

KIC 007668857

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})
007668857-01	OBS	No	2.096416	132.405114	57.6	7.516	10.4	10.3	0.62	4706	0.58	229.82
007668857-04	OBS	No	294.549100	313.153555	513.6	7.115	11.1	6.3	0.62	4706	1.58	0.32
007668857-05	OBS	No	375.848743	236.051519	598.5	10.925	10.8	6.4	0.62	4706	3.01	0.23
007668857-06	OBS	No	283.406666	412.741486	555.1	6.000	8.8	-1.0	0.62	4706	1.42	0.33
007668857-07	OBS	No	2.096110	133.222839	41.4	8.845	8.3	8.1	0.62	4706	0.39	229.87
007668857-08	OBS	No	147.908530	198.975798	675.3	7.500	11.6	-1.0	0.62	4706	1.56	0.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007668857-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
007668857-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007668857-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007668857-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
007668857-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
007668857-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

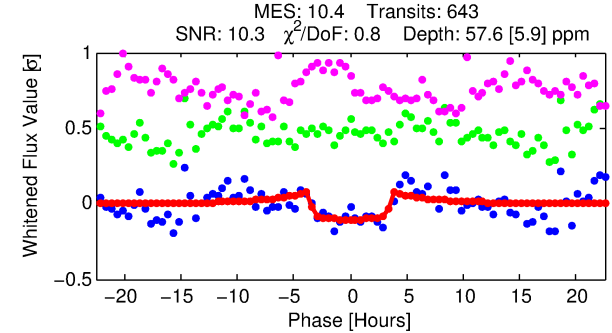
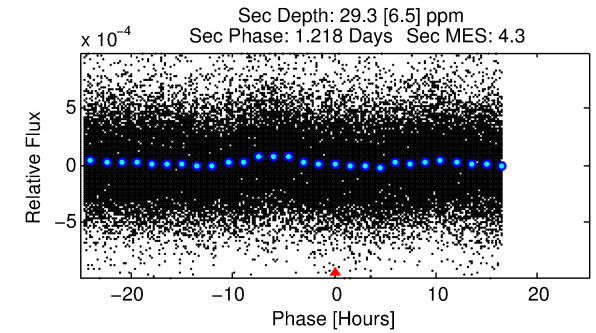
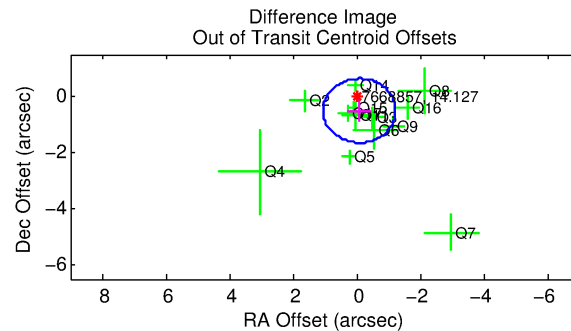
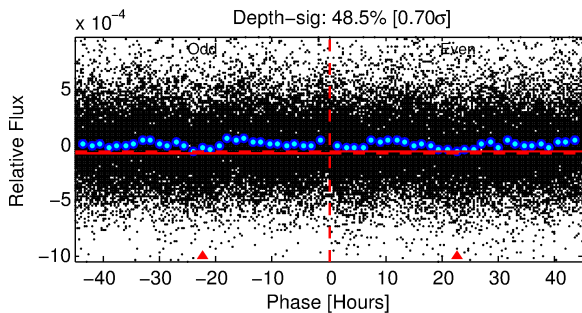
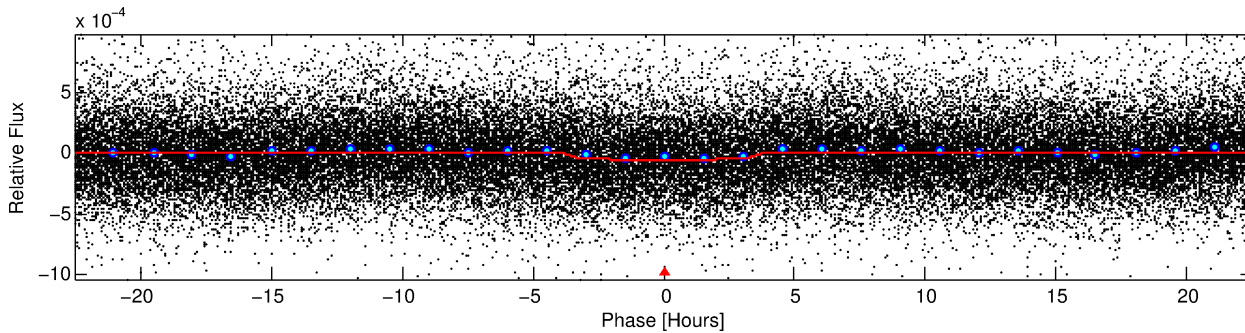
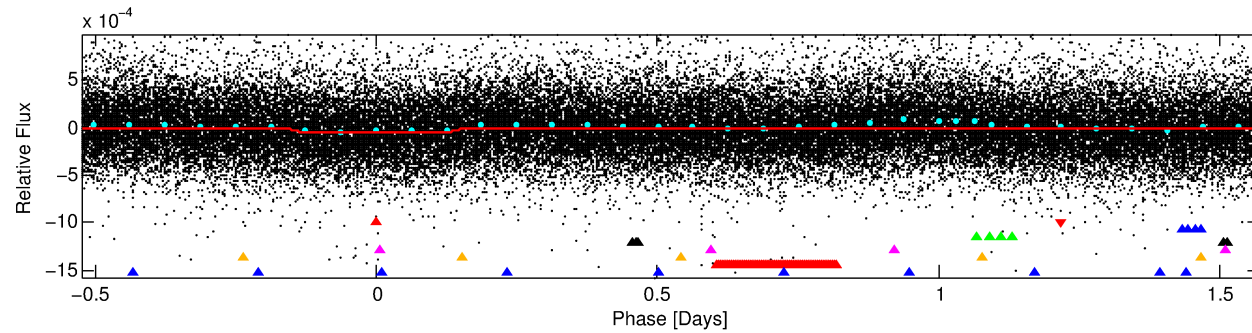
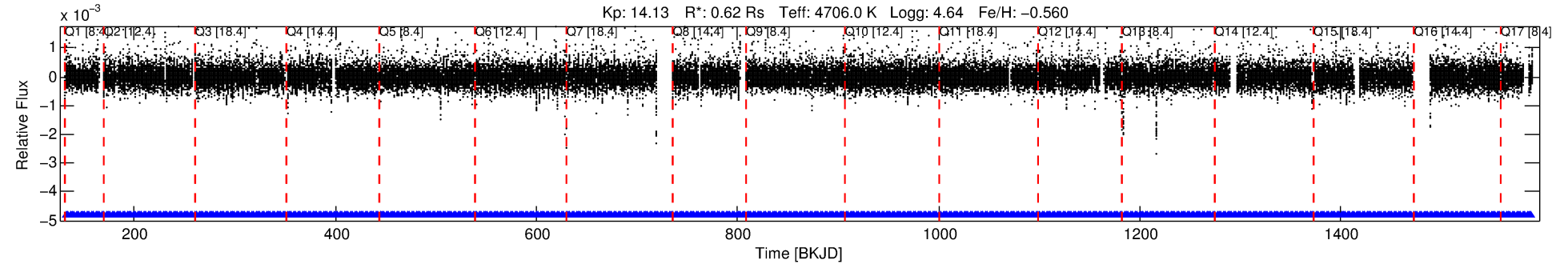
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007668857-01

No Significant Match Found

DV One-Page Summary

KIC: 7668857 Candidate: 1 of 8 Period: 2.096 d



DV Fit Results:

Period = 2.09642 [0.00002] d
Epoch = 132.4051 [0.0046] BKJD
Rp/R* = 0.0085 [0.0020]
a/R* = 1.34 [0.56]
b = 0.90 [0.20]
Seff = 229.82 [36.22]
Teq = 993 [39] K
Rp = 0.58 [0.15] Re
a = 0.0272 [0.0020] AU
Ag = 35.82 [19.35] [1.80 σ]
Teffp = 3755 [510] K [5.40 σ]

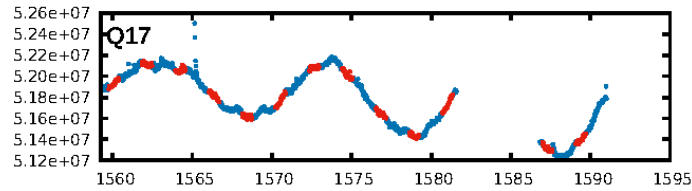
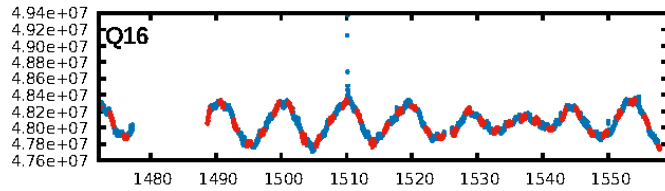
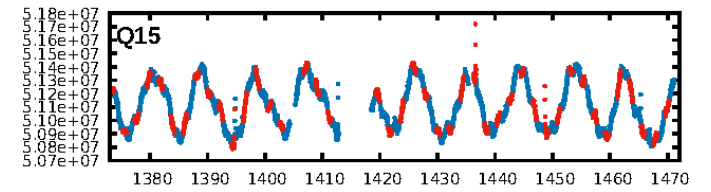
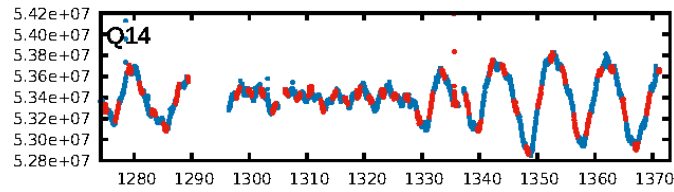
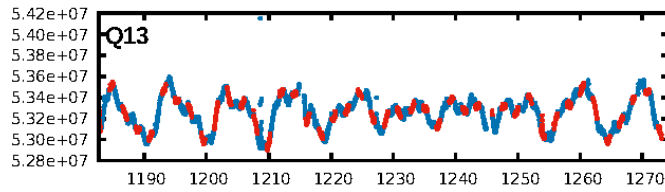
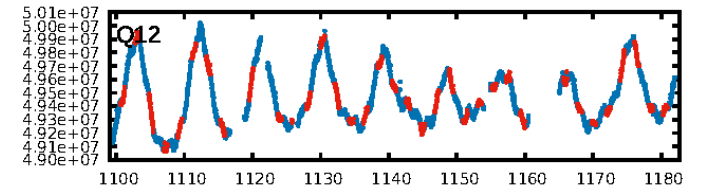
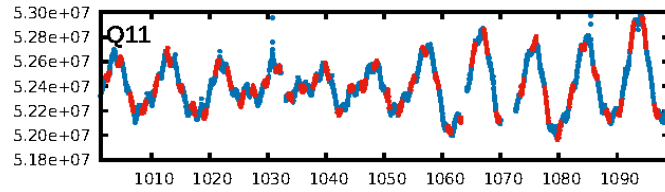
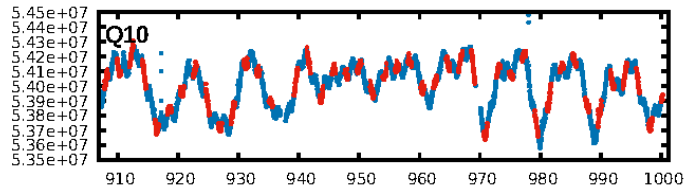
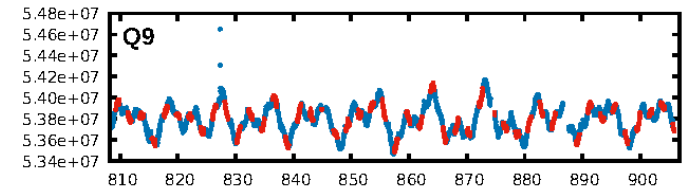
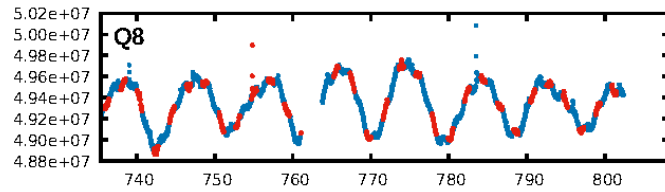
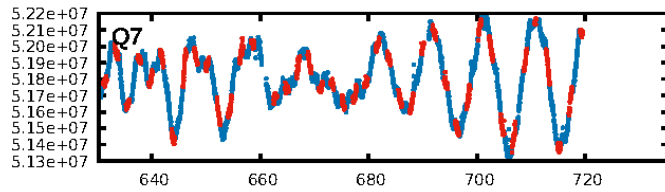
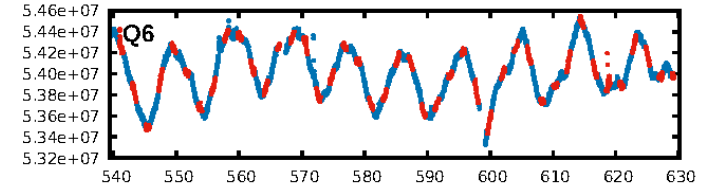
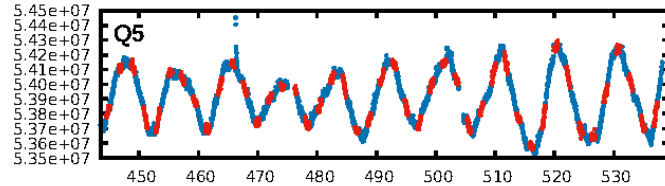
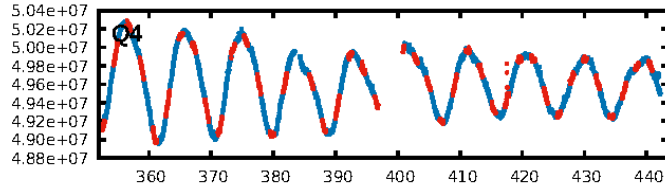
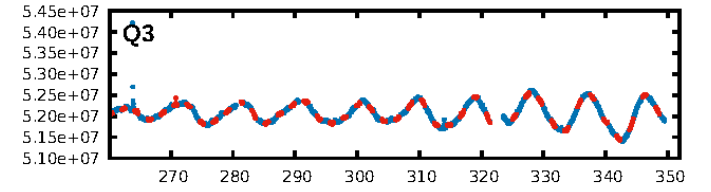
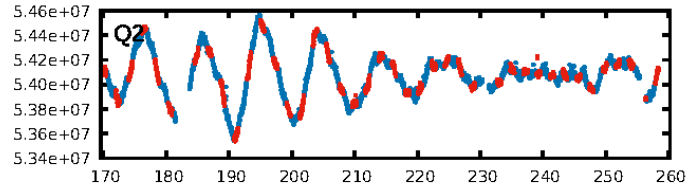
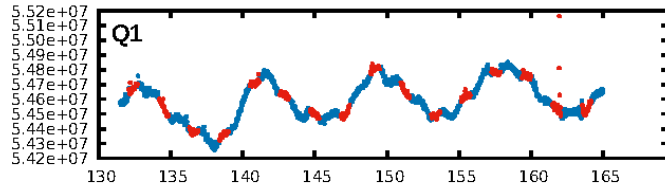
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00 σ]
LongPeriod-sig: 100.0% [329.58 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [614/614]
GhostDiagnostic-chr: 4.192
Centroid-sig: 11.0%
Centroid-so: 0.074 arcsec [0.10 σ]
OotOffset-rm: 0.512 arcsec [1.35 σ]
KicOffset-rm: 0.216 arcsec [0.58 σ]
OotOffset-st: 3/4/3/3 [13]
KicOffset-st: 3/4/3/3 [13]
DiffImageQuality-fgm: 0.85 [11/13]
DiffImageOverlap-fno: 0.24 [4/17]

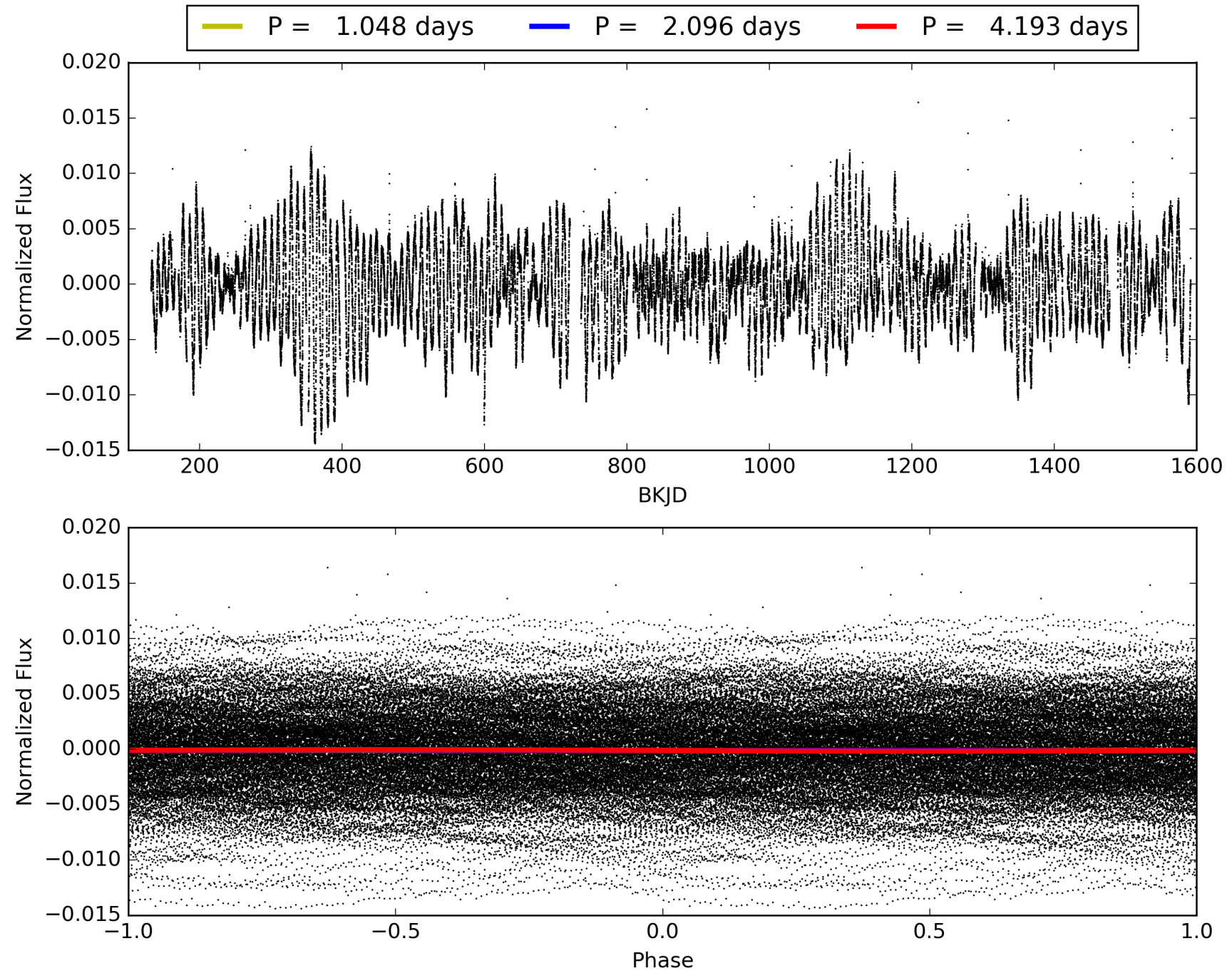
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:13:48 Z

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

TCE 007668857-01, PDC Light Curves

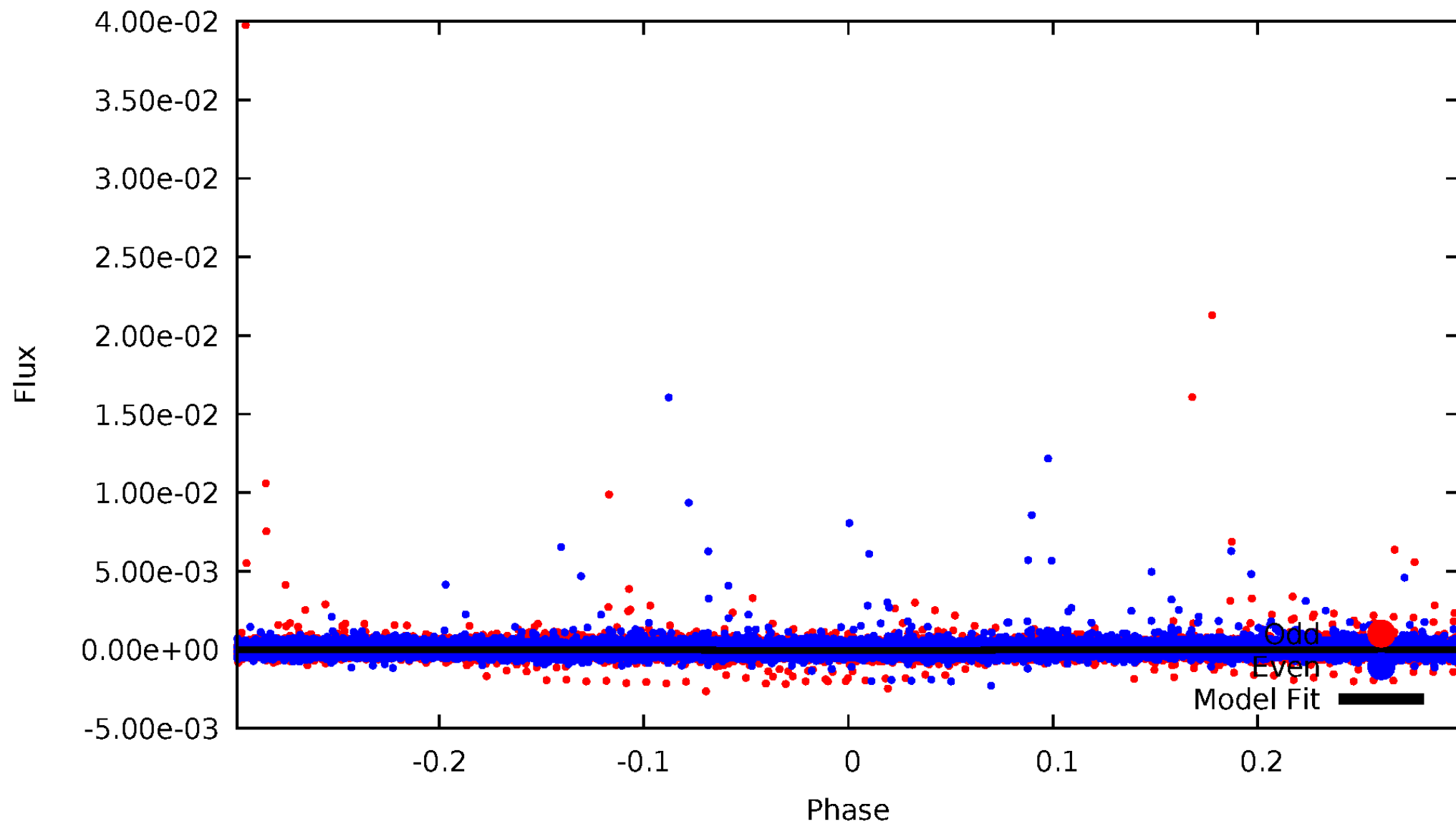


TCE 007668857-01



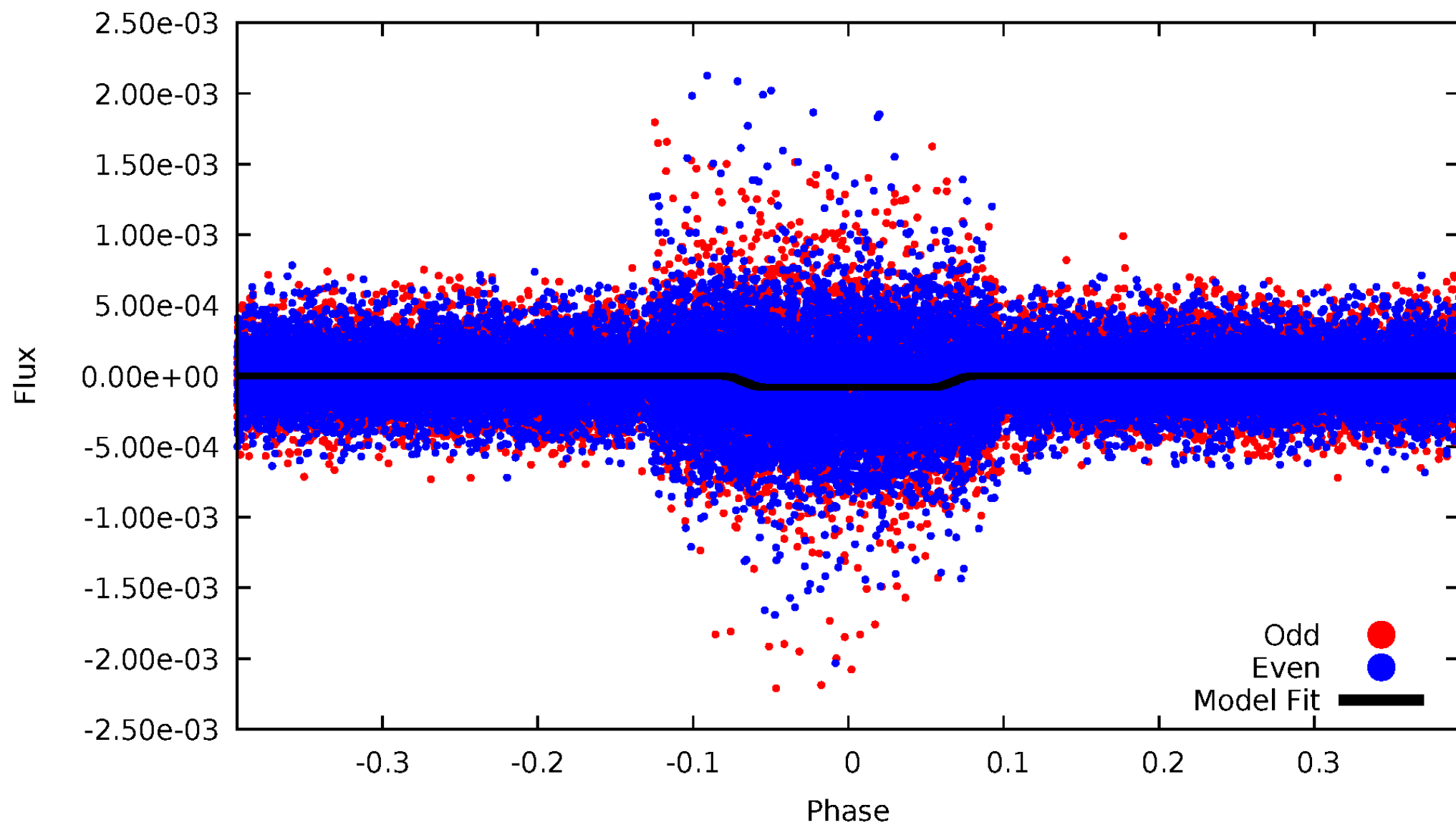
DV Odd/Even

TCE 007668857-01



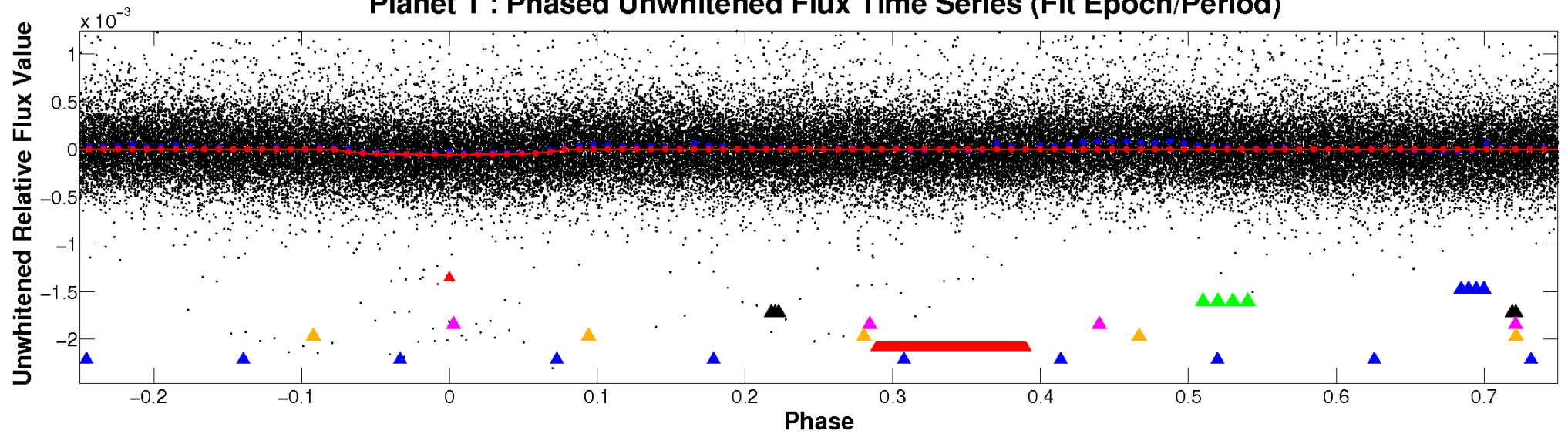
ALT Odd/Even

TCE 007668857-01

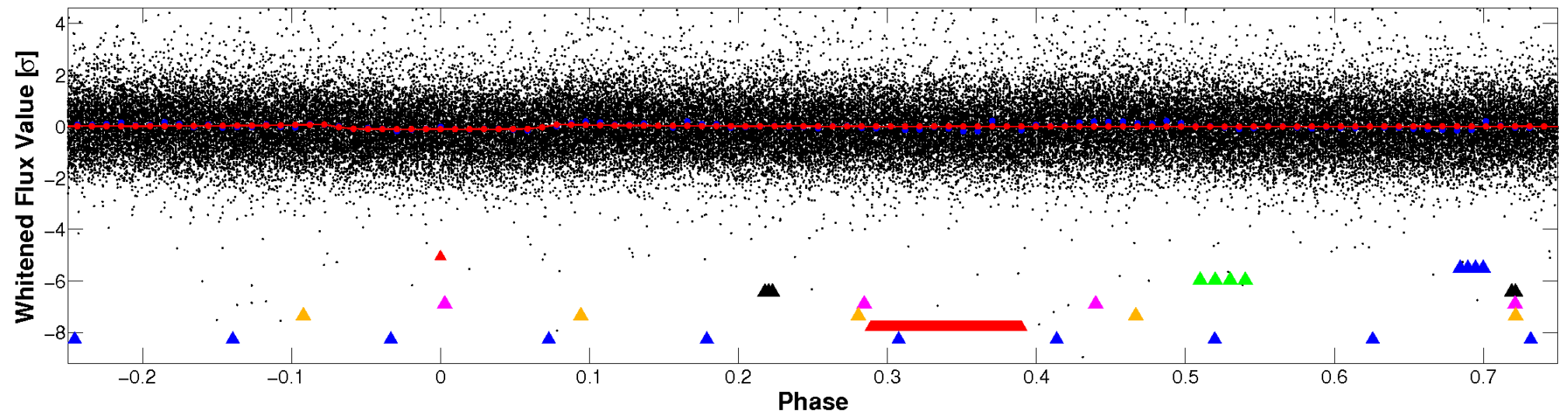


Non-Whitened Vs. Whitened Light Curve

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

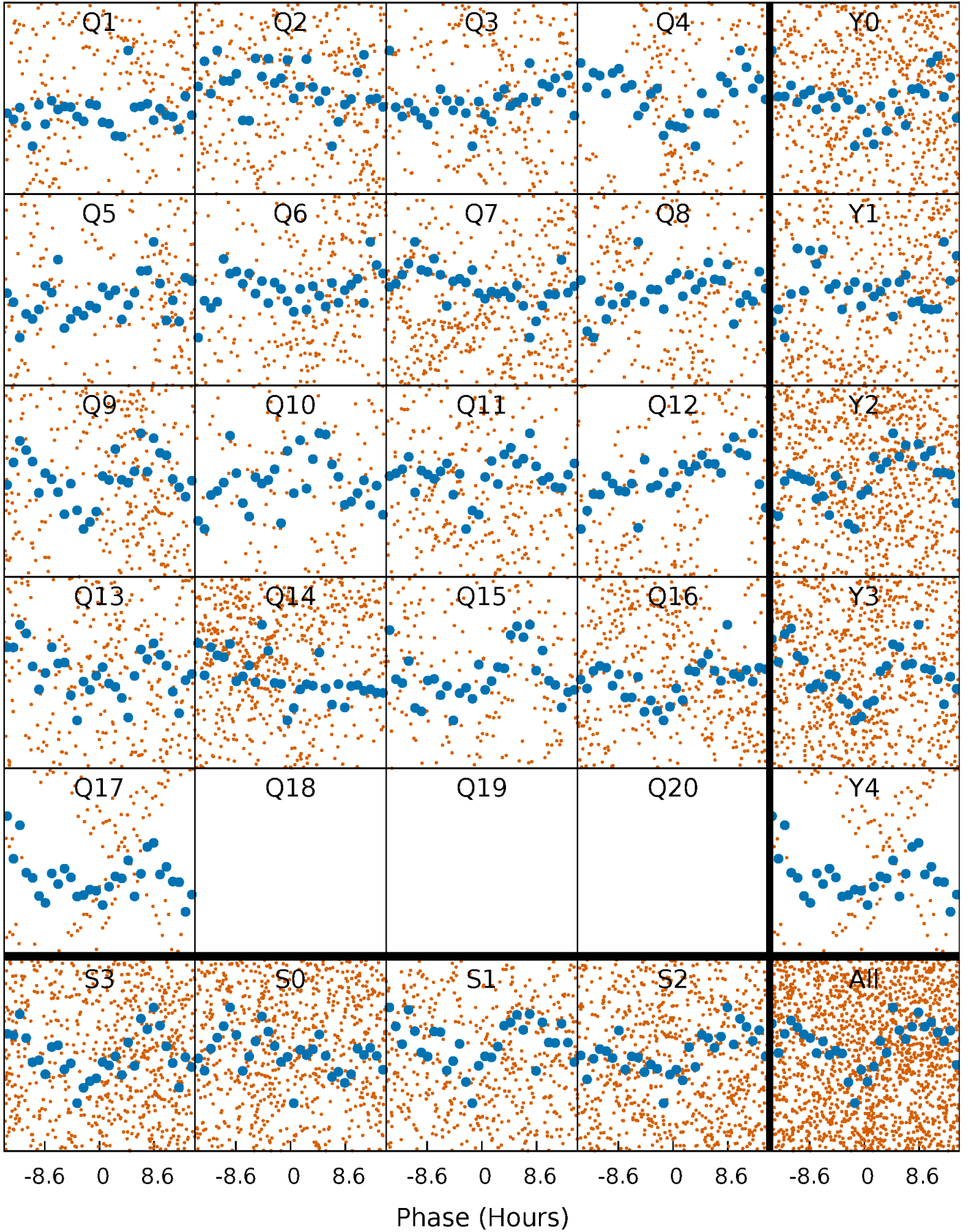


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



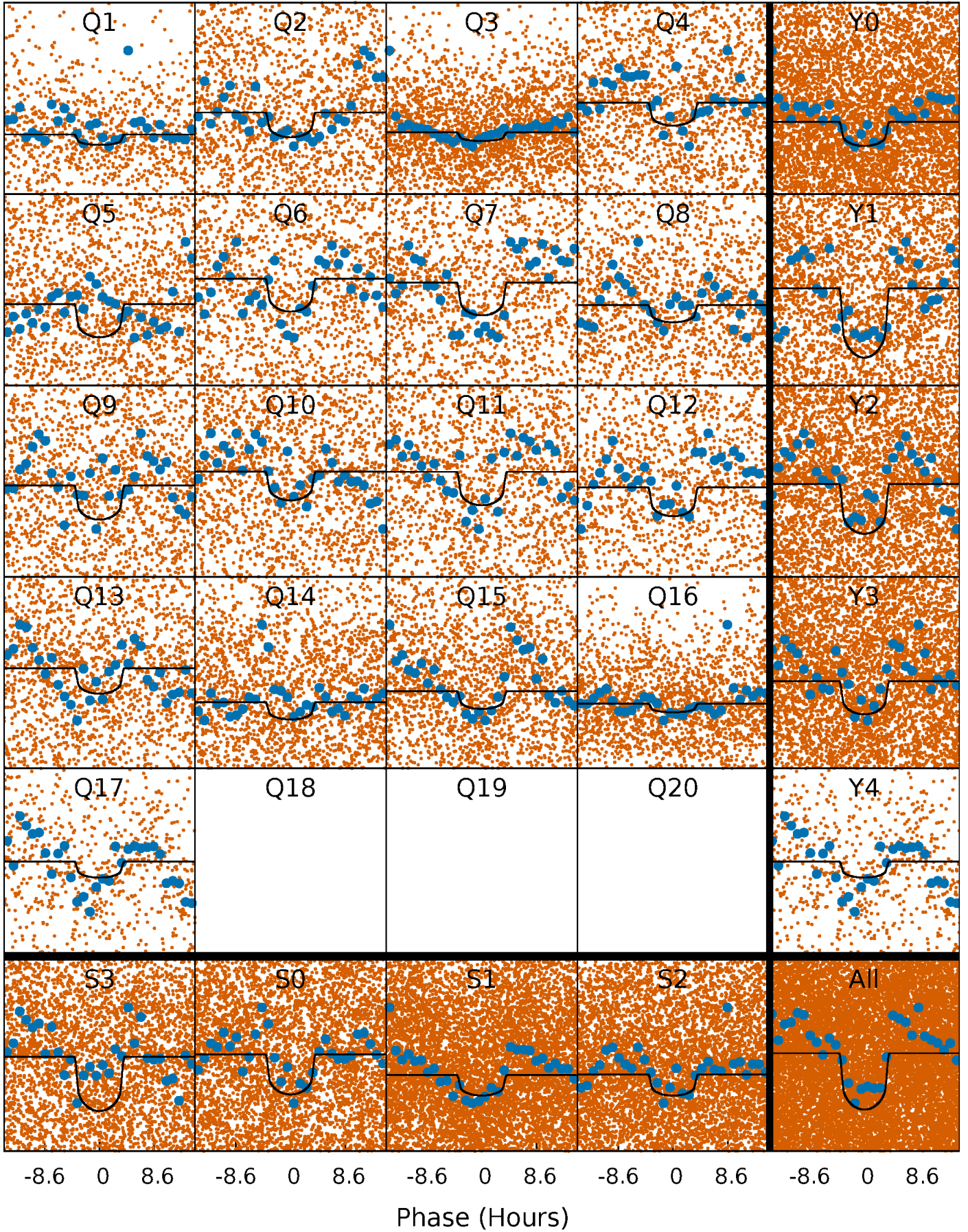
PDC Quarter-Phased Transit Curves

TCE 007668857-01 P= 2.096416 Days $T_0=132.405114$ (BKJD)



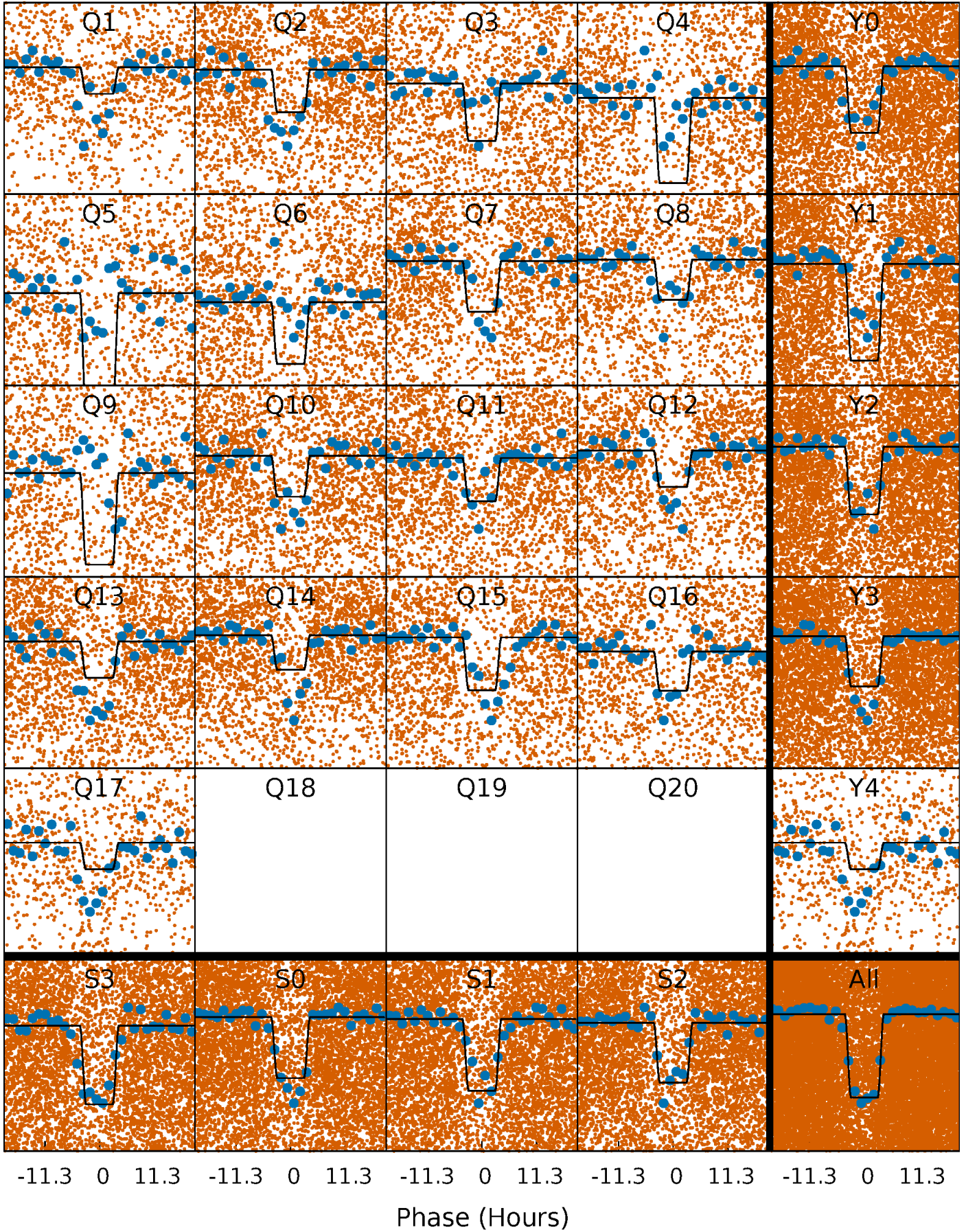
DV Quarter-Phased Transit Curves

TCE 007668857-01 P= 2.096416 Days $T_0=132.405114$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

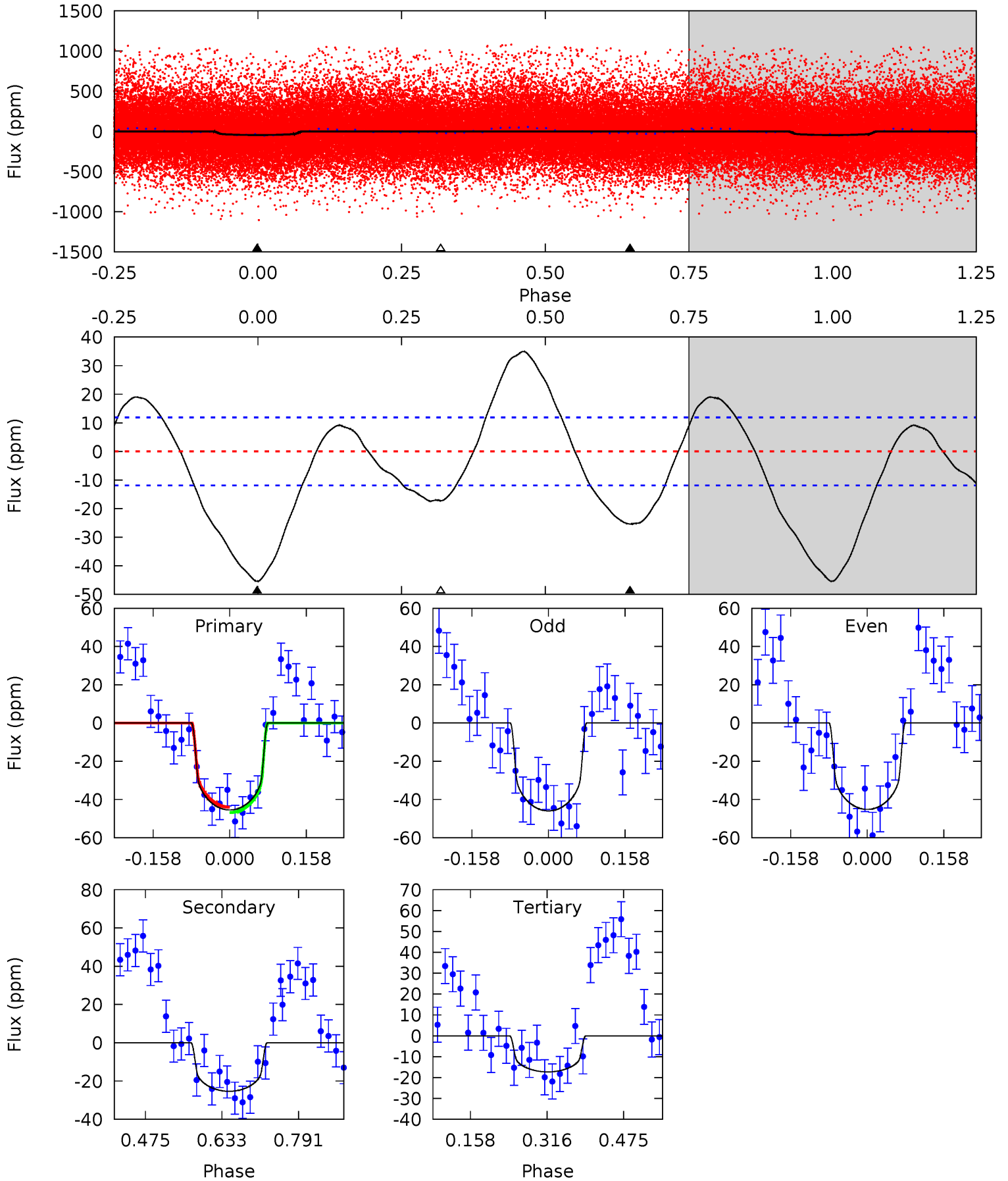
TCE 007668857-01 P= 2.096373 Days $T_0=132.442983$ (BKJD)



DV Model-Shift Uniqueness Test

007668857-01, P = 2.096416 Days, E = 130.308698 Days

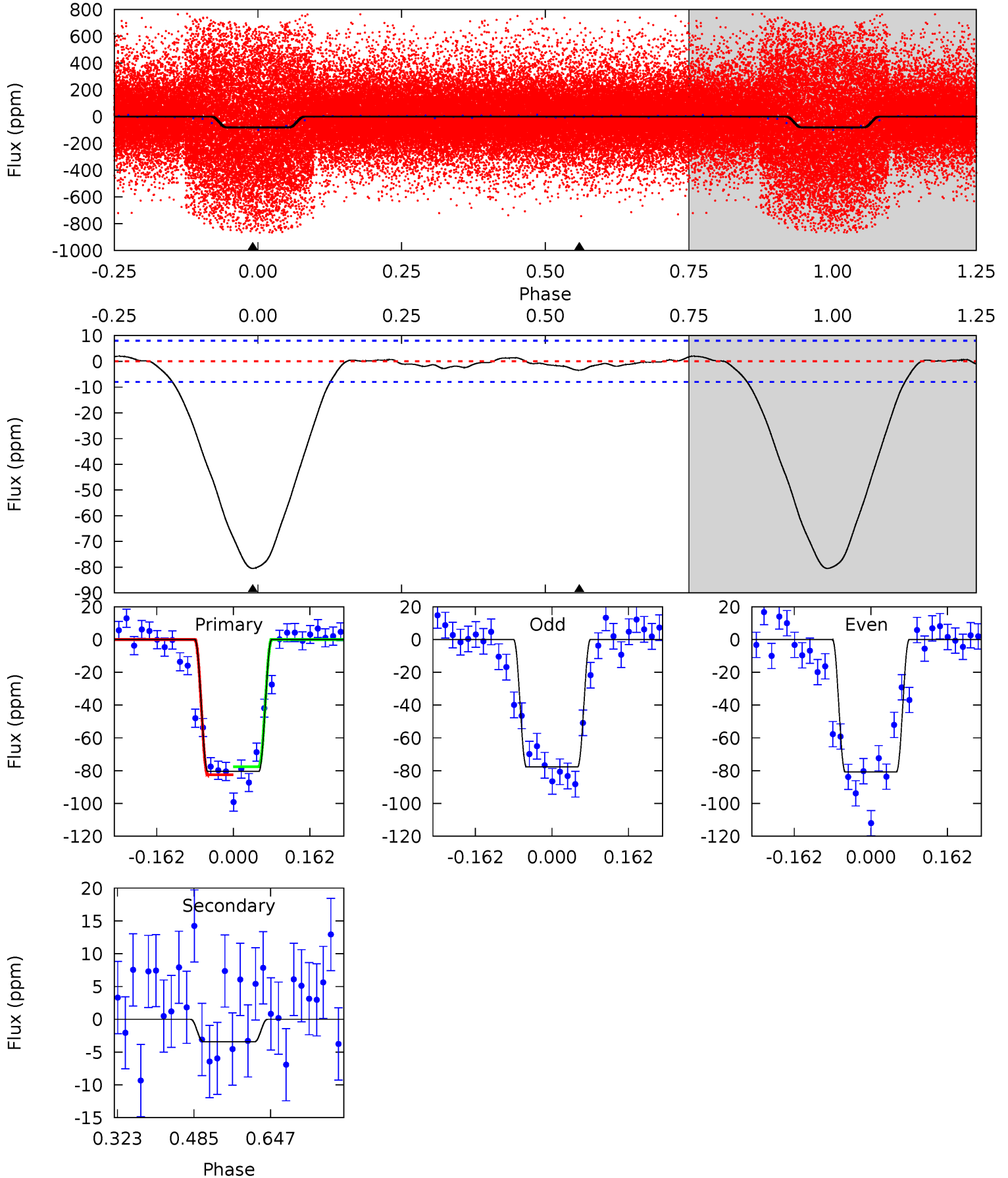
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.1	9.54	6.50	0	4.47	1.41	6.46	10.6	17.1	3.04	9.54	0.15	0.83	0.44	0.53



Alt Model-Shift Uniqueness Test

007668857-01, P = 2.096373 Days, E = 130.346610 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.8	1.91	0	0	4.46	1.40	0.71	44.8	44.8	1.91	1.91	0.85	0.92	0.02	1.34



Stellar Parameters For KIC 007668857

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4706^{+141}_{-127}	$4.636^{+0.054}_{-0.032}$	$-0.560^{+0.350}_{-0.300}$	$0.622^{+0.056}_{-0.051}$	$0.610^{+0.069}_{-0.035}$	$3.570^{+0.877}_{-0.486}$
	+3%/-3%	+1%/-1%	+62%/-54%	+9%/-8%	+11%/-6%	+25%/-14%
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 007668857-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-25 ± 3	$0.57^{+0.14}_{-0.14}$	1382^{+46}_{-44}	3877^{+389}_{-308}	32^{+22}_{-12}
Alt.	-3 ± 2	$0.60^{+0.14}_{-0.14}$	1377^{+48}_{-43}	2774^{+290}_{-312}	$3.821^{+3.572}_{-2.134}$

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

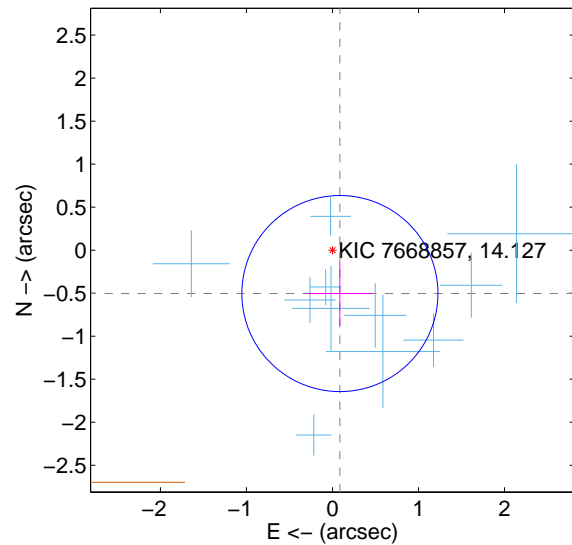
Supplemental centroid analysis for 007668857-01. Kepler magnitude: 14.13. Transit SNR 10.26

There are 11 quarters with good PRF difference image offsets

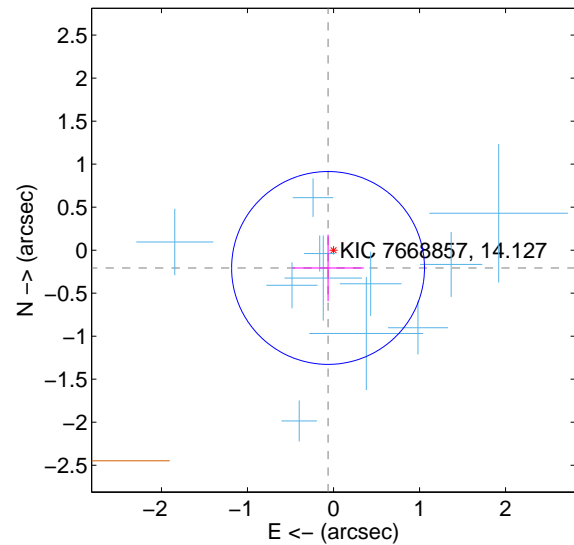
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.512 ± 0.380	1.35	-0.086 ± 0.375	-0.504 ± 0.375
PRF-fit source offset from KIC position	0.216 ± 0.374	0.58	0.064 ± 0.415	-0.207 ± 0.386
photometric centroid source offset	0.07 ± 0.76	0.10	-0.01 ± 0.49	0.07 ± 0.76

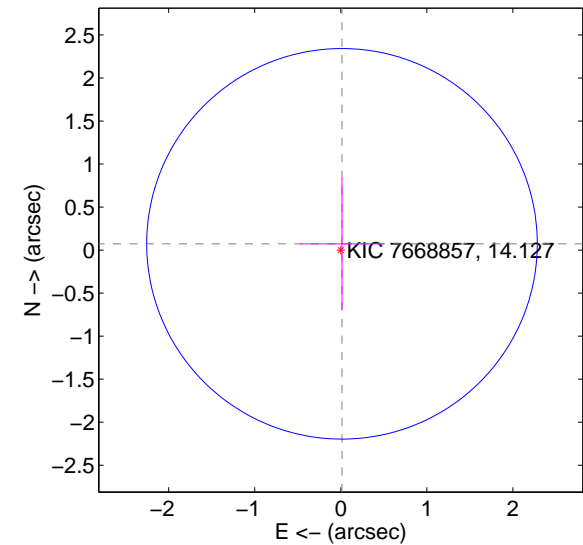
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

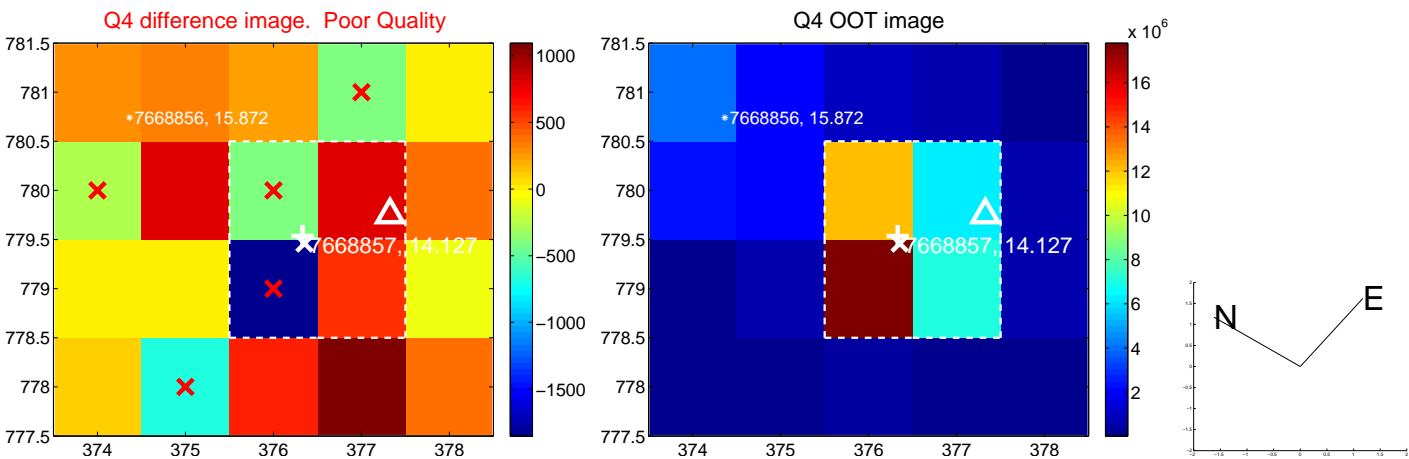
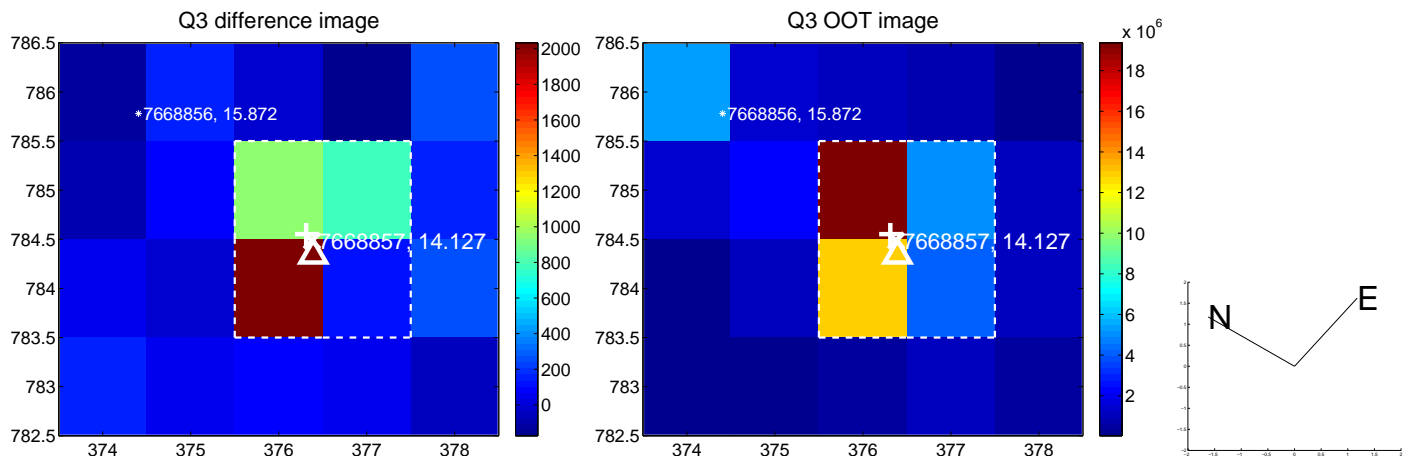
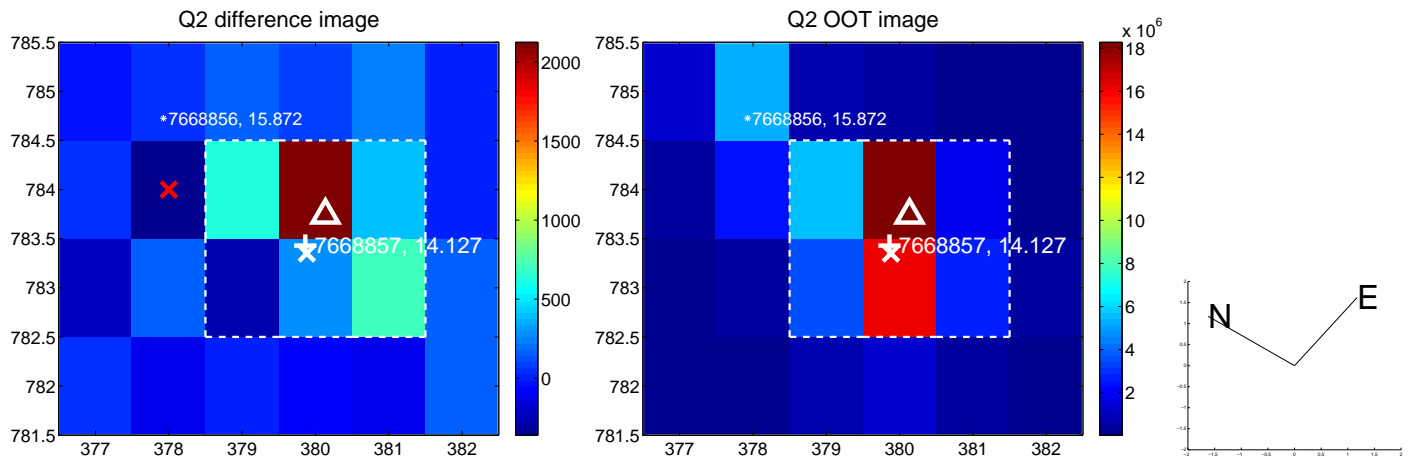
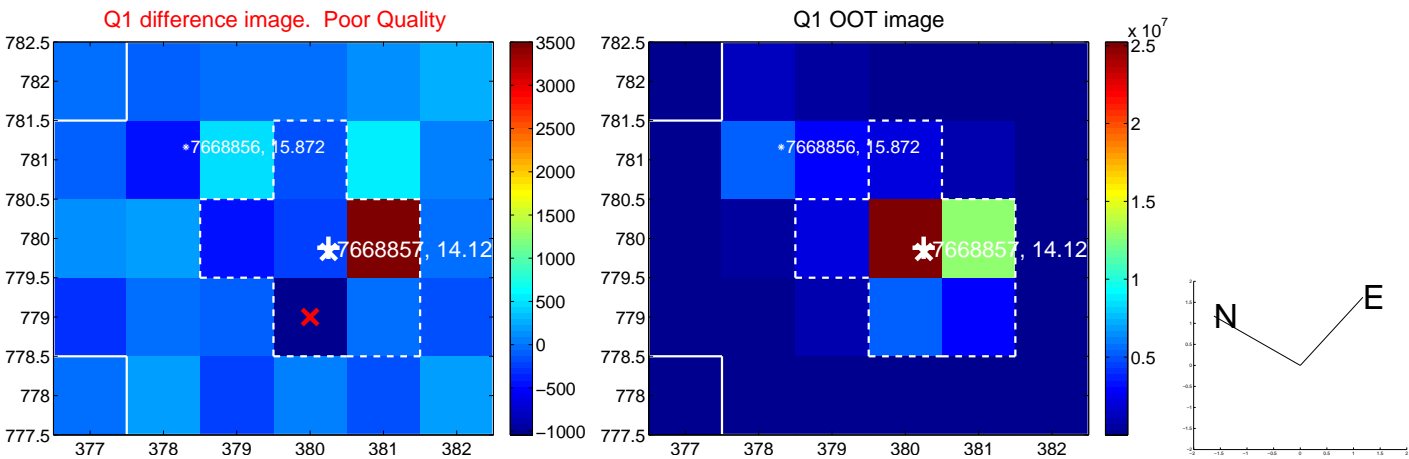


offset from photometric centroids

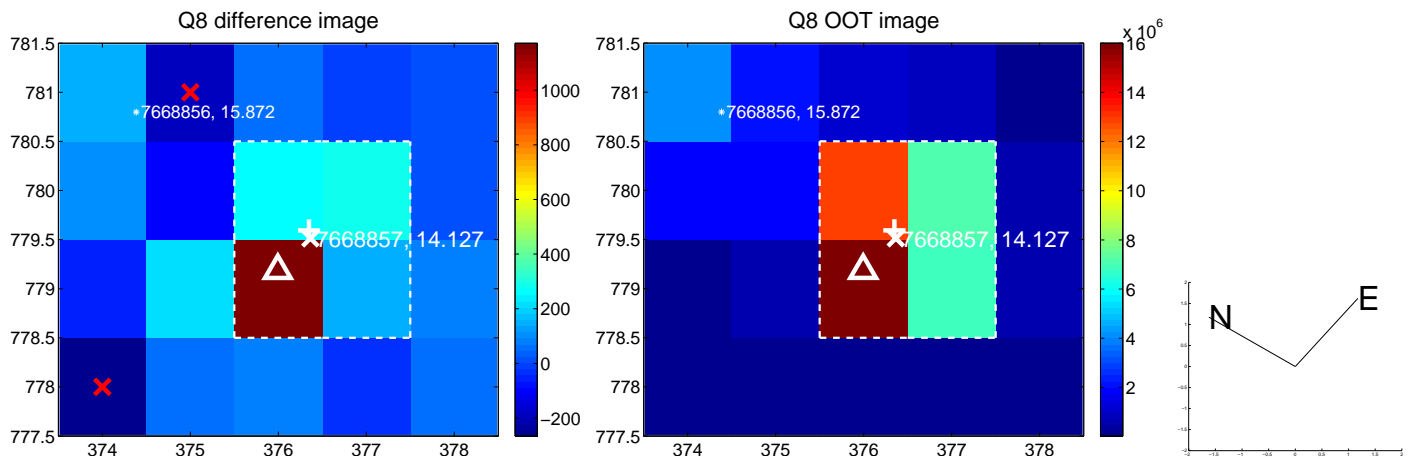
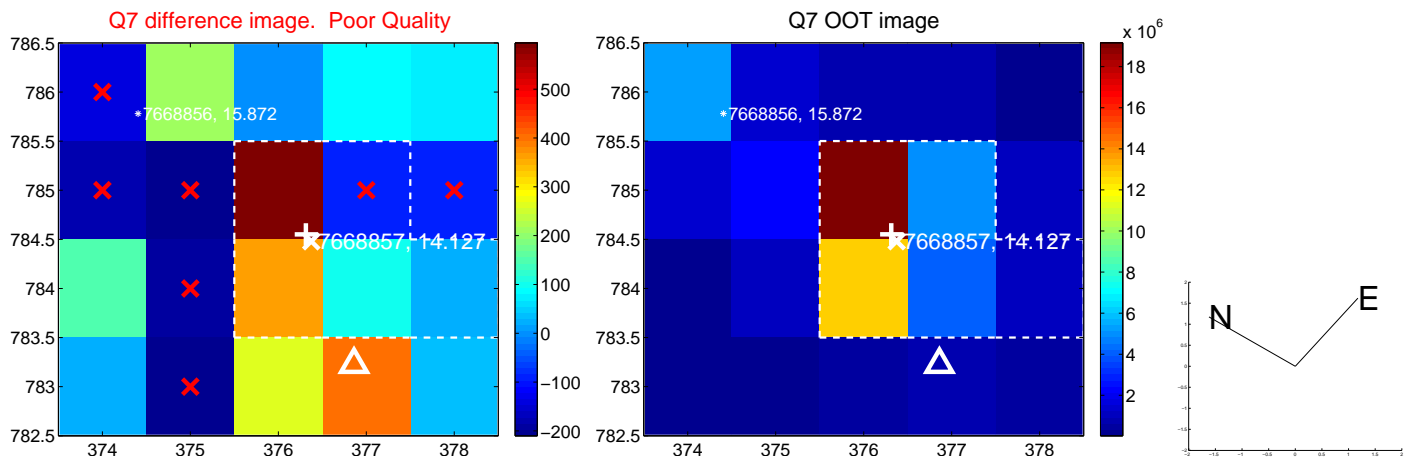
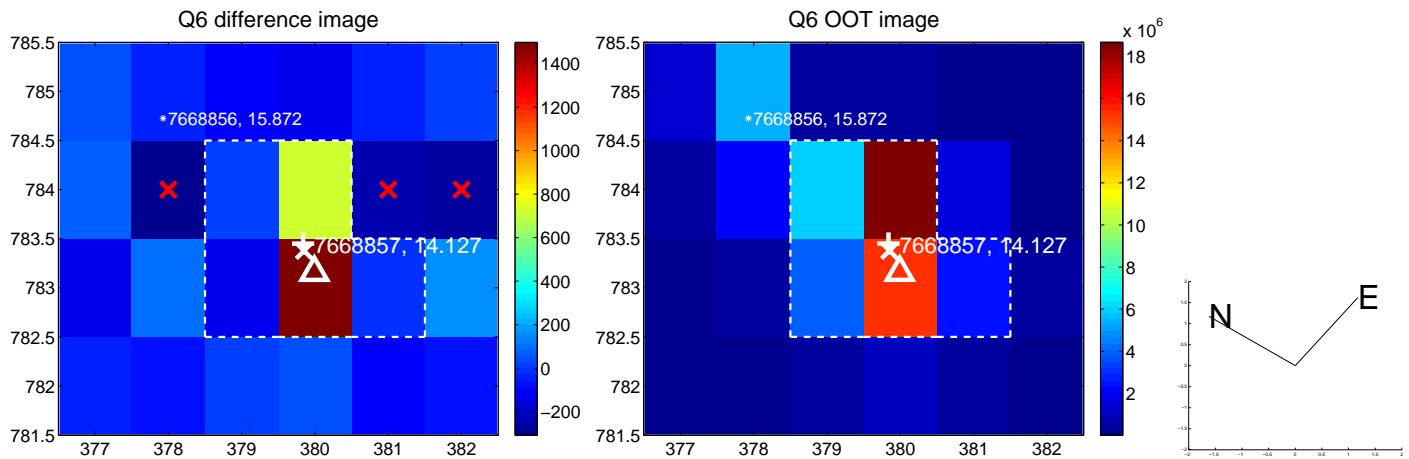
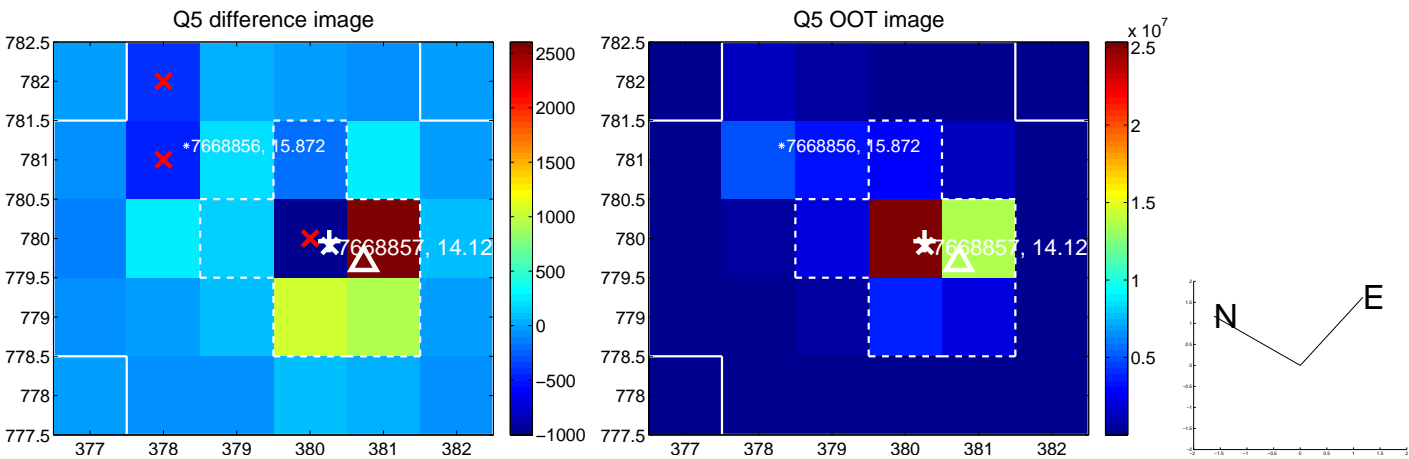


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

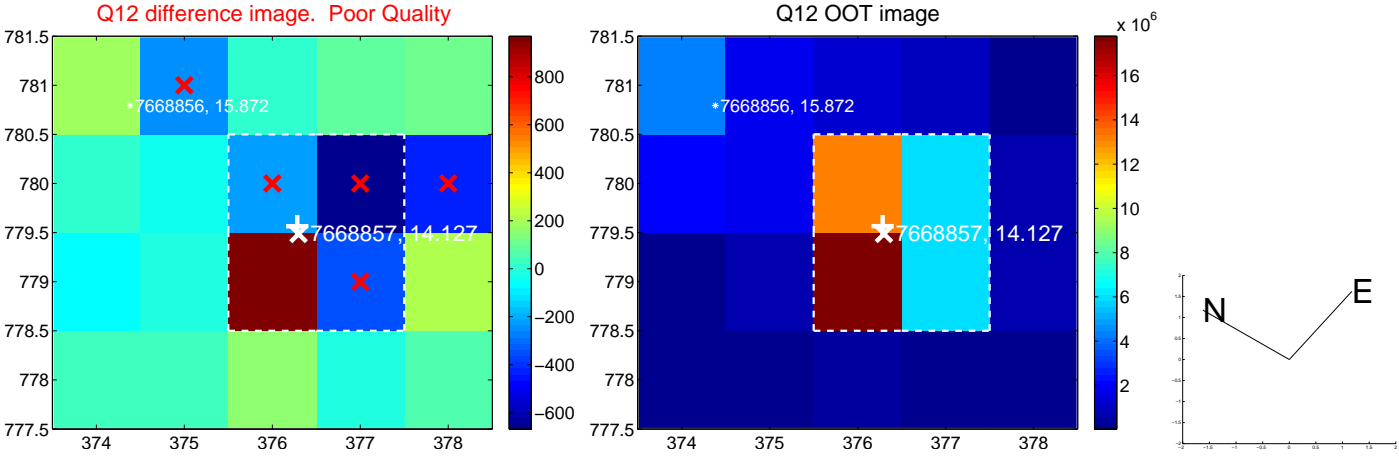
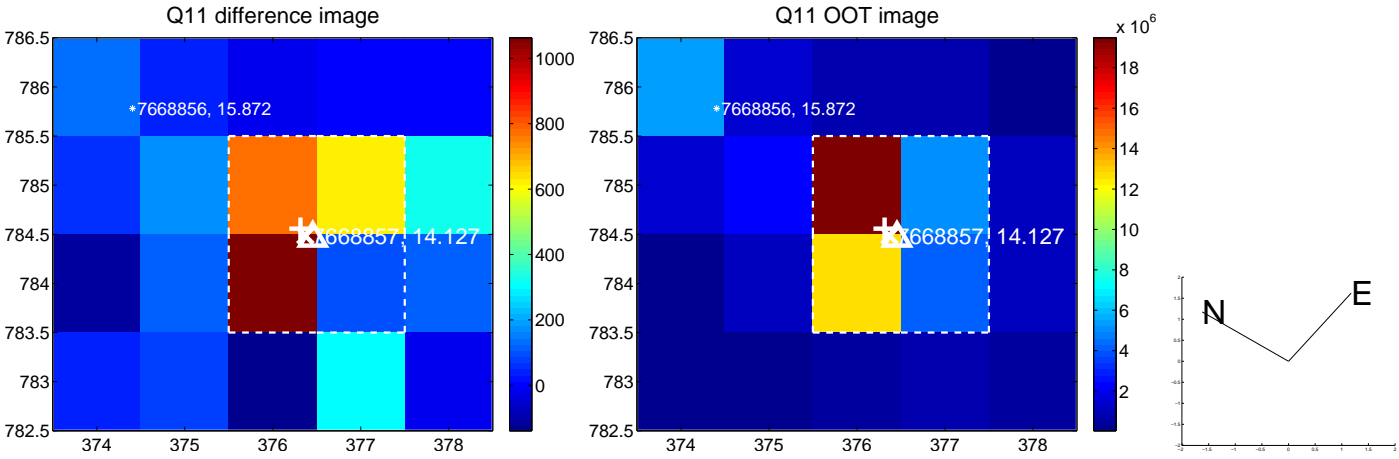
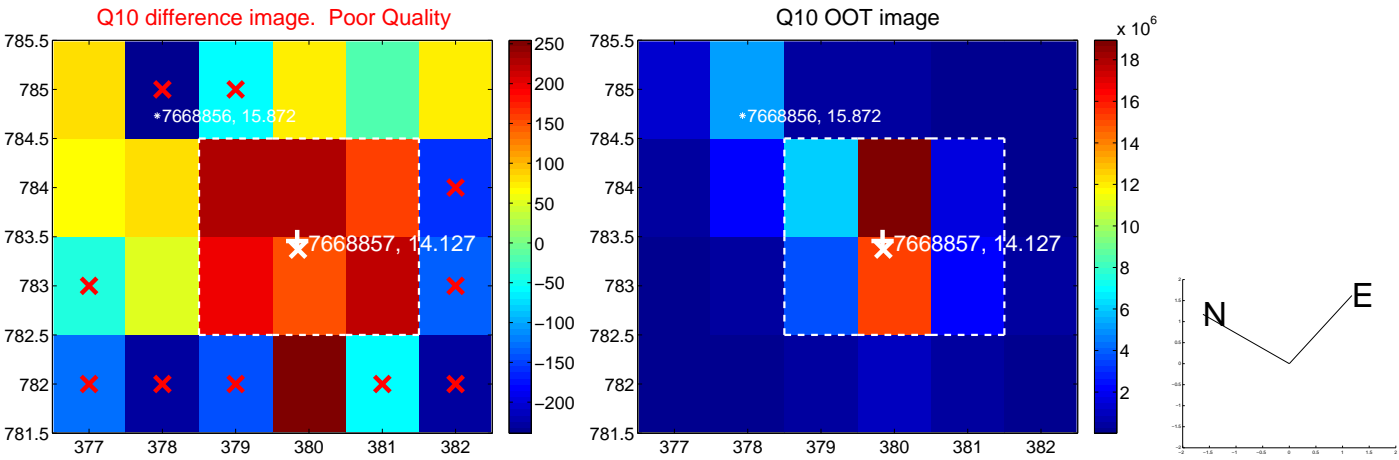
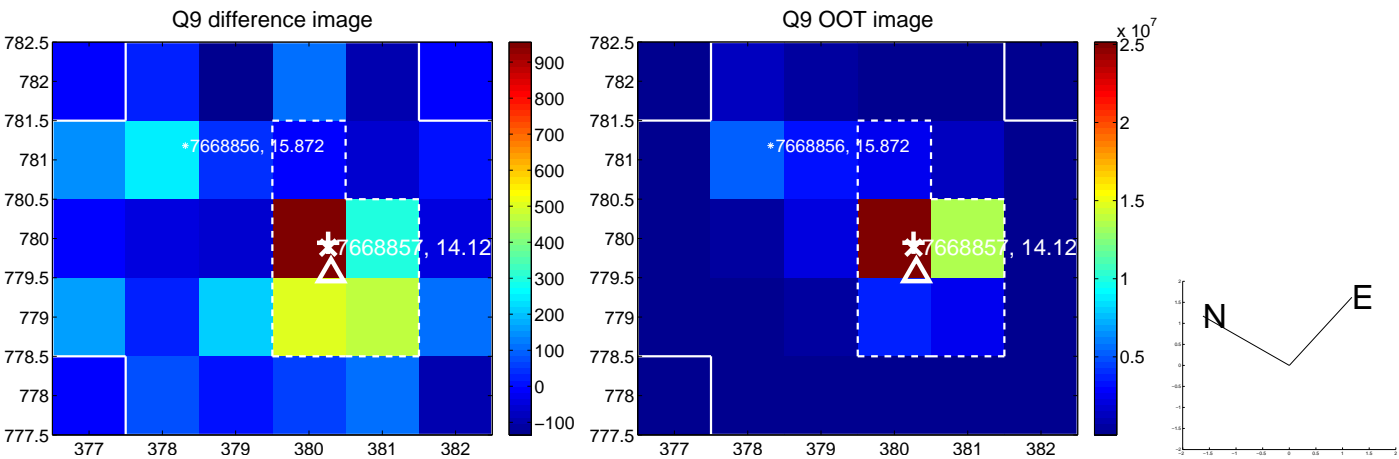
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



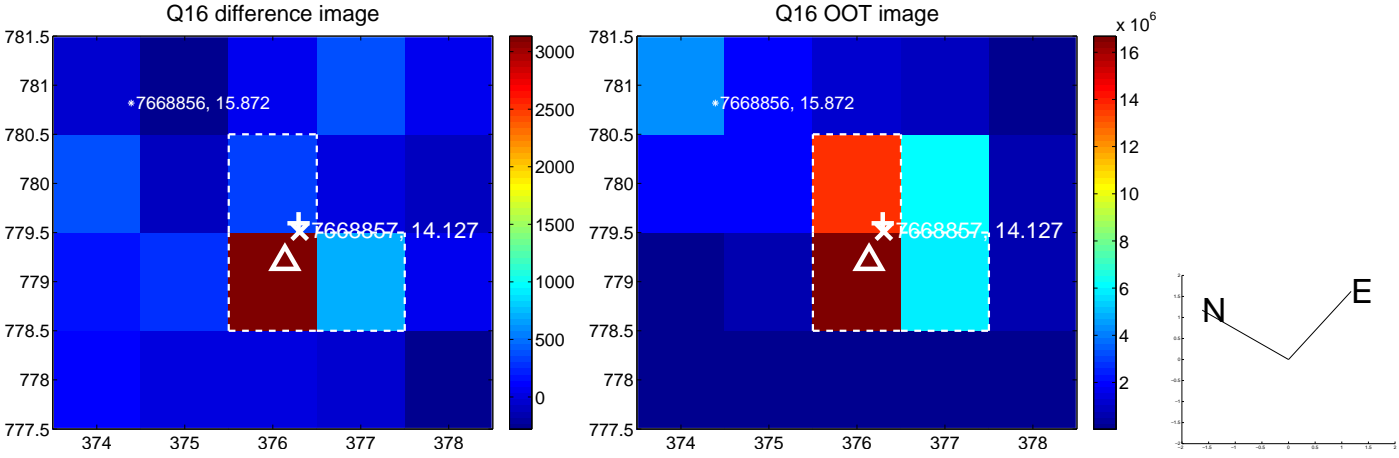
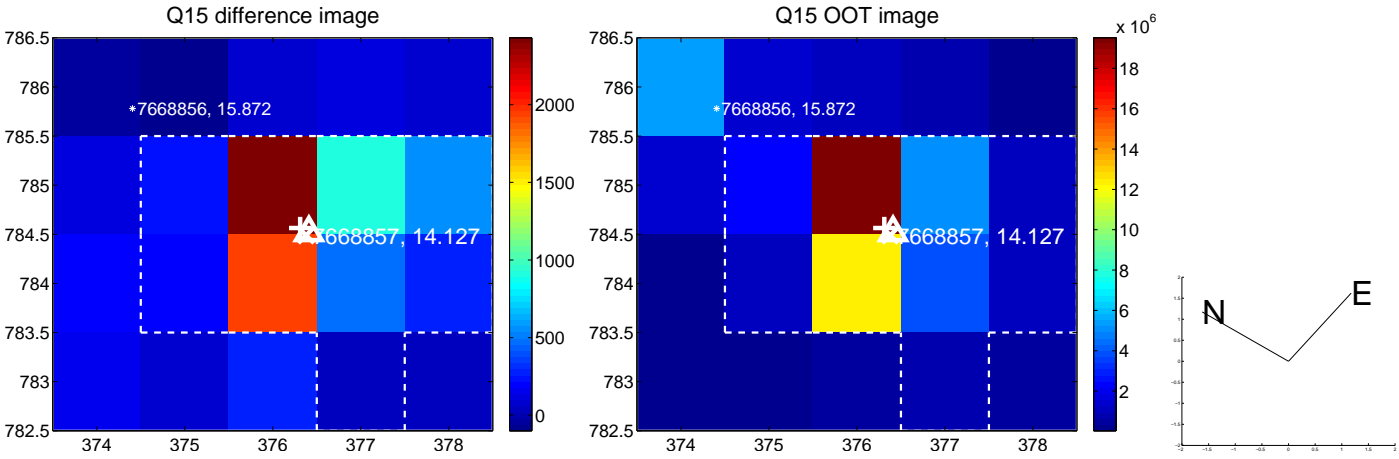
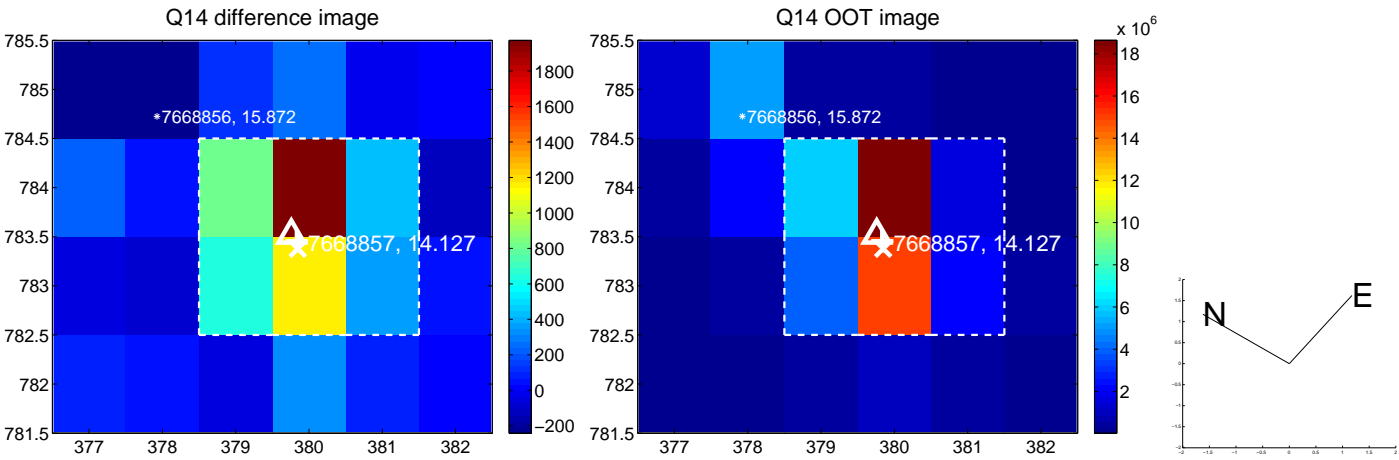
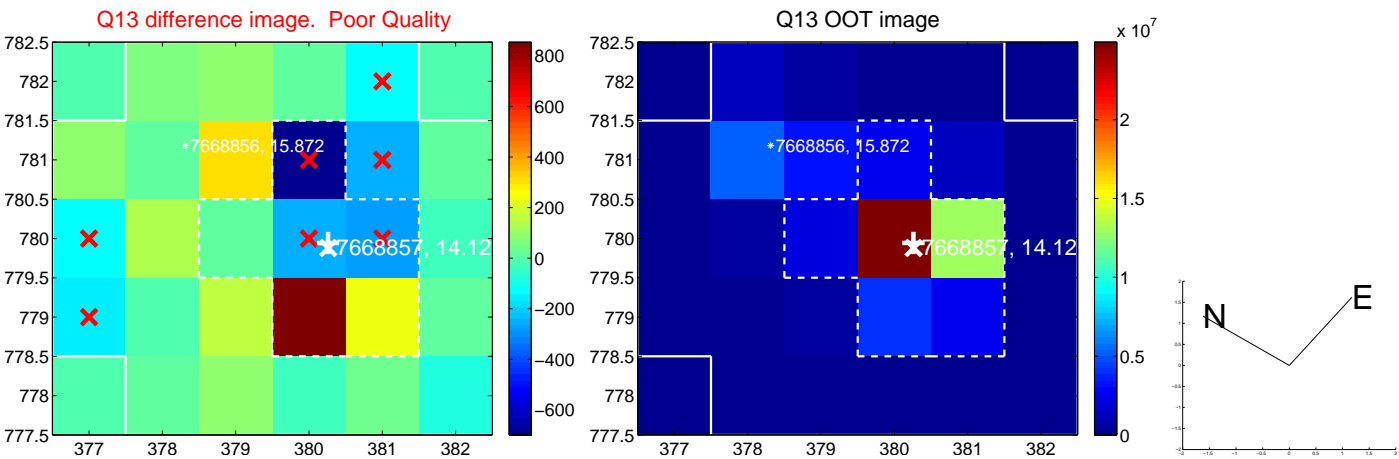
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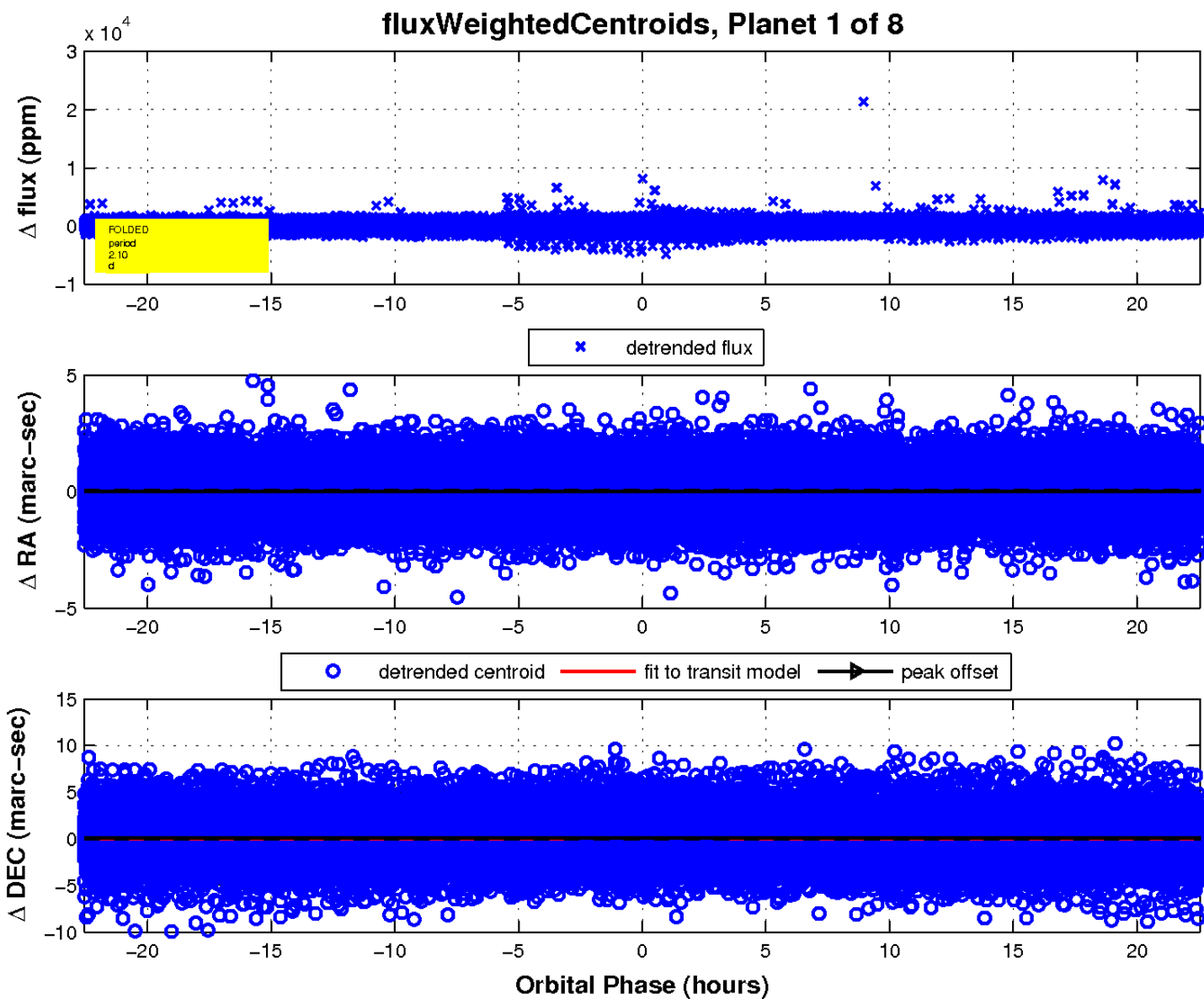
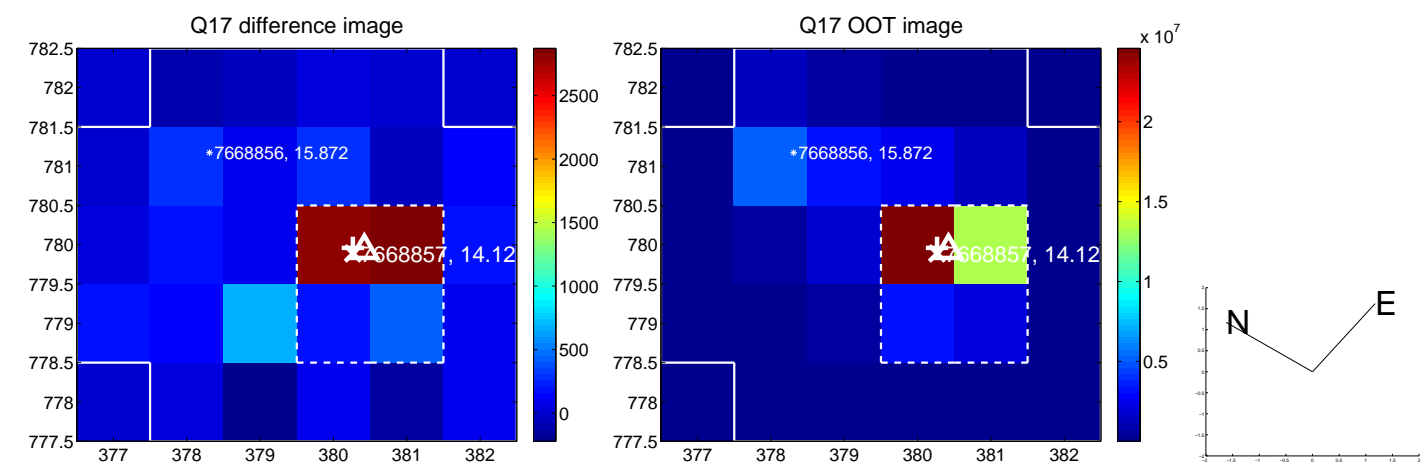
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

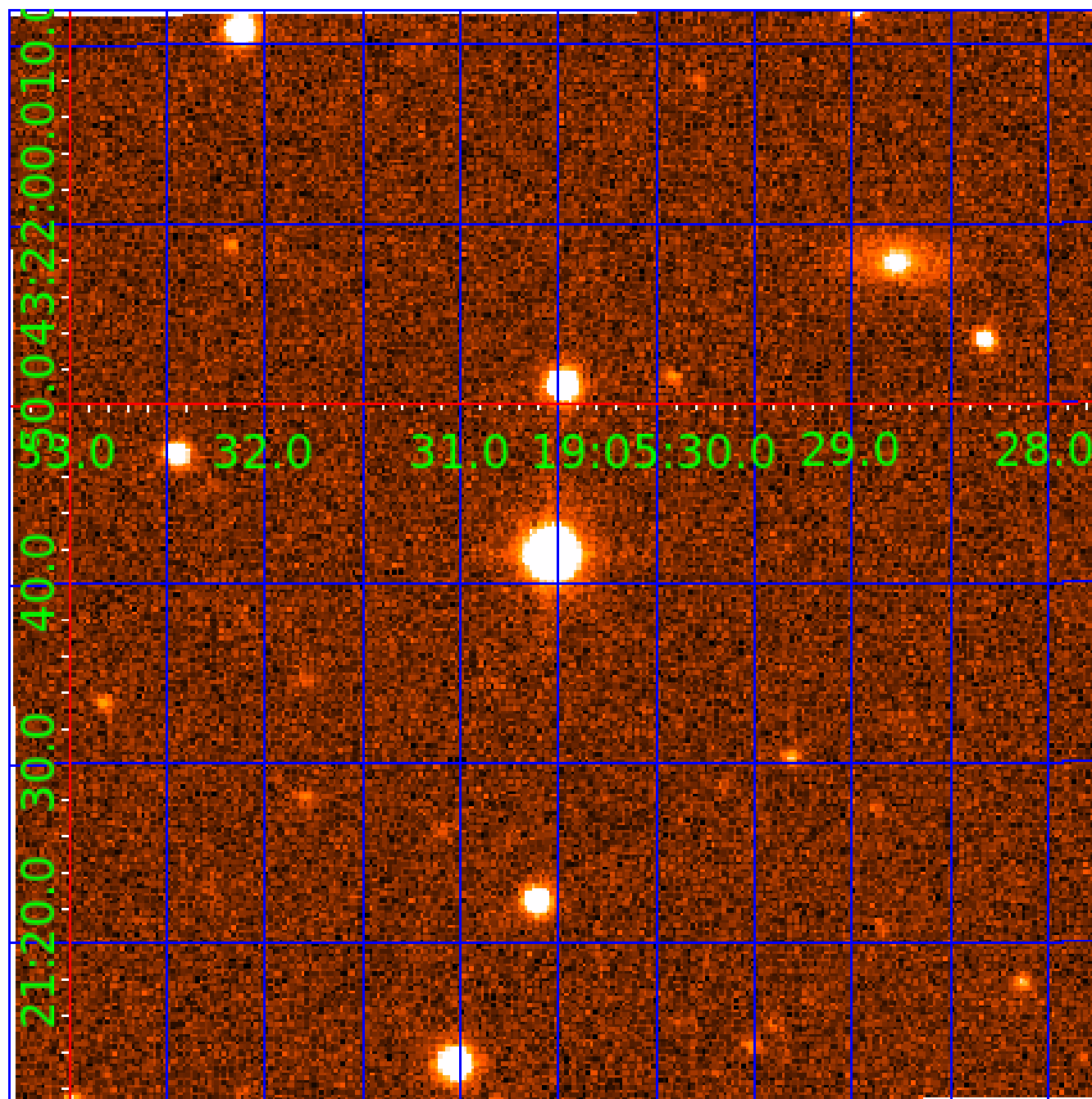


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007668857

Q1-17 DR25 TCE Parameters

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TCE	Run Type	Disp	Score	N	S	C	E	Comments
007668857-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
007668857-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007668857-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007668857-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
007668857-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
007668857-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

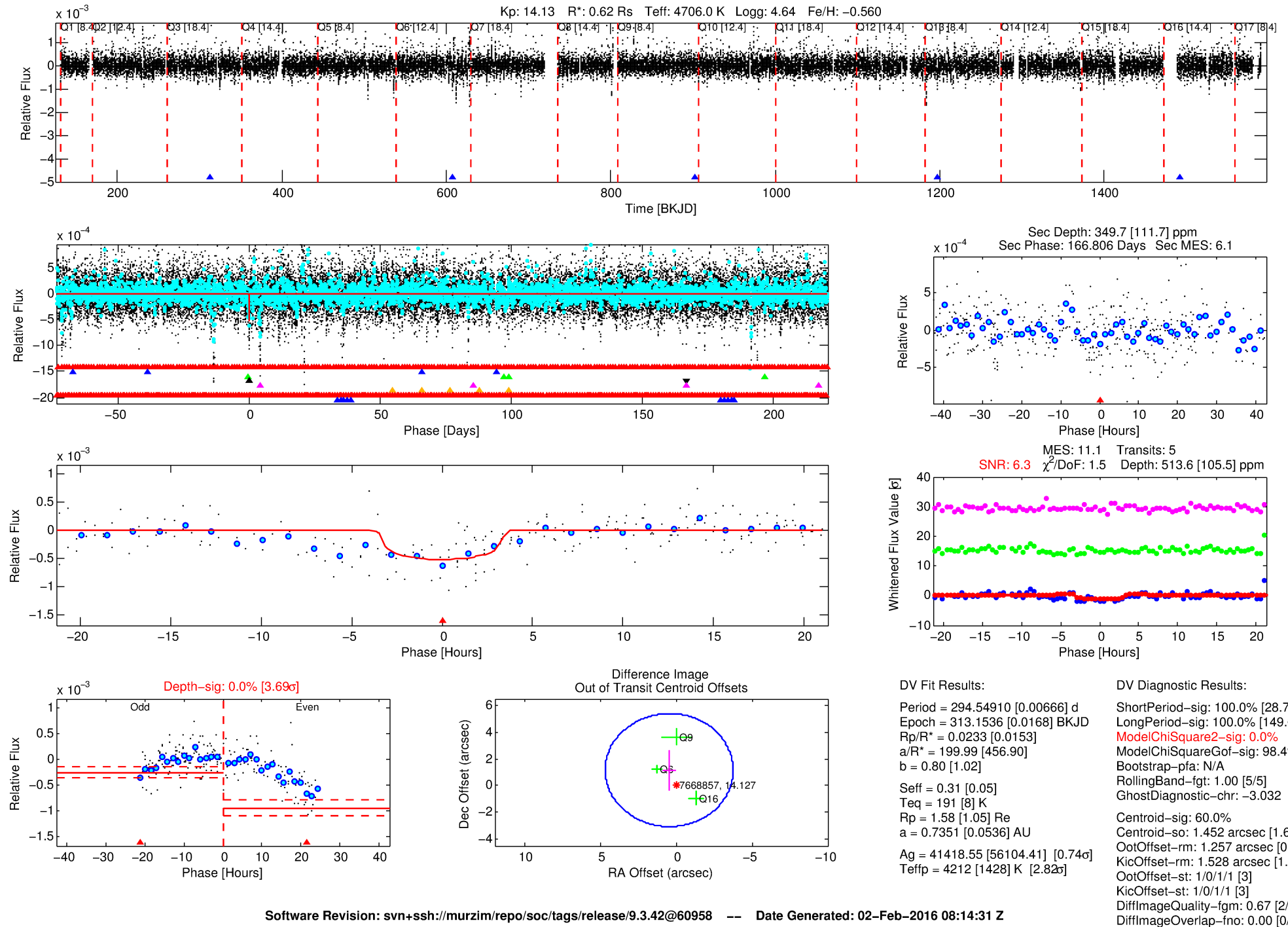
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007668857-04

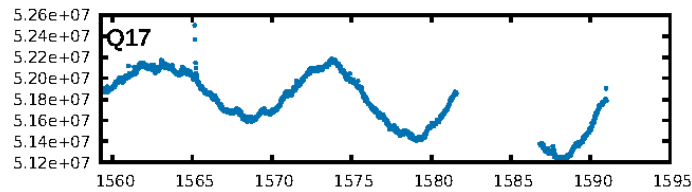
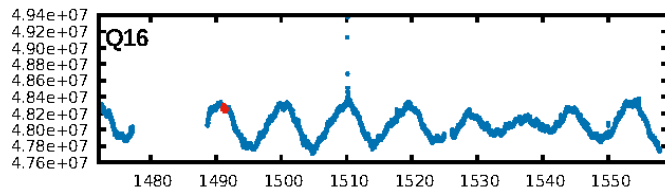
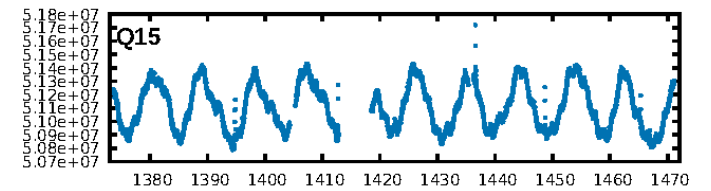
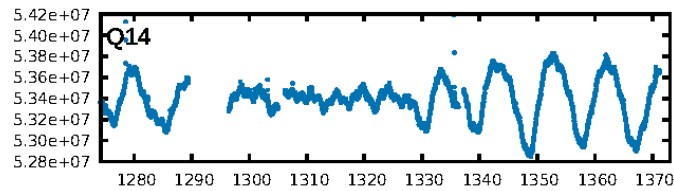
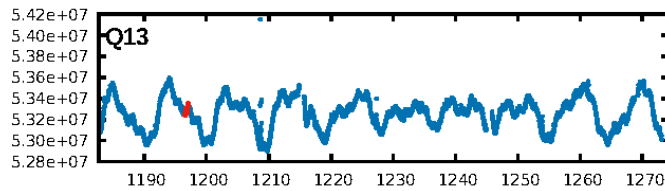
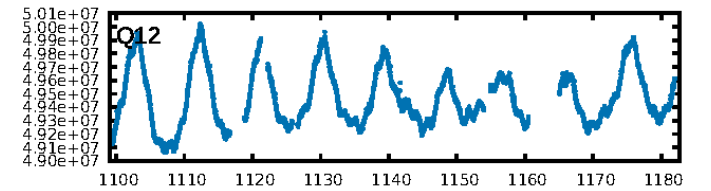
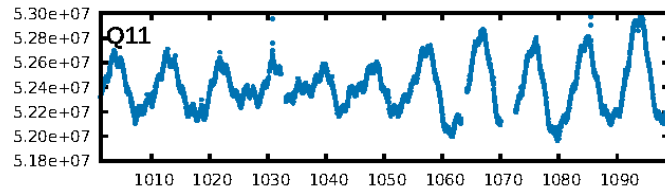
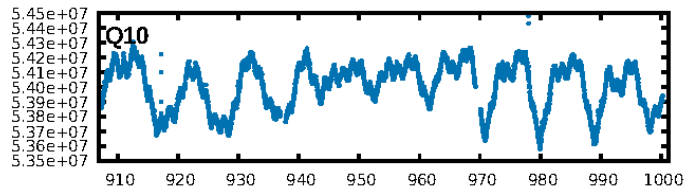
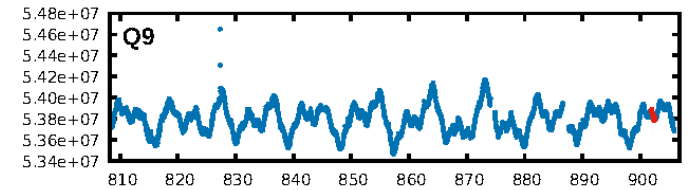
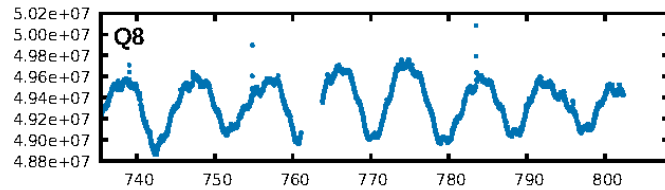
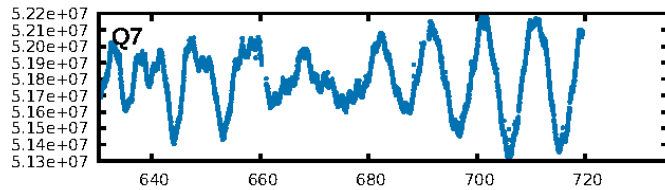
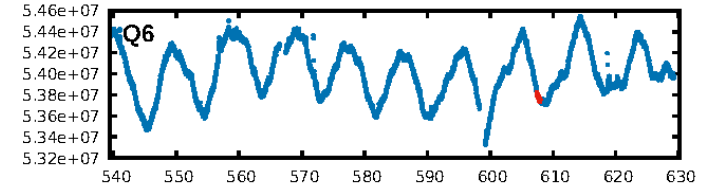
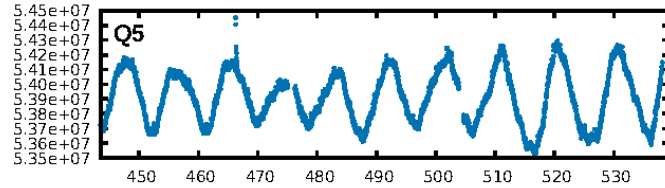
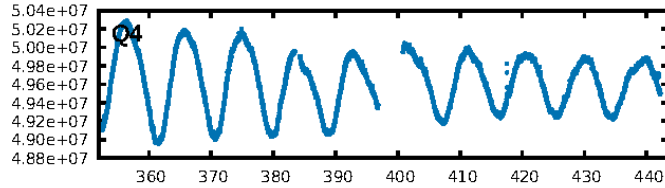
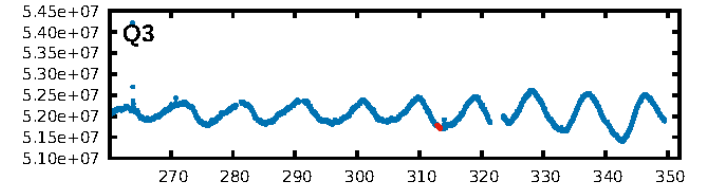
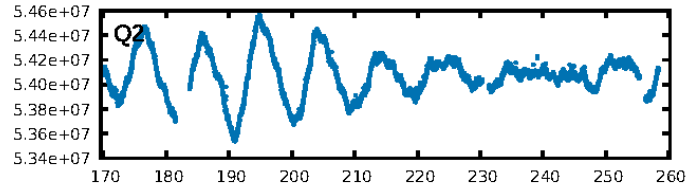
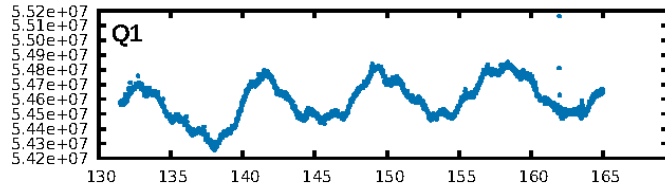
No Significant Match Found

DV One-Page Summary

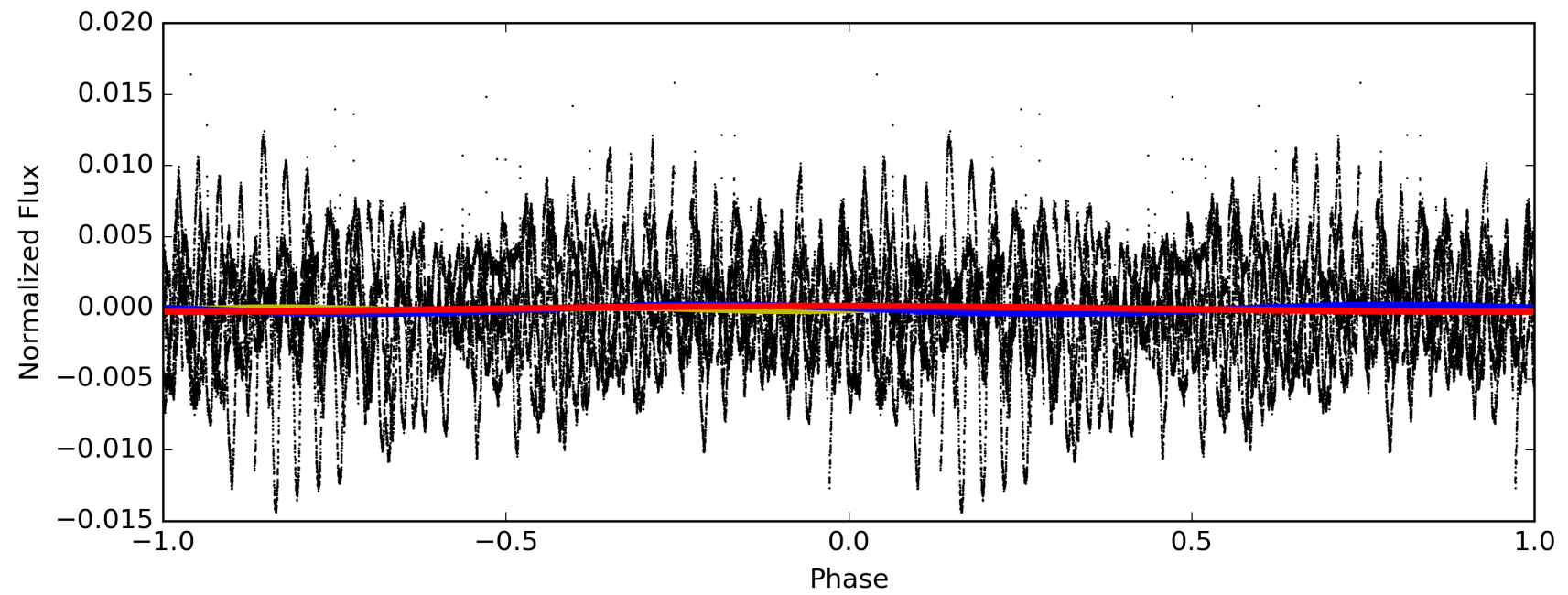
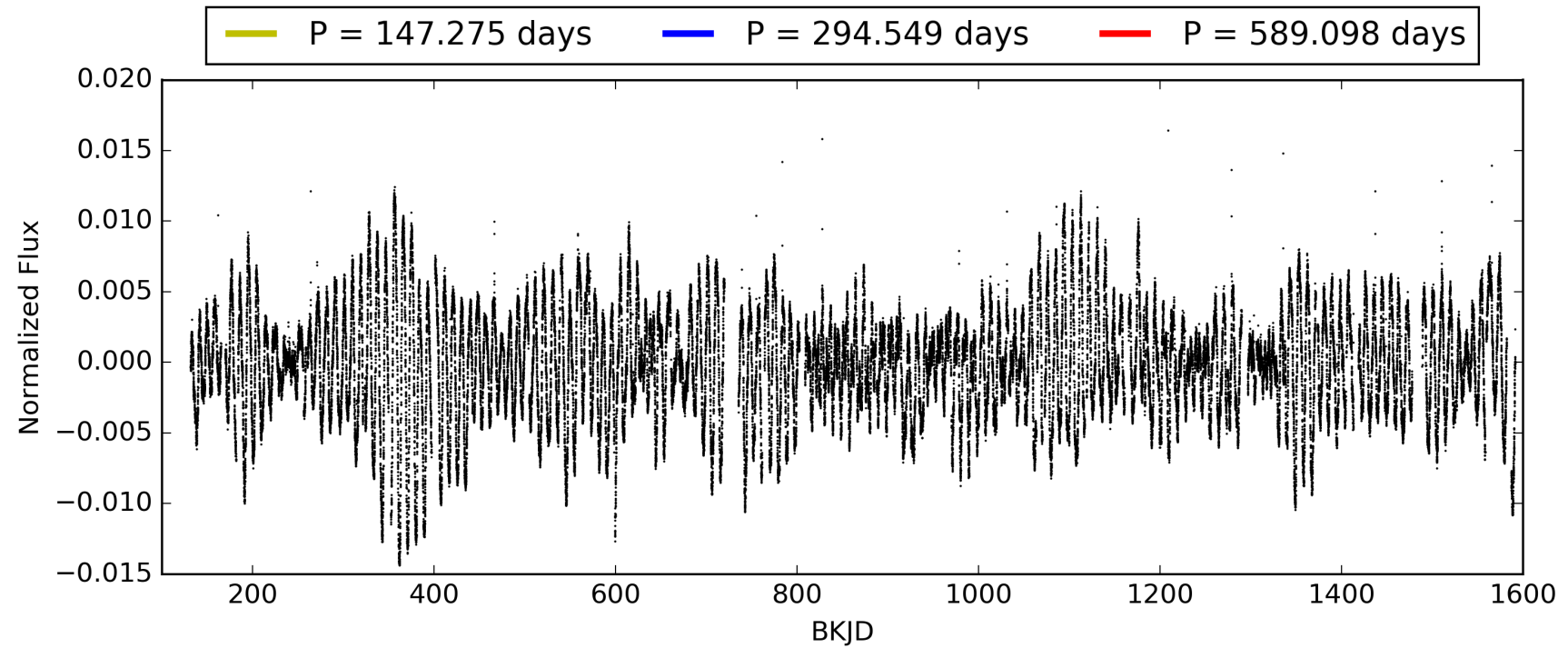
KIC: 7668857 Candidate: 4 of 8 Period: 294.549 d



TCE 007668857-04, PDC Light Curves

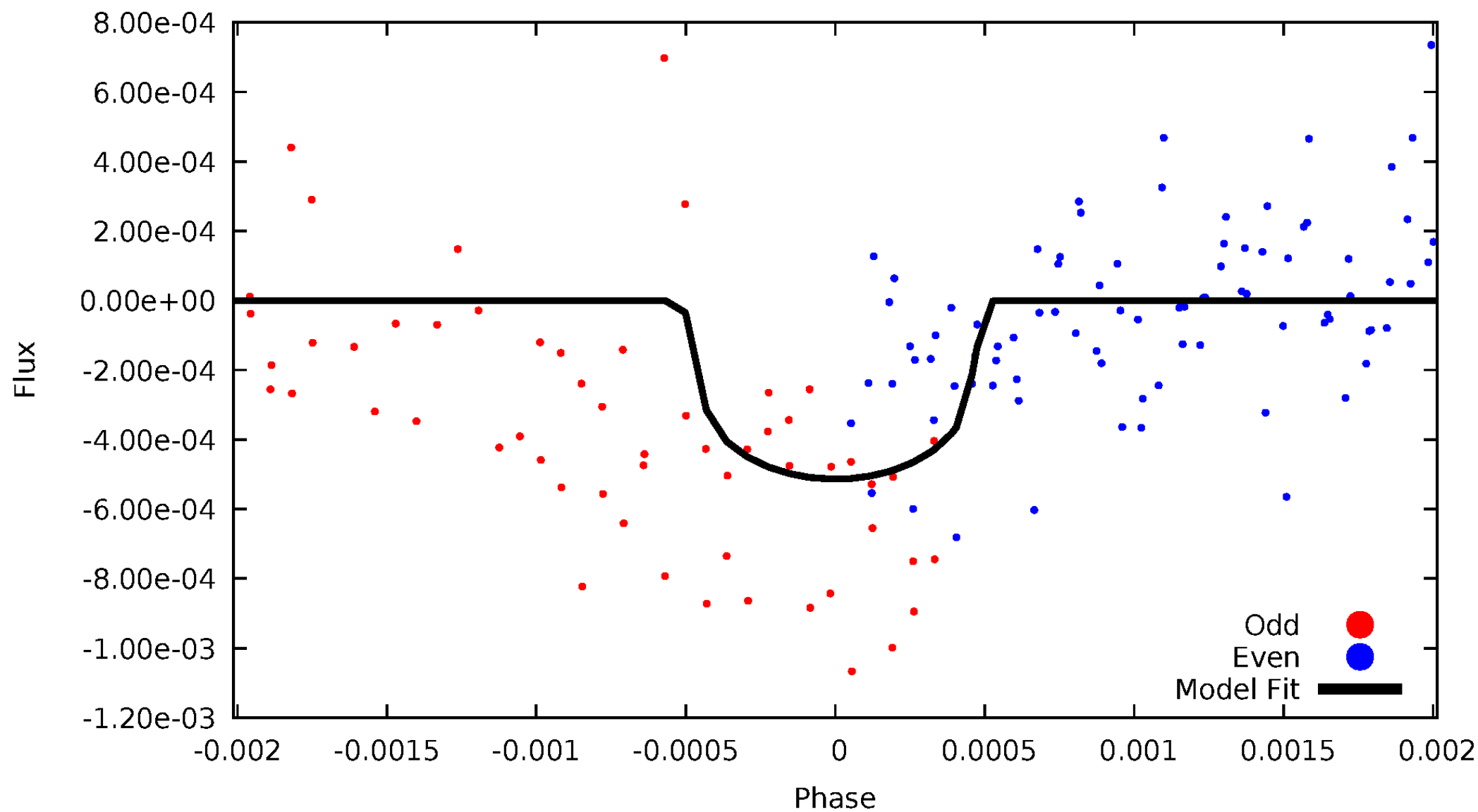


TCE 007668857-04



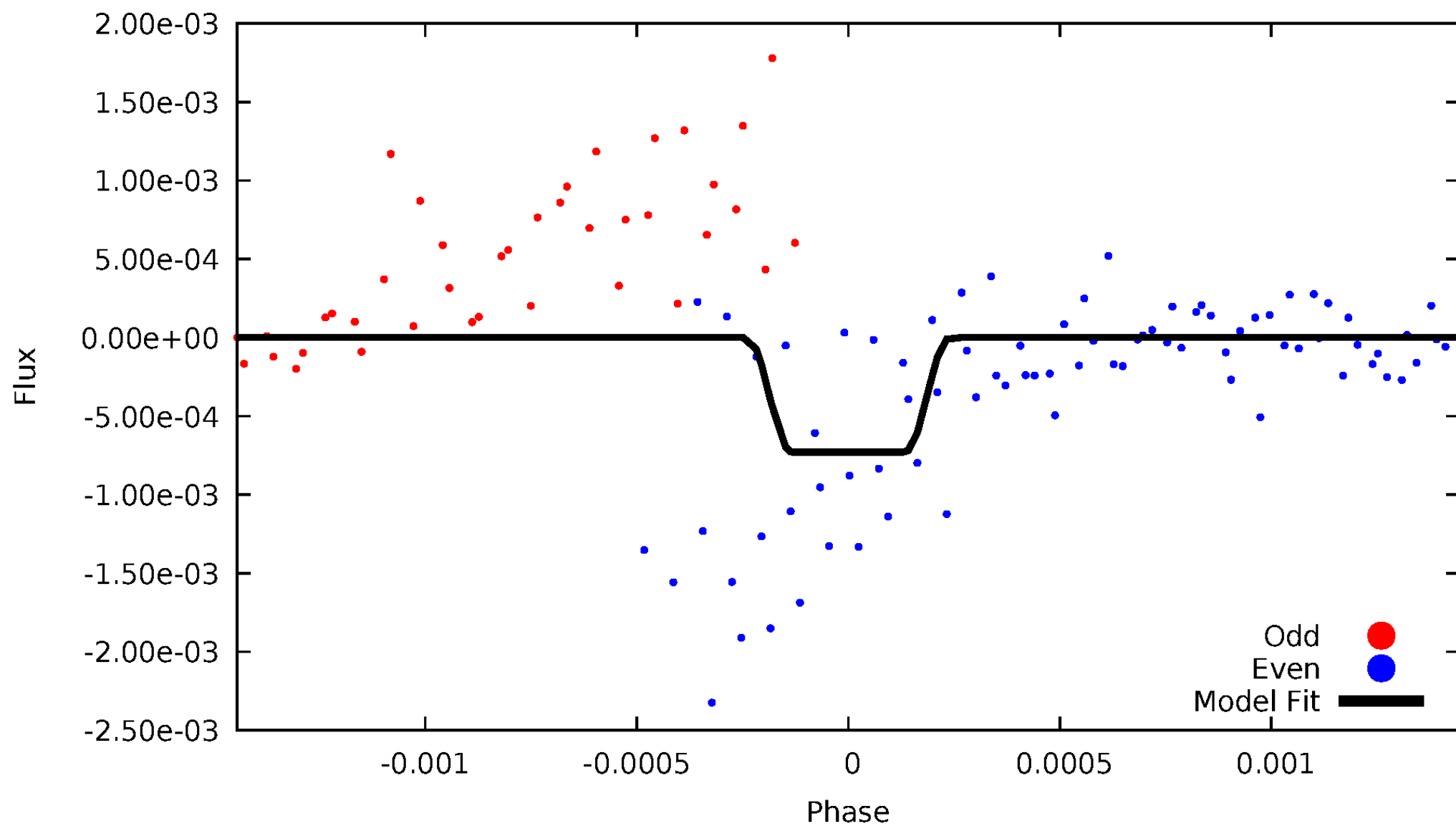
DV Odd/Even

TCE 007668857-04



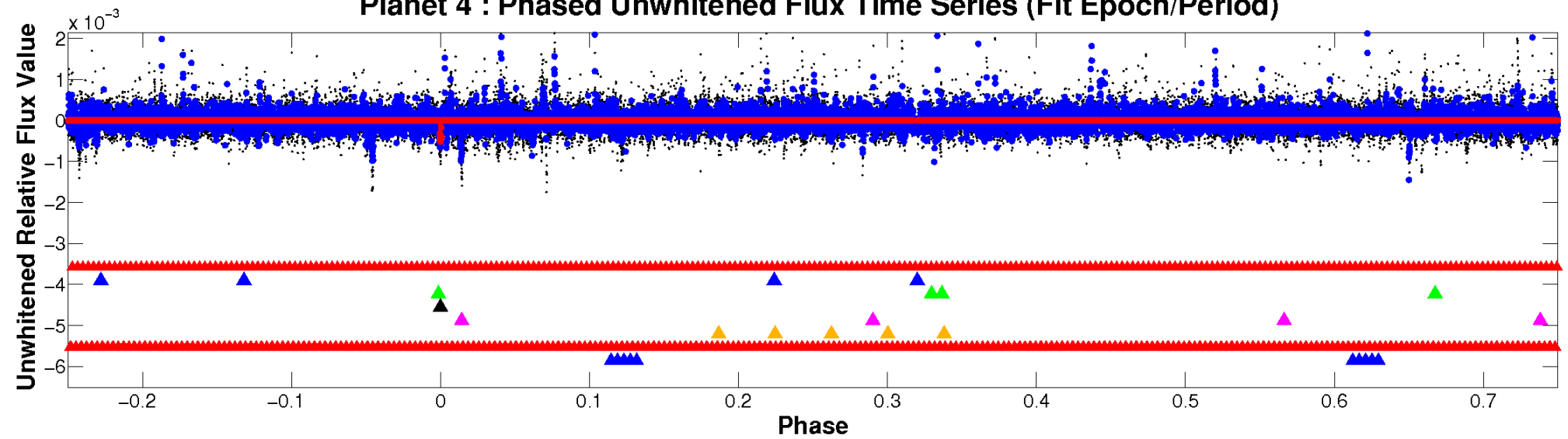
ALT Odd/Even

TCE 007668857-04

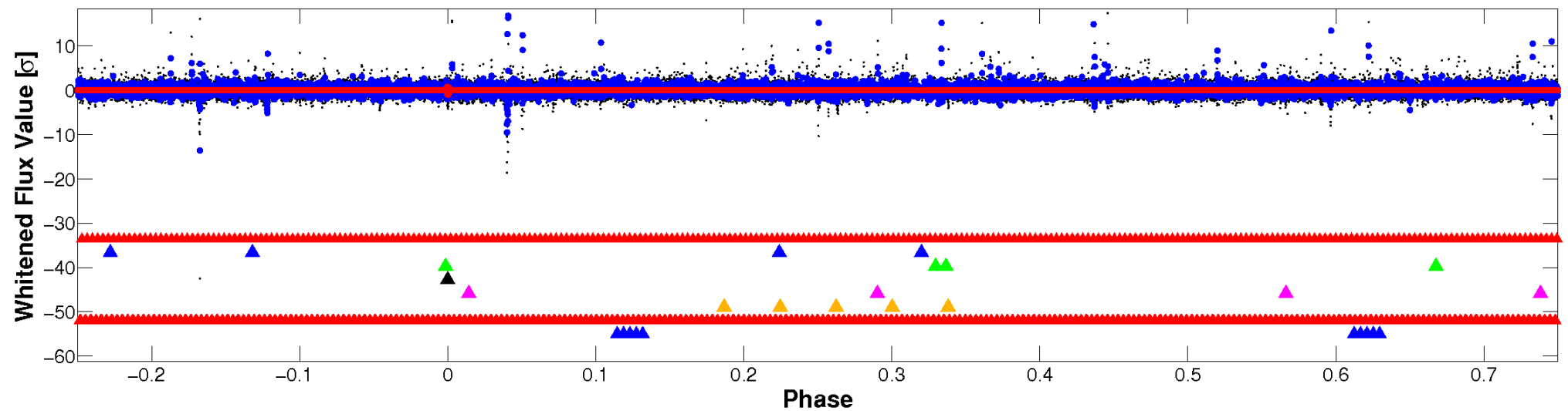


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

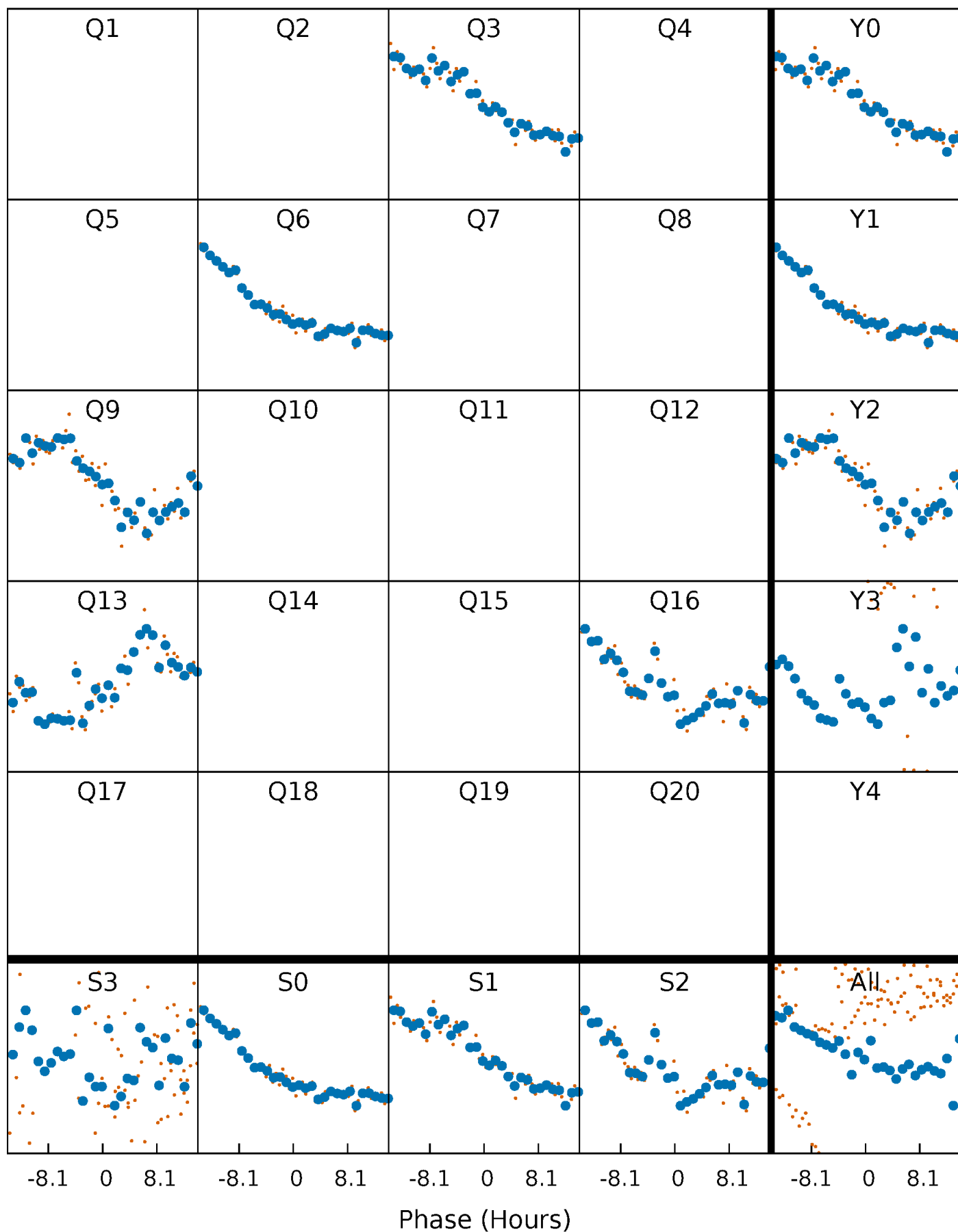


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



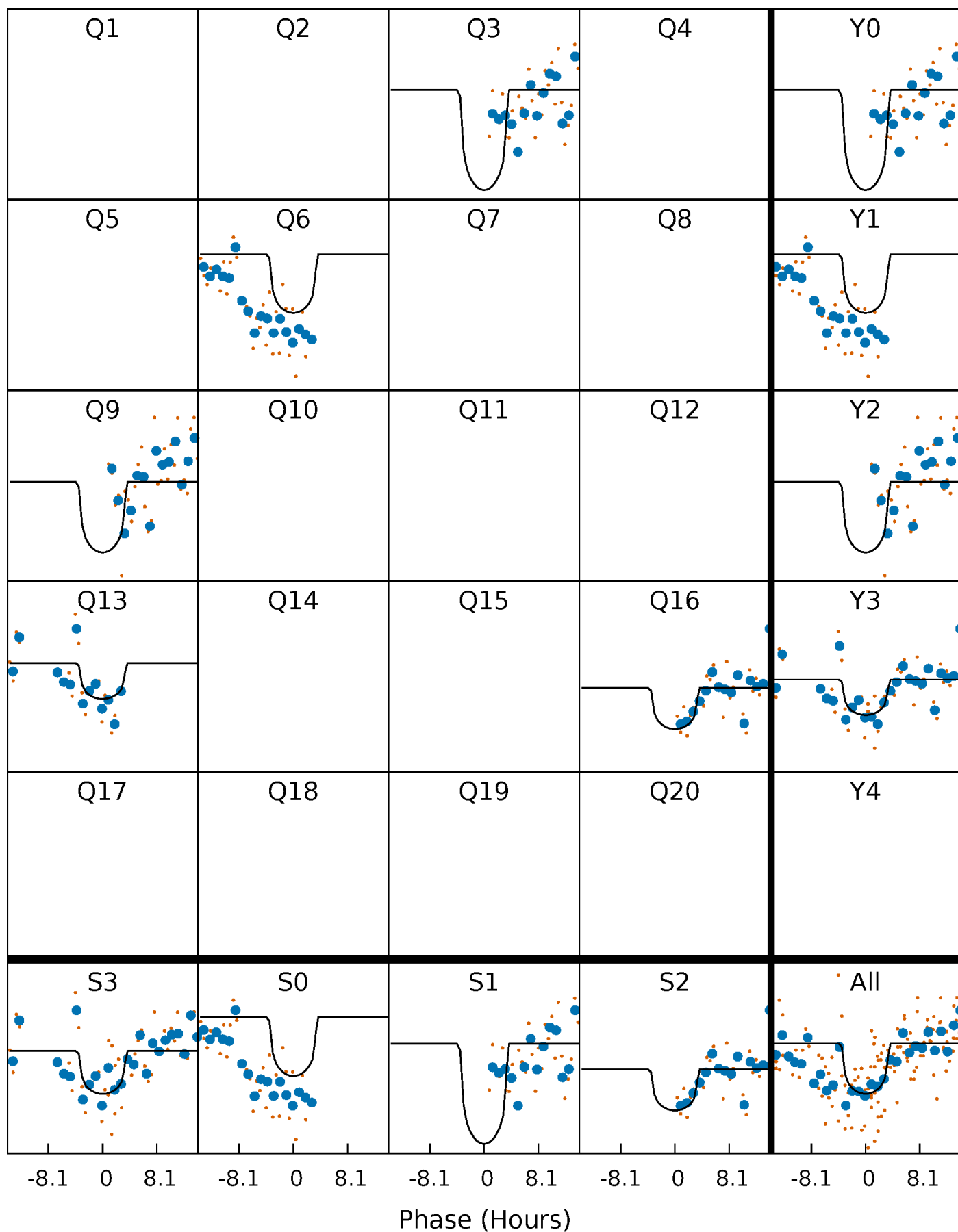
PDC Quarter-Phased Transit Curves

TCE 007668857-04 $P=294.549100$ Days $T_0=313.153555$ (BKJD)



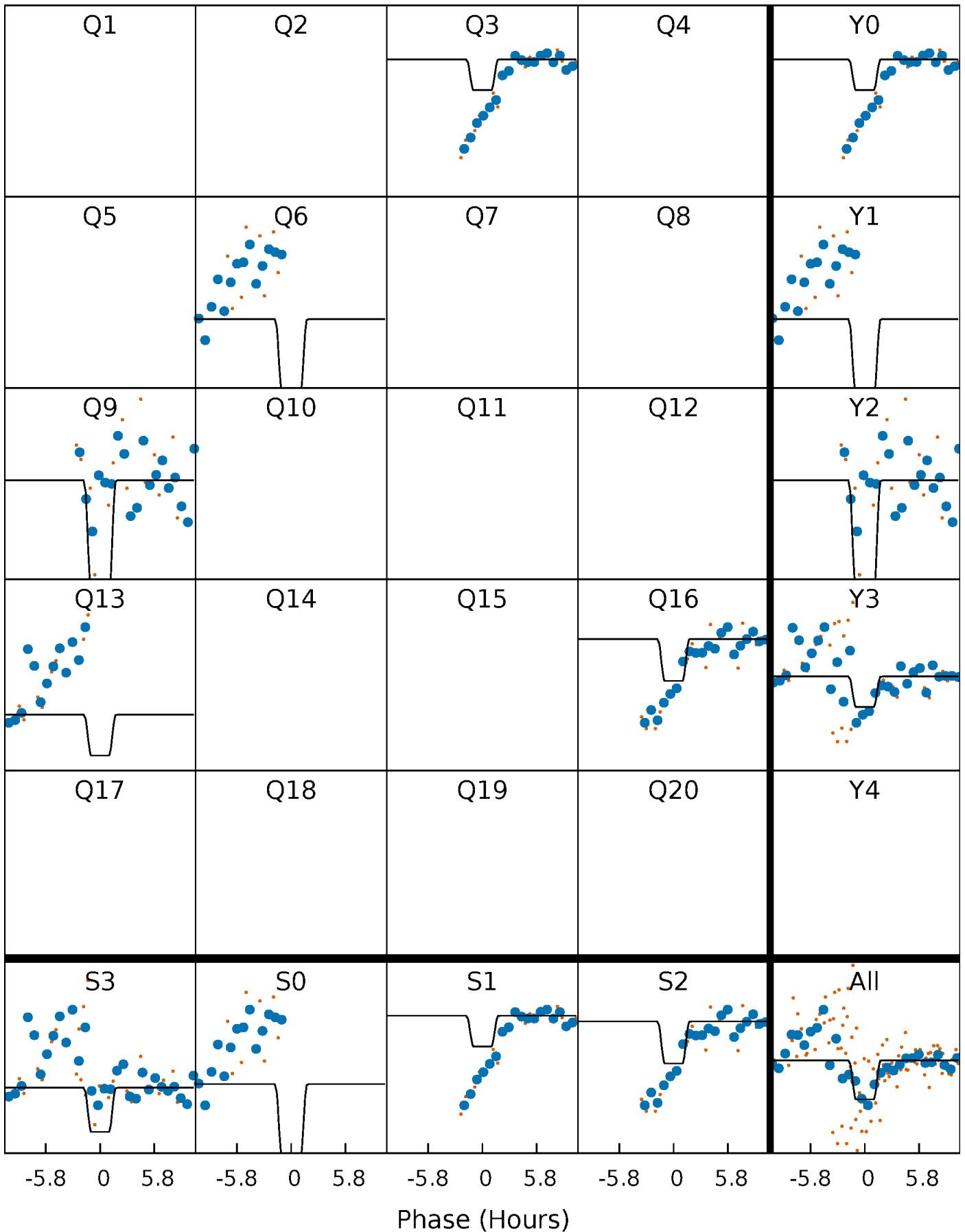
DV Quarter-Phased Transit Curves

TCE 007668857-04 $P=294.549100$ Days $T_0=313.153555$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

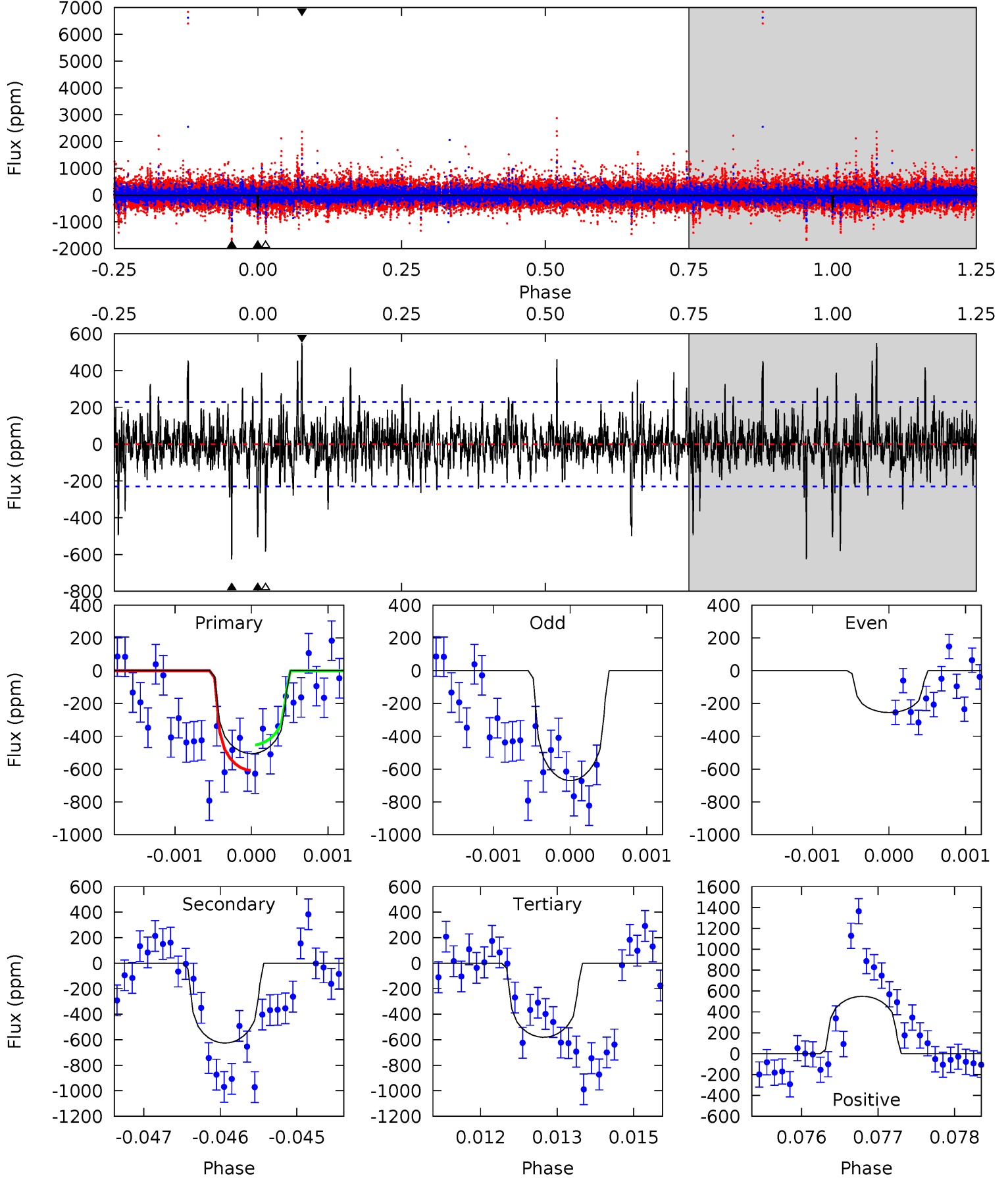
TCE 007668857-04 P=294.556579 Days $T_0=313.281262$ (BKJD)



DV Model-Shift Uniqueness Test

007668857-04, P = 294.549100 Days, E = 18.604455 Days

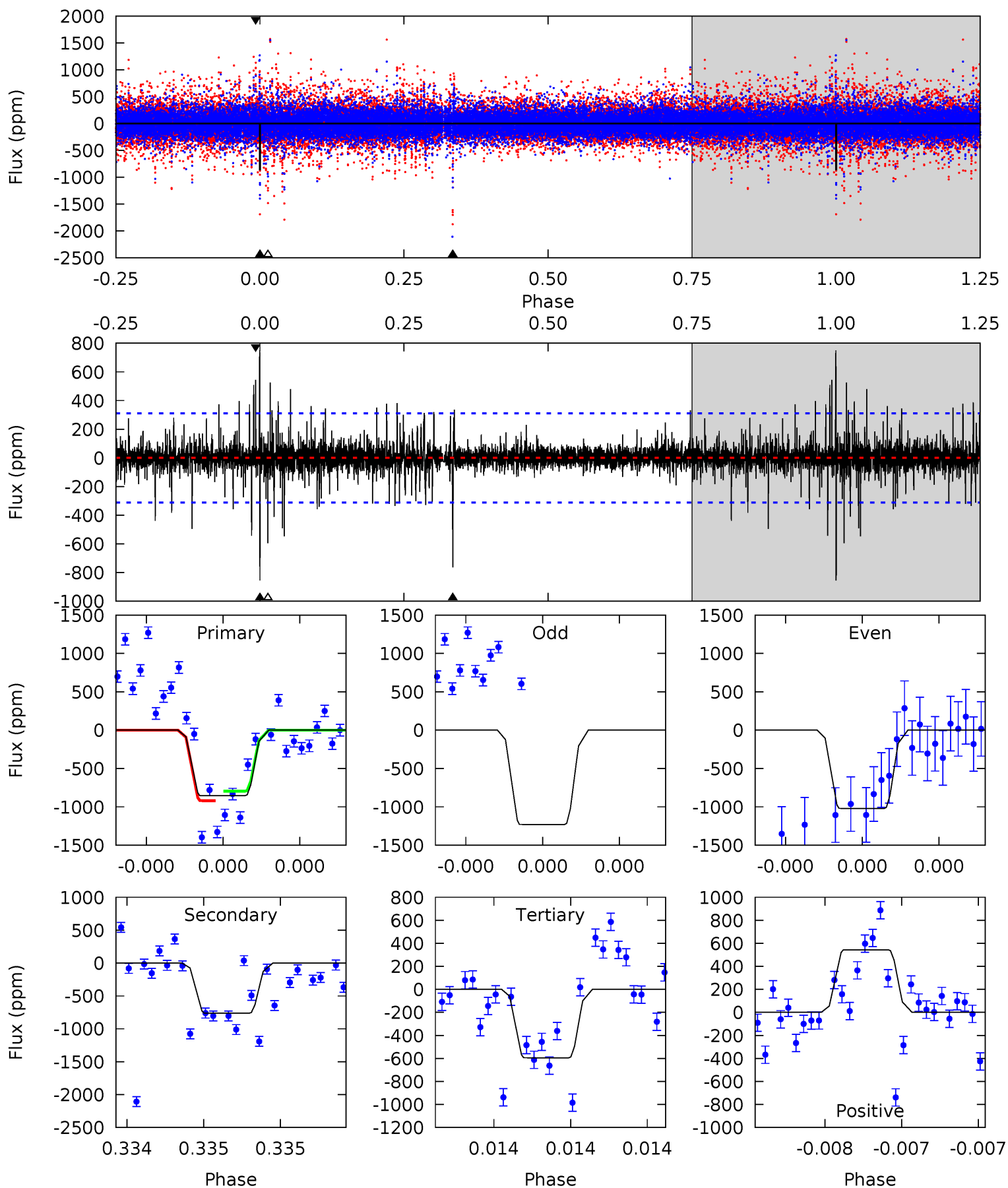
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	14.8	13.7	13.0	5.44	3.28	2.24	-1.77	-1.03	1.08	1.82	4.86	0.95	0.47	1.71



Alt Model-Shift Uniqueness Test

007668857-04, P = 294.556579 Days, E = 18.724683 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.4	13.7	10.7	9.76	5.59	3.51	1.28	4.67	5.60	3.02	3.95	1.17	0.87	0.47	0



Stellar Parameters For KIC 007668857

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4706^{+141}_{-127}	$4.636^{+0.054}_{-0.032}$	$-0.560^{+0.350}_{-0.300}$	$0.622^{+0.056}_{-0.051}$	$0.610^{+0.069}_{-0.035}$	$3.570^{+0.877}_{-0.486}$
	+3%/-3%	+1%/-1%	+62%/-54%	+9%/-8%	+11%/-6%	+25%/-14%
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 007668857-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-626 ± 42	$1.60^{+1.04}_{-0.85}$	266^{+9}_{-9}	4807^{+2108}_{-825}	$72078^{+265563}_{-45144}$
Alt.	-763 ± 56	$1.90^{+1.00}_{-0.92}$	266^{+9}_{-8}	4671^{+1625}_{-688}	$62646^{+177160}_{-35756}$

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 $A_{obs} \gg 1.0$

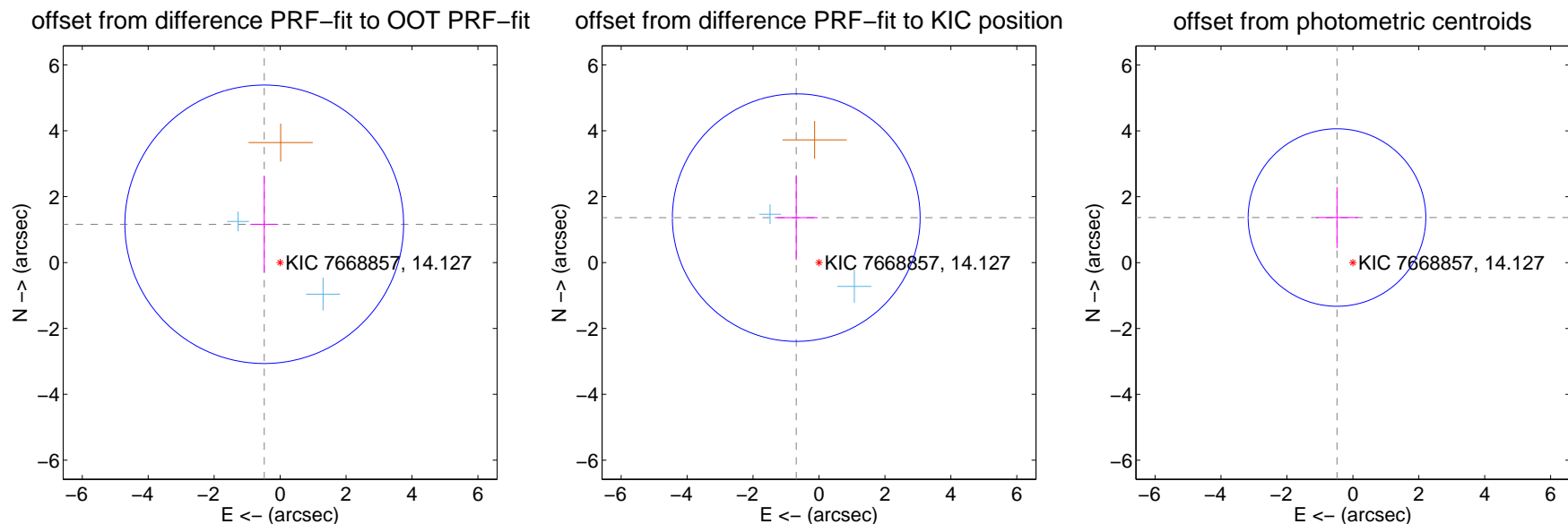
DV Centroid Data

Supplemental centroid analysis for 007668857-04. Kepler magnitude: 14.13. Transit SNR 6.34

There are 2 quarters with good PRF difference image offsets

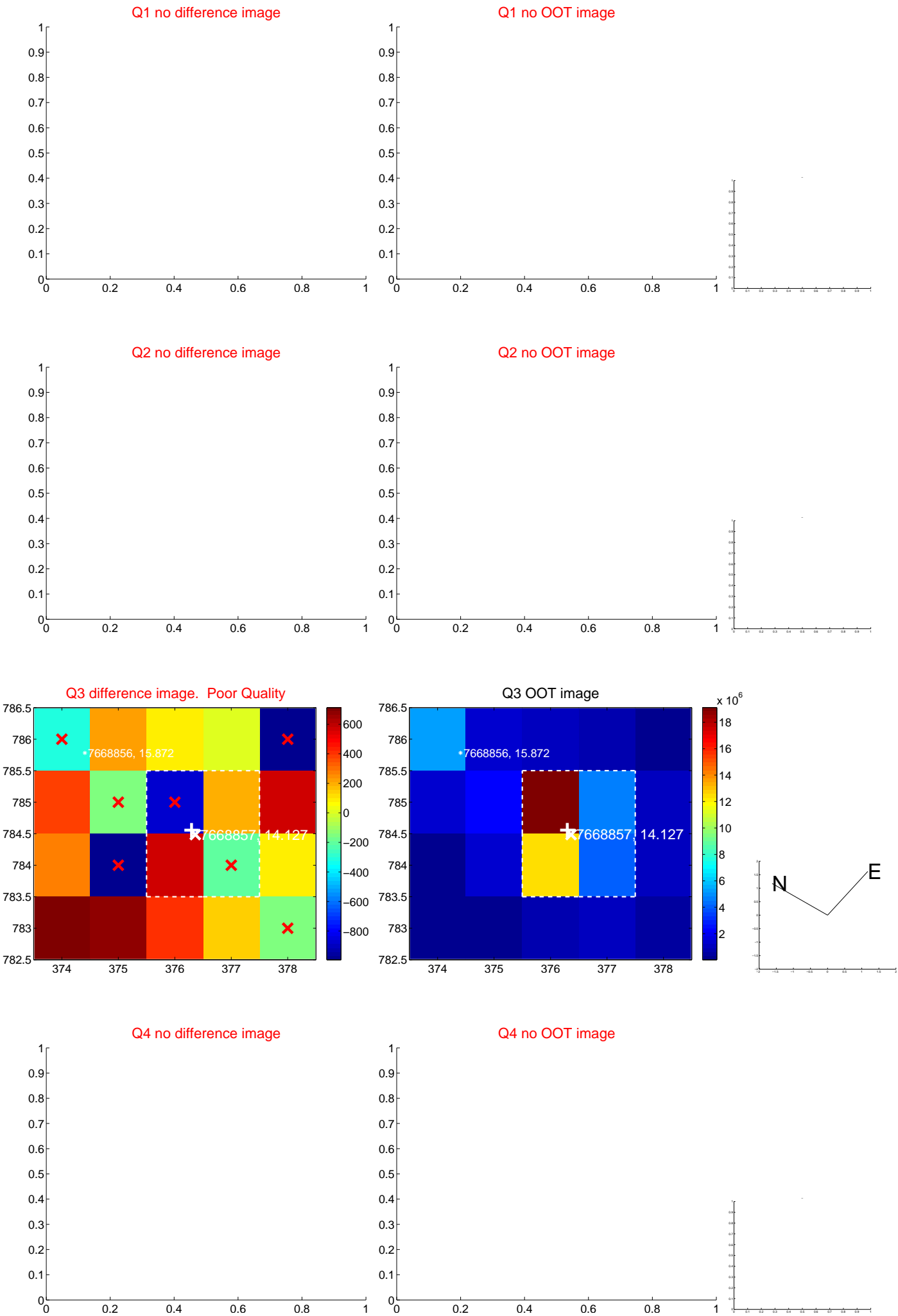
The direct PRF centroid is offset from the target star catalog position by about 0.33 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.257 ± 1.409	0.89	0.481 ± 0.423	1.162 ± 1.474
PRF-fit source offset from KIC position	1.528 ± 1.253	1.22	0.690 ± 0.647	1.364 ± 1.289
photometric centroid source offset	1.45 ± 0.90	1.62	0.48 ± 0.63	1.37 ± 0.93



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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

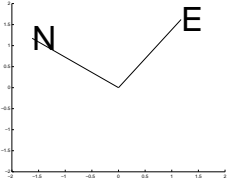
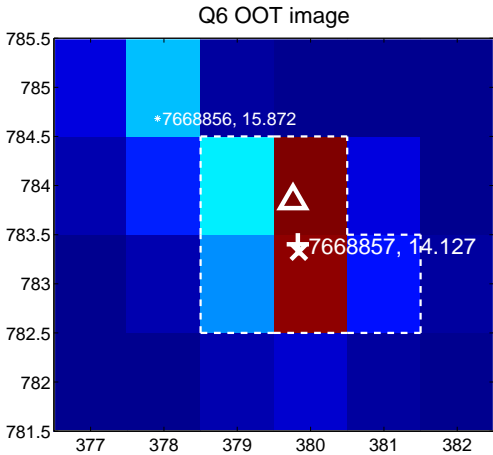
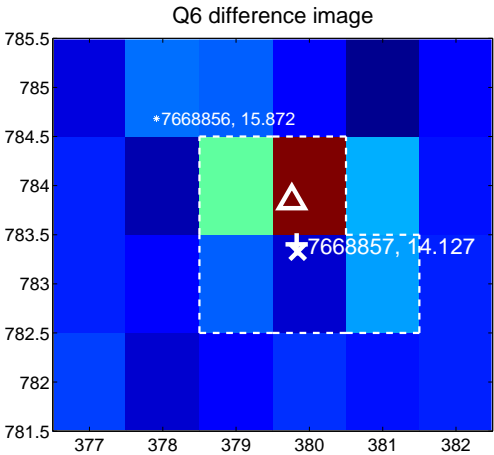


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

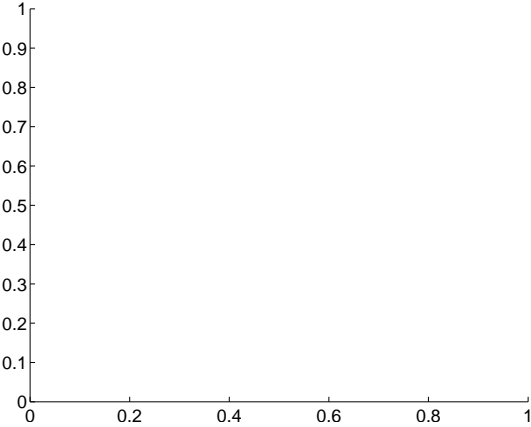
Q5 no difference image



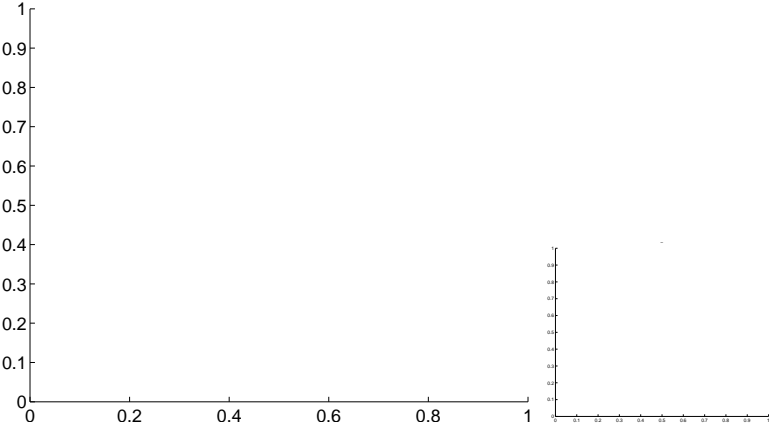
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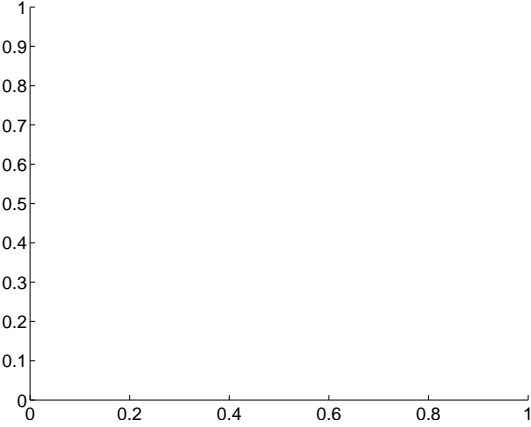
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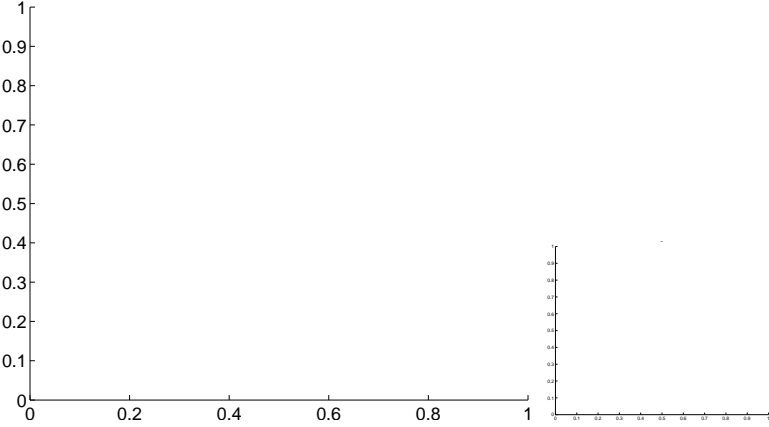
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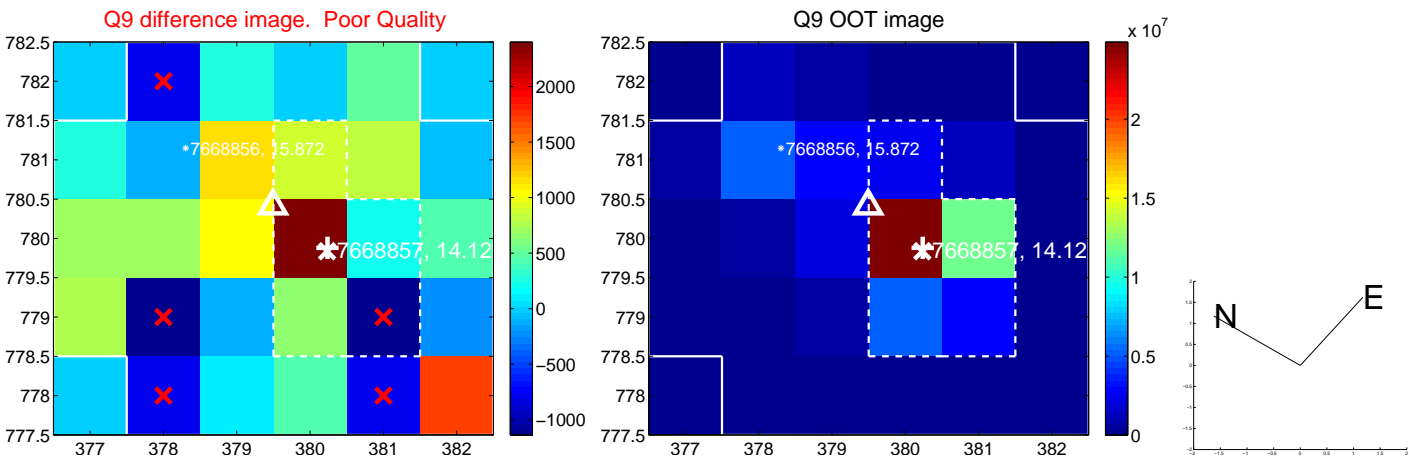
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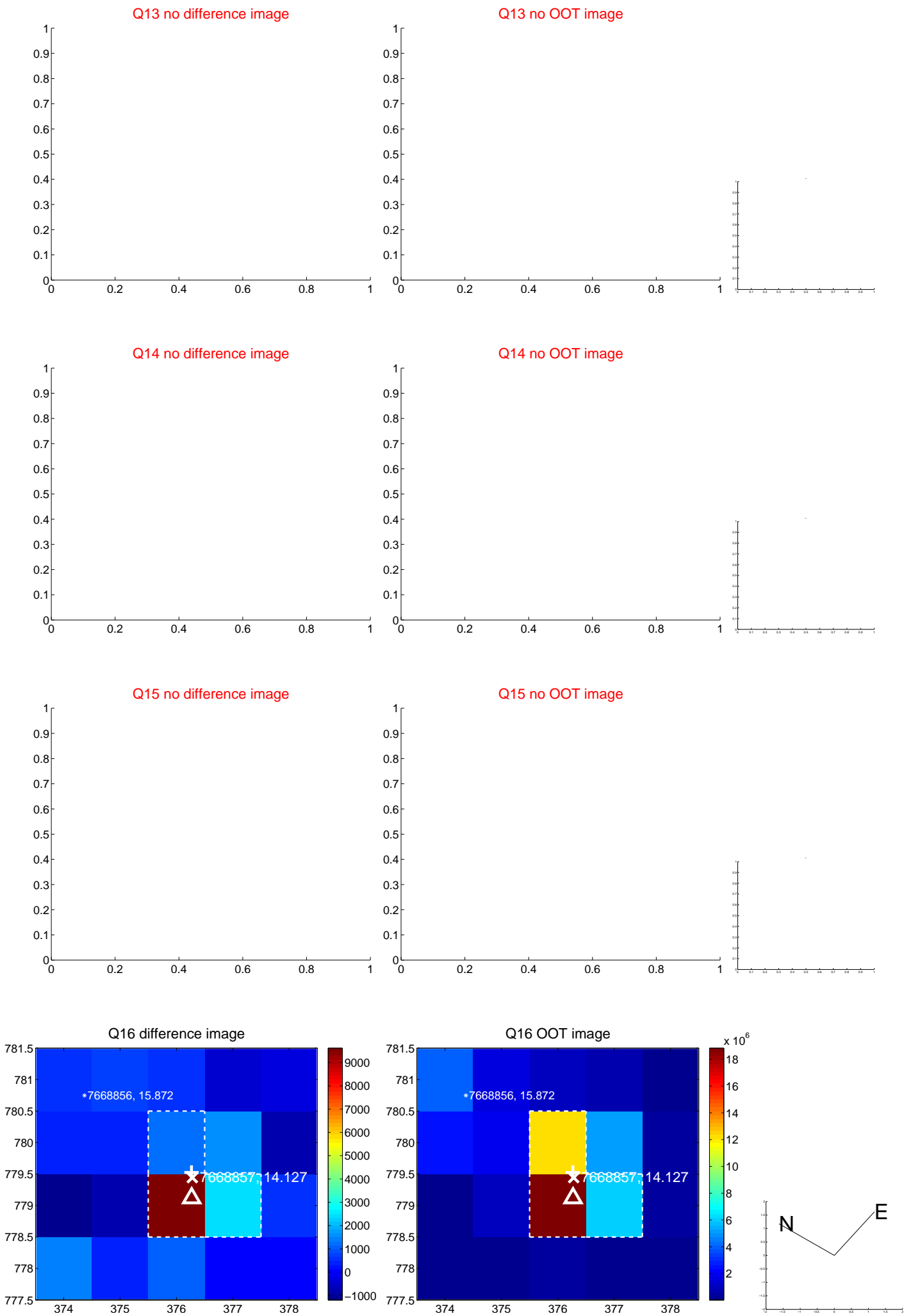
Q8 no OOT image



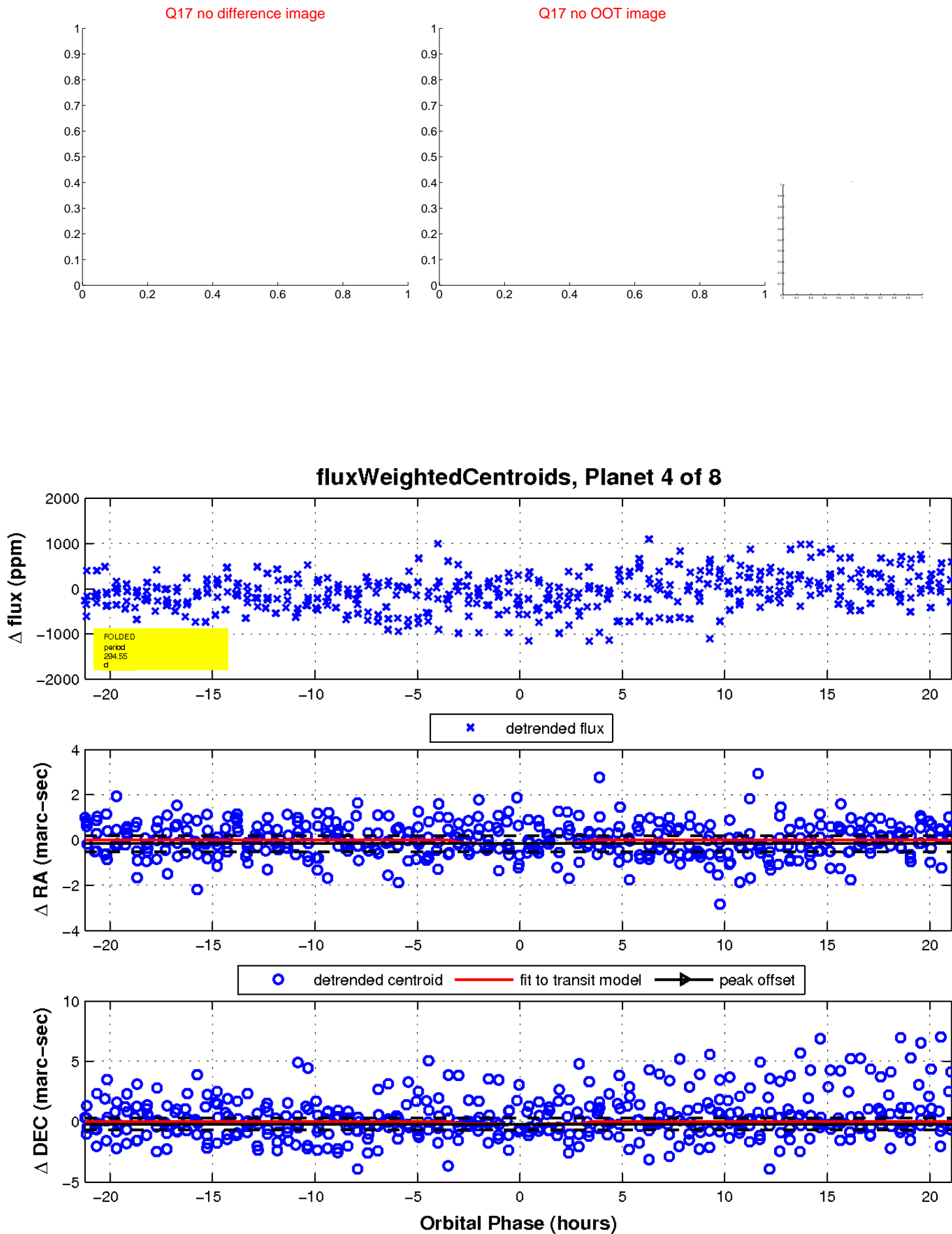
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

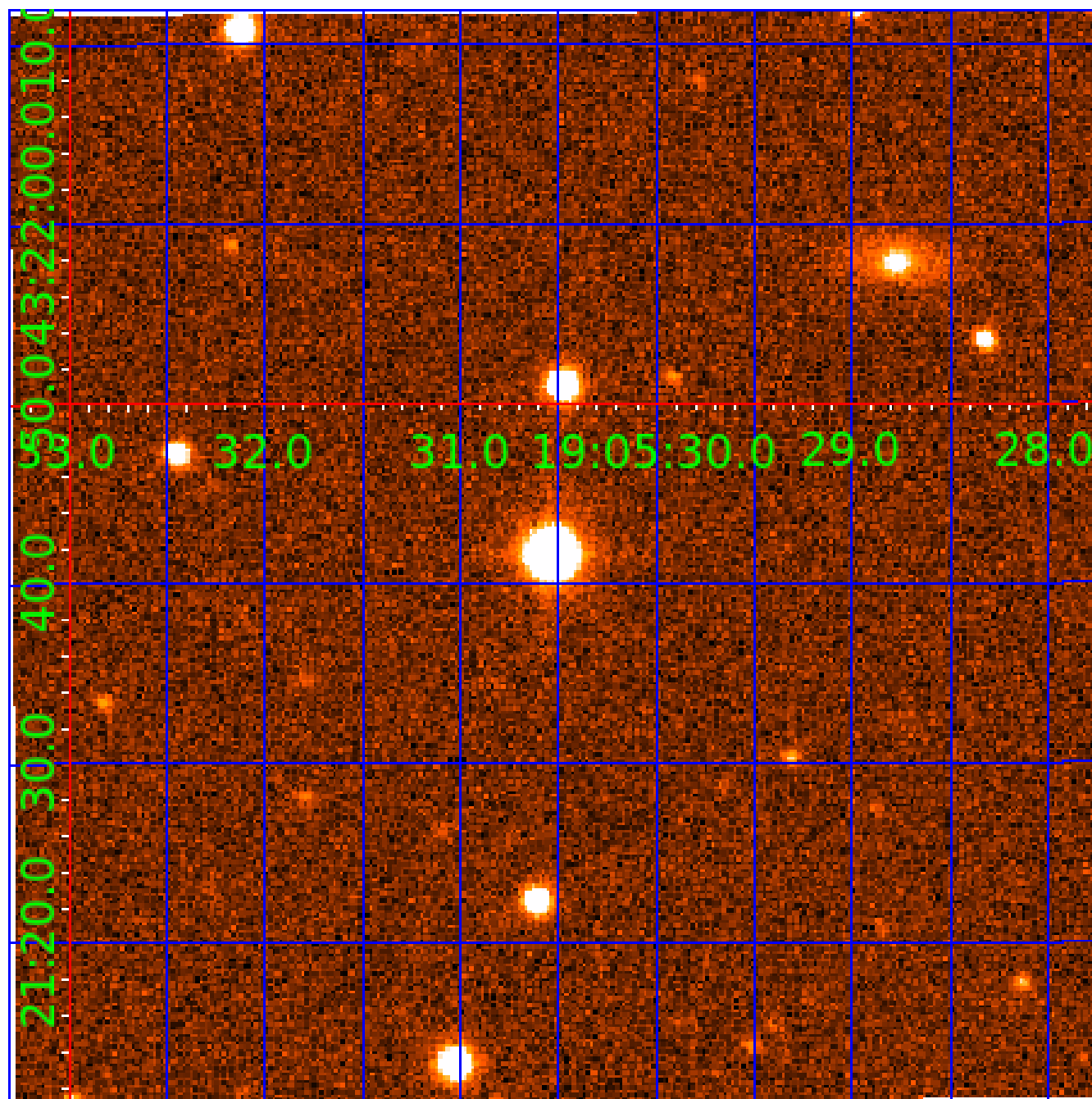


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007668857

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})
007668857-01	OBS	No	2.096416	132.405114	57.6	7.516	10.4	10.3	0.62	4706	0.58	229.82
007668857-04	OBS	No	294.549100	313.153555	513.6	7.115	11.1	6.3	0.62	4706	1.58	0.32
007668857-05	OBS	No	375.848743	236.051519	598.5	10.925	10.8	6.4	0.62	4706	3.01	0.23
007668857-06	OBS	No	283.406666	412.741486	555.1	6.000	8.8	-1.0	0.62	4706	1.42	0.33
007668857-07	OBS	No	2.096110	133.222839	41.4	8.845	8.3	8.1	0.62	4706	0.39	229.87
007668857-08	OBS	No	147.908530	198.975798	675.3	7.500	11.6	-1.0	0.62	4706	1.56	0.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007668857-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
007668857-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007668857-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007668857-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
007668857-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
007668857-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

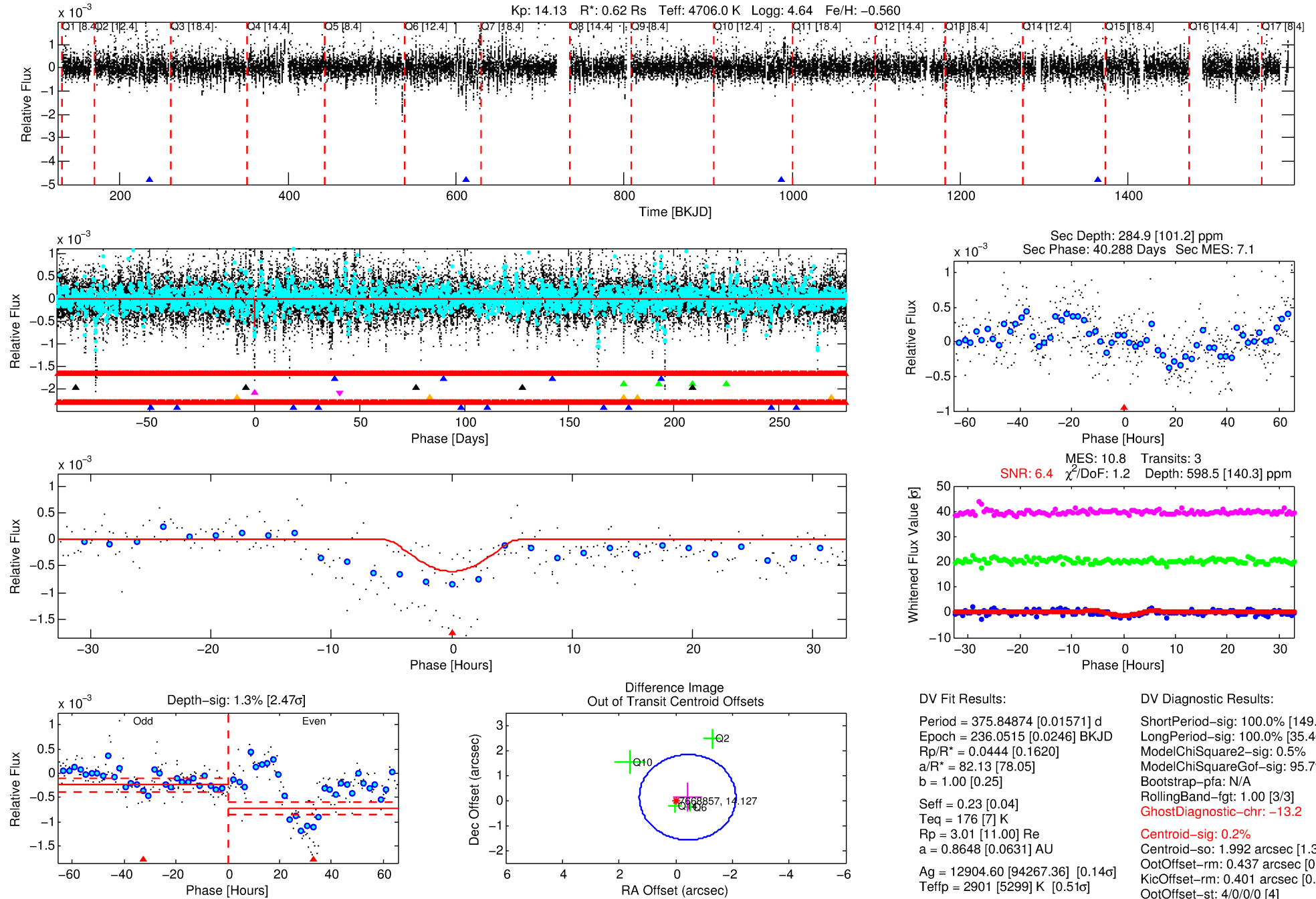
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007668857-05

No Significant Match Found

DV One-Page Summary

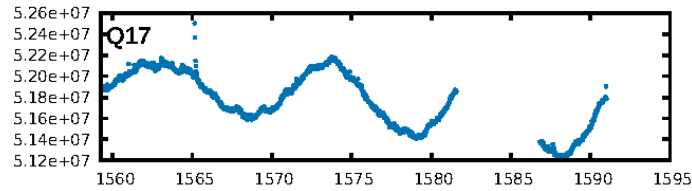
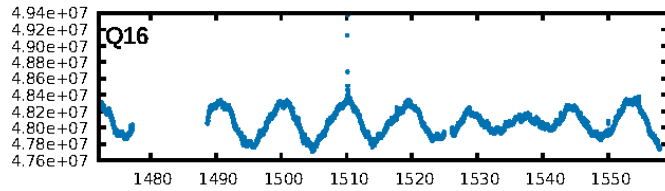
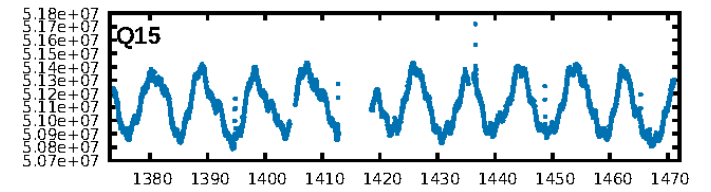
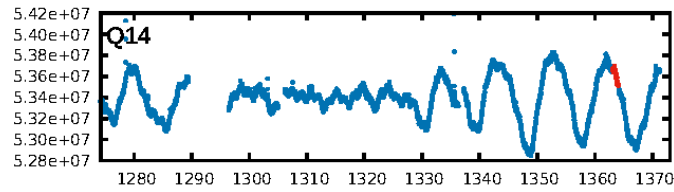
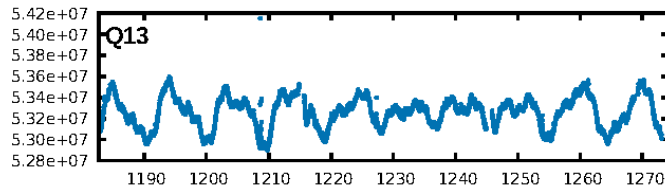
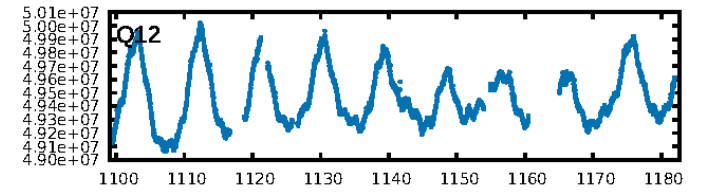
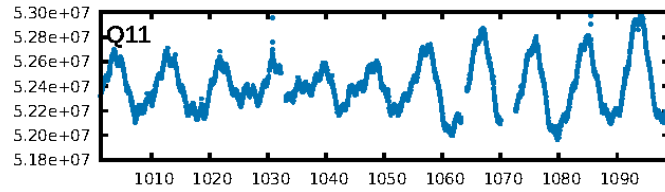
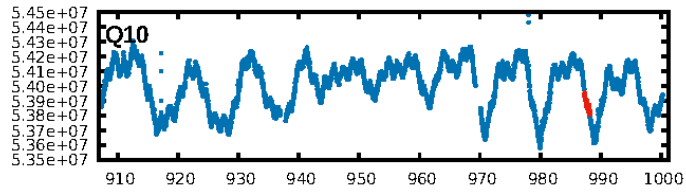
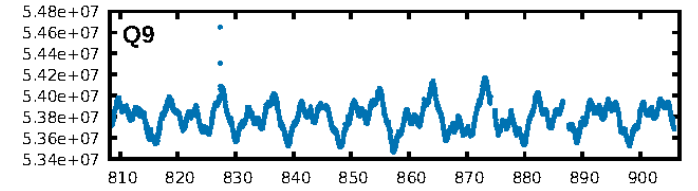
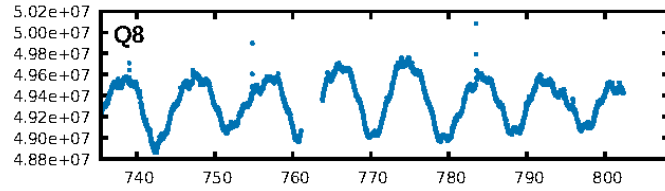
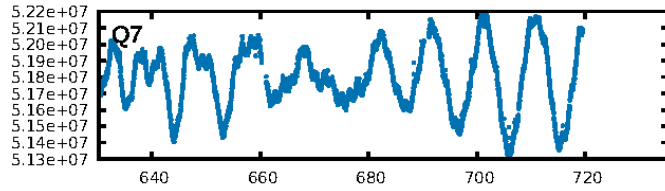
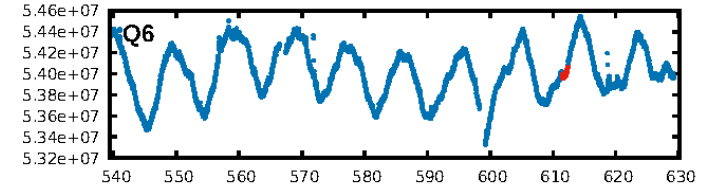
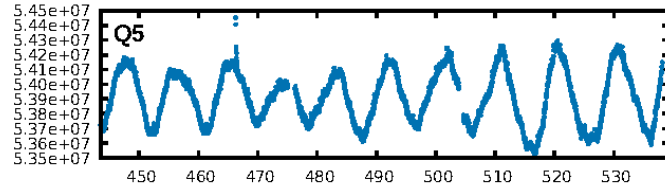
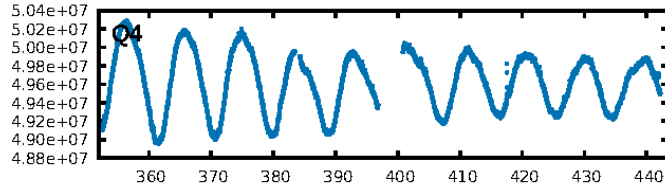
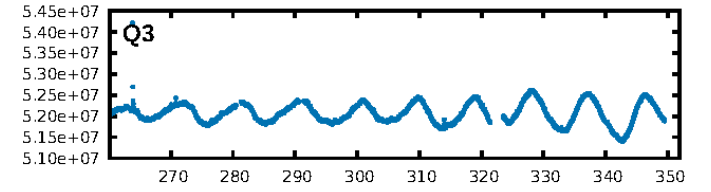
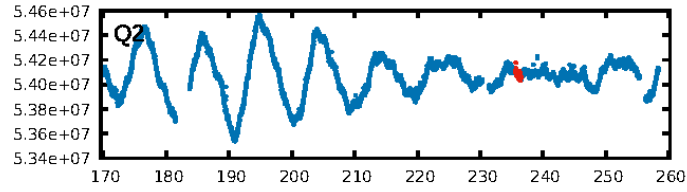
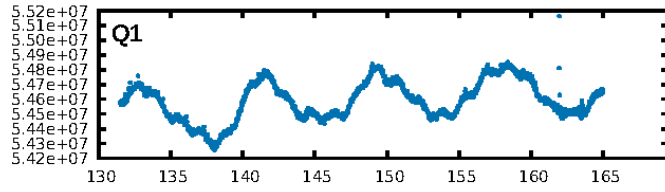
KIC: 7668857 Candidate: 5 of 8 Period: 375.849 d



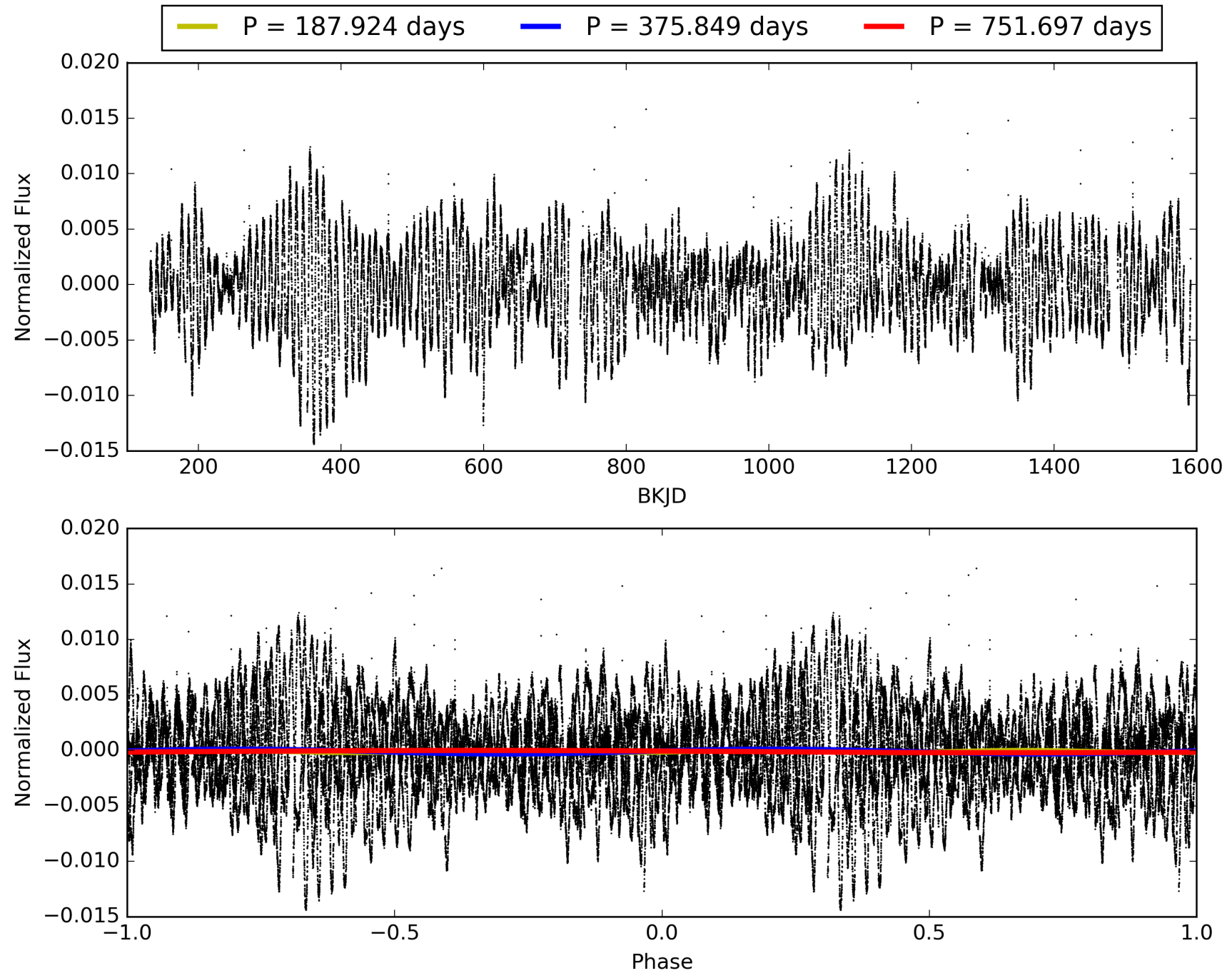
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:14:38 Z

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

TCE 007668857-05, PDC Light Curves

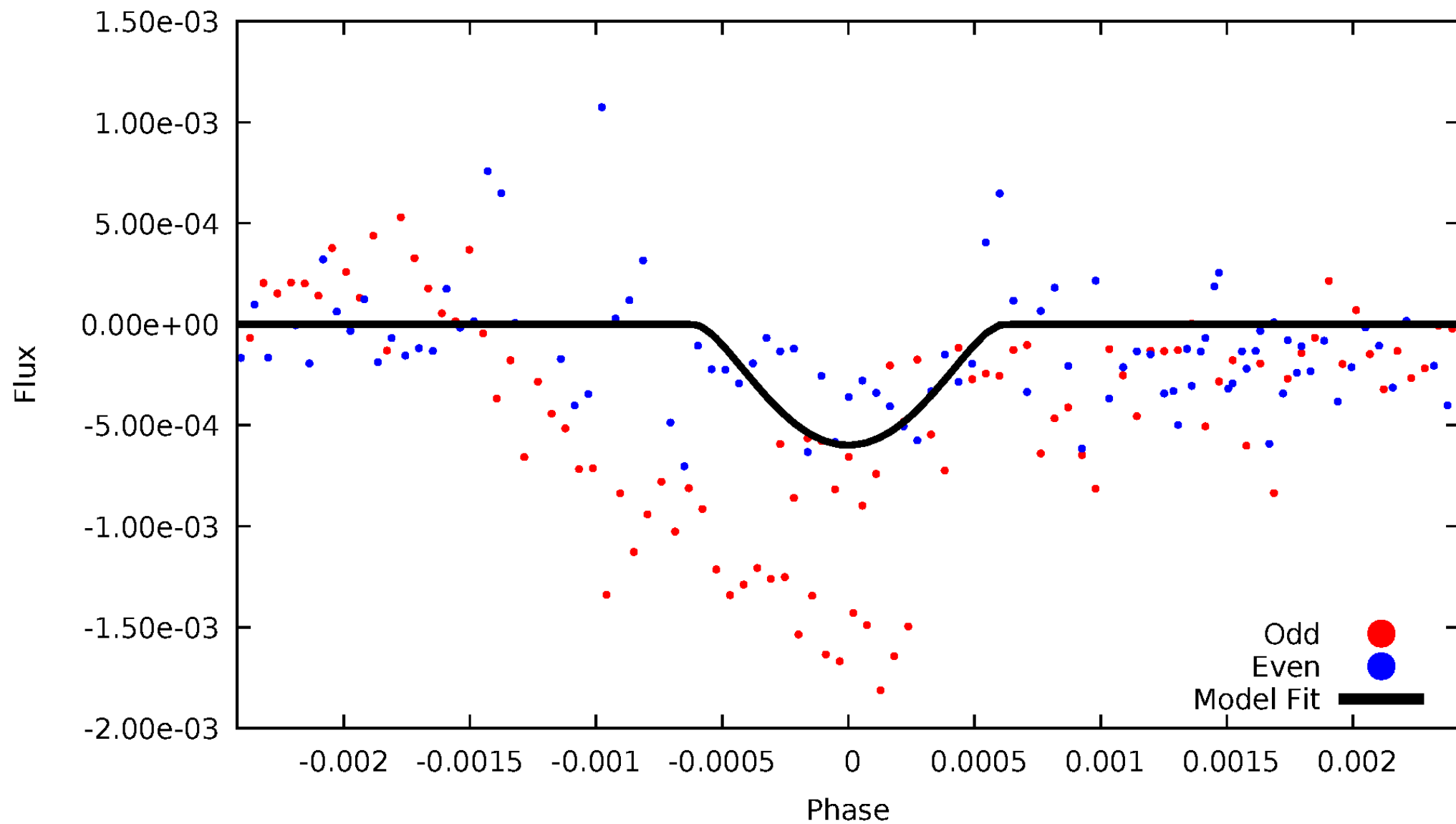


TCE 007668857-05



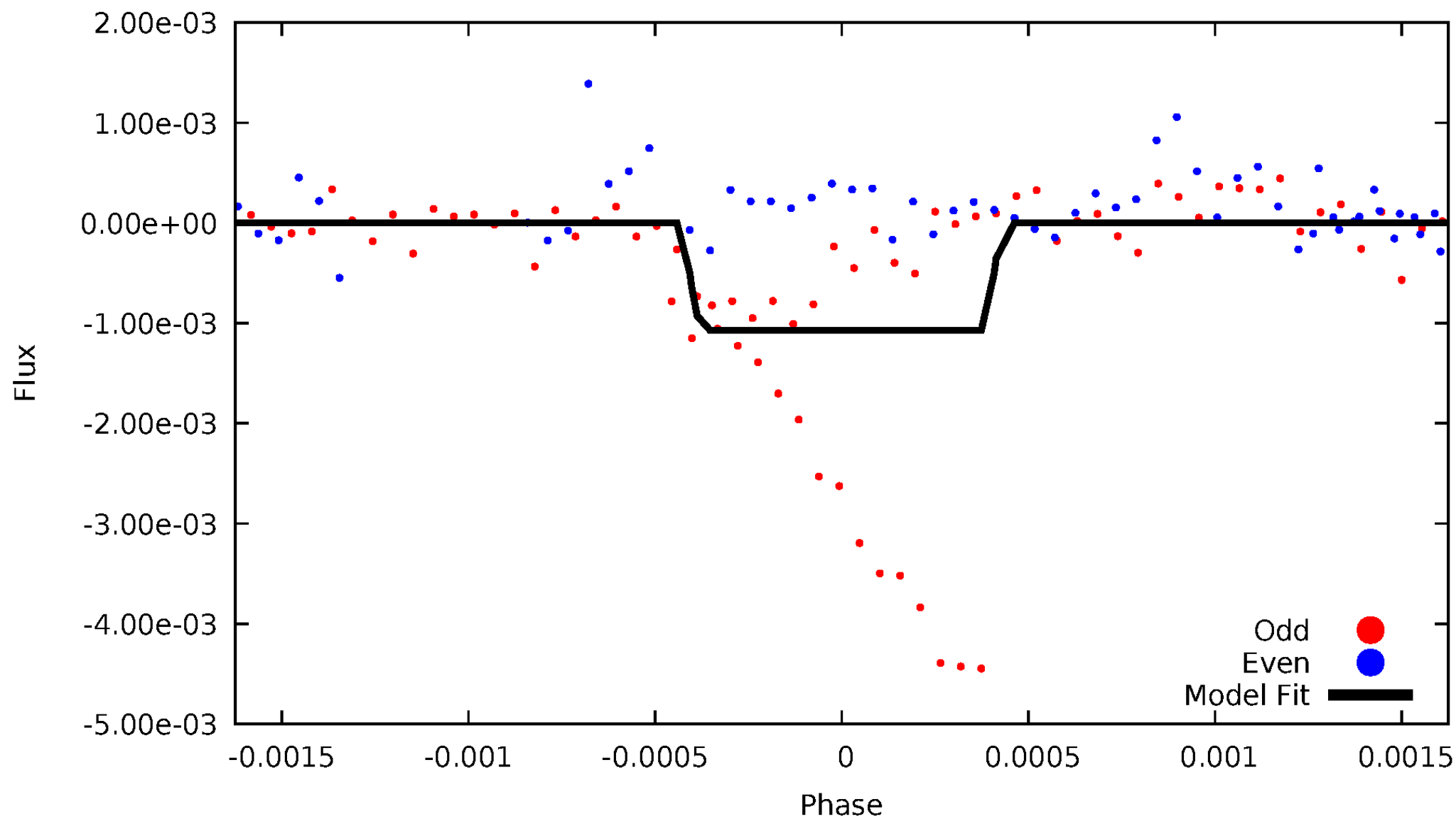
DV Odd/Even

TCE 007668857-05



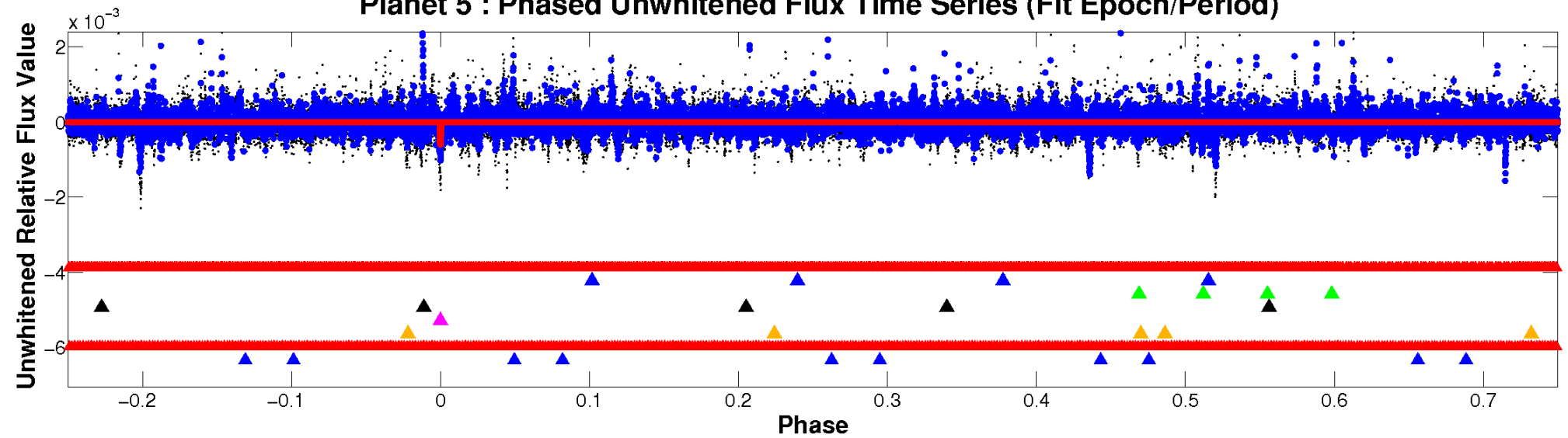
ALT Odd/Even

TCE 007668857-05

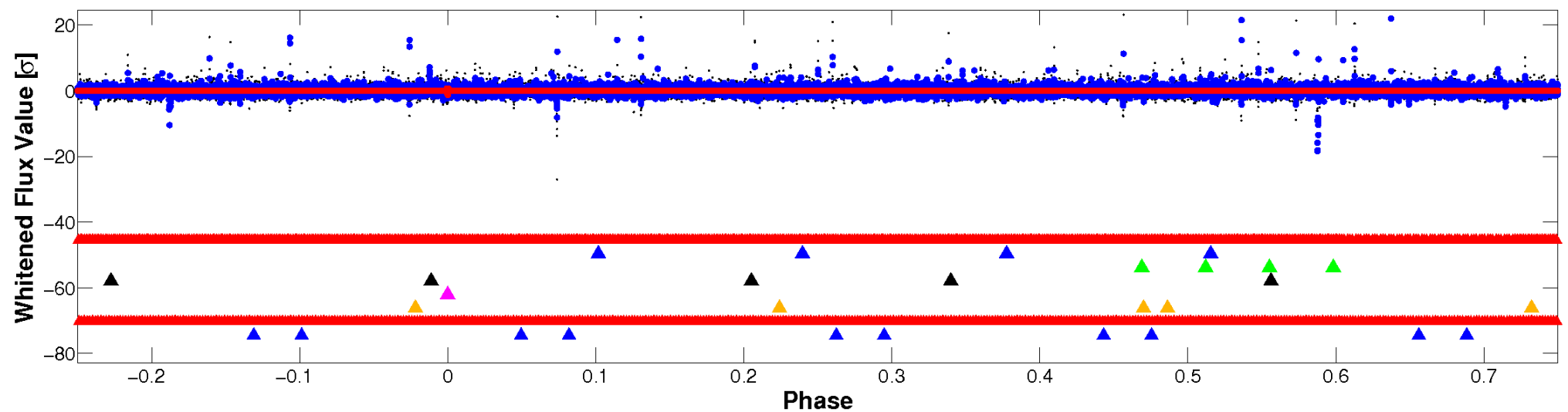


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

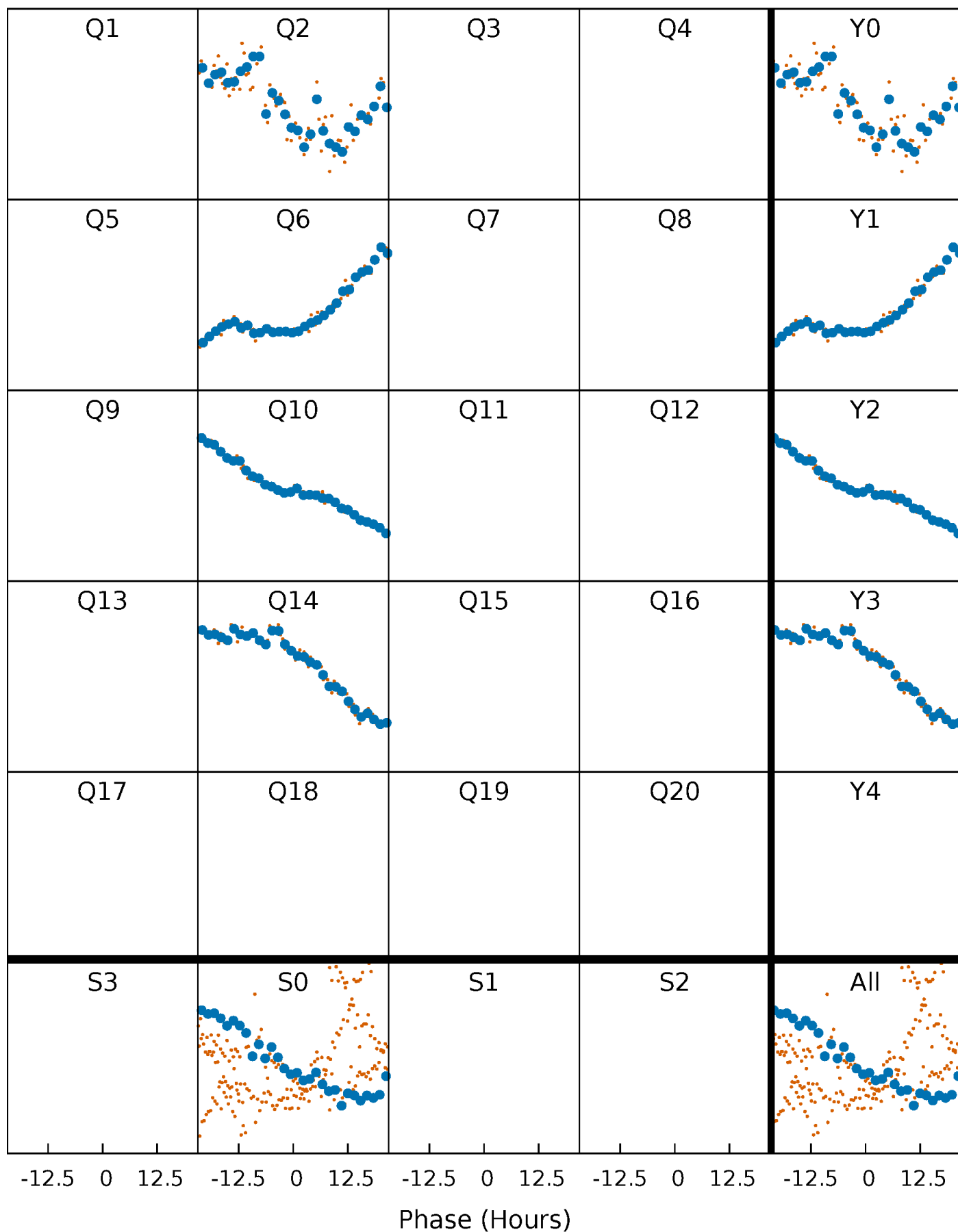


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



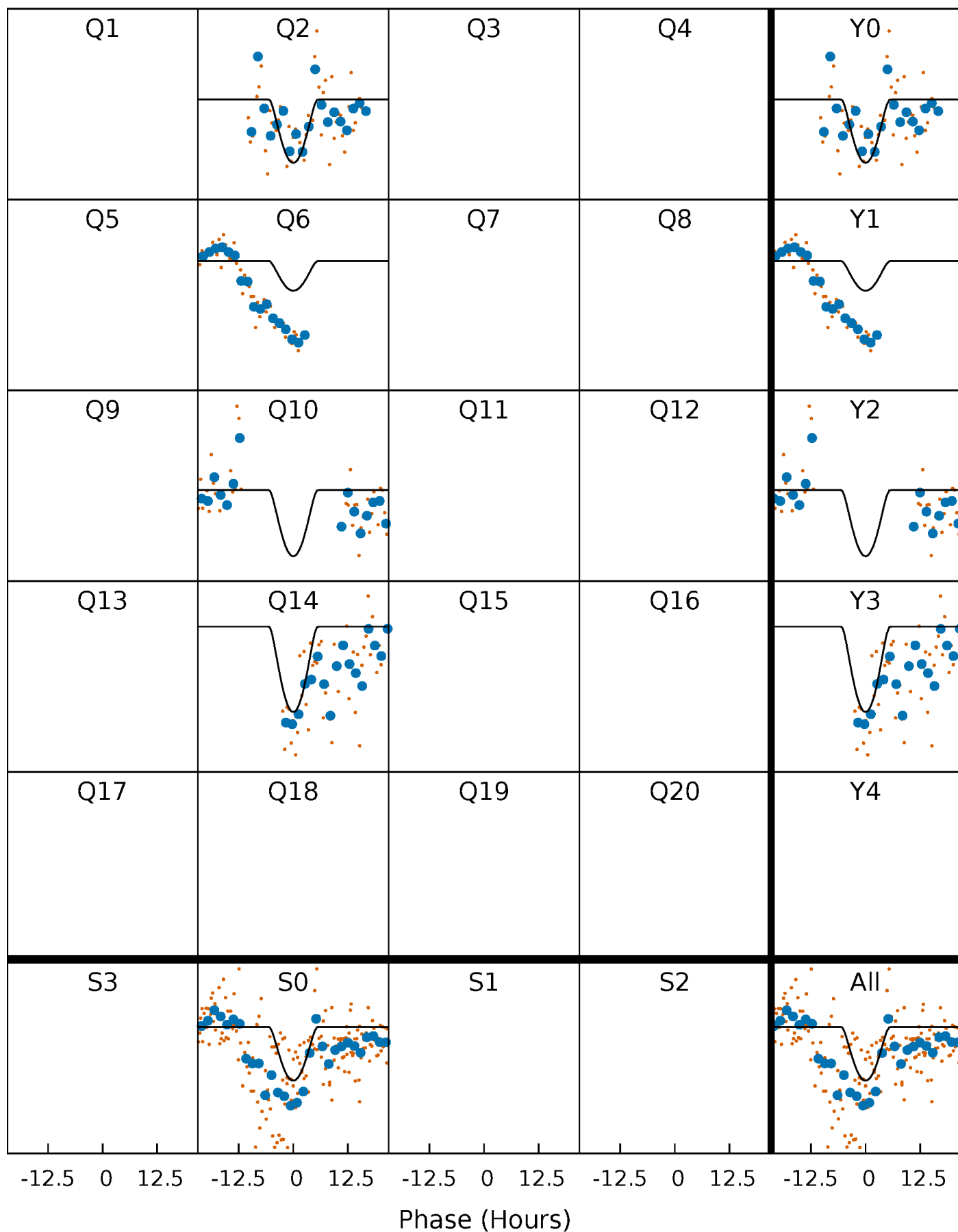
PDC Quarter-Phased Transit Curves

TCE 007668857-05 $P=375.848743$ Days $T_0=236.051519$ (BKJD)



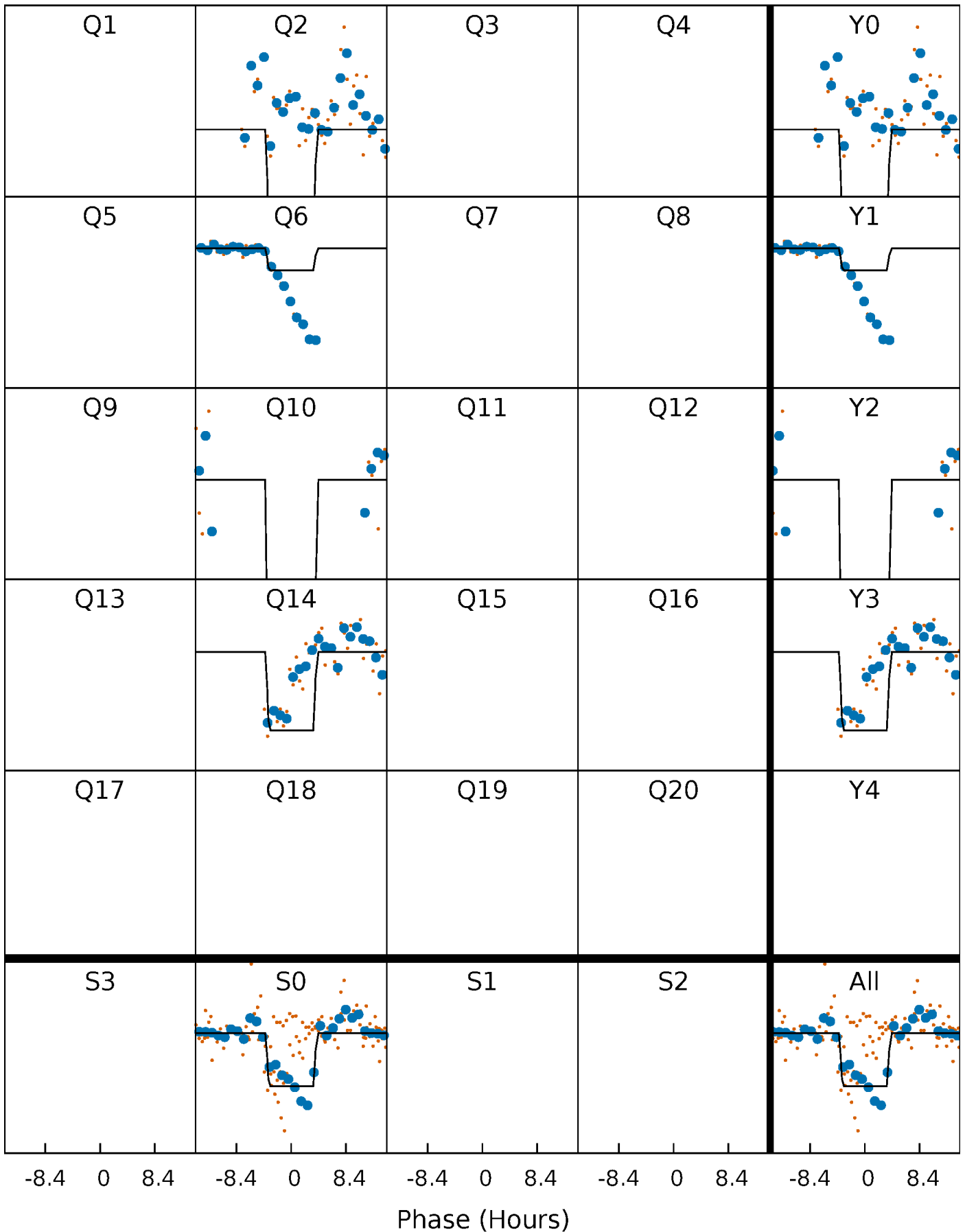
DV Quarter-Phased Transit Curves

TCE 007668857-05 $P=375.848743$ Days $T_0=236.051519$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

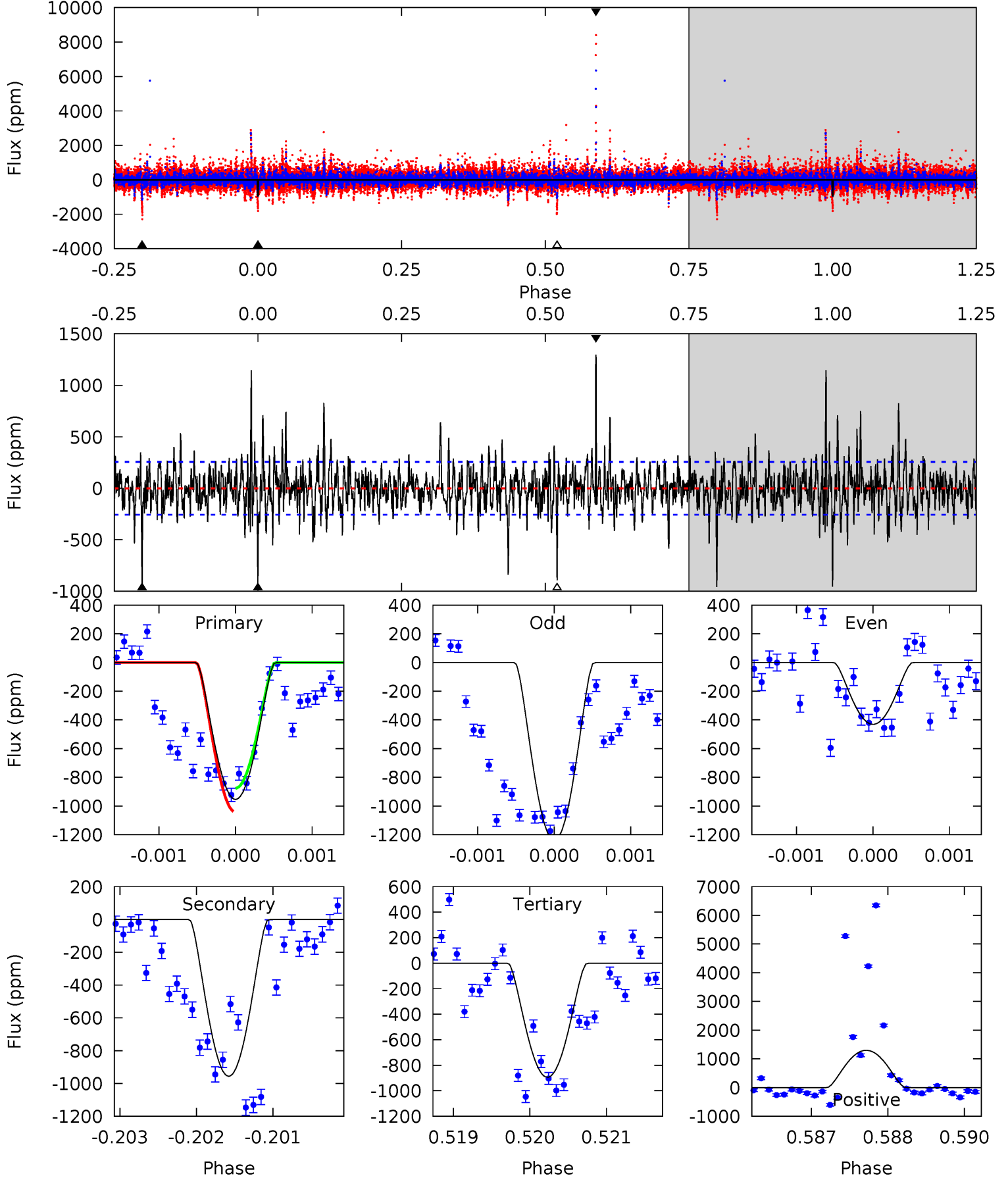
TCE 007668857-05 $P=375.909392$ Days $T_0=235.939544$ (BKJD)



DV Model-Shift Uniqueness Test

007668857-05, $P = 375.848743$ Days, $E = 236.051519$ Days

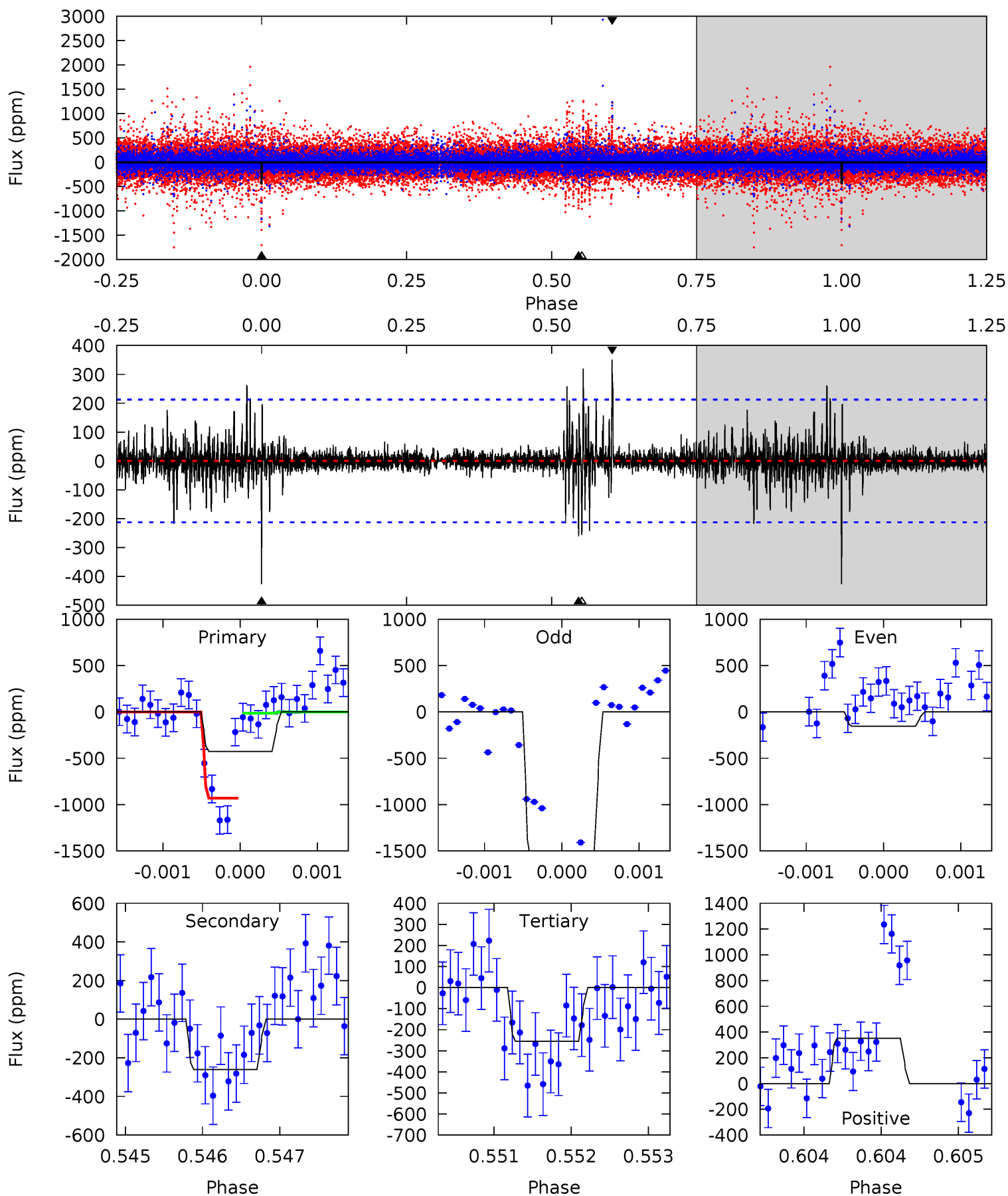
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	20.2	18.9	27.4	5.42	3.24	3.70	1.27	-7.26	1.31	-7.22	7.91	1.37	0.58	1.71



Alt Model-Shift Uniqueness Test

007668857-05, P = 375.909392 Days, E = 235.939544 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	6.71	6.58	9.06	5.48	3.33	0.99	4.41	1.94	0.13	-2.34	19.9	2.04	0.45	0



Stellar Parameters For KIC 007668857

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4706^{+141}_{-127}	$4.636^{+0.054}_{-0.032}$	$-0.560^{+0.350}_{-0.300}$	$0.622^{+0.056}_{-0.051}$	$0.610^{+0.069}_{-0.035}$	$3.570^{+0.877}_{-0.486}$
	+3%/-3%	+1%/-1%	+62%/-54%	+9%/-8%	+11%/-6%	+25%/-14%
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 007668857-05 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-956 ± 47	$8.79^{+9.30}_{-6.11}$	245^{+9}_{-9}	2906^{+1366}_{-462}	5283^{+50128}_{-4065}
Alt.	-260 ± 39	$8.45^{+9.28}_{-5.54}$	245^{+8}_{-9}	2491^{+866}_{-382}	1506^{+12161}_{-1154}

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

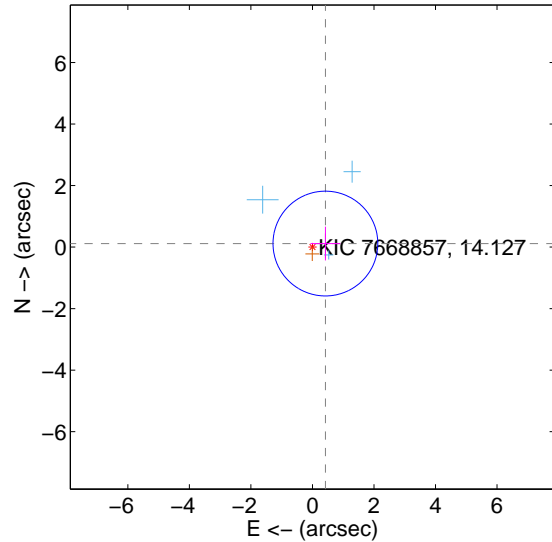
Supplemental centroid analysis for 007668857-05. Kepler magnitude: 14.13. Transit SNR 6.38

There are 3 quarters with good PRF difference image offsets

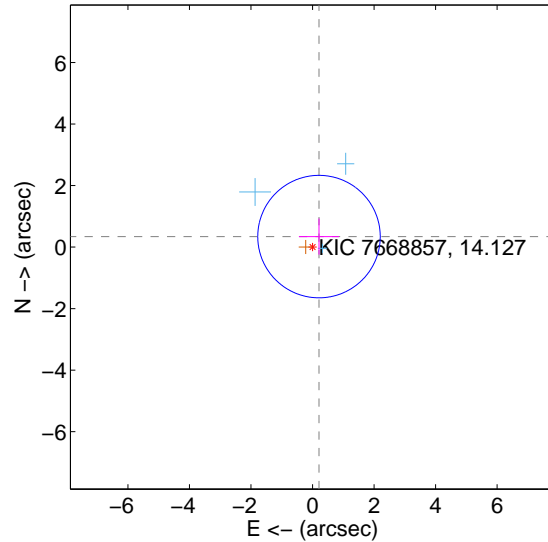
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.437 ± 0.568	0.77	-0.421 ± 0.487	0.115 ± 0.550
PRF-fit source offset from KIC position	0.401 ± 0.663	0.60	-0.211 ± 0.651	0.342 ± 0.587
photometric centroid source offset	1.99 ± 1.52	1.31	0.19 ± 0.76	-1.98 ± 1.53

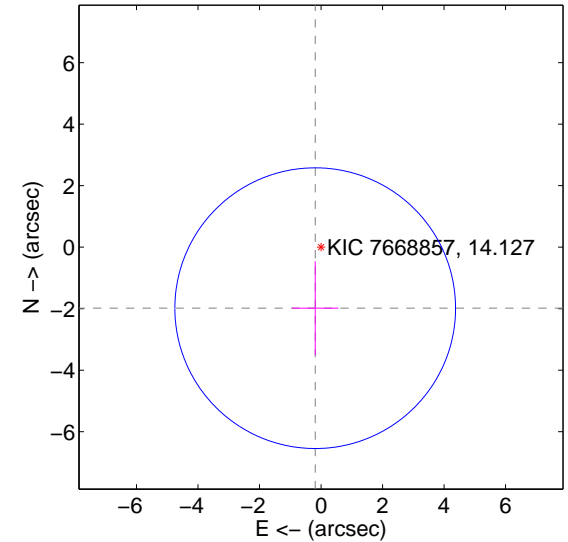
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

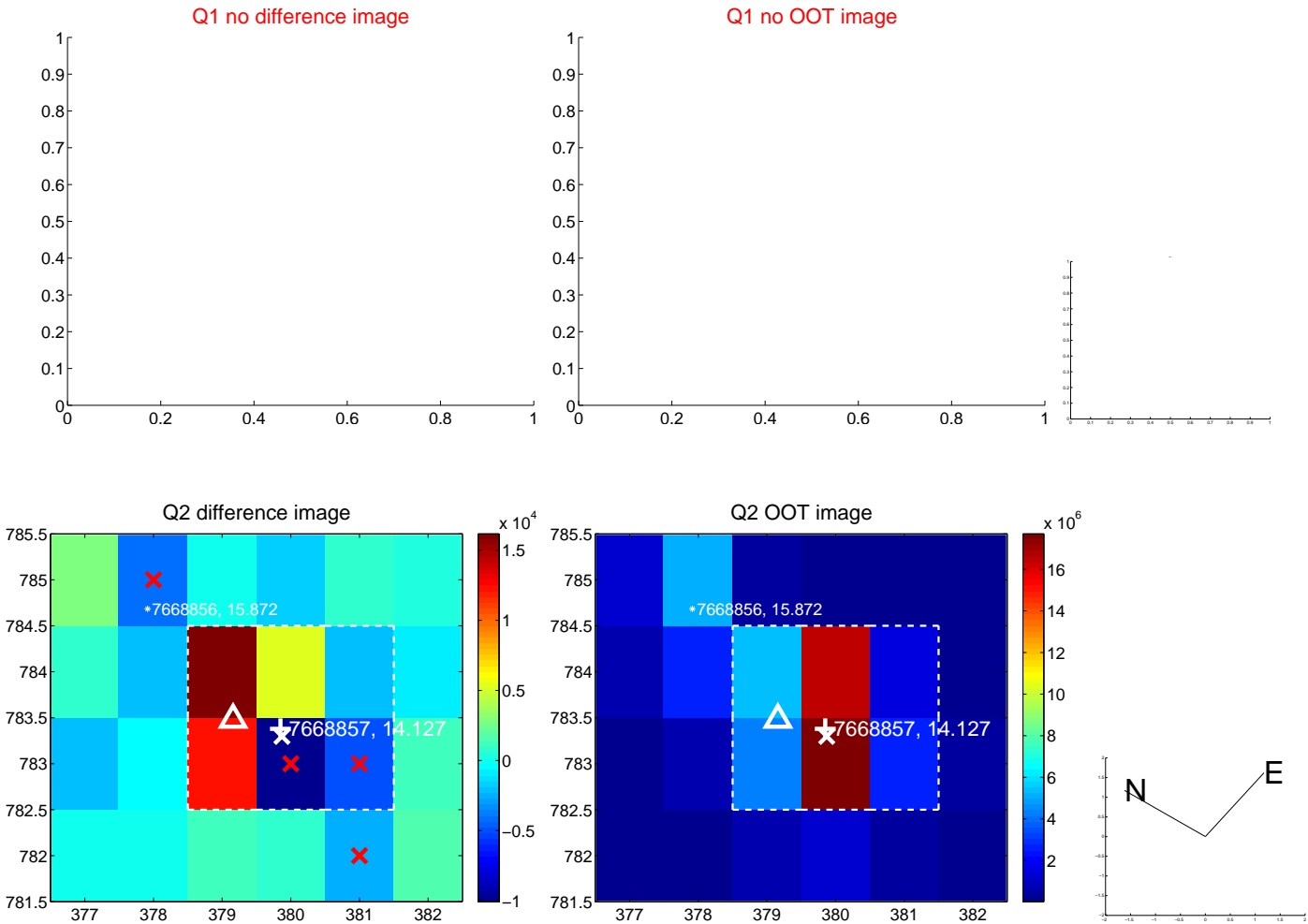


offset from photometric centroids

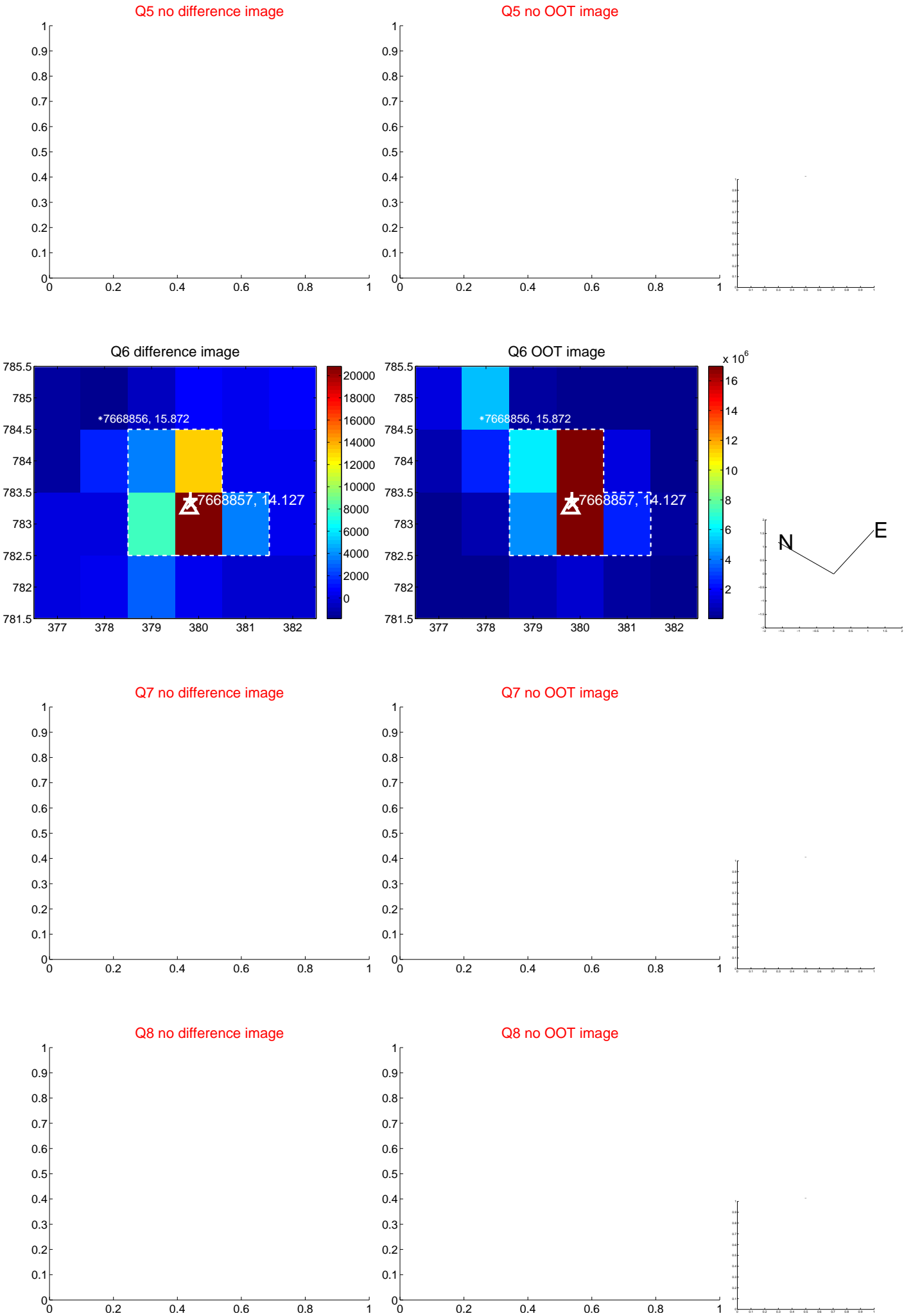


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

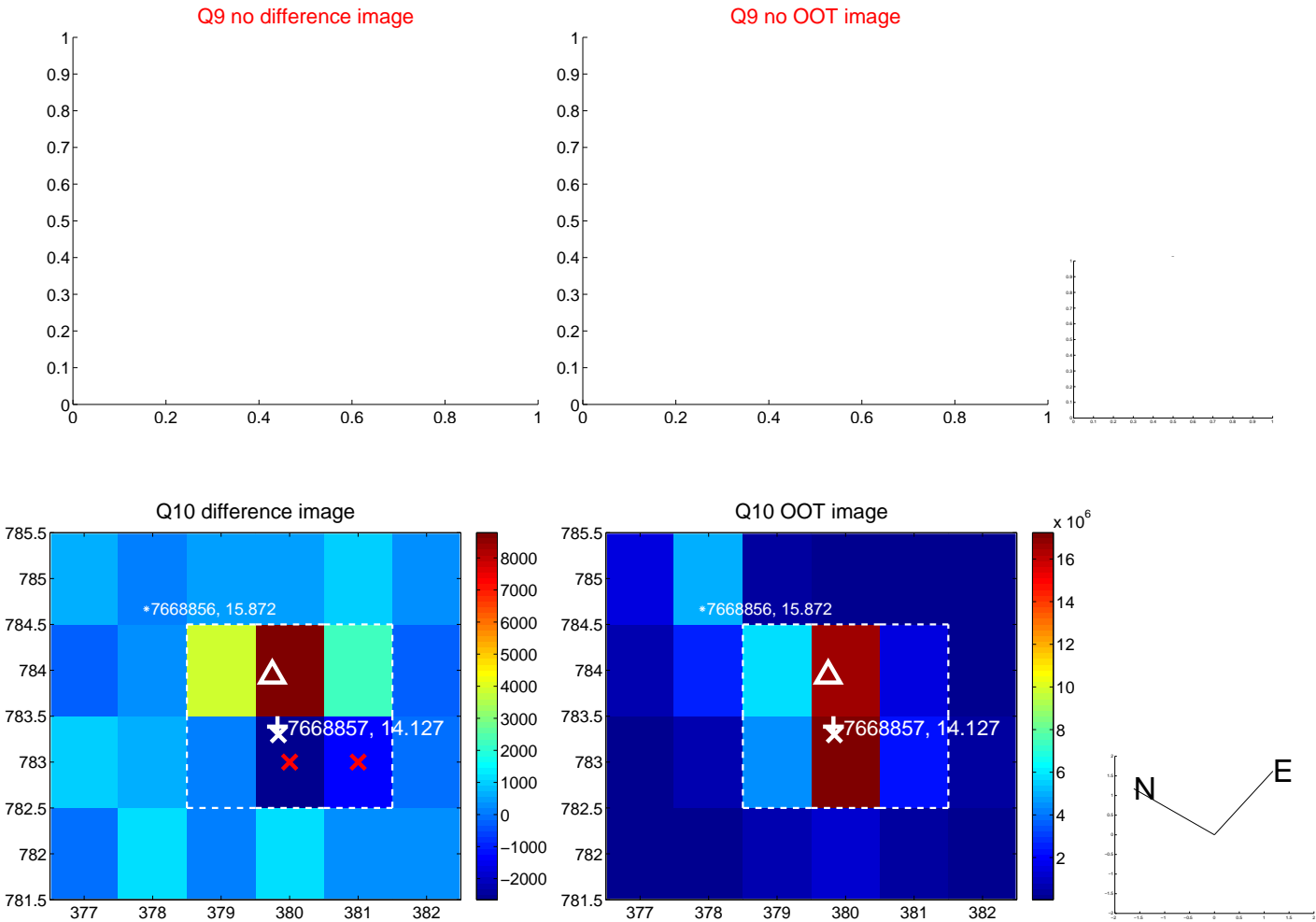
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.

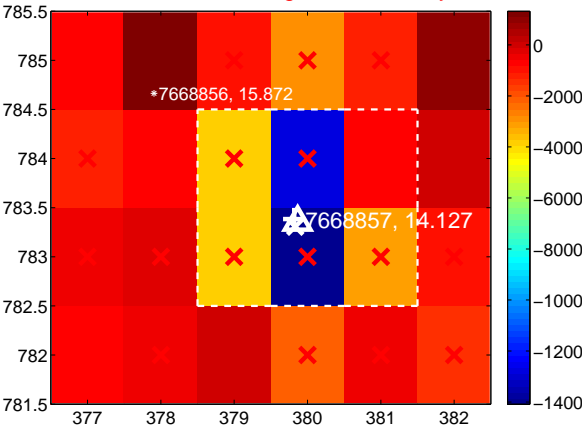
Q13 no difference image



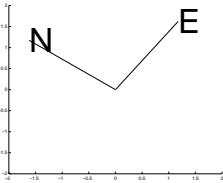
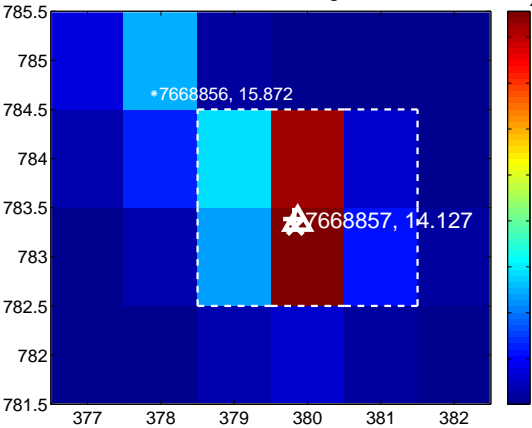
Q13 no OOT image



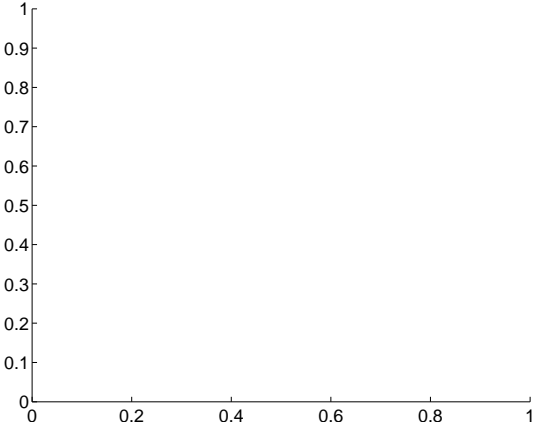
Q14 difference image. Poor Quality



Q14 OOT image



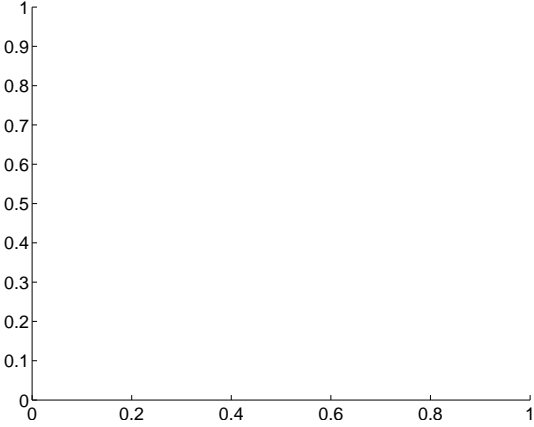
Q15 no difference image



Q15 no OOT image



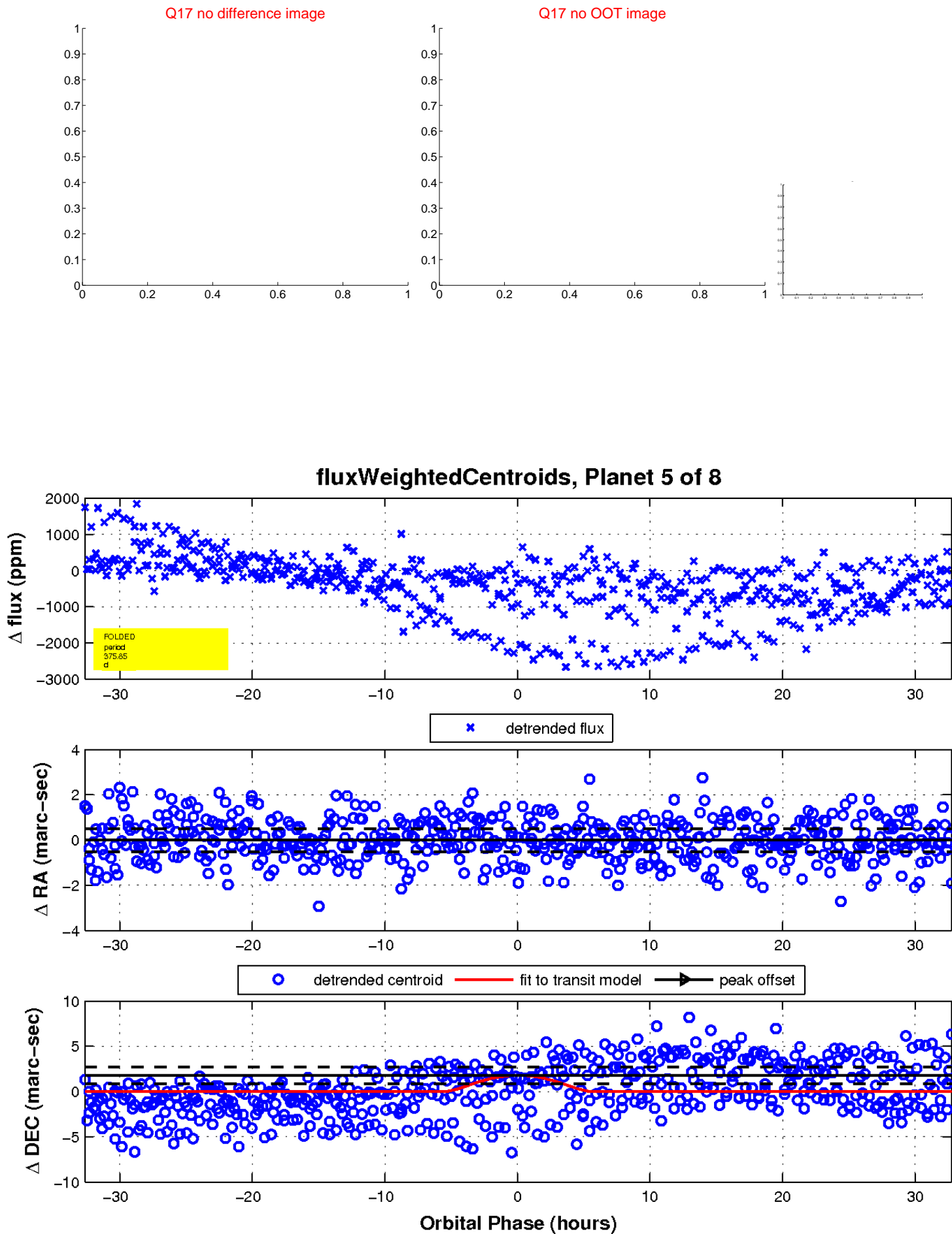
Q16 no difference image



Q16 no OOT image

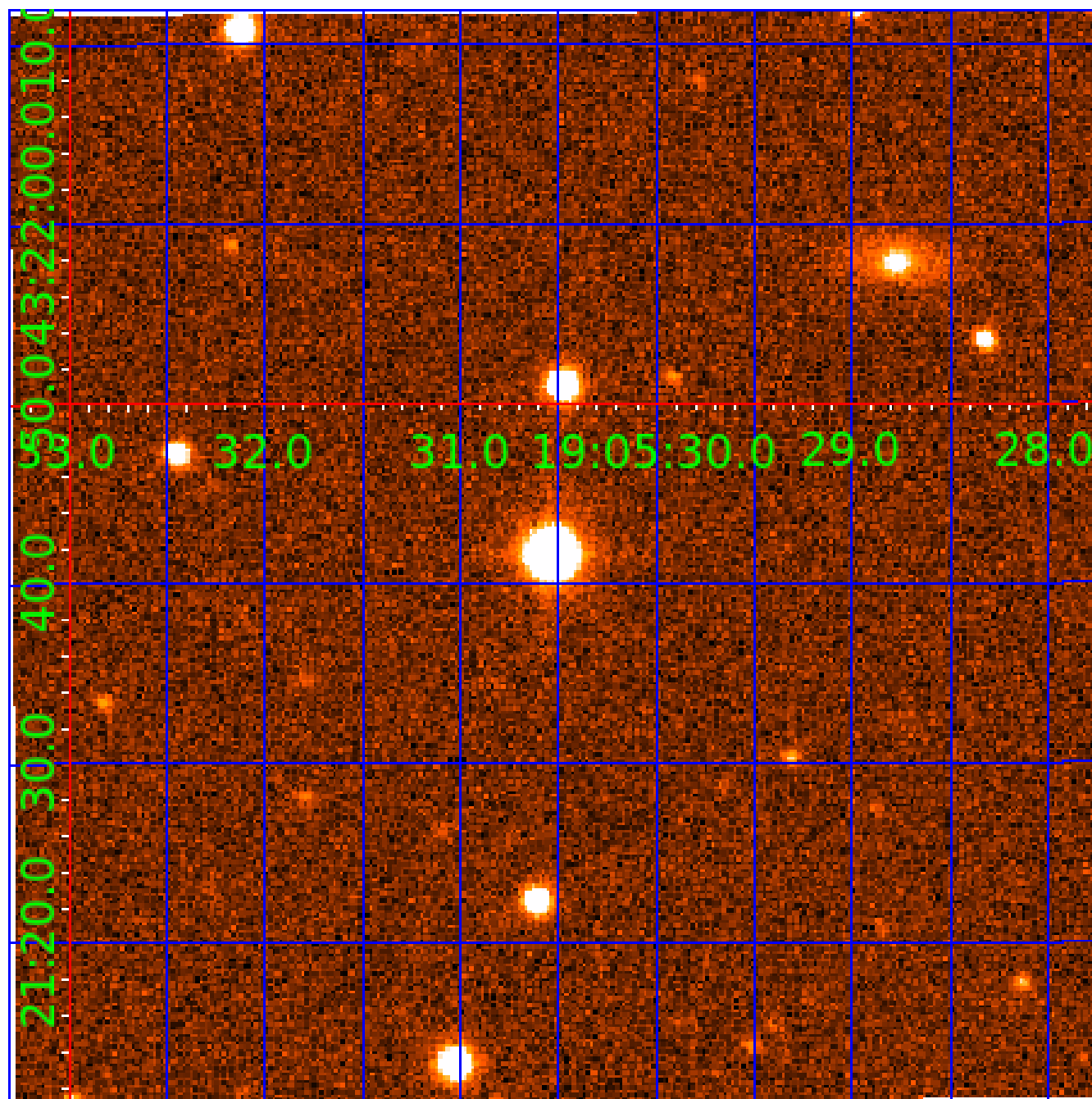


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007668857

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})
007668857-01	OBS	No	2.096416	132.405114	57.6	7.516	10.4	10.3	0.62	4706	0.58	229.82
007668857-04	OBS	No	294.549100	313.153555	513.6	7.115	11.1	6.3	0.62	4706	1.58	0.32
007668857-05	OBS	No	375.848743	236.051519	598.5	10.925	10.8	6.4	0.62	4706	3.01	0.23
007668857-06	OBS	No	283.406666	412.741486	555.1	6.000	8.8	-1.0	0.62	4706	1.42	0.33
007668857-07	OBS	No	2.096110	133.222839	41.4	8.845	8.3	8.1	0.62	4706	0.39	229.87
007668857-08	OBS	No	147.908530	198.975798	675.3	7.500	11.6	-1.0	0.62	4706	1.56	0.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007668857-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
007668857-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007668857-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007668857-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
007668857-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
007668857-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

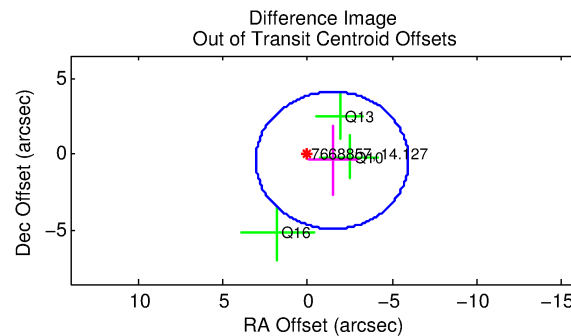
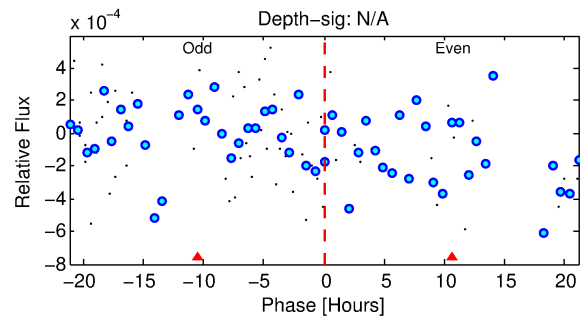
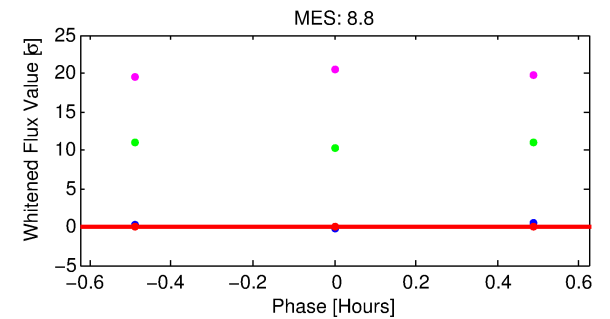
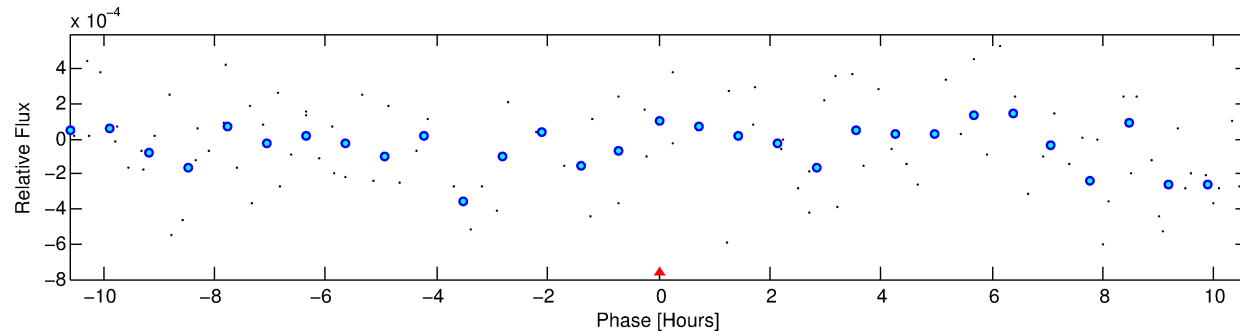
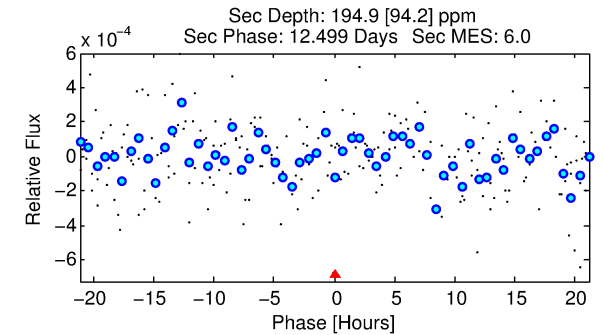
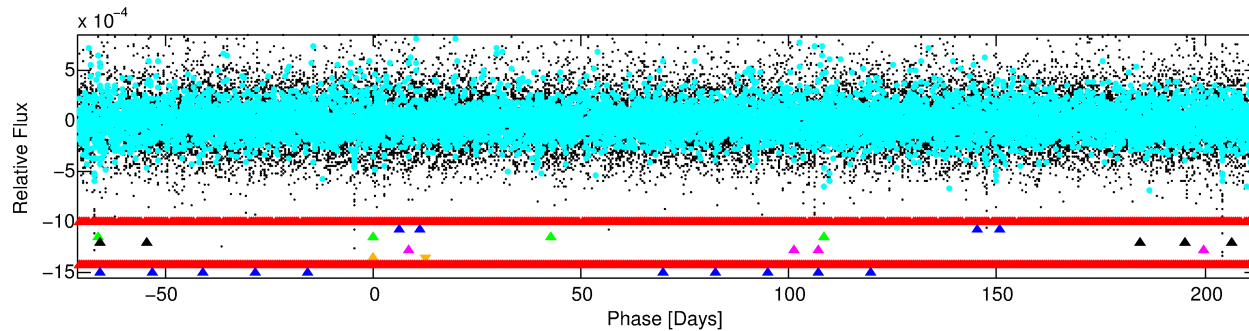
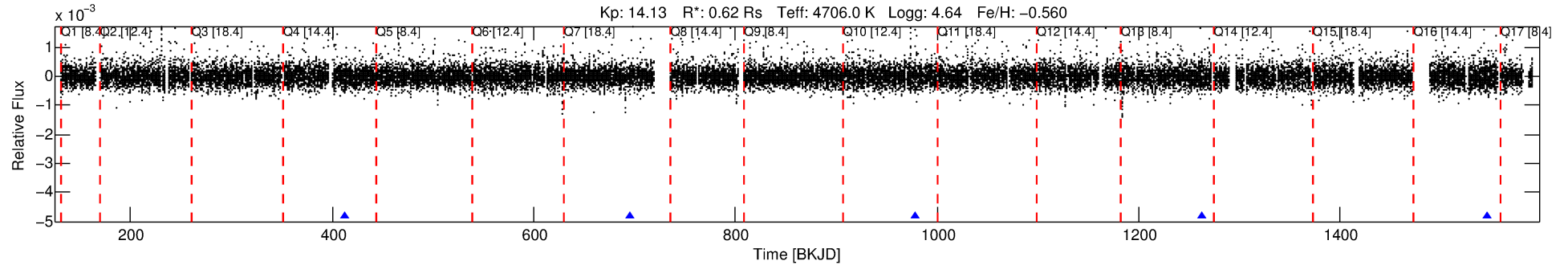
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007668857-06

No Significant Match Found

DV One-Page Summary

KIC: 7668857 Candidate: 6 of 8 Period: 283.407 d



TPS TCE Results:

Period = 283.40667 d
Epoch = 412.7415 BKJD

DV fit results are unavailable

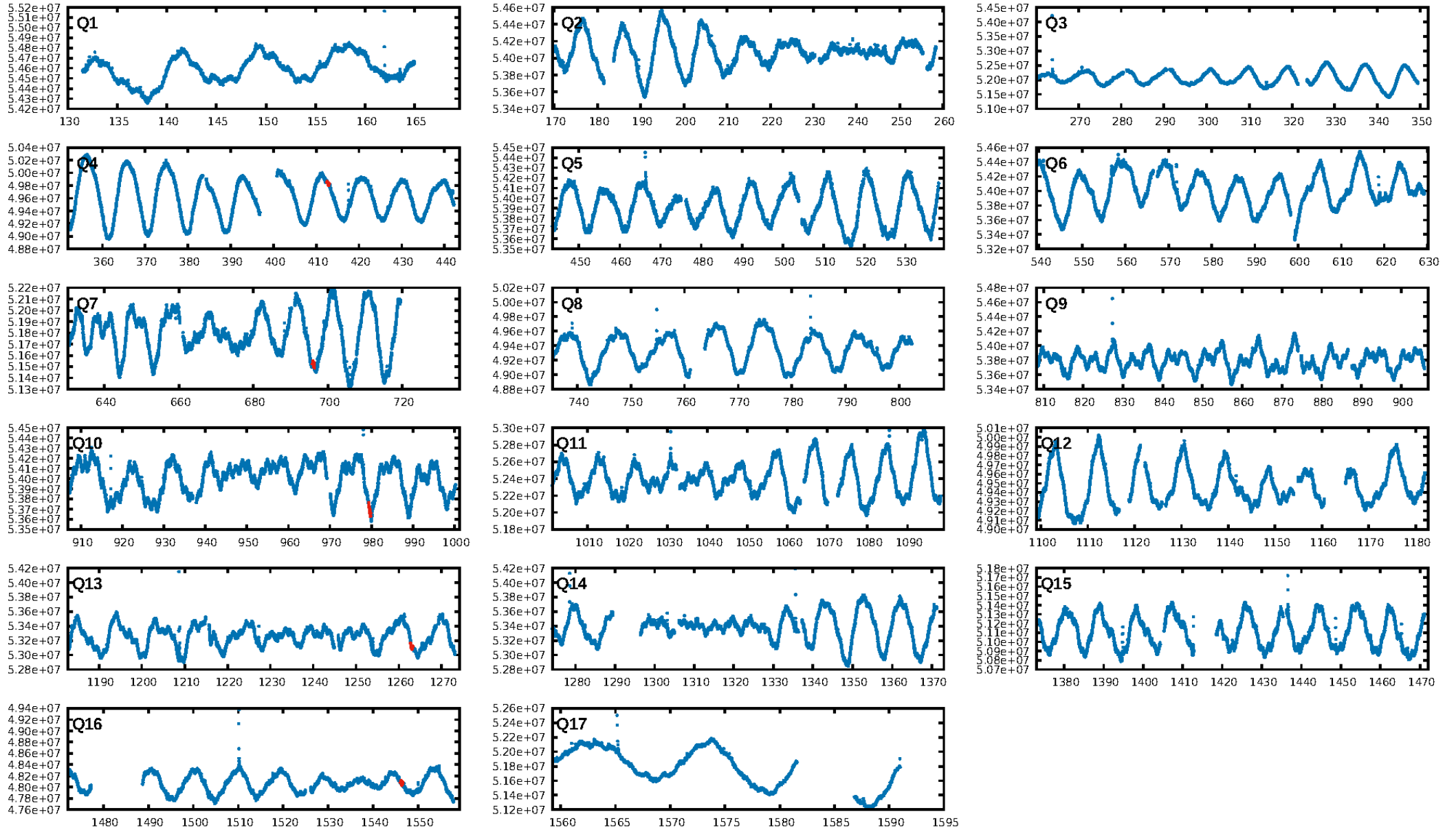
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [338.58σ]
LongPeriod-sig: 100.0% [28.73σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 2.661
Centroid-sig: 57.6%
Centroid-so: 1.342 arcsec [0.52σ]
OotOffset-rm: 1.501 arcsec [1.00σ]
KicOffset-rm: 1.284 arcsec [0.85σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.20 [1/5]

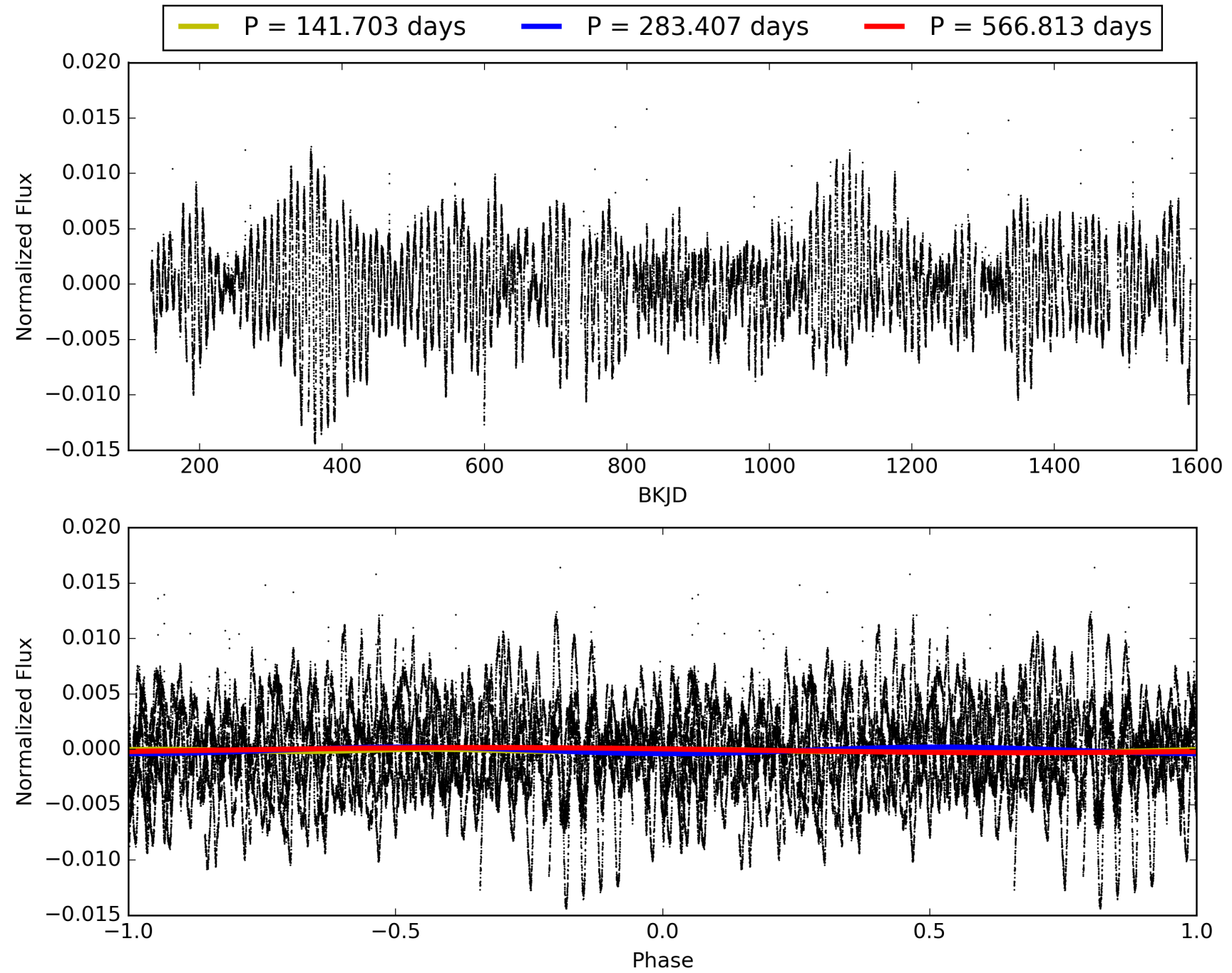
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:14:47 Z

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

TCE 007668857-06, PDC Light Curves

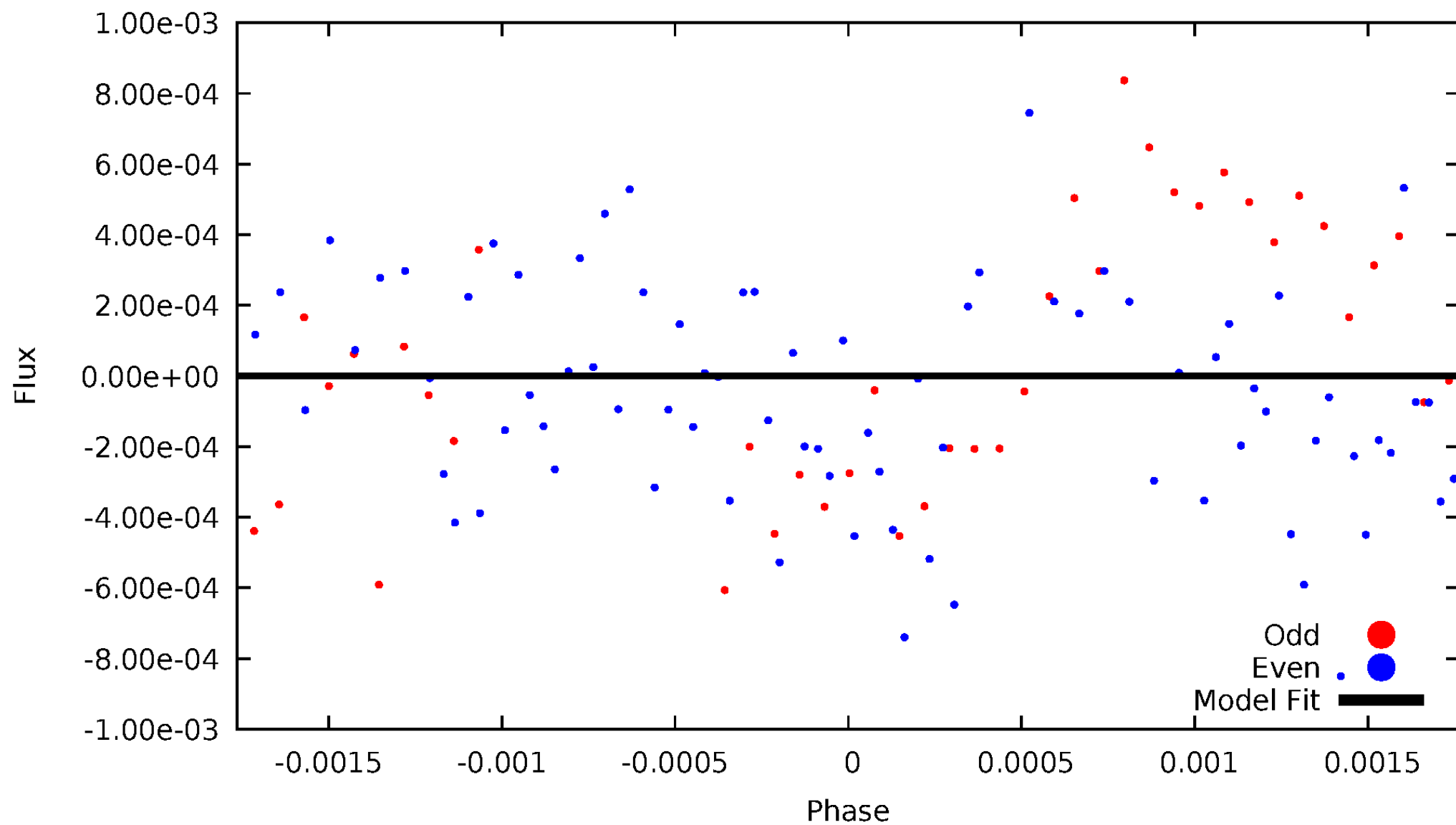


TCE 007668857-06



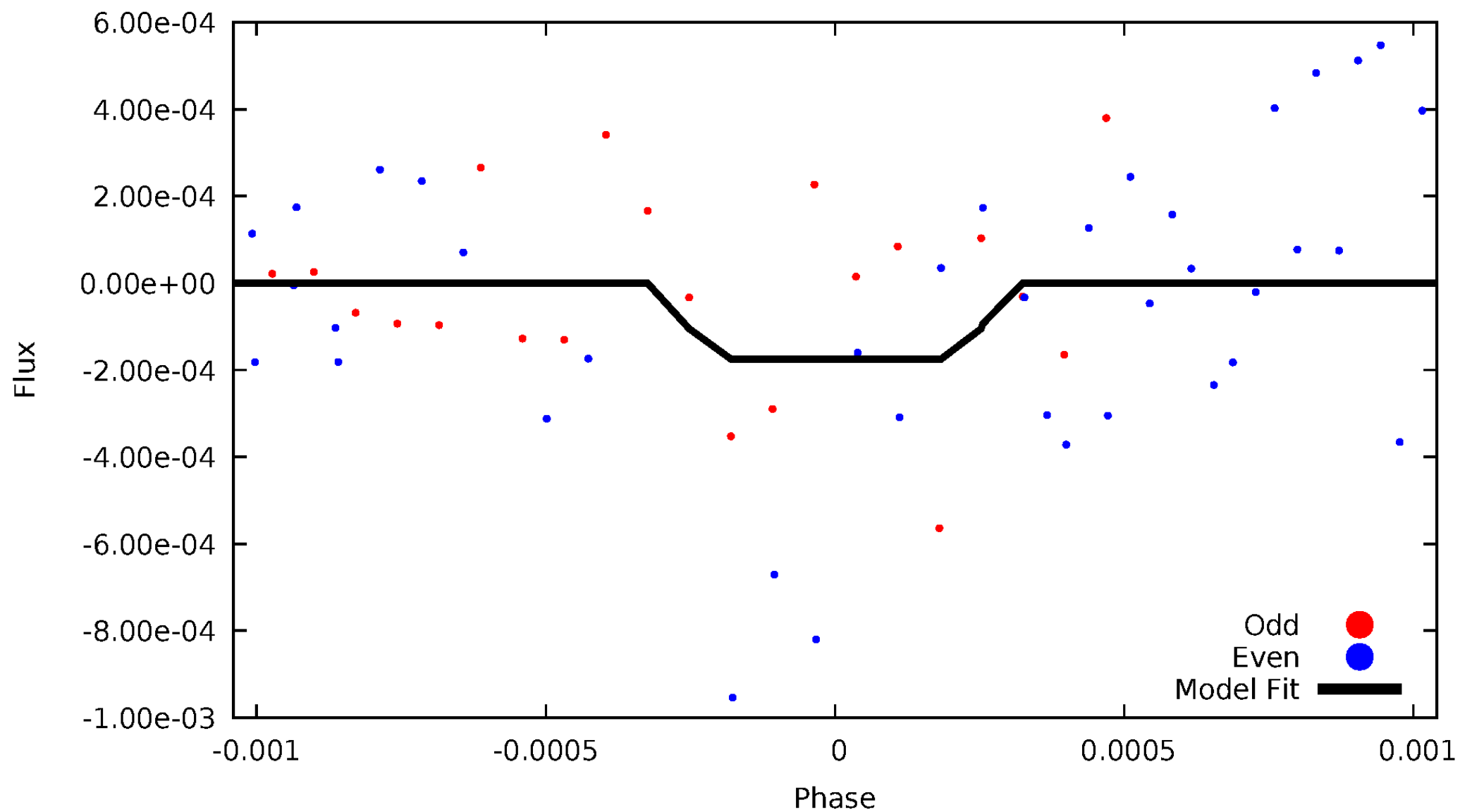
DV Odd/Even

TCE 007668857-06



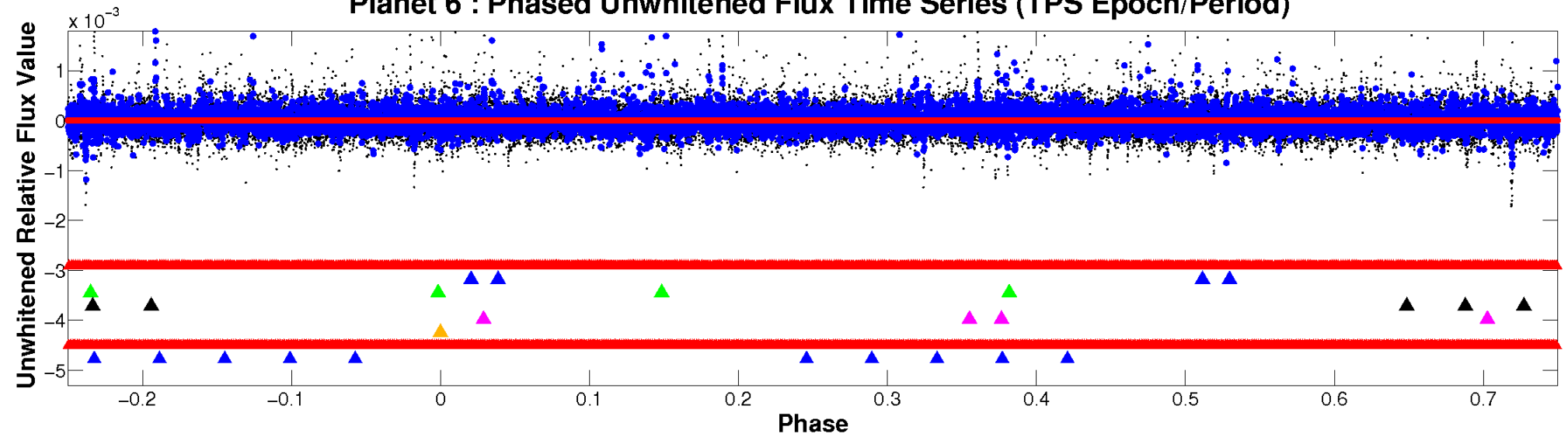
ALT Odd/Even

TCE 007668857-06



Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

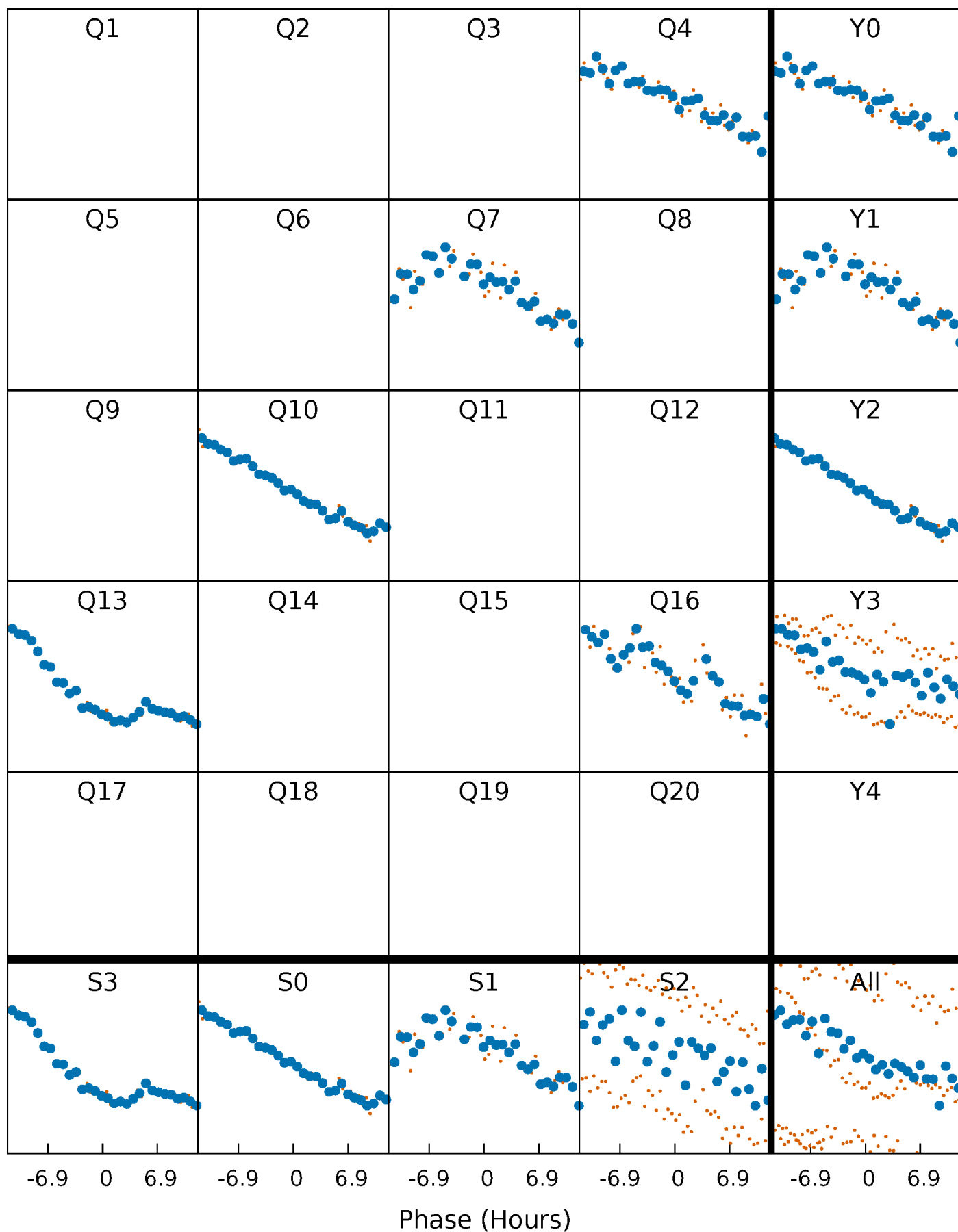


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



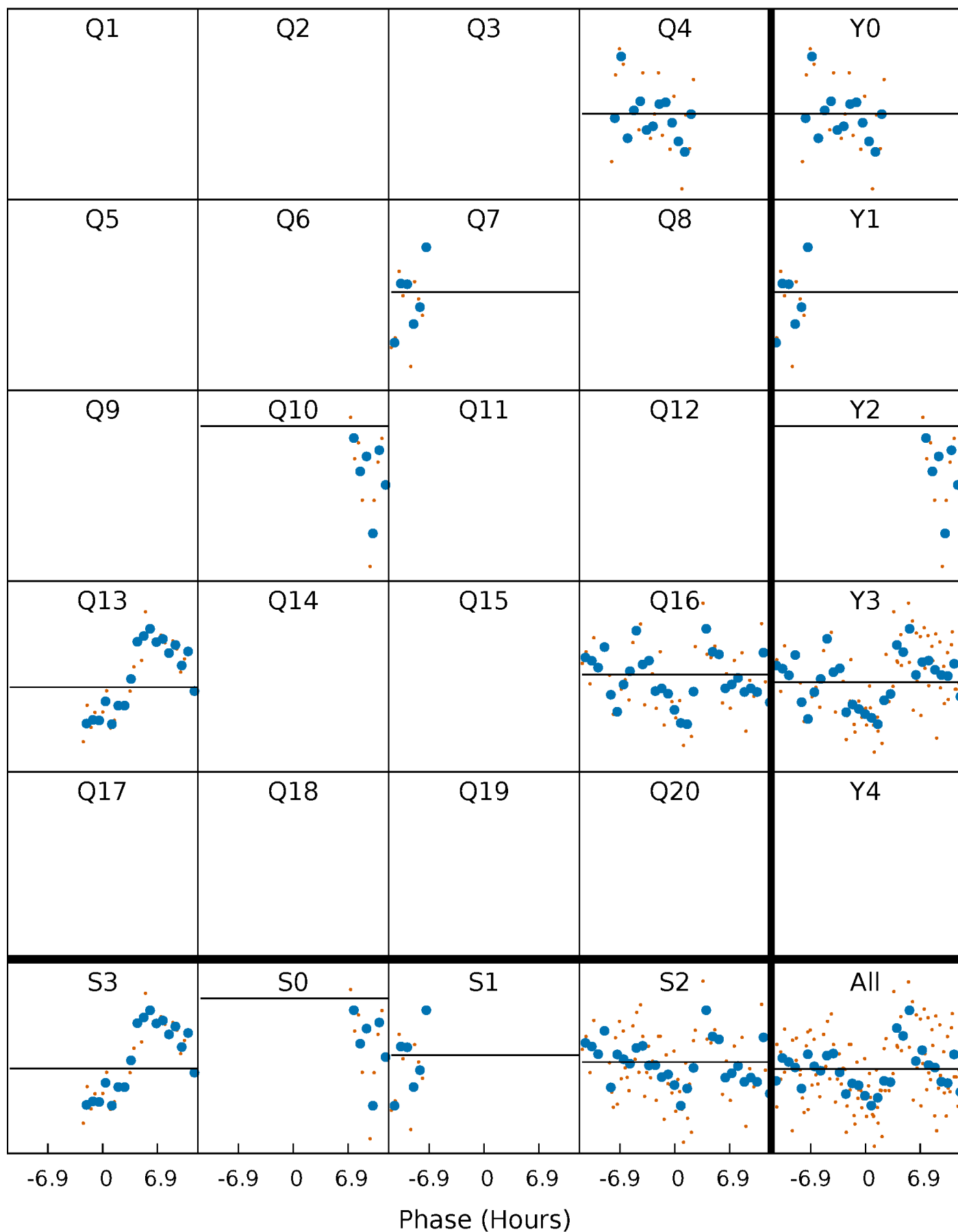
PDC Quarter-Phased Transit Curves

TCE 007668857-06 $P=283.406666$ Days $T_0=412.741486$ (BKJD)



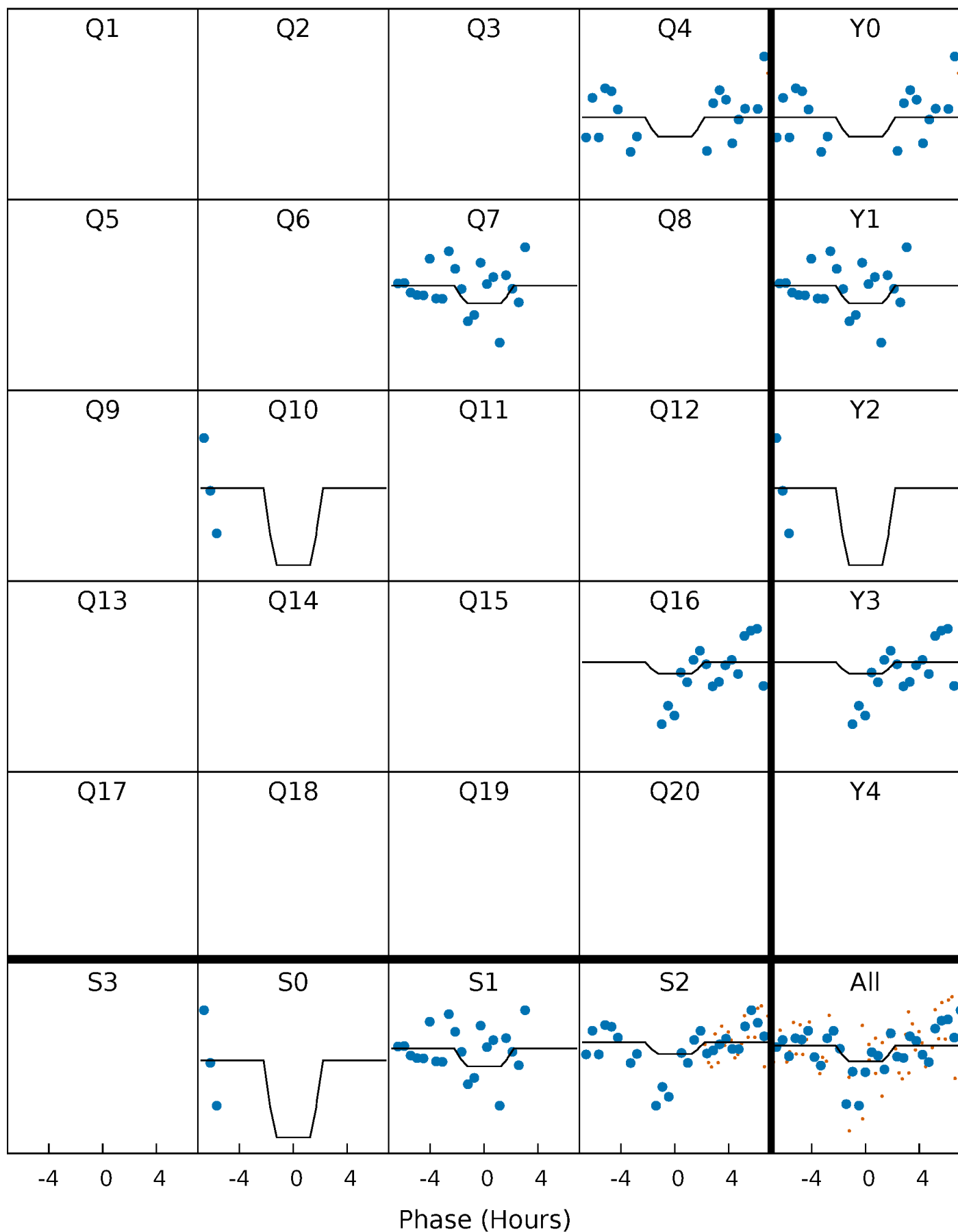
DV Quarter-Phased Transit Curves

TCE 007668857-06 $P=283.406666$ Days $T_0=412.741486$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

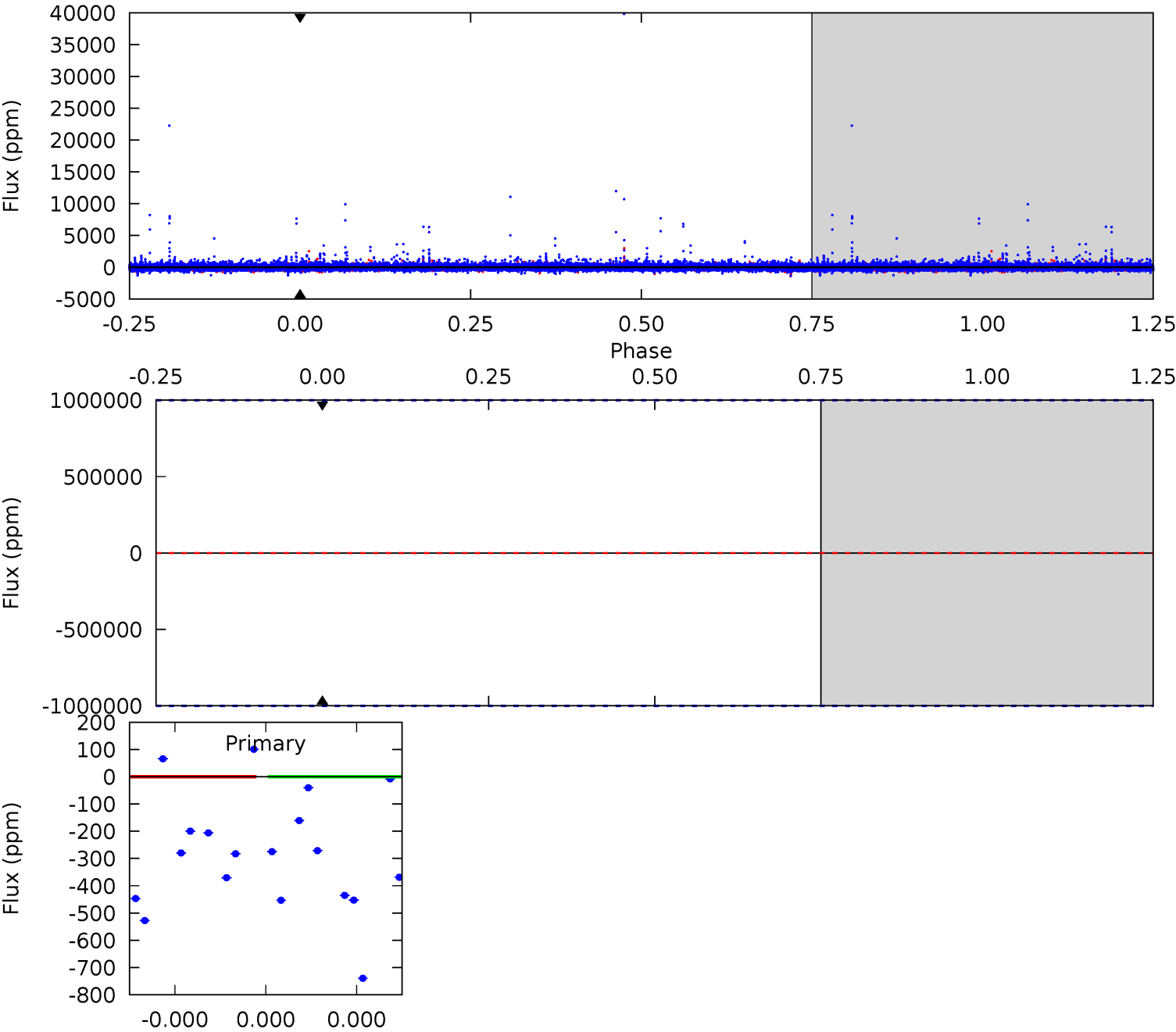
TCE 007668857-06 P=283.406666 Days $T_0=412.306313$ (BKJD)



DV Model-Shift Uniqueness Test

007668857-06, P = 283.406666 Days, E = 129.334820 Days

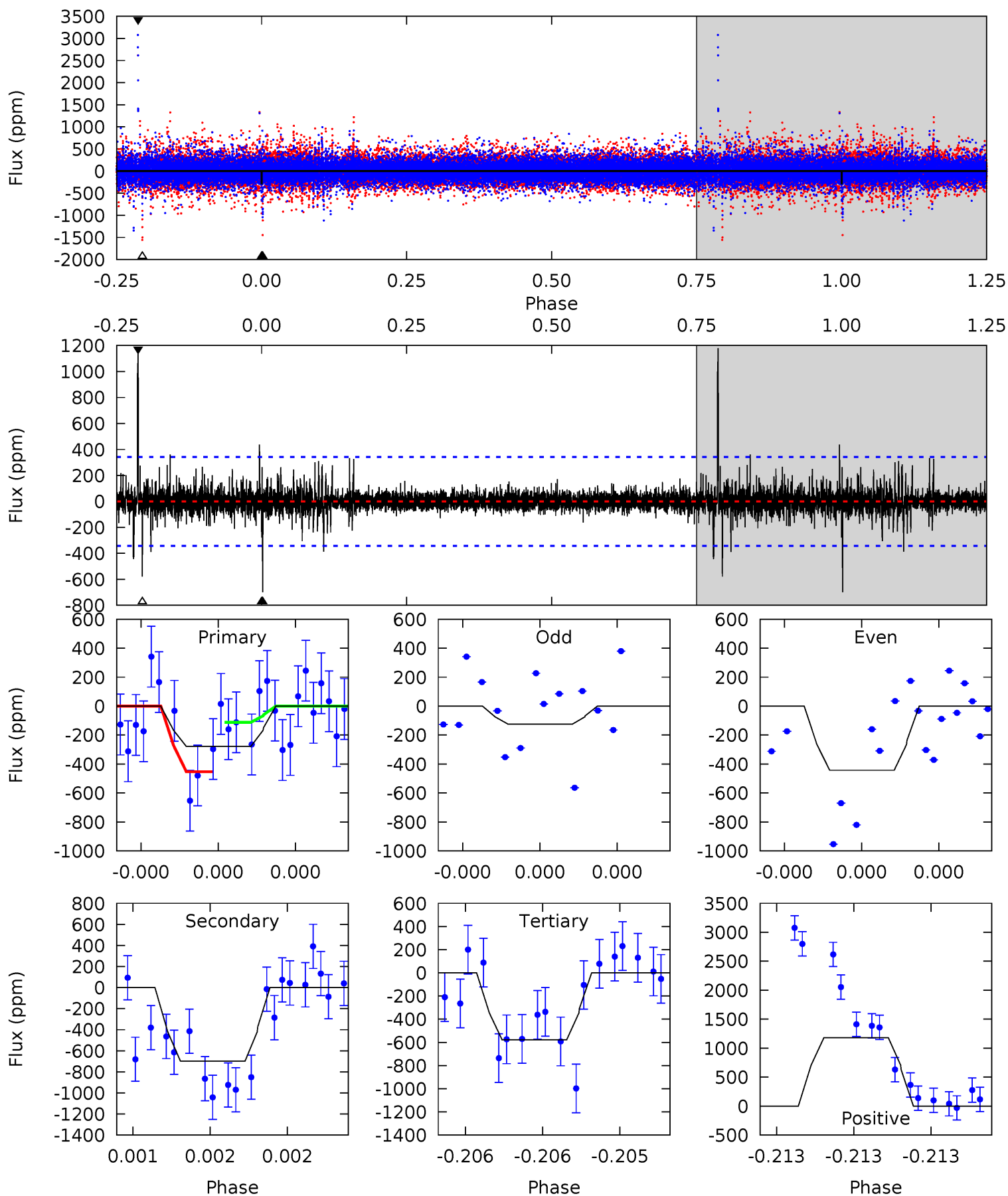
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007668857-06, P = 283.406666 Days, E = 128.899647 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.56	11.4	9.46	19.3	5.60	3.52	0.96	-4.91	-14.7	1.98	-7.84	2.41	1.00	0.63	2.75



Stellar Parameters For KIC 007668857

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4706^{+141}_{-127}	$4.636^{+0.054}_{-0.032}$	$-0.560^{+0.350}_{-0.300}$	$0.622^{+0.056}_{-0.051}$	$0.610^{+0.069}_{-0.035}$	$3.570^{+0.877}_{-0.486}$
	+3%/-3%	+1%/-1%	+62%/-54%	+9%/-8%	+11%/-6%	+25%/-14%
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 007668857-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$5.02^{+5.26}_{-3.55}$	269^{+10}_{-9}	3871^{+9641}_{-17650}	$21809^{+1948758}_{-2260344}$
Alt.	-699 ± 61	$4.97^{+4.97}_{-3.56}$	269^{+9}_{-9}	3305^{+1839}_{-598}	8169^{+92407}_{-6146}

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

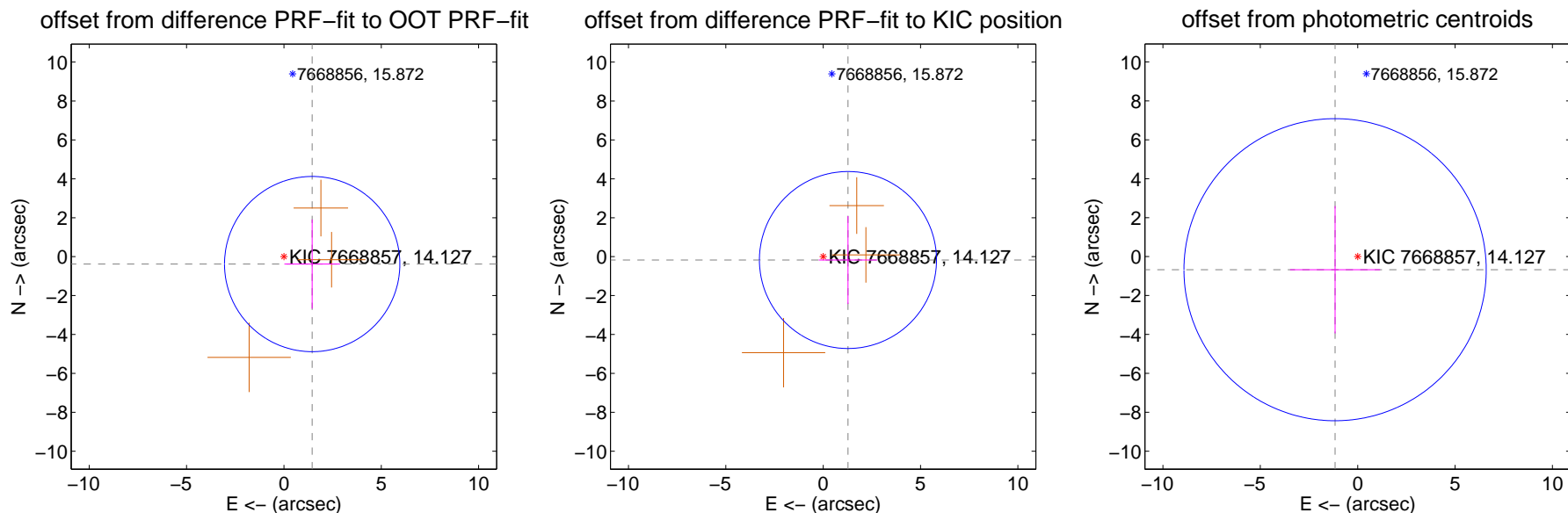
DV Centroid Data

Supplemental centroid analysis for 007668857-06. Kepler magnitude: 14.13. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

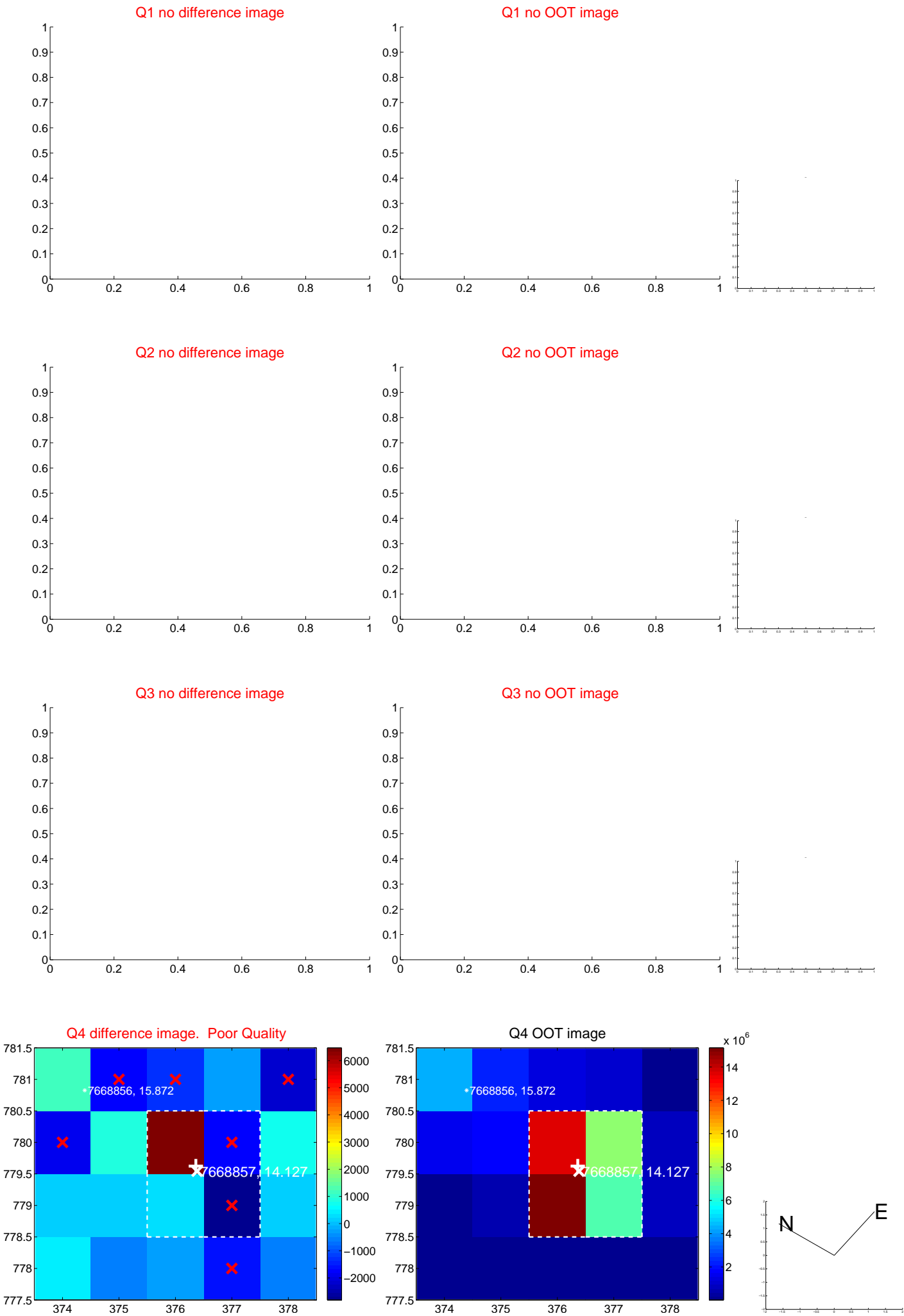
The direct PRF centroid is offset from the target star catalog position by about 0.35 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.501 ± 1.501	1.00	-1.452 ± 1.431	-0.381 ± 2.289
PRF-fit source offset from KIC position	1.284 ± 1.516	0.85	-1.273 ± 1.499	-0.173 ± 2.261
photometric centroid source offset	1.34 ± 2.59	0.52	1.16 ± 2.31	-0.67 ± 3.27

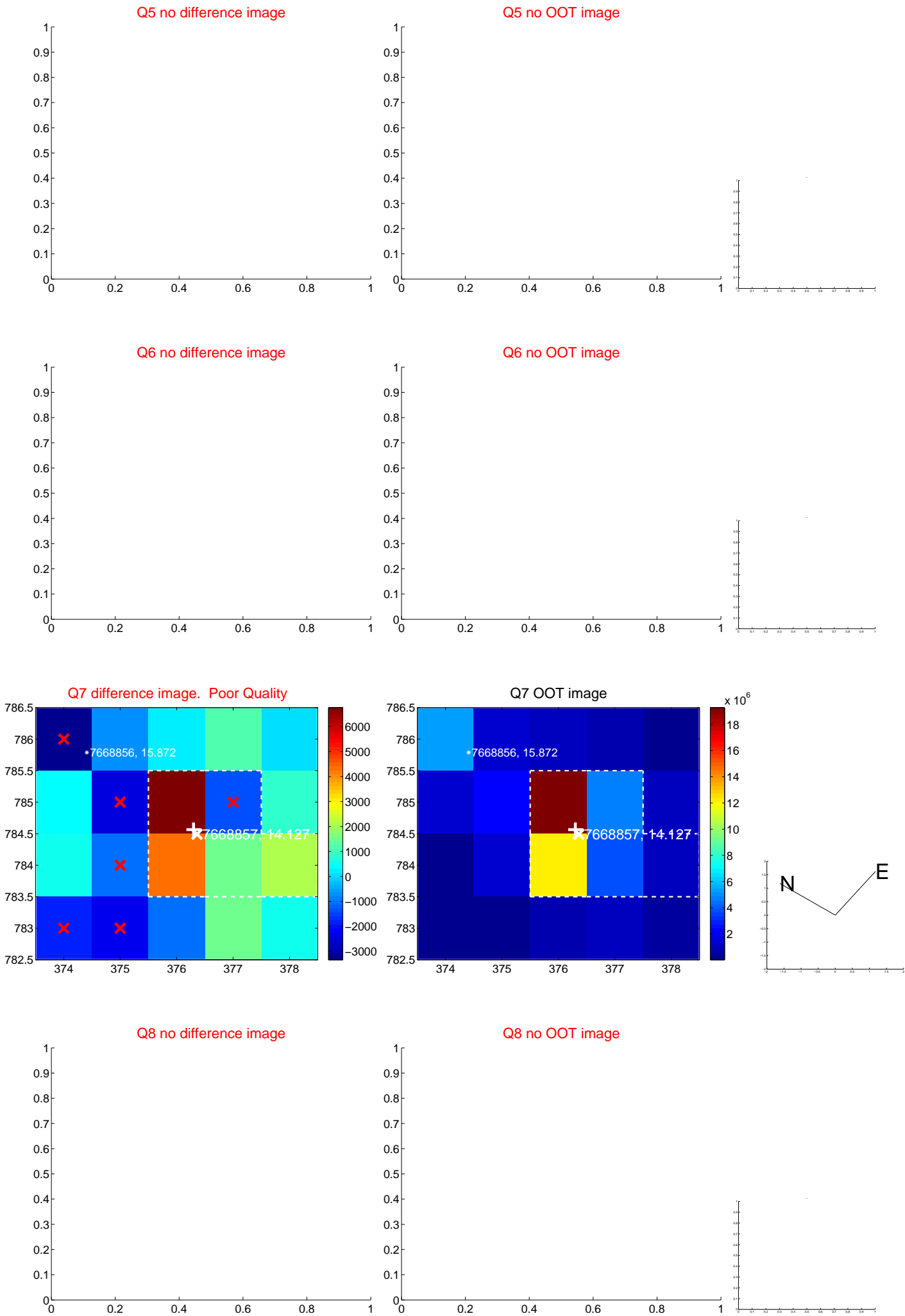


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

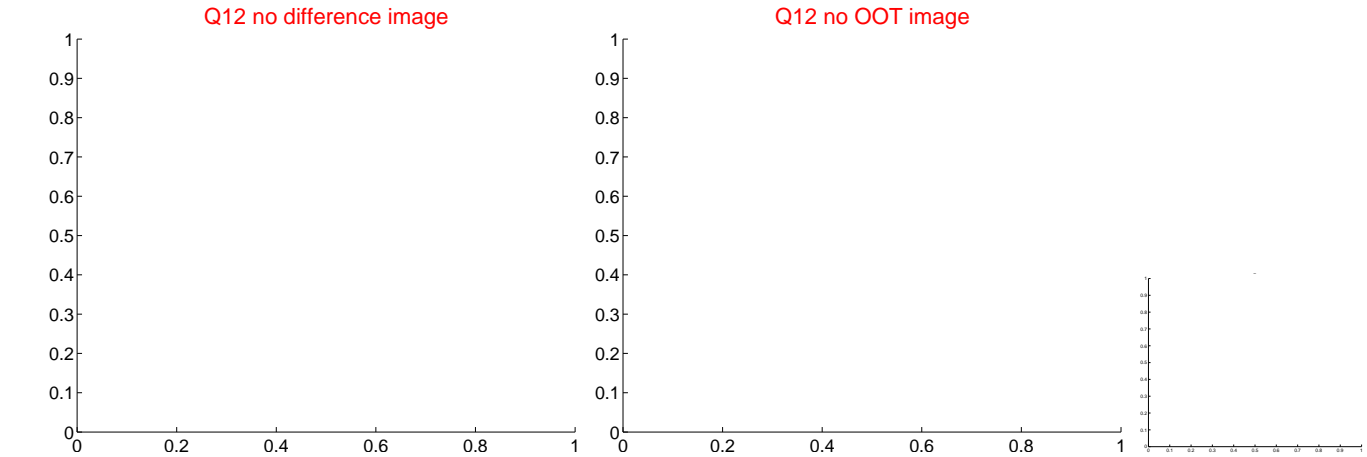
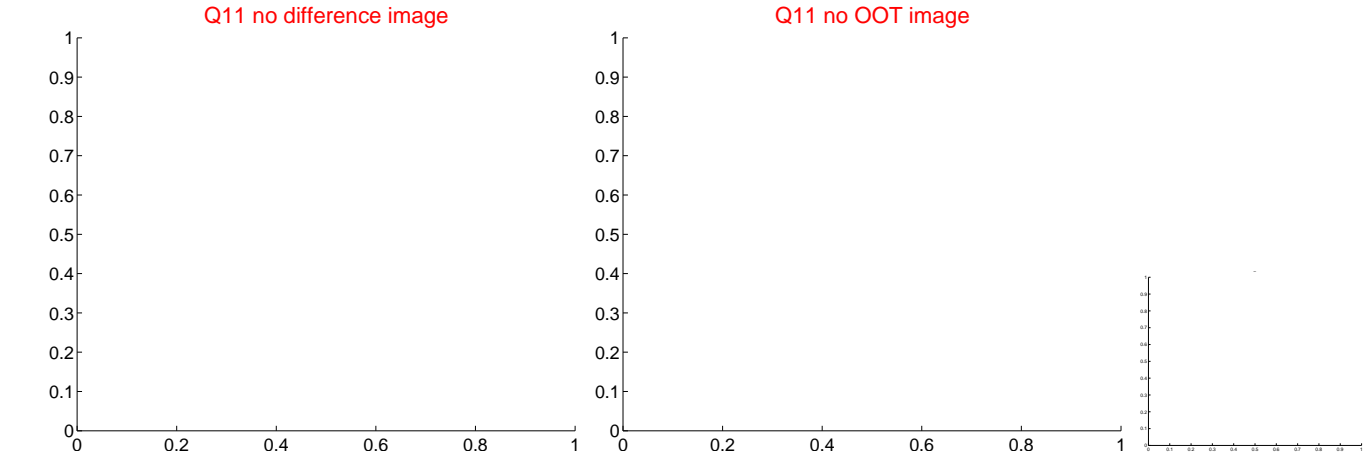
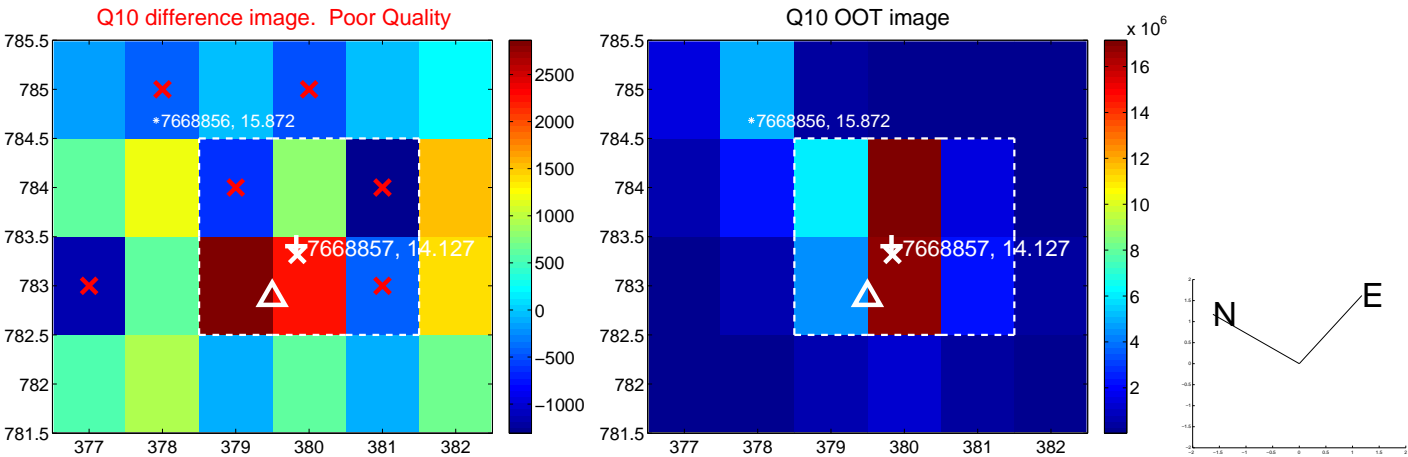
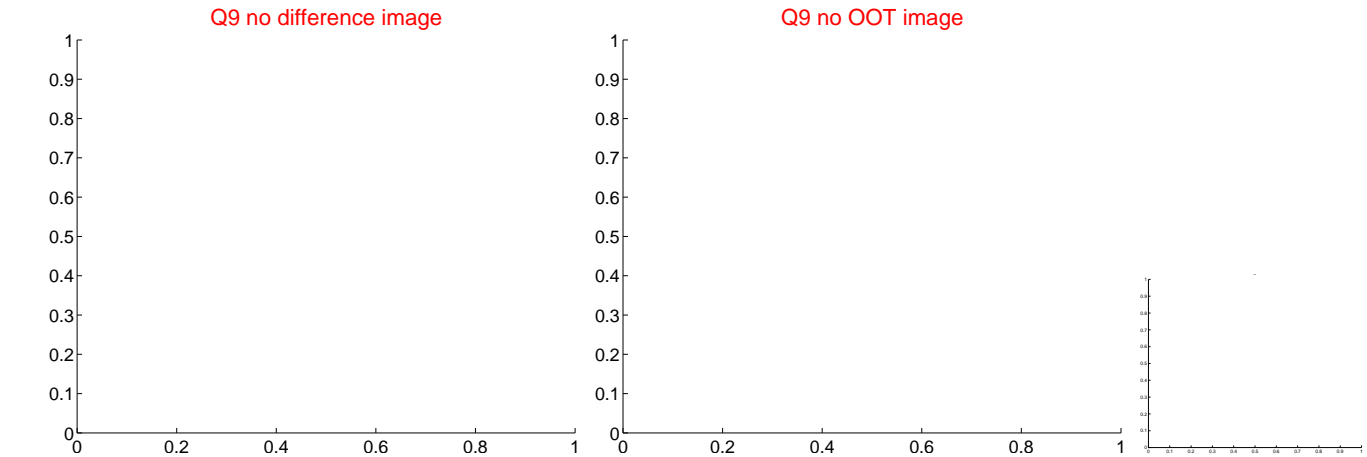
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



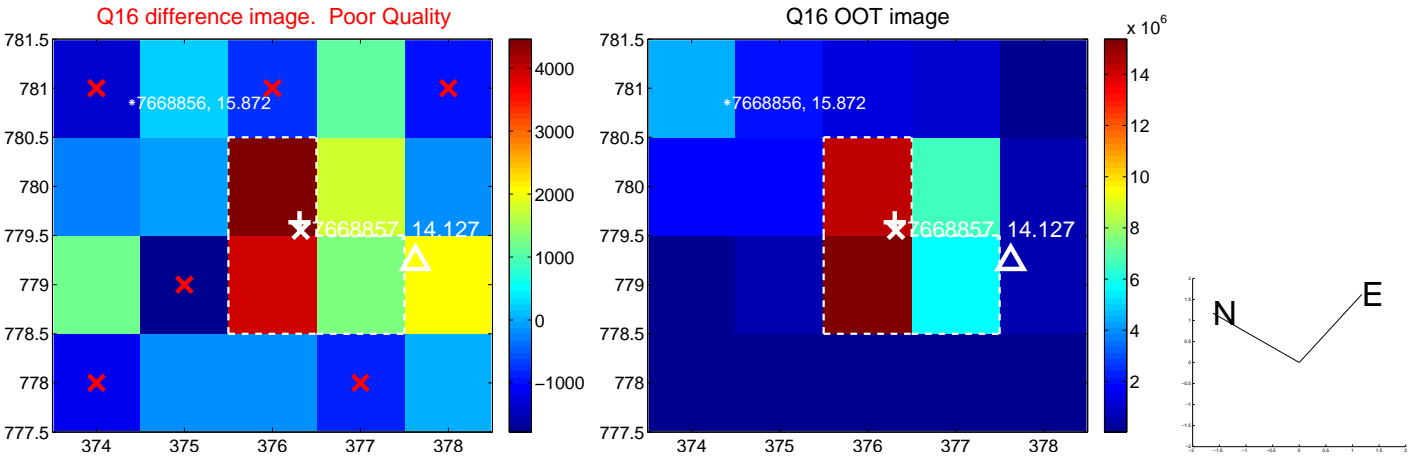
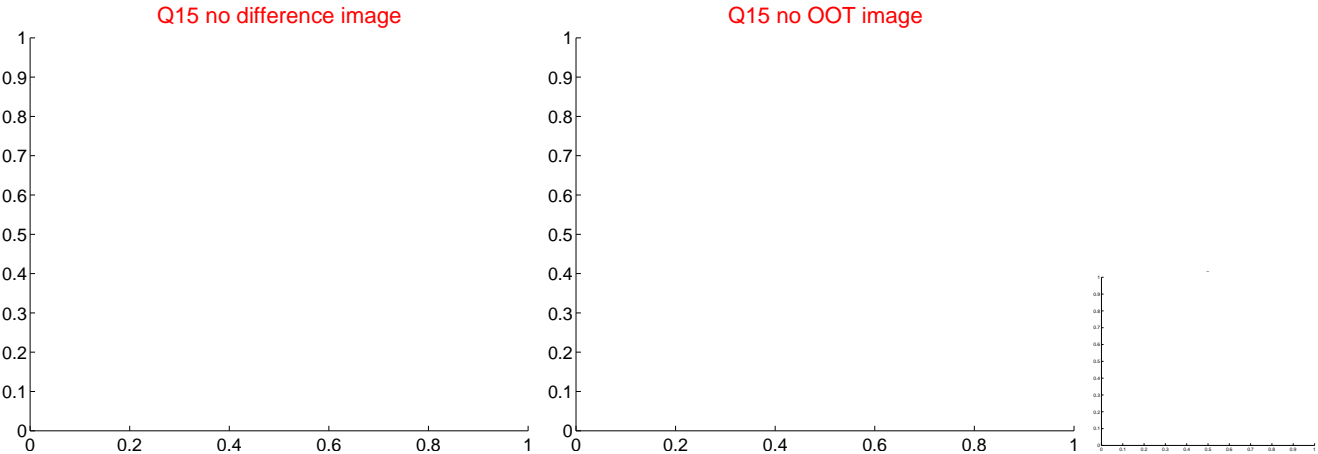
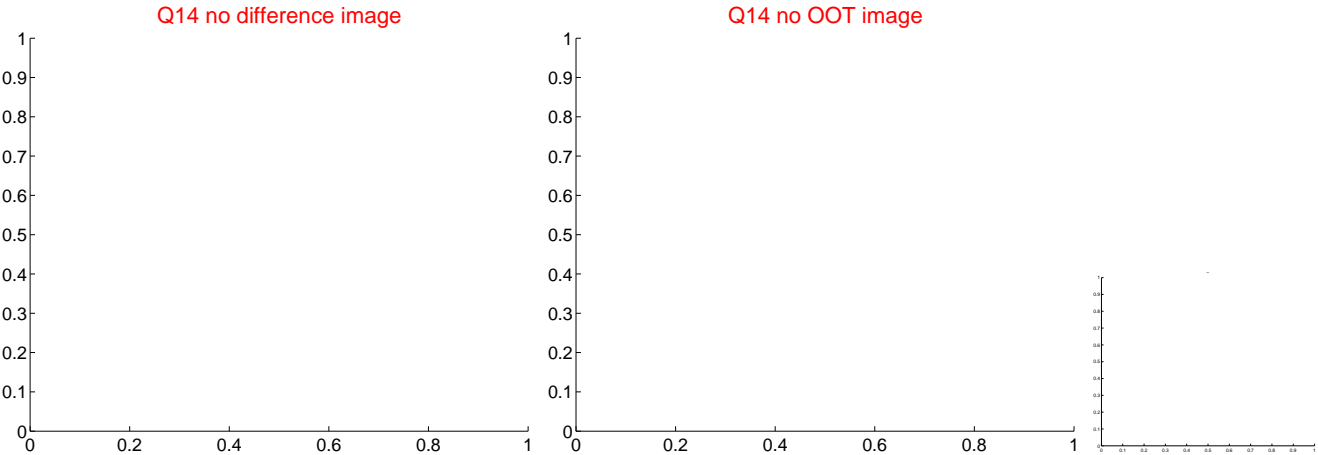
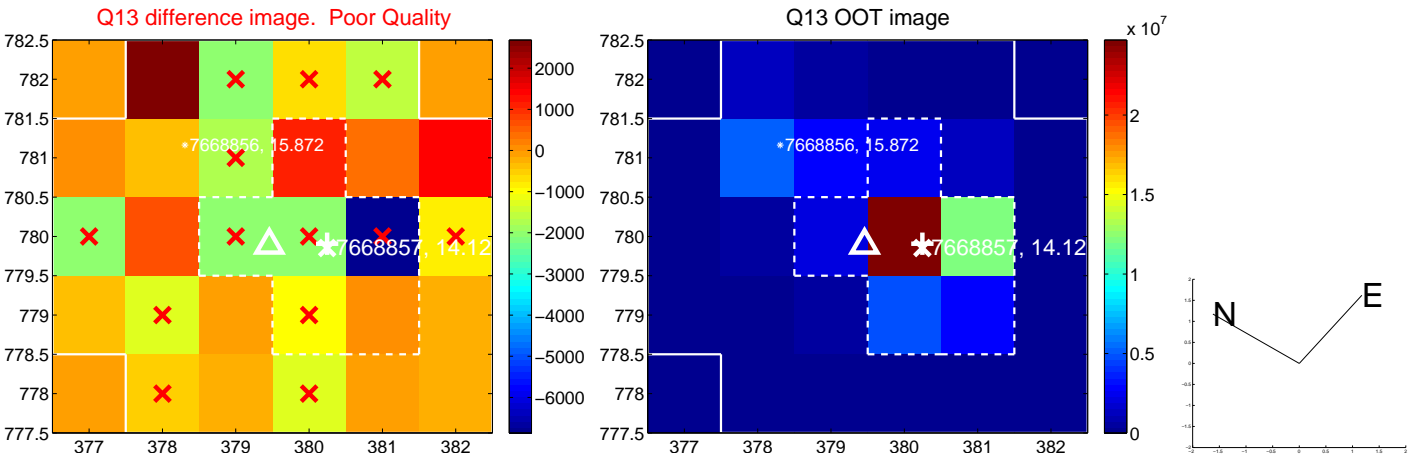
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



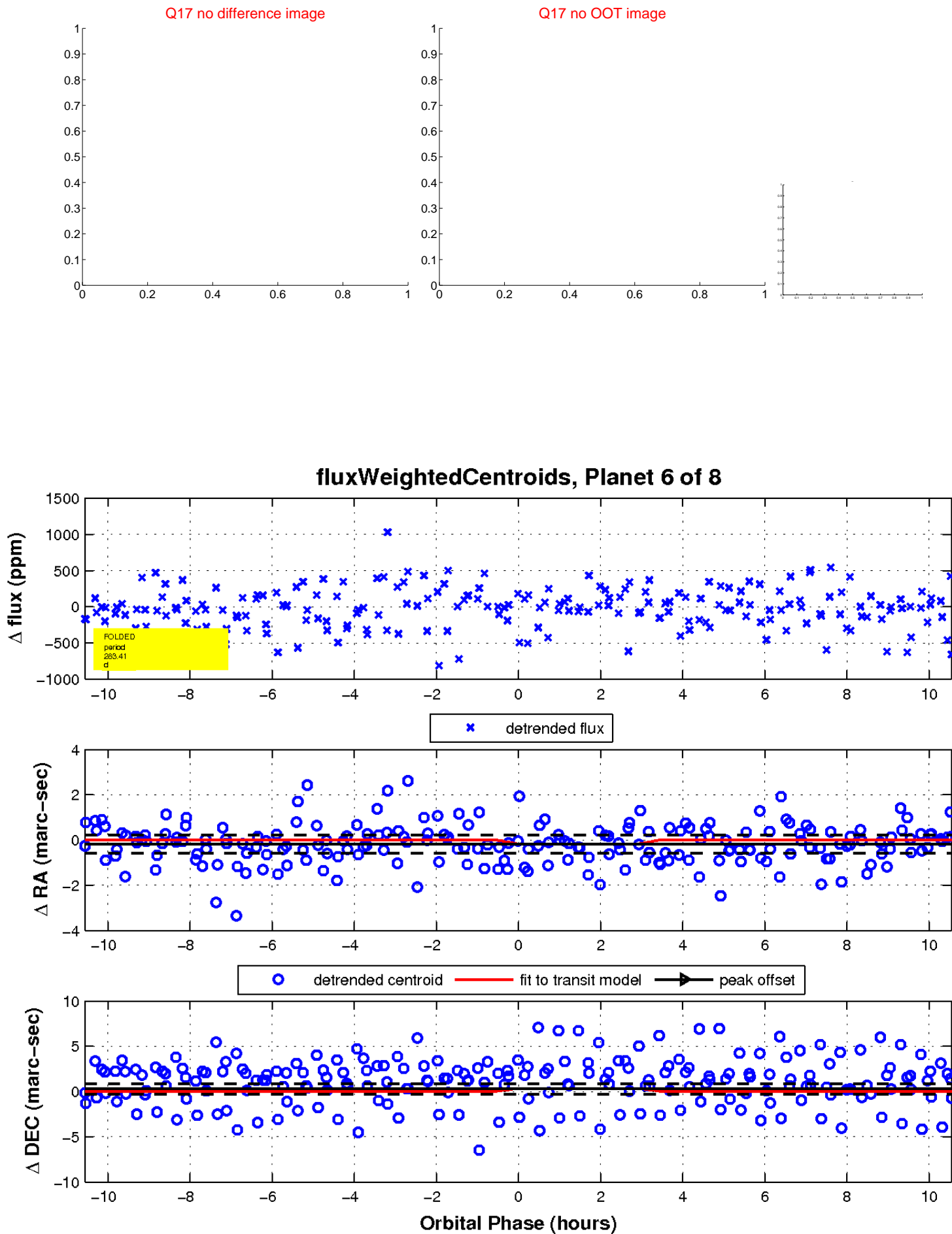
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

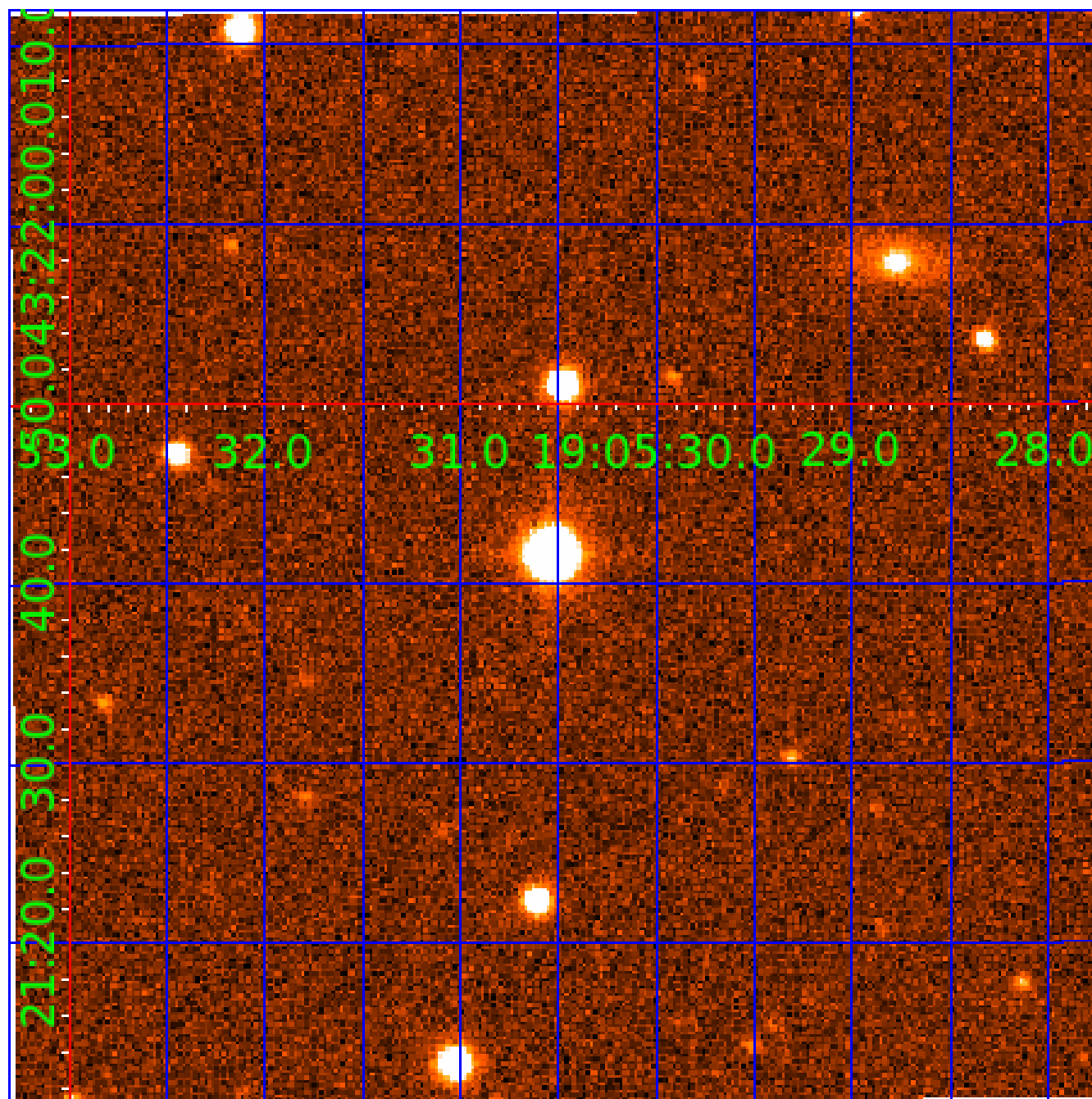


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007668857

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})
007668857-01	OBS	No	2.096416	132.405114	57.6	7.516	10.4	10.3	0.62	4706	0.58	229.82
007668857-04	OBS	No	294.549100	313.153555	513.6	7.115	11.1	6.3	0.62	4706	1.58	0.32
007668857-05	OBS	No	375.848743	236.051519	598.5	10.925	10.8	6.4	0.62	4706	3.01	0.23
007668857-06	OBS	No	283.406666	412.741486	555.1	6.000	8.8	-1.0	0.62	4706	1.42	0.33
007668857-07	OBS	No	2.096110	133.222839	41.4	8.845	8.3	8.1	0.62	4706	0.39	229.87
007668857-08	OBS	No	147.908530	198.975798	675.3	7.500	11.6	-1.0	0.62	4706	1.56	0.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007668857-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
007668857-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007668857-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007668857-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
007668857-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
007668857-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

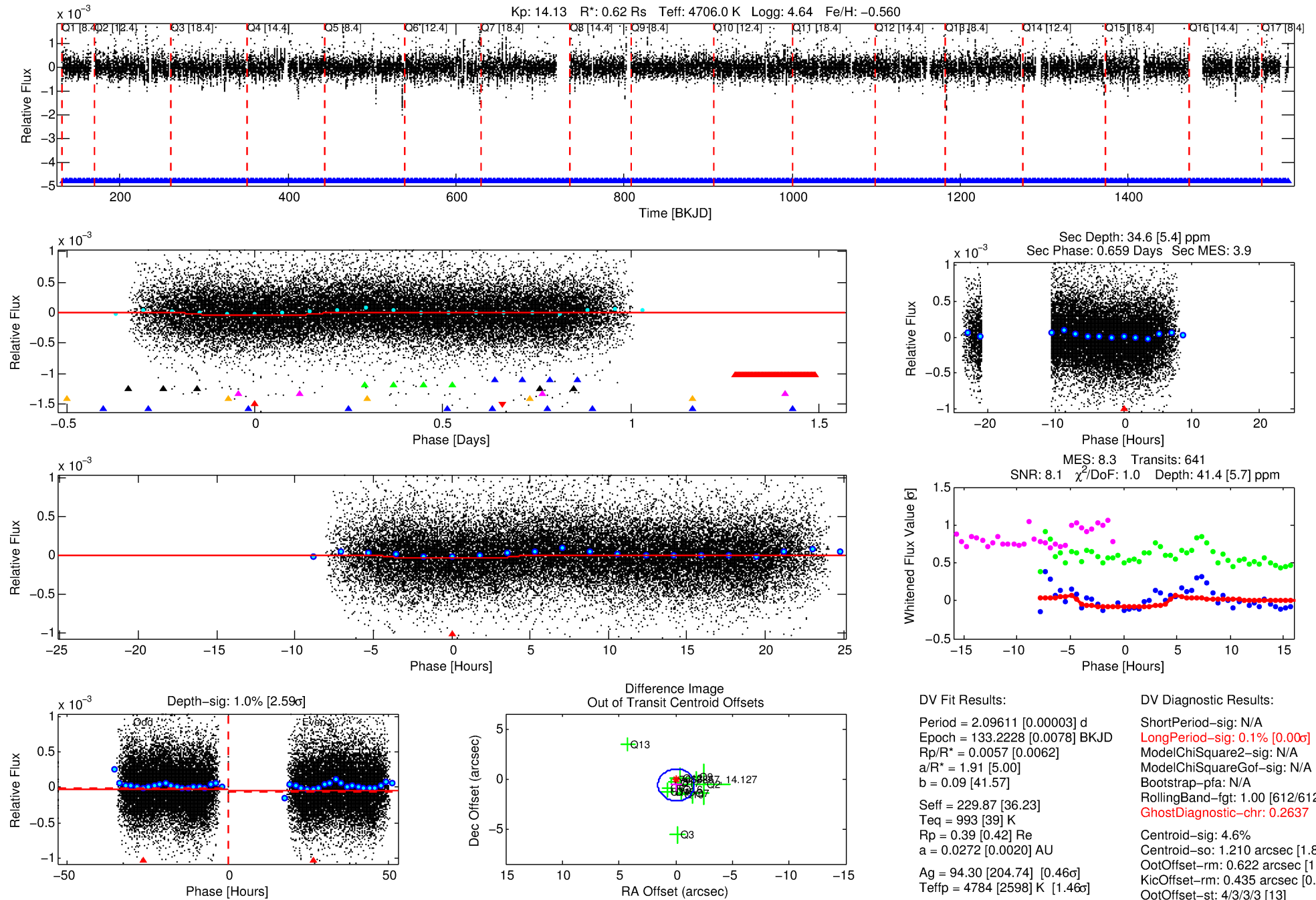
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007668857-07

No Significant Match Found

DV One-Page Summary

KIC: 7668857 Candidate: 7 of 8 Period: 2.096 d



DV Fit Results:

Period = 2.09611 [0.00003] d
Epoch = 133.2228 [0.0078] BKJD
Rp/R* = 0.0057 [0.0062]
a/R* = 1.91 [5.00]
b = 0.09 [41.57]
Seff = 229.87 [36.23]
Teq = 993 [39] K
Rp = 0.39 [0.42] Re
a = 0.0272 [0.0020] AU
Ag = 94.30 [204.74] [0.46 σ]
Teffp = 4784 [2598] K [1.46 σ]

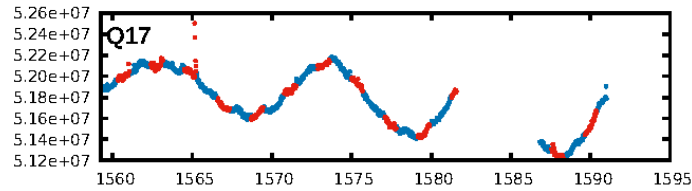
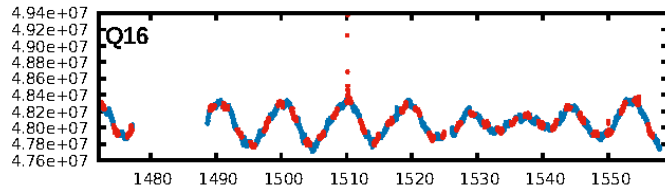
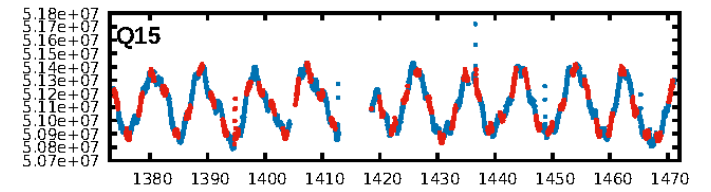
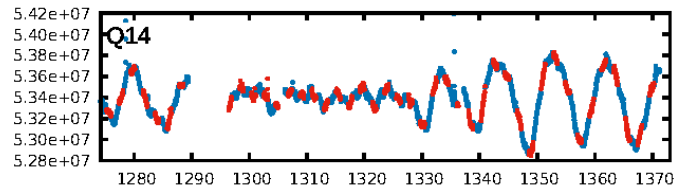
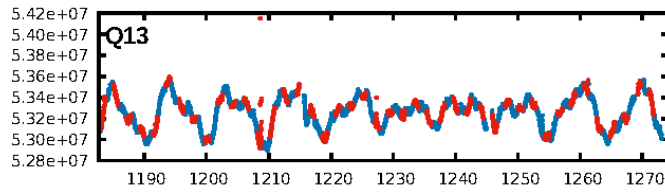
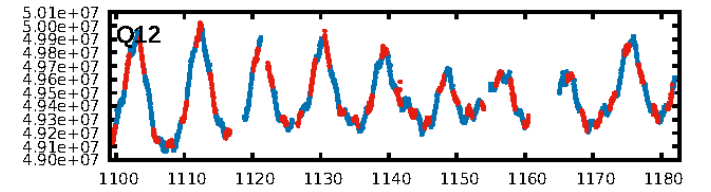
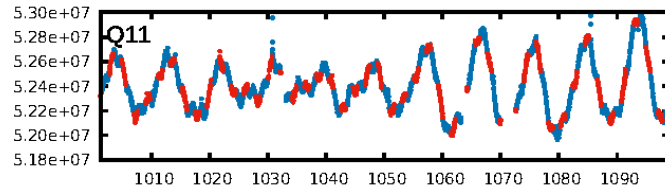
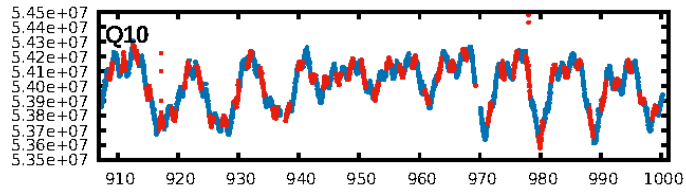
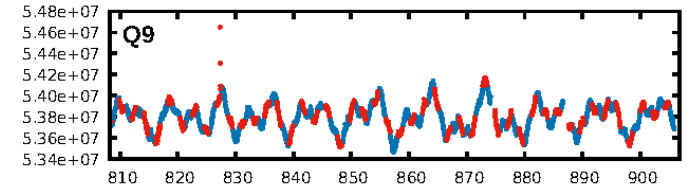
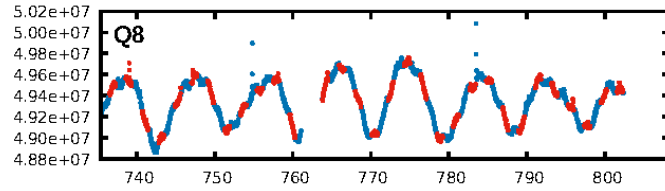
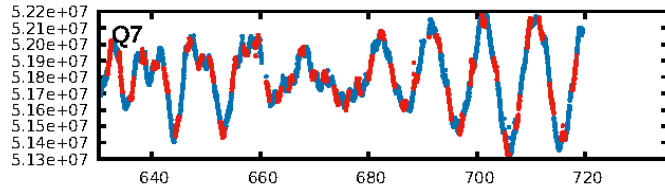
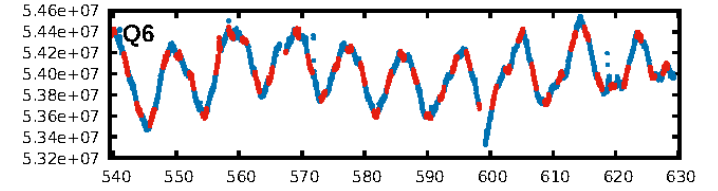
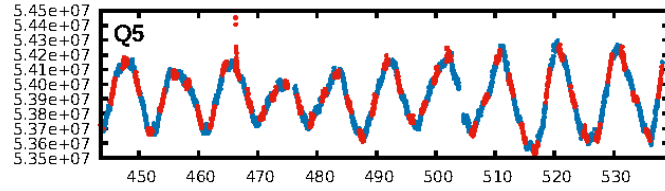
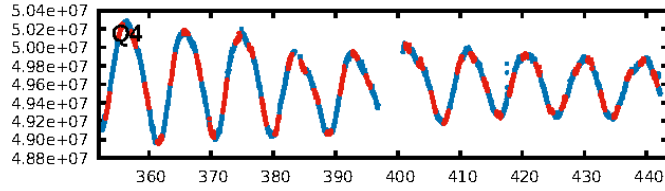
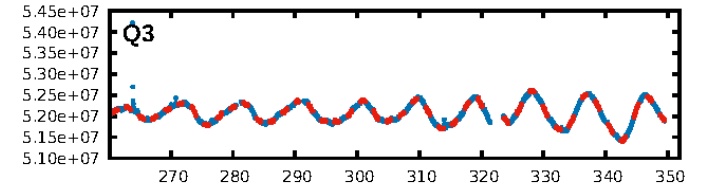
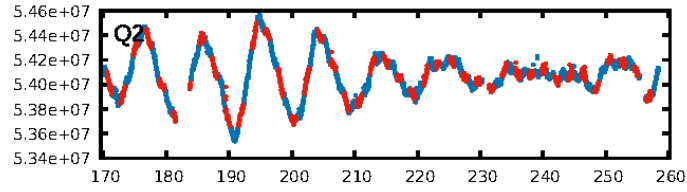
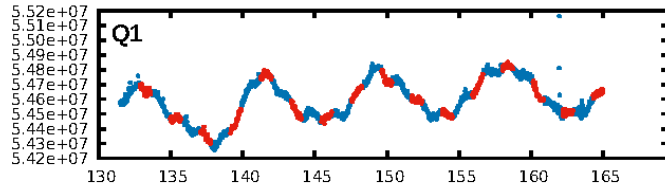
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [612/612]
GhostDiagnostic-chr: 0.2637
Centroid-sig: 4.6%
Centroid-so: 1.210 arcsec [1.87 σ]
OotOffset-rm: 0.622 arcsec [1.16 σ]
KicOffset-rm: 0.435 arcsec [0.91 σ]
OotOffset-st: 4/3/3/3 [13]
KicOffset-st: 4/3/3/3 [13]
DiffImageQuality-fgm: 0.62 [8/13]
DiffImageOverlap-fno: 0.00 [0/17]

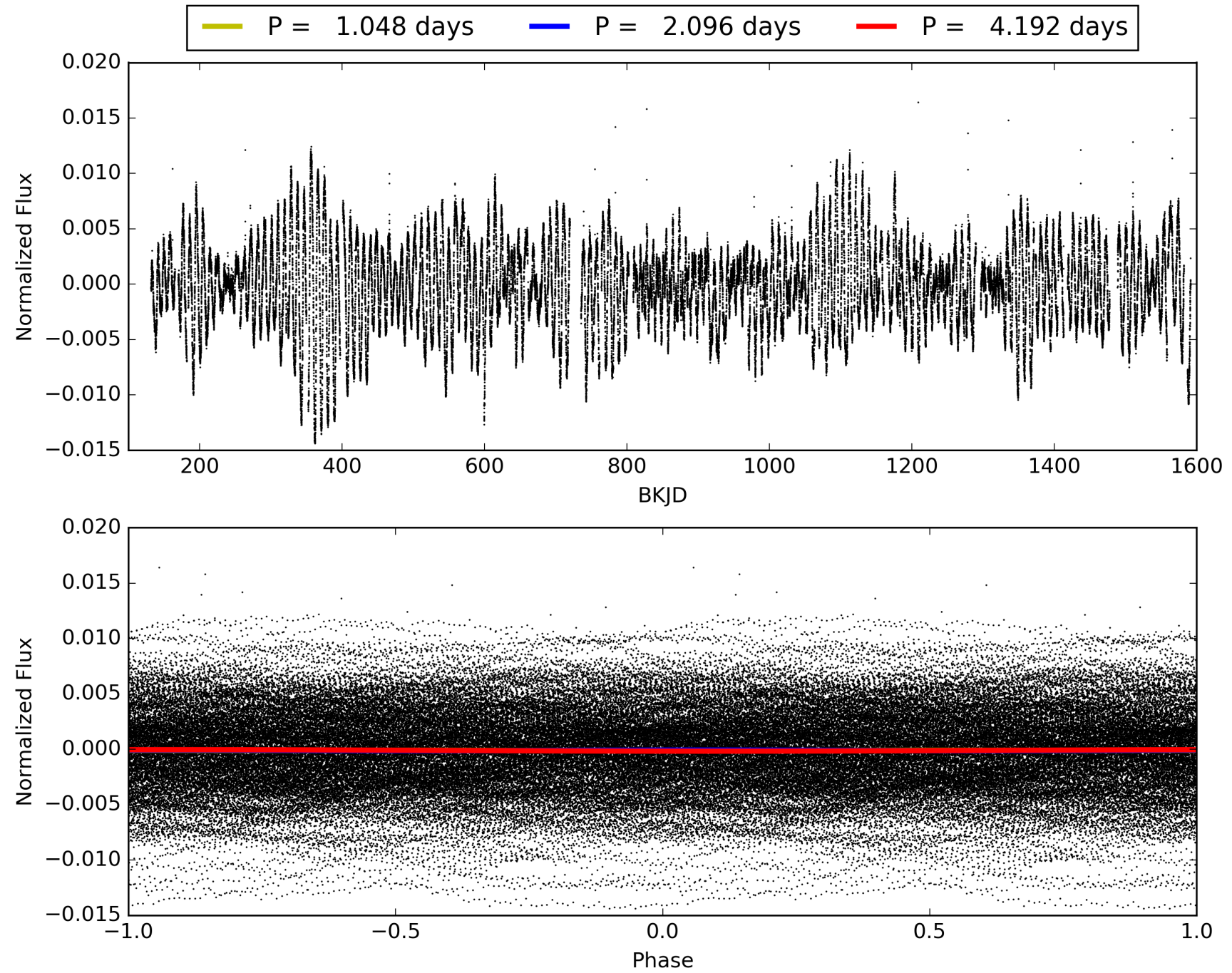
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:14:55 Z

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

TCE 007668857-07, PDC Light Curves

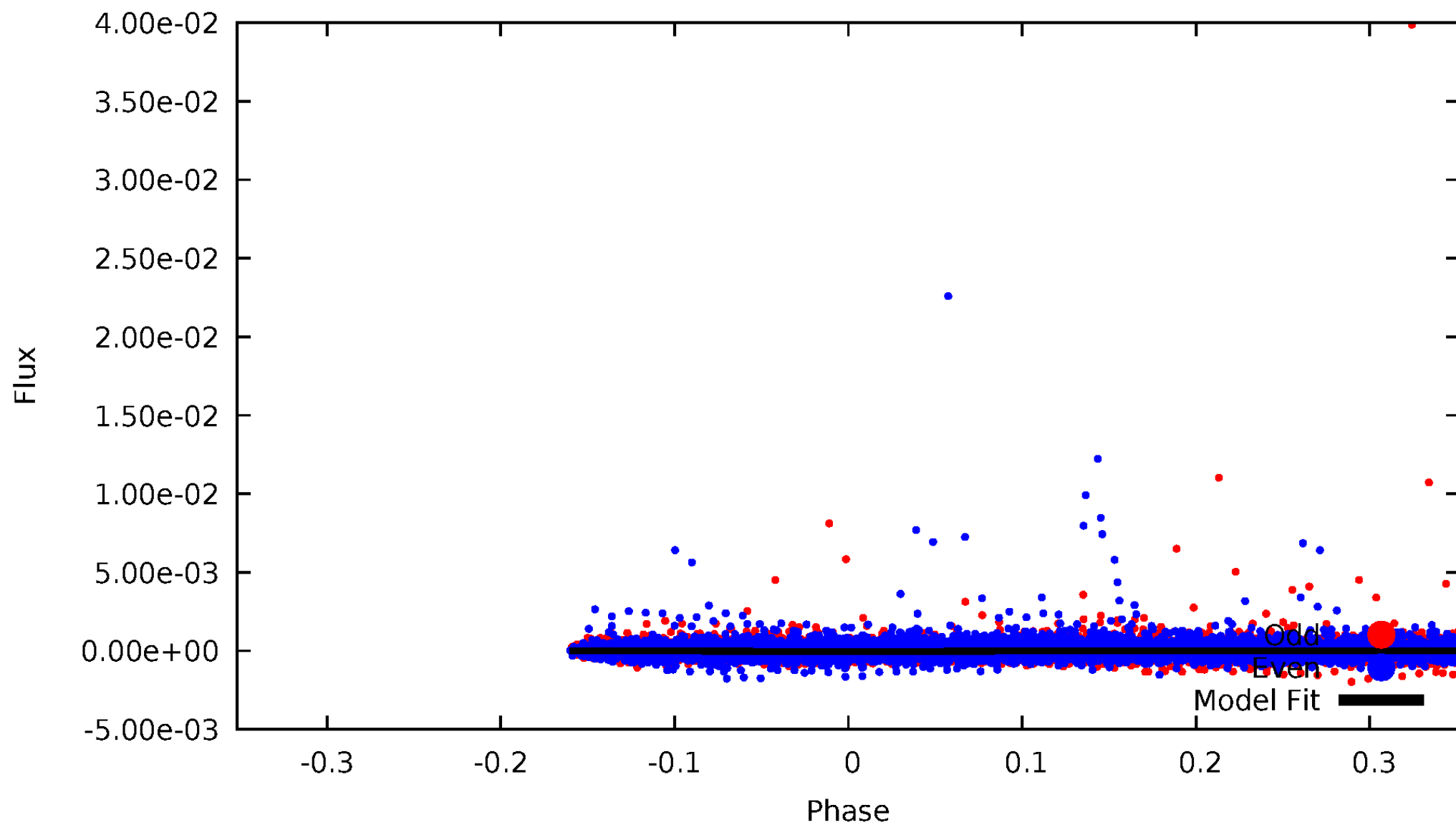


TCE 007668857-07



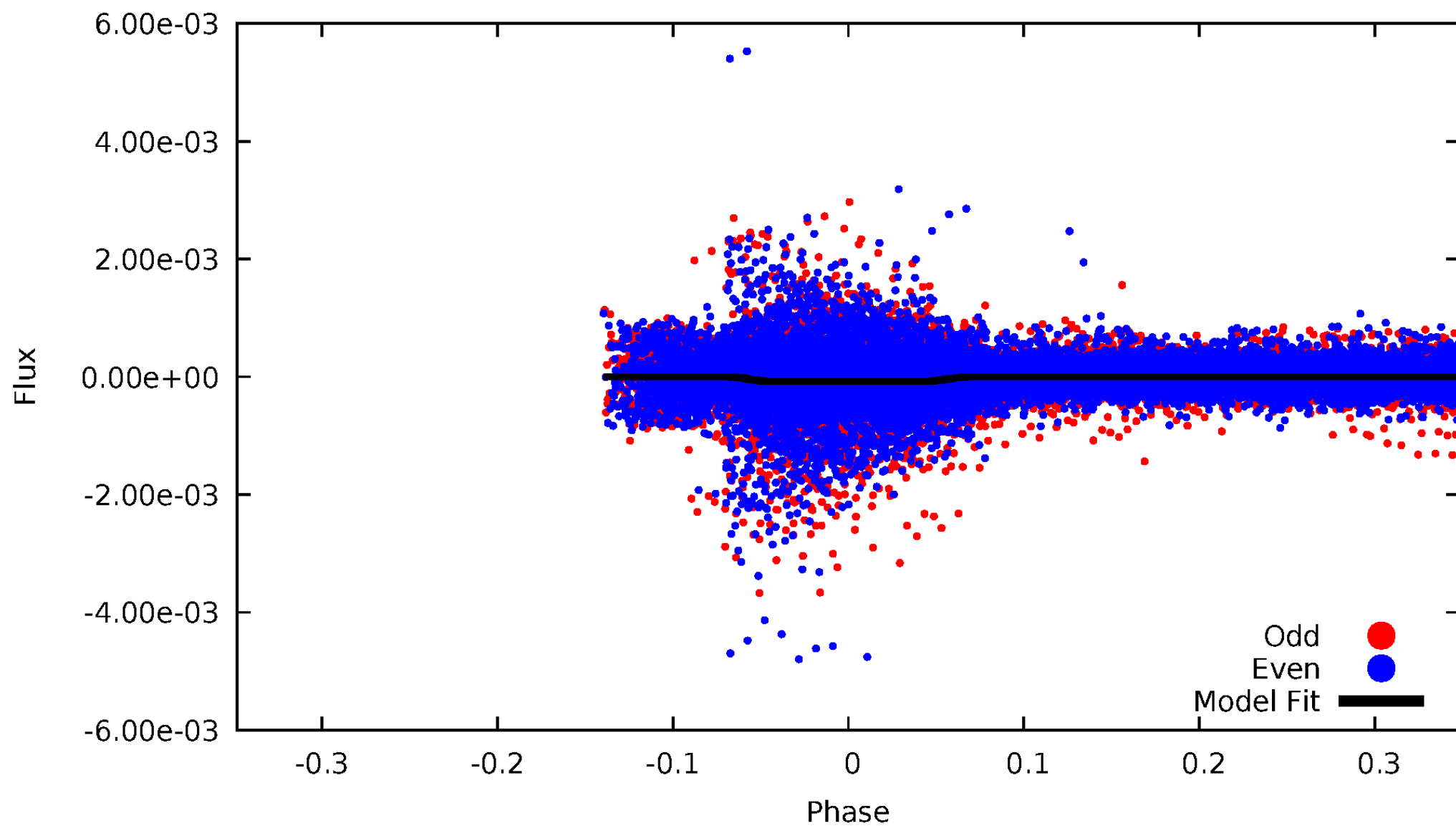
DV Odd/Even

TCE 007668857-07

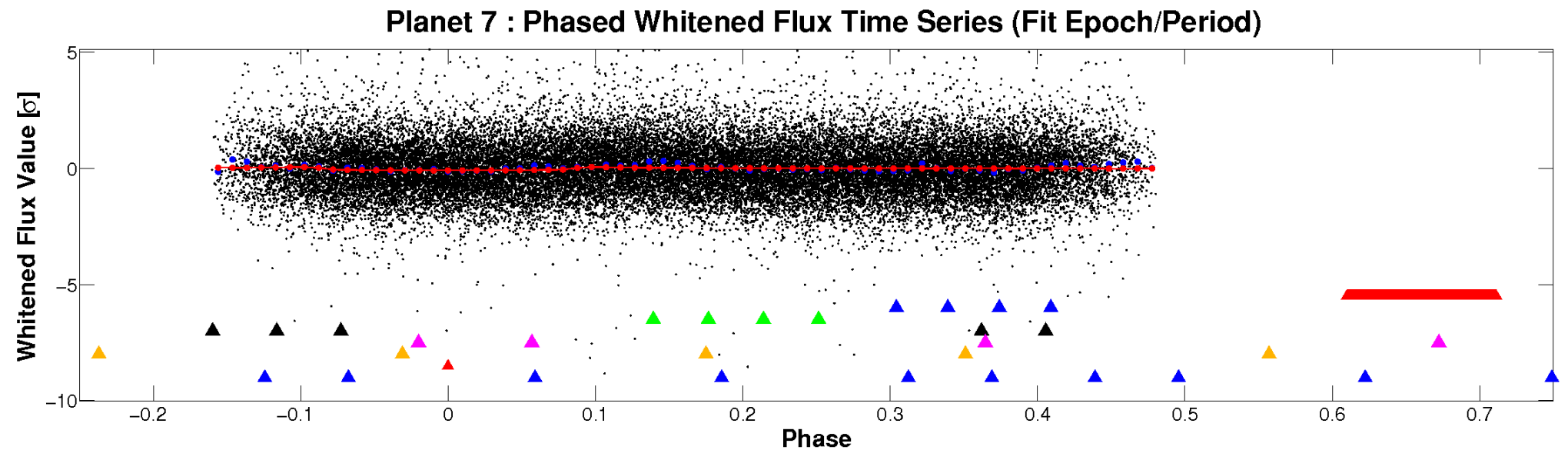
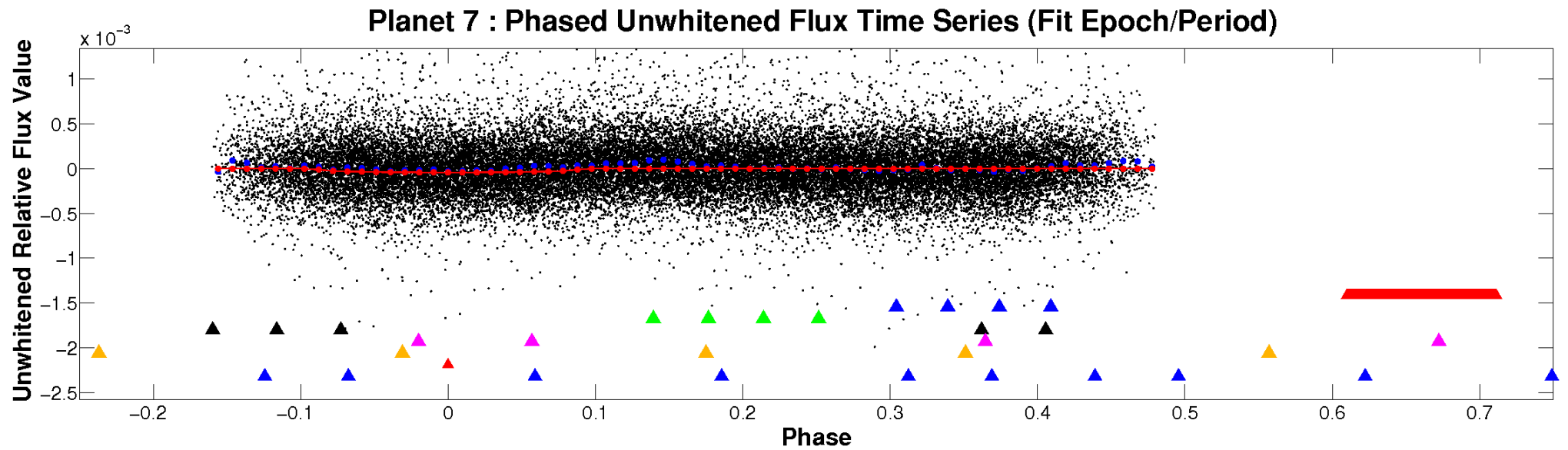


ALT Odd/Even

TCE 007668857-07

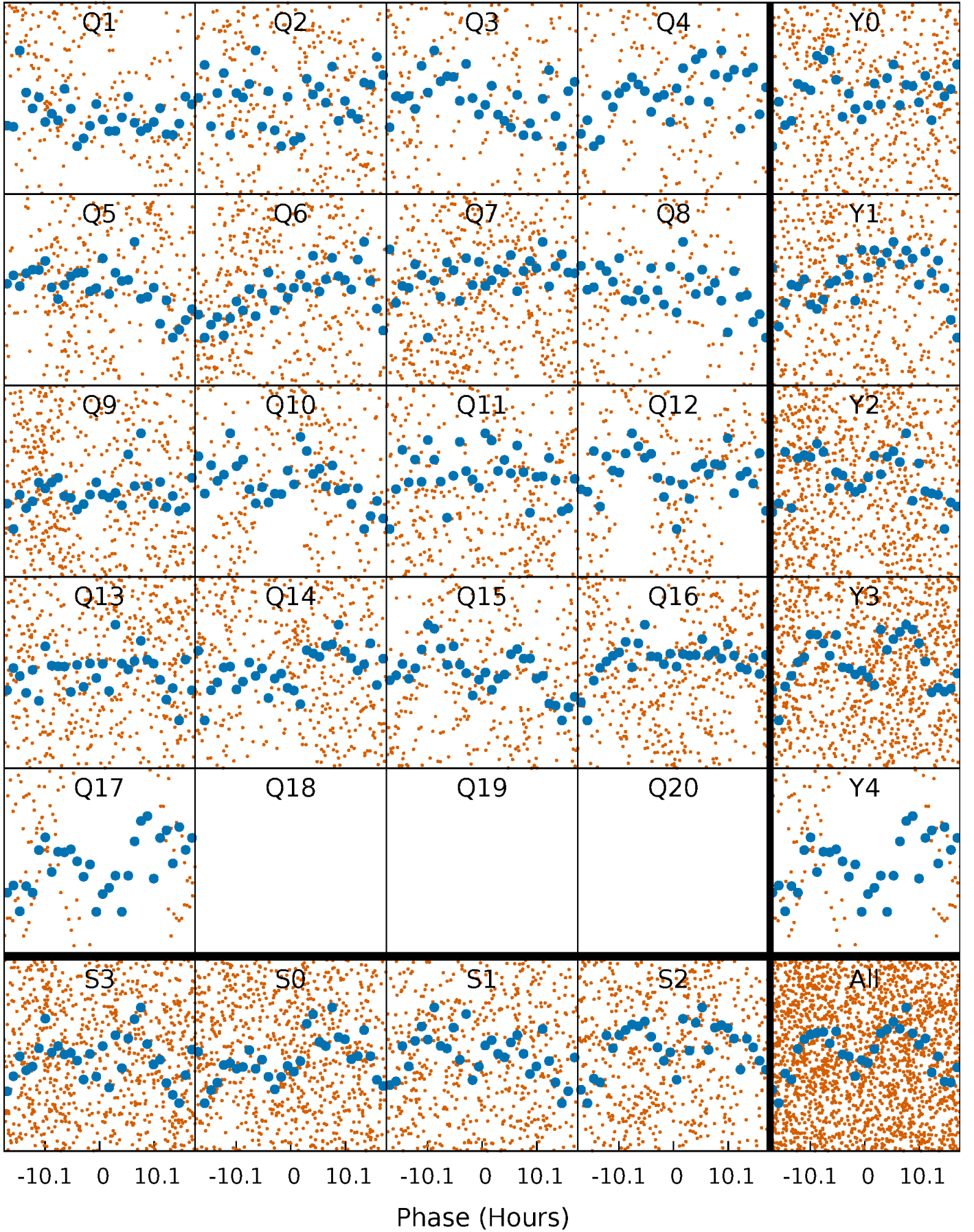


Non-Whitened Vs. Whitened Light Curve



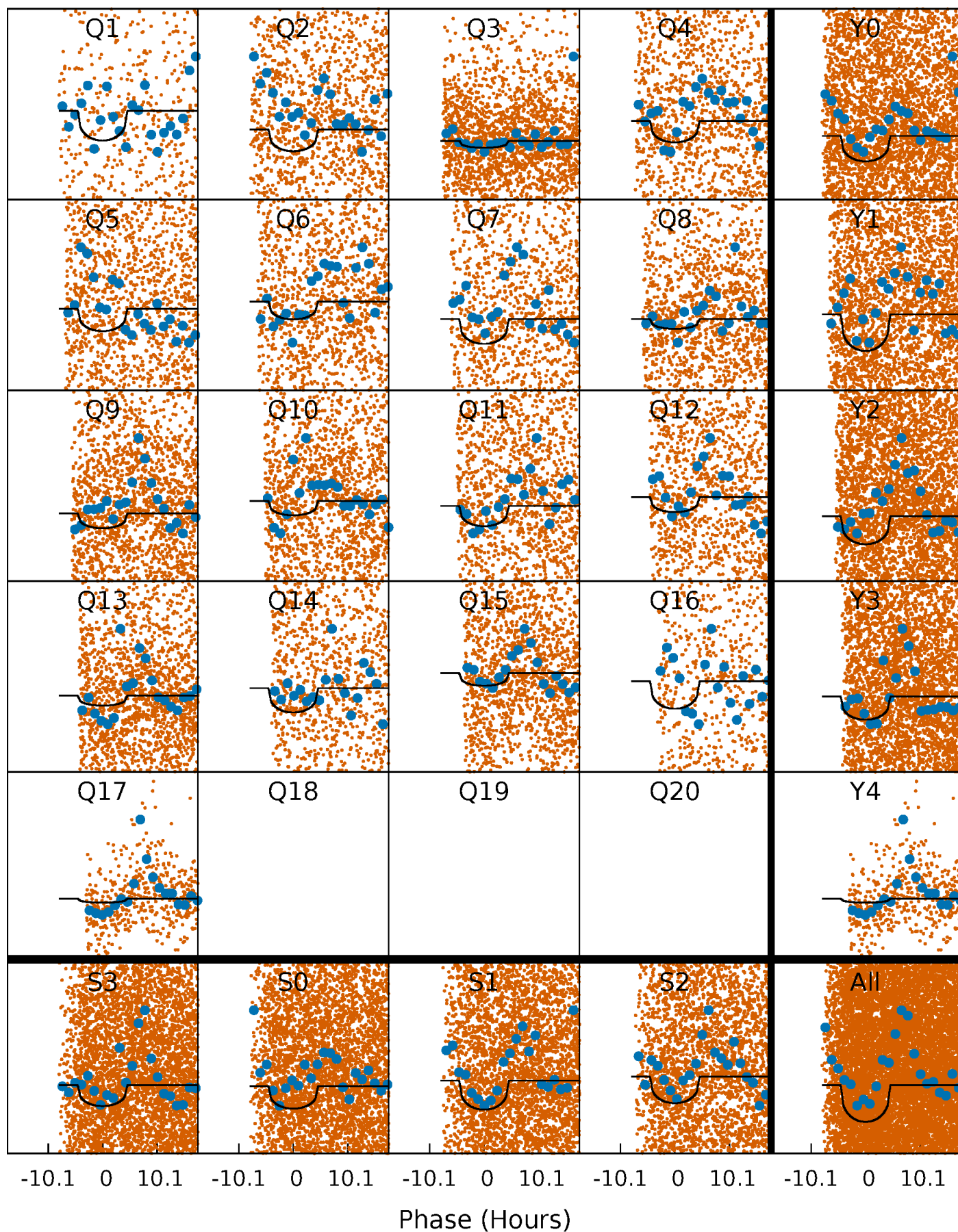
PDC Quarter-Phased Transit Curves

TCE 007668857-07 $P = 2.096110$ Days $T_0 = 133.222839$ (BKJD)



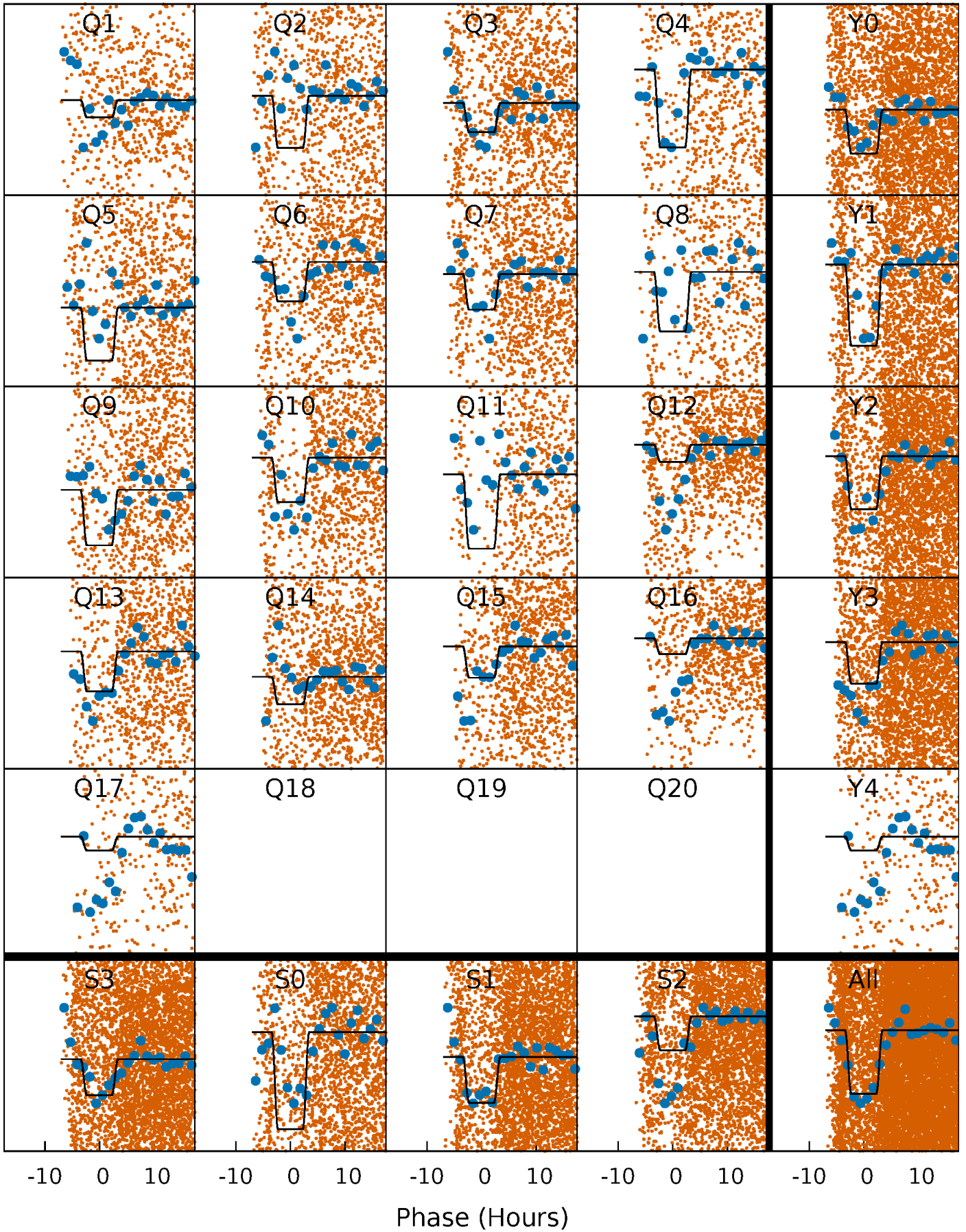
DV Quarter-Phased Transit Curves

TCE 007668857-07 $P = 2.096110$ Days $T_0 = 133.222839$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

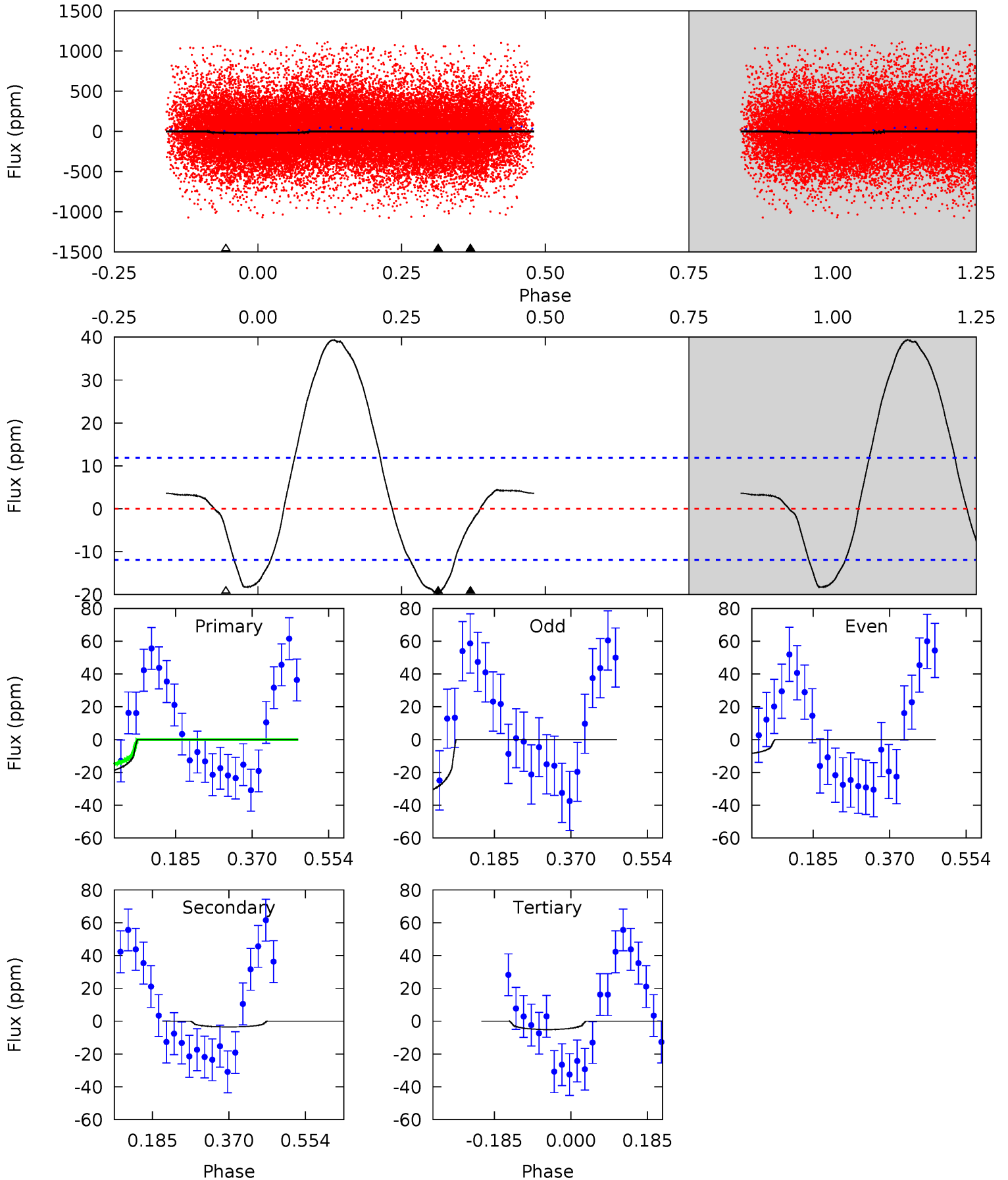
TCE 007668857-07 P= 2.096271 Days $T_0=133.179264$ (BKJD)



DV Model-Shift Uniqueness Test

007668857-07, P = 2.096110 Days, E = 131.126729 Days

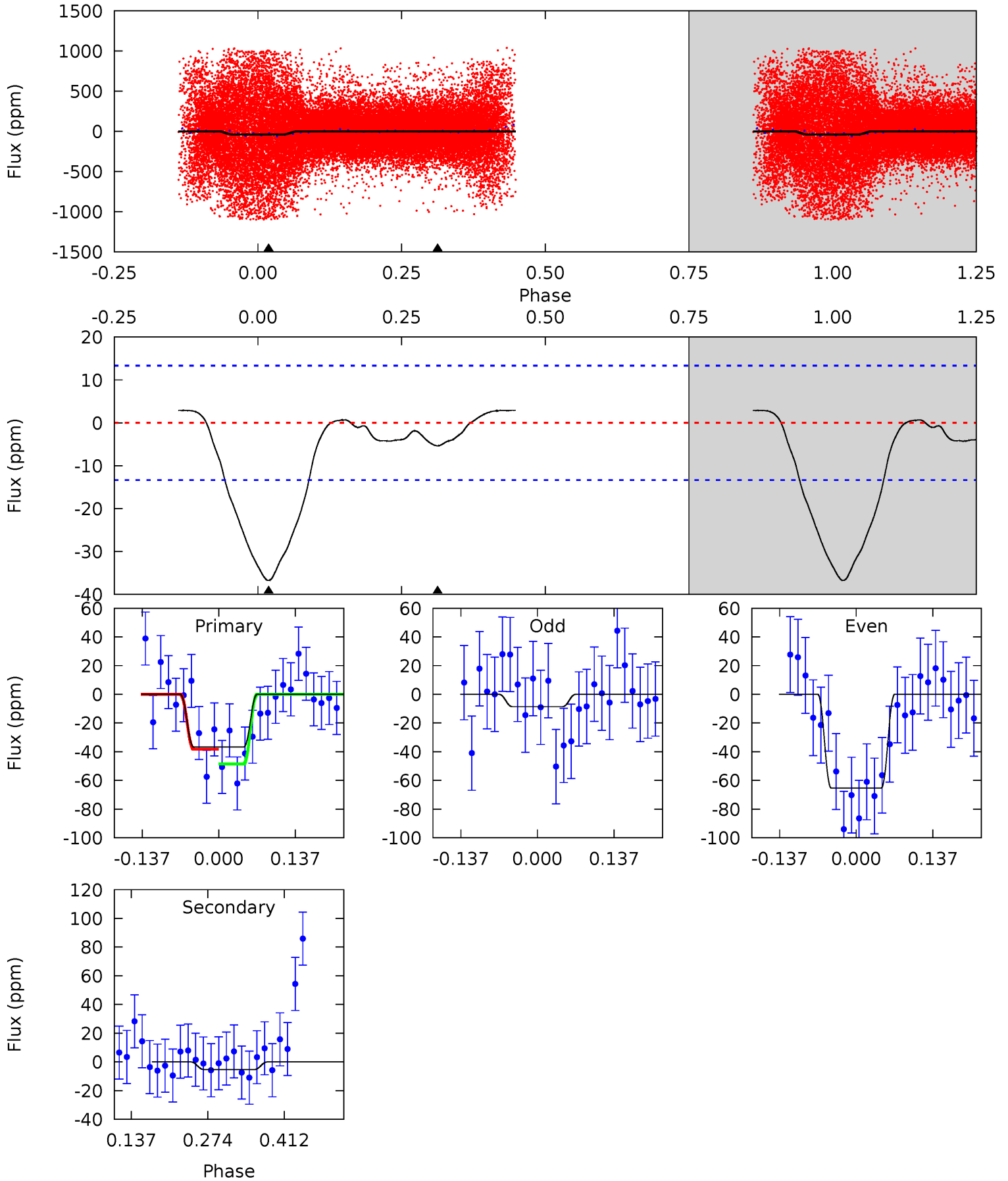
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.36	1.32	1.91	0	4.43	1.33	6.63	5.45	7.36	-0.59	1.32	4.37	0.18	0.67	2.02



Alt Model-Shift Uniqueness Test

007668857-07, P = 2.096271 Days, E = 131.082993 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	1.81	0	0	4.50	1.49	0.43	12.4	12.4	1.81	1.81	8.86	1.55	0.07	0.98



Stellar Parameters For KIC 007668857

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4706^{+141}_{-127}	$4.636^{+0.054}_{-0.032}$	$-0.560^{+0.350}_{-0.300}$	$0.622^{+0.056}_{-0.051}$	$0.610^{+0.069}_{-0.035}$	$3.570^{+0.877}_{-0.486}$
	+3%/-3%	+1%/-1%	+62%/-54%	+9%/-8%	+11%/-6%	+25%/-14%
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 007668857-07 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 3	$0.47^{+0.40}_{-0.31}$	1384^{+45}_{-49}	2913^{+1248}_{-687}	$5.345^{+41.931}_{-4.484}$
Alt.	-5 ± 3	$0.61^{+0.42}_{-0.36}$	1380^{+50}_{-44}	2937^{+1009}_{-545}	$5.303^{+29.407}_{-3.936}$

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

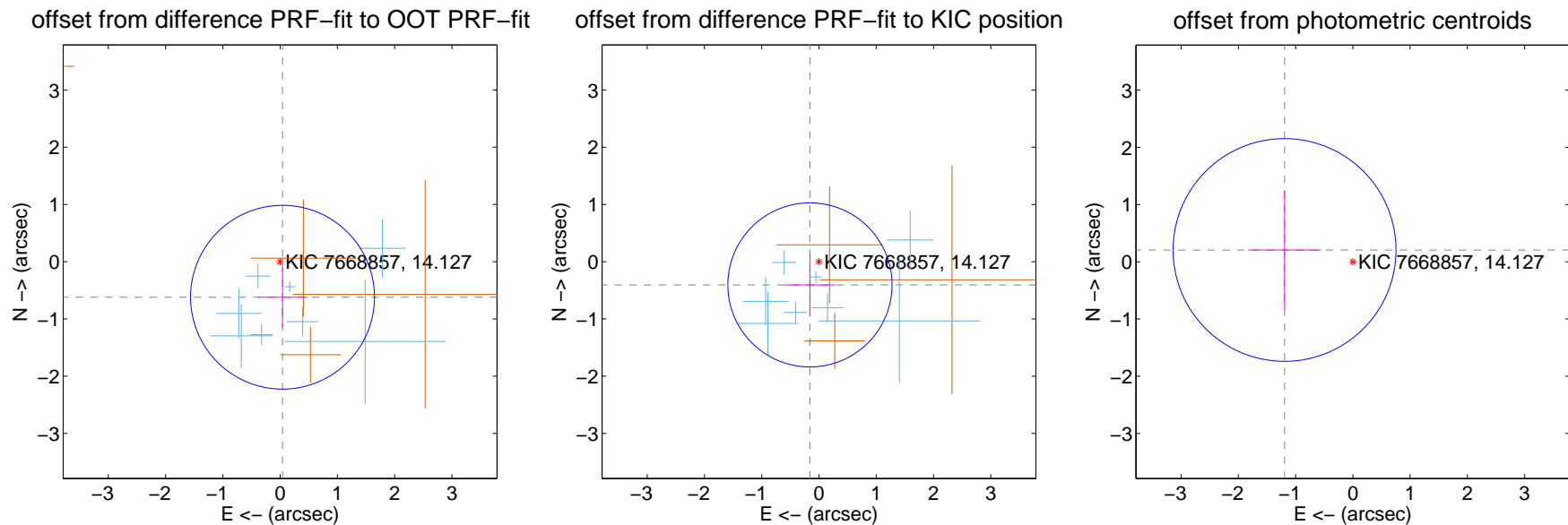
DV Centroid Data

Supplemental centroid analysis for 007668857-07. Kepler magnitude: 14.13. Transit SNR 8.06

There are 8 quarters with good PRF difference image offsets

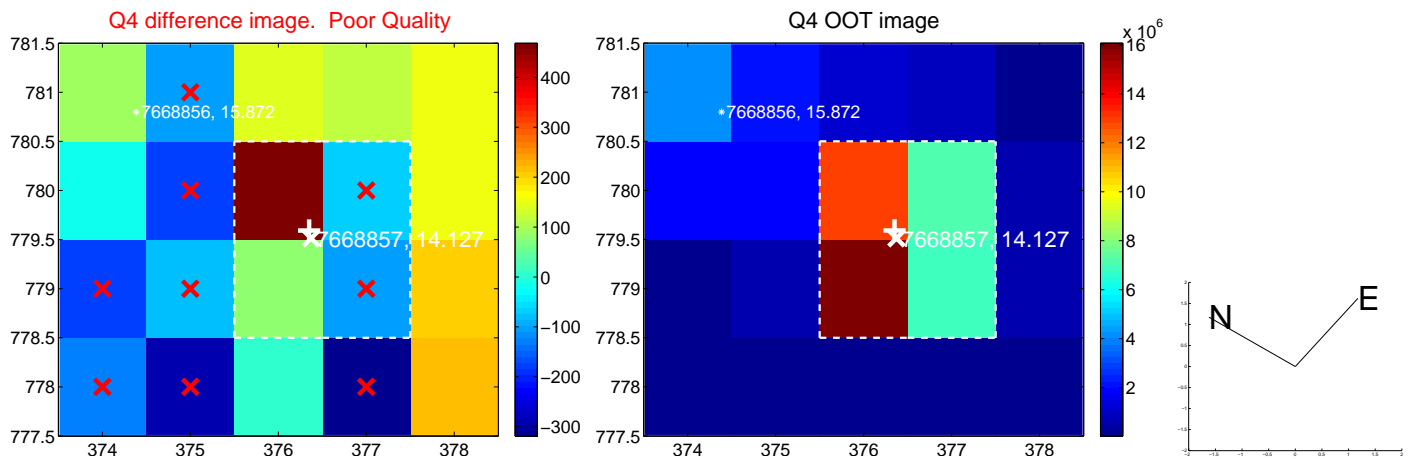
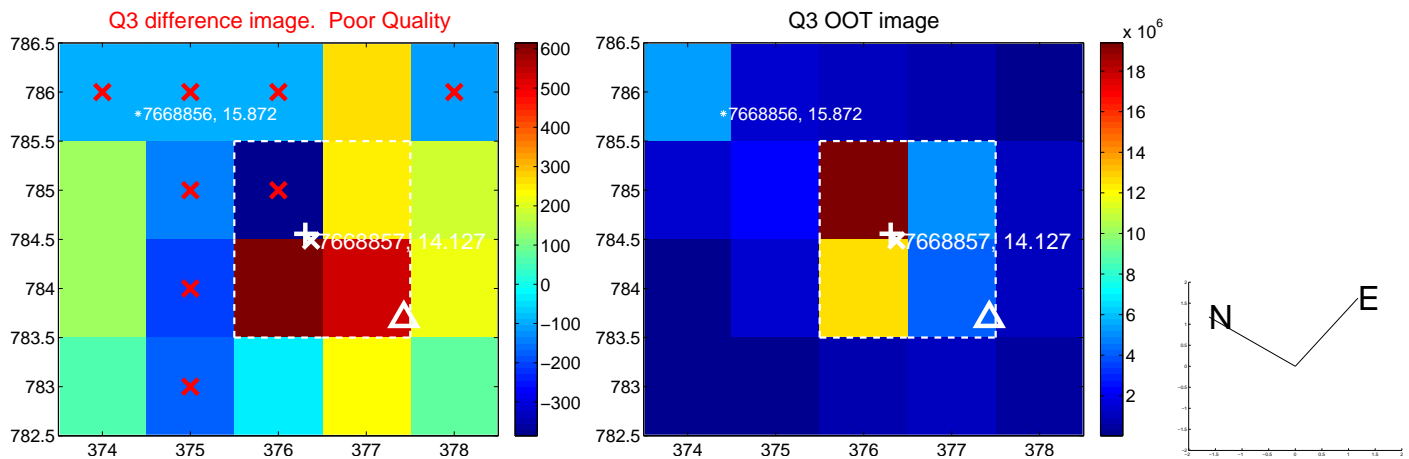
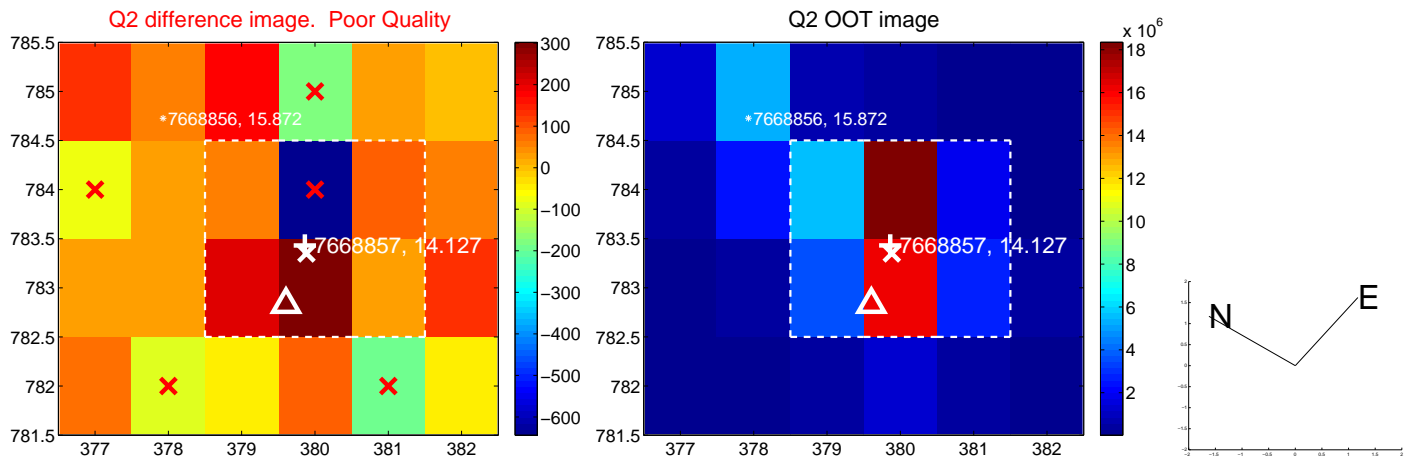
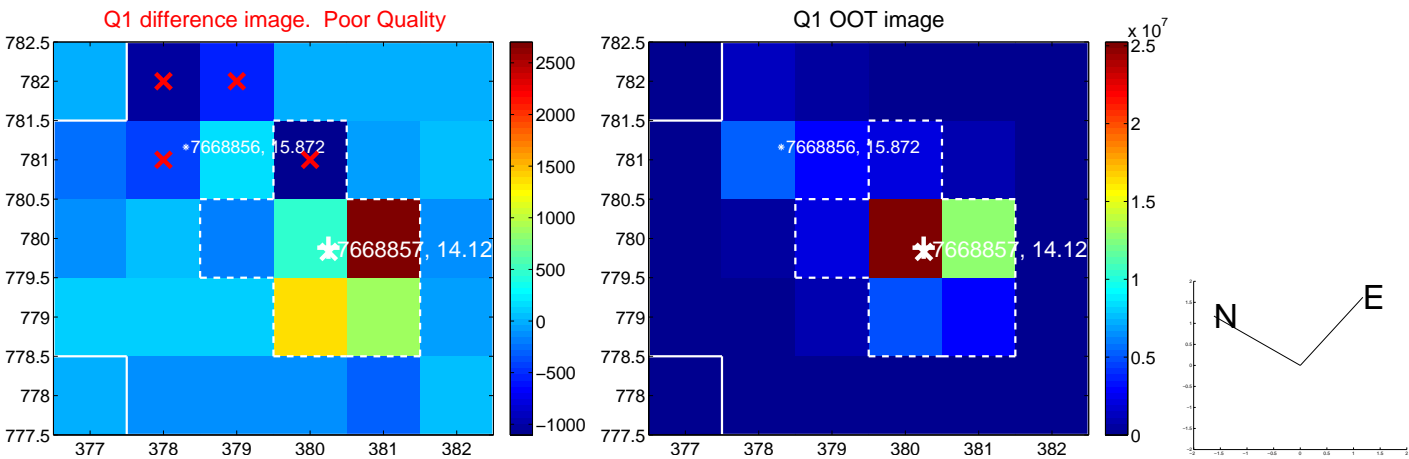
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.622 ± 0.535	1.16	-0.042 ± 0.427	-0.621 ± 0.524
PRF-fit source offset from KIC position	0.435 ± 0.478	0.91	0.158 ± 0.443	-0.405 ± 0.552
photometric centroid source offset	1.21 ± 0.65	1.87	1.19 ± 0.63	0.21 ± 1.04

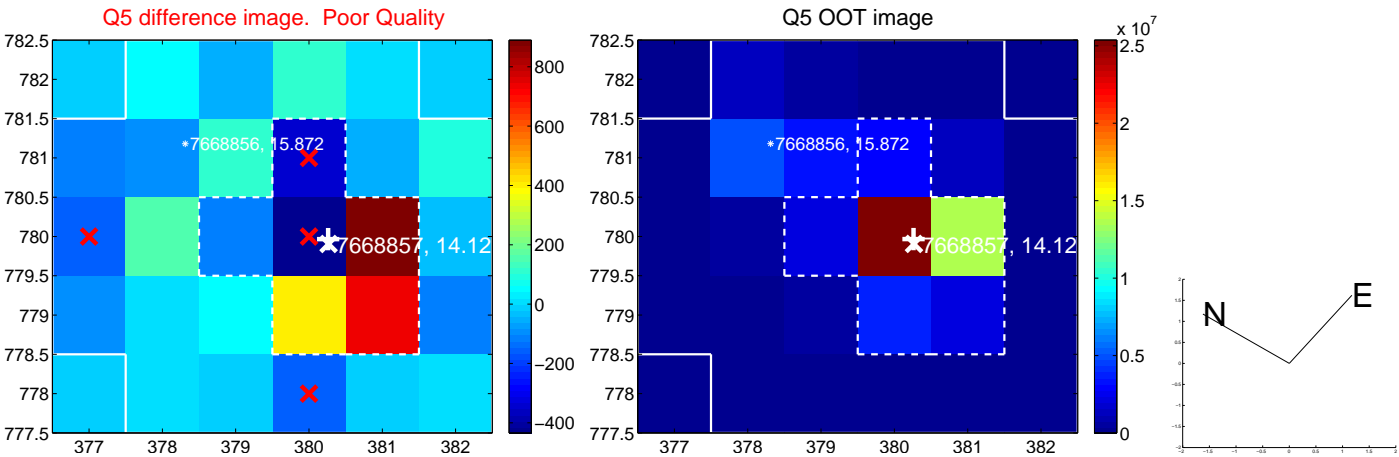


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

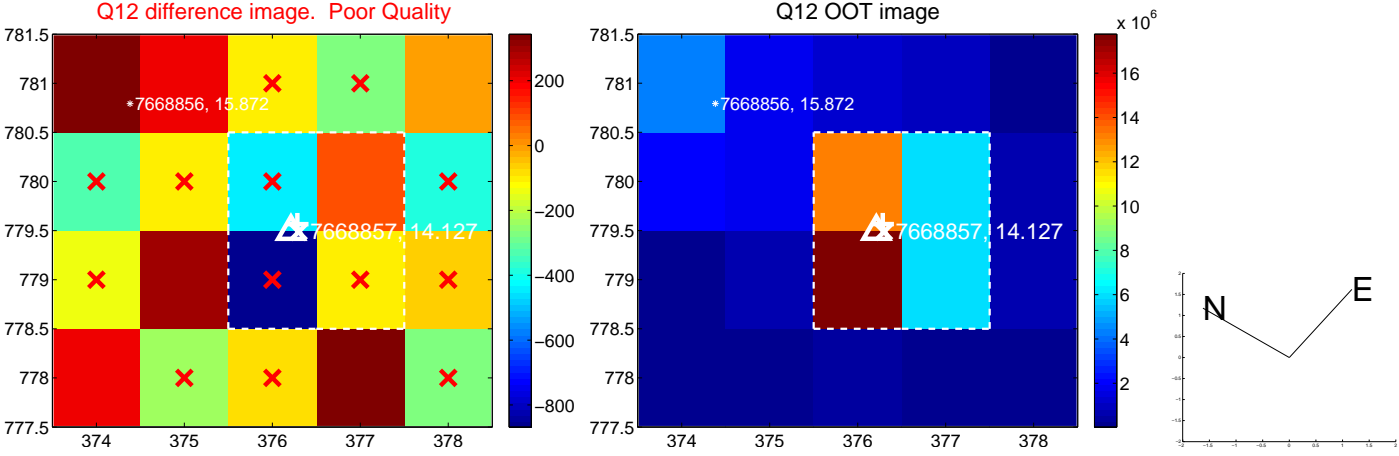
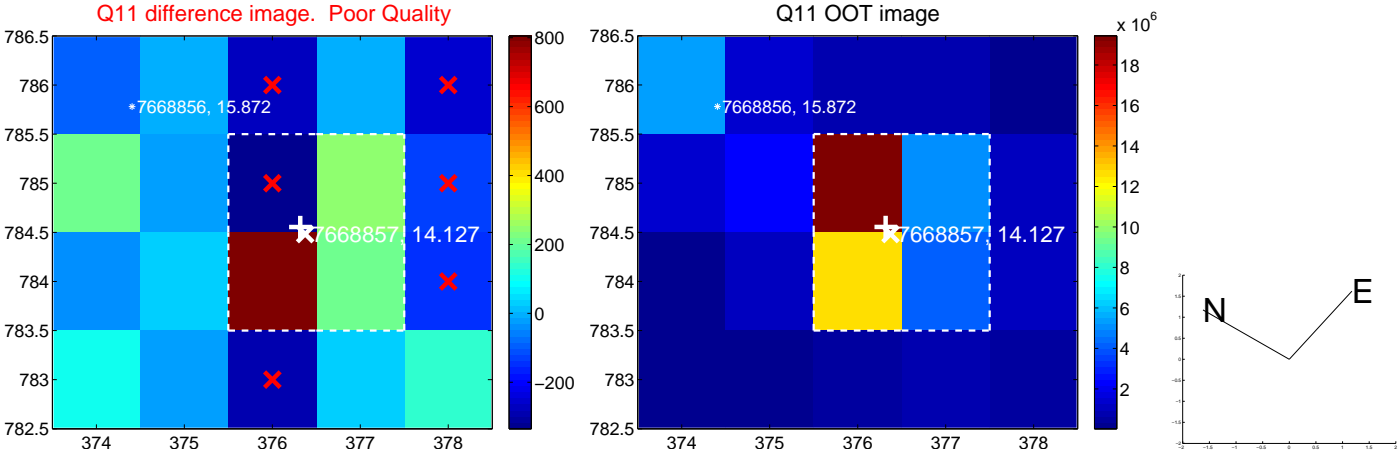
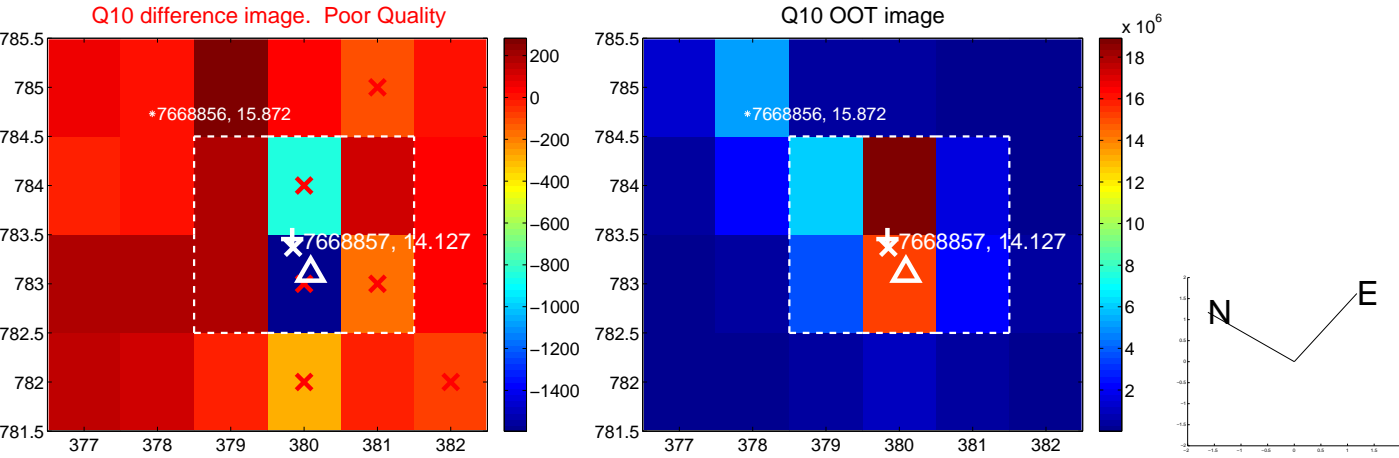
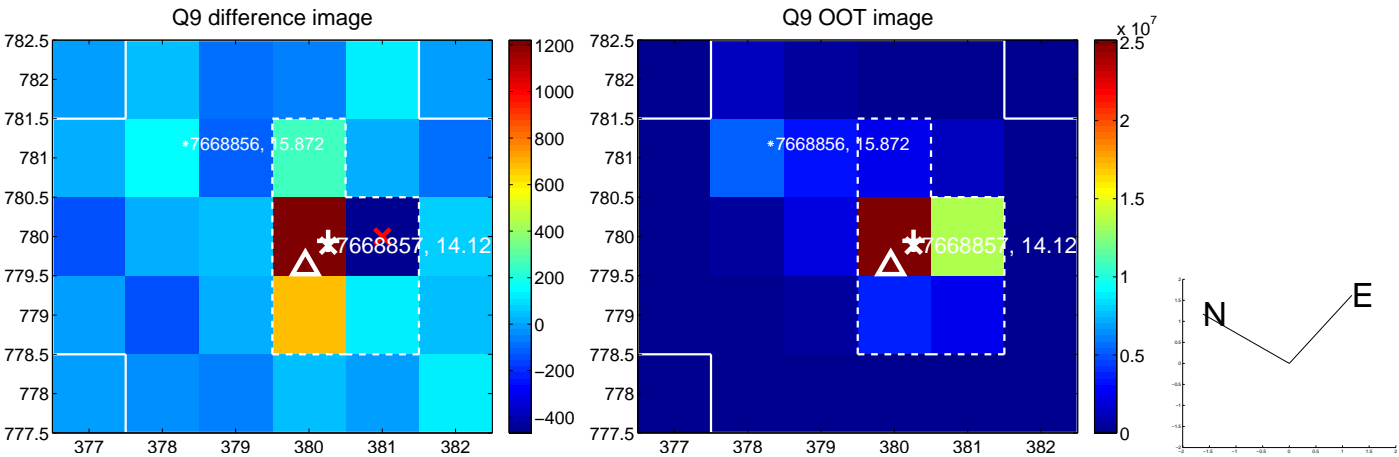
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



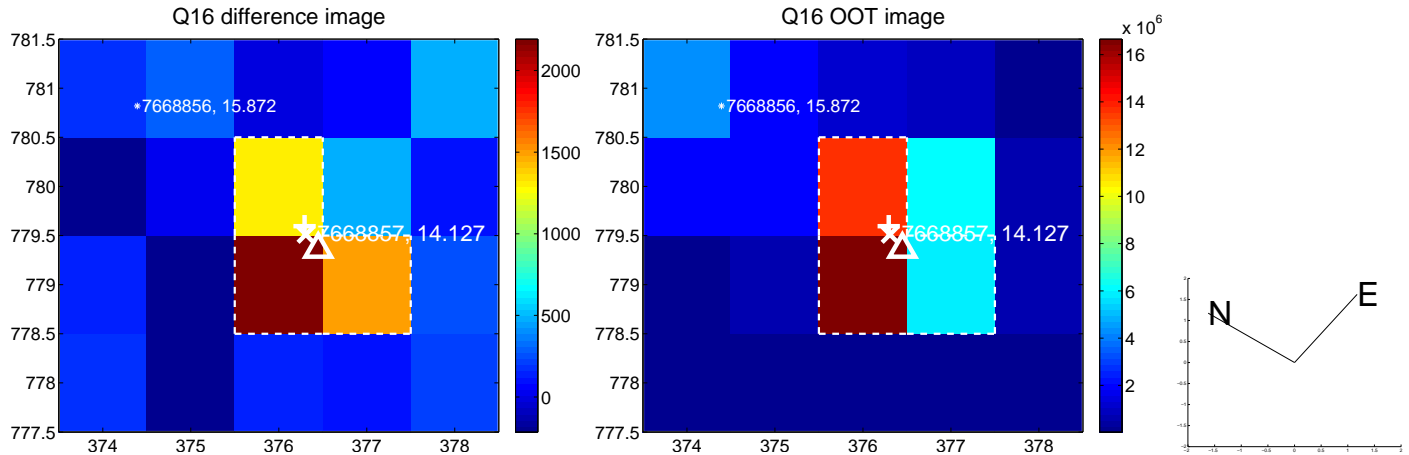
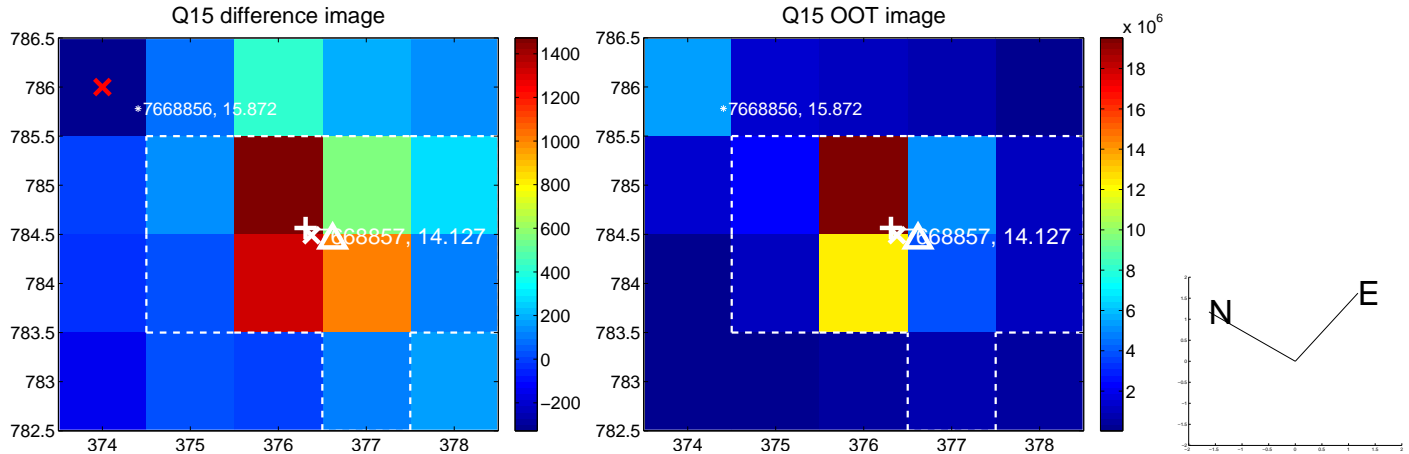
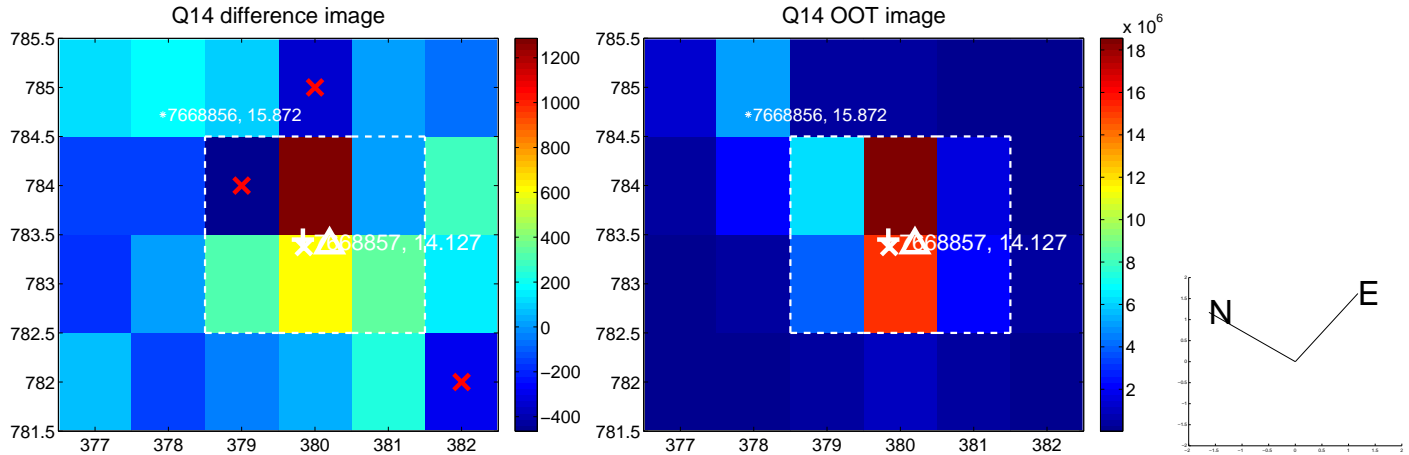
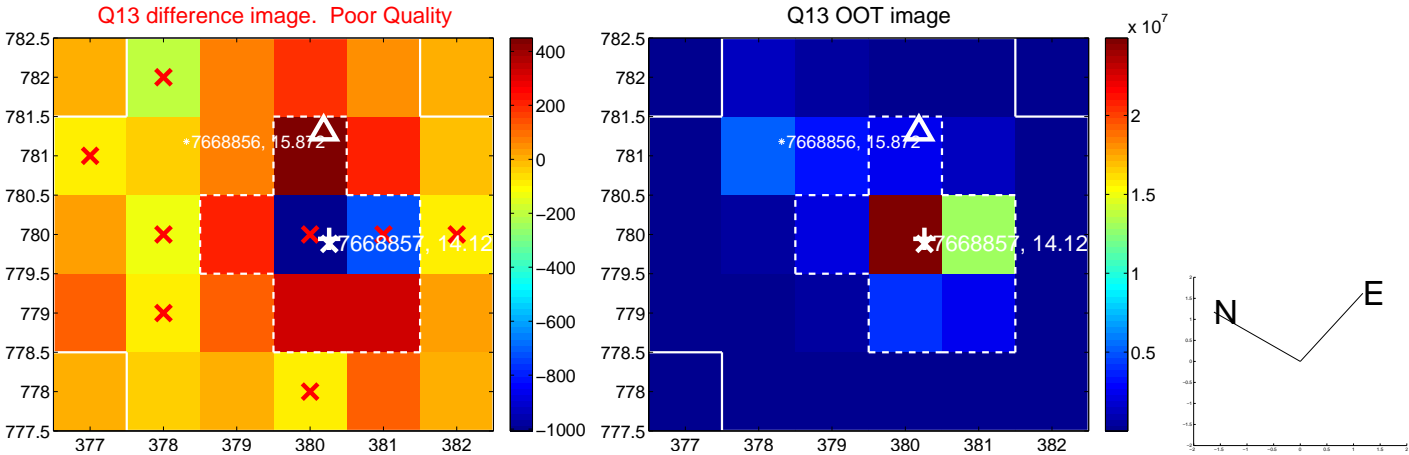
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



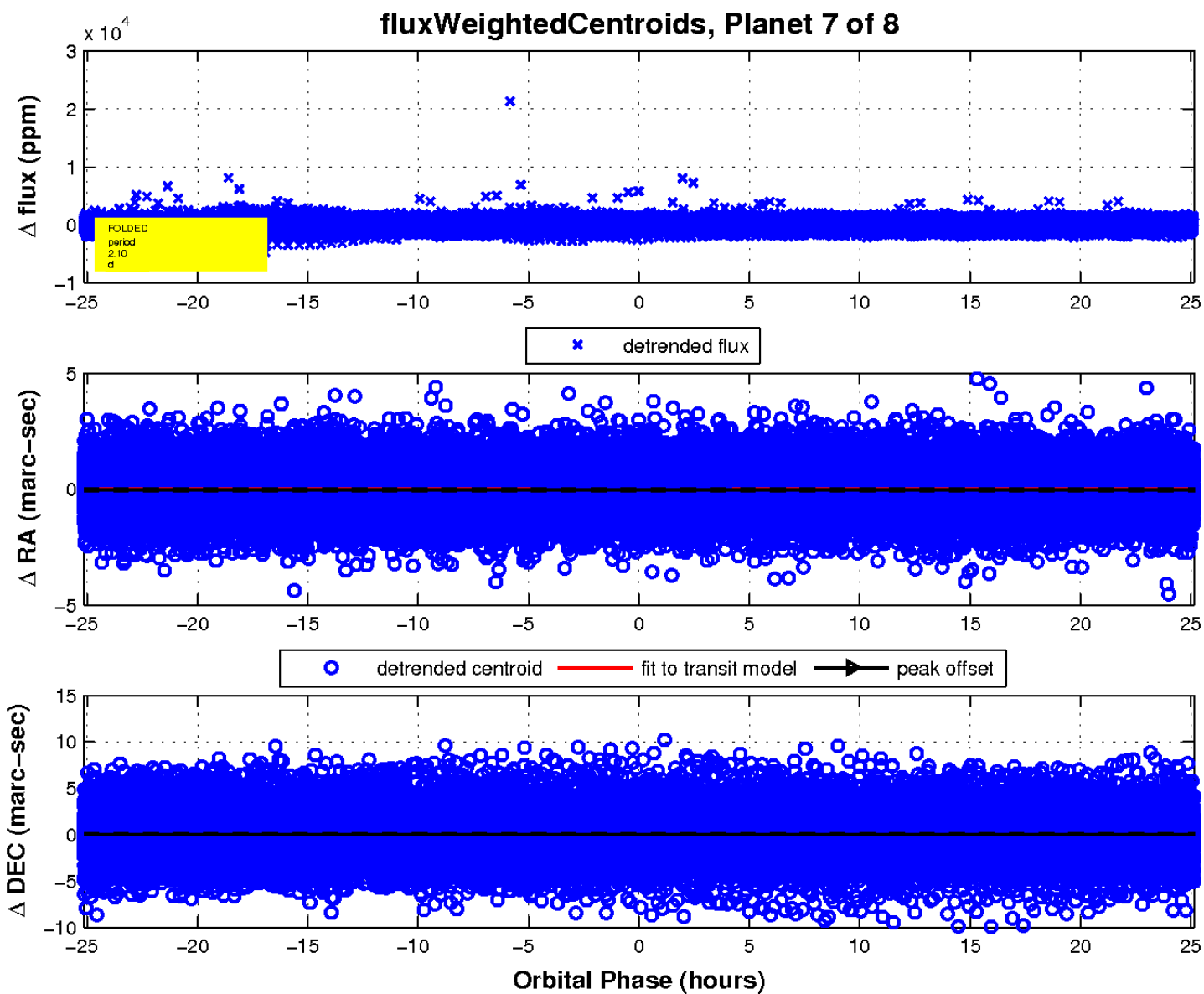
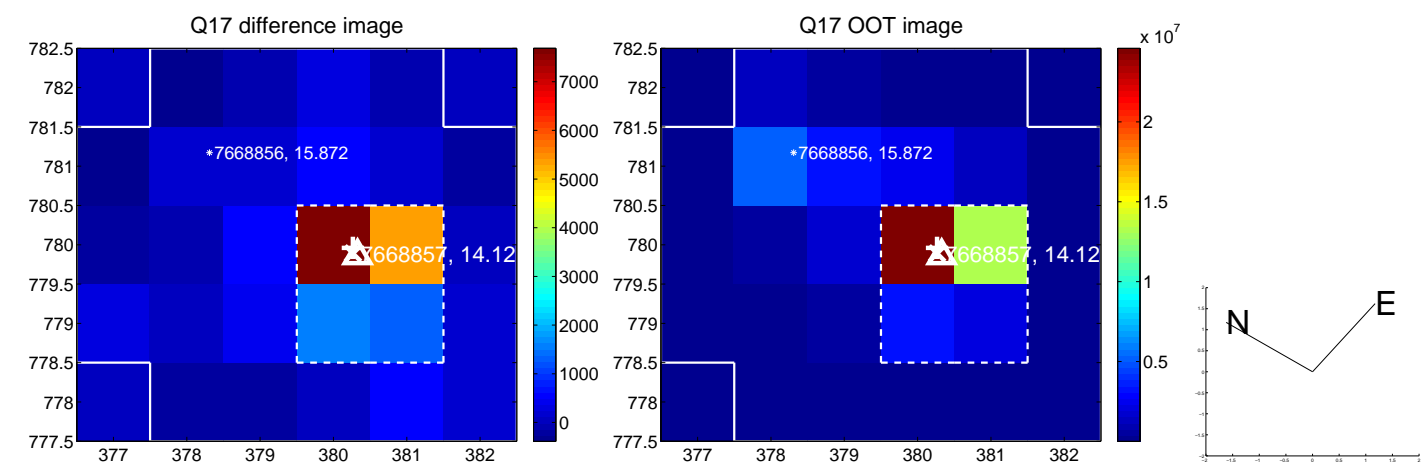
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

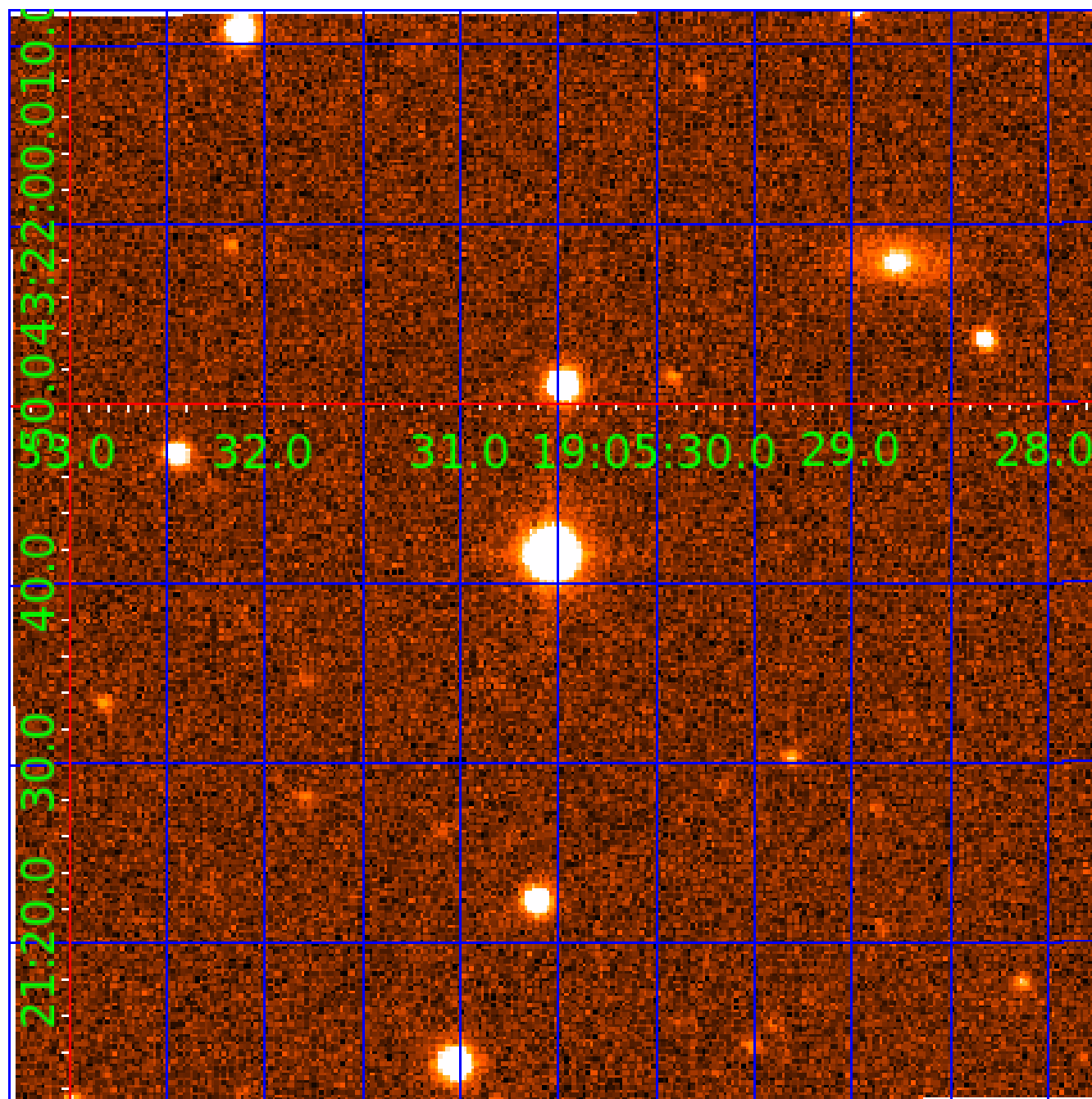


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007668857

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})
007668857-01	OBS	No	2.096416	132.405114	57.6	7.516	10.4	10.3	0.62	4706	0.58	229.82
007668857-04	OBS	No	294.549100	313.153555	513.6	7.115	11.1	6.3	0.62	4706	1.58	0.32
007668857-05	OBS	No	375.848743	236.051519	598.5	10.925	10.8	6.4	0.62	4706	3.01	0.23
007668857-06	OBS	No	283.406666	412.741486	555.1	6.000	8.8	-1.0	0.62	4706	1.42	0.33
007668857-07	OBS	No	2.096110	133.222839	41.4	8.845	8.3	8.1	0.62	4706	0.39	229.87
007668857-08	OBS	No	147.908530	198.975798	675.3	7.500	11.6	-1.0	0.62	4706	1.56	0.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007668857-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV
007668857-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
007668857-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_POS_DV—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
007668857-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
007668857-07	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD
007668857-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS

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

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

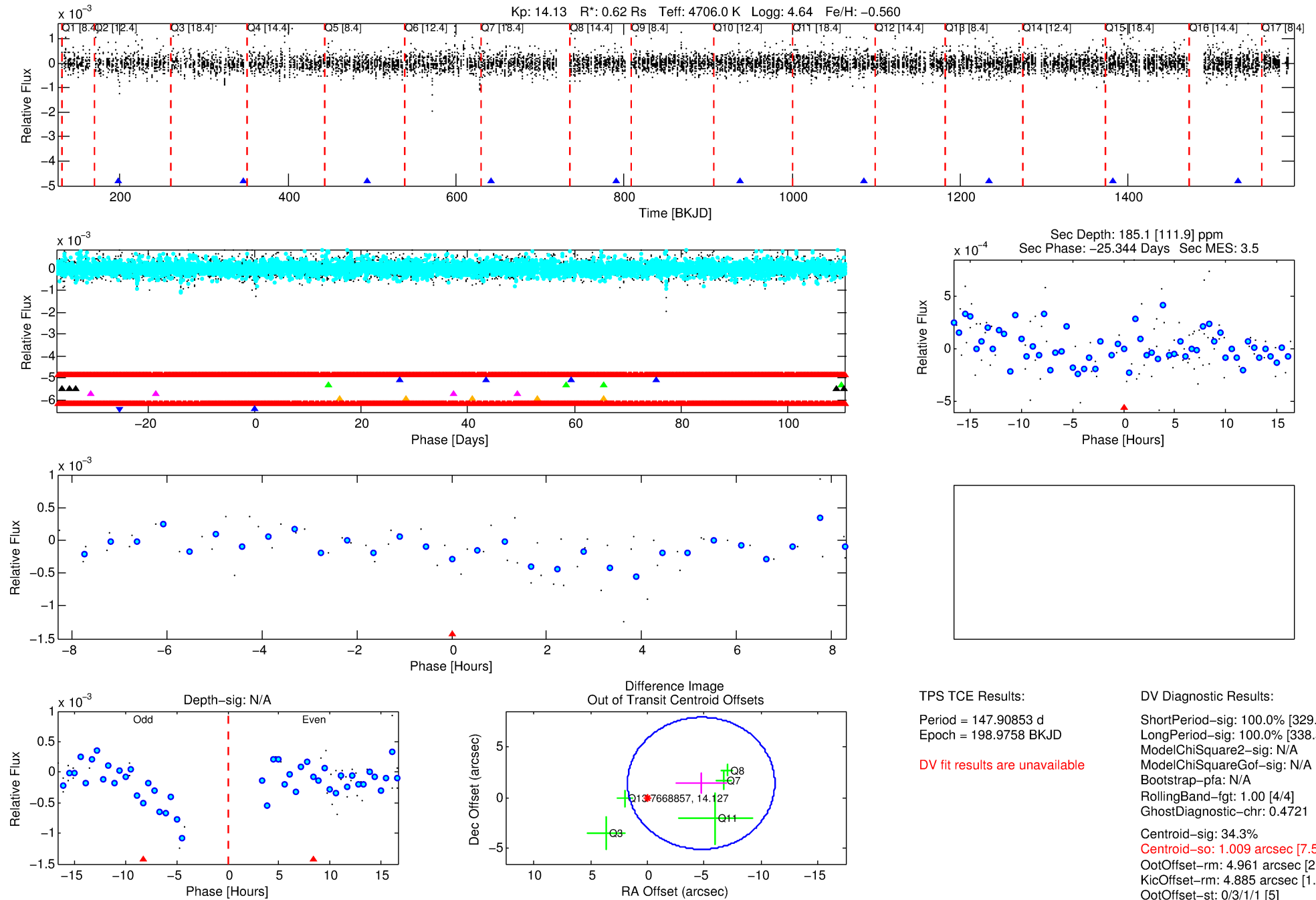
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007668857-08

No Significant Match Found

DV One-Page Summary

KIC: 7668857 Candidate: 8 of 8 Period: 147.909 d



TPS TCE Results:

Period = 147.90853 d
Epoch = 198.9758 BKJD

DV fit results are unavailable

DV Diagnostic Results:

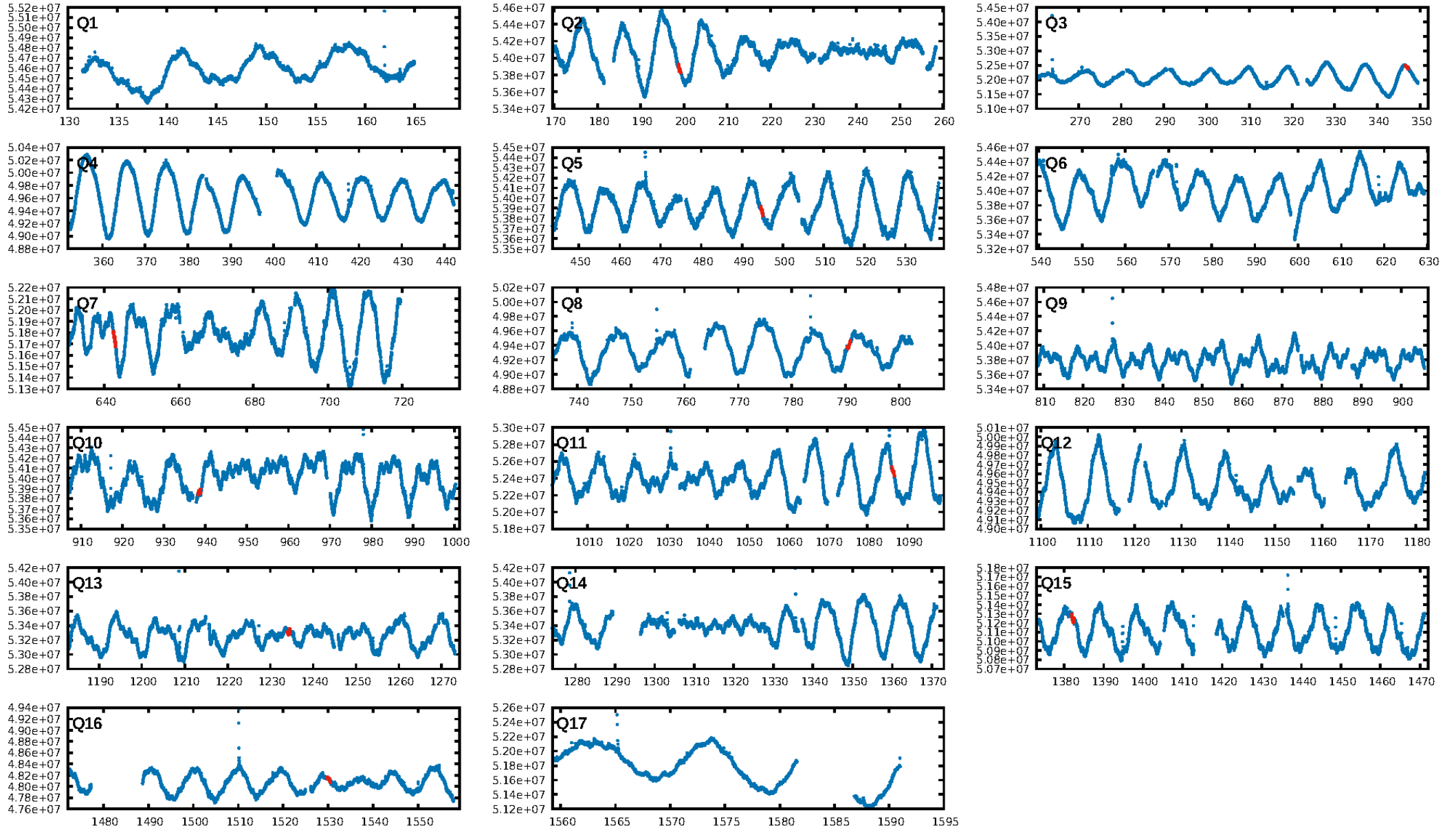
ShortPeriod-sig: 100.0% [329.58 σ]
LongPeriod-sig: 100.0% [338.58 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 0.4721

Centroid-sig: 34.3%
Centroid-so: 1.009 arcsec [7.55 σ]
OotOffset-rm: 4.961 arcsec [2.29 σ]
KicOffset-rm: 4.885 arcsec [1.66 σ]
OotOffset-st: 0/3/1/1 [5]
KicOffset-st: 0/3/1/1 [5]
DiffImageQuality-fgm: 0.20 [1/5]
DiffImageOverlap-fno: 0.33 [3/9]

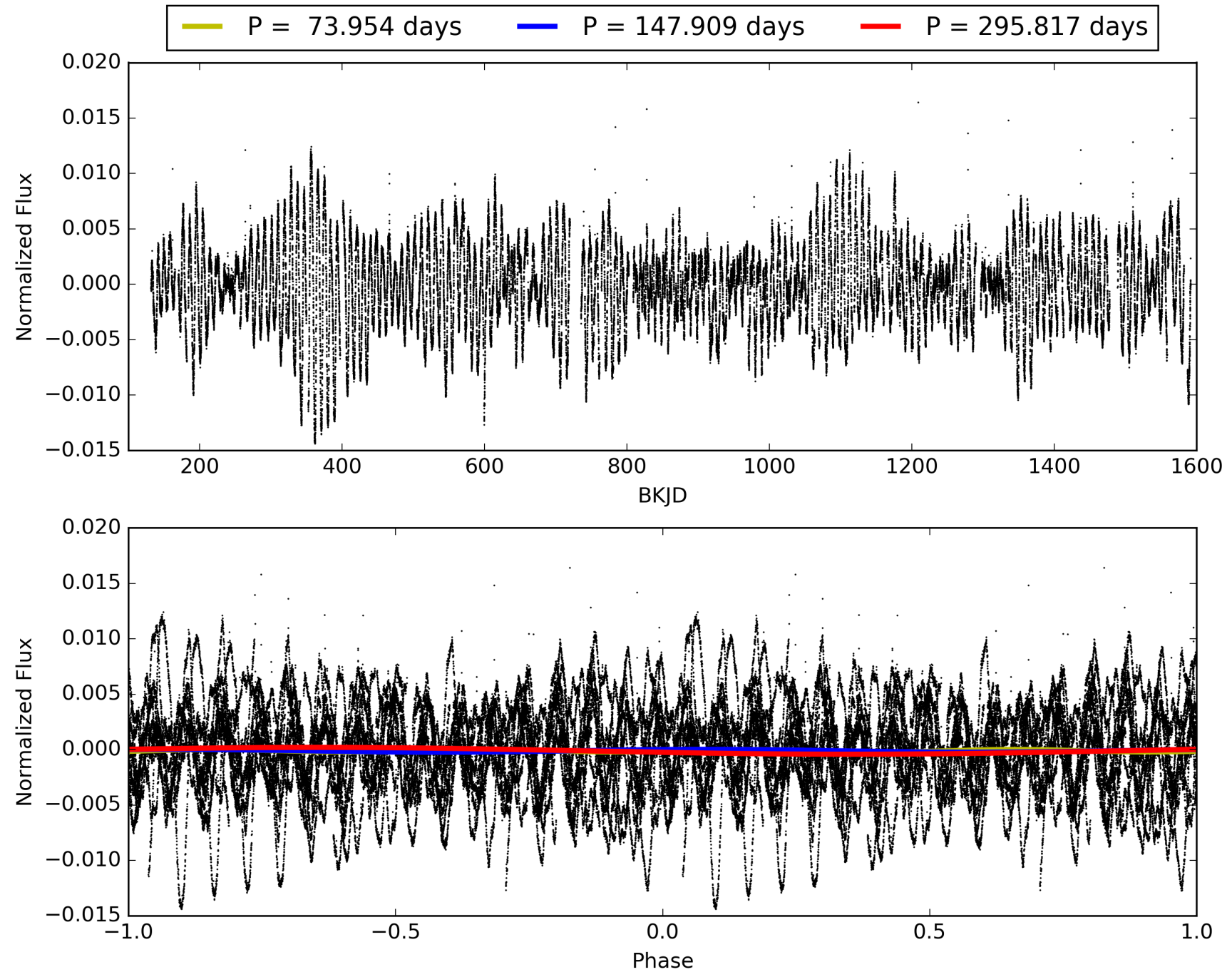
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 08:15:02 Z

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

TCE 007668857-08, PDC Light Curves

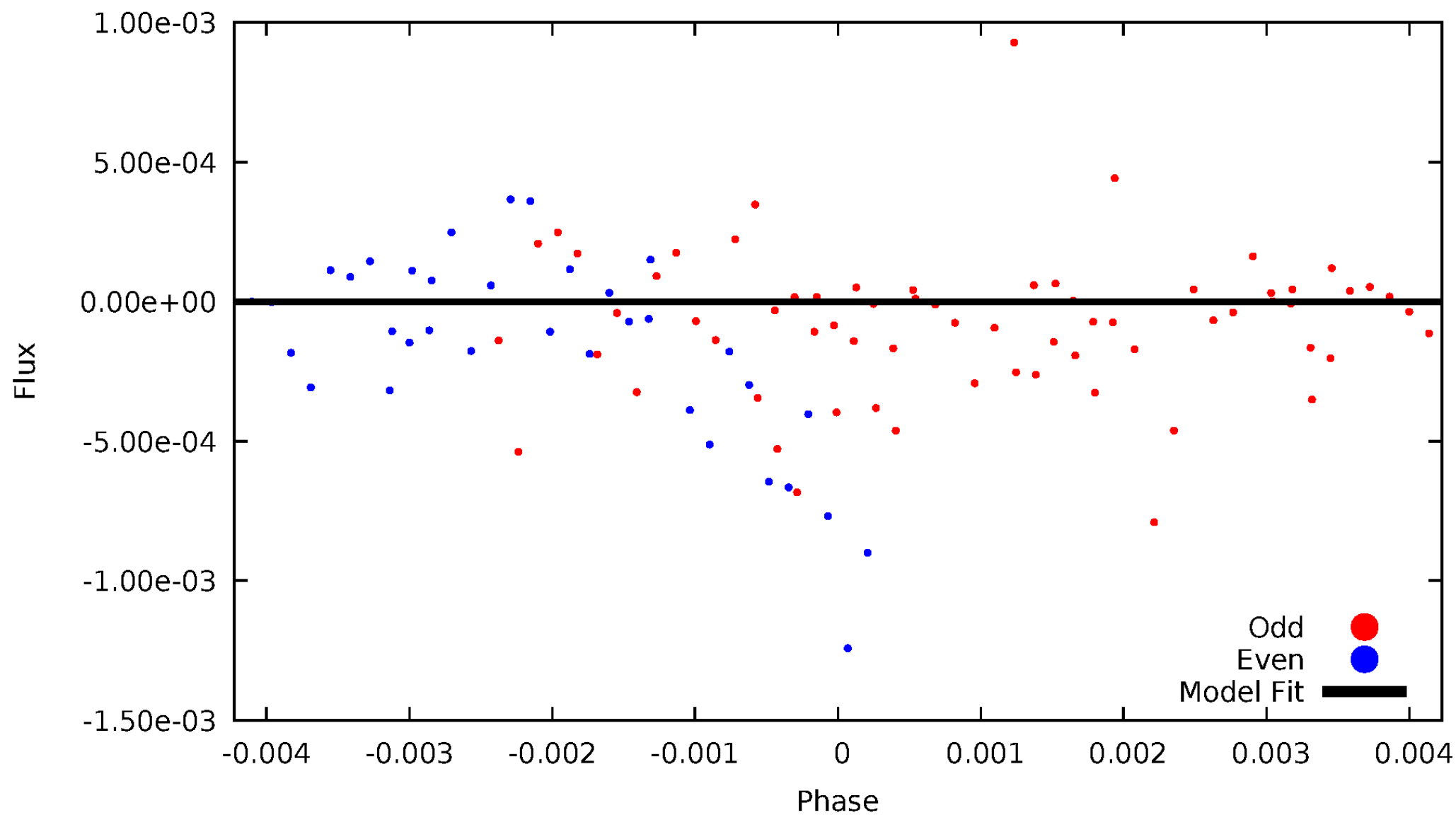


TCE 007668857-08



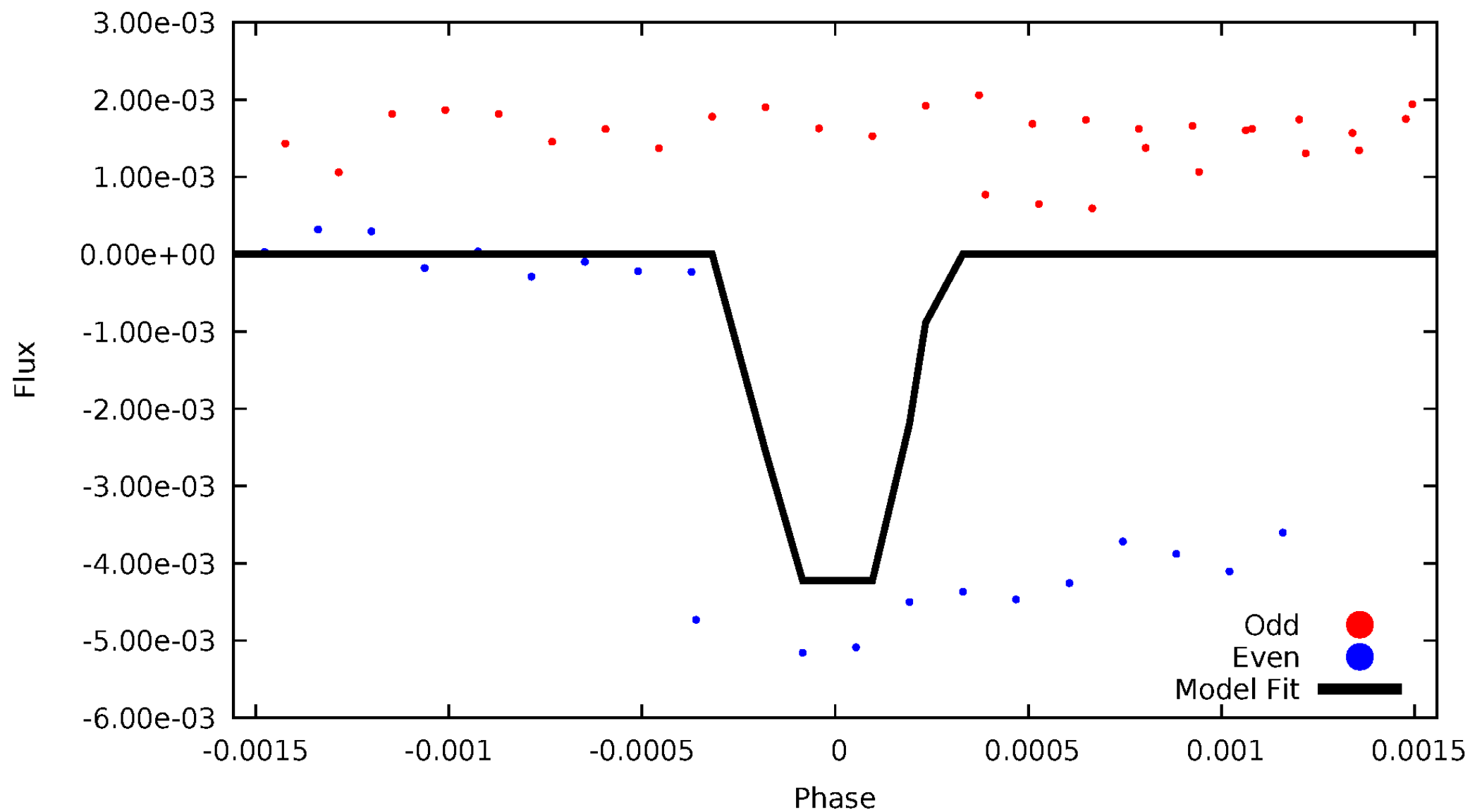
DV Odd/Even

TCE 007668857-08



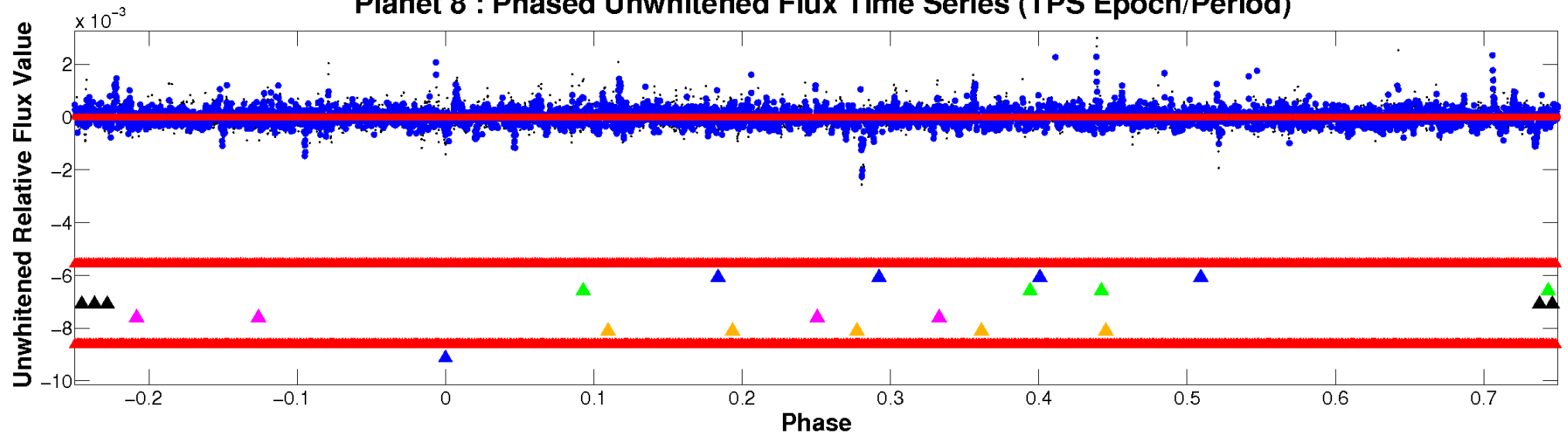
ALT Odd/Even

TCE 007668857-08

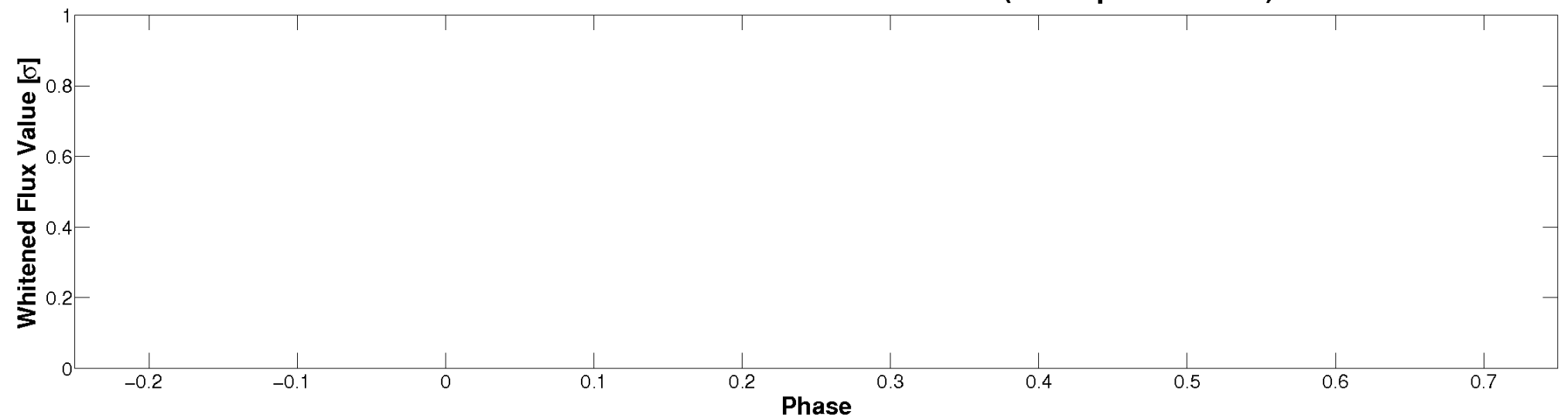


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

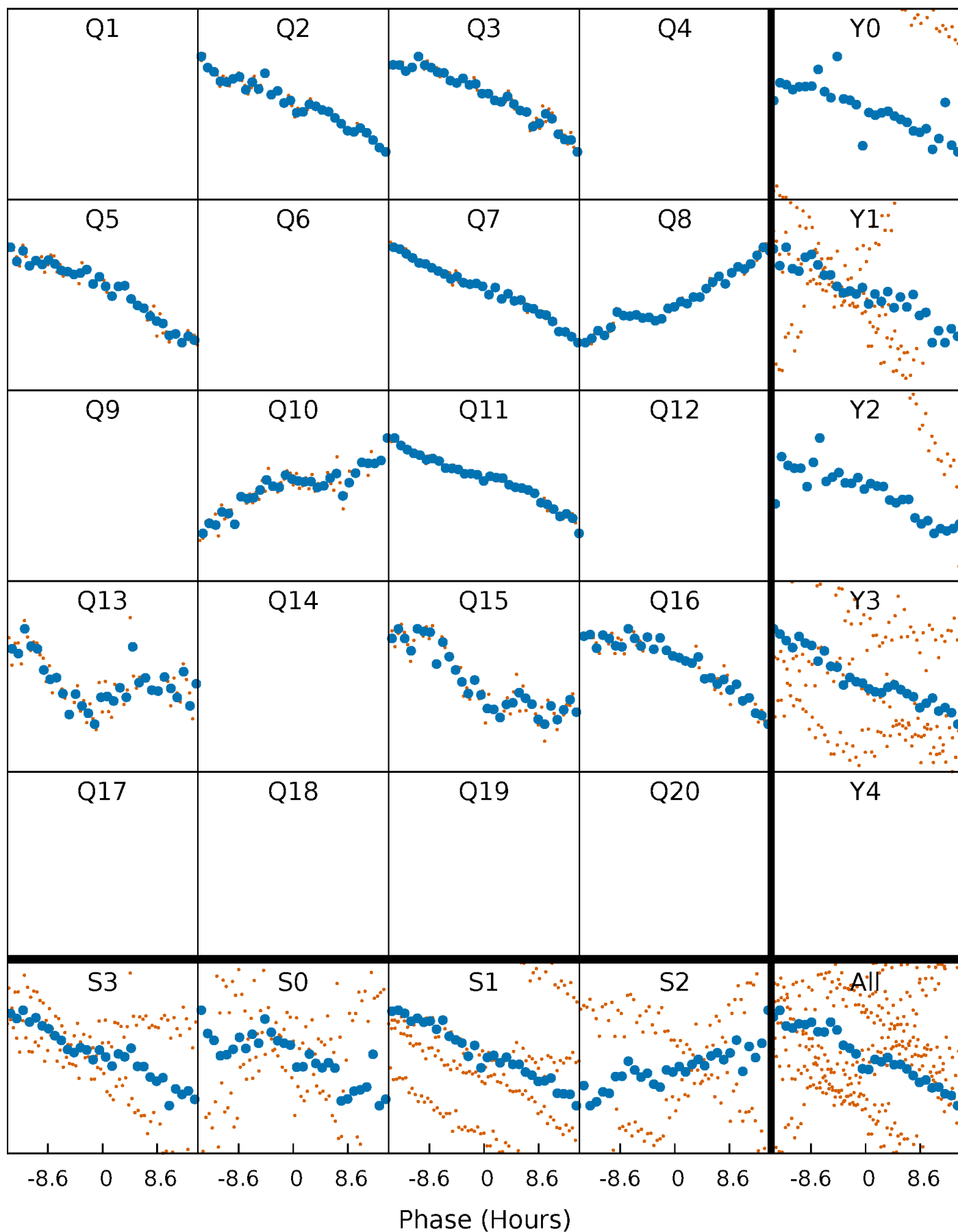


Planet 8 : Phased Whitened Flux Time Series (TPS Epoch/Period)



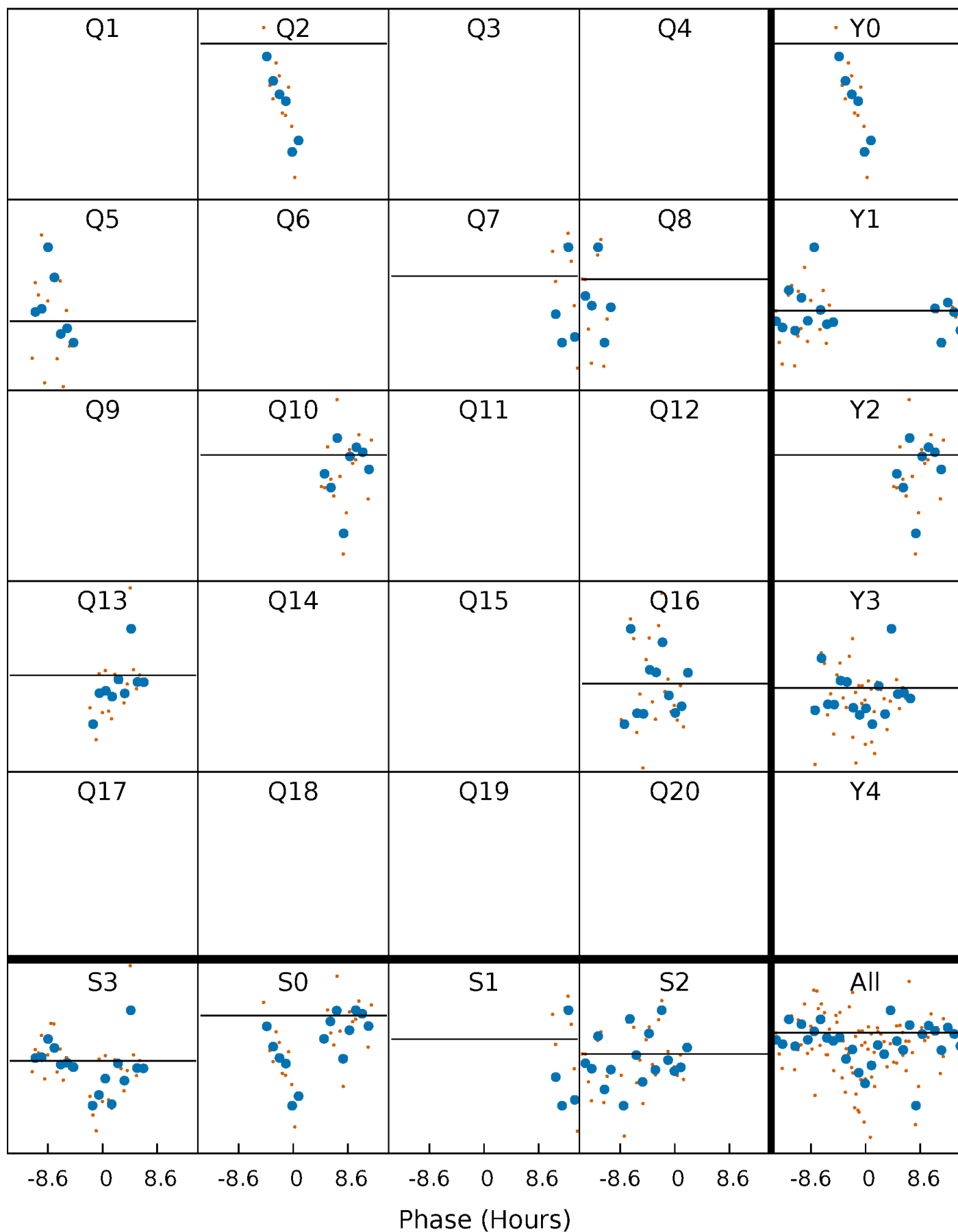
PDC Quarter-Phased Transit Curves

TCE 007668857-08 P=147.908530 Days $T_0=198.975798$ (BKJD)



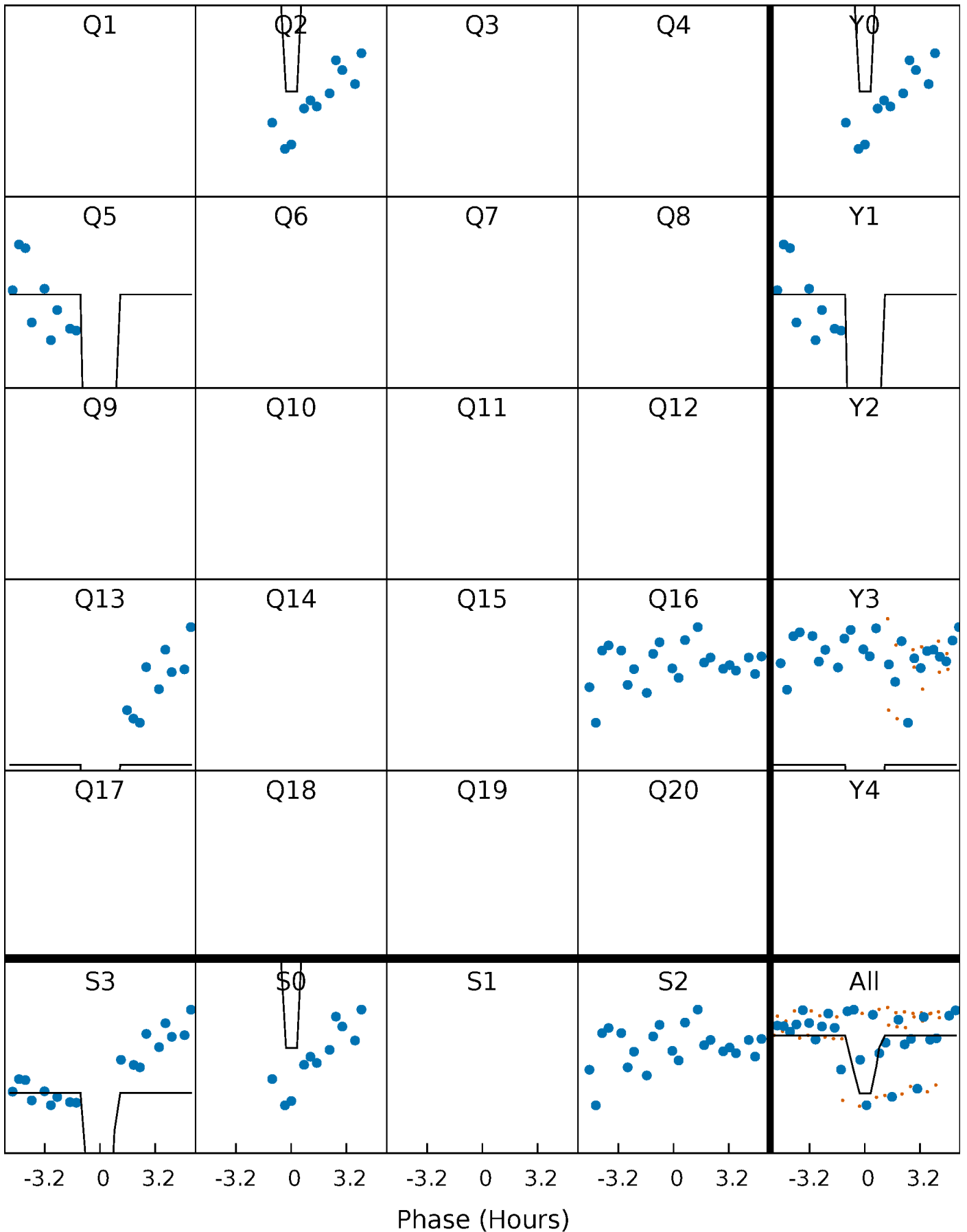
DV Quarter-Phased Transit Curves

TCE 007668857-08 $P=147.908530$ Days $T_0=198.975798$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

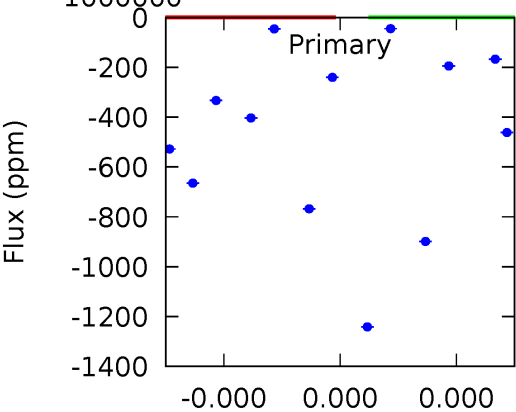
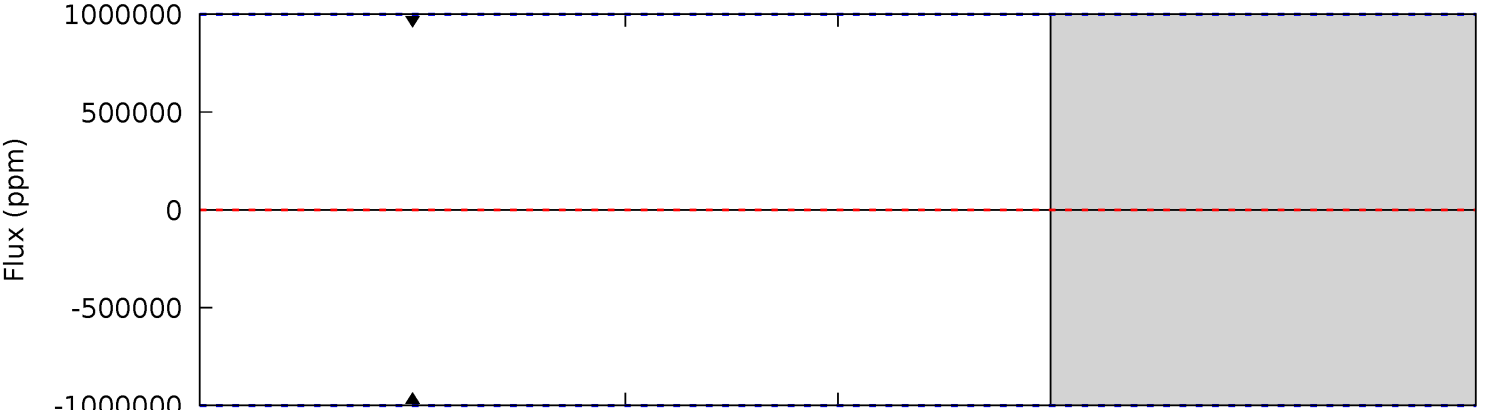
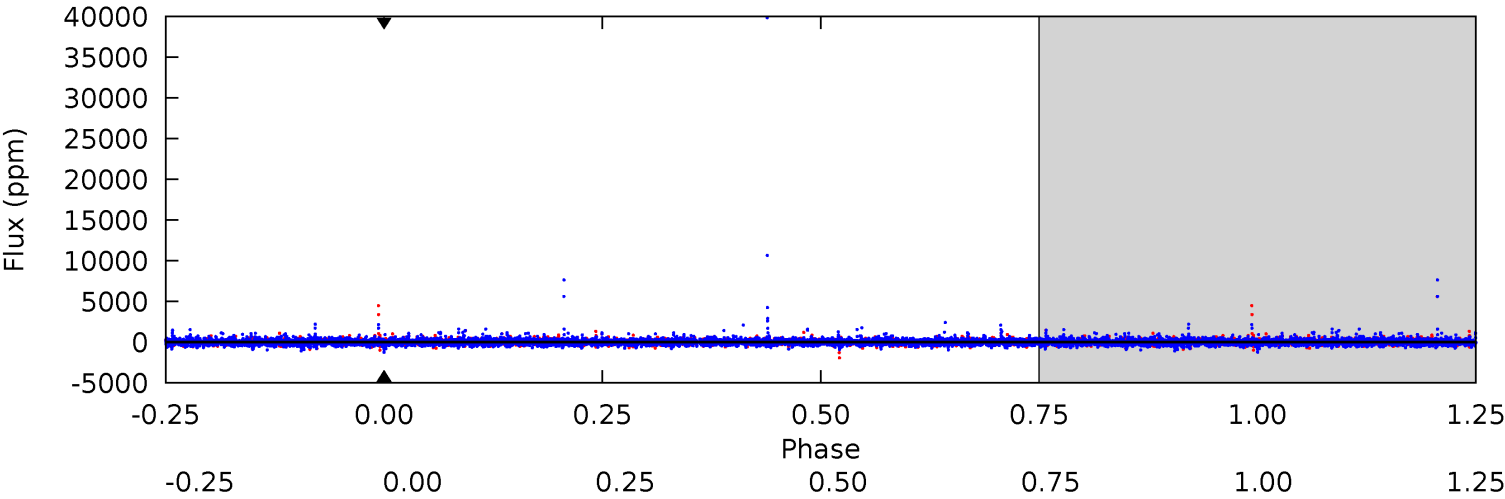
TCE 007668857-08 P=147.908530 Days $T_0=198.834925$ (BKJD)



DV Model-Shift Uniqueness Test

007668857-08, P = 147.908530 Days, E = 51.067268 Days

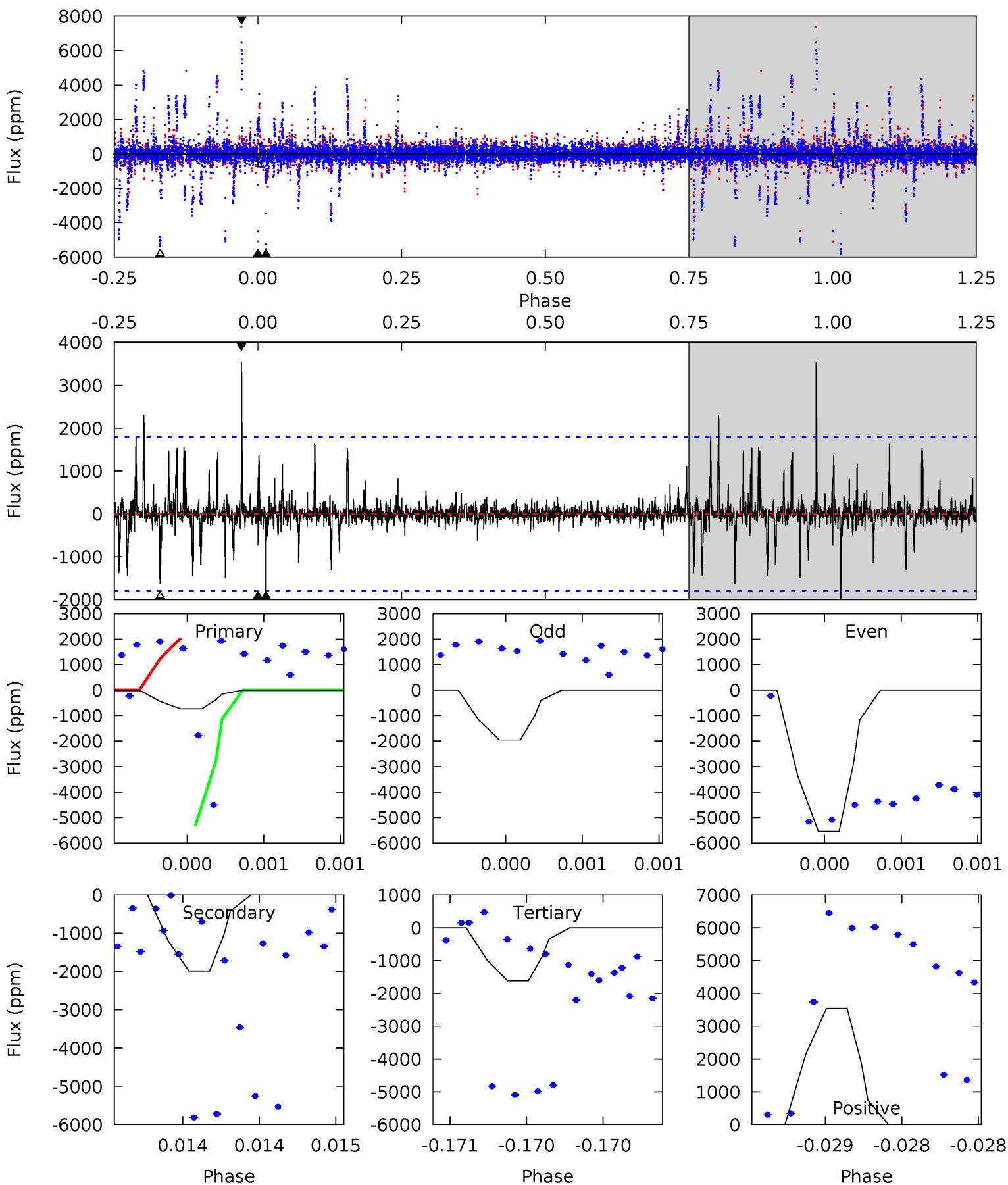
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007668857-08, P = 147.908530 Days, E = 50.926395 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.28	6.13	5.00	10.9	5.57	3.48	0.95	-2.71	-8.66	1.14	-4.82	5.41	1.00	0.64	3.76



Stellar Parameters For KIC 007668857

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4706^{+141}_{-127}	$4.636^{+0.054}_{-0.032}$	$-0.560^{+0.350}_{-0.300}$	$0.622^{+0.056}_{-0.051}$	$0.610^{+0.069}_{-0.035}$	$3.570^{+0.877}_{-0.486}$
	+3%/-3%	+1%/-1%	+62%/-54%	+9%/-8%	+11%/-6%	+25%/-14%
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 007668857-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$5.29^{+5.49}_{-3.83}$	334^{+10}_{-11}	-2891^{+15886}_{-9107}	$-1552.537^{+811145.441}_{-676392.196}$
Alt.	-1984 ± 324	$6.83^{+5.75}_{-4.63}$	335^{+11}_{-11}	3503^{+1982}_{-574}	5088^{+47669}_{-3644}

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 $A_{obs} \gg 1.0$

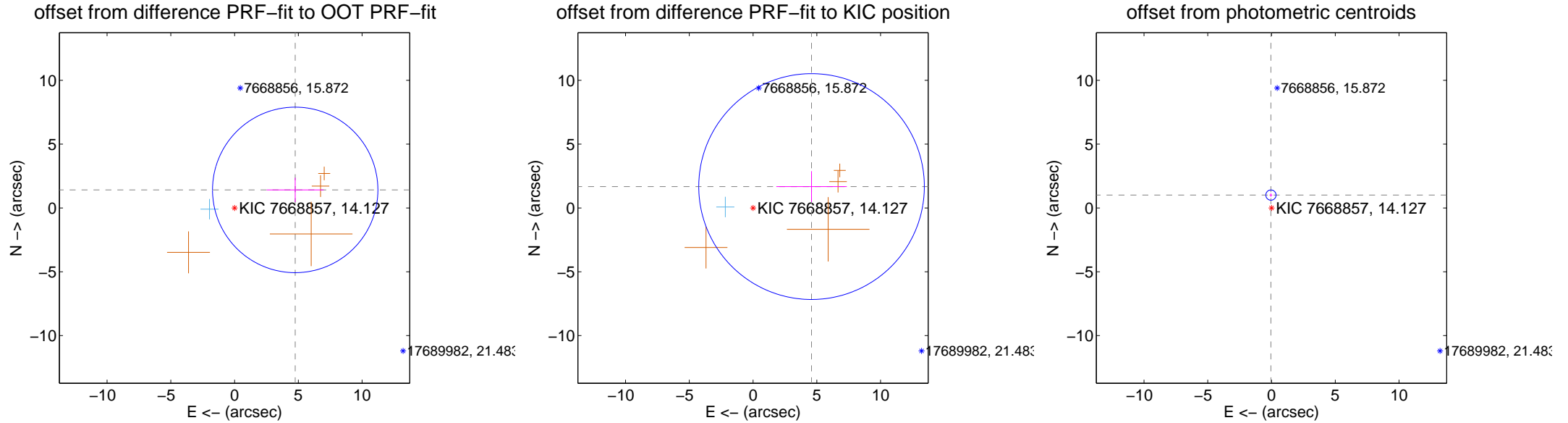
DV Centroid Data

Supplemental centroid analysis for 007668857-08. Kepler magnitude: 14.13. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

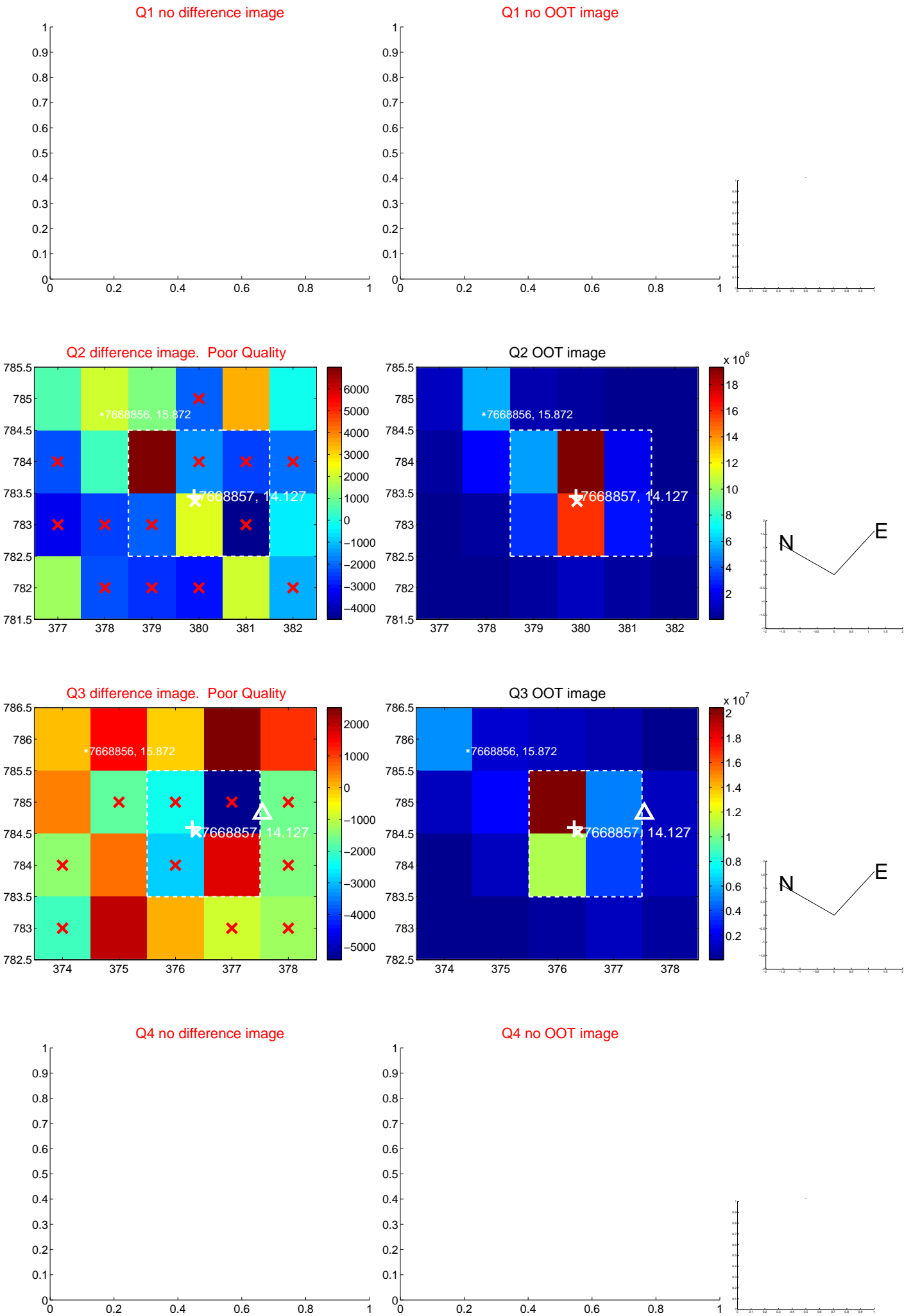
The direct PRF centroid is offset from the target star catalog position by about 0.27 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.961 ± 2.162	2.29	-4.755 ± 2.237	1.414 ± 0.956
PRF-fit source offset from KIC position	4.885 ± 2.949	1.66	-4.589 ± 2.765	1.676 ± 1.207
photometric centroid source offset	1.01 ± 0.13	7.55	0.05 ± 0.11	1.01 ± 0.13

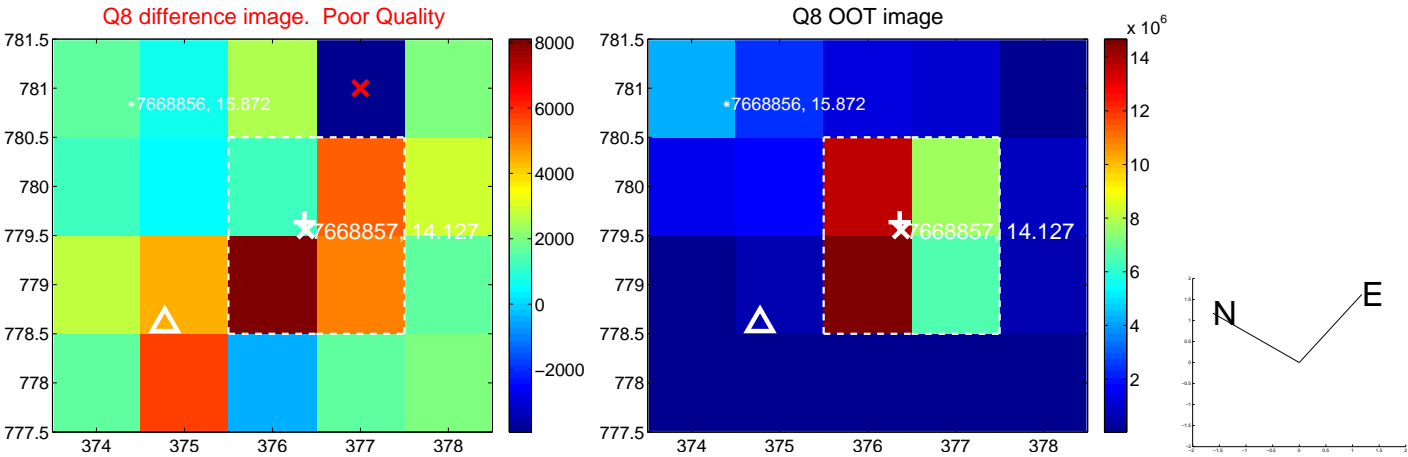
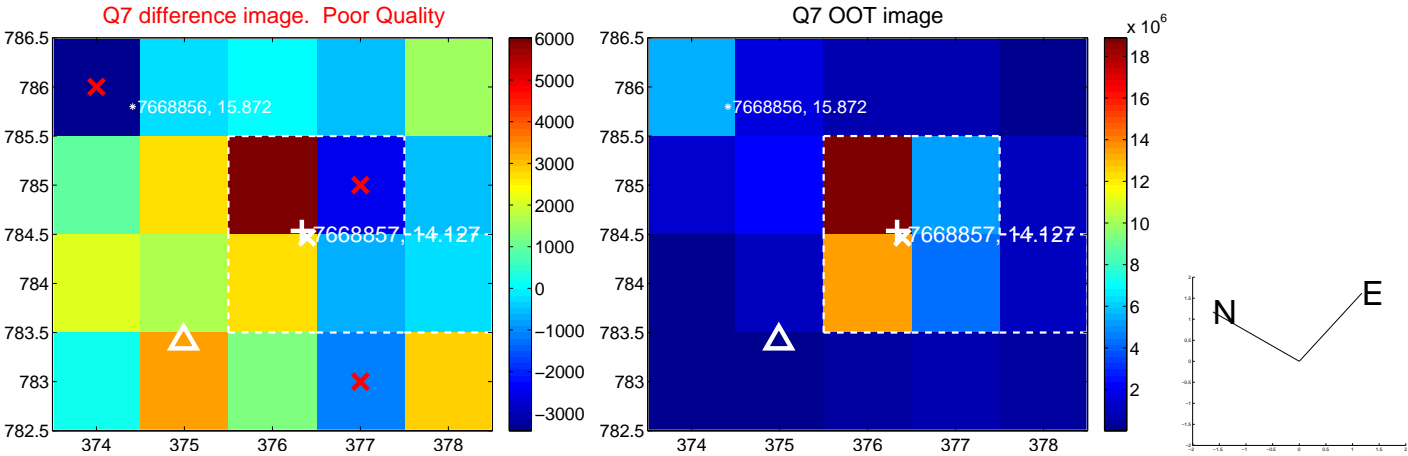
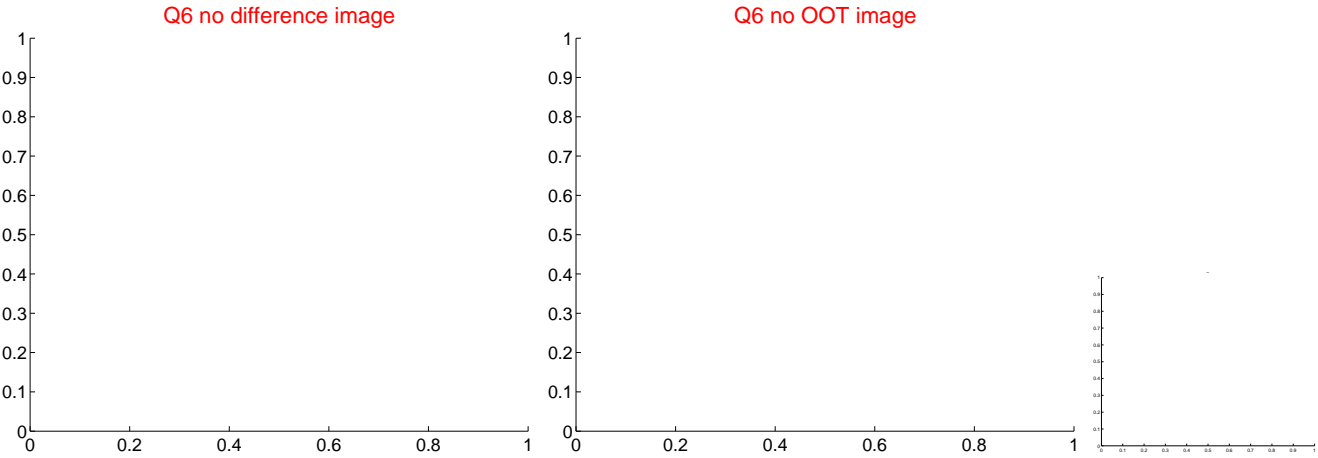
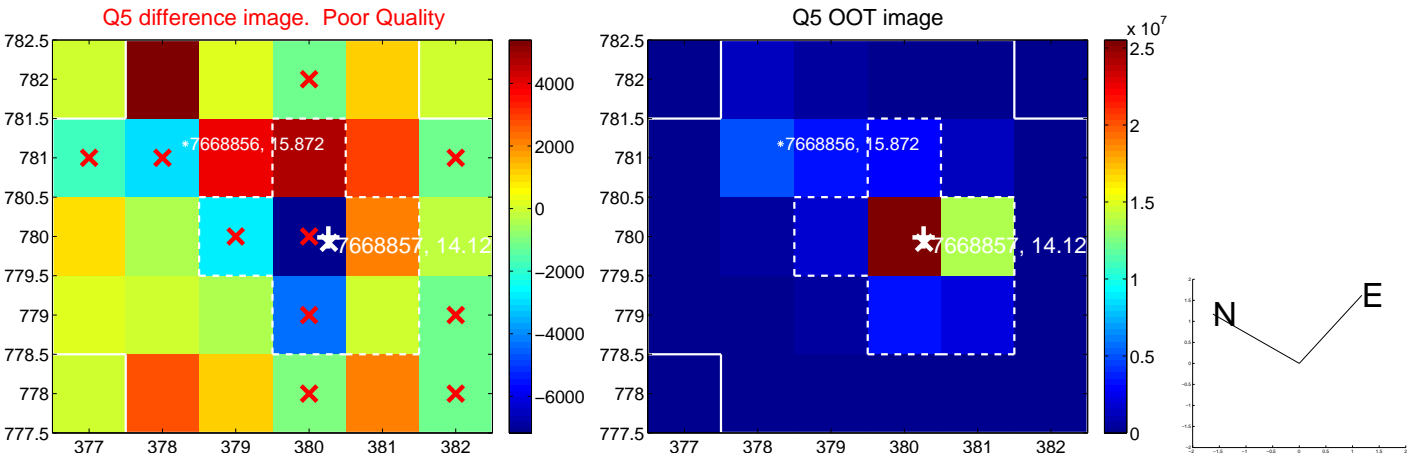


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

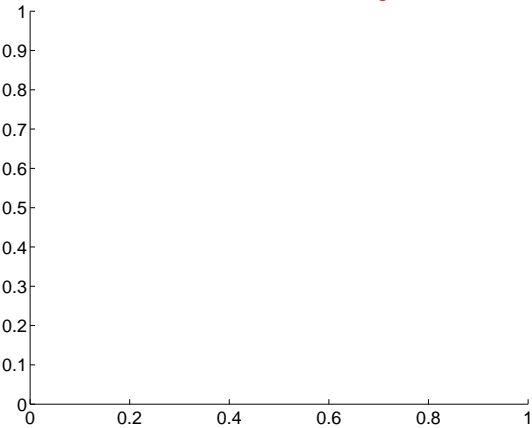
Q9 no difference image



Q9 no OOT image



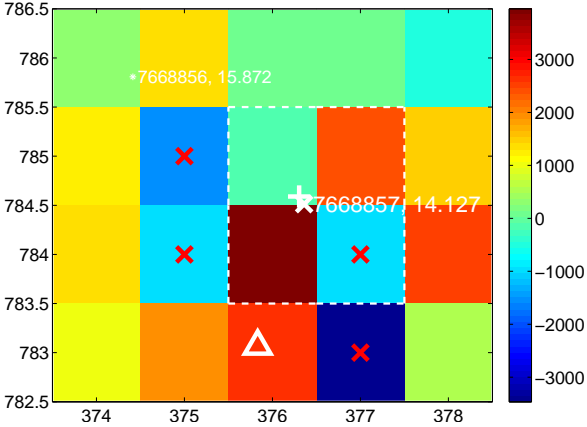
Q10 no difference image



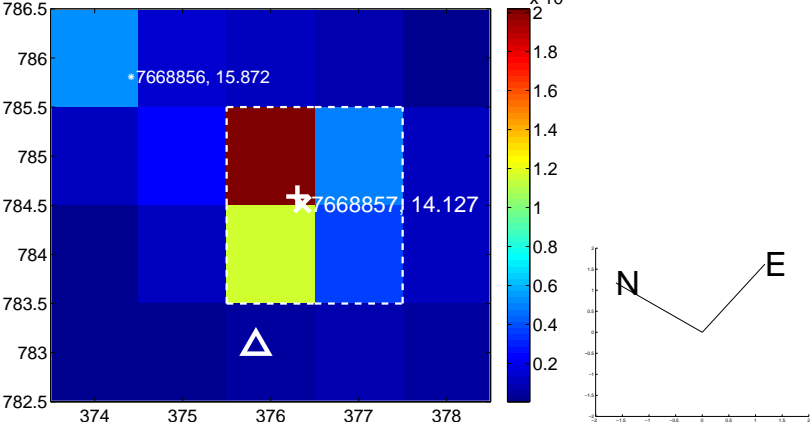
Q10 no OOT image



Q11 difference image. Poor Quality



Q11 OOT image



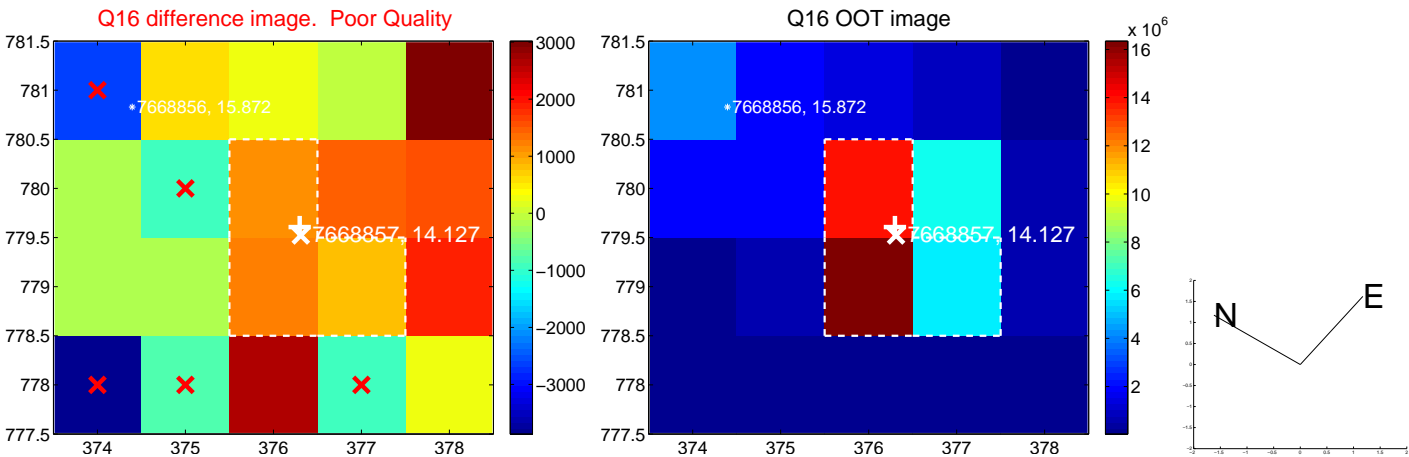
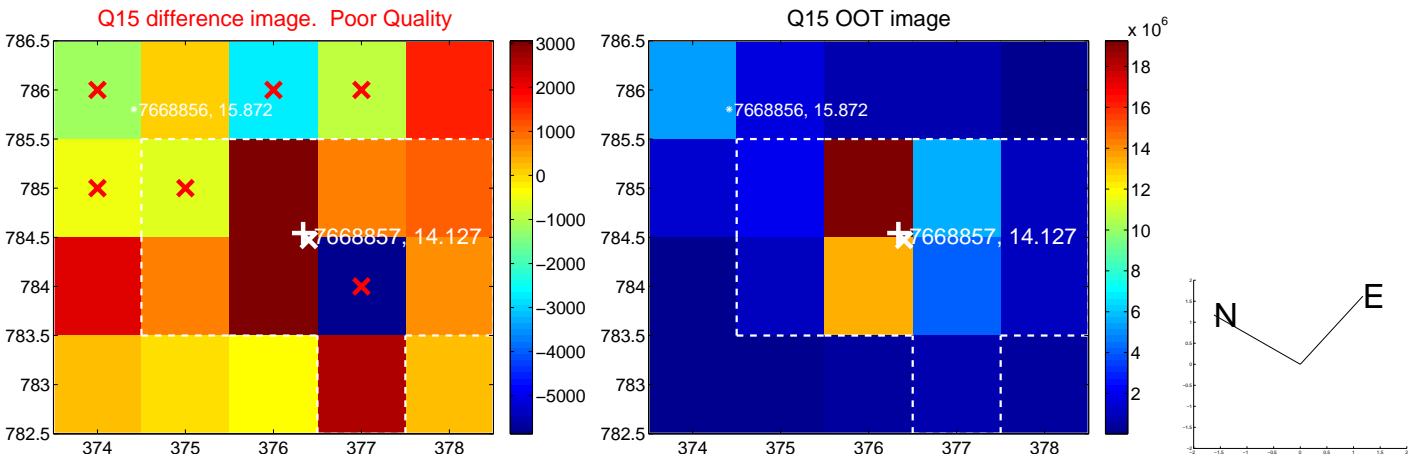
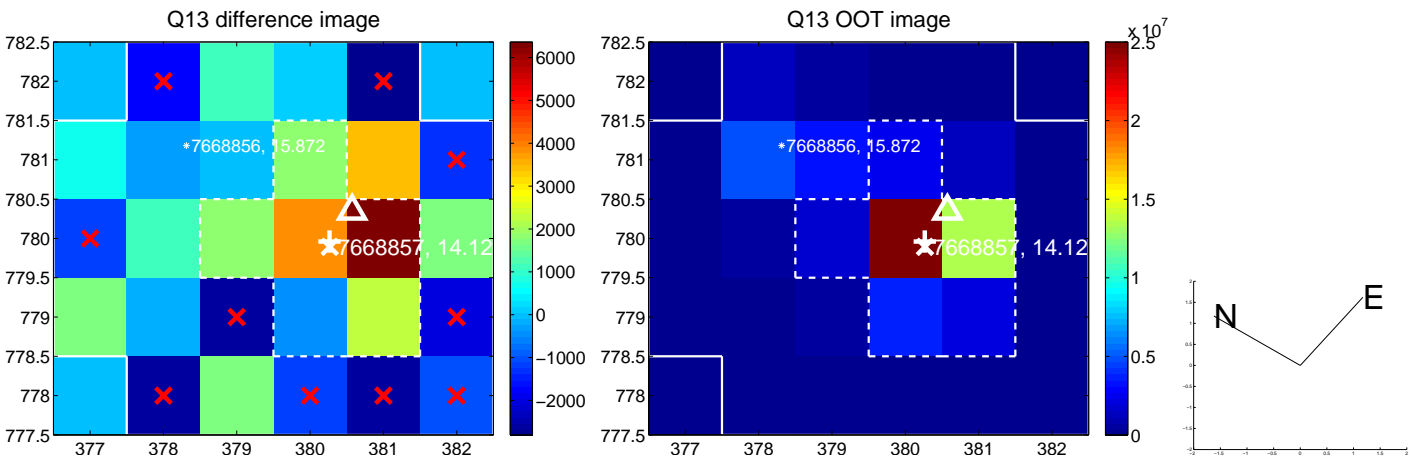
Q12 no difference image



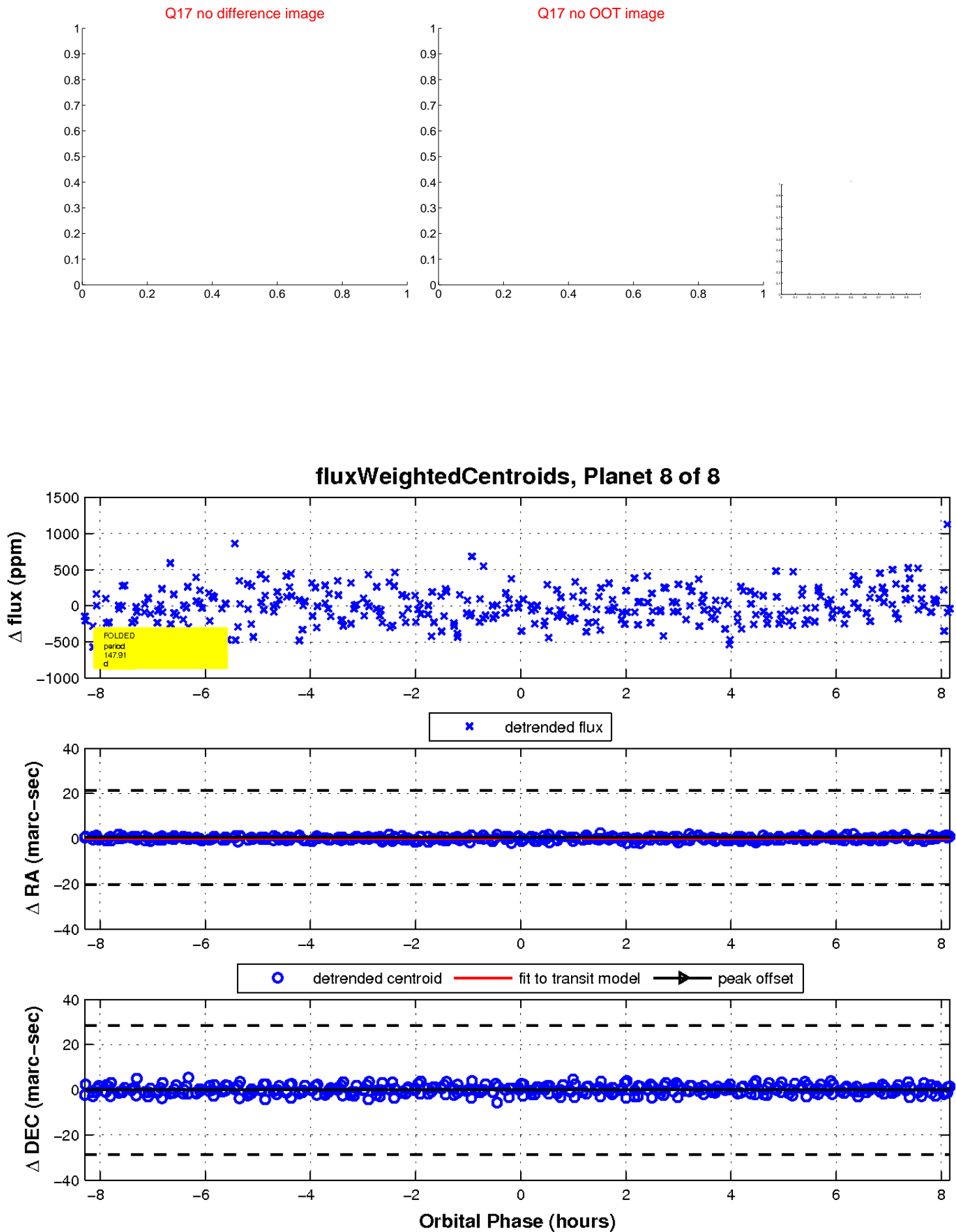
Q12 no OOT image



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

