

KIC 012157971

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})
012157971-01	OBS	No	0.577848	131.920185	52.4	4.288	9.0	6.1	17.75	5148	12.61	0.00
012157971-02	OBS	No	4.718238	134.106455	571.9	4.043	11.3	12.0	17.75	5148	49.62	0.00
012157971-03	OBS	No	7.516925	133.303825	482.7	1.671	8.5	8.1	17.75	5148	41.81	17626.30
012157971-04	OBS	No	35.535840	139.729746	822.8	1.500	12.4	-1.0	17.75	5148	50.22	2221.57
012157971-05	OBS	No	21.357134	135.973495	979.1	1.500	12.5	-1.0	17.75	5148	54.79	4380.17
012157971-06	OBS	No	5.349443	132.180360	1321.4	0.989	11.7	16.5	17.75	5148	64.01	0.00
012157971-07	OBS	No	3.259336	132.360994	597.7	1.500	10.4	-1.0	17.75	5148	42.80	53708.44
012157971-08	OBS	No	7.461779	132.625555	1456.5	1.483	11.7	16.3	17.75	5148	70.21	17800.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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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.

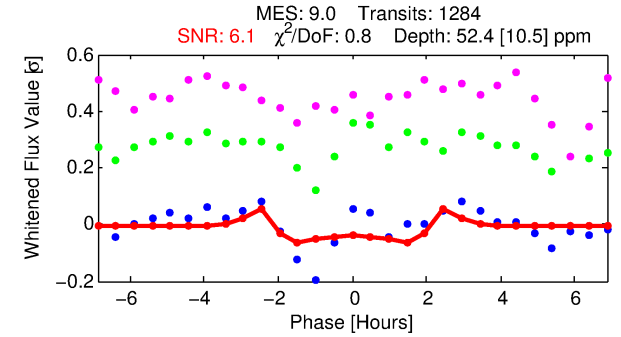
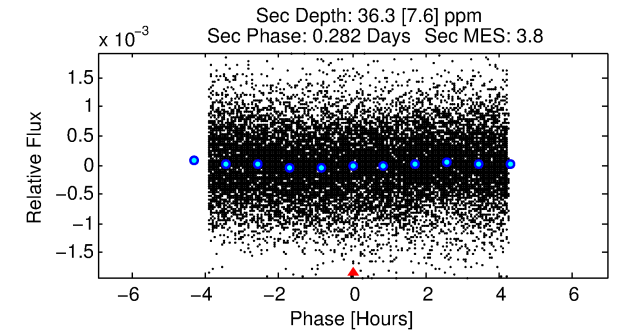
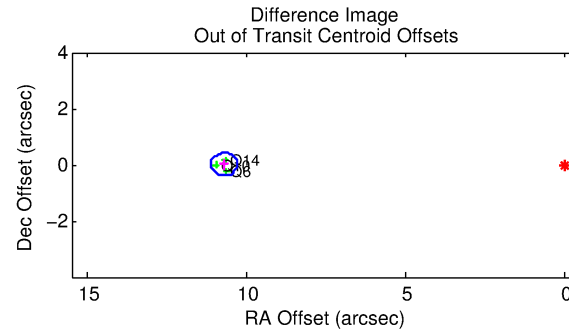
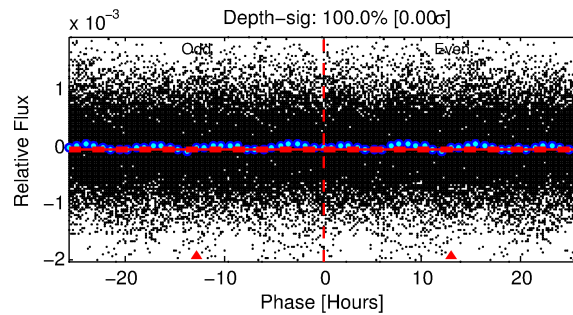
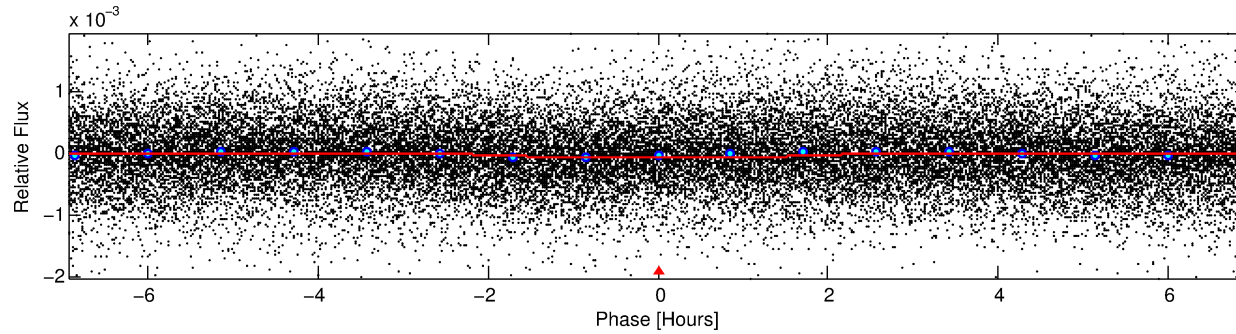
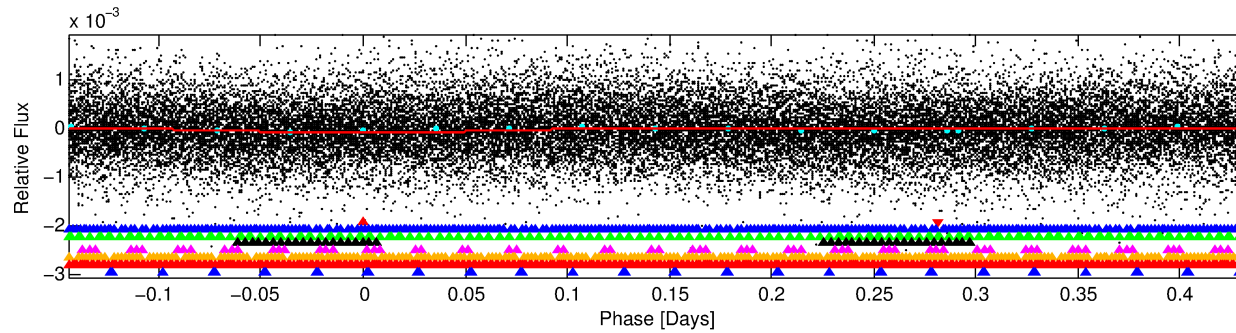
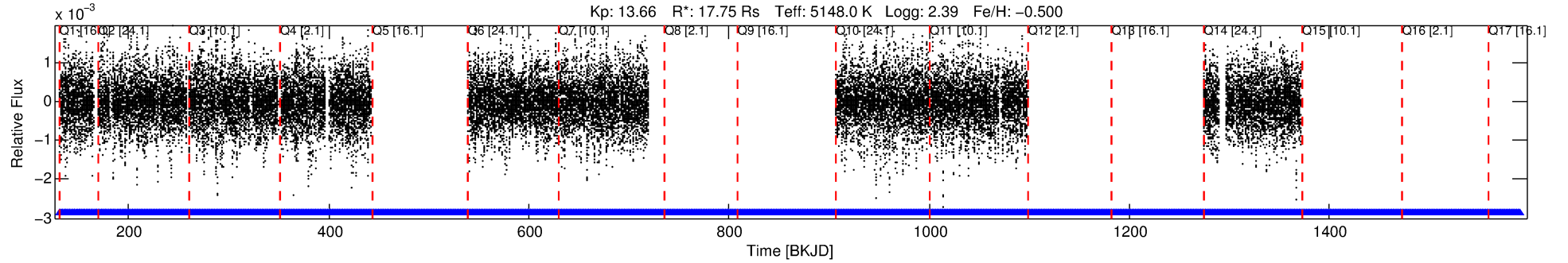
Ephemeris Match Information For 012157971-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
012157971-01	12157971	012157987-pri	12157987	1:1	26.5	-1	7	12.21	13.66	3955.80	Direct-PRF	0	0.69	3.65

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 12157971 Candidate: 1 of 8 Period: 0.578 d



DV Fit Results:

Period = 0.57785 [0.00002] d
Epoch = 131.9202 [0.0028] BKJD
Rp/R* = 0.0065 [0.0020]
a/R* = 1.22 [0.47]
b = 0.00 [10008.91]
Seff = N/A
Teq = N/A
Rp = 12.61 [5.75] Re
a = N/A
Ag = N/A
Teff = N/A

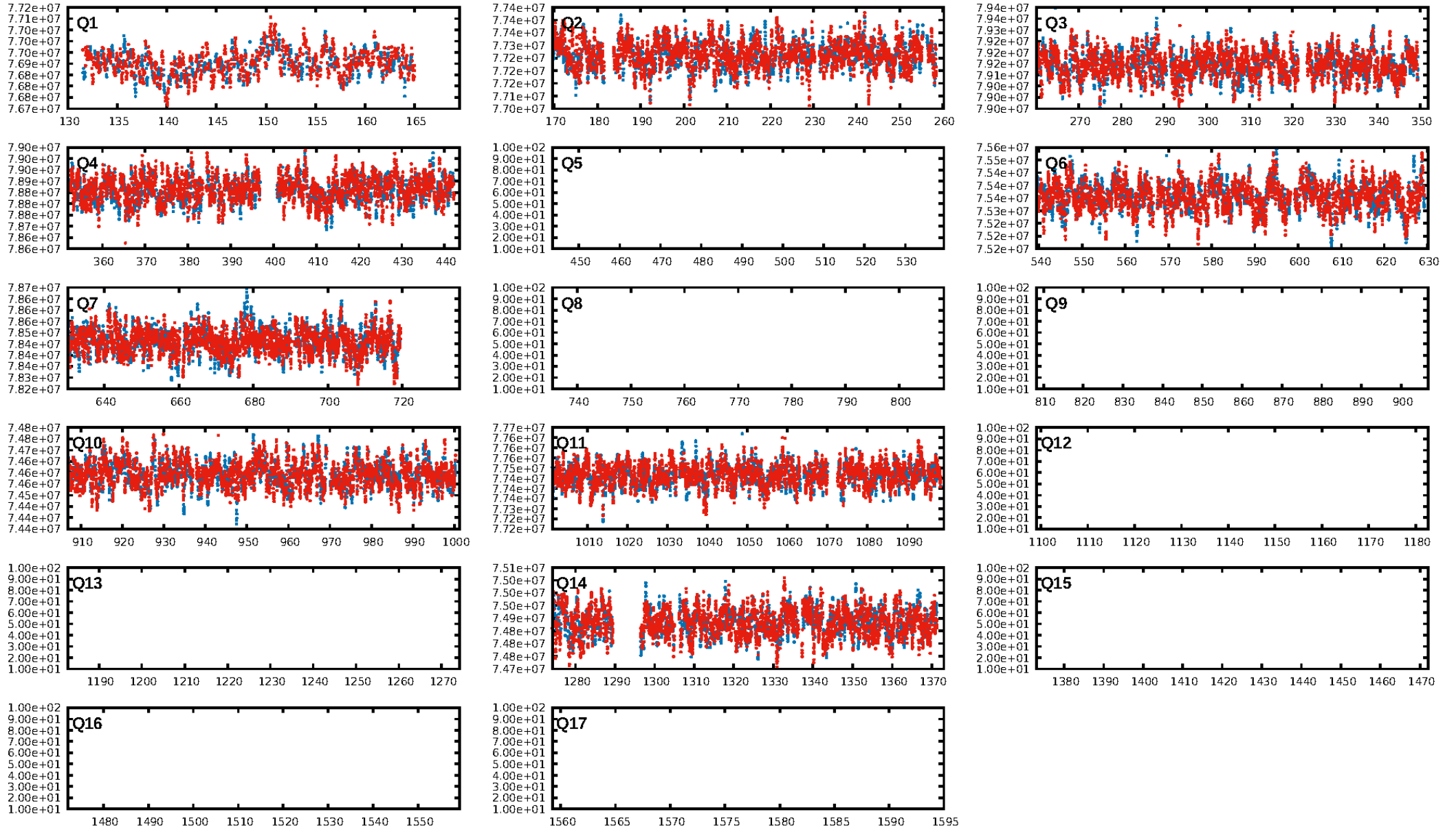
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [14.17 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 1.22e-01
RollingBand-fgt: 1.00 [1226/1226]
GhostDiagnostic-chr: -0.1866
Centroid-sig: 0.6%
Centroid-so: 1.734 arcsec [3.08 σ]
OotOffset-rm: 10.712 arcsec [78.65 σ]
KicOffset-rm: 10.551 arcsec [75.11 σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 1.00 [9/9]

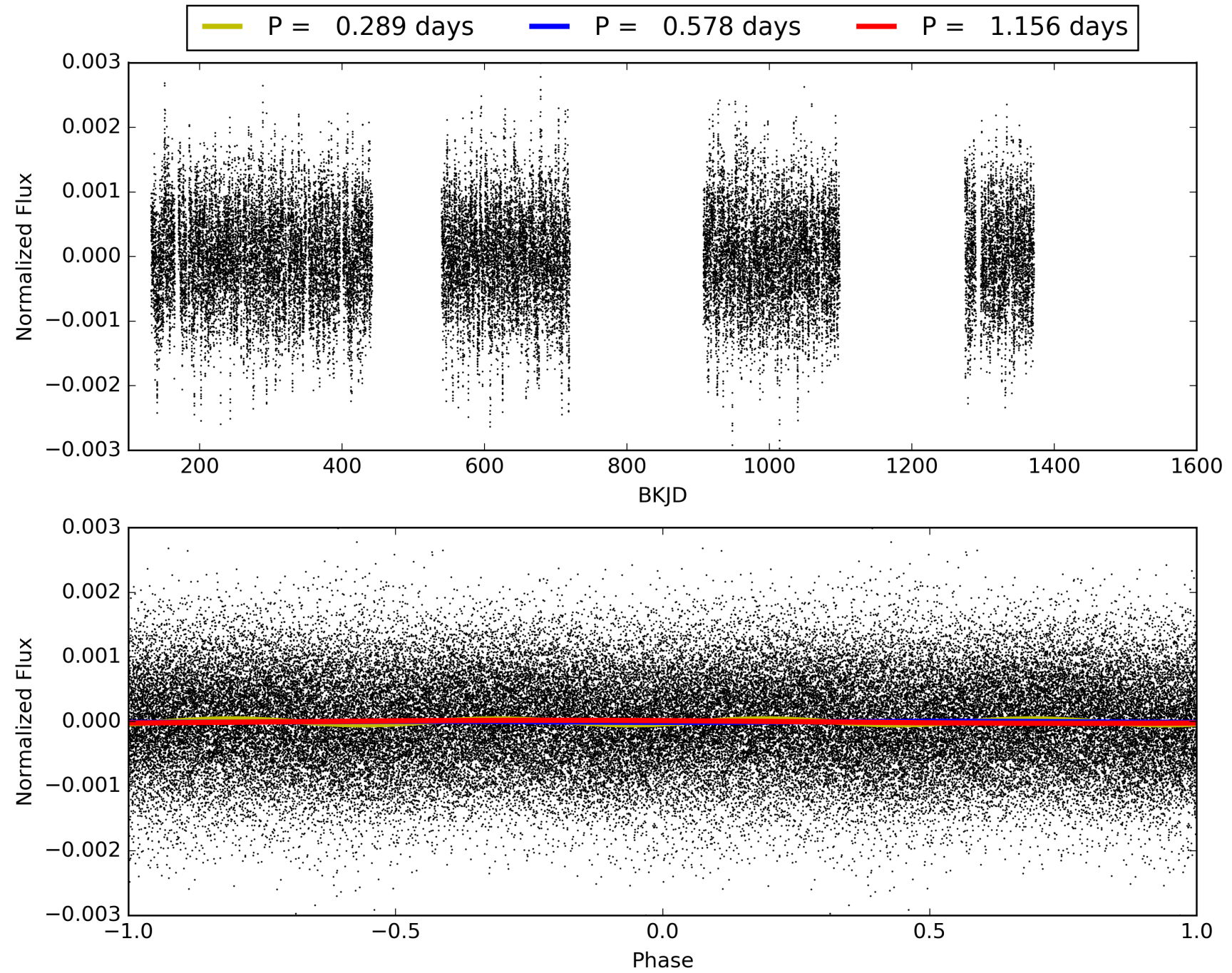
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:14:19 Z

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

TCE 012157971-01, PDC Light Curves

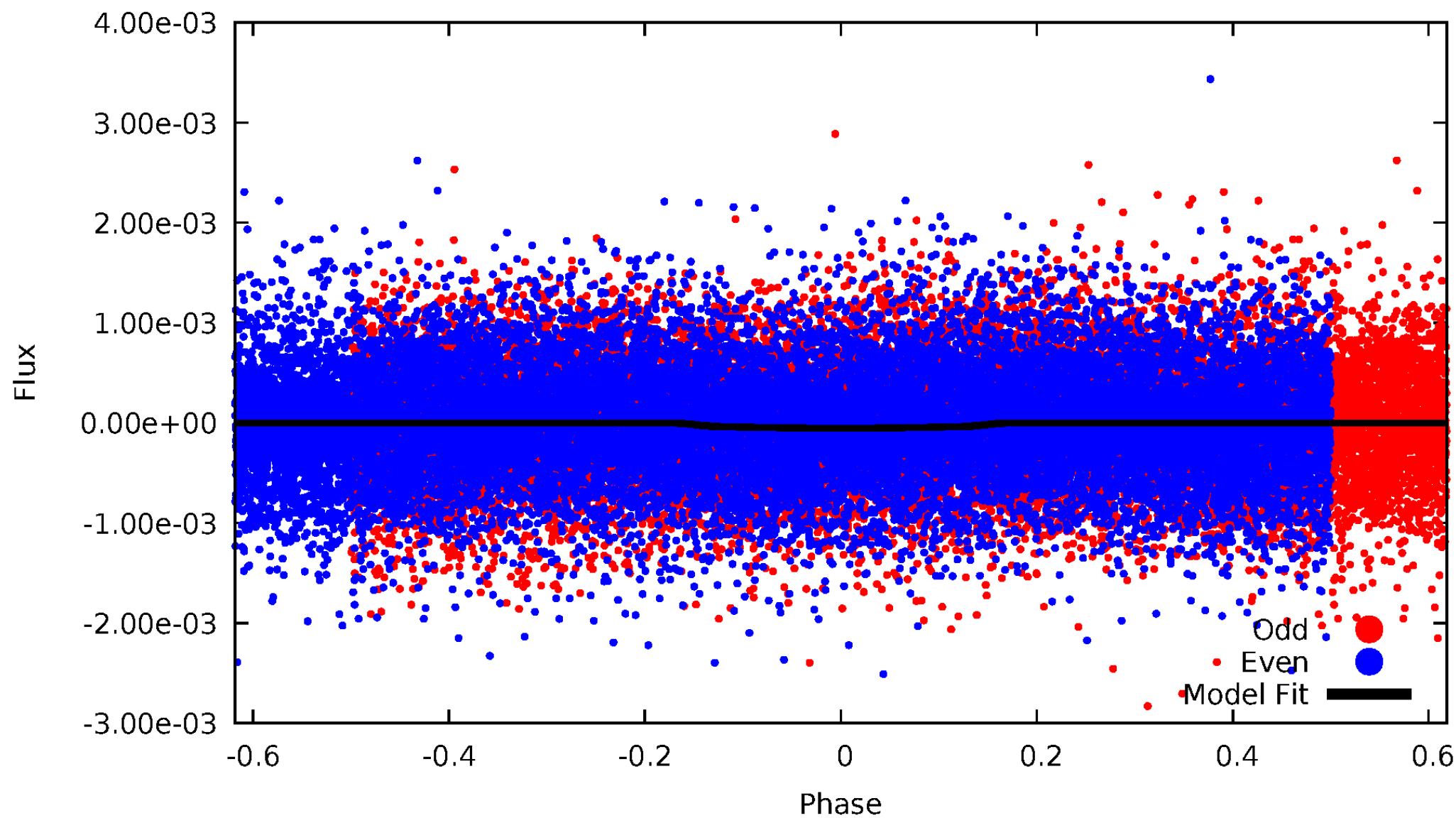


TCE 012157971-01



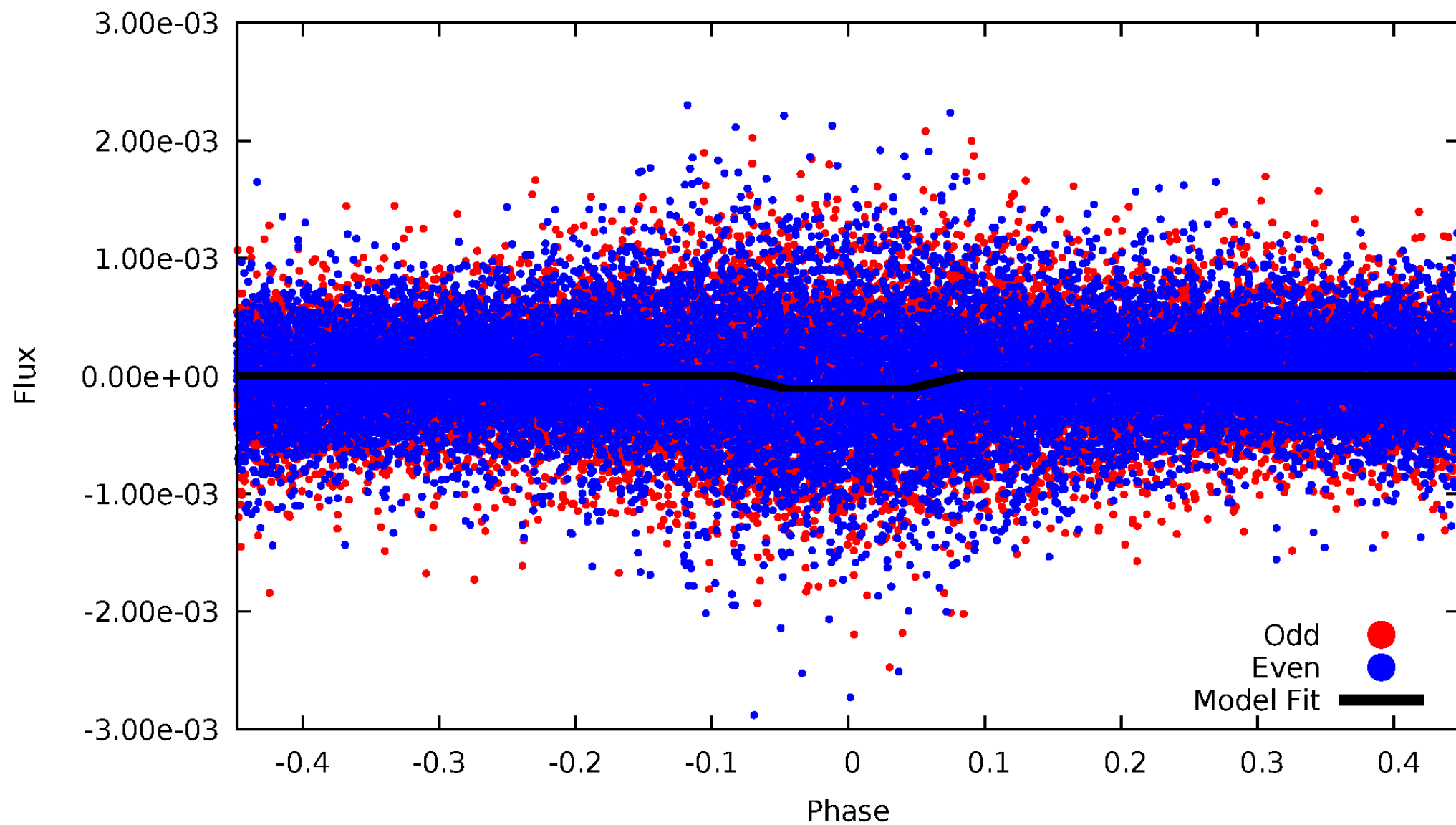
DV Odd/Even

TCE 012157971-01

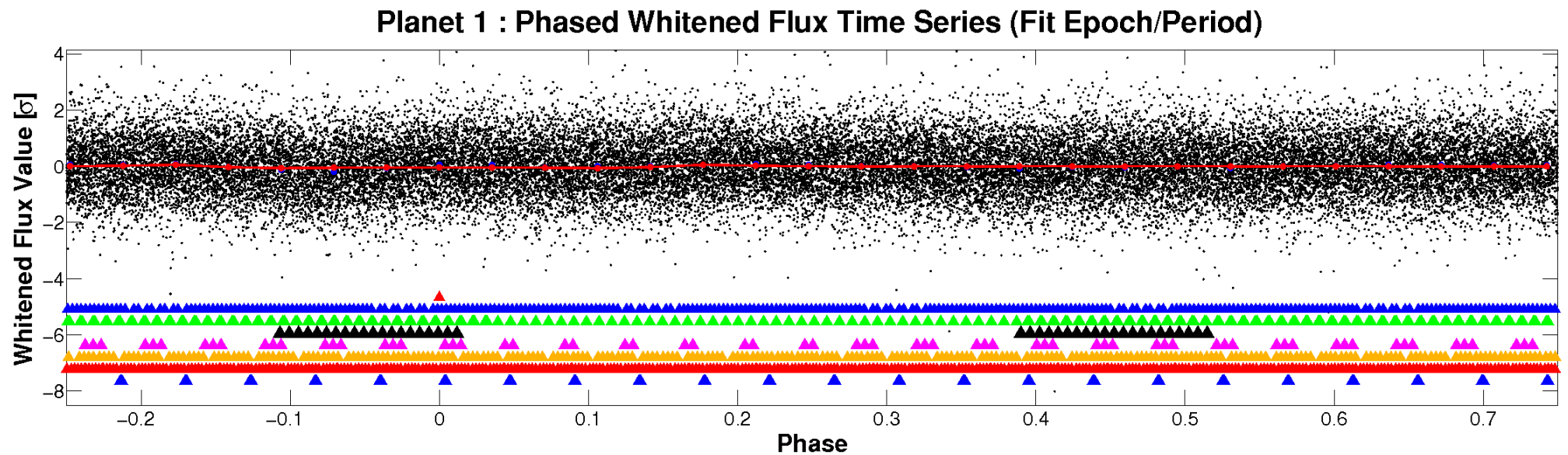
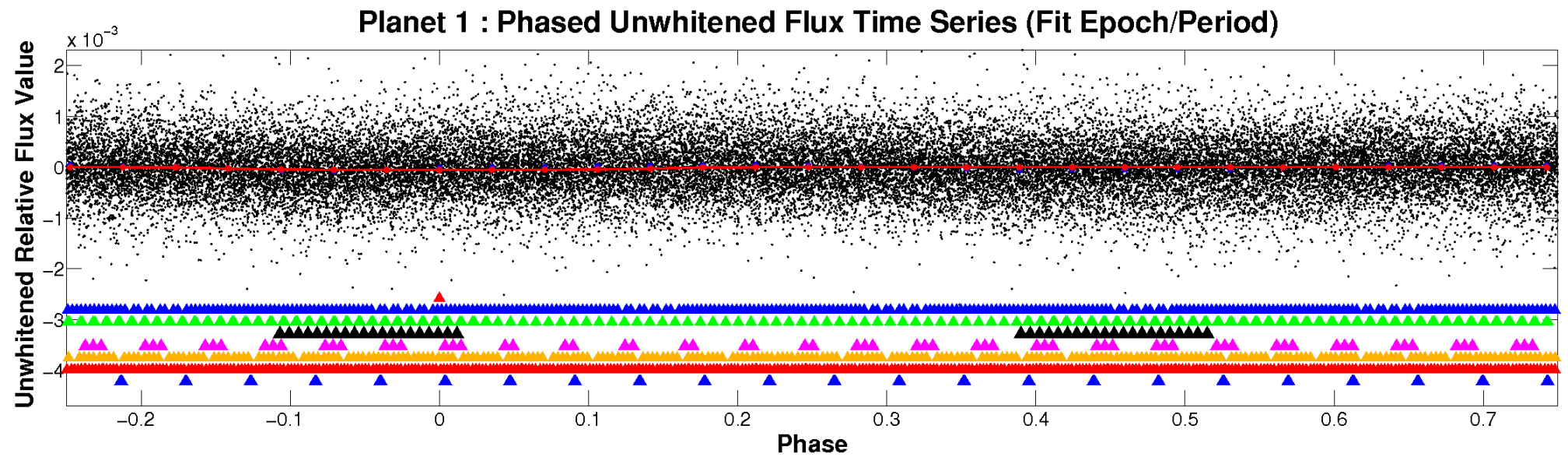


ALT Odd/Even

TCE 012157971-01

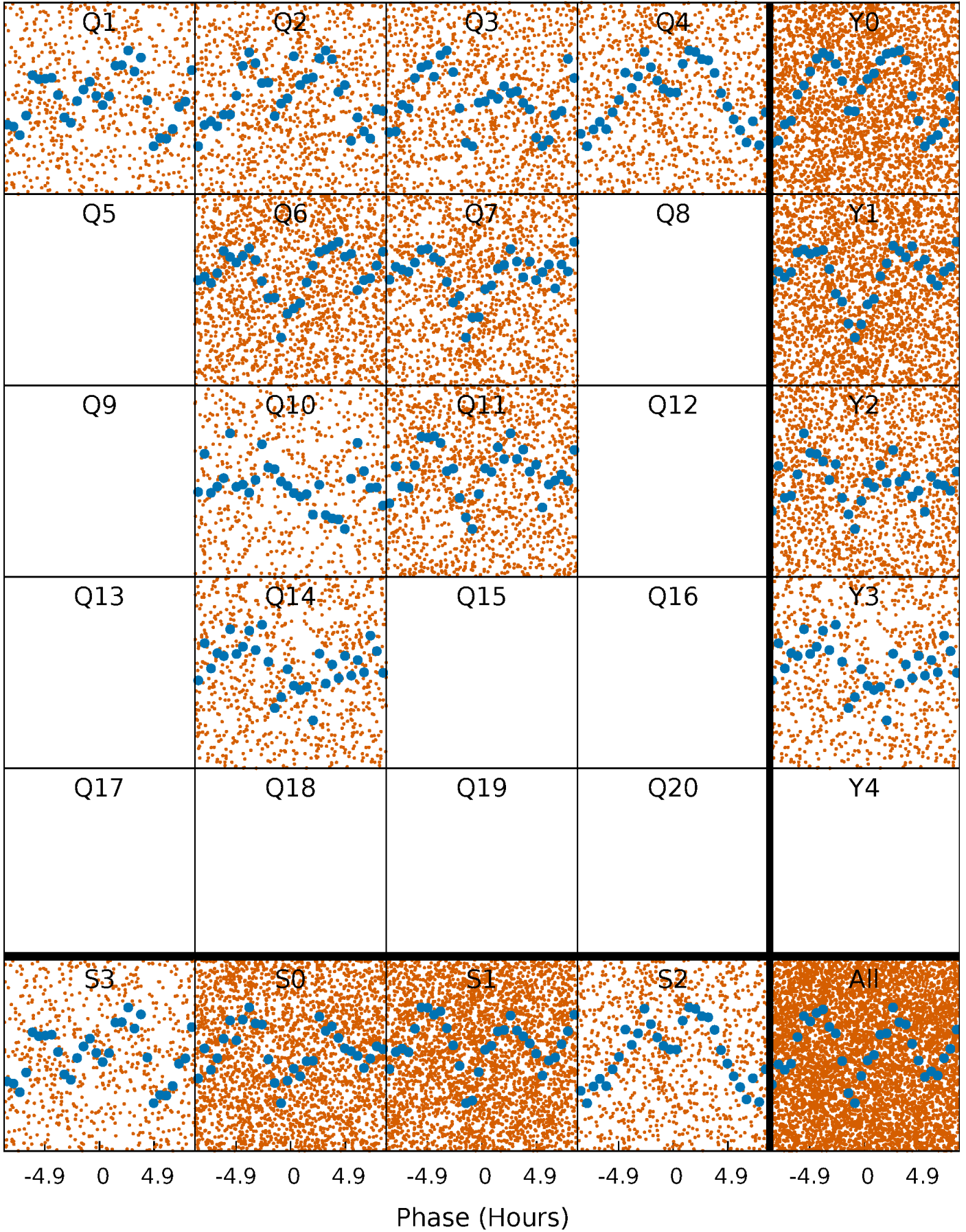


Non-Whitened Vs. Whitened Light Curve



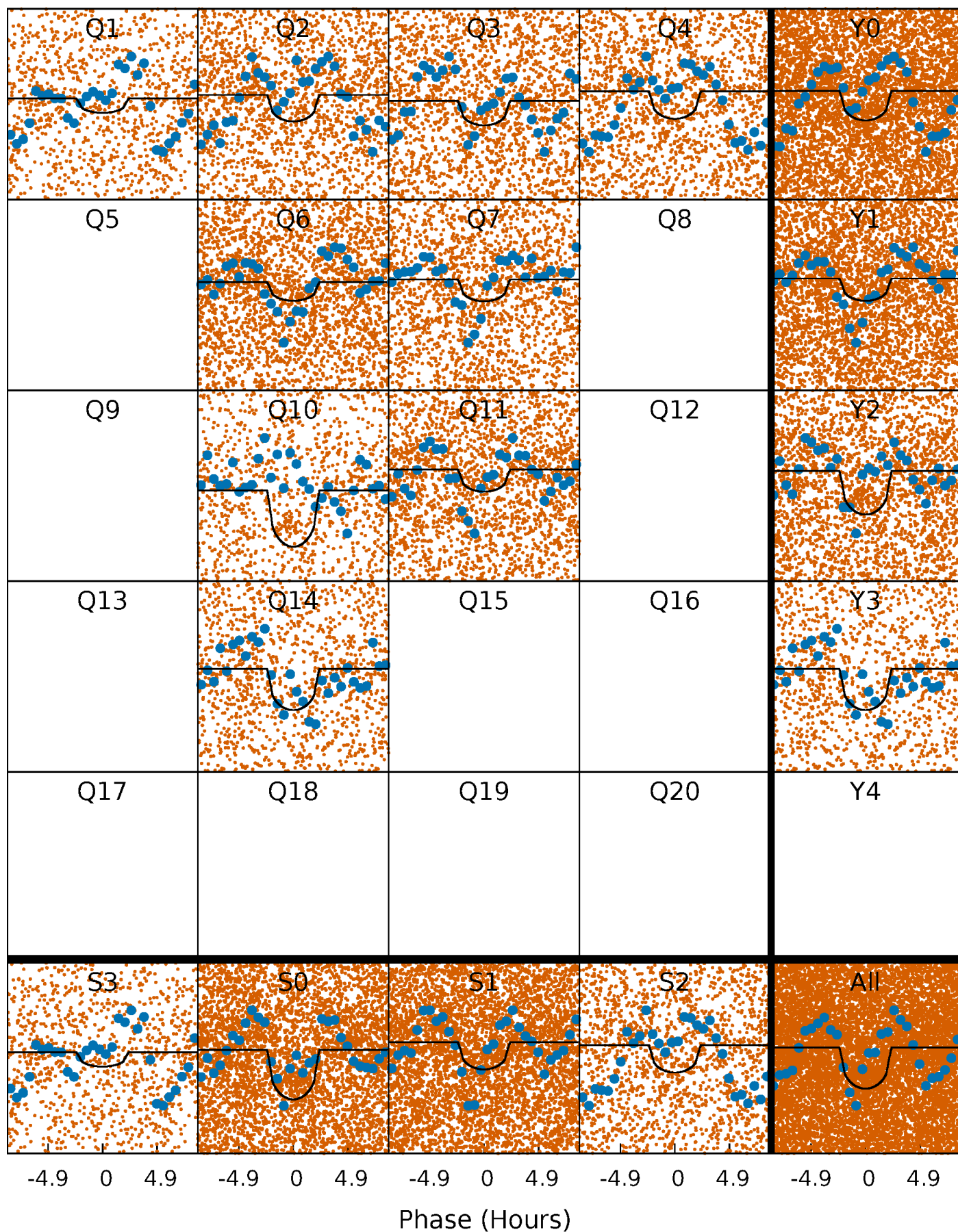
PDC Quarter-Phased Transit Curves

TCE 012157971-01 P= 0.577848 Days $T_0=131.920185$ (BKJD)



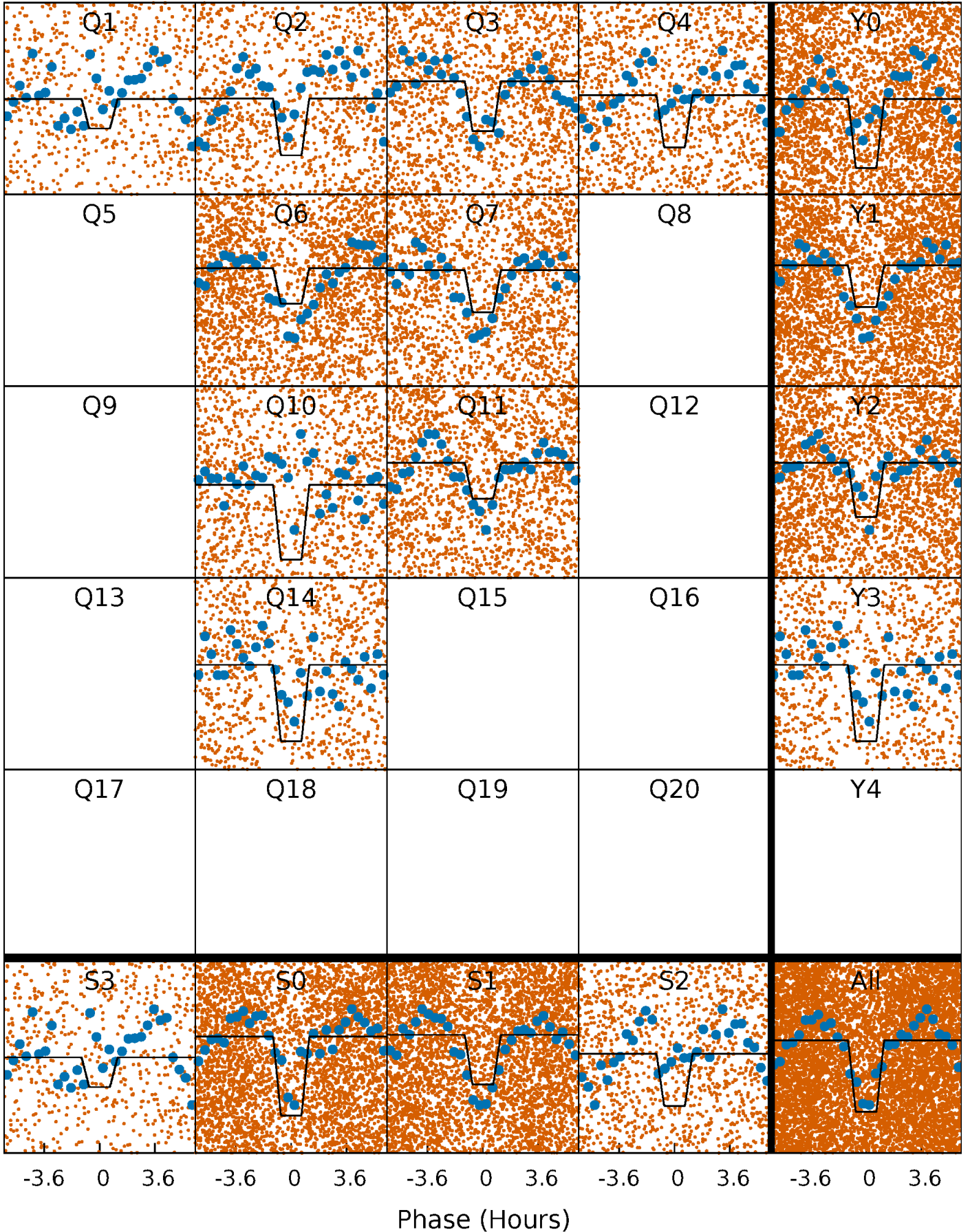
DV Quarter-Phased Transit Curves

TCE 012157971-01 P= 0.577848 Days $T_0=131.920185$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

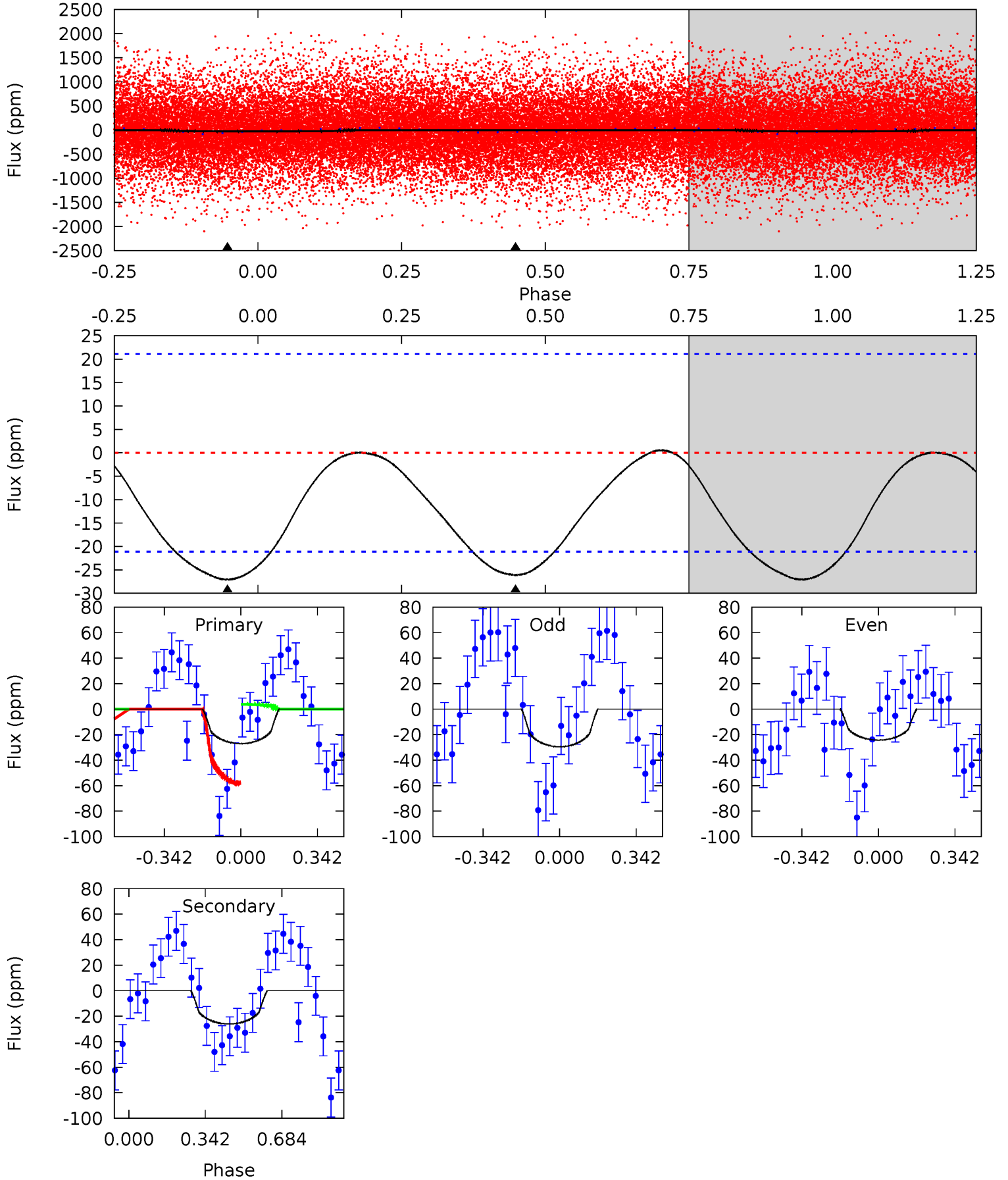
TCE 012157971-01 P= 0.577837 Days $T_0=131.888680$ (BKJD)



DV Model-Shift Uniqueness Test

012157971-01, P = 0.577848 Days, E = 131.342337 Days

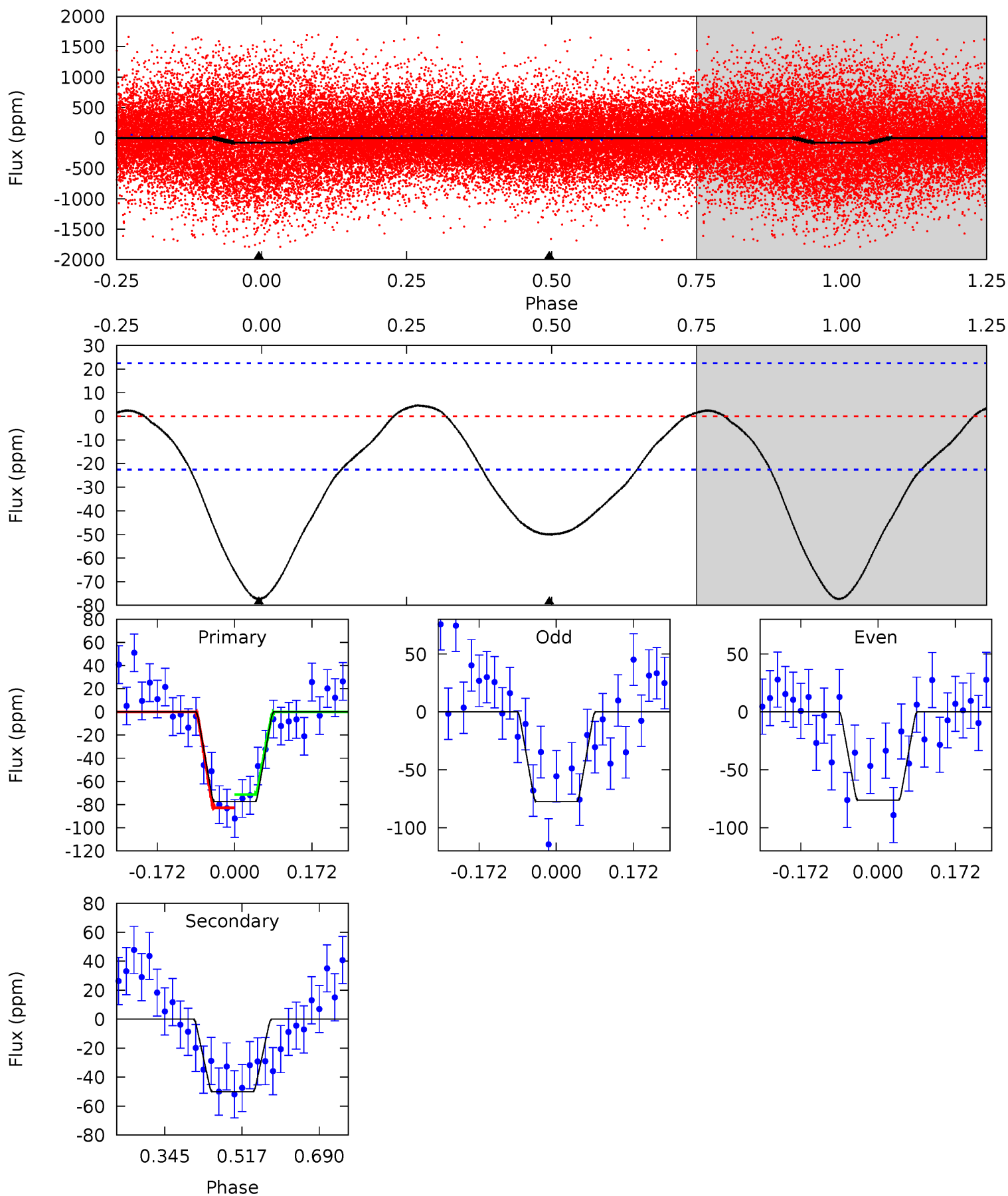
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.51	5.31	0	0	4.30	0.95	0.10	5.51	5.51	5.31	5.31	0.54	0.72	0.02	5.68



Alt Model-Shift Uniqueness Test

012157971-01, P = 0.577837 Days, E = 131.310843 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.3	9.87	0	0	4.45	1.36	1.11	15.3	15.3	9.87	9.87	0.12	1.04	0.06	1.13



Stellar Parameters For KIC 012157971

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5148^{+137}_{-321}	$2.389^{+0.033}_{-0.030}$	$-0.500^{+0.250}_{-0.250}$	$17.748^{+1.606}_{-6.022}$	$2.812^{+0.301}_{-1.605}$	$0.001^{+0.000}_{-0.000}$
	+3%/-6%	+1%/-1%	+50%/-50%	+9%/-34%	+11%/-57%	+55%/-14%
Source	PHO1	AST9	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 012157971-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-26 ± 5	$12.71^{+4.19}_{-4.23}$	9642^{+355}_{-625}	-7612^{+819}_{-488}	$0.032^{+0.040}_{-0.014}$
Alt.	-50 ± 5	$19.36^{+4.12}_{-4.39}$	9618^{+338}_{-568}	-7673^{+636}_{-454}	$0.027^{+0.017}_{-0.009}$

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

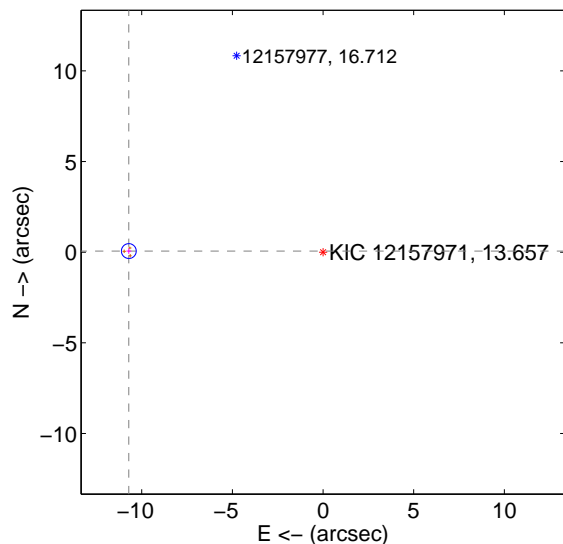
Supplemental centroid analysis for 012157971-01. Kepler magnitude: 13.66. Transit SNR 6.07

There are 0 quarters with good PRF difference image offsets

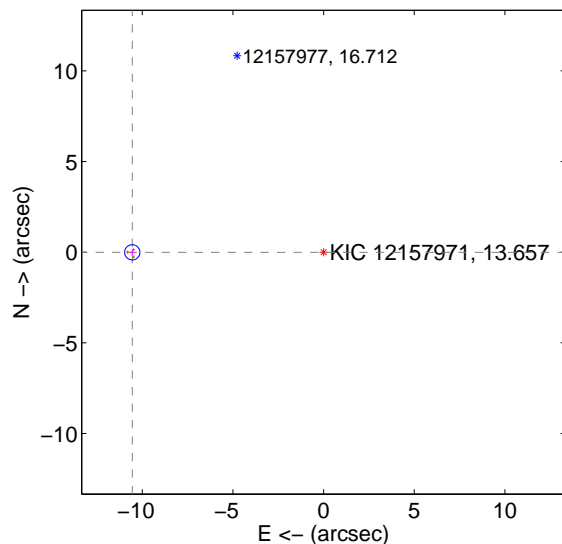
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	10.712 ± 0.136	78.65	10.711 ± 0.136	0.062 ± 0.152
PRF-fit source offset from KIC position	10.551 ± 0.140	75.11	10.551 ± 0.140	-0.009 ± 0.146
photometric centroid source offset	1.73 ± 0.56	3.08	1.72 ± 0.56	0.25 ± 0.60

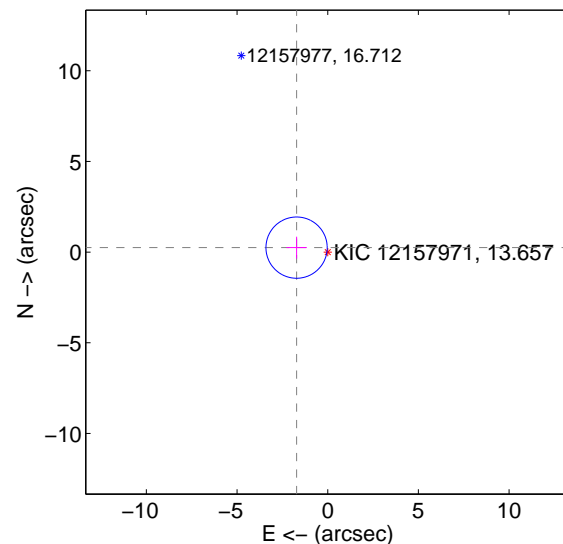
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

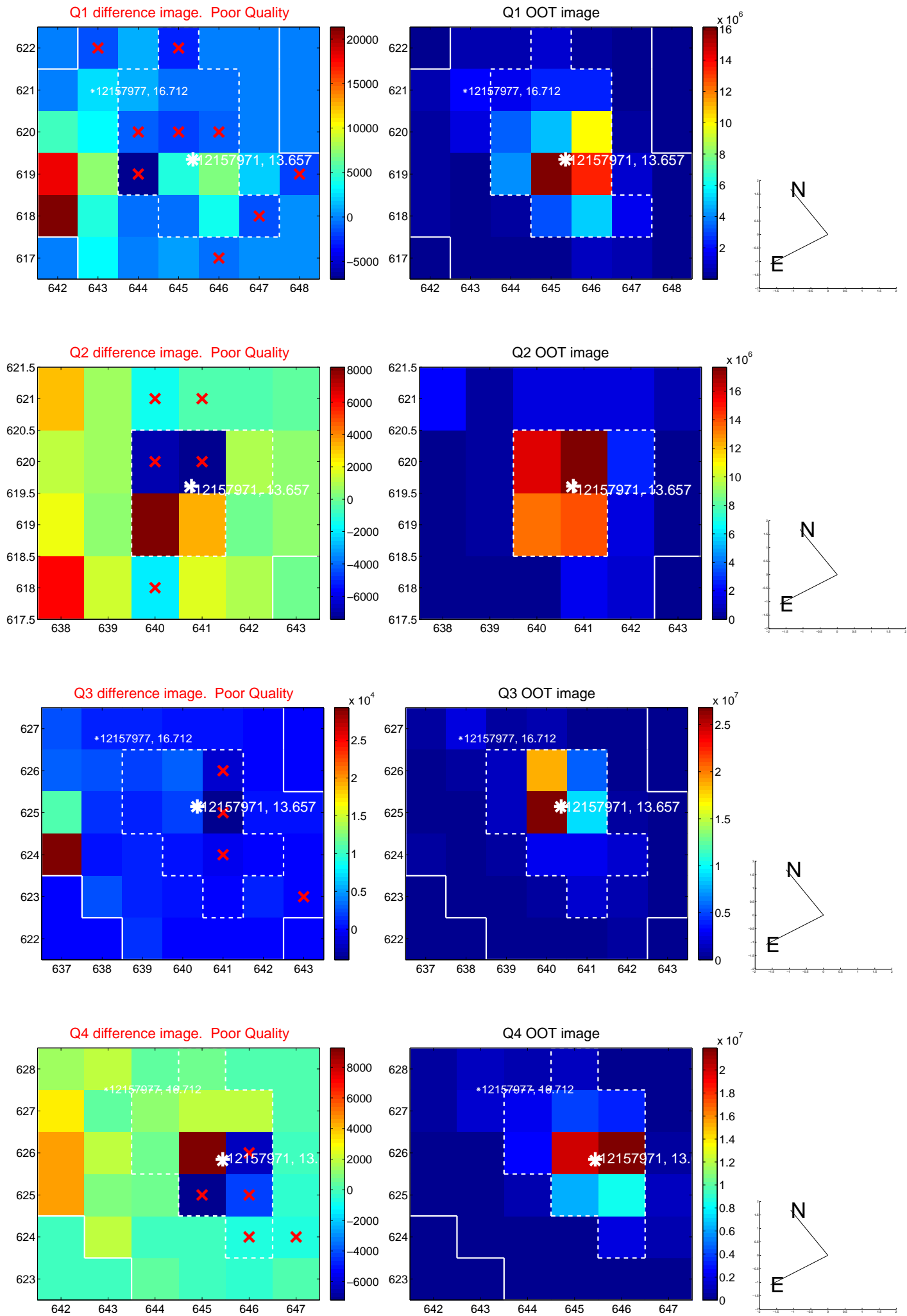


offset from photometric centroids



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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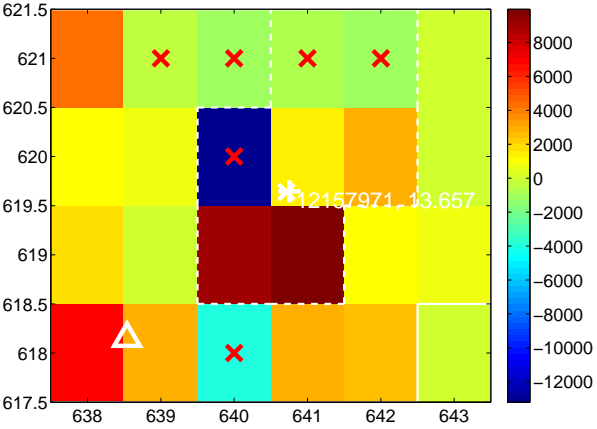
Q5 no difference image



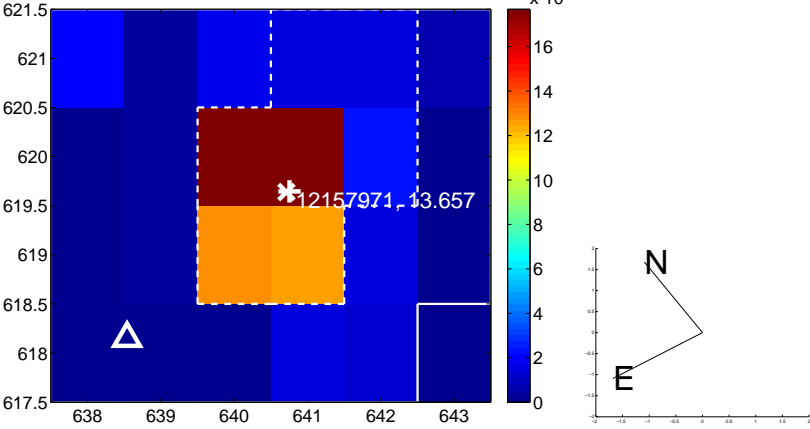
Q5 no OOT image



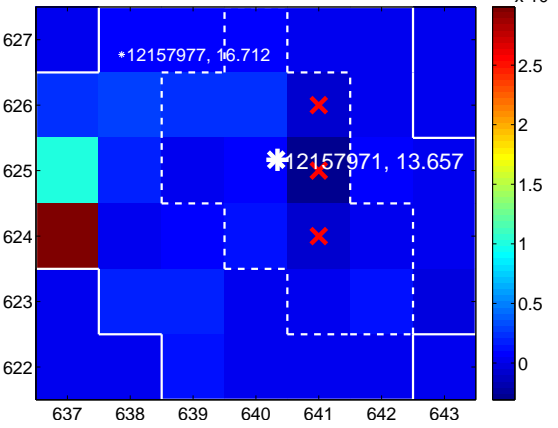
Q6 difference image. Poor Quality



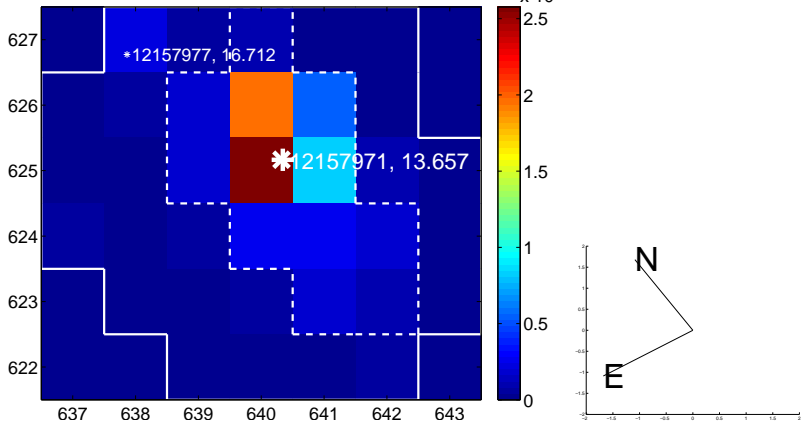
Q6 OOT image



Q7 difference image. Poor Quality



Q7 OOT image



Q8 no difference image

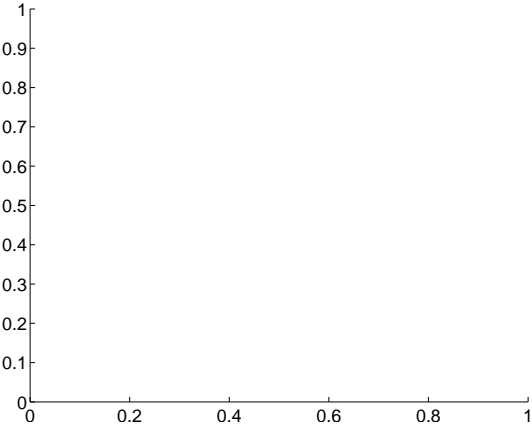


Q8 no OOT image

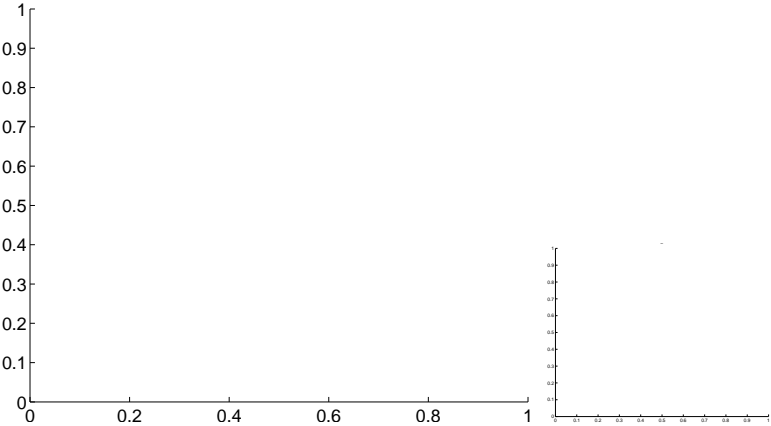


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

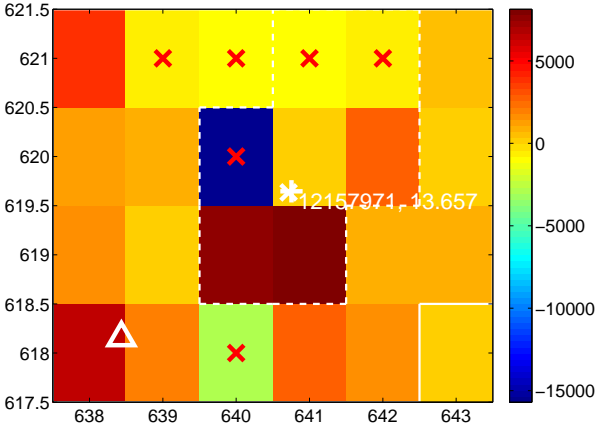
Q9 no difference image



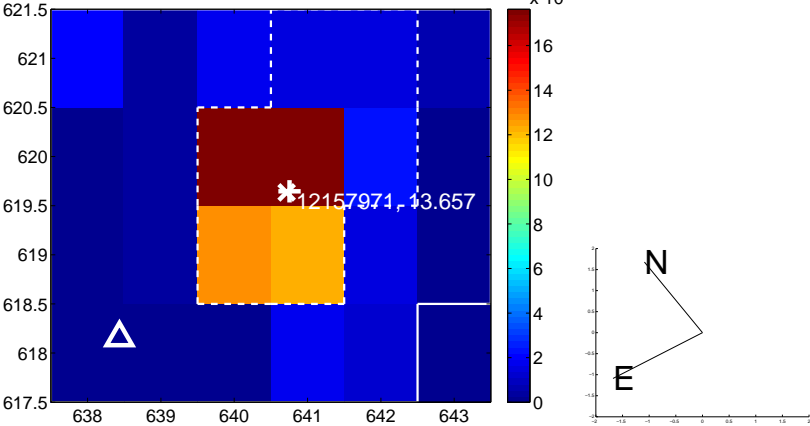
Q9 no OOT image



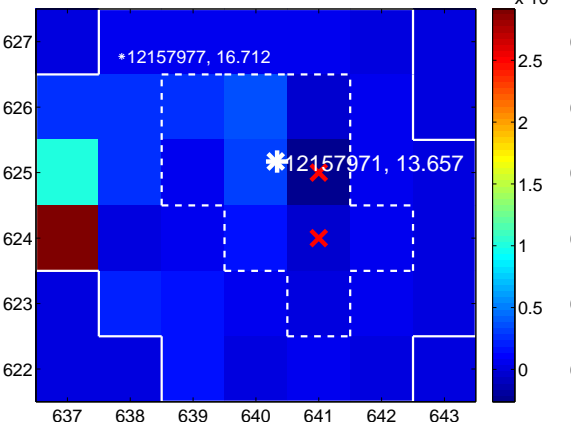
Q10 difference image. Poor Quality



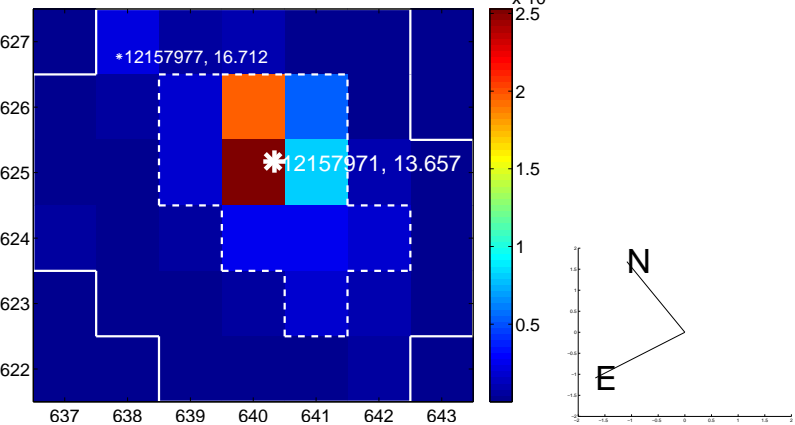
Q10 OOT image



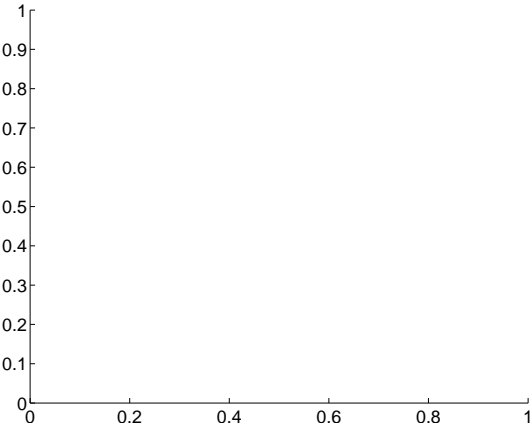
Q11 difference image. Poor Quality



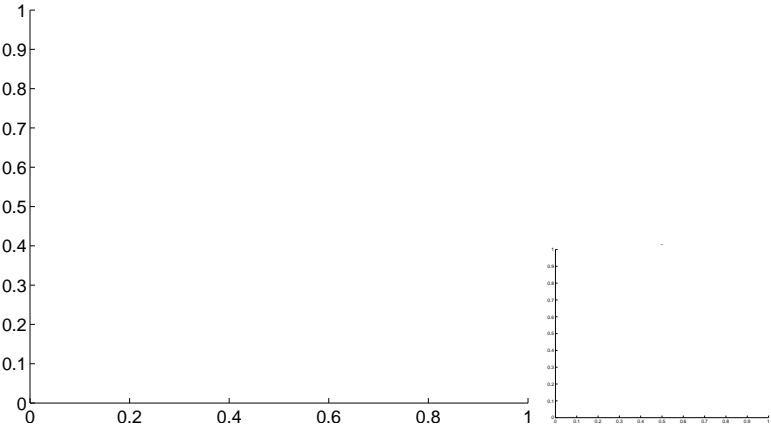
Q11 OOT image



Q12 no difference image



Q12 no OOT image



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

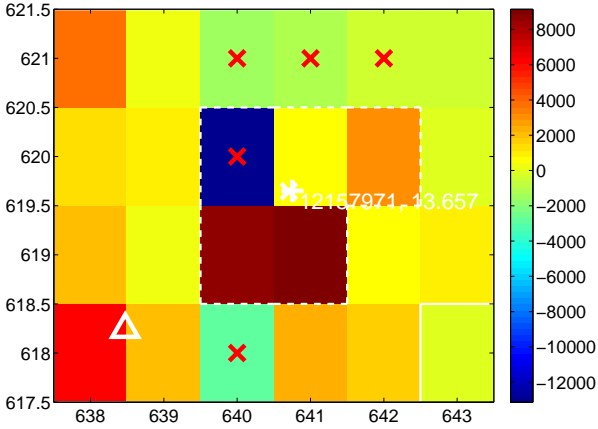
Q13 no difference image



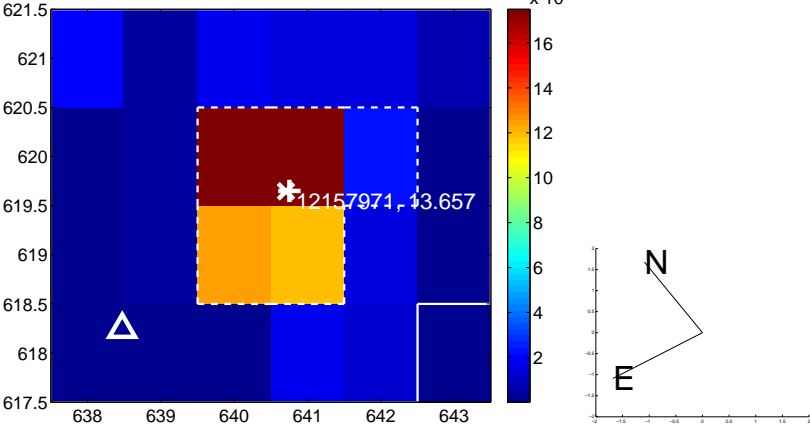
Q13 no OOT image



Q14 difference image. Poor Quality



Q14 OOT image



Q15 no difference image



Q15 no OOT image



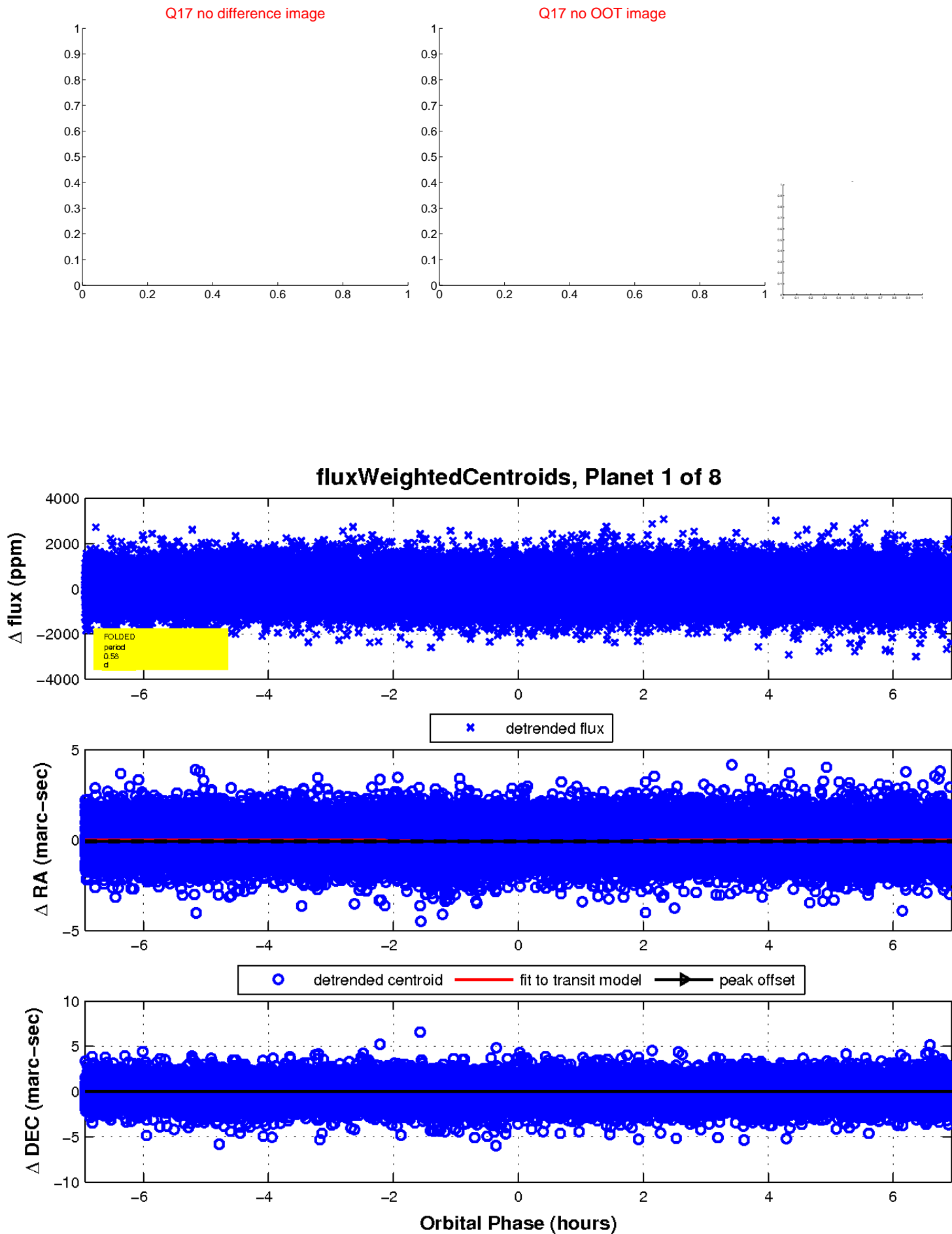
Q16 no difference image



Q16 no OOT image

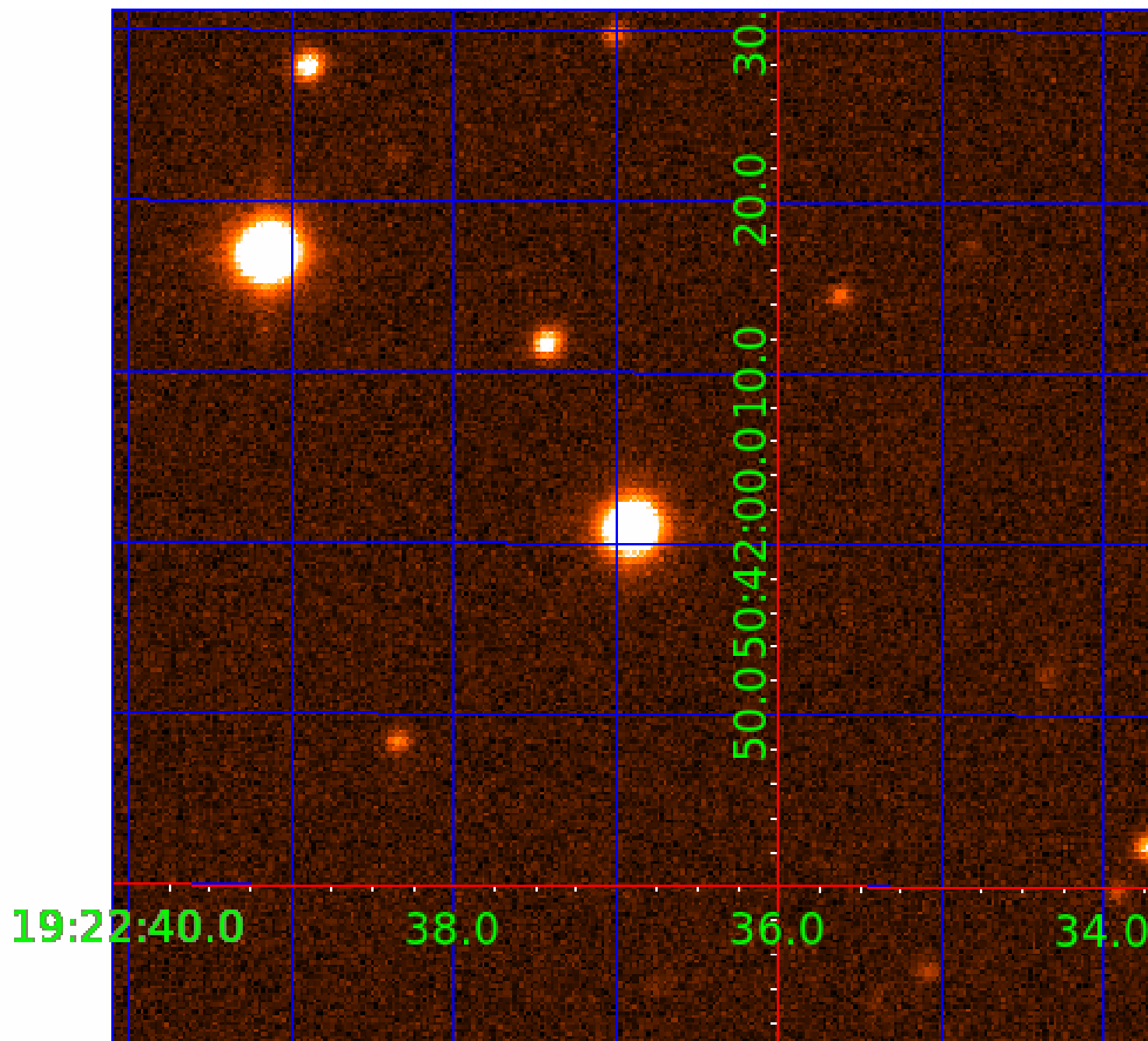


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UKIRT Image

Declination



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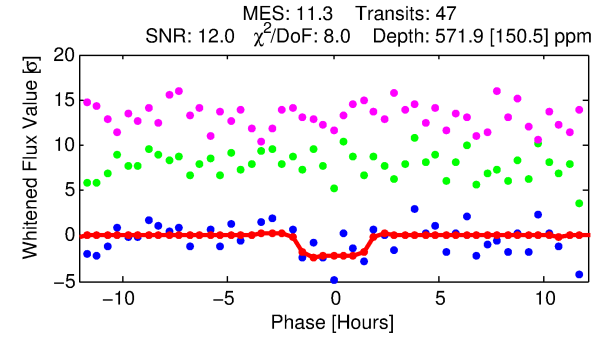
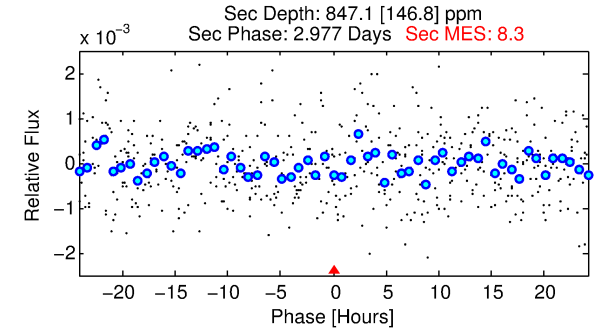
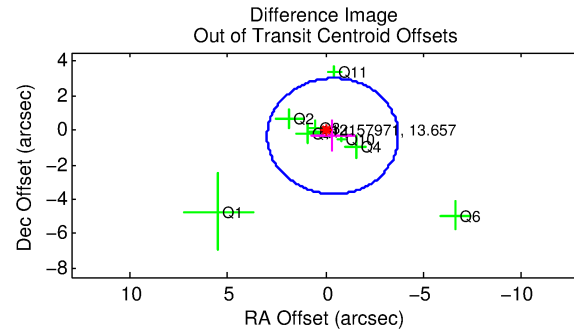
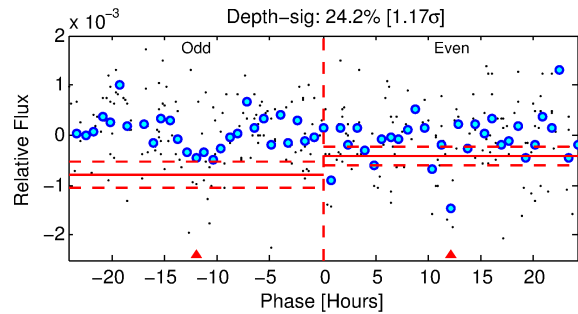
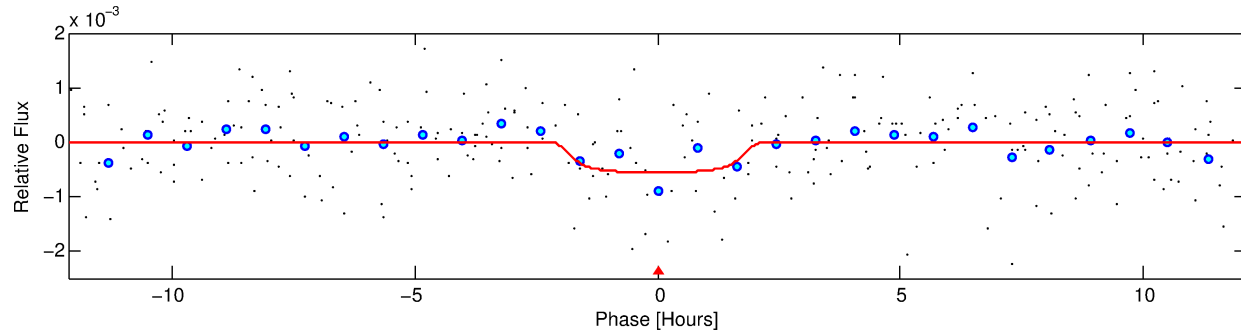
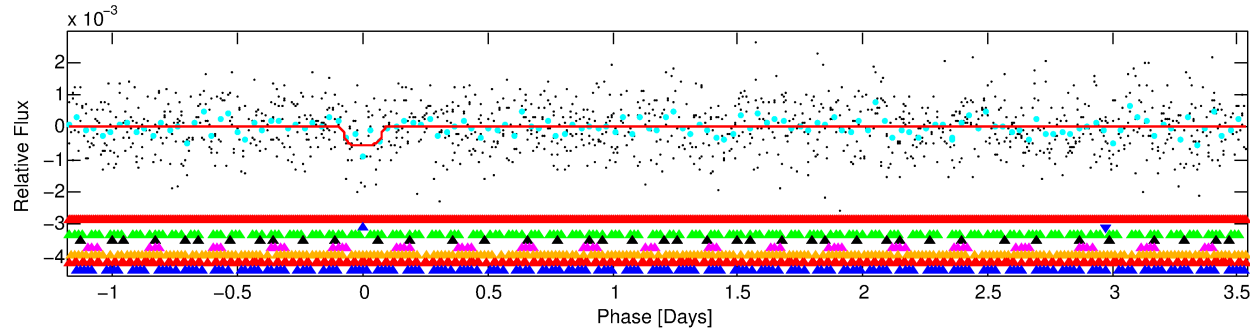
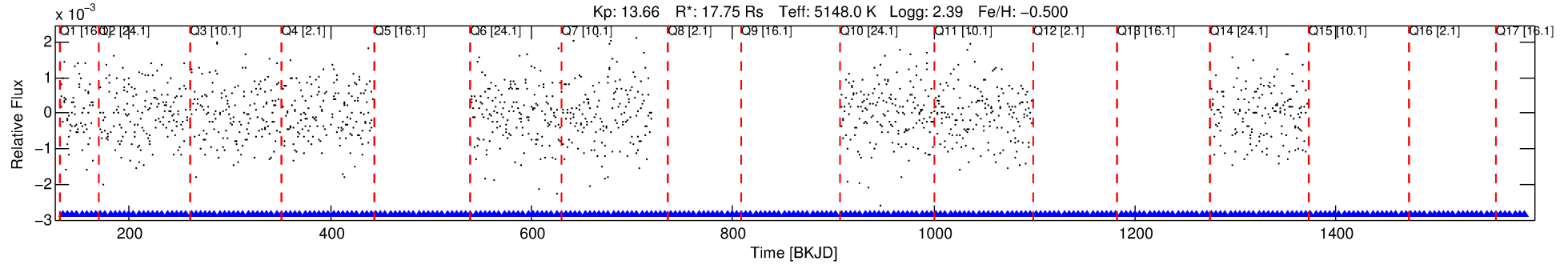
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012157971-02

No Significant Match Found

DV One-Page Summary

KIC: 12157971 Candidate: 2 of 8 Period: 4.718 d



DV Fit Results:

Period = 4.71824 [0.00013] d
Epoch = 134.1065 [0.0148] BKJD
Rp/R* = 0.0256 [0.0239]
a/R* = 4.89 [19.09]
b = 0.87 [1.12]
Seff = N/A
Teq = N/A
Rp = 49.61 [49.25] Re
a = N/A
Ag = N/A
Teff = N/A

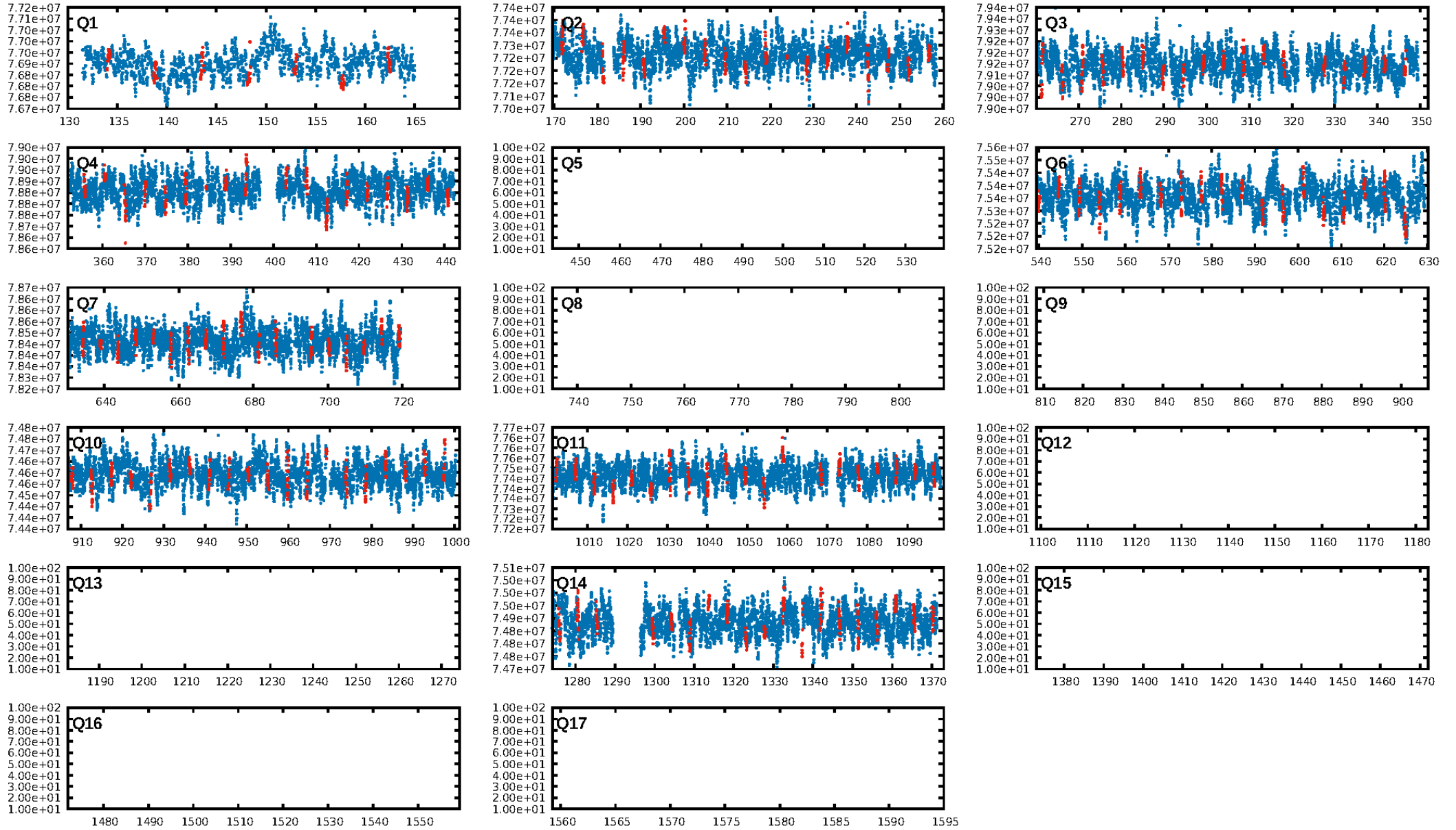
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [8.12 σ]
LongPeriod-sig: 100.0% [3.64 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.05e-18
RollingBand-fgt: 1.00 [45/45]
GhostDiagnostic-chr: 9.592
Centroid-sig: 30.5%
Centroid-so: 0.210 arcsec [1.29 σ]
OotOffset-rm: 0.512 arcsec [0.46 σ]
KicOffset-rm: 0.639 arcsec [0.65 σ]
OotOffset-st: 4/3/1/1 [9]
KicOffset-st: 4/3/1/1 [9]
DiffImageQuality-fgm: 0.22 [2/9]
DiffImageOverlap-fno: 0.00 [0/9]

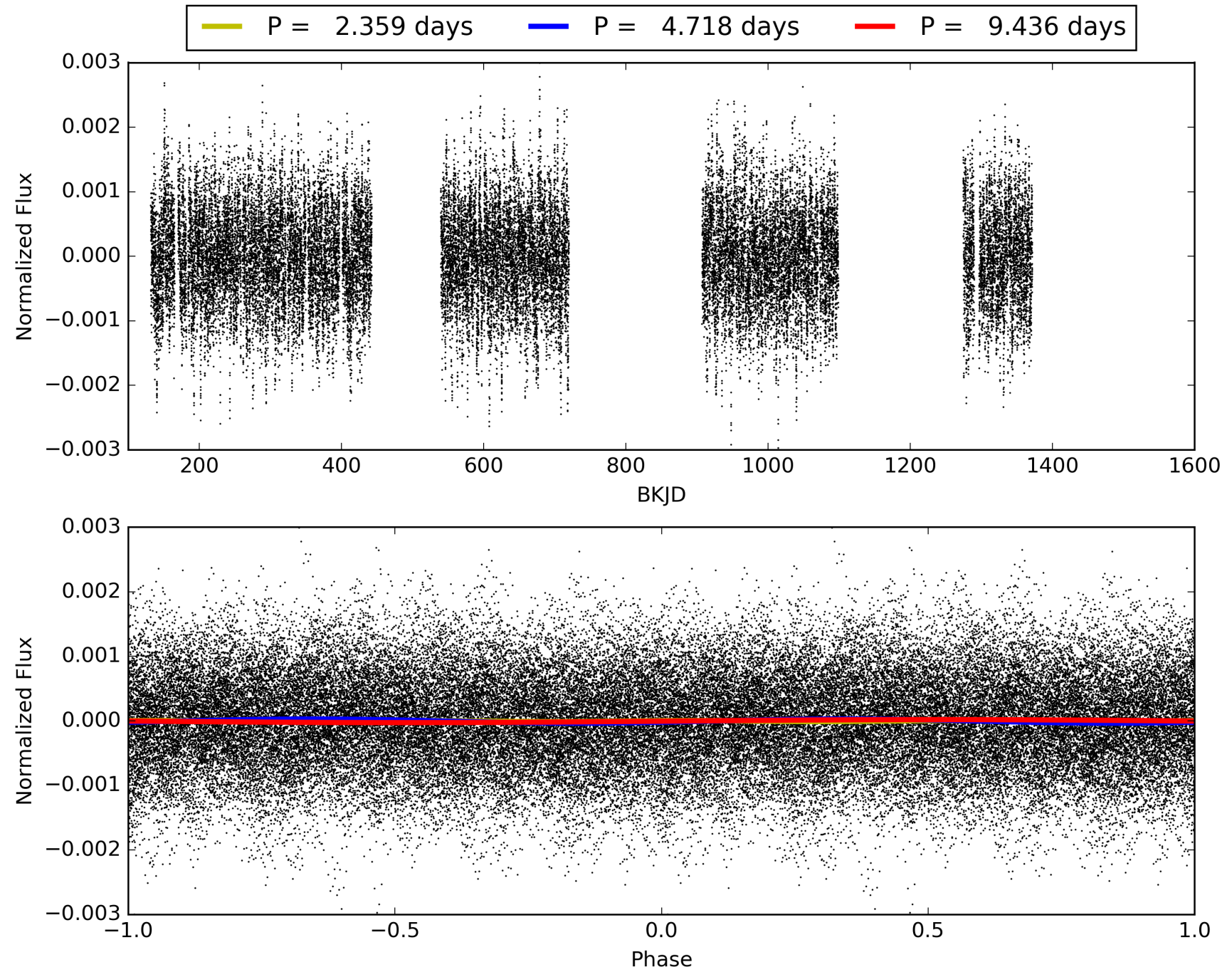
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:14:28 Z

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

TCE 012157971-02, PDC Light Curves

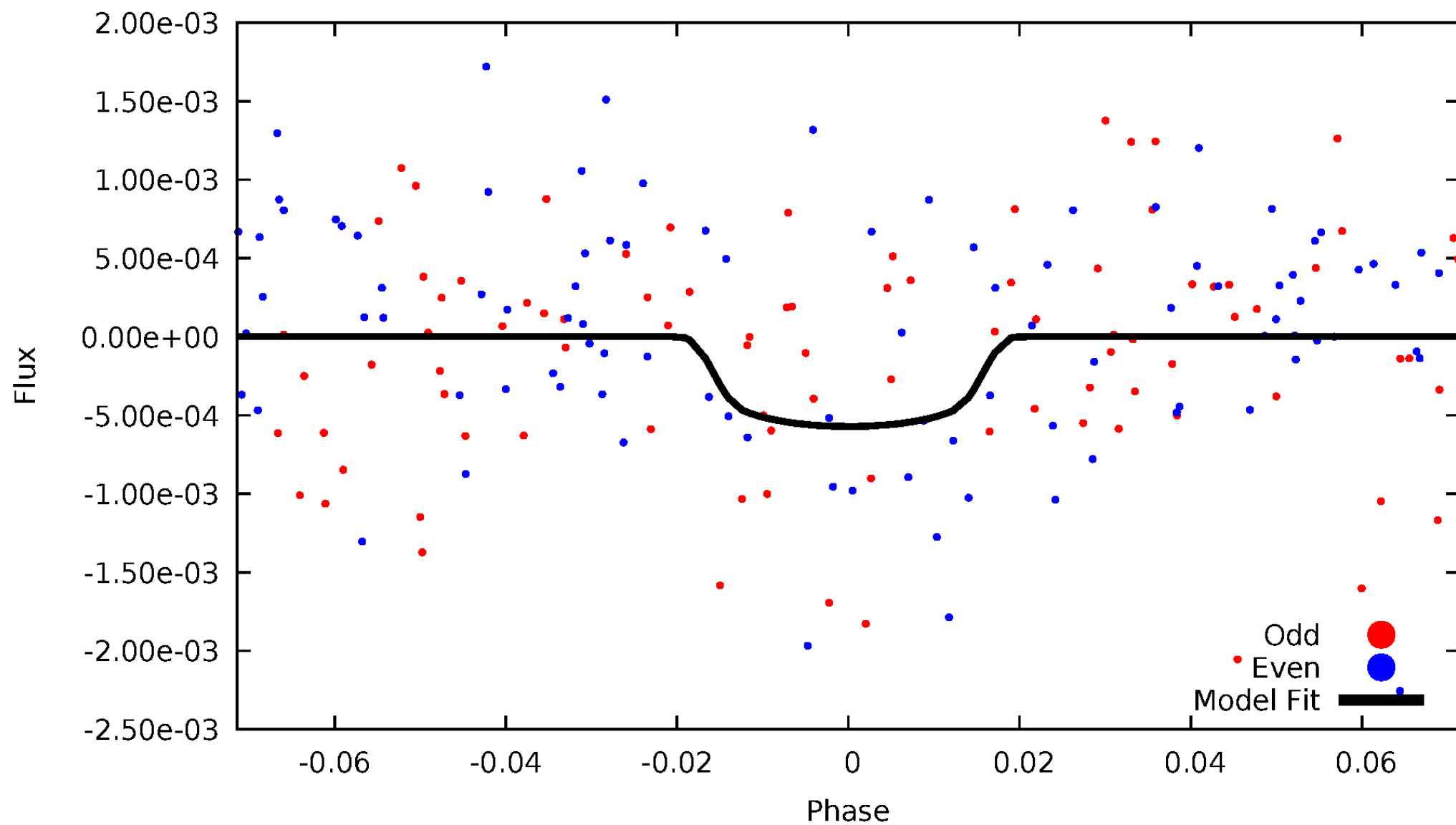


TCE 012157971-02



DV Odd/Even

TCE 012157971-02

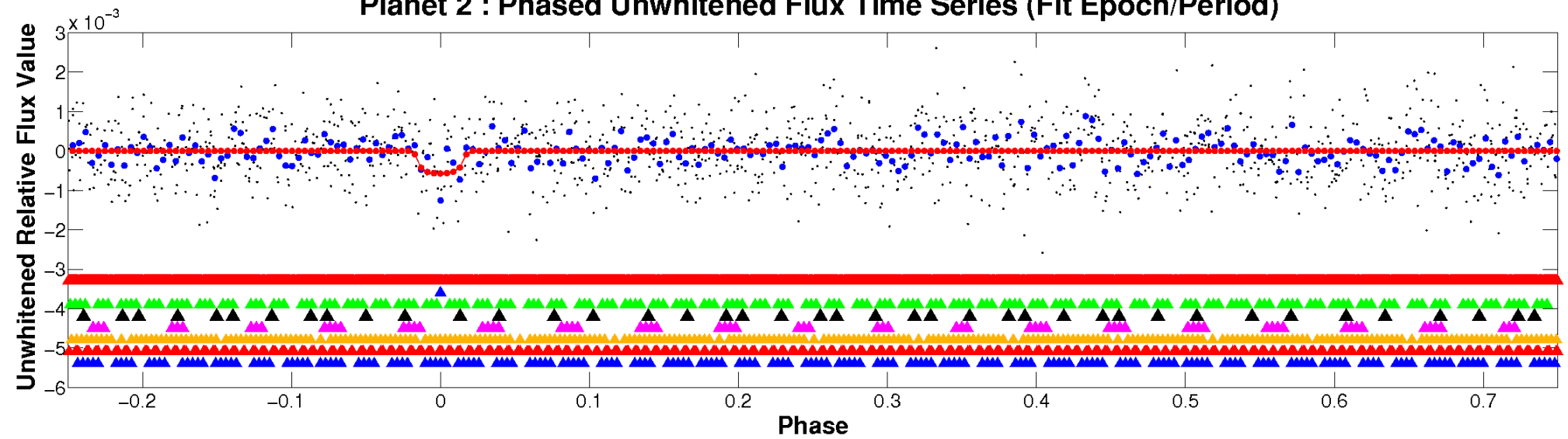


ALT Odd/Even

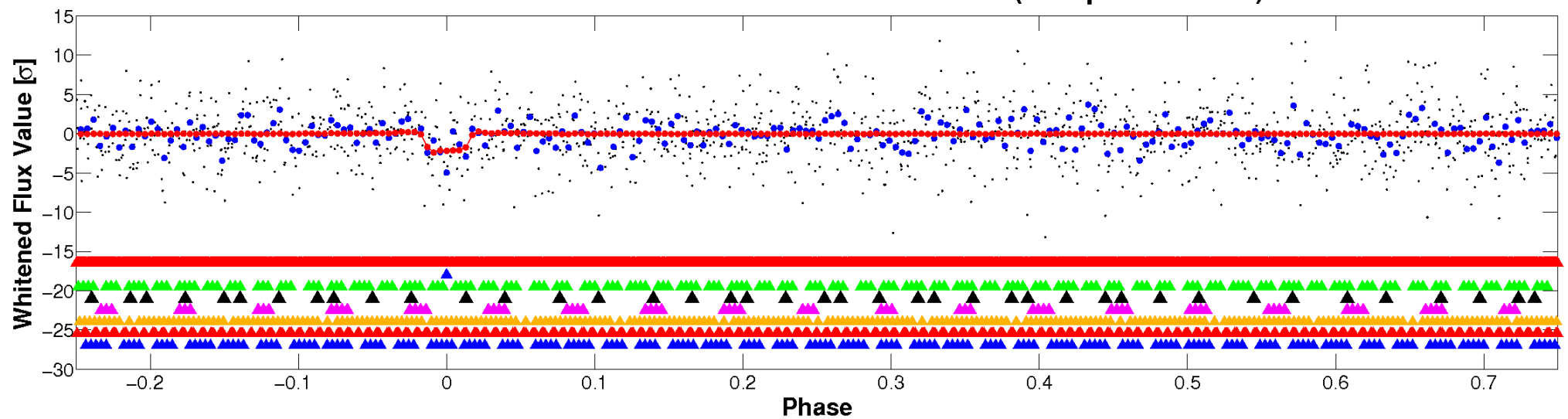
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

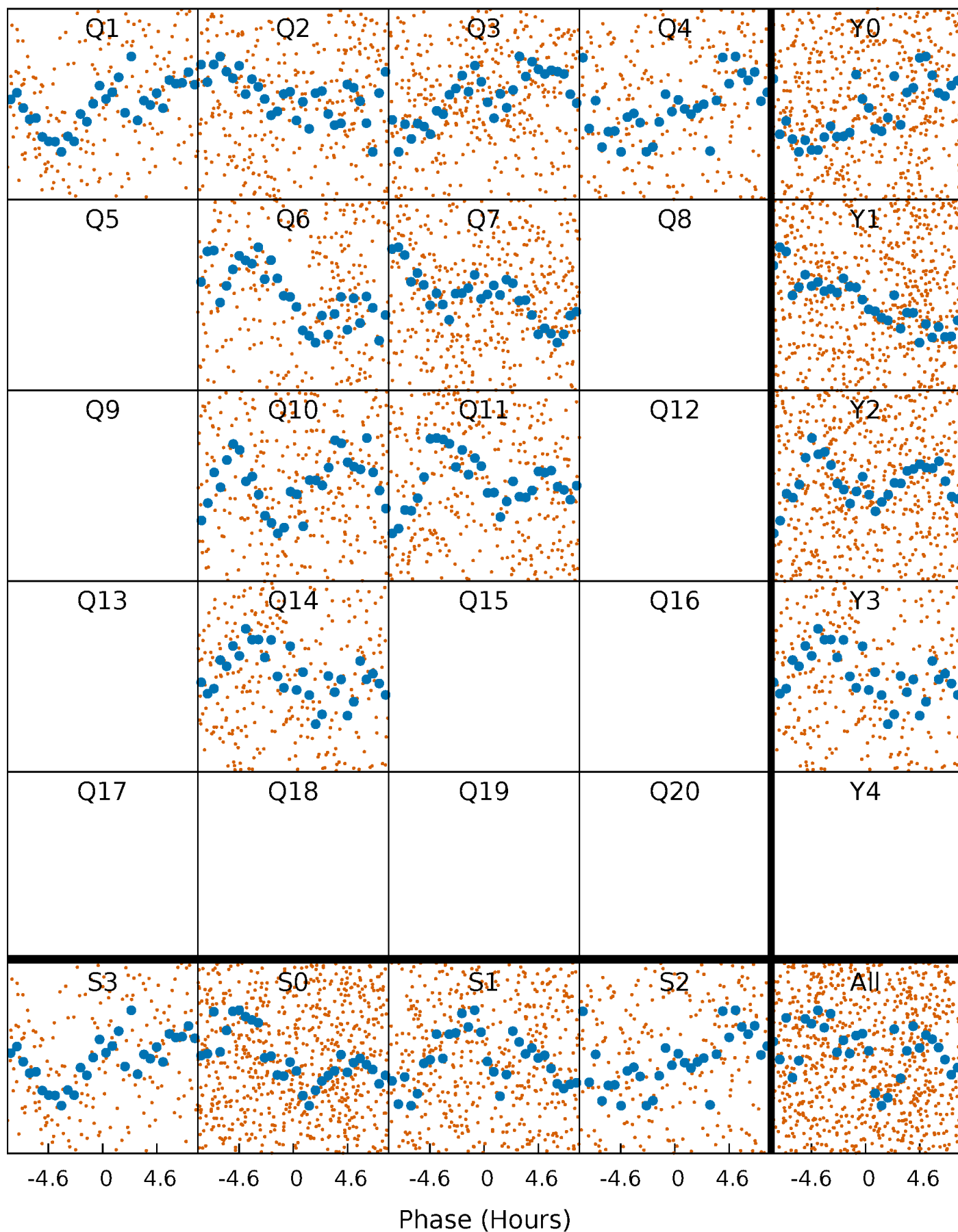


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



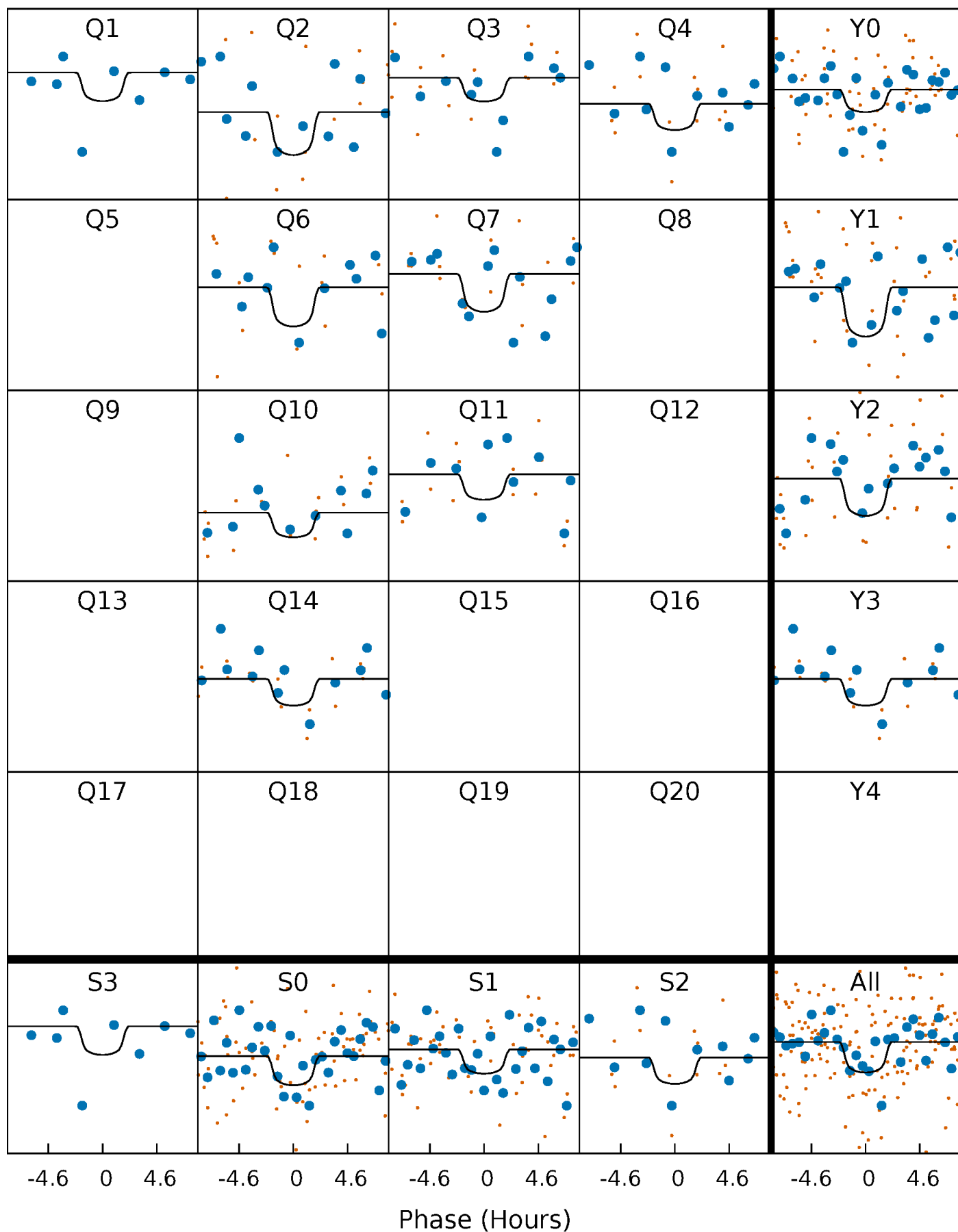
PDC Quarter-Phased Transit Curves

TCE 012157971-02 P= 4.718238 Days $T_0=134.106455$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 012157971-02 P= 4.718238 Days $T_0=134.106455$ (BKJD)

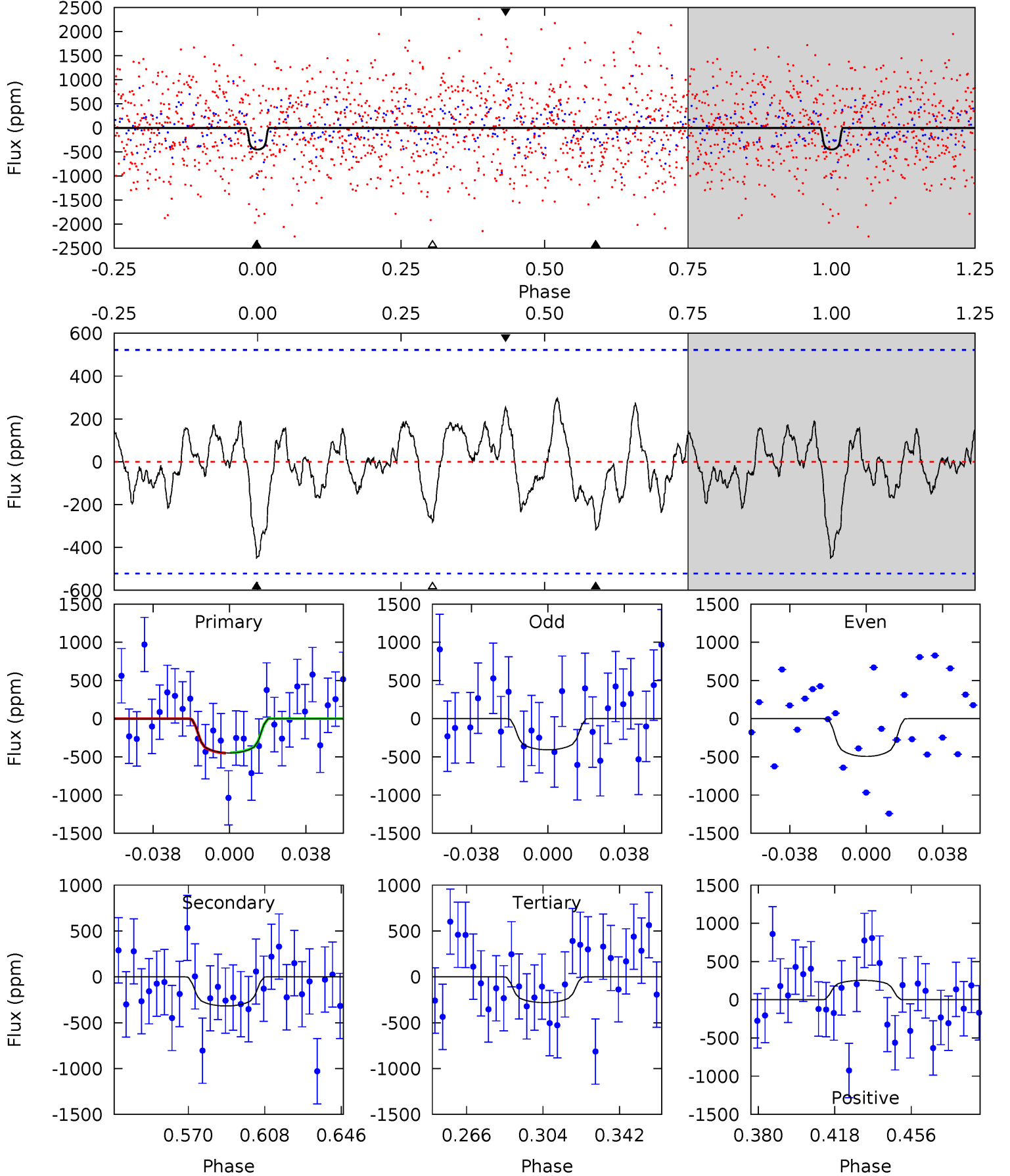


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

012157971-02, P = 4.718238 Days, E = 129.388217 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.10	2.90	2.56	2.32	4.76	2.07	1.07	1.54	1.78	0.34	0.59	0.40	0	0.40	0.03



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 012157971

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5148^{+137}_{-321}	$2.389^{+0.033}_{-0.030}$	$-0.500^{+0.250}_{-0.250}$	$17.748^{+1.606}_{-6.022}$	$2.812^{+0.301}_{-1.605}$	$0.001^{+0.000}_{-0.000}$
	+3%/-6%	+1%/-1%	+50%/-50%	+9%/-34%	+11%/-57%	+55%/-14%
Source	PHO1	AST9	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 012157971-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-318 ± 110	$55.26^{+44.65}_{-35.28}$	4785^{+155}_{-305}	3018^{+3348}_{-6875}	$0.350^{+2.242}_{-0.254}$
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 $A_{obs} \gg 1.0$

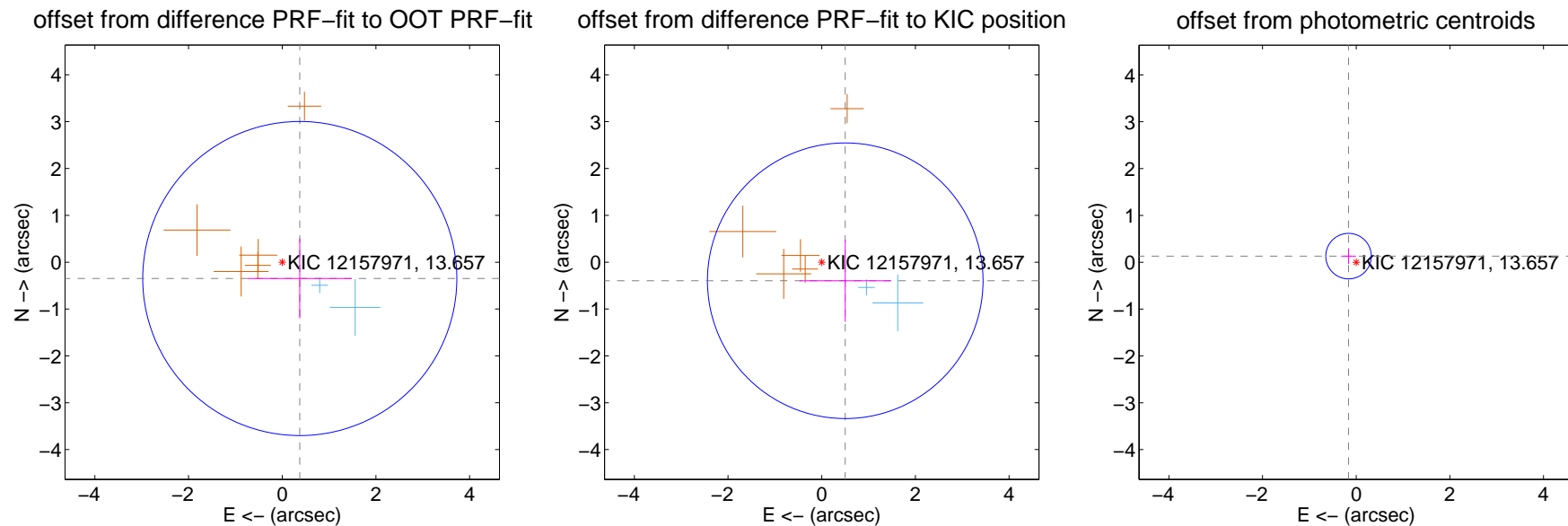
DV Centroid Data

Supplemental centroid analysis for 012157971-02. Kepler magnitude: 13.66. Transit SNR 11.95

There are 2 quarters with good PRF difference image offsets

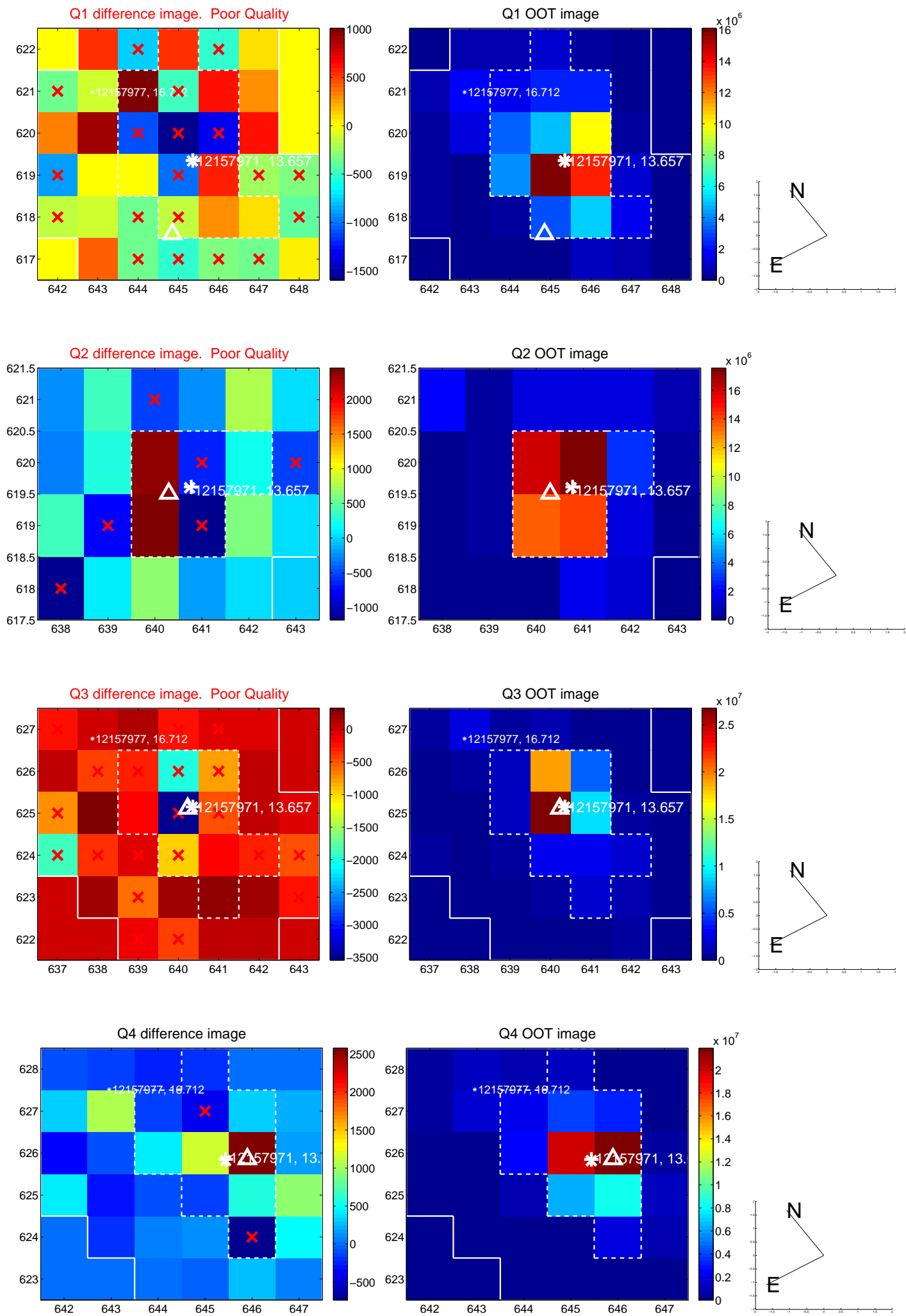
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.512 ± 1.117	0.46	-0.375 ± 1.110	-0.348 ± 0.852
PRF-fit source offset from KIC position	0.639 ± 0.980	0.65	-0.502 ± 0.977	-0.396 ± 0.876
photometric centroid source offset	0.21 ± 0.16	1.29	0.16 ± 0.16	0.13 ± 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.

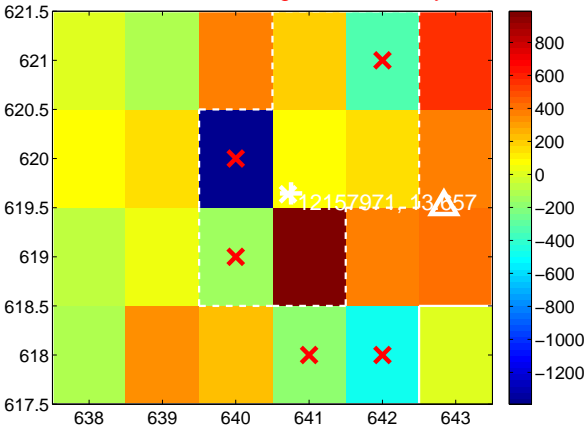
Q5 no difference image



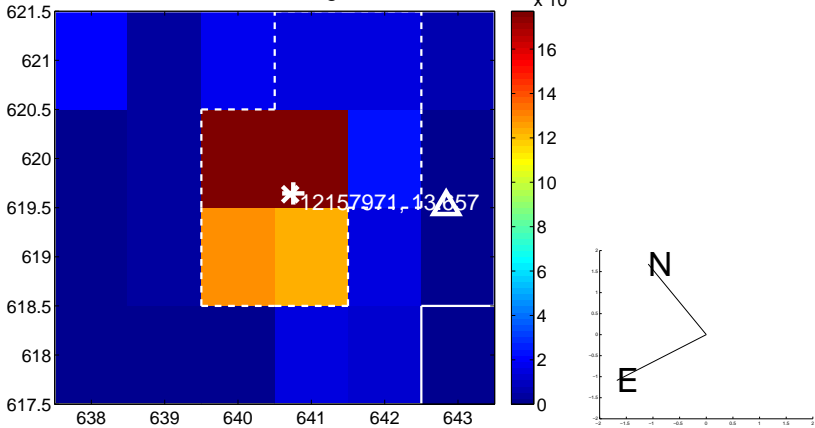
Q5 no OOT image



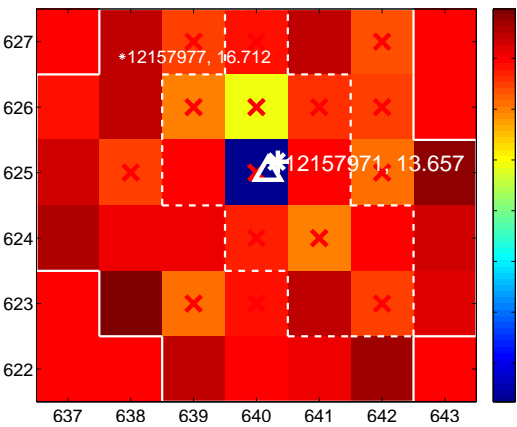
Q6 difference image. Poor Quality



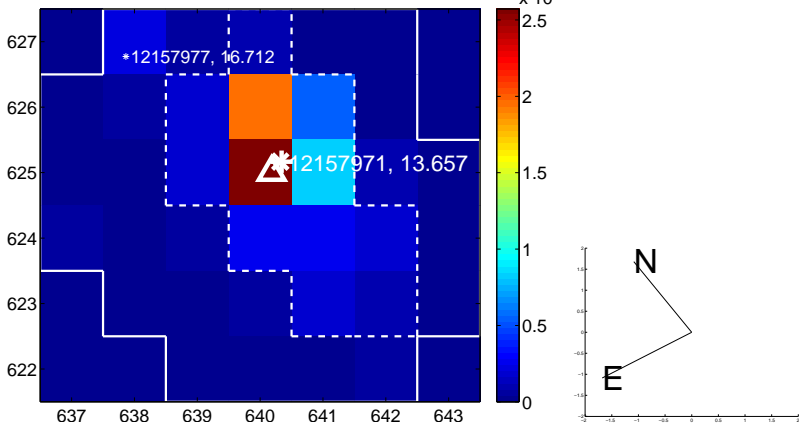
Q6 OOT image



Q7 difference image. Poor Quality



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.

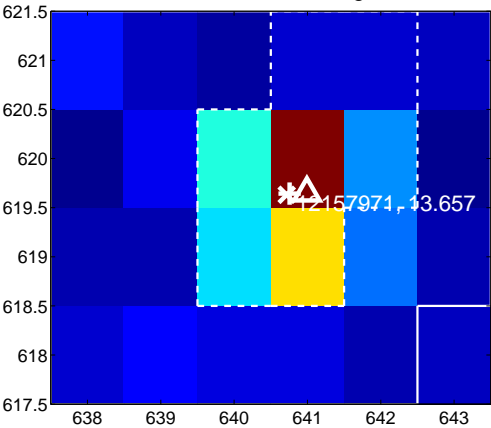
Q9 no difference image



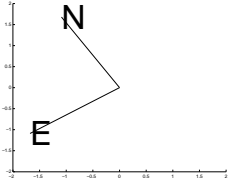
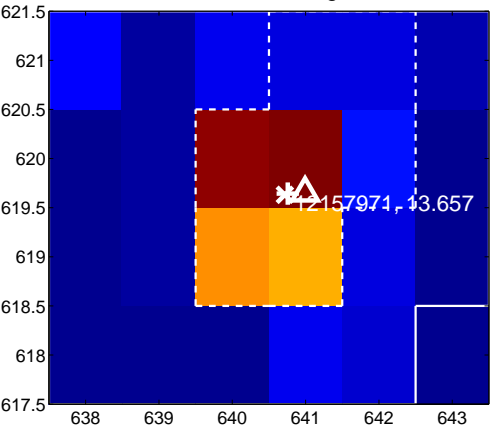
Q9 no OOT image



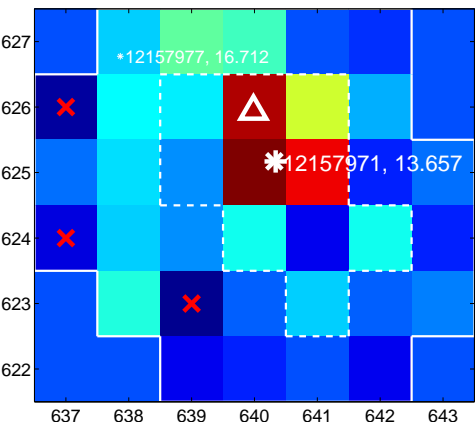
Q10 difference image



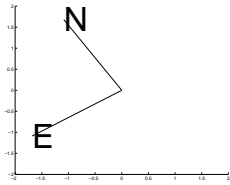
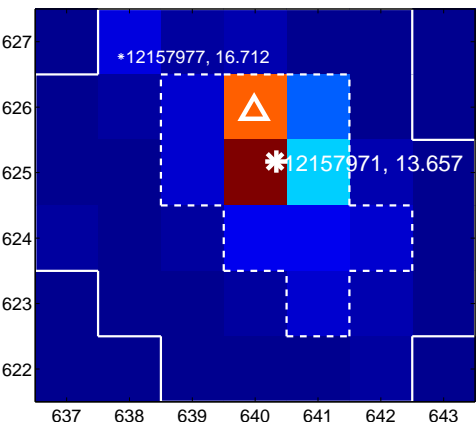
Q10 OOT image



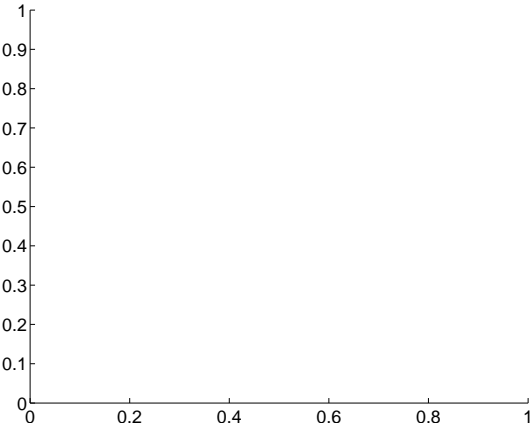
Q11 difference image. Poor Quality



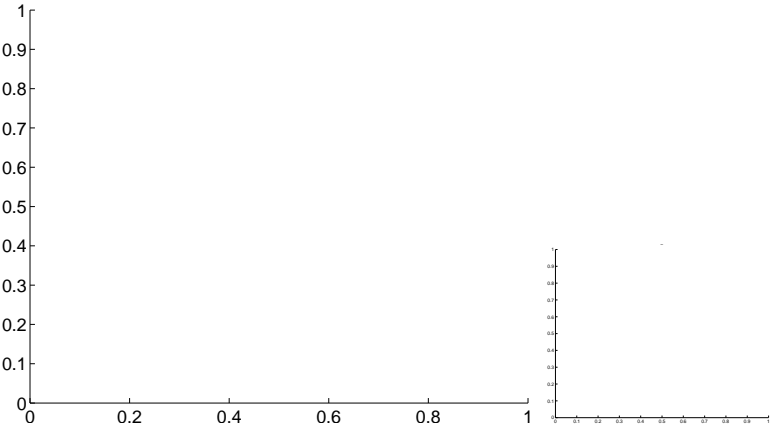
Q11 OOT image



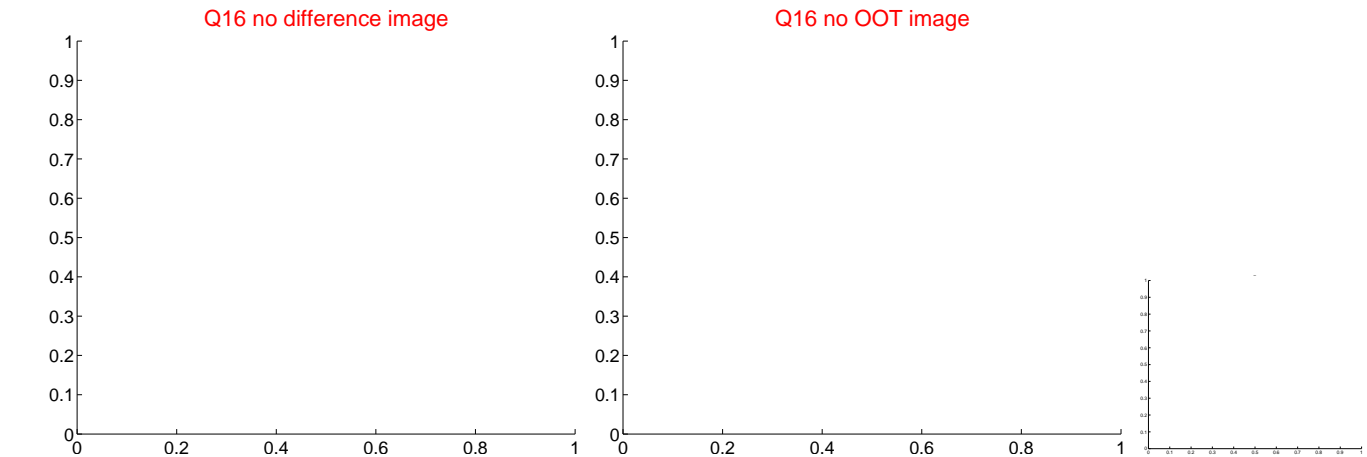
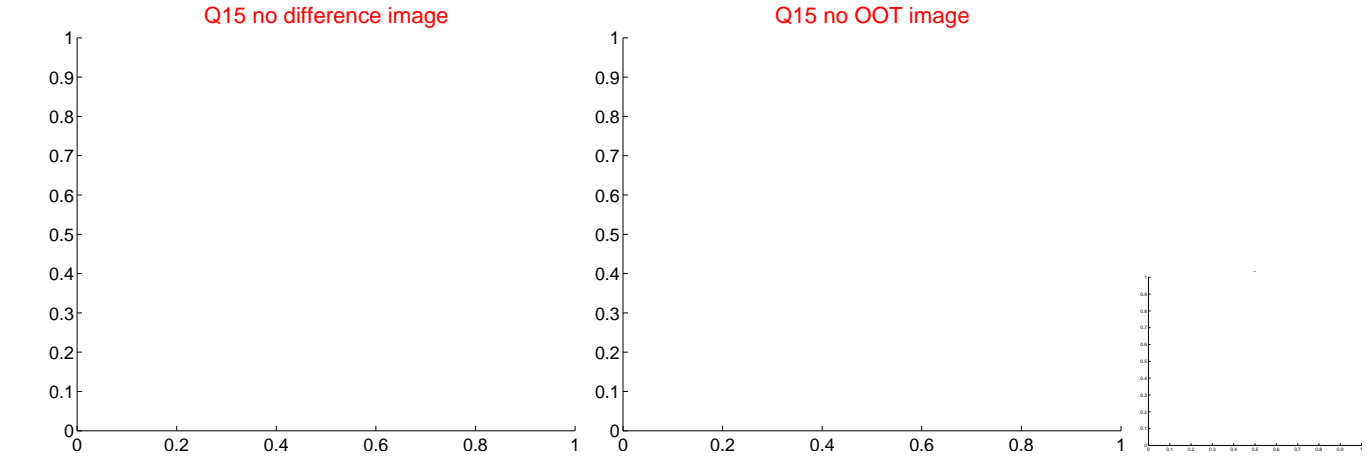
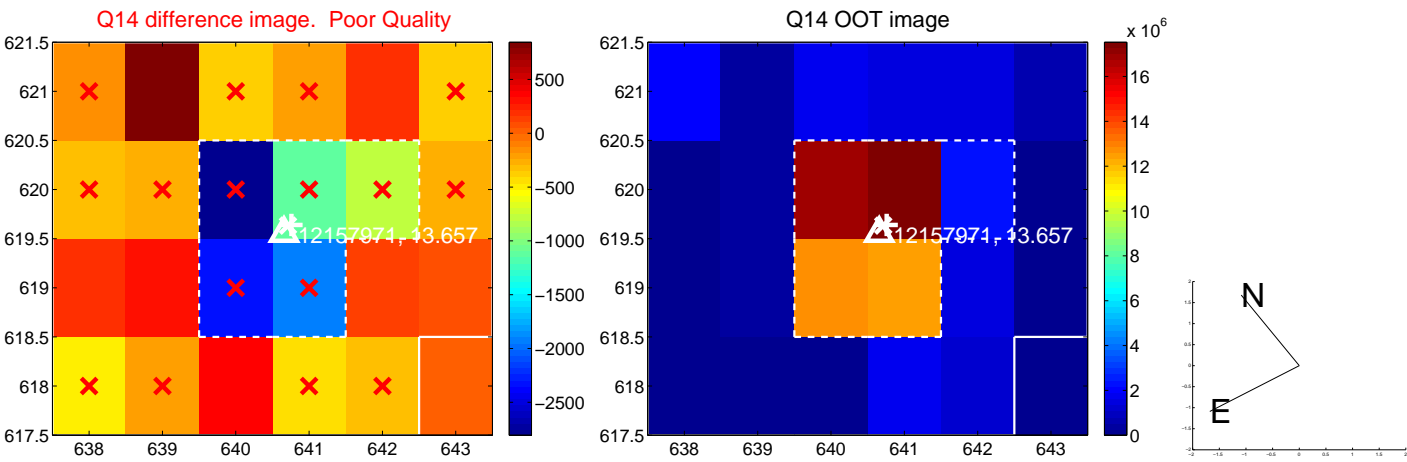
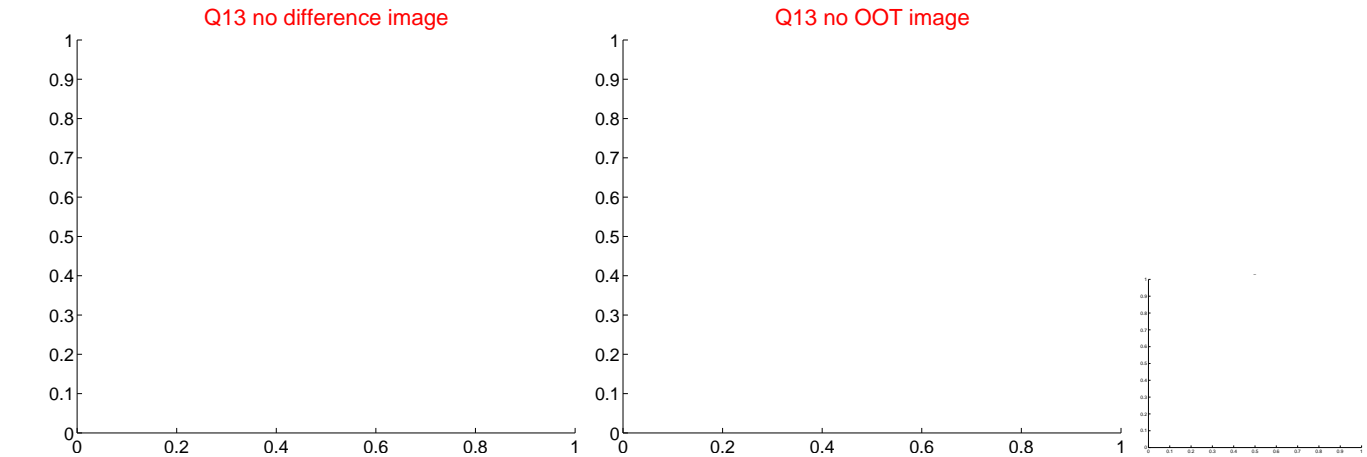
Q12 no difference image



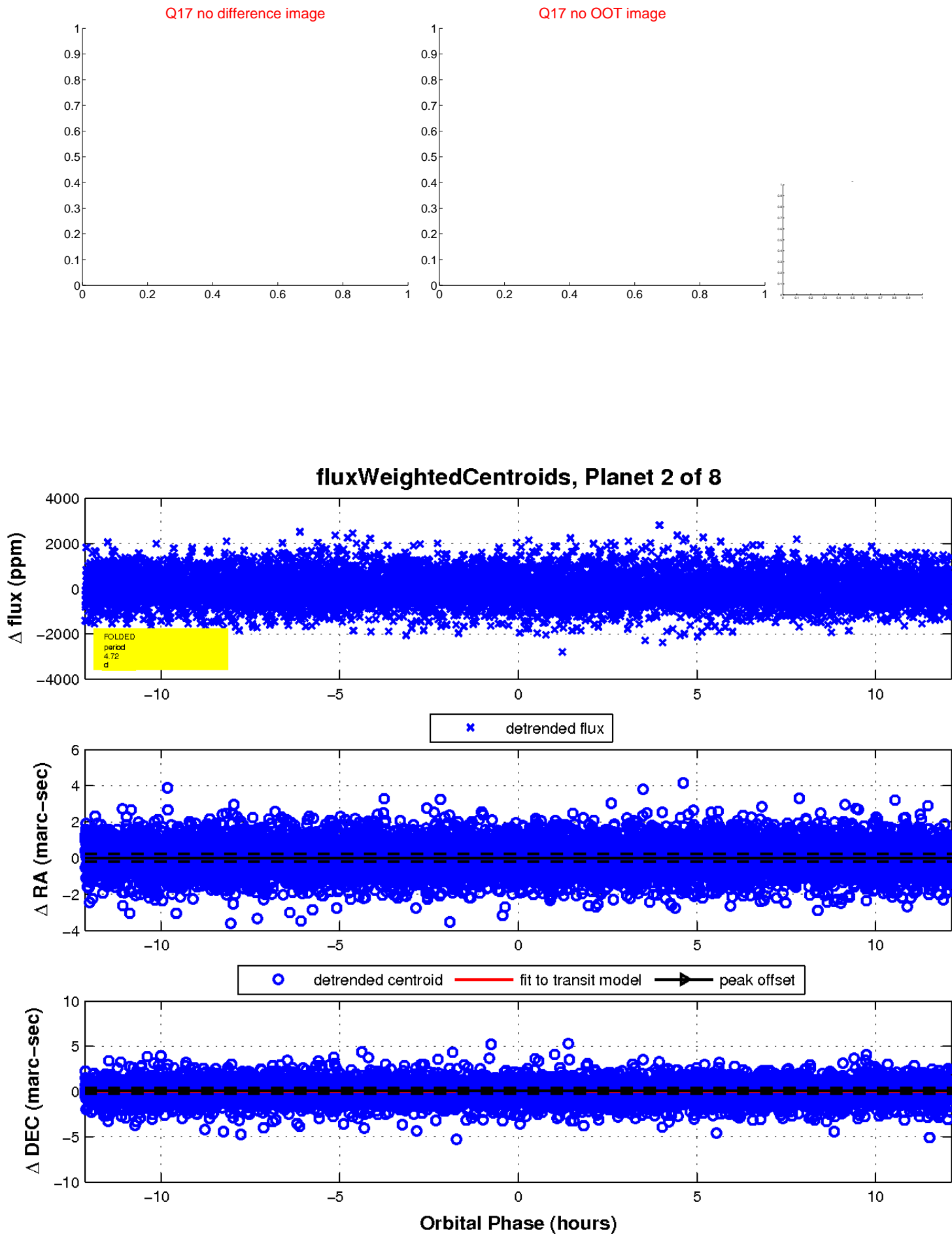
Q12 no OOT image



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

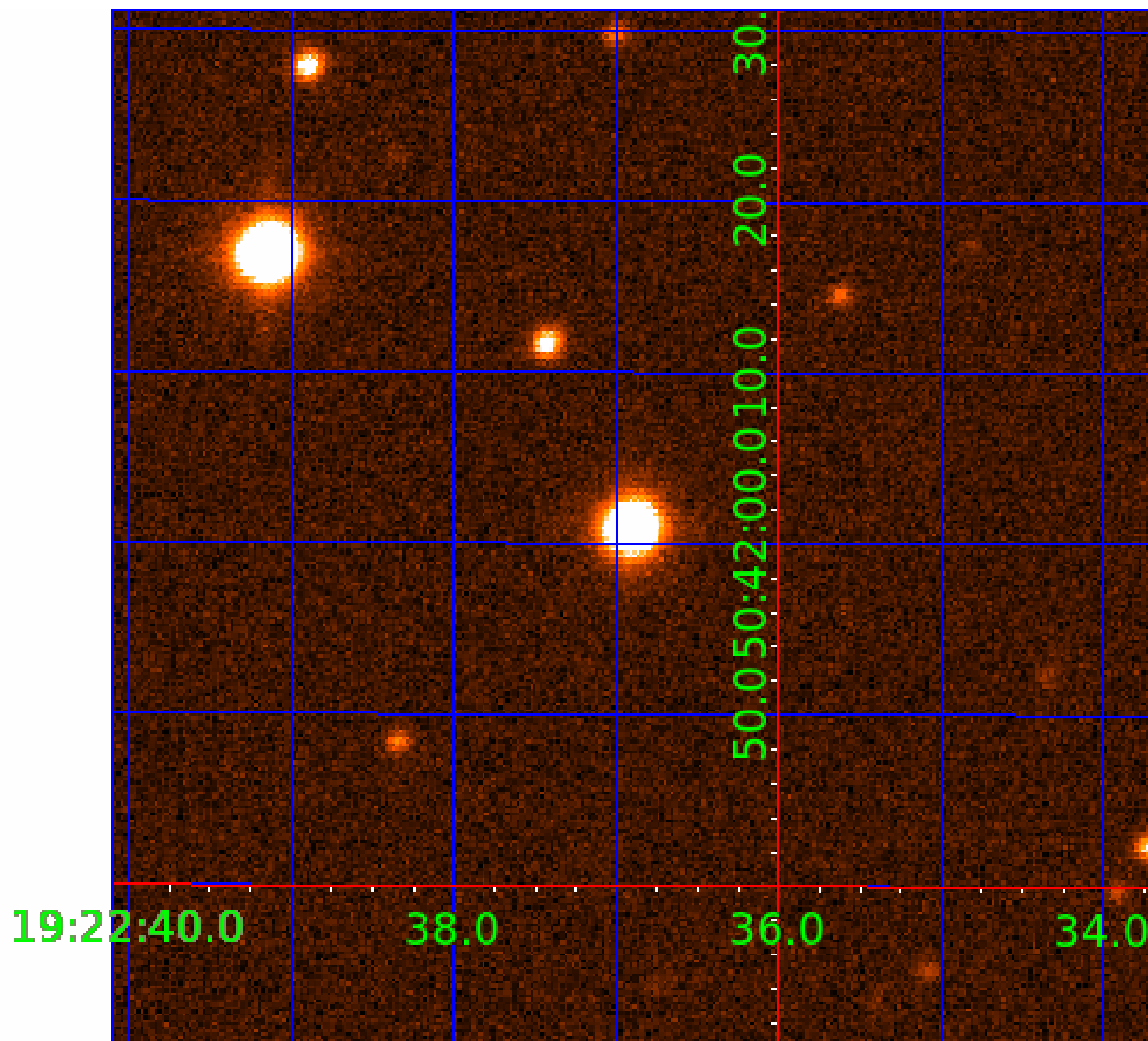


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012157971

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})
012157971-01	OBS	No	0.577848	131.920185	52.4	4.288	9.0	6.1	17.75	5148	12.61	0.00
012157971-02	OBS	No	4.718238	134.106455	571.9	4.043	11.3	12.0	17.75	5148	49.62	0.00
012157971-03	OBS	No	7.516925	133.303825	482.7	1.671	8.5	8.1	17.75	5148	41.81	17626.30
012157971-04	OBS	No	35.535840	139.729746	822.8	1.500	12.4	-1.0	17.75	5148	50.22	2221.57
012157971-05	OBS	No	21.357134	135.973495	979.1	1.500	12.5	-1.0	17.75	5148	54.79	4380.17
012157971-06	OBS	No	5.349443	132.180360	1321.4	0.989	11.7	16.5	17.75	5148	64.01	0.00
012157971-07	OBS	No	3.259336	132.360994	597.7	1.500	10.4	-1.0	17.75	5148	42.80	53708.44
012157971-08	OBS	No	7.461779	132.625555	1456.5	1.483	11.7	16.3	17.75	5148	70.21	17800.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012157971-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
012157971-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
012157971-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_MEAS
012157971-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
012157971-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

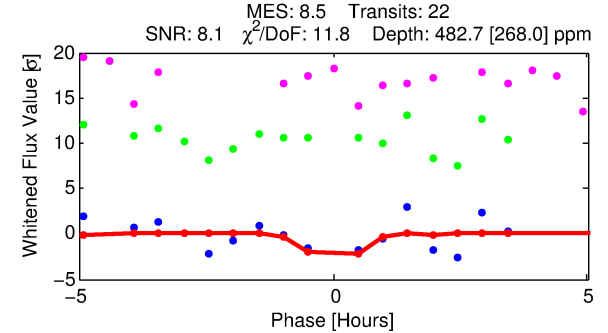
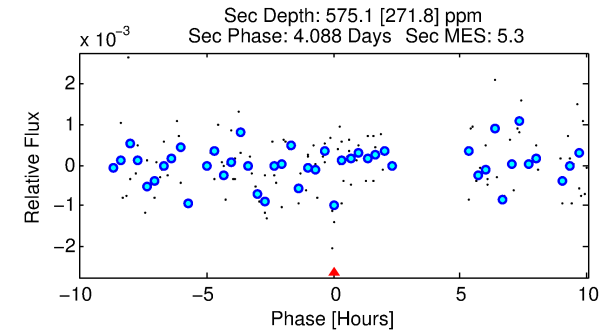
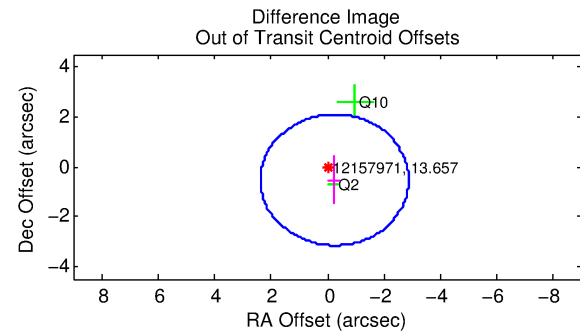
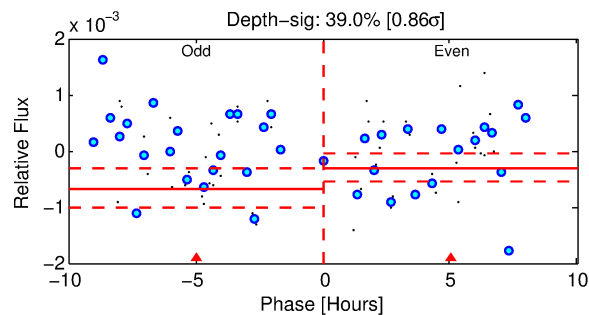
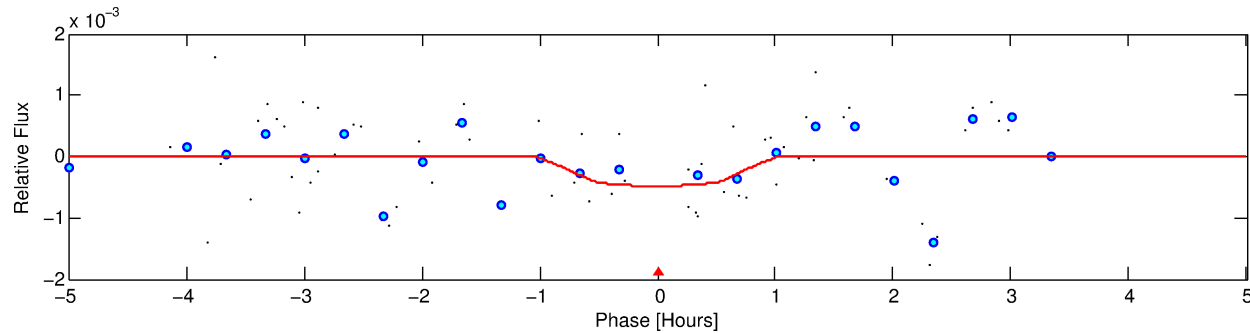
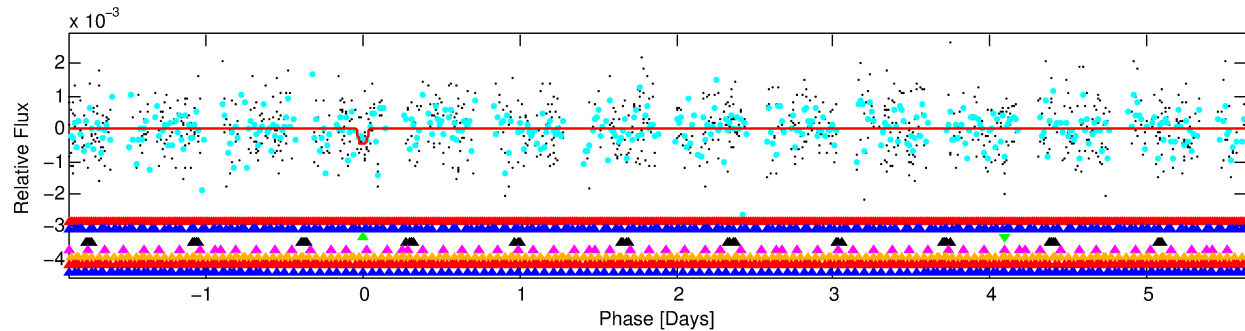
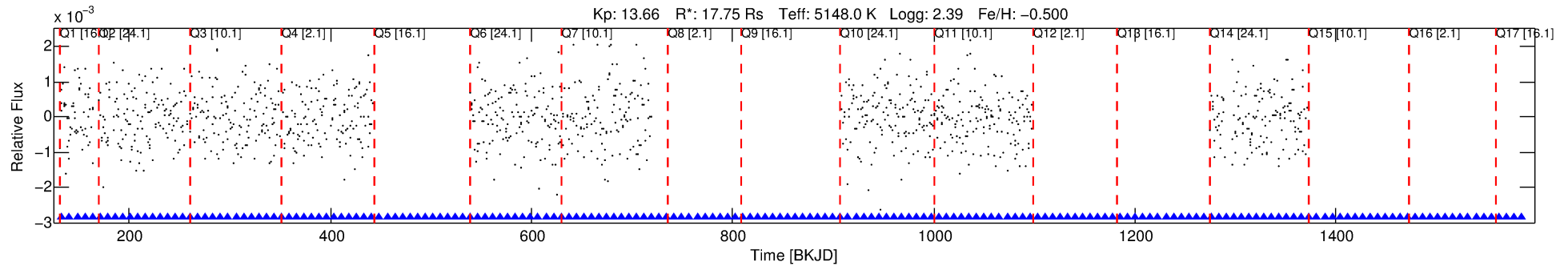
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012157971-03

No Significant Match Found

DV One-Page Summary

KIC: 12157971 Candidate: 3 of 8 Period: 7.517 d



DV Fit Results:

Period = 7.51693 [0.00022] d
Epoch = 133.3038 [0.0142] BKJD
Rp/R* = 0.0216 [0.1993]
a/R* = 25.48 [954.98]
b = 0.70 [27.43]
Seff = 17626.30 [6001.83]
Teq = 2938 [250] K
Rp = 41.81 [386.21] Re
a = 0.1060 [0.0241] AU
Ag = 2.04 [37.59] [0.03 σ]
Teffp = 5426 [25052] K [0.10 σ]

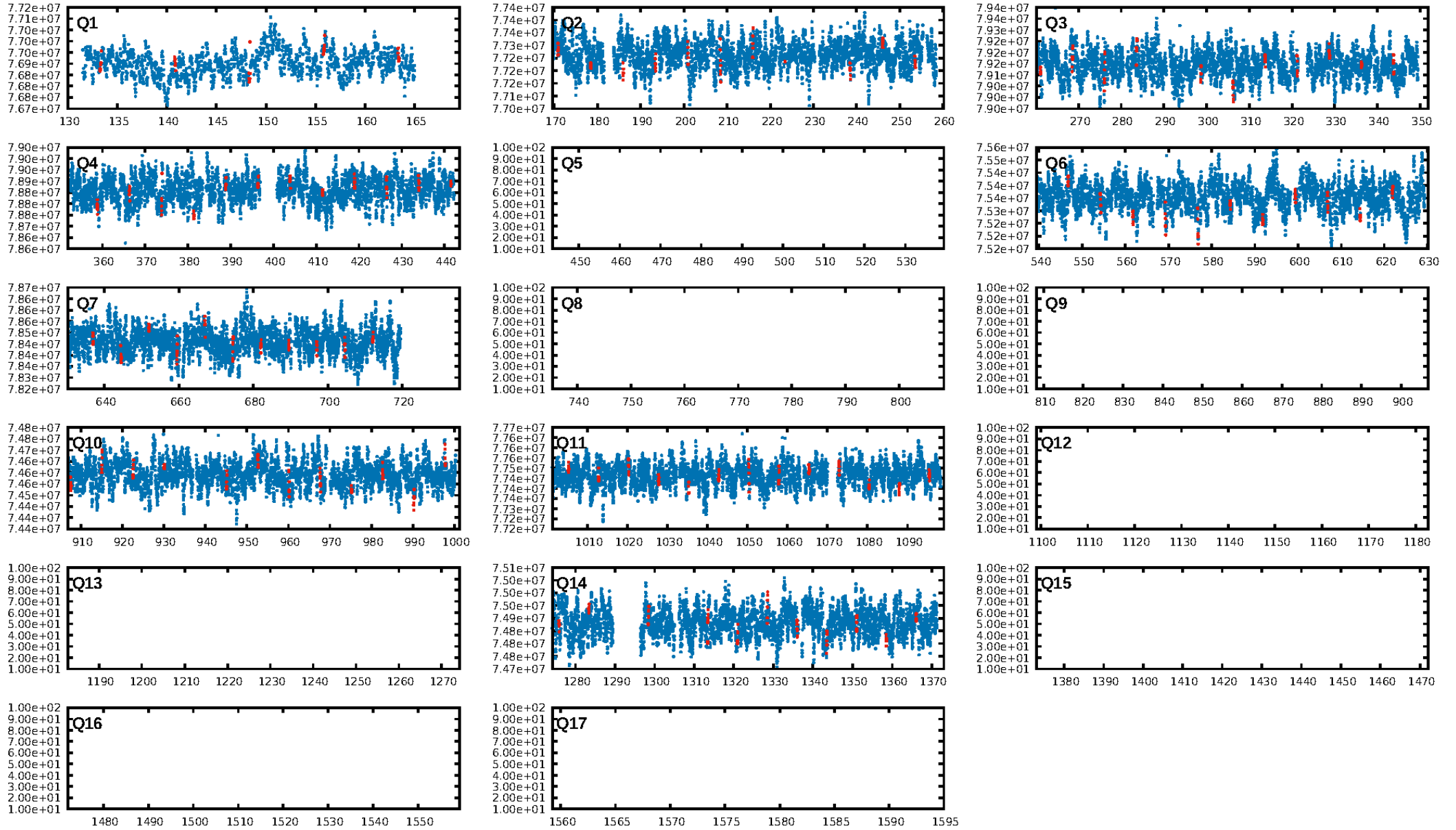
DV Diagnostic Results:

ShortPeriod-sig: 44.6% [0.59 σ]
LongPeriod-sig: 100.0% [147.94 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.4%
Bootstrap-pfa: 8.10e-01
RollingBand-fgt: 1.00 [21/21]
GhostDiagnostic-chr: -4.248
Centroid-sig: 9.4%
Centroid-so: 0.186 arcsec [0.52 σ]
OotOffset-rm: 0.586 arcsec [0.67 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-rm: 0.661 arcsec [0.71 σ]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/9]

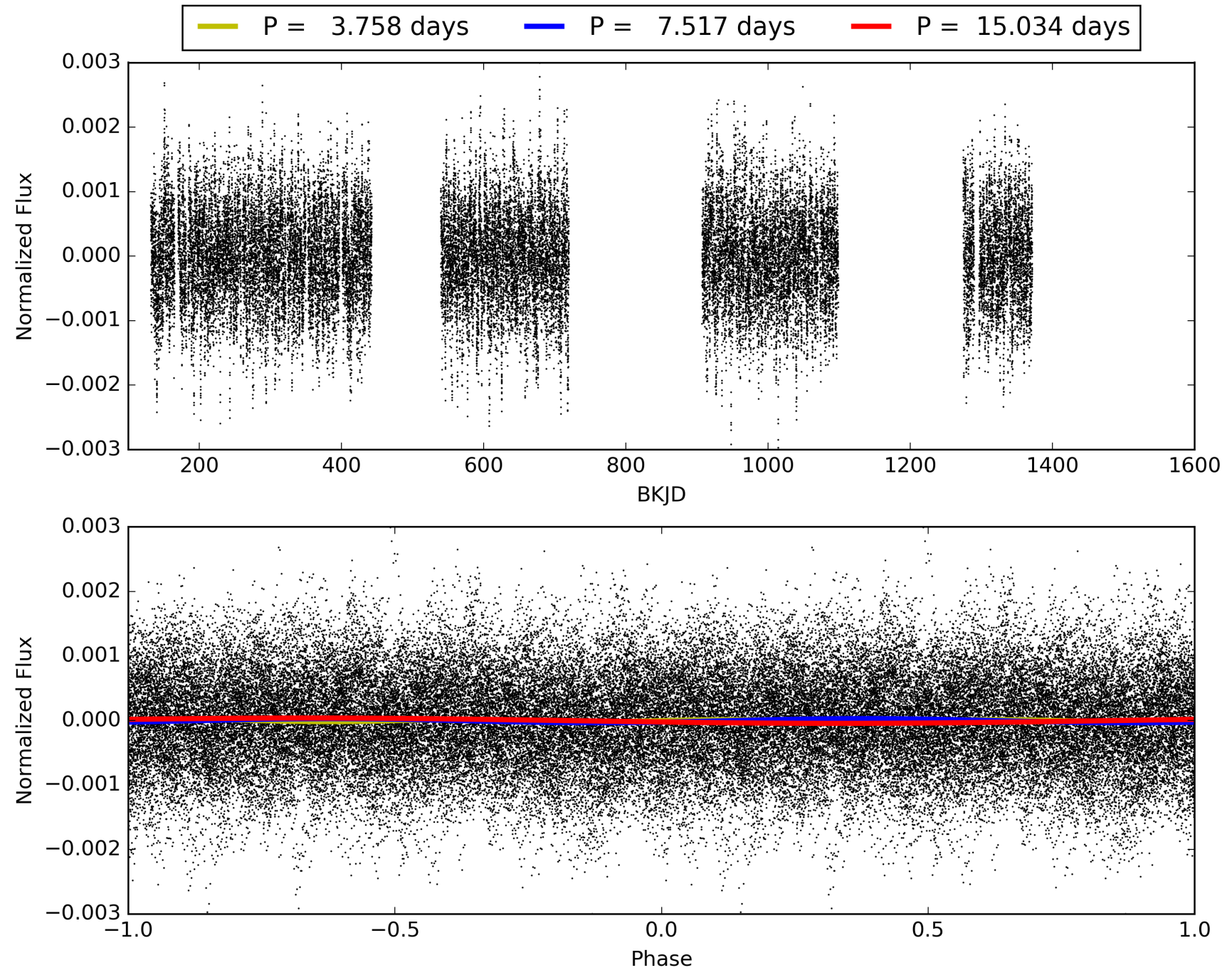
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:14:31 Z

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

TCE 012157971-03, PDC Light Curves

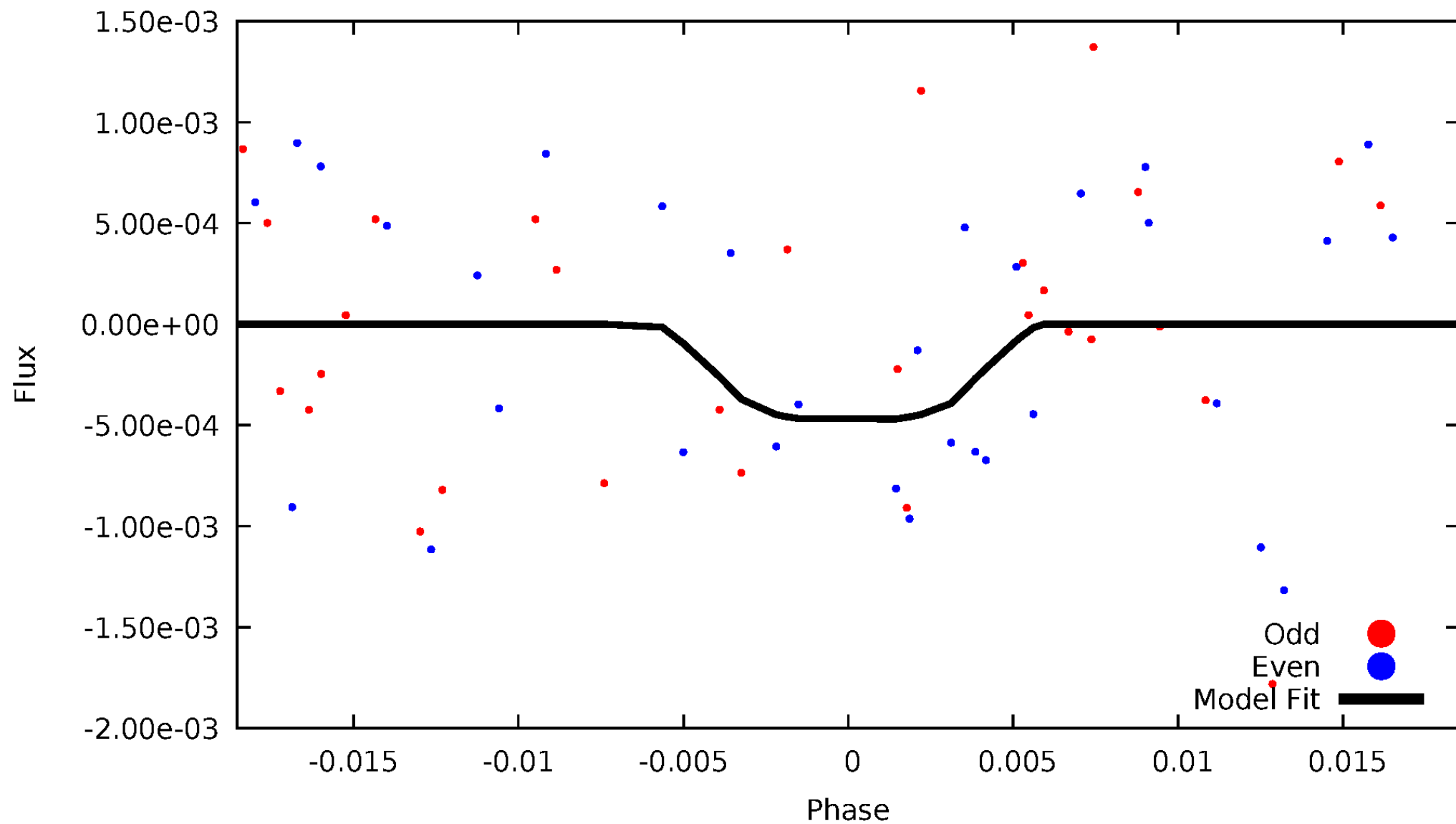


TCE 012157971-03



DV Odd/Even

TCE 012157971-03

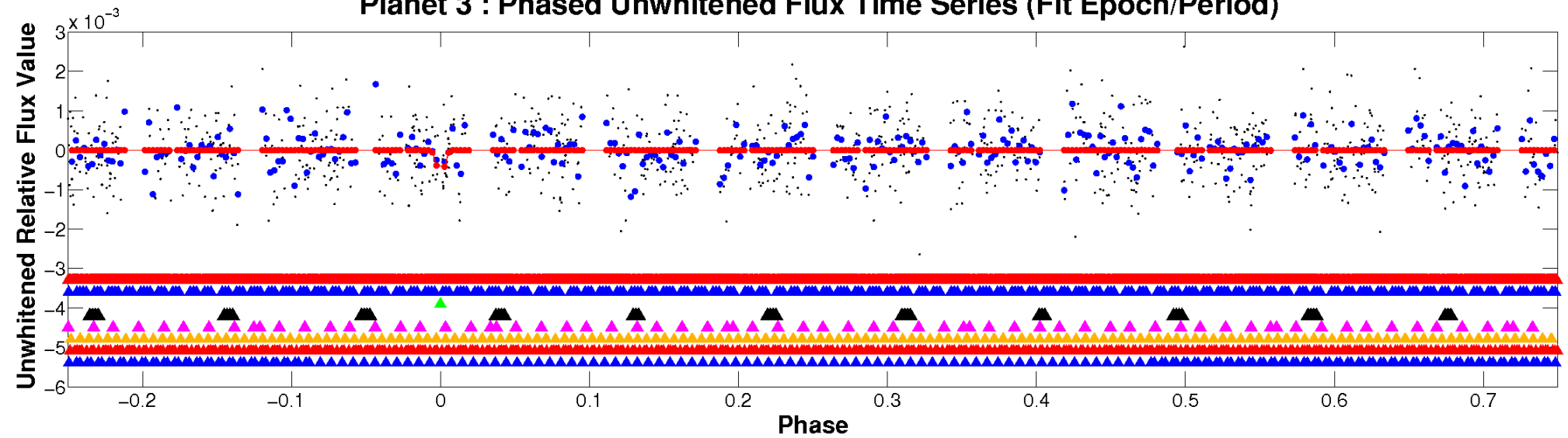


ALT Odd/Even

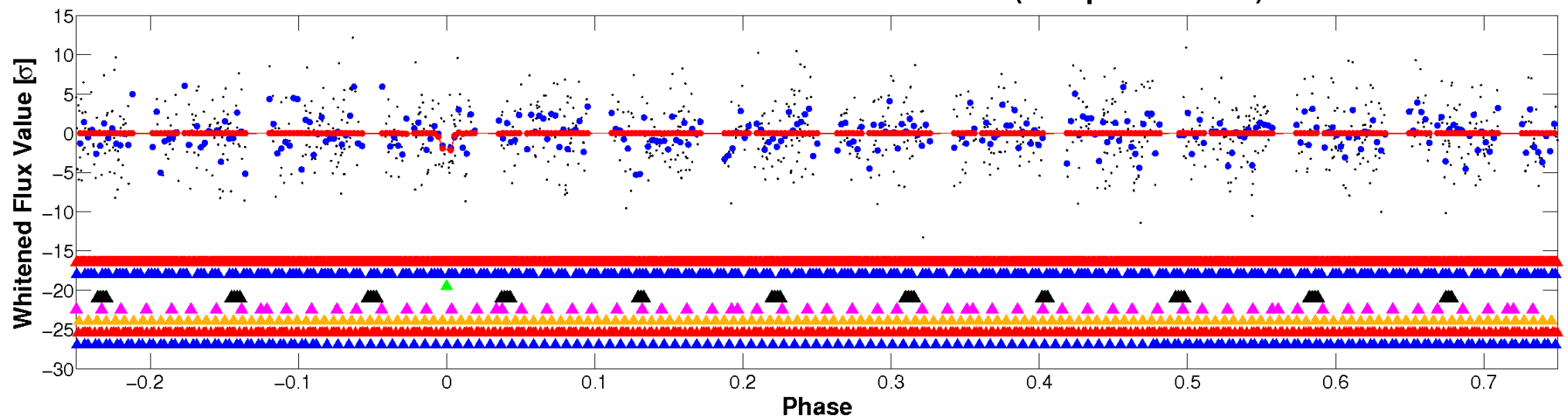
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

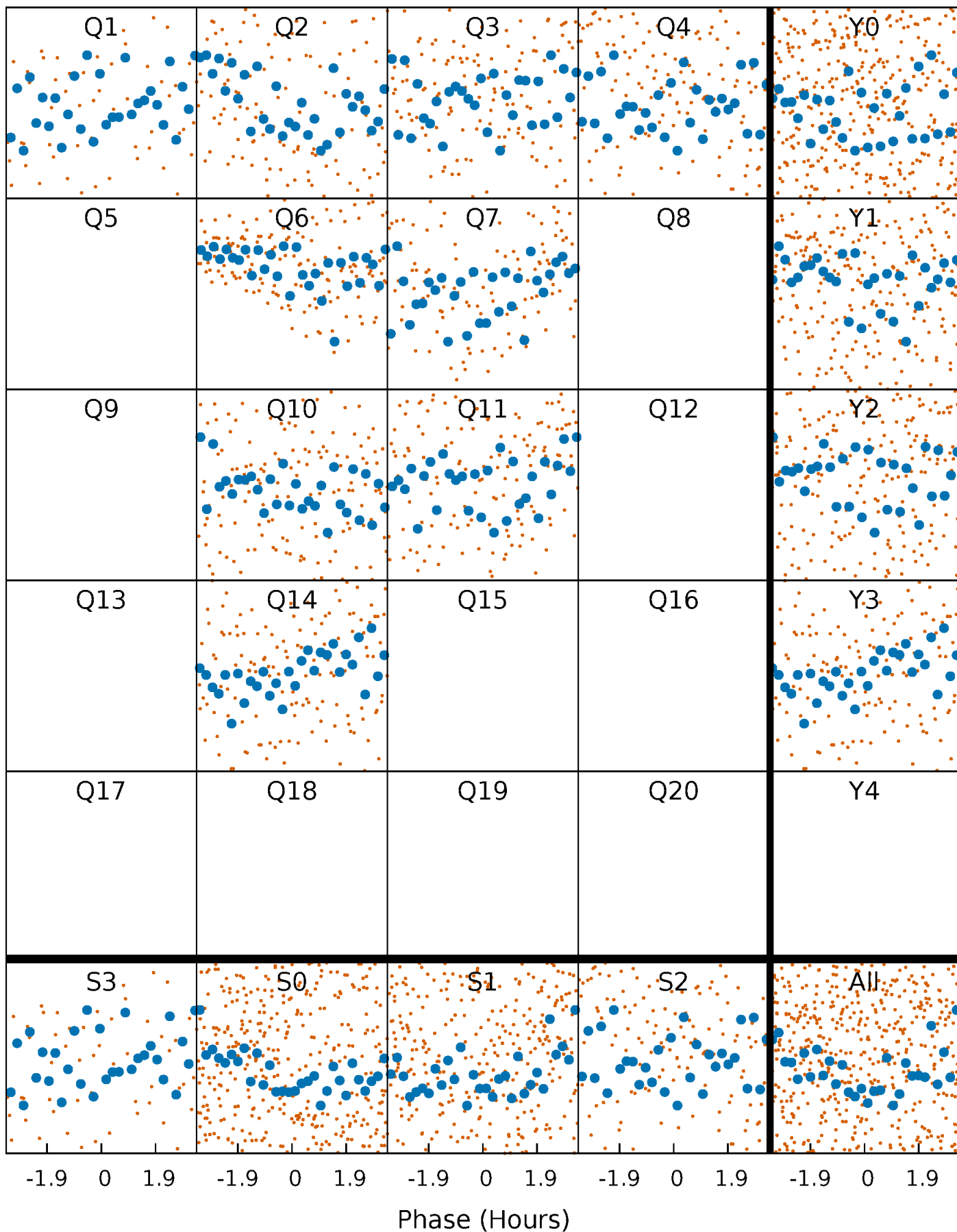


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



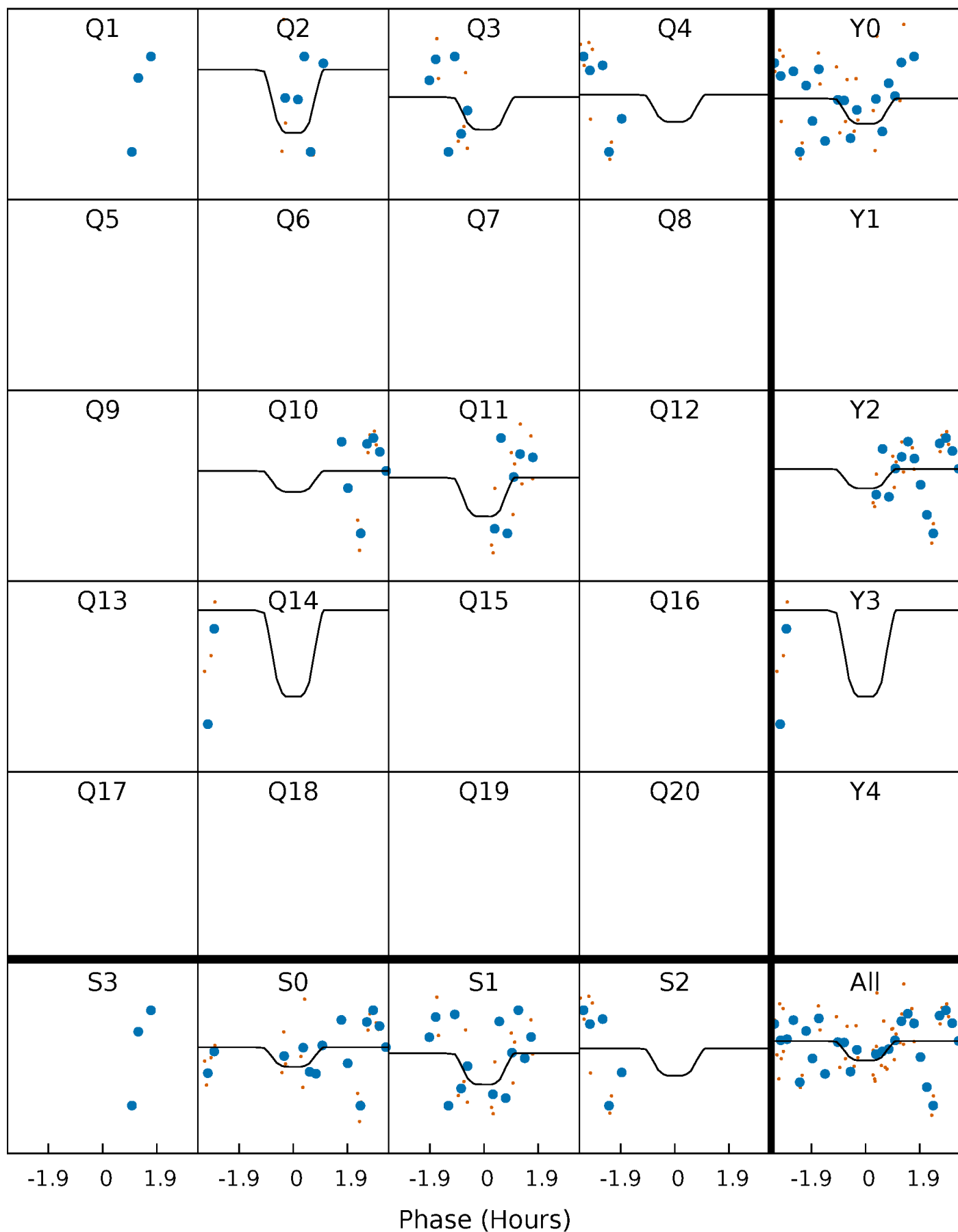
PDC Quarter-Phased Transit Curves

TCE 012157971-03 P= 7.516925 Days $T_0=133.303825$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 012157971-03 $P = 7.516925$ Days $T_0 = 133.303825$ (BKJD)

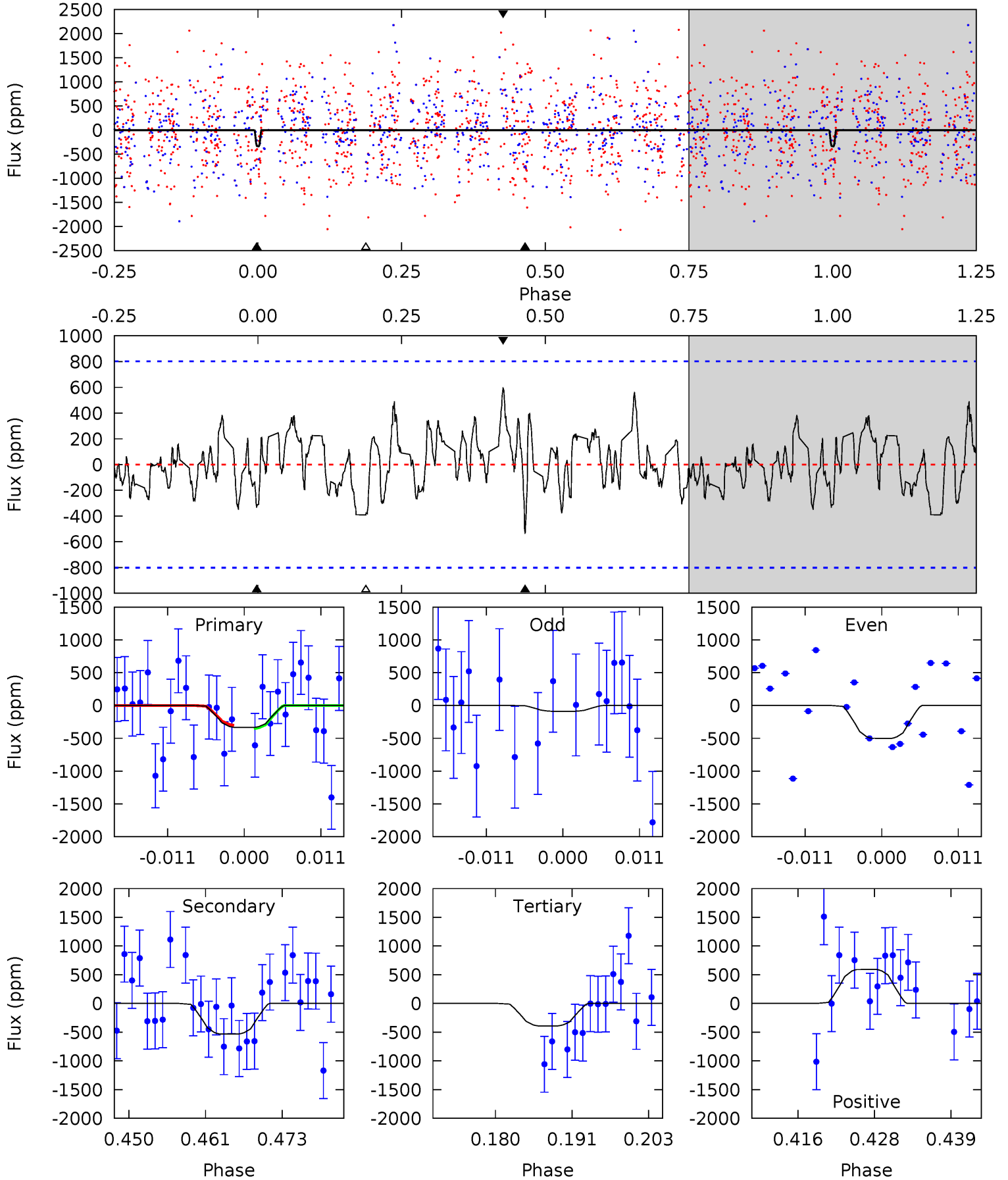


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

012157971-03, P = 7.516925 Days, E = 125.786900 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.09	3.31	2.44	3.70	5.00	2.53	1.14	-0.35	-1.61	0.87	-0.39	1.26	1.00	0.53	0.15



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 012157971

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5148^{+137}_{-321}	$2.389^{+0.033}_{-0.030}$	$-0.500^{+0.250}_{-0.250}$	$17.748^{+1.606}_{-6.022}$	$2.812^{+0.301}_{-1.605}$	$0.001^{+0.000}_{-0.000}$
	+3%/-6%	+1%/-1%	+50%/-50%	+9%/-34%	+11%/-57%	+55%/-14%
Source	PHO1	AST9	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 012157971-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-531±160	$282.72^{+285.72}_{-197.23}$	4088^{+159}_{-254}	-3541^{+6890}_{-201}	$0.041^{+0.427}_{-0.032}$
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 $A_{obs} \gg 1.0$

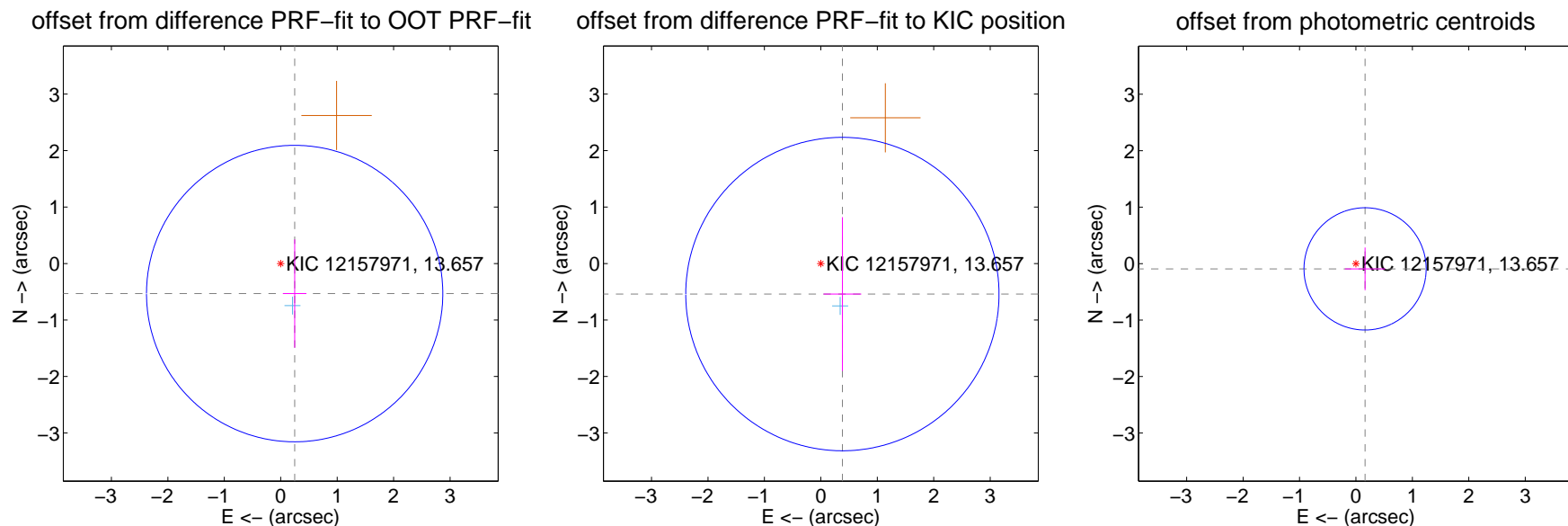
DV Centroid Data

Supplemental centroid analysis for 012157971-03. Kepler magnitude: 13.66. Transit SNR 8.06

There are 1 quarters with good PRF difference image offsets

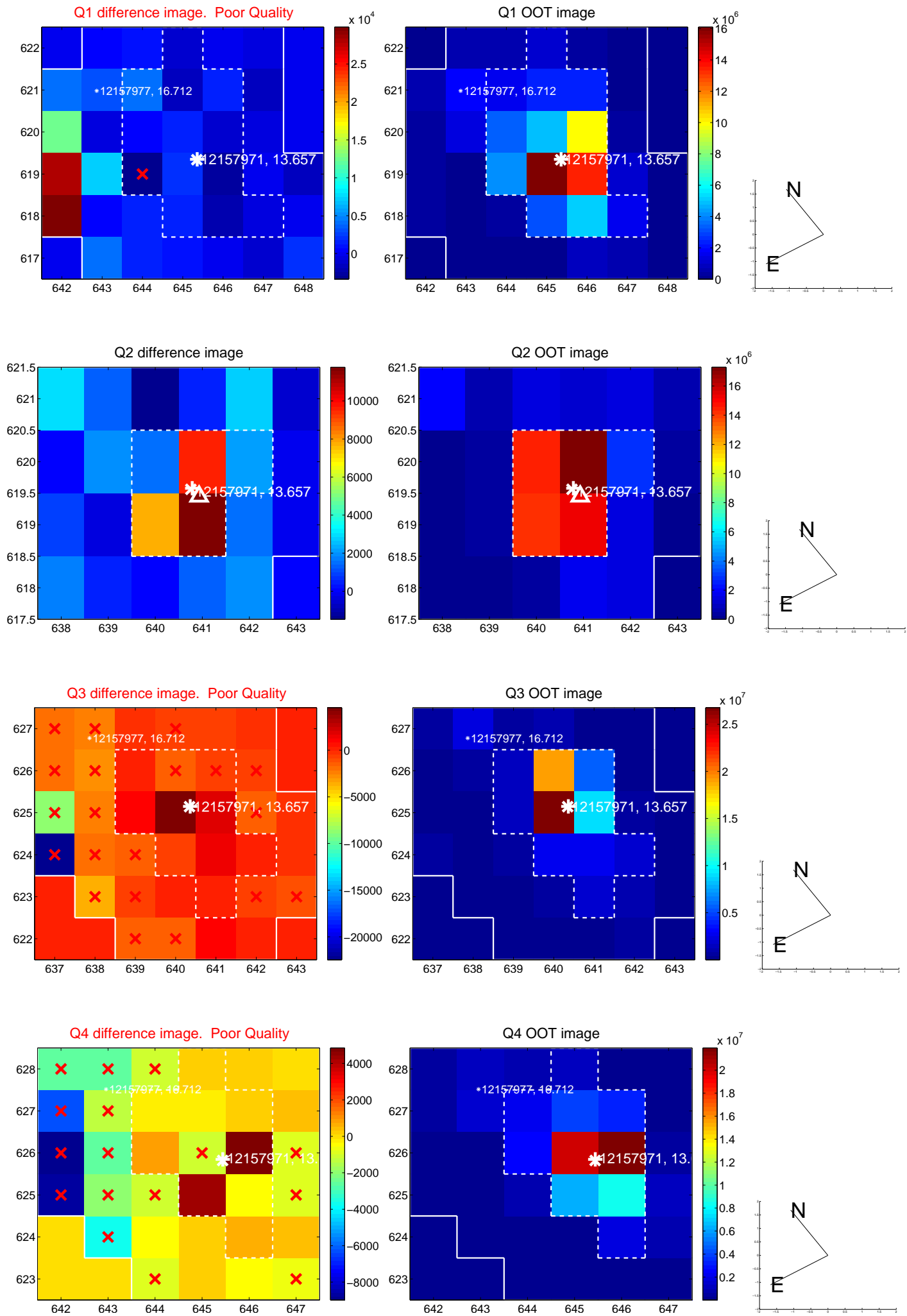
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.586 ± 0.875	0.67	-0.246 ± 0.208	-0.532 ± 0.959
PRF-fit source offset from KIC position	0.661 ± 0.925	0.71	-0.381 ± 0.334	-0.540 ± 1.362
photometric centroid source offset	0.19 ± 0.36	0.52	-0.16 ± 0.35	-0.09 ± 0.38



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.

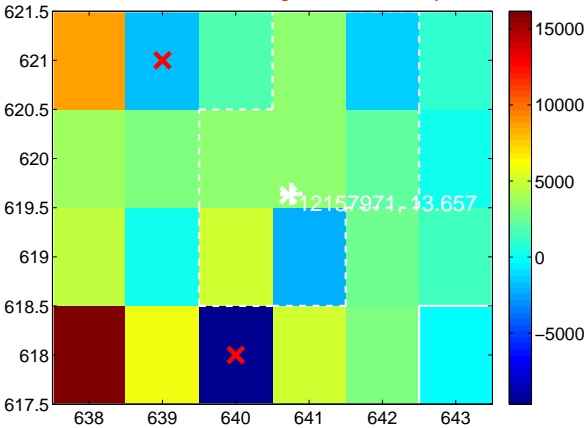
Q5 no difference image



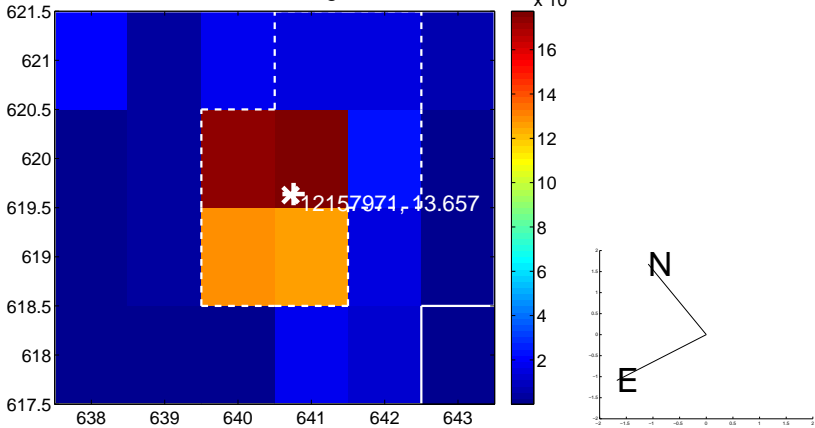
Q5 no OOT image



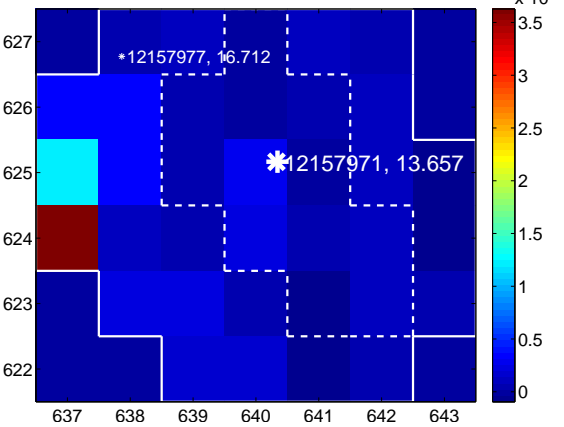
Q6 difference image. Poor Quality



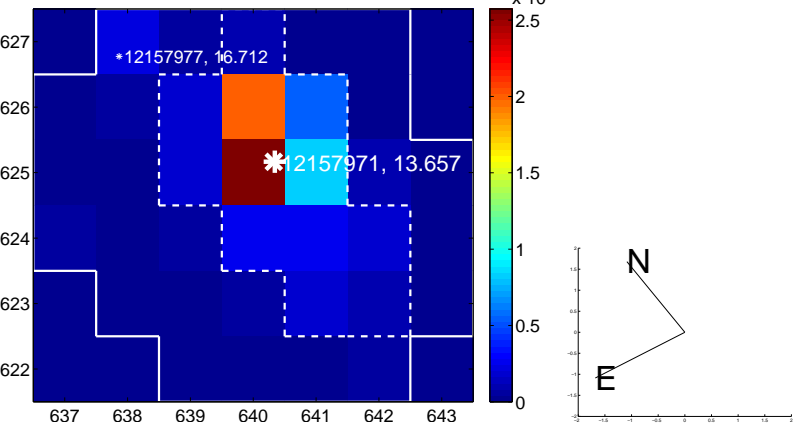
Q6 OOT image



Q7 difference image. Poor Quality



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.

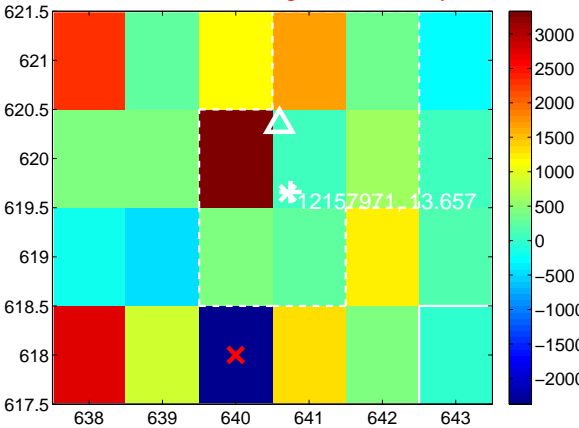
Q9 no difference image



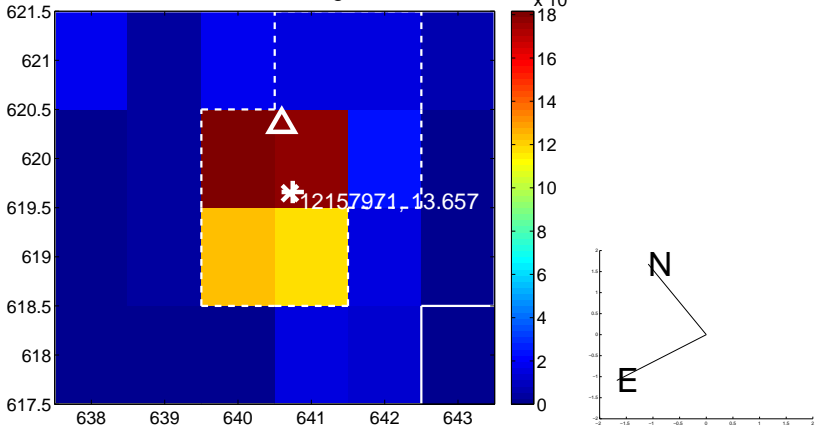
Q9 no OOT image



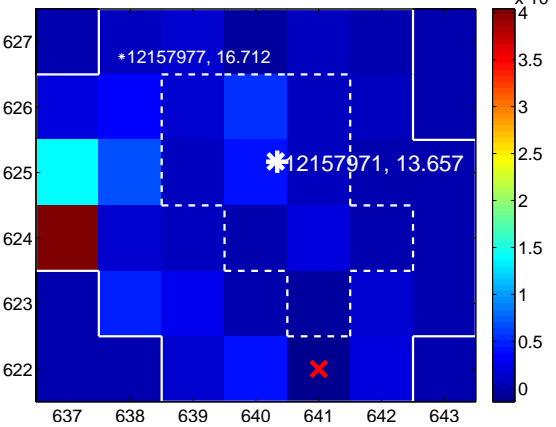
Q10 difference image. Poor Quality



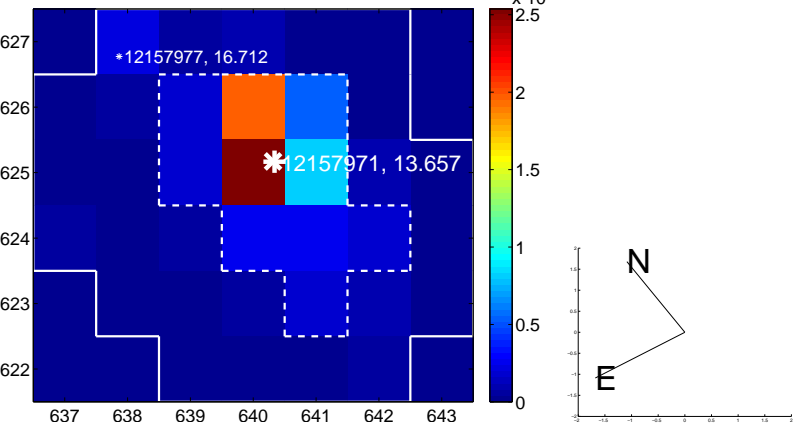
Q10 OOT image



Q11 difference image. Poor Quality



Q11 OOT image



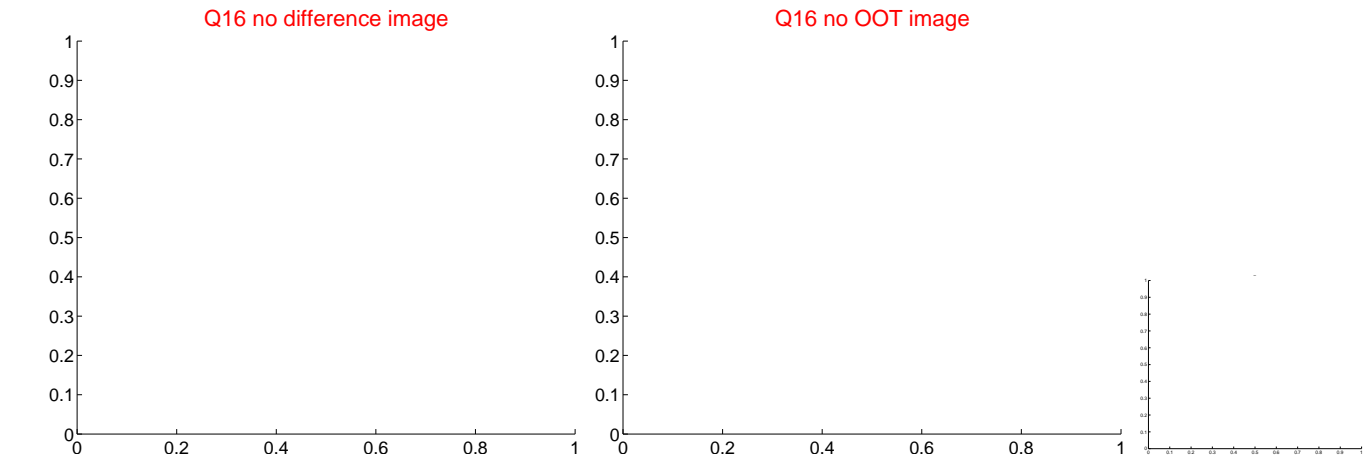
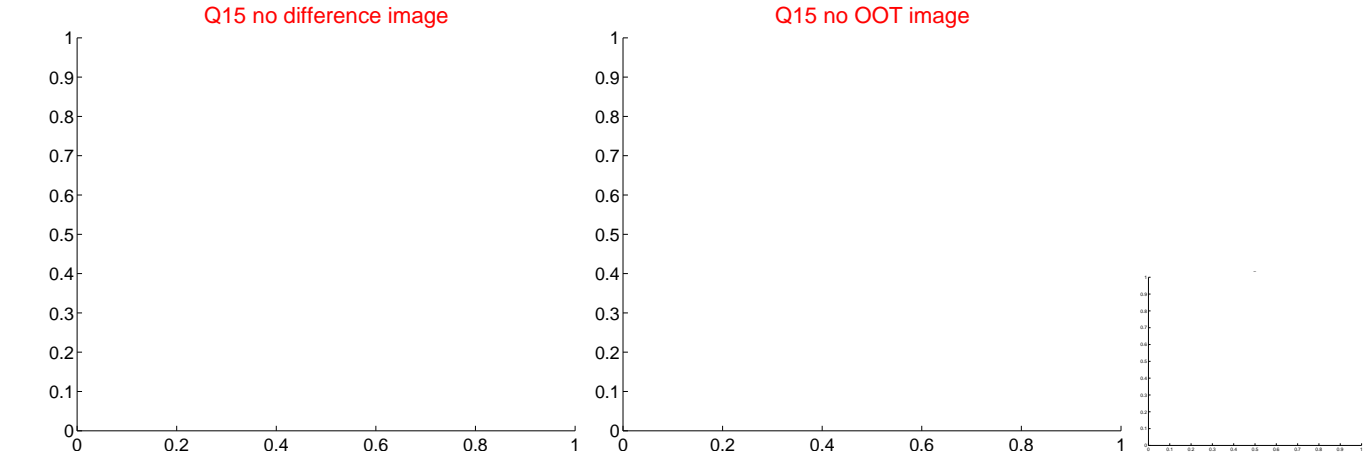
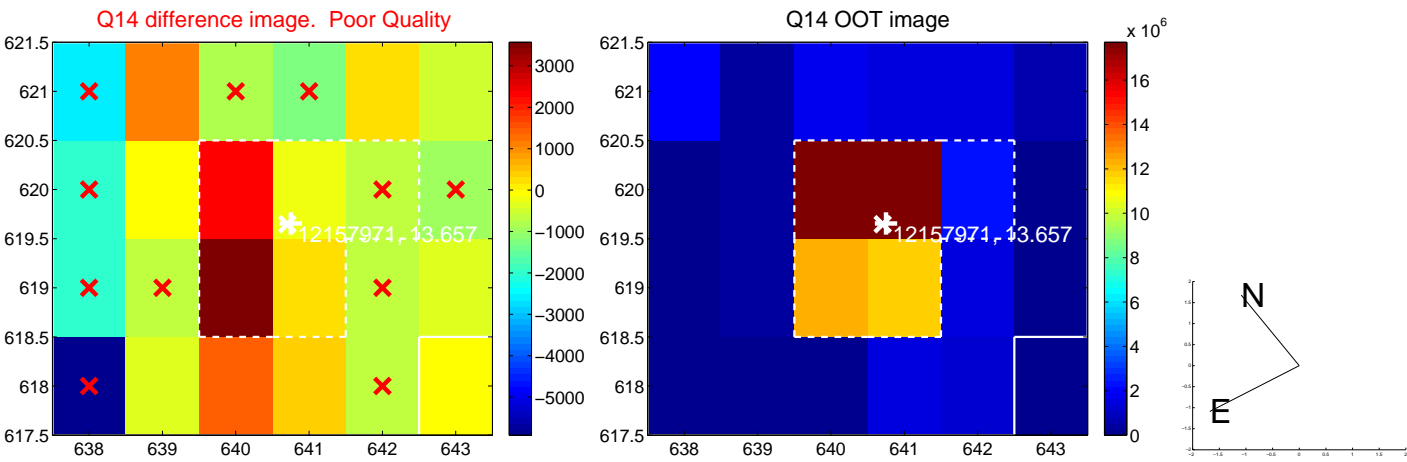
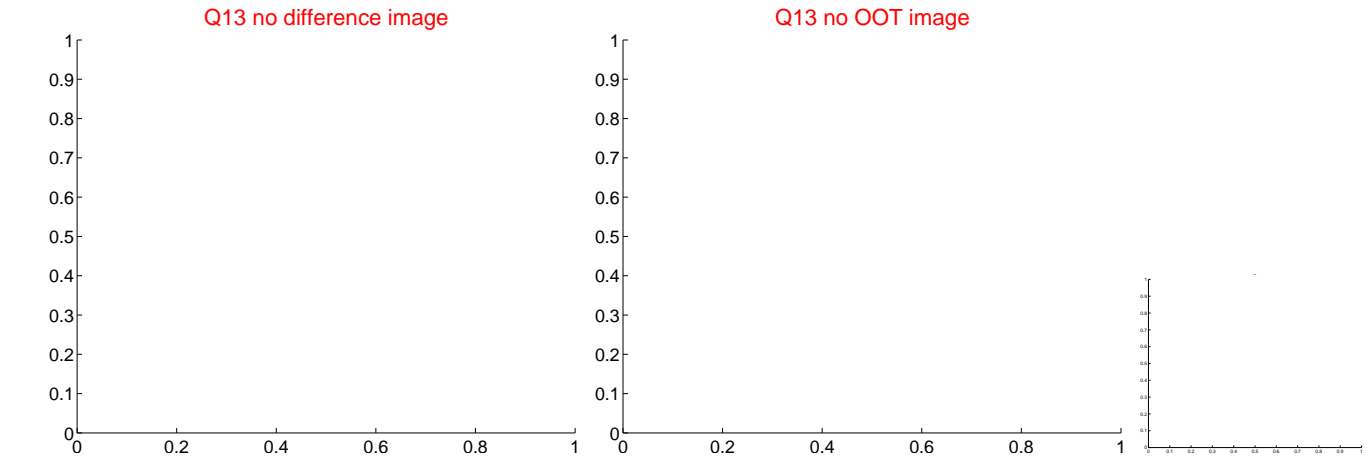
Q12 no difference image



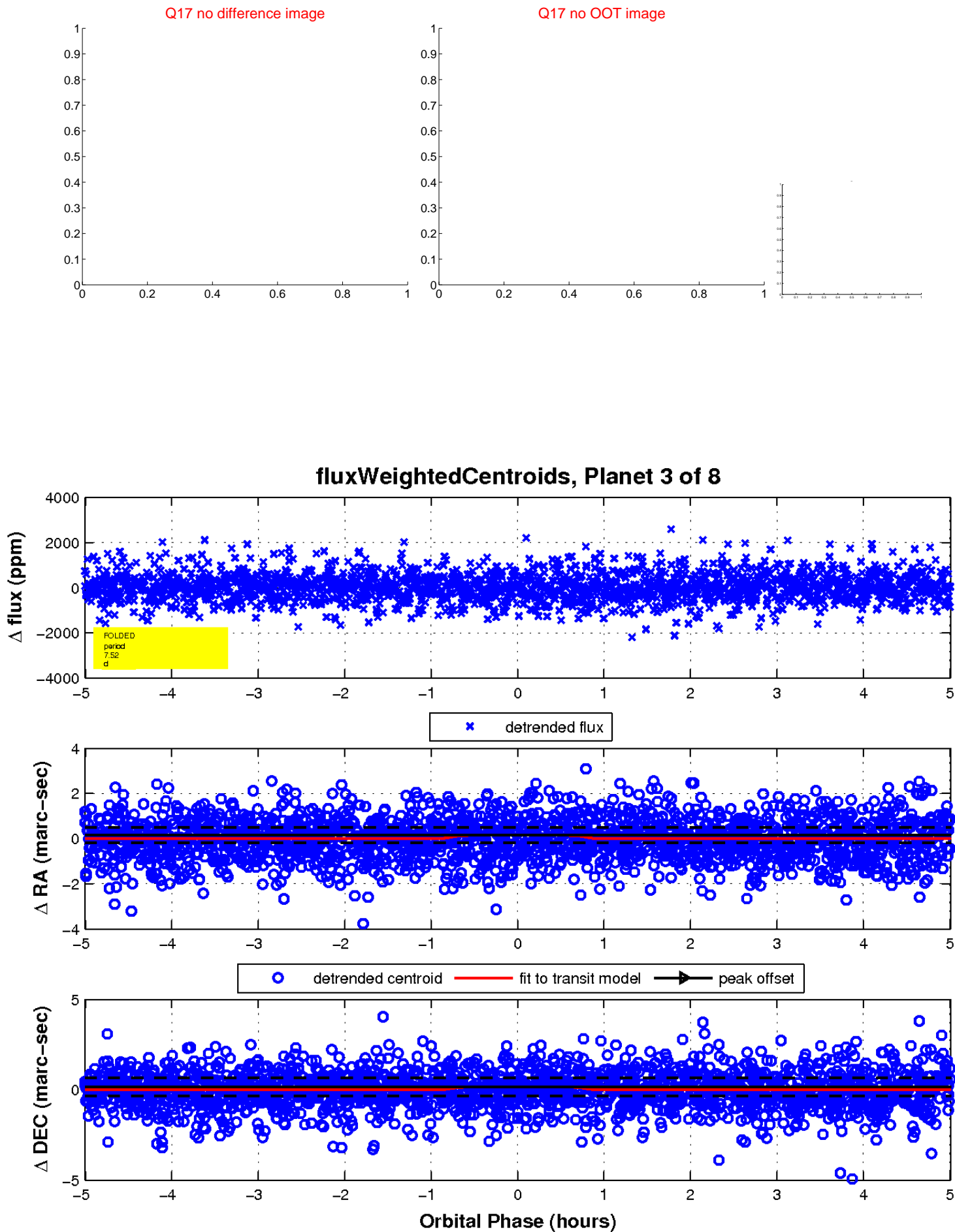
Q12 no OOT image



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

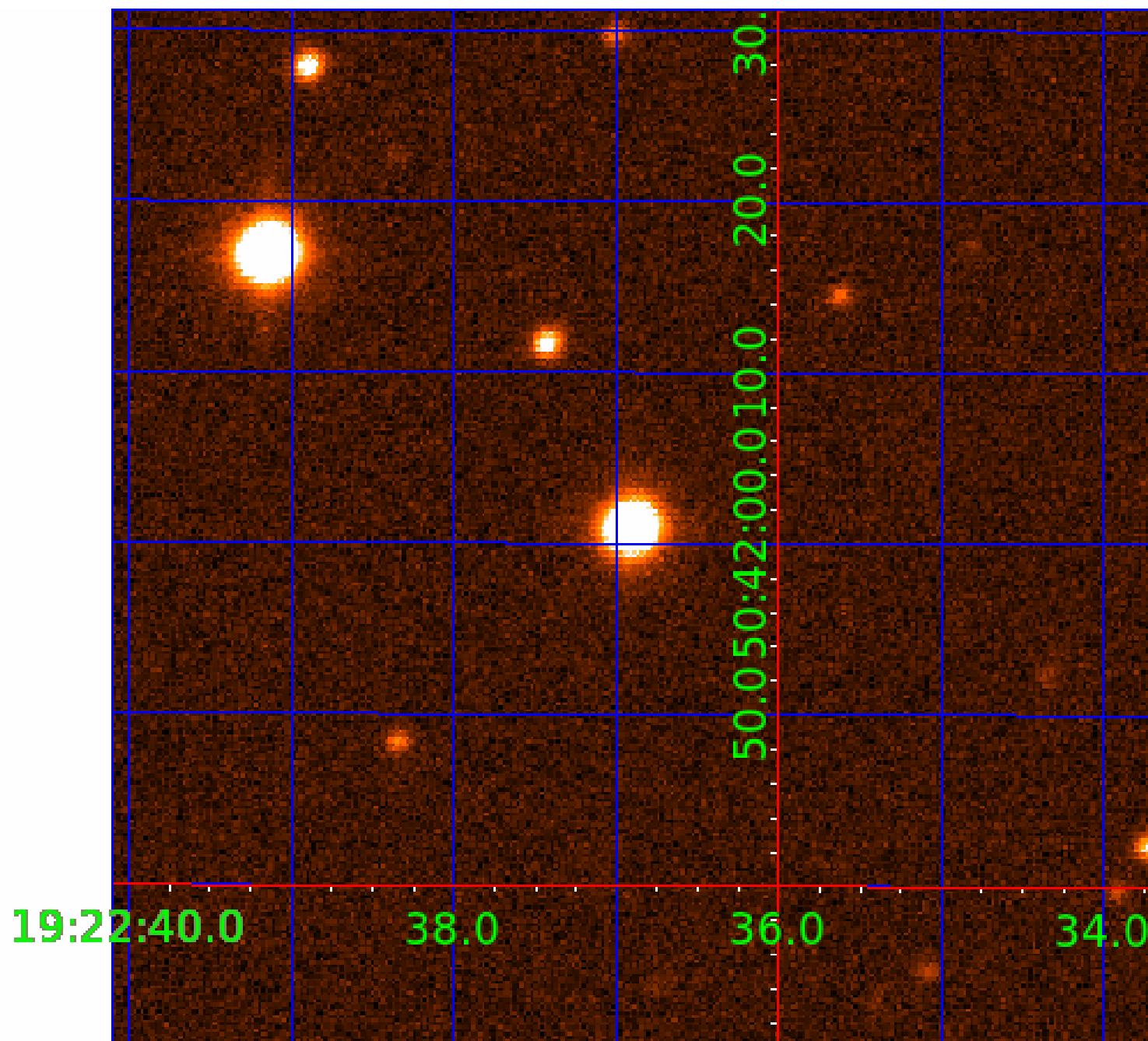


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012157971

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})
012157971-01	OBS	No	0.577848	131.920185	52.4	4.288	9.0	6.1	17.75	5148	12.61	0.00
012157971-02	OBS	No	4.718238	134.106455	571.9	4.043	11.3	12.0	17.75	5148	49.62	0.00
012157971-03	OBS	No	7.516925	133.303825	482.7	1.671	8.5	8.1	17.75	5148	41.81	17626.30
012157971-04	OBS	No	35.535840	139.729746	822.8	1.500	12.4	-1.0	17.75	5148	50.22	2221.57
012157971-05	OBS	No	21.357134	135.973495	979.1	1.500	12.5	-1.0	17.75	5148	54.79	4380.17
012157971-06	OBS	No	5.349443	132.180360	1321.4	0.989	11.7	16.5	17.75	5148	64.01	0.00
012157971-07	OBS	No	3.259336	132.360994	597.7	1.500	10.4	-1.0	17.75	5148	42.80	53708.44
012157971-08	OBS	No	7.461779	132.625555	1456.5	1.483	11.7	16.3	17.75	5148	70.21	17800.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012157971-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
012157971-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
012157971-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_MEAS
012157971-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
012157971-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

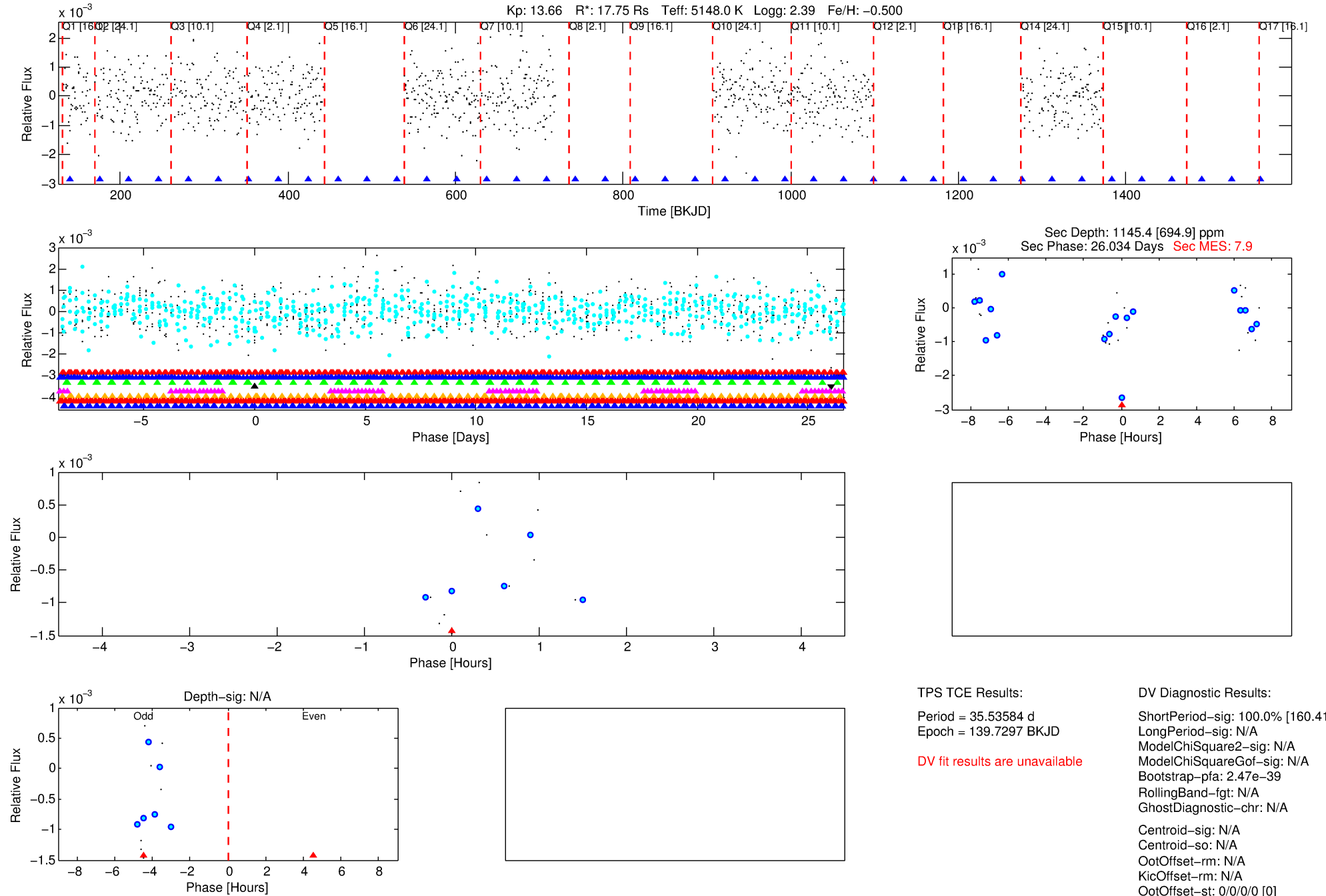
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012157971-04

No Significant Match Found

DV One-Page Summary

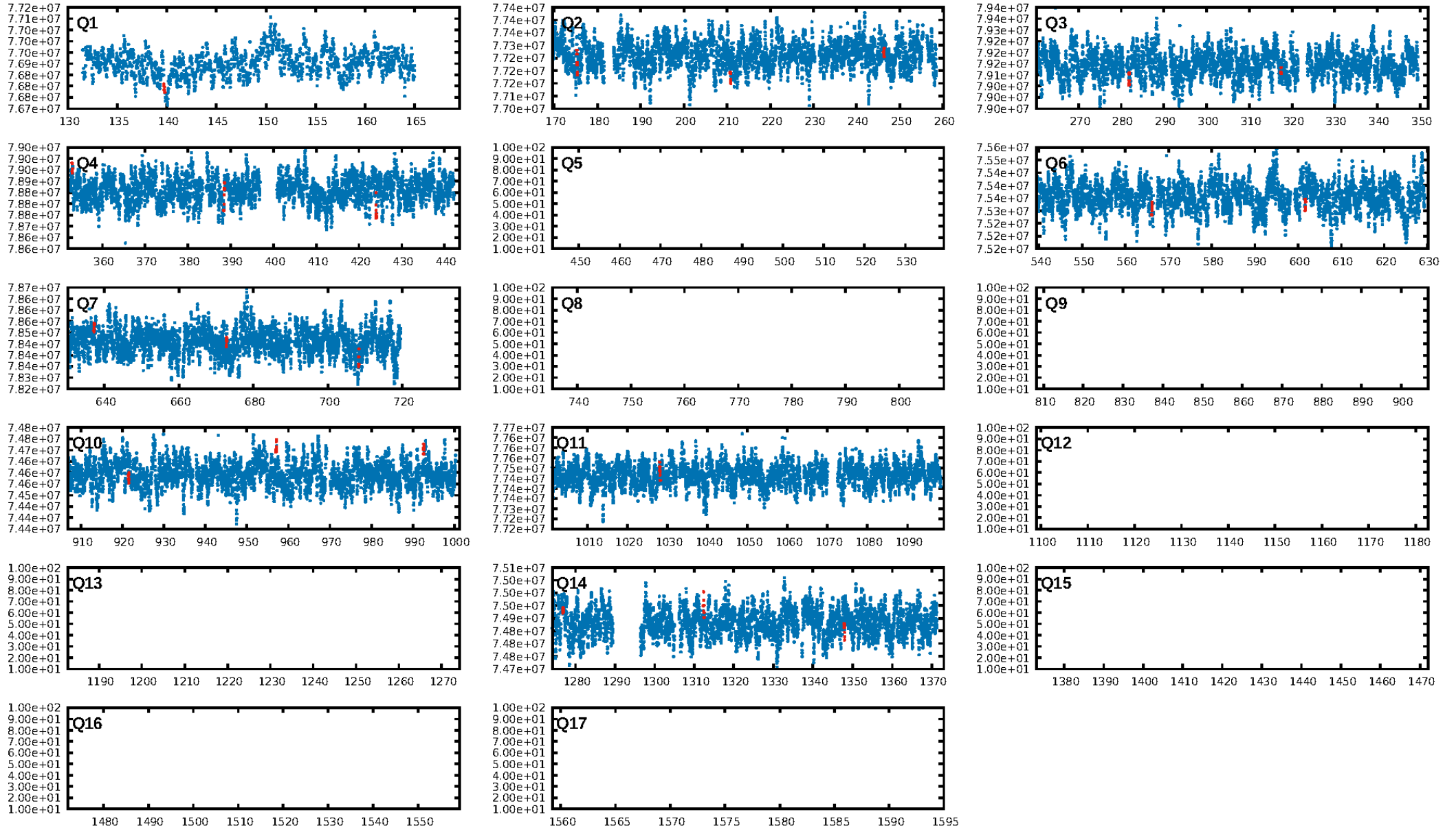
KIC: 12157971 Candidate: 4 of 8 Period: 35.536 d



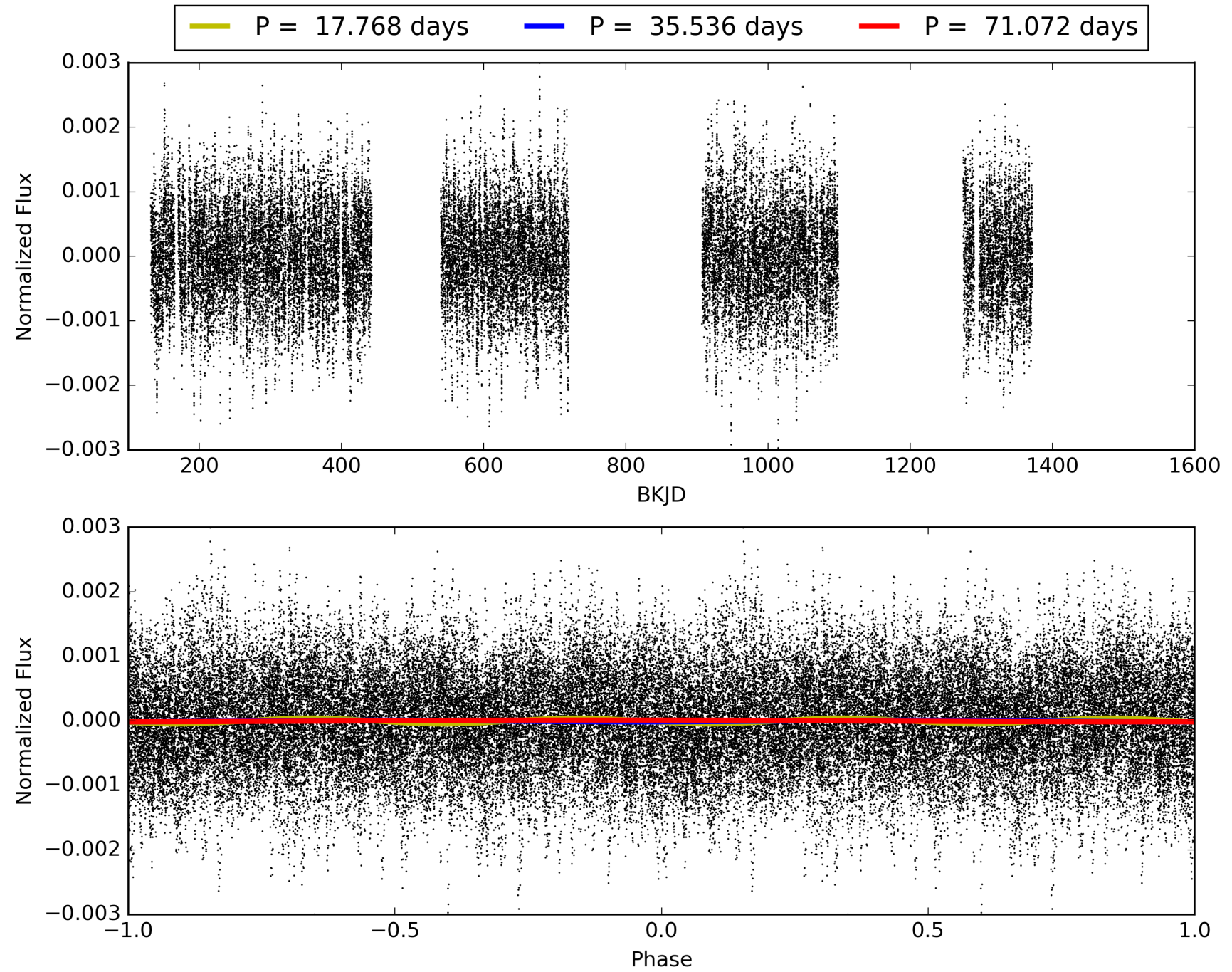
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:14:34 Z

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

TCE 012157971-04, PDC Light Curves

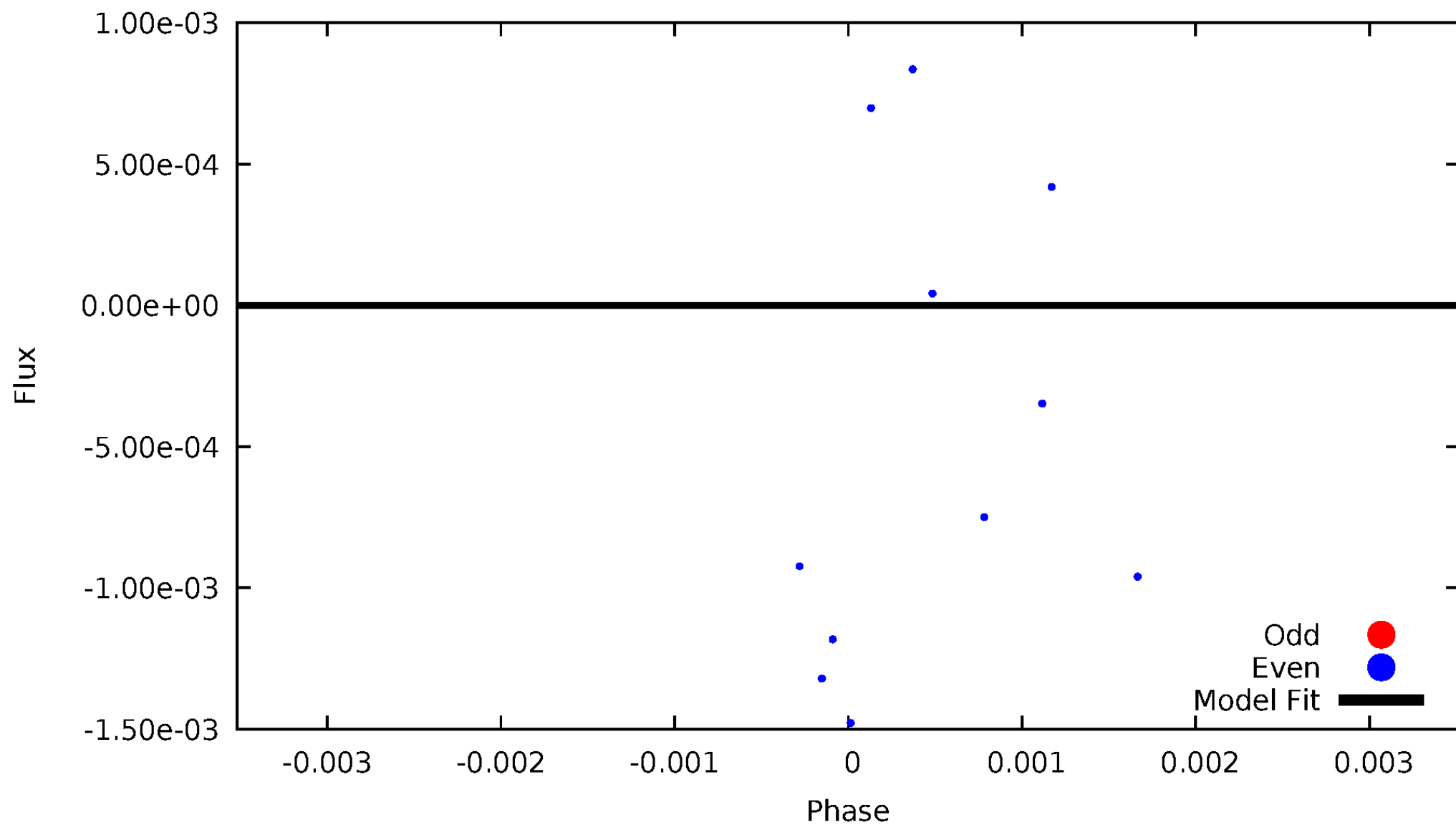


TCE 012157971-04



DV Odd/Even

TCE 012157971-04

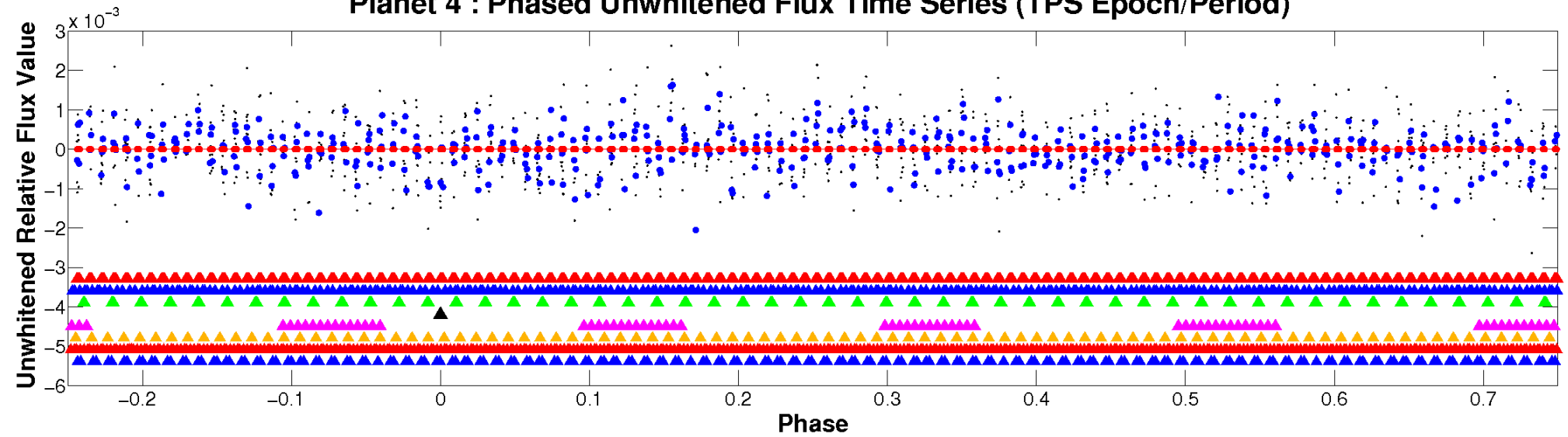


ALT Odd/Even

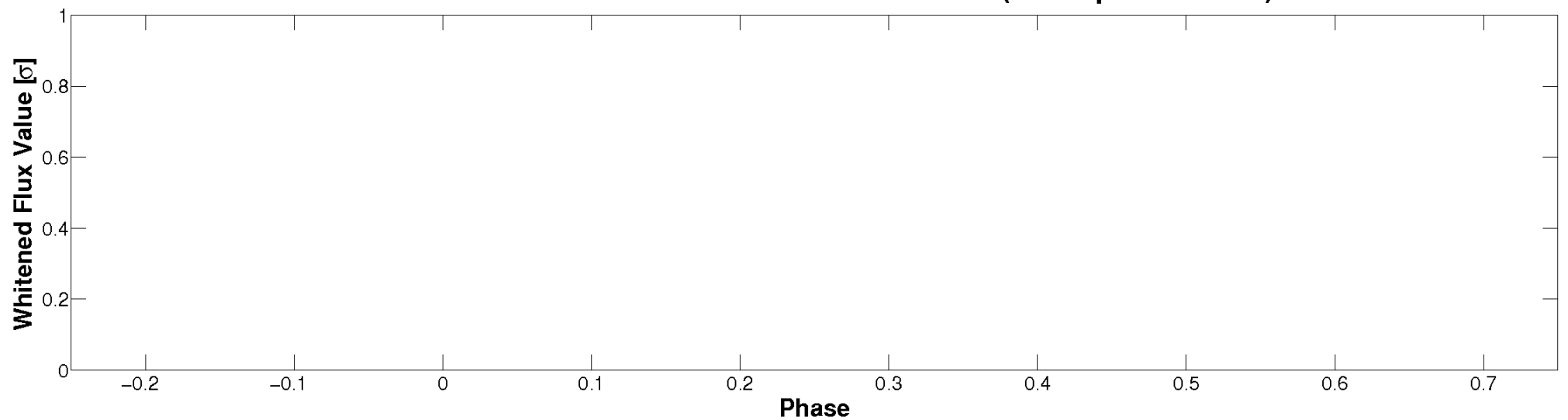
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

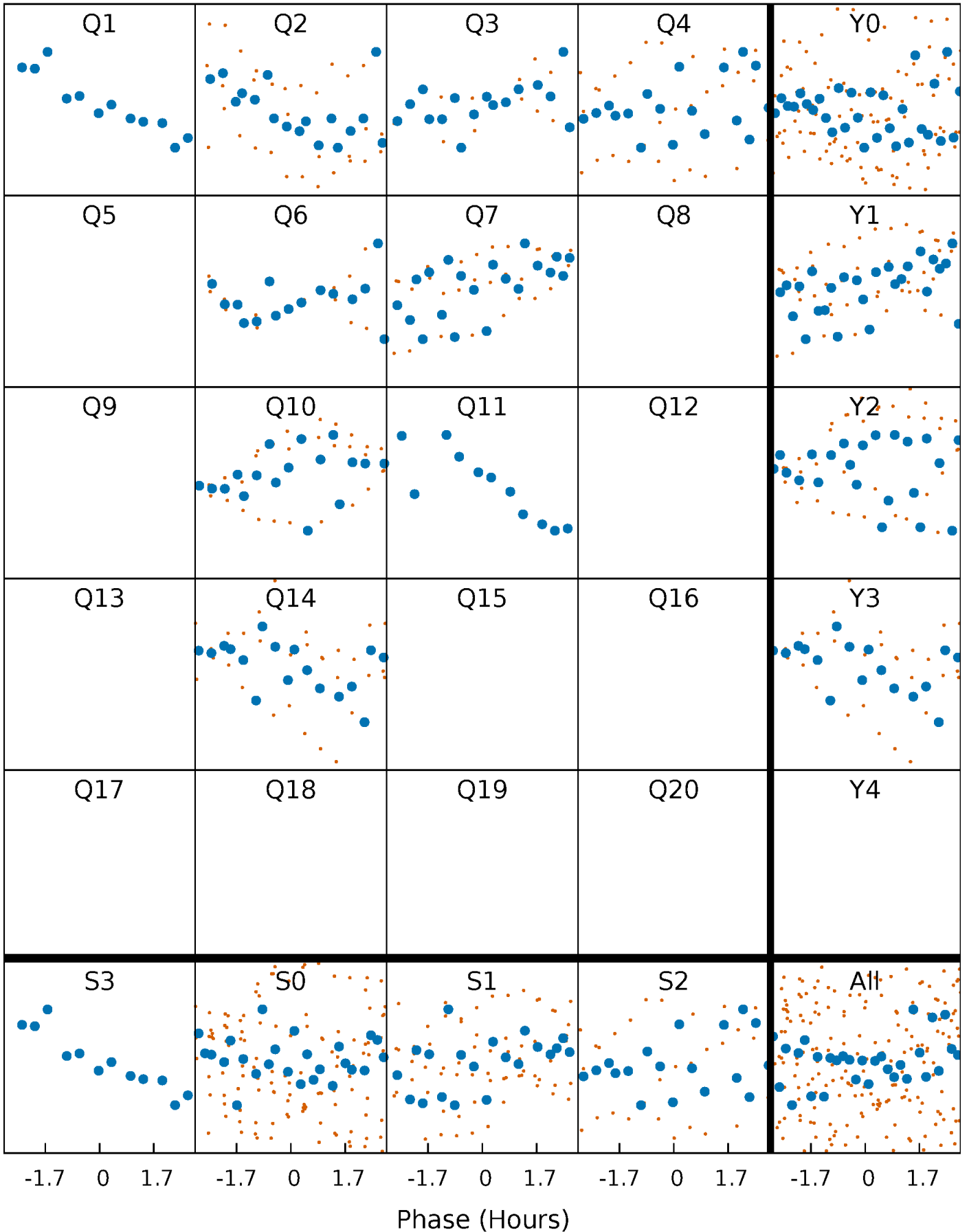


Planet 4 : Phased Whitened Flux Time Series (TPS Epoch/Period)



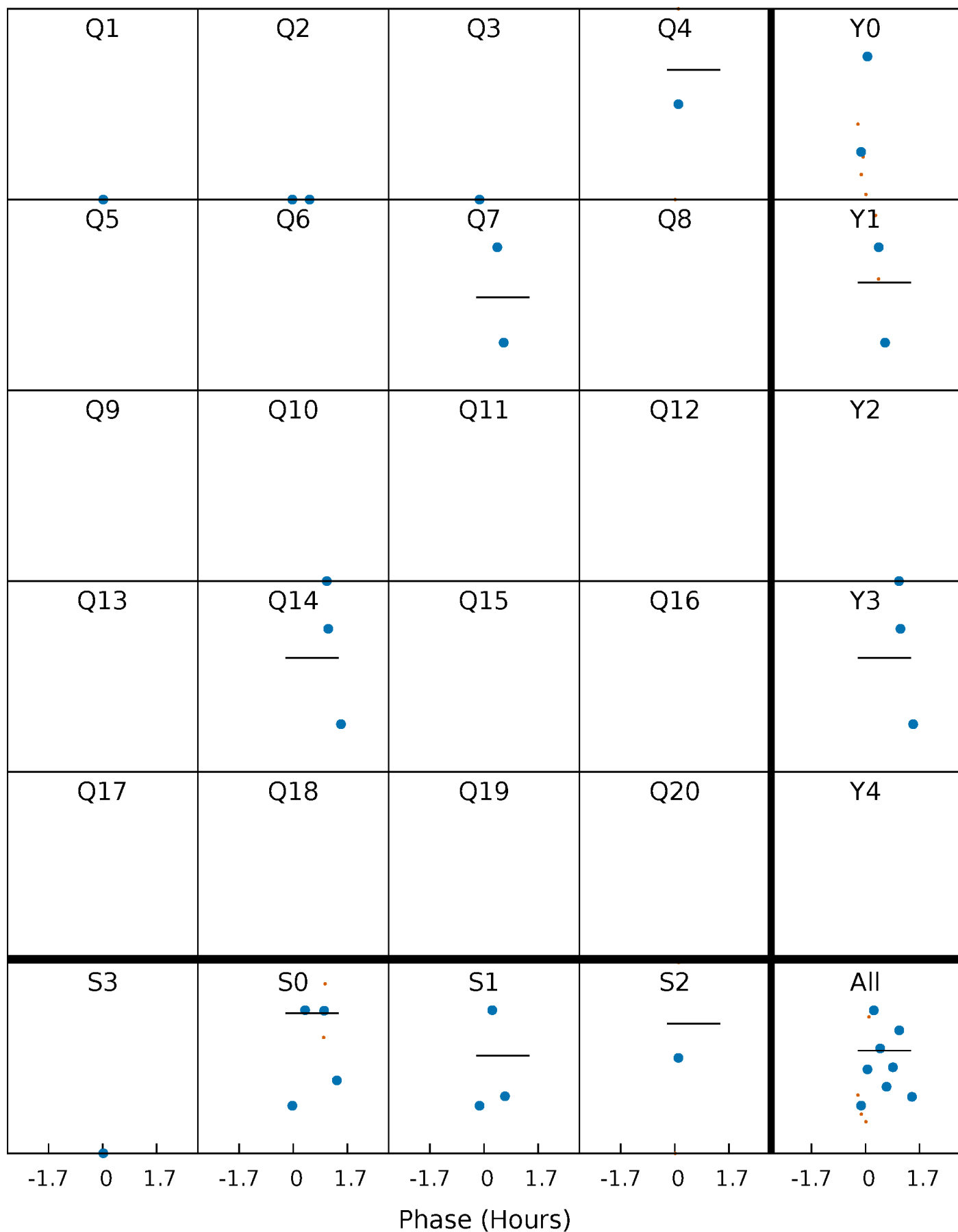
PDC Quarter-Phased Transit Curves

TCE 012157971-04 P= 35.535840 Days $T_0=139.729746$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 012157971-04 P= 35.535840 Days $T_0=139.729746$ (BKJD)

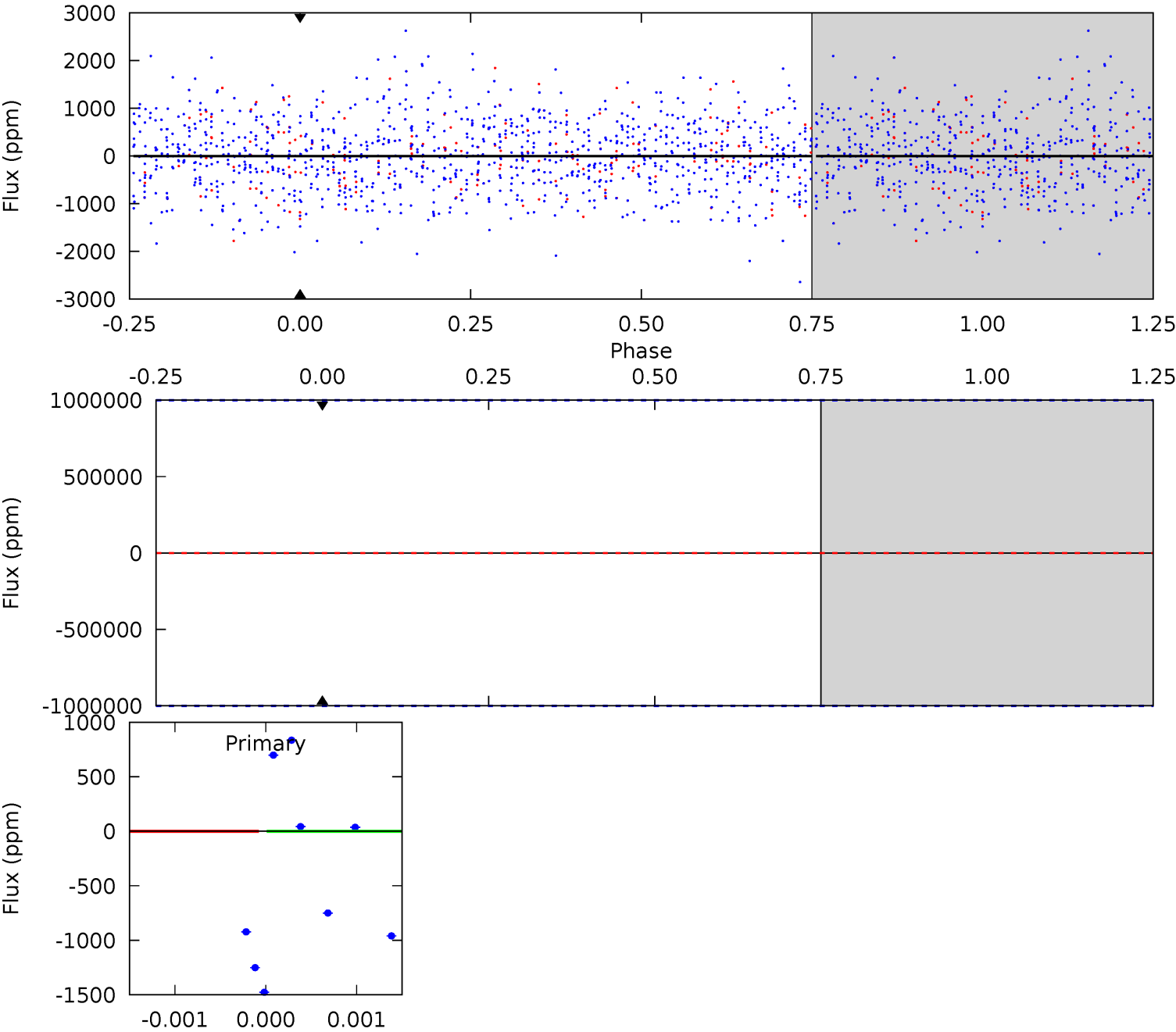


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

012157971-04, P = 35.535840 Days, E = 104.193906 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 012157971

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5148^{+137}_{-321}	$2.389^{+0.033}_{-0.030}$	$-0.500^{+0.250}_{-0.250}$	$17.748^{+1.606}_{-6.022}$	$2.812^{+0.301}_{-1.605}$	$0.001^{+0.000}_{-0.000}$
	+3%/-6%	+1%/-1%	+50%/-50%	+9%/-34%	+11%/-57%	+55%/-14%
Source	PHO1	AST9	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 012157971-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$153.50^{+165.04}_{-106.69}$	2447^{+85}_{-148}	-3392^{+18358}_{-10320}	$-1.999^{+417.662}_{-350.185}$
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 $A_{obs} \gg 1.0$

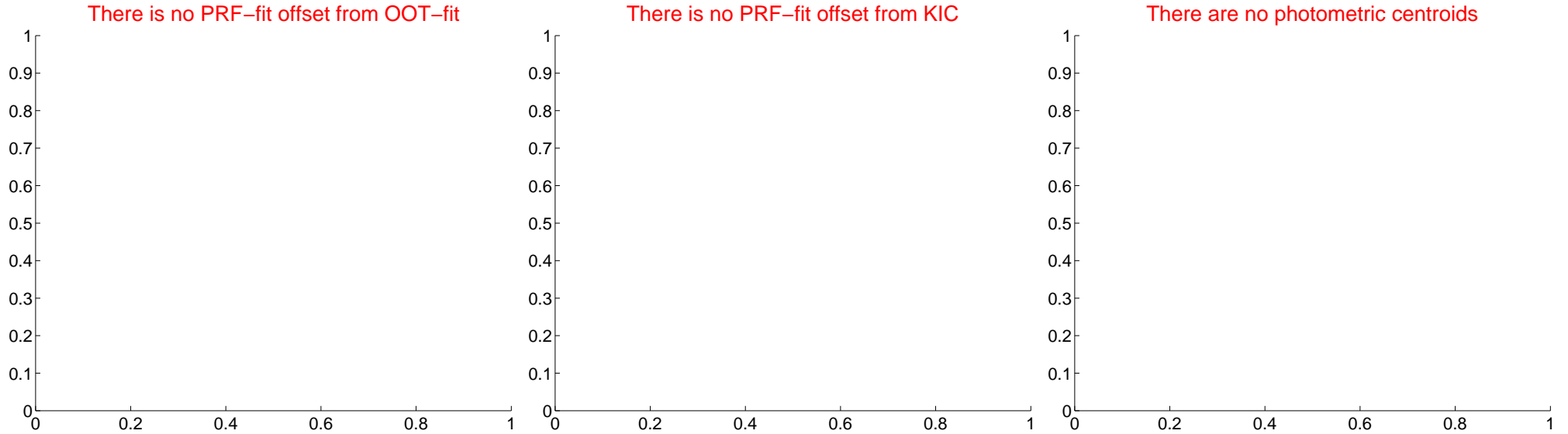
DV Centroid Data

Supplemental centroid analysis for 012157971-04. Kepler magnitude: 13.66. 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.



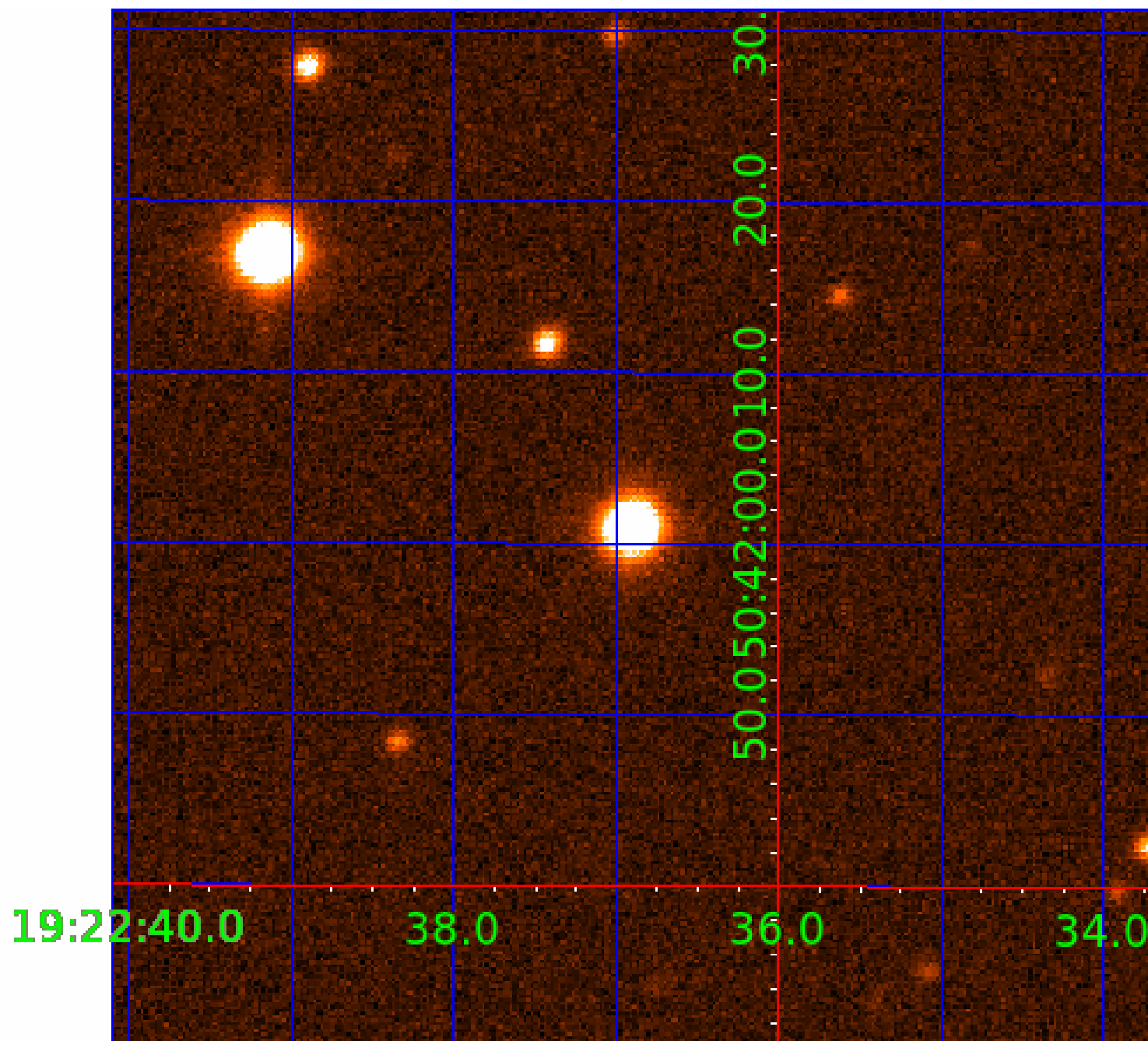
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 012157971

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})
012157971-01	OBS	No	0.577848	131.920185	52.4	4.288	9.0	6.1	17.75	5148	12.61	0.00
012157971-02	OBS	No	4.718238	134.106455	571.9	4.043	11.3	12.0	17.75	5148	49.62	0.00
012157971-03	OBS	No	7.516925	133.303825	482.7	1.671	8.5	8.1	17.75	5148	41.81	17626.30
012157971-04	OBS	No	35.535840	139.729746	822.8	1.500	12.4	-1.0	17.75	5148	50.22	2221.57
012157971-05	OBS	No	21.357134	135.973495	979.1	1.500	12.5	-1.0	17.75	5148	54.79	4380.17
012157971-06	OBS	No	5.349443	132.180360	1321.4	0.989	11.7	16.5	17.75	5148	64.01	0.00
012157971-07	OBS	No	3.259336	132.360994	597.7	1.500	10.4	-1.0	17.75	5148	42.80	53708.44
012157971-08	OBS	No	7.461779	132.625555	1456.5	1.483	11.7	16.3	17.75	5148	70.21	17800.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012157971-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
012157971-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
012157971-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_MEAS
012157971-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
012157971-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

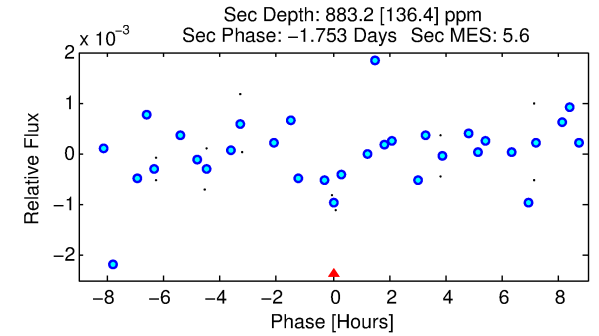
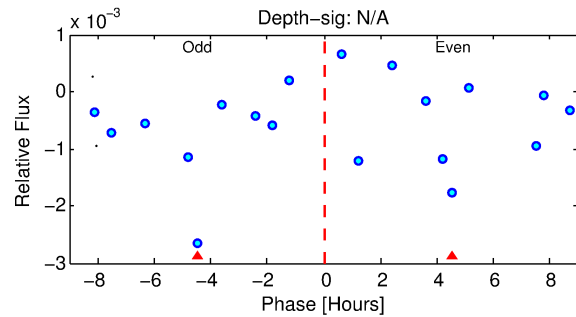
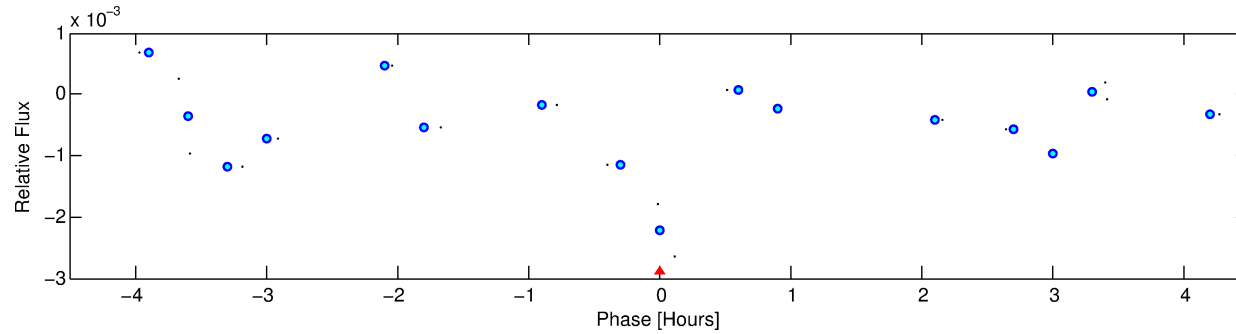
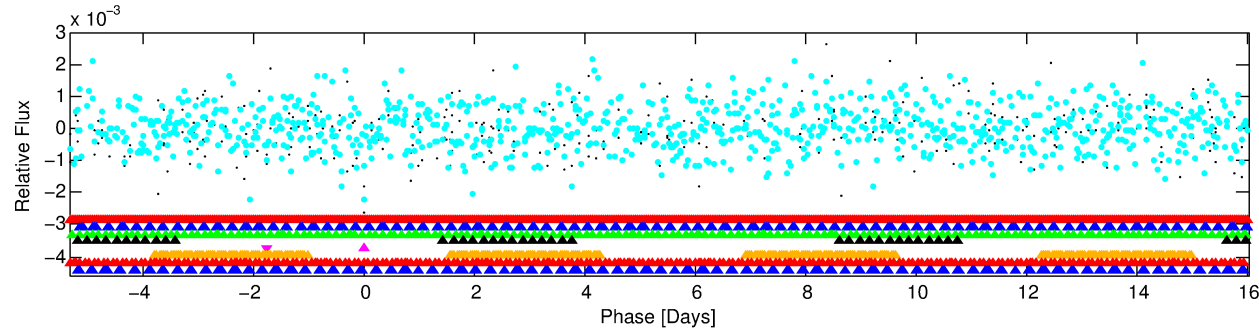
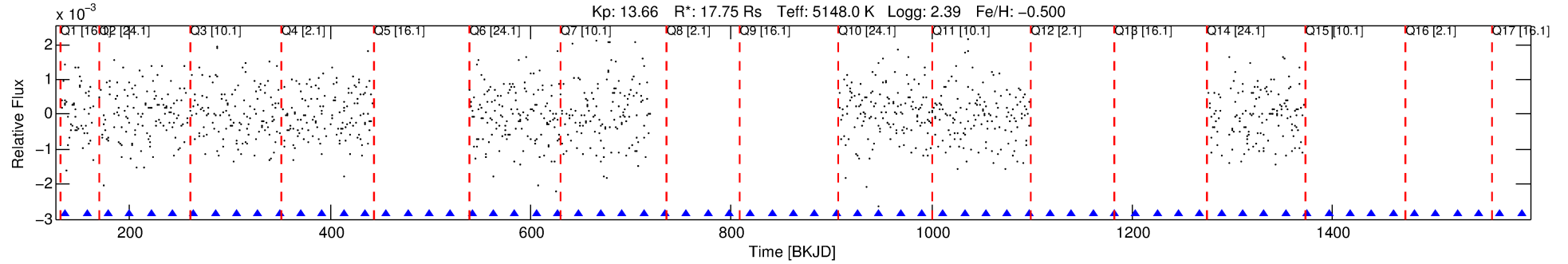
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012157971-05

No Significant Match Found

DV One-Page Summary

KIC: 12157971 Candidate: 5 of 8 Period: 21.357 d



TPS TCE Results:

Period = 21.35713 d
Epoch = 135.9735 BKJD

DV fit results are unavailable

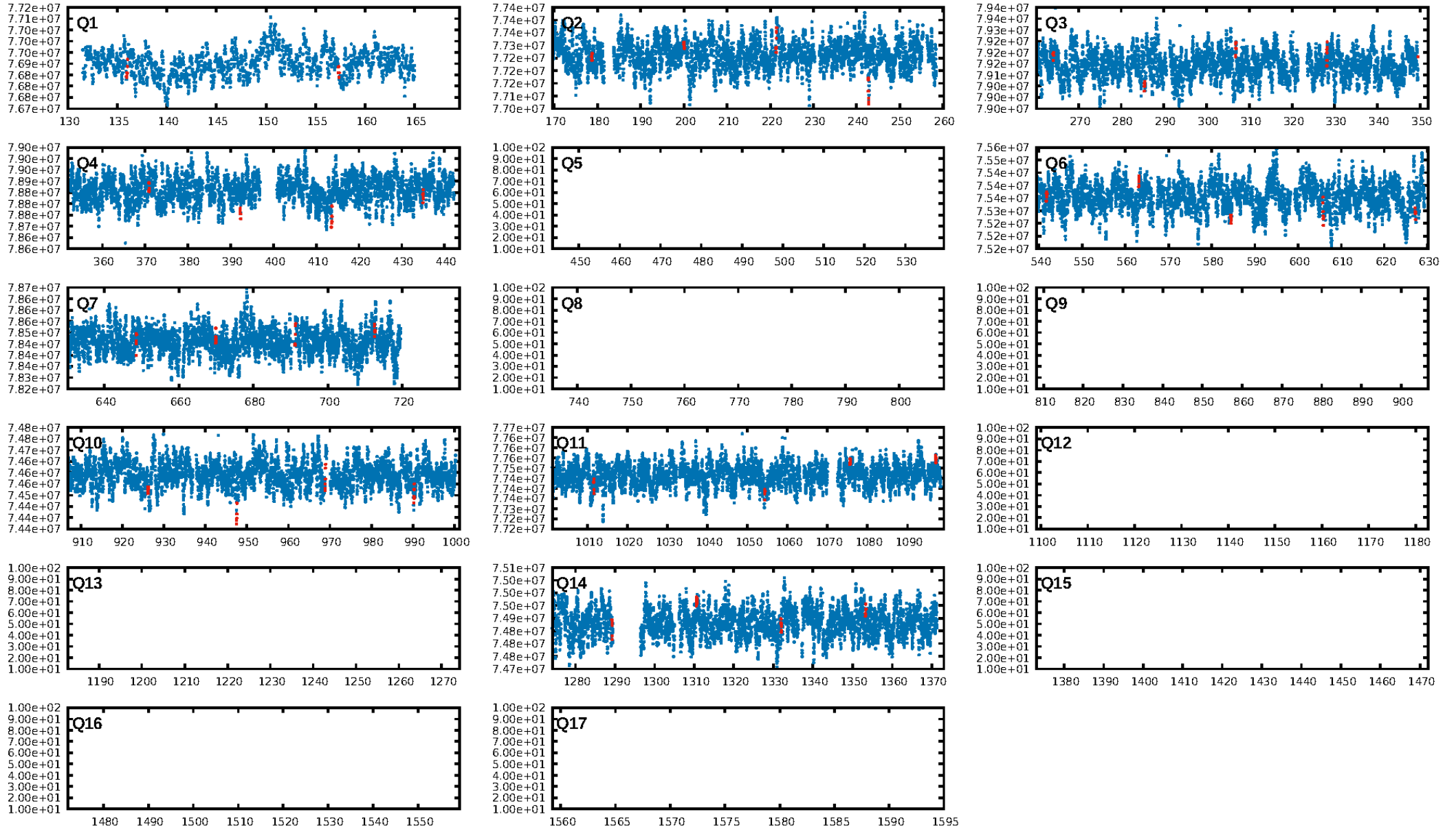
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [147.94σ]
LongPeriod-sig: 100.0% [160.41σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.37e-40
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]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

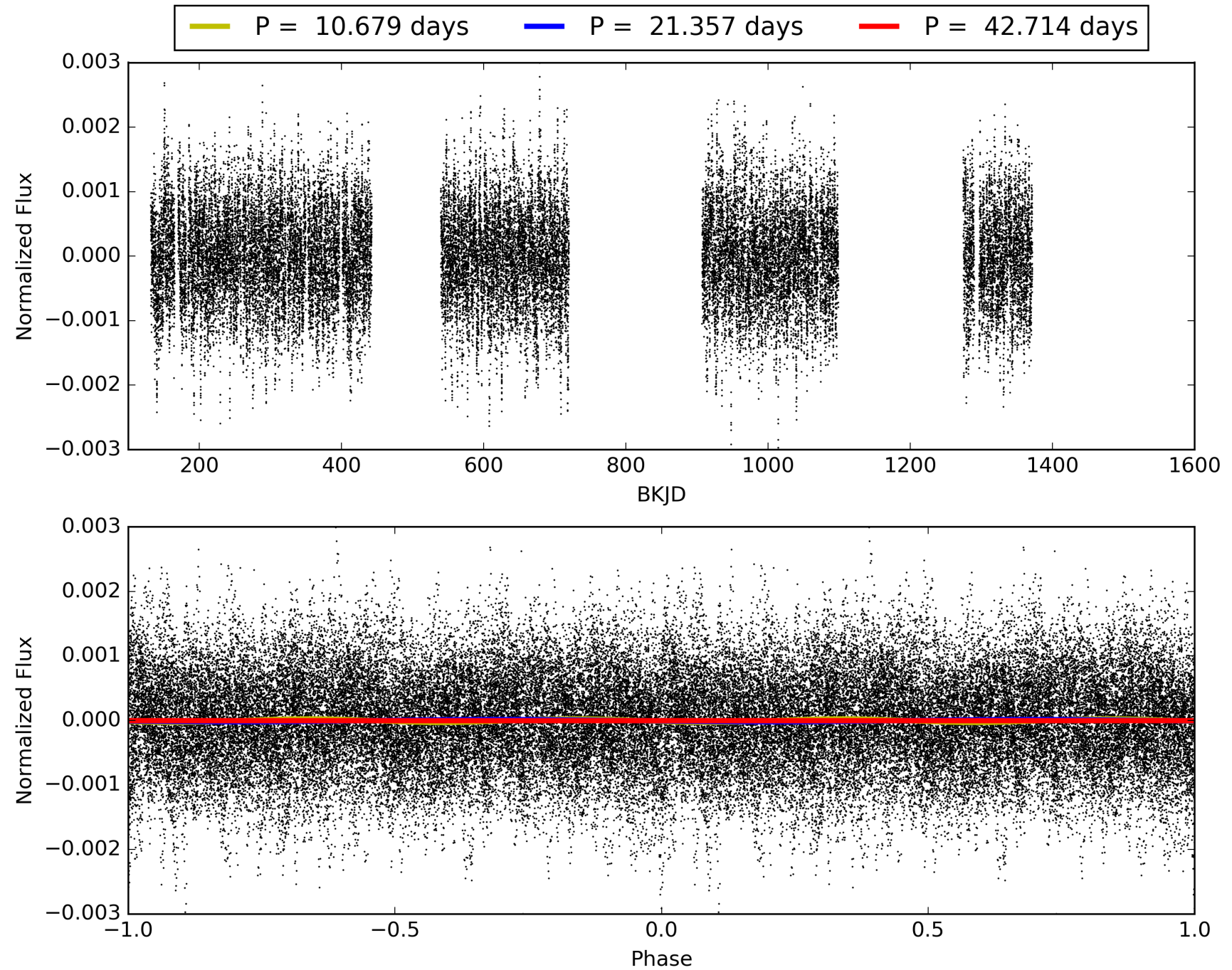
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:14:36 Z

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

TCE 012157971-05, PDC Light Curves

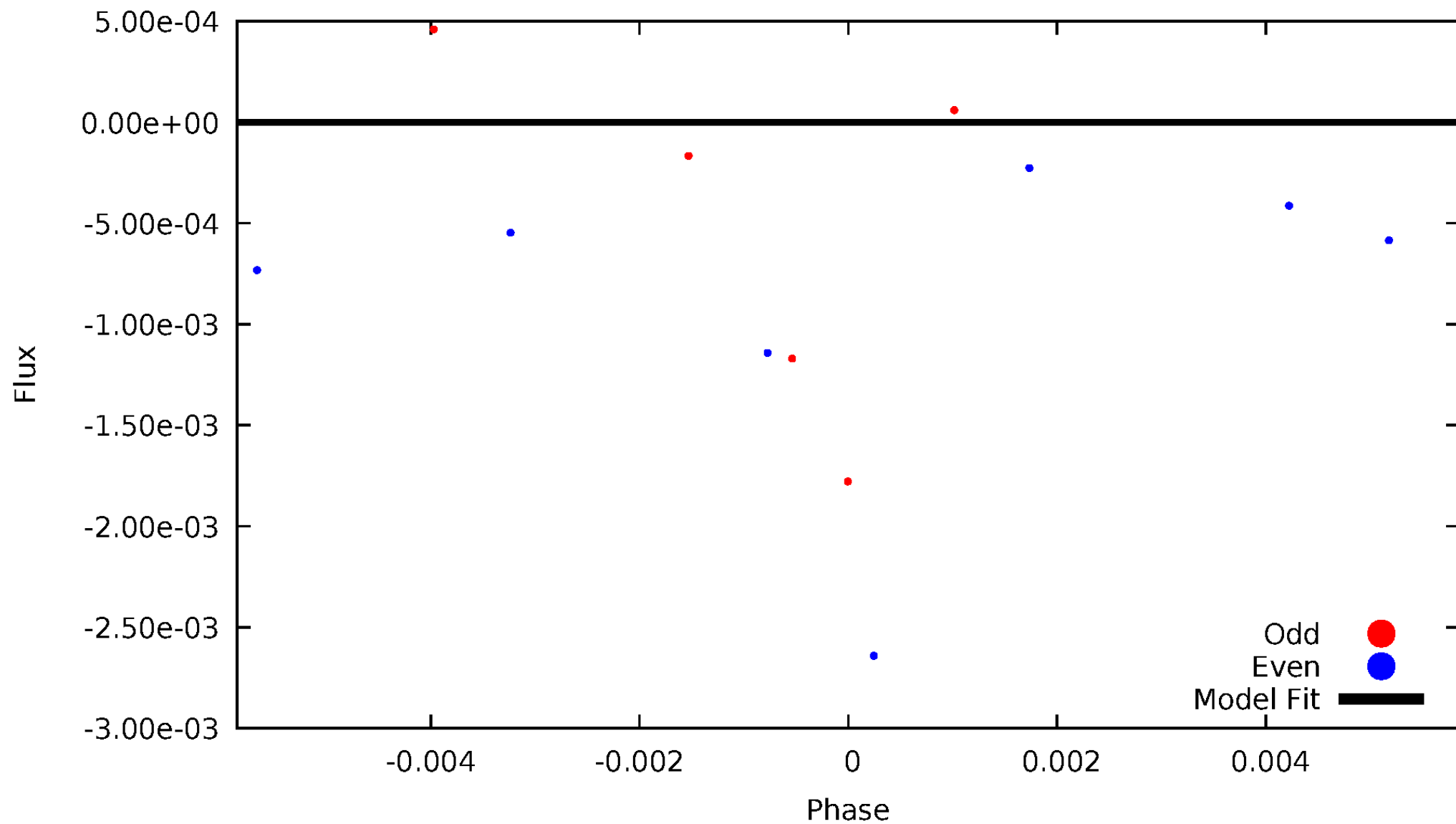


TCE 012157971-05



DV Odd/Even

TCE 012157971-05

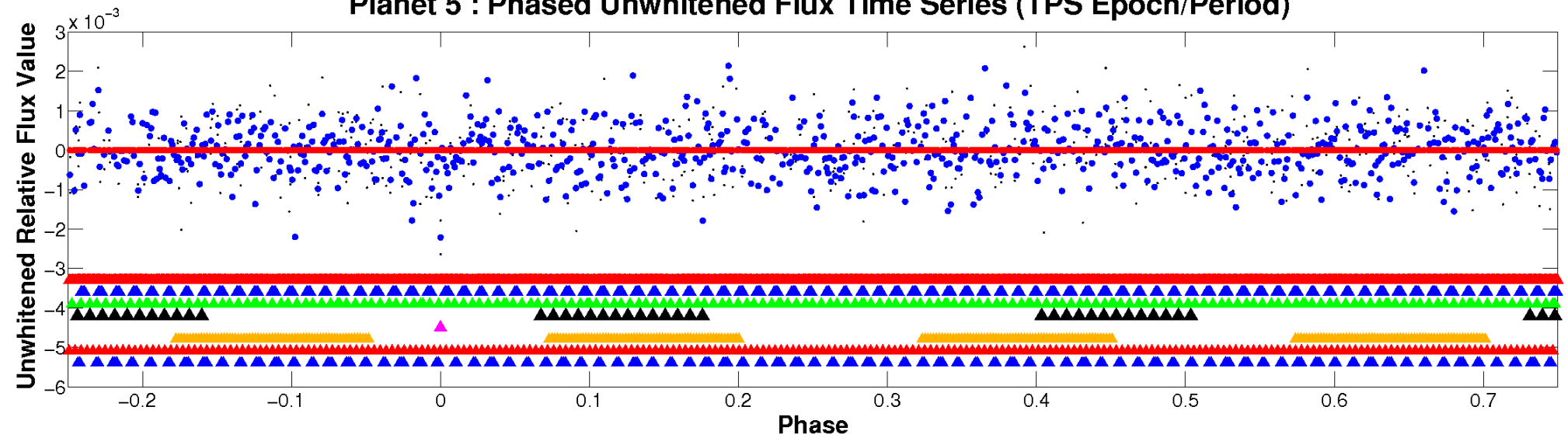


ALT Odd/Even

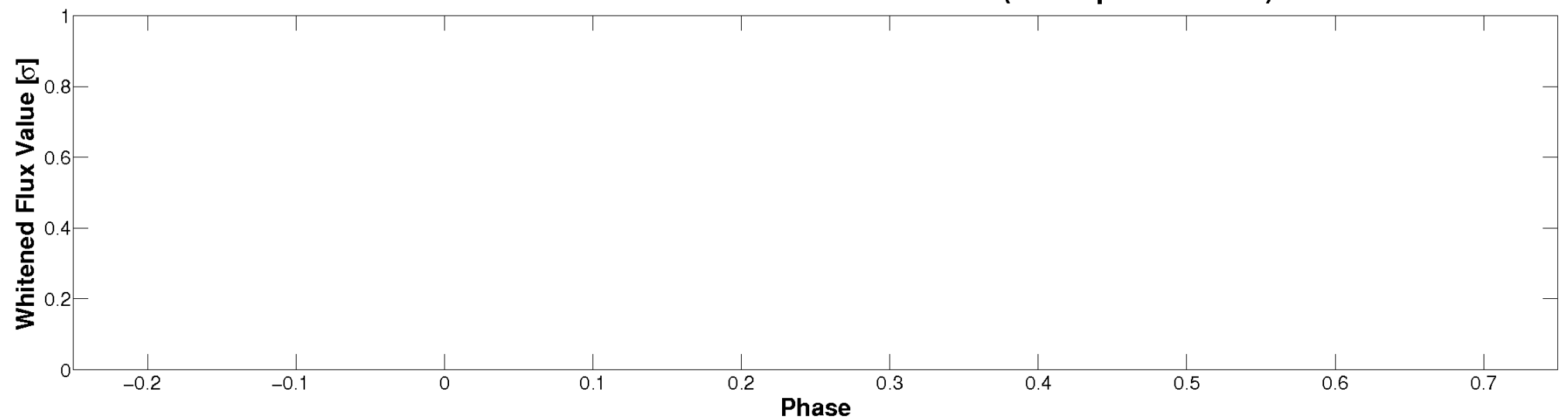
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

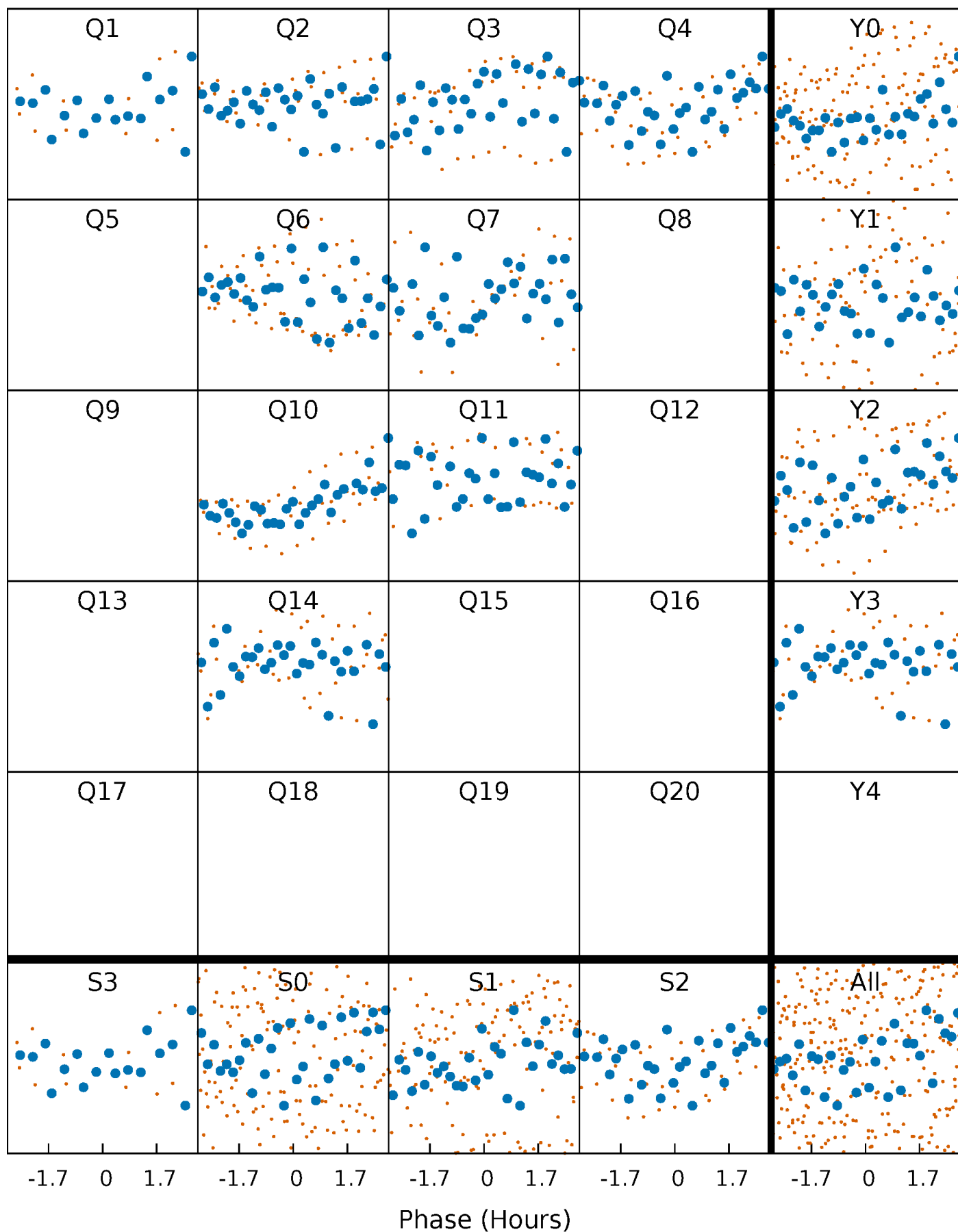


Planet 5 : Phased Whitened Flux Time Series (TPS Epoch/Period)



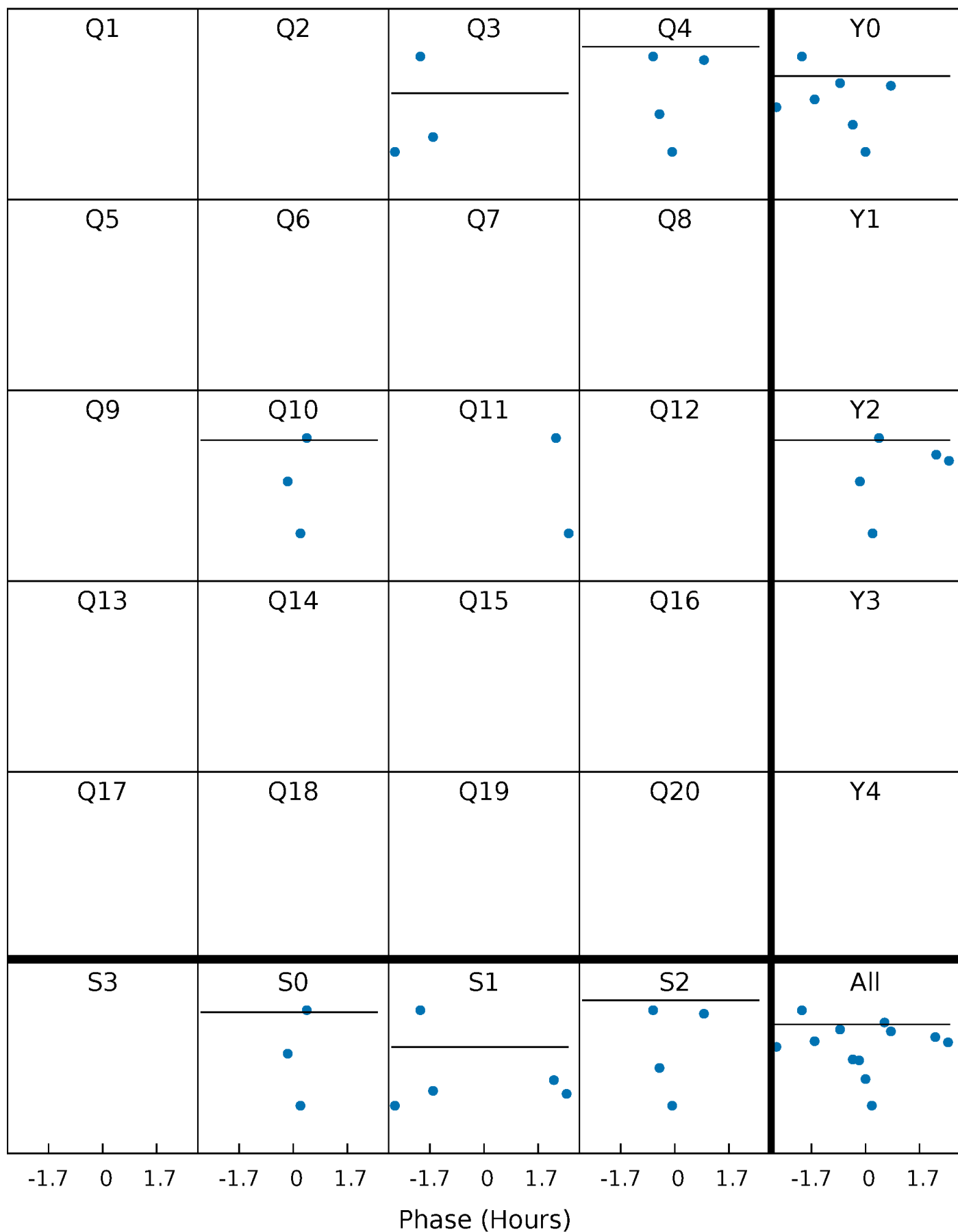
PDC Quarter-Phased Transit Curves

TCE 012157971-05 P= 21.357134 Days $T_0=135.973495$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 012157971-05 P= 21.357134 Days $T_0=135.973495$ (BKJD)

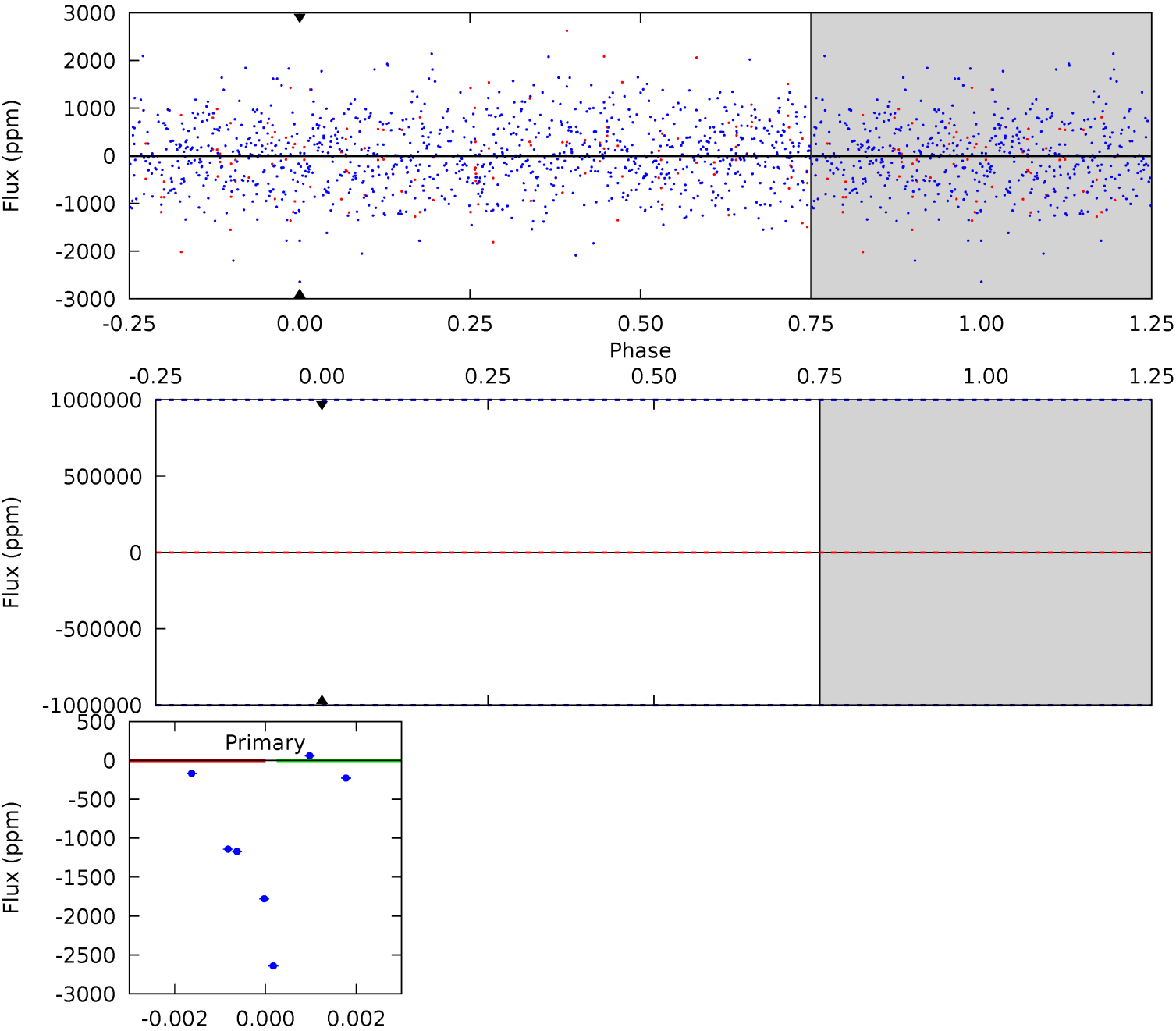


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

012157971-05, P = 21.357134 Days, E = 114.616361 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 012157971

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5148^{+137}_{-321}	$2.389^{+0.033}_{-0.030}$	$-0.500^{+0.250}_{-0.250}$	$17.748^{+1.606}_{-6.022}$	$2.812^{+0.301}_{-1.605}$	$0.001^{+0.000}_{-0.000}$
	+3%/-6%	+1%/-1%	+50%/-50%	+9%/-34%	+11%/-57%	+55%/-14%
Source	PHO1	AST9	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 012157971-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$156.19^{+156.17}_{-106.13}$	2884^{+110}_{-183}	-3395^{+18456}_{-9986}	$-0.354^{+208.104}_{-158.344}$
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 $A_{obs} \gg 1.0$

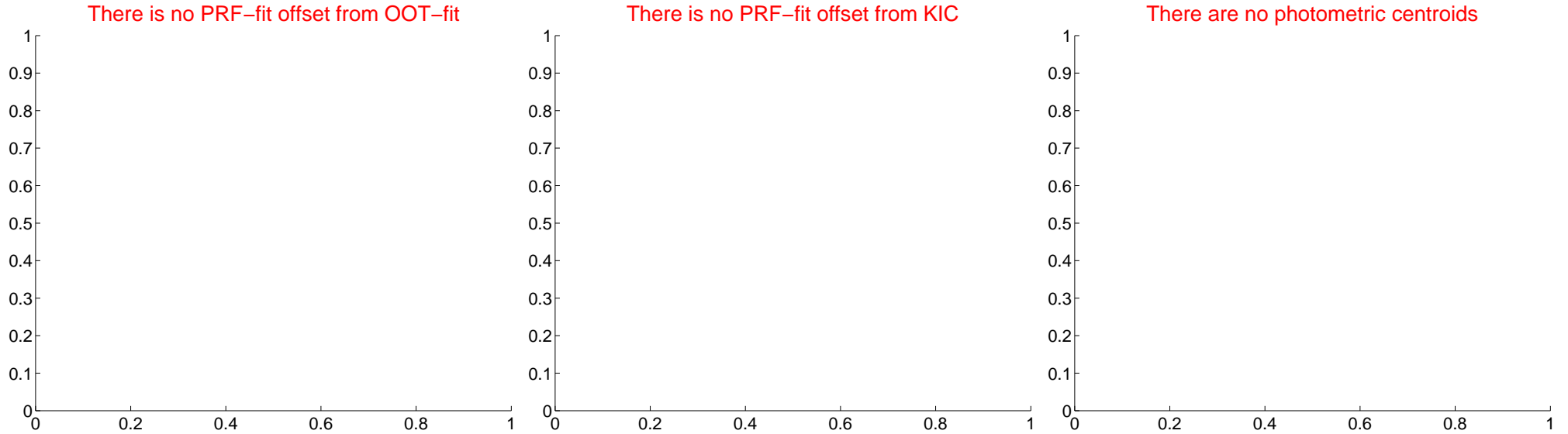
DV Centroid Data

Supplemental centroid analysis for 012157971-05. Kepler magnitude: 13.66. 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.



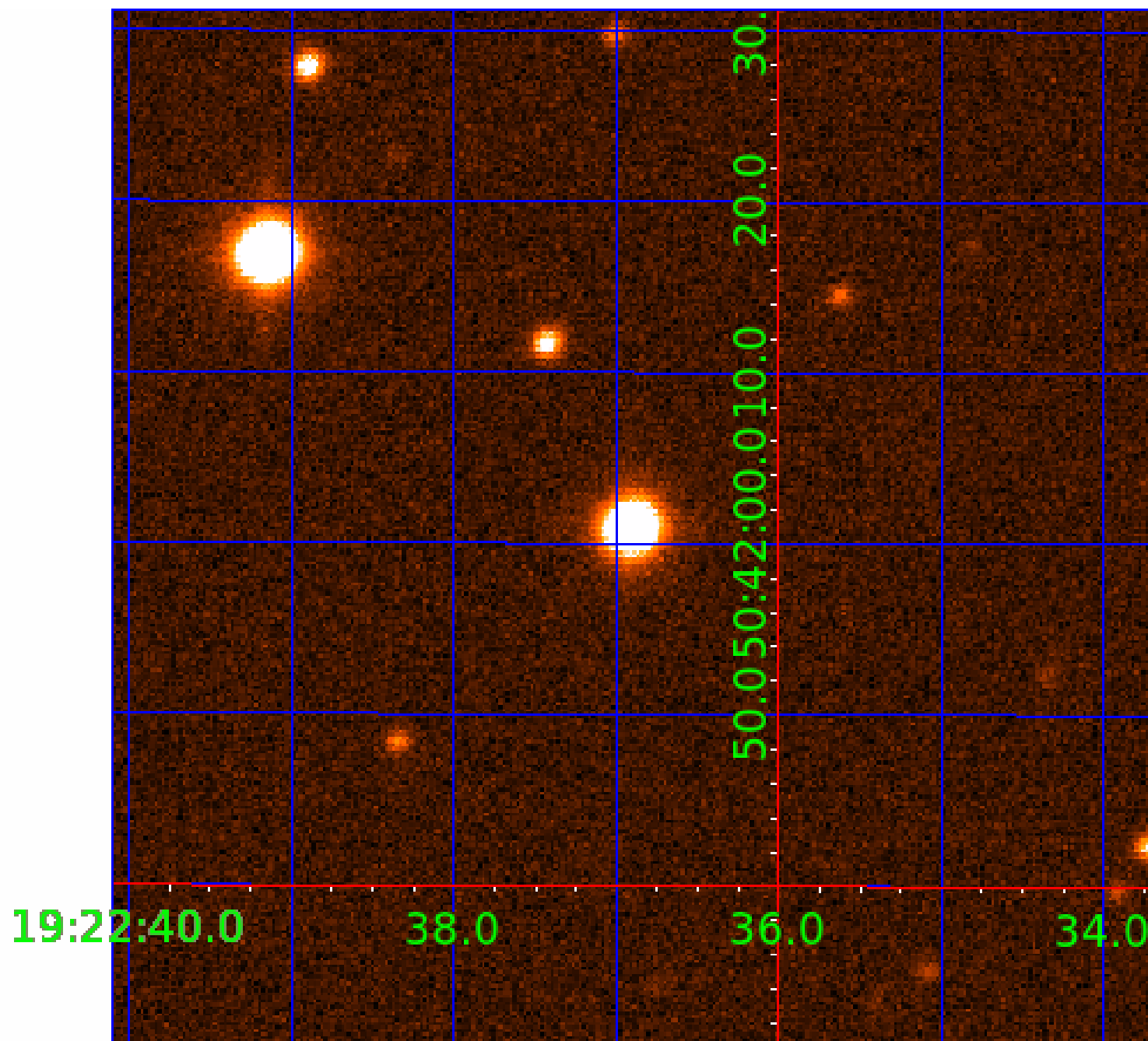
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 012157971

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})
012157971-01	OBS	No	0.577848	131.920185	52.4	4.288	9.0	6.1	17.75	5148	12.61	0.00
012157971-02	OBS	No	4.718238	134.106455	571.9	4.043	11.3	12.0	17.75	5148	49.62	0.00
012157971-03	OBS	No	7.516925	133.303825	482.7	1.671	8.5	8.1	17.75	5148	41.81	17626.30
012157971-04	OBS	No	35.535840	139.729746	822.8	1.500	12.4	-1.0	17.75	5148	50.22	2221.57
012157971-05	OBS	No	21.357134	135.973495	979.1	1.500	12.5	-1.0	17.75	5148	54.79	4380.17
012157971-06	OBS	No	5.349443	132.180360	1321.4	0.989	11.7	16.5	17.75	5148	64.01	0.00
012157971-07	OBS	No	3.259336	132.360994	597.7	1.500	10.4	-1.0	17.75	5148	42.80	53708.44
012157971-08	OBS	No	7.461779	132.625555	1456.5	1.483	11.7	16.3	17.75	5148	70.21	17800.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012157971-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
012157971-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
012157971-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_MEAS
012157971-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
012157971-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

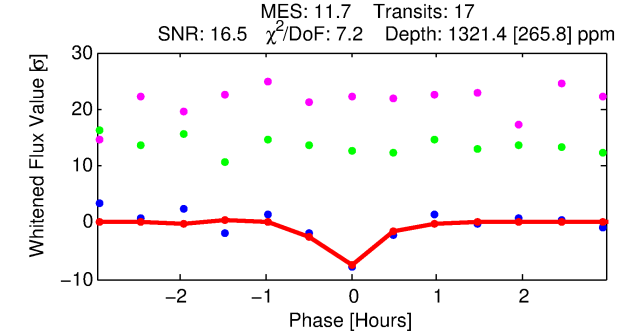
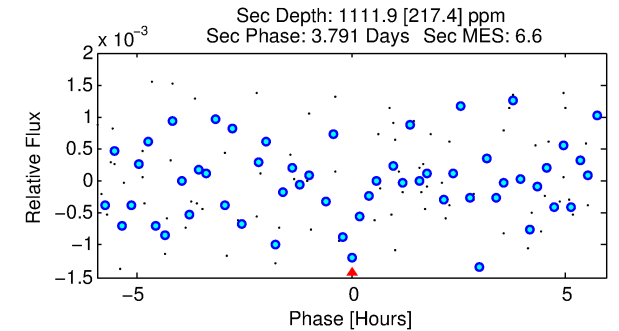
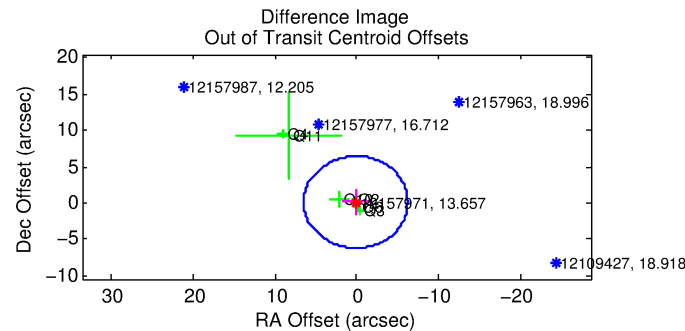
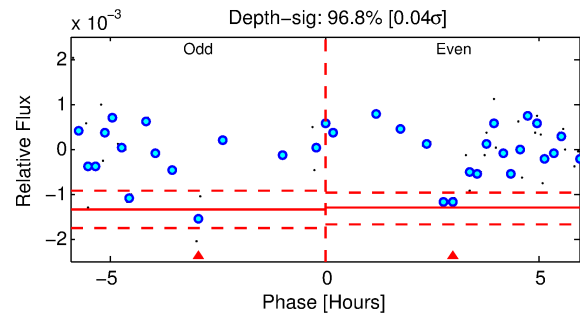
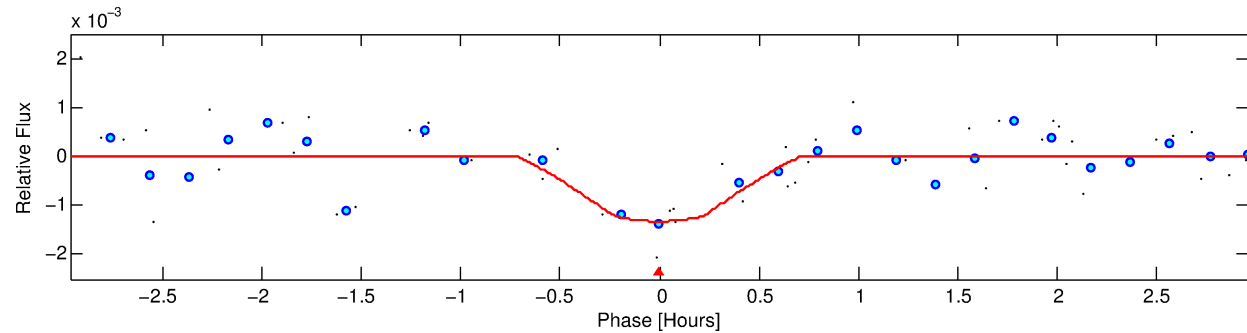
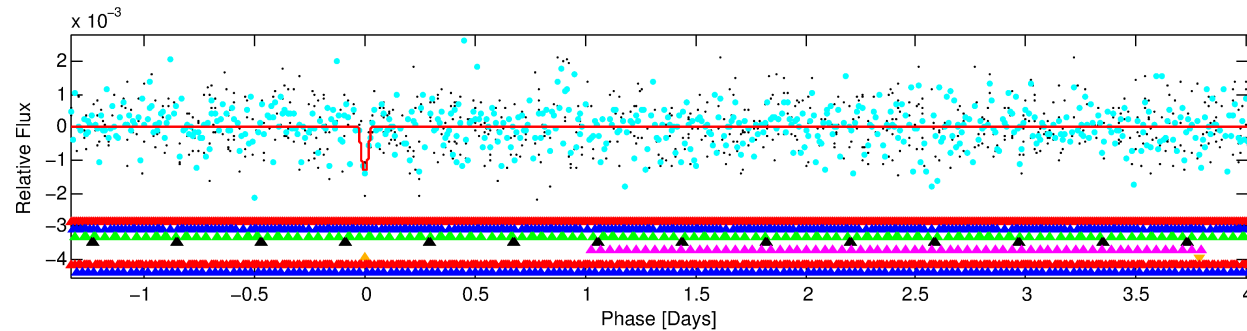
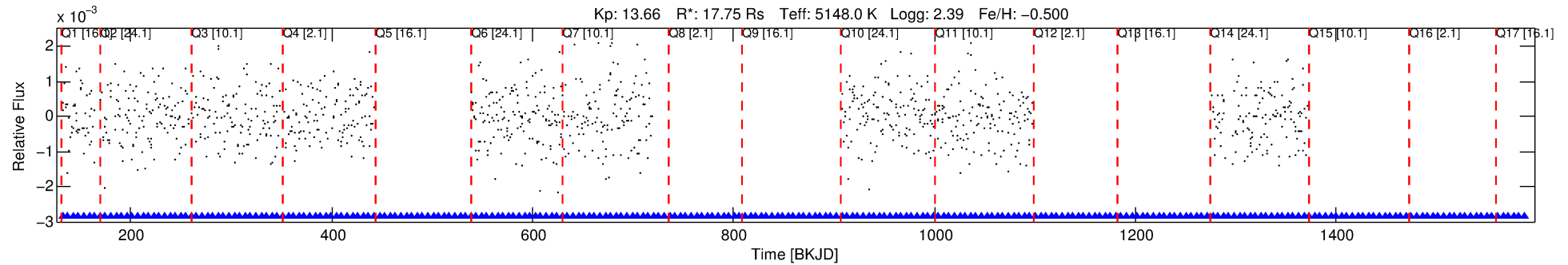
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012157971-06

No Significant Match Found

DV One-Page Summary

KIC: 12157971 Candidate: 6 of 8 Period: 5.349 d



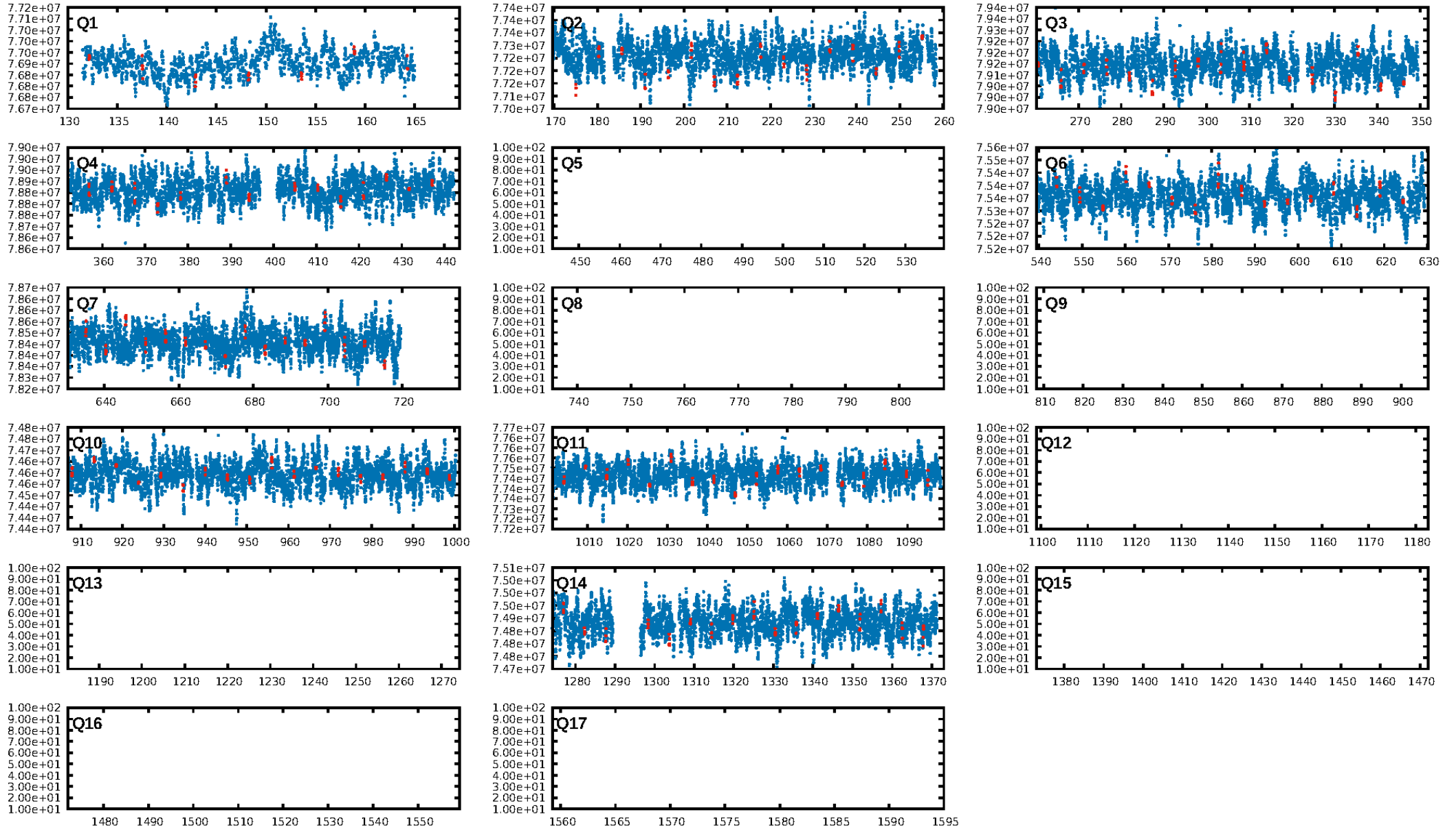
DV Fit Results:

Period = 5.34944 [0.00005] d
Epoch = 132.1804 [0.0045] BKJD
Rp/R* = 0.0331 [0.1000]
a/R* = 42.69 [507.20]
b = 0.02 [721.58]
Seff = N/A
Teq = N/A
Rp = 64.01 [194.86] Re
a = N/A
Ag = N/A
Teffp = N/A

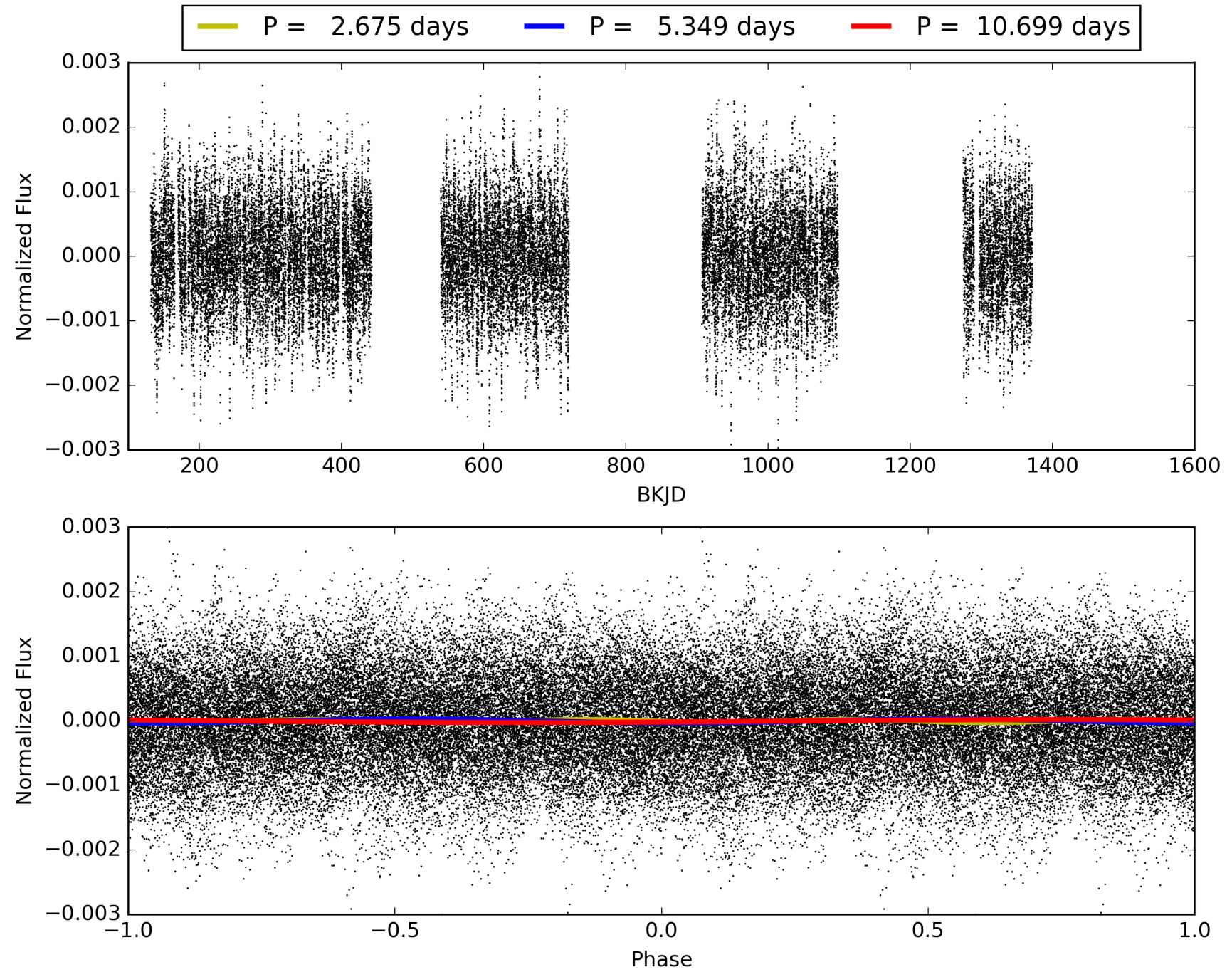
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [3.64 σ]
LongPeriod-sig: 100.0% [28.44 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 25.5%
Bootstrap-pfa: 1.44e-43
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: -0.3031
Centroid-sig: 0.7%
Centroid-so: 0.195 arcsec [1.35 σ]
OotOffset-rm: 0.192 arcsec [0.09 σ]
OotOffset-st: 3/2/1/0 [6]
KicOffset-rm: 0.072 arcsec [0.03 σ]
KicOffset-st: 3/2/1/0 [6]
DiffImageQuality-fgm: 0.33 [2/6]
DiffImageOverlap-fno: 0.00 [0/9]

TCE 012157971-06, PDC Light Curves

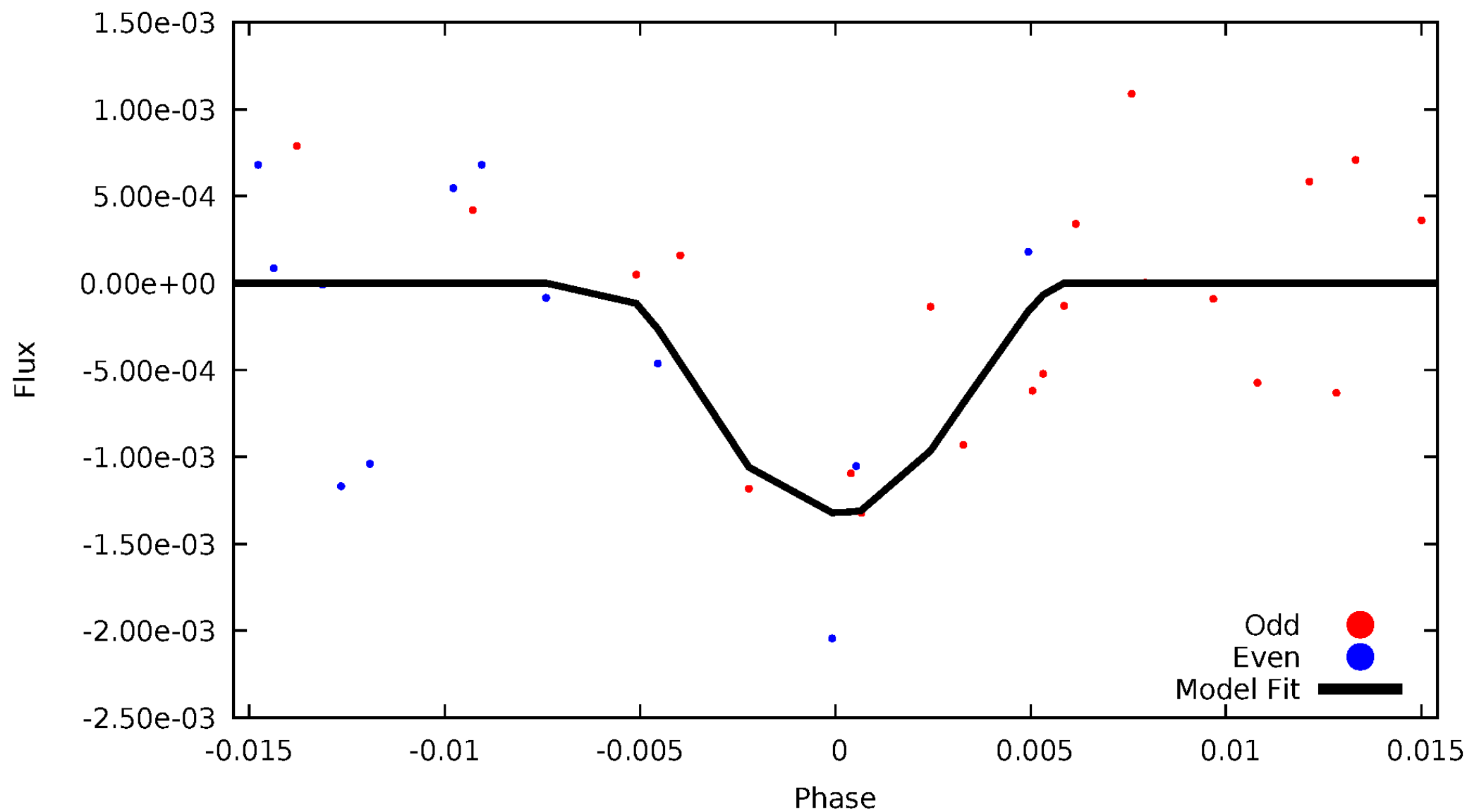


TCE 012157971-06



DV Odd/Even

TCE 012157971-06

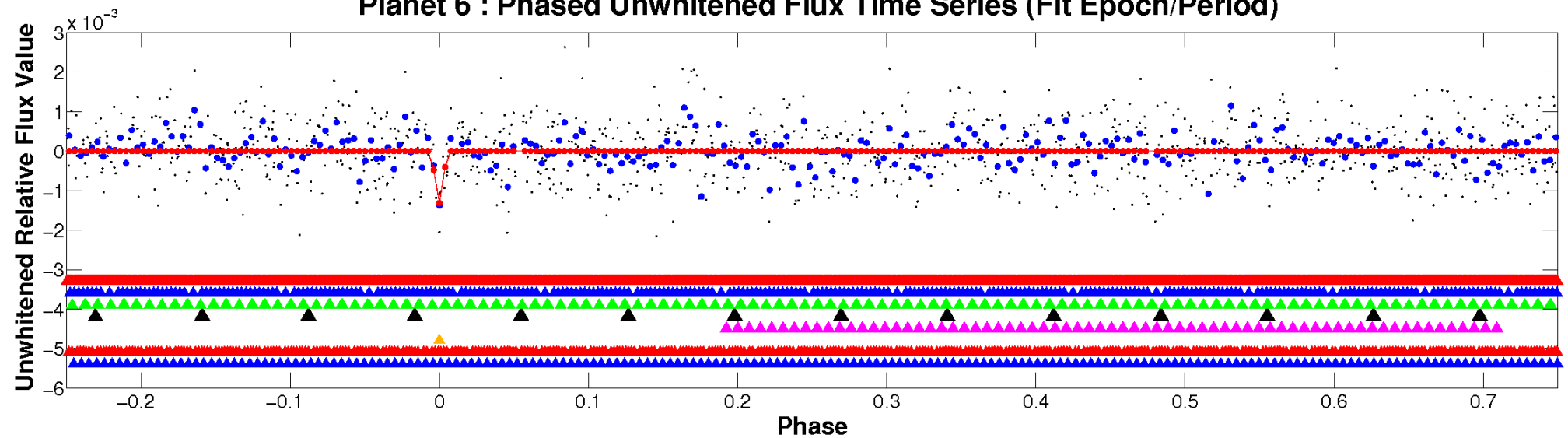


ALT Odd/Even

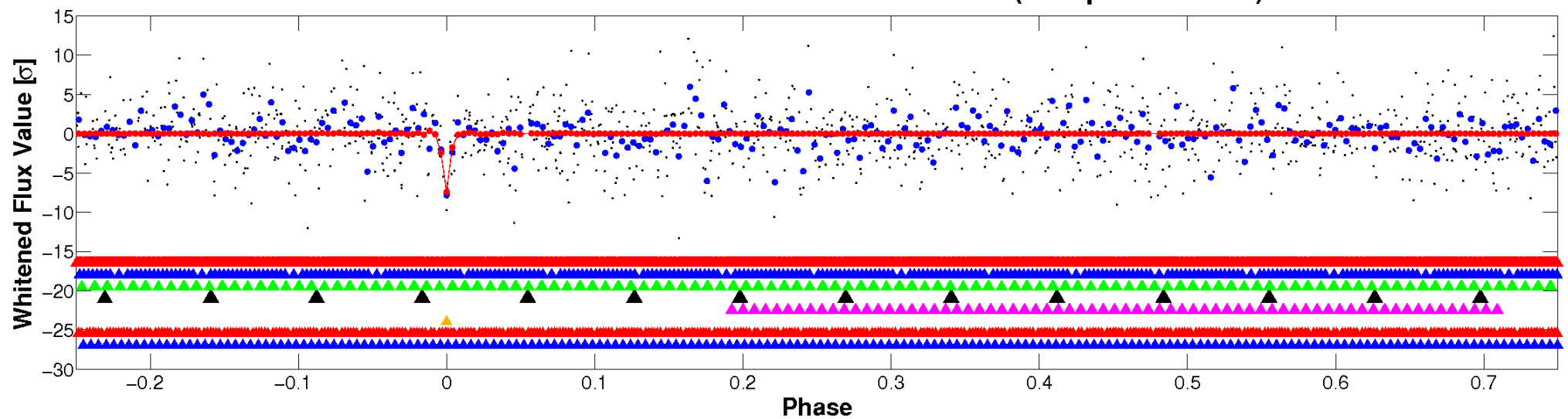
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

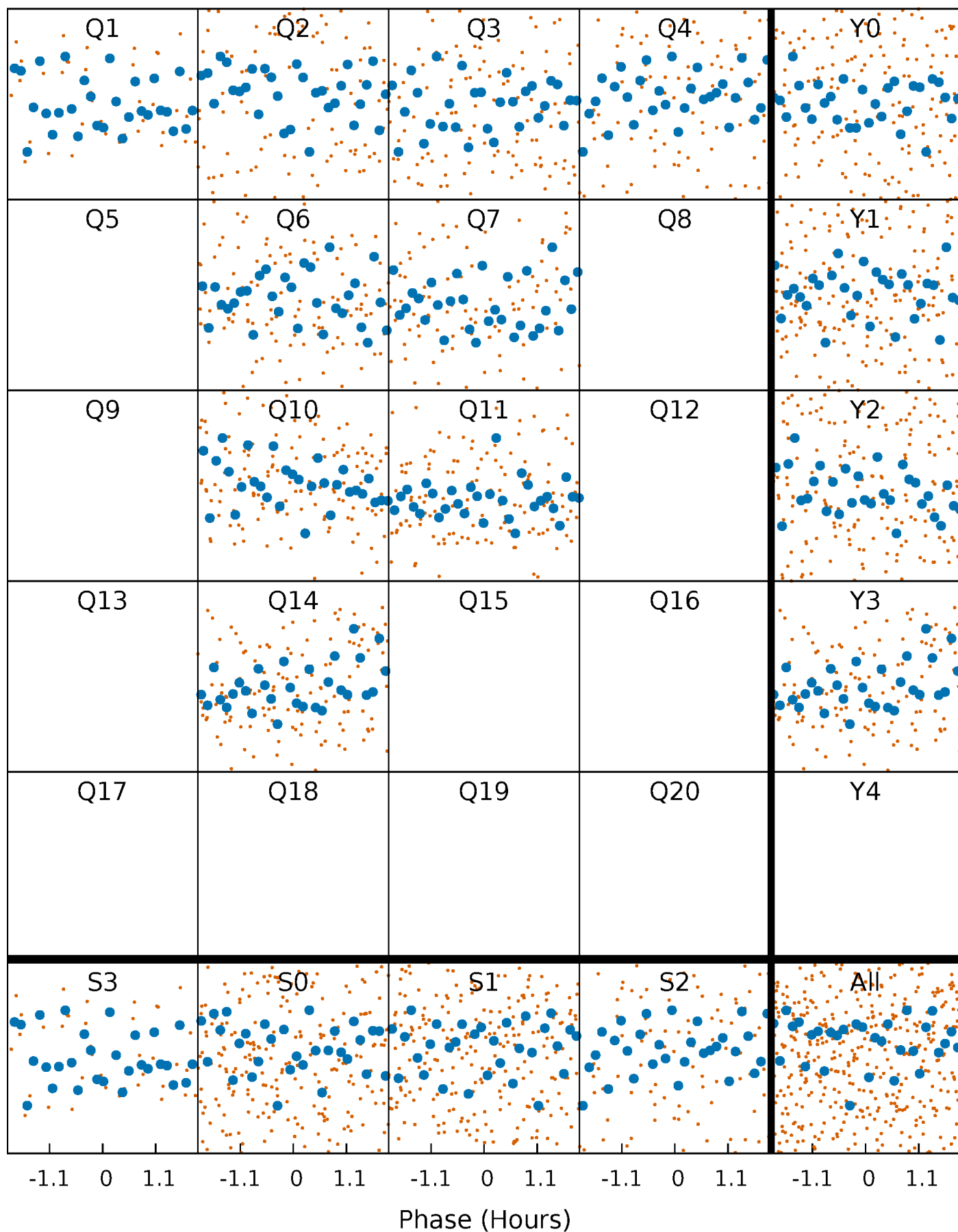


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



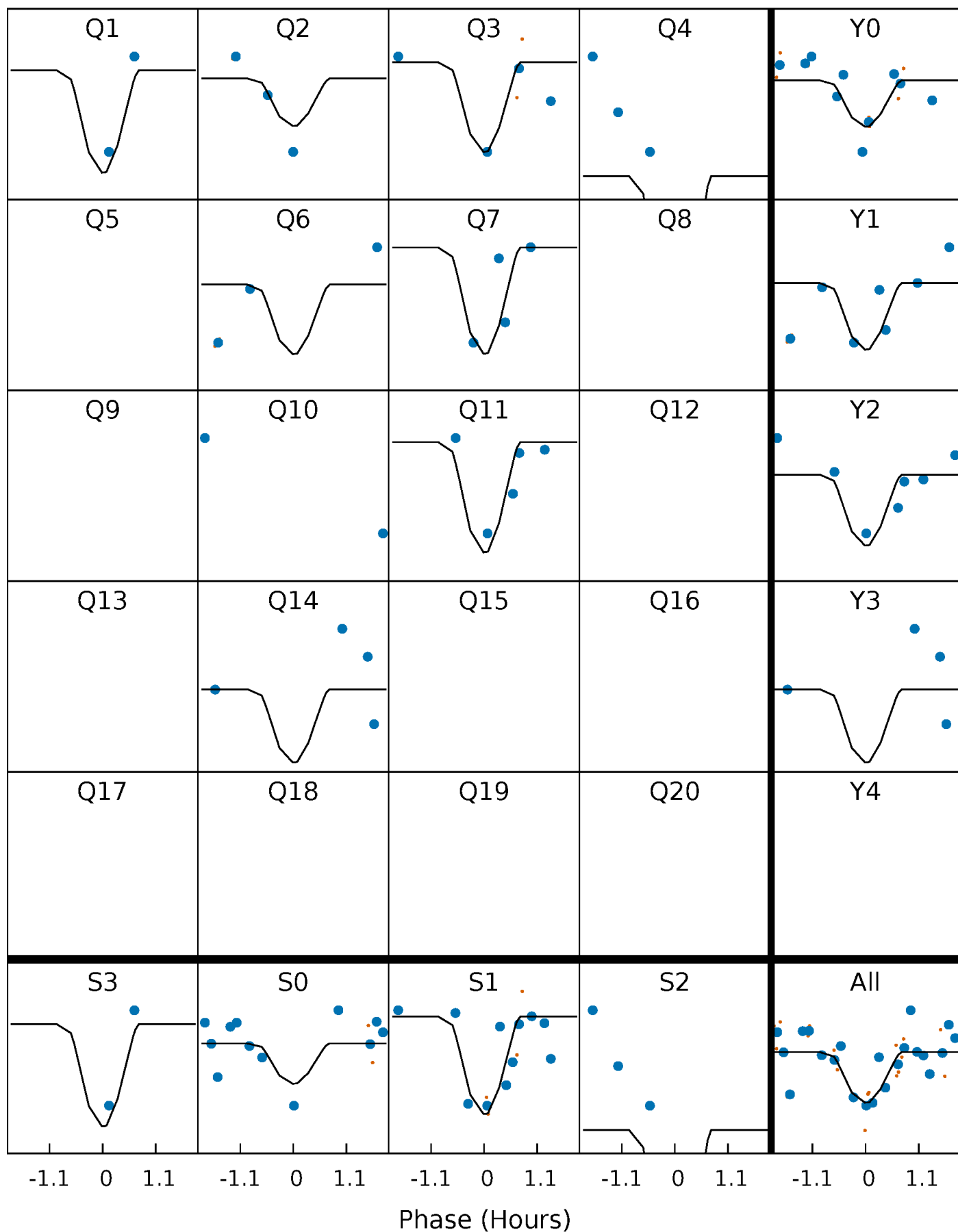
PDC Quarter-Phased Transit Curves

TCE 012157971-06 P= 5.349443 Days $T_0=132.180360$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 012157971-06 P= 5.349443 Days $T_0=132.180360$ (BKJD)

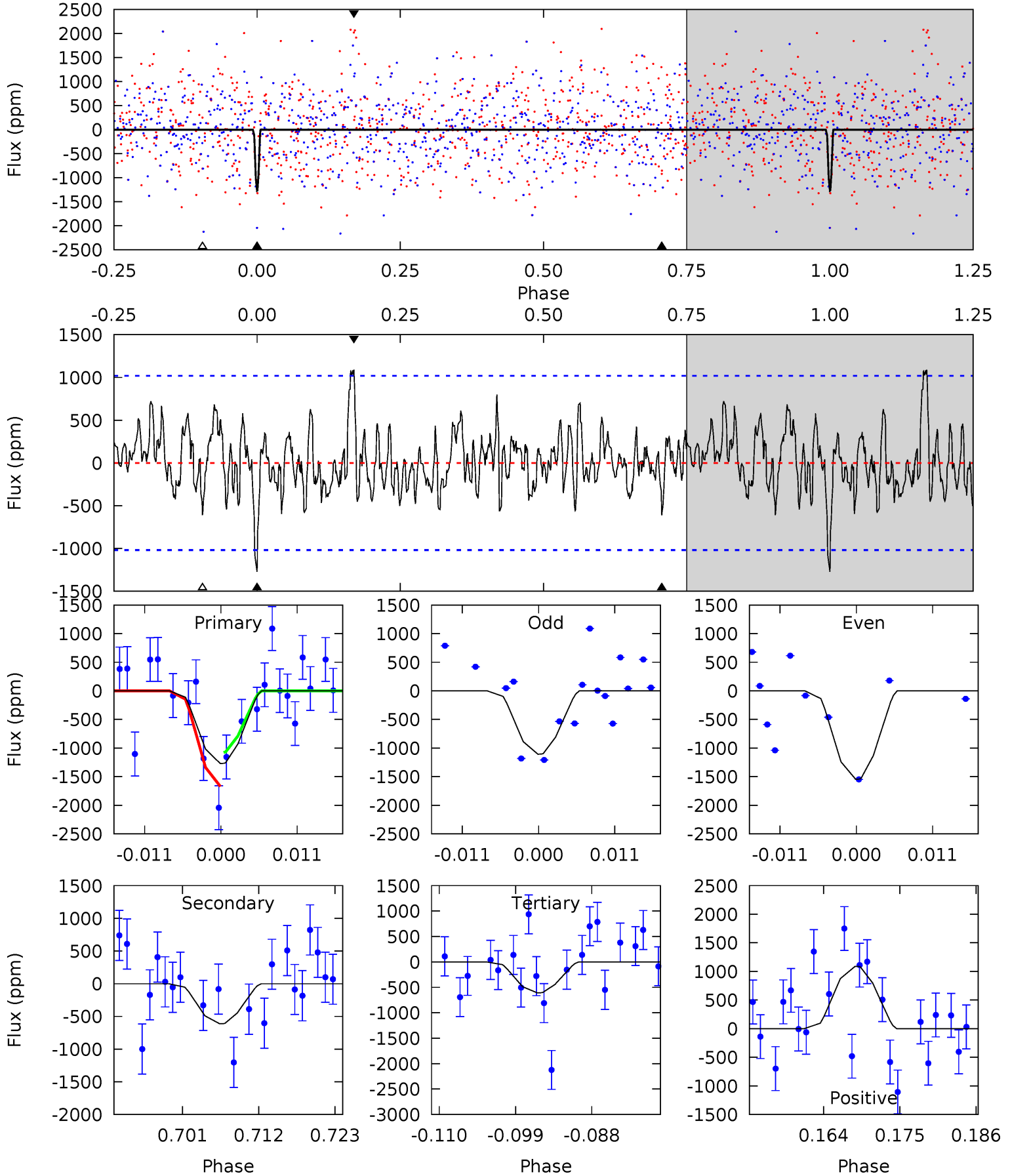


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

012157971-06, P = 5.349443 Days, E = 126.830917 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.25	3.01	2.99	5.36	5.01	2.54	1.39	3.26	0.89	0.02	-2.35	1.04	0	0.46	1.41



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 012157971

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5148^{+137}_{-321}	$2.389^{+0.033}_{-0.030}$	$-0.500^{+0.250}_{-0.250}$	$17.748^{+1.606}_{-6.022}$	$2.812^{+0.301}_{-1.605}$	$0.001^{+0.000}_{-0.000}$
	+3%/-6%	+1%/-1%	+50%/-50%	+9%/-34%	+11%/-57%	+55%/-14%
Source	PHO1	AST9	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 012157971-06 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-612 ± 203	$160.12^{+144.79}_{-108.27}$	4579^{+175}_{-273}	-3643^{+8230}_{-345}	$0.096^{+0.862}_{-0.074}$
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 $A_{obs} \gg 1.0$

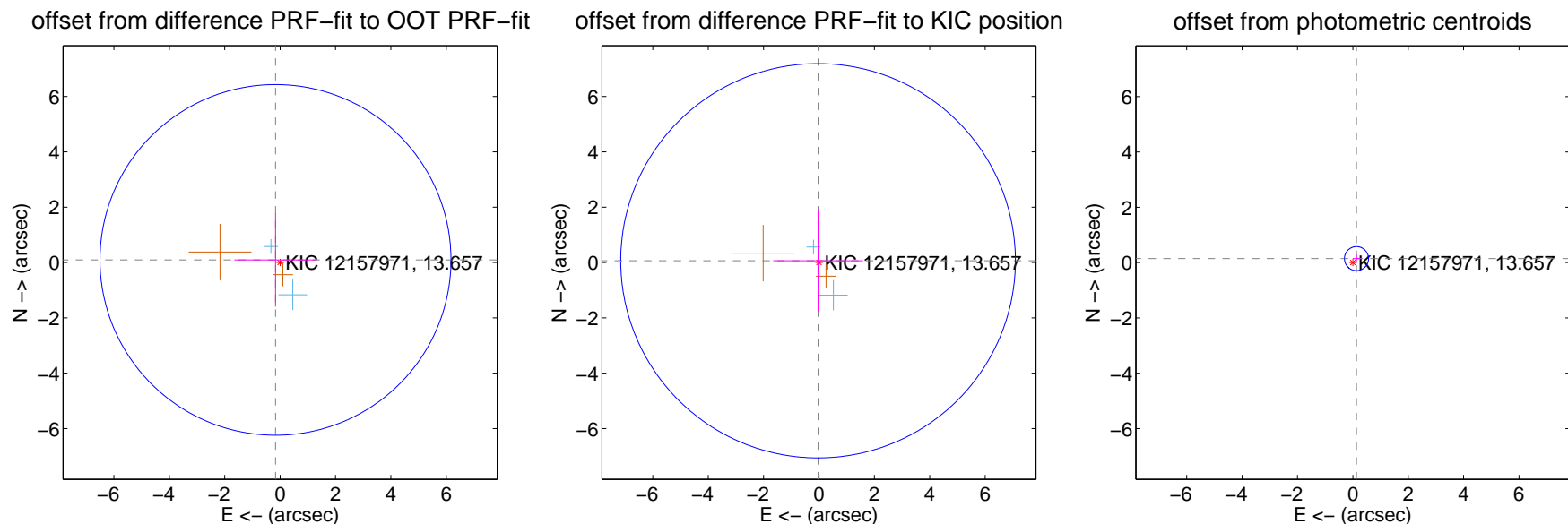
DV Centroid Data

Supplemental centroid analysis for 012157971-06. Kepler magnitude: 13.66. Transit SNR 16.50

There are 2 quarters with good PRF difference image offsets

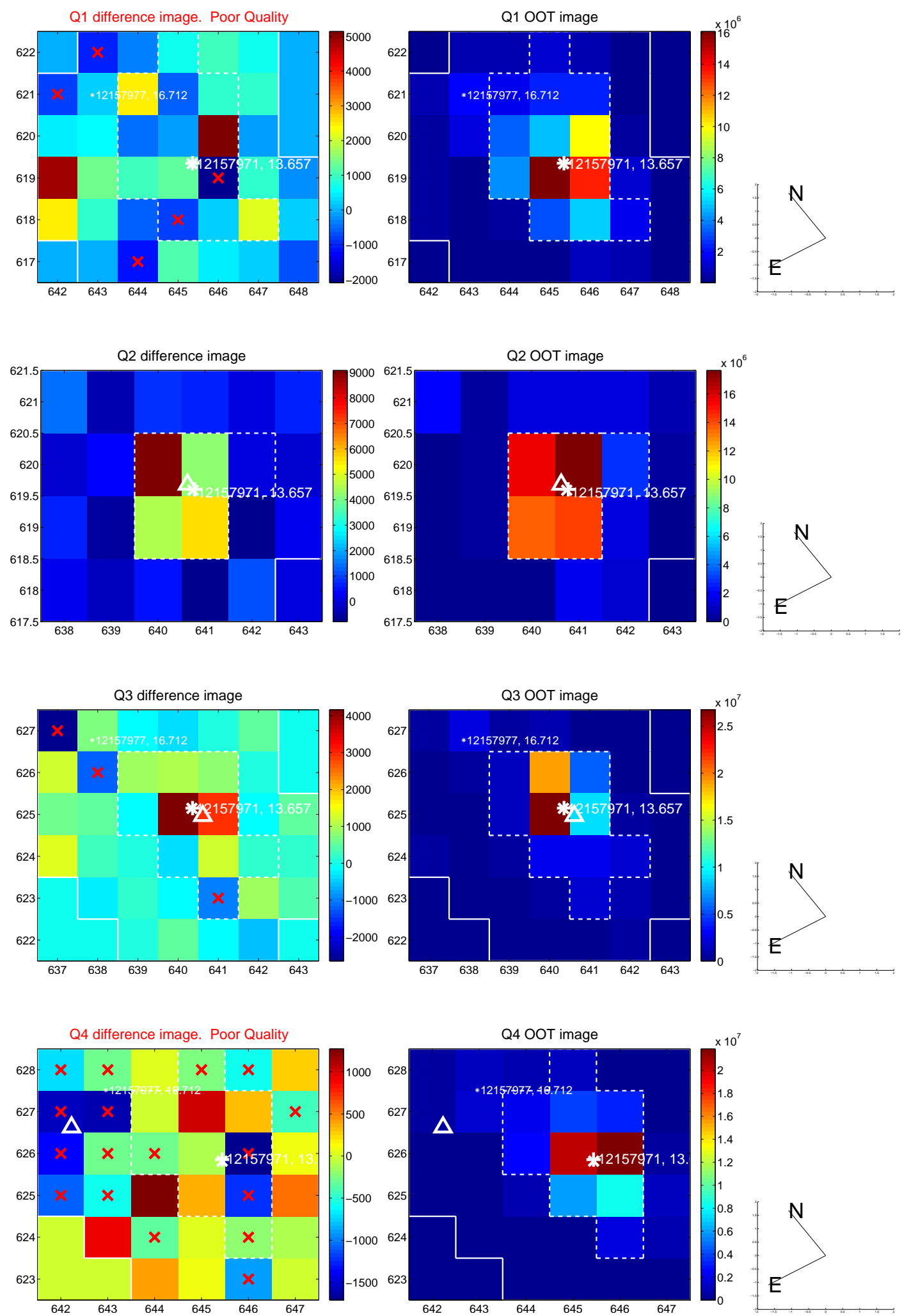
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.192 ± 2.112	0.09	0.167 ± 1.483	0.095 ± 1.689
PRF-fit source offset from KIC position	0.072 ± 2.375	0.03	0.033 ± 1.623	0.064 ± 1.840
photometric centroid source offset	0.20 ± 0.14	1.35	-0.13 ± 0.14	0.14 ± 0.15

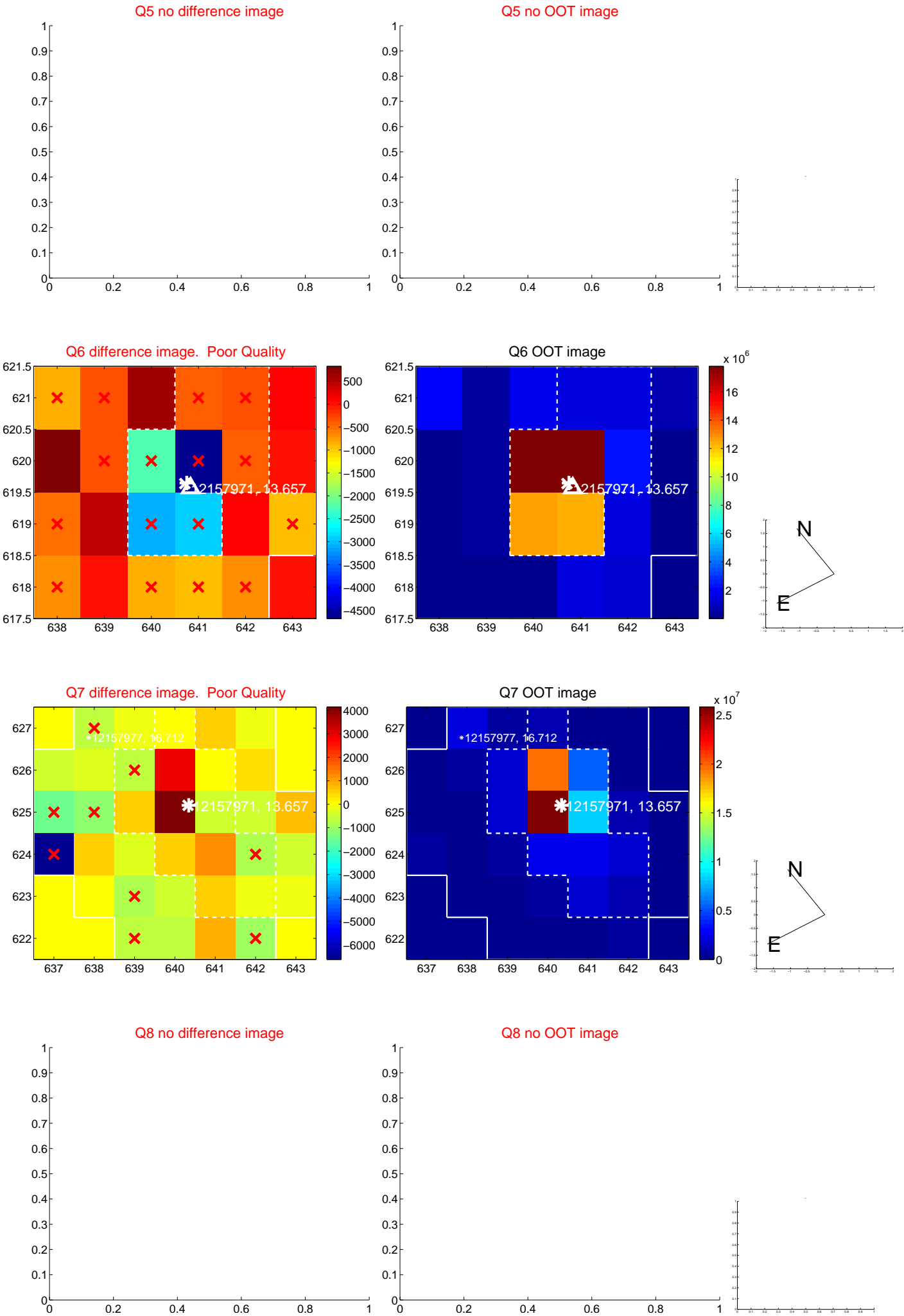


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

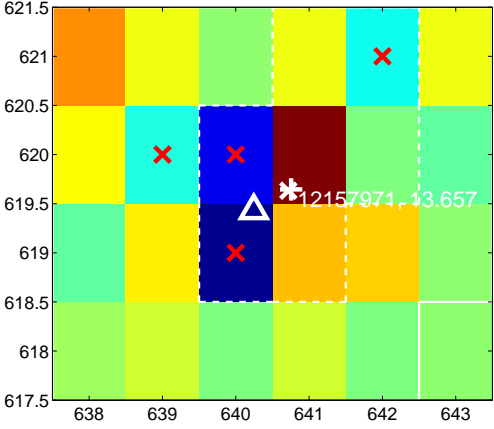
Q9 no difference image



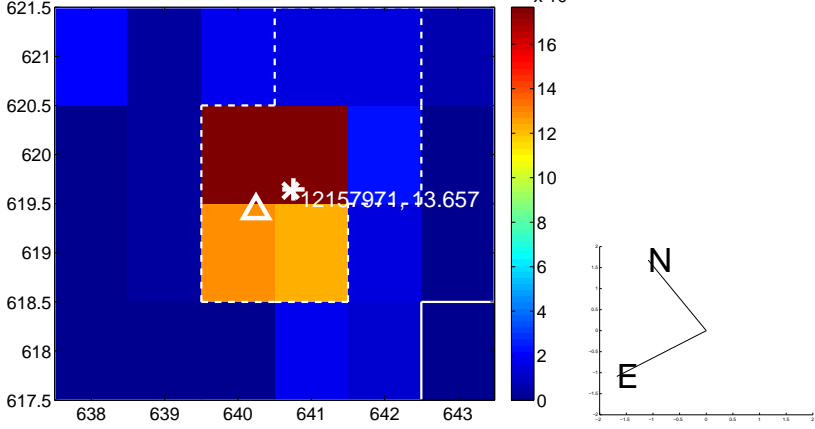
Q9 no OOT image



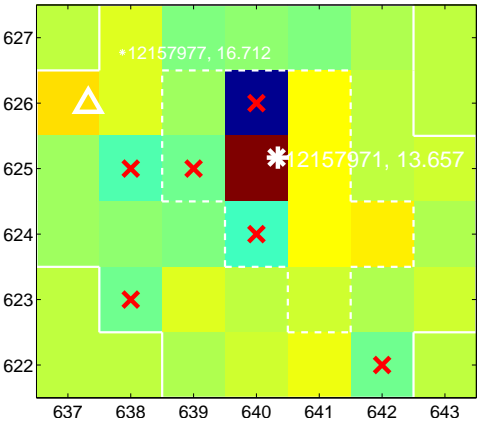
Q10 difference image. Poor Quality



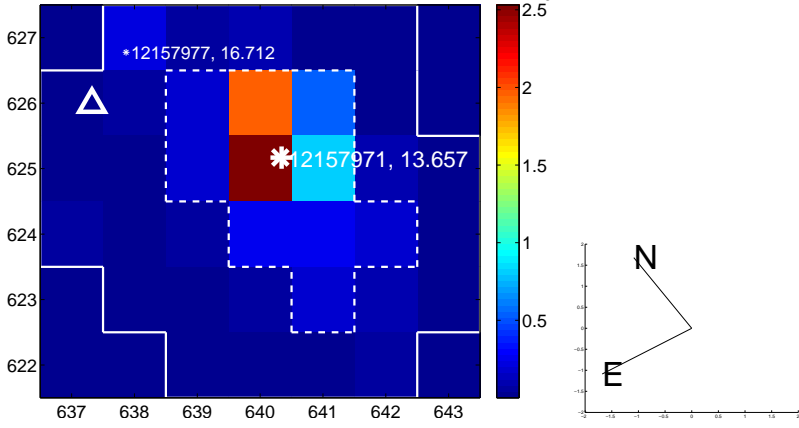
Q10 OOT image



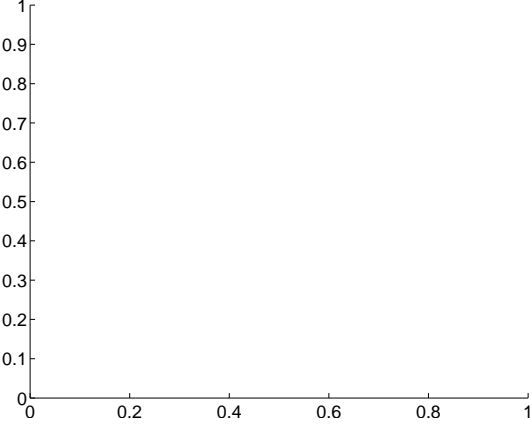
Q11 difference image. Poor Quality



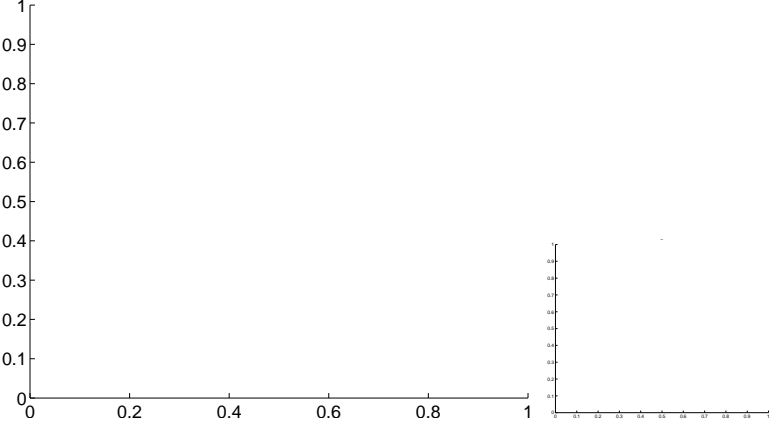
Q11 OOT image



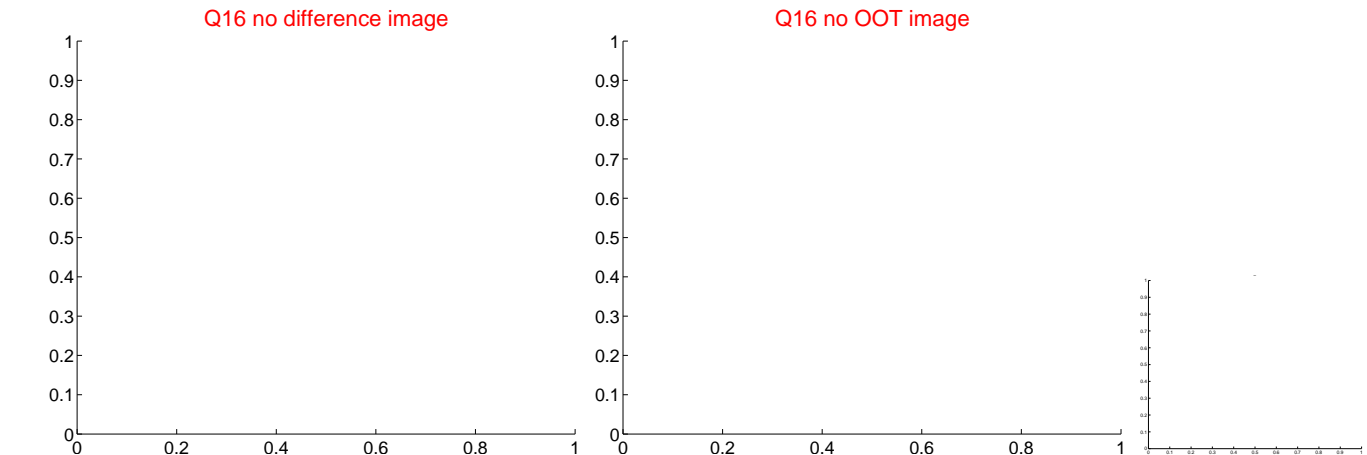
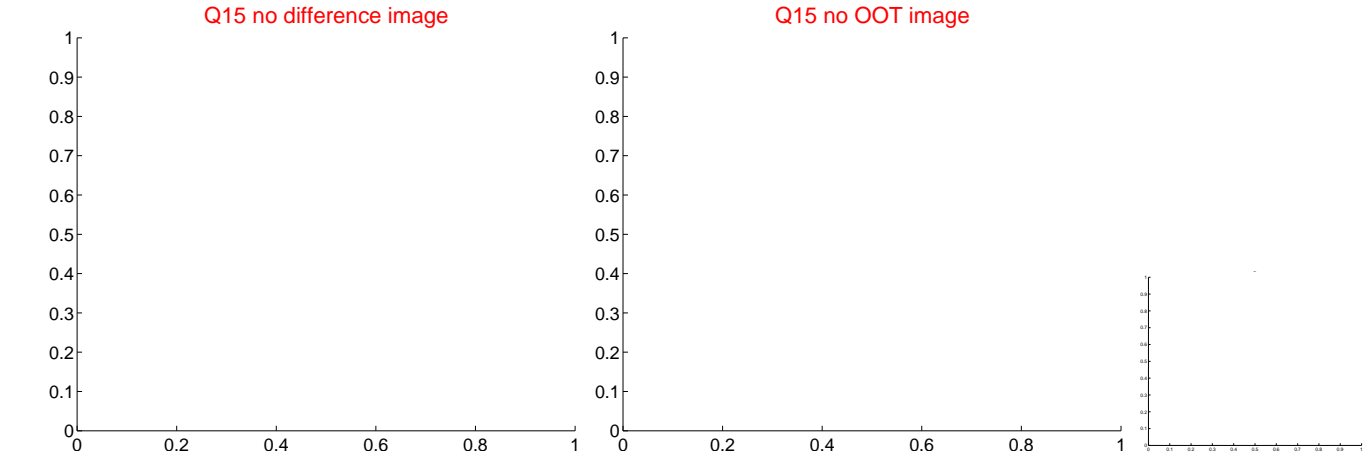
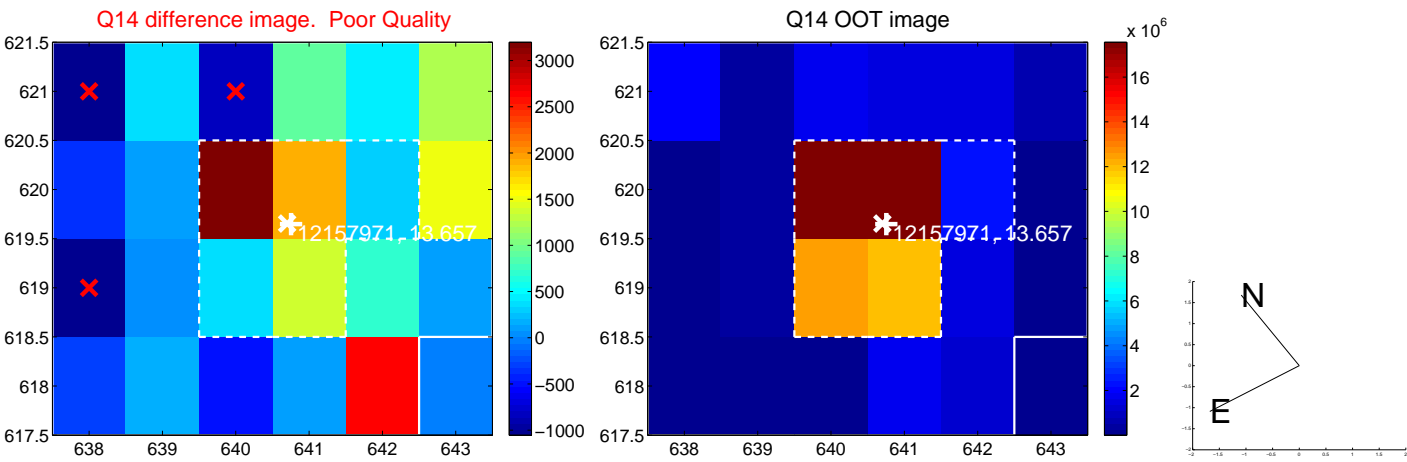
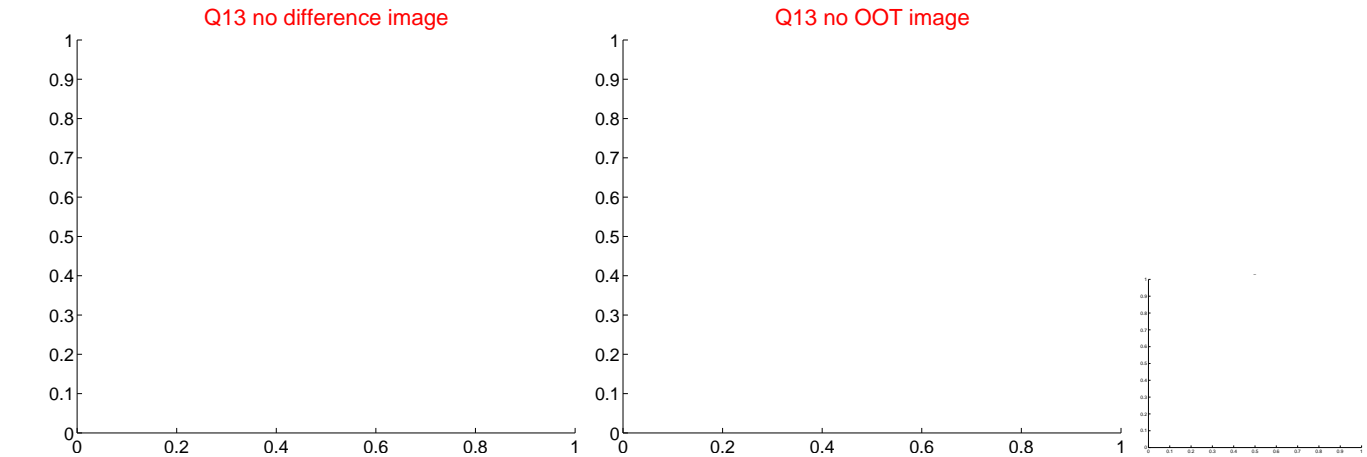
Q12 no difference image



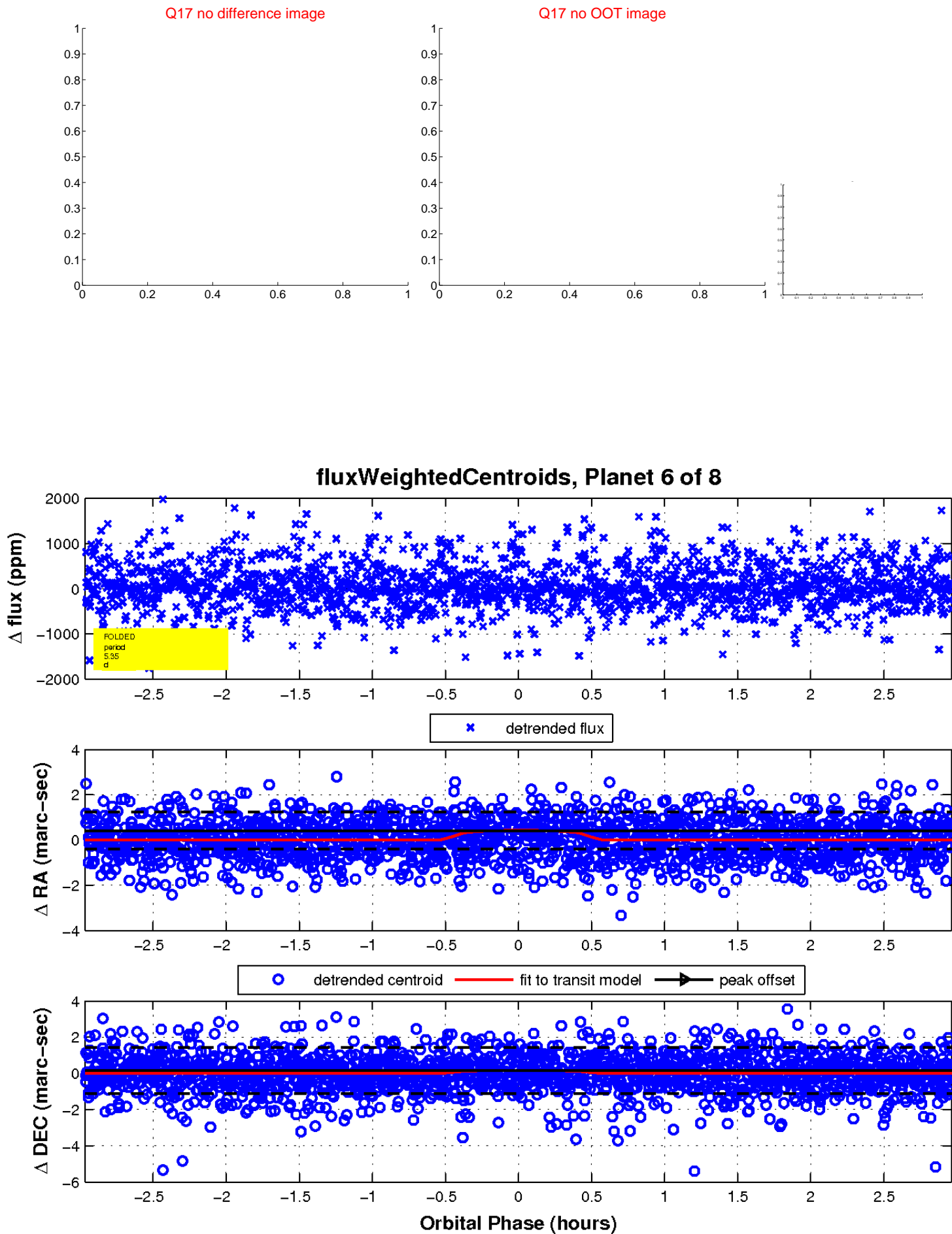
Q12 no OOT image



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

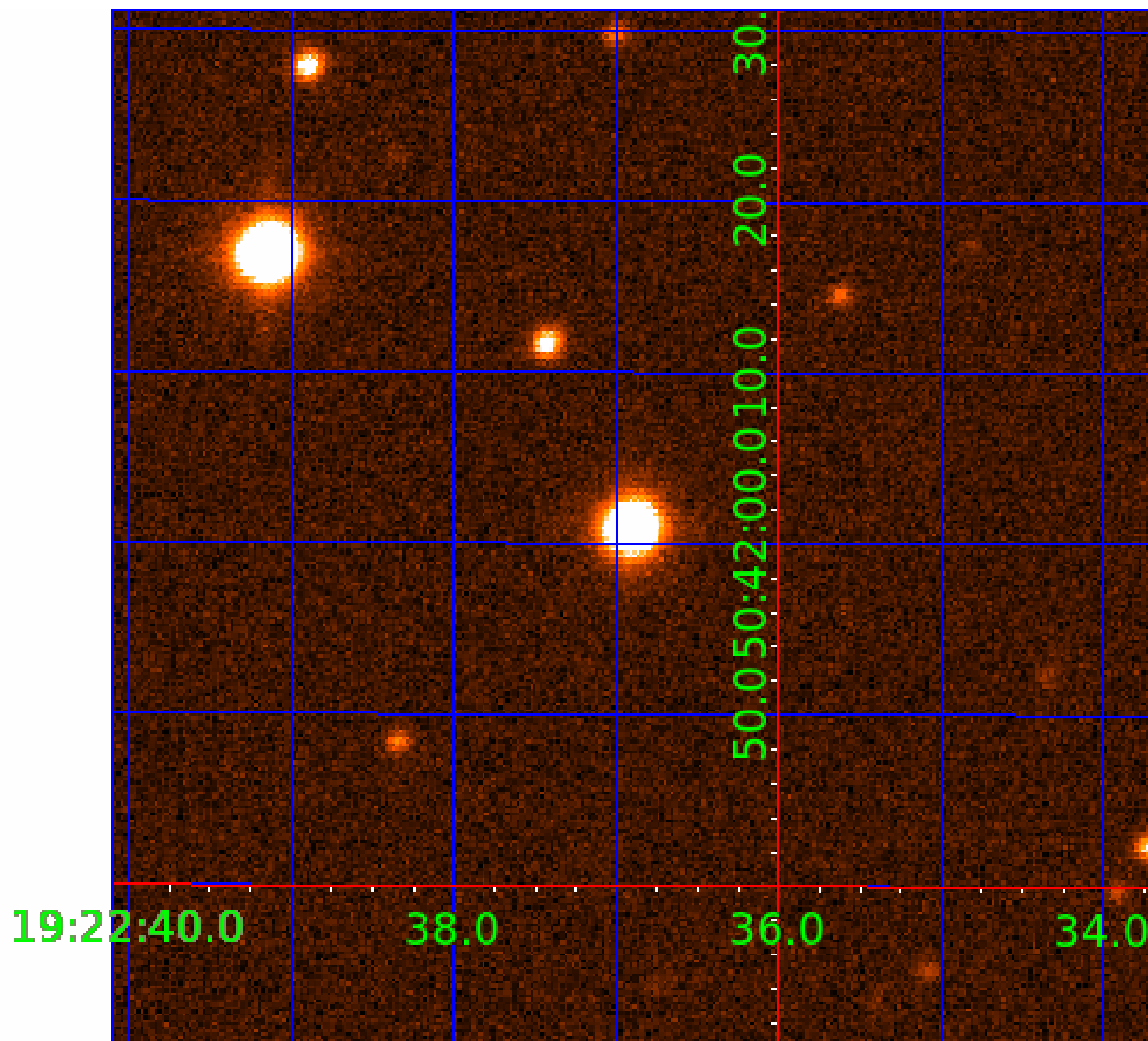


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 012157971

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})
012157971-01	OBS	No	0.577848	131.920185	52.4	4.288	9.0	6.1	17.75	5148	12.61	0.00
012157971-02	OBS	No	4.718238	134.106455	571.9	4.043	11.3	12.0	17.75	5148	49.62	0.00
012157971-03	OBS	No	7.516925	133.303825	482.7	1.671	8.5	8.1	17.75	5148	41.81	17626.30
012157971-04	OBS	No	35.535840	139.729746	822.8	1.500	12.4	-1.0	17.75	5148	50.22	2221.57
012157971-05	OBS	No	21.357134	135.973495	979.1	1.500	12.5	-1.0	17.75	5148	54.79	4380.17
012157971-06	OBS	No	5.349443	132.180360	1321.4	0.989	11.7	16.5	17.75	5148	64.01	0.00
012157971-07	OBS	No	3.259336	132.360994	597.7	1.500	10.4	-1.0	17.75	5148	42.80	53708.44
012157971-08	OBS	No	7.461779	132.625555	1456.5	1.483	11.7	16.3	17.75	5148	70.21	17800.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012157971-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
012157971-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
012157971-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_MEAS
012157971-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
012157971-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

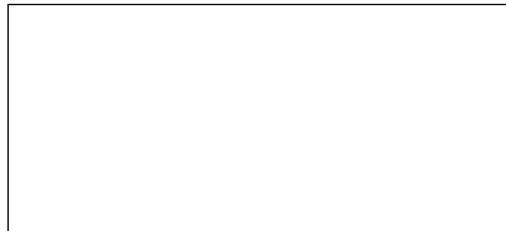
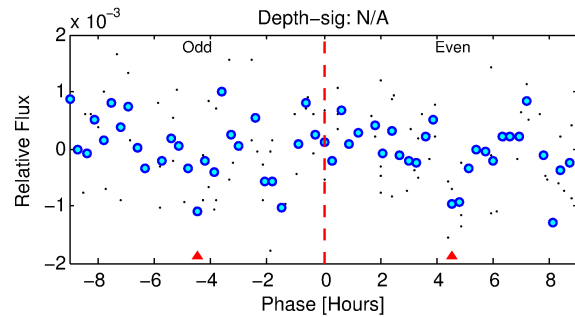
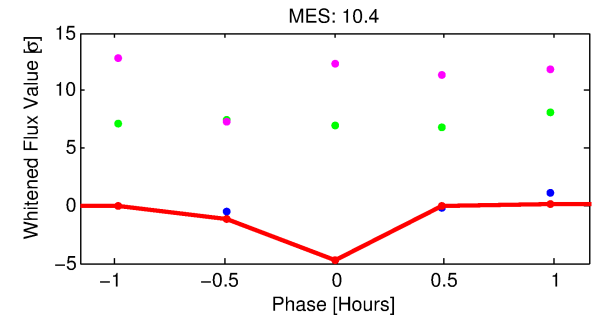
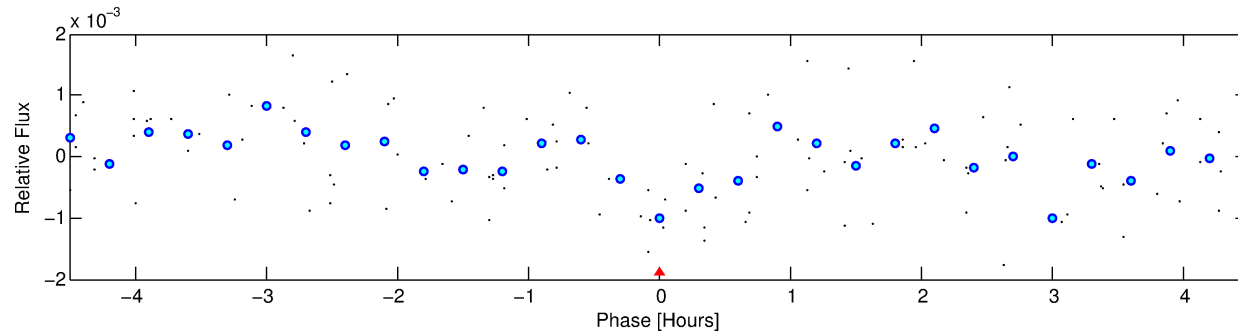
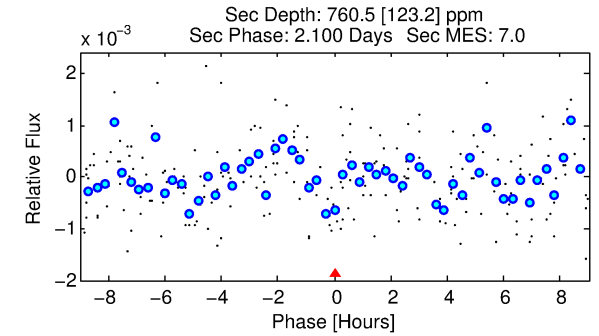
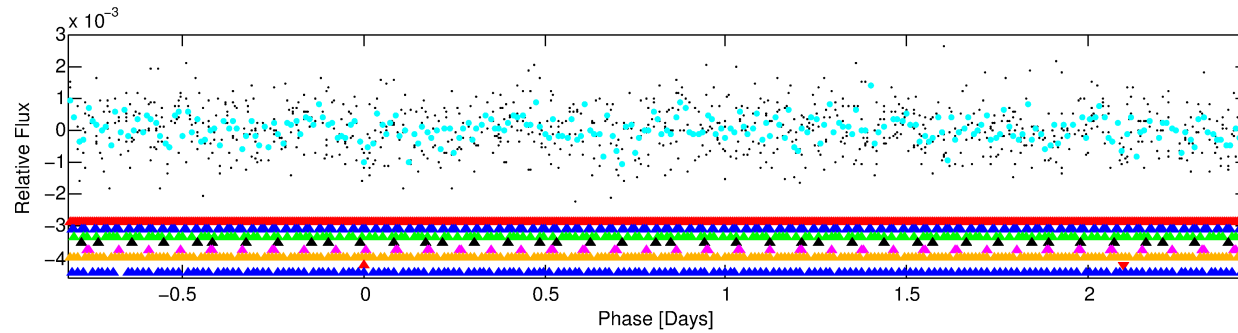
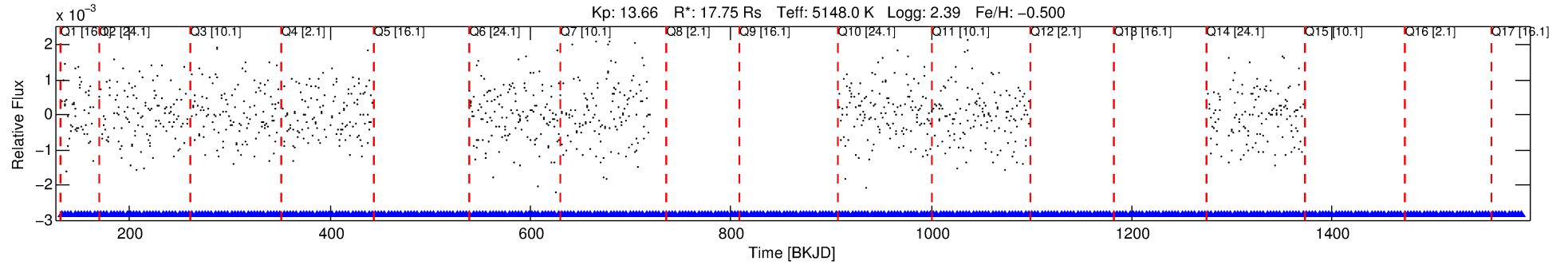
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012157971-07

No Significant Match Found

DV One-Page Summary

KIC: 12157971 Candidate: 7 of 8 Period: 3.259 d



TPS TCE Results:

Period = 3.25934 d
Epoch = 132.3610 BKJD

DV fit results are unavailable

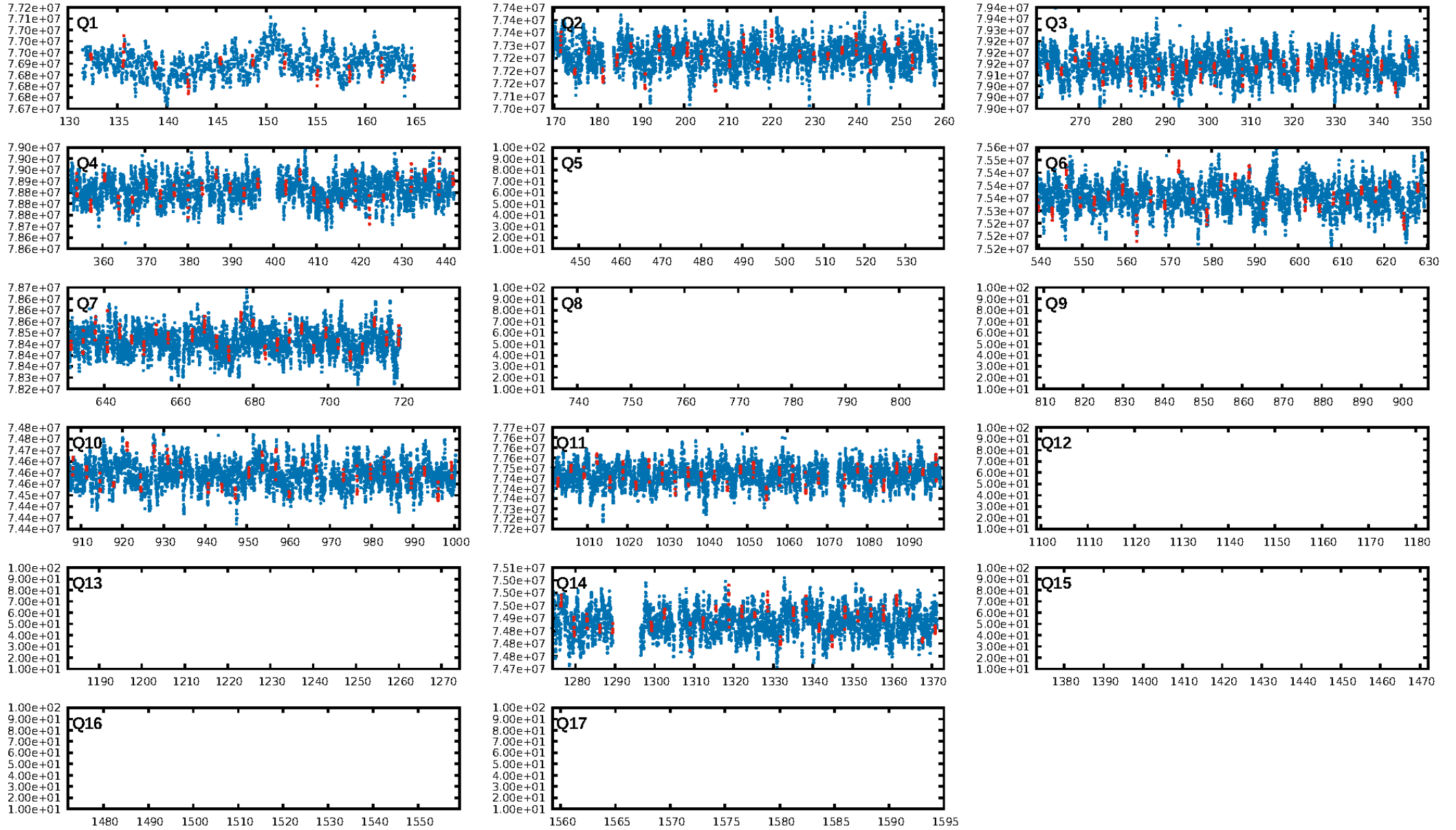
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [14.17σ]
LongPeriod-sig: 100.0% [8.12σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 3.61e-41
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]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

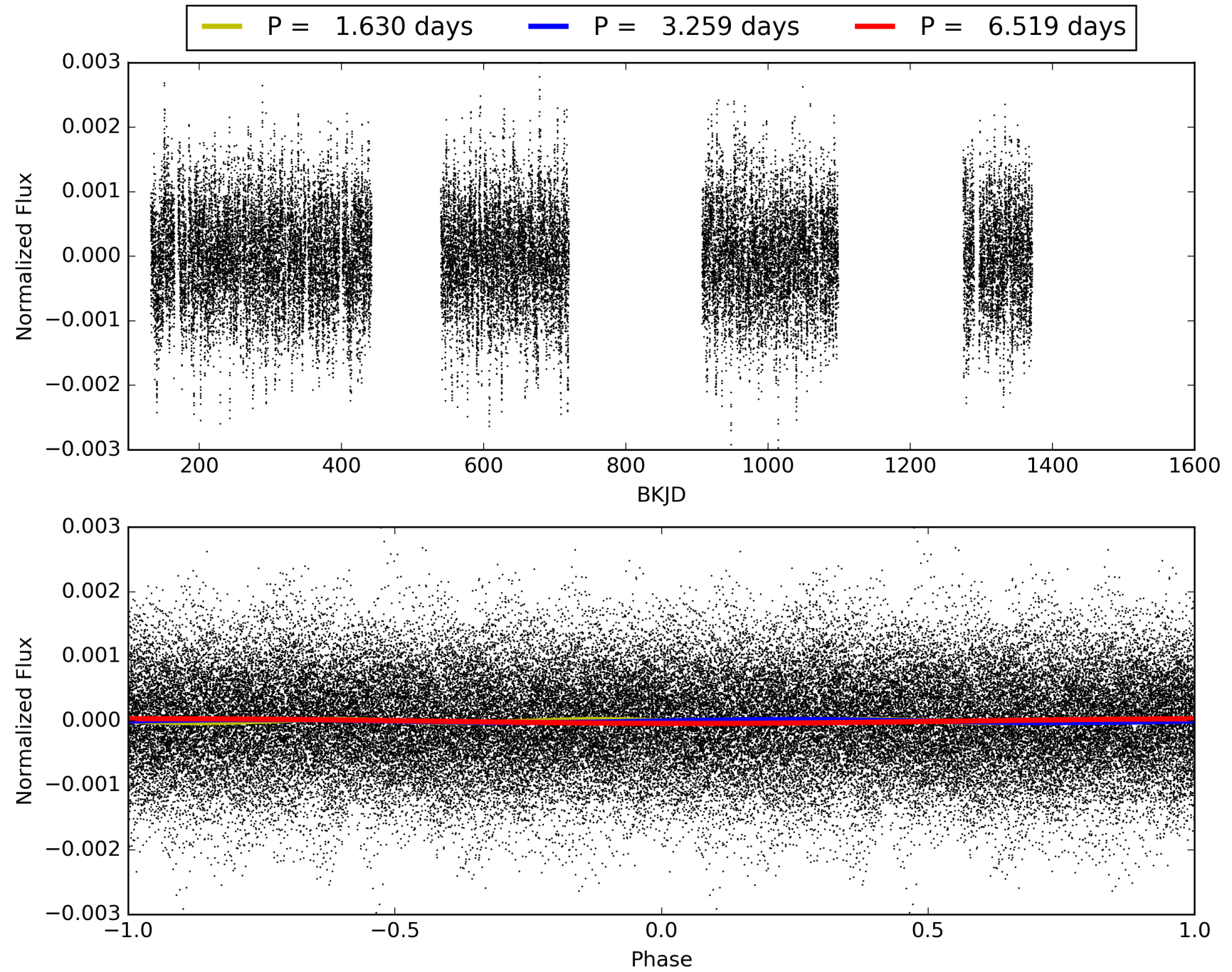
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:14:11 Z

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

TCE 012157971-07, PDC Light Curves

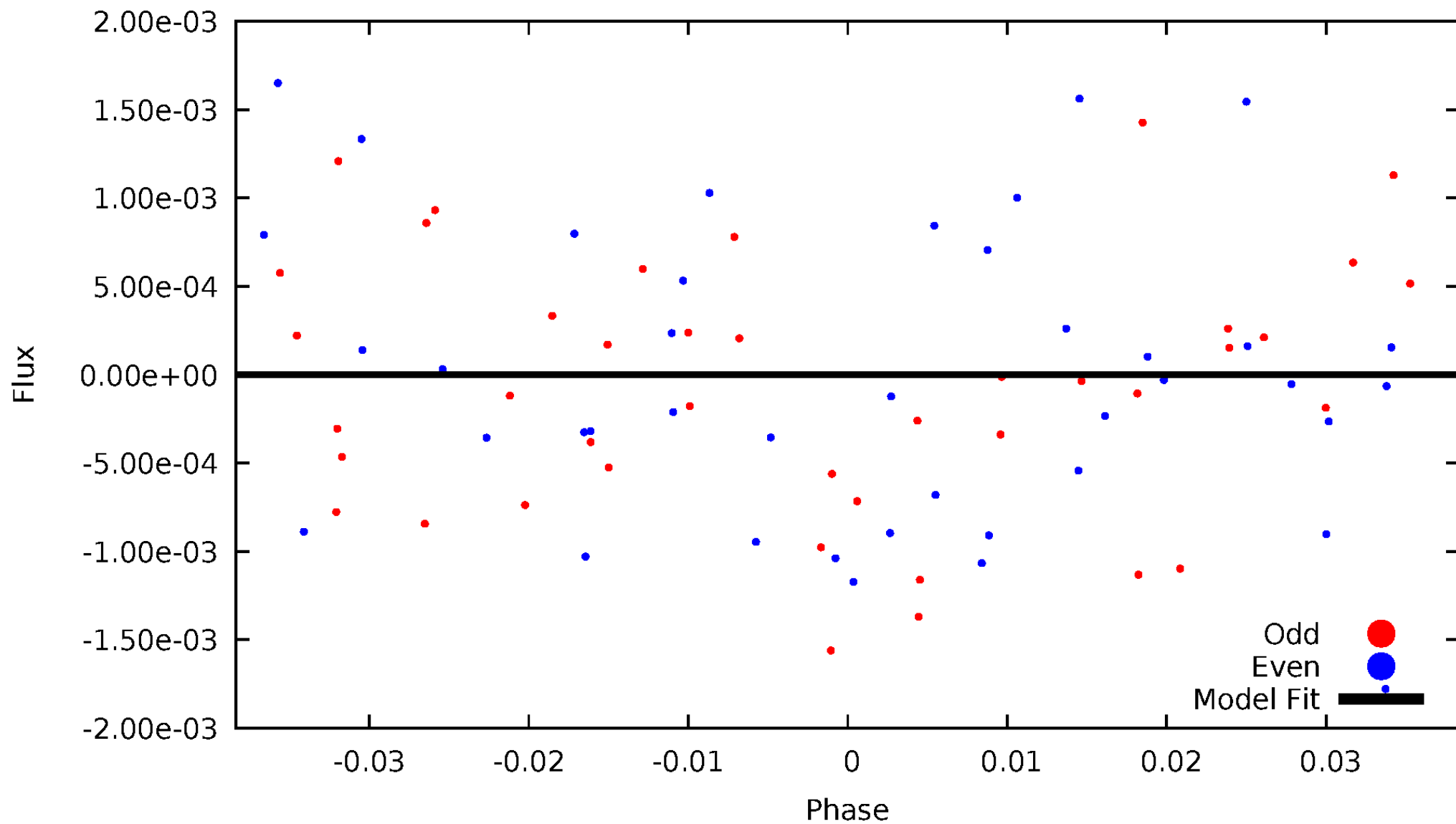


TCE 012157971-07



DV Odd/Even

TCE 012157971-07

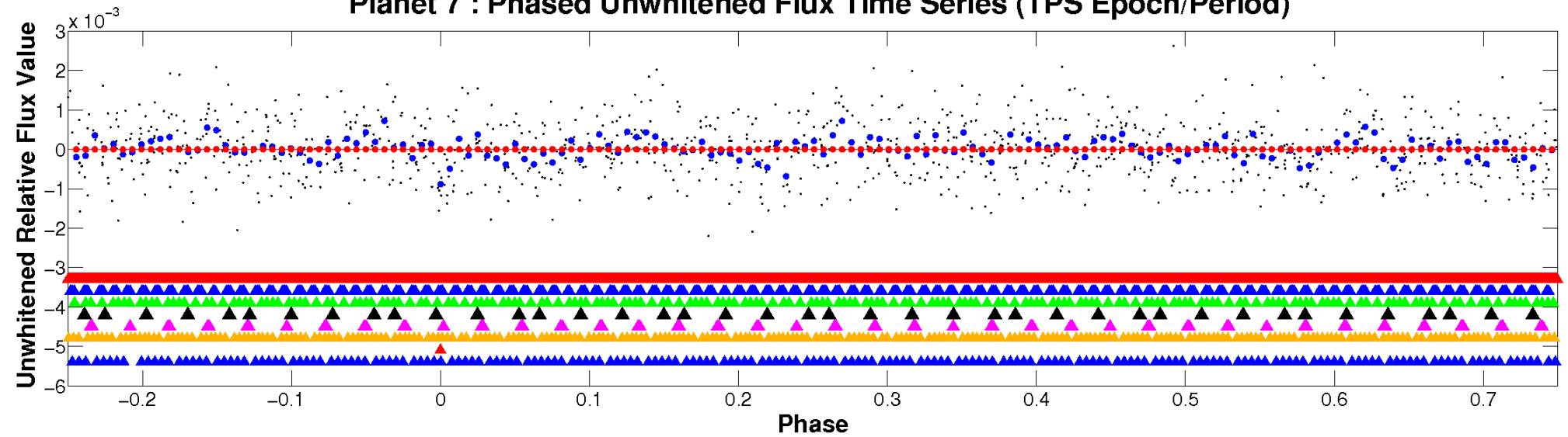


ALT Odd/Even

This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

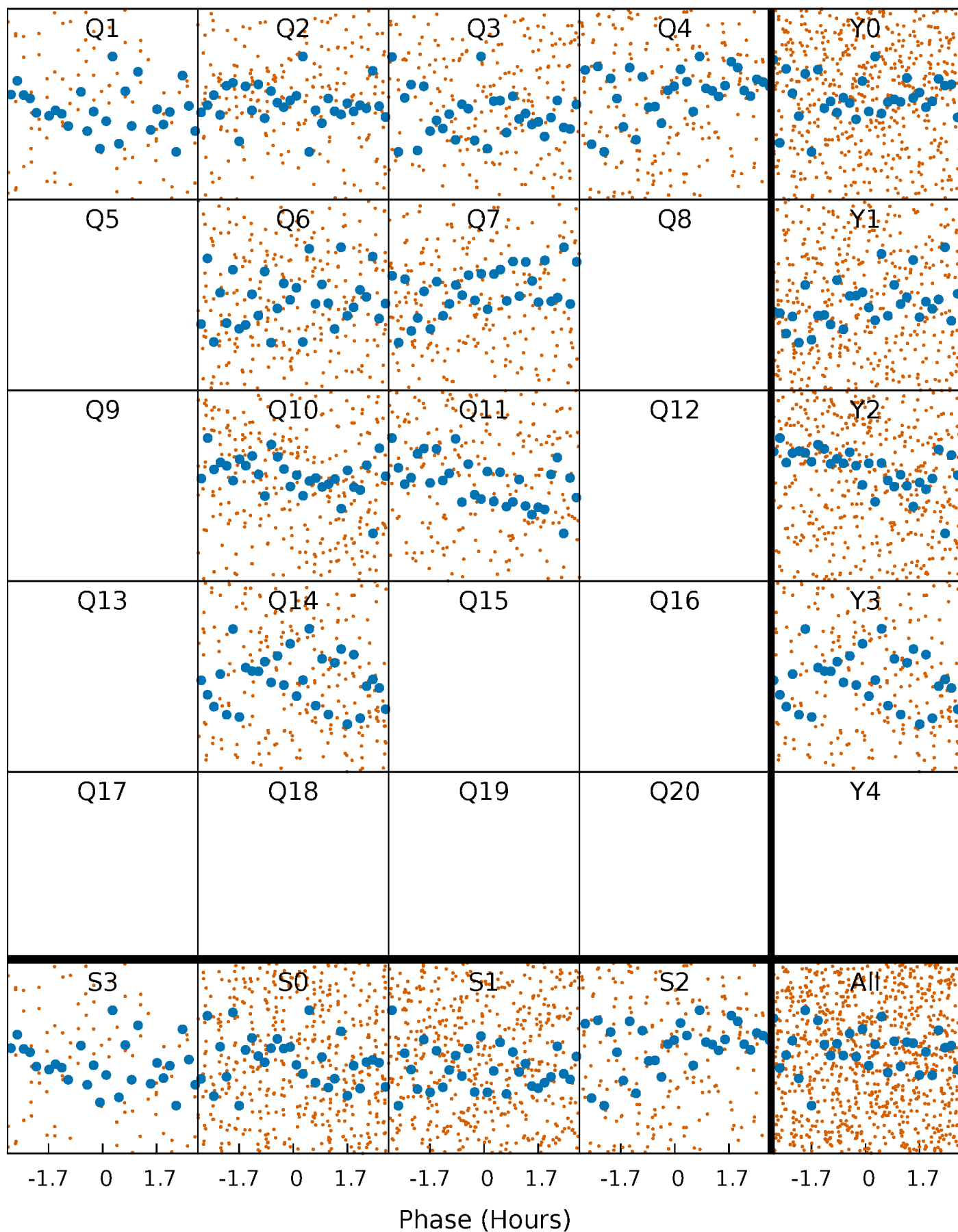


Planet 7 : Phased Whitened Flux Time Series (TPS Epoch/Period)



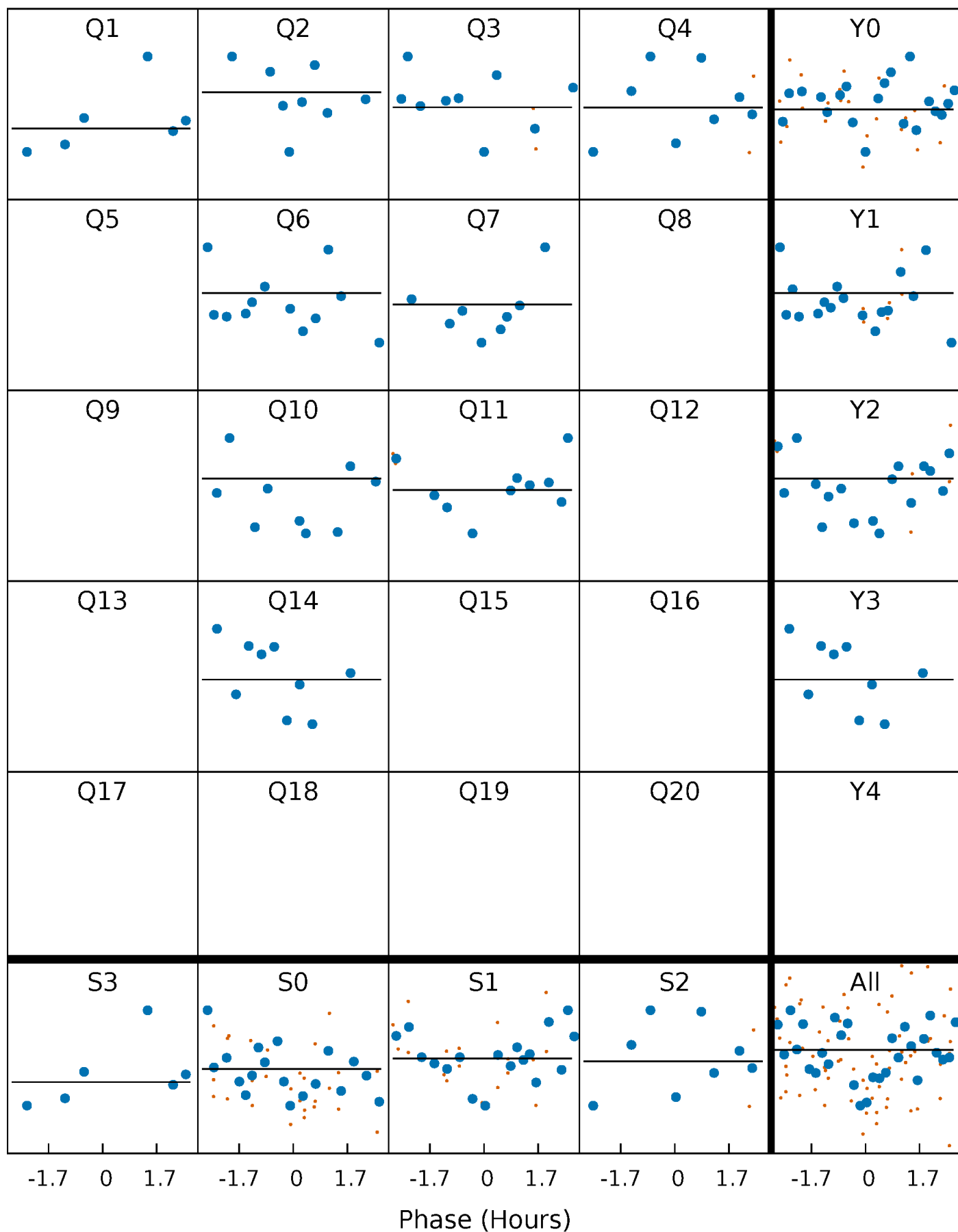
PDC Quarter-Phased Transit Curves

TCE 012157971-07 $P = 3.259336$ Days $T_0 = 132.360994$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 012157971-07 $P = 3.259336$ Days $T_0 = 132.360994$ (BKJD)

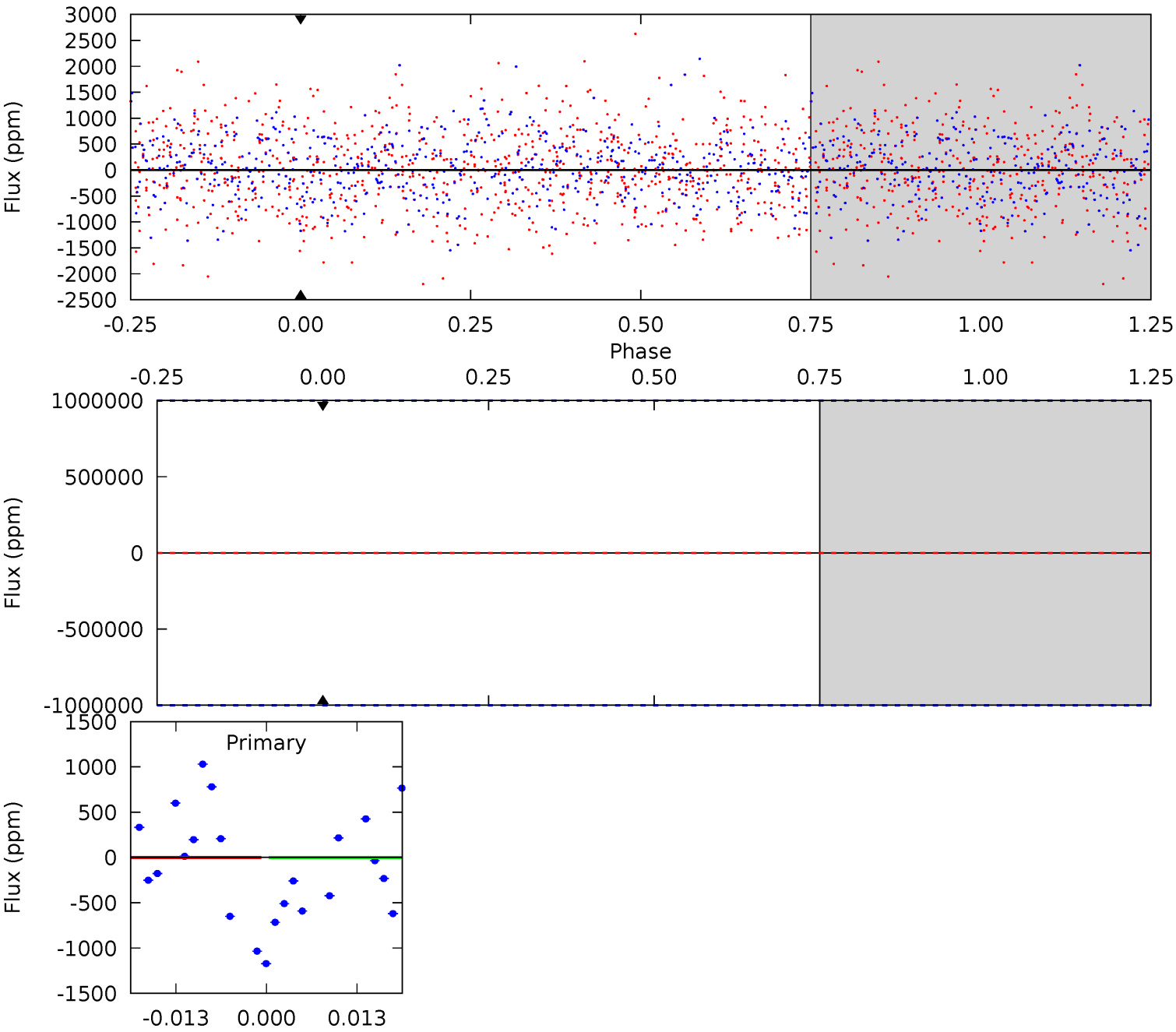


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

012157971-07, P = 3.259336 Days, E = 129.101658 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 012157971

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5148^{+137}_{-321}	$2.389^{+0.033}_{-0.030}$	$-0.500^{+0.250}_{-0.250}$	$17.748^{+1.606}_{-6.022}$	$2.812^{+0.301}_{-1.605}$	$0.001^{+0.000}_{-0.000}$
	+3%/-6%	+1%/-1%	+50%/-50%	+9%/-34%	+11%/-57%	+55%/-14%
Source	PHO1	AST9	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 012157971-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$138.28^{+173.58}_{-102.70}$	5417^{+194}_{-357}	-5127^{+21958}_{-9785}	$-0.289^{+20.832}_{-16.661}$
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 $A_{obs} \gg 1.0$

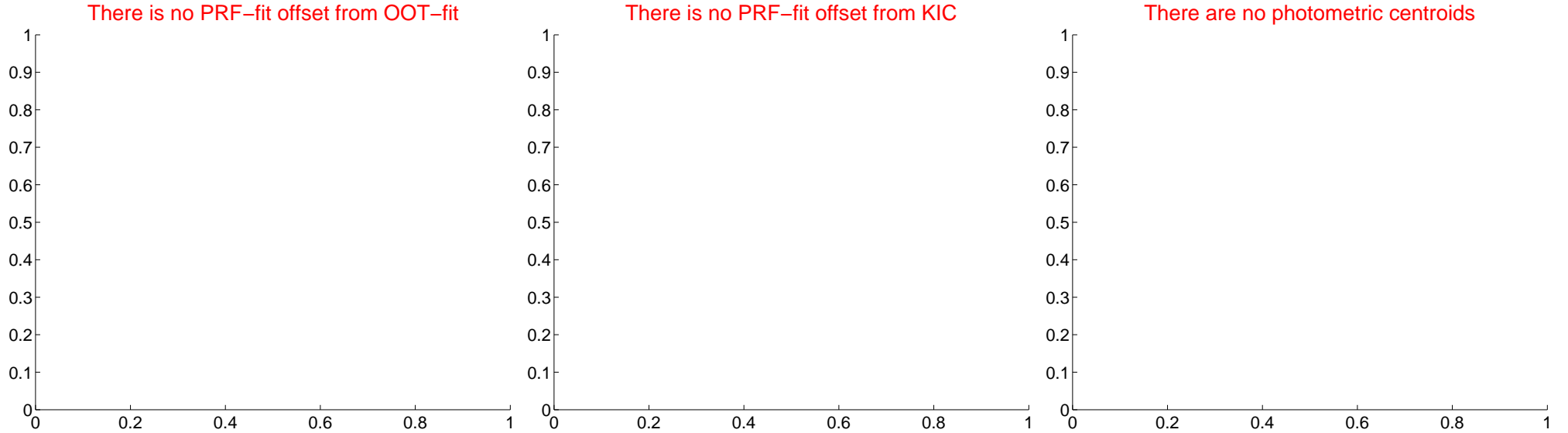
DV Centroid Data

Supplemental centroid analysis for 012157971-07. Kepler magnitude: 13.66. 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.



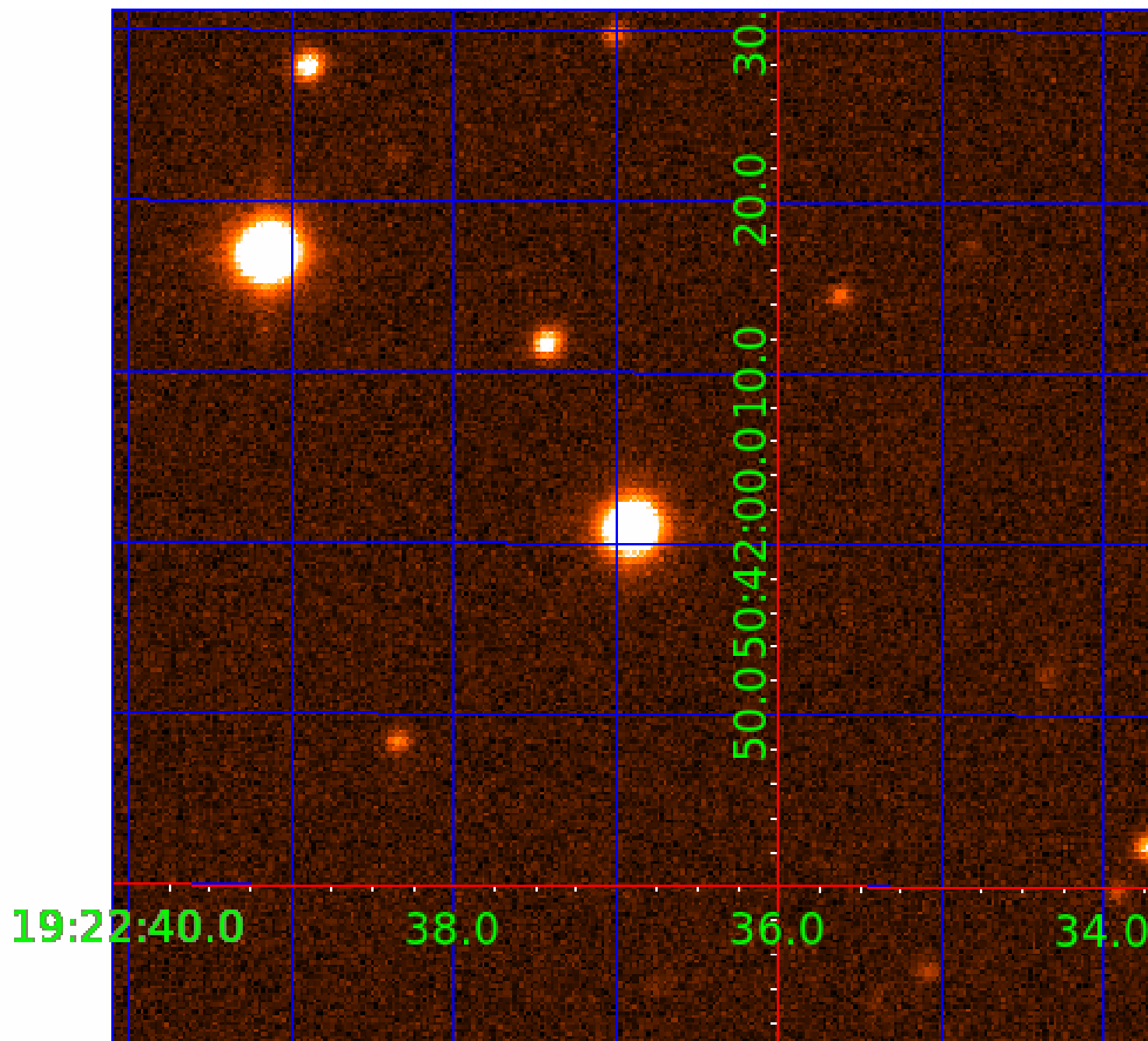
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 012157971

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})
012157971-01	OBS	No	0.577848	131.920185	52.4	4.288	9.0	6.1	17.75	5148	12.61	0.00
012157971-02	OBS	No	4.718238	134.106455	571.9	4.043	11.3	12.0	17.75	5148	49.62	0.00
012157971-03	OBS	No	7.516925	133.303825	482.7	1.671	8.5	8.1	17.75	5148	41.81	17626.30
012157971-04	OBS	No	35.535840	139.729746	822.8	1.500	12.4	-1.0	17.75	5148	50.22	2221.57
012157971-05	OBS	No	21.357134	135.973495	979.1	1.500	12.5	-1.0	17.75	5148	54.79	4380.17
012157971-06	OBS	No	5.349443	132.180360	1321.4	0.989	11.7	16.5	17.75	5148	64.01	0.00
012157971-07	OBS	No	3.259336	132.360994	597.7	1.500	10.4	-1.0	17.75	5148	42.80	53708.44
012157971-08	OBS	No	7.461779	132.625555	1456.5	1.483	11.7	16.3	17.75	5148	70.21	17800.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012157971-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_RESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
012157971-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
012157971-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—CENT_FEW_MEAS
012157971-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_MEAS
012157971-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—NO_FITS—CENT_NOFITS
012157971-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV

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

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

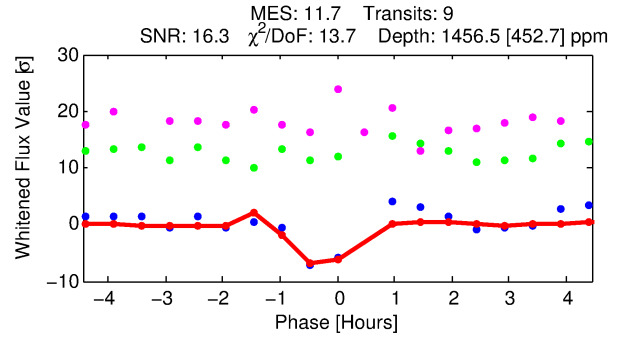
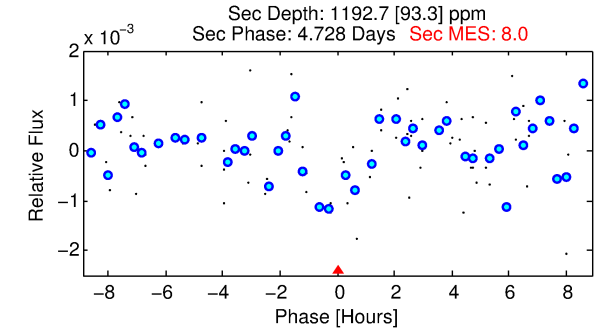
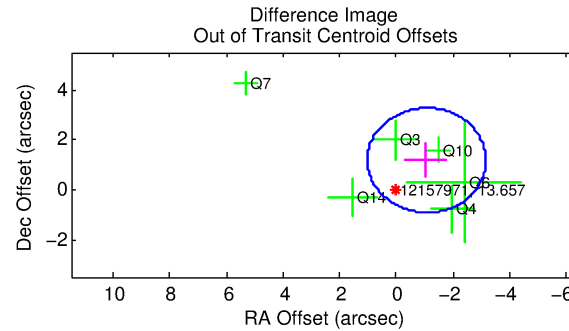
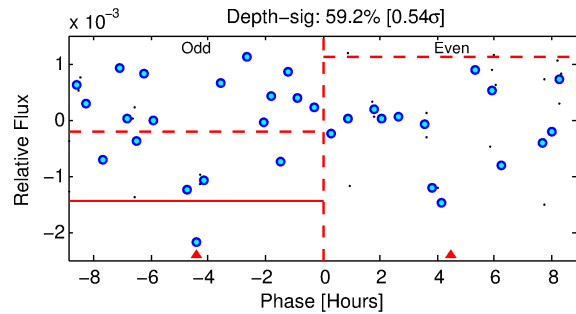
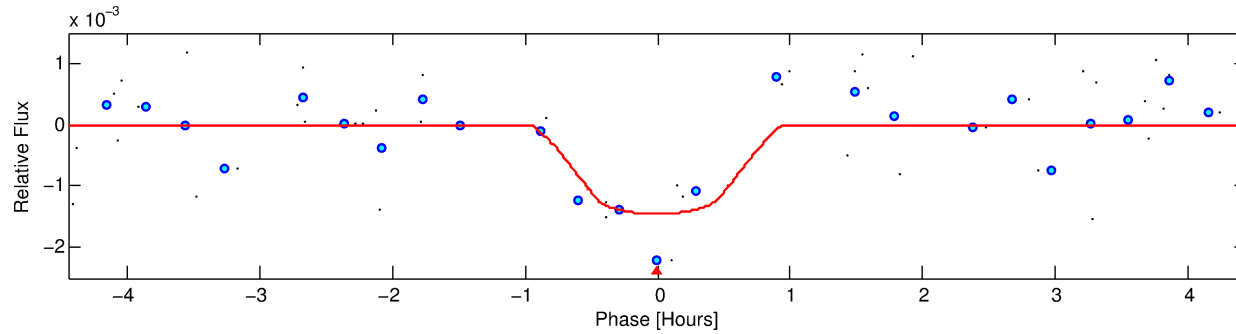
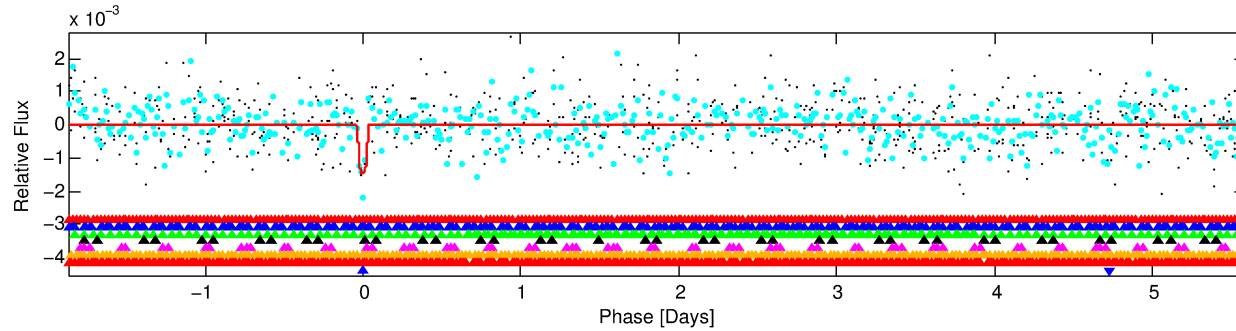
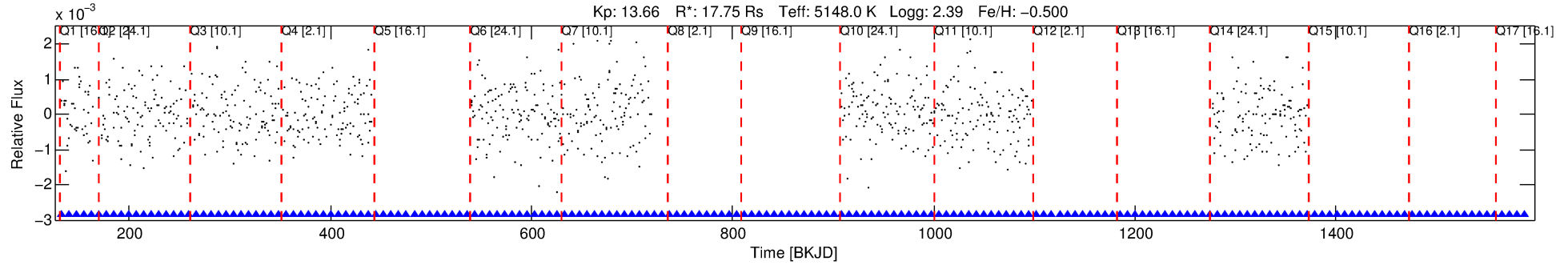
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012157971-08

No Significant Match Found

DV One-Page Summary

KIC: 12157971 Candidate: 8 of 8 Period: 7.462 d



DV Fit Results:

Period = 7.46178 [0.00026] d
Epoch = 132.6256 [0.0146] BKJD
Rp/R* = 0.0363 [0.1755]
a/R* = 33.20 [635.12]
b = 0.57 [22.79]
Seff = 17800.20 [6061.05]
Teq = 2945 [251] K
Rp = 70.21 [340.77] Re
a = 0.1055 [0.0240] AU
Ag = 1.48 [14.36] [0.03 σ]
Teffp = 5025 [12169] K [0.17 σ]

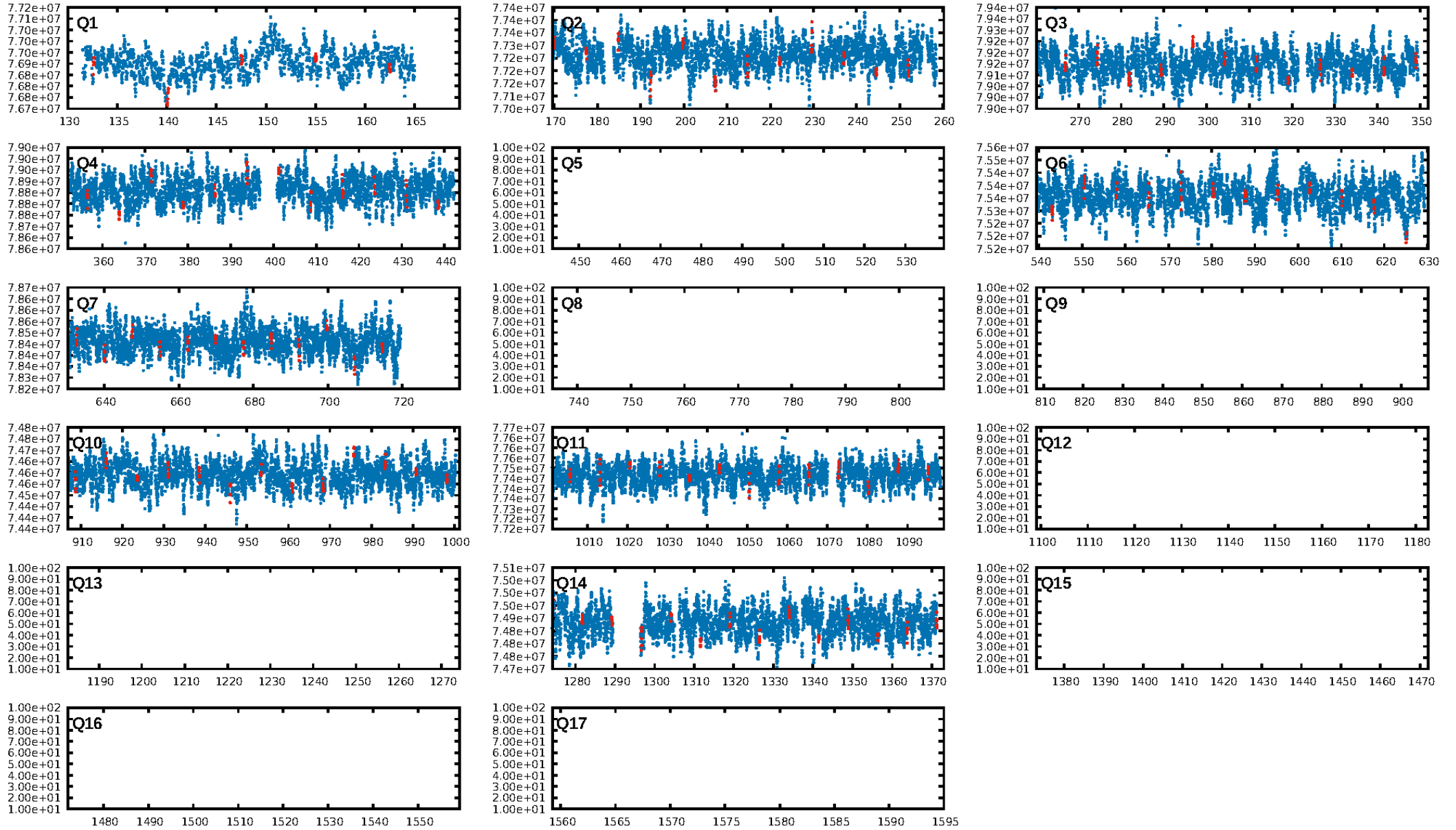
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [28.44 σ]
LongPeriod-sig: 44.6% [0.59 σ]
ModelChiSquare2-sig: 0.7%
ModelChiSquareGof-sig: 98.3%
Bootstrap-pfa: 1.51e-40
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -0.7449
Centroid-sig: 0.1%
Centroid-so: 0.198 arcsec [1.64 σ]
OotOffset-rm: 1.589 arcsec [2.27 σ]
KicOffset-rm: 1.646 arcsec [2.35 σ]
OotOffset-st: 3/2/1/0 [6]
KicOffset-st: 3/2/1/0 [6]
DiffImageQuality-fgm: 0.17 [1/6]
DiffImageOverlap-fno: 0.00 [0/9]

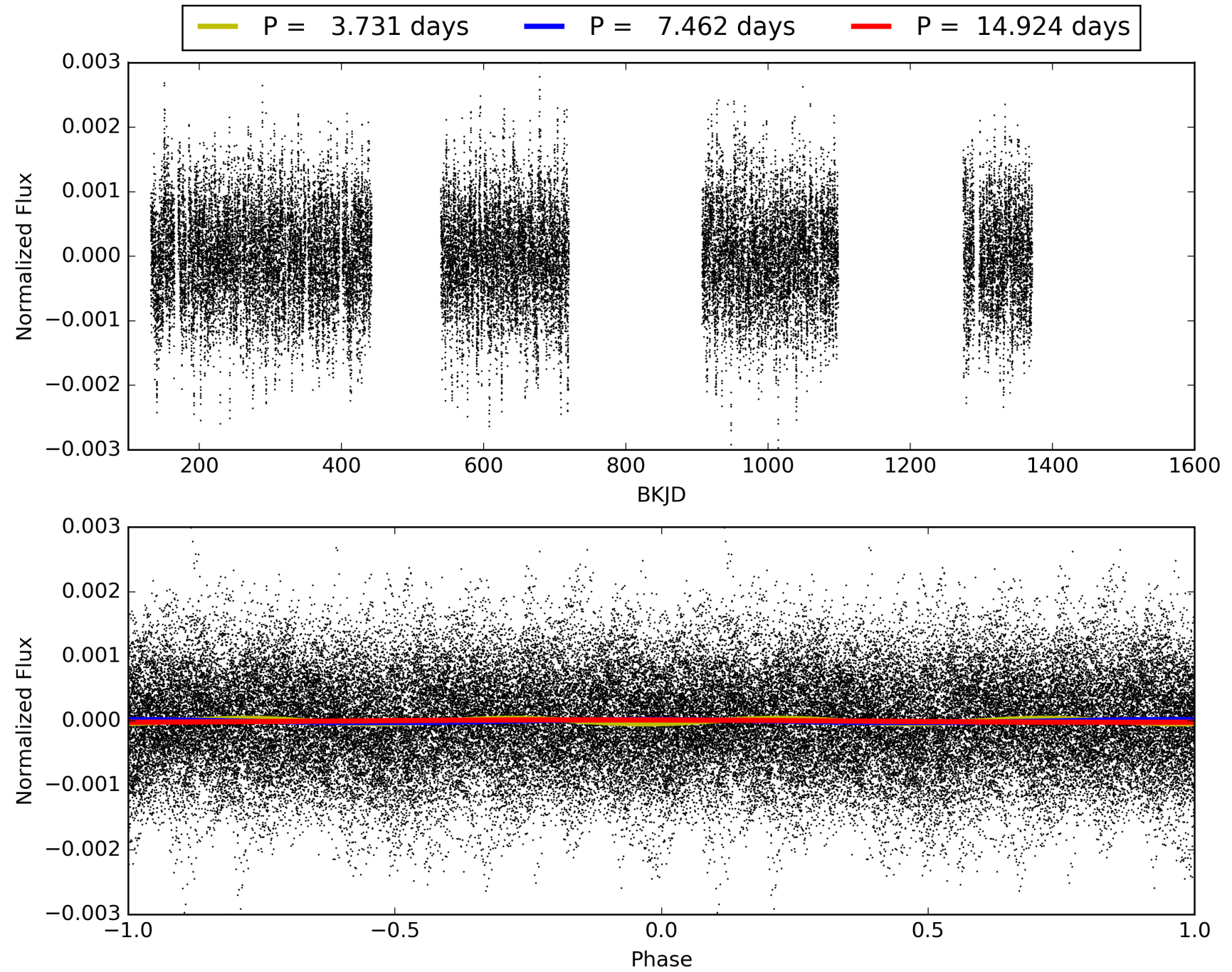
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:14:43 Z

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

TCE 012157971-08, PDC Light Curves

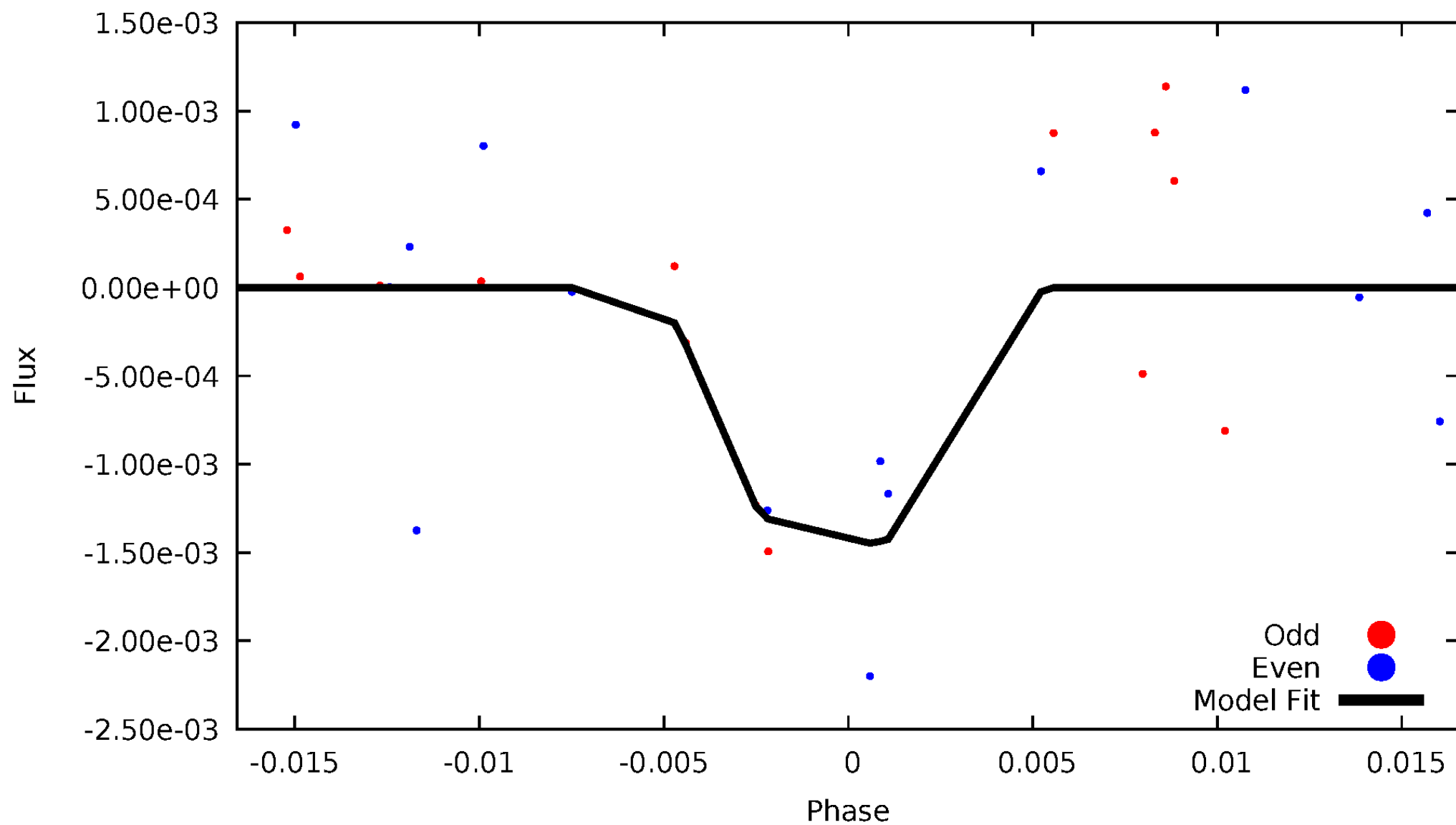


TCE 012157971-08



DV Odd/Even

TCE 012157971-08

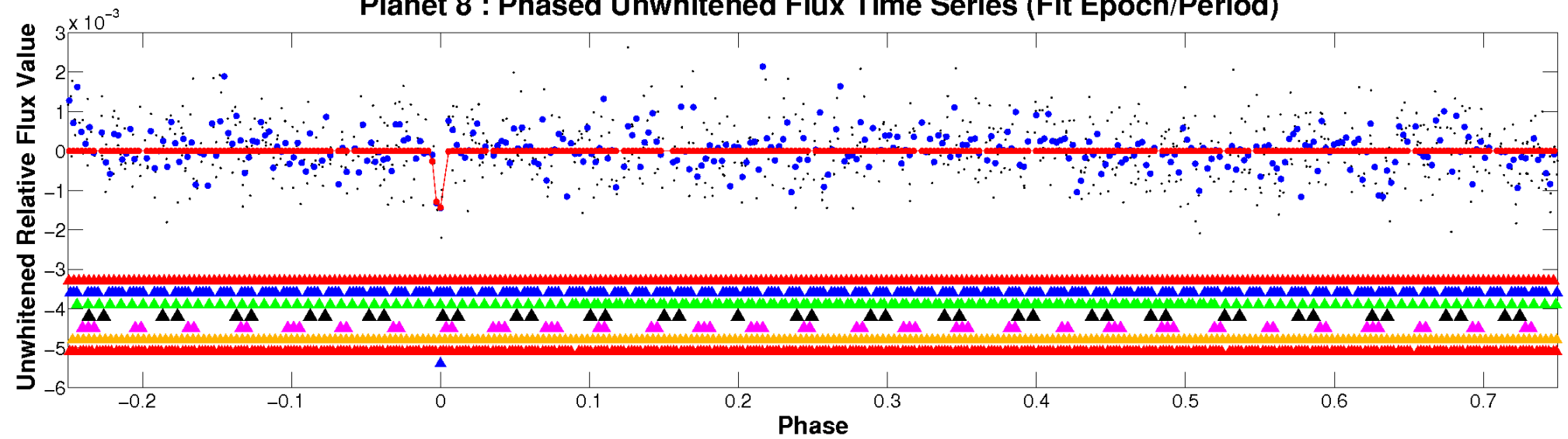


ALT Odd/Even

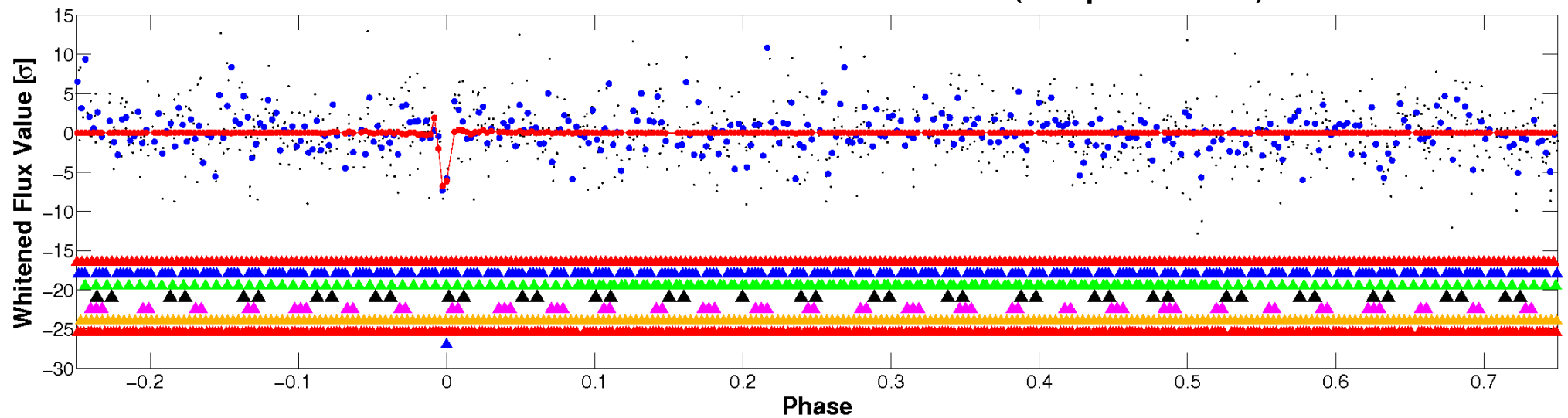
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

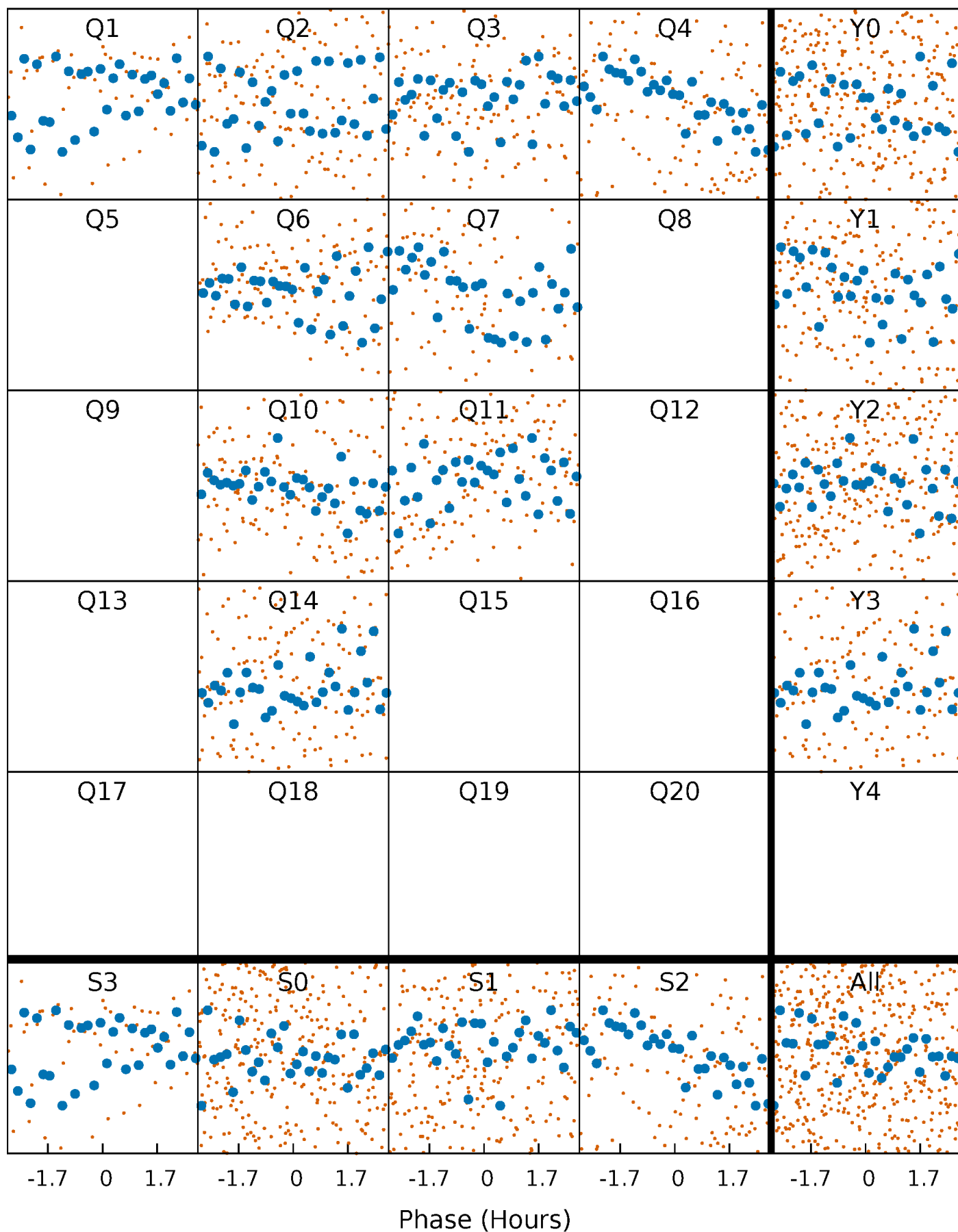


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



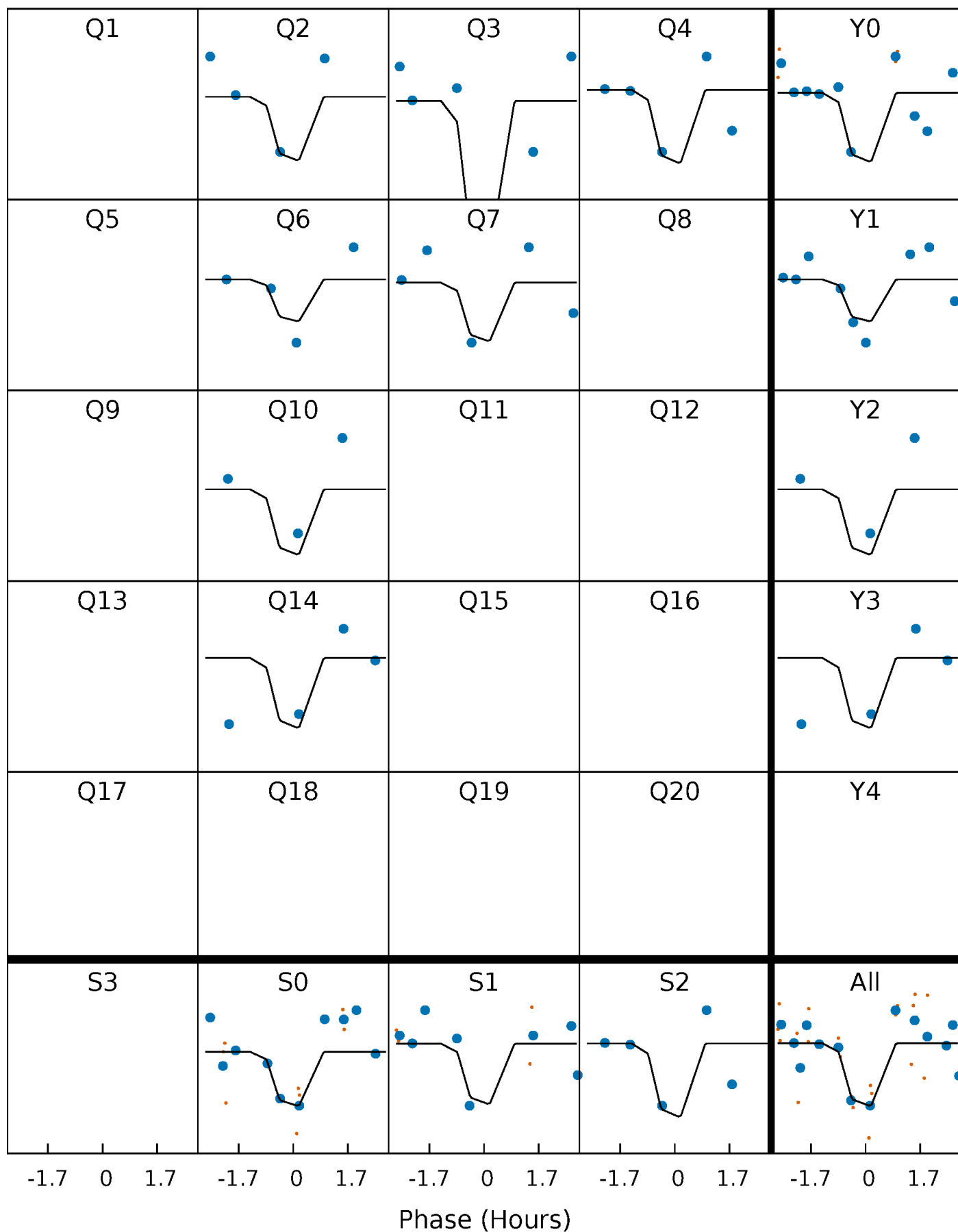
PDC Quarter-Phased Transit Curves

TCE 012157971-08 P= 7.461779 Days $T_0=132.625555$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 012157971-08 P= 7.461779 Days $T_0=132.625555$ (BKJD)

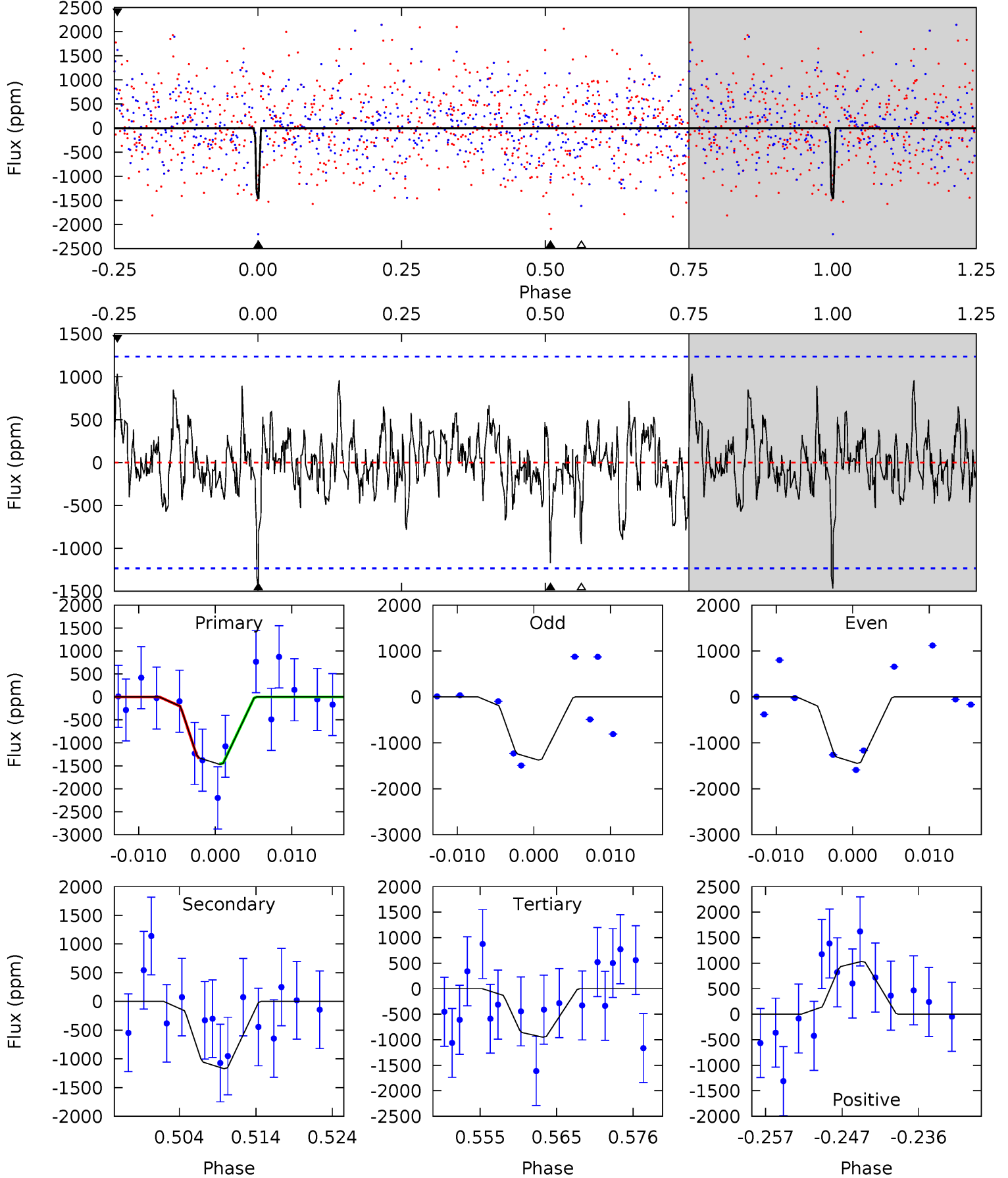


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

012157971-08, P = 7.461779 Days, E = 125.163776 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.97	4.76	3.86	4.20	5.02	2.57	1.26	2.10	1.76	0.90	0.56	0.14	0	0.41	0.25



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 012157971

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	5148^{+137}_{-321}	$2.389^{+0.033}_{-0.030}$	$-0.500^{+0.250}_{-0.250}$	$17.748^{+1.606}_{-6.022}$	$2.812^{+0.301}_{-1.605}$	$0.001^{+0.000}_{-0.000}$
	+3%/-6%	+1%/-1%	+50%/-50%	+9%/-34%	+11%/-57%	+55%/-14%
Source	PHO1	AST9	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 012157971-08 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-1170 ± 246	$248.29^{+255.78}_{-167.47}$	4093^{+161}_{-263}	-3368^{+7660}_{-308}	$0.110^{+0.939}_{-0.084}$
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 $A_{obs} \gg 1.0$

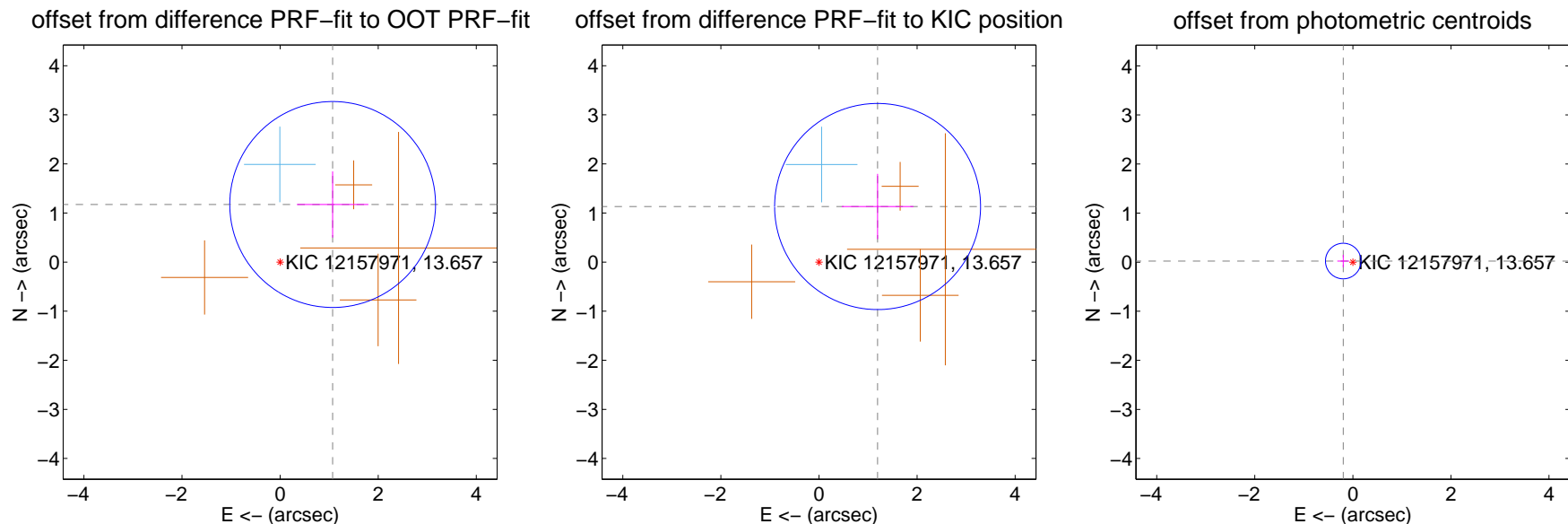
DV Centroid Data

Supplemental centroid analysis for 012157971-08. Kepler magnitude: 13.66. Transit SNR 16.30

There are 1 quarters with good PRF difference image offsets

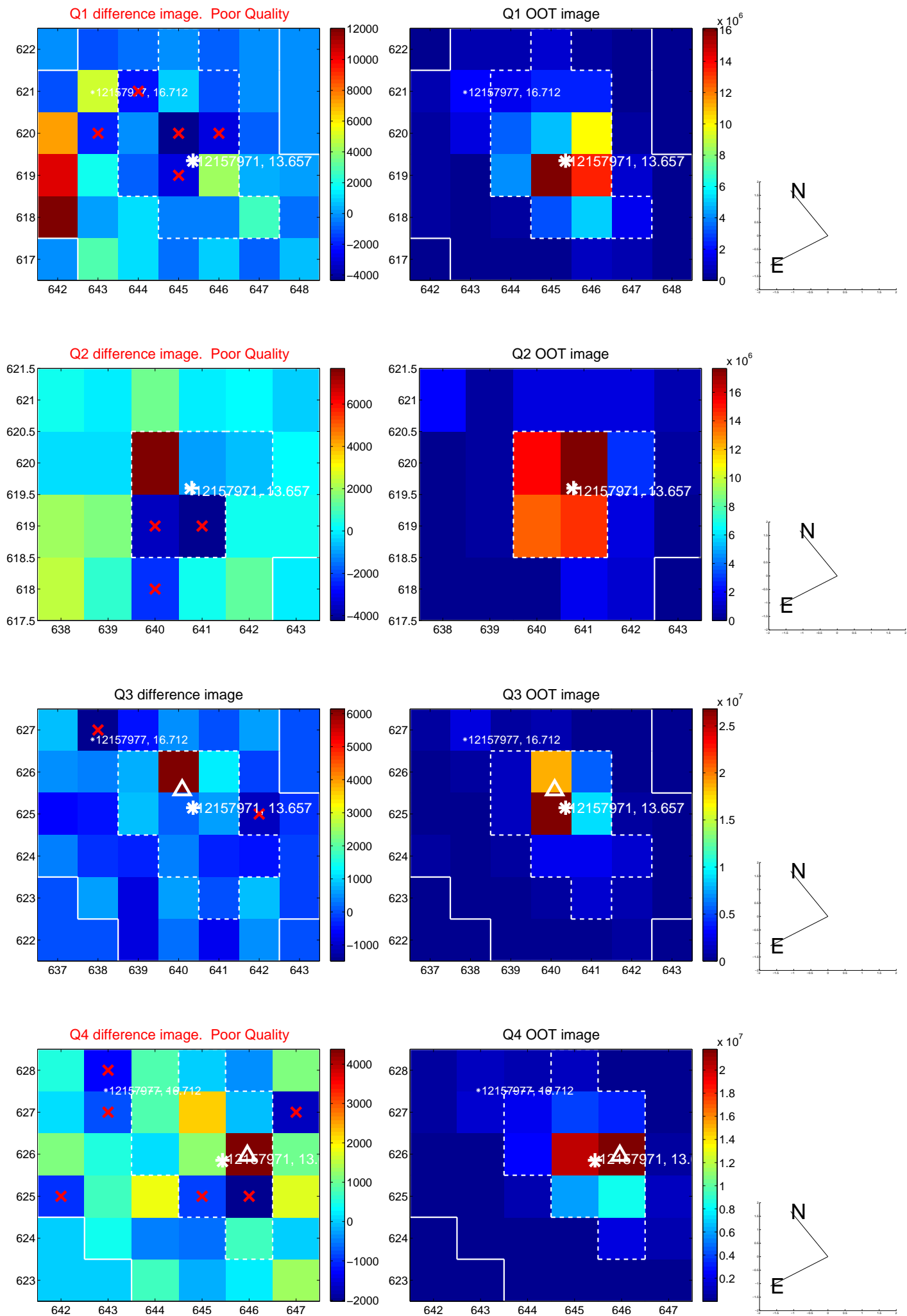
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.589 ± 0.699	2.27	-1.072 ± 0.728	1.173 ± 0.674
PRF-fit source offset from KIC position	1.646 ± 0.700	2.35	-1.195 ± 0.730	1.132 ± 0.664
photometric centroid source offset	0.20 ± 0.12	1.64	0.20 ± 0.12	0.02 ± 0.13



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.

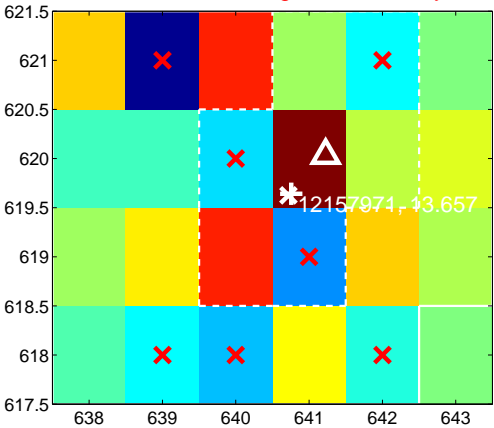
Q5 no difference image



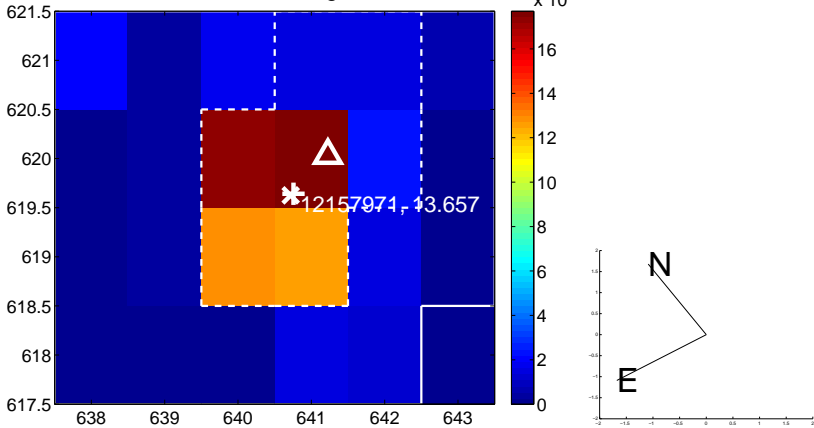
Q5 no OOT image



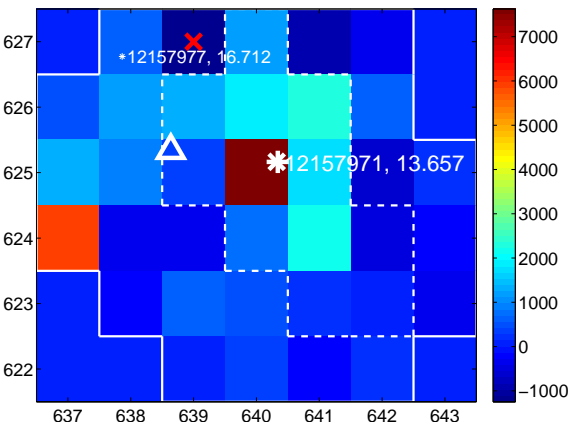
Q6 difference image. Poor Quality



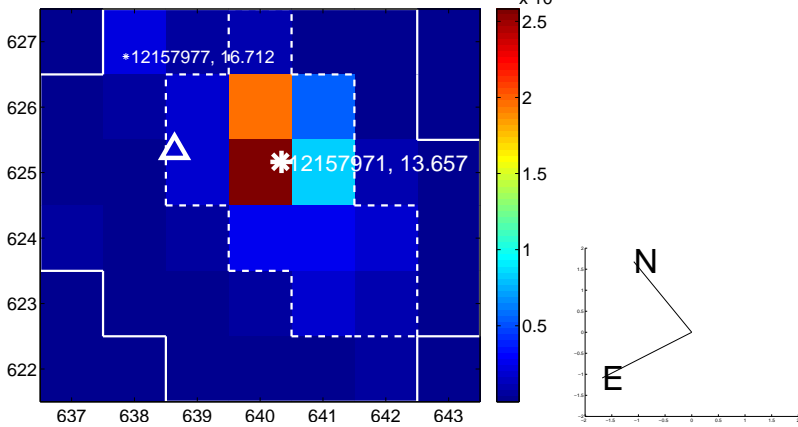
Q6 OOT image



Q7 difference image. Poor Quality



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.

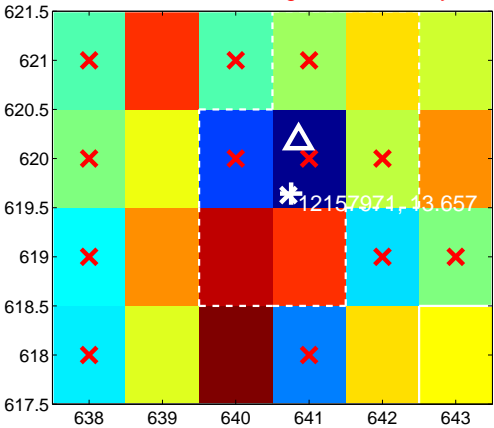
Q9 no difference image



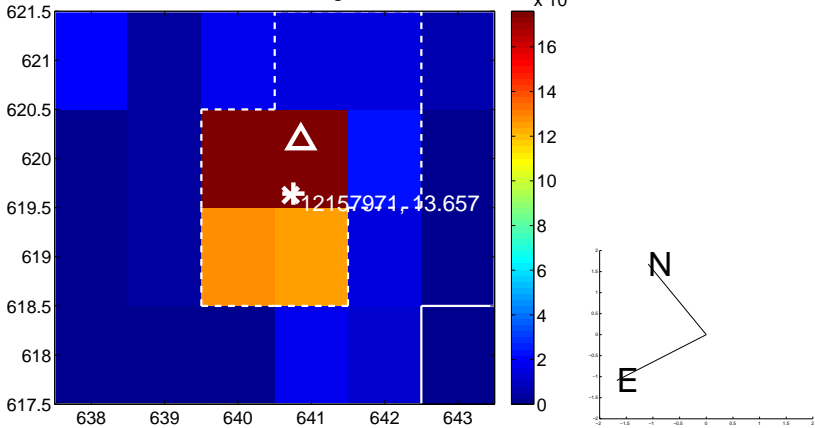
Q9 no OOT image



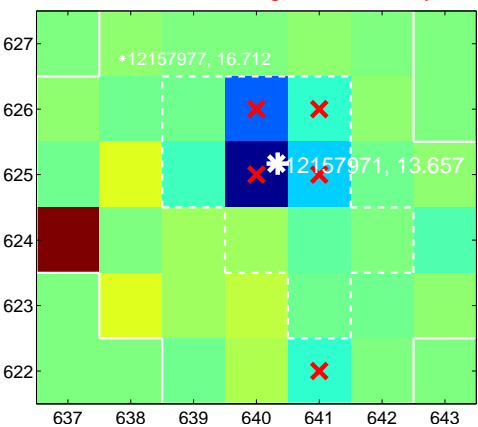
Q10 difference image. Poor Quality



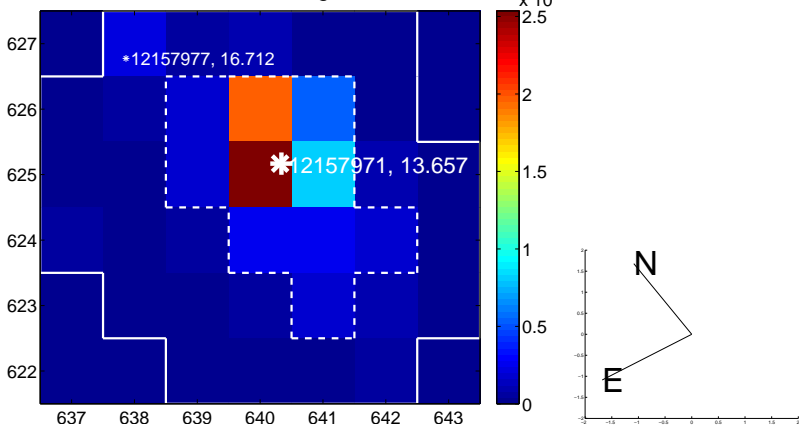
Q10 OOT image



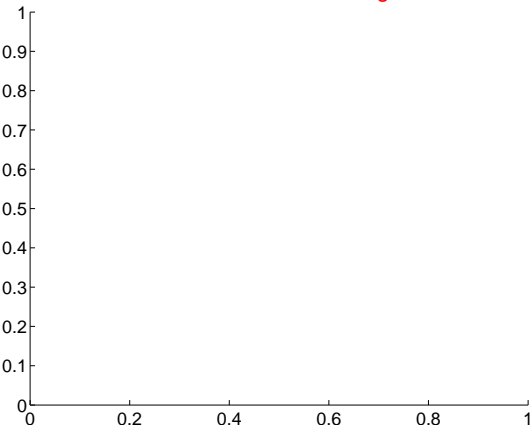
Q11 difference image. Poor Quality



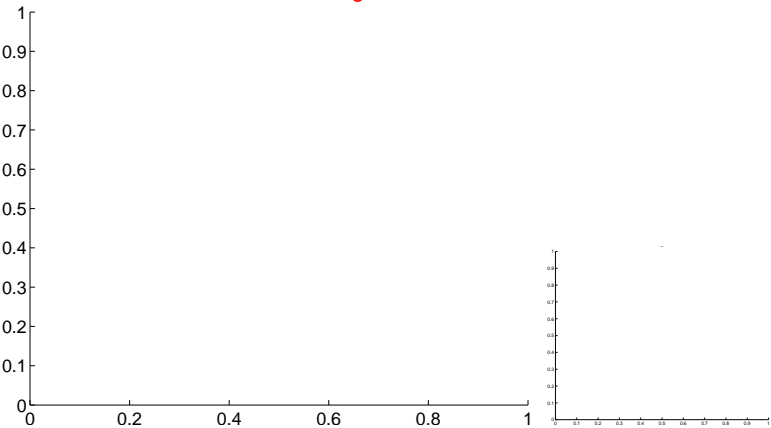
Q11 OOT image



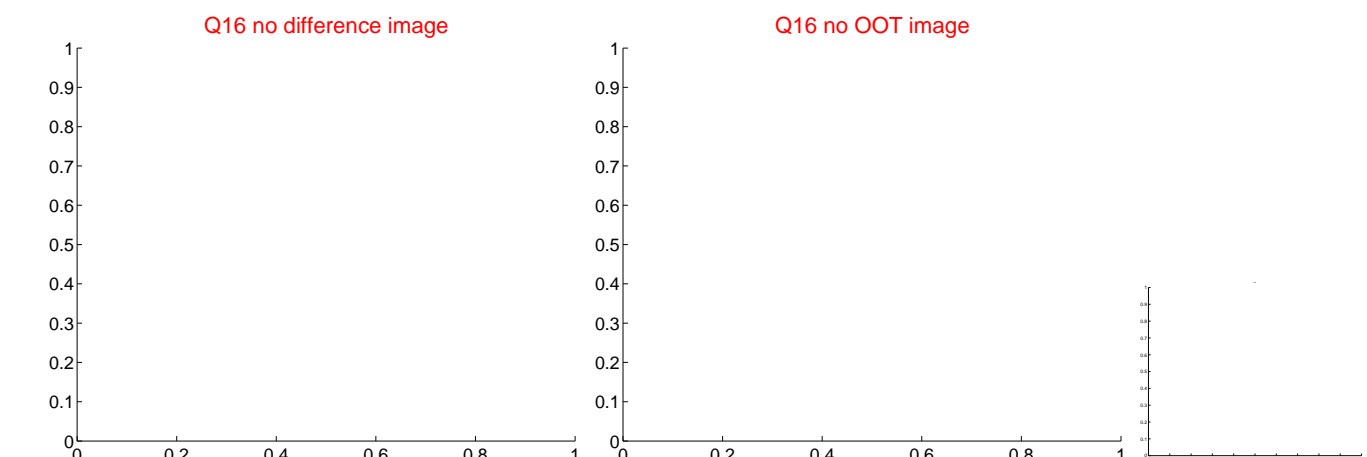
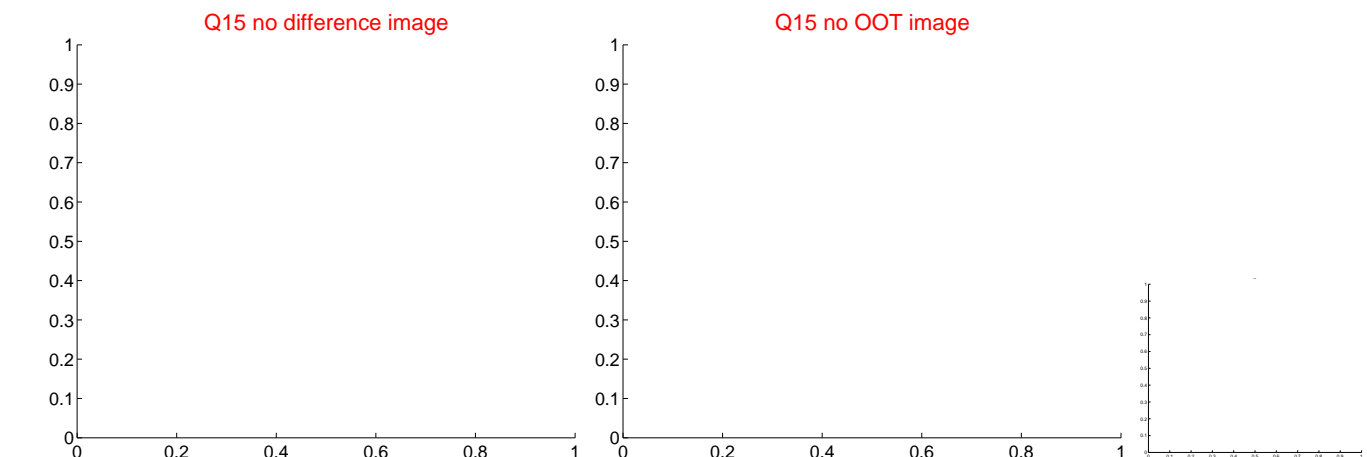
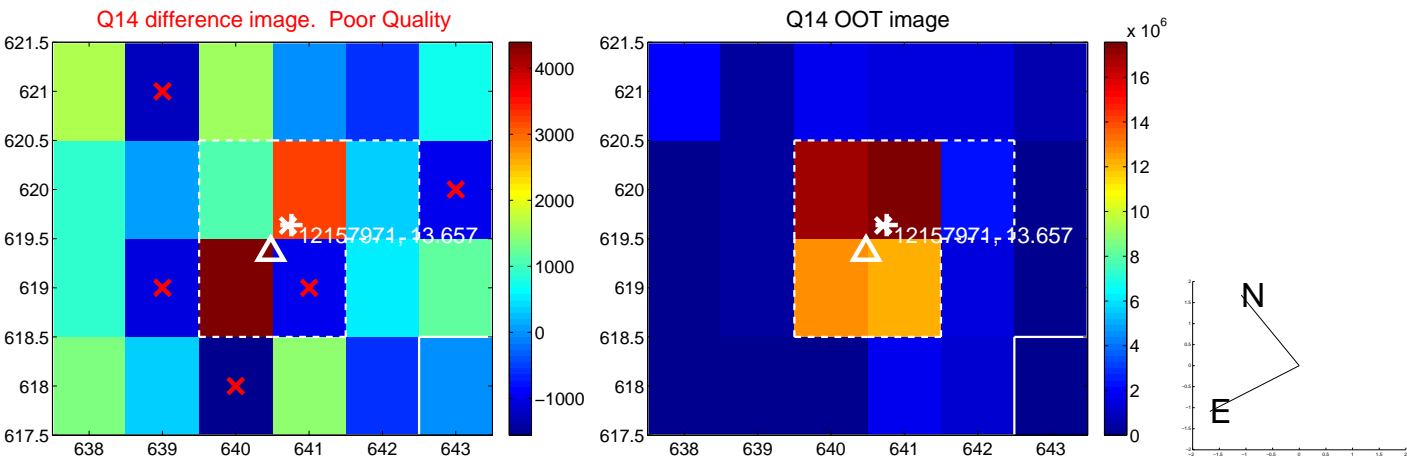
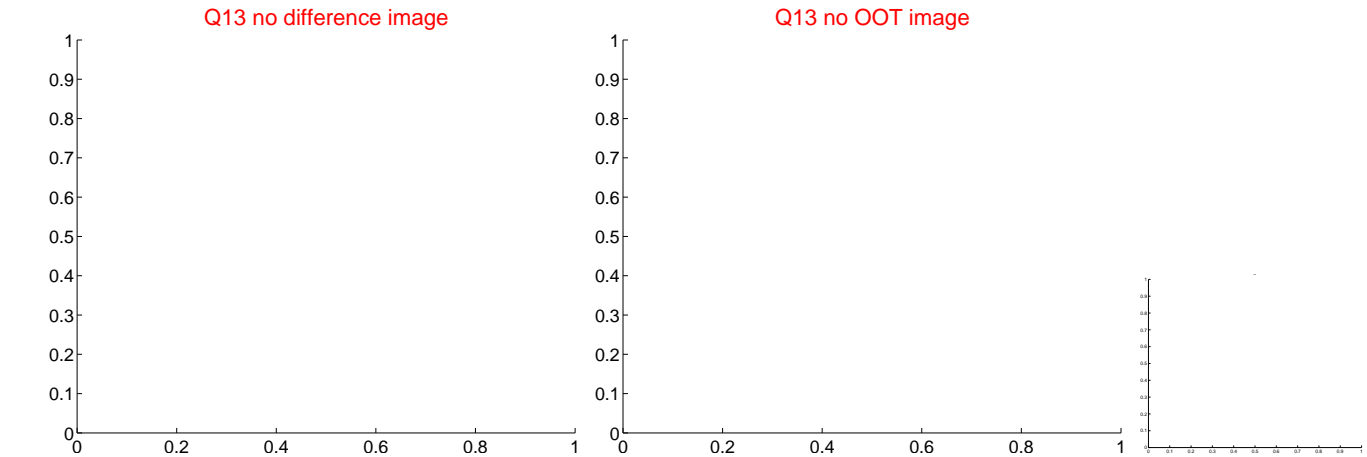
Q12 no difference image



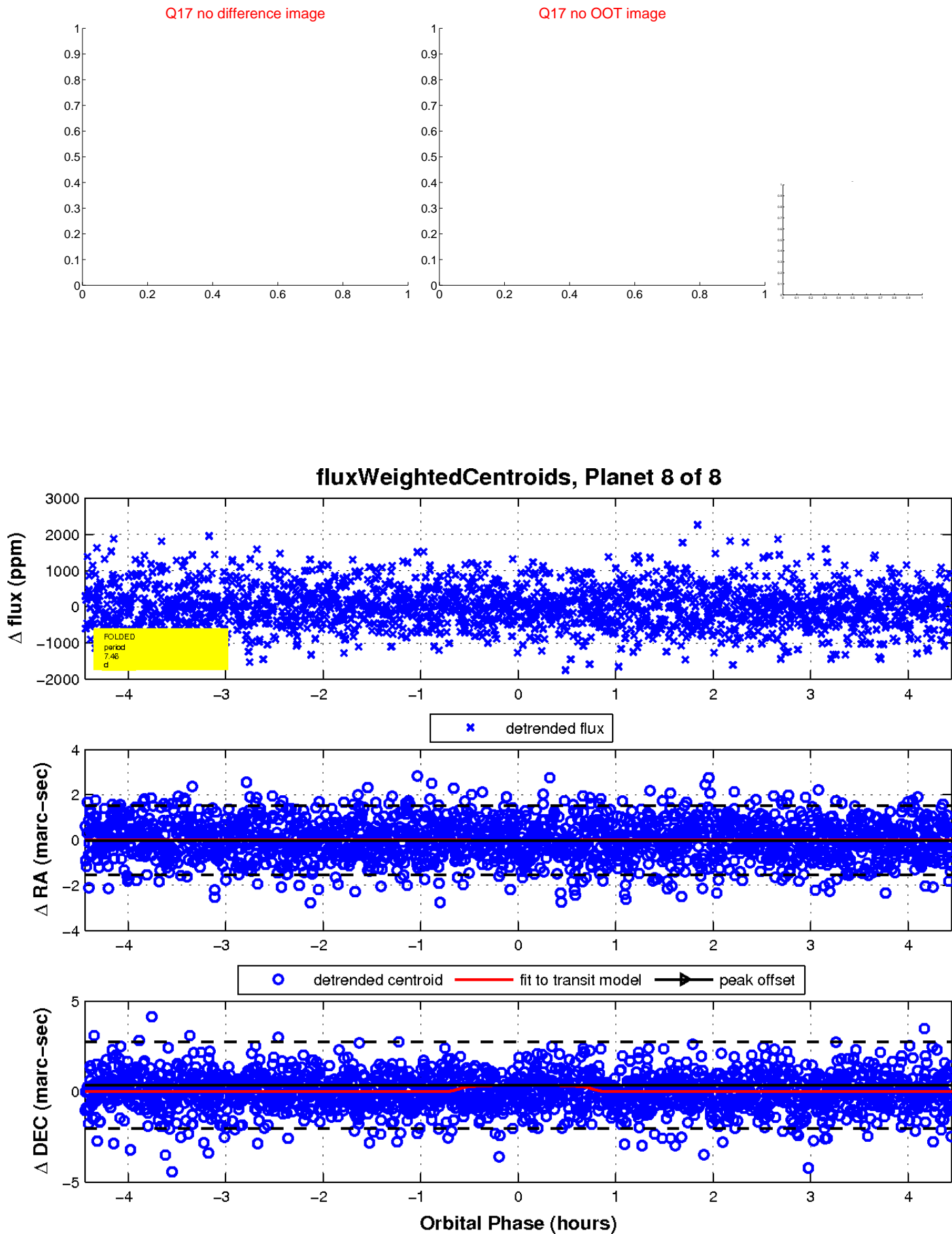
Q12 no OOT image



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



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



UKIRT Image

Declination

