

KIC 007778826

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})
007778826-01	OBS	No	5.238990	132.015022	99.3	15.000	8.6	-1.0	1.48	7207	1.49	1194.24
007778826-02	OBS	No	0.815805	131.597180	24.2	5.942	10.2	5.6	1.48	7207	0.74	14255.15
007778826-03	OBS	No	2.117441	132.193861	302.9	1.289	16.8	13.3	1.48	7207	3.13	3996.43
007778826-04	OBS	No	21.833259	145.384084	608.0	1.347	24.2	12.3	1.48	7207	3.71	178.07
007778826-05	OBS	No	31.839598	148.201311	441.6	2.349	9.4	10.3	1.48	7207	3.20	107.68
007778826-06	OBS	No	20.407540	137.662482	816.9	1.797	18.9	18.0	1.48	7207	4.54	194.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007778826-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
007778826-02	OBS	FP	0.00	1	0	0	0	LPP_DV
007778826-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—HALO_GHOST
007778826-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
007778826-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007778826-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

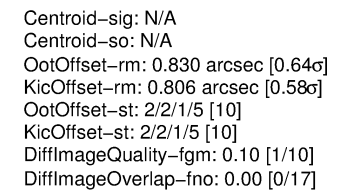
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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

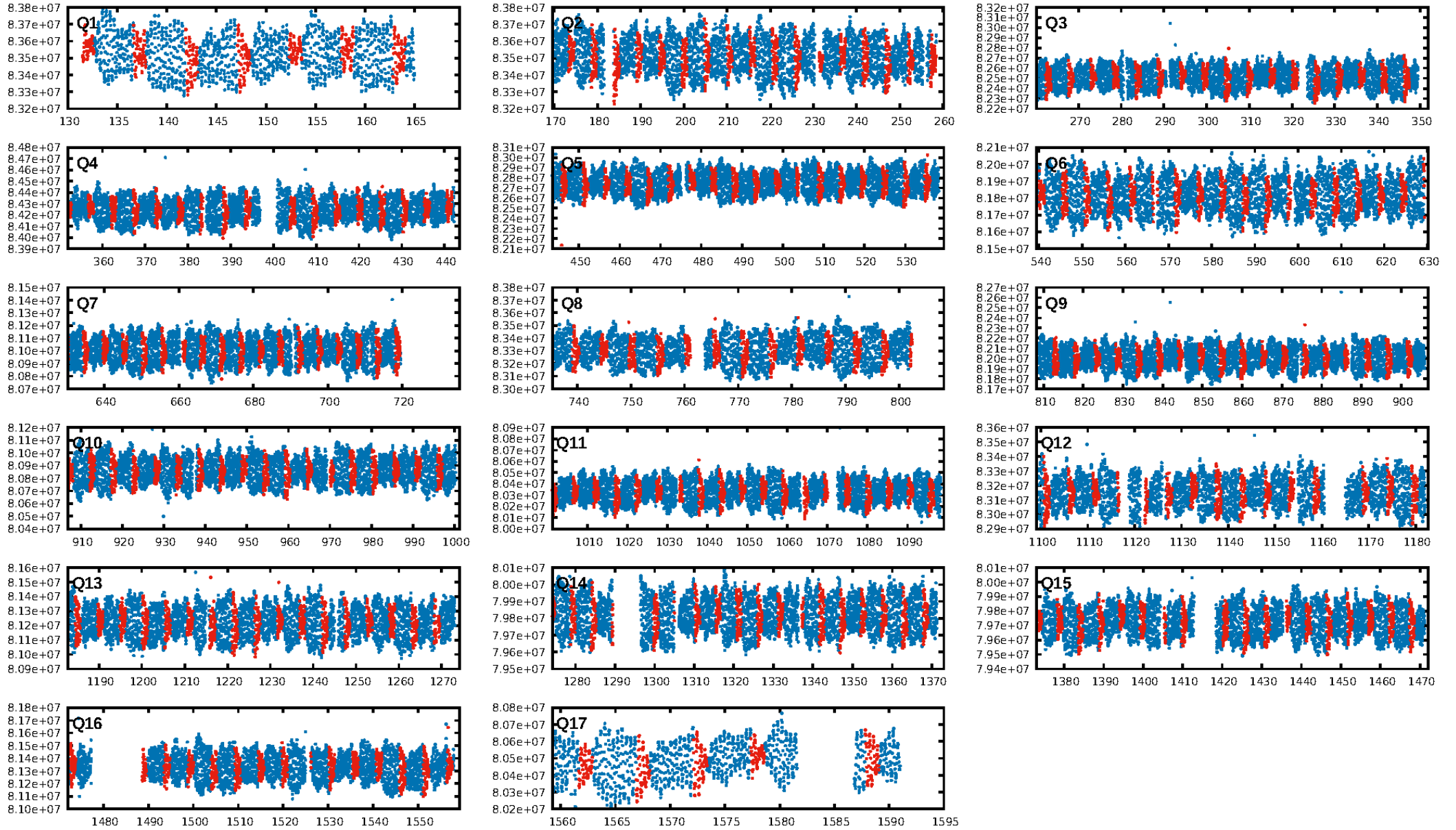
Ephemeris Match Information For 007778826-01

No Significant Match Found

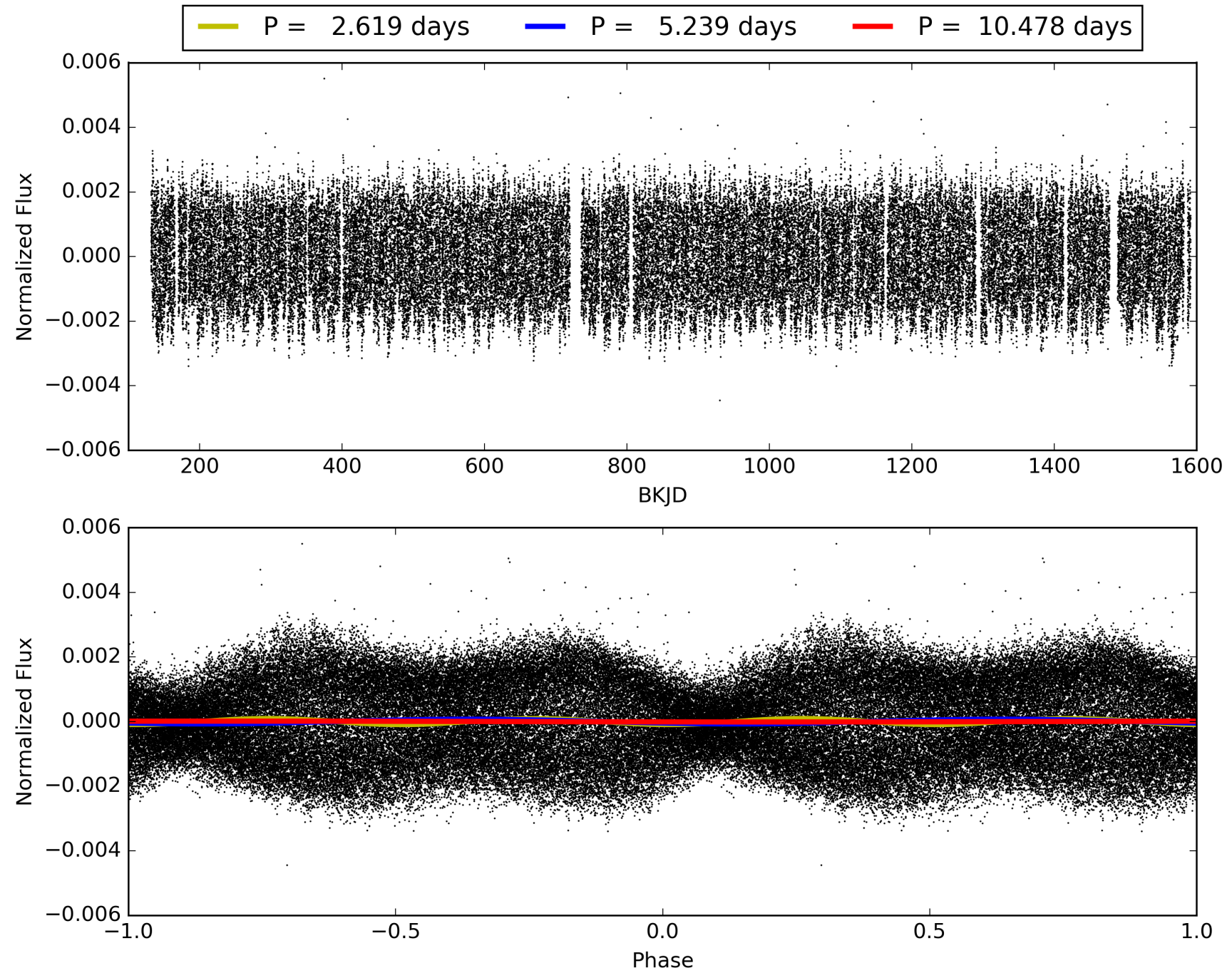
KIC: 7778826 Candidate: 1 of 6 Period: 5.239 d



TCE 007778826-01, PDC Light Curves

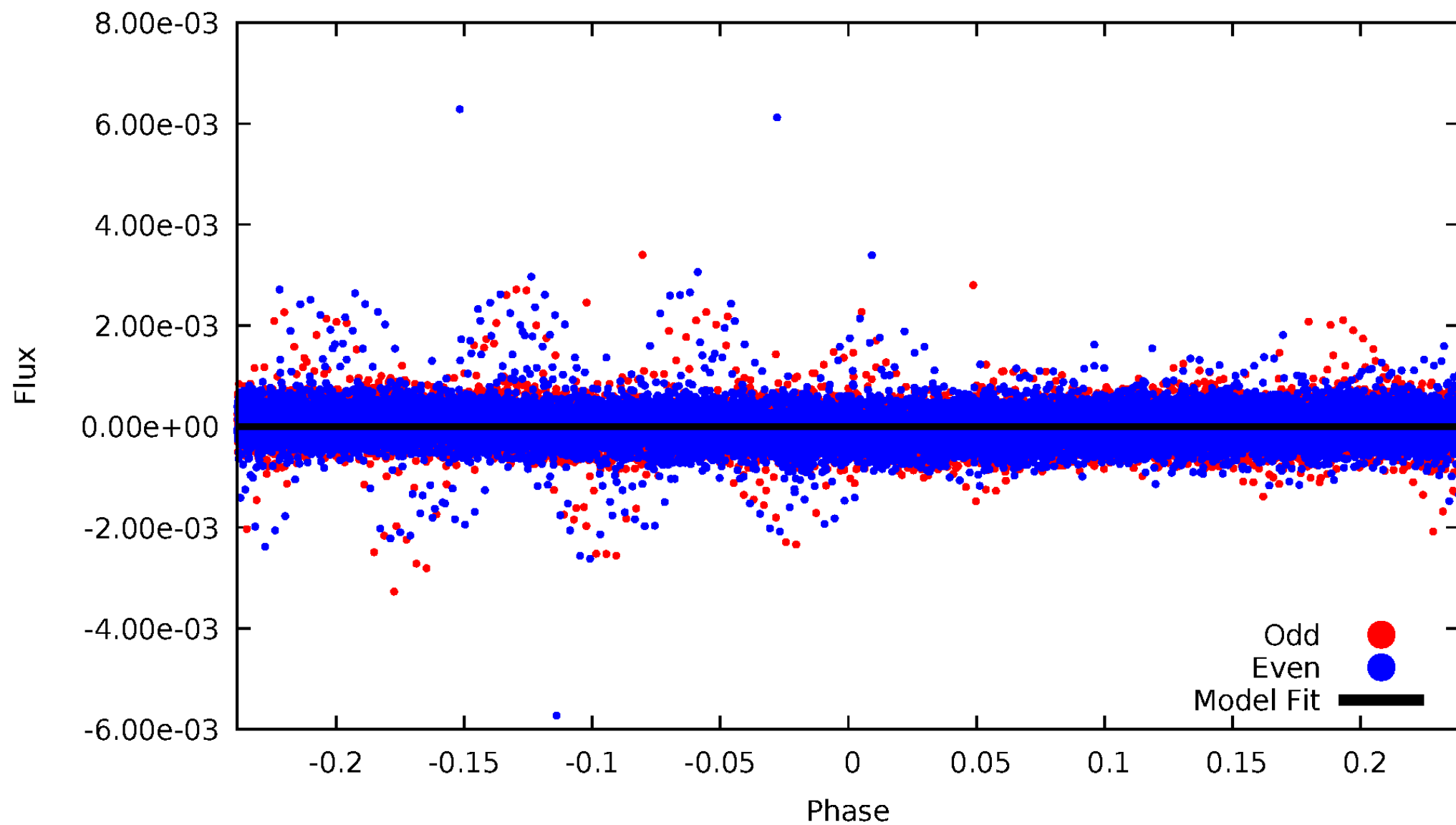


TCE 007778826-01



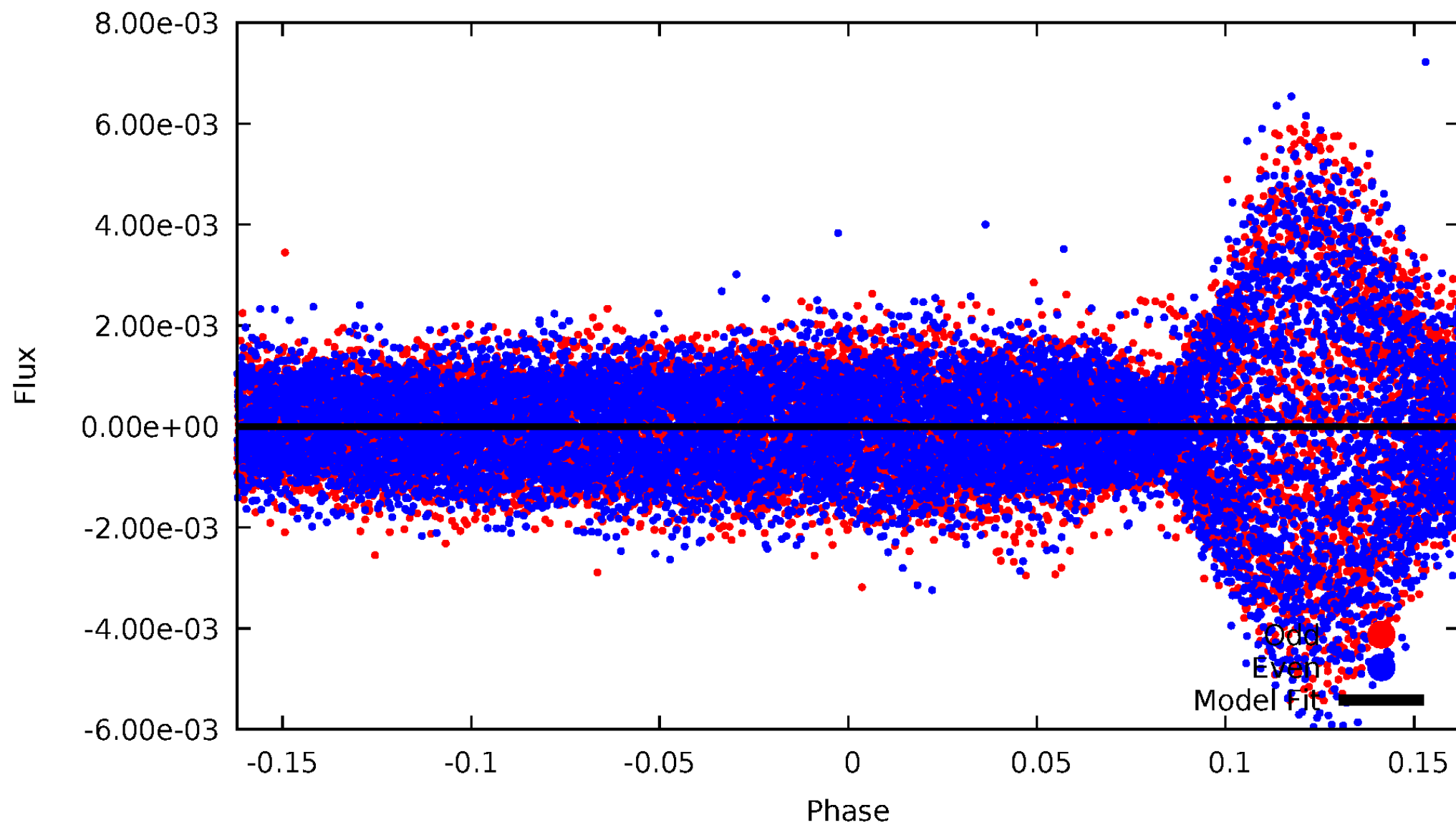
DV Odd/Even

TCE 007778826-01

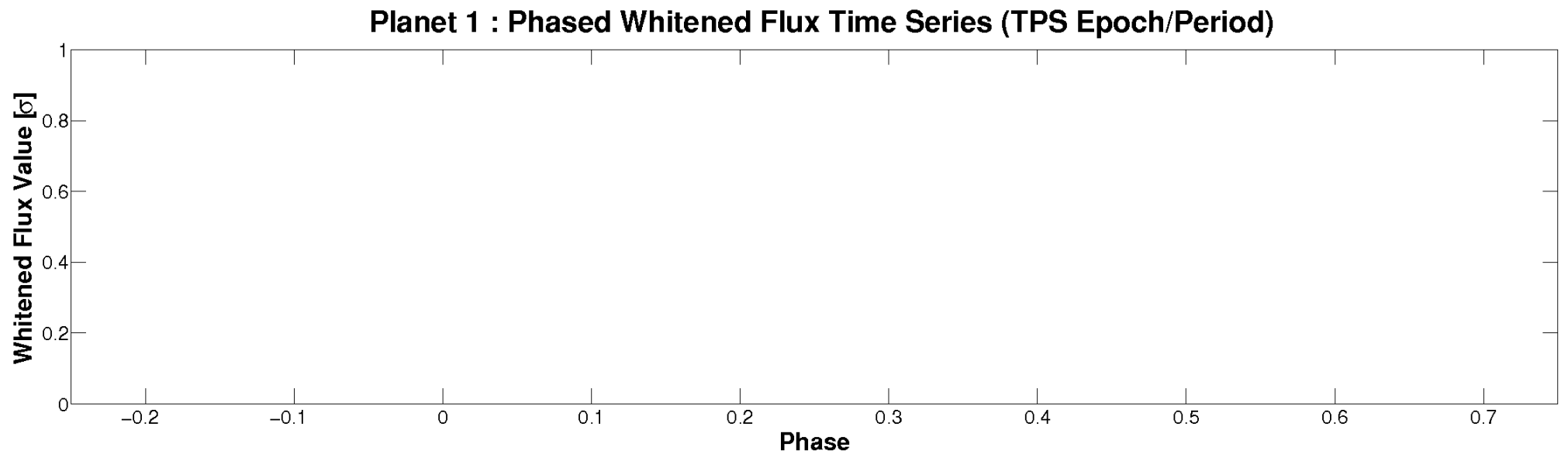
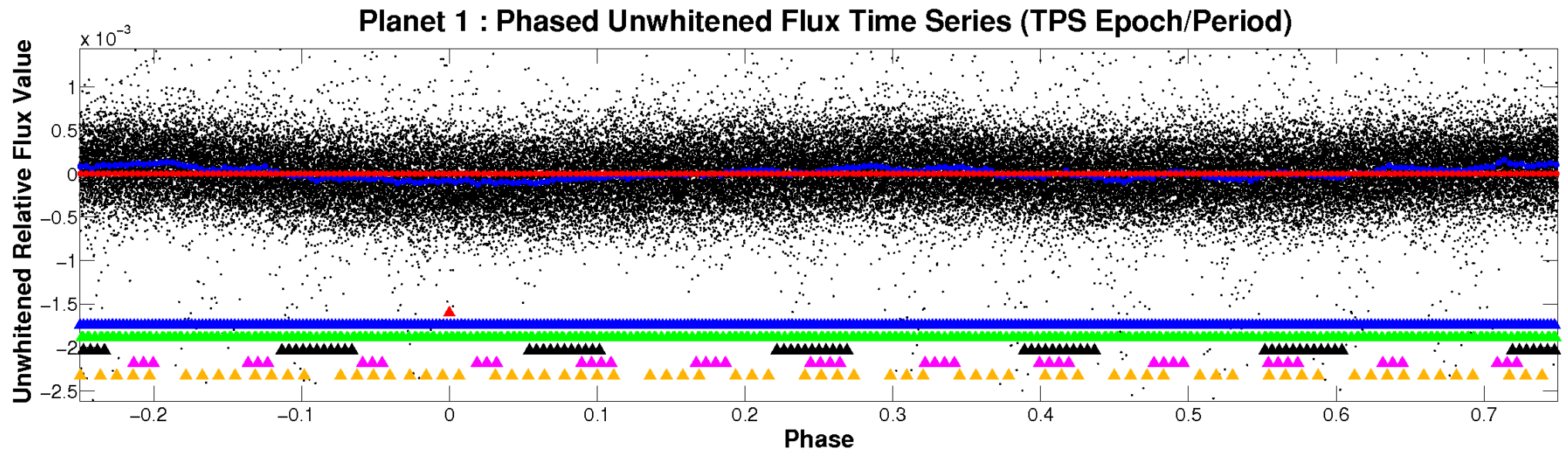


ALT Odd/Even

TCE 007778826-01

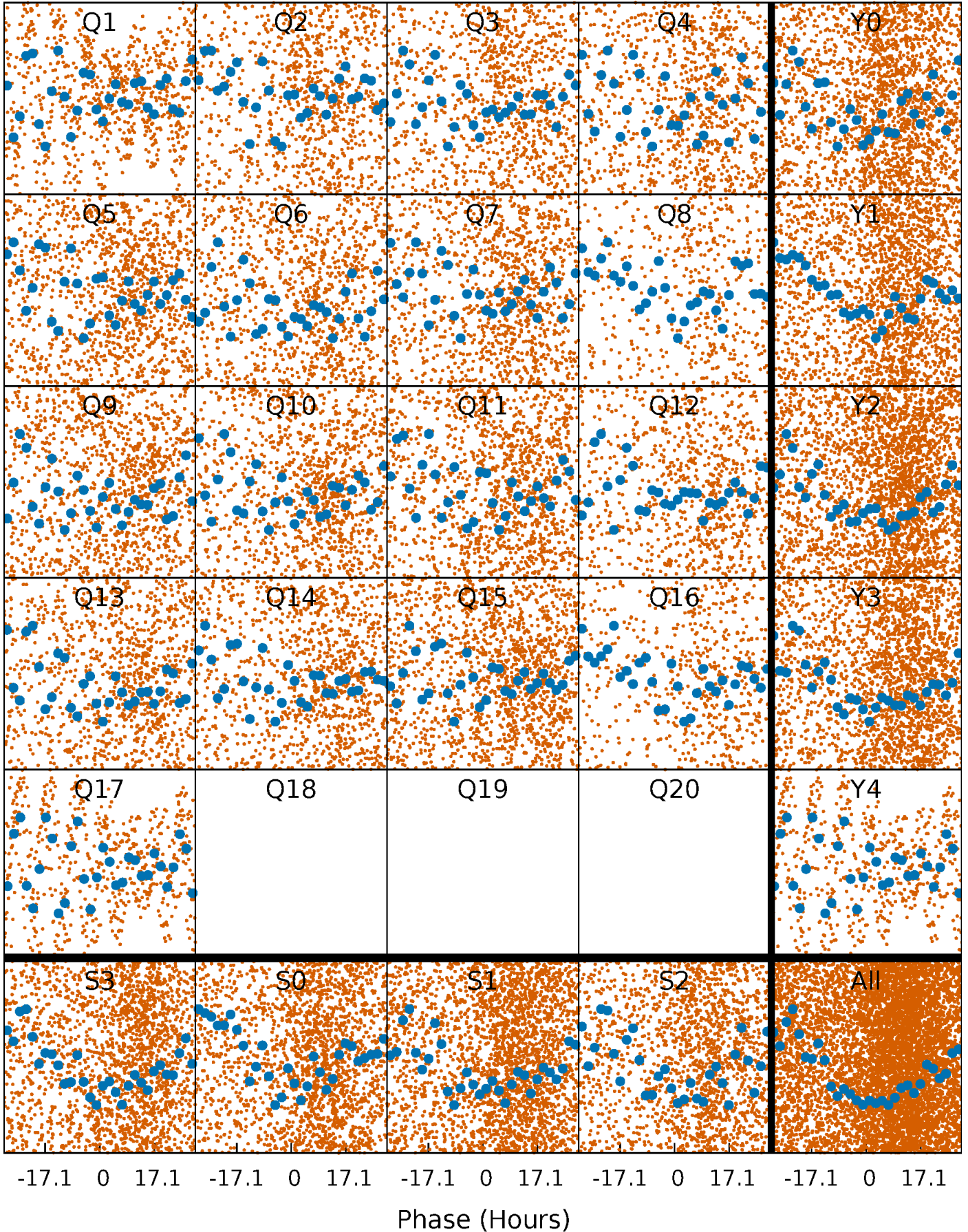


Non-Whitened Vs. Whitened Light Curve



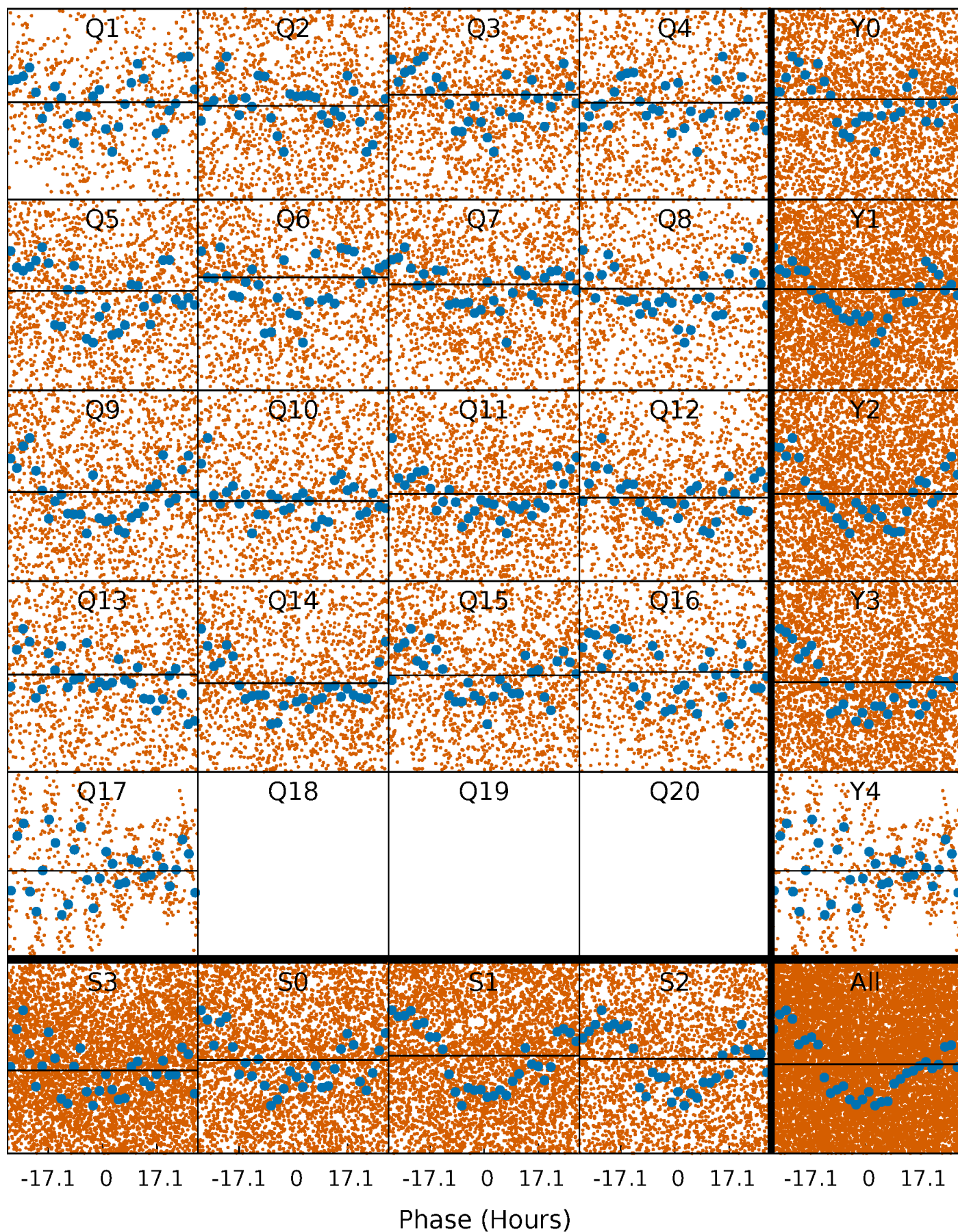
PDC Quarter-Phased Transit Curves

TCE 007778826-01 P= 5.238990 Days $T_0=132.015022$ (BKJD)



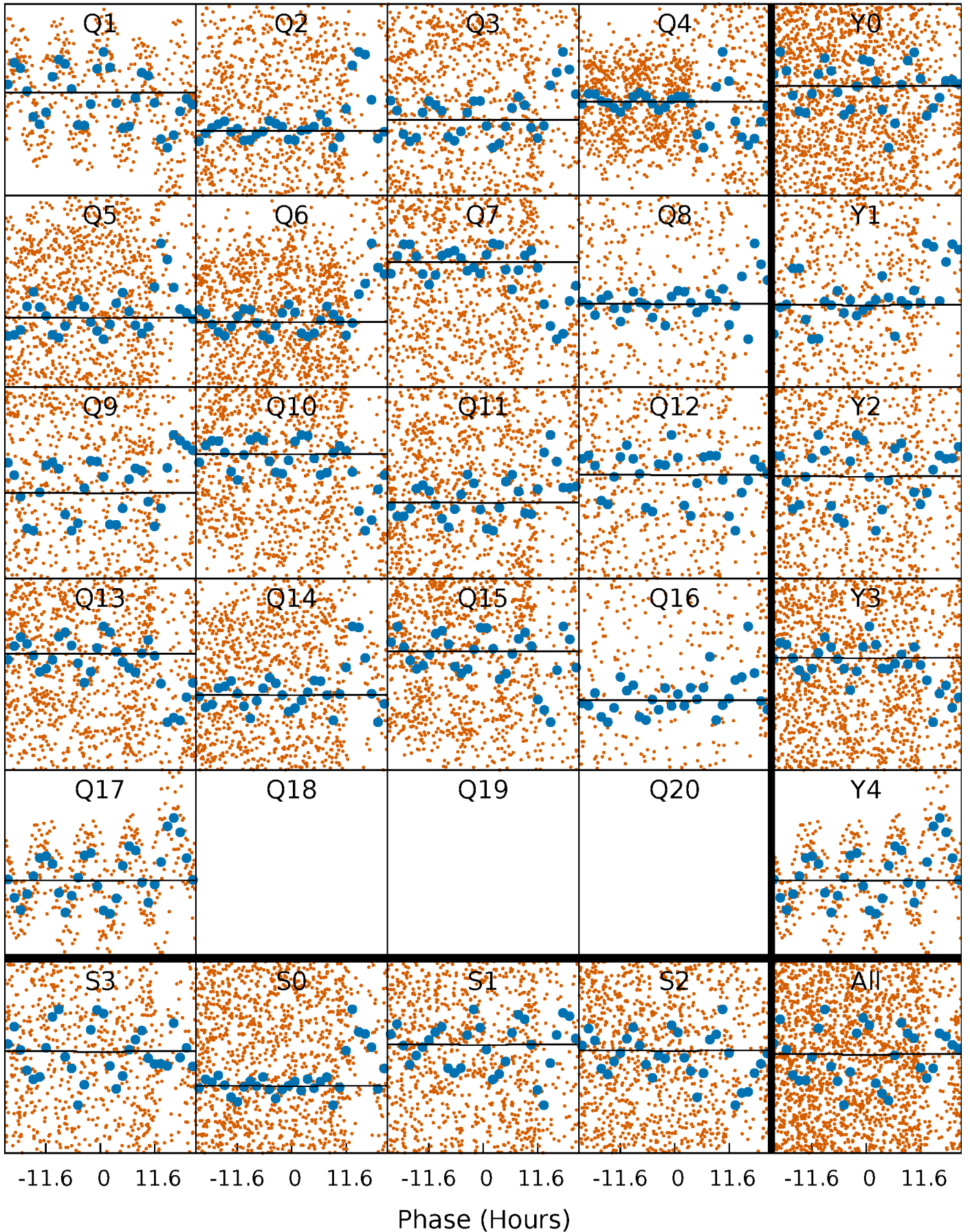
DV Quarter-Phased Transit Curves

TCE 007778826-01 P= 5.238990 Days $T_0=132.015022$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

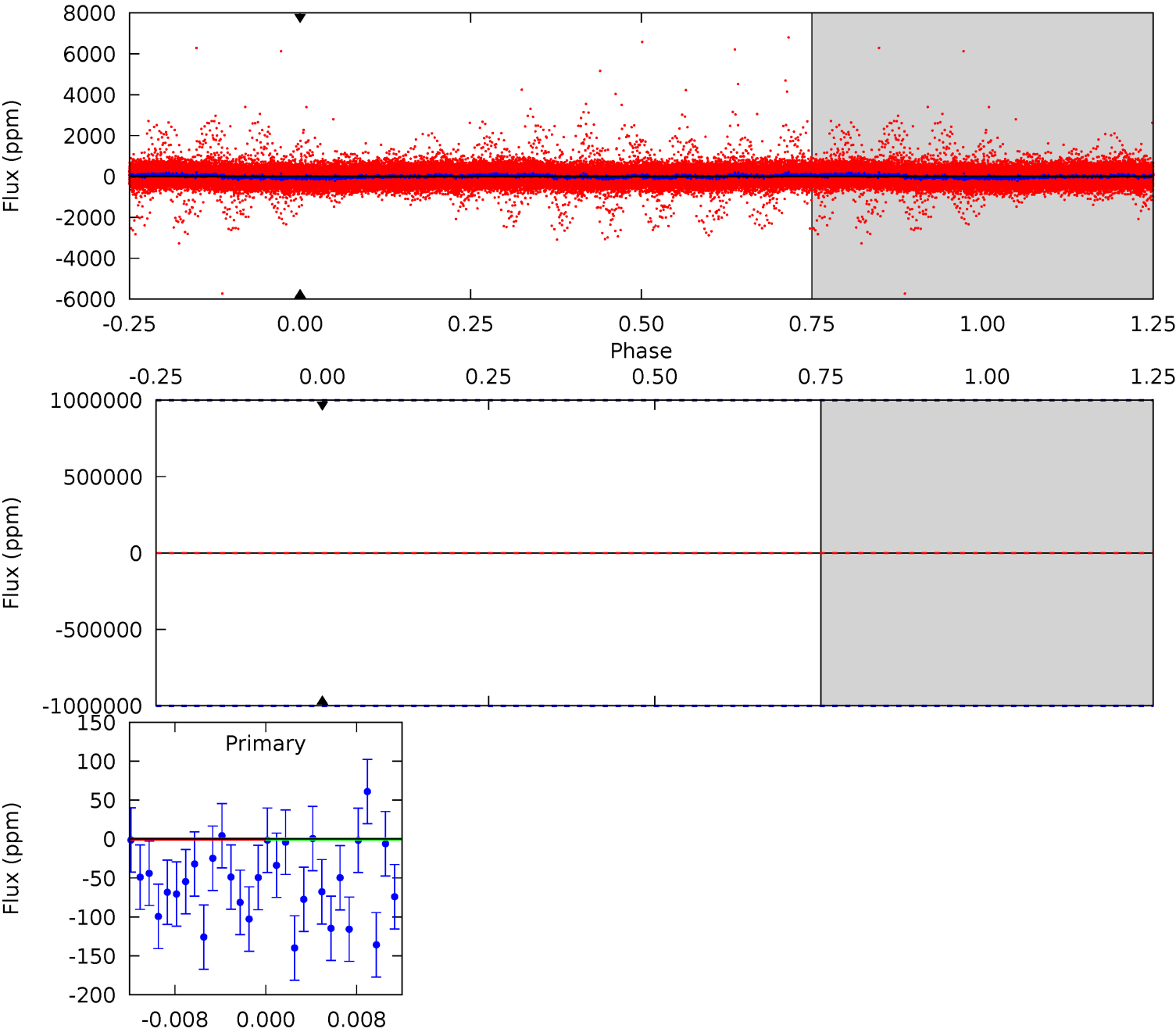
TCE 007778826-01 P= 5.238990 Days $T_0=136.305978$ (BKJD)



DV Model-Shift Uniqueness Test

007778826-01, P = 5.238990 Days, E = 126.776032 Days

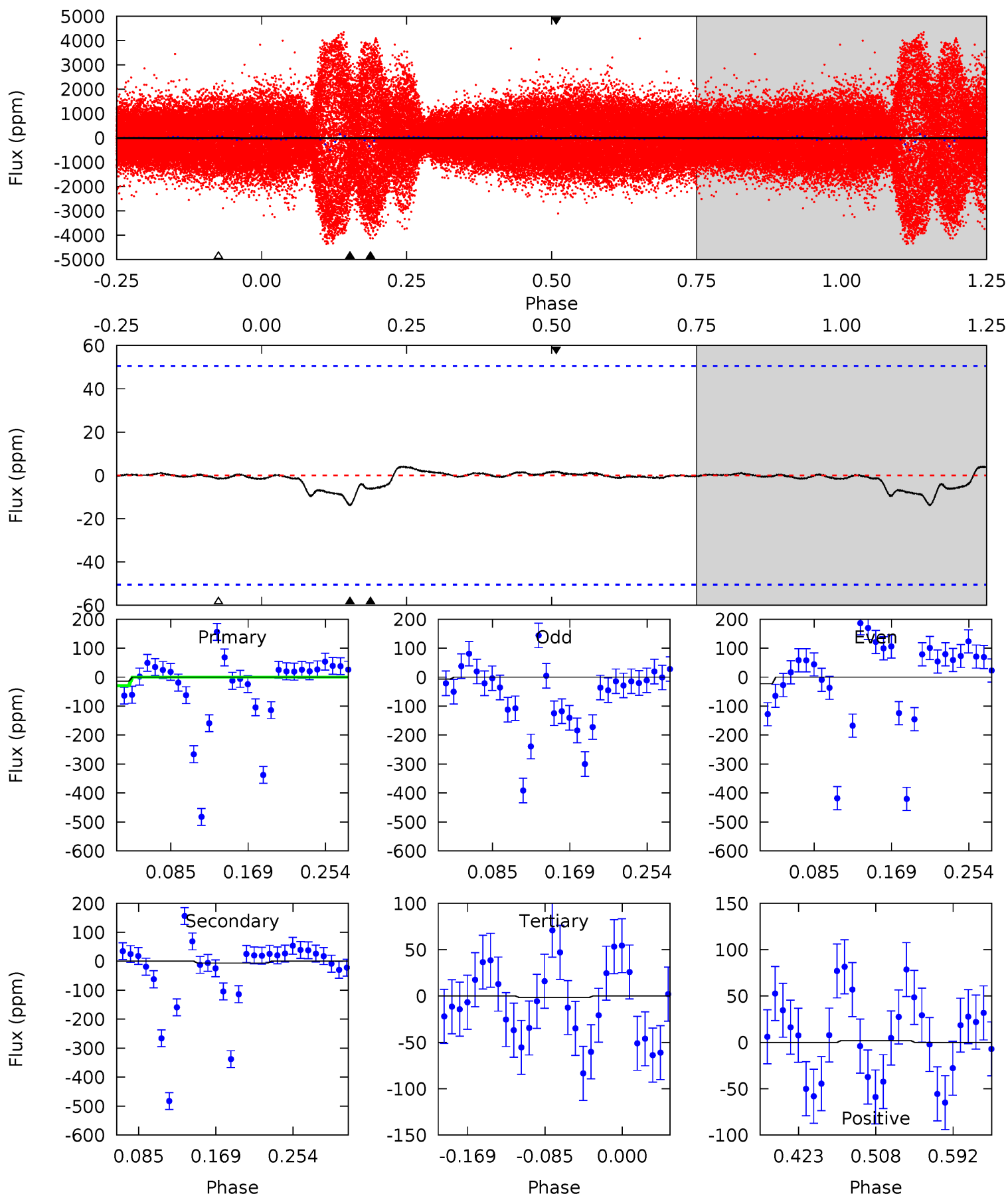
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

007778826-01, P = 5.238990 Days, E = 131.066988 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.25	0.57	0.14	0.16	4.60	1.72	0.08	1.11	1.10	0.43	0.41	0.74	0.05	0.22	1.40



Stellar Parameters For KIC 007778826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+228}_{-314}	$4.254^{+0.072}_{-0.203}$	$-0.060^{+0.250}_{-0.350}$	$1.480^{+0.495}_{-0.212}$	$1.434^{+0.211}_{-0.211}$	$0.623^{+0.242}_{-0.332}$
	+3%/-4%	+2%/-5%	+417%/-583%	+33%/-14%	+15%/-15%	+39%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007778826-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$11.72^{+13.31}_{-8.36}$	2131^{+175}_{-123}	-5988^{+44414}_{-30235}	$-35.734^{+2944.775}_{-2635.741}$
Alt.	-6 ± 11	$11.54^{+12.09}_{-8.33}$	2133^{+157}_{-133}	-2448^{+5365}_{-221}	$0.078^{+1.090}_{-0.138}$

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

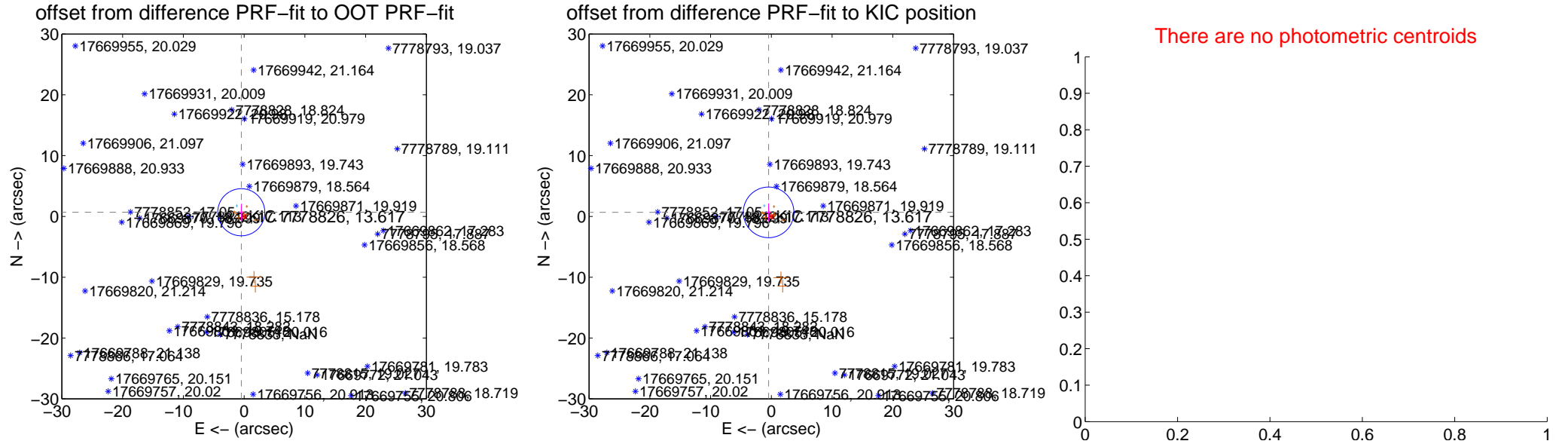
DV Centroid Data

Supplemental centroid analysis for 007778826-01. Kepler magnitude: 13.62. Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

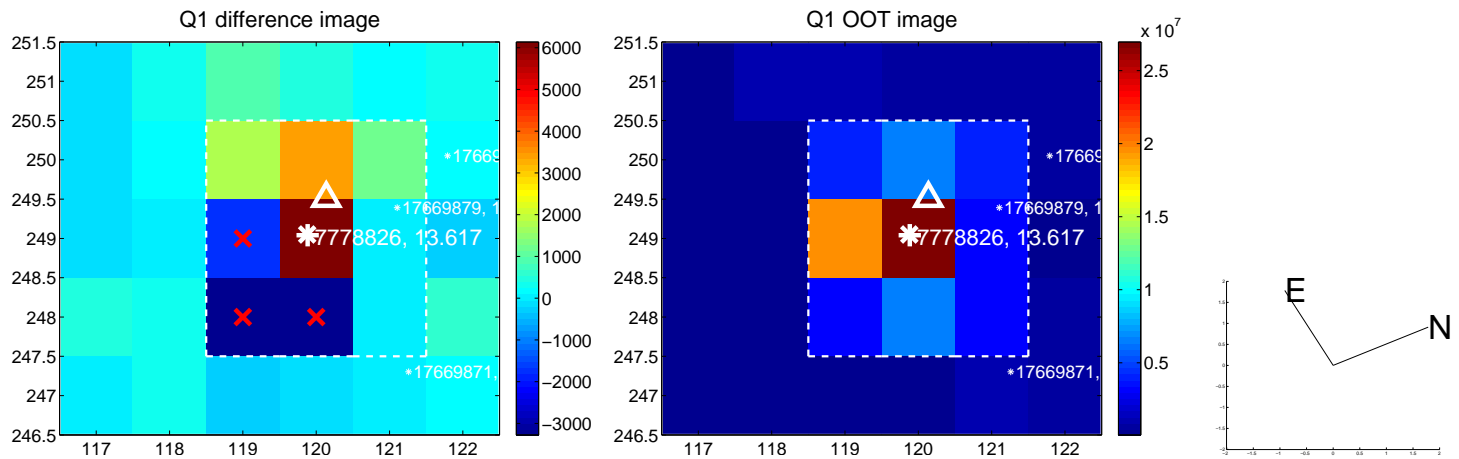
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.830 ± 1.291	0.64	0.468 ± 0.385	0.686 ± 1.389
PRF-fit source offset from KIC position	0.806 ± 1.388	0.58	0.450 ± 0.439	0.668 ± 1.472
photometric centroid source offset	—	—	—	—

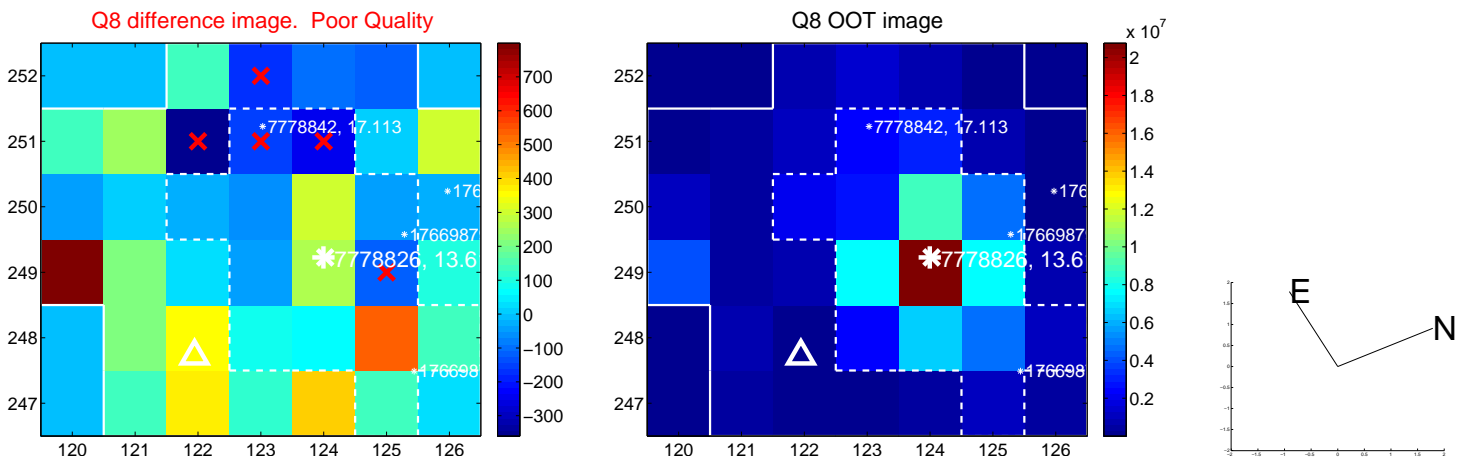
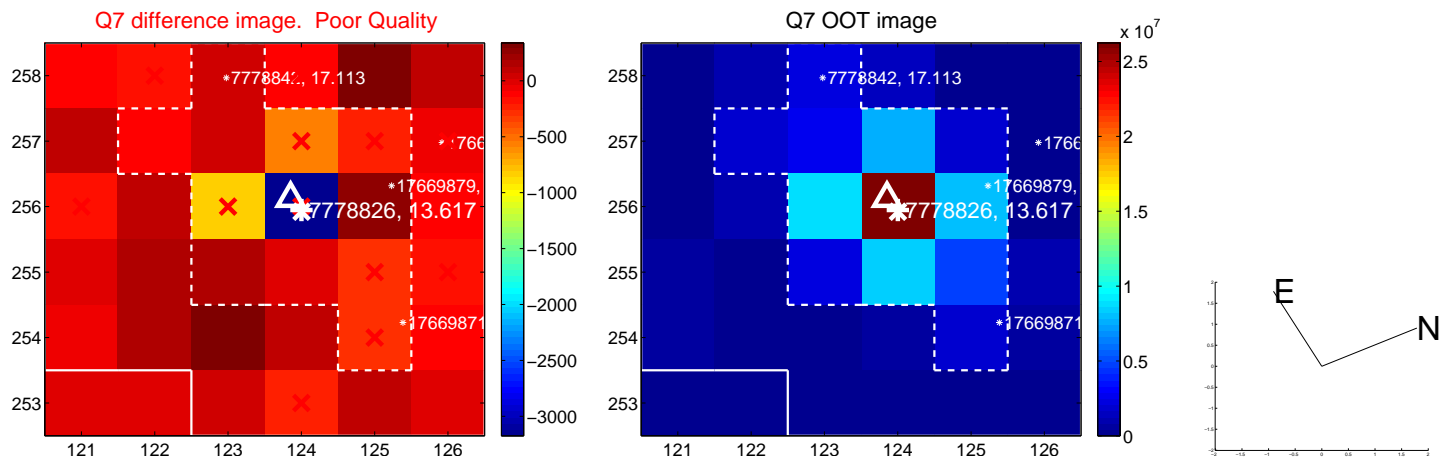
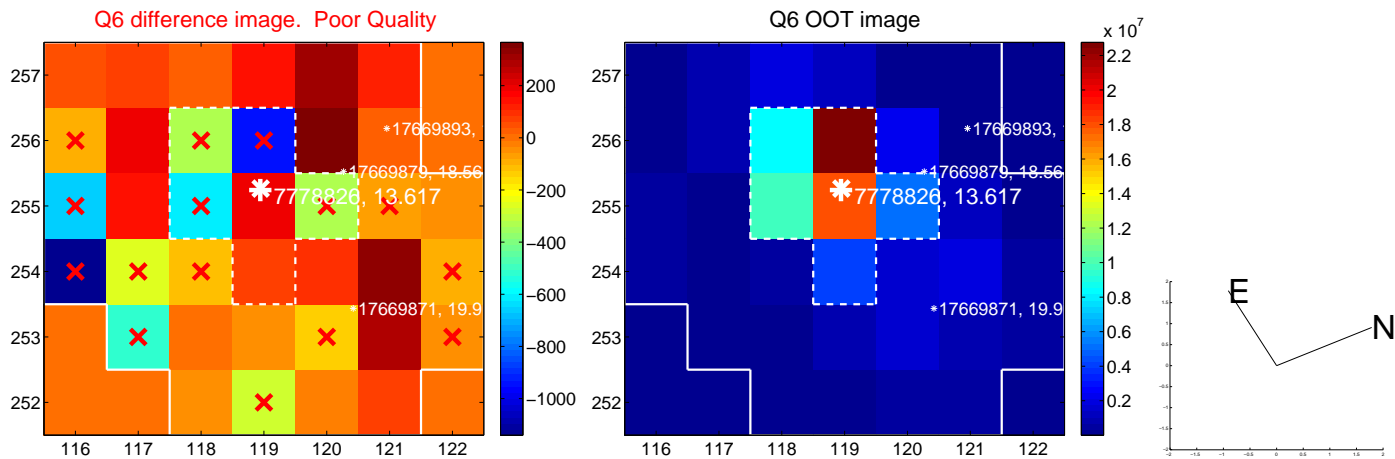
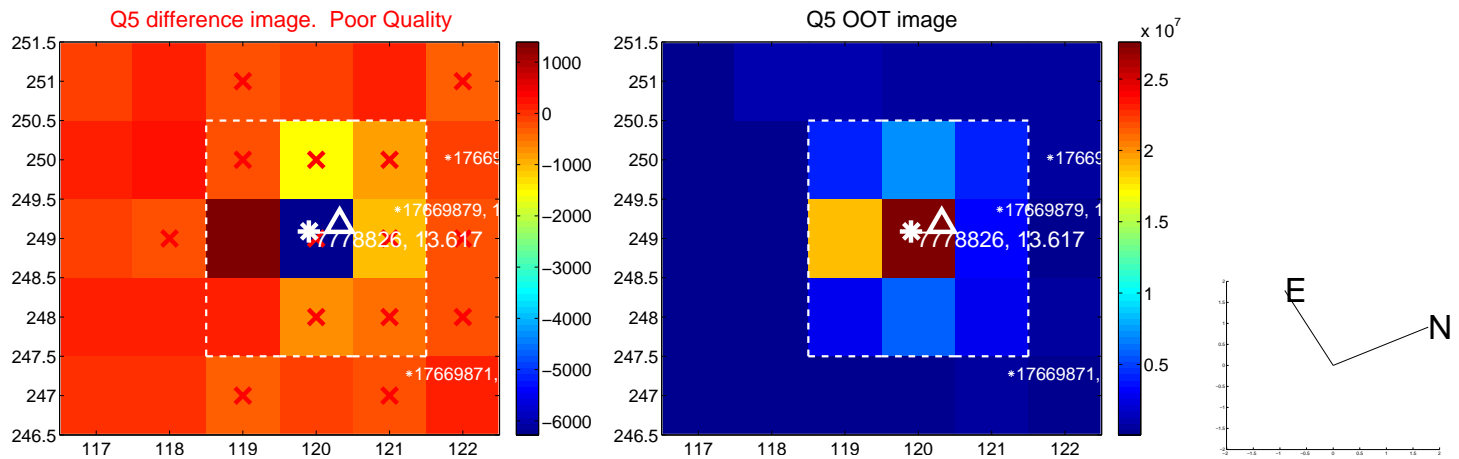


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

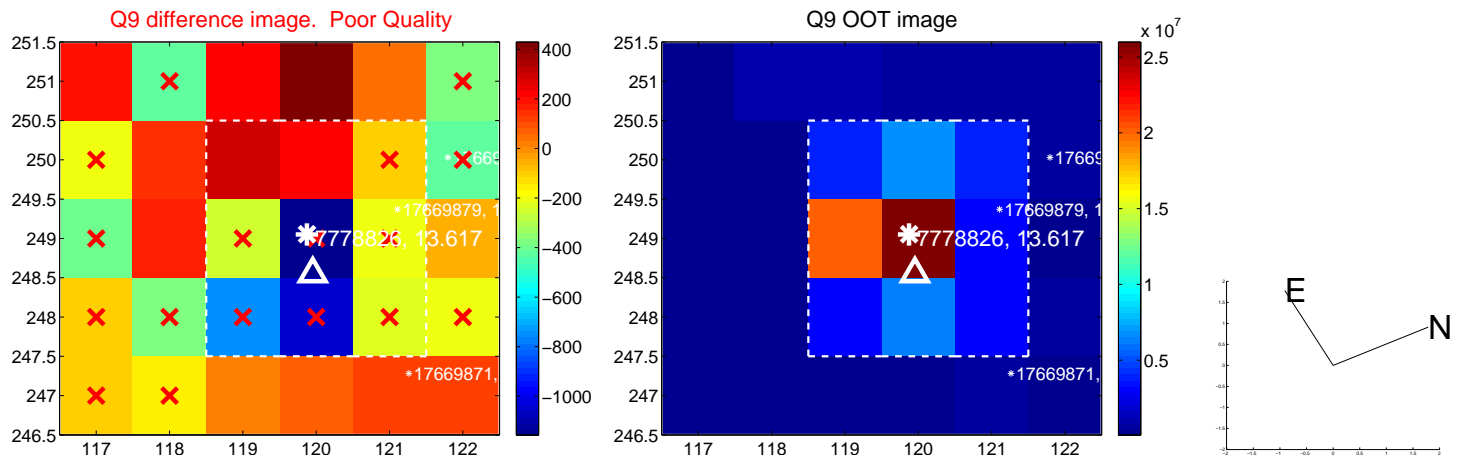
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



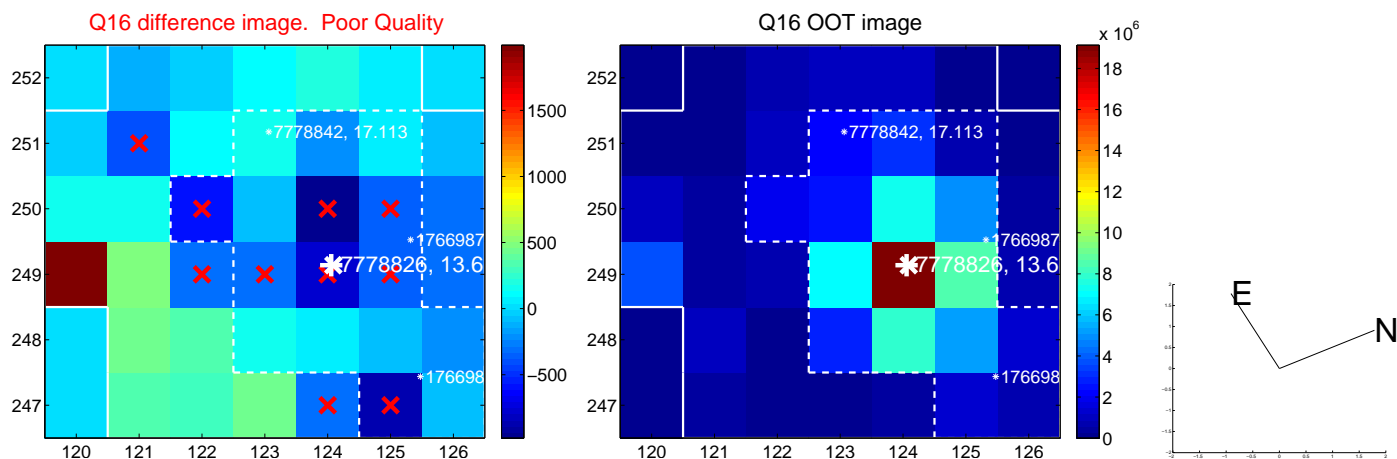
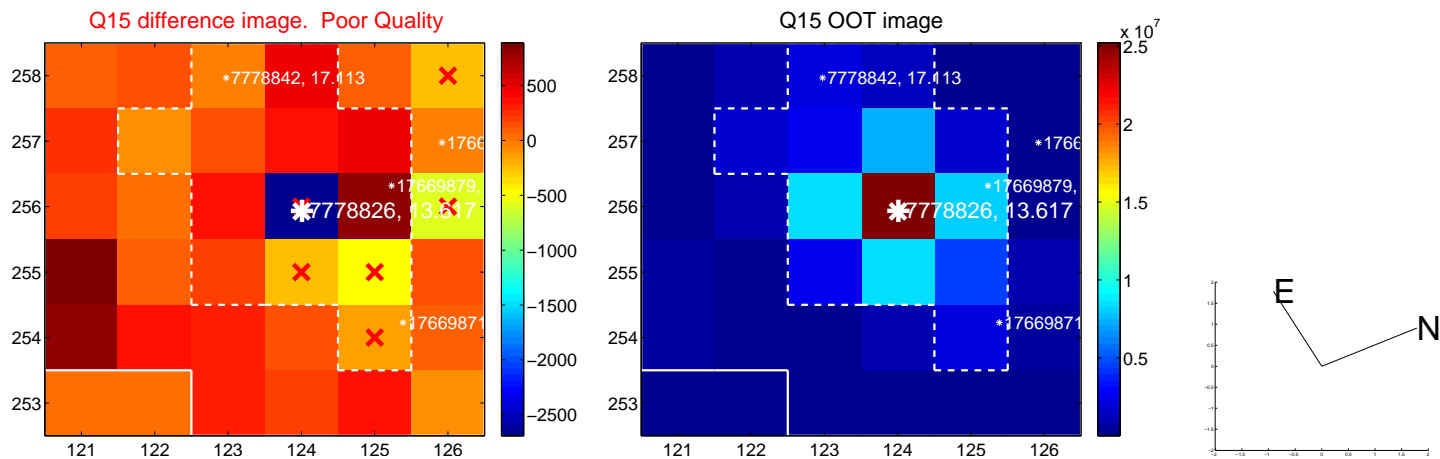
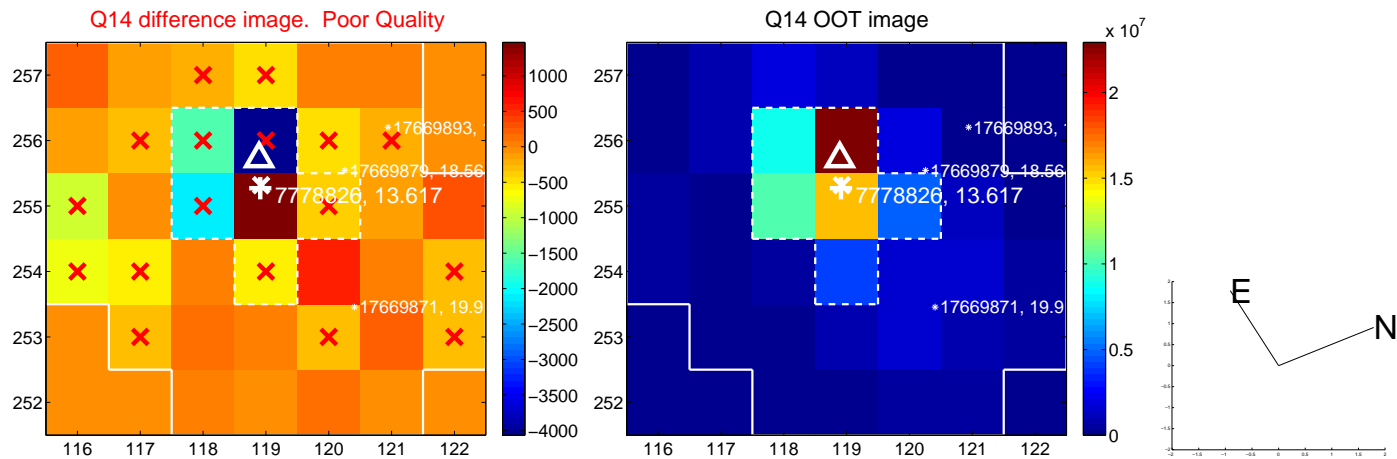
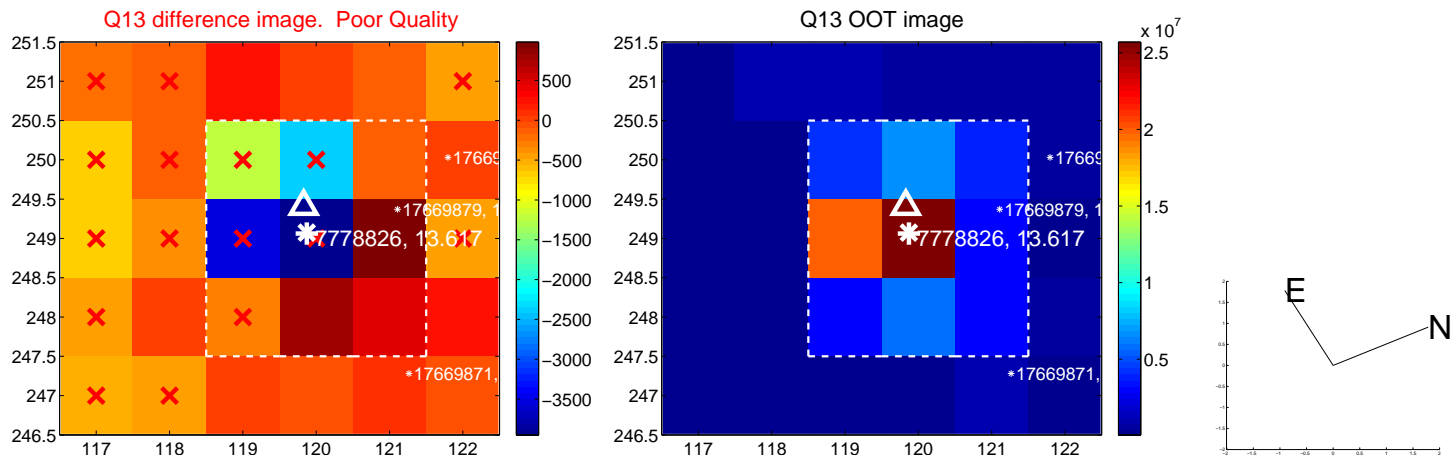
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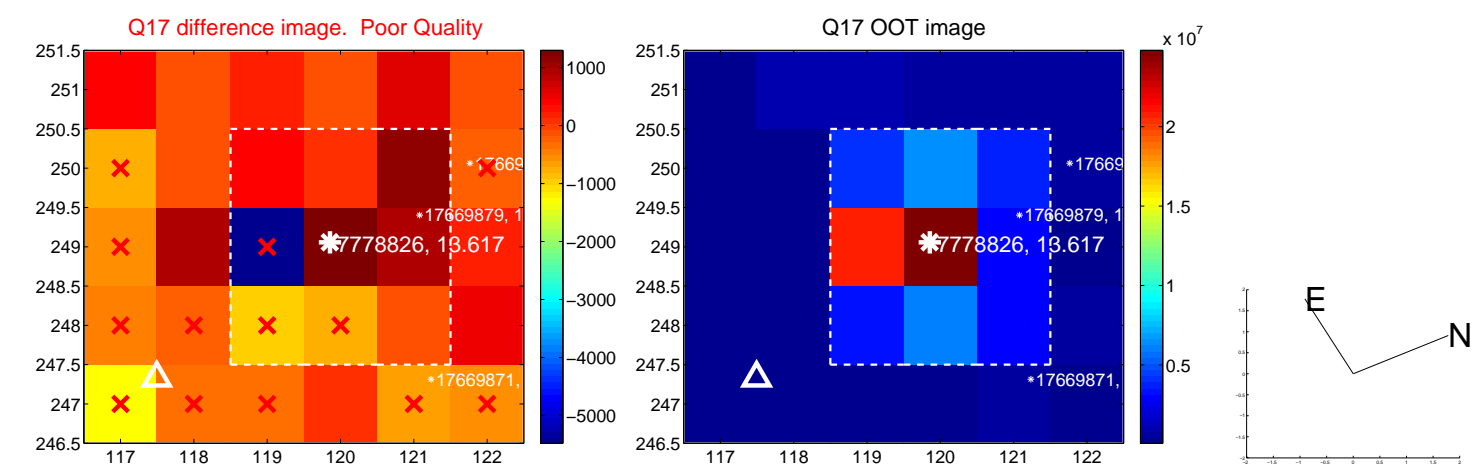
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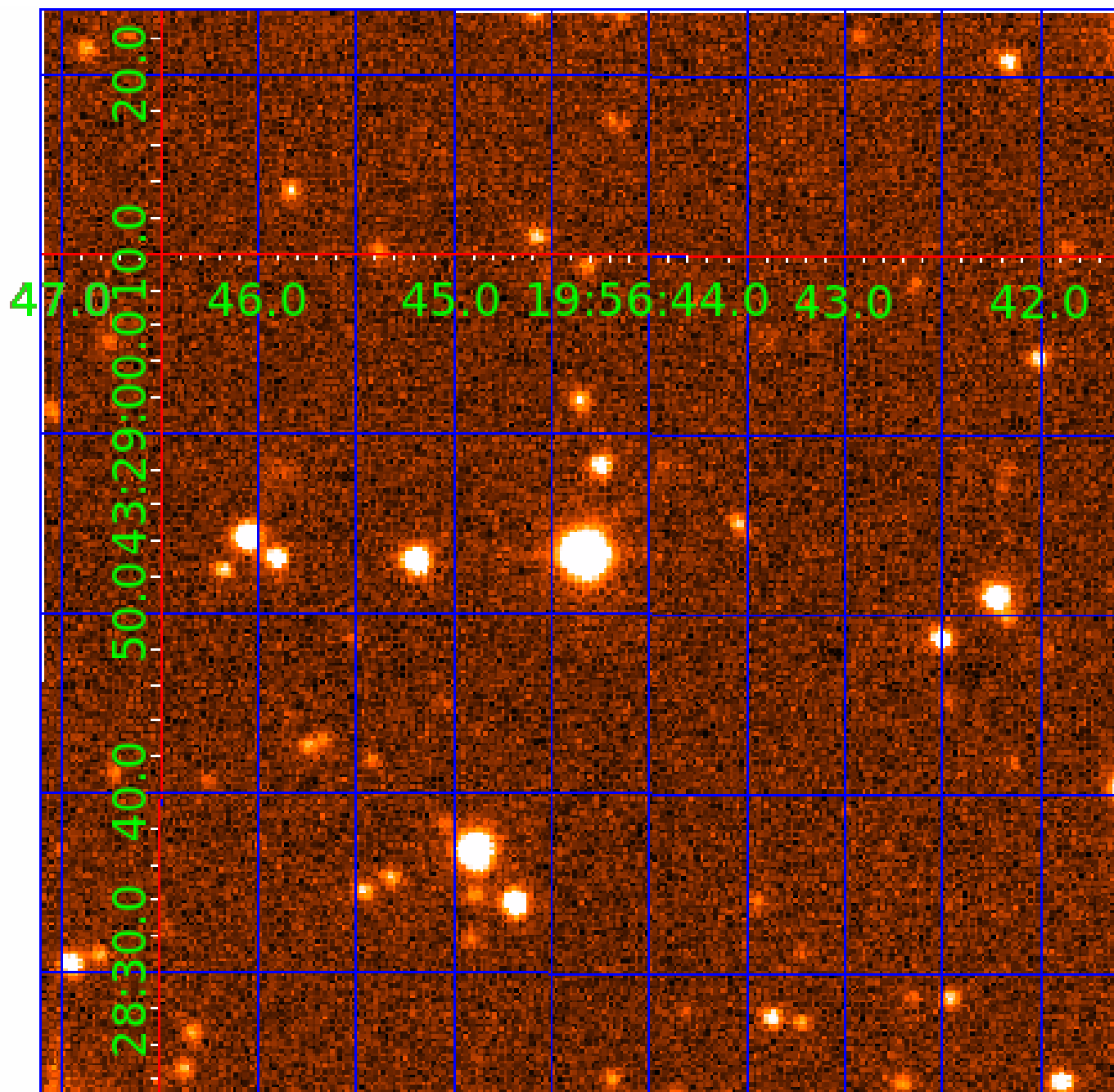
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination



KIC 007778826

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007778826-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
007778826-02	OBS	FP	0.00	1	0	0	0	LPP_DV
007778826-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—HALO_GHOST
007778826-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
007778826-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007778826-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

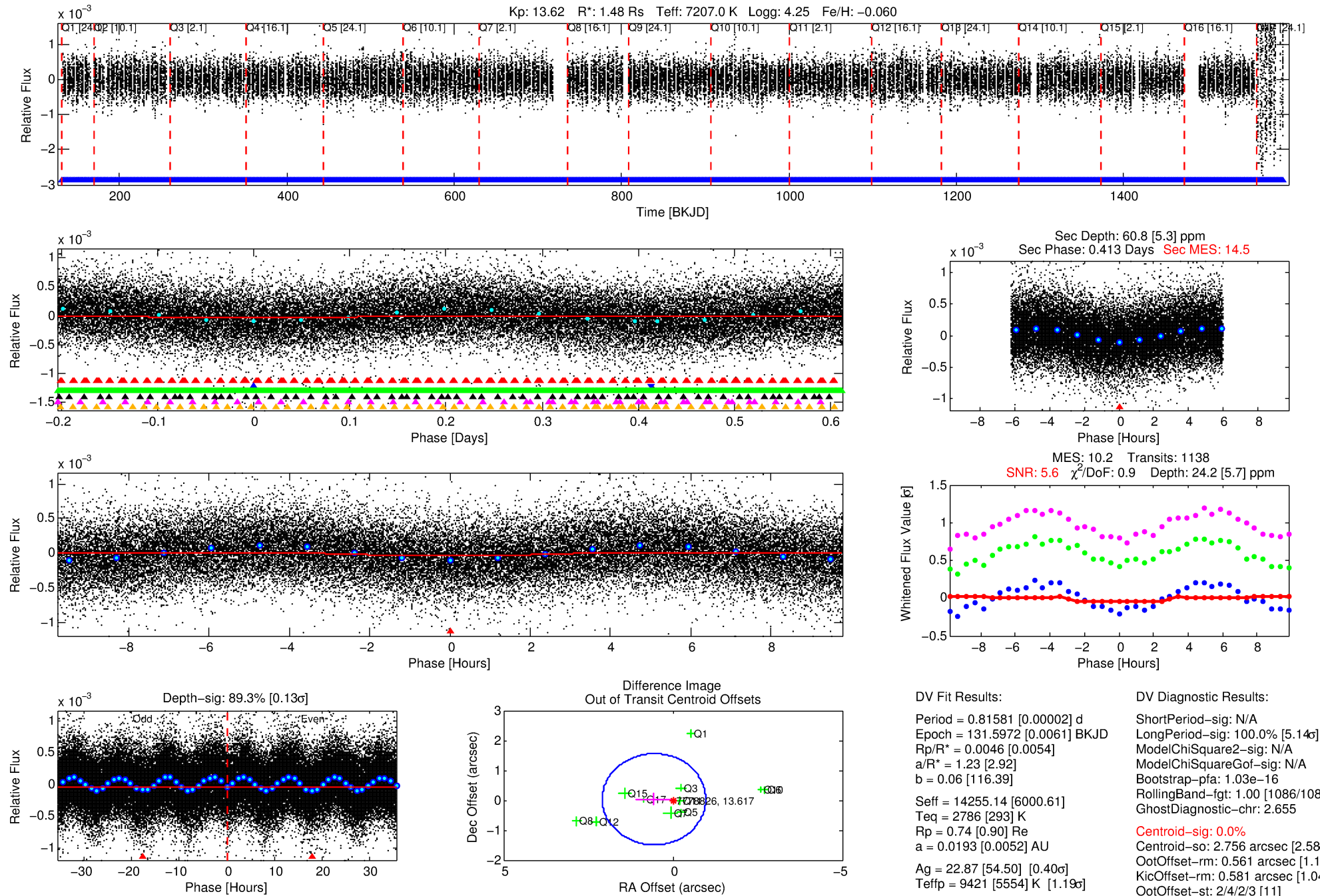
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007778826-02

No Significant Match Found

DV One-Page Summary

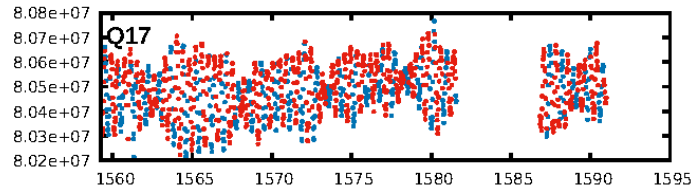
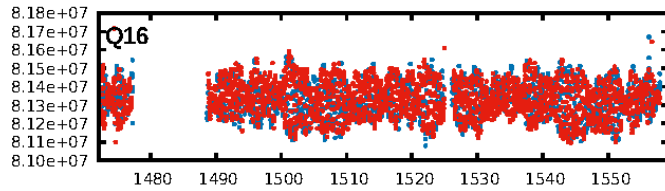
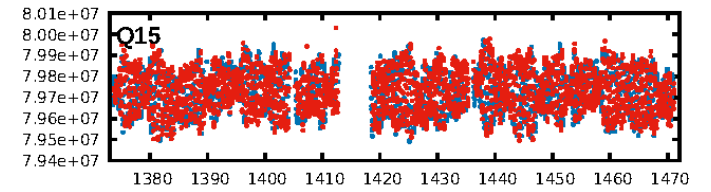
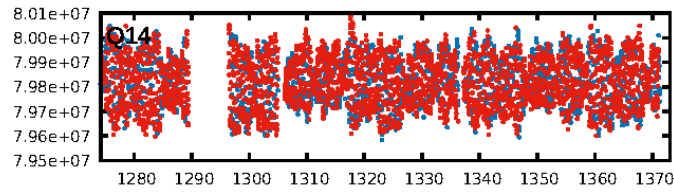
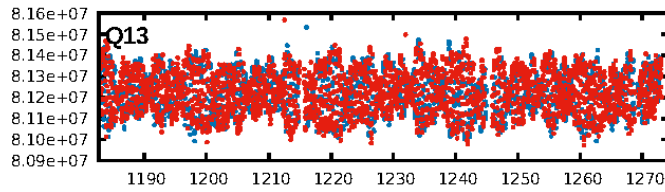
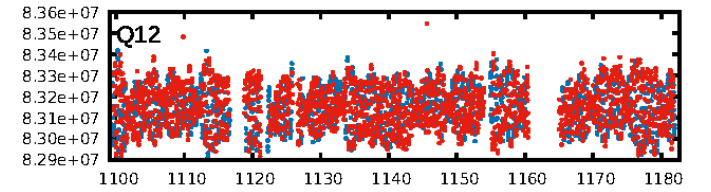
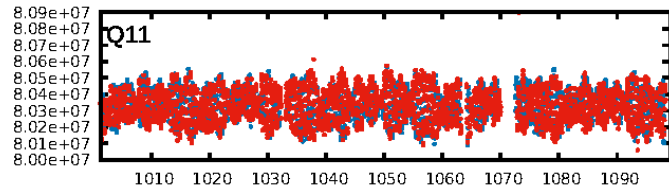
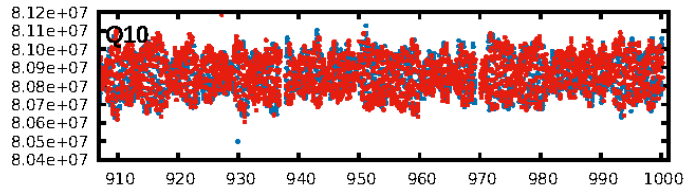
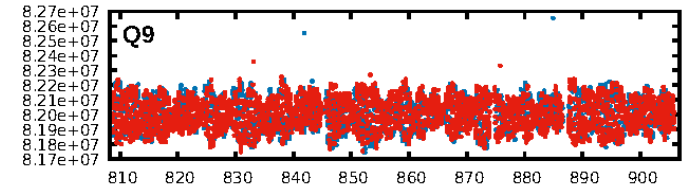
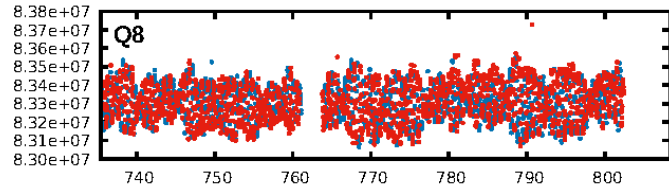
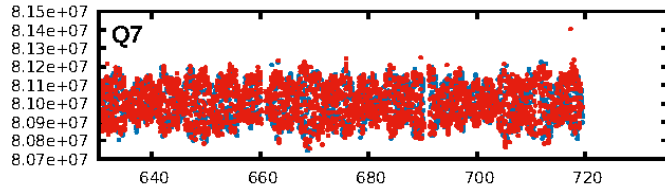
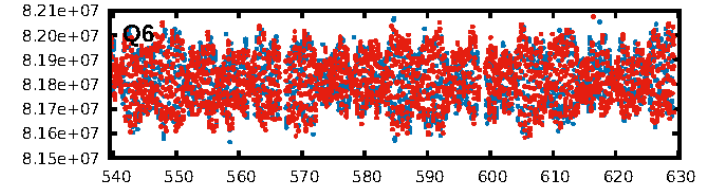
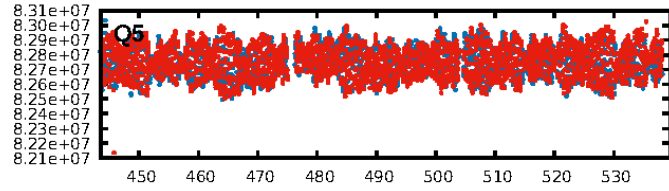
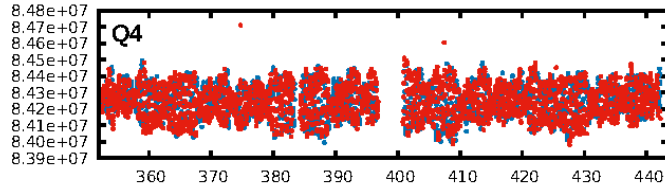
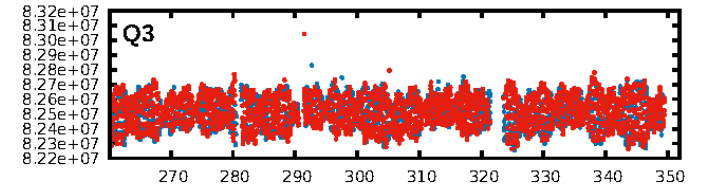
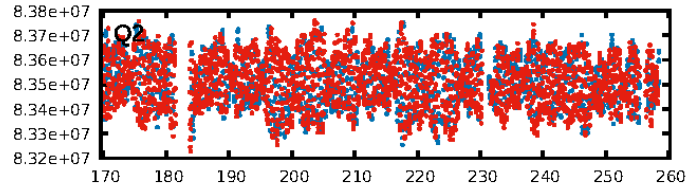
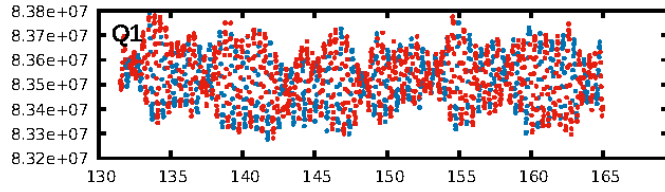
KIC: 7778826 Candidate: 2 of 6 Period: 0.816 d



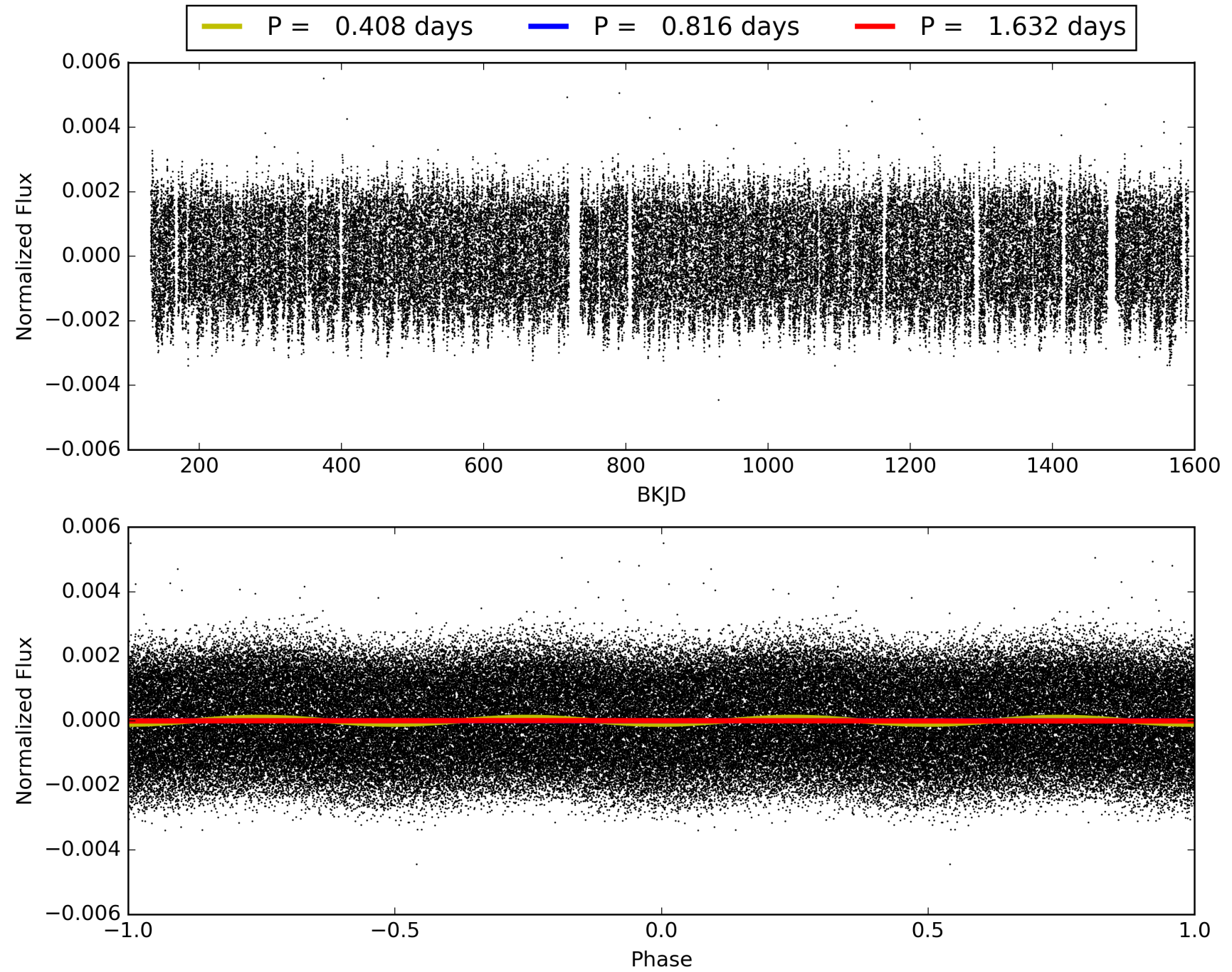
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:02:44 Z

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

TCE 007778826-02, PDC Light Curves

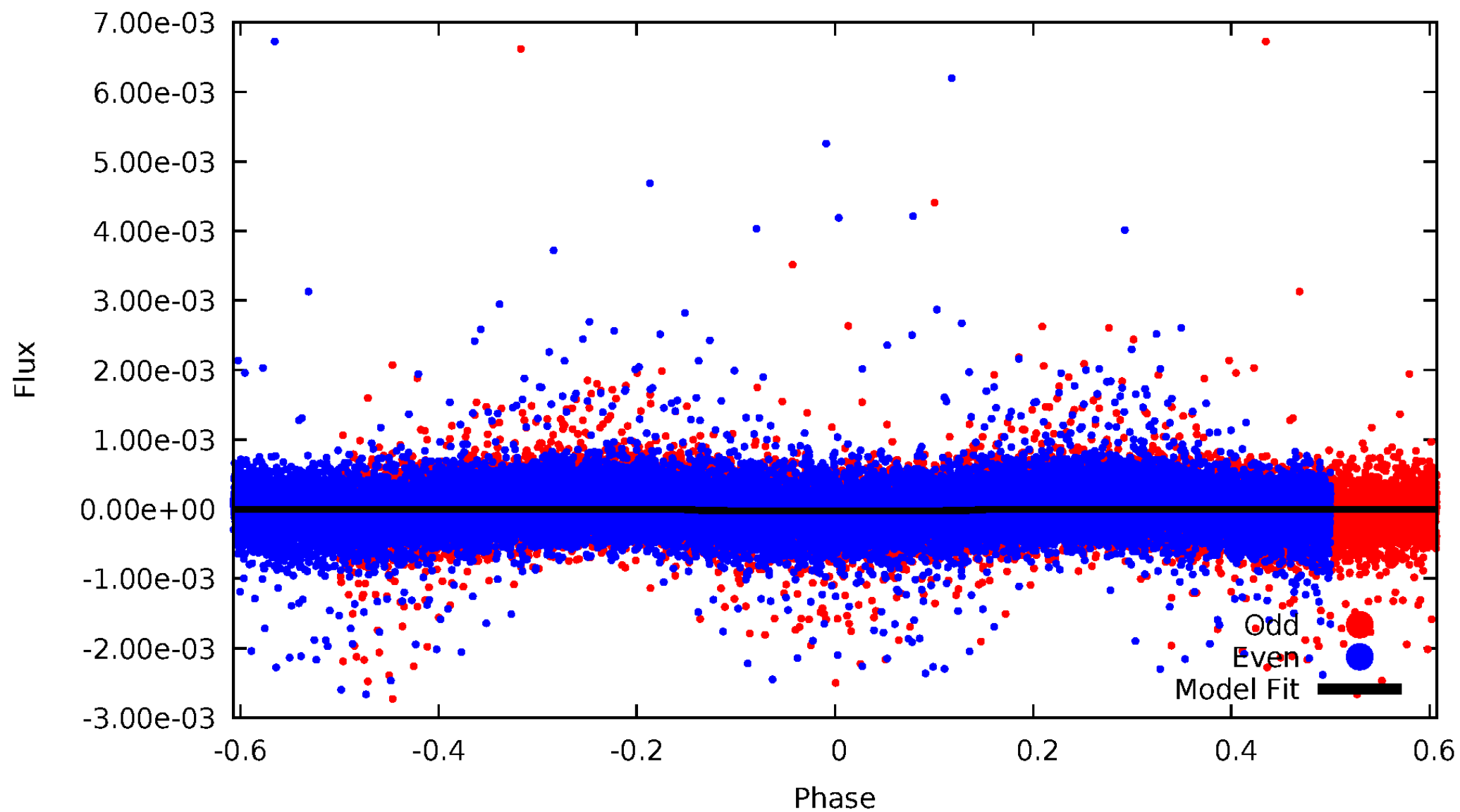


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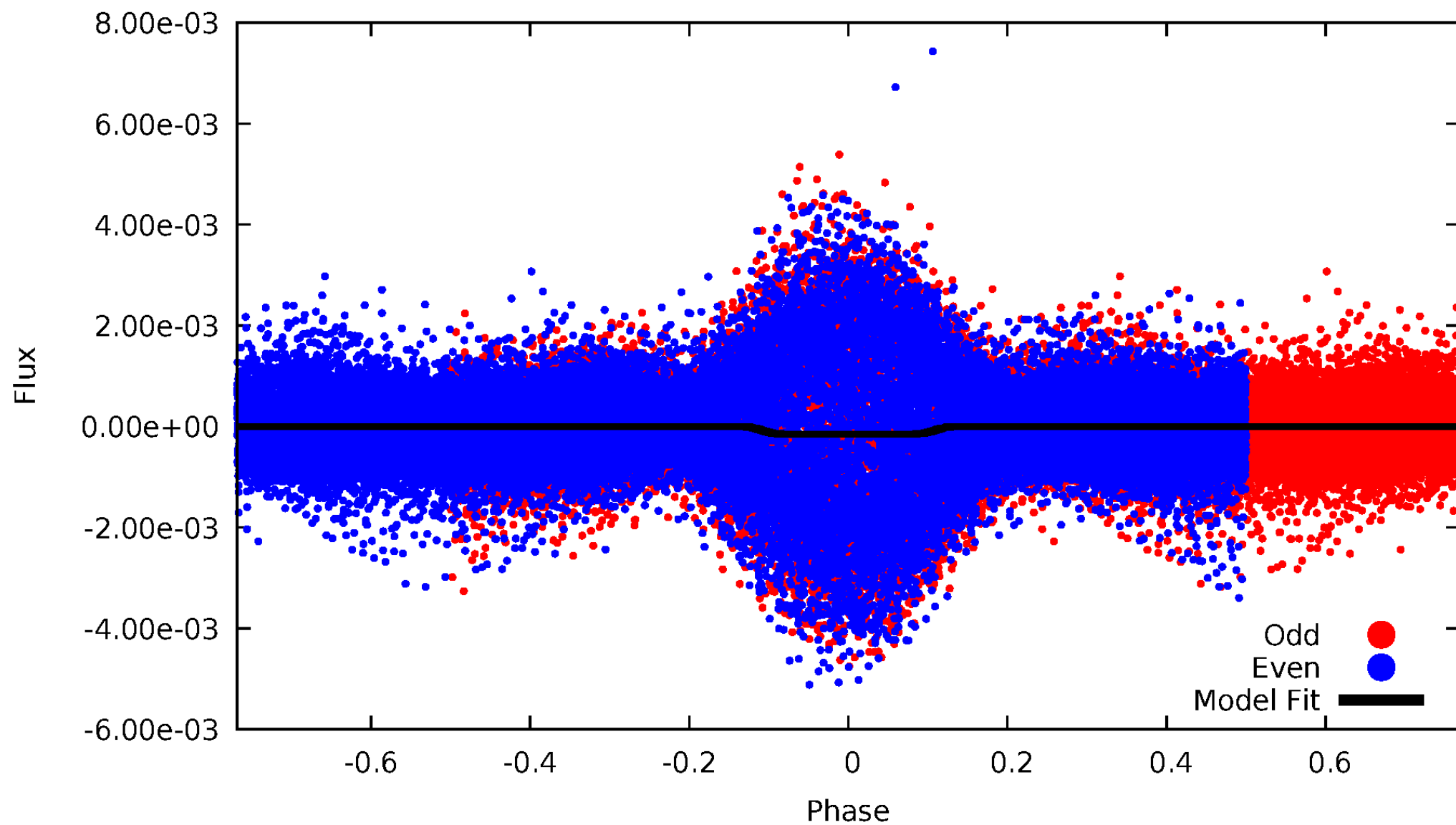
DV Odd/Even

TCE 007778826-02



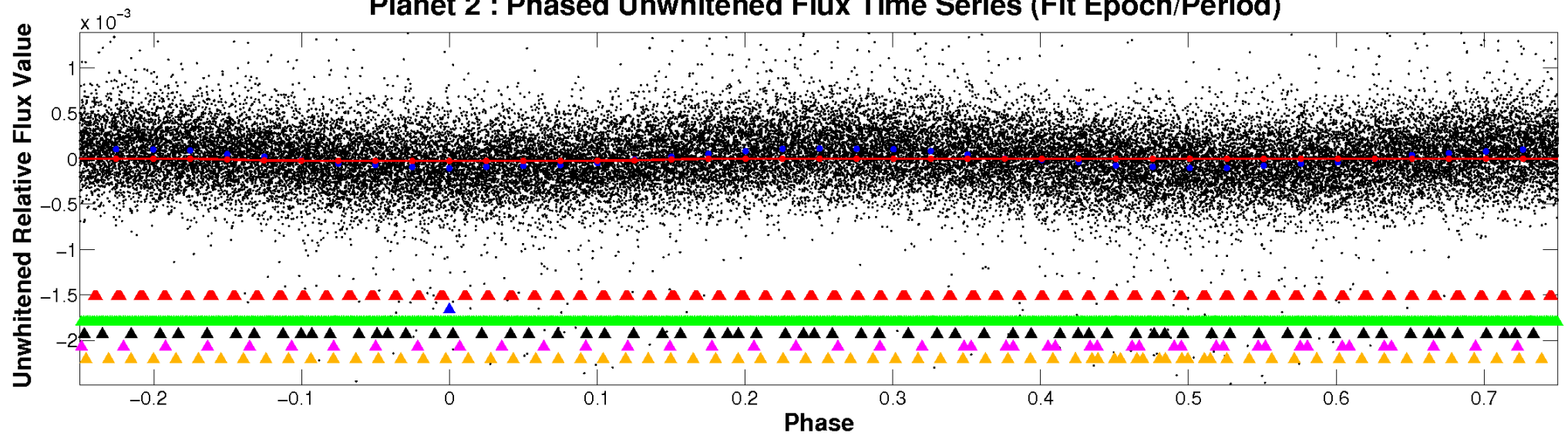
ALT Odd/Even

TCE 007778826-02

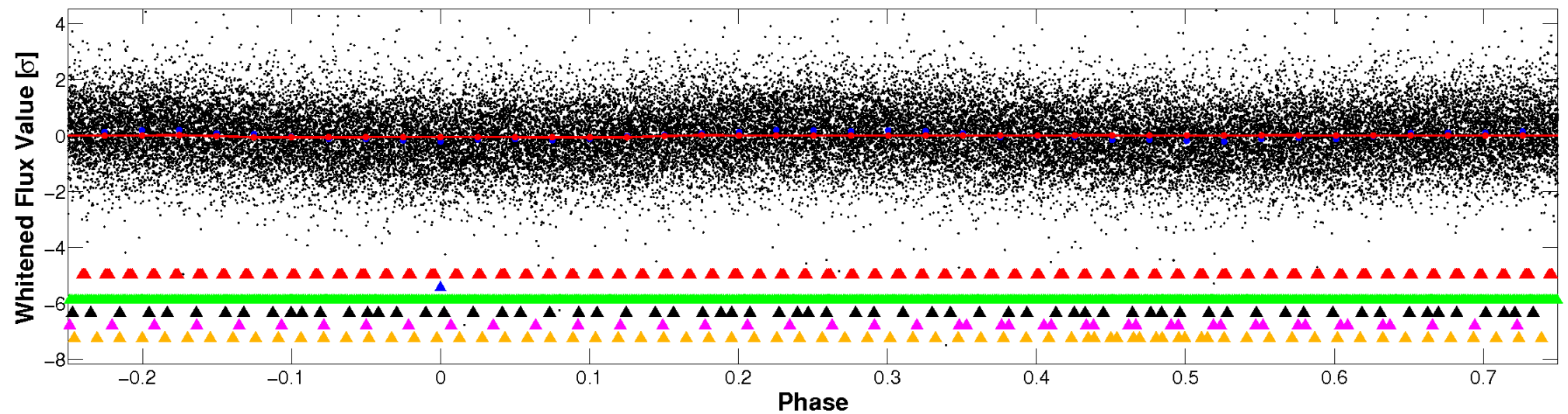


Non-Whitened Vs. Whitened Light Curve

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

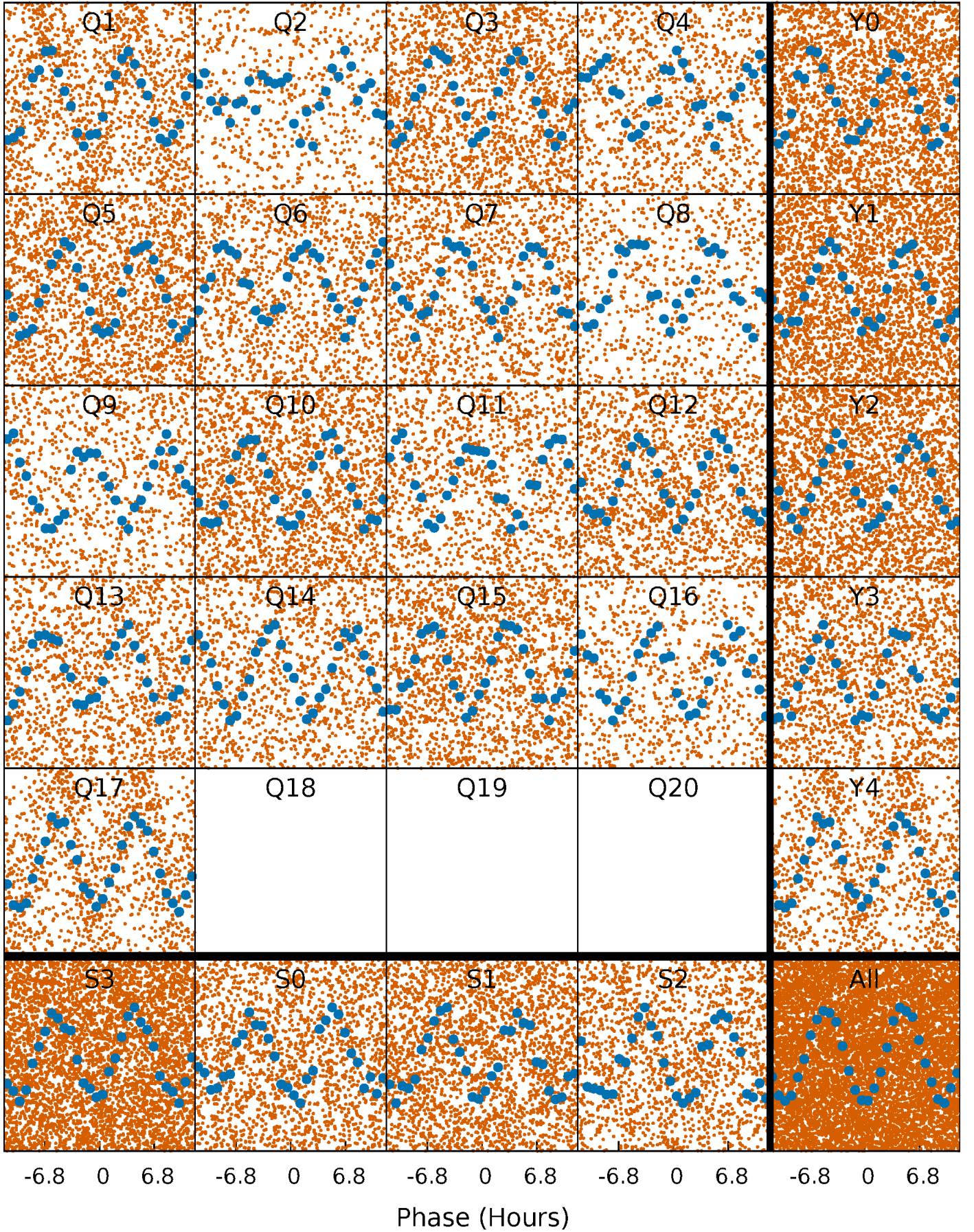


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



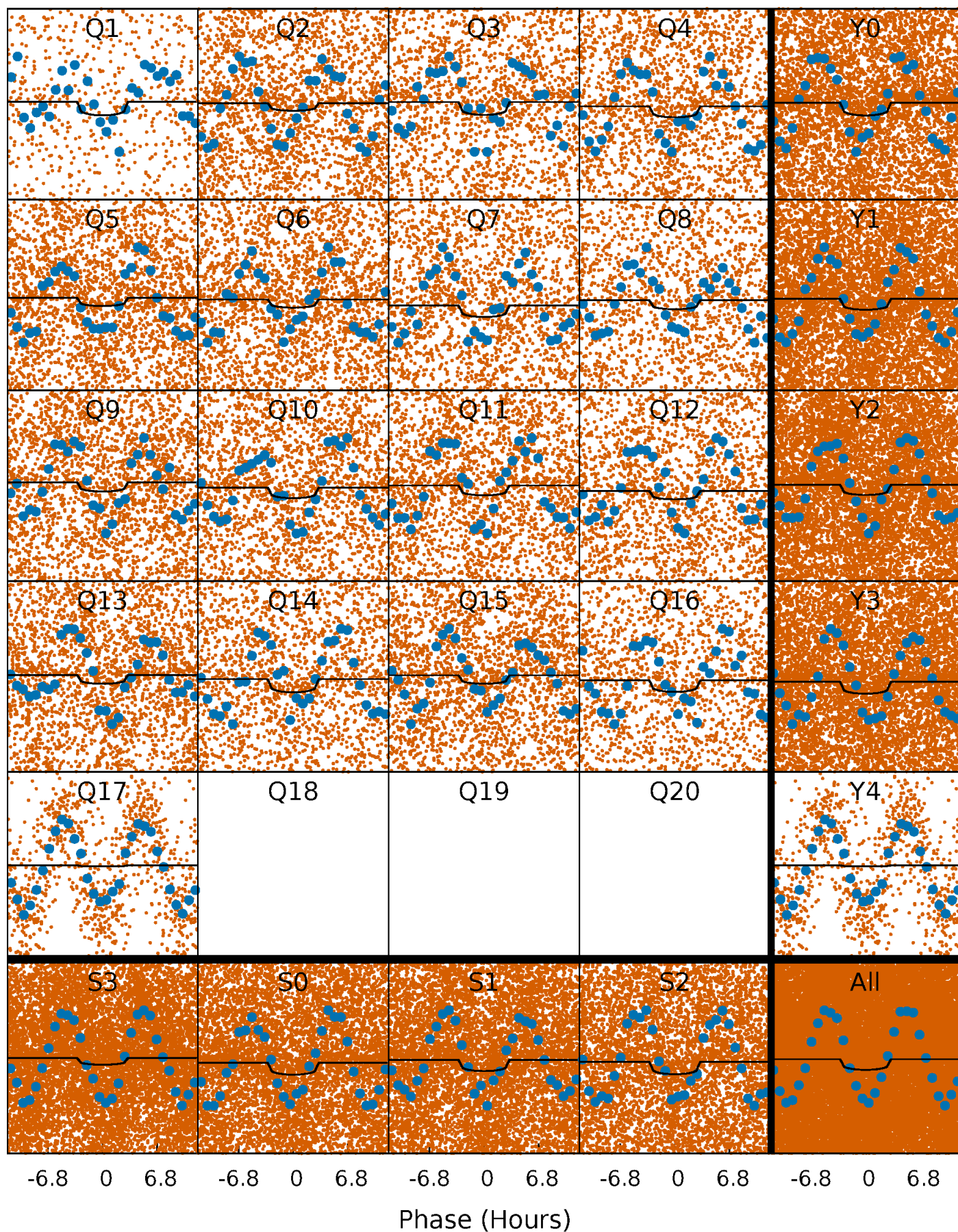
PDC Quarter-Phased Transit Curves

TCE 007778826-02 P= 0.815805 Days $T_0=131.597180$ (BKJD)



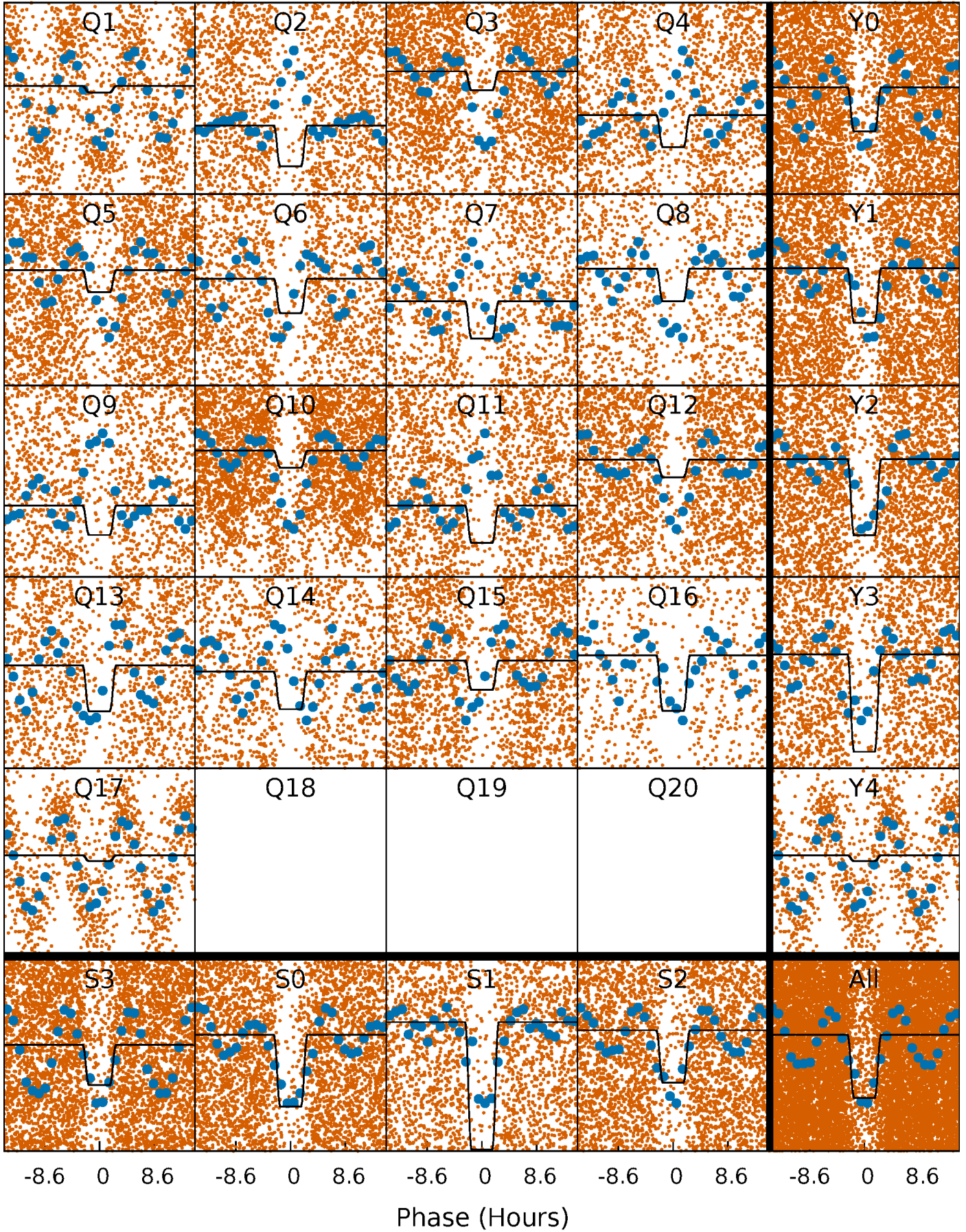
DV Quarter-Phased Transit Curves

TCE 007778826-02 P= 0.815805 Days $T_0=131.597180$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

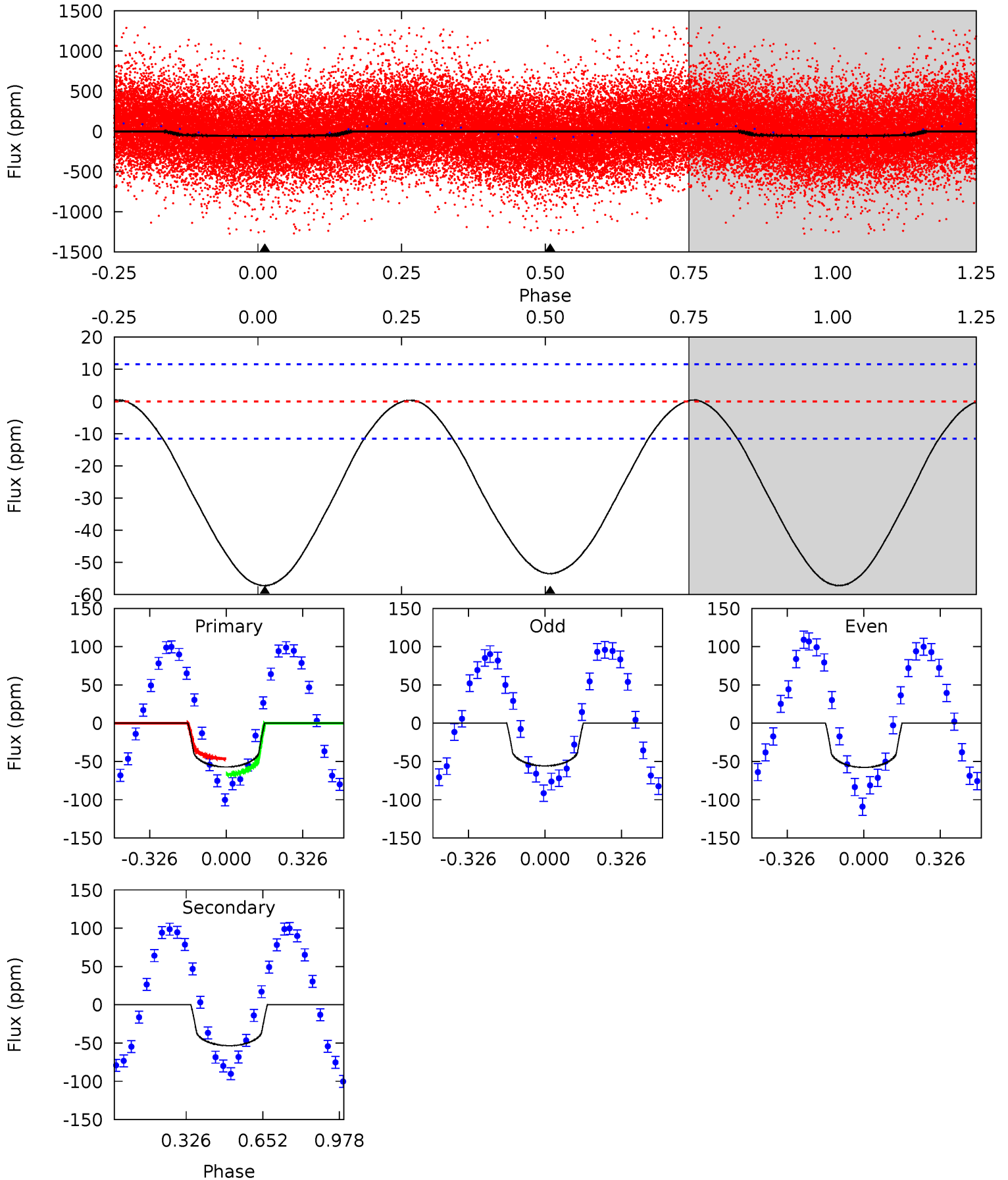
TCE 007778826-02 P= 0.815869 Days $T_0=131.532811$ (BKJD)



DV Model-Shift Uniqueness Test

007778826-02, P = 0.815805 Days, E = 131.597180 Days

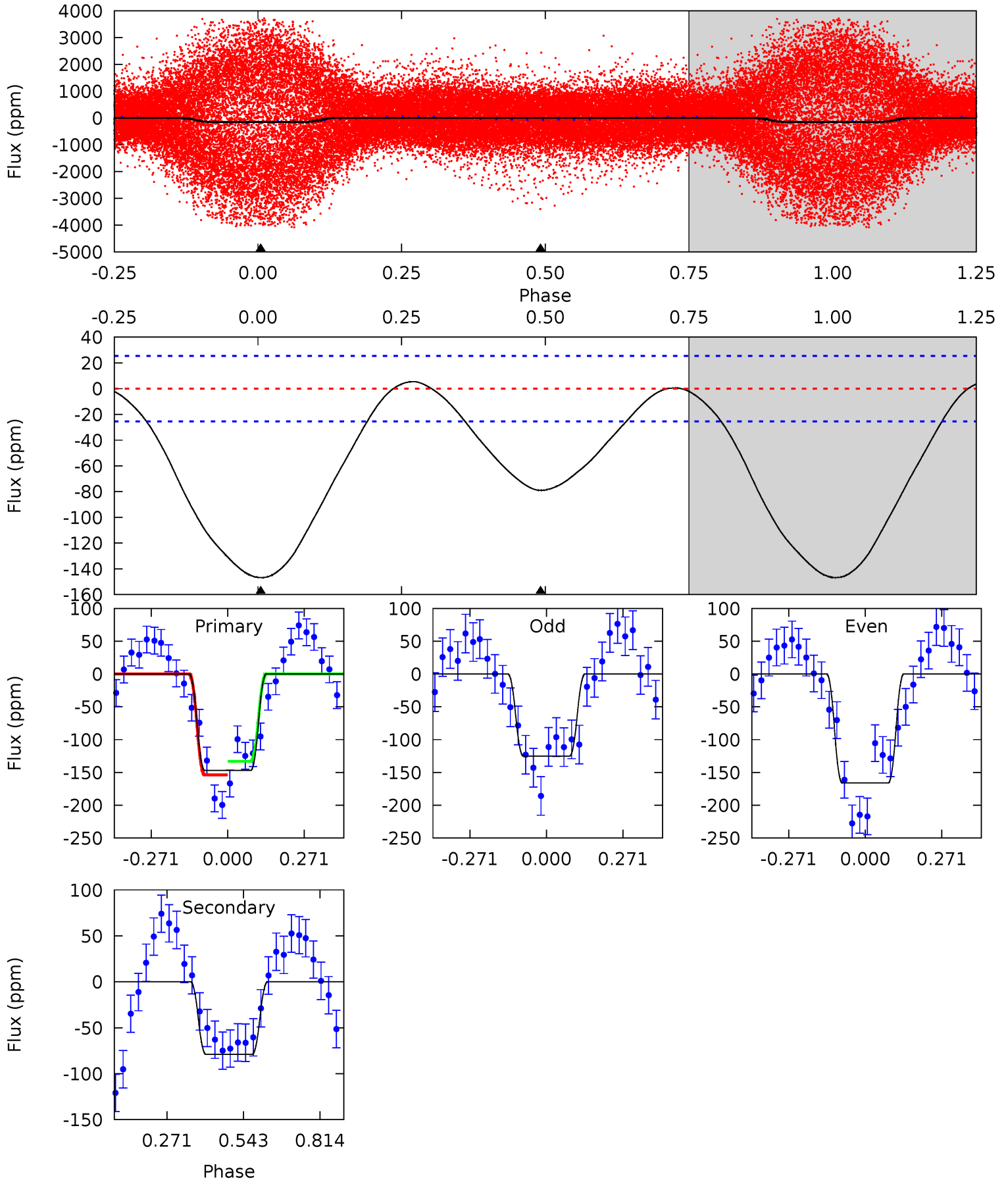
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.3	19.9	0	0	4.31	0.98	0.21	21.3	21.3	19.9	19.9	0.37	1.15	0.01	4.06



Alt Model-Shift Uniqueness Test

007778826-02, P = 0.815869 Days, E = 131.532811 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.1	13.5	0	0	4.35	1.10	0.77	25.1	25.1	13.5	13.5	3.47	0.64	0.04	1.76



Stellar Parameters For KIC 007778826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+228}_{-314}	$4.254^{+0.072}_{-0.203}$	$-0.060^{+0.250}_{-0.350}$	$1.480^{+0.495}_{-0.212}$	$1.434^{+0.211}_{-0.211}$	$0.623^{+0.242}_{-0.332}$
	+3%/-4%	+2%/-5%	+417%/-583%	+33%/-14%	+15%/-15%	+39%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007778826-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-53 ± 3	$1.02^{+0.88}_{-0.66}$	3977^{+302}_{-231}	8009^{+11533}_{-2351}	11^{+71}_{-7}
Alt.	-79 ± 6	$2.07^{+0.96}_{-0.90}$	3957^{+303}_{-221}	5938^{+2008}_{-1077}	$3.644^{+7.993}_{-1.908}$

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

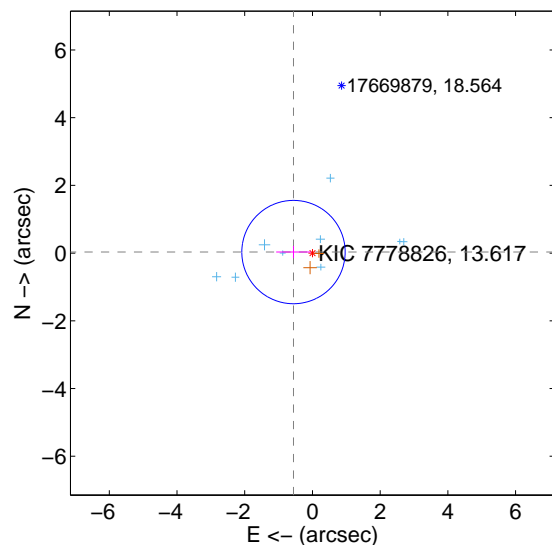
Supplemental centroid analysis for 007778826-02. Kepler magnitude: 13.62. Transit SNR 5.65

There are 9 quarters with good PRF difference image offsets

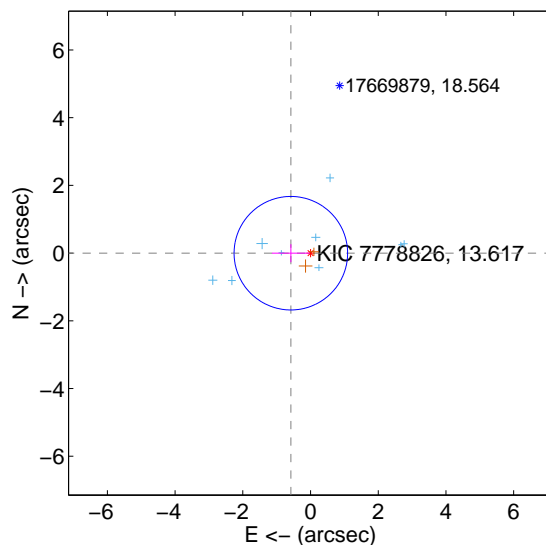
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.561 ± 0.509	1.10	0.560 ± 0.509	0.031 ± 0.182
PRF-fit source offset from KIC position	0.581 ± 0.559	1.04	0.581 ± 0.558	-0.003 ± 0.264
photometric centroid source offset	2.76 ± 1.07	2.58	0.71 ± 1.06	2.66 ± 1.07

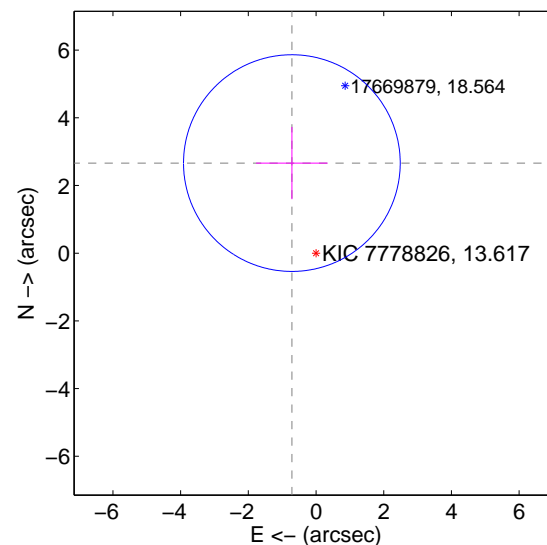
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

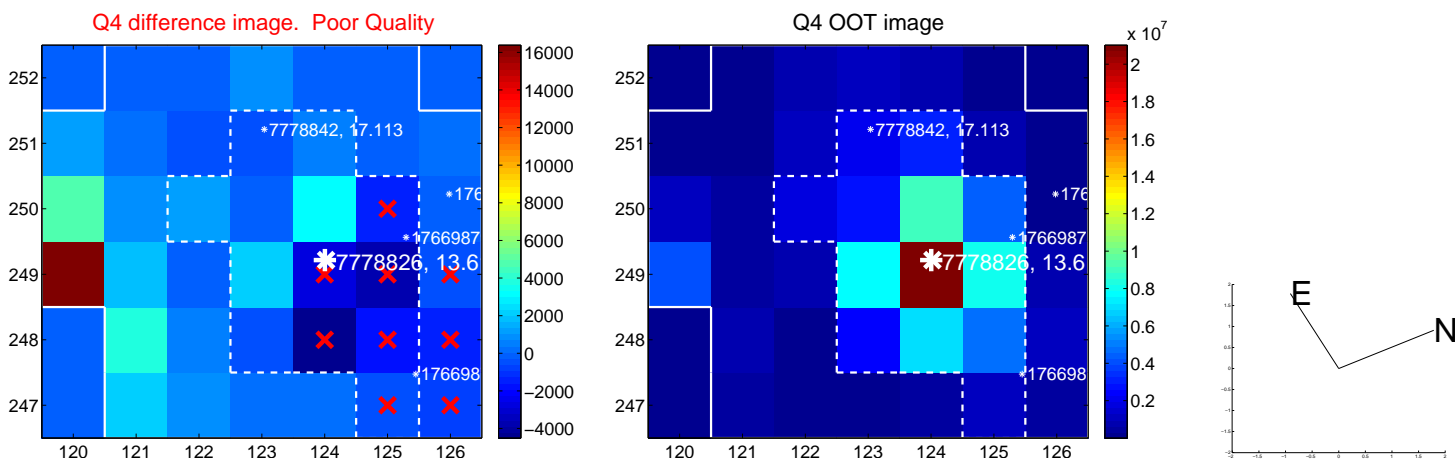
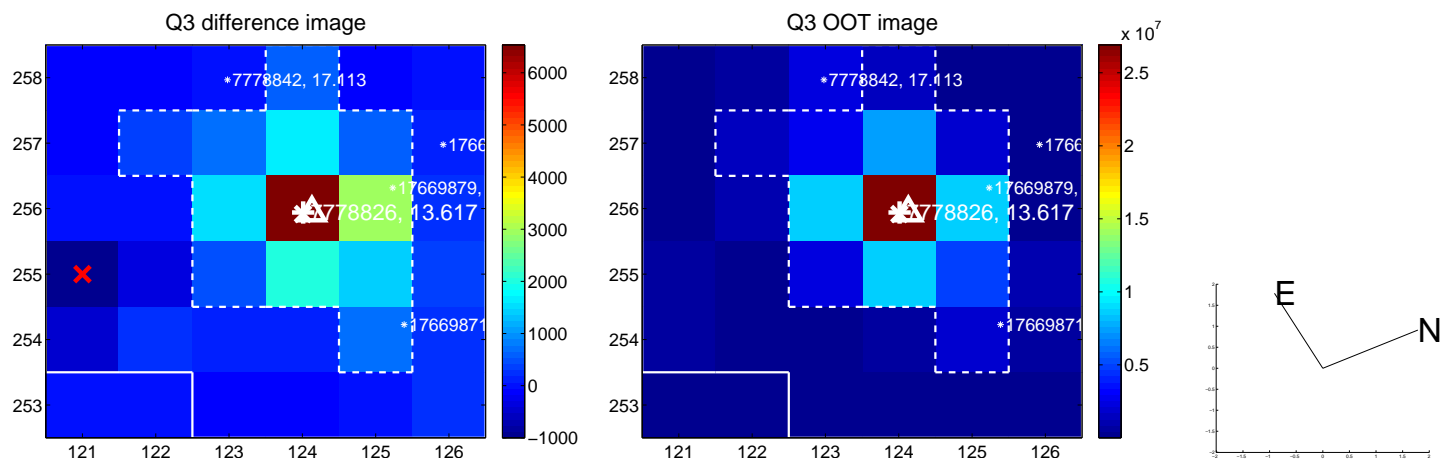
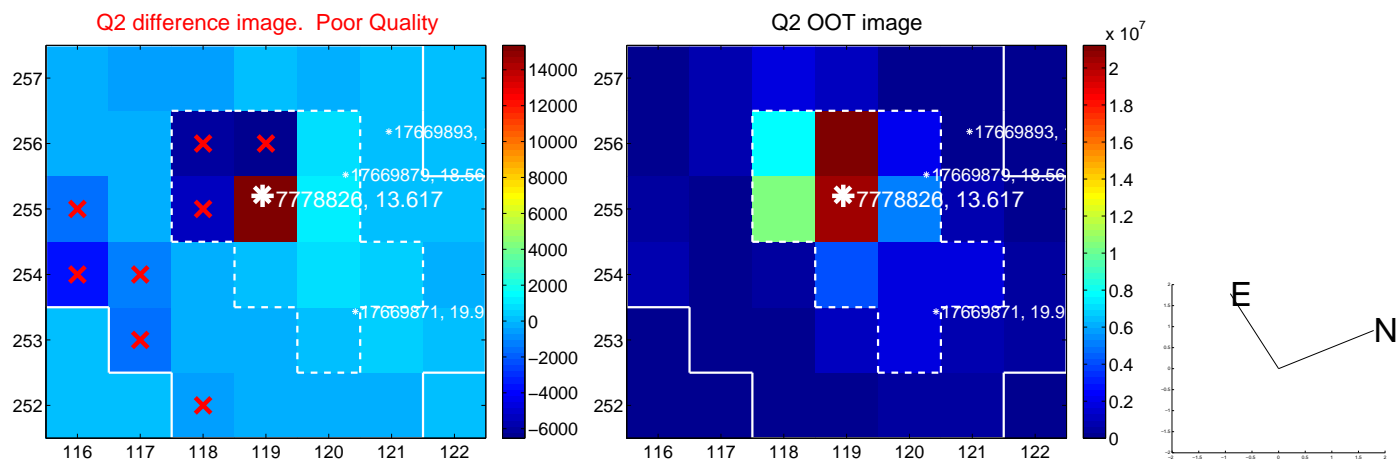
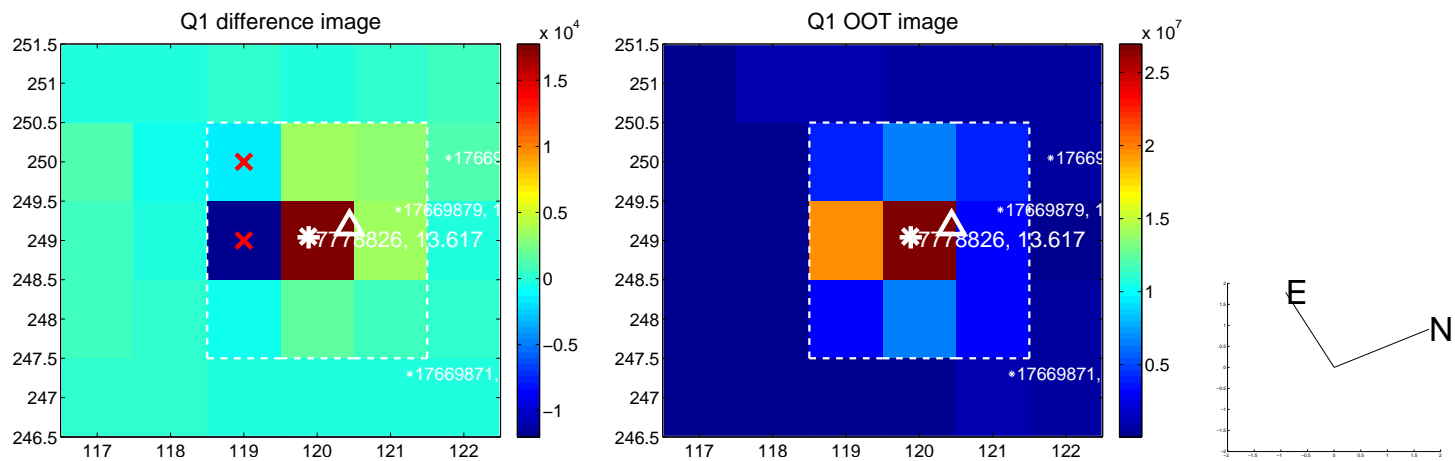


offset from photometric centroids

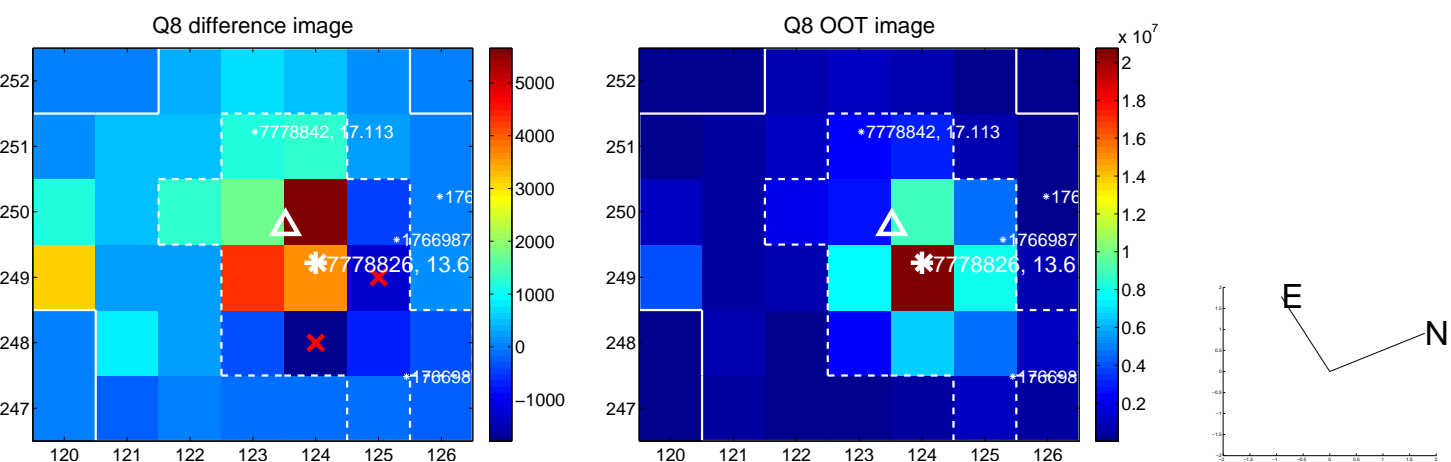
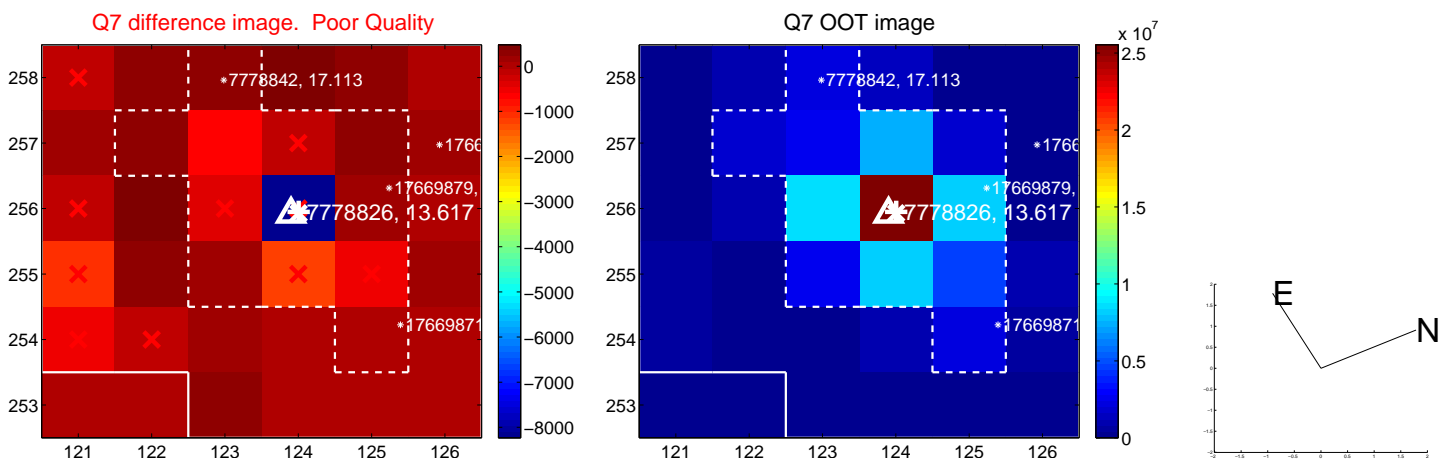
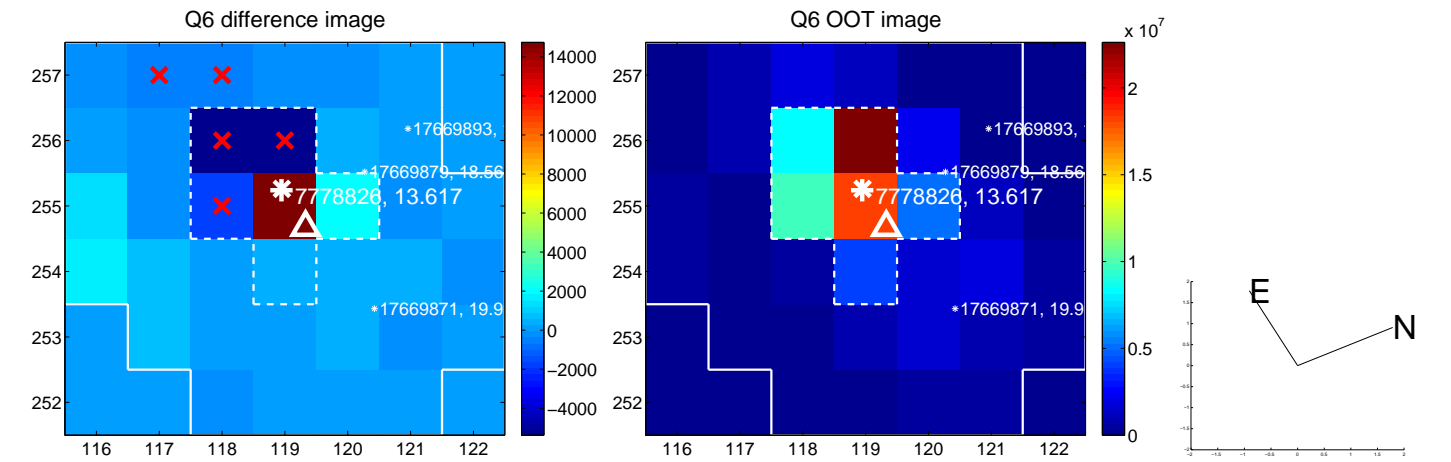
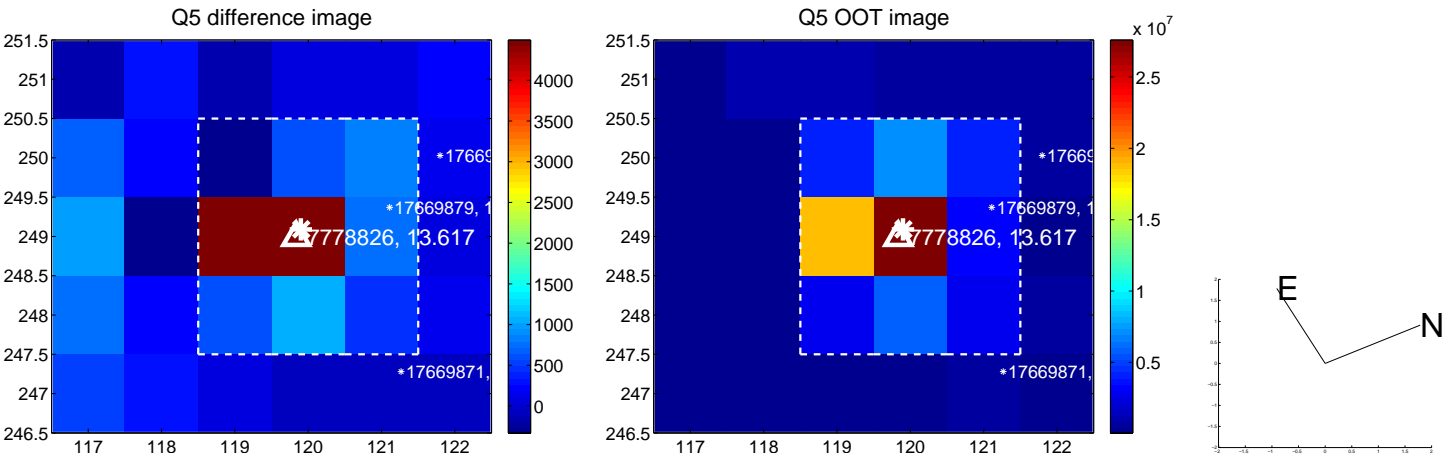


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

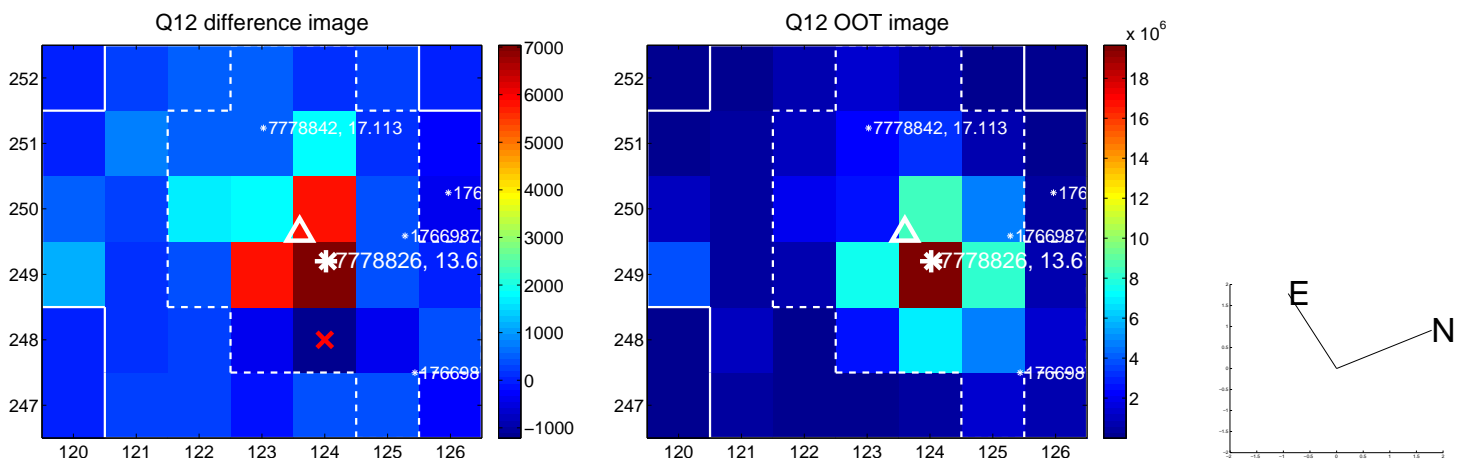
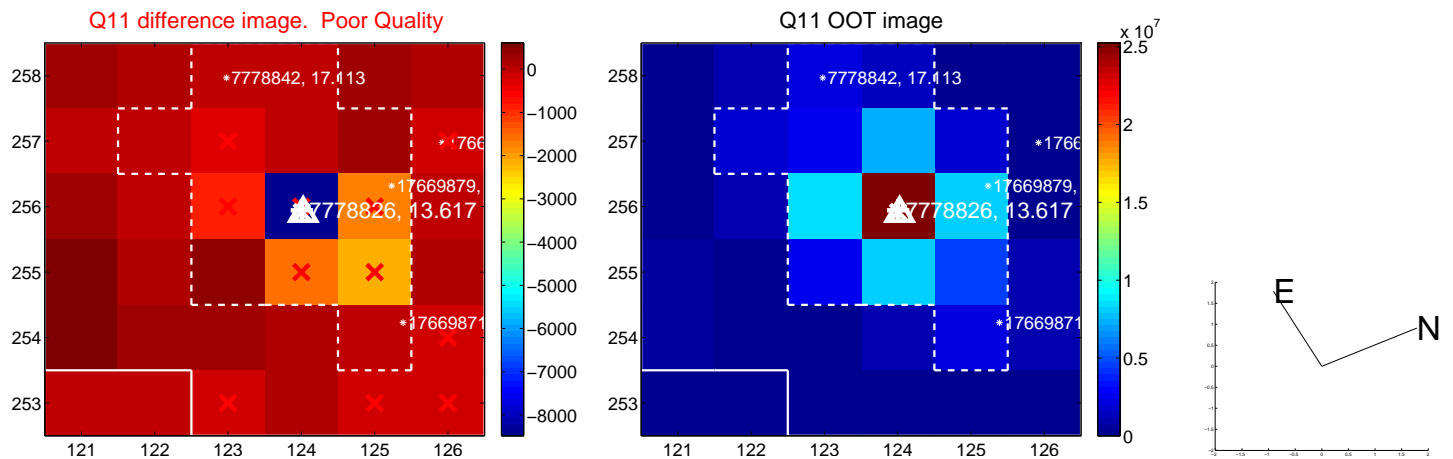
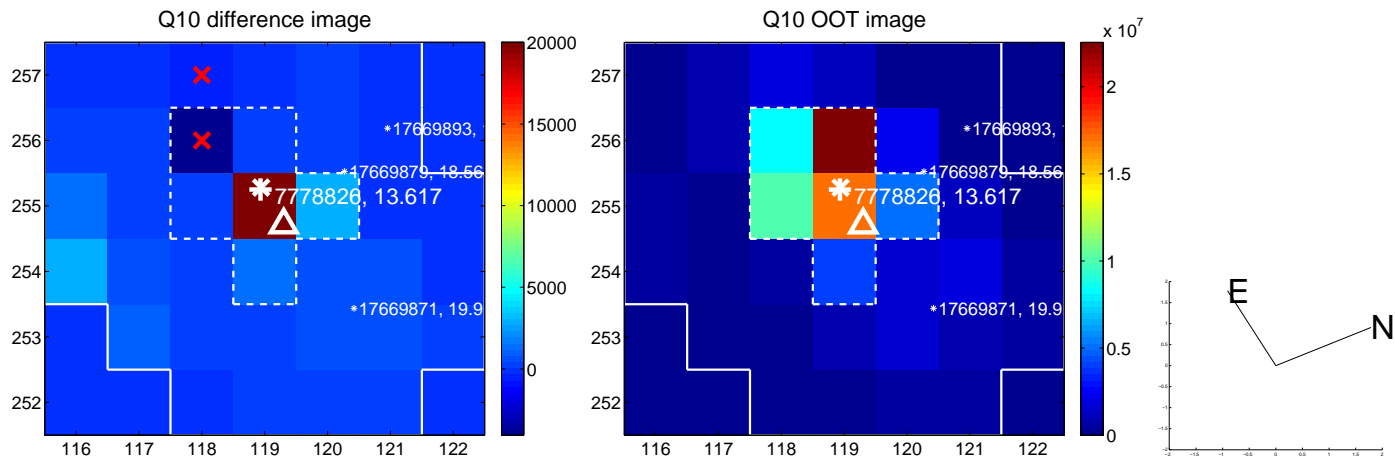
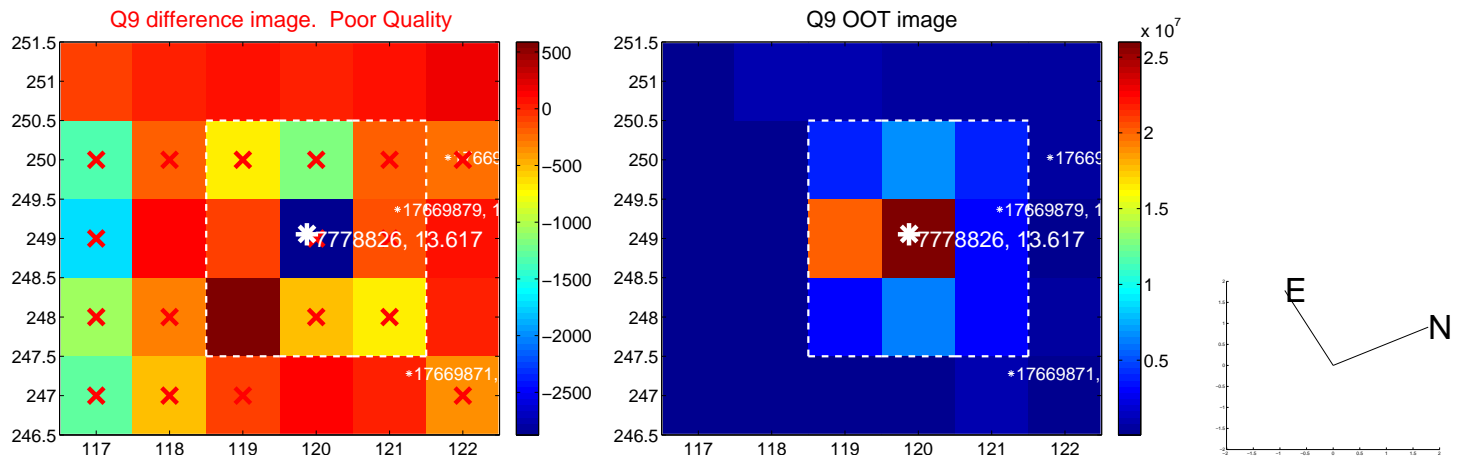
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



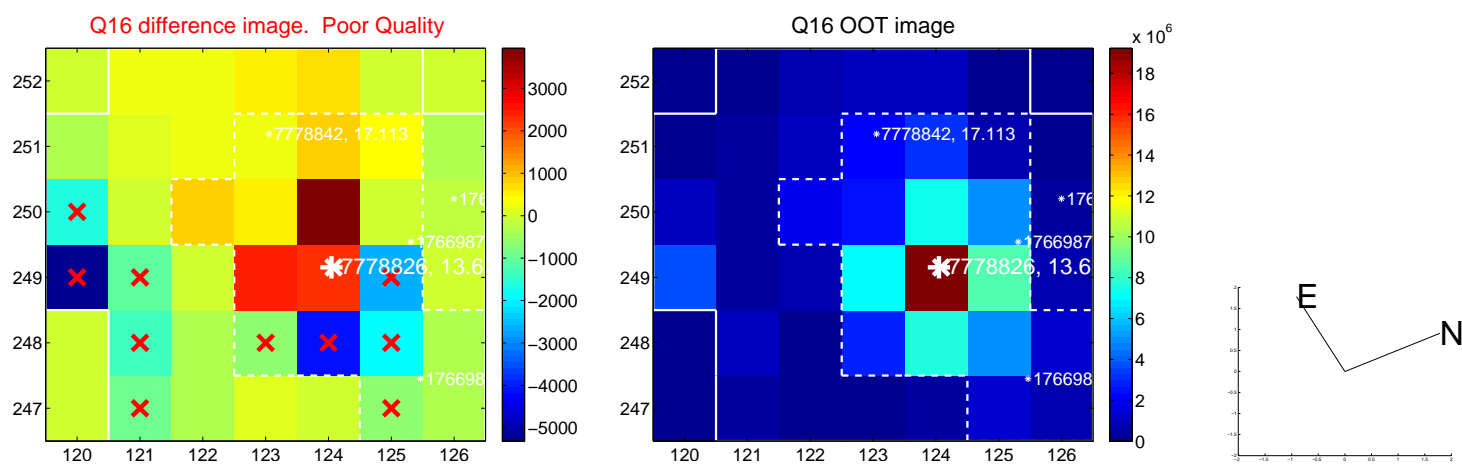
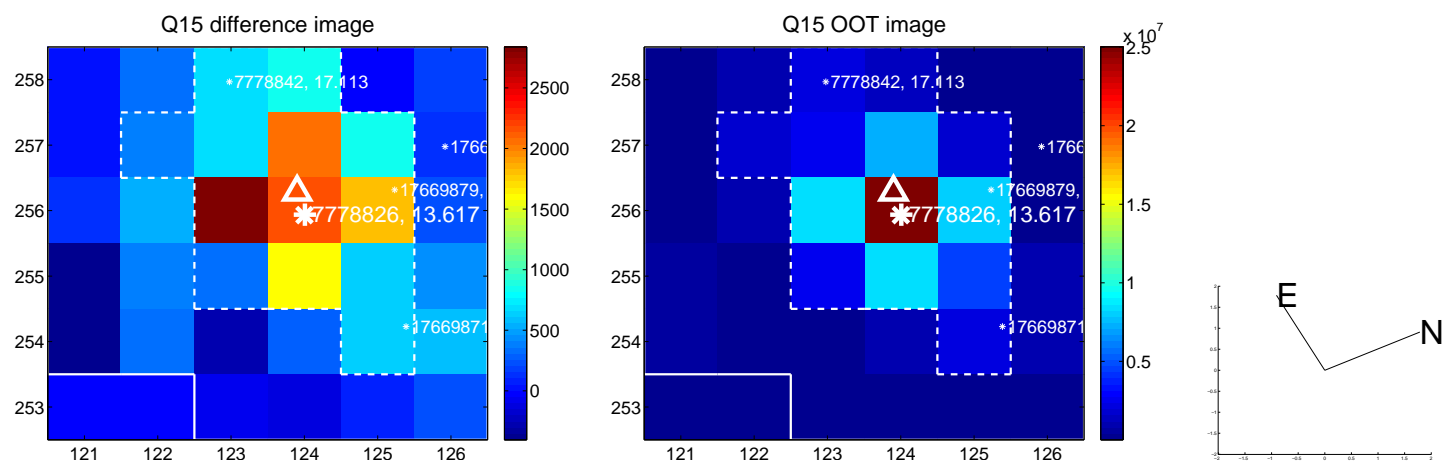
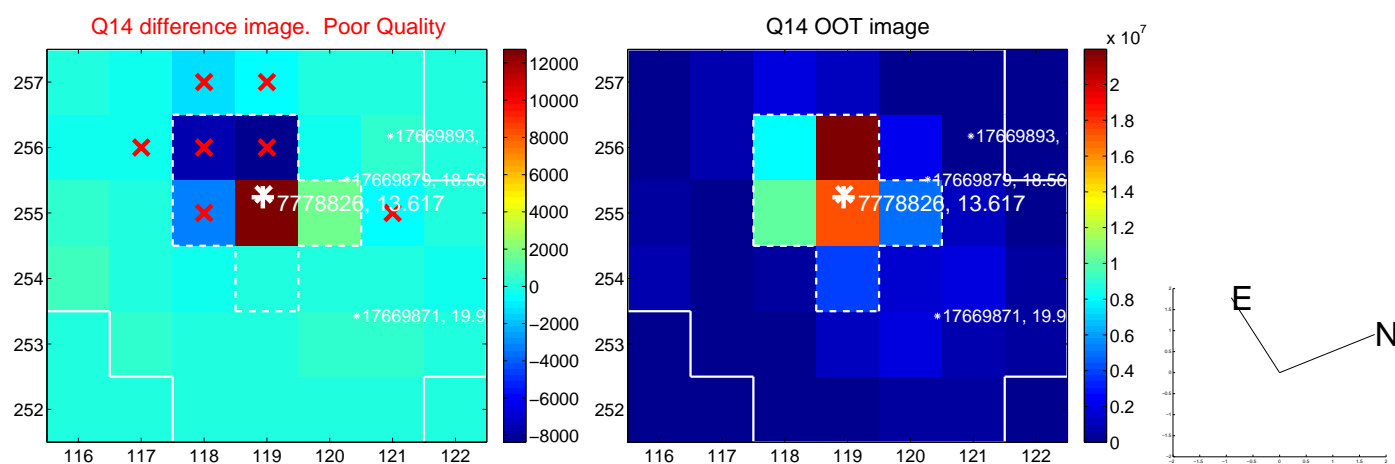
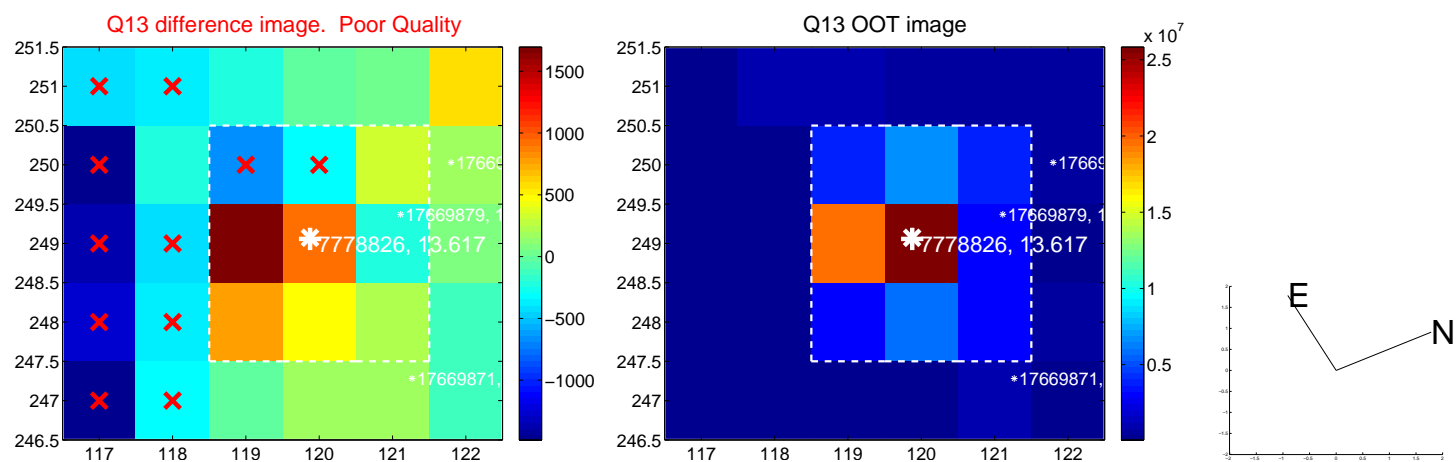
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



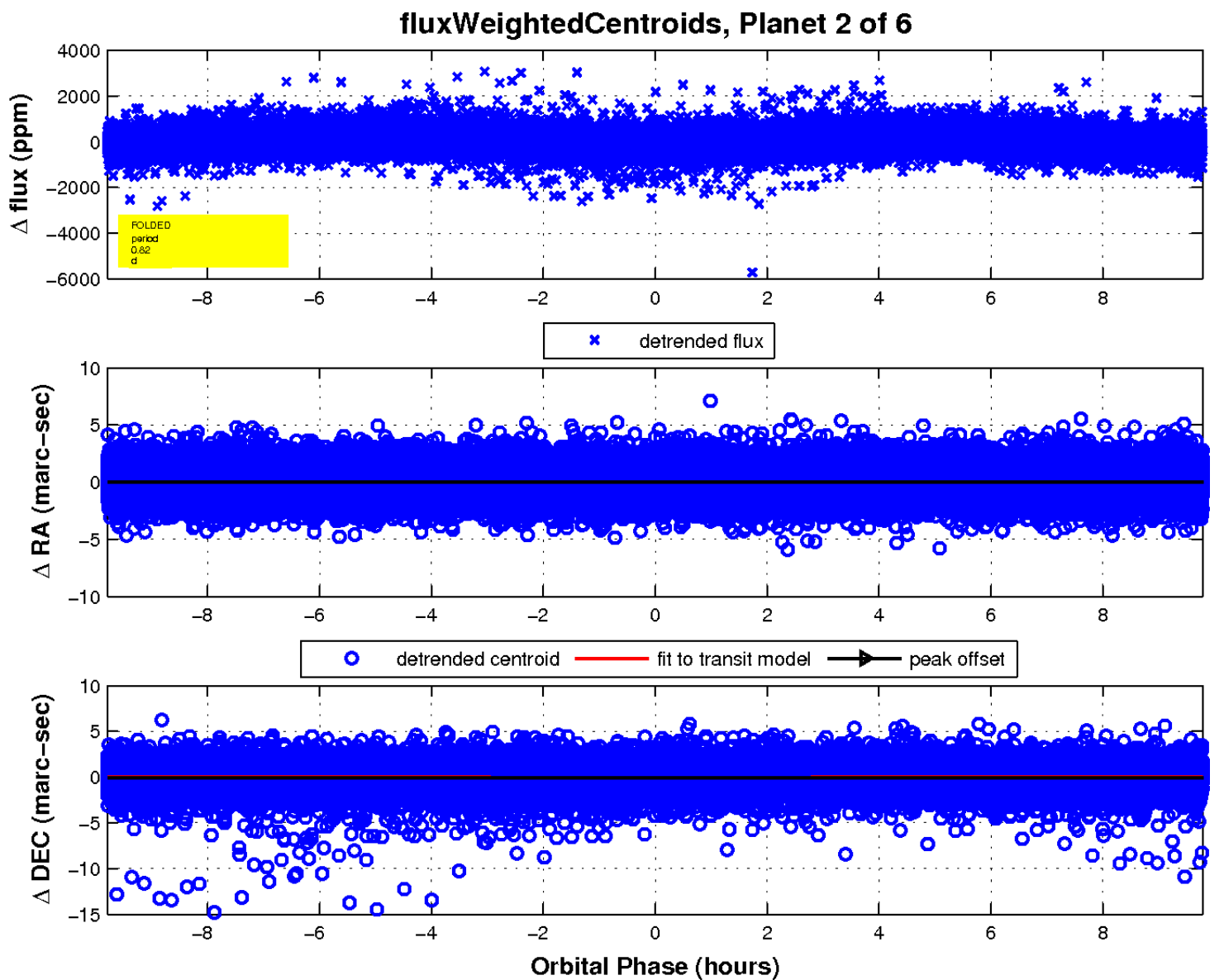
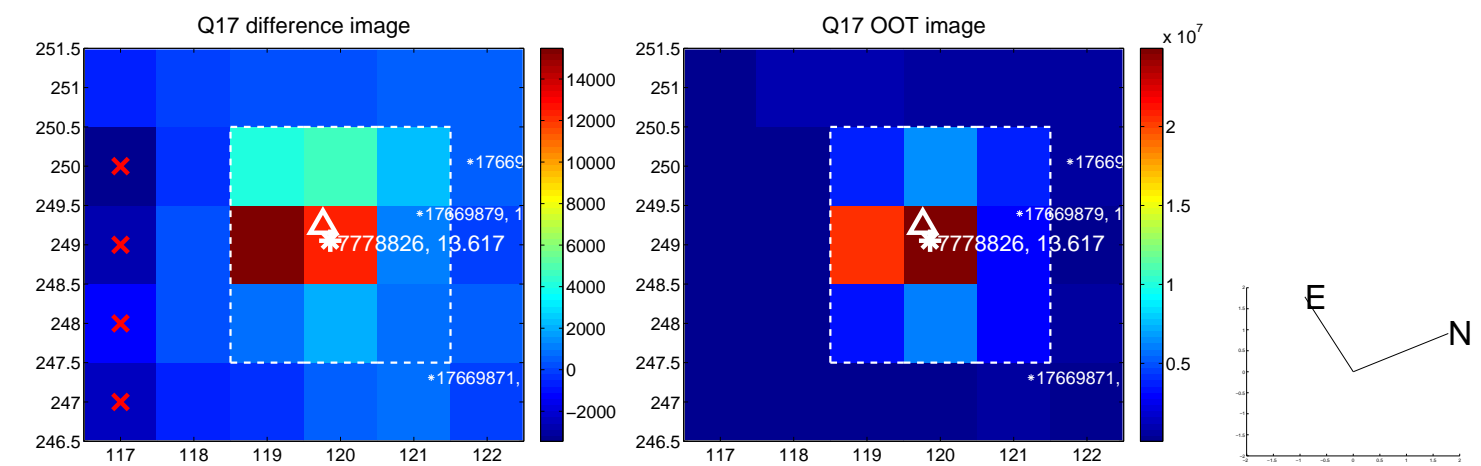
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

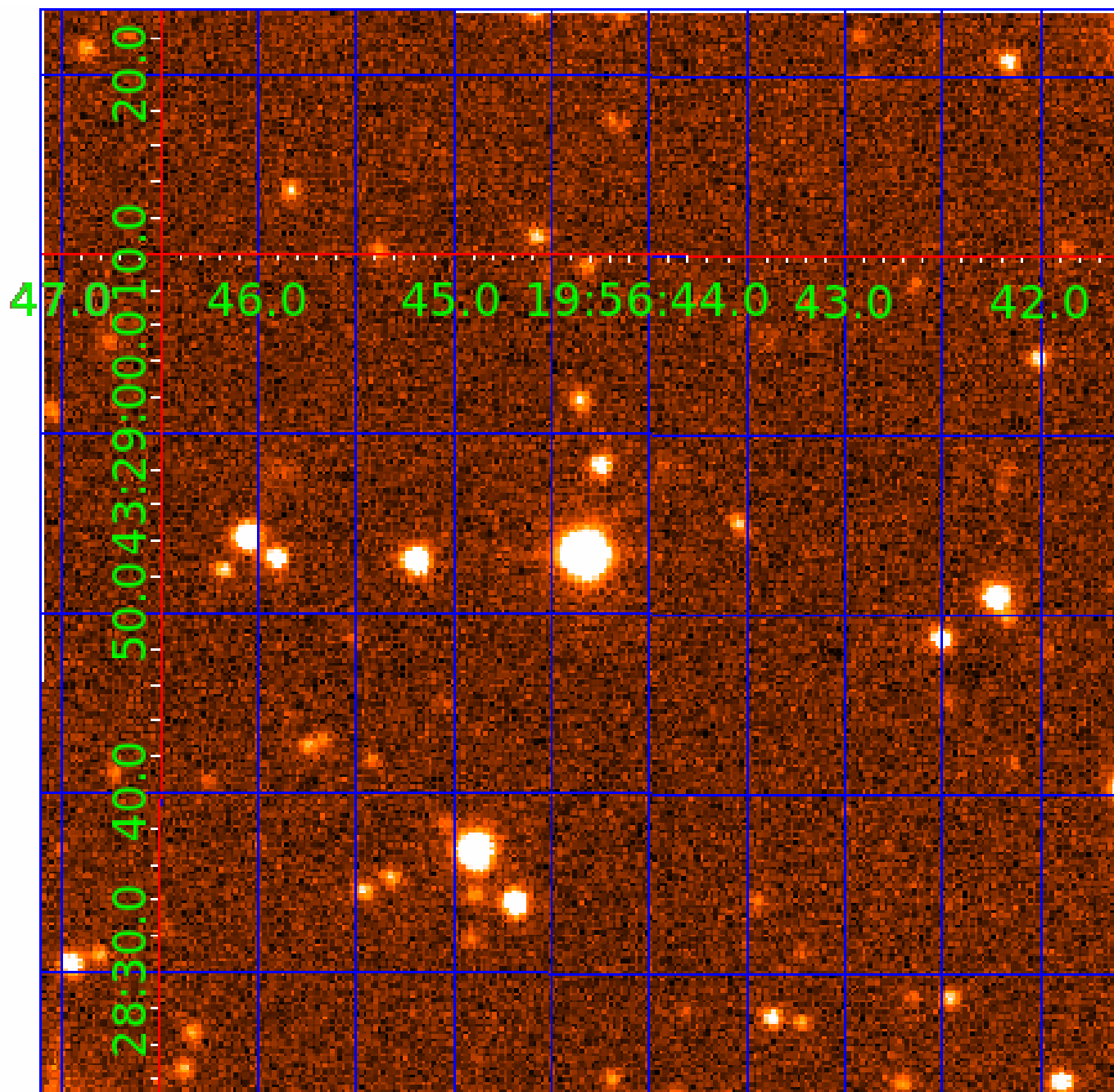


white \times : KIC target position; +: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007778826

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})
007778826-01	OBS	No	5.238990	132.015022	99.3	15.000	8.6	-1.0	1.48	7207	1.49	1194.24
007778826-02	OBS	No	0.815805	131.597180	24.2	5.942	10.2	5.6	1.48	7207	0.74	14255.15
007778826-03	OBS	No	2.117441	132.193861	302.9	1.289	16.8	13.3	1.48	7207	3.13	3996.43
007778826-04	OBS	No	21.833259	145.384084	608.0	1.347	24.2	12.3	1.48	7207	3.71	178.07
007778826-05	OBS	No	31.839598	148.201311	441.6	2.349	9.4	10.3	1.48	7207	3.20	107.68
007778826-06	OBS	No	20.407540	137.662482	816.9	1.797	18.9	18.0	1.48	7207	4.54	194.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007778826-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
007778826-02	OBS	FP	0.00	1	0	0	0	LPP_DV
007778826-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—HALO_GHOST
007778826-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
007778826-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007778826-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

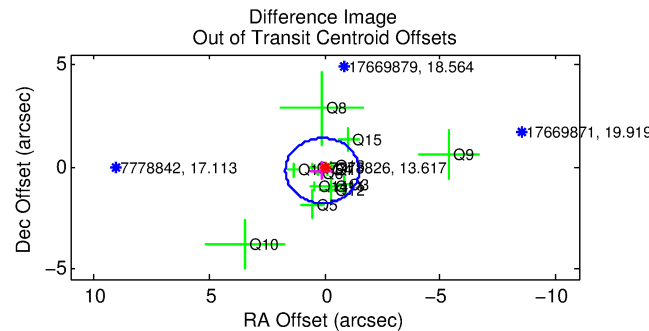
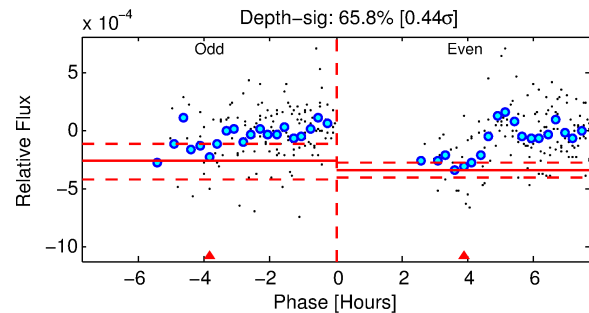
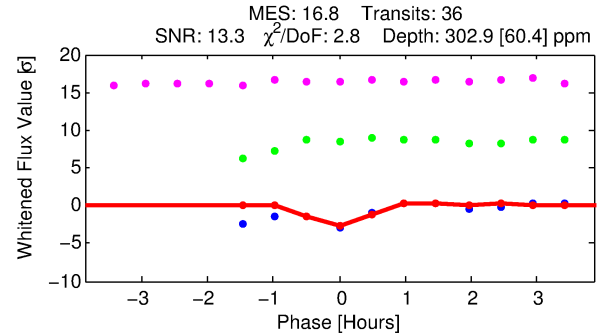
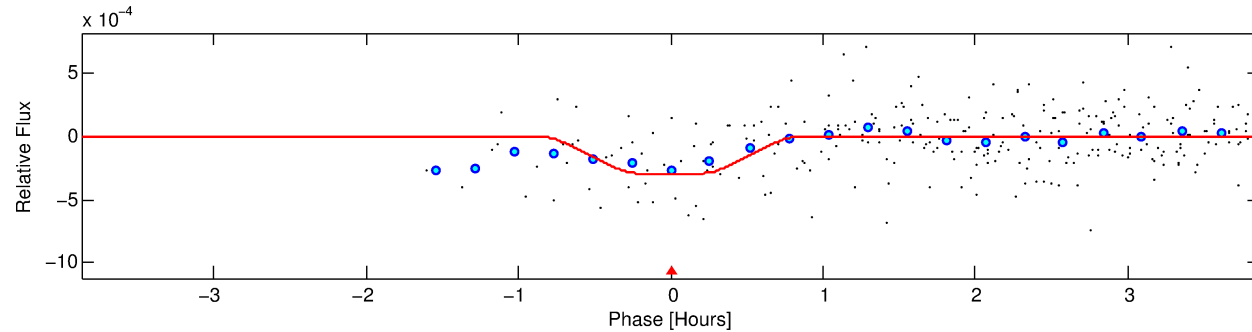
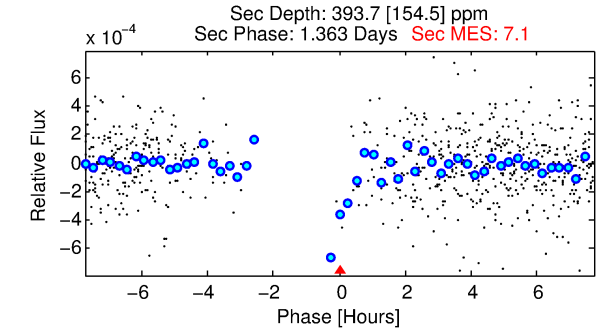
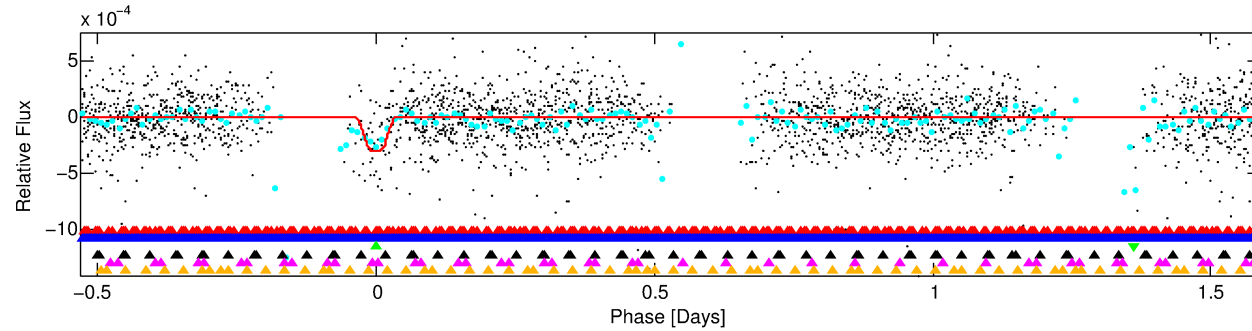
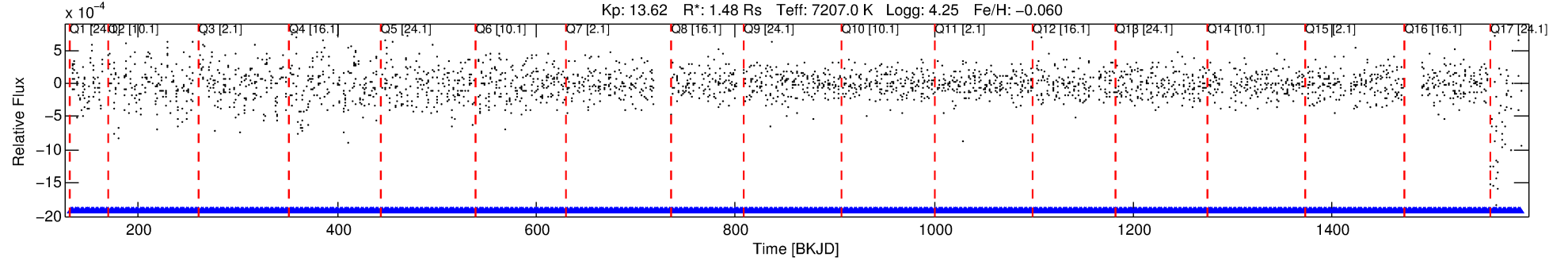
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007778826-03

No Significant Match Found

DV One-Page Summary

KIC: 7778826 Candidate: 3 of 6 Period: 2.117 d



DV Fit Results:

Period = 2.11744 [0.00001] d
Epoch = 132.1939 [0.0030] BKJD
Rp/R* = 0.0194 [0.0095]
a/R* = 4.97 [13.94]
b = 0.94 [0.35]
Seff = 3996.43 [1682.27]
Teq = 2027 [213] K
Rp = 3.13 [1.86] Re
a = 0.0364 [0.0099] AU
Ag = 29.36 [33.03] [0.86 σ]
Teffp = 7297 [1956] K [2.68 σ]

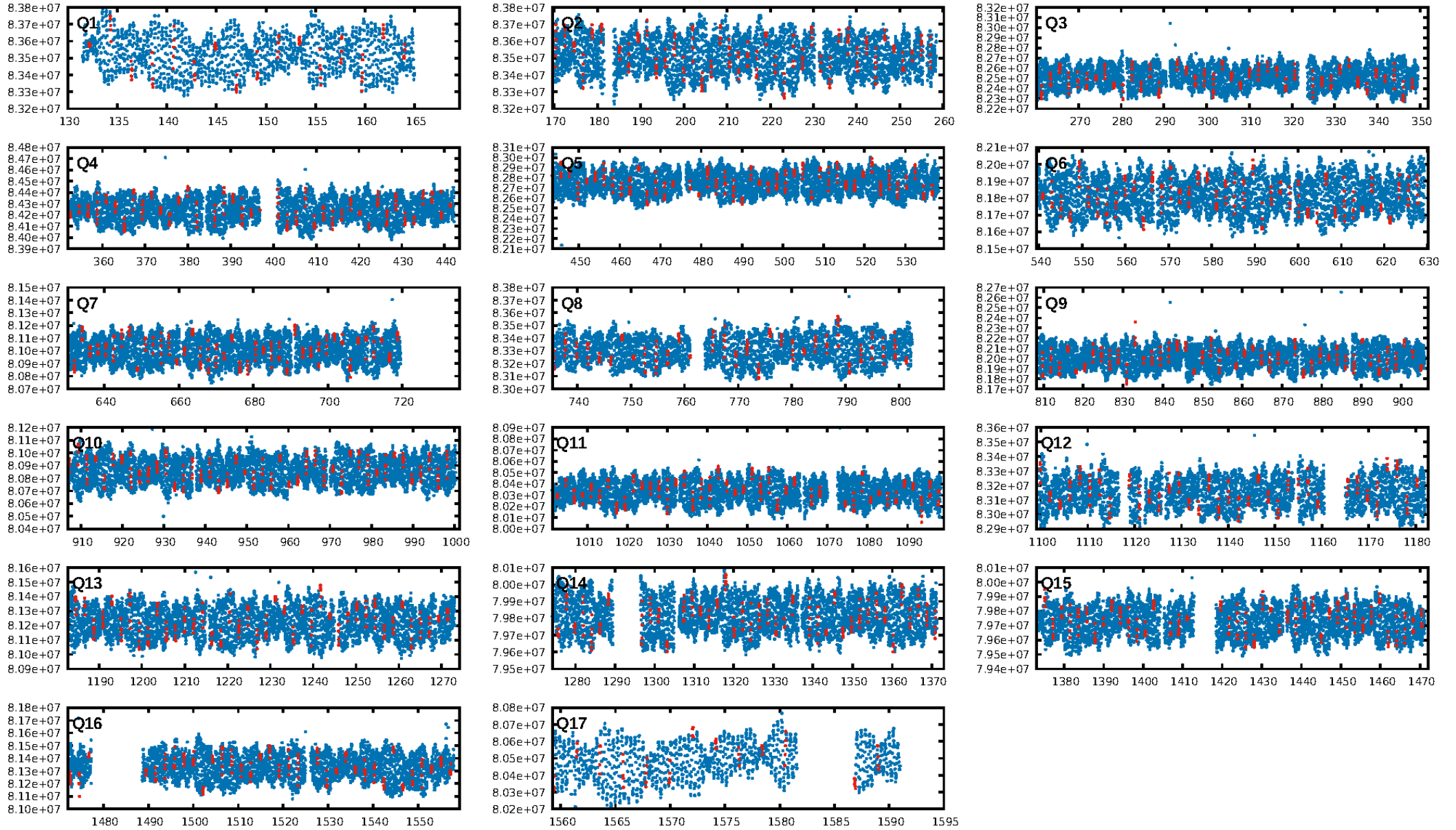
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [5.14 σ]
LongPeriod-sig: 100.0% [4.98 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 17.8%
Bootstrap-pfa: 8.86e-21
RollingBand-fgt: 1.00 [33/33]
GhostDiagnostic-chr: -0.09128
Centroid-sig: 17.7%
Centroid-so: 0.384 arcsec [1.39 σ]
OotOffset-rm: 0.224 arcsec [0.42 σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-rm: 0.210 arcsec [0.54 σ]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.47 [7/15]
DiffImageOverlap-fno: 1.00 [17/17]

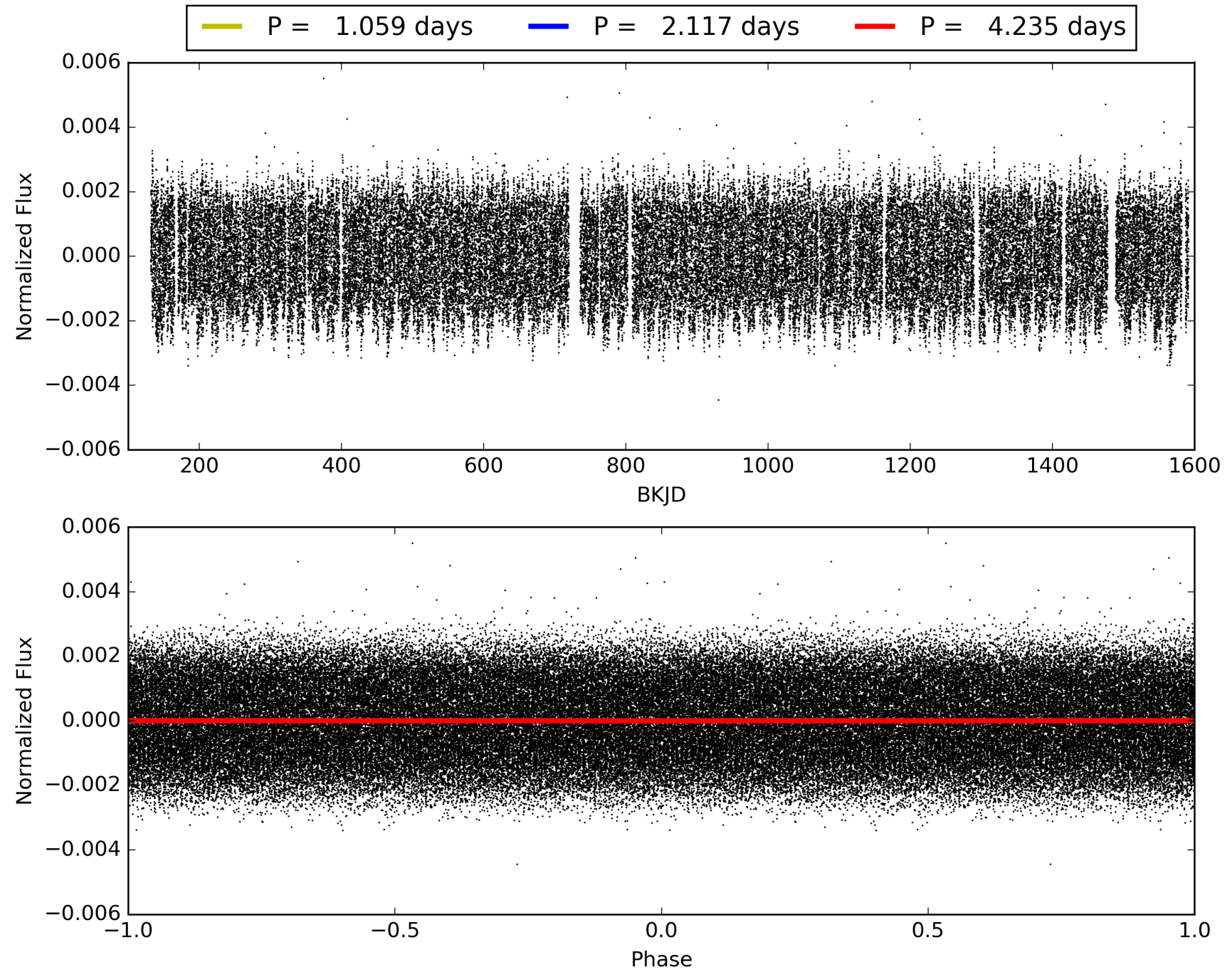
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:02:53 Z

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

TCE 007778826-03, PDC Light Curves

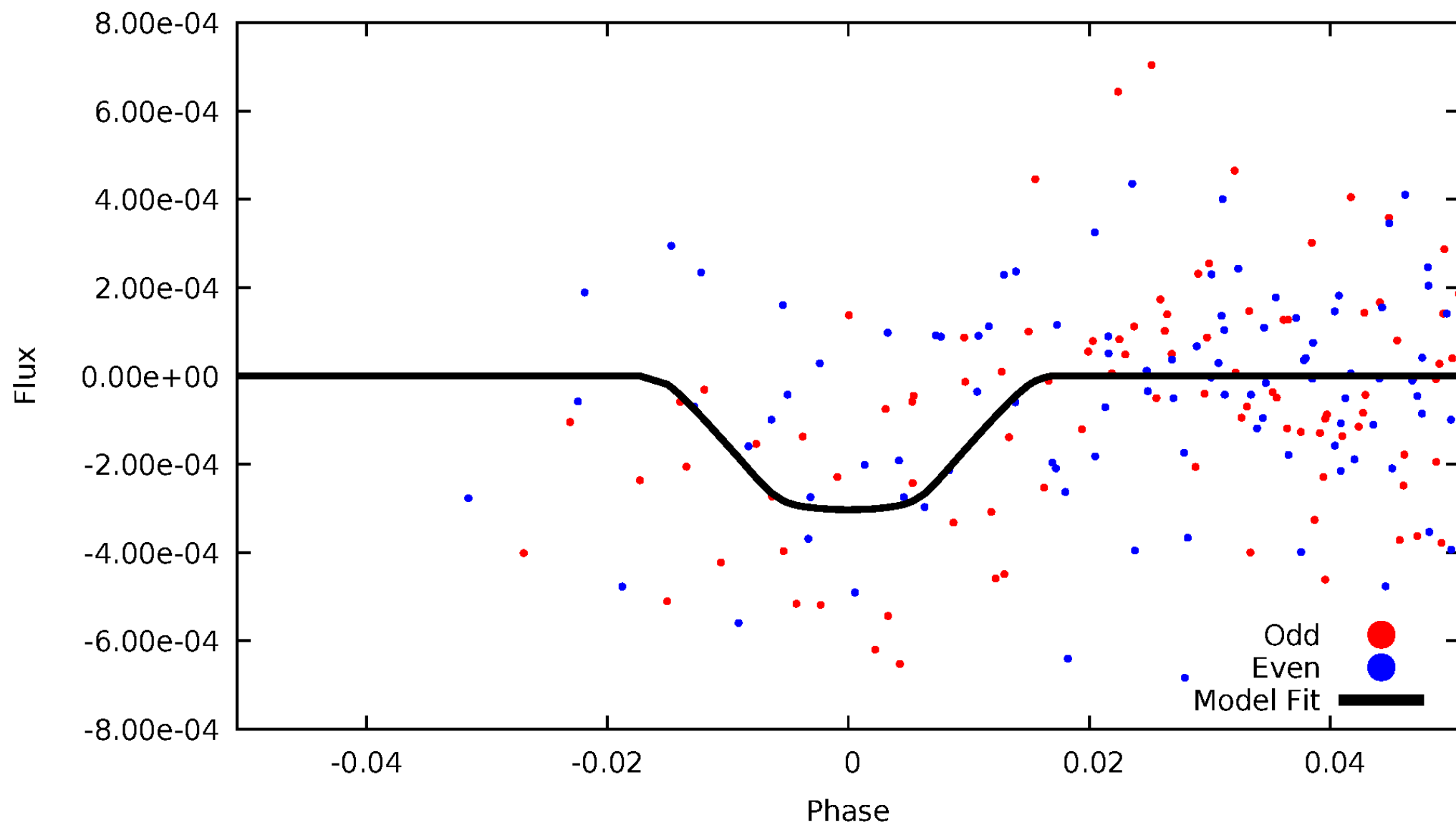


TCE 007778826-03



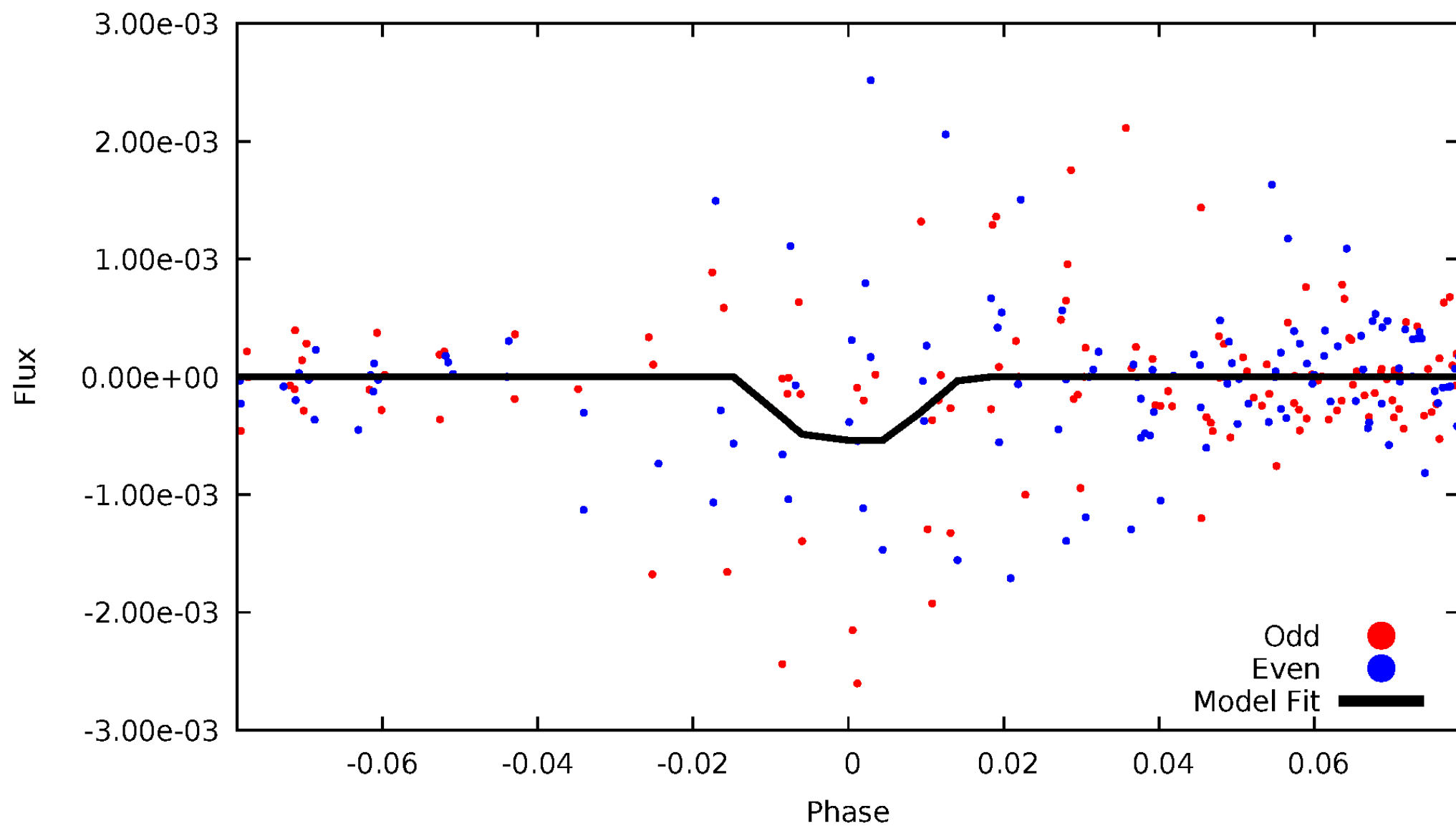
DV Odd/Even

TCE 007778826-03



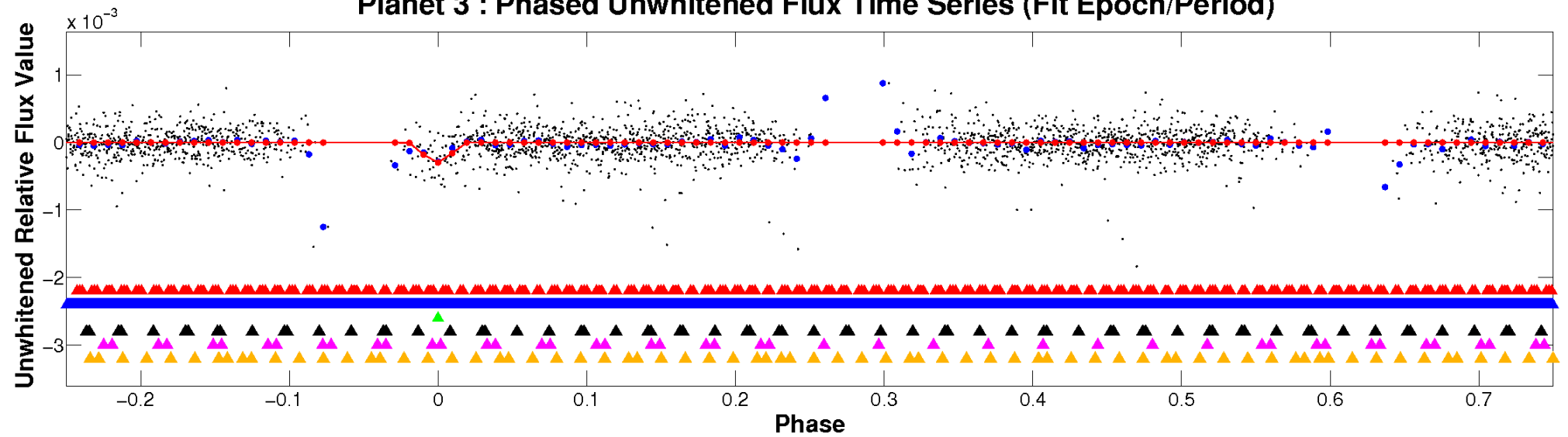
ALT Odd/Even

TCE 007778826-03

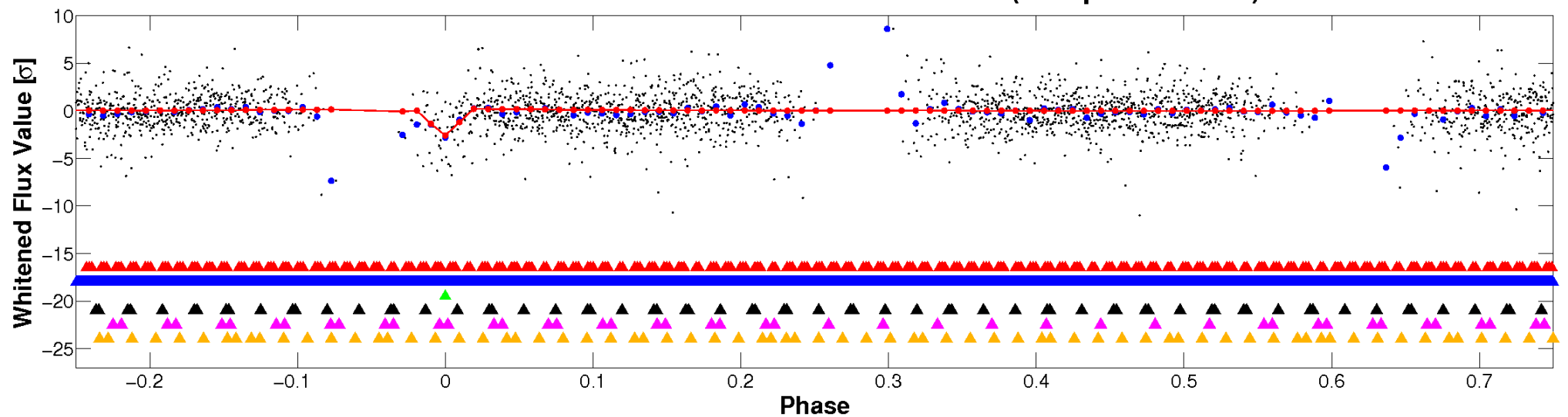


Non-Whitened Vs. Whitened Light Curve

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

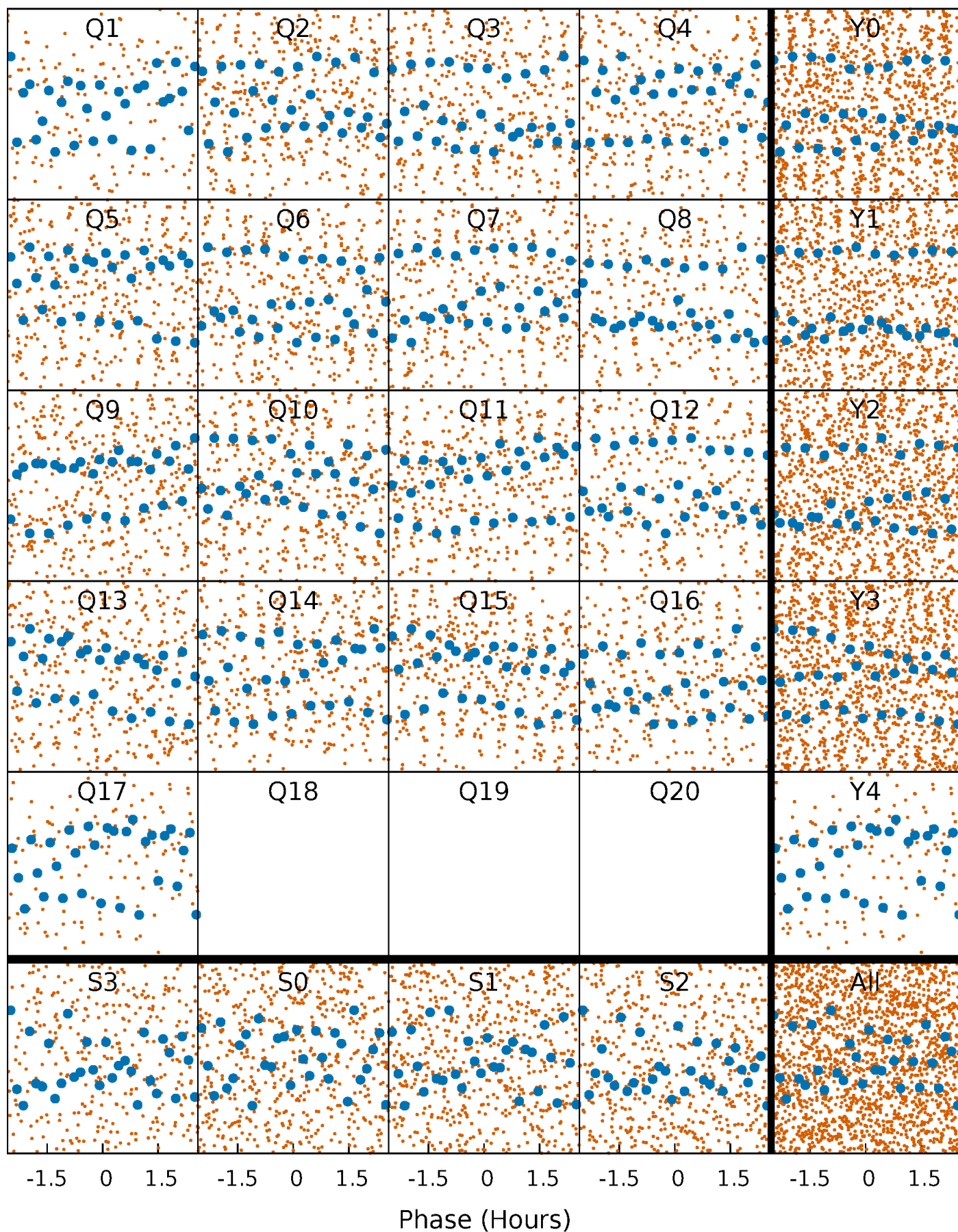


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



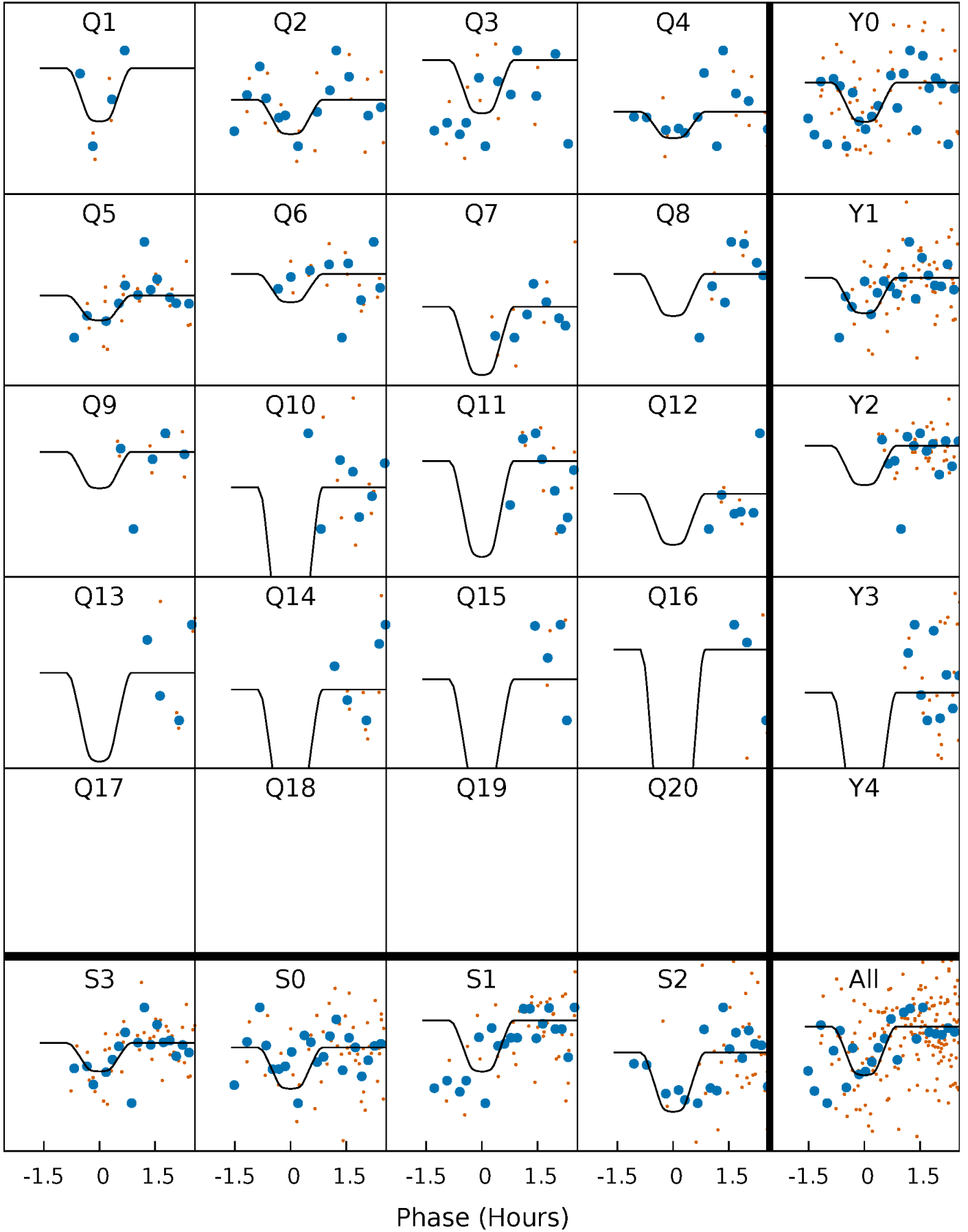
PDC Quarter-Phased Transit Curves

TCE 007778826-03 P= 2.117441 Days $T_0=132.193861$ (BKJD)



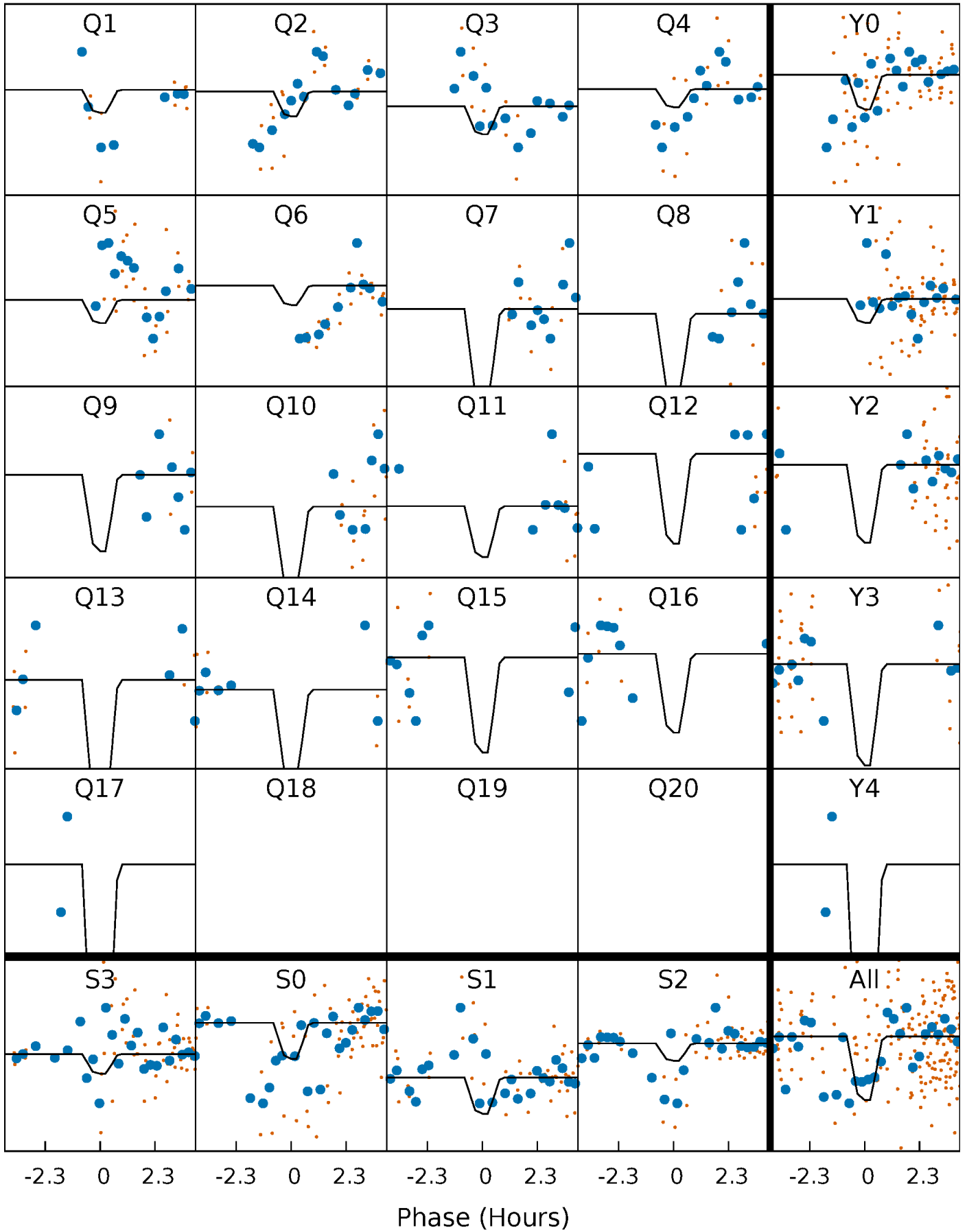
DV Quarter-Phased Transit Curves

TCE 007778826-03 P= 2.117441 Days $T_0=132.193861$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

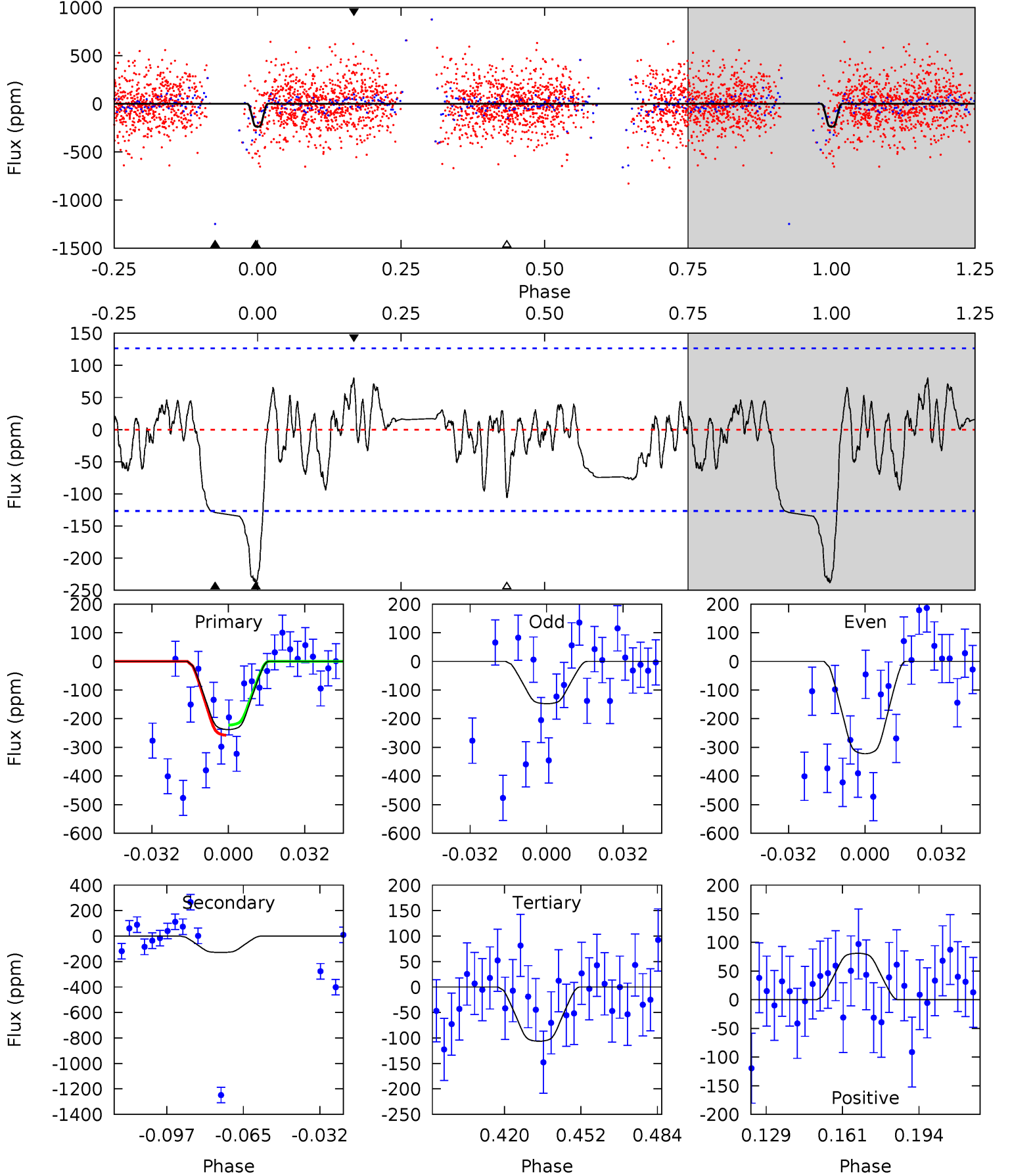
TCE 007778826-03 P= 2.117269 Days $T_0=132.206140$ (BKJD)



DV Model-Shift Uniqueness Test

007778826-03, P = 2.117441 Days, E = 132.193861 Days

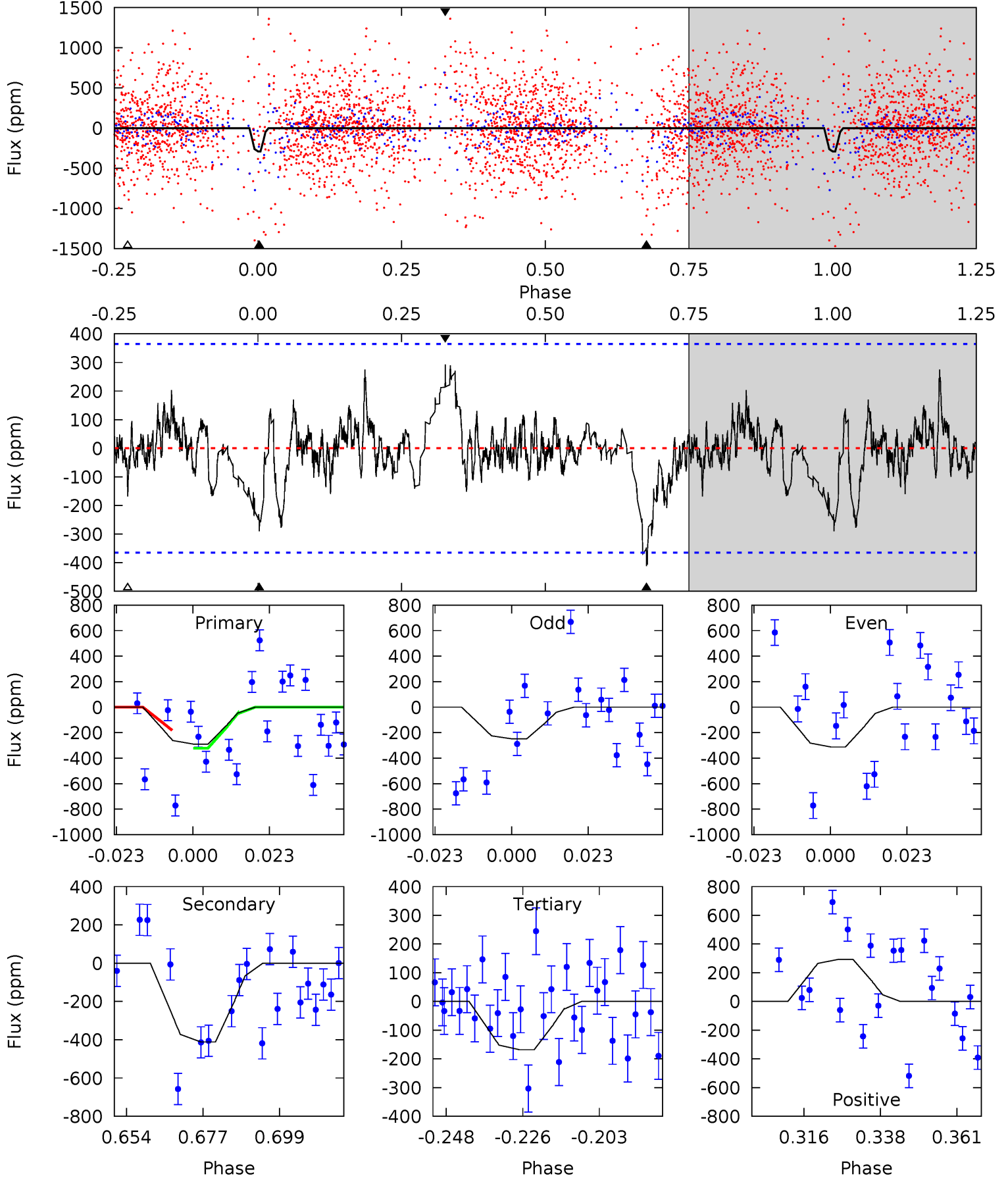
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.02	4.89	4.03	3.07	4.80	2.14	1.31	4.99	5.95	0.86	1.82	3.34	1.07	0.25	0.65



Alt Model-Shift Uniqueness Test

007778826-03, P = 2.117269 Days, E = 132.206140 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.86	5.49	2.24	3.91	4.87	2.28	0.99	1.62	-0.04	3.25	1.58	0.41	2.53	0.42	0



Stellar Parameters For KIC 007778826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7207^{+228}_{-314}	$4.254^{+0.072}_{-0.203}$	$-0.060^{+0.250}_{-0.350}$	$1.480^{+0.495}_{-0.212}$	$1.434^{+0.211}_{-0.211}$	$0.623^{+0.242}_{-0.332}$
	+3%/-4%	+2%/-5%	+417%/-583%	+33%/-14%	+15%/-15%	+39%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007778826-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-129 ± 26	$3.27^{+1.66}_{-1.47}$	2876^{+227}_{-169}	5404^{+2014}_{-921}	$8.519^{+20.211}_{-4.837}$
Alt.	-412 ± 75	$3.90^{+1.79}_{-1.55}$	2879^{+218}_{-163}	6633^{+2387}_{-1115}	19^{+36}_{-10}

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 $A_{obs} \gg 1.0$

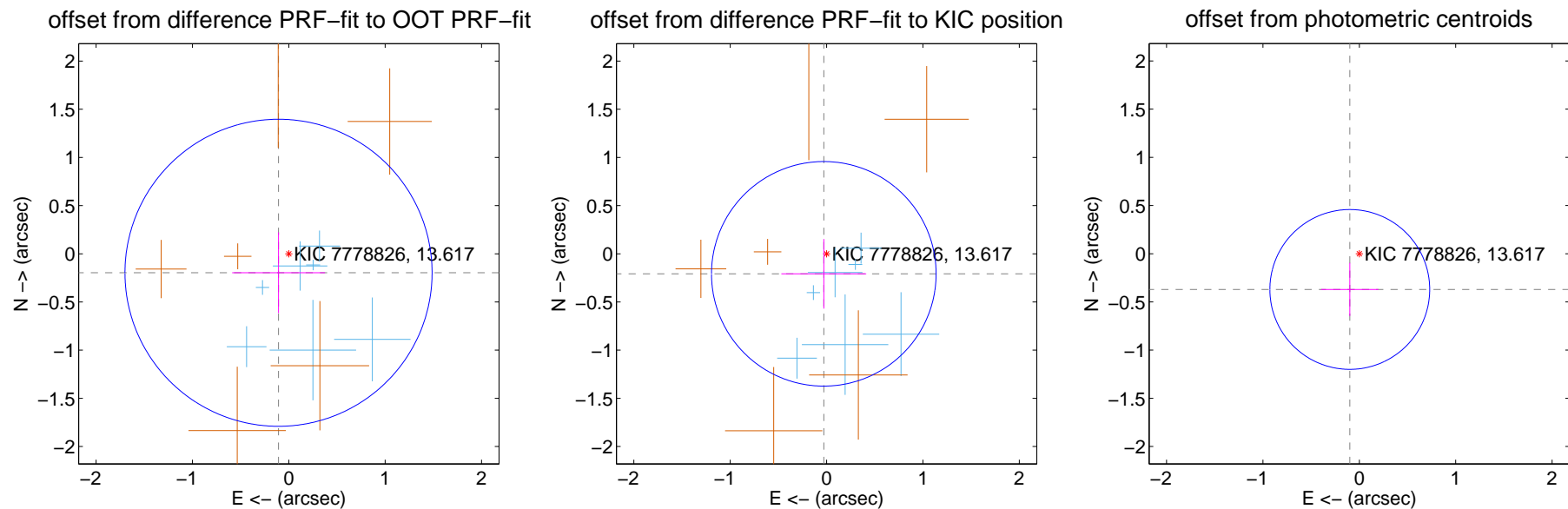
DV Centroid Data

Supplemental centroid analysis for 007778826-03. Kepler magnitude: 13.62. Transit SNR 13.29

There are 7 quarters with good PRF difference image offsets

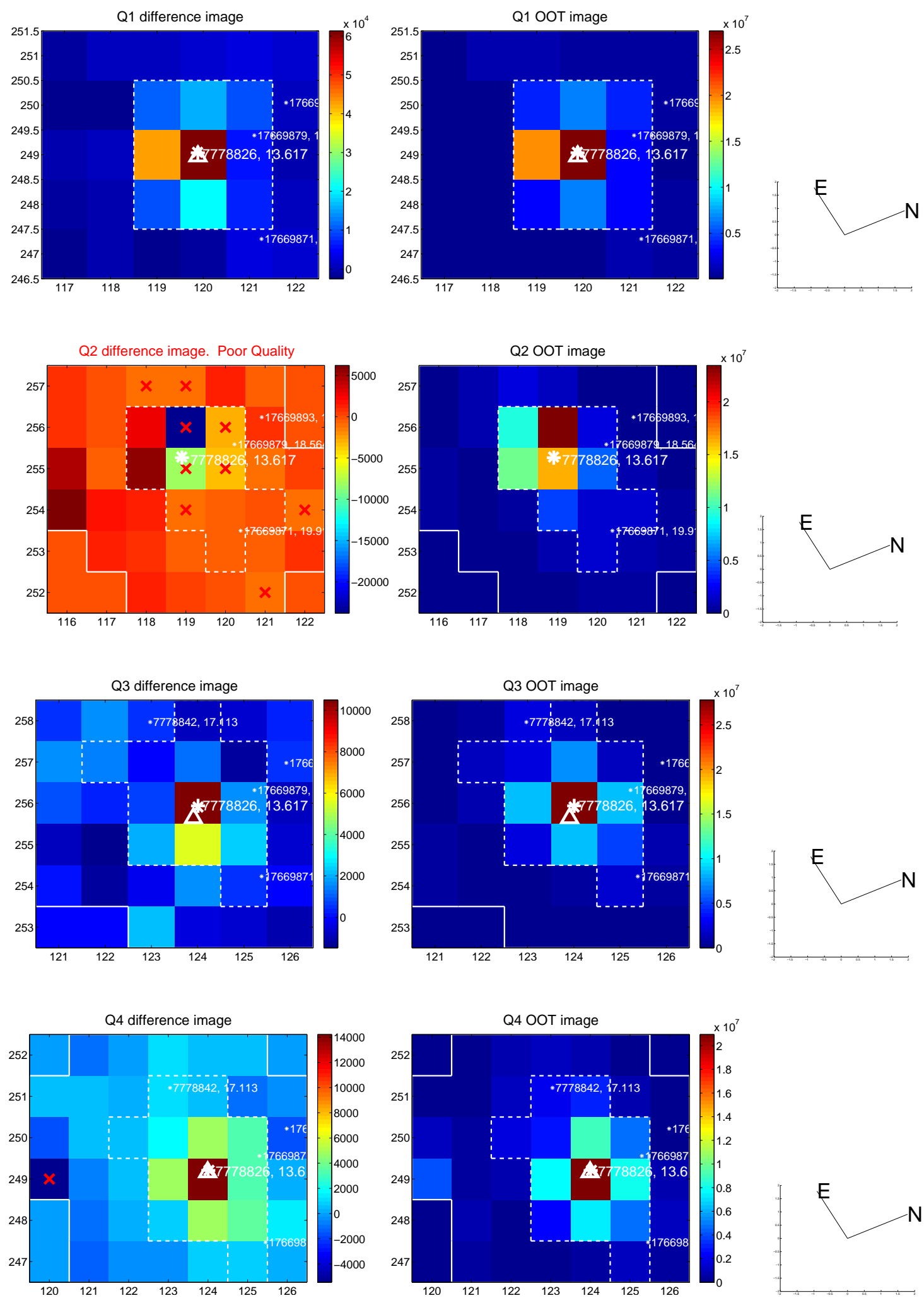
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.224 ± 0.531	0.42	0.107 ± 0.481	-0.197 ± 0.419
PRF-fit source offset from KIC position	0.210 ± 0.388	0.54	0.029 ± 0.440	-0.208 ± 0.361
photometric centroid source offset	0.38 ± 0.28	1.39	0.10 ± 0.30	-0.37 ± 0.27

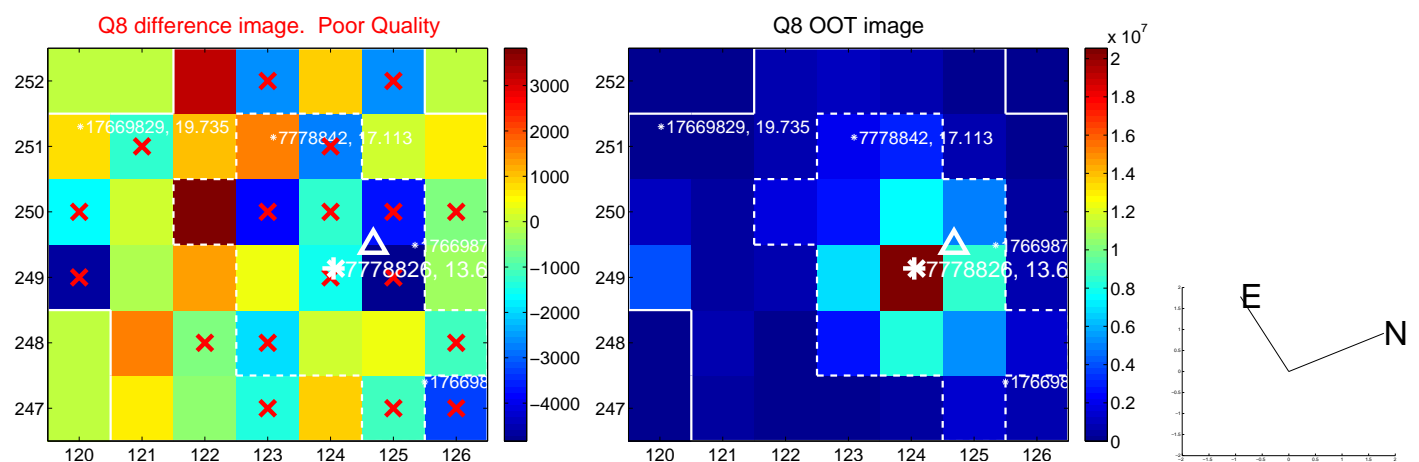
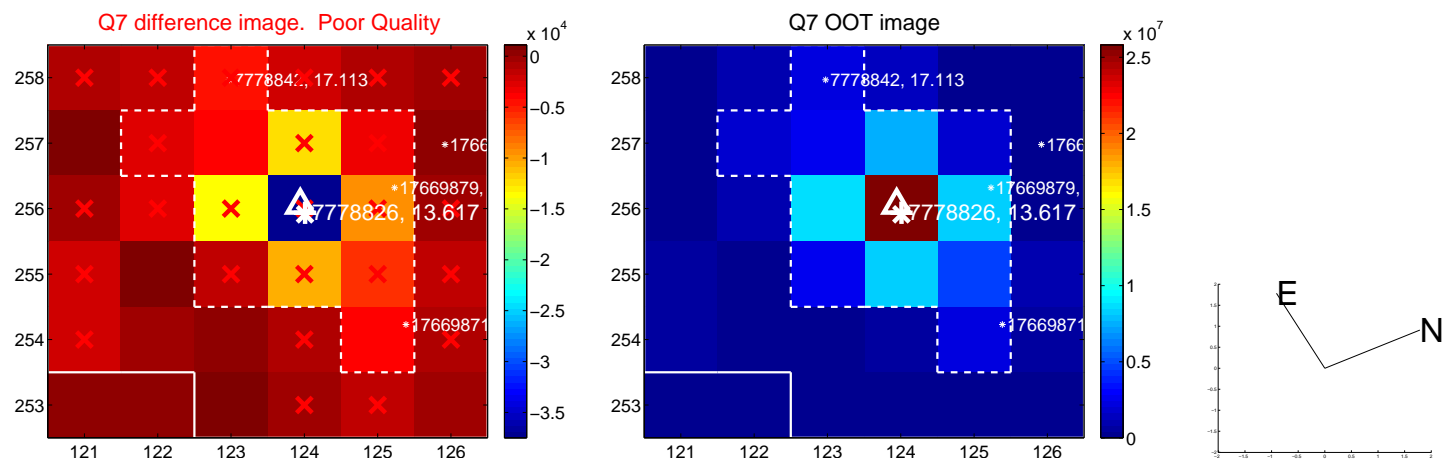
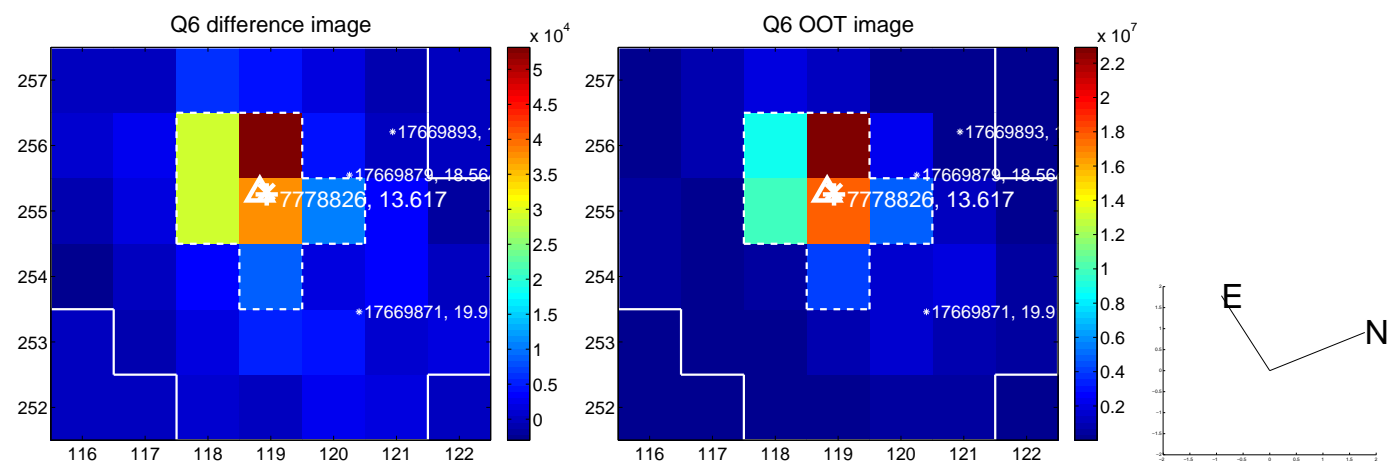
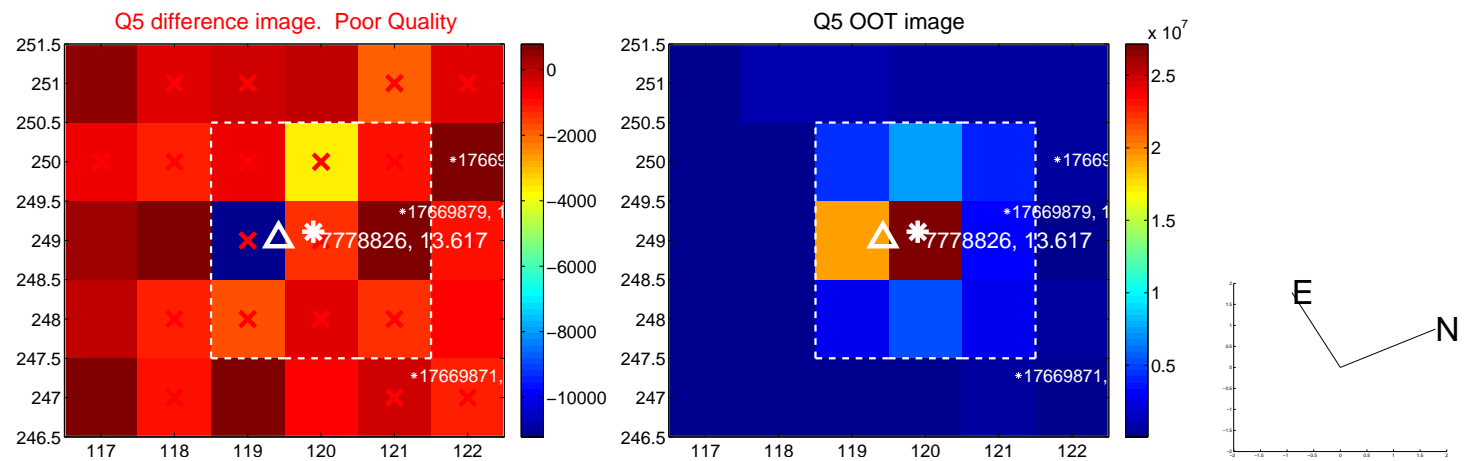


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

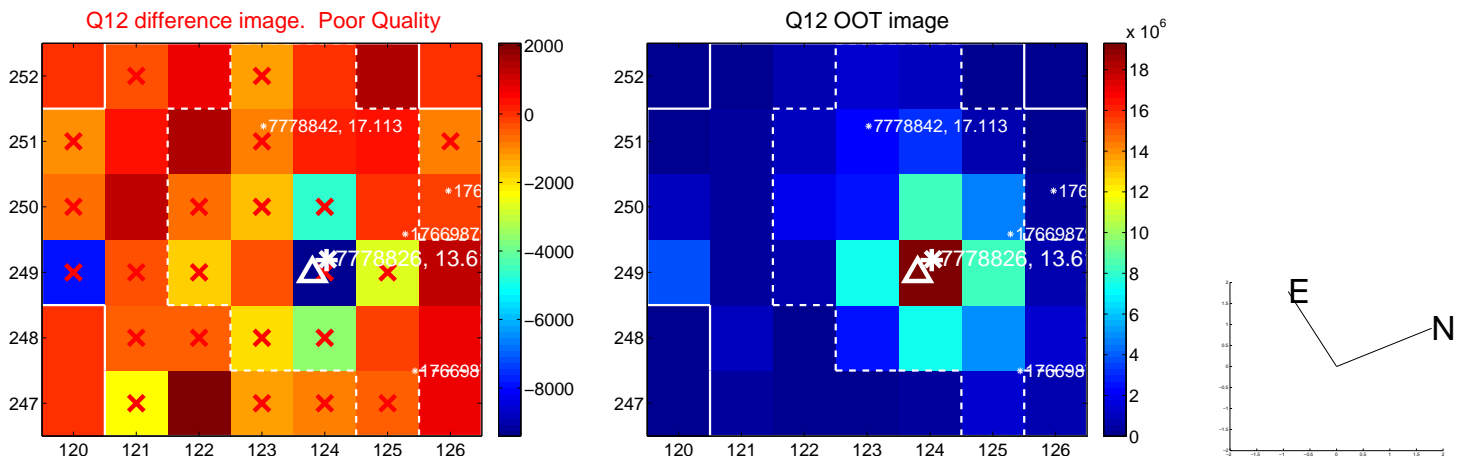
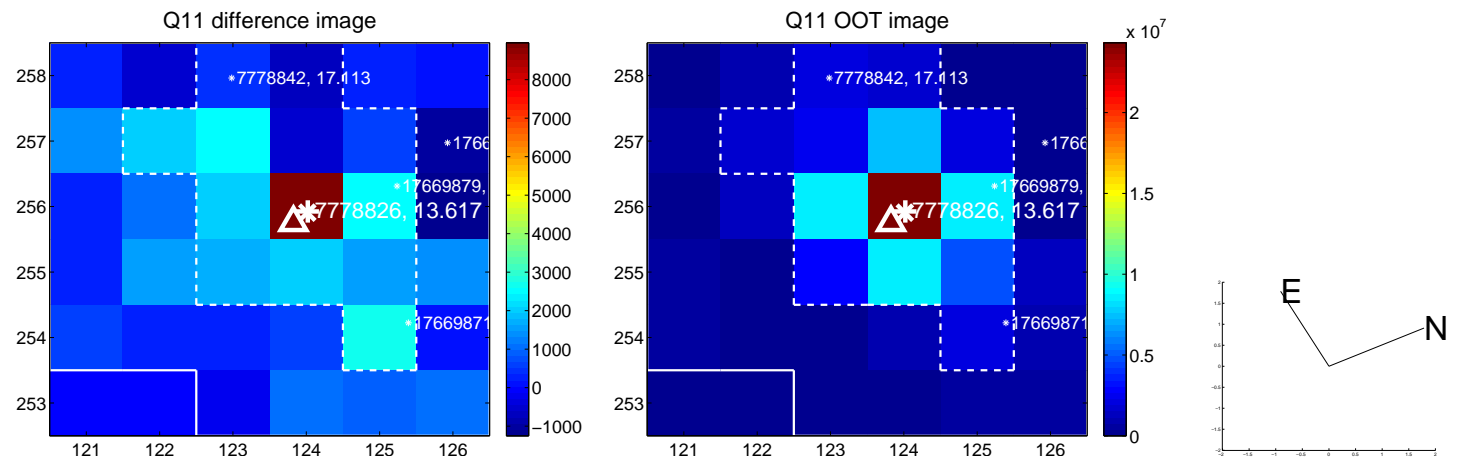
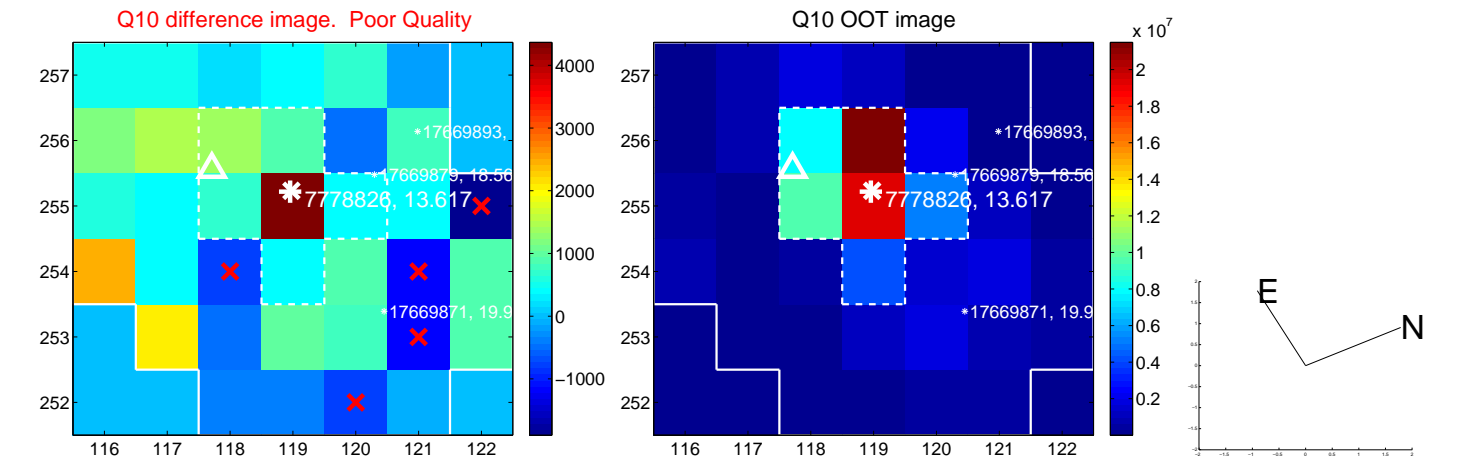
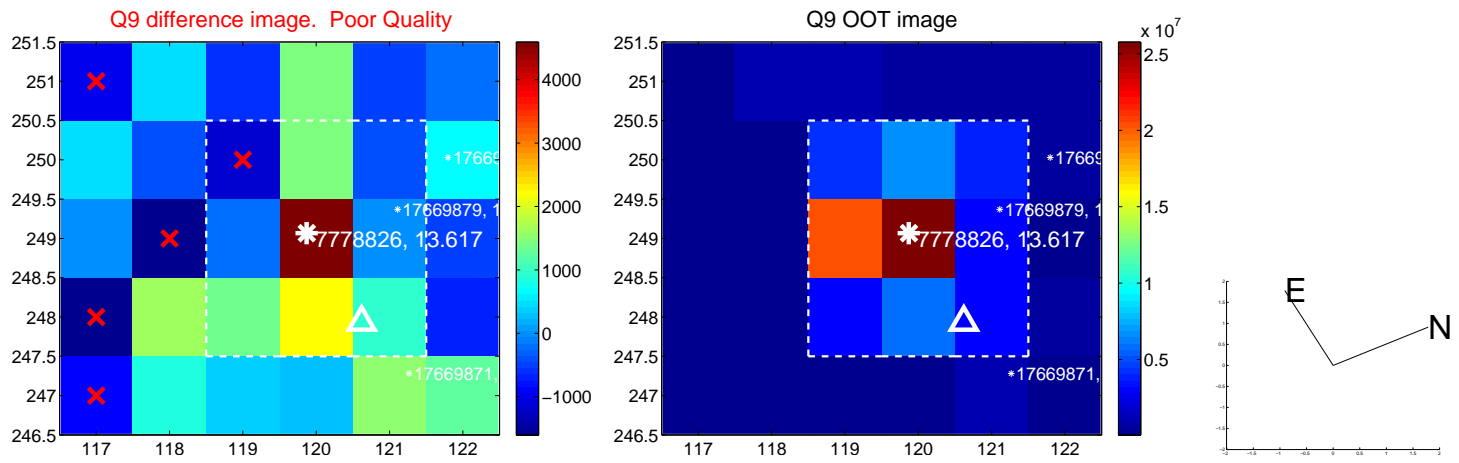
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



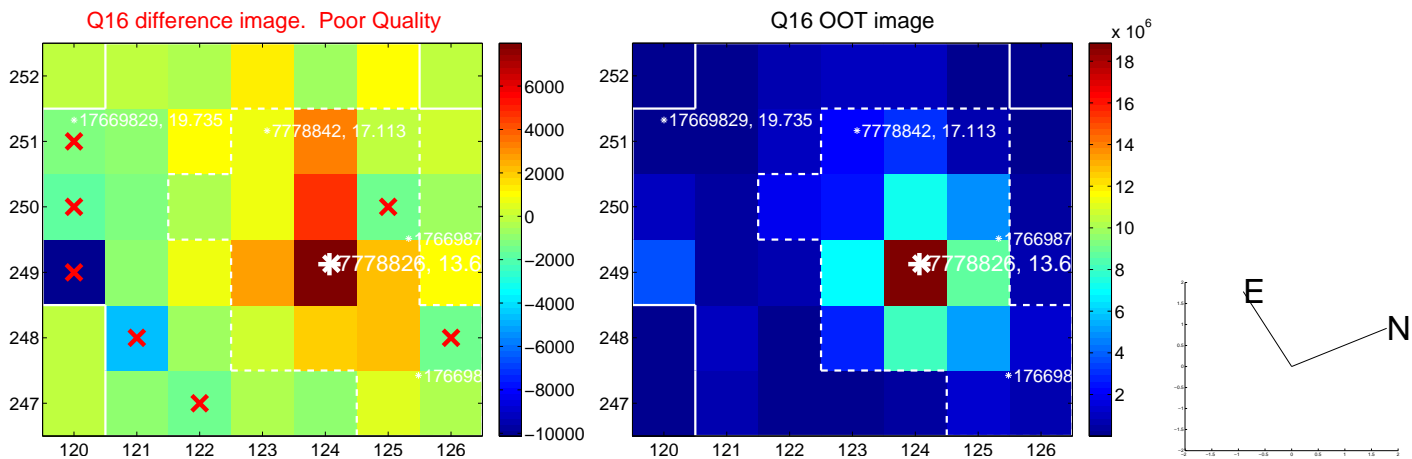
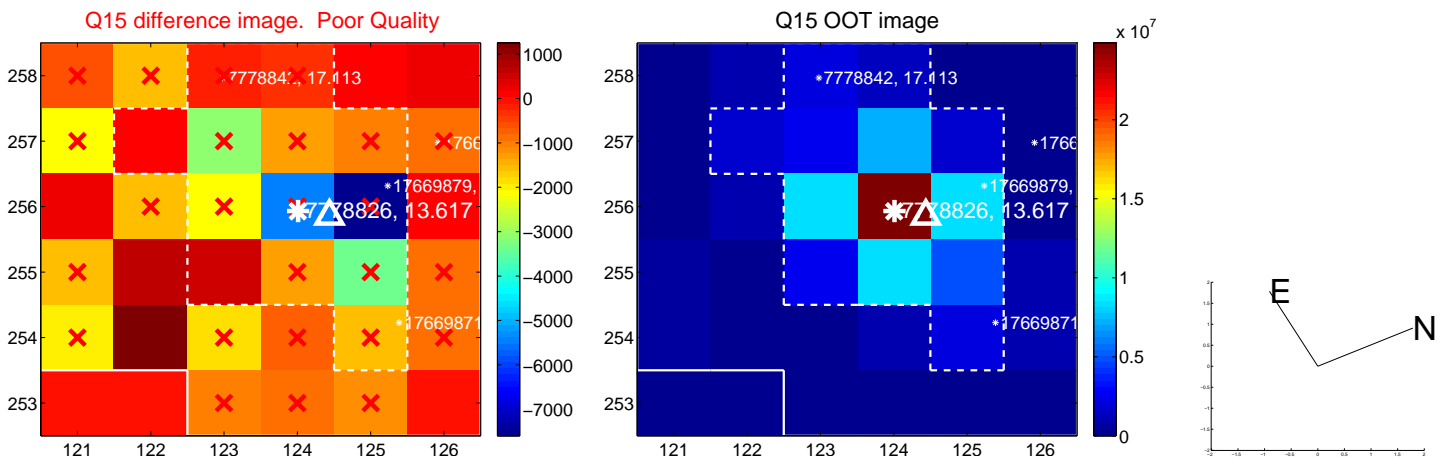
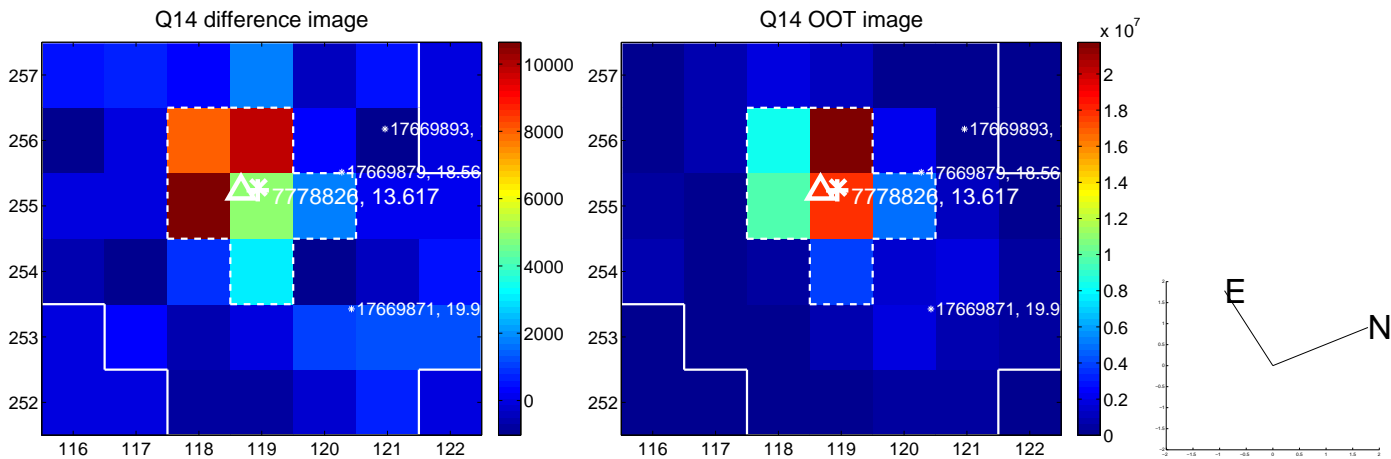
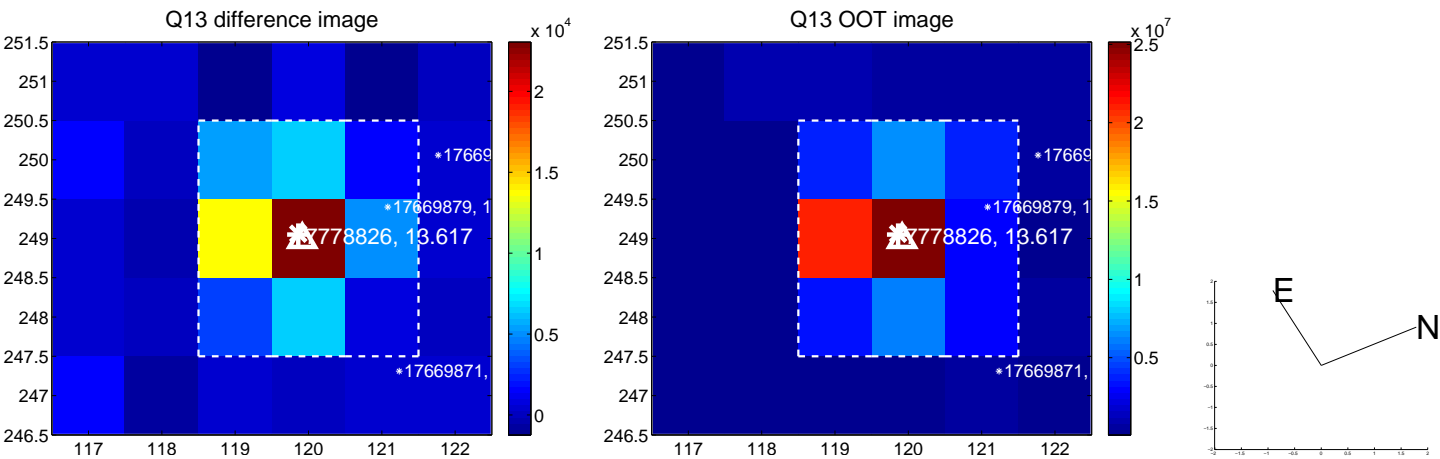
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



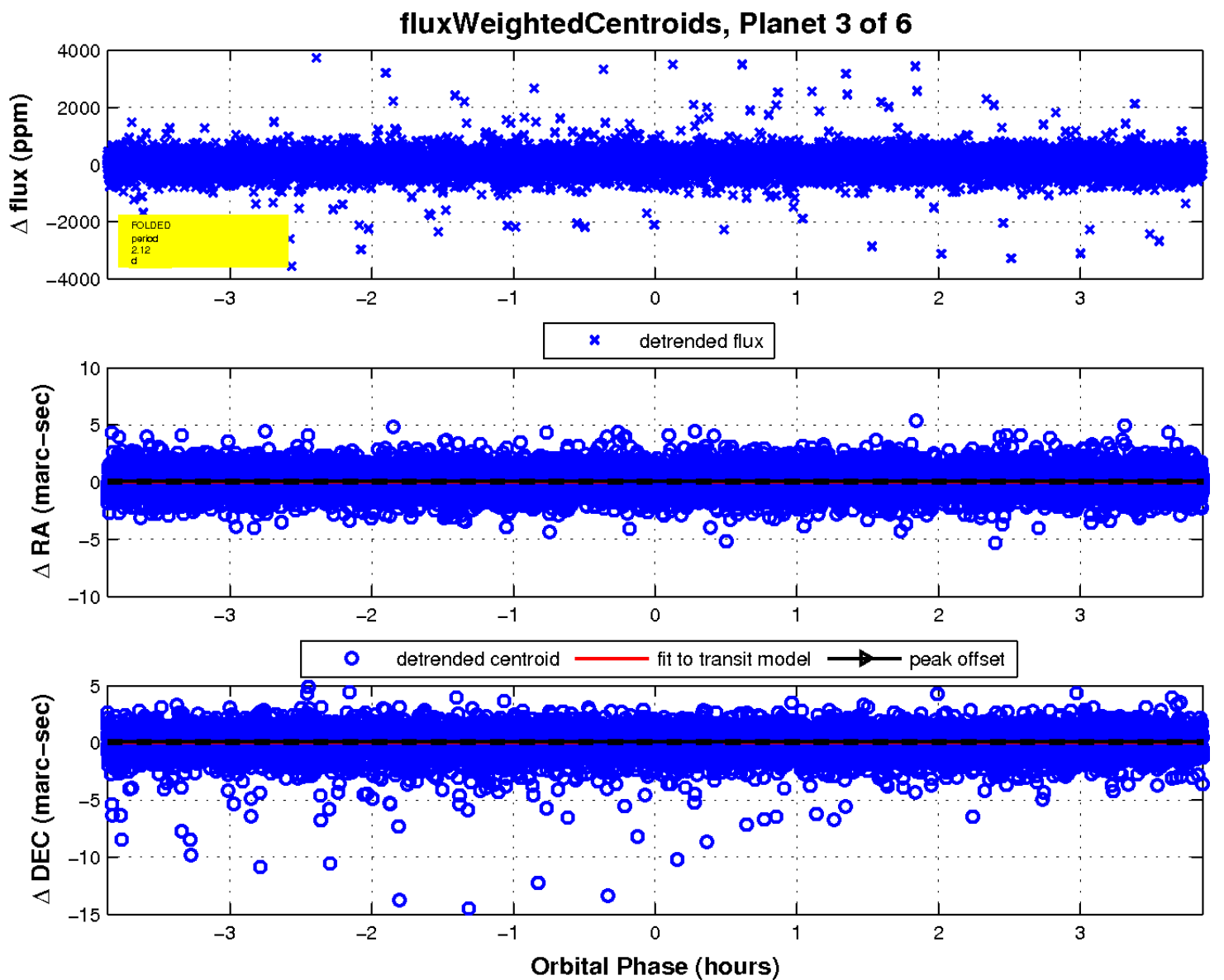
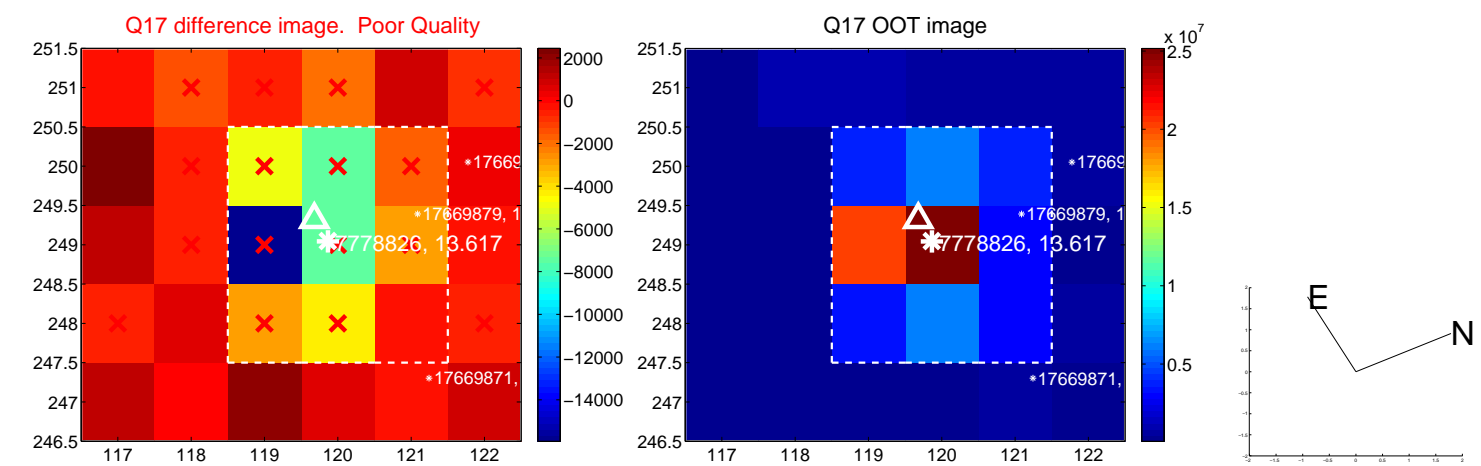
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

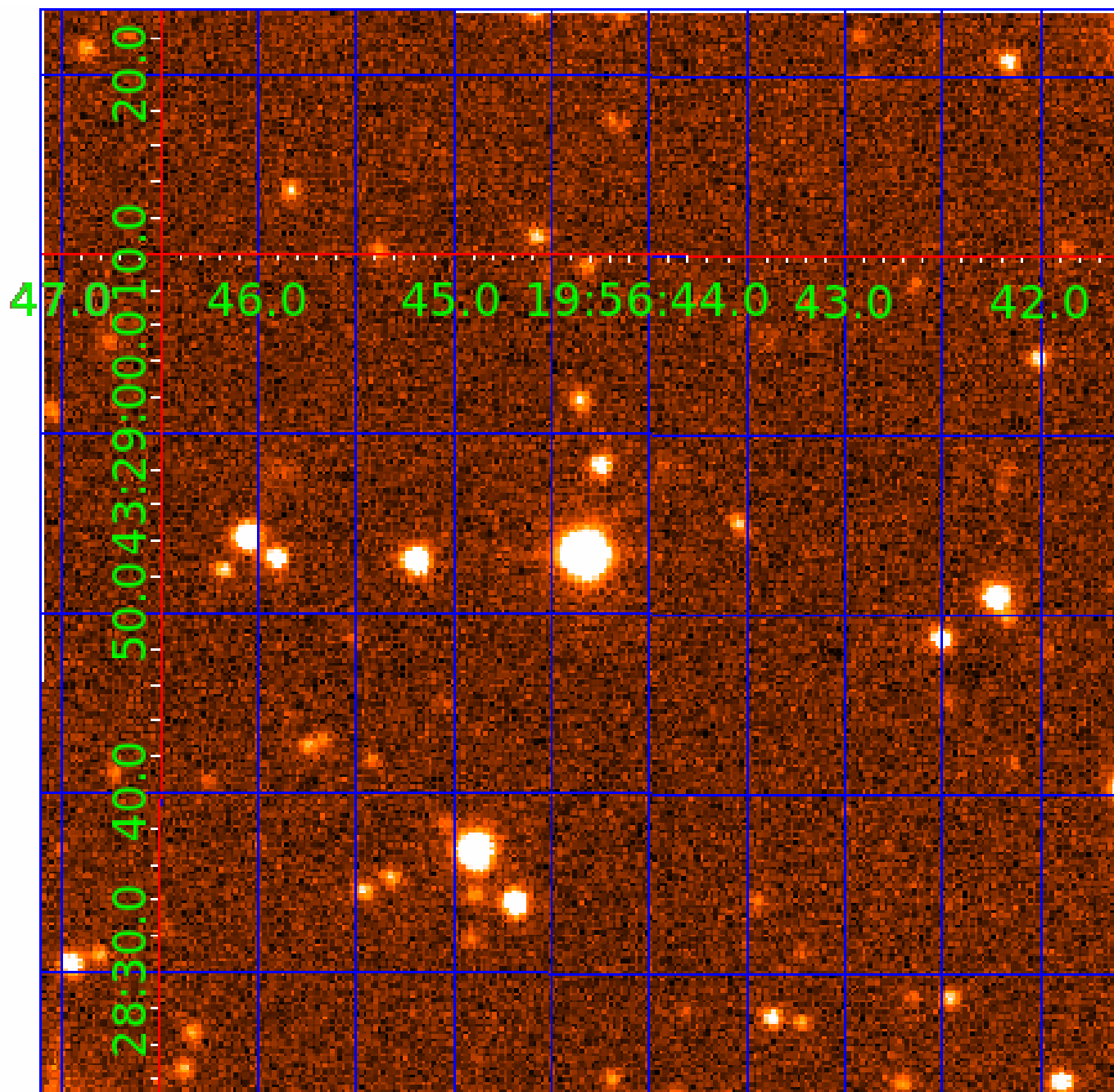


white \times : KIC target position; +: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007778826

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})
007778826-01	OBS	No	5.238990	132.015022	99.3	15.000	8.6	-1.0	1.48	7207	1.49	1194.24
007778826-02	OBS	No	0.815805	131.597180	24.2	5.942	10.2	5.6	1.48	7207	0.74	14255.15
007778826-03	OBS	No	2.117441	132.193861	302.9	1.289	16.8	13.3	1.48	7207	3.13	3996.43
007778826-04	OBS	No	21.833259	145.384084	608.0	1.347	24.2	12.3	1.48	7207	3.71	178.07
007778826-05	OBS	No	31.839598	148.201311	441.6	2.349	9.4	10.3	1.48	7207	3.20	107.68
007778826-06	OBS	No	20.407540	137.662482	816.9	1.797	18.9	18.0	1.48	7207	4.54	194.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007778826-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
007778826-02	OBS	FP	0.00	1	0	0	0	LPP_DV
007778826-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—HALO_GHOST
007778826-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
007778826-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007778826-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

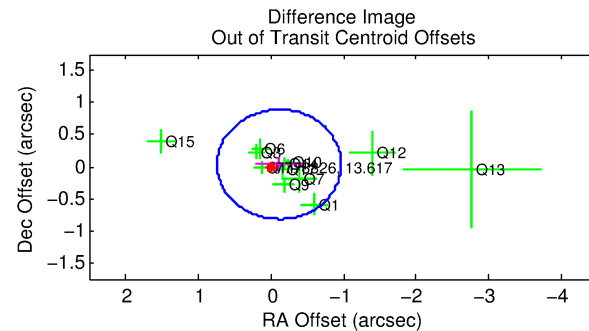
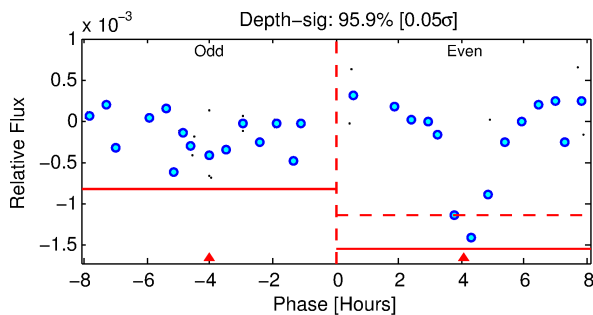
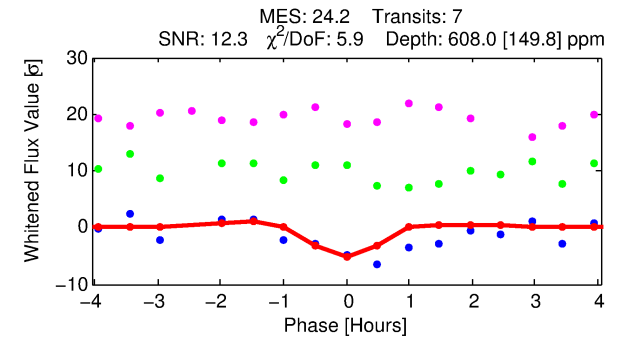
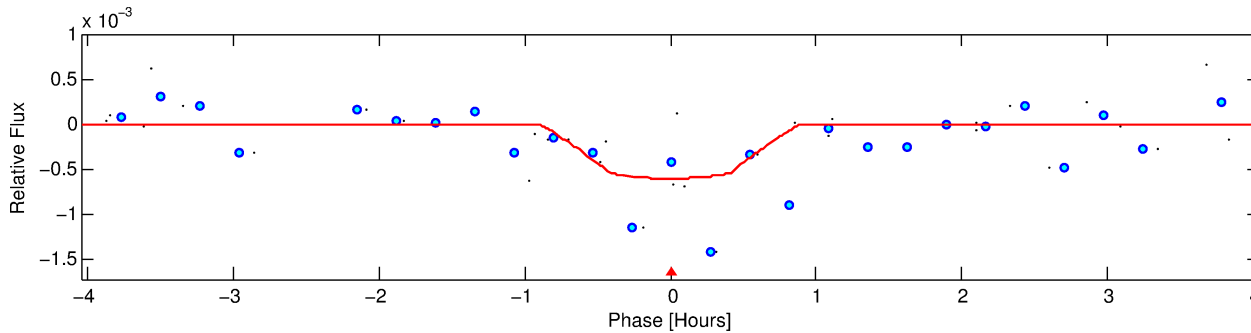
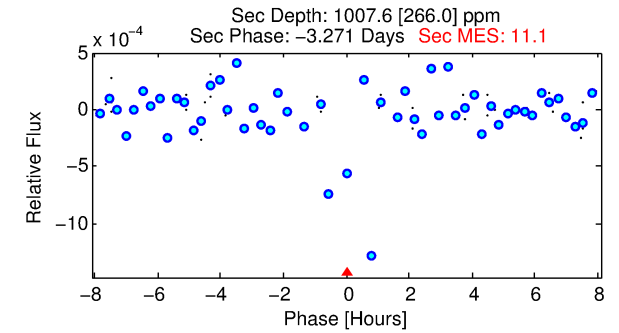
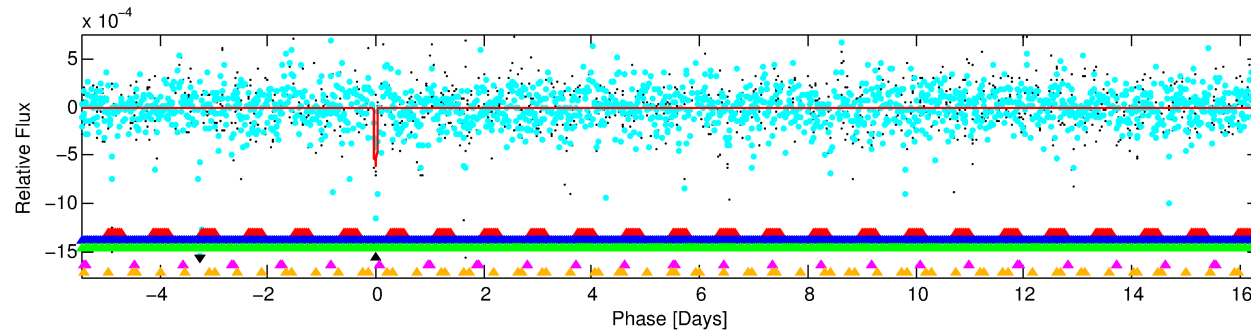
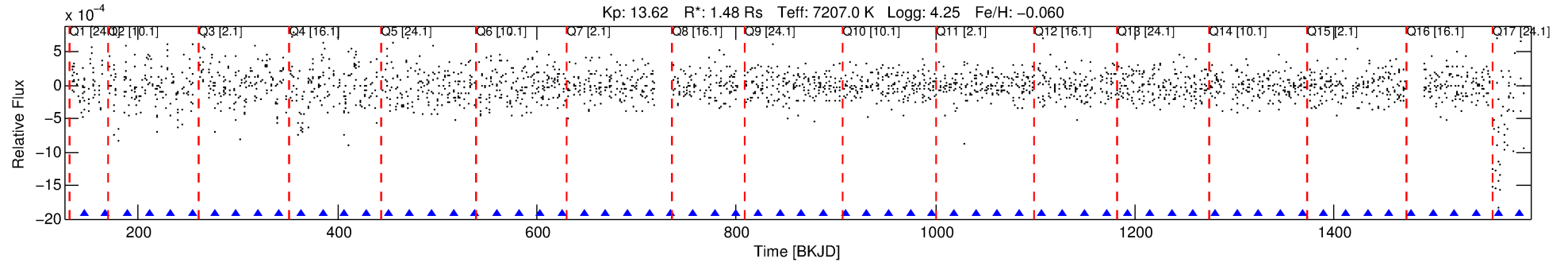
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007778826-04

No Significant Match Found

DV One-Page Summary

KIC: 7778826 Candidate: 4 of 6 Period: 21.833 d



DV Fit Results:

Period = 21.83326 [0.00031] d
Epoch = 145.3841 [0.0116] BKJD
Rp/R* = 0.0230 [0.0783]
a/R* = 126.63 [2417.62]
b = 0.02 [842.34]
Seff = 178.07 [74.96]
Teff = 931 [98] K
Rp = 3.71 [12.70] Re
a = 0.1724 [0.0469] AU
Ag = 1198.11 [8185.75] [0.15σ]
Teffp = 8473 [14454] K [0.52σ]

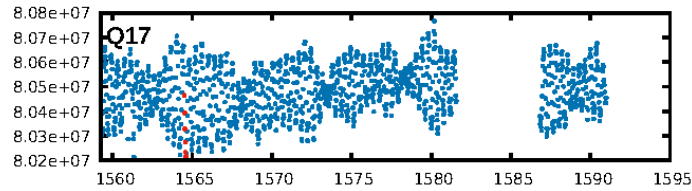
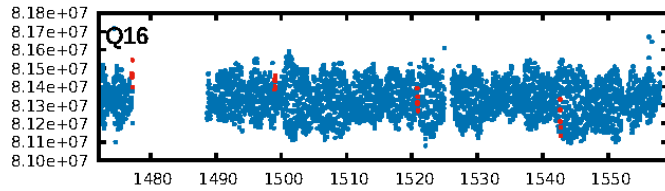
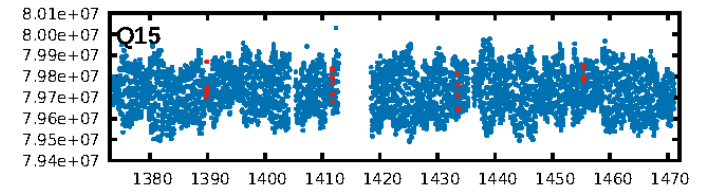
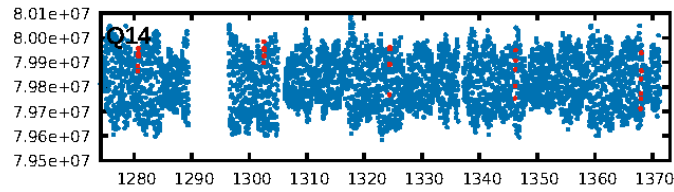
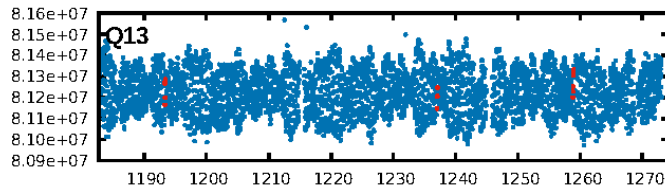
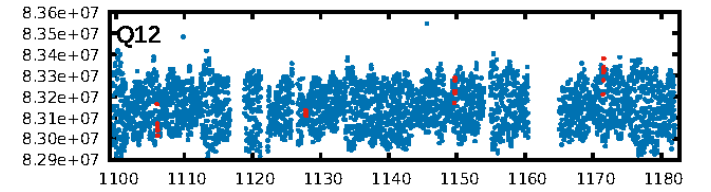
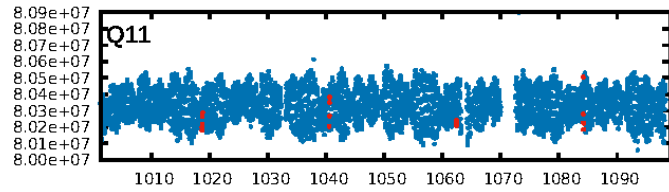
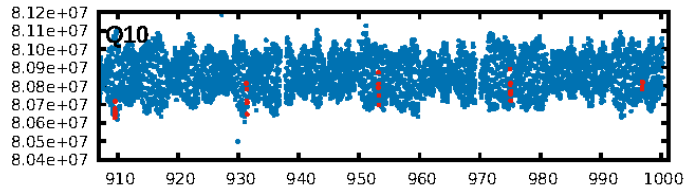
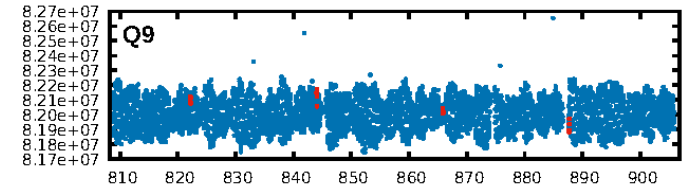
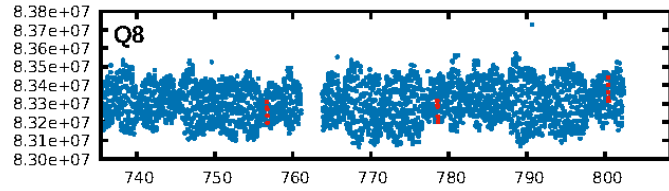
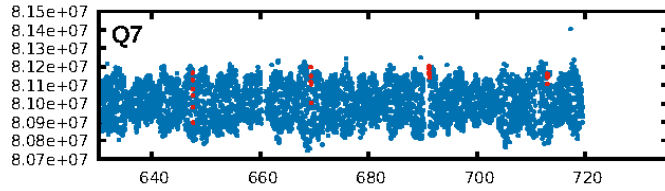
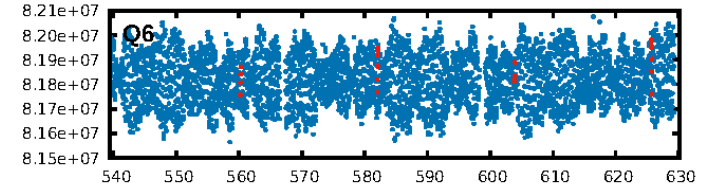
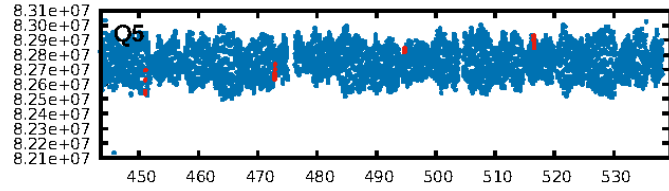
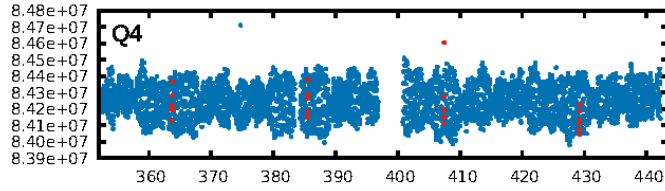
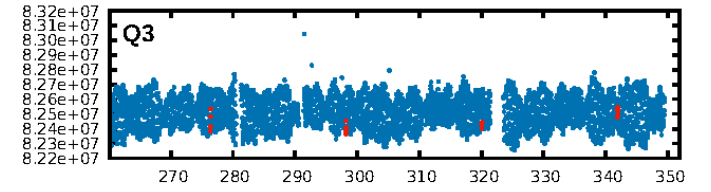
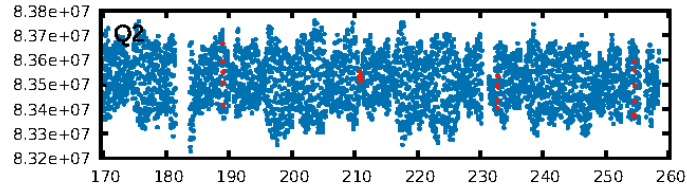
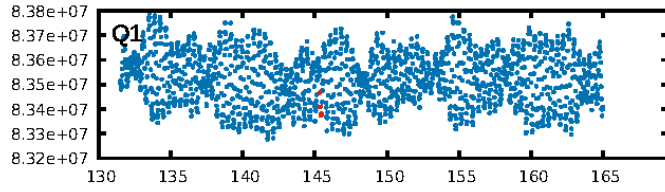
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [15.24σ]
LongPeriod-sig: 100.0% [88.67σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 2.4%
Bootstrap-pfa: 1.30e-62
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.057
Centroid-sig: 49.7%
Centroid-so: 0.404 arcsec [0.97σ]
OotOffset-rm: 0.121 arcsec [0.42σ]
KicOffset-rm: 0.161 arcsec [0.57σ]
OotOffset-st: 3/4/1/4 [12]
KicOffset-st: 3/4/1/4 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 0.24 [4/17]

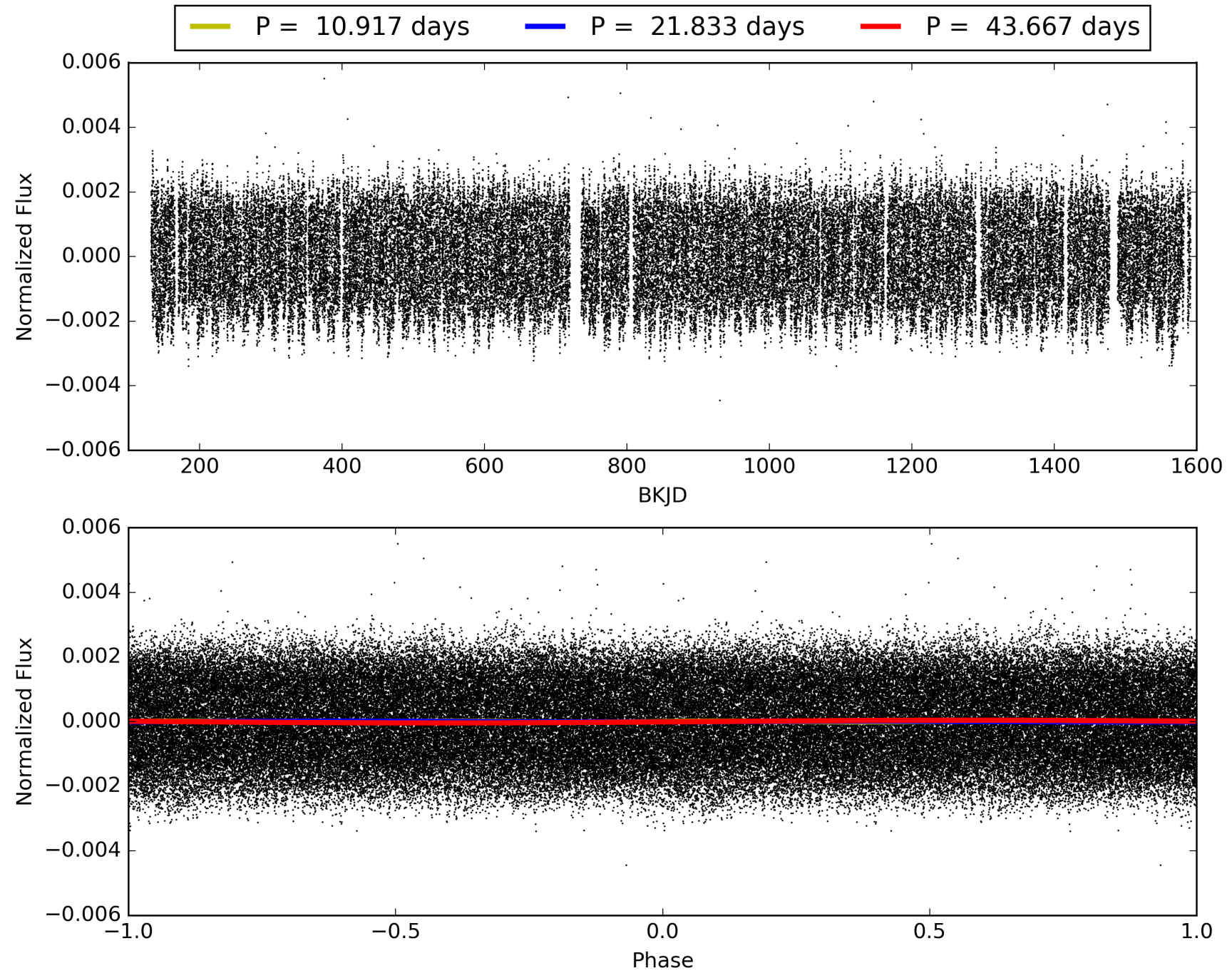
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:02:56 Z

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

TCE 007778826-04, PDC Light Curves

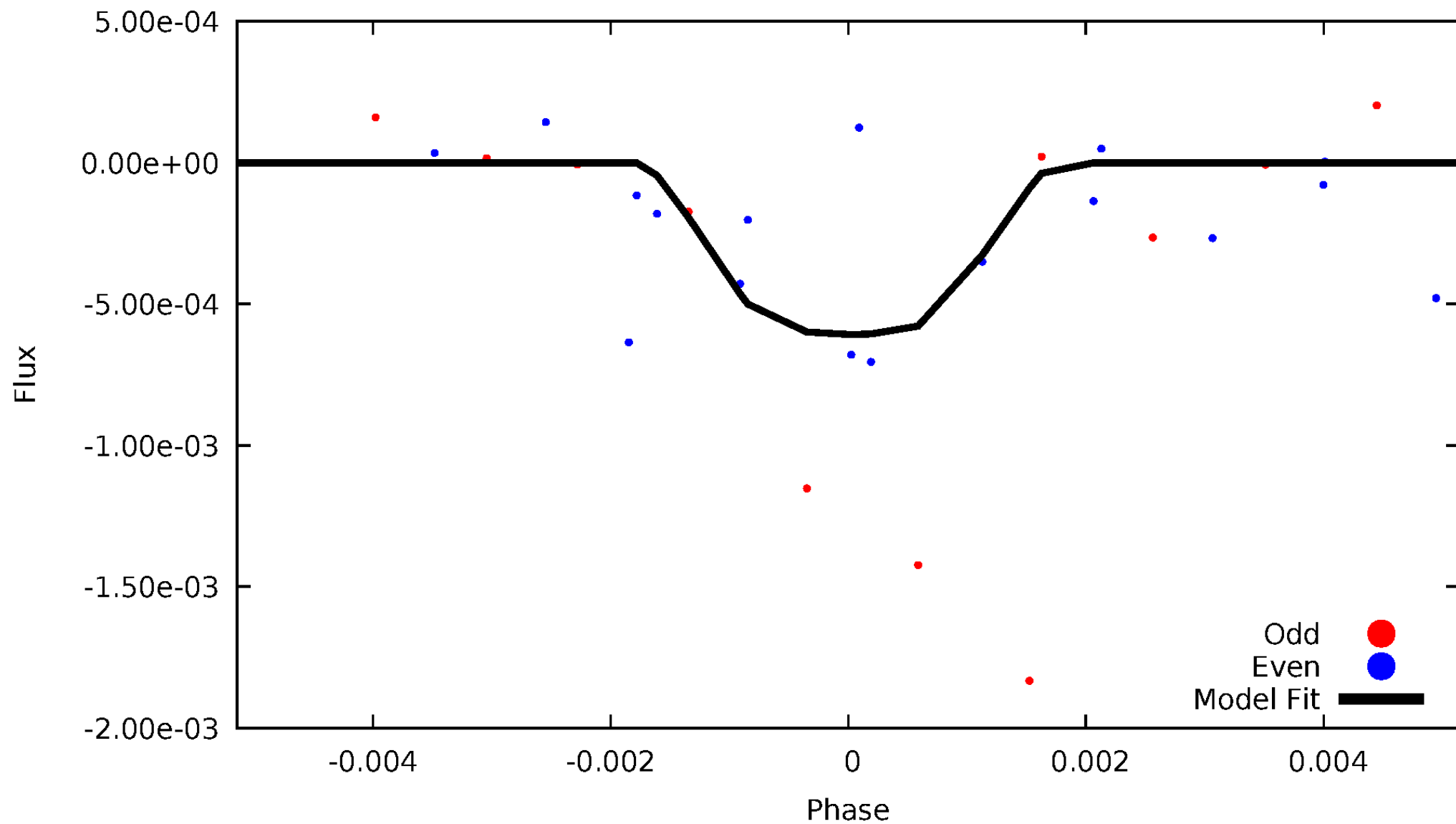


TCE 007778826-04



DV Odd/Even

TCE 007778826-04

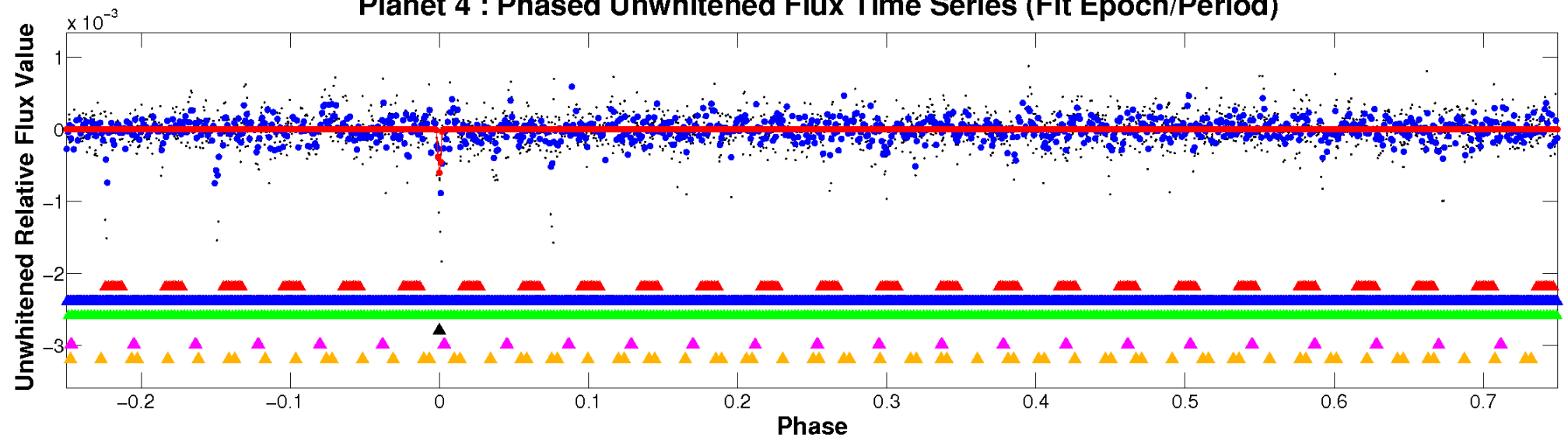


ALT Odd/Even

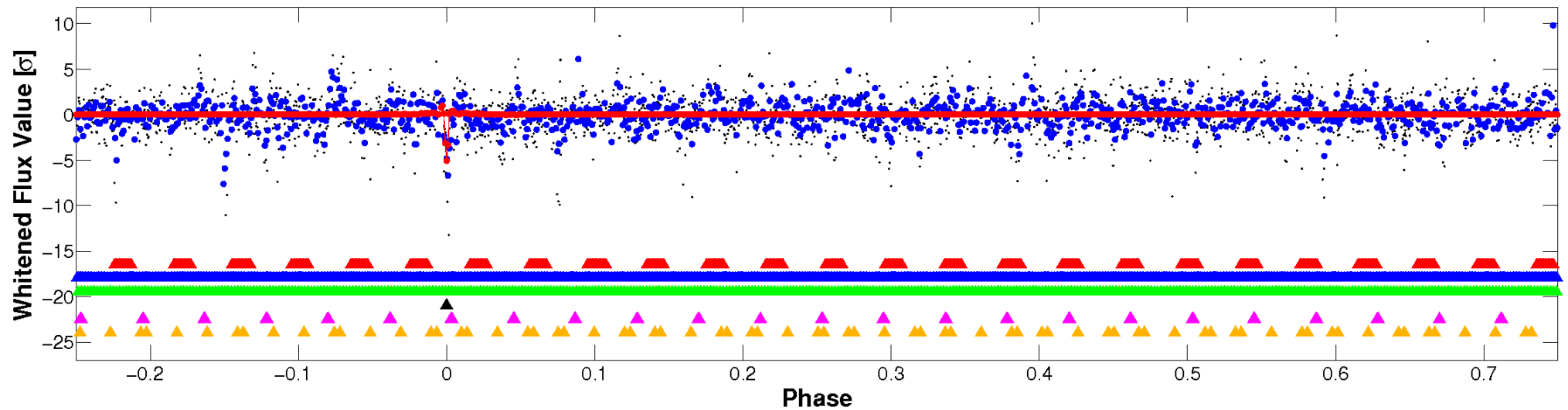
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

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

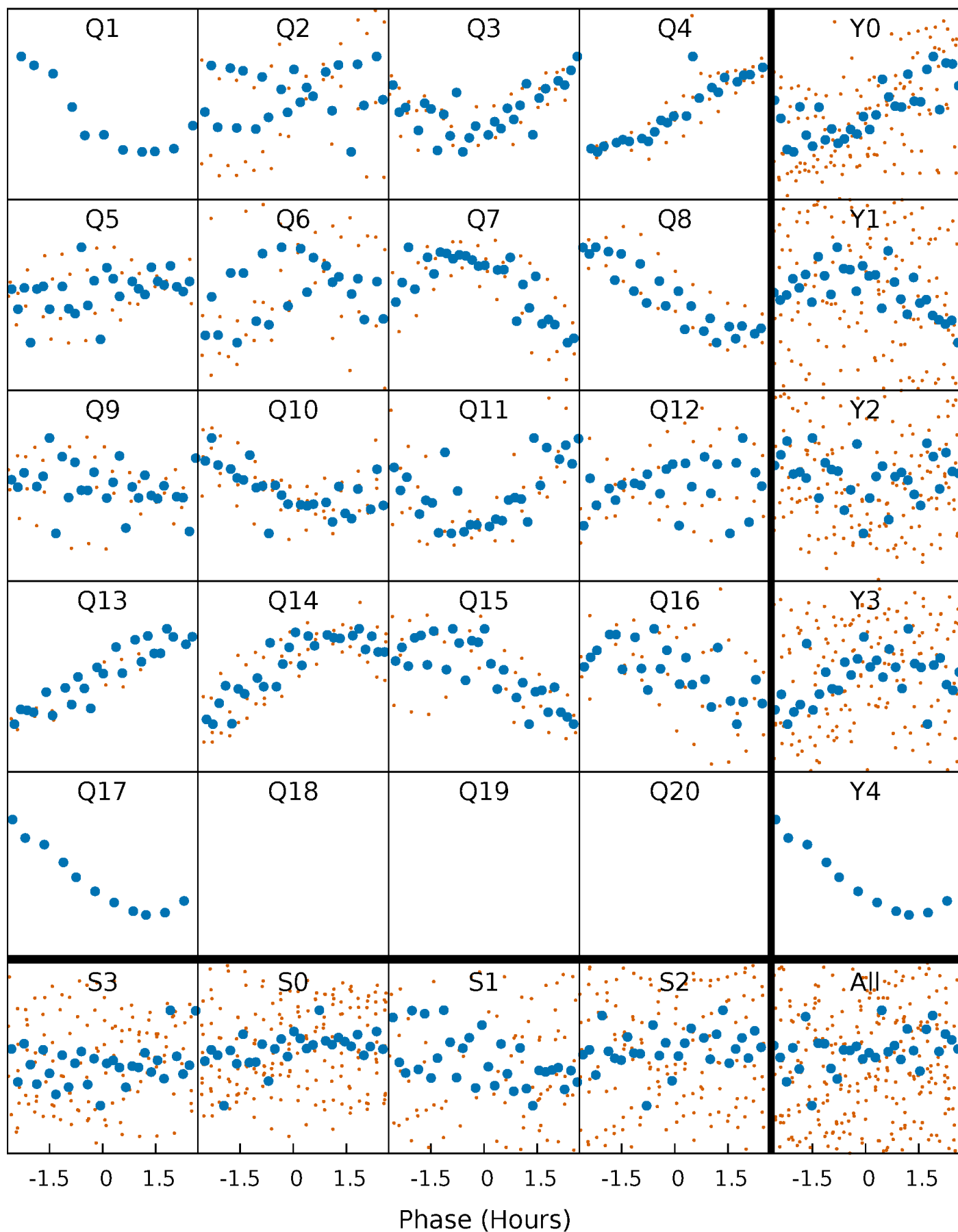


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



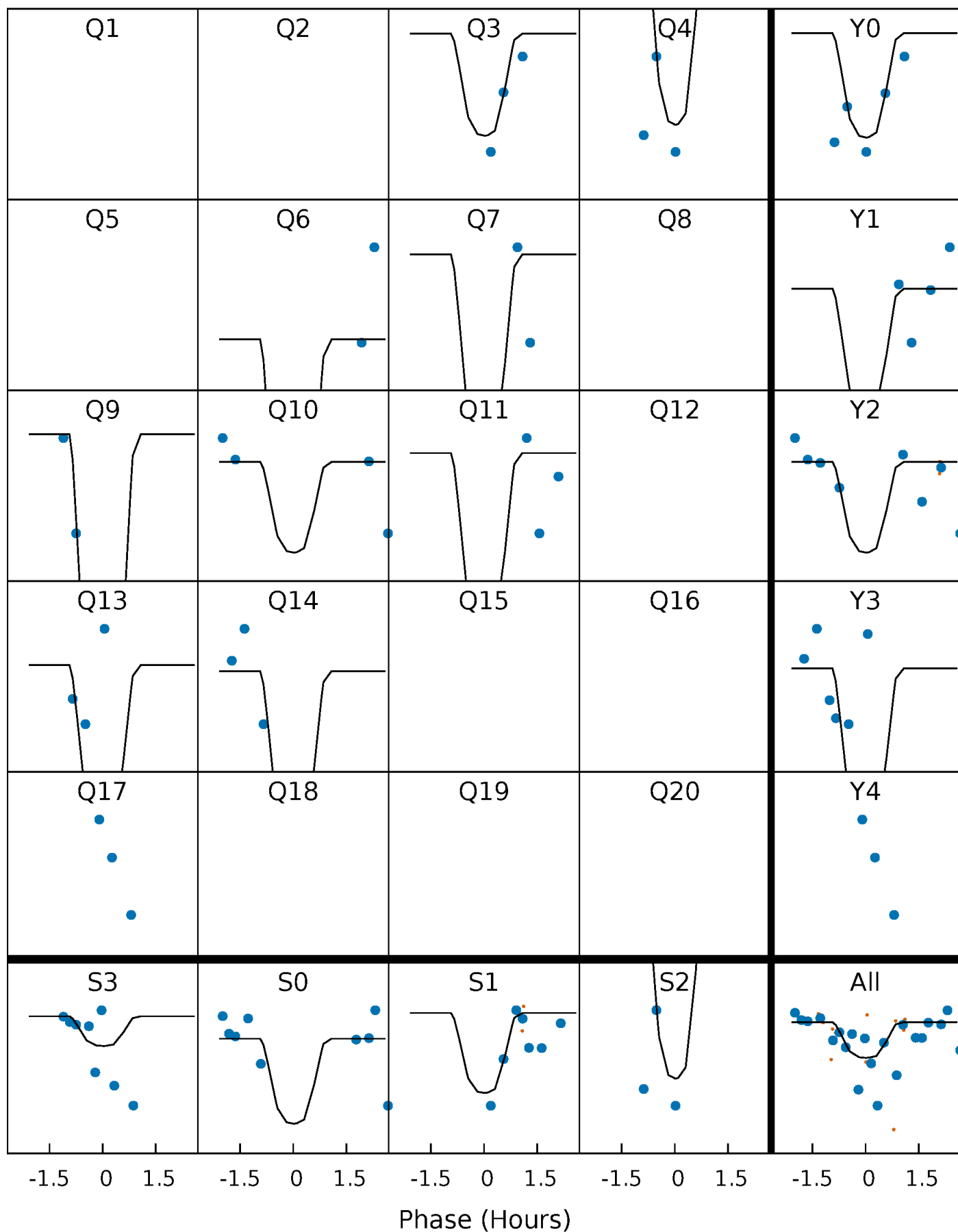
PDC Quarter-Phased Transit Curves

TCE 007778826-04 P= 21.833259 Days $T_0=145.384084$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 007778826-04 P= 21.833259 Days $T_0=145.384084$ (BKJD)

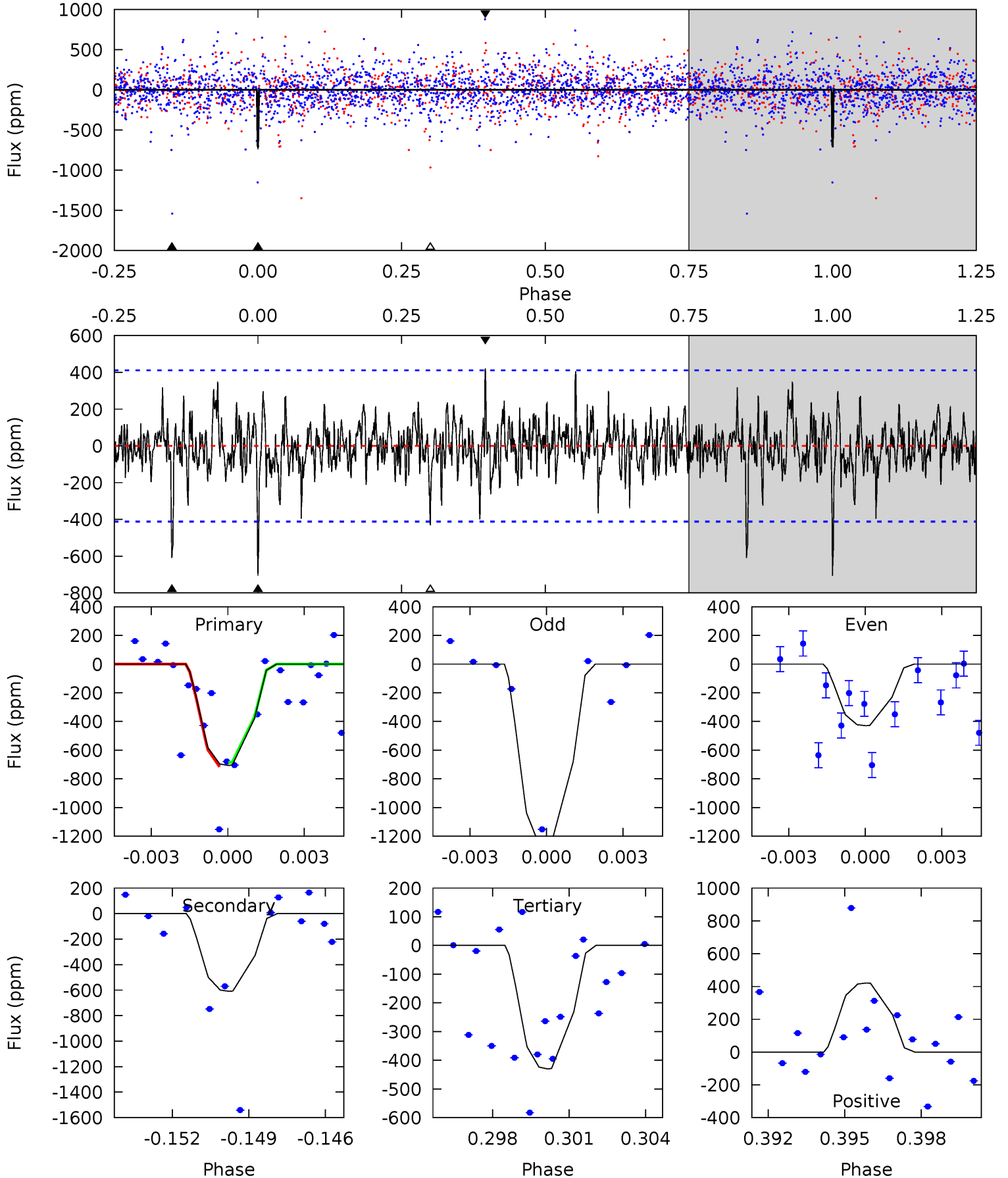


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

007778826-04, P = 21.833259 Days, E = 123.550825 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.00	7.76	5.48	5.37	5.24	2.94	1.40	3.52	3.63	2.28	2.39	5.34	1.06	0.37	0.19



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 007778826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+228}_{-314}	$4.254^{+0.072}_{-0.203}$	$-0.060^{+0.250}_{-0.350}$	$1.480^{+0.495}_{-0.212}$	$1.434^{+0.211}_{-0.211}$	$0.623^{+0.242}_{-0.332}$
	+3%/-4%	+2%/-5%	+417%/-583%	+33%/-14%	+15%/-15%	+39%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007778826-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-609 ± 79	$10.16^{+10.91}_{-6.89}$	1321^{+95}_{-74}	4698^{+3521}_{-1084}	96^{+832}_{-74}
Alt.	N/A	N/A	N/A	N/A	N/A

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 $A_{obs} \gg 1.0$

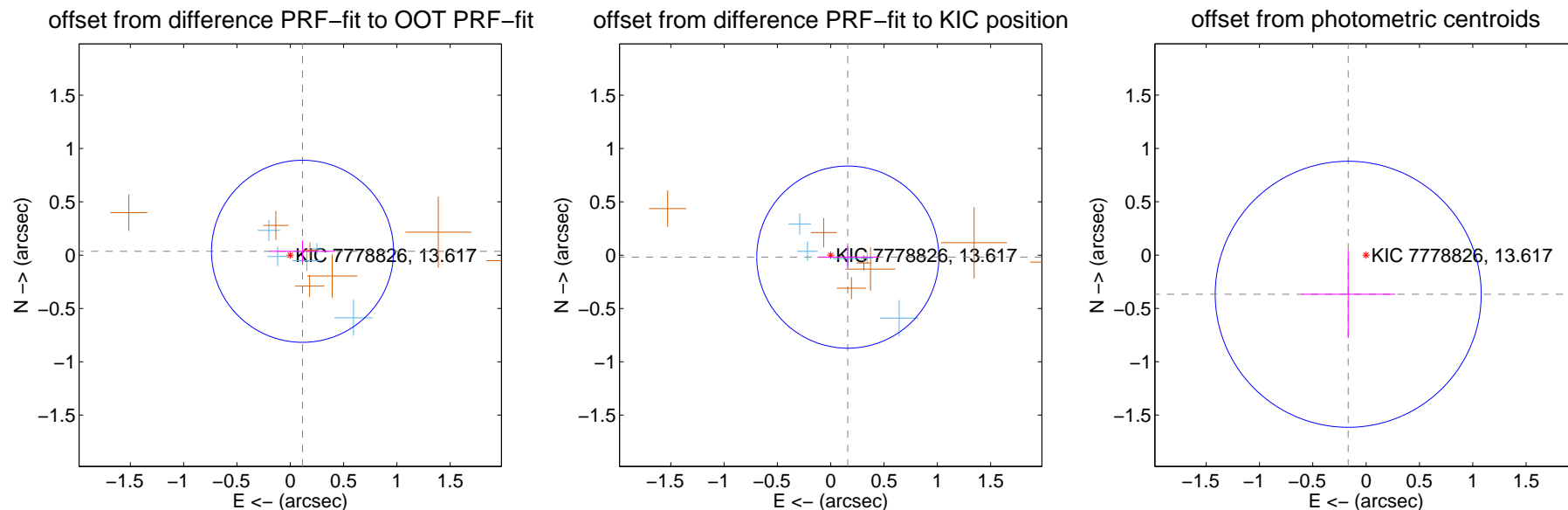
DV Centroid Data

Supplemental centroid analysis for 007778826-04. Kepler magnitude: 13.62. Transit SNR 12.33

There are 5 quarters with good PRF difference image offsets

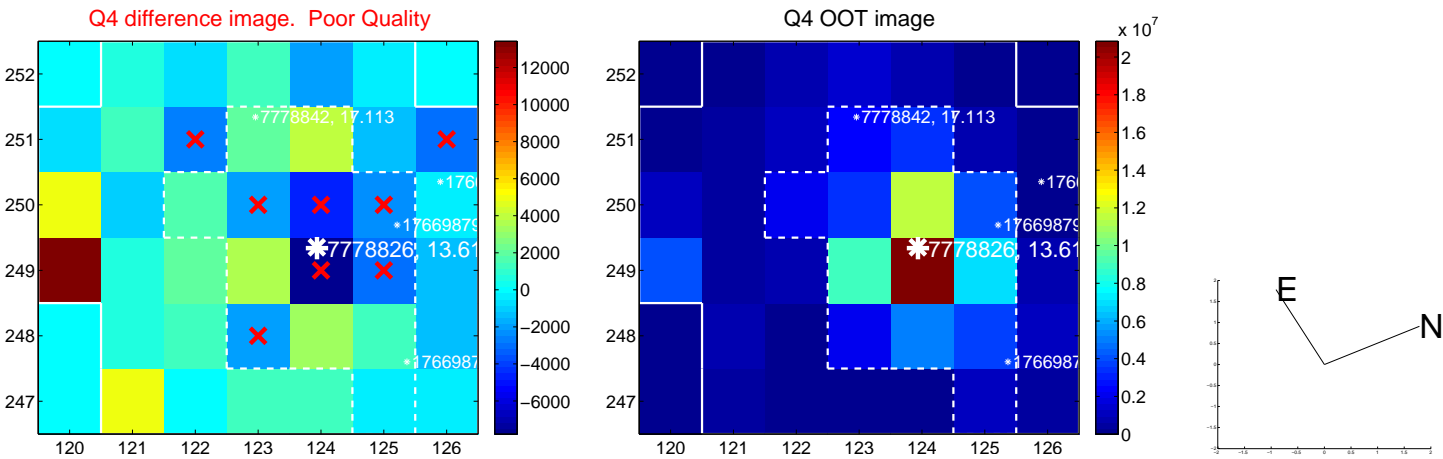
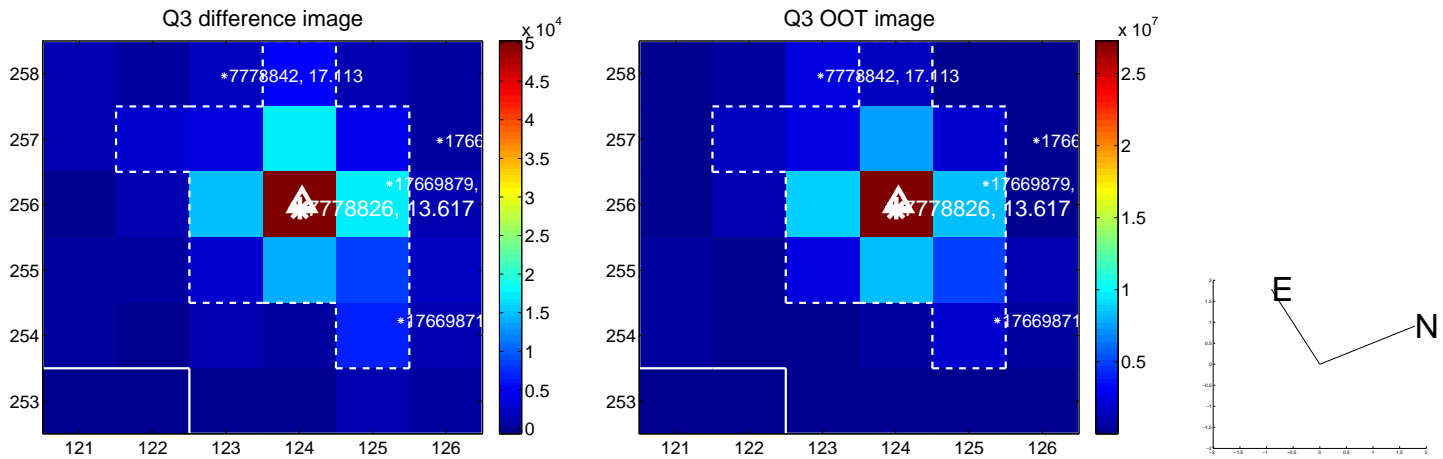
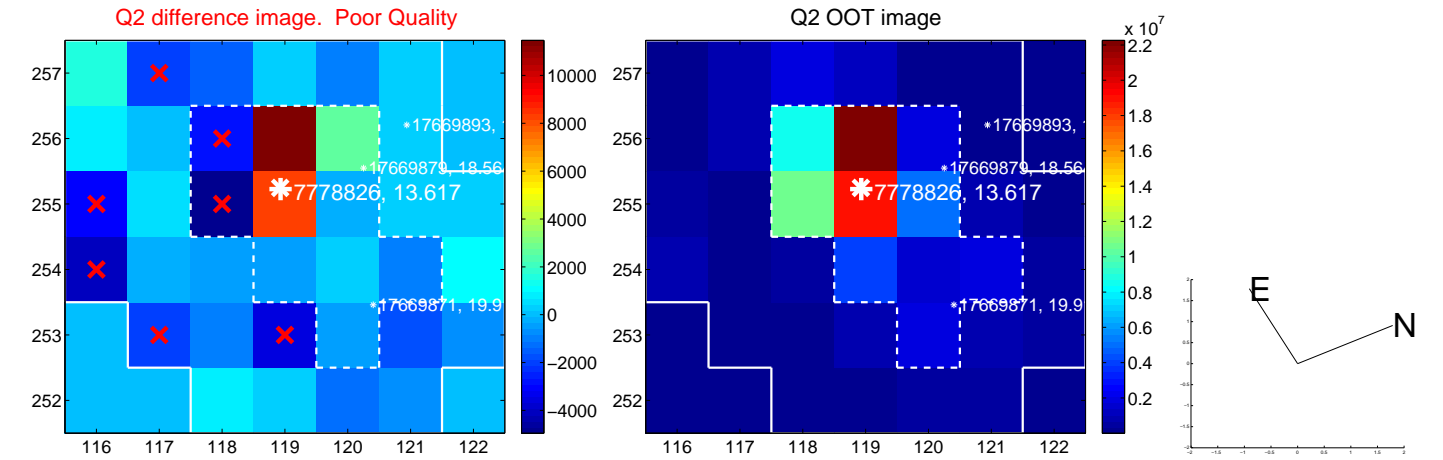
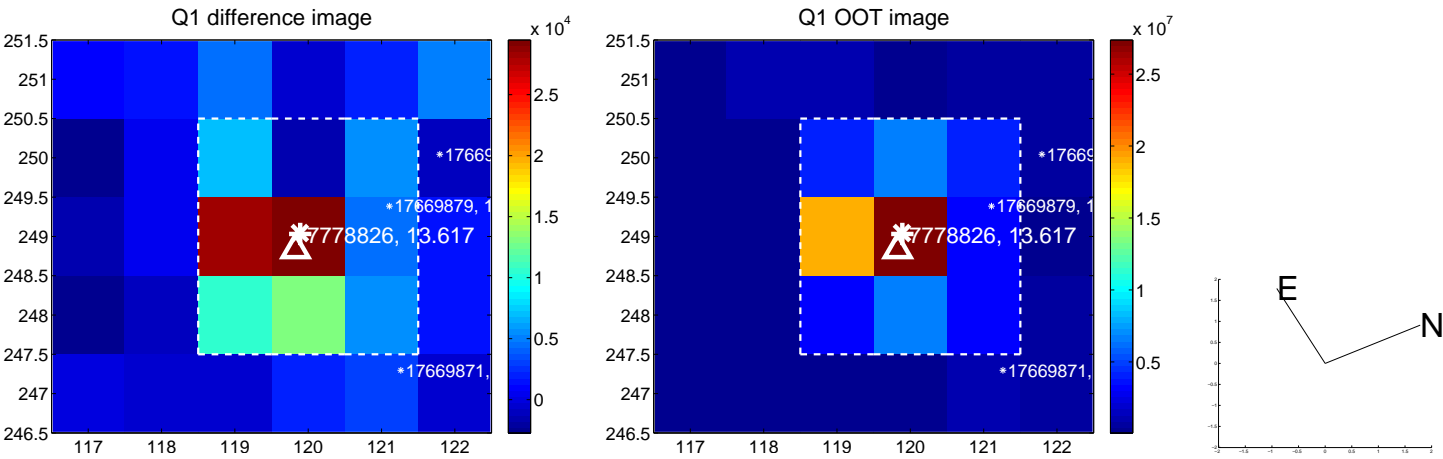
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.121 ± 0.285	0.42	-0.115 ± 0.306	0.036 ± 0.101
PRF-fit source offset from KIC position	0.161 ± 0.285	0.57	-0.160 ± 0.282	-0.018 ± 0.100
photometric centroid source offset	0.40 ± 0.42	0.97	0.17 ± 0.44	-0.37 ± 0.41

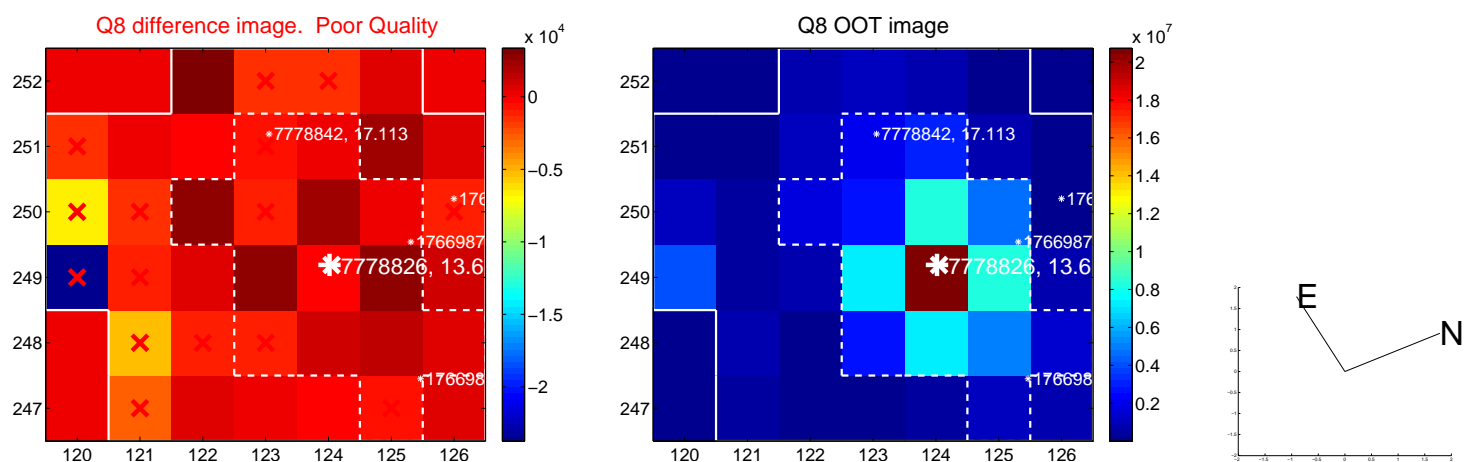
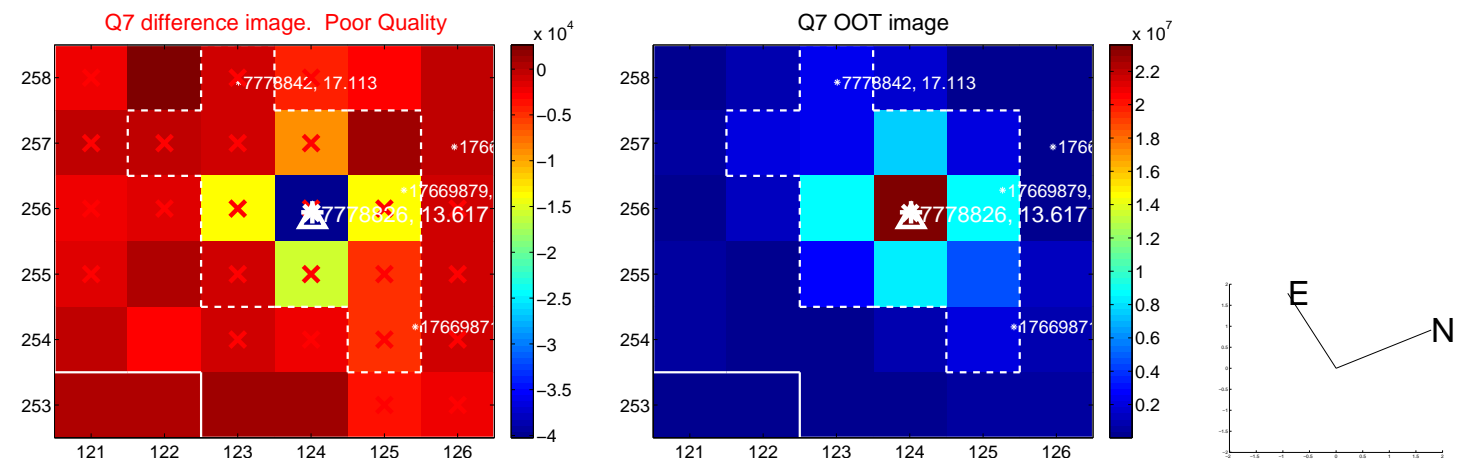
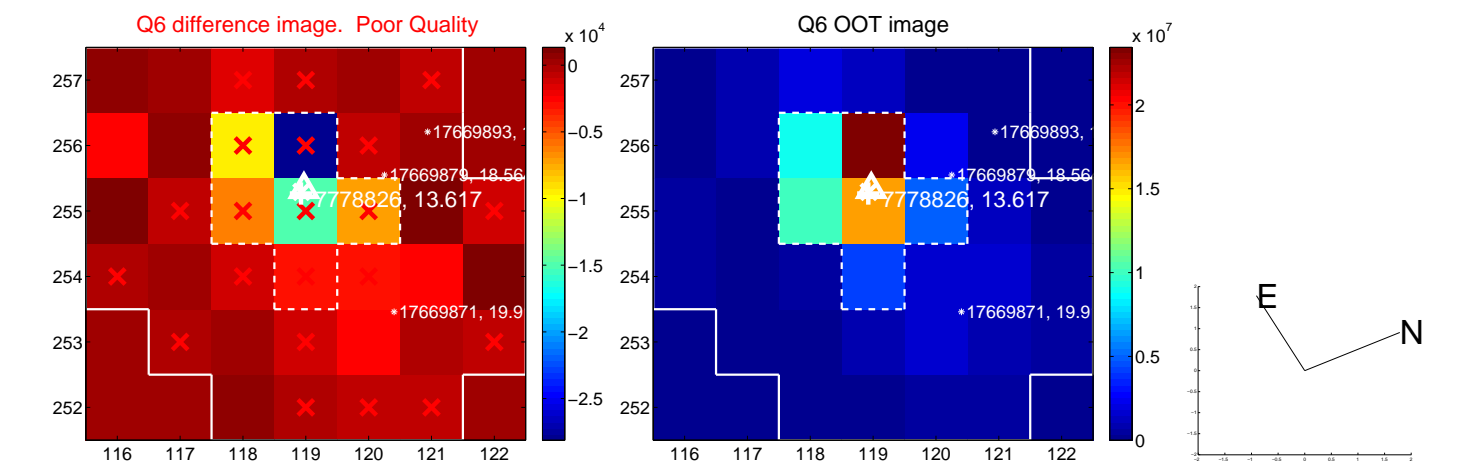
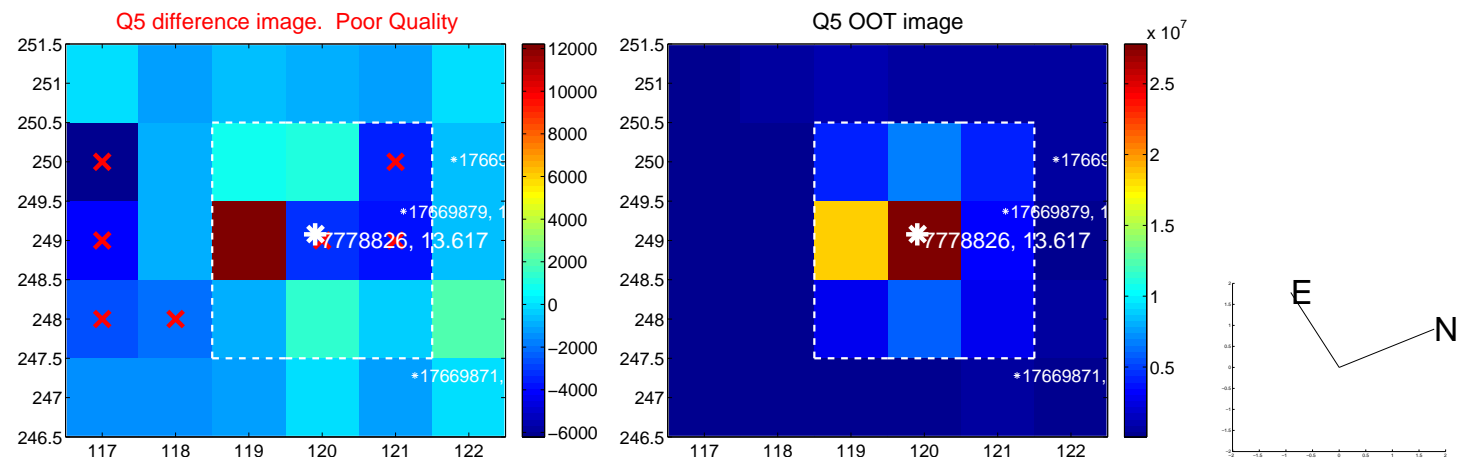


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

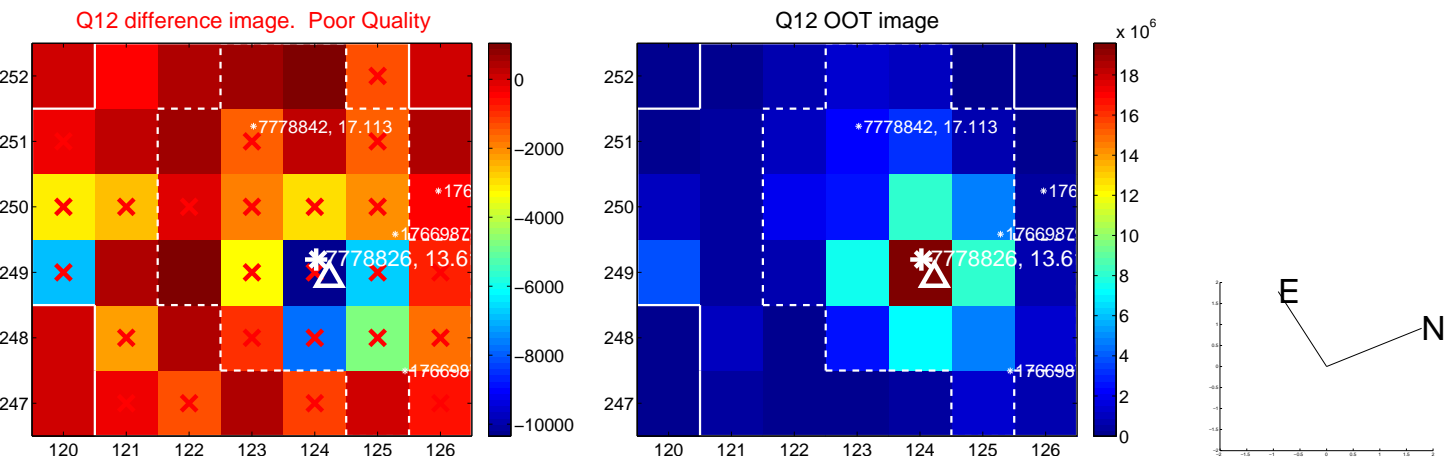
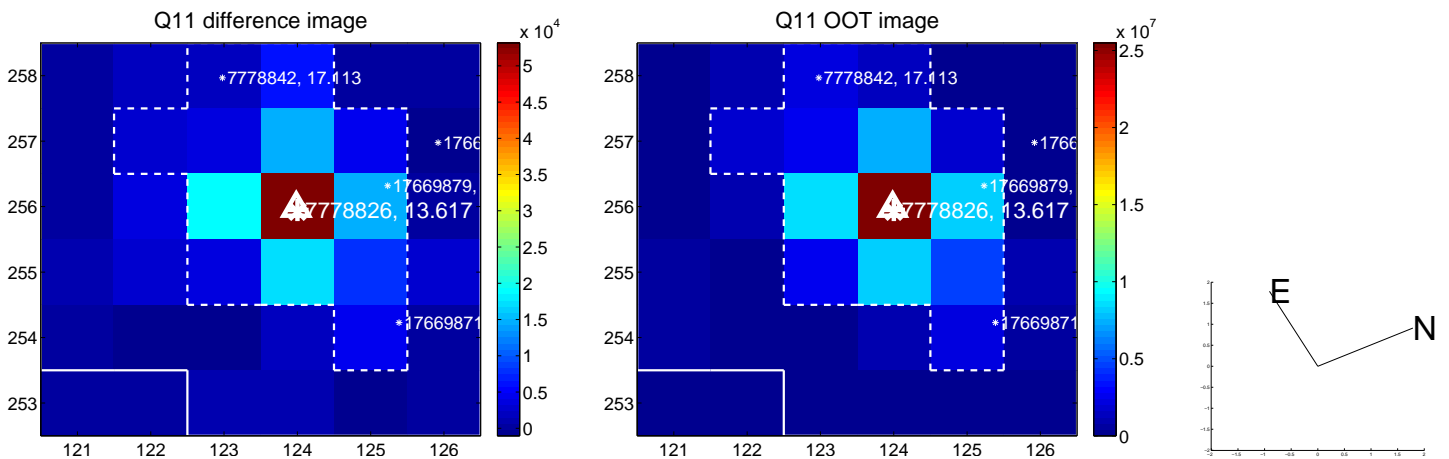
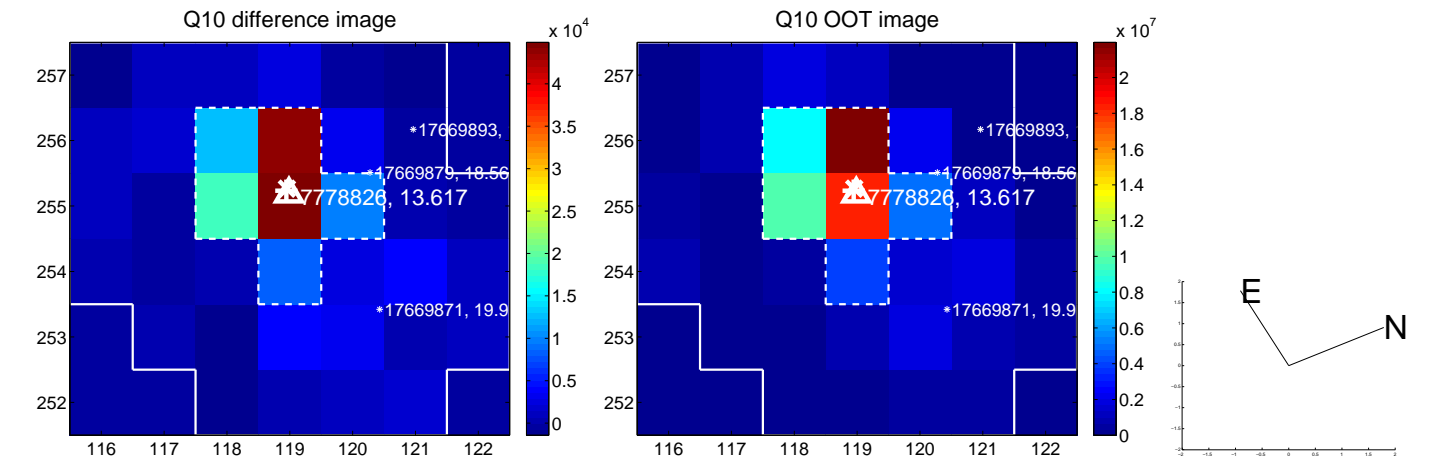
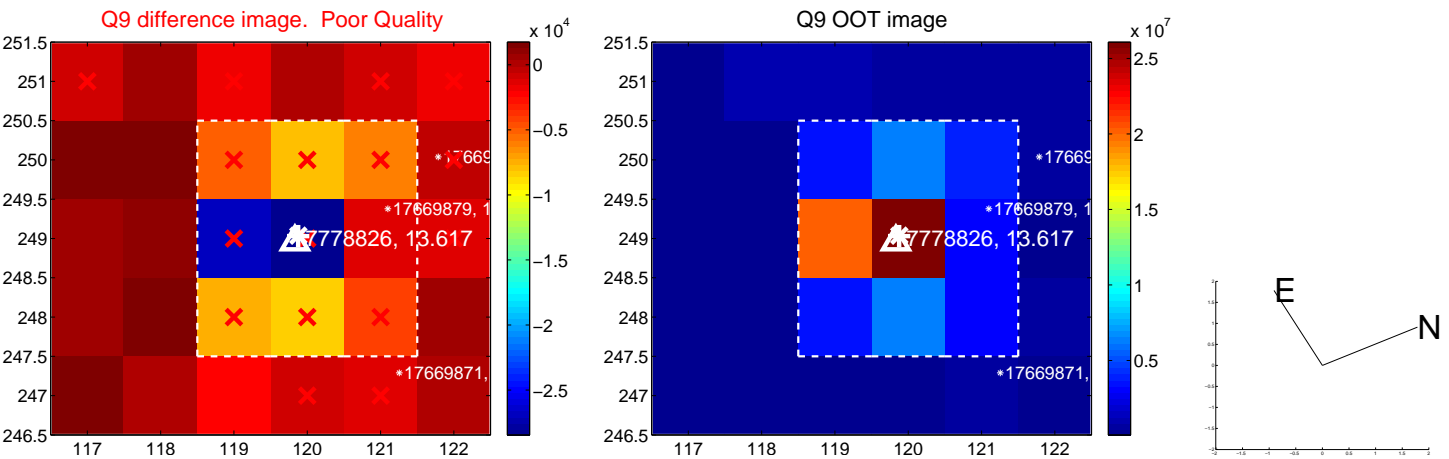
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



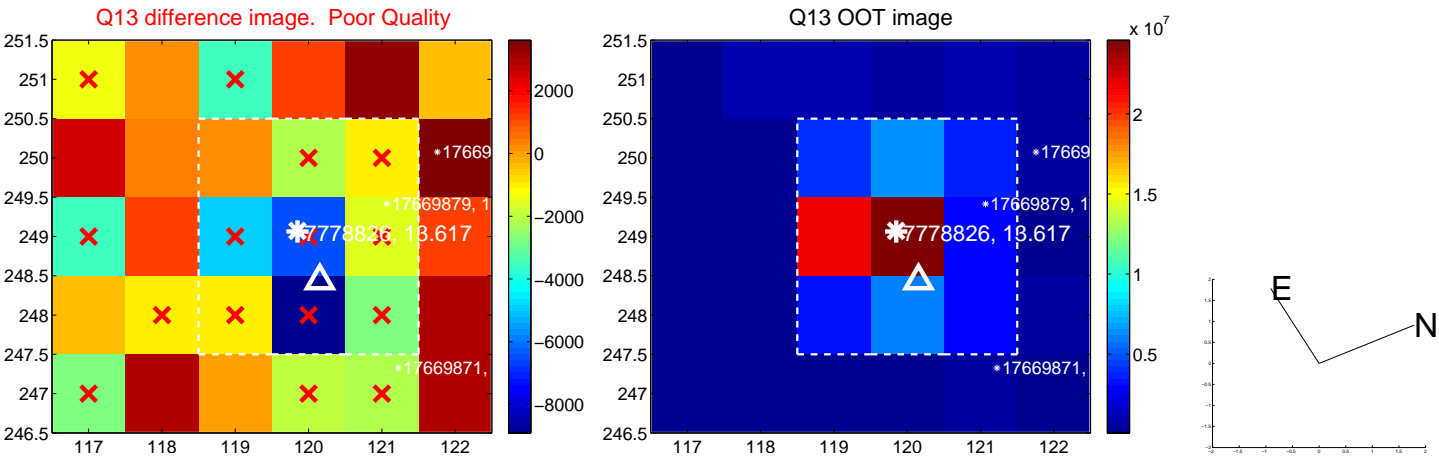
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



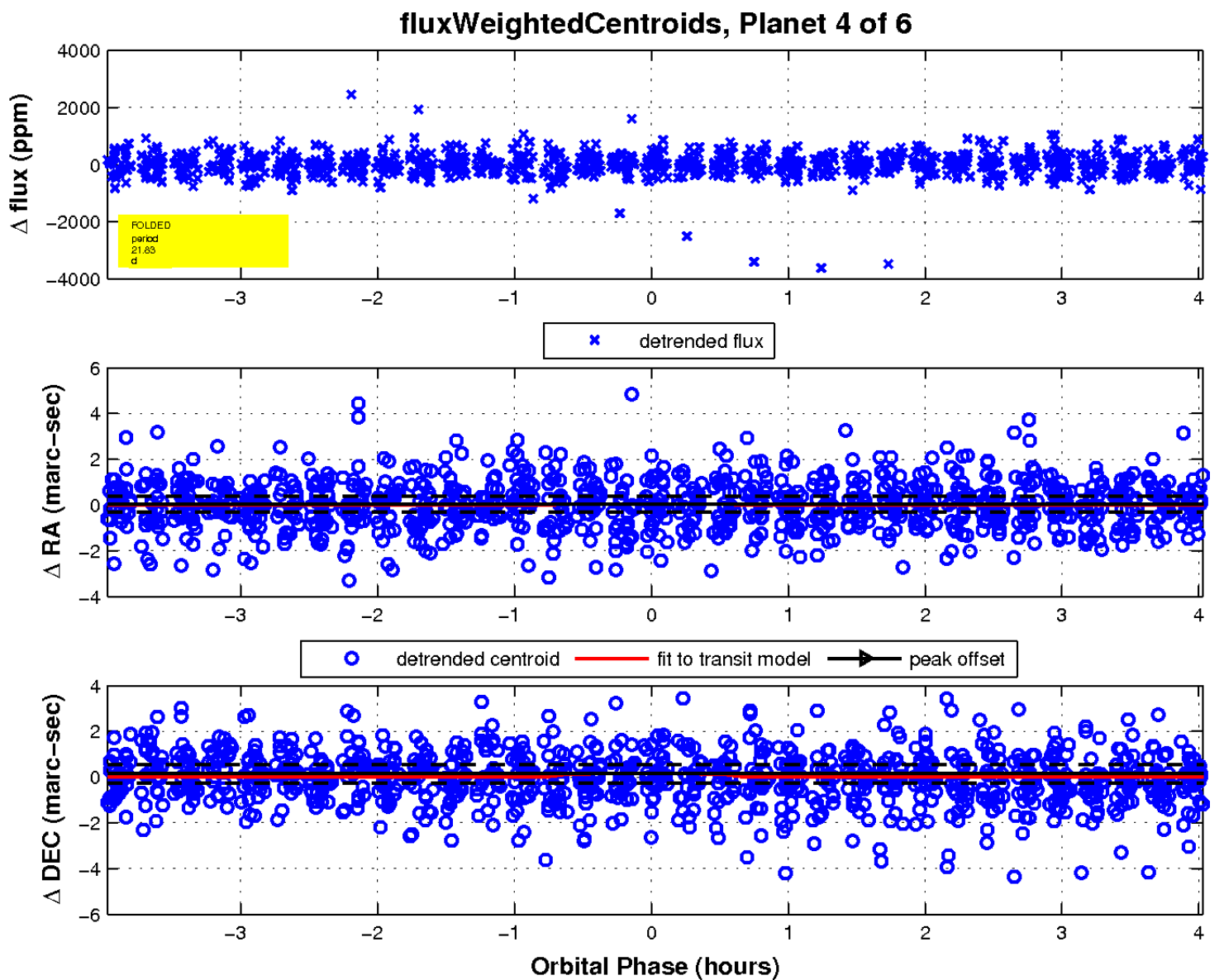
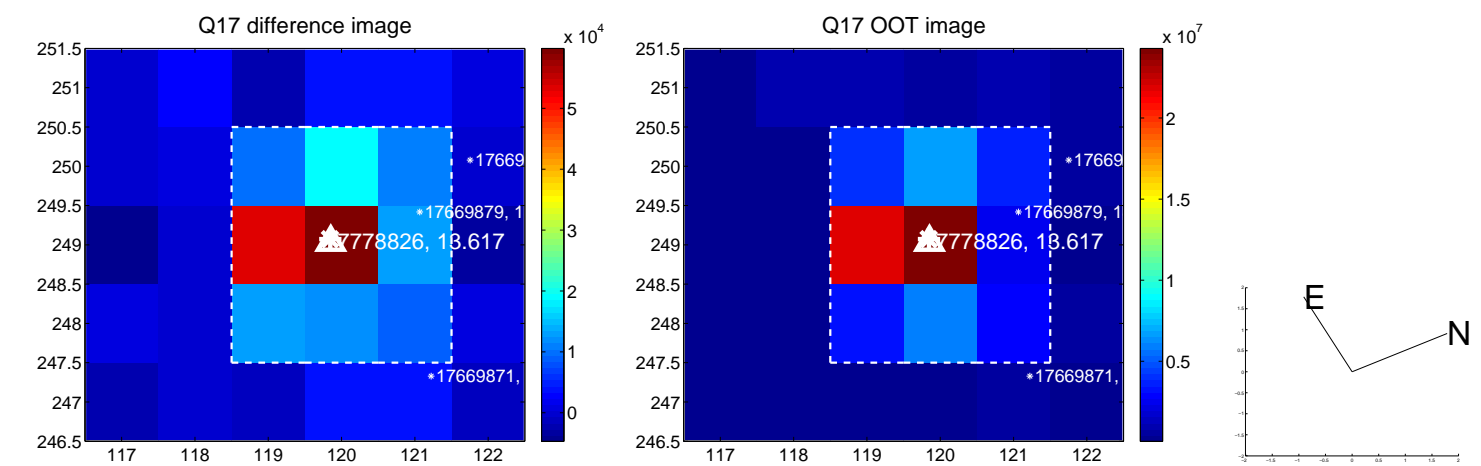
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

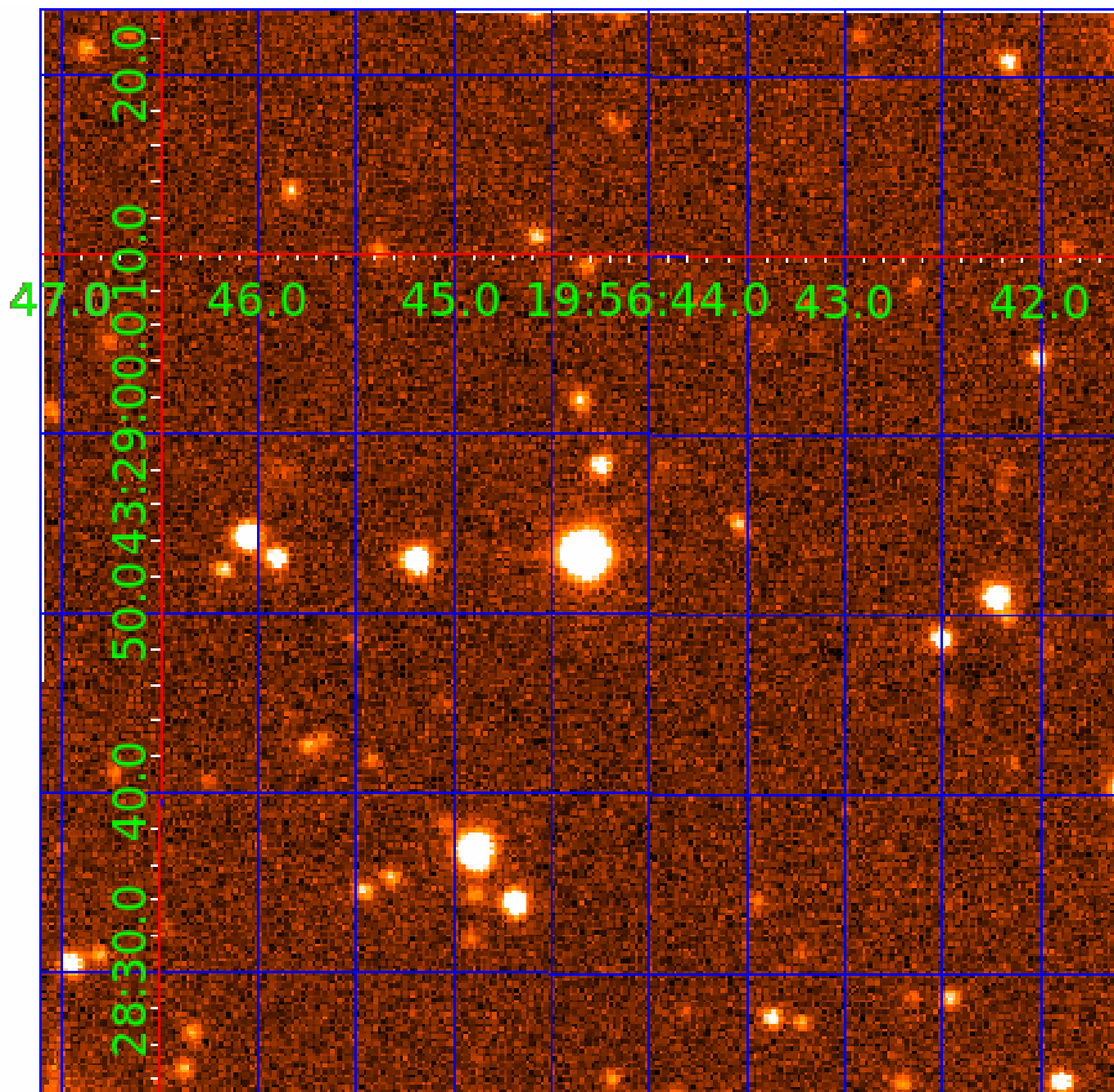


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007778826

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})
007778826-01	OBS	No	5.238990	132.015022	99.3	15.000	8.6	-1.0	1.48	7207	1.49	1194.24
007778826-02	OBS	No	0.815805	131.597180	24.2	5.942	10.2	5.6	1.48	7207	0.74	14255.15
007778826-03	OBS	No	2.117441	132.193861	302.9	1.289	16.8	13.3	1.48	7207	3.13	3996.43
007778826-04	OBS	No	21.833259	145.384084	608.0	1.347	24.2	12.3	1.48	7207	3.71	178.07
007778826-05	OBS	No	31.839598	148.201311	441.6	2.349	9.4	10.3	1.48	7207	3.20	107.68
007778826-06	OBS	No	20.407540	137.662482	816.9	1.797	18.9	18.0	1.48	7207	4.54	194.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007778826-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
007778826-02	OBS	FP	0.00	1	0	0	0	LPP_DV
007778826-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—HALO_GHOST
007778826-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
007778826-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007778826-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

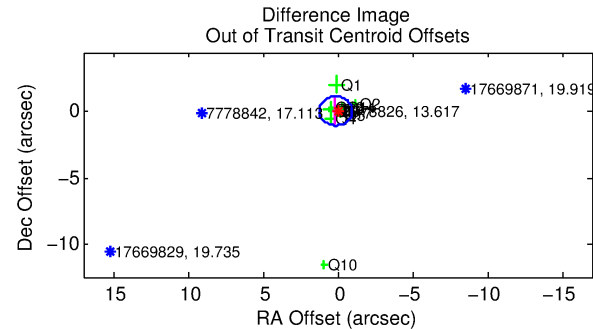
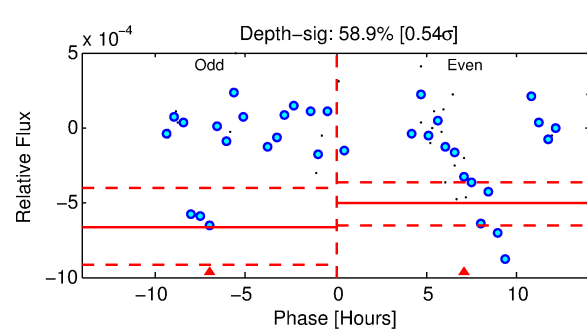
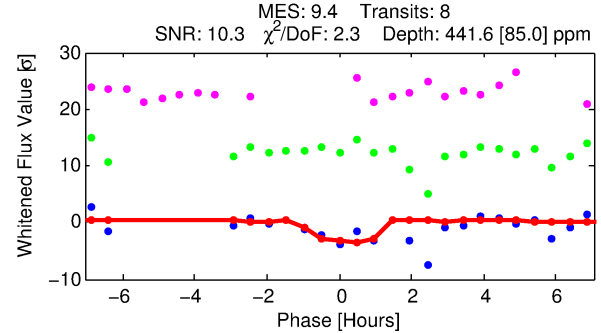
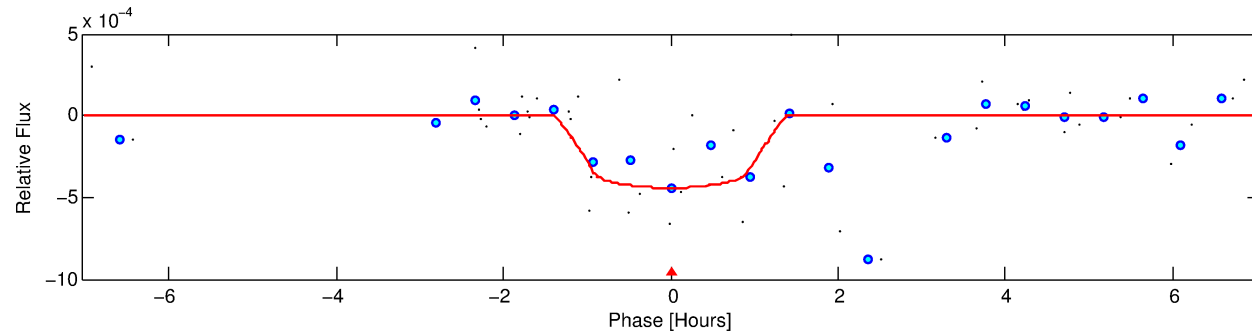
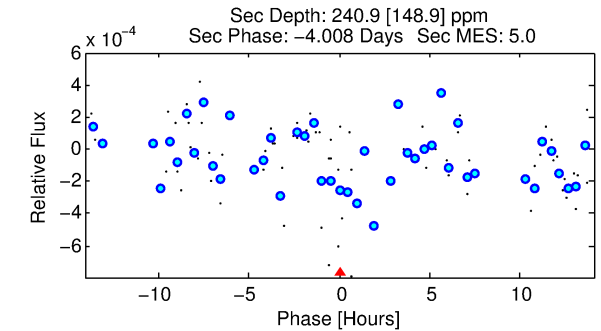
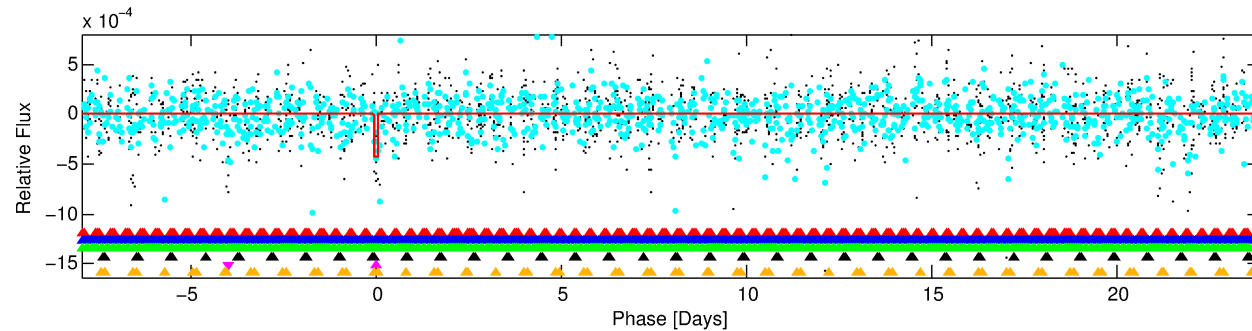
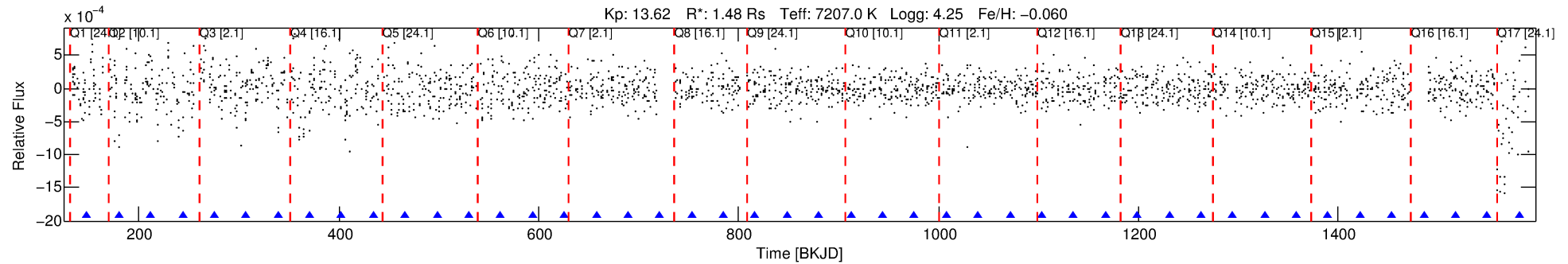
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007778826-05

No Significant Match Found

DV One-Page Summary

KIC: 7778826 Candidate: 5 of 6 Period: 31.840 d



DV Fit Results:

Period = 31.83960 [0.00043] d
Epoch = 148.2013 [0.0071] BKJD
Rp/R* = 0.0198 [0.0243]
a/R* = 97.13 [706.80]
b = 0.40 [15.35]
Seff = 107.68 [45.33]
Teq = 821 [86] K
Rp = 3.20 [4.06] Re
a = 0.2217 [0.0603] AU
Ag = 636.55 [1627.50] [0.39 σ]
Teffp = 6379 [4041] K [1.38 σ]

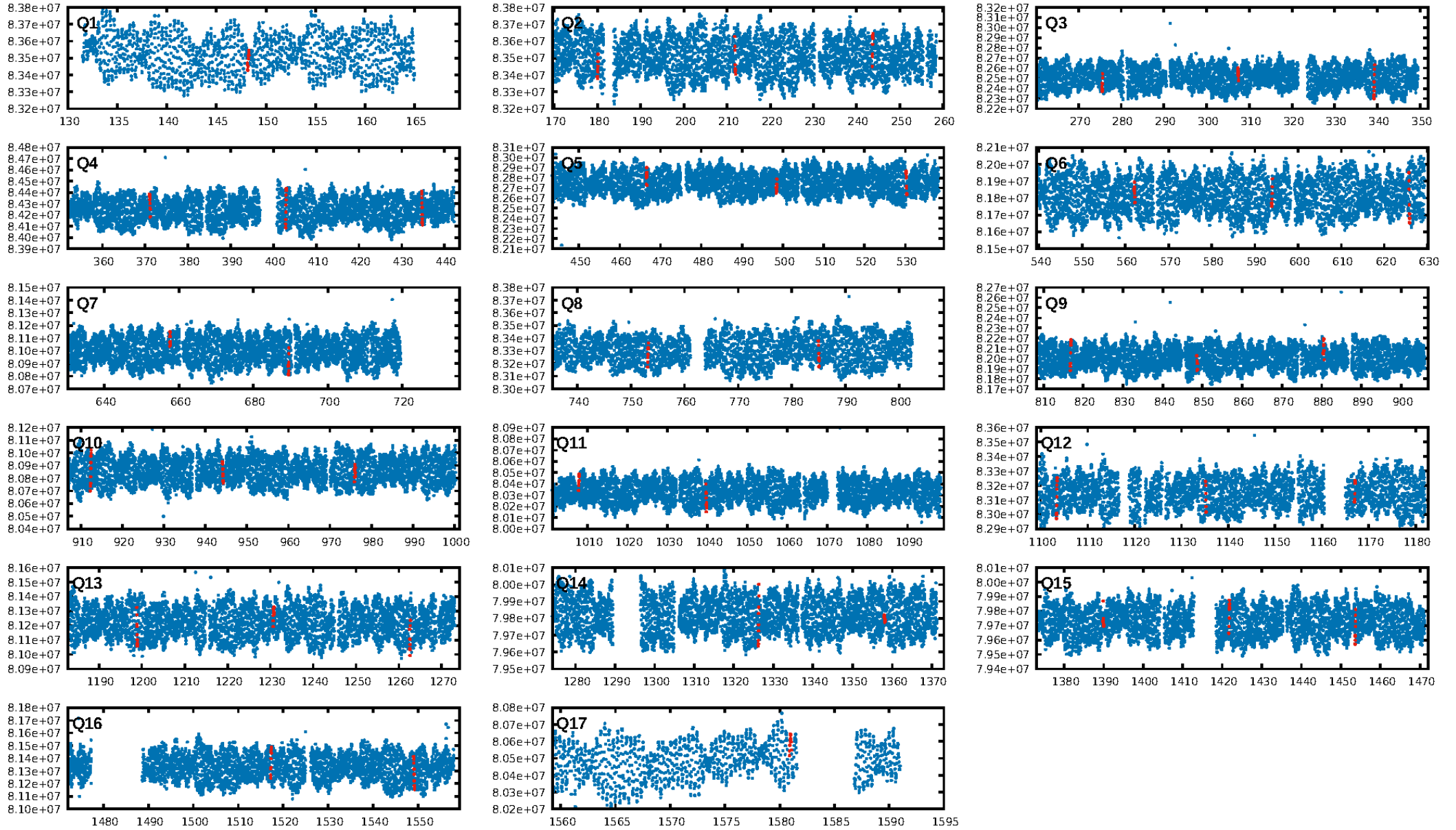
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [88.67 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 97.2%
Bootstrap-pfa: 9.38e-12
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: 0.6132
Centroid-sig: 1.6%
Centroid-so: 1.101 arcsec [2.00 σ]
OotOffset-rm: 0.165 arcsec [0.45 σ]
KicOffset-rm: 0.148 arcsec [0.42 σ]
OotOffset-st: 4/2/1/5 [12]
KicOffset-st: 4/2/1/5 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 0.06 [1/17]

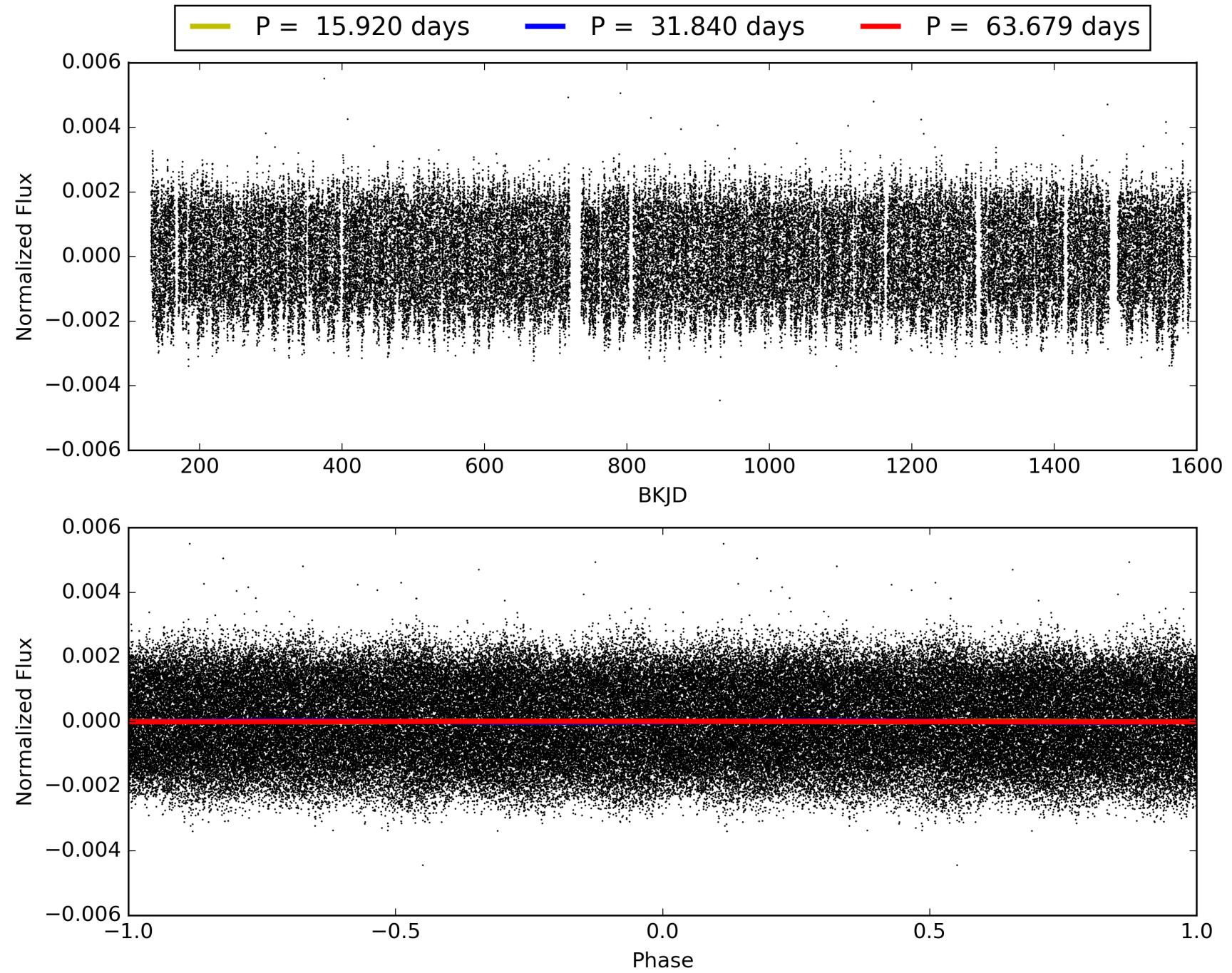
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:02:59 Z

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

TCE 007778826-05, PDC Light Curves

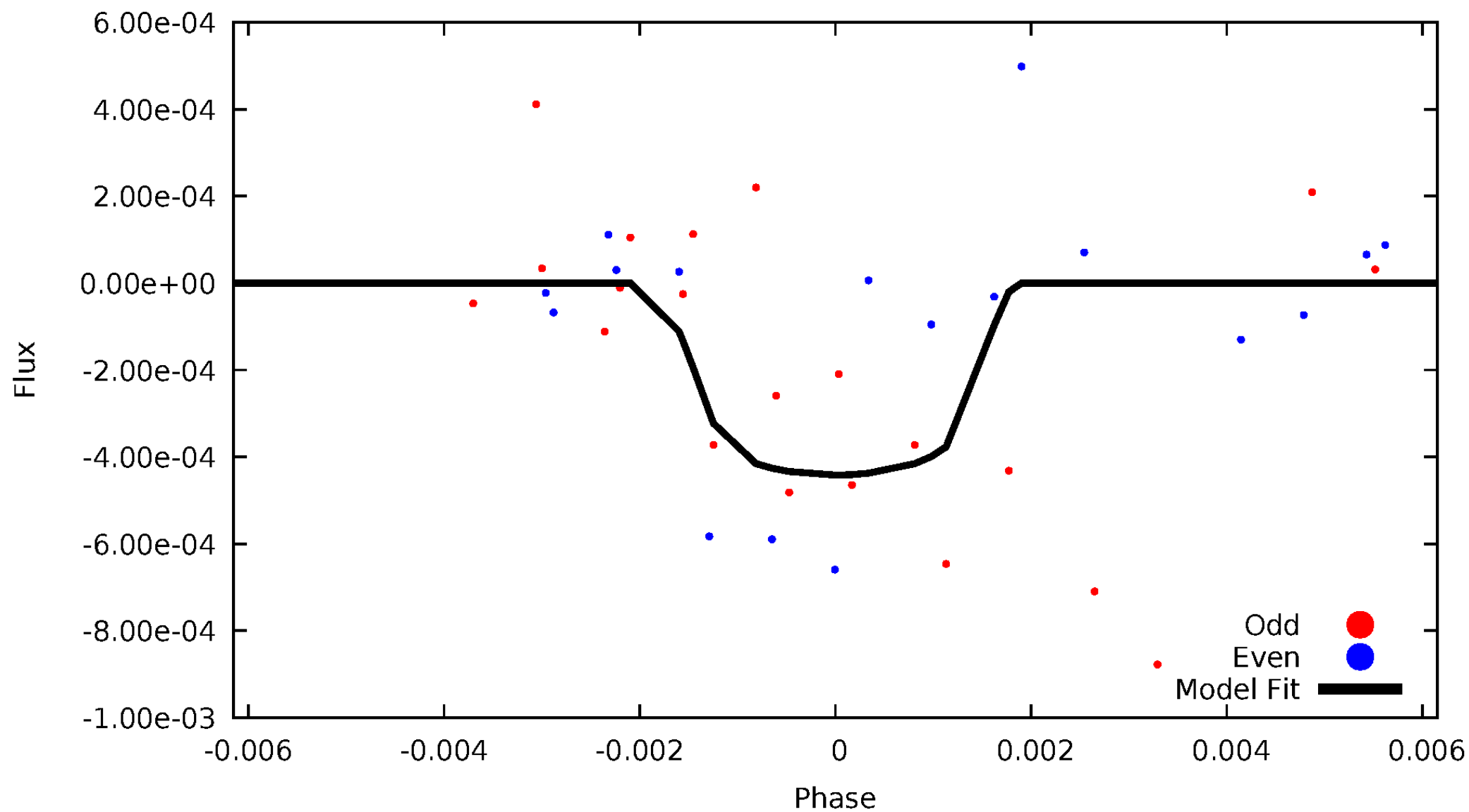


TCE 007778826-05



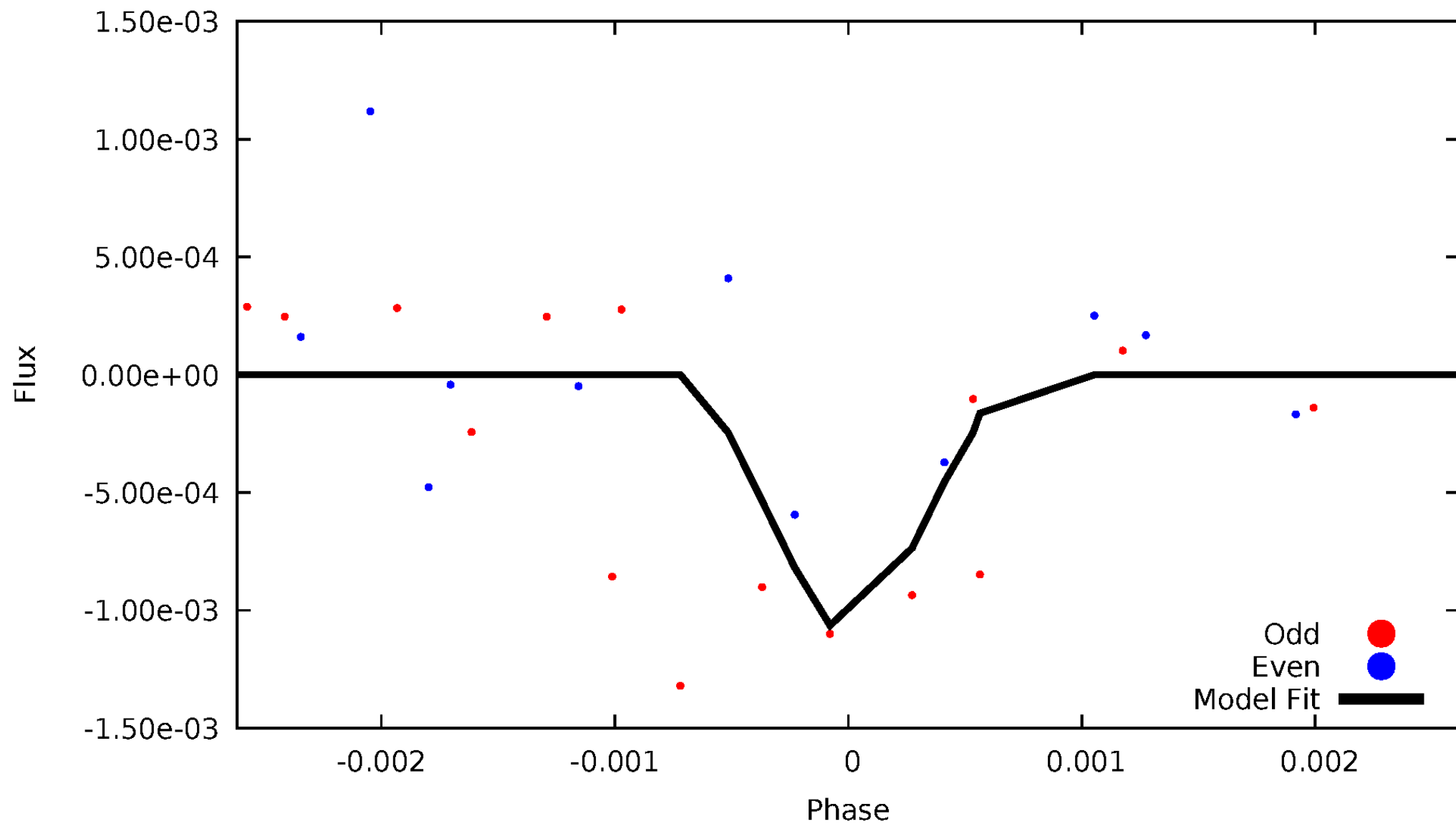
DV Odd/Even

TCE 007778826-05



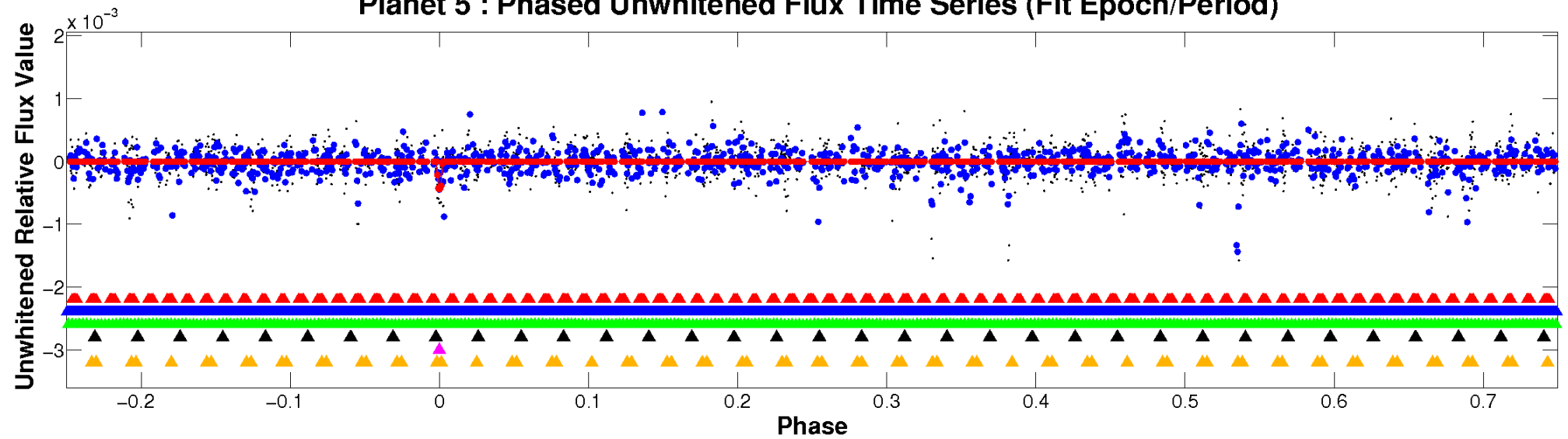
ALT Odd/Even

TCE 007778826-05

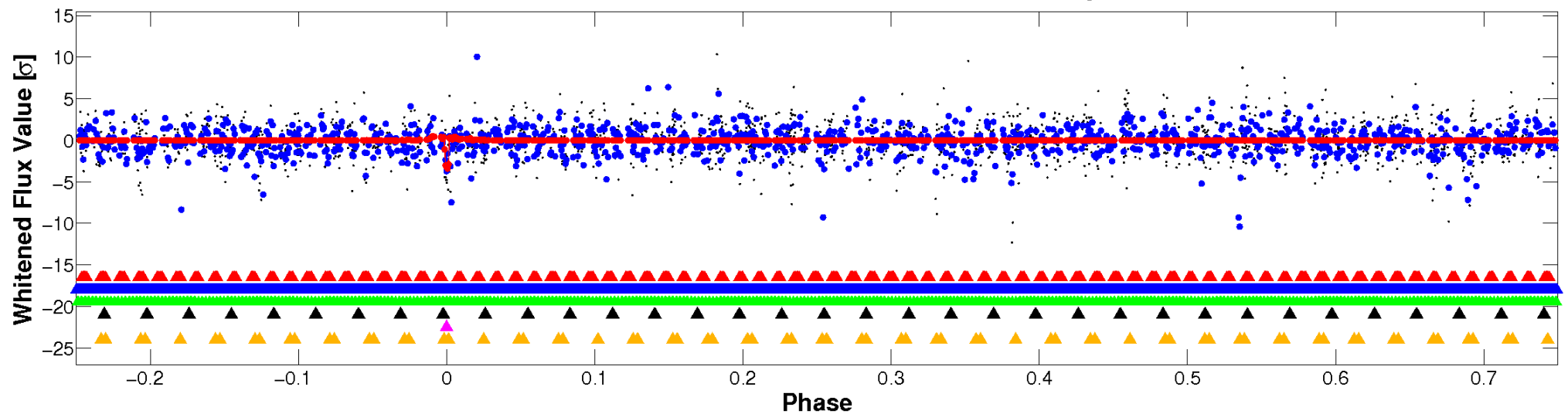


Non-Whitened Vs. Whitened Light Curve

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

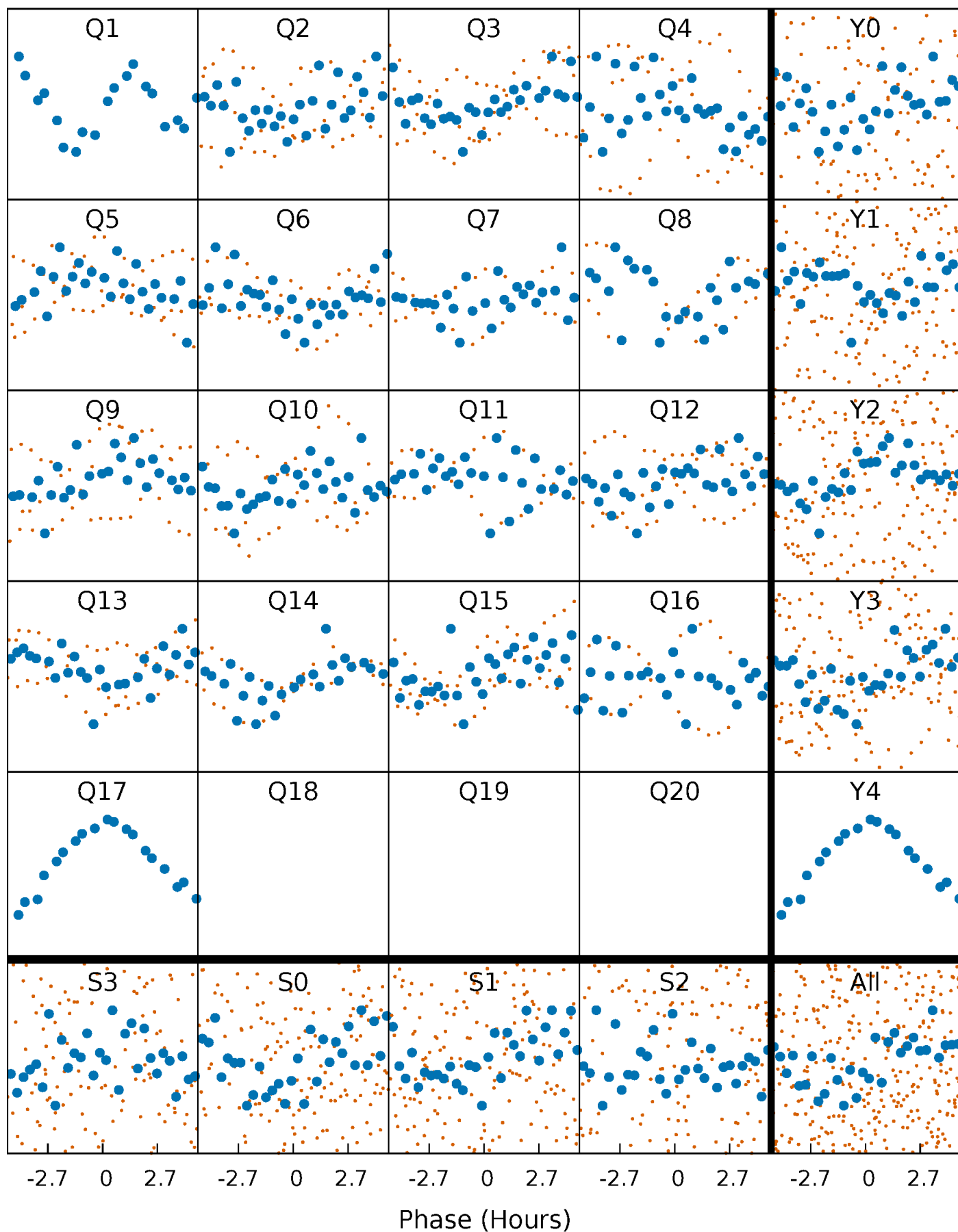


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



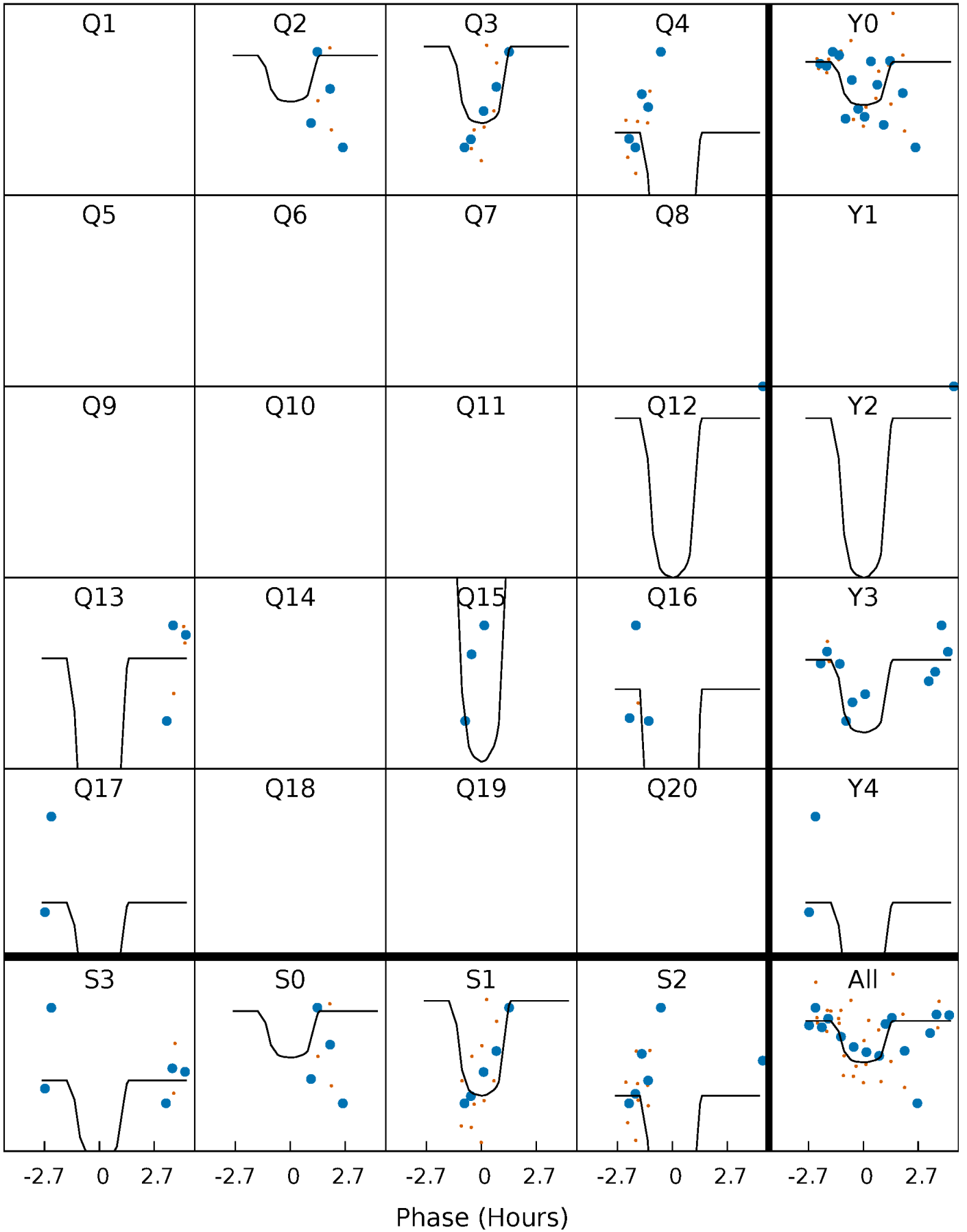
PDC Quarter-Phased Transit Curves

TCE 007778826-05 P= 31.839598 Days $T_0=148.201311$ (BKJD)



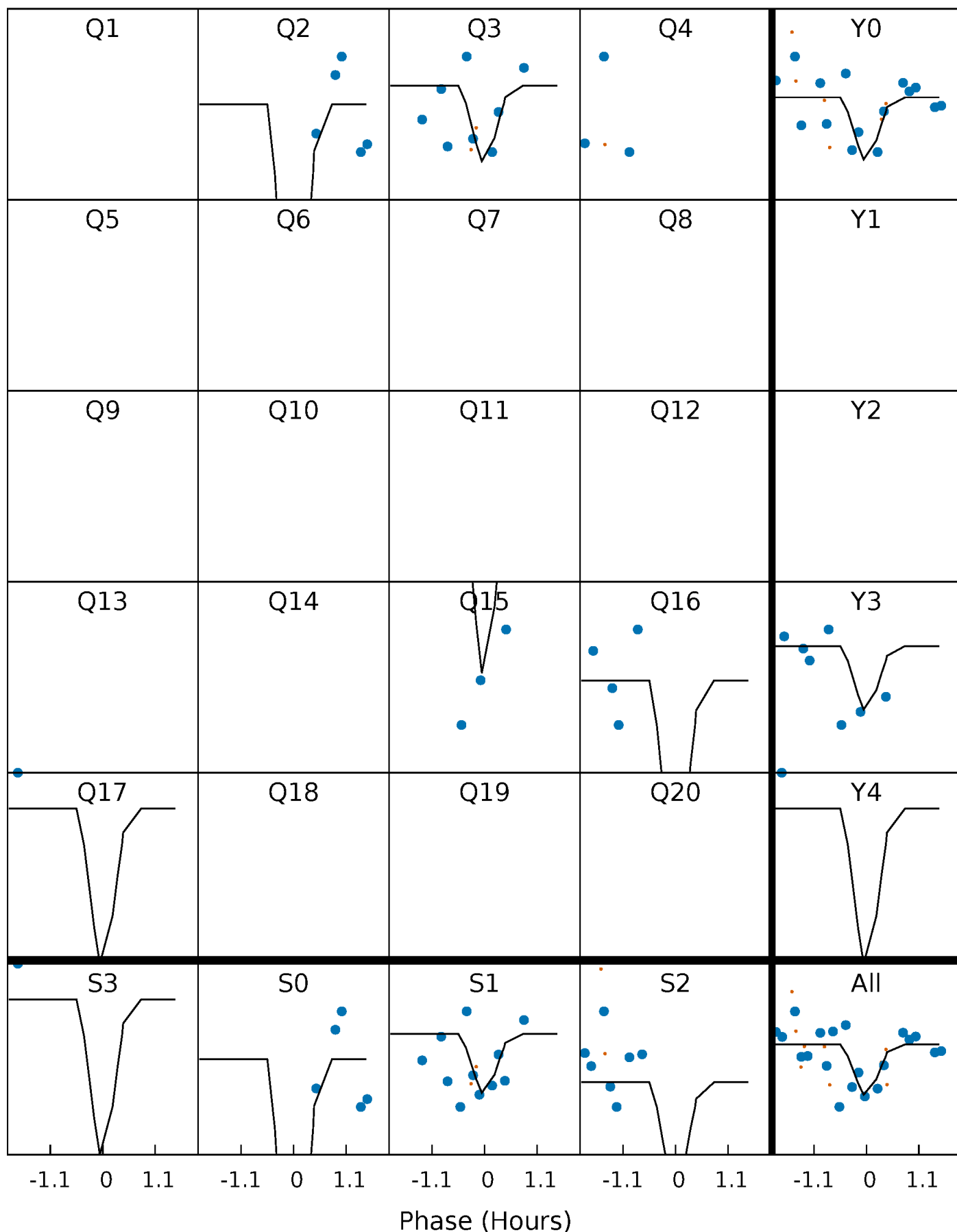
DV Quarter-Phased Transit Curves

TCE 007778826-05 P= 31.839598 Days $T_0=148.201311$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

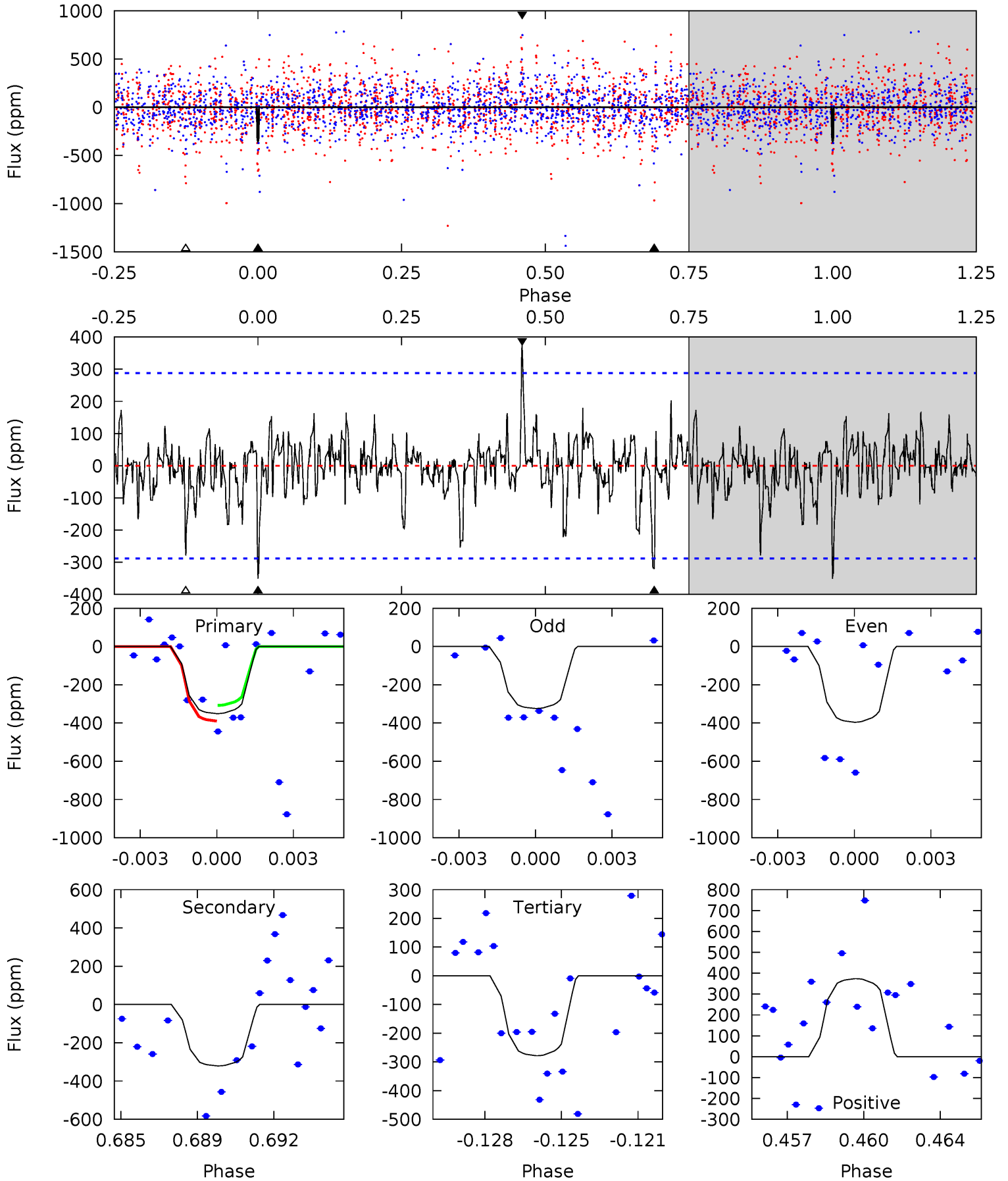
TCE 007778826-05 P= 31.838655 Days $T_0=148.223178$ (BKJD)



DV Model-Shift Uniqueness Test

007778826-05, P = 31.839598 Days, E = 116.361713 Days

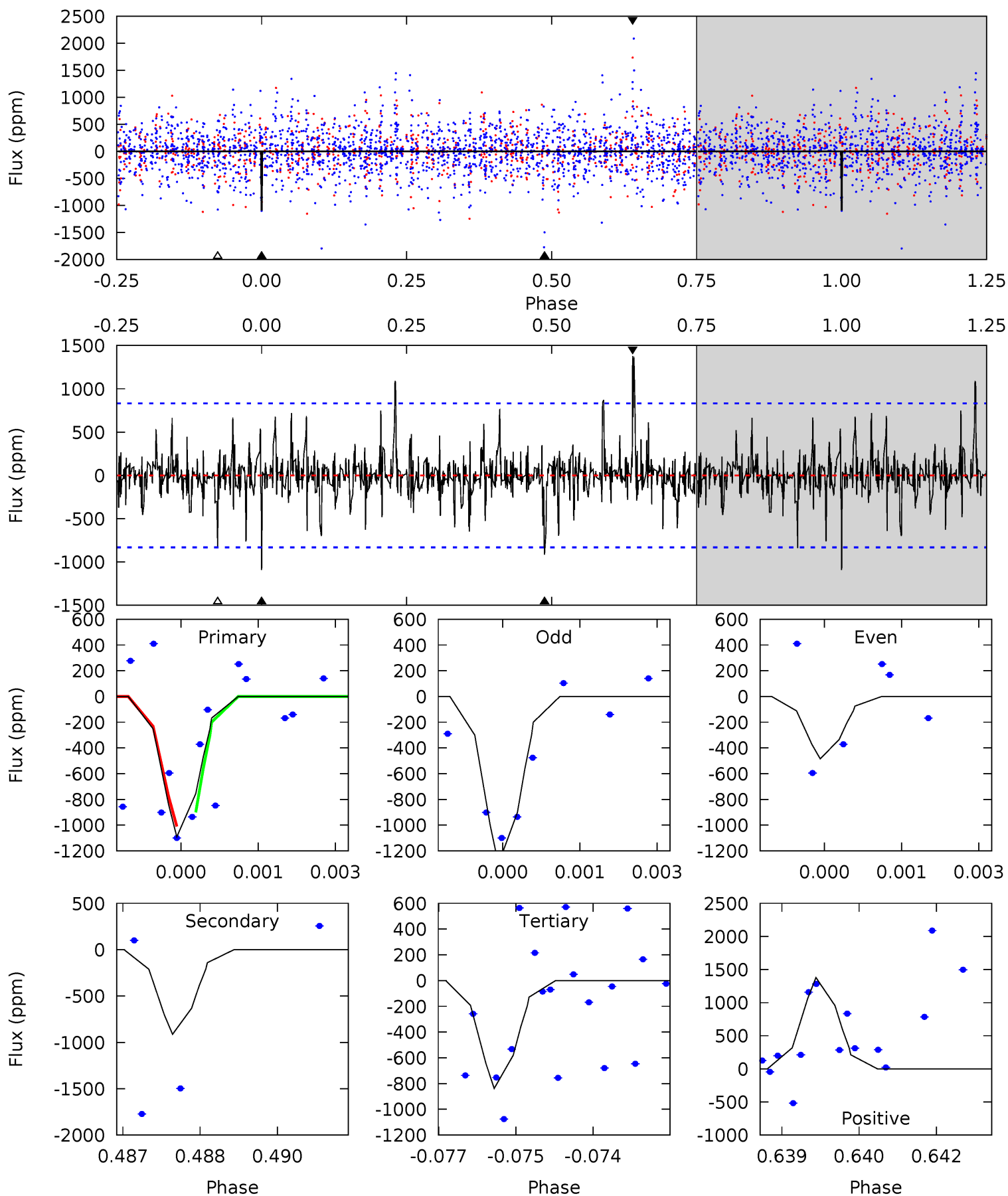
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.37	5.83	5.06	6.79	5.23	2.92	1.34	1.31	-0.42	0.77	-0.96	0.63	0.90	0.52	0.76



Alt Model-Shift Uniqueness Test

007778826-05, P = 31.838655 Days, E = 116.384523 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.07	5.92	5.43	8.94	5.39	3.19	1.46	1.64	-1.87	0.49	-3.02	2.43	0.97	0.56	0.34



Stellar Parameters For KIC 007778826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+228}_{-314}	$4.254^{+0.072}_{-0.203}$	$-0.060^{+0.250}_{-0.350}$	$1.480^{+0.495}_{-0.212}$	$1.434^{+0.211}_{-0.211}$	$0.623^{+0.242}_{-0.332}$
	+3%/-4%	+2%/-5%	+417%/-583%	+33%/-14%	+15%/-15%	+39%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007778826-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-321 ± 55	$4.67^{+3.47}_{-3.10}$	1162^{+91}_{-61}	5788^{+5122}_{-1335}	406^{+3202}_{-283}
Alt.	-913 ± 154	$6.11^{+4.15}_{-3.23}$	1165^{+91}_{-62}	6448^{+4264}_{-1377}	634^{+2388}_{-403}

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 $A_{obs} \gg 1.0$

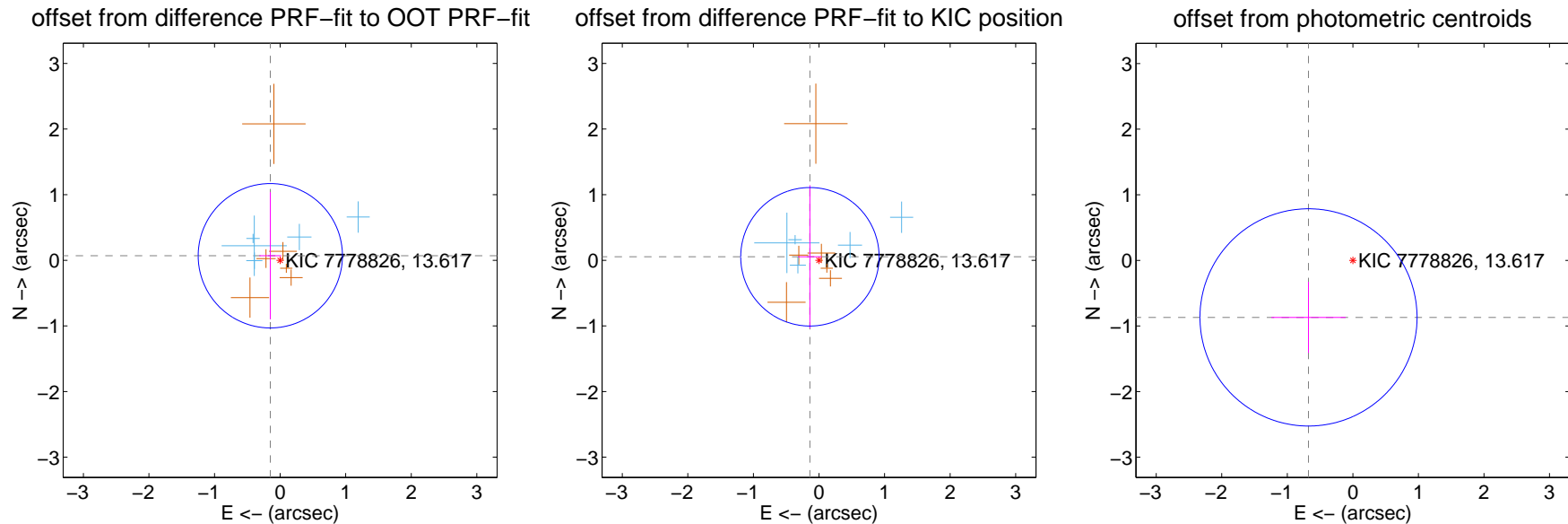
DV Centroid Data

Supplemental centroid analysis for 007778826-05. Kepler magnitude: 13.62. Transit SNR 10.32

There are 5 quarters with good PRF difference image offsets

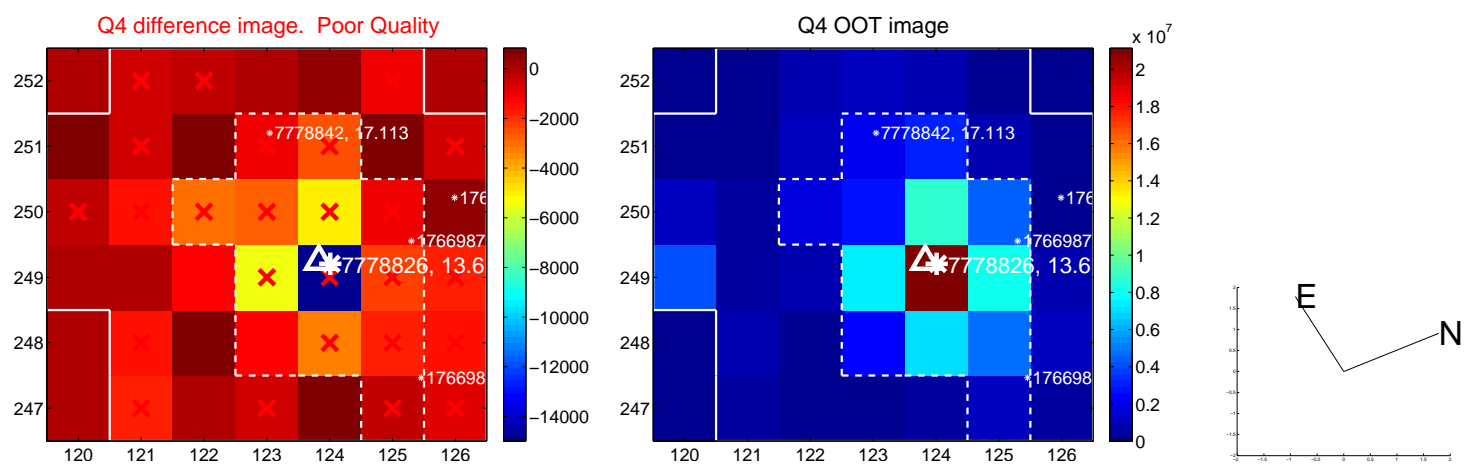
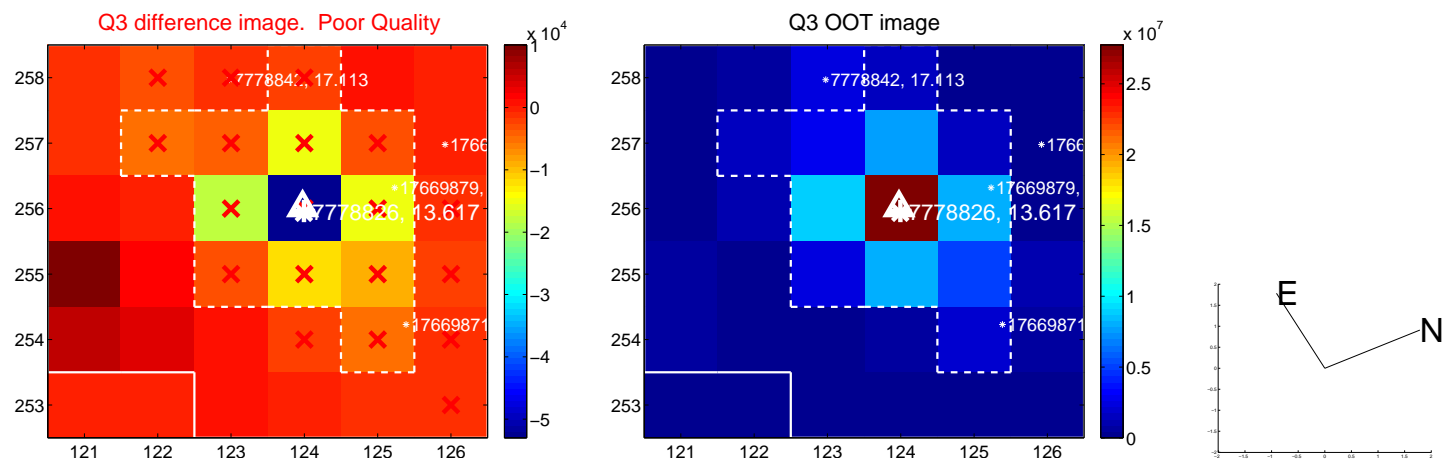
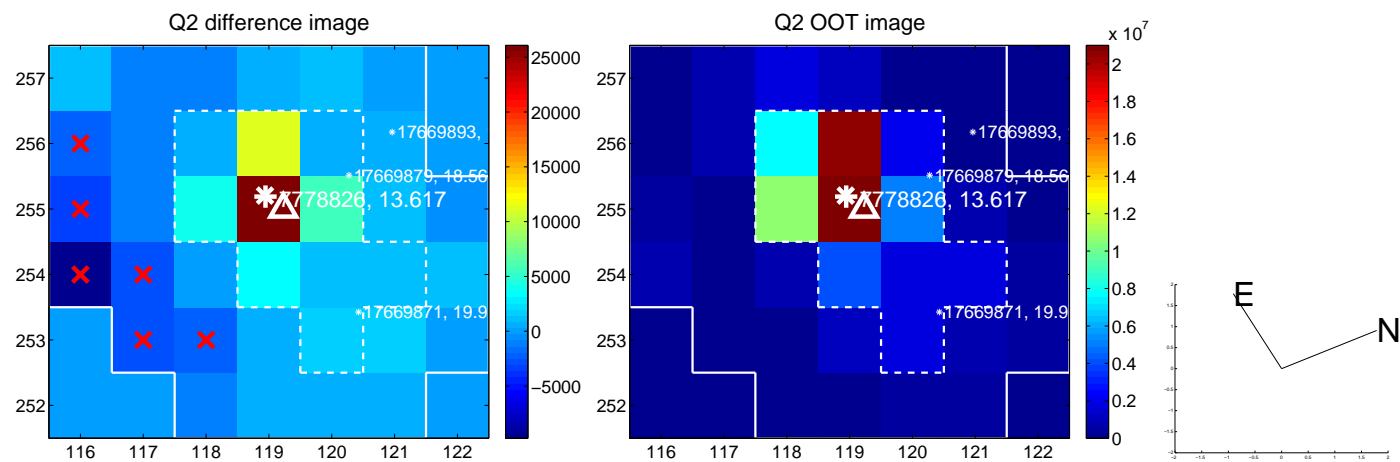
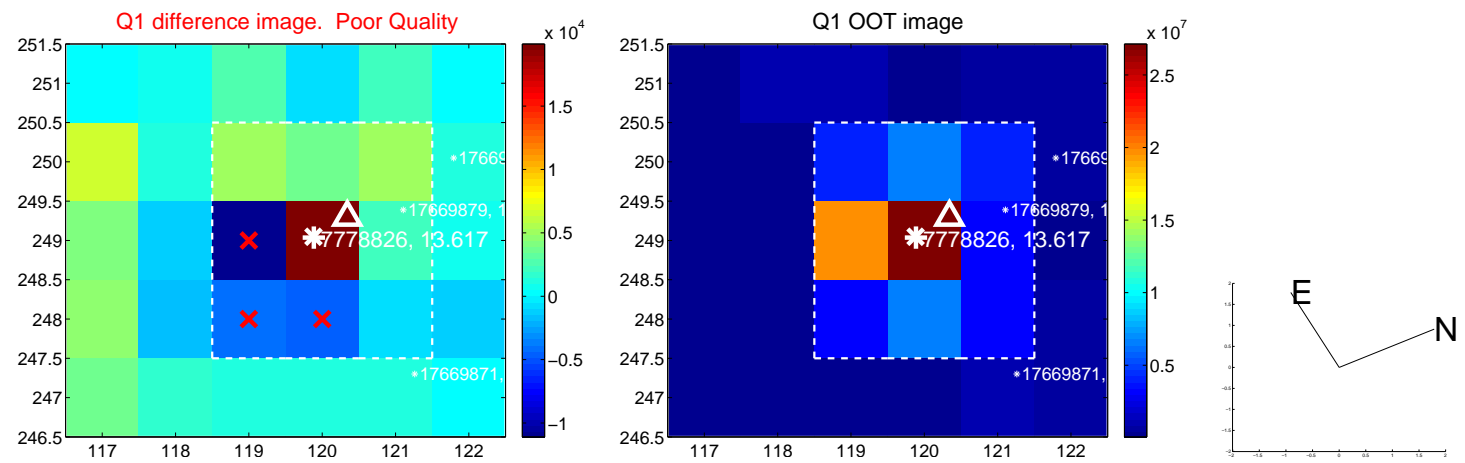
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.165 ± 0.367	0.45	0.149 ± 0.167	0.069 ± 0.968
PRF-fit source offset from KIC position	0.148 ± 0.352	0.42	0.138 ± 0.180	0.053 ± 1.091
photometric centroid source offset	1.10 ± 0.55	2.00	0.68 ± 0.57	-0.87 ± 0.54

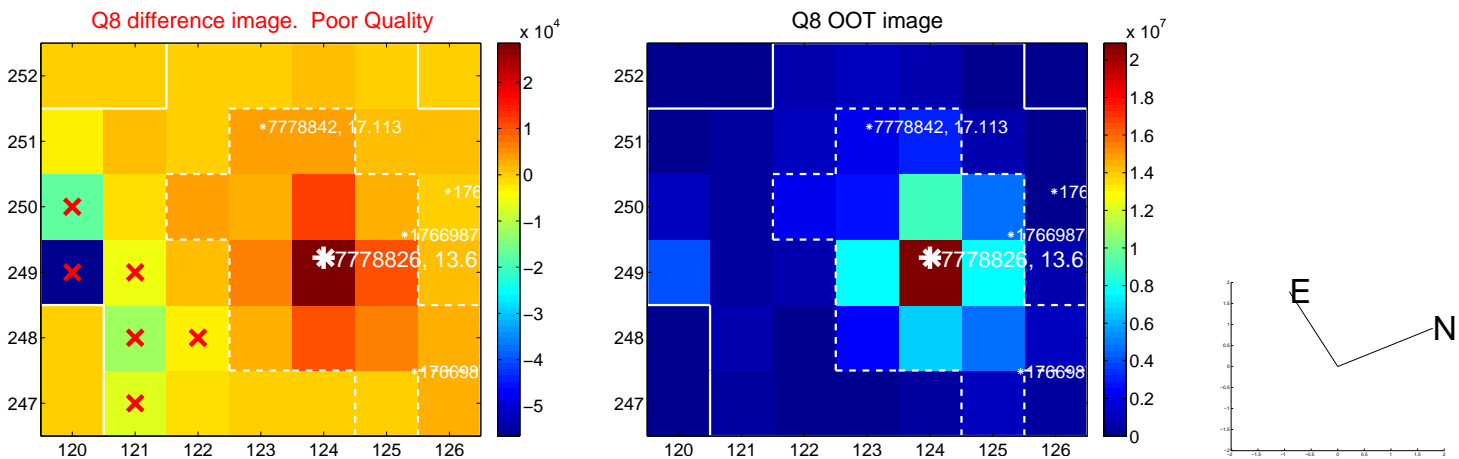
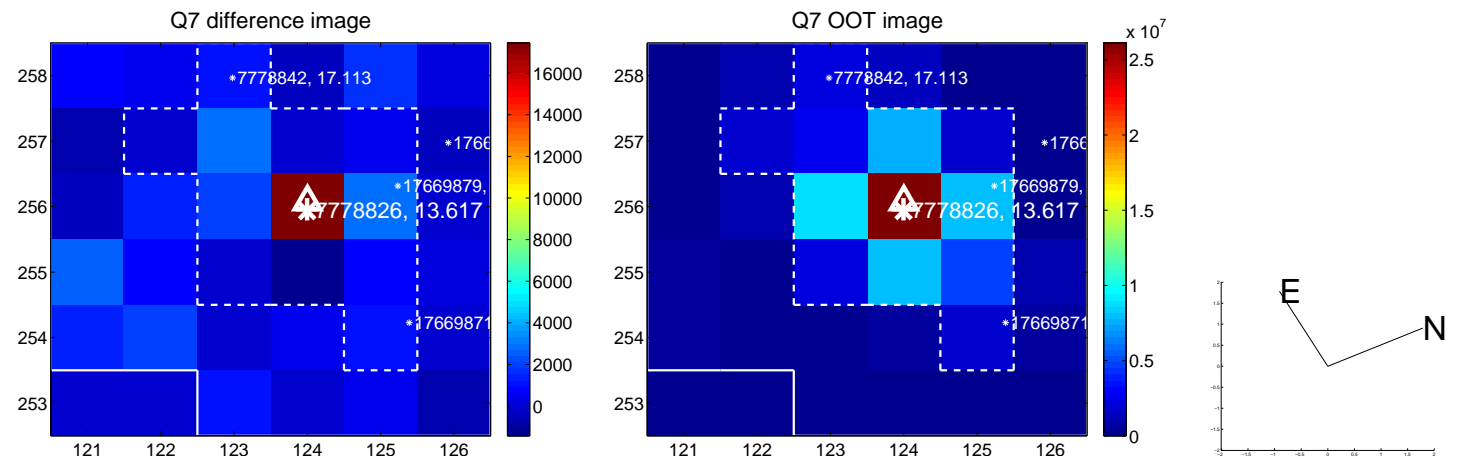
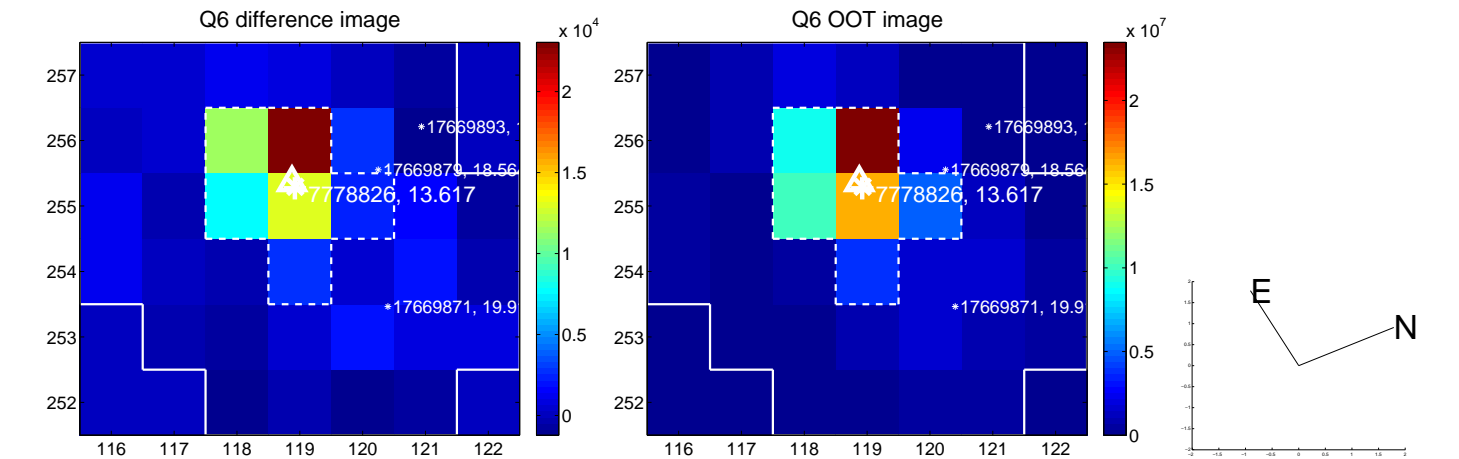
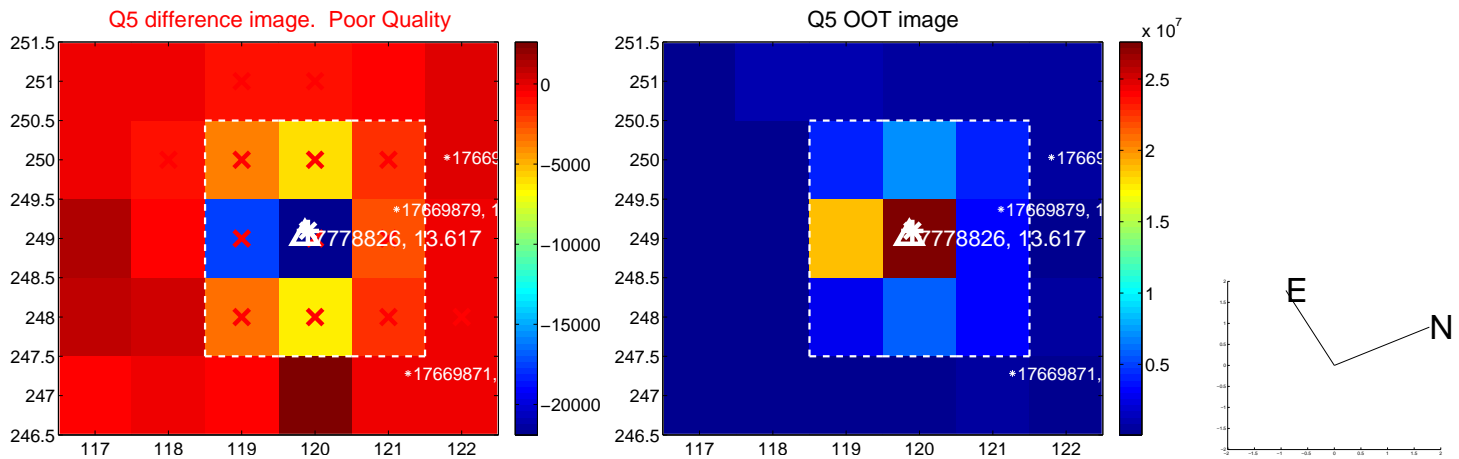


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

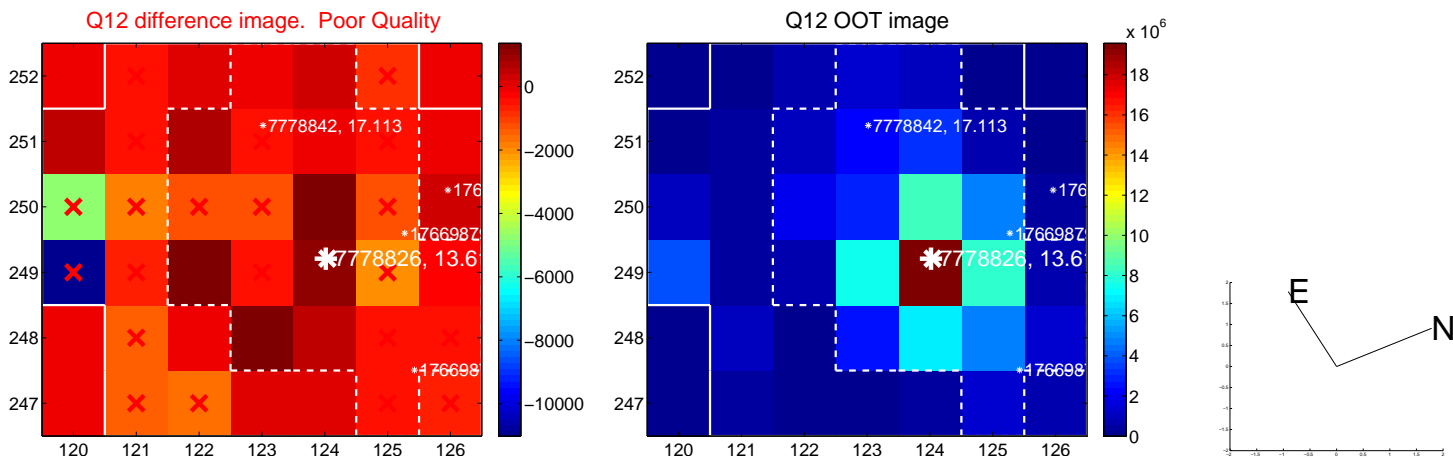
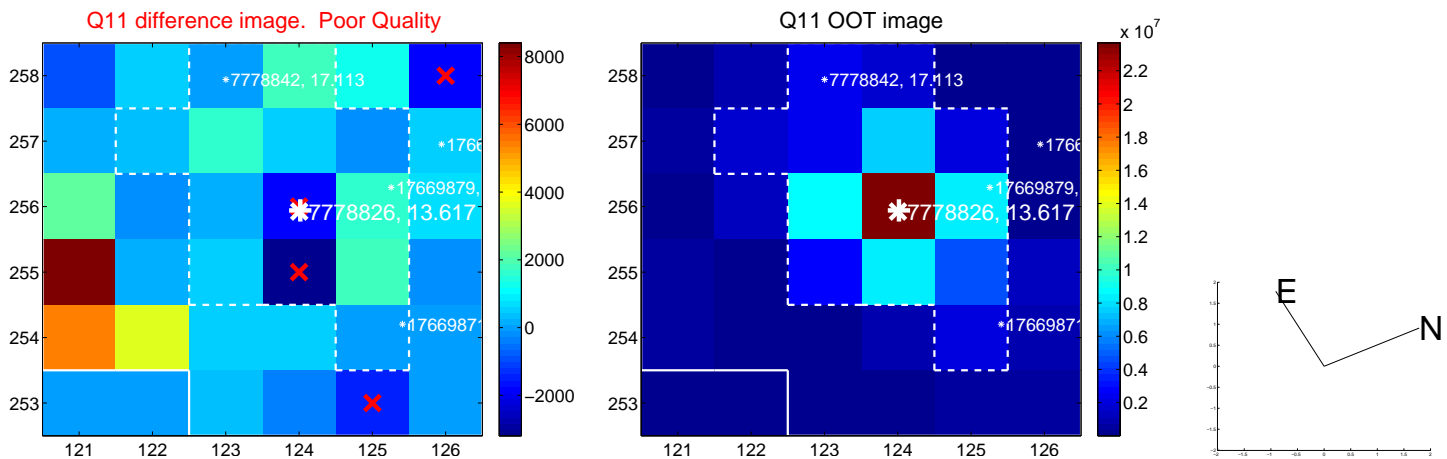
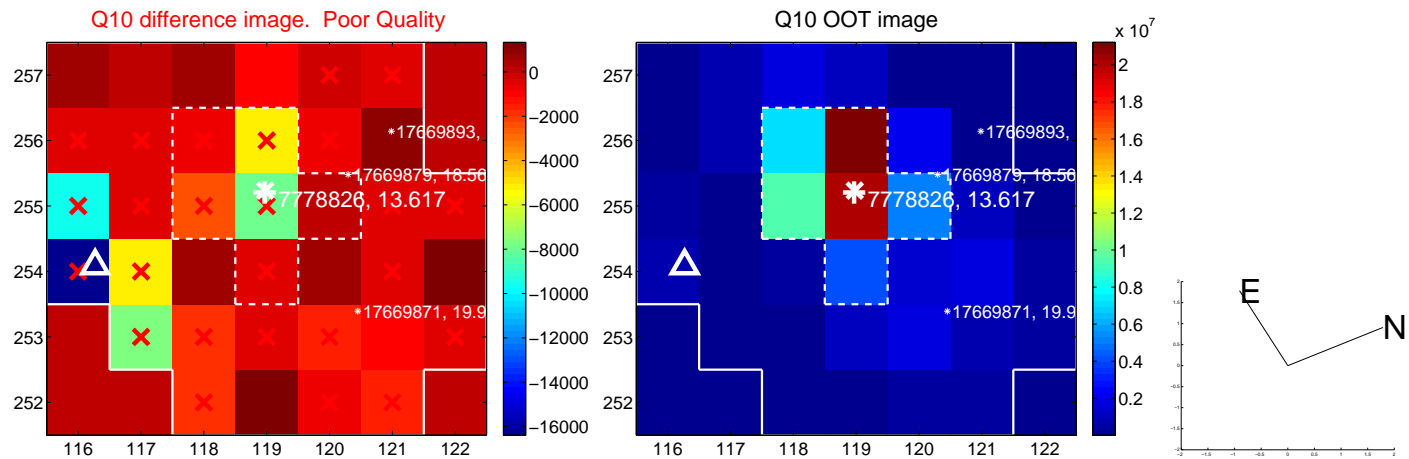
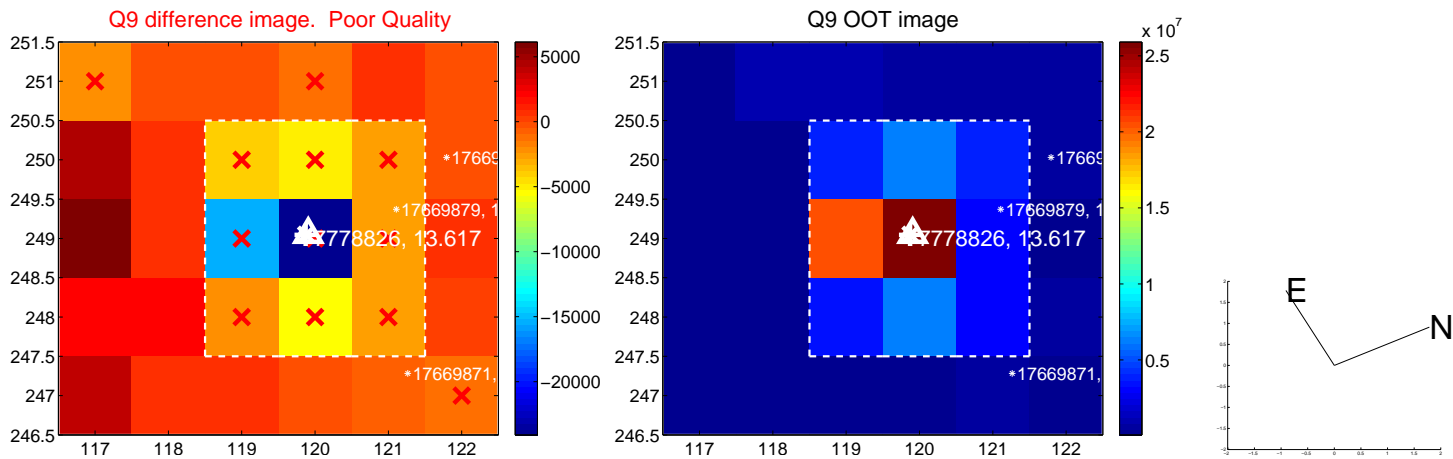
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



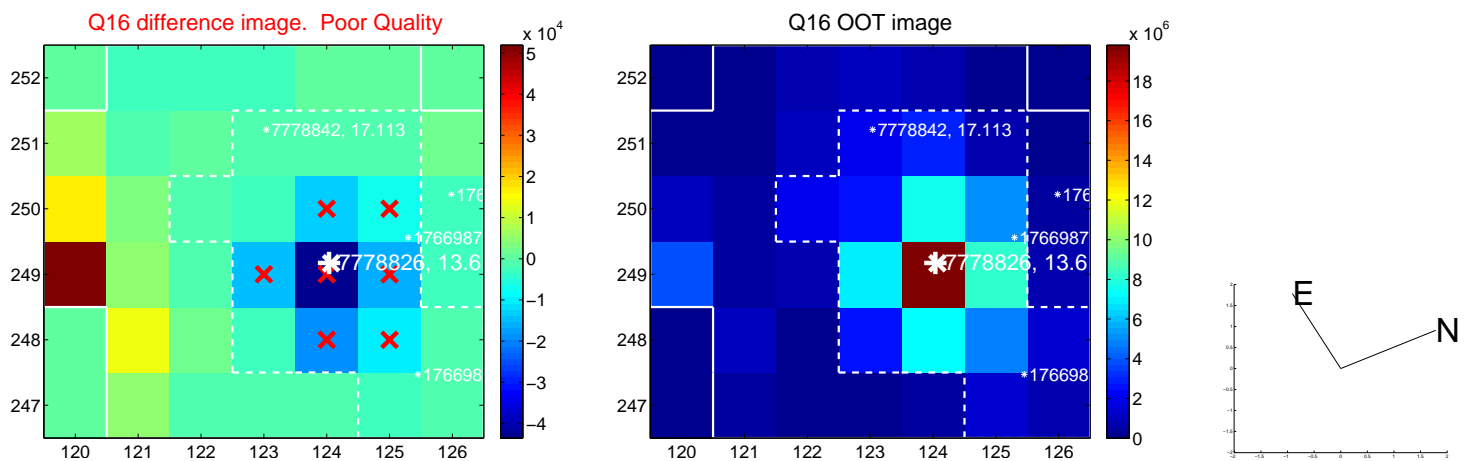
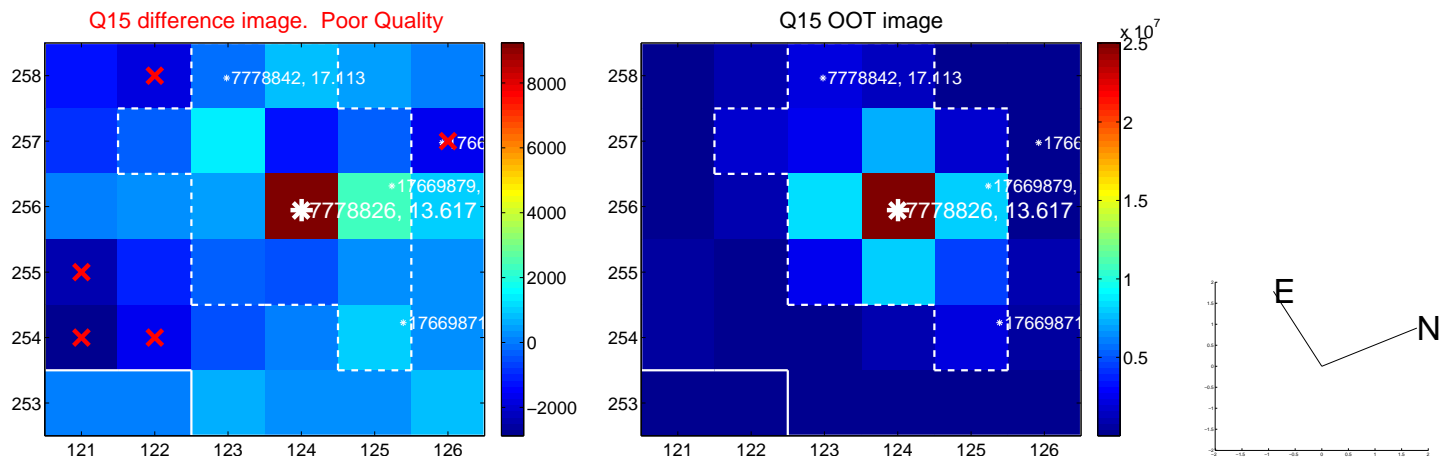
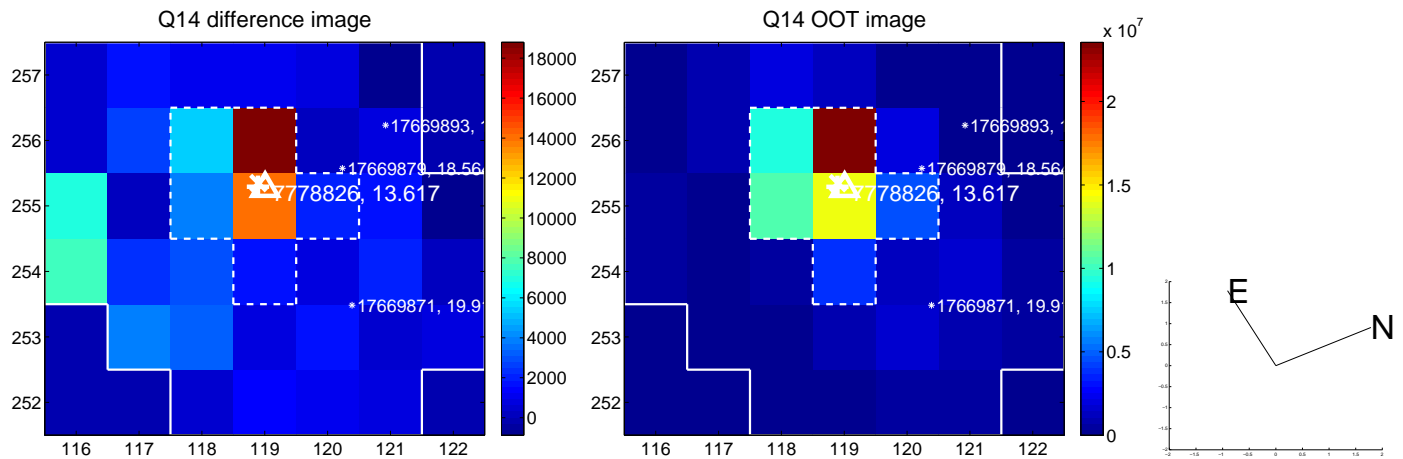
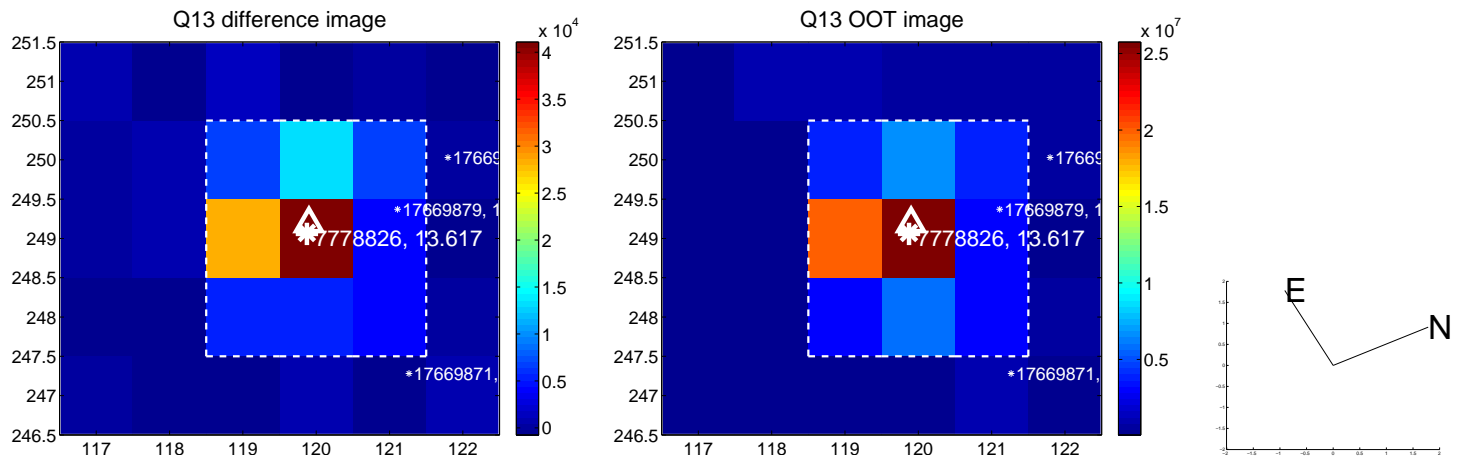
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



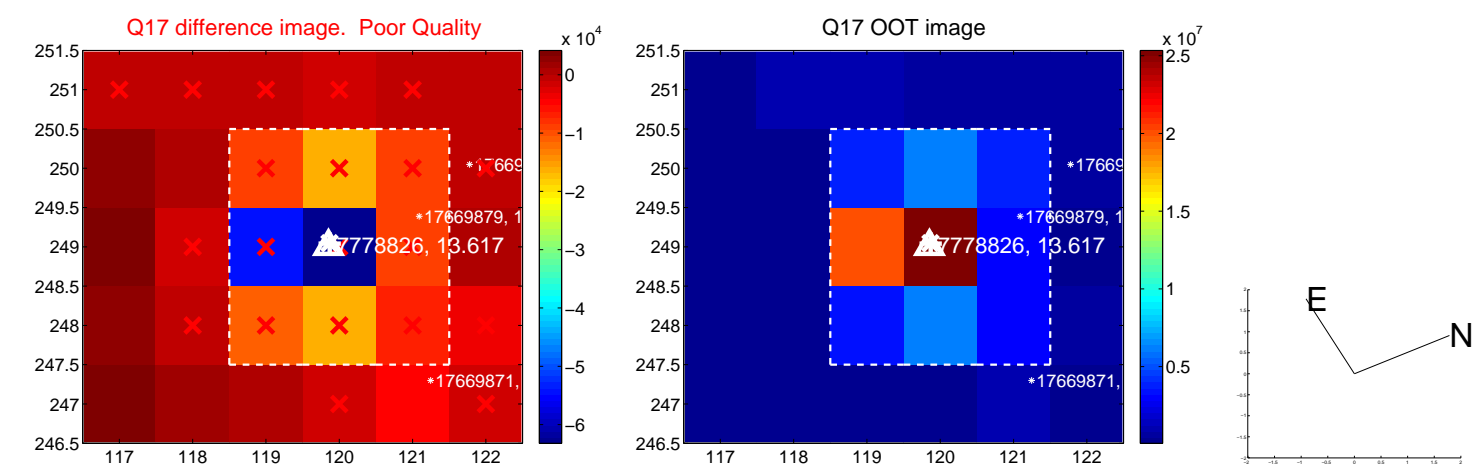
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



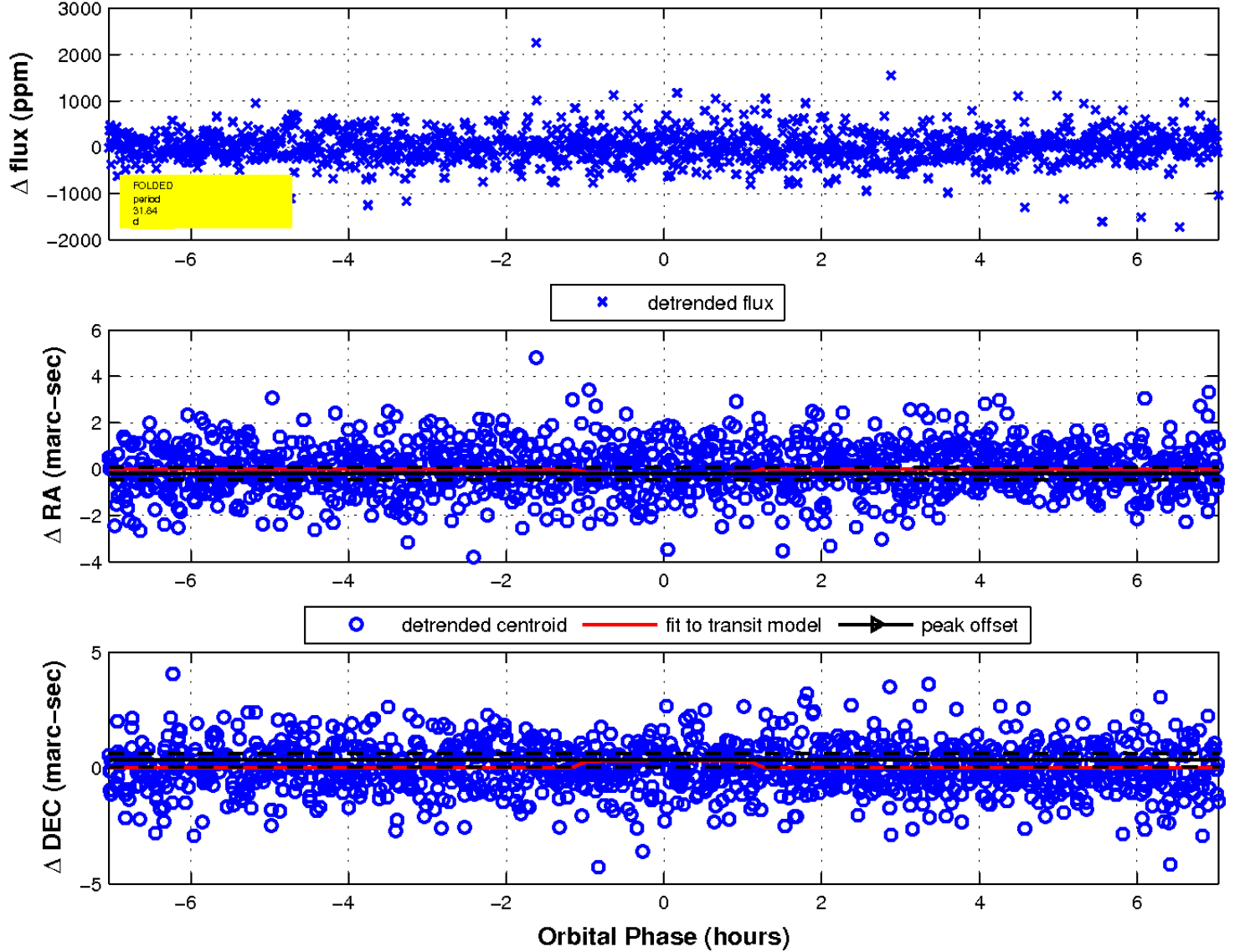
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

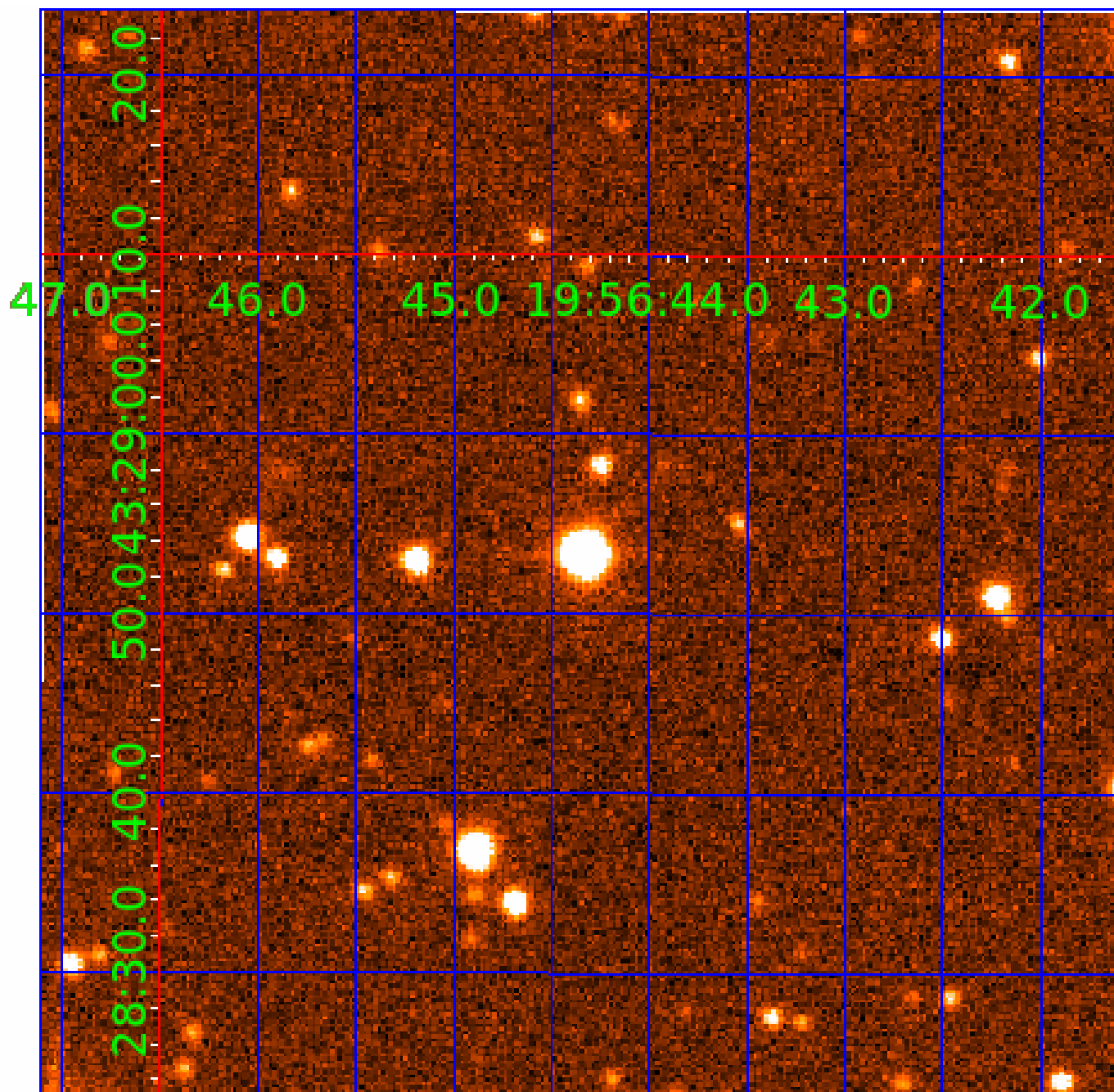


fluxWeightedCentroids, Planet 5 of 6



UKIRT Image

Declination



KIC 007778826

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})
007778826-01	OBS	No	5.238990	132.015022	99.3	15.000	8.6	-1.0	1.48	7207	1.49	1194.24
007778826-02	OBS	No	0.815805	131.597180	24.2	5.942	10.2	5.6	1.48	7207	0.74	14255.15
007778826-03	OBS	No	2.117441	132.193861	302.9	1.289	16.8	13.3	1.48	7207	3.13	3996.43
007778826-04	OBS	No	21.833259	145.384084	608.0	1.347	24.2	12.3	1.48	7207	3.71	178.07
007778826-05	OBS	No	31.839598	148.201311	441.6	2.349	9.4	10.3	1.48	7207	3.20	107.68
007778826-06	OBS	No	20.407540	137.662482	816.9	1.797	18.9	18.0	1.48	7207	4.54	194.85

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007778826-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
007778826-02	OBS	FP	0.00	1	0	0	0	LPP_DV
007778826-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—HALO_GHOST
007778826-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV
007778826-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA_TRACKER—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT
007778826-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

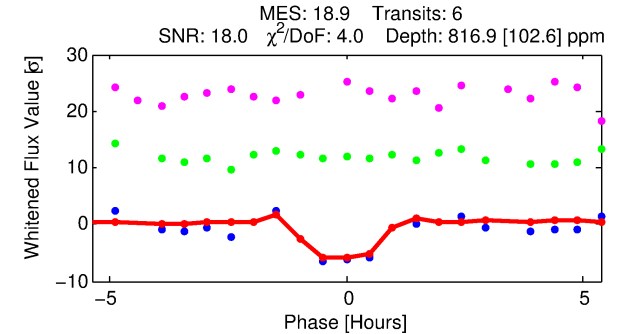
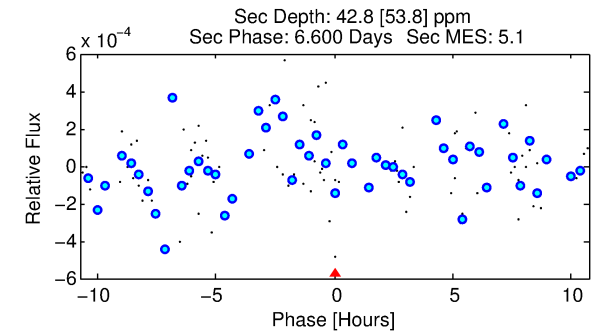
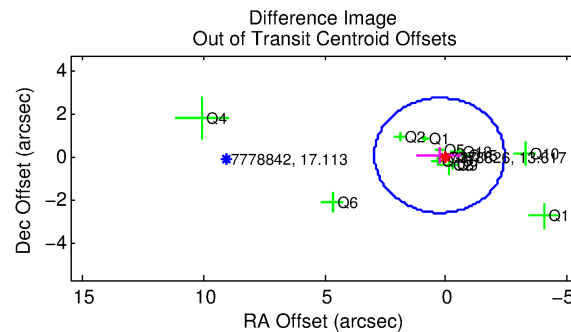
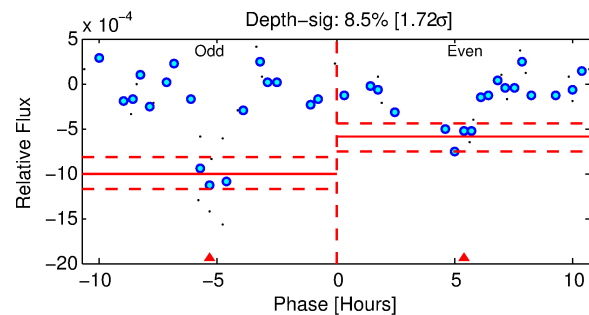
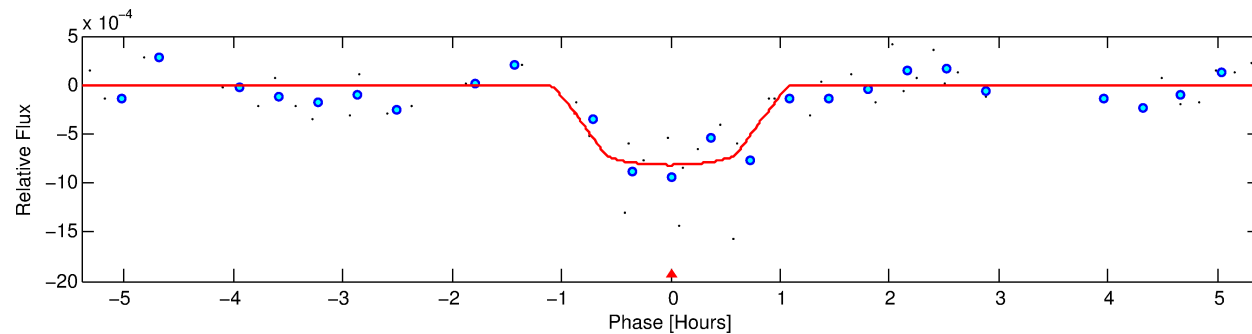
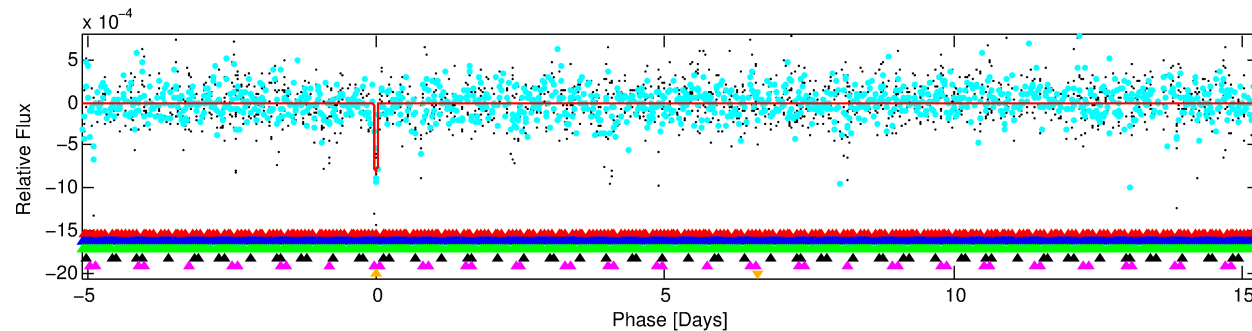
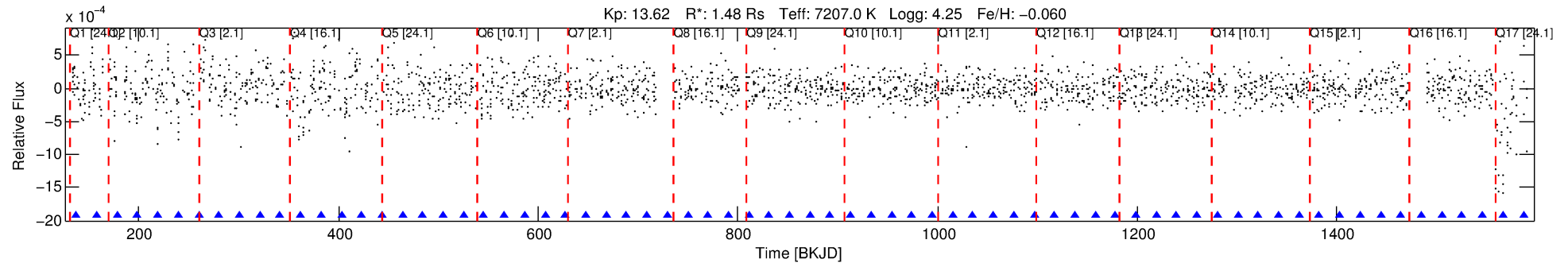
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007778826-06

No Significant Match Found

DV One-Page Summary

KIC: 7778826 Candidate: 6 of 6 Period: 20.408 d



DV Fit Results:

Period = 20.40754 [0.00030] d
Epoch = 137.6625 [0.0071] BKJD
Rp/R* = 0.0281 [0.0631]
a/R* = 65.38 [896.51]
b = 0.70 [9.98]
Seff = 194.85 [82.02]
Teq = 953 [100] K
Rp = 4.54 [10.31] Re
a = 0.1648 [0.0448] AU
Ag = 31.03 [145.12] [0.21σ]
Teffp = 3476 [4054] K [0.62σ]

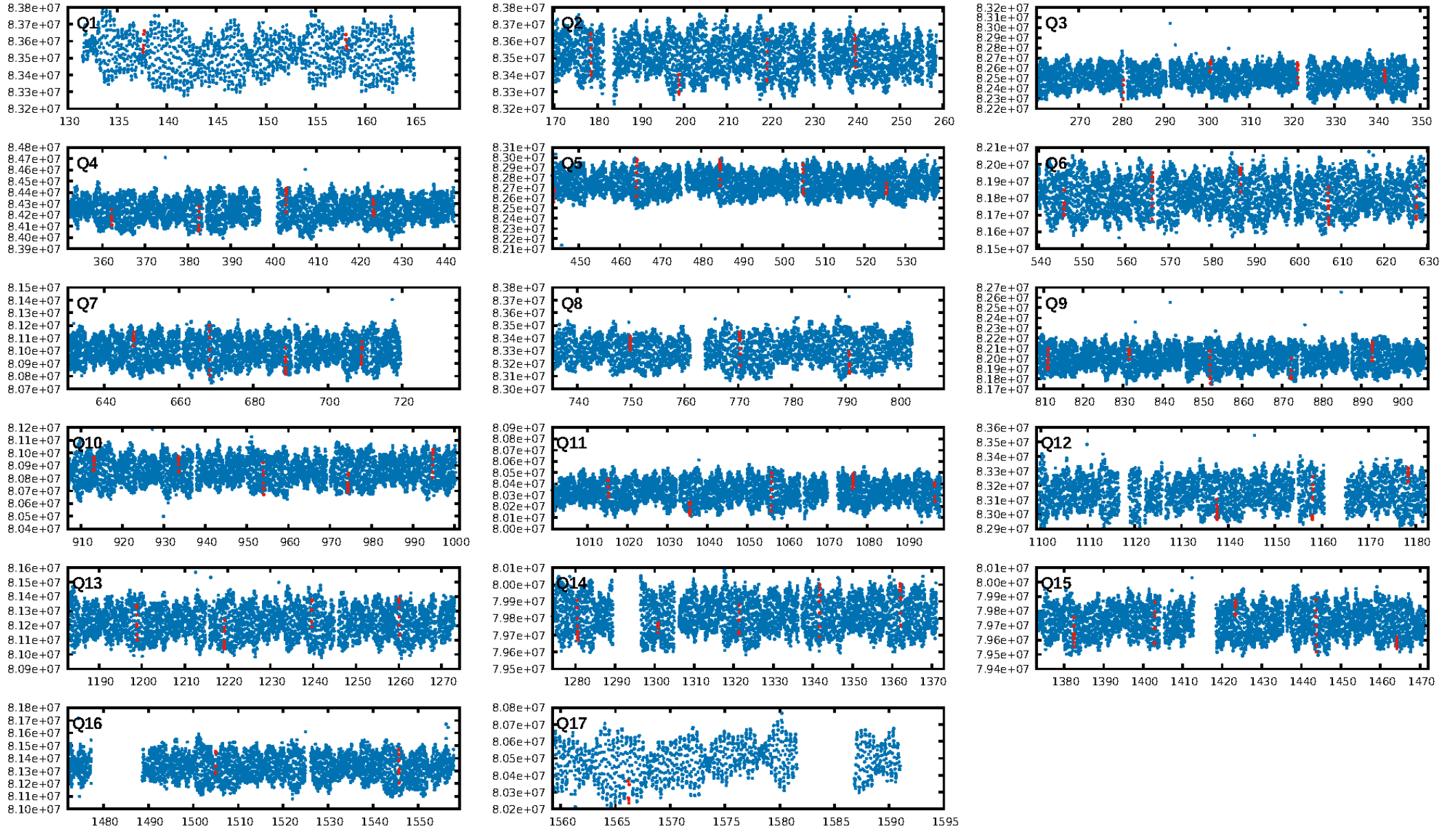
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [24.1σ]
LongPeriod-sig: 100.0% [15.24σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 6.9%
Bootstrap-pfa: 9.45e-40
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -20.57
Centroid-sig: 1.4%
Centroid-so: 0.637 arcsec [2.31σ]
OotOffset-rm: 0.264 arcsec [0.30σ]
KicOffset-rm: 0.251 arcsec [0.28σ]
OotOffset-st: 3/3/3/5 [14]
KicOffset-st: 3/3/3/5 [14]
DiffImageQuality-fgm: 0.21 [3/14]
DiffImageOverlap-fno: 0.06 [1/17]

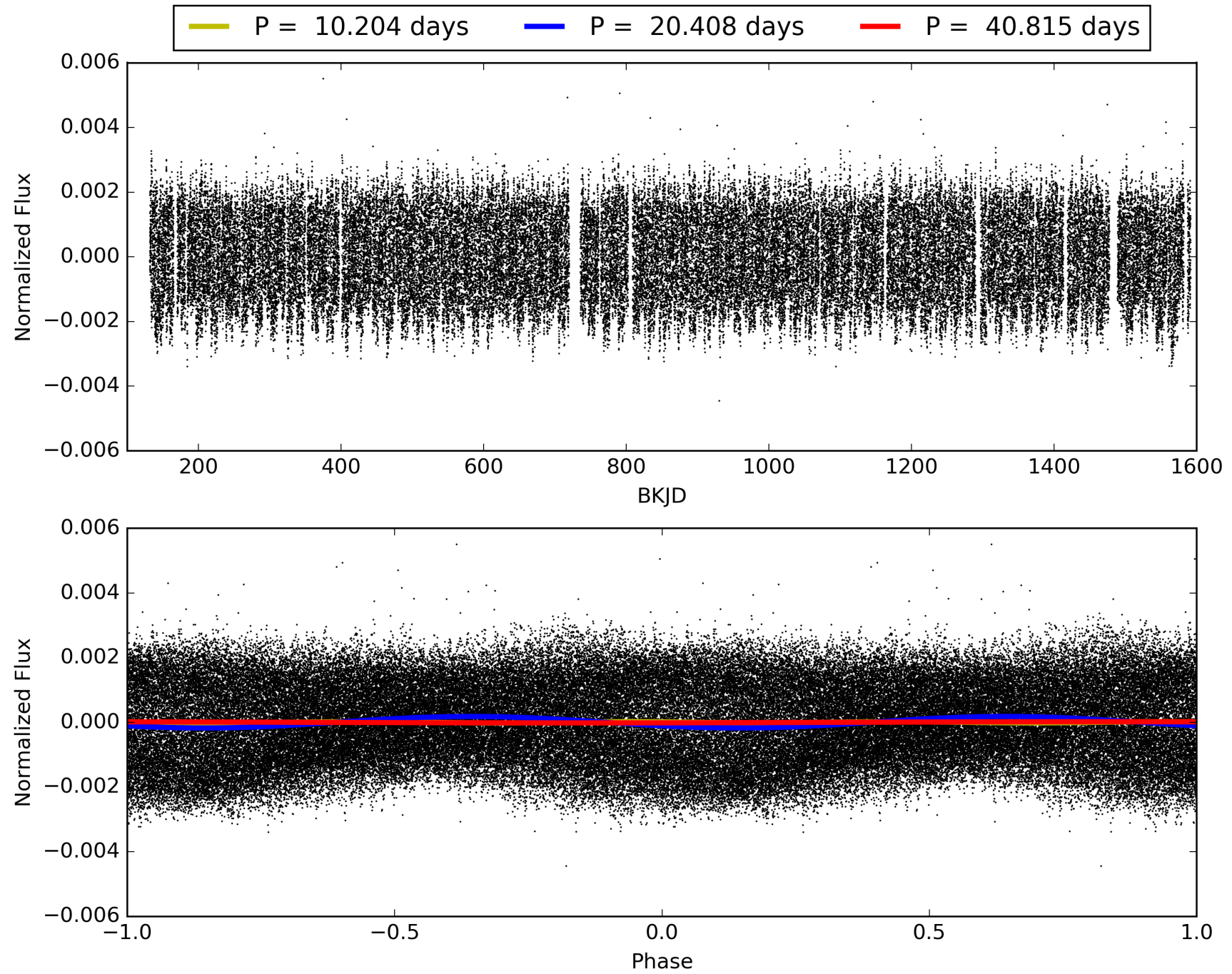
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:03:02 Z

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

TCE 007778826-06, PDC Light Curves

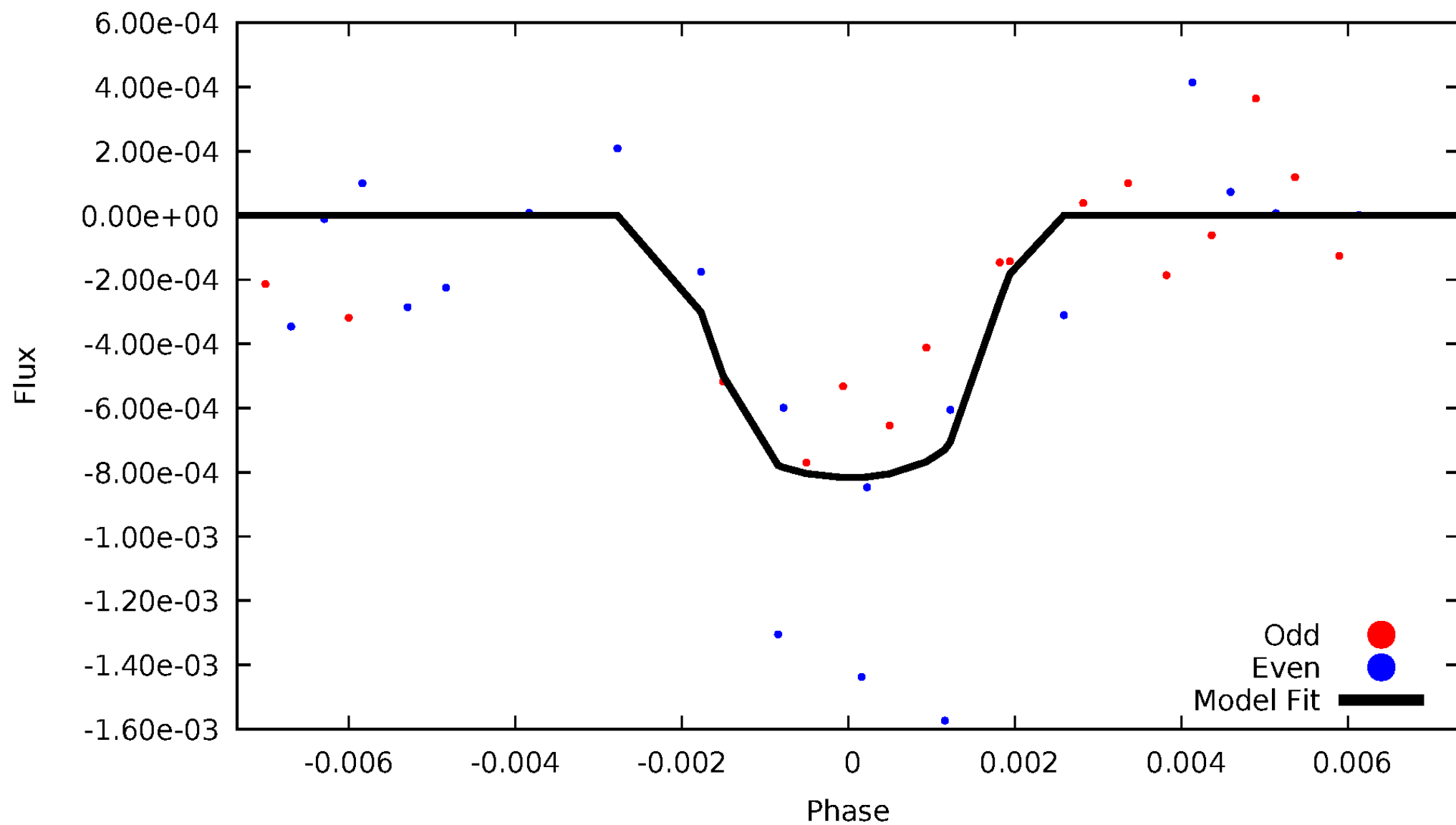


TCE 007778826-06



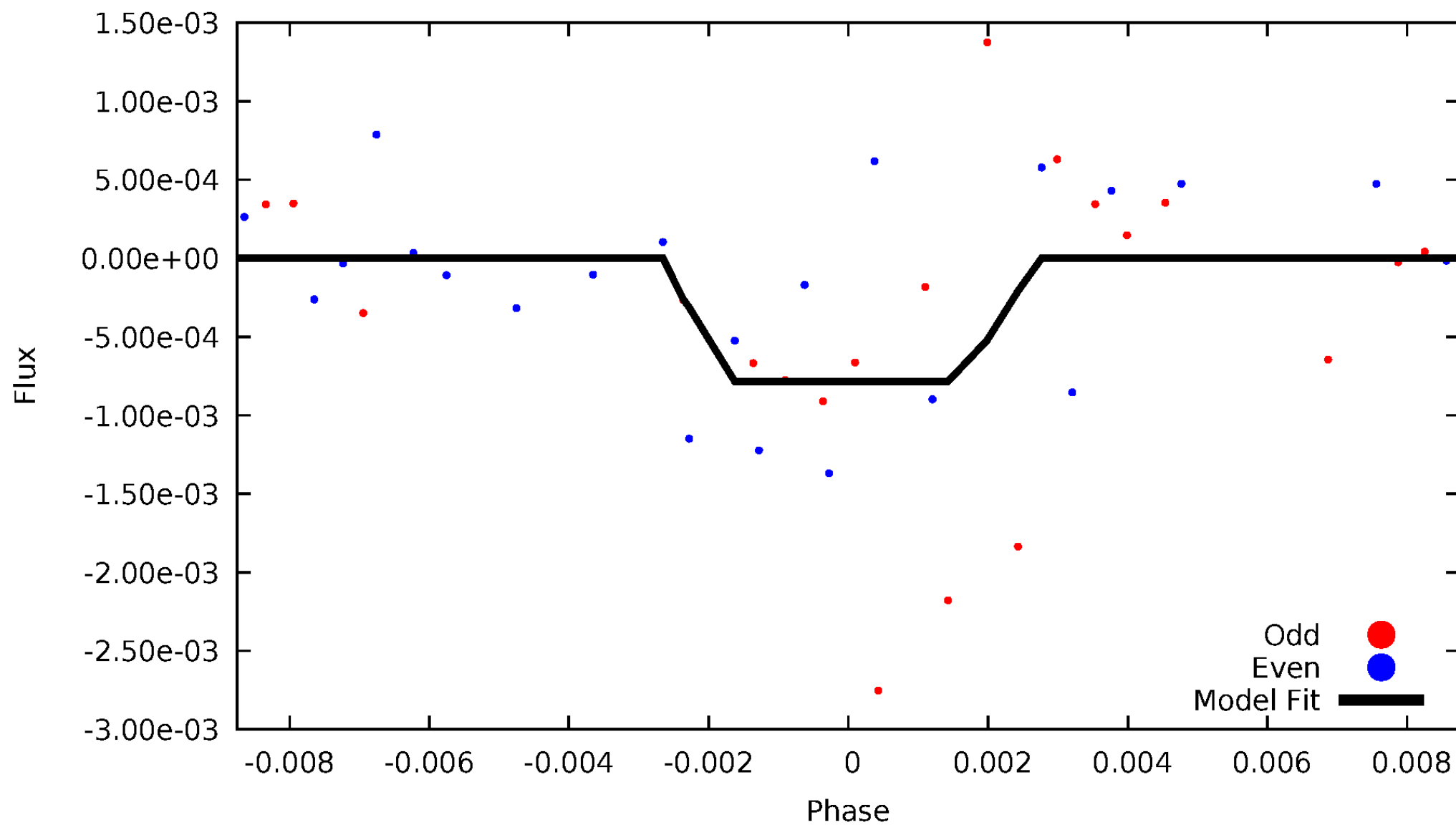
DV Odd/Even

TCE 007778826-06



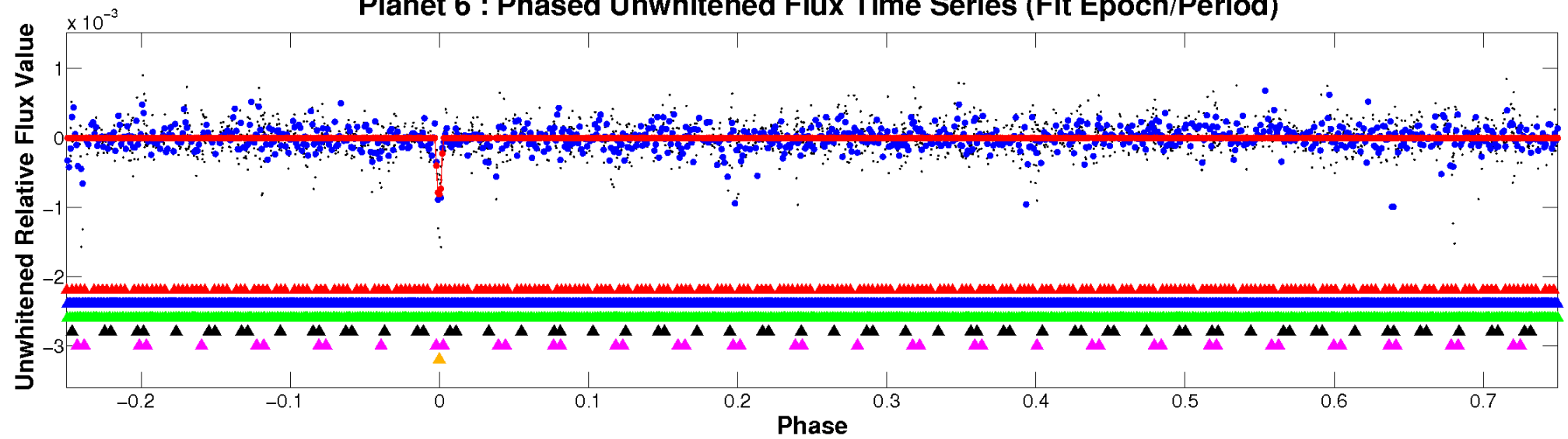
ALT Odd/Even

TCE 007778826-06

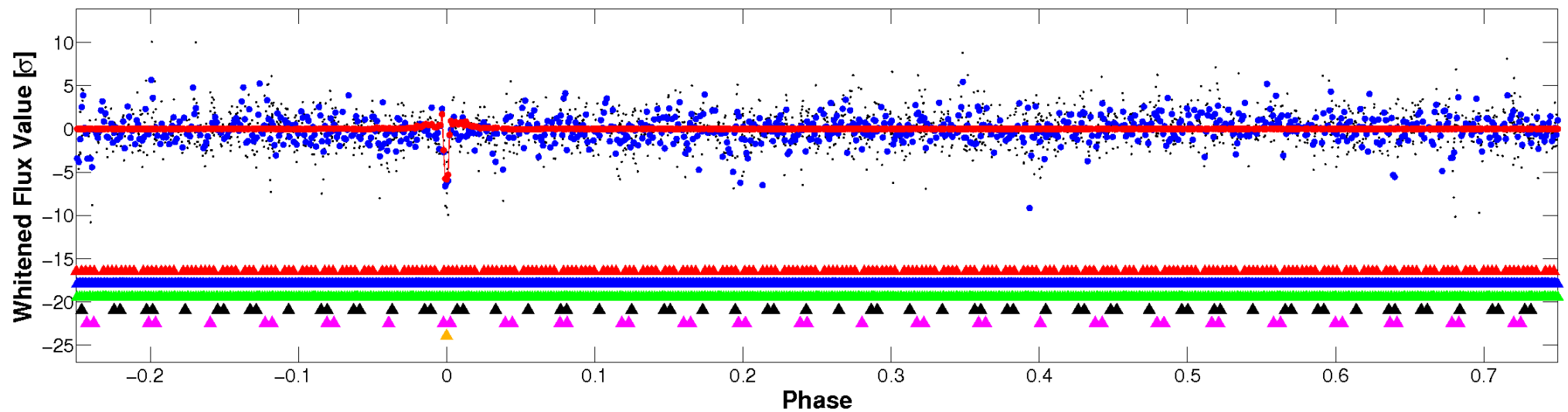


Non-Whitened Vs. Whitened Light Curve

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

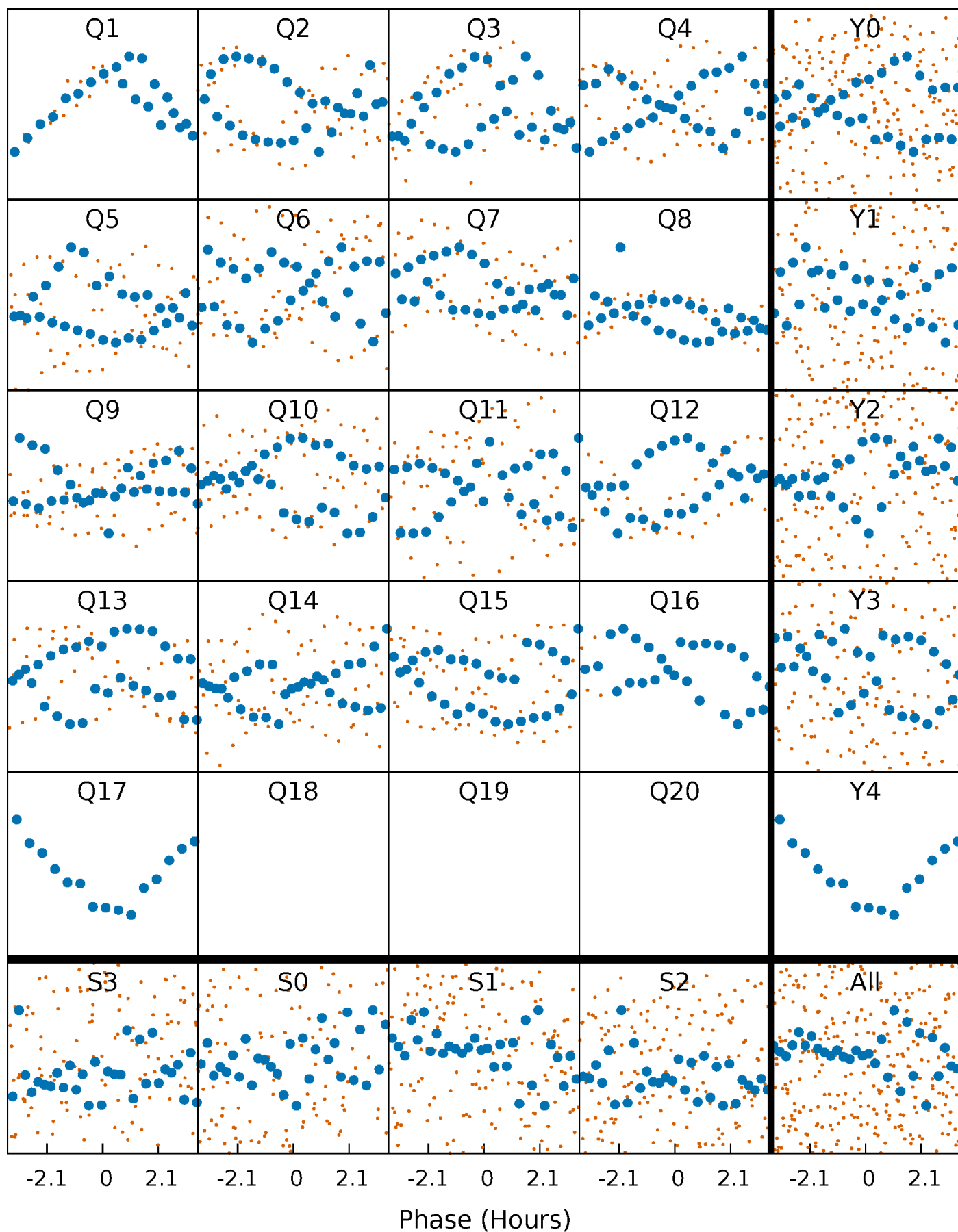


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



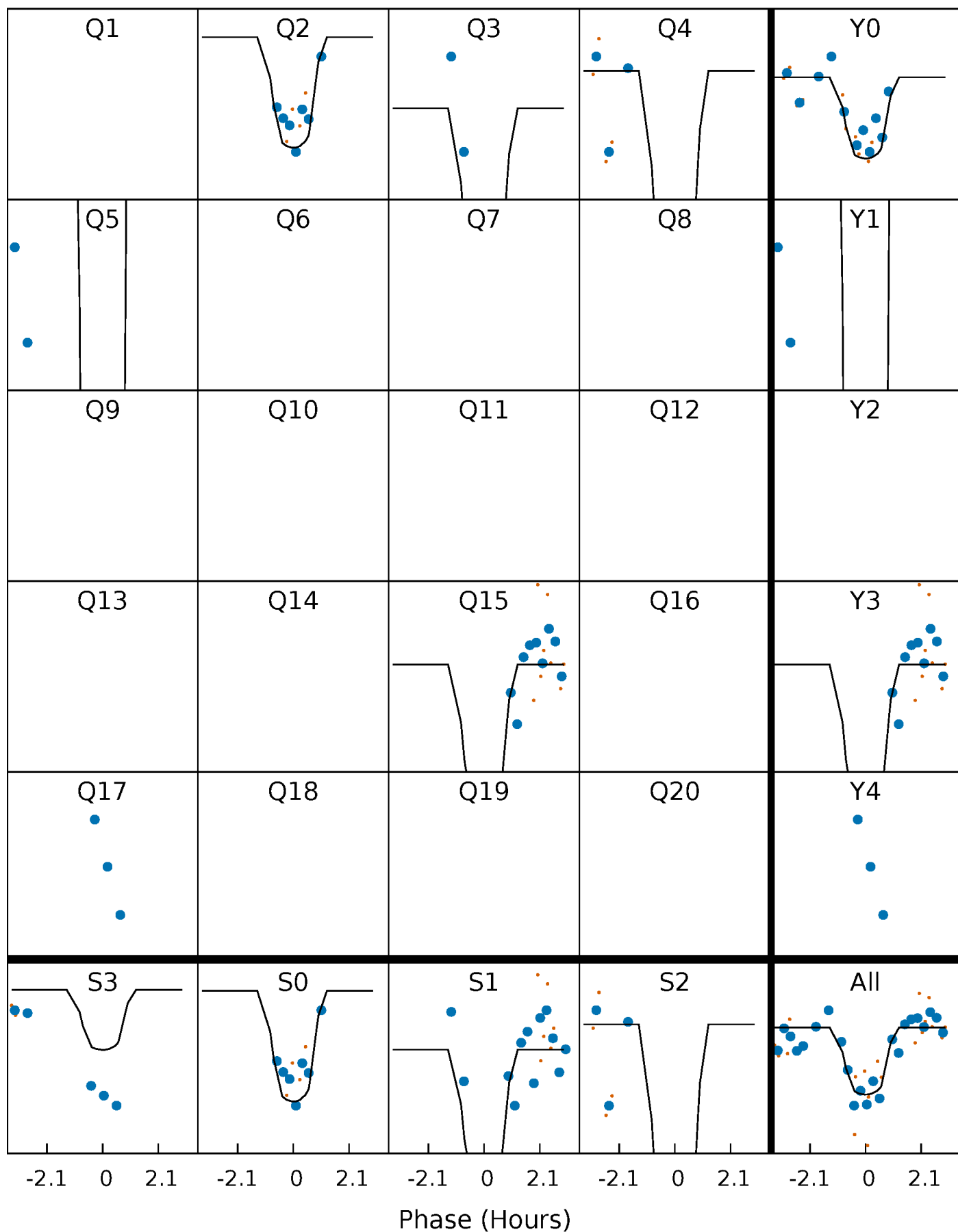
PDC Quarter-Phased Transit Curves

TCE 007778826-06 P= 20.407540 Days $T_0=137.662482$ (BKJD)



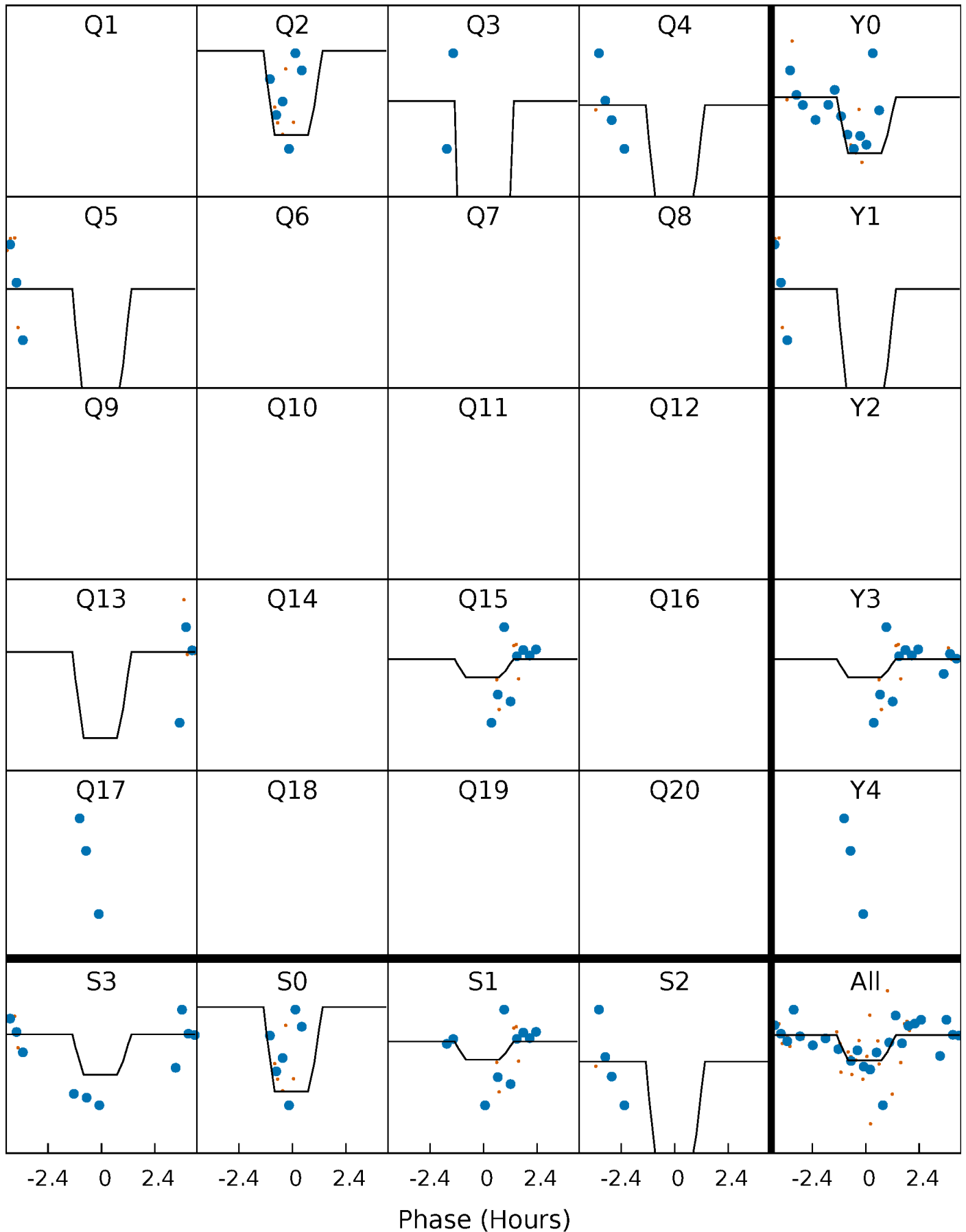
DV Quarter-Phased Transit Curves

TCE 007778826-06 P= 20.407540 Days $T_0=137.662482$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

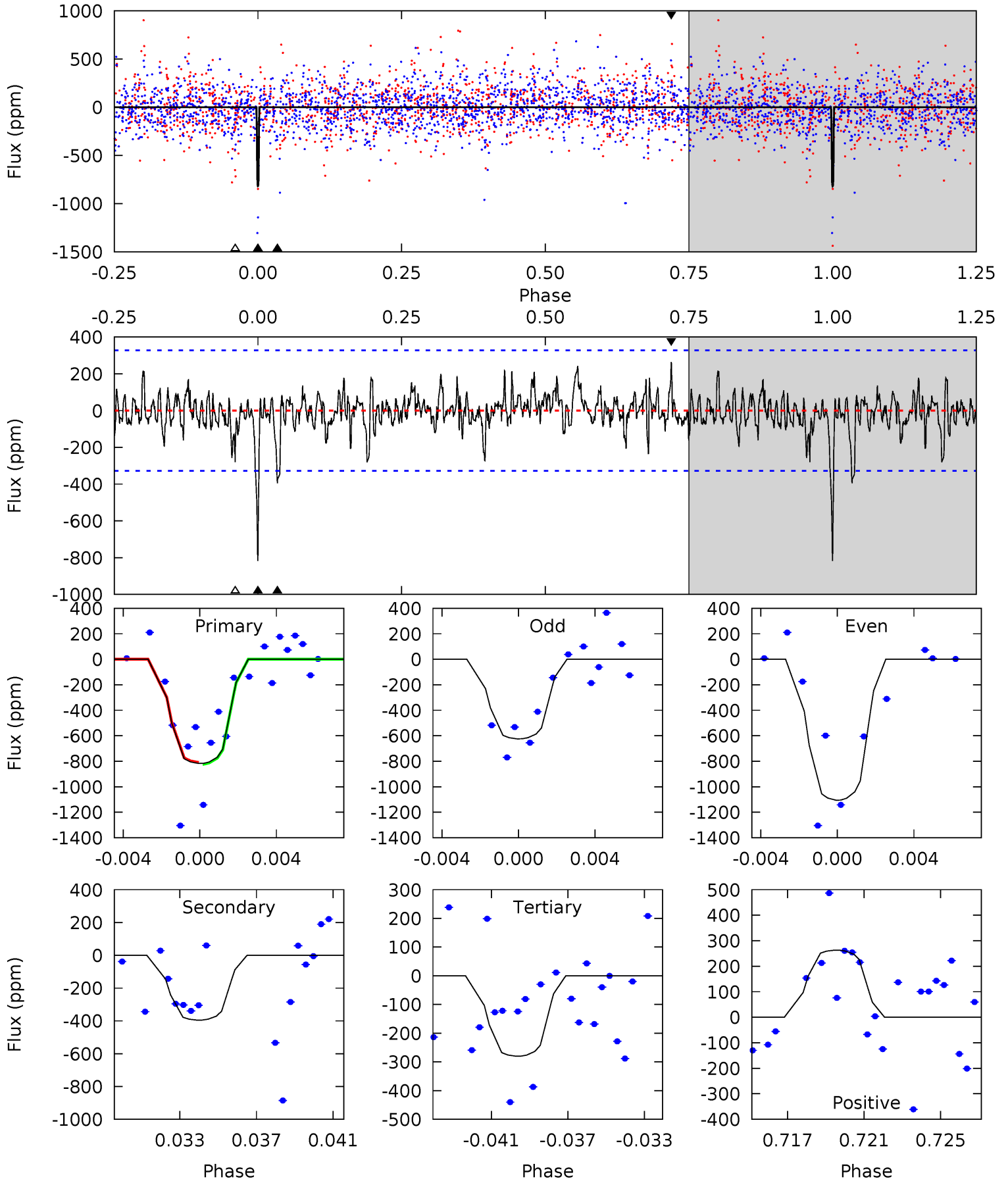
TCE 007778826-06 P= 20.407722 Days $T_0=137.679084$ (BKJD)



DV Model-Shift Uniqueness Test

007778826-06, P = 20.407540 Days, E = 117.254942 Days

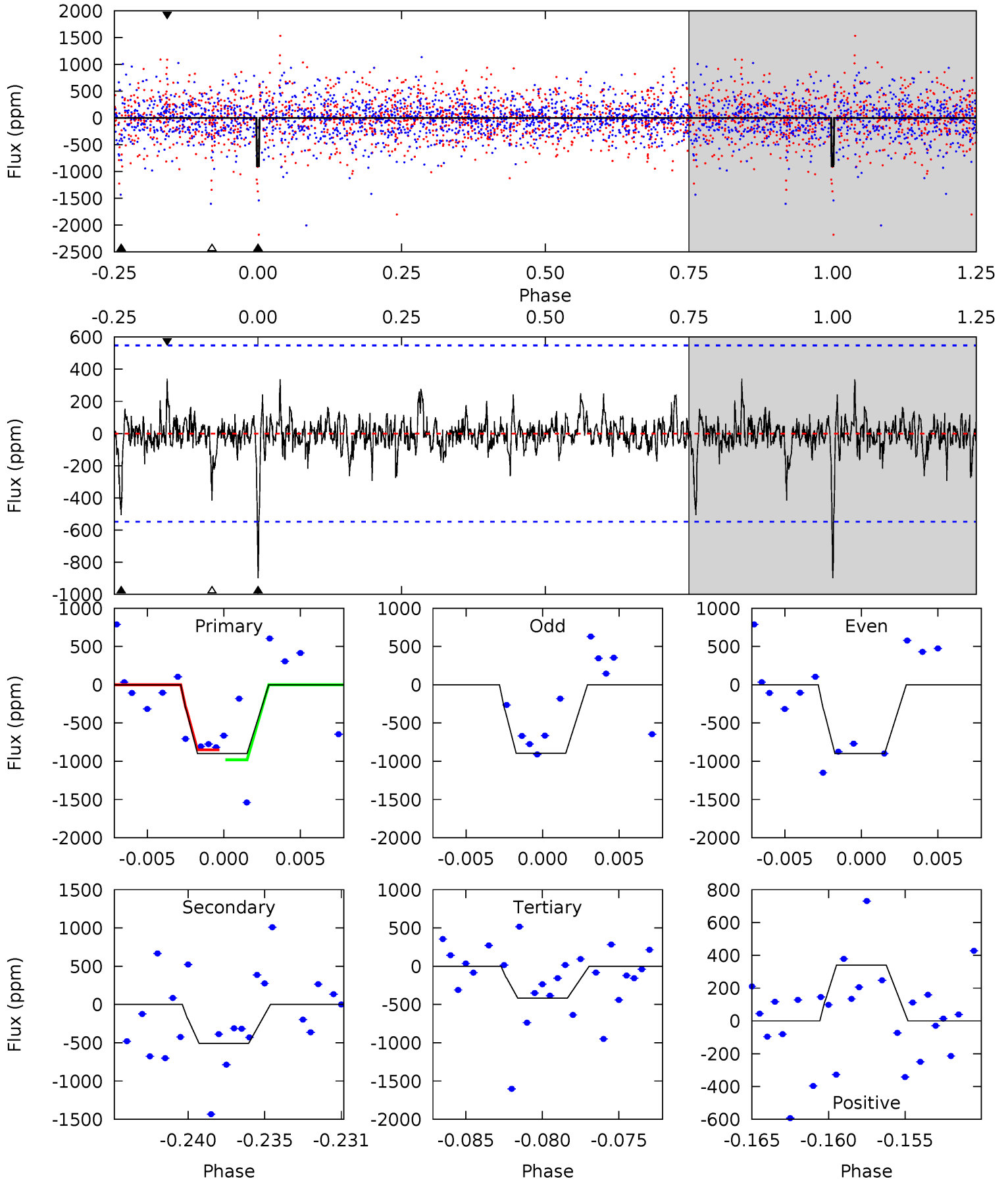
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.0	6.27	4.44	4.17	5.19	2.87	1.24	8.51	8.78	1.83	2.10	3.95	1.18	0.24	0.11



Alt Model-Shift Uniqueness Test

007778826-06, P = 20.407722 Days, E = 117.271362 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.47	4.78	3.93	3.21	5.17	2.83	0.79	4.54	5.26	0.85	1.57	0.03	1.36	0.27	0.59



Stellar Parameters For KIC 007778826

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7207^{+228}_{-314}	$4.254^{+0.072}_{-0.203}$	$-0.060^{+0.250}_{-0.350}$	$1.480^{+0.495}_{-0.212}$	$1.434^{+0.211}_{-0.211}$	$0.623^{+0.242}_{-0.332}$
	+3%/-4%	+2%/-5%	+417%/-583%	+33%/-14%	+15%/-15%	+39%/-53%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 007778826-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-396 ± 63	$9.22^{+9.06}_{-6.23}$	1359^{+107}_{-82}	4444^{+3226}_{-908}	68^{+589}_{-50}
Alt.	-506 ± 106	$9.50^{+9.25}_{-6.42}$	1355^{+107}_{-81}	4596^{+3390}_{-966}	82^{+724}_{-61}

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

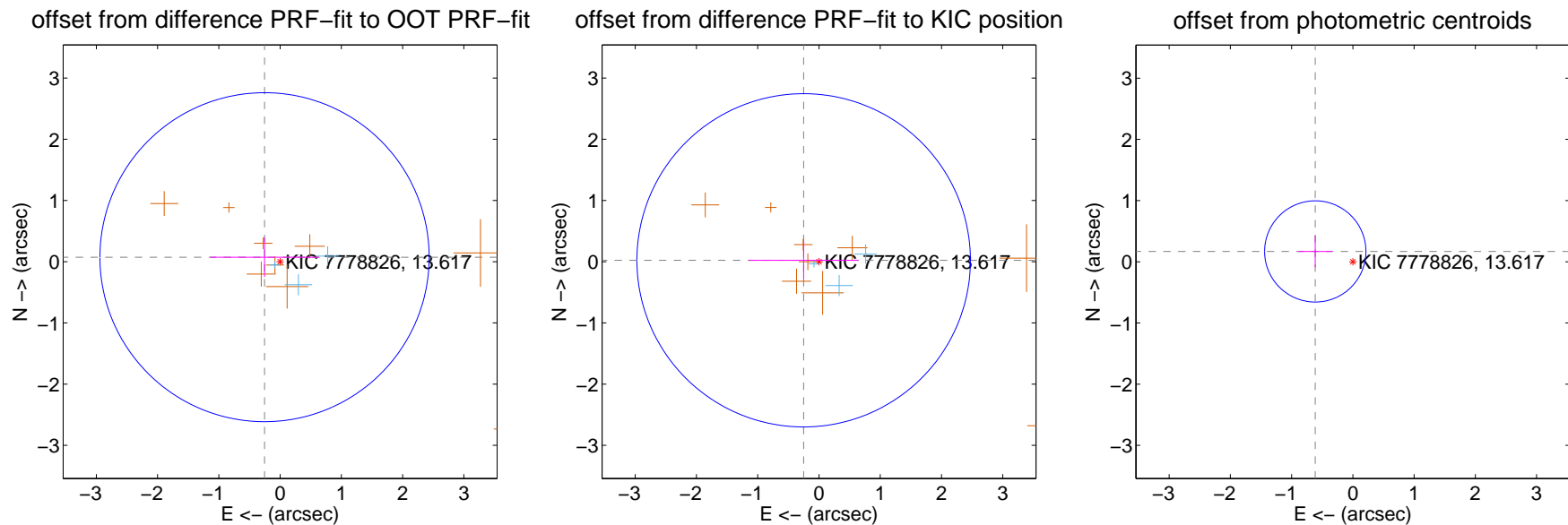
DV Centroid Data

Supplemental centroid analysis for 007778826-06. Kepler magnitude: 13.62. Transit SNR 17.96

There are 3 quarters with good PRF difference image offsets

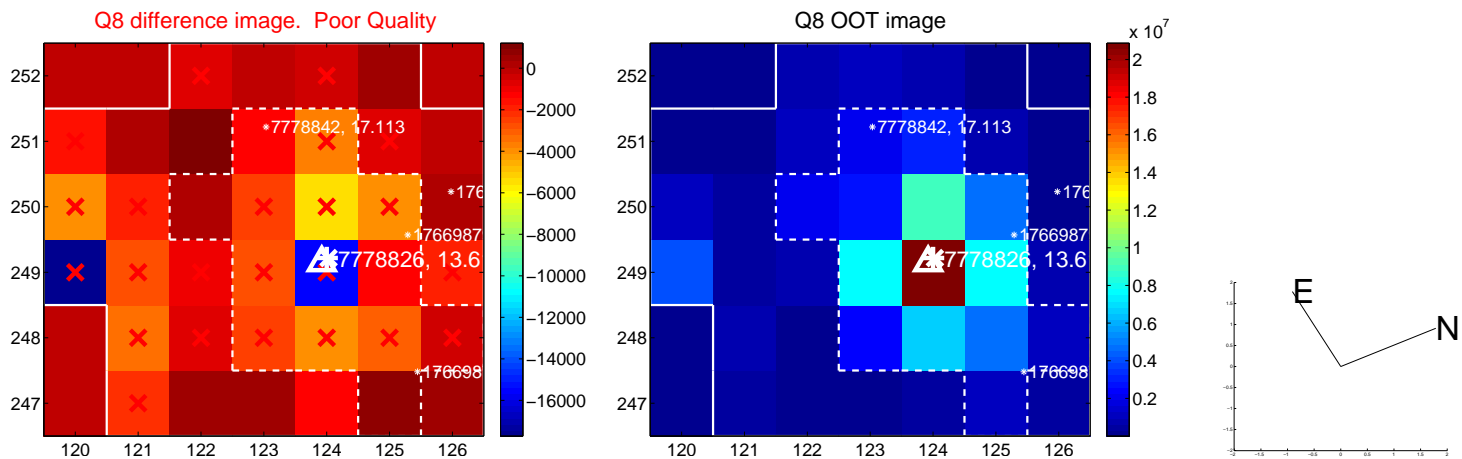
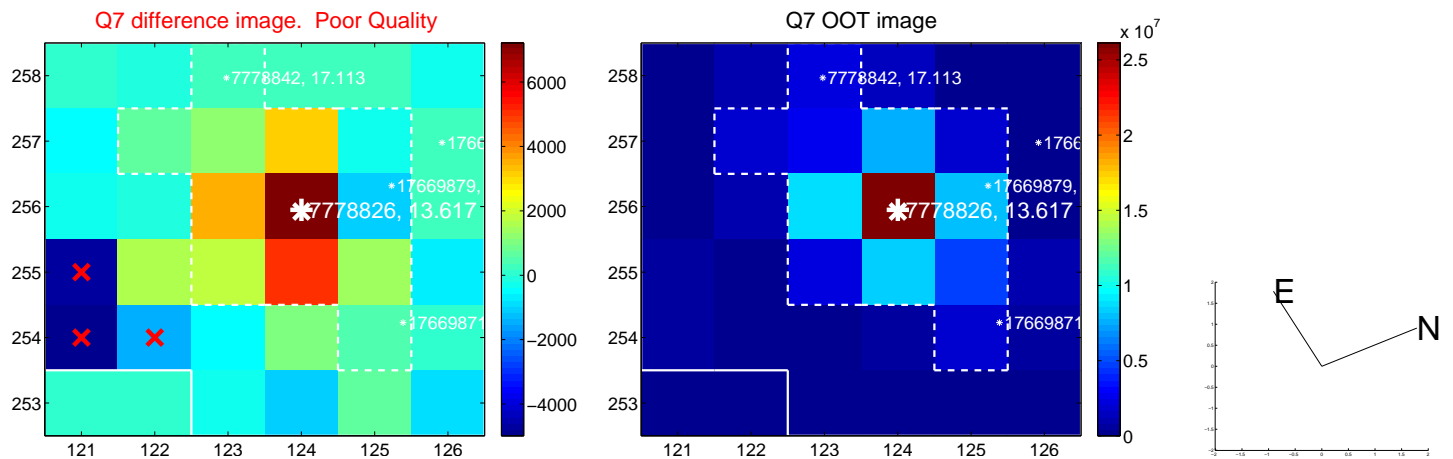
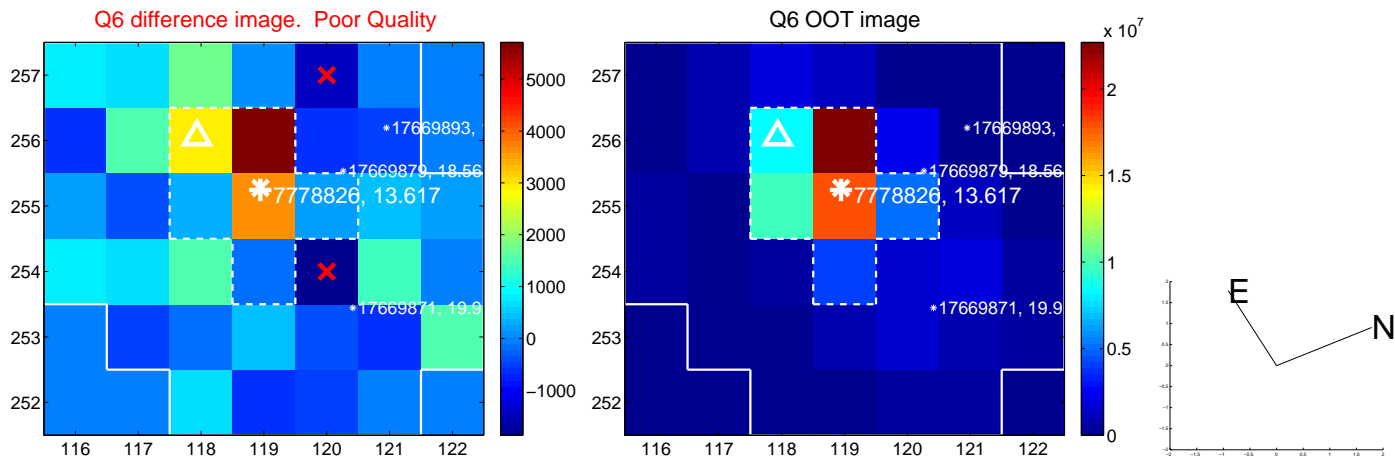
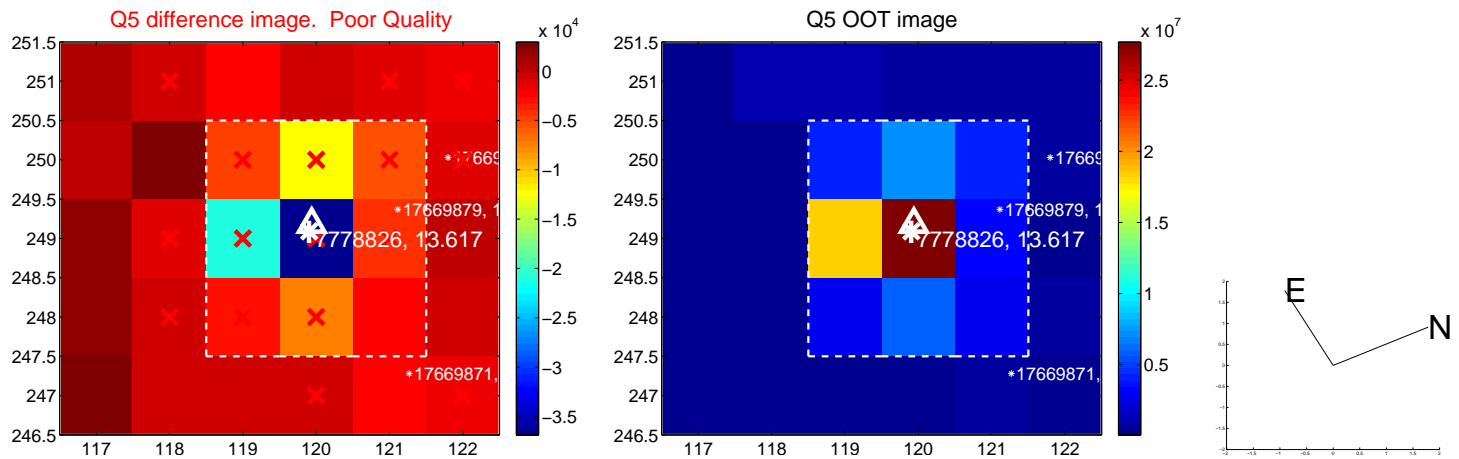
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.264 ± 0.896	0.30	0.254 ± 0.886	0.074 ± 0.322
PRF-fit source offset from KIC position	0.251 ± 0.907	0.28	0.250 ± 0.899	0.023 ± 0.308
photometric centroid source offset	0.64 ± 0.28	2.31	0.61 ± 0.28	0.17 ± 0.26

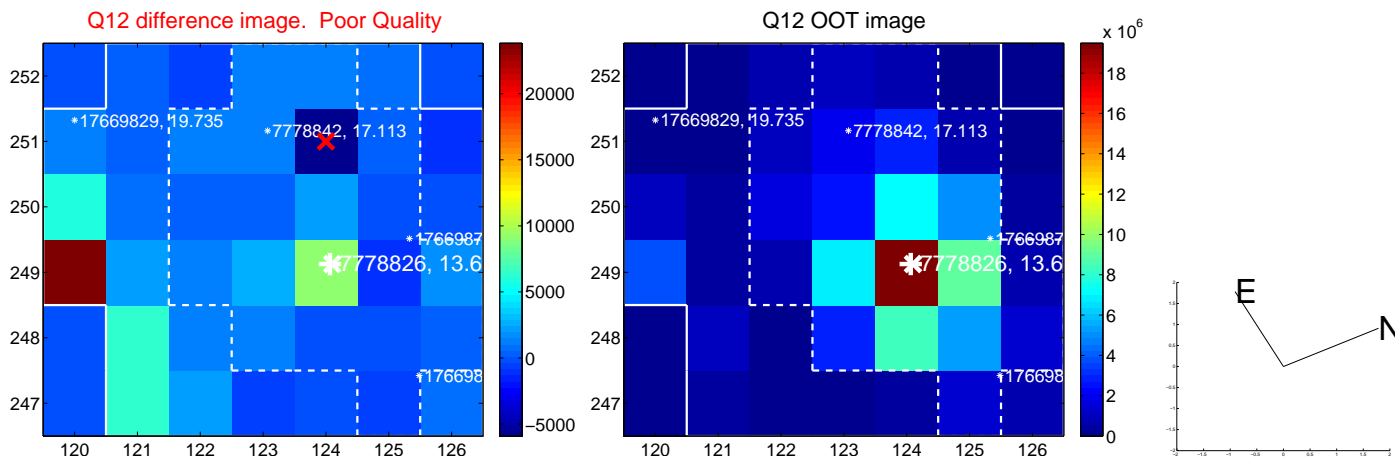
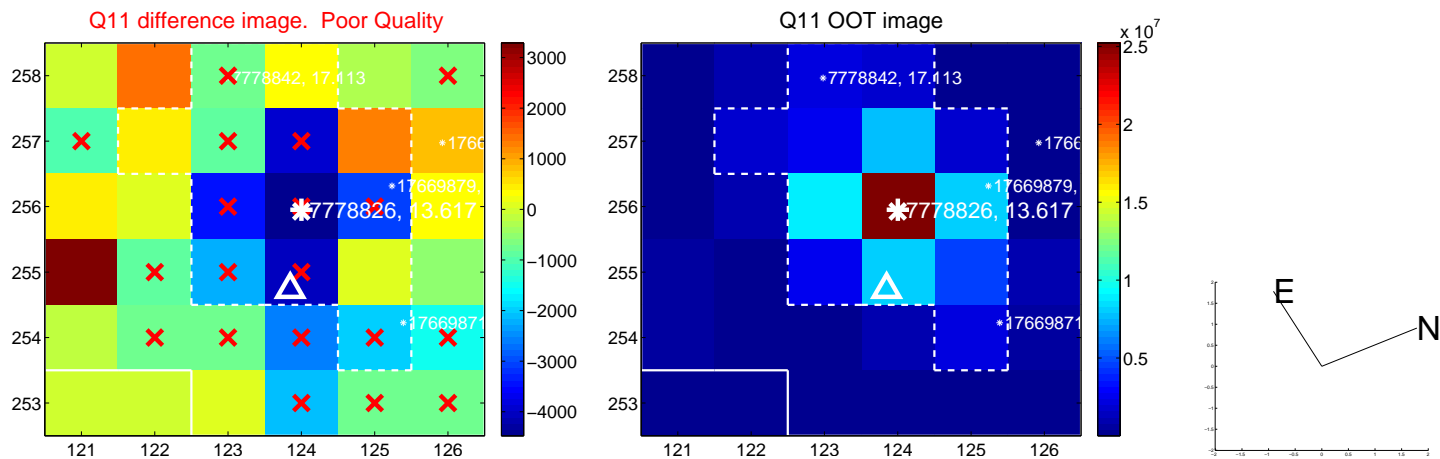
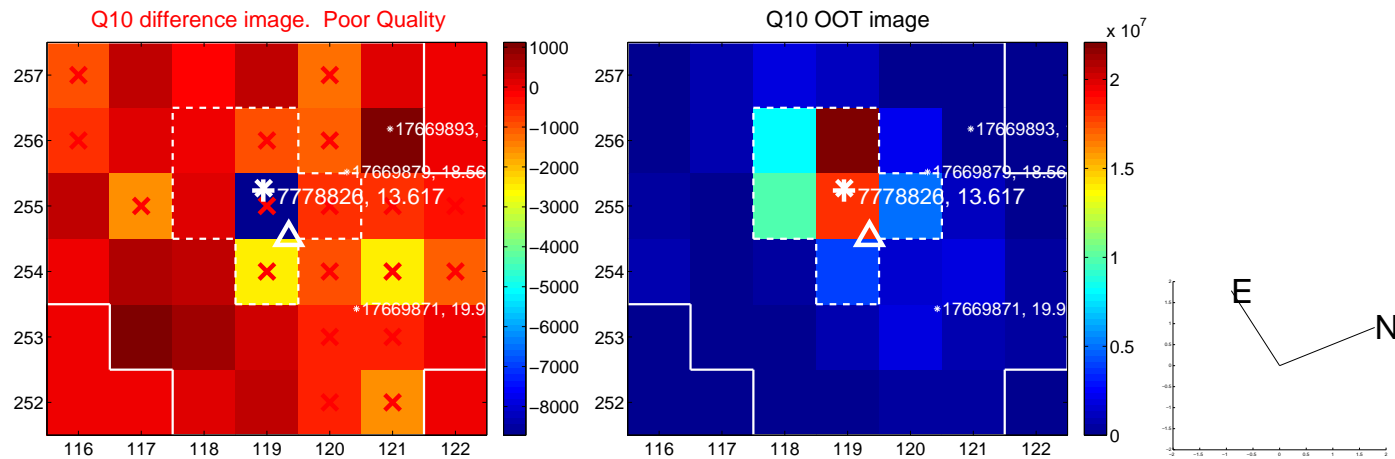
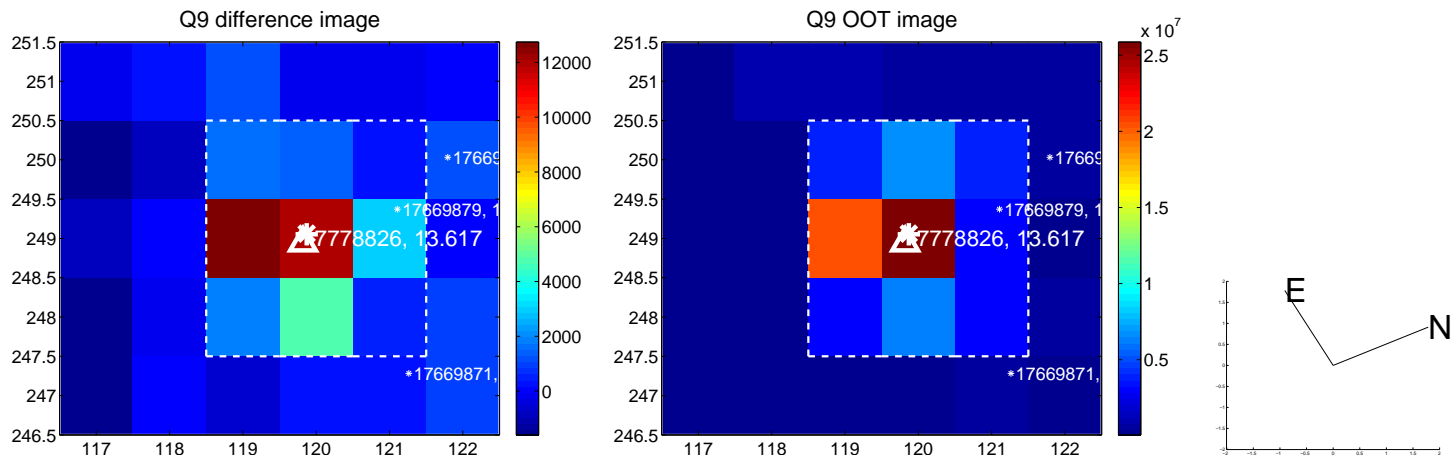


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

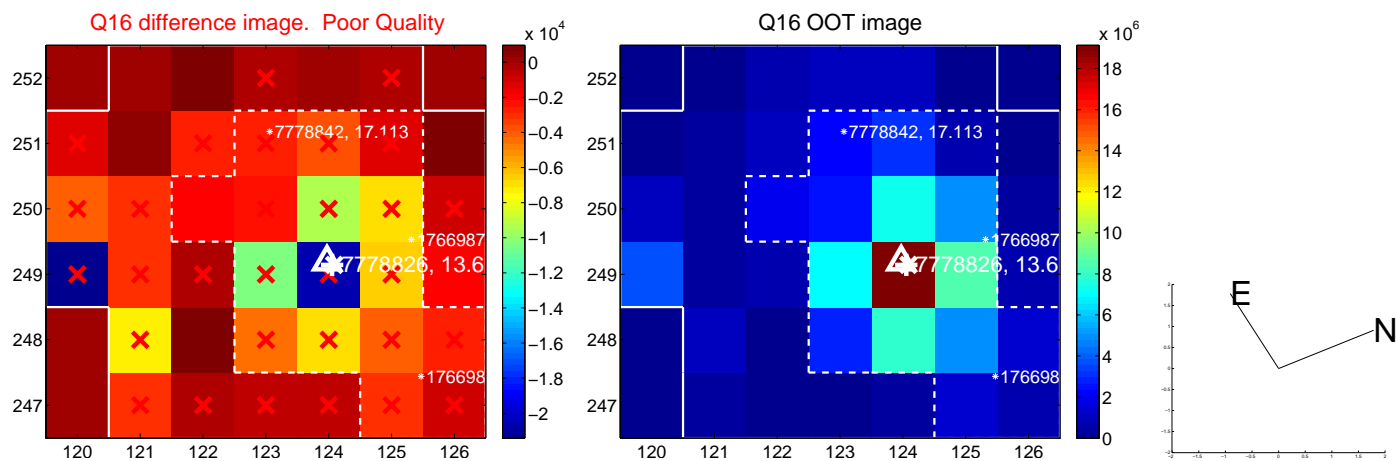
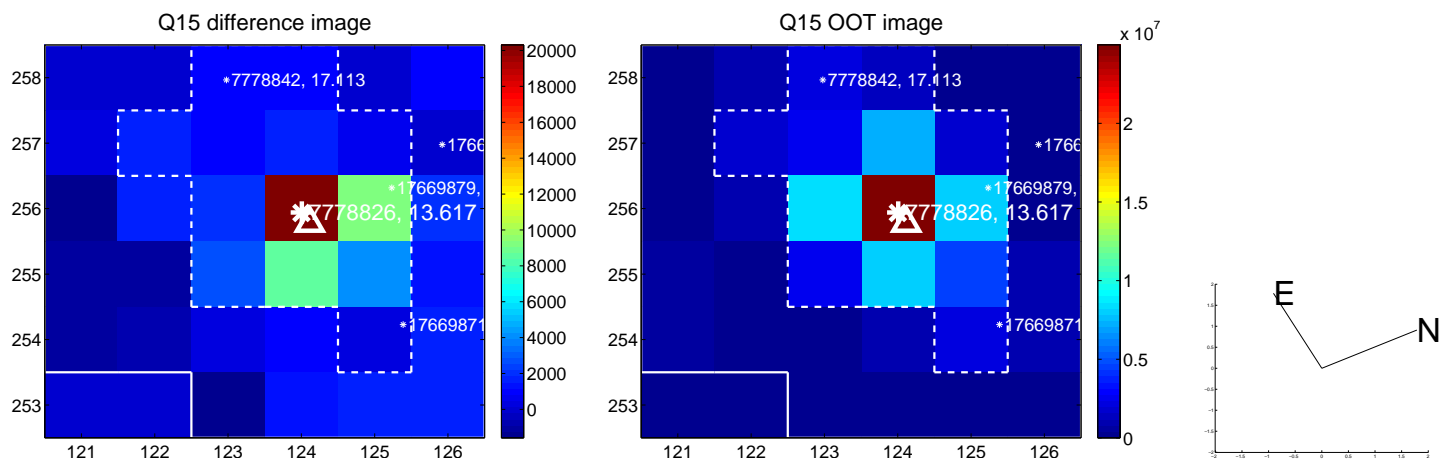
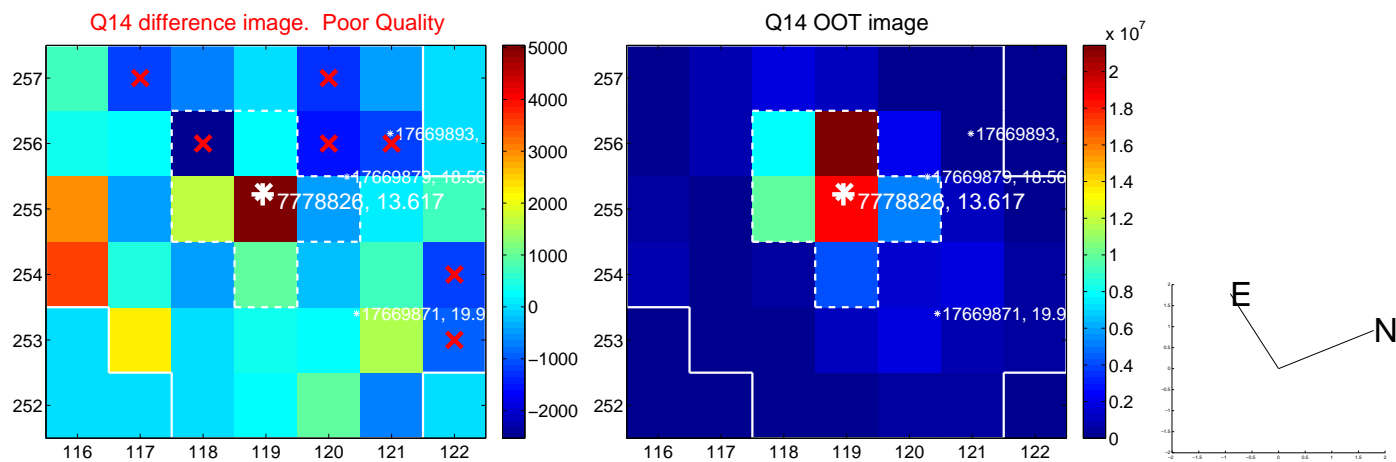
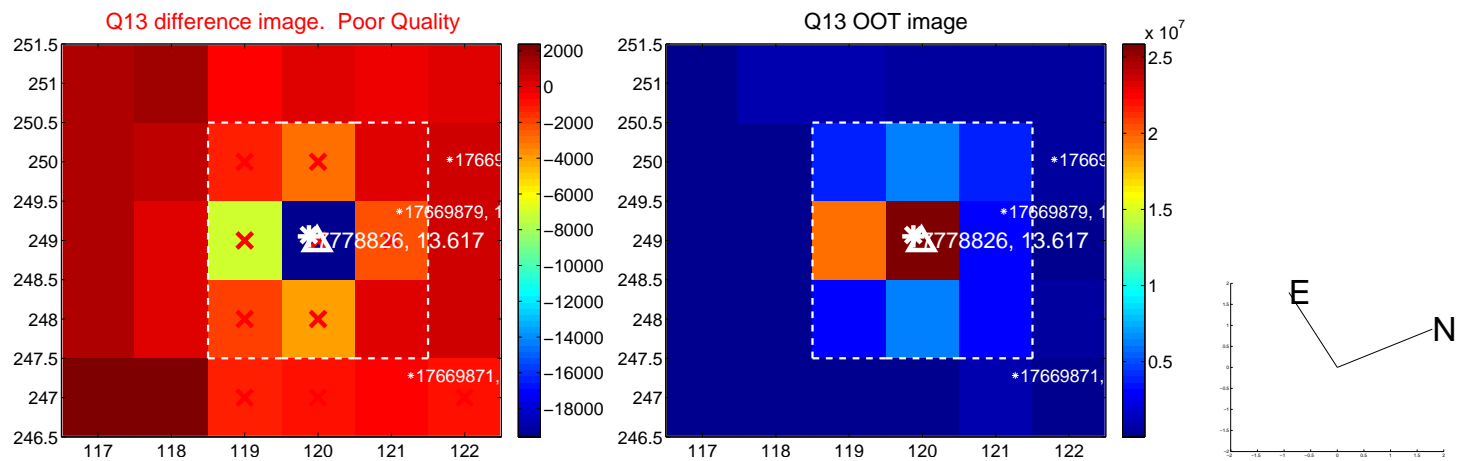
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



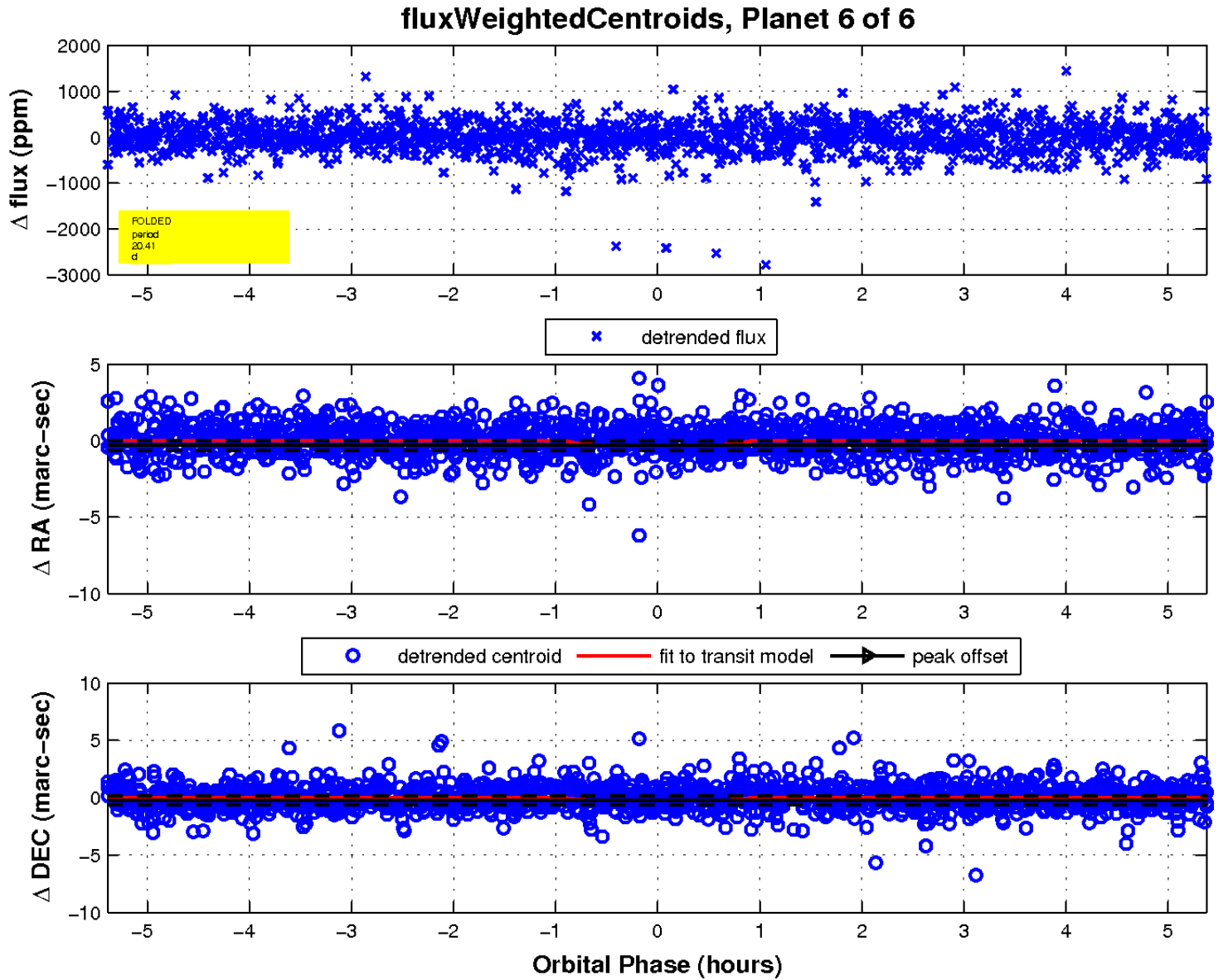
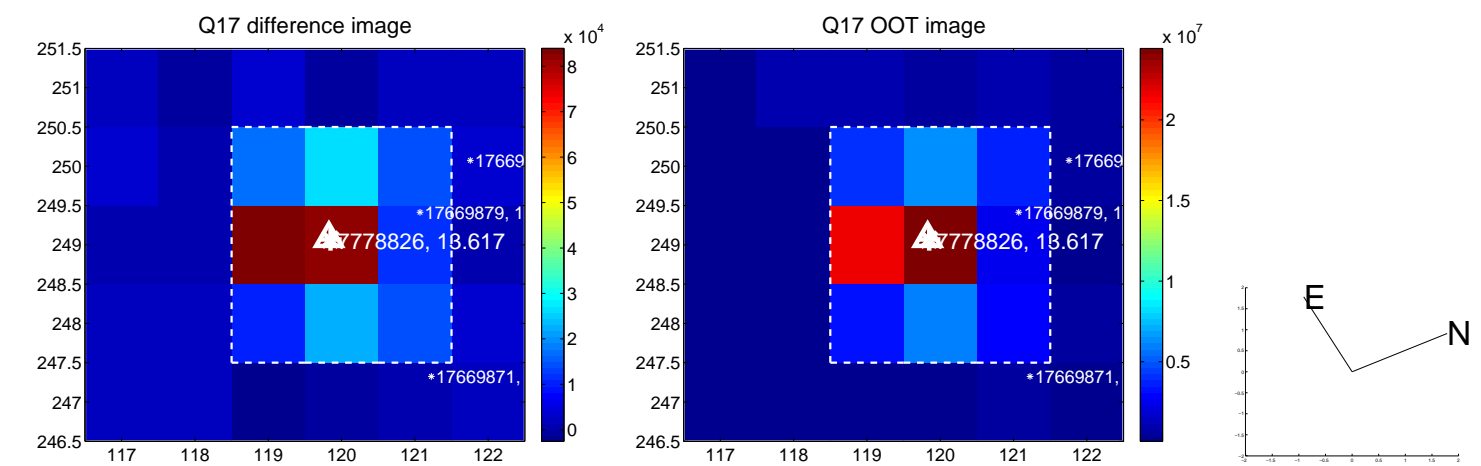
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

