

KIC 005881704

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})
005881704-01	OBS	No	3.588719	132.524658	87.3	13.648	8.0	8.4	0.95	6075	1.02	513.95
005881704-02	OBS	No	380.138429	458.249475	1222.1	13.235	7.9	8.5	0.95	6075	3.58	1.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005881704-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
005881704-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_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.

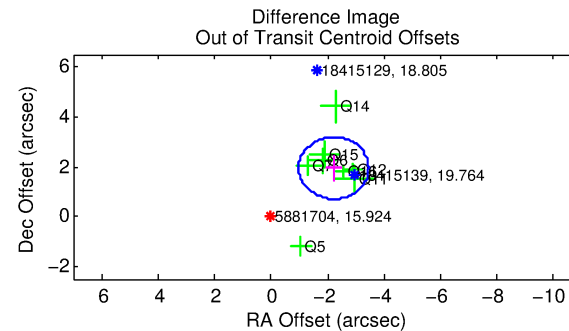
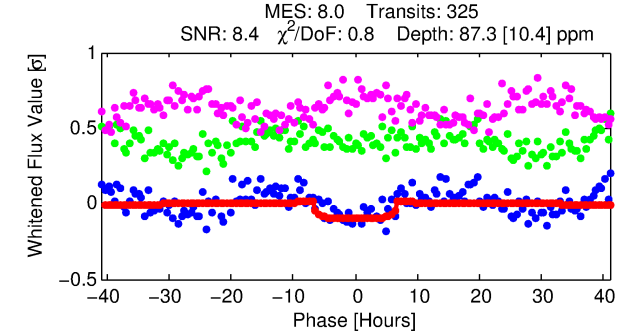
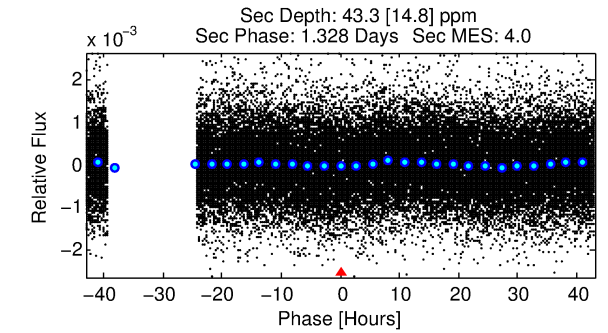
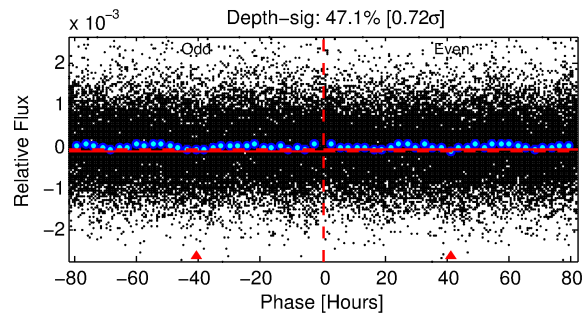
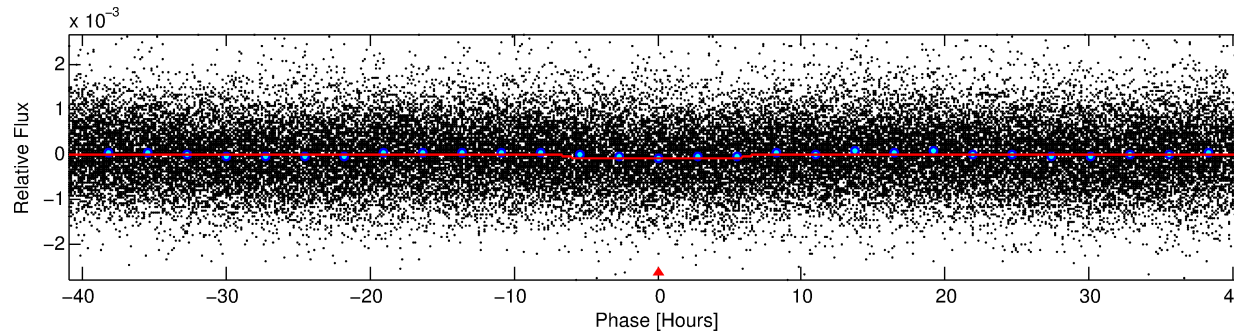
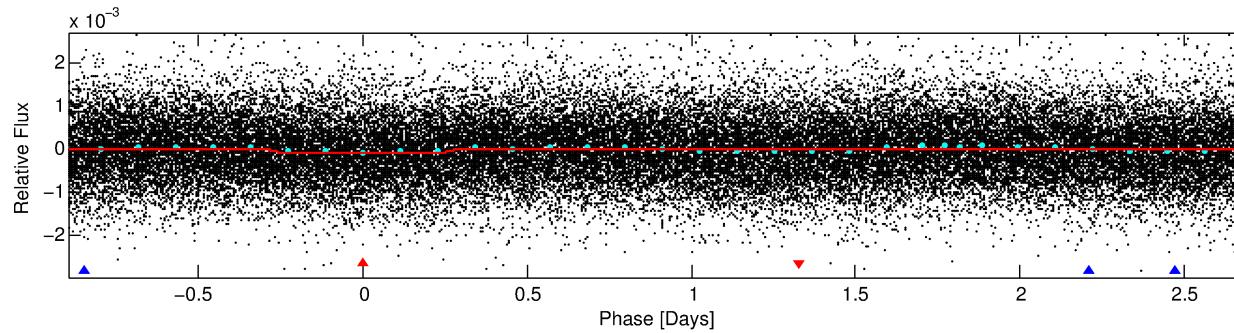
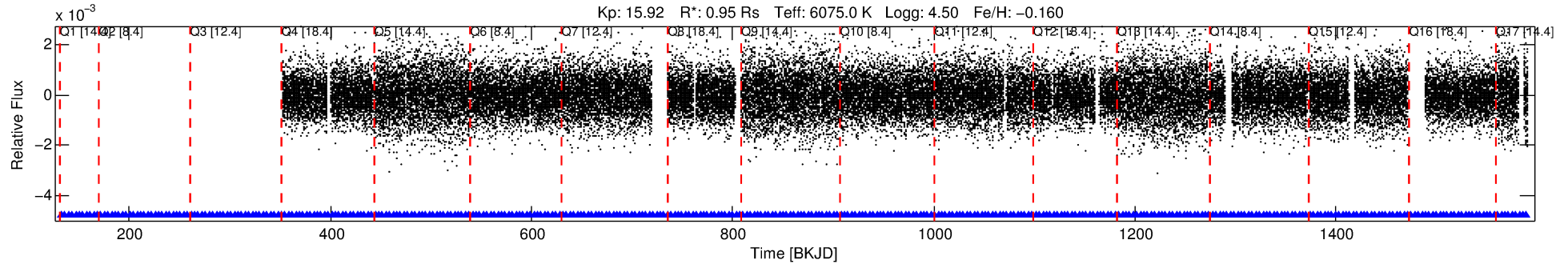
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005881704-01

No Significant Match Found

DV One-Page Summary

KIC: 5881704 Candidate: 1 of 2 Period: 3.589 d



DV Fit Results:

Period = 3.58872 [0.00008] d
Epoch = 132.5247 [0.0172] BKJD
Rp/R* = 0.0098 [0.0027]
a/R* = 1.38 [0.93]
b = 0.87 [0.40]
Seff = 513.95 [196.57]
Teq = 1214 [116] K
Rp = 1.02 [0.40] Re
a = 0.0464 [0.0112] AU
Ag = 49.14 [36.09] [1.33σ]
Teffp = 4970 [823] K [4.52σ]

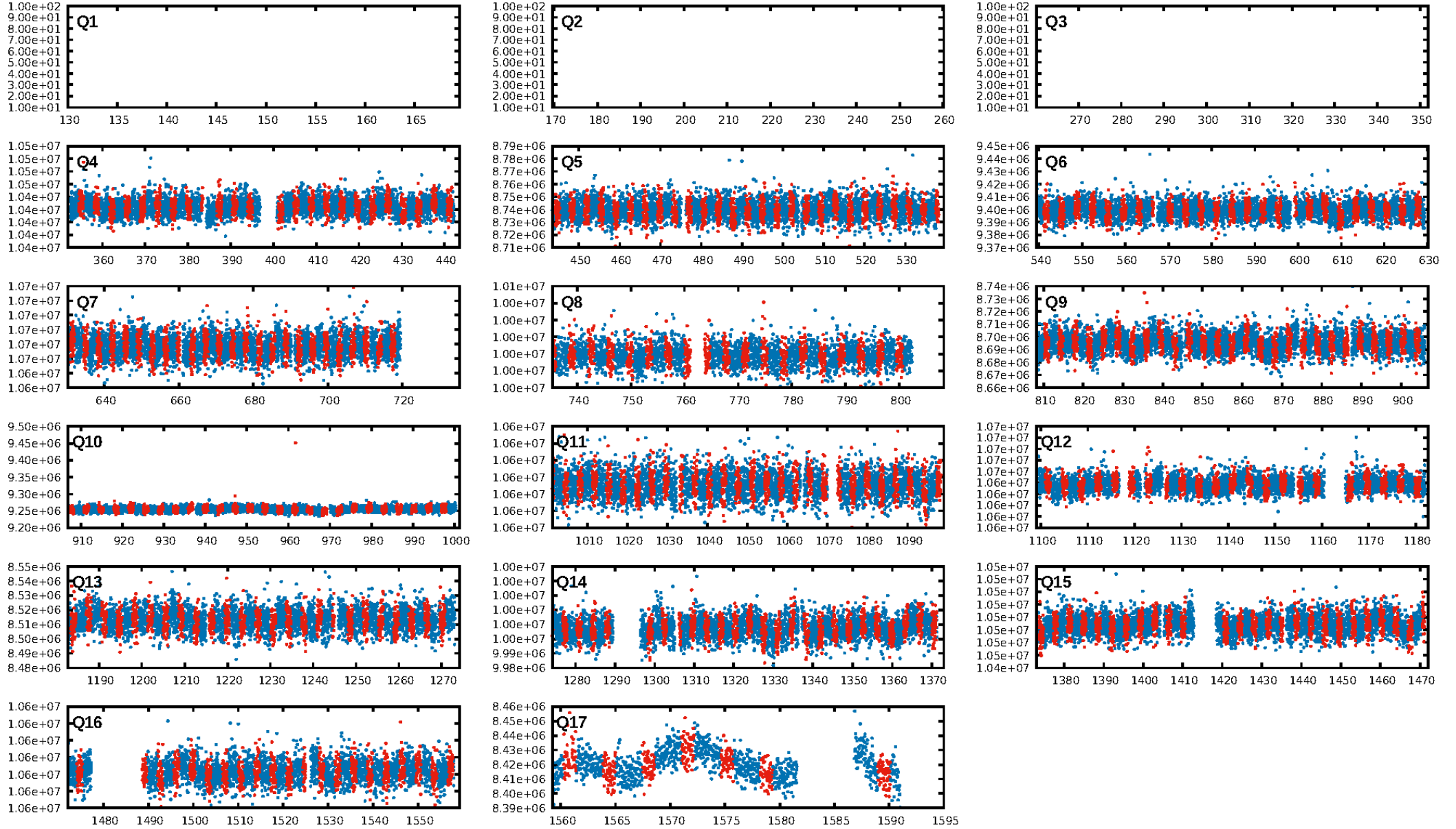
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [475.36σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.08e-16
RollingBand-fgt: 1.00 [318/318]
GhostDiagnostic-chr: 1.024
Centroid-sig: 0.0%
Centroid-so: 2.200 arcsec [2.01σ]
OotOffset-rm: 2.948 arcsec [7.13σ]
KicOffset-rm: 2.955 arcsec [5.46σ]
OotOffset-st: 2/3/2/1 [8]
KicOffset-st: 2/3/2/1 [8]
DiffImageQuality-fgm: 0.50 [4/8]
DiffImageOverlap-fno: 1.00 [14/14]

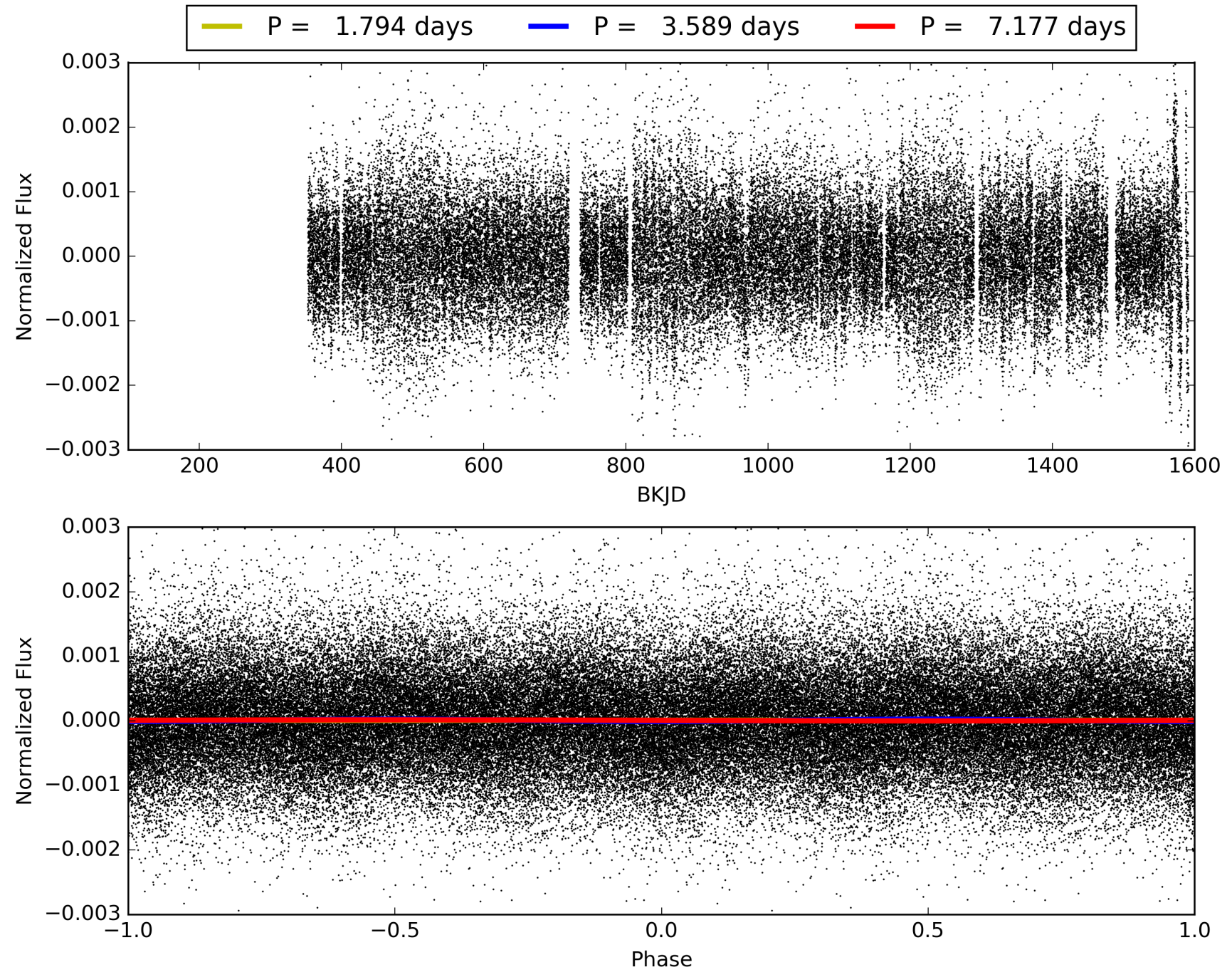
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:39:54 Z

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

TCE 005881704-01, PDC Light Curves

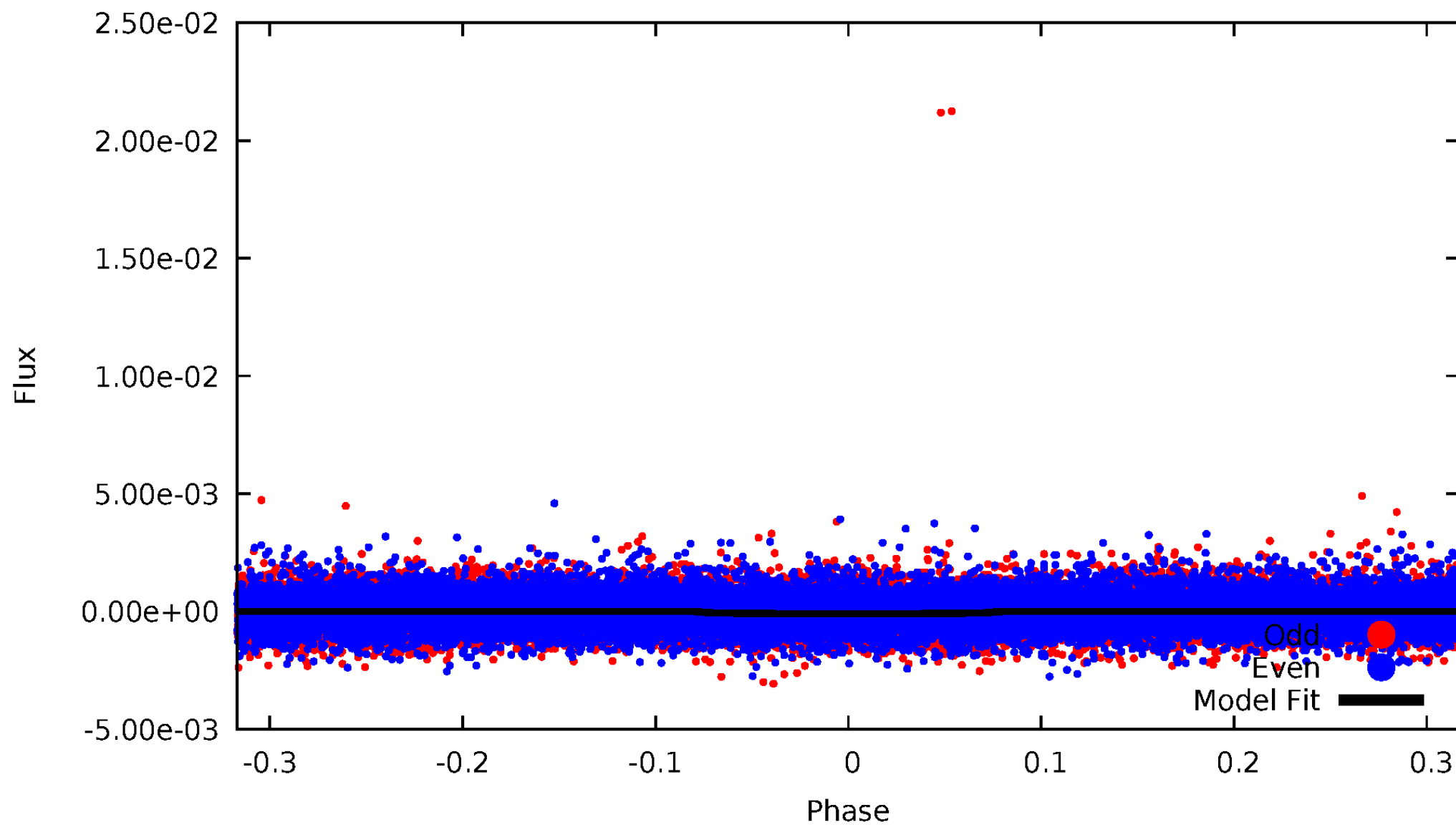


TCE 005881704-01



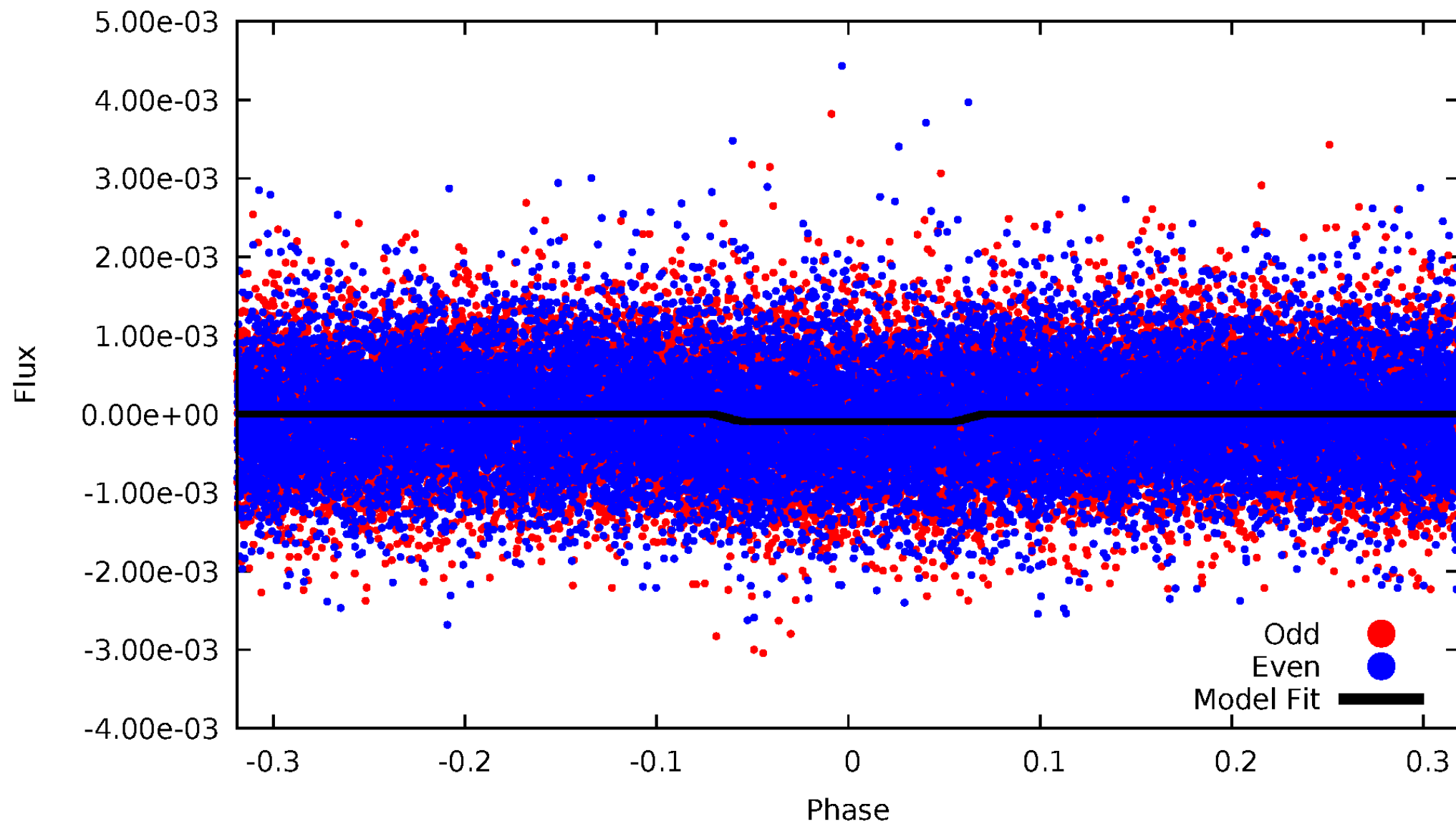
DV Odd/Even

TCE 005881704-01

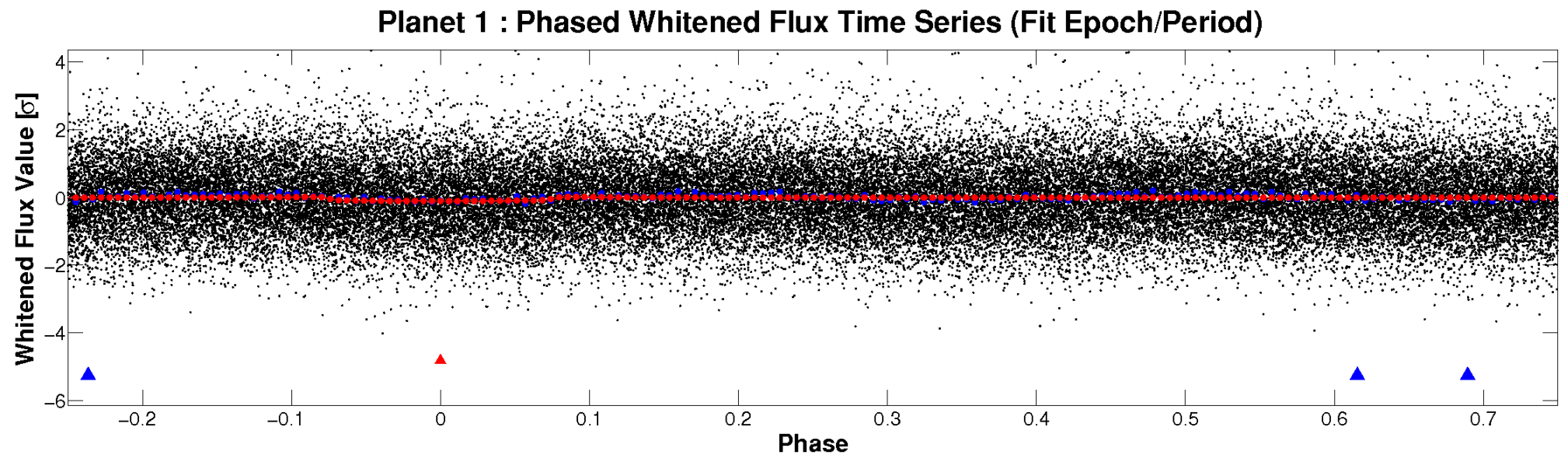
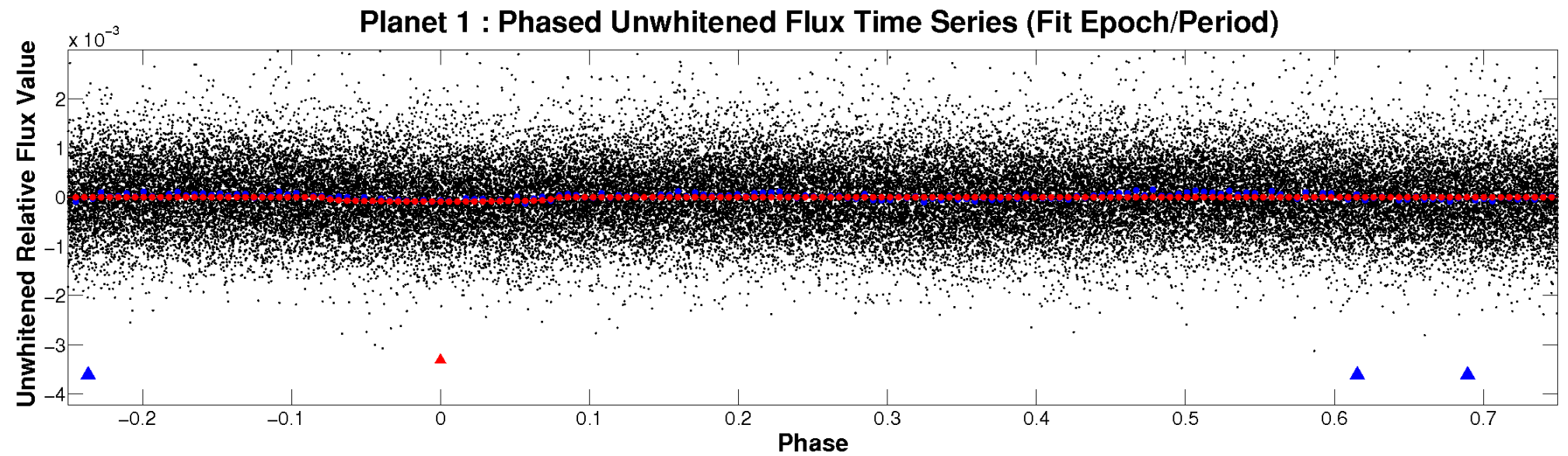


ALT Odd/Even

TCE 005881704-01

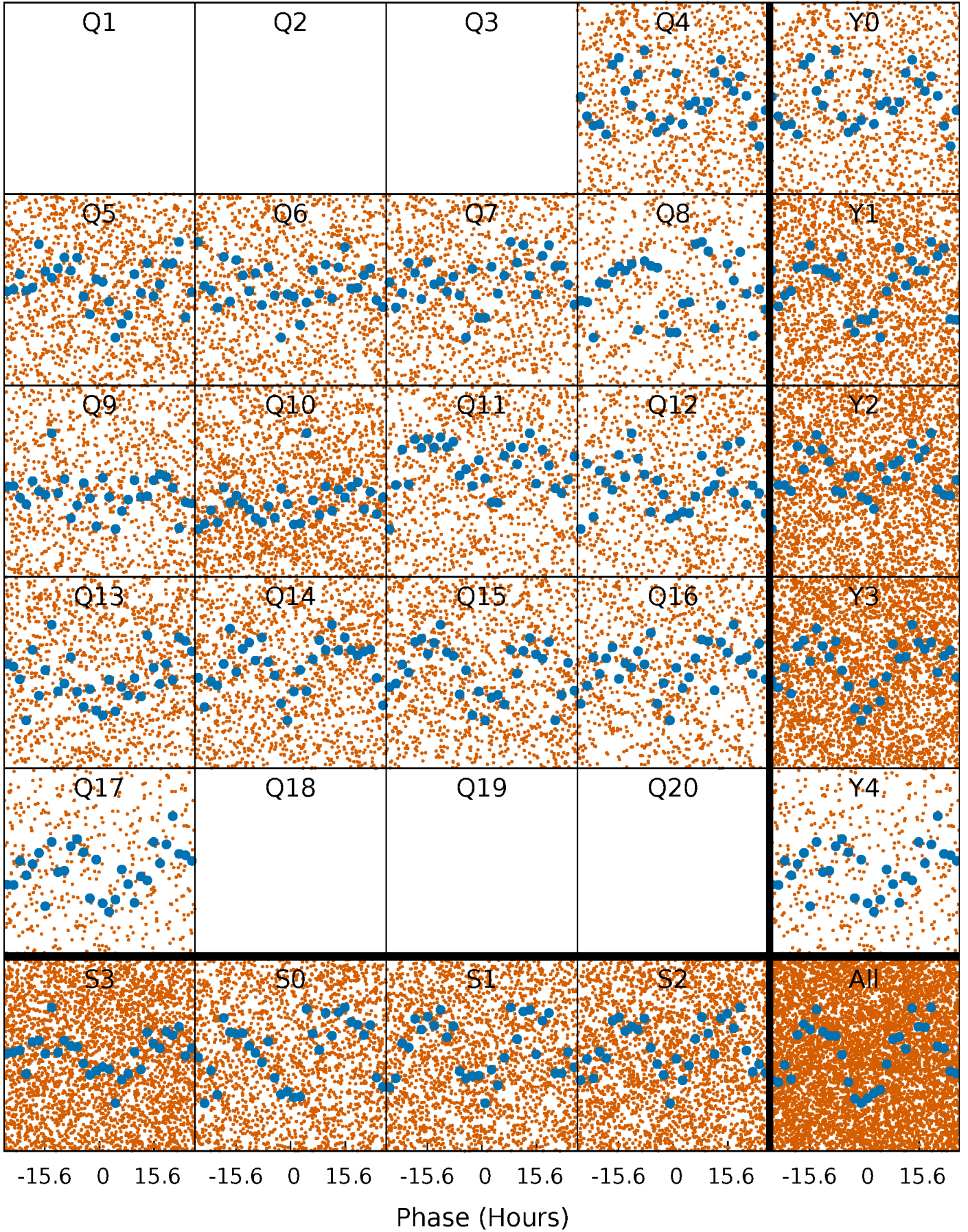


Non-Whitened Vs. Whitened Light Curve



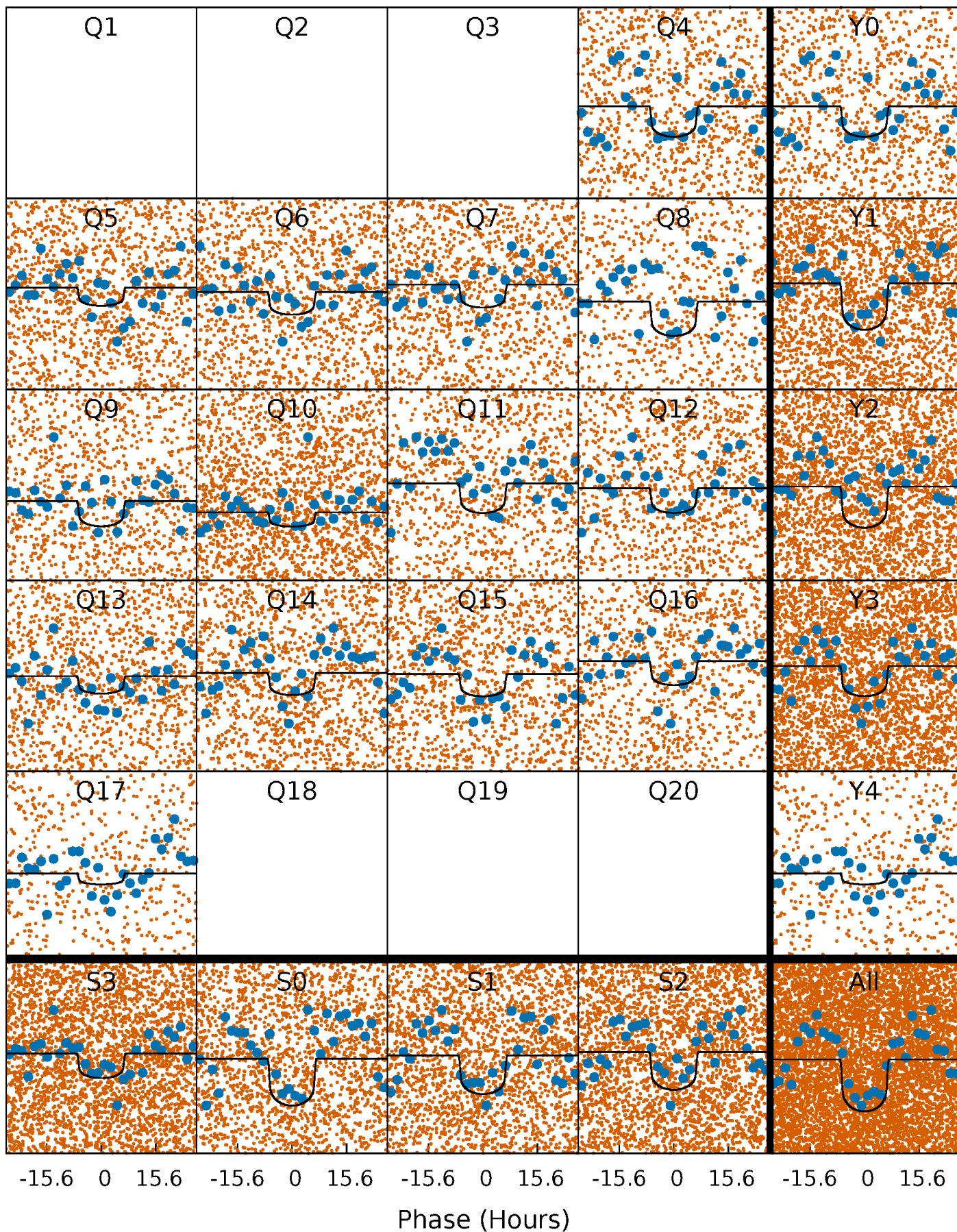
PDC Quarter-Phased Transit Curves

TCE 005881704-01 P= 3.588719 Days $T_0=132.524658$ (BKJD)



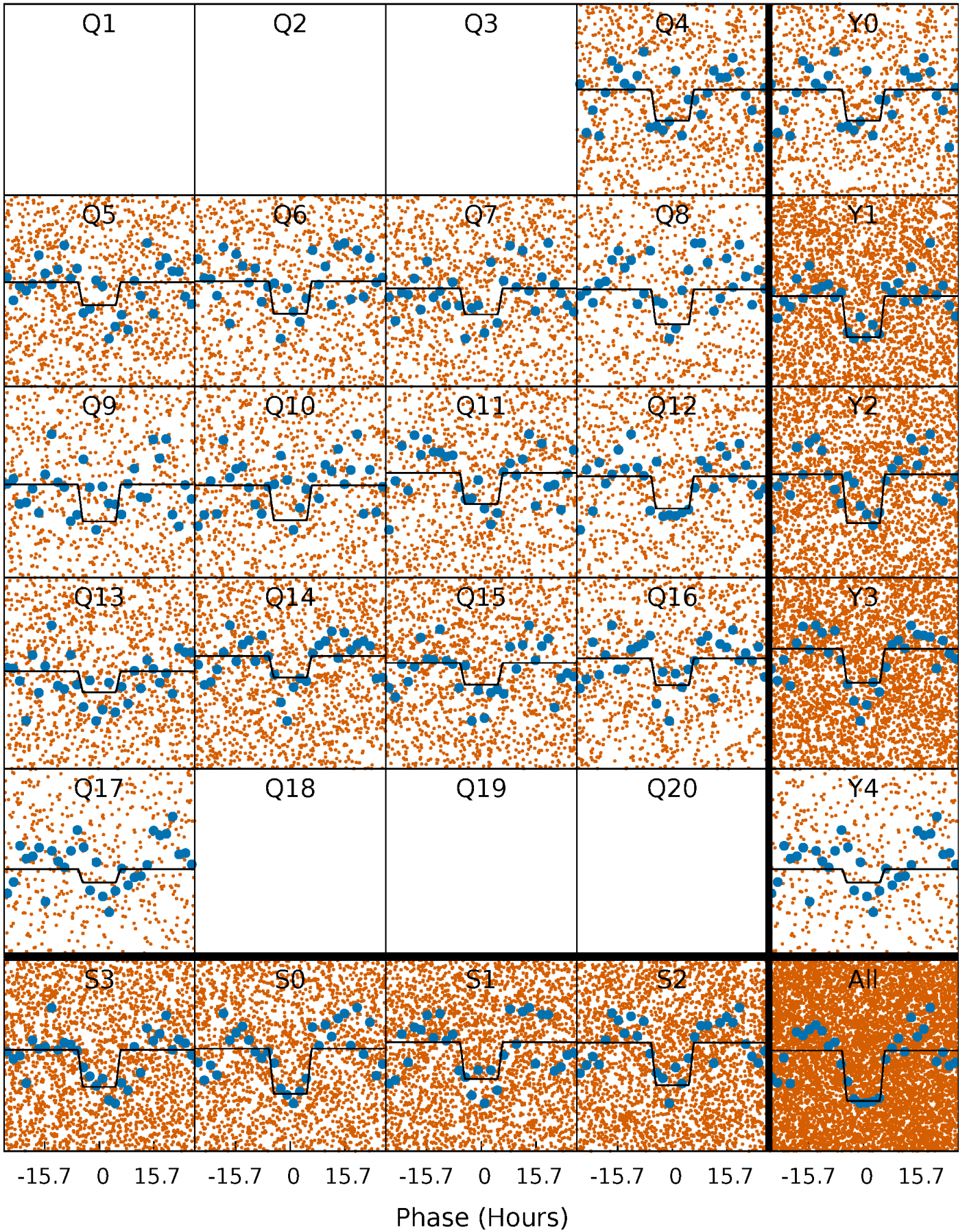
DV Quarter-Phased Transit Curves

TCE 005881704-01 P= 3.588719 Days $T_0=132.524658$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

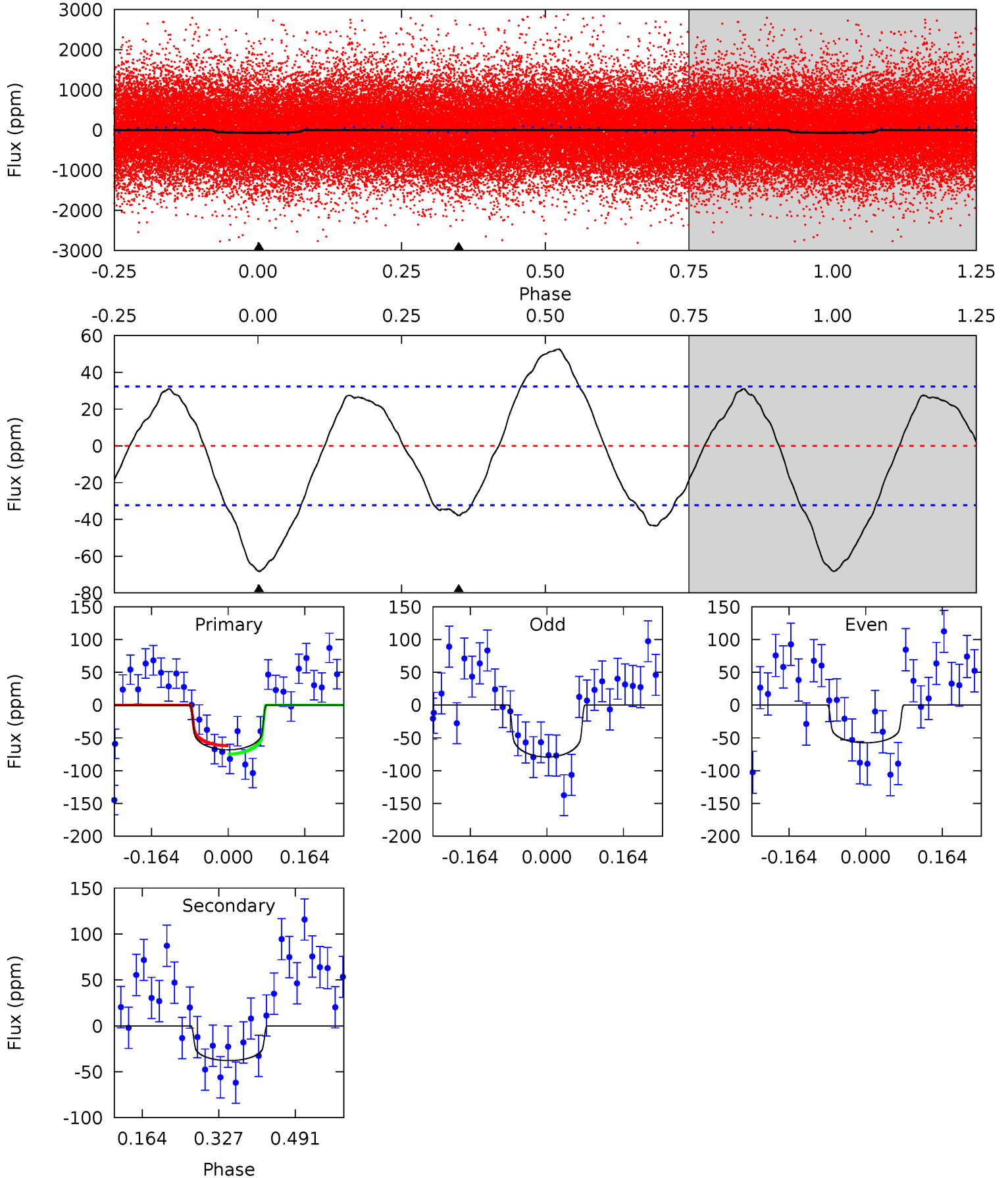
TCE 005881704-01 P= 3.588644 Days $T_0=132.551394$ (BKJD)



DV Model-Shift Uniqueness Test

005881704-01, P = 3.588719 Days, E = 132.524658 Days

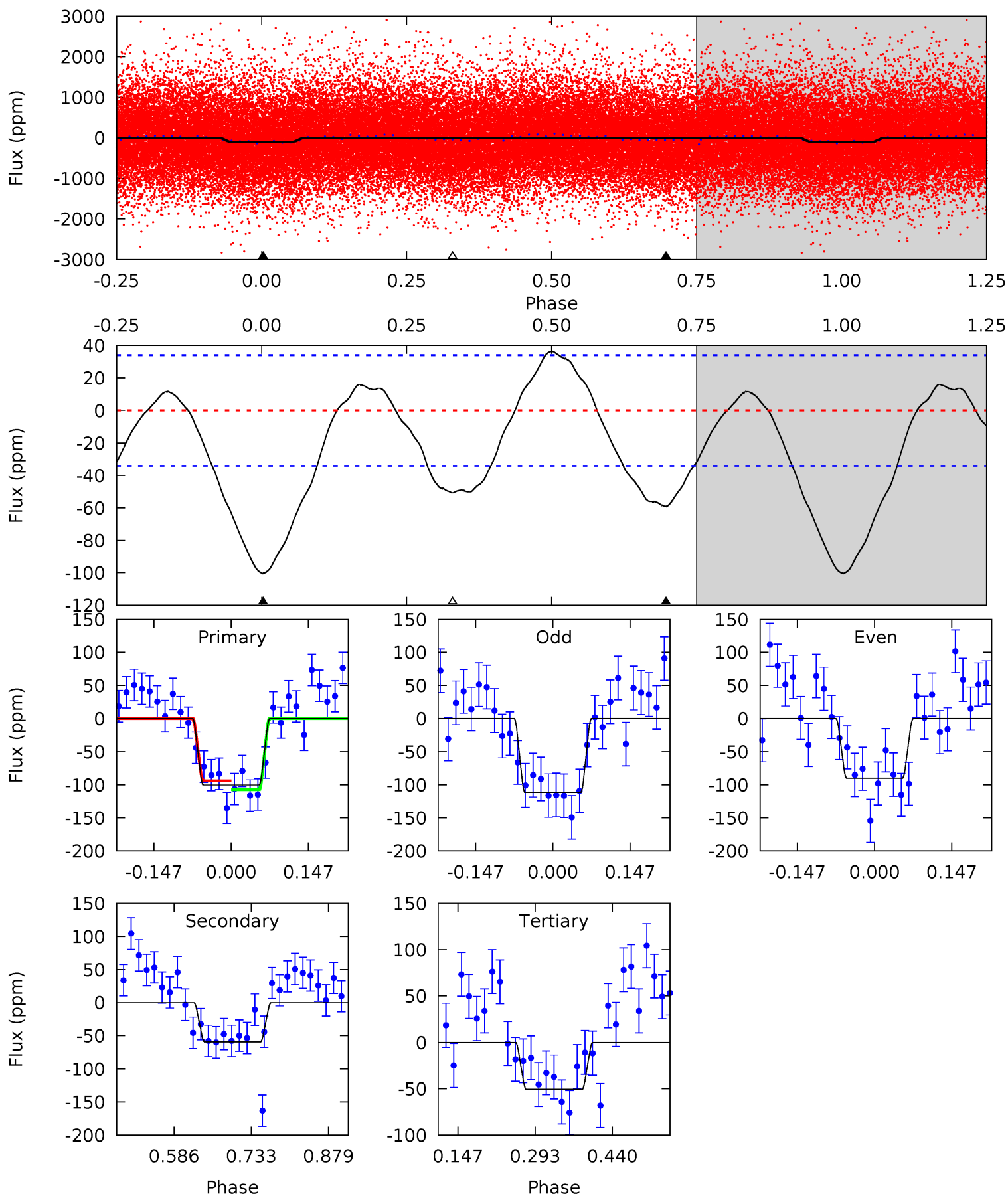
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.43	5.23	0	0	4.46	1.39	4.03	9.43	9.43	5.23	5.23	1.49	0.94	0.44	0.88



Alt Model-Shift Uniqueness Test

005881704-01, P = 3.588644 Days, E = 132.551394 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.2	7.78	6.69	0	4.48	1.45	3.81	6.52	13.2	1.09	7.78	1.42	0.97	0.27	0.88



Stellar Parameters For KIC 005881704

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6075^{+210}_{-231}	$4.495^{+0.048}_{-0.192}$	$-0.160^{+0.300}_{-0.300}$	$0.952^{+0.272}_{-0.097}$	$1.033^{+0.126}_{-0.140}$	$1.689^{+0.428}_{-0.825}$
	+3%/-4%	+1%/-4%	+188%/-188%	+29%/-10%	+12%/-14%	+25%/-49%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005881704-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-38 ± 7	$1.03^{+0.35}_{-0.31}$	1731^{+113}_{-91}	4967^{+801}_{-582}	40^{+43}_{-17}
Alt.	-59 ± 8	$1.07^{+0.31}_{-0.29}$	1733^{+130}_{-89}	5383^{+919}_{-582}	59^{+55}_{-24}

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

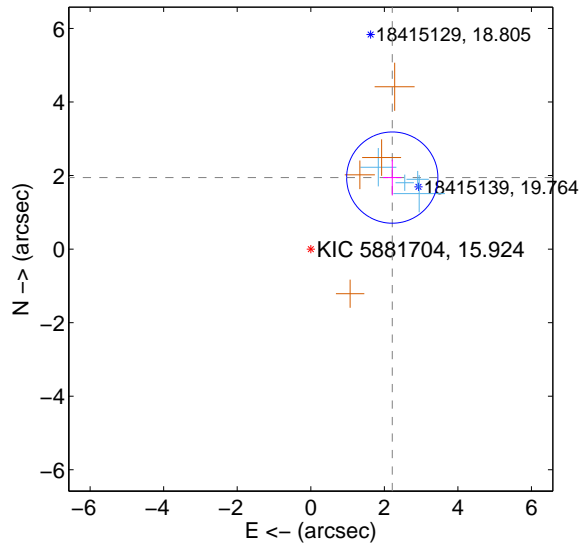
Supplemental centroid analysis for 005881704-01. Kepler magnitude: 15.92. Transit SNR 8.36

There are 4 quarters with good PRF difference image offsets

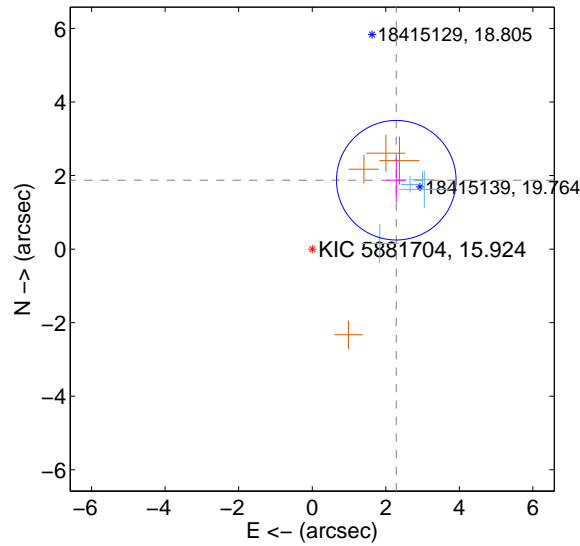
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.948 ± 0.414	7.13	-2.216 ± 0.251	1.944 ± 0.486
PRF-fit source offset from KIC position	2.955 ± 0.542	5.46	-2.286 ± 0.259	1.873 ± 0.595
photometric centroid source offset	2.20 ± 1.09	2.01	-1.81 ± 1.04	1.25 ± 1.20

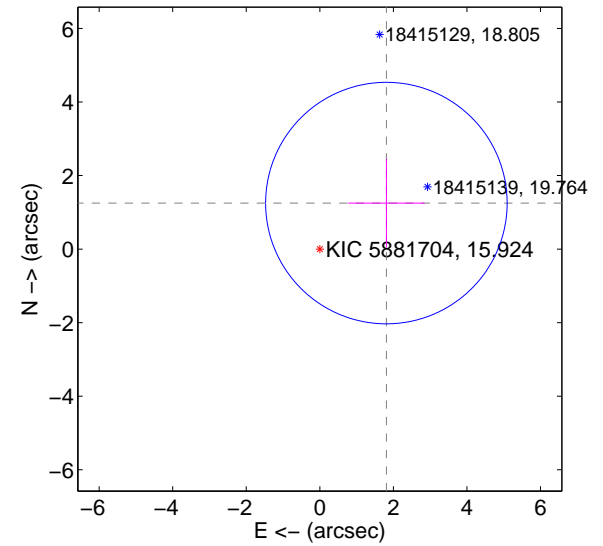
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

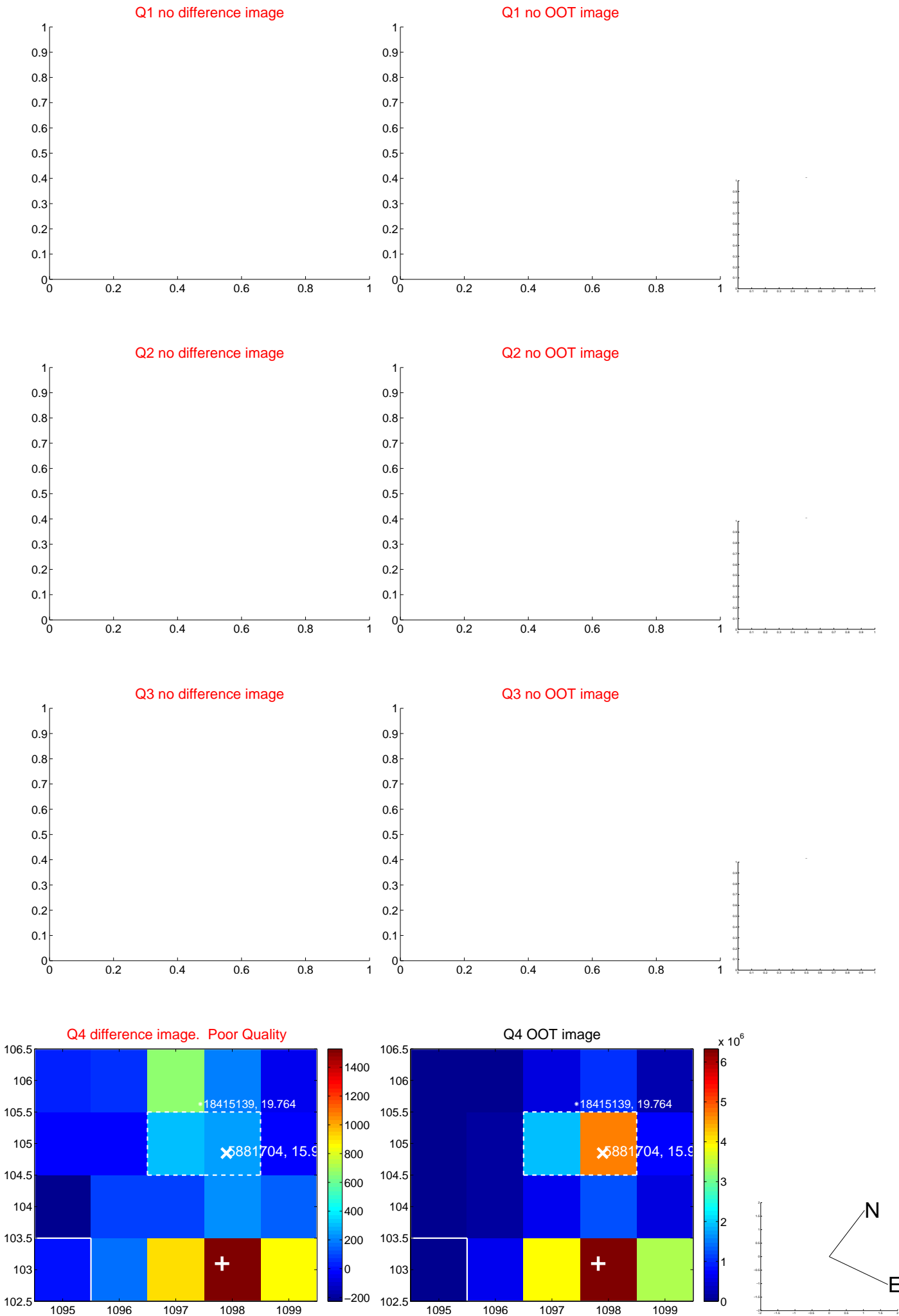


offset from photometric centroids

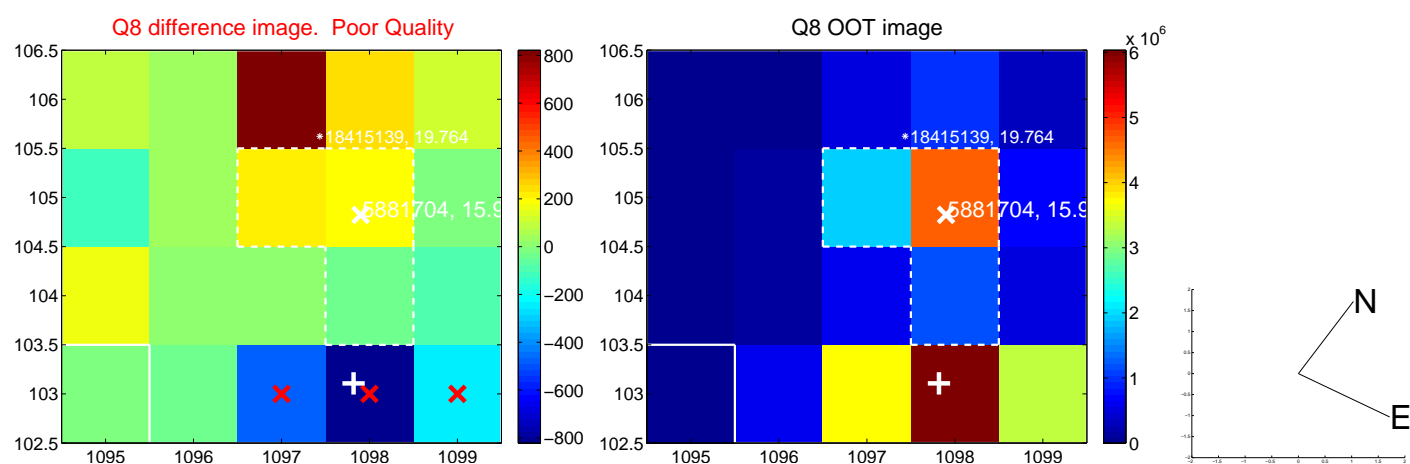
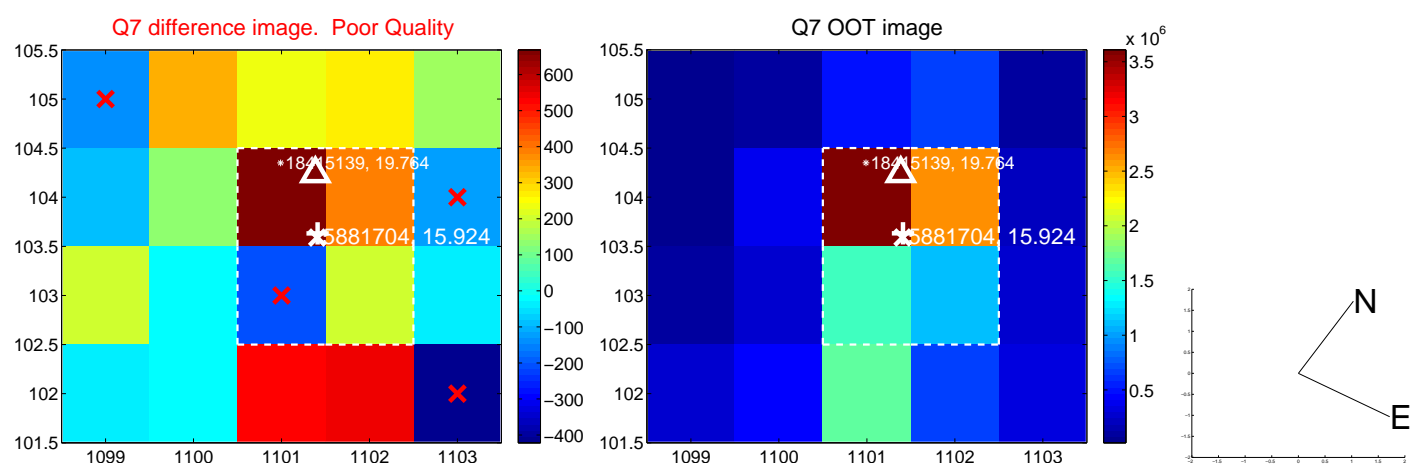
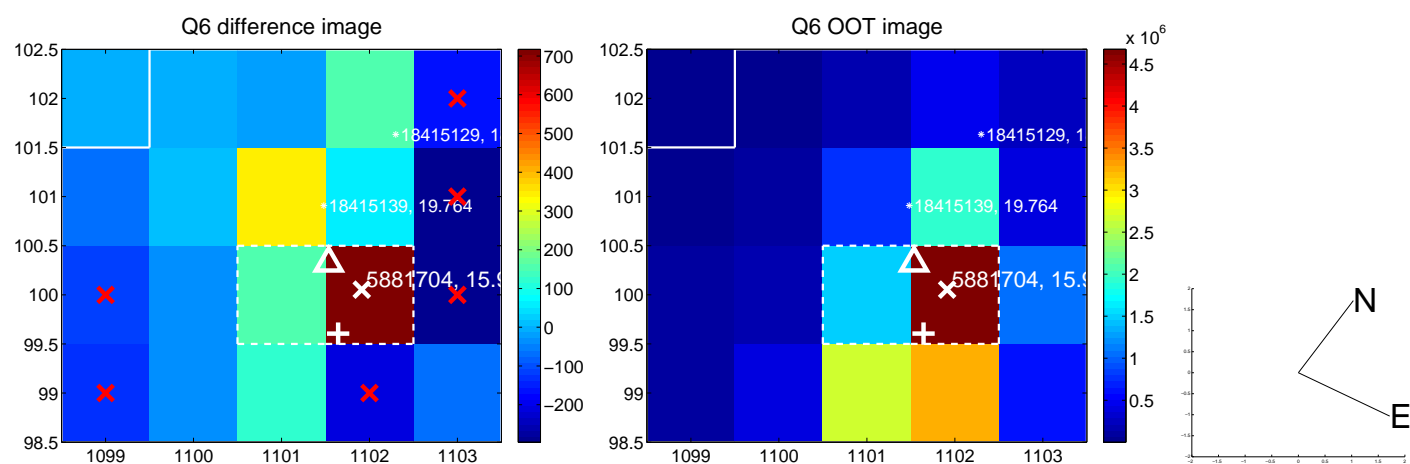
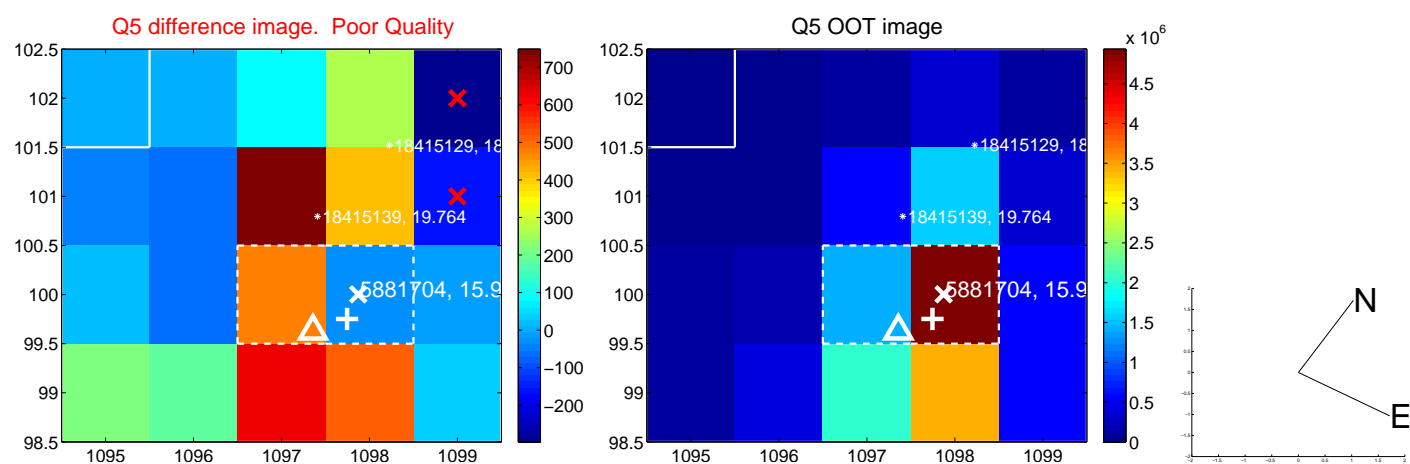


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

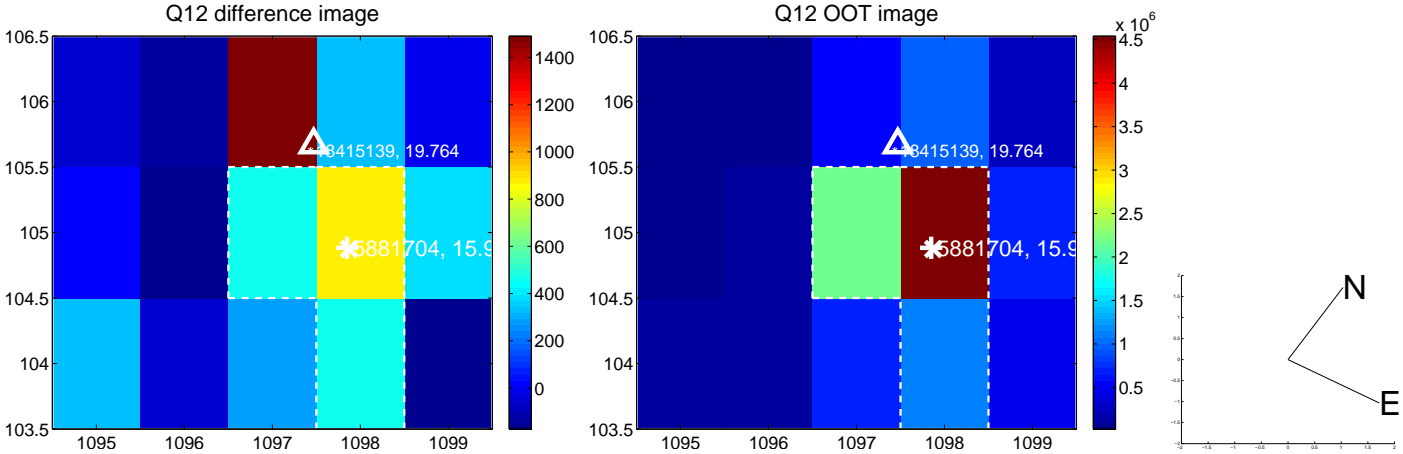
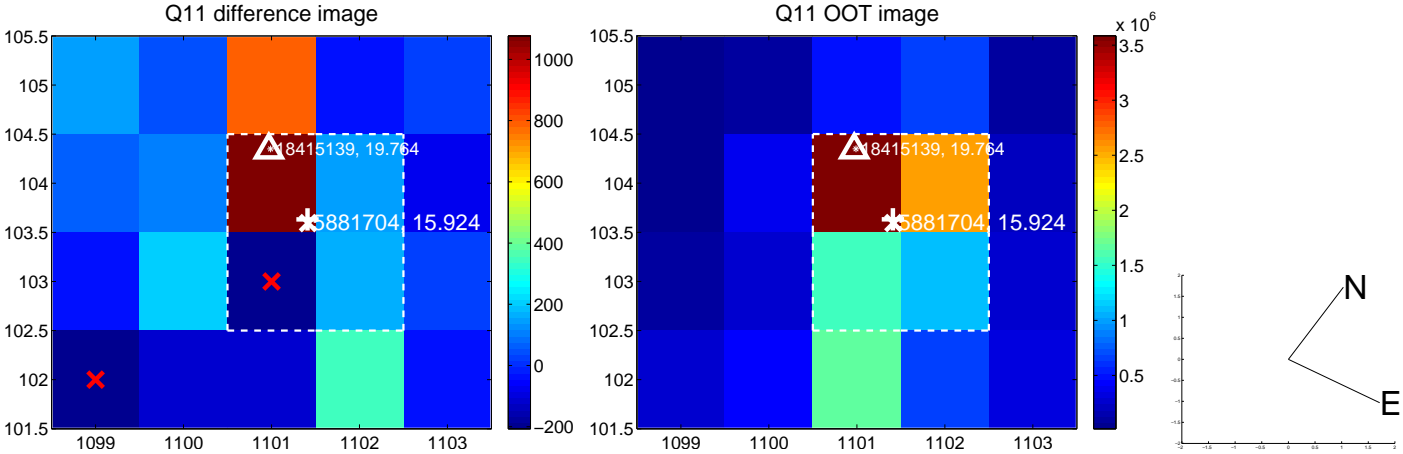
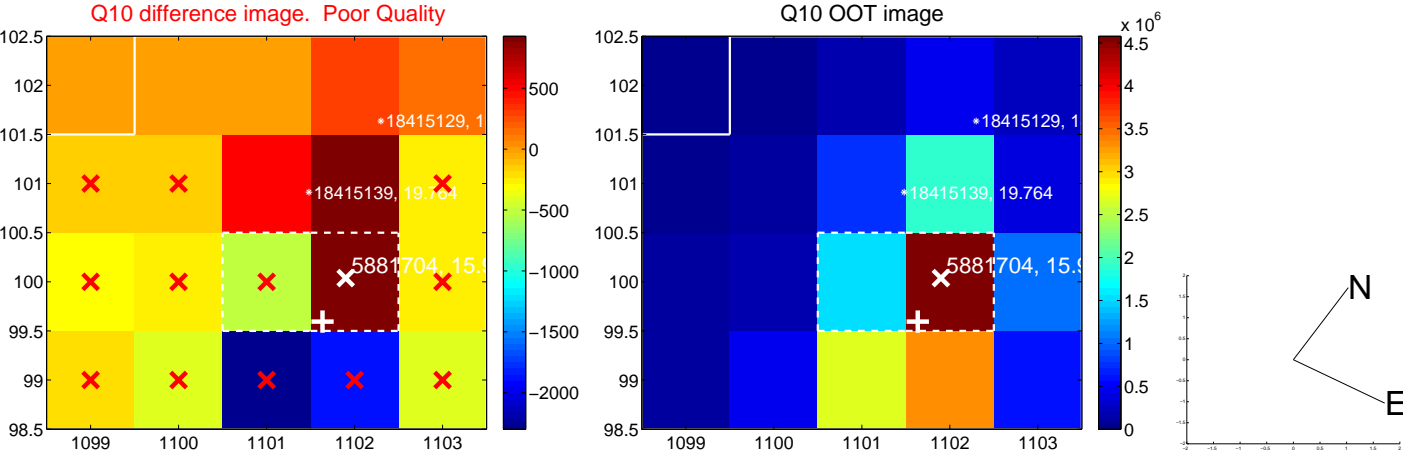
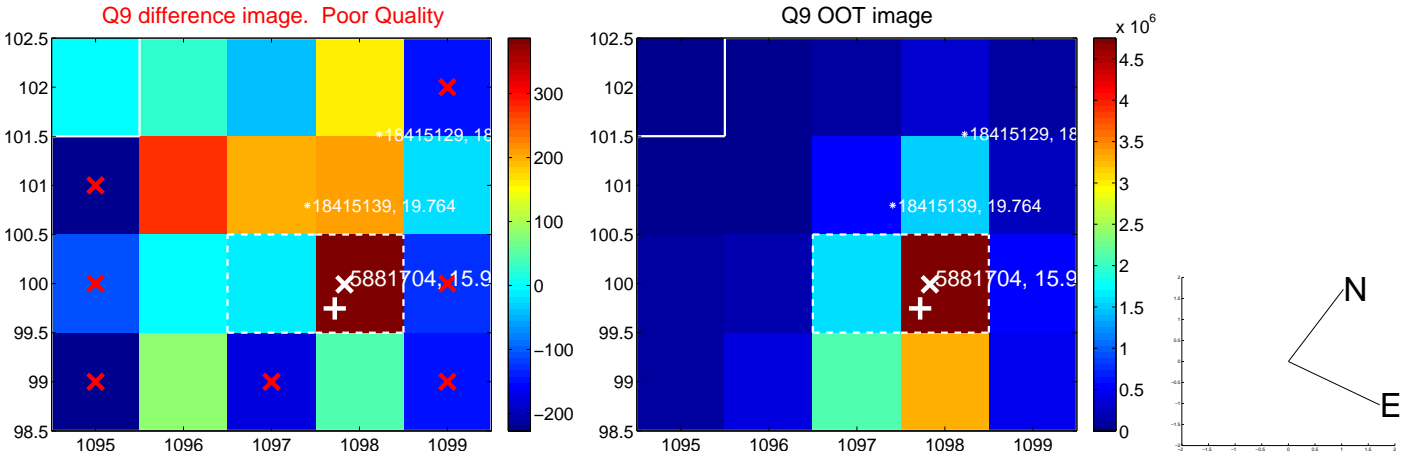
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



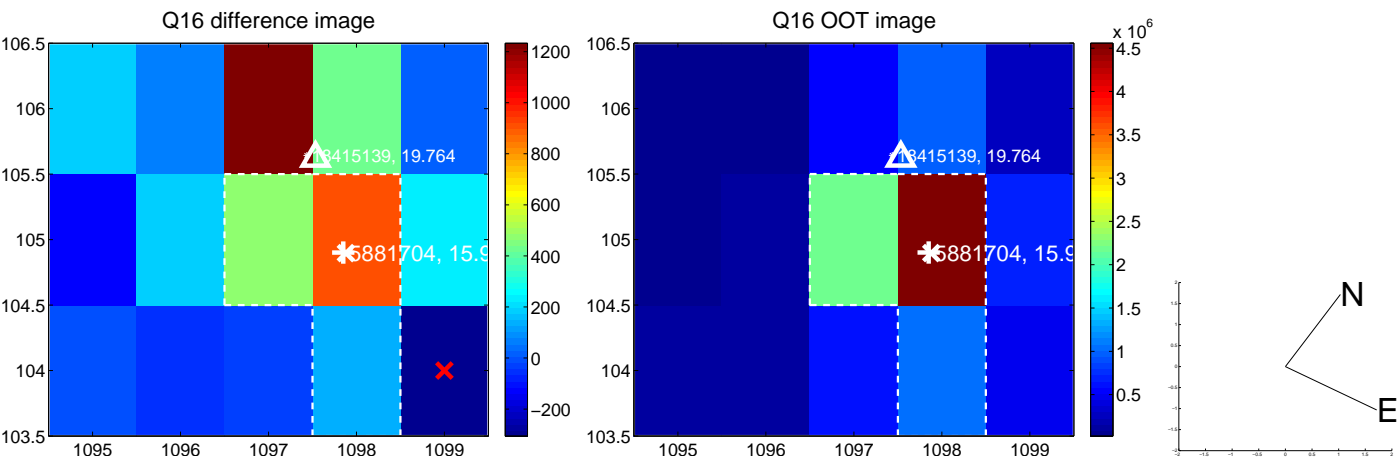
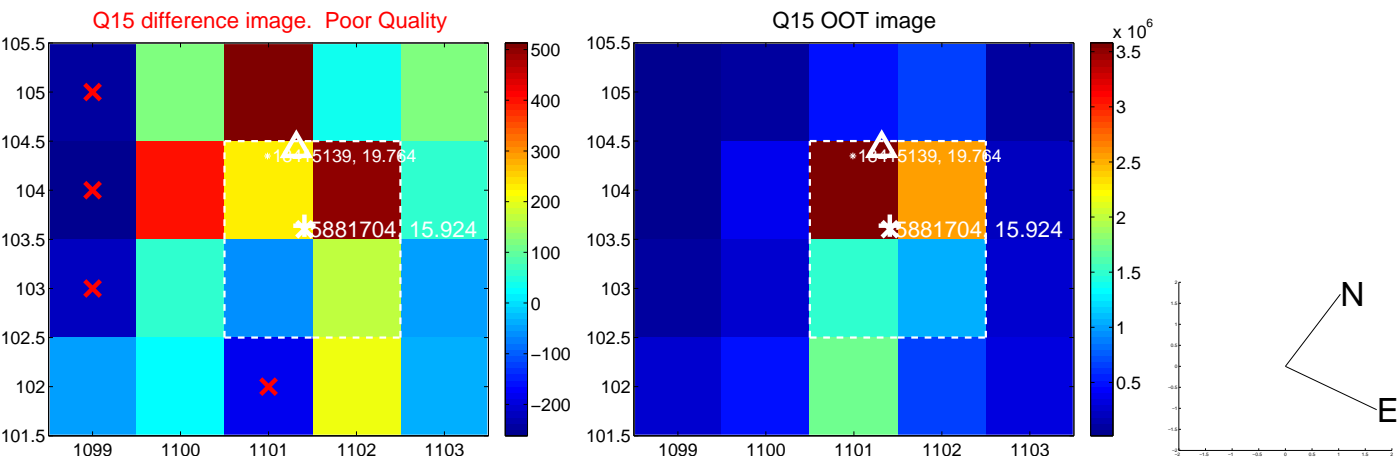
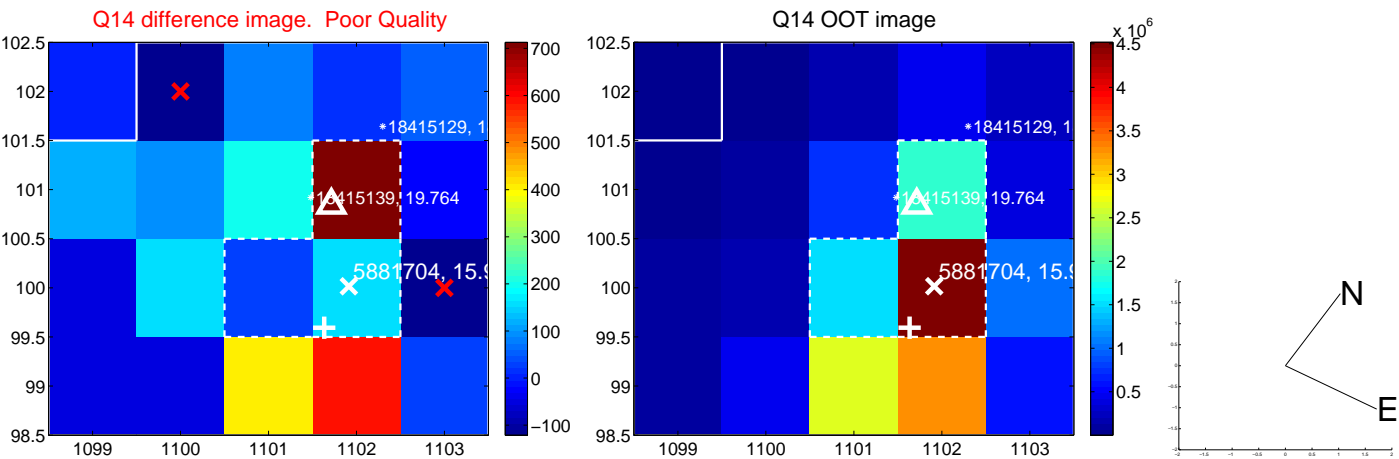
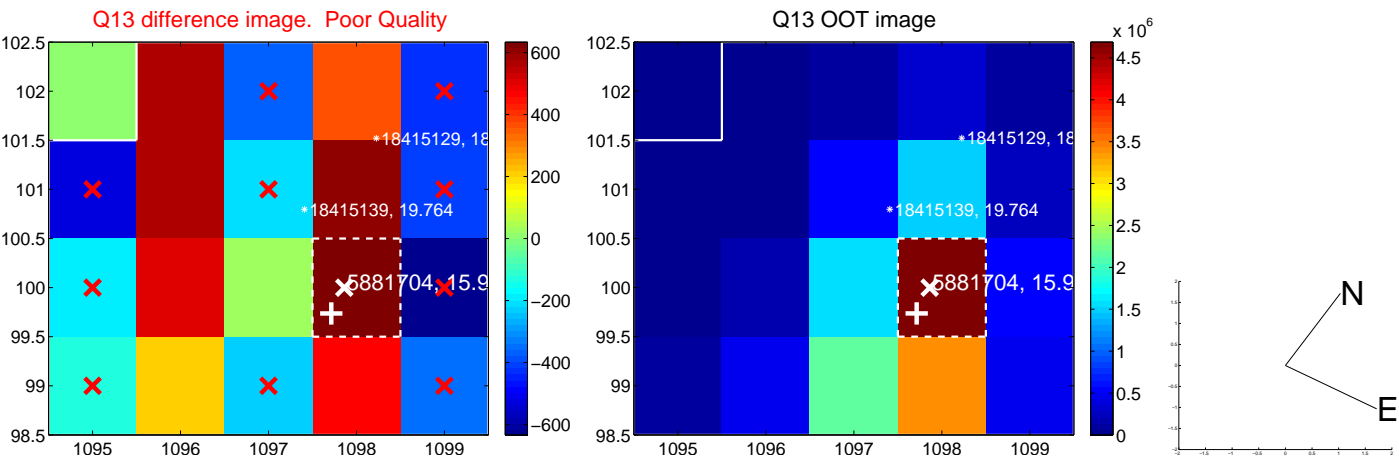
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



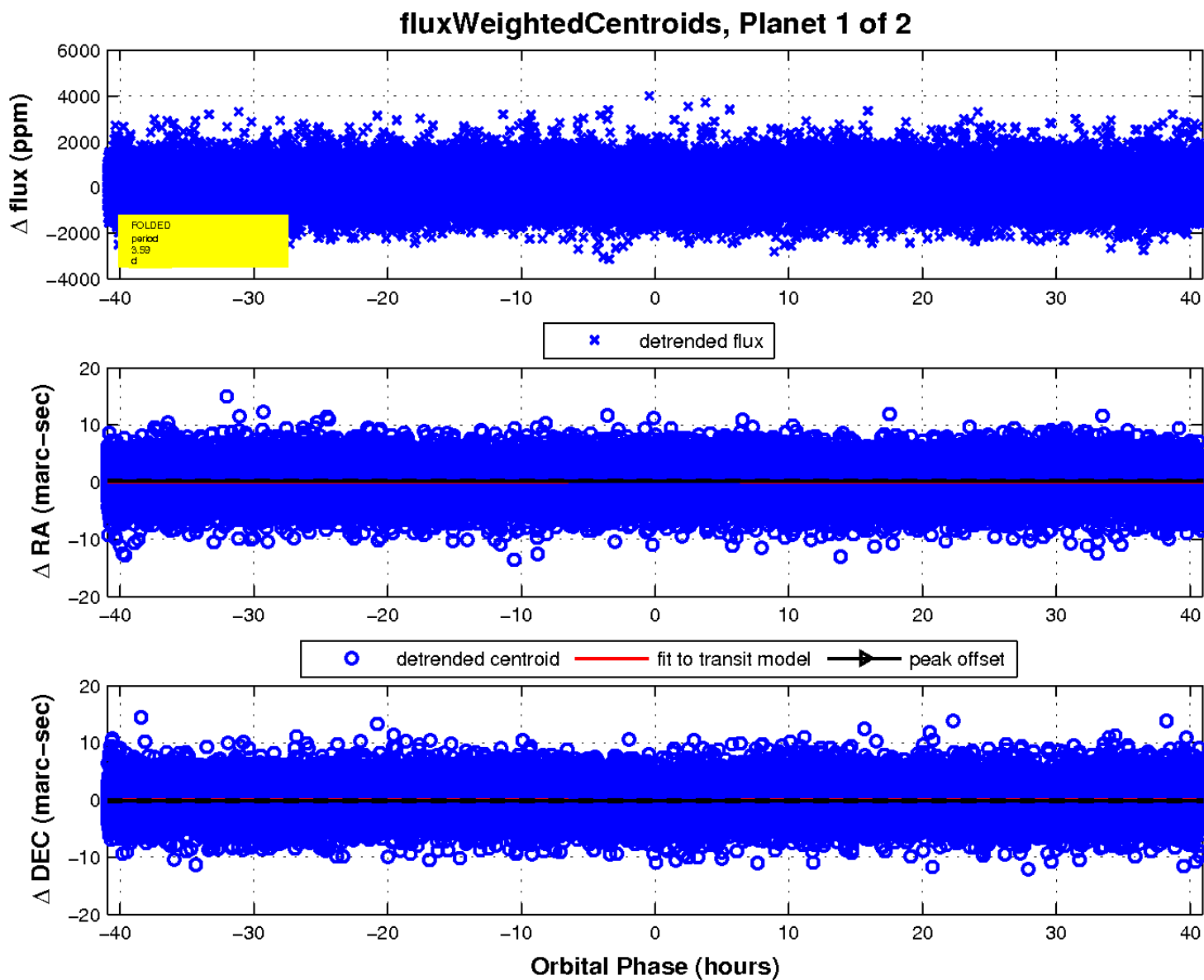
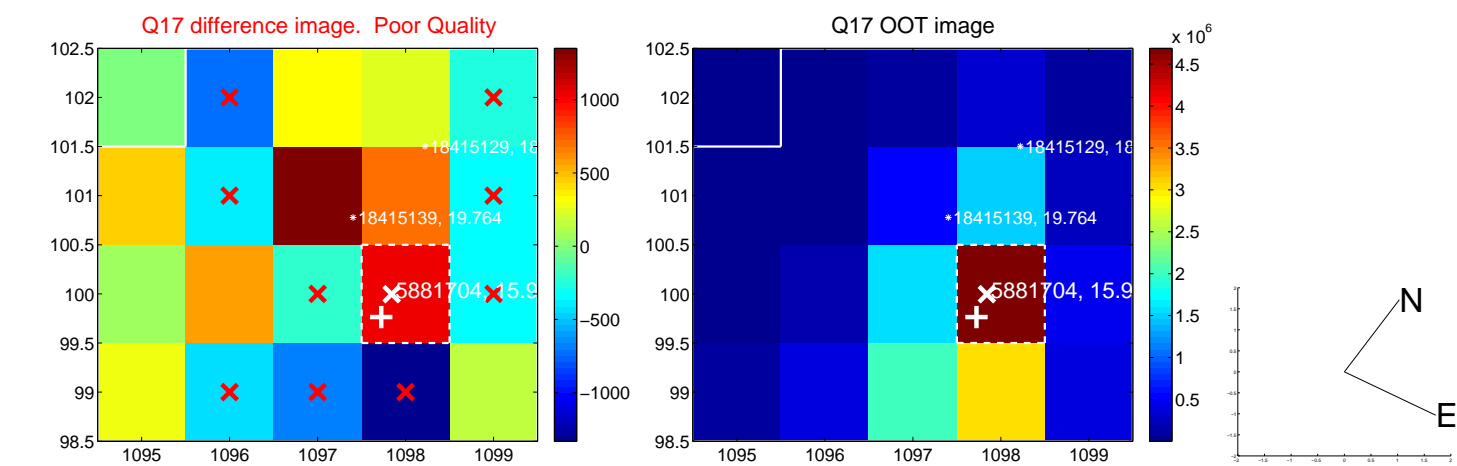
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

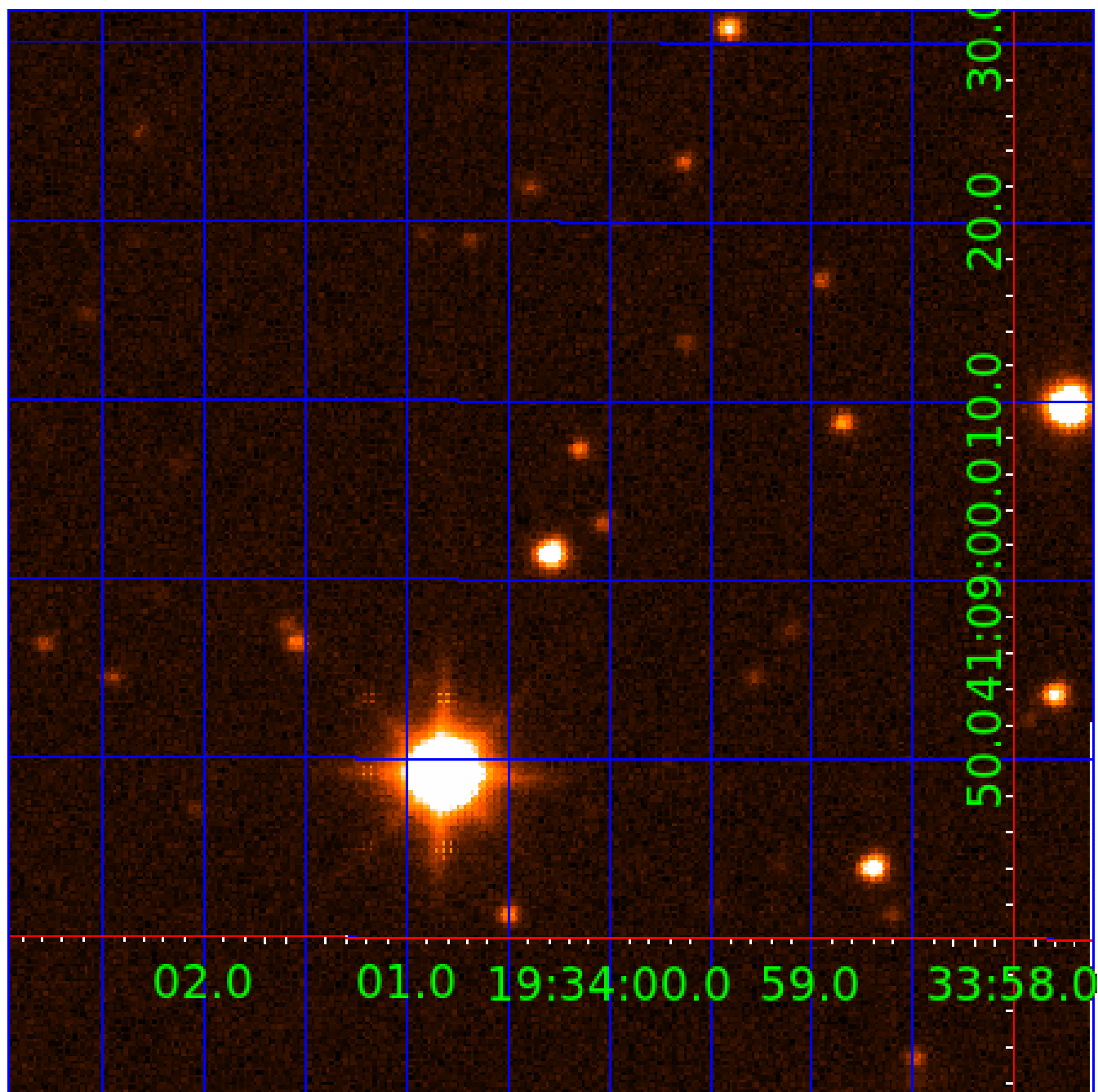


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005881704

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})
005881704-01	OBS	No	3.588719	132.524658	87.3	13.648	8.0	8.4	0.95	6075	1.02	513.95
005881704-02	OBS	No	380.138429	458.249475	1222.1	13.235	7.9	8.5	0.95	6075	3.58	1.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005881704-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_KIC_POS
005881704-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_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.

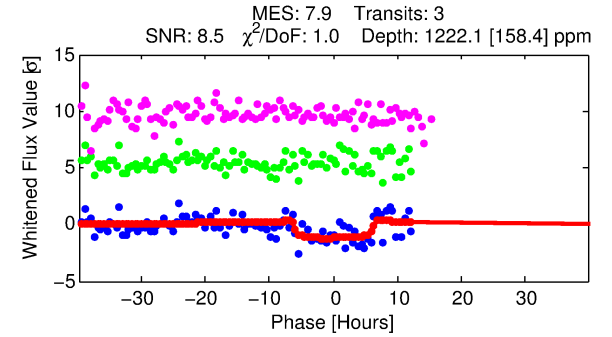
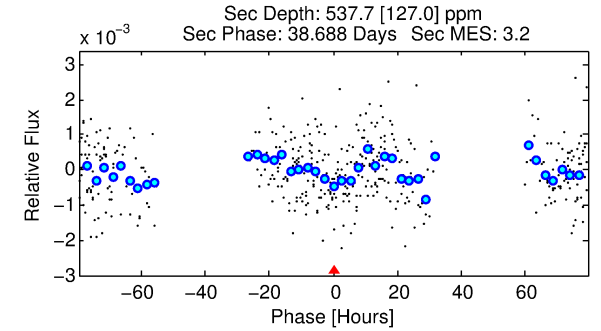
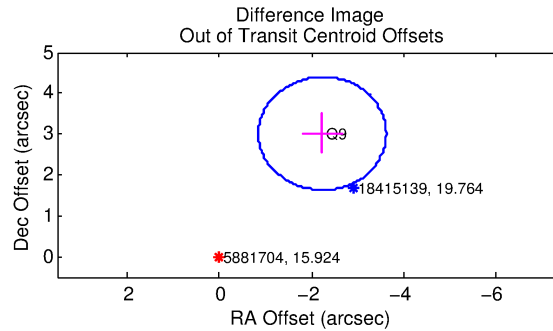
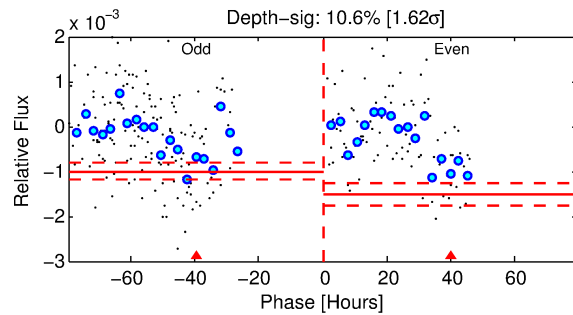
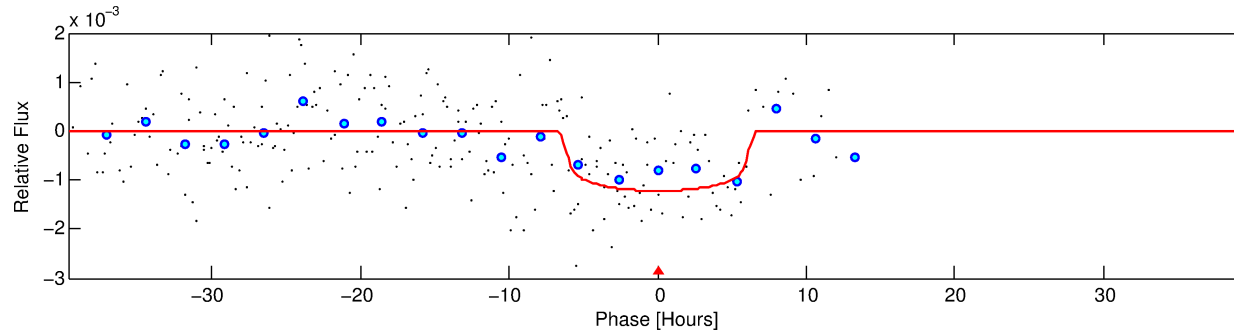
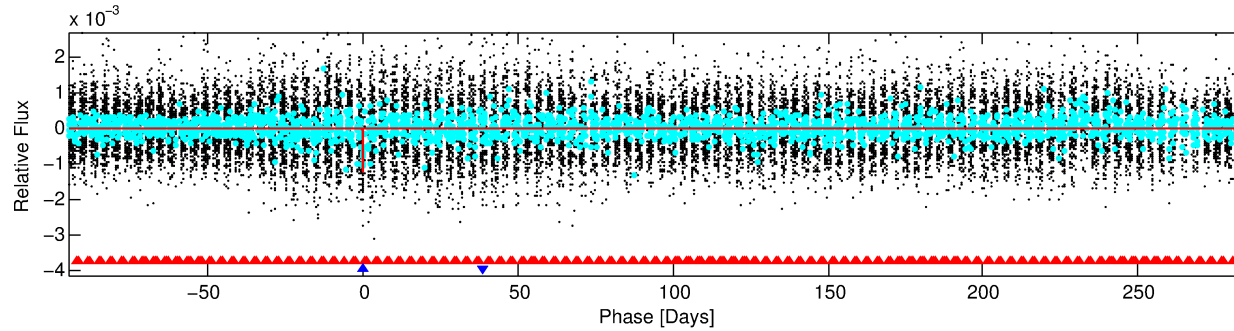
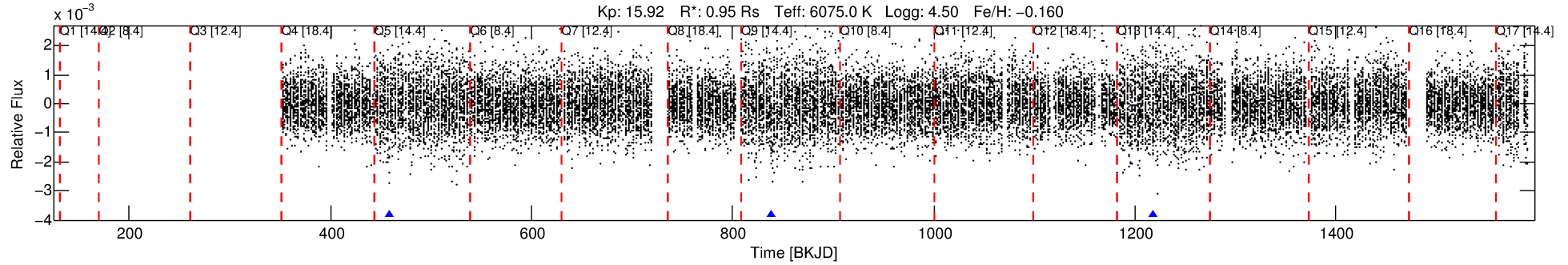
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005881704-02

No Significant Match Found

DV One-Page Summary

KIC: 5881704 Candidate: 2 of 2 Period: 380.138 d



DV Fit Results:

Period = 380.13843 [0.01784] d
Epoch = 458.2495 [0.0263] BKJD
Rp/R* = 0.0345 [0.0085]
a/R* = 161.94 [186.85]
b = 0.72 [0.76]
Seff = 1.03 [0.39]
Teq = 257 [25] K
Rp = 3.58 [1.35] Re
a = 1.0385 [0.2501] AU
Ag = 24850.49 [16160.84] [1.54 σ]
Teffp = 4981 [708] K [6.67 σ]

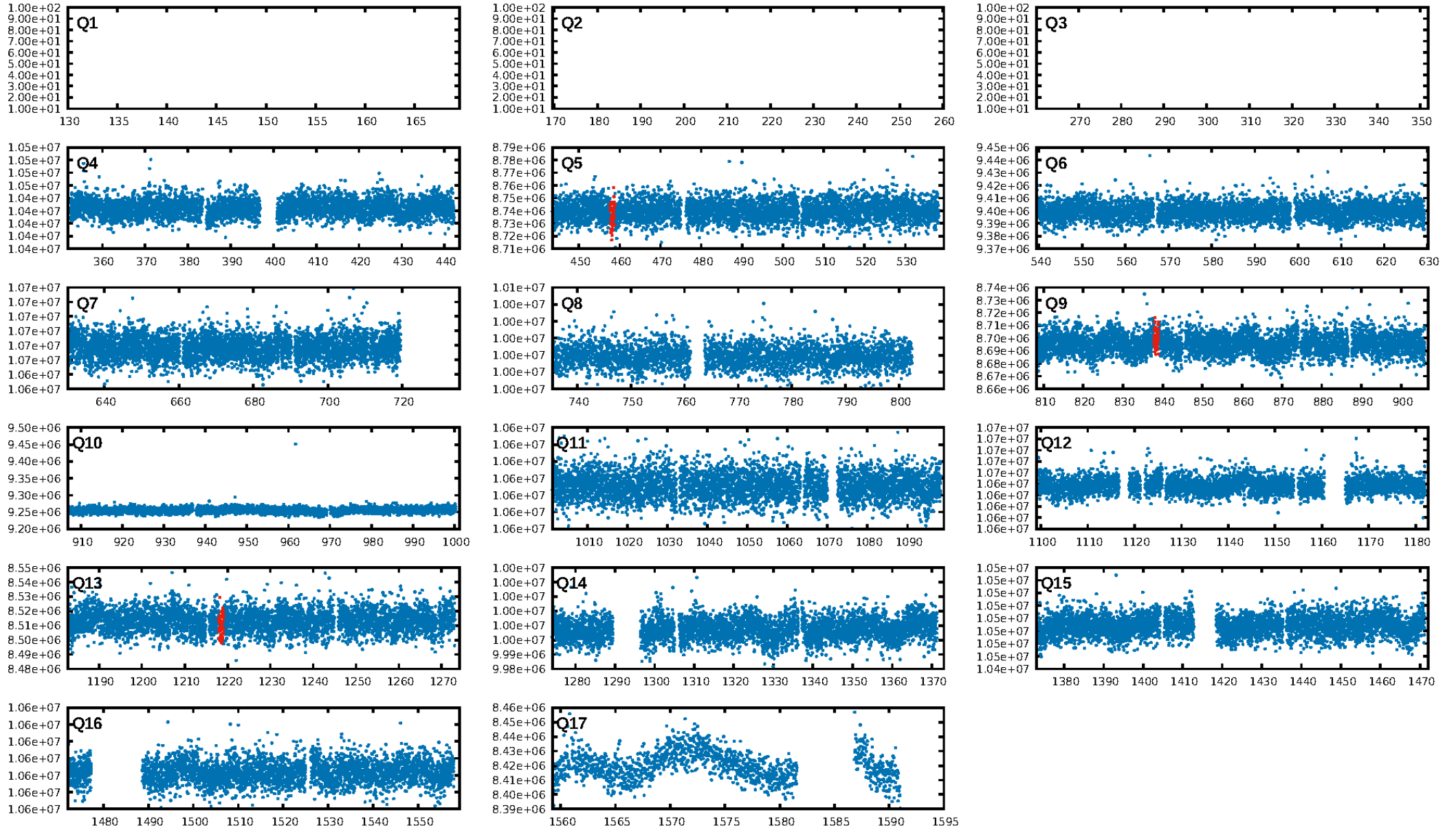
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [475.36 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 21.2%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.18e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.389
Centroid-sig: 0.1%
Centroid-so: 2.825 arcsec [2.88 σ]
OotOffset-rm: 3.750 arcsec [8.13 σ]
KicOffset-rm: 2.847 arcsec [6.30 σ]
OotOffset-st: 0/0/0/1 [1]
KicOffset-st: 0/0/0/1 [1]
DiffImageQuality-fgm: 0.00 [0/1]
DiffImageOverlap-fno: 0.00 [0/2]

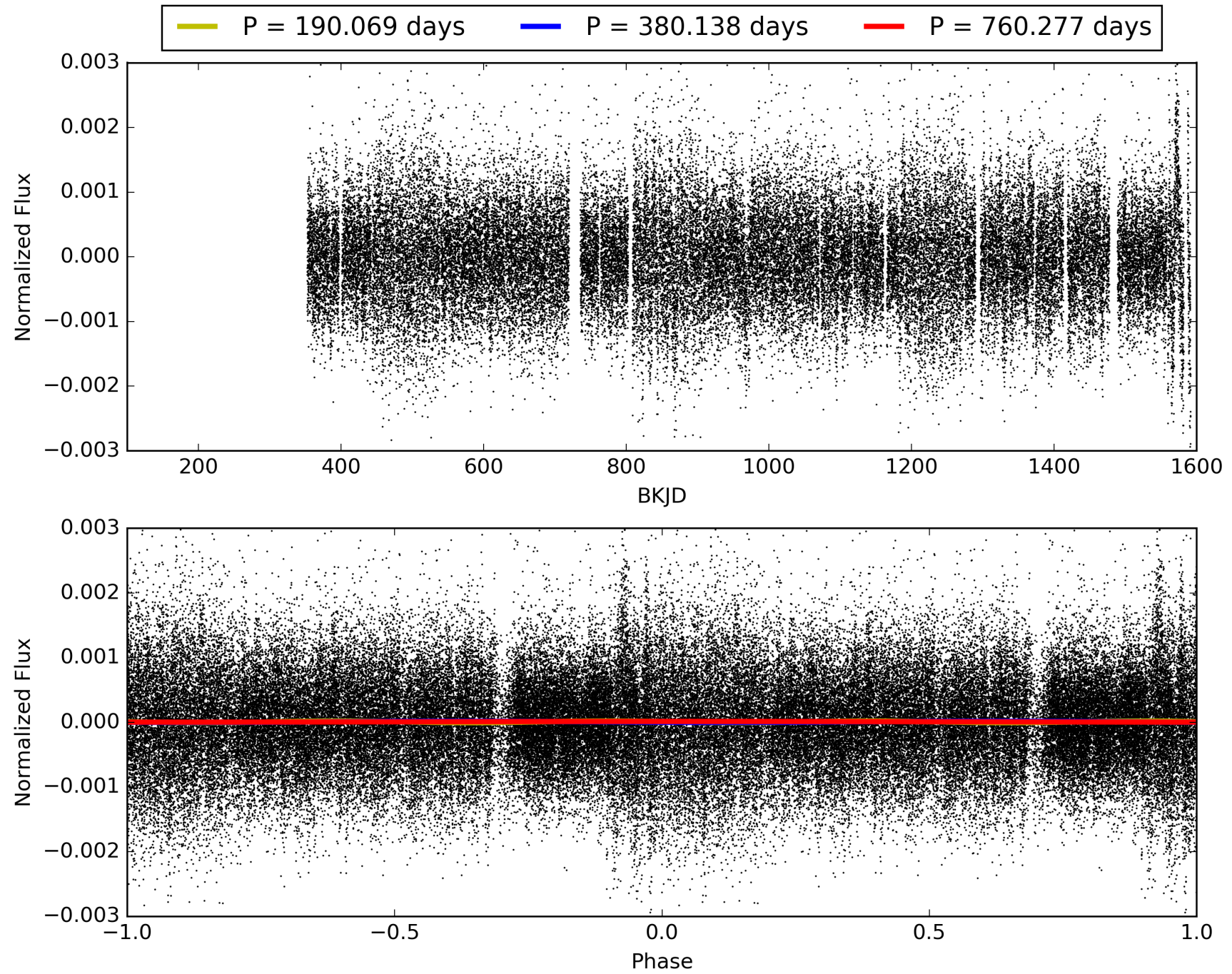
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 18:40:04 Z

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

TCE 005881704-02, PDC Light Curves

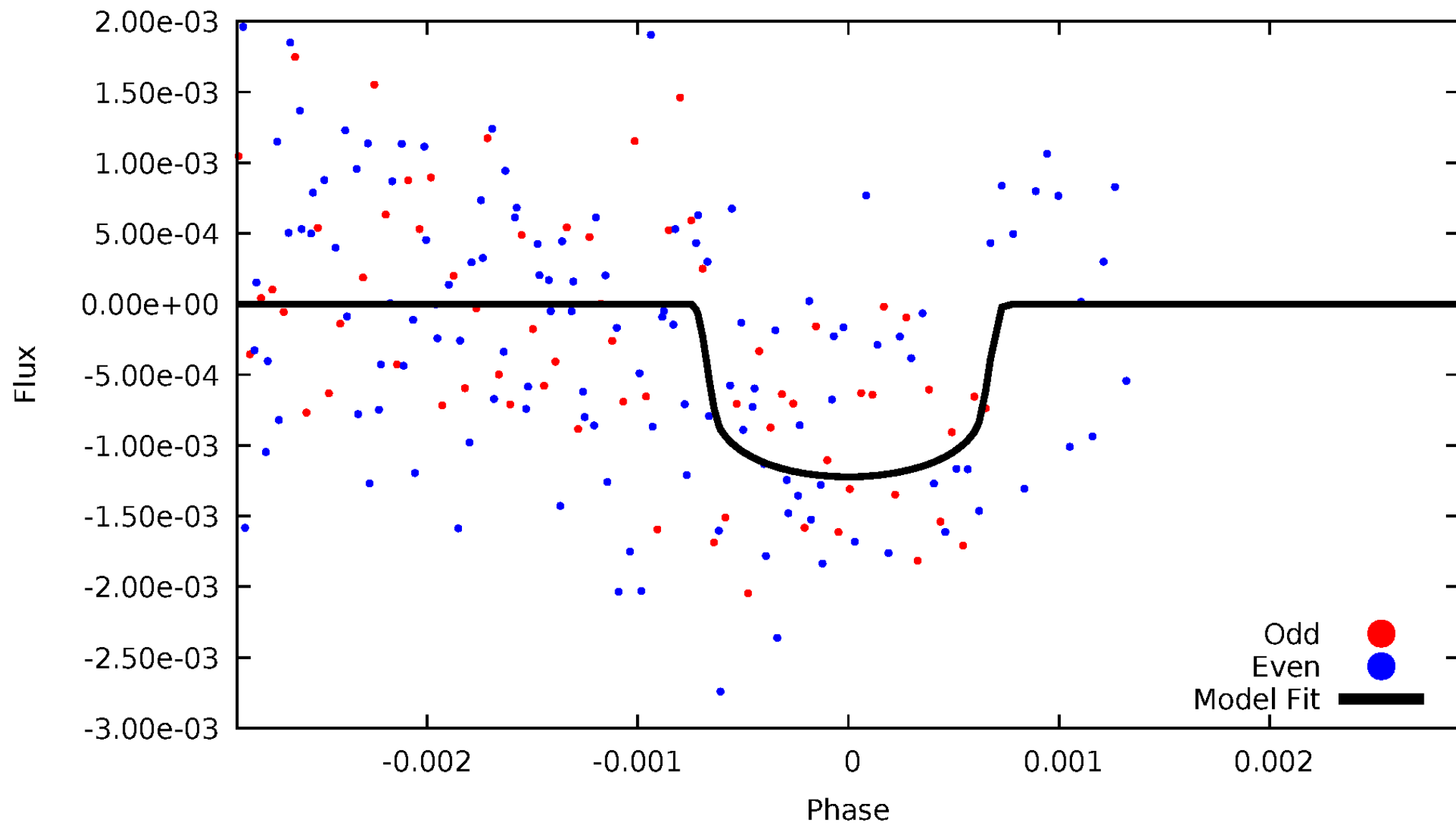


TCE 005881704-02



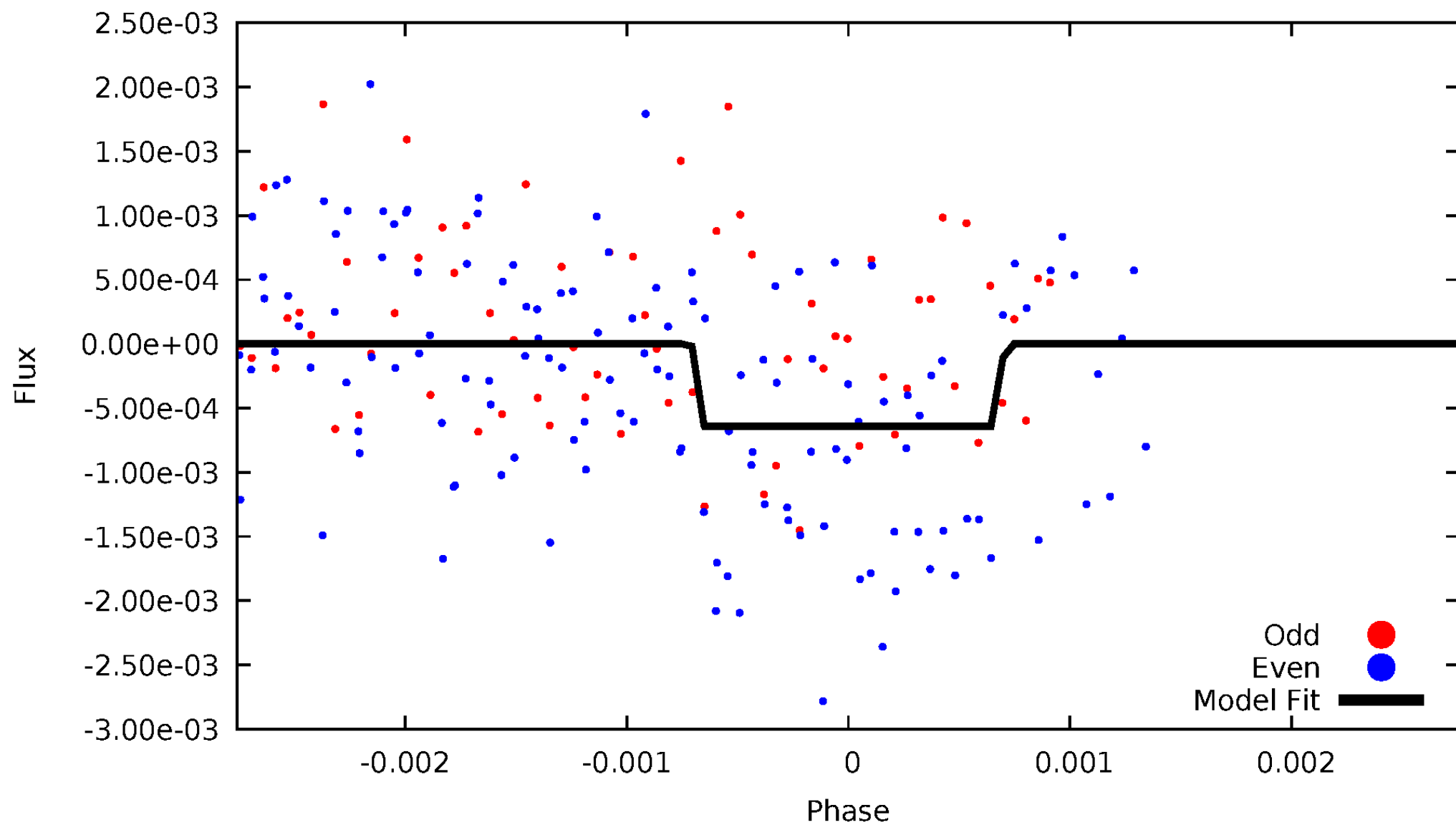
DV Odd/Even

TCE 005881704-02



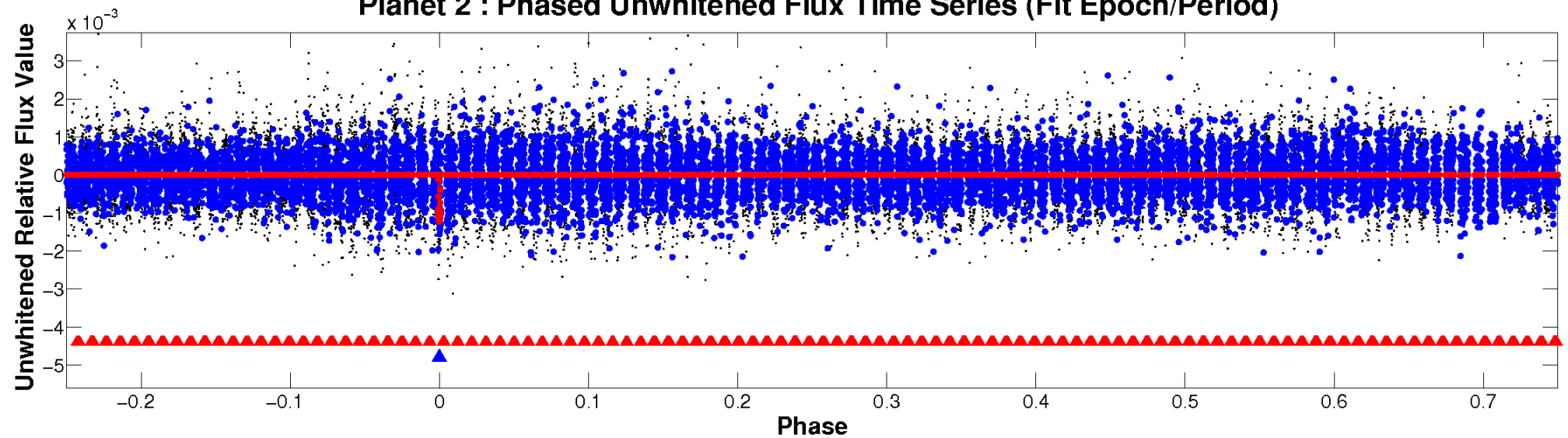
ALT Odd/Even

TCE 005881704-02

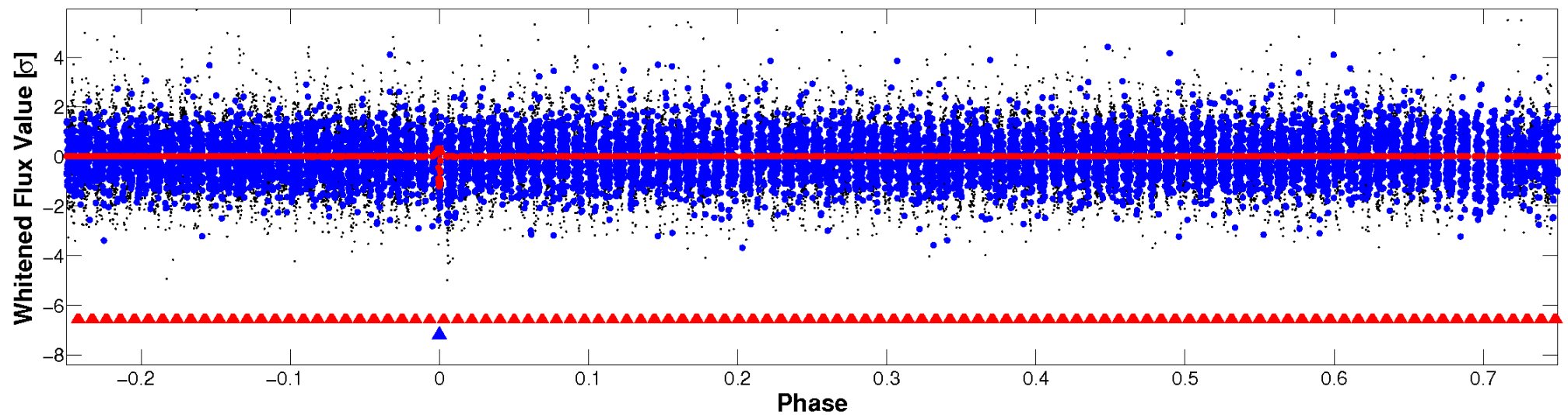


Non-Whitened Vs. Whitened Light Curve

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



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



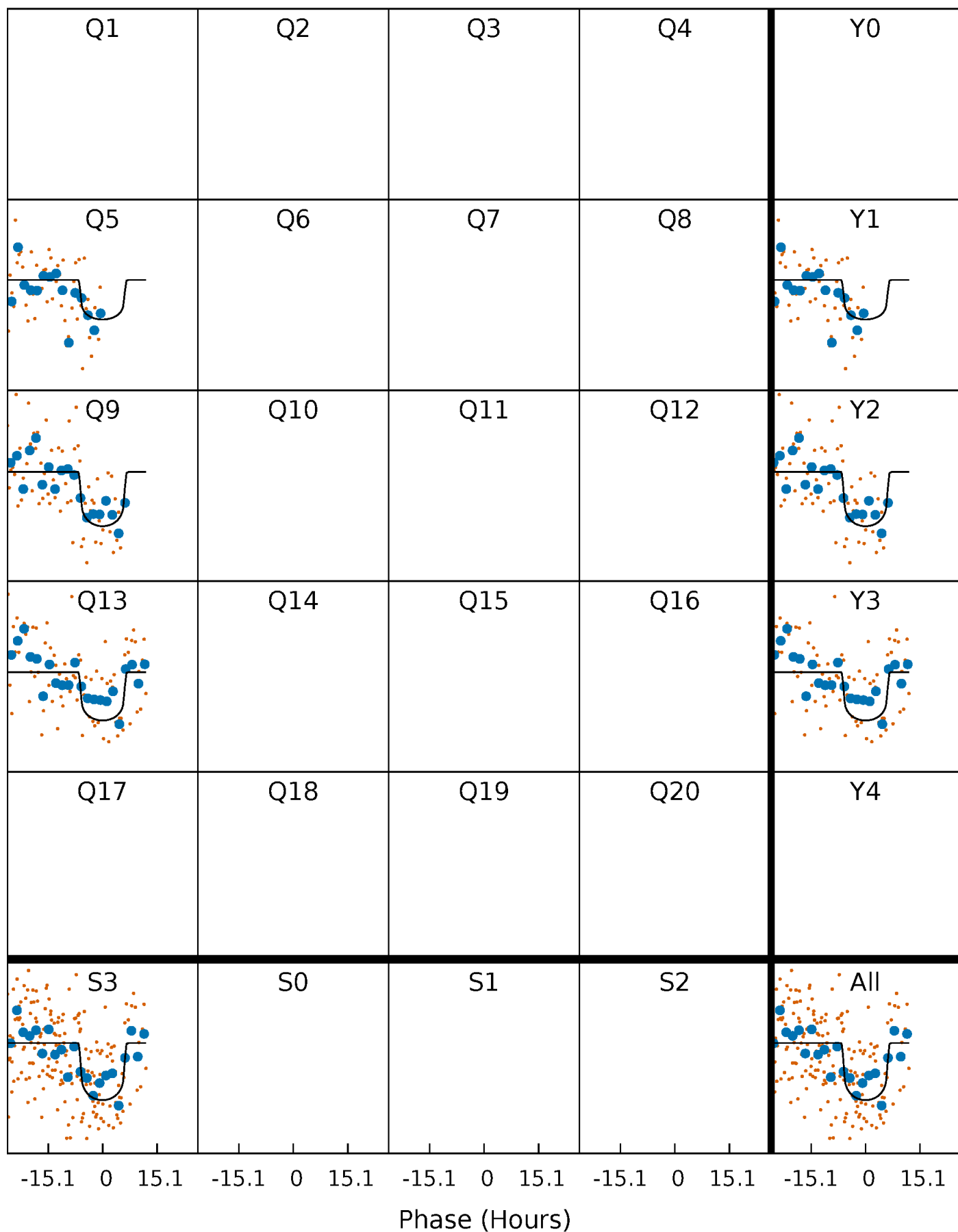
PDC Quarter-Phased Transit Curves

TCE 005881704-02 $P=380.138429$ Days $T_0=458.249475$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 005881704-02 $P=380.138429$ Days $T_0=458.249475$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

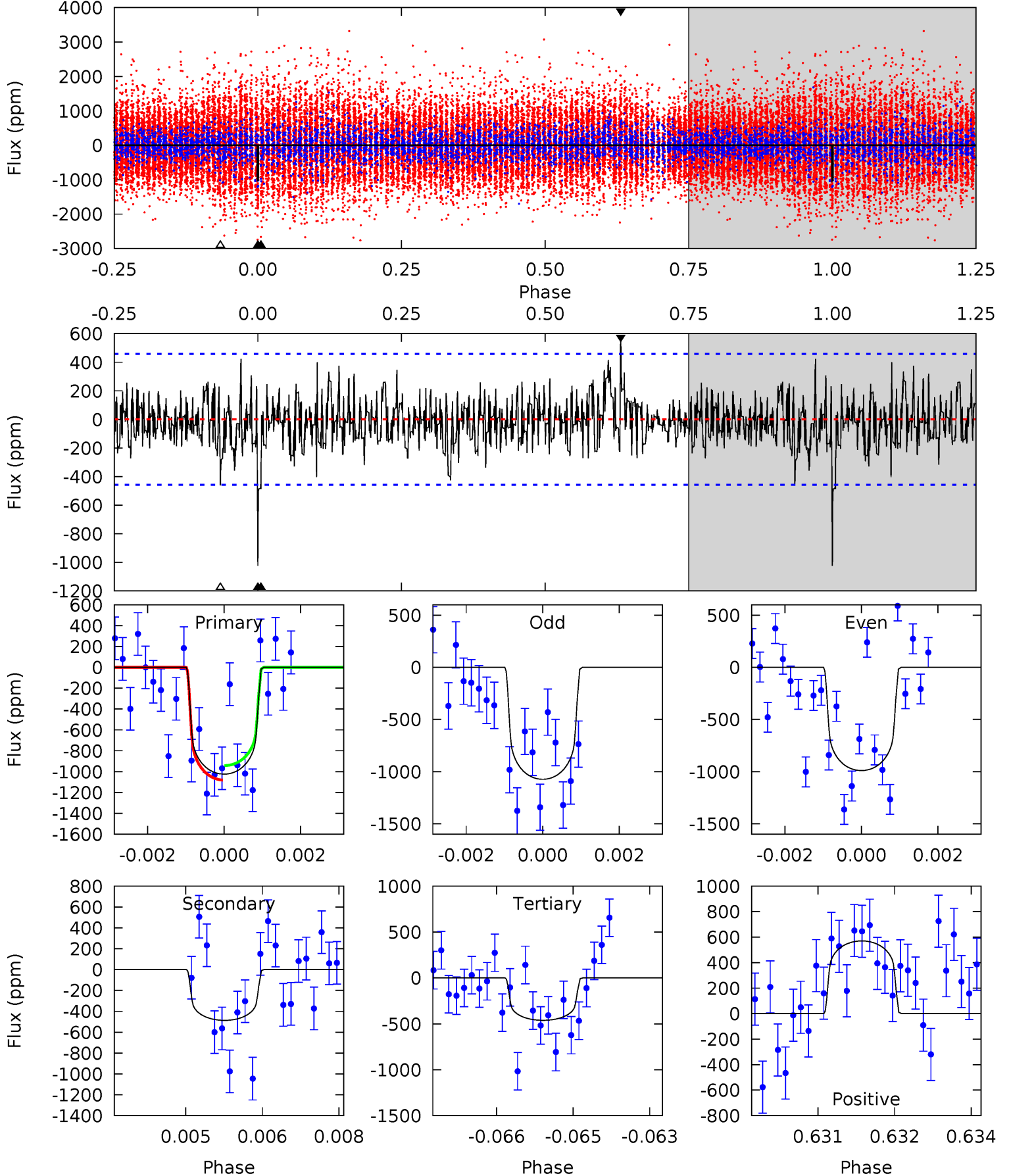
TCE 005881704-02 P=380.227685 Days $T_0=458.062352$ (BKJD)



DV Model-Shift Uniqueness Test

005881704-02, $P = 380.138429$ Days, $E = 78.111046$ Days

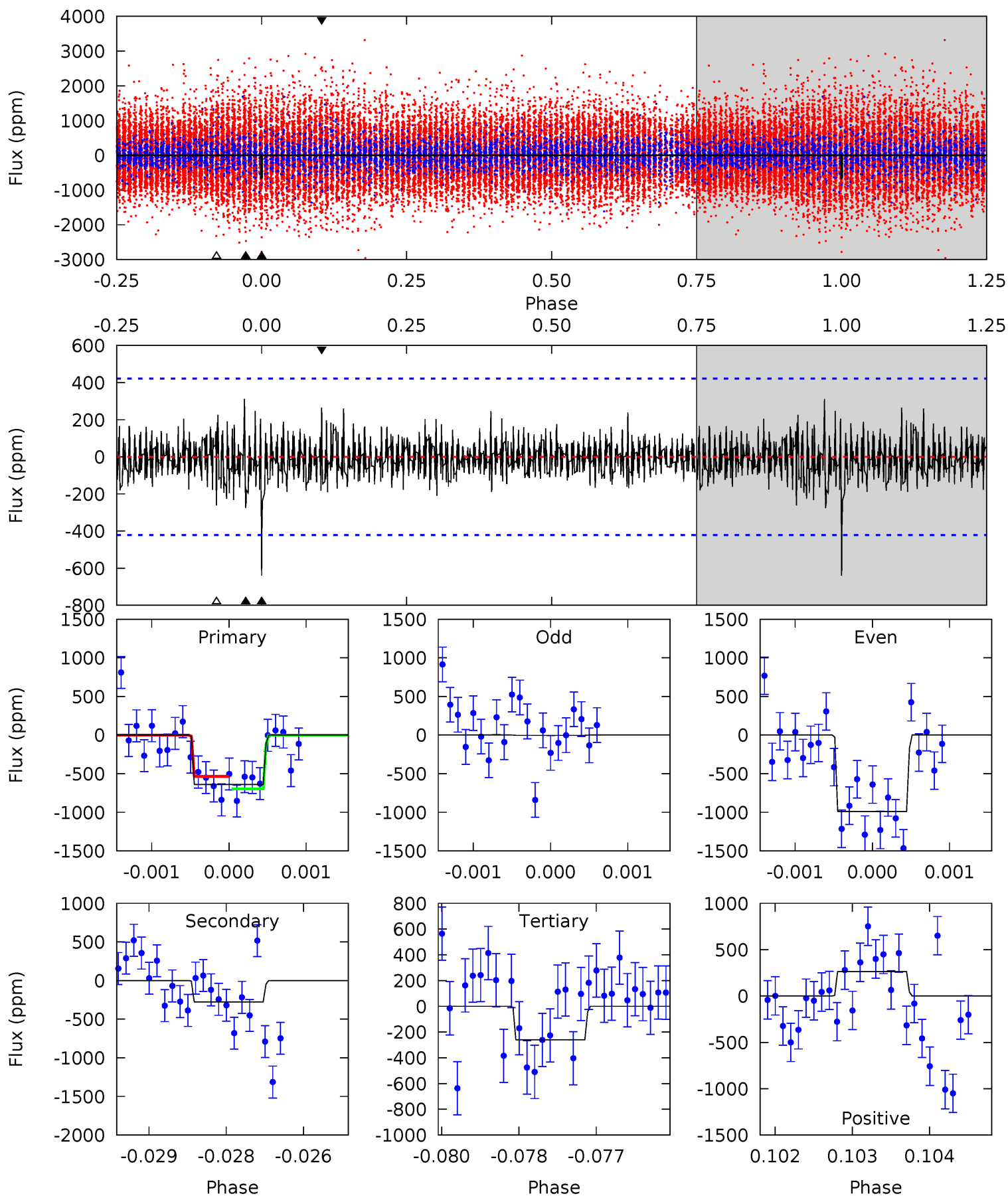
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	5.72	5.43	6.70	5.38	3.17	1.45	6.61	5.33	0.29	-0.98	0.48	1.01	0.36	0.79



Alt Model-Shift Uniqueness Test

005881704-02, $P = 380.227685$ Days, $E = 77.834667$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.17	3.52	3.33	3.37	5.38	3.18	0.90	4.84	4.80	0.19	0.14	6.03	0.73	0.33	1.02



Stellar Parameters For KIC 005881704

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6075^{+210}_{-231}	$4.495^{+0.048}_{-0.192}$	$-0.160^{+0.300}_{-0.300}$	$0.952^{+0.272}_{-0.097}$	$1.033^{+0.126}_{-0.140}$	$1.689^{+0.428}_{-0.825}$
	+3%/-4%	+1%/-4%	+188%/-188%	+29%/-10%	+12%/-14%	+25%/-49%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005881704-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-487 ± 85	$3.74^{+1.04}_{-1.00}$	367^{+24}_{-19}	4964^{+691}_{-491}	20074^{+17919}_{-8315}
Alt.	-276 ± 78	$2.69^{+1.03}_{-0.85}$	365^{+27}_{-17}	5013^{+1011}_{-645}	21499^{+24621}_{-11371}

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

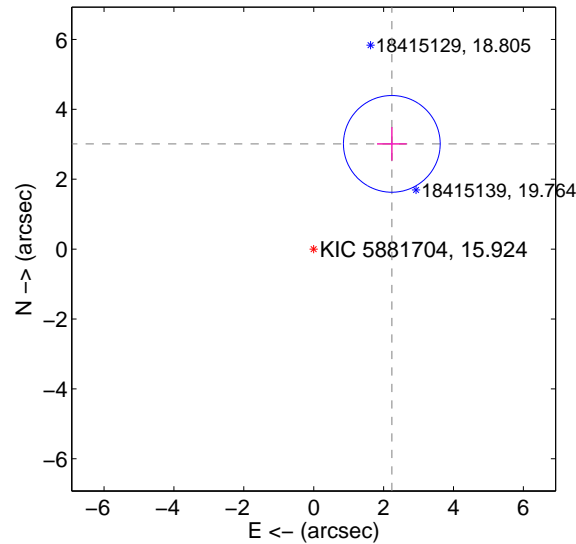
Supplemental centroid analysis for 005881704-02. Kepler magnitude: 15.92. Transit SNR 8.52

There are 0 quarters with good PRF difference image offsets

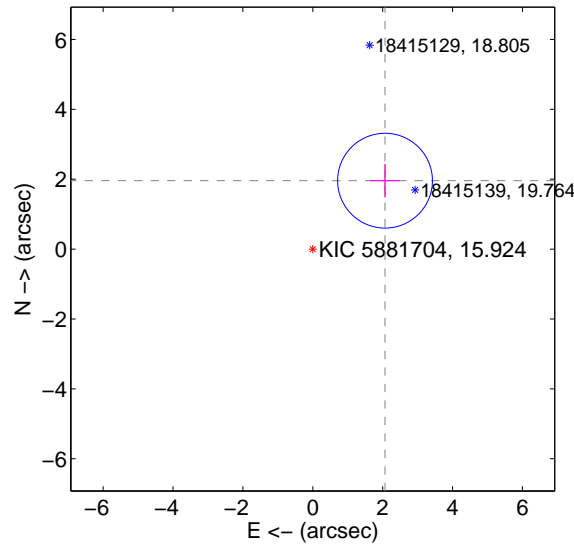
The direct PRF centroid is offset from the target star catalog position by about 1.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.750 ± 0.461	8.13	-2.235 ± 0.426	3.011 ± 0.480
PRF-fit source offset from KIC position	2.847 ± 0.452	6.30	-2.067 ± 0.426	1.958 ± 0.480
photometric centroid source offset	2.82 ± 0.98	2.88	1.21 ± 0.85	-2.55 ± 1.01

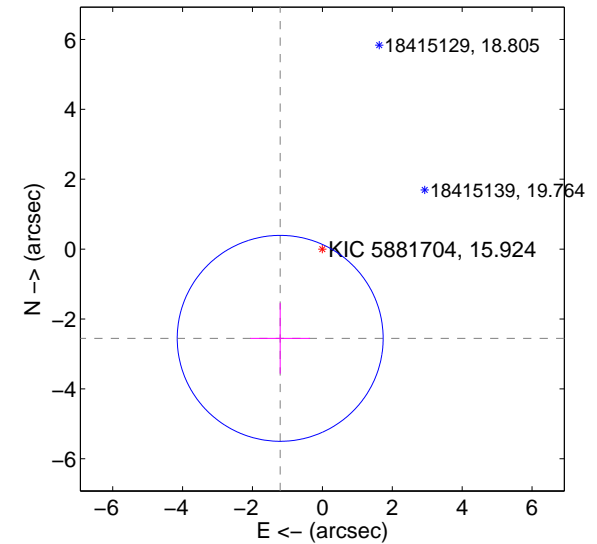
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

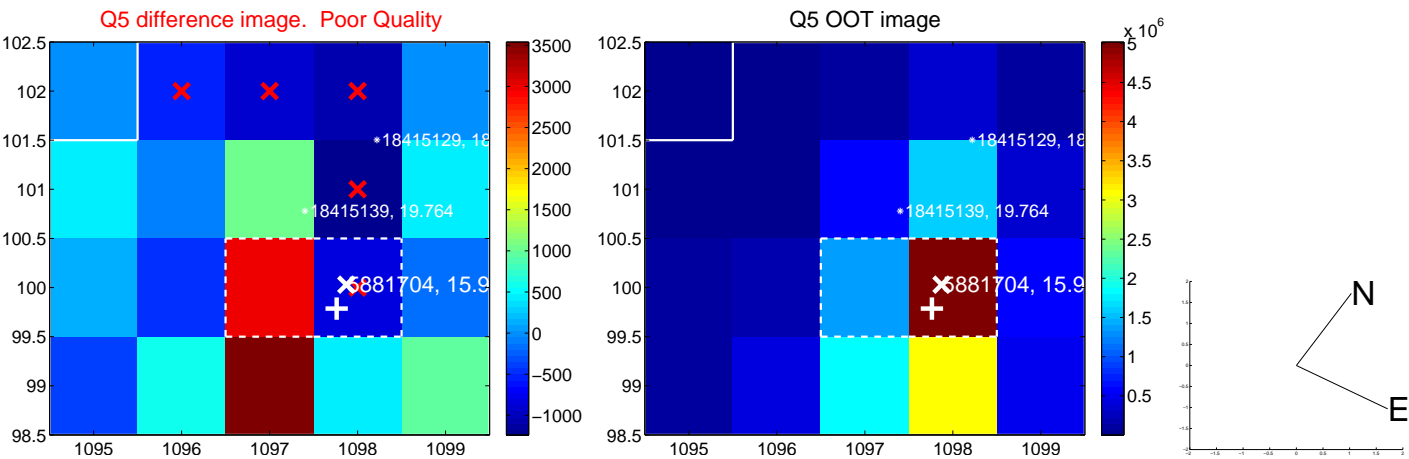


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

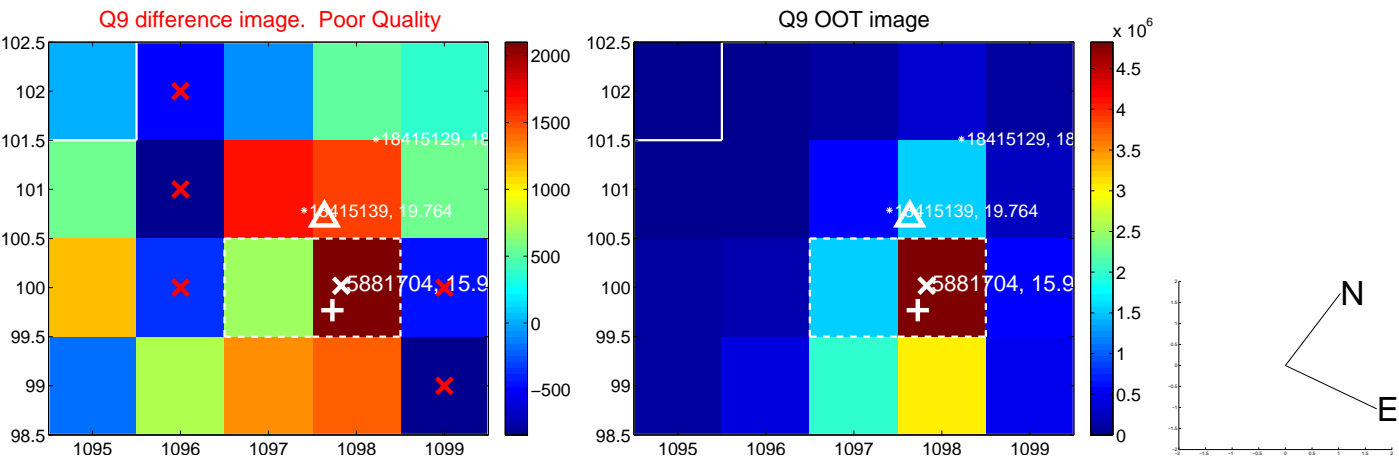
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



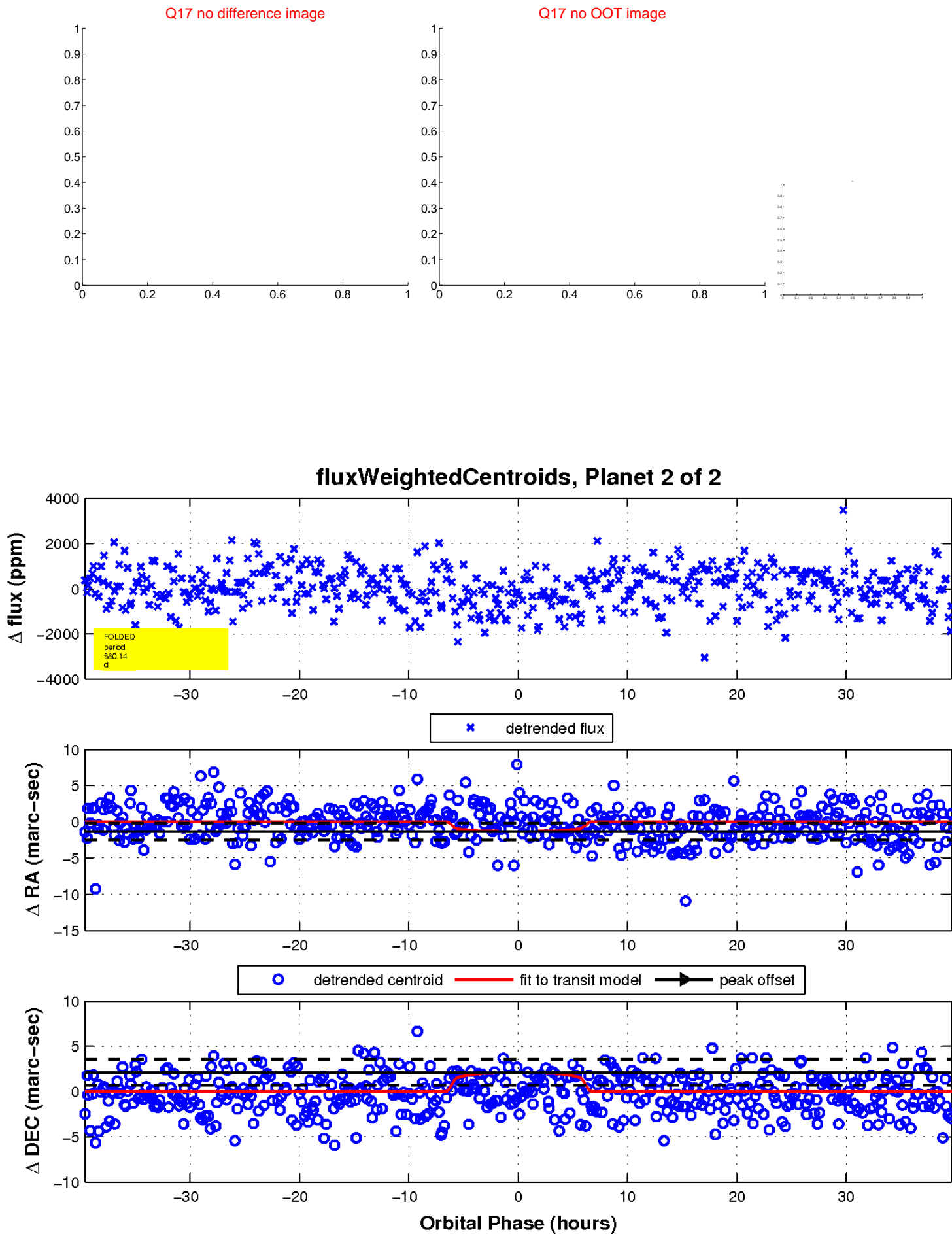
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

