

KIC 002715282

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})
002715282-01	OBS	No	0.968192	132.475778	48.1	7.386	7.7	10.5	1.02	5957	0.70	2930.79
002715282-02	OBS	No	7.244473	136.073890	800.2	0.909	14.1	17.5	1.02	5957	2.88	200.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002715282-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_UNRESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
002715282-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS

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

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

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

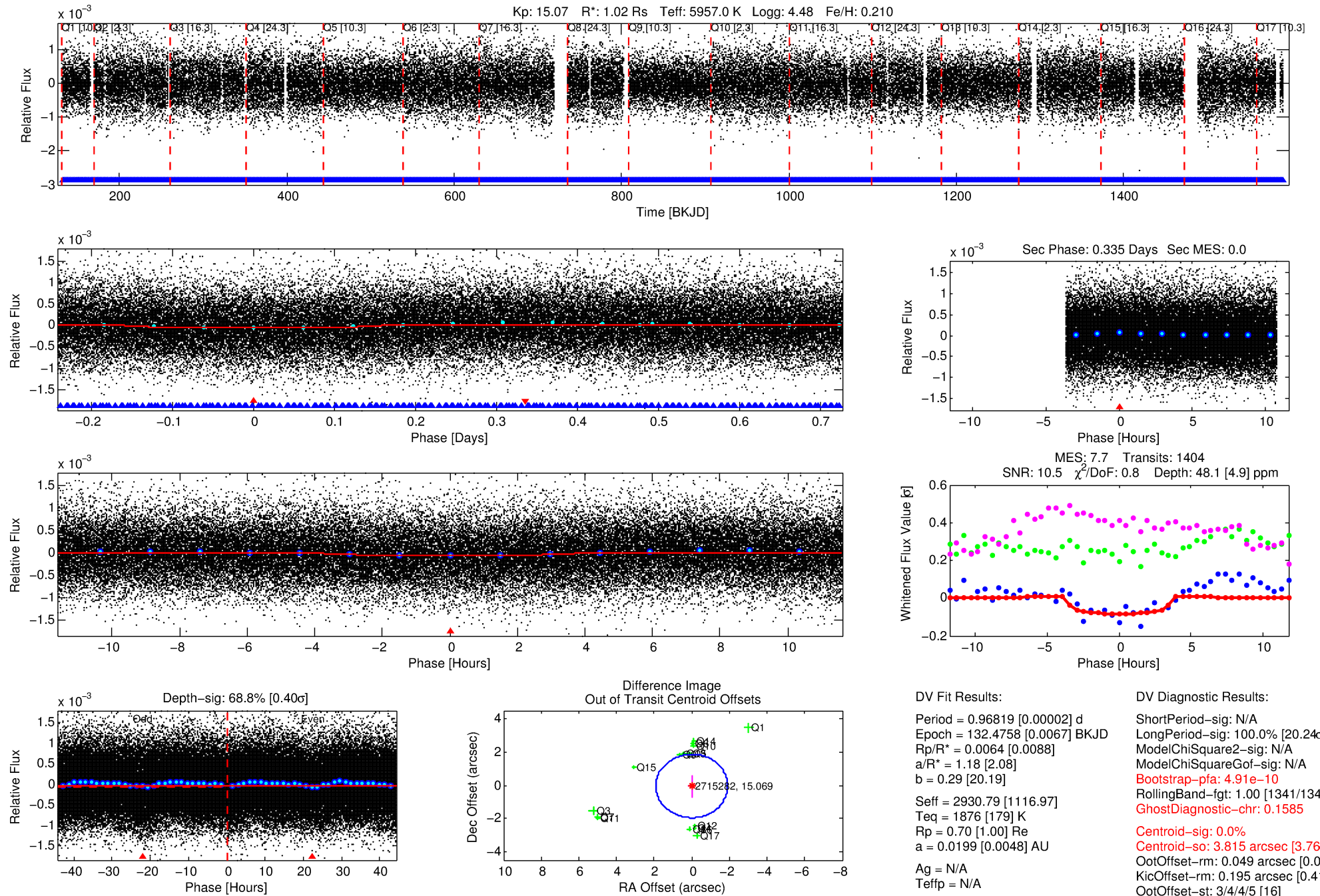
Ephemeris Match Information For 002715282-01

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
002715282-01	2715282	002715228-01	2715228	1:1	108.0	-27	4	15.27	15.07	1.25	Col-Anomaly	1	0.70	0.36

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

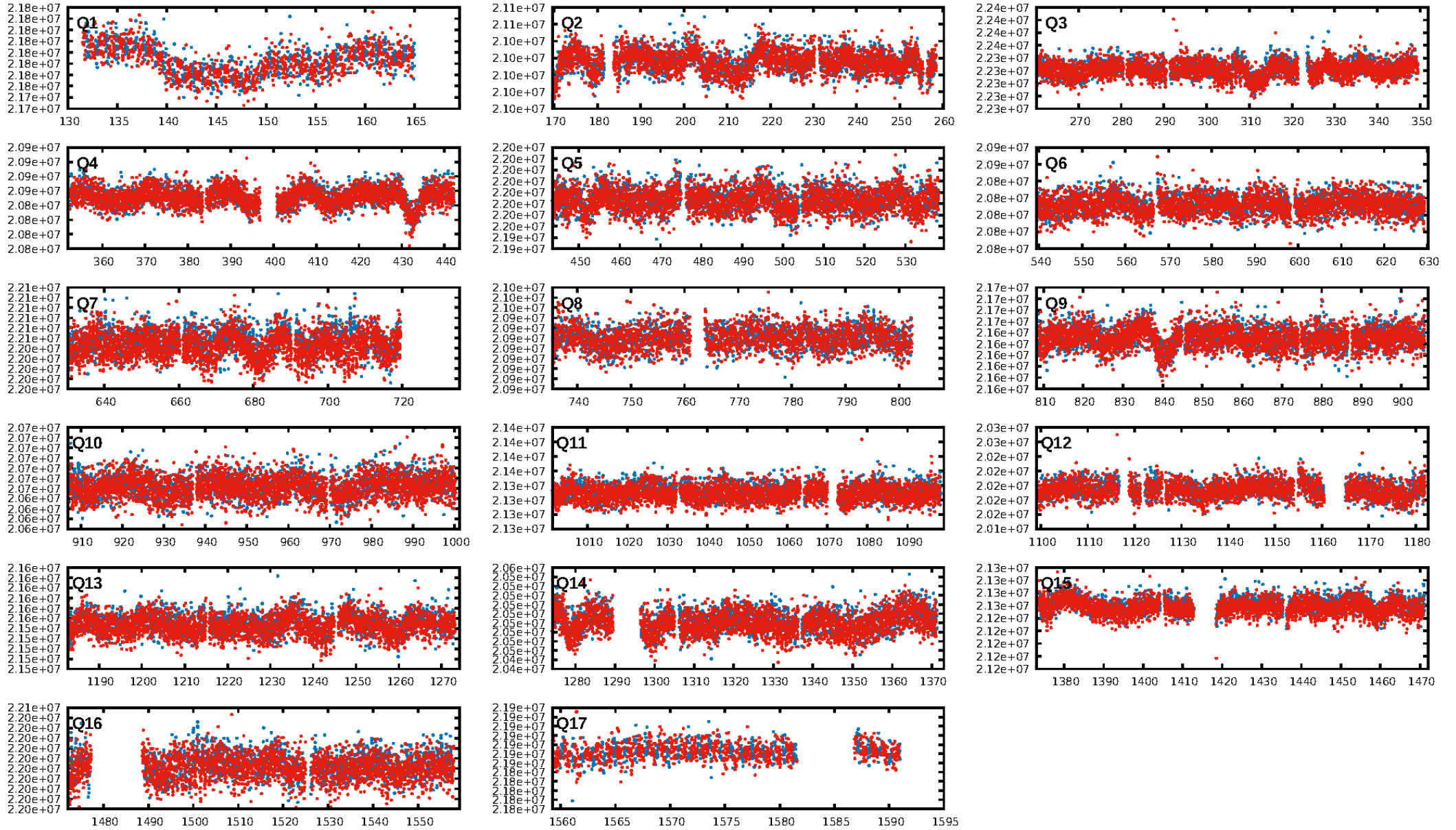
KIC: 2715282 Candidate: 1 of 2 Period: 0.968 d



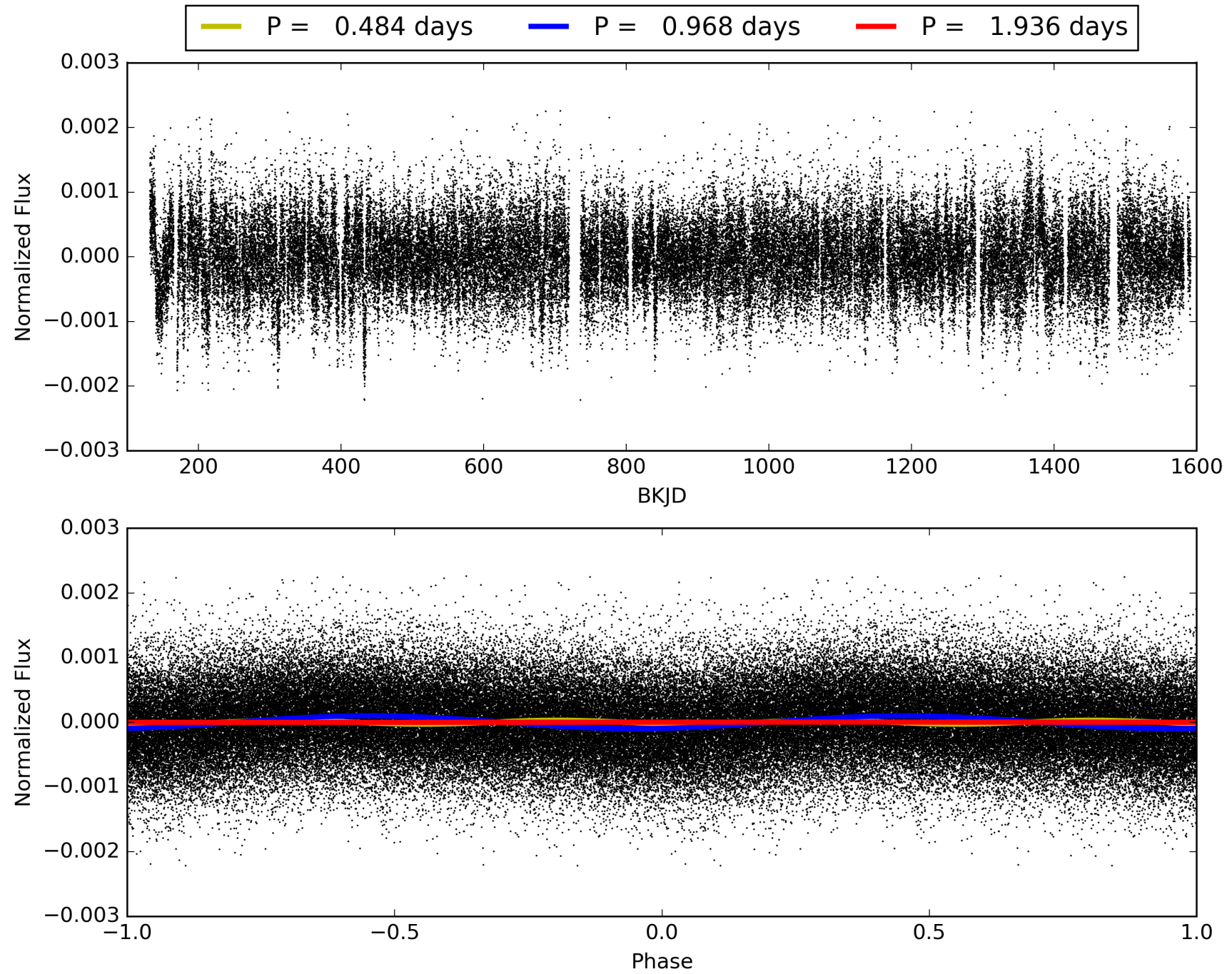
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:34:36 Z

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

TCE 002715282-01, PDC Light Curves

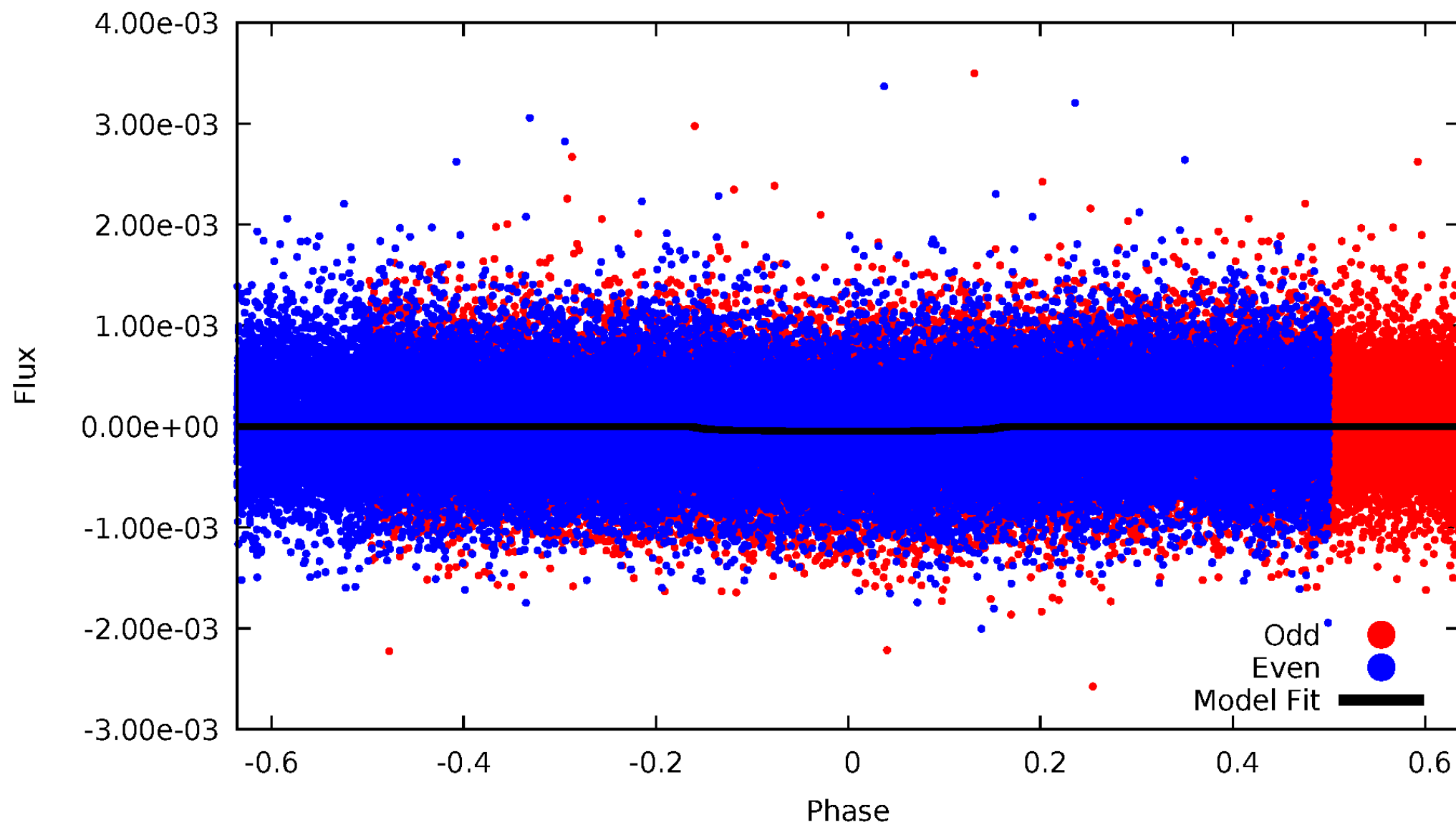


TCE 002715282-01



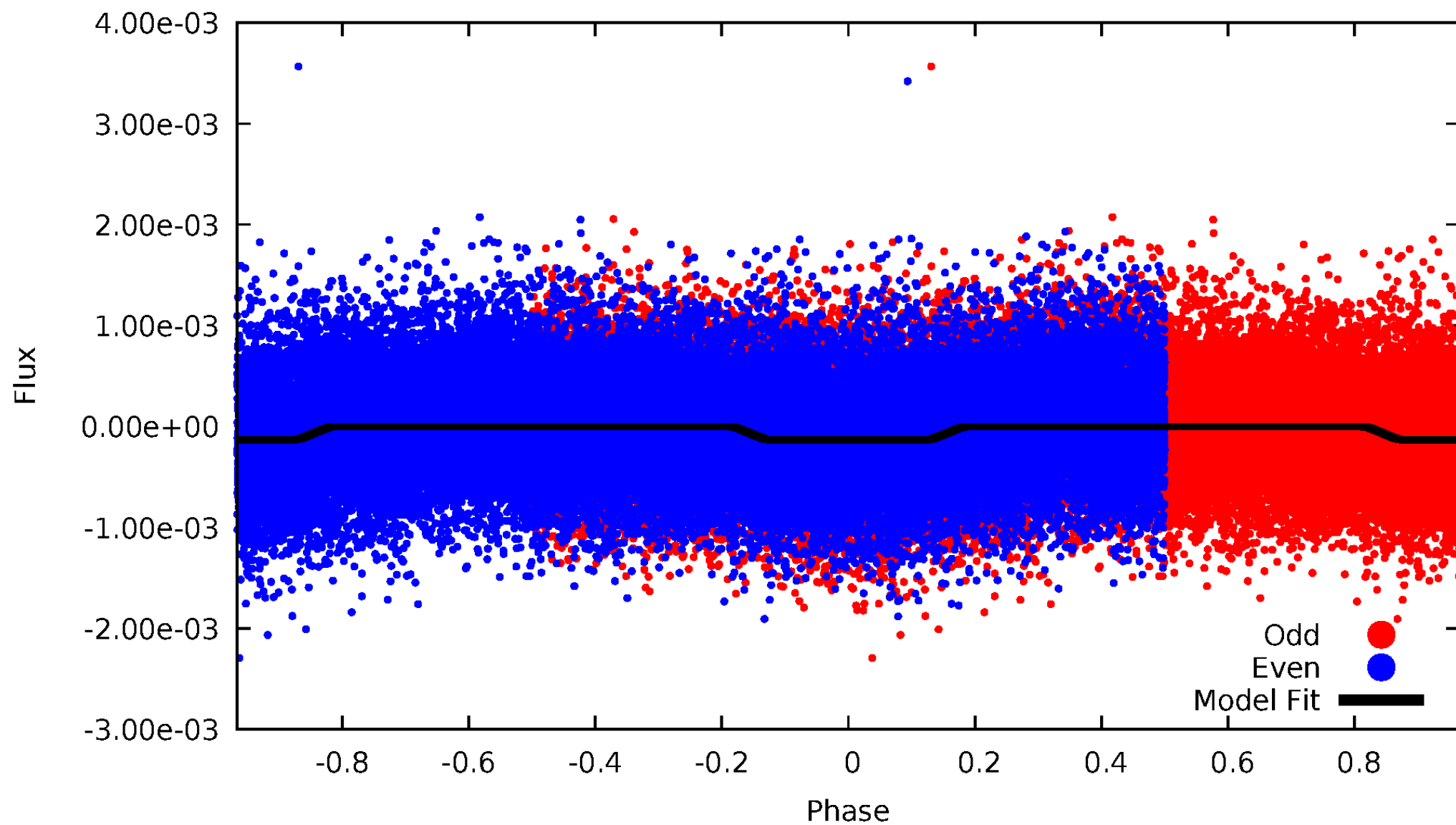
DV Odd/Even

TCE 002715282-01



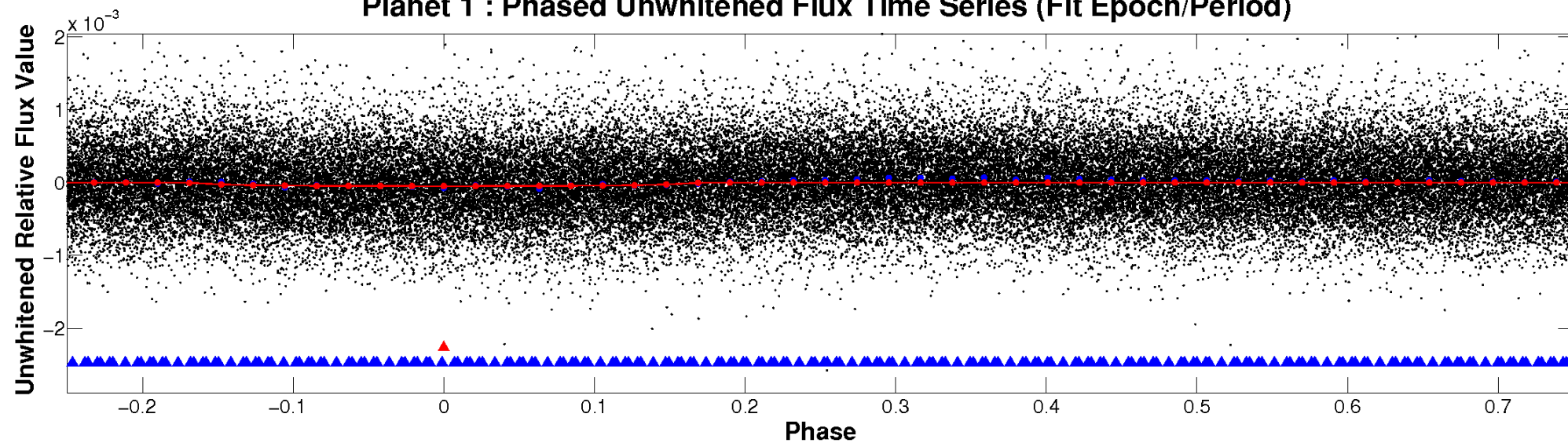
ALT Odd/Even

TCE 002715282-01

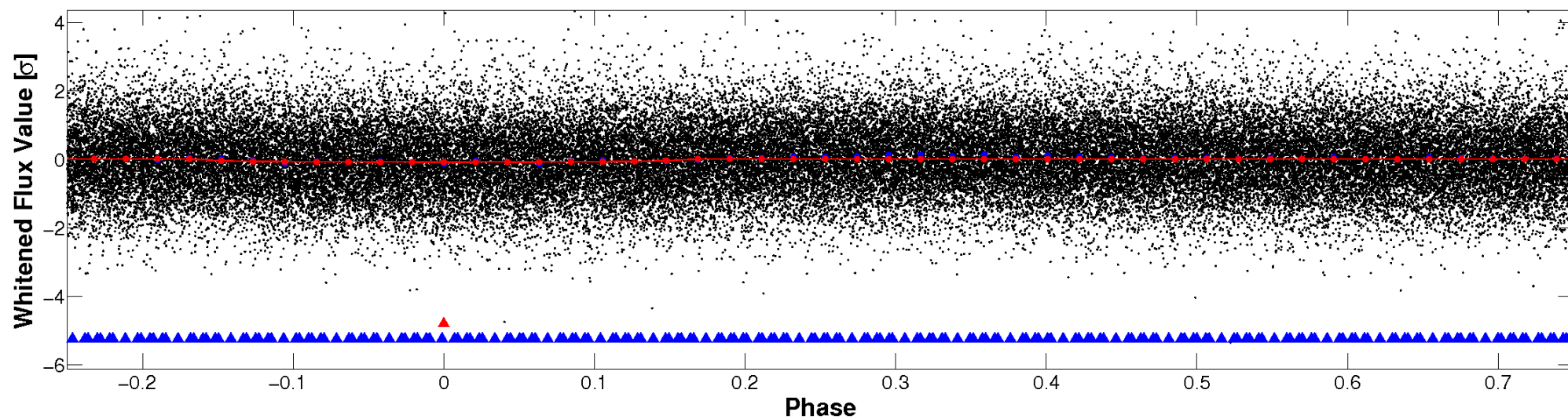


Non-Whitened Vs. Whitened Light Curve

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

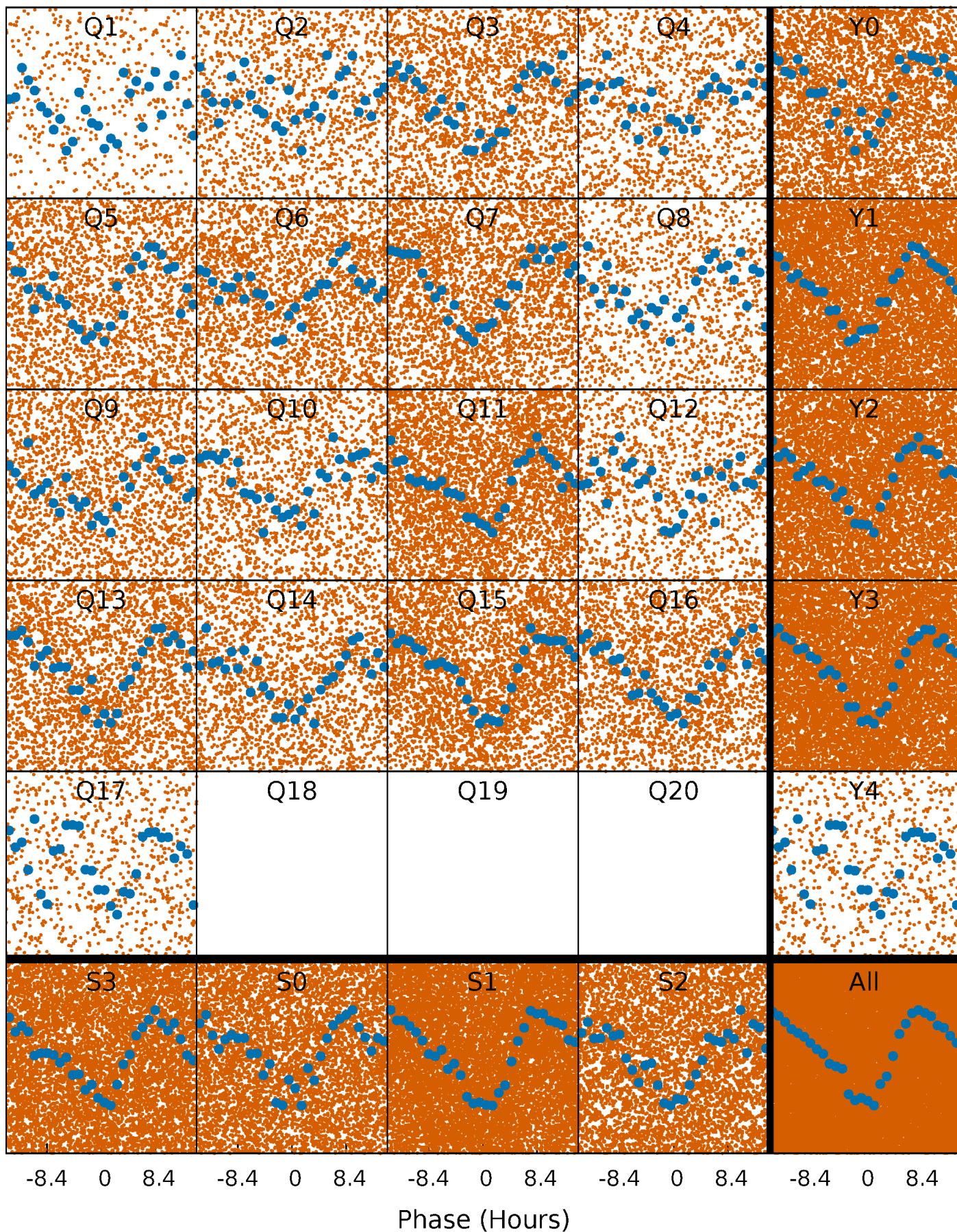


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



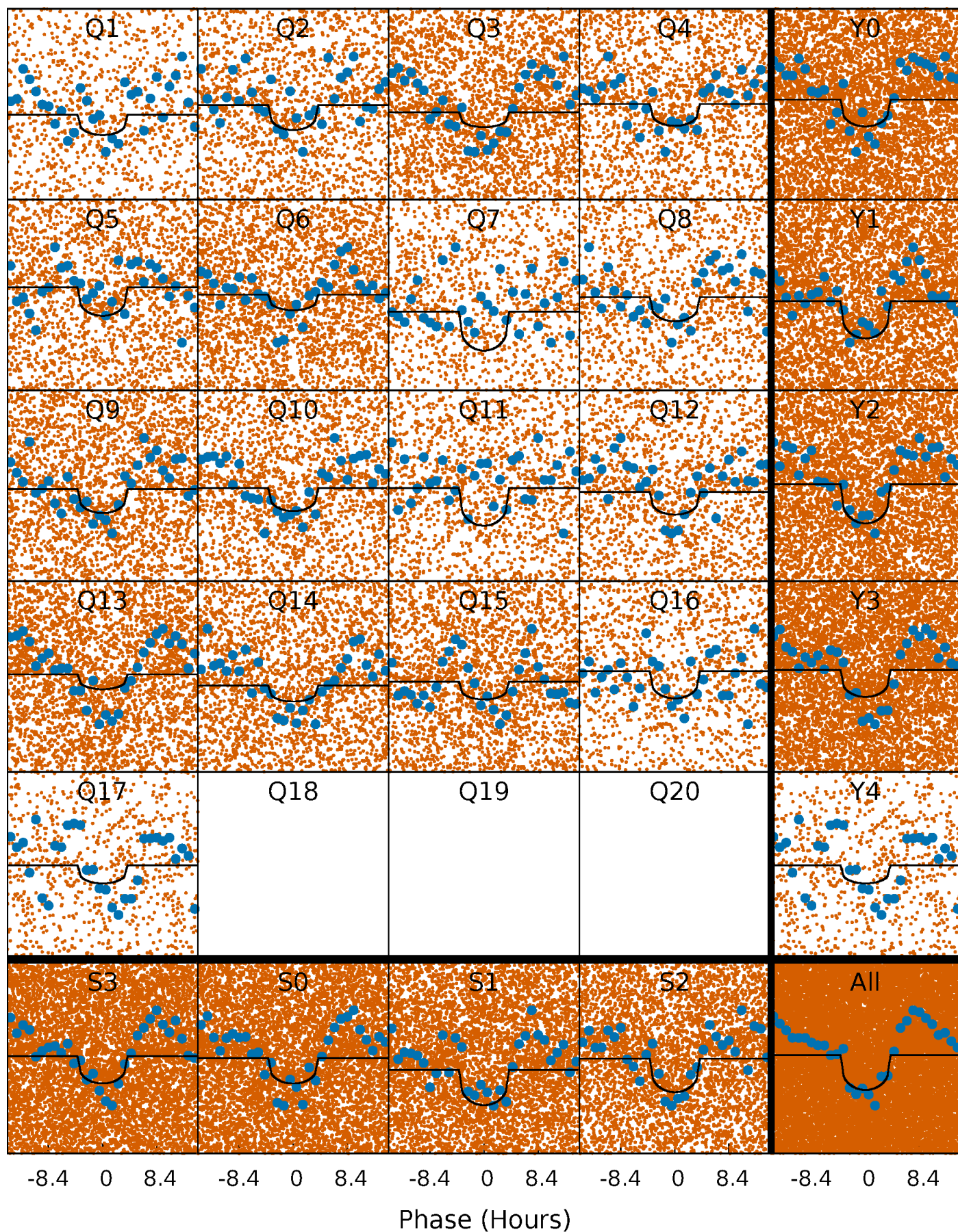
PDC Quarter-Phased Transit Curves

TCE 002715282-01 P= 0.968192 Days $T_0=132.475777$ (BKJD)



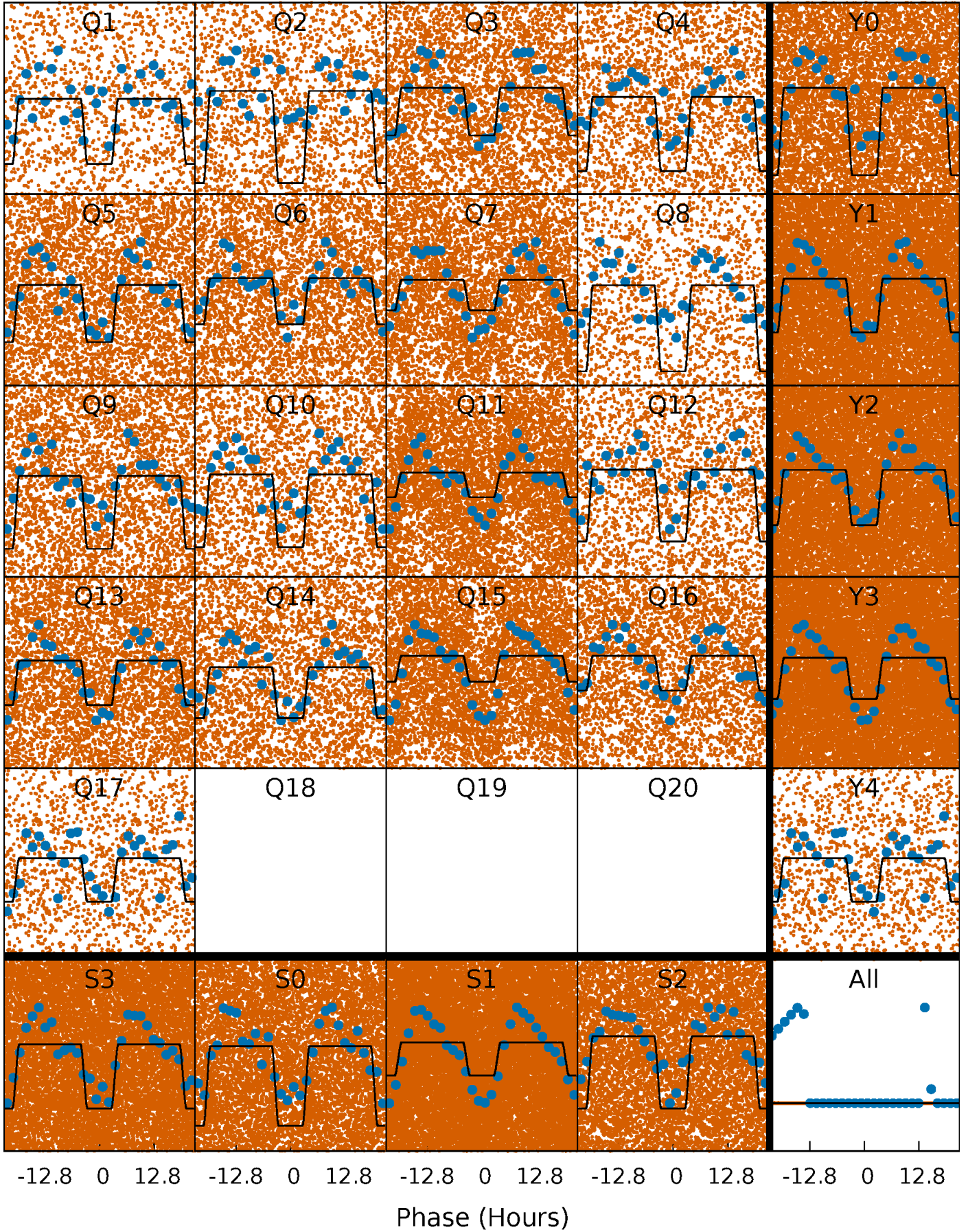
DV Quarter-Phased Transit Curves

TCE 002715282-01 P= 0.968192 Days $T_0=132.475777$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

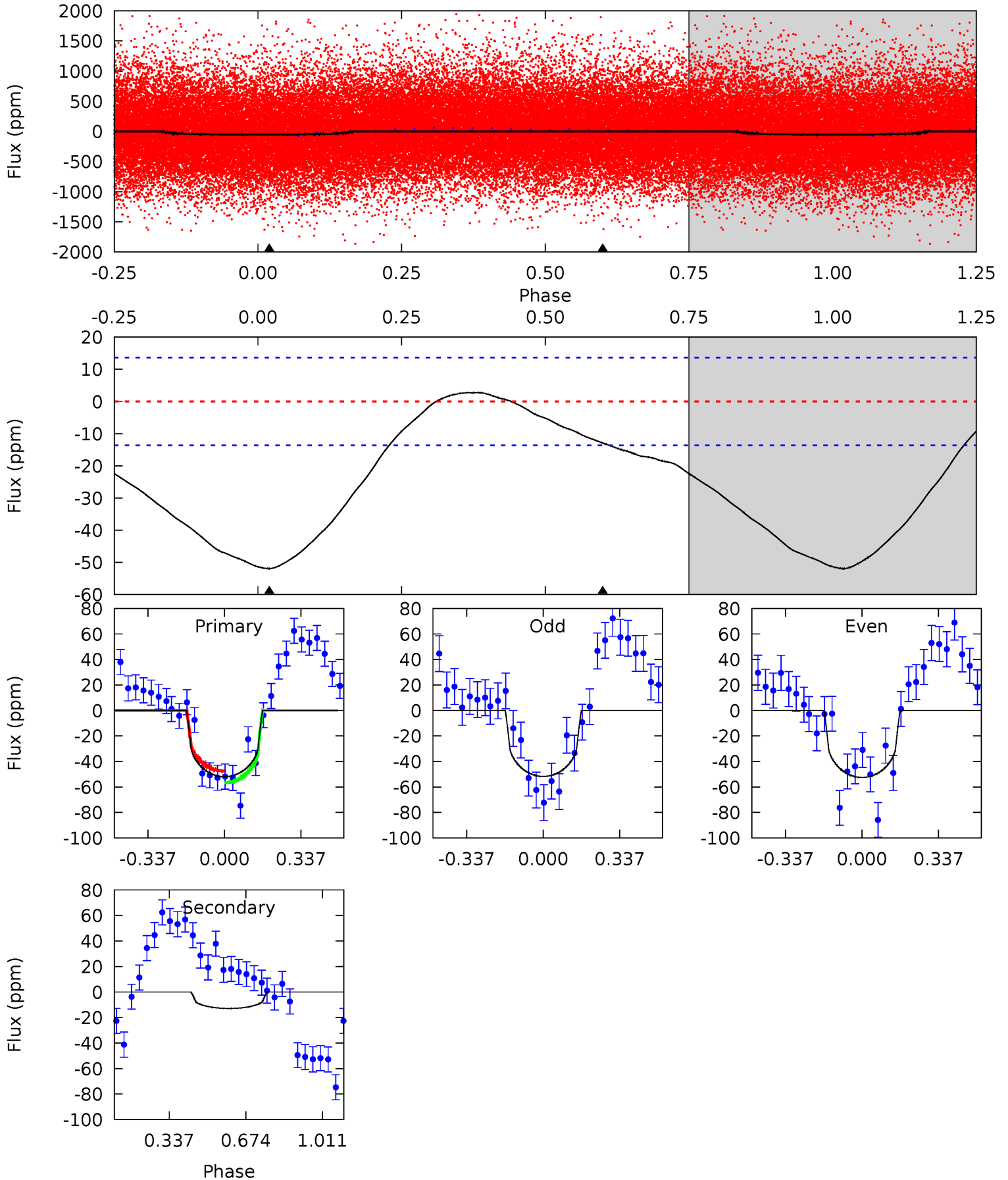
TCE 002715282-01 P= 0.968257 Days $T_0=132.410300$ (BKJD)



DV Model-Shift Uniqueness Test

002715282-01, P = 0.968192 Days, E = 131.507585 Days

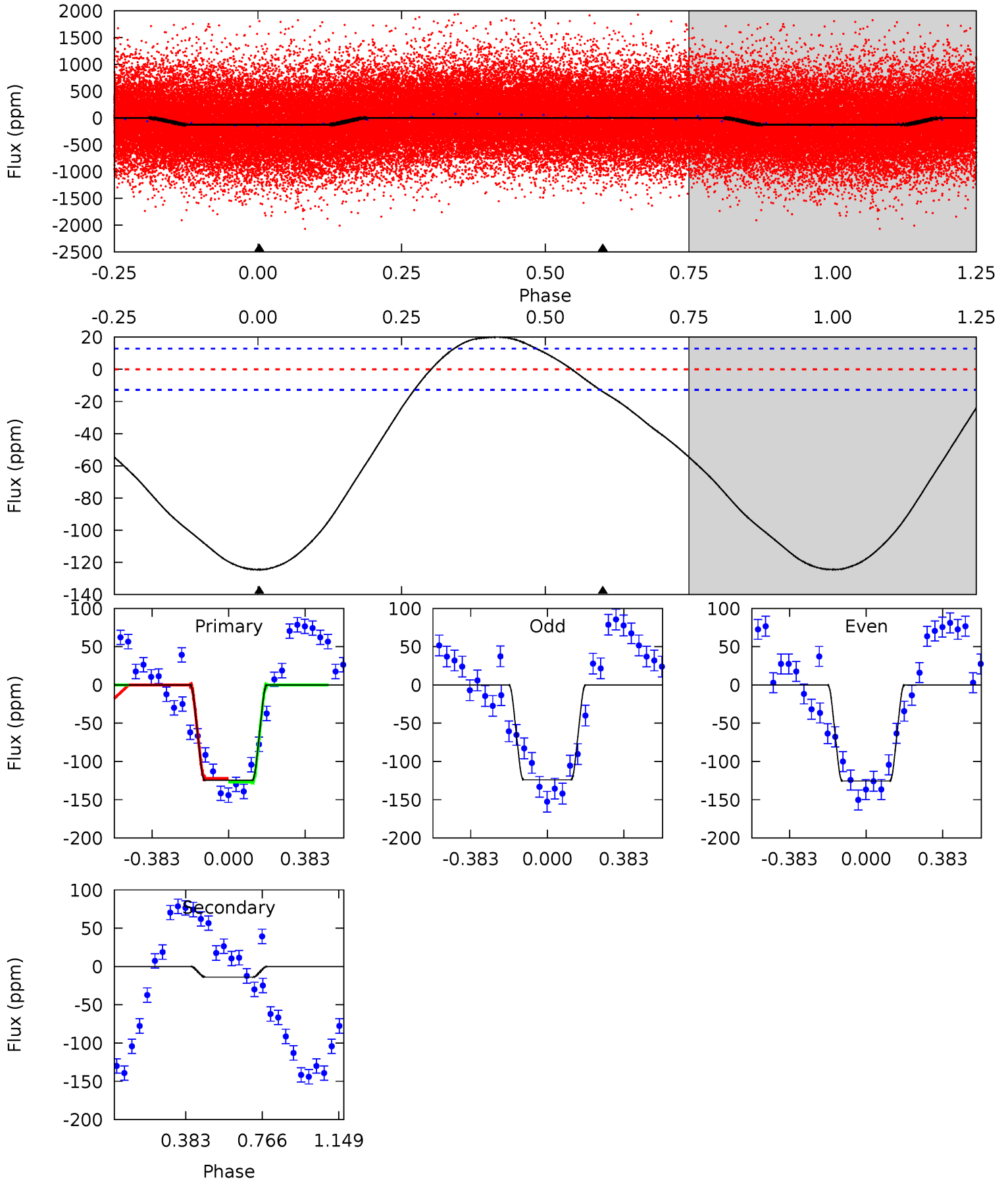
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	4.07	0	0	4.30	0.96	1.02	16.4	16.4	4.07	4.07	0.13	1.11	0.05	1.47



Alt Model-Shift Uniqueness Test

002715282-01, P = 0.968257 Days, E = 131.442043 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
41.6	4.64	0	0	4.27	0.87	3.89	41.6	41.6	4.64	4.64	0.26	1.11	0.14	0.80



Stellar Parameters For KIC 002715282

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5957^{+182}_{-223}	$4.476^{+0.048}_{-0.192}$	$0.210^{+0.200}_{-0.300}$	$1.016^{+0.289}_{-0.096}$	$1.126^{+0.112}_{-0.150}$	$1.511^{+0.301}_{-0.750}$
	+3%/-4%	+1%/-4%	+95%/-143%	+28%/-9%	+10%/-13%	+20%/-50%
Source	PHO1	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 002715282-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-13 ± 3	$1.05^{+0.86}_{-0.69}$	2668^{+183}_{-127}	3923^{+2506}_{-892}	$2.433^{+18.895}_{-1.716}$
Alt.	-14 ± 3	$1.42^{+1.07}_{-0.82}$	2668^{+176}_{-136}	3522^{+1539}_{-816}	$1.419^{+6.168}_{-0.940}$

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

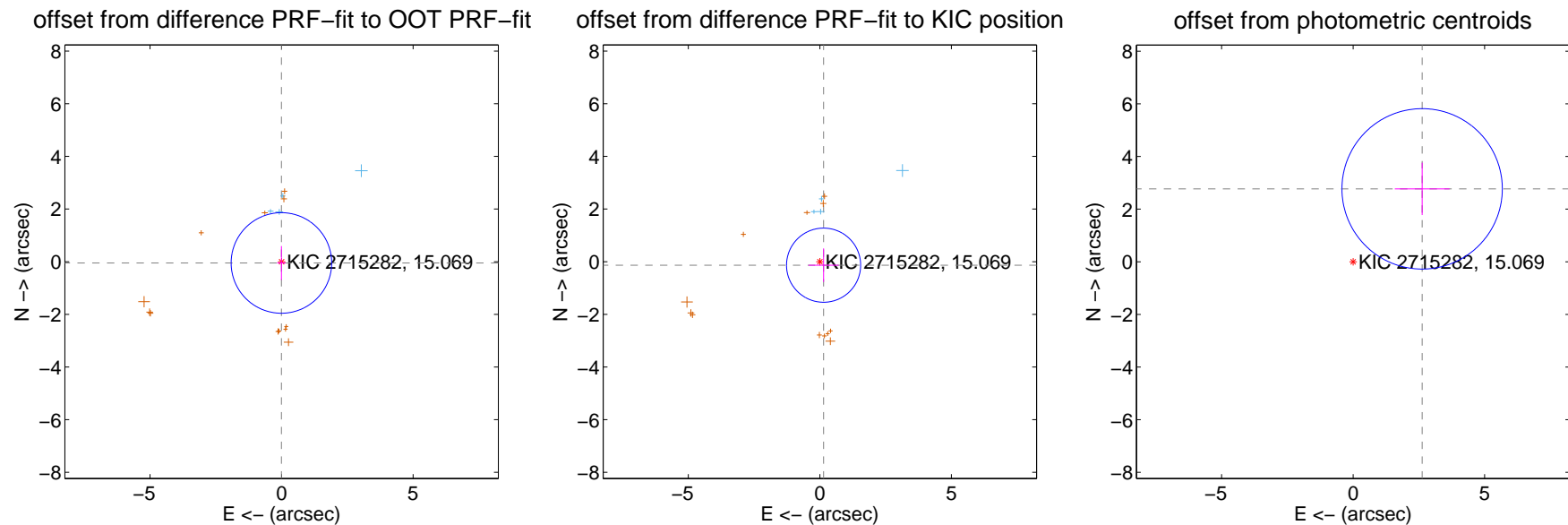
DV Centroid Data

Supplemental centroid analysis for 002715282-01. Kepler magnitude: 15.07. Transit SNR 10.53

There are 4 quarters with good PRF difference image offsets

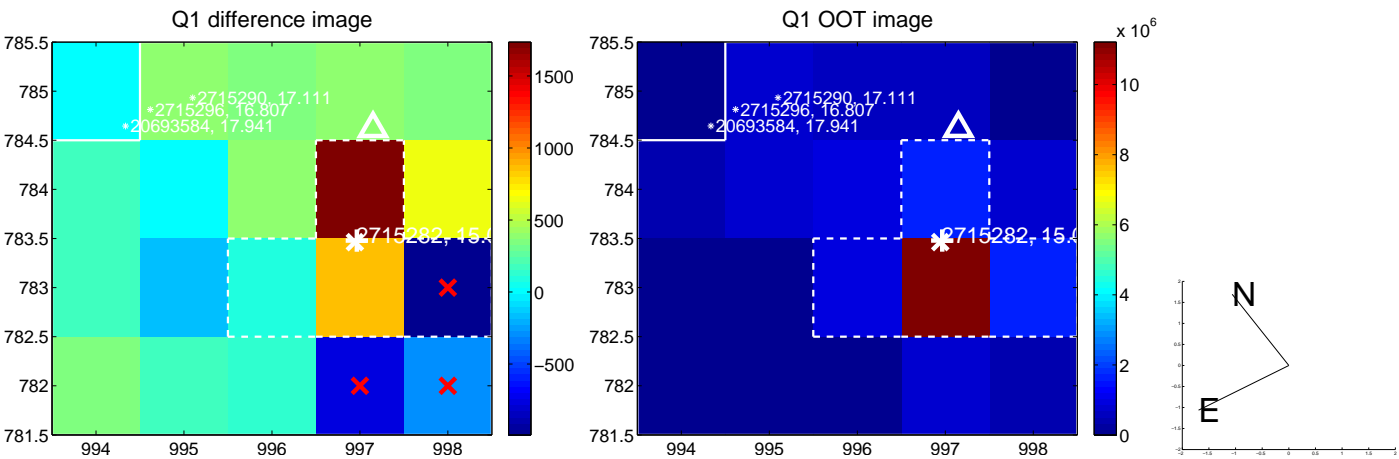
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.049 ± 0.637	0.08	0.007 ± 0.159	-0.048 ± 0.643
PRF-fit source offset from KIC position	0.195 ± 0.469	0.41	-0.142 ± 0.573	-0.133 ± 0.639
photometric centroid source offset	3.82 ± 1.02	3.76	-2.62 ± 1.04	2.77 ± 0.99

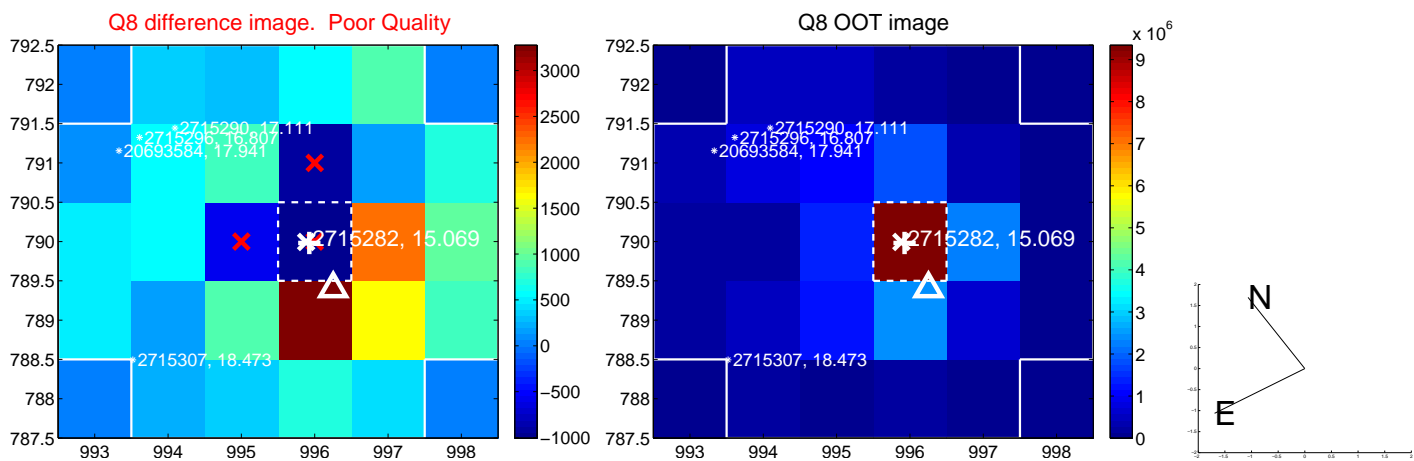
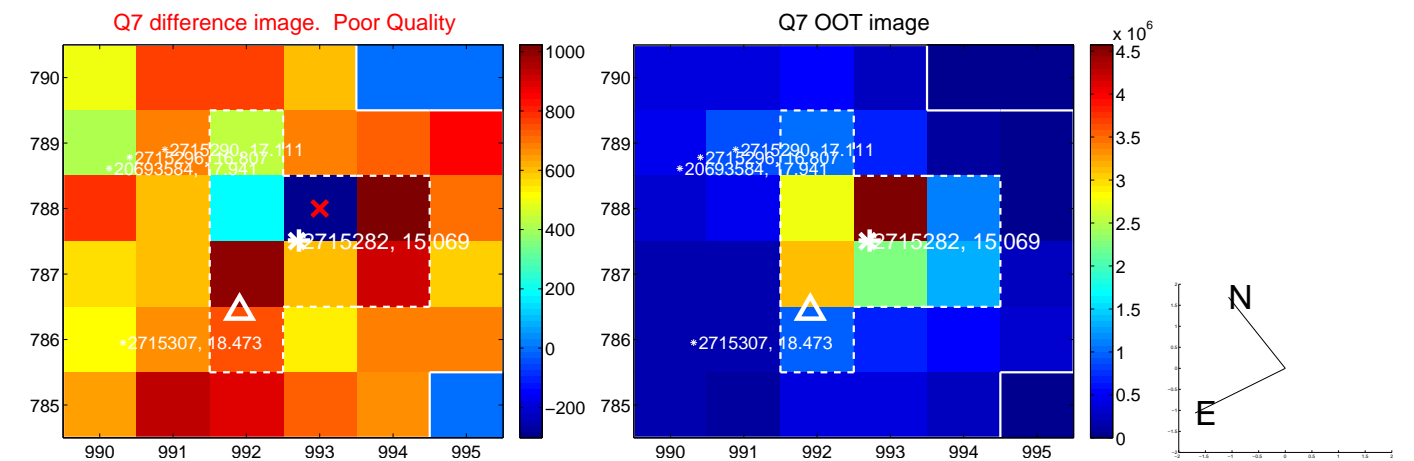
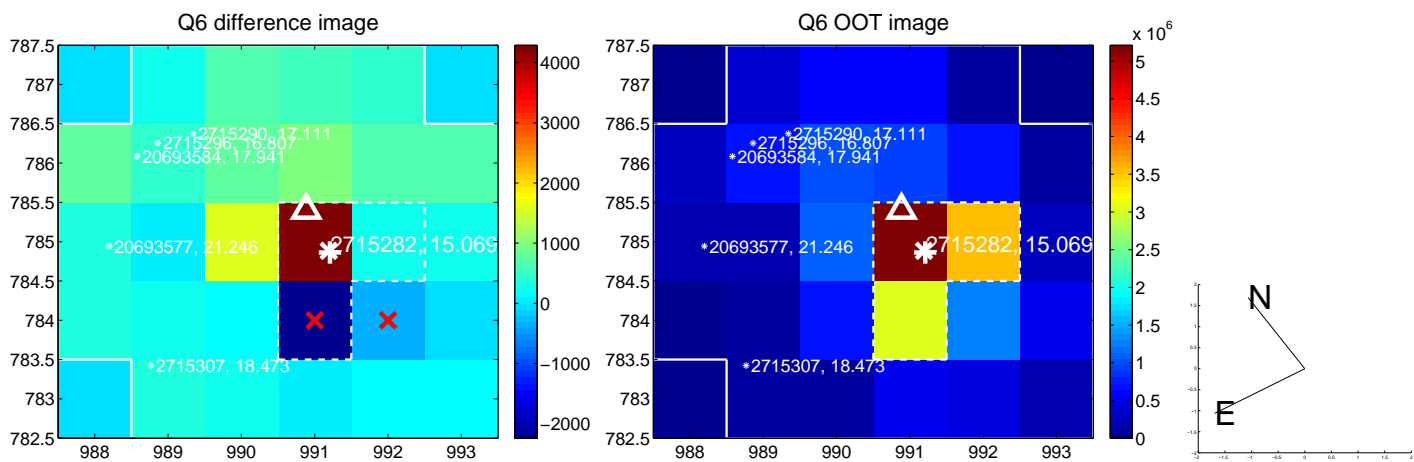
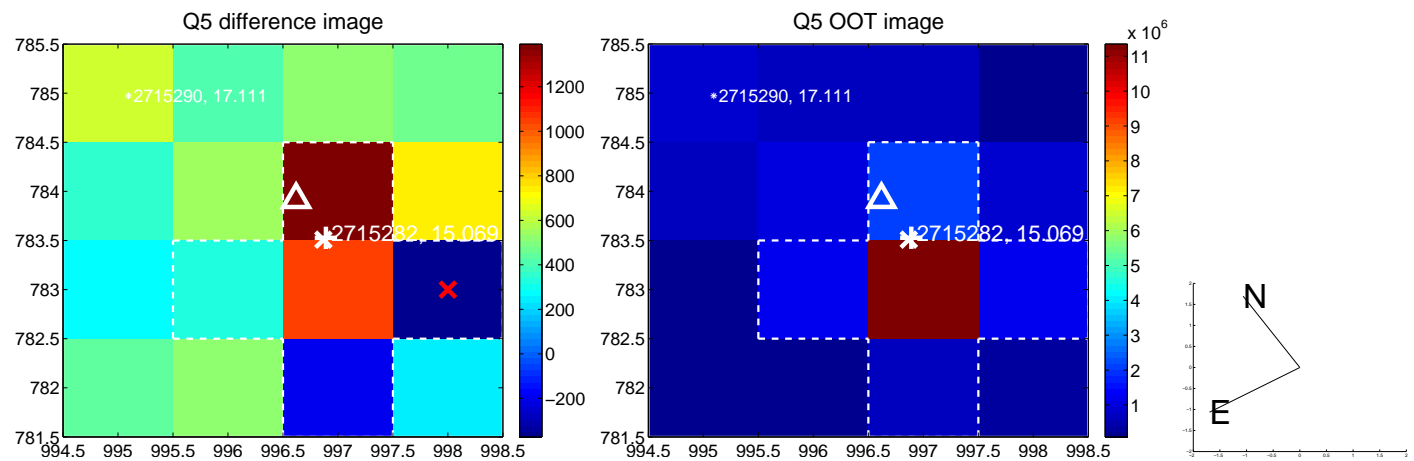


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

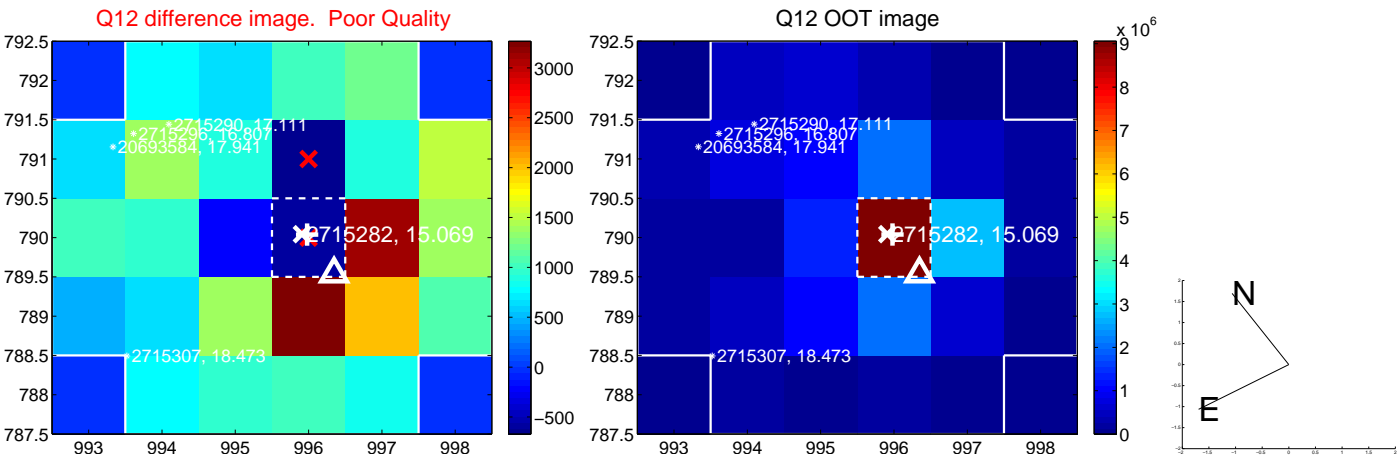
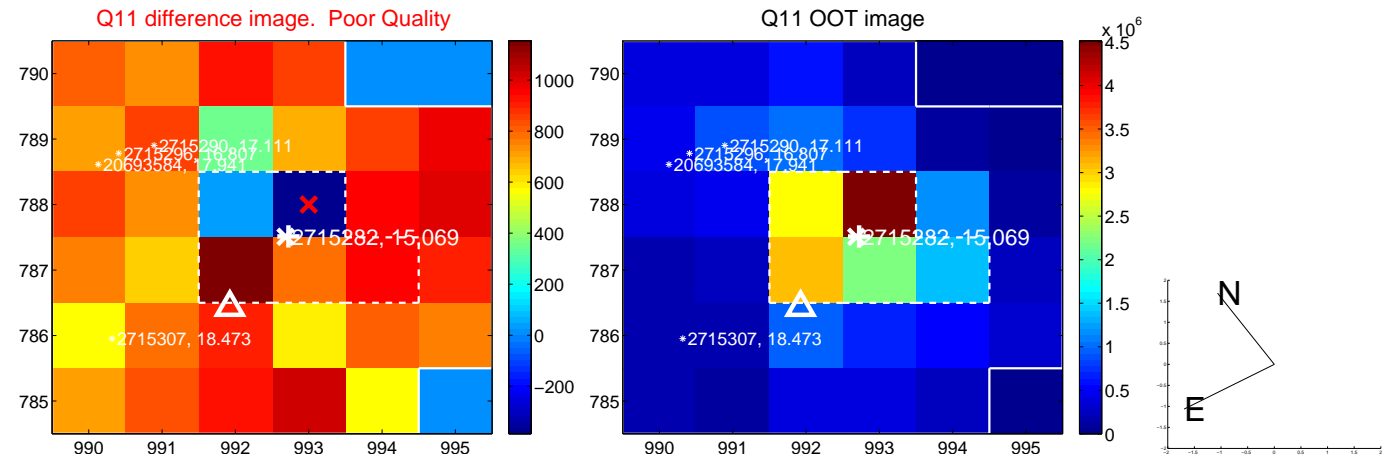
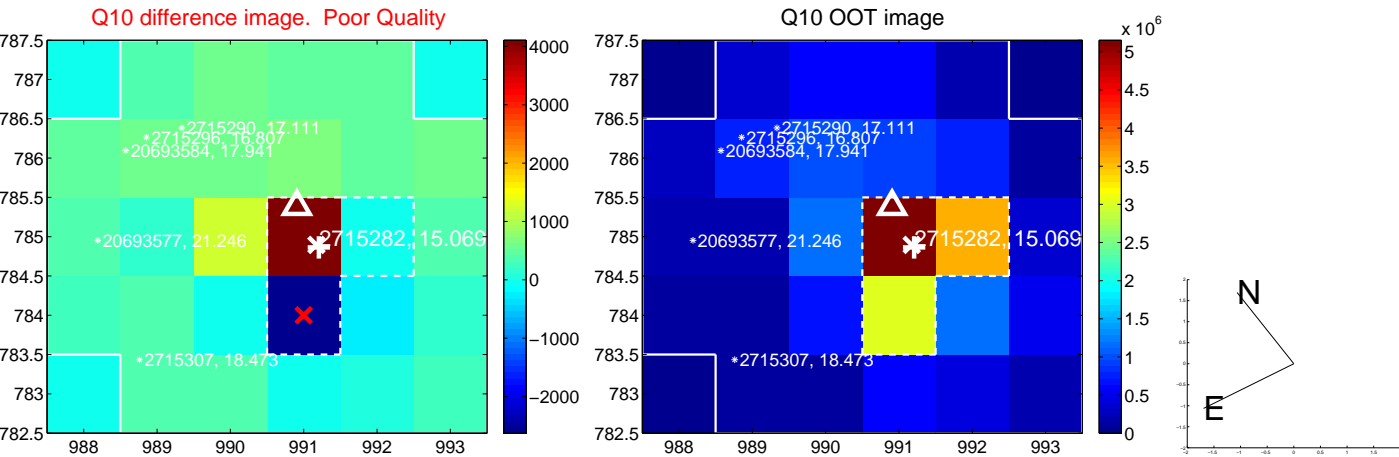
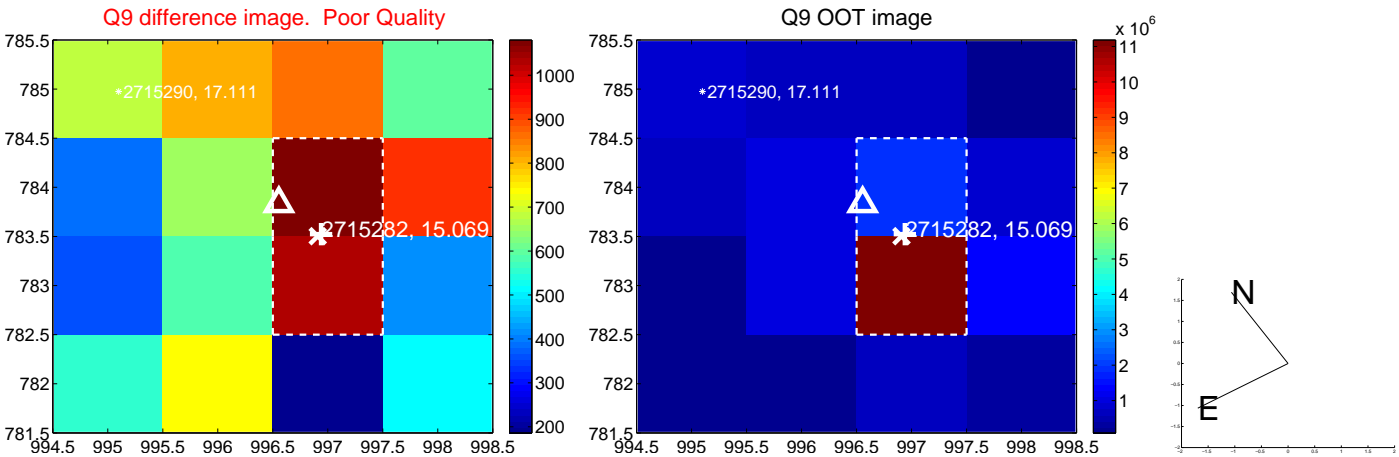
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



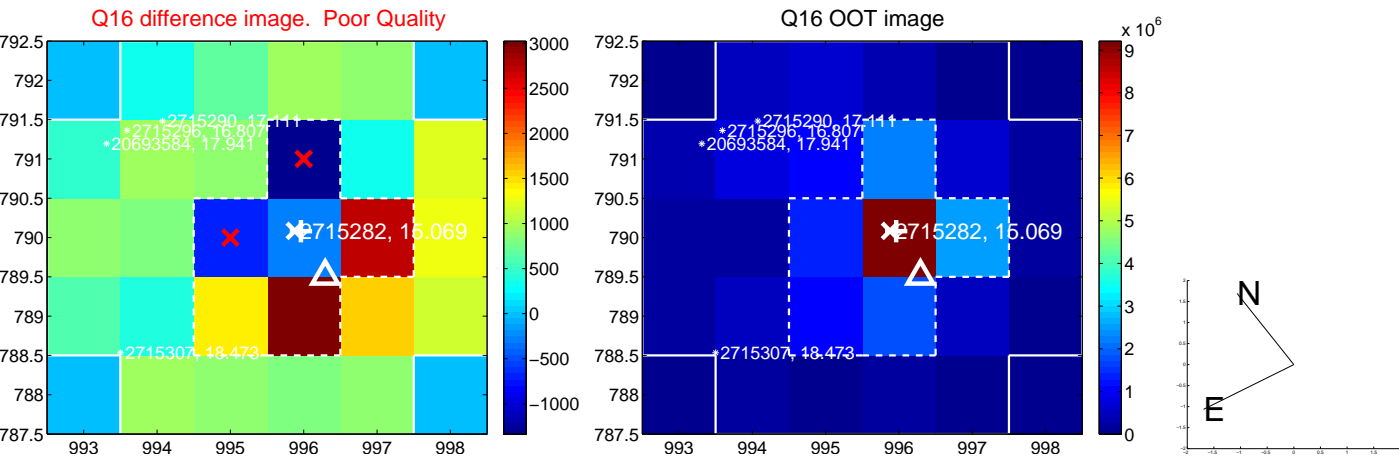
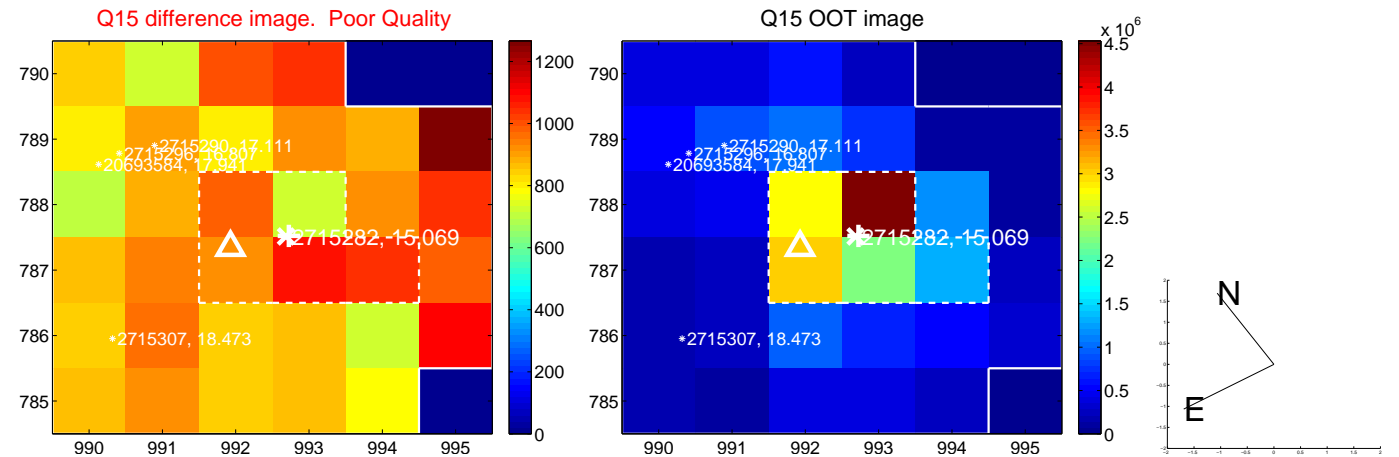
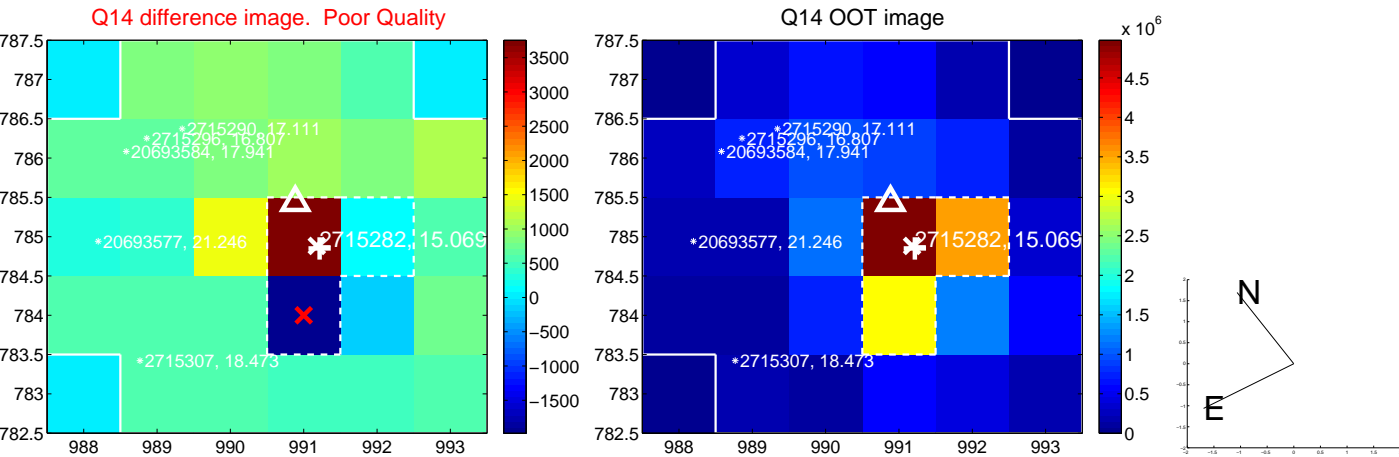
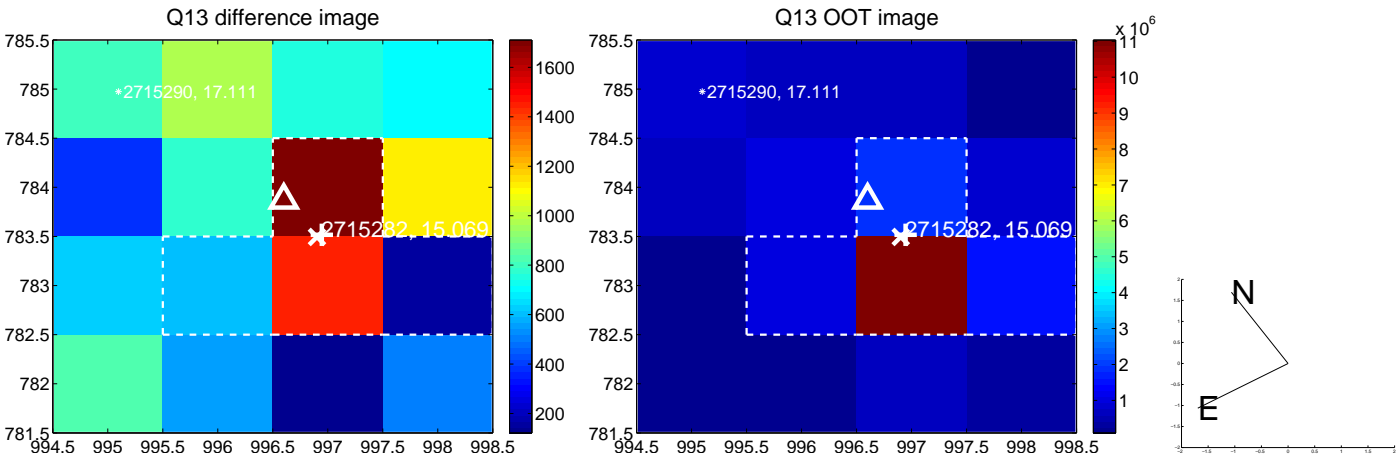
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



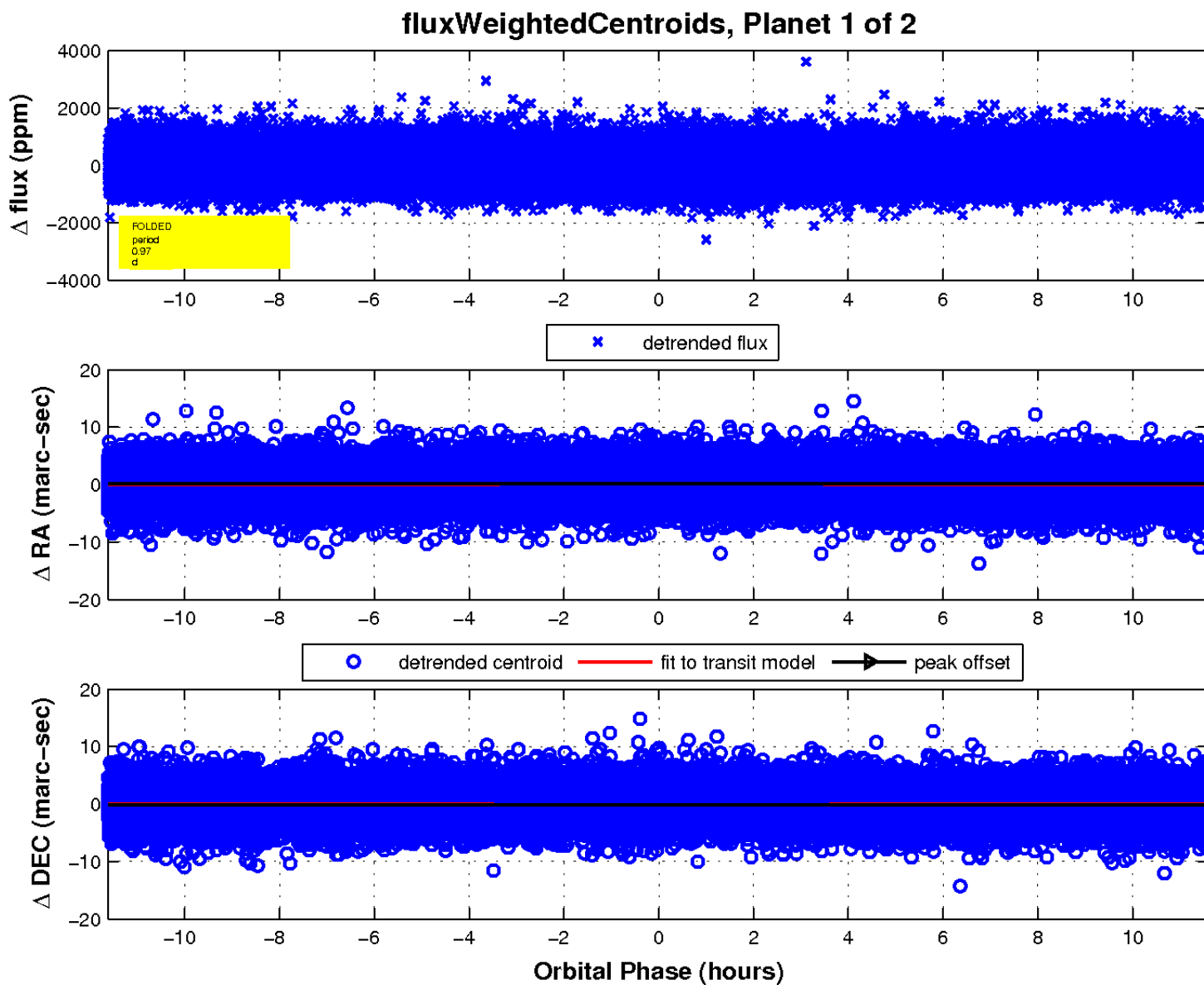
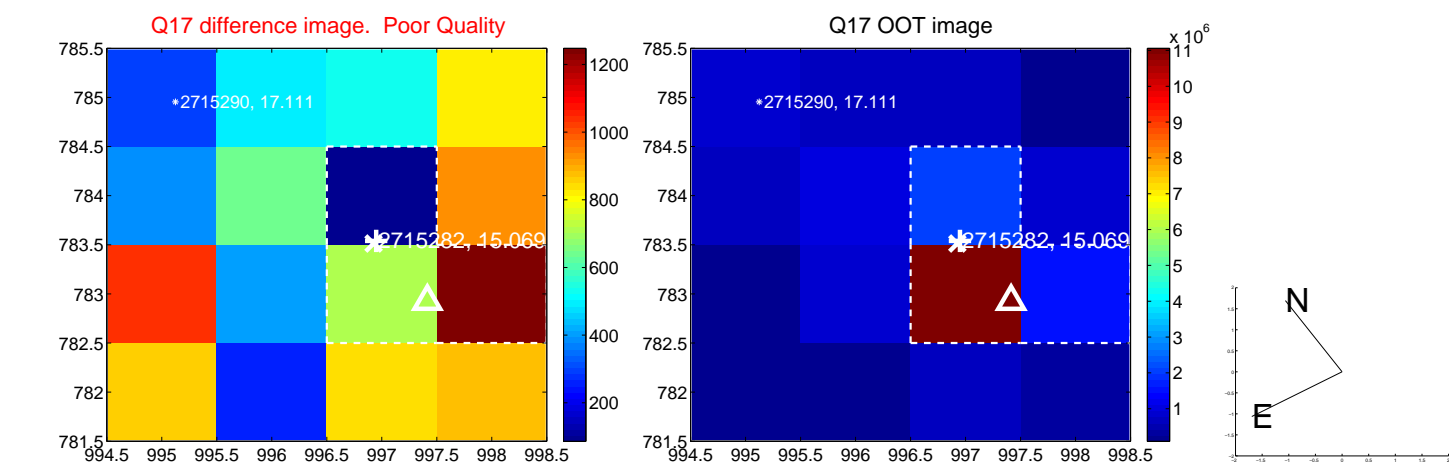
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

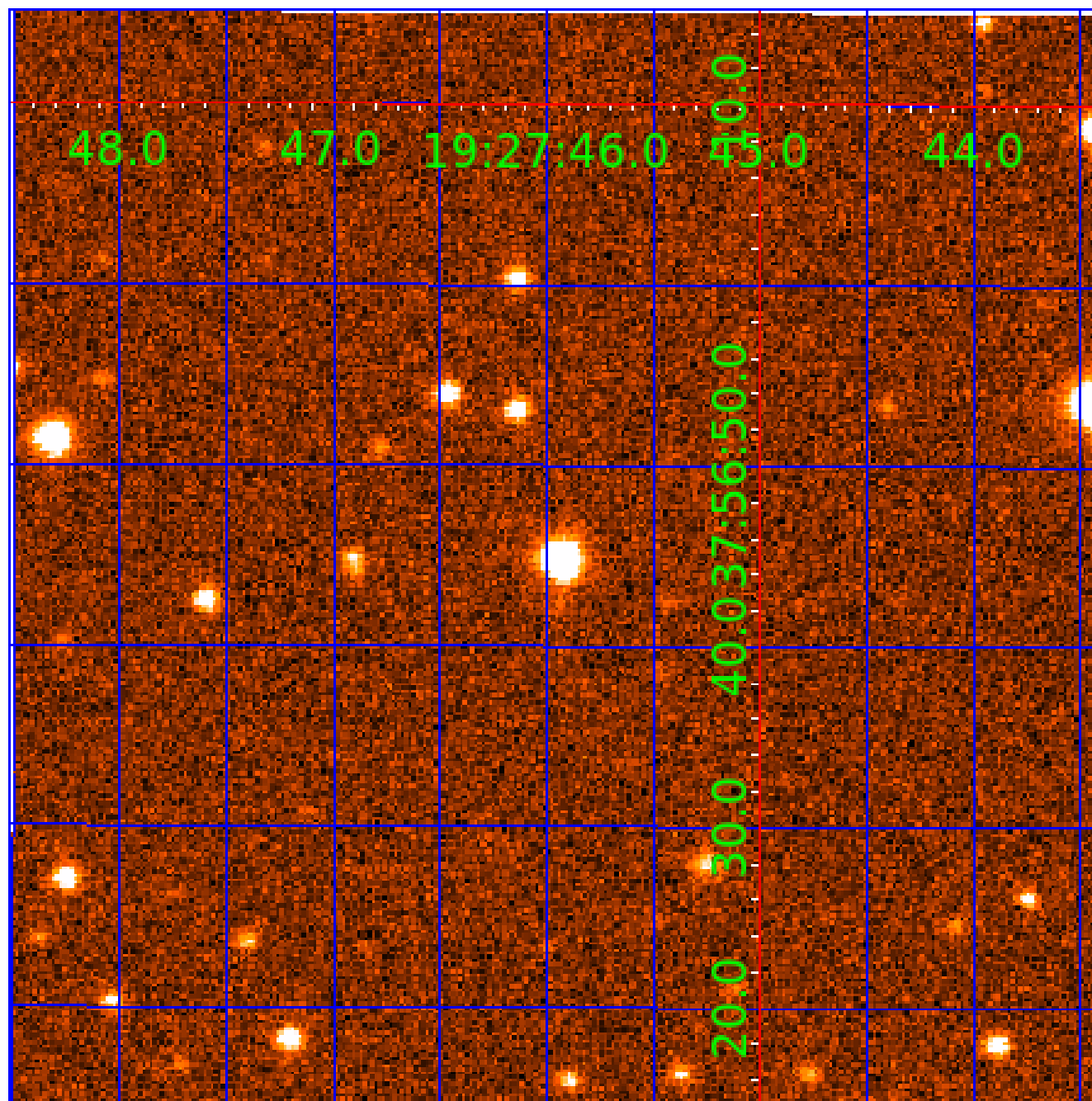


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002715282

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})
002715282-01	OBS	No	0.968192	132.475778	48.1	7.386	7.7	10.5	1.02	5957	0.70	2930.79
002715282-02	OBS	No	7.244473	136.073890	800.2	0.909	14.1	17.5	1.02	5957	2.88	200.26

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002715282-01	OBS	FP	0.00	1	0	1	1	LPP_DV—CENT_UNRESOLVED_OFFSET—HALO_GHOST—EPHEM_MATCH
002715282-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—CENT_FEW_DIFFS

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

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

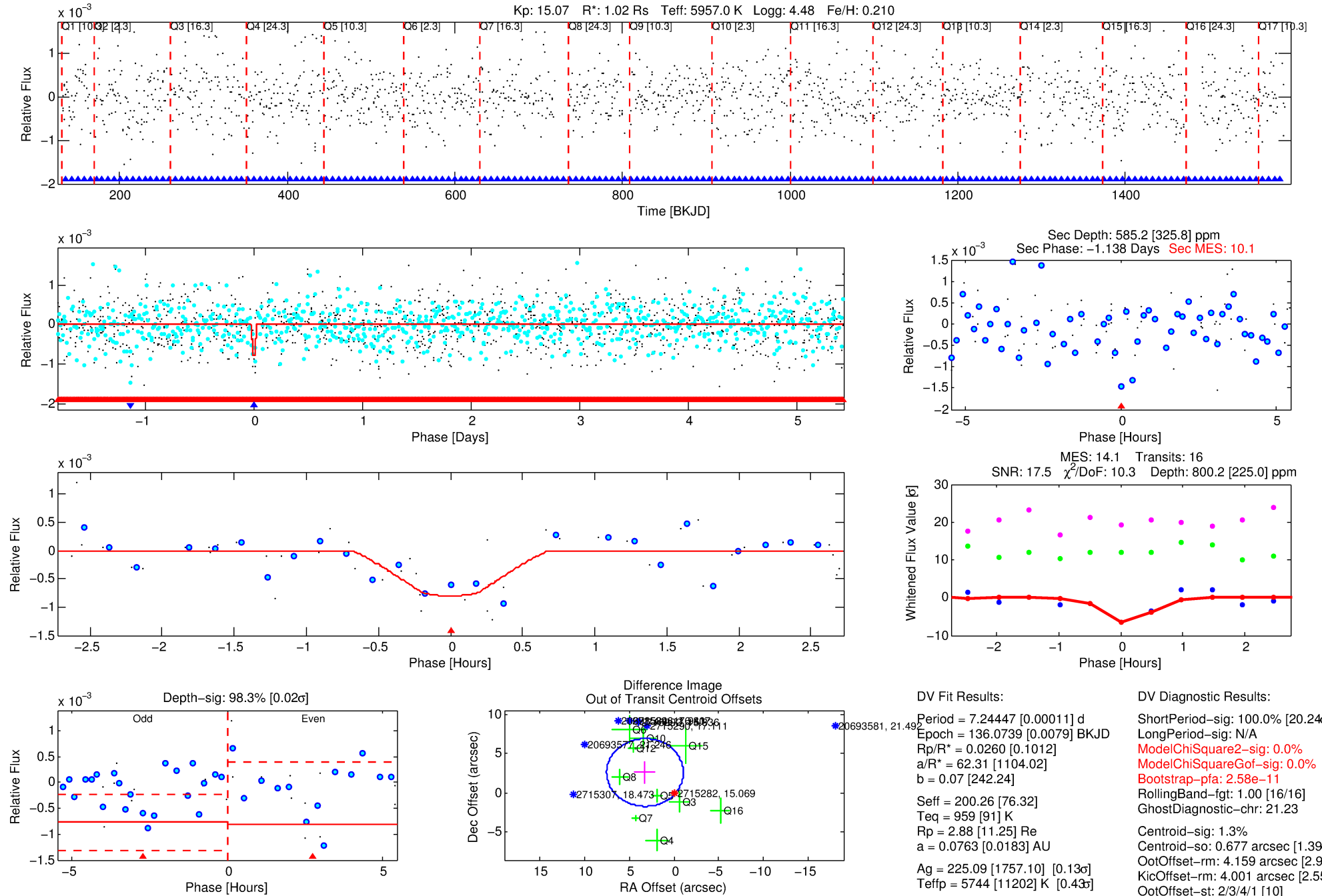
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002715282-02

No Significant Match Found

DV One-Page Summary

KIC: 2715282 Candidate: 2 of 2 Period: 7.244 d



DV Fit Results:

Period = 7.24447 [0.00011] d
Epoch = 136.0739 [0.0079] BKJD
Rp/R* = 0.0260 [0.1012]
a/R* = 62.31 [1104.02]
b = 0.07 [242.24]
Seff = 200.26 [76.32]
Teff = 959 [91] K
Rp = 2.88 [11.25] Re
a = 0.0763 [0.0183] AU
Ag = 225.09 [1757.10] [0.13 σ]
Teffp = 5744 [11202] K [0.43 σ]

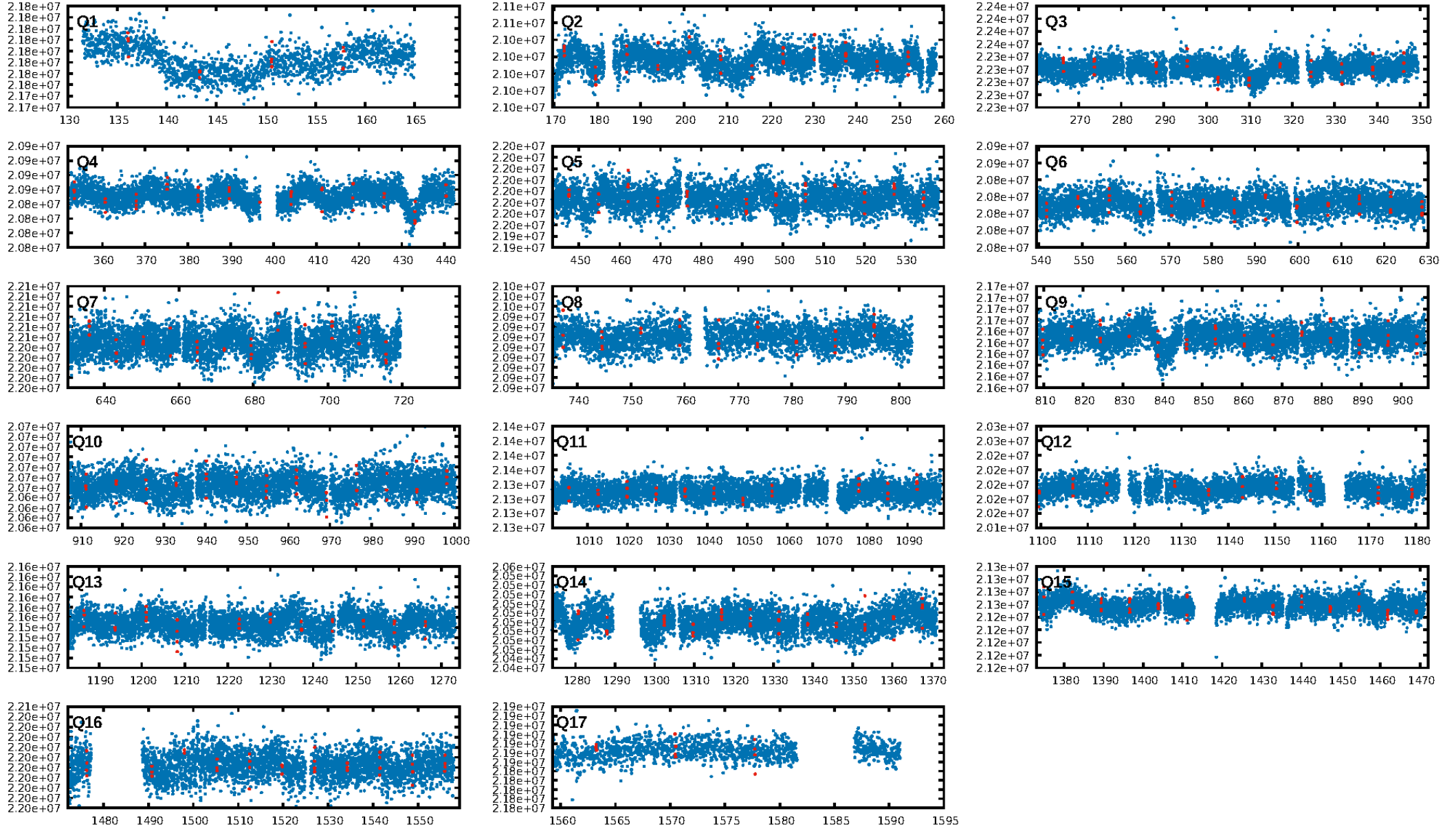
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [20.24 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: 2.58e-11
RollingBand-fgt: 1.00 [16/16]
GhostDiagnostic-chr: 21.23
Centroid-sig: 1.3%
Centroid-so: 0.677 arcsec [1.39 σ]
OotOffset-rm: 4.159 arcsec [2.90 σ]
KicOffset-rm: 4.001 arcsec [2.55 σ]
OotOffset-st: 2/3/4/1 [10]
KicOffset-st: 2/3/4/1 [10]
DiffImageQuality-fgm: 0.00 [0/10]
DiffImageOverlap-fno: 0.71 [12/17]

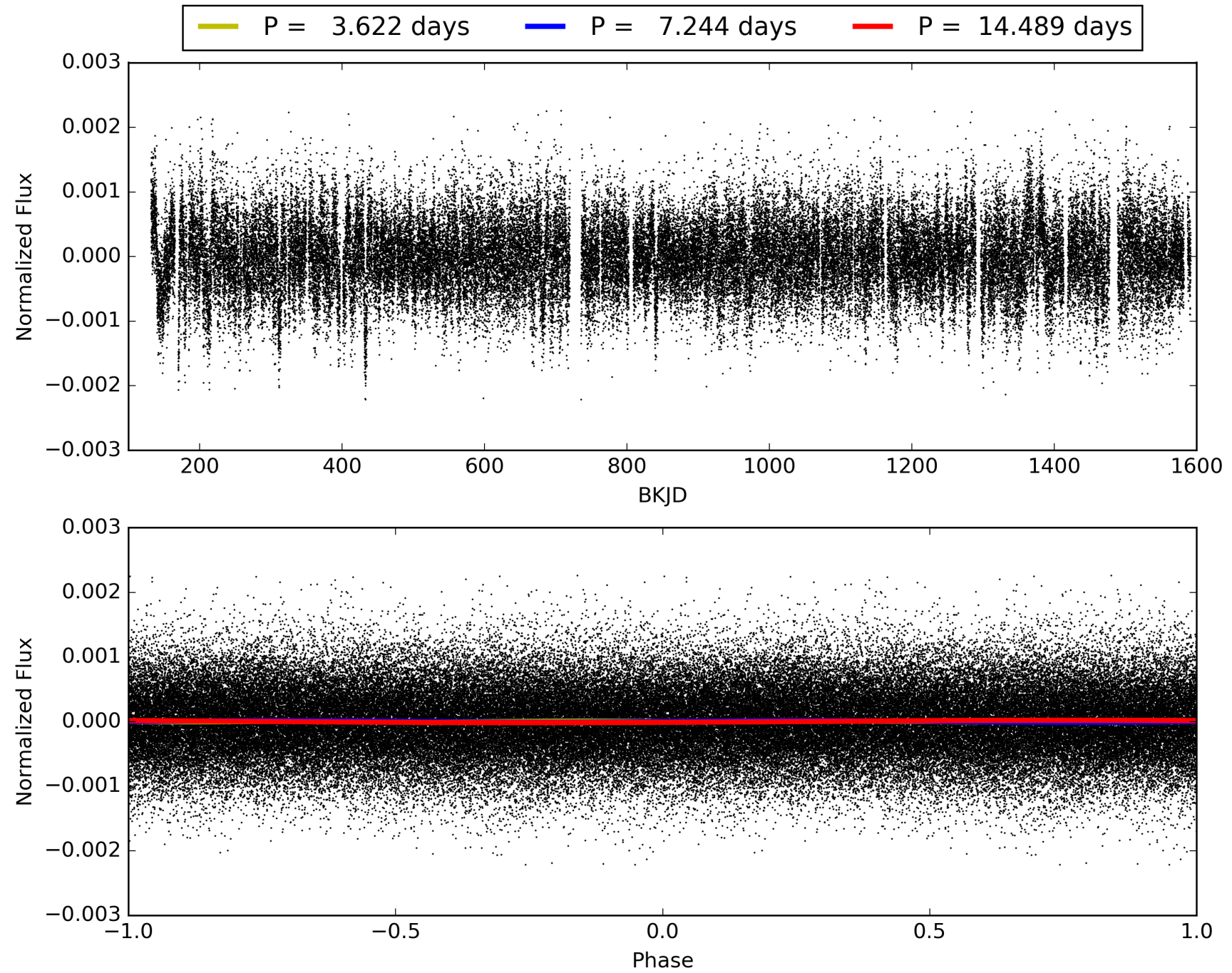
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:34:48 Z

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

TCE 002715282-02, PDC Light Curves

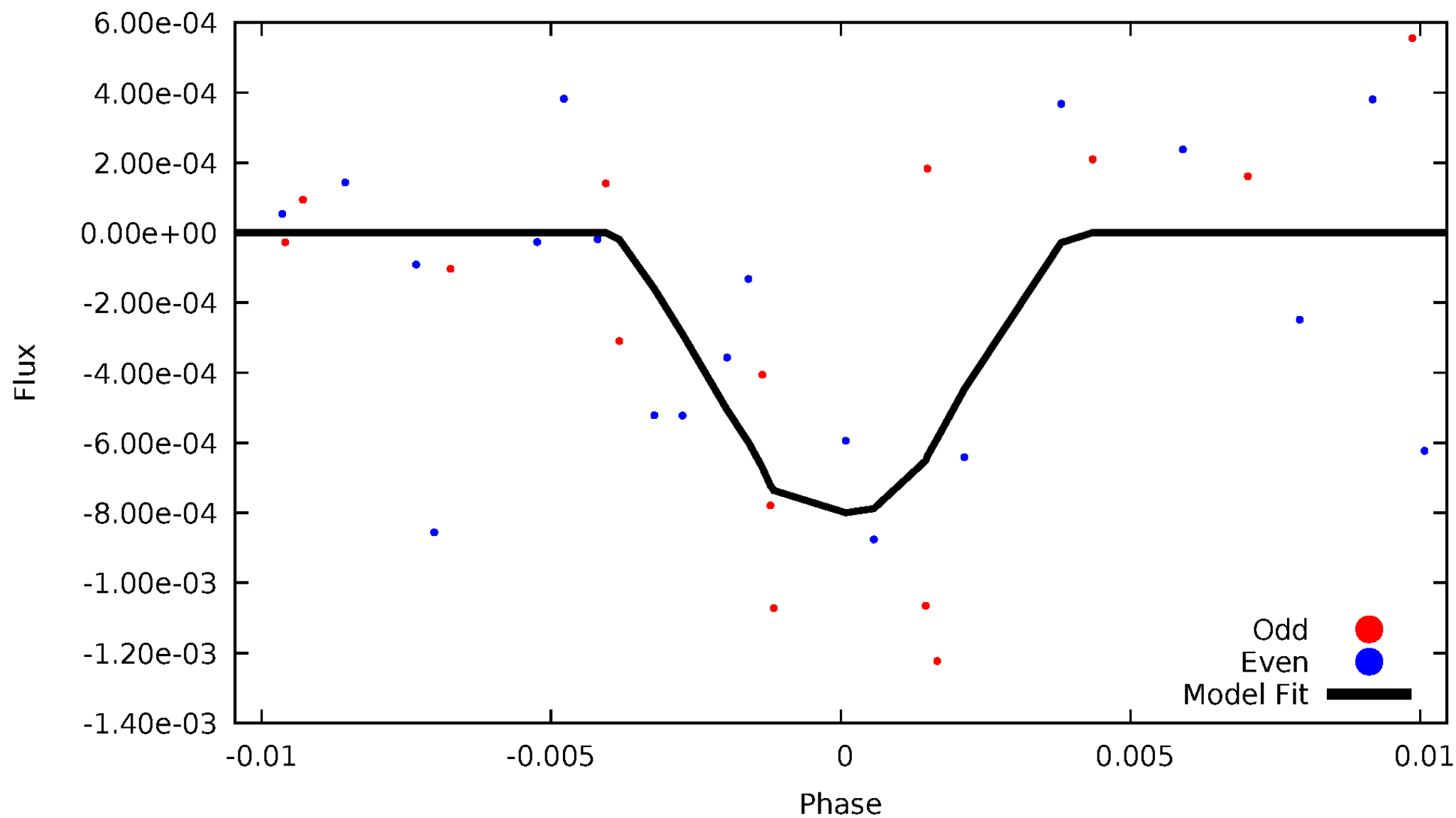


TCE 002715282-02



DV Odd/Even

TCE 002715282-02

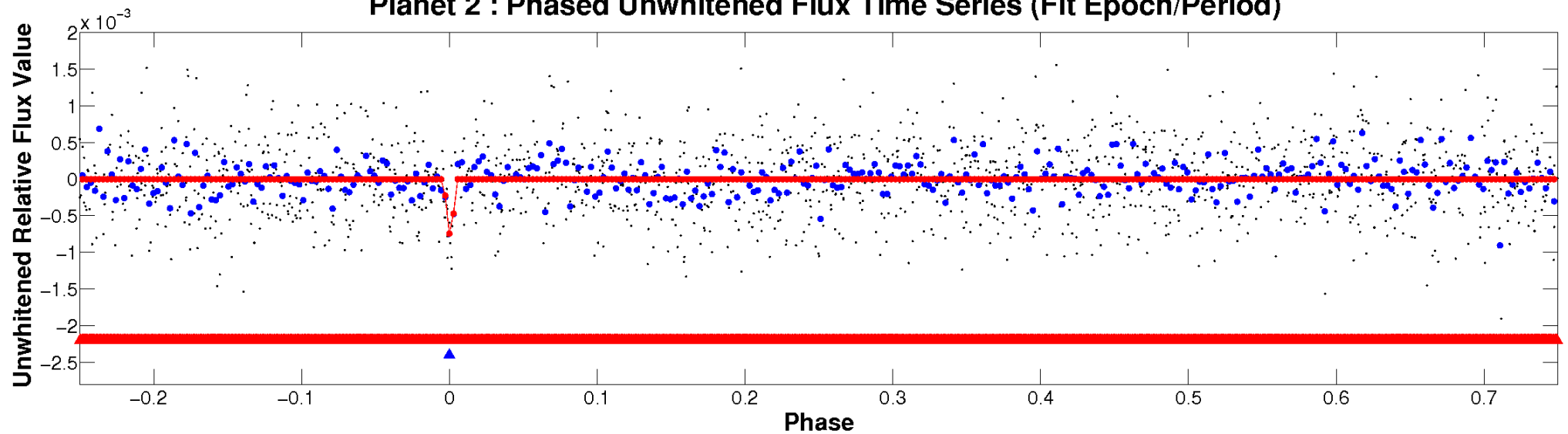


ALT Odd/Even

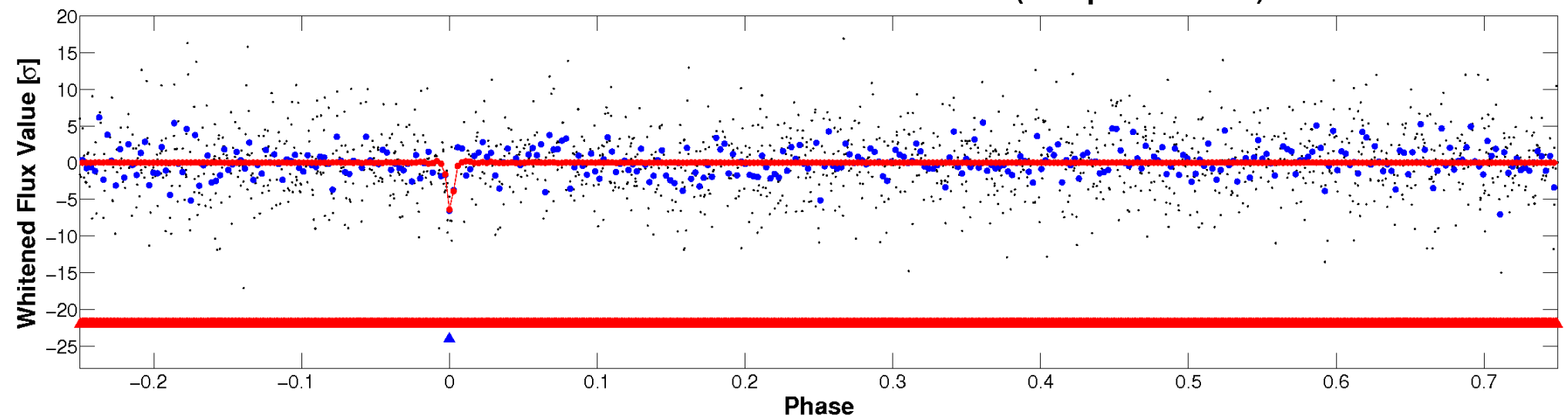
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

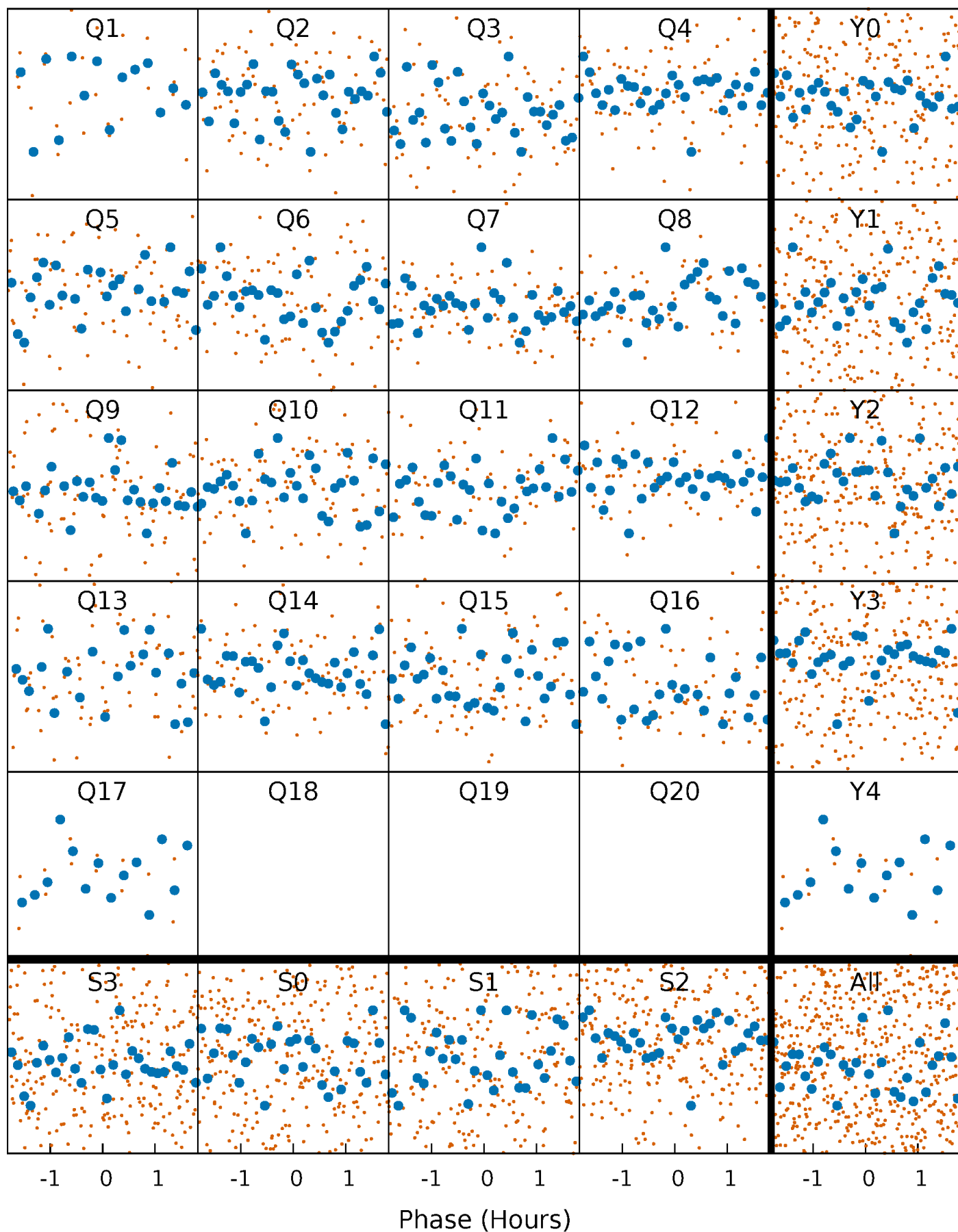


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



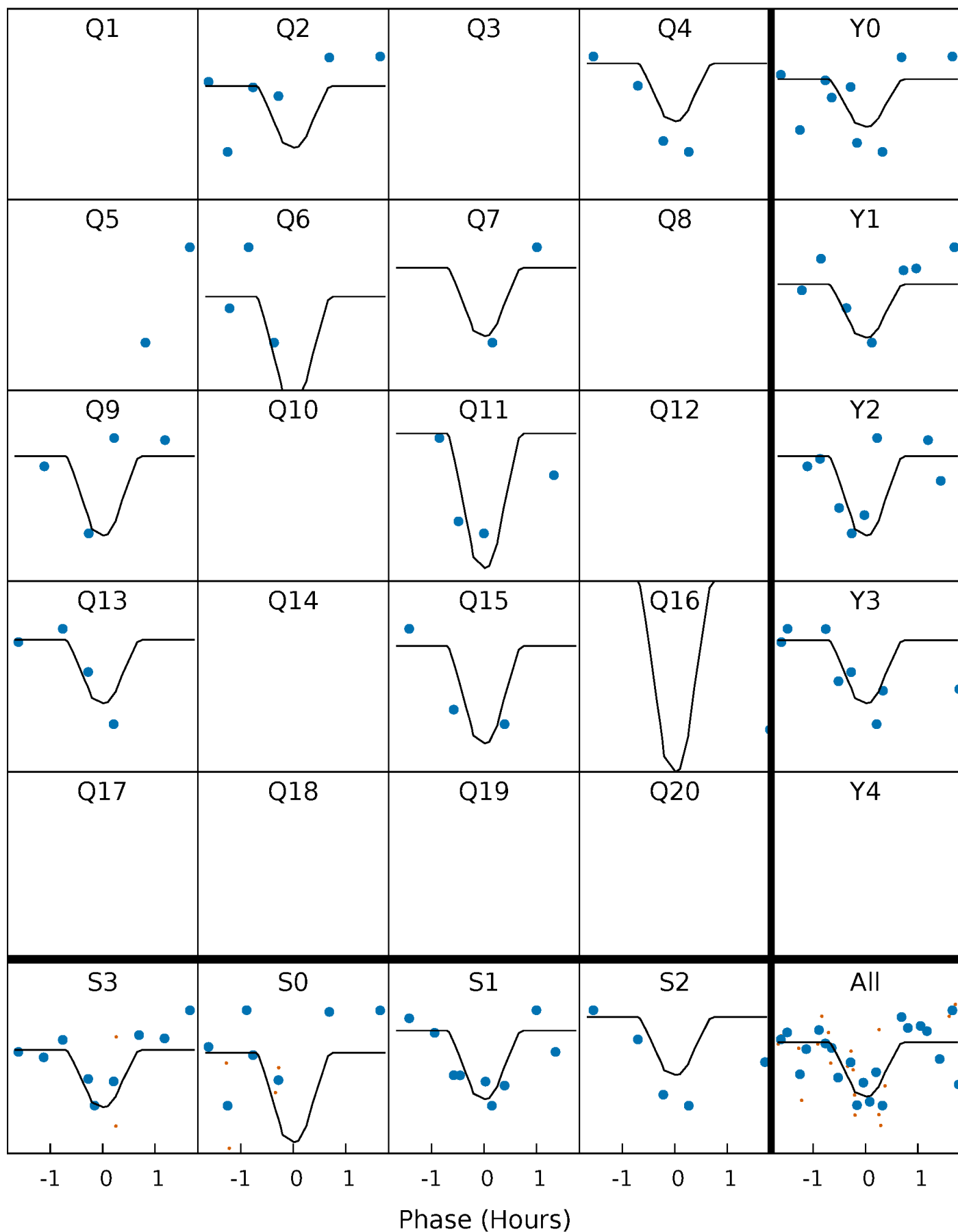
PDC Quarter-Phased Transit Curves

TCE 002715282-02 P= 7.244473 Days $T_0=136.073890$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 002715282-02 P= 7.244473 Days $T_0=136.073890$ (BKJD)

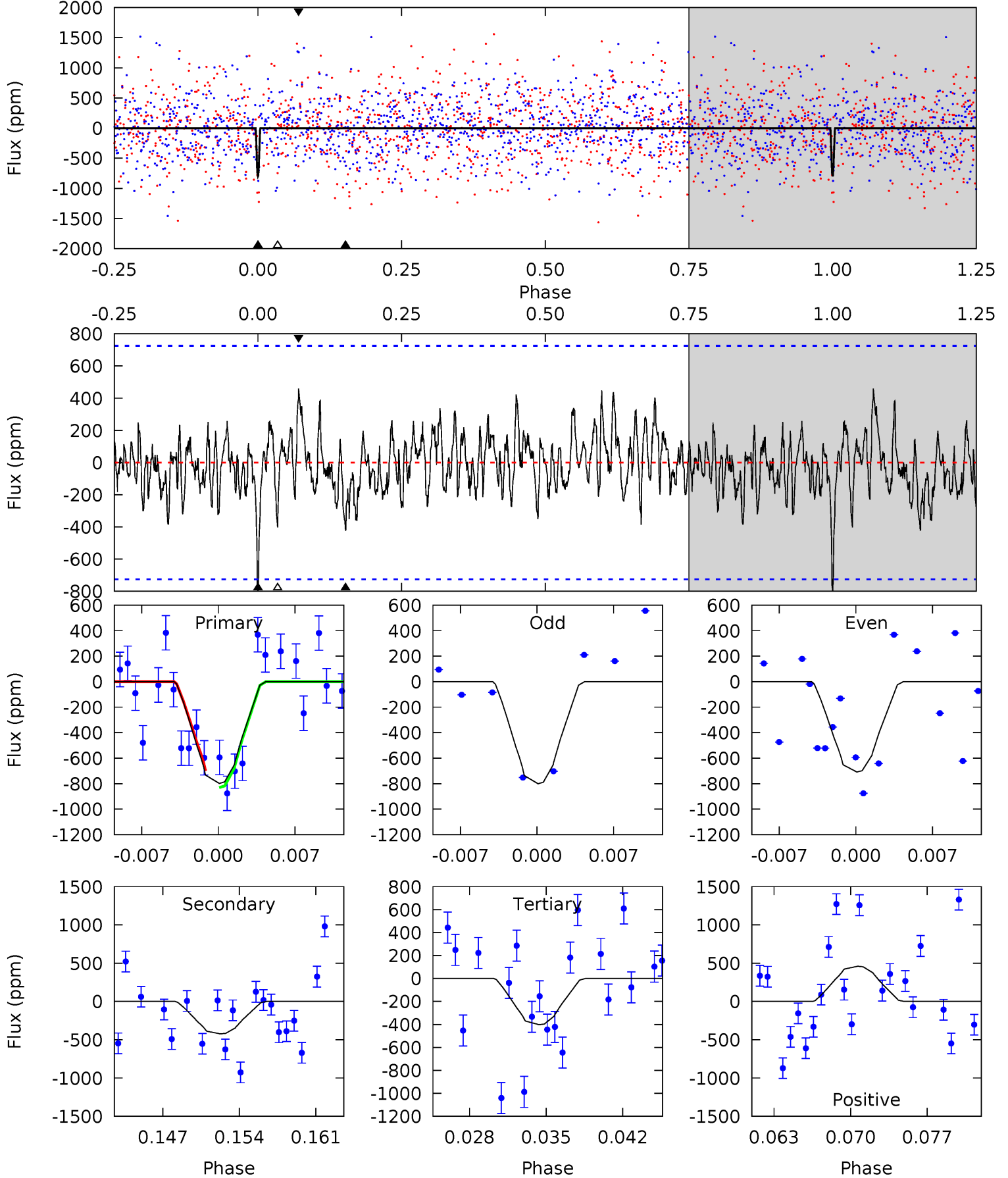


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

002715282-02, P = 7.244473 Days, E = 128.829417 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.60	2.97	2.83	3.23	5.09	2.70	1.05	2.78	2.38	0.14	-0.26	0.32	1.11	0.37	0.47



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 002715282

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5957^{+182}_{-223}	$4.476^{+0.048}_{-0.192}$	$0.210^{+0.200}_{-0.300}$	$1.016^{+0.289}_{-0.096}$	$1.126^{+0.112}_{-0.150}$	$1.511^{+0.301}_{-0.750}$
	+3%/-4%	+1%/-4%	+95%/-143%	+28%/-9%	+10%/-13%	+20%/-50%
Source	PHO1	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 002715282-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-423±142	$9.29^{+9.52}_{-6.15}$	1369^{+94}_{-68}	3465^{+1730}_{-694}	14^{+111}_{-11}
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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

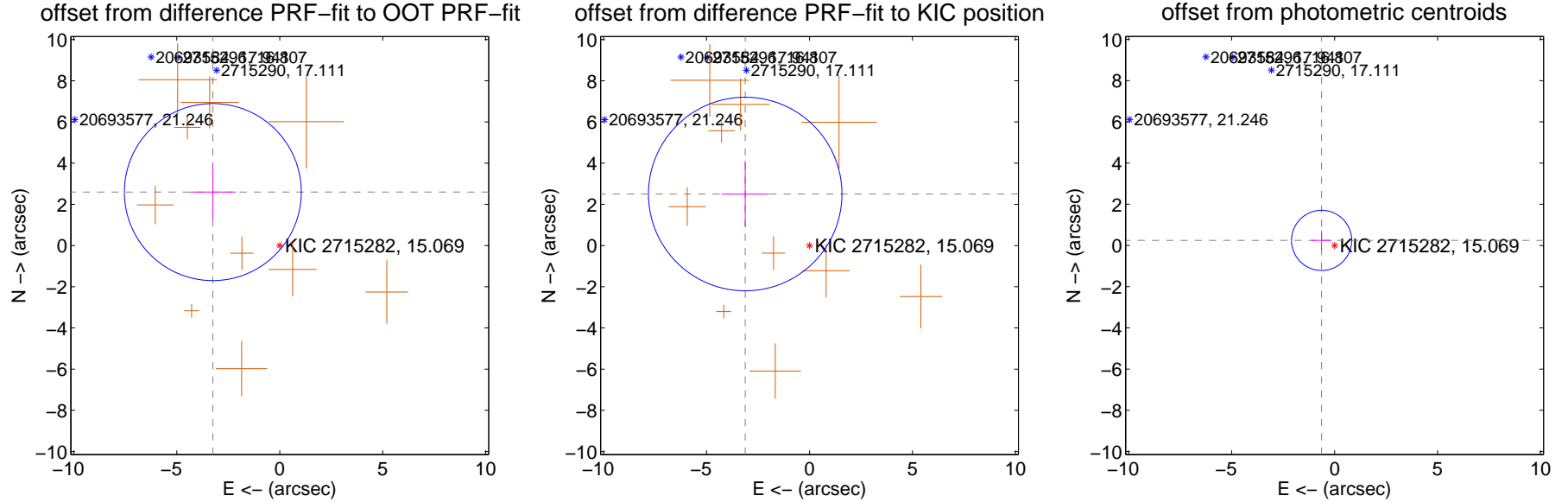
DV Centroid Data

Supplemental centroid analysis for 002715282-02. Kepler magnitude: 15.07. Transit SNR 17.48

There are 0 quarters with good PRF difference image offsets

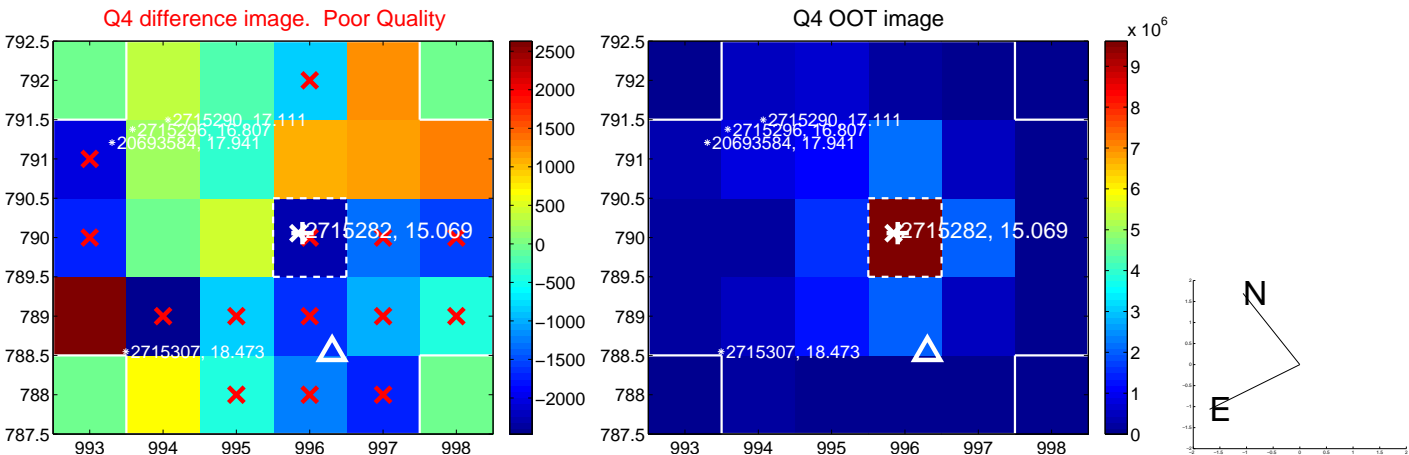
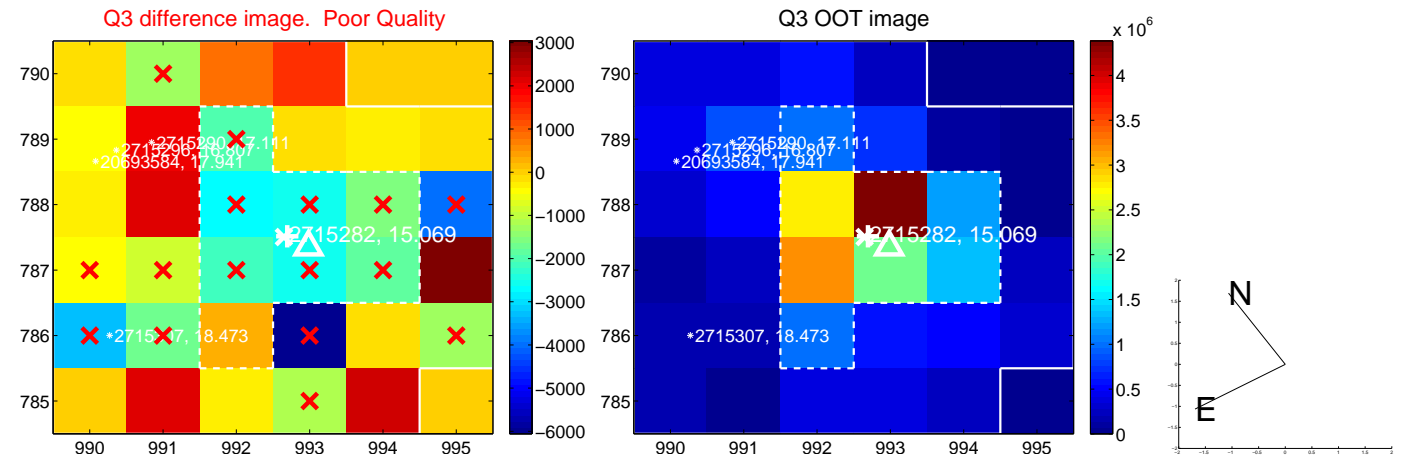
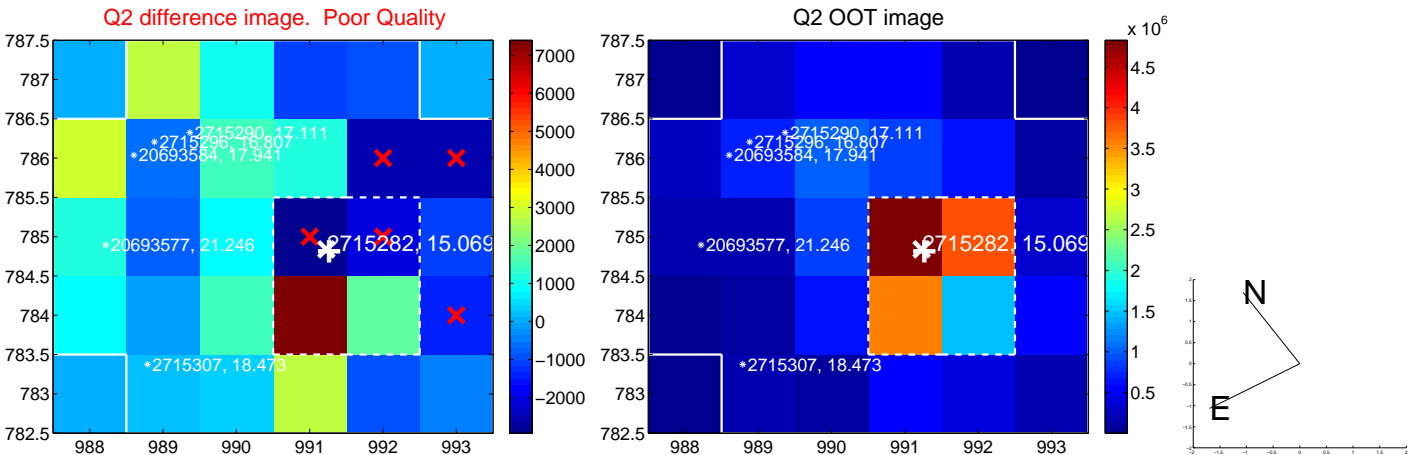
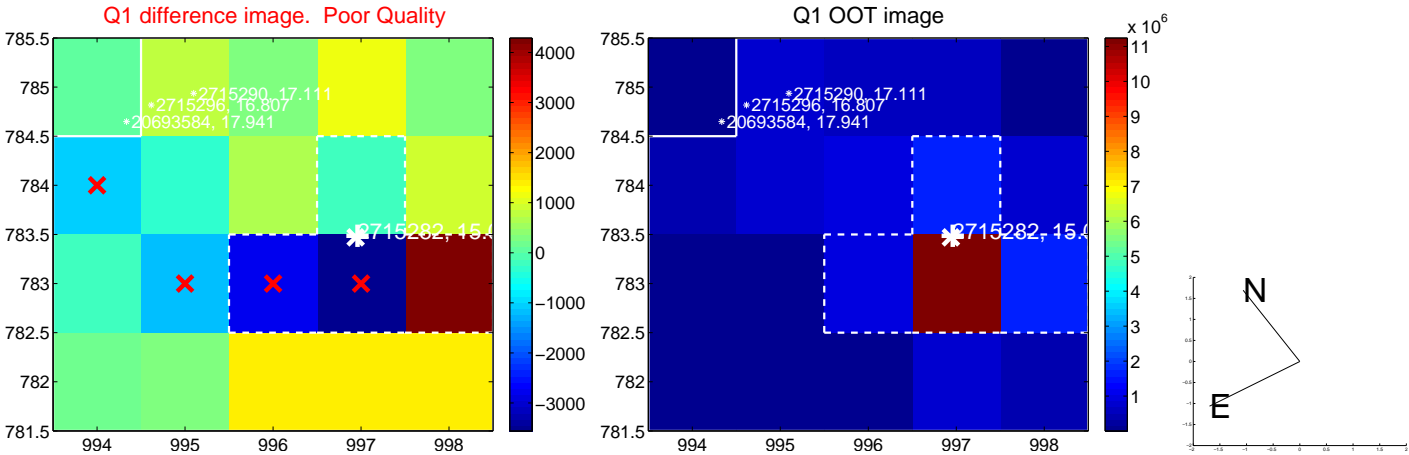
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.159 ± 1.432	2.90	3.251 ± 1.114	2.595 ± 1.377
PRF-fit source offset from KIC position	4.001 ± 1.566	2.55	3.124 ± 1.150	2.500 ± 1.608
photometric centroid source offset	0.68 ± 0.49	1.39	0.63 ± 0.49	0.25 ± 0.47

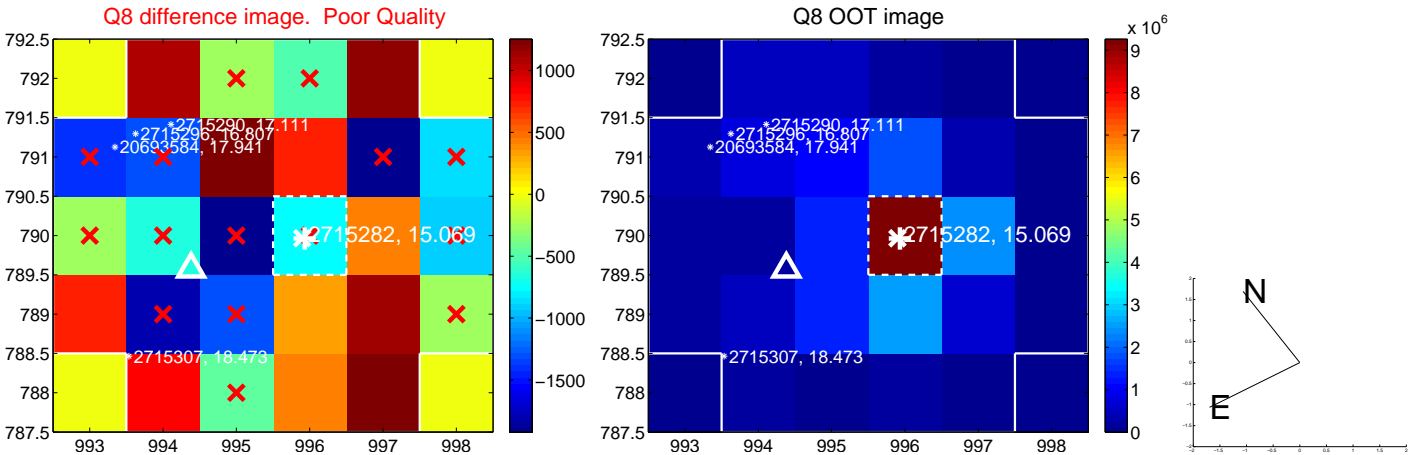
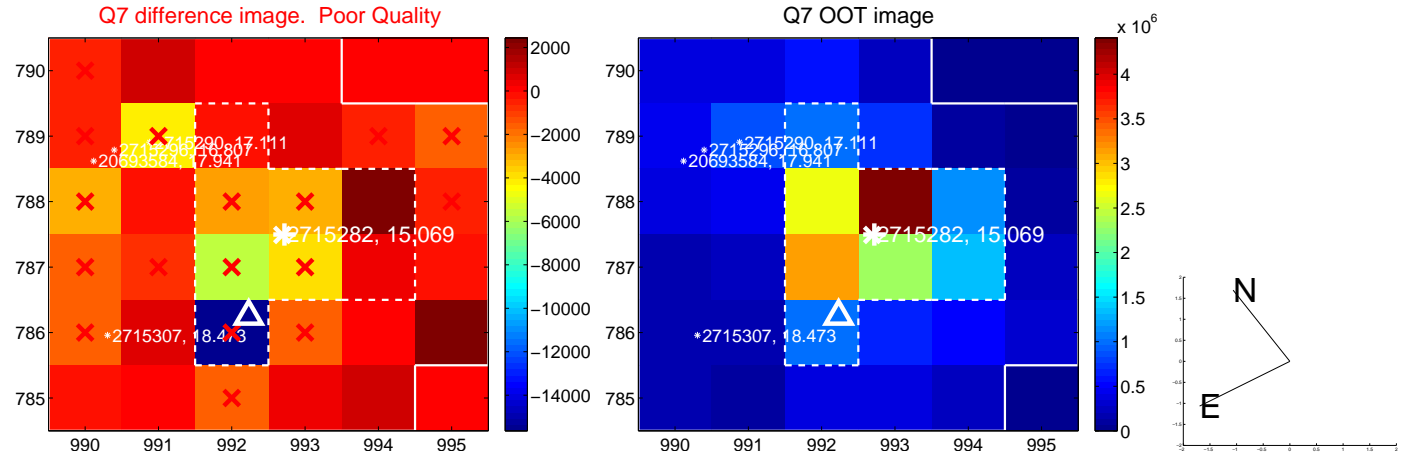
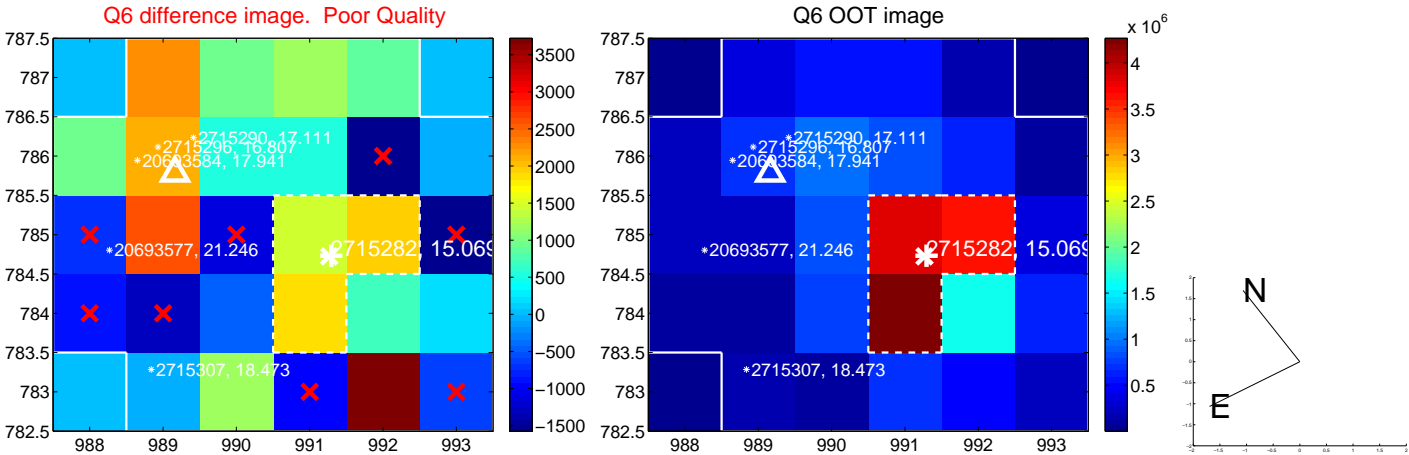
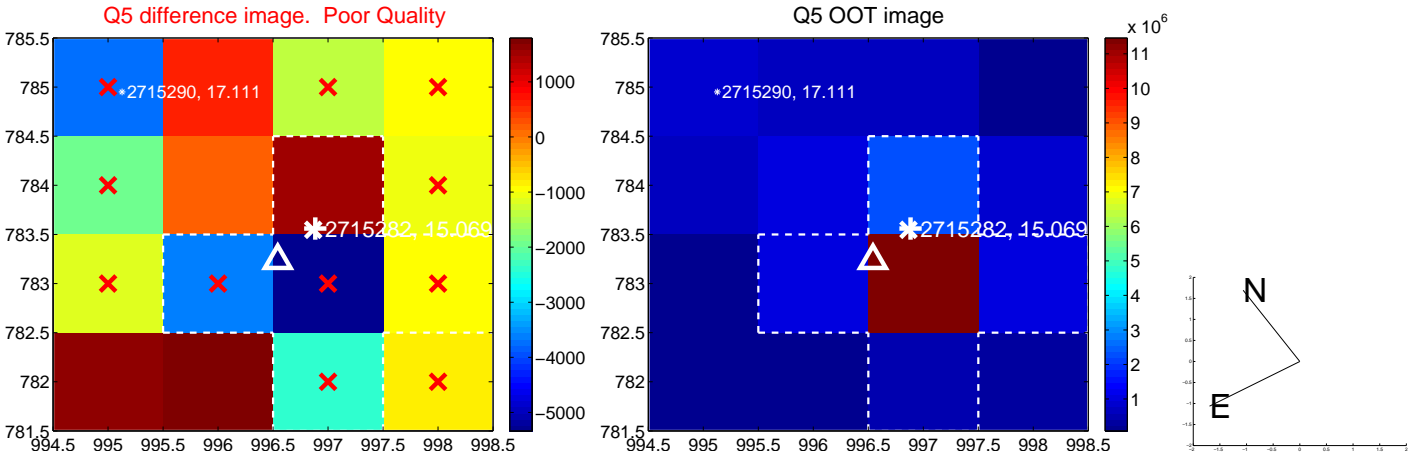


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

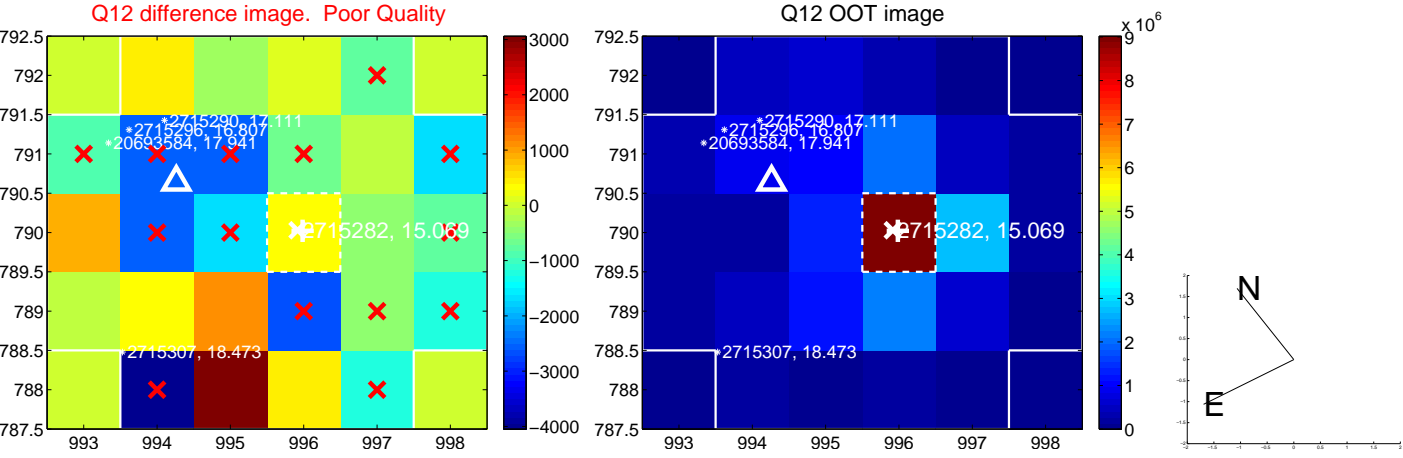
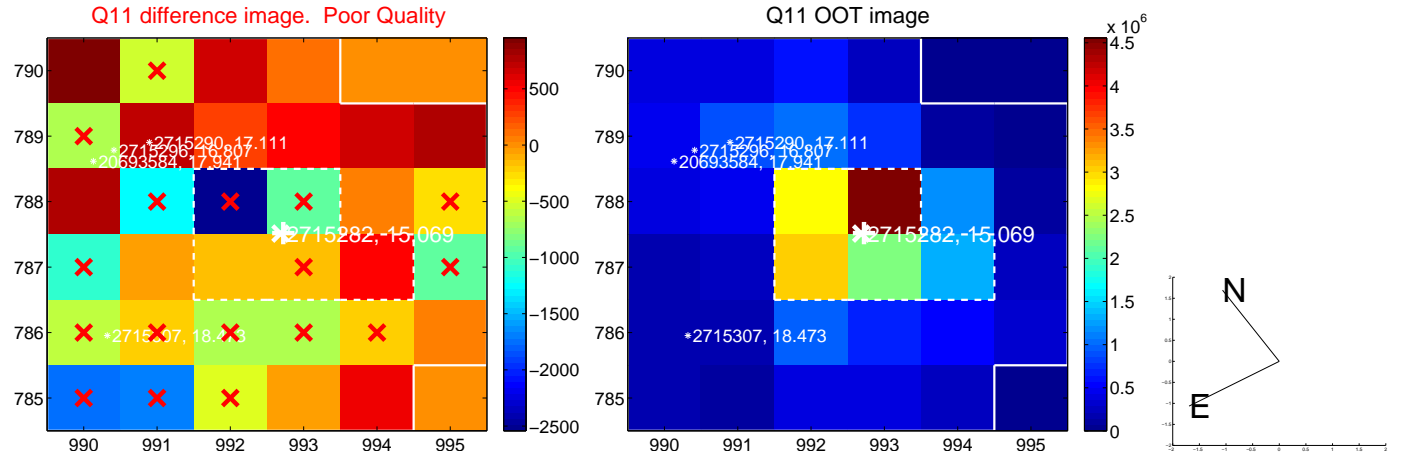
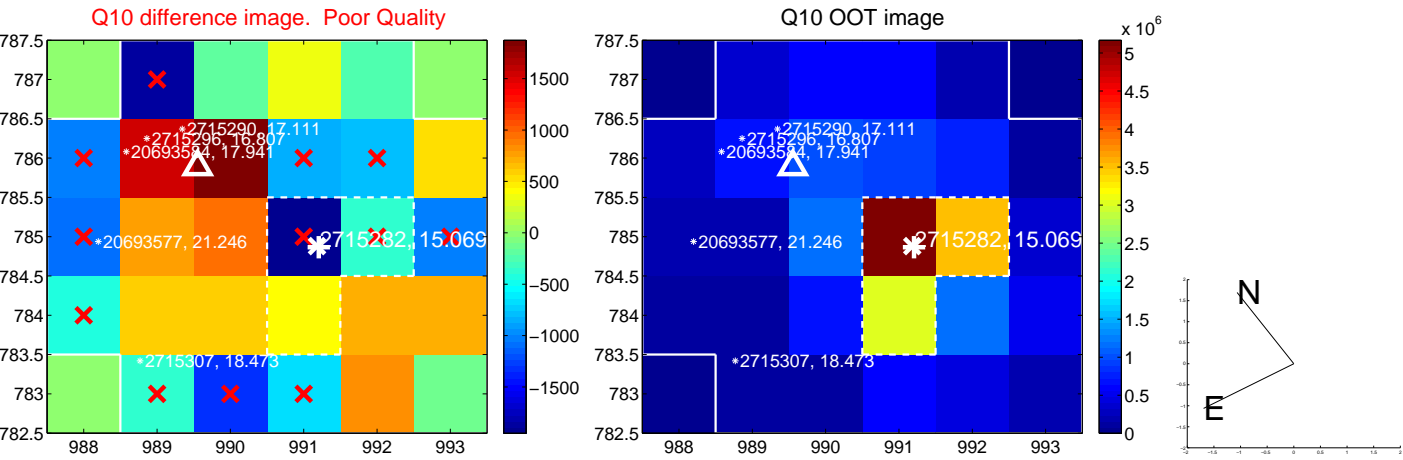
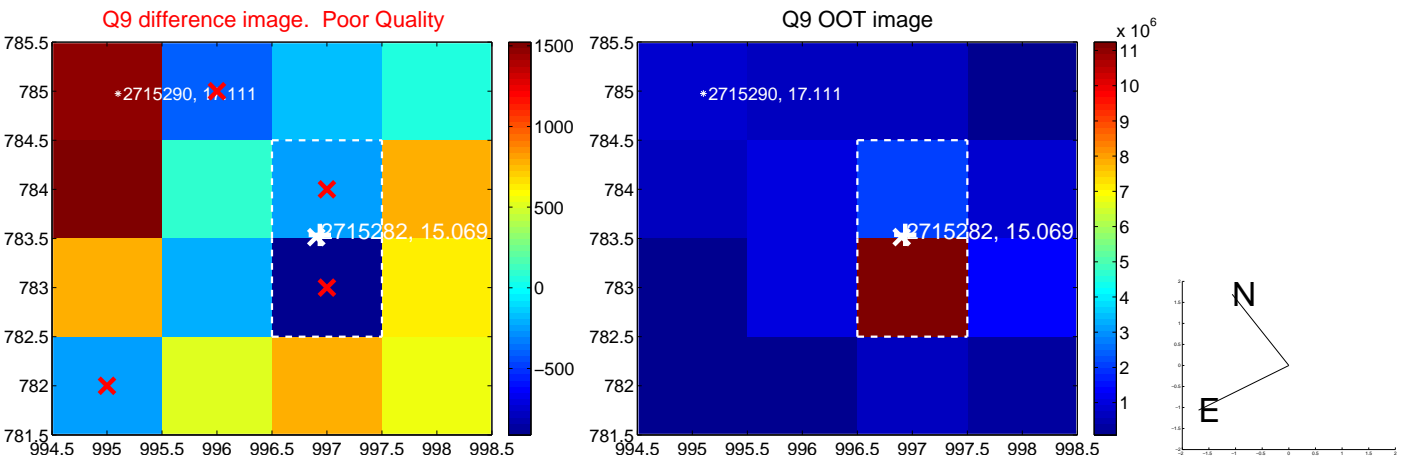
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



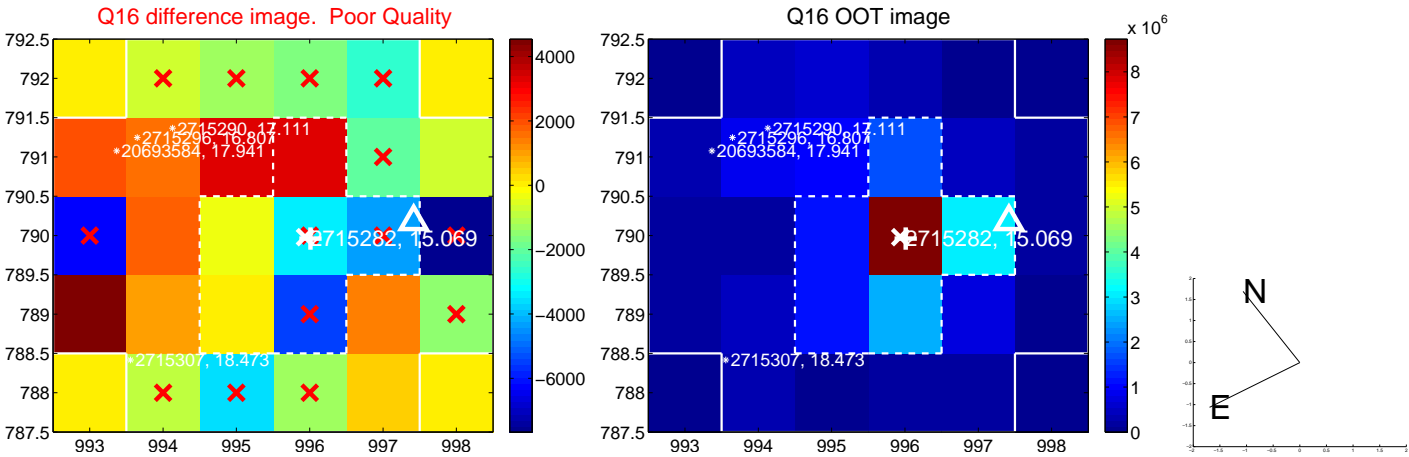
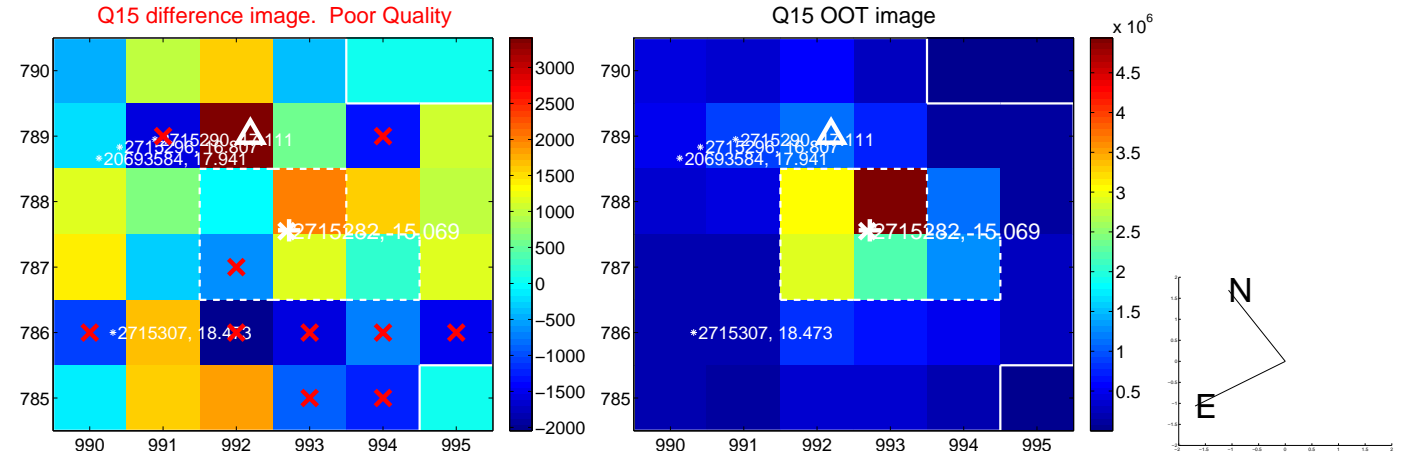
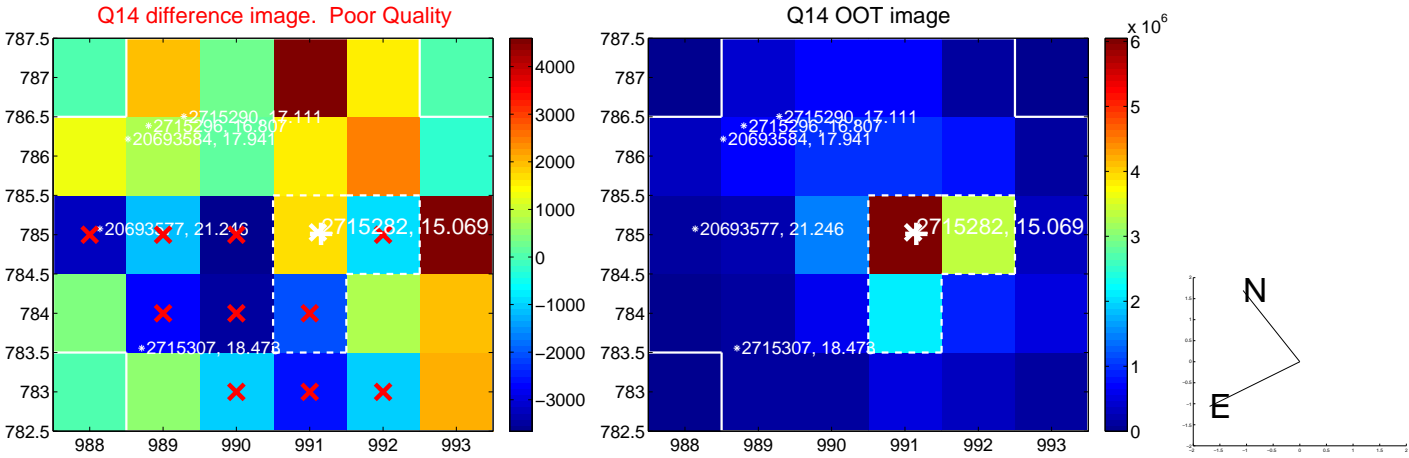
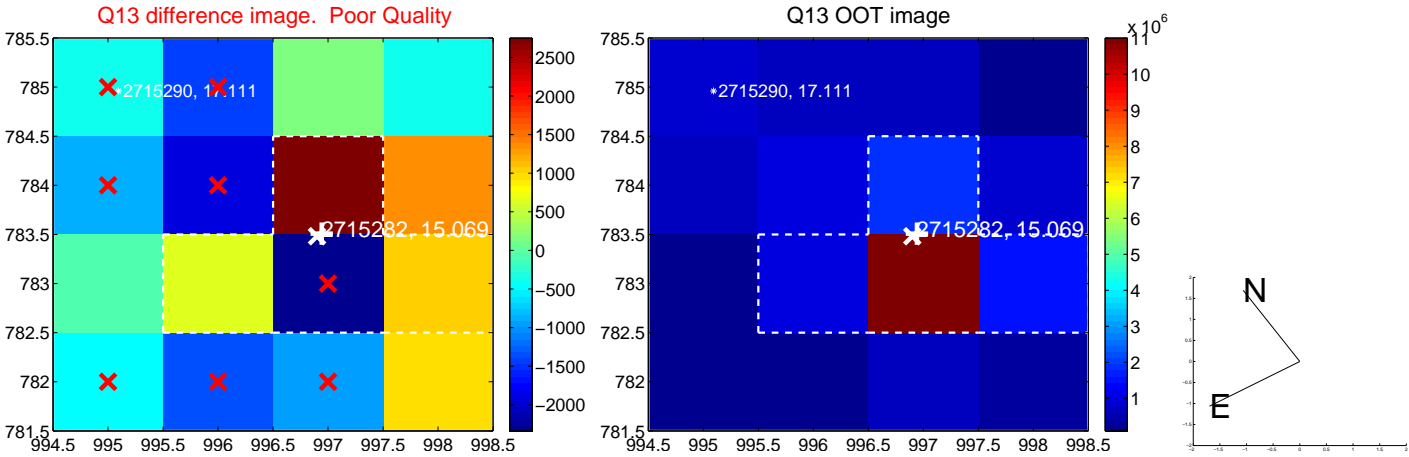
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



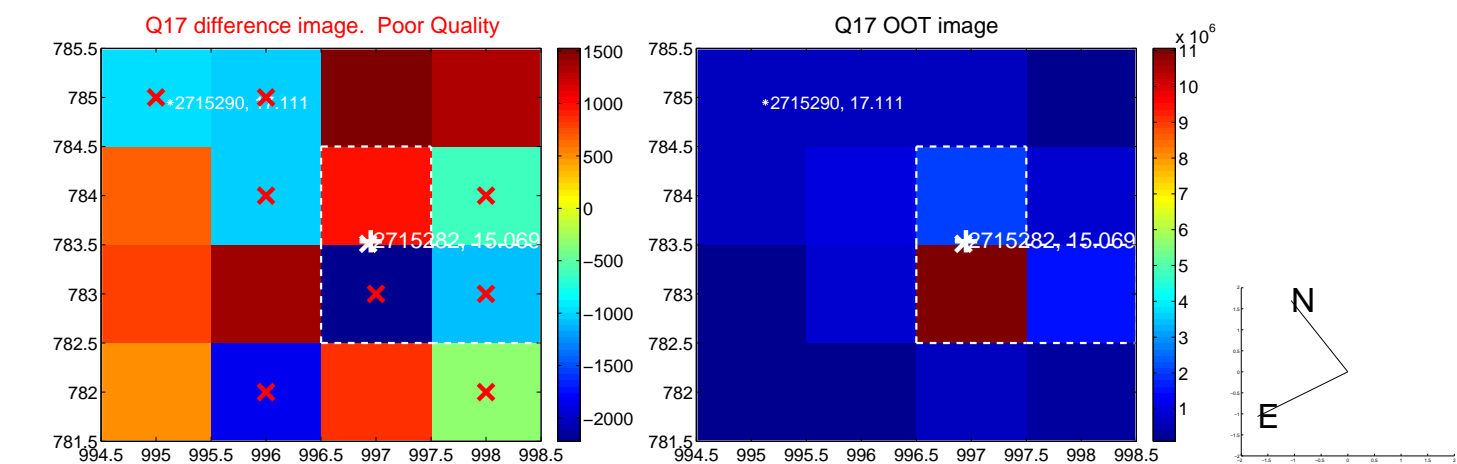
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



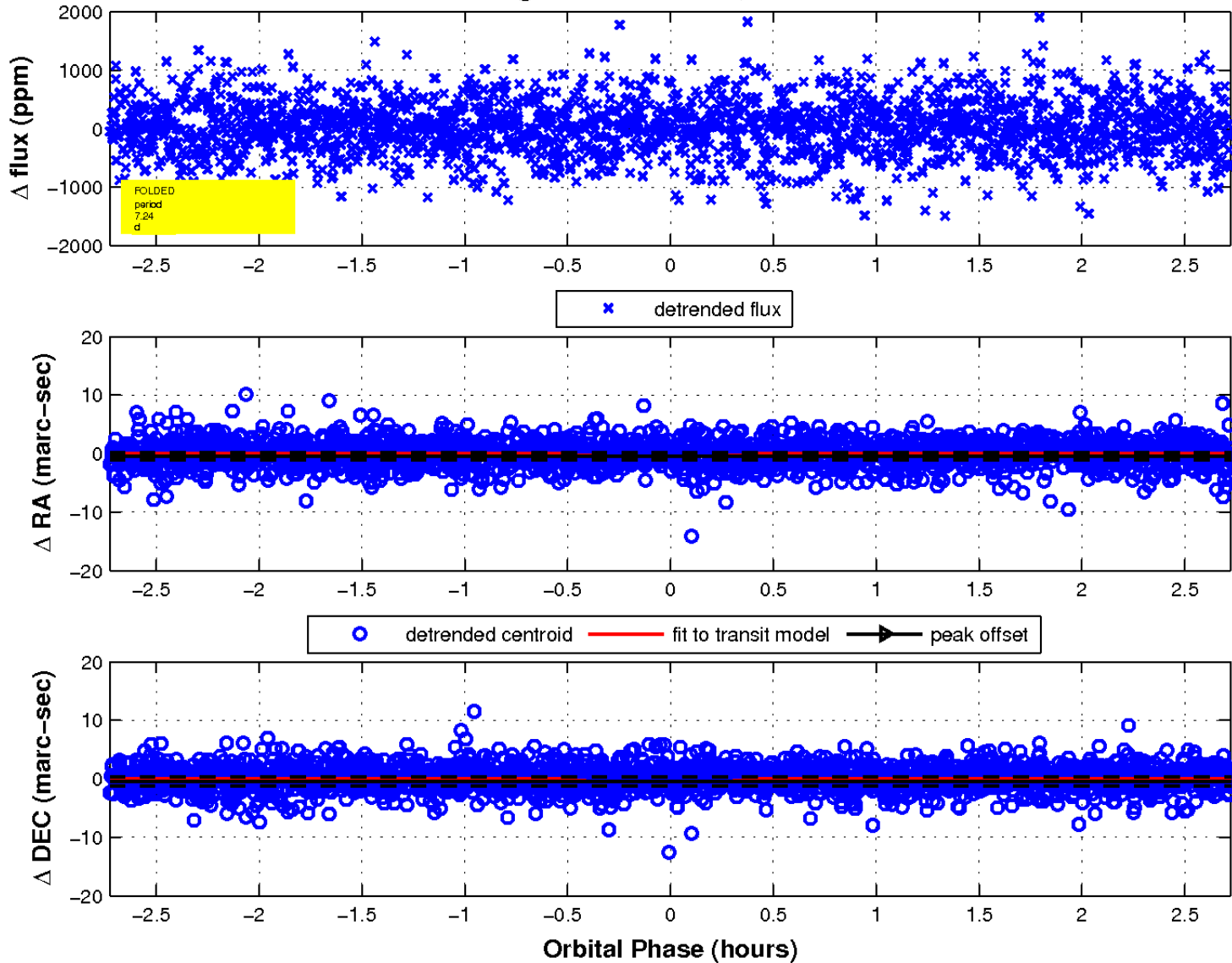
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 2 of 2



UKIRT Image

Declination

