

KIC 007831302

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})
007831302-01	OBS	No	0.680047	131.726690	60.7	1.943	11.1	12.7	3.12	8381	2.82	117164.39
007831302-02	OBS	No	0.680033	132.063839	37.7	1.797	10.1	7.7	3.12	8381	2.23	117167.52
007831302-03	OBS	No	0.958162	131.868374	69.4	3.298	8.3	7.3	3.12	8381	3.03	74175.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007831302-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007831302-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007831302-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

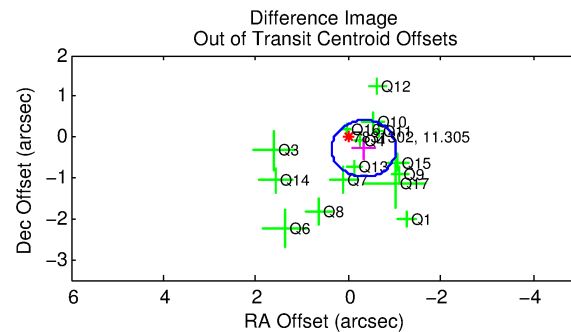
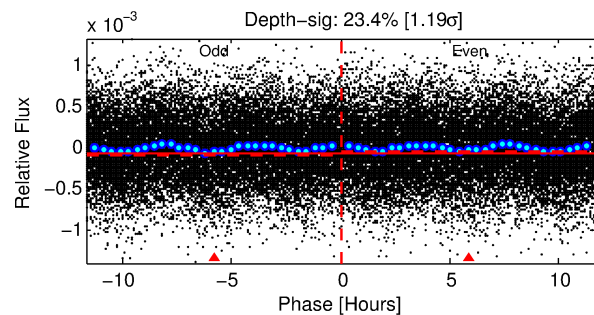
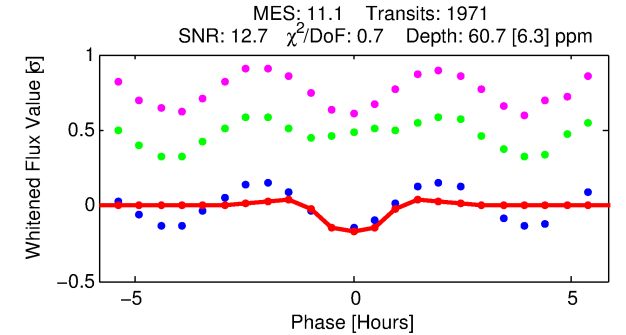
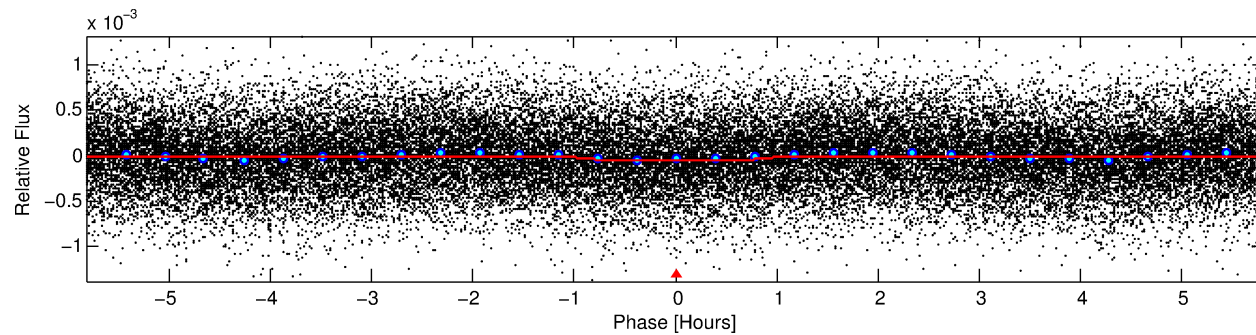
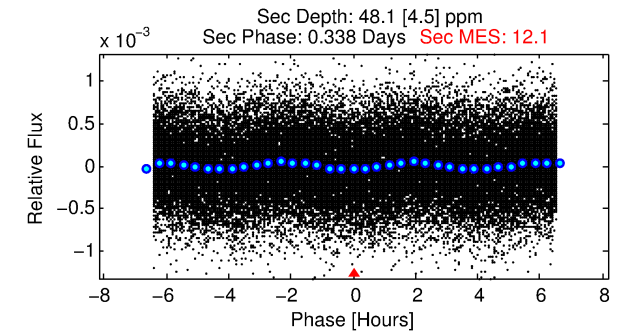
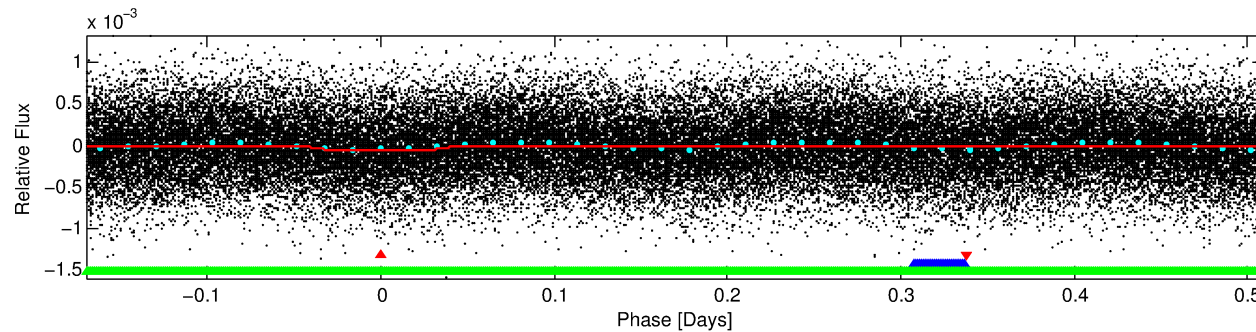
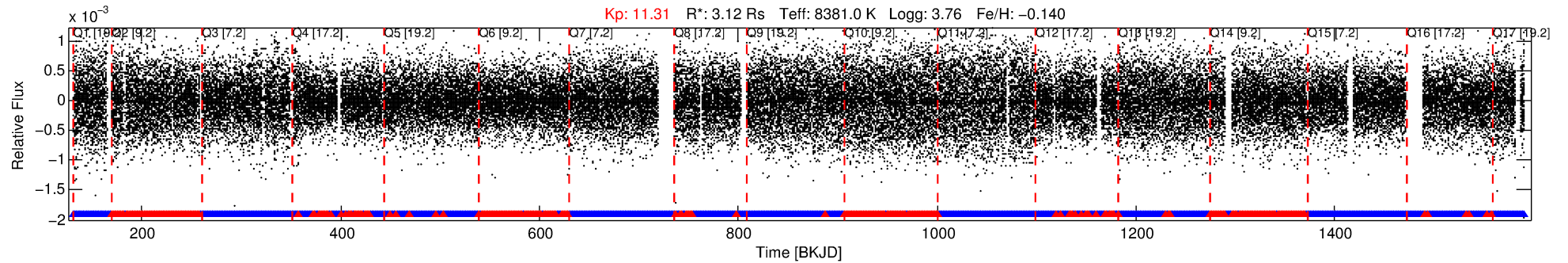
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007831302-01

No Significant Match Found

DV One-Page Summary

KIC: 7831302 Candidate: 1 of 3 Period: 0.680 d



DV Fit Results:

Period = 0.68005 [0.00001] d
Epoch = 131.7267 [0.0018] BKJD
Rp/R* = 0.0083 [0.0027]
a/R* = 1.55 [1.84]
b = 0.90 [0.45]
Seff = 117164.39 [88397.47]
Teq = 4718 [890] K
Rp = 2.82 [1.60] Re
a = 0.0192 [0.0087] AU
Ag = 1.22 [1.19] [0.18σ]
Teffp = 7664 [1289] K [1.88σ]

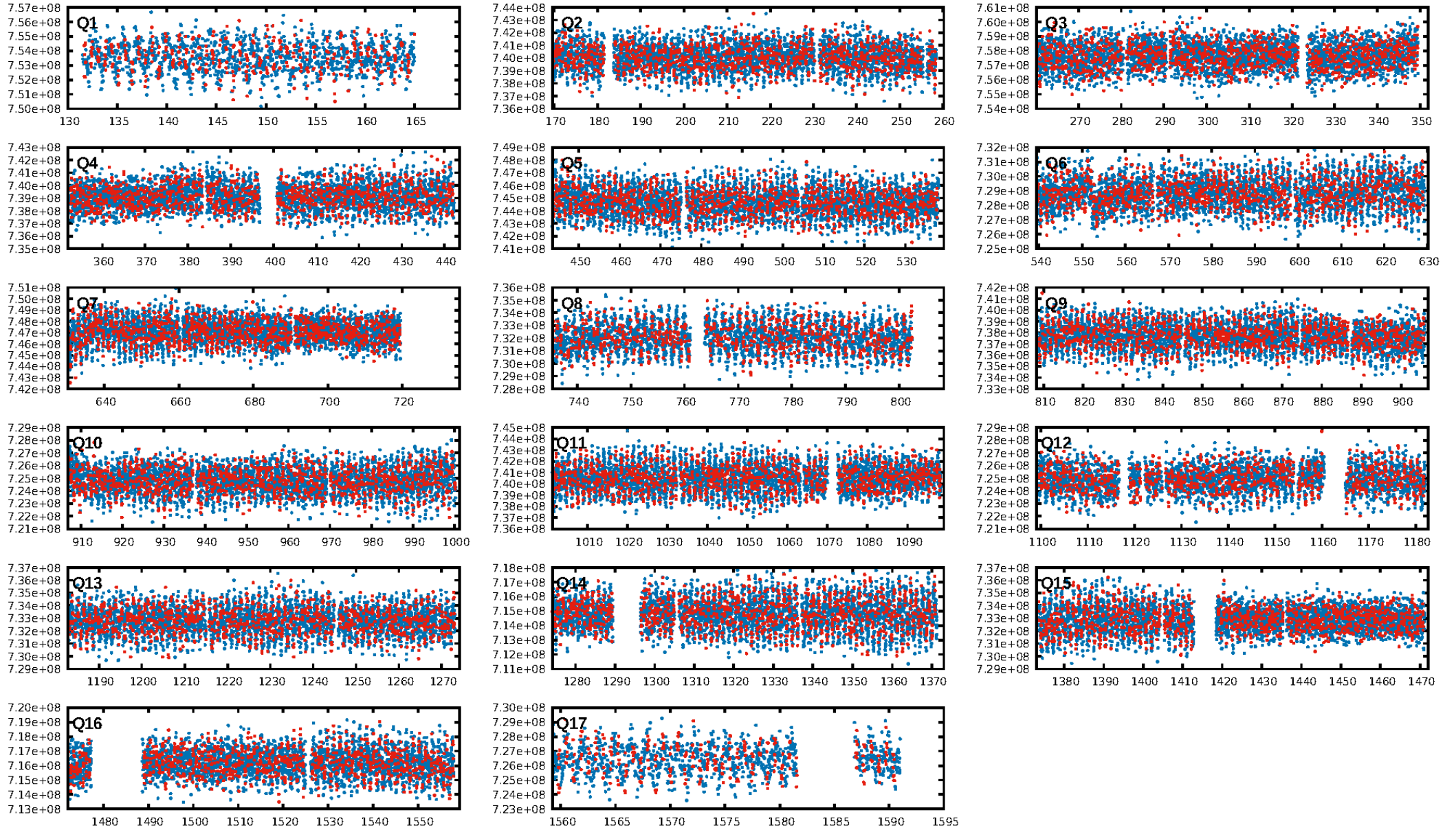
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 91.9% [1.74σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.00e-14
RollingBand-fgt: 0.72 [1354/1883]
GhostDiagnostic-chr: 2.628
Centroid-sig: 1.1%
Centroid-so: 0.104 arcsec [0.72σ]
OotOffset-rm: 0.435 arcsec [1.88σ]
KicOffset-rm: 0.541 arcsec [2.53σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 1.00 [17/17]

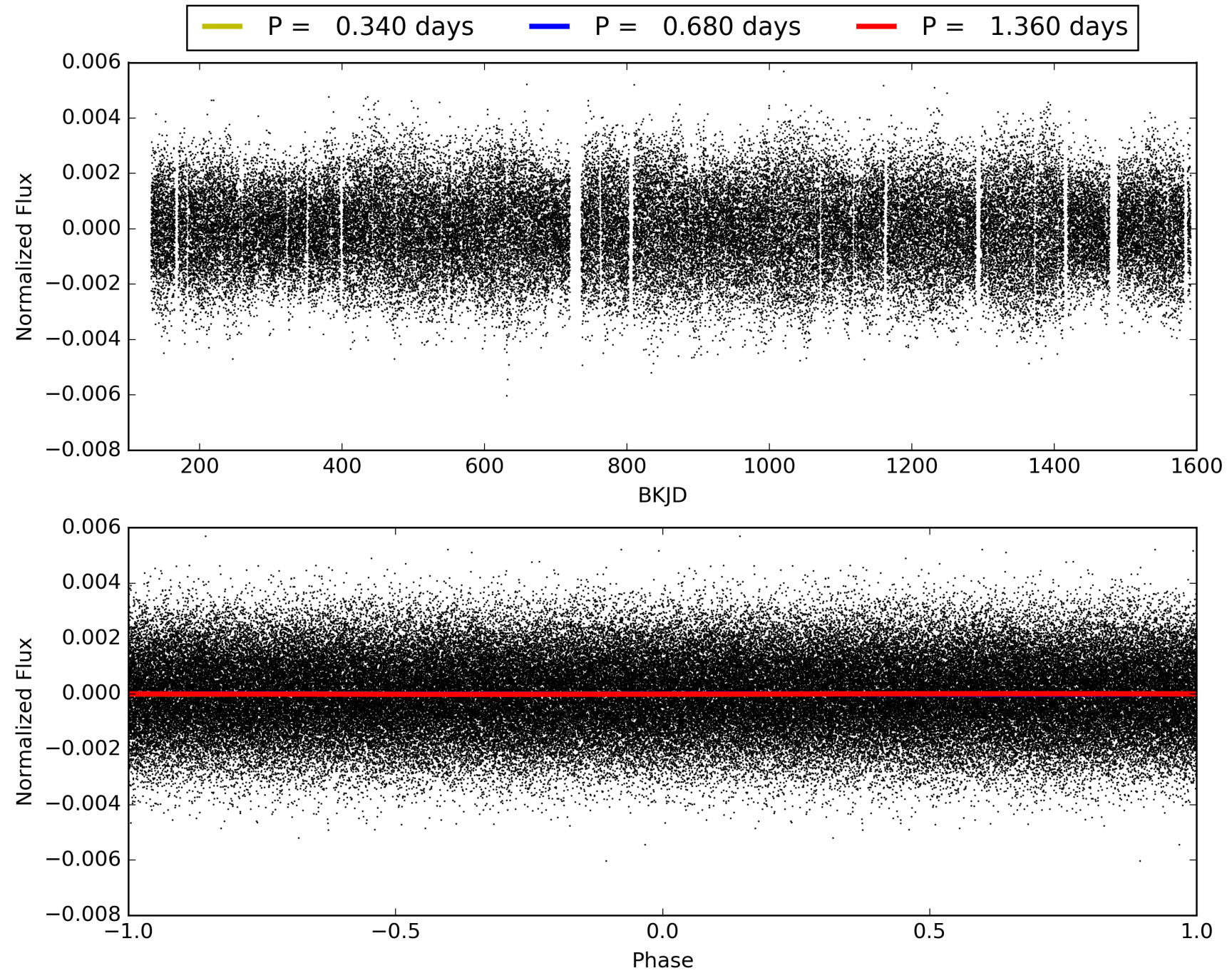
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007831302-01, PDC Light Curves

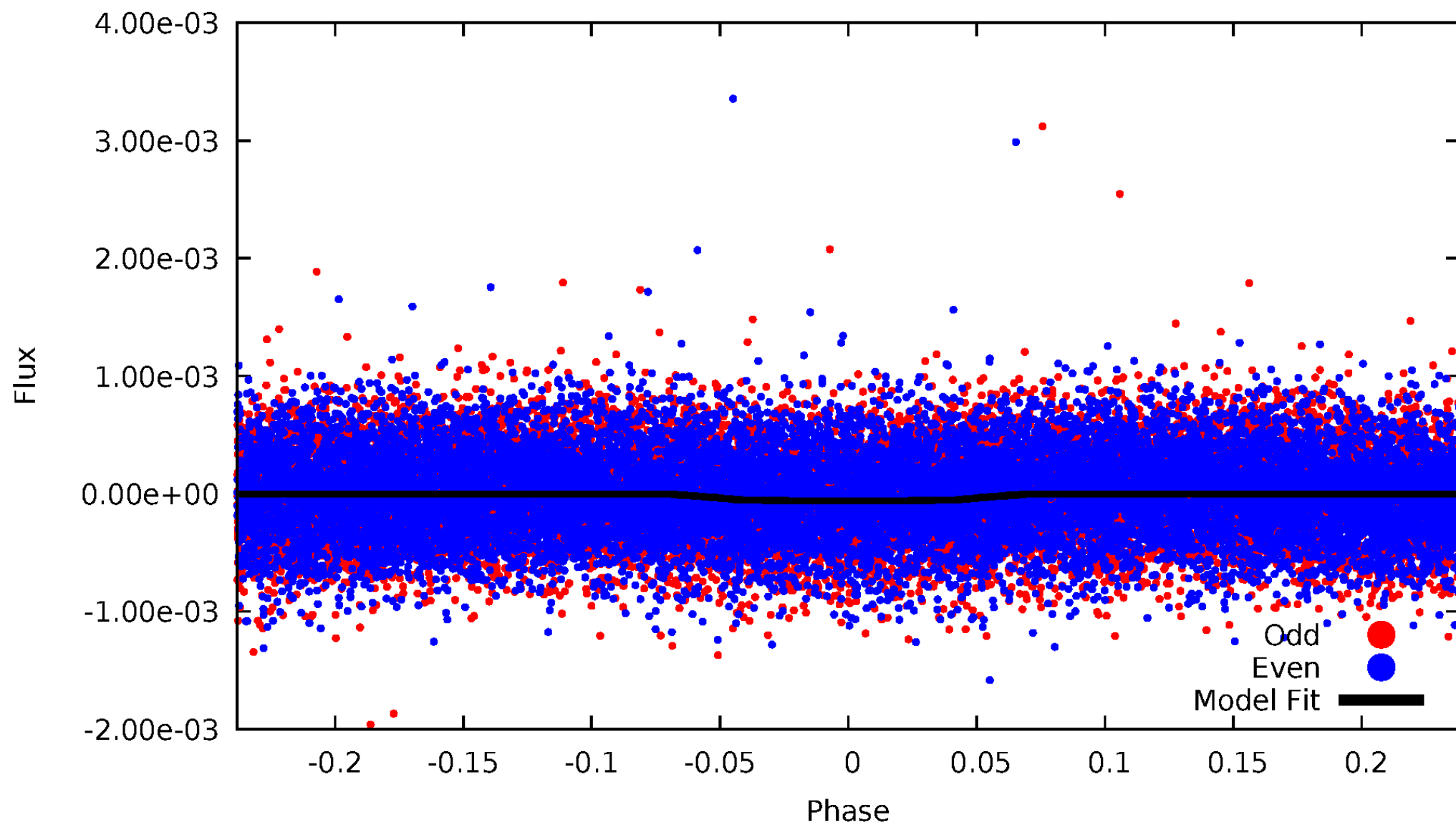


TCE 007831302-01



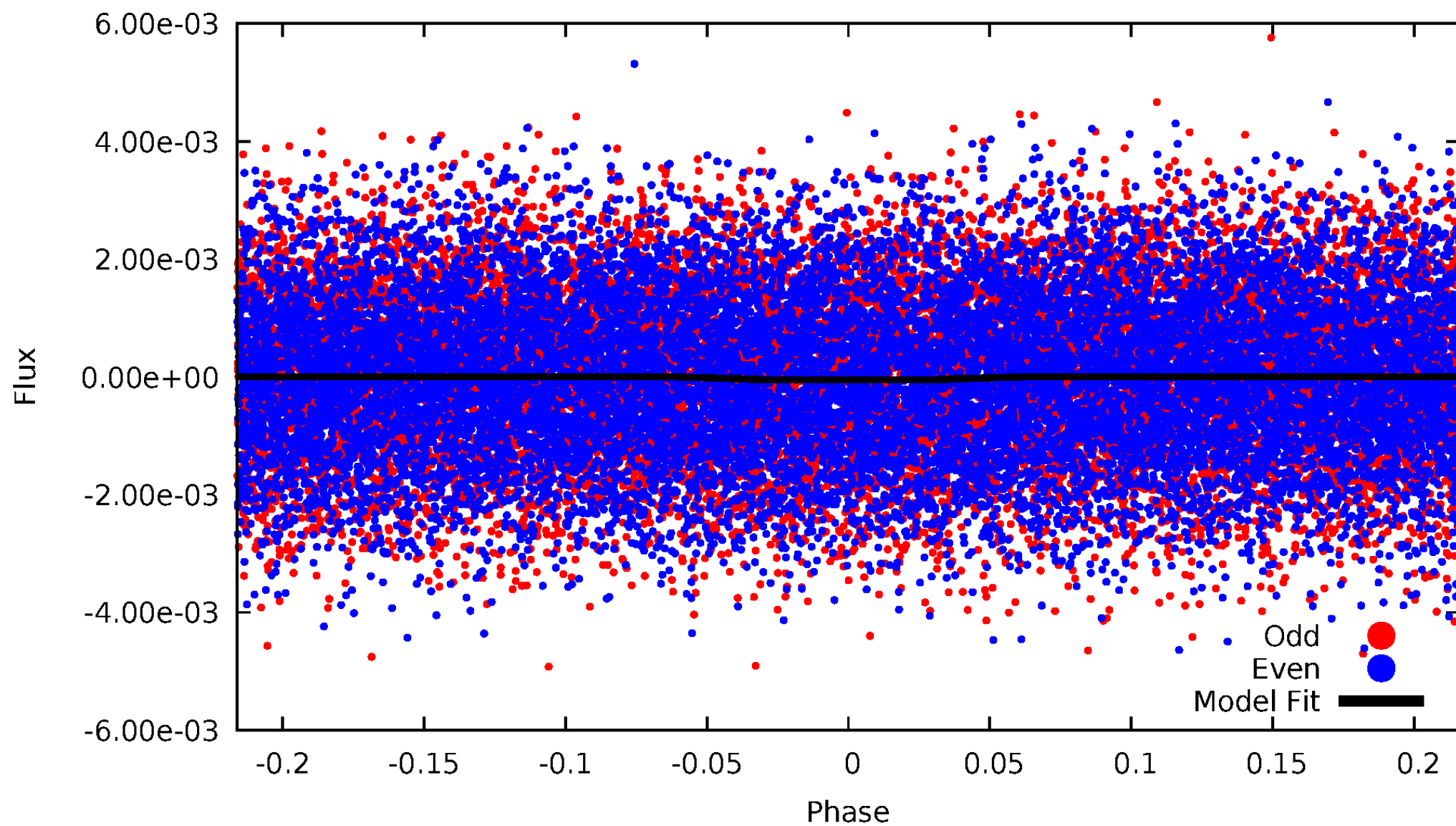
DV Odd/Even

TCE 007831302-01



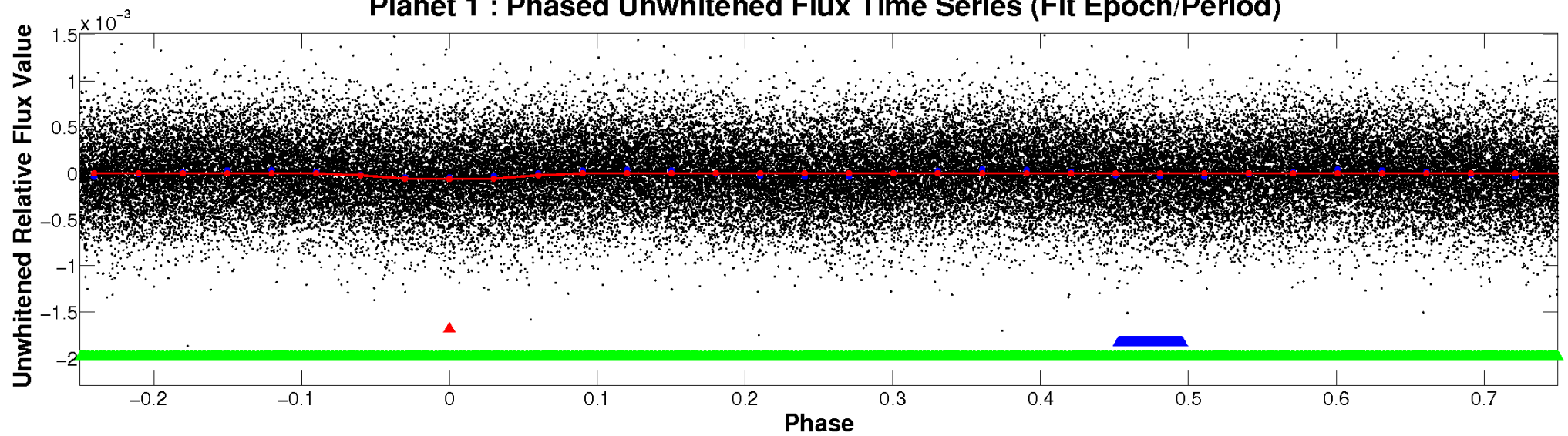
ALT Odd/Even

TCE 007831302-01

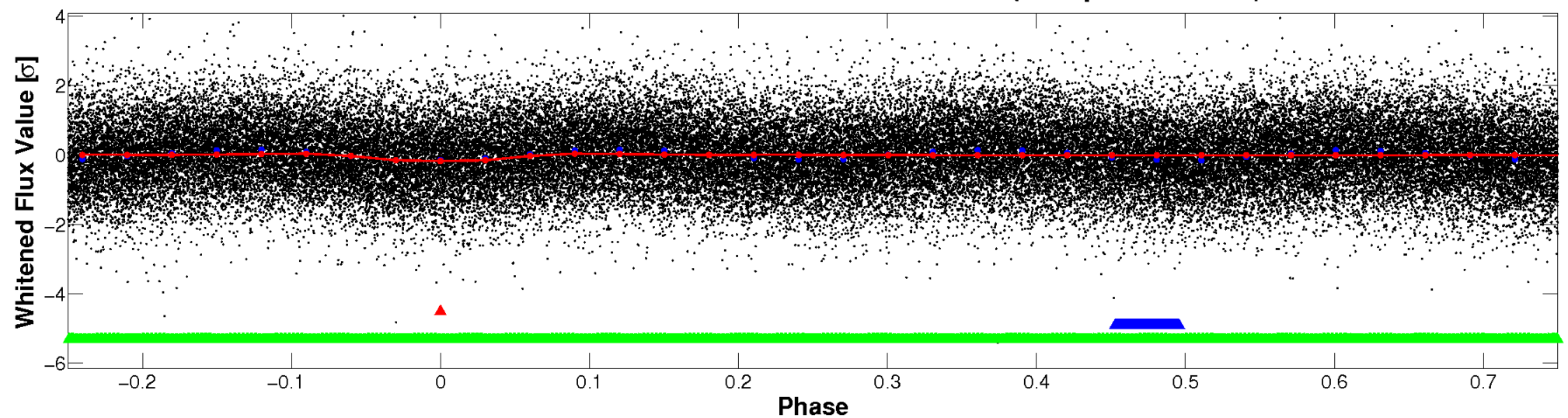


Non-Whitened Vs. Whitened Light Curve

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

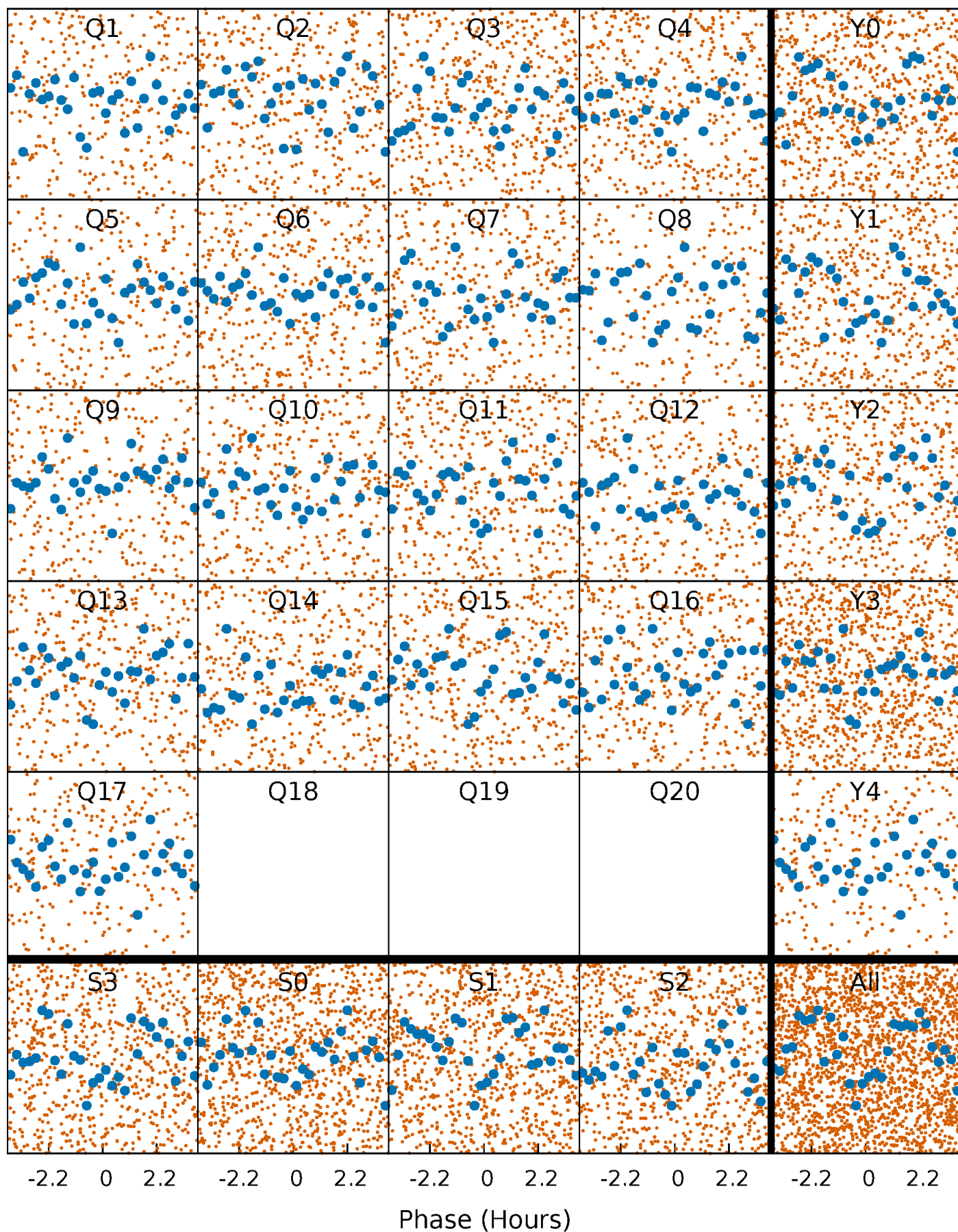


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



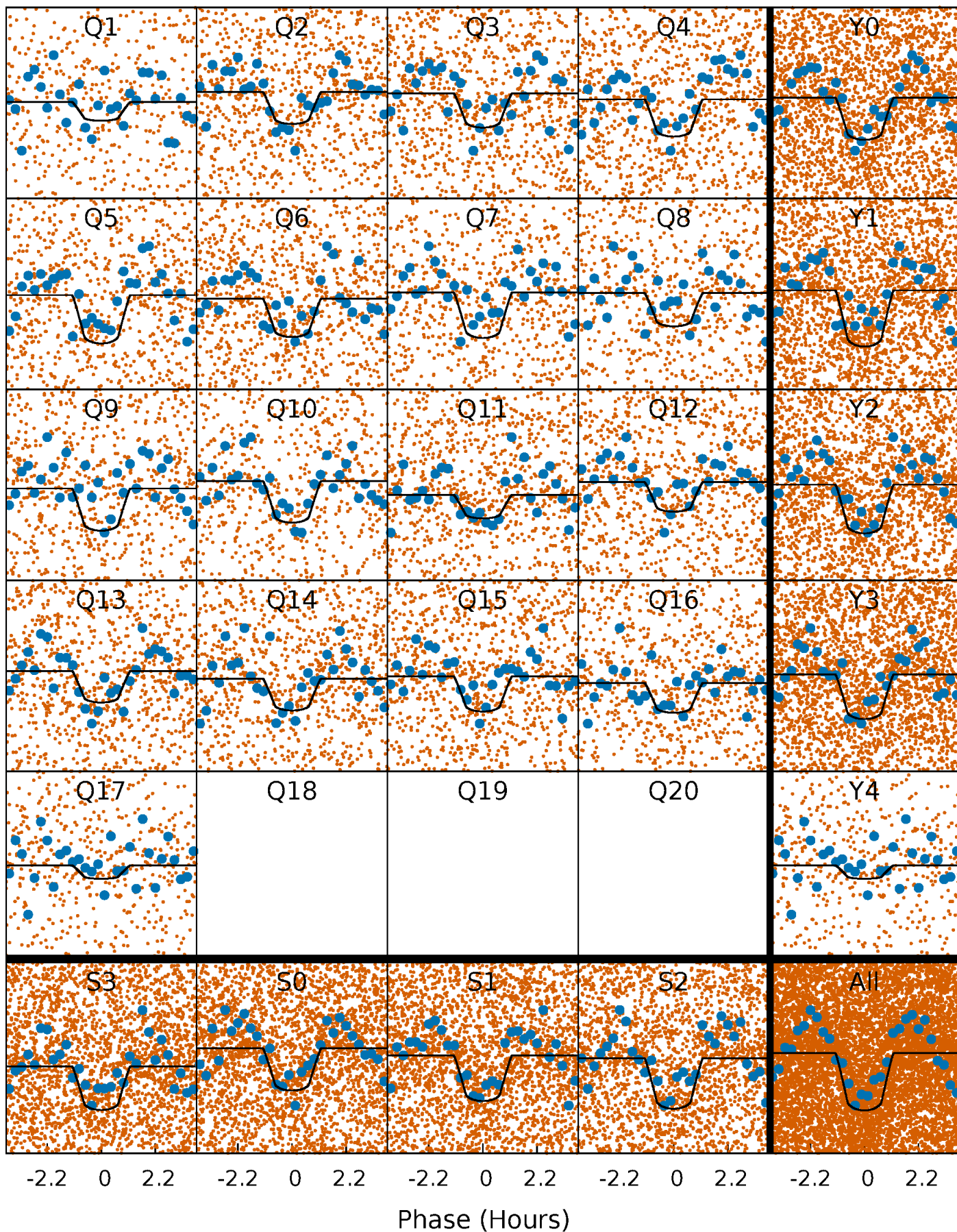
PDC Quarter-Phased Transit Curves

TCE 007831302-01 P= 0.680047 Days $T_0=131.726690$ (BKJD)



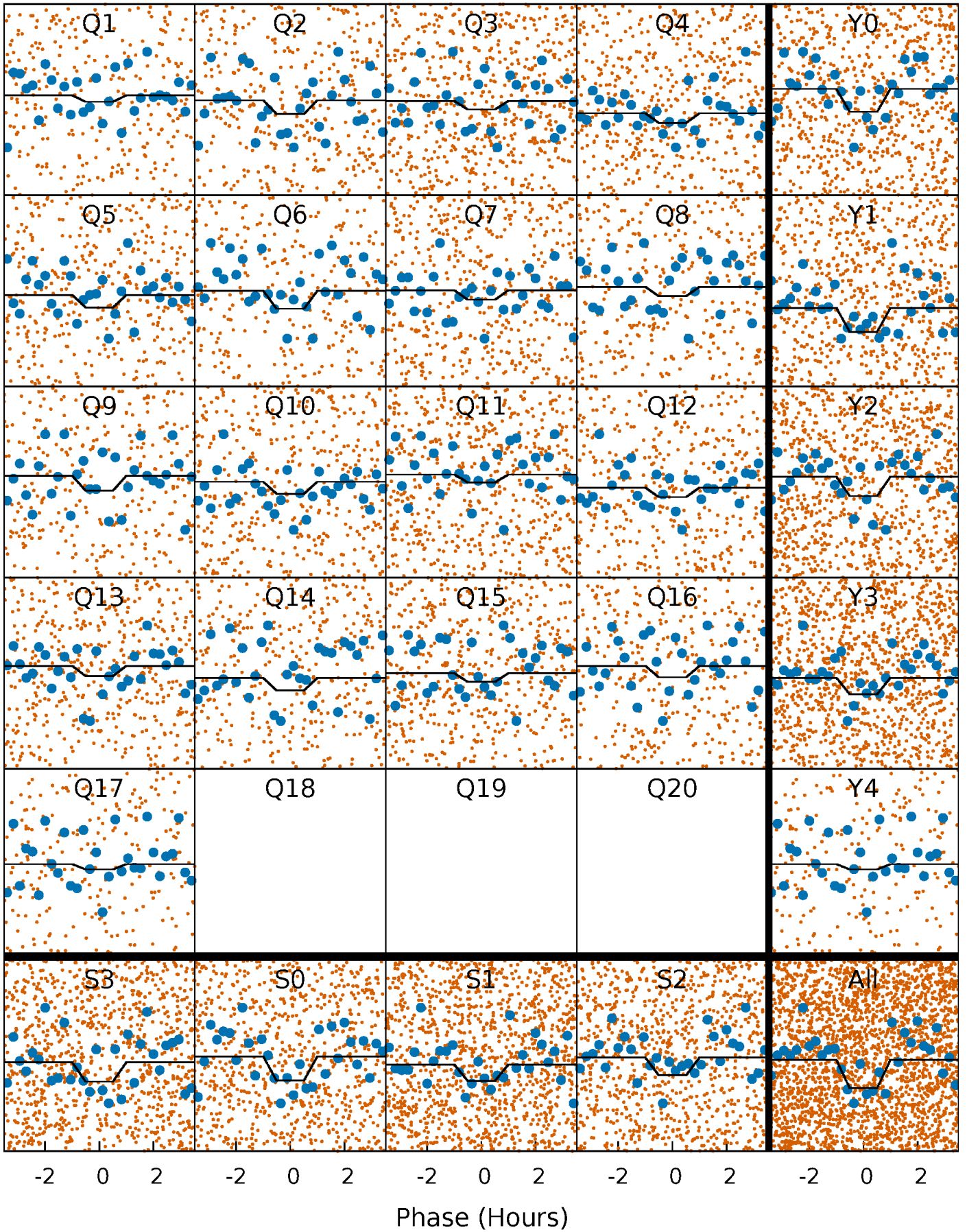
DV Quarter-Phased Transit Curves

TCE 007831302-01 P= 0.680047 Days $T_0=131.726690$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

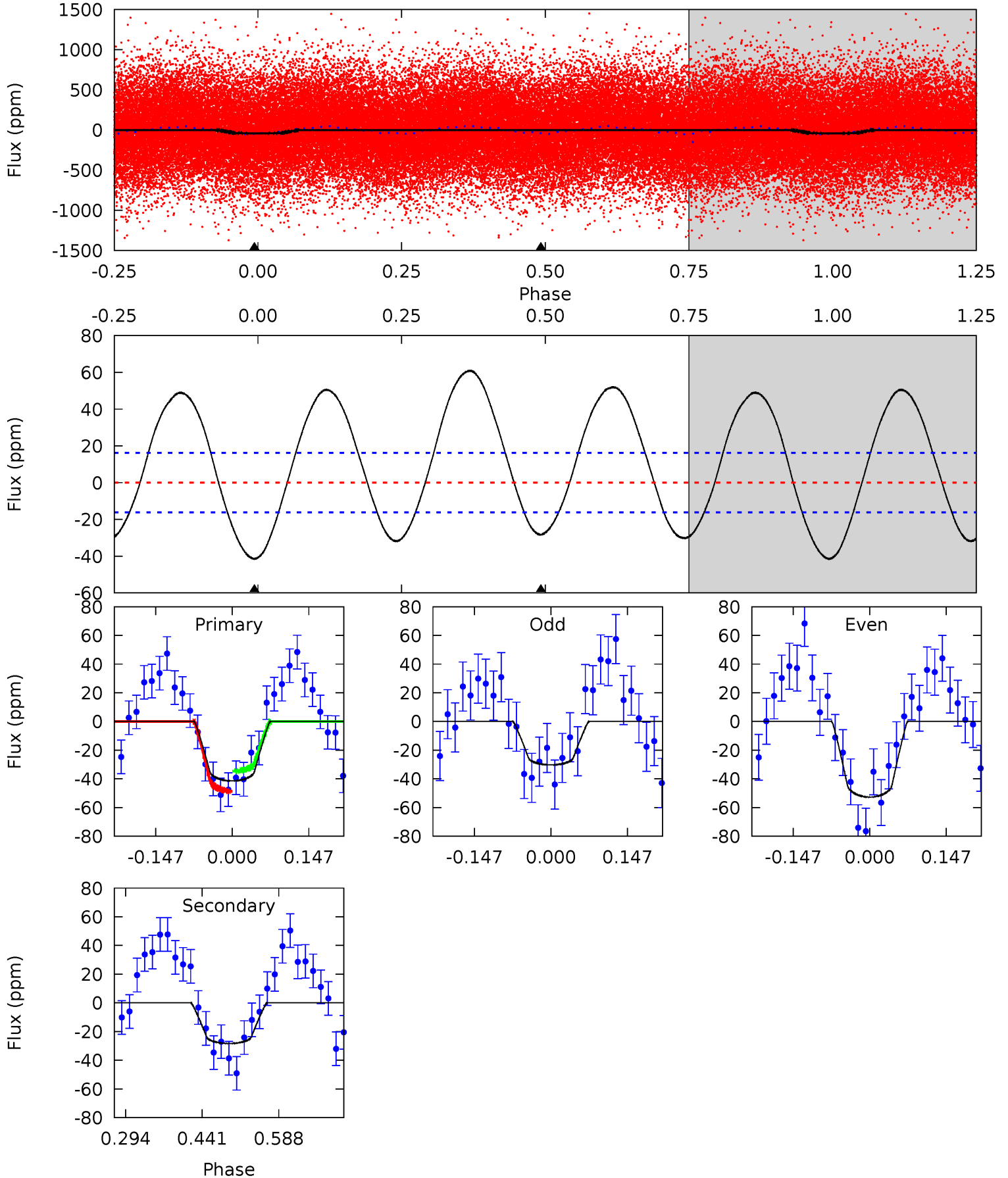
TCE 007831302-01 P= 0.680041 Days $T_0=131.730569$ (BKJD)



DV Model-Shift Uniqueness Test

007831302-01, P = 0.680047 Days, E = 131.046643 Days

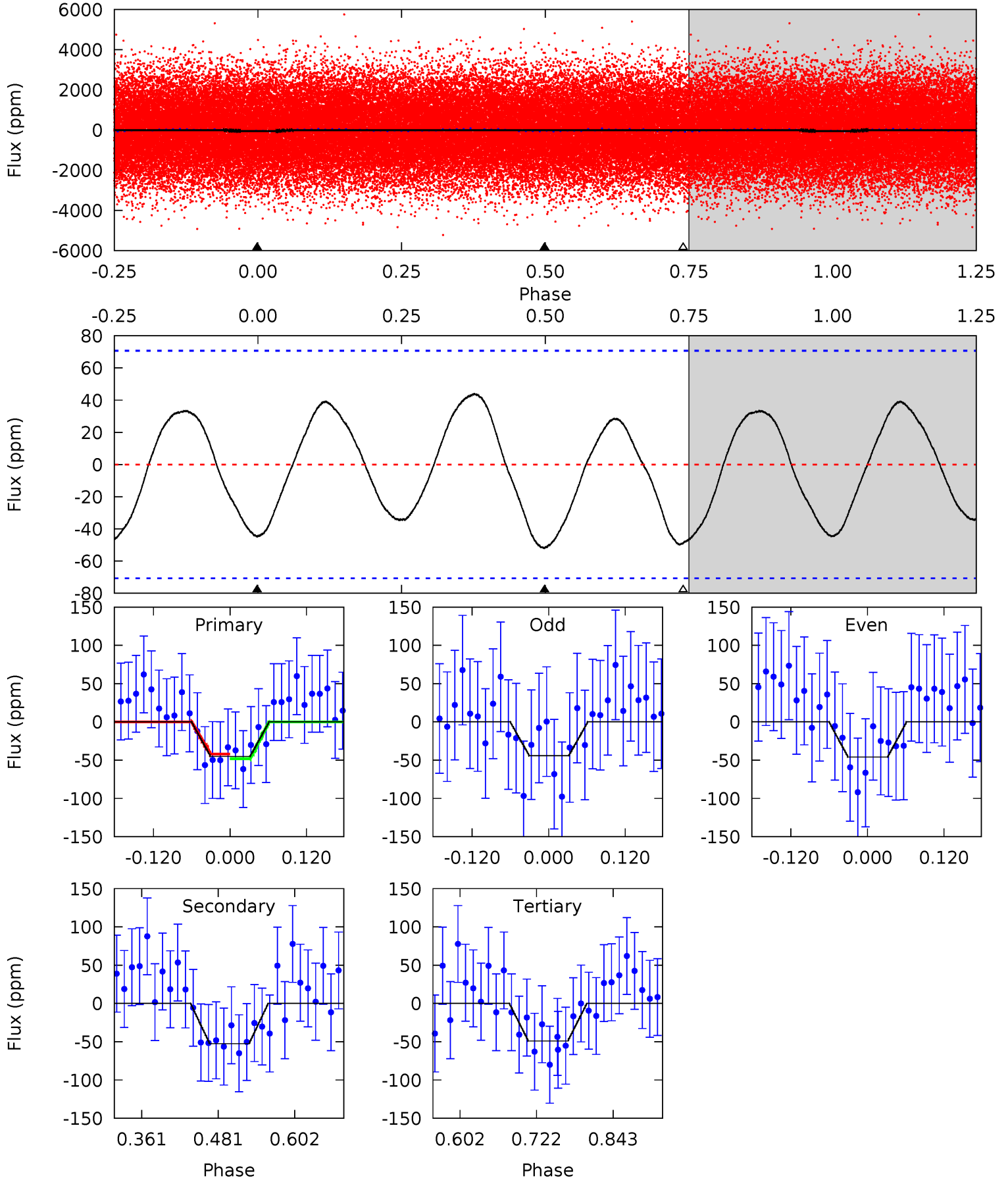
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.5	7.84	0	0	4.48	1.45	7.23	11.5	11.5	7.84	7.84	3.11	0.91	0.59	1.93



Alt Model-Shift Uniqueness Test

007831302-01, P = 0.680041 Days, E = 131.050528 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.89	3.36	3.14	0	4.53	1.55	1.81	-0.25	2.89	0.22	3.36	0.06	7.58	0.46	0.19



Stellar Parameters For KIC 007831302

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8381^{+203}_{-378}	$3.757^{+0.432}_{-0.108}$	$-0.140^{+0.300}_{-0.400}$	$3.120^{+0.897}_{-1.457}$	$2.032^{+0.339}_{-0.467}$	$0.094^{+0.384}_{-0.040}$
	+2%/-5%	+11%/-3%	+214%/-286%	+29%/-47%	+17%/-23%	+407%/-43%
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 007831302-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-28 ± 4	$2.56^{+1.12}_{-1.03}$	6320^{+534}_{-778}	5683^{+2055}_{-1339}	$0.878^{+1.439}_{-0.456}$
Alt.	-52 ± 16	$2.07^{+1.03}_{-0.85}$	6293^{+551}_{-743}	8058^{+4353}_{-1874}	$2.325^{+4.927}_{-1.316}$

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 $A_{obs} \gg 1.0$

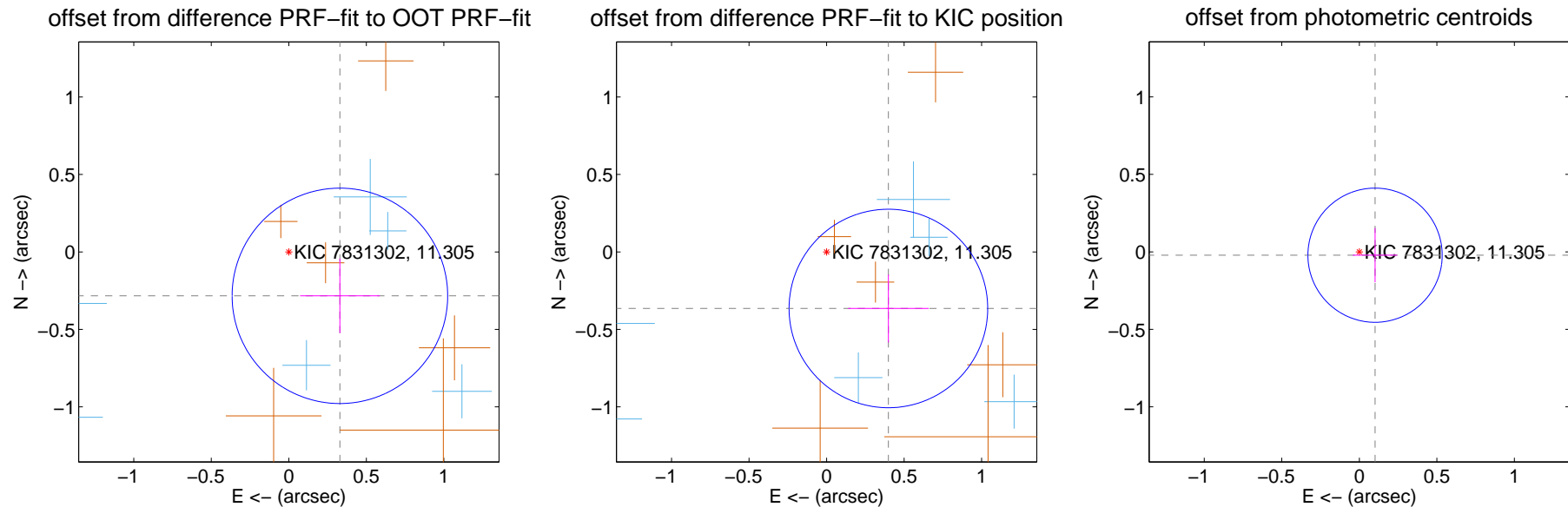
DV Centroid Data

Supplemental centroid analysis for 007831302-01. **Kepler magnitude: 11.30.** Transit SNR 12.67

There are 9 quarters with good PRF difference image offsets

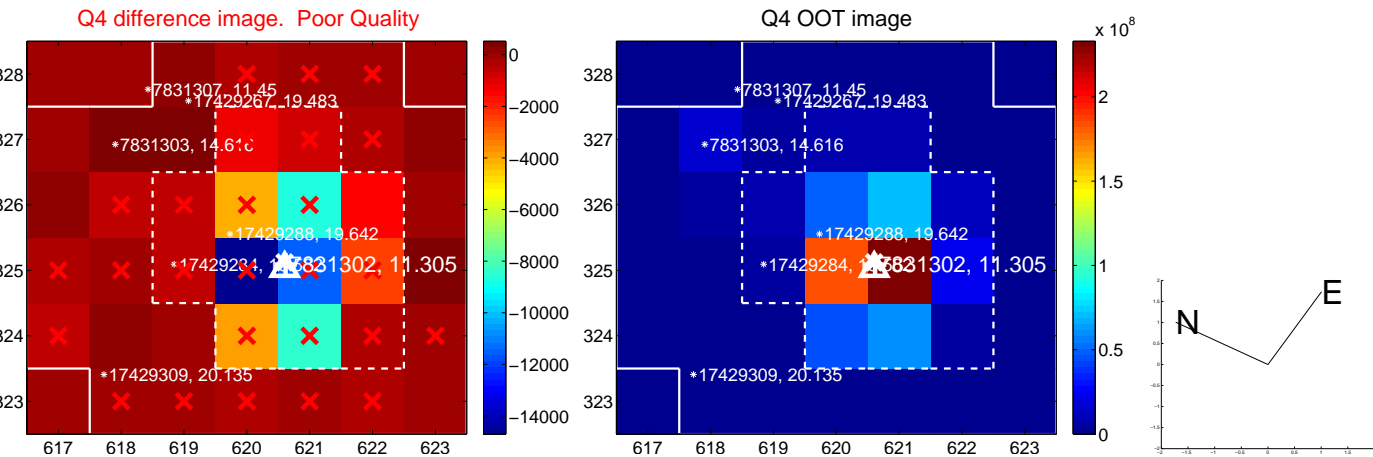
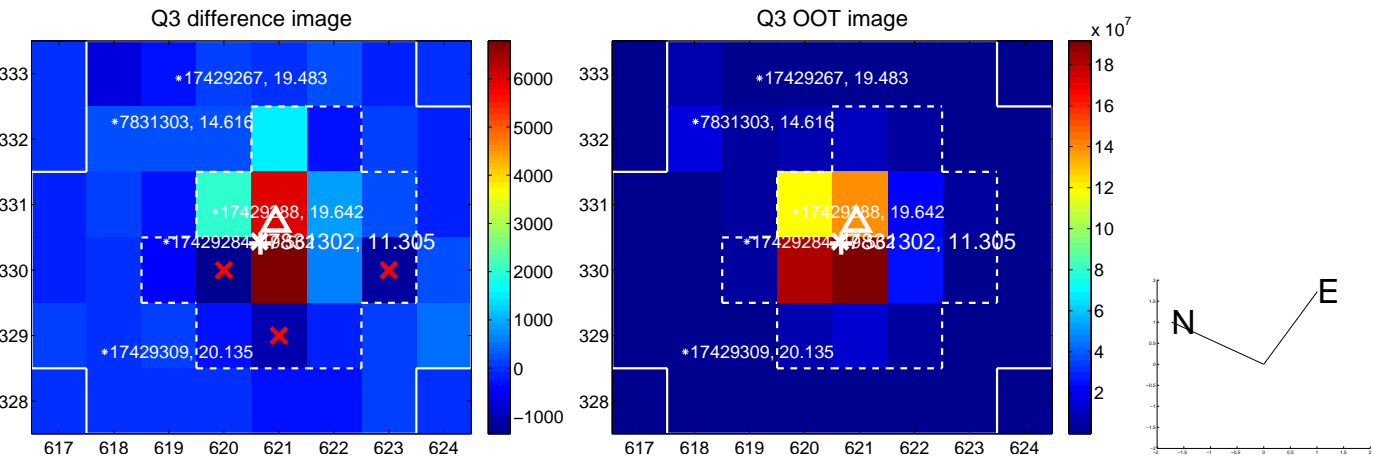
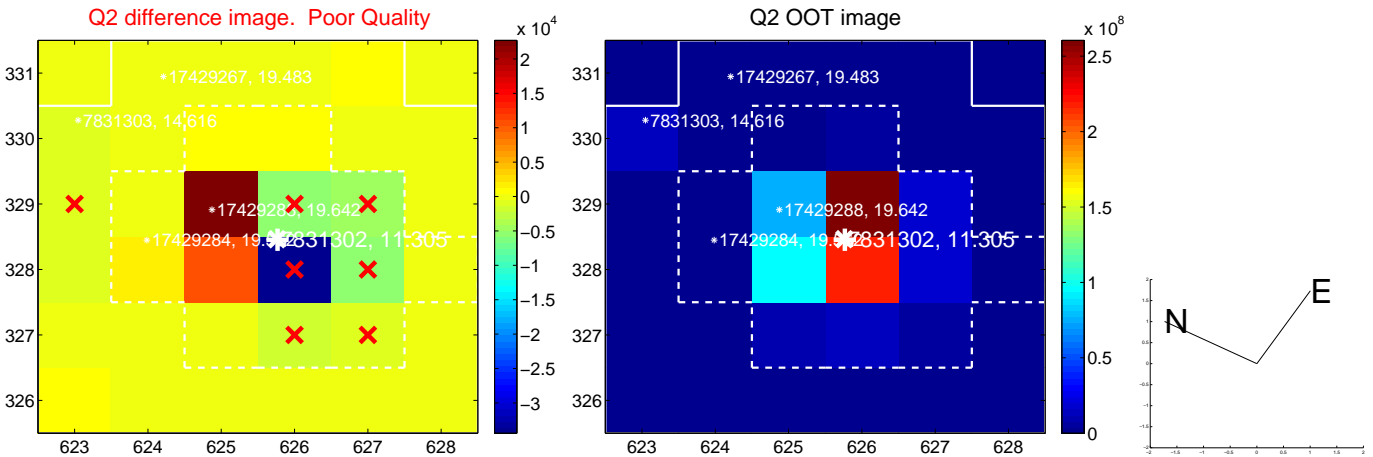
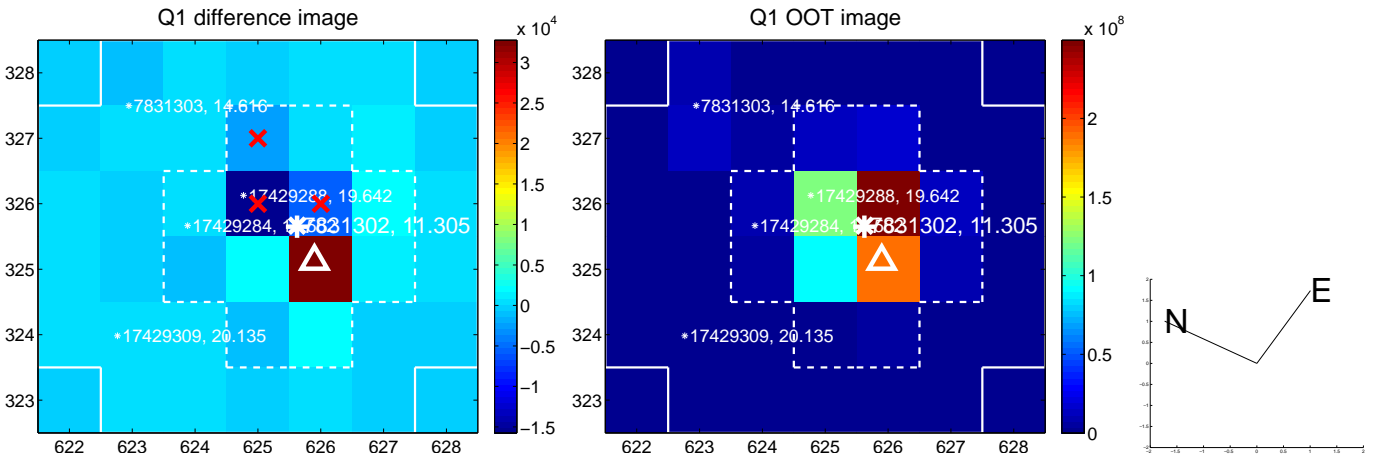
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.435 ± 0.232	1.88	-0.329 ± 0.257	-0.284 ± 0.240
PRF-fit source offset from KIC position	0.541 ± 0.214	2.53	-0.399 ± 0.260	-0.365 ± 0.219
photometric centroid source offset	0.10 ± 0.14	0.72	-0.10 ± 0.14	-0.02 ± 0.18

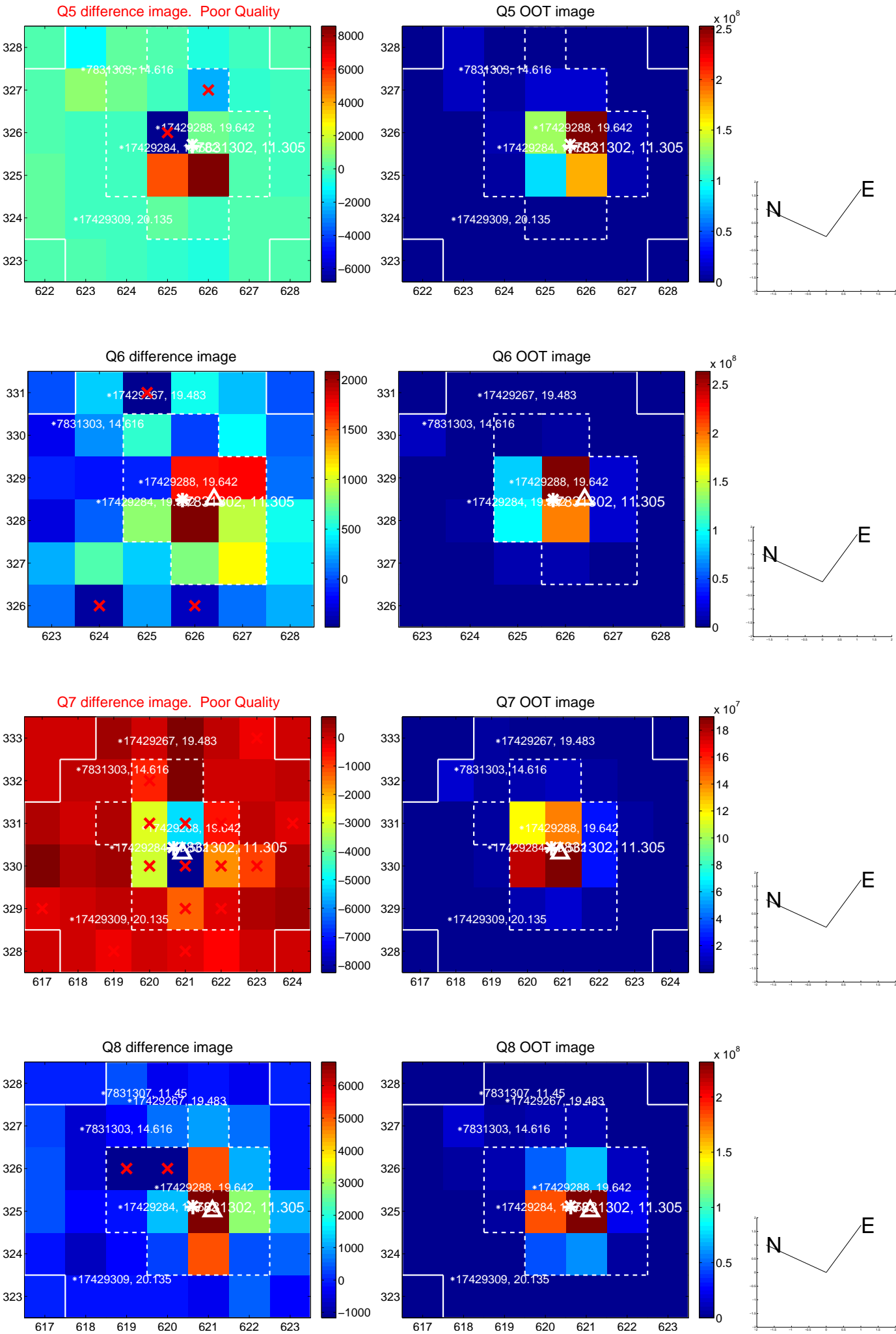


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

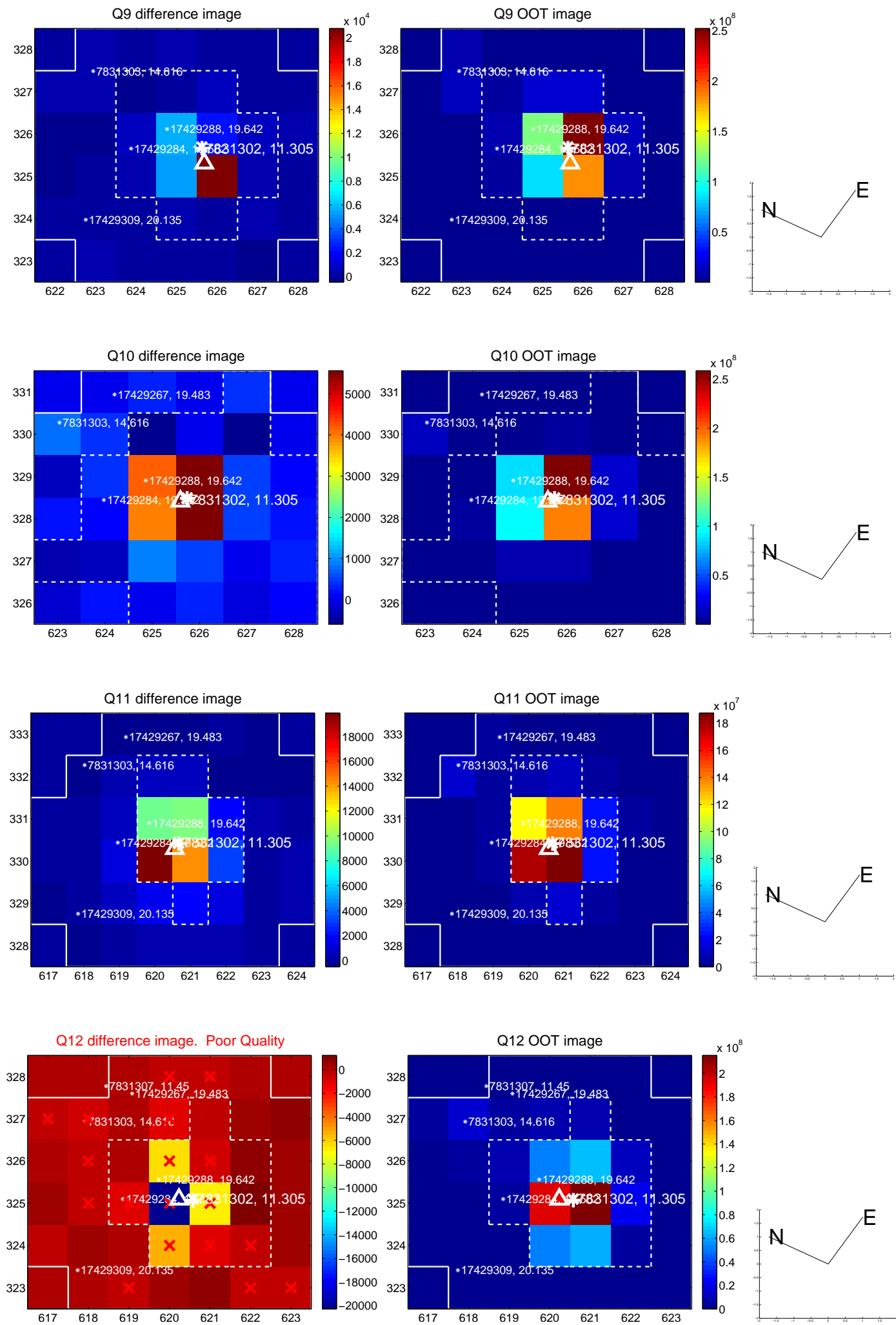
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



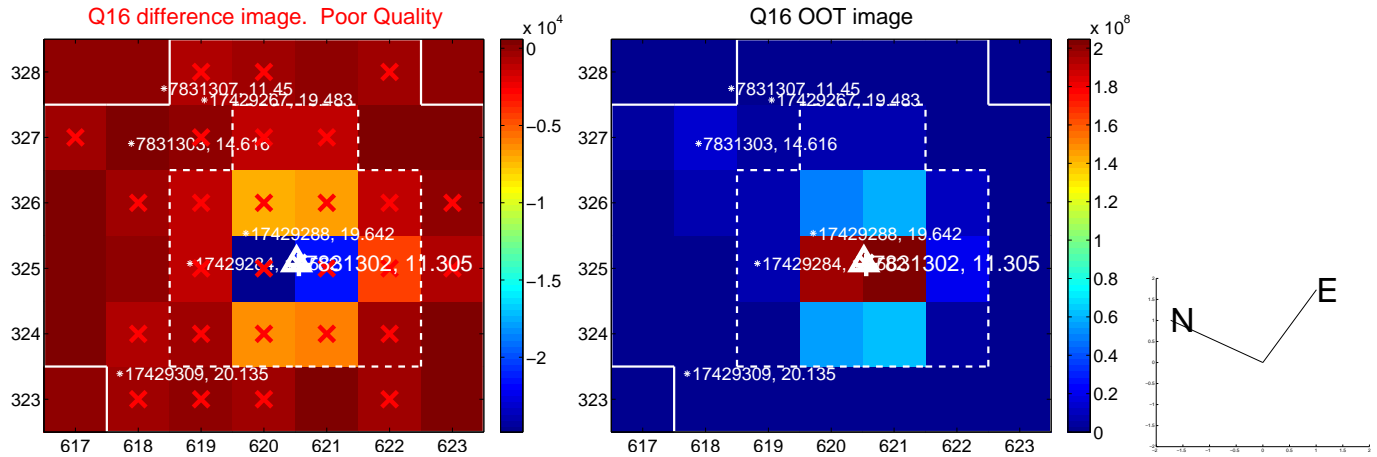
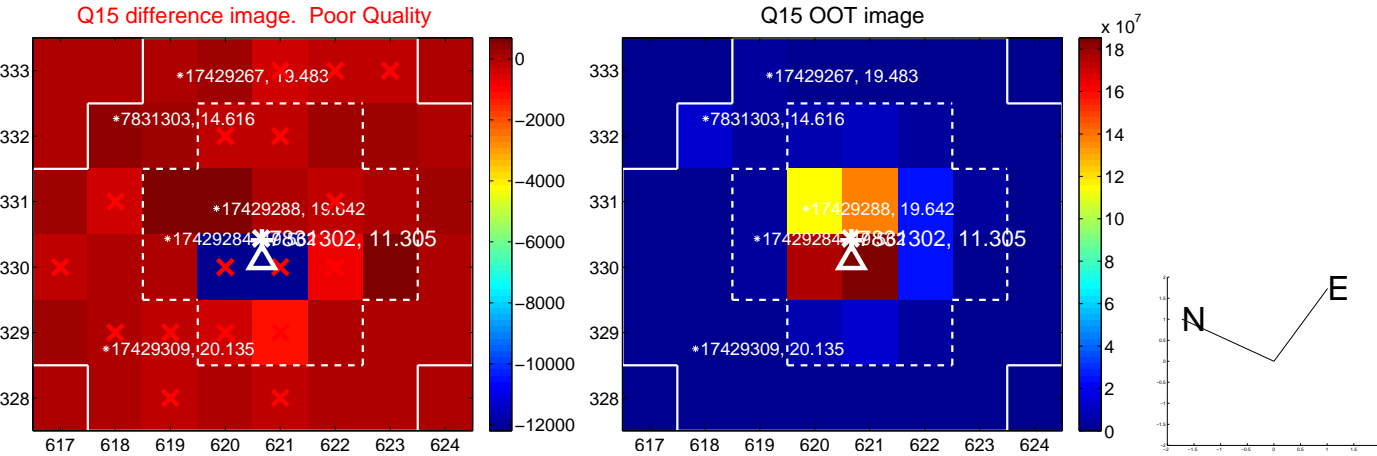
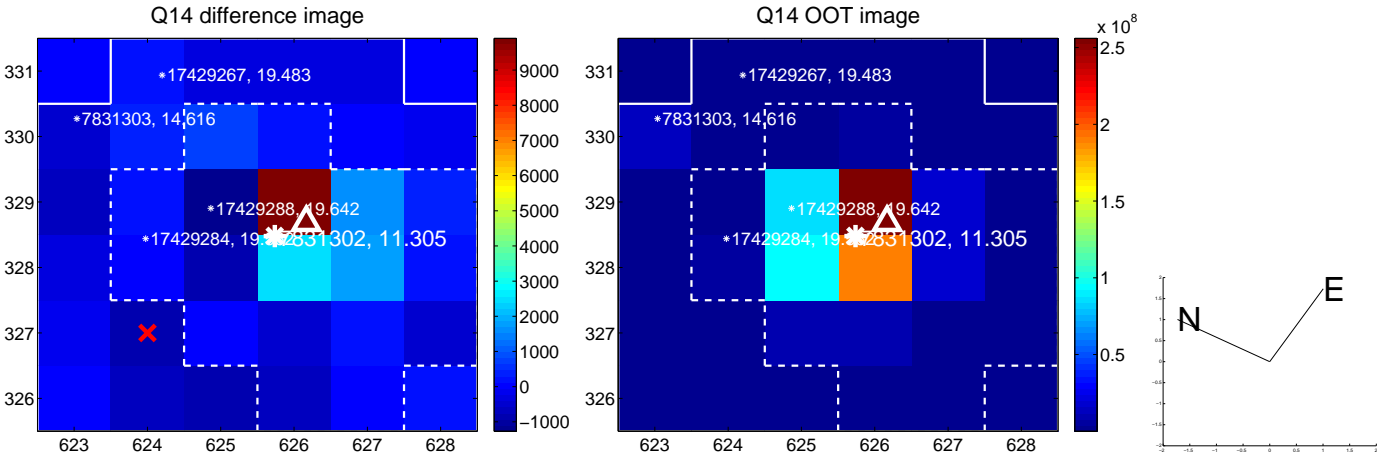
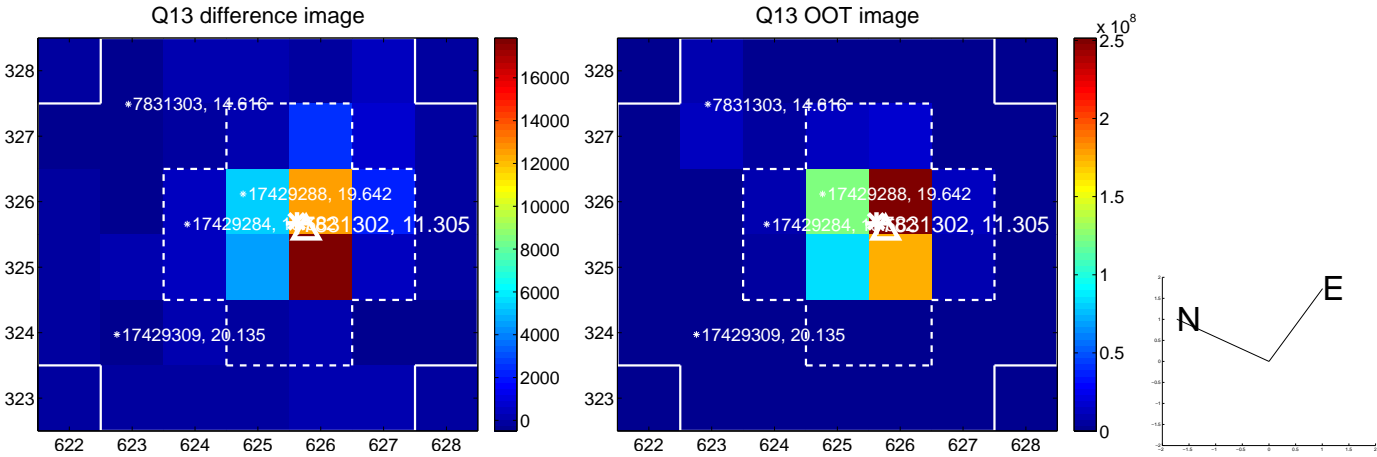
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



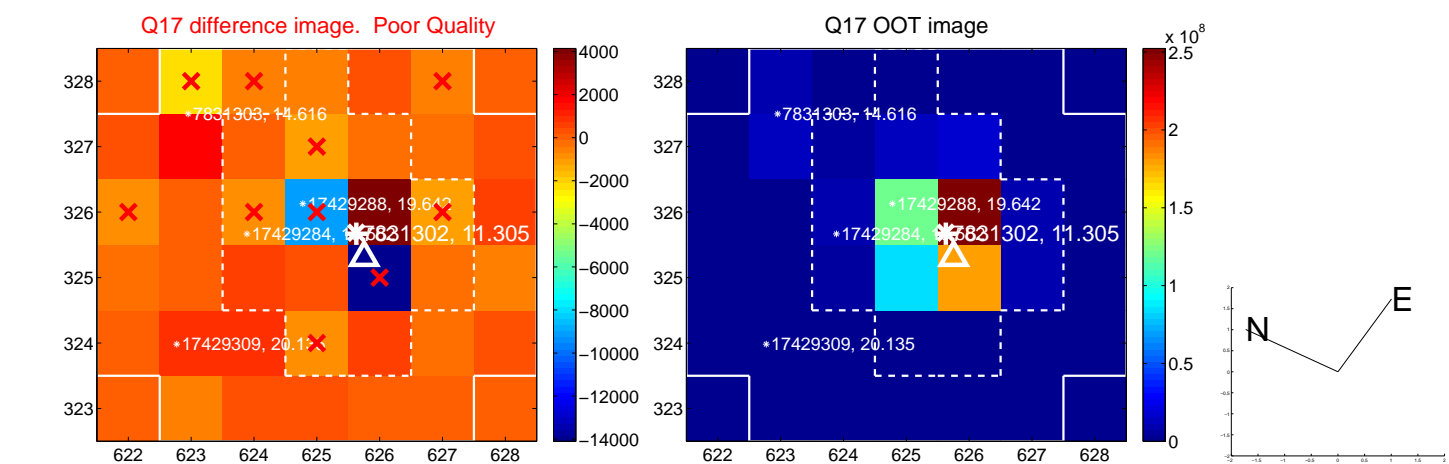
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



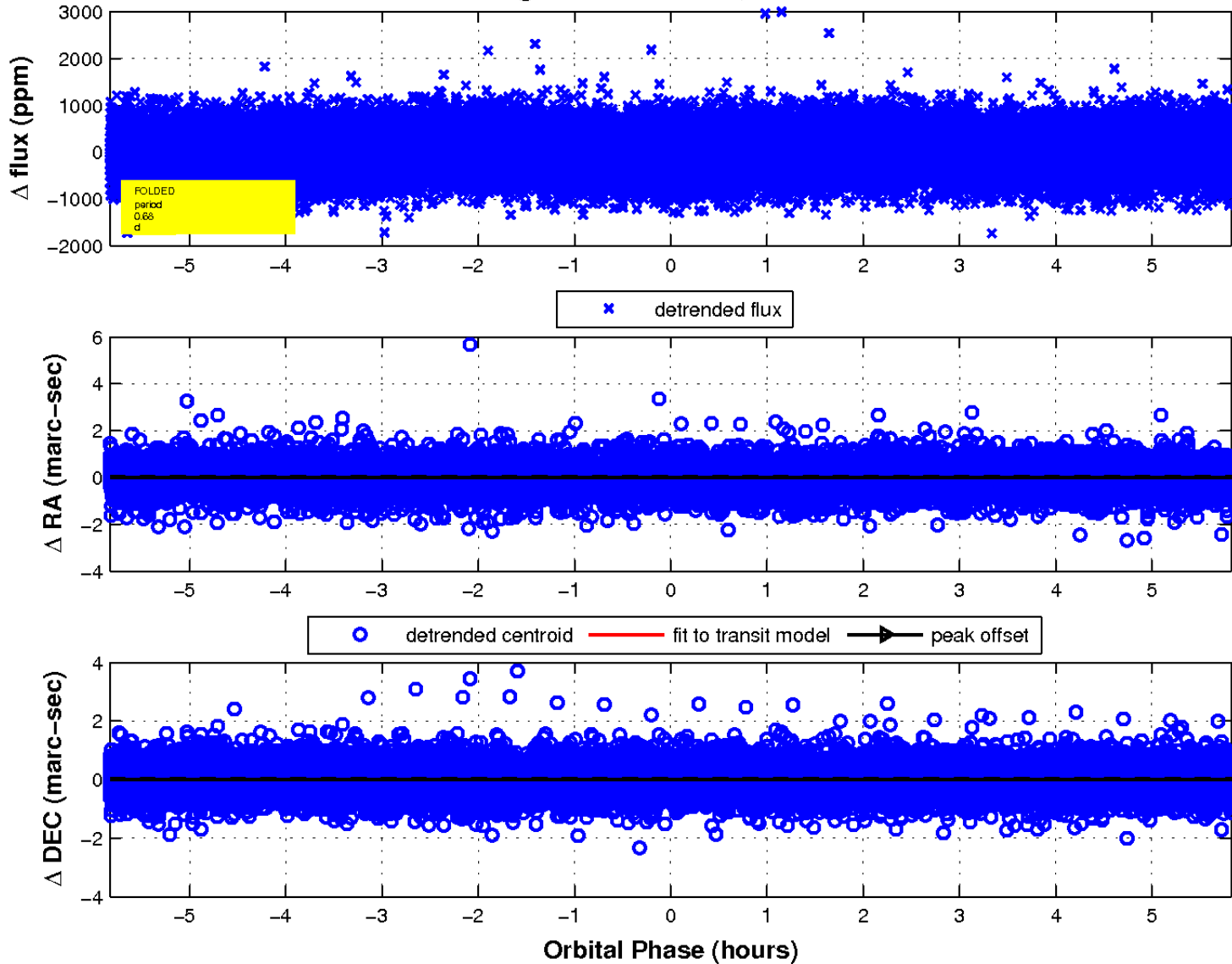
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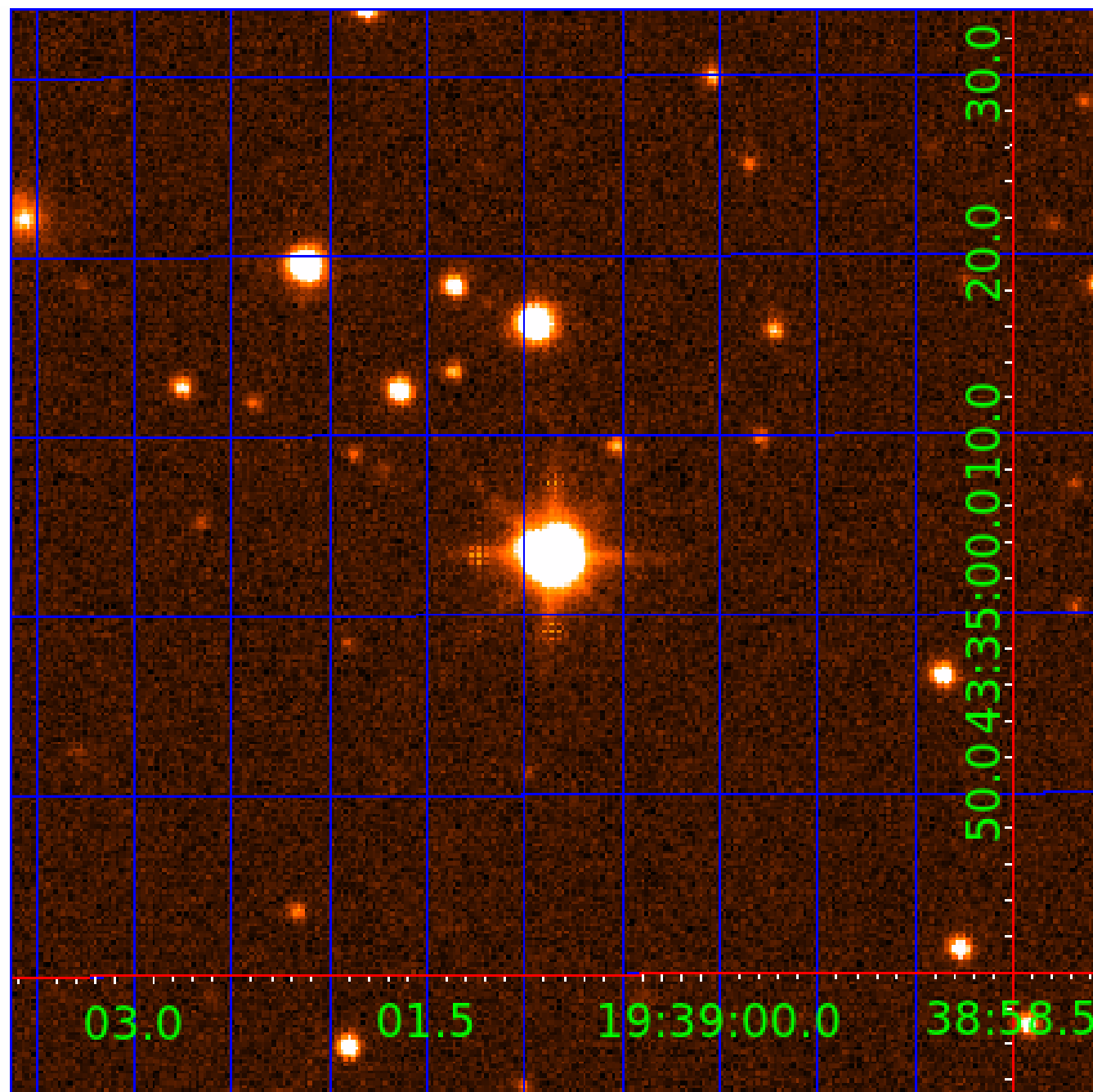


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 007831302

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})
007831302-01	OBS	No	0.680047	131.726690	60.7	1.943	11.1	12.7	3.12	8381	2.82	117164.39
007831302-02	OBS	No	0.680033	132.063839	37.7	1.797	10.1	7.7	3.12	8381	2.23	117167.52
007831302-03	OBS	No	0.958162	131.868374	69.4	3.298	8.3	7.3	3.12	8381	3.03	74175.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007831302-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007831302-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007831302-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

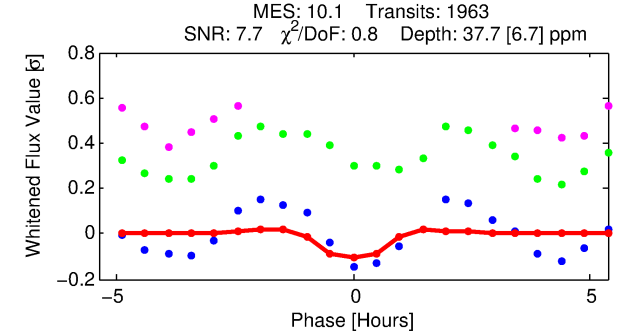
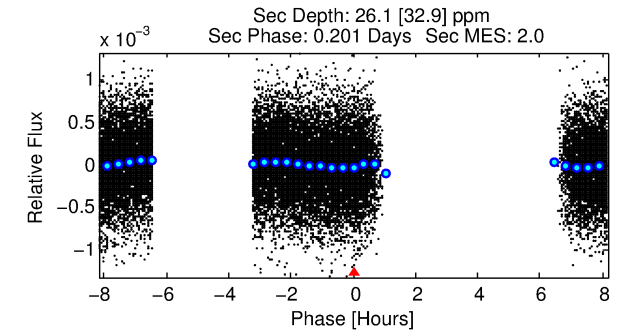
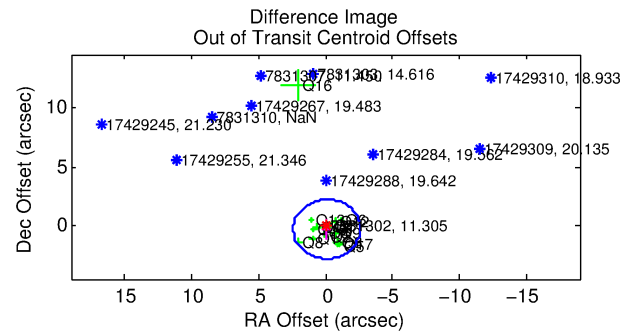
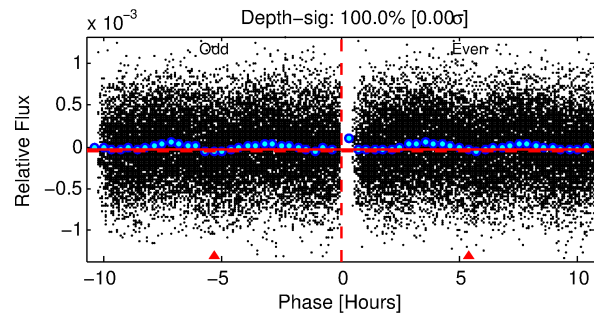
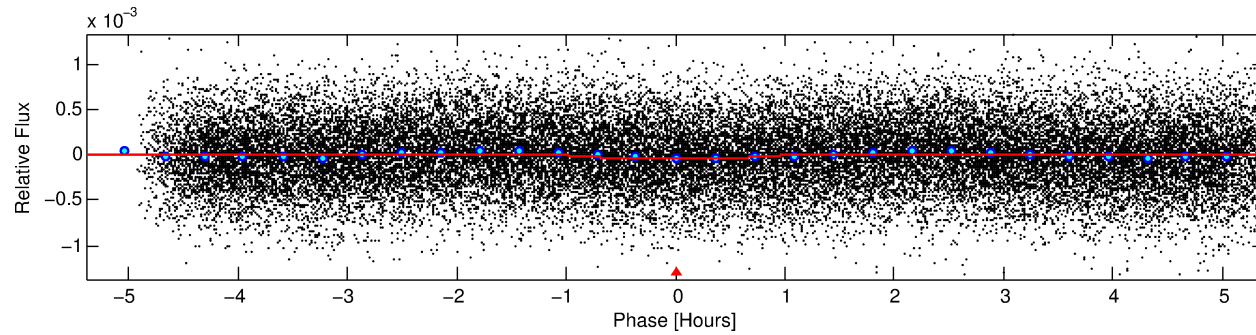
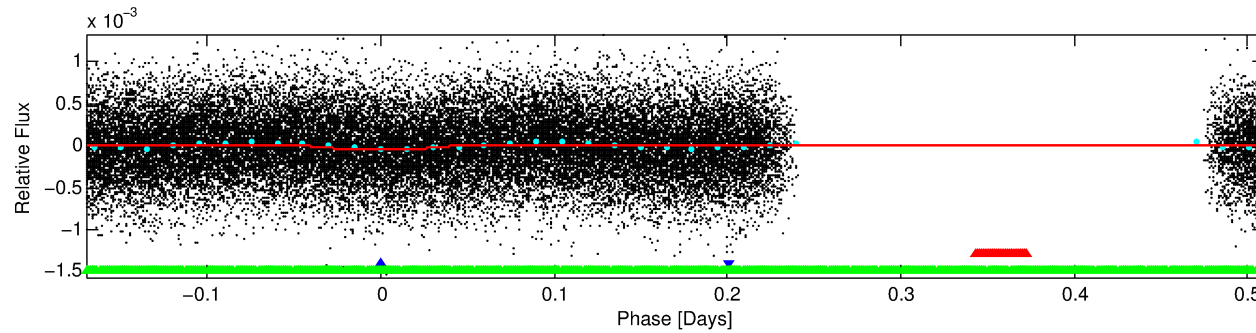
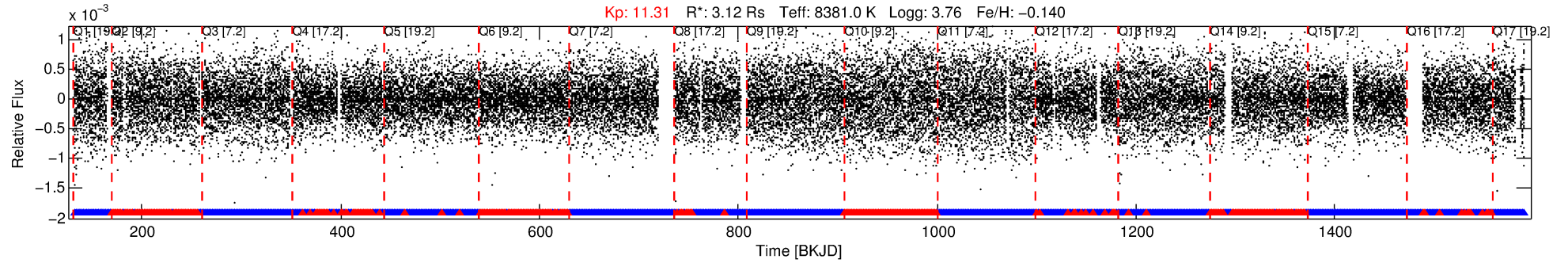
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007831302-02

No Significant Match Found

DV One-Page Summary

KIC: 7831302 Candidate: 2 of 3 Period: 0.680 d



DV Fit Results:

Period = 0.68003 [0.00001] d
Epoch = 132.0638 [0.0030] BKJD
Rp/R* = 0.0065 [0.0036]
a/R* = 1.61 [3.46]
b = 0.90 [0.75]
Seff = 117167.52 [88399.84]
Teff = 4718 [890] K
Rp = 2.23 [1.60] Re
a = 0.0192 [0.0087] AU
Ag = 1.06 [1.94] [0.03 σ]
Teffp = 7406 [3107] K [0.83 σ]

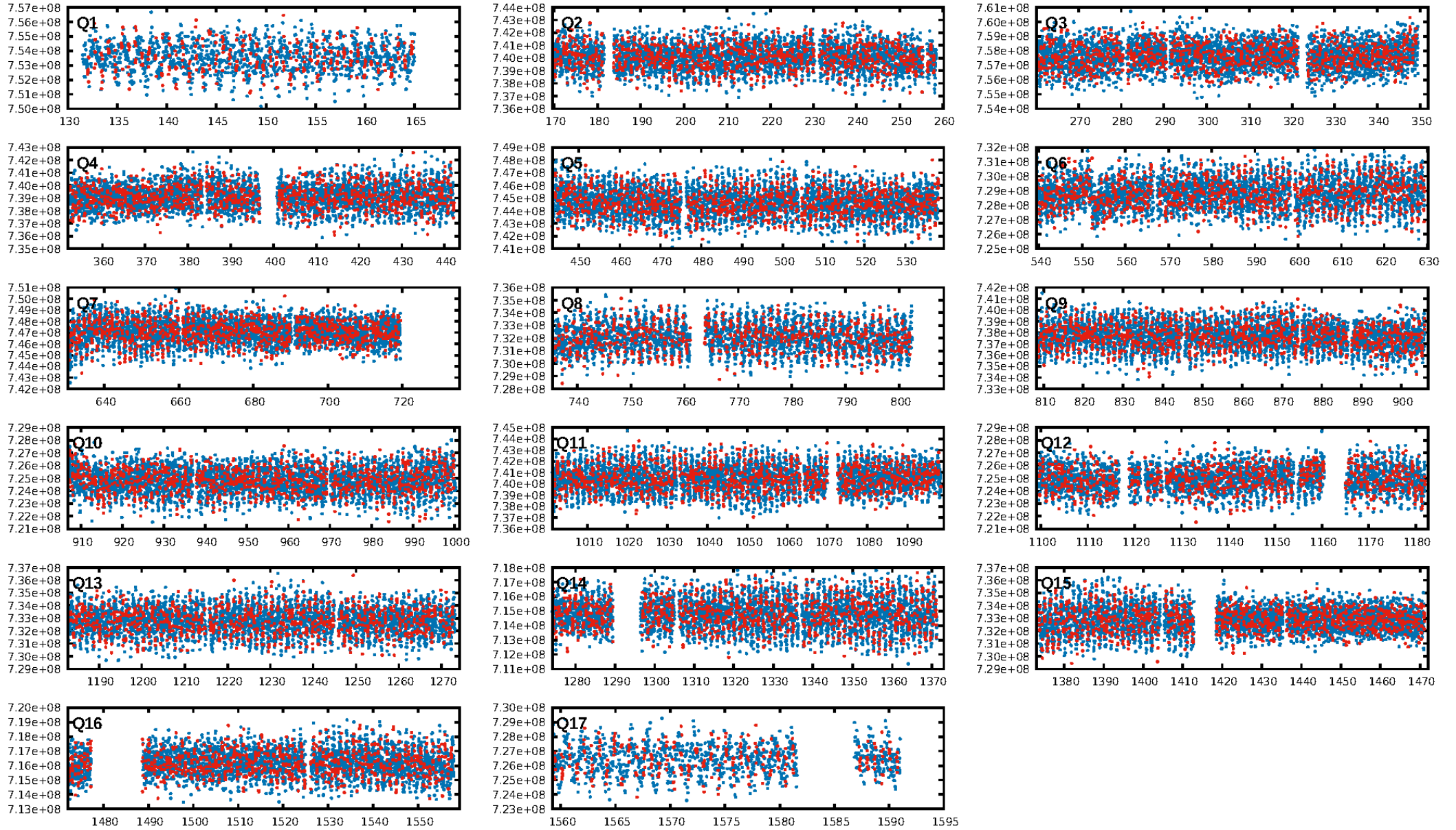
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.67e-11
RollingBand-fgt: 0.72 [1342/1875]
GhostDiagnostic-chr: 1.542
Centroid-sig: 8.5%
Centroid-so: 0.248 arcsec [1.04 σ]
OotOffset-rm: 0.299 arcsec [0.36 σ]
KicOffset-rm: 0.365 arcsec [0.47 σ]
OotOffset-st: 3/4/4/5 [16]
KicOffset-st: 3/4/4/5 [16]
DiffImageQuality-fgm: 0.56 [9/16]
DiffImageOverlap-fno: 1.00 [17/17]

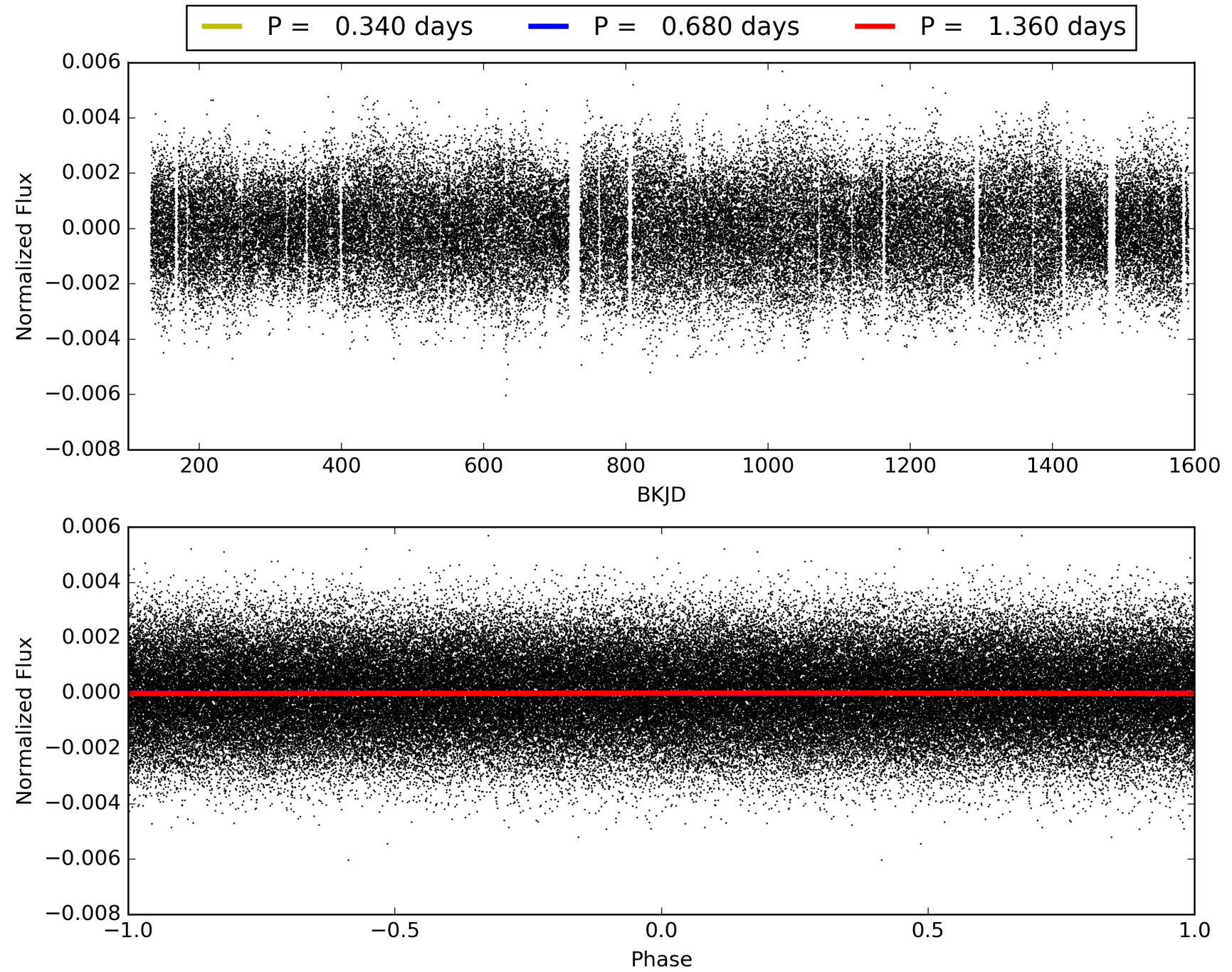
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:30:00 Z

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

TCE 007831302-02, PDC Light Curves

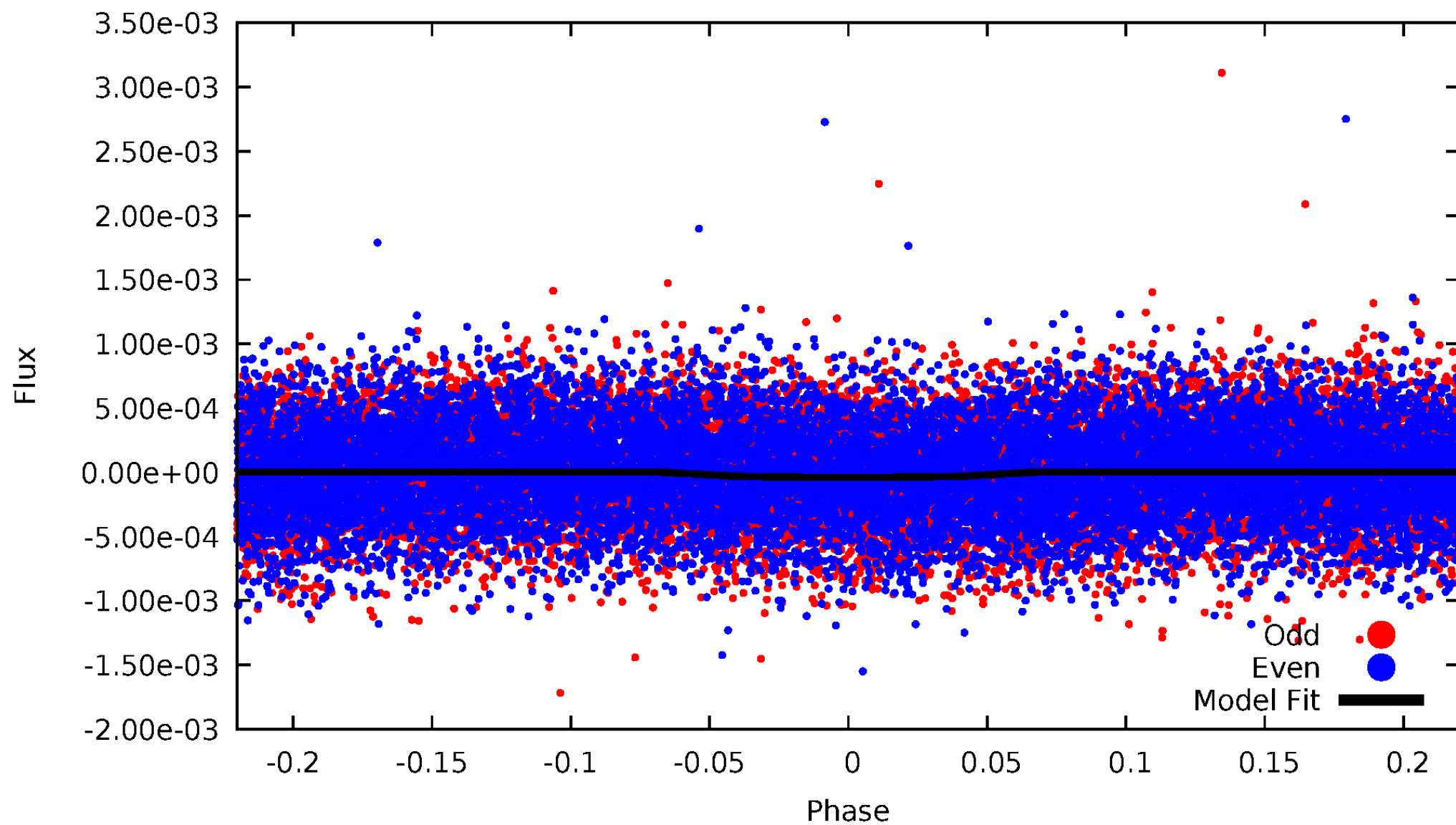


TCE 007831302-02



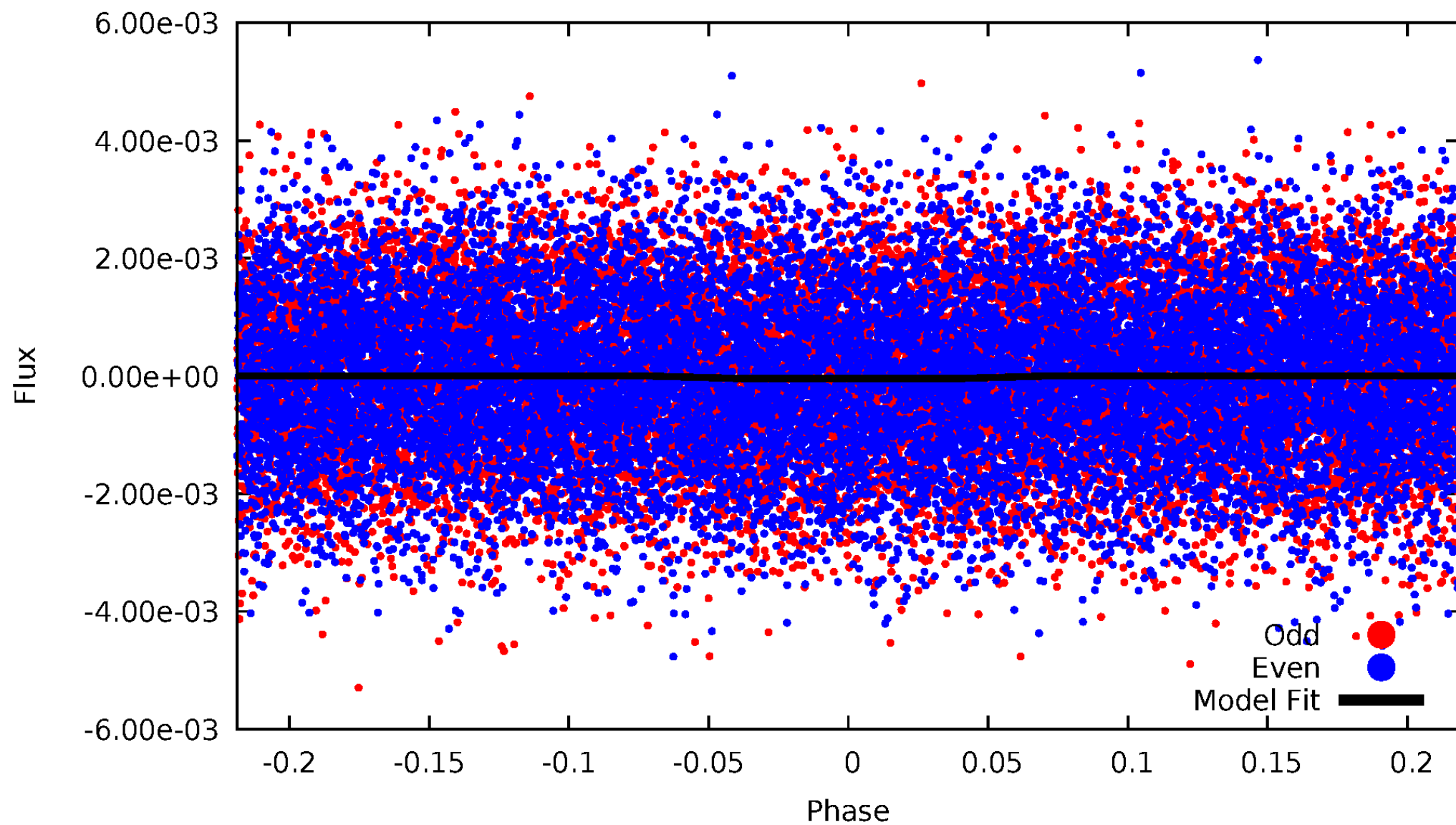
DV Odd/Even

TCE 007831302-02



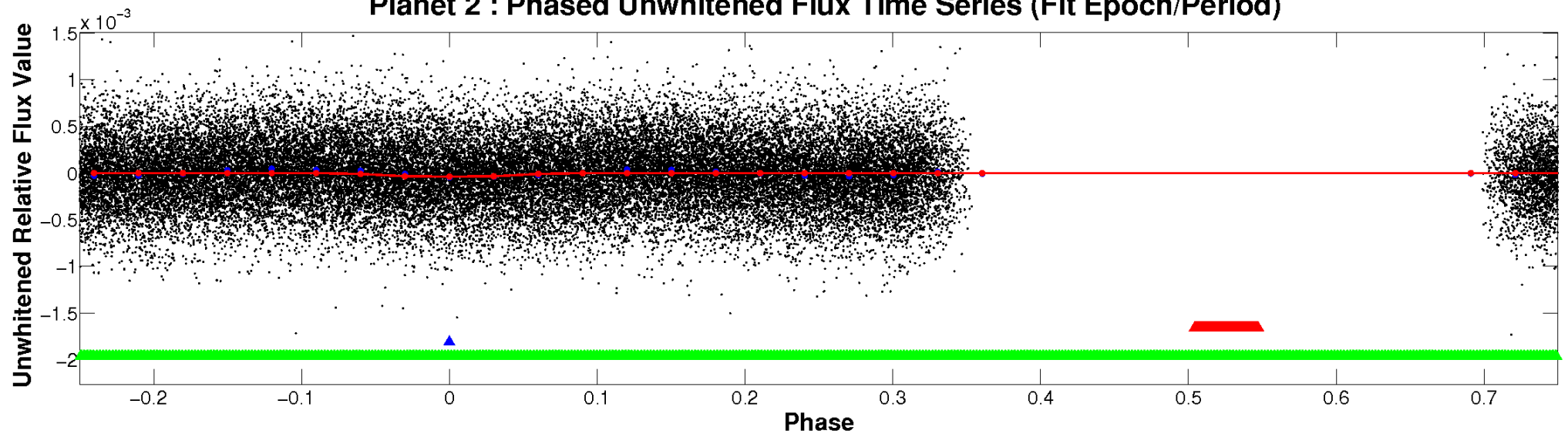
ALT Odd/Even

TCE 007831302-02

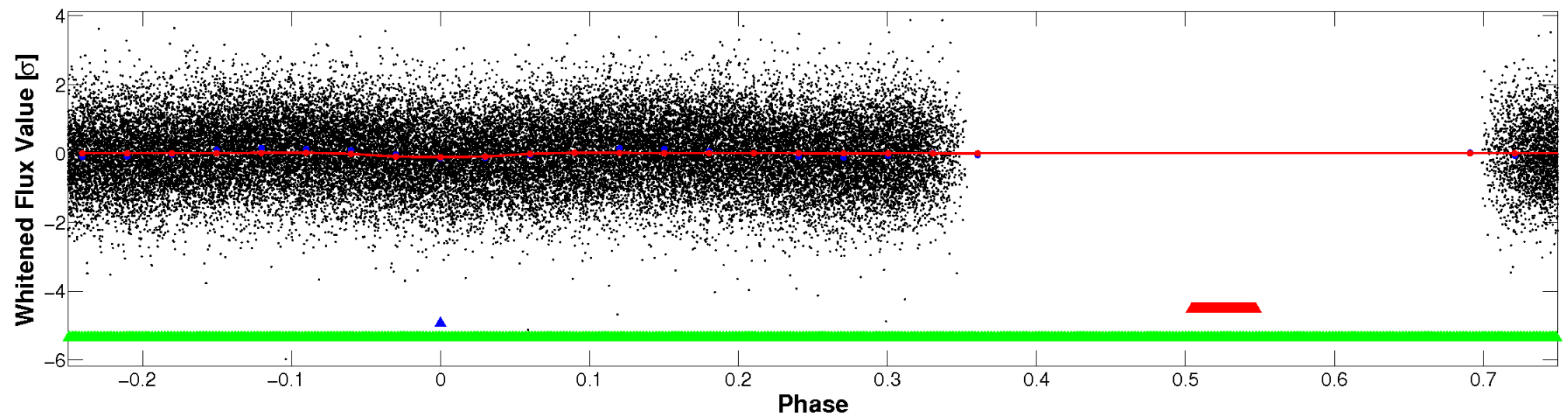


Non-Whitened Vs. Whitened Light Curve

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

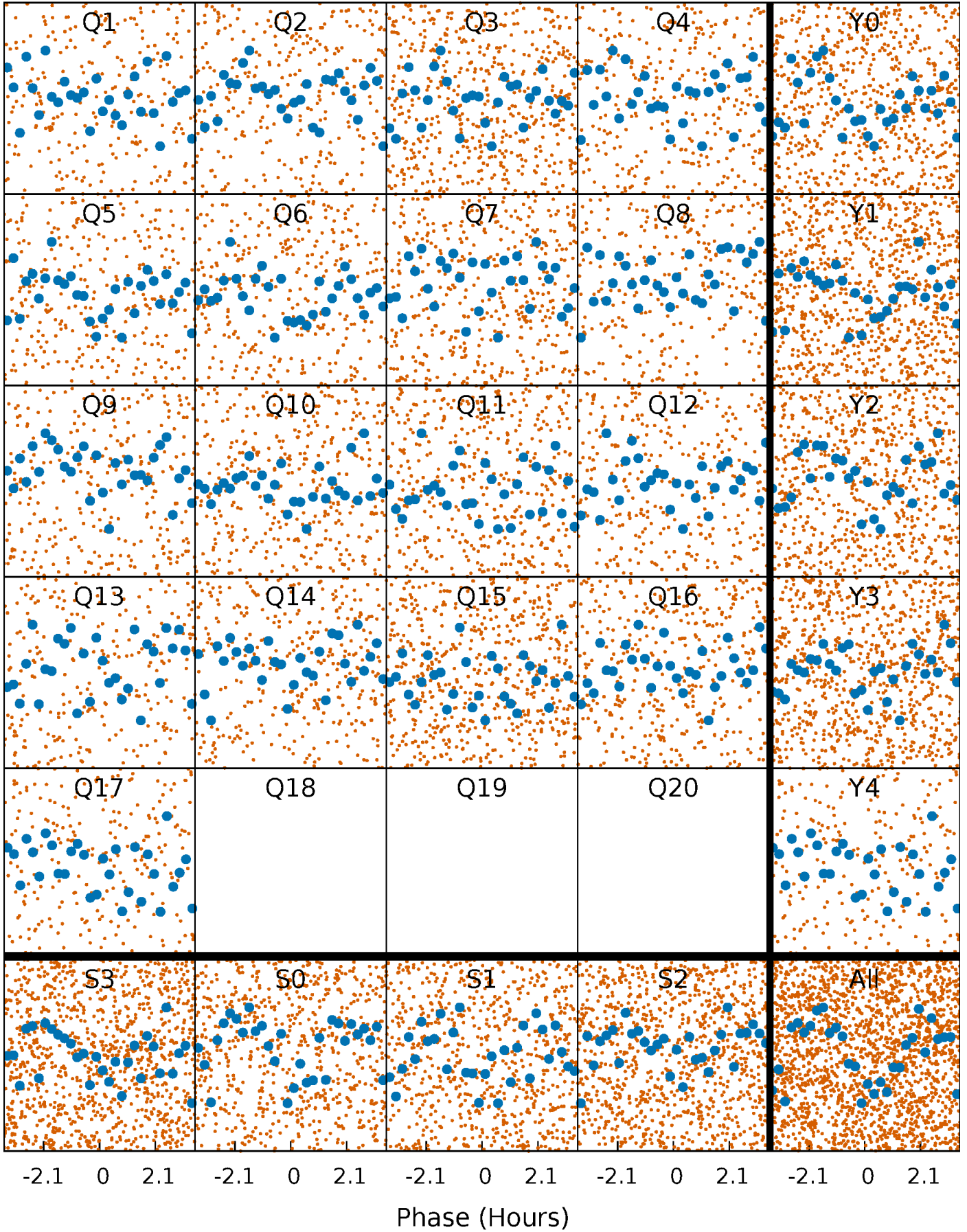


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



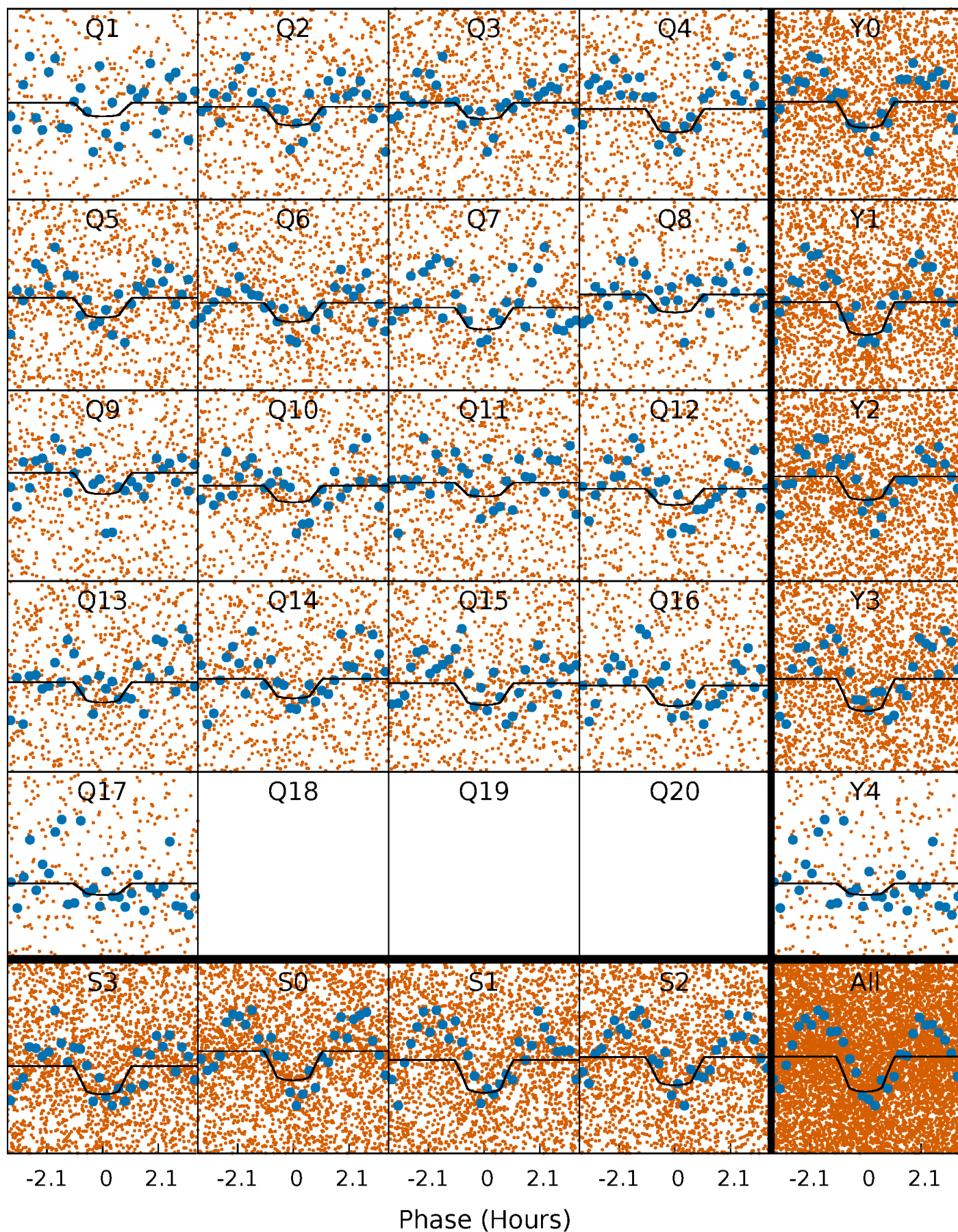
PDC Quarter-Phased Transit Curves

TCE 007831302-02 P= 0.680033 Days $T_0=132.063839$ (BKJD)



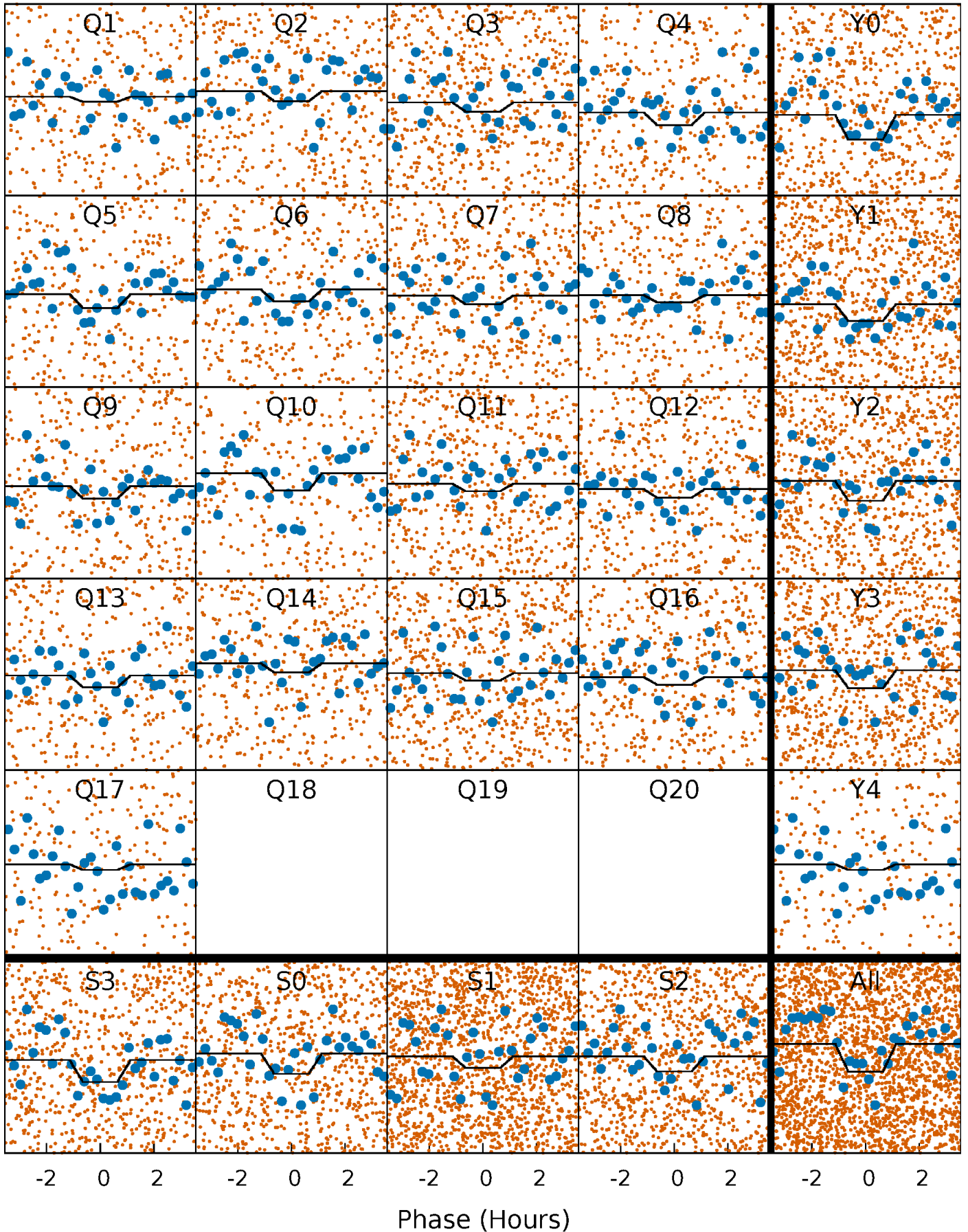
DV Quarter-Phased Transit Curves

TCE 007831302-02 P= 0.680033 Days $T_0=132.063839$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

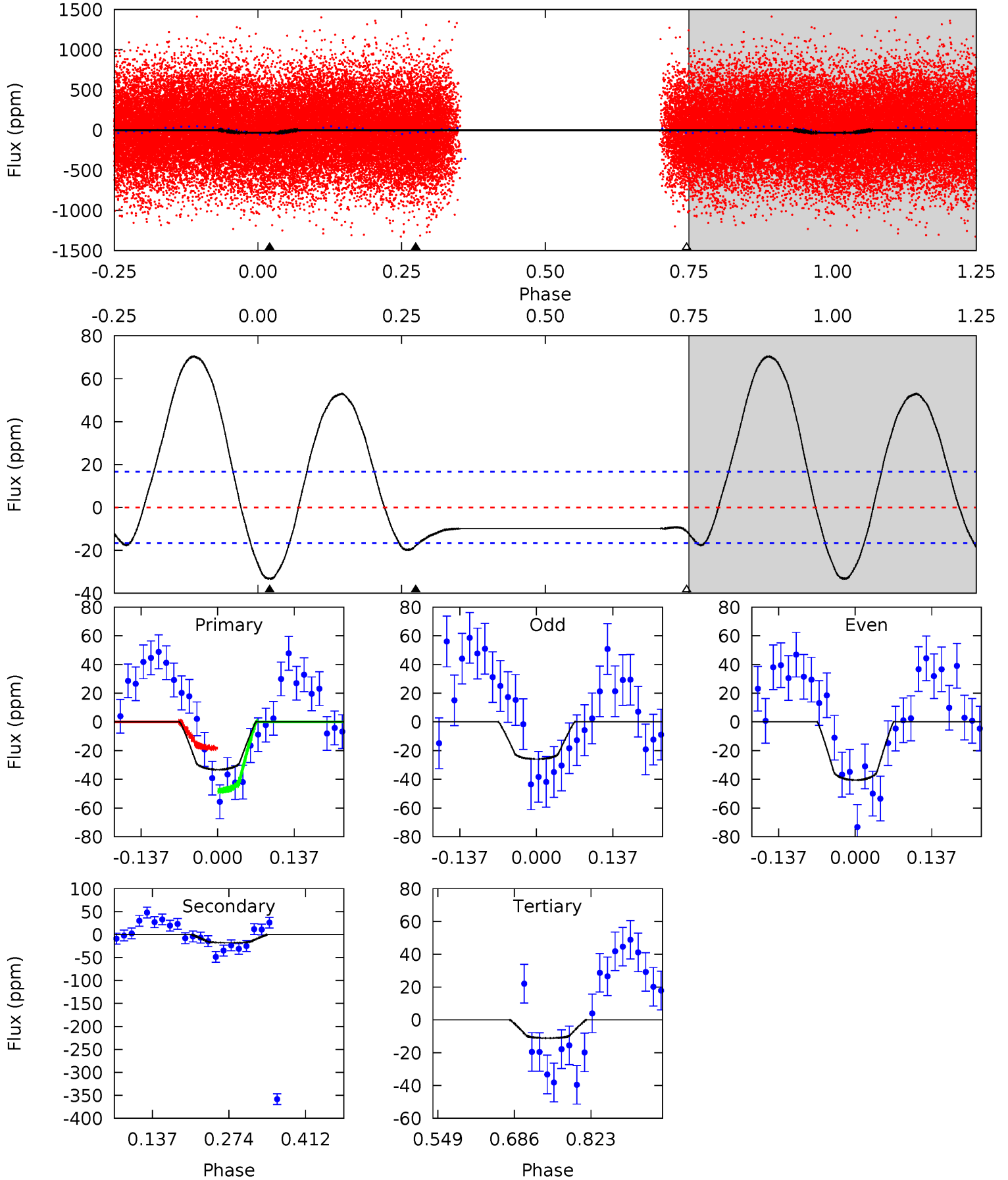
TCE 007831302-02 $P = 0.680049$ Days $T_0 = 132.060435$ (BKJD)



DV Model-Shift Uniqueness Test

007831302-02, P = 0.680033 Days, E = 131.383806 Days

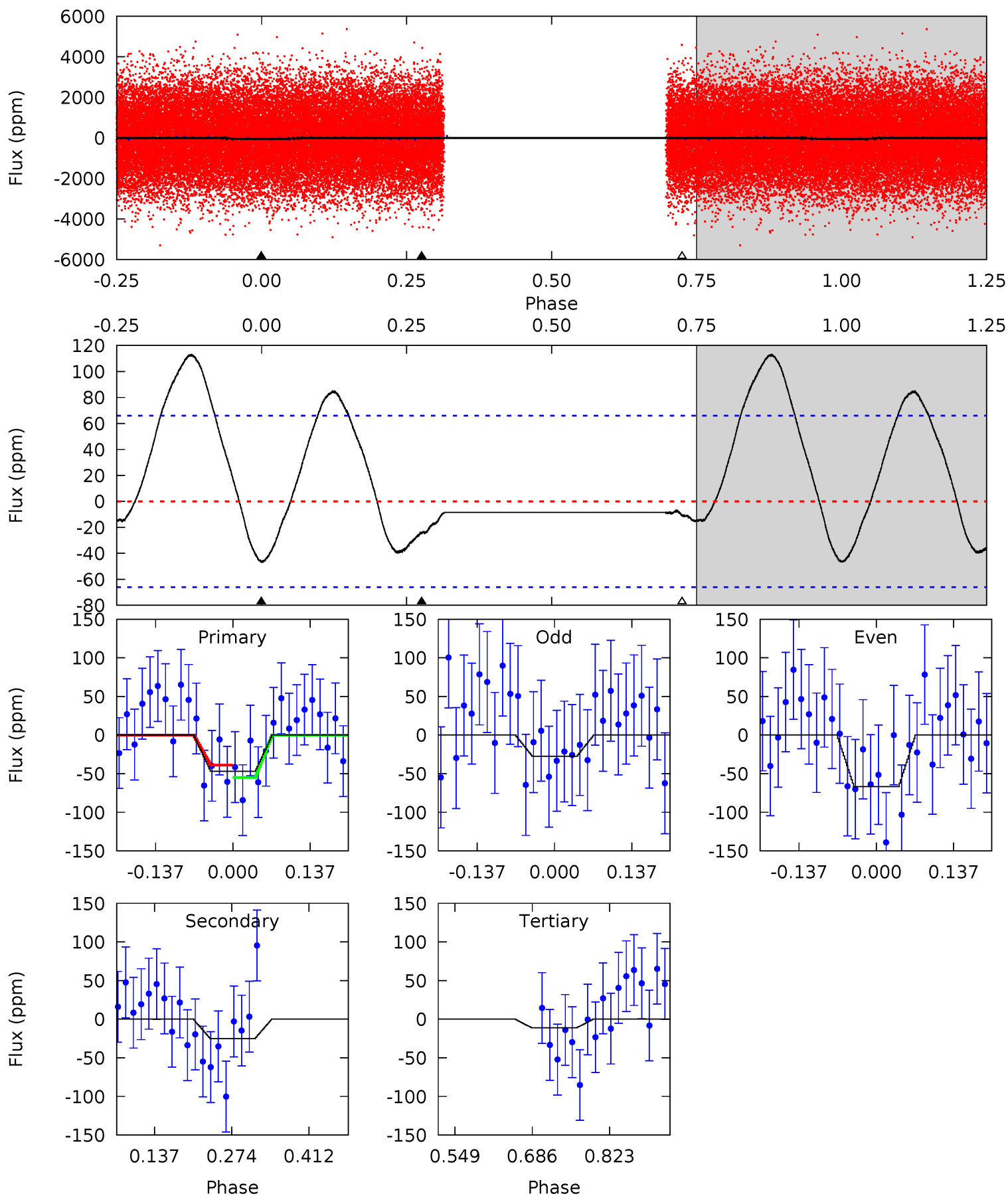
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.99	4.84	3.03	0	4.50	1.49	8.15	5.96	8.99	1.81	4.84	1.98	0.93	0.68	3.95



Alt Model-Shift Uniqueness Test

007831302-02, P = 0.680049 Days, E = 131.380386 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.20	1.71	0.77	0	4.50	1.49	2.78	2.44	3.20	0.94	1.71	1.33	1.67	0.71	0.53



Stellar Parameters For KIC 007831302

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8381^{+203}_{-378}	$3.757^{+0.432}_{-0.108}$	$-0.140^{+0.300}_{-0.400}$	$3.120^{+0.897}_{-1.457}$	$2.032^{+0.339}_{-0.467}$	$0.094^{+0.384}_{-0.040}$
	+2%/-5%	+11%/-3%	+214%/-286%	+29%/-47%	+17%/-23%	+407%/-43%
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 007831302-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-18 ± 4	$2.03^{+1.26}_{-1.01}$	6347^{+516}_{-735}	5747^{+3776}_{-2507}	$0.888^{+2.574}_{-0.564}$
Alt.	-25 ± 15	$1.96^{+1.32}_{-1.03}$	6327^{+528}_{-786}	6344^{+4624}_{-8755}	$1.146^{+4.387}_{-0.848}$

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

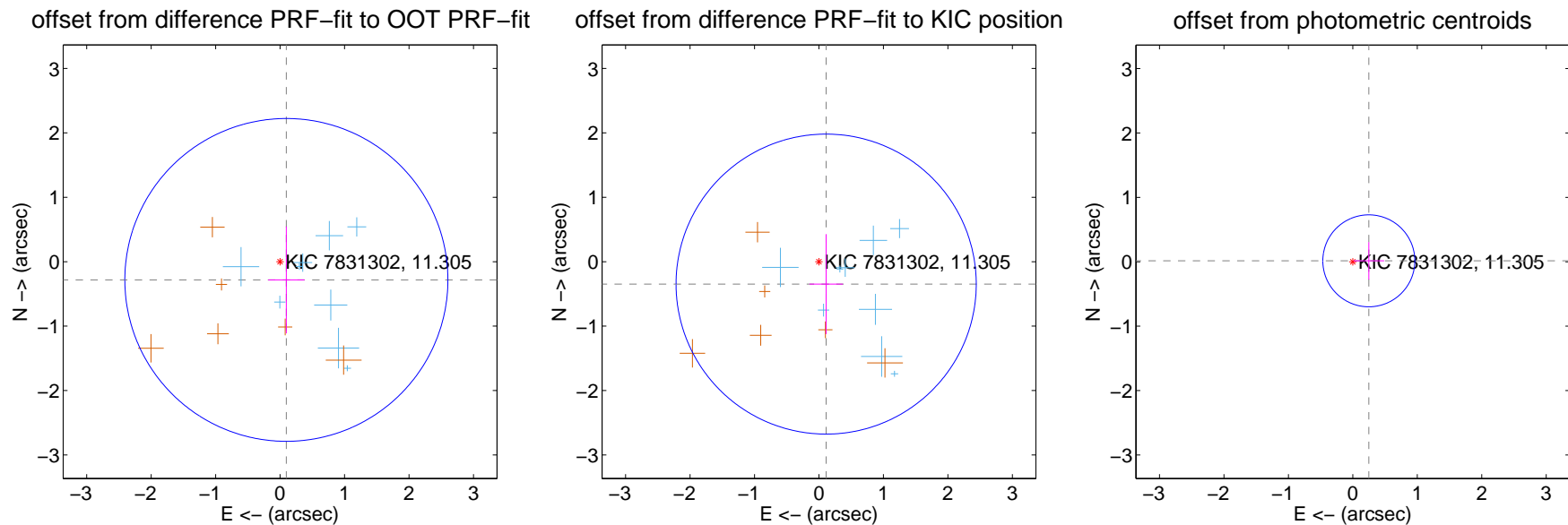
DV Centroid Data

Supplemental centroid analysis for 007831302-02. **Kepler magnitude: 11.30.** Transit SNR 7.66

There are 9 quarters with good PRF difference image offsets

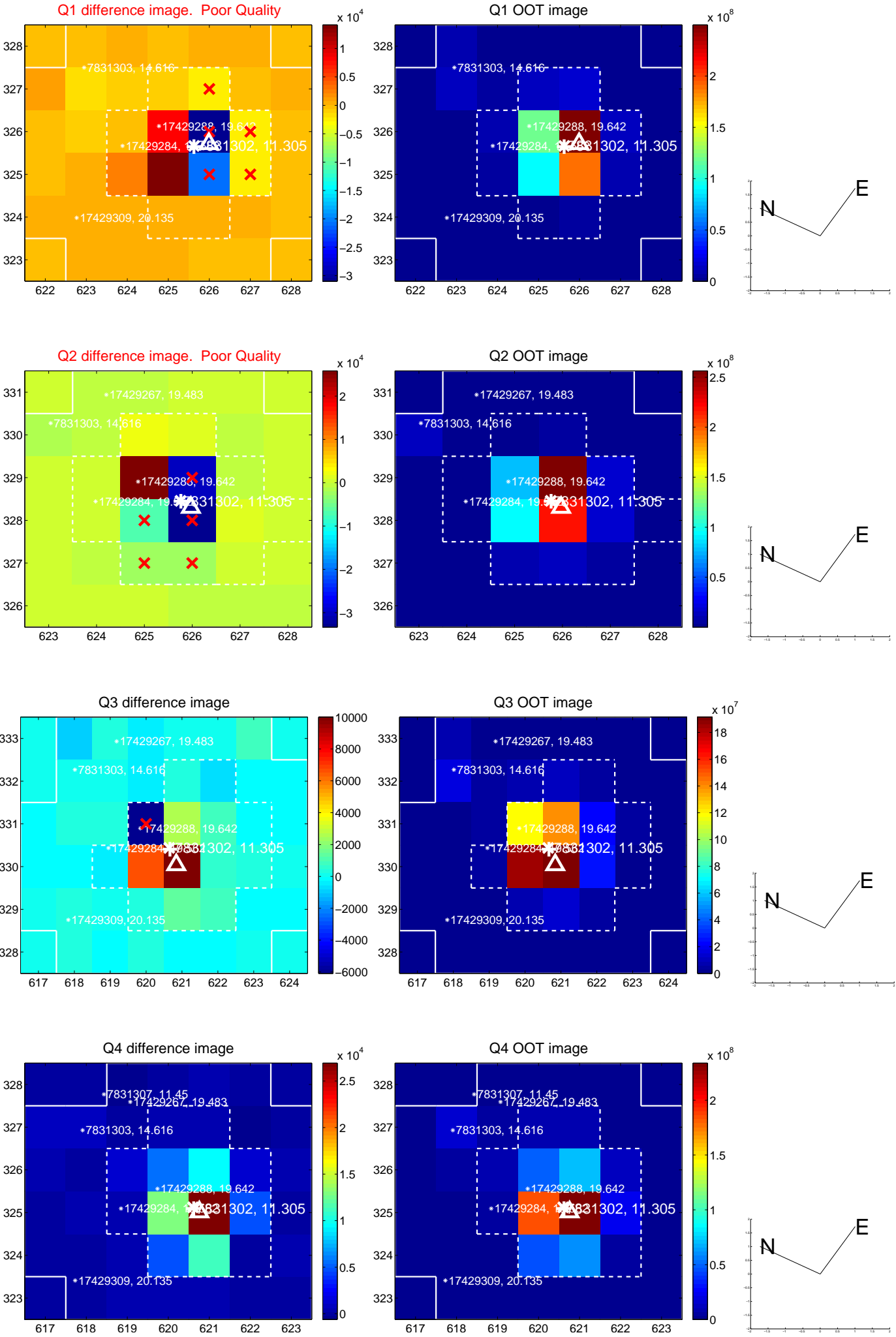
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.299 ± 0.835	0.36	-0.097 ± 0.280	-0.283 ± 0.830
PRF-fit source offset from KIC position	0.365 ± 0.776	0.47	-0.111 ± 0.260	-0.348 ± 0.775
photometric centroid source offset	0.25 ± 0.24	1.04	-0.25 ± 0.24	0.01 ± 0.29

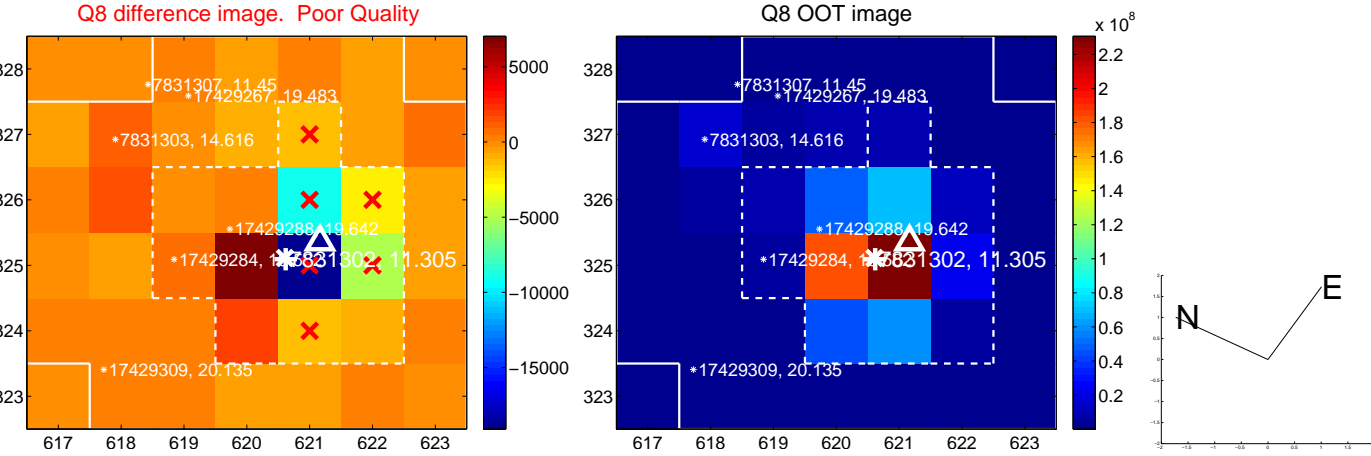
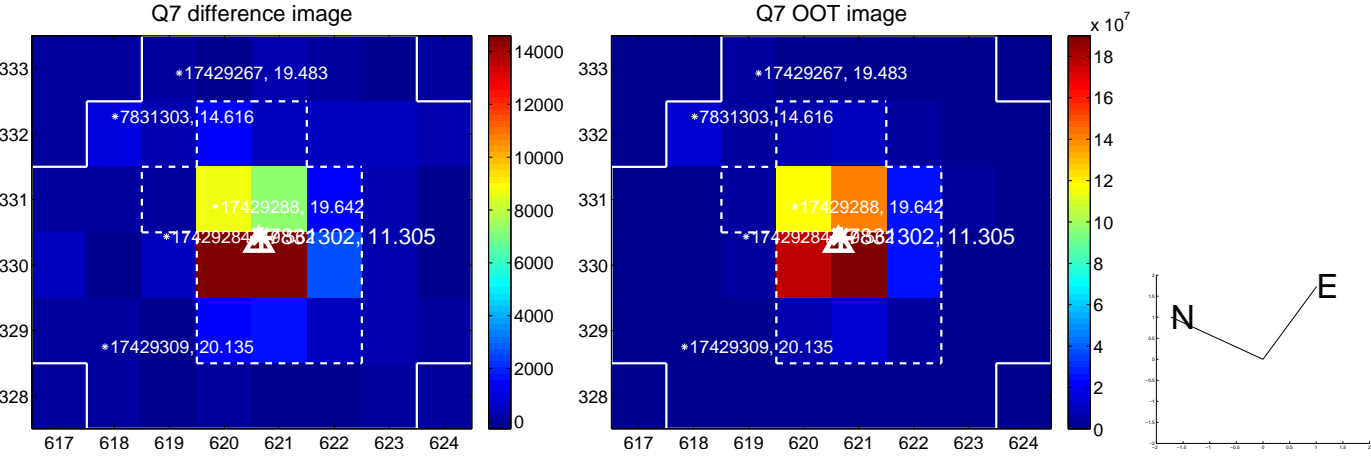
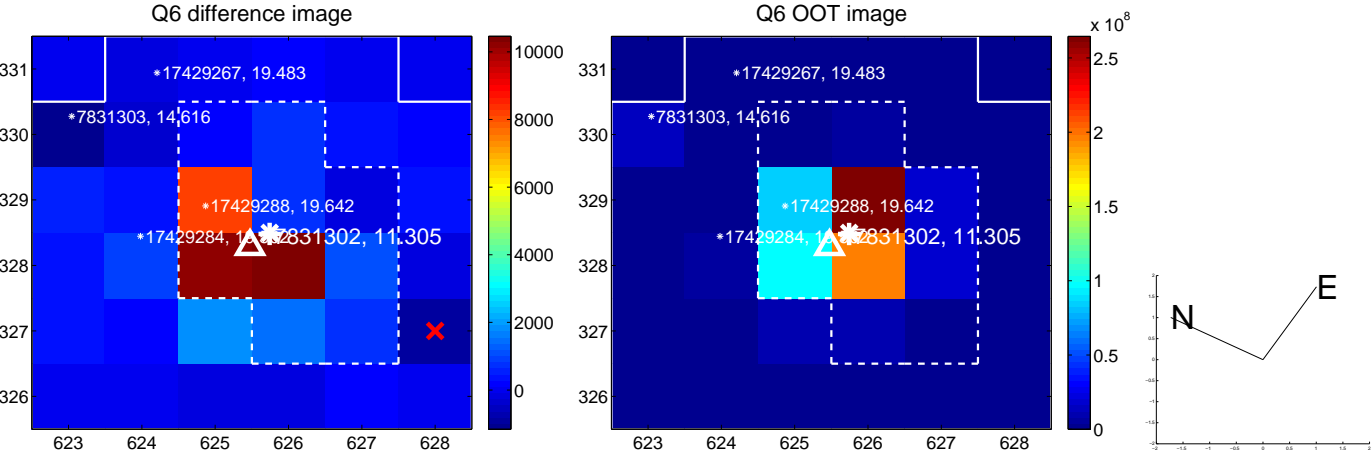
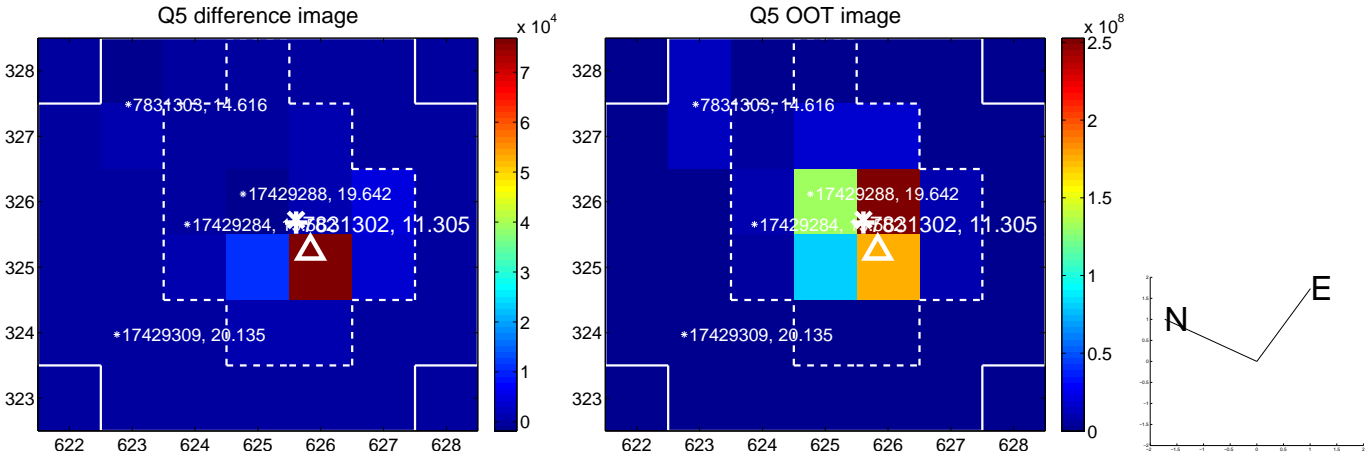


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

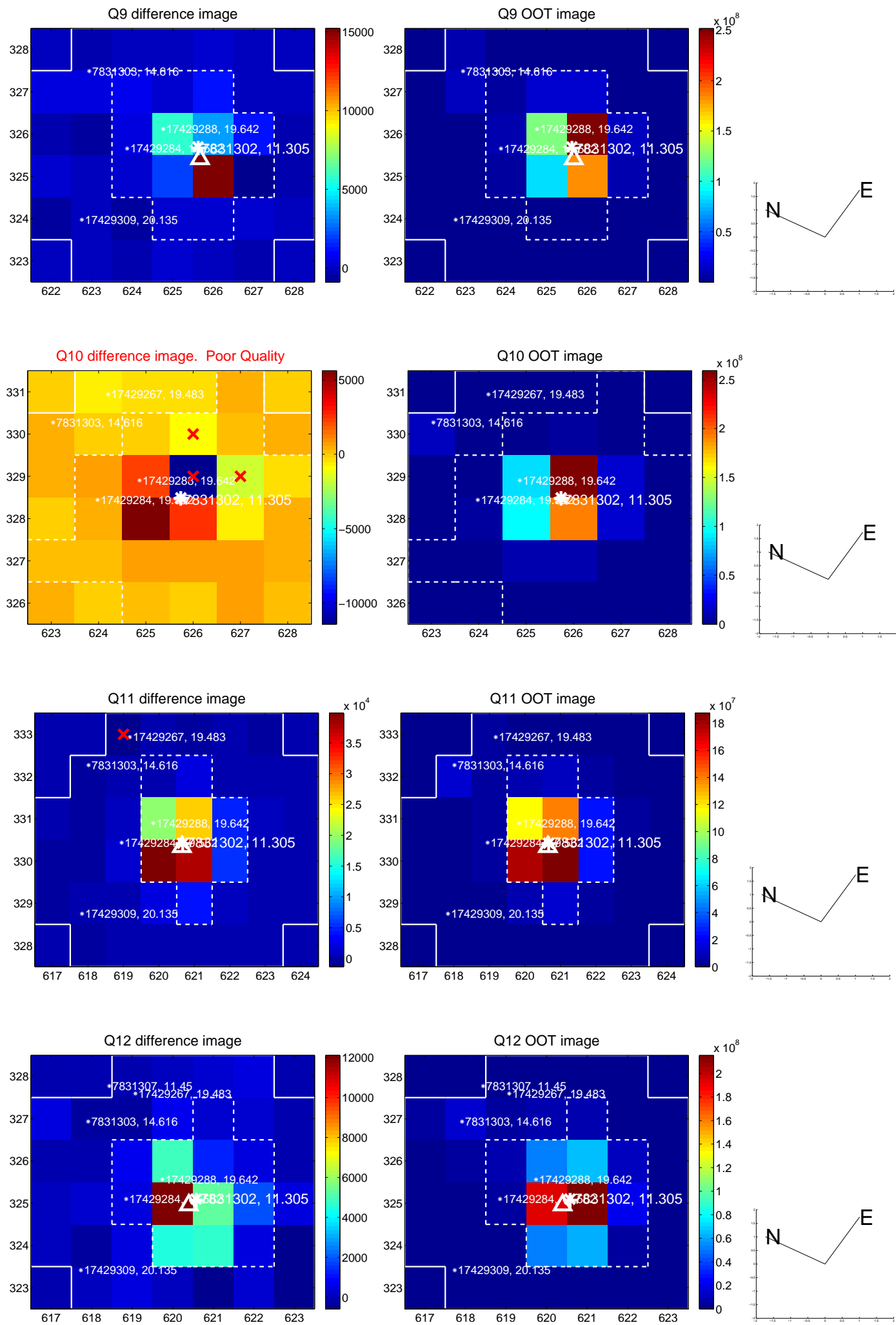
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



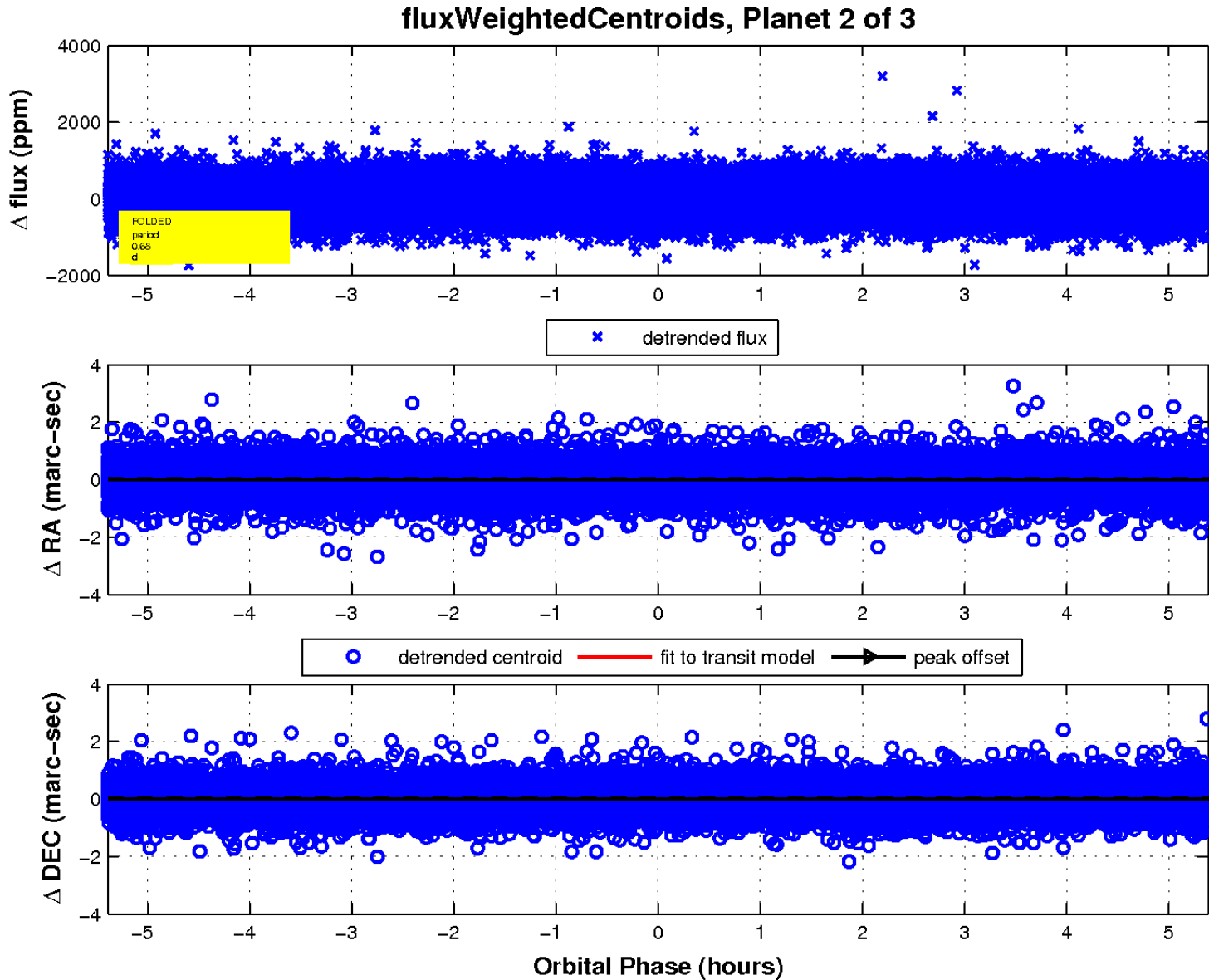
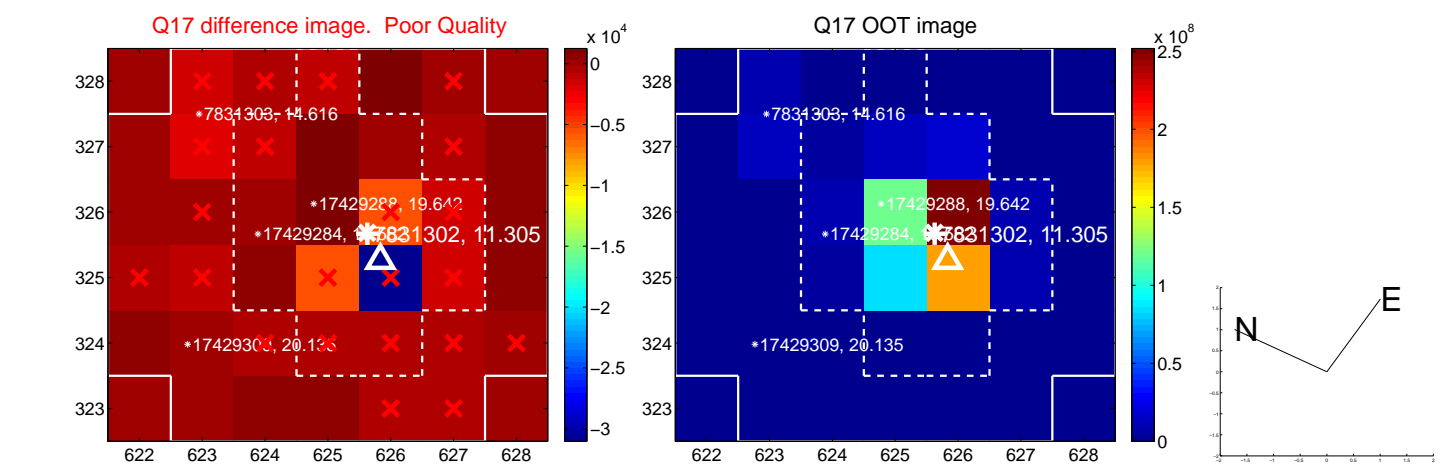
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

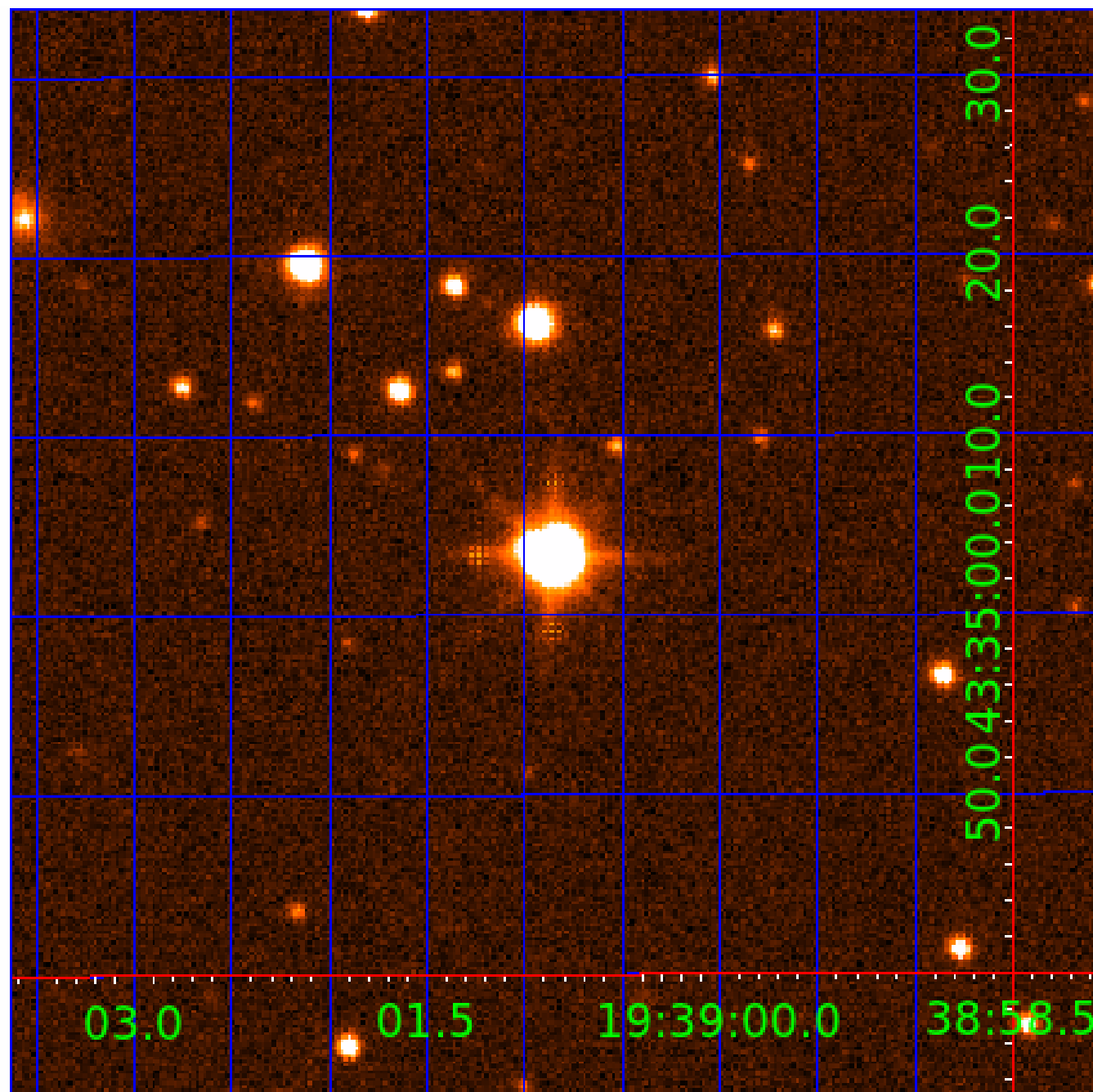


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007831302

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})
007831302-01	OBS	No	0.680047	131.726690	60.7	1.943	11.1	12.7	3.12	8381	2.82	117164.39
007831302-02	OBS	No	0.680033	132.063839	37.7	1.797	10.1	7.7	3.12	8381	2.23	117167.52
007831302-03	OBS	No	0.958162	131.868374	69.4	3.298	8.3	7.3	3.12	8381	3.03	74175.77

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007831302-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007831302-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—SAME_NTL_PERIOD—CENT_SATURATED
007831302-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

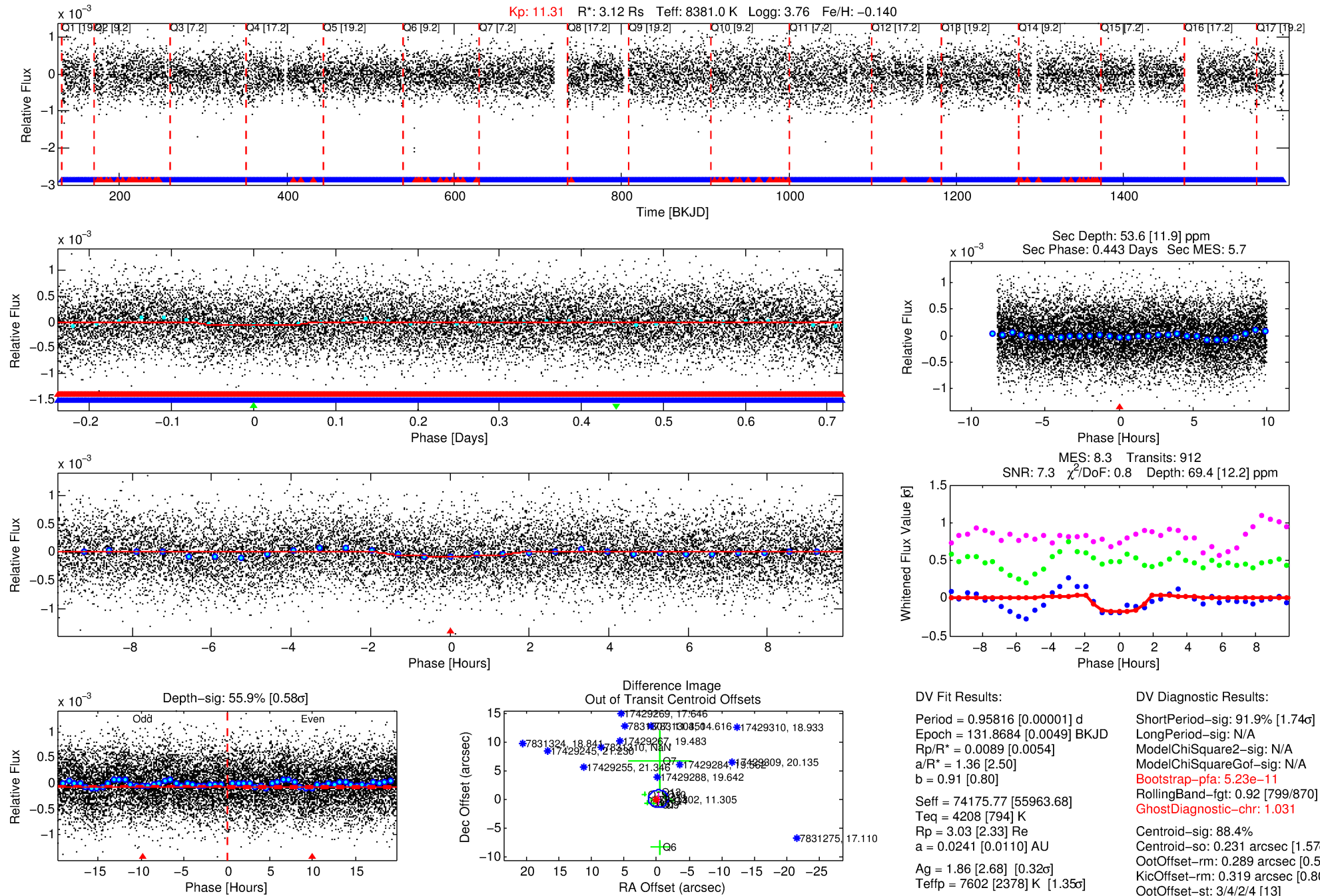
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007831302-03

No Significant Match Found

DV One-Page Summary

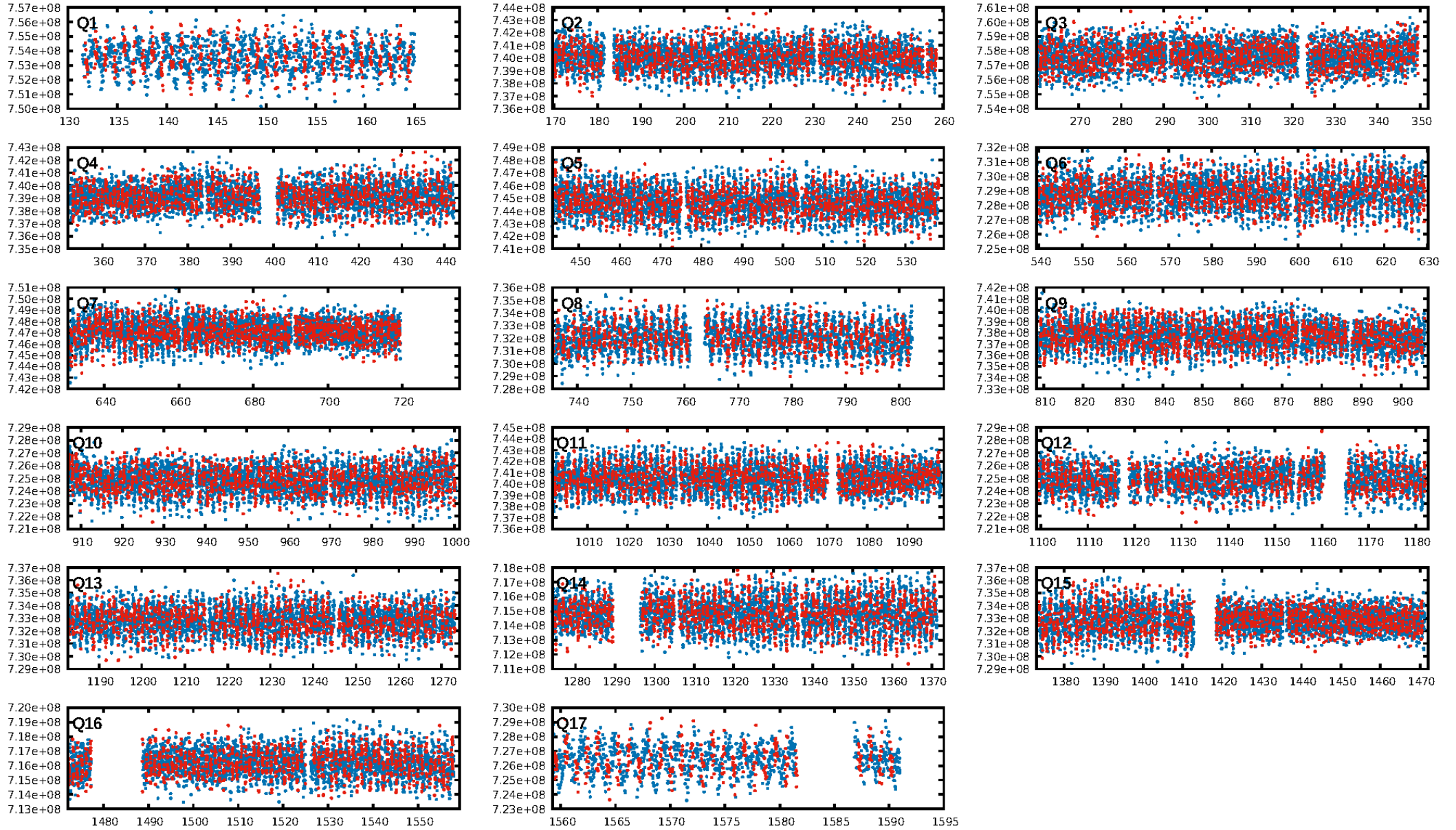
KIC: 7831302 Candidate: 3 of 3 Period: 0.958 d



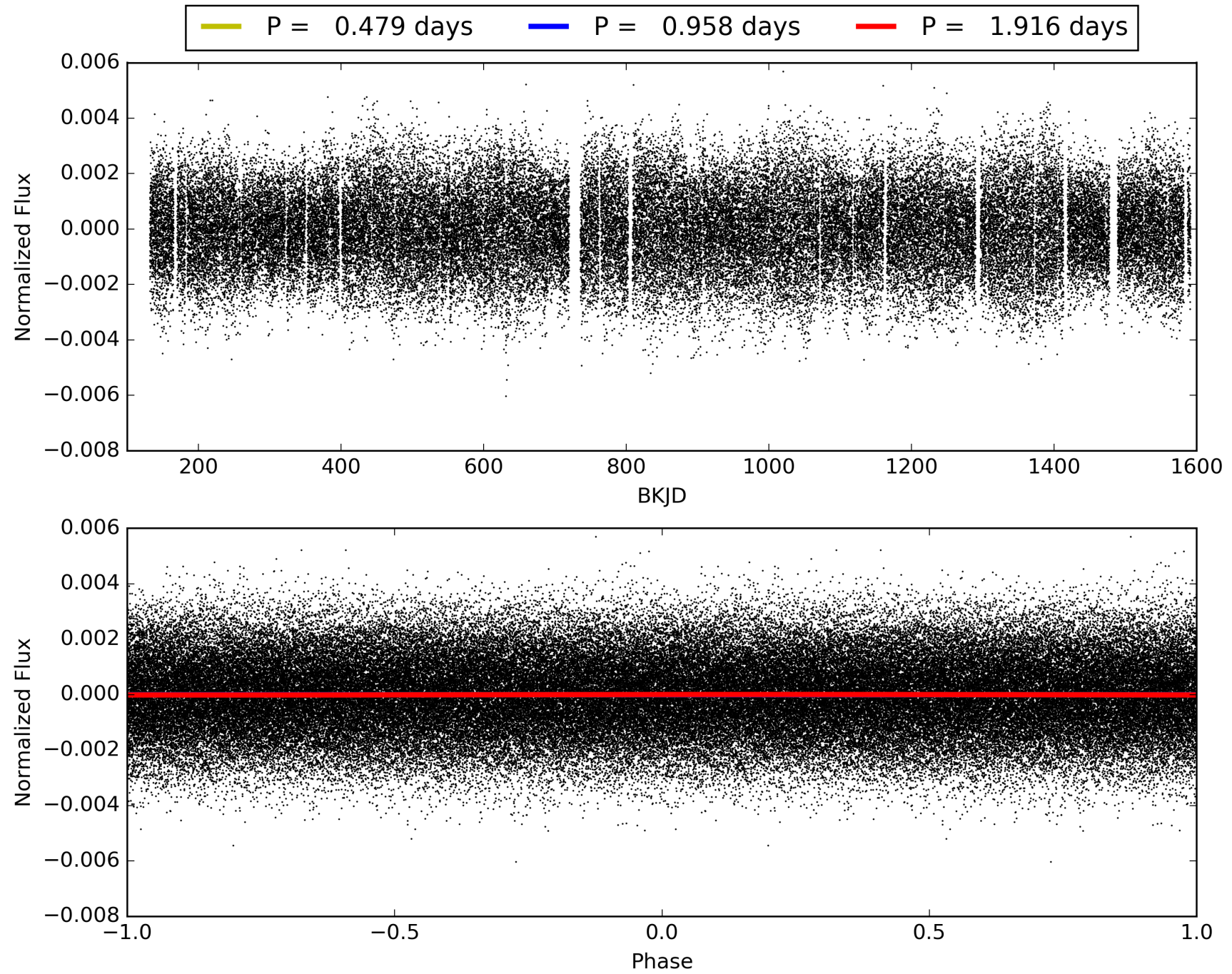
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:30:11 Z

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

TCE 007831302-03, PDC Light Curves

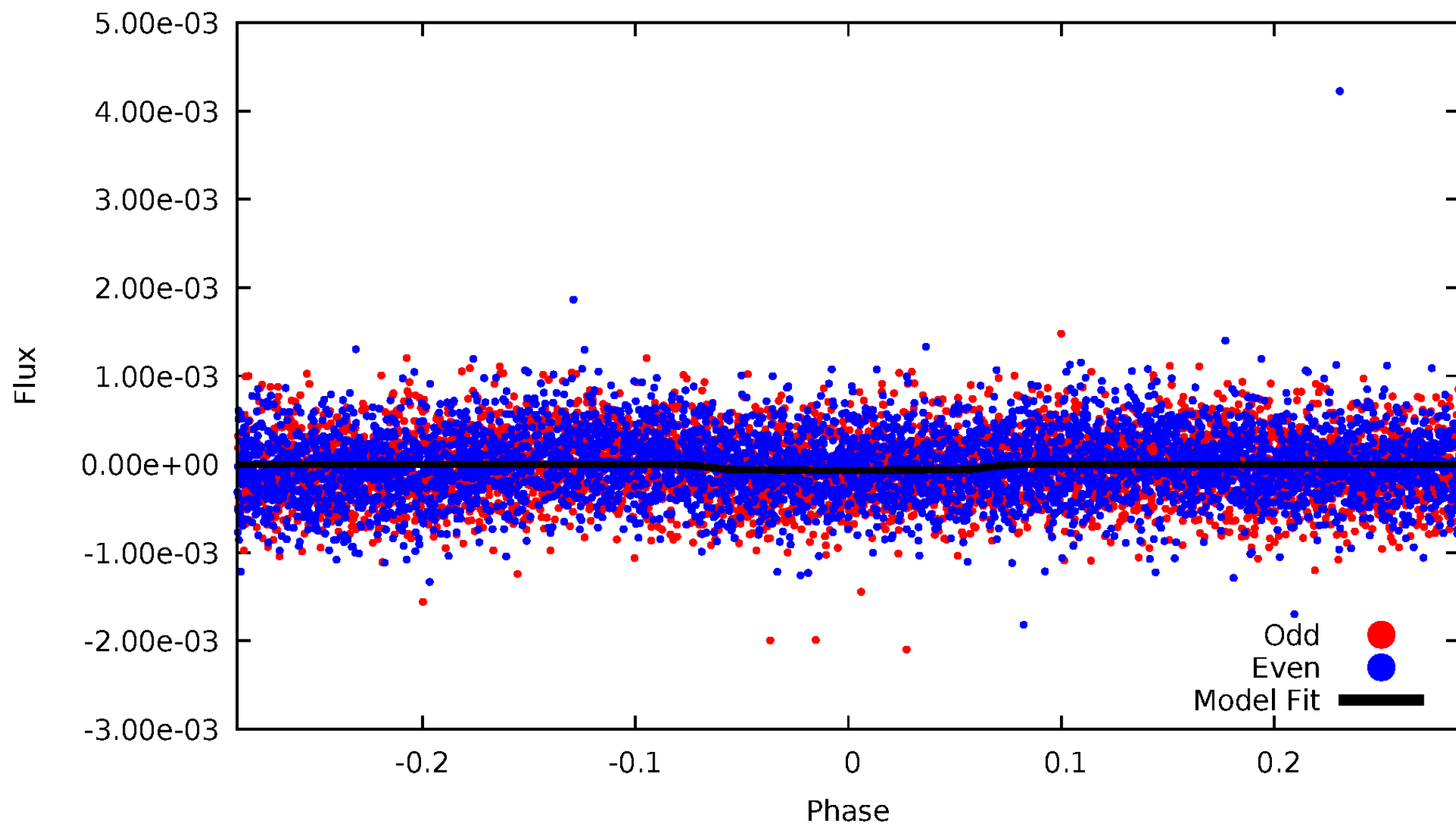


TCE 007831302-03



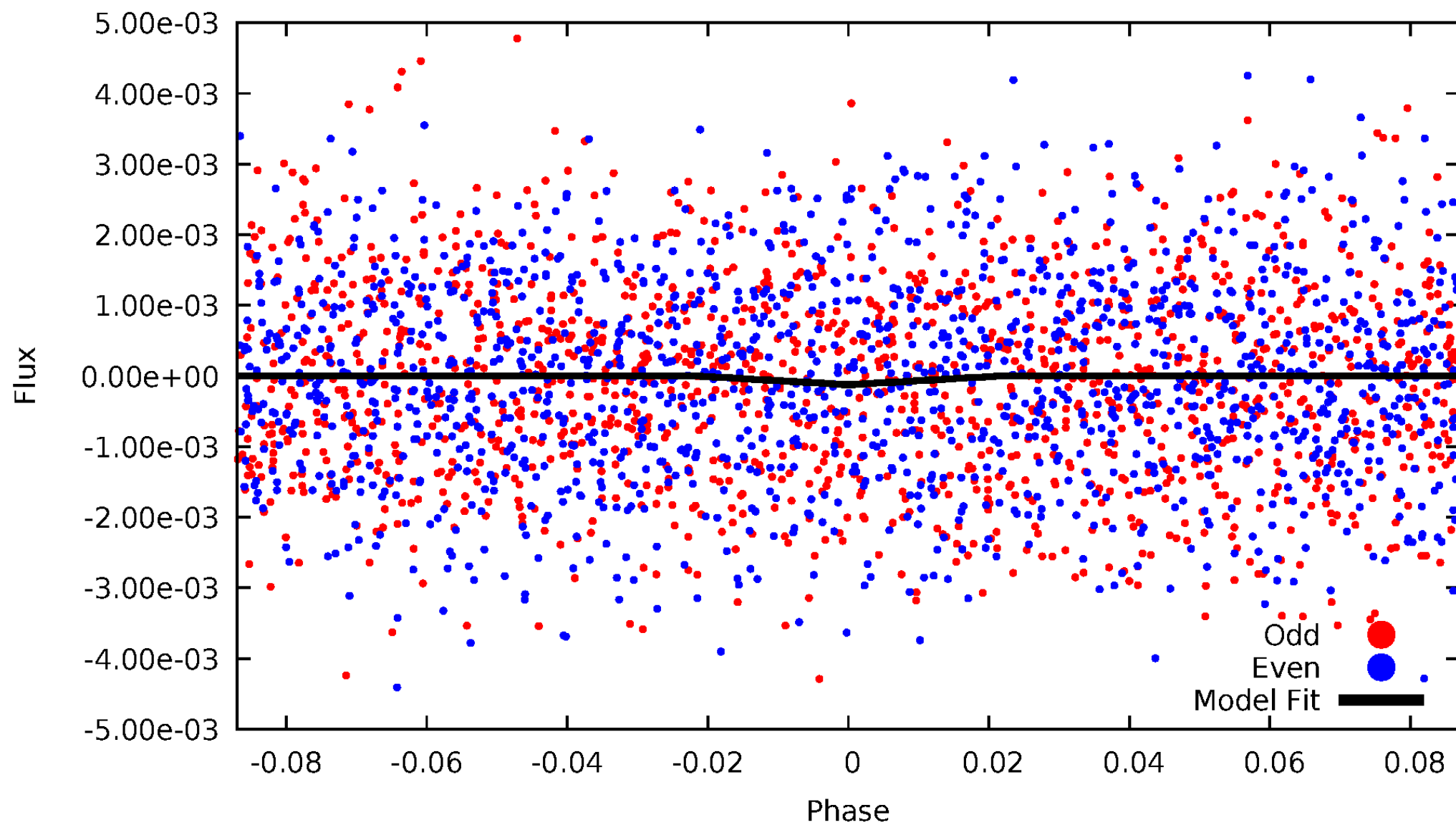
DV Odd/Even

TCE 007831302-03



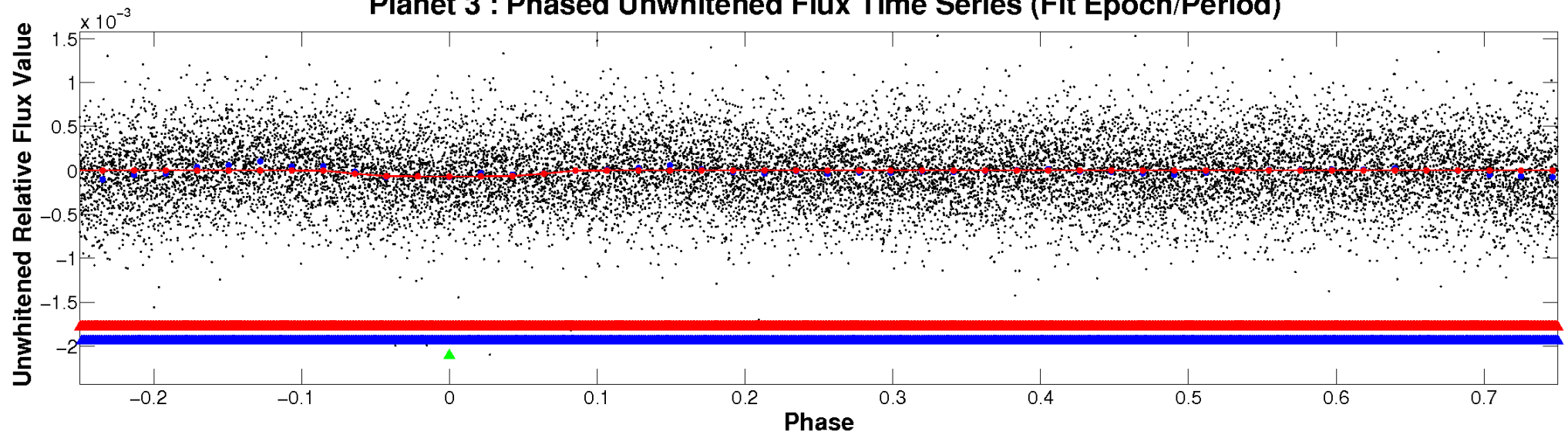
ALT Odd/Even

TCE 007831302-03

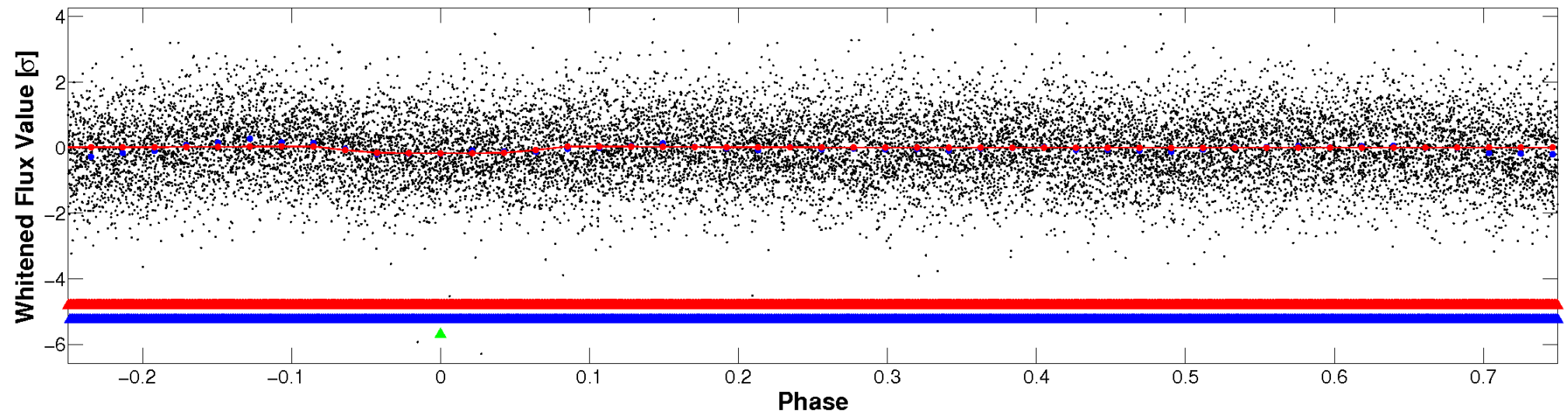


Non-Whitened Vs. Whitened Light Curve

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

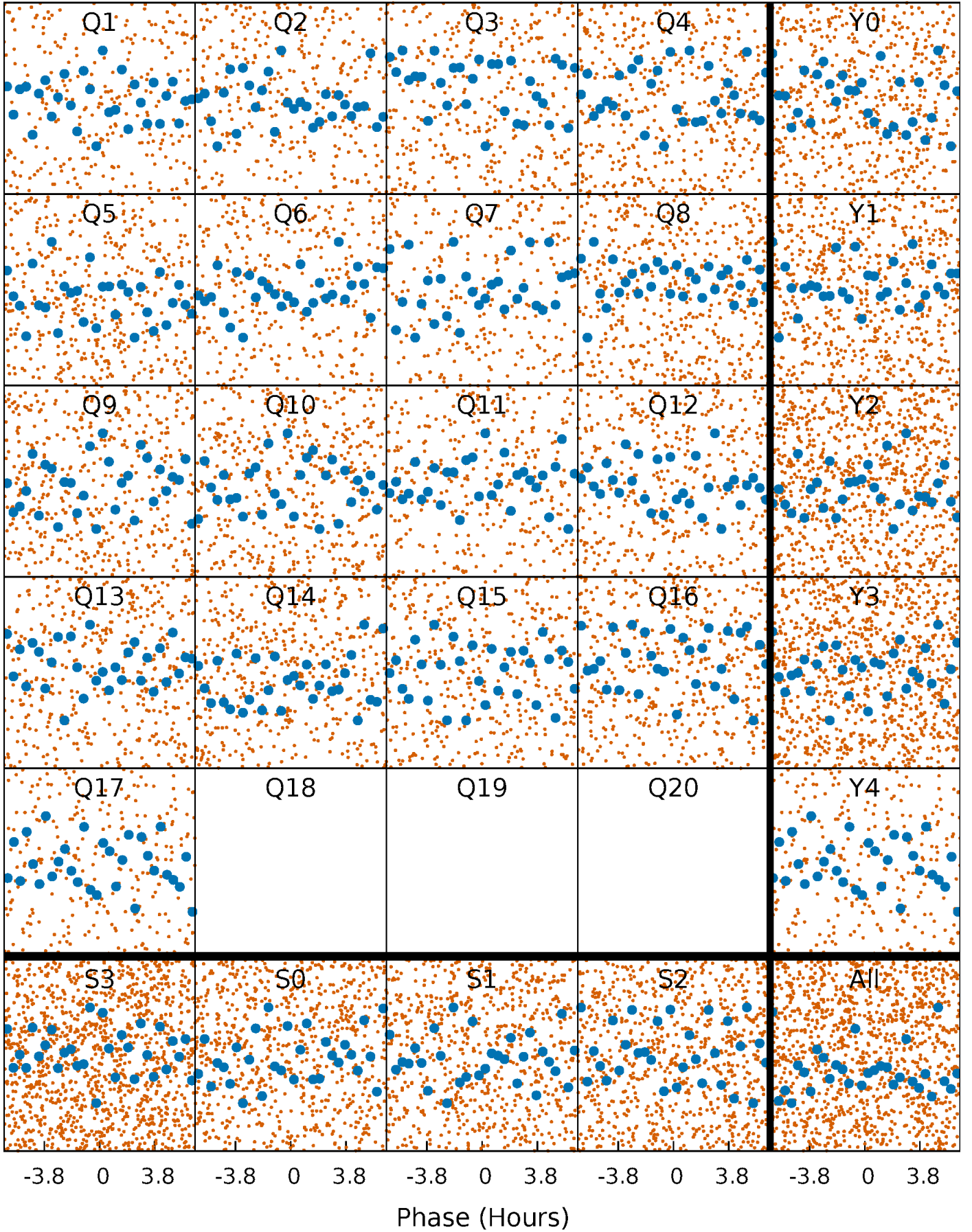


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



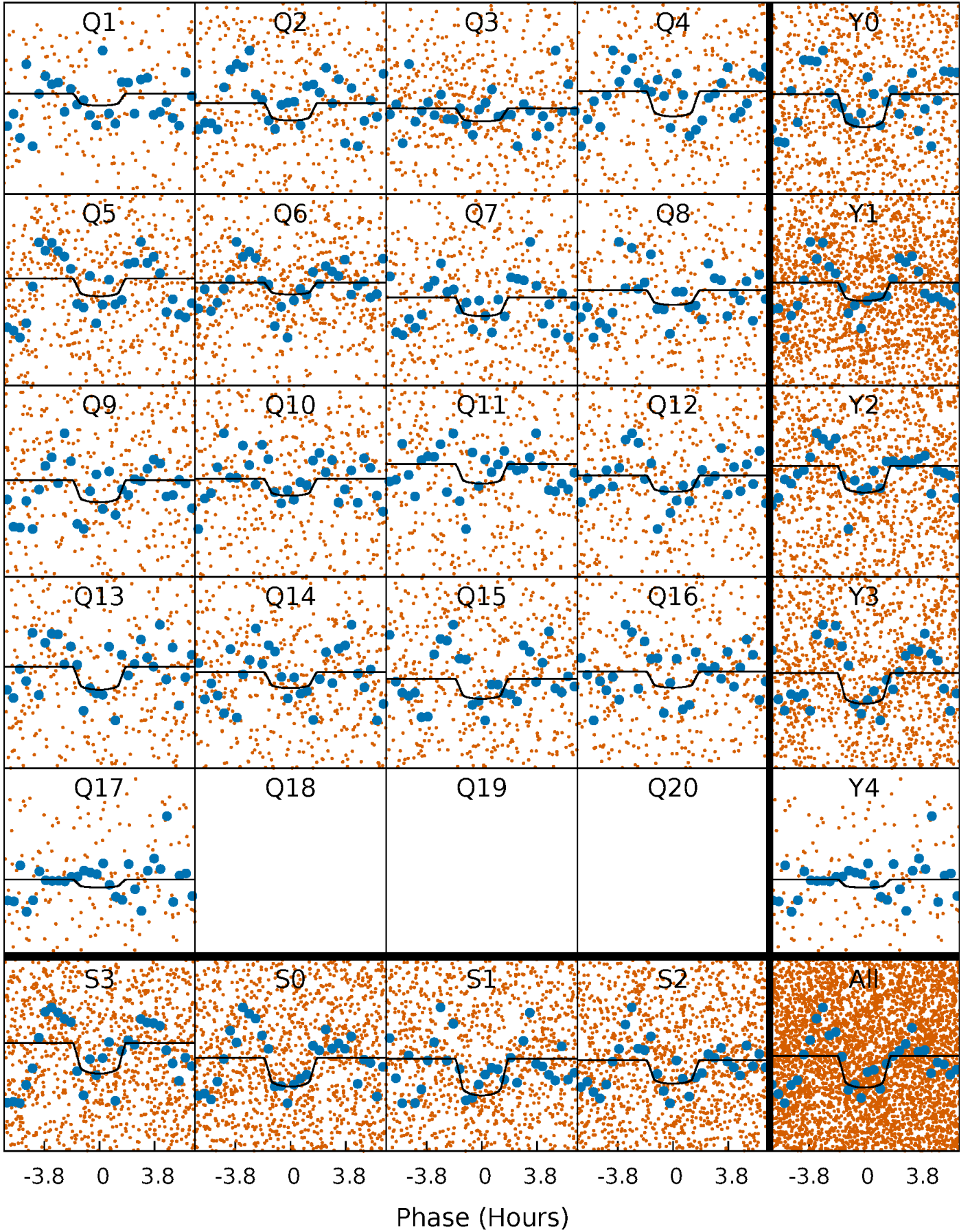
PDC Quarter-Phased Transit Curves

TCE 007831302-03 $P = 0.958162$ Days $T_0 = 131.868374$ (BKJD)



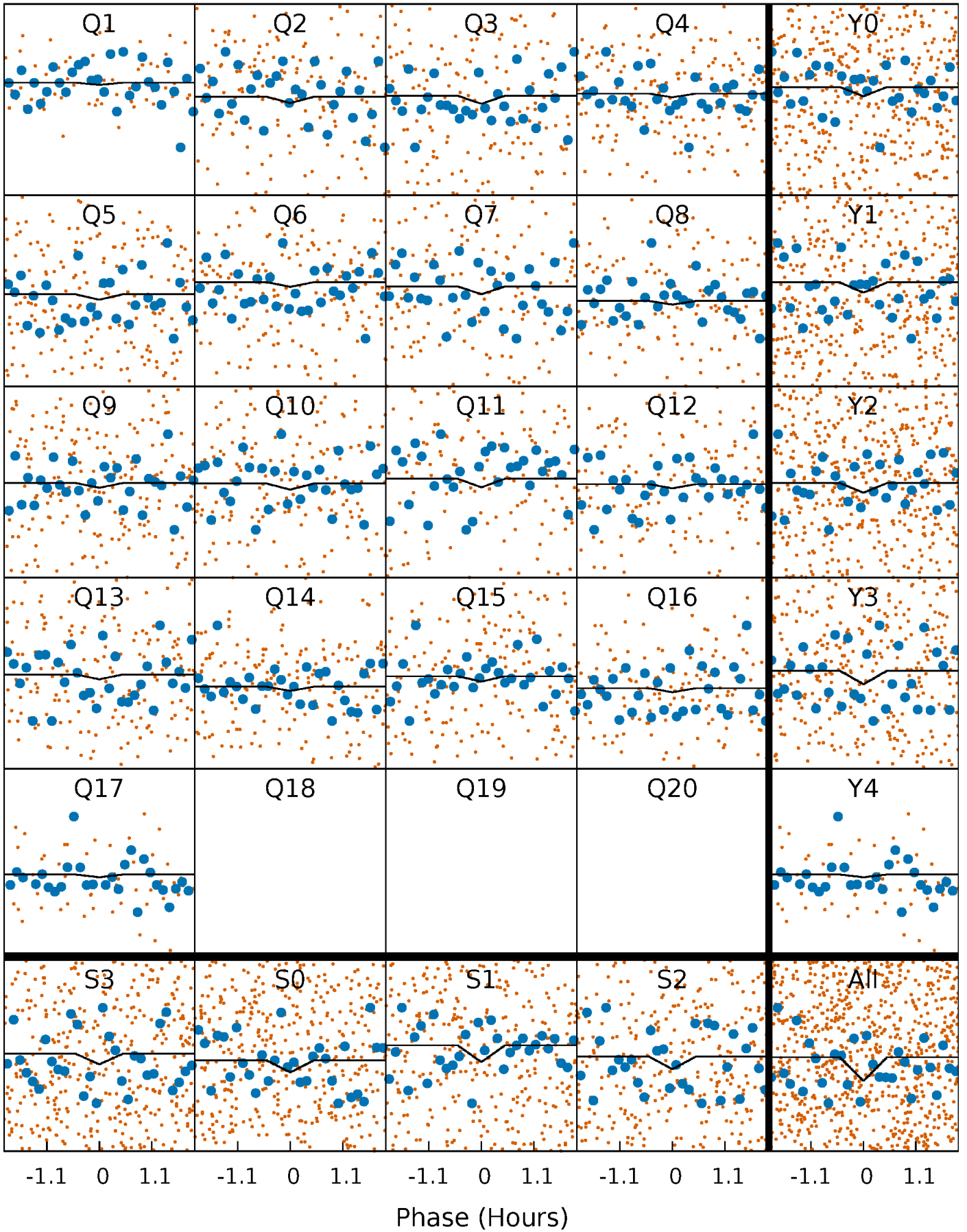
DV Quarter-Phased Transit Curves

TCE 007831302-03 P= 0.958162 Days $T_0=131.868374$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

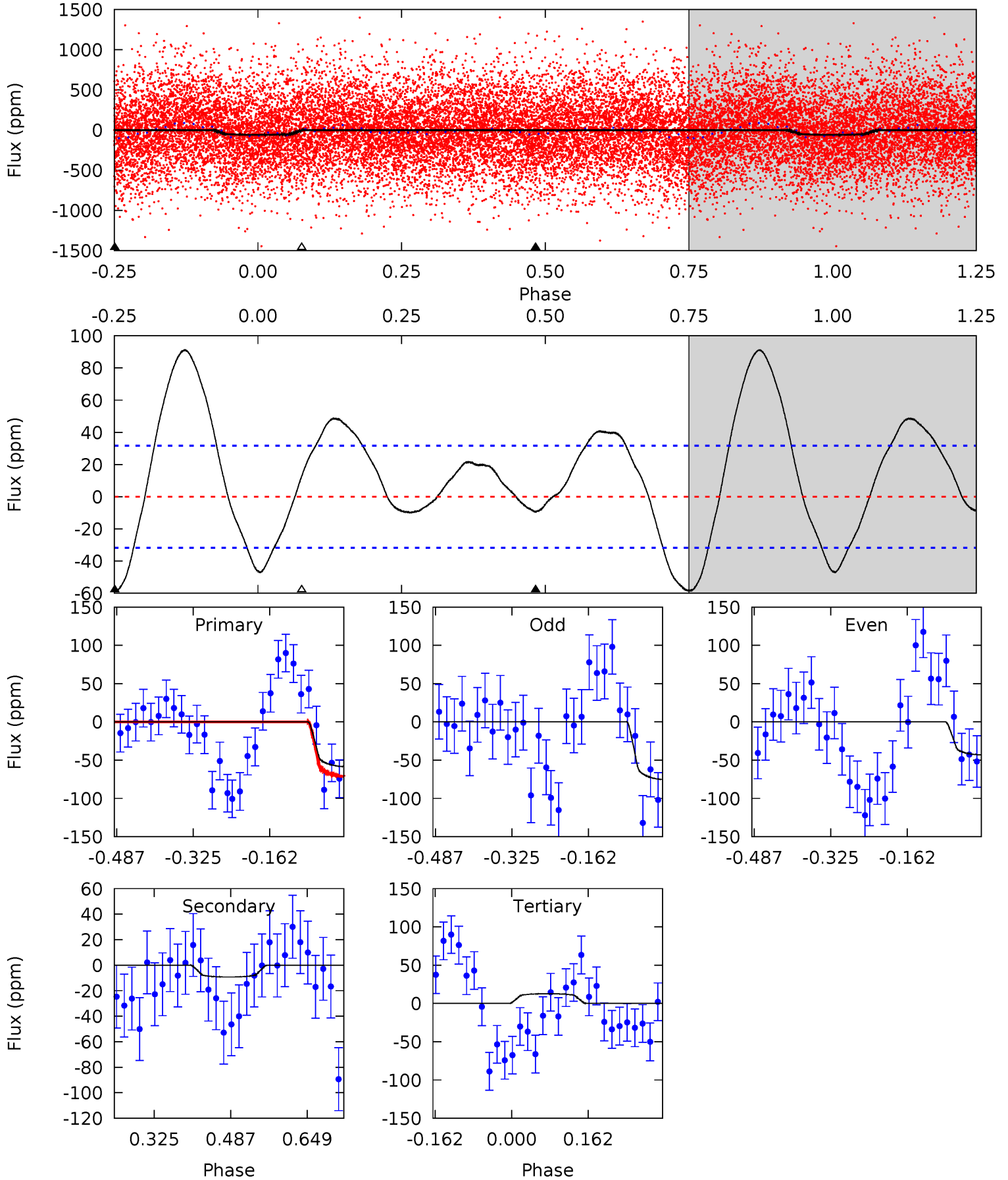
TCE 007831302-03 $P = 0.958212$ Days $T_0 = 131.833033$ (BKJD)



DV Model-Shift Uniqueness Test

007831302-03, P = 0.958162 Days, E = 130.910212 Days

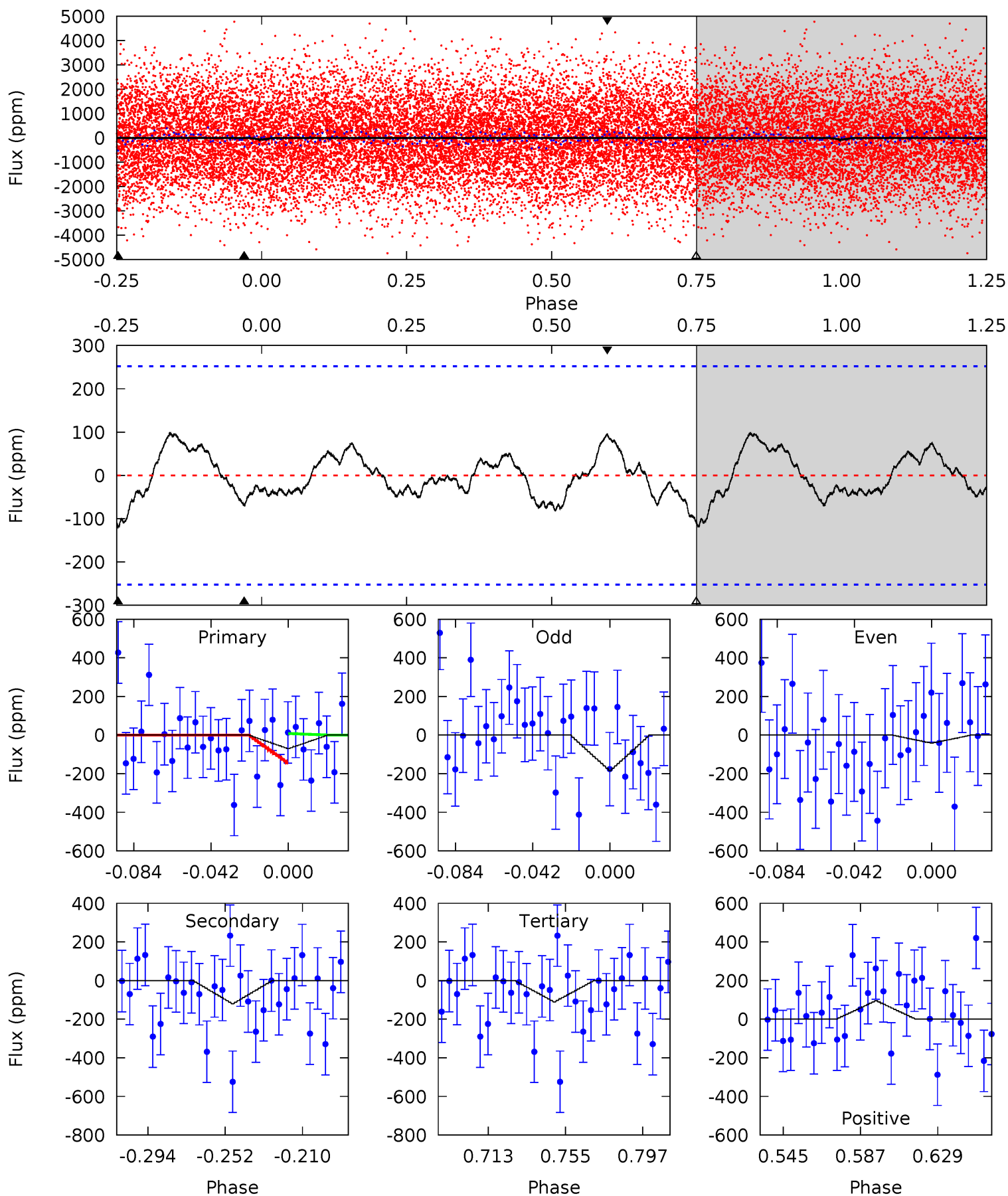
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.21	1.31	-1.80	0	4.46	1.40	3.89	10.0	8.21	3.10	1.31	2.22	0.85	0.61	1.83



Alt Model-Shift Uniqueness Test

007831302-03, P = 0.958212 Days, E = 130.874821 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.32	2.25	2.07	1.80	4.74	2.03	0.86	-0.75	-0.48	0.18	0.46	1.34	4.03	0.45	1.28



Stellar Parameters For KIC 007831302

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8381^{+203}_{-378}	$3.757^{+0.432}_{-0.108}$	$-0.140^{+0.300}_{-0.400}$	$3.120^{+0.897}_{-1.457}$	$2.032^{+0.339}_{-0.467}$	$0.094^{+0.384}_{-0.040}$
	+2%/-5%	+11%/-3%	+214%/-286%	+29%/-47%	+17%/-23%	+407%/-43%
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 007831302-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-9 ± 7	$2.89^{+1.83}_{-1.62}$	5622^{+445}_{-603}	2902^{+3328}_{-7472}	$0.323^{+1.288}_{-0.277}$
Alt.	-120 ± 53	$3.19^{+2.13}_{-1.49}$	5643^{+474}_{-730}	7990^{+5320}_{-2293}	$3.554^{+9.671}_{-2.515}$

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

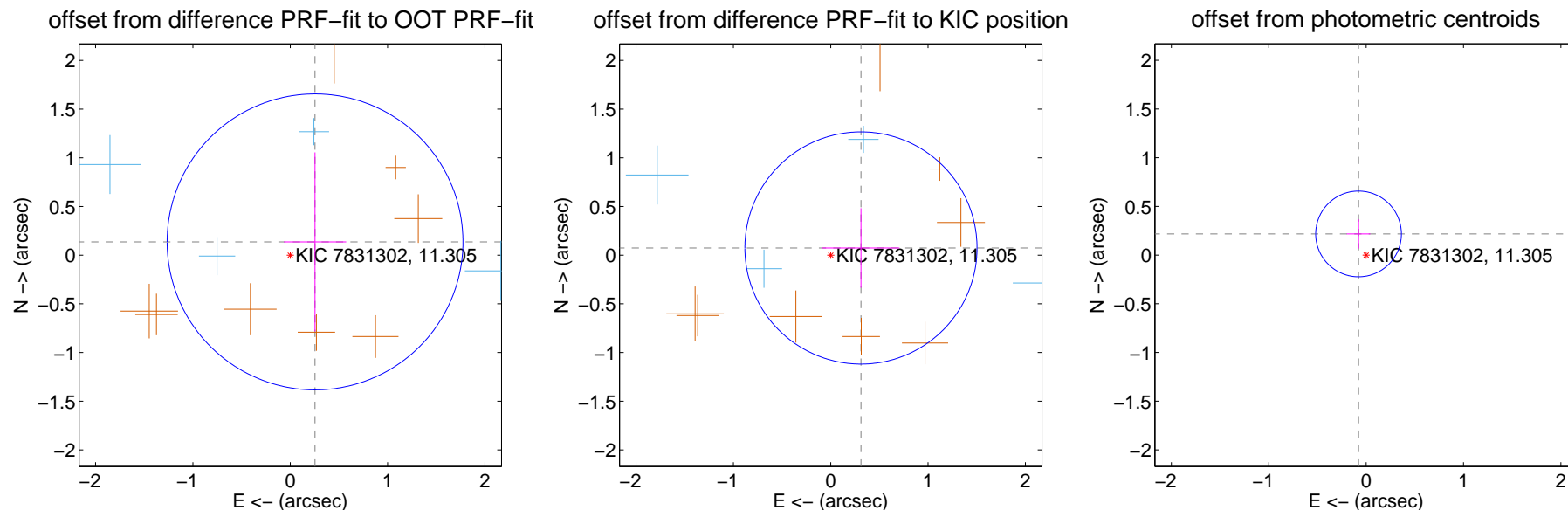
DV Centroid Data

Supplemental centroid analysis for 007831302-03. **Kepler magnitude: 11.30.** Transit SNR 7.31

There are 4 quarters with good PRF difference image offsets

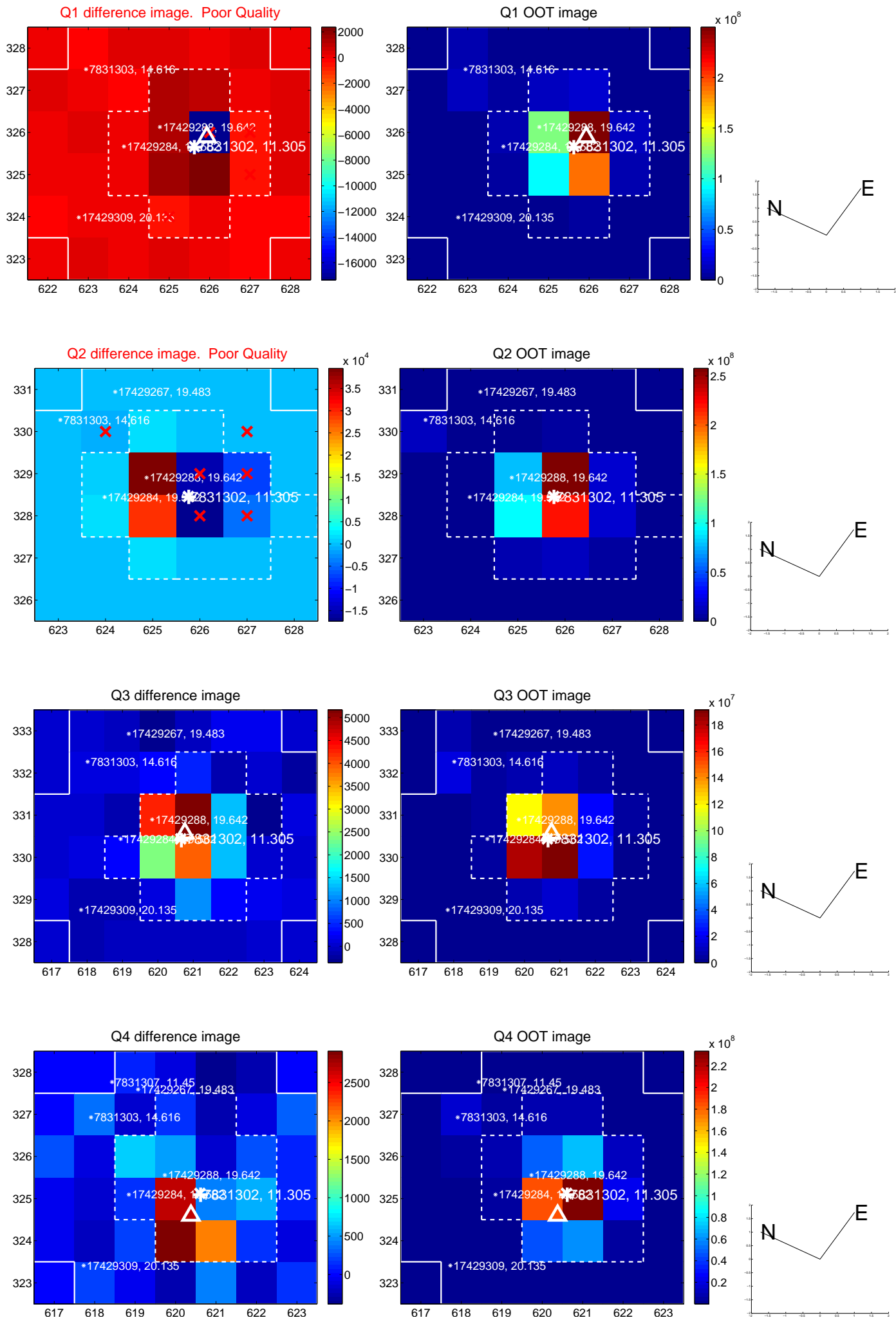
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.289 ± 0.507	0.57	-0.255 ± 0.320	0.136 ± 0.920
PRF-fit source offset from KIC position	0.319 ± 0.397	0.80	-0.311 ± 0.397	0.074 ± 0.408
photometric centroid source offset	0.23 ± 0.15	1.57	0.08 ± 0.12	0.22 ± 0.15

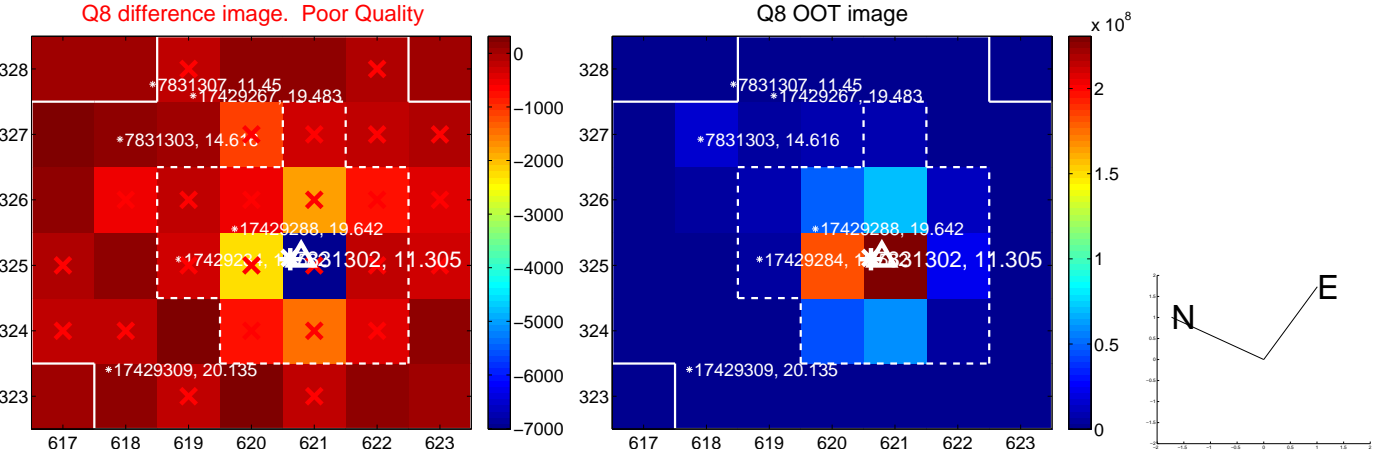
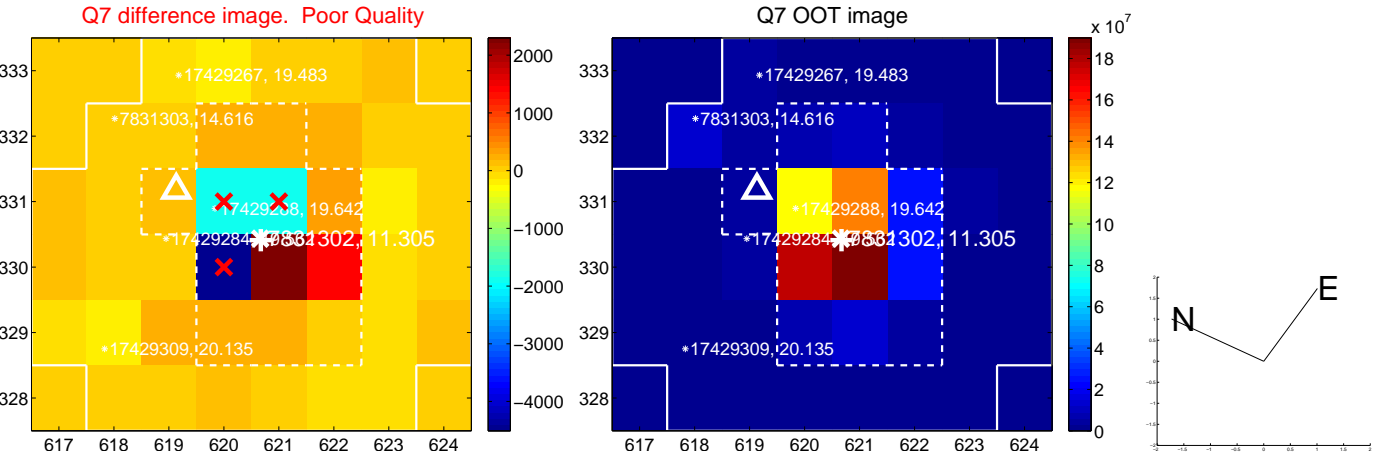
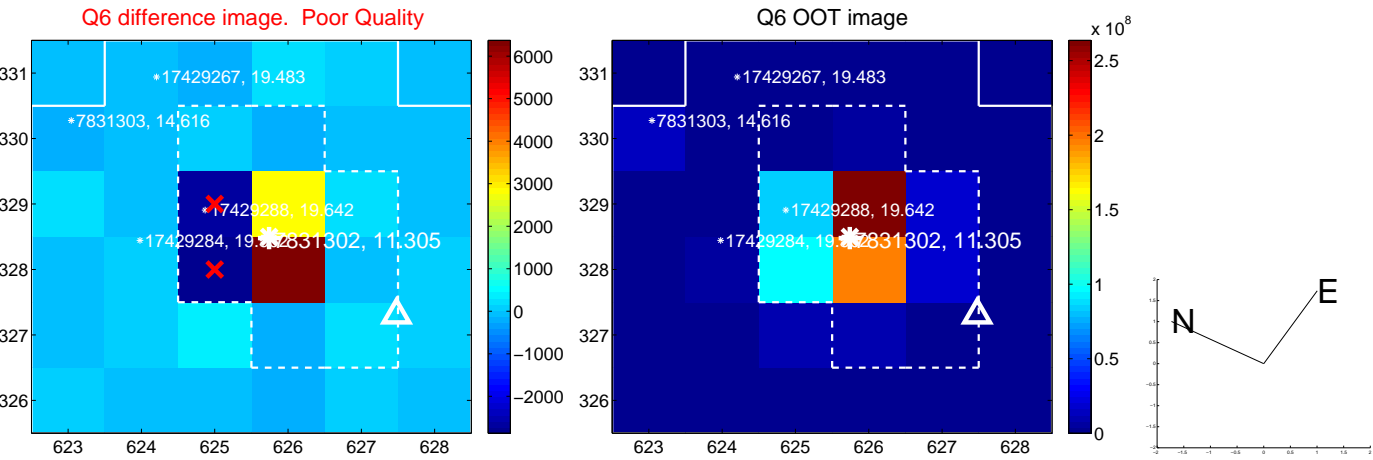
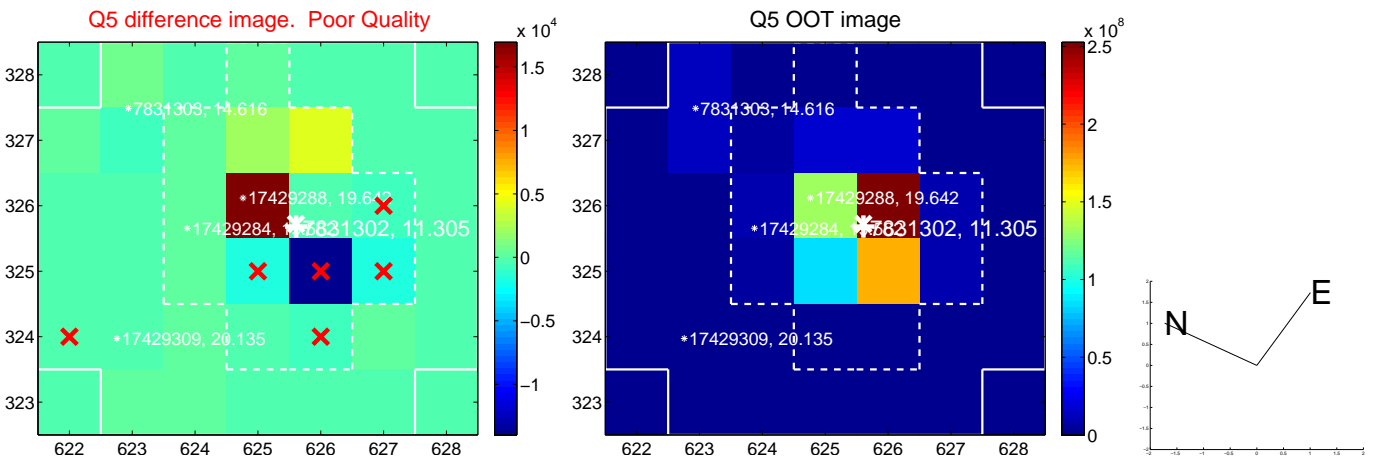


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

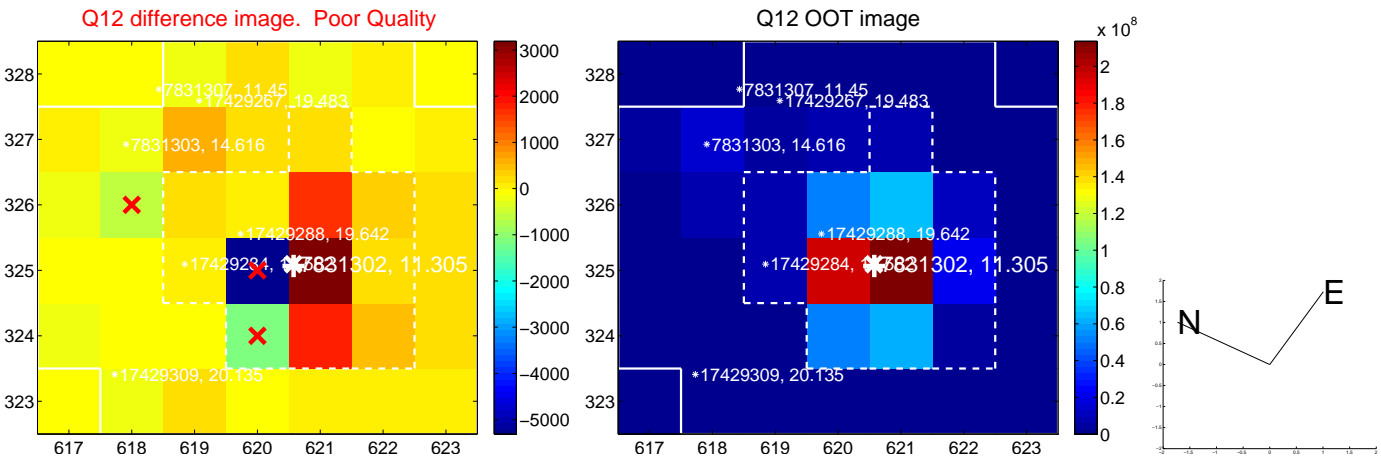
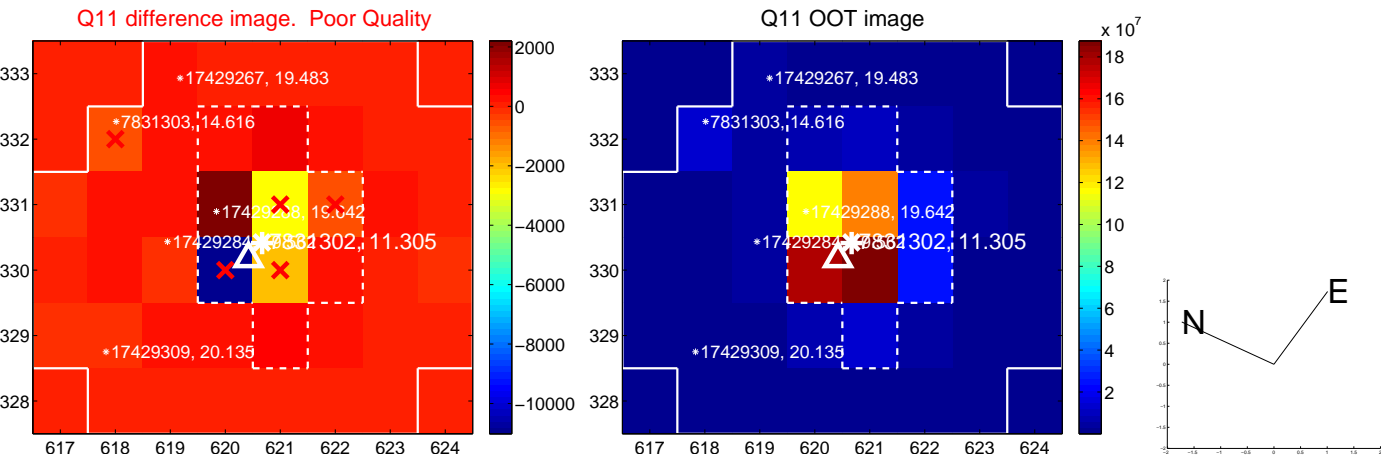
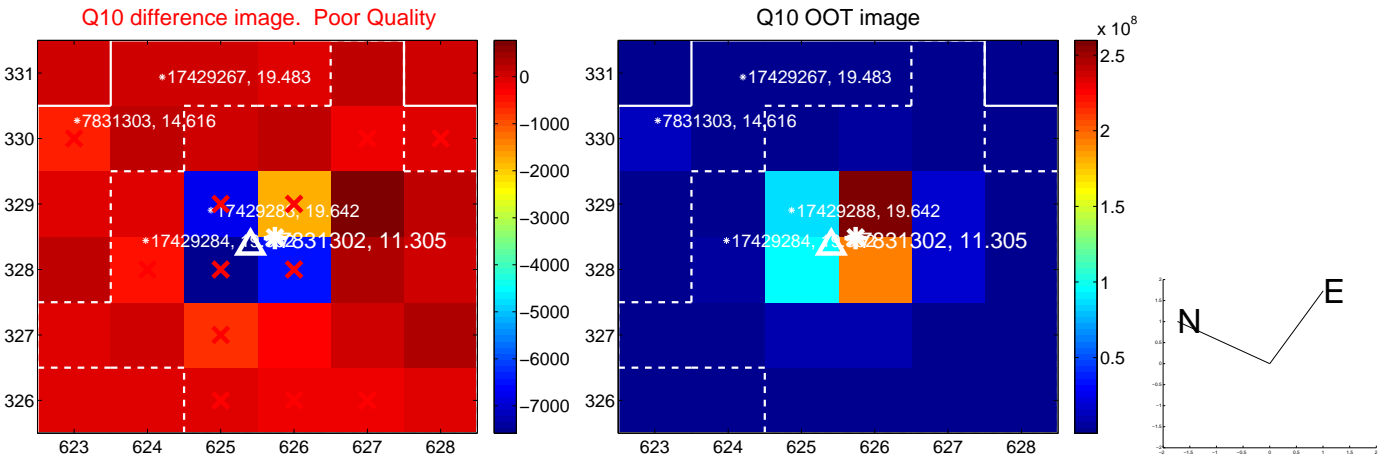
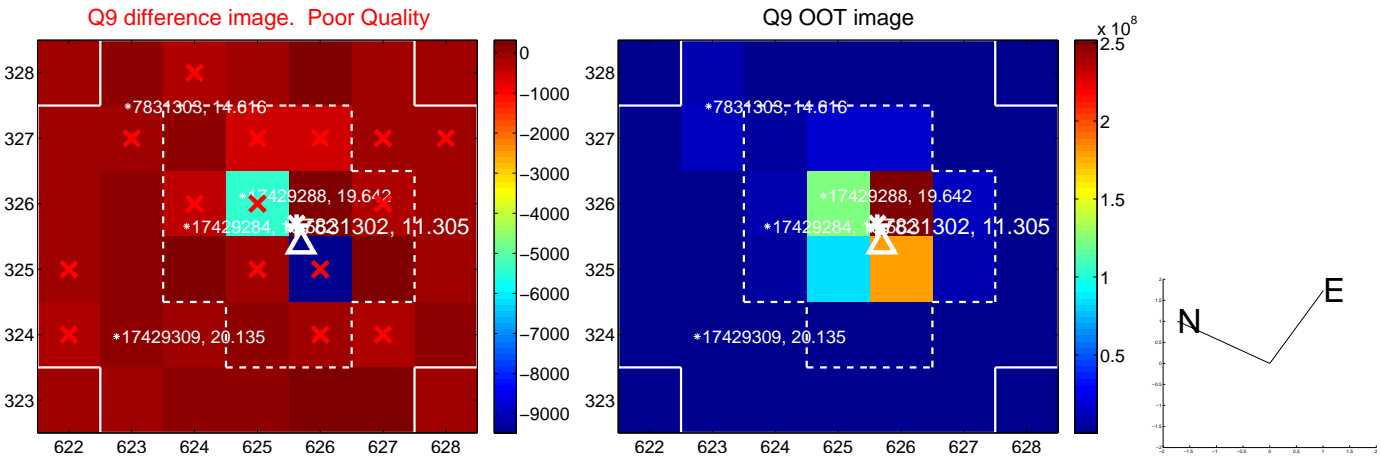
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



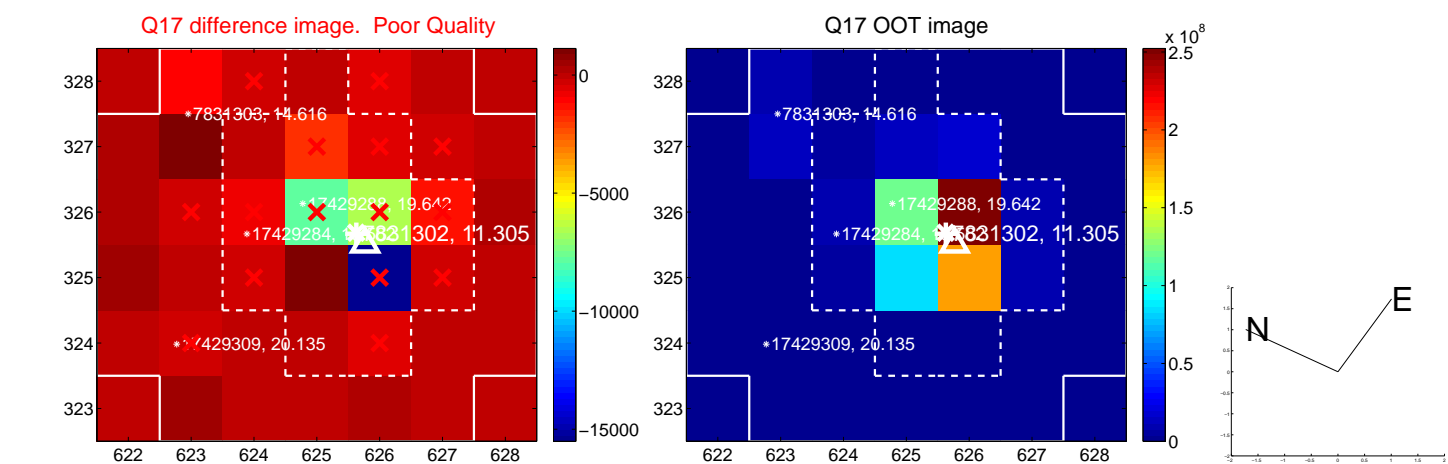
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



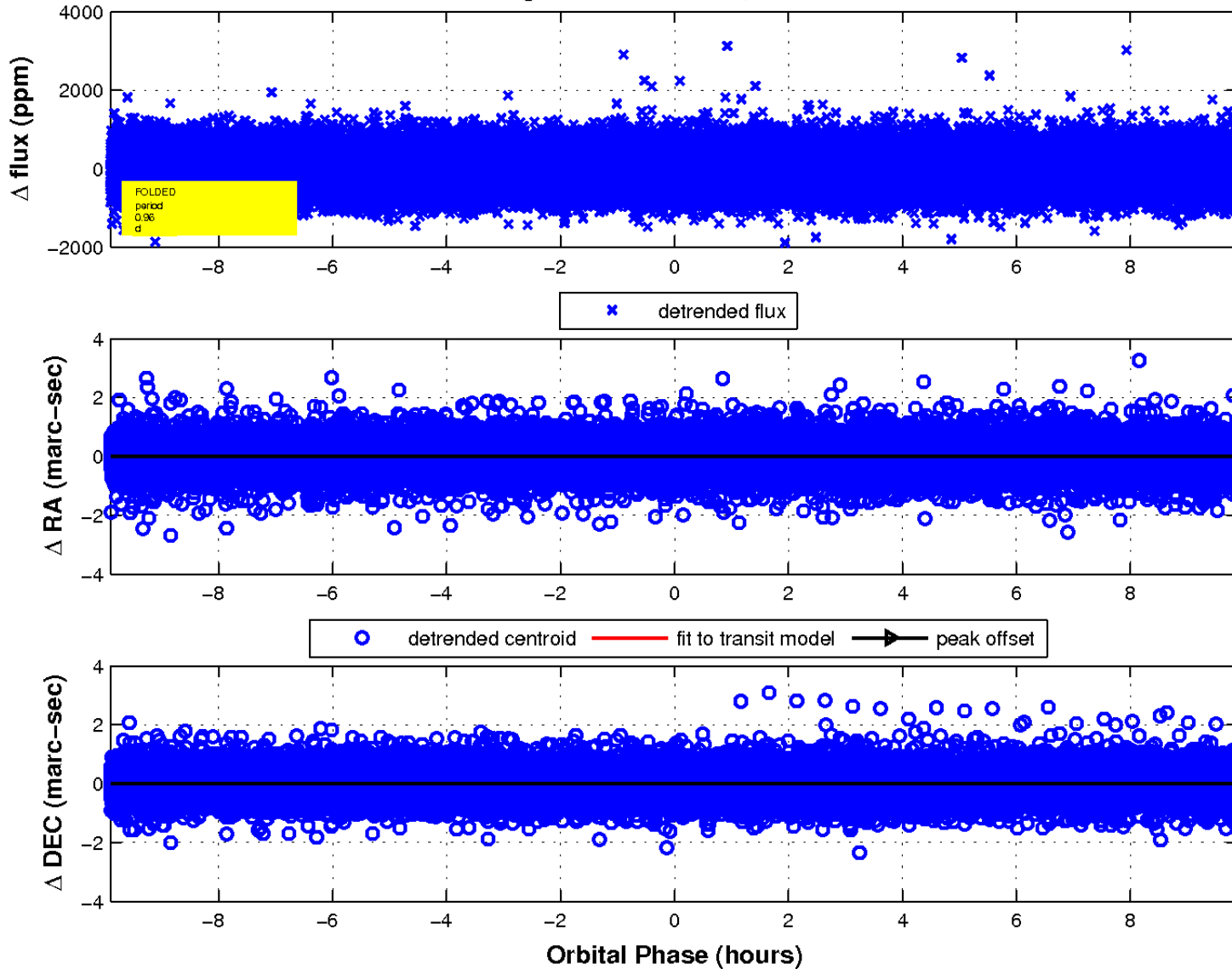
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

