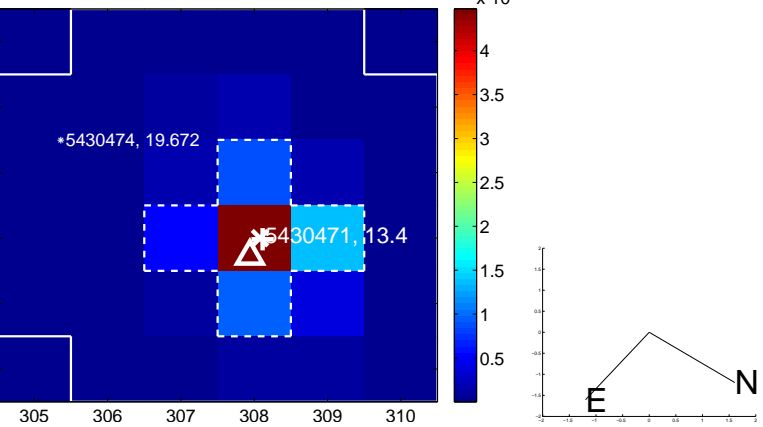
Q6 OOT image



Q7 difference image



Q7 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.

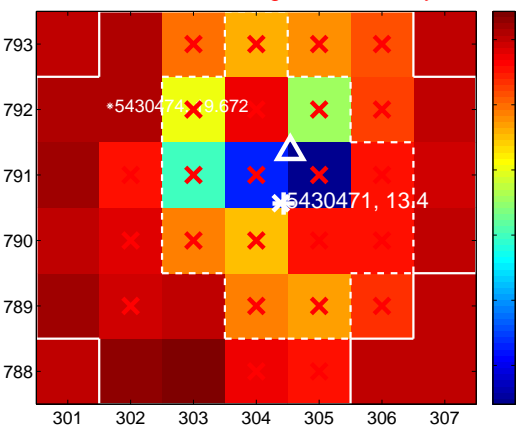
Q9 no difference image



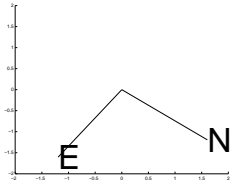
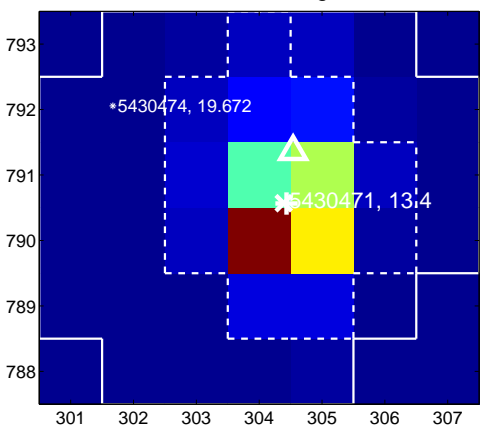
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



Q11 no difference image



Q11 no OOT image



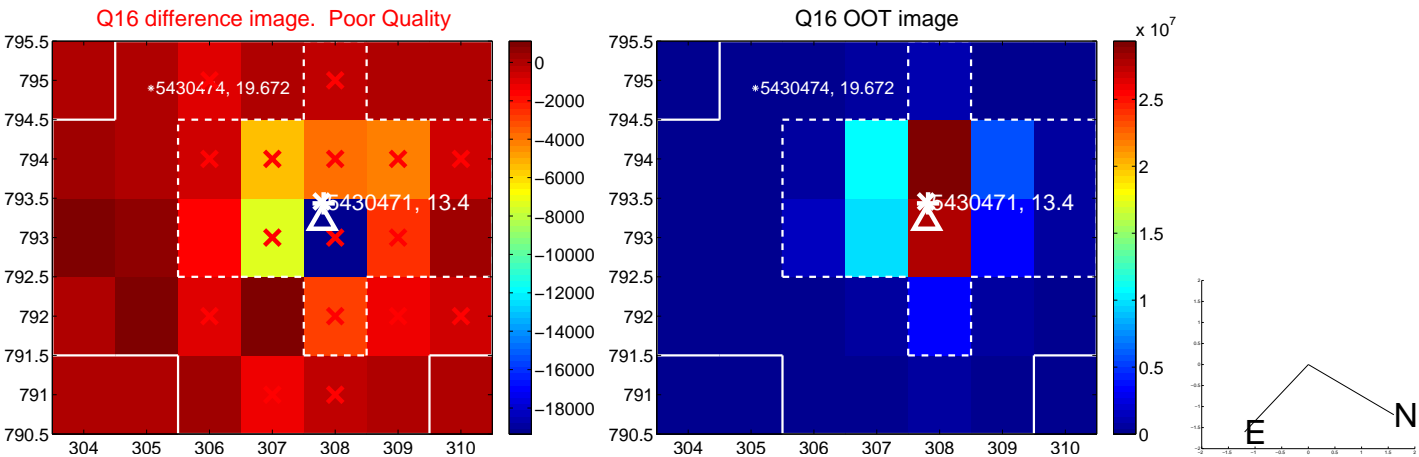
Q12 no difference image



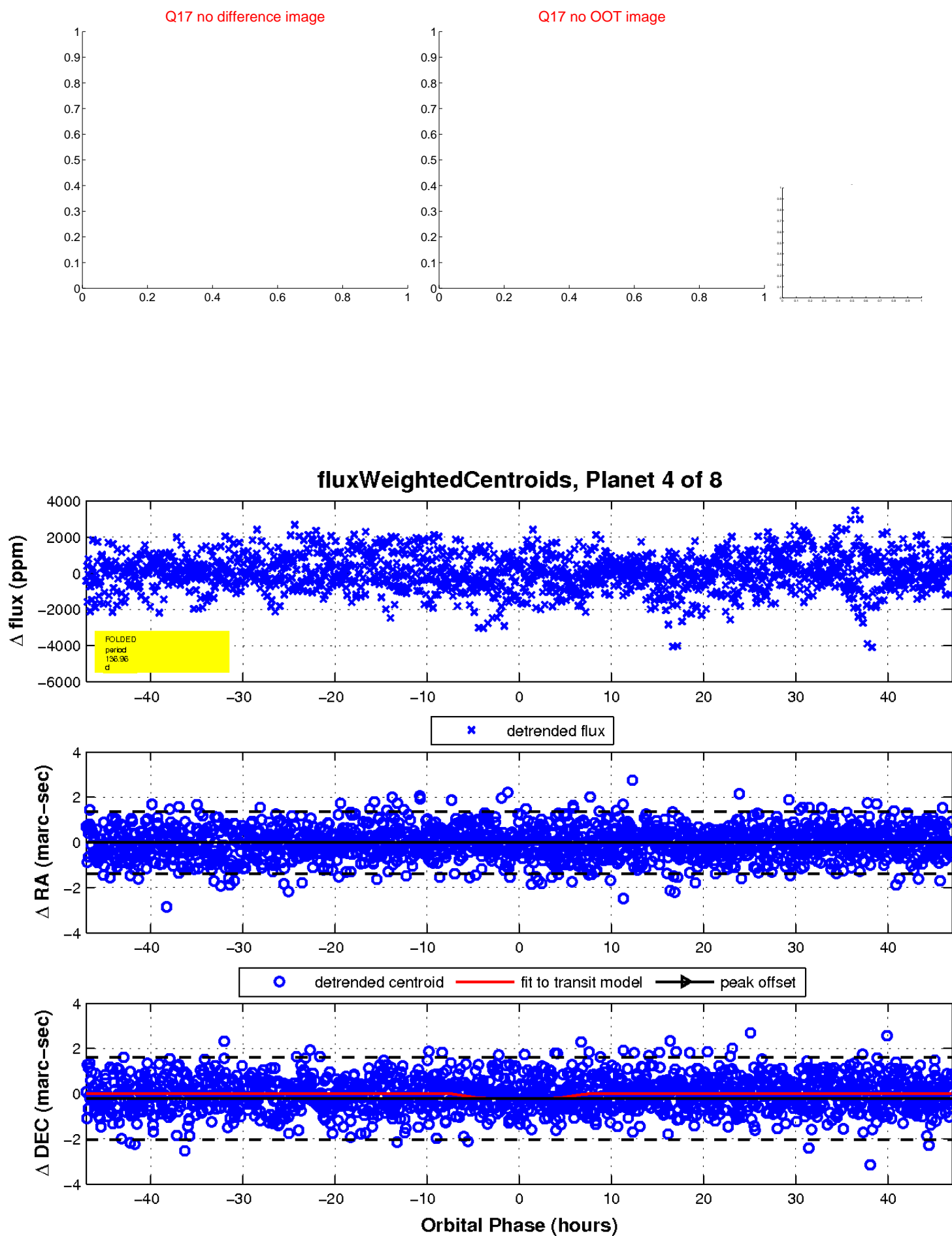
Q12 no OOT image



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

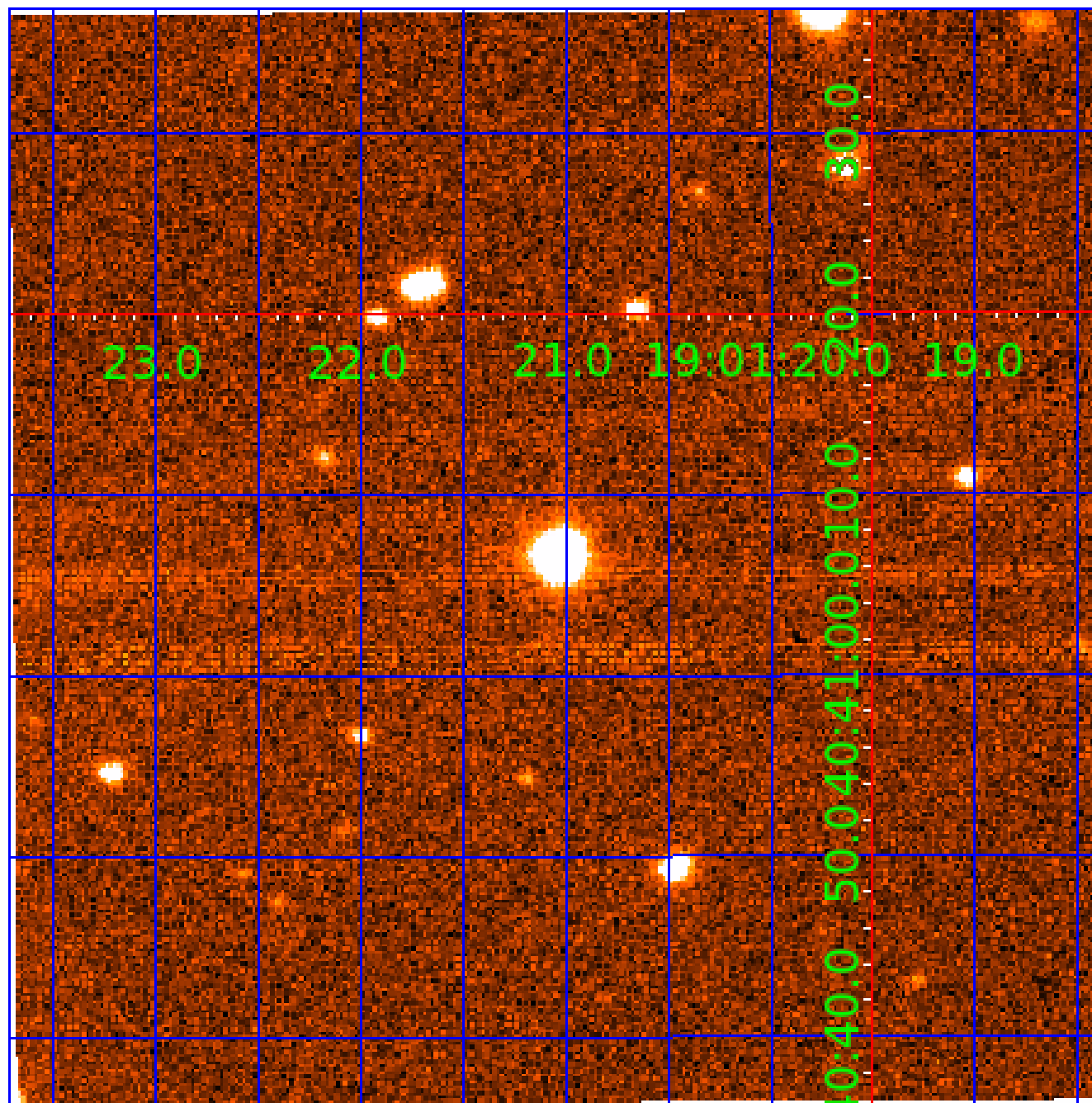


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005430471

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})
005430471-01	OBS	No	2.205505	132.769905	131.1	16.382	7.9	8.8	3.46	7854	4.13	23092.20
005430471-02	OBS	No	32.386569	145.542038	502.9	15.000	19.8	-1.0	3.46	7854	7.84	642.18
005430471-03	OBS	No	24.341919	149.156725	1738.0	3.645	17.2	17.2	3.46	7854	15.62	939.73
005430471-04	OBS	No	136.957587	160.113256	2069.3	15.681	12.8	12.3	3.46	7854	18.61	93.91
005430471-05	OBS	No	12.103672	137.474230	854.0	6.731	15.5	8.6	3.46	7854	10.48	2385.54
005430471-06	OBS	No	13.614745	142.274136	1515.4	1.523	10.8	10.2	3.46	7854	22.17	2039.22
005430471-07	OBS	No	28.323761	143.908841	1603.3	1.660	8.8	7.9	3.46	7854	14.02	767.85
005430471-08	OBS	No	27.343349	138.754746	588.3	1.500	8.8	-1.0	3.46	7854	8.51	804.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005430471-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005430471-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
005430471-03	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
005430471-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005430471-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
005430471-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

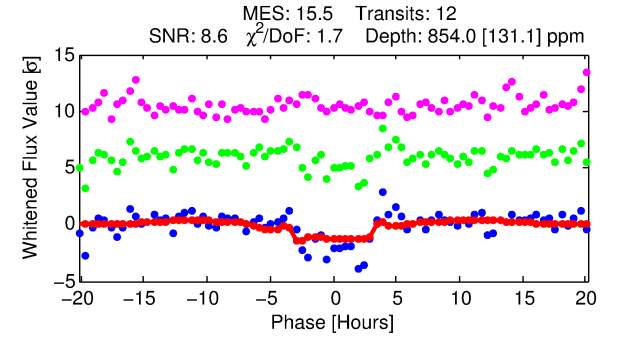
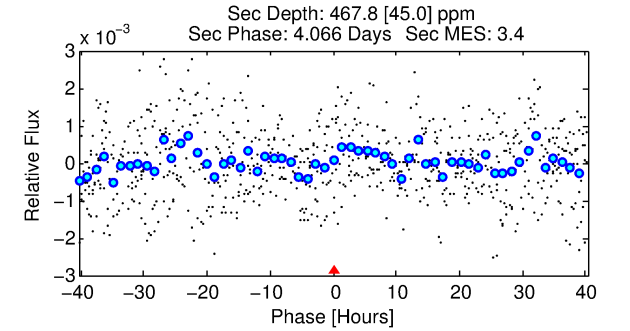
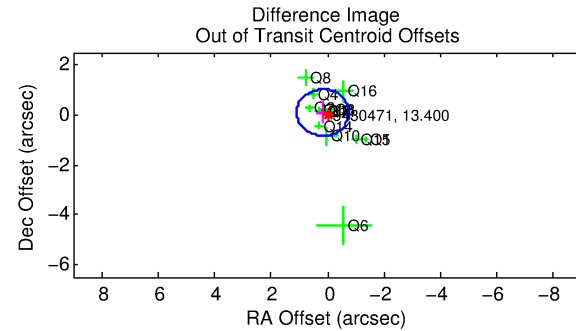
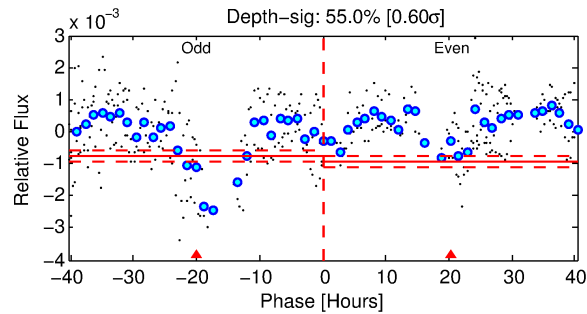
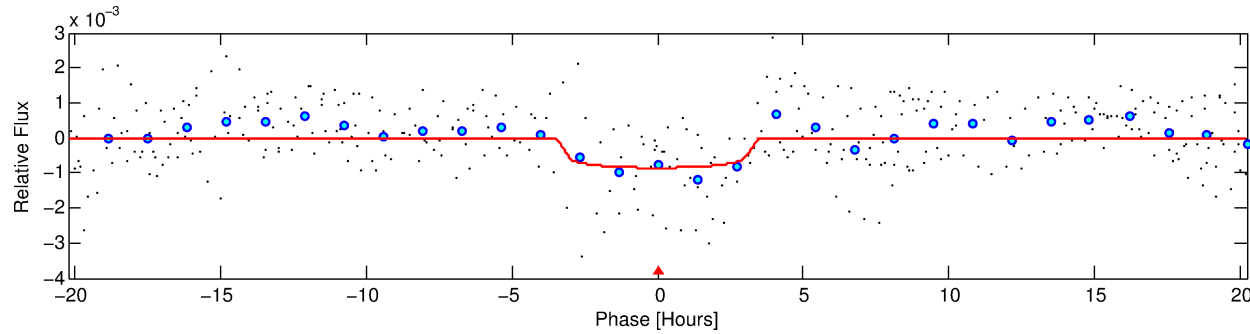
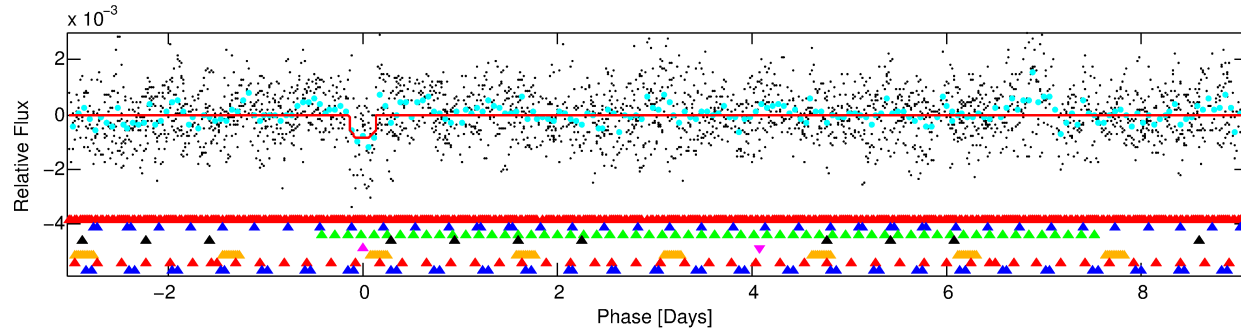
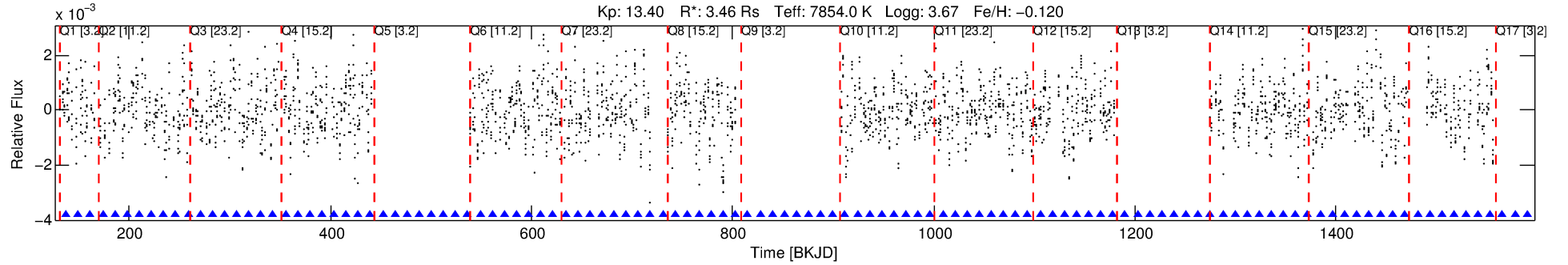
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005430471-05

No Significant Match Found

DV One-Page Summary

KIC: 5430471 Candidate: 5 of 8 Period: 12.104 d



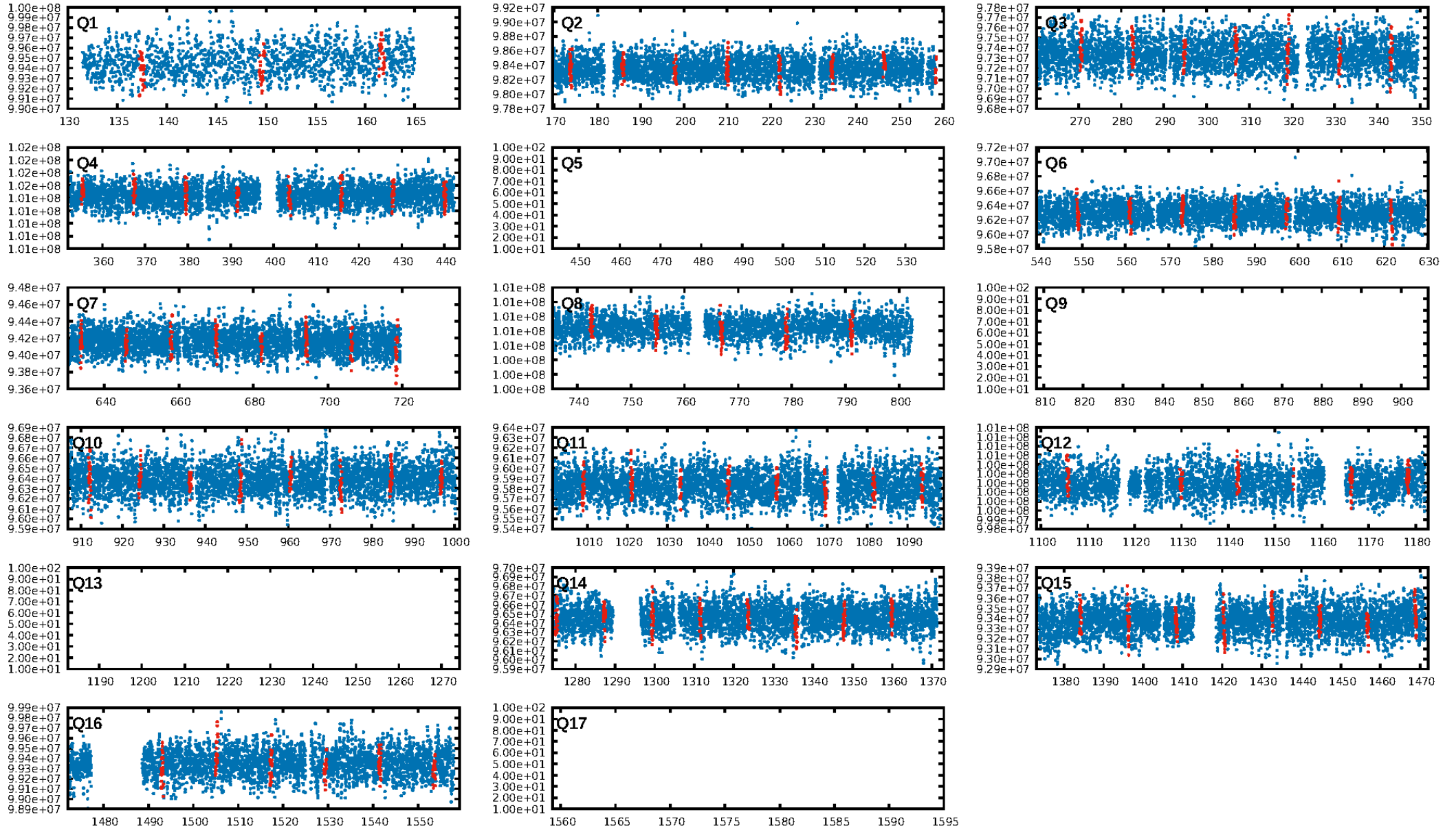
DV Fit Results:

Period = 12.10367 [0.00021] d
Epoch = 137.4742 [0.0139] BKJD
Rp/R* = 0.0277 [0.0223]
a/R* = 12.29 [54.17]
b = 0.51 [6.50]
Seff = 2385.54 [1855.96]
Teq = 1782 [347] K
Rp = 10.48 [9.83] Re
a = 0.1309 [0.0618] AU
Ag = 40.12 [71.31] [0.55 σ]
Teffp = 6934 [2801] K [1.83 σ]

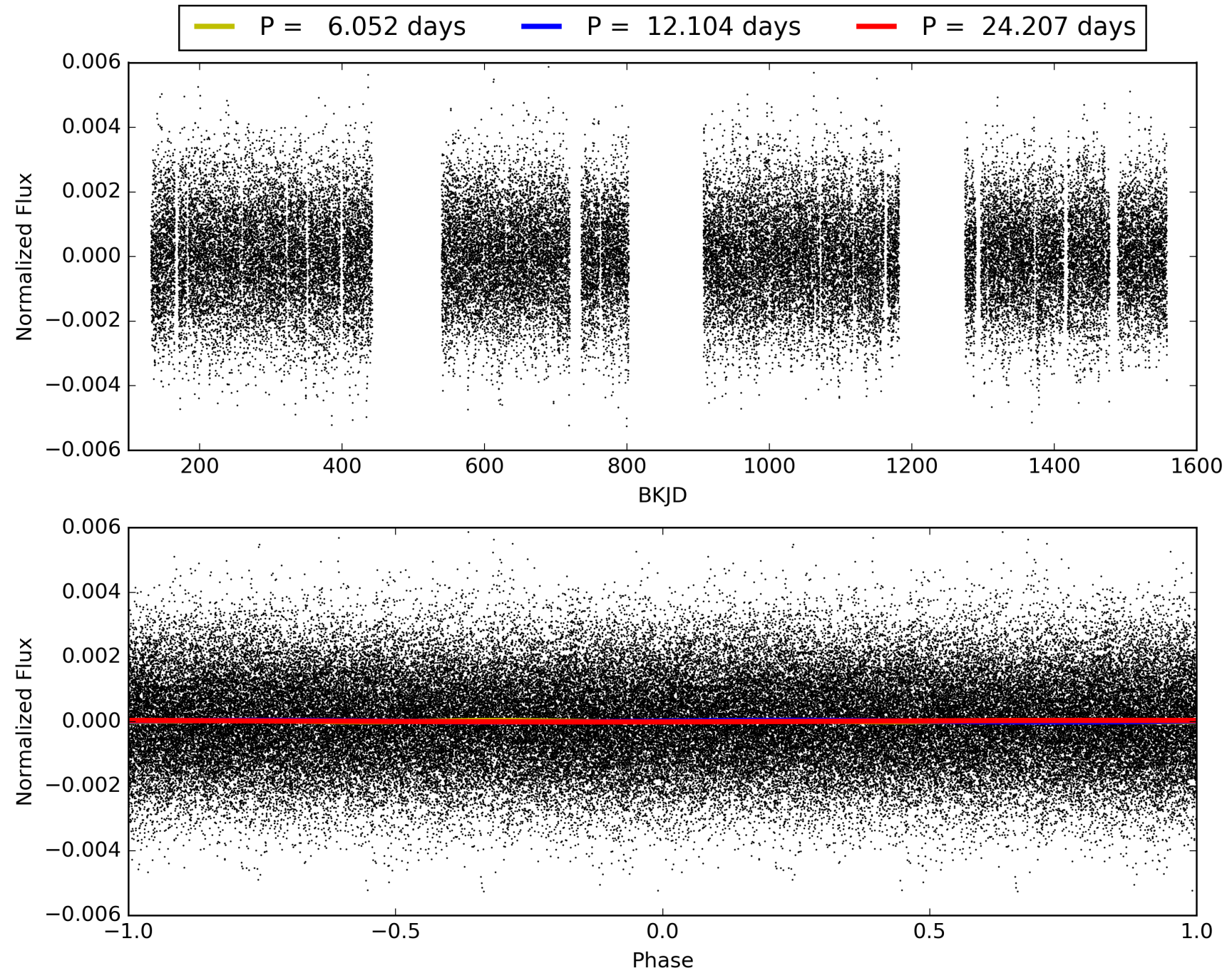
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [13.41 σ]
LongPeriod-sig: 100.0% [5.25 σ]
ModelChiSquare2-sig: 1.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [12/12]
GhostDiagnostic-chr: 0.167
Centroid-sig: 1.1%
Centroid-so: 0.292 arcsec [3.35 σ]
OotOffset-rm: 0.193 arcsec [0.62 σ]
KicOffset-rm: 0.284 arcsec [0.70 σ]
OotOffset-st: 4/4/4/1 [13]
KicOffset-st: 4/4/4/1 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 0.31 [4/13]

TCE 005430471-05, PDC Light Curves

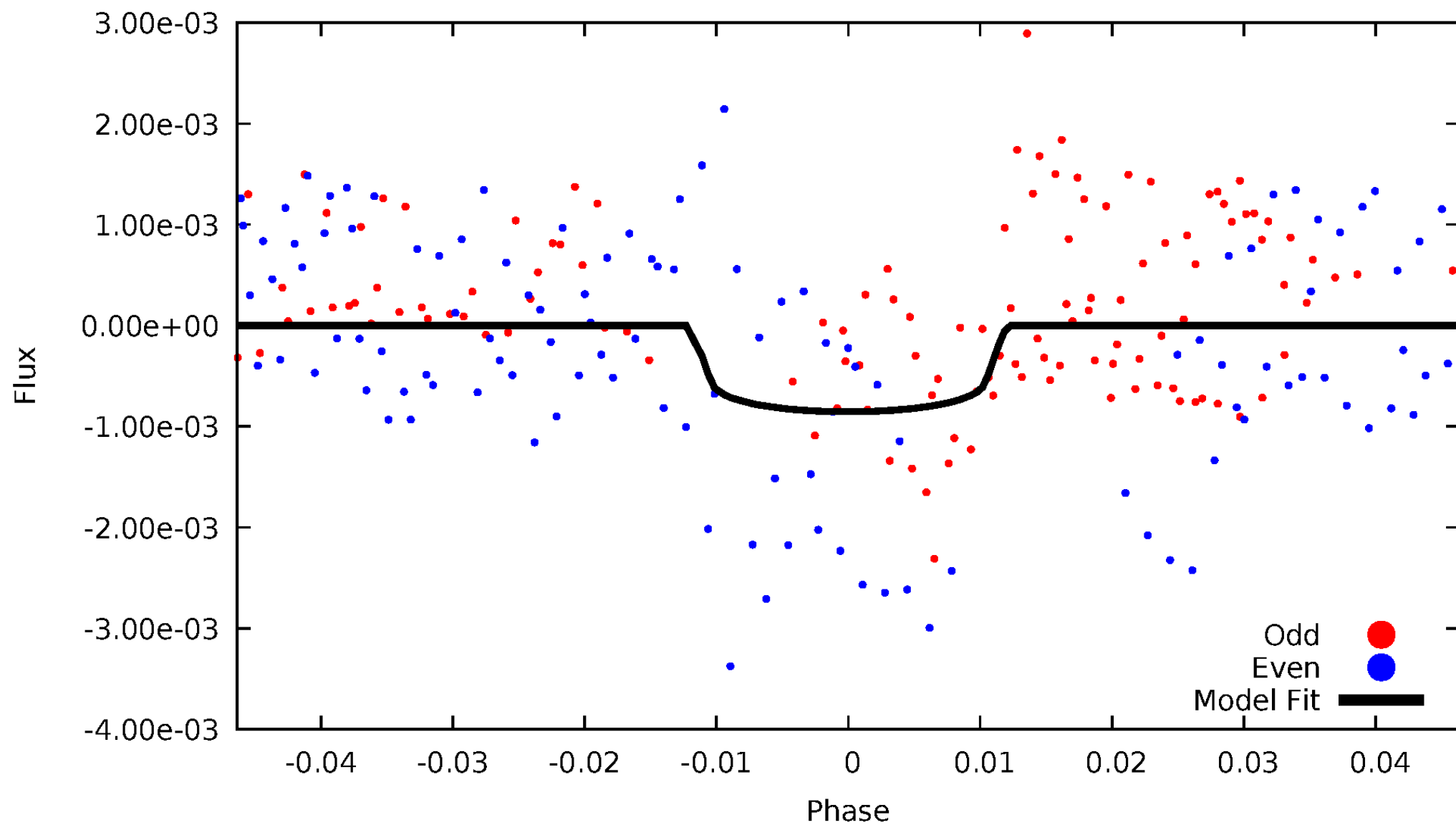


TCE 005430471-05



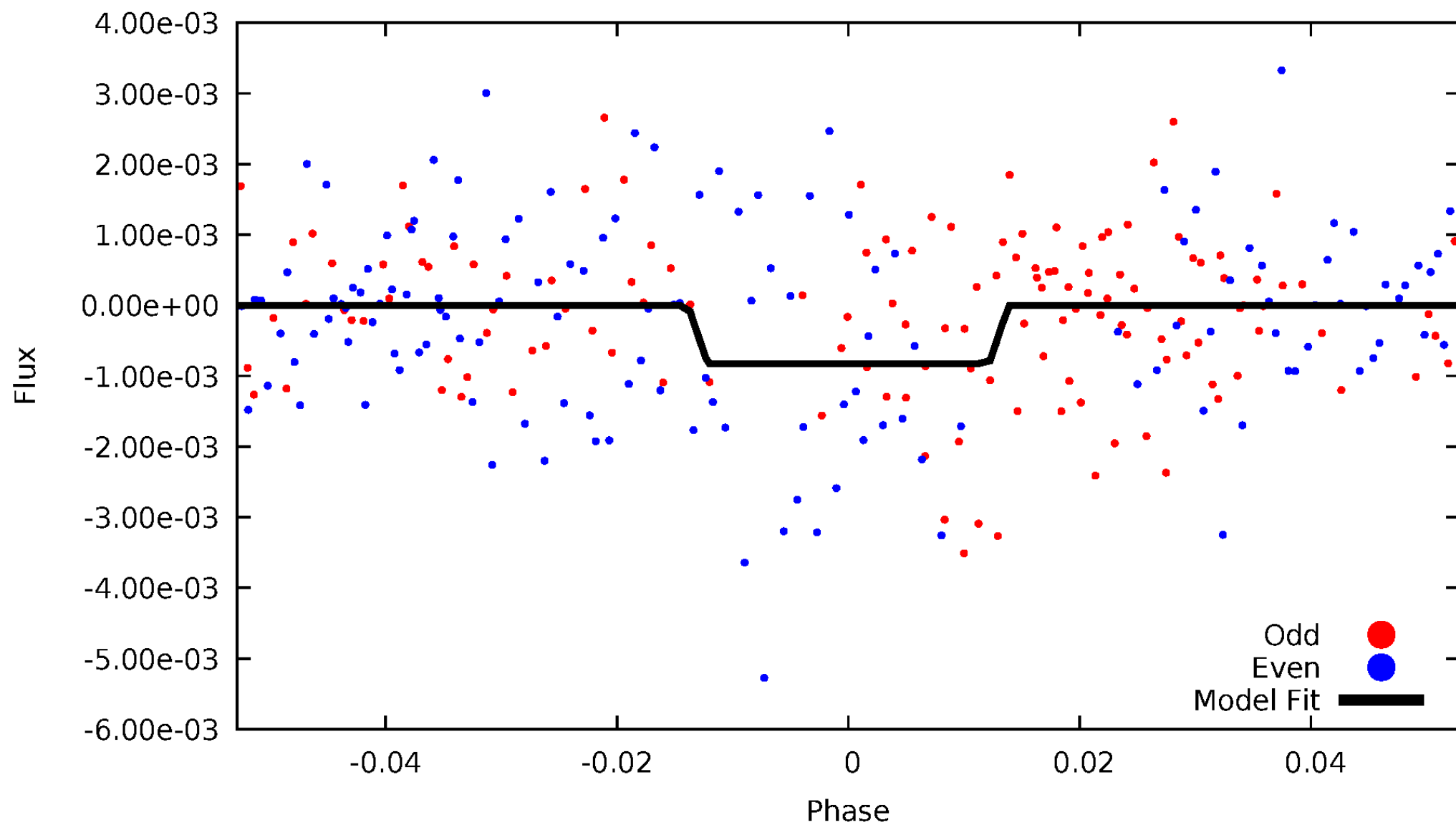
DV Odd/Even

TCE 005430471-05



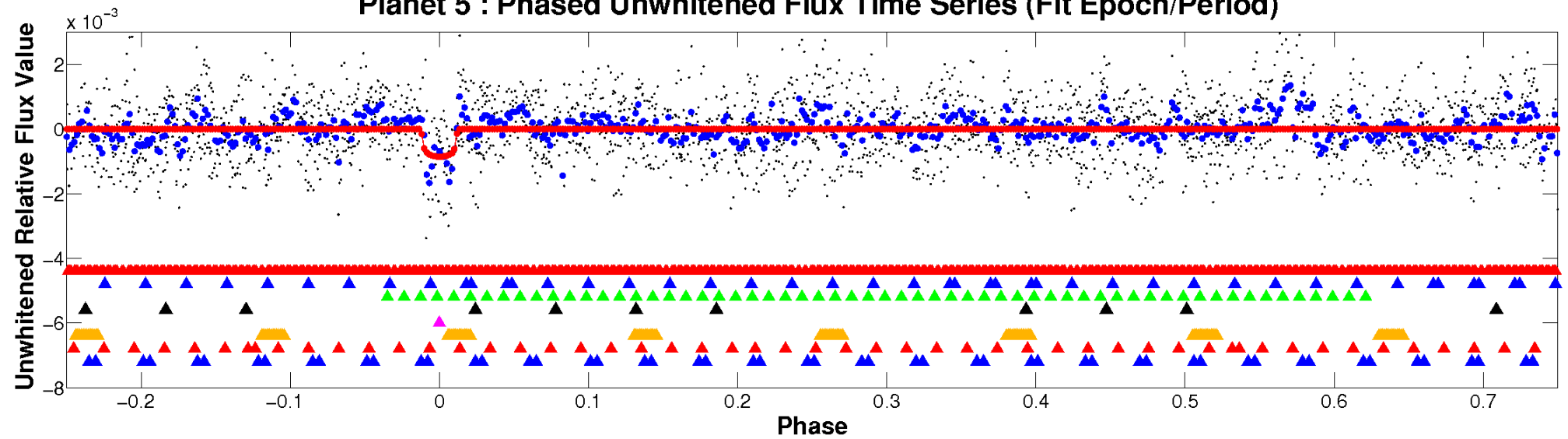
ALT Odd/Even

TCE 005430471-05

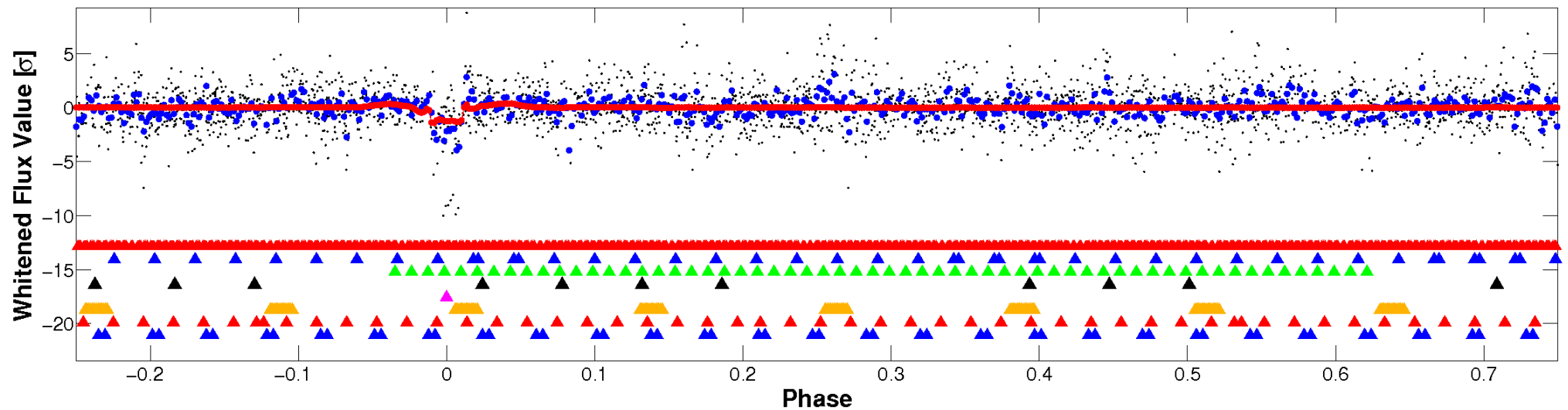


Non-Whitened Vs. Whitened Light Curve

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

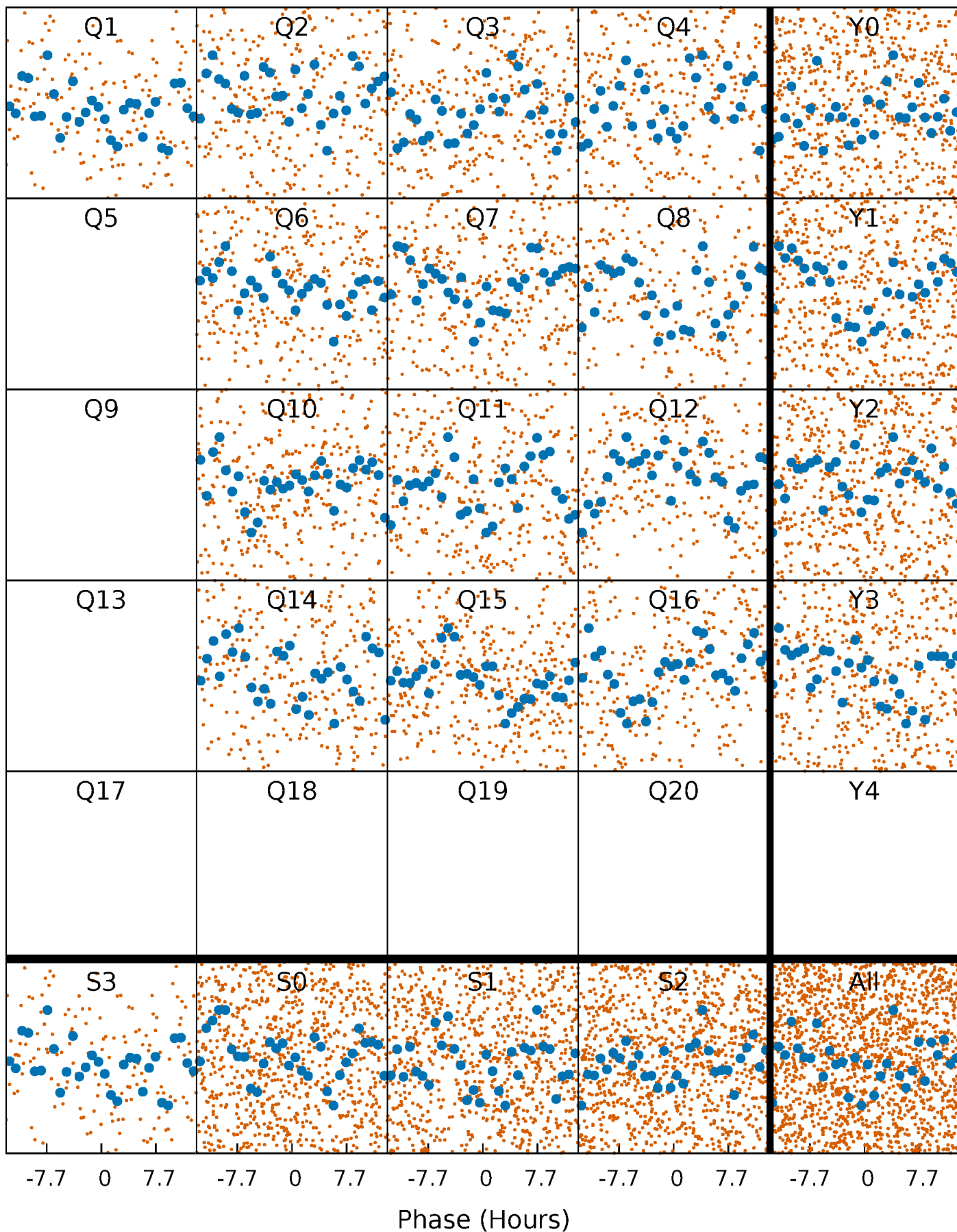


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



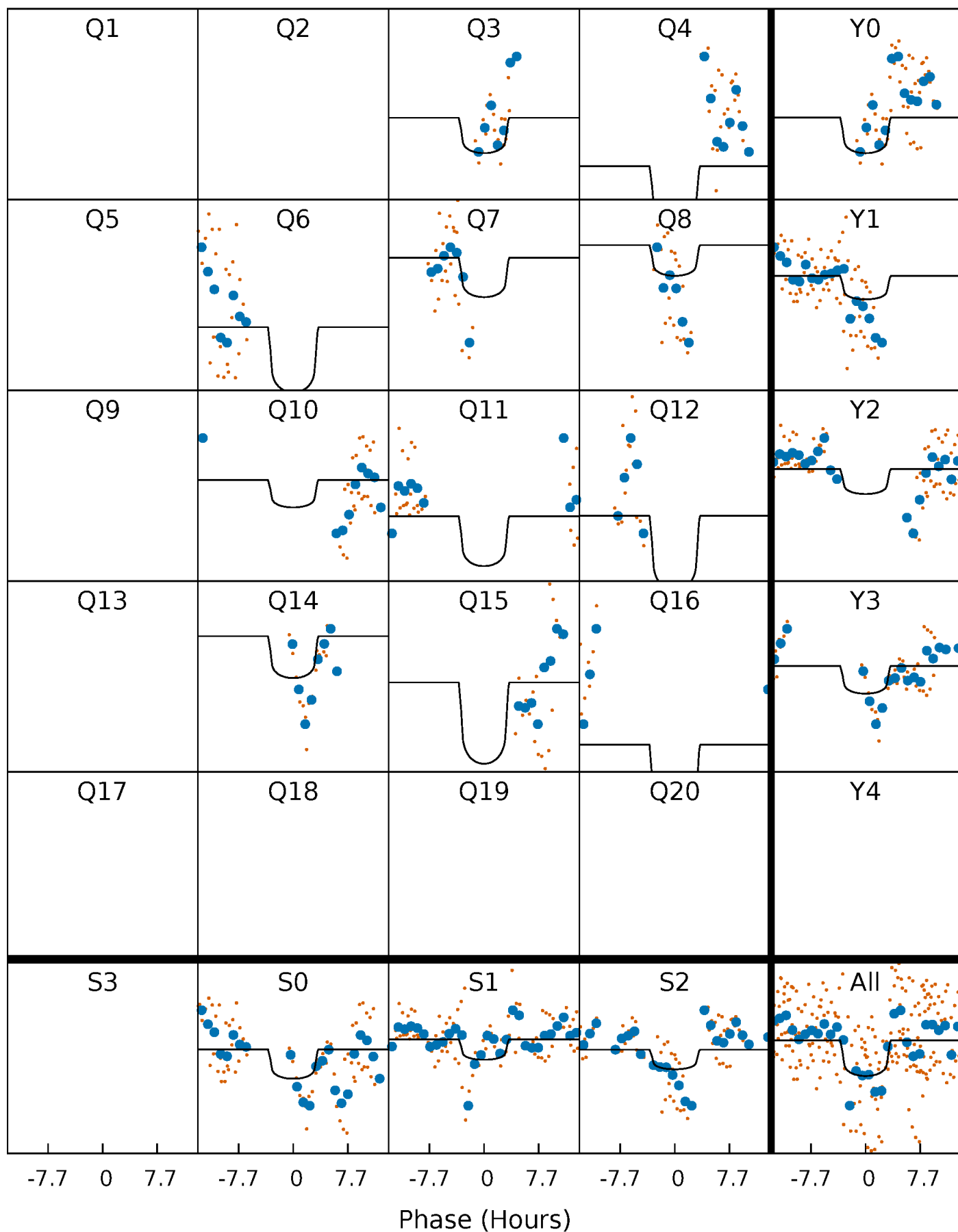
PDC Quarter-Phased Transit Curves

TCE 005430471-05 $P = 12.103672$ Days $T_0 = 137.474230$ (BKJD)



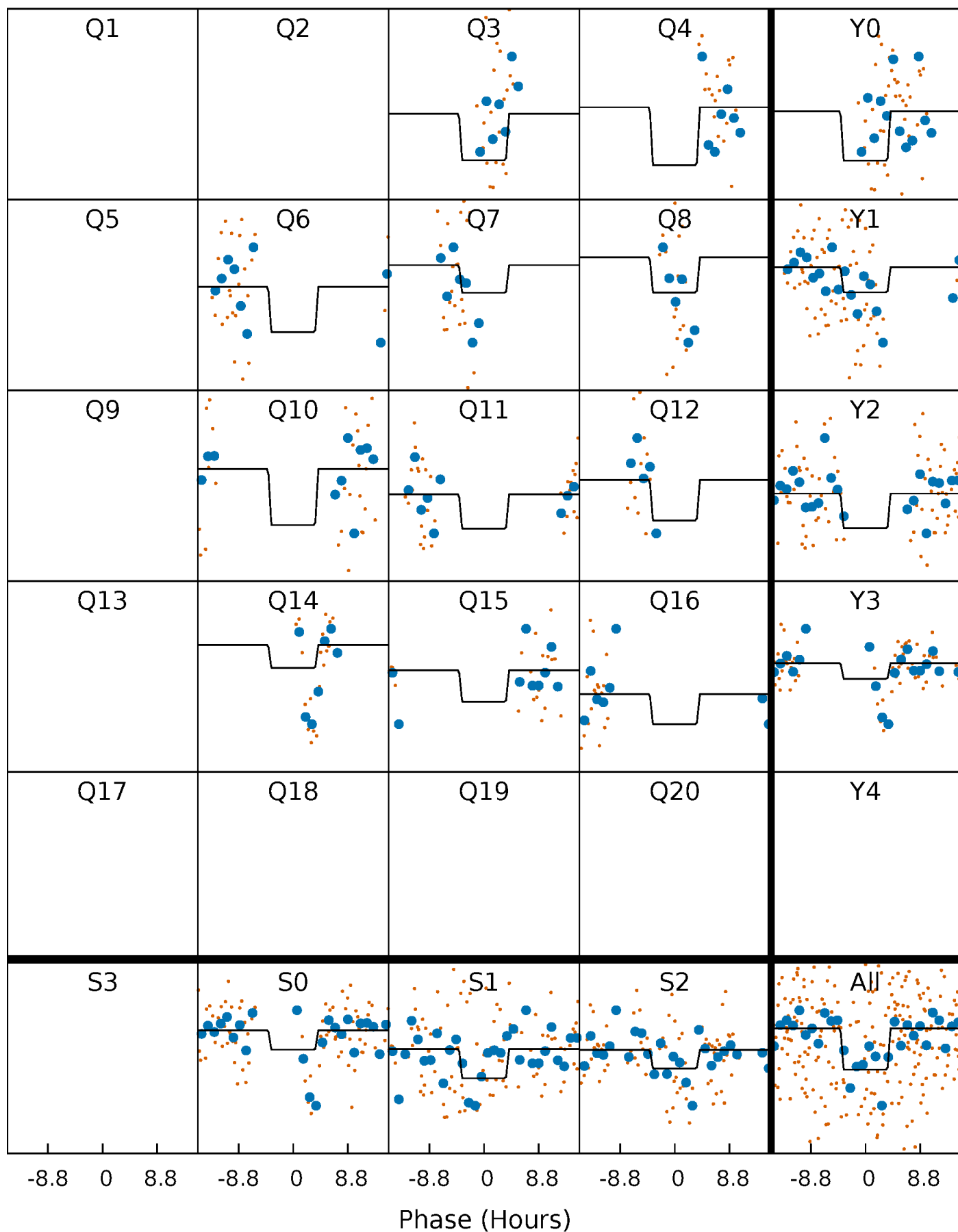
DV Quarter-Phased Transit Curves

TCE 005430471-05 $P = 12.103672$ Days $T_0 = 137.474230$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

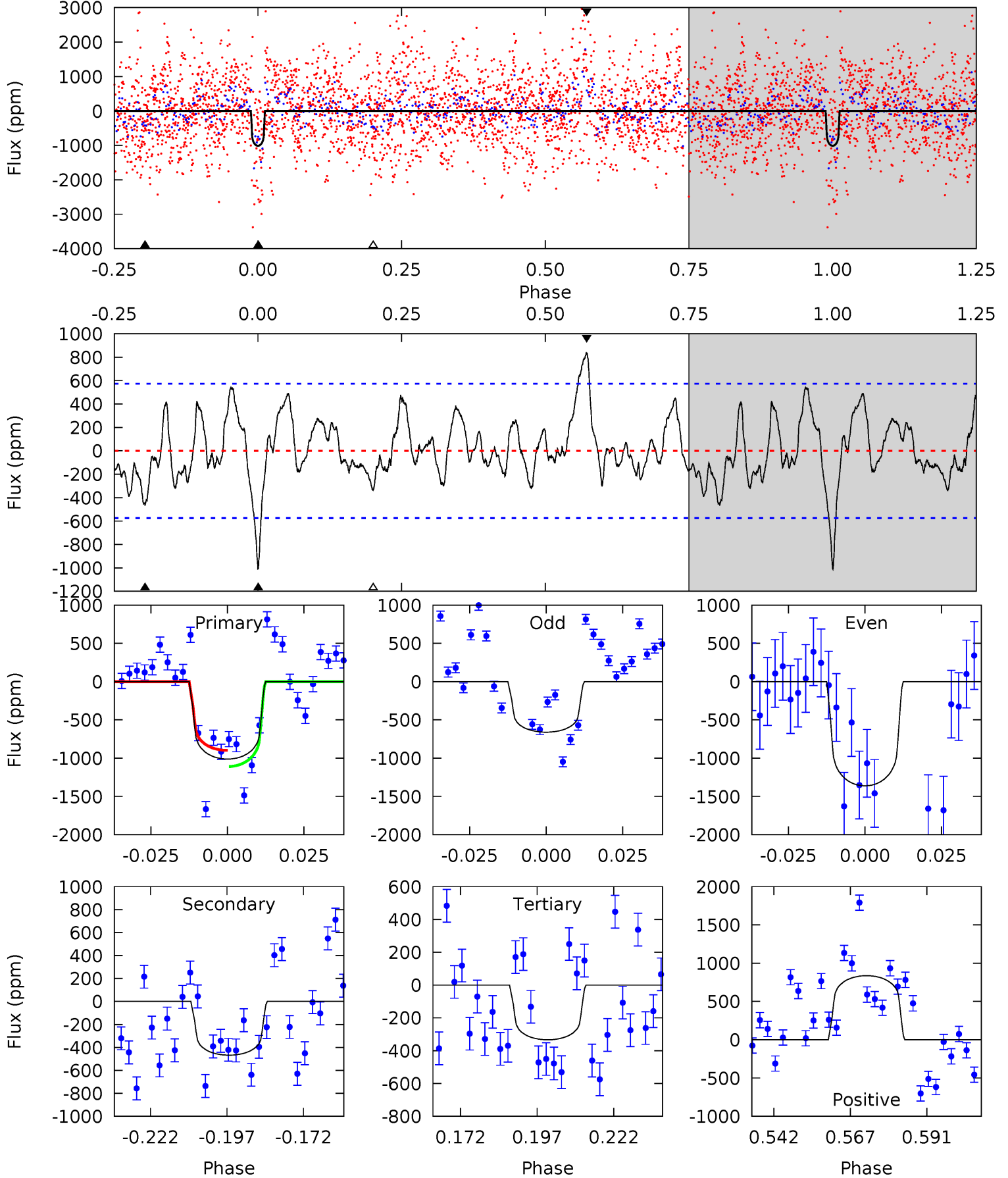
TCE 005430471-05 P= 12.103205 Days $T_0=137.476371$ (BKJD)



DV Model-Shift Uniqueness Test

005430471-05, P = 12.103672 Days, E = 125.370558 Days

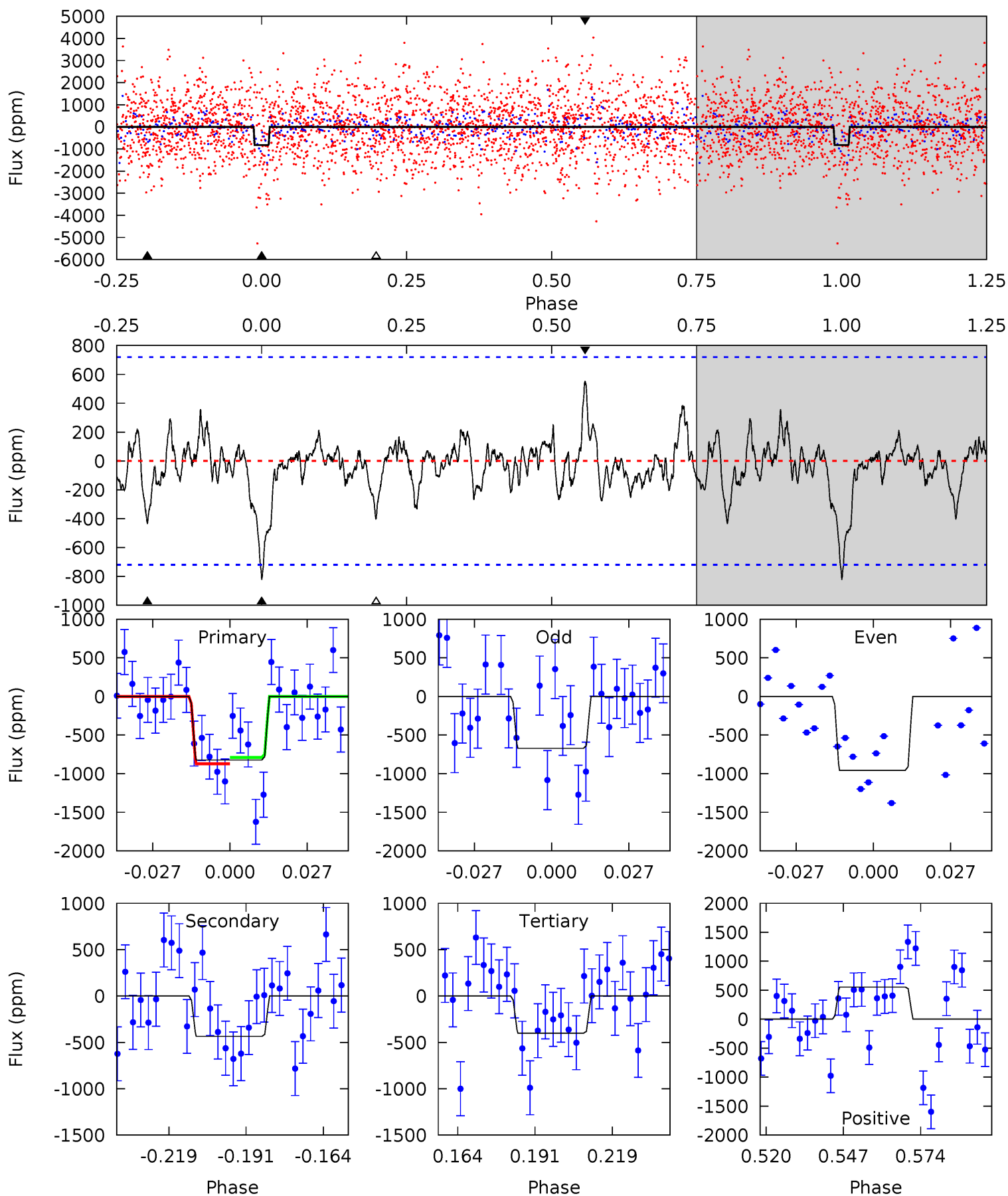
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.55	3.95	2.82	7.07	4.85	2.25	1.87	5.73	1.48	1.13	-3.12	3.00	0.82	0.45	0.88



Alt Model-Shift Uniqueness Test

005430471-05, P = 12.103205 Days, E = 125.373166 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.53	2.93	2.70	3.72	4.83	2.21	0.87	2.84	1.81	0.23	-0.80	0.97	0.77	0.40	0.27



Stellar Parameters For KIC 005430471

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7854^{+217}_{-326}	$3.669^{+0.448}_{-0.084}$	$-0.120^{+0.200}_{-0.350}$	$3.462^{+0.600}_{-1.681}$	$2.039^{+0.329}_{-0.535}$	$0.069^{+0.321}_{-0.020}$
	+3%/-4%	+12%/-2%	+167%/-292%	+17%/-49%	+16%/-26%	+464%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005430471-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-468 ± 118	$10.26^{+8.04}_{-6.20}$	2399^{+177}_{-293}	6317^{+5256}_{-1393}	40^{+224}_{-28}
Alt.	-436 ± 149	$10.91^{+7.76}_{-6.48}$	2404^{+175}_{-308}	6057^{+4540}_{-1355}	33^{+188}_{-22}

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 $A_{obs} \gg 1.0$

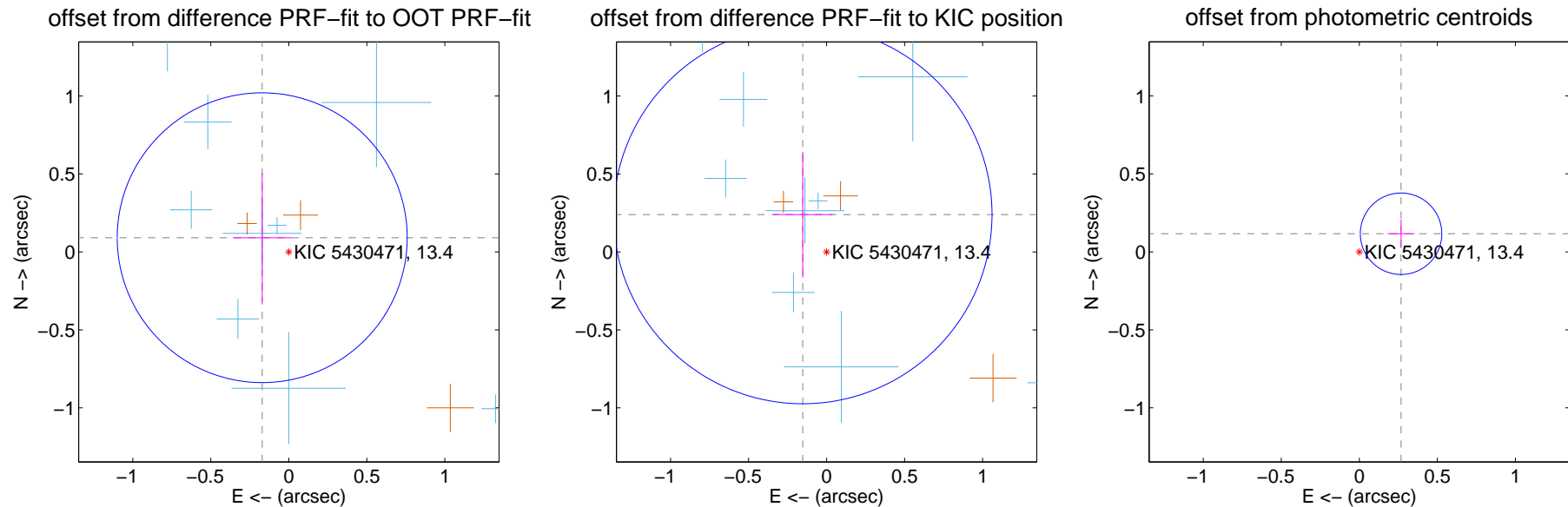
DV Centroid Data

Supplemental centroid analysis for 005430471-05. Kepler magnitude: 13.40. Transit SNR 8.56

There are 9 quarters with good PRF difference image offsets

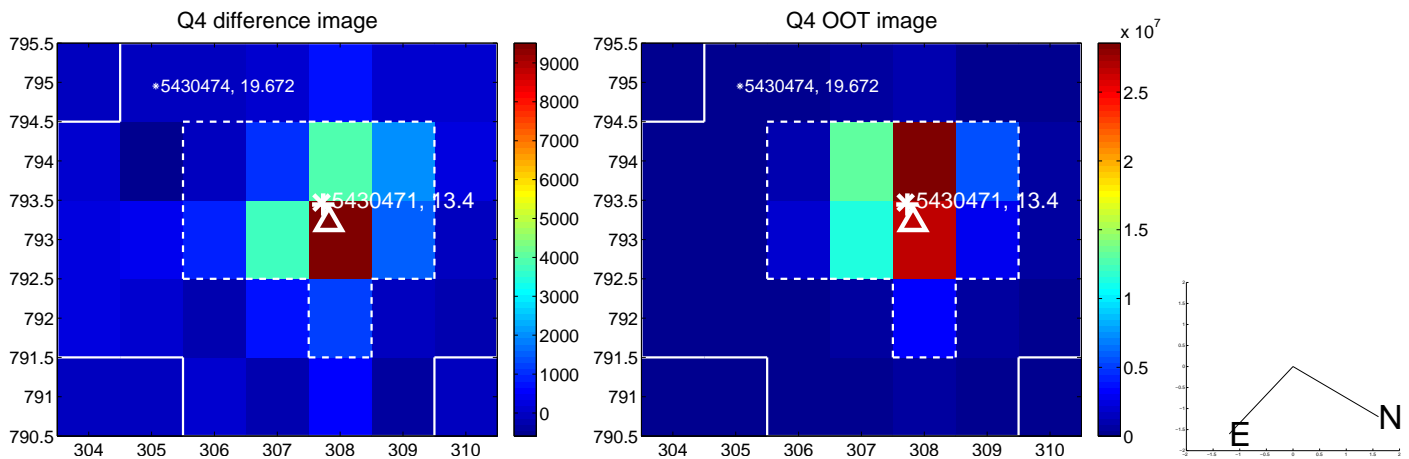
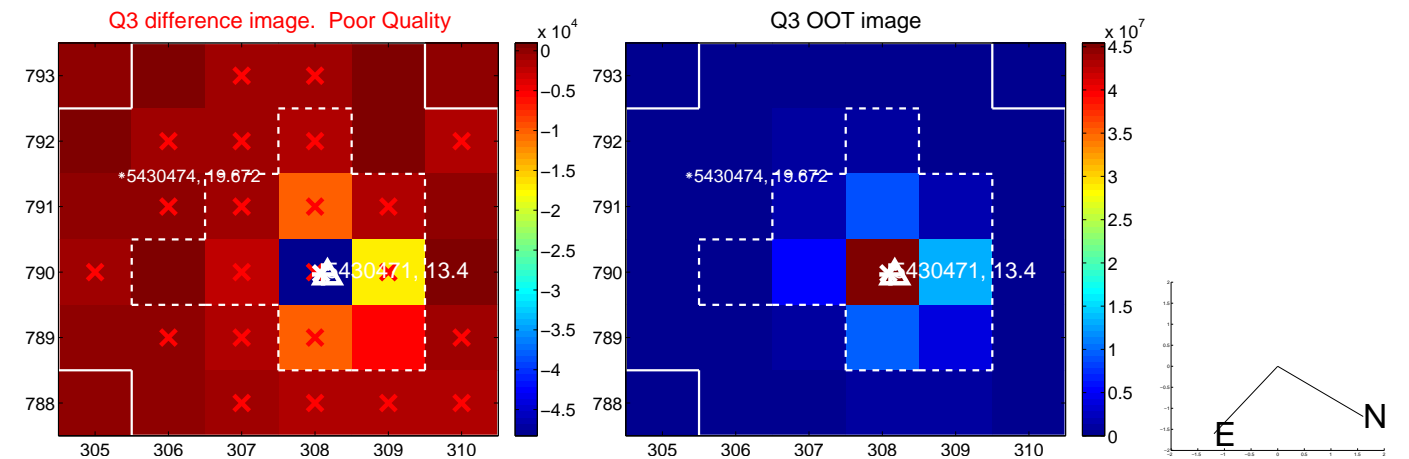
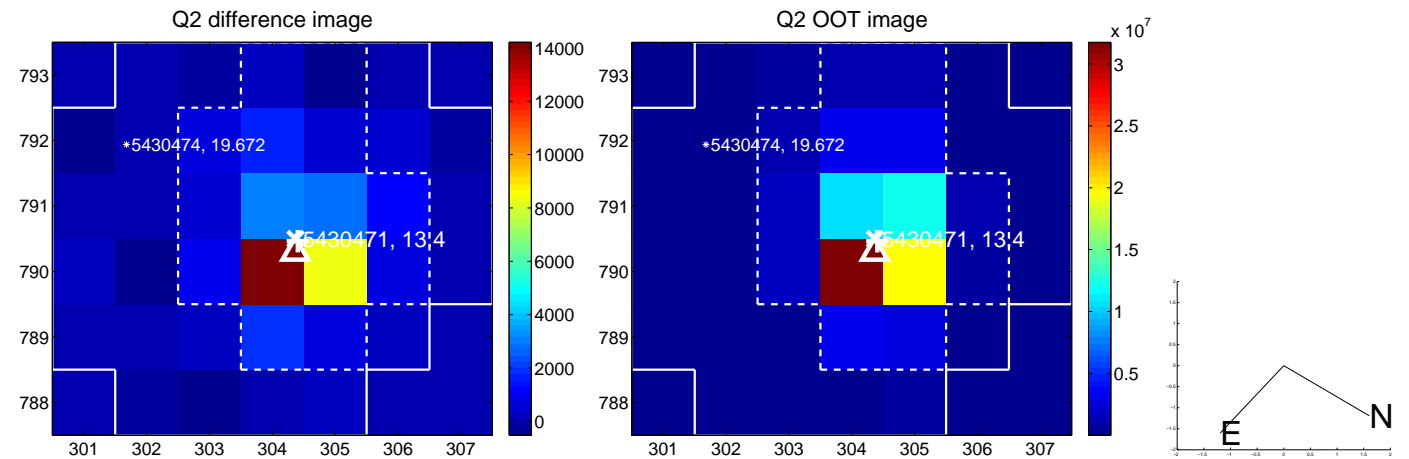
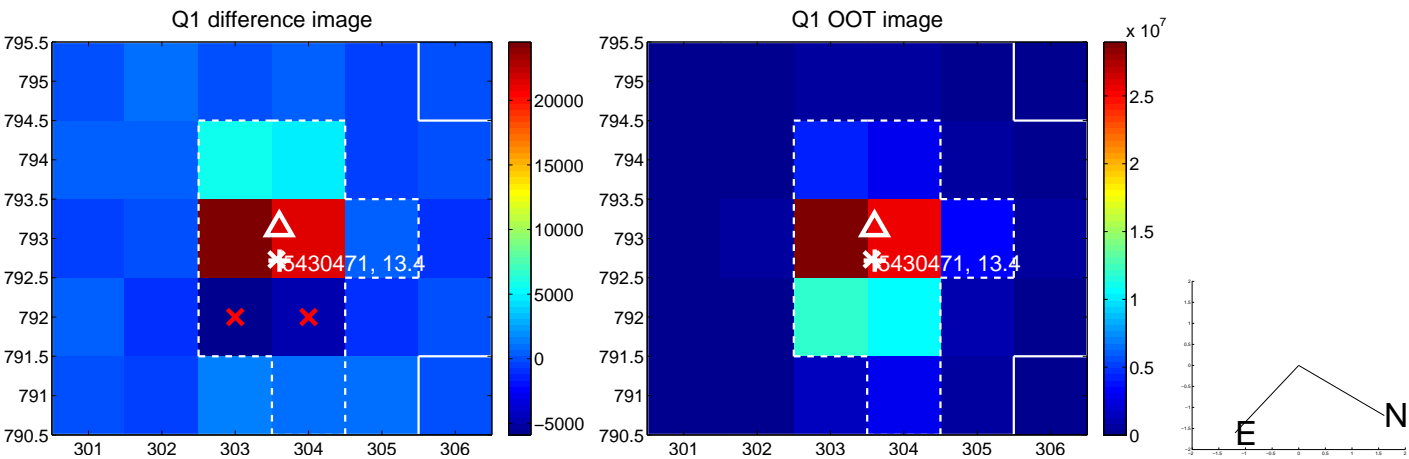
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.193 ± 0.310	0.62	0.171 ± 0.189	0.091 ± 0.414
PRF-fit source offset from KIC position	0.284 ± 0.404	0.70	0.153 ± 0.191	0.239 ± 0.403
photometric centroid source offset	0.29 ± 0.09	3.35	-0.27 ± 0.09	0.12 ± 0.09

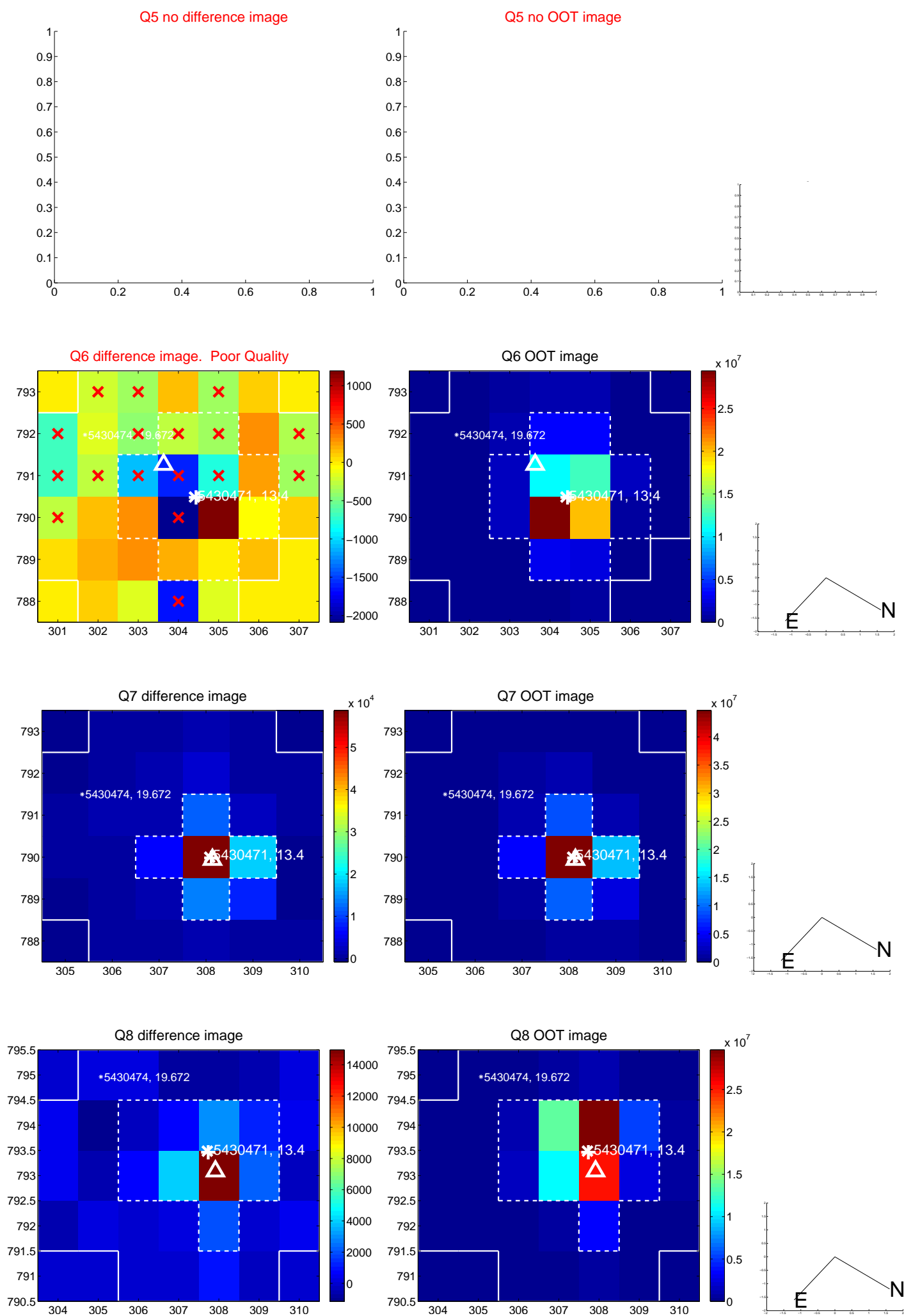


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

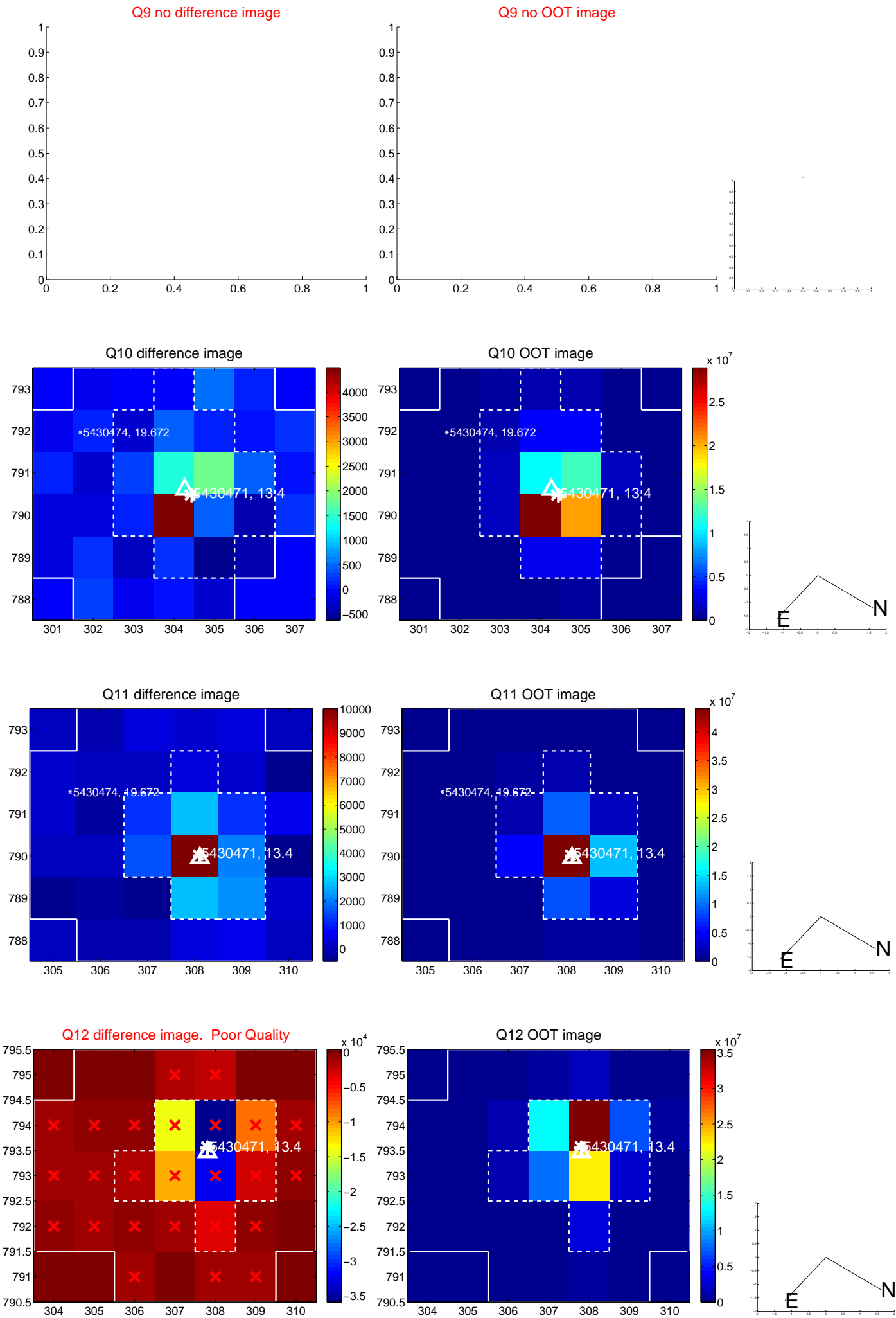
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



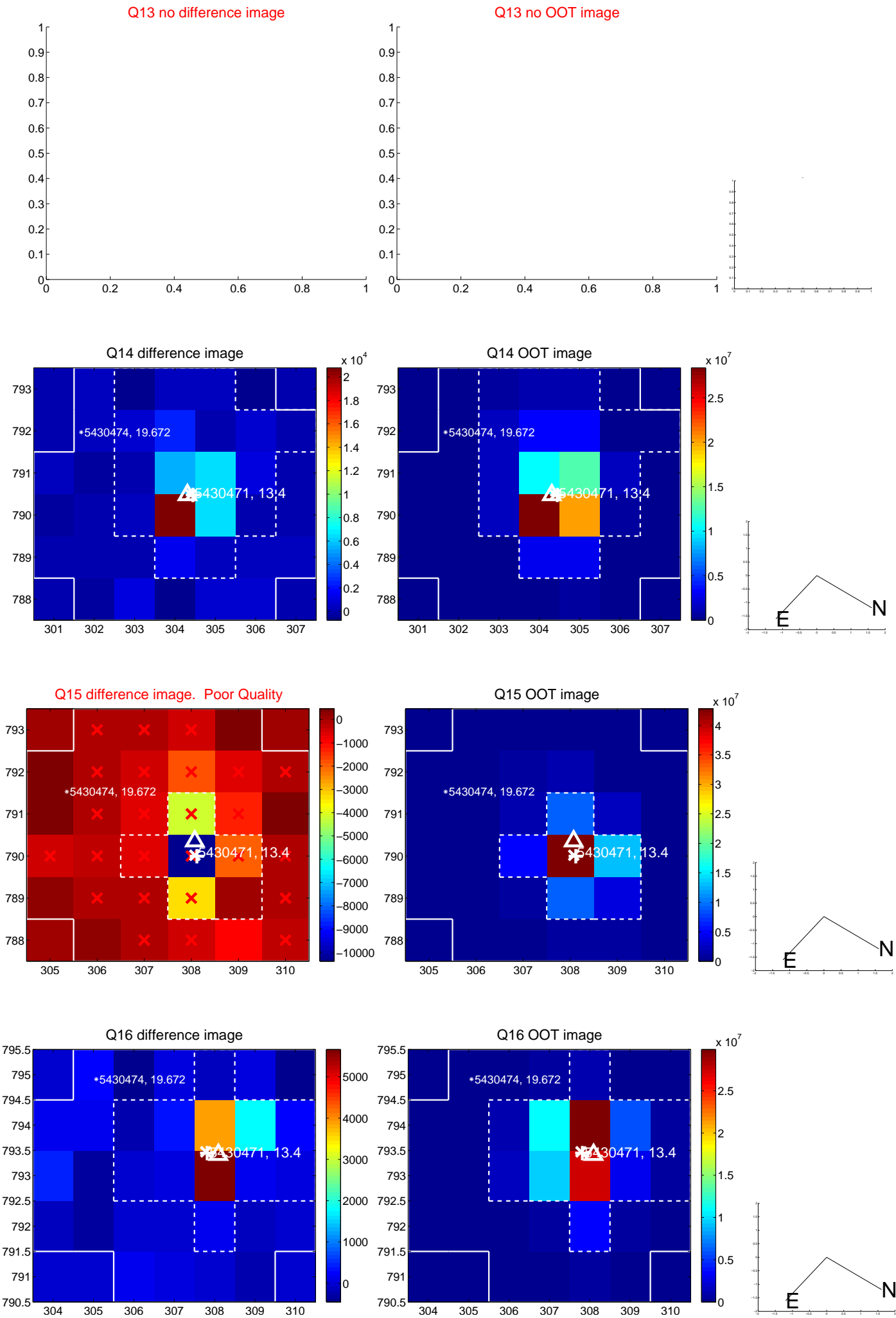
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



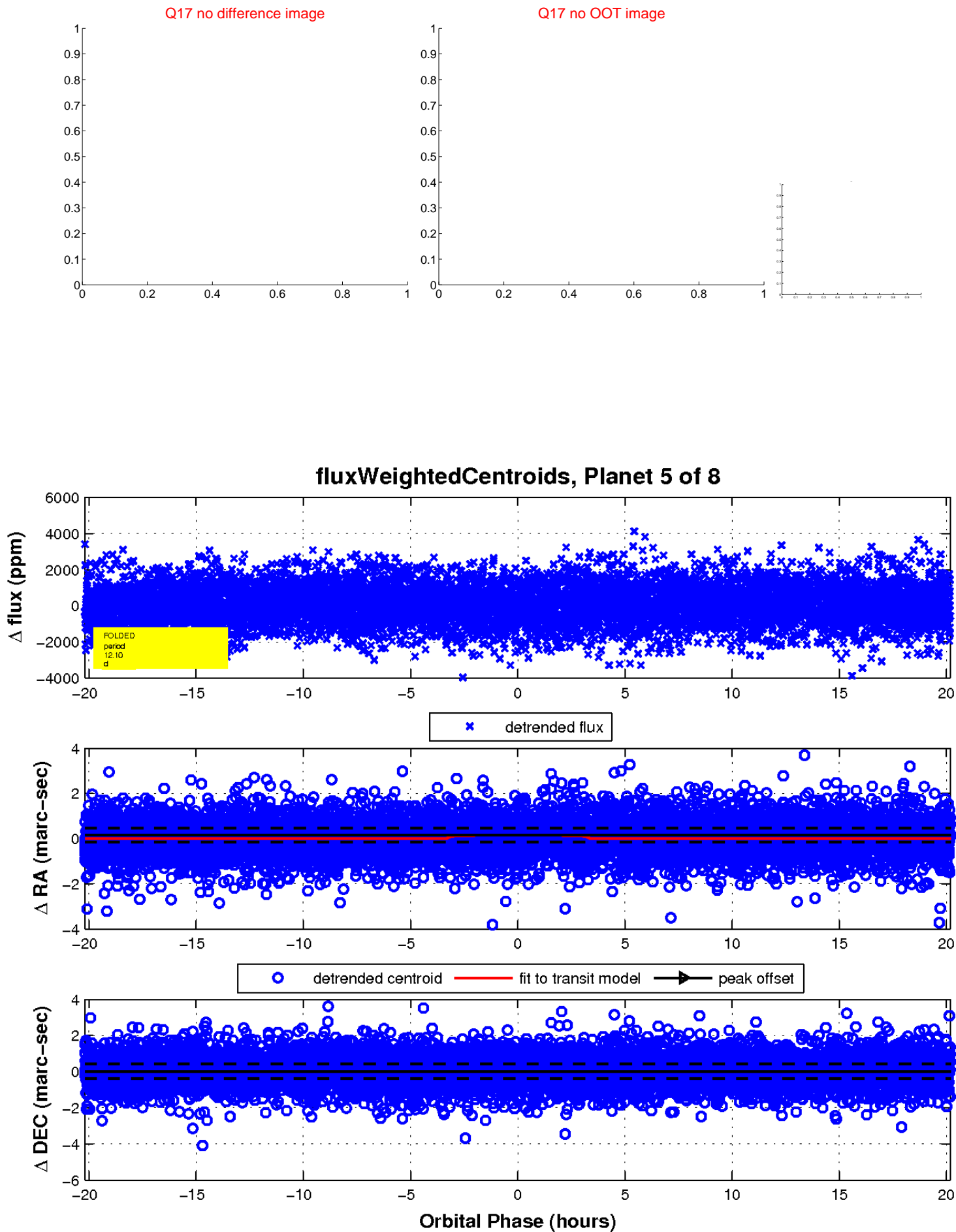
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

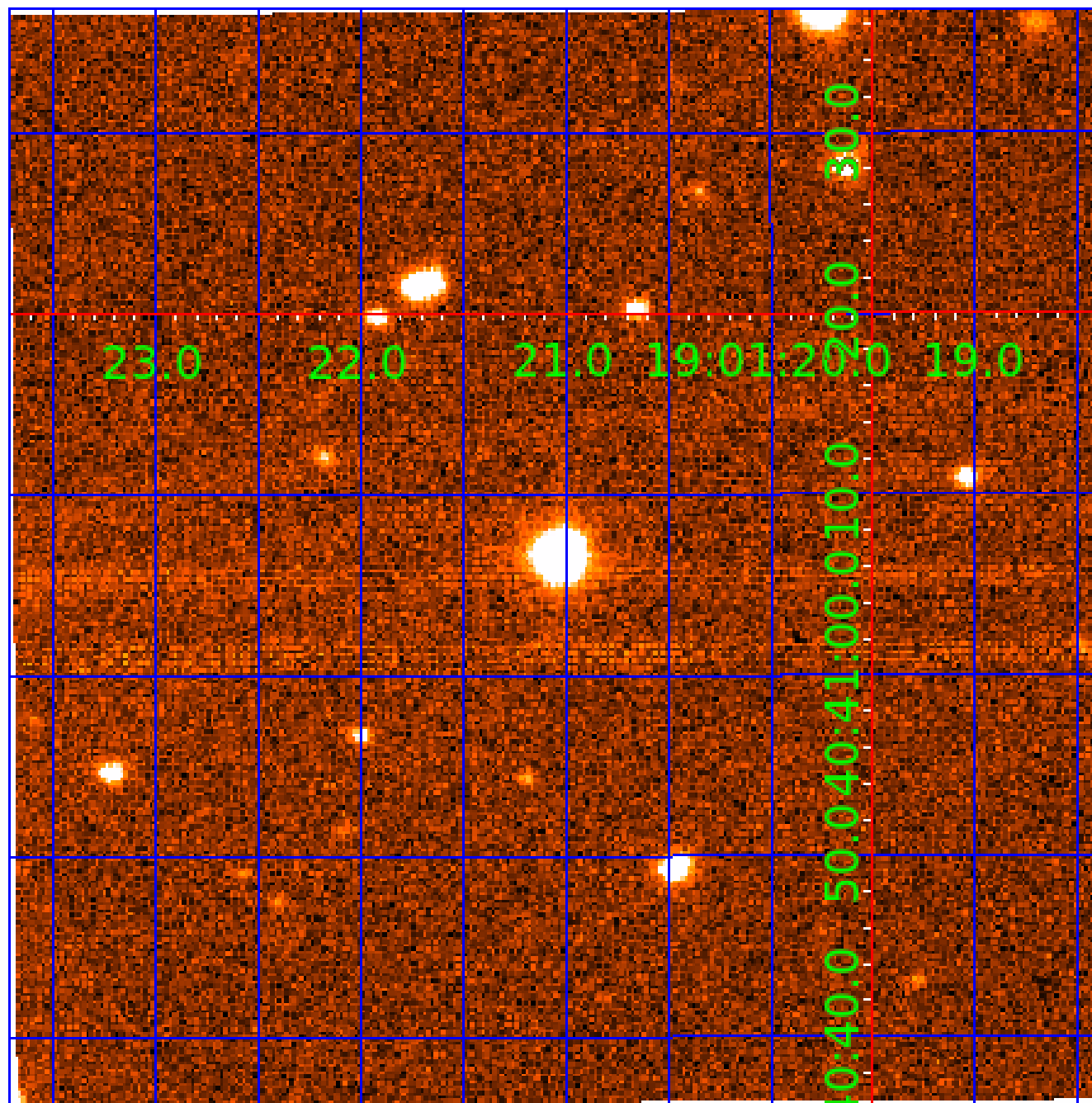


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005430471

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})
005430471-01	OBS	No	2.205505	132.769905	131.1	16.382	7.9	8.8	3.46	7854	4.13	23092.20
005430471-02	OBS	No	32.386569	145.542038	502.9	15.000	19.8	-1.0	3.46	7854	7.84	642.18
005430471-03	OBS	No	24.341919	149.156725	1738.0	3.645	17.2	17.2	3.46	7854	15.62	939.73
005430471-04	OBS	No	136.957587	160.113256	2069.3	15.681	12.8	12.3	3.46	7854	18.61	93.91
005430471-05	OBS	No	12.103672	137.474230	854.0	6.731	15.5	8.6	3.46	7854	10.48	2385.54
005430471-06	OBS	No	13.614745	142.274136	1515.4	1.523	10.8	10.2	3.46	7854	22.17	2039.22
005430471-07	OBS	No	28.323761	143.908841	1603.3	1.660	8.8	7.9	3.46	7854	14.02	767.85
005430471-08	OBS	No	27.343349	138.754746	588.3	1.500	8.8	-1.0	3.46	7854	8.51	804.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005430471-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005430471-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
005430471-03	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
005430471-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005430471-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
005430471-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

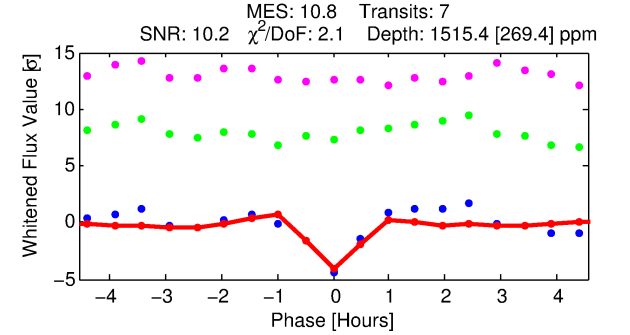
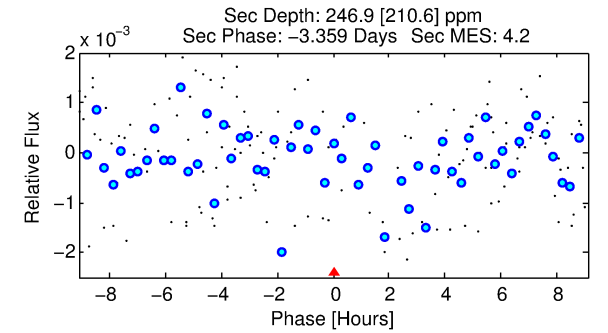
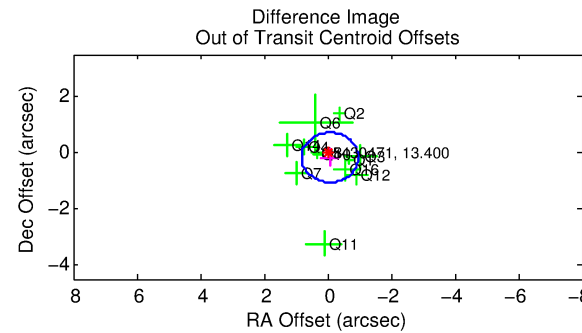
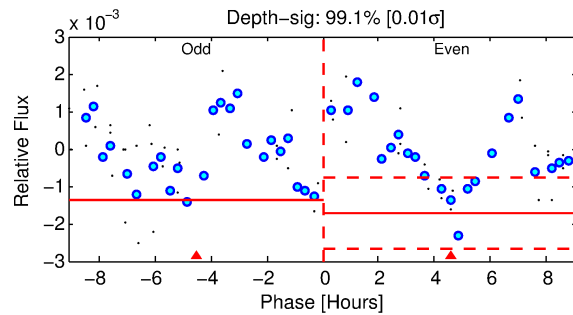
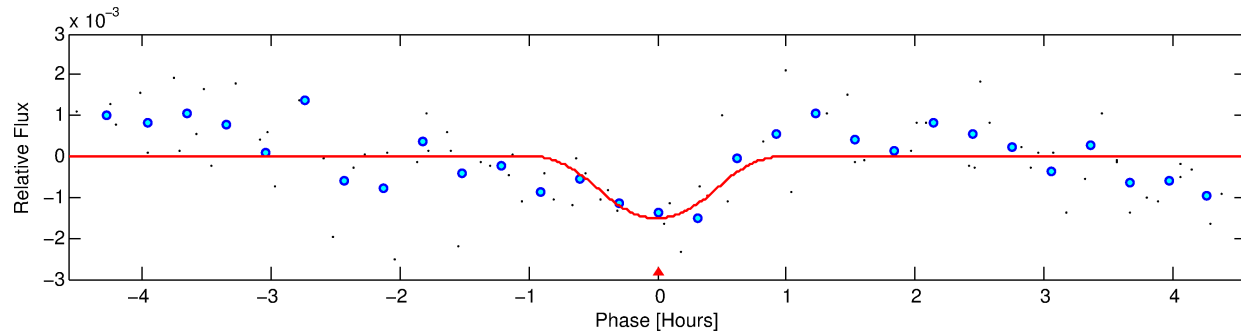
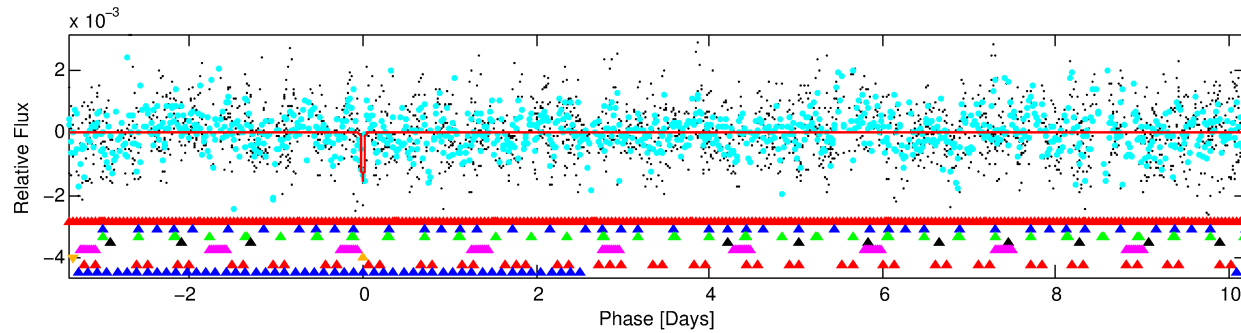
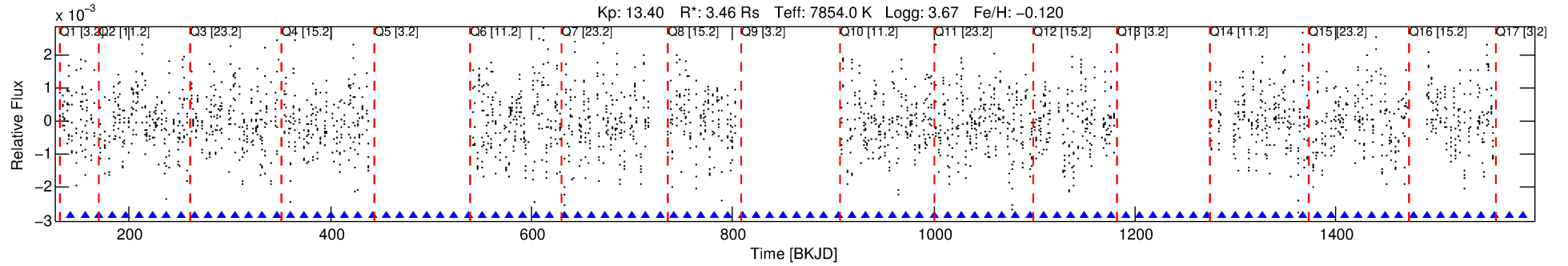
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005430471-06

No Significant Match Found

DV One-Page Summary

KIC: 5430471 Candidate: 6 of 8 Period: 13.615 d



DV Fit Results:

Period = 13.61475 [0.00013] d
Epoch = 142.2741 [0.0045] BKJD
Rp/R* = 0.0587 [0.0156]
a/R* = 26.27 [69.27]
b = 0.99 [0.86]
Seff = 2039.22 [1586.52]
Teff = 1714 [333] K
Rp = 22.17 [195.08] Re
a = 0.1416 [0.0668] AU
Ag = 5.54 [97.57] [0.05 σ]
Teffp = 4064 [17880] K [0.13 σ]

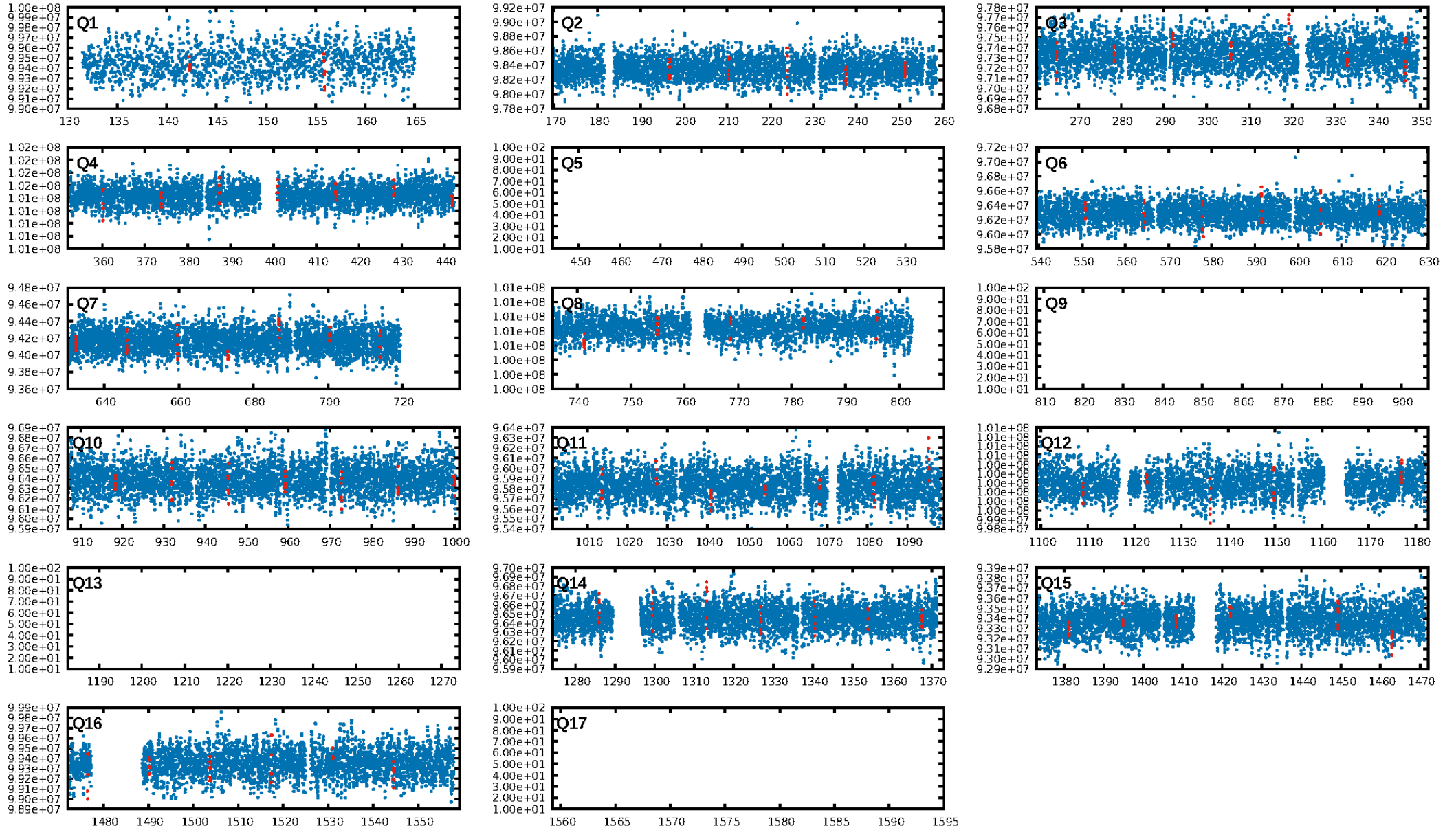
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.25 σ]
LongPeriod-sig: 100.0% [65.17 σ]
ModelChiSquare2-sig: 4.8%
ModelChiSquareGof-sig: 70.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -2.034
Centroid-sig: 0.2%
Centroid-so: 0.233 arcsec [1.75 σ]
OotOffset-rm: 0.185 arcsec [0.63 σ]
KicOffset-rm: 0.101 arcsec [0.43 σ]
OotOffset-st: 4/3/4/1 [12]
KicOffset-st: 4/3/4/1 [12]
DiffImageQuality-fgm: 0.50 [6/12]
DiffImageOverlap-fno: 1.00 [13/13]

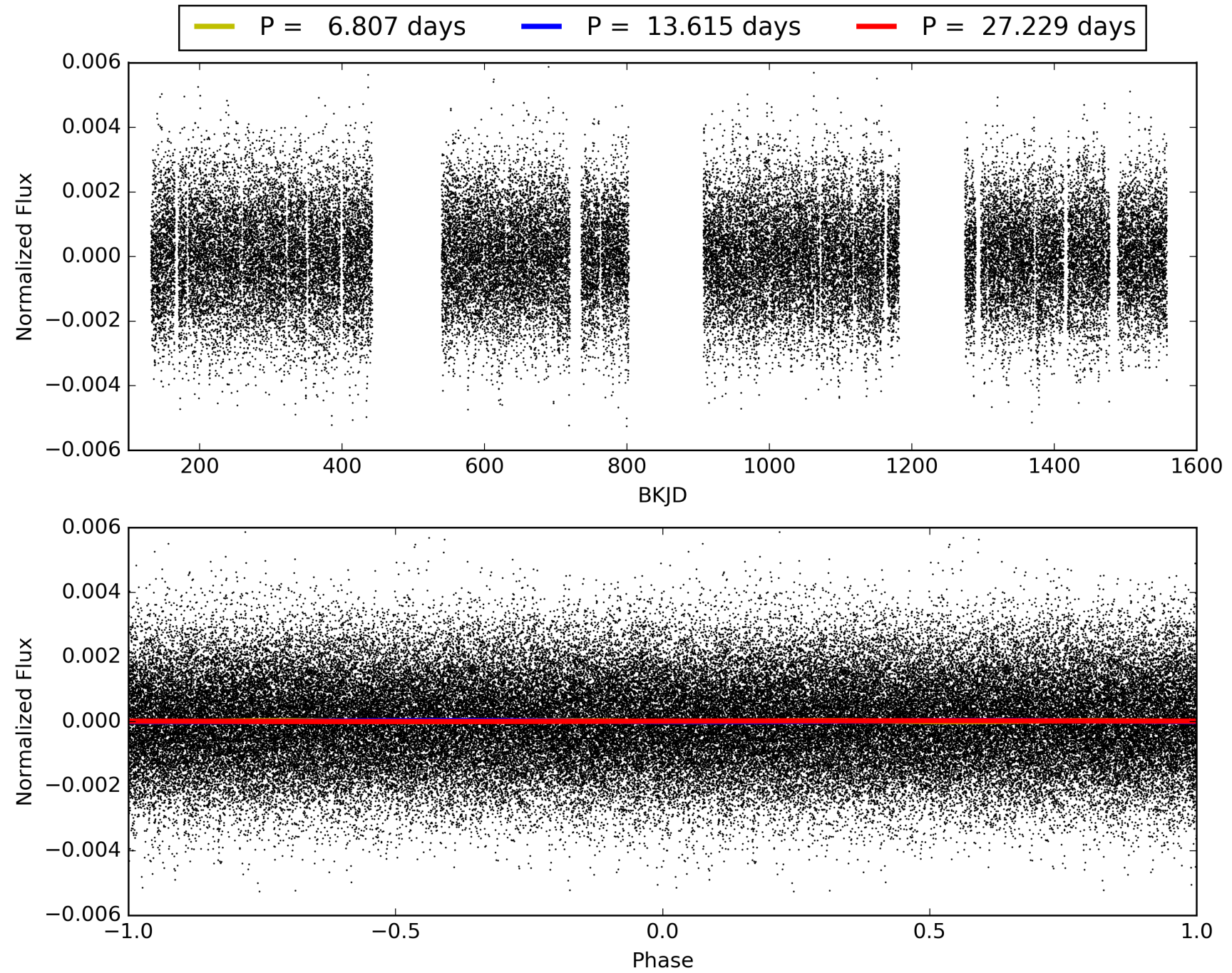
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:31:49 Z

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

TCE 005430471-06, PDC Light Curves

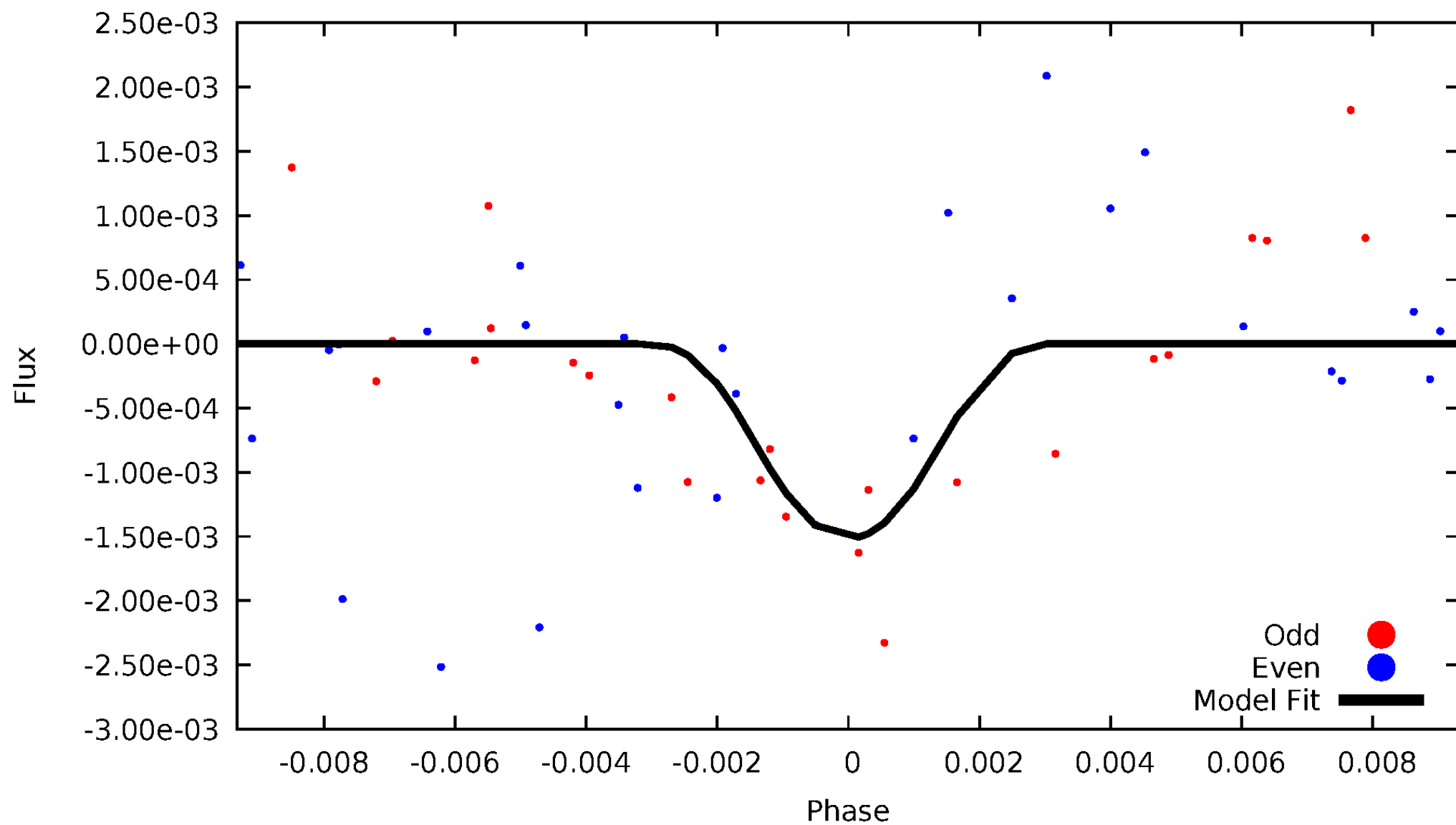


TCE 005430471-06



DV Odd/Even

TCE 005430471-06

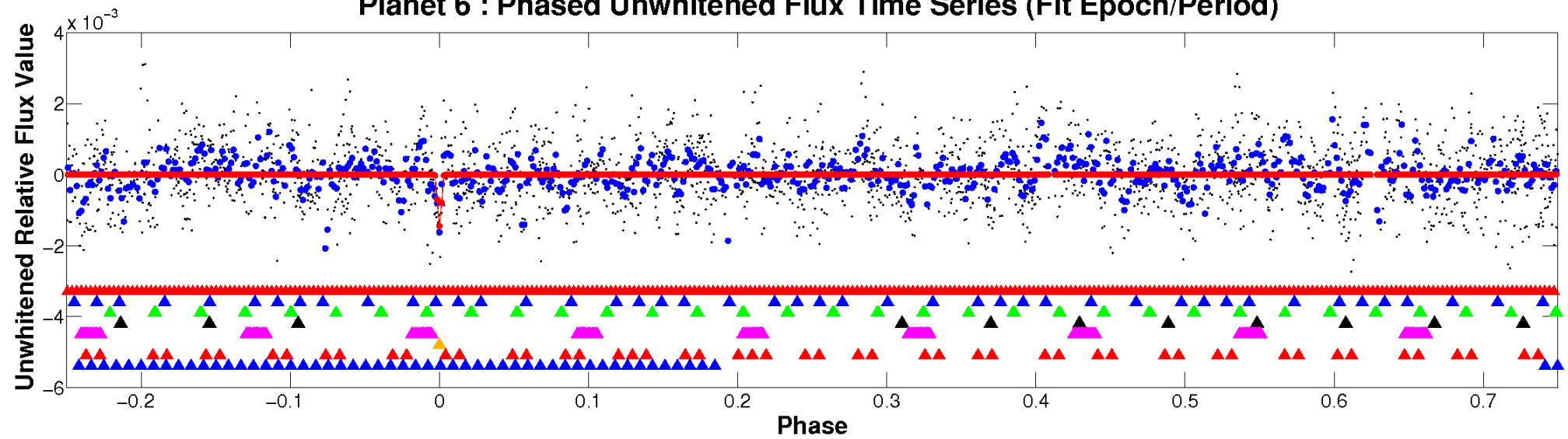


ALT Odd/Even

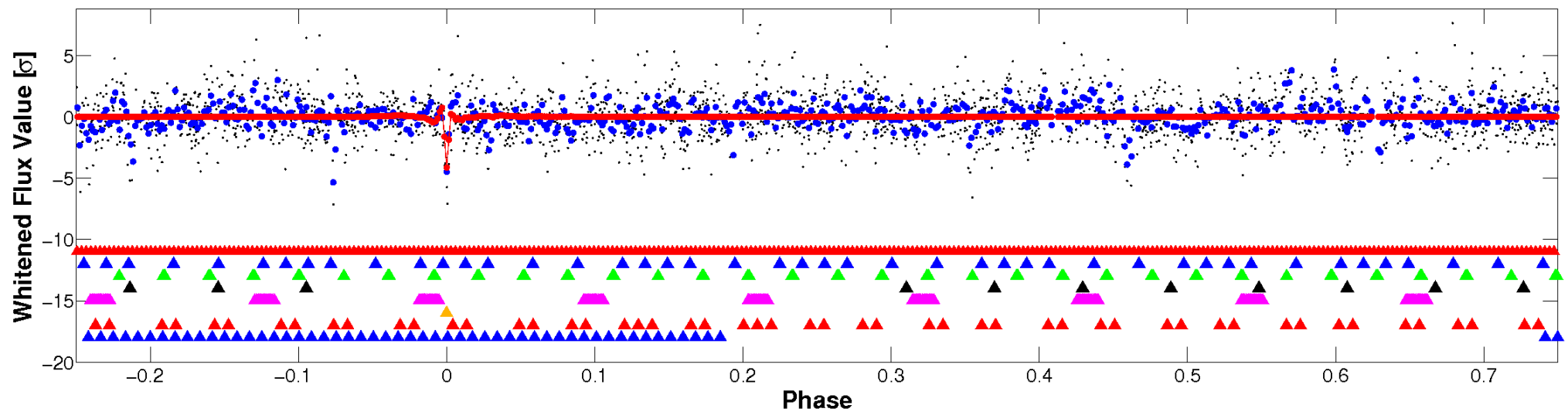
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

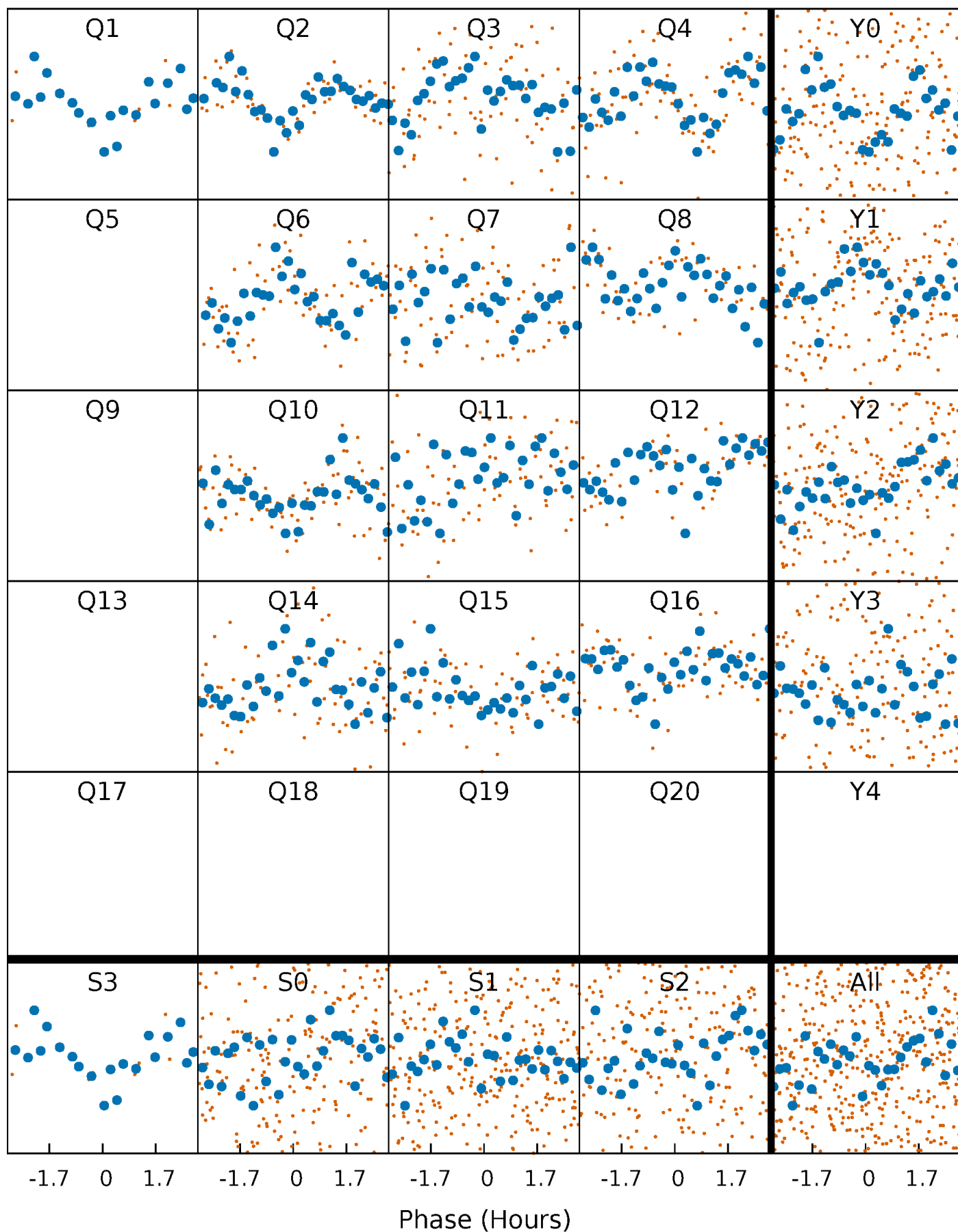


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



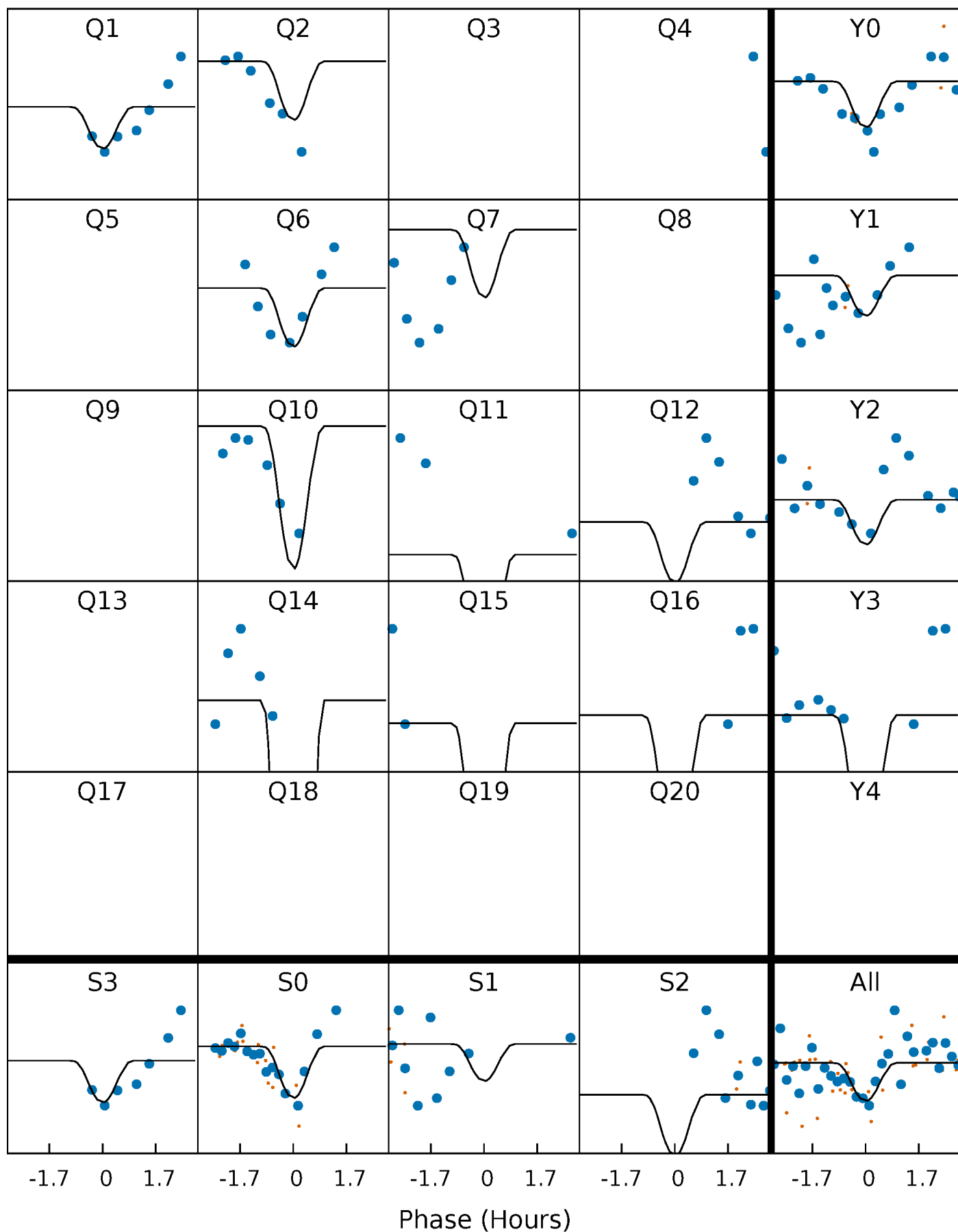
PDC Quarter-Phased Transit Curves

TCE 005430471-06 P= 13.614745 Days $T_0=142.274136$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 005430471-06 P= 13.614745 Days $T_0=142.274136$ (BKJD)

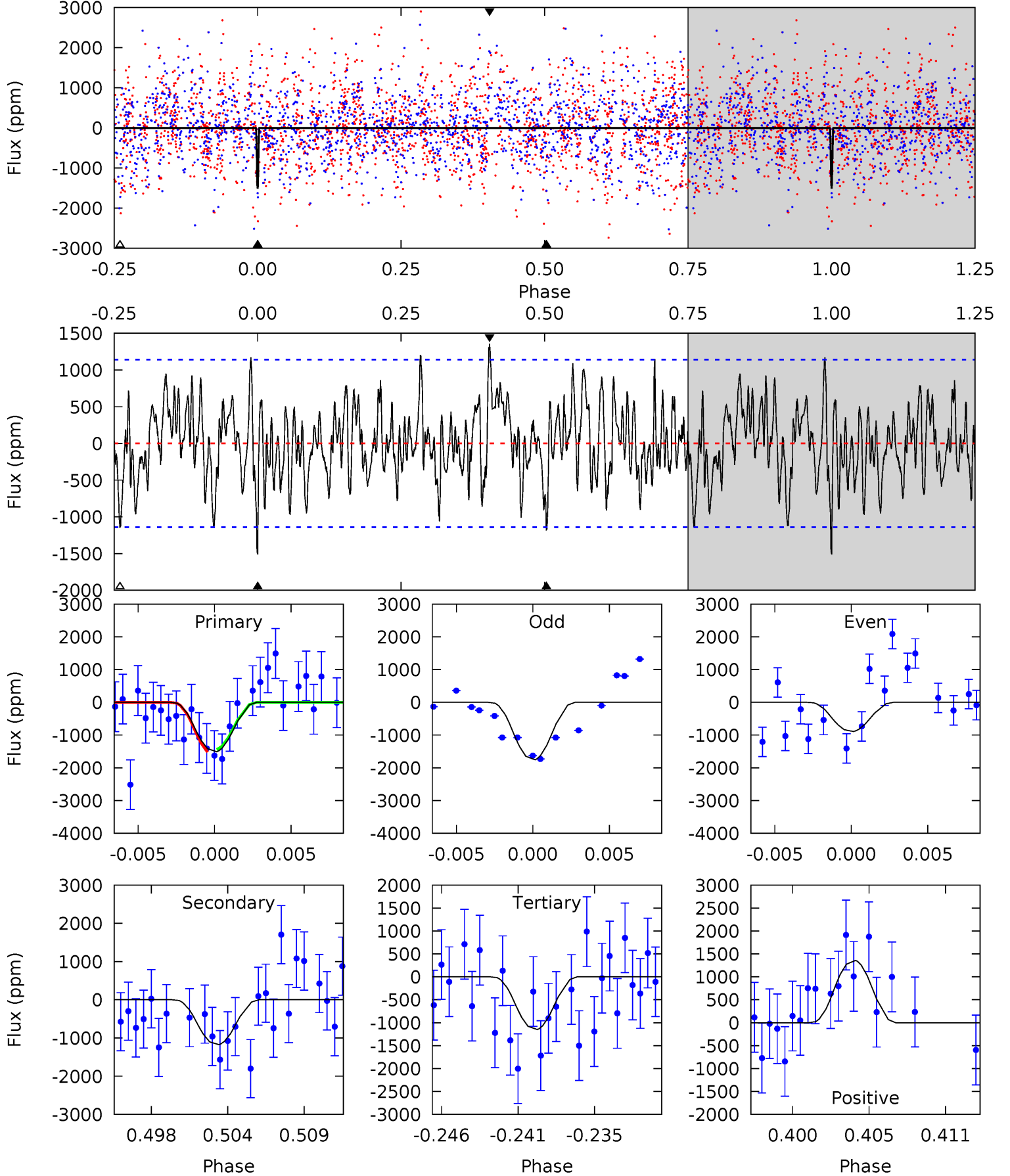


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

005430471-06, P = 13.614745 Days, E = 128.659391 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.81	5.30	5.18	6.13	5.14	2.78	1.91	1.62	0.68	0.11	-0.83	2.00	1.03	0.47	0.19



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 005430471

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7854^{+217}_{-326}	$3.669^{+0.448}_{-0.084}$	$-0.120^{+0.200}_{-0.350}$	$3.462^{+0.600}_{-1.681}$	$2.039^{+0.329}_{-0.535}$	$0.069^{+0.321}_{-0.020}$
	+3%/-4%	+12%/-2%	+167%/-292%	+17%/-49%	+16%/-26%	+464%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005430471-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1175 ± 222	$117.49^{+136.36}_{-81.89}$	2309^{+152}_{-260}	2867^{+1581}_{-5200}	$0.904^{+8.465}_{-0.691}$
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 $A_{obs} \gg 1.0$

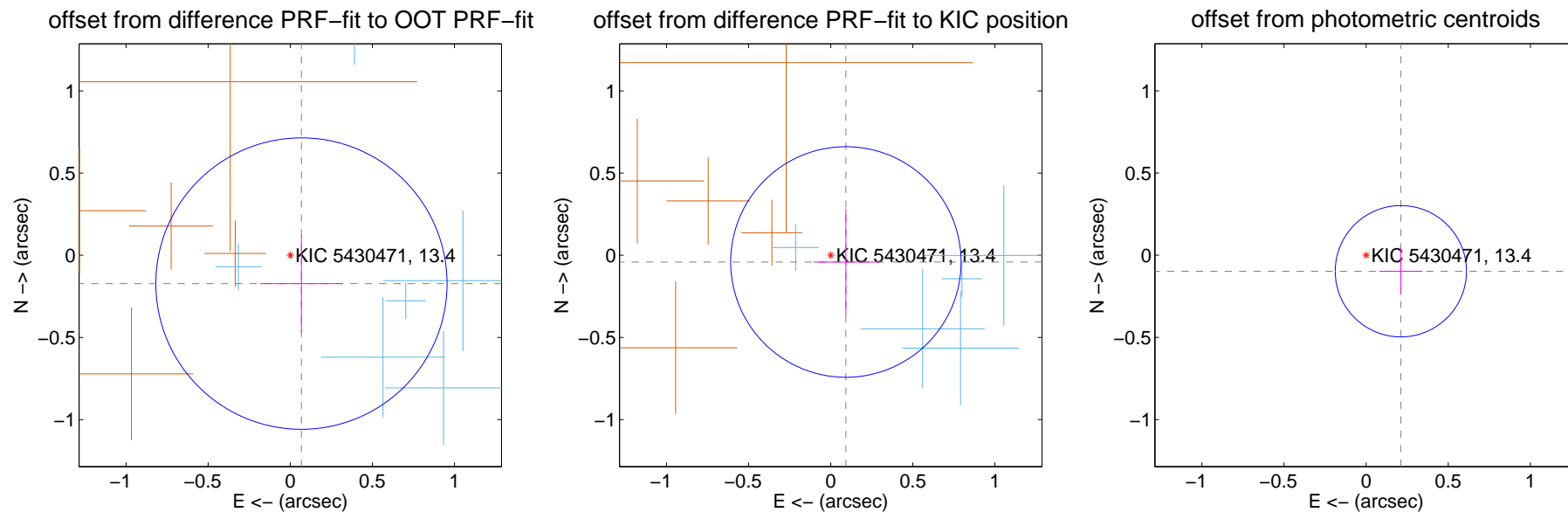
DV Centroid Data

Supplemental centroid analysis for 005430471-06. Kepler magnitude: 13.40. Transit SNR 10.25

There are 6 quarters with good PRF difference image offsets

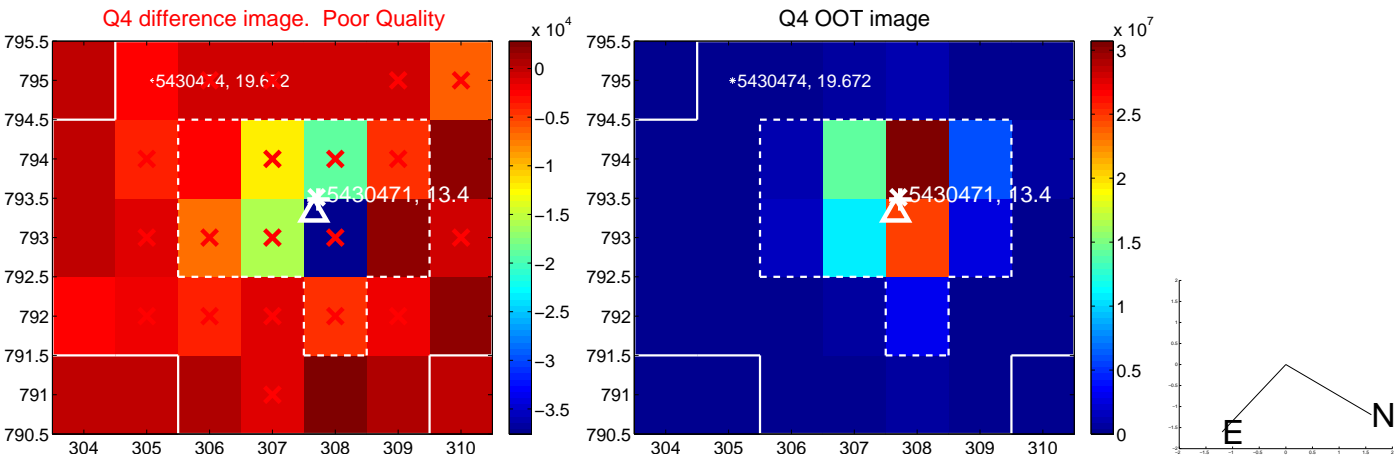
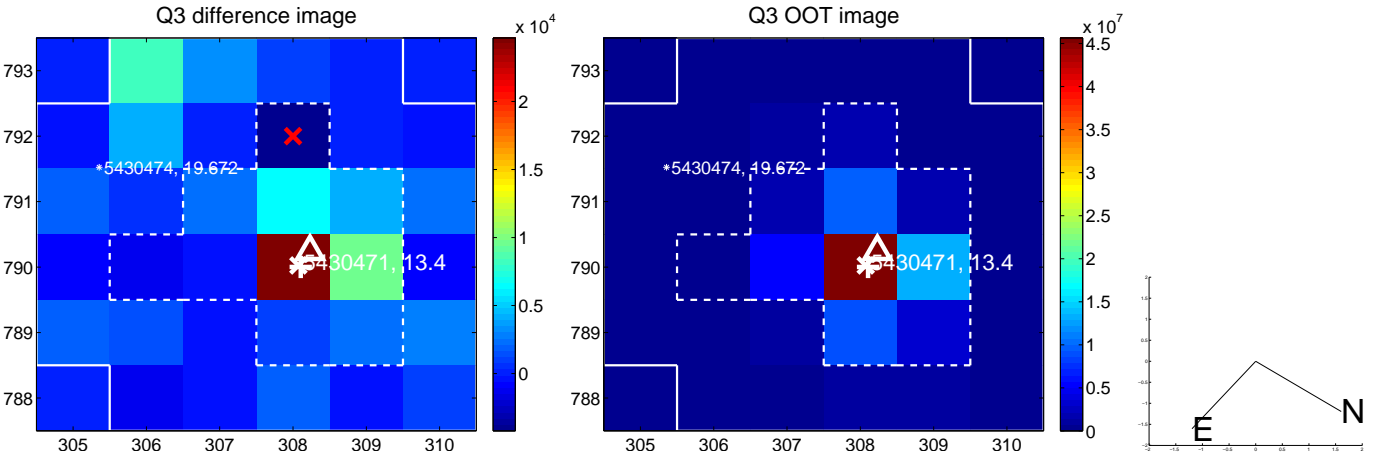
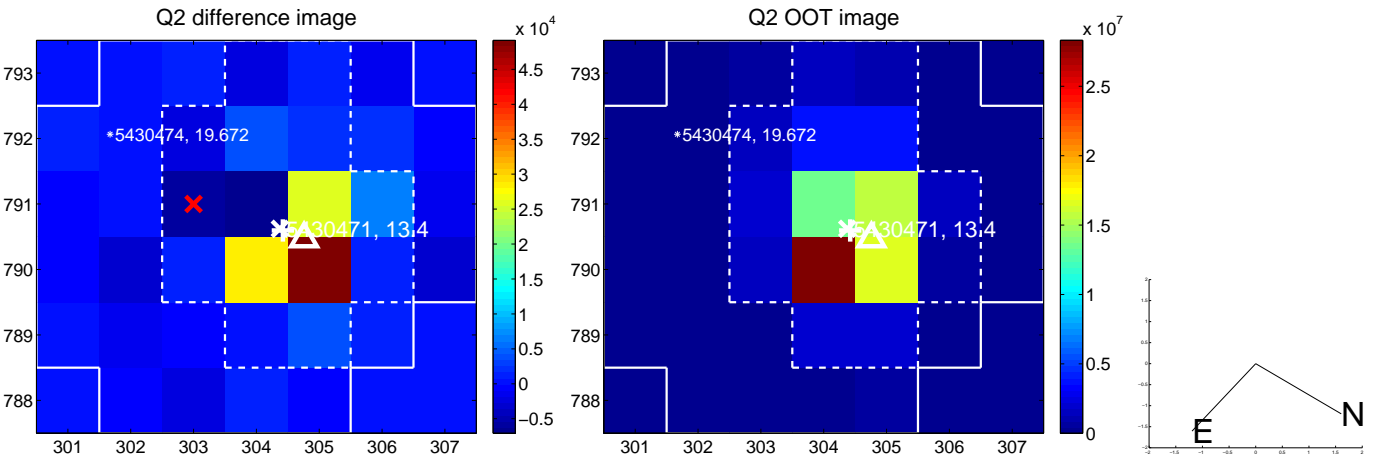
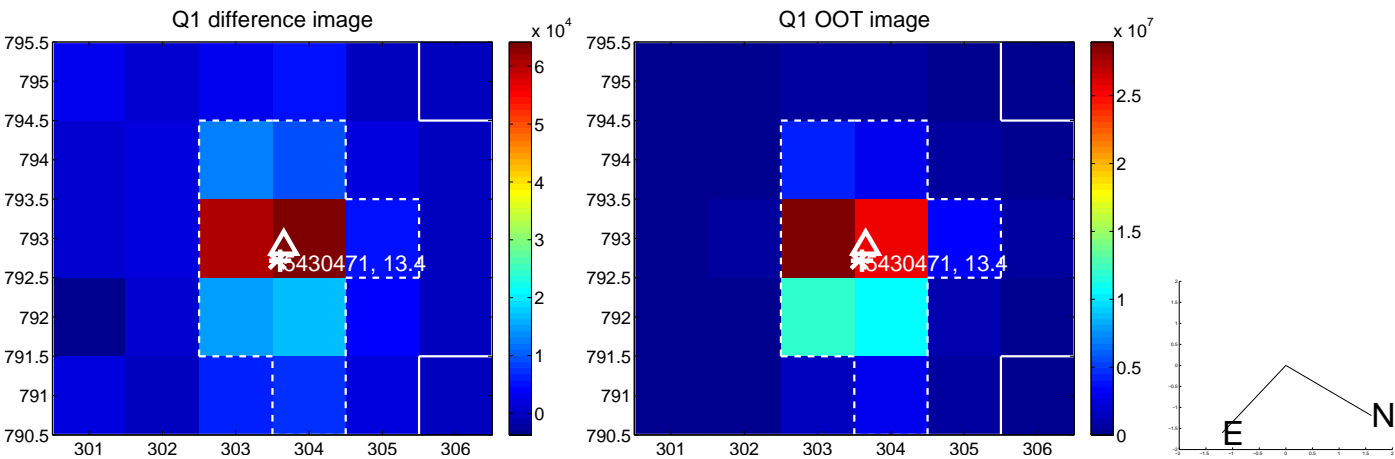
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.185 ± 0.296	0.63	-0.068 ± 0.252	-0.172 ± 0.297
PRF-fit source offset from KIC position	0.101 ± 0.234	0.43	-0.092 ± 0.199	-0.041 ± 0.324
photometric centroid source offset	0.23 ± 0.13	1.75	-0.21 ± 0.13	-0.10 ± 0.14

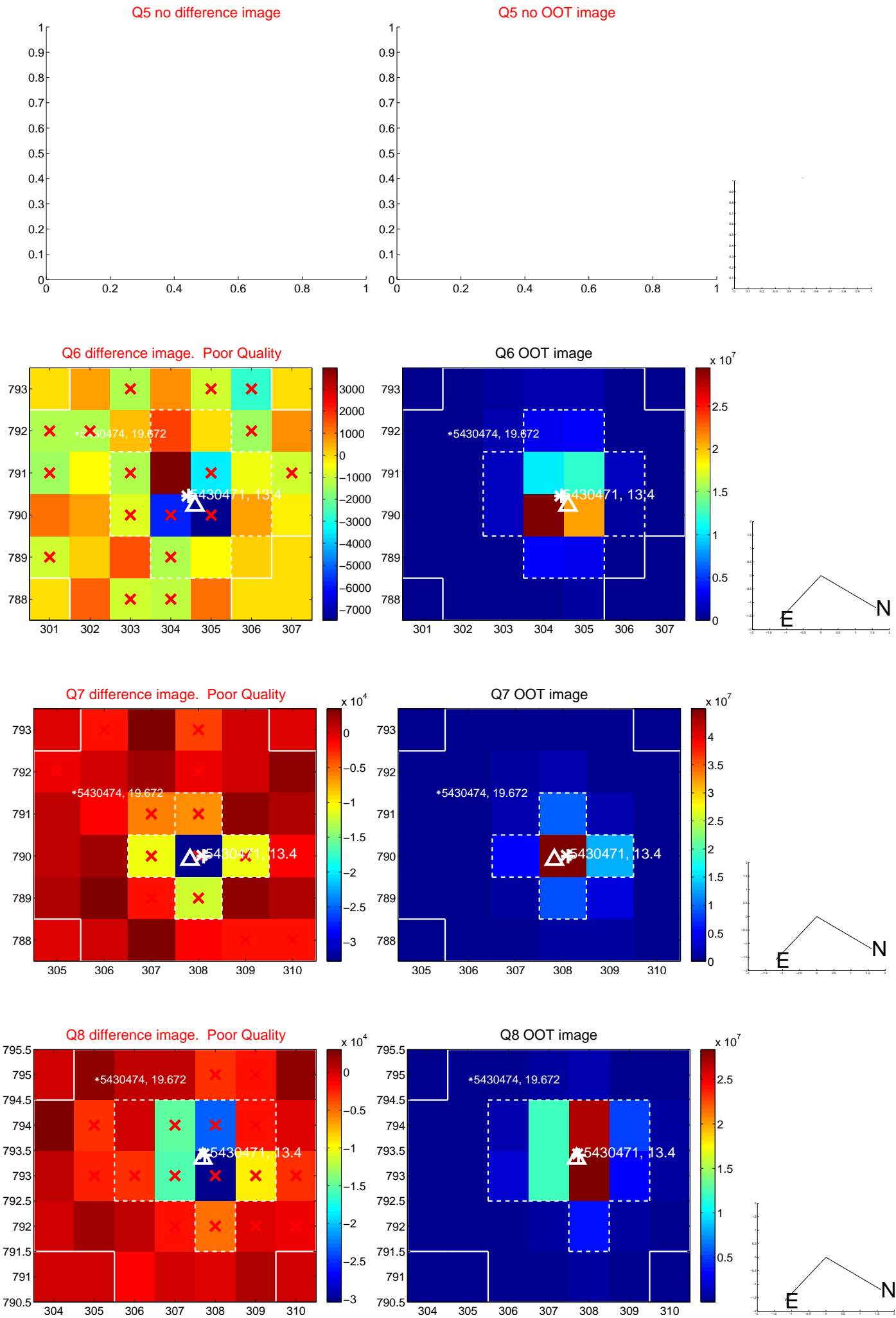


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

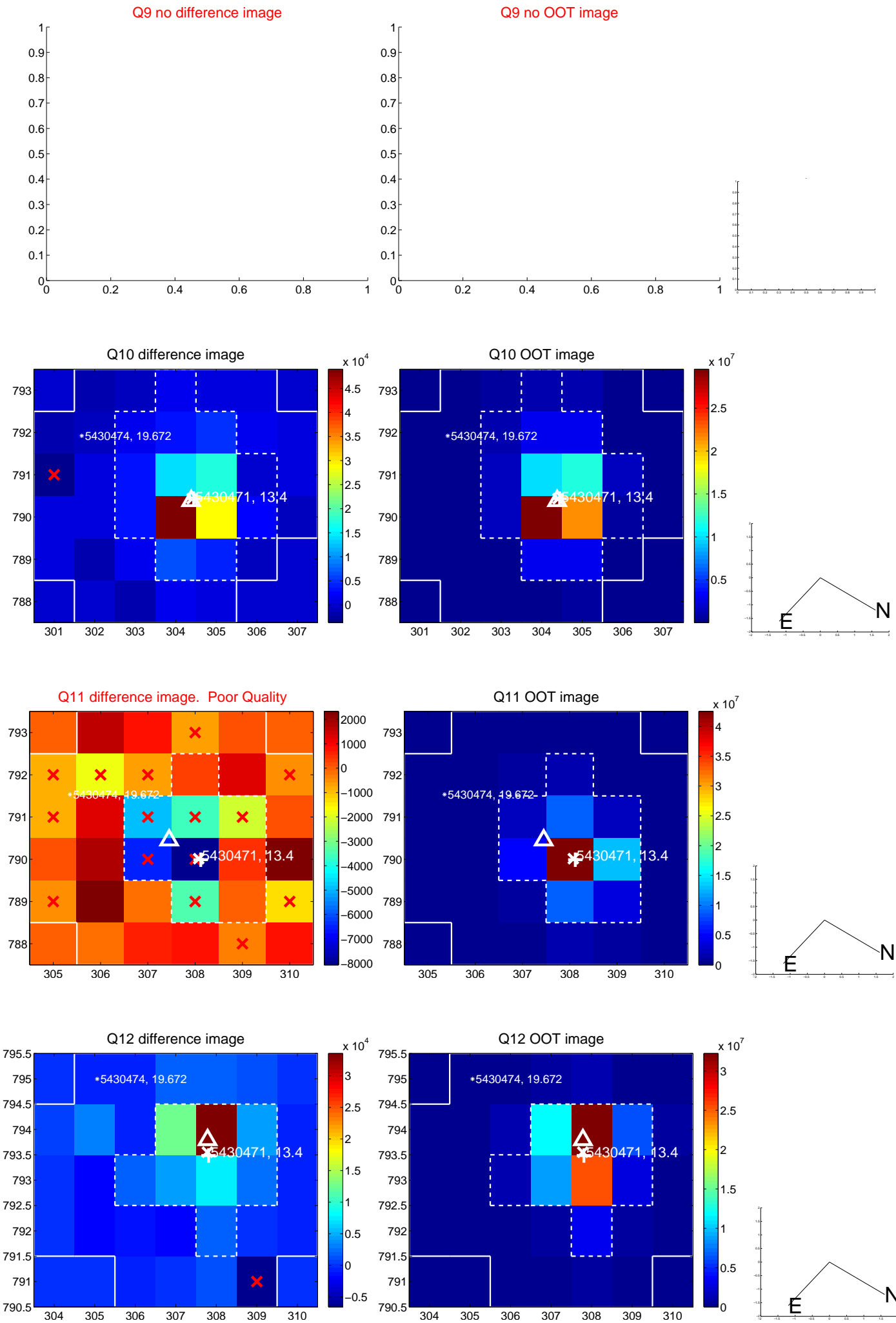
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



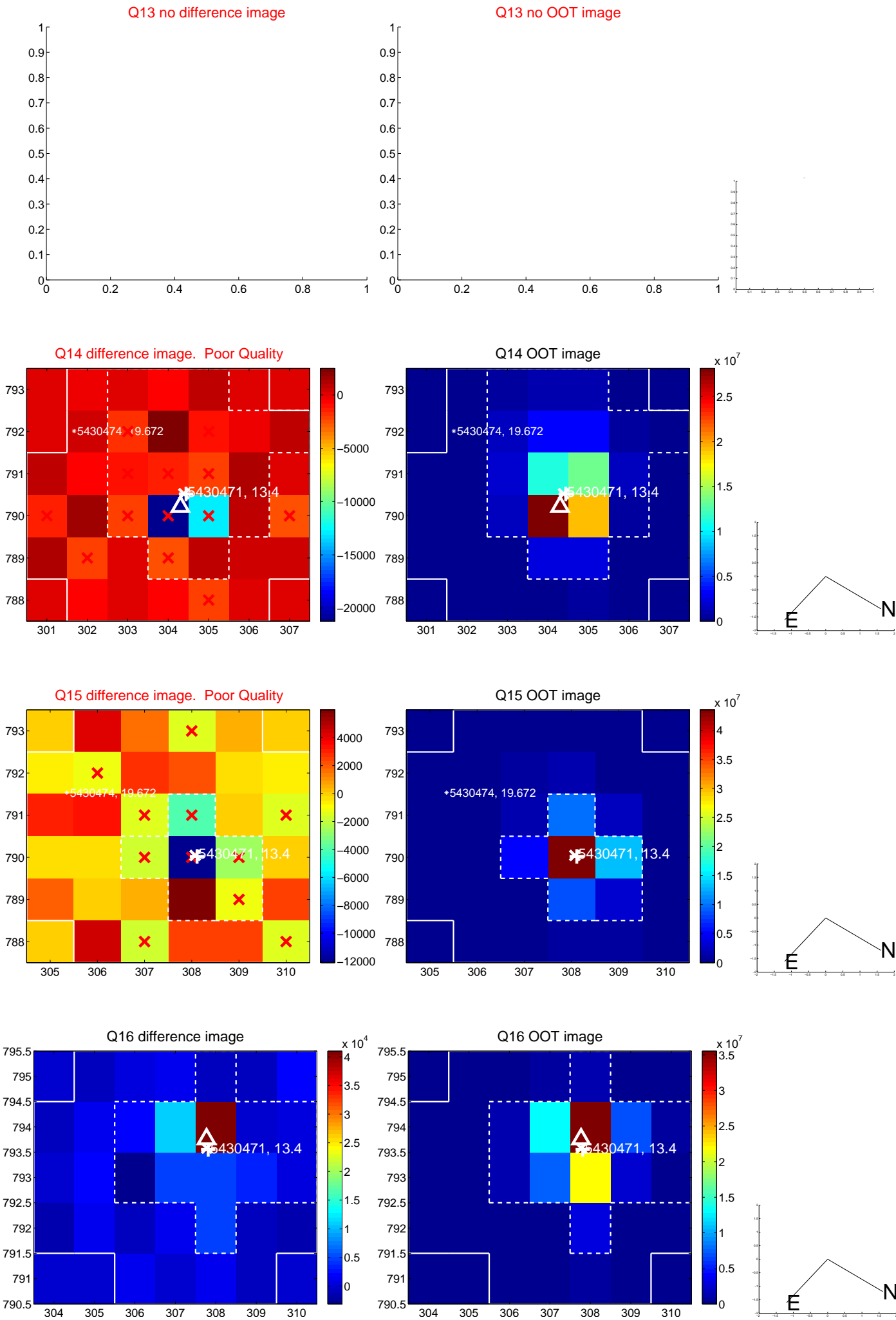
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



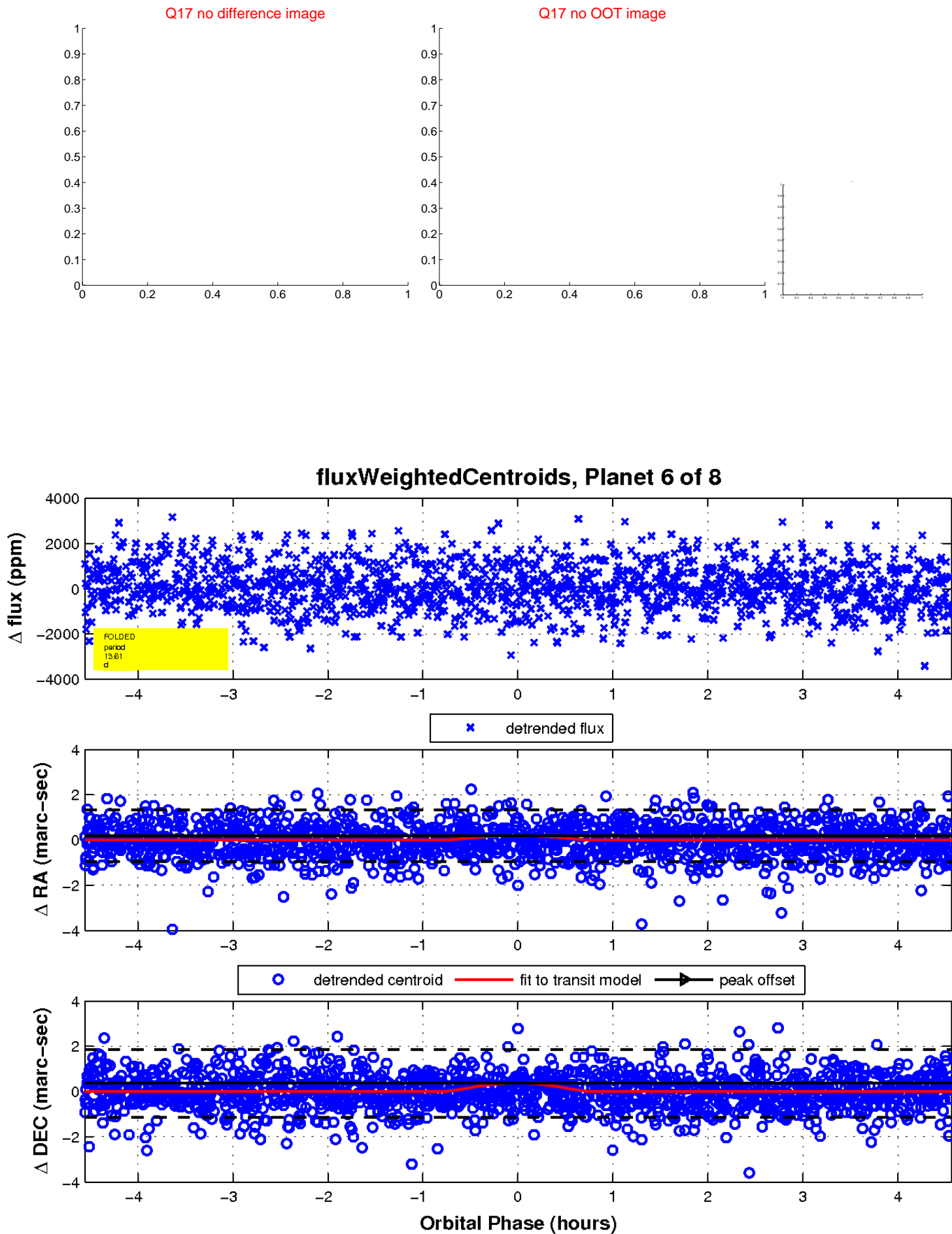
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

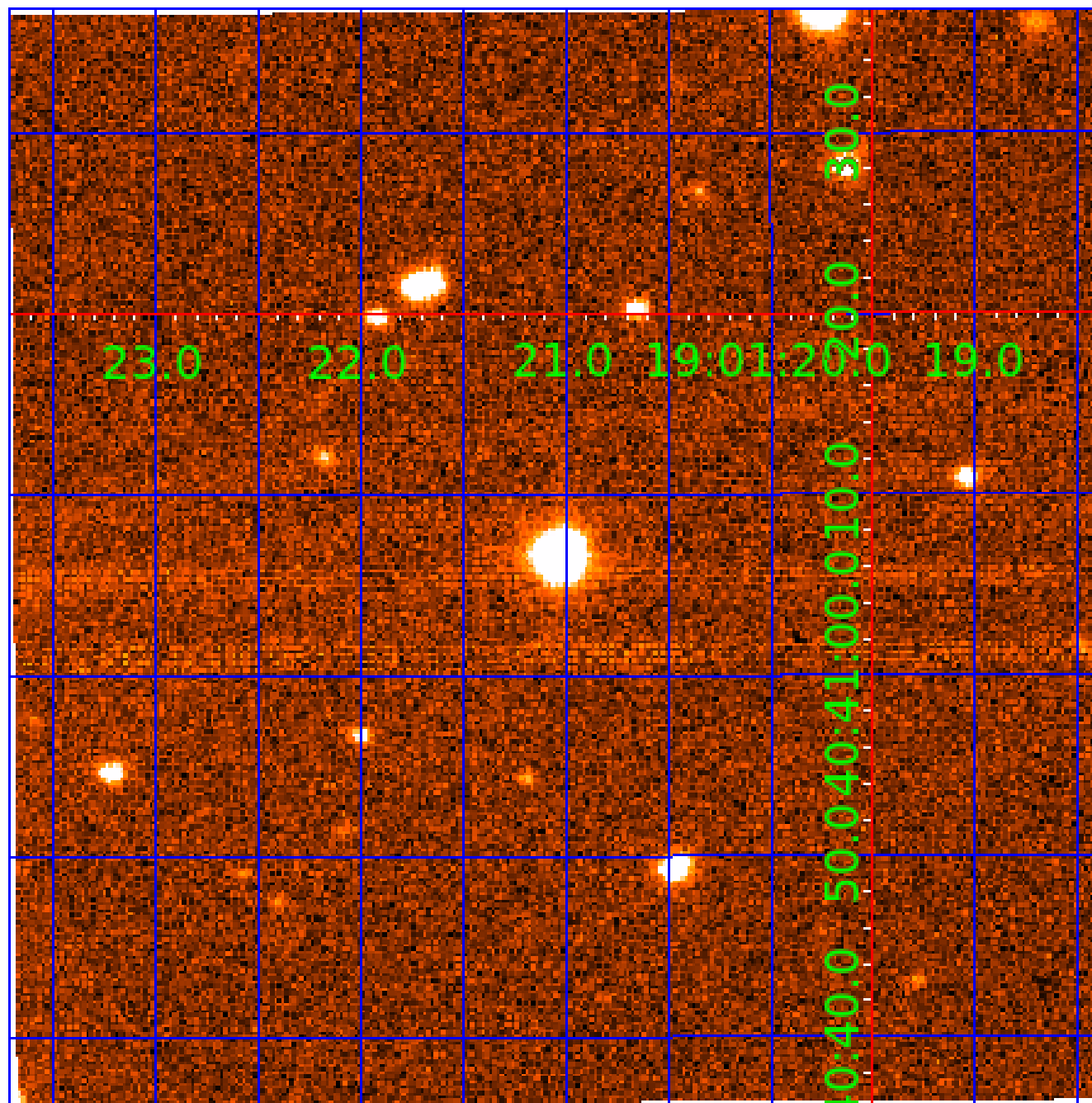


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005430471

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})
005430471-01	OBS	No	2.205505	132.769905	131.1	16.382	7.9	8.8	3.46	7854	4.13	23092.20
005430471-02	OBS	No	32.386569	145.542038	502.9	15.000	19.8	-1.0	3.46	7854	7.84	642.18
005430471-03	OBS	No	24.341919	149.156725	1738.0	3.645	17.2	17.2	3.46	7854	15.62	939.73
005430471-04	OBS	No	136.957587	160.113256	2069.3	15.681	12.8	12.3	3.46	7854	18.61	93.91
005430471-05	OBS	No	12.103672	137.474230	854.0	6.731	15.5	8.6	3.46	7854	10.48	2385.54
005430471-06	OBS	No	13.614745	142.274136	1515.4	1.523	10.8	10.2	3.46	7854	22.17	2039.22
005430471-07	OBS	No	28.323761	143.908841	1603.3	1.660	8.8	7.9	3.46	7854	14.02	767.85
005430471-08	OBS	No	27.343349	138.754746	588.3	1.500	8.8	-1.0	3.46	7854	8.51	804.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005430471-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005430471-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
005430471-03	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
005430471-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005430471-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
005430471-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

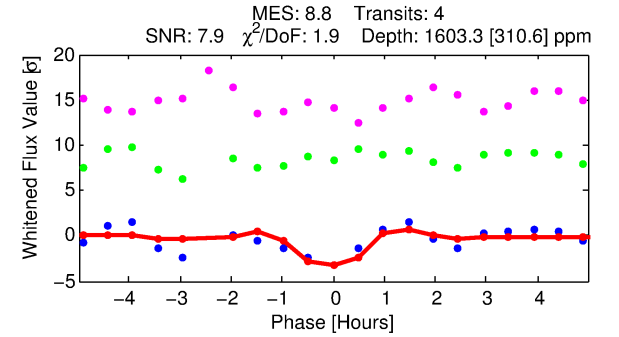
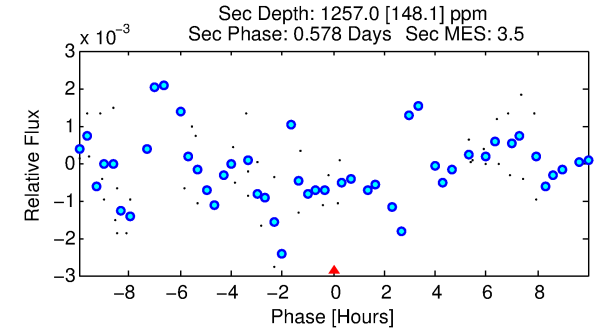
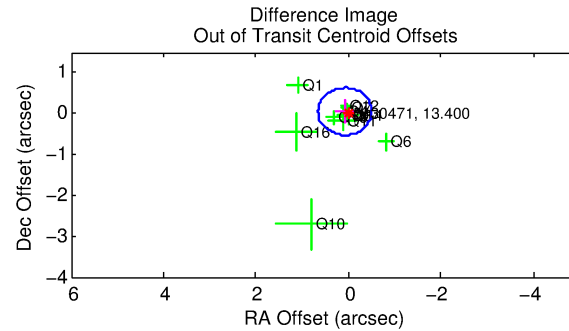
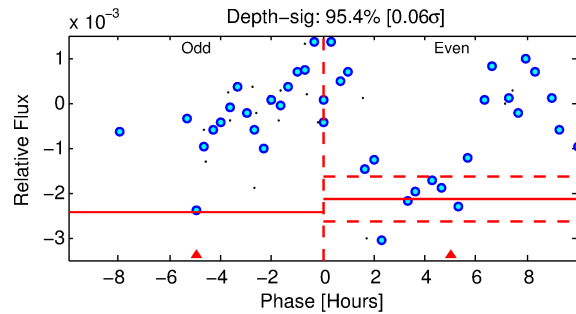
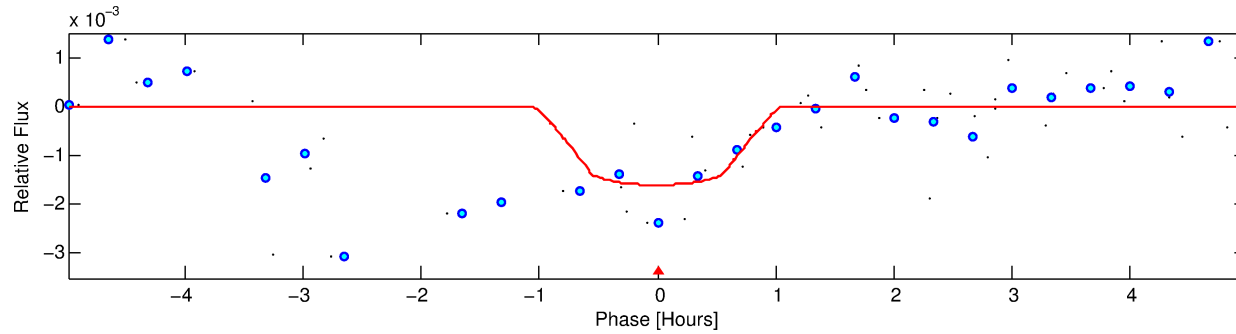
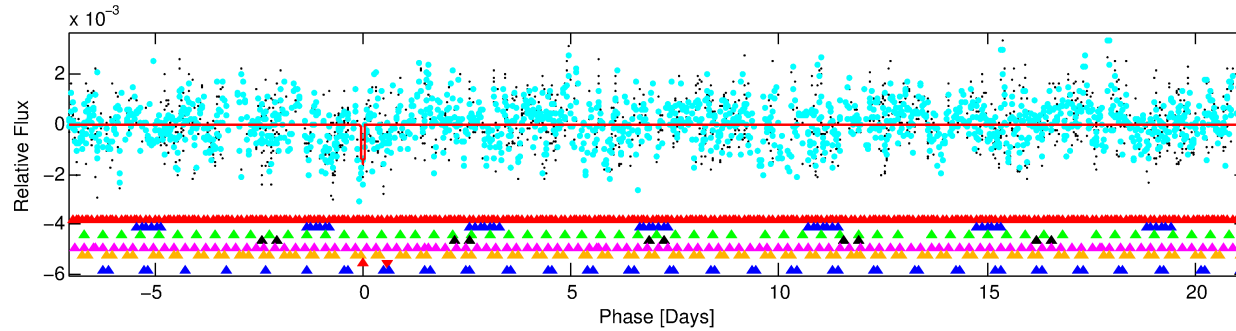
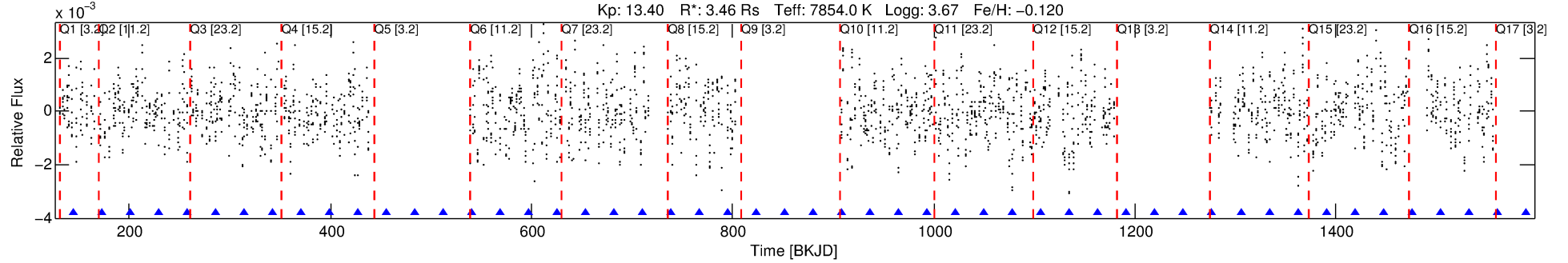
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005430471-07

No Significant Match Found

DV One-Page Summary

KIC: 5430471 Candidate: 7 of 8 Period: 28.324 d



DV Fit Results:

Period = 28.32376 [0.00055] d
Epoch = 143.9088 [0.0216] BKJD
Rp/R* = 0.0371 [0.1542]
a/R* = 135.16 [3096.61]
b = 0.01 [2627.30]
Seff = 767.85 [597.39]
Teq = 1342 [261] K
Rp = 14.02 [58.67] Re
a = 0.2307 [0.1089] AU
Ag = 187.17 [1562.26] [0.12 σ]
Teffp = 7676 [15955] K [0.40 σ]

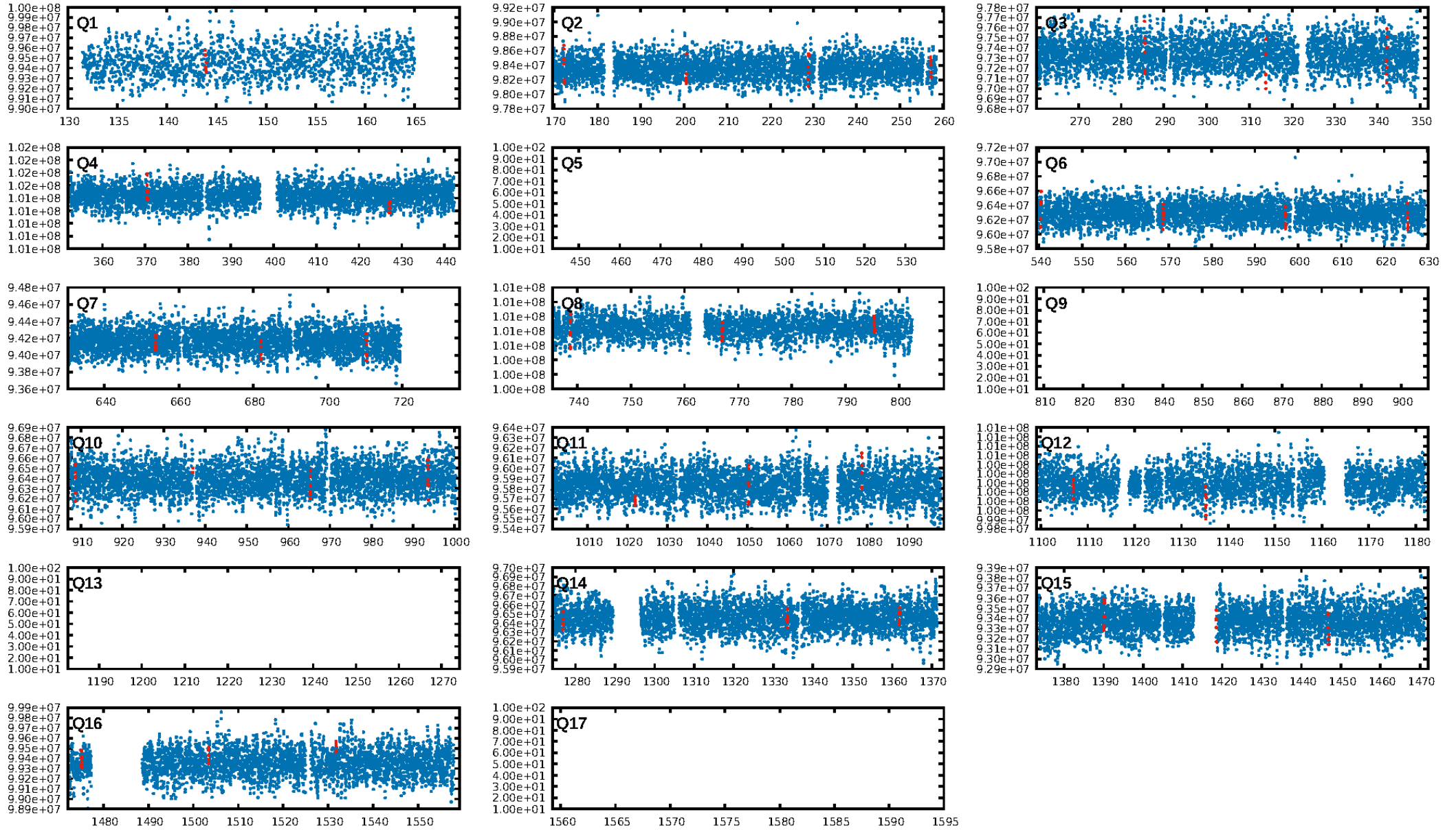
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [10.52 σ]
LongPeriod-sig: 100.0% [6.46 σ]
ModelChiSquare2-sig: 2.0%
ModelChiSquareGof-sig: 75.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -4.194
Centroid-sig: 1.2%
Centroid-so: 0.356 arcsec [2.37 σ]
OotOffset-rm: 0.100 arcsec [0.52 σ]
KicOffset-rm: 0.238 arcsec [1.06 σ]
OotOffset-st: 3/4/3/1 [11]
KicOffset-st: 3/4/3/1 [11]
DiffImageQuality-fgm: 0.64 [7/11]
DiffImageOverlap-fno: 0.62 [8/13]

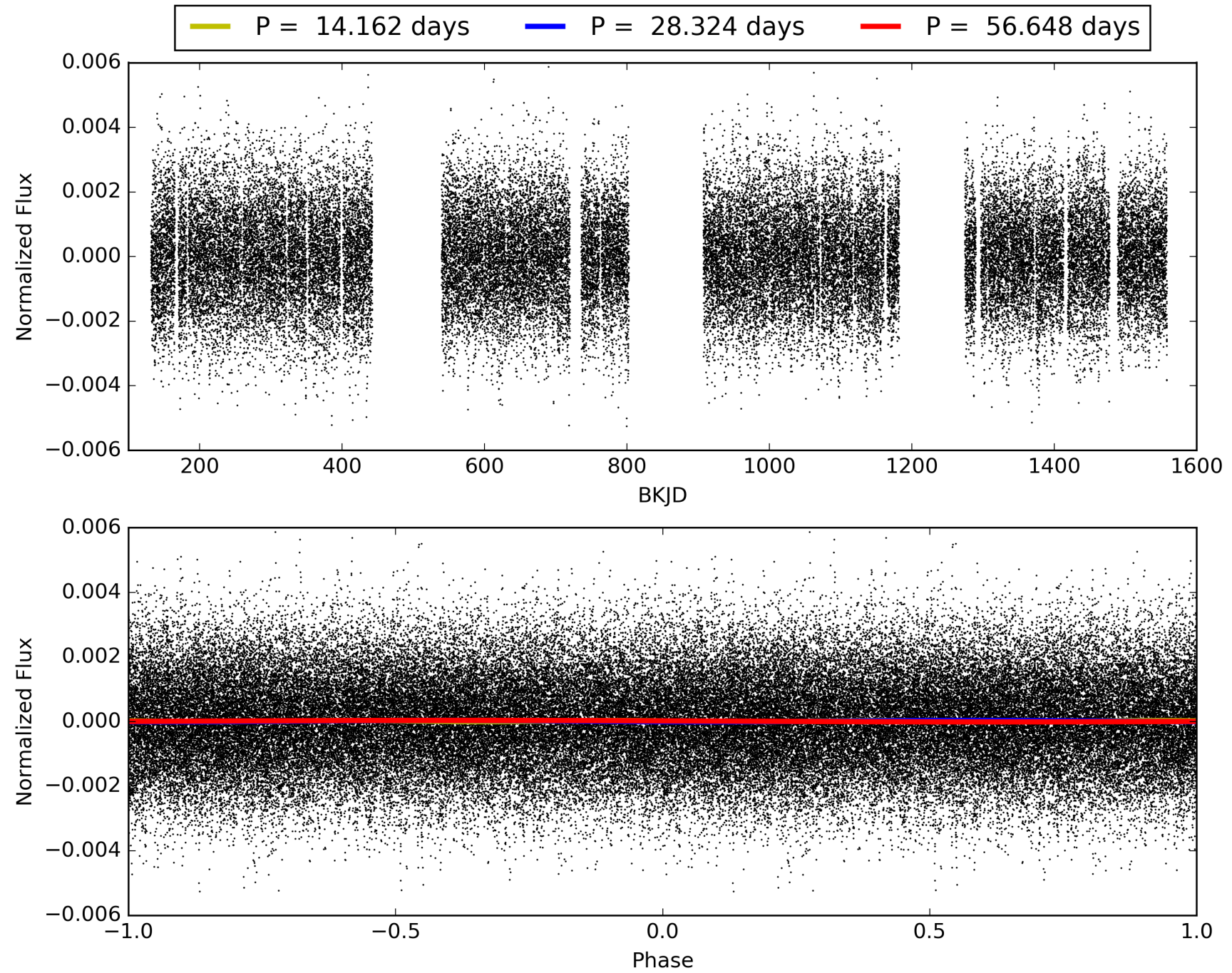
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:31:51 Z

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

TCE 005430471-07, PDC Light Curves

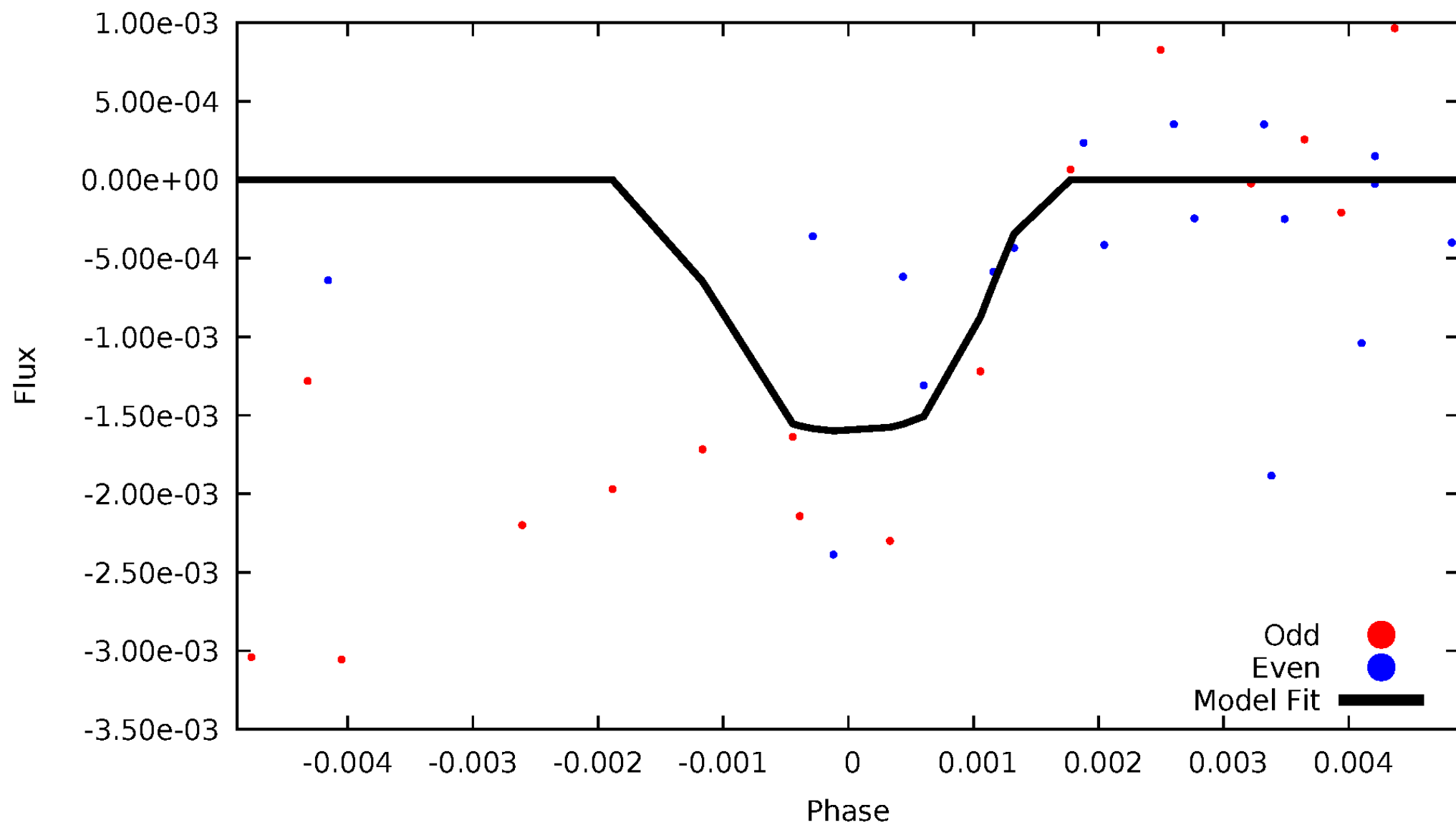


TCE 005430471-07



DV Odd/Even

TCE 005430471-07

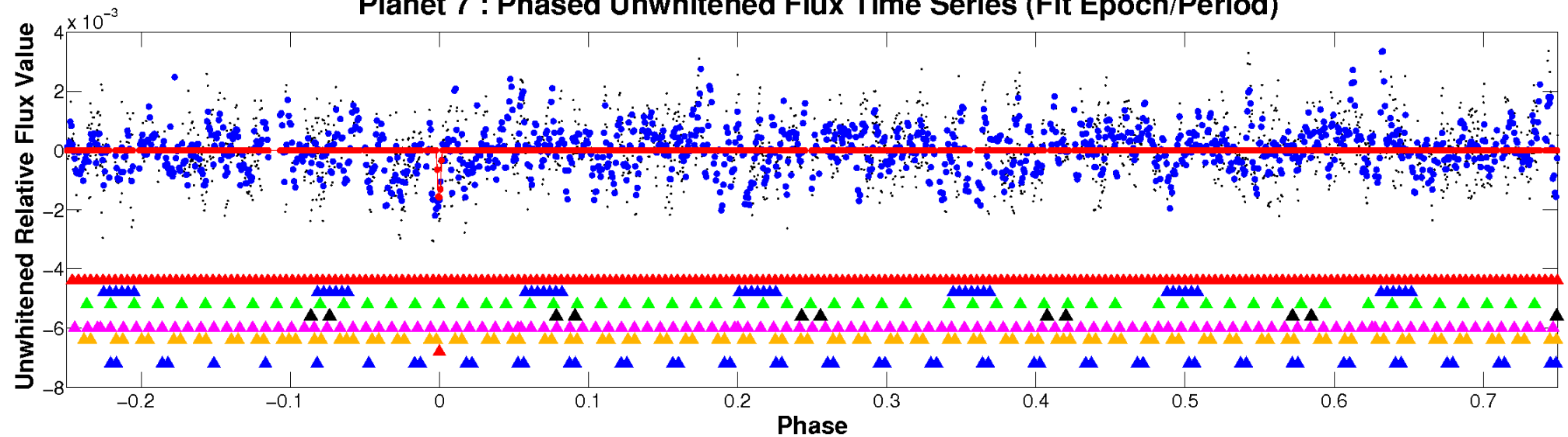


ALT Odd/Even

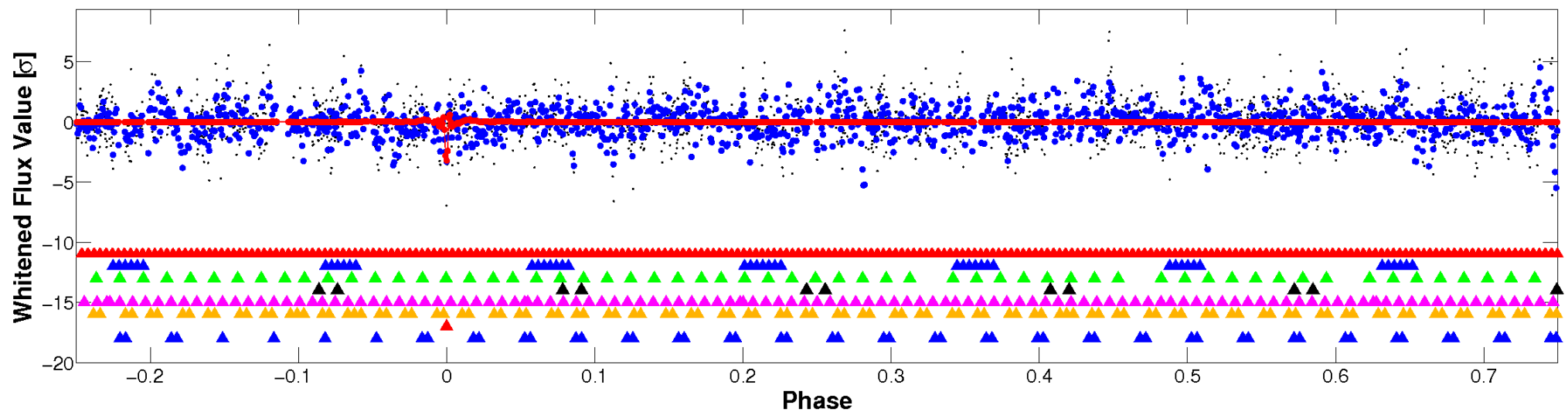
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

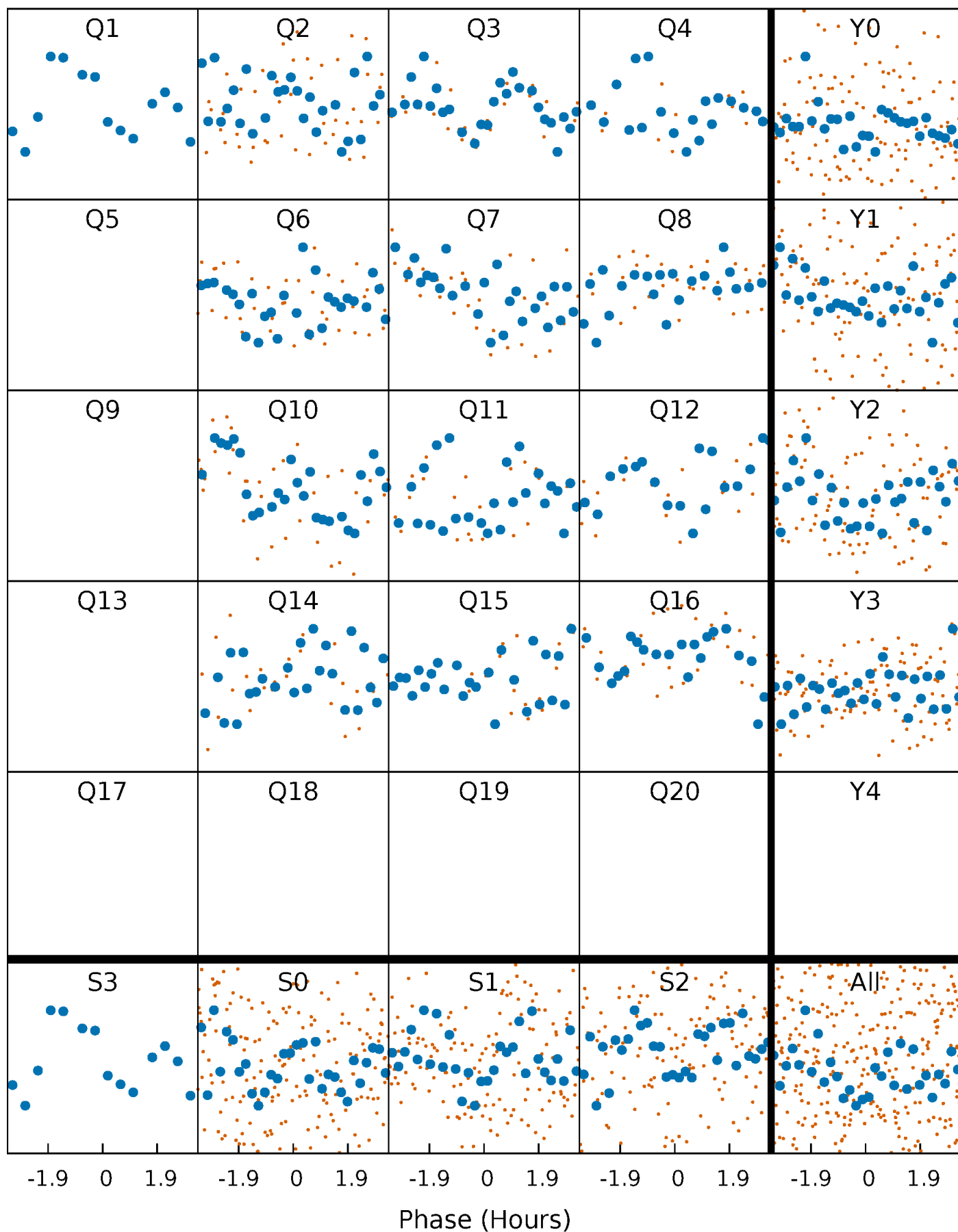


Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



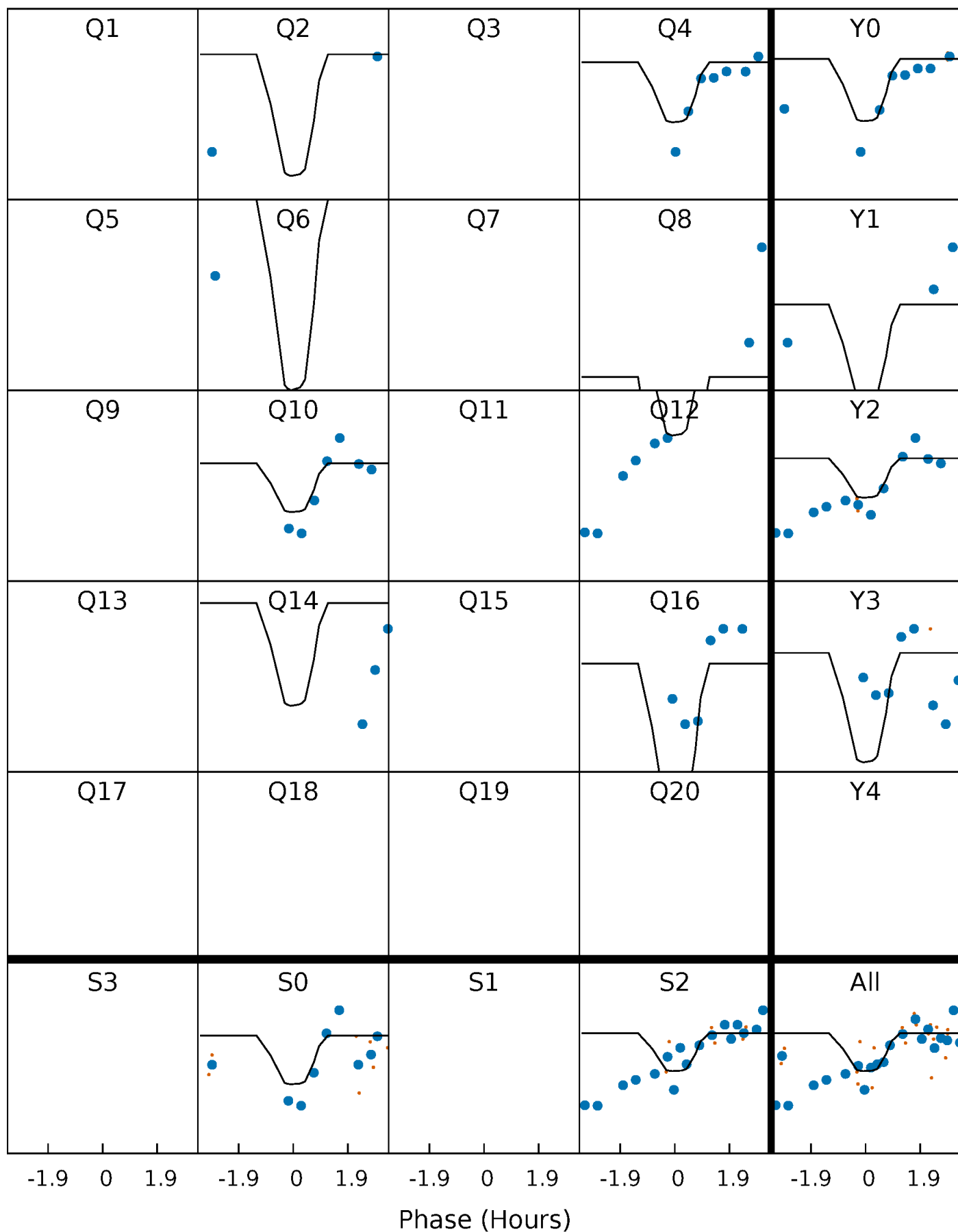
PDC Quarter-Phased Transit Curves

TCE 005430471-07 P= 28.323761 Days $T_0=143.908841$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 005430471-07 P= 28.323761 Days $T_0=143.908841$ (BKJD)

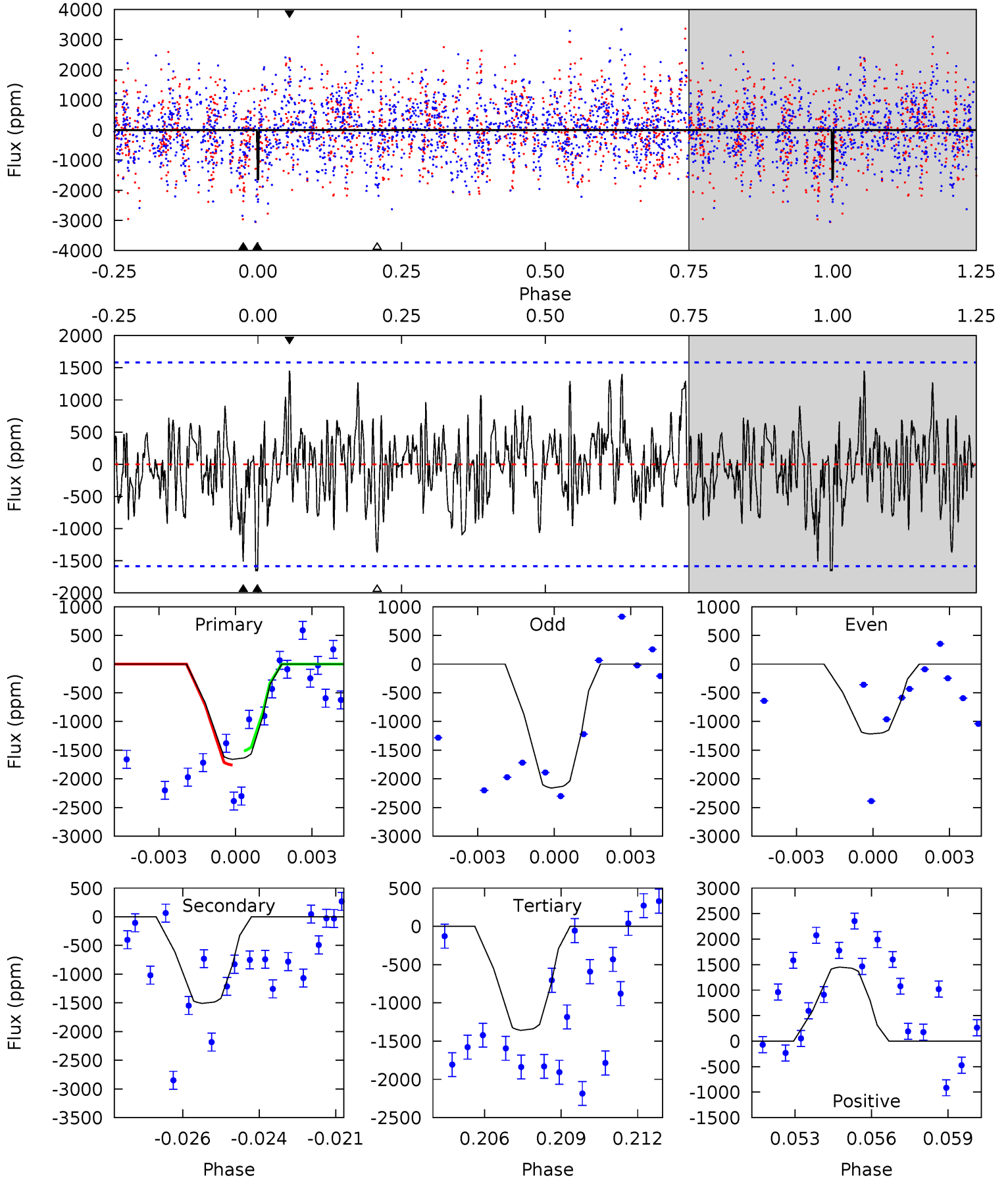


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

005430471-07, $P = 28.323761$ Days, $E = 115.585080$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.51	5.01	4.51	4.82	5.26	2.97	1.47	1.00	0.69	0.49	0.19	1.53	0.86	0.47	0.40



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 005430471

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7854^{+217}_{-326}	$3.669^{+0.448}_{-0.084}$	$-0.120^{+0.200}_{-0.350}$	$3.462^{+0.600}_{-1.681}$	$2.039^{+0.329}_{-0.535}$	$0.069^{+0.321}_{-0.020}$
	+3%/-4%	+12%/-2%	+167%/-292%	+17%/-49%	+16%/-26%	+464%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005430471-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1509 ± 301	$39.68^{+43.13}_{-27.09}$	1804^{+133}_{-202}	4540^{+3330}_{-1022}	27^{+267}_{-21}
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 $A_{obs} \gg 1.0$

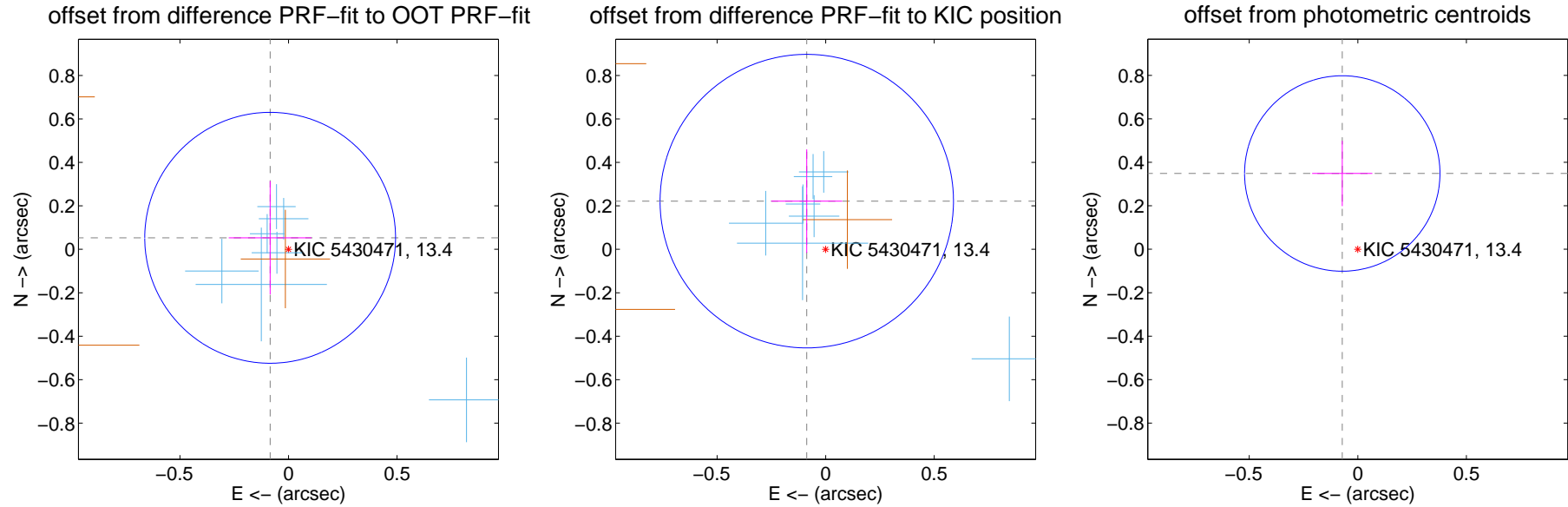
DV Centroid Data

Supplemental centroid analysis for 005430471-07. Kepler magnitude: 13.40. Transit SNR 7.91

There are 7 quarters with good PRF difference image offsets

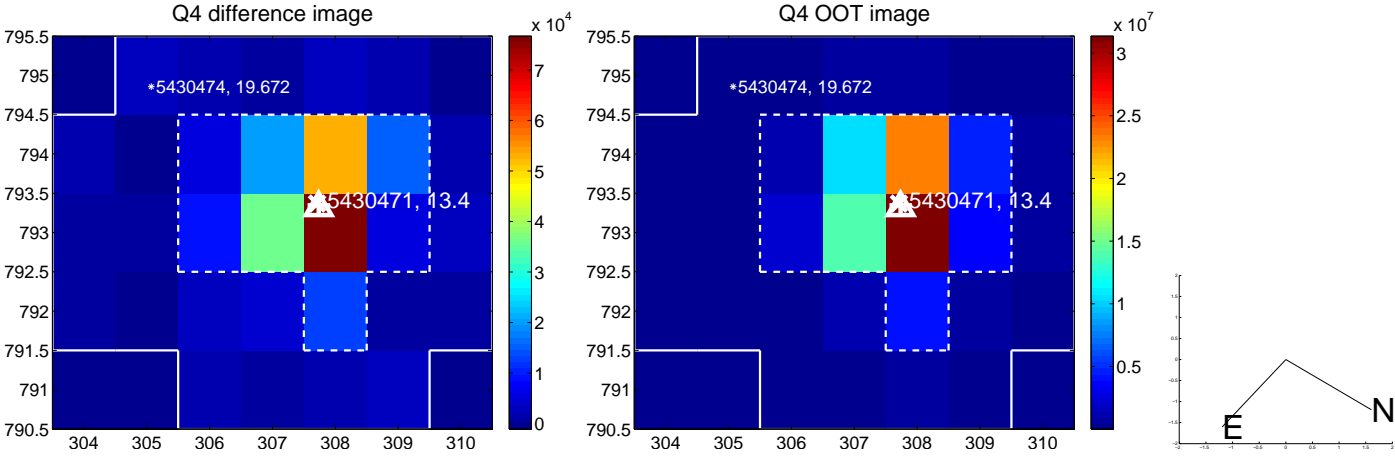
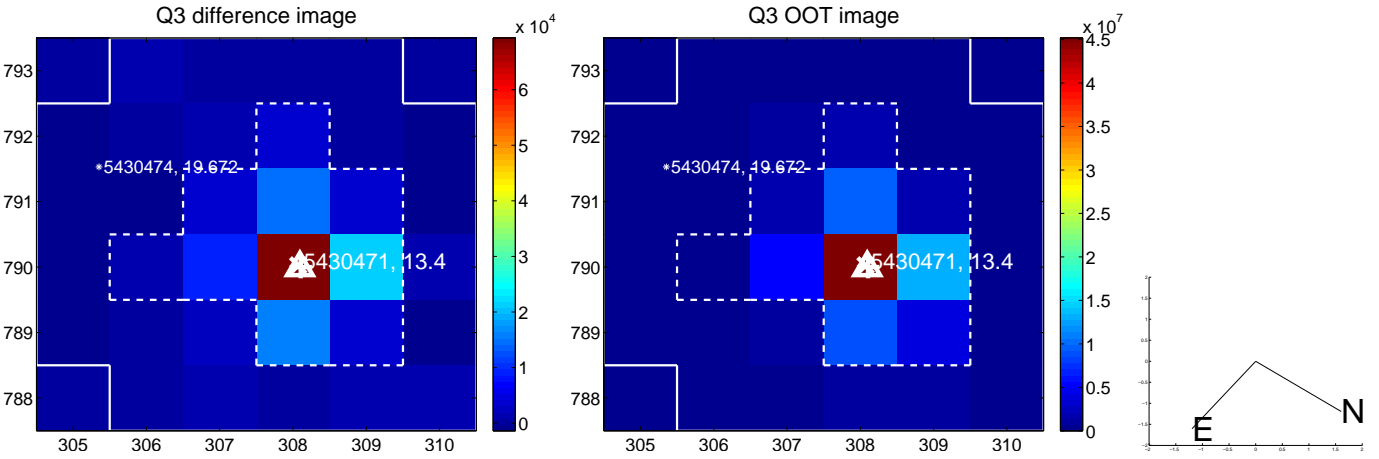
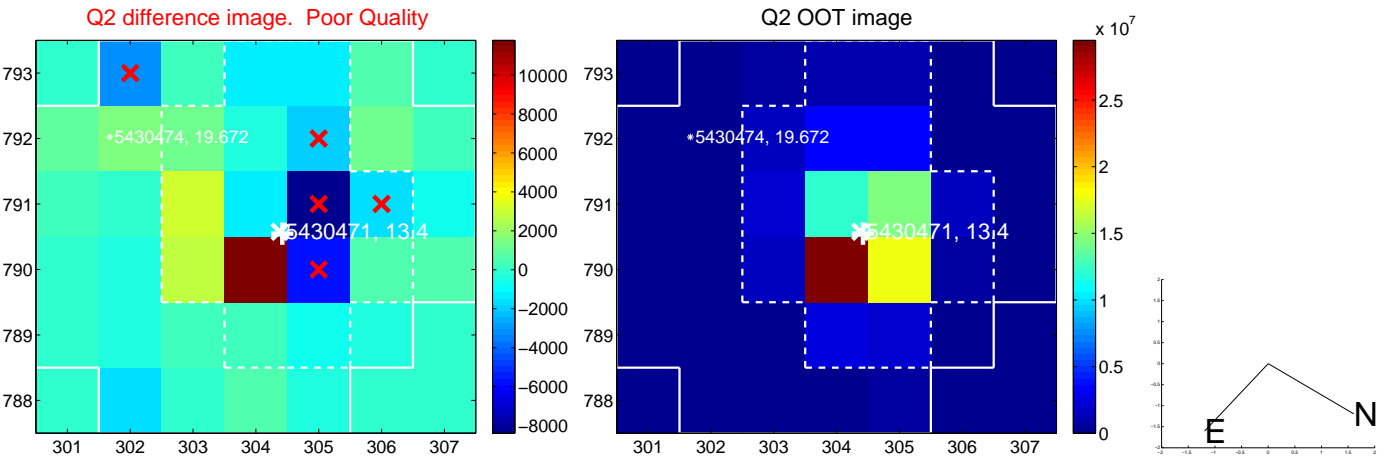
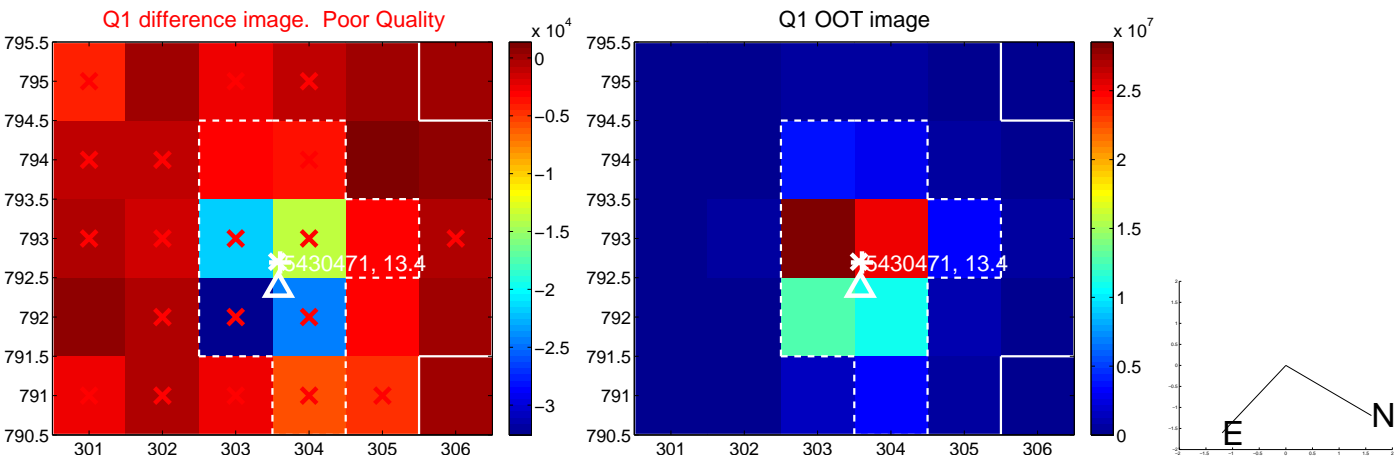
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.100 ± 0.193	0.52	0.084 ± 0.191	0.053 ± 0.261
PRF-fit source offset from KIC position	0.238 ± 0.225	1.06	0.087 ± 0.163	0.222 ± 0.238
photometric centroid source offset	0.36 ± 0.15	2.37	0.07 ± 0.14	0.35 ± 0.15

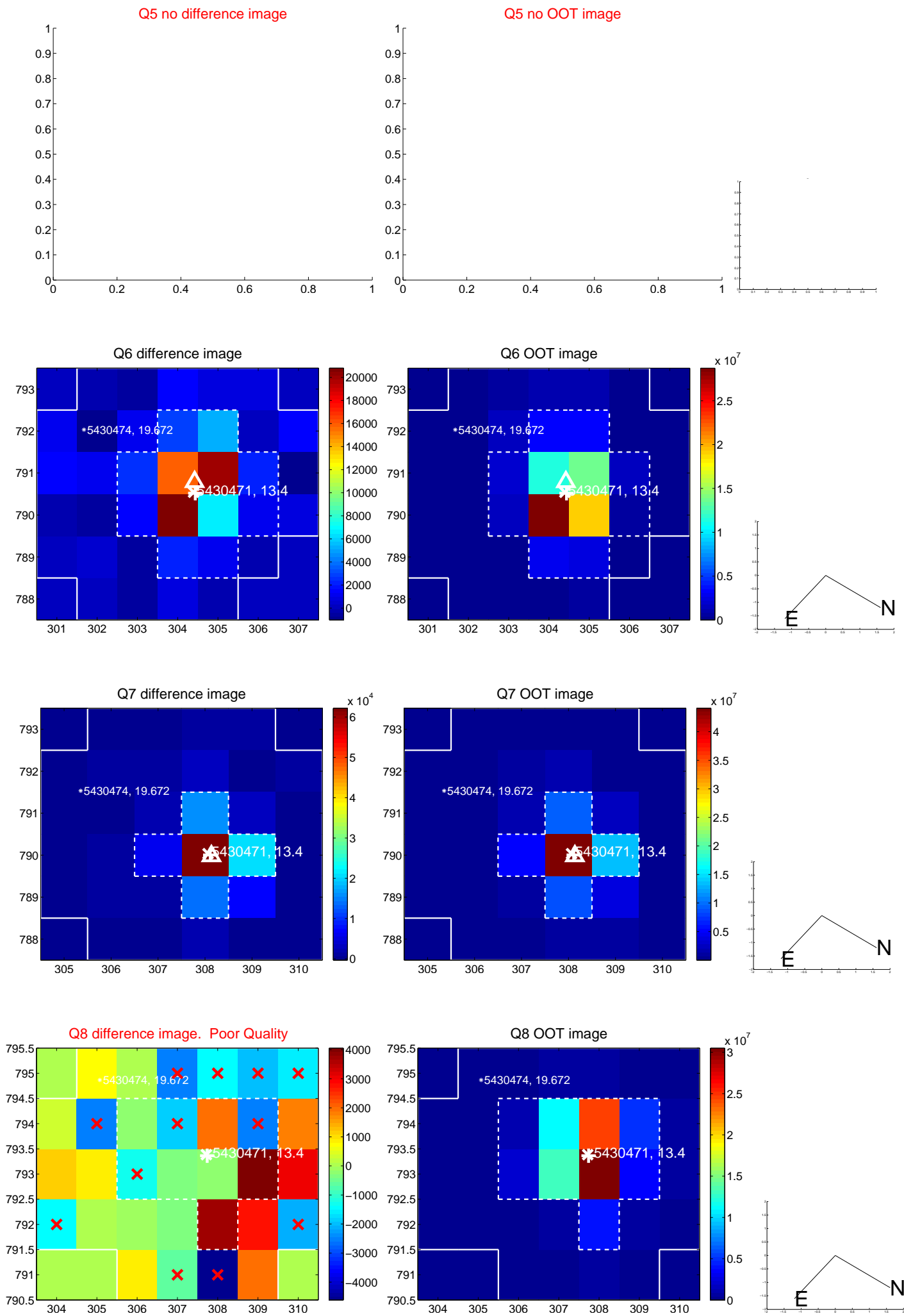


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

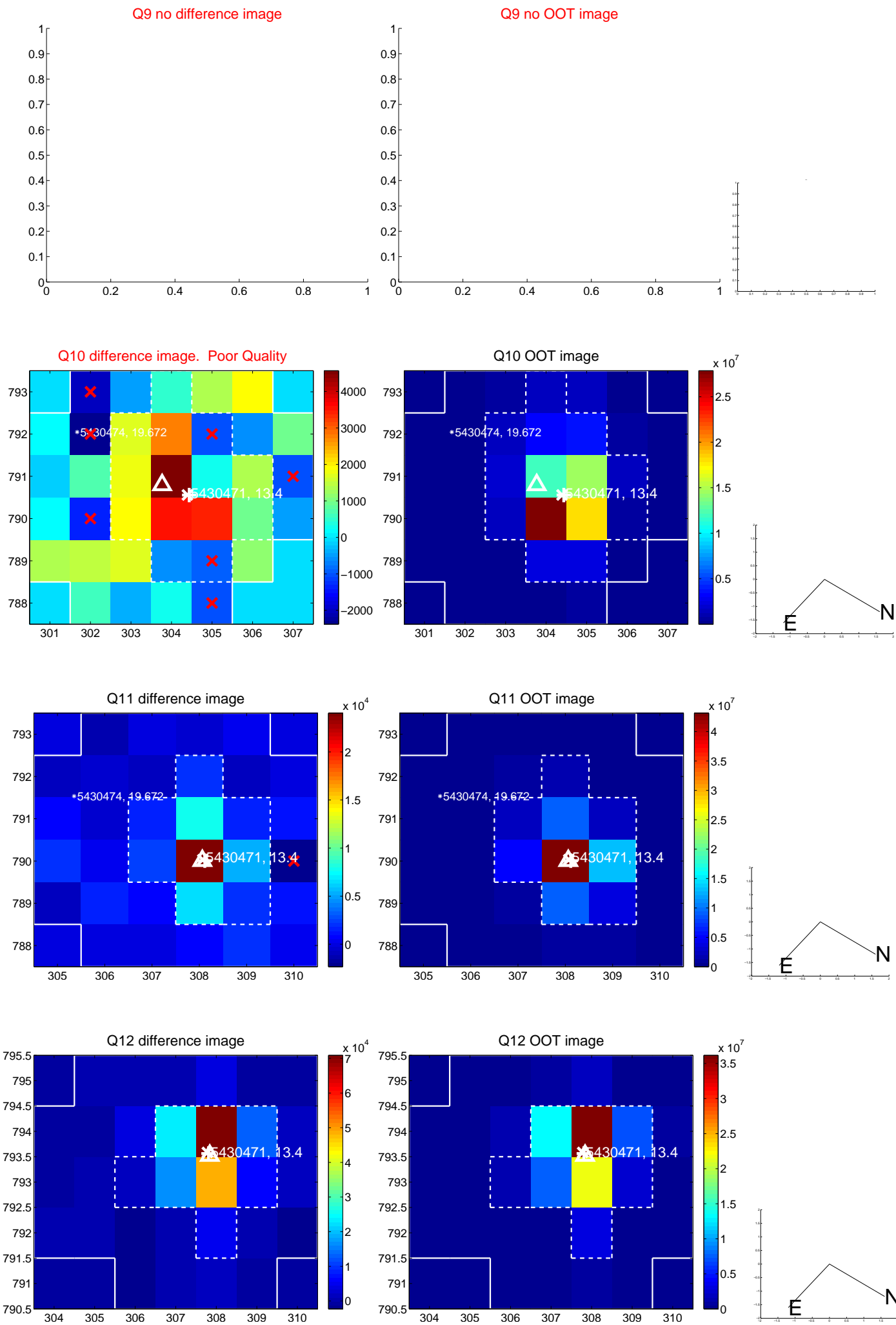
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



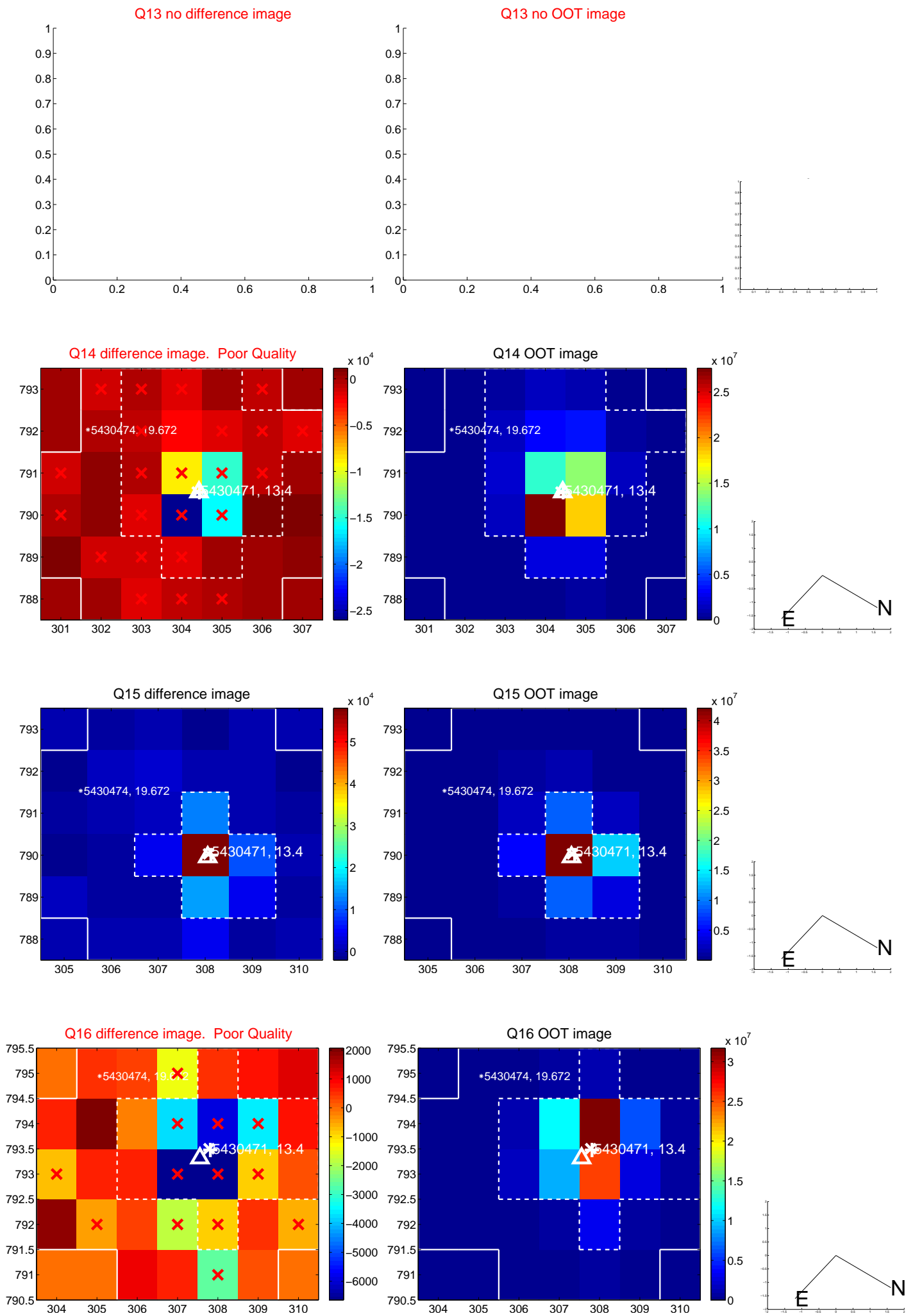
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



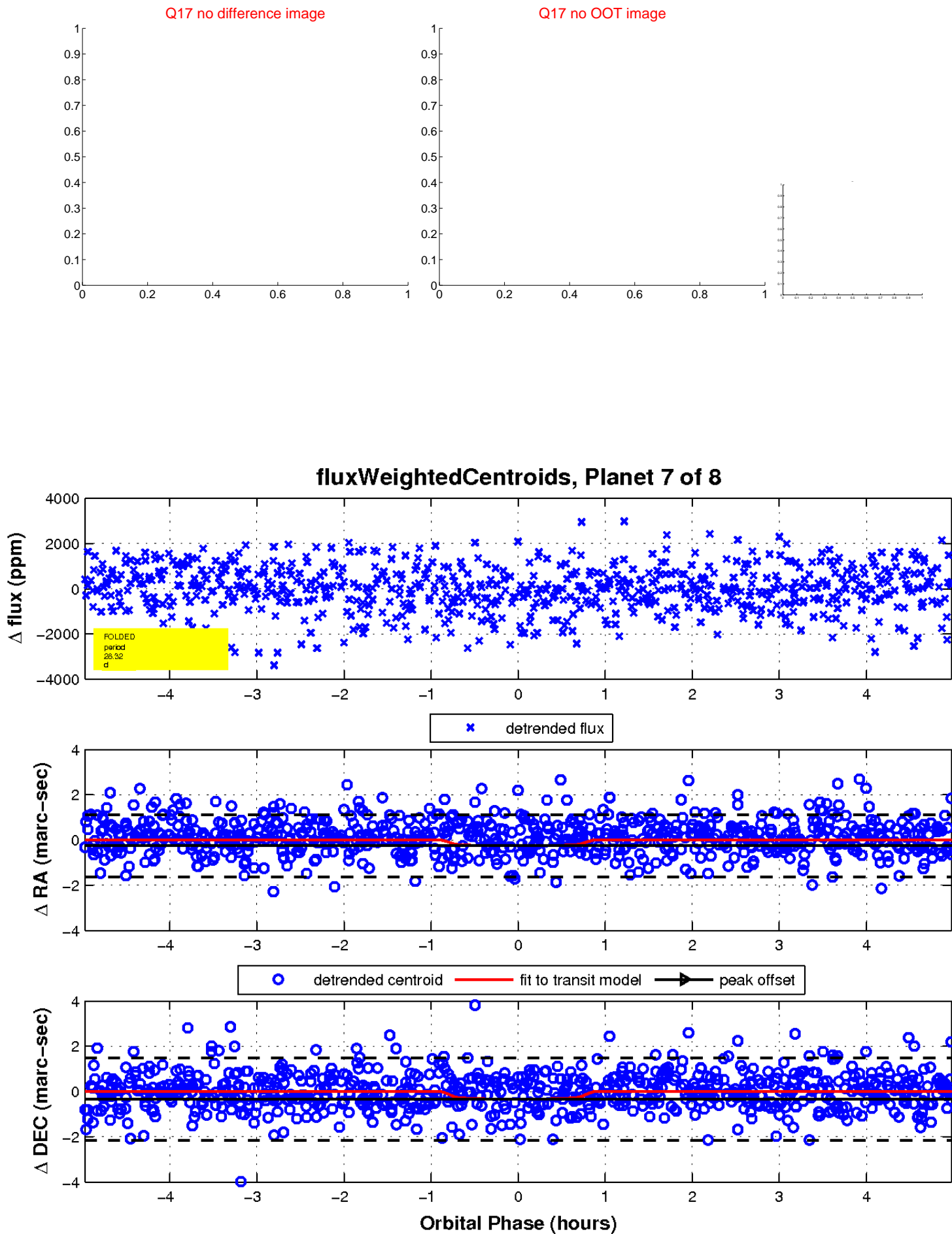
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

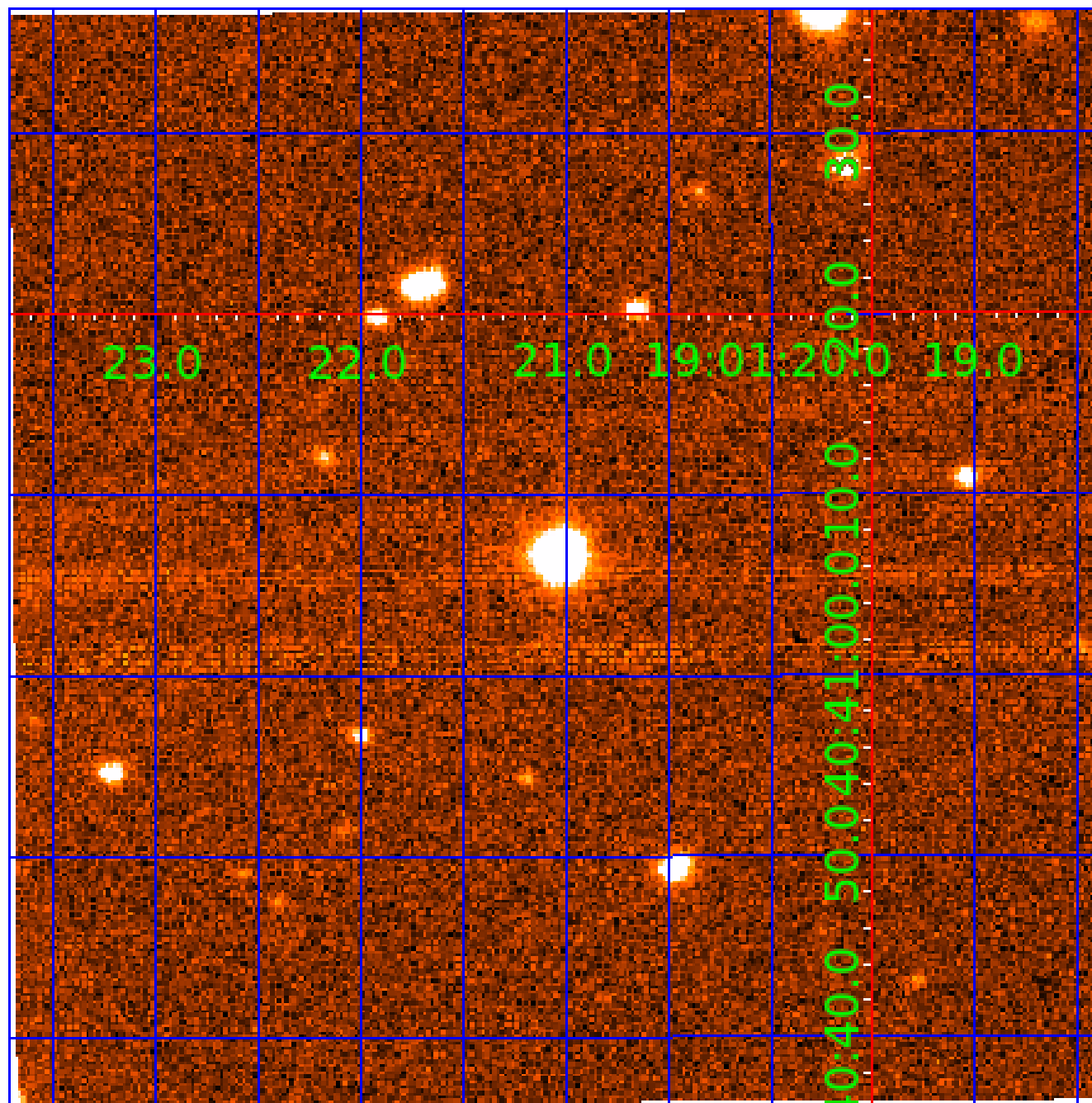


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005430471

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})
005430471-01	OBS	No	2.205505	132.769905	131.1	16.382	7.9	8.8	3.46	7854	4.13	23092.20
005430471-02	OBS	No	32.386569	145.542038	502.9	15.000	19.8	-1.0	3.46	7854	7.84	642.18
005430471-03	OBS	No	24.341919	149.156725	1738.0	3.645	17.2	17.2	3.46	7854	15.62	939.73
005430471-04	OBS	No	136.957587	160.113256	2069.3	15.681	12.8	12.3	3.46	7854	18.61	93.91
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005430471-06	OBS	No	13.614745	142.274136	1515.4	1.523	10.8	10.2	3.46	7854	22.17	2039.22
005430471-07	OBS	No	28.323761	143.908841	1603.3	1.660	8.8	7.9	3.46	7854	14.02	767.85
005430471-08	OBS	No	27.343349	138.754746	588.3	1.500	8.8	-1.0	3.46	7854	8.51	804.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005430471-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT
005430471-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_NOFITS—HALO_GHOST
005430471-03	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
005430471-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
005430471-05	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—HALO_GHOST
005430471-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
005430471-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS

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

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

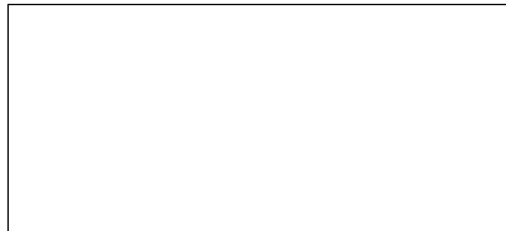
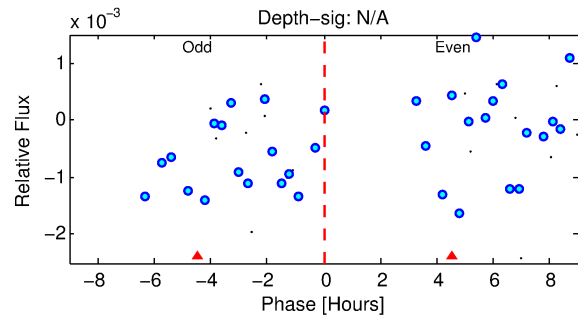
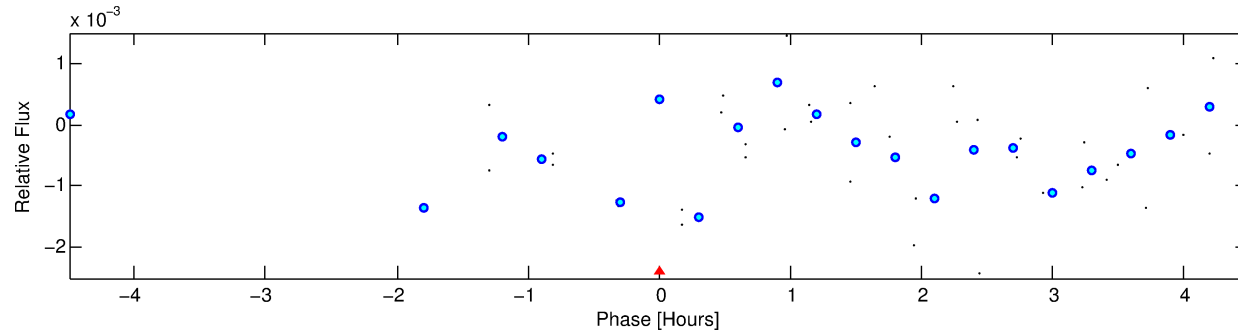
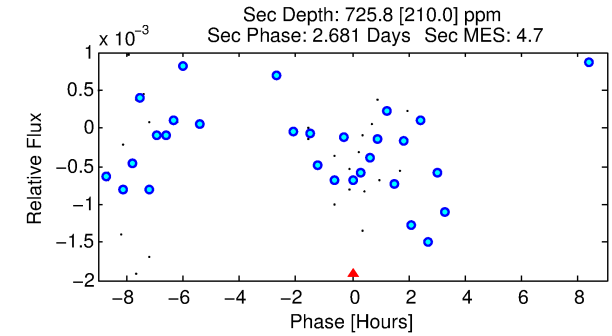
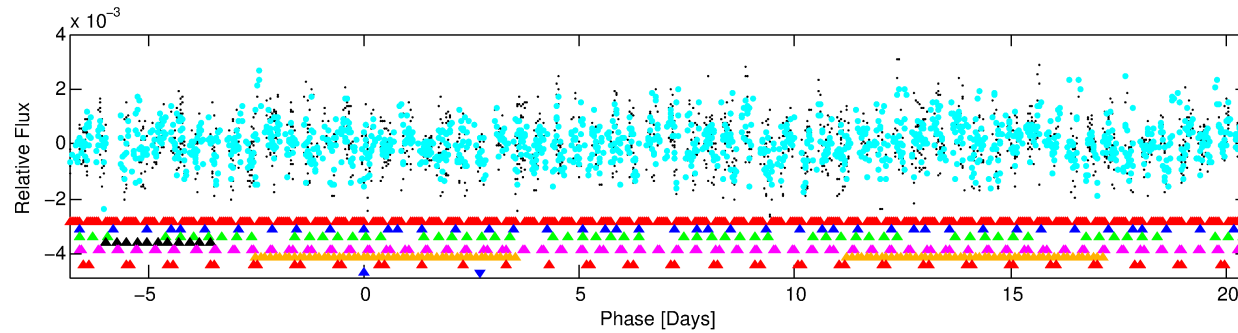
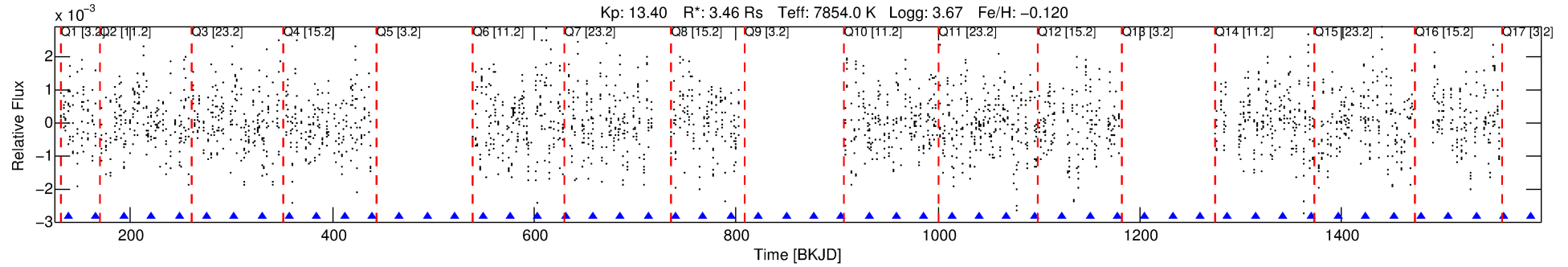
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005430471-08

No Significant Match Found

DV One-Page Summary

KIC: 5430471 Candidate: 8 of 8 Period: 27.343 d



TPS TCE Results:

Period = 27.34335 d
Epoch = 138.7547 BKJD

DV fit results are unavailable

DV Diagnostic Results:

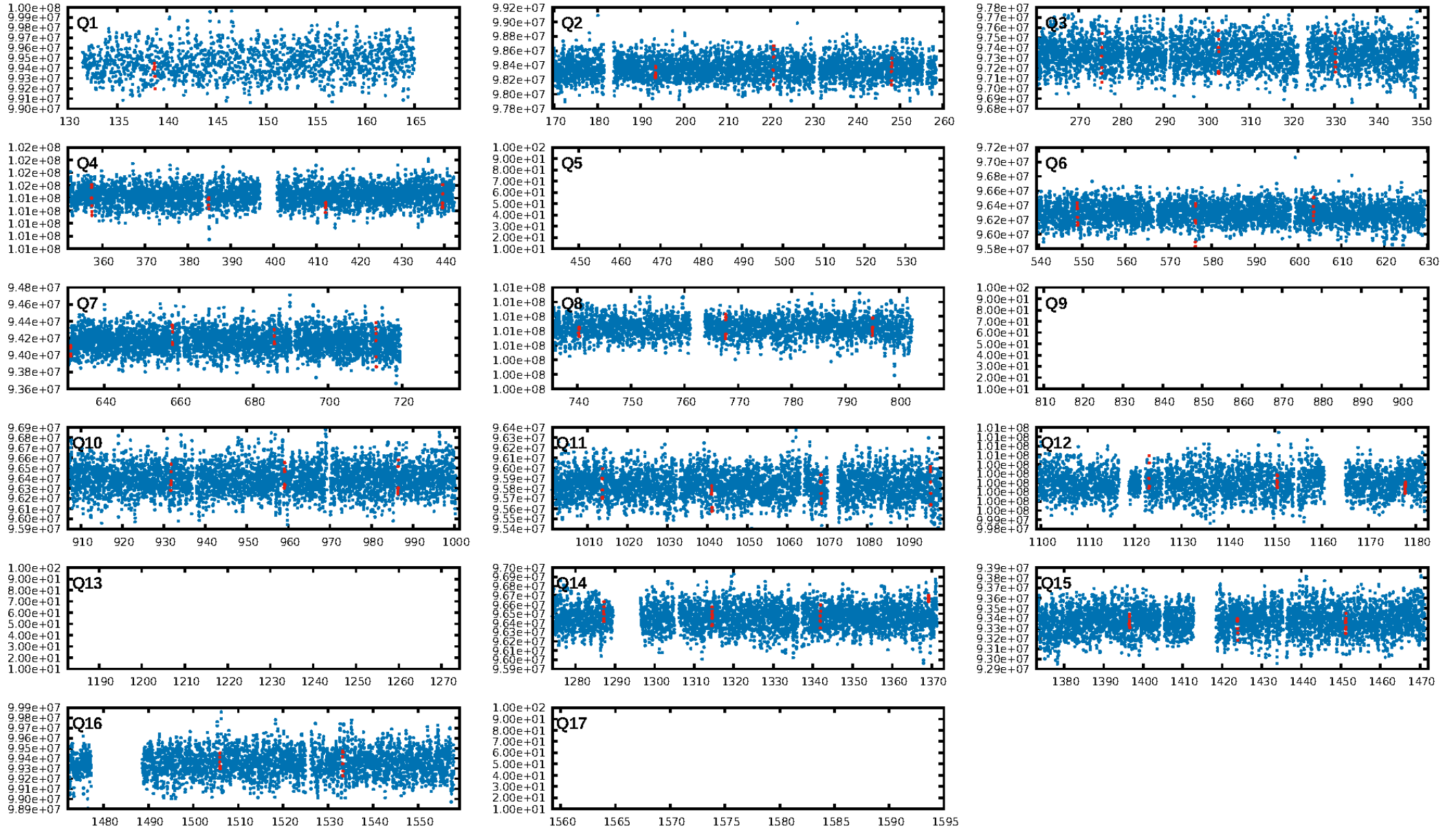
ShortPeriod-sig: 100.0% [18.27σ]
LongPeriod-sig: 100.0% [10.52σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: N/A
GhostDiagnostic-chr: N/A

Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

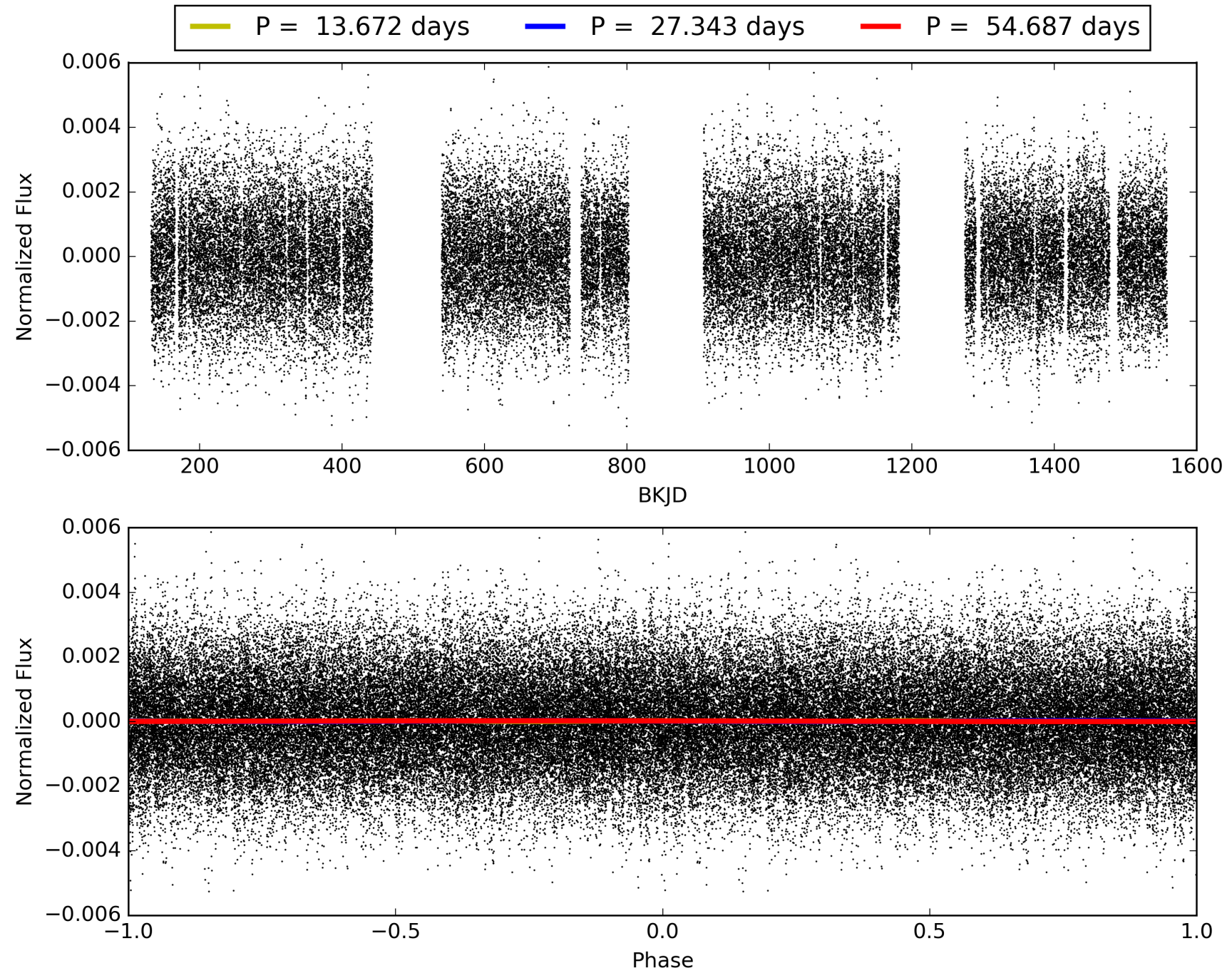
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 07:31:54 Z

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

TCE 005430471-08, PDC Light Curves

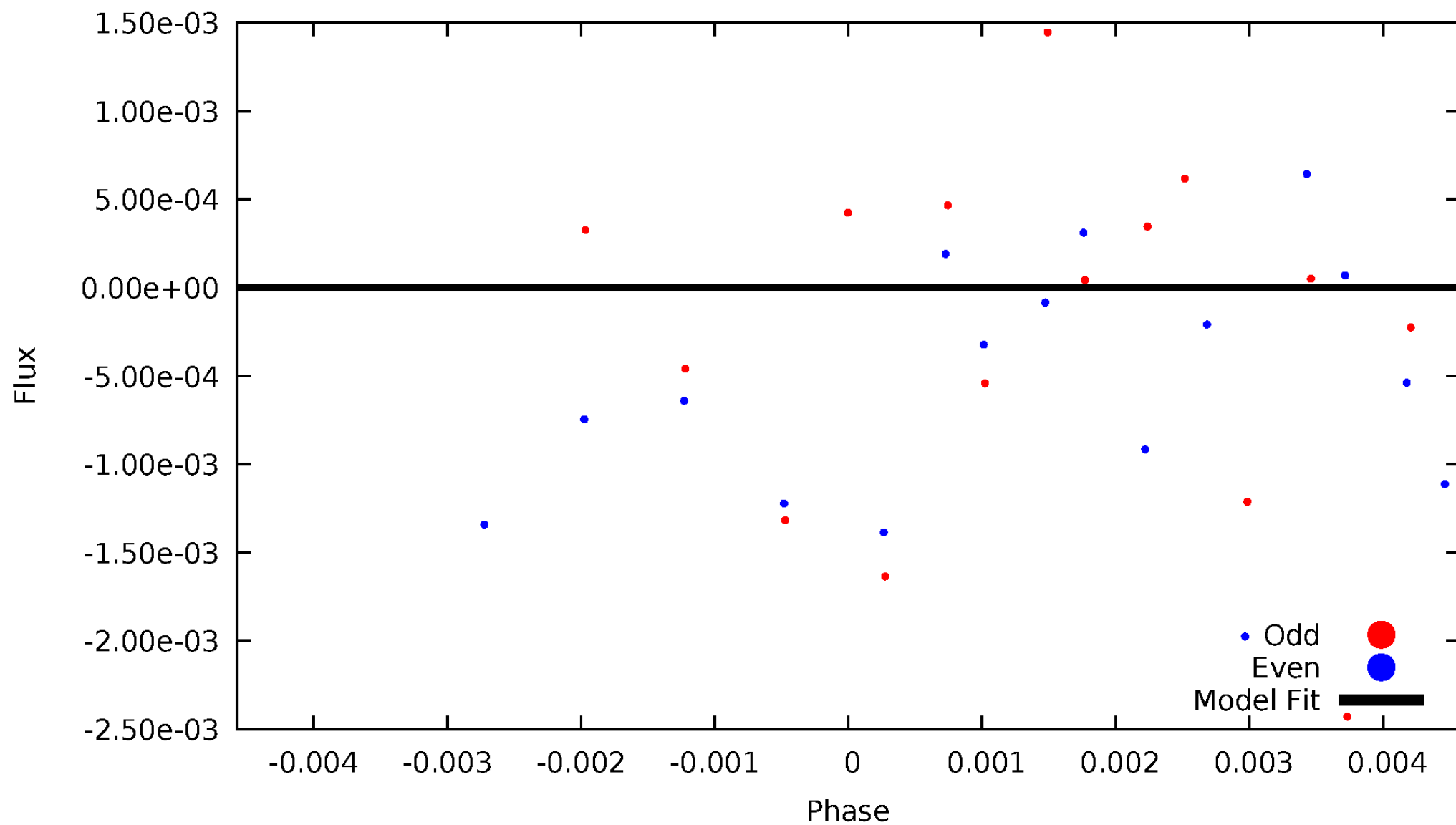


TCE 005430471-08



DV Odd/Even

TCE 005430471-08

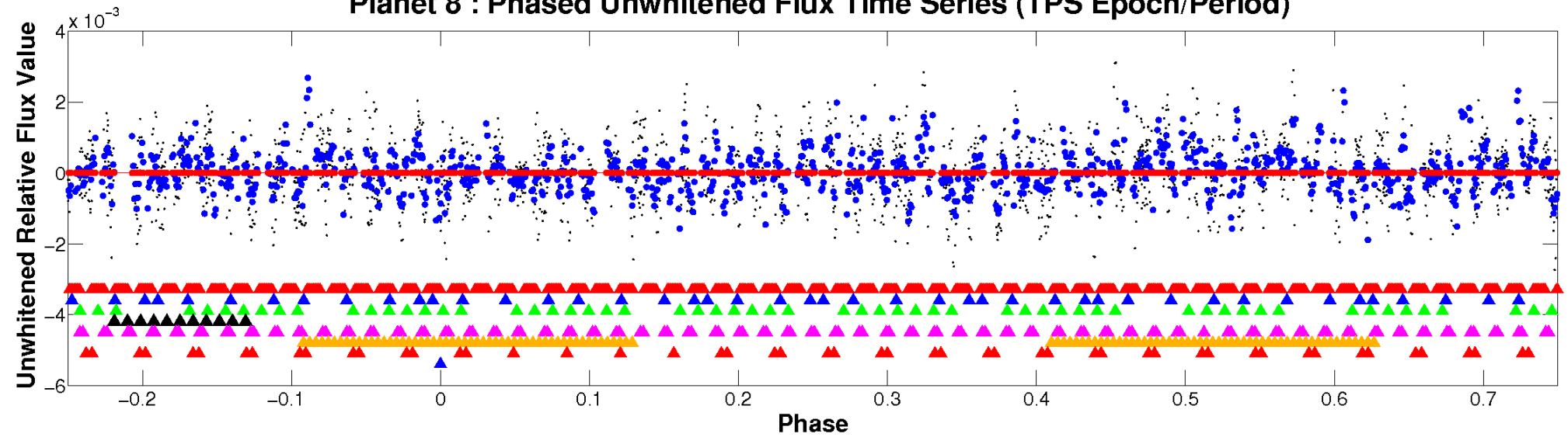


ALT Odd/Even

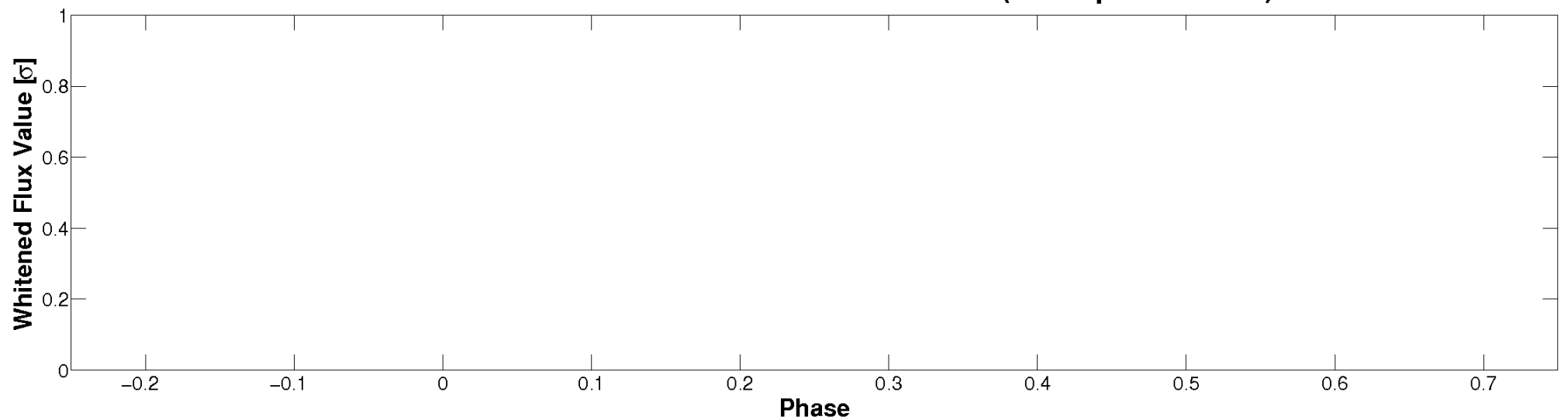
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

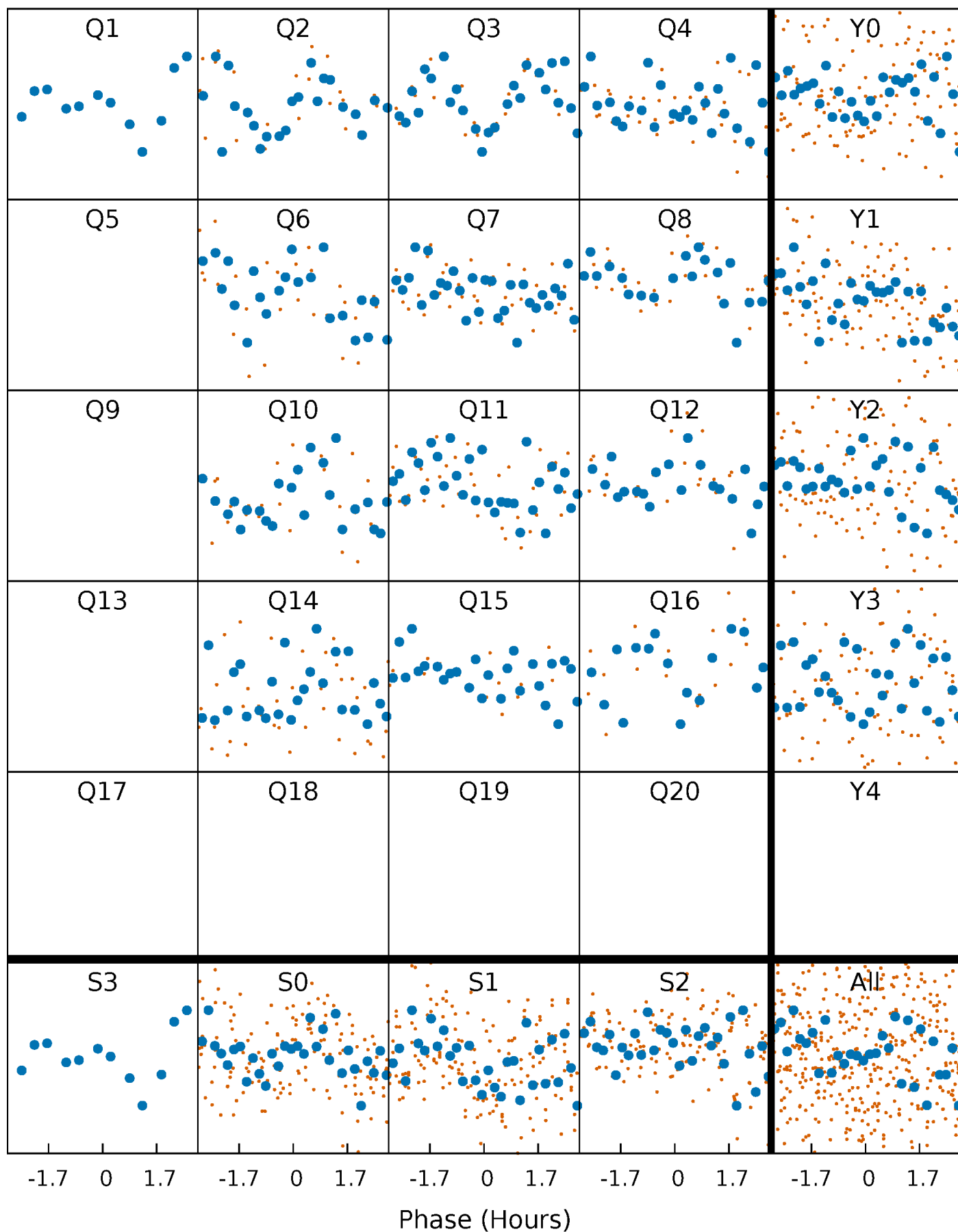


Planet 8 : Phased Whitened Flux Time Series (TPS Epoch/Period)



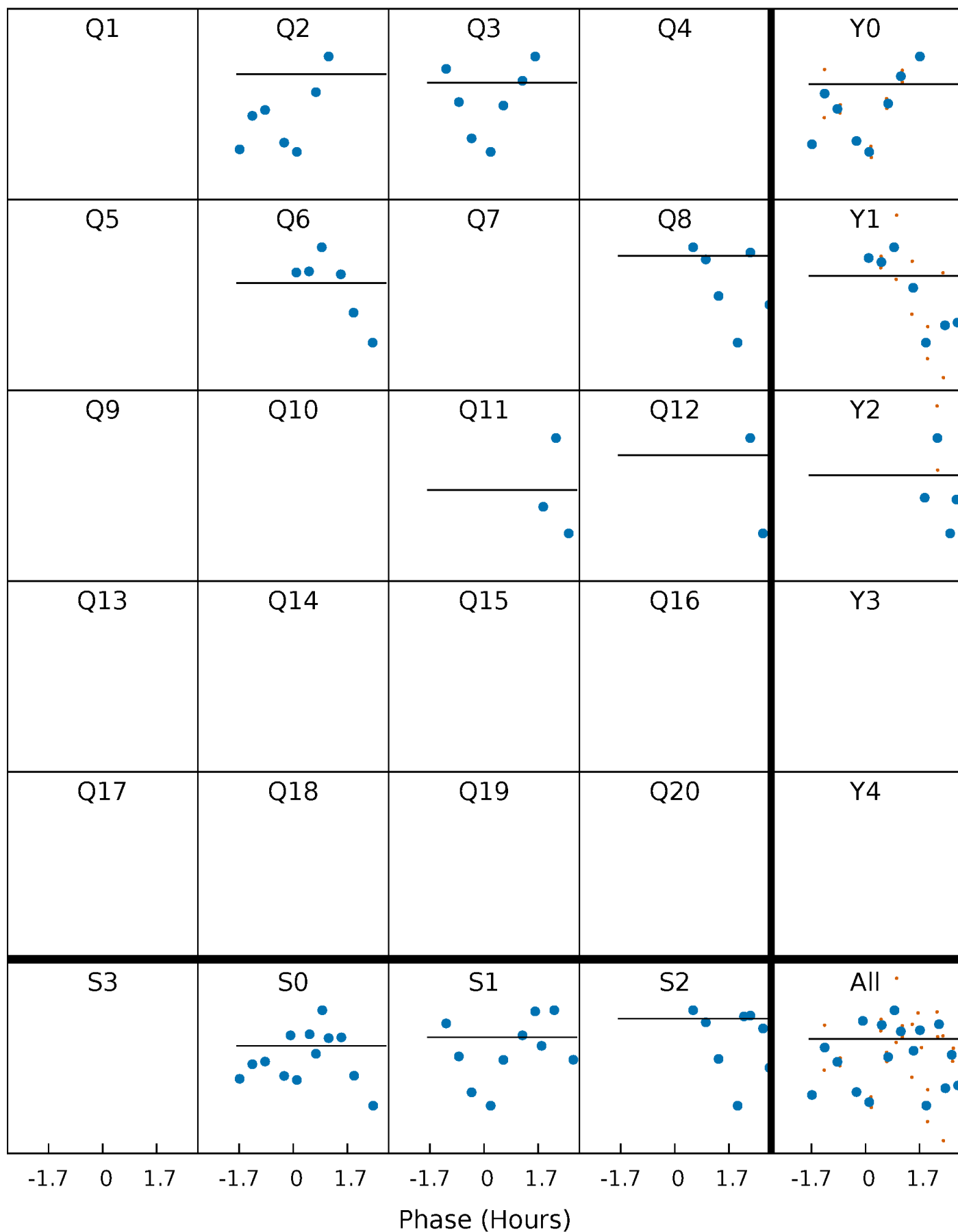
PDC Quarter-Phased Transit Curves

TCE 005430471-08 P= 27.343349 Days $T_0=138.754746$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 005430471-08 P= 27.343349 Days $T_0=138.754746$ (BKJD)

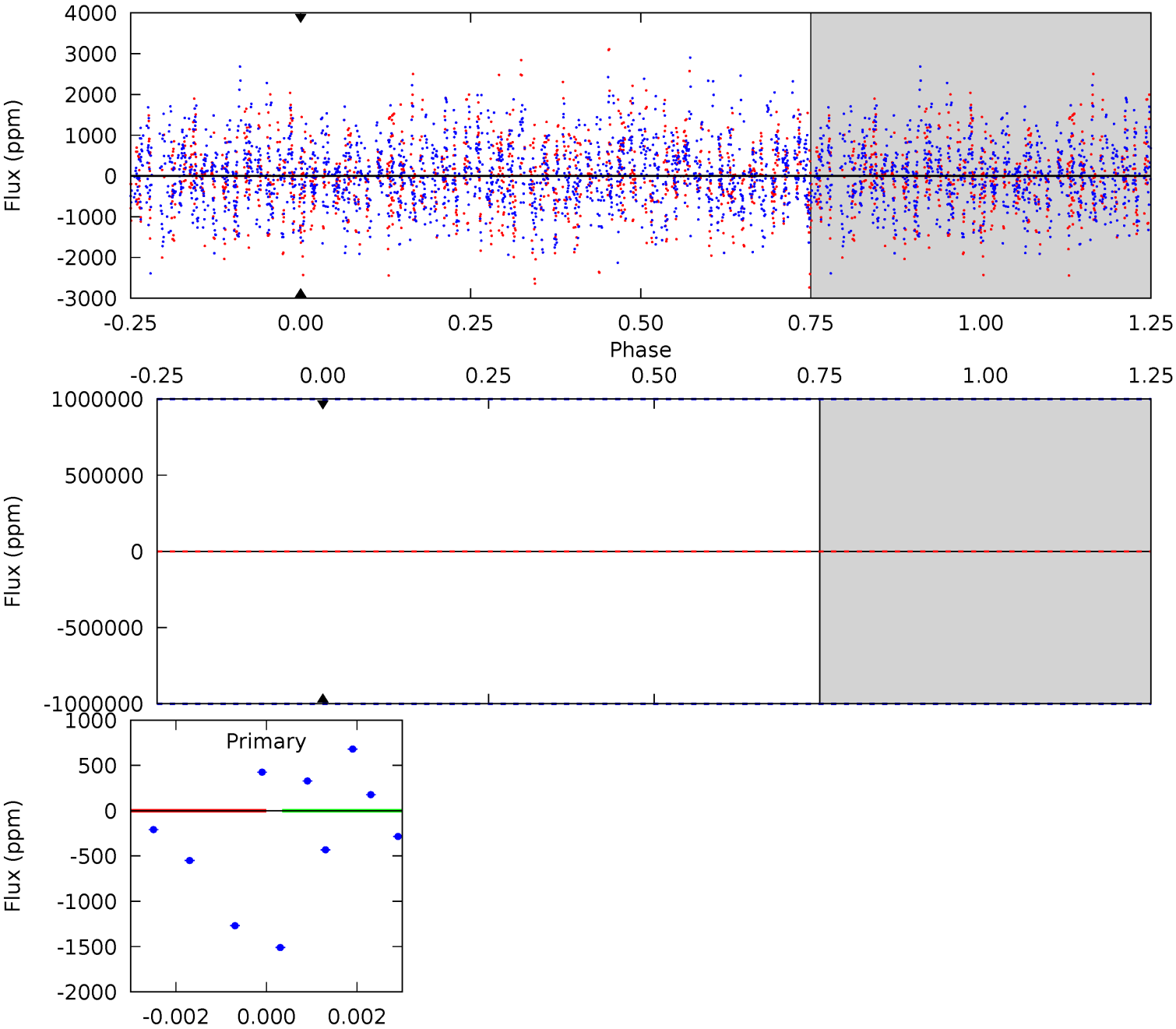


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

005430471-08, P = 27.343349 Days, E = 111.411397 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	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 005430471

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7854^{+217}_{-326}	$3.669^{+0.448}_{-0.084}$	$-0.120^{+0.200}_{-0.350}$	$3.462^{+0.600}_{-1.681}$	$2.039^{+0.329}_{-0.535}$	$0.069^{+0.321}_{-0.020}$
	+3%/-4%	+12%/-2%	+167%/-292%	+17%/-49%	+16%/-26%	+464%/-28%
Source	KIC0	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 005430471-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$24.78^{+26.47}_{-17.57}$	1816^{+130}_{-224}	6726^{+40943}_{-51201}	164^{+8963}_{-8222}
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 $A_{obs} \gg 1.0$

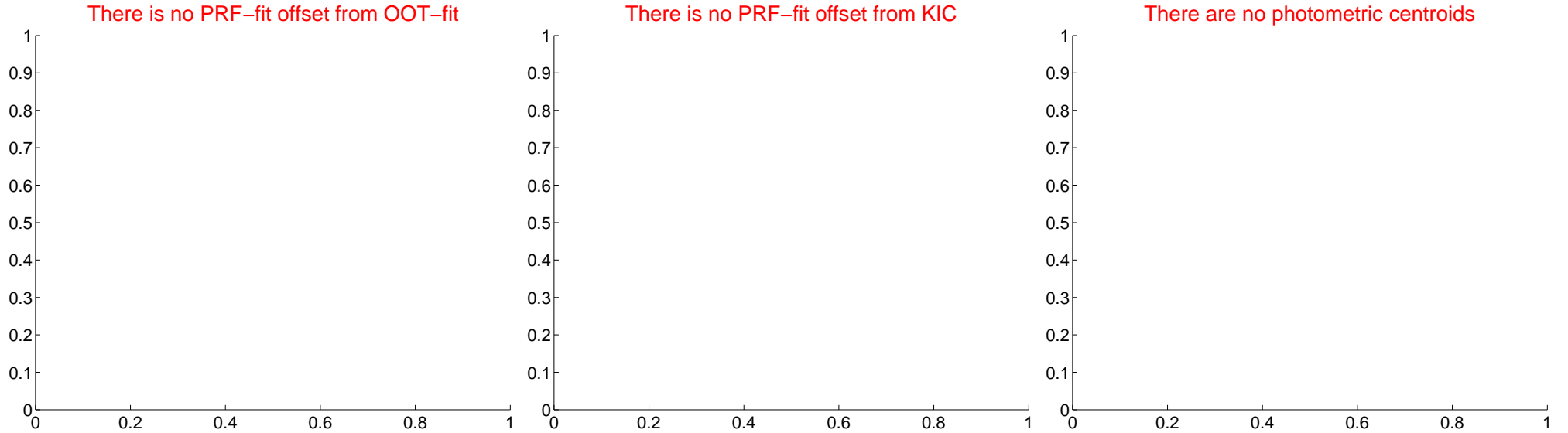
DV Centroid Data

Supplemental centroid analysis for 005430471-08. Kepler magnitude: 13.40. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

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

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—



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

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



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



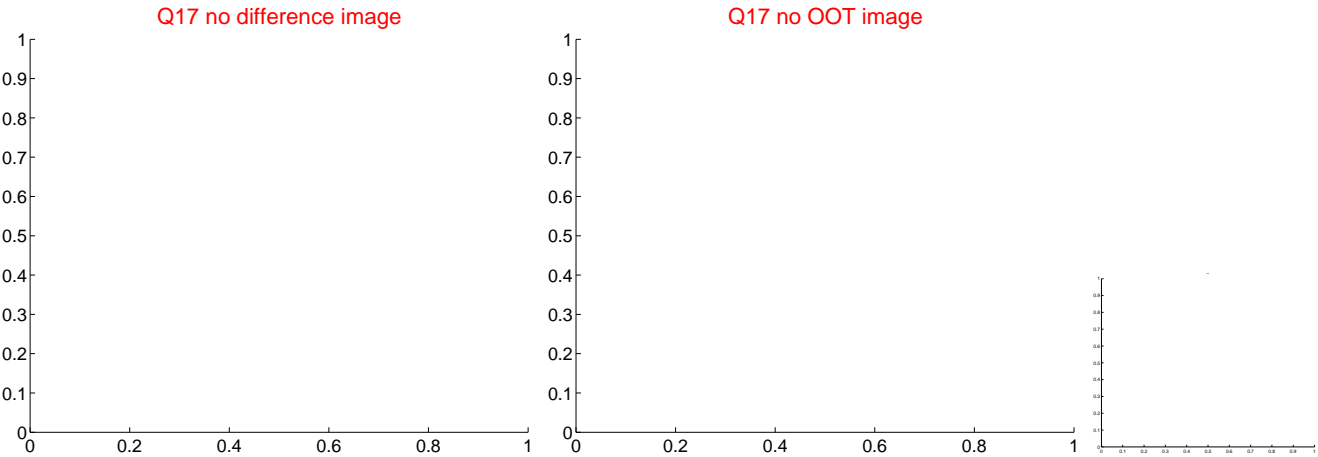
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



folded centroid time series figure for this object.

UKIRT Image

Declination

