

KIC 007777435

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})
007777435-01	OBS	No	1.069068	132.512038	18.4	3.371	11.9	11.0	3.21	8352	1.59	66493.90
007777435-02	OBS	No	1.647392	132.371330	18.9	17.012	9.8	14.8	3.21	8352	1.43	37358.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007777435-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007777435-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

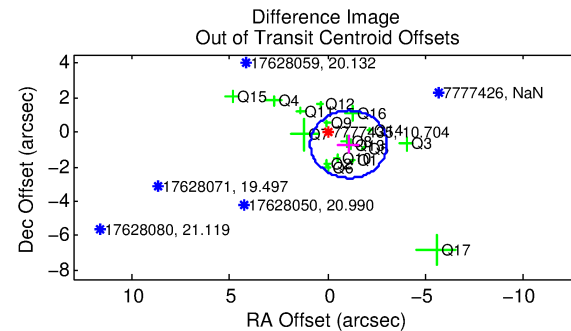
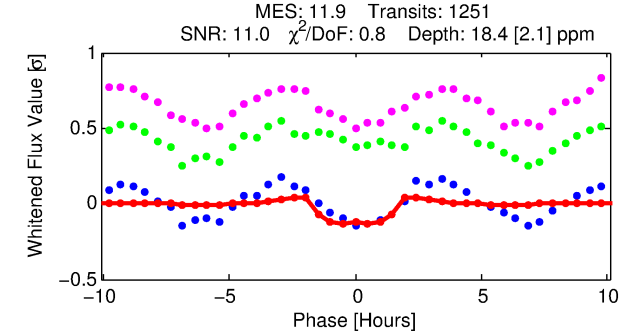
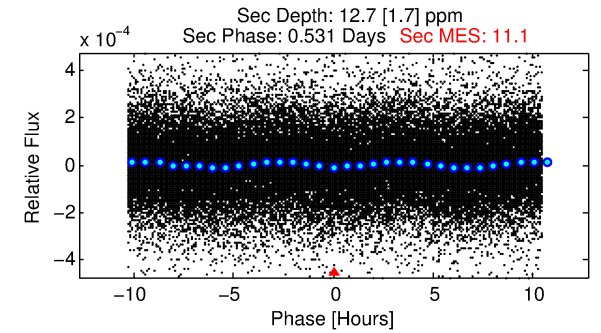
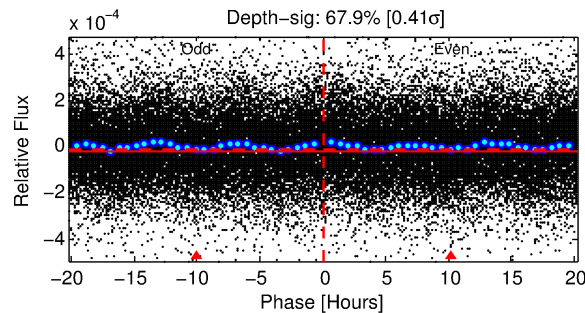
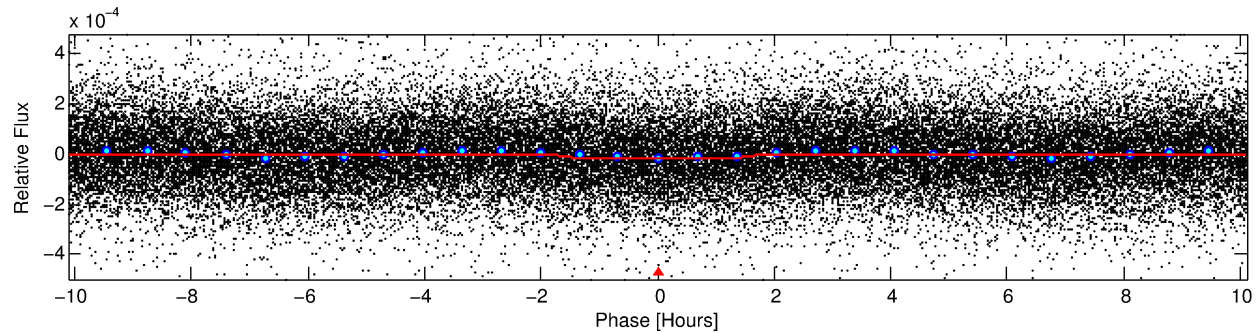
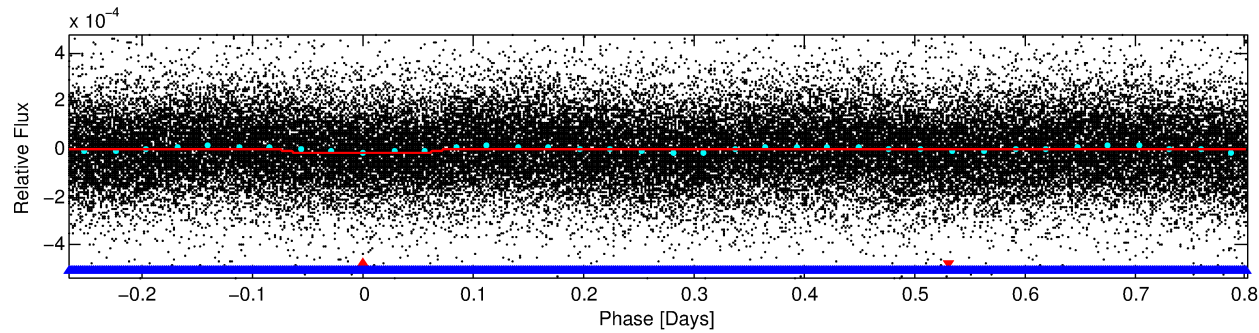
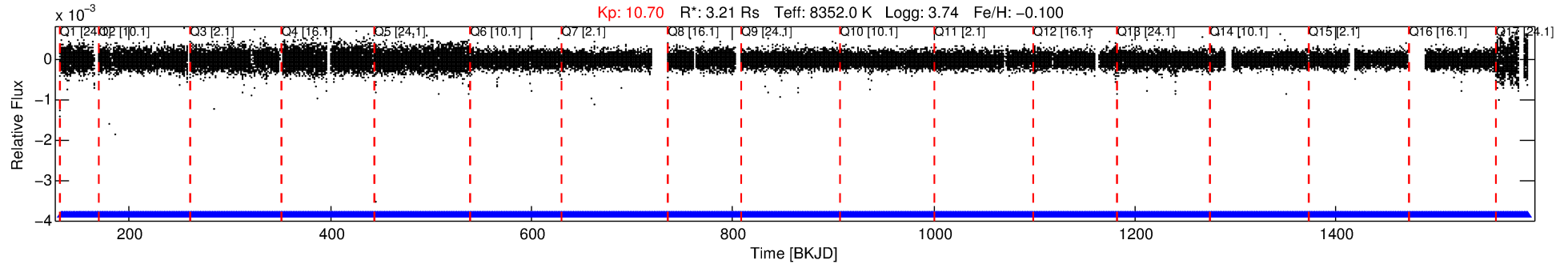
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007777435-01

No Significant Match Found

DV One-Page Summary

KIC: 7777435 Candidate: 1 of 2 Period: 1.069 d



DV Fit Results:

Period = 1.06907 [0.00001] d
Epoch = 132.5120 [0.0028] BKJD
Rp/R* = 0.0045 [0.0009]
a/R* = 1.45 [0.93]
b = 0.89 [0.28]
Seff = 66493.90 [48614.29]
Teq = 4095 [748] K
Rp = 1.59 [0.77] Re
a = 0.0260 [0.0113] AU
Ag = 1.86 [1.53] [0.56 σ]
Teffp = 7395 [831] K [2.95 σ]

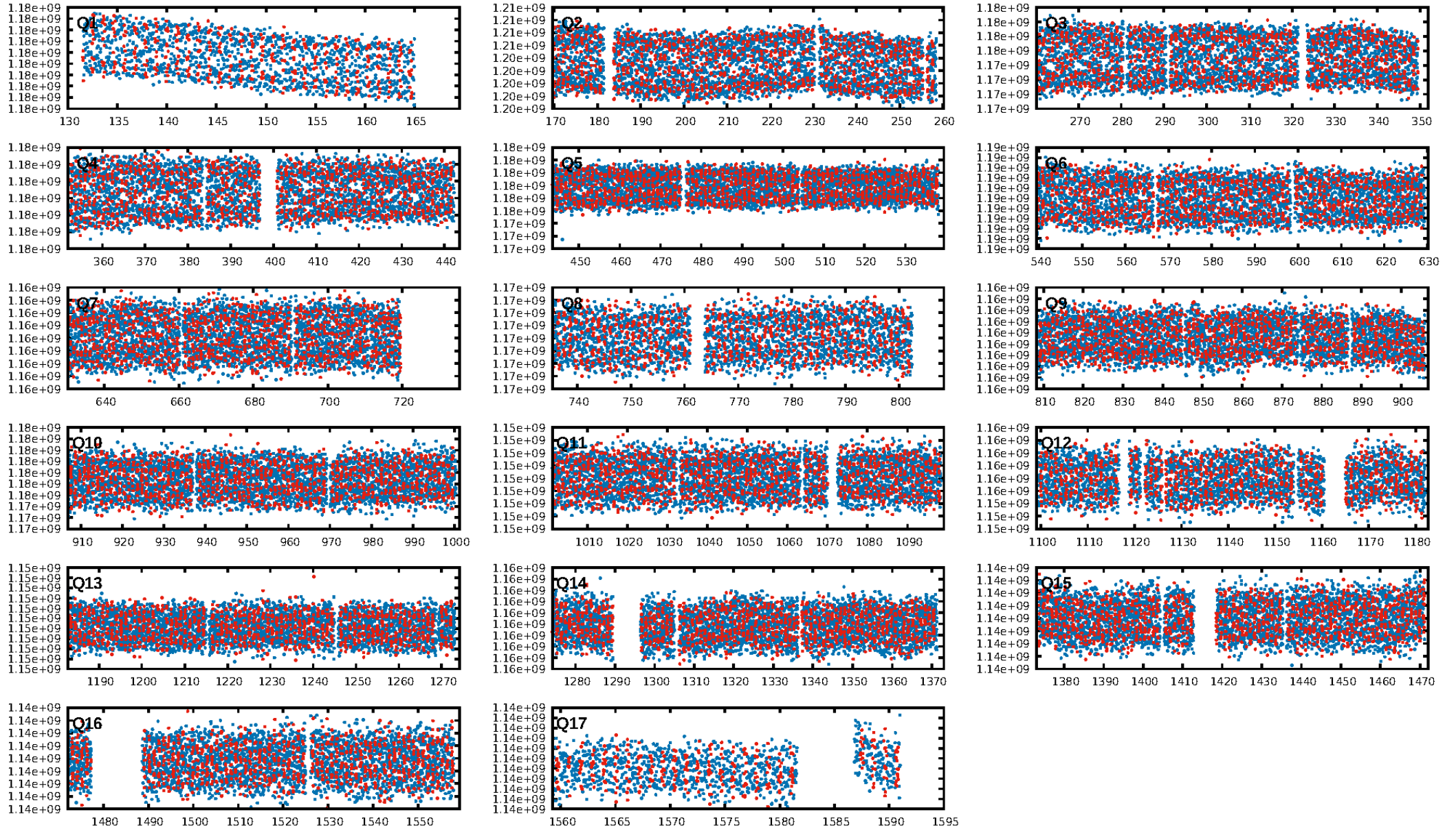
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 57.6% [0.80 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1194/1194]
GhostDiagnostic-chr: 2.529
Centroid-sig: 12.4%
Centroid-so: 0.772 arcsec [1.31 σ]
OotOffset-rm: 1.287 arcsec [1.97 σ]
KicOffset-rm: 1.281 arcsec [2.05 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.29 [5/17]
DiffImageOverlap-fno: 1.00 [17/17]

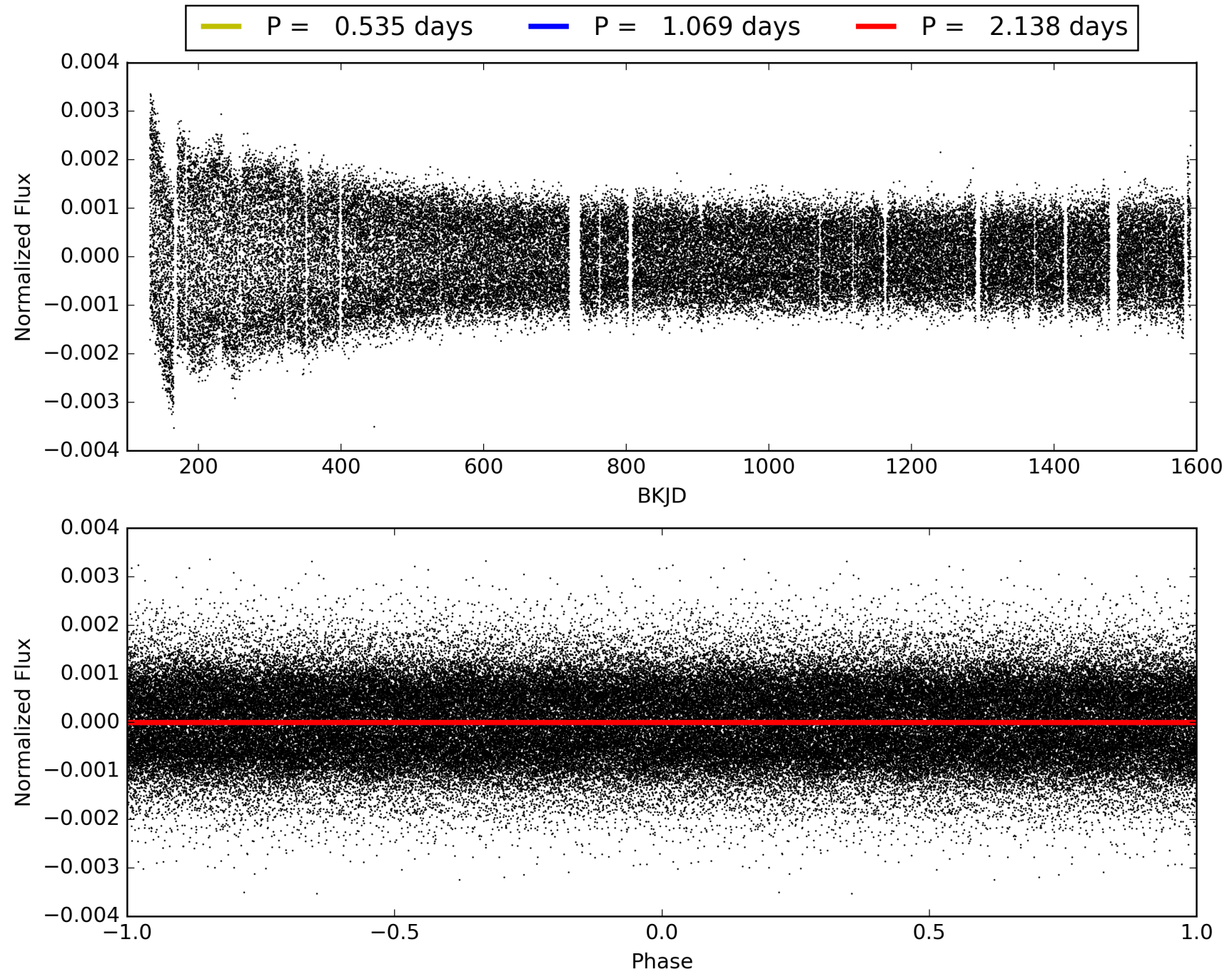
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 00:27:48 Z

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

TCE 007777435-01, PDC Light Curves

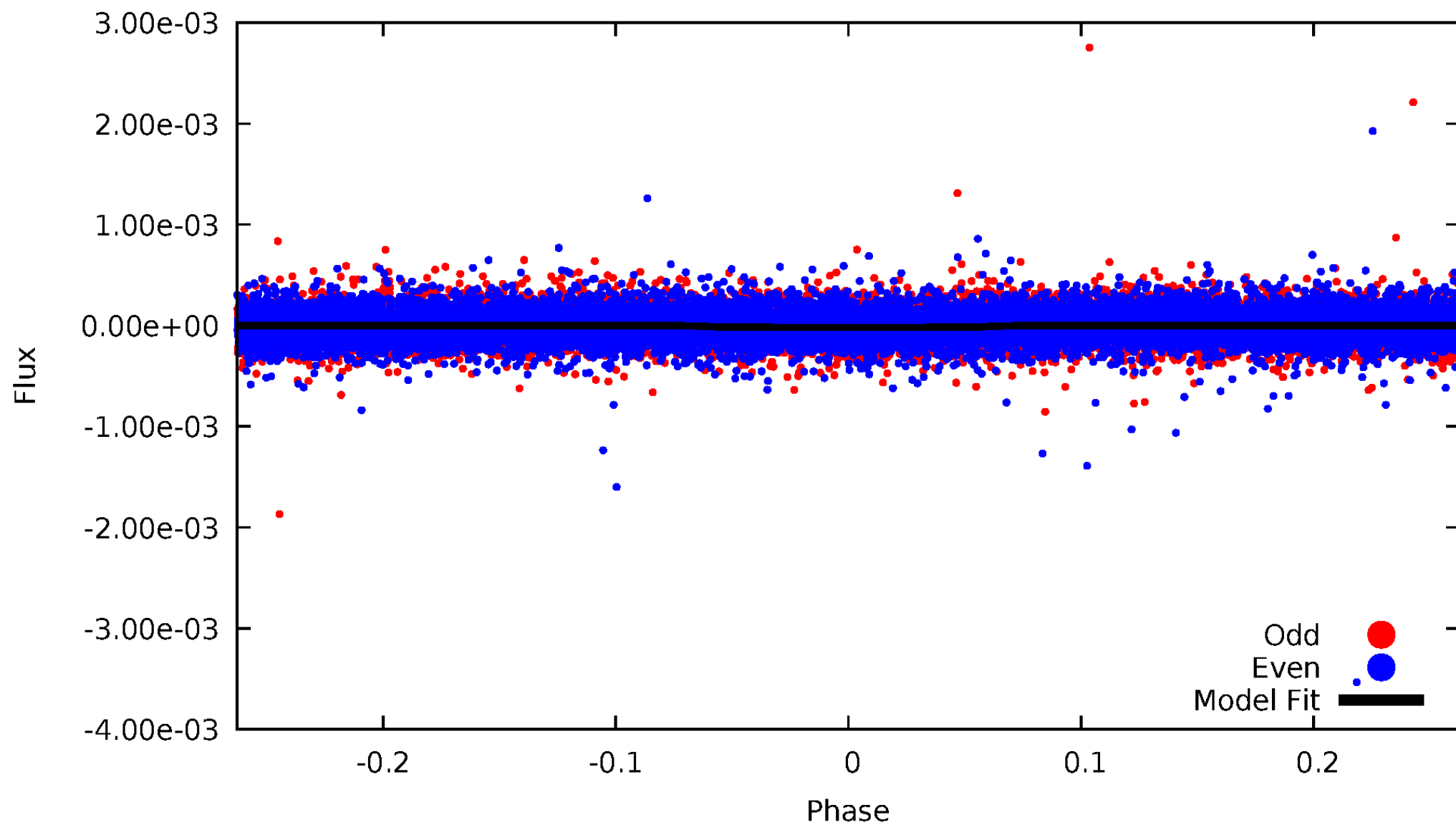


TCE 007777435-01



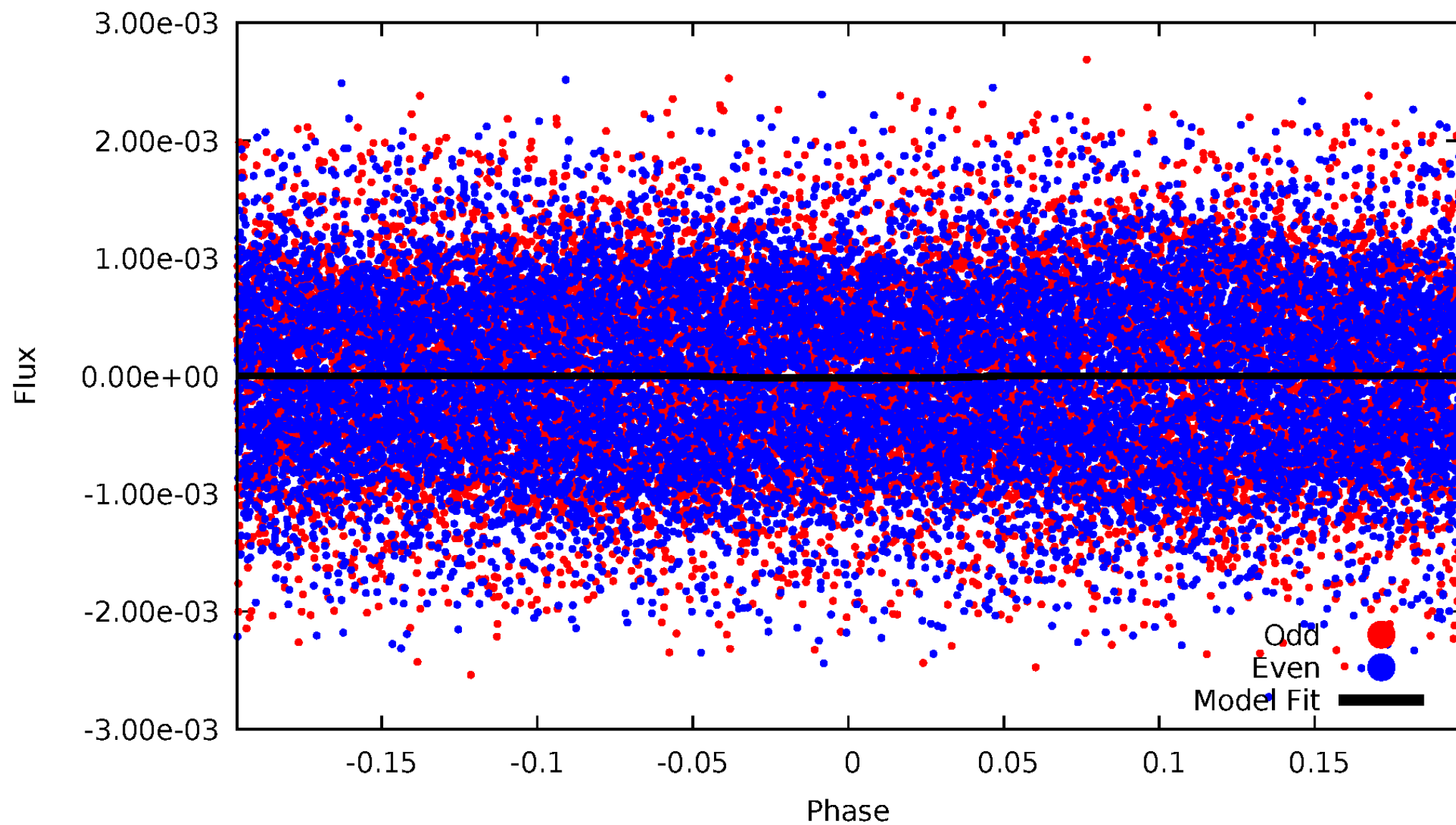
DV Odd/Even

TCE 007777435-01



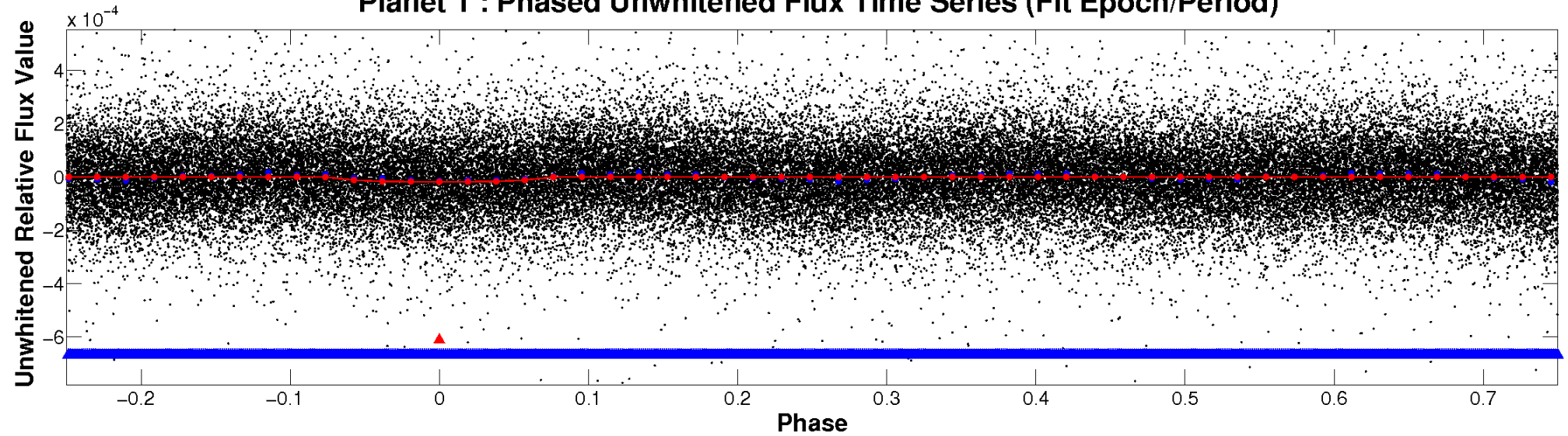
ALT Odd/Even

TCE 007777435-01

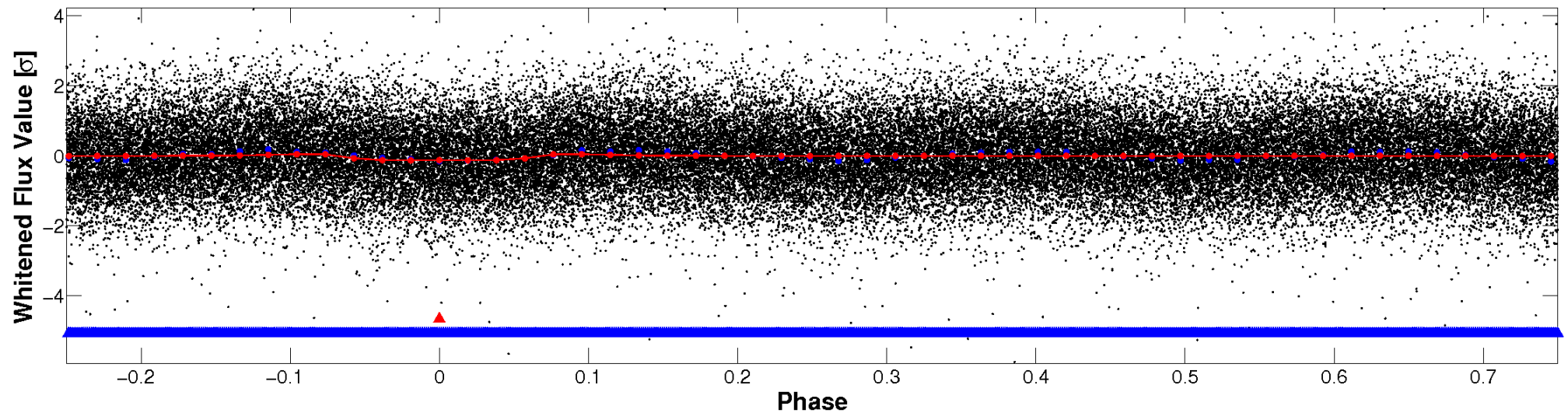


Non-Whitened Vs. Whitened Light Curve

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

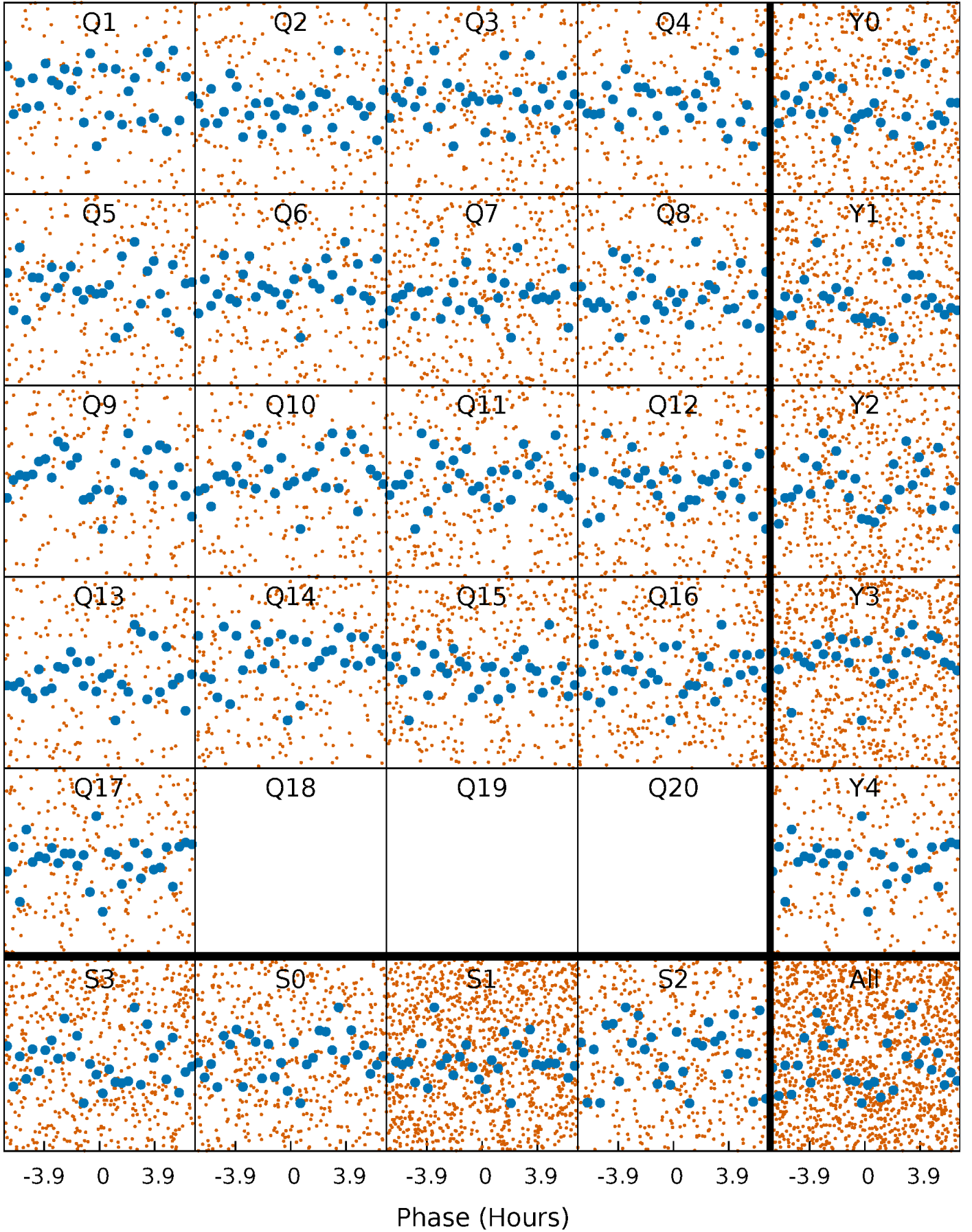


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



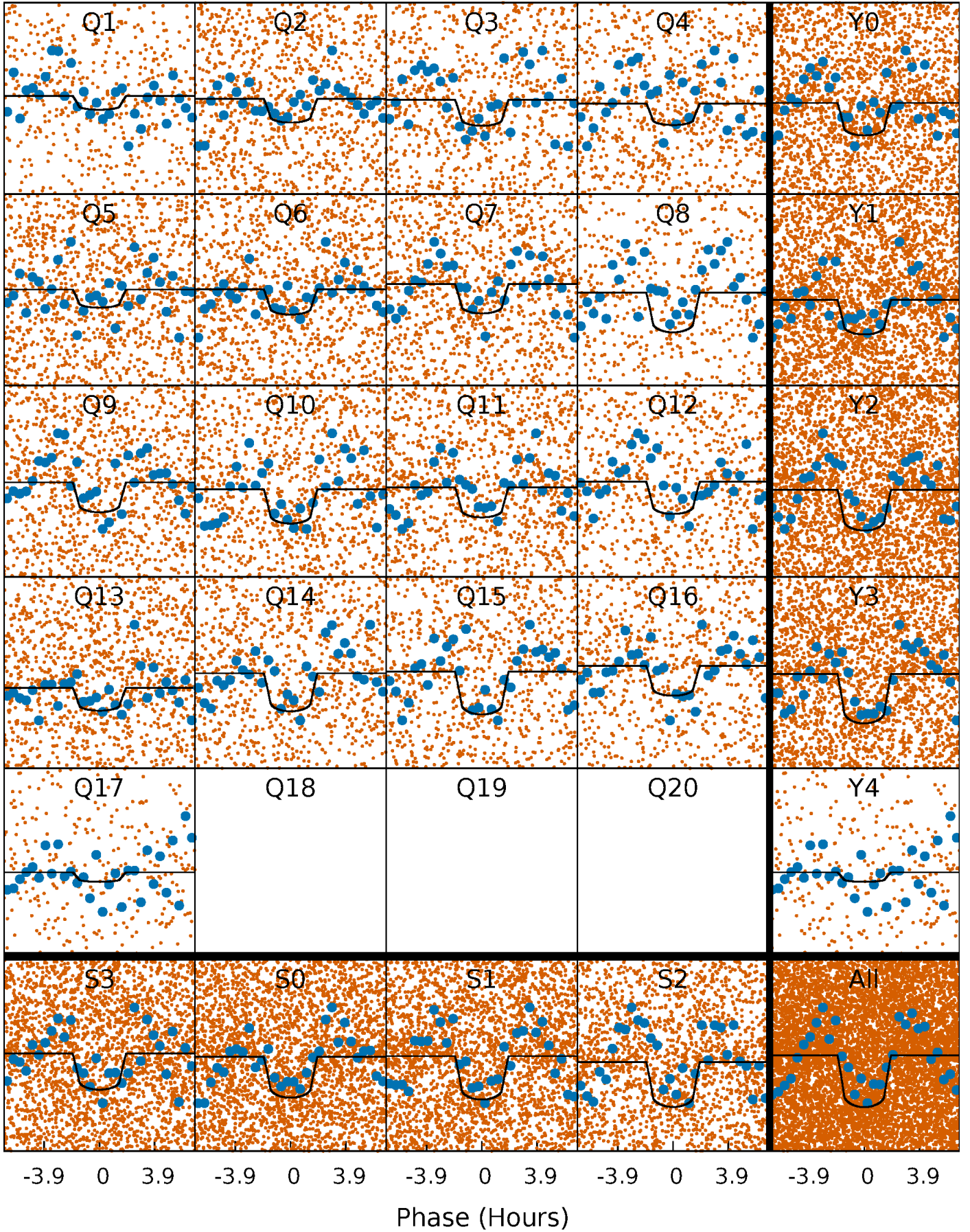
PDC Quarter-Phased Transit Curves

TCE 007777435-01 P= 1.069068 Days $T_0=132.512038$ (BKJD)



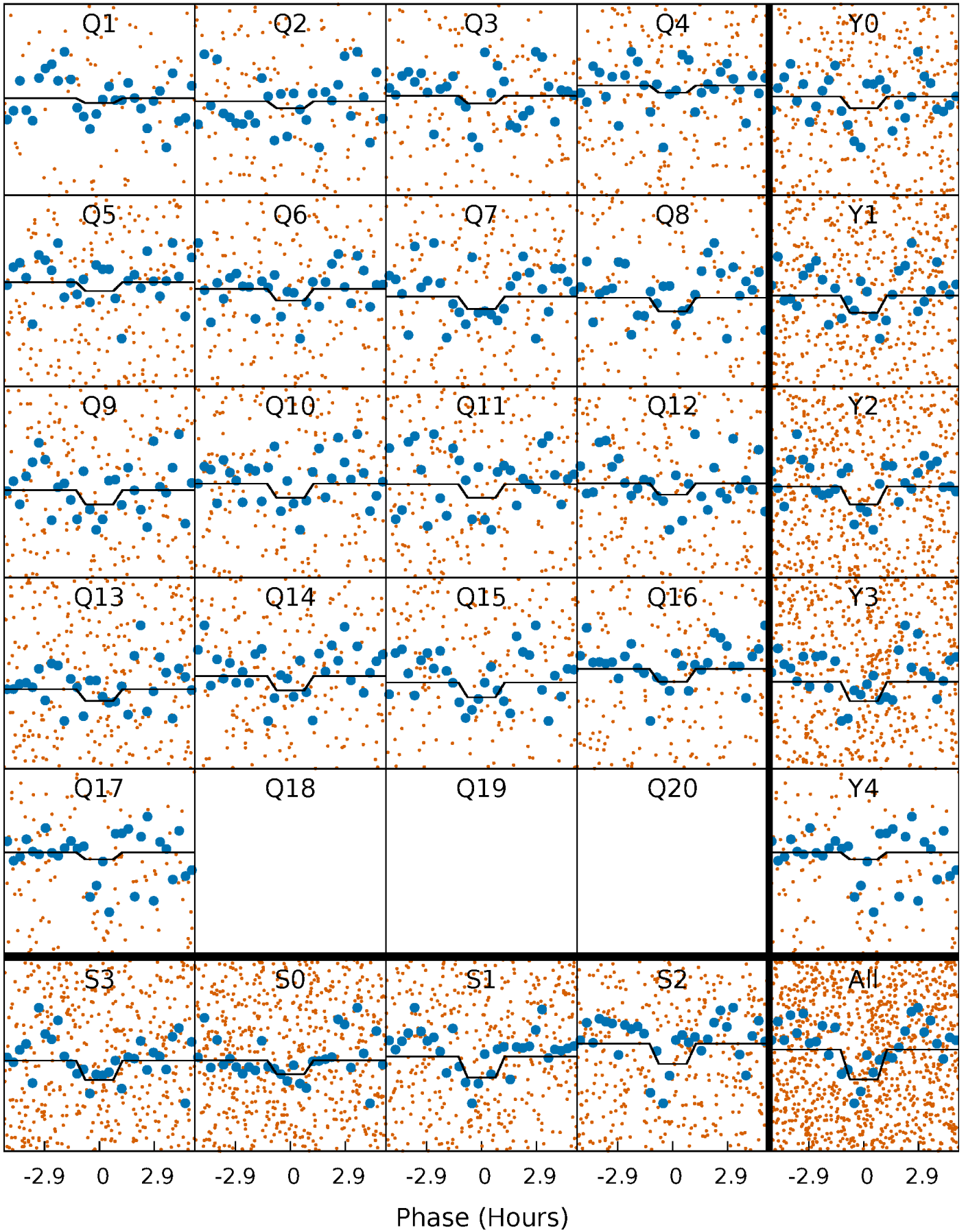
DV Quarter-Phased Transit Curves

TCE 007777435-01 P= 1.069068 Days $T_0=132.512038$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

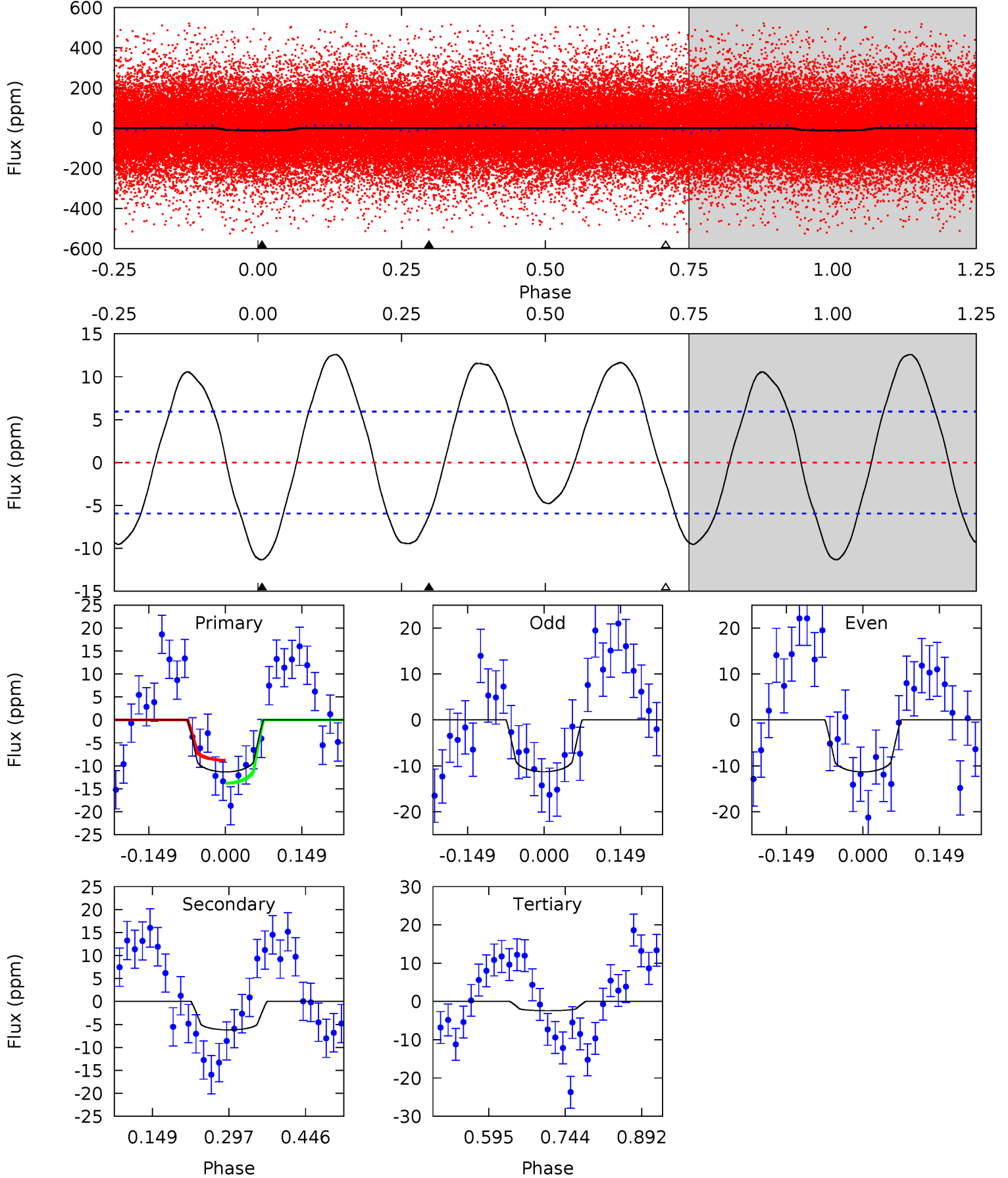
TCE 007777435-01 P= 1.069110 Days $T_0=132.497769$ (BKJD)



DV Model-Shift Uniqueness Test

007777435-01, P = 1.069068 Days, E = 131.442970 Days

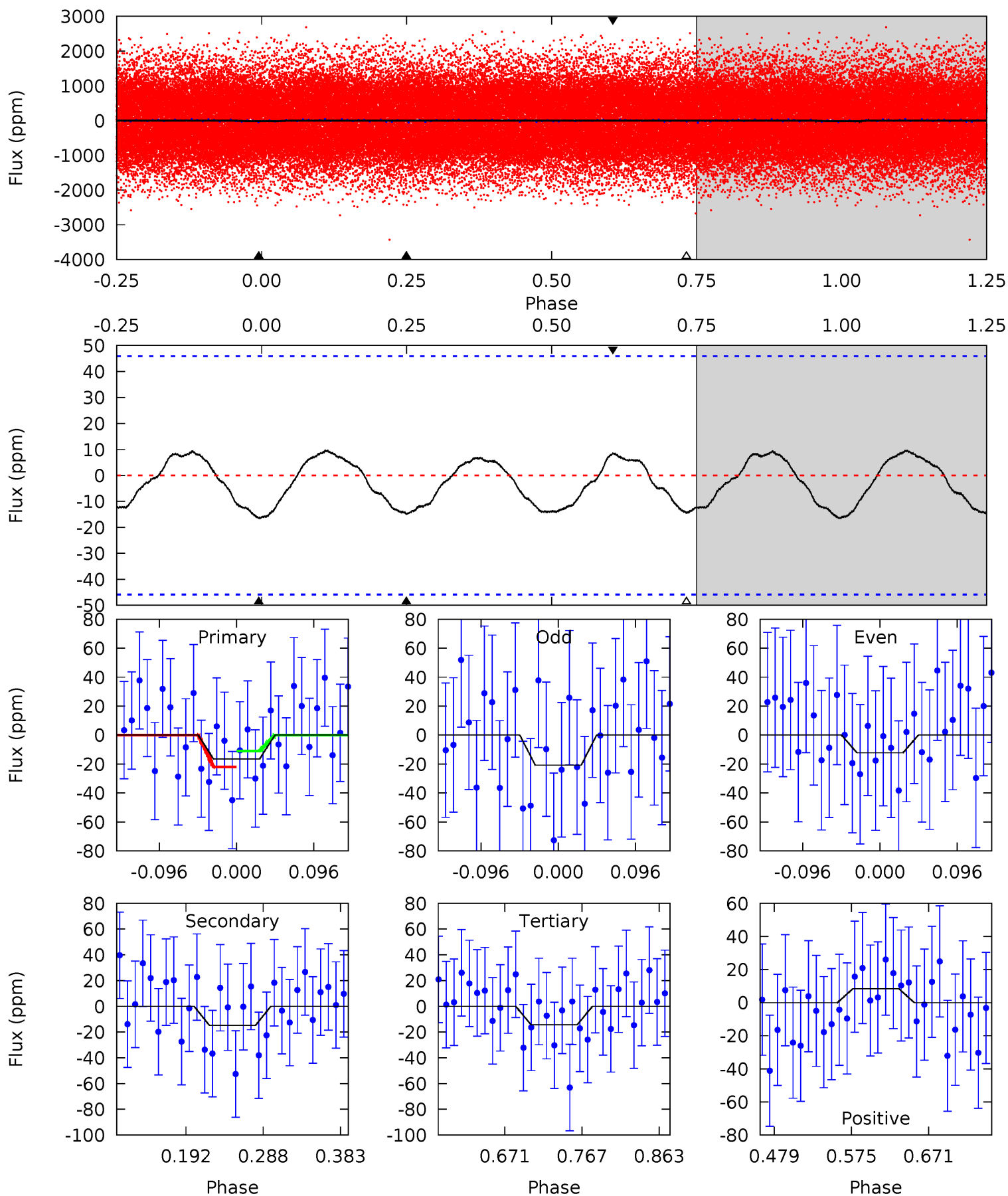
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.54	4.67	1.82	0	4.48	1.44	4.87	6.73	8.54	2.85	4.67	0.02	0.95	0.53	1.90



Alt Model-Shift Uniqueness Test

007777435-01, P = 1.069110 Days, E = 131.428659 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.65	1.48	1.44	0.84	4.57	1.67	0.80	0.21	0.81	0.04	0.64	0.43	1.04	0.37	0.55



Stellar Parameters For KIC 007777435

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8352^{+201}_{-374}	$3.736^{+0.420}_{-0.140}$	$-0.100^{+0.300}_{-0.350}$	$3.207^{+0.944}_{-1.417}$	$2.046^{+0.387}_{-0.473}$	$0.087^{+0.349}_{-0.036}$
	+2%/-4%	+11%/-4%	+300%/-350%	+29%/-44%	+19%/-23%	+399%/-41%
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 007777435-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-6 ± 1	$1.49^{+0.46}_{-0.40}$	5527^{+498}_{-683}	5414^{+943}_{-792}	$1.033^{+0.995}_{-0.450}$
Alt.	-15 ± 10	$1.33^{+0.40}_{-0.39}$	5534^{+476}_{-620}	7582^{+2219}_{-2541}	$2.973^{+4.022}_{-2.220}$

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 $A_{obs} \gg 1.0$

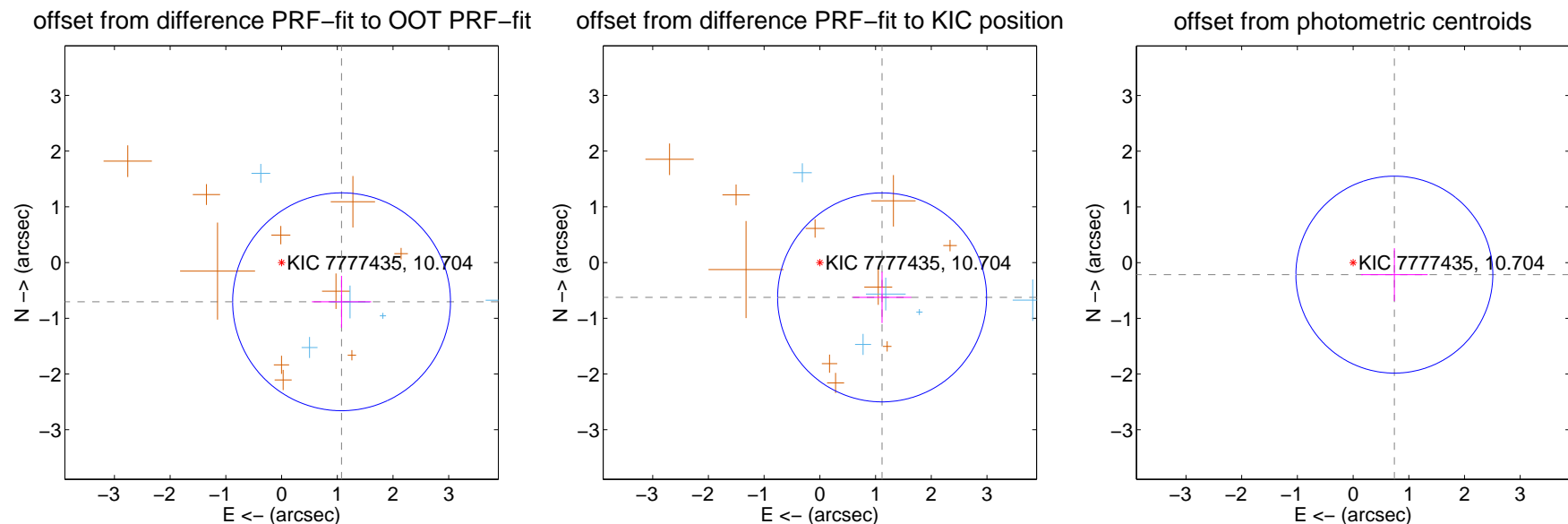
DV Centroid Data

Supplemental centroid analysis for 007777435-01. **Kepler magnitude: 10.70.** Transit SNR 10.97

There are 5 quarters with good PRF difference image offsets

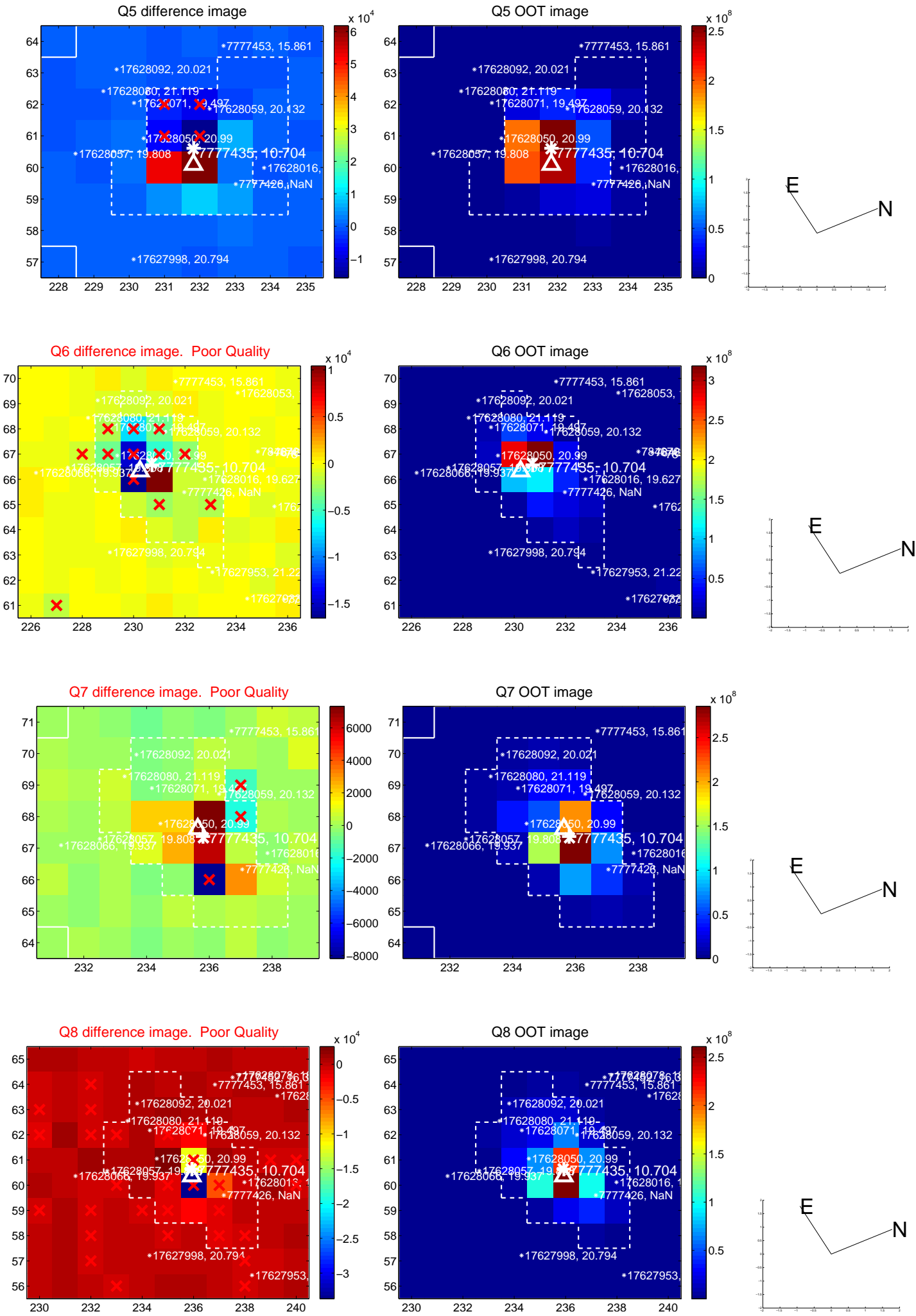
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.287 ± 0.652	1.97	-1.077 ± 0.533	-0.704 ± 0.467
PRF-fit source offset from KIC position	1.281 ± 0.625	2.05	-1.117 ± 0.524	-0.625 ± 0.460
photometric centroid source offset	0.77 ± 0.59	1.31	-0.74 ± 0.60	-0.22 ± 0.48

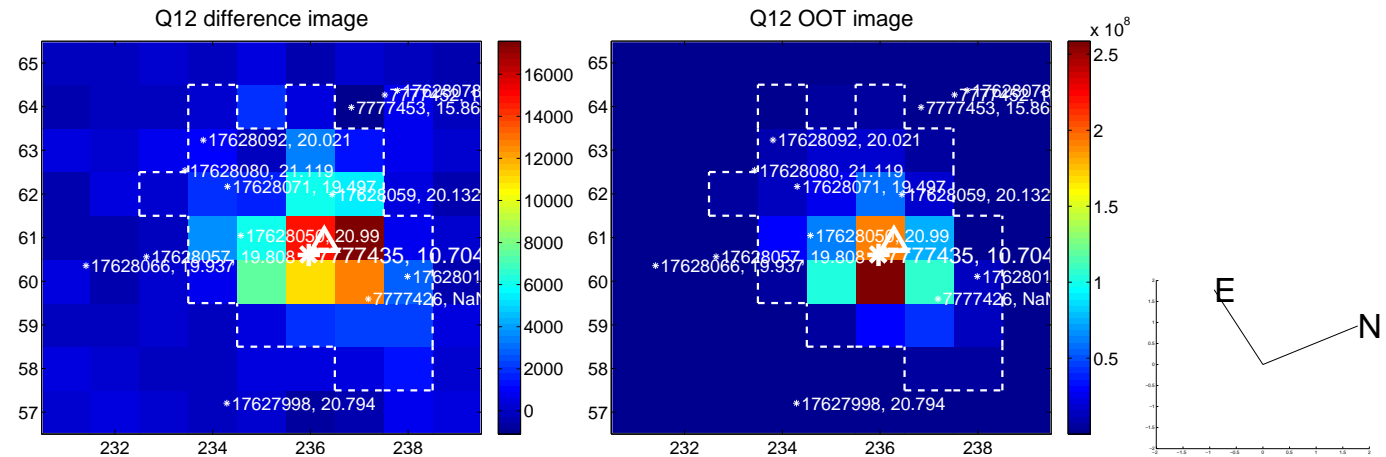
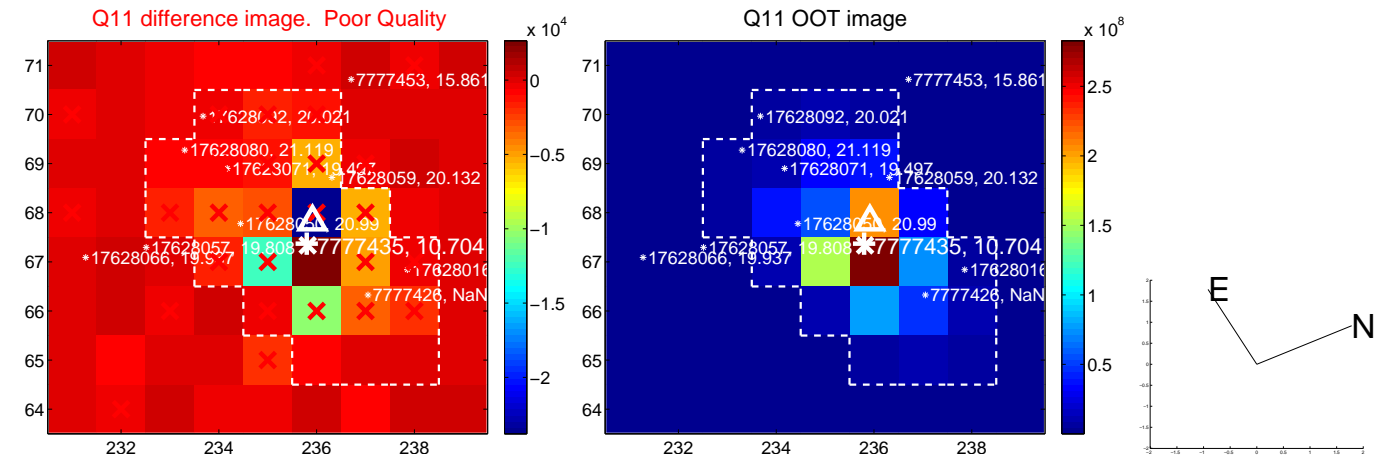
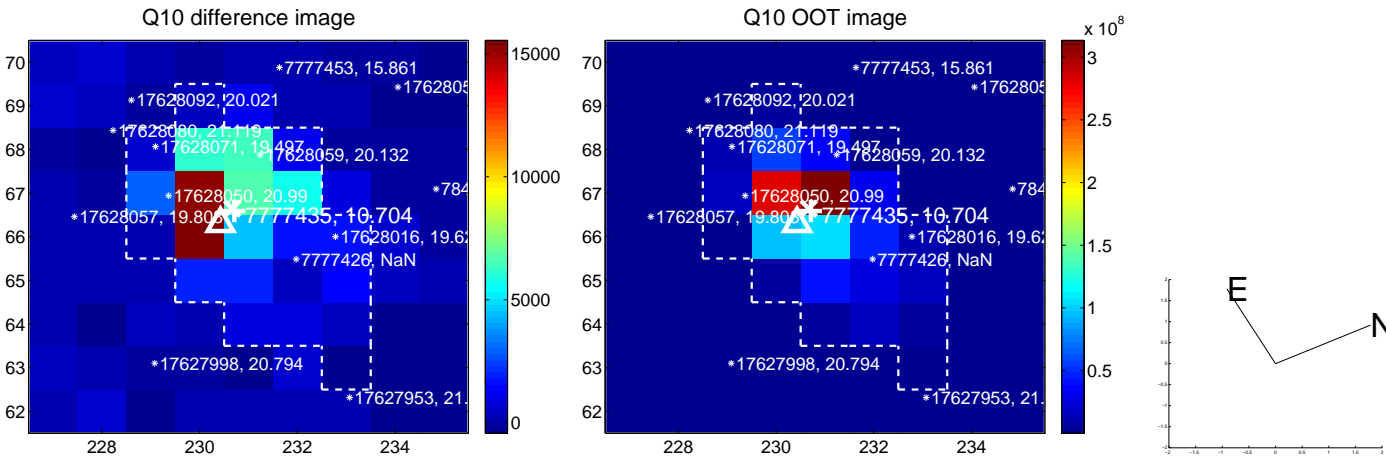
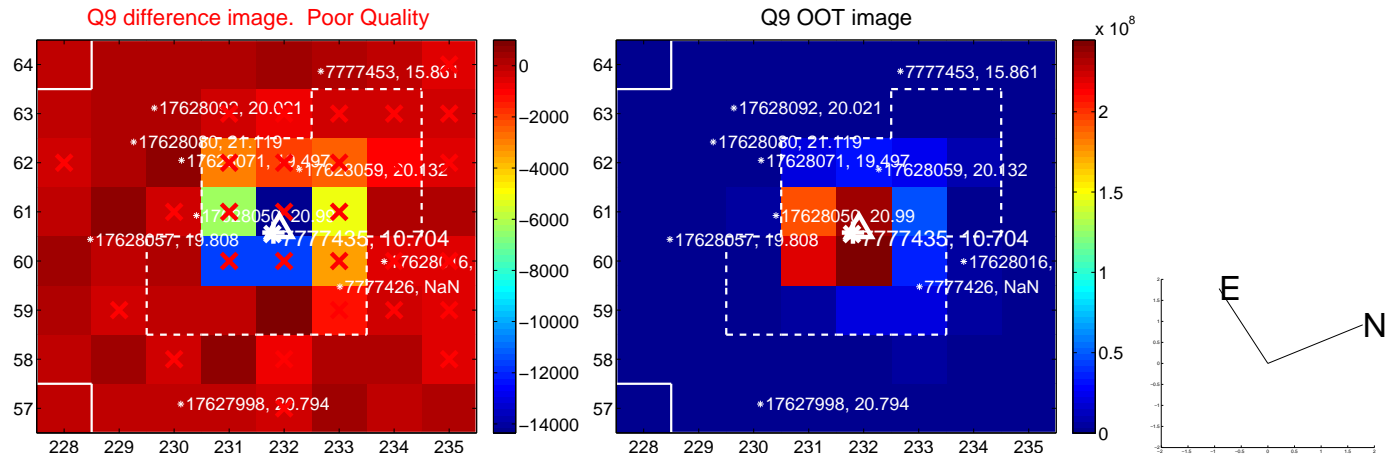


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

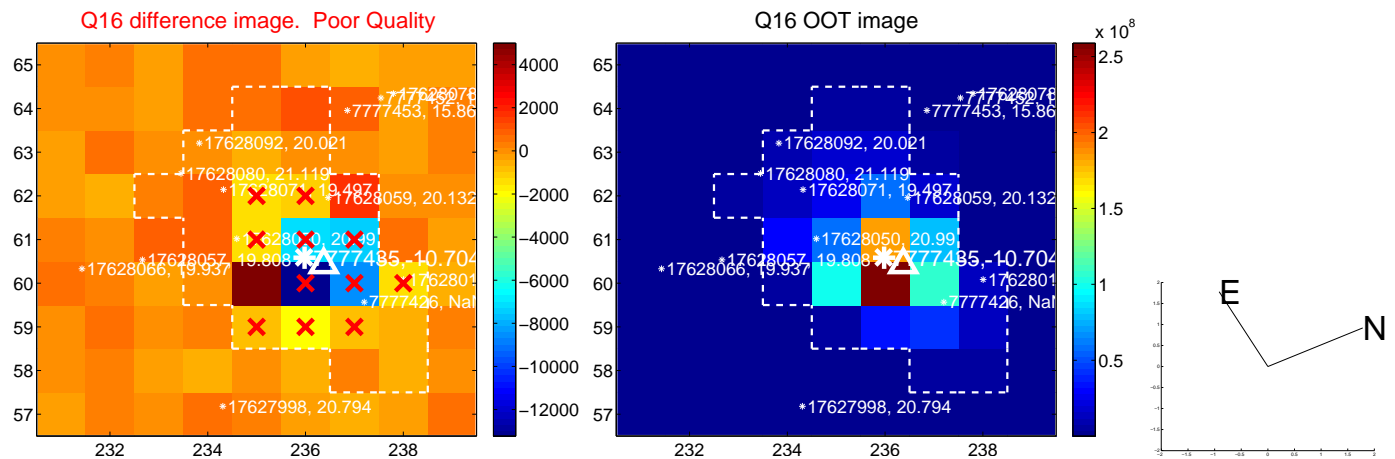
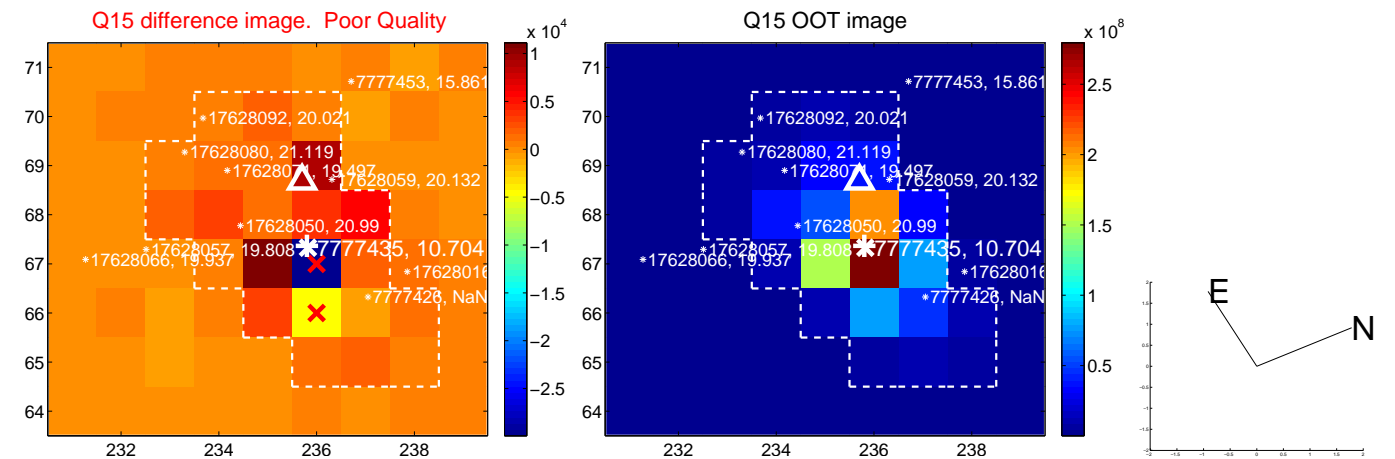
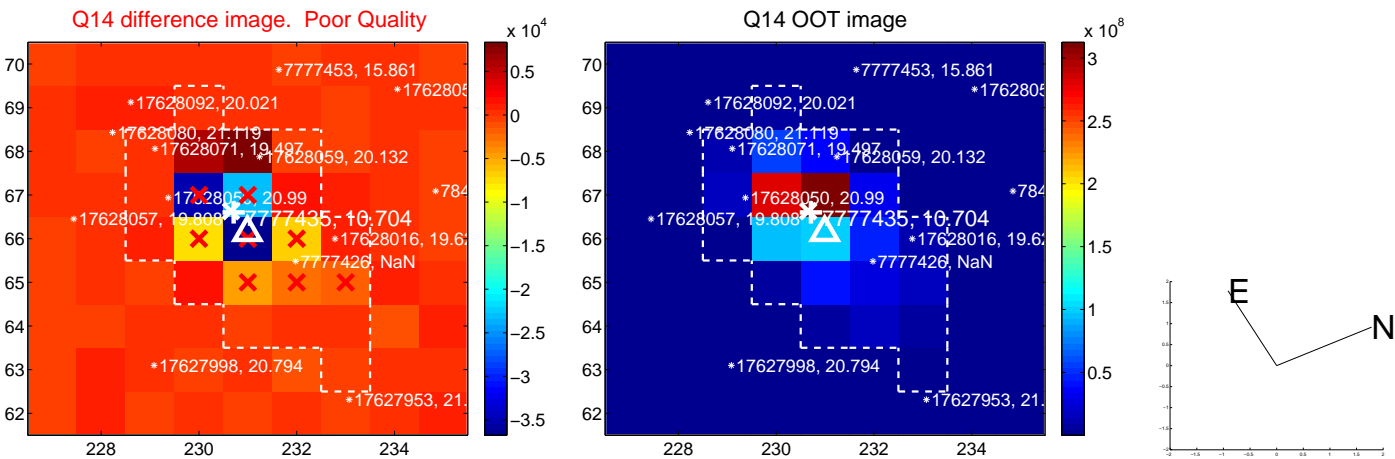
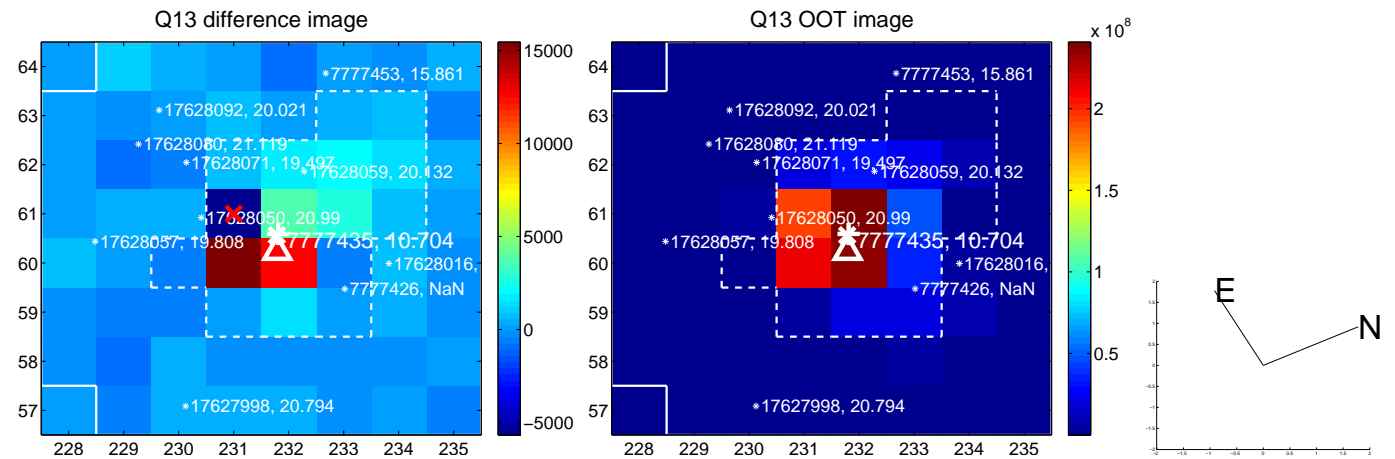
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



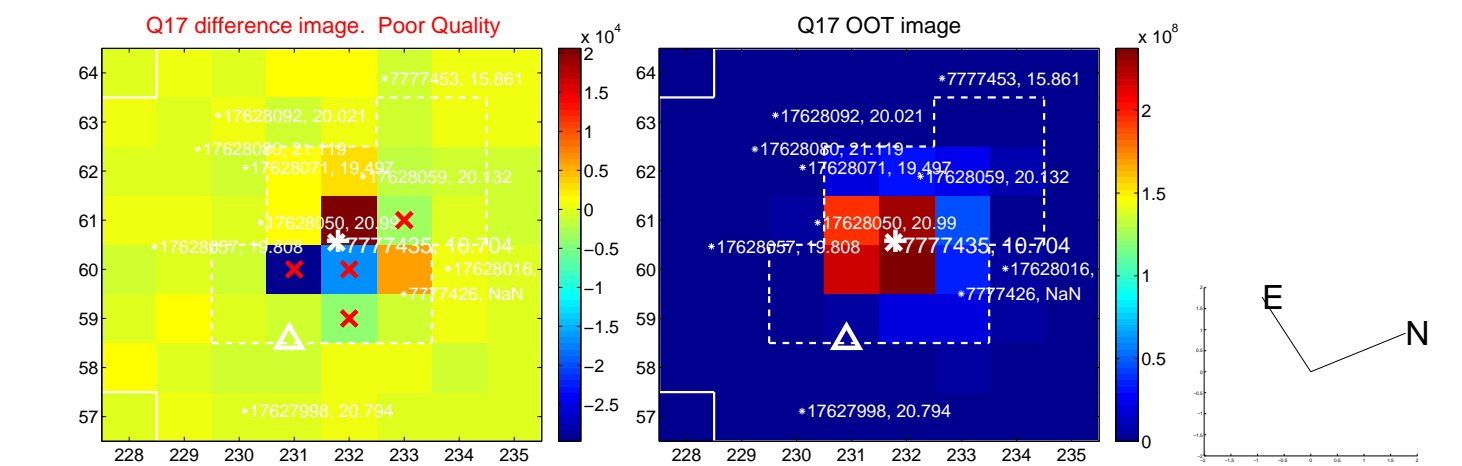
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



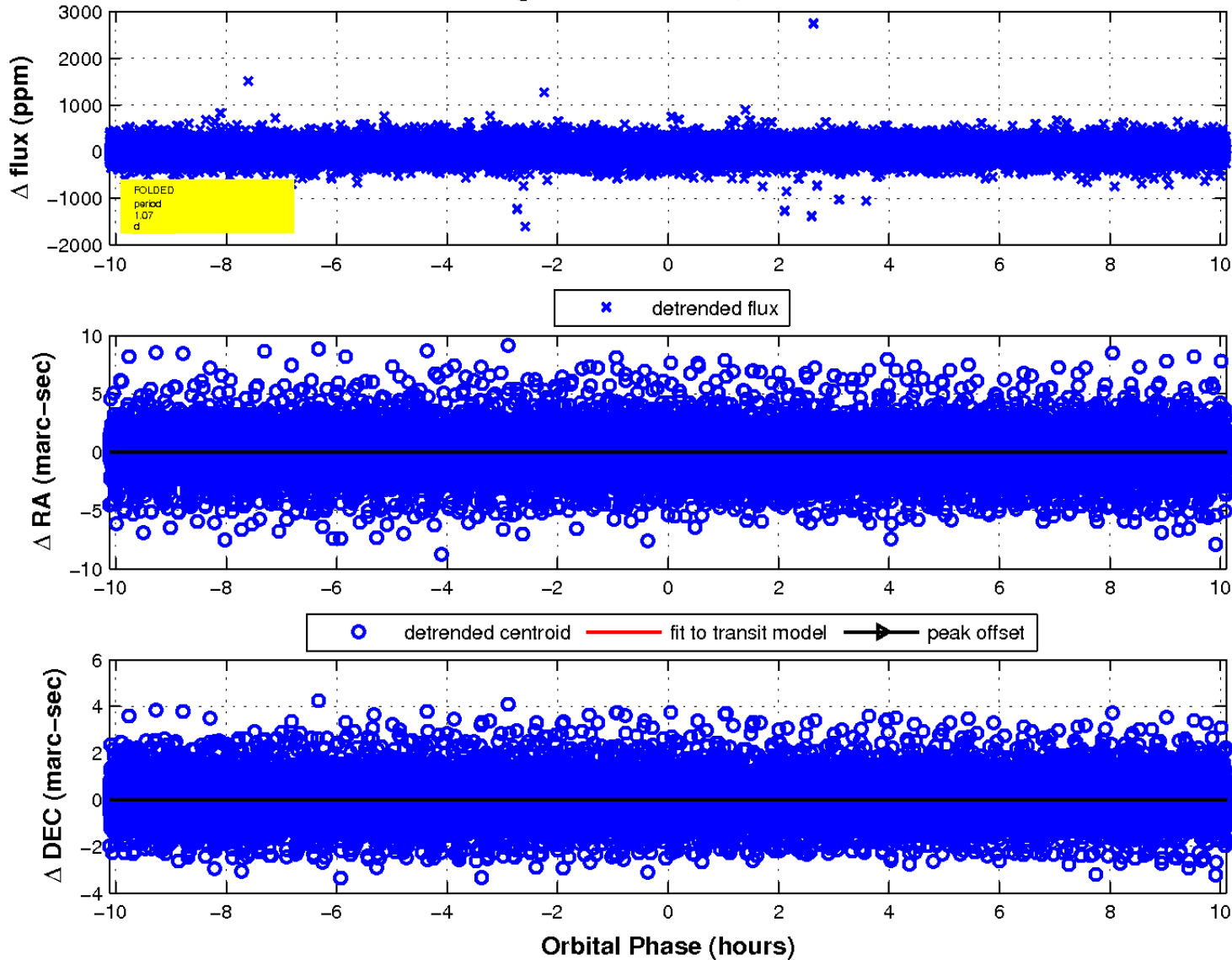
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

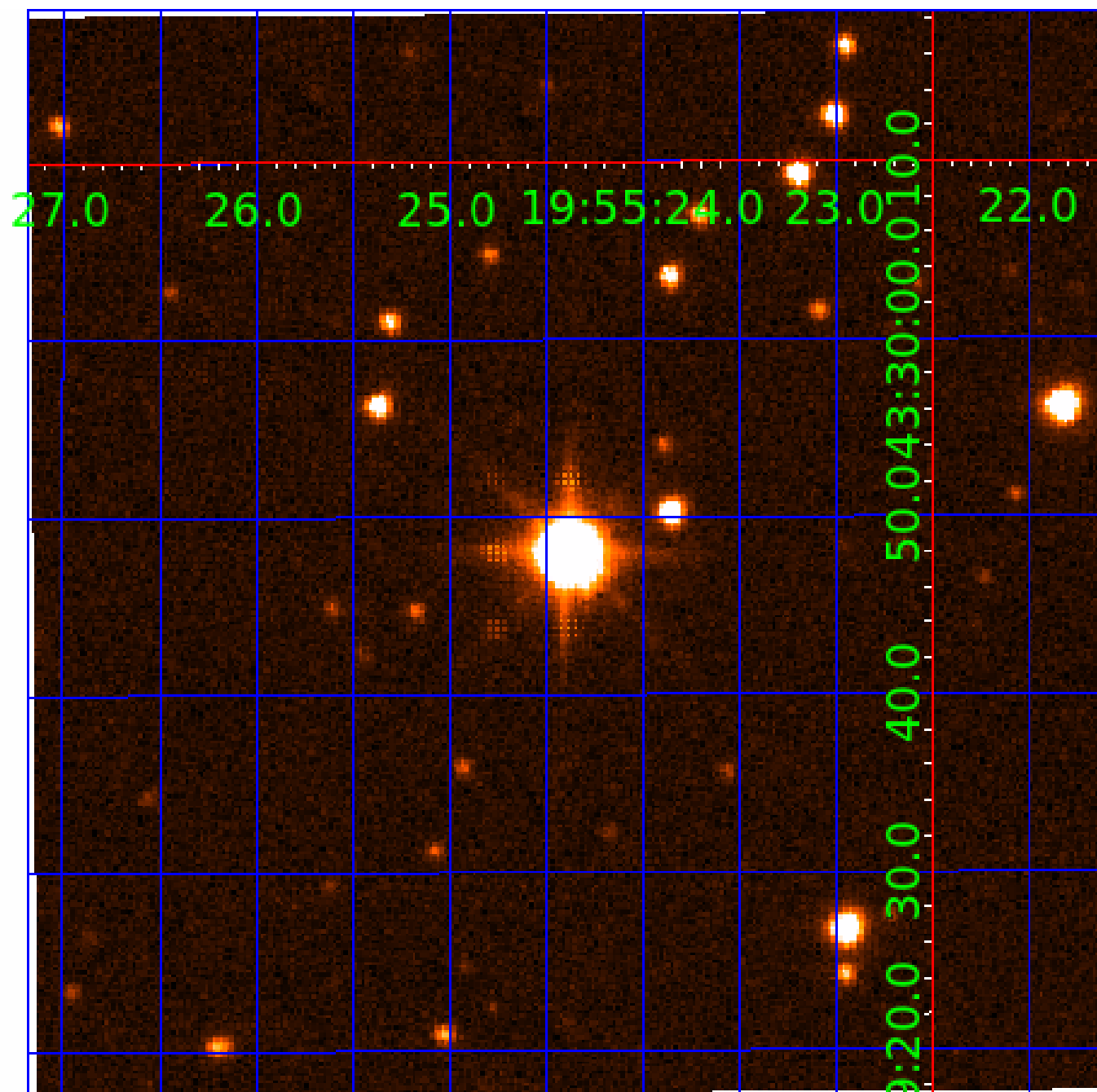


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 007777435

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})
007777435-01	OBS	No	1.069068	132.512038	18.4	3.371	11.9	11.0	3.21	8352	1.59	66493.90
007777435-02	OBS	No	1.647392	132.371330	18.9	17.012	9.8	14.8	3.21	8352	1.43	37358.81

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007777435-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_SATURATED
007777435-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—LPP_DV—LPP_ALT—MOD_NONUNIQ_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.

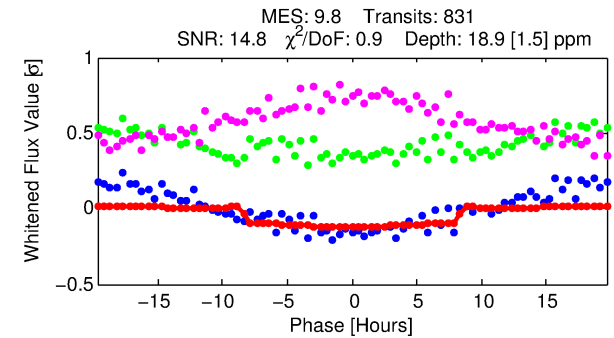
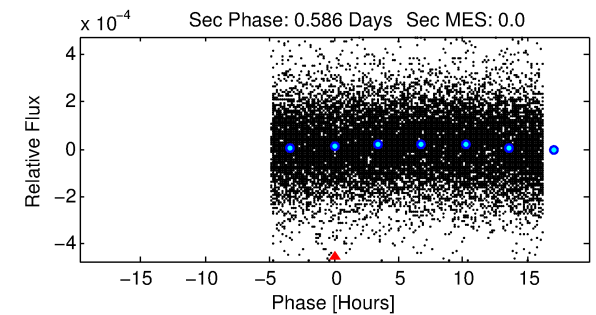
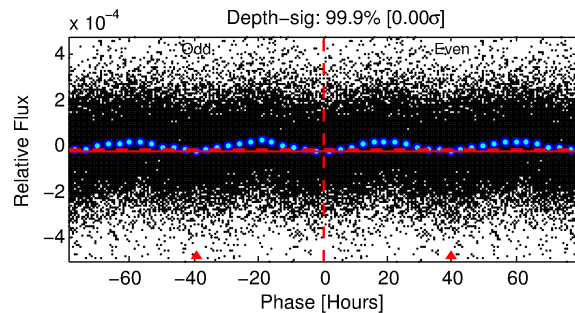
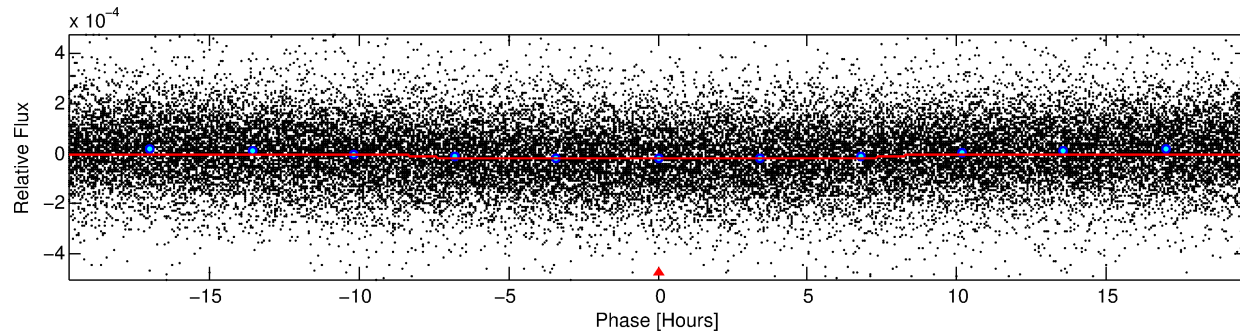
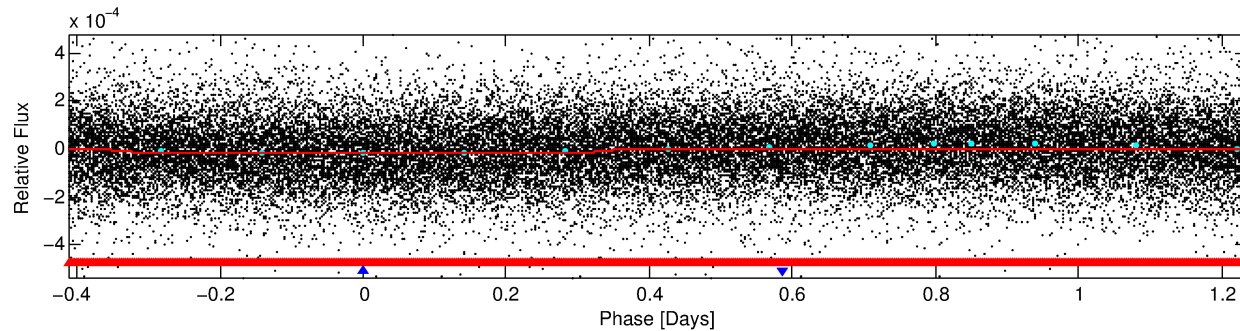
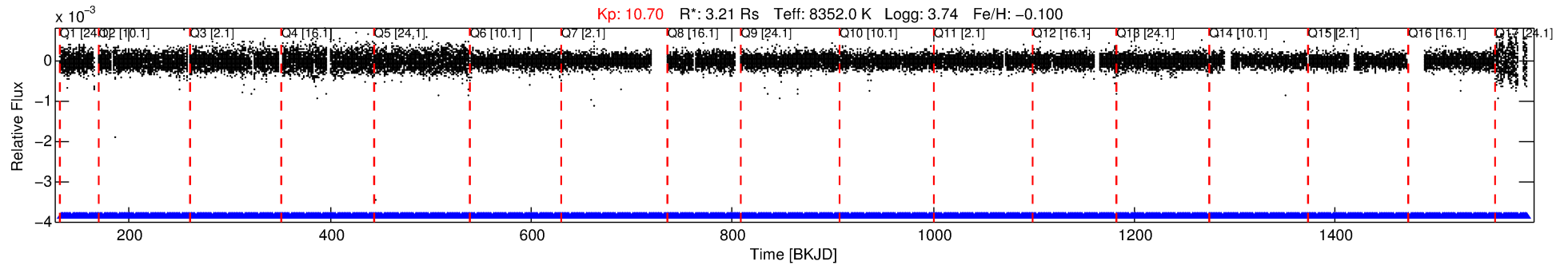
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007777435-02

No Significant Match Found

DV One-Page Summary

KIC: 7777435 Candidate: 2 of 2 Period: 1.647 d



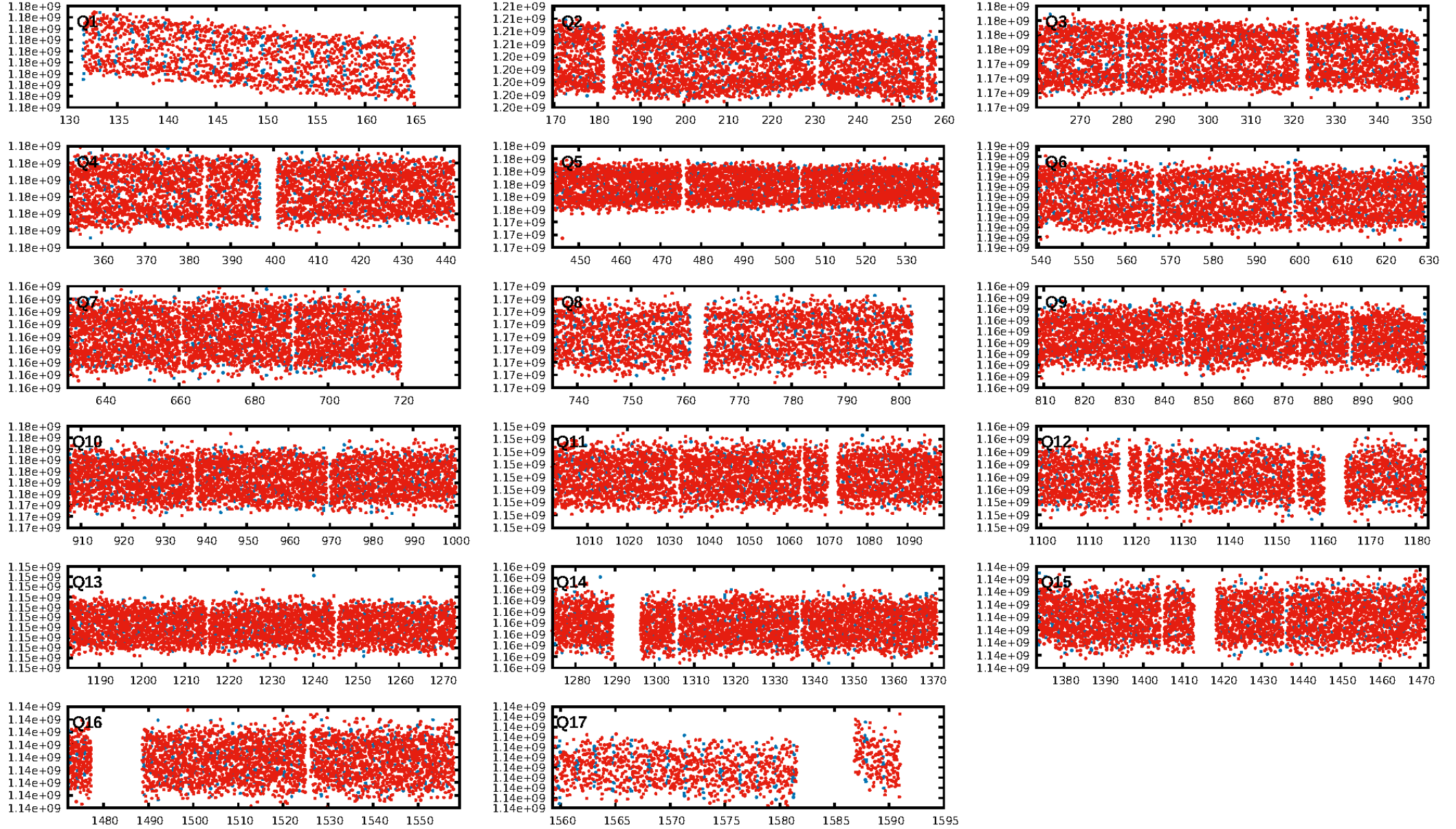
DV Fit Results:

Period = 1.64739 [0.00003] d
Epoch = 132.3713 [0.0077] BKJD
Rp/R* = 0.0041 [0.0021]
a/R* = 1.02 [0.15]
b = 0.39 [6.61]
Seff = 37358.81 [27313.36]
Teq = 3545 [648] K
Rp = 1.43 [0.97] Re
a = 0.0346 [0.0151] AU
Ag = N/A
Teffp = N/A

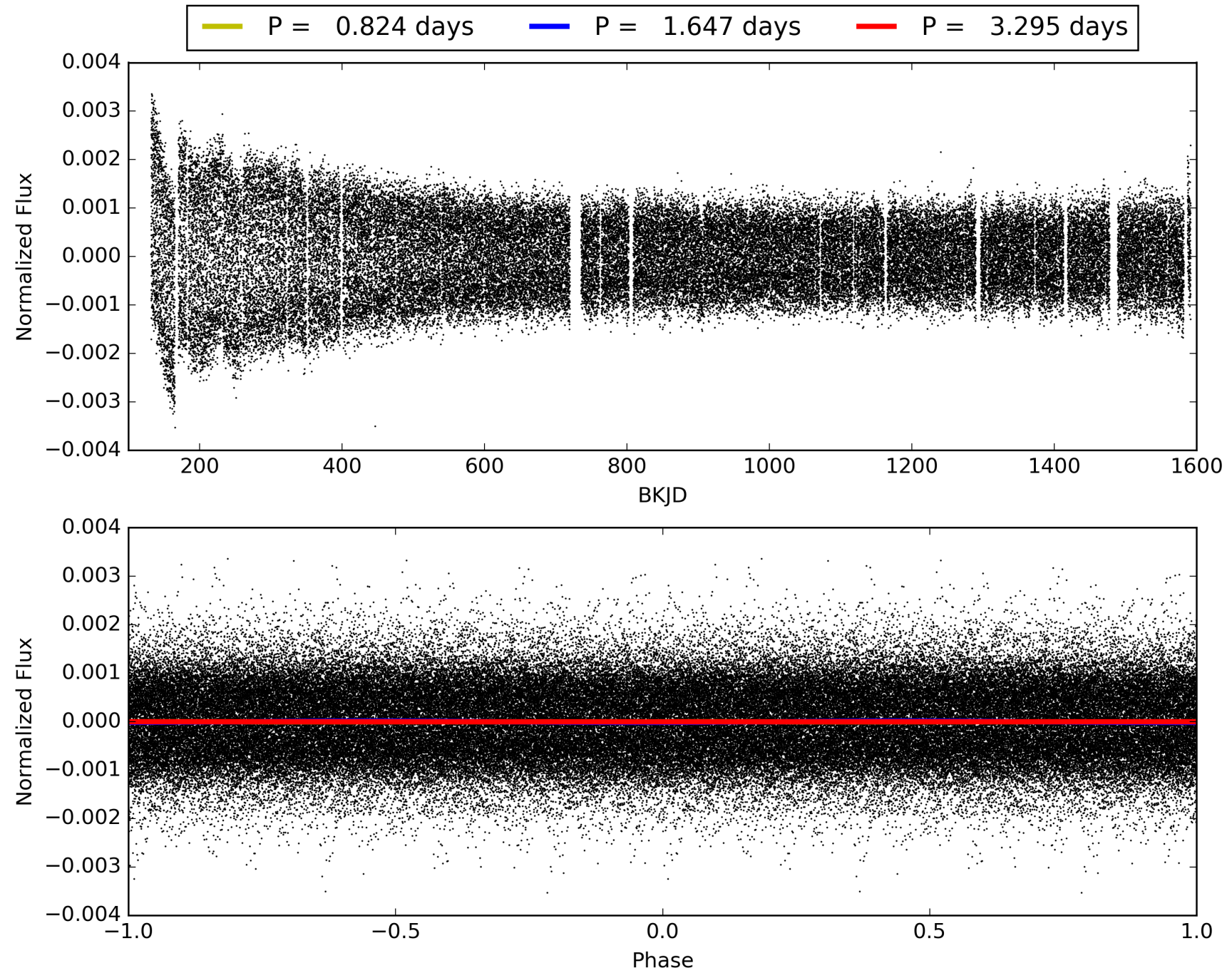
DV Diagnostic Results:

ShortPeriod-sig: 57.6% [0.80σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [793/793]
GhostDiagnostic-chr: 3.687
Centroid-sig: 29.2%
Centroid-so: 0.542 arcsec [1.18σ]
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/17]

TCE 007777435-02, PDC Light Curves

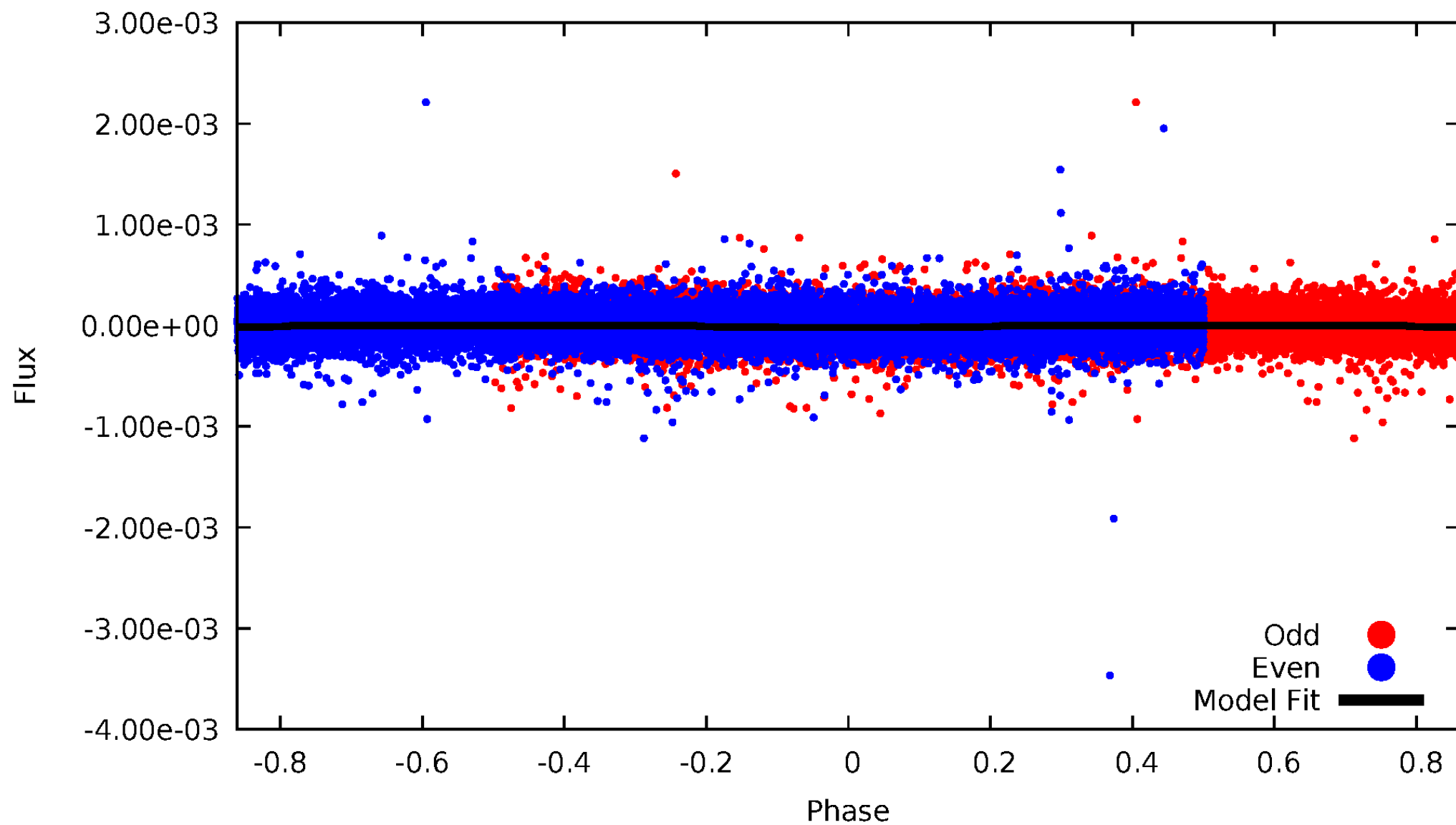


TCE 007777435-02



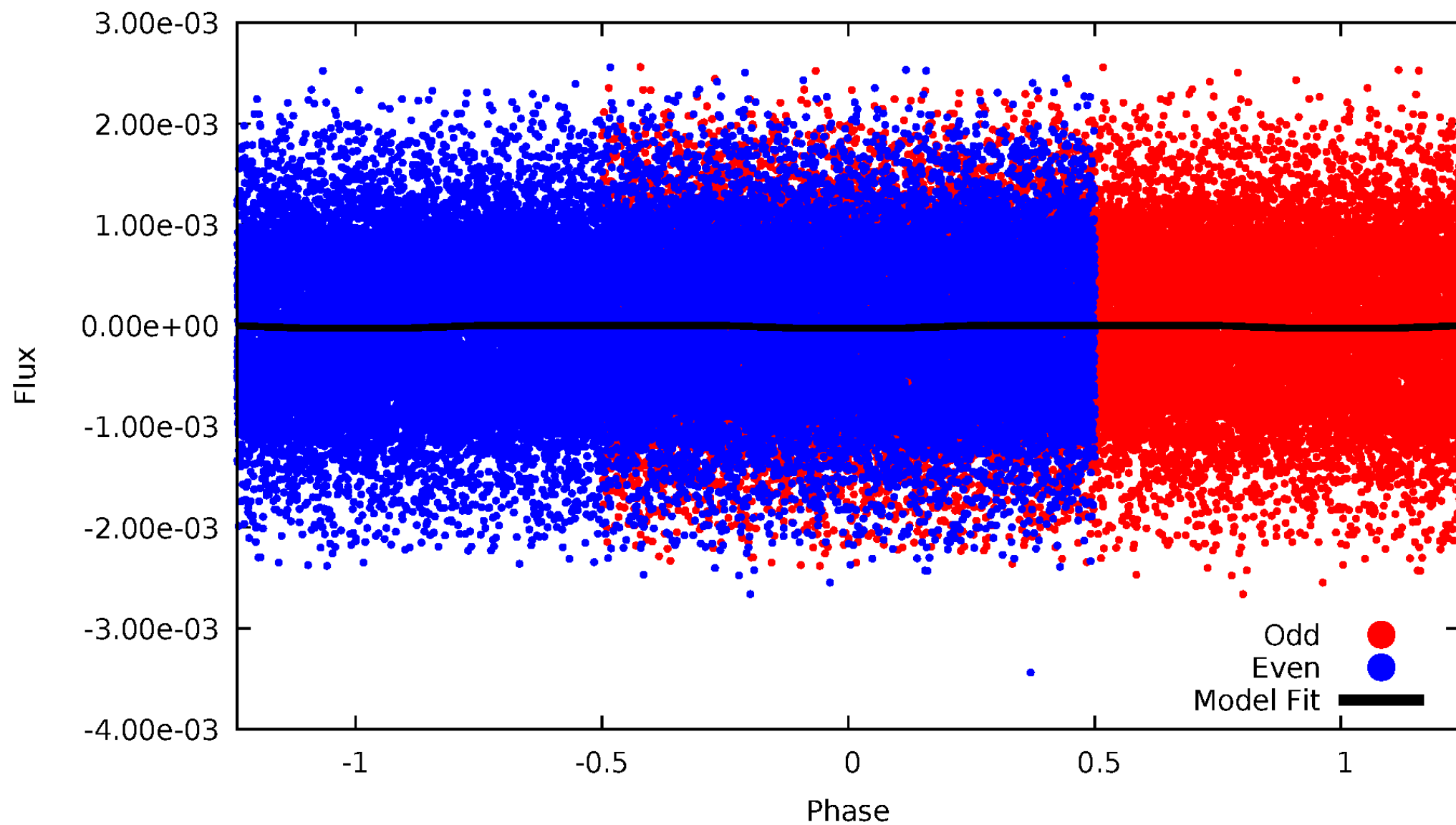
DV Odd/Even

TCE 007777435-02



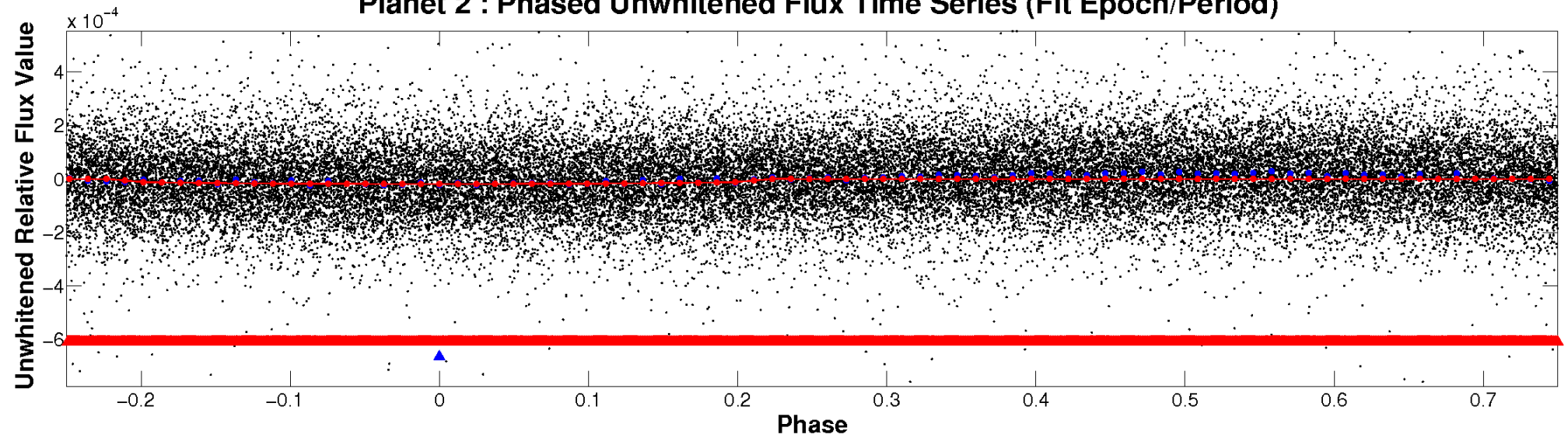
ALT Odd/Even

TCE 007777435-02

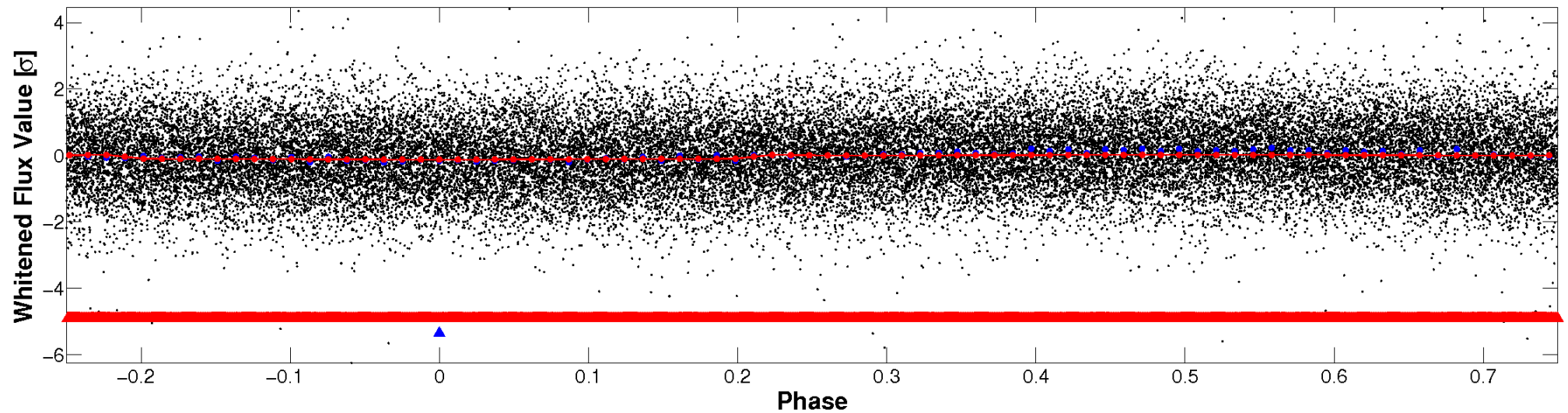


Non-Whitened Vs. Whitened Light Curve

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

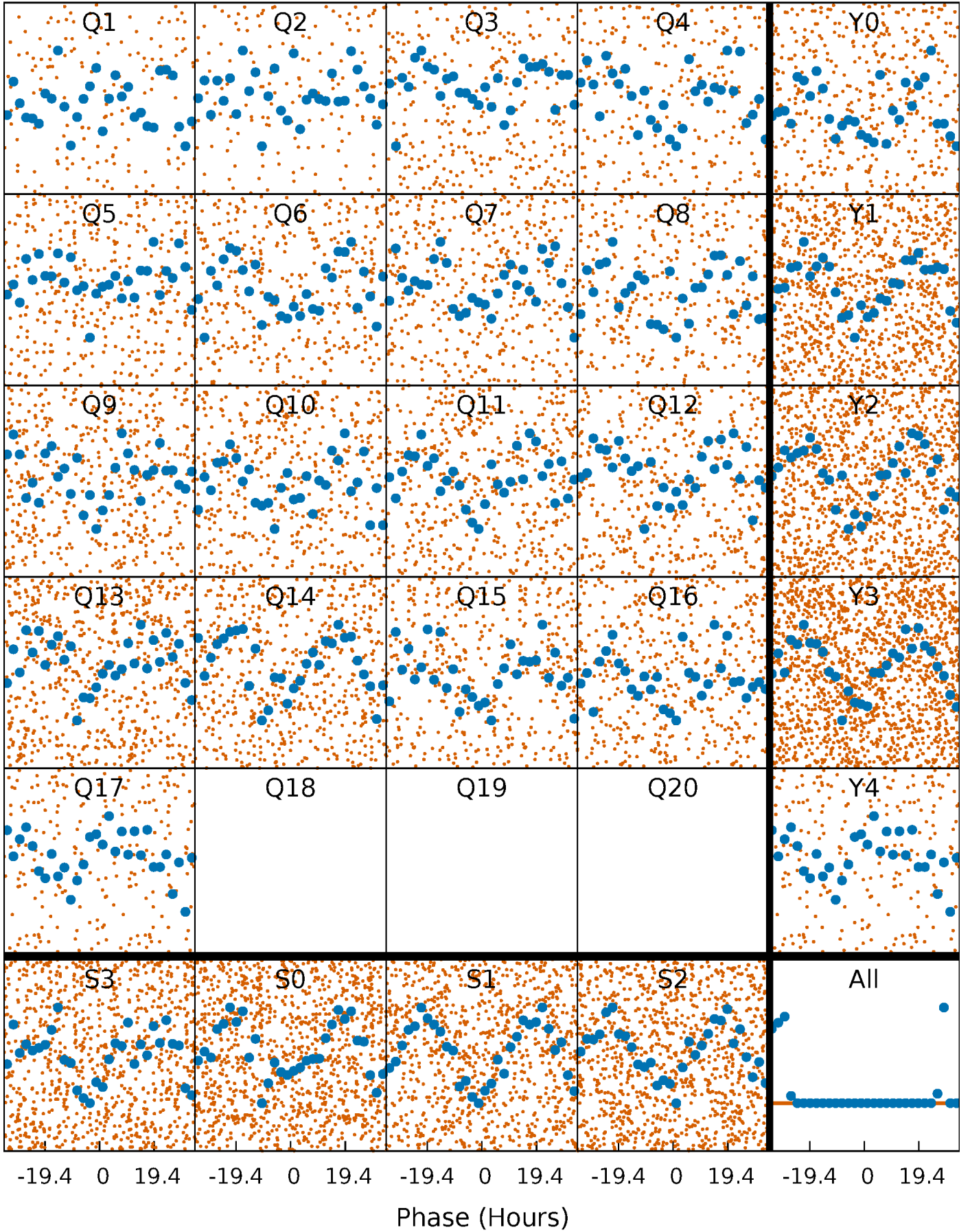


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



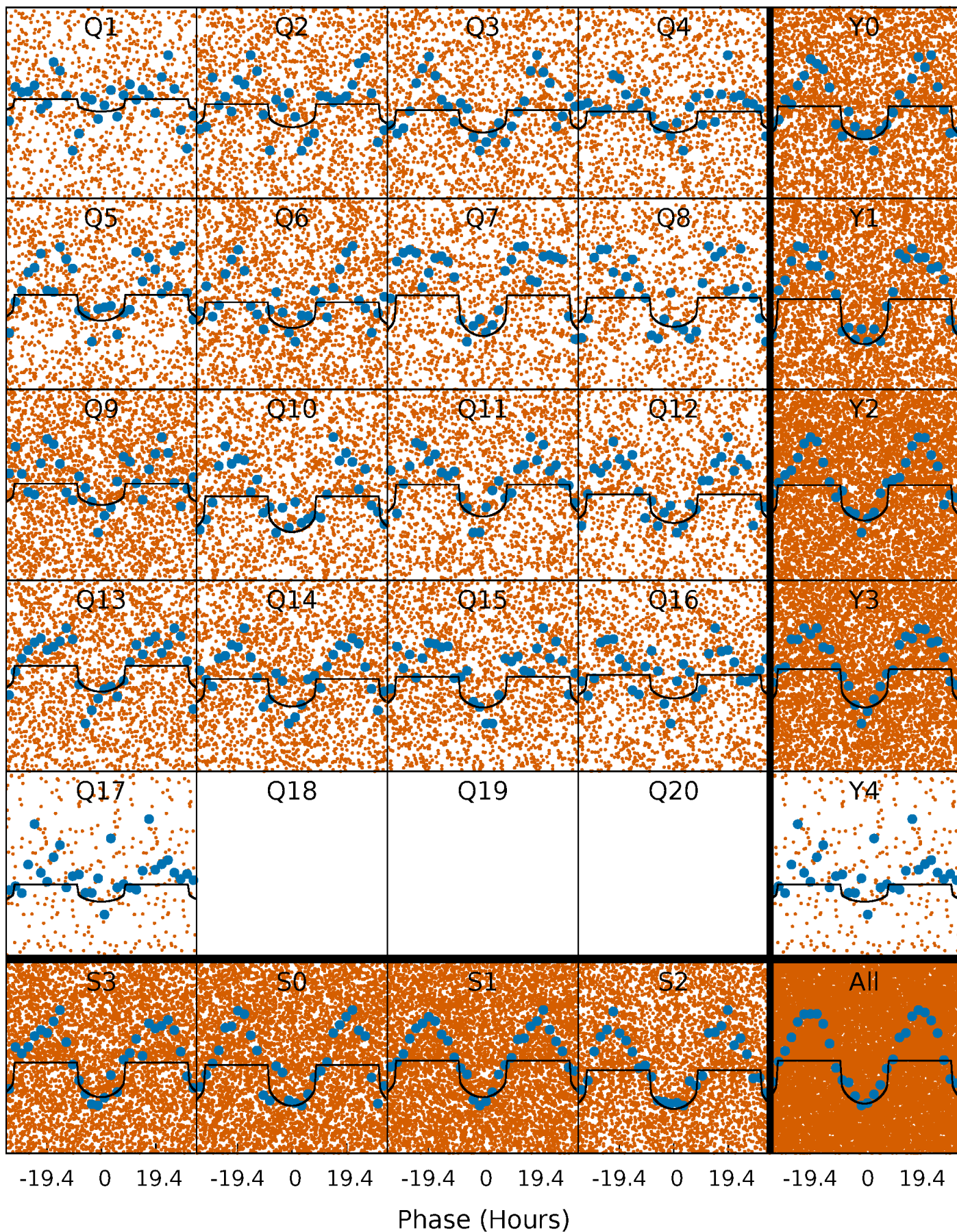
PDC Quarter-Phased Transit Curves

TCE 007777435-02 P= 1.647392 Days $T_0=132.371330$ (BKJD)



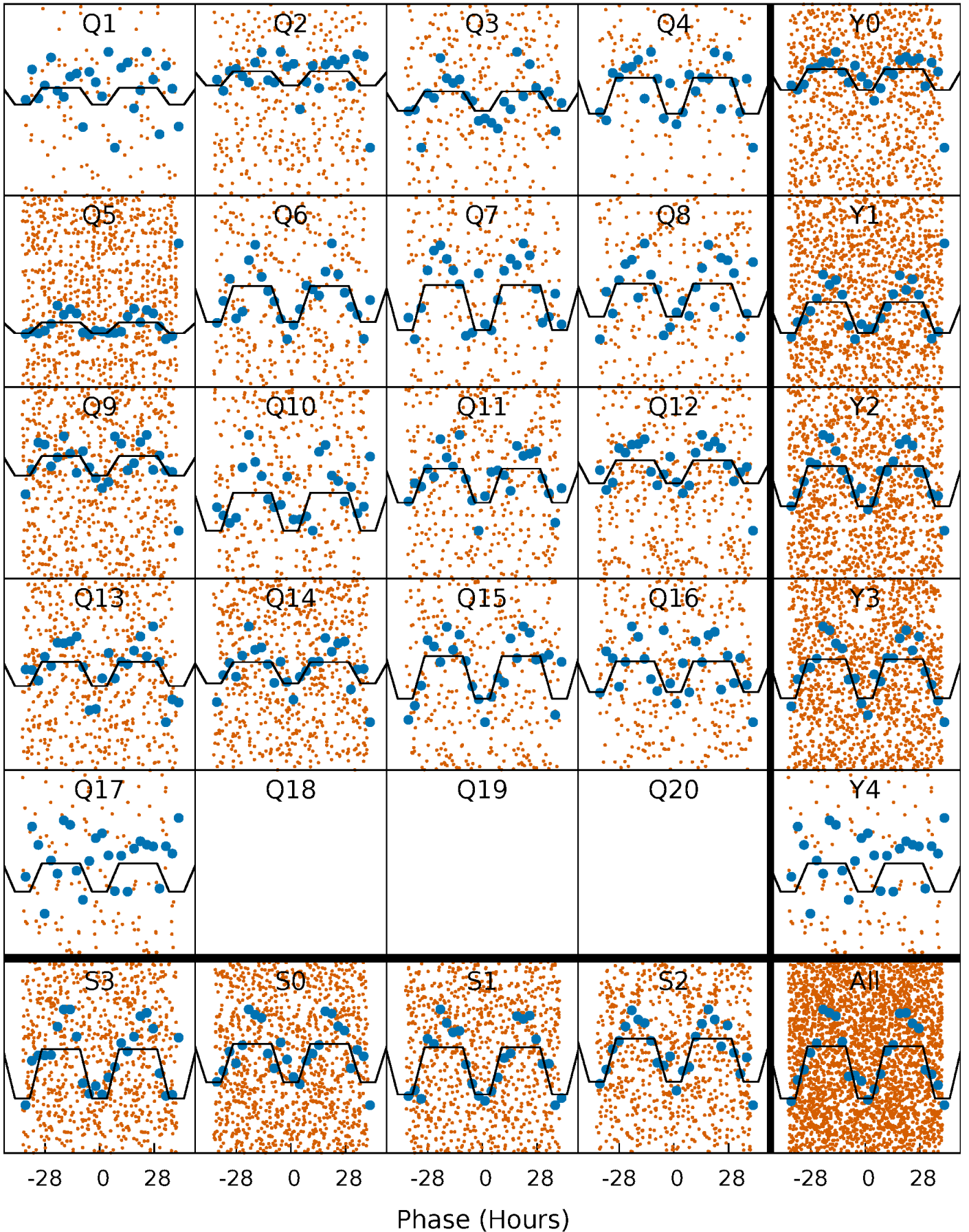
DV Quarter-Phased Transit Curves

TCE 007777435-02 P= 1.647392 Days $T_0=132.371330$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

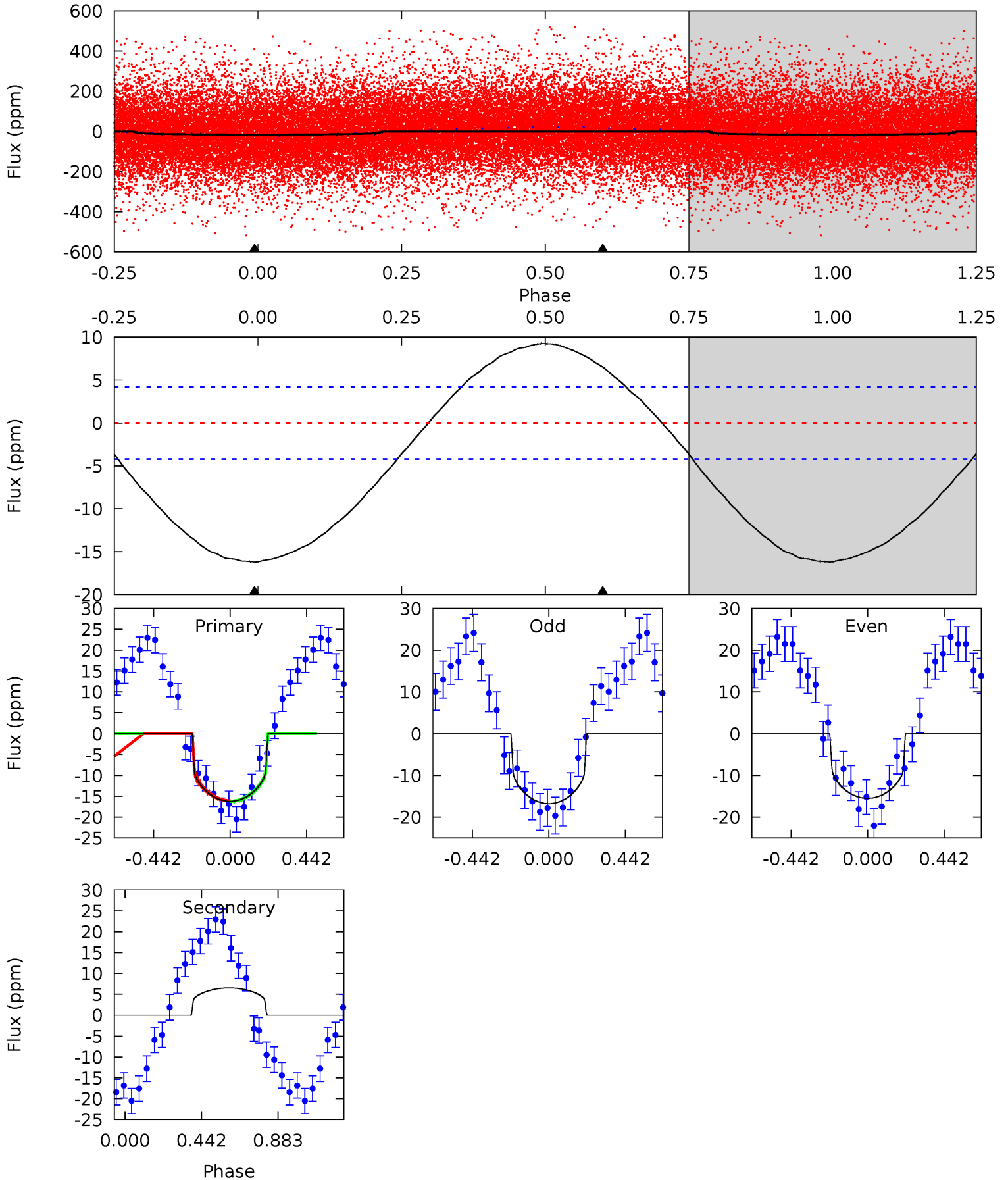
TCE 007777435-02 P= 1.647323 Days $T_0=132.382060$ (BKJD)



DV Model-Shift Uniqueness Test

007777435-02, P = 1.647392 Days, E = 130.723938 Days

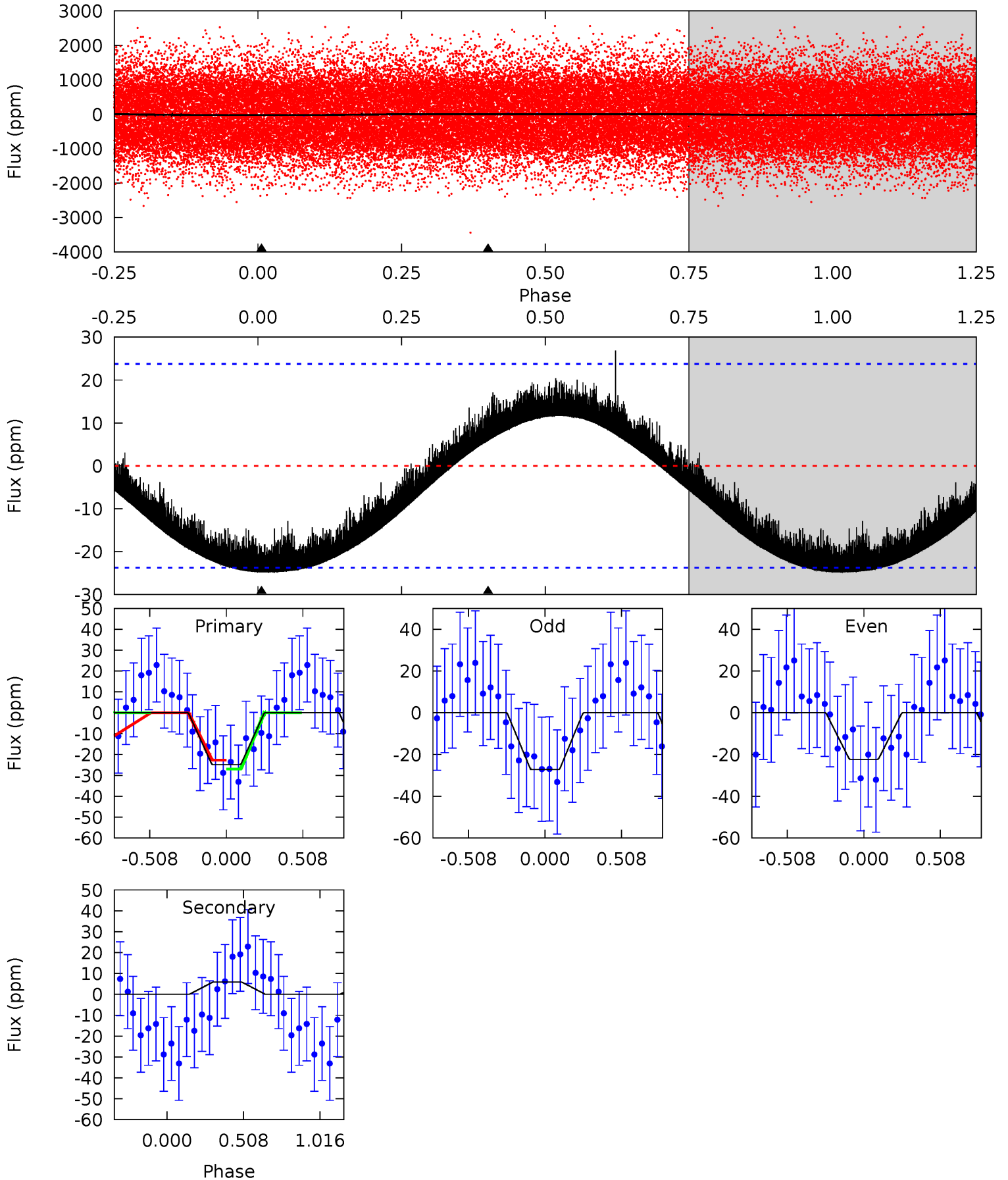
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	-6.58	0	0	4.24	0.77	2.28	16.3	16.3	-6.58	-6.58	0.64	0.84	0.36	0.07



Alt Model-Shift Uniqueness Test

007777435-02, P = 1.647323 Days, E = 130.734737 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.40	-1.04	0	0	4.21	0.66	0.61	4.40	4.40	-1.04	-1.04	0.43	-0.61	0.52	0.38



Stellar Parameters For KIC 007777435

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8352^{+201}_{-374}	$3.736^{+0.420}_{-0.140}$	$-0.100^{+0.300}_{-0.350}$	$3.207^{+0.944}_{-1.417}$	$2.046^{+0.387}_{-0.473}$	$0.087^{+0.349}_{-0.036}$
	+2%/-4%	+11%/-4%	+300%/-350%	+29%/-44%	+19%/-23%	+399%/-41%
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 007777435-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	7 ± 1	$1.31^{+0.84}_{-0.67}$	4783^{+410}_{-580}	-6418^{+974}_{-3089}	$-2.471^{+1.499}_{-7.673}$
Alt.	6 ± 6	$1.63^{+0.87}_{-0.67}$	4786^{+385}_{-554}	-5631^{+1506}_{-1932}	$-1.174^{+1.141}_{-3.694}$

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 $A_{obs} \gg 1.0$

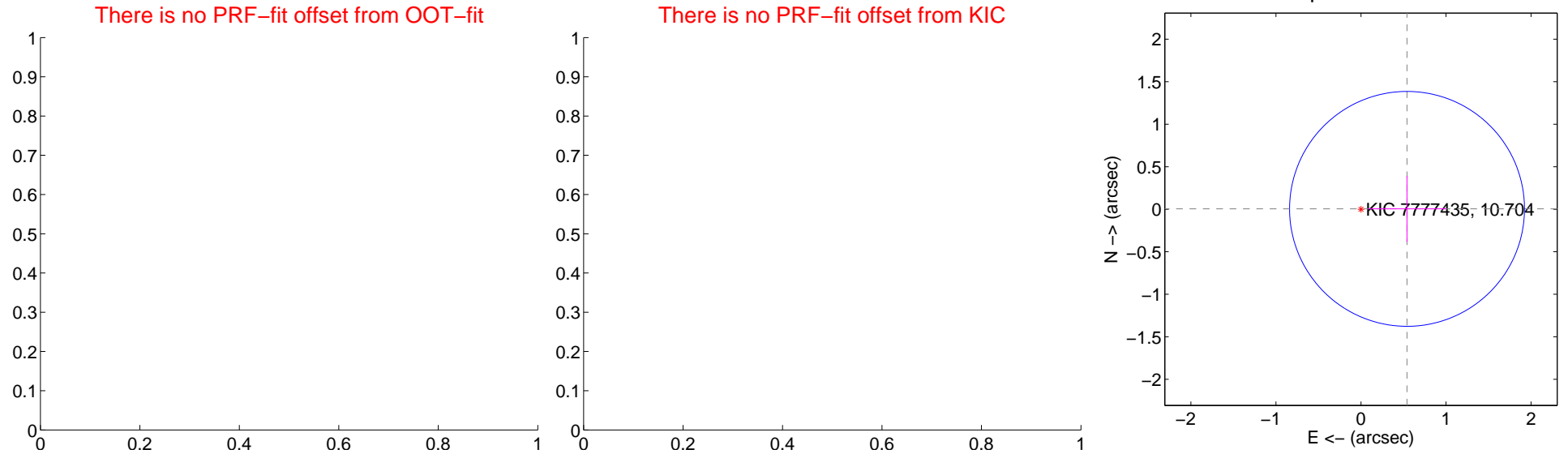
DV Centroid Data

Supplemental centroid analysis for 007777435-02. **Kepler magnitude: 10.70.** Transit SNR 14.83

There are 0 quarters with good PRF difference image offsets

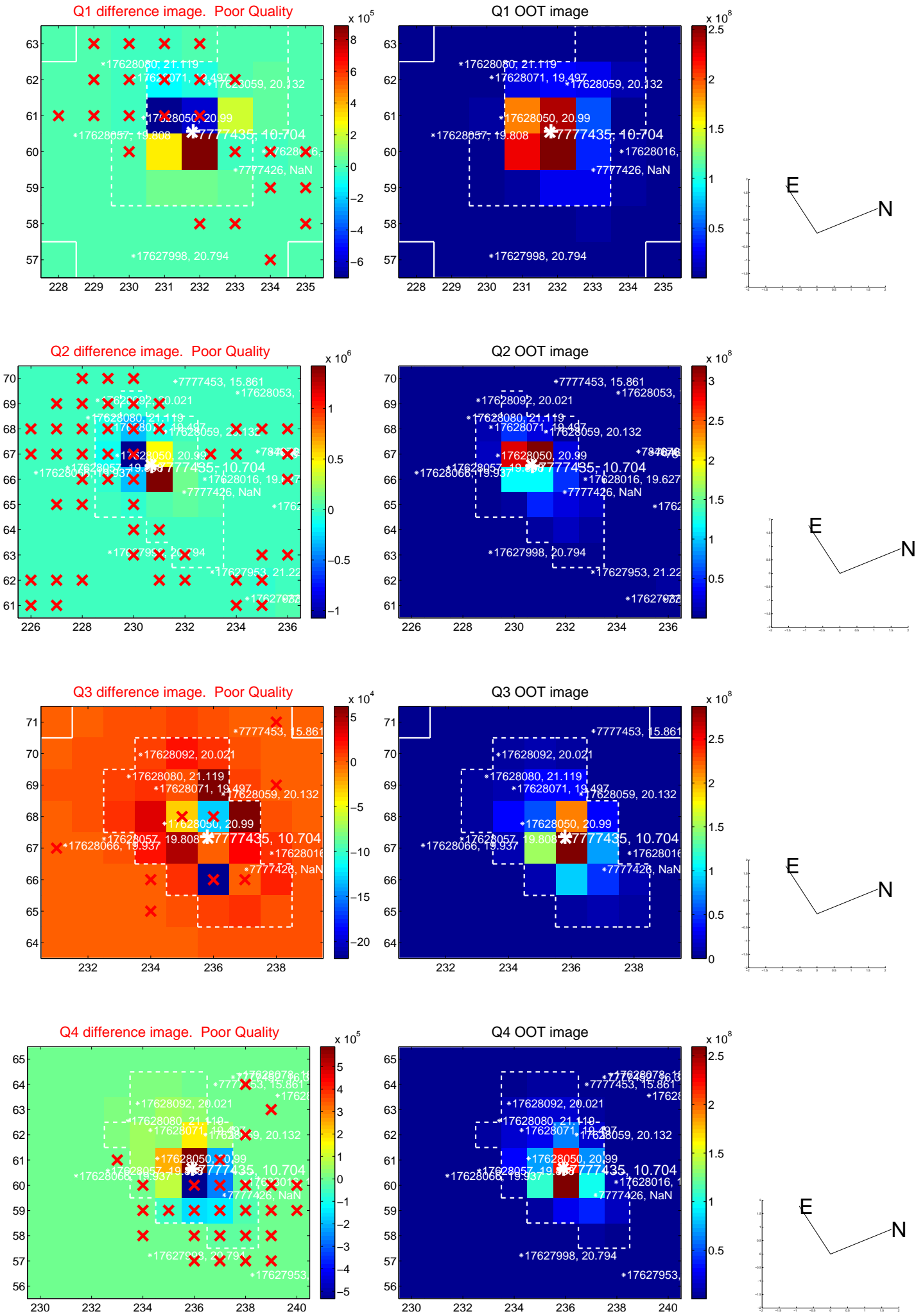
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	0.54 ± 0.46	1.18	-0.54 ± 0.46	0.00 ± 0.39

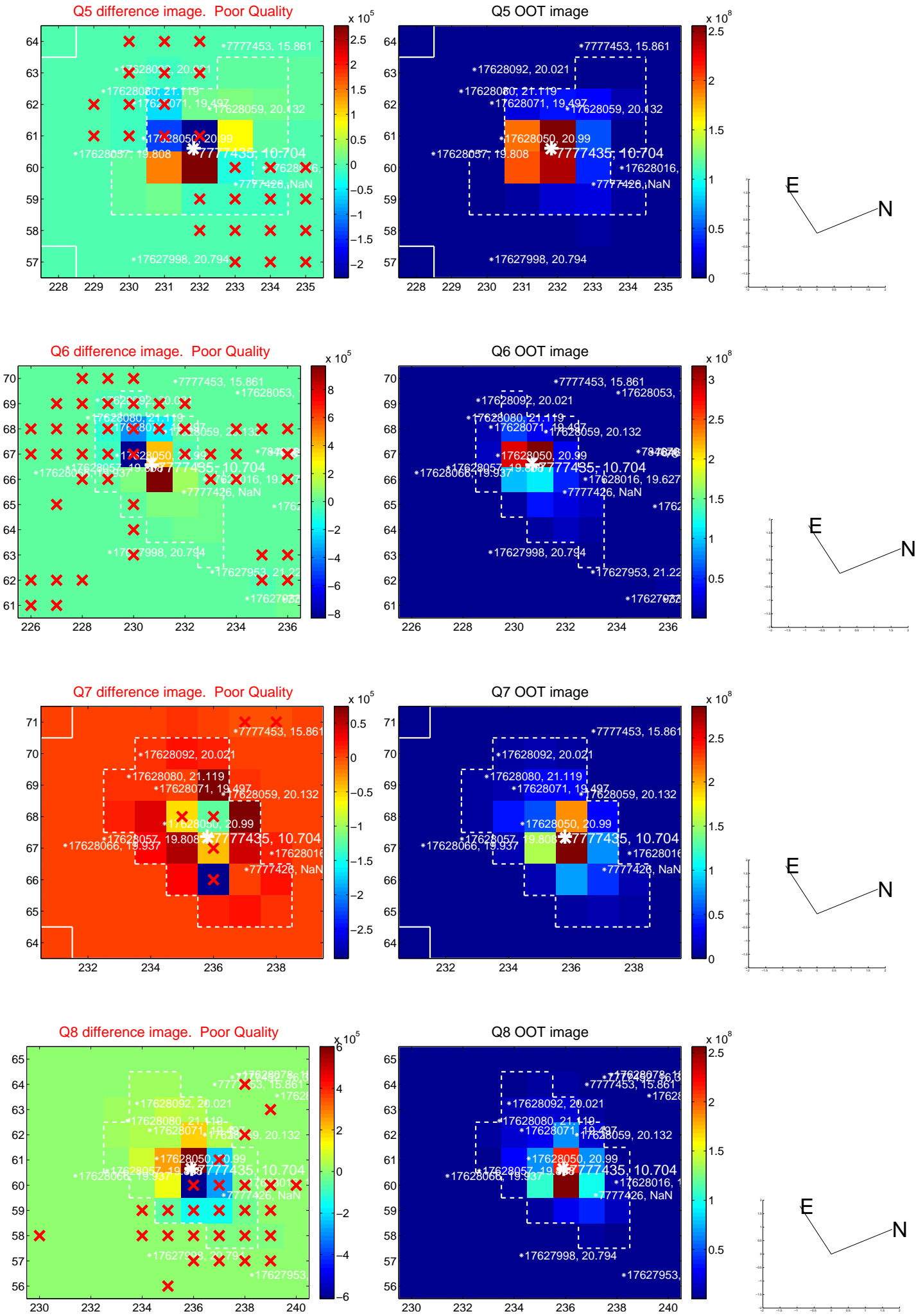


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

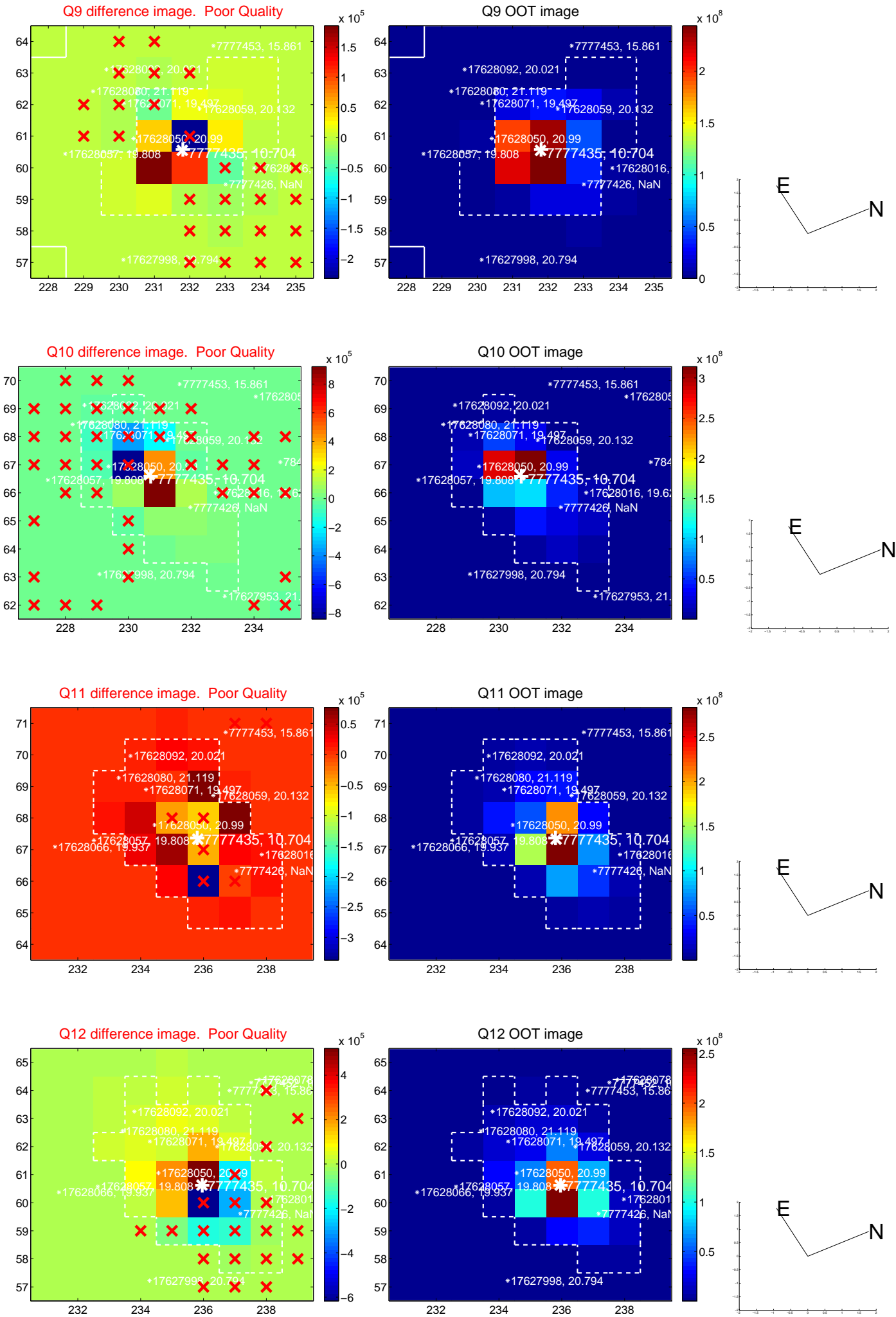
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



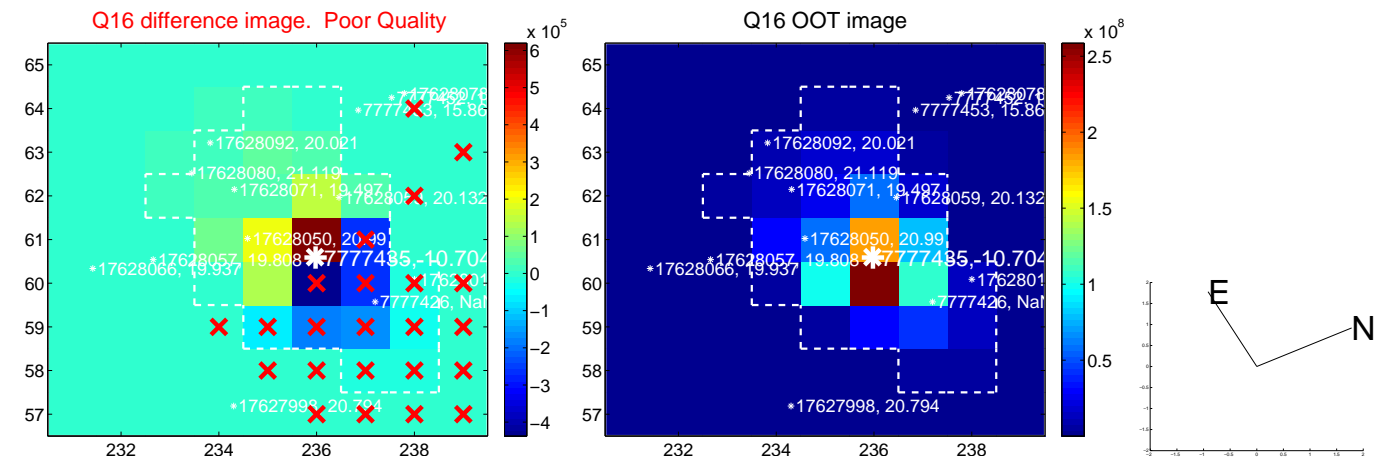
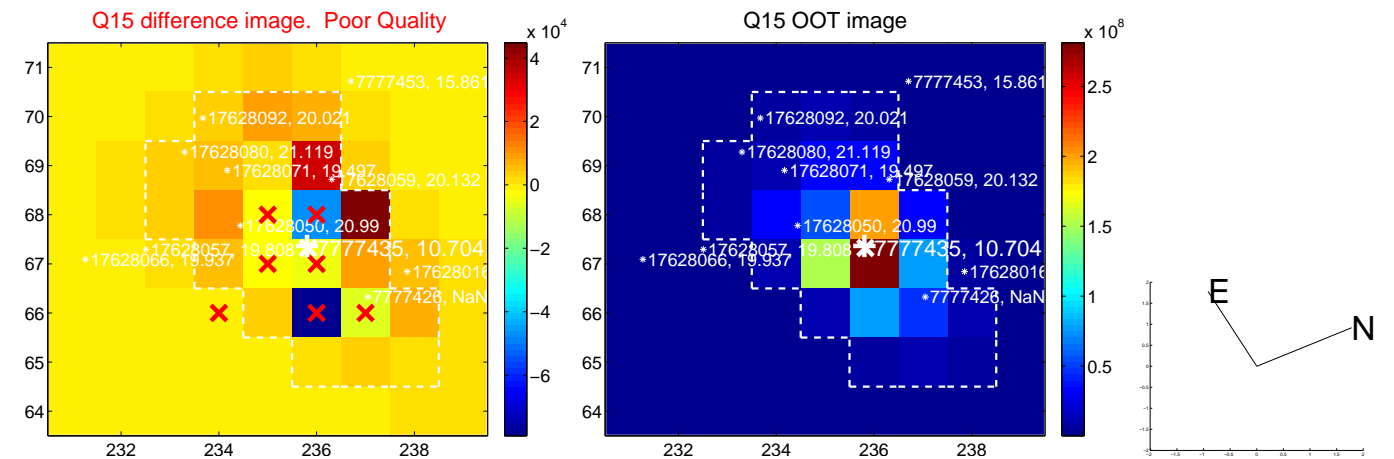
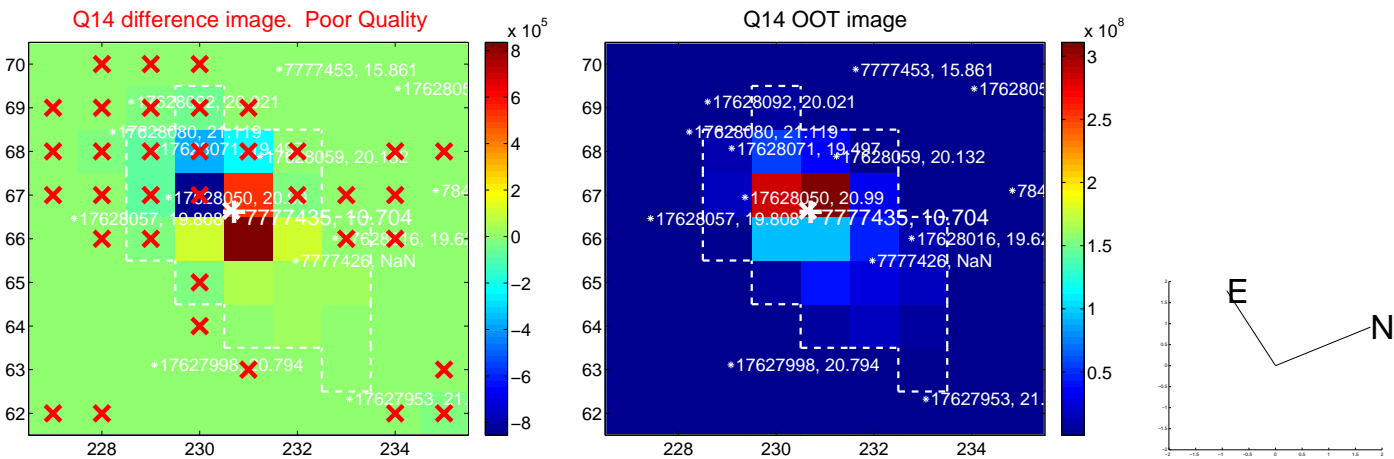
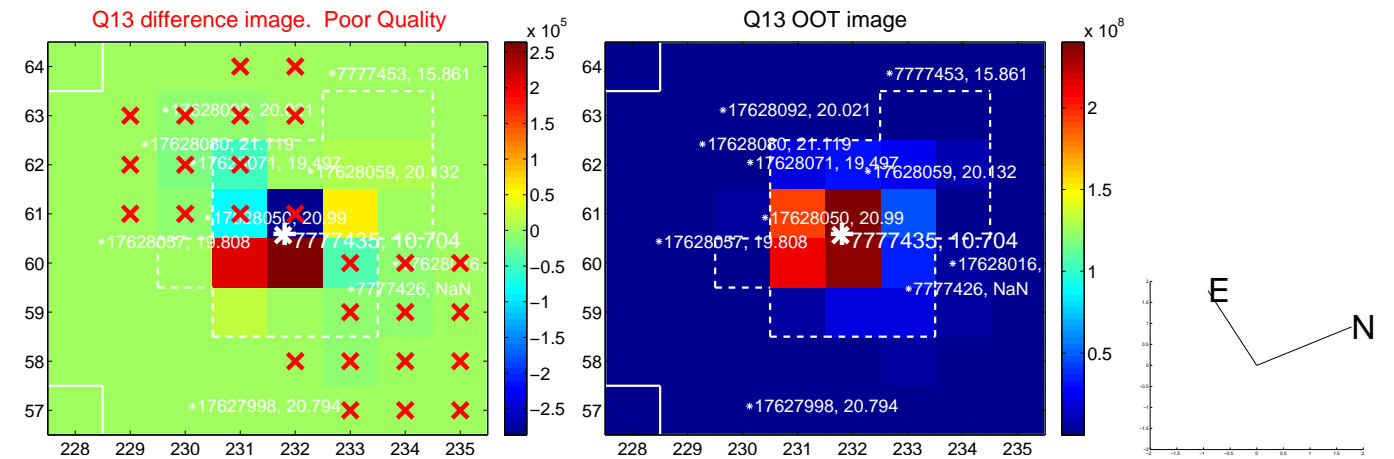
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



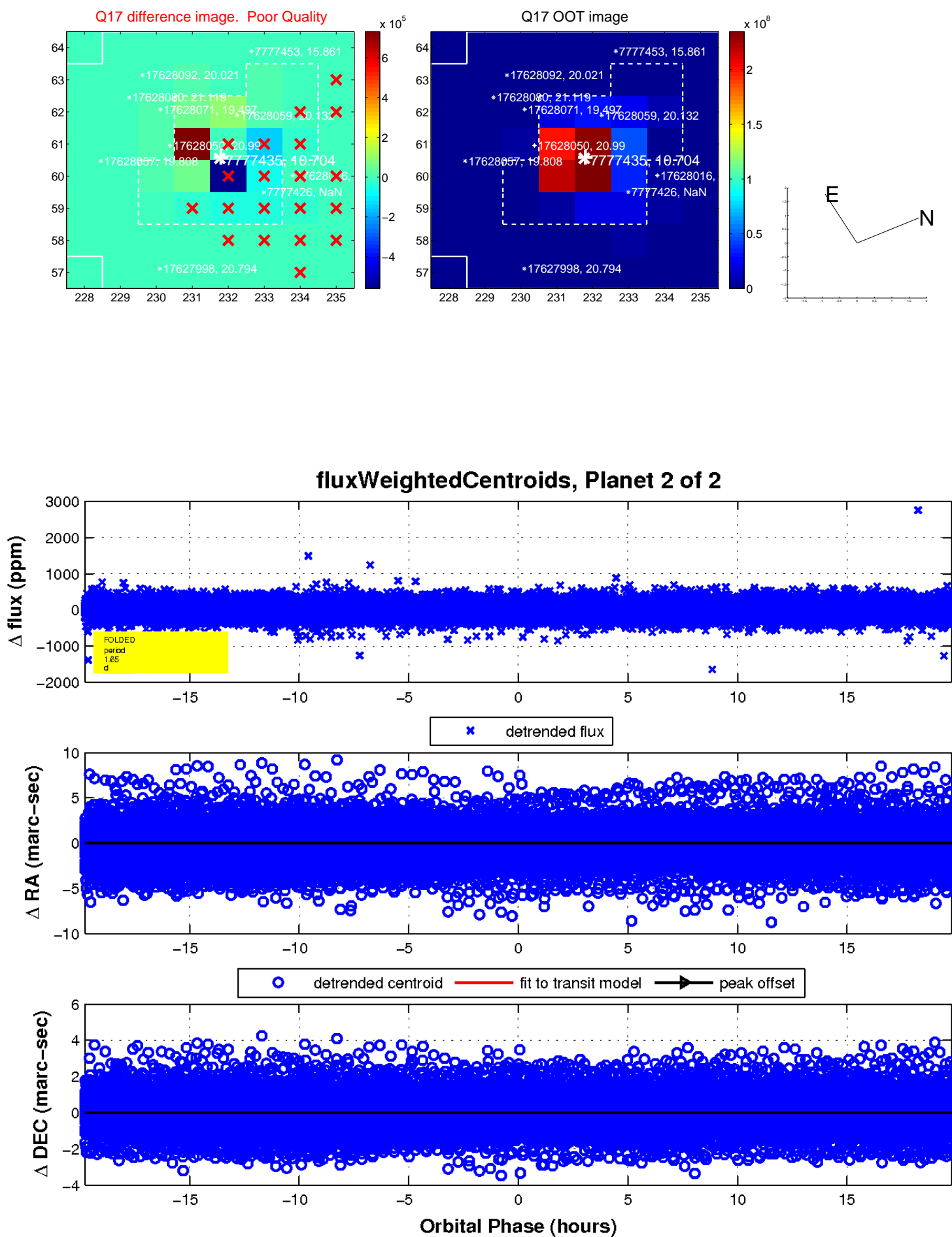
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

