

KIC 011414728

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})
011414728-01	OBS	No	361.805086	225.262834	3531.6	21.294	9.1	8.4	0.86	5591	5.92	0.71
011414728-02	OBS	No	351.047410	442.291819	30432.7	3.500	40.7	-1.0	0.86	5591	14.81	0.74
011414728-03	OBS	No	375.773367	362.343040	6544.7	4.254	37.1	12.5	0.86	5591	6.87	0.68
011414728-04	OBS	No	384.465691	394.244590	32712.7	3.000	42.3	-1.0	0.86	5591	15.36	0.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011414728-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
011414728-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS
011414728-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
011414728-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS

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

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

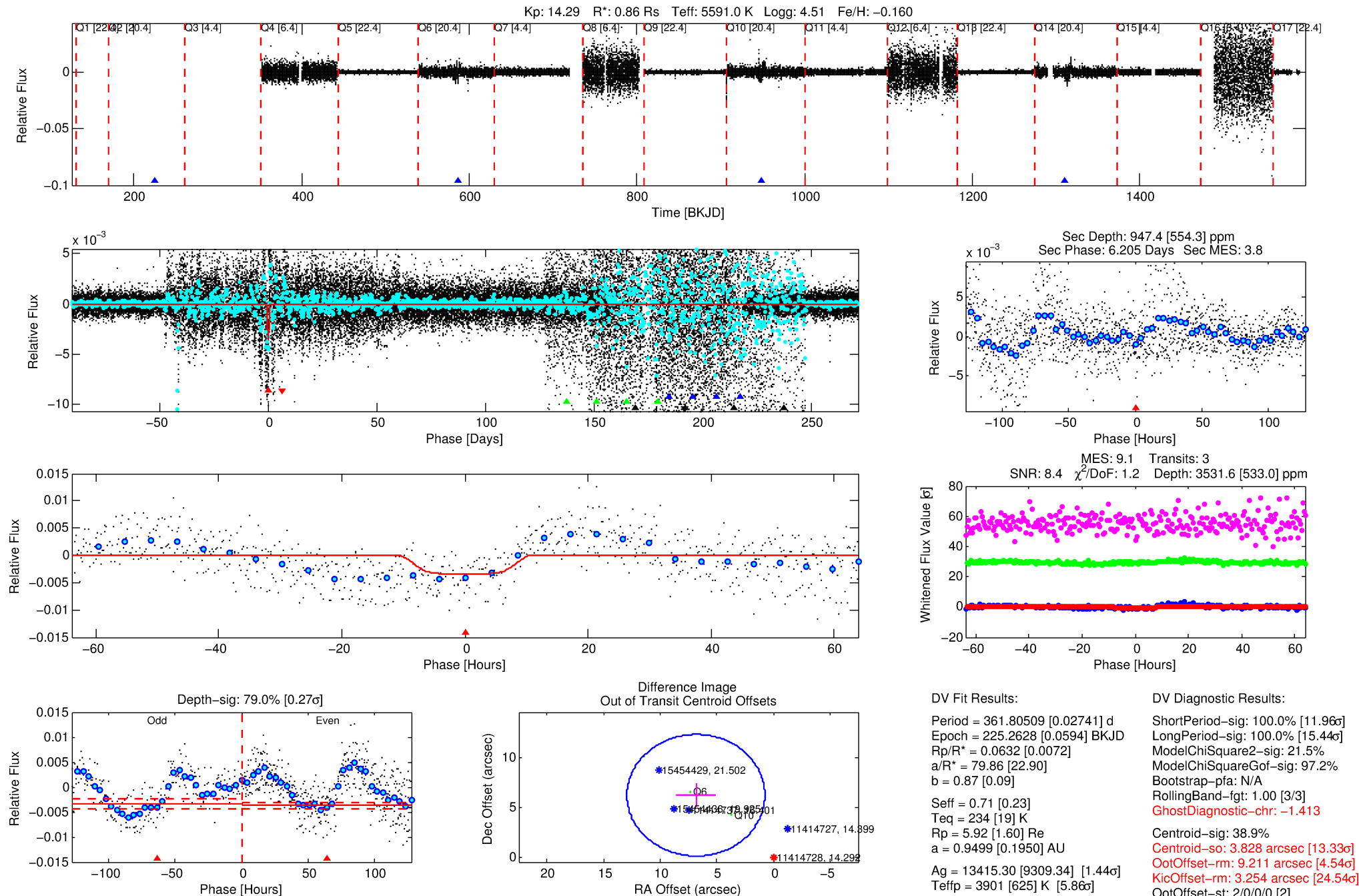
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011414728-01

No Significant Match Found

DV One-Page Summary

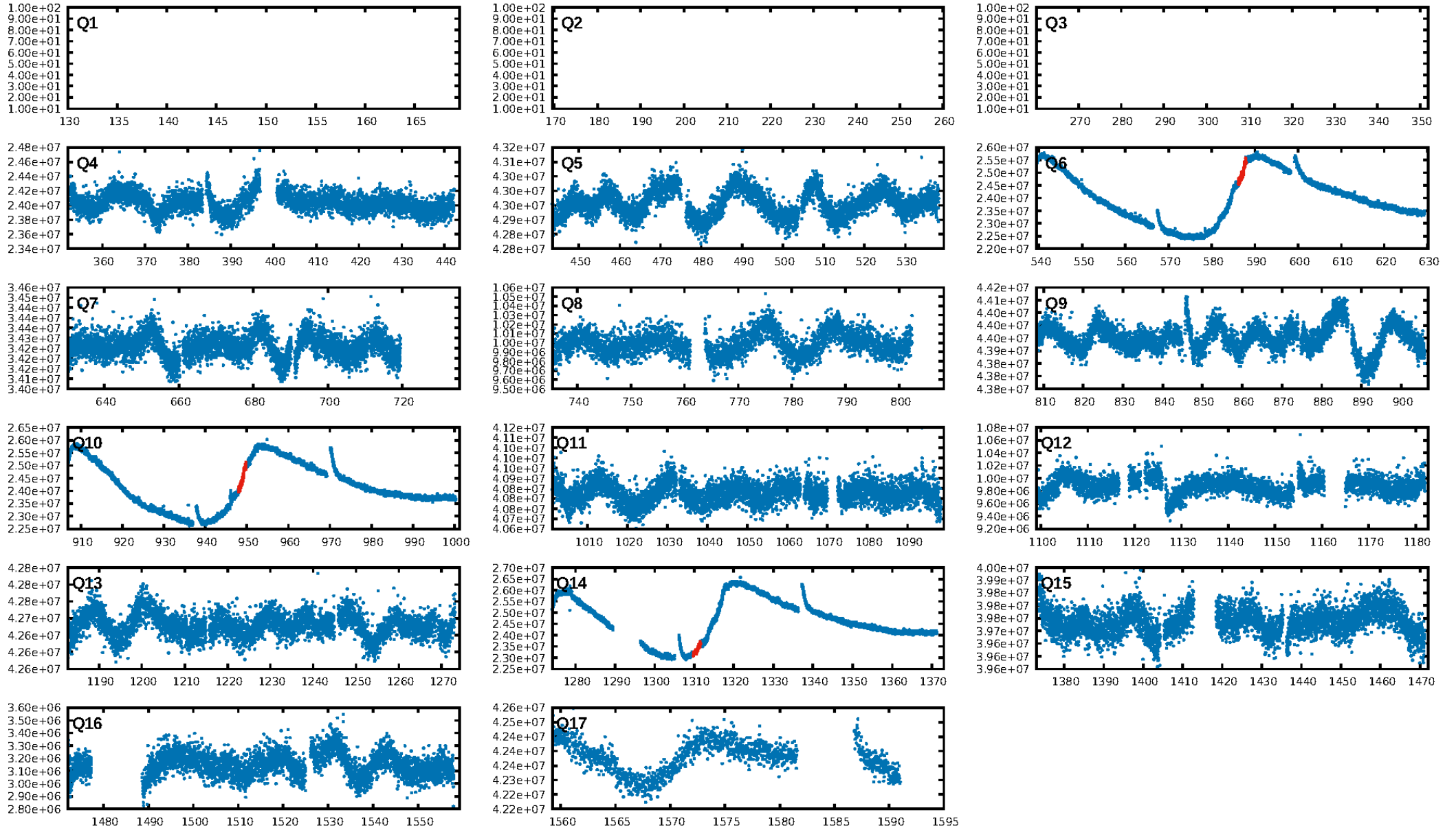
KIC: 11414728 Candidate: 1 of 4 Period: 361.805 d



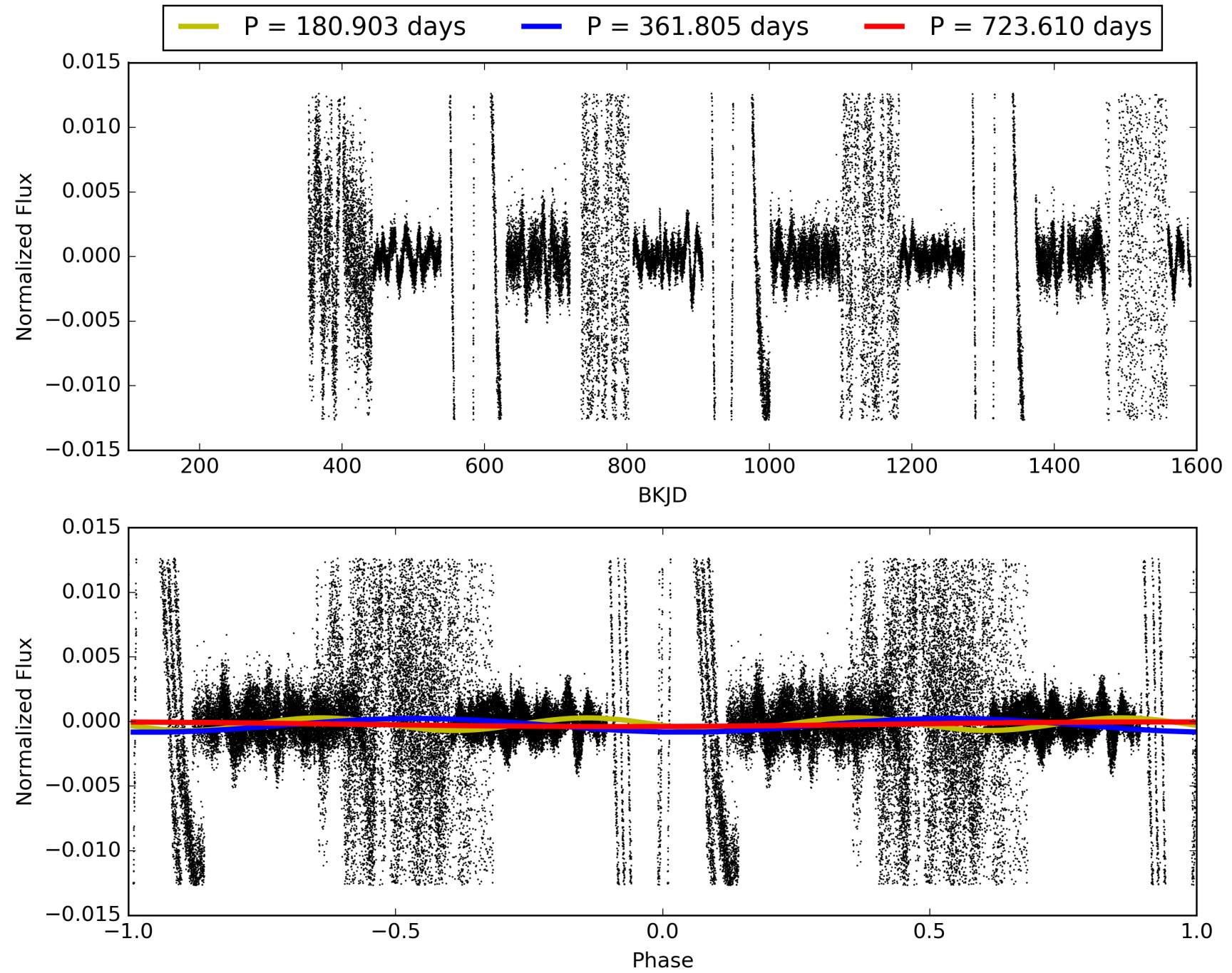
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:40:54 Z

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

TCE 011414728-01, PDC Light Curves

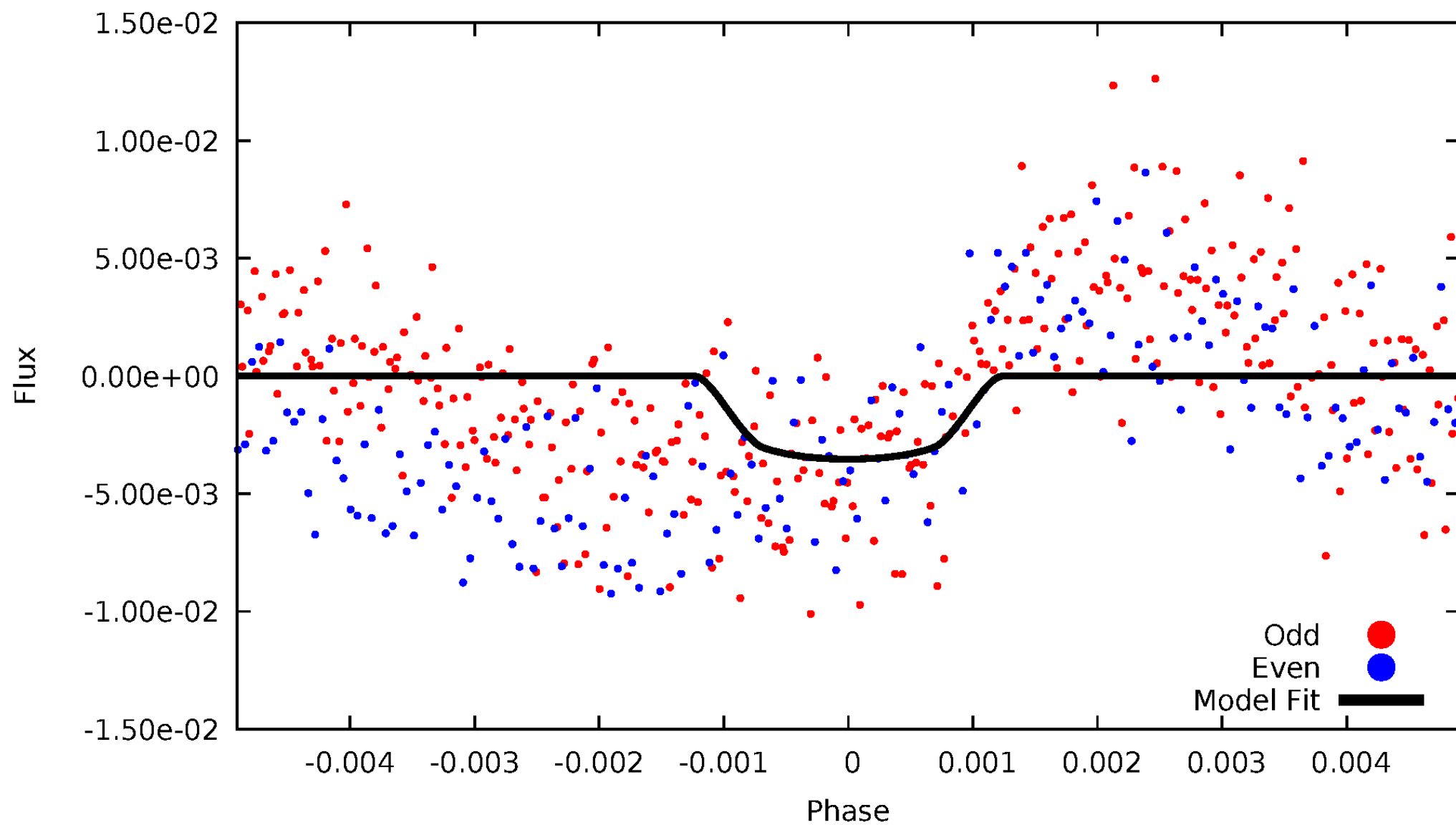


TCE 011414728-01



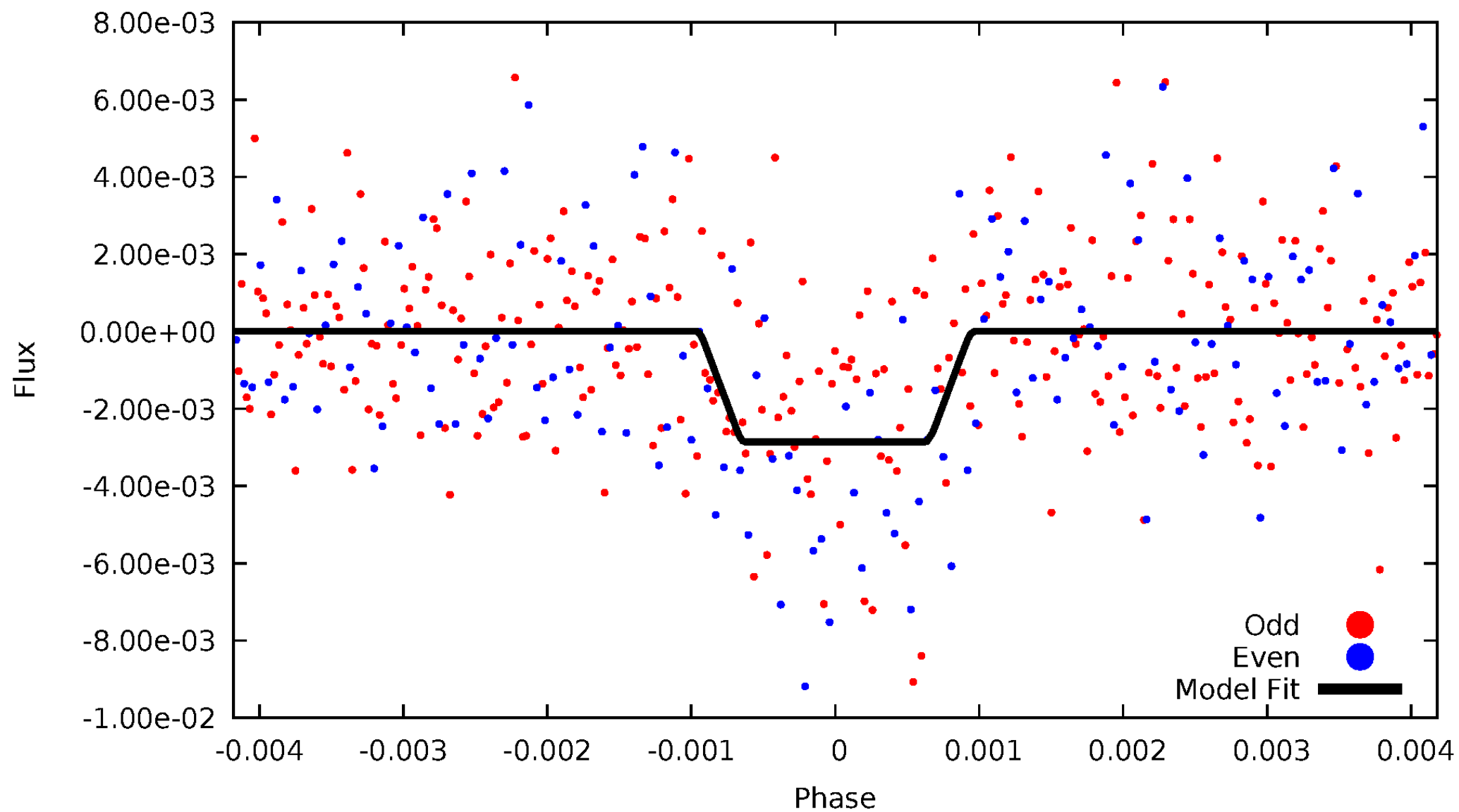
DV Odd/Even

TCE 011414728-01



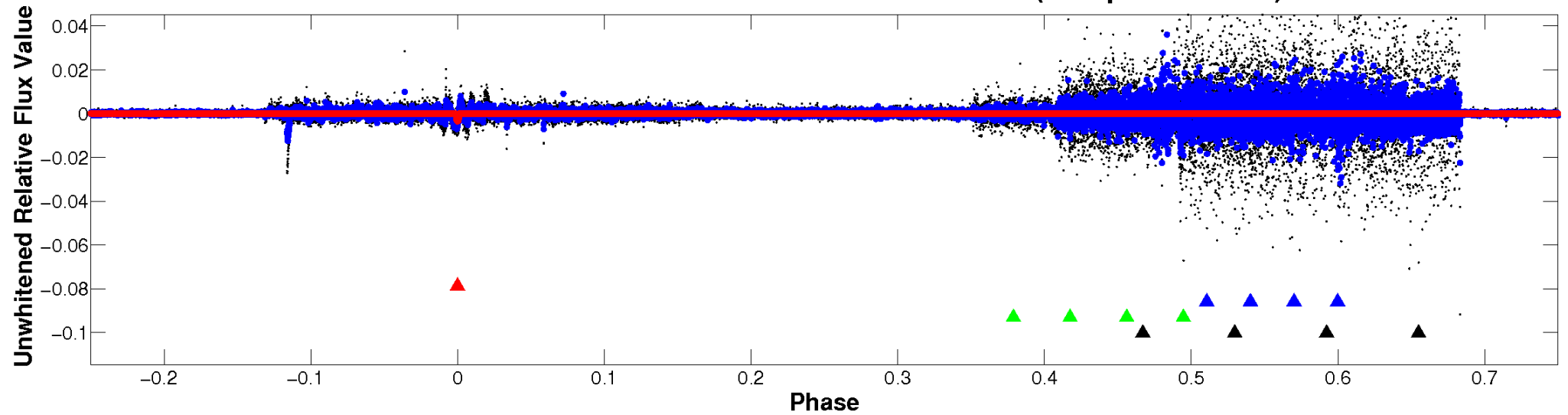
ALT Odd/Even

TCE 011414728-01

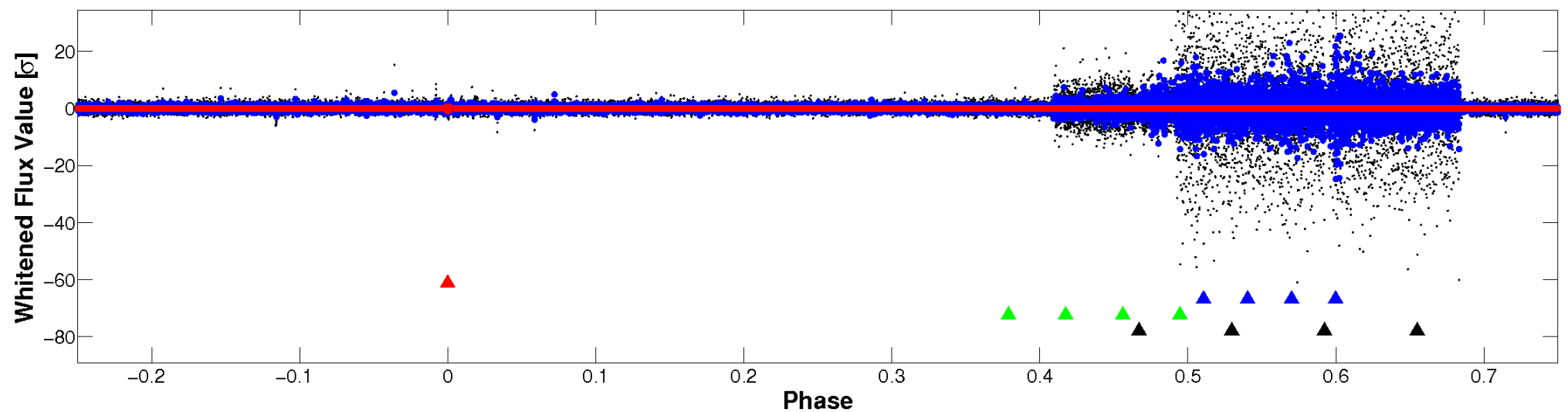


Non-Whitened Vs. Whitened Light Curve

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

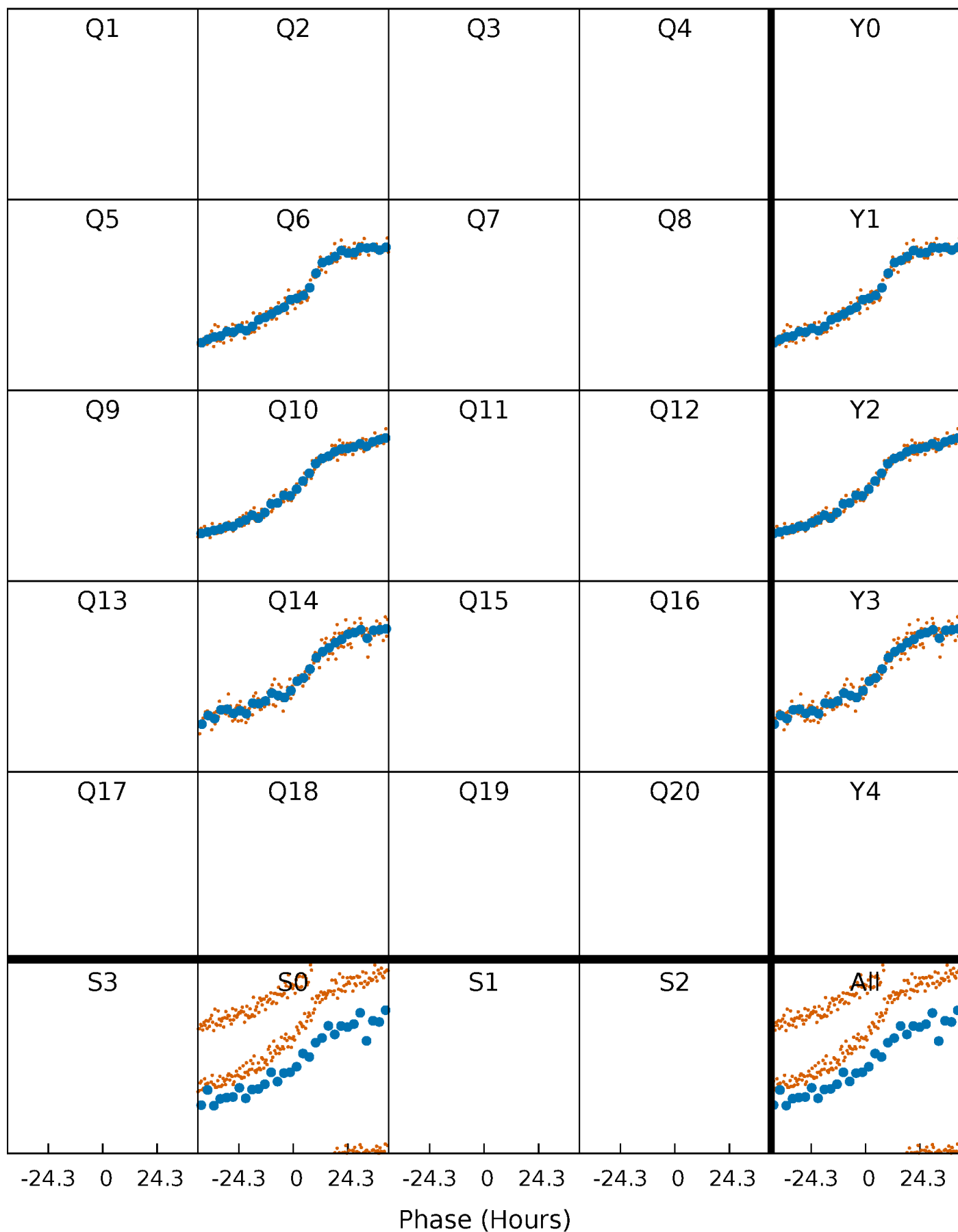


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



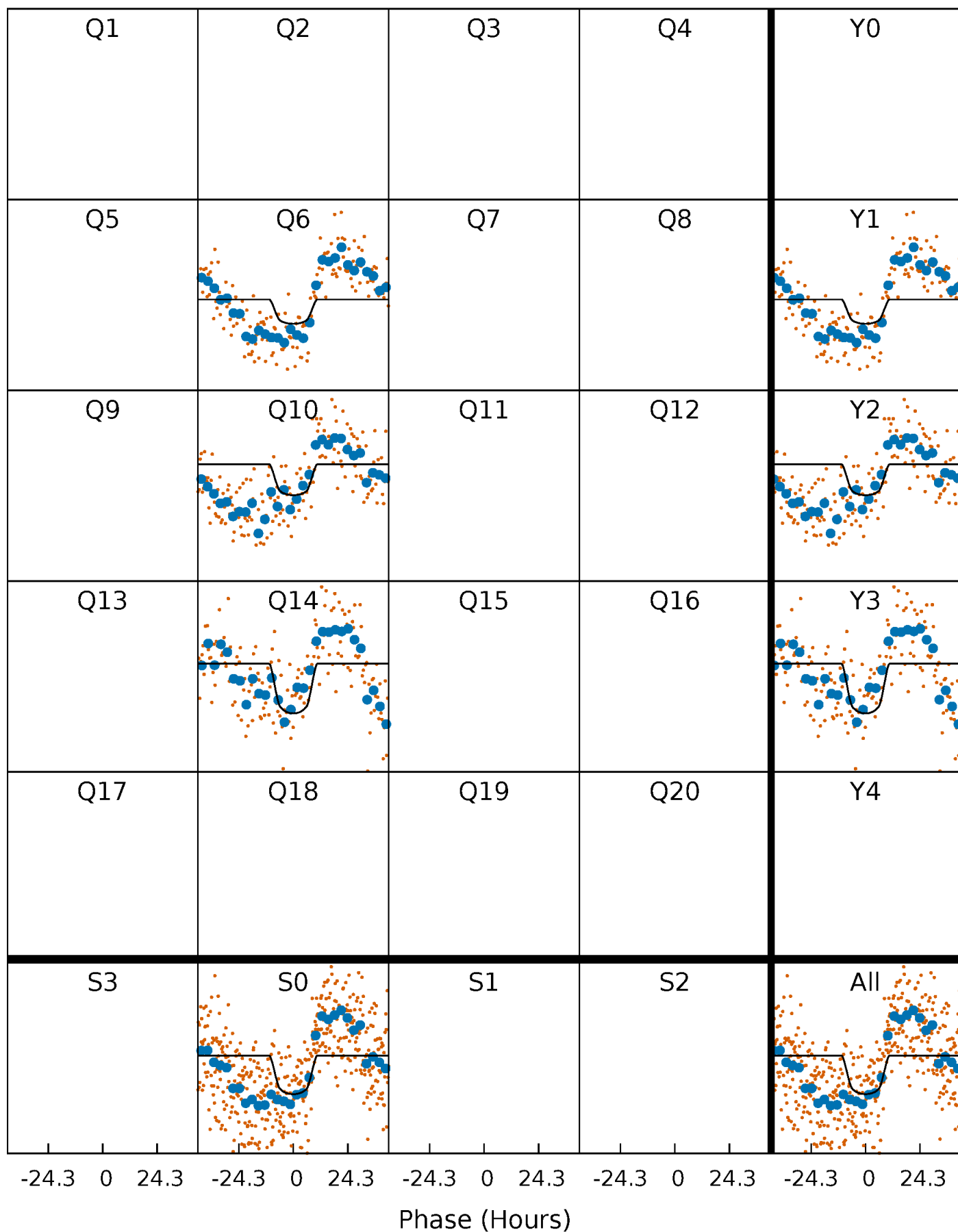
PDC Quarter-Phased Transit Curves

TCE 011414728-01 P=361.805086 Days $T_0=225.262833$ (BKJD)



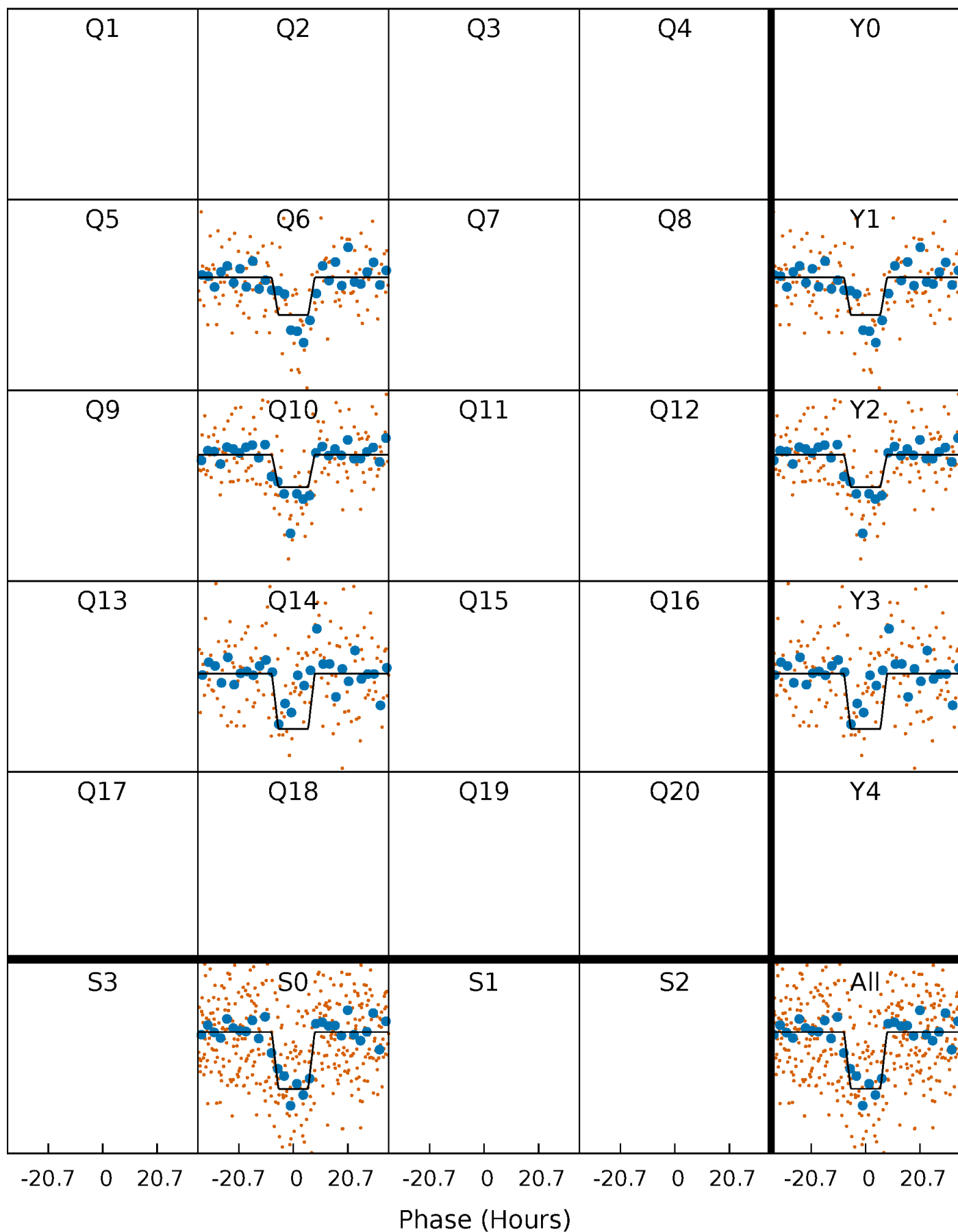
DV Quarter-Phased Transit Curves

TCE 011414728-01 P=361.805086 Days $T_0=225.262833$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

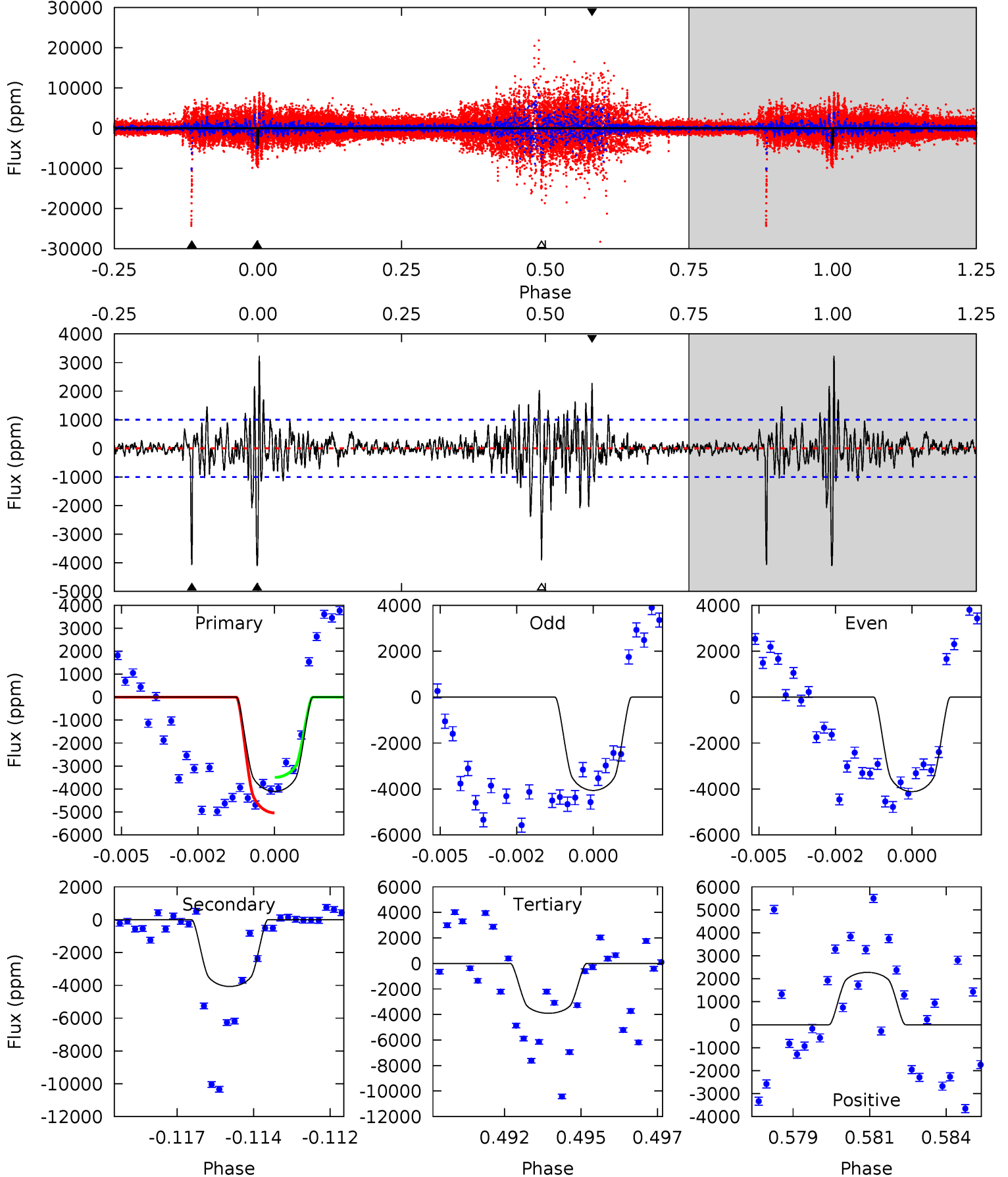
TCE 011414728-01 P=361.782991 Days $T_0=225.347149$ (BKJD)



DV Model-Shift Uniqueness Test

011414728-01, P = 361.805086 Days, E = 225.262833 Days

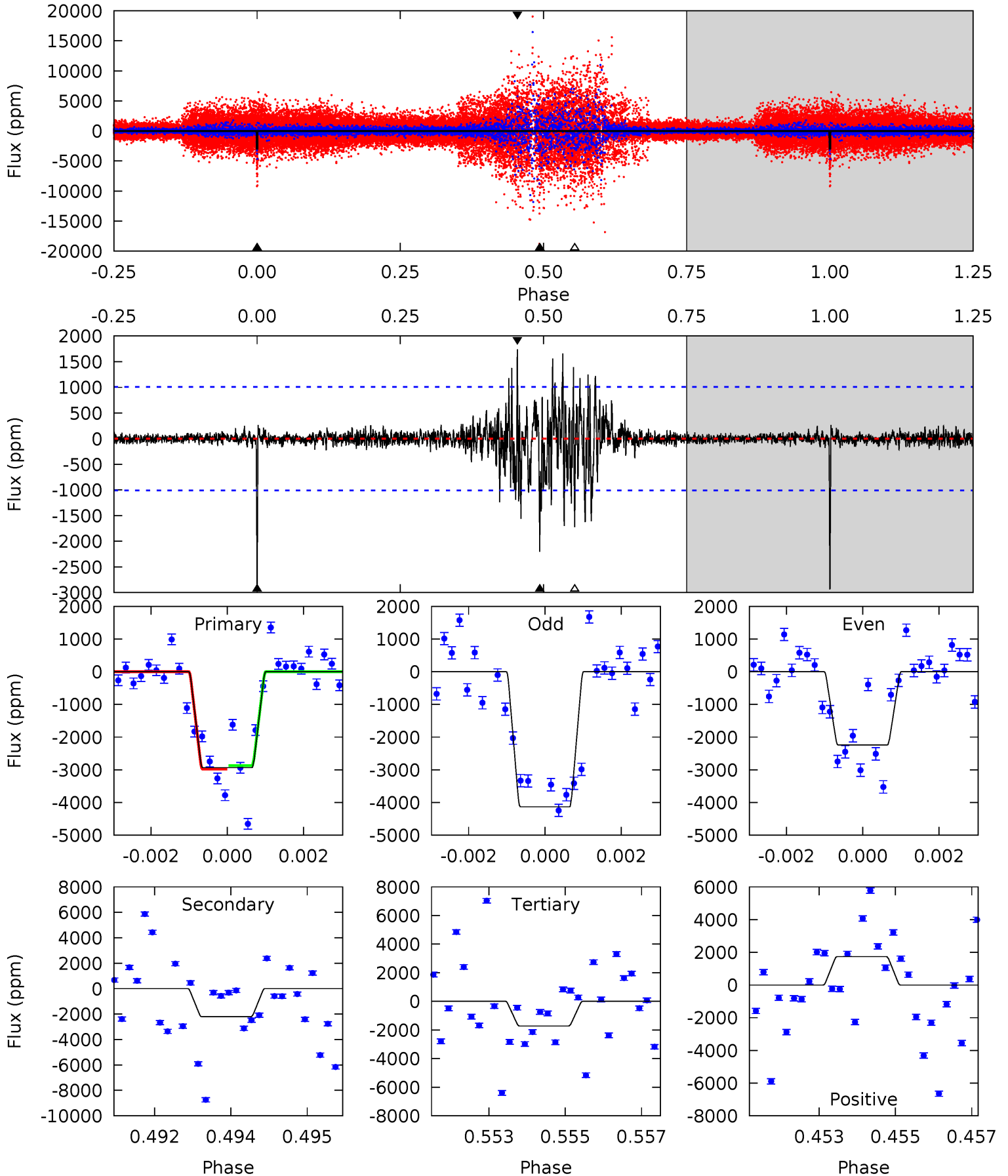
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.7	21.5	20.6	12.0	5.29	3.03	2.46	1.04	9.65	0.87	9.47	0.08	1.06	0.44	4.22



Alt Model-Shift Uniqueness Test

011414728-01, P = 361.782991 Days, E = 225.347149 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.5	11.7	9.11	9.19	5.33	3.10	1.28	6.42	6.34	2.55	2.47	3.13	0.87	0.37	0.29



Stellar Parameters For KIC 011414728

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5591^{+182}_{-182}	$4.512^{+0.058}_{-0.161}$	$-0.160^{+0.300}_{-0.300}$	$0.858^{+0.211}_{-0.090}$	$0.875^{+0.102}_{-0.091}$	$1.948^{+0.559}_{-0.863}$
	+3%/-3%	+1%/-4%	+188%/-188%	+25%/-10%	+12%/-10%	+29%/-44%
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 011414728-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4070 ± 189	$6.13^{+1.02}_{-0.81}$	333^{+20}_{-16}	5614^{+395}_{-325}	53677^{+16322}_{-14104}
Alt.	-2203 ± 189	$5.19^{+0.93}_{-0.77}$	334^{+20}_{-18}	5281^{+389}_{-334}	40202^{+14851}_{-11058}

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

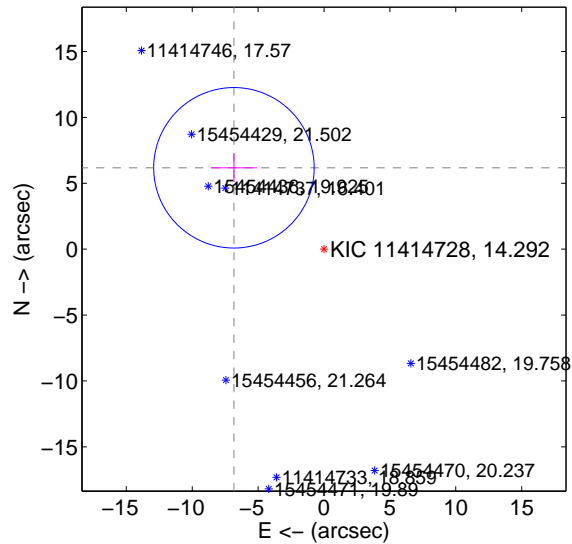
Supplemental centroid analysis for 011414728-01. Kepler magnitude: 14.29. Transit SNR 8.43

There are 1 quarters with good PRF difference image offsets

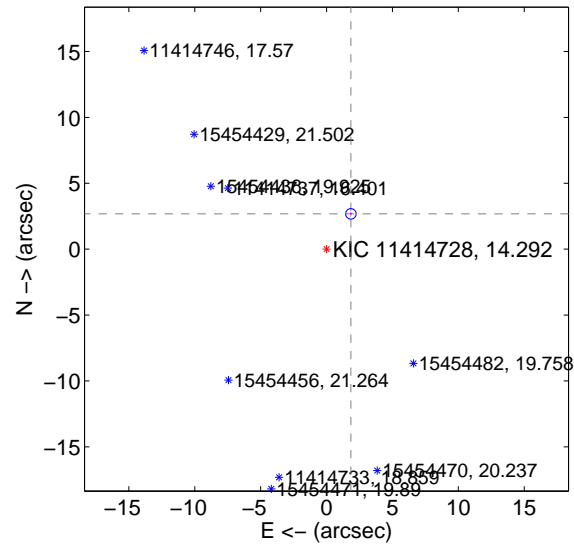
The OOT PRF centroid is offset from the target star catalog position by about 5.76 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.211 ± 2.030	4.54	6.835 ± 1.757	6.175 ± 1.084
PRF-fit source offset from KIC position	3.254 ± 0.133	24.54	-1.847 ± 0.072	2.679 ± 0.137
photometric centroid source offset	3.83 ± 0.29	13.33	-3.61 ± 0.30	-1.28 ± 0.19

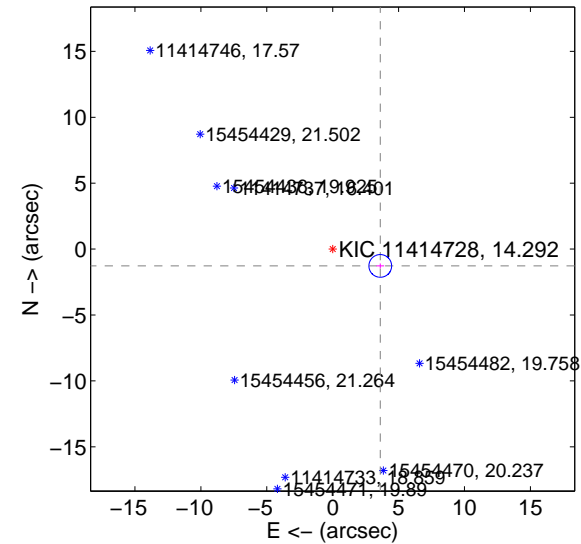
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

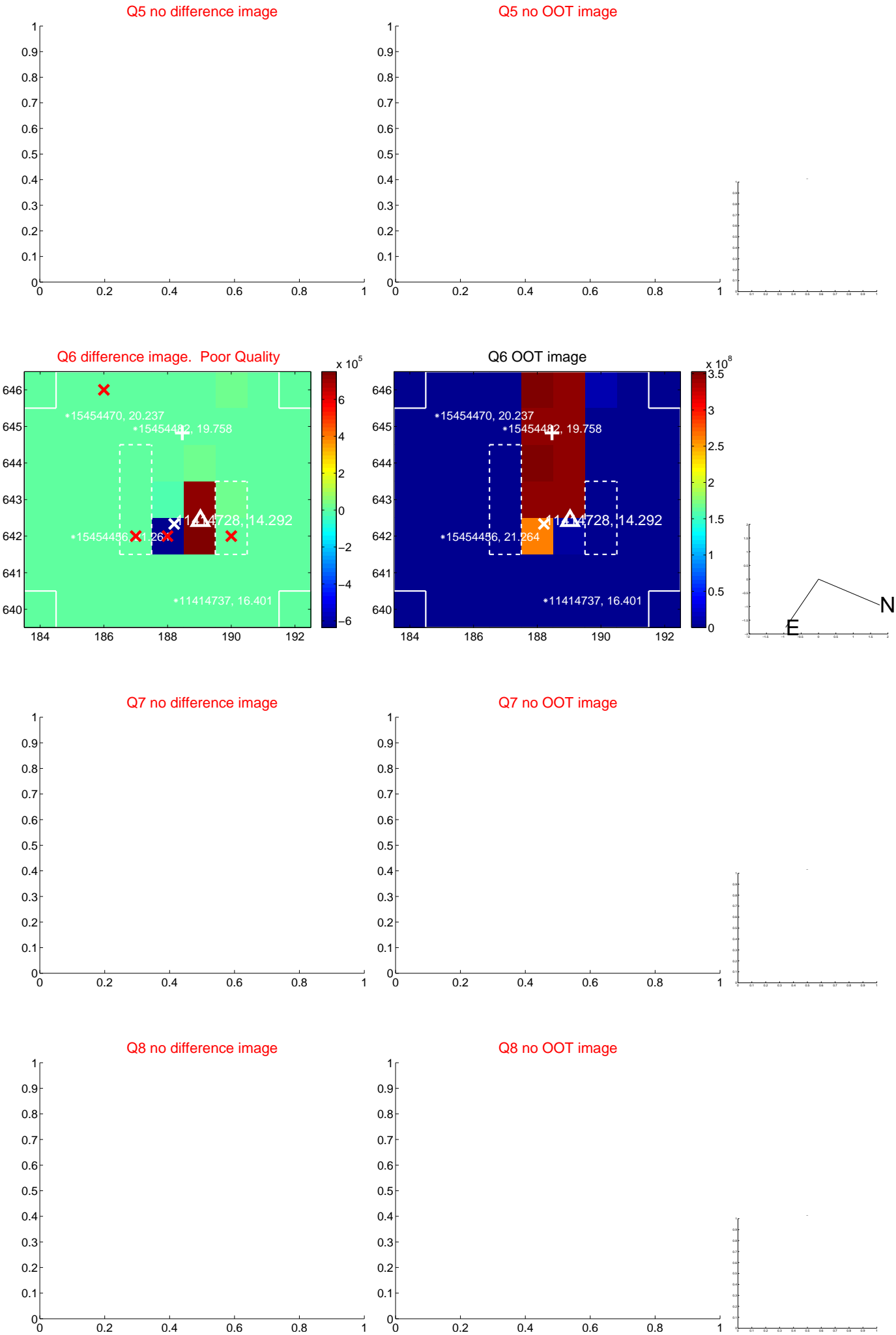


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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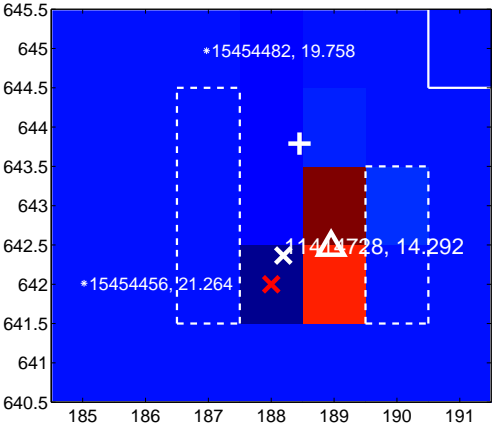
Q9 no difference image



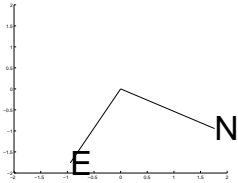
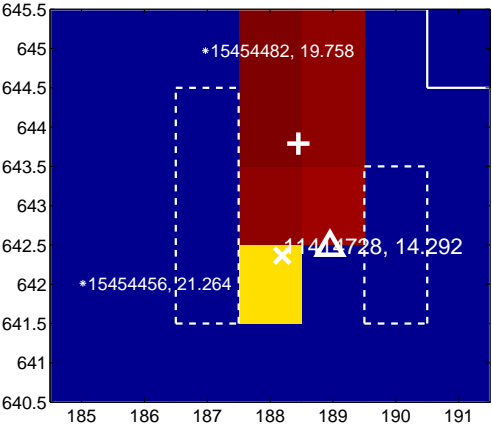
Q9 no OOT image



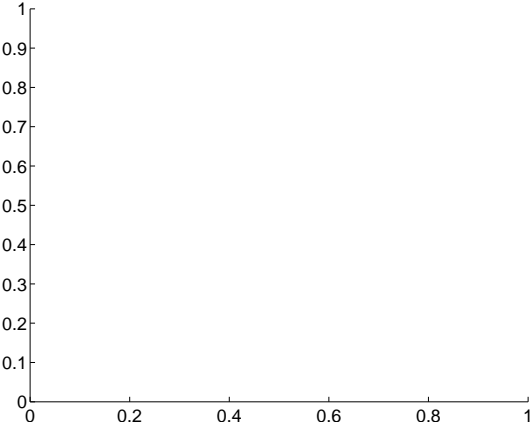
Q10 difference image



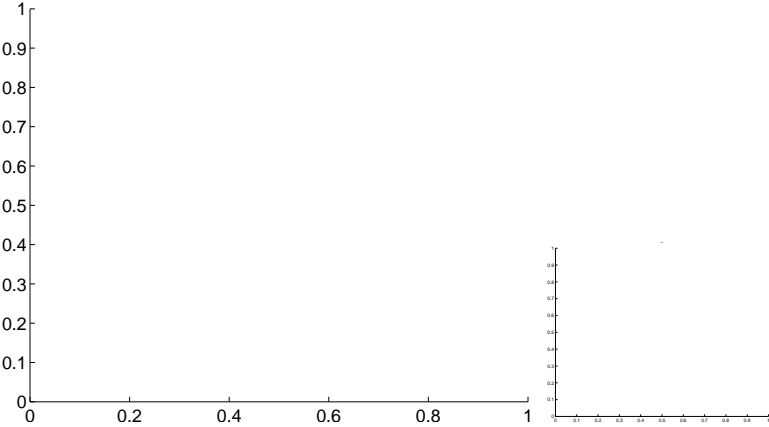
Q10 OOT image



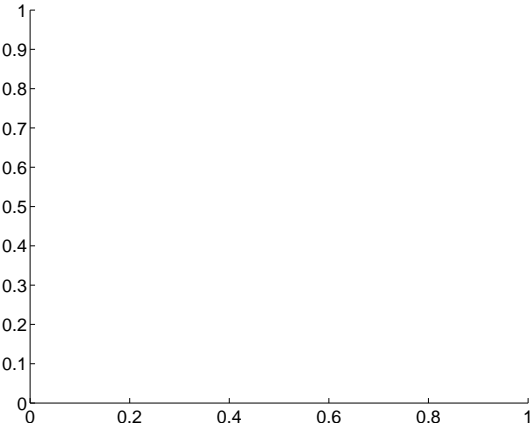
Q11 no difference image



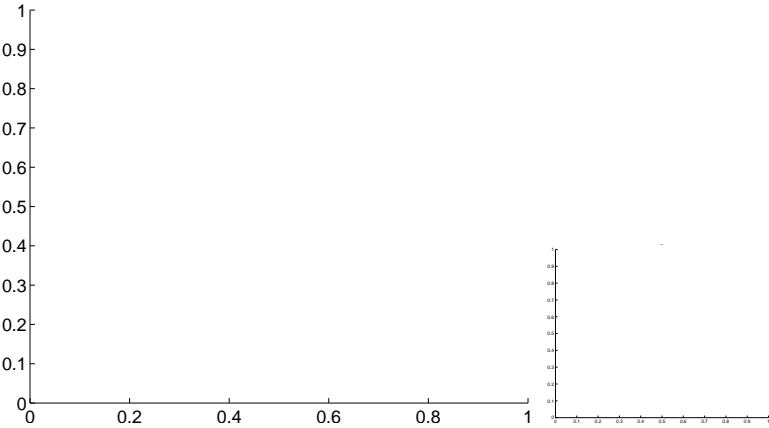
Q11 no OOT image



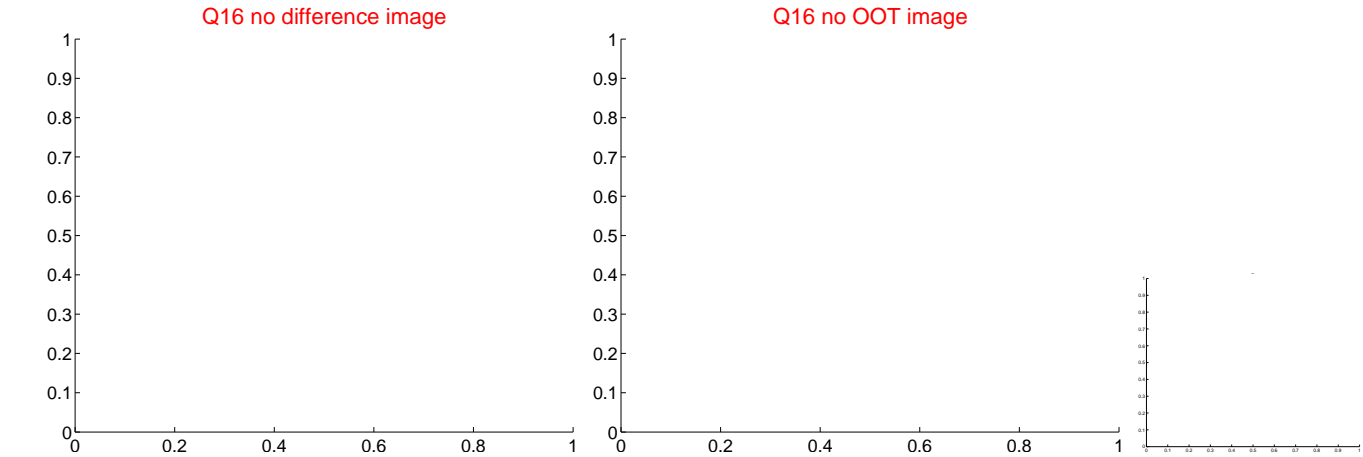
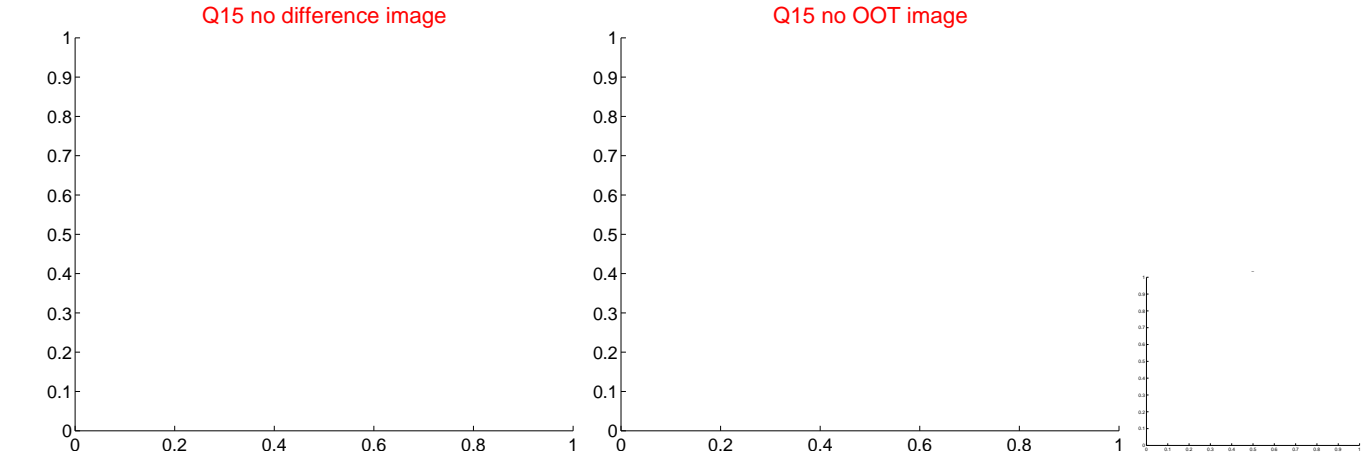
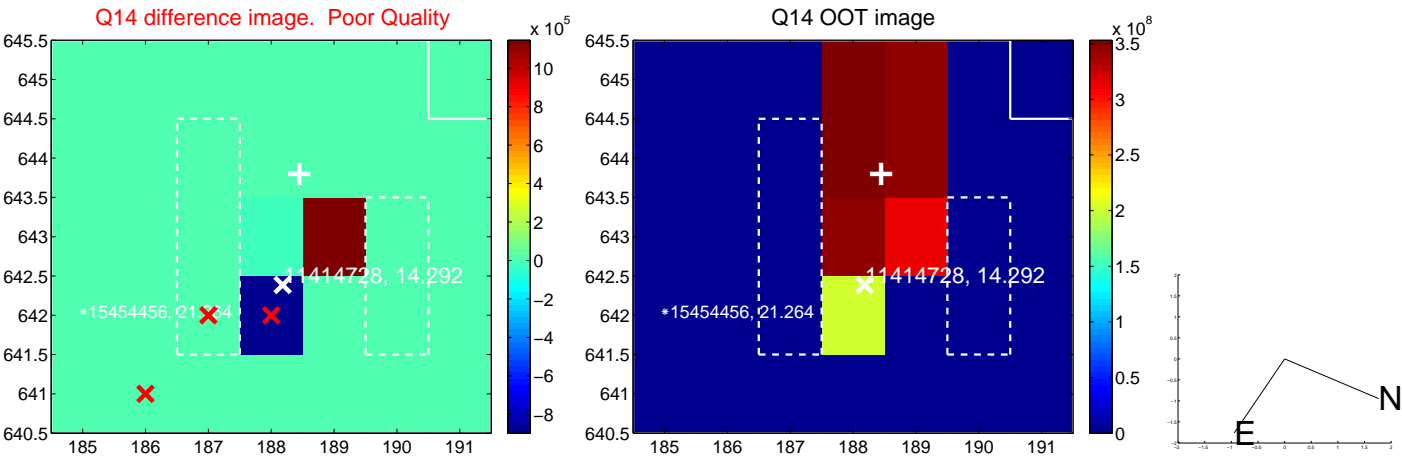
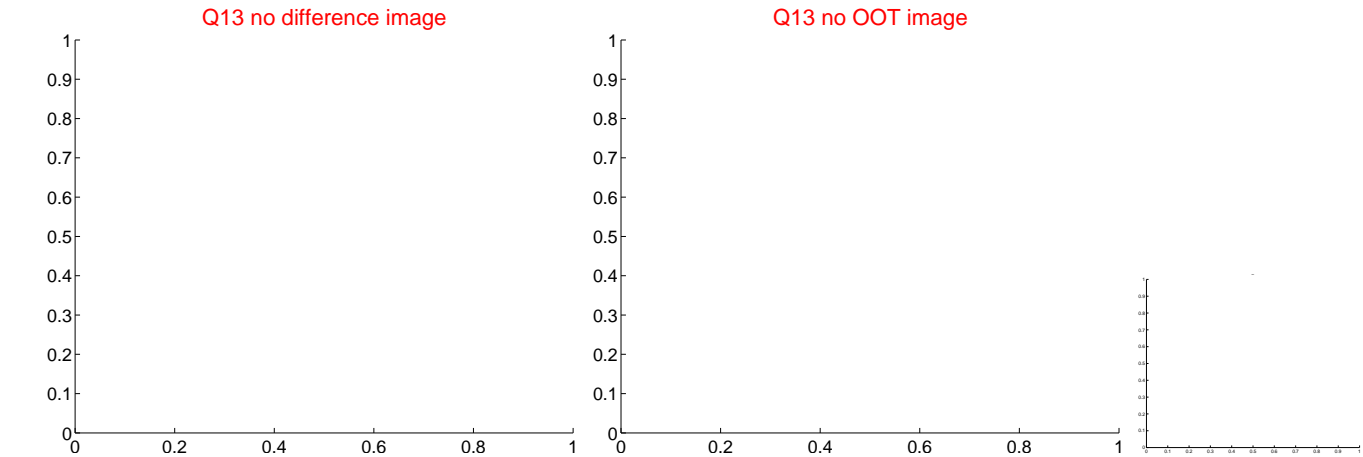
Q12 no difference image



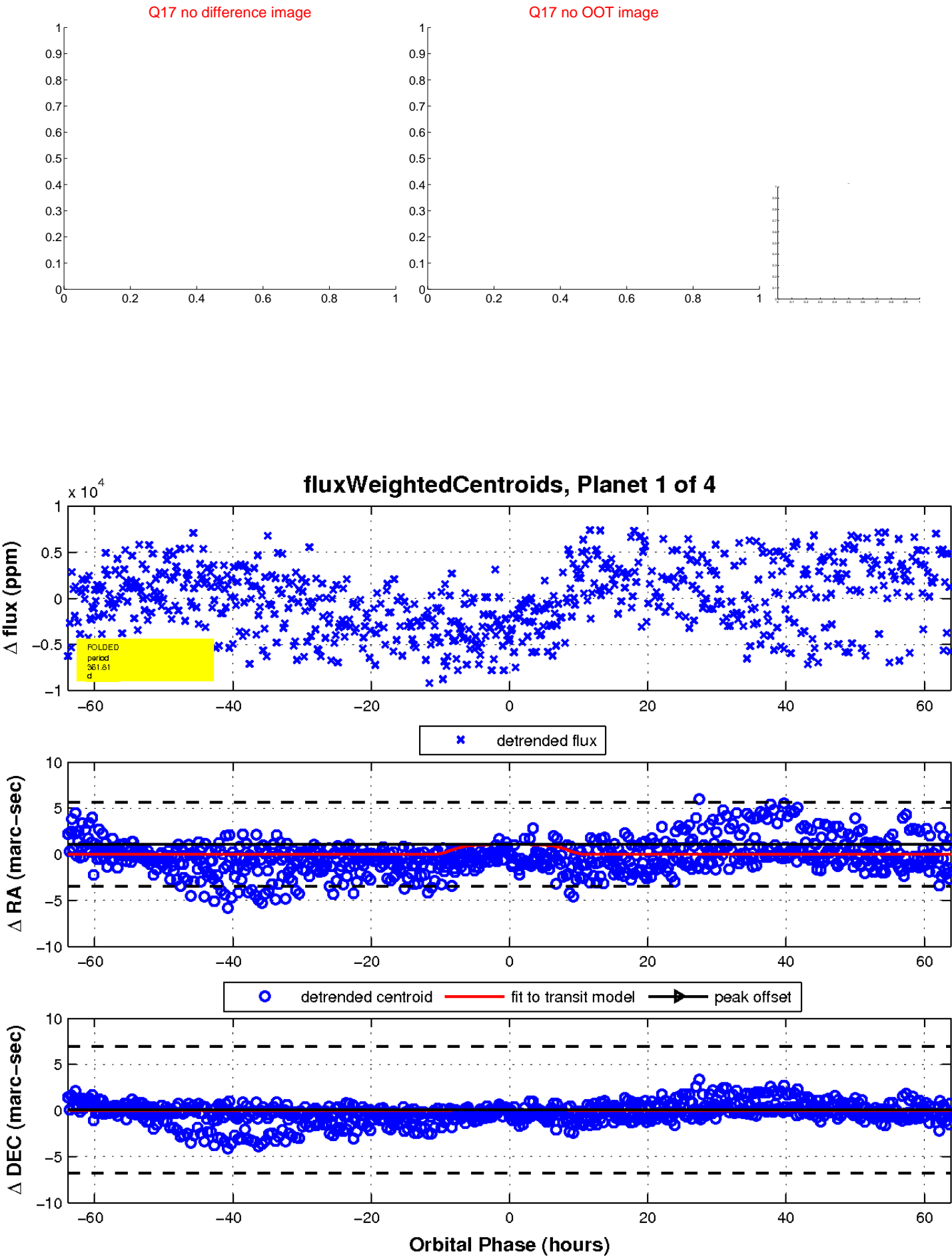
Q12 no OOT image



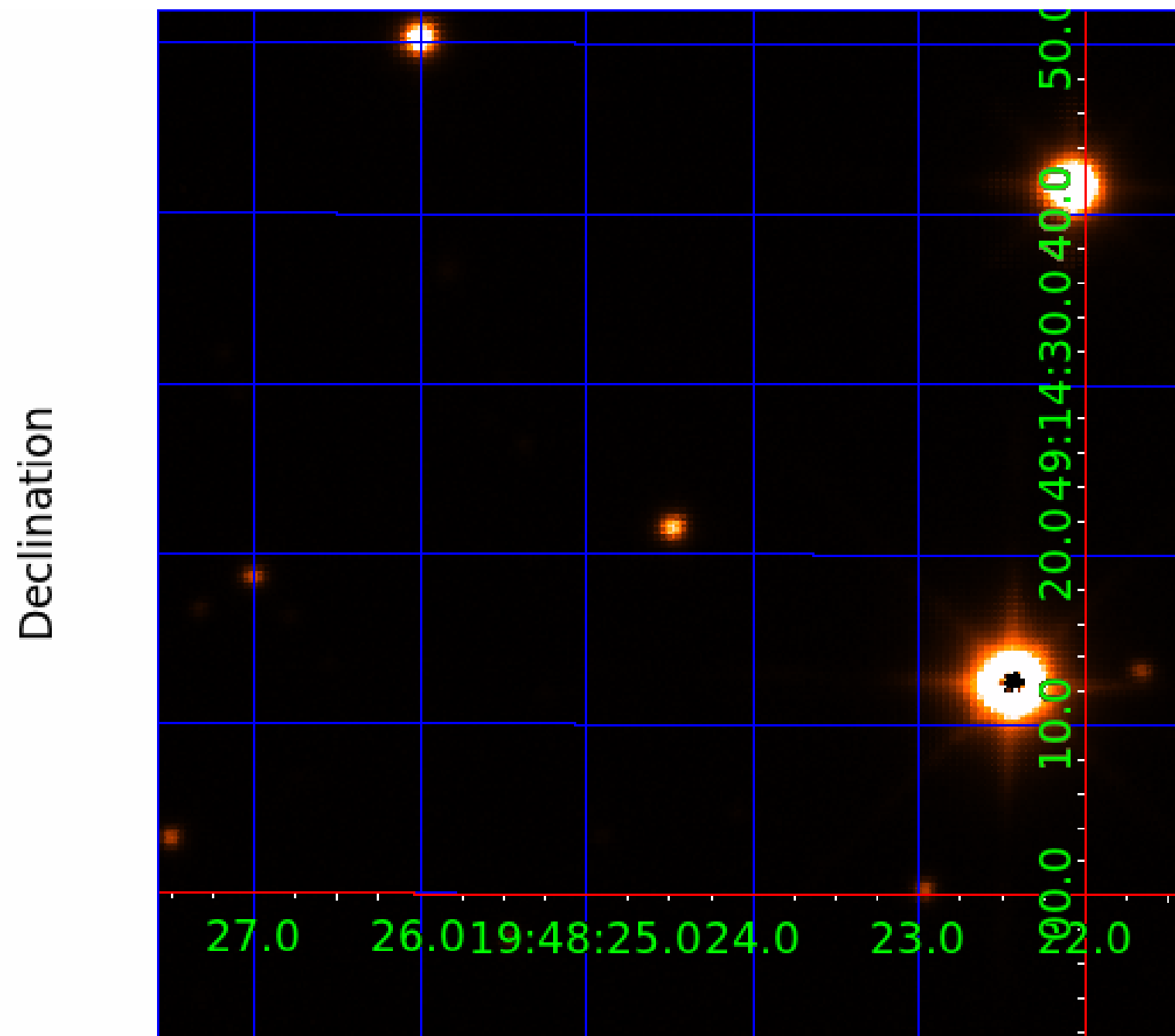
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image



KIC 011414728

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})
011414728-01	OBS	No	361.805086	225.262834	3531.6	21.294	9.1	8.4	0.86	5591	5.92	0.71
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011414728-04	OBS	No	384.465691	394.244590	32712.7	3.000	42.3	-1.0	0.86	5591	15.36	0.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011414728-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
011414728-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS
011414728-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
011414728-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS

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

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

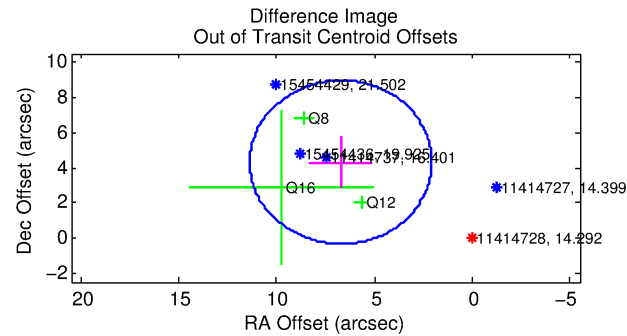
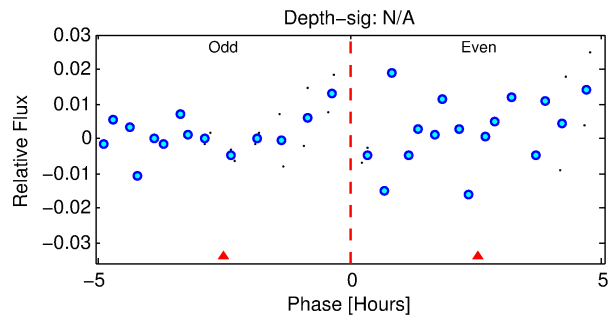
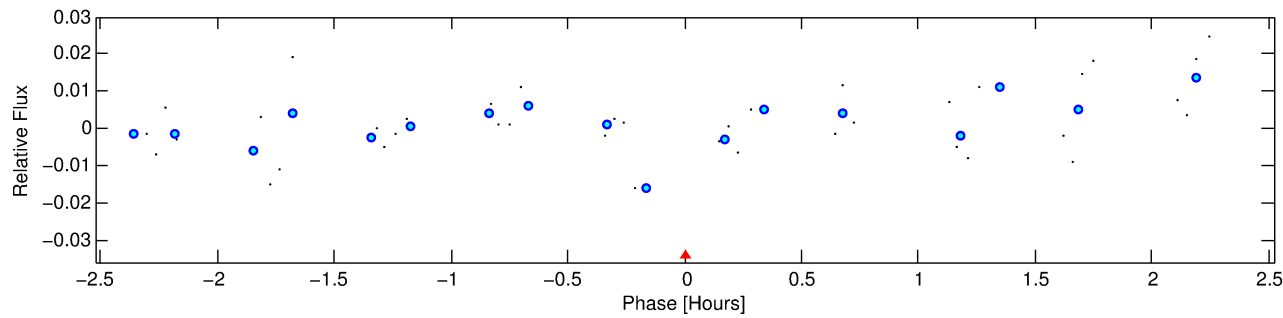
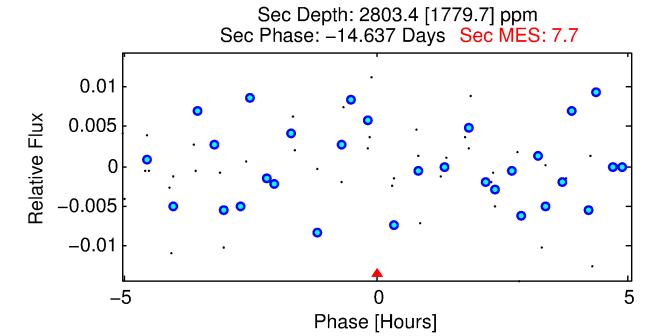
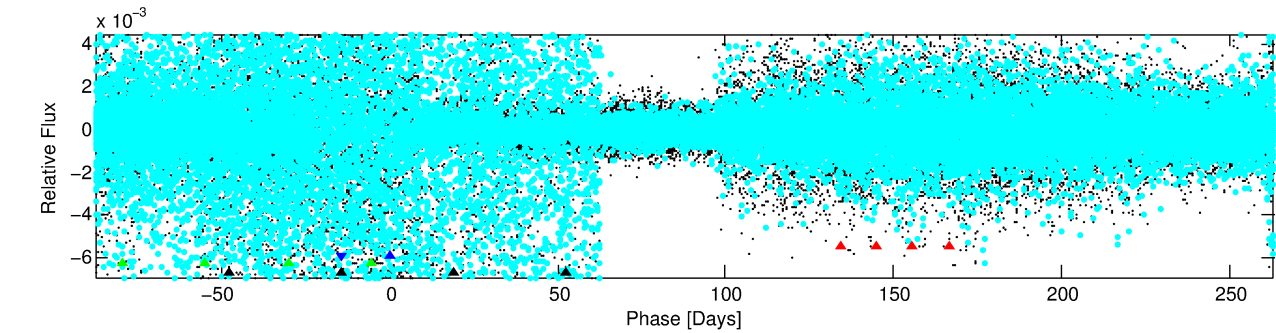
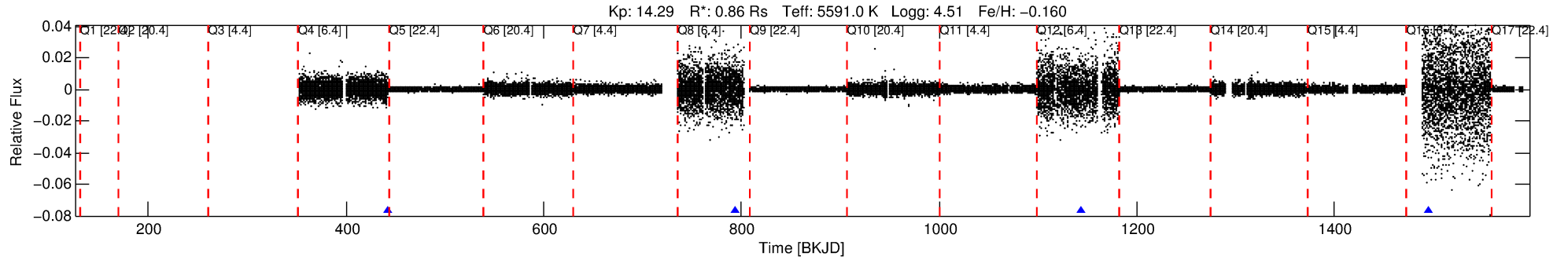
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011414728-02

No Significant Match Found

DV One-Page Summary

KIC: 11414728 Candidate: 2 of 4 Period: 351.047 d



TPS TCE Results:

Period = 351.04741 d
Epoch = 442.2918 BKJD

DV fit results are unavailable

DV Diagnostic Results:

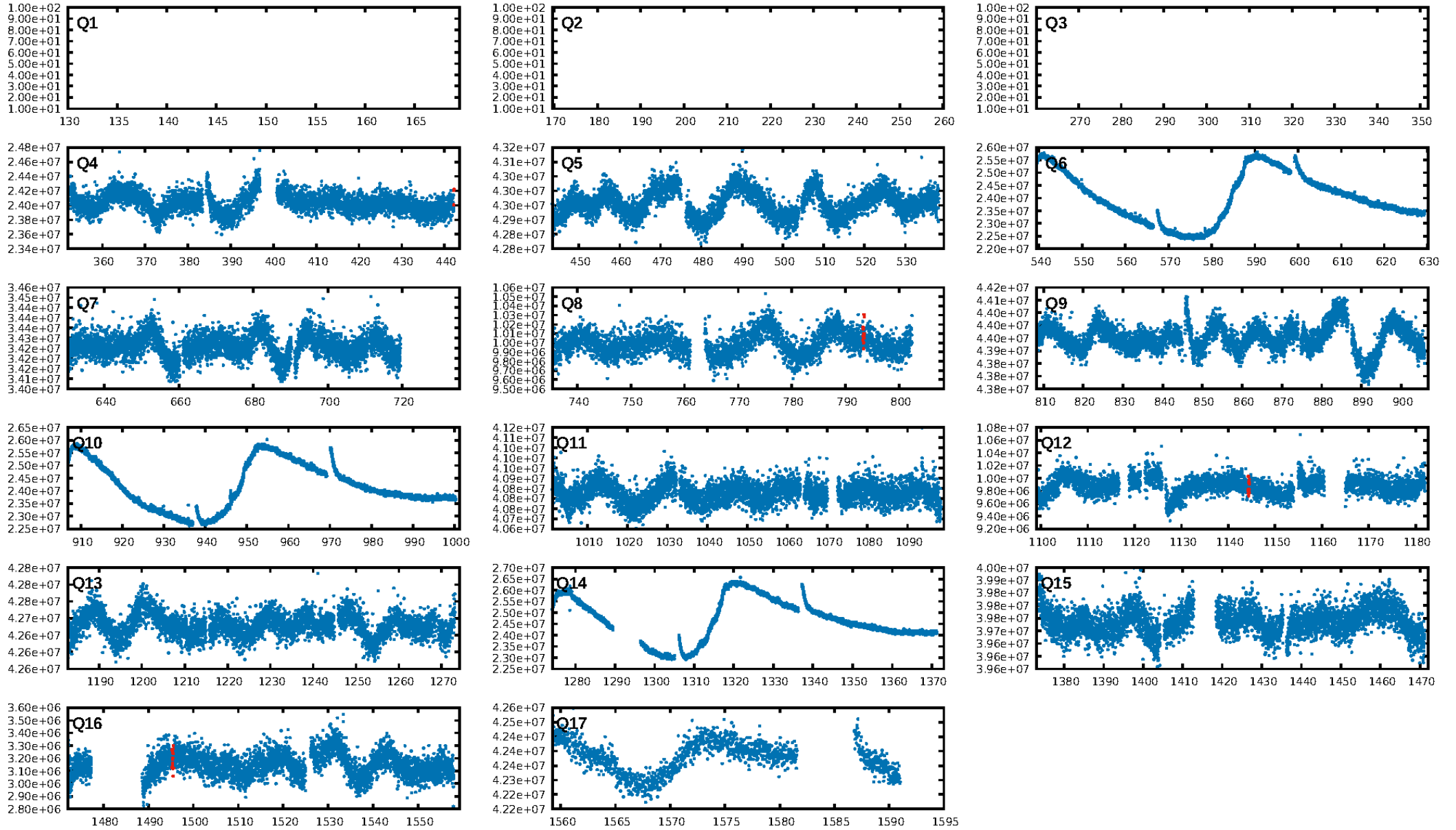
ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [11.96σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 4.529

Centroid-sig: 96.1%
Centroid-so: 3.376 arcsec [3.35σ]
OotOffset-rm: 7.988 arcsec [5.15σ]
KicOffset-rm: 1.484 arcsec [0.60σ]
OotOffset-st: 0/0/3/0 [3]
KicOffset-st: 0/0/3/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 1.00 [3/3]

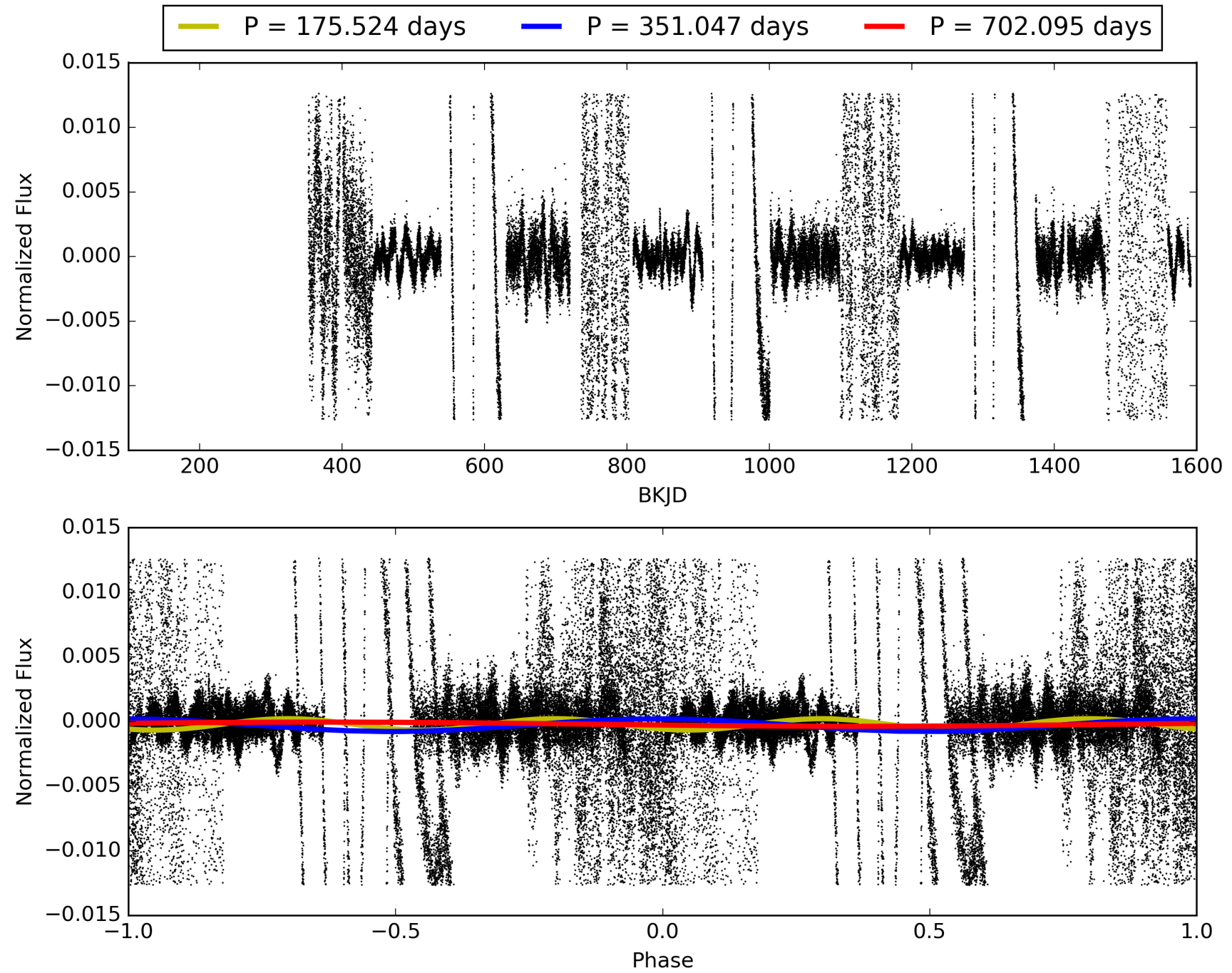
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:41:34 Z

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

TCE 011414728-02, PDC Light Curves

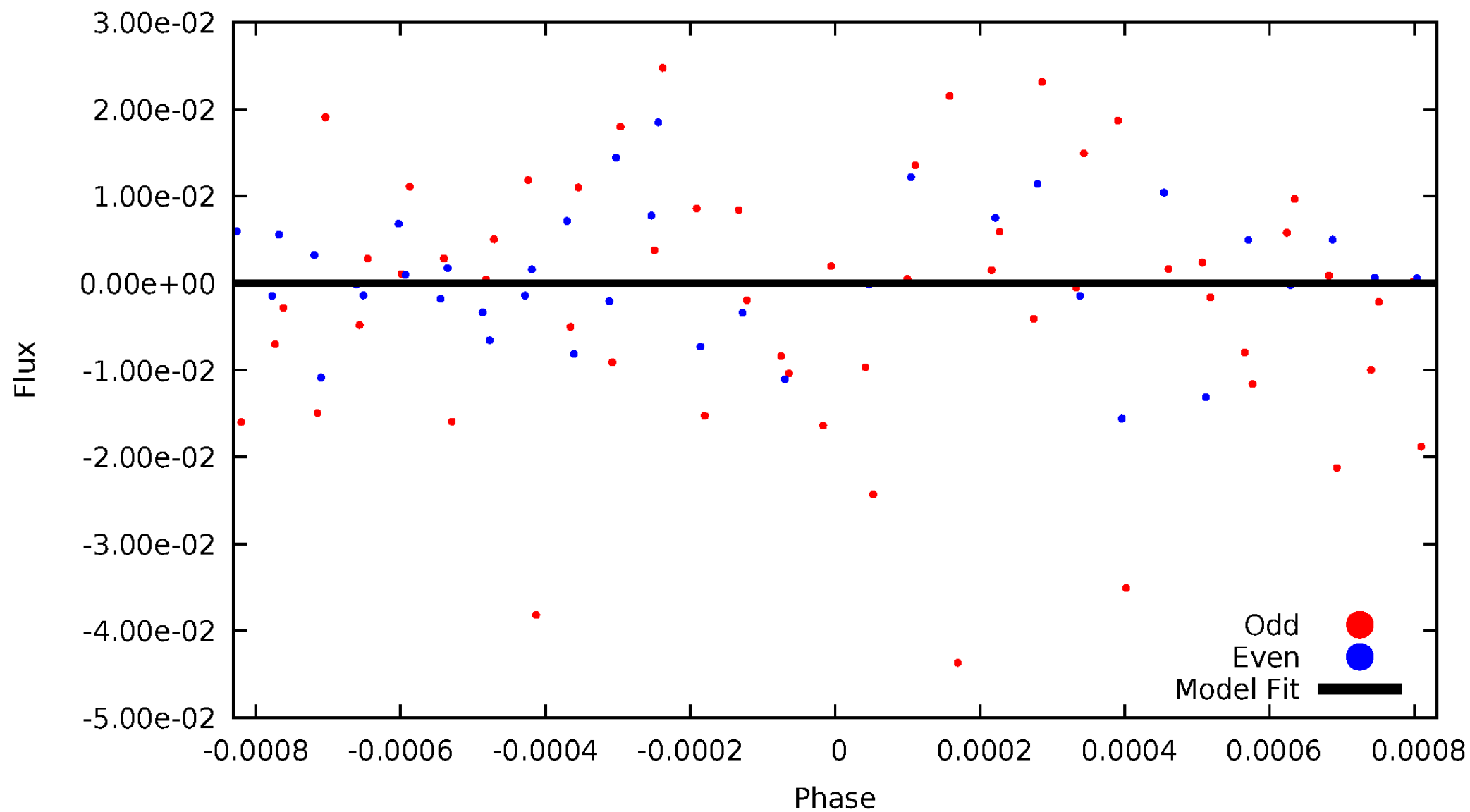


TCE 011414728-02



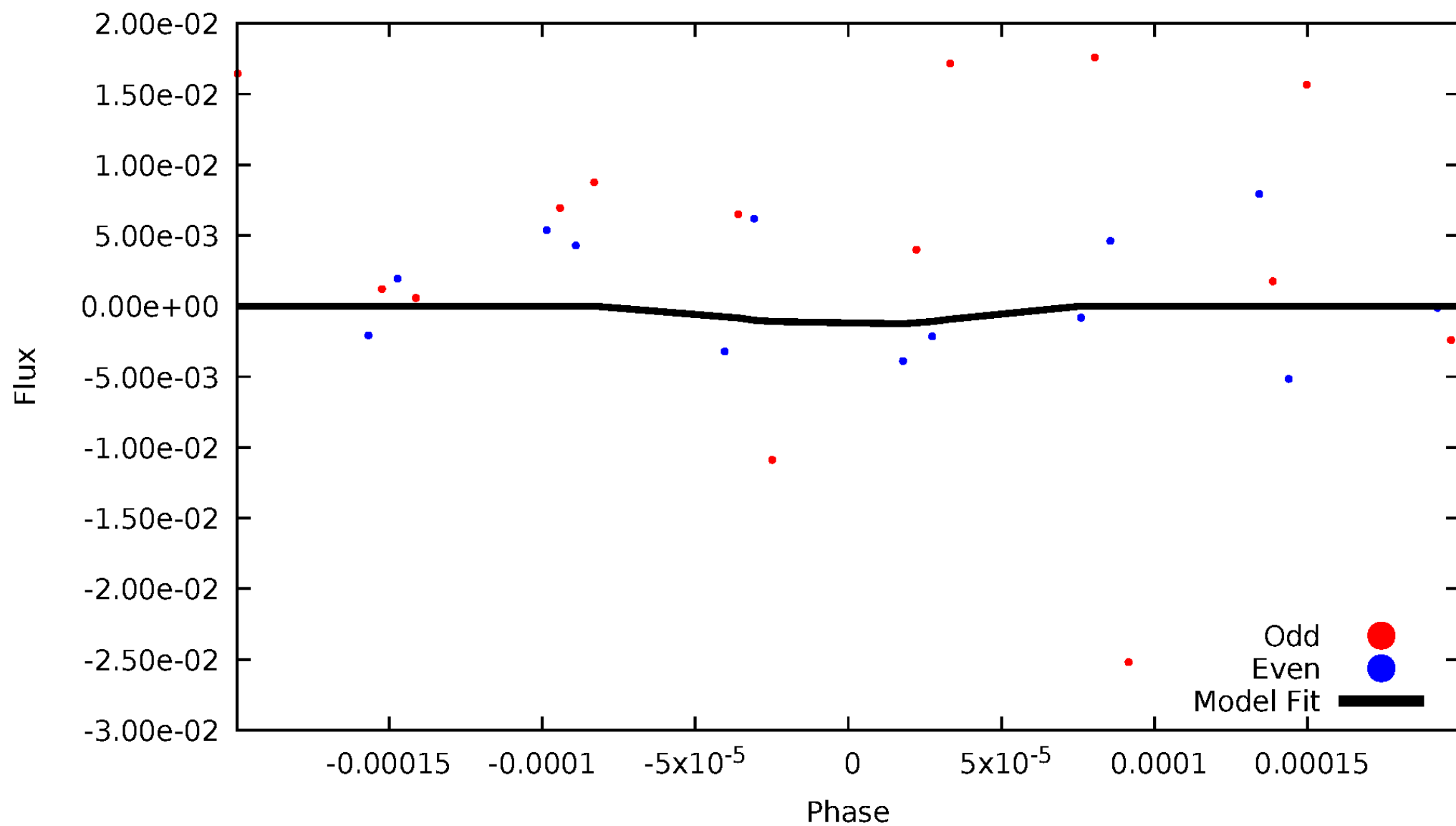
DV Odd/Even

TCE 011414728-02



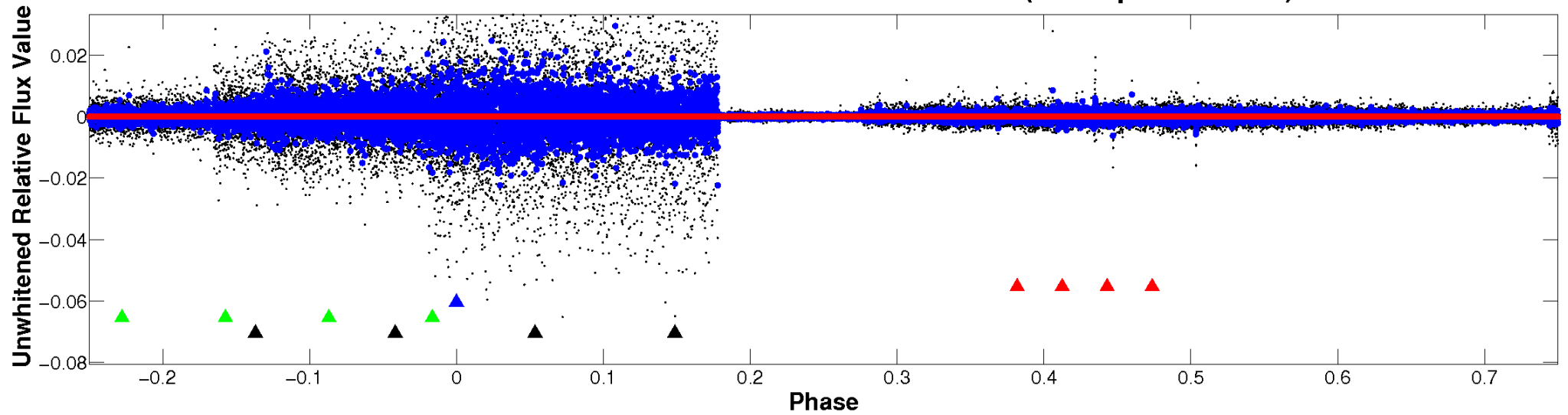
ALT Odd/Even

TCE 011414728-02



Non-Whitened Vs. Whitened Light Curve

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

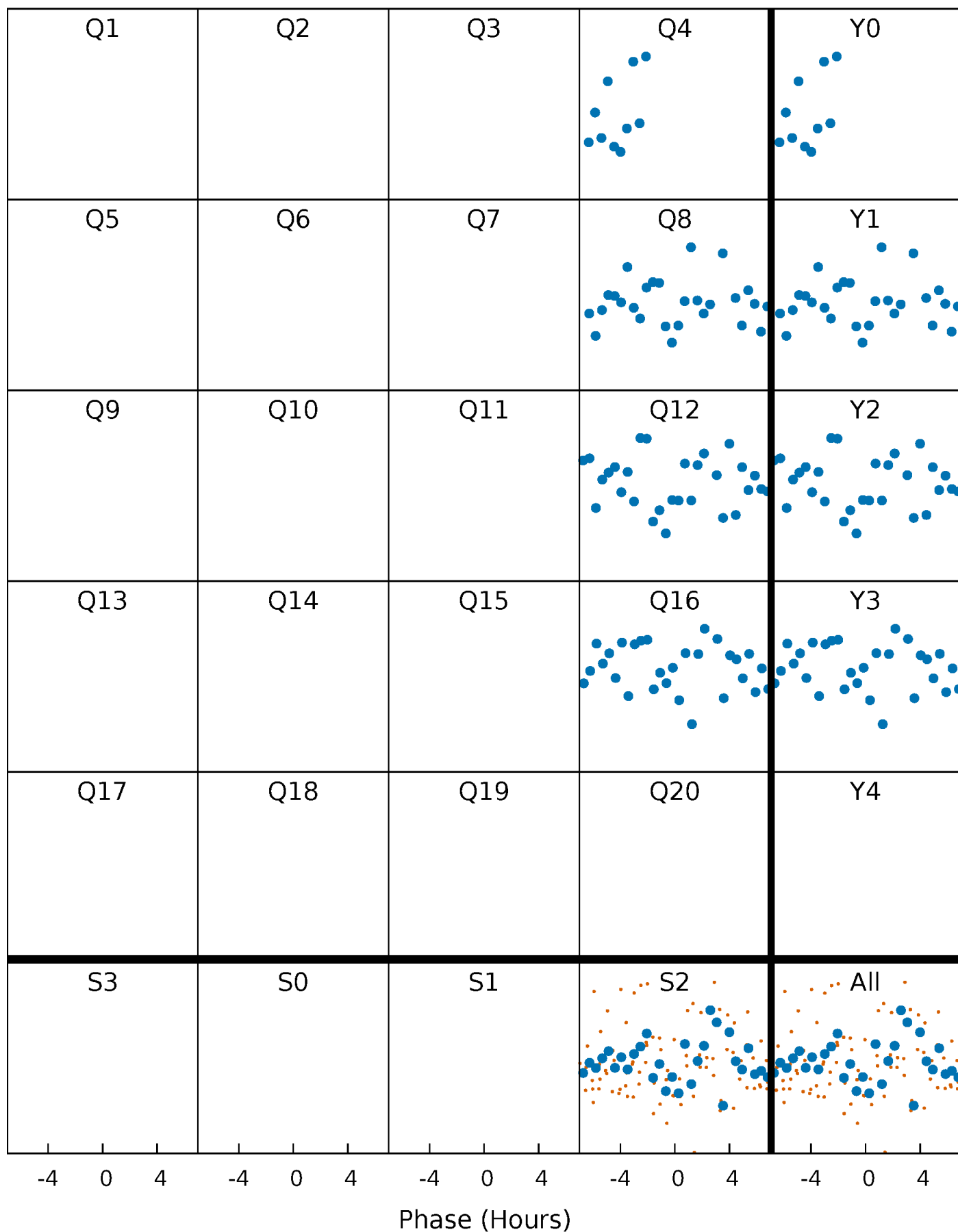


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



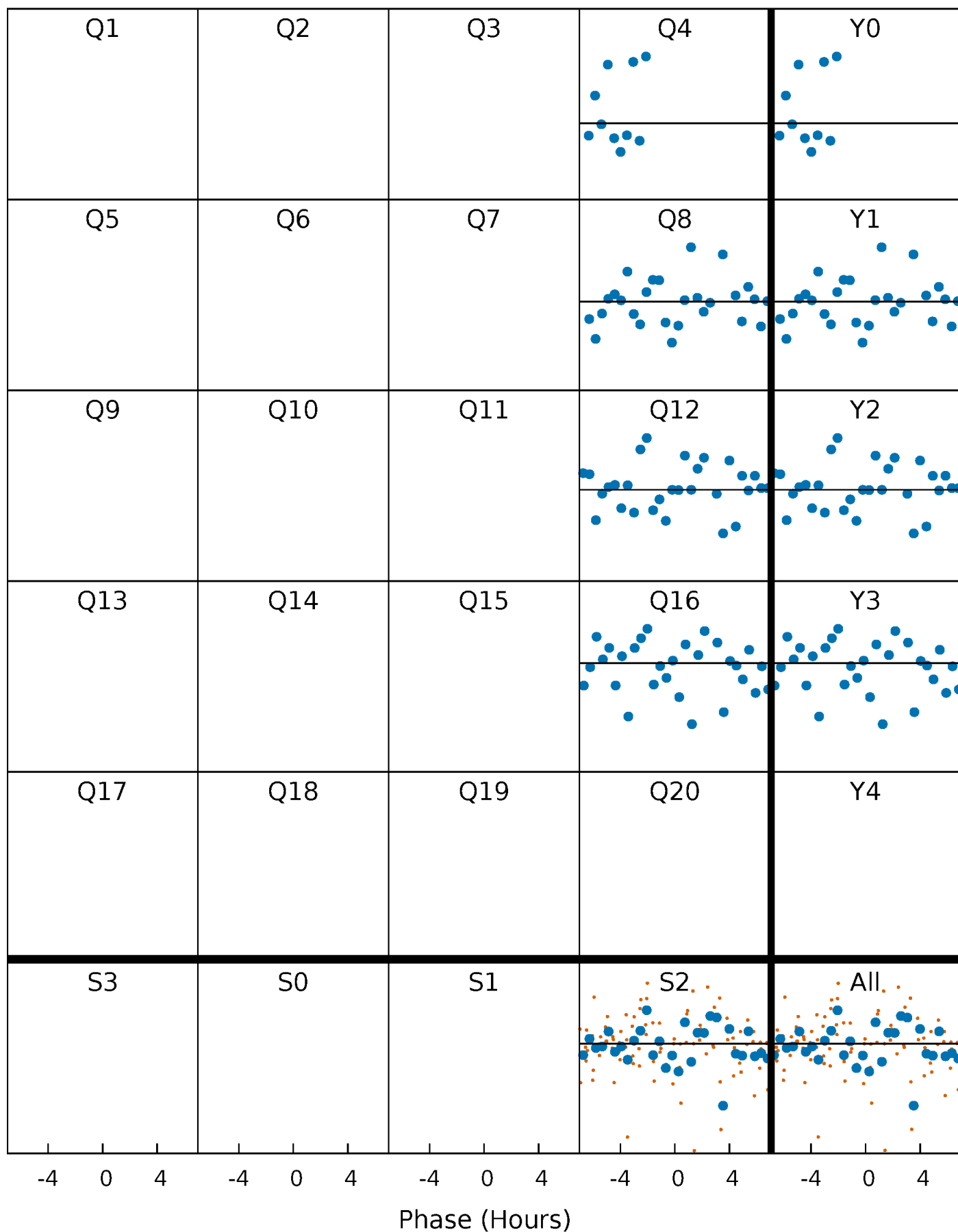
PDC Quarter-Phased Transit Curves

TCE 011414728-02 $P=351.047410$ Days $T_0=442.291819$ (BKJD)



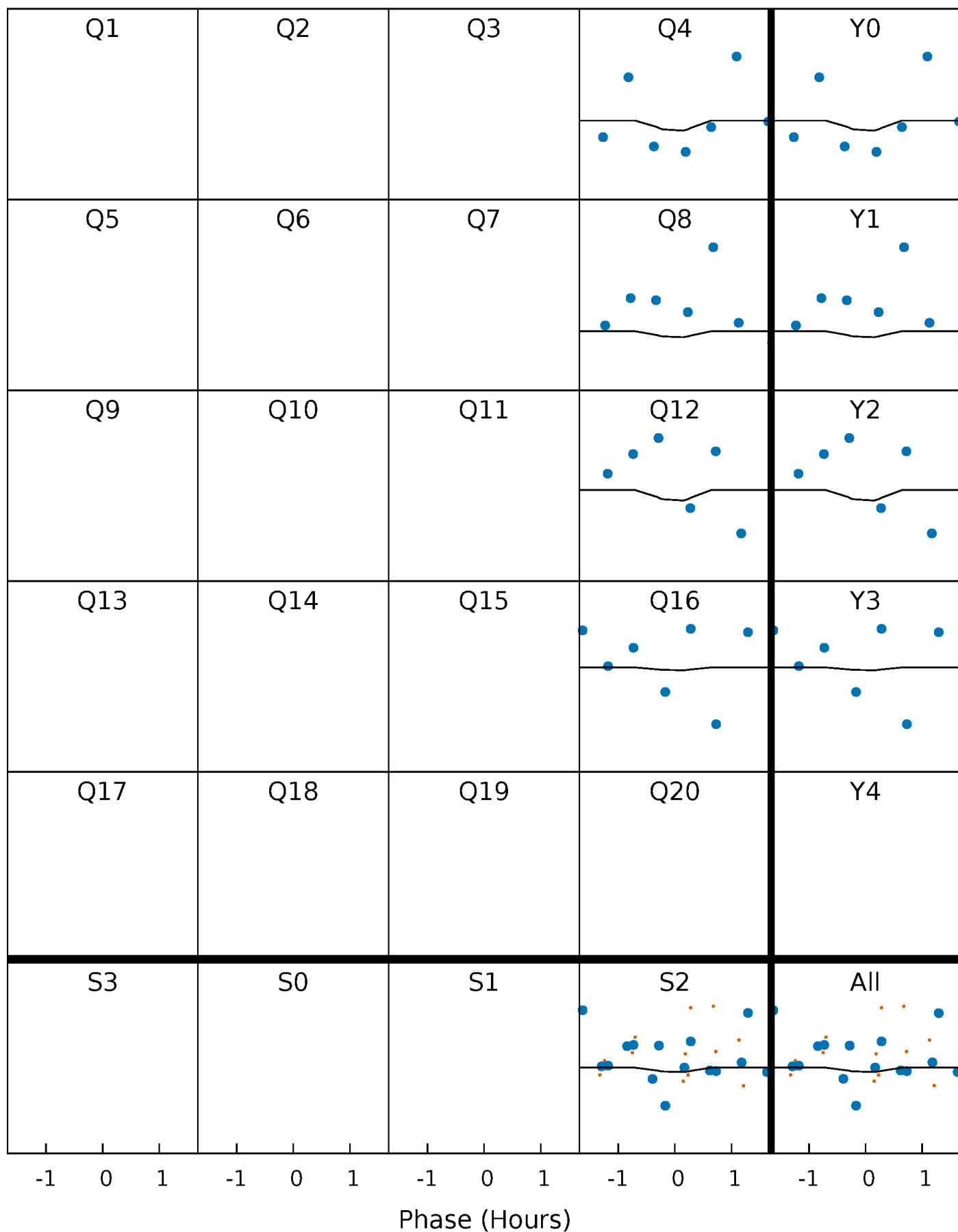
DV Quarter-Phased Transit Curves

TCE 011414728-02 P=351.047410 Days $T_0=442.291819$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

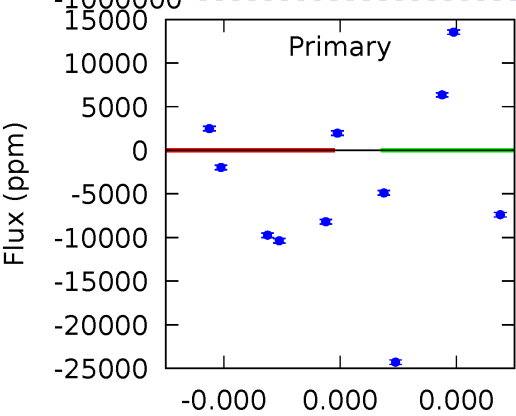
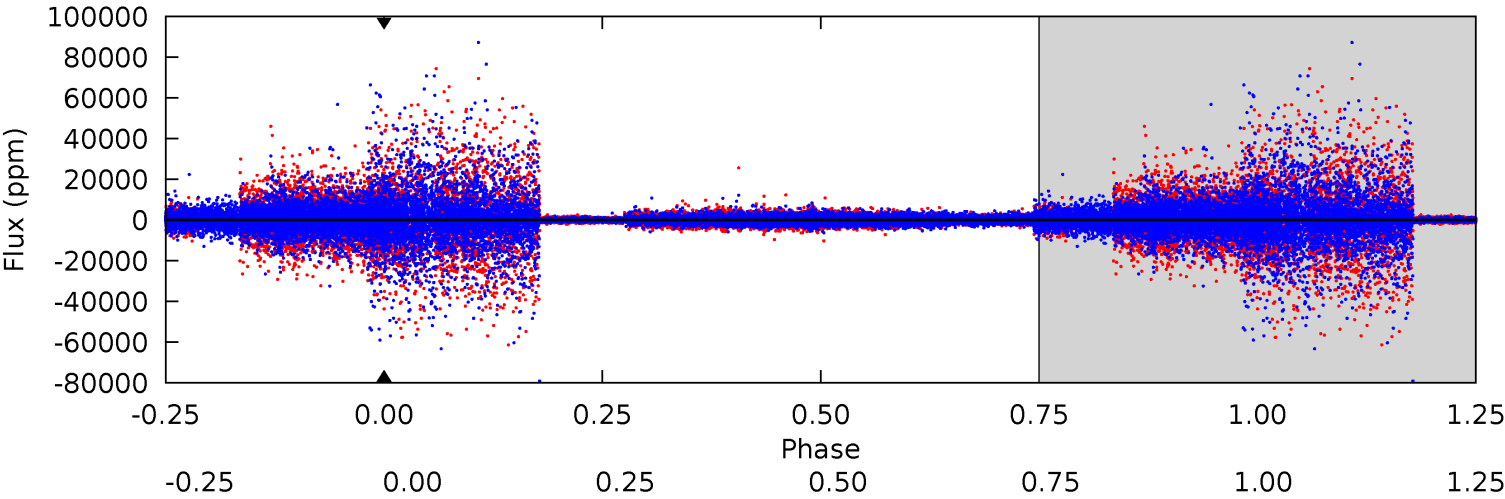
TCE 011414728-02 P=351.047410 Days $T_0=442.114732$ (BKJD)



DV Model-Shift Uniqueness Test

011414728-02, P = 351.047410 Days, E = 91.244409 Days

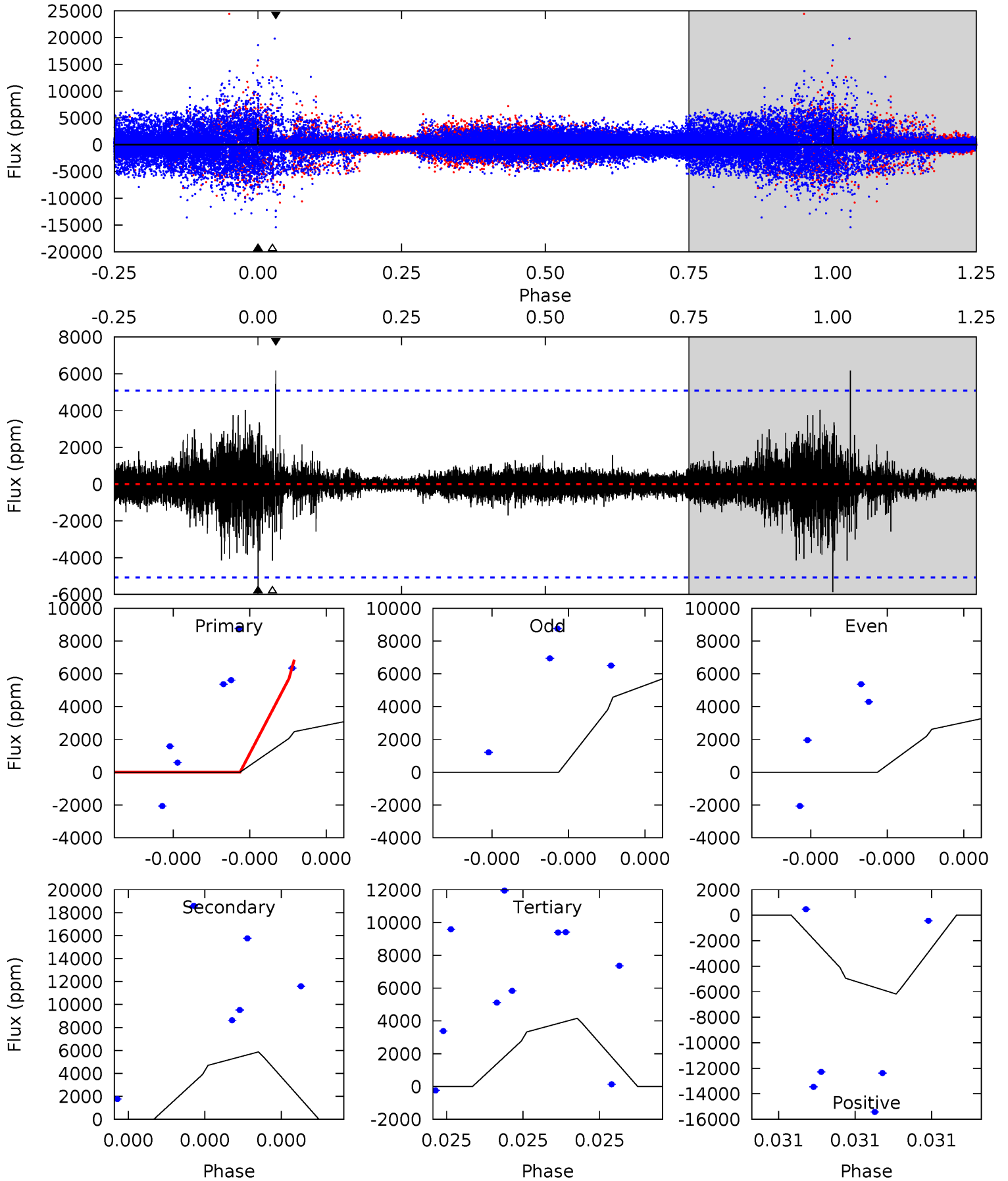
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011414728-02, P = 351.047410 Days, E = 91.067322 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.59	6.82	4.83	7.17	5.90	3.96	0.53	-1.24	-3.58	1.99	-0.35	1.05	0.70	0.51	0



Stellar Parameters For KIC 011414728

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5591^{+182}_{-182}	$4.512^{+0.058}_{-0.161}$	$-0.160^{+0.300}_{-0.300}$	$0.858^{+0.211}_{-0.090}$	$0.875^{+0.102}_{-0.091}$	$1.948^{+0.559}_{-0.863}$
	+3%/-3%	+1%/-4%	+188%/-188%	+25%/-10%	+12%/-10%	+29%/-44%
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 011414728-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$15.94^{+9.51}_{-8.45}$	336^{+21}_{-16}	3330^{+5953}_{-11696}	$3407^{+328413}_{-235375}$
Alt.	-5874 ± 861	$7.42^{+8.49}_{-5.19}$	336^{+21}_{-16}	5552^{+6179}_{-1433}	$48527^{+507791}_{-37040}$

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

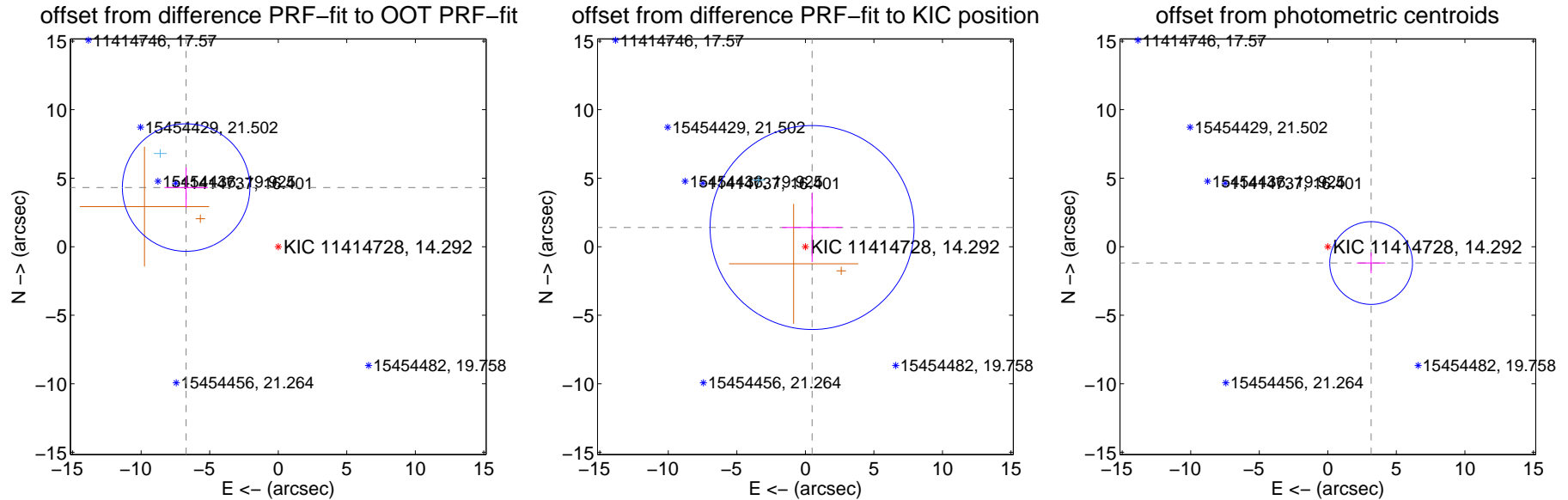
DV Centroid Data

Supplemental centroid analysis for 011414728-02. Kepler magnitude: 14.29. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

The OOT PRF centroid is offset from the target star catalog position by about 9.83 arcsec so the offset from difference PRF-fit to OOT-PRF-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.988 ± 1.551	5.15	6.720 ± 1.584	4.317 ± 1.466
PRF-fit source offset from KIC position	1.484 ± 2.481	0.60	-0.489 ± 2.188	1.401 ± 2.514
photometric centroid source offset	3.38 ± 1.01	3.35	-3.16 ± 1.04	-1.19 ± 0.76

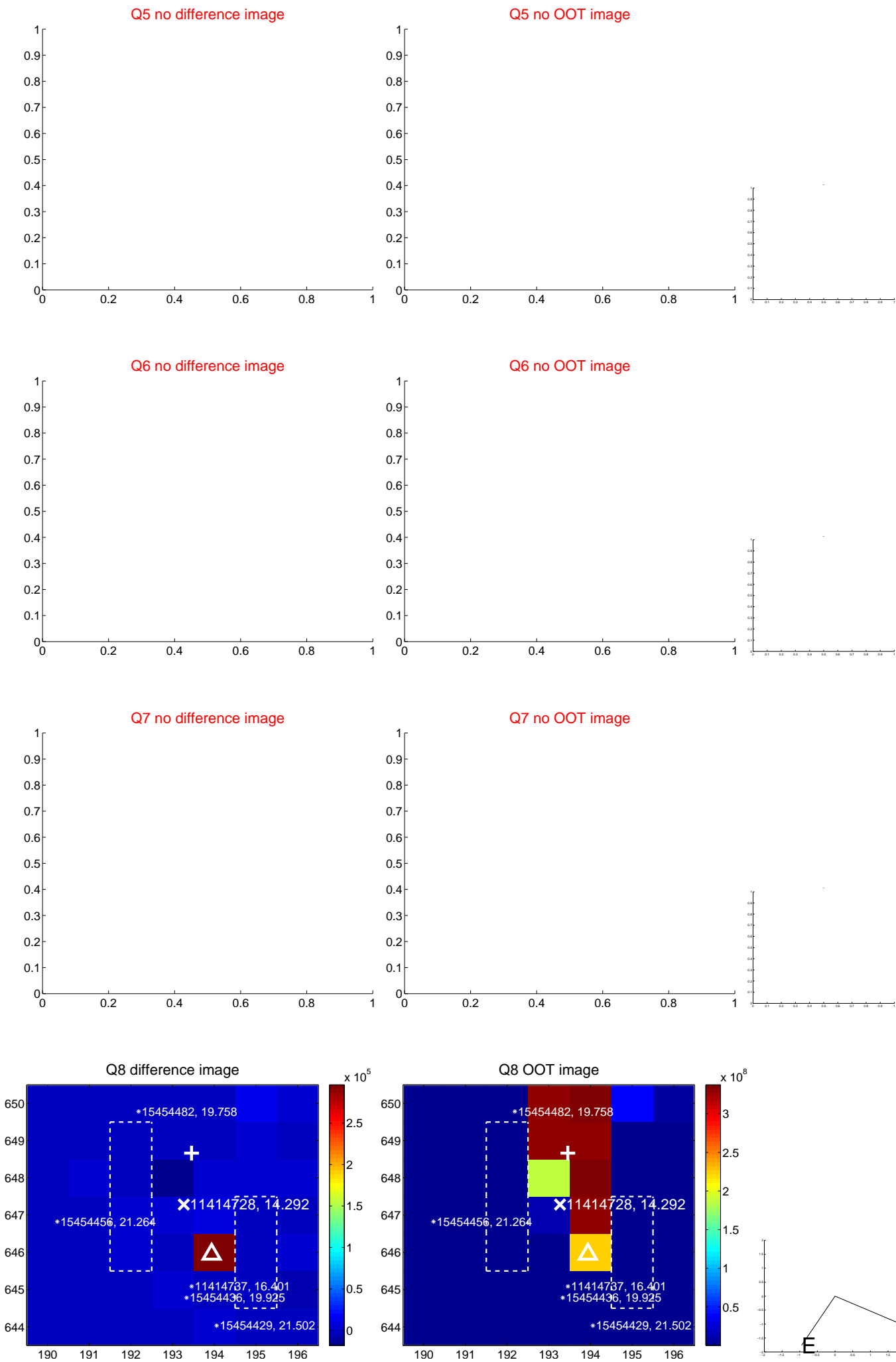


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

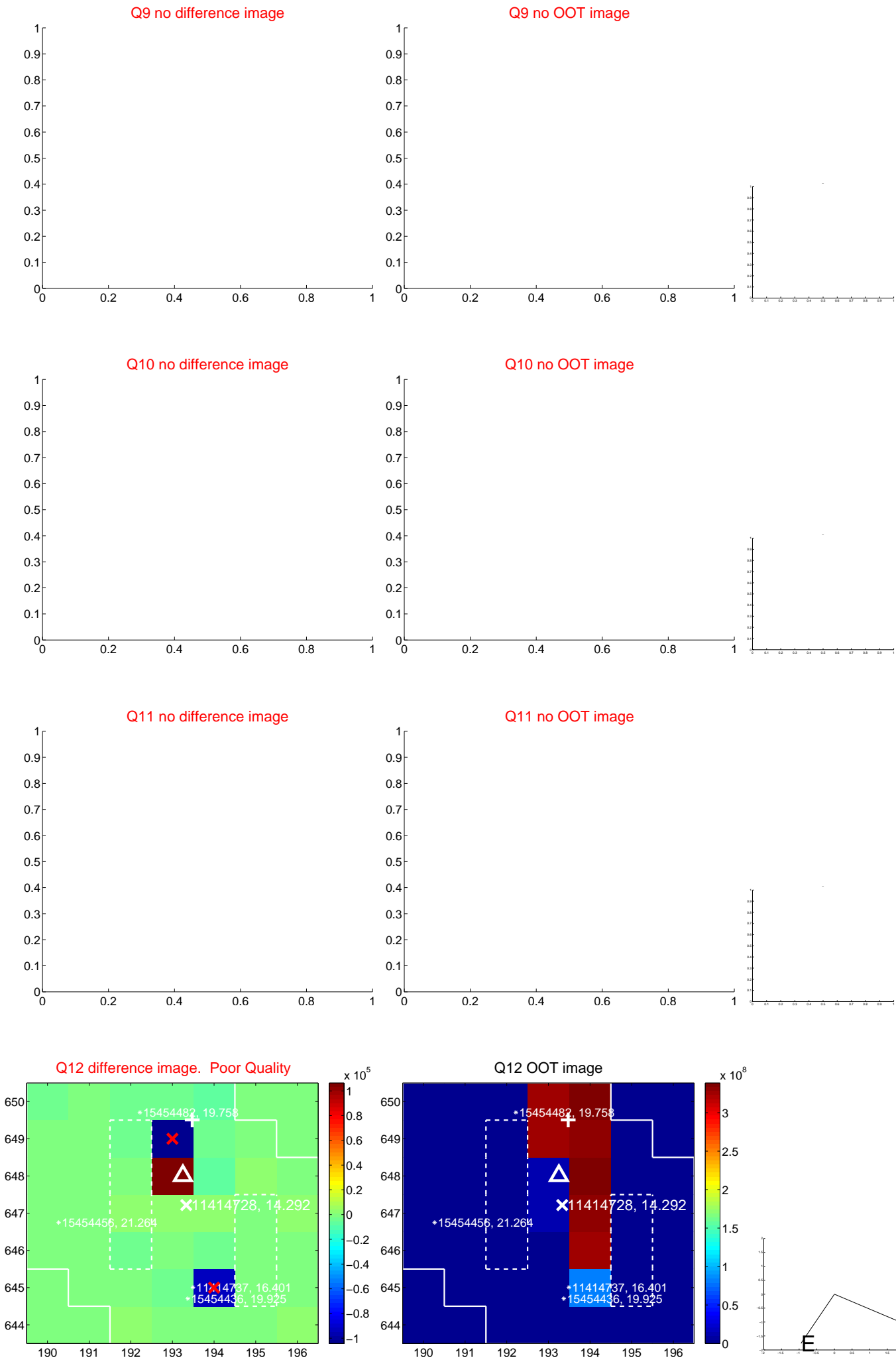
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



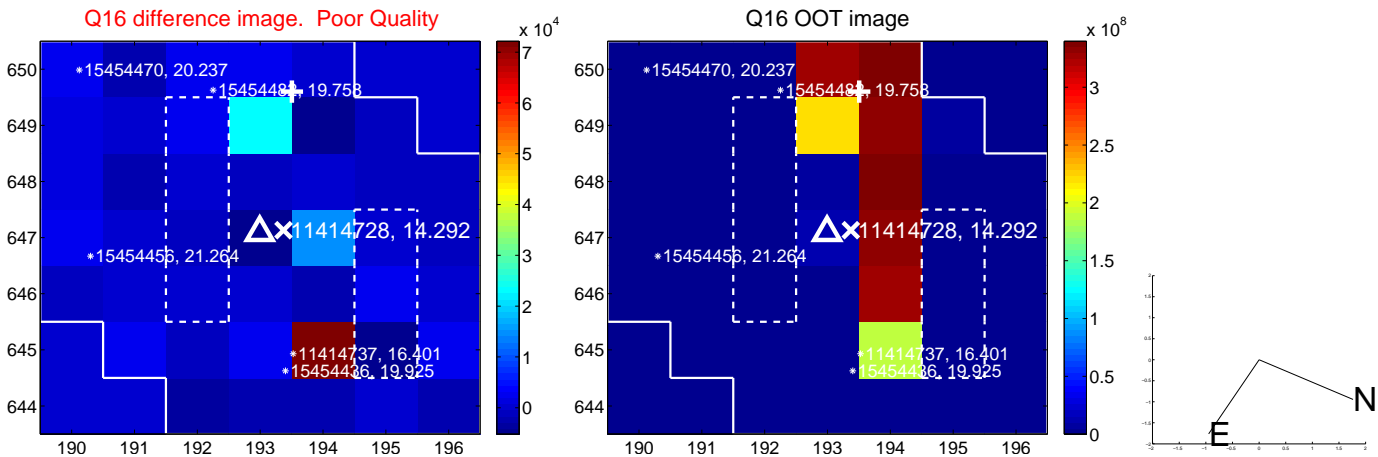
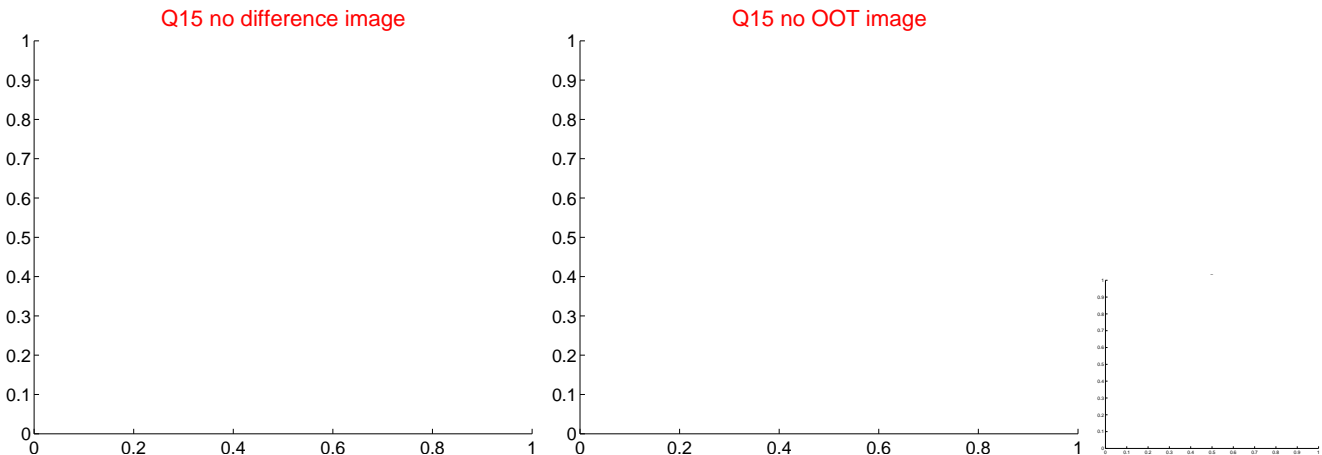
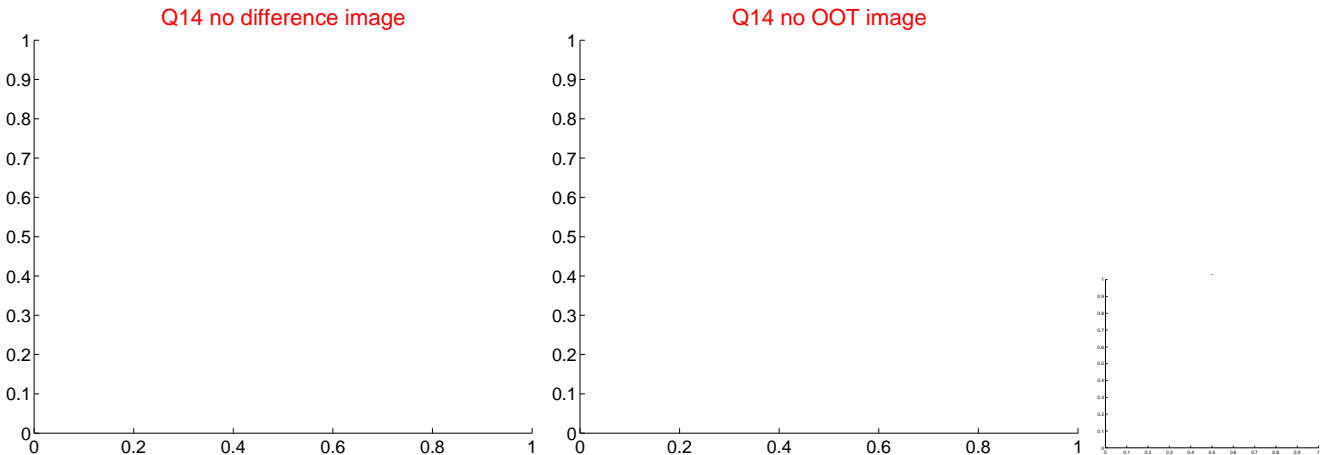
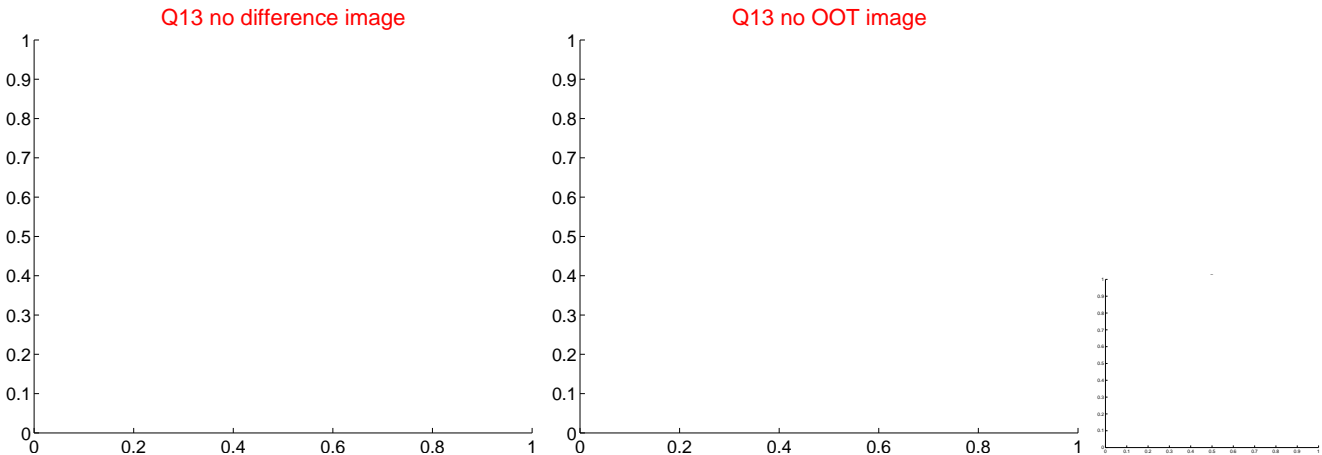
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



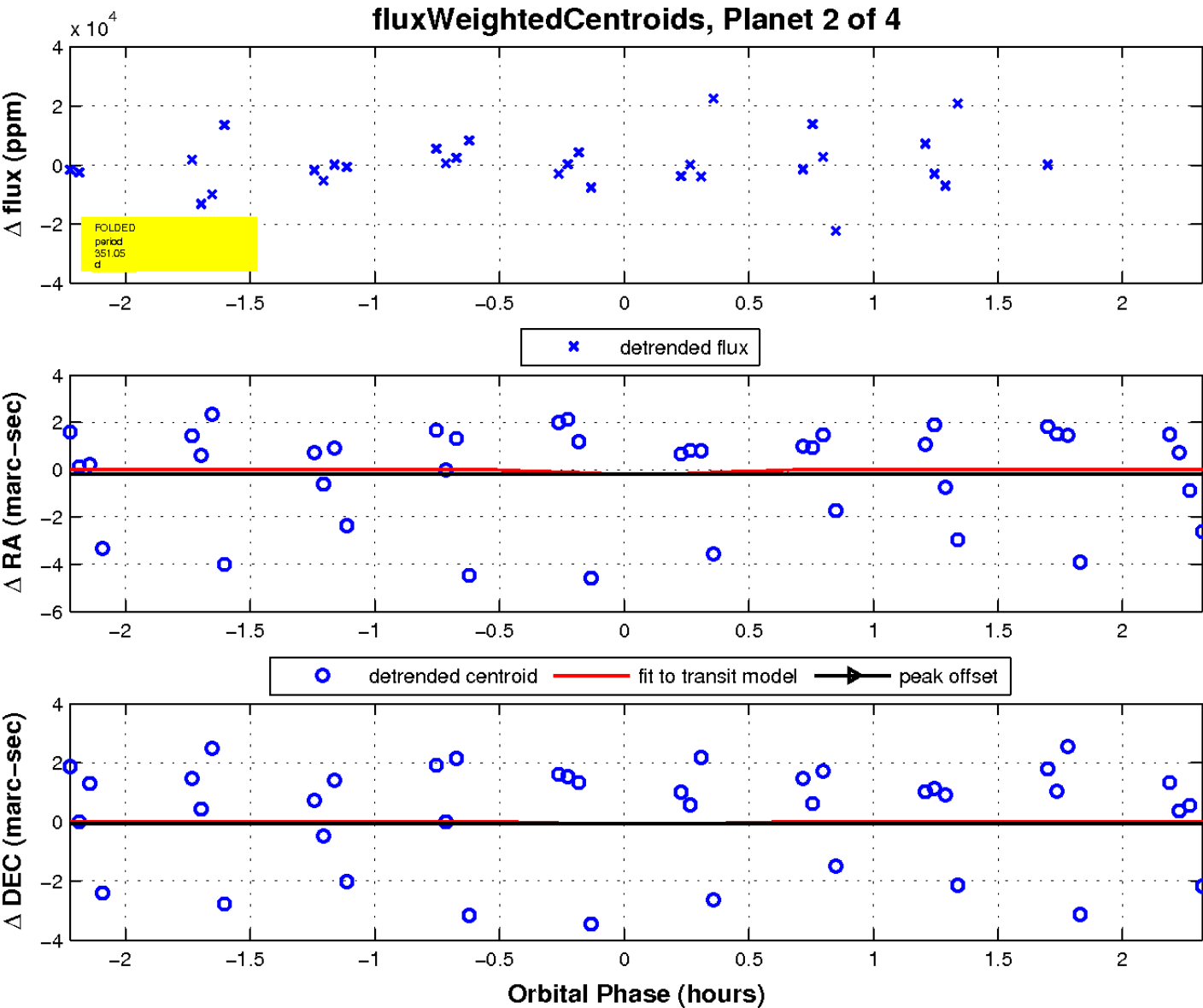
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



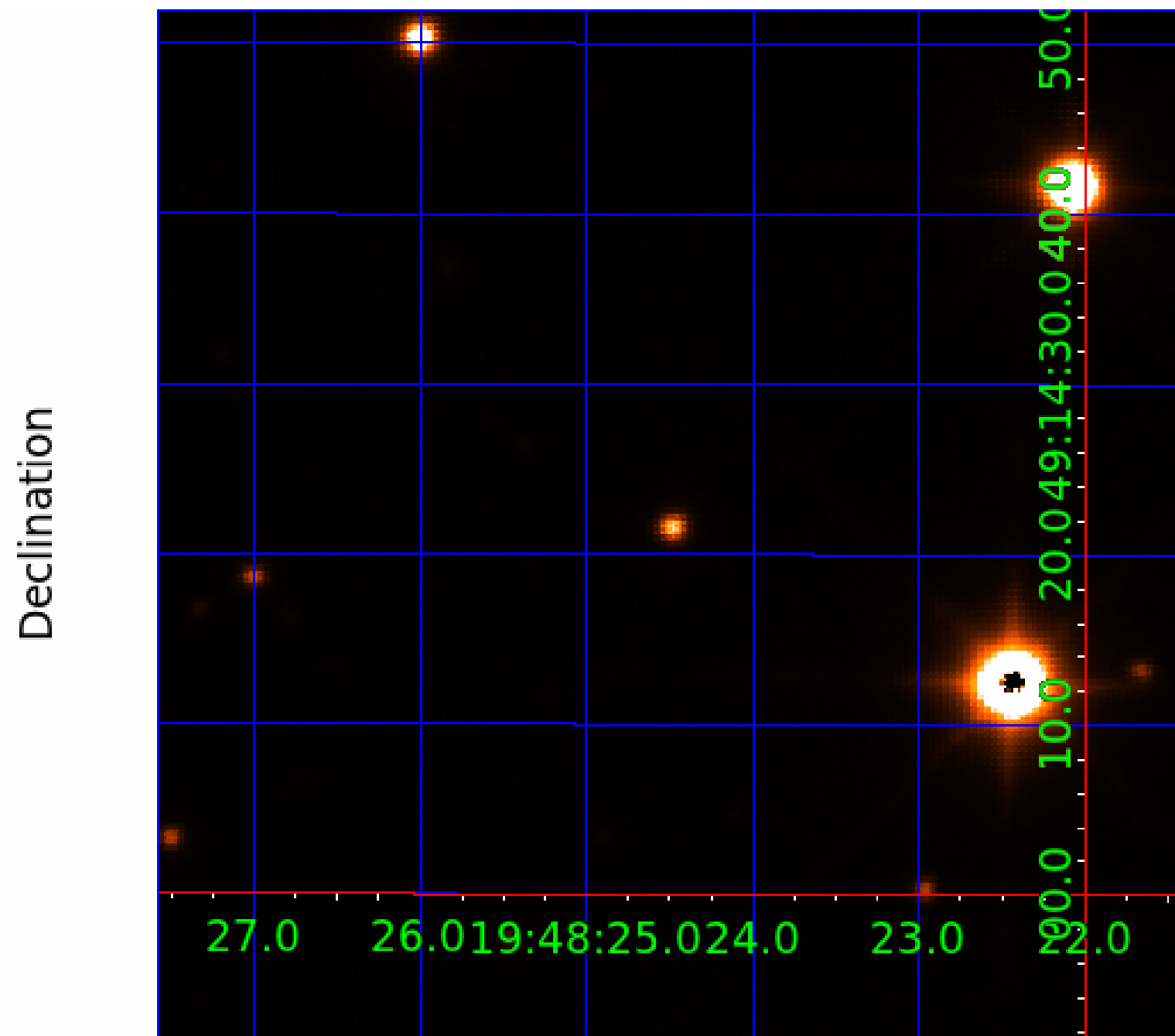
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



UKIRT Image



KIC 011414728

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})
011414728-01	OBS	No	361.805086	225.262834	3531.6	21.294	9.1	8.4	0.86	5591	5.92	0.71
011414728-02	OBS	No	351.047410	442.291819	30432.7	3.500	40.7	-1.0	0.86	5591	14.81	0.74
011414728-03	OBS	No	375.773367	362.343040	6544.7	4.254	37.1	12.5	0.86	5591	6.87	0.68
011414728-04	OBS	No	384.465691	394.244590	32712.7	3.000	42.3	-1.0	0.86	5591	15.36	0.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011414728-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
011414728-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS
011414728-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
011414728-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS

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

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

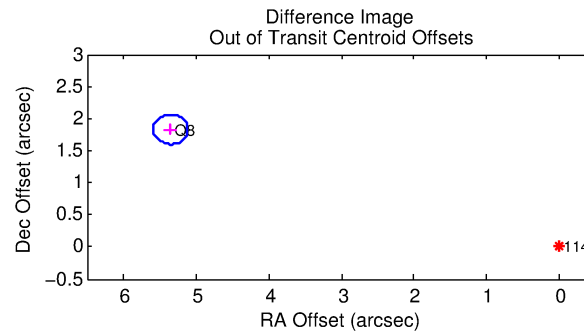
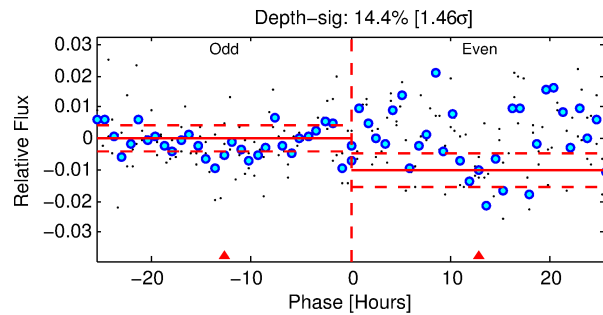
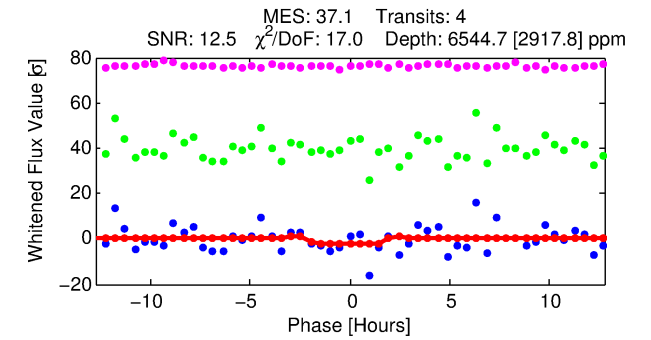
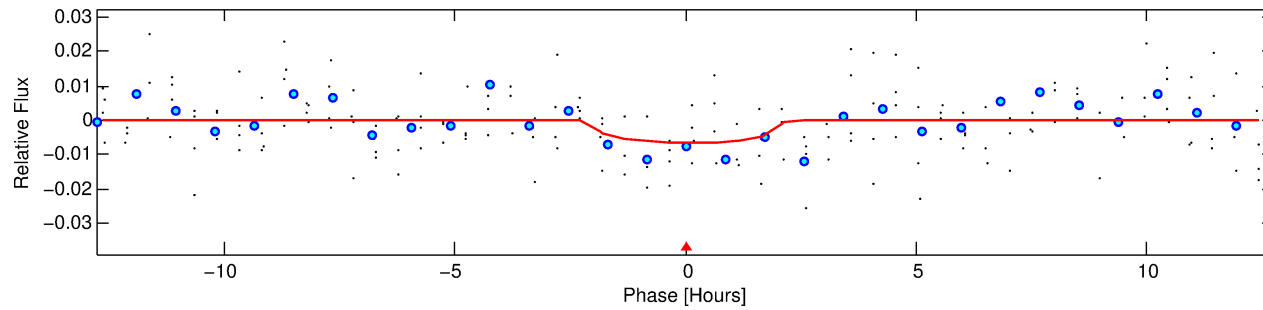
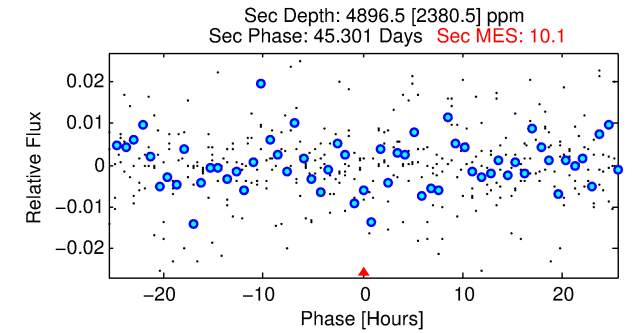
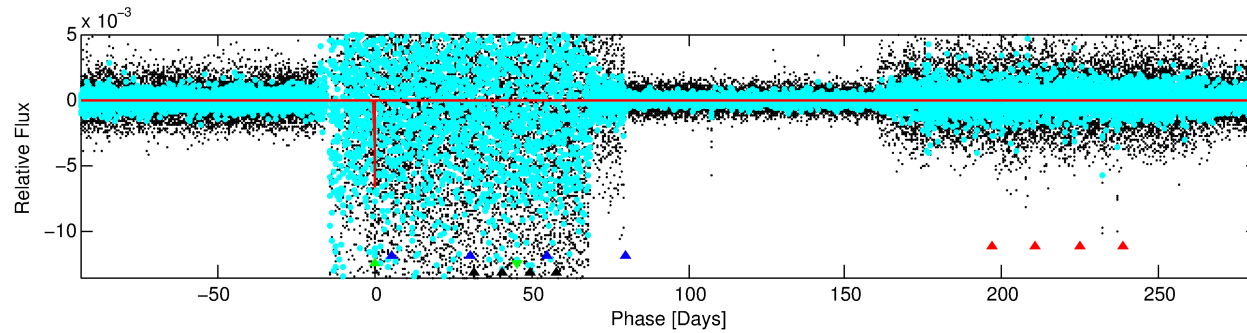
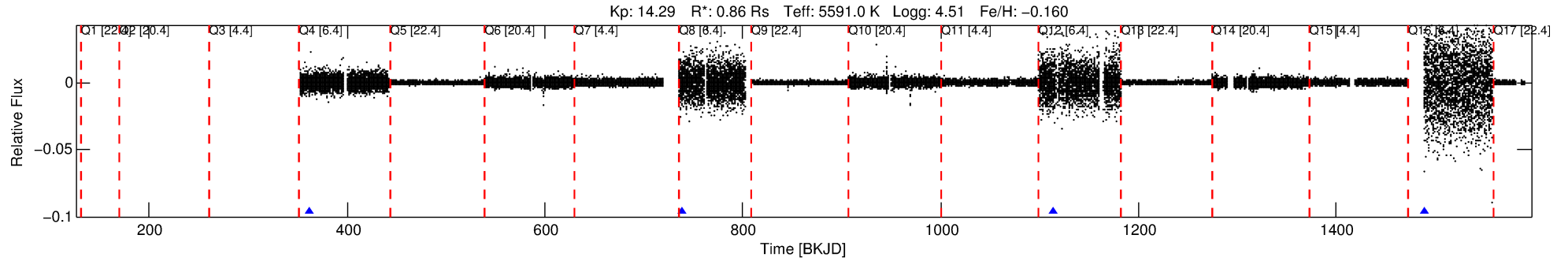
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011414728-03

No Significant Match Found

DV One-Page Summary

KIC: 11414728 Candidate: 3 of 4 Period: 375.773 d



DV Fit Results:

Period = 375.77337 [0.01515] d
Epoch = 362.3430 [0.0377] BKJD
Rp/R* = 0.0734 [0.1841]
a/R* = 716.87 [7348.58]
b = 0.15 [65.55]
Seff = 0.68 [0.22]
Teq = 231 [19] K
Rp = 6.87 [17.32] Re
a = 0.9742 [0.2000] AU
Ag = 54128.18 [273301.41] [0.20σ]
Teffp = 5459 [6881] K [0.76σ]

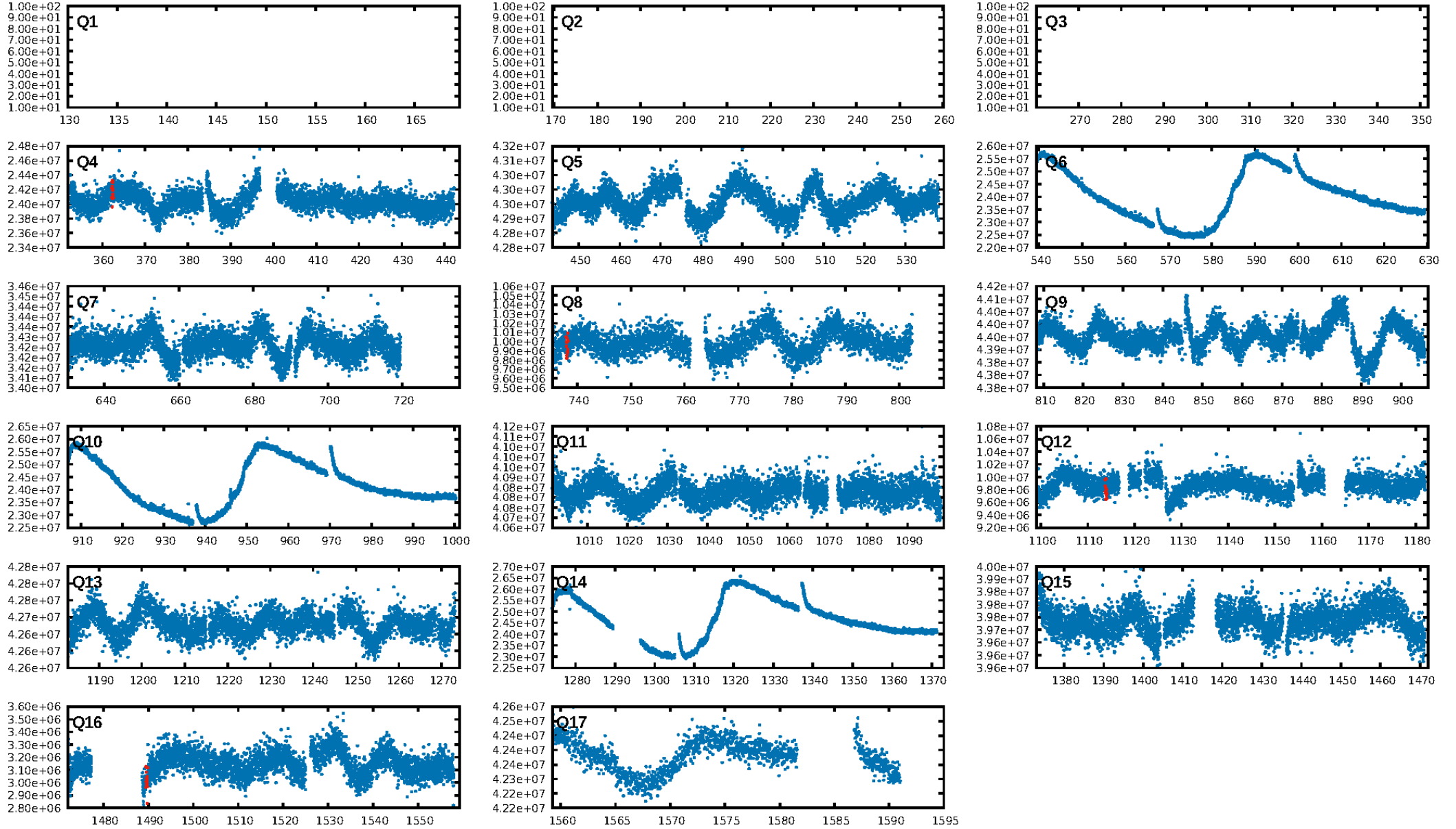
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.44σ]
LongPeriod-sig: 100.0% [40.08σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.5543
Centroid-sig: 48.4%
Centroid-so: 3.647 arcsec [22.64σ]
OotOffset-rm: 5.657 arcsec [72.53σ]
KicOffset-rm: 4.106 arcsec [52.80σ]
OotOffset-st: 0/0/1/0 [1]
KicOffset-st: 0/0/1/0 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 1.00 [3/3]

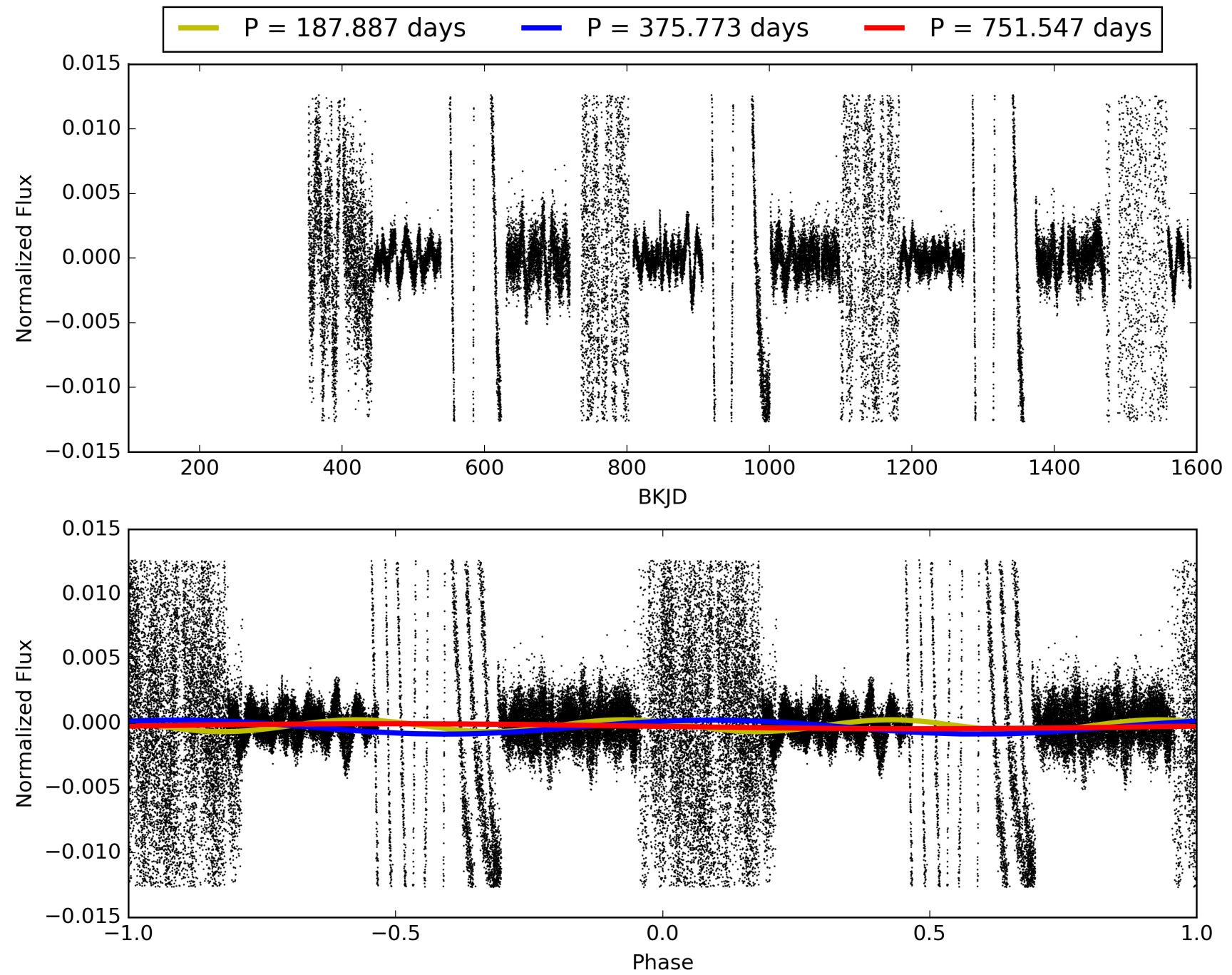
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:41:47 Z

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

TCE 011414728-03, PDC Light Curves

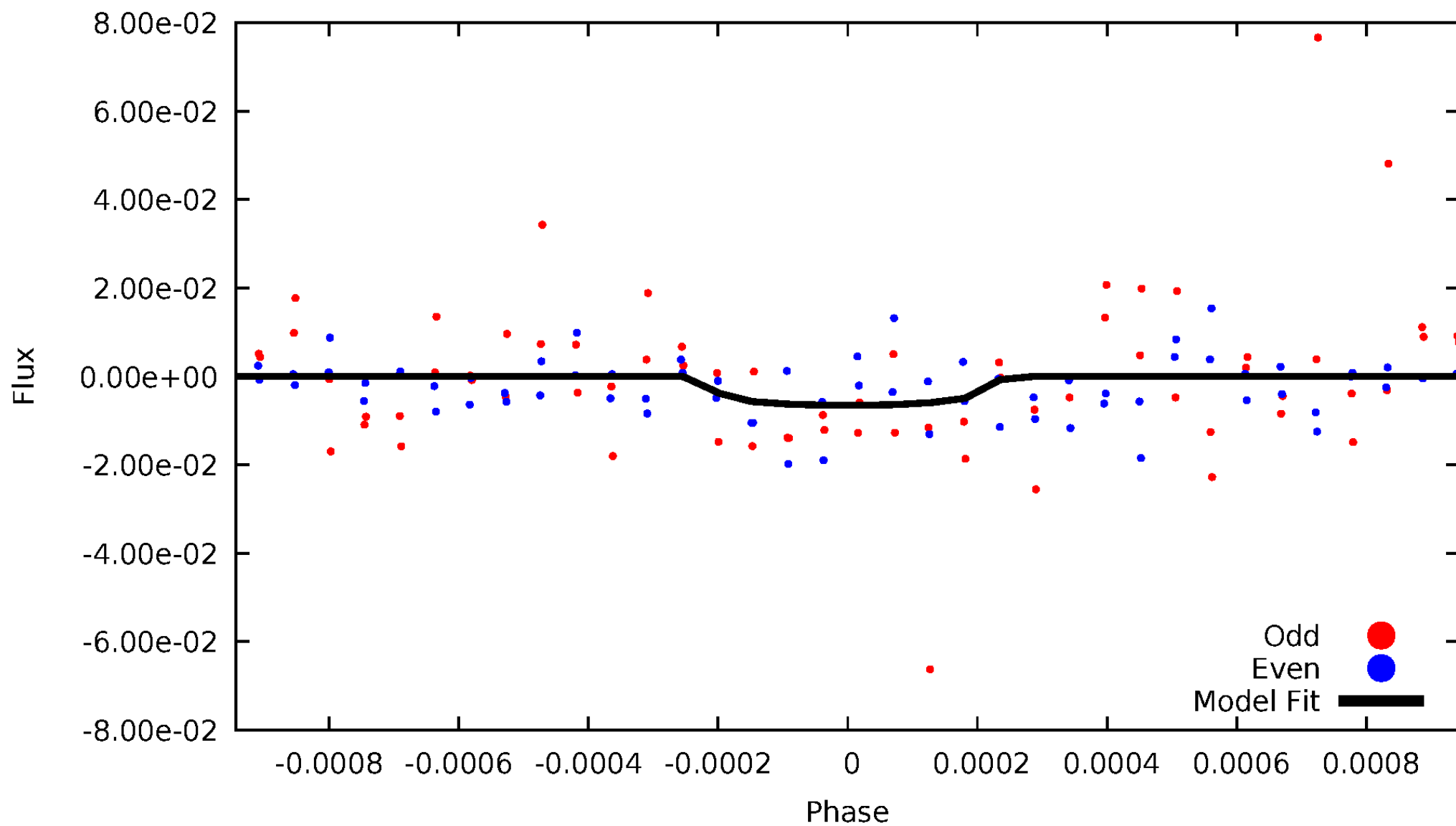


TCE 011414728-03



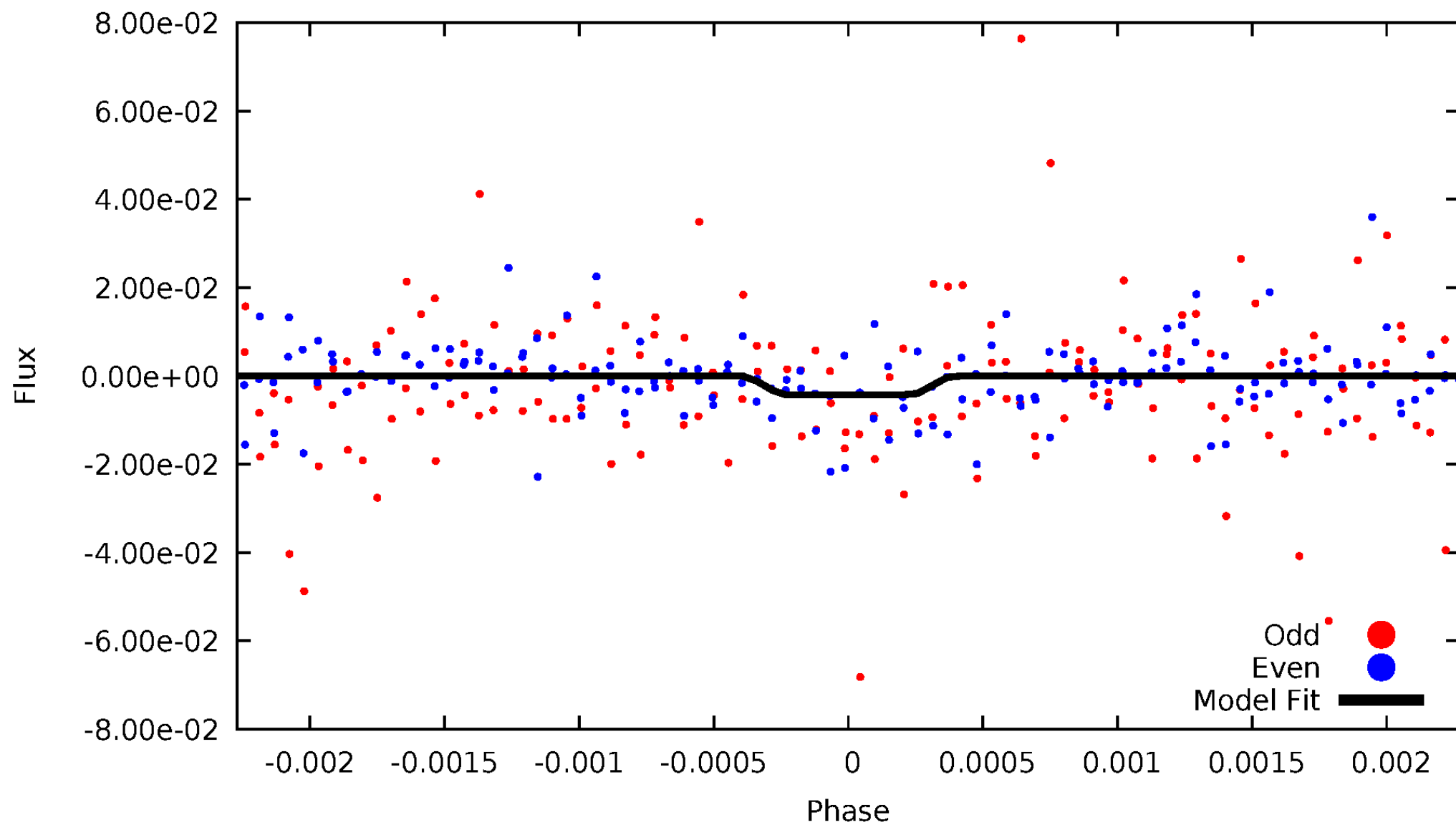
DV Odd/Even

TCE 011414728-03



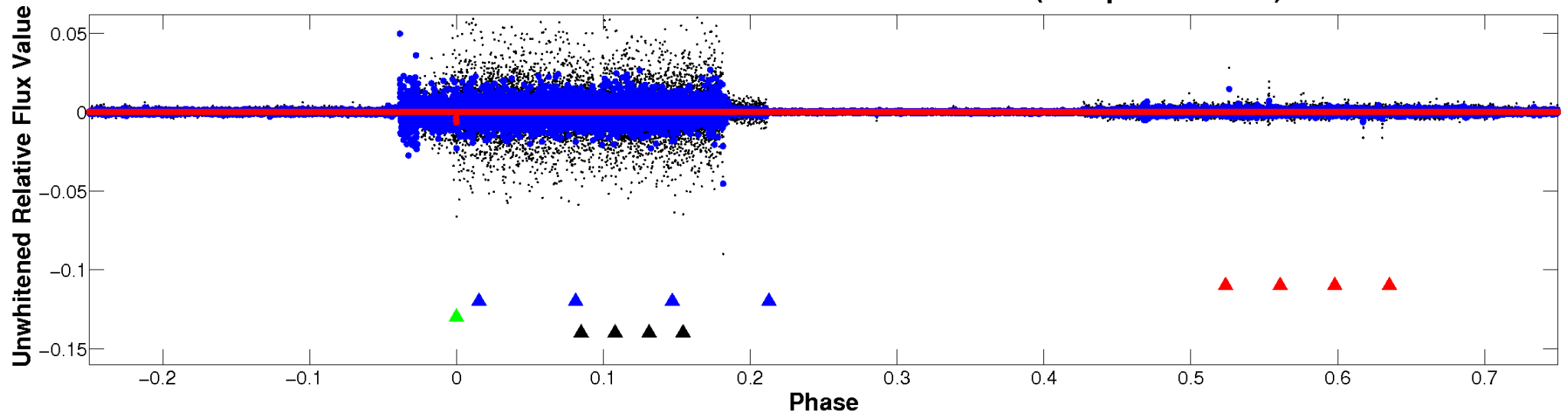
ALT Odd/Even

TCE 011414728-03

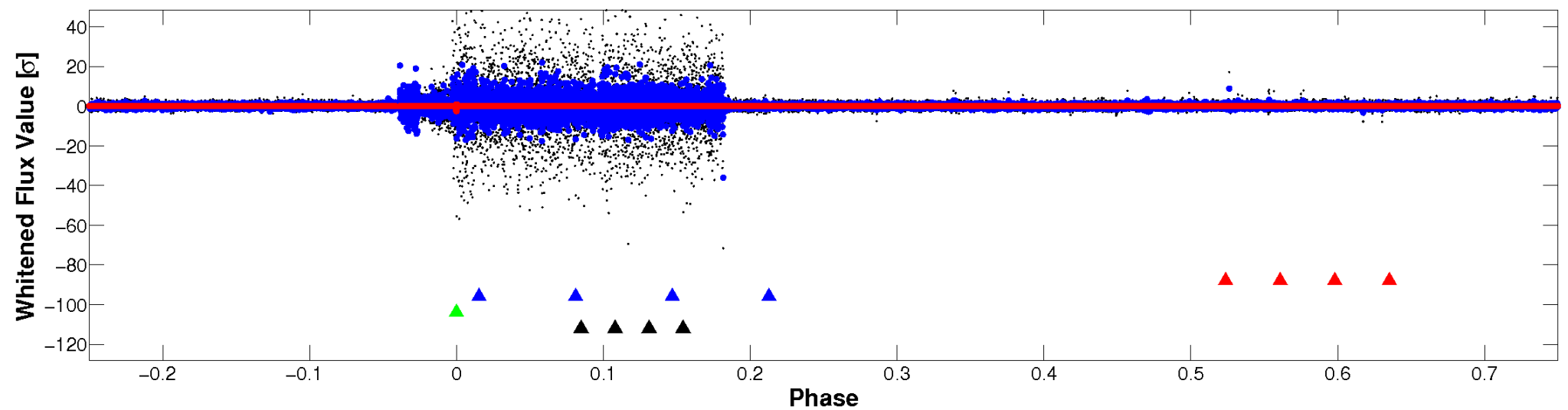


Non-Whitened Vs. Whitened Light Curve

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 011414728-03 $P=375.773367$ Days $T_0=362.343040$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 011414728-03 $P=375.773367$ Days $T_0=362.343040$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

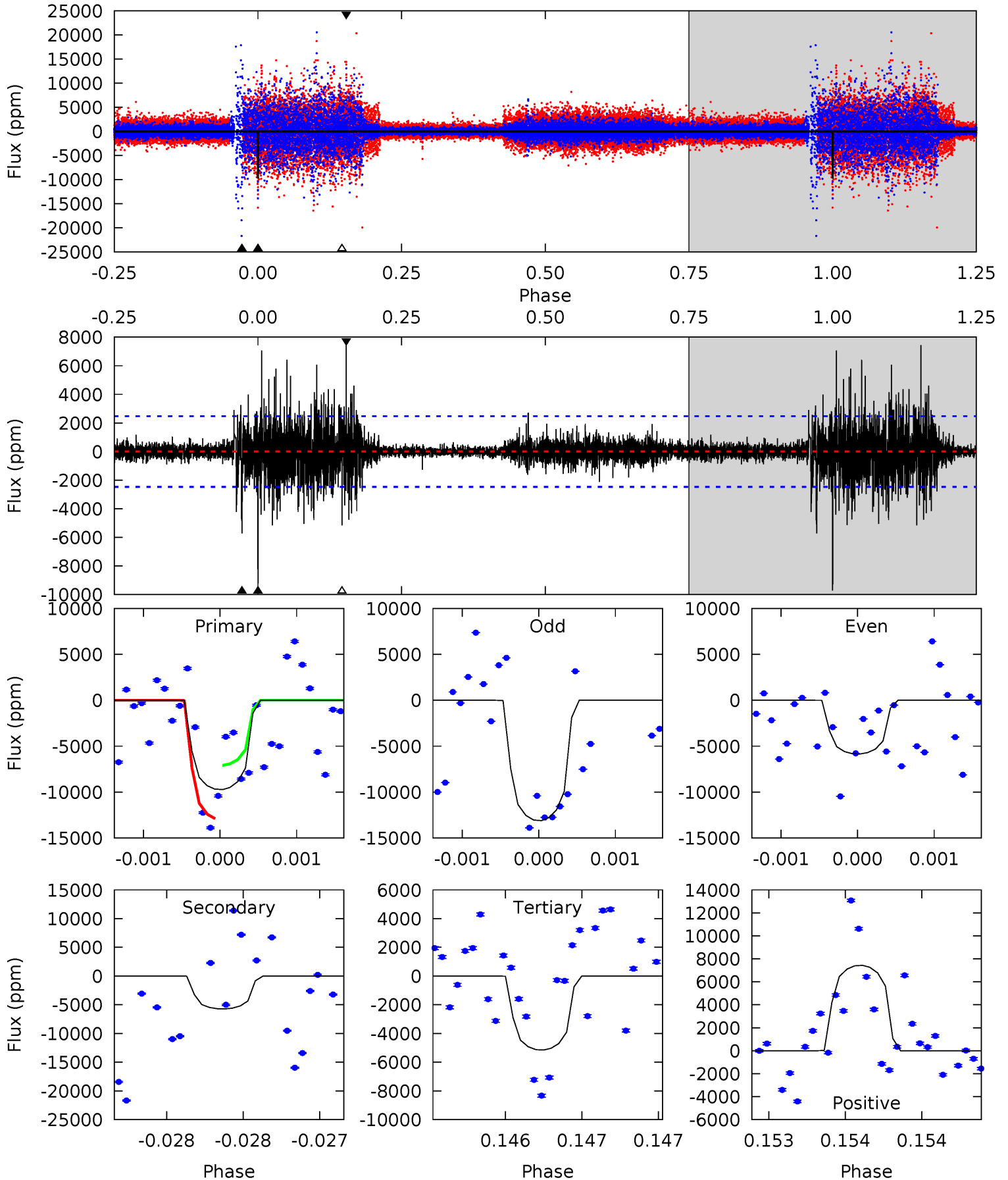
TCE 011414728-03 P=375.814035 Days $T_0=362.252119$ (BKJD)



DV Model-Shift Uniqueness Test

011414728-03, P = 375.773367 Days, E = 362.343040 Days

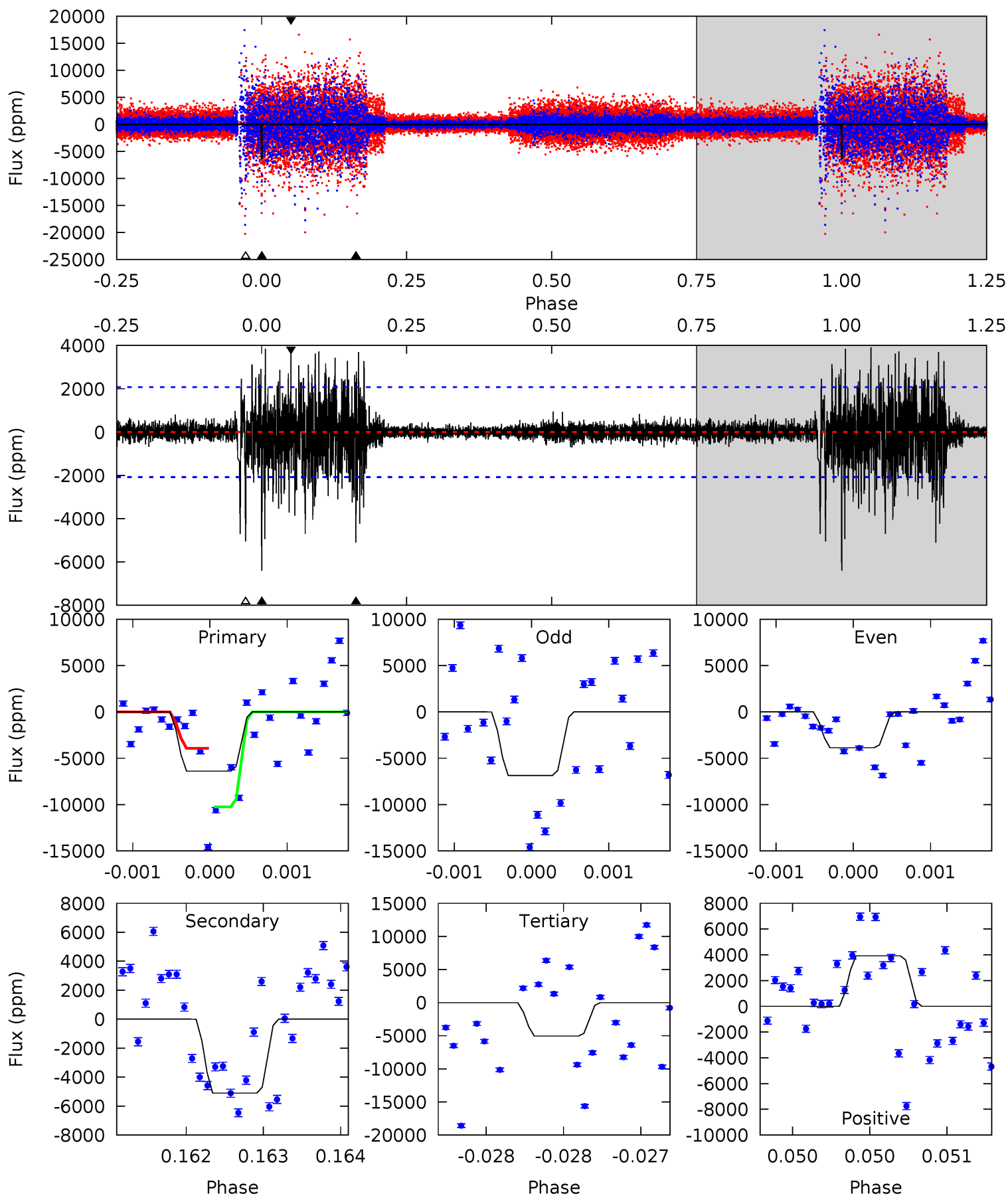
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.9	12.9	11.6	16.7	5.56	3.46	1.65	10.3	5.16	1.27	-3.86	6.81	1.10	0.43	6.50



Alt Model-Shift Uniqueness Test

011414728-03, P = 375.814035 Days, E = 362.252119 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.9	13.5	13.4	10.4	5.50	3.37	1.43	3.56	6.55	0.14	3.14	3.18	1.16	0.38	8.49



Stellar Parameters For KIC 011414728

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5591^{+182}_{-182}	$4.512^{+0.058}_{-0.161}$	$-0.160^{+0.300}_{-0.300}$	$0.858^{+0.211}_{-0.090}$	$0.875^{+0.102}_{-0.091}$	$1.948^{+0.559}_{-0.863}$
	+3%/-3%	+1%/-4%	+188%/-188%	+25%/-10%	+12%/-10%	+29%/-44%
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 011414728-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-5717 ± 444	$16.05^{+15.57}_{-11.50}$	328^{+21}_{-16}	4105^{+3207}_{-865}	$11909^{+137020}_{-8972}$
Alt.	-5104 ± 378	$15.25^{+15.00}_{-10.59}$	329^{+19}_{-15}	4086^{+2721}_{-843}	$11658^{+104734}_{-8786}$

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

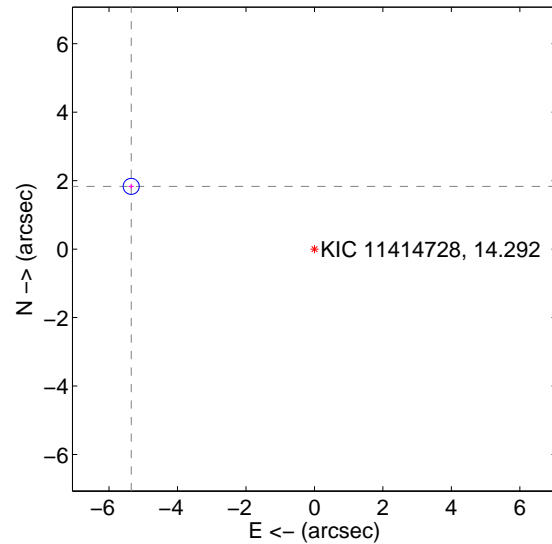
Supplemental centroid analysis for 011414728-03. Kepler magnitude: 14.29. Transit SNR 12.49

There are 0 quarters with good PRF difference image offsets

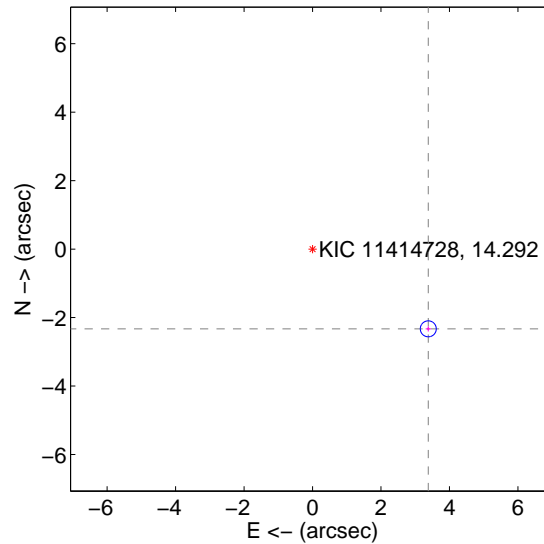
The OOT PRF centroid is offset from the target star catalog position by about 9.67 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.657 ± 0.078	72.53	5.352 ± 0.078	1.832 ± 0.077
PRF-fit source offset from KIC position	4.106 ± 0.078	52.80	-3.381 ± 0.078	-2.329 ± 0.077
photometric centroid source offset	3.65 ± 0.16	22.64	-3.41 ± 0.17	-1.30 ± 0.11

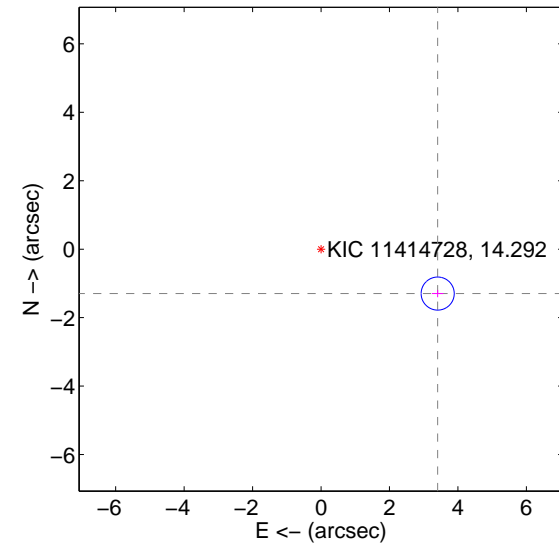
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

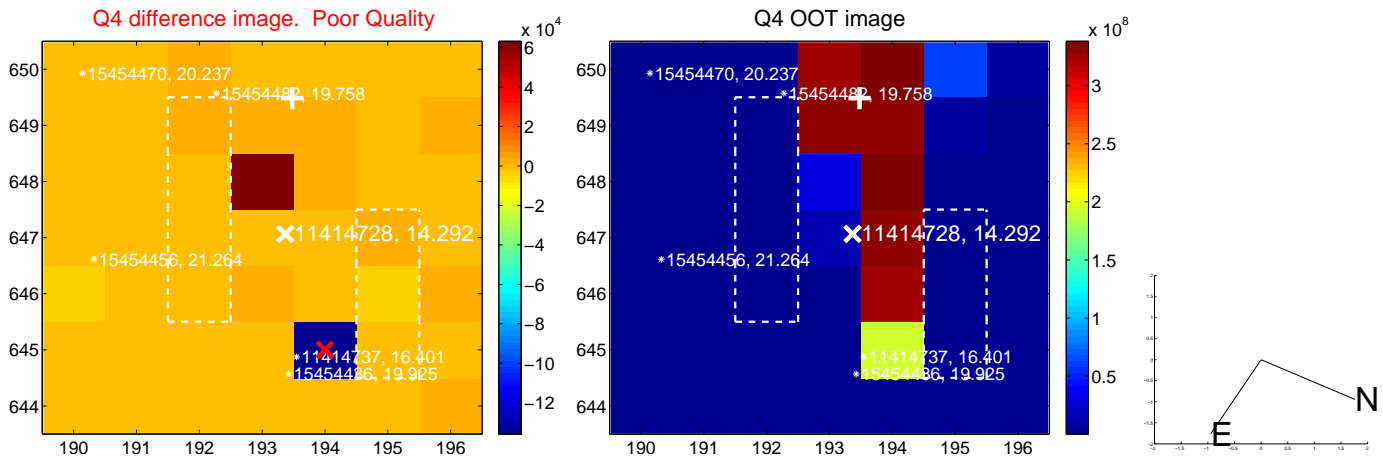
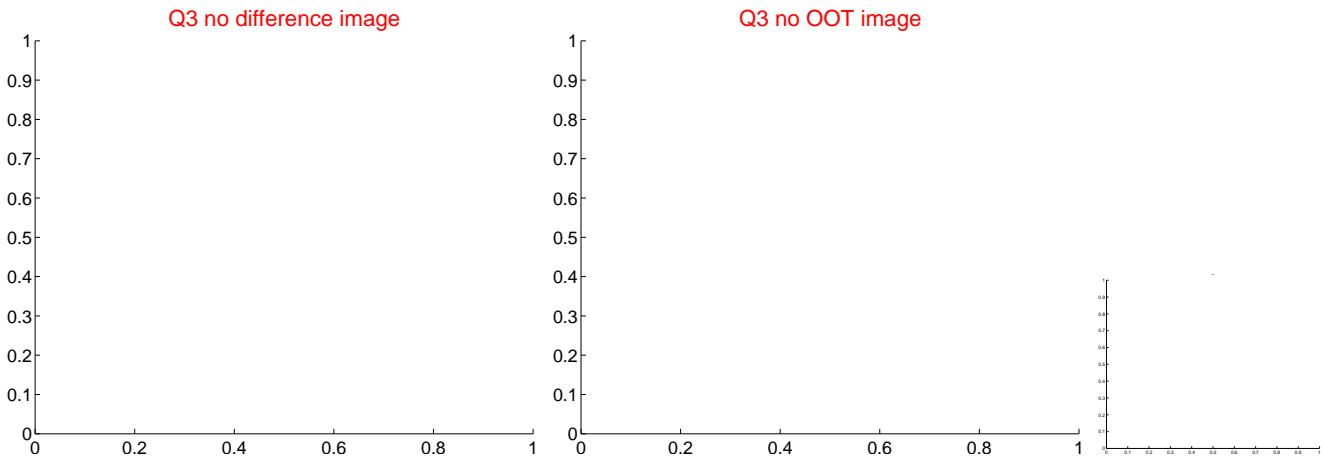
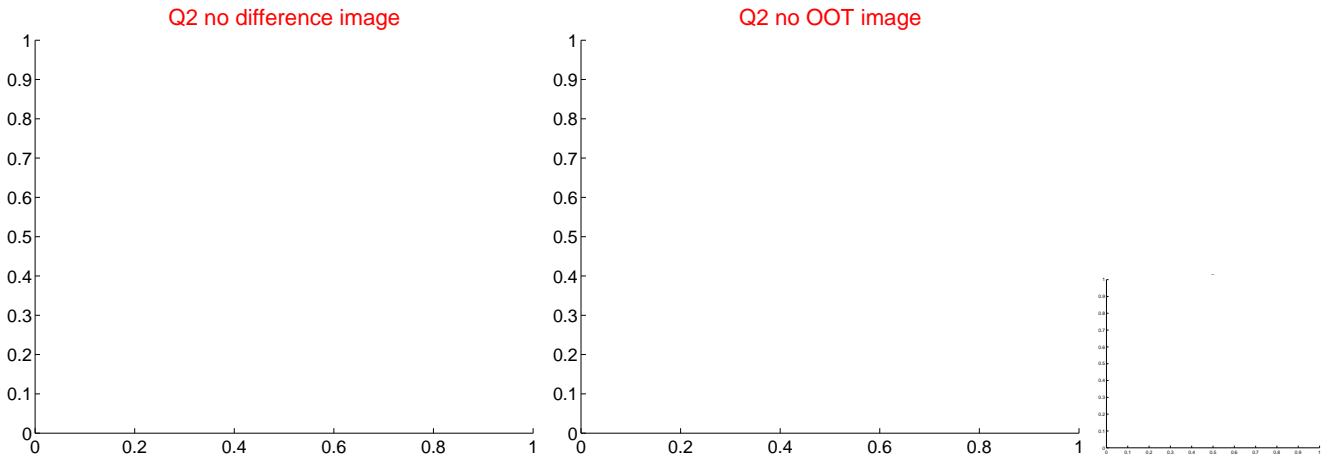
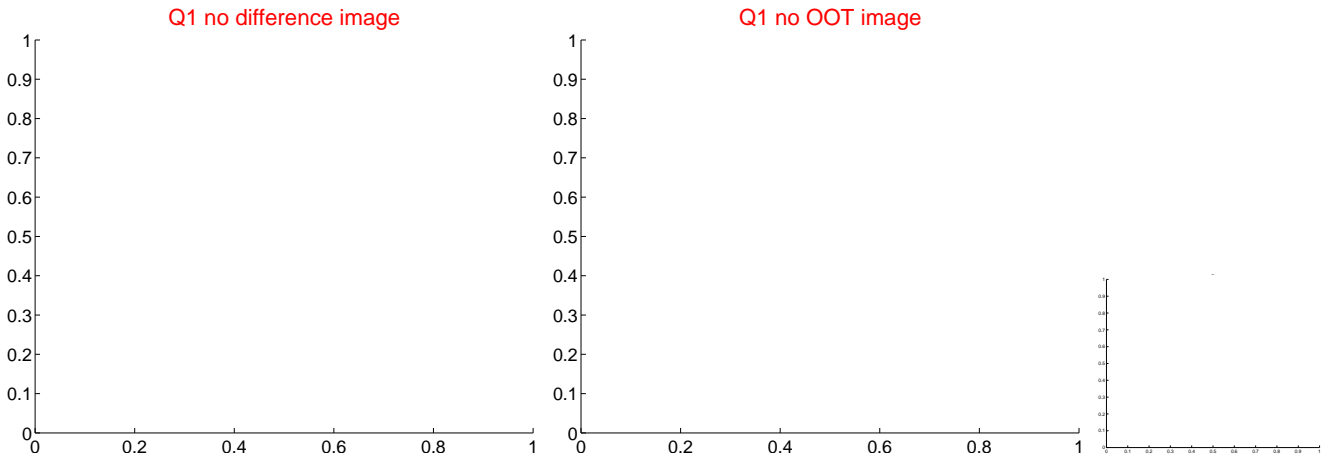


offset from photometric centroids

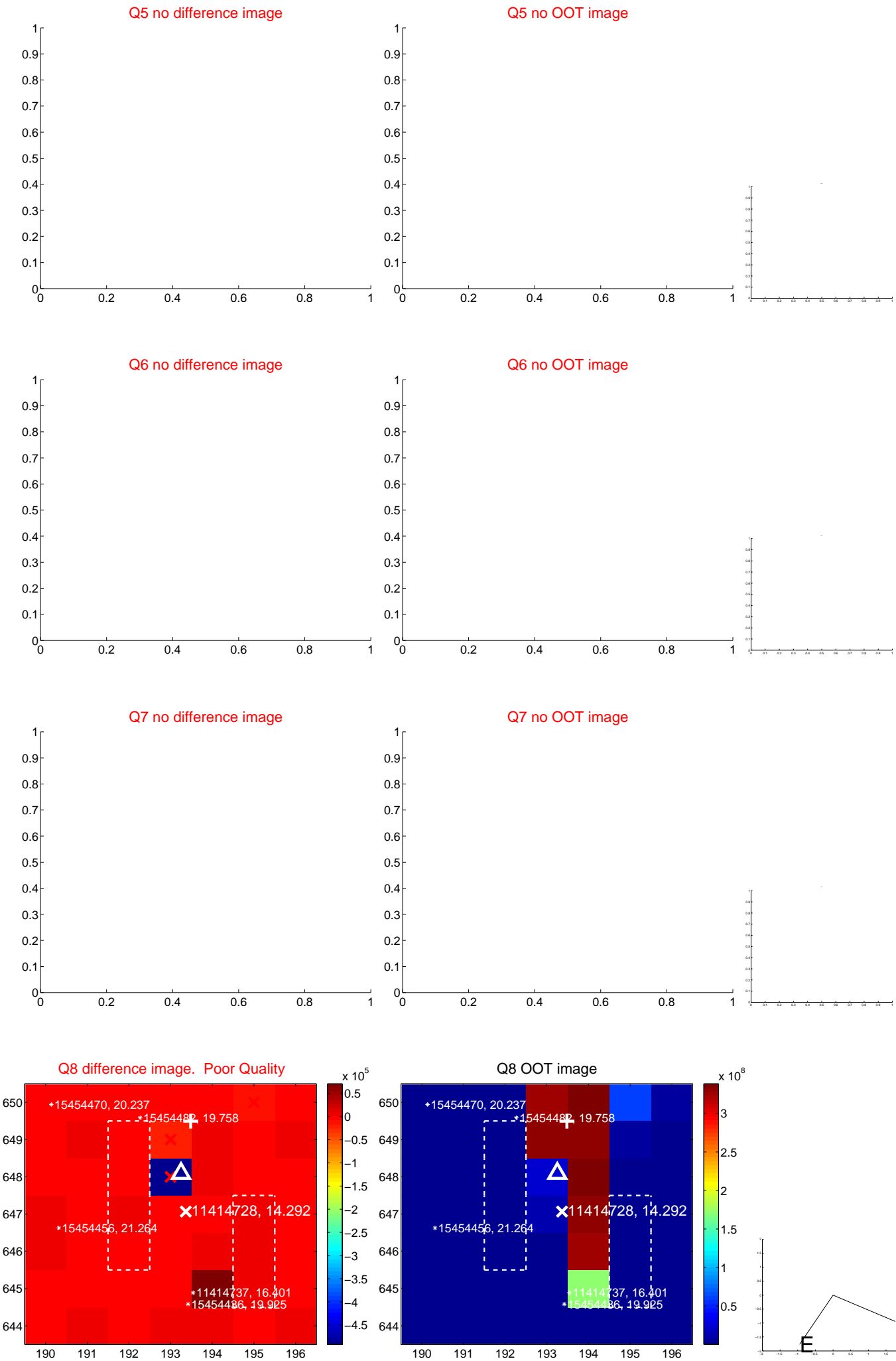


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

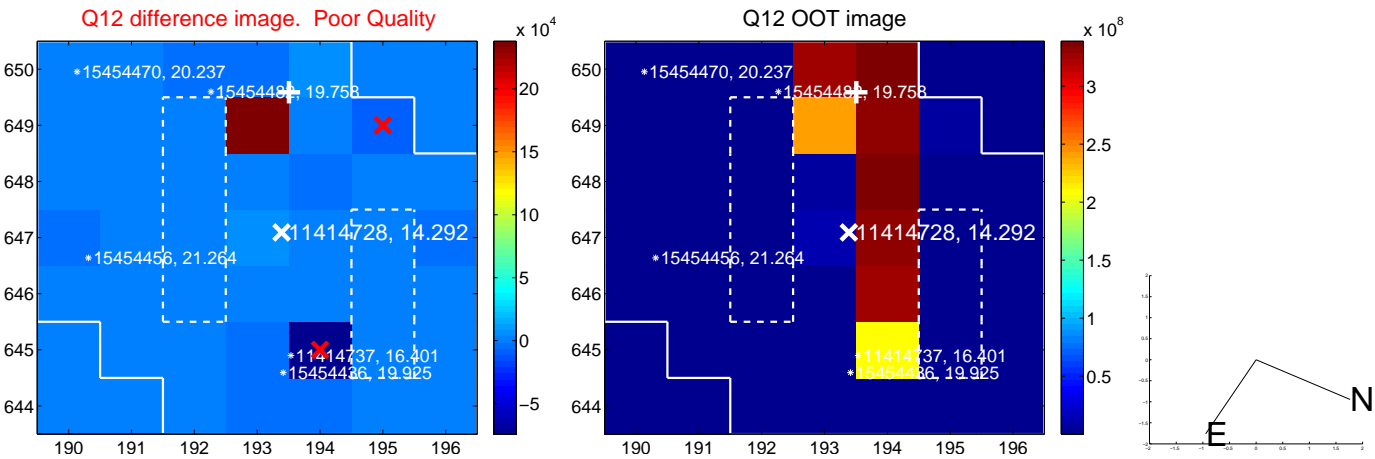
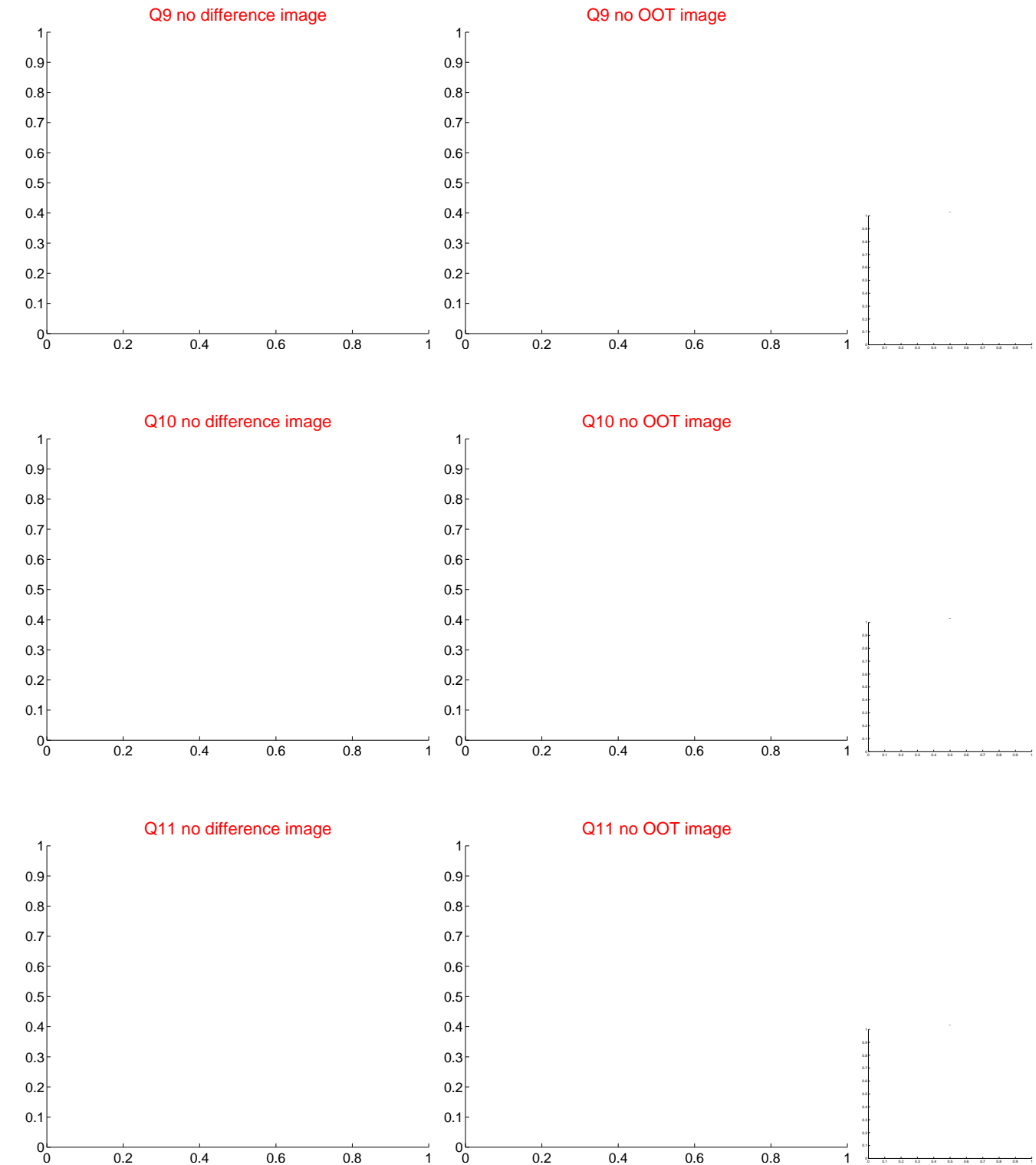
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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



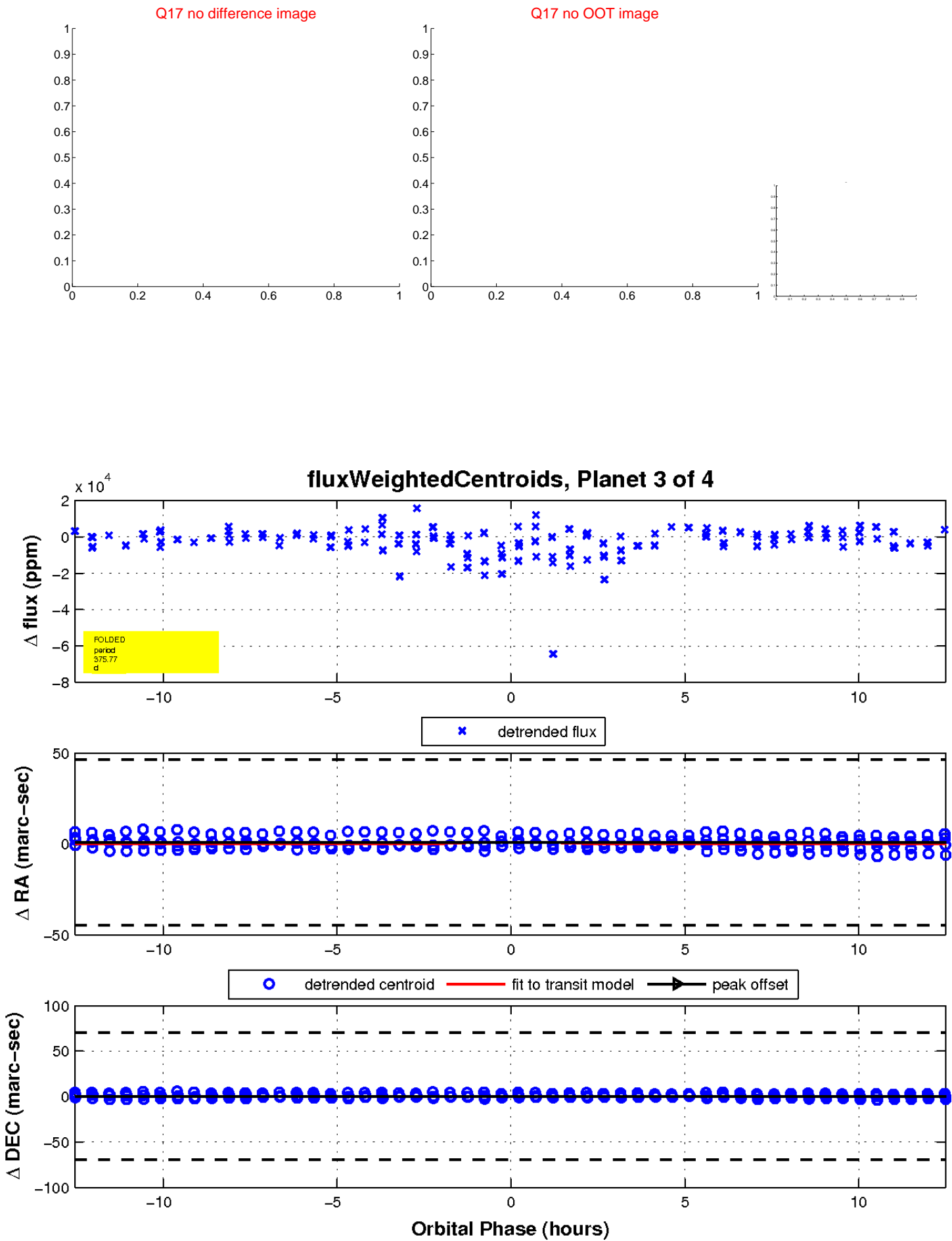
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



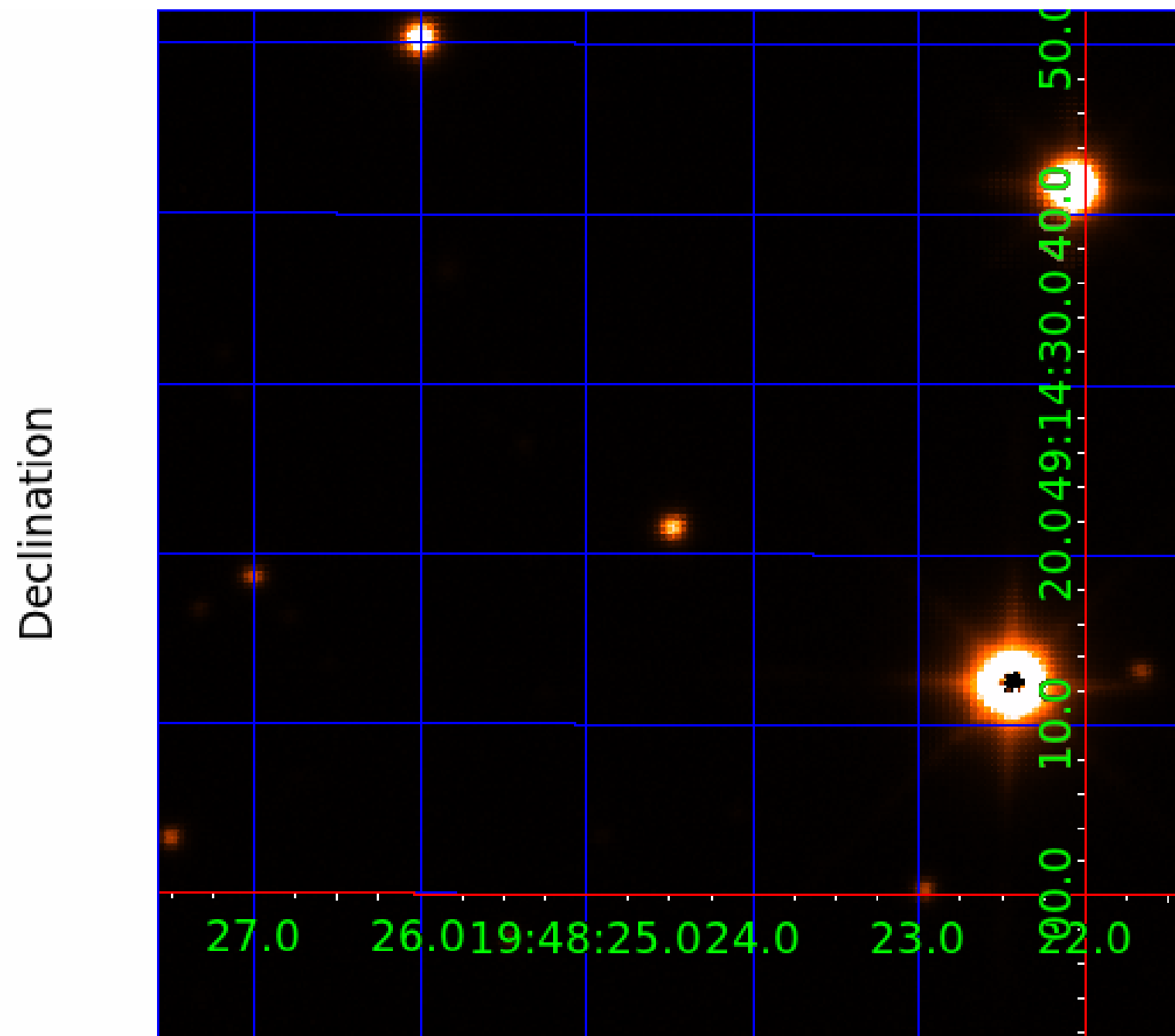
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 011414728

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})
011414728-01	OBS	No	361.805086	225.262834	3531.6	21.294	9.1	8.4	0.86	5591	5.92	0.71
011414728-02	OBS	No	351.047410	442.291819	30432.7	3.500	40.7	-1.0	0.86	5591	14.81	0.74
011414728-03	OBS	No	375.773367	362.343040	6544.7	4.254	37.1	12.5	0.86	5591	6.87	0.68
011414728-04	OBS	No	384.465691	394.244590	32712.7	3.000	42.3	-1.0	0.86	5591	15.36	0.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011414728-01	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS
011414728-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS
011414728-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS— CENT_FEW_DIFFS
011414728-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT— INCONSISTENT_TRANS—CENT_NOFITS

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

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

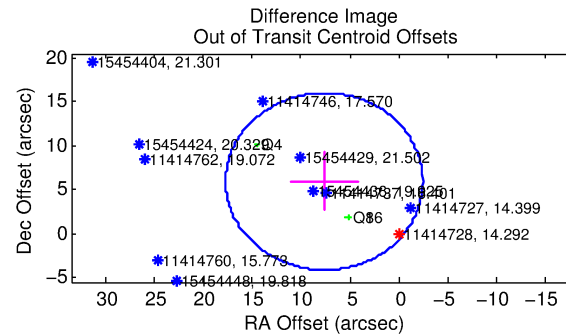
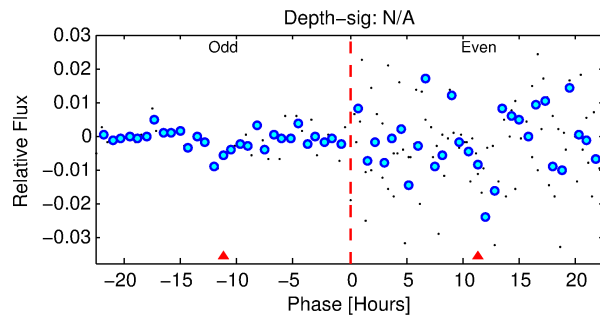
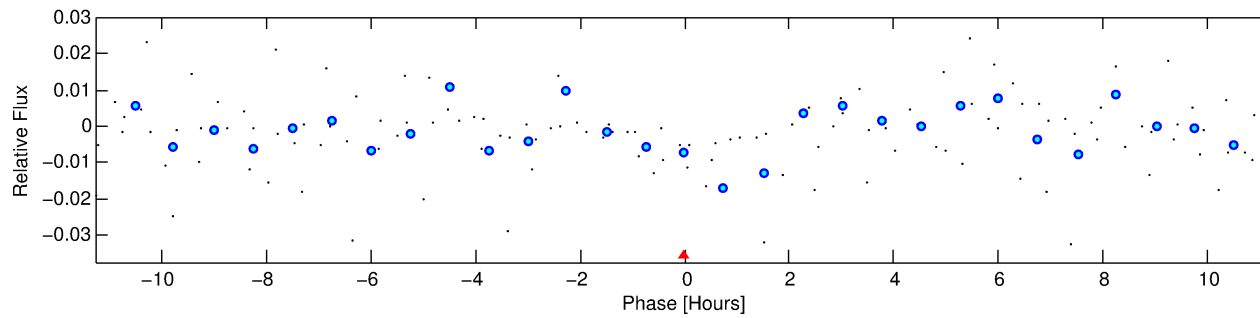
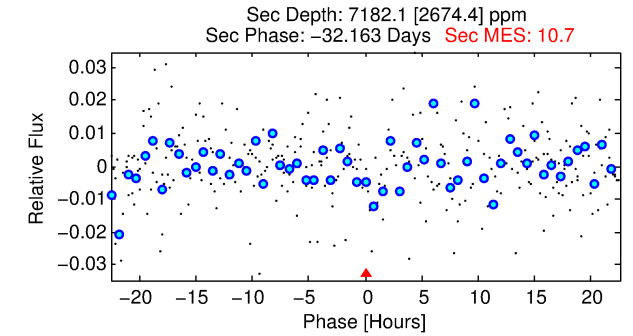
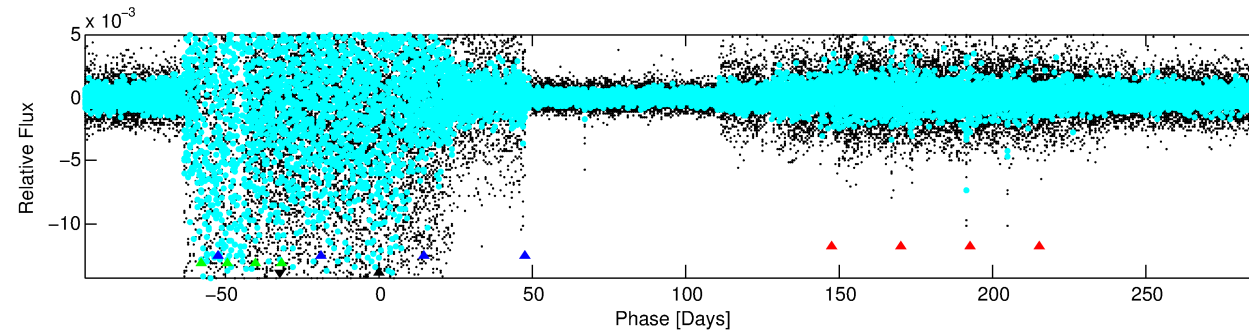
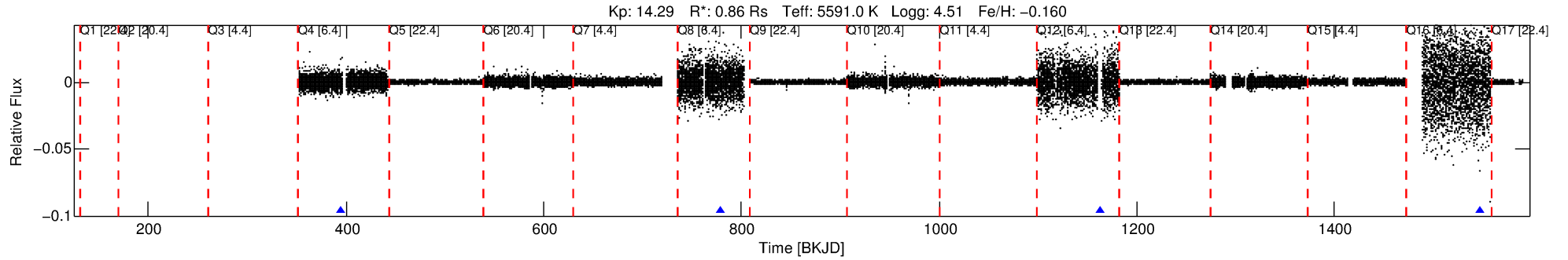
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011414728-04

No Significant Match Found

DV One-Page Summary

KIC: 11414728 Candidate: 4 of 4 Period: 384.466 d



TPS TCE Results:

Period = 384.46569 d
Epoch = 394.2446 BKJD

DV fit results are unavailable

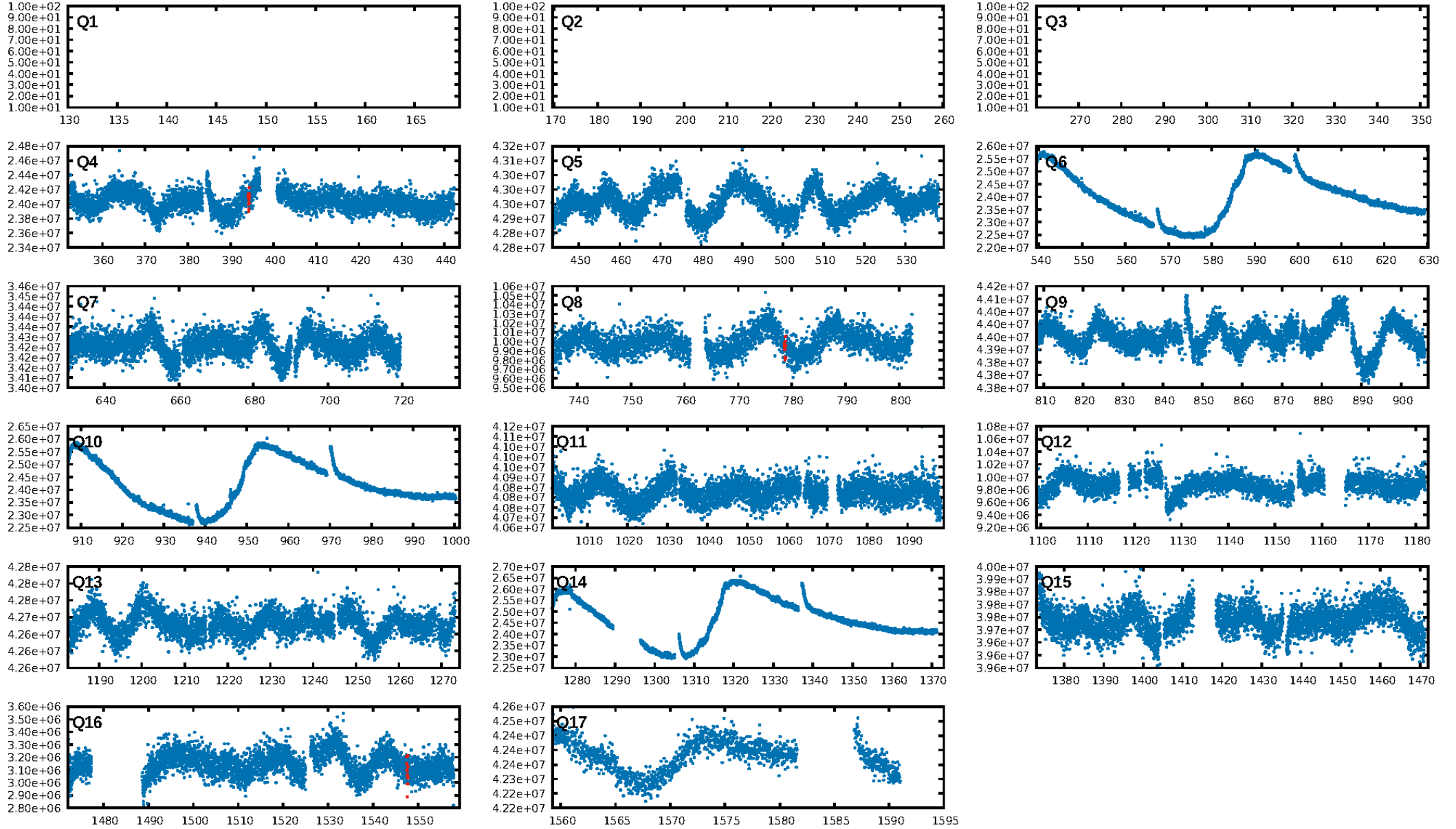
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [40.08σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -1.131
Centroid-sig: 94.5%
Centroid-so: 3.541 arcsec [24.35σ]
OotOffset-rm: 9.672 arcsec [2.88σ]
KicOffset-rm: 2.324 arcsec [0.72σ]
OotOffset-st: 0/0/3/0 [3]
KicOffset-st: 0/0/3/0 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

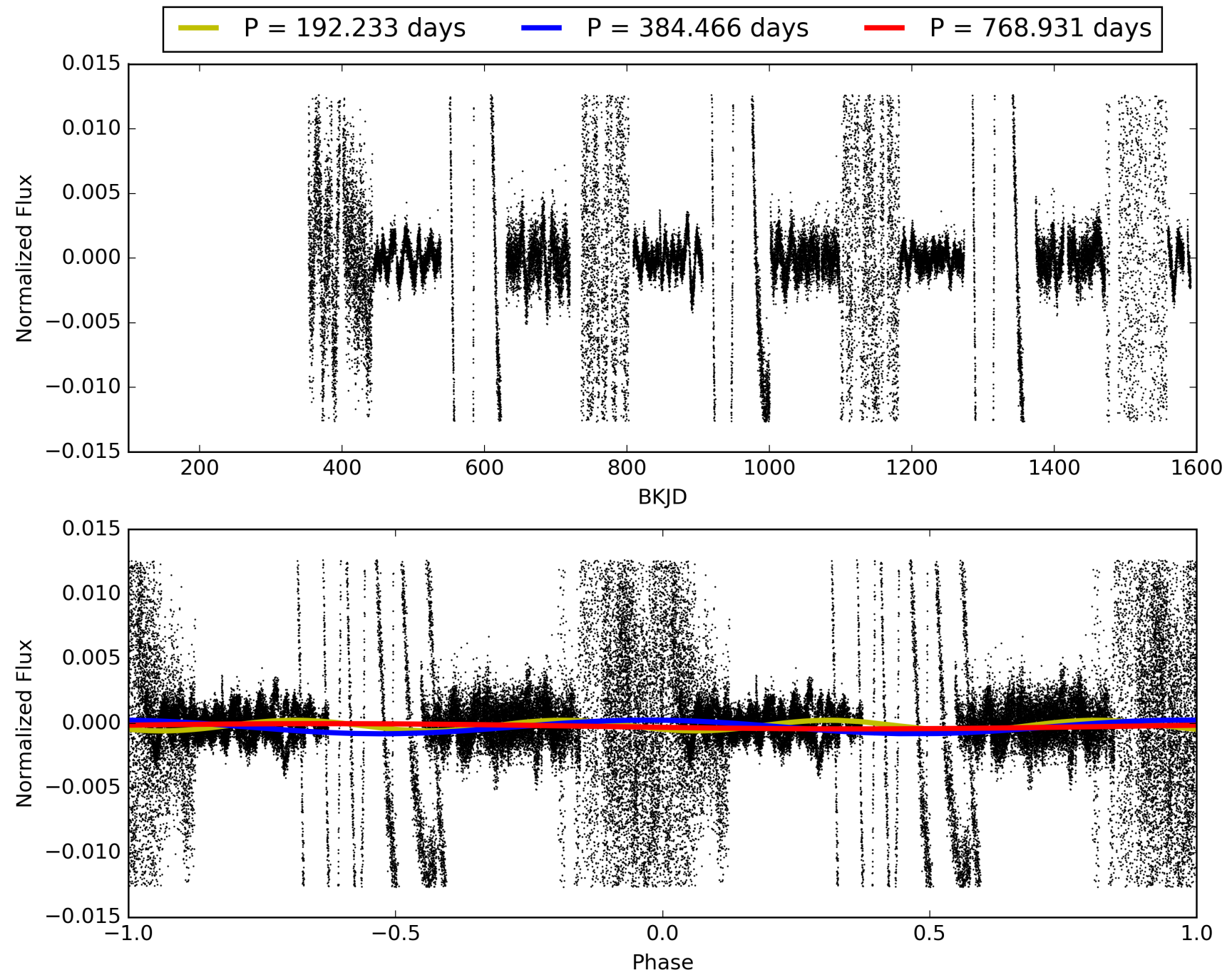
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 05:42:01 Z

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

TCE 011414728-04, PDC Light Curves

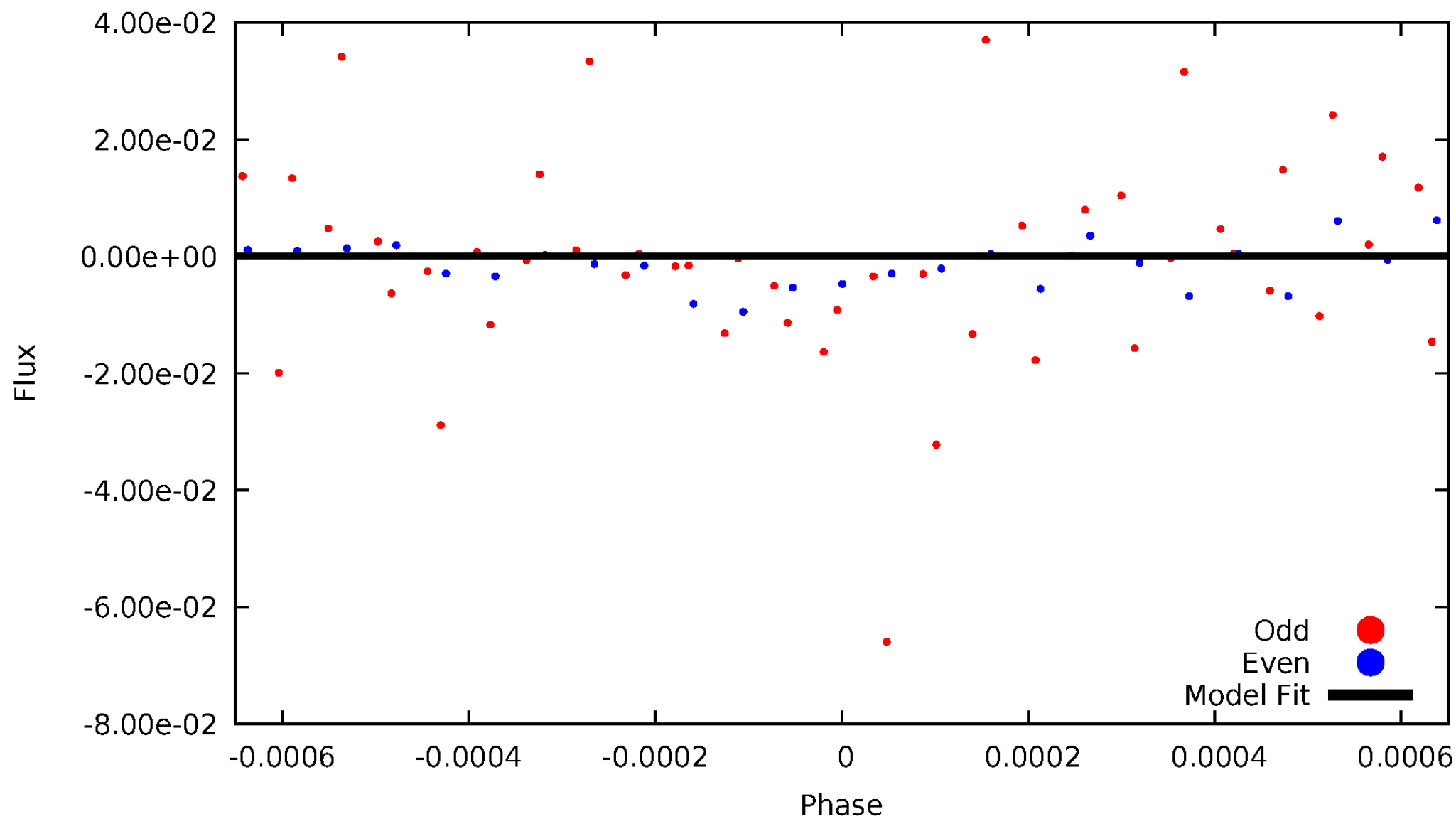


TCE 011414728-04



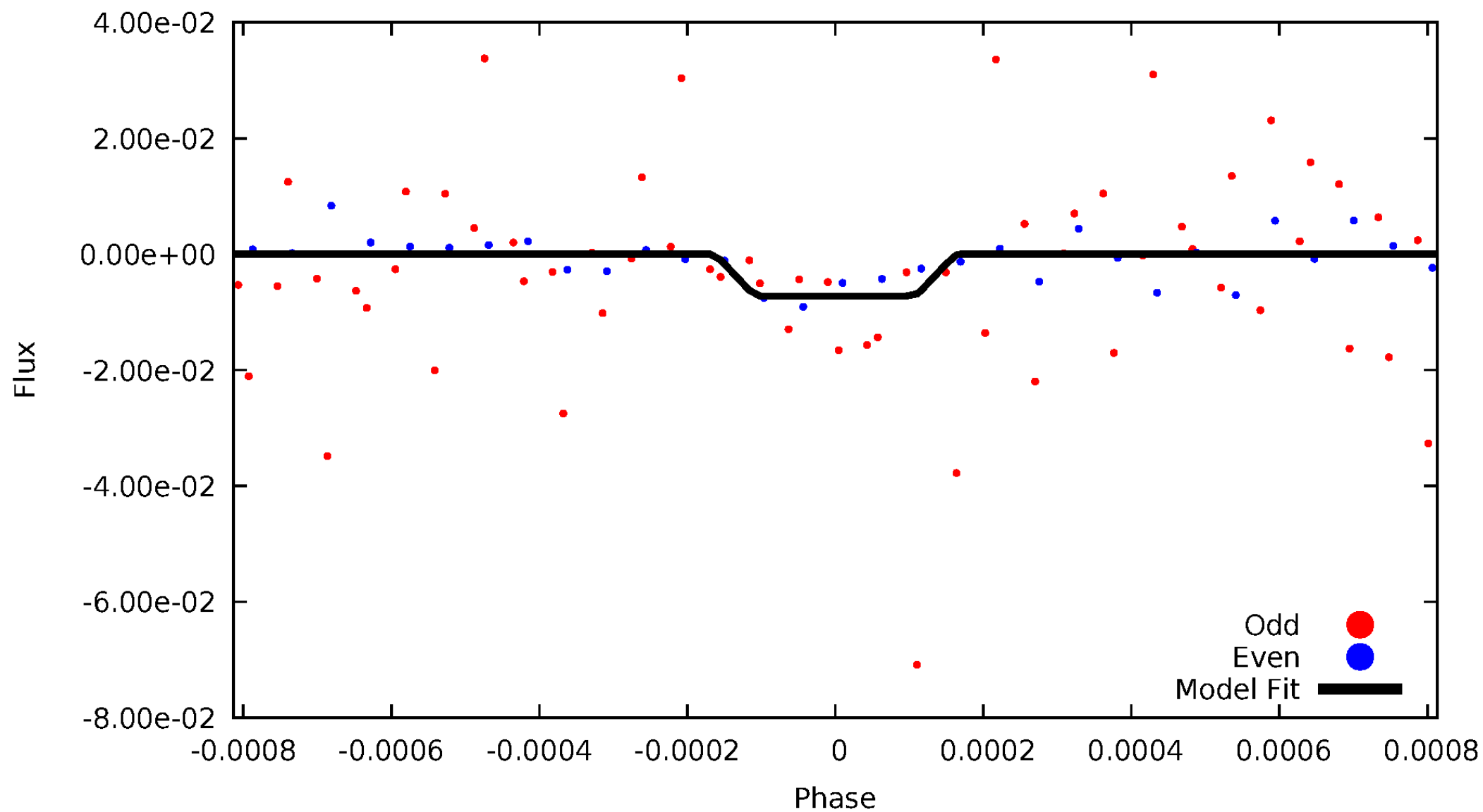
DV Odd/Even

TCE 011414728-04



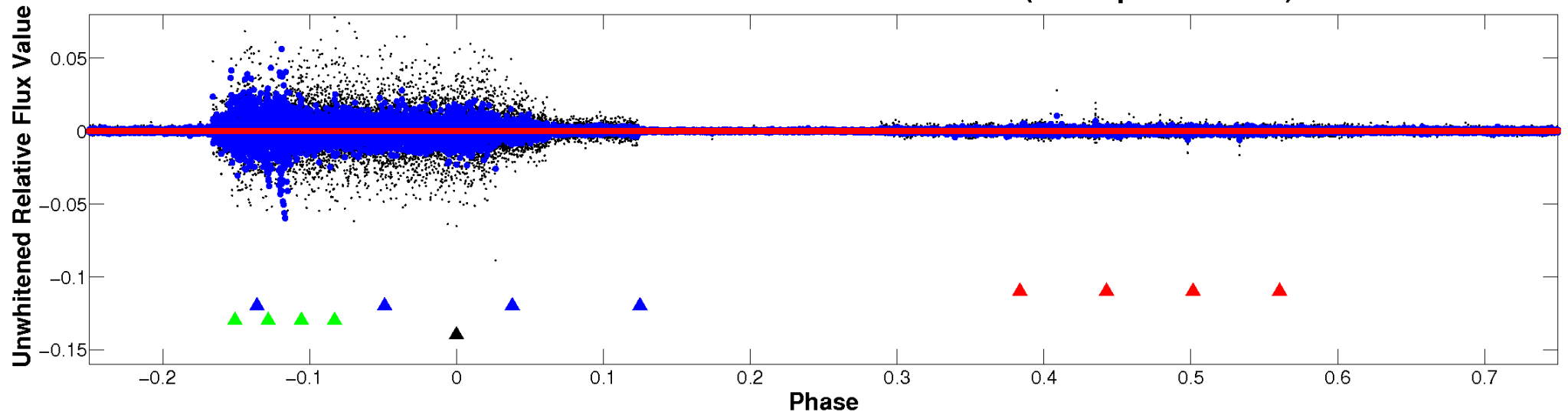
ALT Odd/Even

TCE 011414728-04

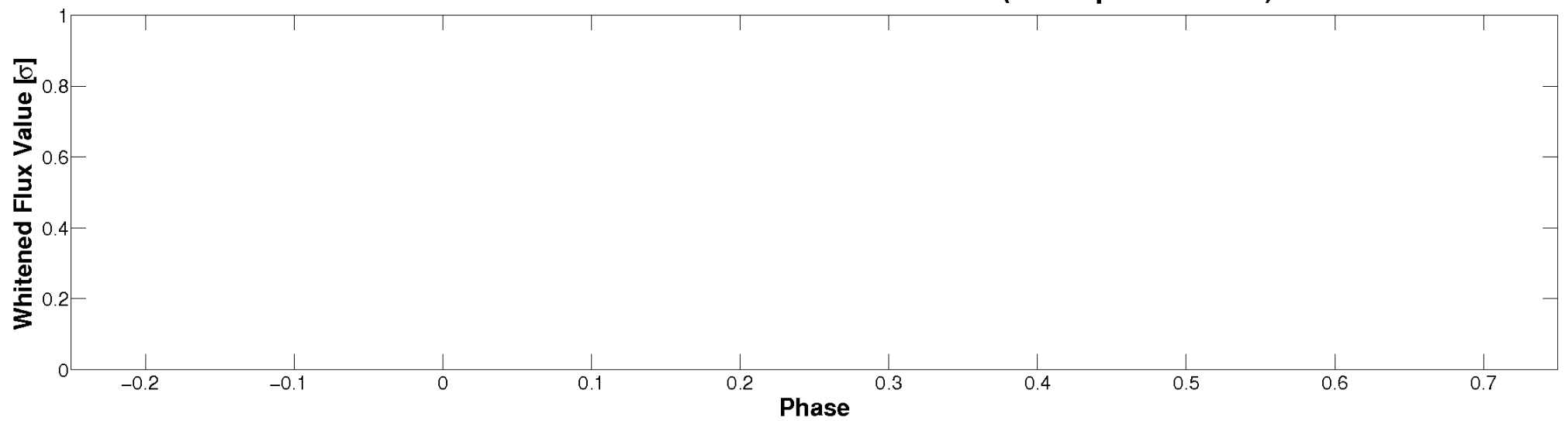


Non-Whitened Vs. Whitened Light Curve

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

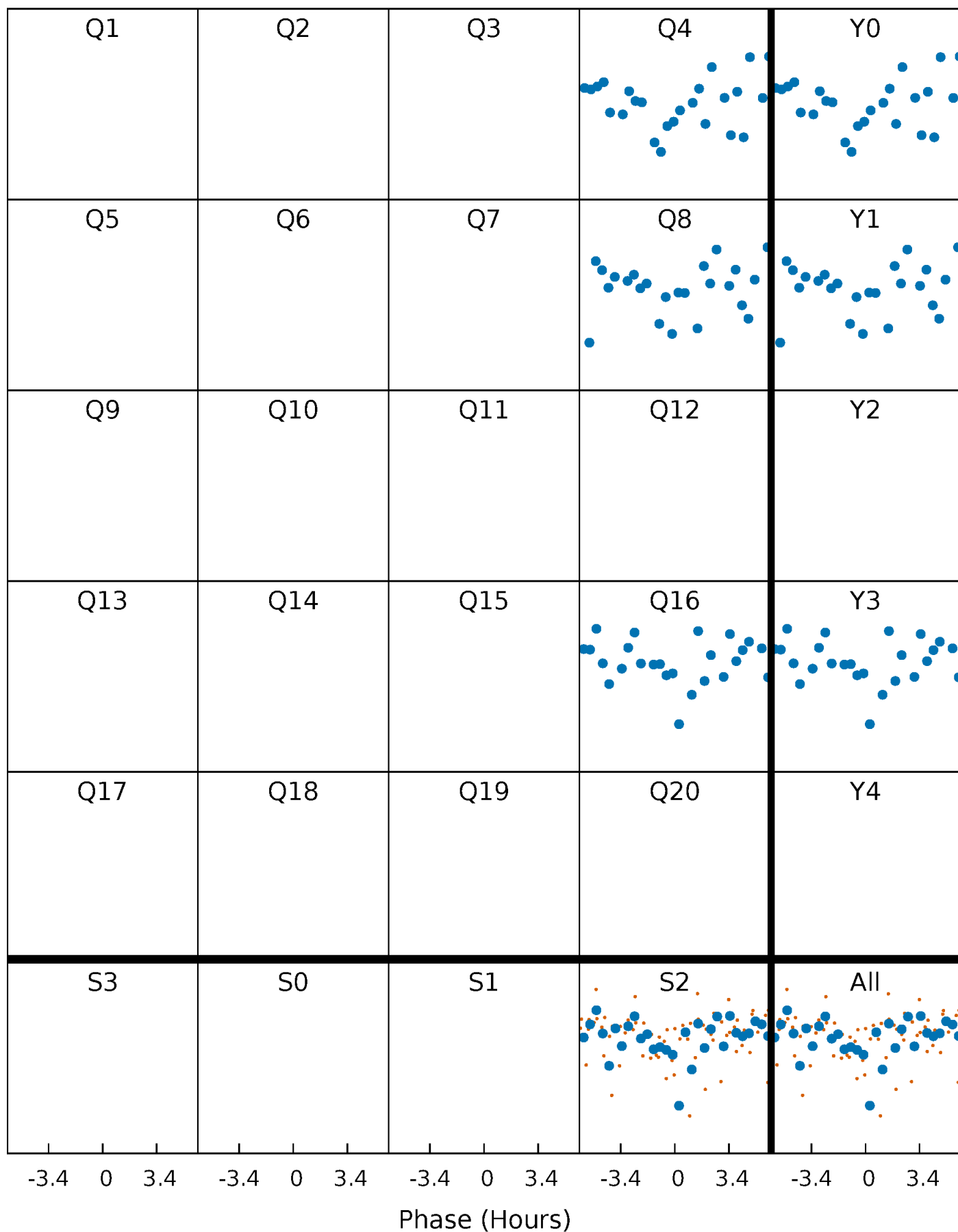


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



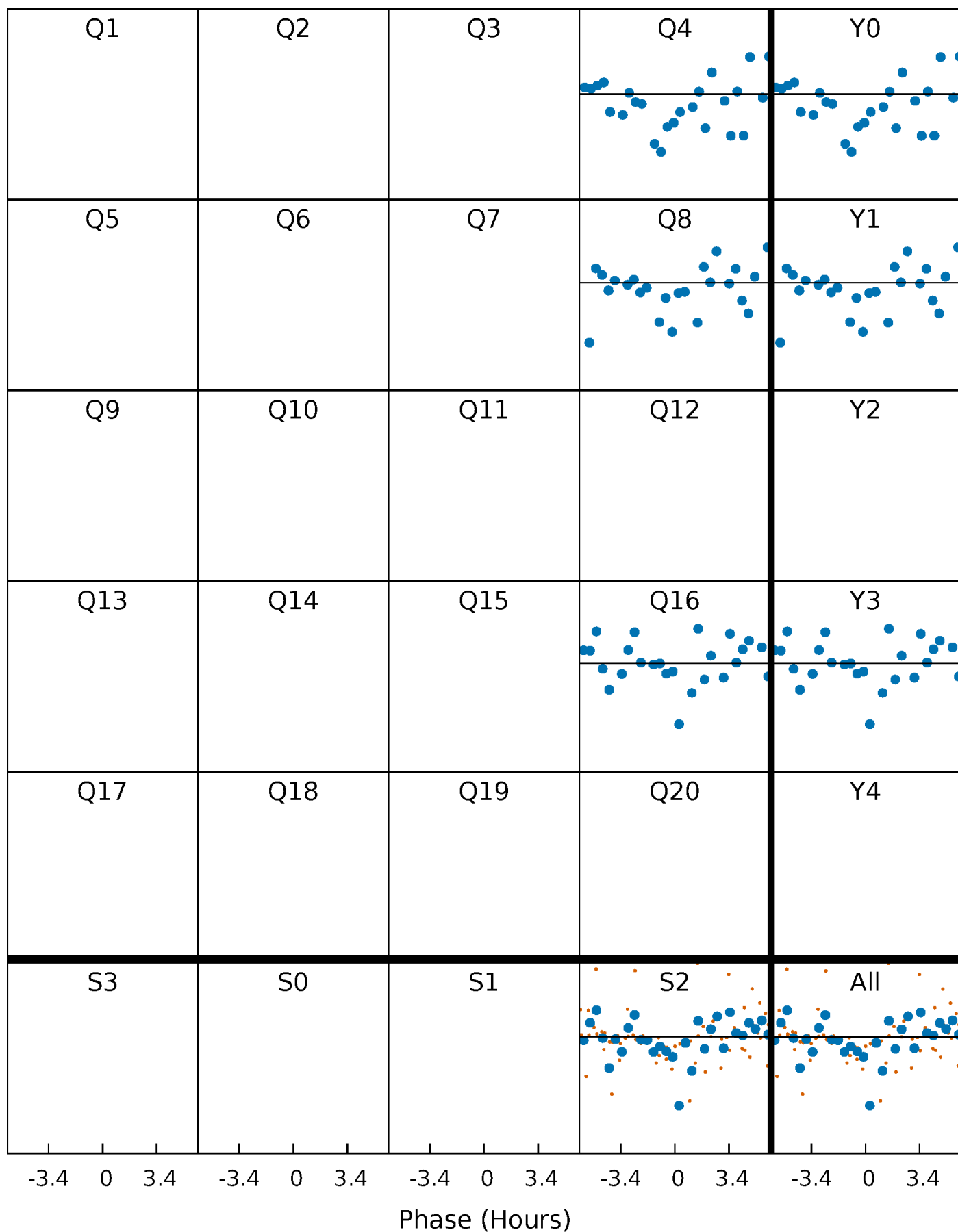
PDC Quarter-Phased Transit Curves

TCE 011414728-04 P=384.465691 Days $T_0=394.244590$ (BKJD)



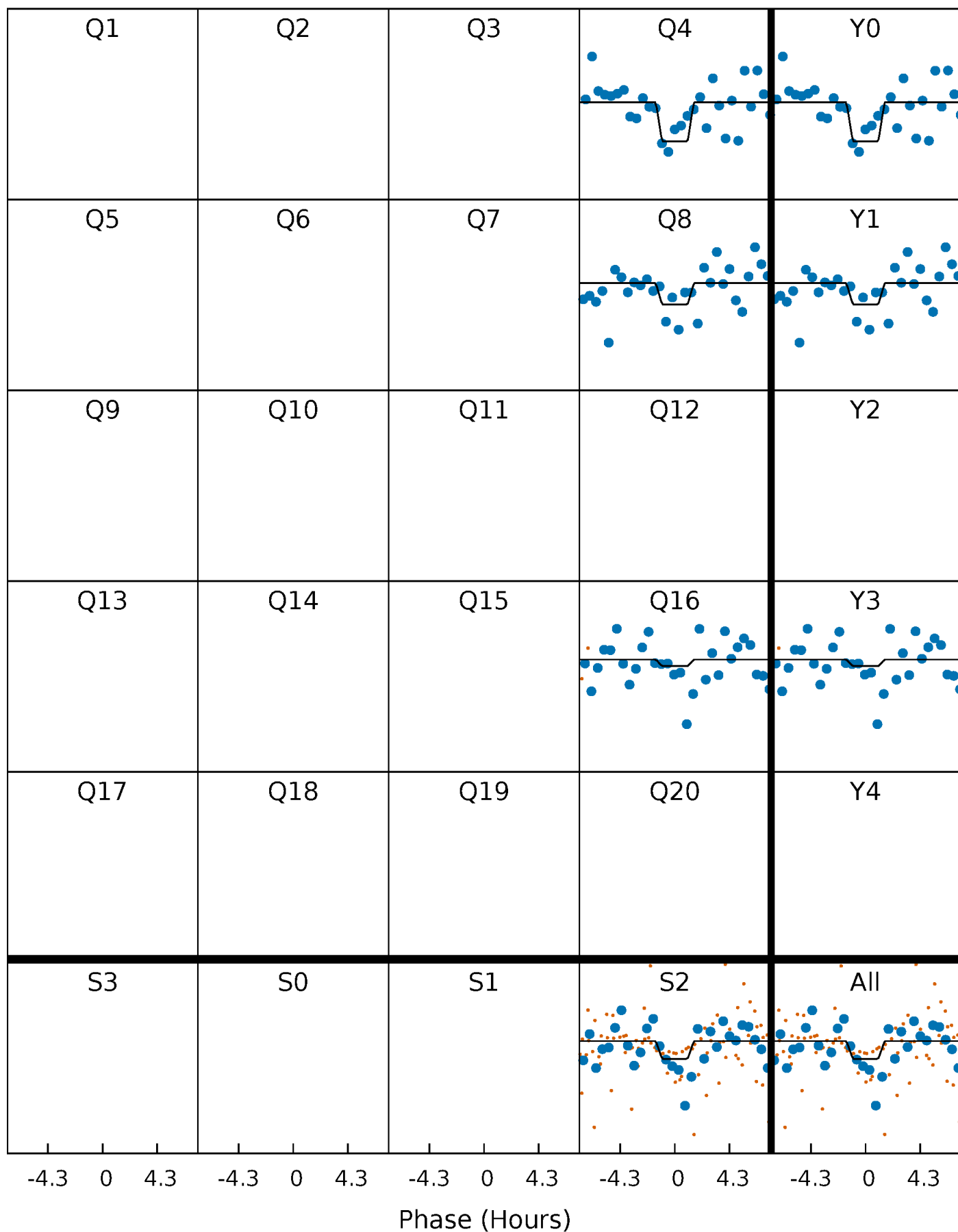
DV Quarter-Phased Transit Curves

TCE 011414728-04 $P=384.465691$ Days $T_0=394.244590$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

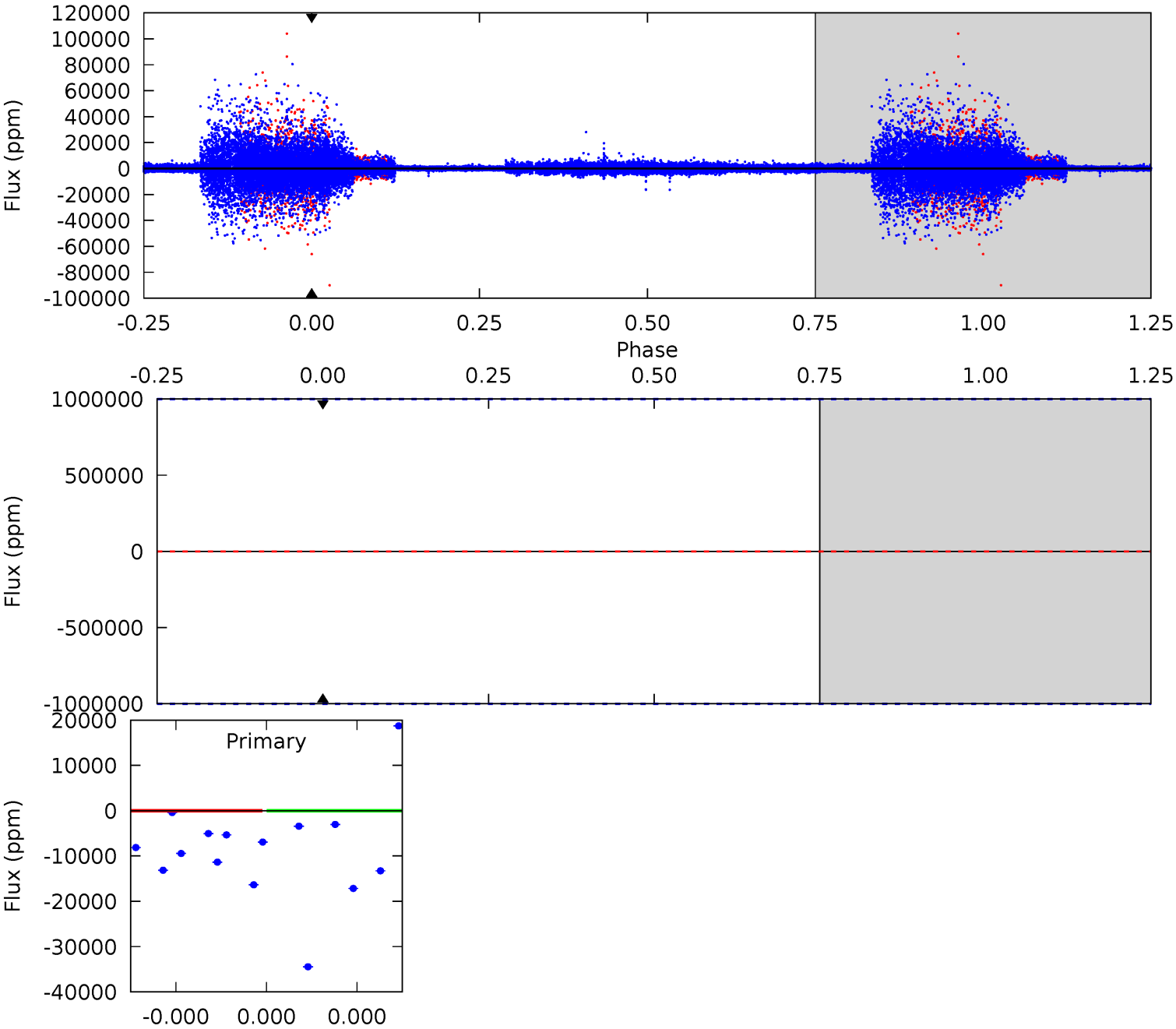
TCE 011414728-04 $P=384.465691$ Days $T_0=394.220631$ (BKJD)



DV Model-Shift Uniqueness Test

011414728-04, P = 384.465691 Days, E = 9.778899 Days

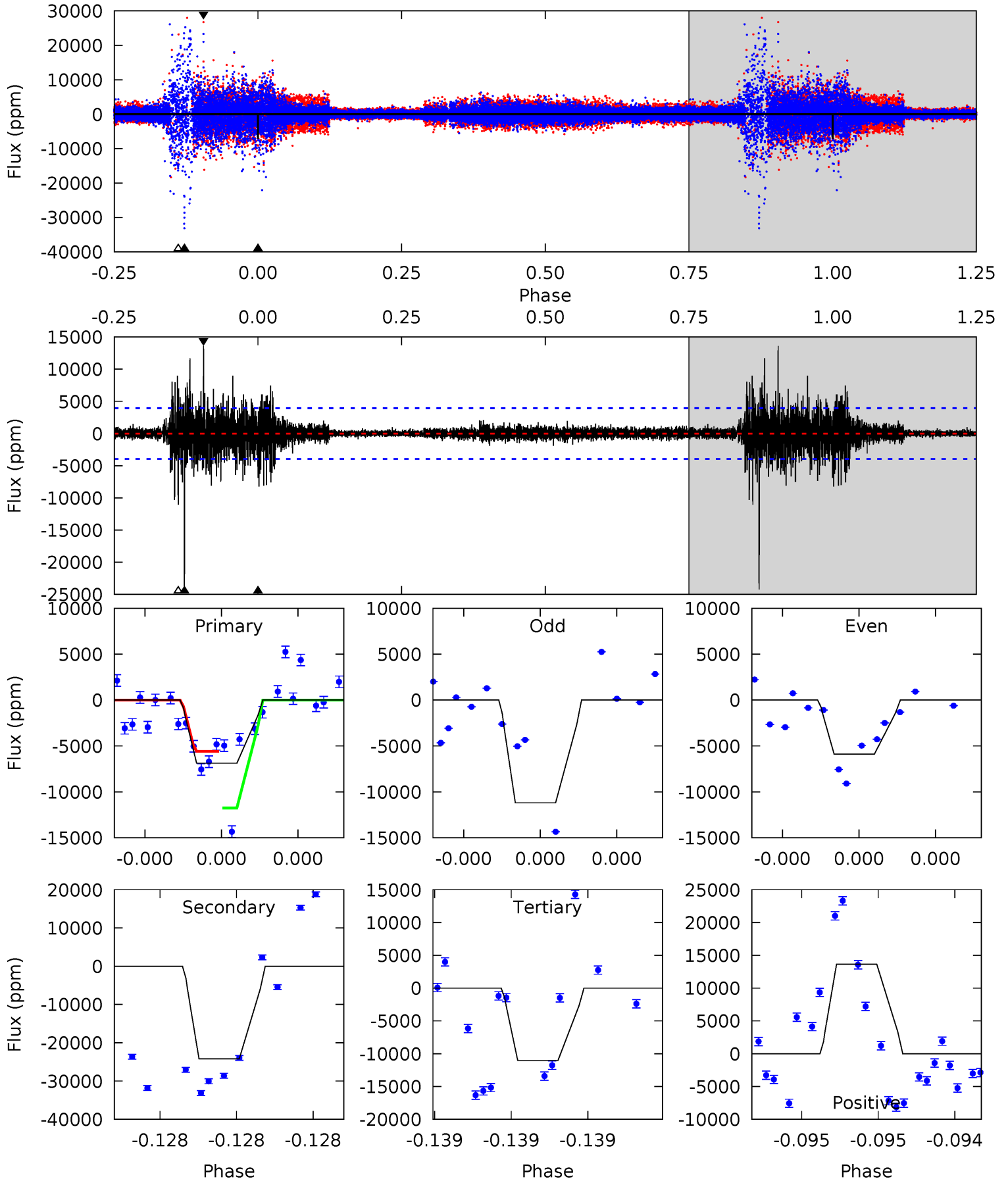
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

011414728-04, P = 384.465691 Days, E = 9.754940 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.87	34.7	15.8	19.5	5.65	3.60	1.39	-5.95	-9.68	18.9	15.2	3.20	1.51	0.36	4.52



Stellar Parameters For KIC 011414728

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5591^{+182}_{-182}	$4.512^{+0.058}_{-0.161}$	$-0.160^{+0.300}_{-0.300}$	$0.858^{+0.211}_{-0.090}$	$0.875^{+0.102}_{-0.091}$	$1.948^{+0.559}_{-0.863}$
	+3%/-3%	+1%/-4%	+188%/-188%	+25%/-10%	+12%/-10%	+29%/-44%
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 011414728-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$16.64^{+9.96}_{-8.26}$	327^{+19}_{-17}	-2784^{+11367}_{-5087}	$-962.926^{+265777.296}_{-202398.150}$
Alt.	-24205 ± 697	$10.41^{+8.97}_{-6.66}$	327^{+18}_{-16}	6804^{+6897}_{-1792}	$121000^{+798656}_{-86028}$

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

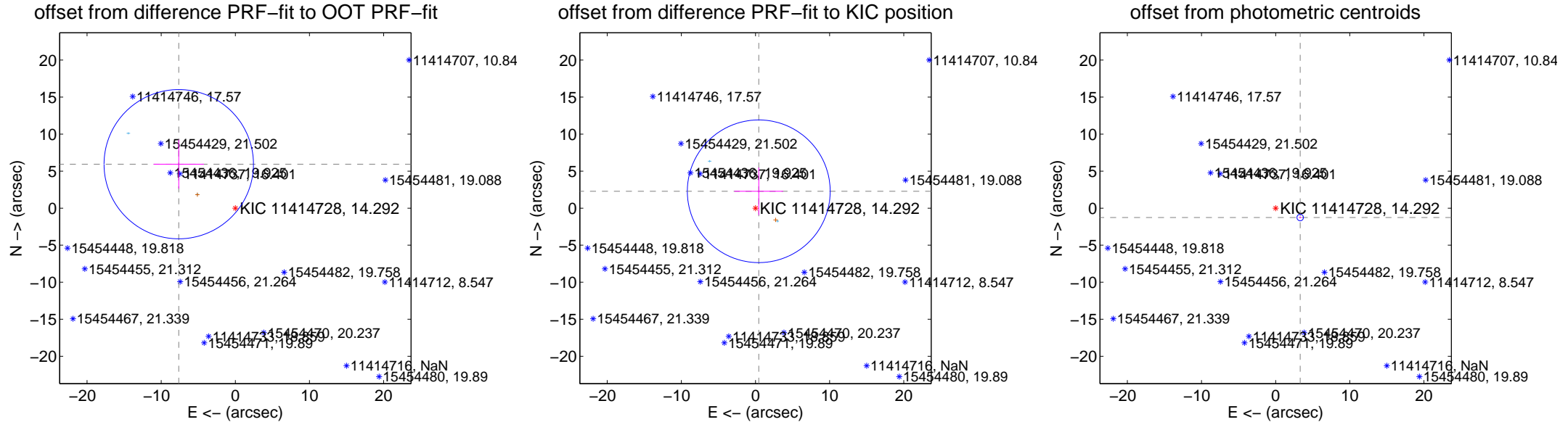
DV Centroid Data

Supplemental centroid analysis for 011414728-04. Kepler magnitude: 14.29. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

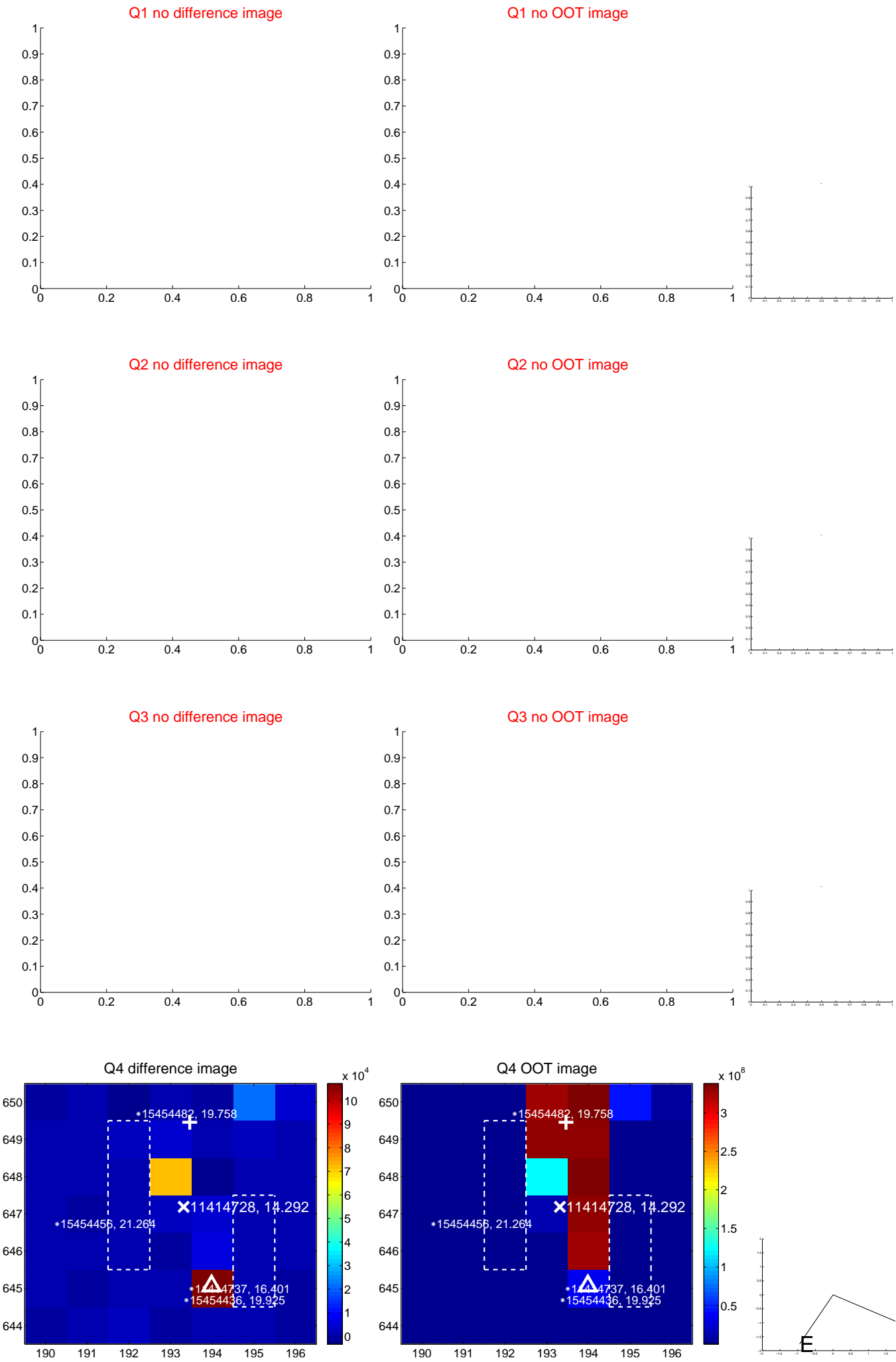
The OOT PRF centroid is offset from the target star catalog position by about 8.54 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.672 ± 3.359	2.88	7.633 ± 3.393	5.939 ± 3.301
PRF-fit source offset from KIC position	2.324 ± 3.211	0.72	-0.441 ± 3.293	2.282 ± 3.208
photometric centroid source offset	3.54 ± 0.15	24.35	-3.31 ± 0.15	-1.26 ± 0.10

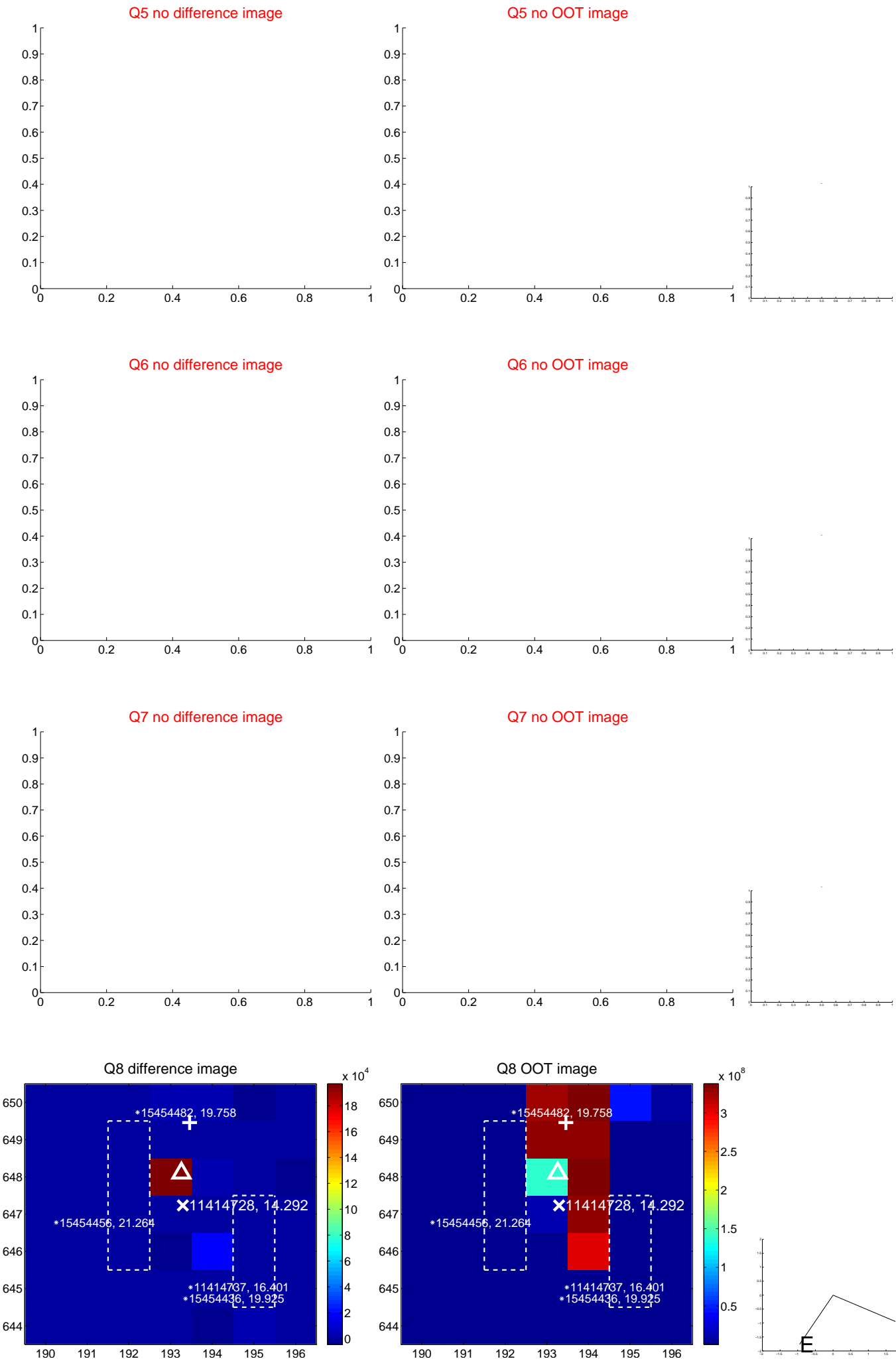


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



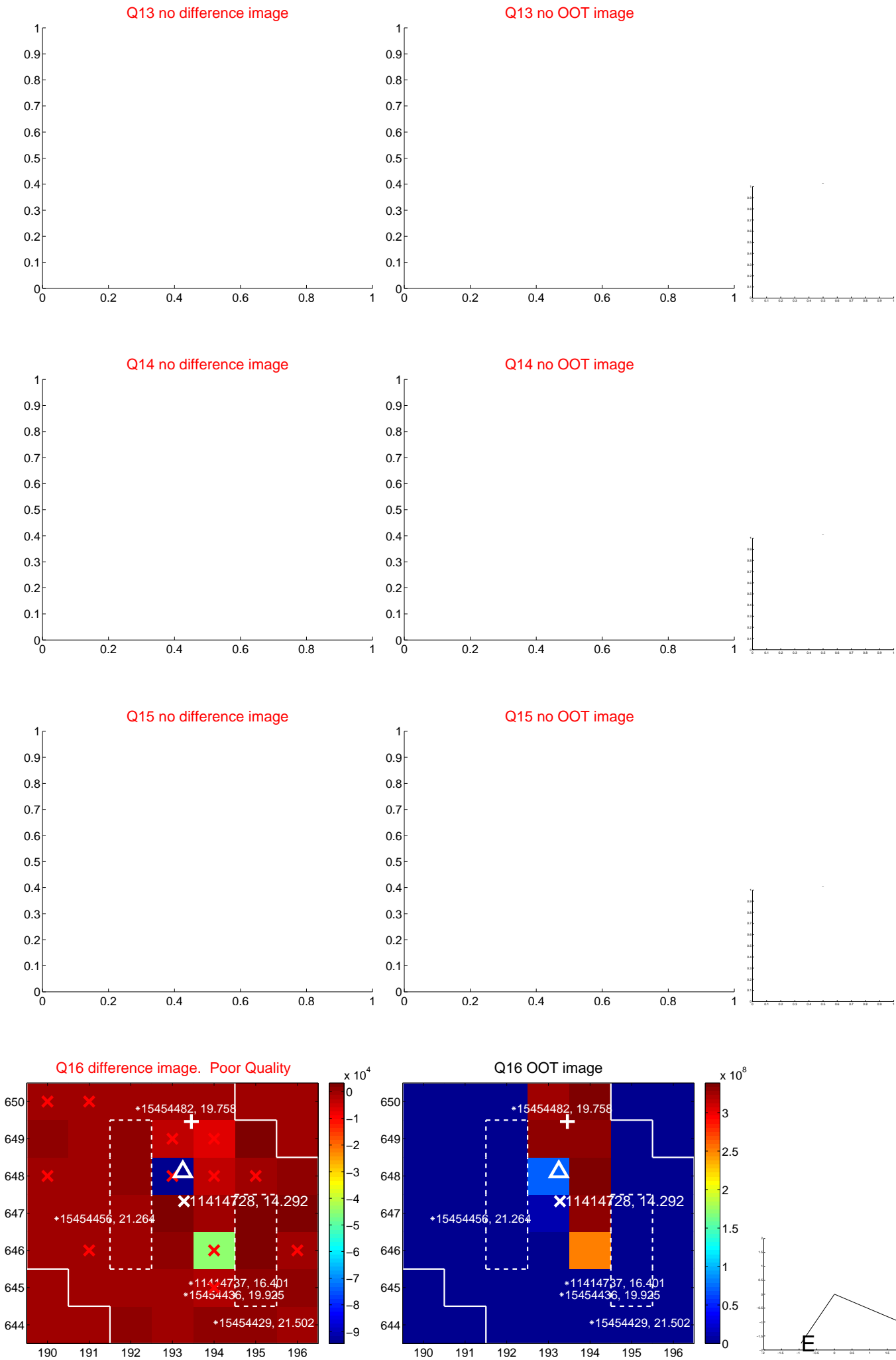
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



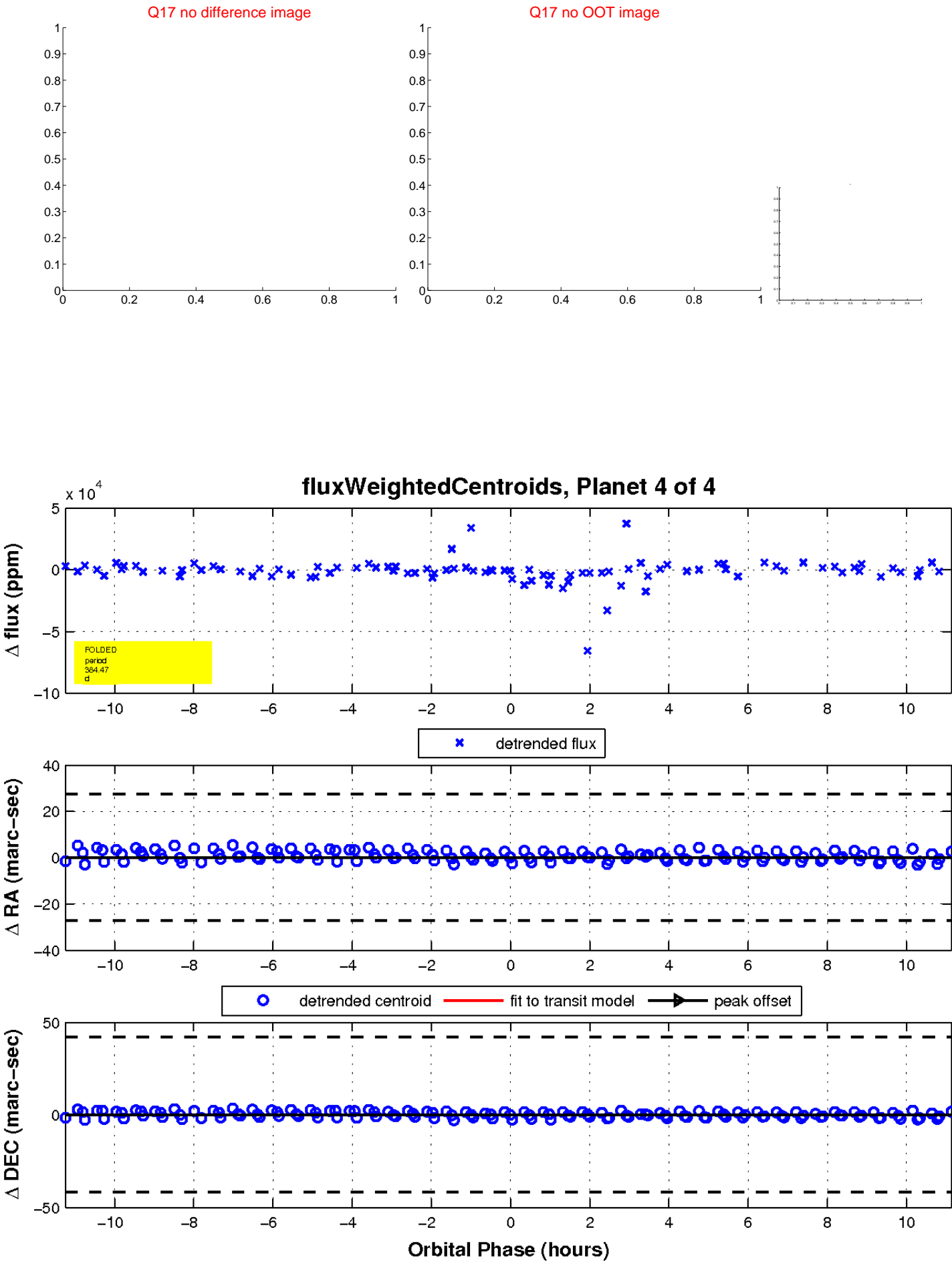
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

