

KIC 007368295

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})
007368295-01	OBS	No	1.878563	133.382769	19.3	10.576	7.7	8.6	1.43	6882	0.71	3782.72
007368295-02	OBS	No	150.160525	184.125187	166.2	6.577	13.1	4.9	1.43	6882	2.08	10.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007368295-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
007368295-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

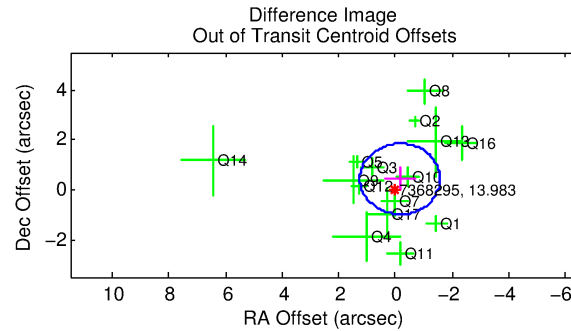
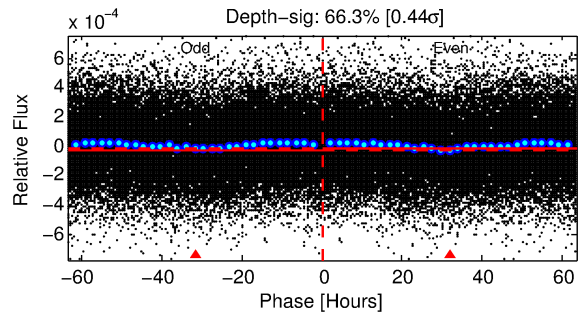
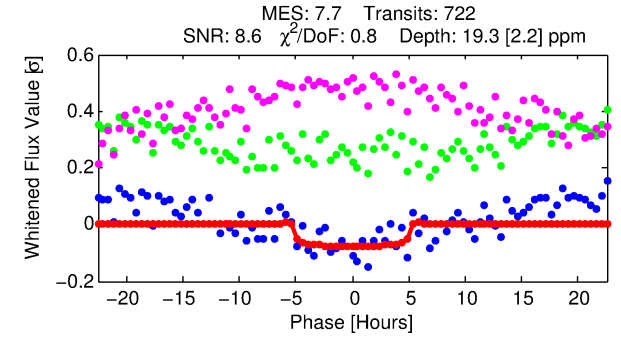
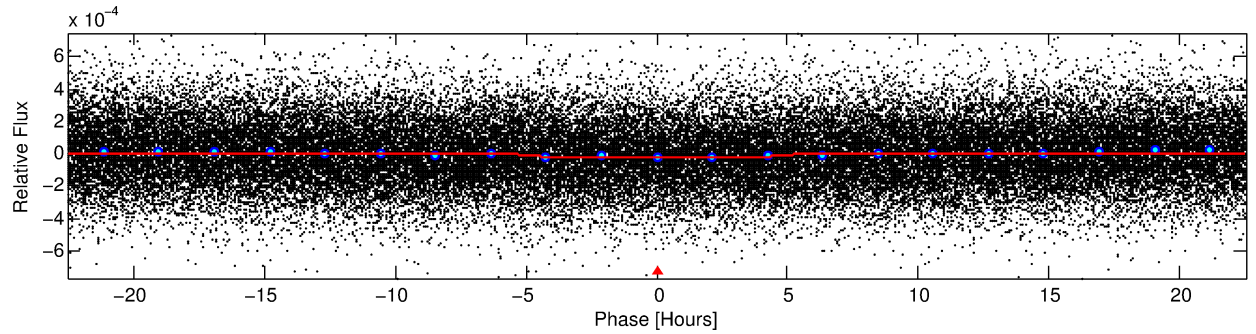
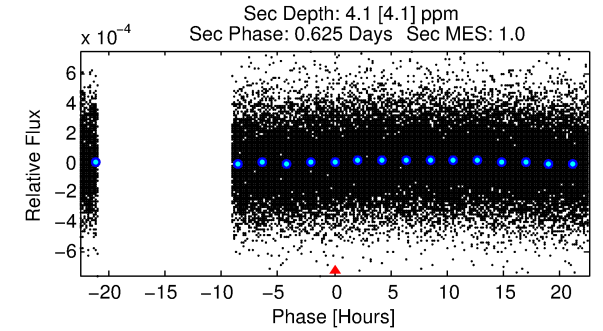
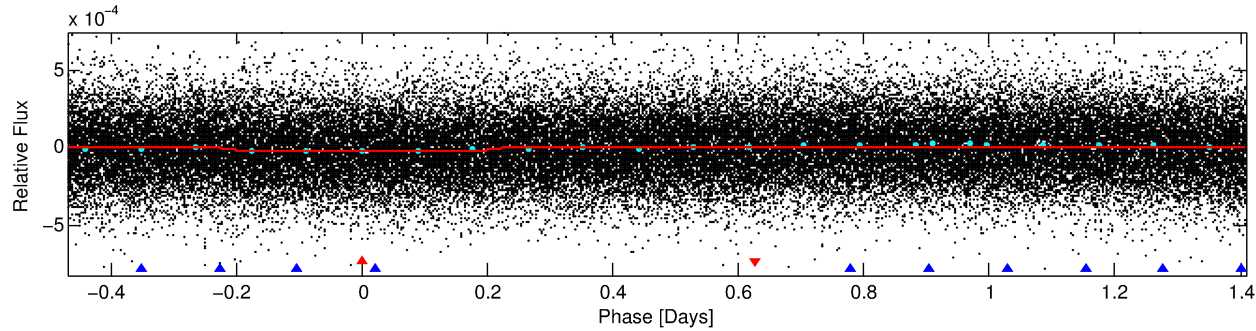
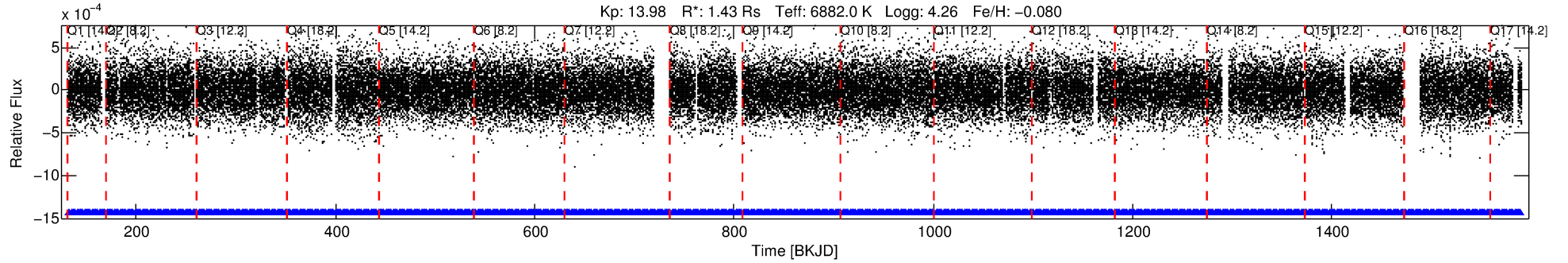
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007368295-01

No Significant Match Found

DV One-Page Summary

KIC: 7368295 Candidate: 1 of 2 Period: 1.879 d



DV Fit Results:

Period = 1.87856 [0.00003] d
Epoch = 133.3828 [0.0096] BKJD
Rp/R* = 0.0045 [0.0020]
a/R* = 1.17 [0.83]
b = 0.85 [0.90]
Seff = 3782.72 [1589.15]
Teq = 2000 [210] K
Rp = 0.71 [0.40] Re
a = 0.0329 [0.0091] AU
Ag = 4.88 [6.84] [0.57σ]
Teffp = 4596 [1558] K [1.65σ]

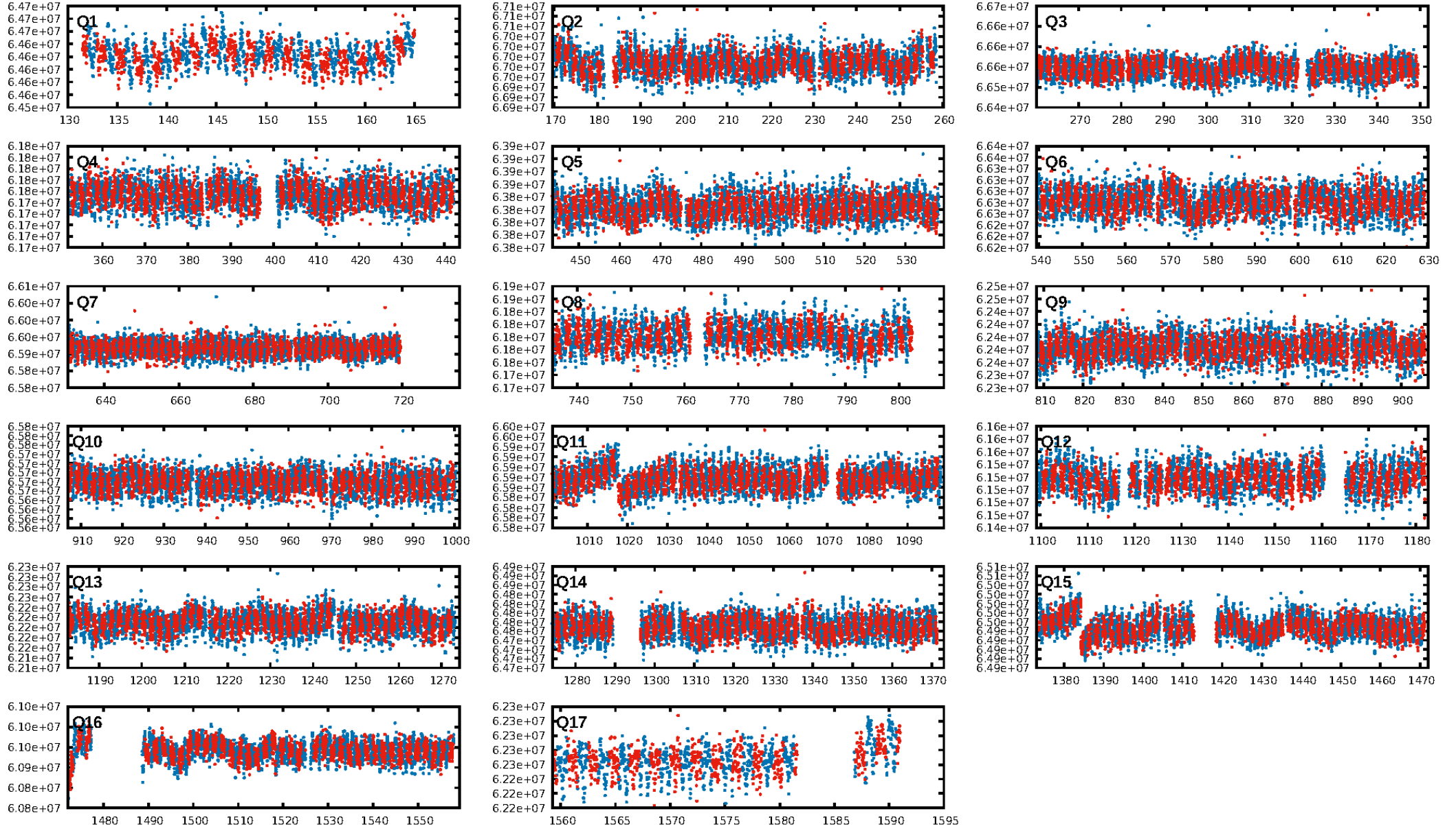
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [285.74σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.78e-12
RollingBand-fgt: 1.00 [688/688]
GhostDiagnostic-chr: 416
Centroid-sig: 0.9%
Centroid-so: 1.873 arcsec [1.62σ]
OotOffset-rm: 0.455 arcsec [0.96σ]
OotOffset-st: 3/3/4/5 [15]
KicOffset-rm: 0.444 arcsec [0.92σ]
KicOffset-st: 3/3/4/5 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 1.00 [17/17]

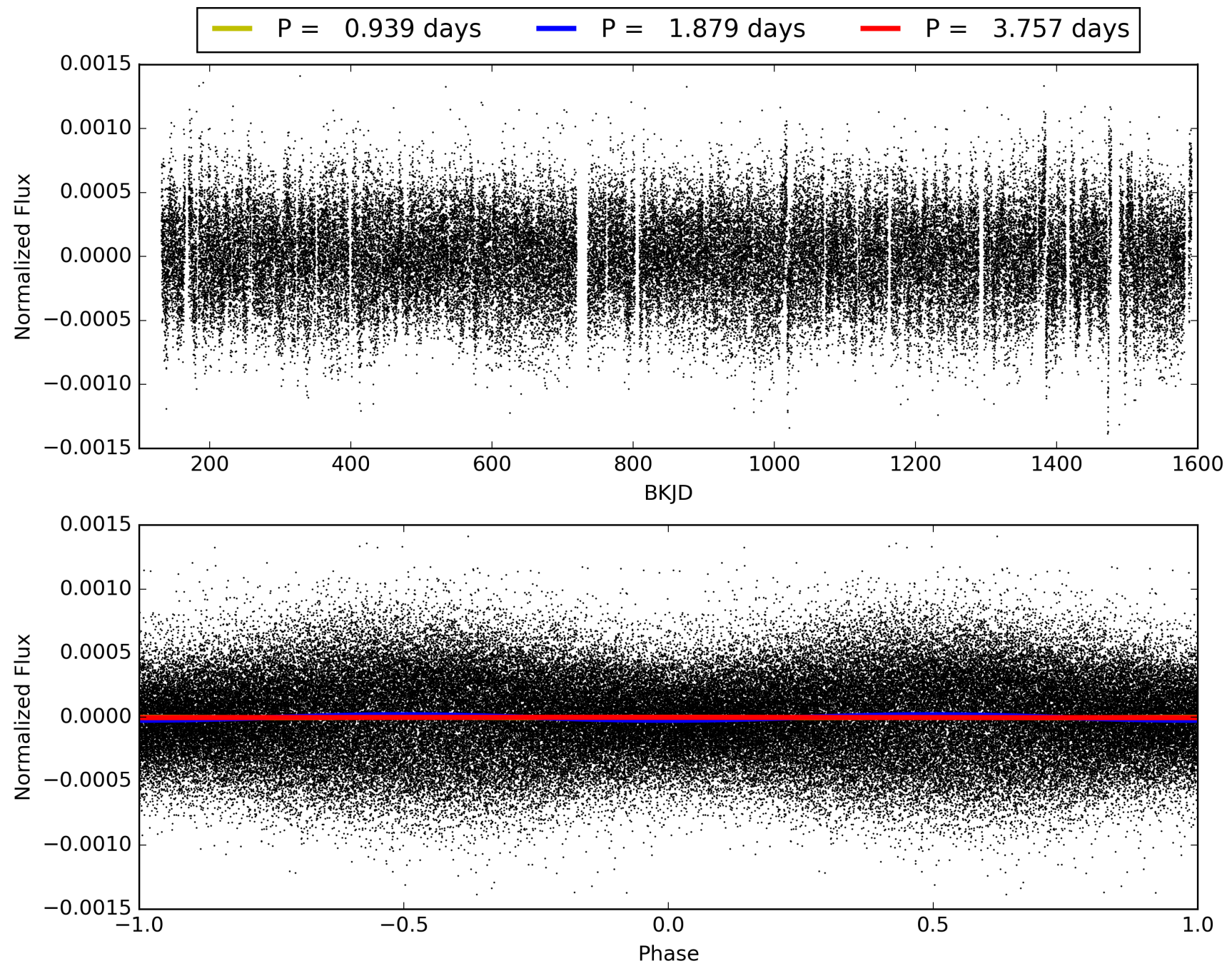
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:11:02 Z

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

TCE 007368295-01, PDC Light Curves

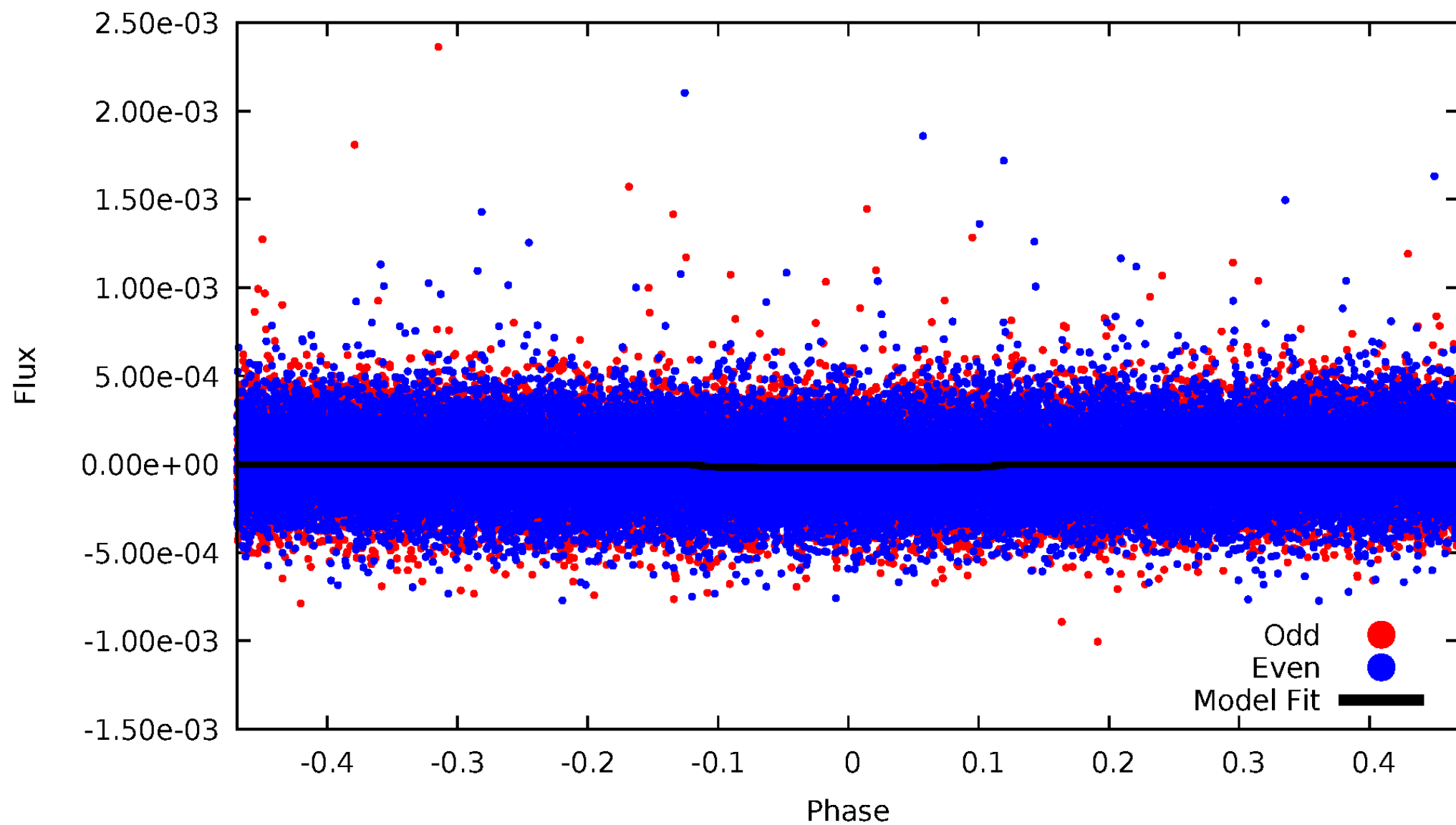


TCE 007368295-01



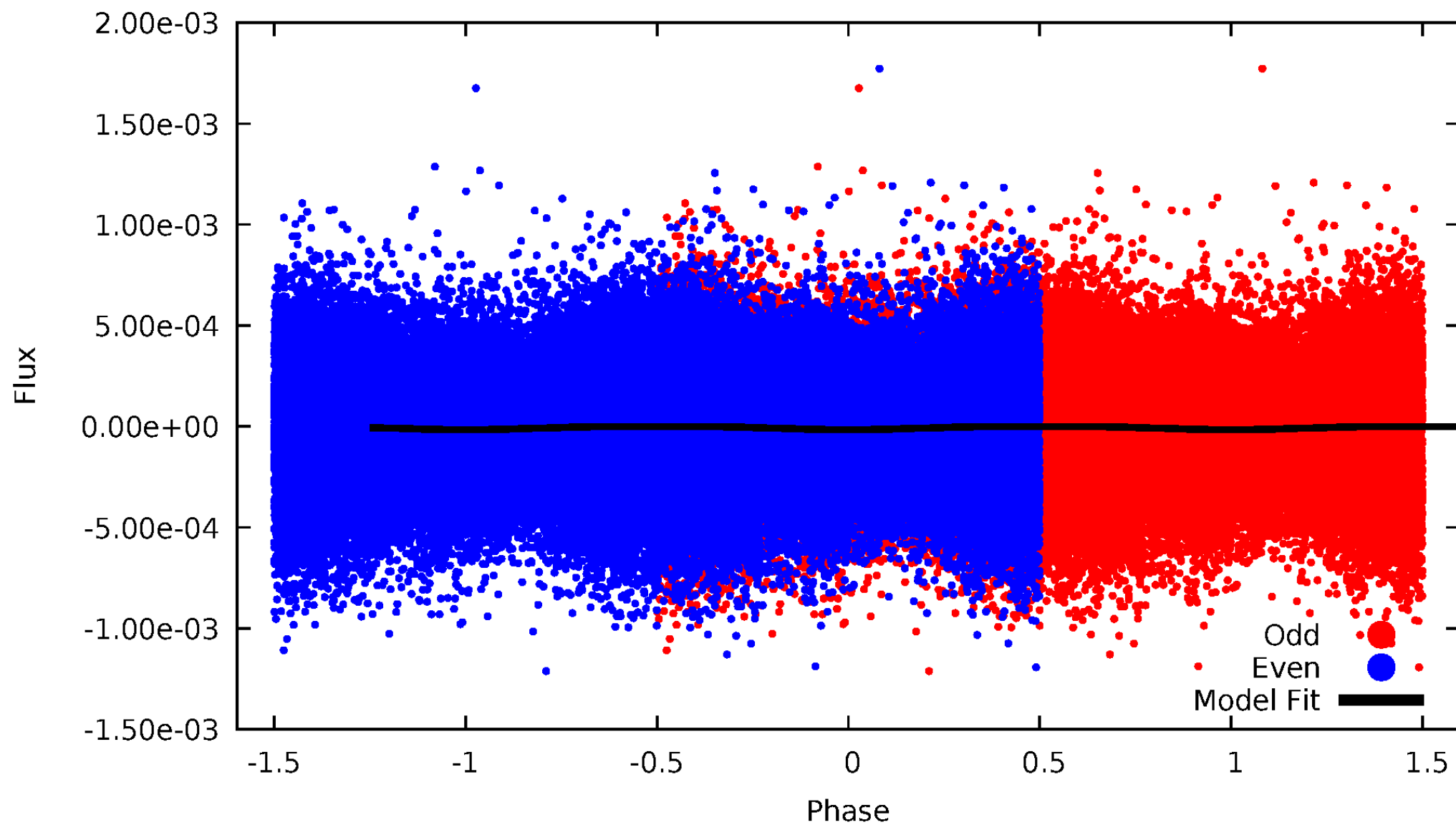
DV Odd/Even

TCE 007368295-01

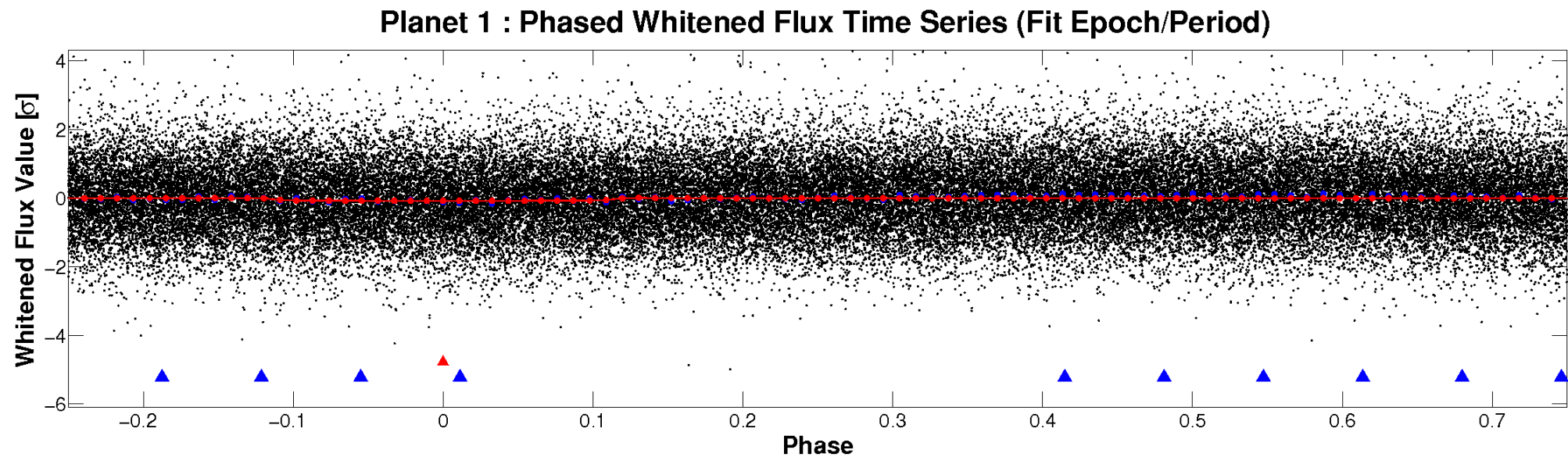
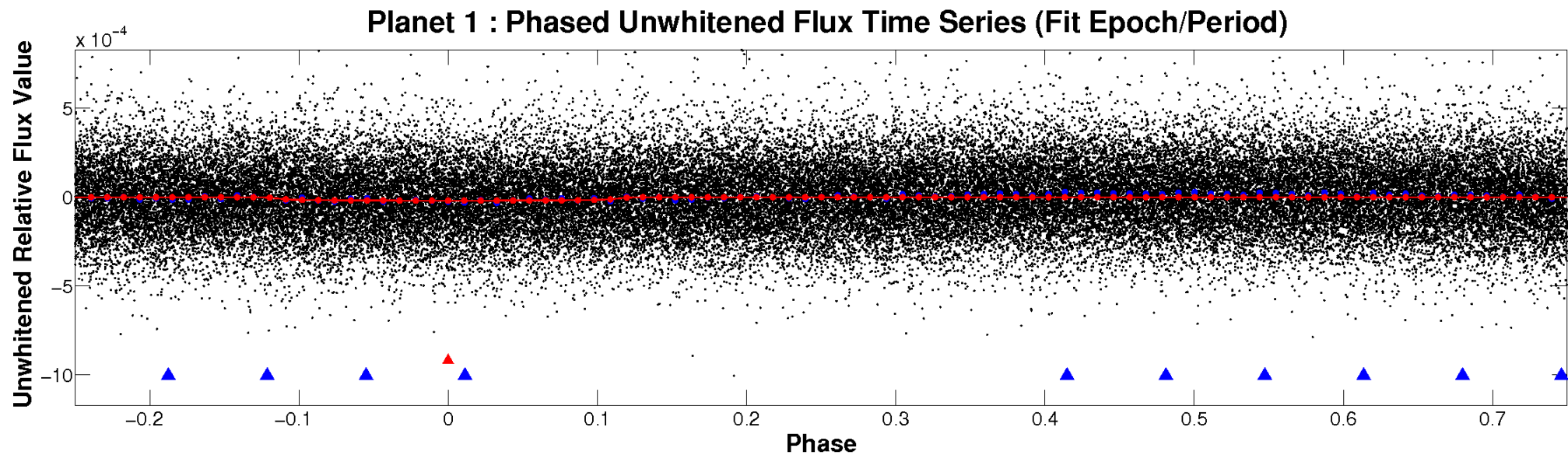


ALT Odd/Even

TCE 007368295-01

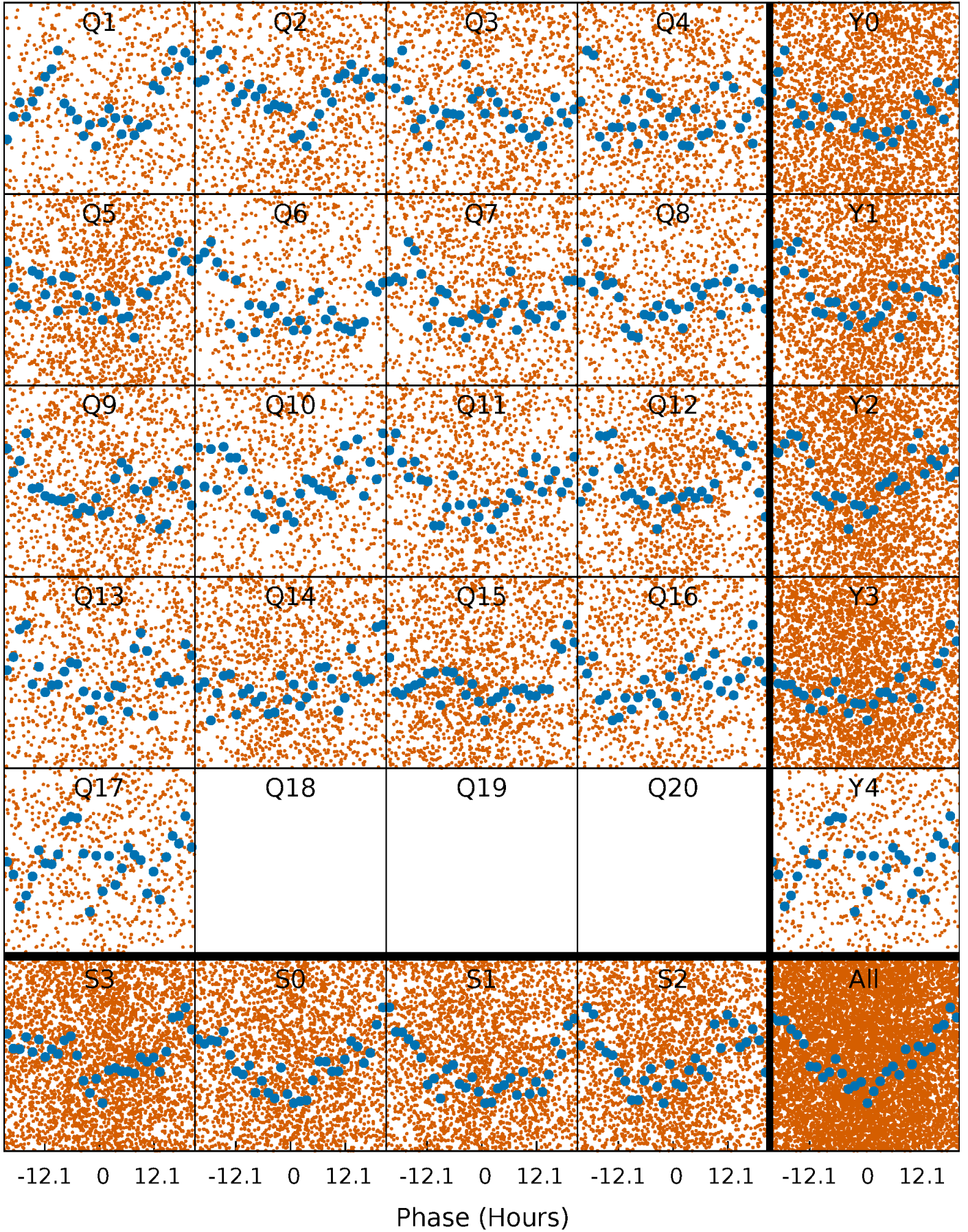


Non-Whitened Vs. Whitened Light Curve



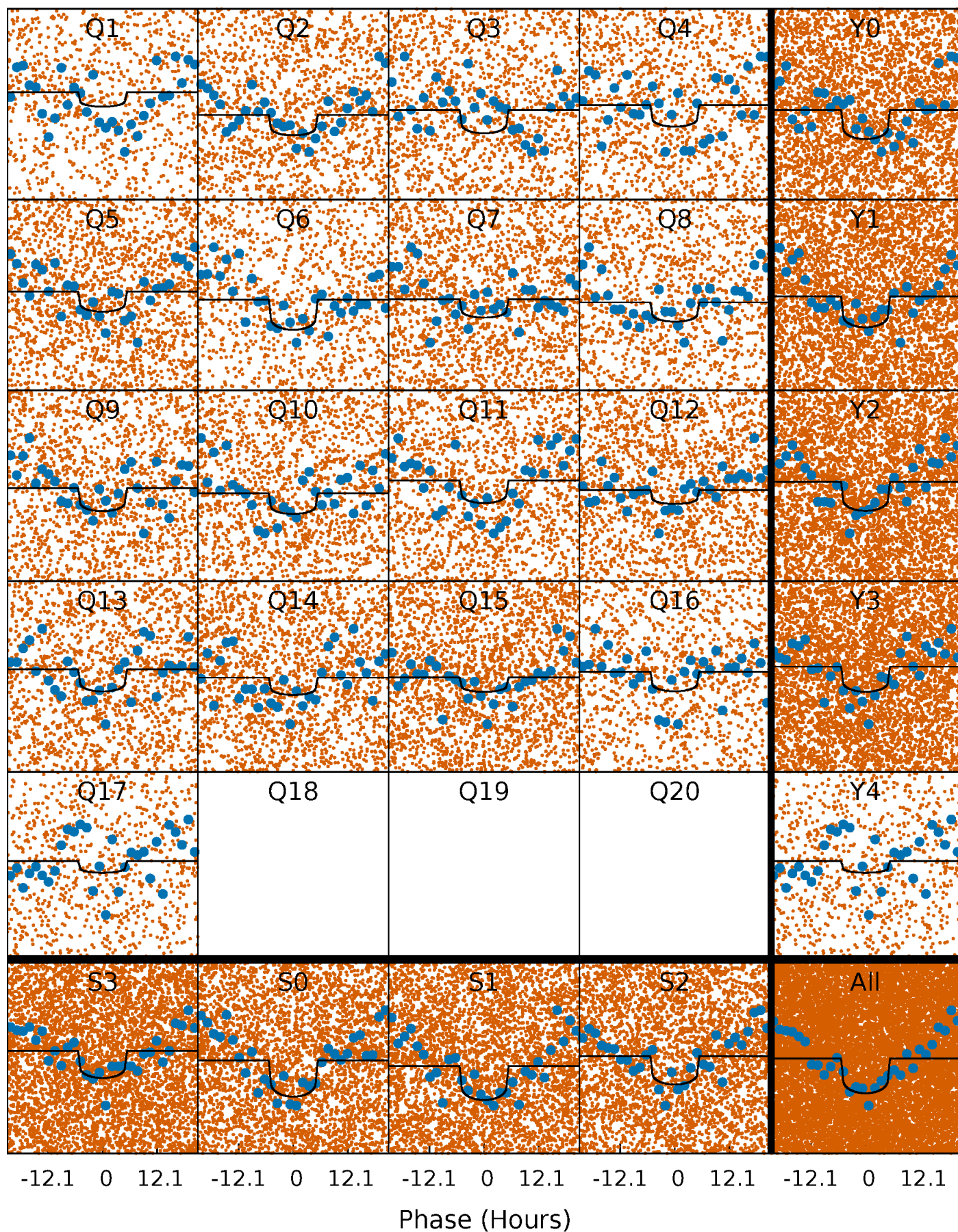
PDC Quarter-Phased Transit Curves

TCE 007368295-01 P= 1.878563 Days $T_0=133.382768$ (BKJD)



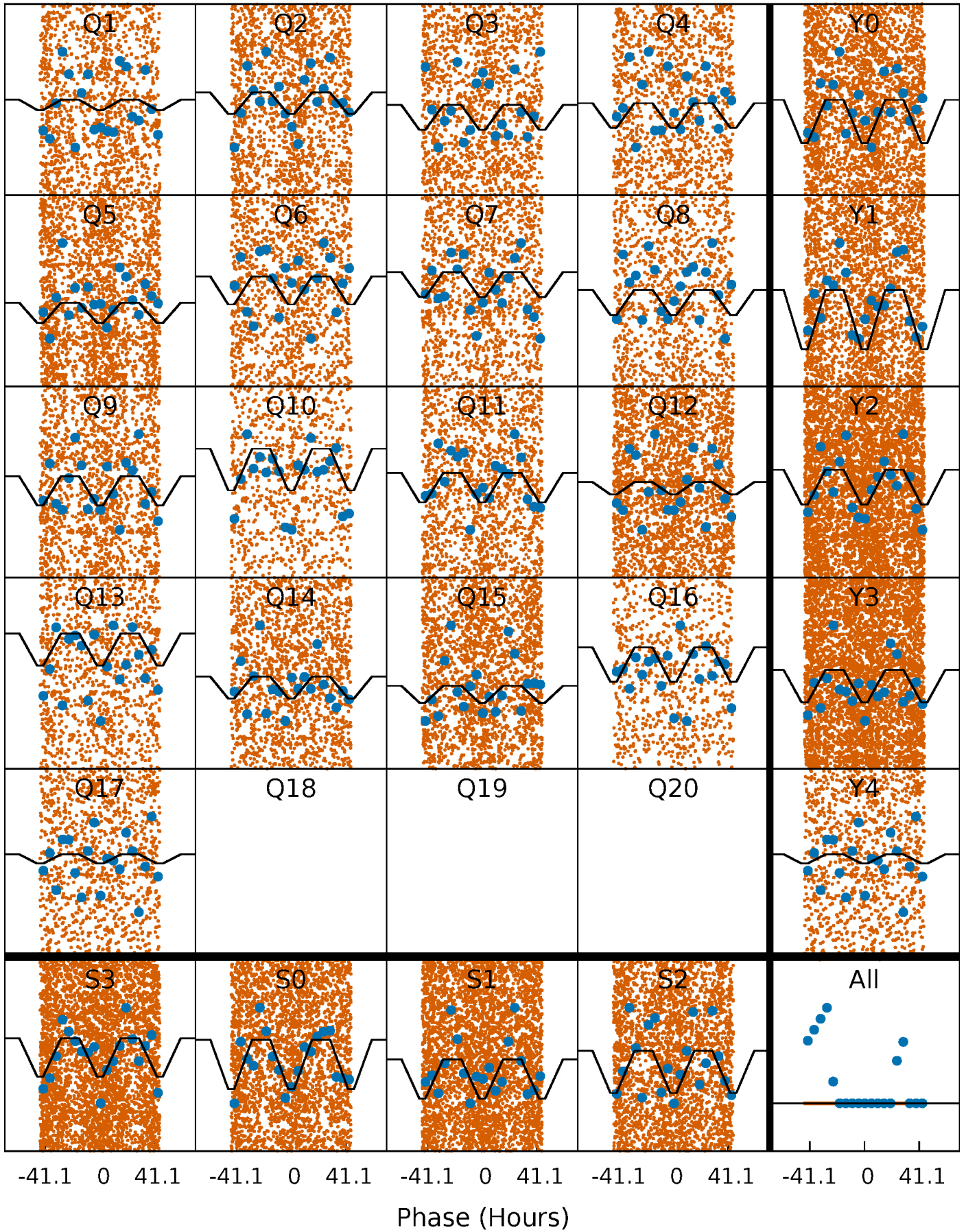
DV Quarter-Phased Transit Curves

TCE 007368295-01 P= 1.878563 Days $T_0=133.382768$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

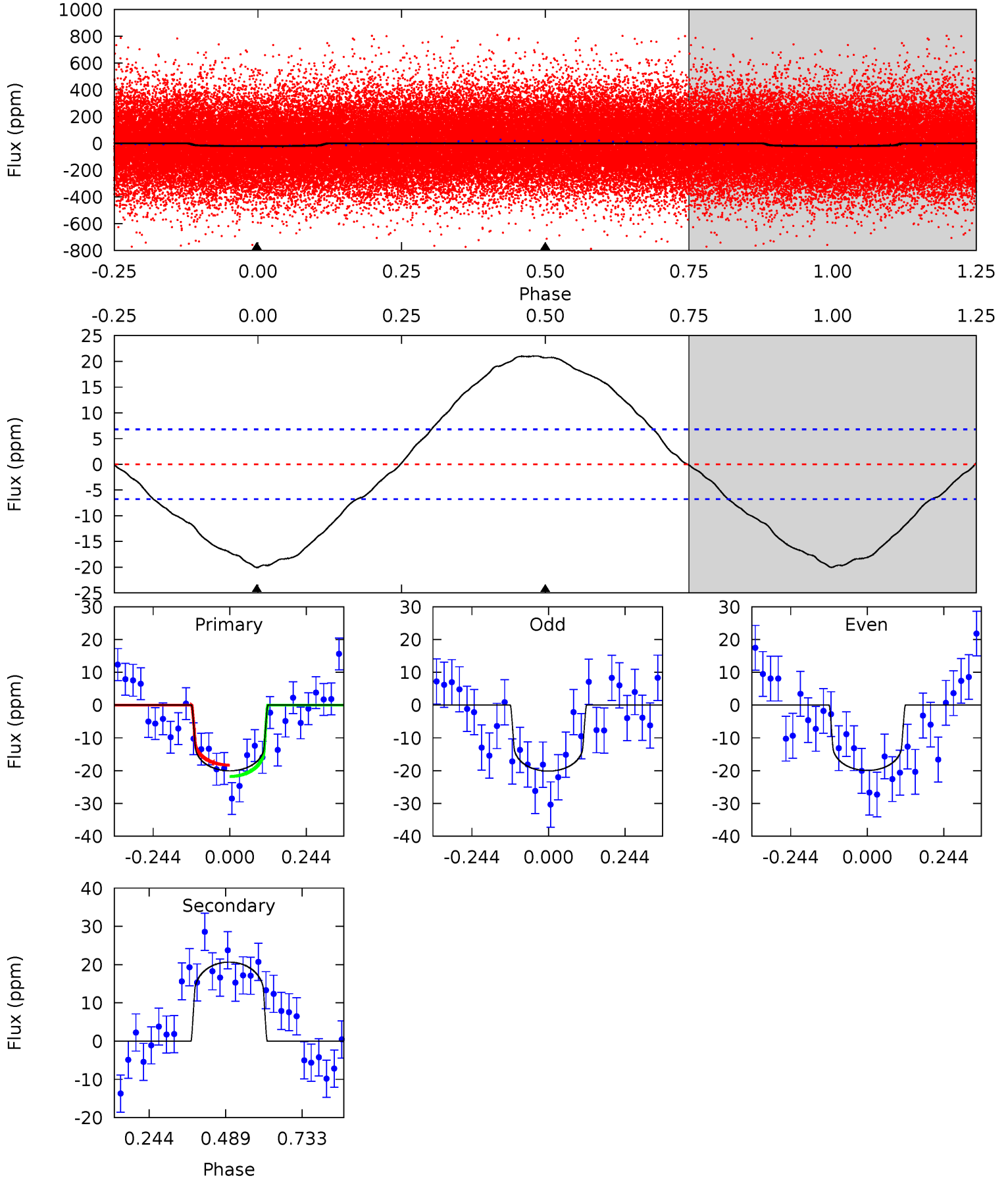
TCE 007368295-01 P= 1.878520 Days $T_0=133.370222$ (BKJD)



DV Model-Shift Uniqueness Test

007368295-01, P = 1.878563 Days, E = 131.504205 Days

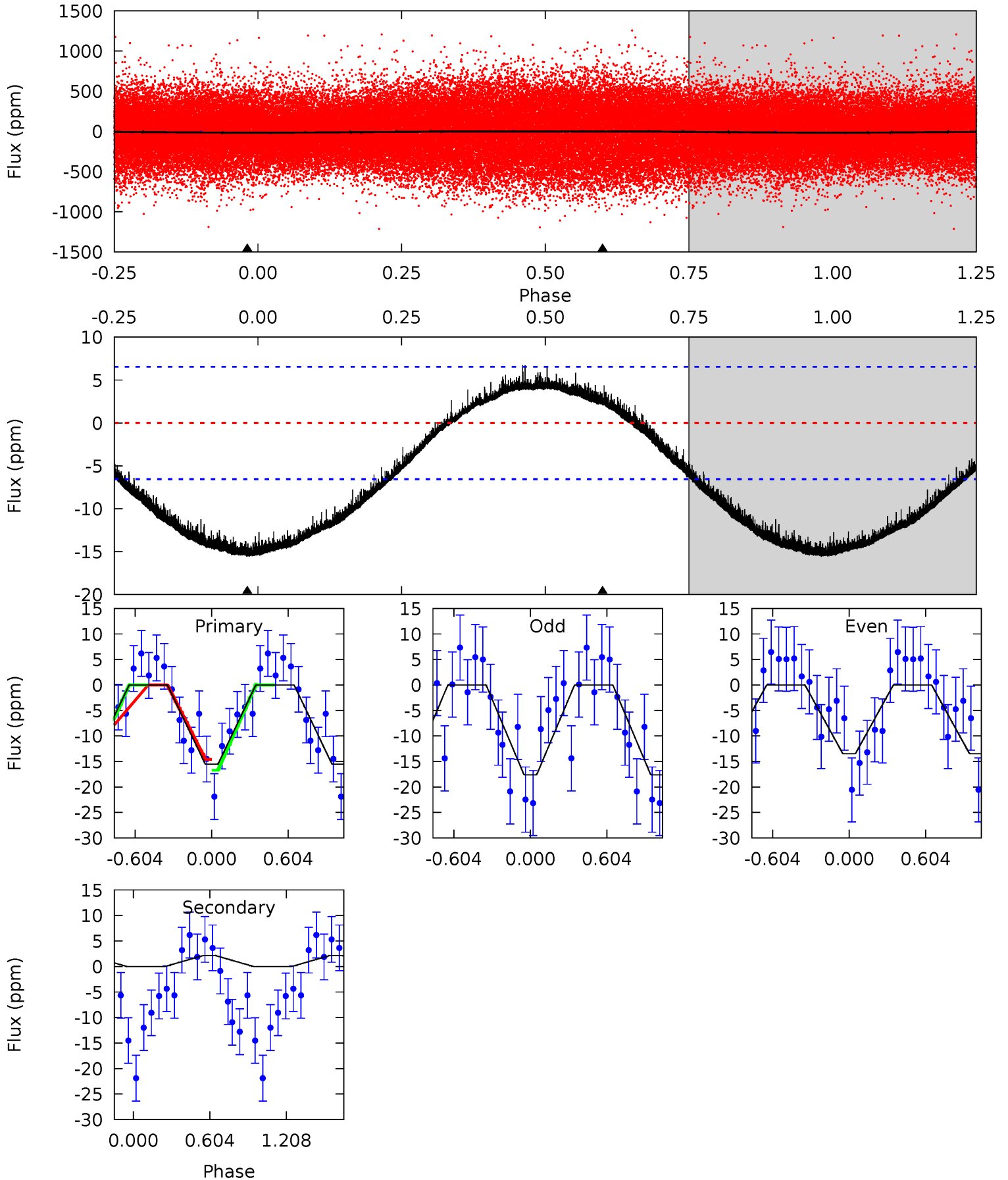
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	-13.3	0	0	4.37	1.16	0.97	12.9	12.9	-13.3	-13.3	0.06	1.03	0.51	1.12



Alt Model-Shift Uniqueness Test

007368295-01, P = 1.878520 Days, E = 131.491702 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.90	-1.36	0	0	4.17	0.52	0.99	9.90	9.90	-1.36	-1.36	1.32	0.87	0.30	0.82



Stellar Parameters For KIC 007368295

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6882^{+189}_{-283}	$4.258^{+0.087}_{-0.203}$	$-0.080^{+0.250}_{-0.350}$	$1.428^{+0.490}_{-0.210}$	$1.351^{+0.204}_{-0.204}$	$0.654^{+0.327}_{-0.347}$
	+3%/-4%	+2%/-5%	+312%/-438%	+34%/-15%	+15%/-15%	+50%/-53%
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 007368295-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	21 ± 2	$0.74^{+0.35}_{-0.32}$	2823^{+202}_{-160}	-6828^{+1114}_{-2880}	$-22.471^{+12.024}_{-45.617}$
Alt.	2 ± 2	$0.66^{+0.35}_{-0.31}$	2822^{+227}_{-158}	-4251^{+777}_{-1402}	$-2.310^{+1.785}_{-7.787}$

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

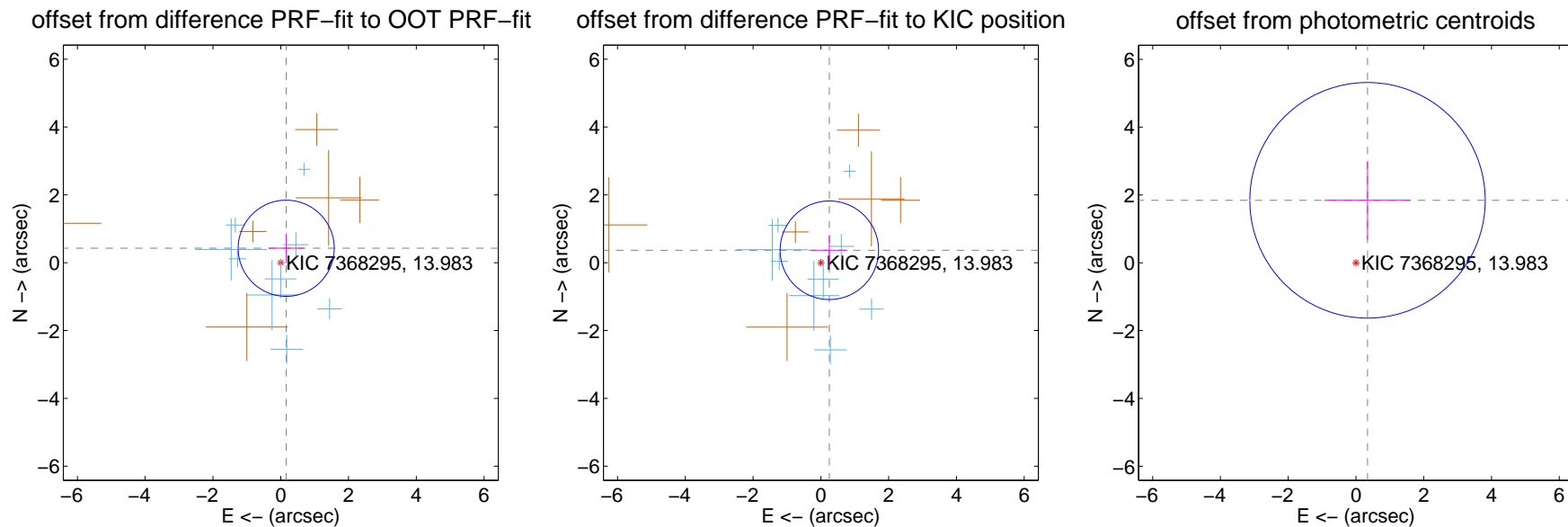
DV Centroid Data

Supplemental centroid analysis for 007368295-01. Kepler magnitude: 13.98. Transit SNR 8.62

There are 9 quarters with good PRF difference image offsets

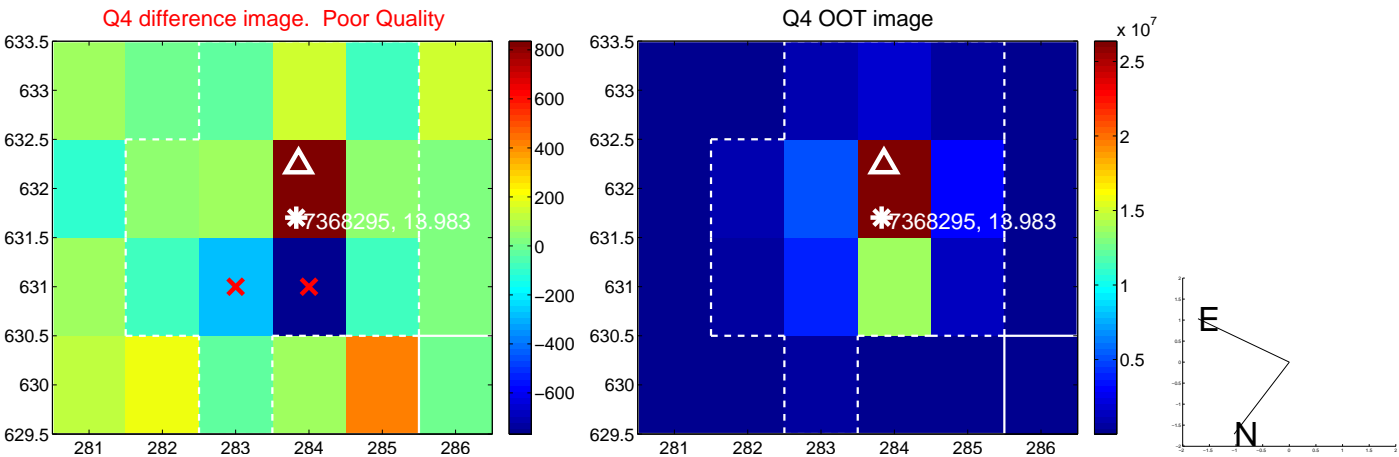
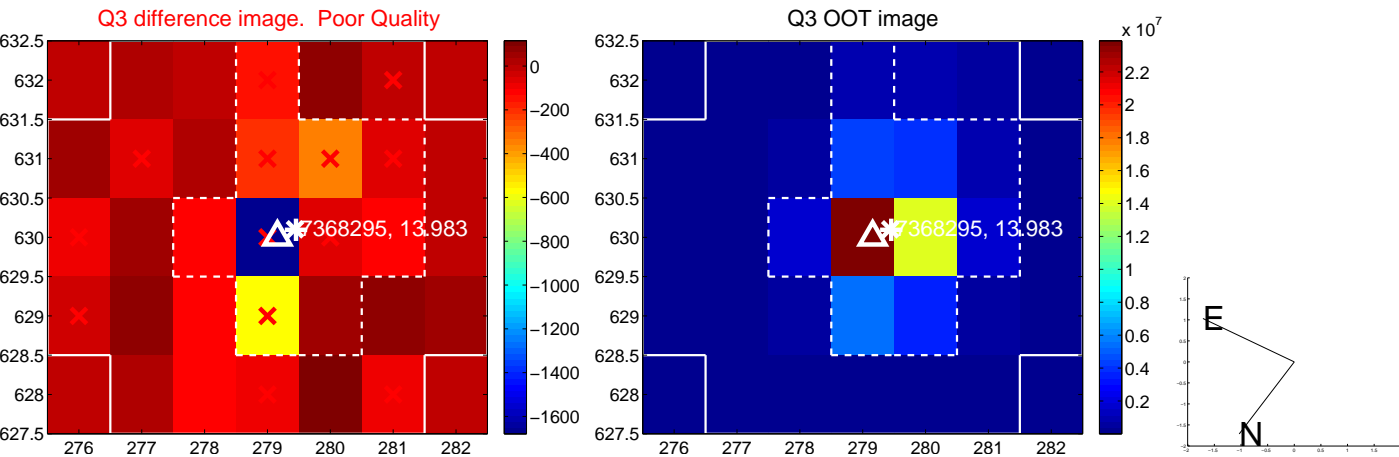
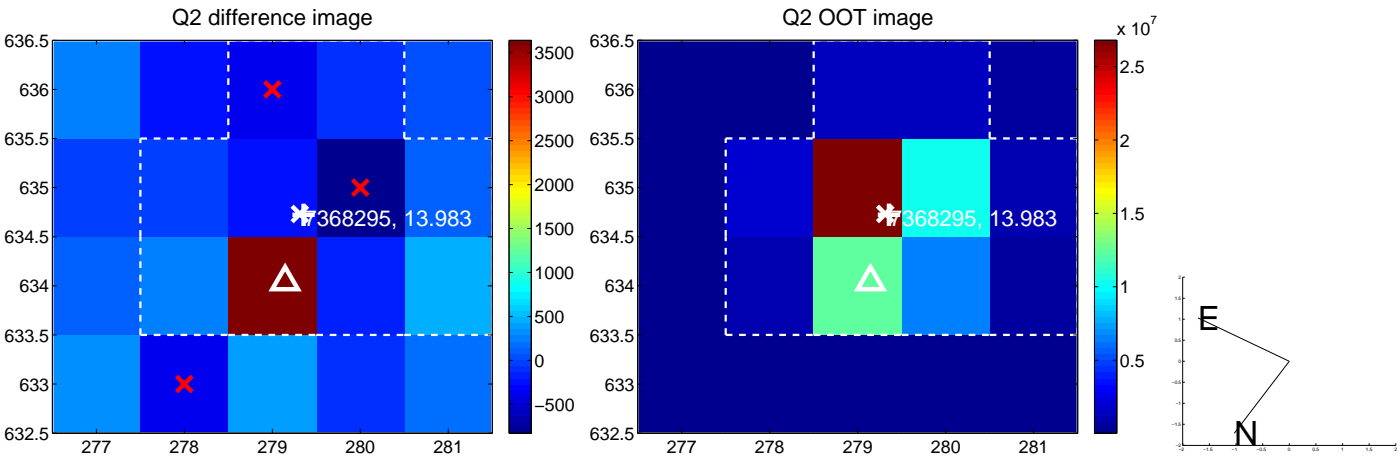
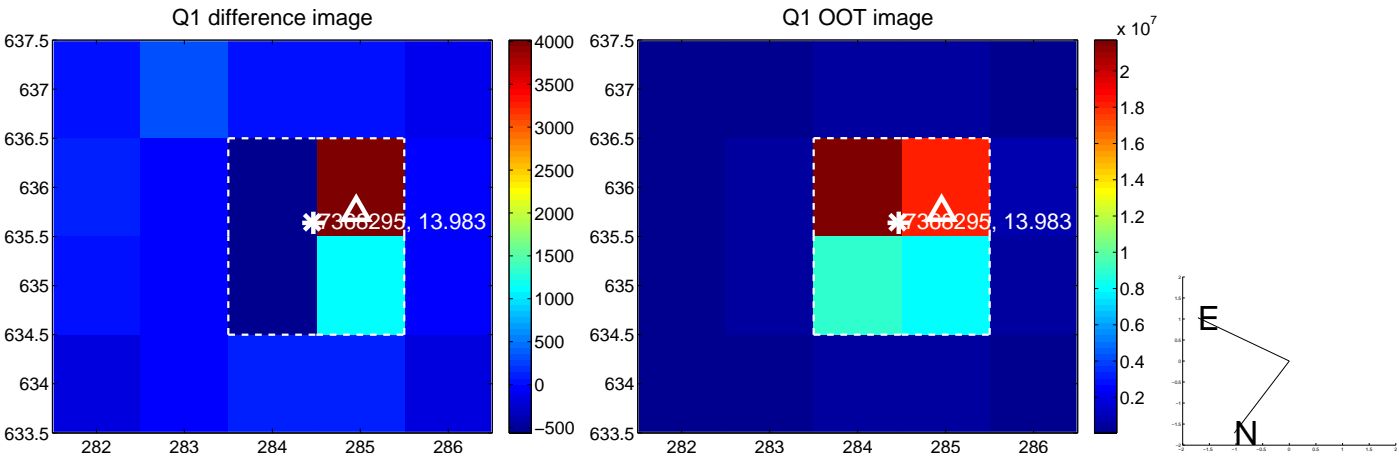
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.455 ± 0.472	0.96	-0.161 ± 0.520	0.426 ± 0.438
PRF-fit source offset from KIC position	0.444 ± 0.484	0.92	-0.251 ± 0.529	0.367 ± 0.450
photometric centroid source offset	1.87 ± 1.16	1.62	-0.34 ± 1.27	1.84 ± 1.15

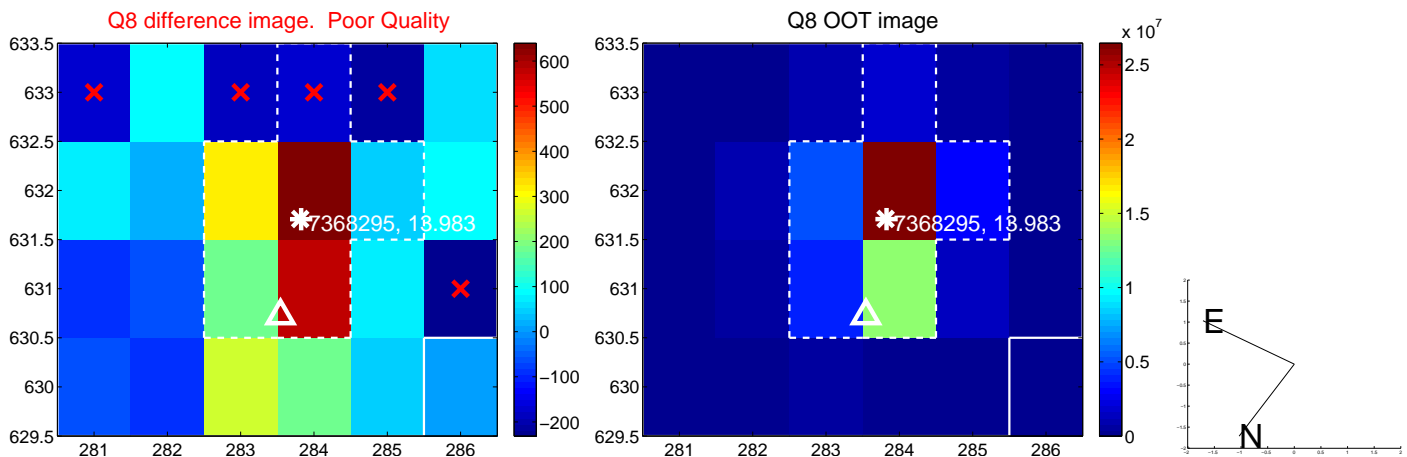
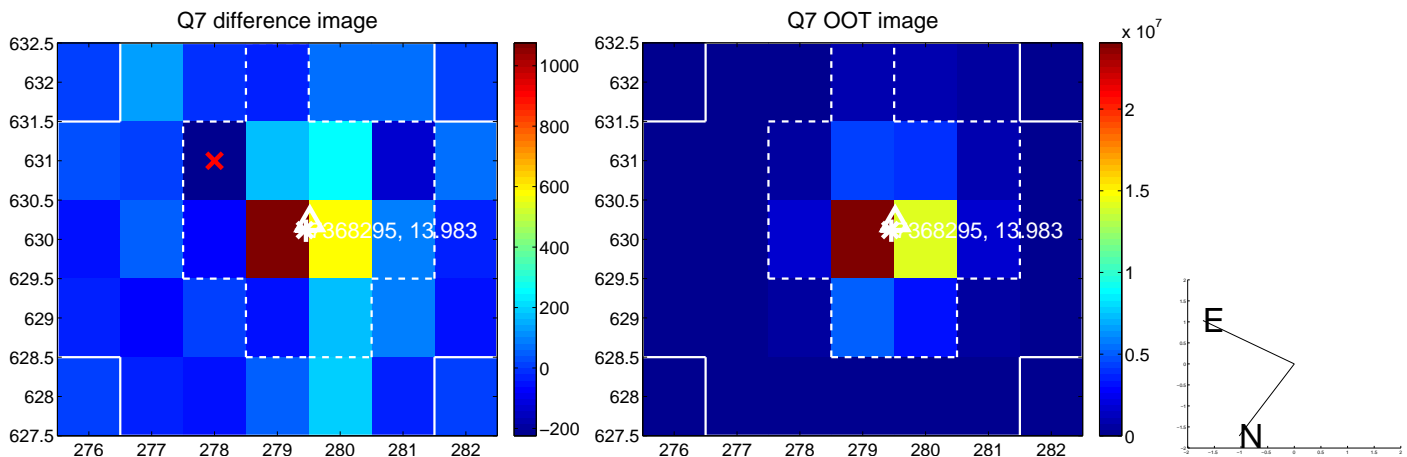
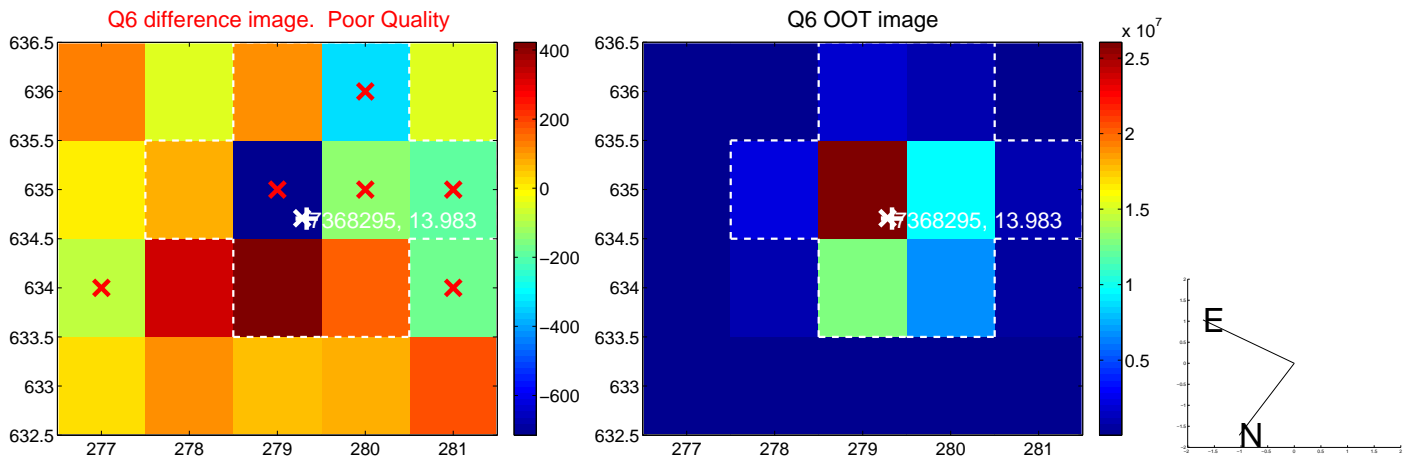
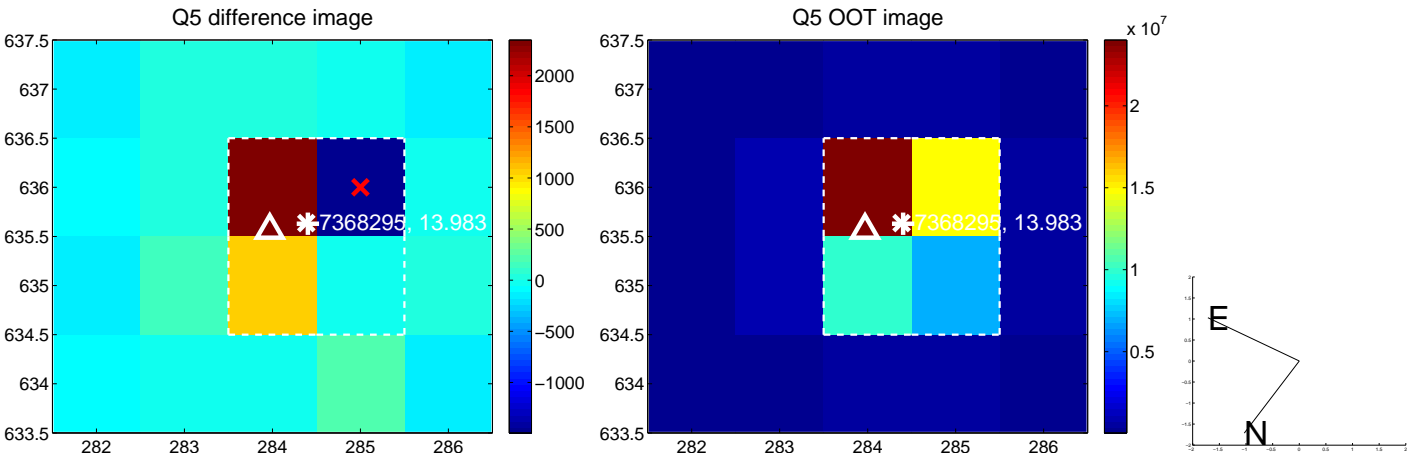


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

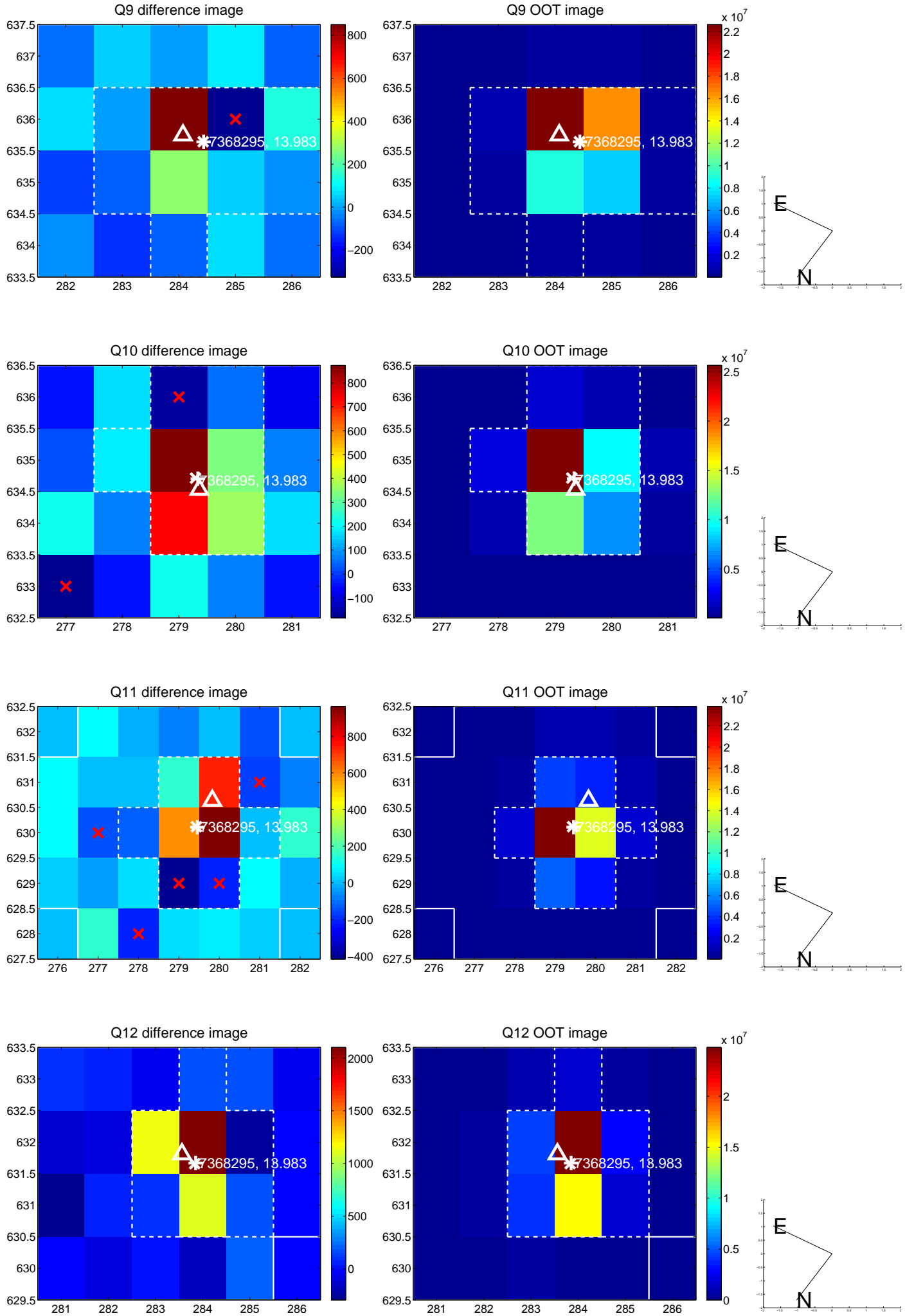
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



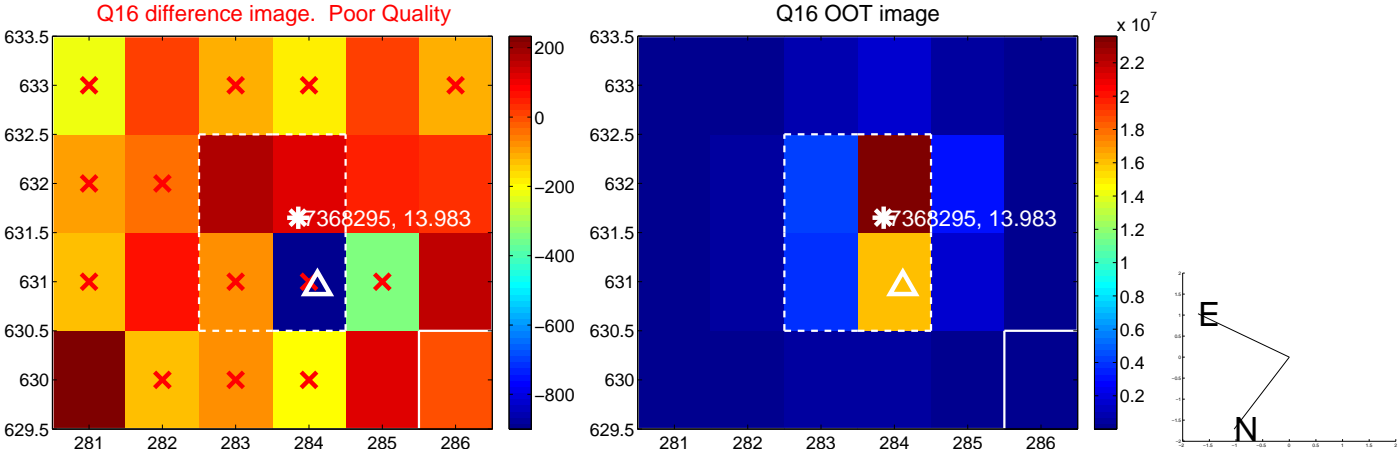
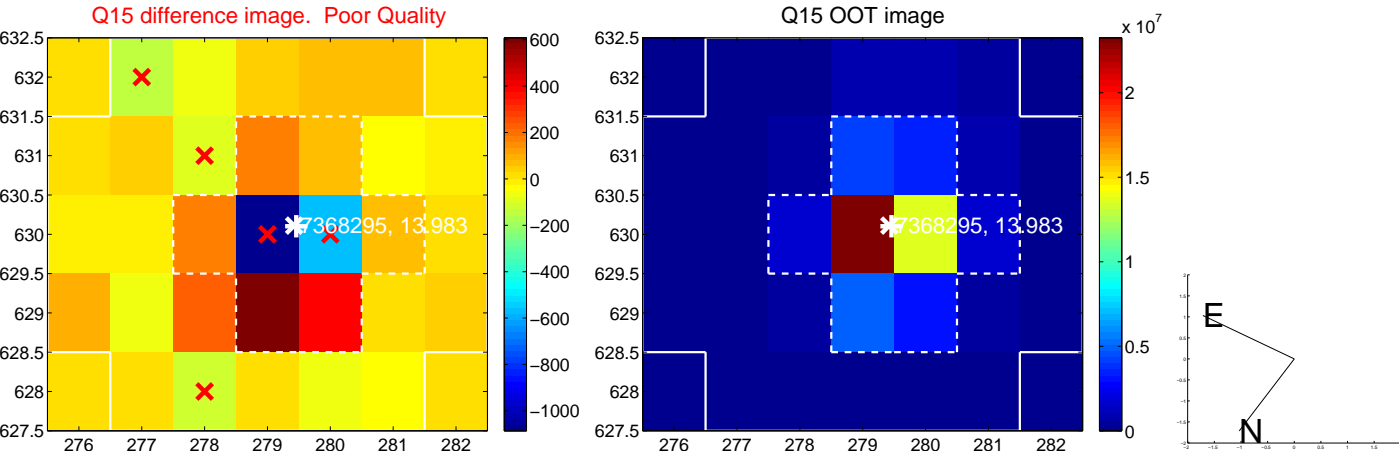
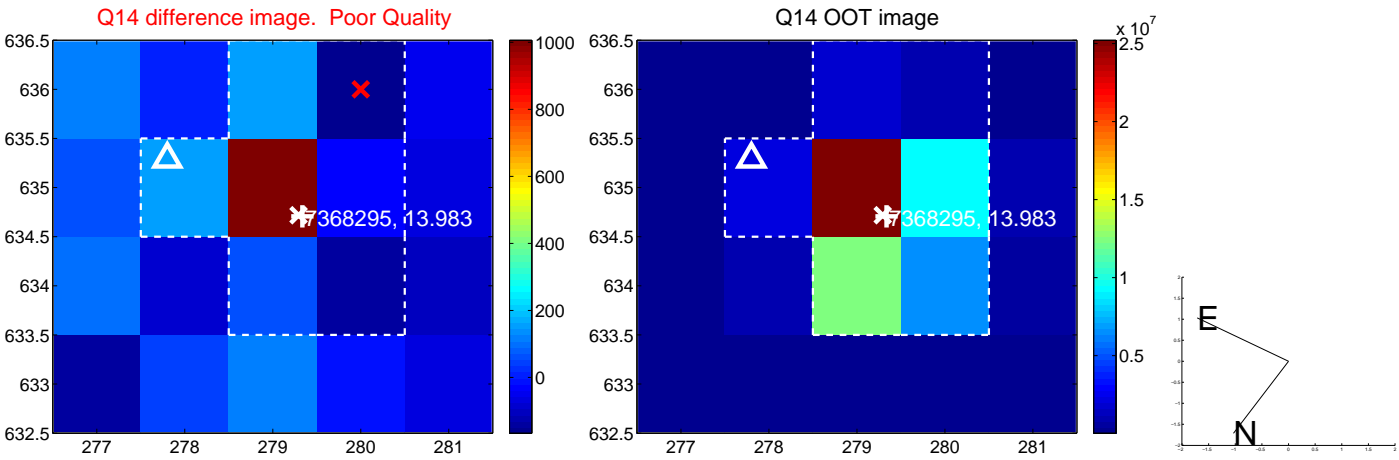
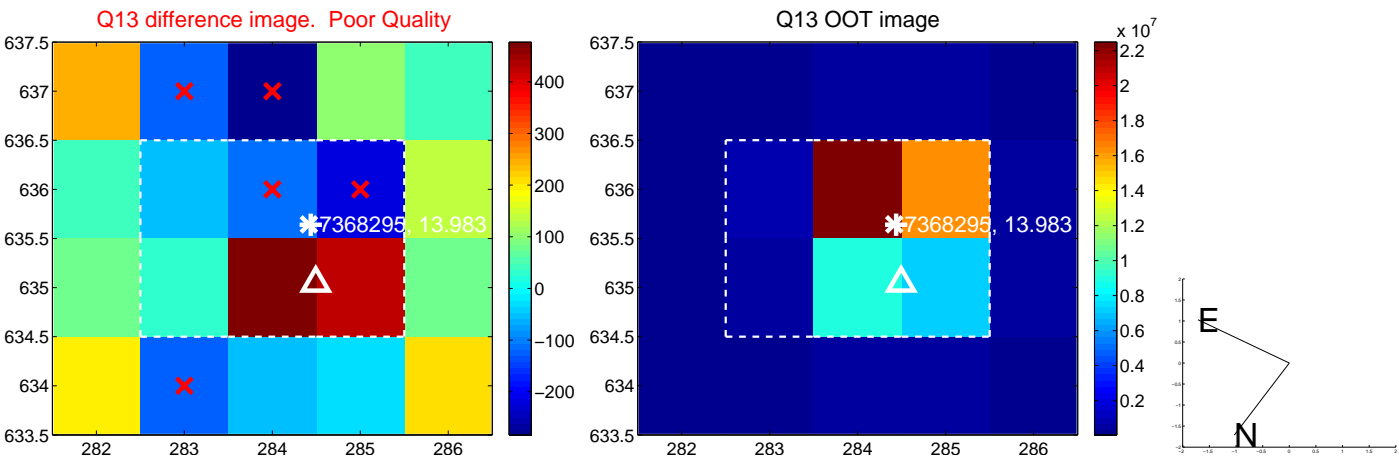
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



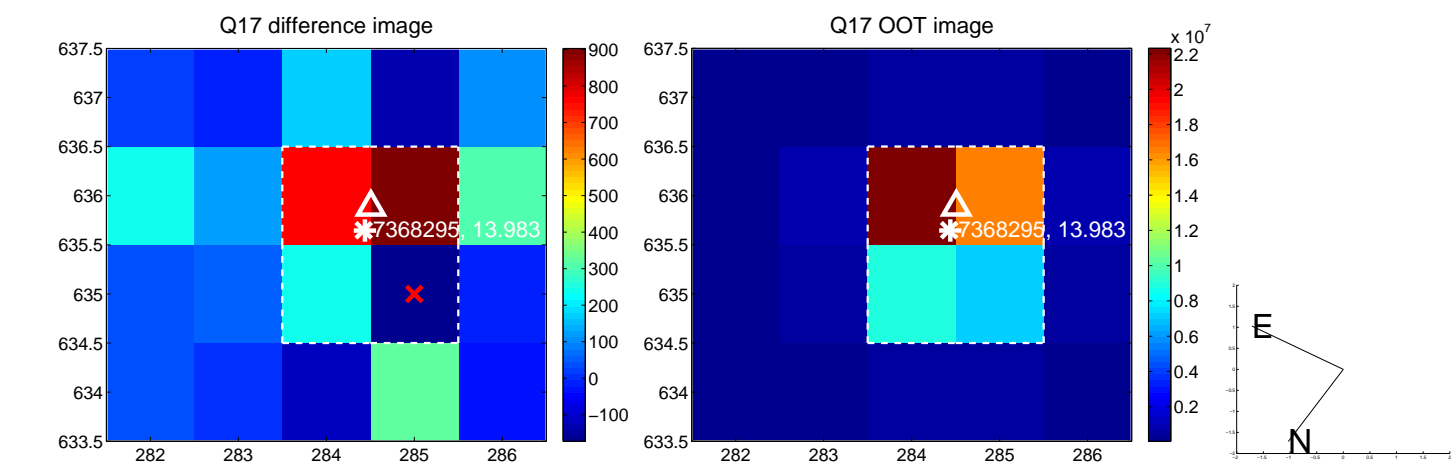
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



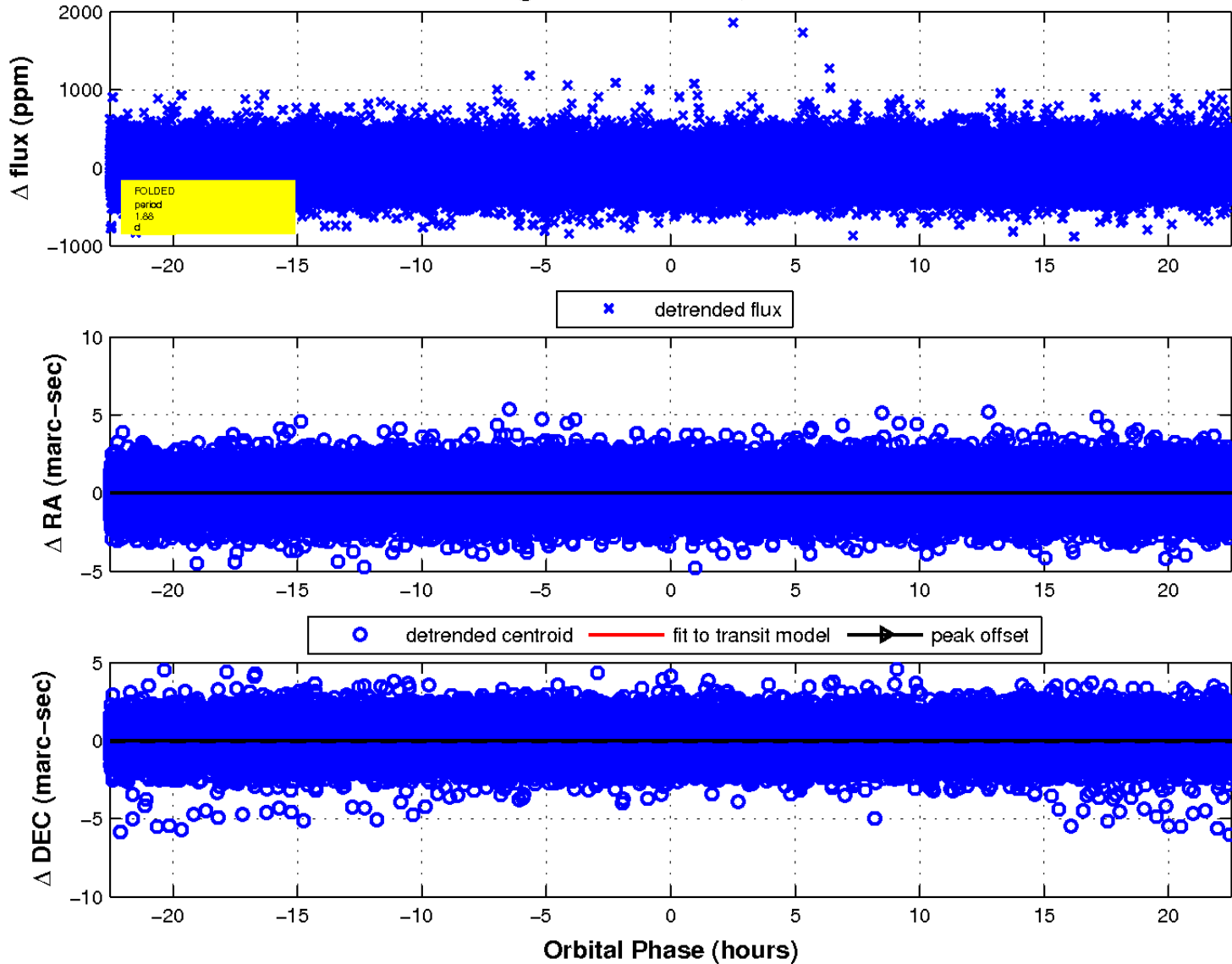
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

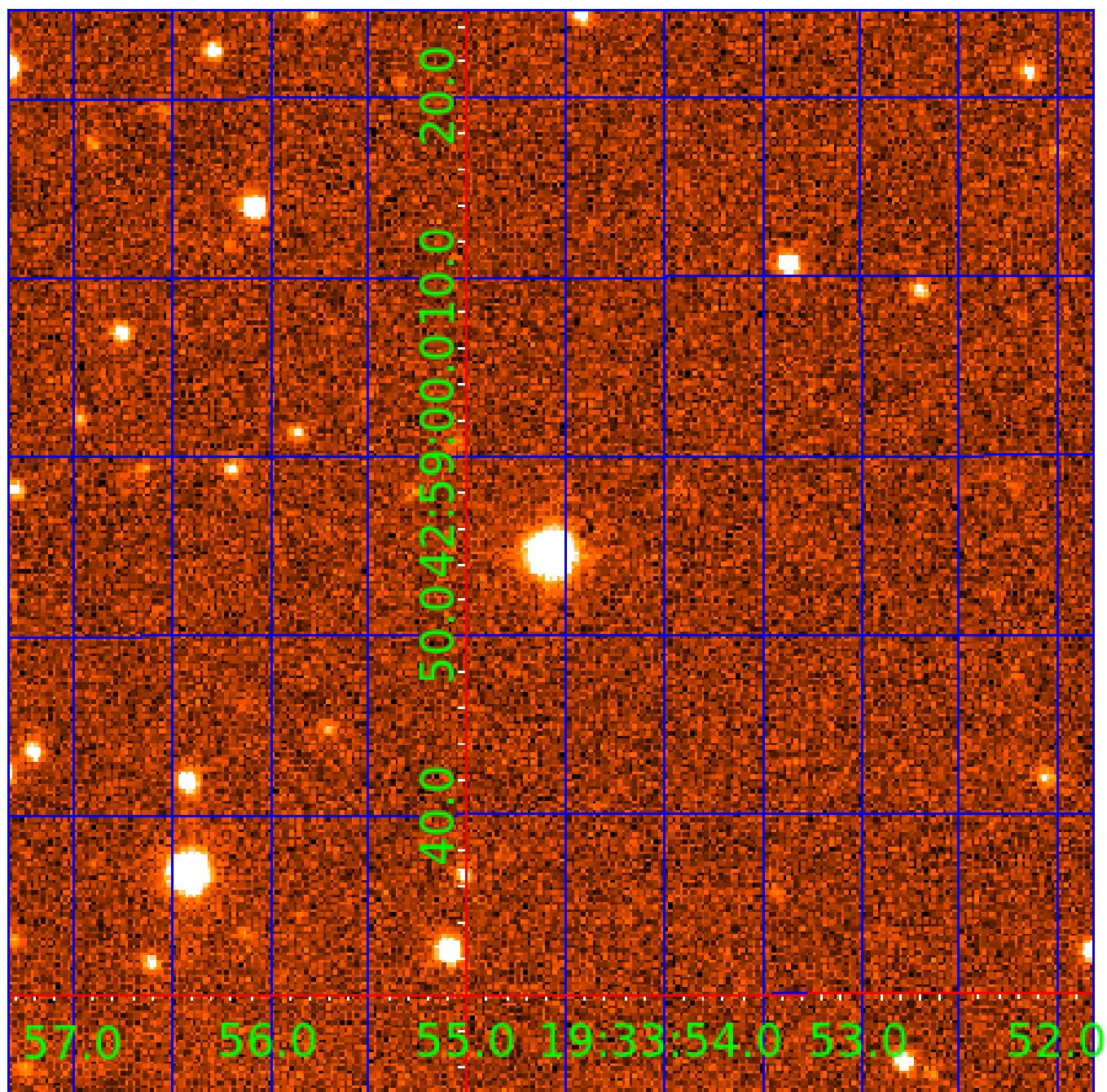


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007368295

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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007368295-02	OBS	No	150.160525	184.125187	166.2	6.577	13.1	4.9	1.43	6882	2.08	10.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007368295-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT
007368295-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

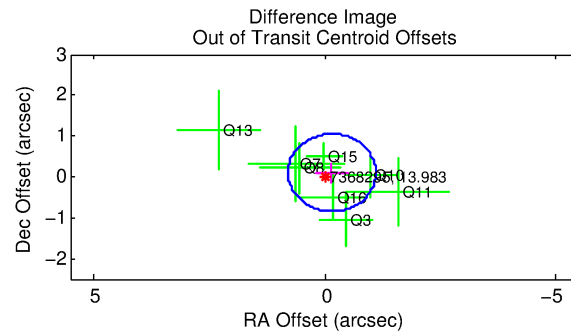
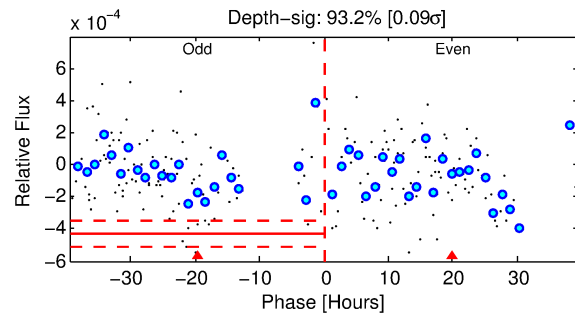
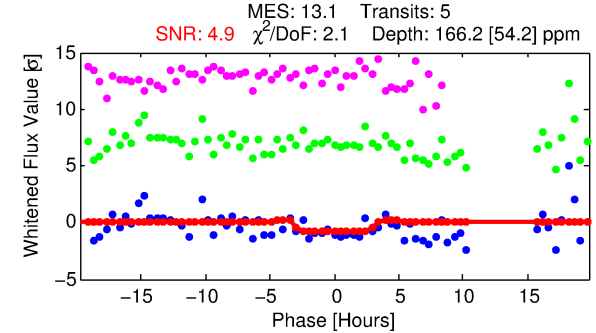
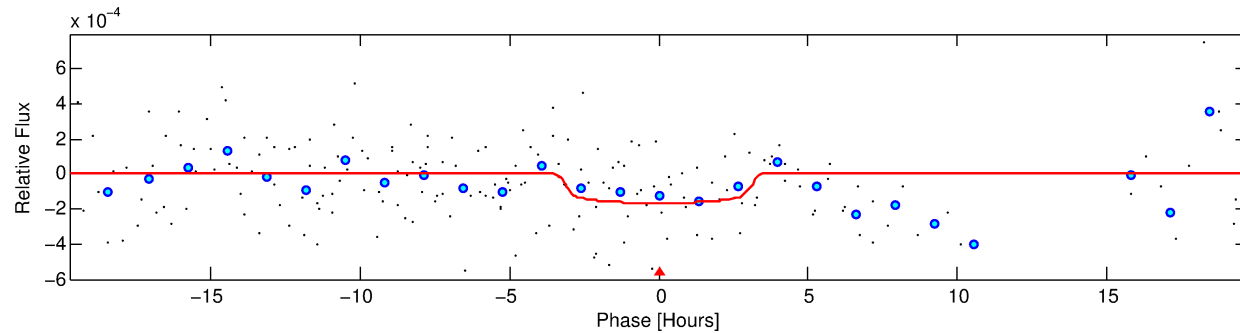
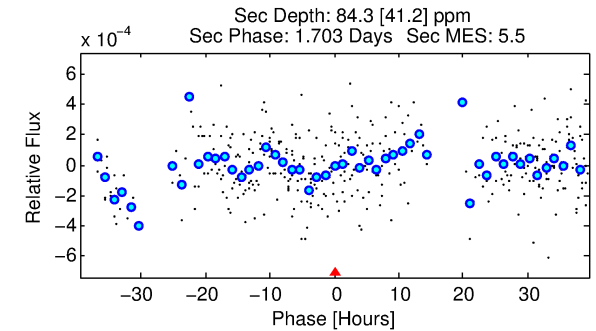
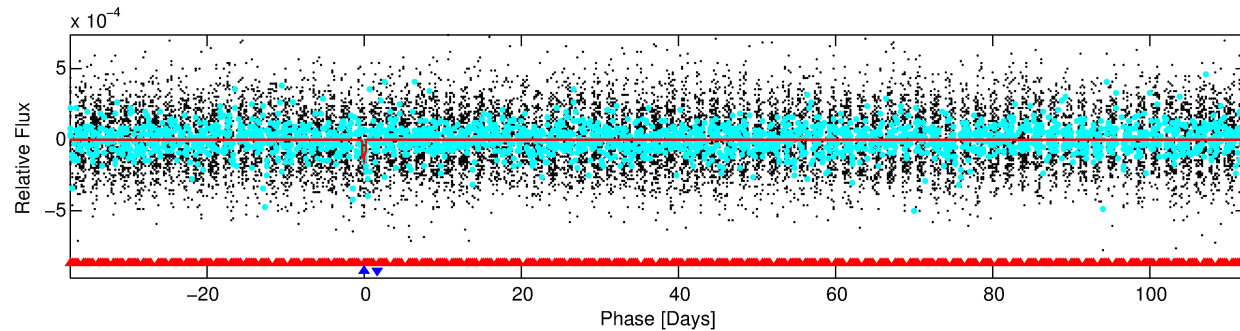
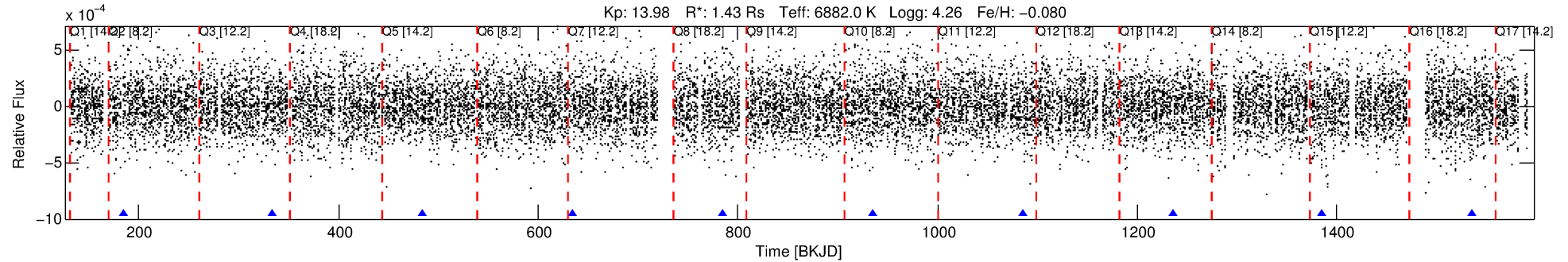
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007368295-02

No Significant Match Found

DV One-Page Summary

KIC: 7368295 Candidate: 2 of 2 Period: 150.161 d



DV Fit Results:

Period = 150.16053 [0.01653] d
Epoch = 184.1252 [0.1223] BKJD
Rp/R* = 0.0134 [0.0164]
a/R* = 94.28 [685.82]
b = 0.86 [2.29]
Seff = 10.99 [4.62]
Teq = 464 [49] K
Rp = 2.08 [2.66] Re
a = 0.6108 [0.1691] AU
Ag = 3983.96 [10106.67] [0.39σ]
Teffp = 5702 [3582] K [1.46σ]

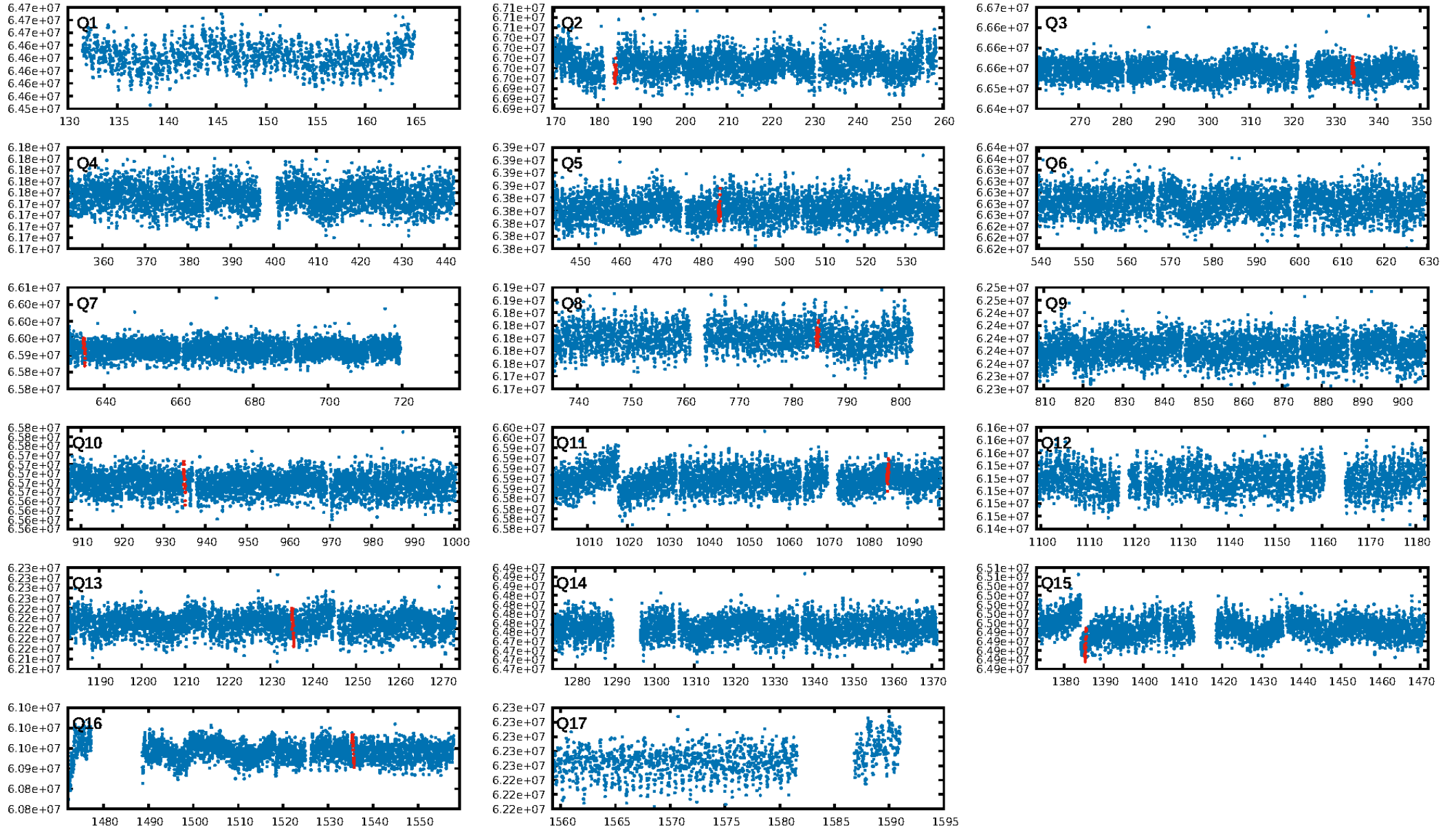
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [285.74σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 13.6%
Bootstrap-pfa: 2.72e-26
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.7007
Centroid-sig: 34.9%
Centroid-so: 1.620 arcsec [1.00σ]
OotOffset-rm: 0.185 arcsec [0.59σ]
OotOffset-st: 1/4/2/1 [8]
KicOffset-rm: 0.260 arcsec [0.76σ]
KicOffset-st: 1/4/2/1 [8]
DiffImageQuality-fgm: 0.38 [3/8]
DiffImageOverlap-fno: 0.33 [3/9]

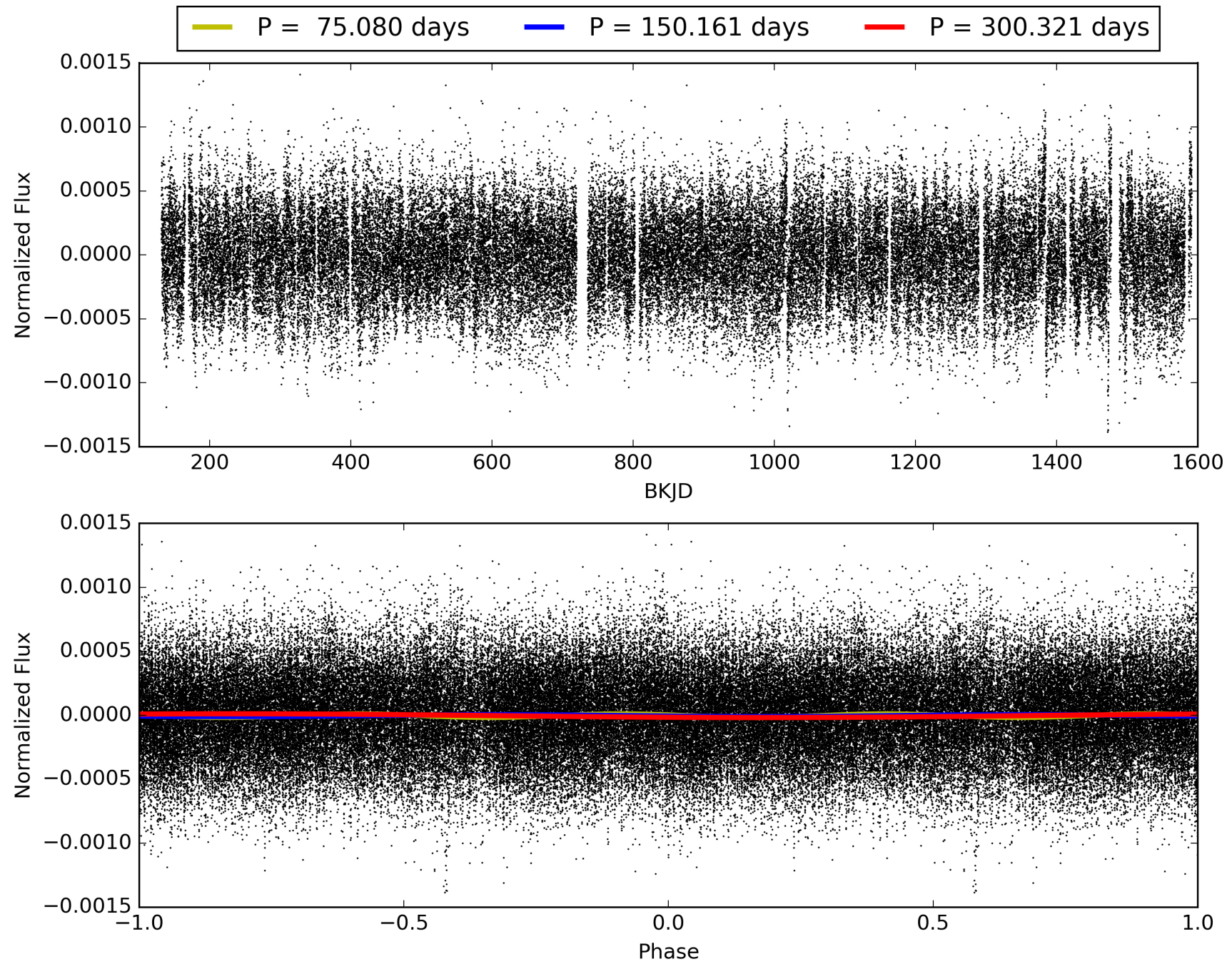
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:11:13 Z

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

TCE 007368295-02, PDC Light Curves

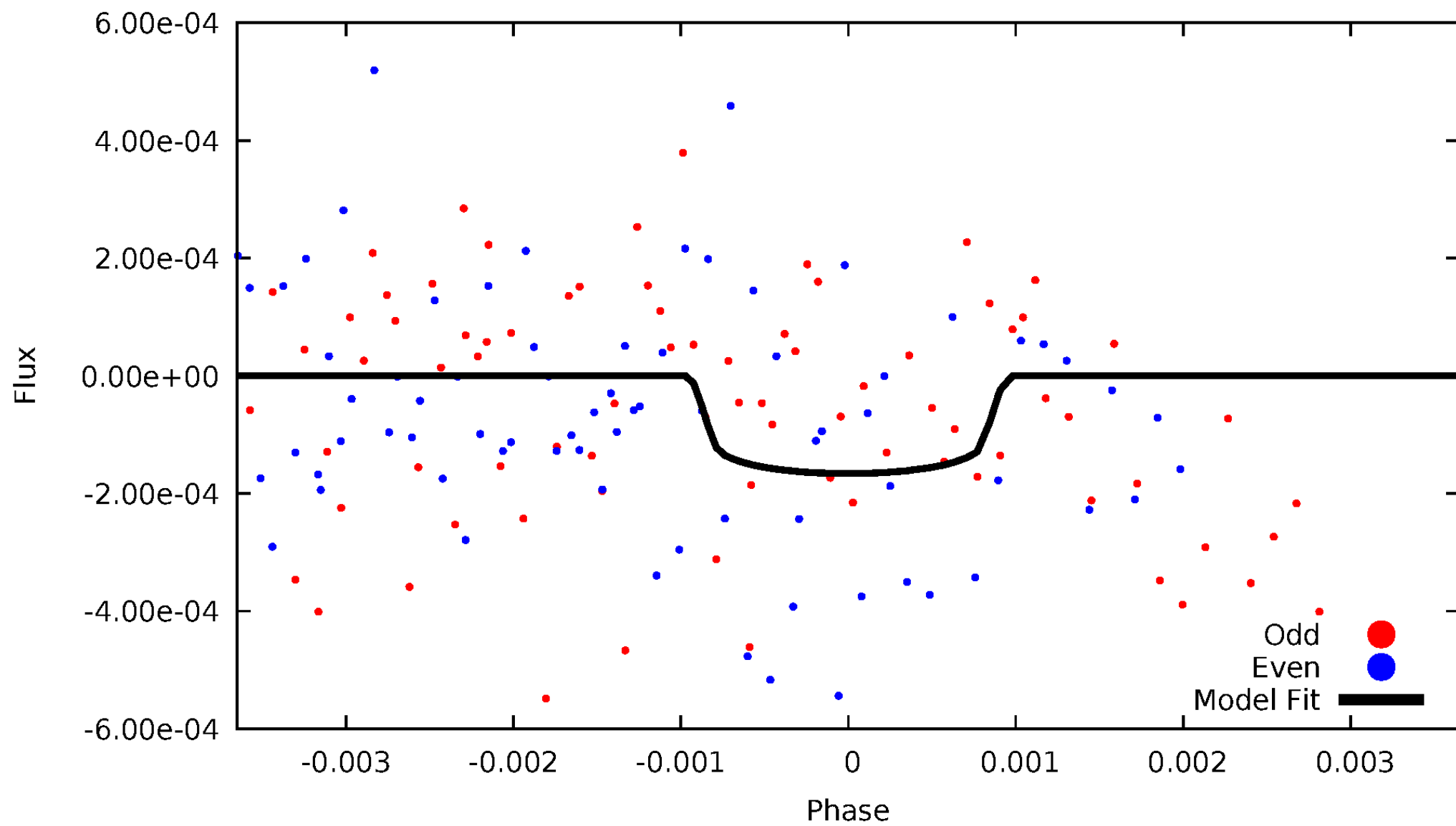


TCE 007368295-02



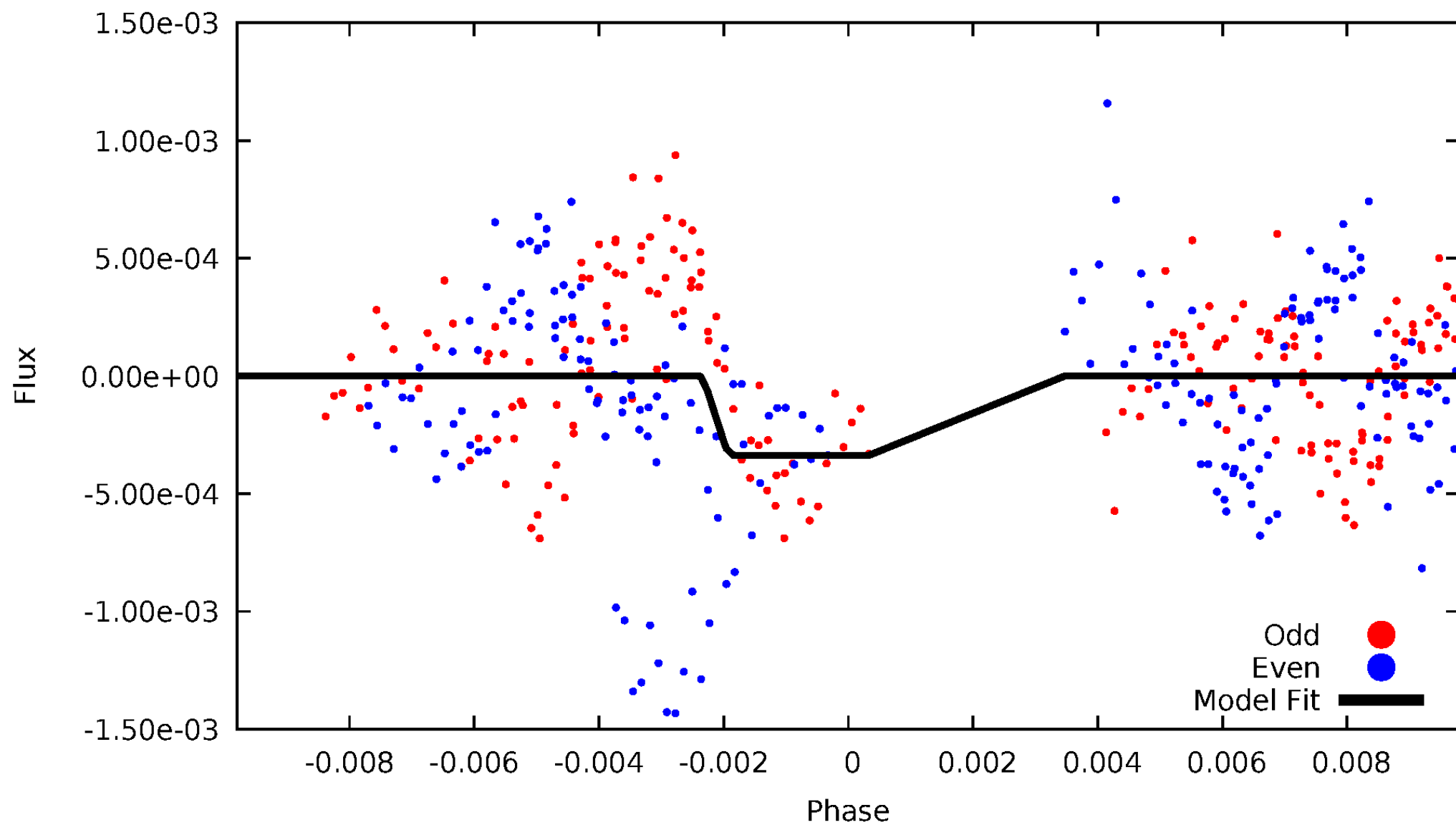
DV Odd/Even

TCE 007368295-02



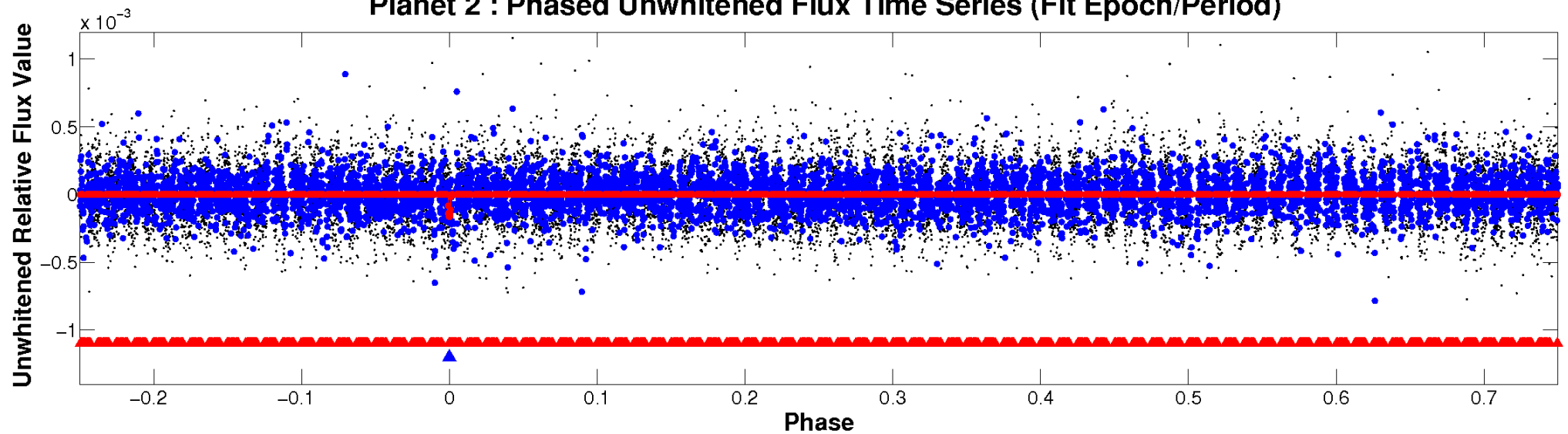
ALT Odd/Even

TCE 007368295-02

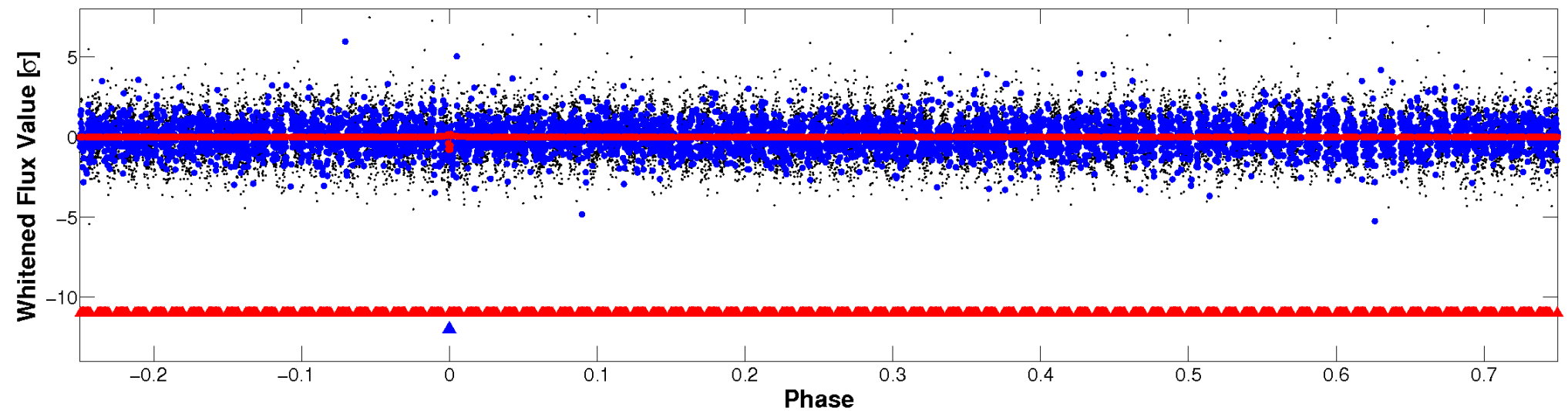


Non-Whitened Vs. Whitened Light Curve

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

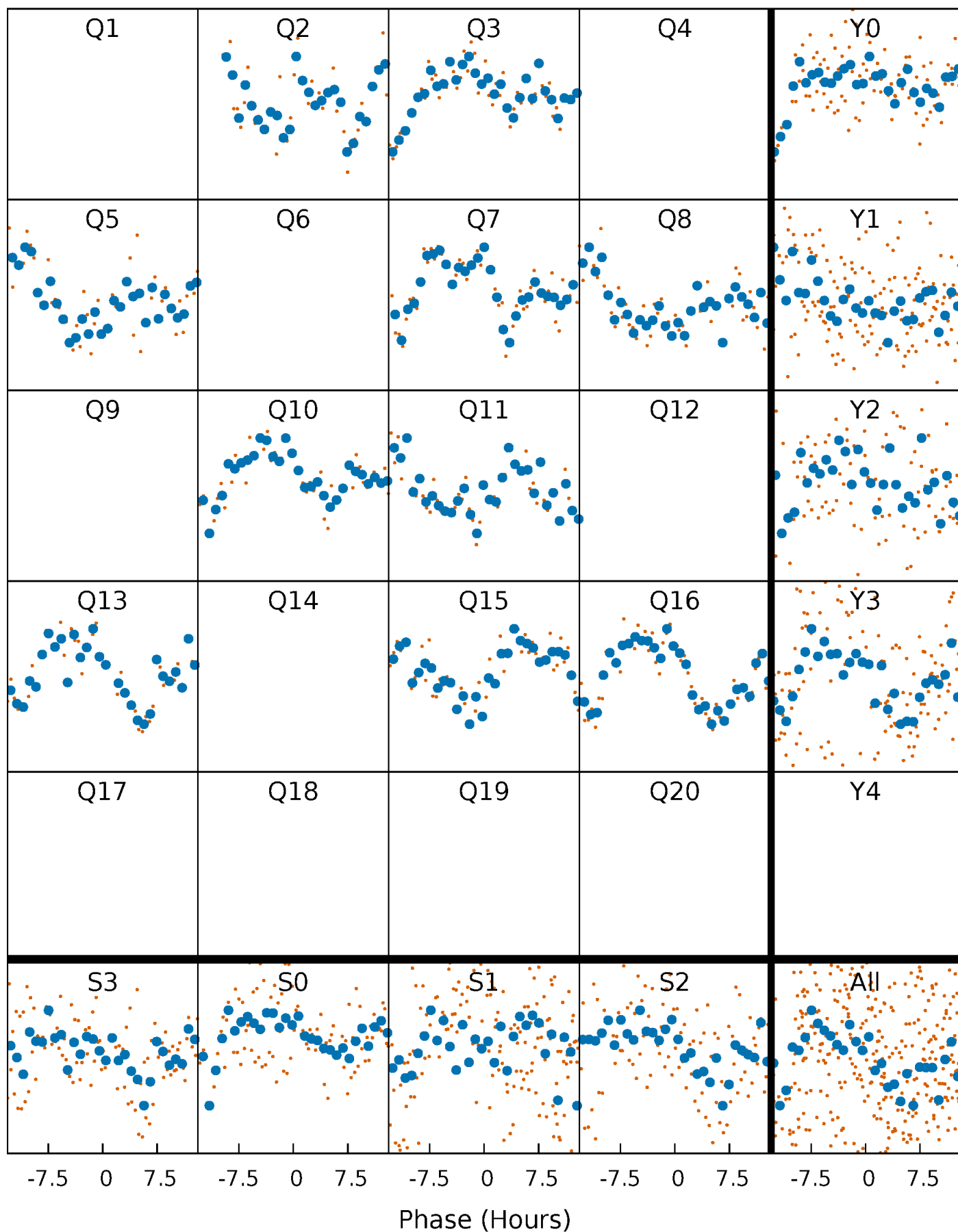


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



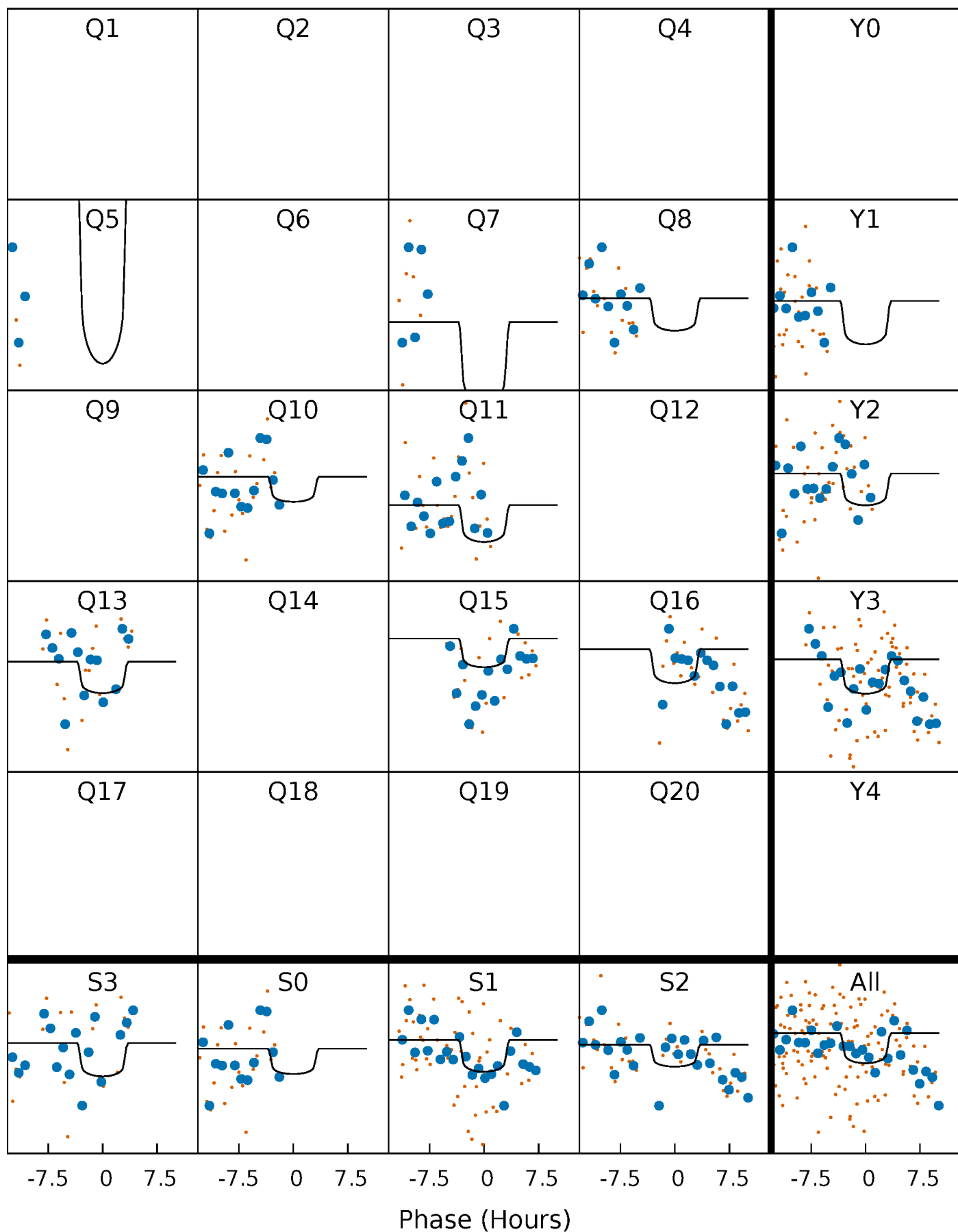
PDC Quarter-Phased Transit Curves

TCE 007368295-02 P=150.160525 Days $T_0=184.125187$ (BKJD)



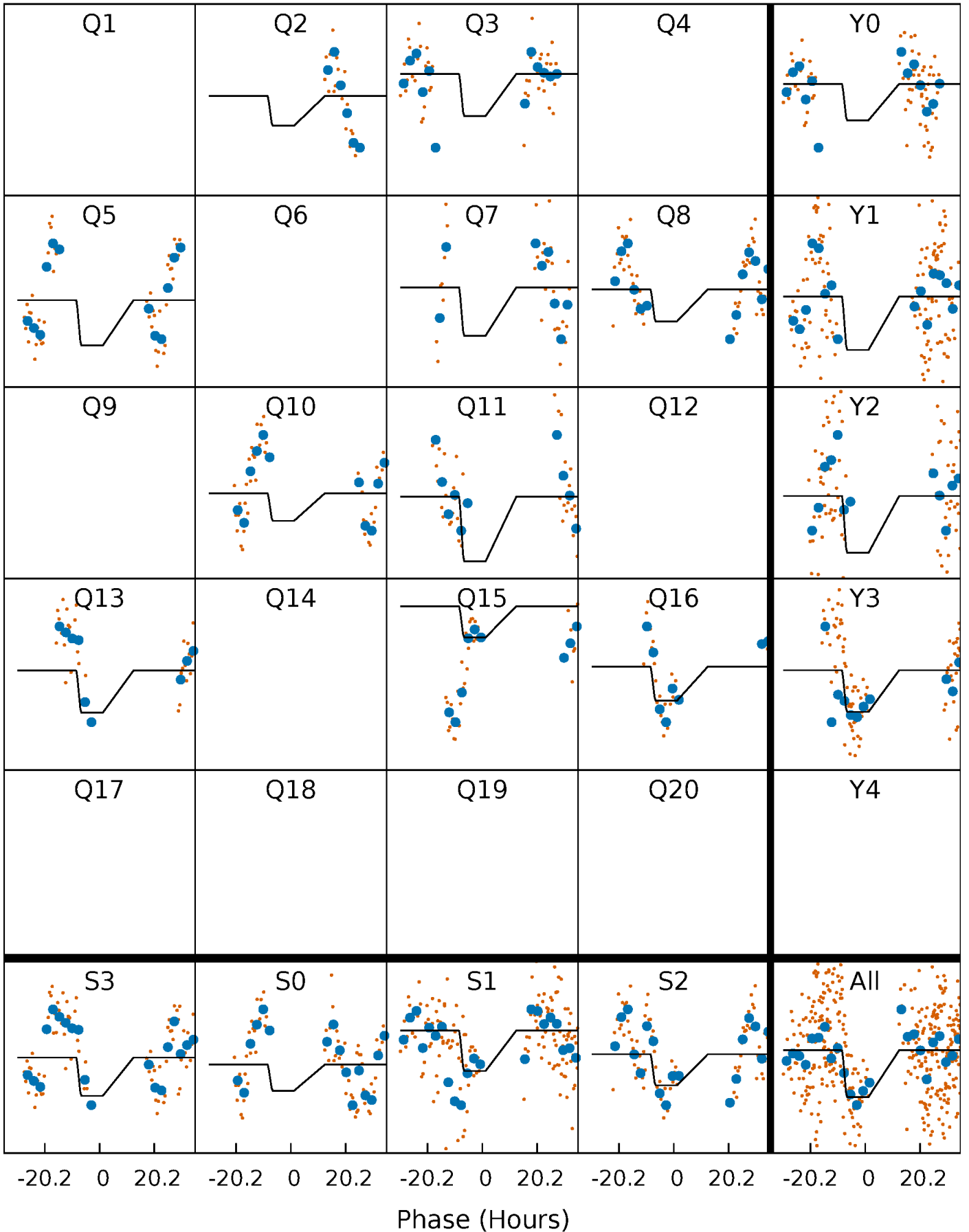
DV Quarter-Phased Transit Curves

TCE 007368295-02 $P=150.160525$ Days $T_0=184.125187$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

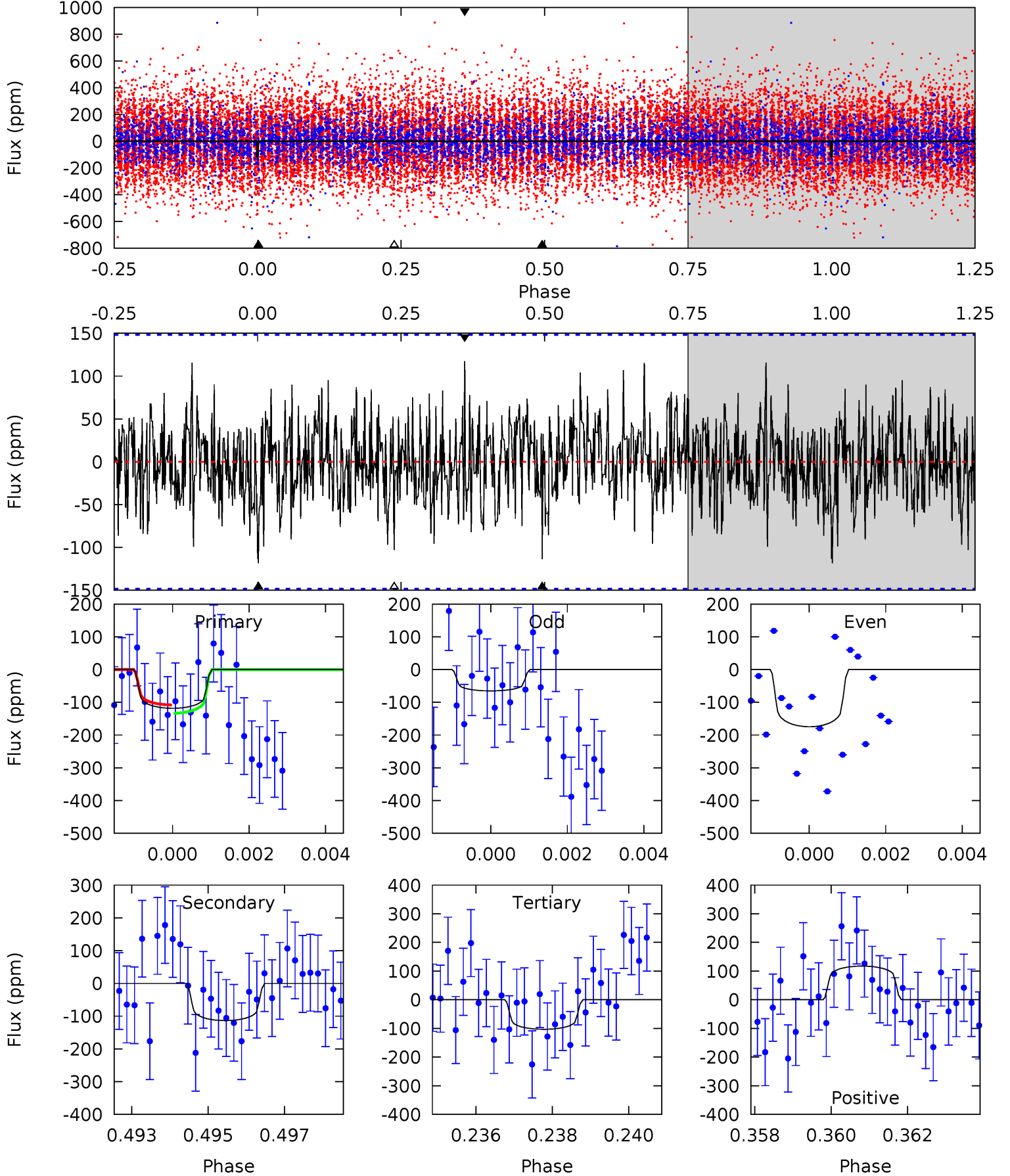
TCE 007368295-02 P=150.186666 Days $T_0=184.262602$ (BKJD)



DV Model-Shift Uniqueness Test

007368295-02, P = 150.160525 Days, E = 33.964662 Days

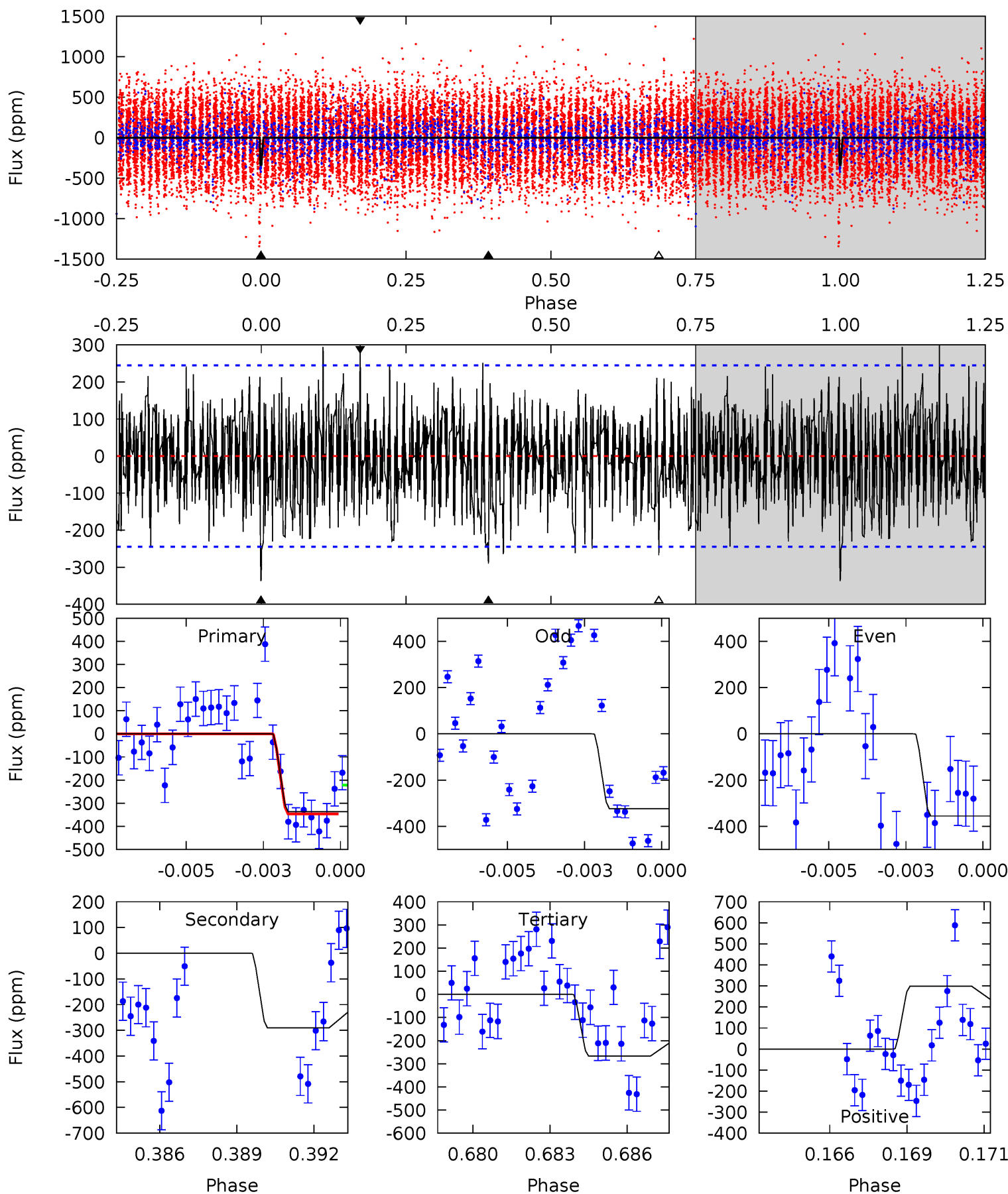
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.26	4.09	3.71	4.23	5.34	3.10	1.25	0.55	0.03	0.38	-0.14	1.97	1.33	0.50	0.46



Alt Model-Shift Uniqueness Test

007368295-02, $P = 150.186666$ Days, $E = 34.075936$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.25	6.25	5.76	6.43	5.27	3.00	1.76	1.49	0.82	0.50	-0.17	0.34	0.91	0.47	0.52



Stellar Parameters For KIC 007368295

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6882^{+189}_{-283}	$4.258^{+0.087}_{-0.203}$	$-0.080^{+0.250}_{-0.350}$	$1.428^{+0.490}_{-0.210}$	$1.351^{+0.204}_{-0.204}$	$0.654^{+0.327}_{-0.347}$
	+3%/-4%	+2%/-5%	+312%/-438%	+34%/-15%	+15%/-15%	+50%/-53%
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 007368295-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-114 ± 28	$2.93^{+2.41}_{-1.92}$	656^{+49}_{-39}	5153^{+4400}_{-1026}	2571^{+21001}_{-1825}
Alt.	-290 ± 46	$3.46^{+2.59}_{-2.11}$	660^{+44}_{-42}	6074^{+4341}_{-1344}	4963^{+24580}_{-3383}

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 $A_{obs} \gg 1.0$

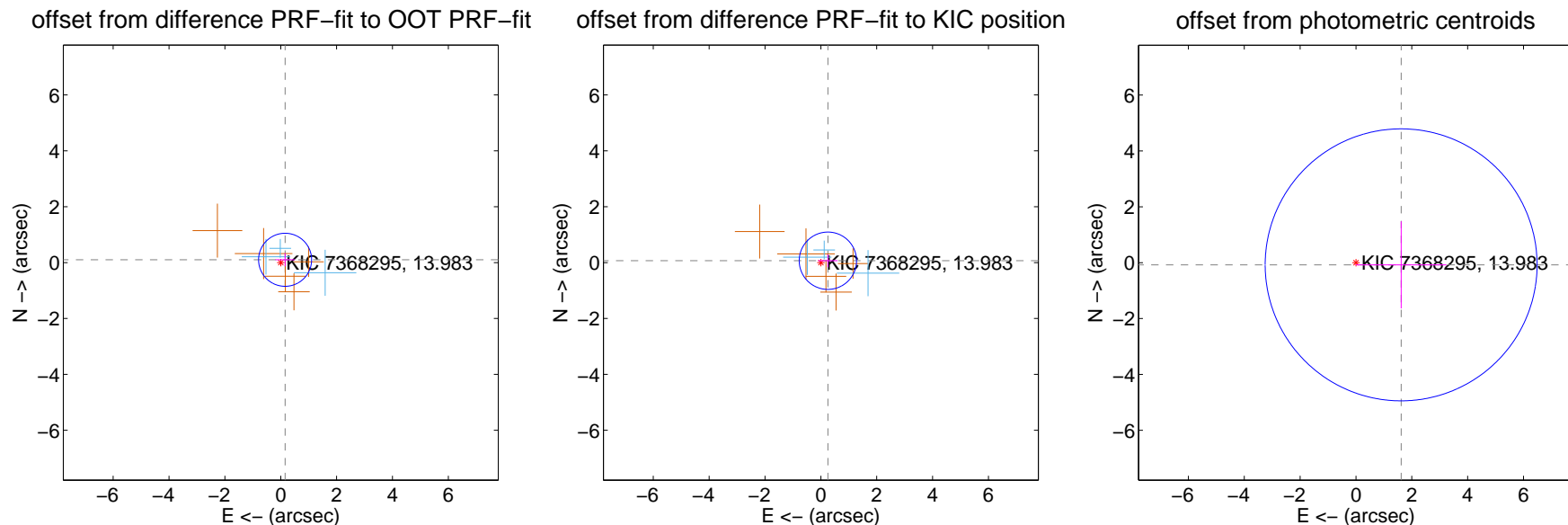
DV Centroid Data

Supplemental centroid analysis for 007368295-02. Kepler magnitude: 13.98. Transit SNR 4.92

There are 3 quarters with good PRF difference image offsets

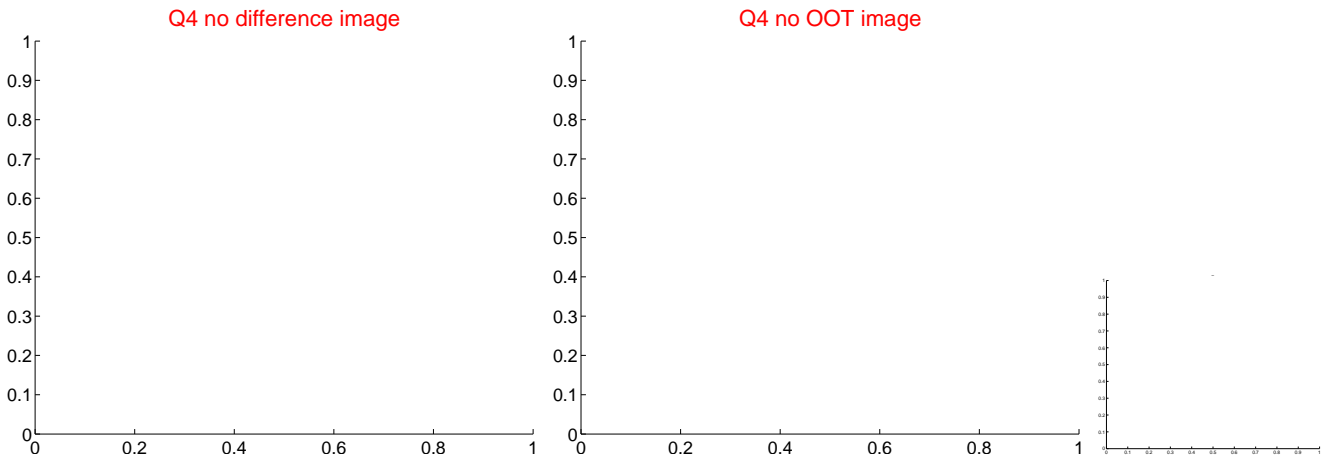
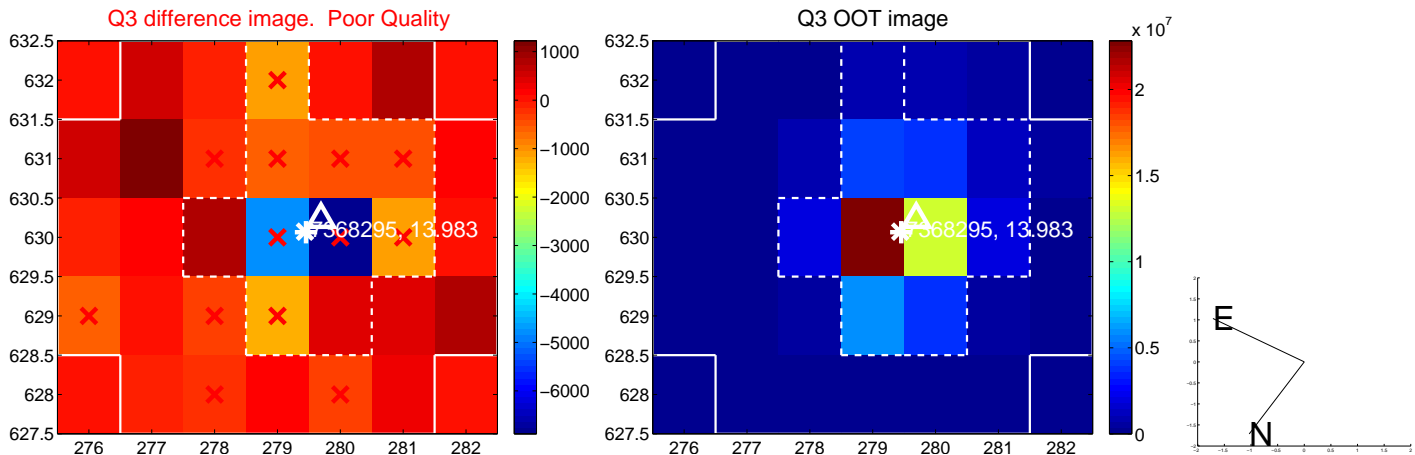
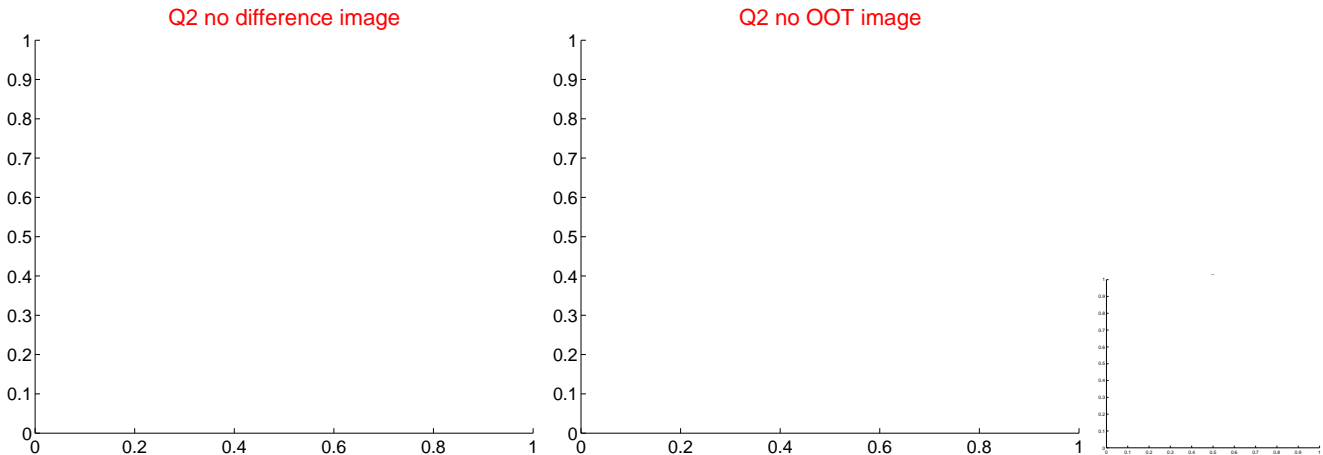
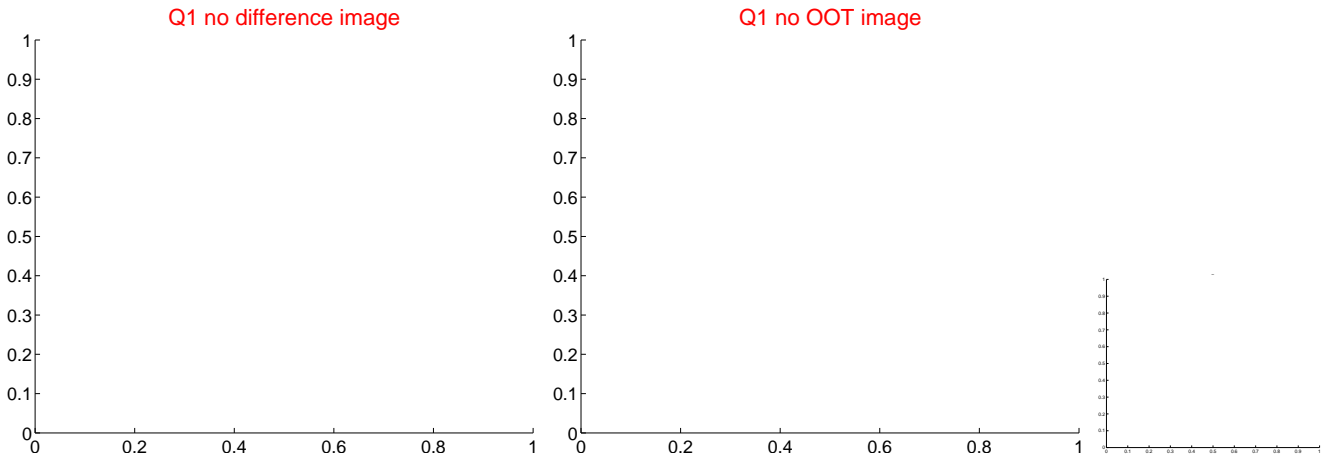
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.185 ± 0.316	0.59	-0.156 ± 0.345	0.100 ± 0.235
PRF-fit source offset from KIC position	0.260 ± 0.342	0.76	-0.252 ± 0.349	0.066 ± 0.230
photometric centroid source offset	1.62 ± 1.62	1.00	-1.62 ± 1.62	-0.08 ± 1.56

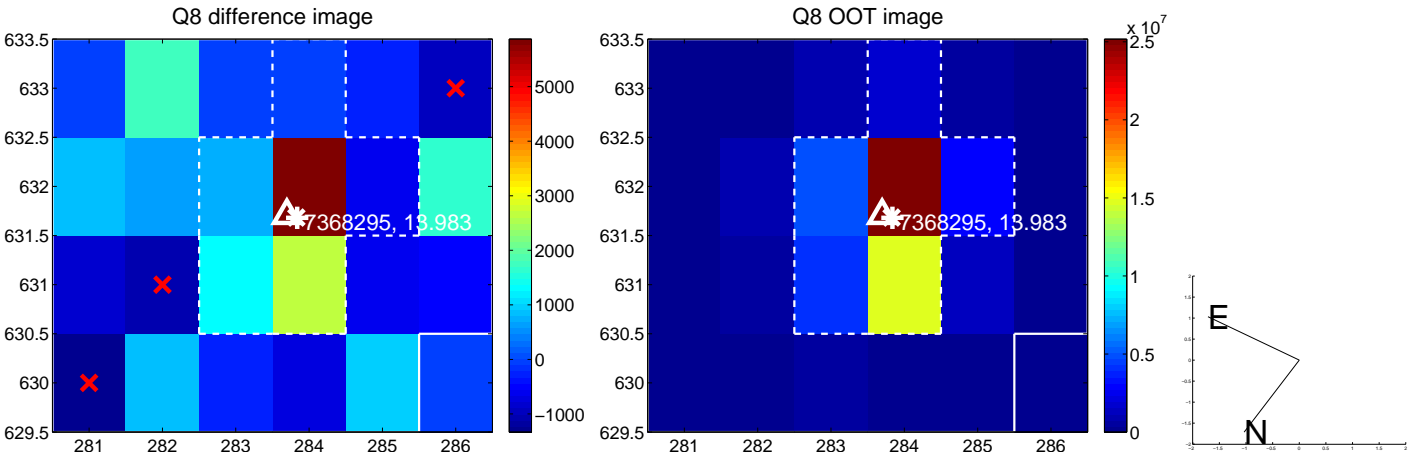
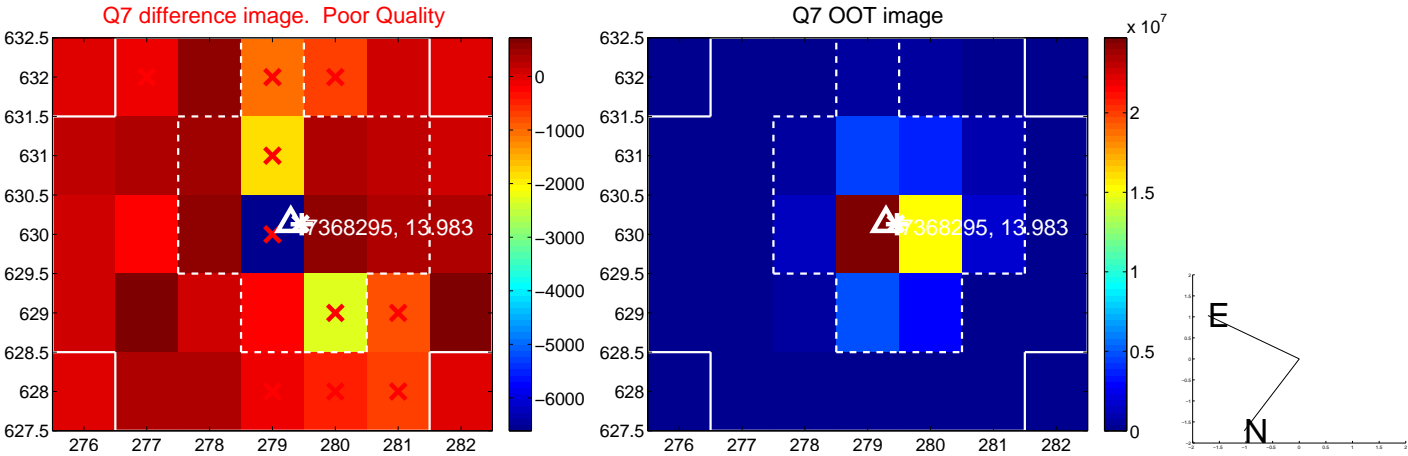
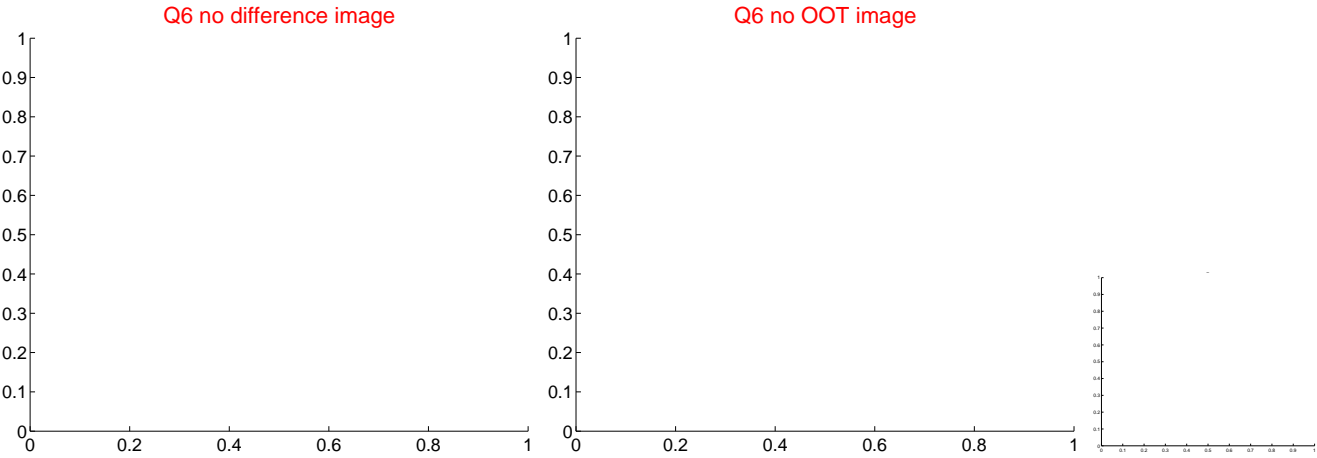
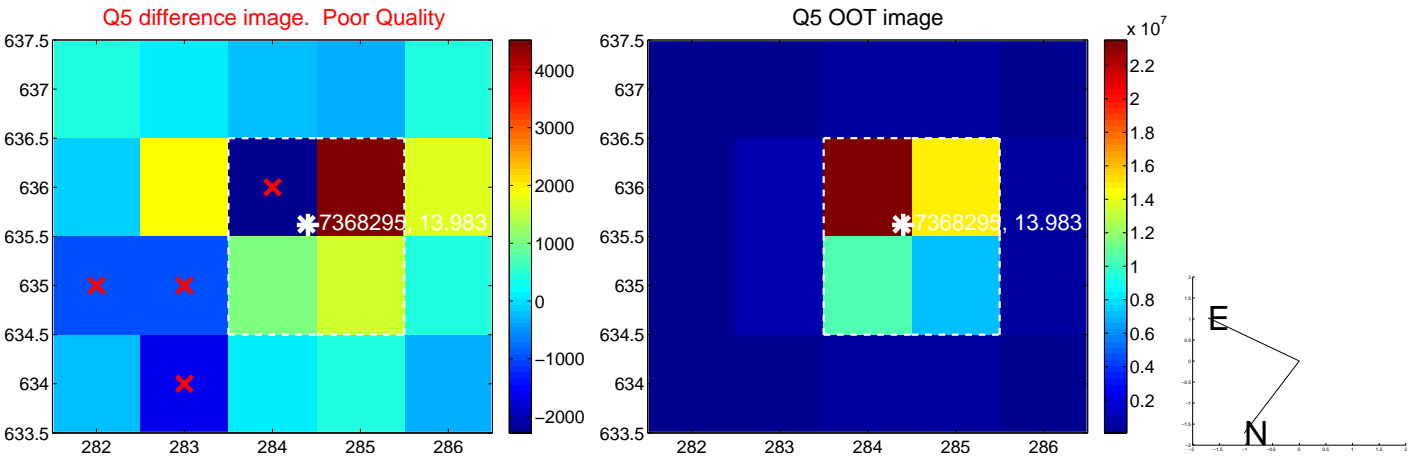


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

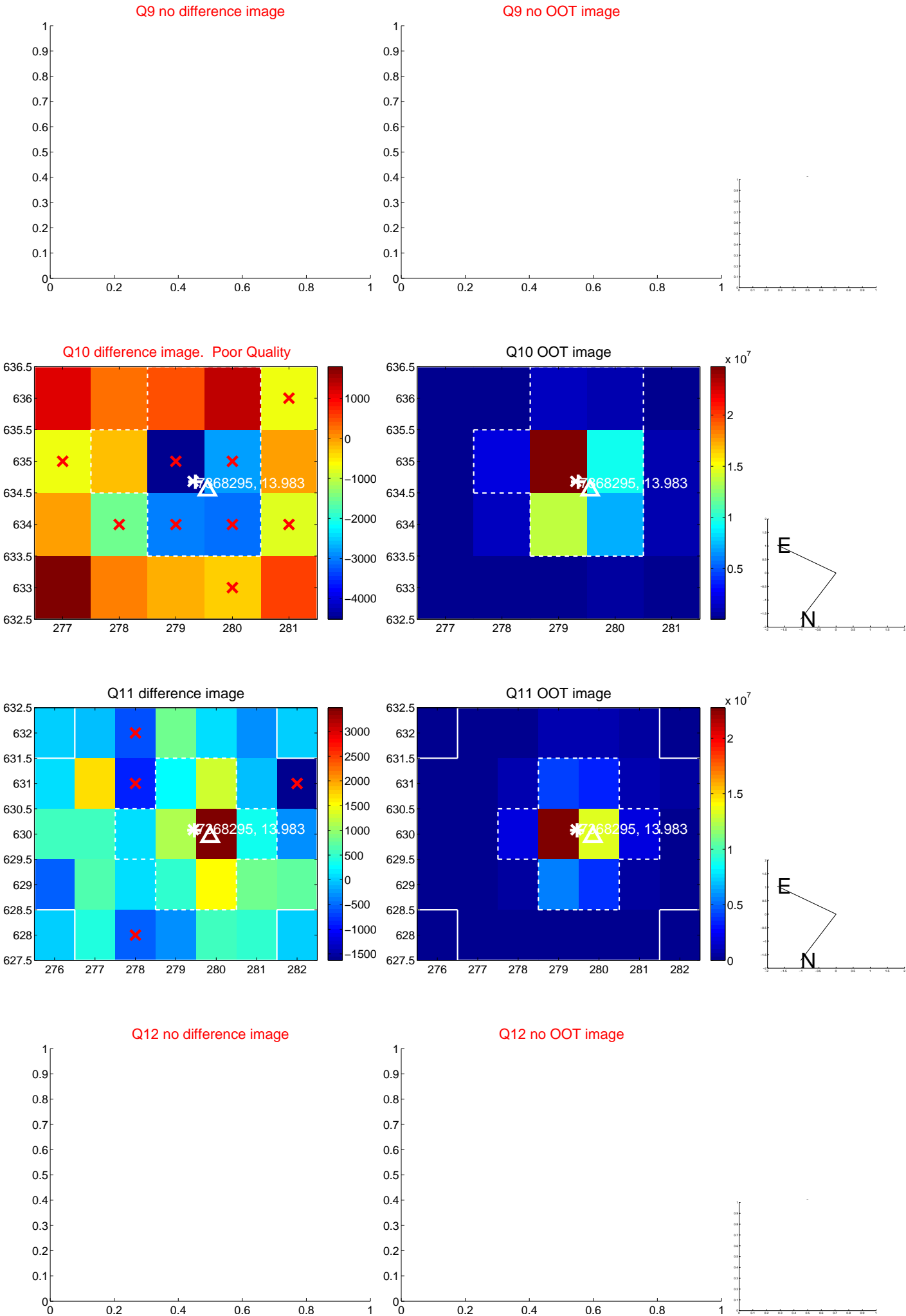
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



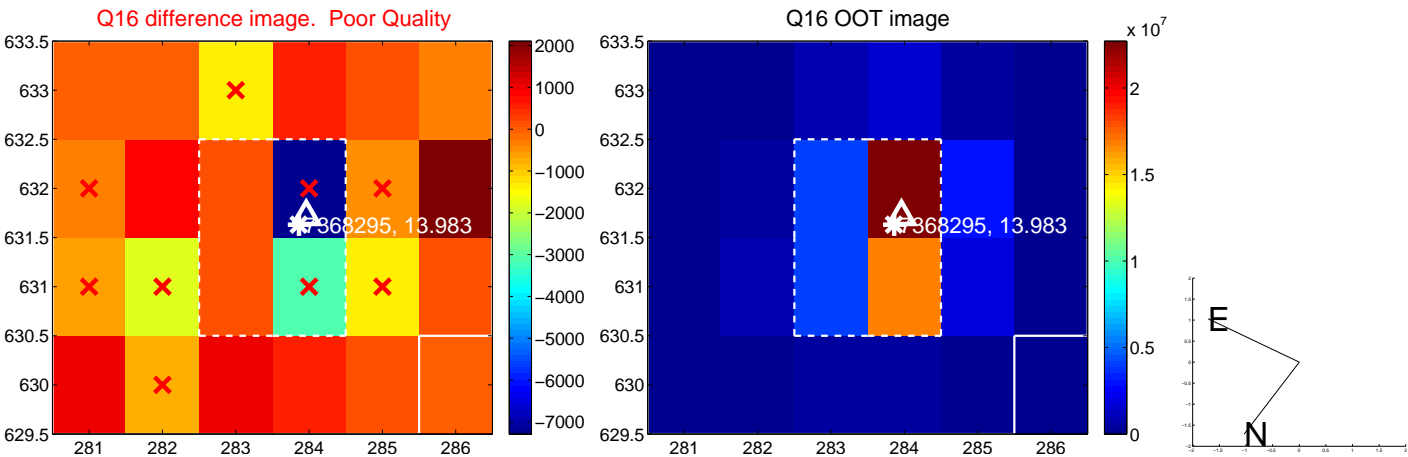
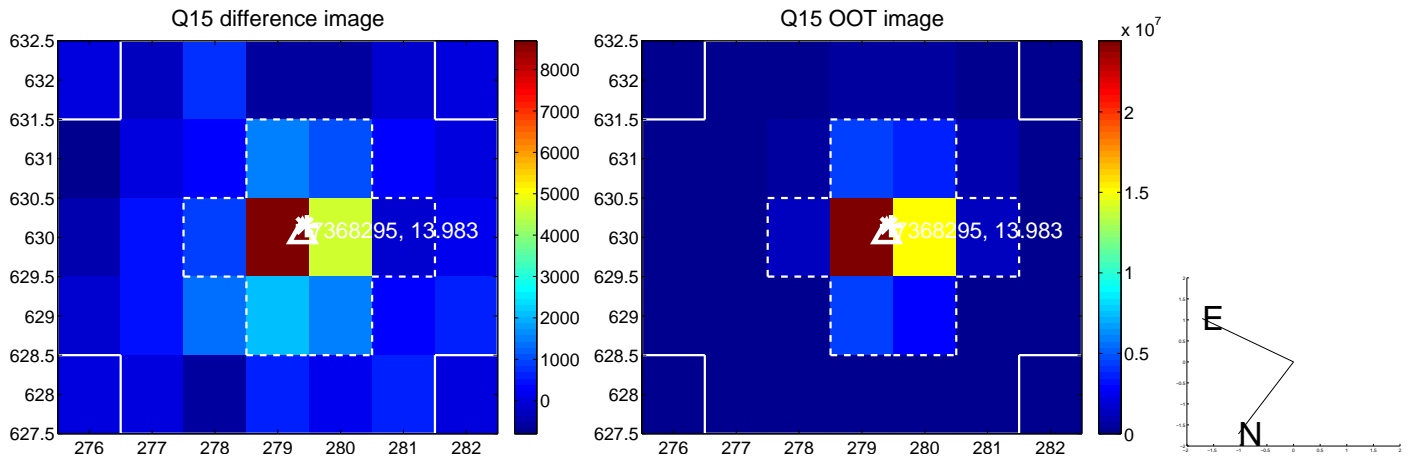
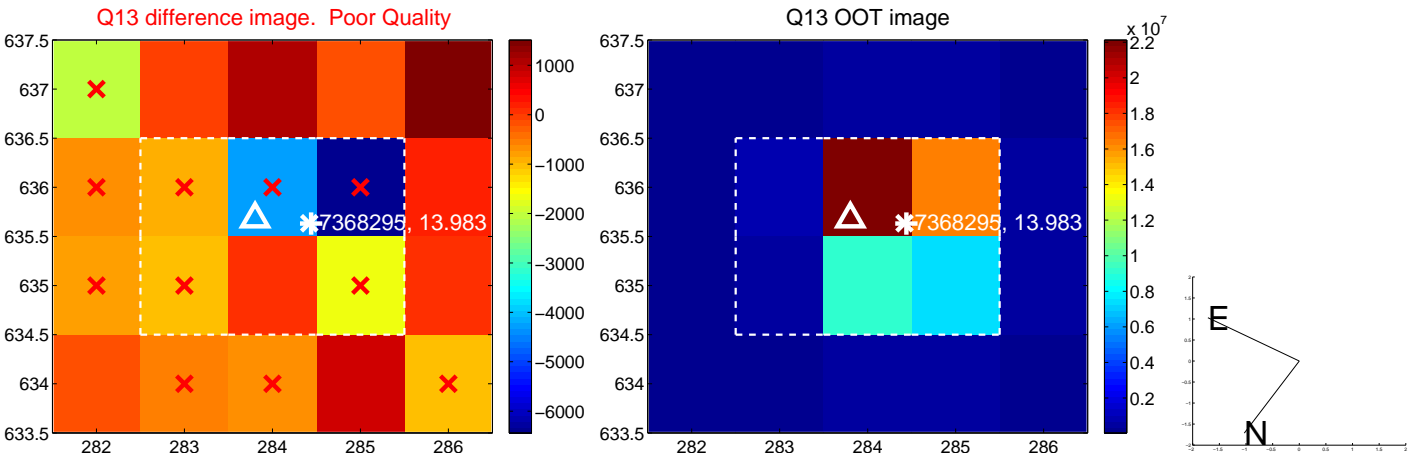
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



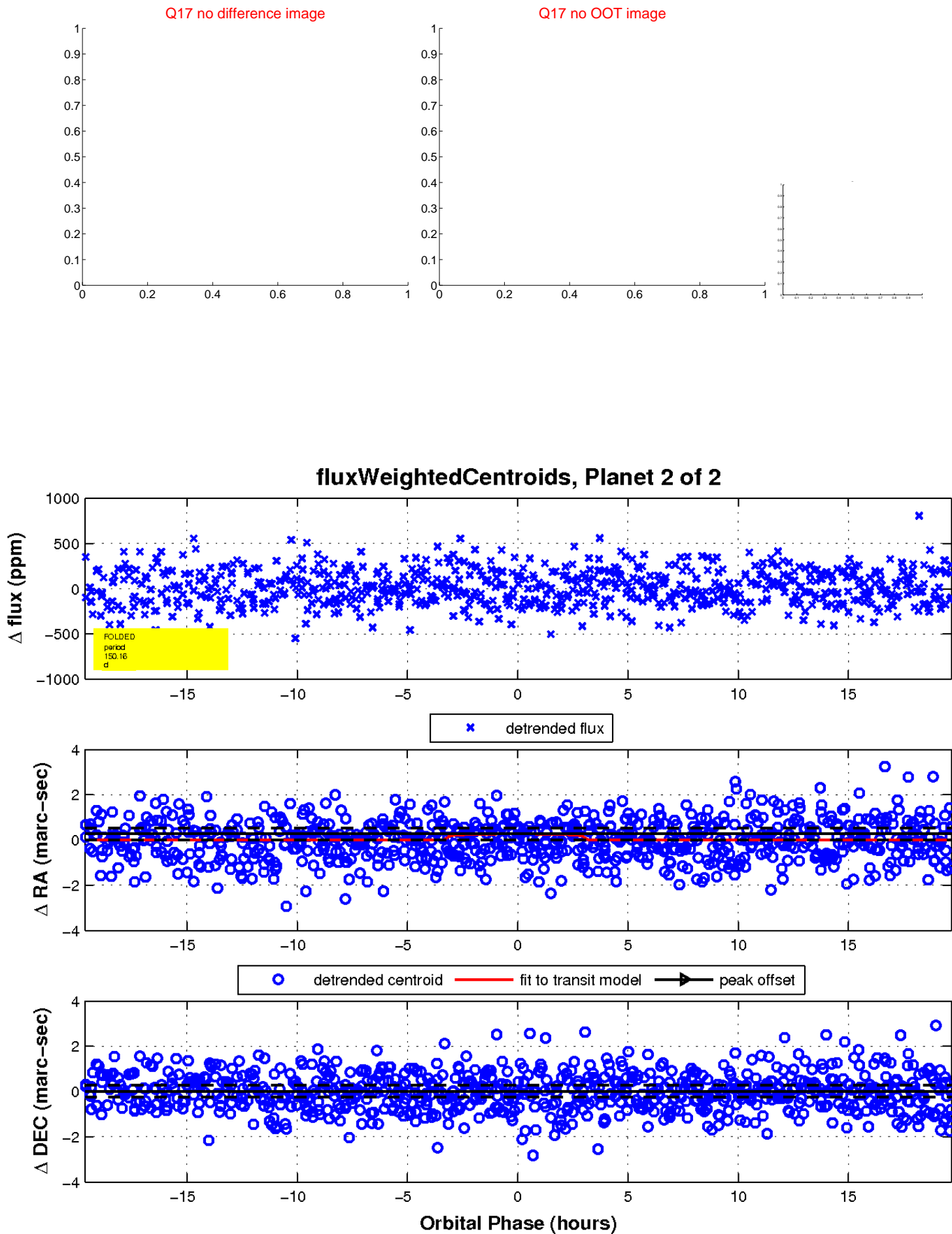
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

