

KIC 007281947

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})
007281947-01	OBS	No	0.566760	131.850615	24.0	3.841	11.6	6.8	1.12	6321	0.56	8890.79
007281947-02	OBS	No	22.408196	150.683988	556.4	1.090	9.3	9.3	1.12	6321	2.67	66.01
007281947-03	OBS	No	32.633346	149.704891	620.6	1.679	10.2	10.3	1.12	6321	3.00	39.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007281947-01	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_ALT—EPHEM_MATCH
007281947-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007281947-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

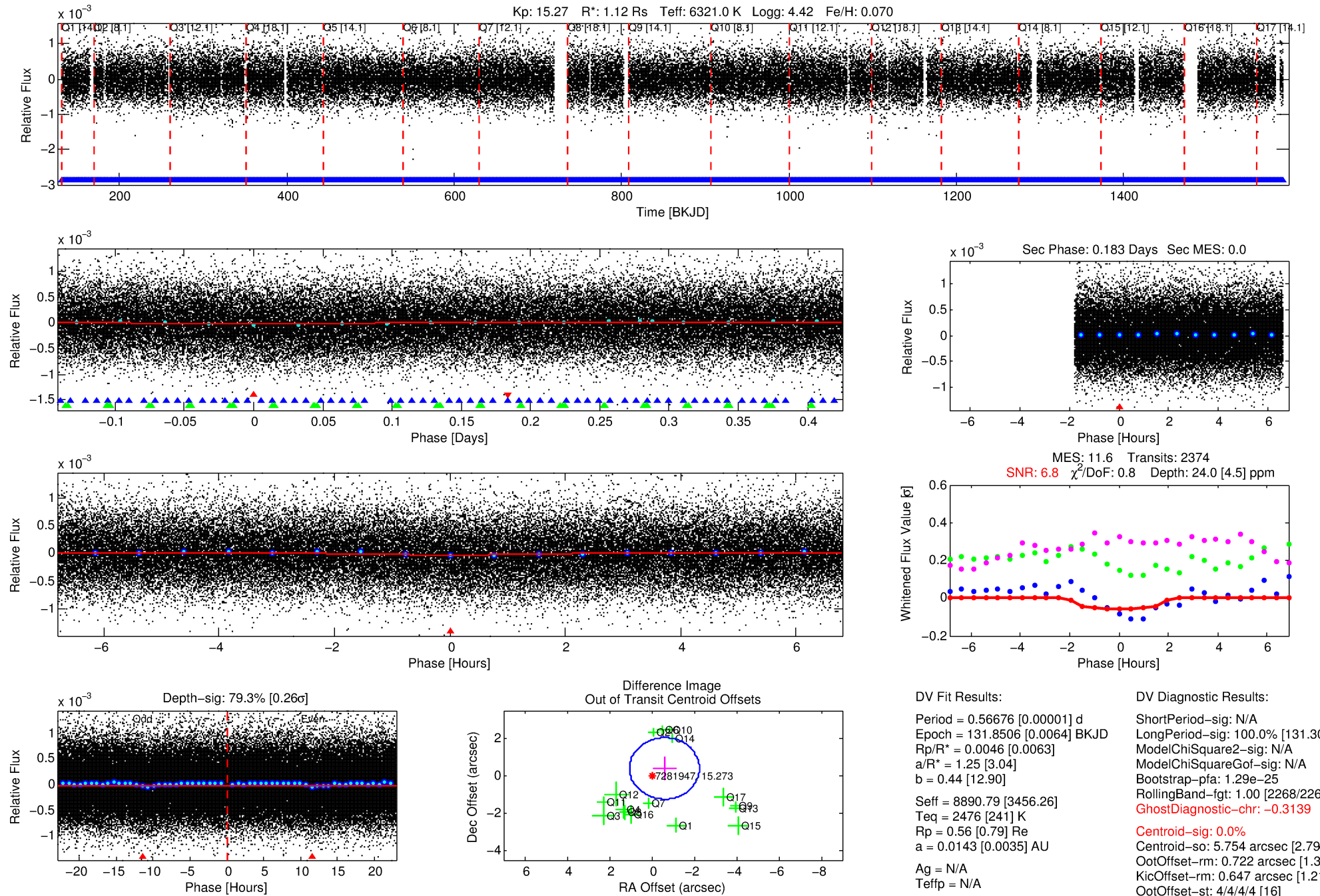
Ephemeris Match Information For 007281947-01

TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (μ)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
007281947-01	7281947	RR-Lyr-pri	7198959	1:1	1059.7	98	247	7.86	15.27	25971.00	Direct-PRF	0	2.41	23.21

Notes: P₁:P₂ 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. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ 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

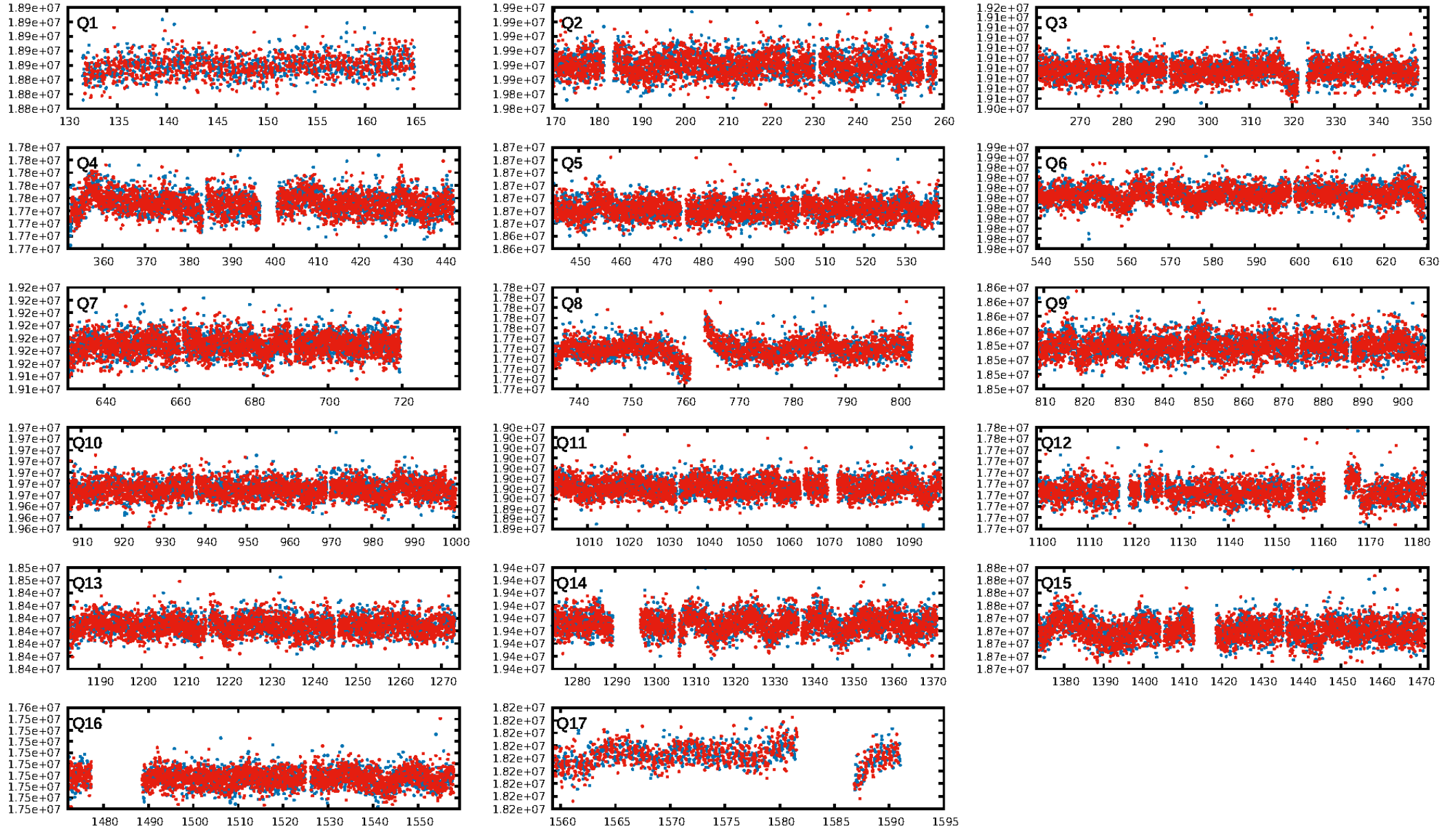
KIC: 7281947 Candidate: 1 of 3 Period: 0.567 d



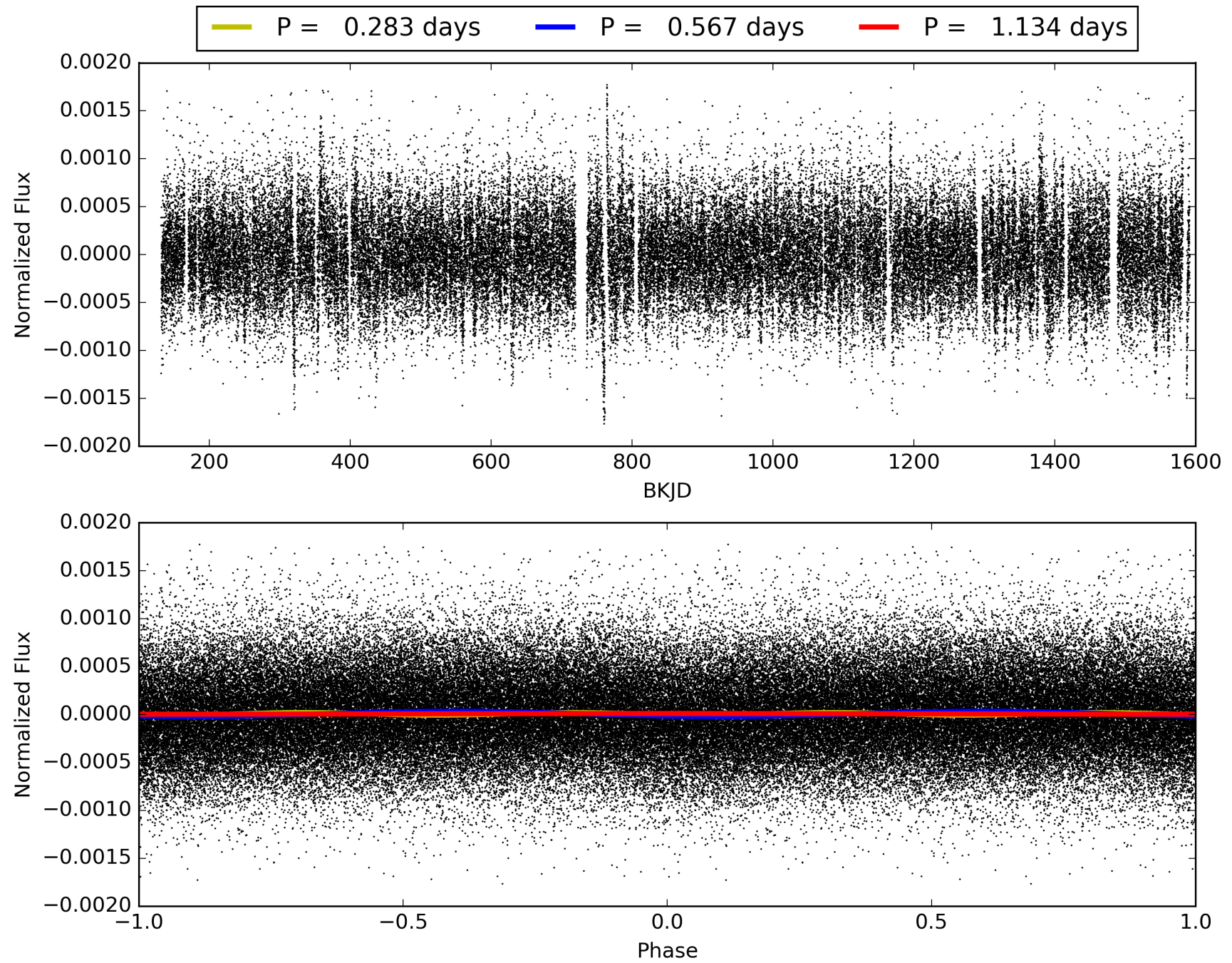
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:44:49 Z

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

TCE 007281947-01, PDC Light Curves

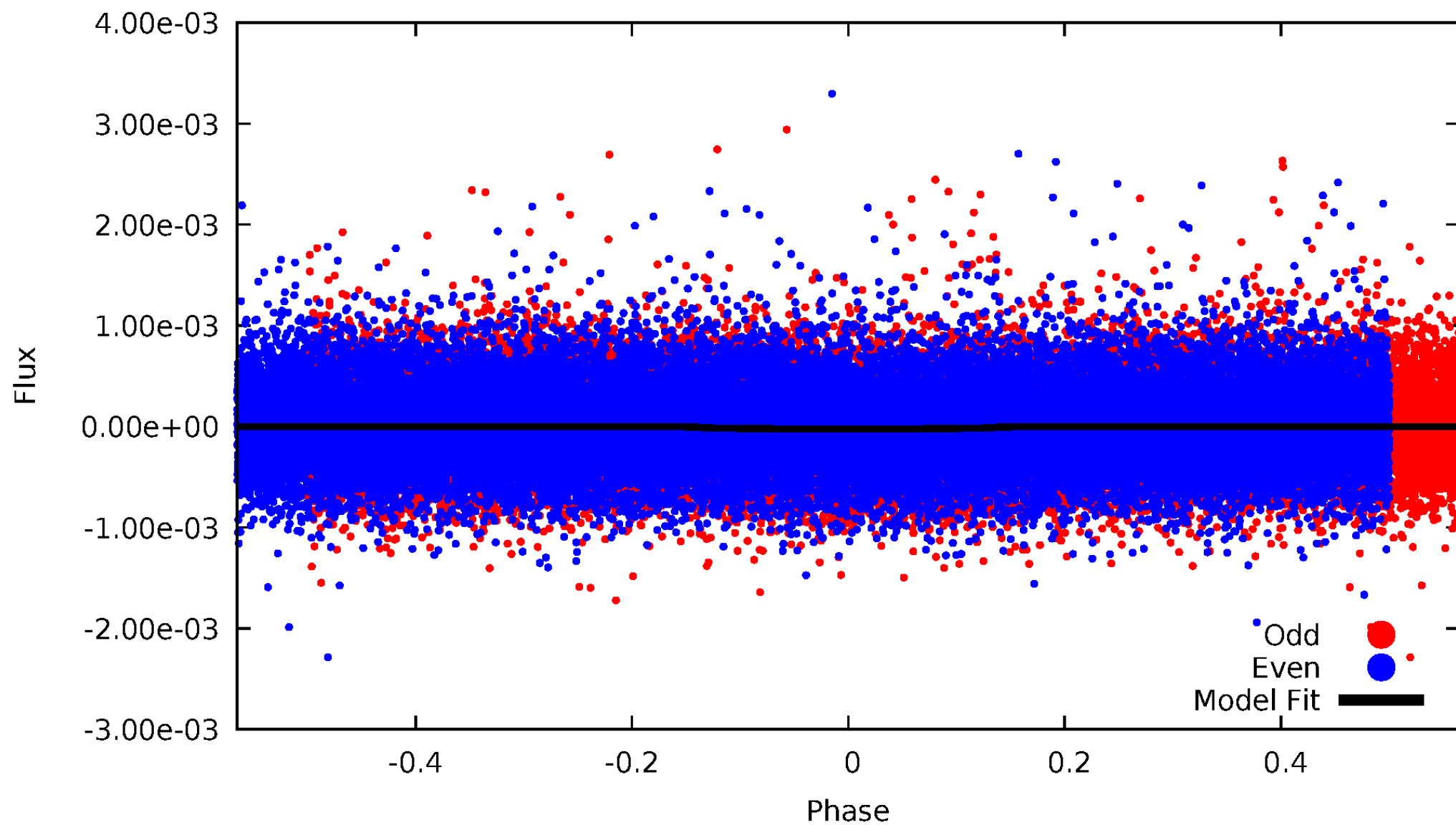


TCE 007281947-01



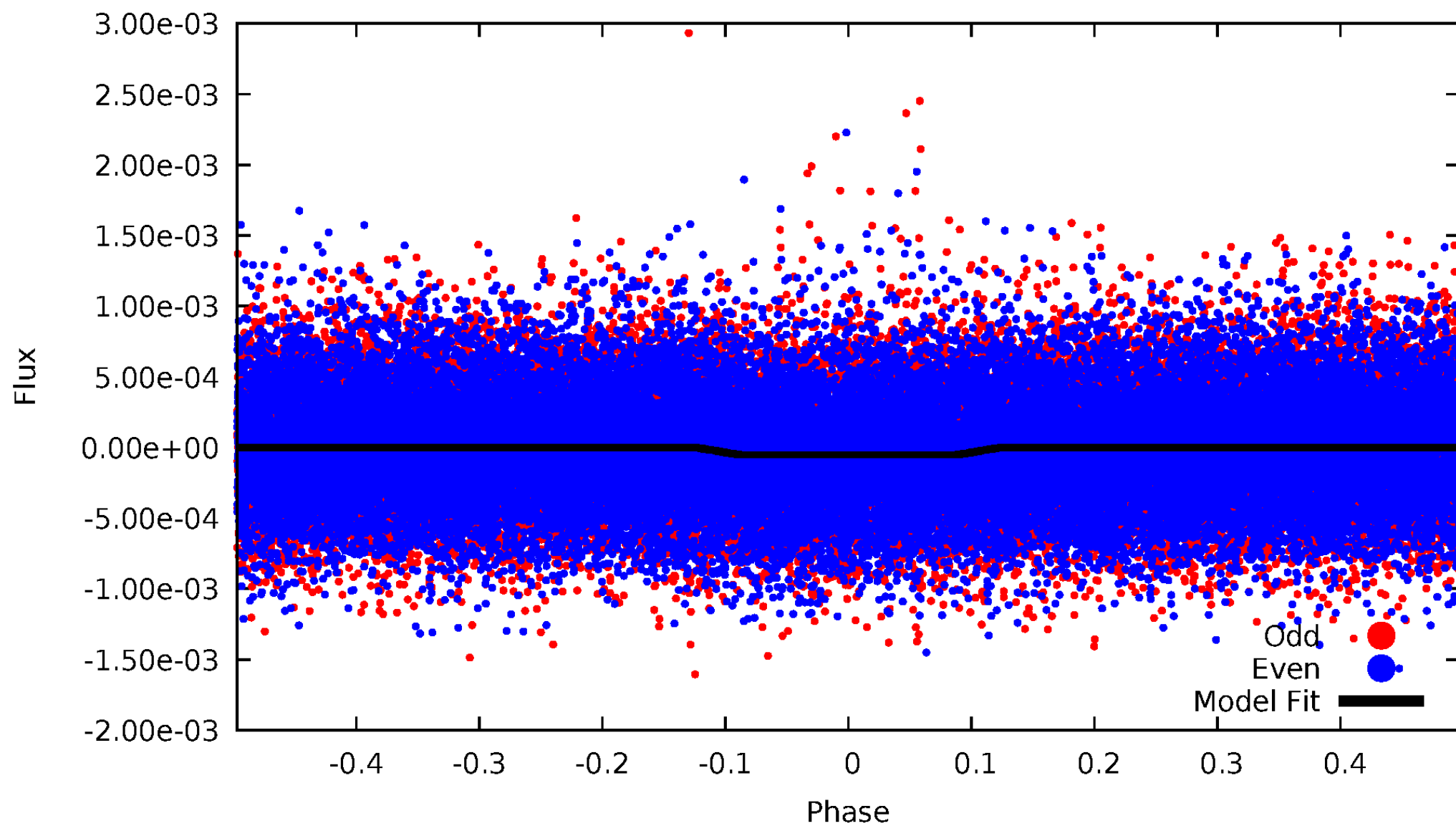
DV Odd/Even

TCE 007281947-01



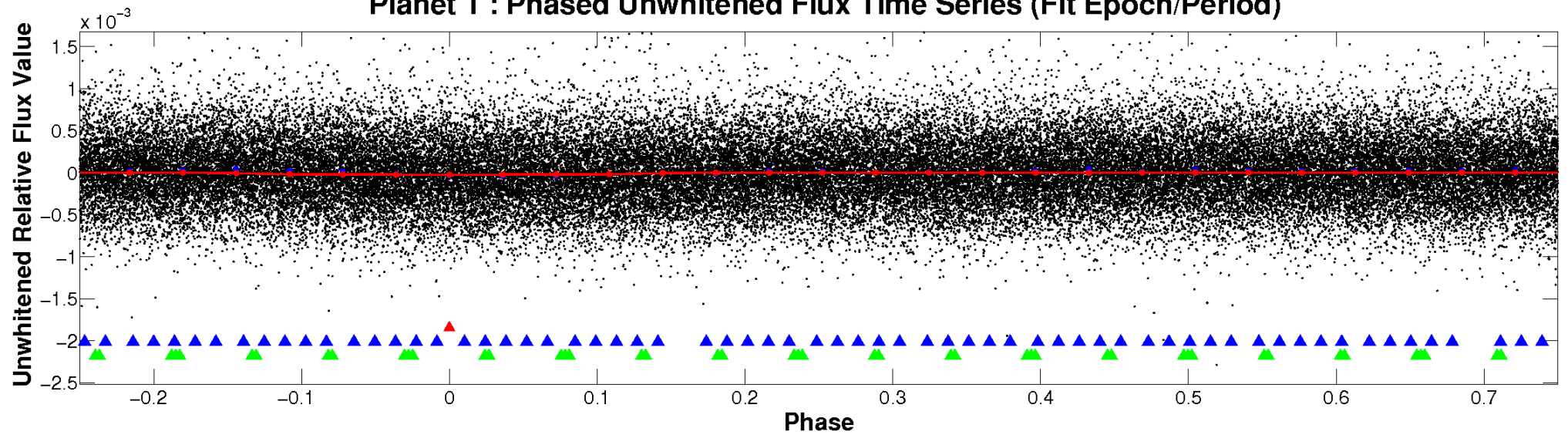
ALT Odd/Even

TCE 007281947-01

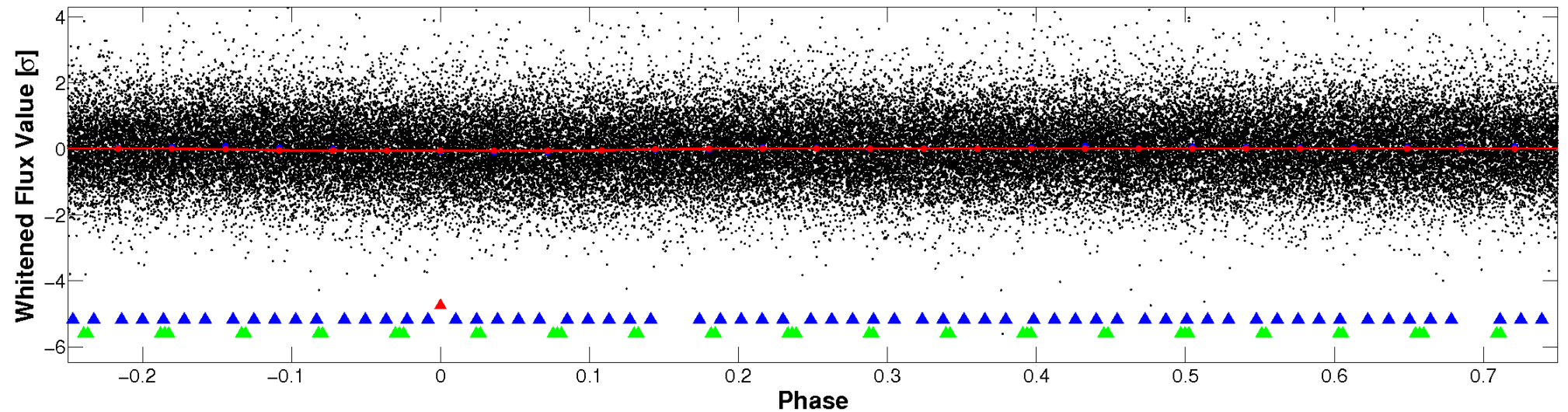


Non-Whitened Vs. Whitened Light Curve

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

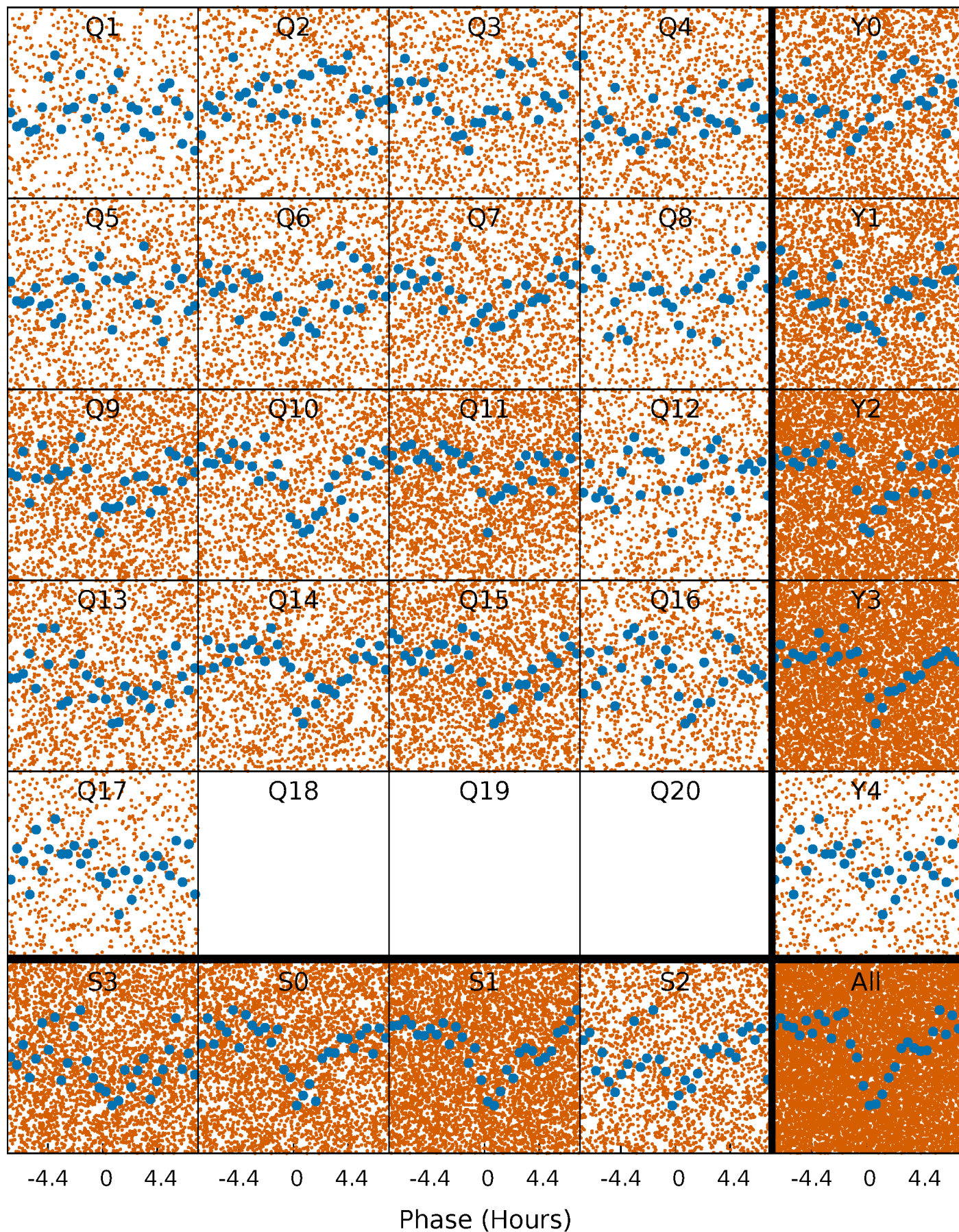


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



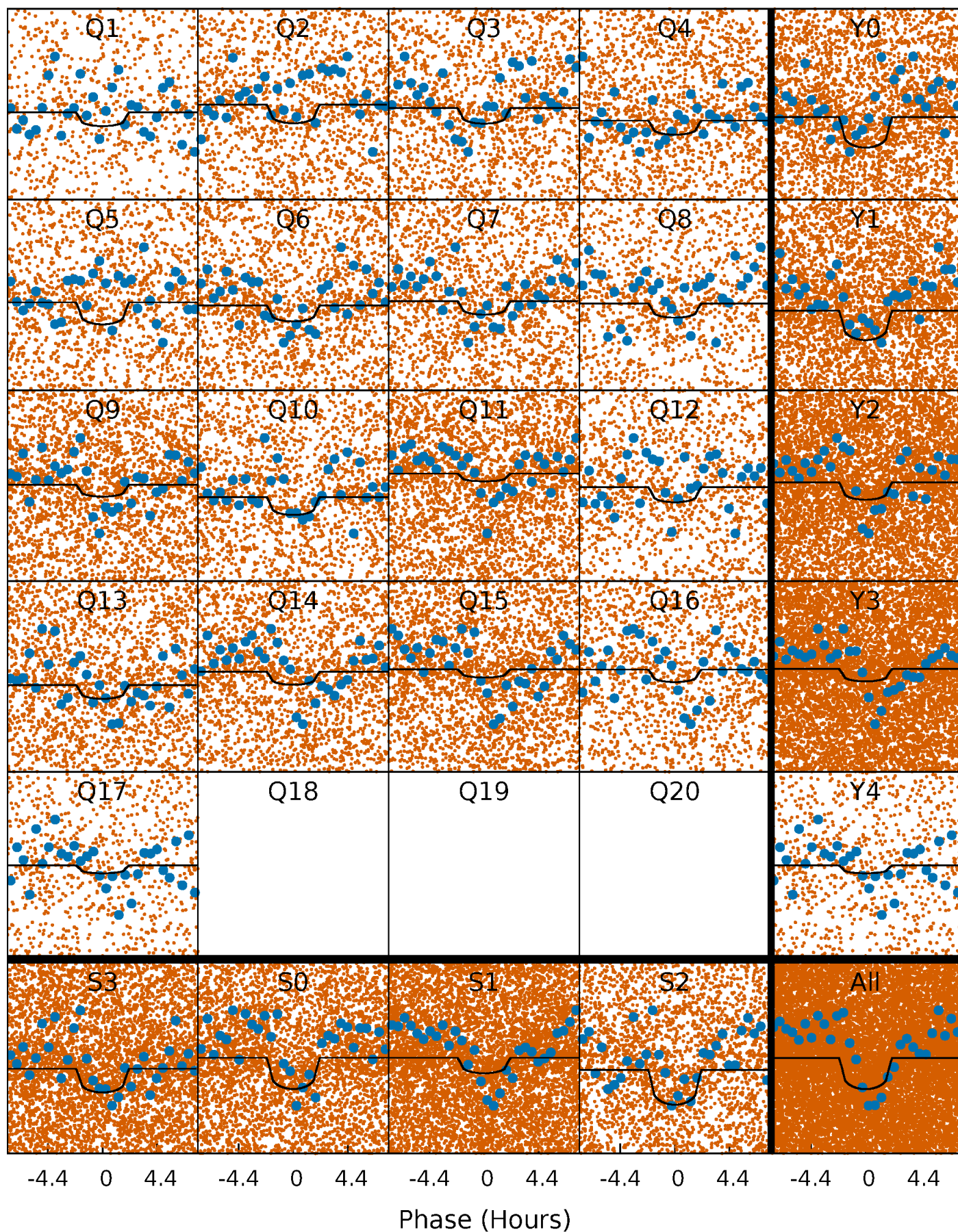
PDC Quarter-Phased Transit Curves

TCE 007281947-01 P= 0.566760 Days $T_0=131.850615$ (BKJD)



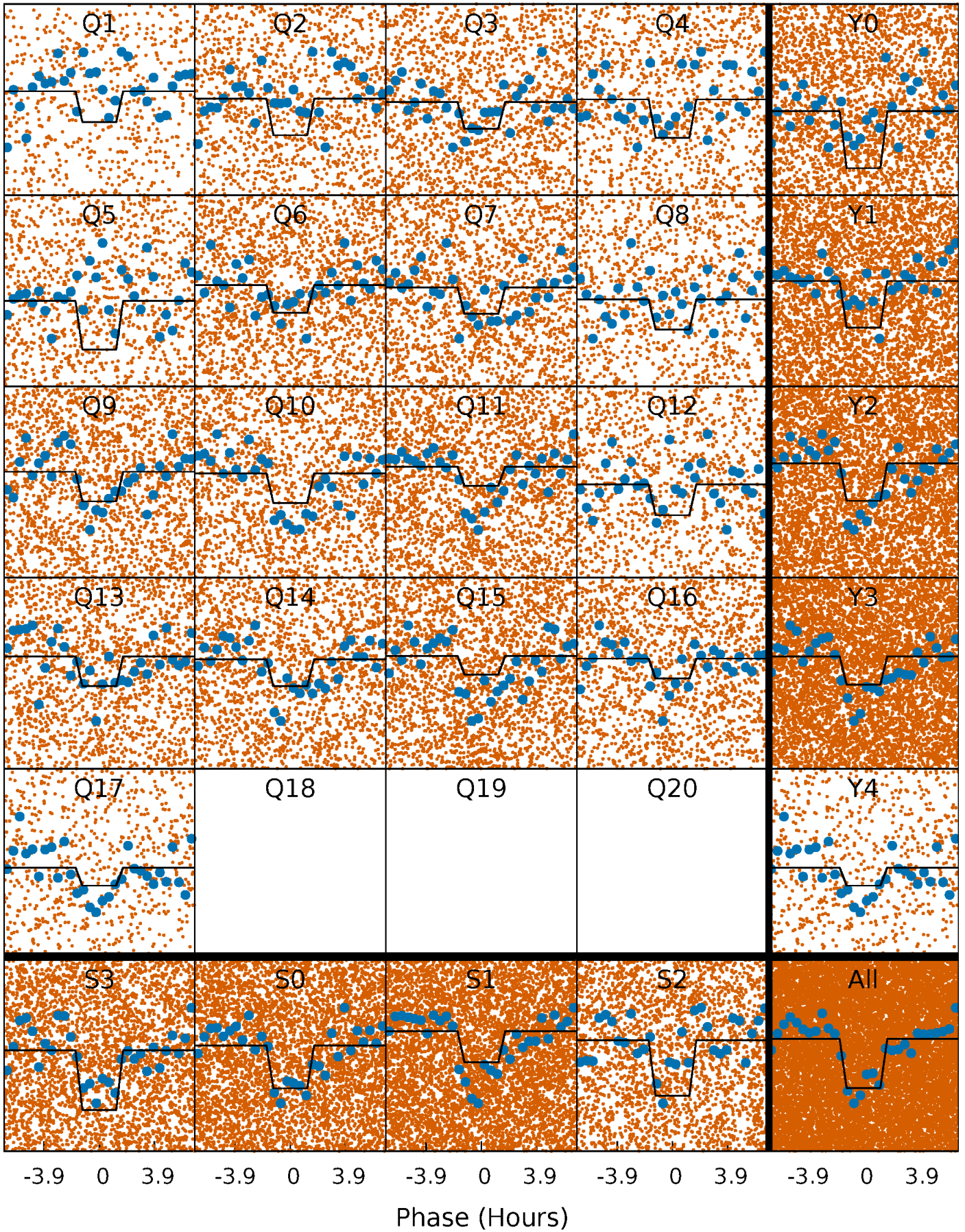
DV Quarter-Phased Transit Curves

TCE 007281947-01 P= 0.566760 Days $T_0=131.850615$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

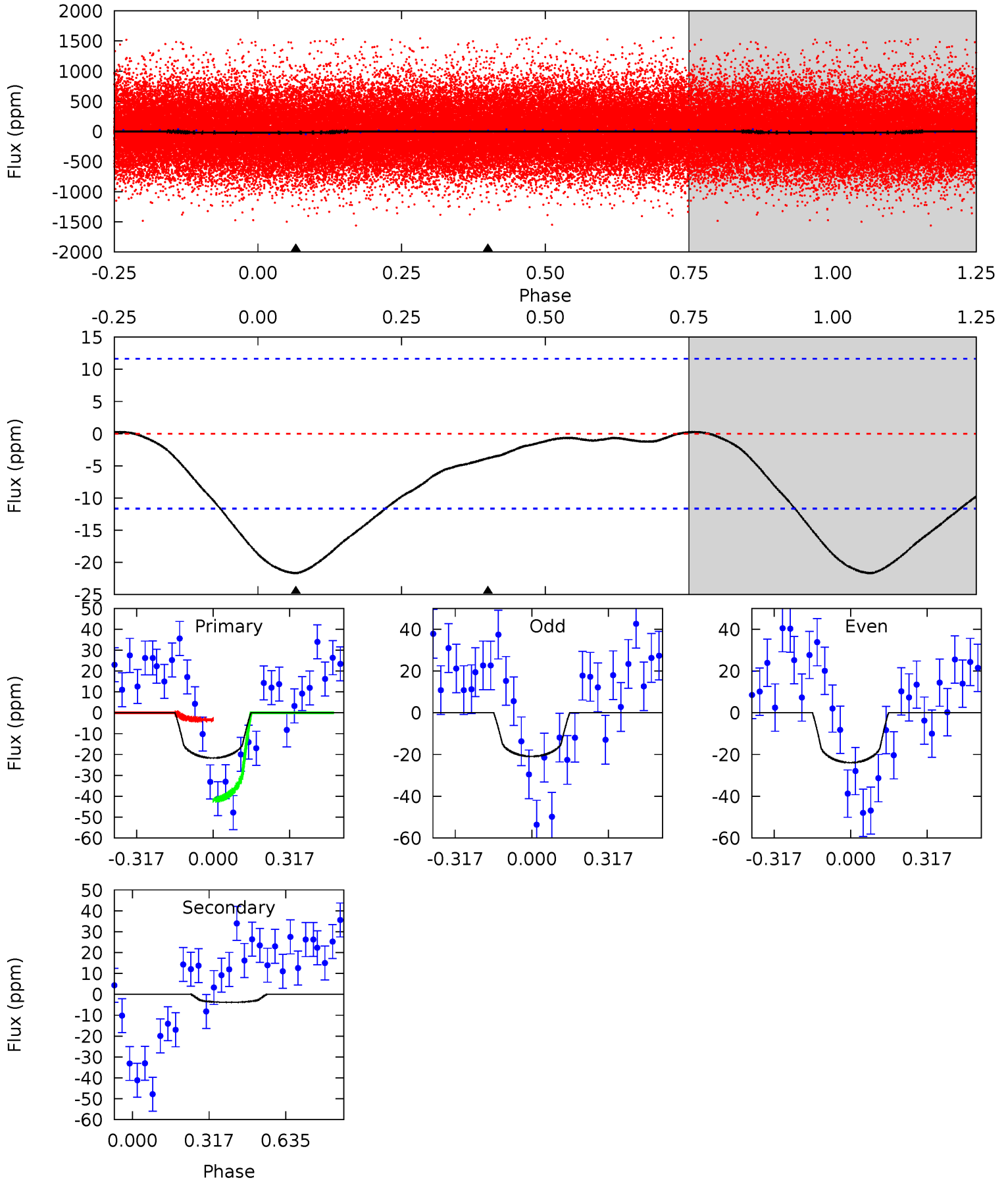
TCE 007281947-01 P= 0.566801 Days $T_0=131.816885$ (BKJD)



DV Model-Shift Uniqueness Test

007281947-01, P = 0.566760 Days, E = 131.283855 Days

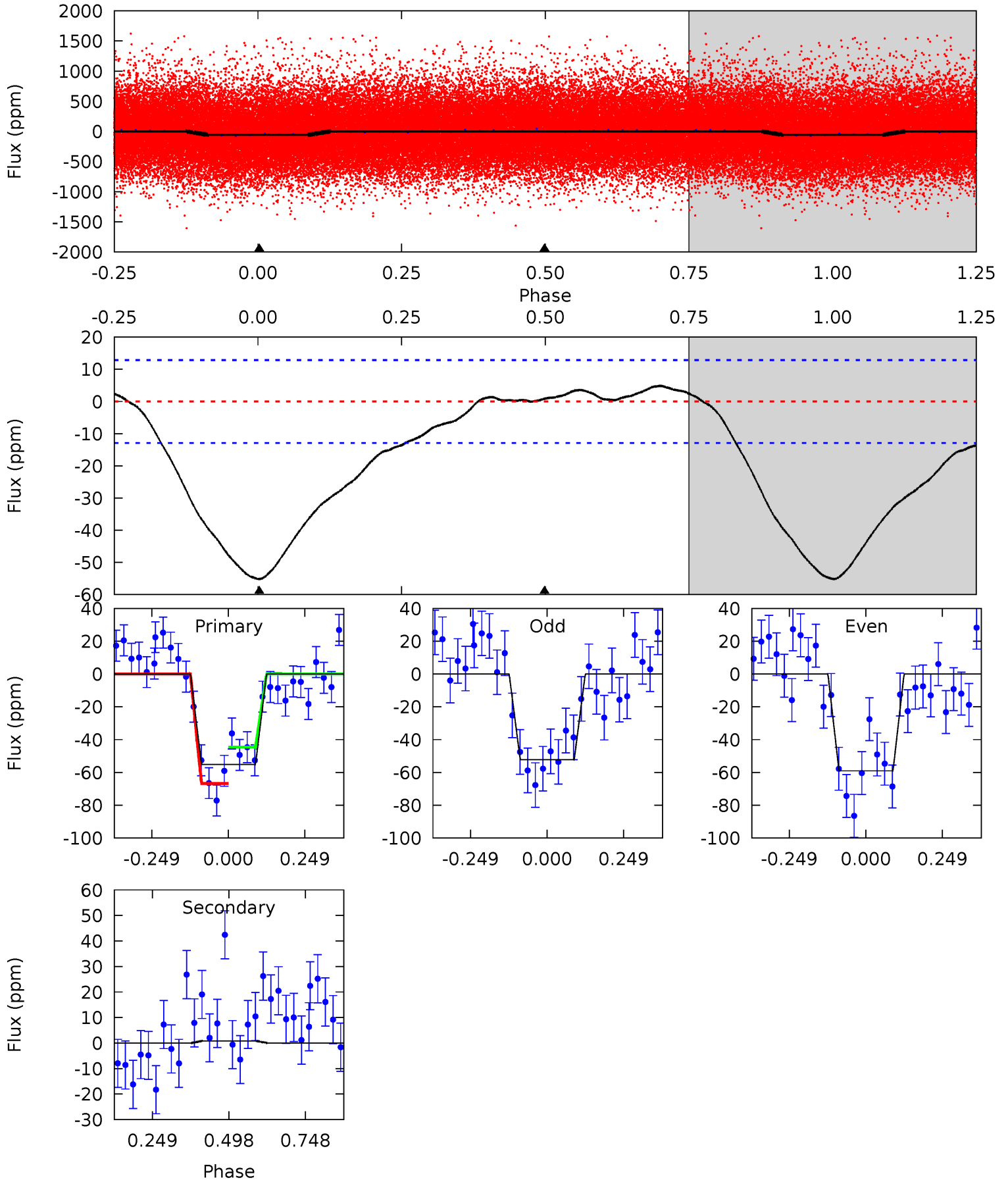
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.04	1.42	0	0	4.32	1.00	0.19	8.04	8.04	1.42	1.42	0.56	0.91	0.01	7.15



Alt Model-Shift Uniqueness Test

007281947-01, P = 0.566801 Days, E = 131.250084 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.7	-0.28	0	0	4.37	1.15	2.65	18.7	18.7	-0.28	-0.28	1.16	0.93	0.08	3.77



Stellar Parameters For KIC 007281947

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6321^{+174}_{-217}	$4.417^{+0.062}_{-0.200}$	$0.070^{+0.200}_{-0.350}$	$1.125^{+0.329}_{-0.141}$	$1.207^{+0.135}_{-0.186}$	$1.195^{+0.320}_{-0.611}$
	+3%/-3%	+1%/-5%	+286%/-500%	+29%/-13%	+11%/-15%	+27%/-51%
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 007281947-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-4 ± 3	$0.82^{+0.74}_{-0.52}$	3534^{+241}_{-184}	3201^{+2368}_{-6462}	$0.510^{+3.876}_{-0.415}$
Alt.	1 ± 3	$0.98^{+0.77}_{-0.61}$	3507^{+241}_{-175}	-3540^{+1231}_{-729}	$-0.062^{+0.337}_{-0.720}$

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

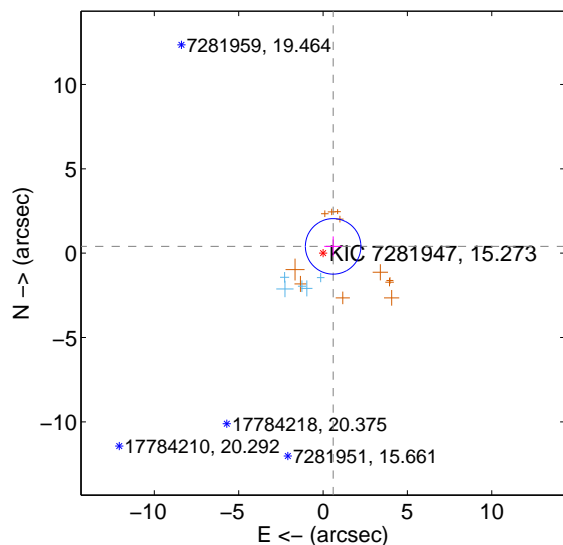
Supplemental centroid analysis for 007281947-01. Kepler magnitude: 15.27. Transit SNR 6.81

There are 5 quarters with good PRF difference image offsets

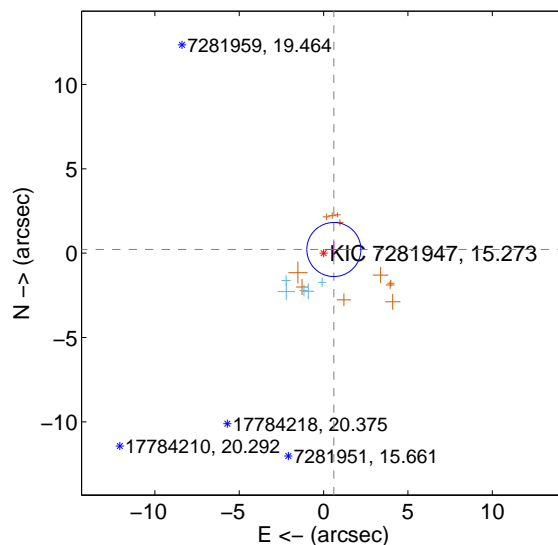
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.722 ± 0.549	1.32	-0.598 ± 0.528	0.403 ± 0.592
PRF-fit source offset from KIC position	0.647 ± 0.534	1.21	-0.609 ± 0.552	0.218 ± 0.470
photometric centroid source offset	5.75 ± 2.07	2.79	-0.93 ± 2.14	5.68 ± 2.06

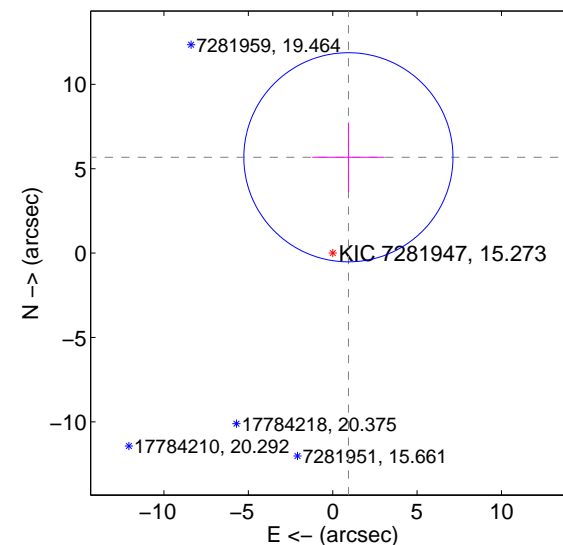
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

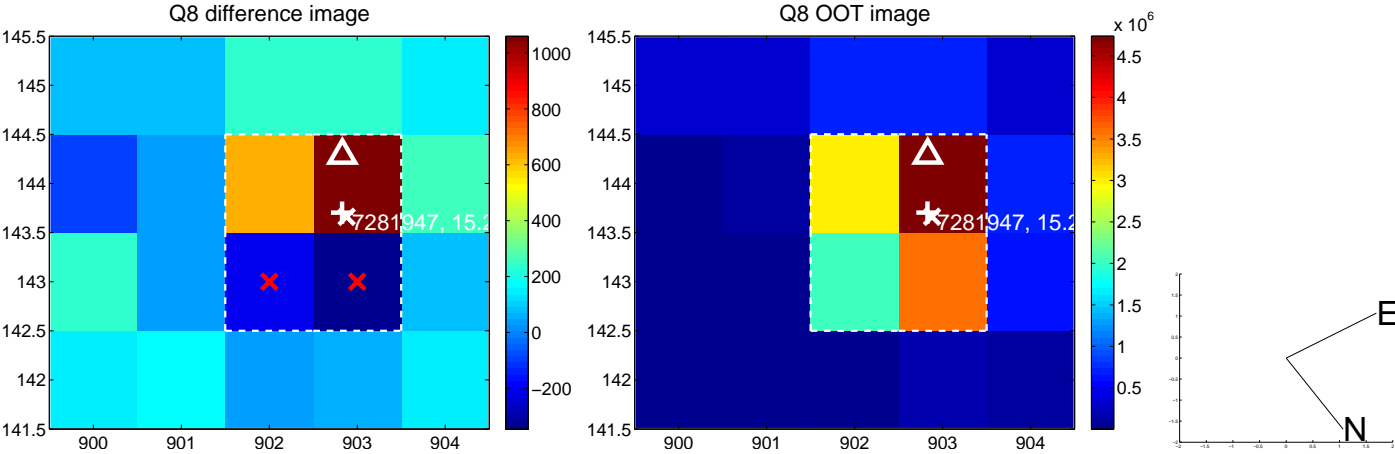
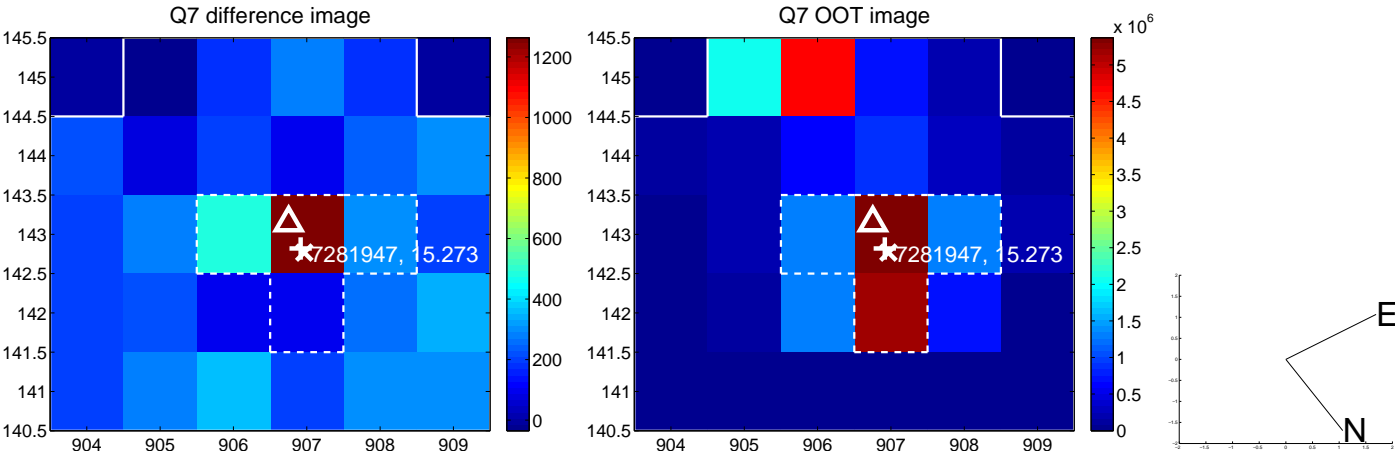
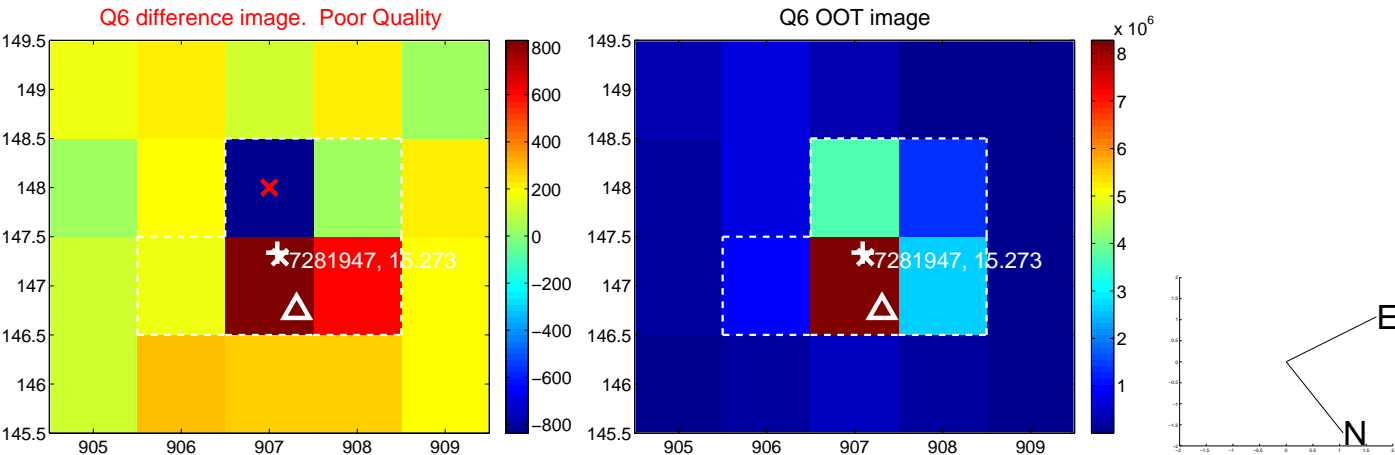
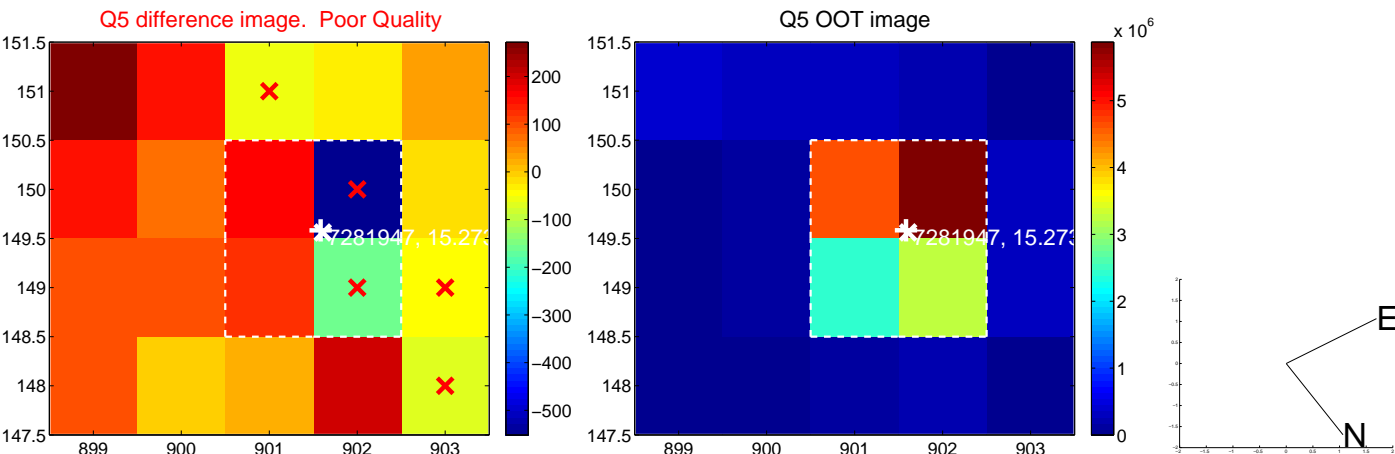


offset from photometric centroids

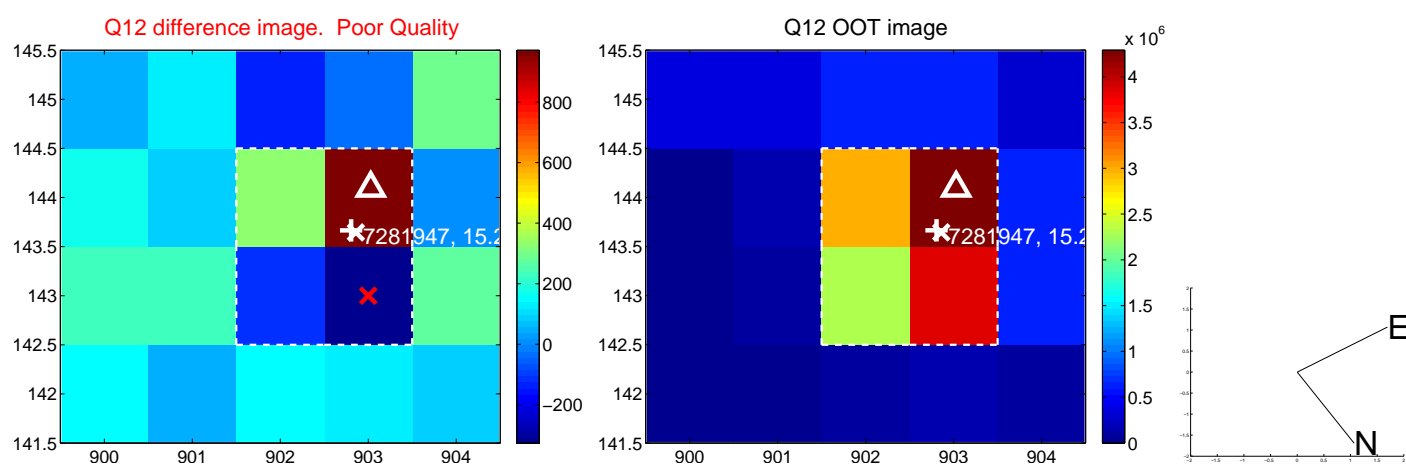
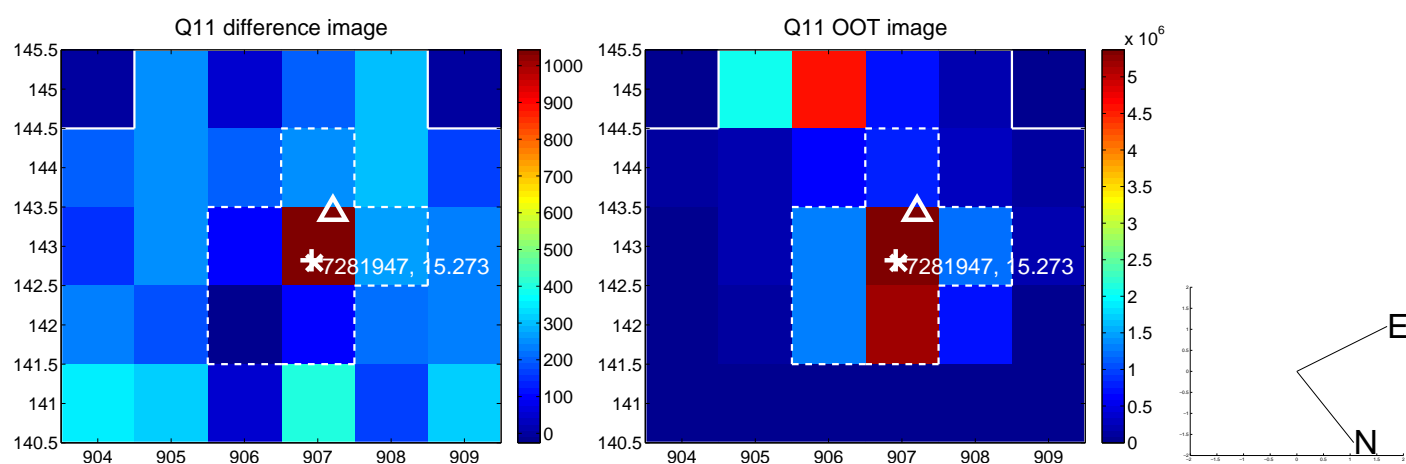
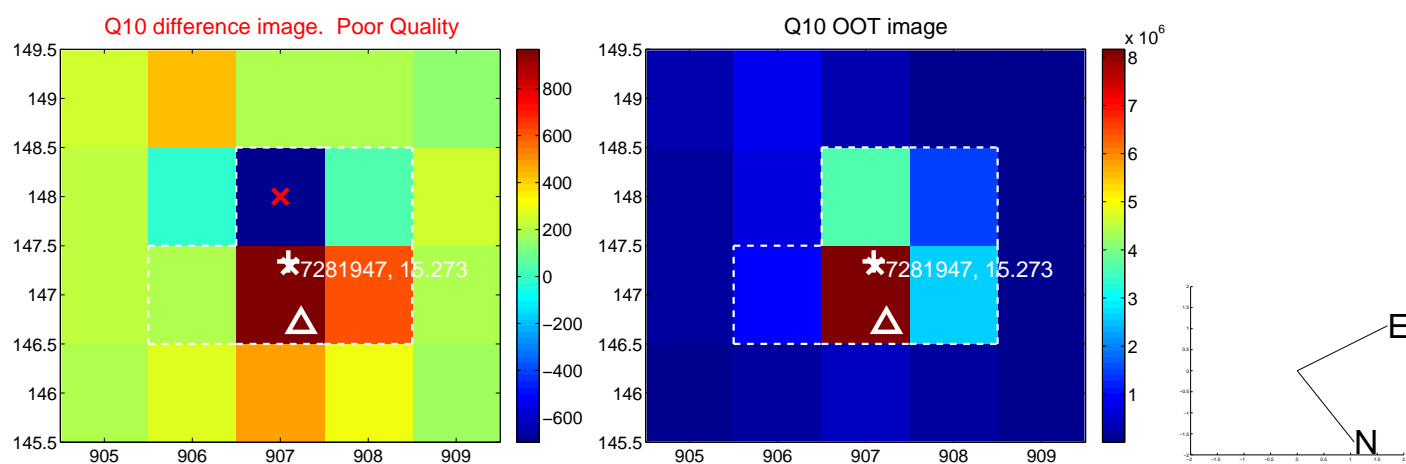
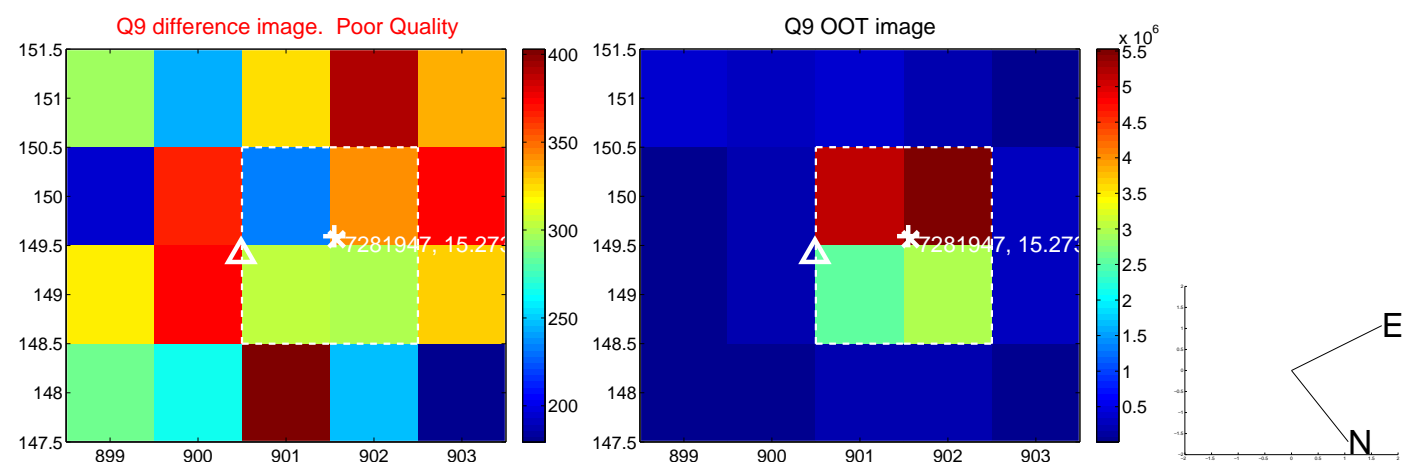


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

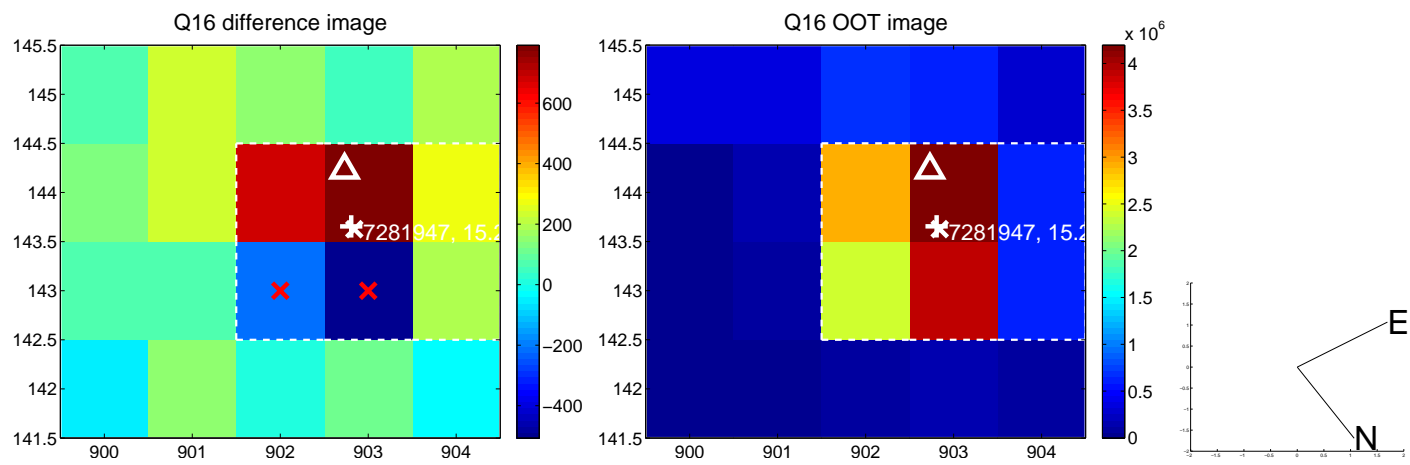
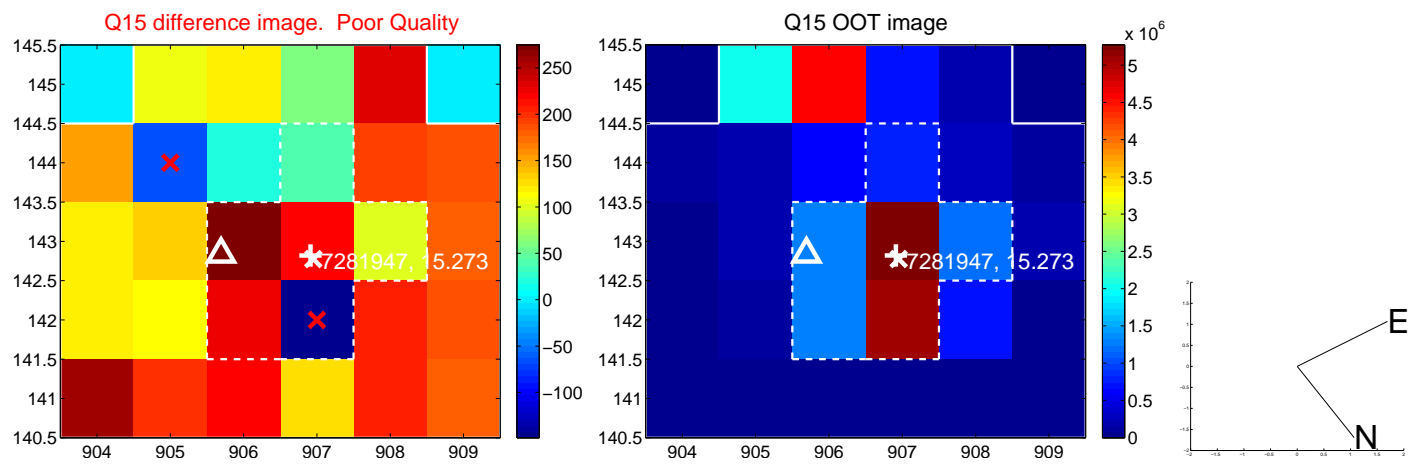
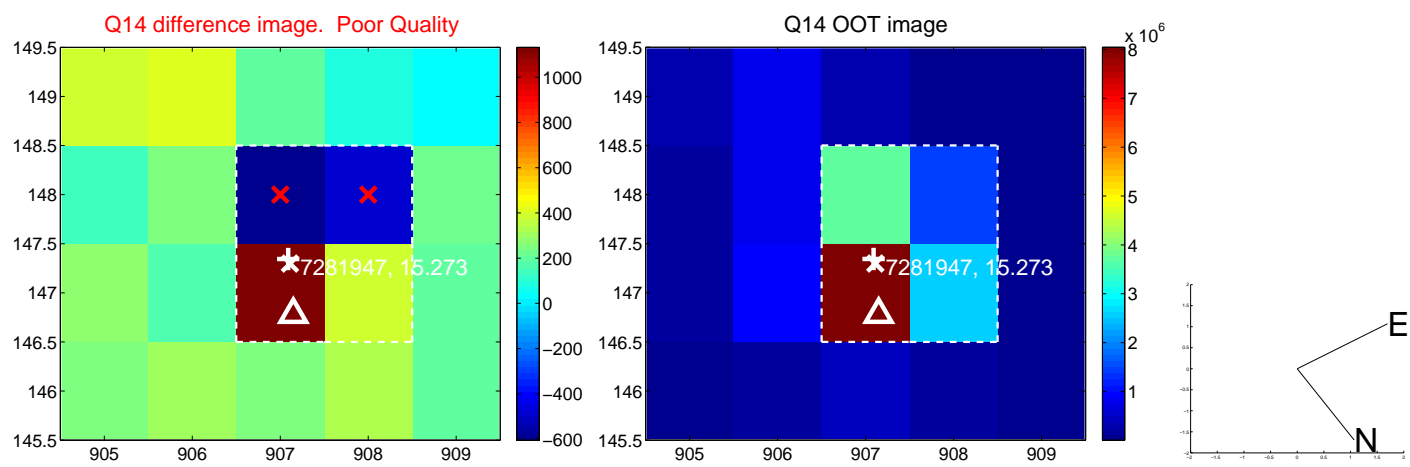
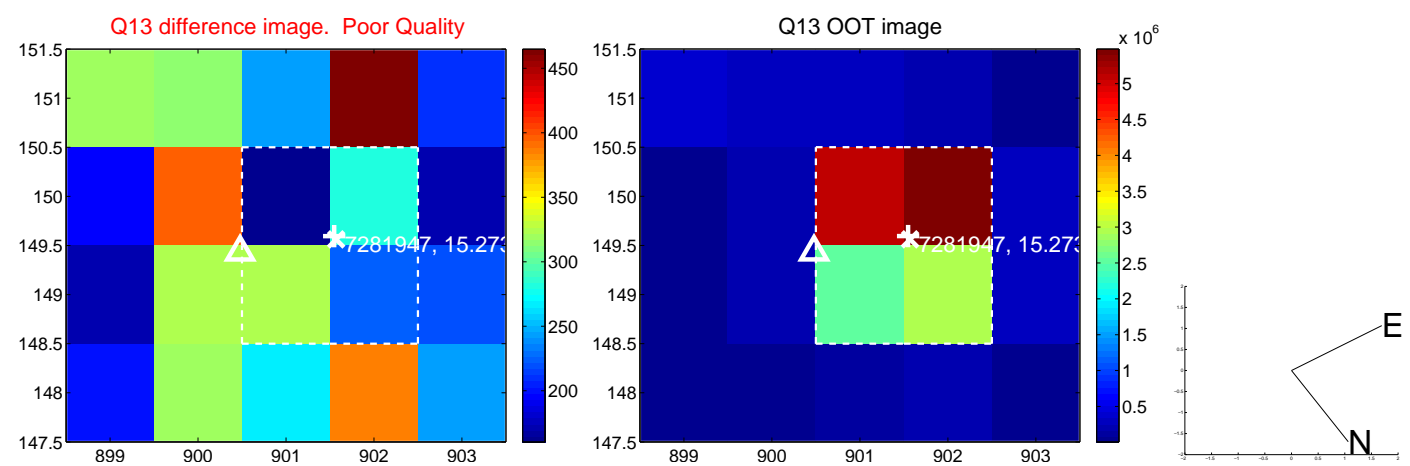
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



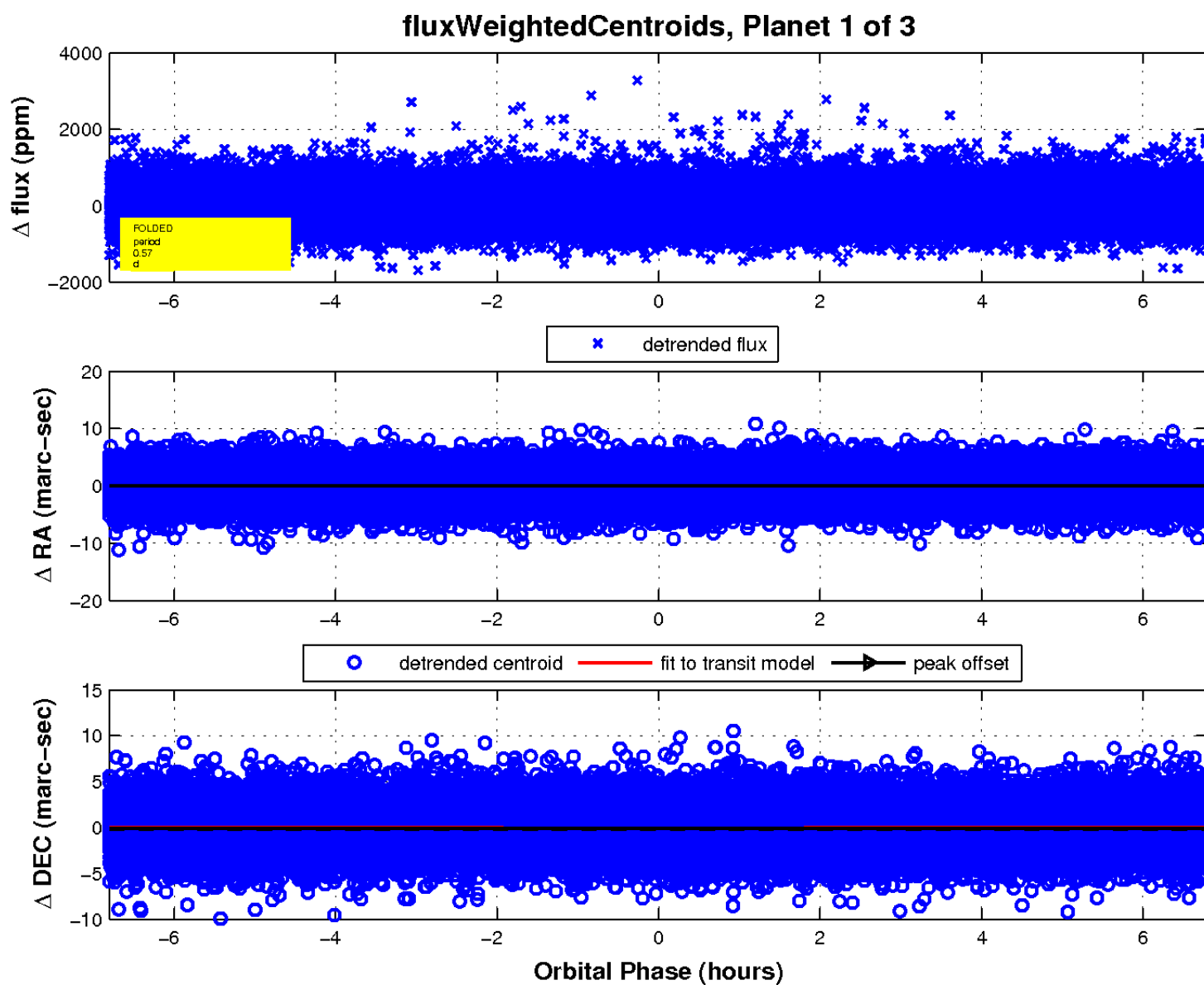
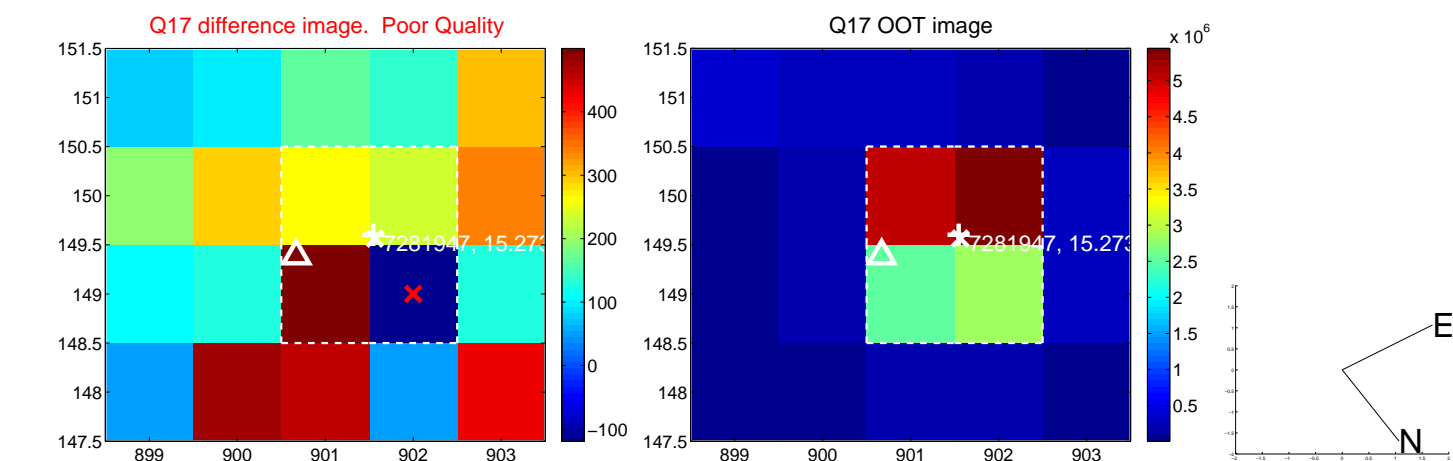
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

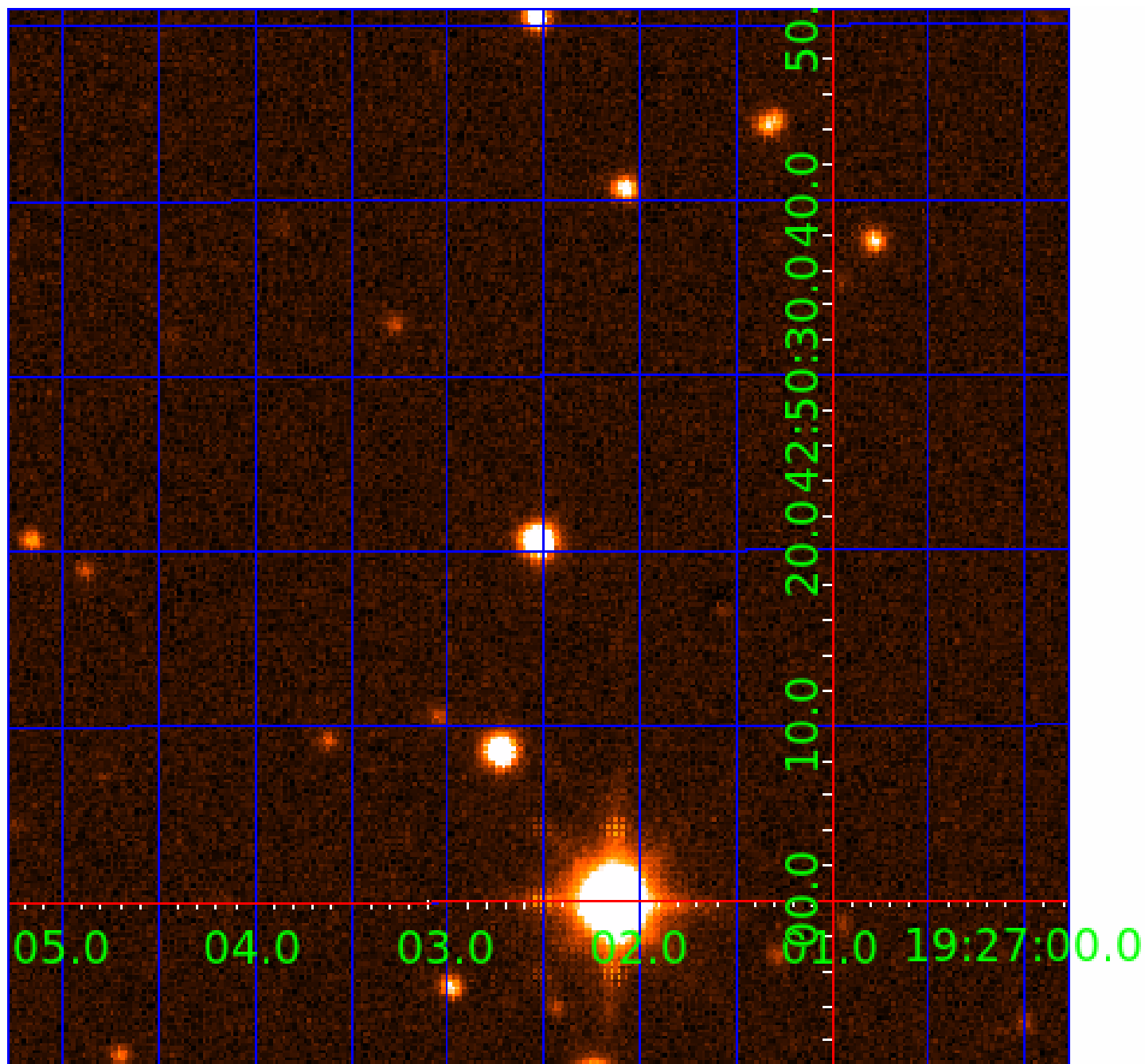


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007281947

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})
007281947-01	OBS	No	0.566760	131.850615	24.0	3.841	11.6	6.8	1.12	6321	0.56	8890.79
007281947-02	OBS	No	22.408196	150.683988	556.4	1.090	9.3	9.3	1.12	6321	2.67	66.01
007281947-03	OBS	No	32.633346	149.704891	620.6	1.679	10.2	10.3	1.12	6321	3.00	39.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007281947-01	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_ALT—EPHEM_MATCH
007281947-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007281947-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

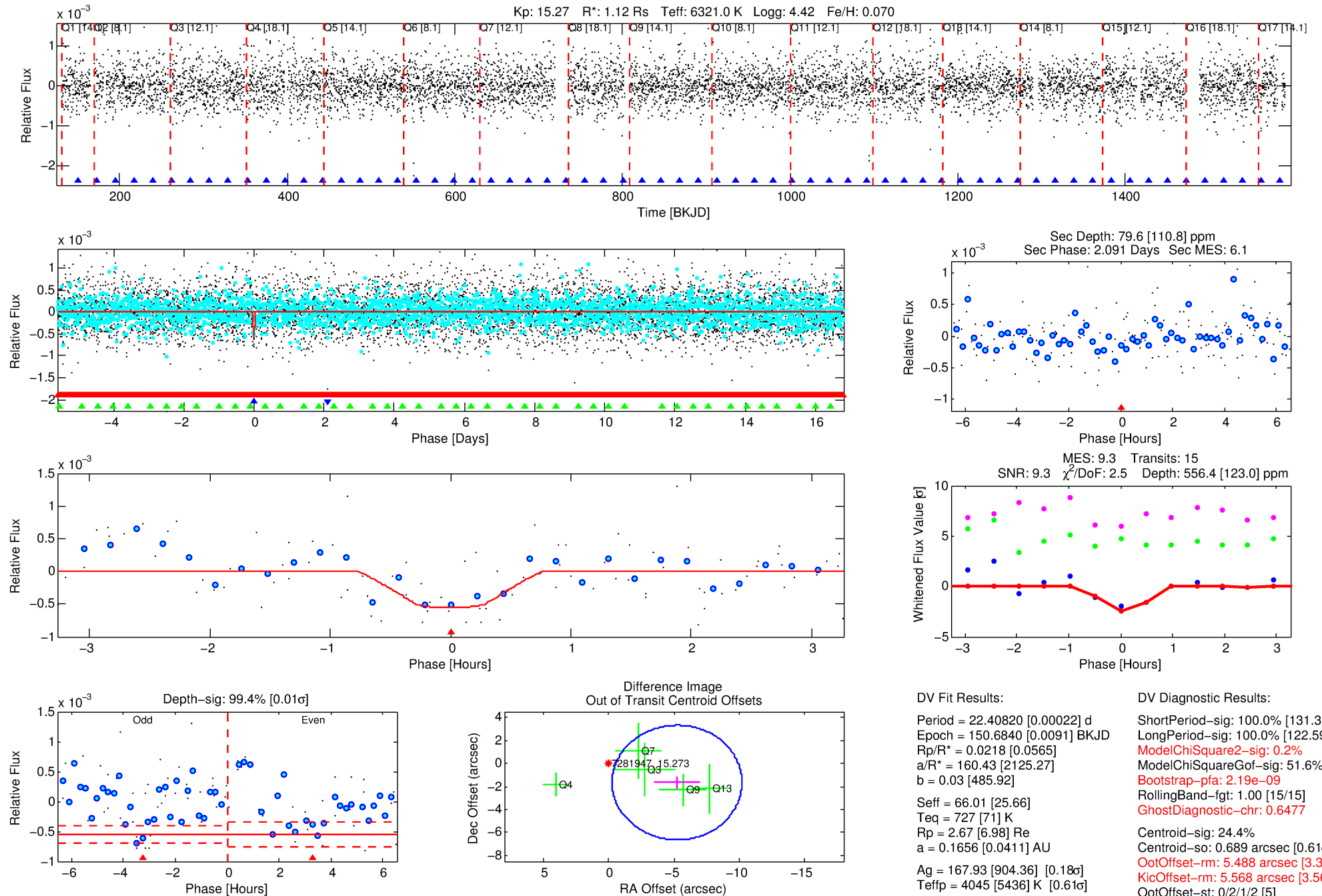
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007281947-02

No Significant Match Found

DV One-Page Summary

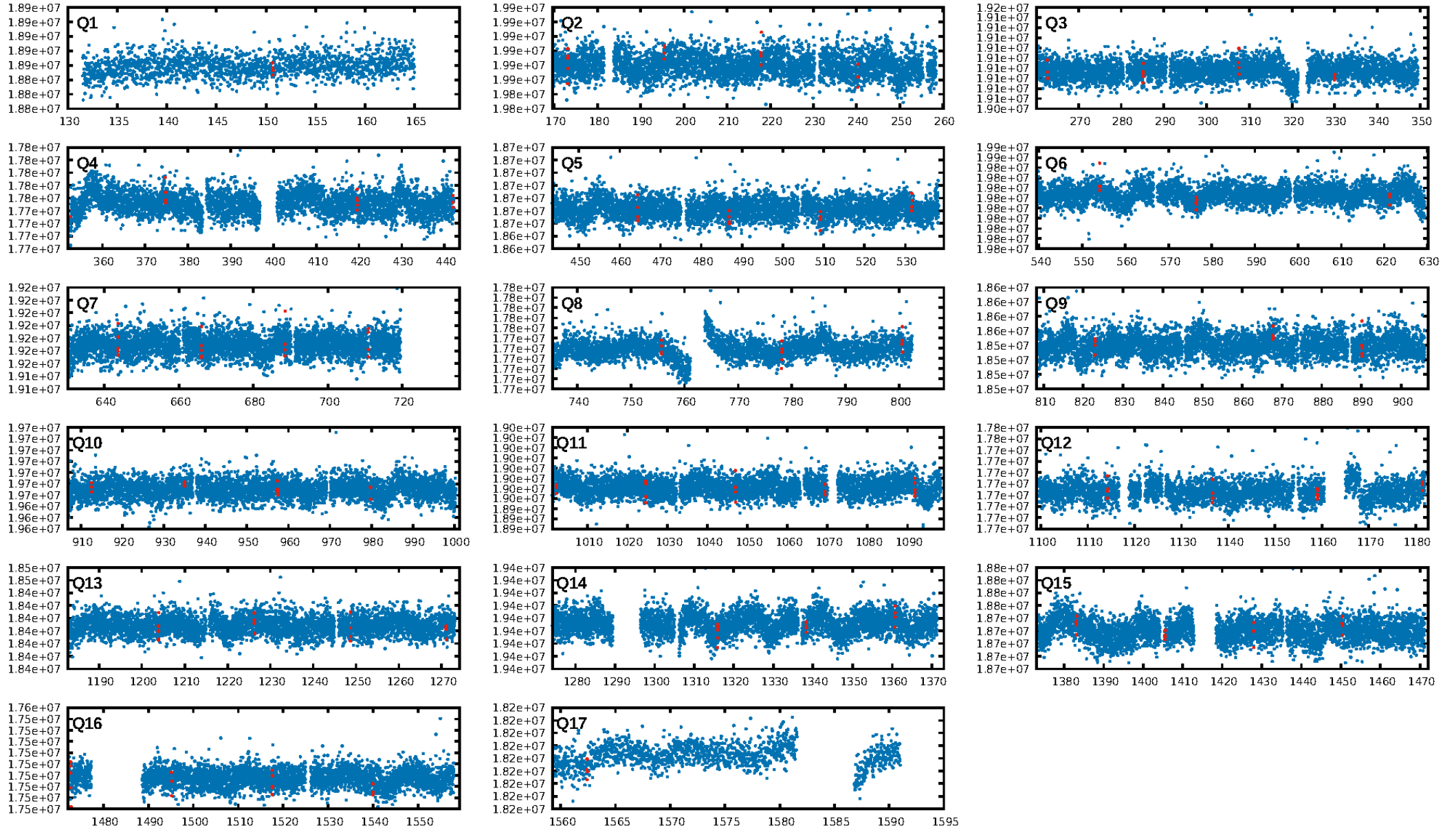
KIC: 7281947 Candidate: 2 of 3 Period: 22.408 d



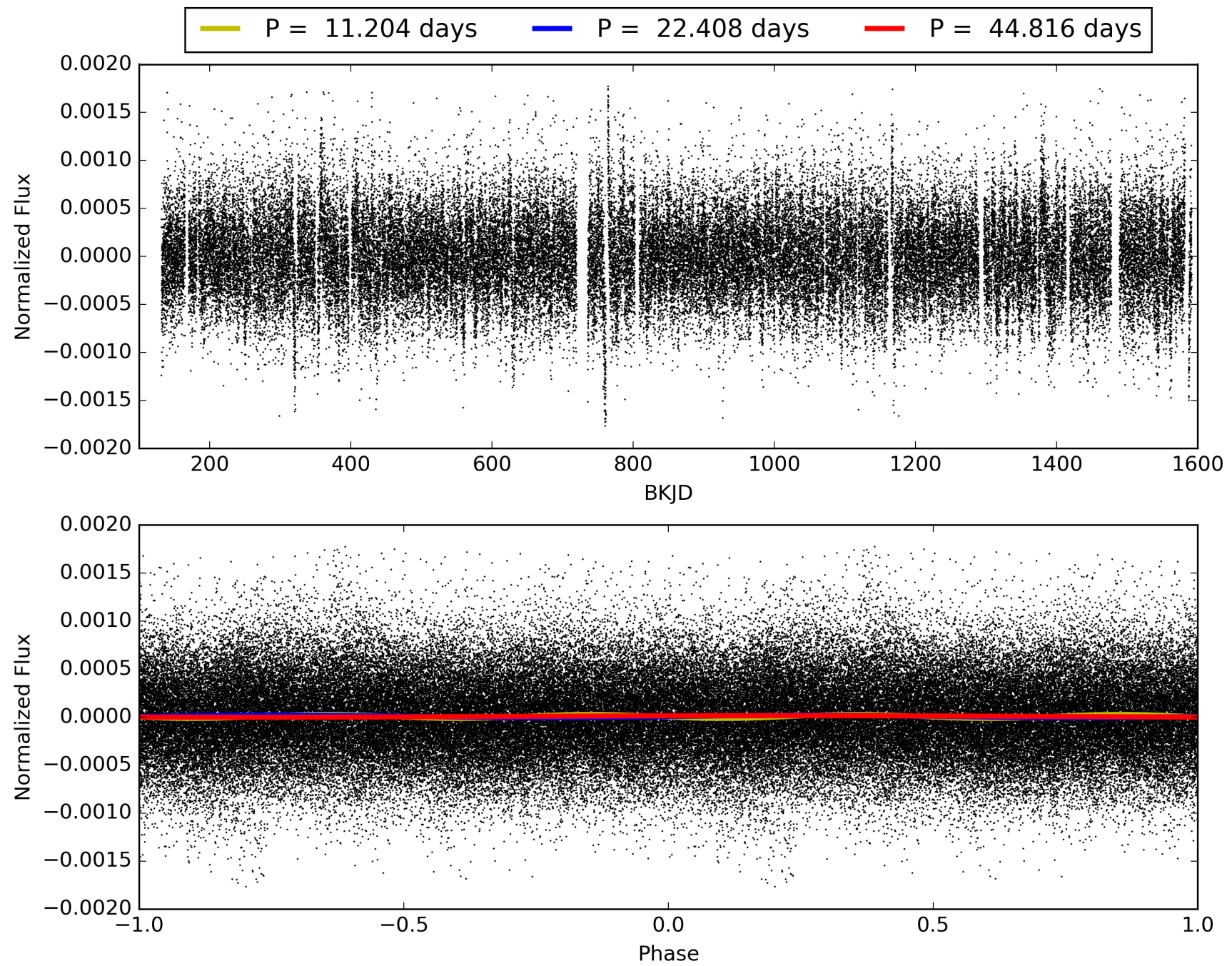
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:45:00 Z

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

TCE 007281947-02, PDC Light Curves

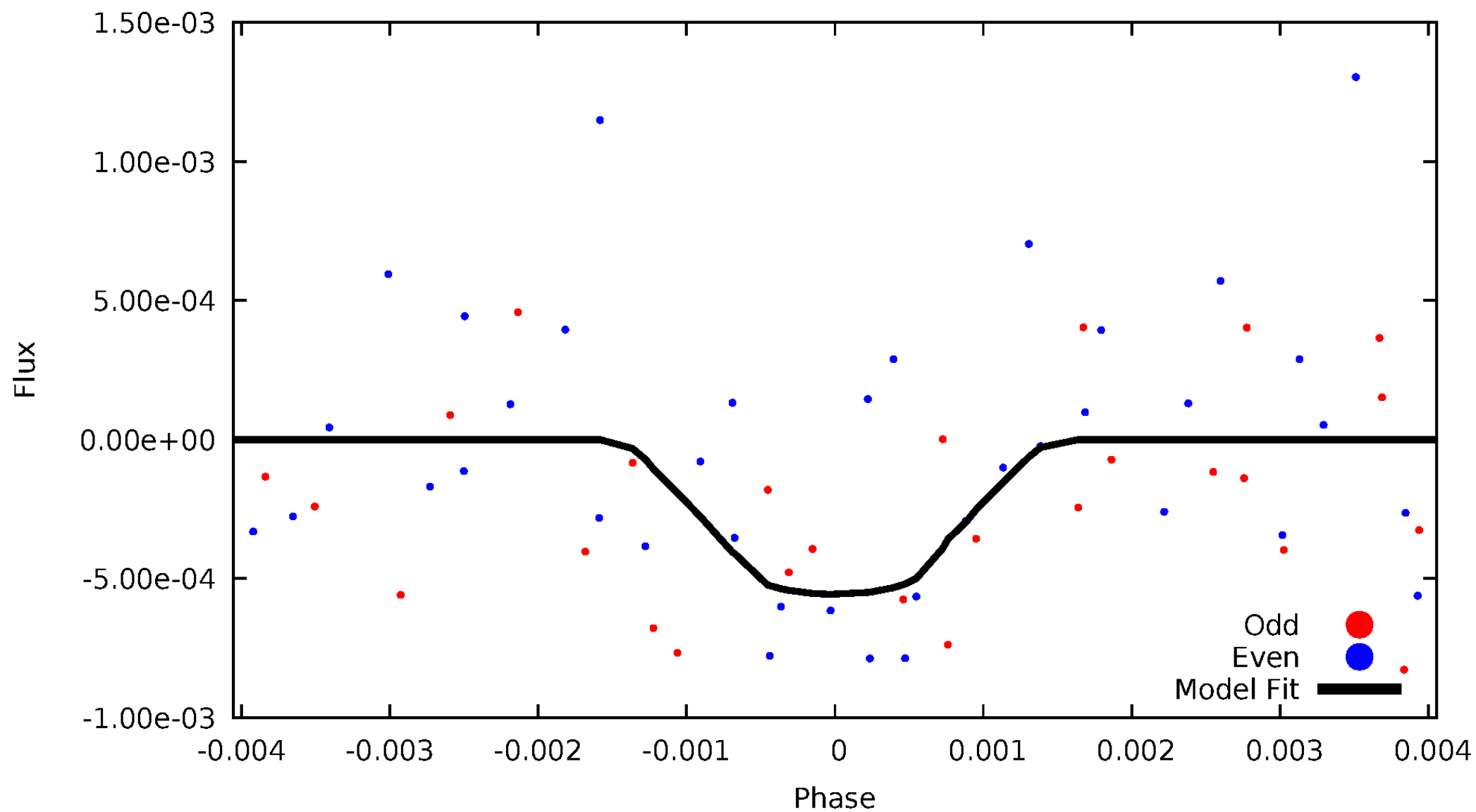


TCE 007281947-02



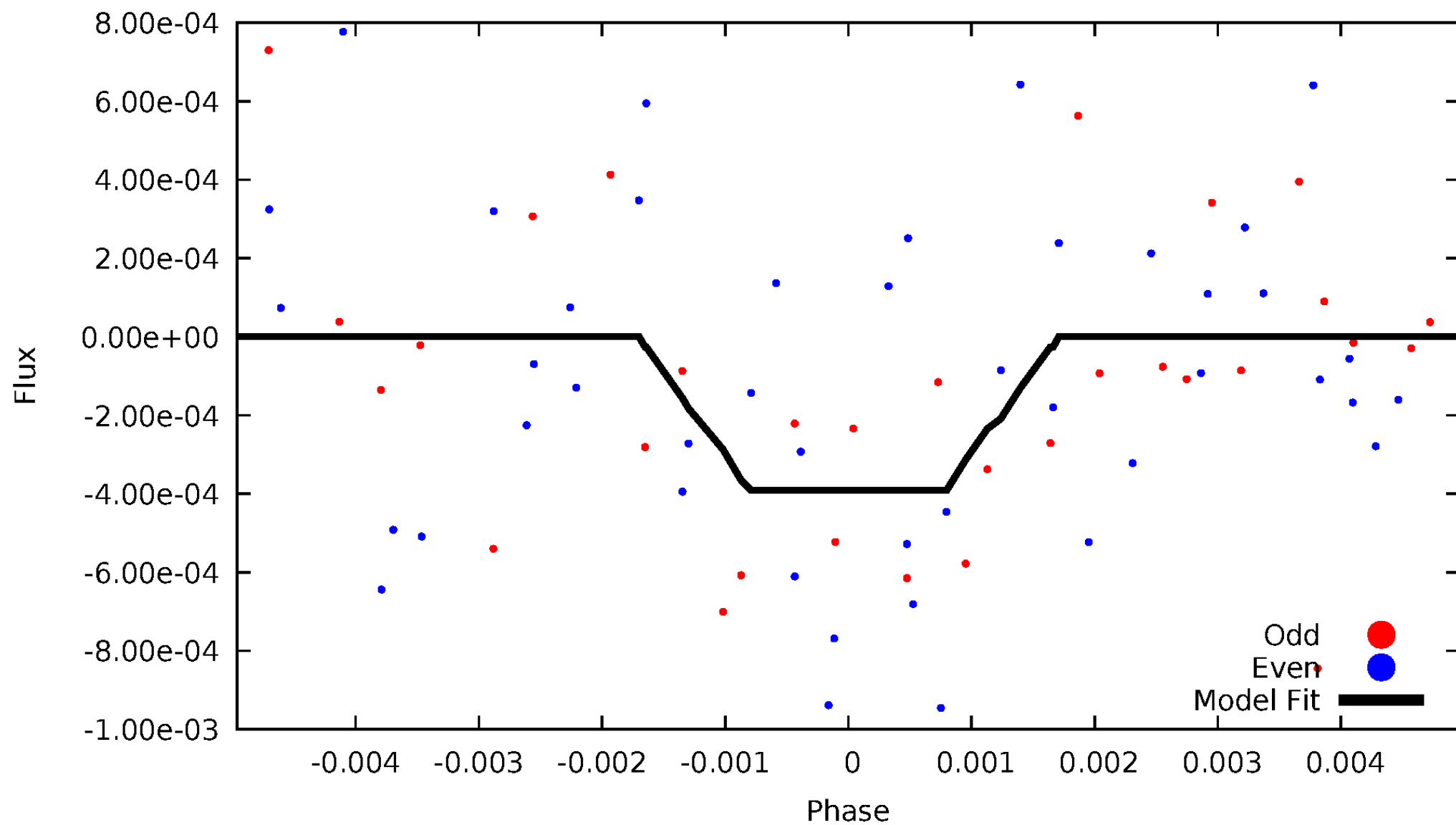
DV Odd/Even

TCE 007281947-02



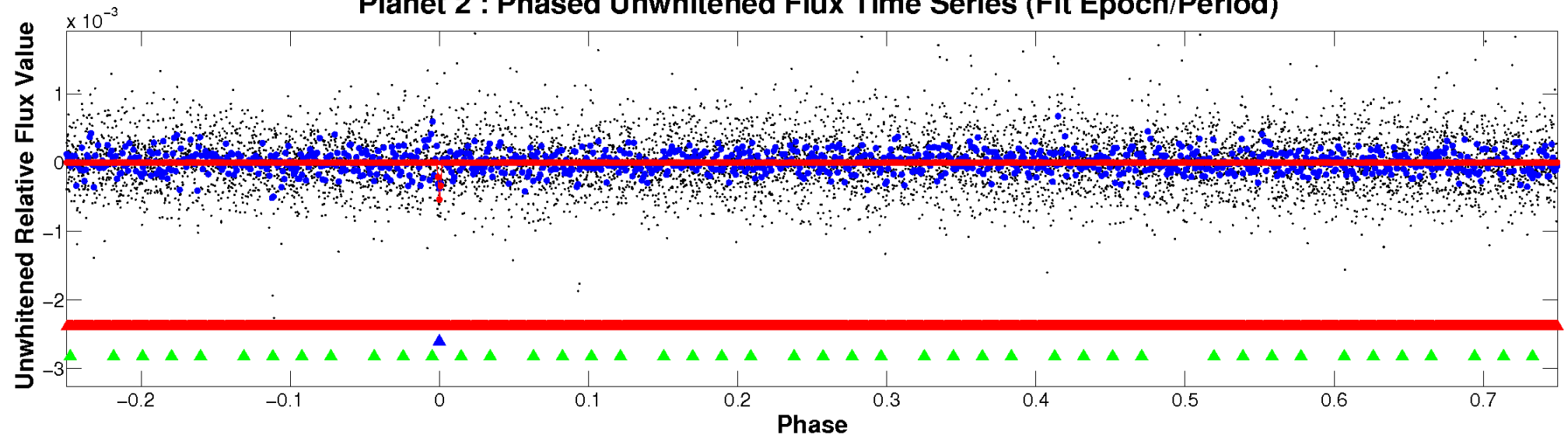
ALT Odd/Even

TCE 007281947-02

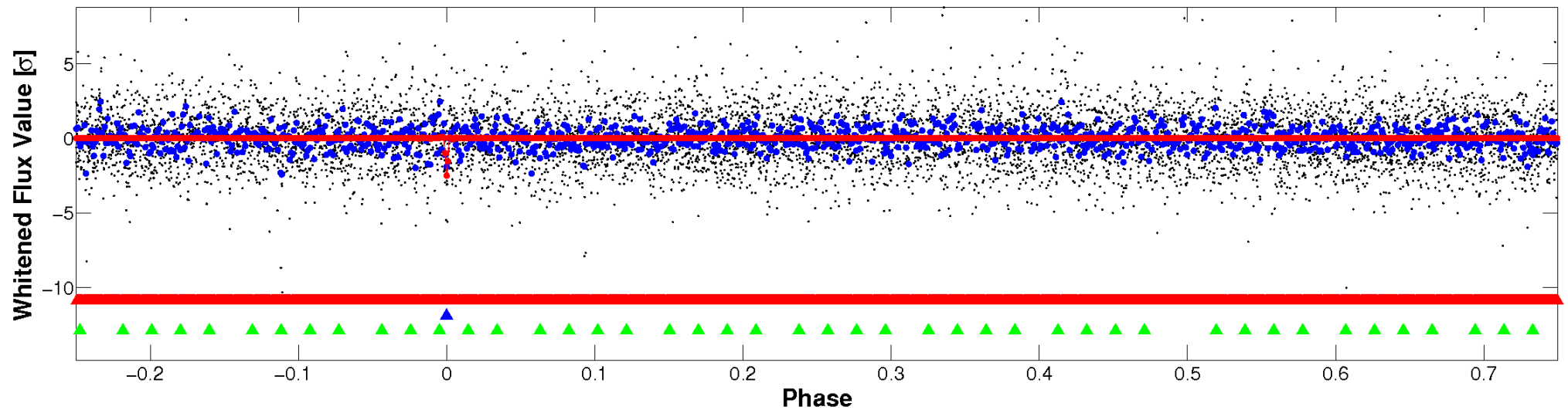


Non-Whitened Vs. Whitened Light Curve

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

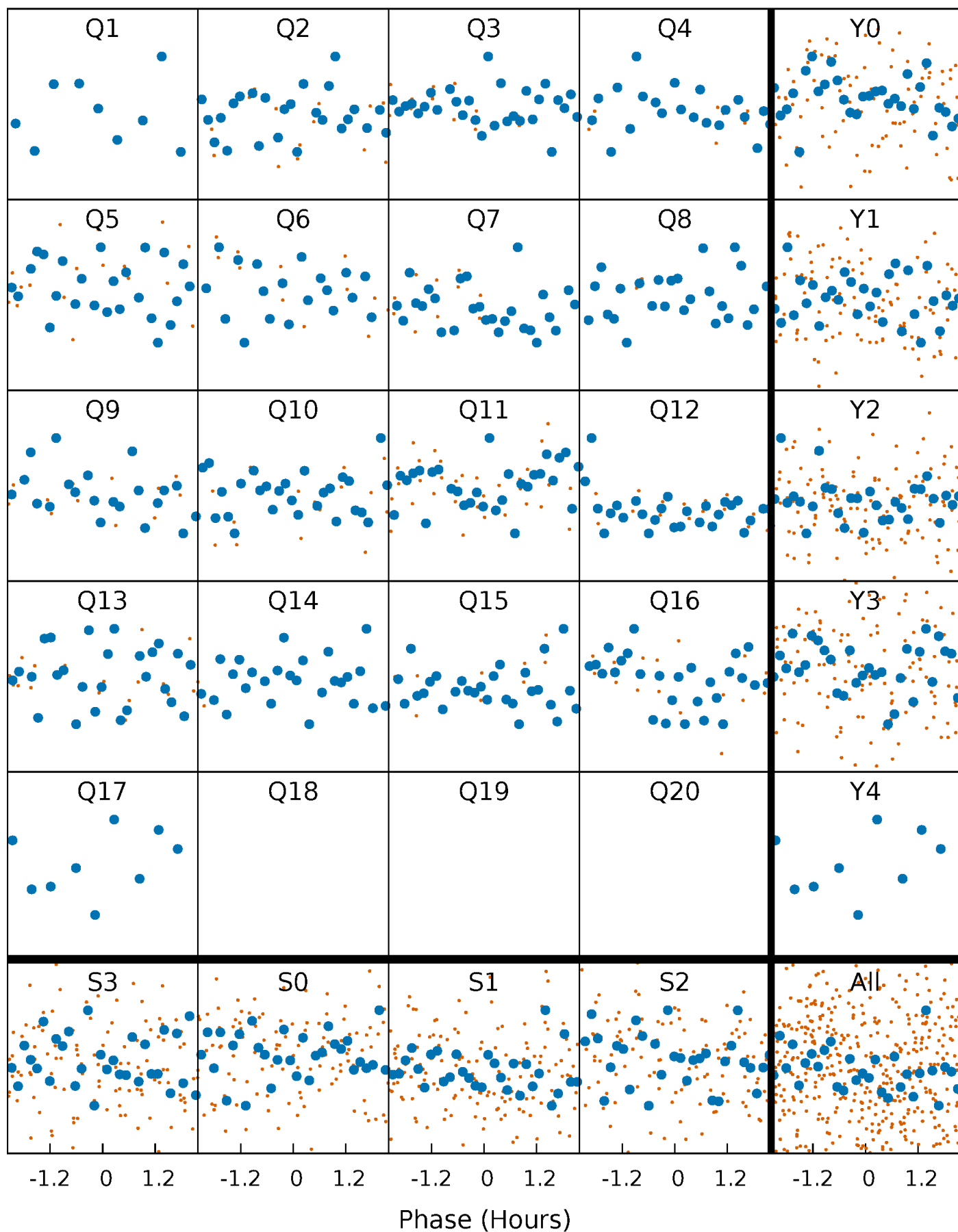


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



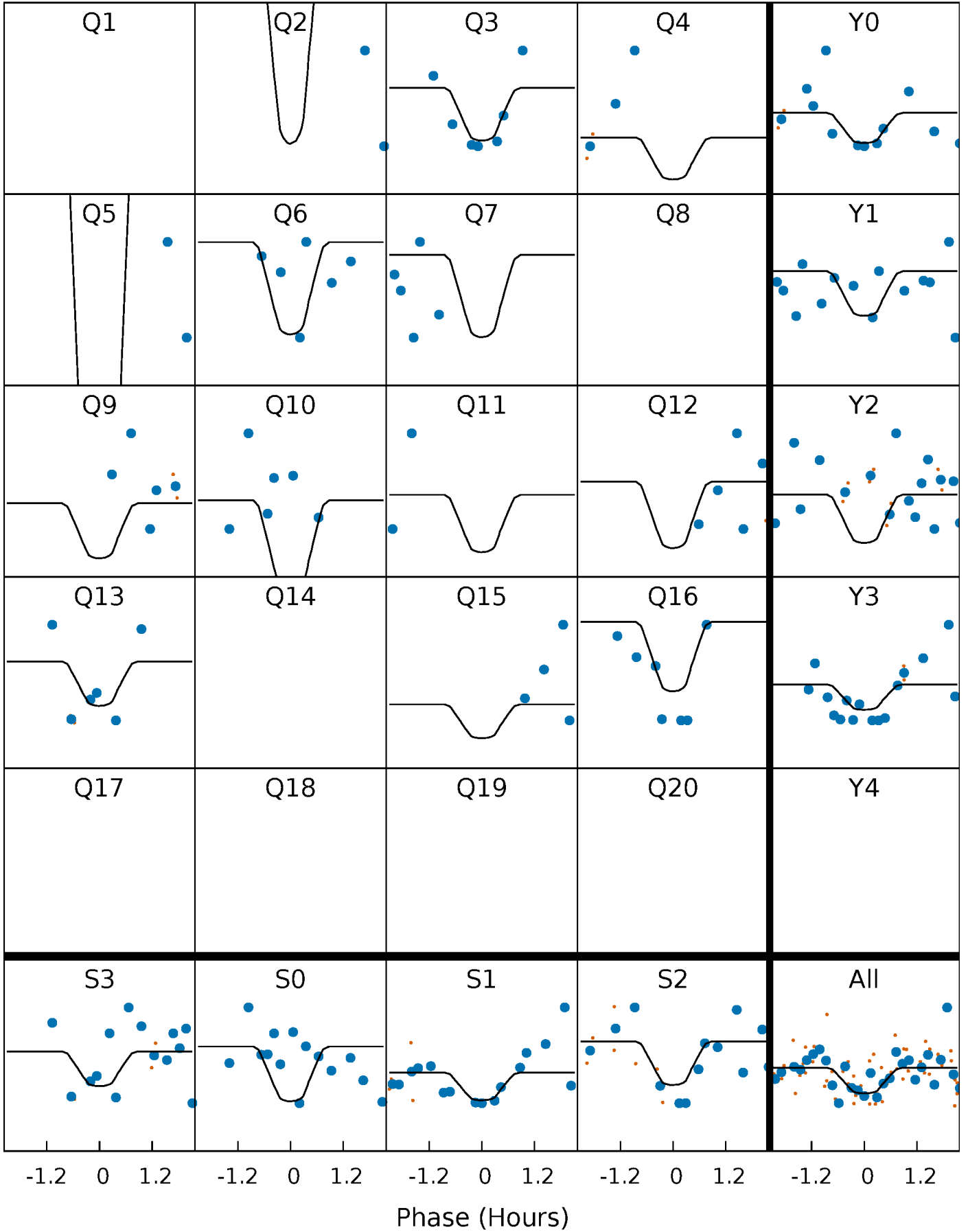
PDC Quarter-Phased Transit Curves

TCE 007281947-02 P= 22.408196 Days $T_0=150.683988$ (BKJD)



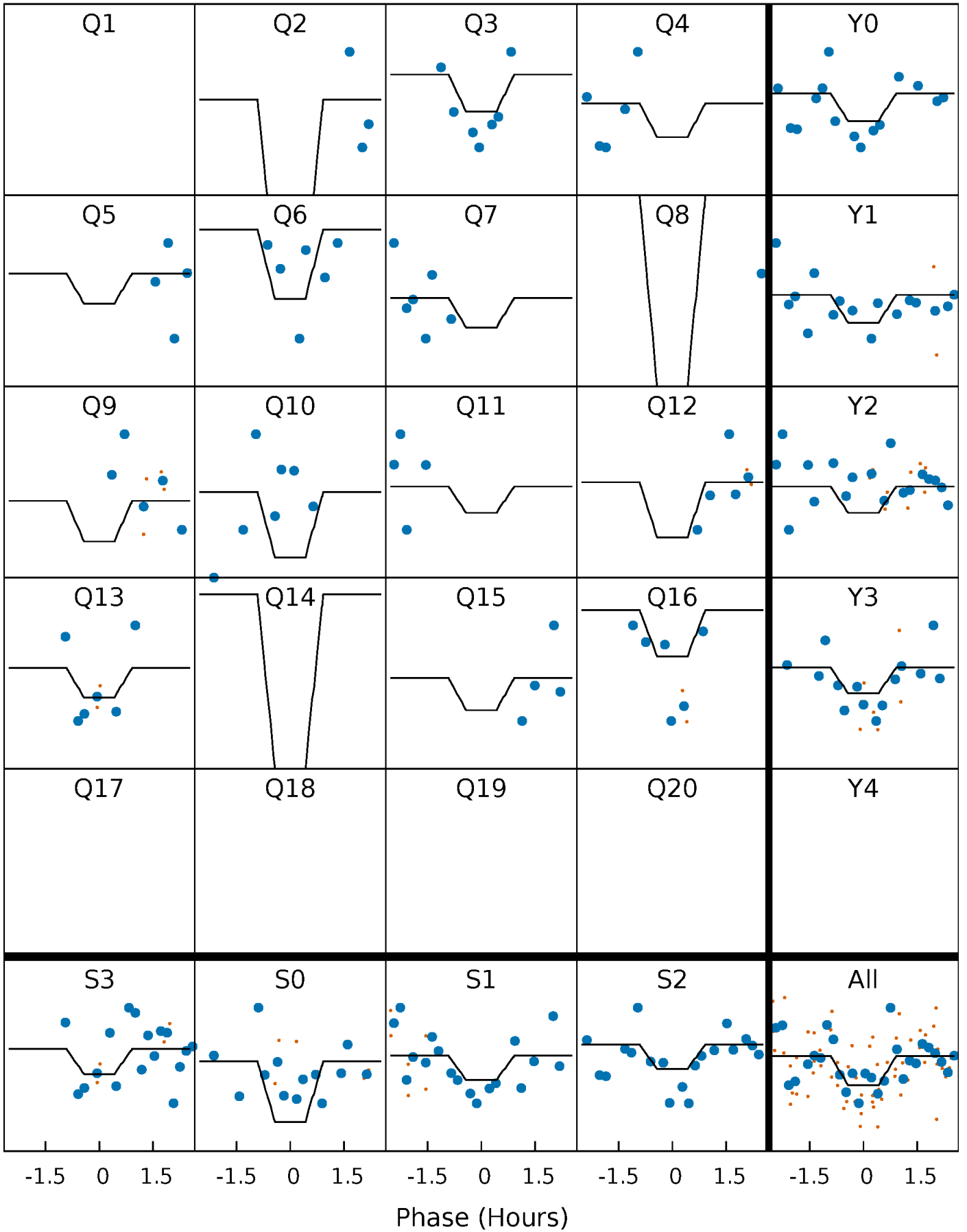
DV Quarter-Phased Transit Curves

TCE 007281947-02 P= 22.408196 Days $T_0=150.683988$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

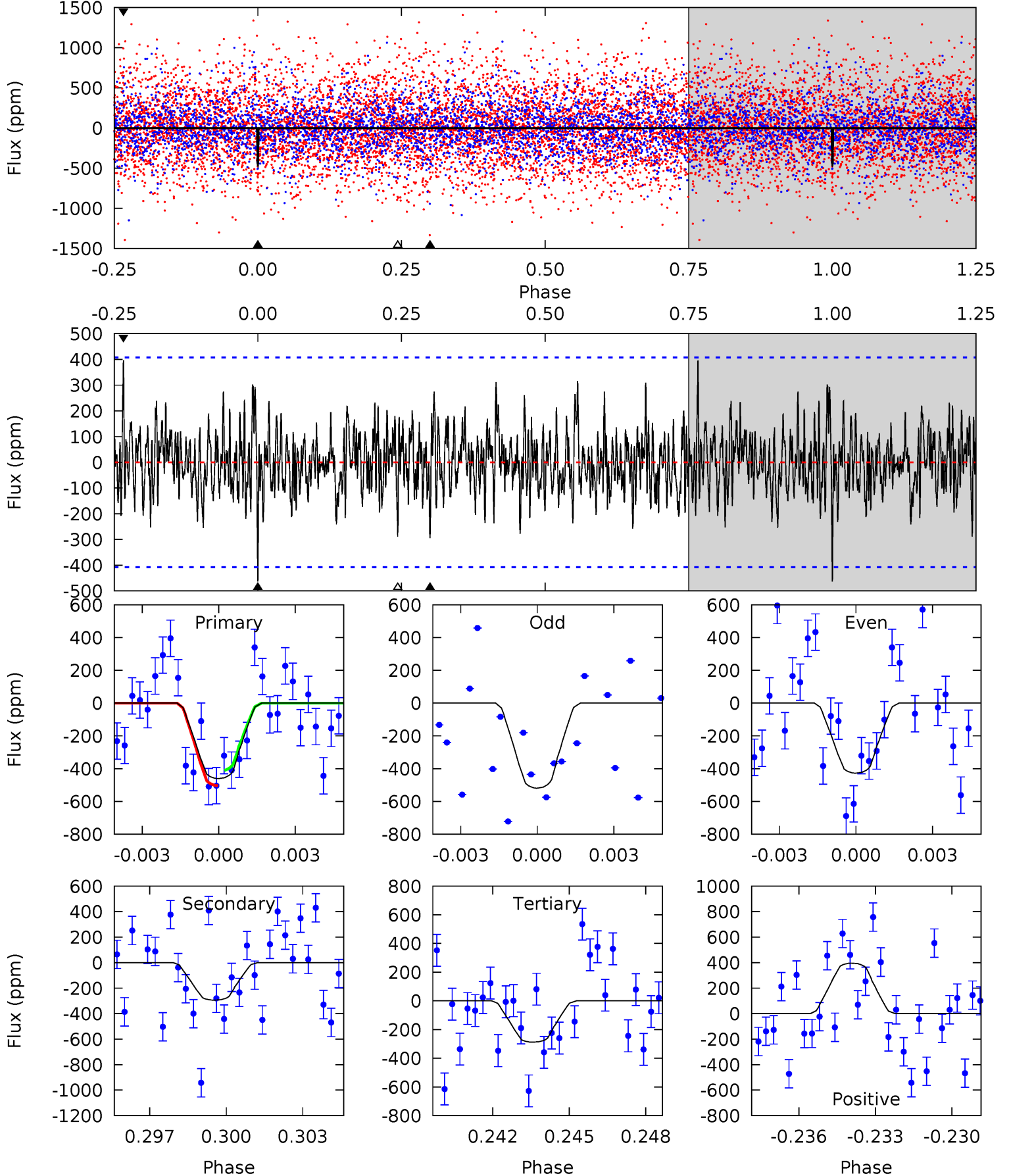
TCE 007281947-02 P= 22.408046 Days $T_0=150.686782$ (BKJD)



DV Model-Shift Uniqueness Test

007281947-02, $P = 22.408196$ Days, $E = 128.275792$ Days

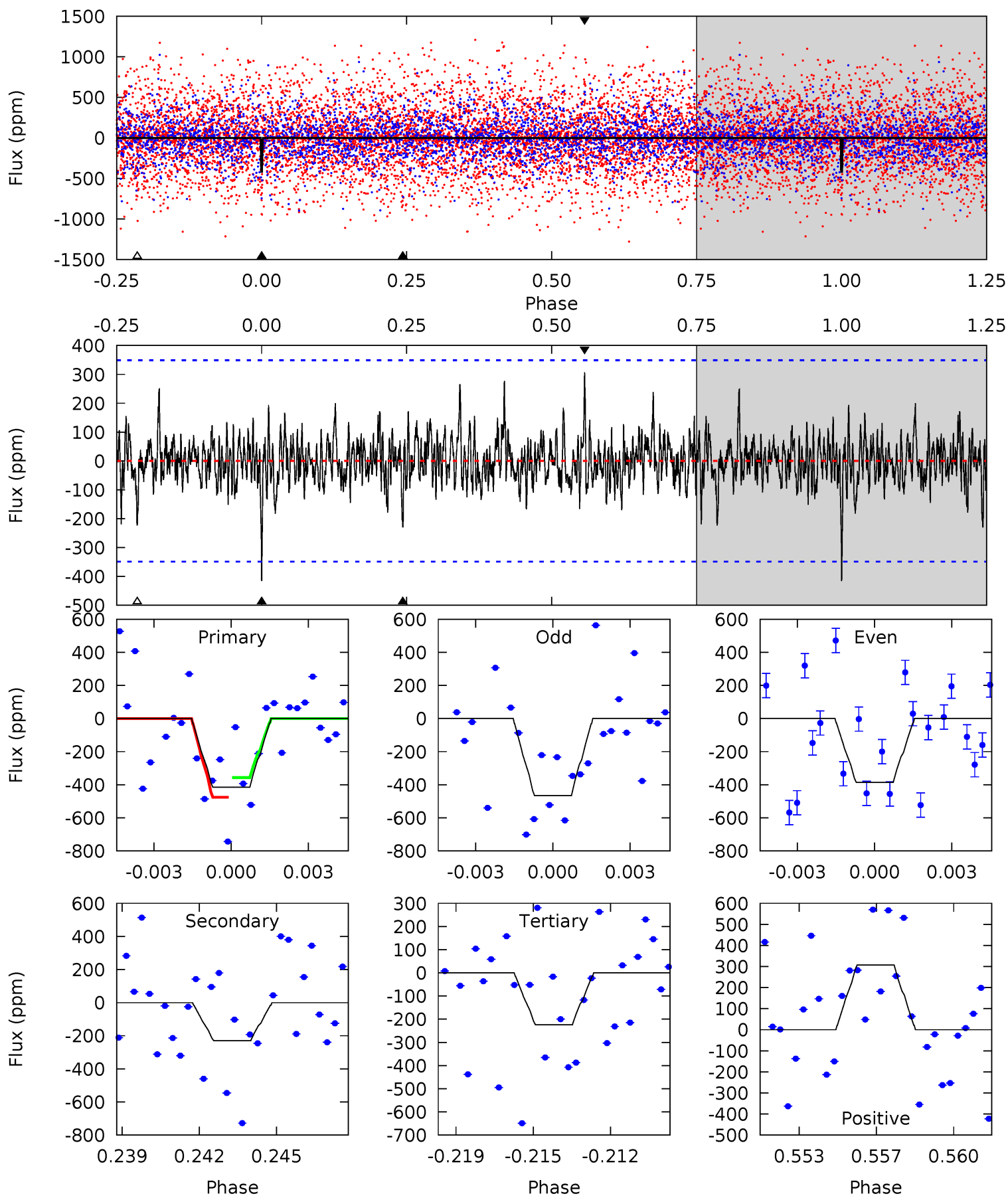
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.95	3.80	3.72	5.11	5.26	2.98	1.30	2.23	0.84	0.08	-1.31	0.57	0.74	0.46	0.60



Alt Model-Shift Uniqueness Test

007281947-02, P = 22.408046 Days, E = 128.278736 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.23	3.45	3.36	4.61	5.23	2.94	1.03	2.87	1.62	0.09	-1.16	0.58	0.77	0.43	0.90



Stellar Parameters For KIC 007281947

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6321^{+174}_{-217}	$4.417^{+0.062}_{-0.200}$	$0.070^{+0.200}_{-0.350}$	$1.125^{+0.329}_{-0.141}$	$1.207^{+0.135}_{-0.186}$	$1.195^{+0.320}_{-0.611}$
	+3%/-3%	+1%/-5%	+286%/-500%	+29%/-13%	+11%/-15%	+27%/-51%
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 007281947-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-295 ± 78	$6.03^{+6.20}_{-4.13}$	1036^{+69}_{-51}	4119^{+2686}_{-905}	119^{+1070}_{-92}
Alt.	-230 ± 67	$5.72^{+6.01}_{-4.02}$	1038^{+72}_{-55}	3947^{+2569}_{-809}	103^{+907}_{-80}

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 $A_{obs} \gg 1.0$

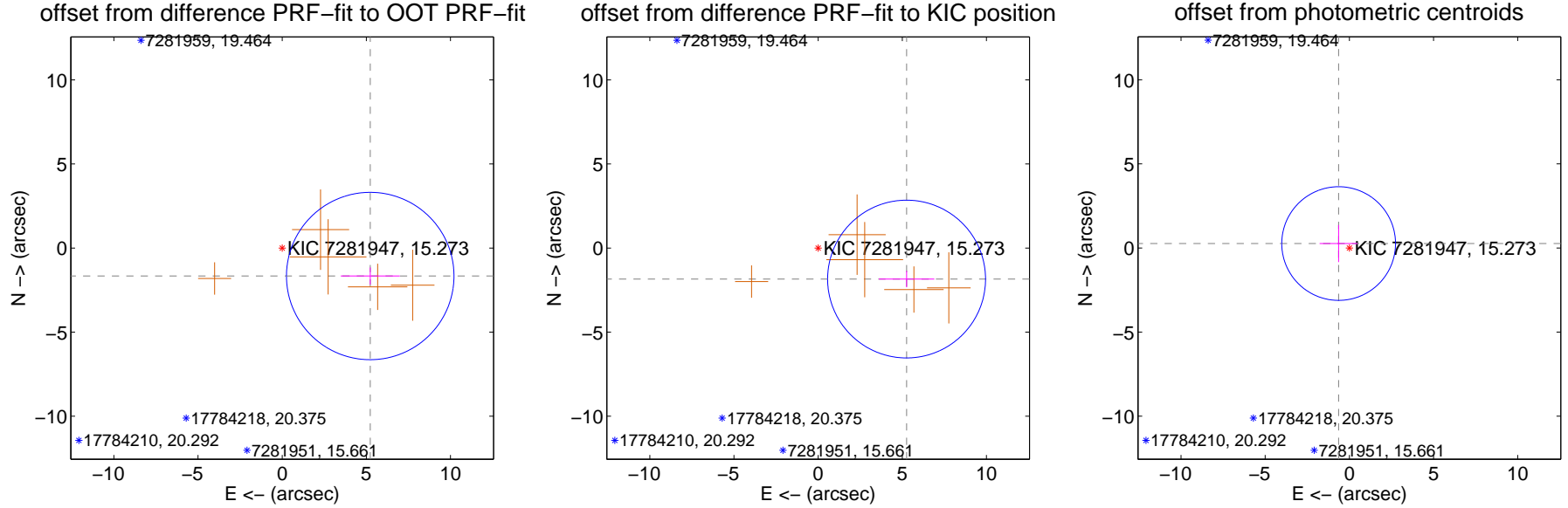
DV Centroid Data

Supplemental centroid analysis for 007281947-02. Kepler magnitude: 15.27. Transit SNR 9.34

There are 0 quarters with good PRF difference image offsets

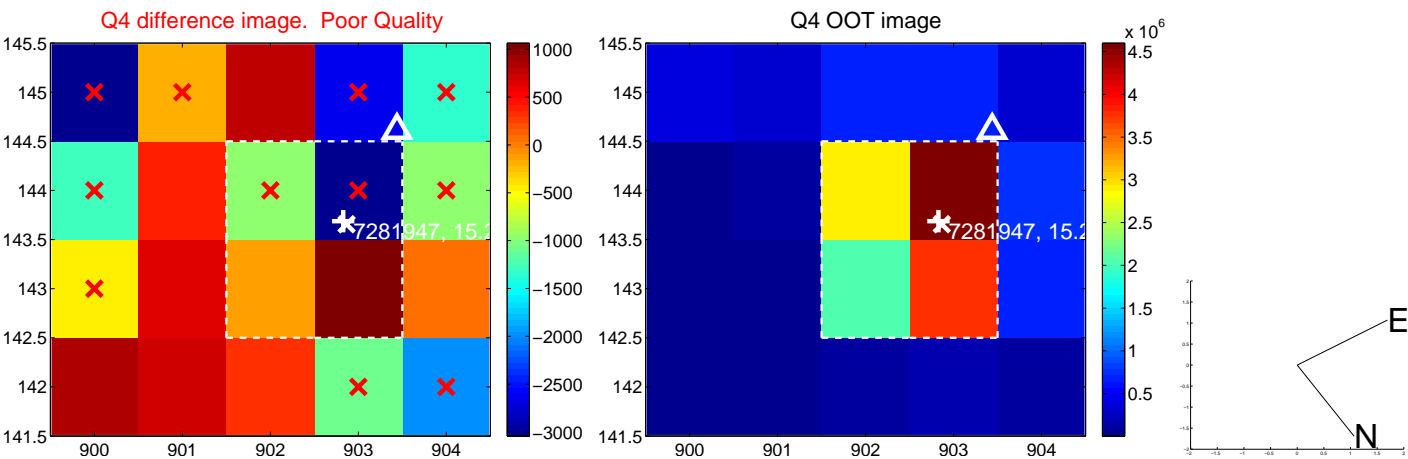
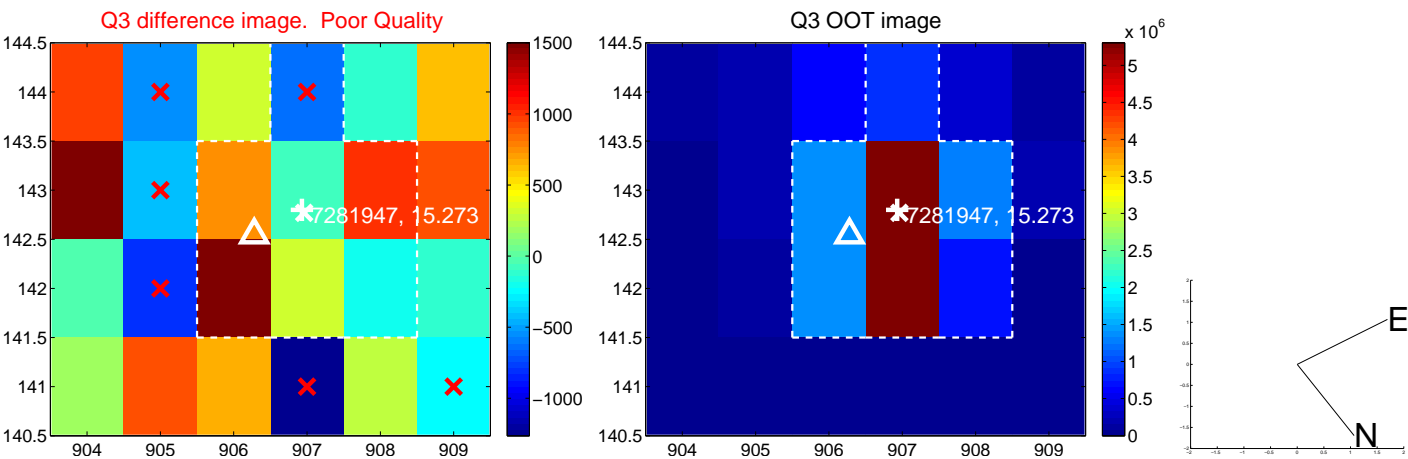
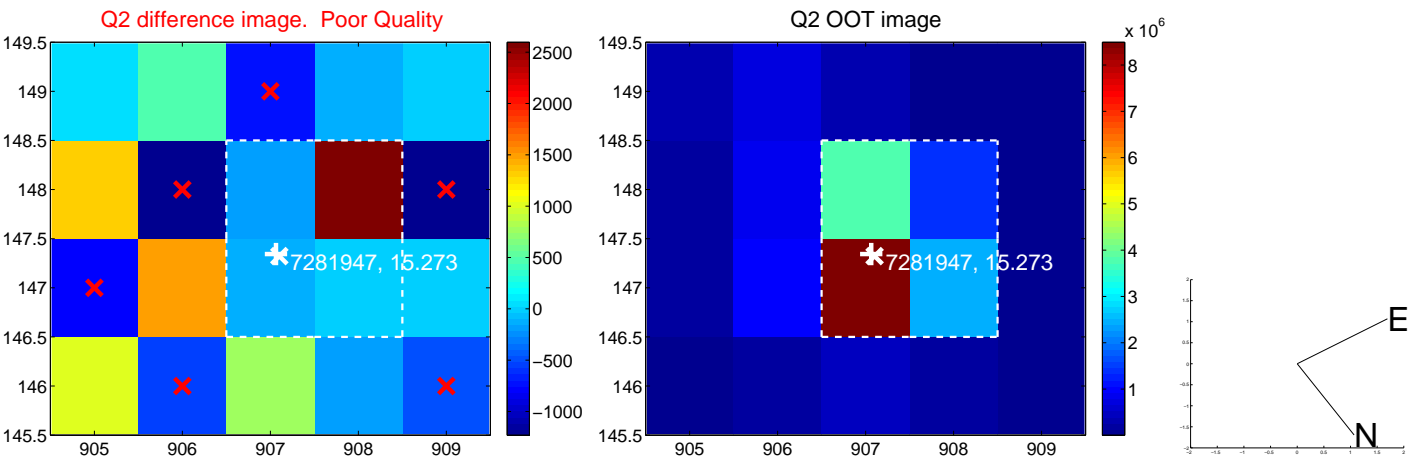
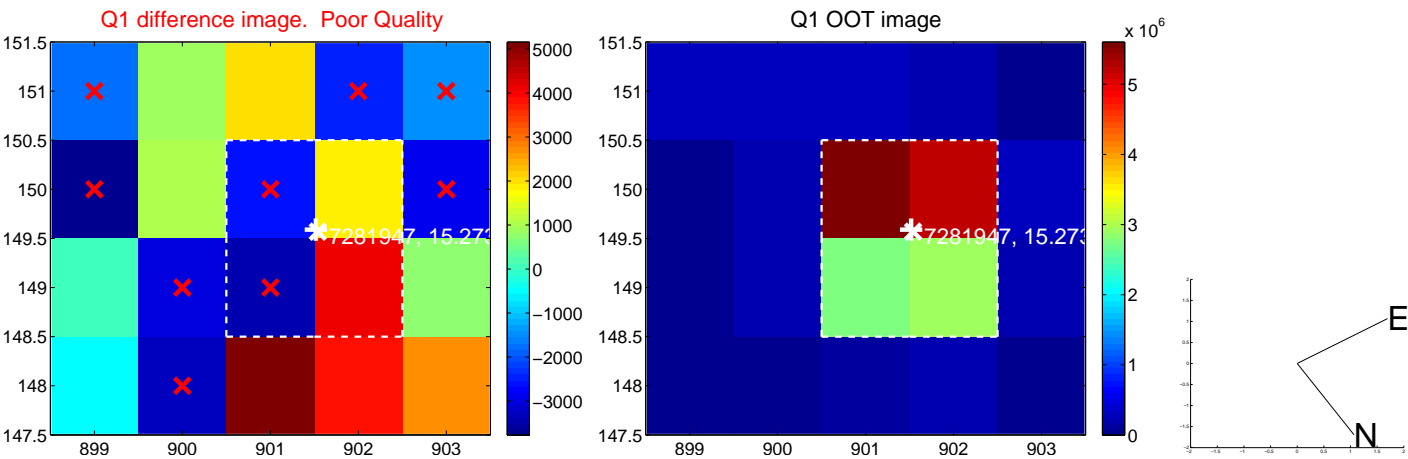
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.488 ± 1.658	3.31	-5.230 ± 1.753	-1.663 ± 0.506
PRF-fit source offset from KIC position	5.568 ± 1.563	3.56	-5.254 ± 1.648	-1.844 ± 0.490
photometric centroid source offset	0.69 ± 1.13	0.61	0.64 ± 1.13	0.26 ± 1.10

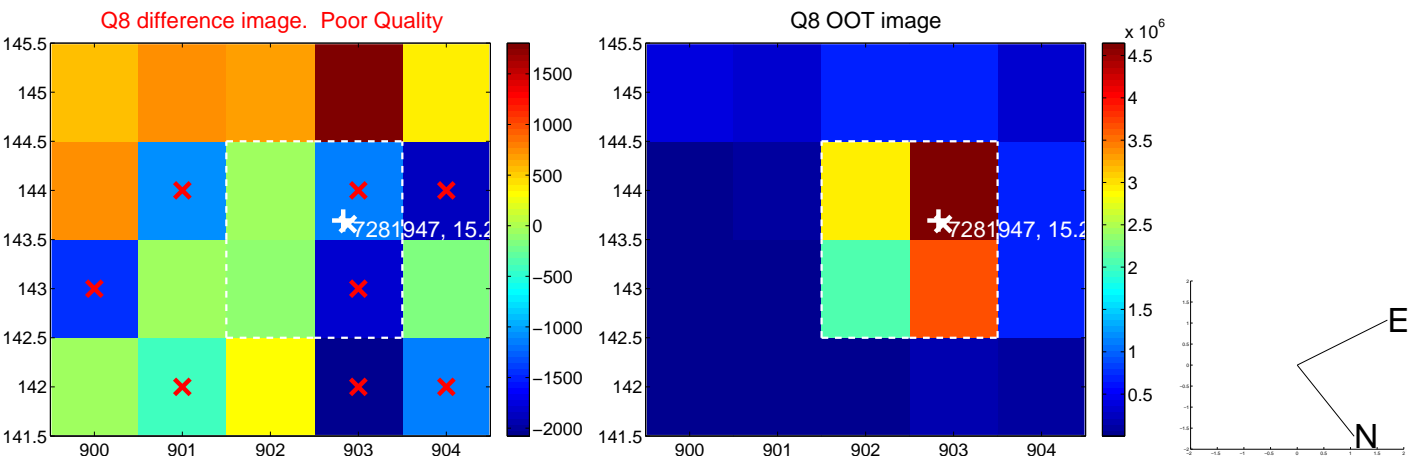
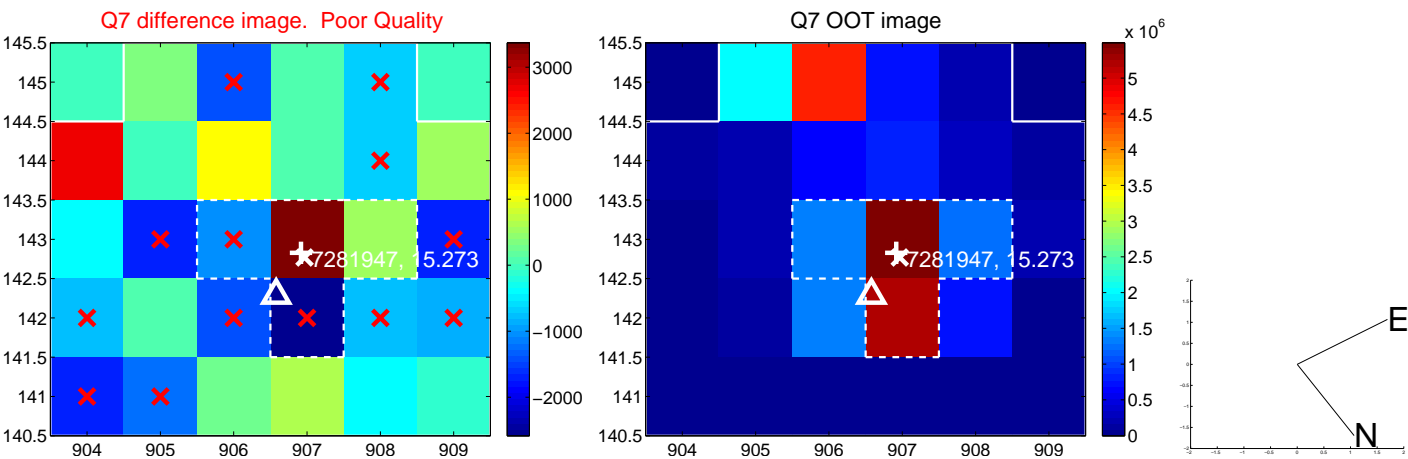
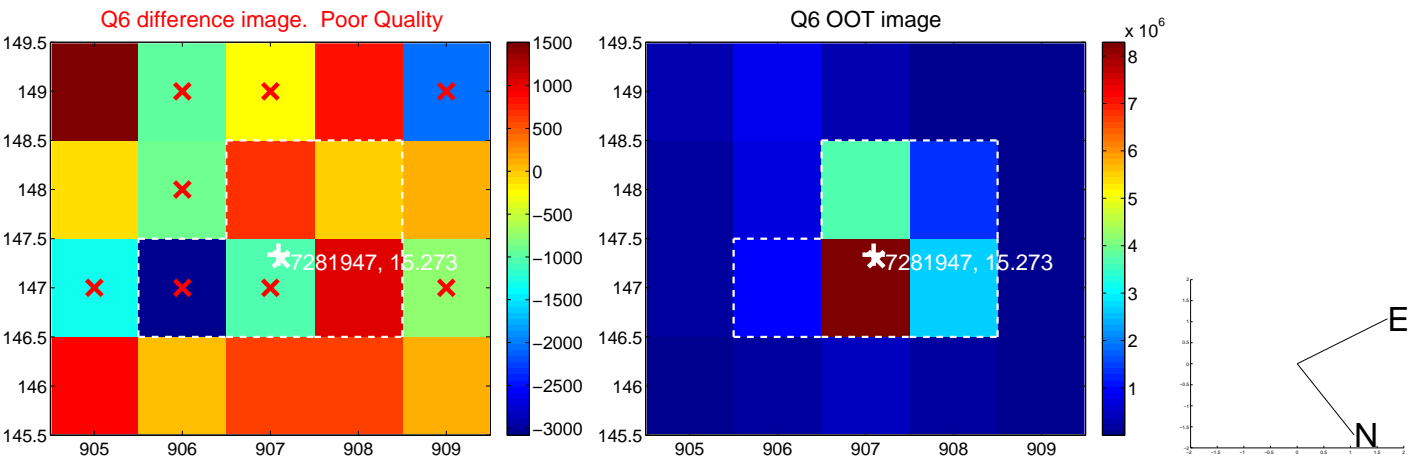
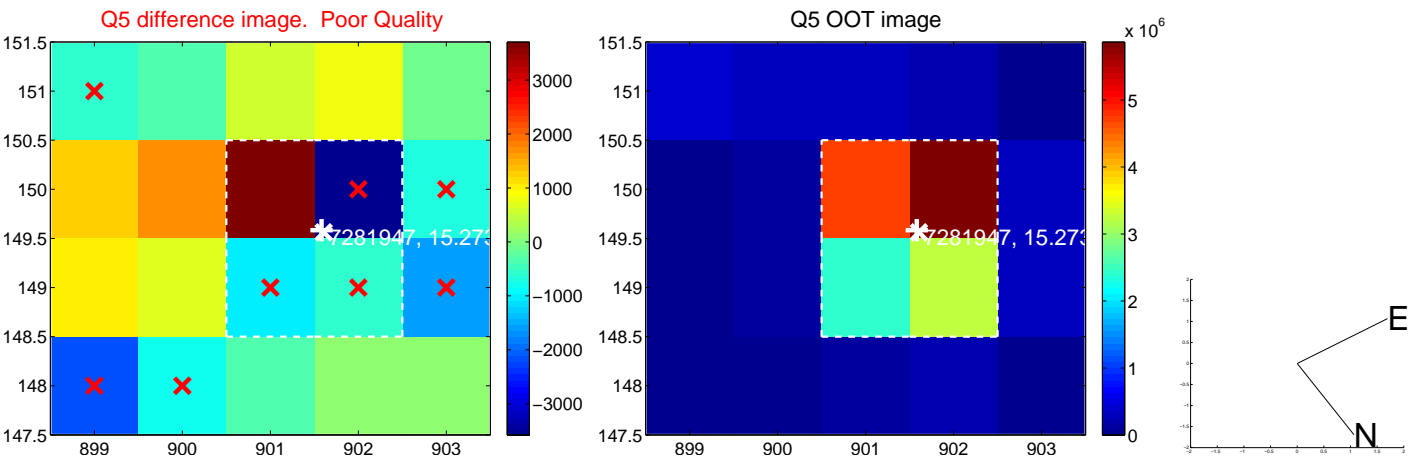


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

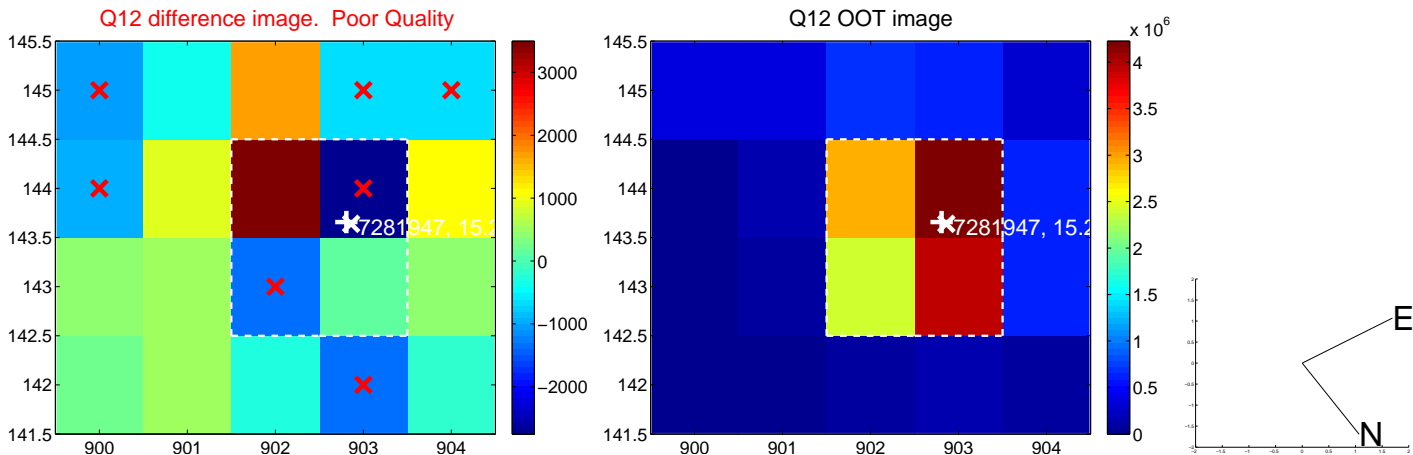
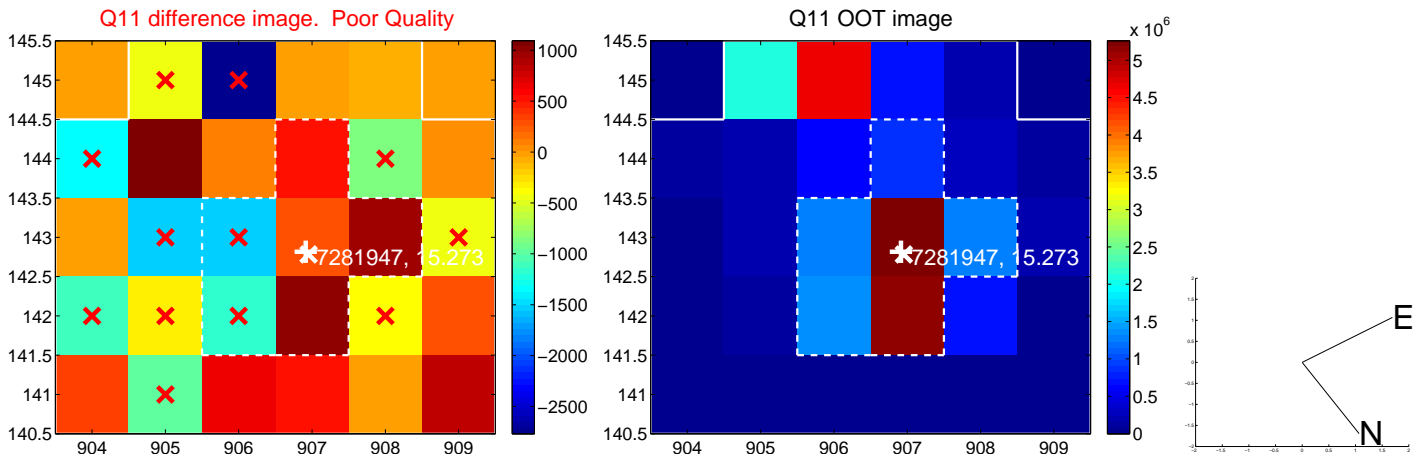
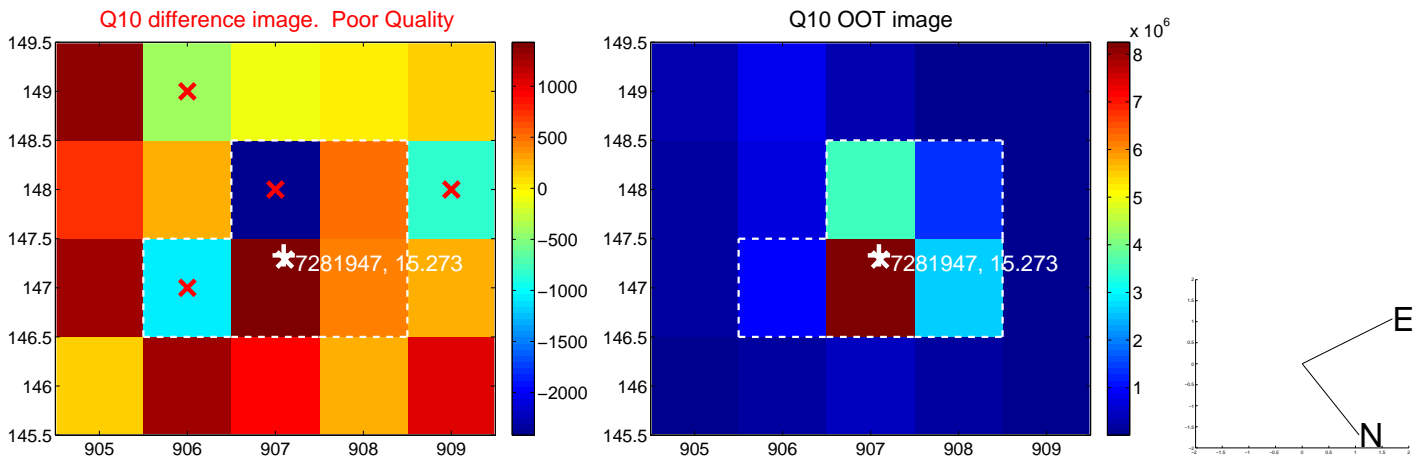
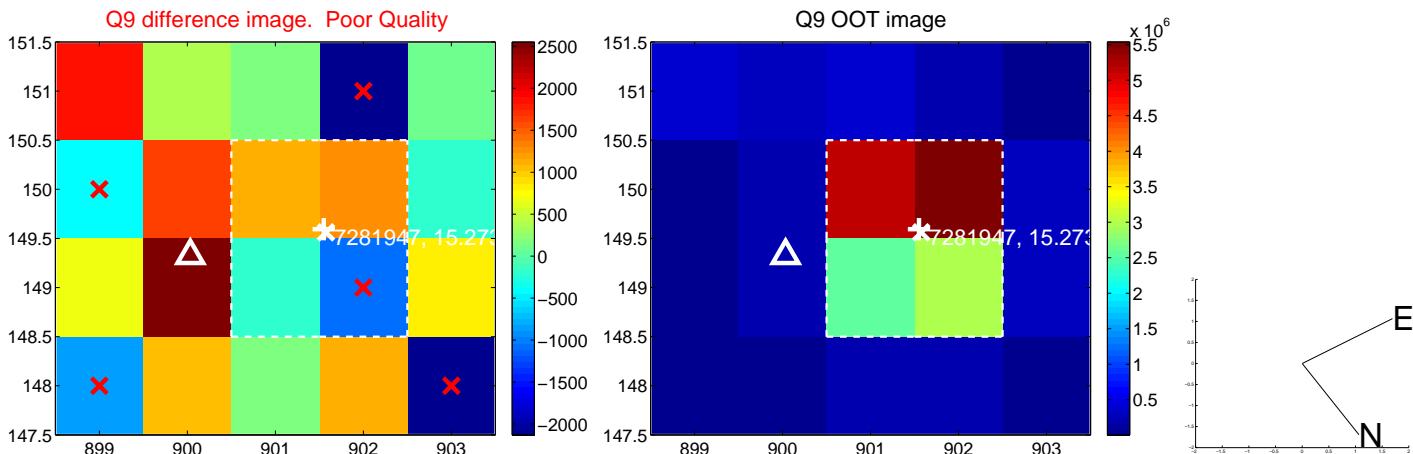
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



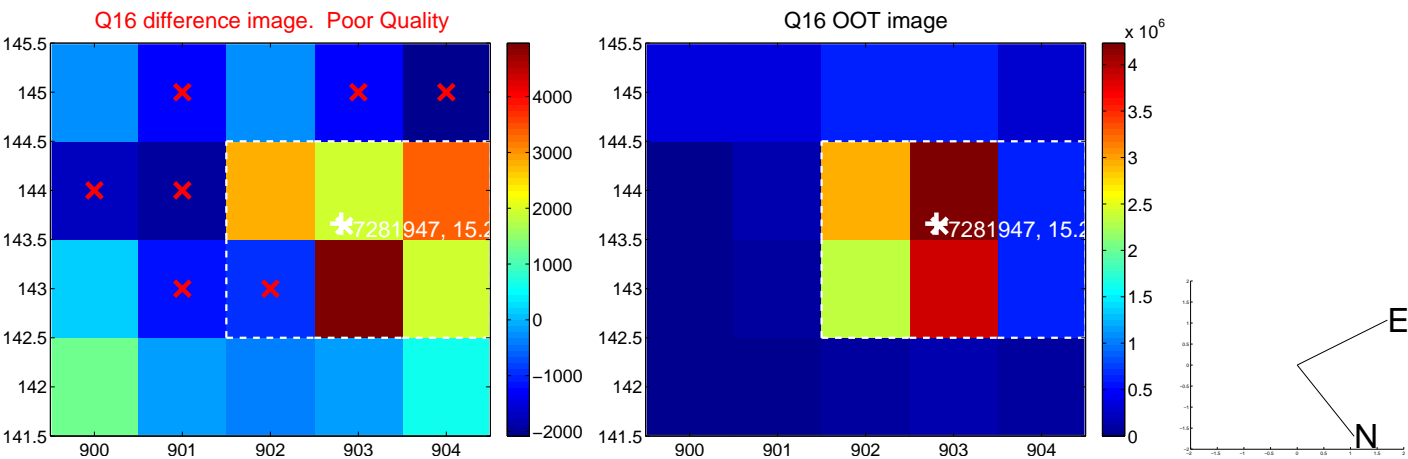
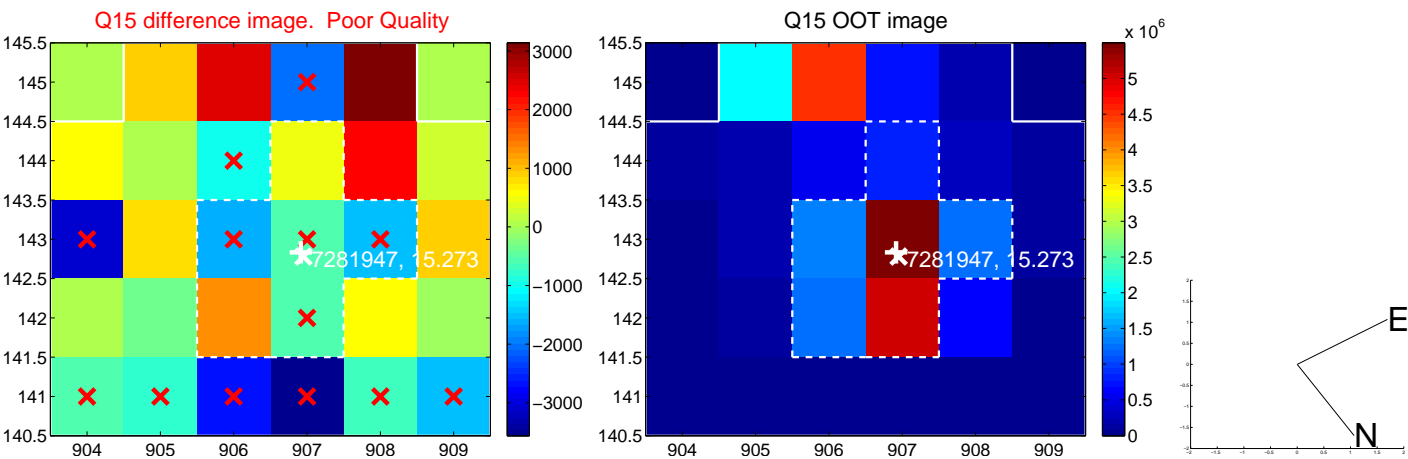
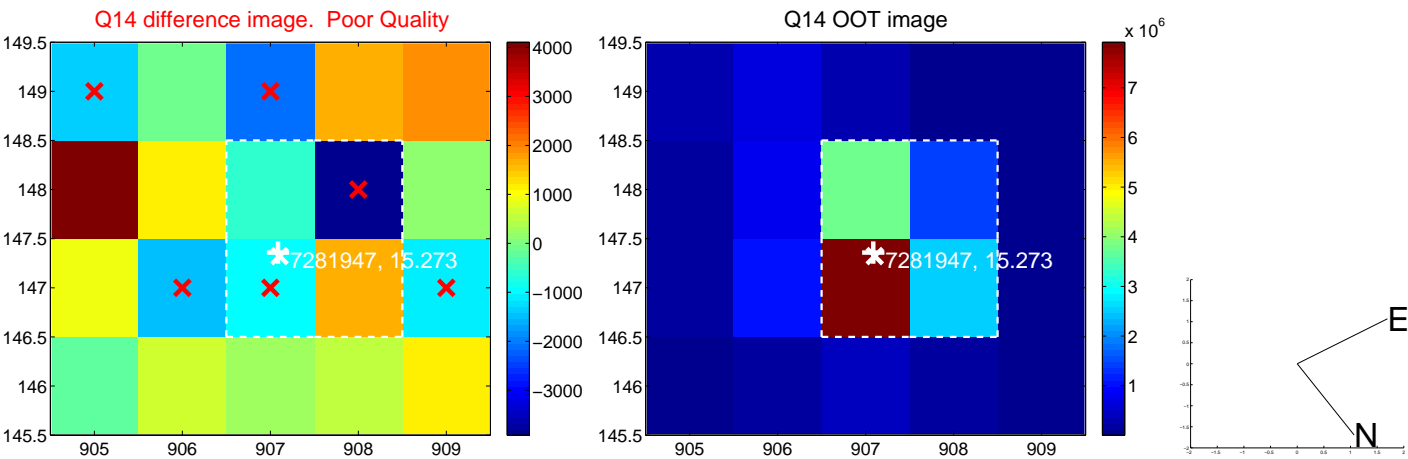
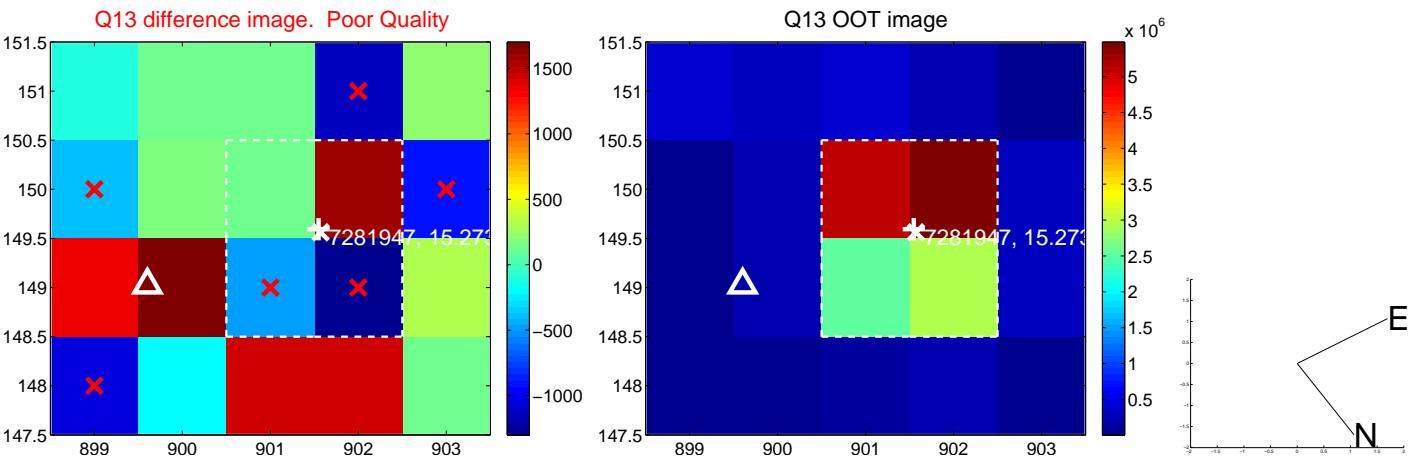
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



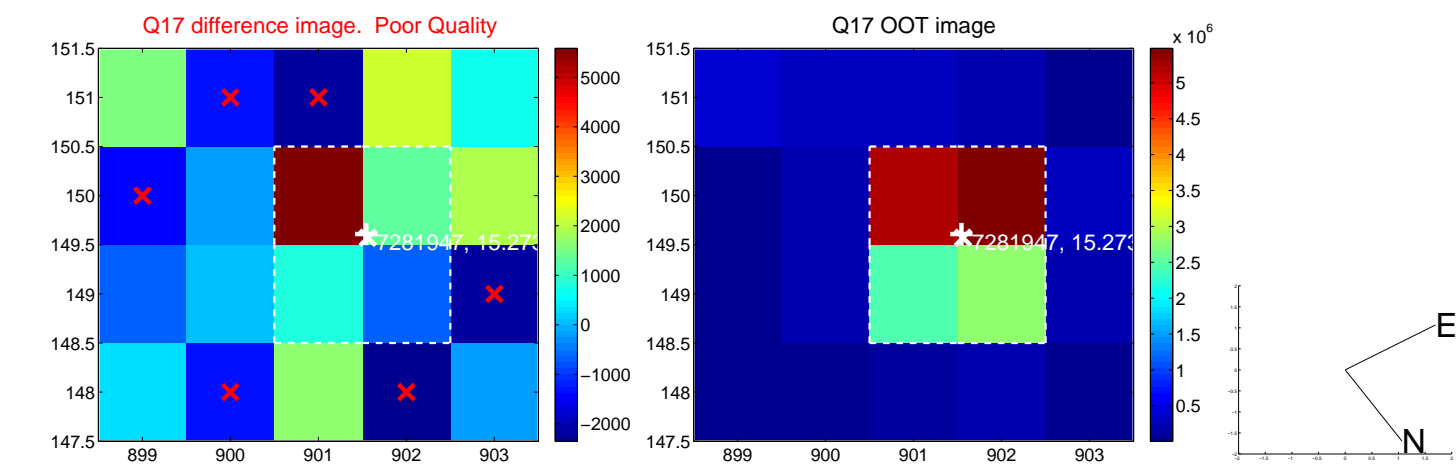
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



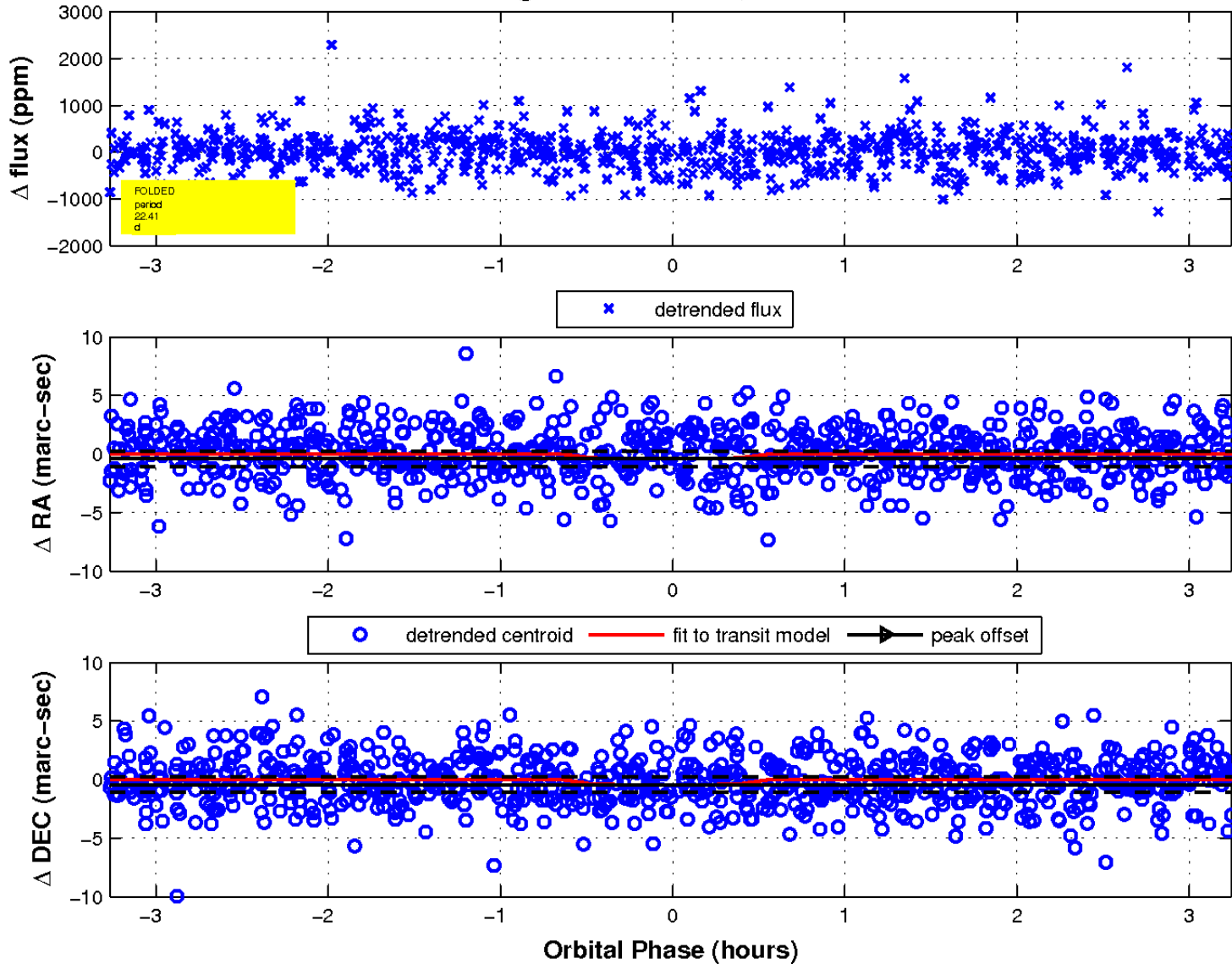
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

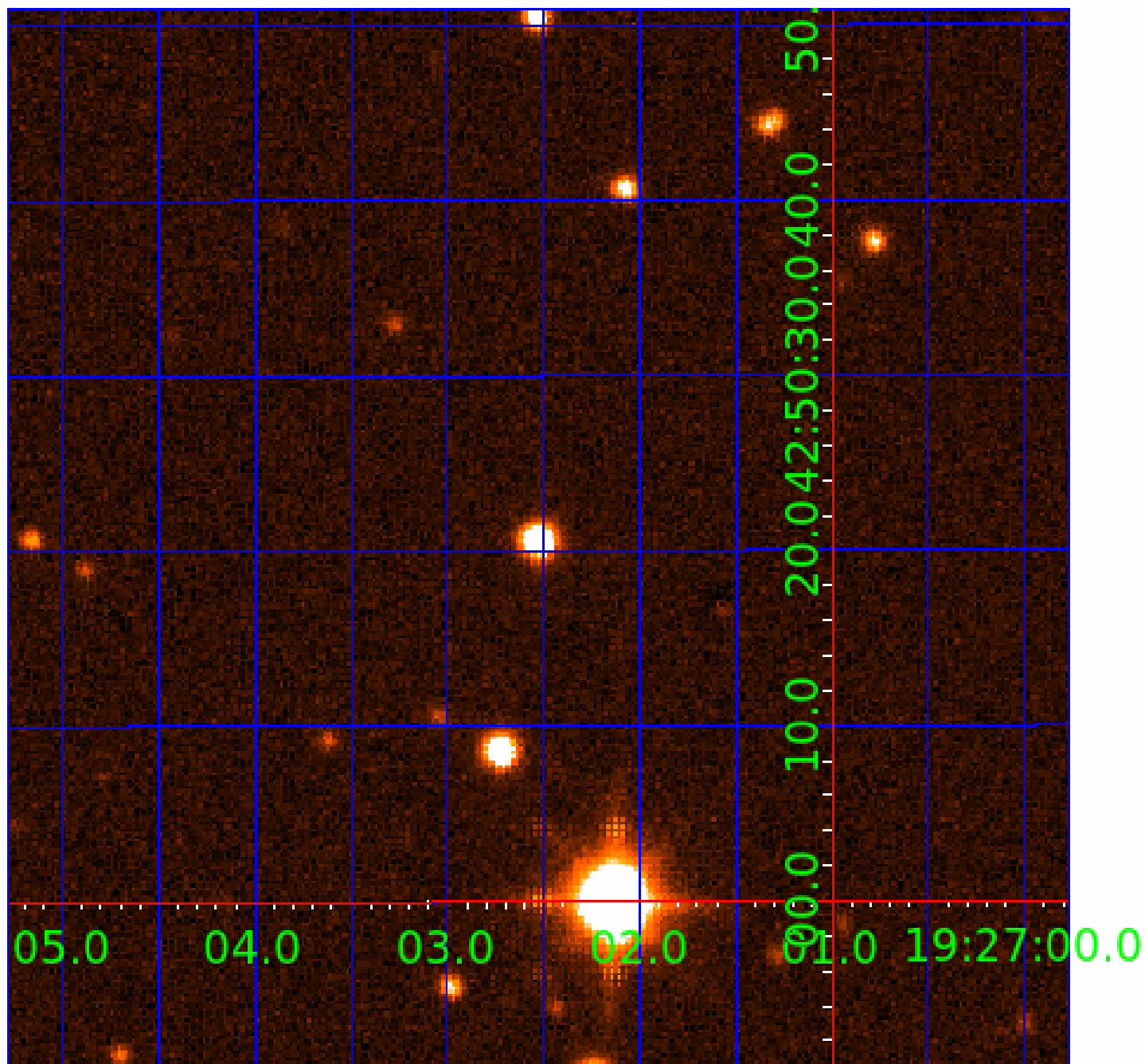


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 007281947

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})
007281947-01	OBS	No	0.566760	131.850615	24.0	3.841	11.6	6.8	1.12	6321	0.56	8890.79
007281947-02	OBS	No	22.408196	150.683988	556.4	1.090	9.3	9.3	1.12	6321	2.67	66.01
007281947-03	OBS	No	32.633346	149.704891	620.6	1.679	10.2	10.3	1.12	6321	3.00	39.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007281947-01	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_ALT—EPHEM_MATCH
007281947-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_FEW_DIFFS
007281947-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—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.

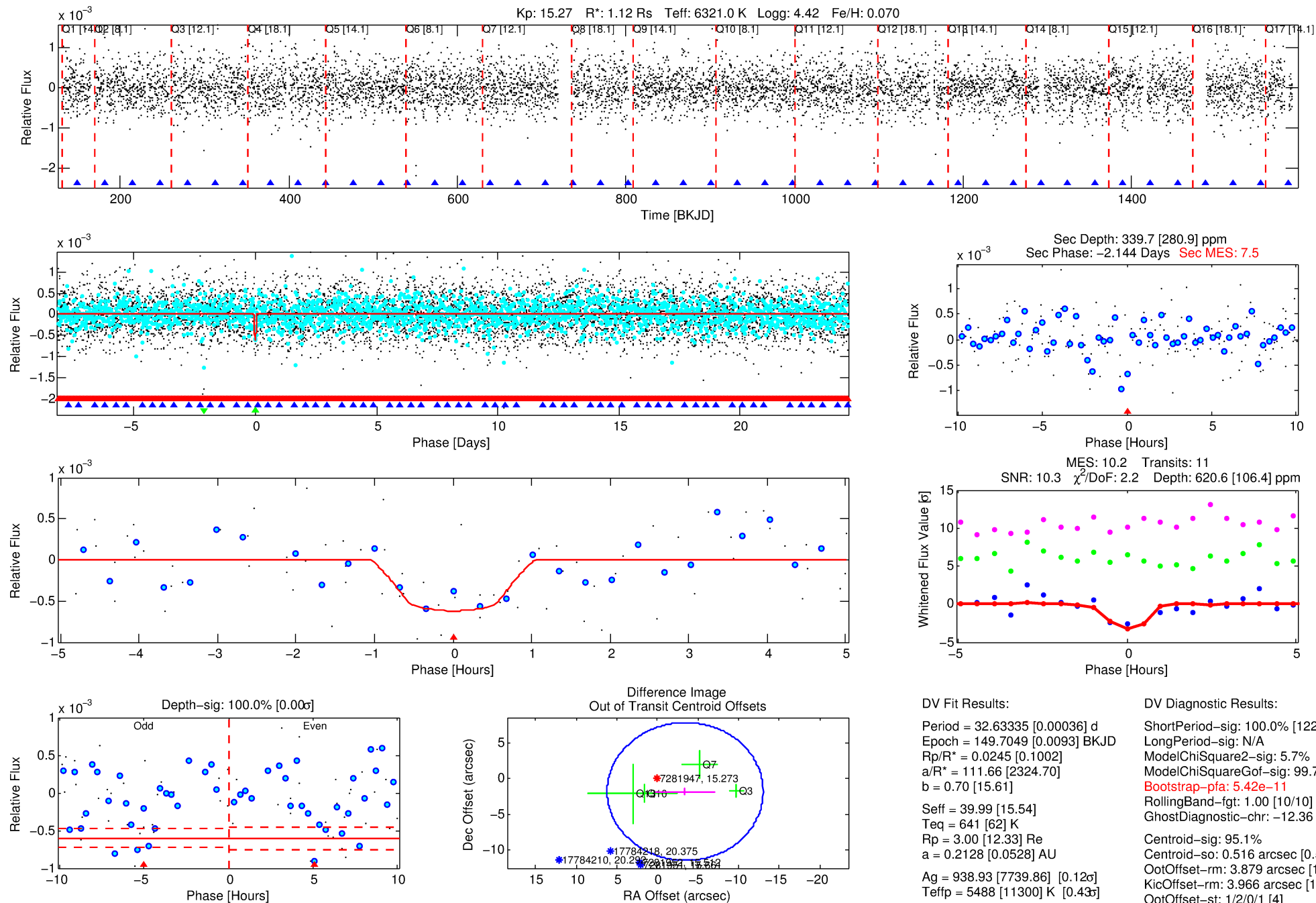
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007281947-03

No Significant Match Found

DV One-Page Summary

KIC: 7281947 Candidate: 3 of 3 Period: 32.633 d



DV Fit Results:

Period = 32.63335 [0.00036] d
Epoch = 149.7049 [0.0093] BKJD
Rp/R* = 0.0245 [0.1002]
a/R* = 111.66 [2324.70]
b = 0.70 [15.61]
Seff = 39.99 [15.54]
Teq = 641 [62] K
Rp = 3.00 [12.33] Re
a = 0.2128 [0.0528] AU
Ag = 938.93 [7739.86] [0.12 σ]
Teff = 5488 [11300] K [0.43 σ]

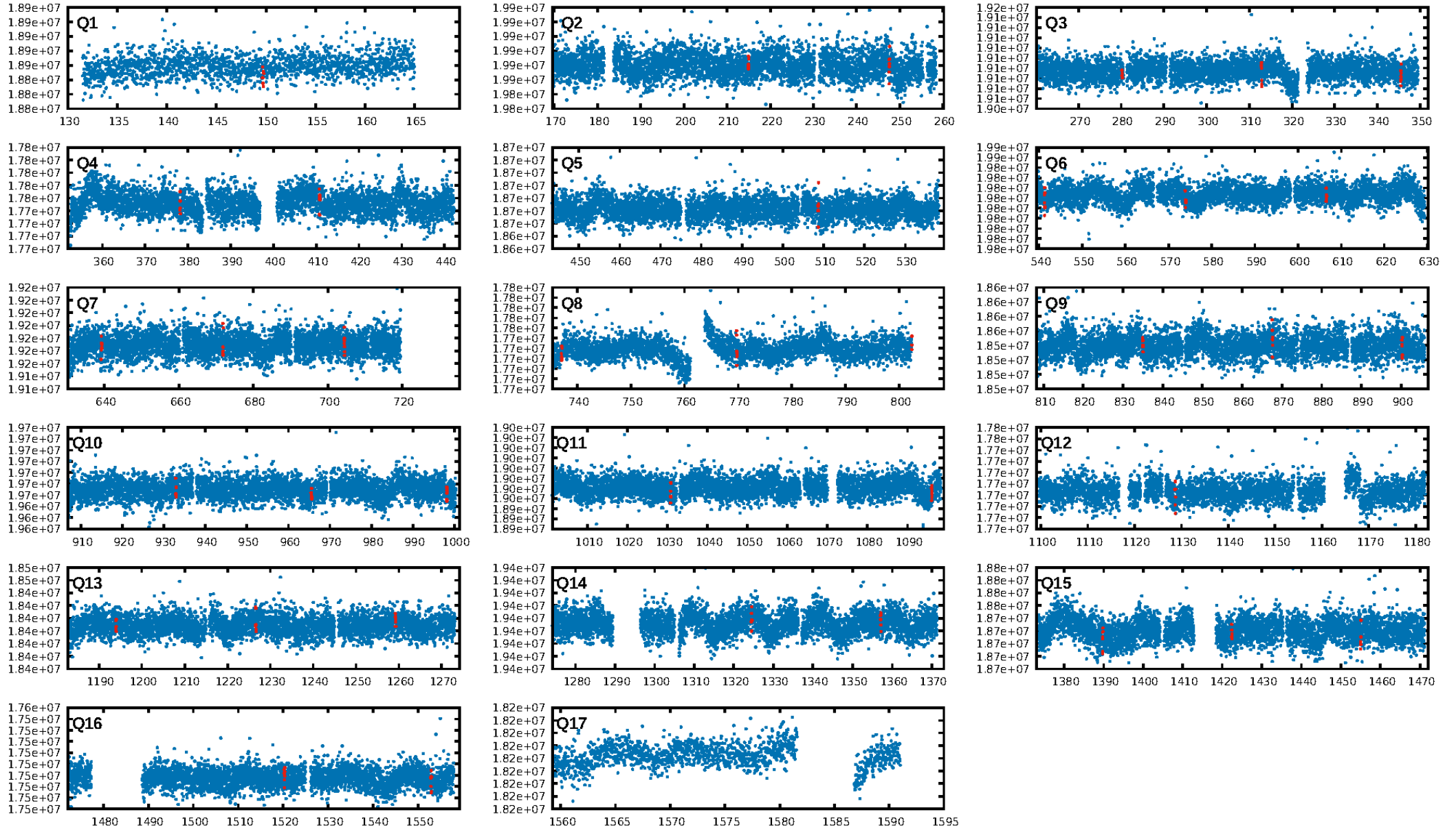
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [122.59 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 5.7%
ModelChiSquareGof-sig: 99.7%
Bootstrap-pfa: 5.42e-11
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: -12.36
Centroid-sig: 95.1%
Centroid-so: 0.516 arcsec [0.52 σ]
OotOffset-rm: 3.879 arcsec [1.21 σ]
KicOffset-rm: 3.966 arcsec [1.25 σ]
OotOffset-st: 1/2/0/1 [4]
KicOffset-st: 1/2/0/1 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.00 [0/16]

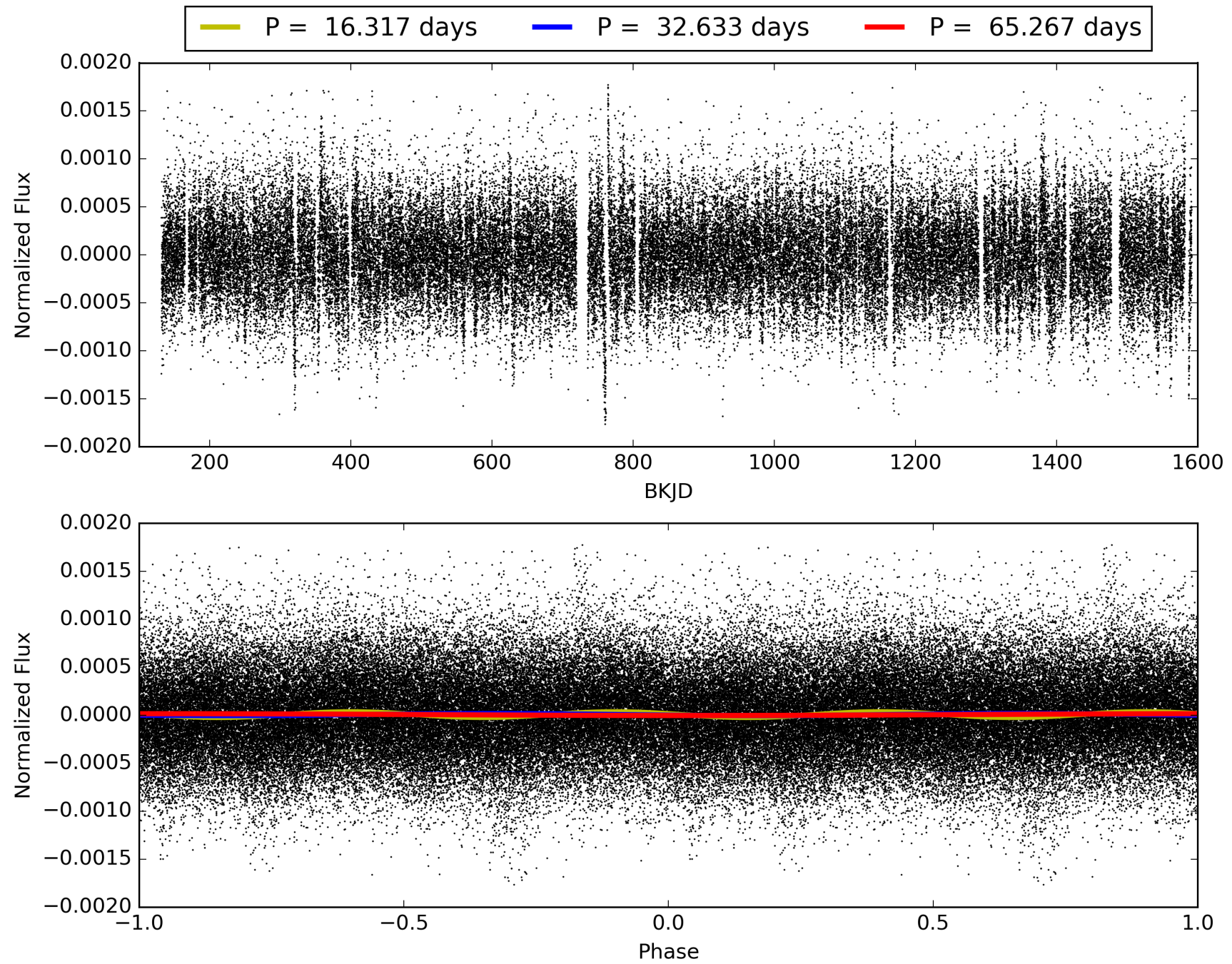
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 19:45:03 Z

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

TCE 007281947-03, PDC Light Curves

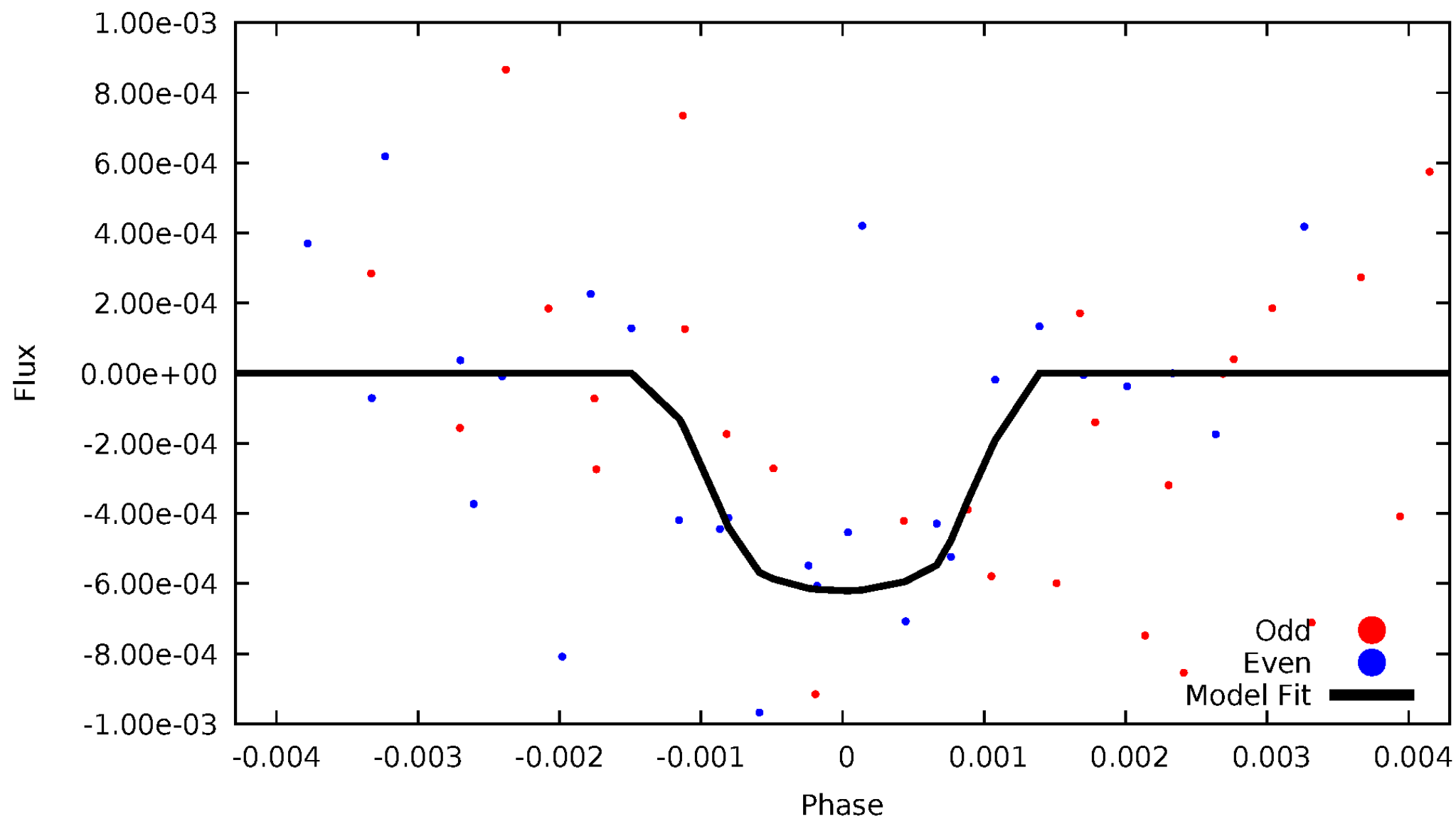


TCE 007281947-03



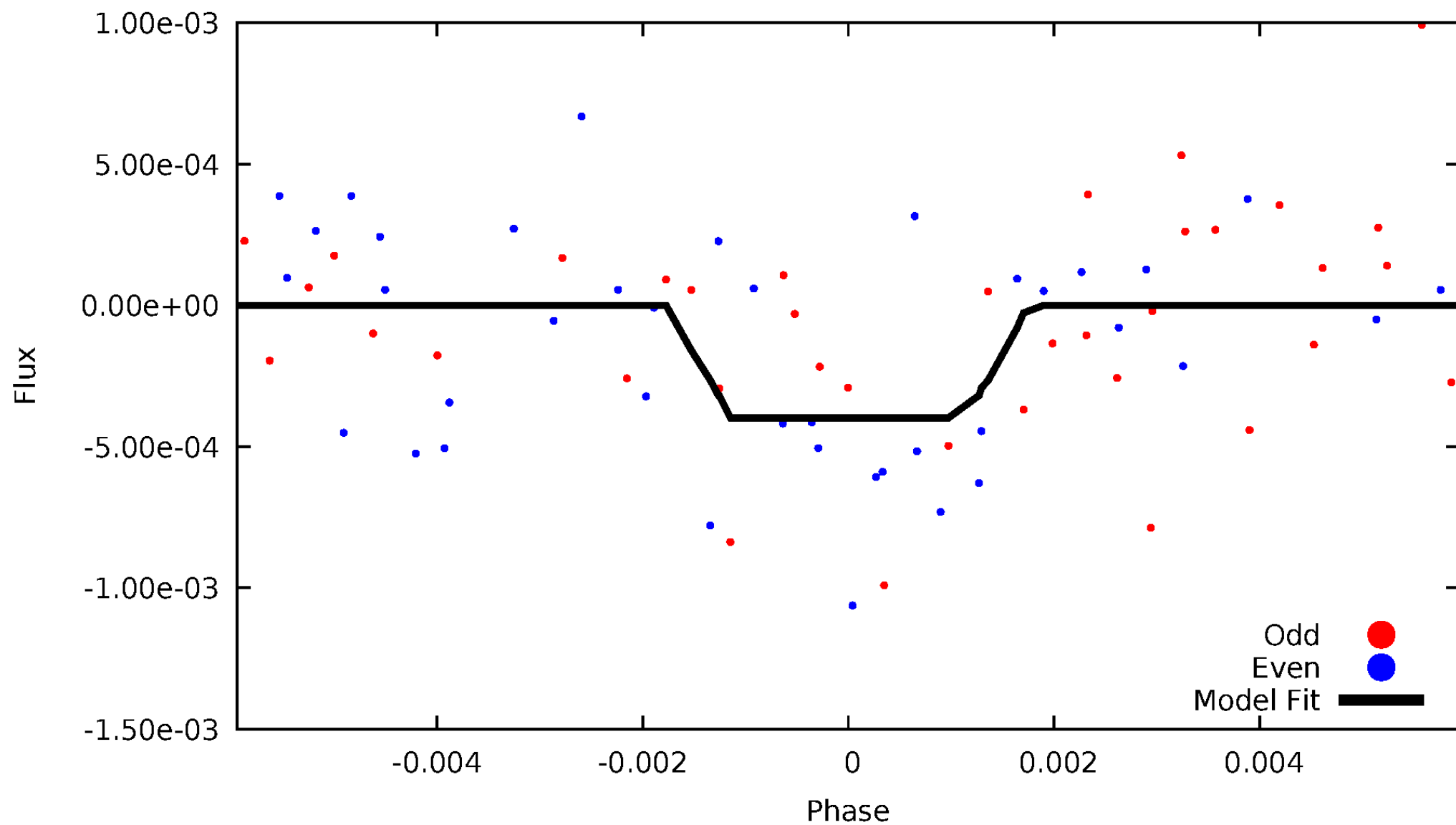
DV Odd/Even

TCE 007281947-03



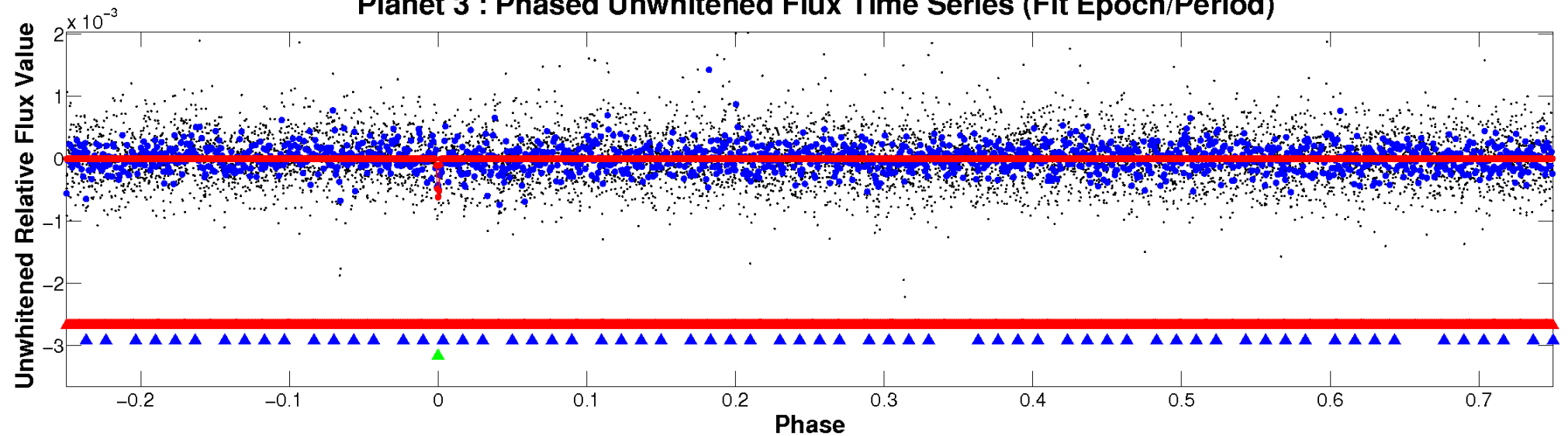
ALT Odd/Even

TCE 007281947-03

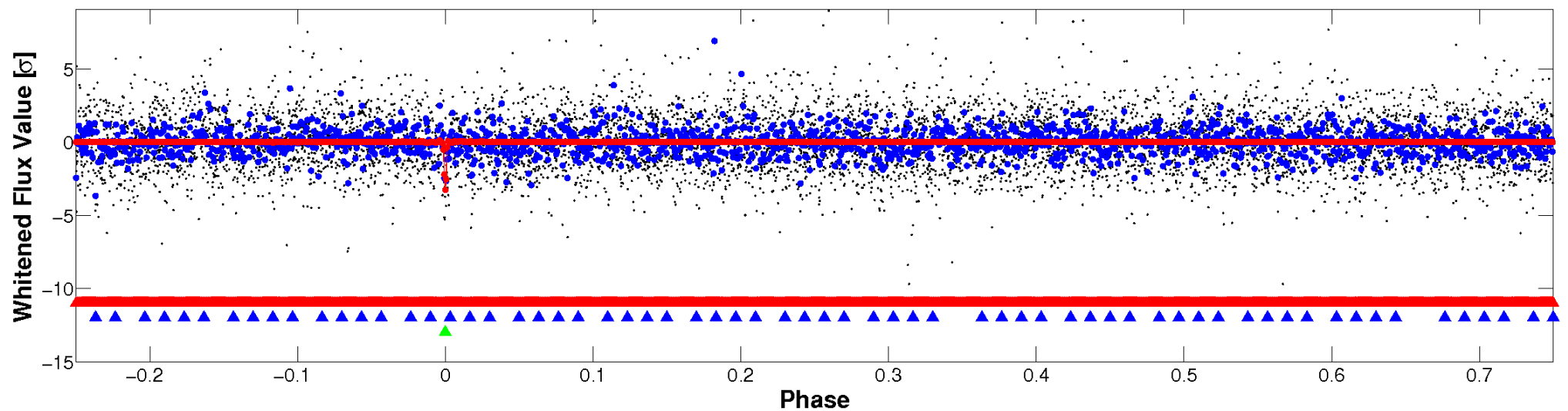


Non-Whitened Vs. Whitened Light Curve

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

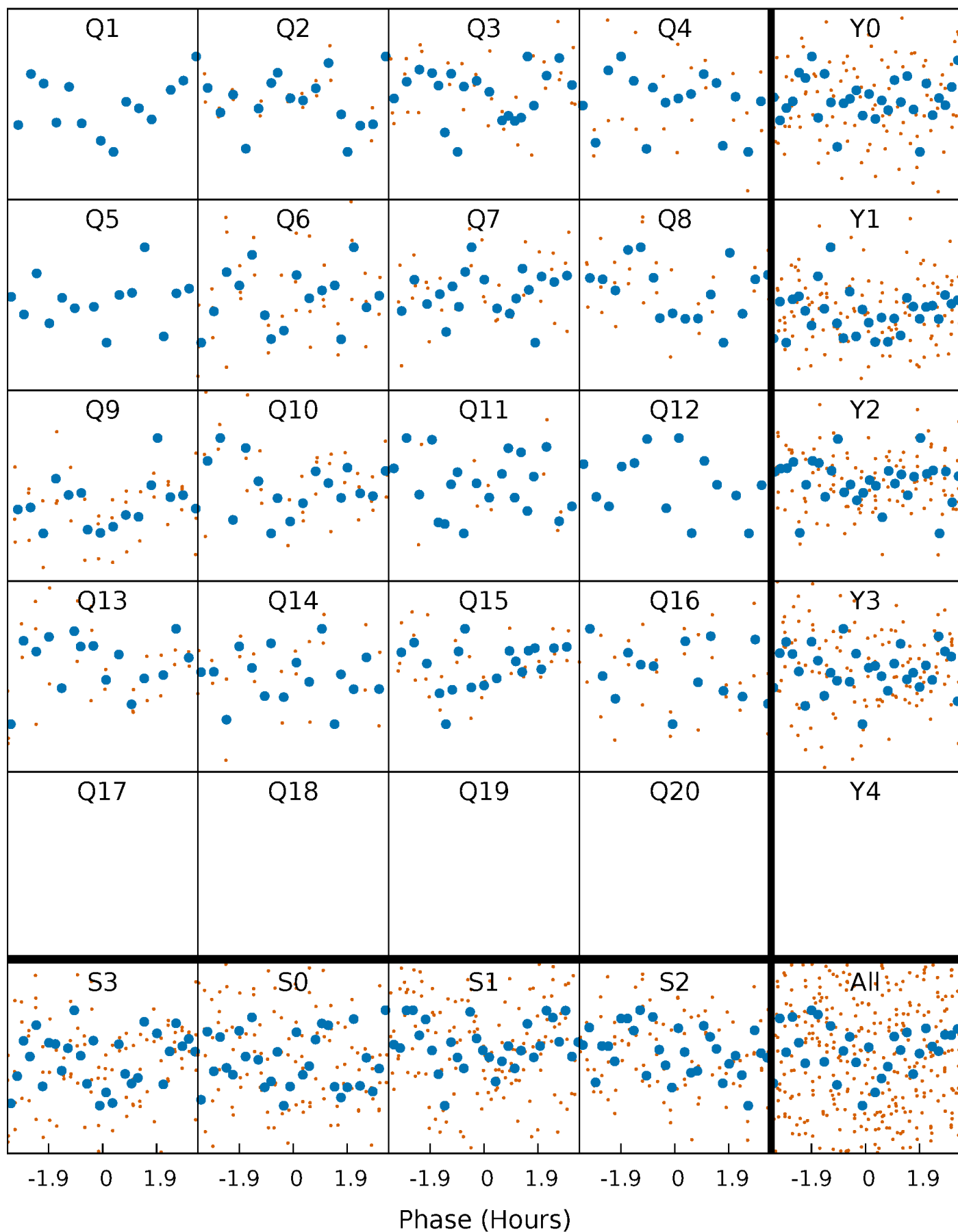


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



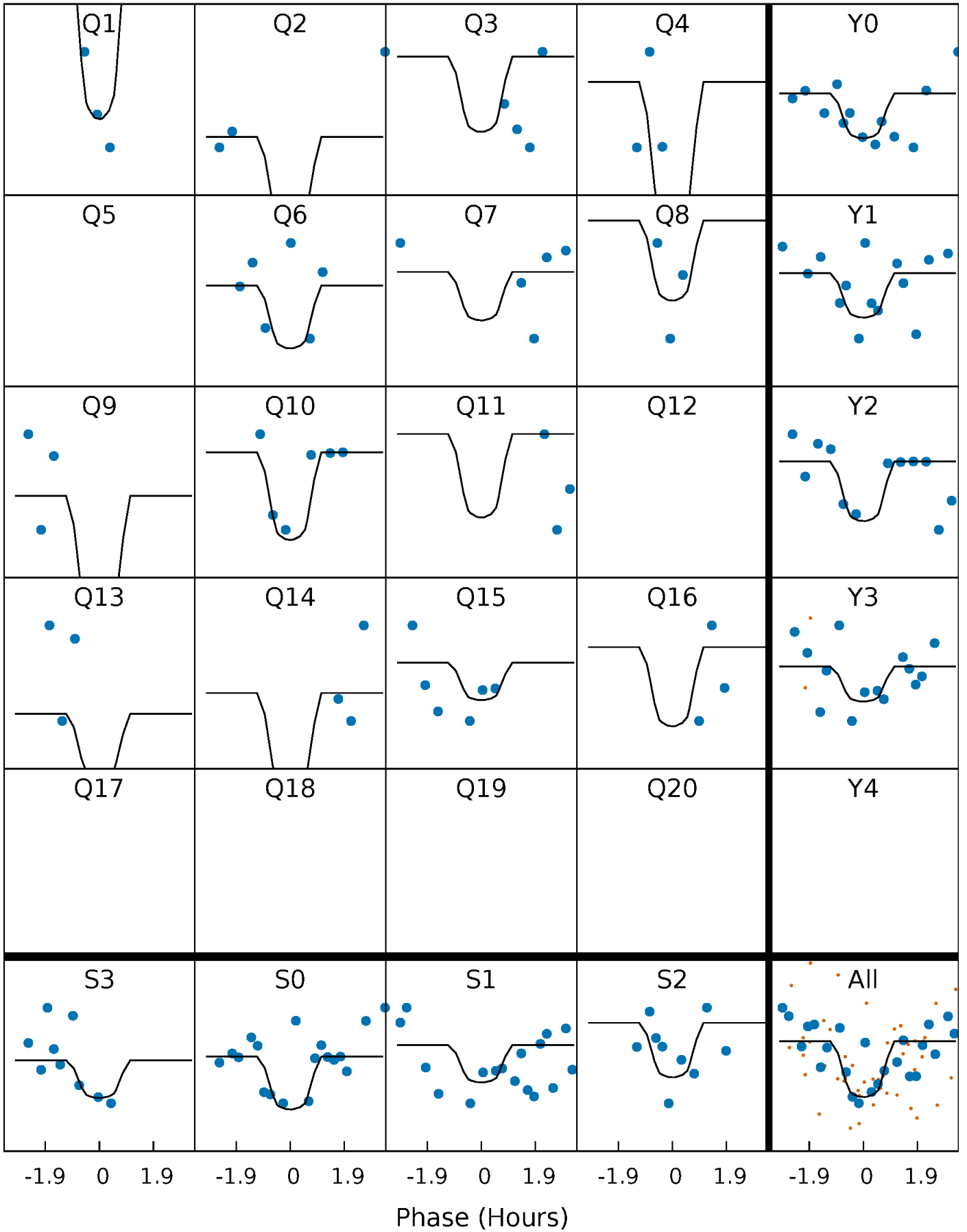
PDC Quarter-Phased Transit Curves

TCE 007281947-03 P= 32.633346 Days $T_0=149.704891$ (BKJD)



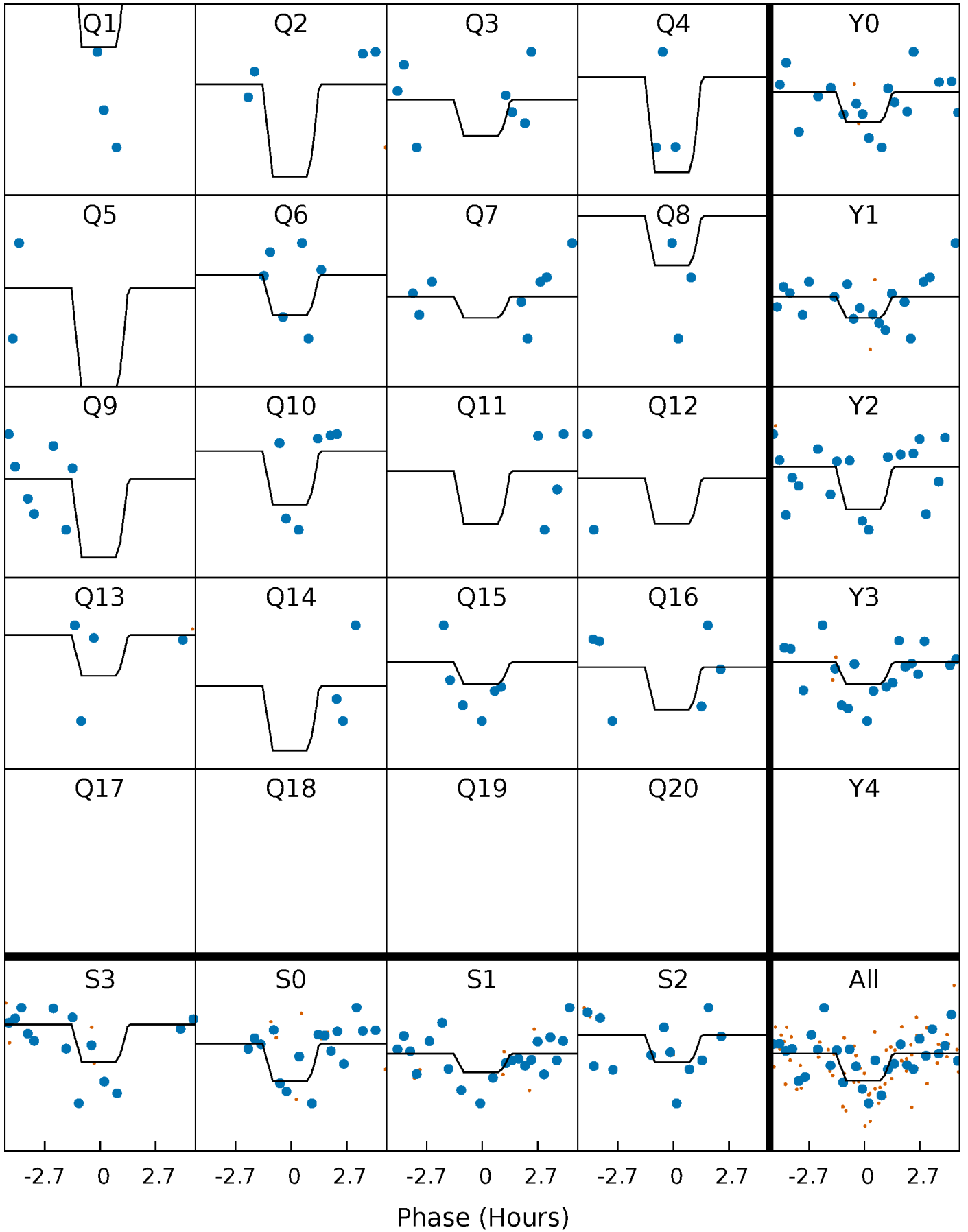
DV Quarter-Phased Transit Curves

TCE 007281947-03 P= 32.633346 Days $T_0=149.704891$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

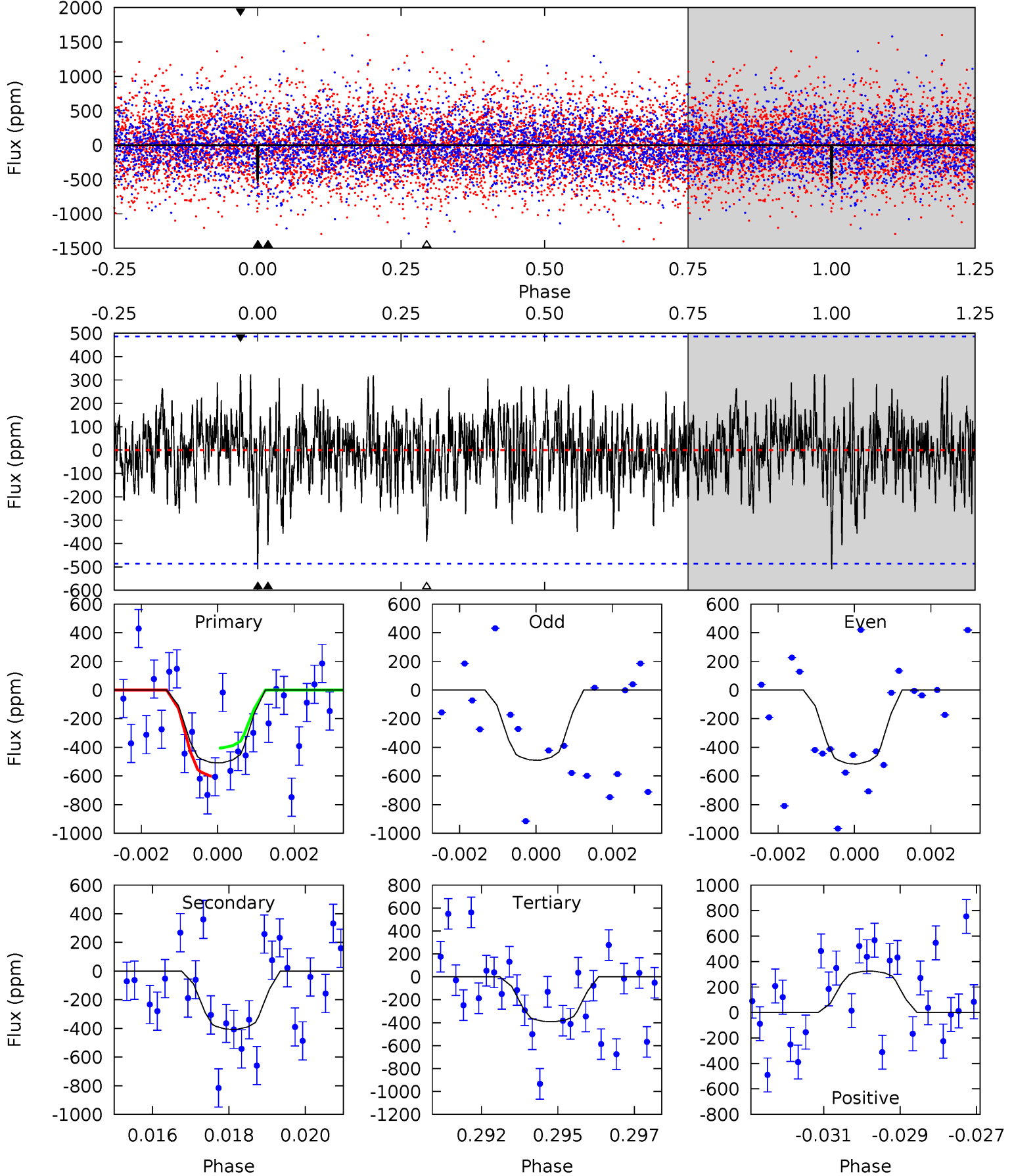
TCE 007281947-03 P= 32.633193 Days $T_0=149.690172$ (BKJD)



DV Model-Shift Uniqueness Test

007281947-03, $P = 32.633346$ Days, $E = 117.071545$ Days

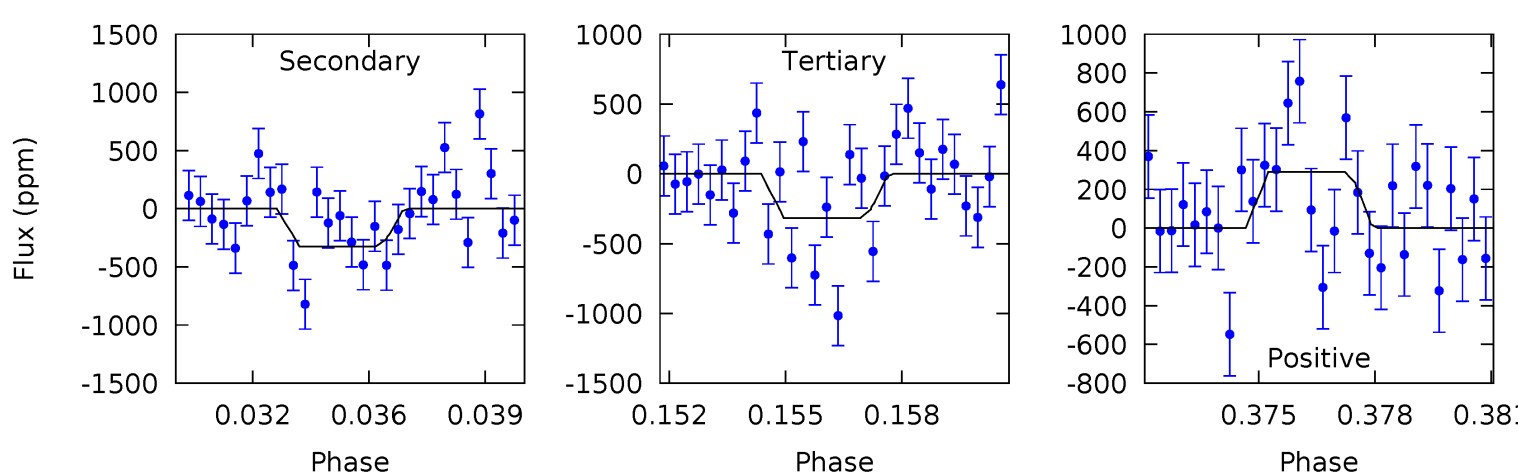
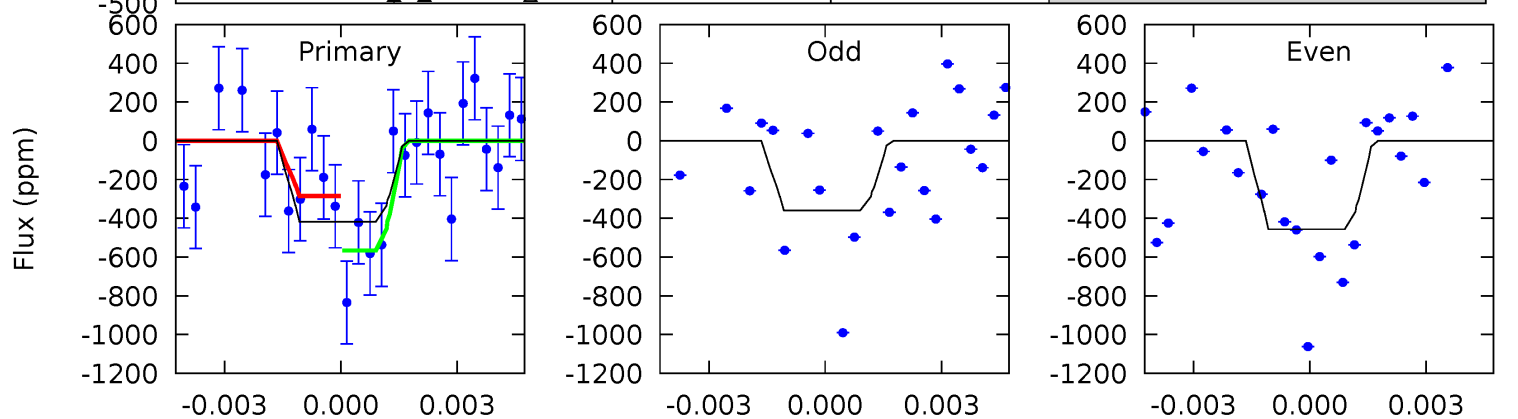
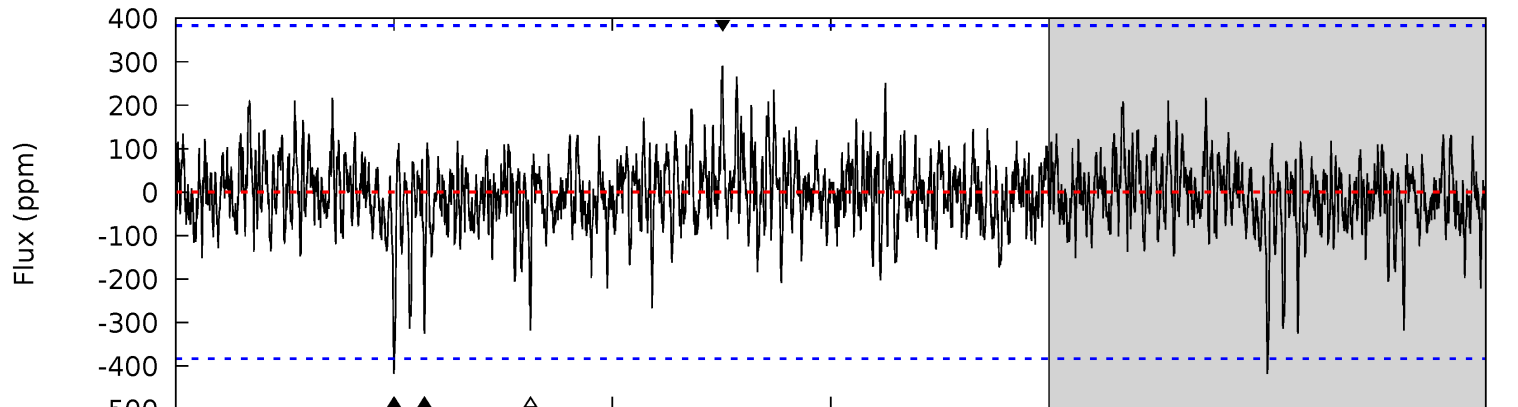
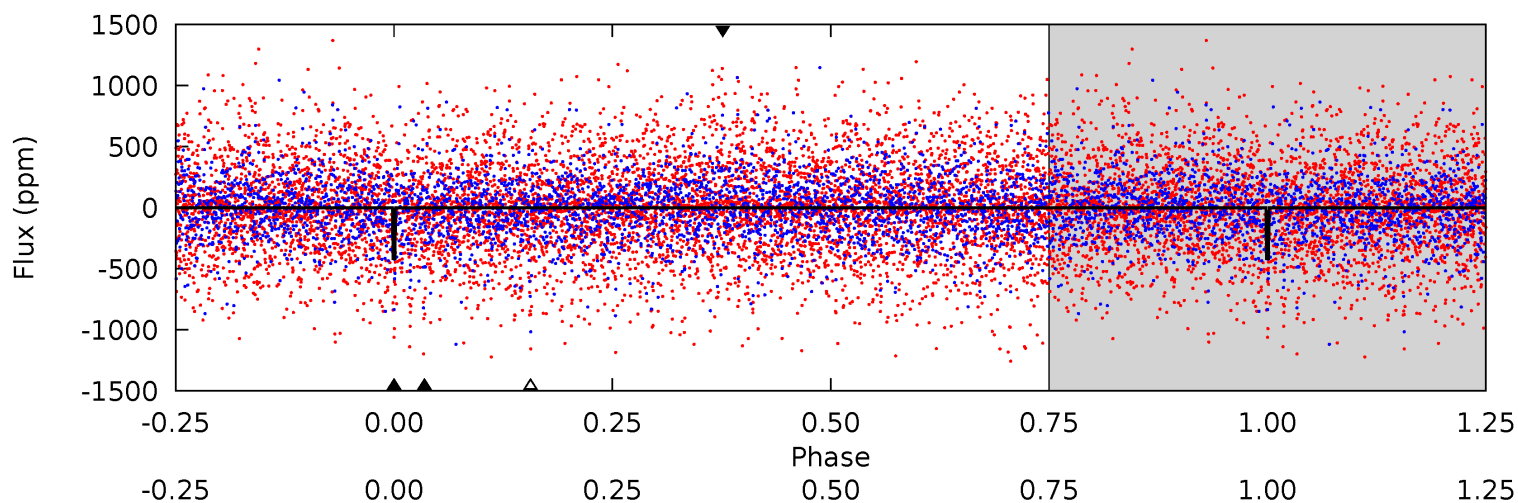
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.56	4.45	4.28	3.54	5.31	3.06	1.24	1.28	2.01	0.17	0.90	0.14	0.76	0.39	1.07



Alt Model-Shift Uniqueness Test

007281947-03, P = 32.633193 Days, E = 117.056979 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.71	4.44	4.35	3.98	5.24	2.94	1.00	1.36	1.73	0.10	0.47	0.64	0.99	0.41	1.94



Stellar Parameters For KIC 007281947

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6321^{+174}_{-217}	$4.417^{+0.062}_{-0.200}$	$0.070^{+0.200}_{-0.350}$	$1.125^{+0.329}_{-0.141}$	$1.207^{+0.135}_{-0.186}$	$1.195^{+0.320}_{-0.611}$
	+3%/-3%	+1%/-5%	+286%/-500%	+29%/-13%	+11%/-15%	+27%/-51%
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 007281947-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-407 ± 92	$10.26^{+10.69}_{-6.51}$	916^{+68}_{-44}	3593^{+1845}_{-672}	91^{+696}_{-69}
Alt.	-325 ± 73	$9.42^{+11.00}_{-6.50}$	910^{+59}_{-48}	3560^{+2025}_{-734}	86^{+740}_{-67}

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

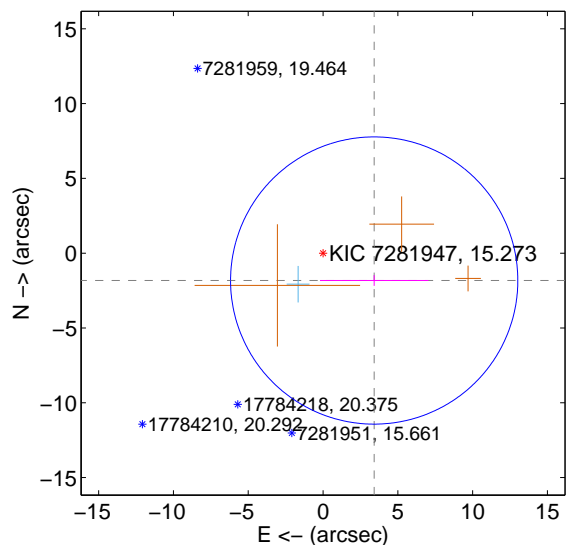
Supplemental centroid analysis for 007281947-03. Kepler magnitude: 15.27. Transit SNR 10.32

There are 1 quarters with good PRF difference image offsets

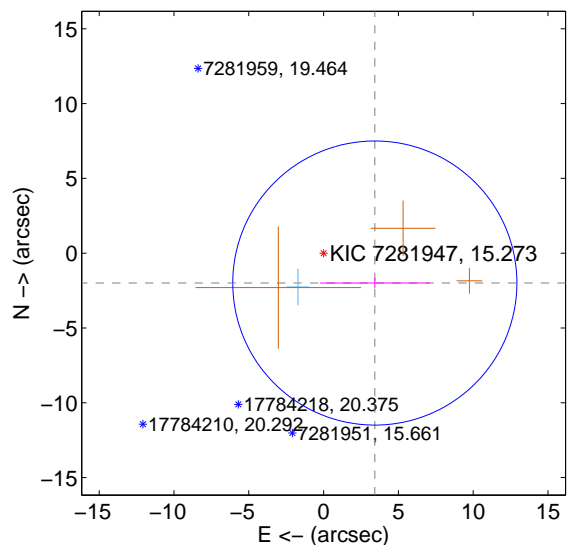
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.879 ± 3.201	1.21	-3.420 ± 3.625	-1.829 ± 0.359
PRF-fit source offset from KIC position	3.966 ± 3.166	1.25	-3.427 ± 3.659	-1.996 ± 0.355
photometric centroid source offset	0.52 ± 0.99	0.52	-0.27 ± 1.01	-0.44 ± 0.98

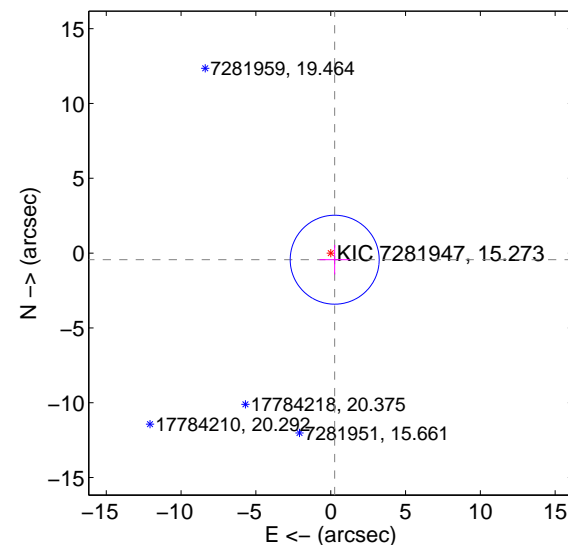
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

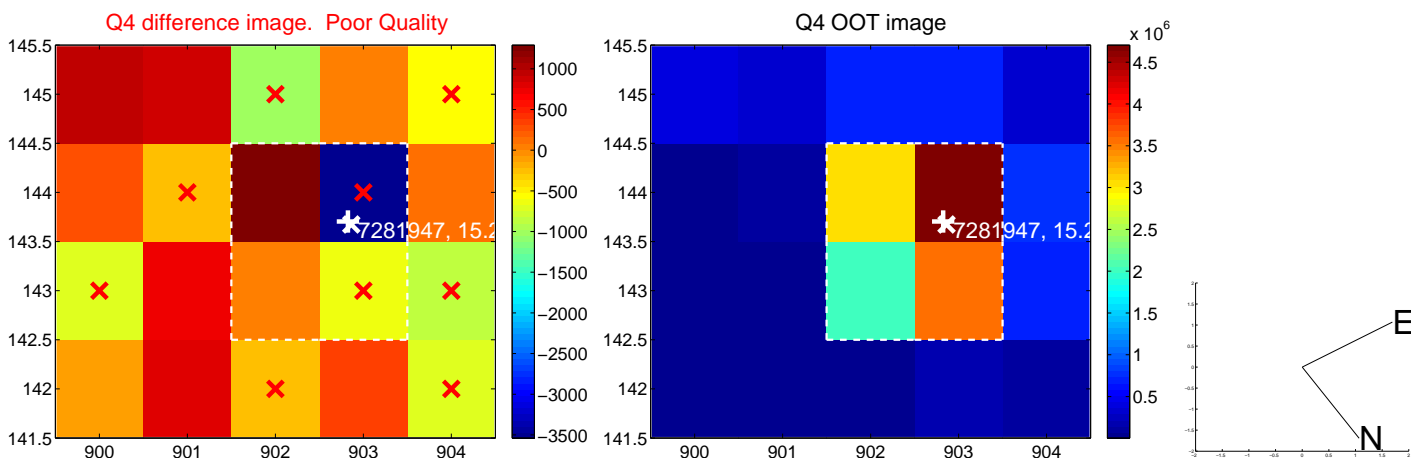
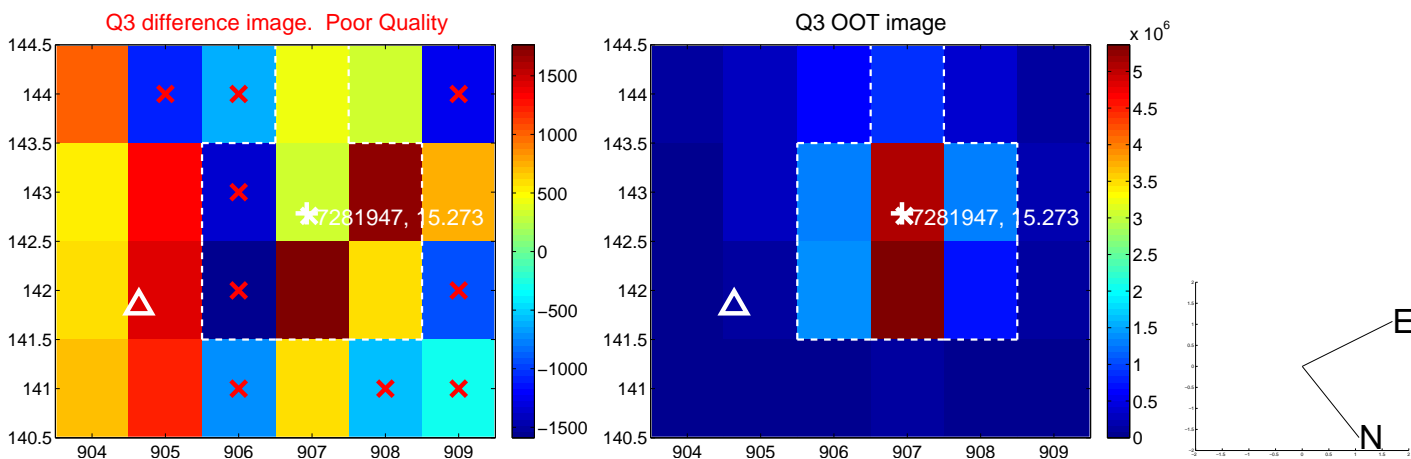
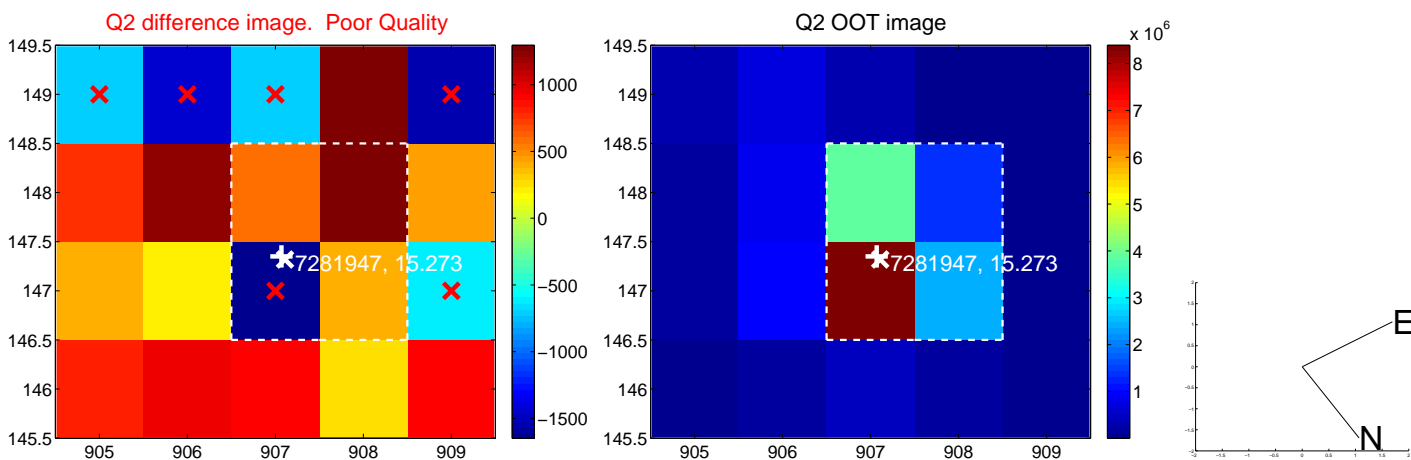
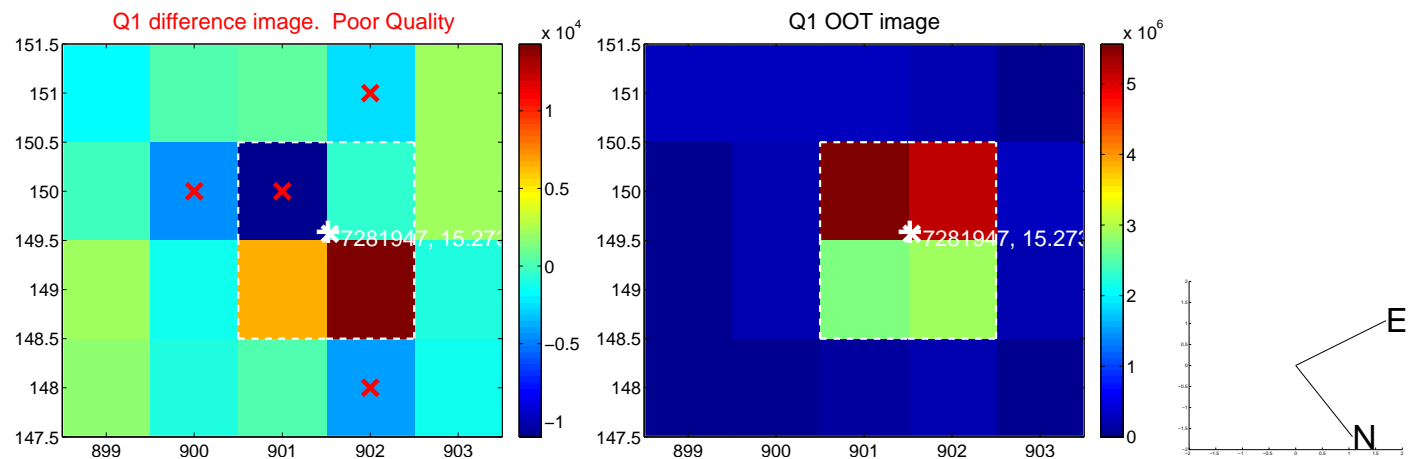


offset from photometric centroids

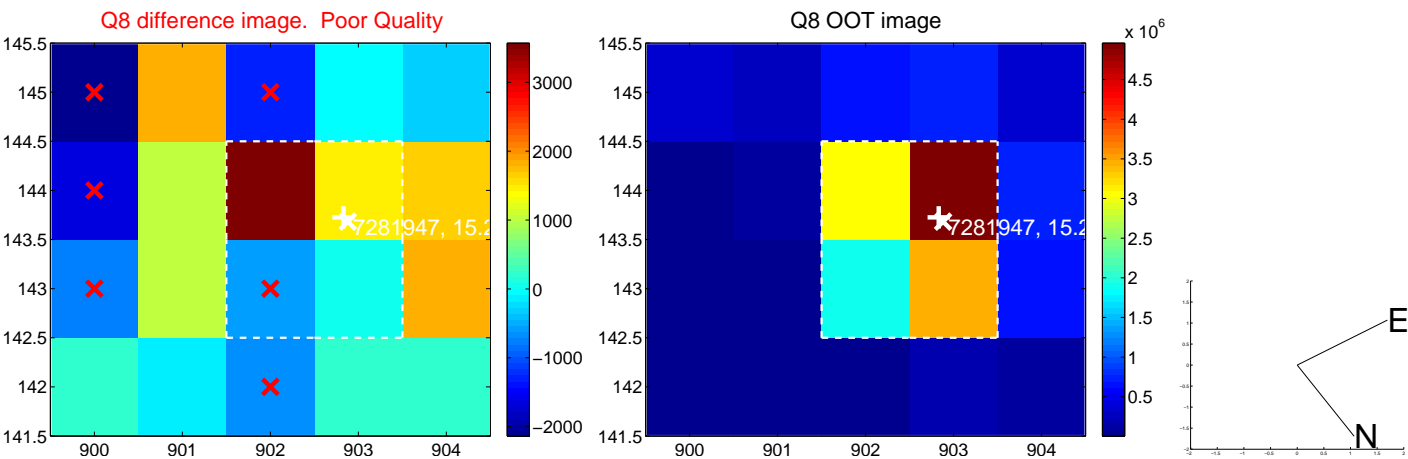
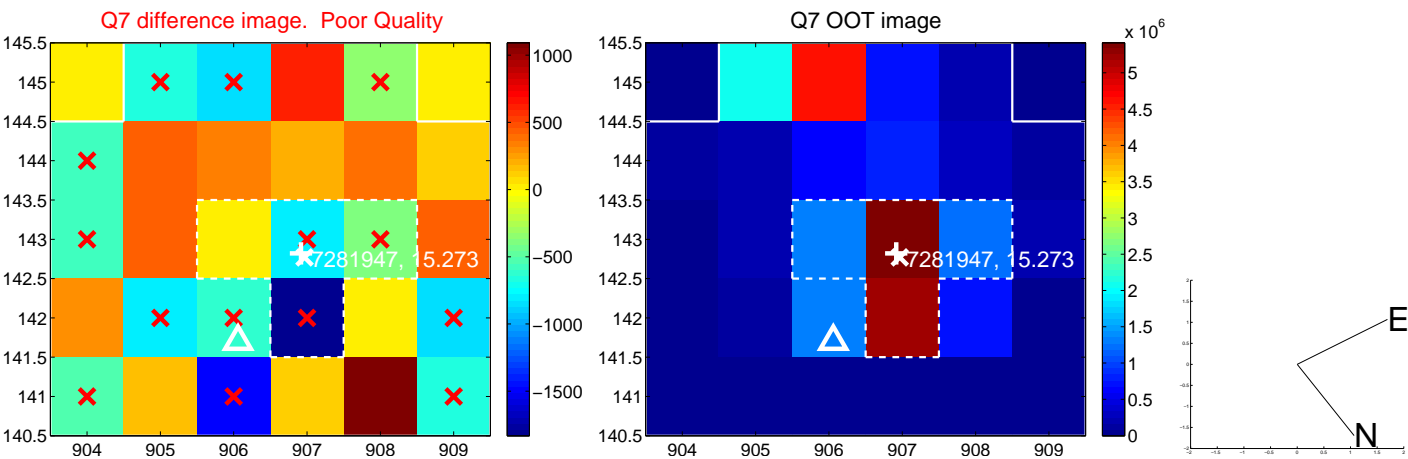
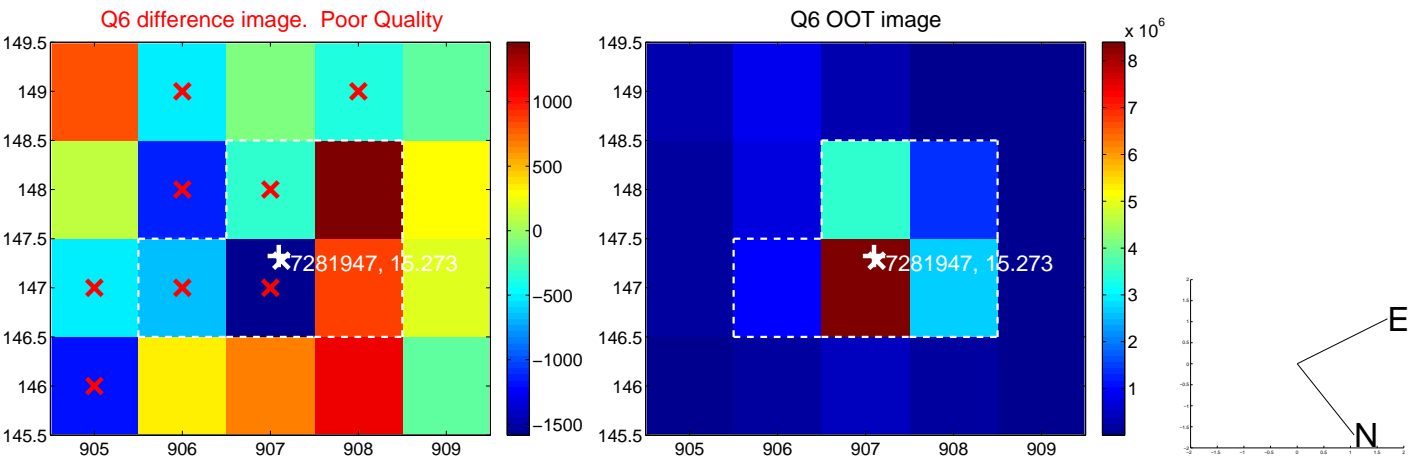
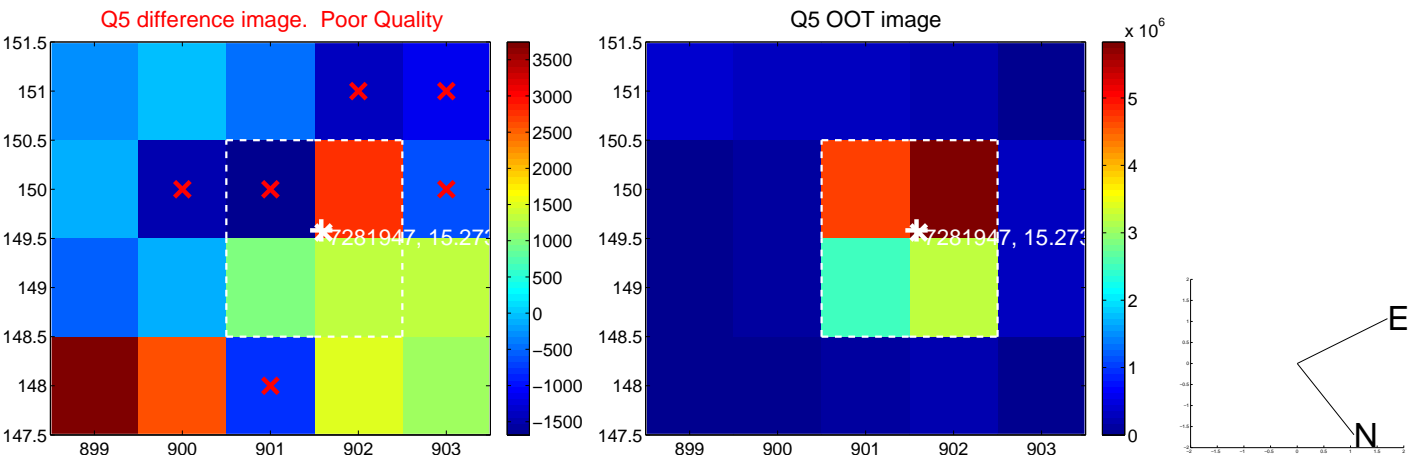


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

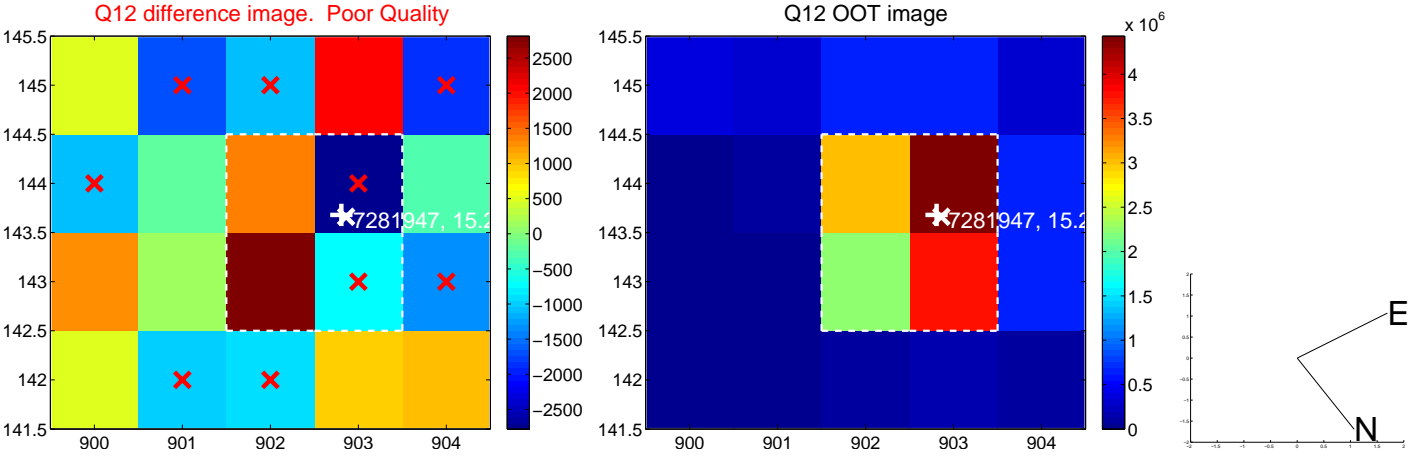
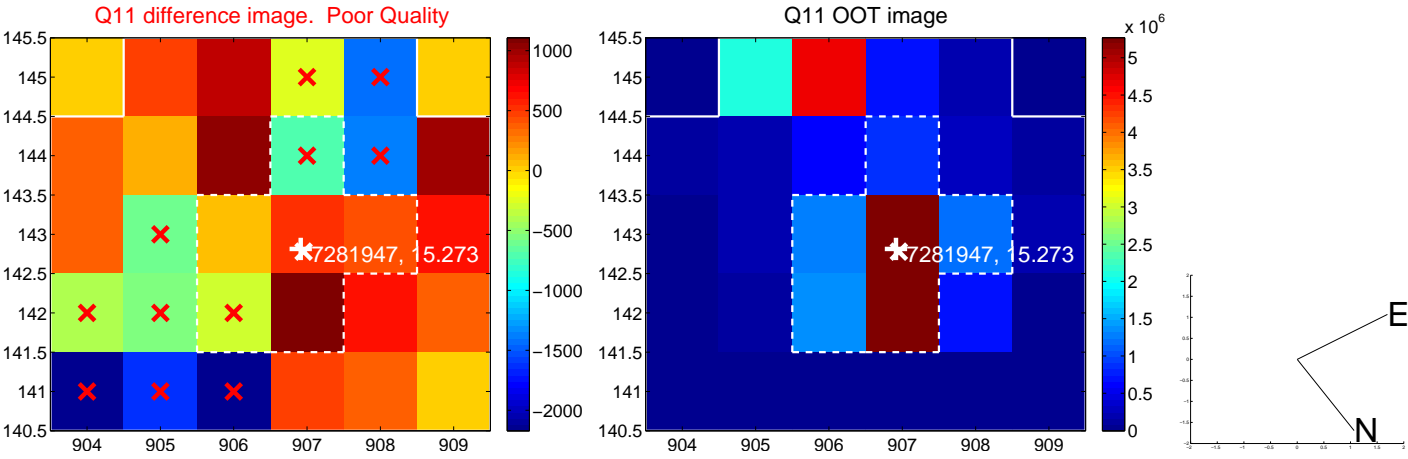
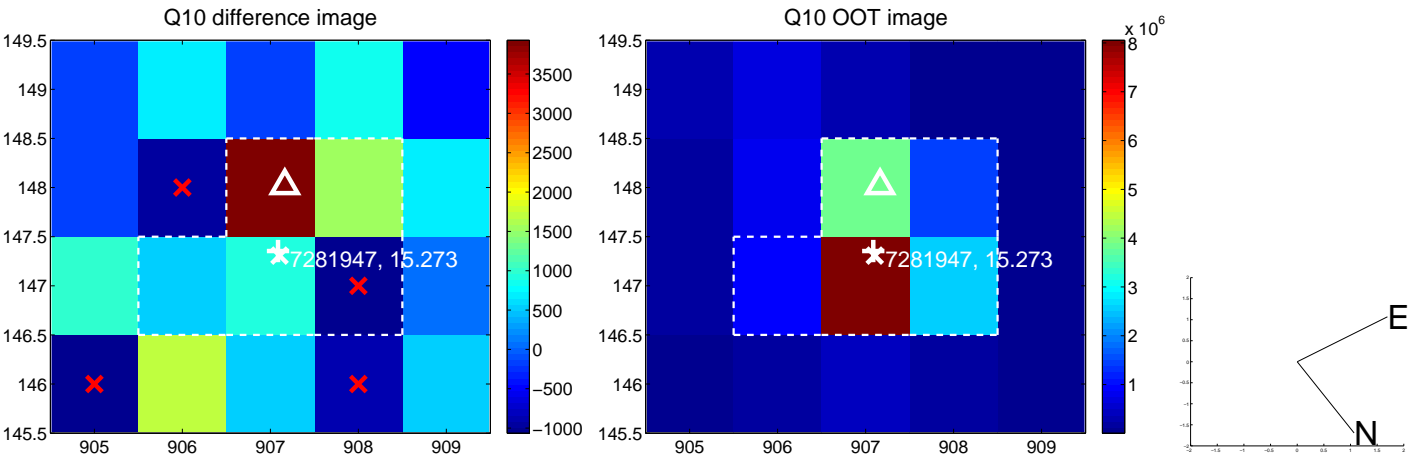
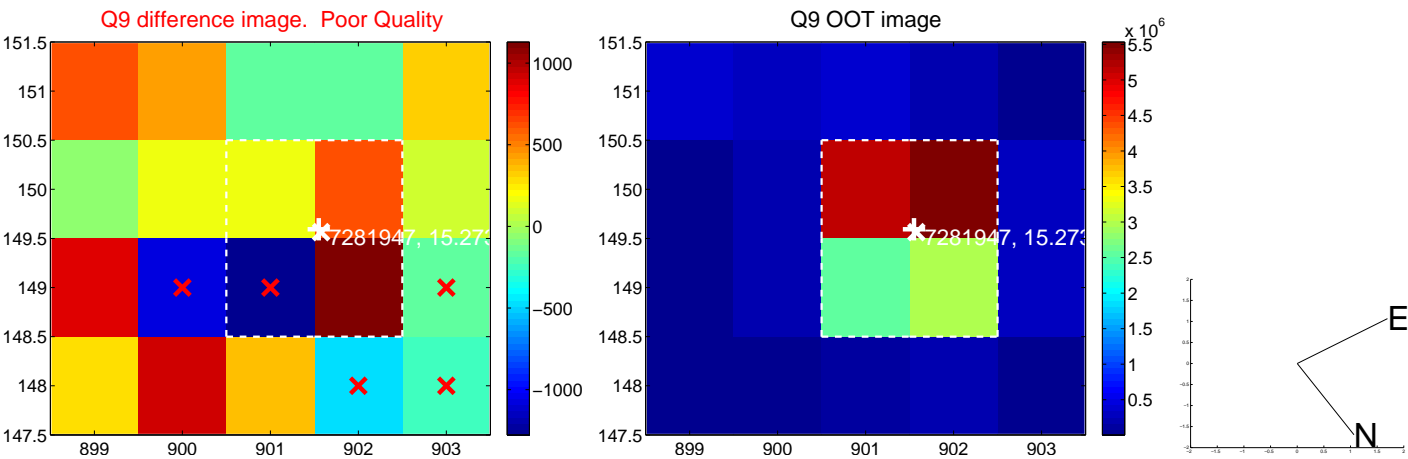
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



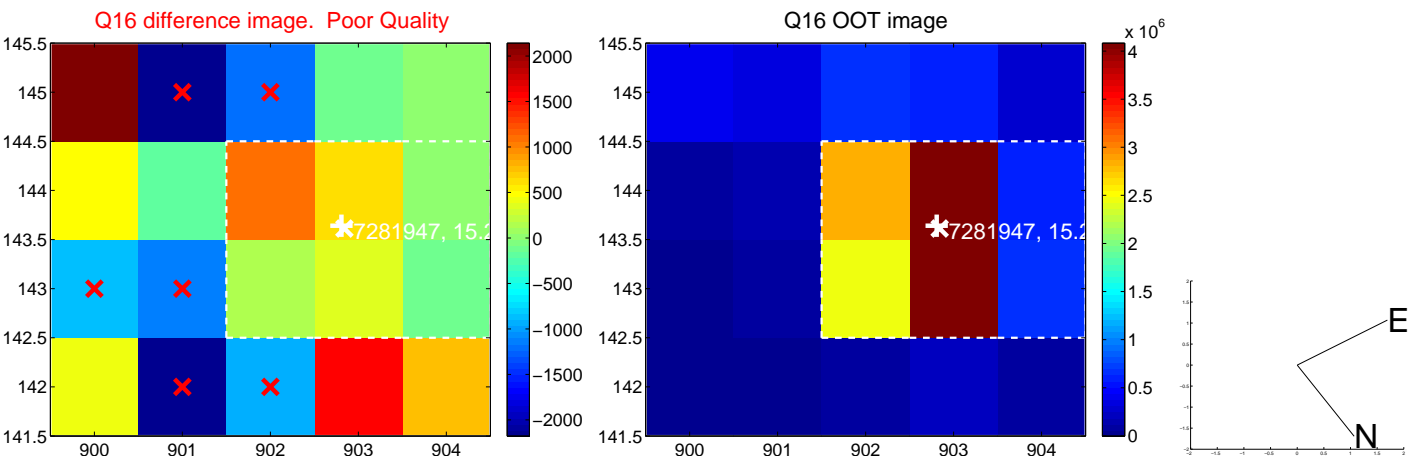
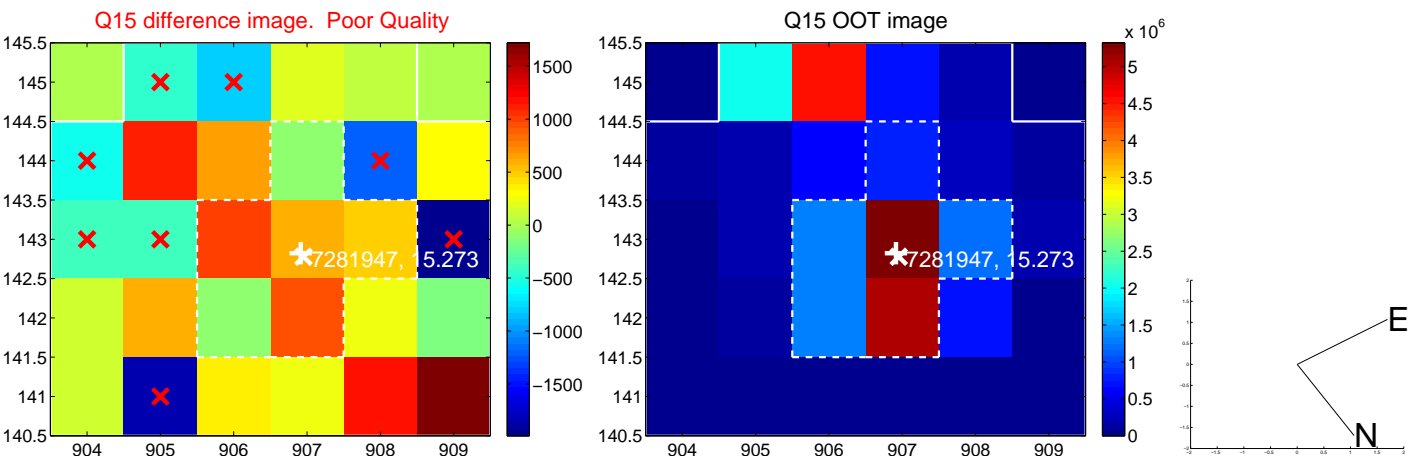
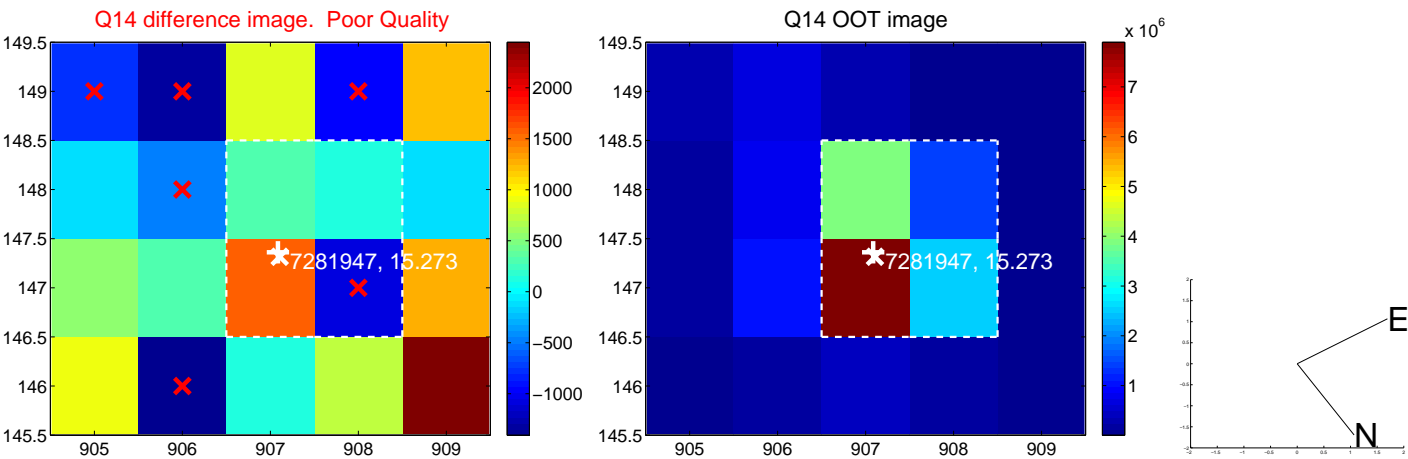
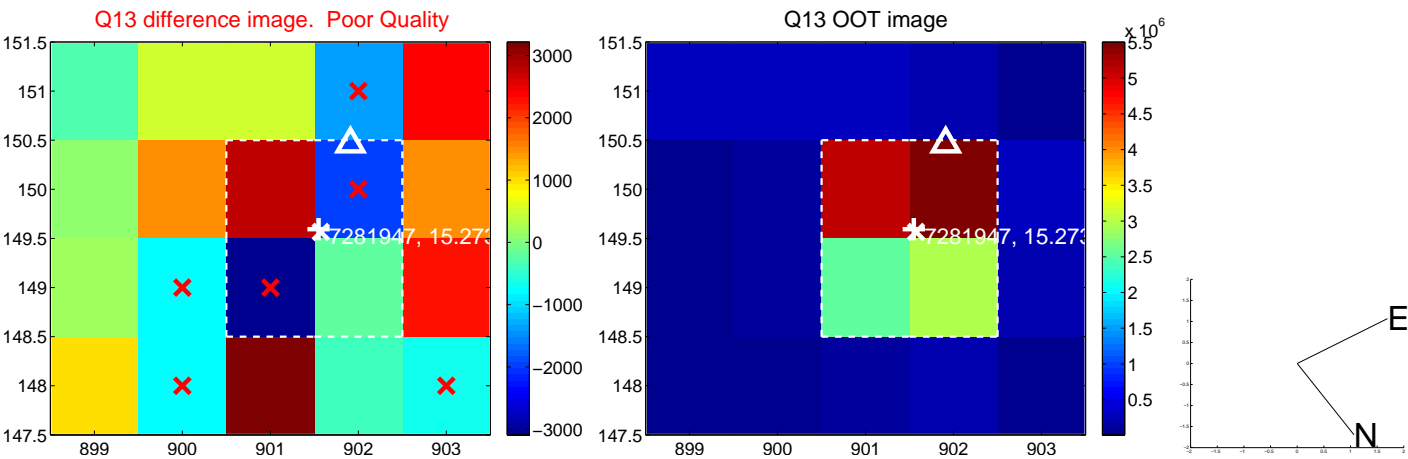
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



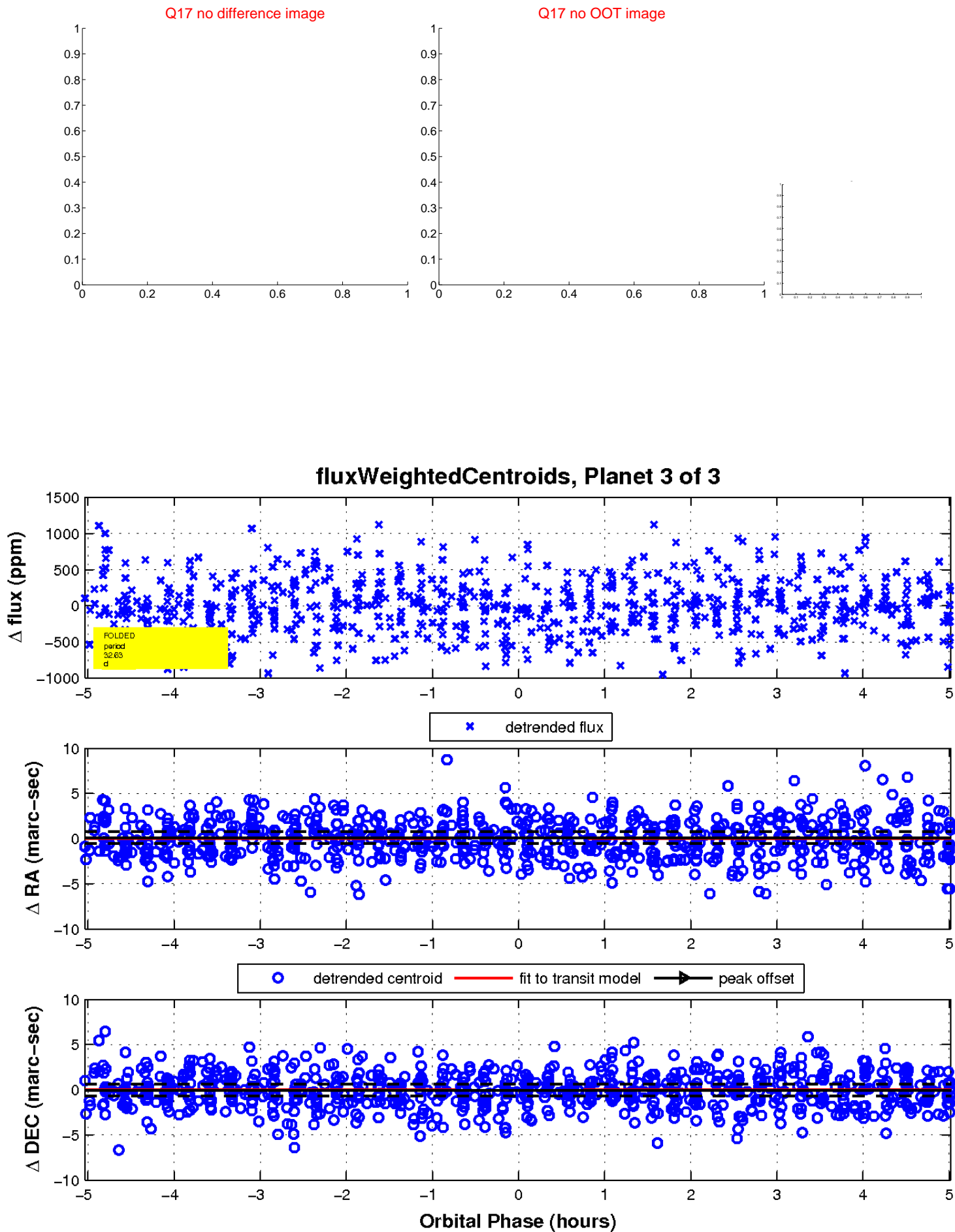
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

