

KIC 008182857

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})
008182857-01	OBS	No	0.694057	131.876012	21.4	4.359	9.8	5.0	1.05	6444	0.49	6843.45
008182857-02	OBS	No	40.148536	132.642221	733.6	1.819	9.4	10.7	1.05	6444	2.99	30.59
008182857-03	OBS	No	37.582174	168.621994	585.4	3.217	7.7	7.6	1.05	6444	2.80	33.41
008182857-04	OBS	No	95.654841	131.600236	587.8	3.424	8.1	7.6	1.05	6444	2.74	9.61
008182857-05	OBS	No	44.974723	168.071815	670.7	2.127	8.7	9.2	1.05	6444	2.96	26.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008182857-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008182857-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

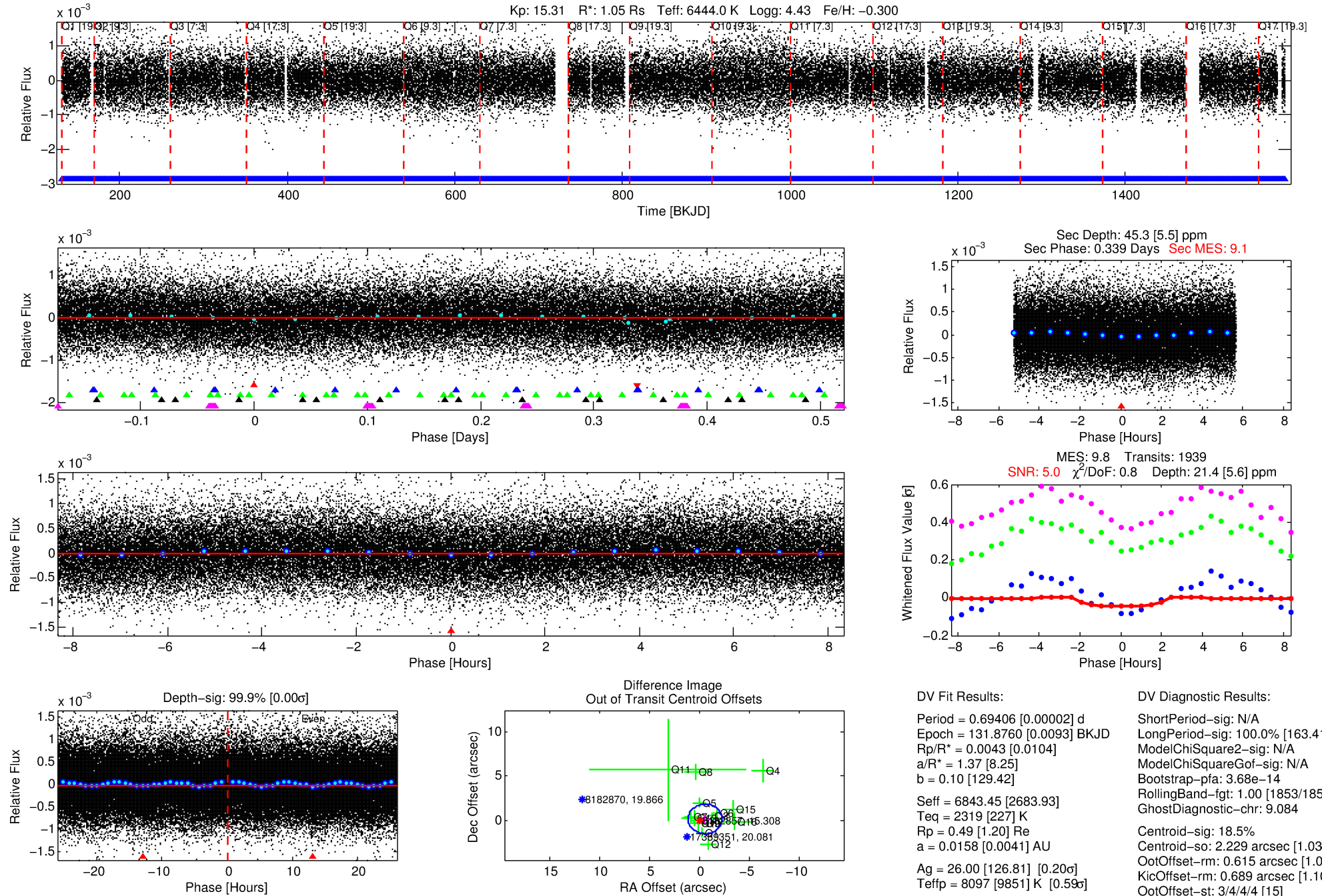
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008182857-01

No Significant Match Found

DV One-Page Summary

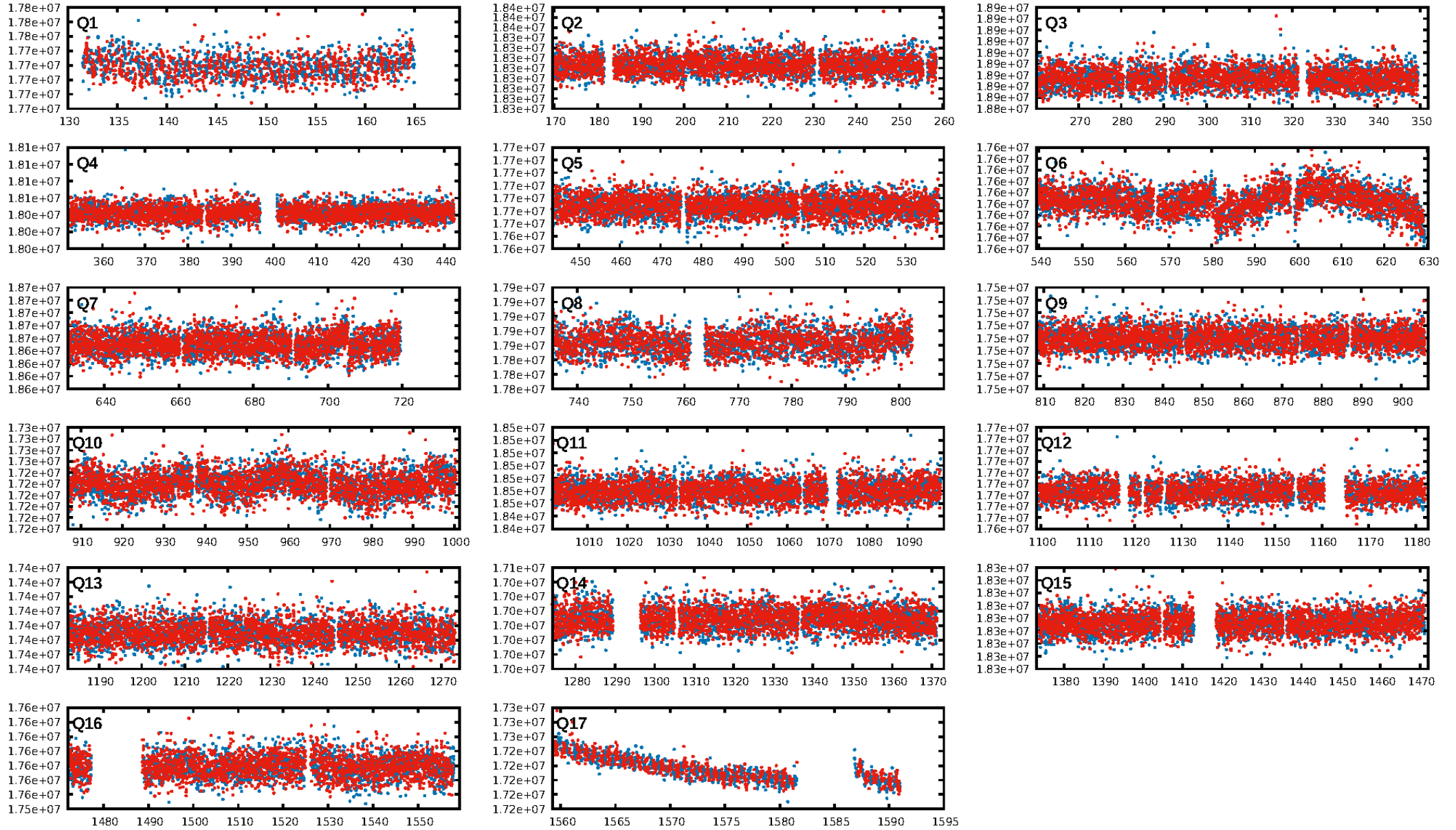
KIC: 8182857 Candidate: 1 of 5 Period: 0.694 d



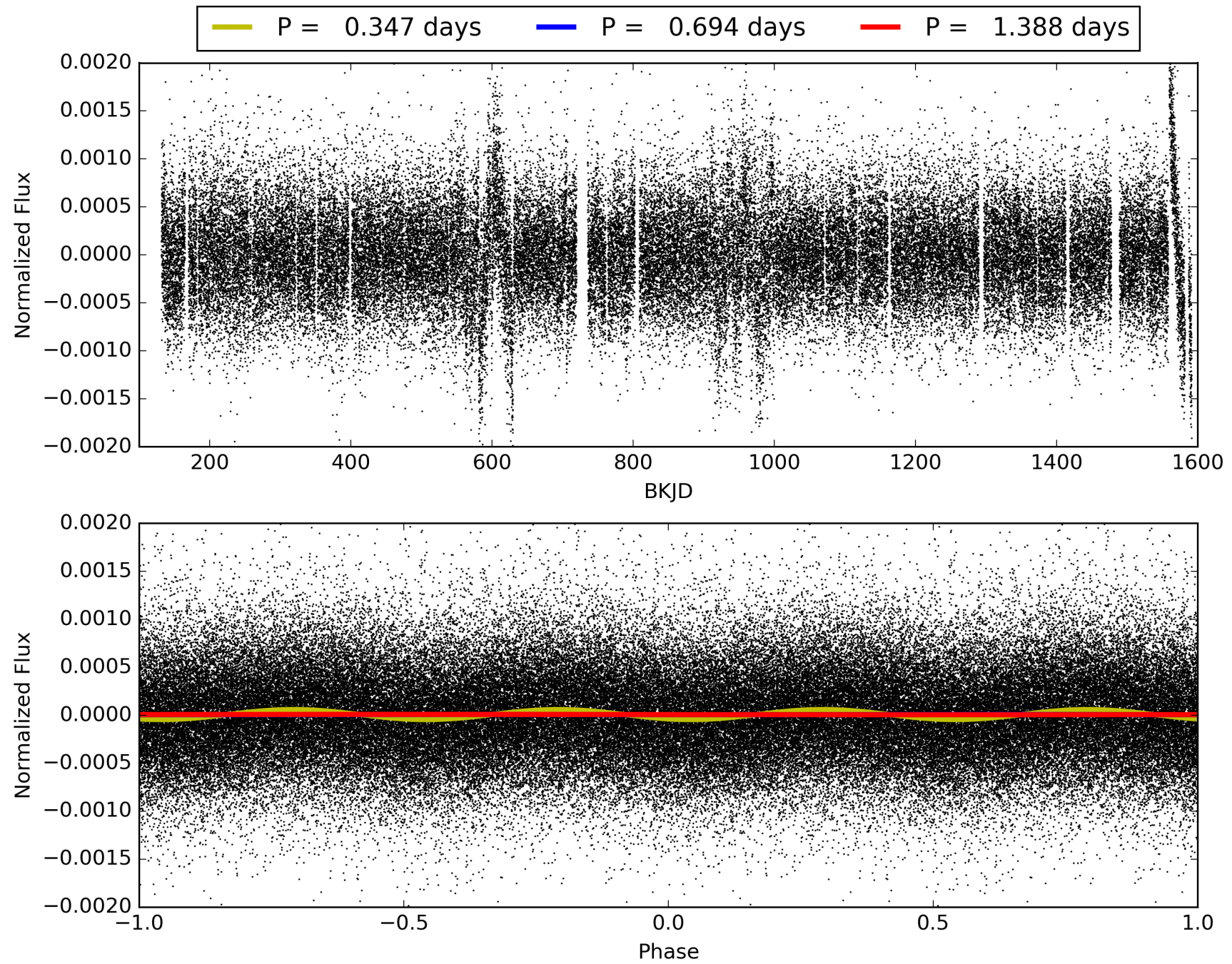
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:51:28 Z

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

TCE 008182857-01, PDC Light Curves

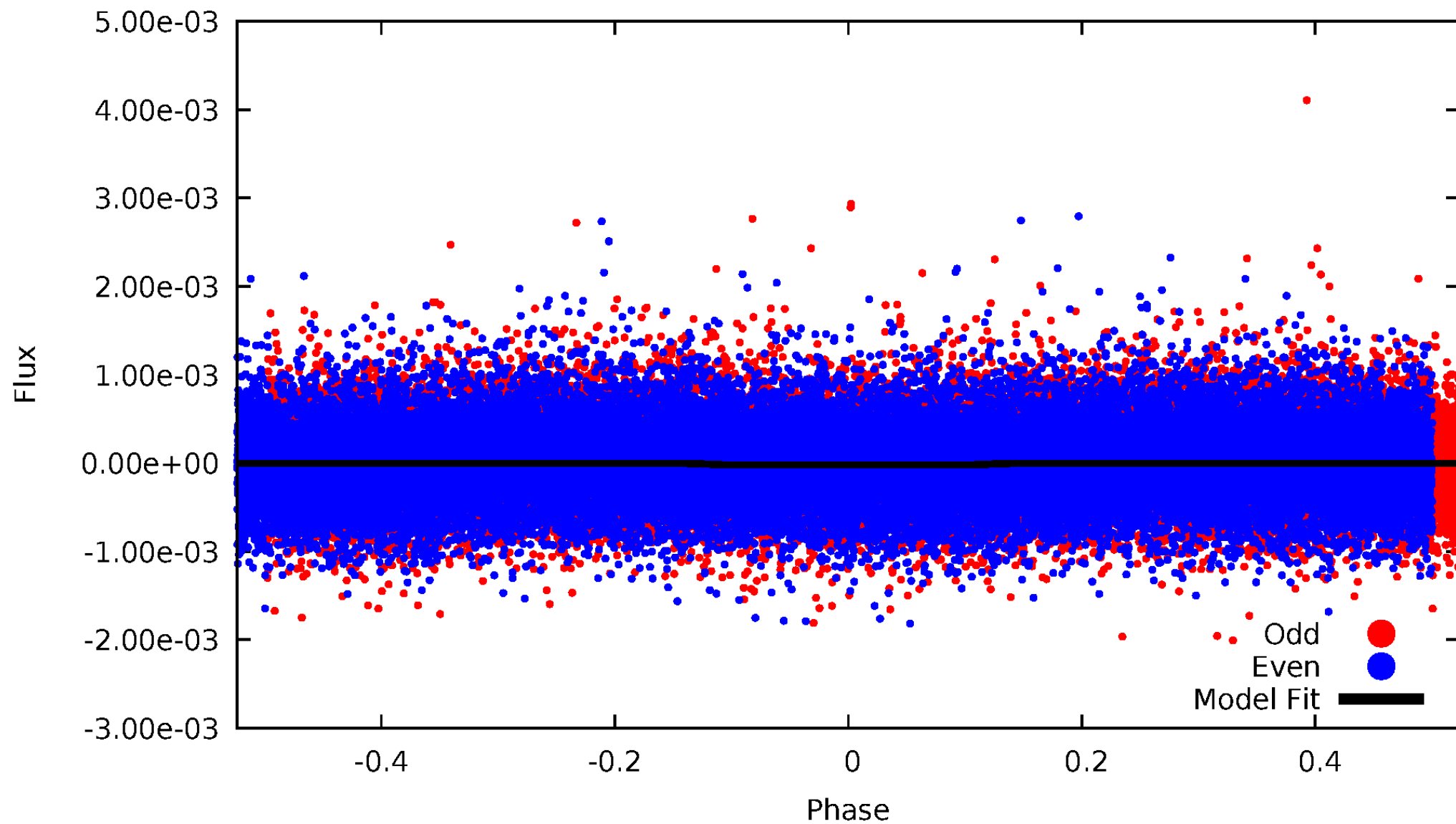


TCE 008182857-01



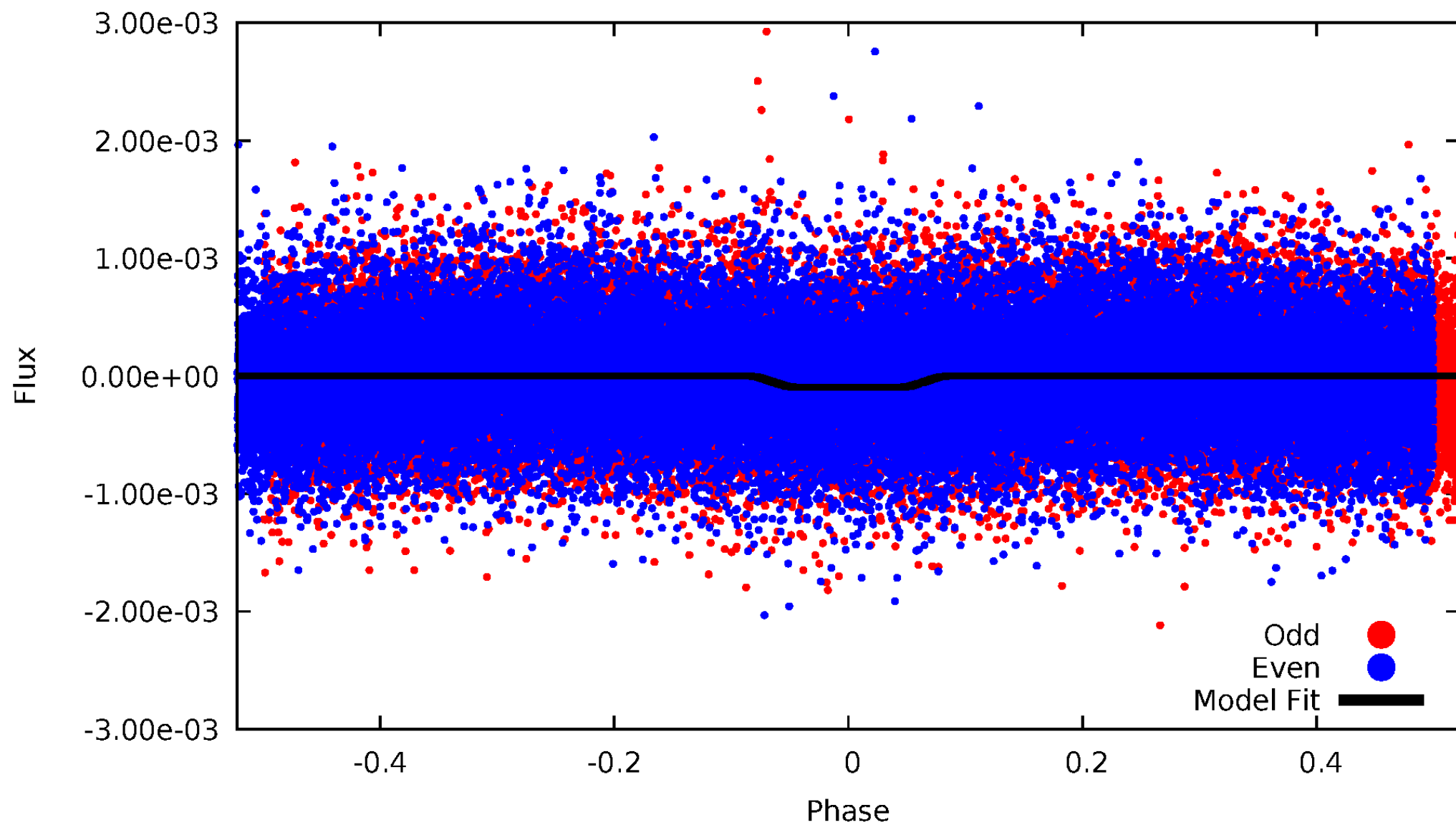
DV Odd/Even

TCE 008182857-01

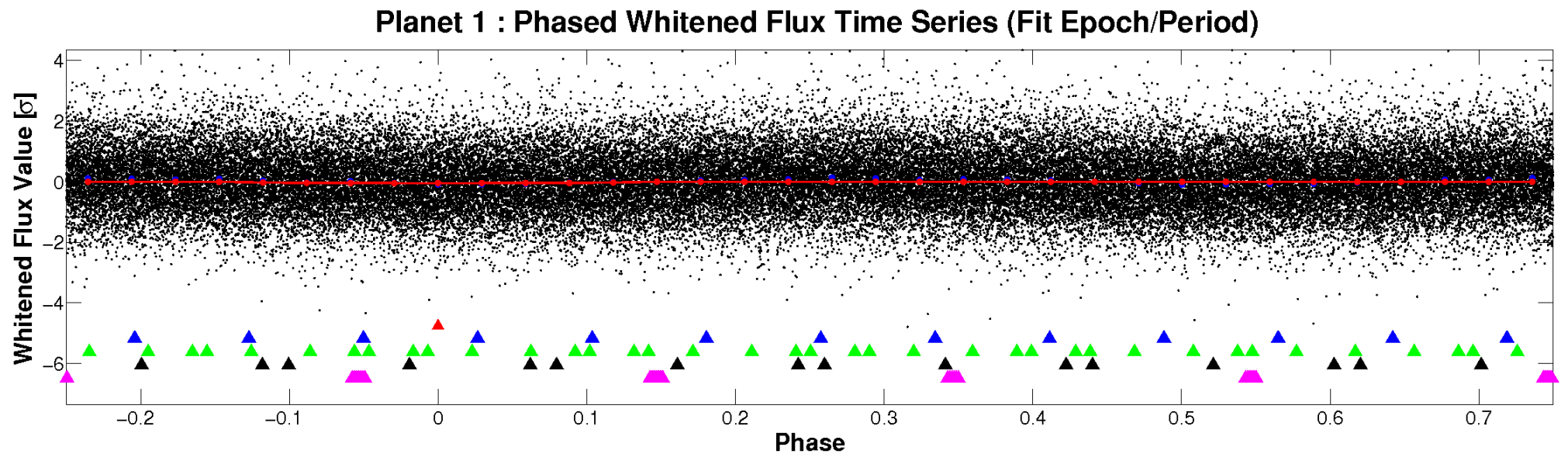
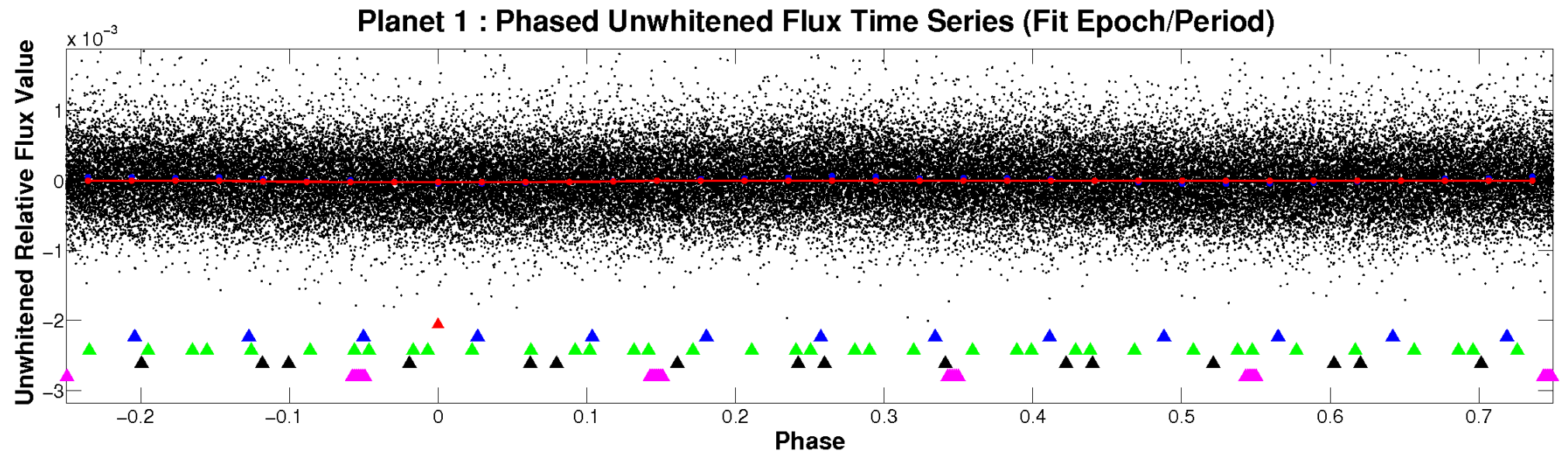


ALT Odd/Even

TCE 008182857-01

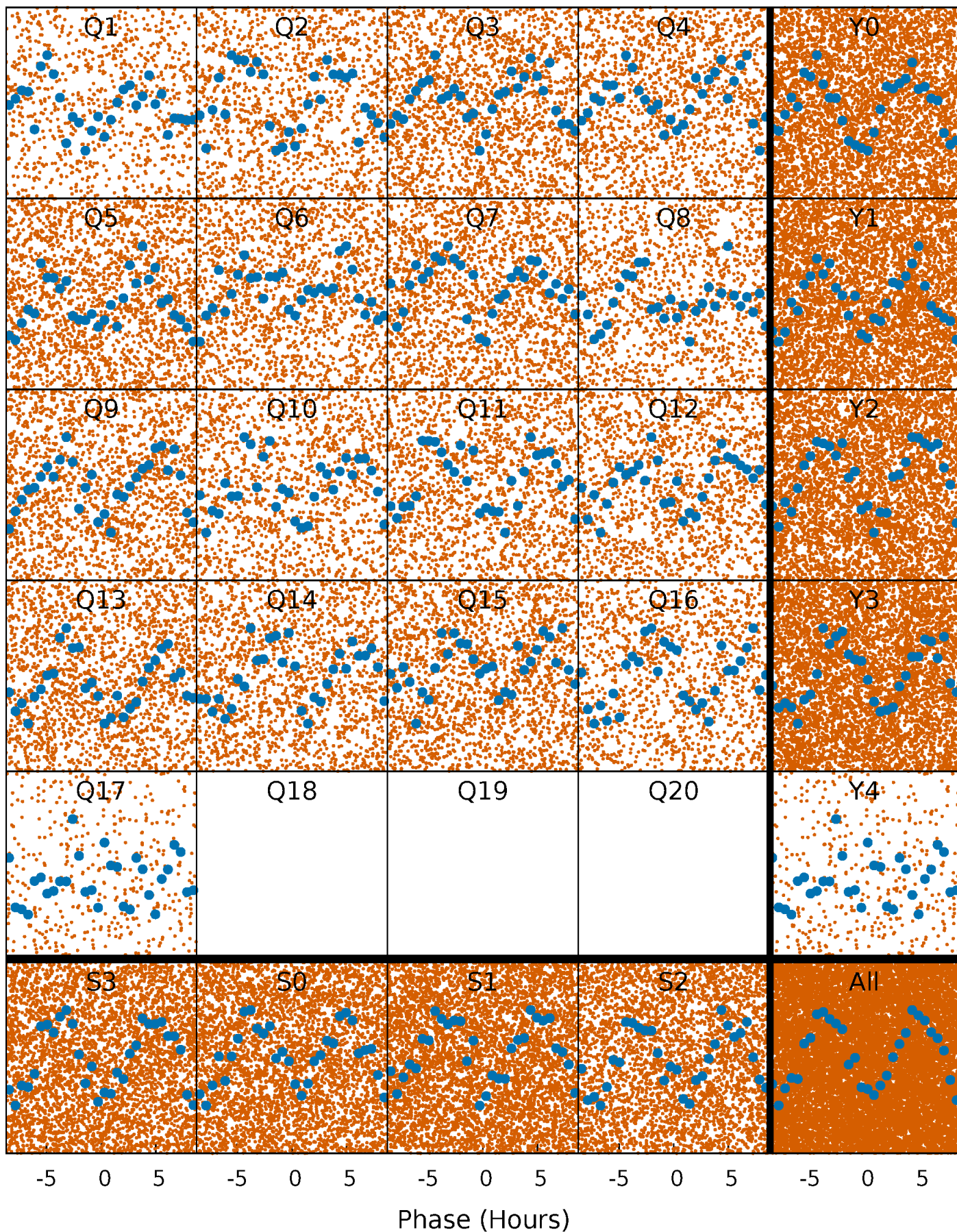


Non-Whitened Vs. Whitened Light Curve



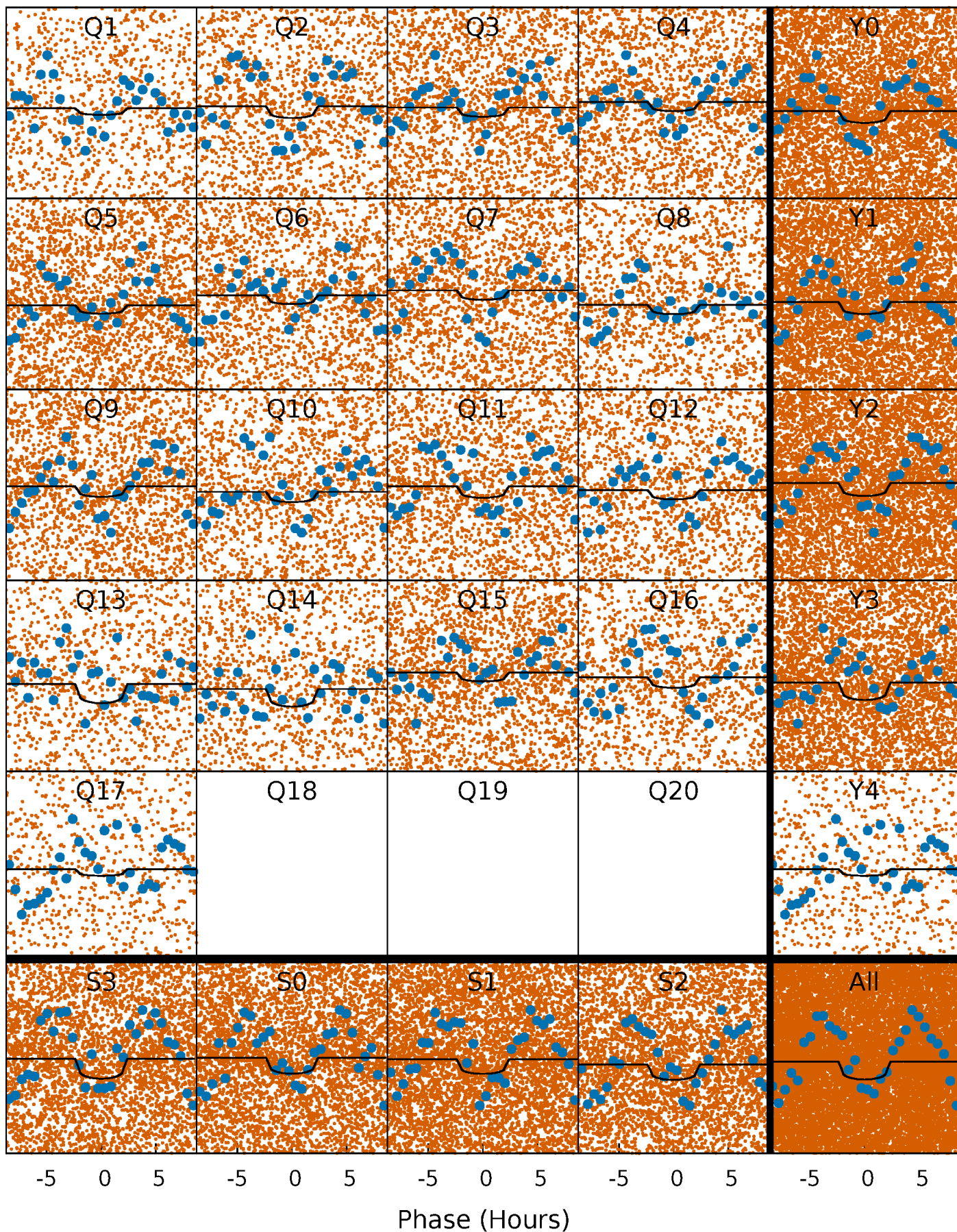
PDC Quarter-Phased Transit Curves

TCE 008182857-01 P= 0.694057 Days $T_0=131.876012$ (BKJD)



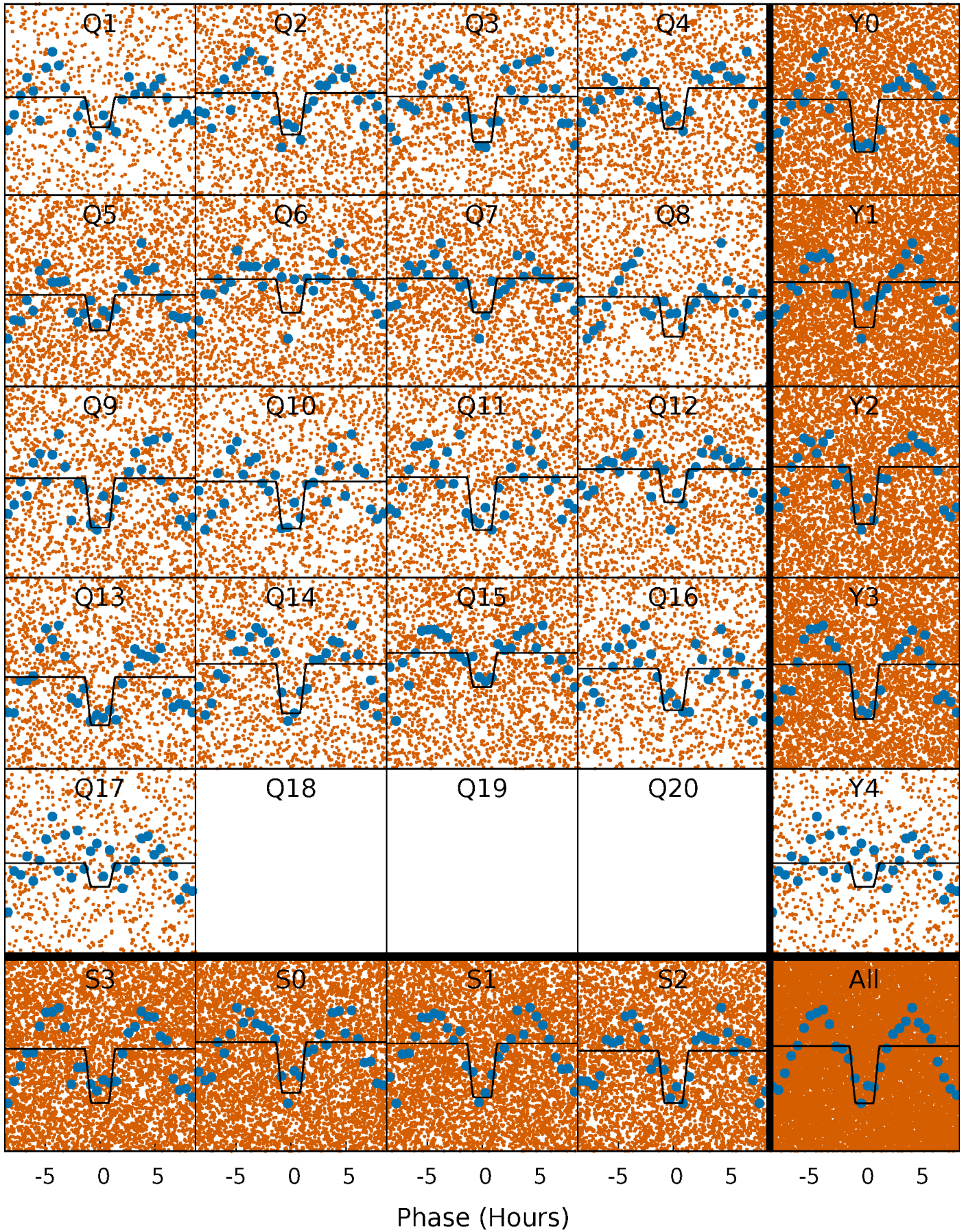
DV Quarter-Phased Transit Curves

TCE 008182857-01 P= 0.694057 Days $T_0=131.876012$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

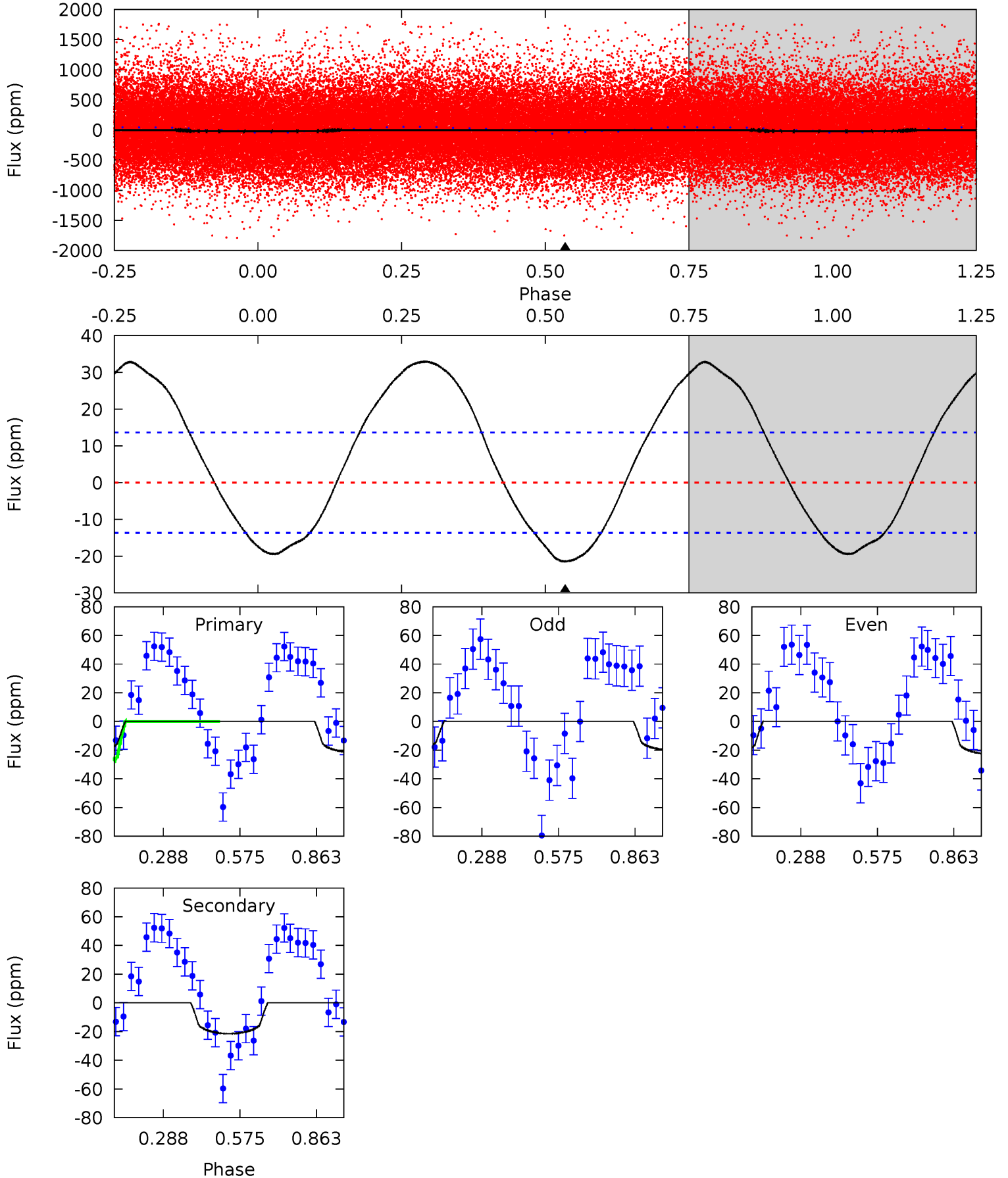
TCE 008182857-01 P= 0.694113 Days $T_0=131.847478$ (BKJD)



DV Model-Shift Uniqueness Test

008182857-01, P = 0.694057 Days, E = 131.181955 Days

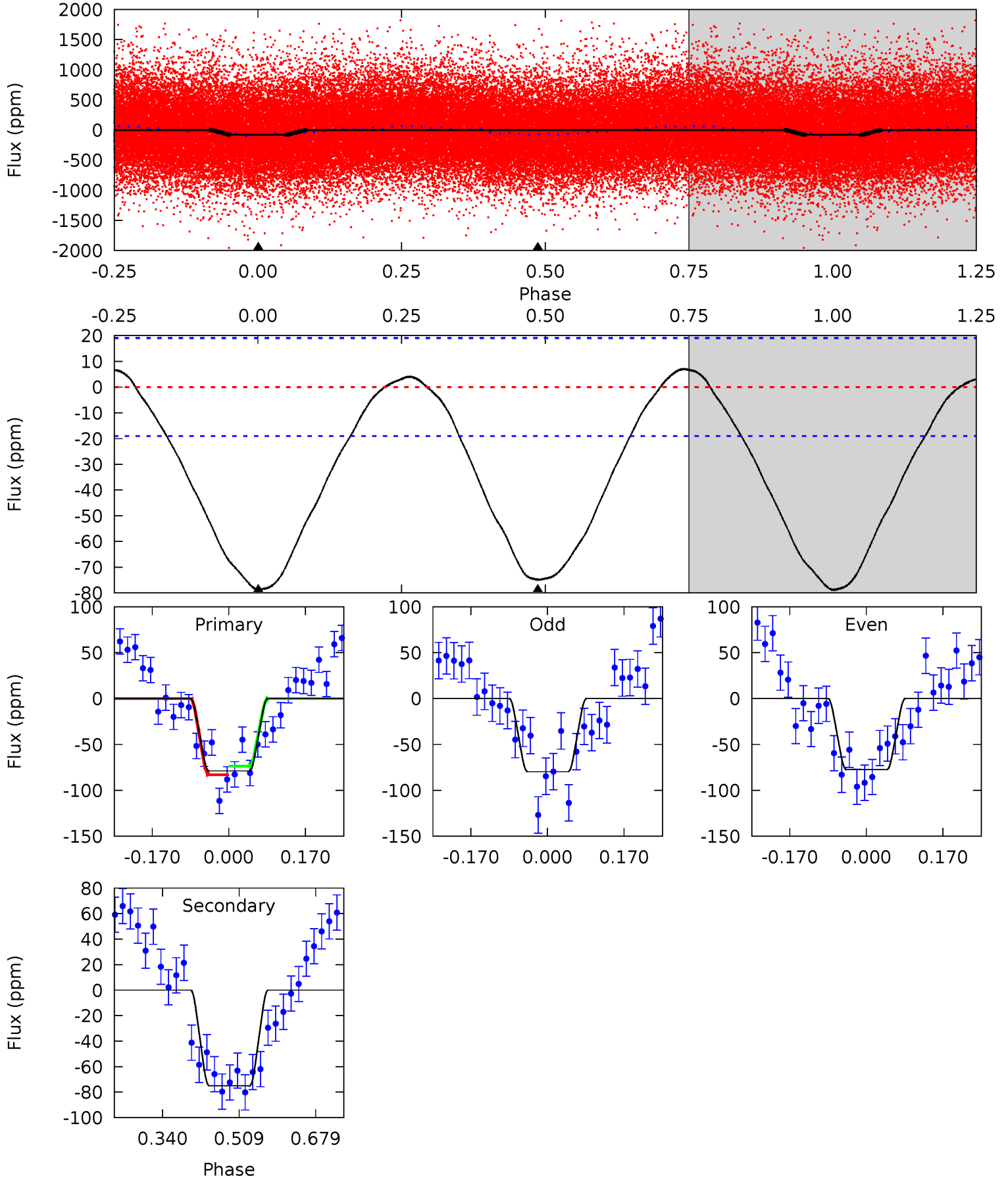
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.82	6.82	0	0	4.34	1.06	5.13	6.82	6.82	6.82	6.82	0.44	1.26	0.61	3.96



Alt Model-Shift Uniqueness Test

008182857-01, P = 0.694113 Days, E = 131.153365 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	17.5	0	0	4.45	1.37	1.40	18.4	18.4	17.5	17.5	0.27	1.01	0.08	1.08



Stellar Parameters For KIC 008182857

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6444^{+171}_{-228}	$4.433^{+0.065}_{-0.195}$	$-0.300^{+0.250}_{-0.300}$	$1.053^{+0.332}_{-0.111}$	$1.094^{+0.156}_{-0.142}$	$1.320^{+0.367}_{-0.684}$
	+3%/-4%	+1%/-4%	+83%/-100%	+32%/-11%	+14%/-13%	+28%/-52%
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 008182857-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-21 ± 3	$1.02^{+0.98}_{-0.69}$	3282^{+229}_{-153}	4796^{+3612}_{-1356}	$2.911^{+22.310}_{-2.187}$
Alt.	-75 ± 4	$1.40^{+1.15}_{-0.83}$	3284^{+239}_{-162}	5358^{+3656}_{-1194}	$5.030^{+25.292}_{-3.472}$

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

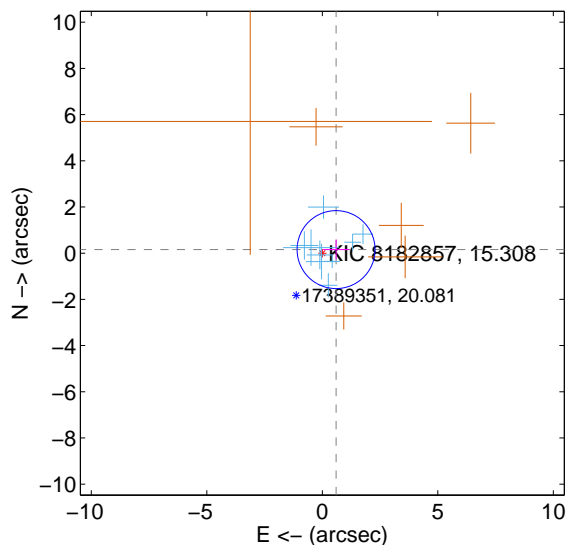
Supplemental centroid analysis for 008182857-01. Kepler magnitude: 15.31. Transit SNR 5.04

There are 9 quarters with good PRF difference image offsets

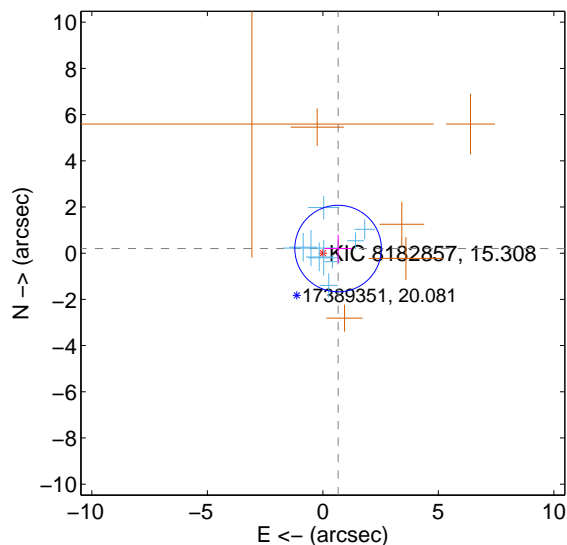
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.615 ± 0.562	1.09	-0.596 ± 0.570	0.154 ± 0.431
PRF-fit source offset from KIC position	0.689 ± 0.624	1.10	-0.660 ± 0.597	0.200 ± 0.605
photometric centroid source offset	2.23 ± 2.17	1.03	-0.68 ± 2.24	2.12 ± 2.16

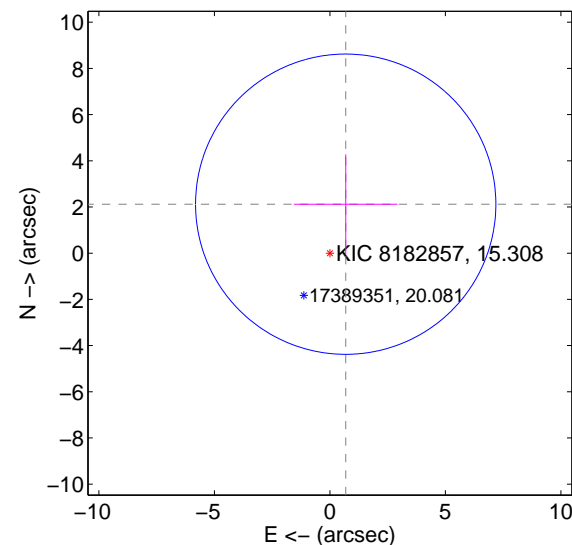
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

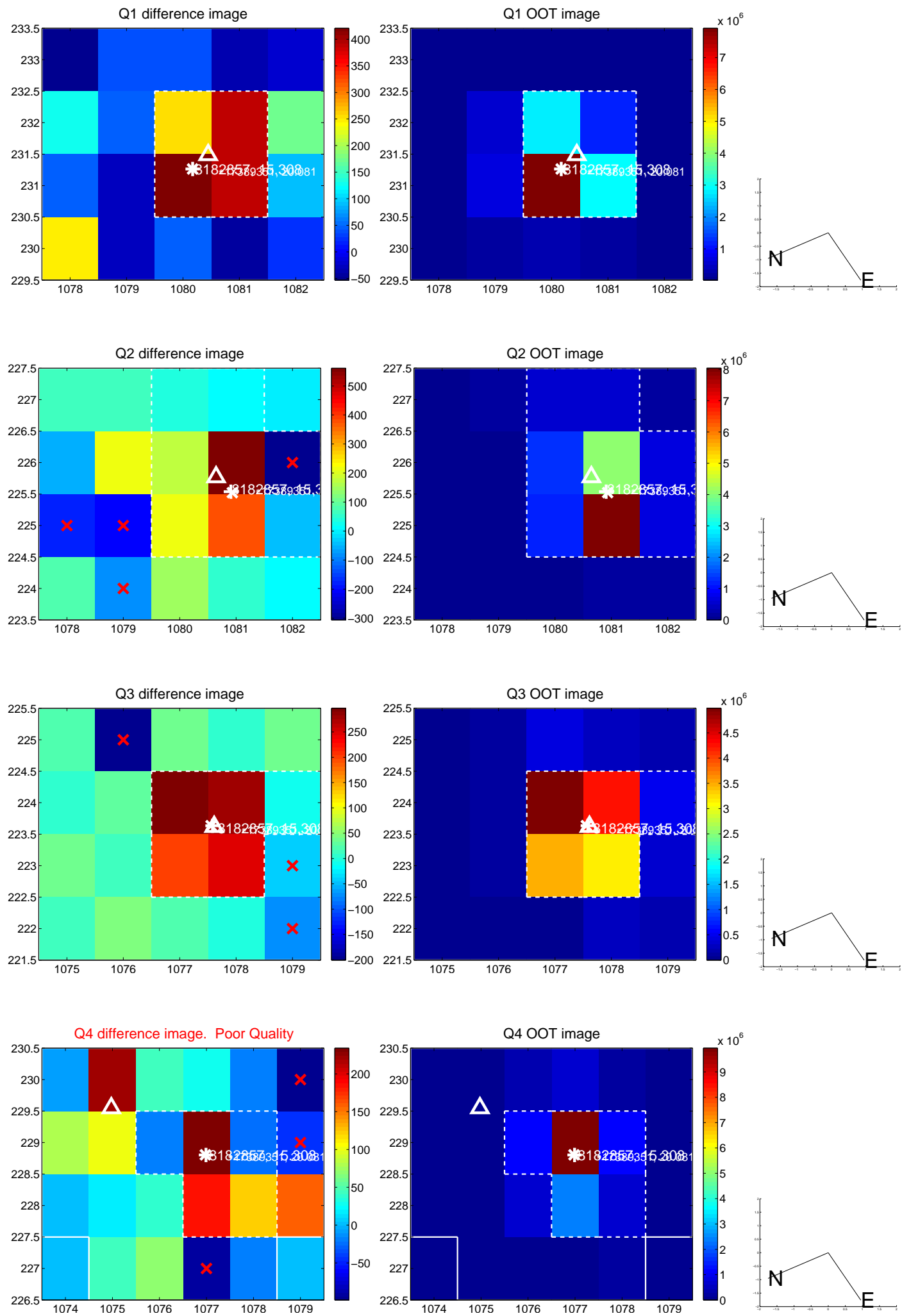


offset from photometric centroids

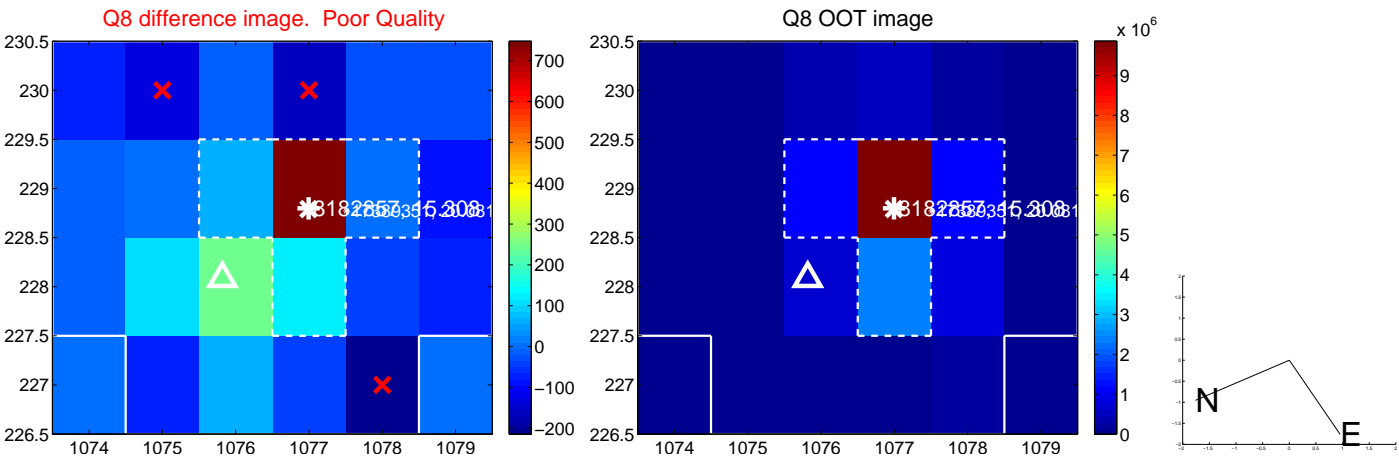
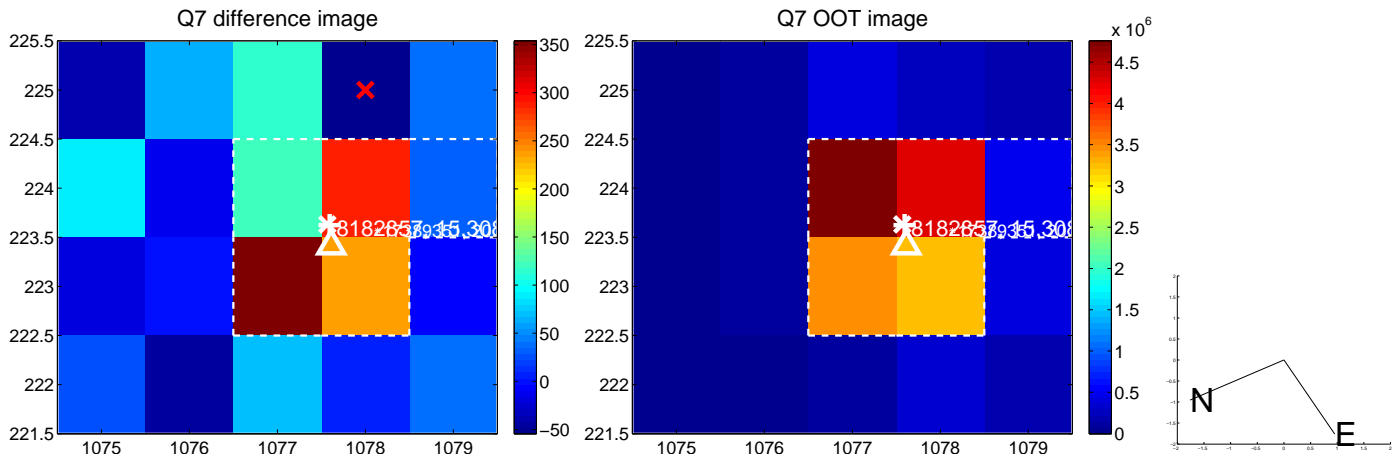
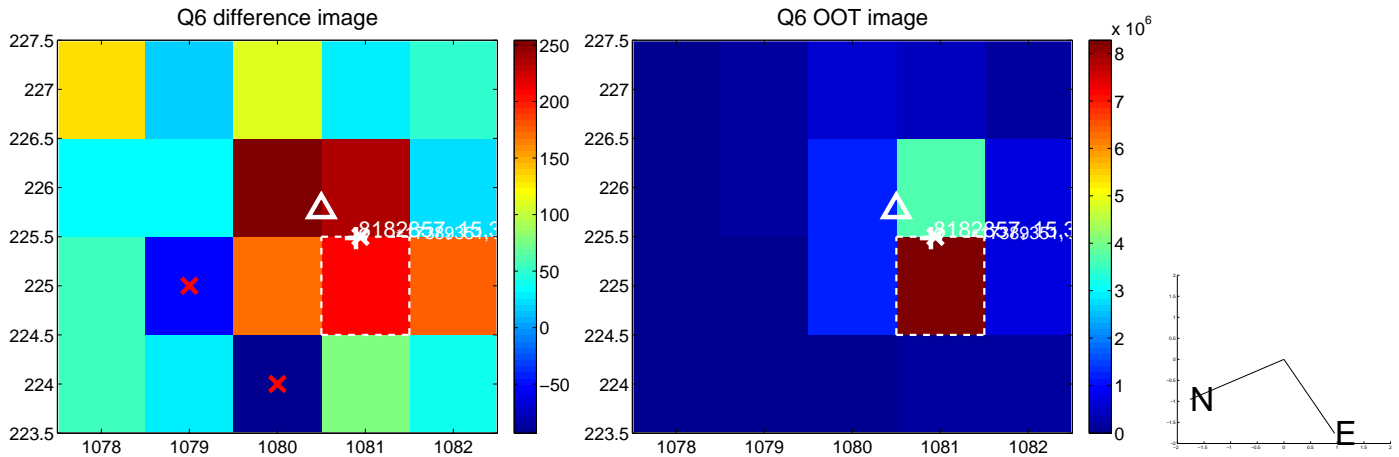
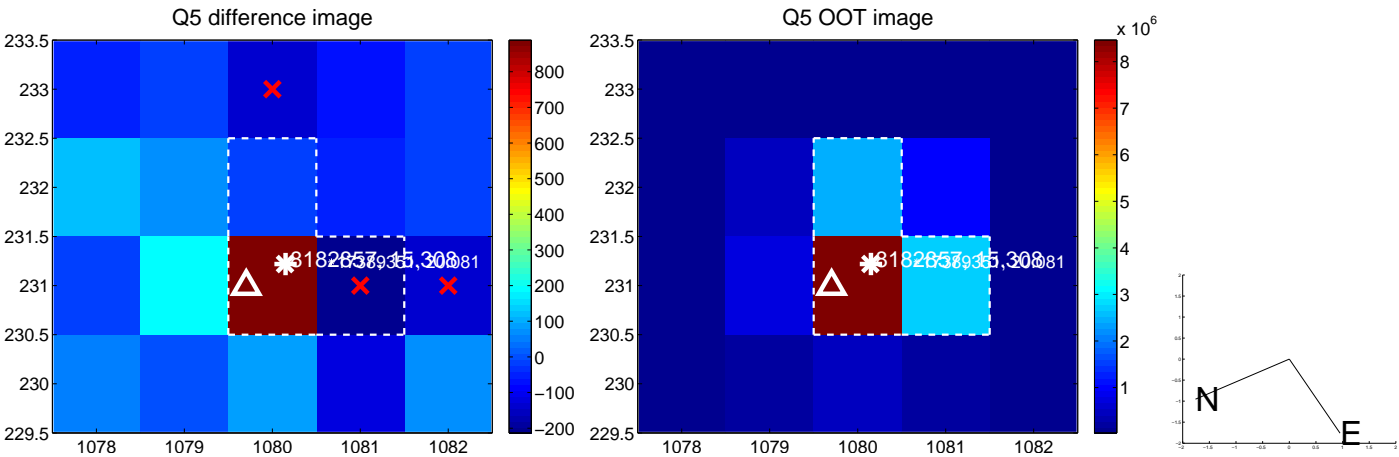


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

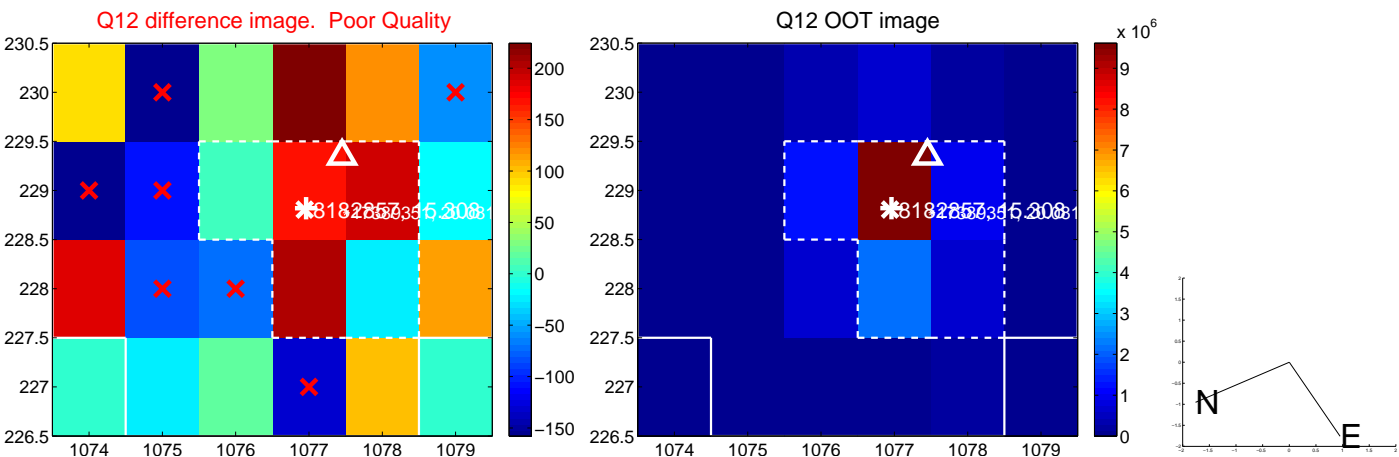
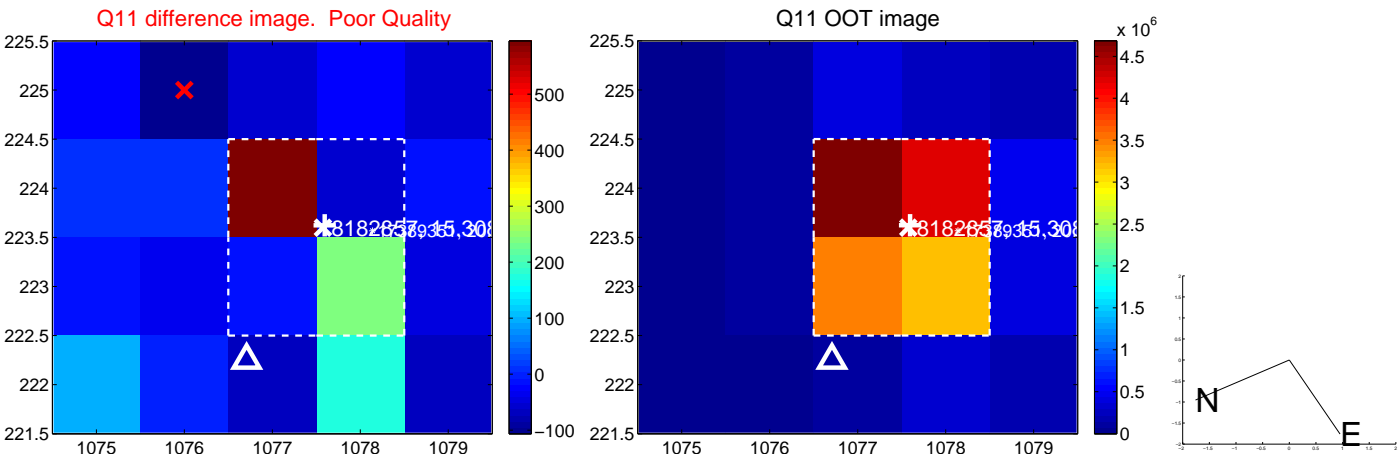
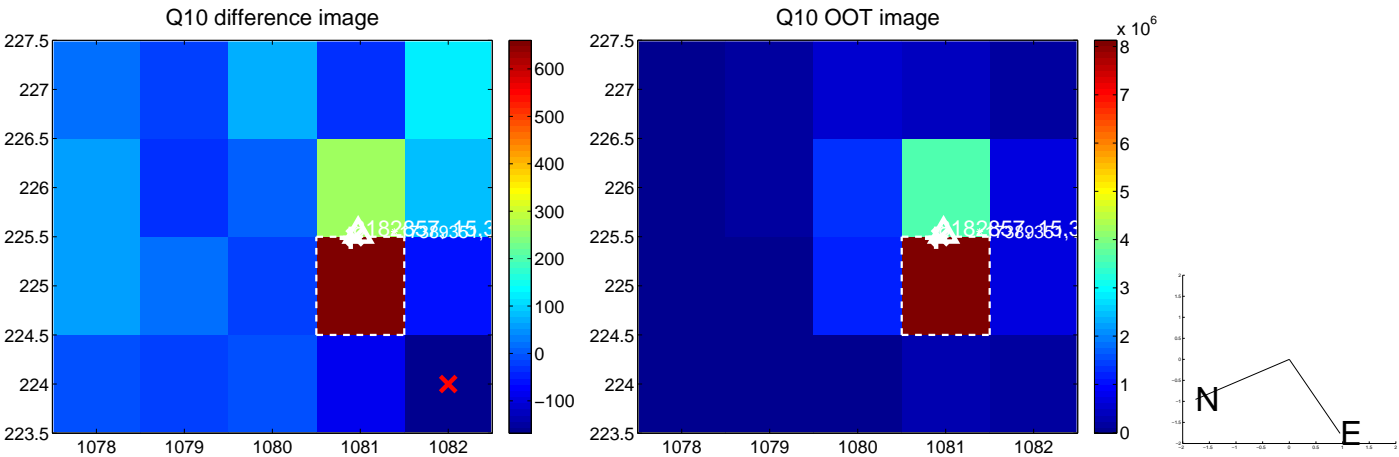
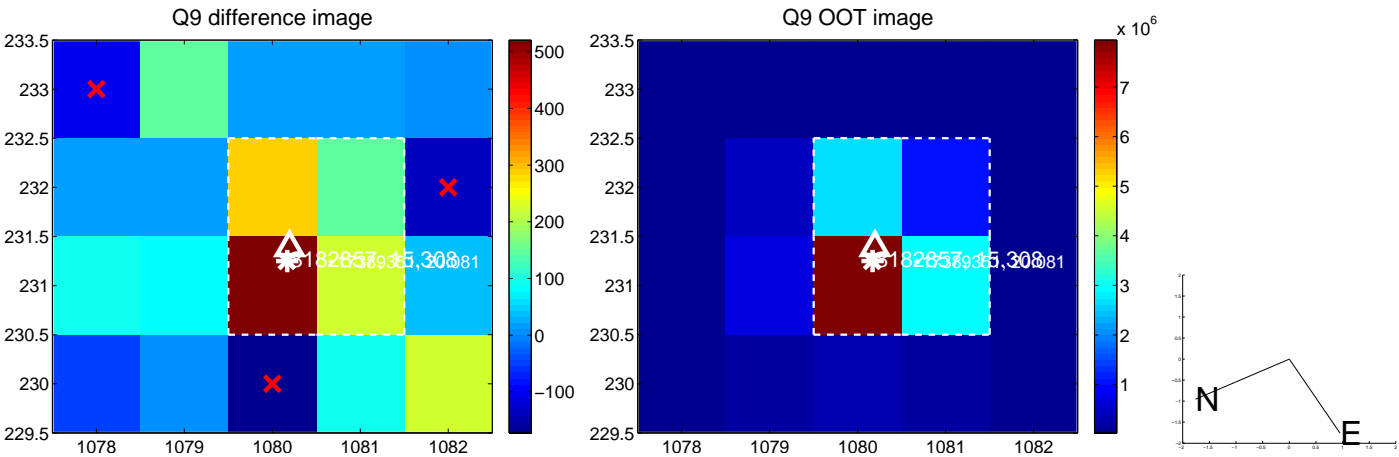
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



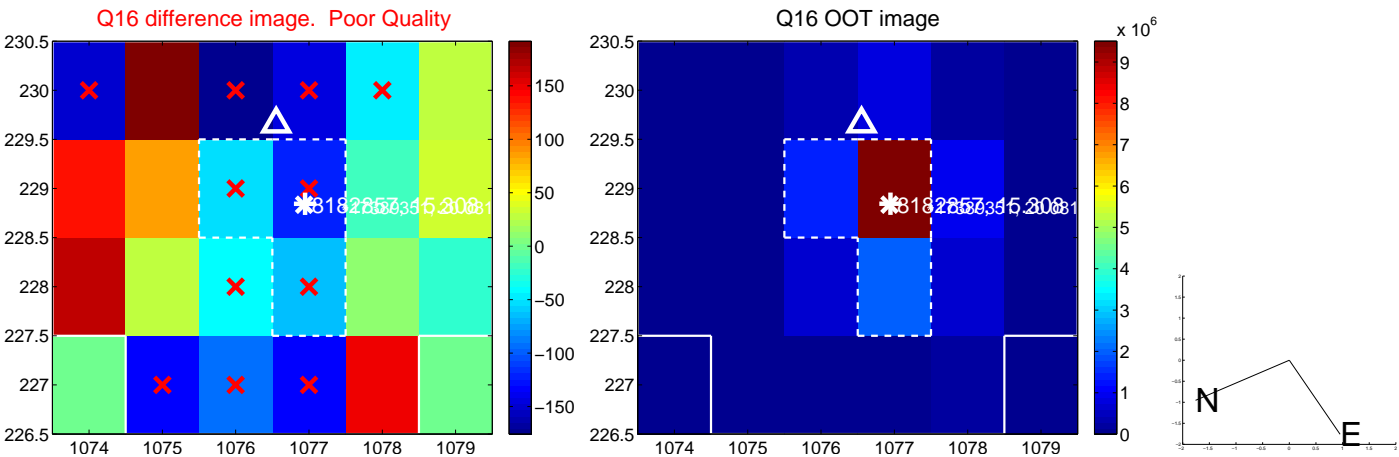
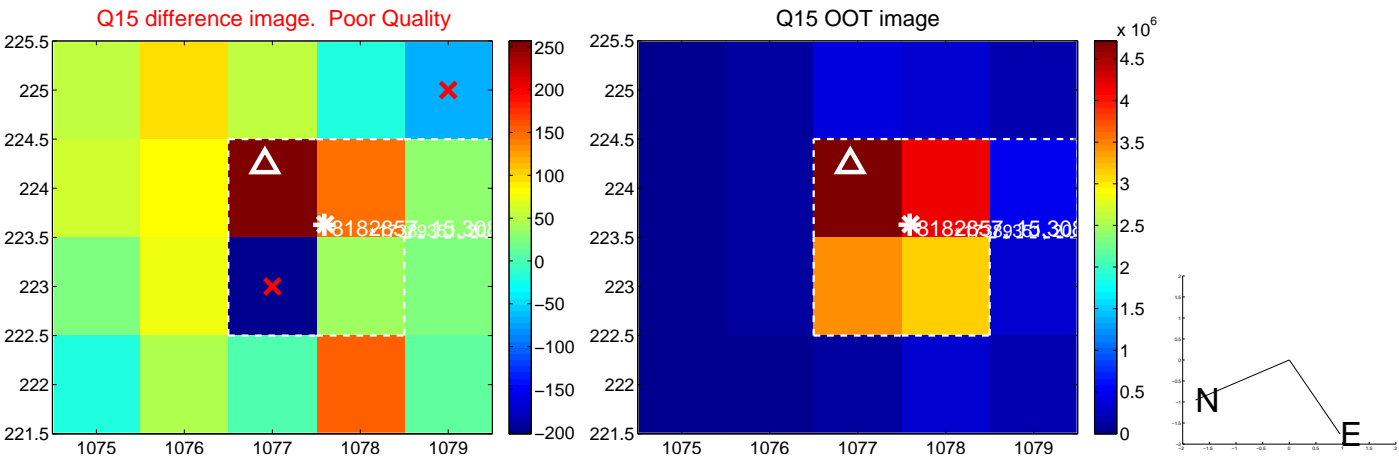
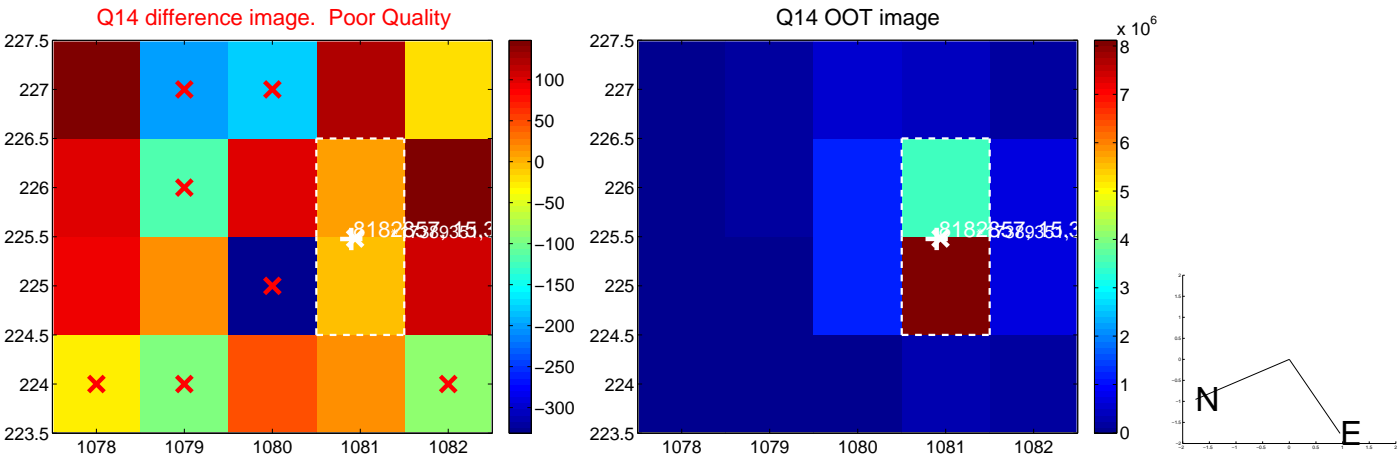
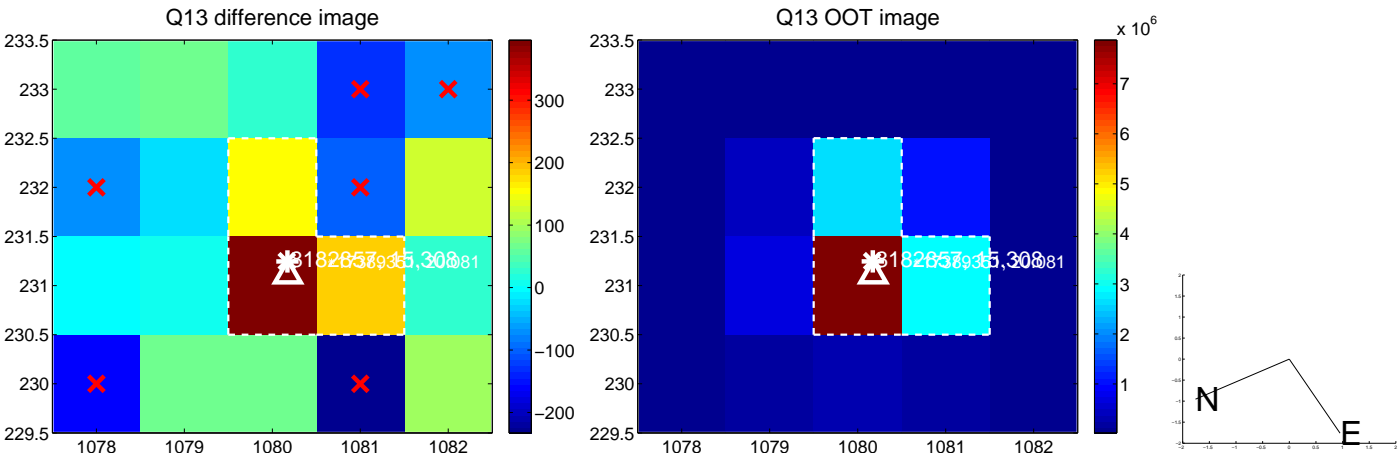
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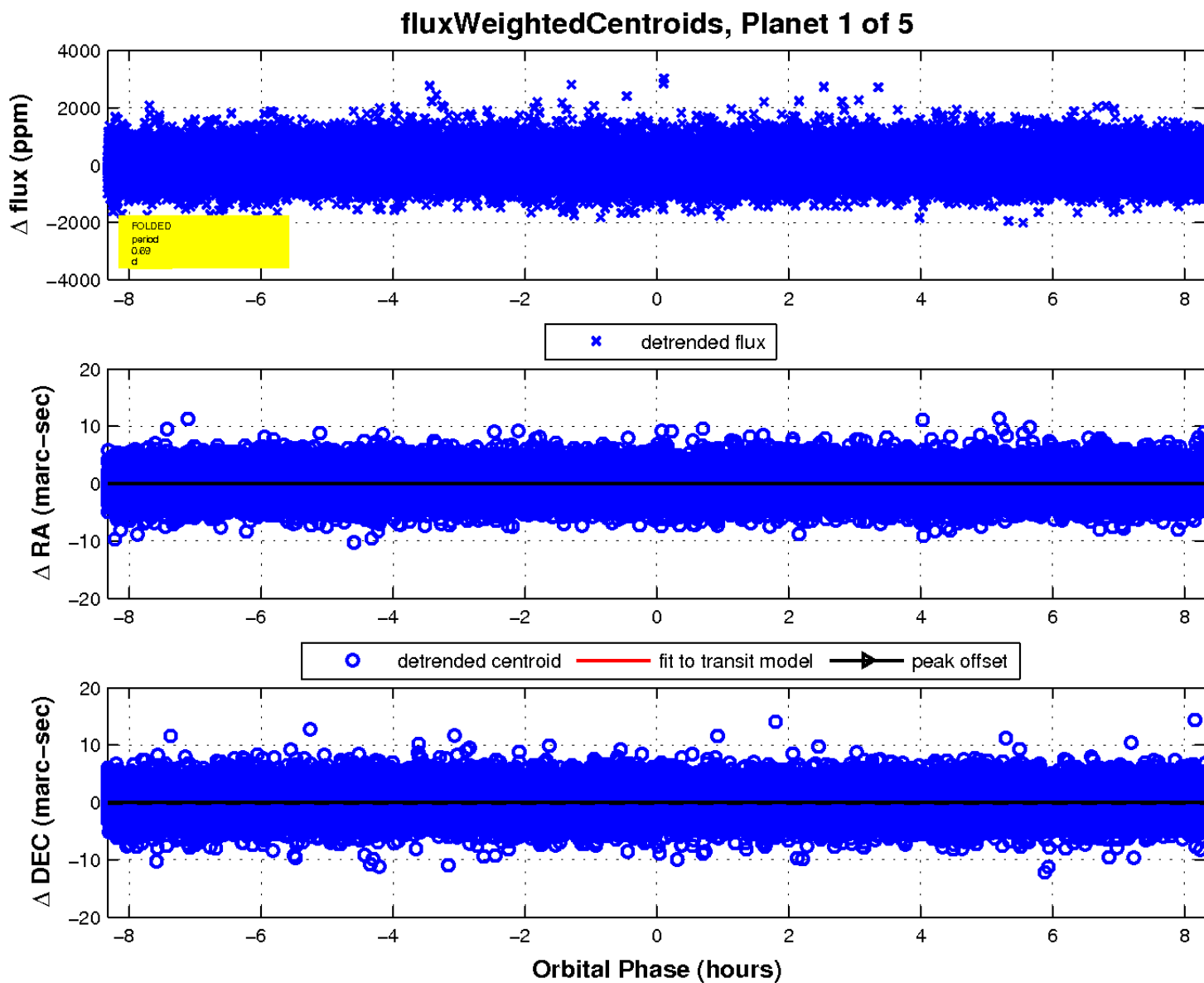
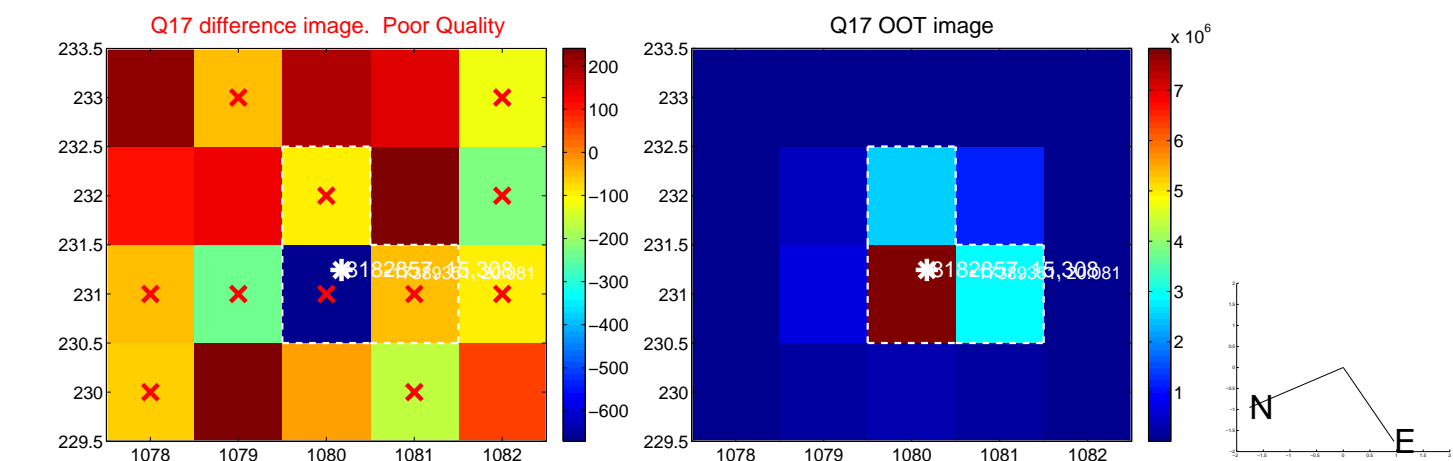
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

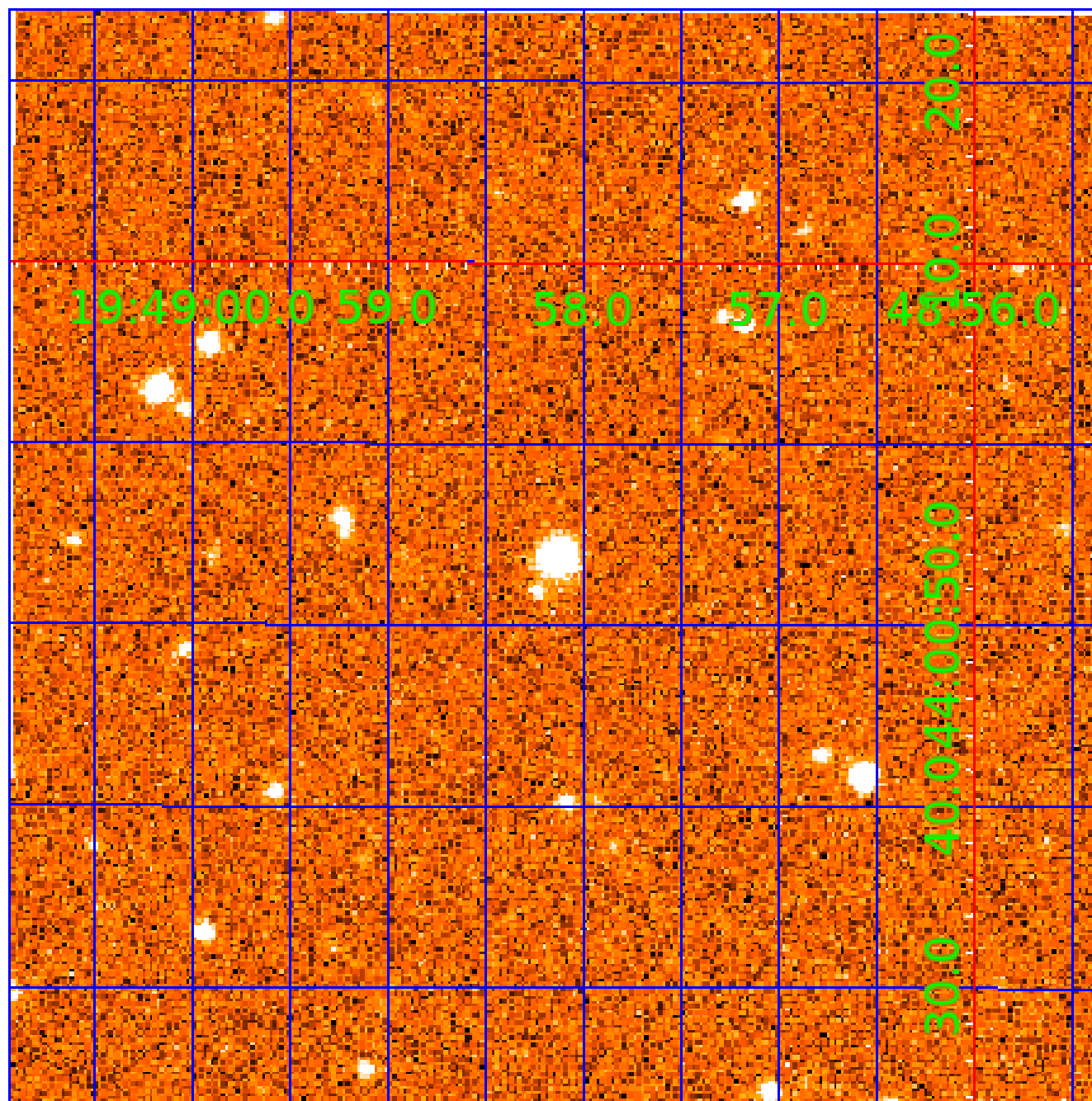


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008182857

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})
008182857-01	OBS	No	0.694057	131.876012	21.4	4.359	9.8	5.0	1.05	6444	0.49	6843.45
008182857-02	OBS	No	40.148536	132.642221	733.6	1.819	9.4	10.7	1.05	6444	2.99	30.59
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008182857-04	OBS	No	95.654841	131.600236	587.8	3.424	8.1	7.6	1.05	6444	2.74	9.61
008182857-05	OBS	No	44.974723	168.071815	670.7	2.127	8.7	9.2	1.05	6444	2.96	26.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008182857-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008182857-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

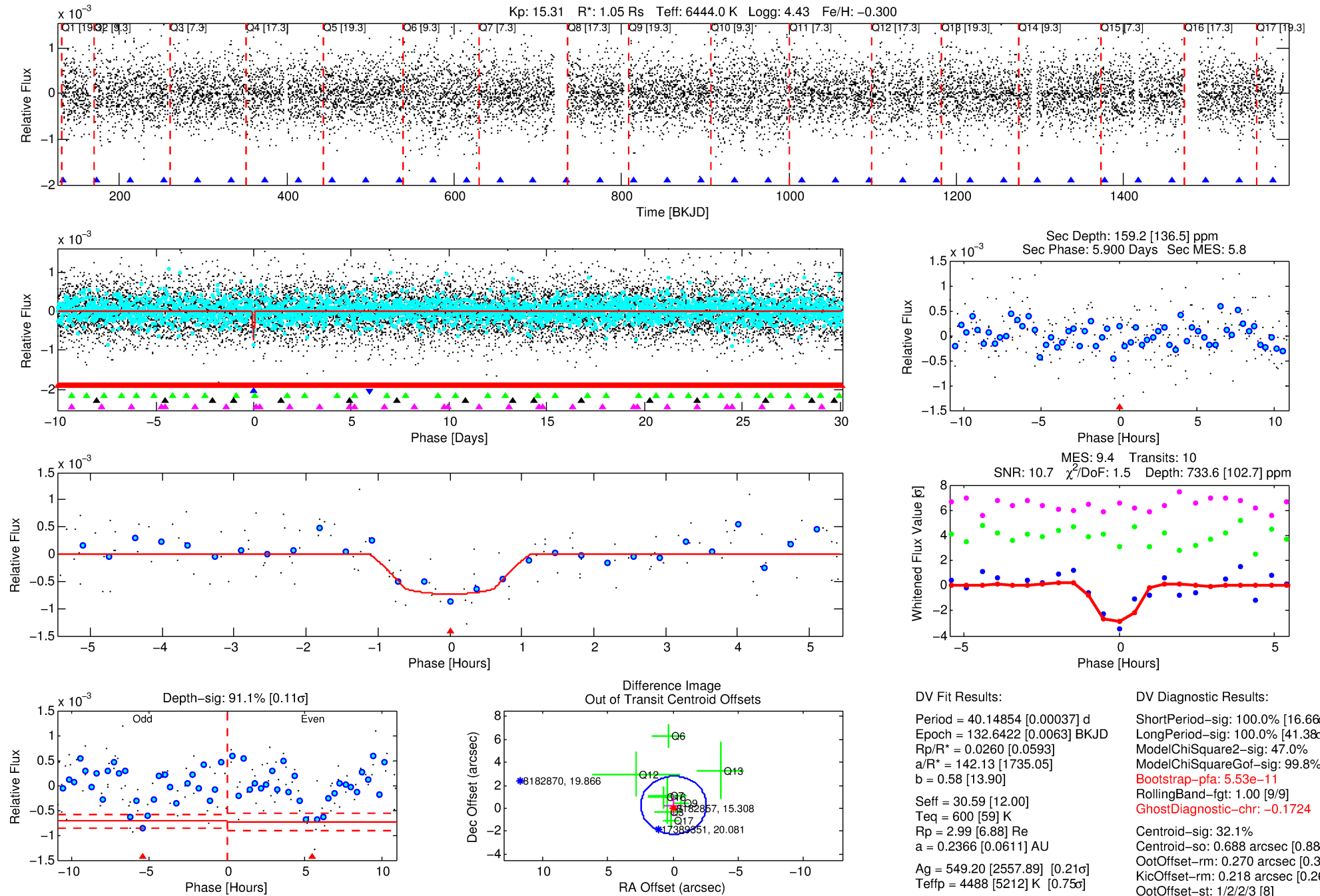
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008182857-02

No Significant Match Found

DV One-Page Summary

KIC: 8182857 Candidate: 2 of 5 Period: 40.149 d



DV Fit Results:

Period = 40.14854 [0.00037] d
Epoch = 132.6422 [0.0063] BKJD
Rp/R* = 0.0260 [0.0593]
a/R* = 142.13 [1735.05]
b = 0.58 [13.90]
Seff = 30.59 [12.00]
Teq = 600 [59] K
Rp = 2.99 [6.88] Re
a = 0.2366 [0.0611] AU
Ag = 549.20 [2557.89] [0.21 σ]
Teff = 4488 [5212] K [0.75 σ]

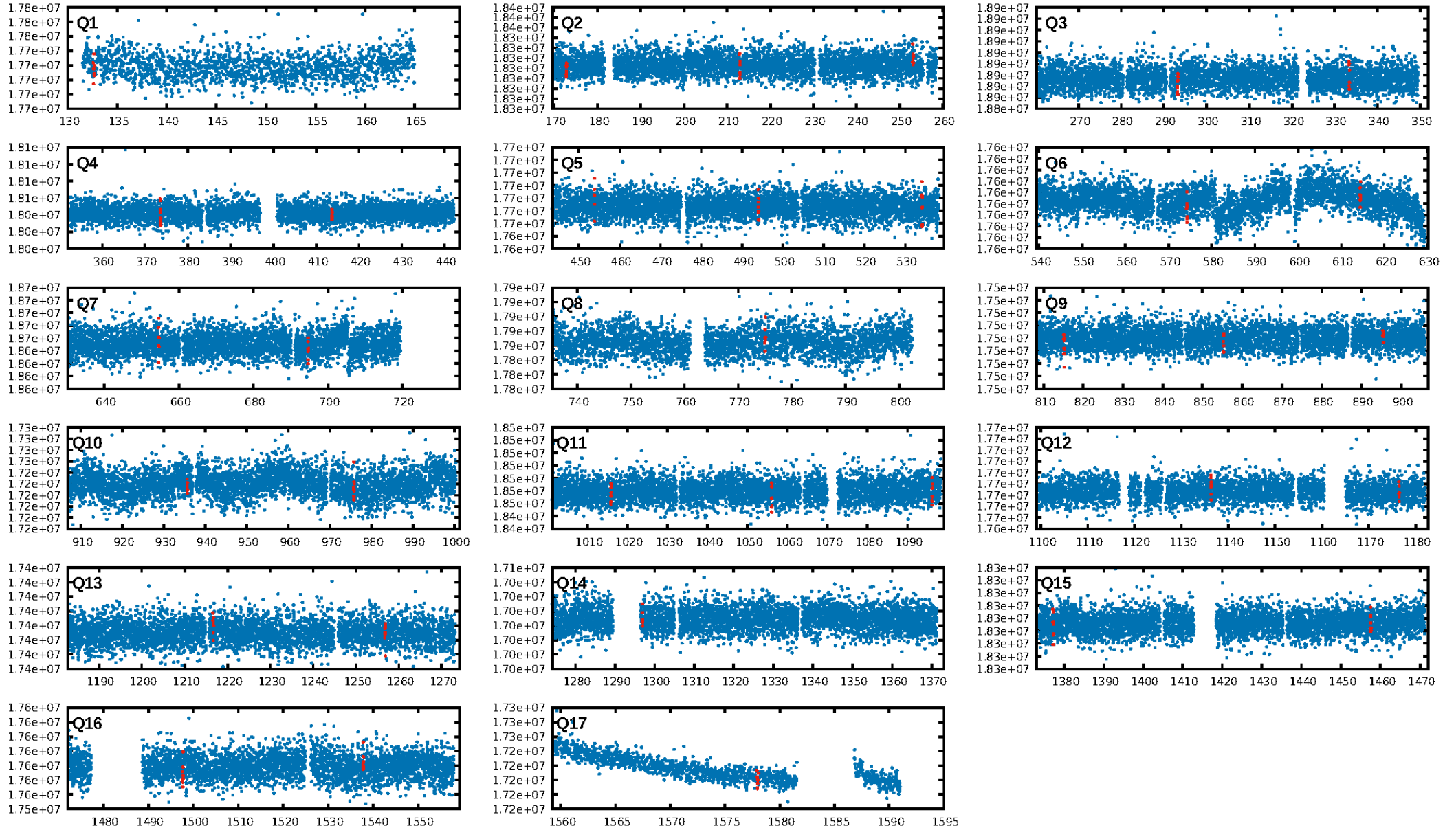
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [16.66 σ]
LongPeriod-sig: 100.0% [41.38 σ]
ModelChiSquare2-sig: 47.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: 5.53e-11
RollingBand-fgt: 1.00 [9/9]
GhostDiagnostic-chr: -0.1724
Centroid-sig: 32.1%
Centroid-so: 0.688 arcsec [0.88 σ]
OotOffset-rm: 0.270 arcsec [0.32 σ]
KicOffset-rm: 0.218 arcsec [0.26 σ]
OotOffset-st: 1/2/2/3 [8]
KicOffset-st: 1/2/2/3 [8]
DiffImageQuality-fgm: 0.50 [4/8]
DiffImageOverlap-fno: 0.12 [2/17]

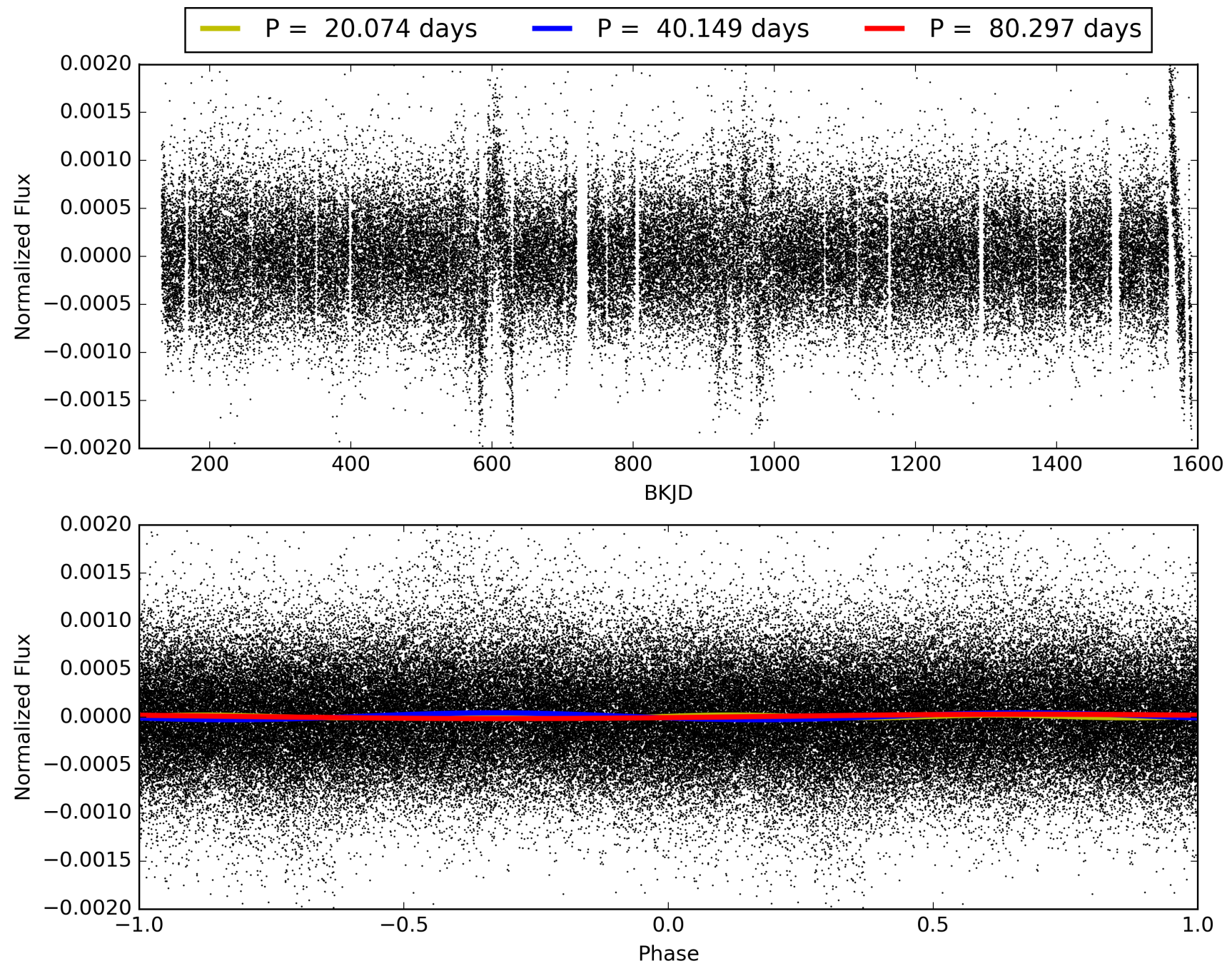
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:51:46 Z

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

TCE 008182857-02, PDC Light Curves

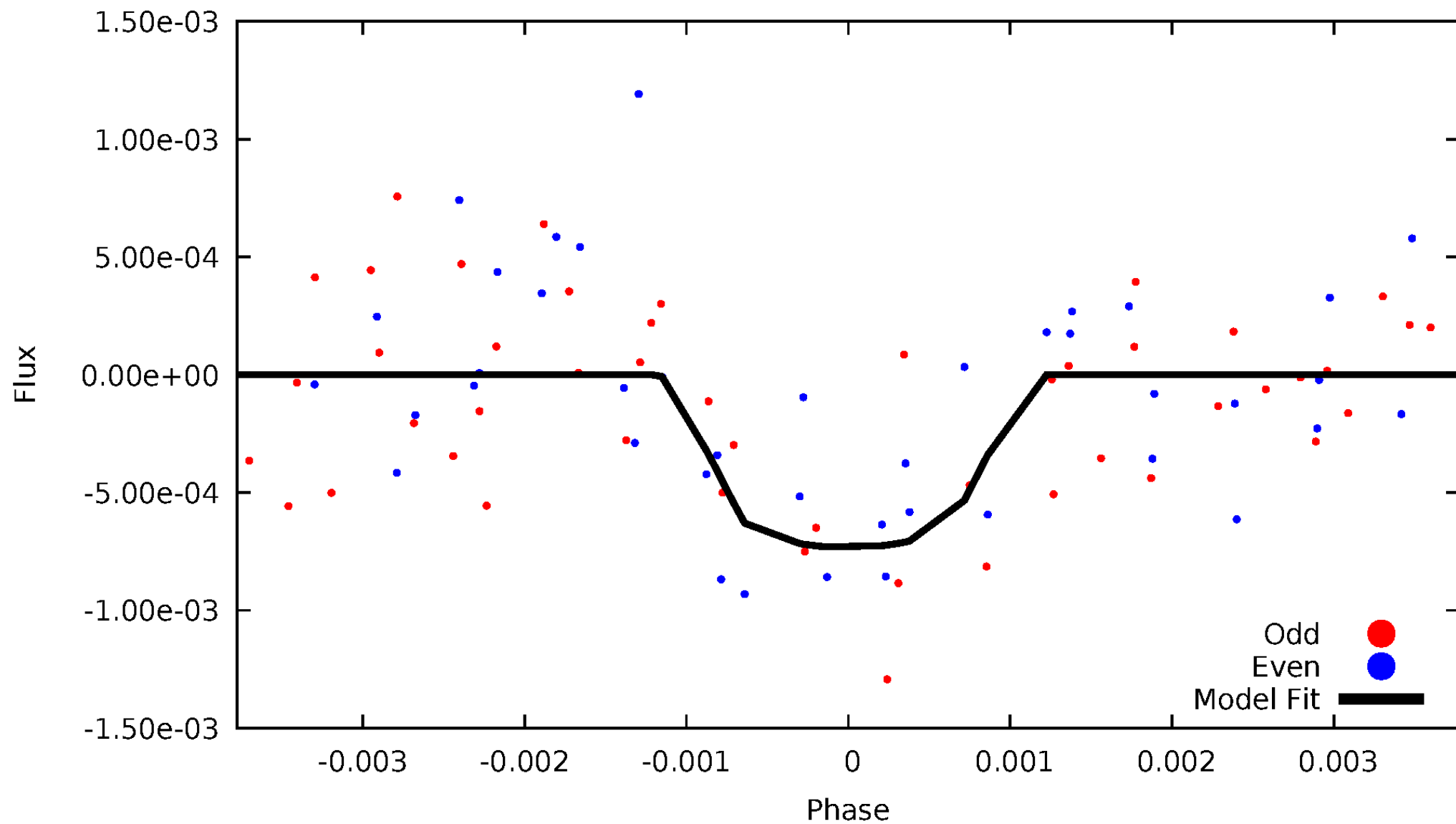


TCE 008182857-02



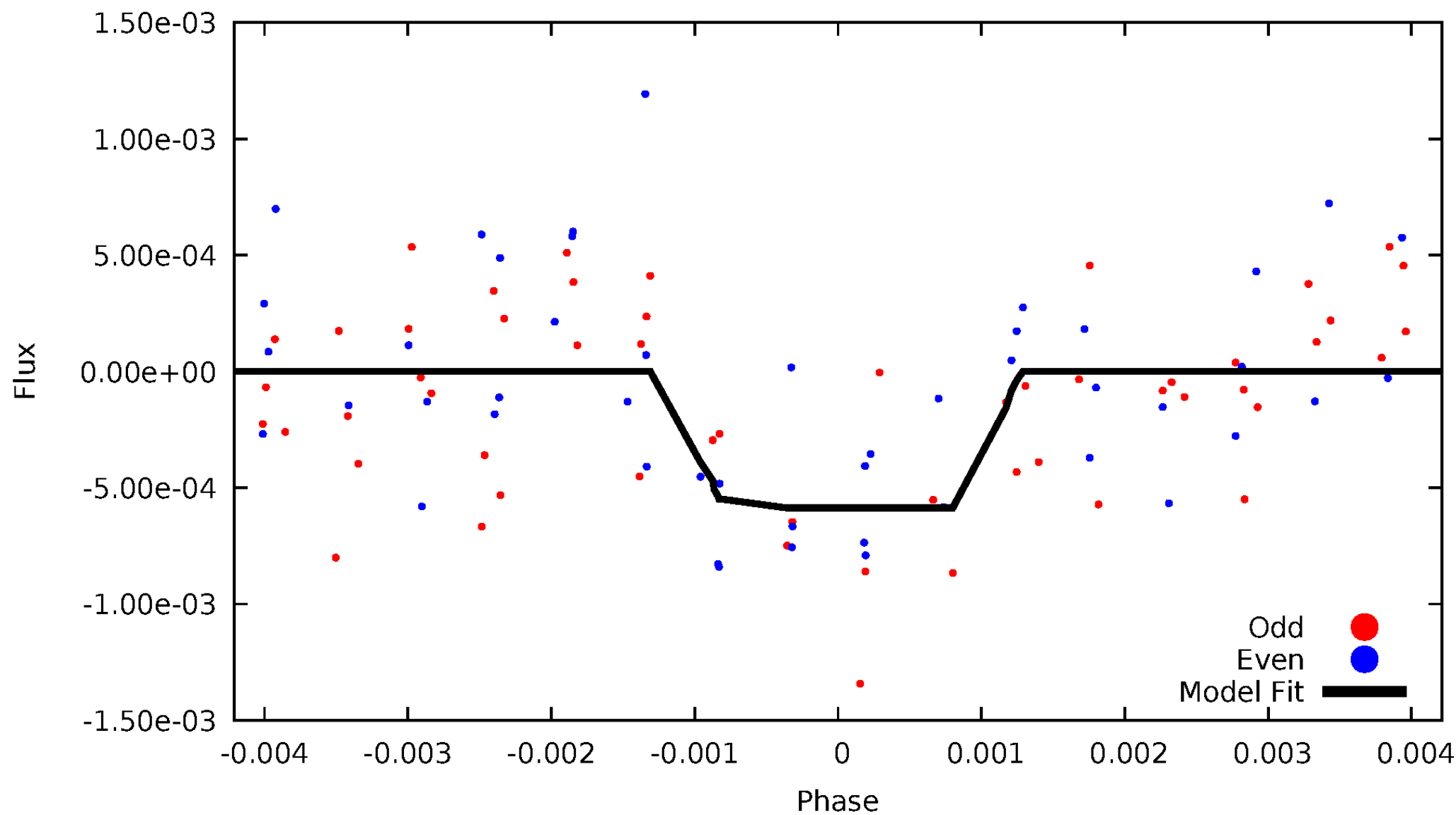
DV Odd/Even

TCE 008182857-02



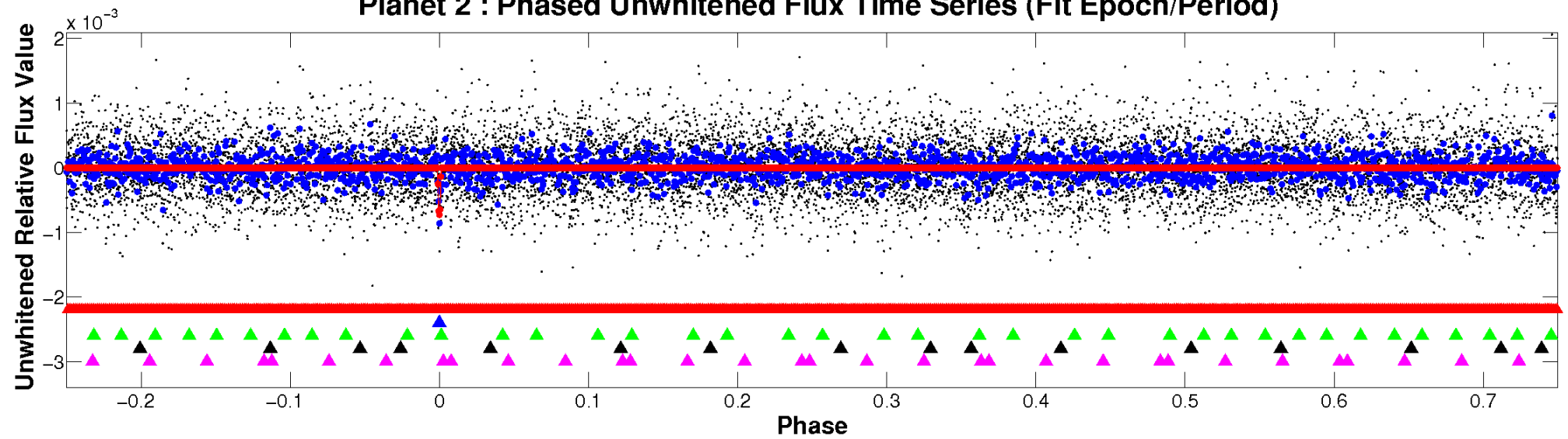
ALT Odd/Even

TCE 008182857-02

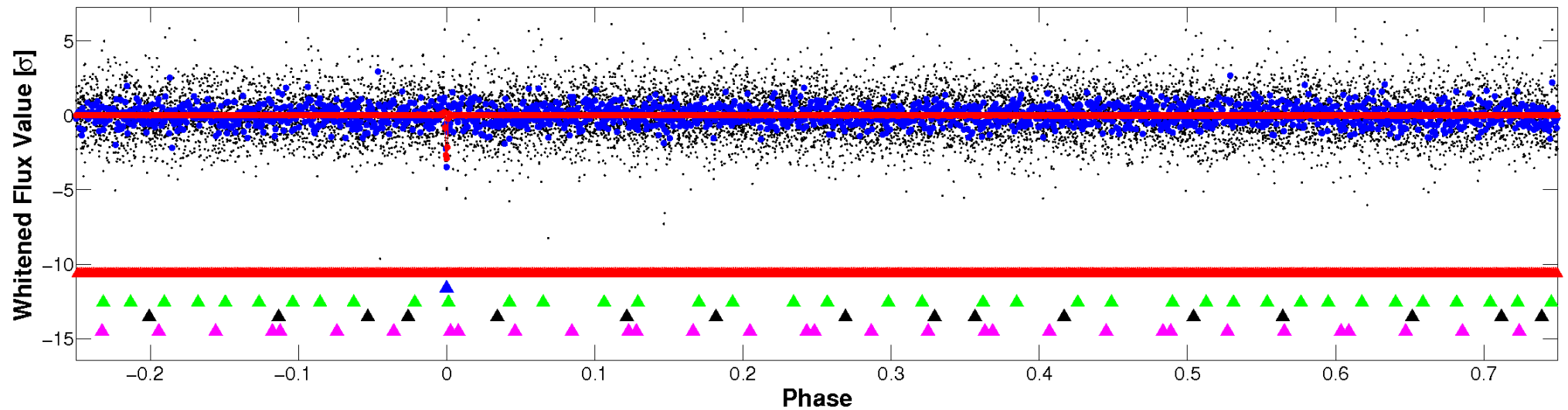


Non-Whitened Vs. Whitened Light Curve

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

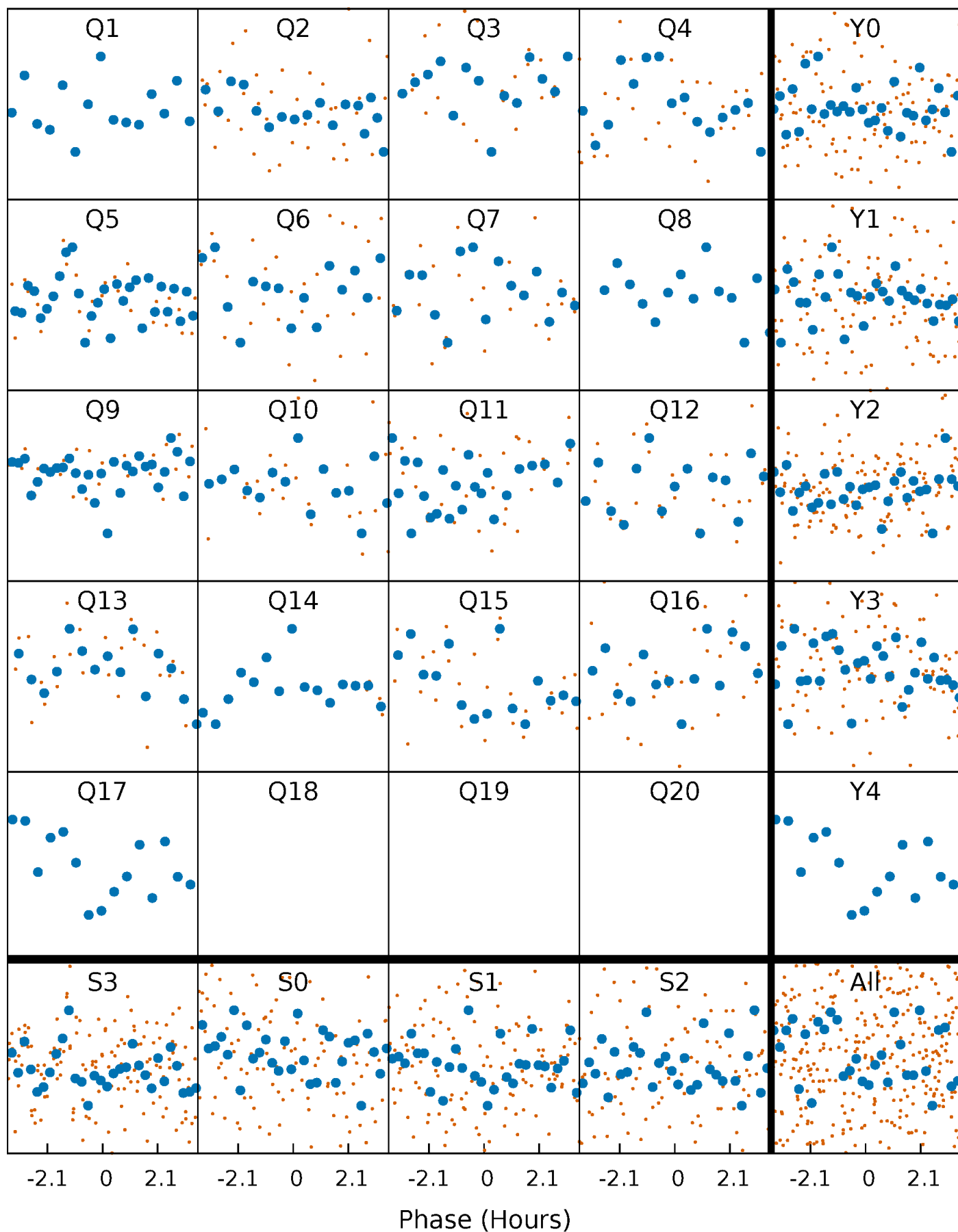


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



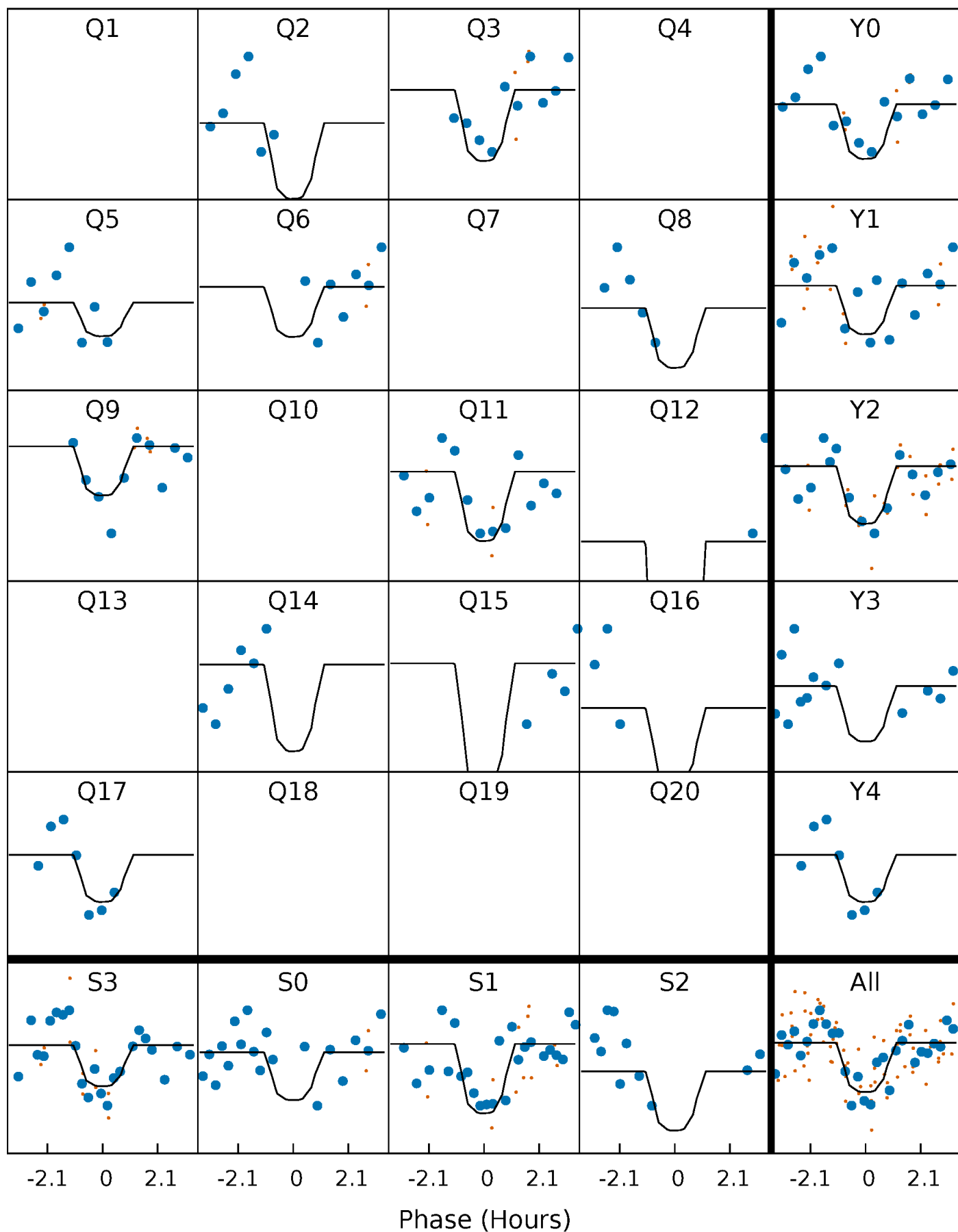
PDC Quarter-Phased Transit Curves

TCE 008182857-02 P= 40.148536 Days $T_0=132.642221$ (BKJD)



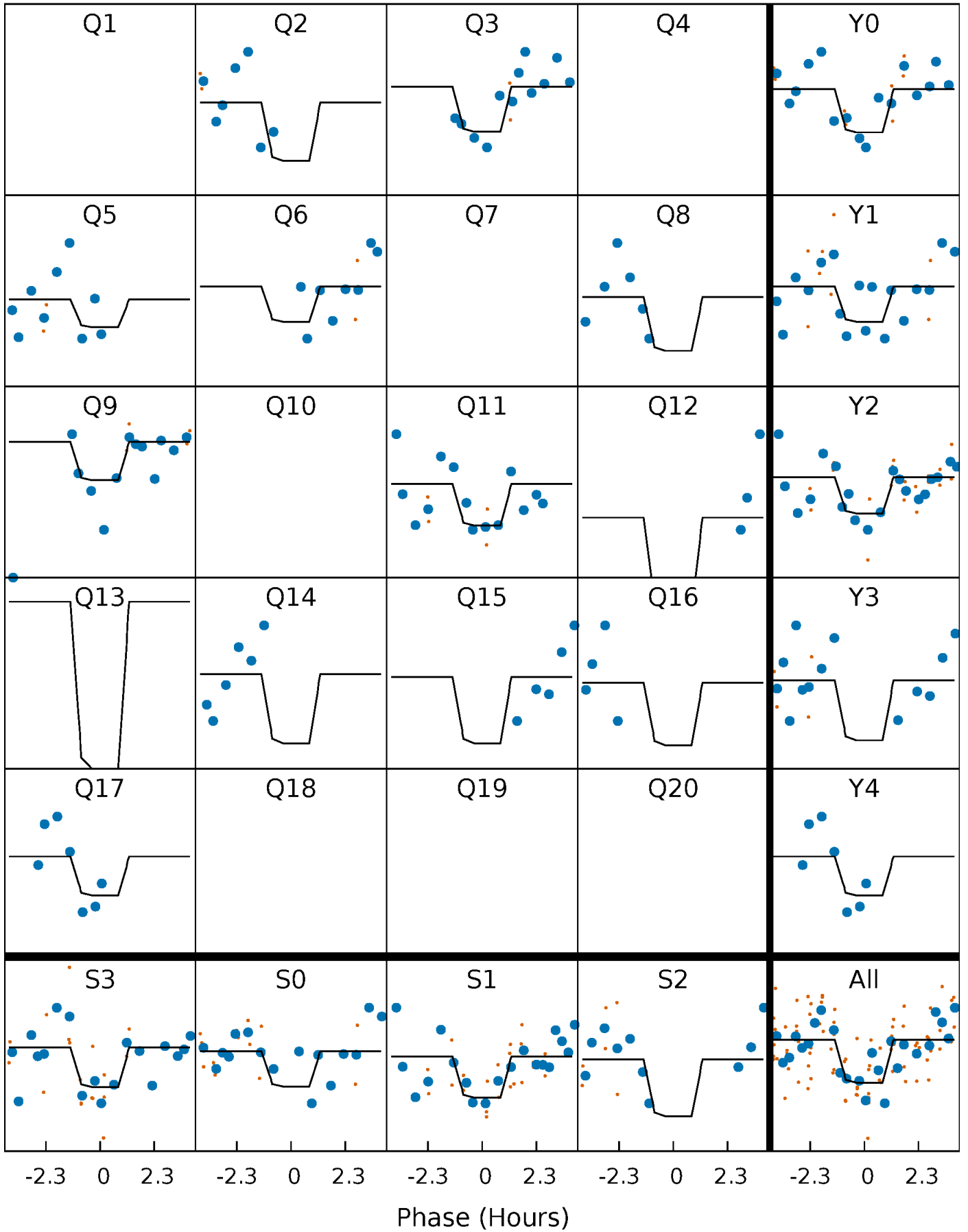
DV Quarter-Phased Transit Curves

TCE 008182857-02 $P = 40.148536$ Days $T_0 = 132.642221$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

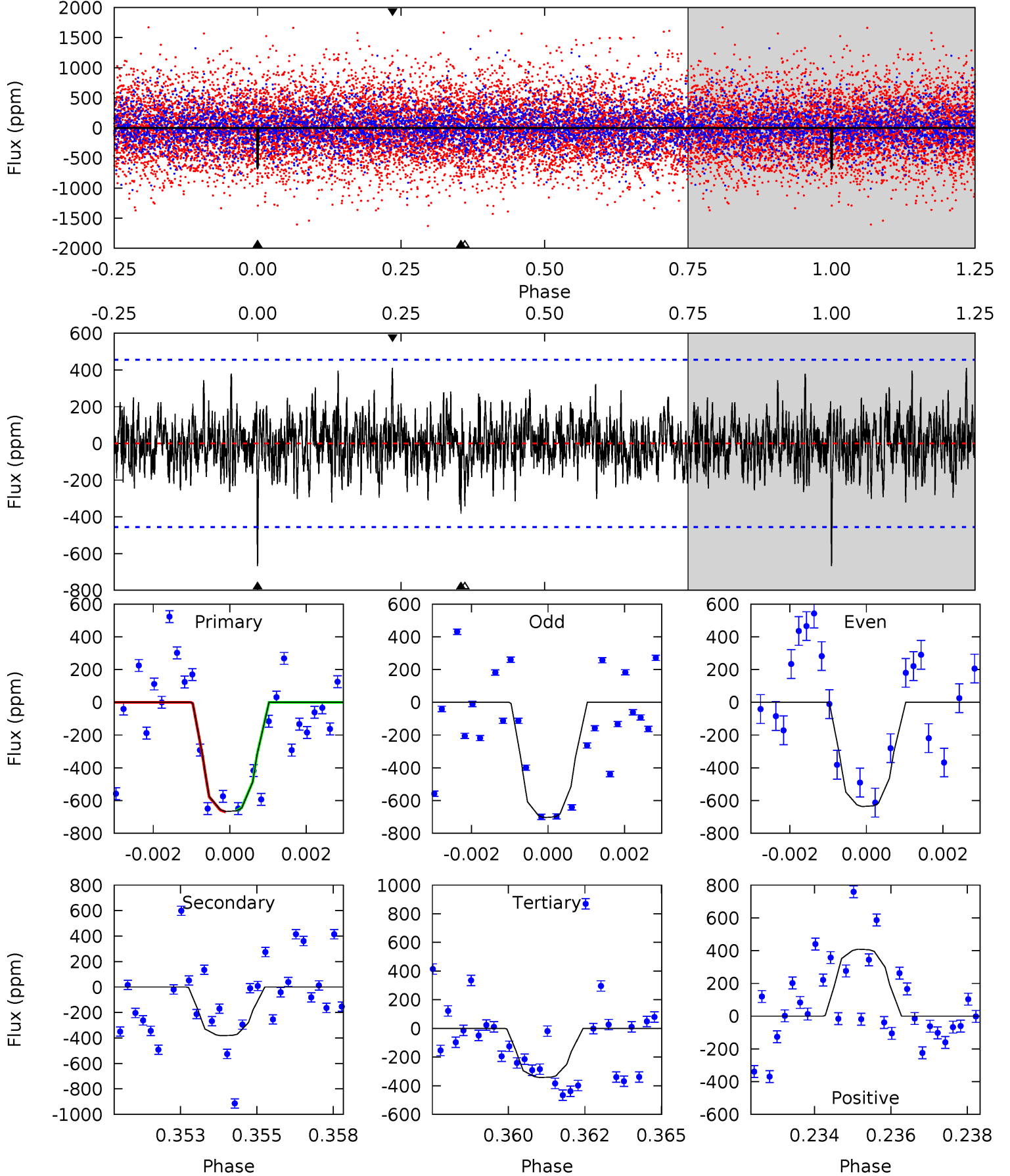
TCE 008182857-02 P= 40.148754 Days $T_0=132.641991$ (BKJD)



DV Model-Shift Uniqueness Test

008182857-02, P = 40.148536 Days, E = 92.493685 Days

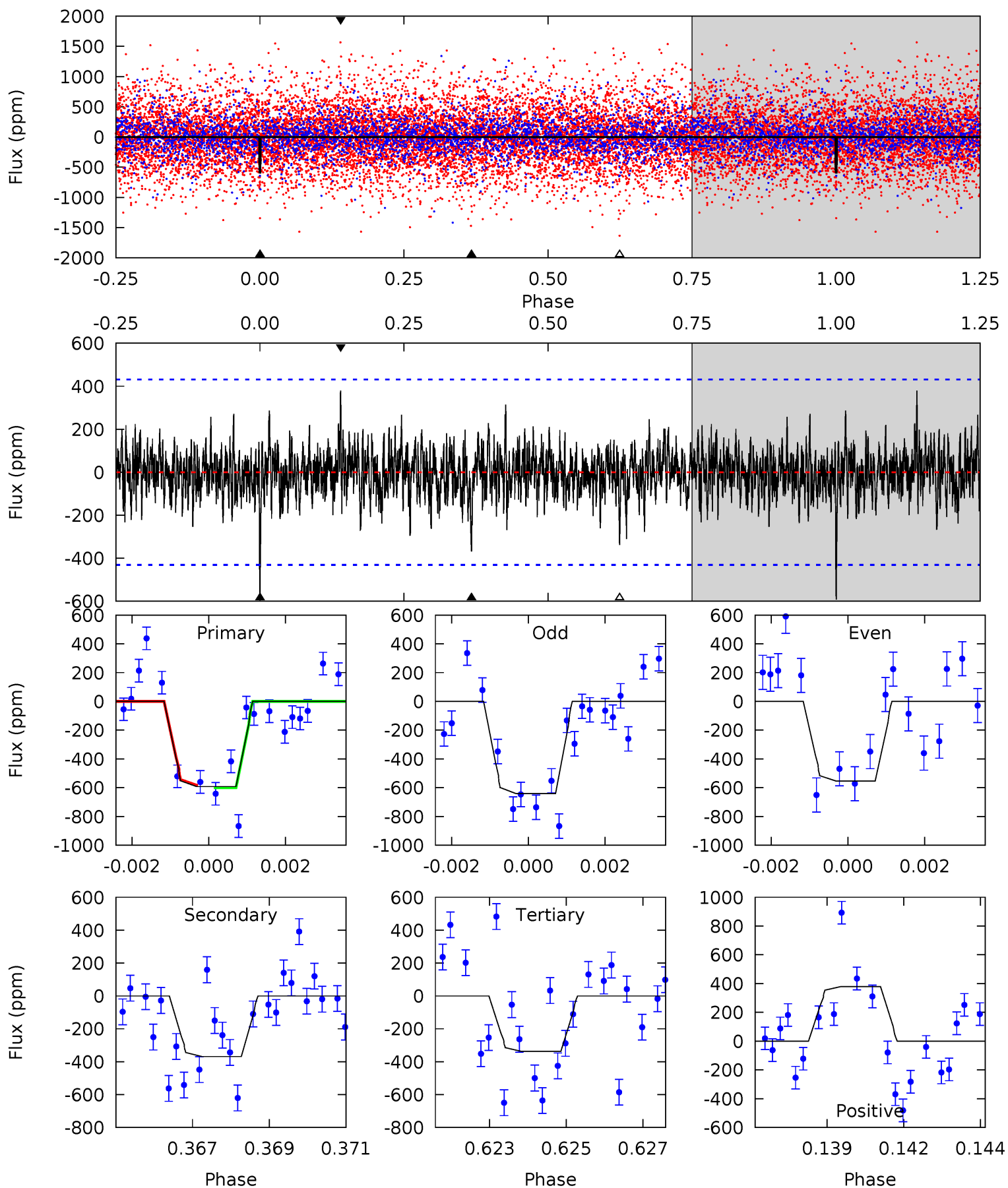
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.75	4.44	3.98	4.74	5.29	3.04	1.25	3.77	3.01	0.46	-0.30	0.39	0.99	0.38	0.05



Alt Model-Shift Uniqueness Test

008182857-02, P = 40.148754 Days, E = 92.493237 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.29	4.54	4.15	4.67	5.31	3.06	1.08	3.13	2.61	0.39	-0.13	0.54	1.11	0.39	0.10



Stellar Parameters For KIC 008182857

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6444^{+171}_{-228}	$4.433^{+0.065}_{-0.195}$	$-0.300^{+0.250}_{-0.300}$	$1.053^{+0.332}_{-0.111}$	$1.094^{+0.156}_{-0.142}$	$1.320^{+0.367}_{-0.684}$
	+3%/-4%	+1%/-4%	+83%/-100%	+32%/-11%	+14%/-13%	+28%/-52%
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 008182857-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-382 ± 86	$6.01^{+6.10}_{-4.19}$	845^{+58}_{-40}	4263^{+2938}_{-950}	321^{+3052}_{-250}
Alt.	-369 ± 81	$5.96^{+5.86}_{-4.06}$	849^{+61}_{-43}	4199^{+2901}_{-820}	293^{+2695}_{-210}

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

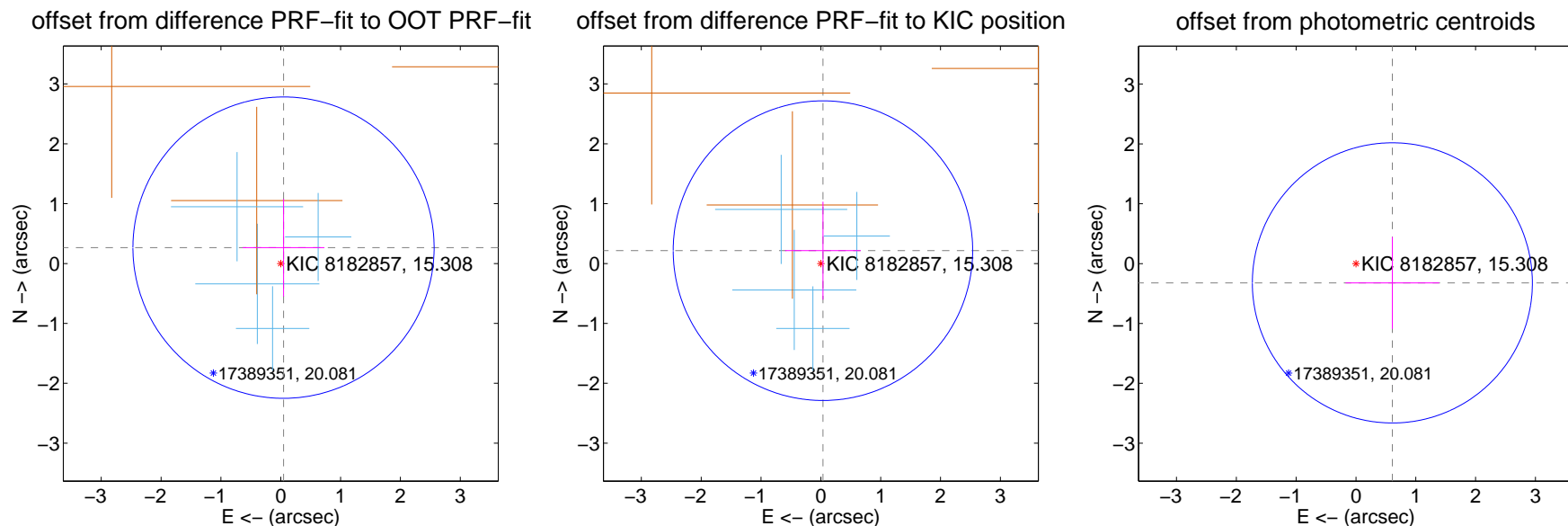
DV Centroid Data

Supplemental centroid analysis for 008182857-02. Kepler magnitude: 15.31. Transit SNR 10.67

There are 4 quarters with good PRF difference image offsets

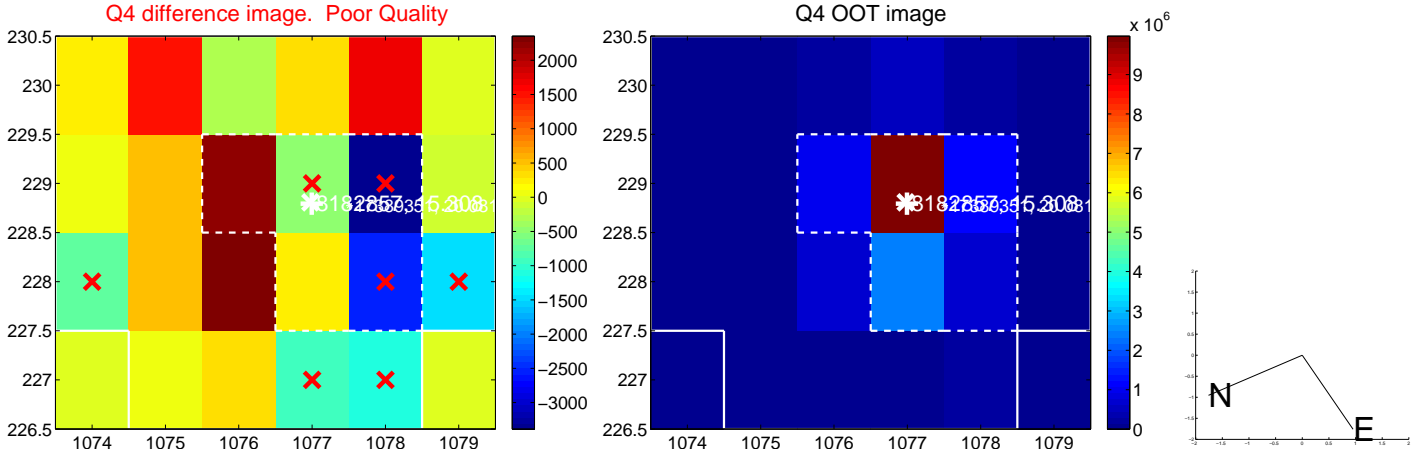
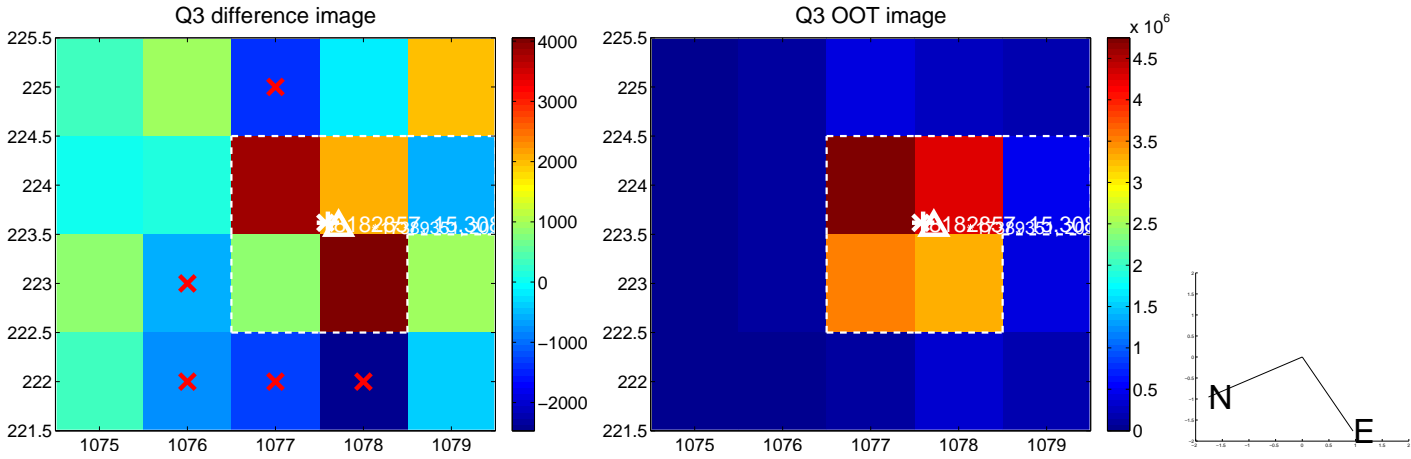
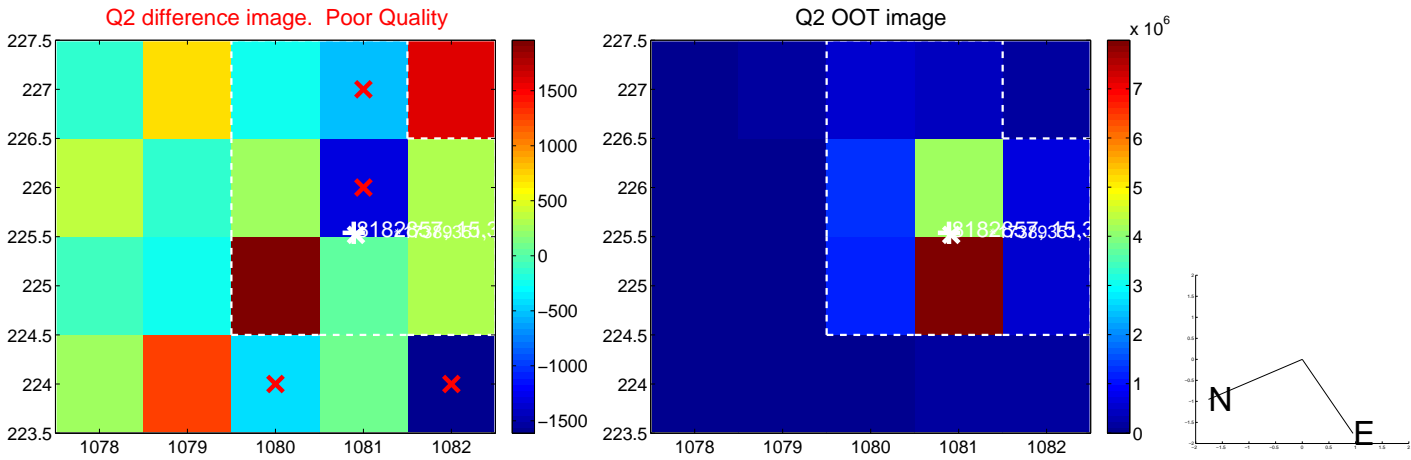
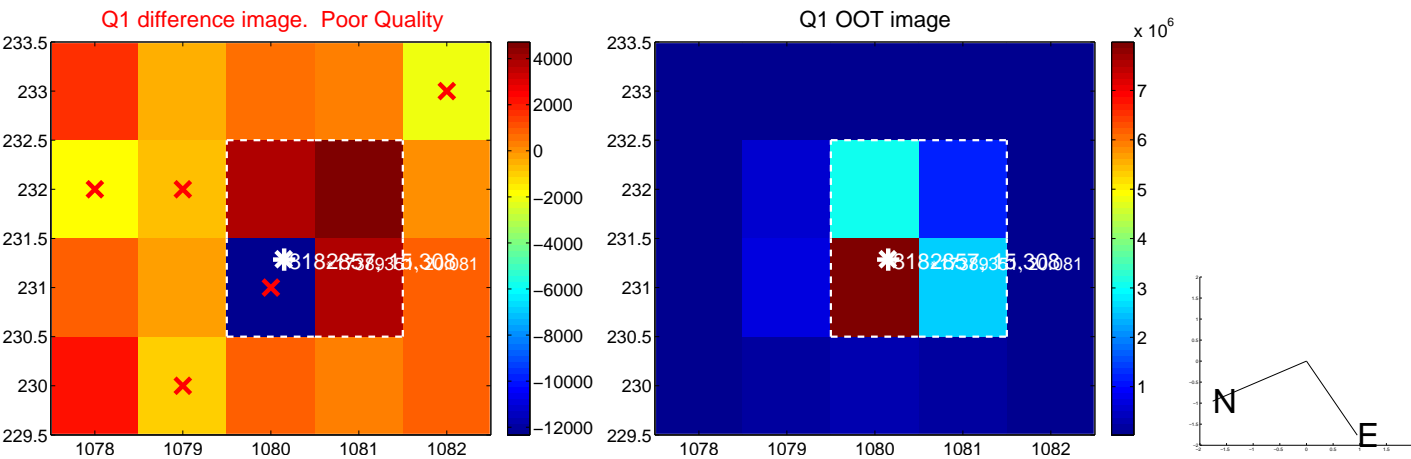
The direct PRF centroid is offset from the target star catalog position by about 0.00 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.270 ± 0.839	0.32	-0.046 ± 0.685	0.266 ± 0.816
PRF-fit source offset from KIC position	0.218 ± 0.834	0.26	-0.035 ± 0.632	0.215 ± 0.818
photometric centroid source offset	0.69 ± 0.78	0.88	-0.61 ± 0.78	-0.32 ± 0.77

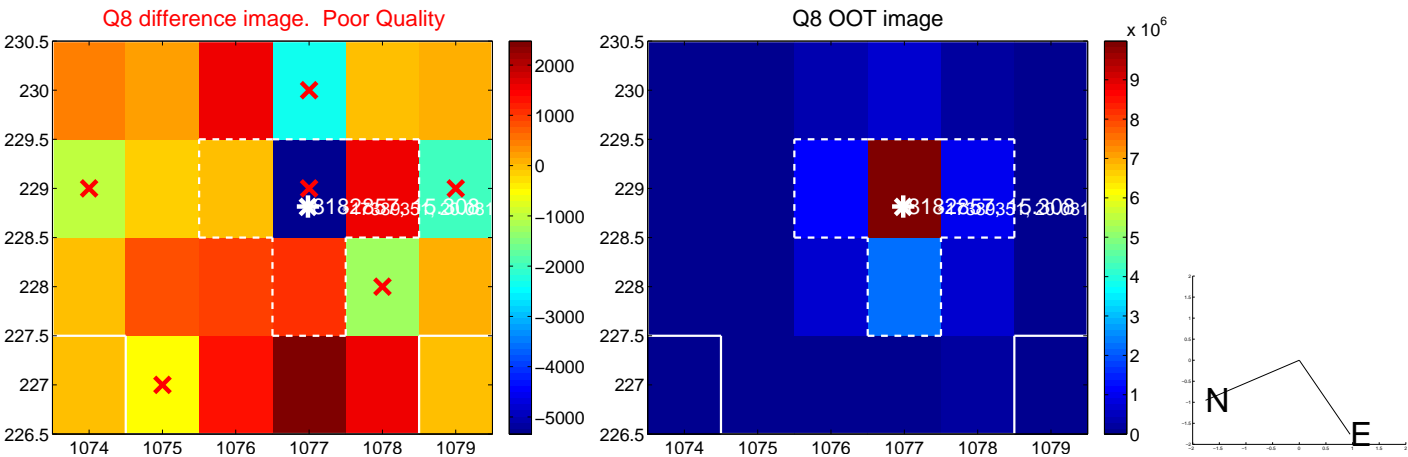
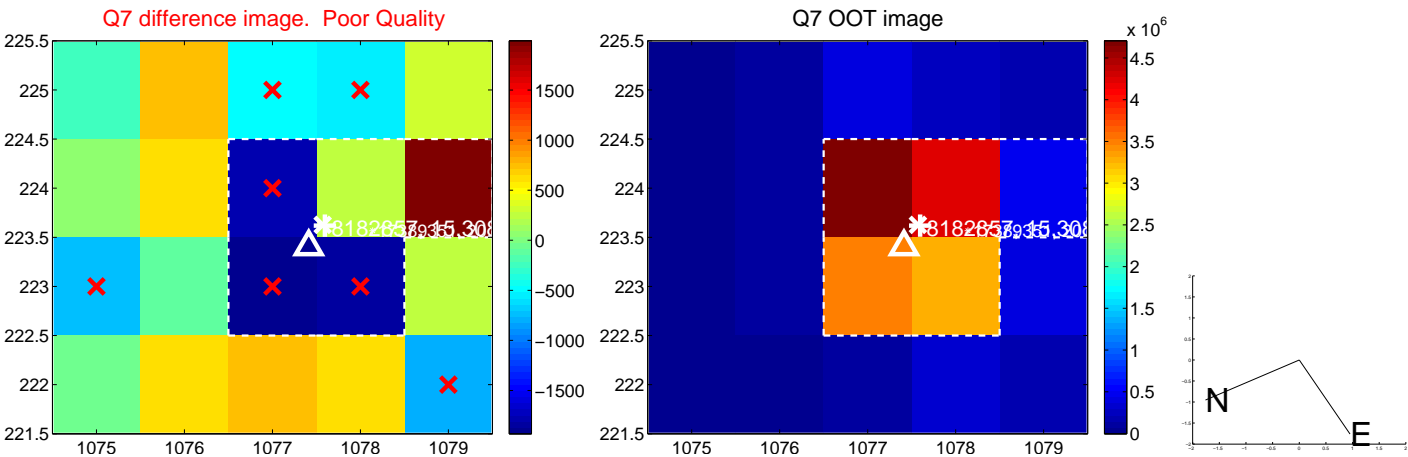
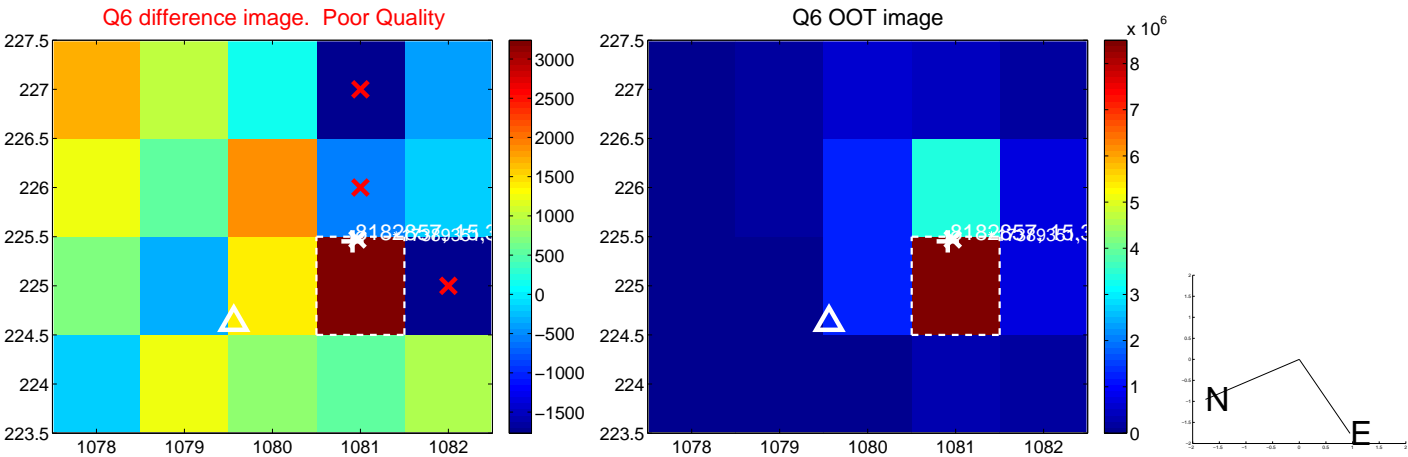
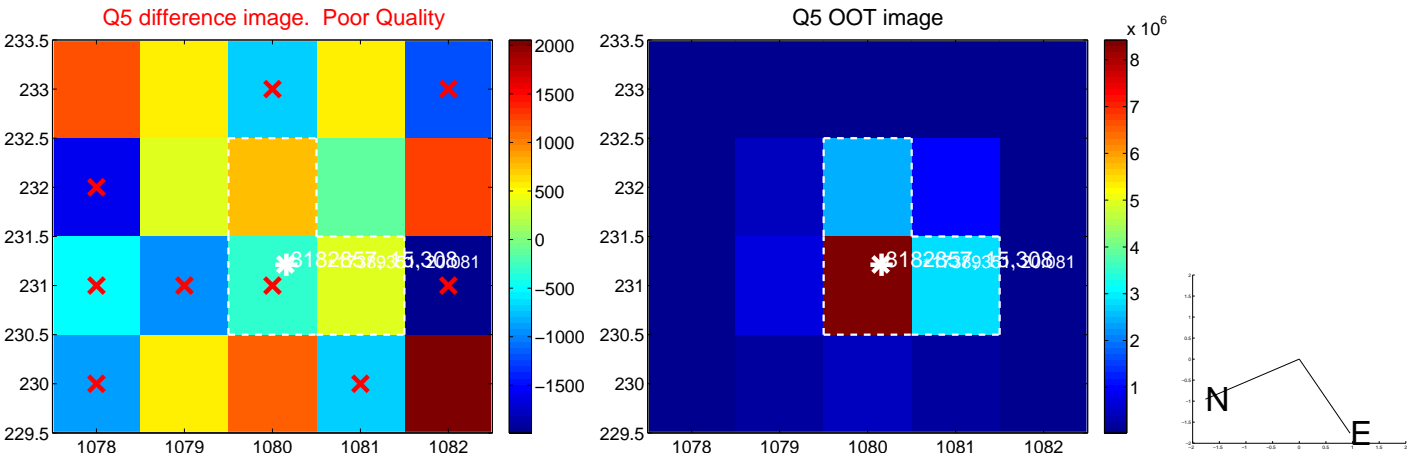


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

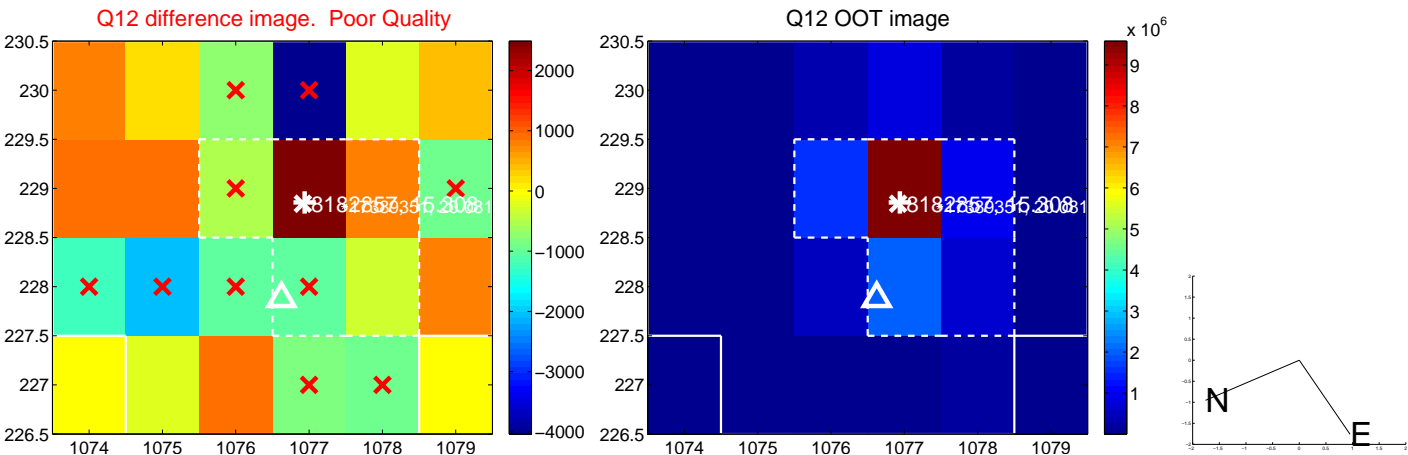
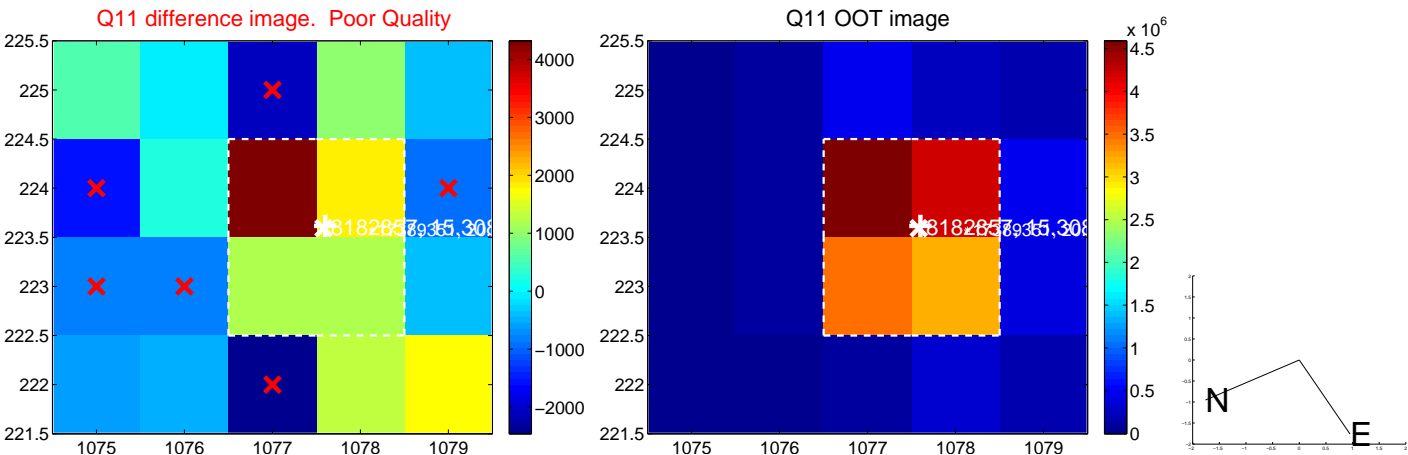
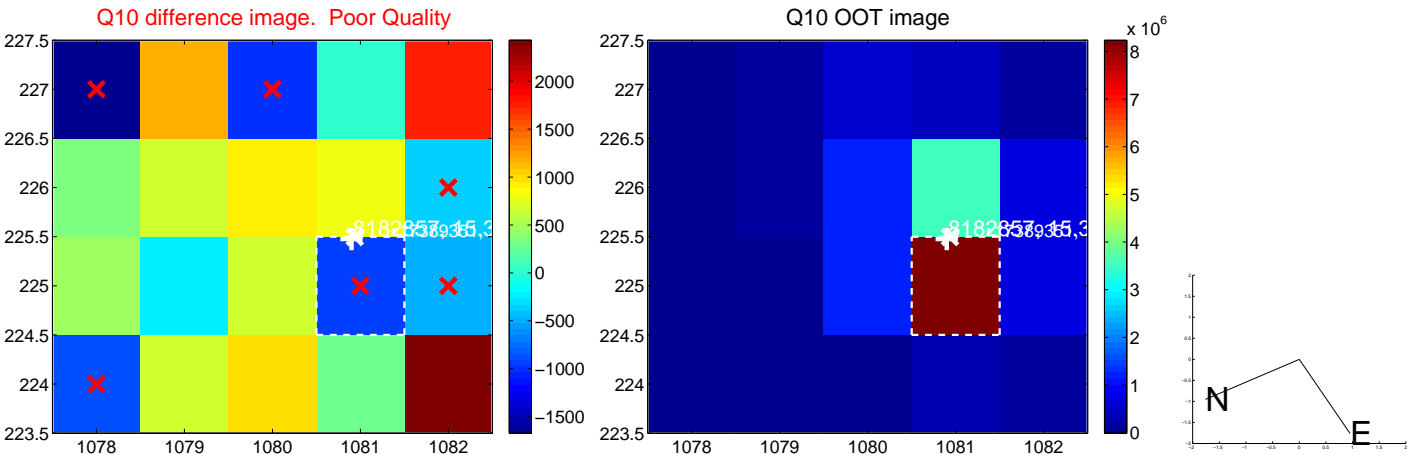
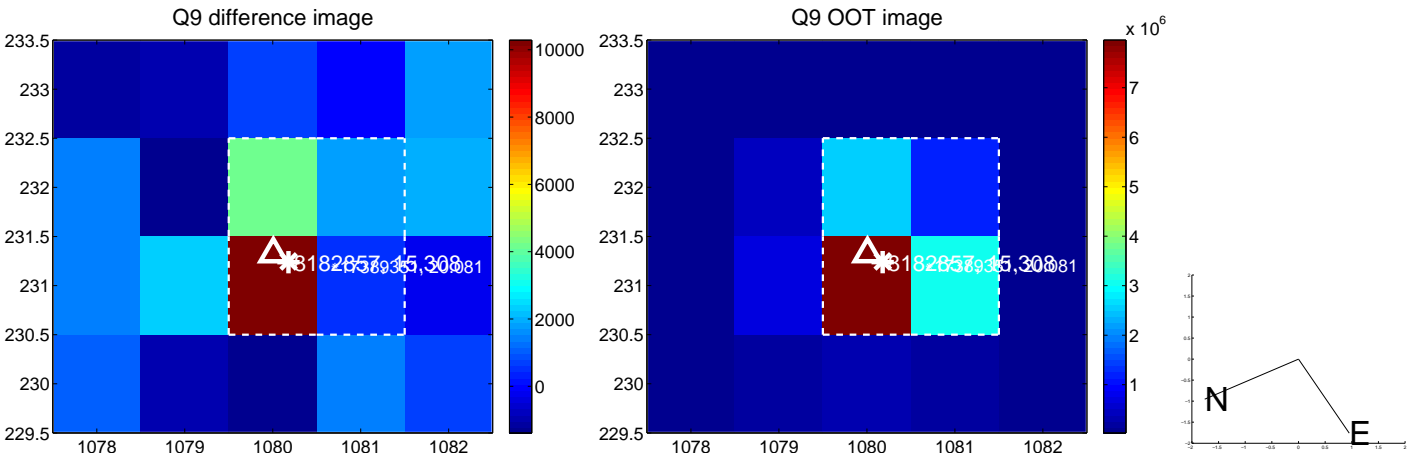
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



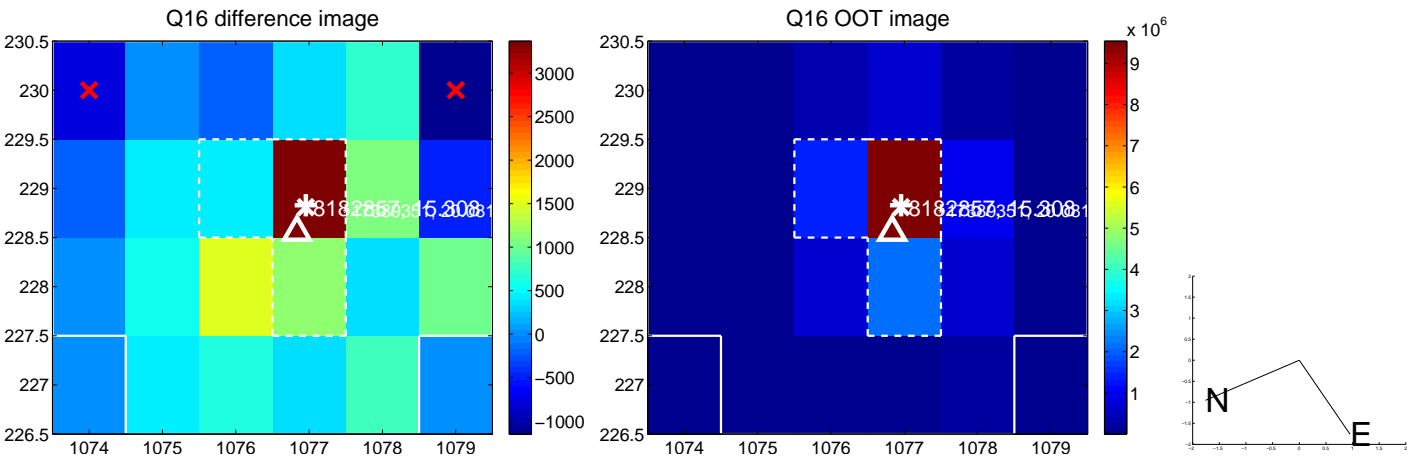
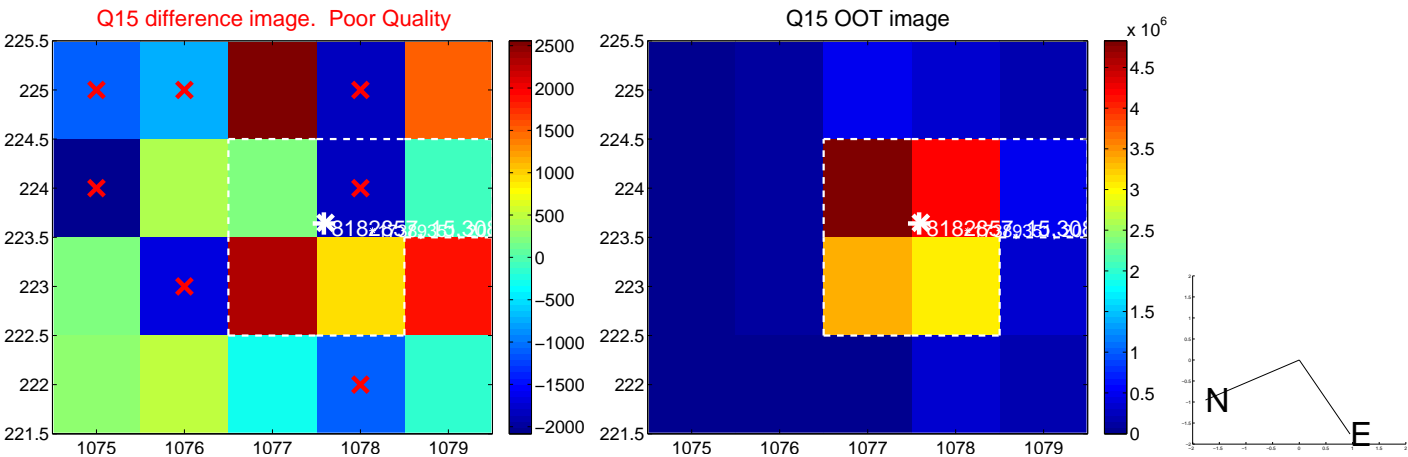
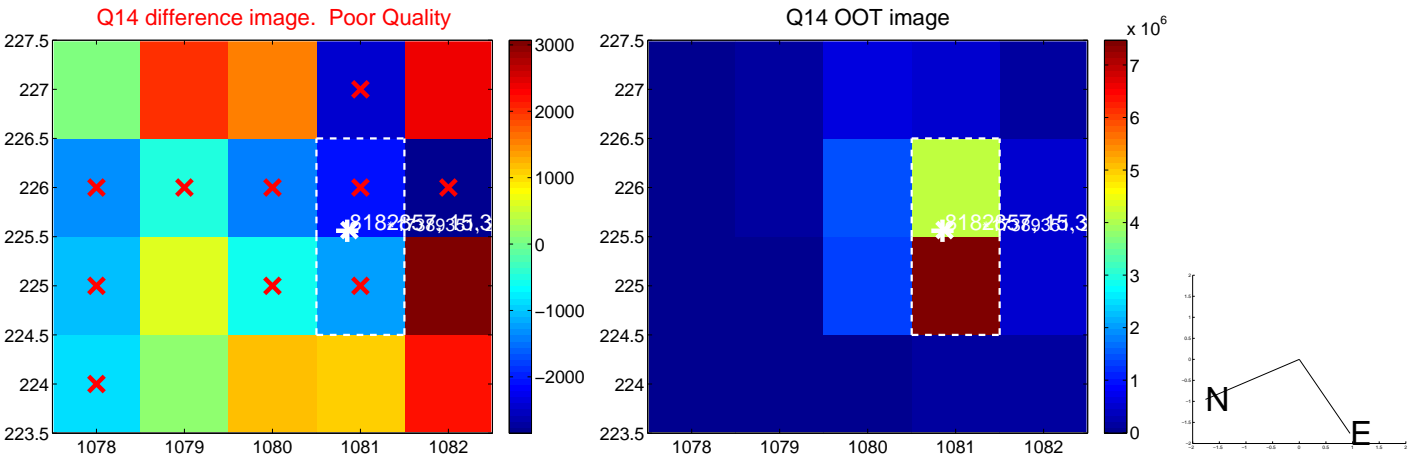
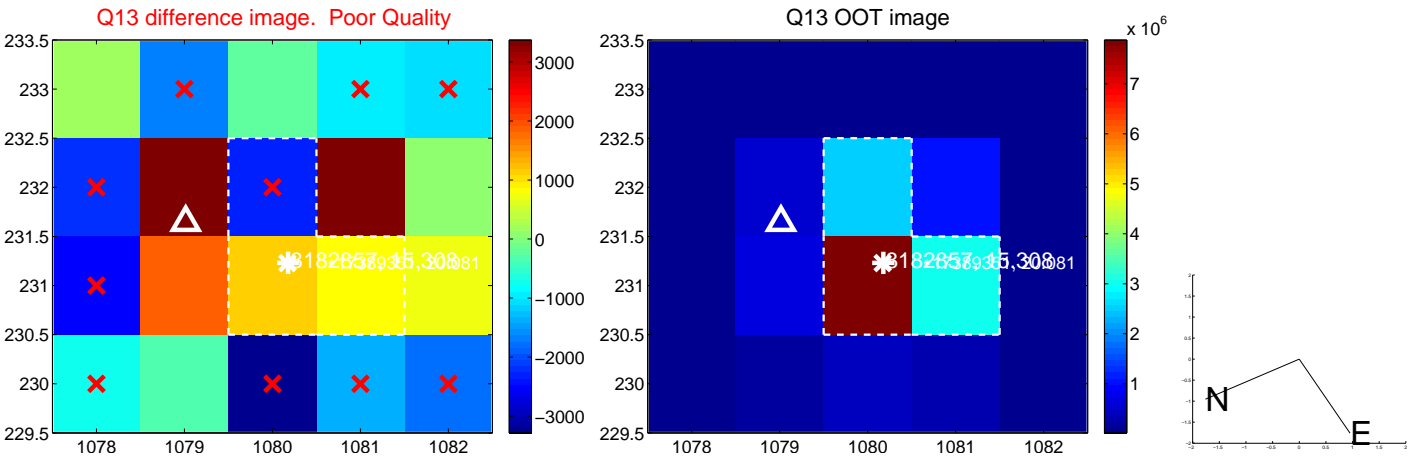
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



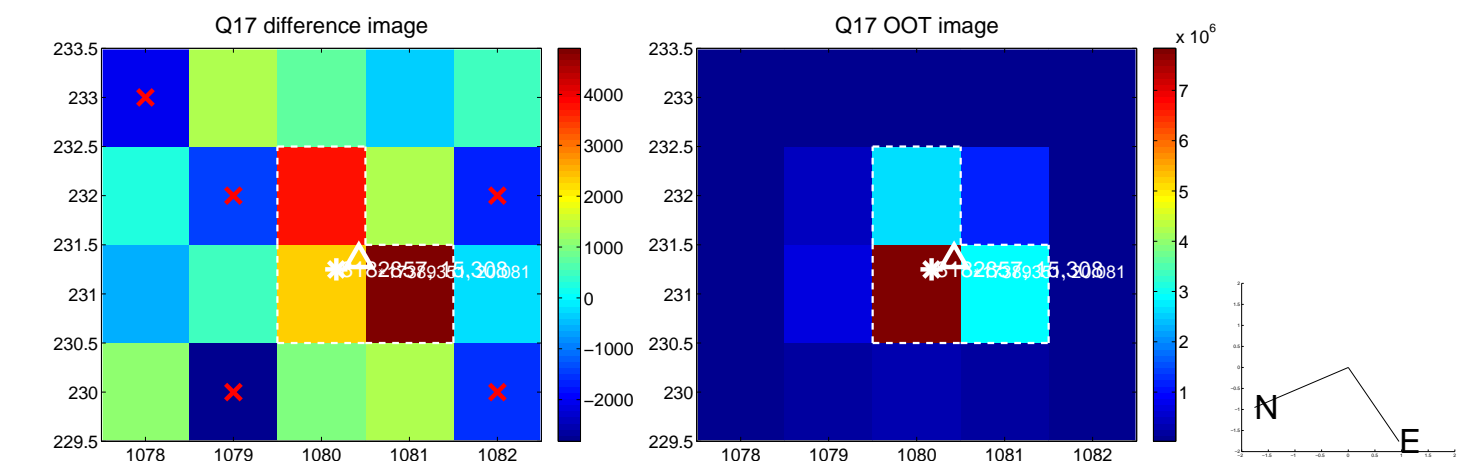
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



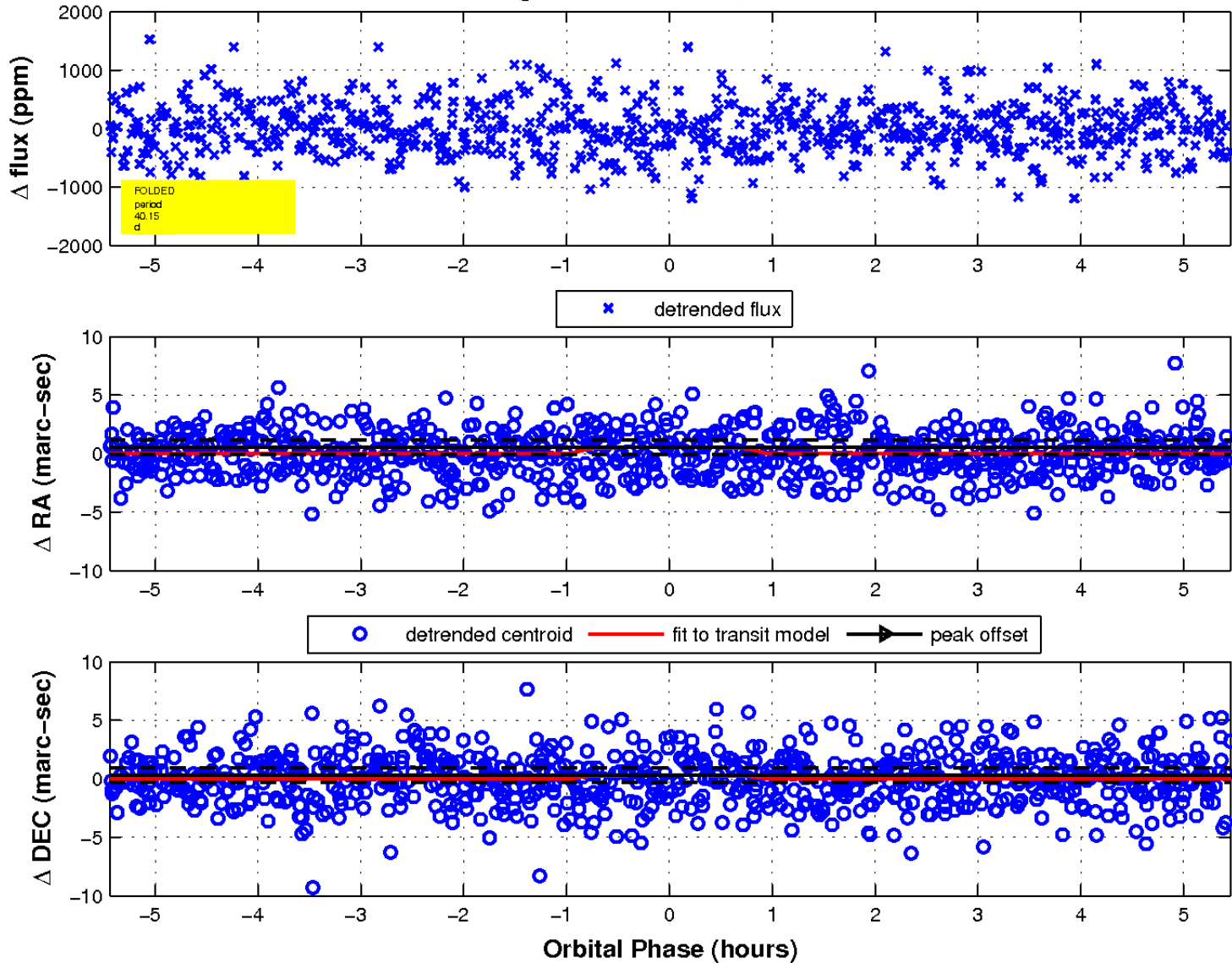
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

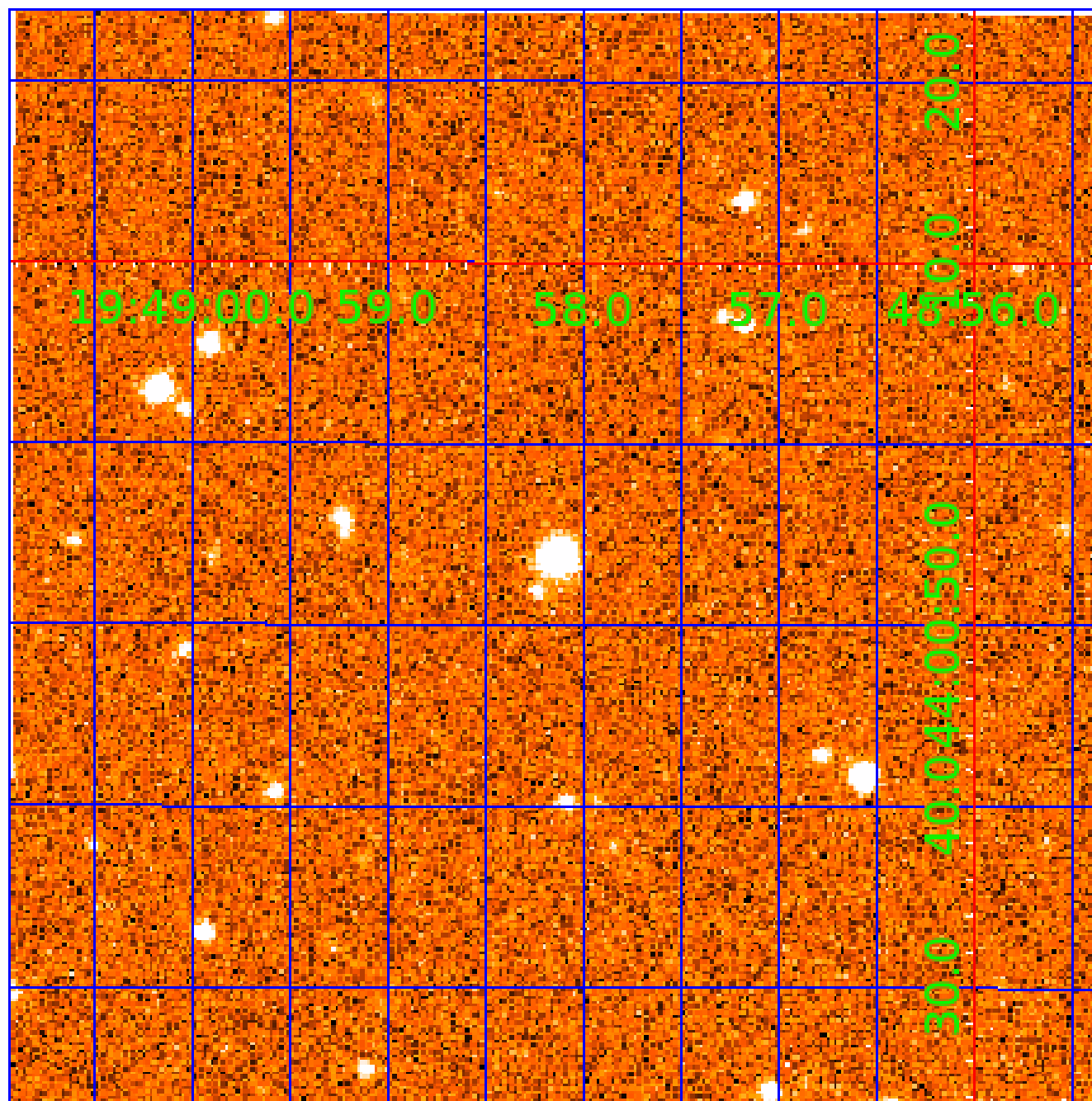


fluxWeightedCentroids, Planet 2 of 5



UKIRT Image

Declination



KIC 008182857

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})
008182857-01	OBS	No	0.694057	131.876012	21.4	4.359	9.8	5.0	1.05	6444	0.49	6843.45
008182857-02	OBS	No	40.148536	132.642221	733.6	1.819	9.4	10.7	1.05	6444	2.99	30.59
008182857-03	OBS	No	37.582174	168.621994	585.4	3.217	7.7	7.6	1.05	6444	2.80	33.41
008182857-04	OBS	No	95.654841	131.600236	587.8	3.424	8.1	7.6	1.05	6444	2.74	9.61
008182857-05	OBS	No	44.974723	168.071815	670.7	2.127	8.7	9.2	1.05	6444	2.96	26.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008182857-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008182857-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

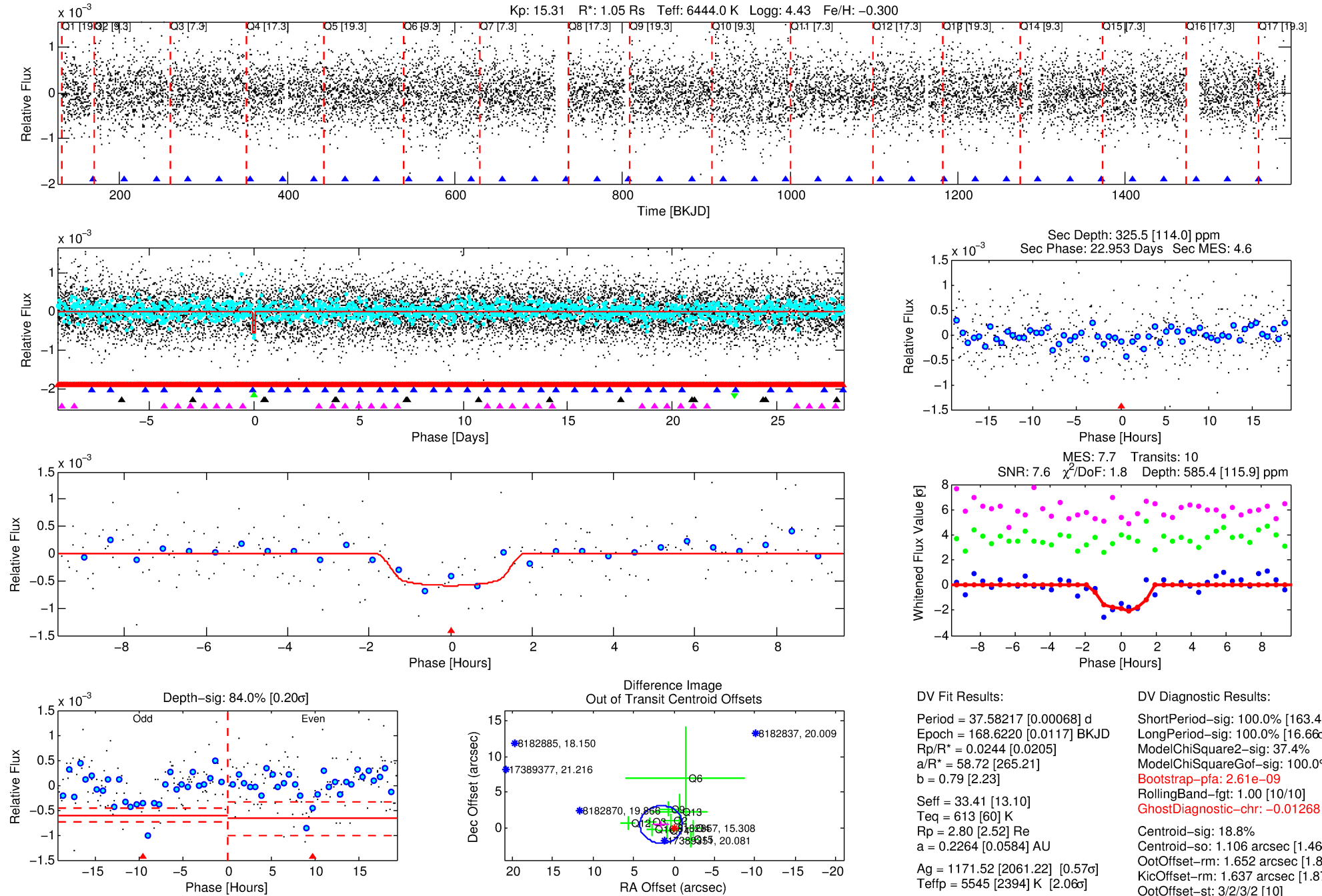
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008182857-03

No Significant Match Found

DV One-Page Summary

KIC: 8182857 Candidate: 3 of 5 Period: 37.582 d



DV Fit Results:

Period = 37.58217 [0.00068] d
Epoch = 168.6220 [0.0117] BKJD
Rp/R* = 0.0244 [0.0205]
a/R* = 58.72 [265.21]
b = 0.79 [2.23]
Seff = 33.41 [13.10]
Teq = 613 [60] K
Rp = 2.80 [2.52] Re
a = 0.2264 [0.0584] AU
Ag = 1171.52 [2061.22] [0.57 σ]
Teff = 5545 [2394] K [2.06 σ]

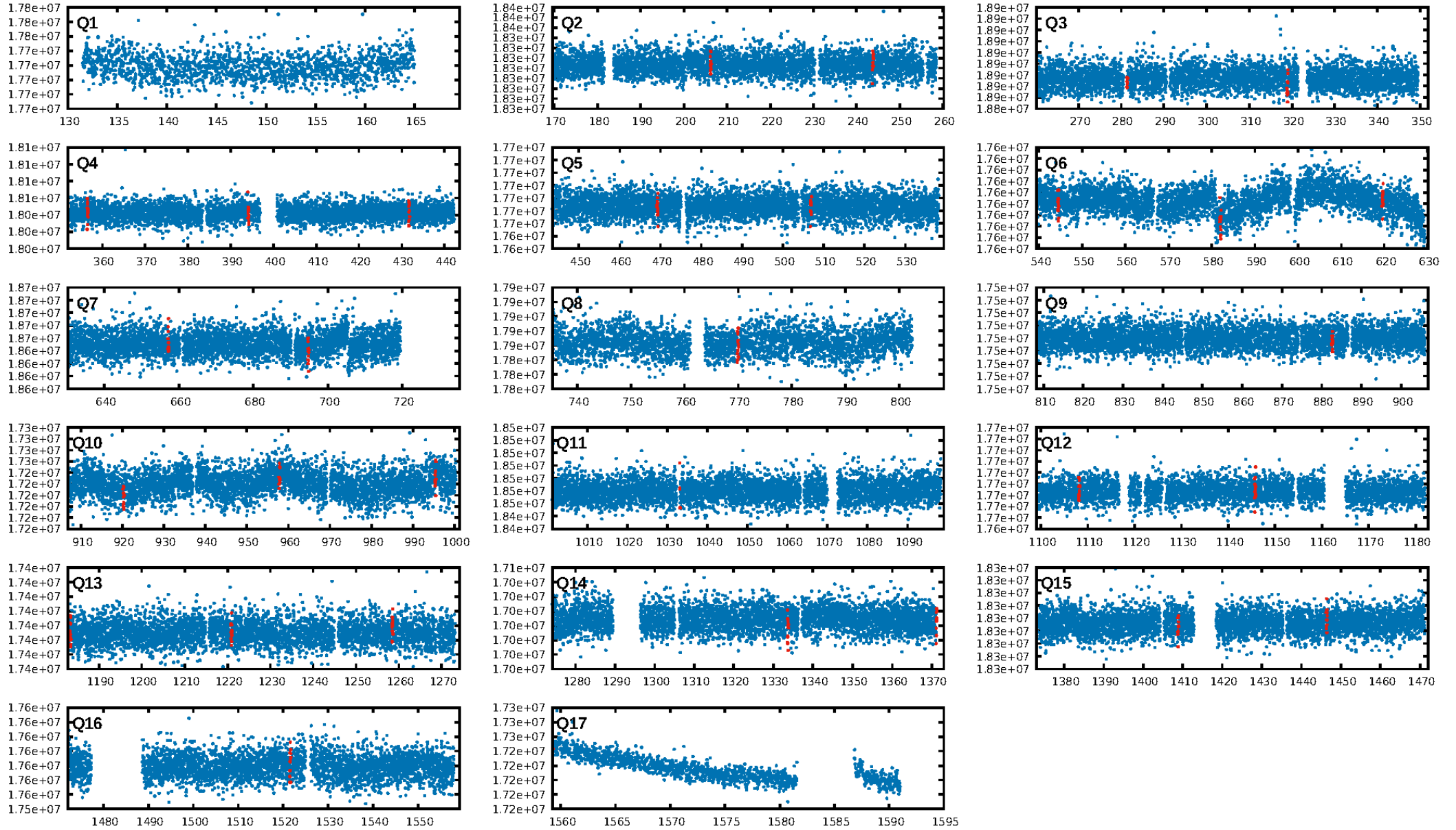
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [163.41 σ]
LongPeriod-sig: 100.0% [16.66 σ]
ModelChiSquare2-sig: 37.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.61e-09
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: -0.01268
Centroid-sig: 18.8%
Centroid-so: 1.106 arcsec [1.46 σ]
OotOffset-rm: 1.652 arcsec [1.88 σ]
KicOffset-rm: 1.637 arcsec [1.87 σ]
OotOffset-st: 3/2/3/2 [10]
KicOffset-st: 3/2/3/2 [10]
DiffImageQuality-fgm: 0.10 [1/10]
DiffImageOverlap-fno: 0.00 [0/14]

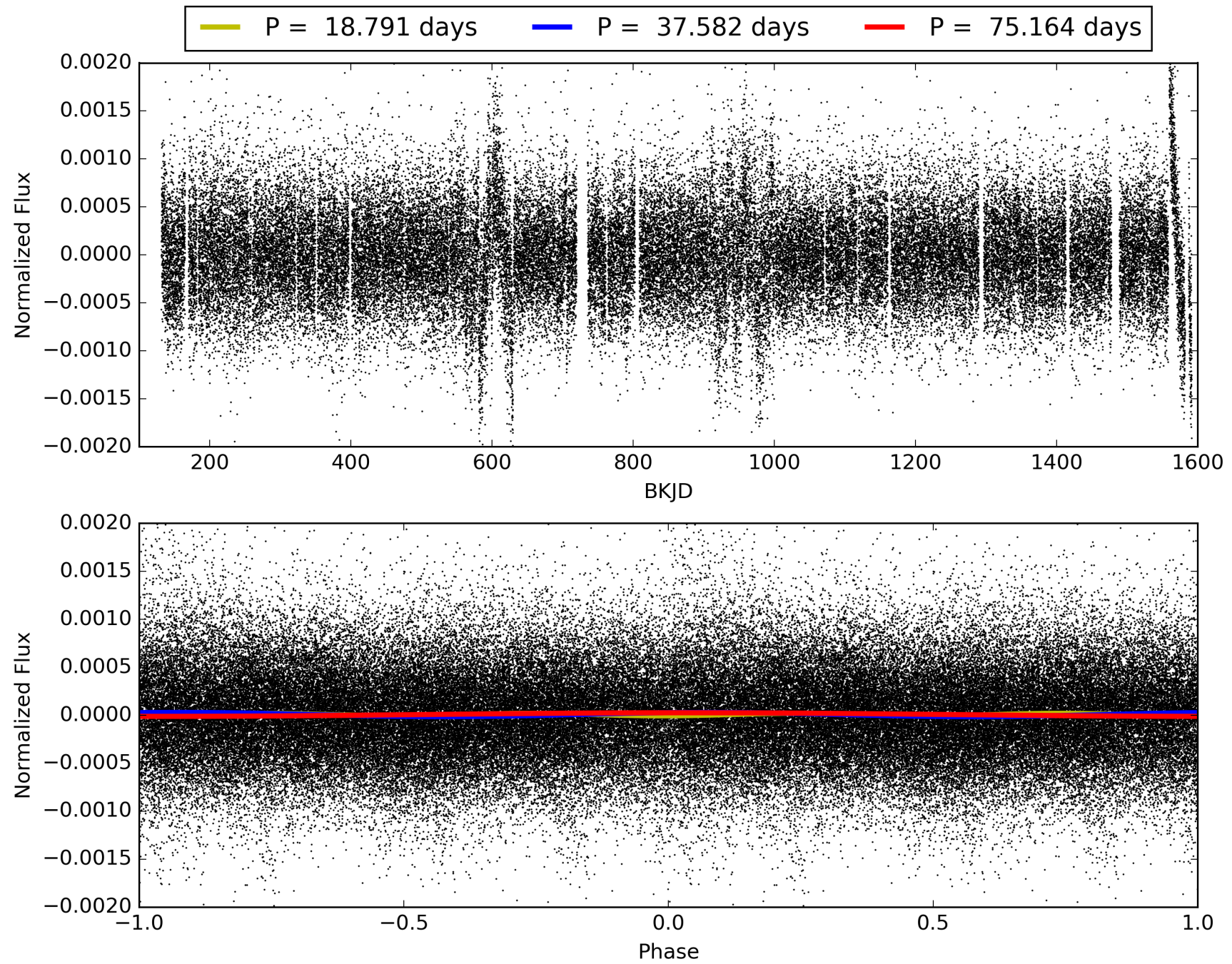
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:51:54 Z

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

TCE 008182857-03, PDC Light Curves

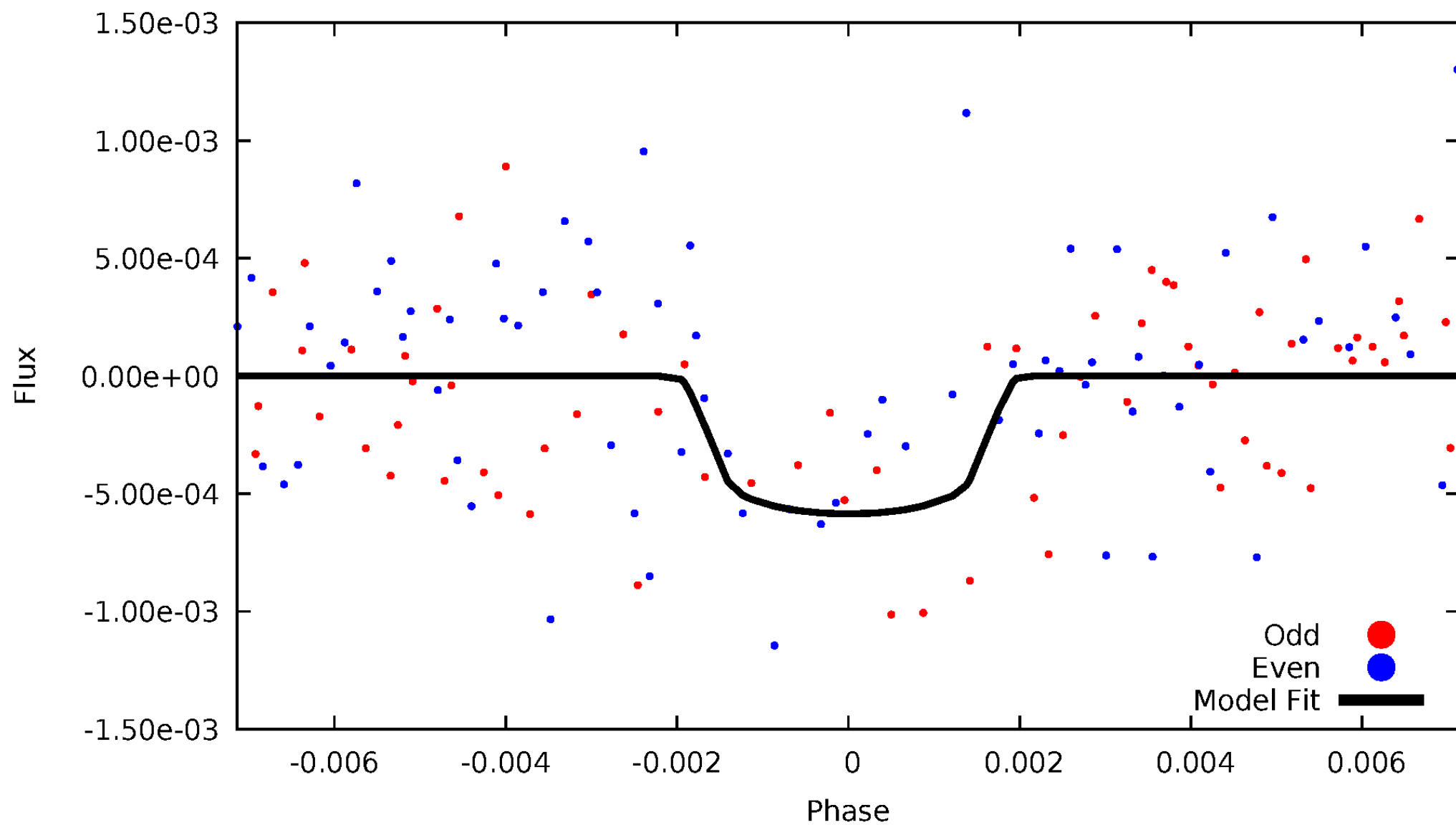


TCE 008182857-03



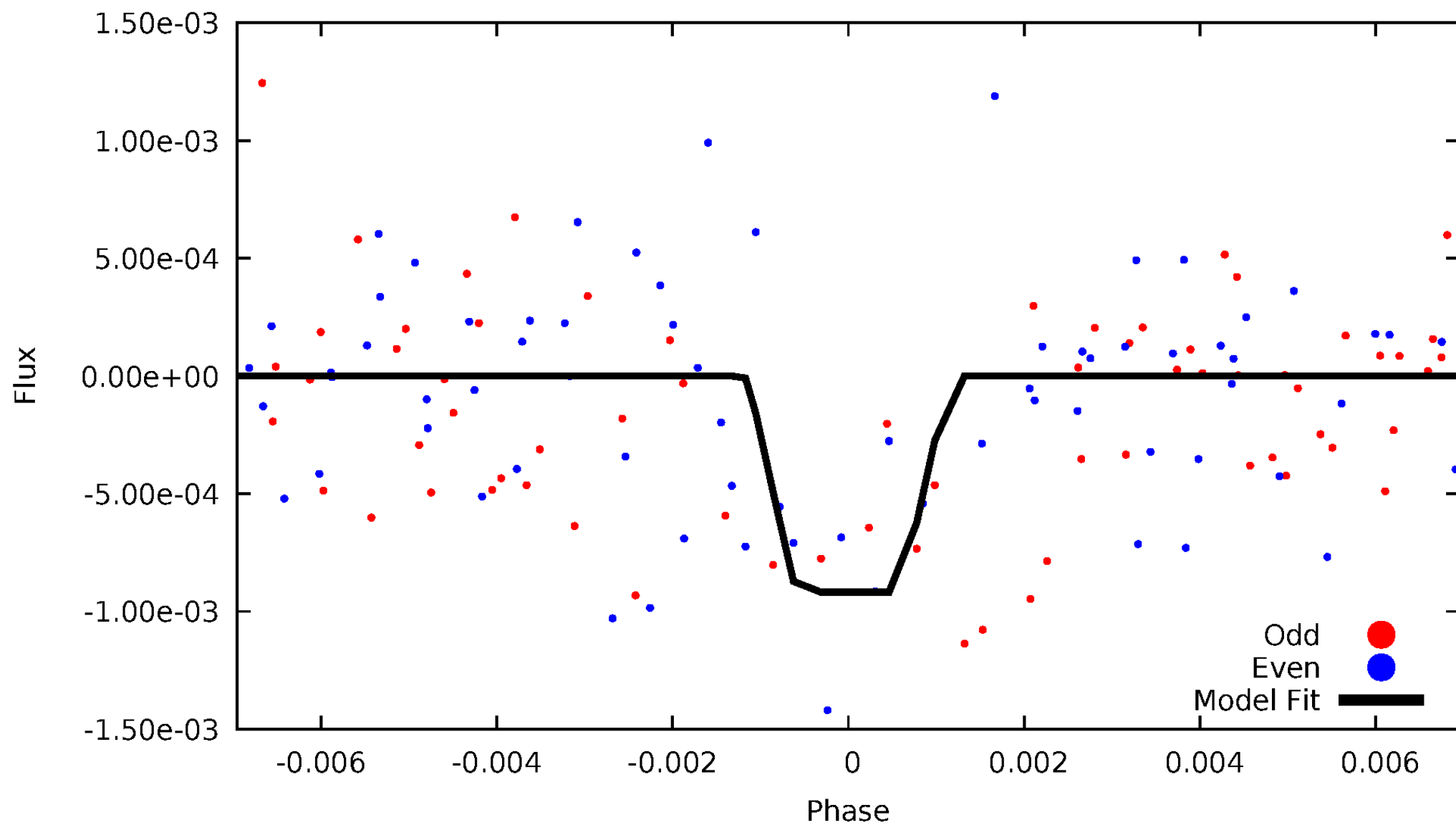
DV Odd/Even

TCE 008182857-03



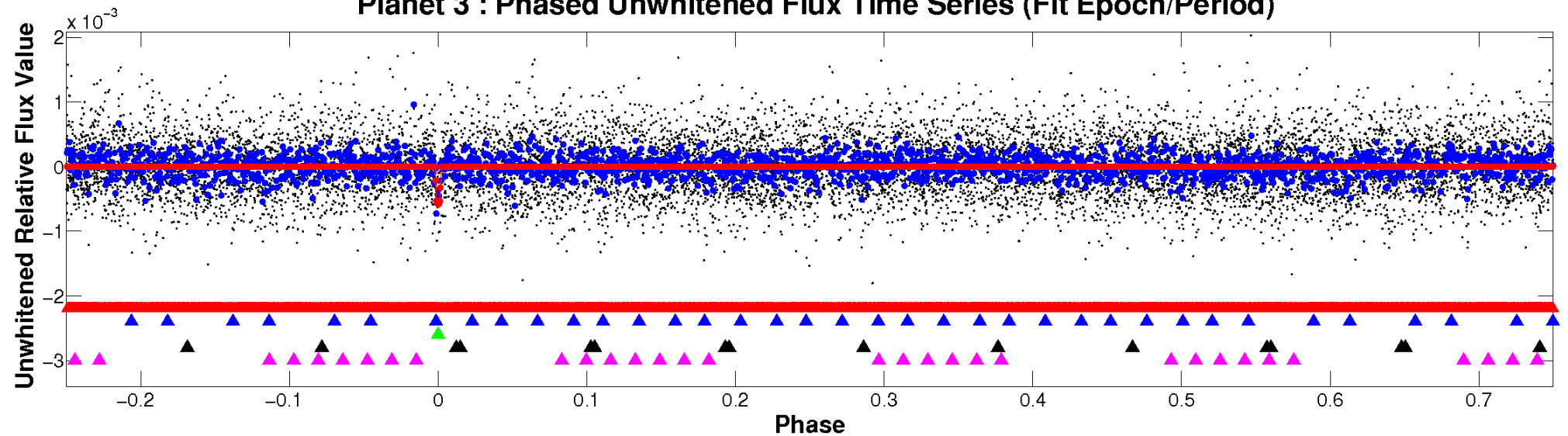
ALT Odd/Even

TCE 008182857-03

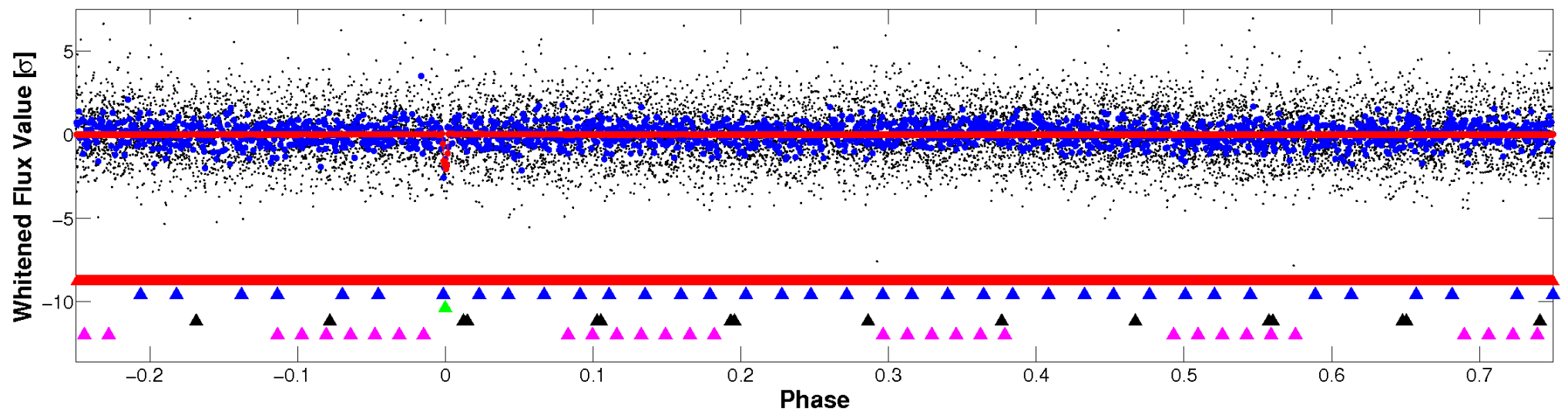


Non-Whitened Vs. Whitened Light Curve

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

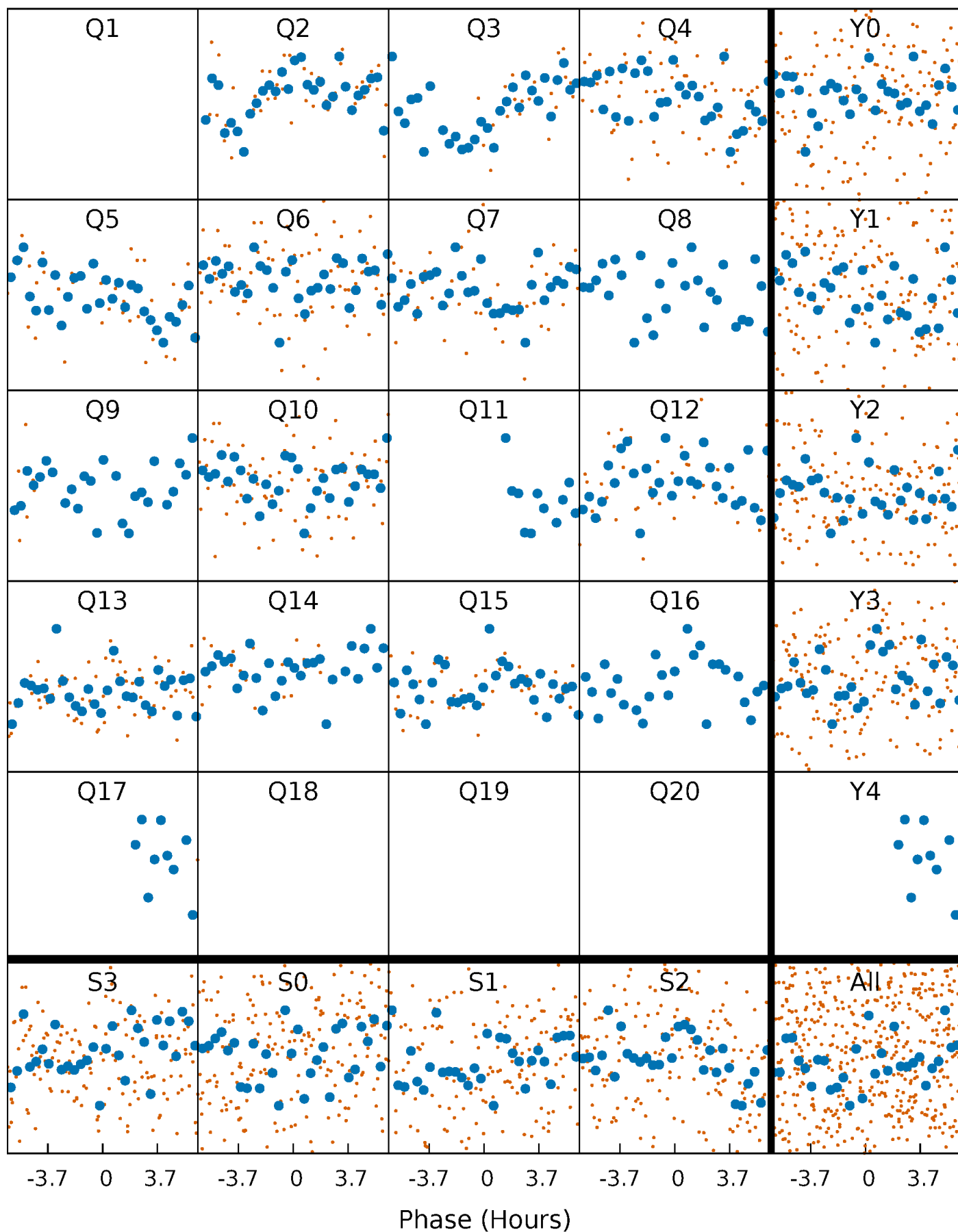


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



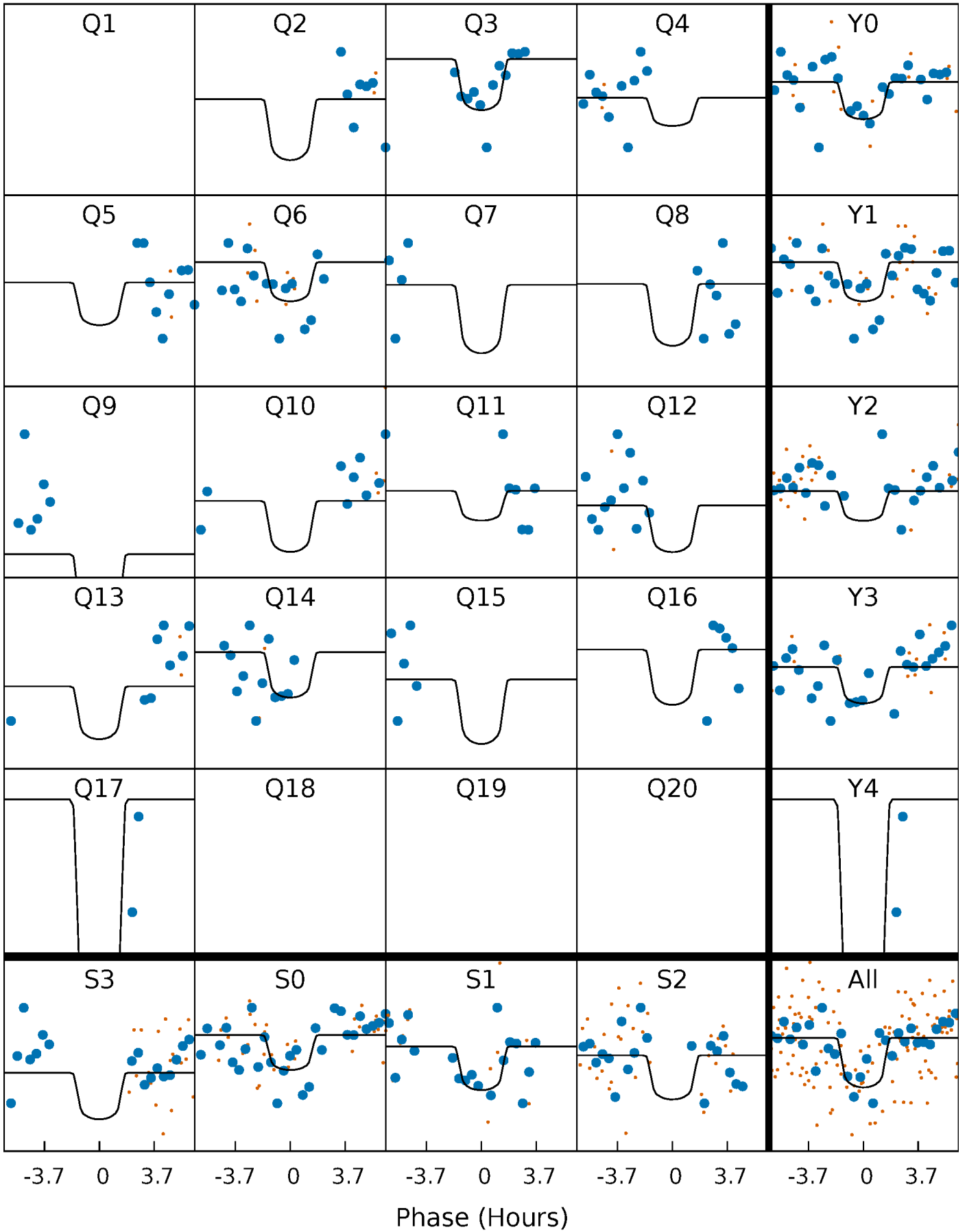
PDC Quarter-Phased Transit Curves

TCE 008182857-03 P= 37.582174 Days $T_0=168.621994$ (BKJD)



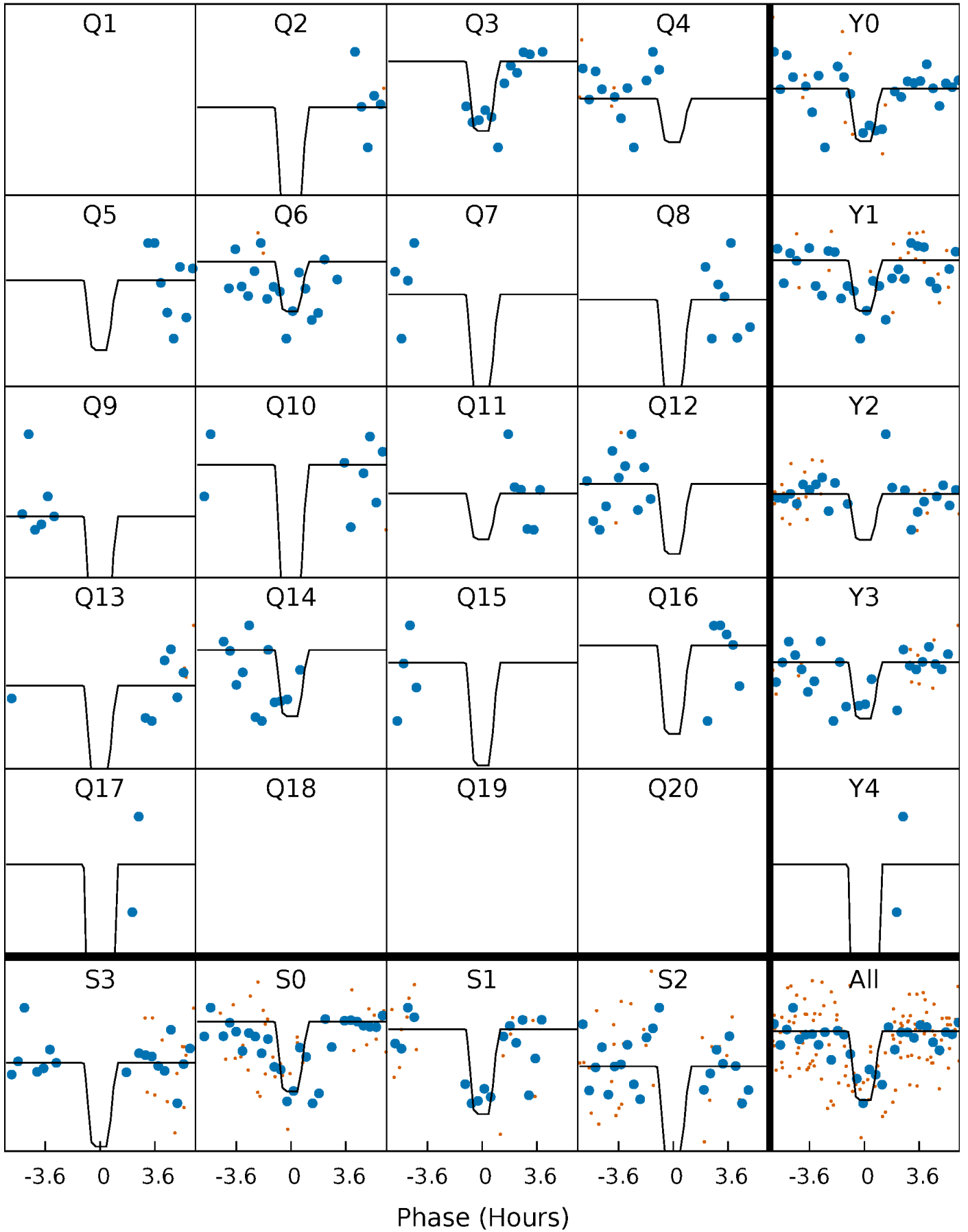
DV Quarter-Phased Transit Curves

TCE 008182857-03 P= 37.582174 Days $T_0=168.621994$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

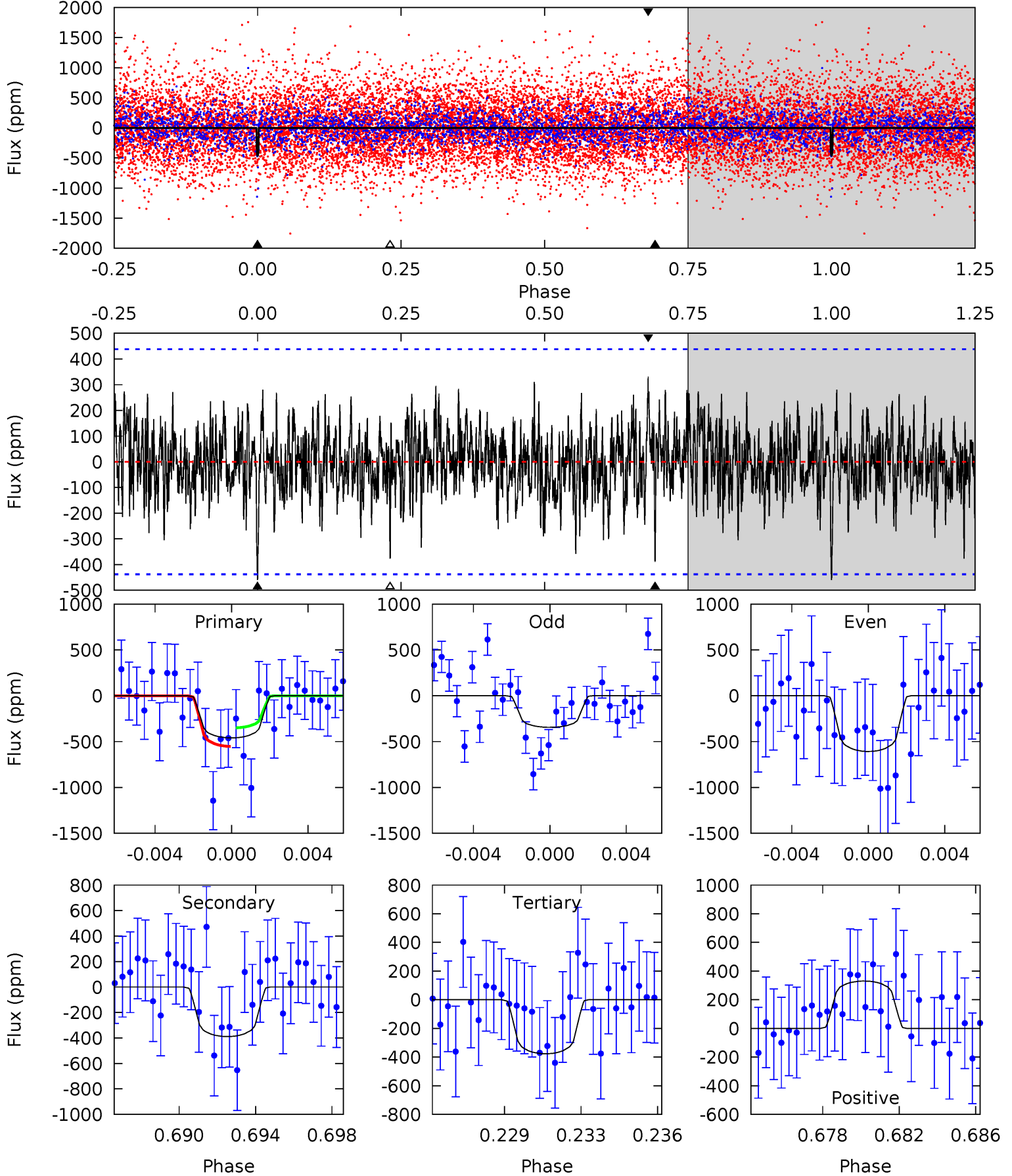
TCE 008182857-03 P= 37.583228 Days $T_0=168.586908$ (BKJD)



DV Model-Shift Uniqueness Test

008182857-03, $P = 37.582174$ Days, $E = 131.039820$ Days

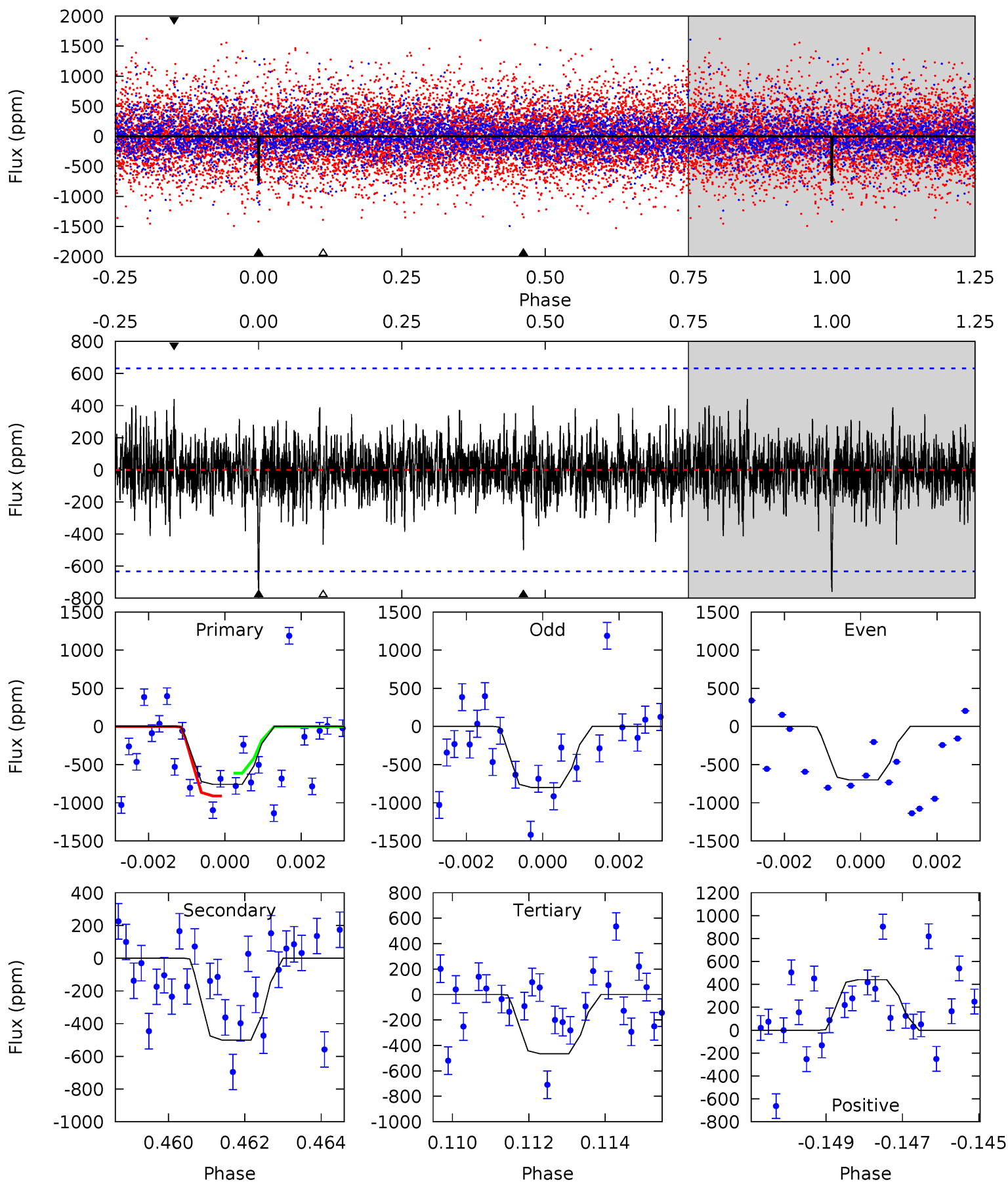
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.47	4.63	4.48	3.93	5.21	2.89	1.27	0.98	1.53	0.14	0.69	1.53	0.36	0.42	1.21



Alt Model-Shift Uniqueness Test

008182857-03, P = 37.583228 Days, E = 131.003680 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.39	4.21	3.92	3.71	5.32	3.08	1.02	2.47	2.68	0.30	0.51	0.41	0.99	0.37	1.27



Stellar Parameters For KIC 008182857

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6444^{+171}_{-228}	$4.433^{+0.065}_{-0.195}$	$-0.300^{+0.250}_{-0.300}$	$1.053^{+0.332}_{-0.111}$	$1.094^{+0.156}_{-0.142}$	$1.320^{+0.367}_{-0.684}$
	+3%/-4%	+1%/-4%	+83%/-100%	+32%/-11%	+14%/-13%	+28%/-52%
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 008182857-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-389 ± 84	$3.27^{+2.39}_{-1.95}$	867^{+61}_{-42}	5419^{+3738}_{-1059}	958^{+5173}_{-620}
Alt.	-501 ± 119	$3.98^{+2.54}_{-2.17}$	869^{+61}_{-44}	5293^{+2716}_{-983}	899^{+3564}_{-581}

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 $A_{obs} \gg 1.0$

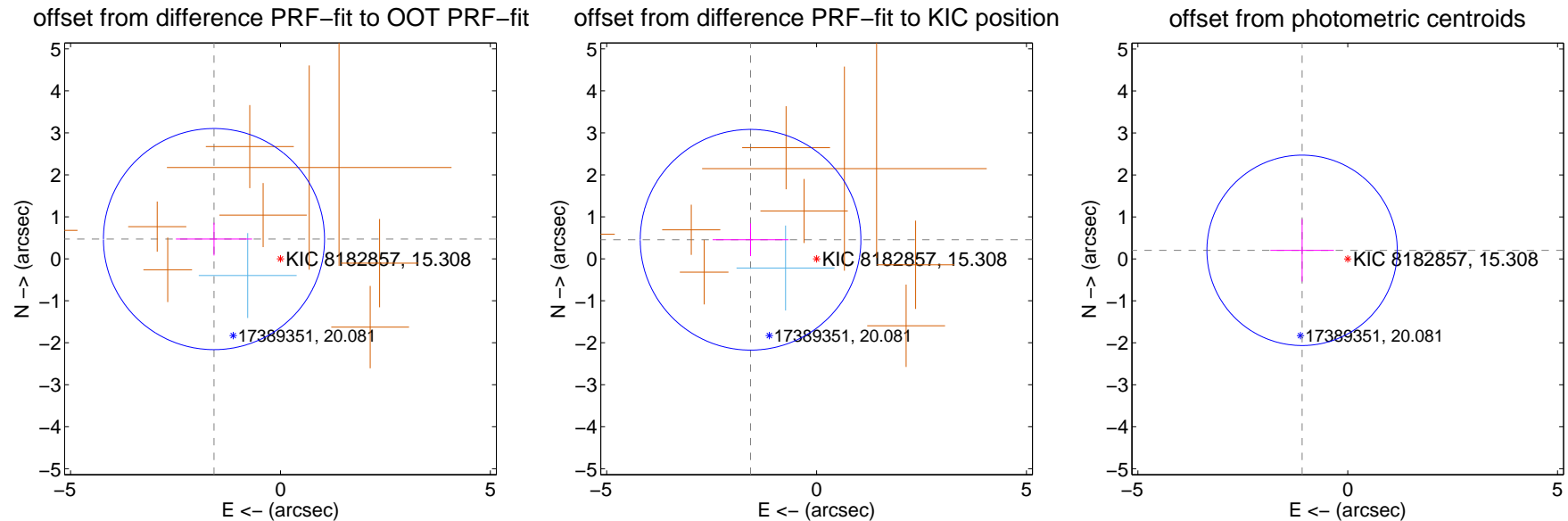
DV Centroid Data

Supplemental centroid analysis for 008182857-03. Kepler magnitude: 15.31. Transit SNR 7.62

There are 1 quarters with good PRF difference image offsets

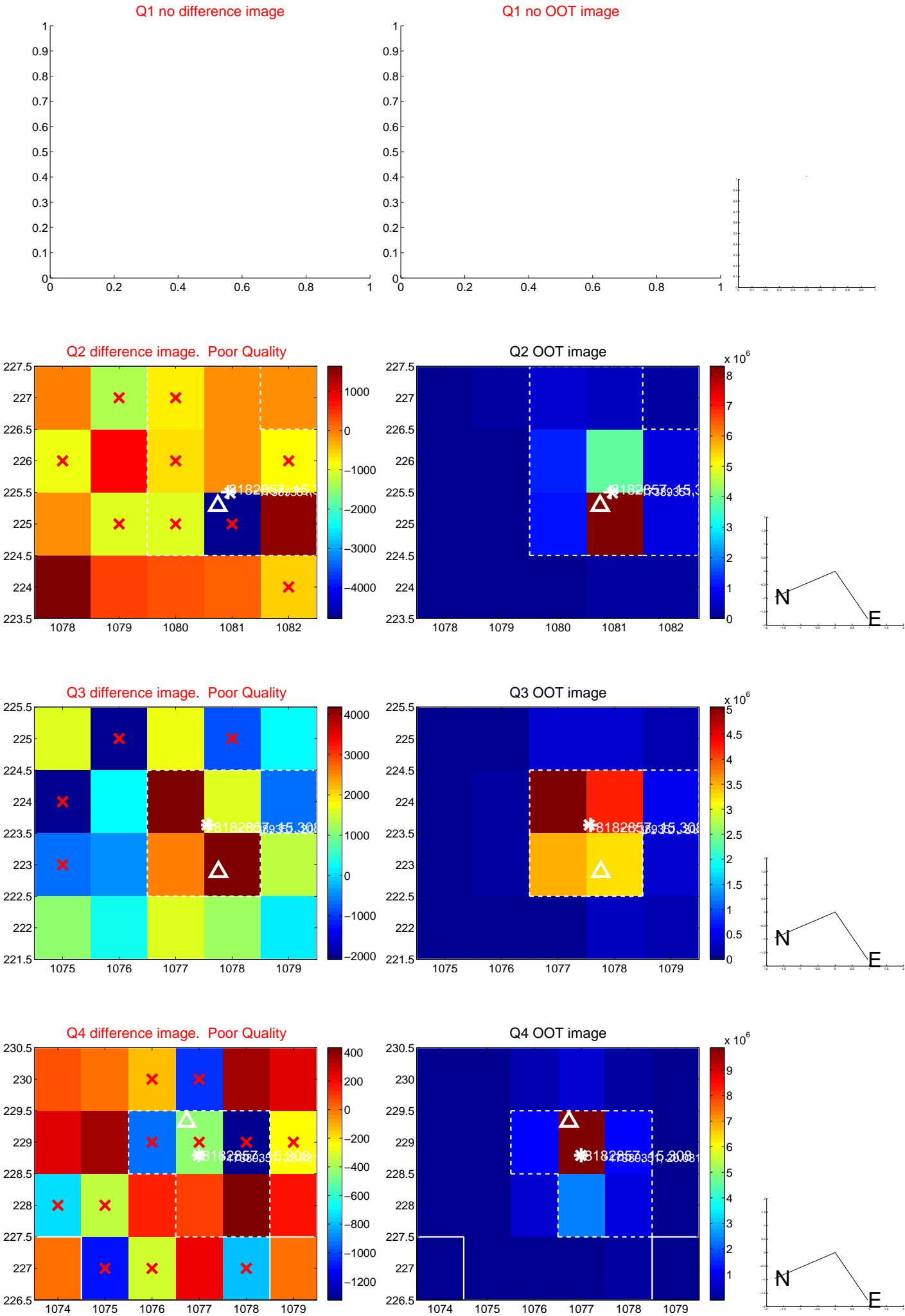
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.652 ± 0.878	1.88	1.584 ± 0.908	0.470 ± 0.391
PRF-fit source offset from KIC position	1.637 ± 0.876	1.87	1.573 ± 0.905	0.454 ± 0.390
photometric centroid source offset	1.11 ± 0.76	1.46	1.09 ± 0.76	0.20 ± 0.74

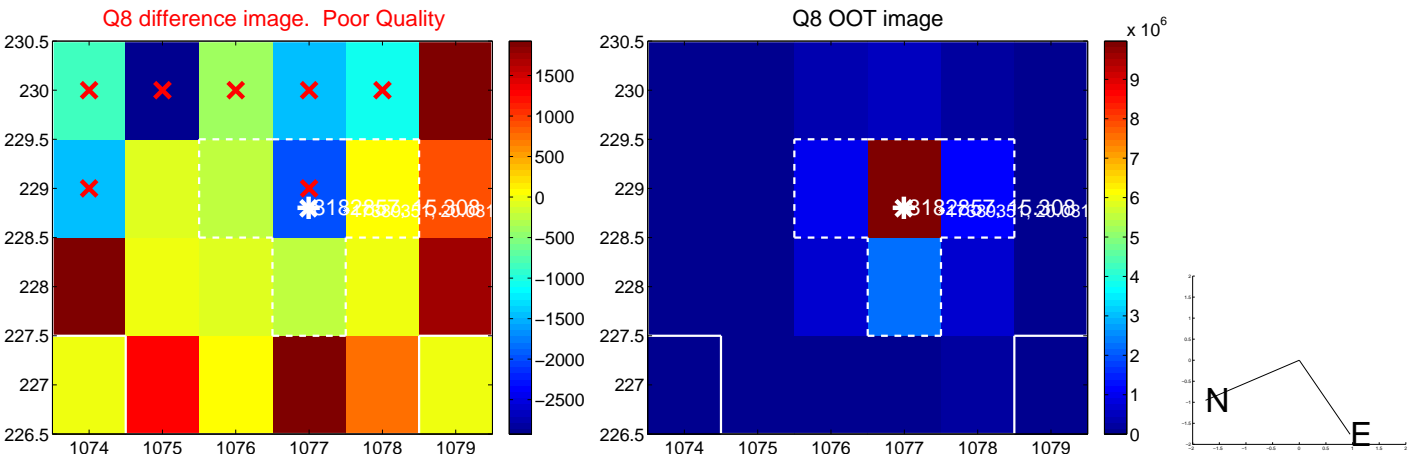
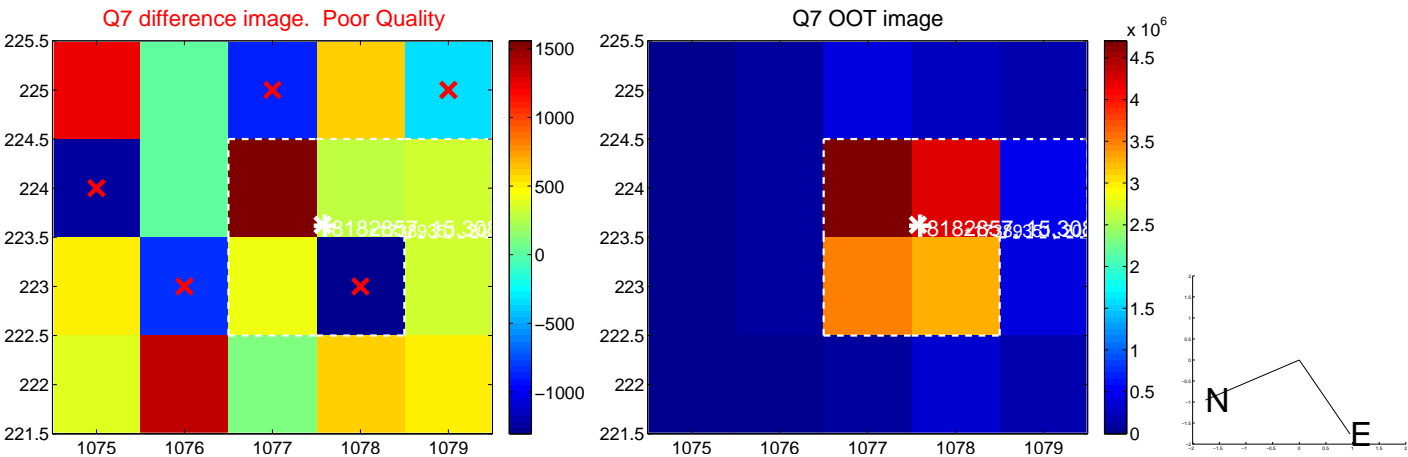
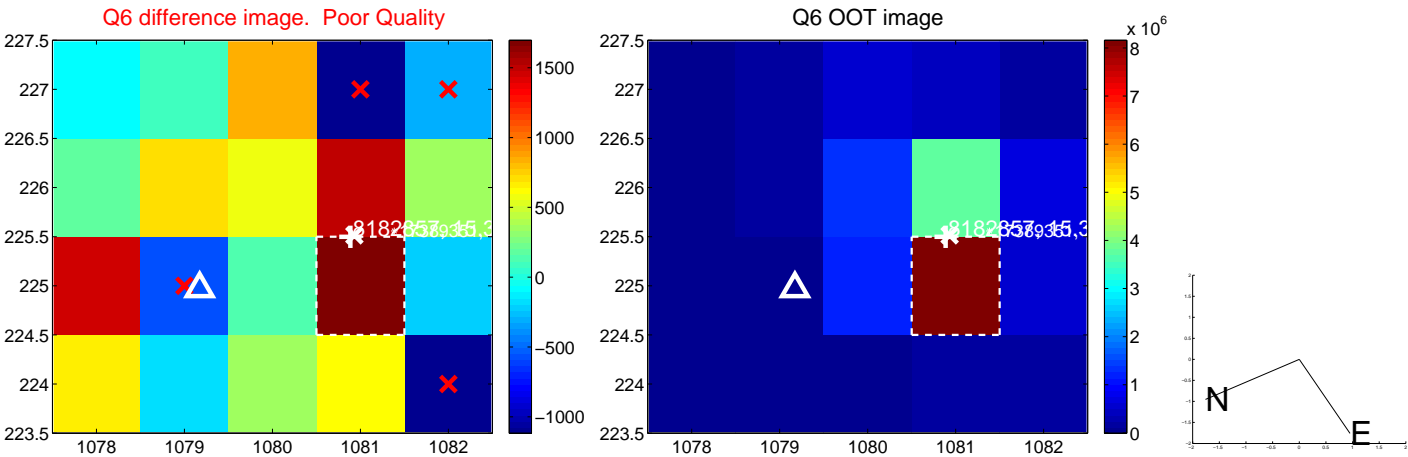
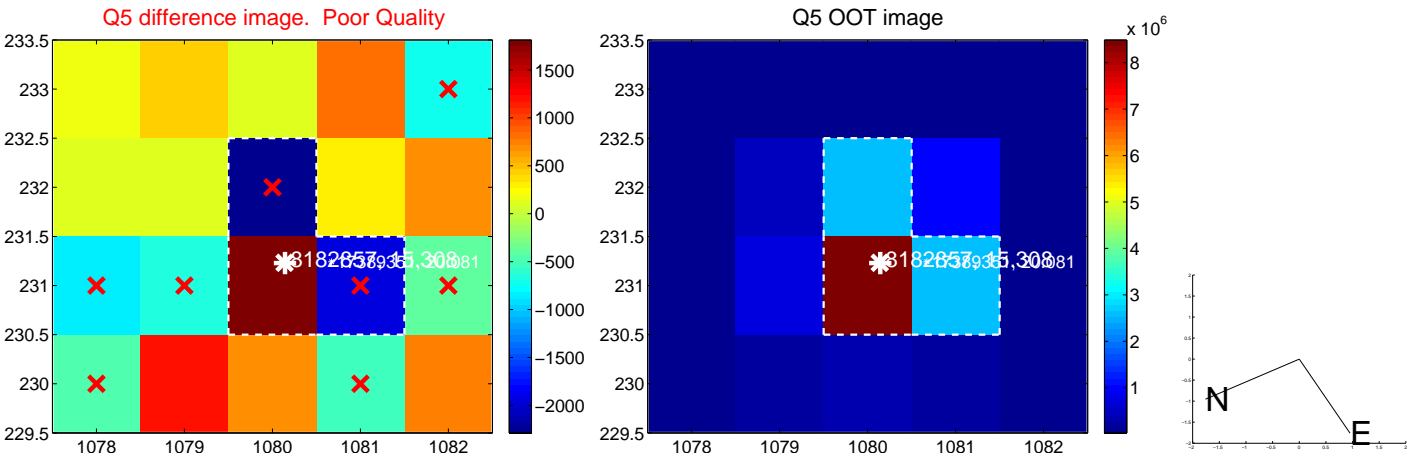


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

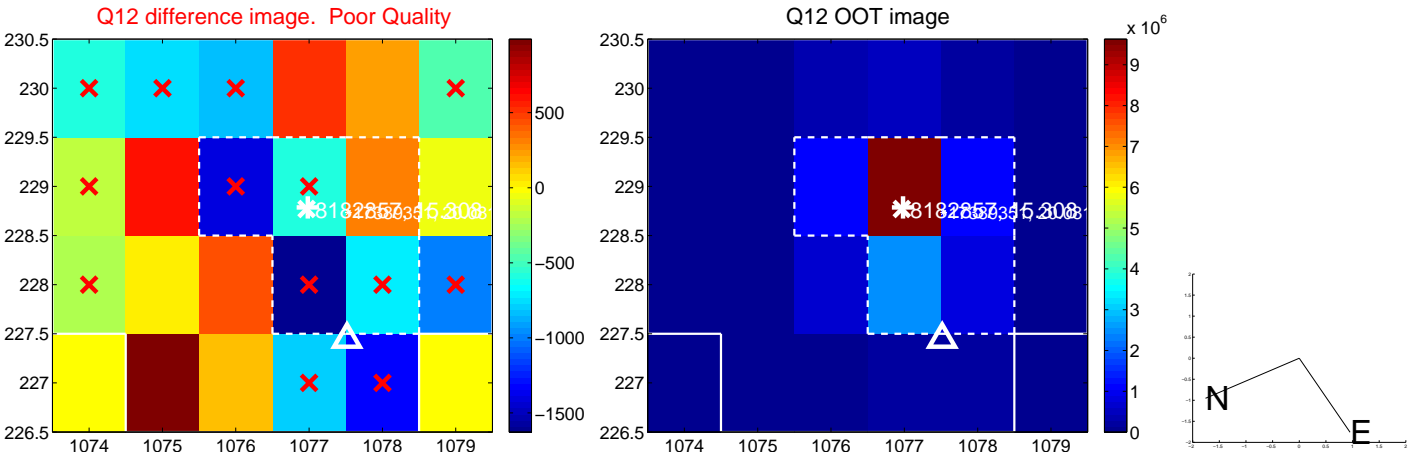
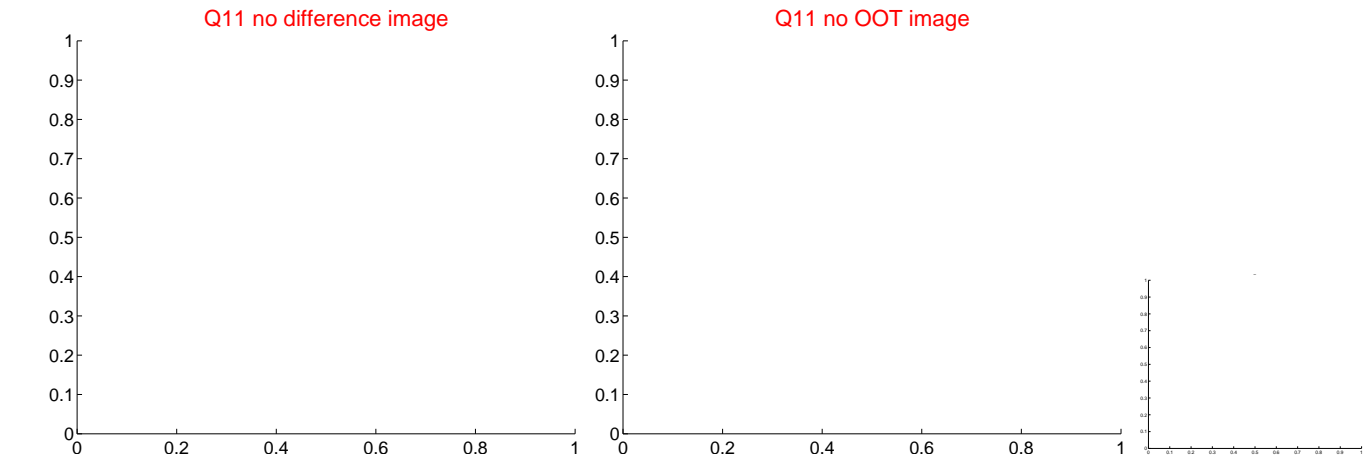
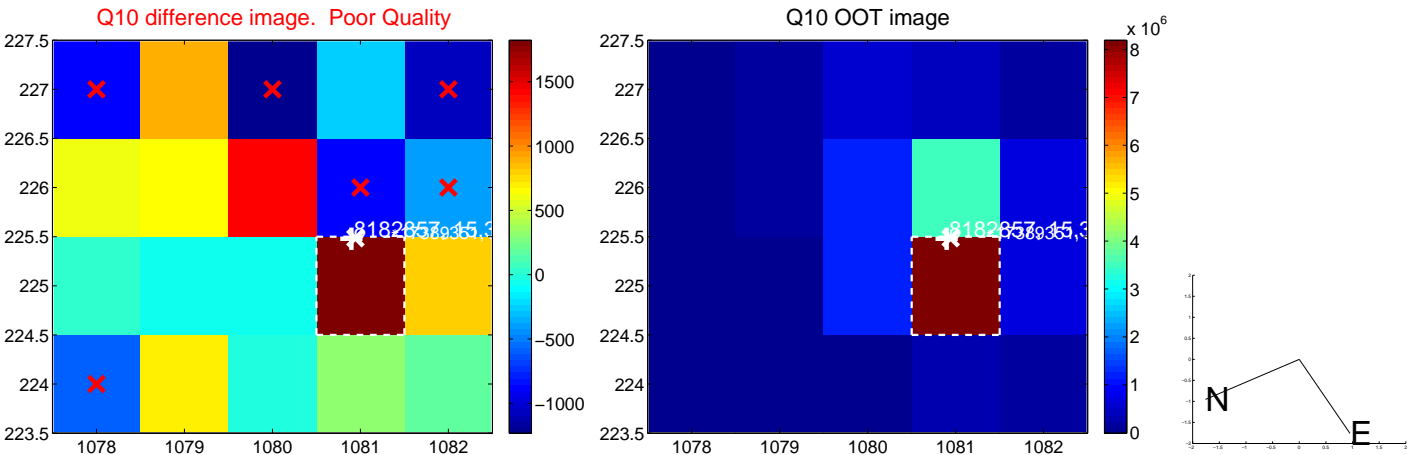
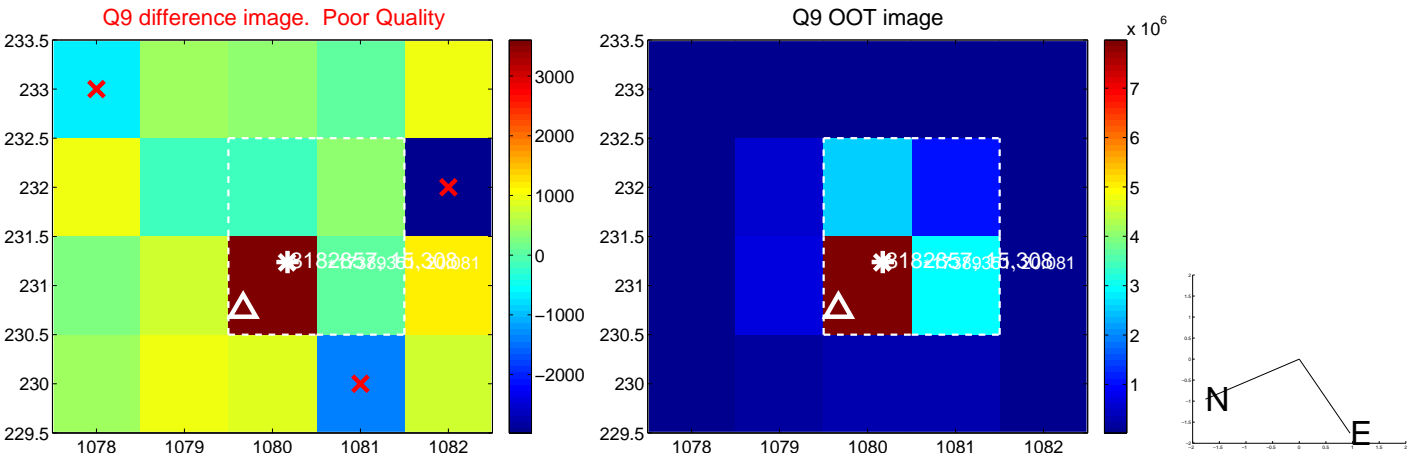
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



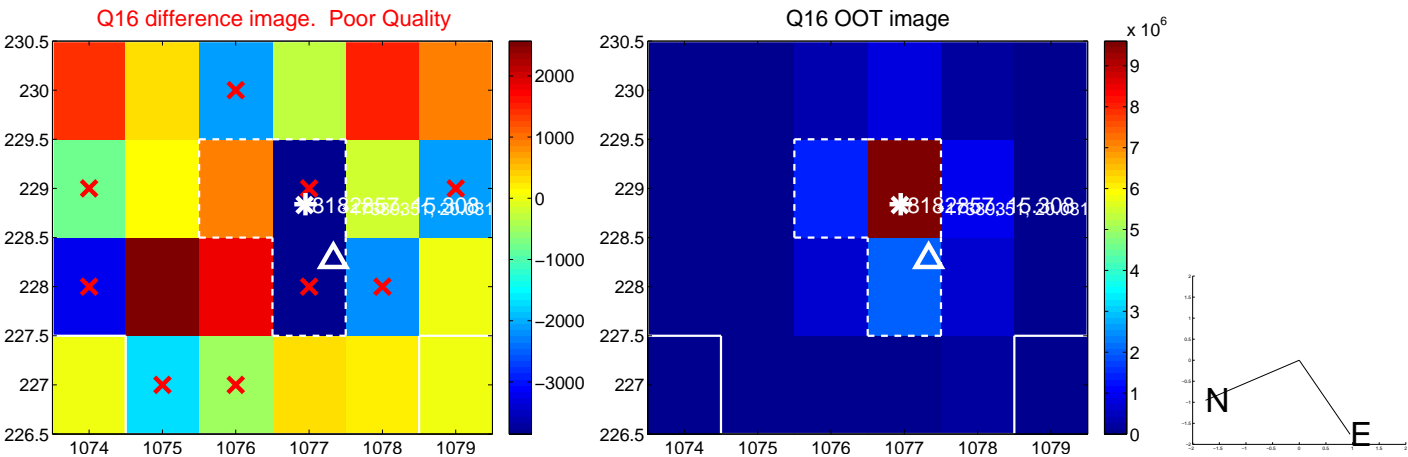
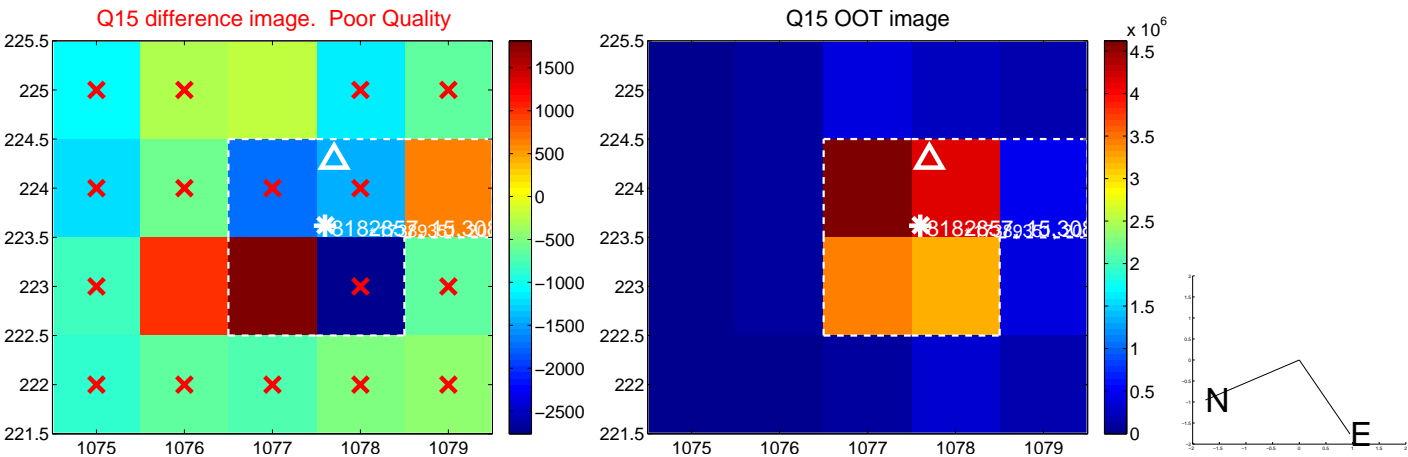
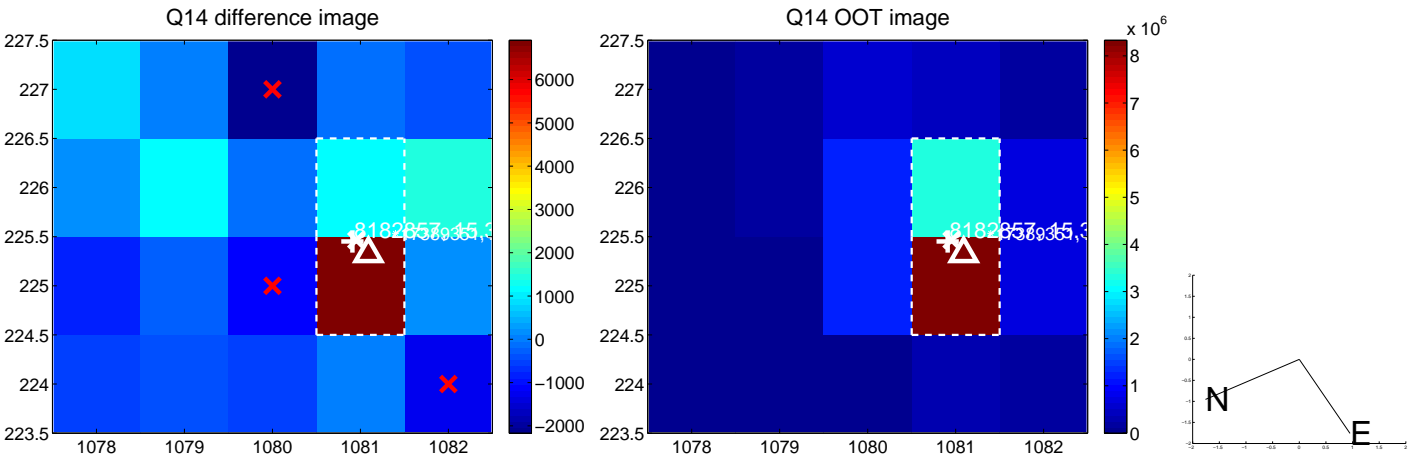
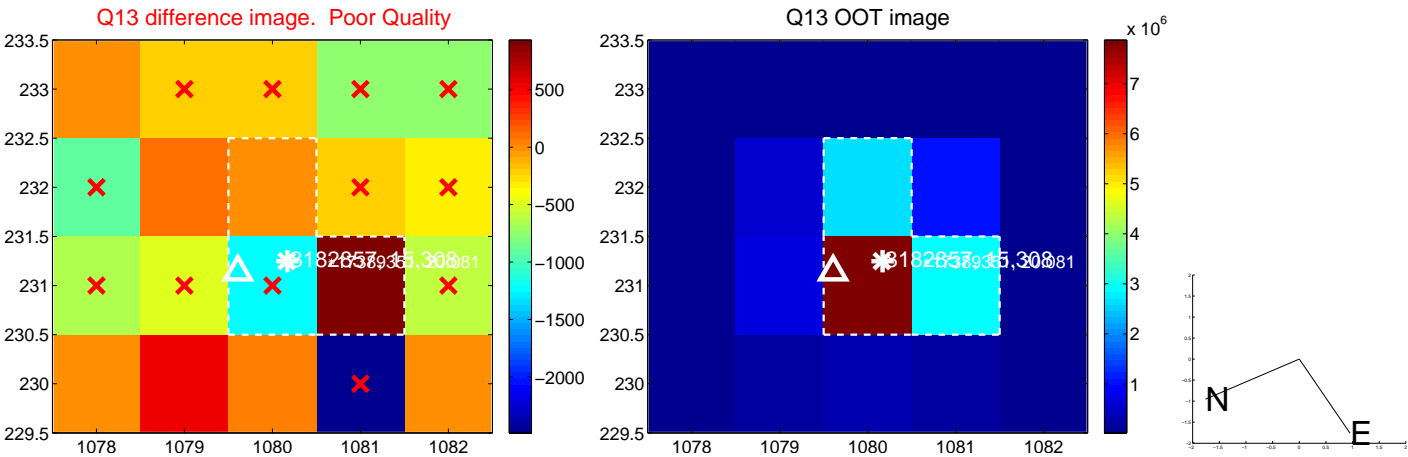
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



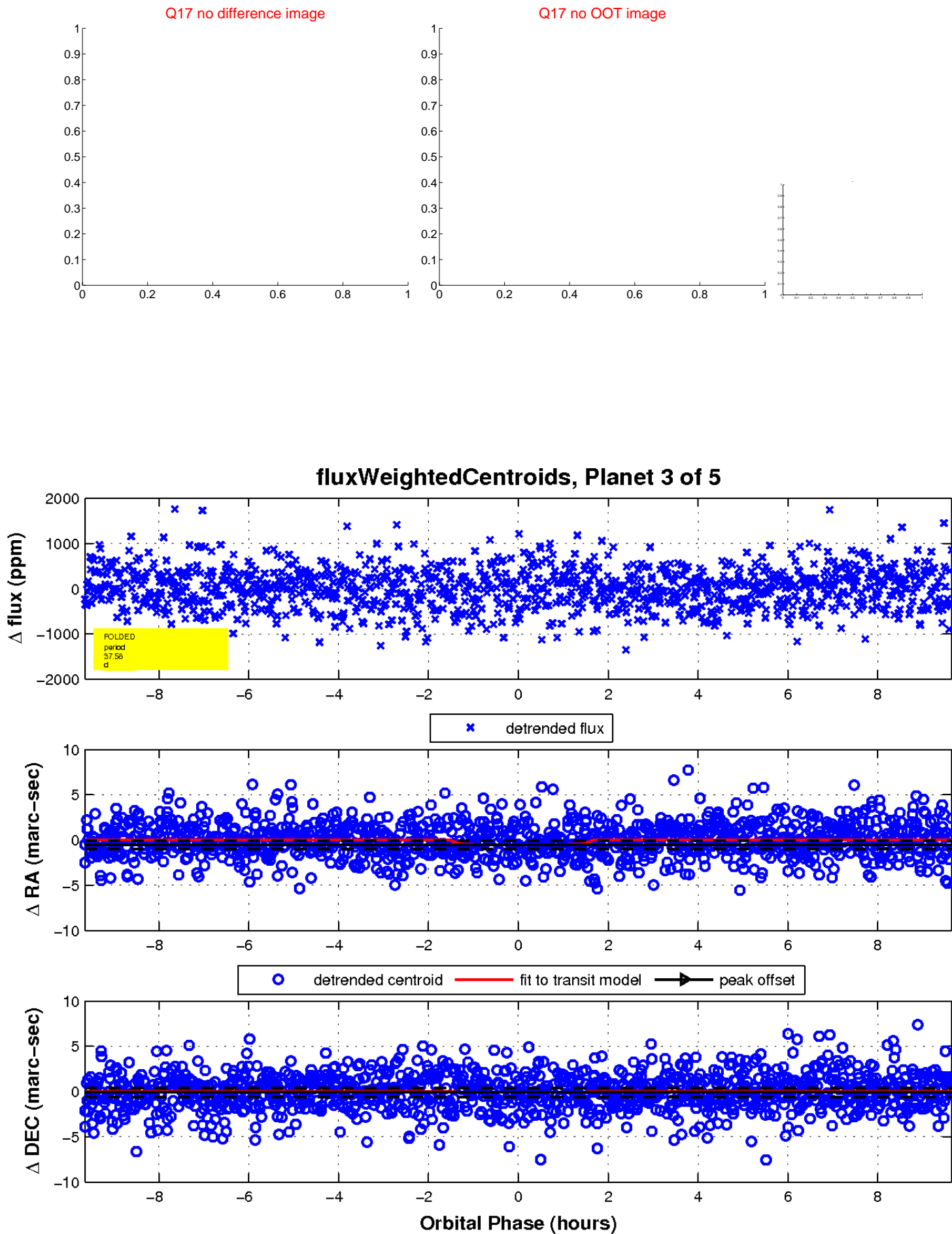
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

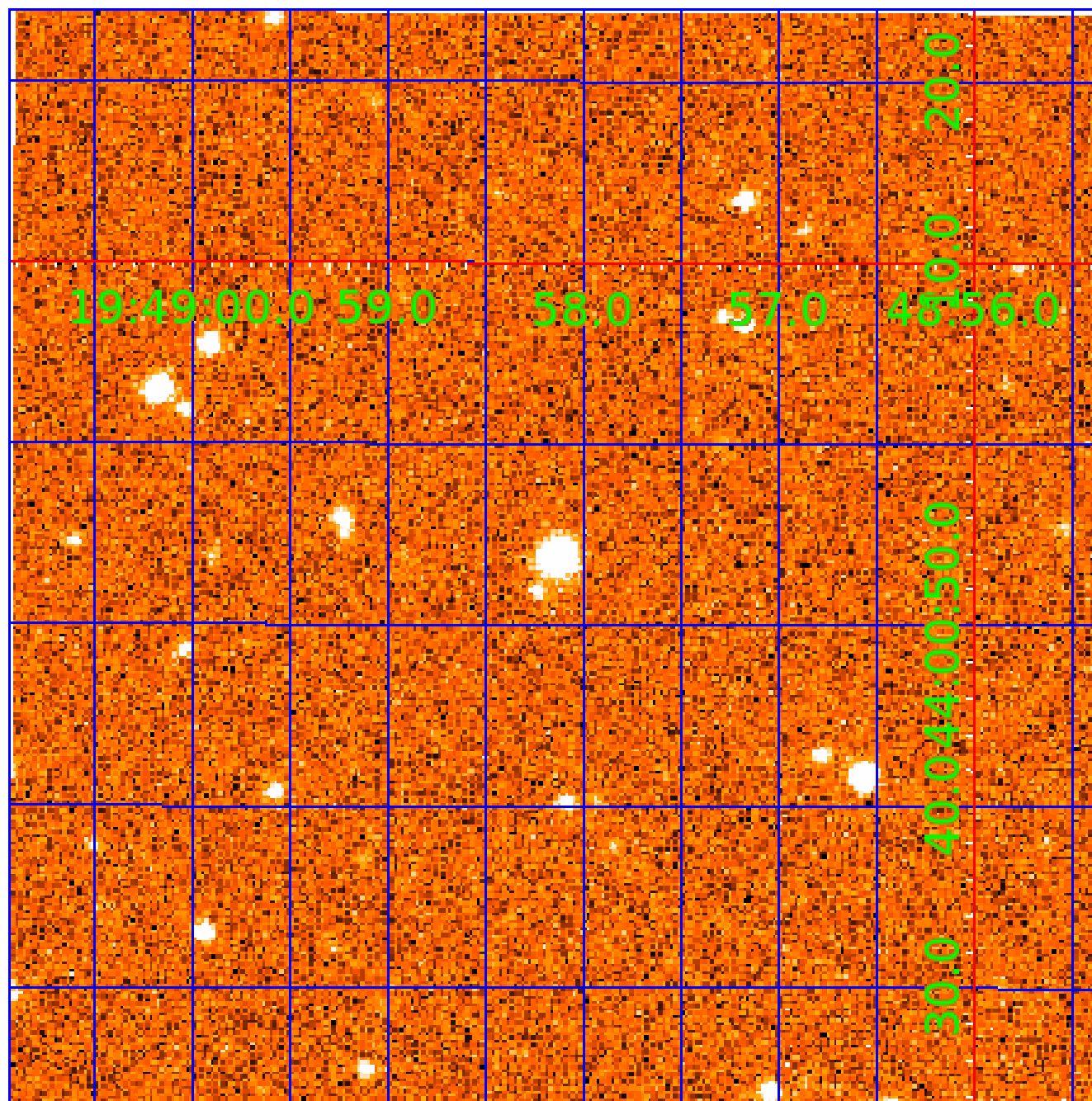


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008182857

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})
008182857-01	OBS	No	0.694057	131.876012	21.4	4.359	9.8	5.0	1.05	6444	0.49	6843.45
008182857-02	OBS	No	40.148536	132.642221	733.6	1.819	9.4	10.7	1.05	6444	2.99	30.59
008182857-03	OBS	No	37.582174	168.621994	585.4	3.217	7.7	7.6	1.05	6444	2.80	33.41
008182857-04	OBS	No	95.654841	131.600236	587.8	3.424	8.1	7.6	1.05	6444	2.74	9.61
008182857-05	OBS	No	44.974723	168.071815	670.7	2.127	8.7	9.2	1.05	6444	2.96	26.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008182857-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008182857-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

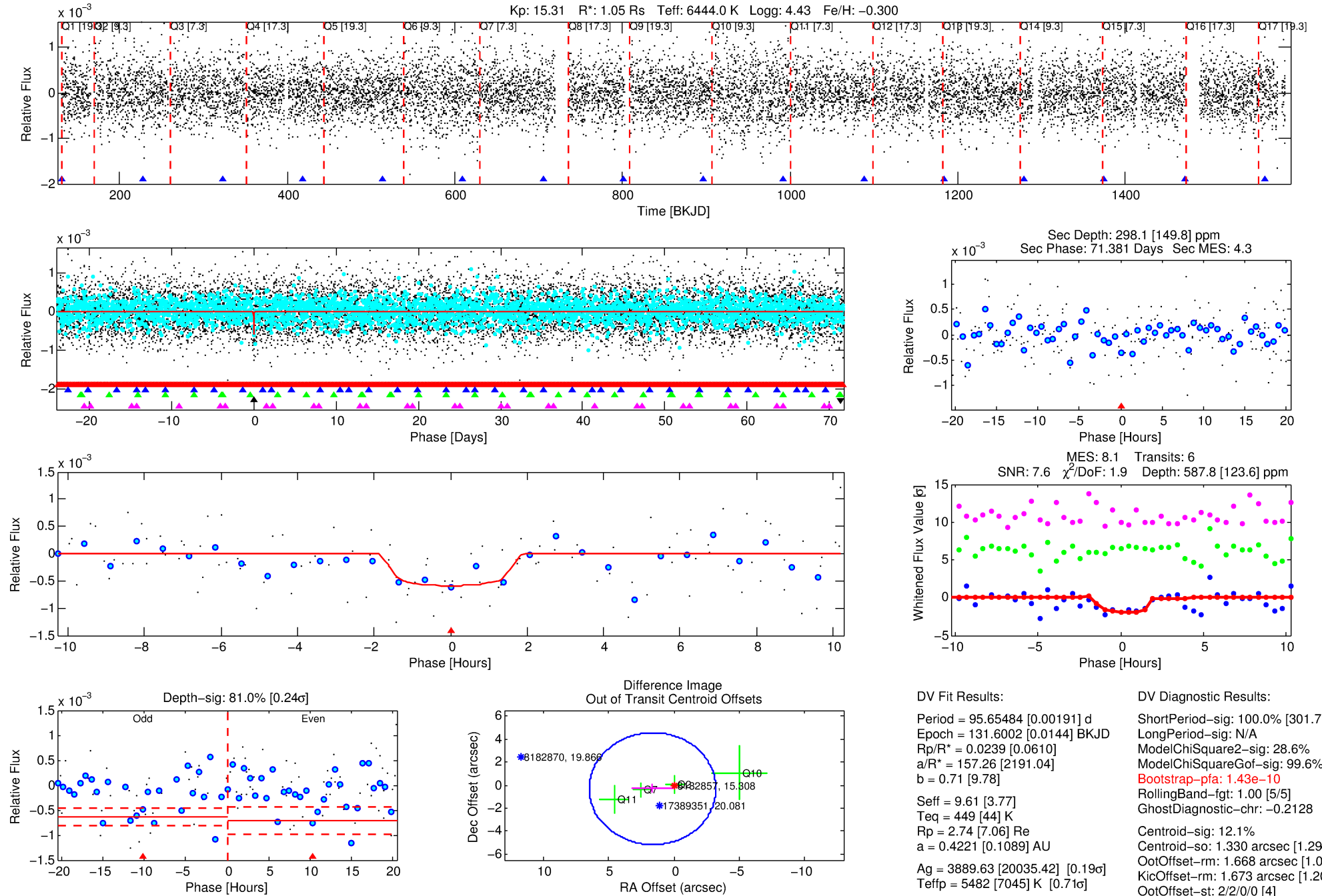
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008182857-04

No Significant Match Found

DV One-Page Summary

KIC: 8182857 Candidate: 4 of 5 Period: 95.655 d



DV Fit Results:

Period = 95.65484 [0.00191] d
Epoch = 131.6002 [0.0144] BKJD
Rp/R* = 0.0239 [0.0610]
a/R* = 157.26 [2191.04]
b = 0.71 [9.78]
Seff = 9.61 [3.77]
Teq = 449 [44] K
Rp = 2.74 [7.06] Re
a = 0.4221 [0.1089] AU
Ag = 3889.63 [20035.42] [0.19 σ]
Teff = 5482 [7045] K [0.71 σ]

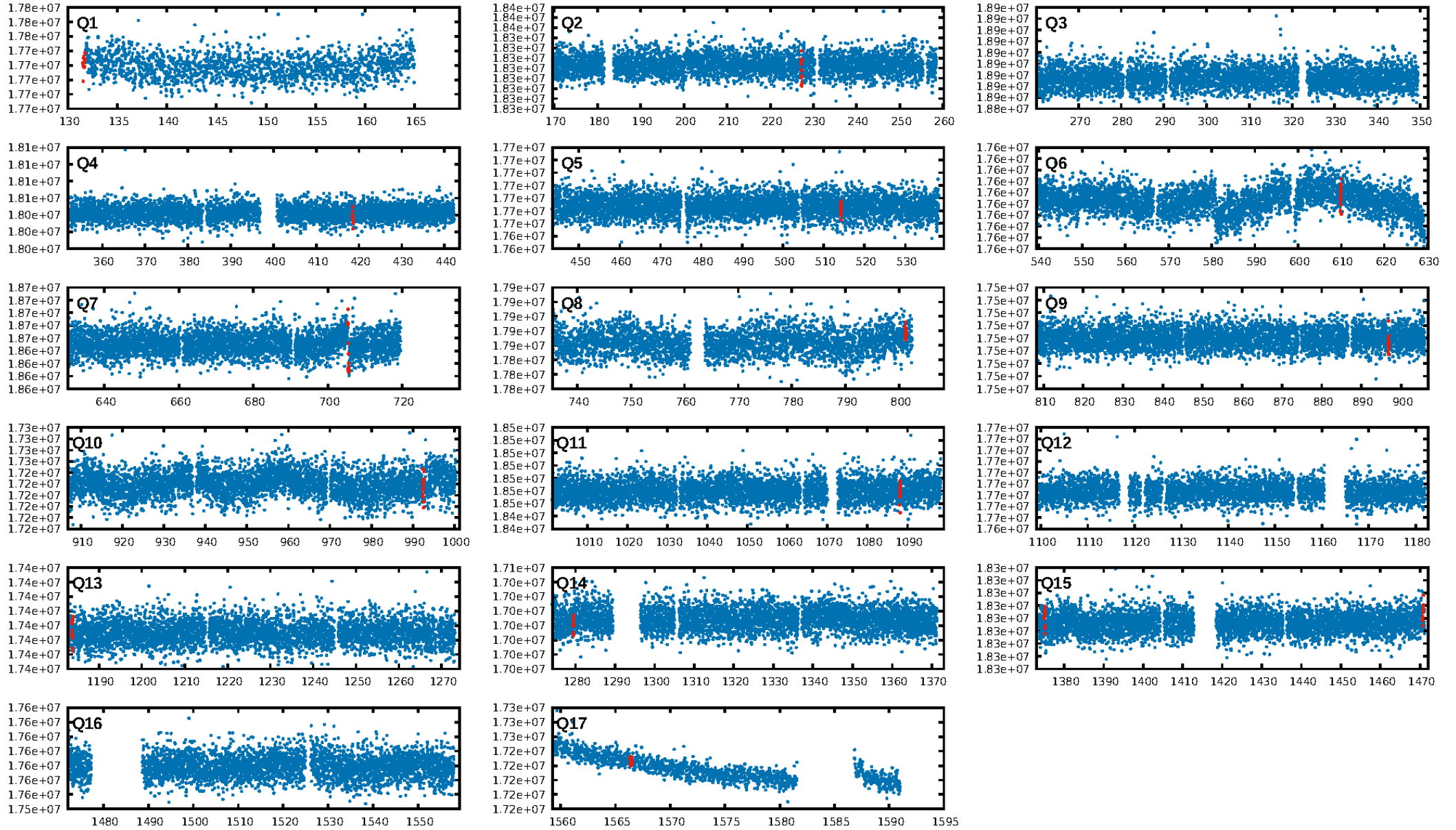
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [301.71 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 28.6%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 1.43e-10
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.2128
Centroid-sig: 12.1%
Centroid-so: 1.330 arcsec [1.29 σ]
OotOffset-rm: 1.668 arcsec [1.03 σ]
KicOffset-rm: 1.673 arcsec [1.20 σ]
OotOffset-st: 2/2/0/0 [4]
KicOffset-st: 2/2/0/0 [4]
DiffImageQuality-fgm: 0.50 [2/4]
DiffImageOverlap-fno: 0.00 [0/11]

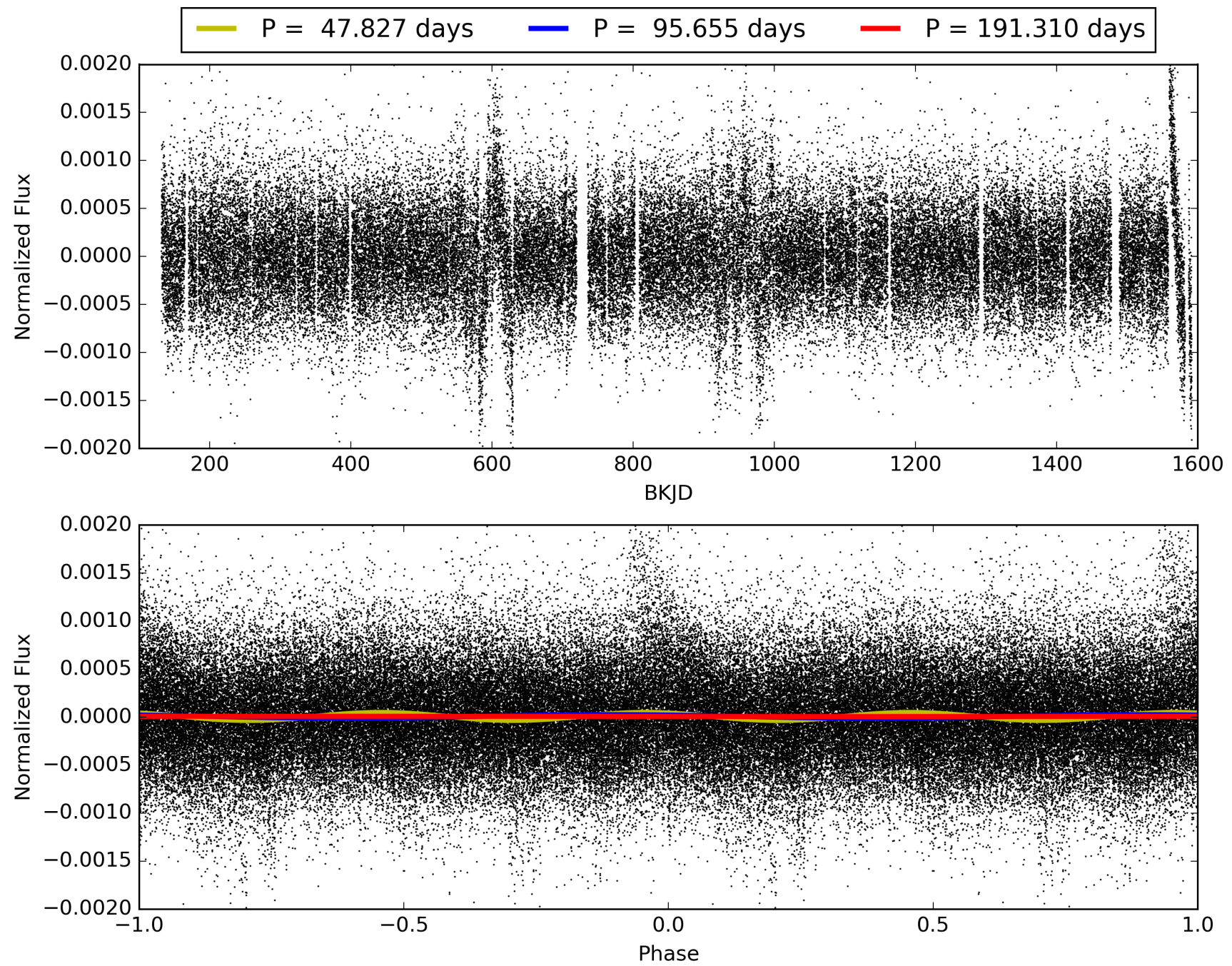
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:52:02 Z

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

TCE 008182857-04, PDC Light Curves

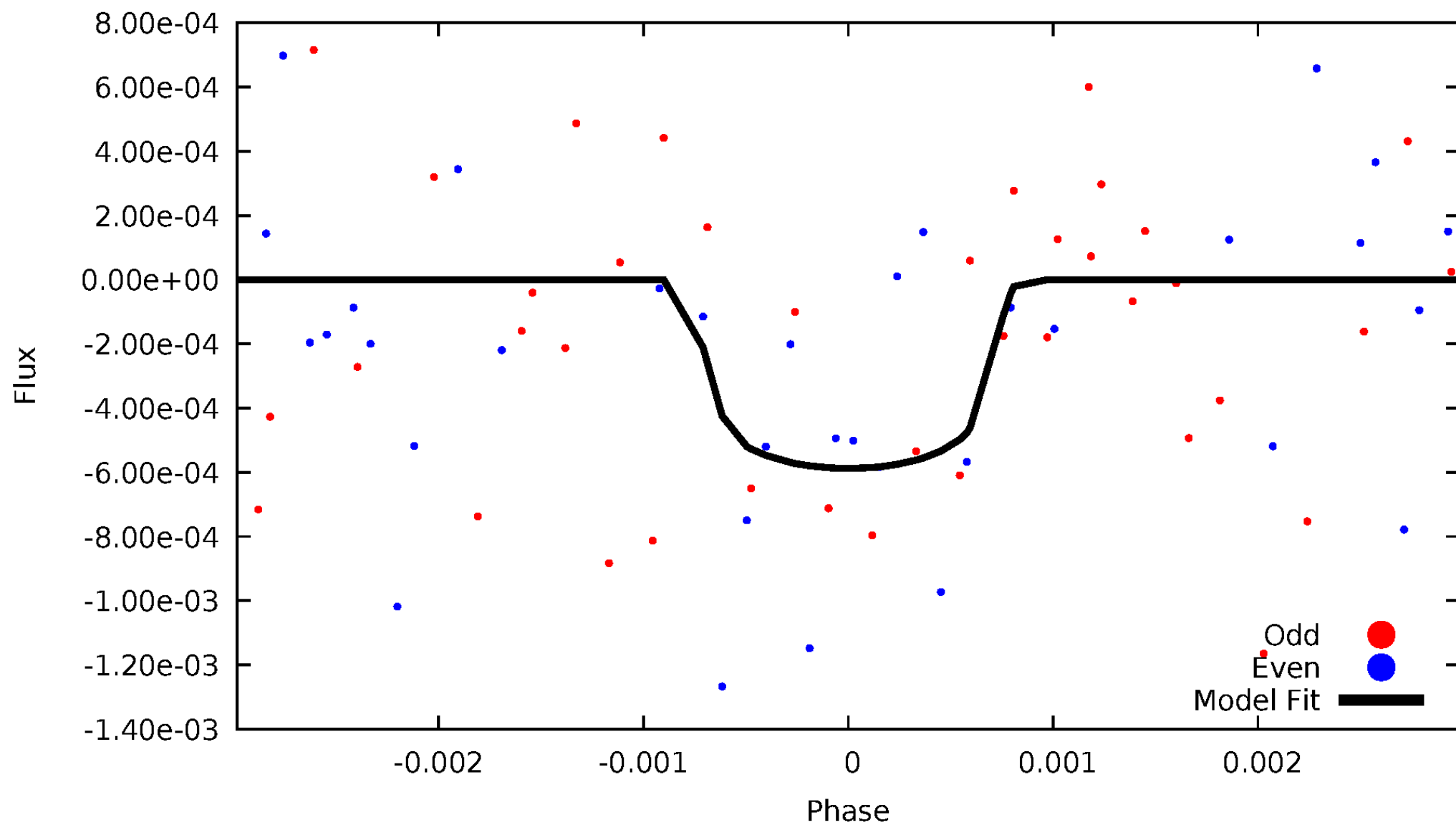


TCE 008182857-04



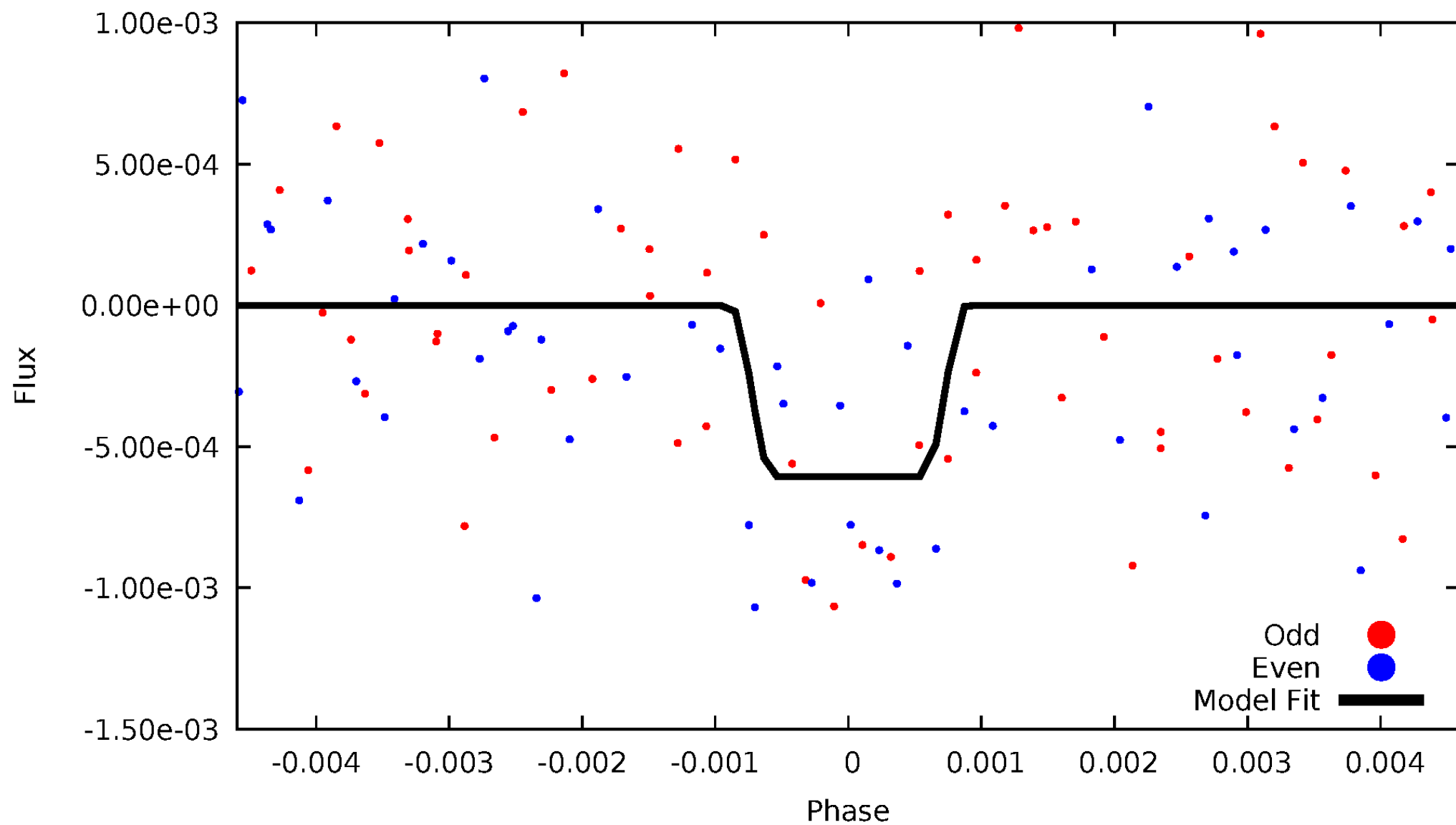
DV Odd/Even

TCE 008182857-04



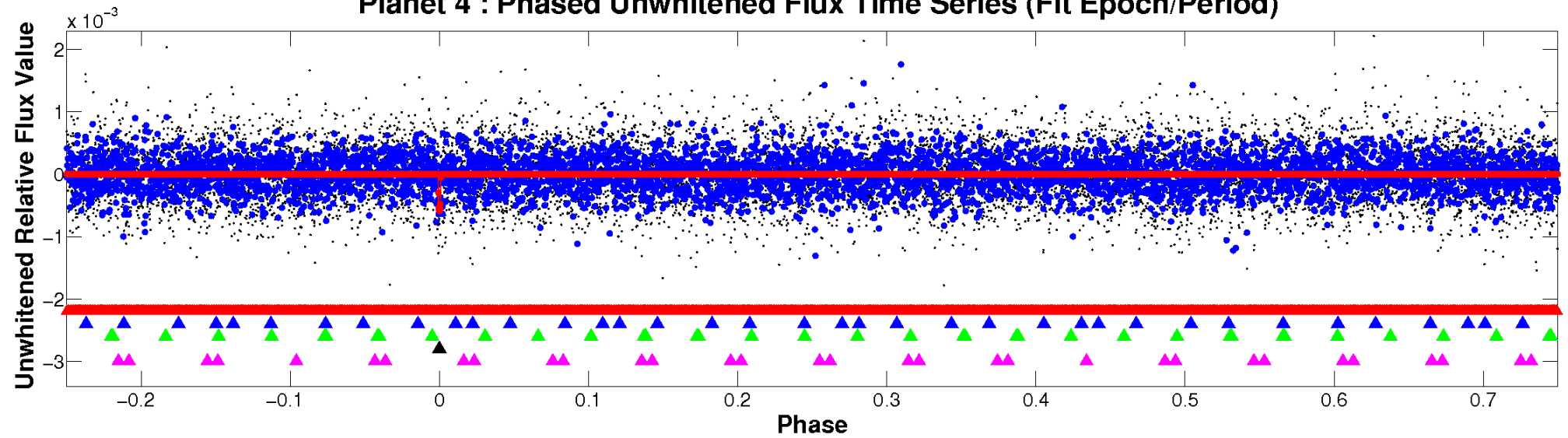
ALT Odd/Even

TCE 008182857-04

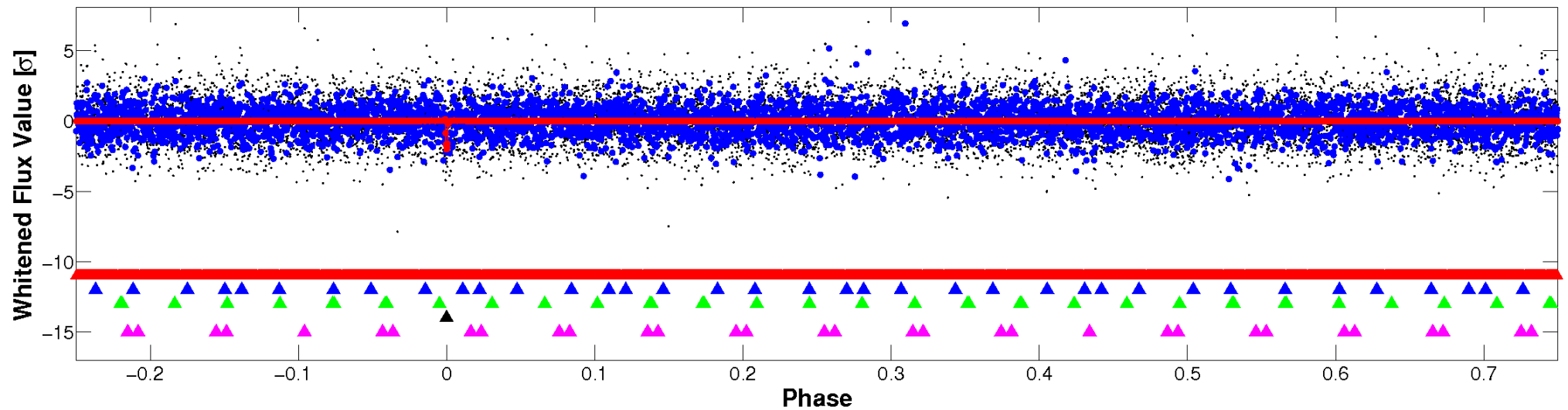


Non-Whitened Vs. Whitened Light Curve

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

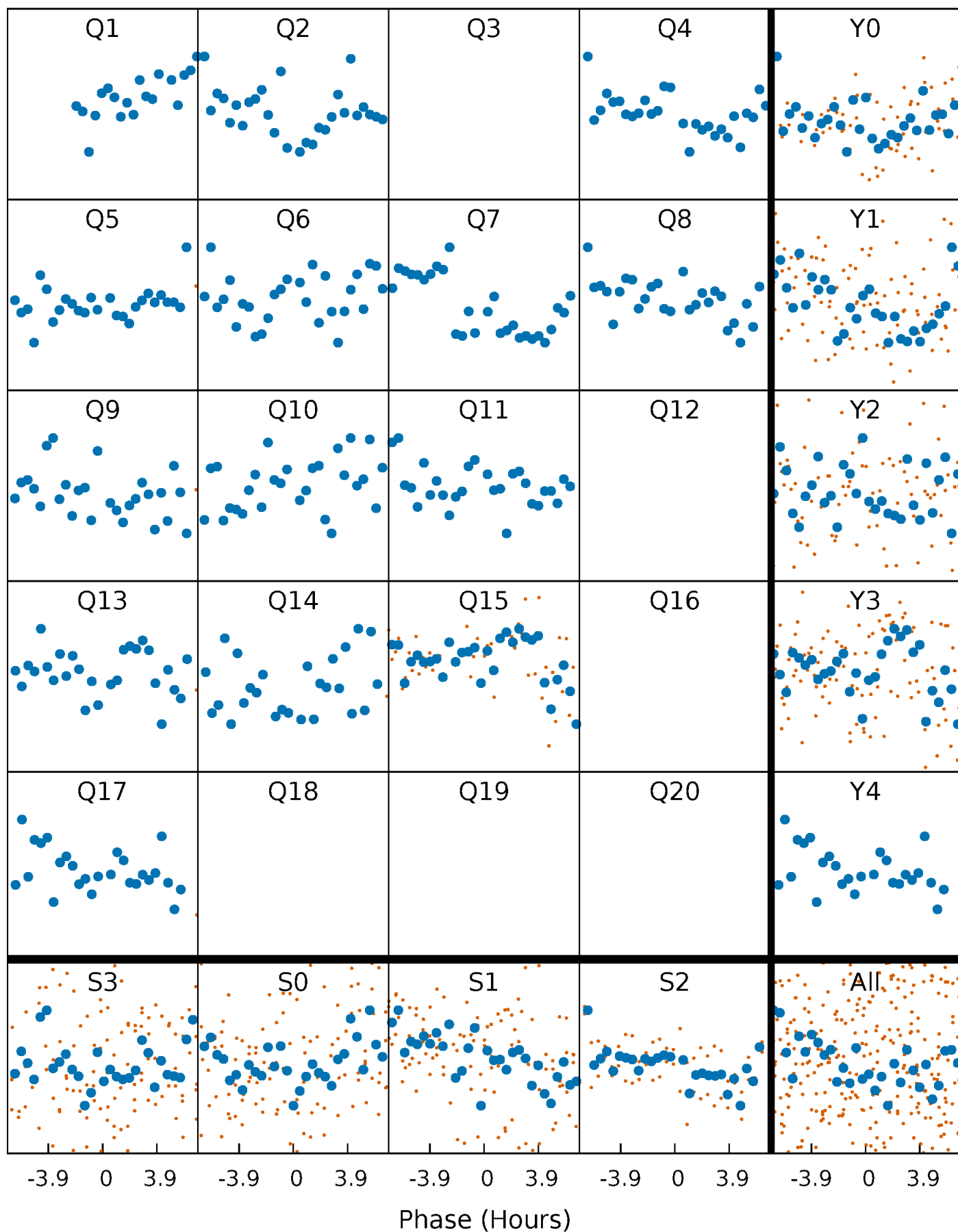


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



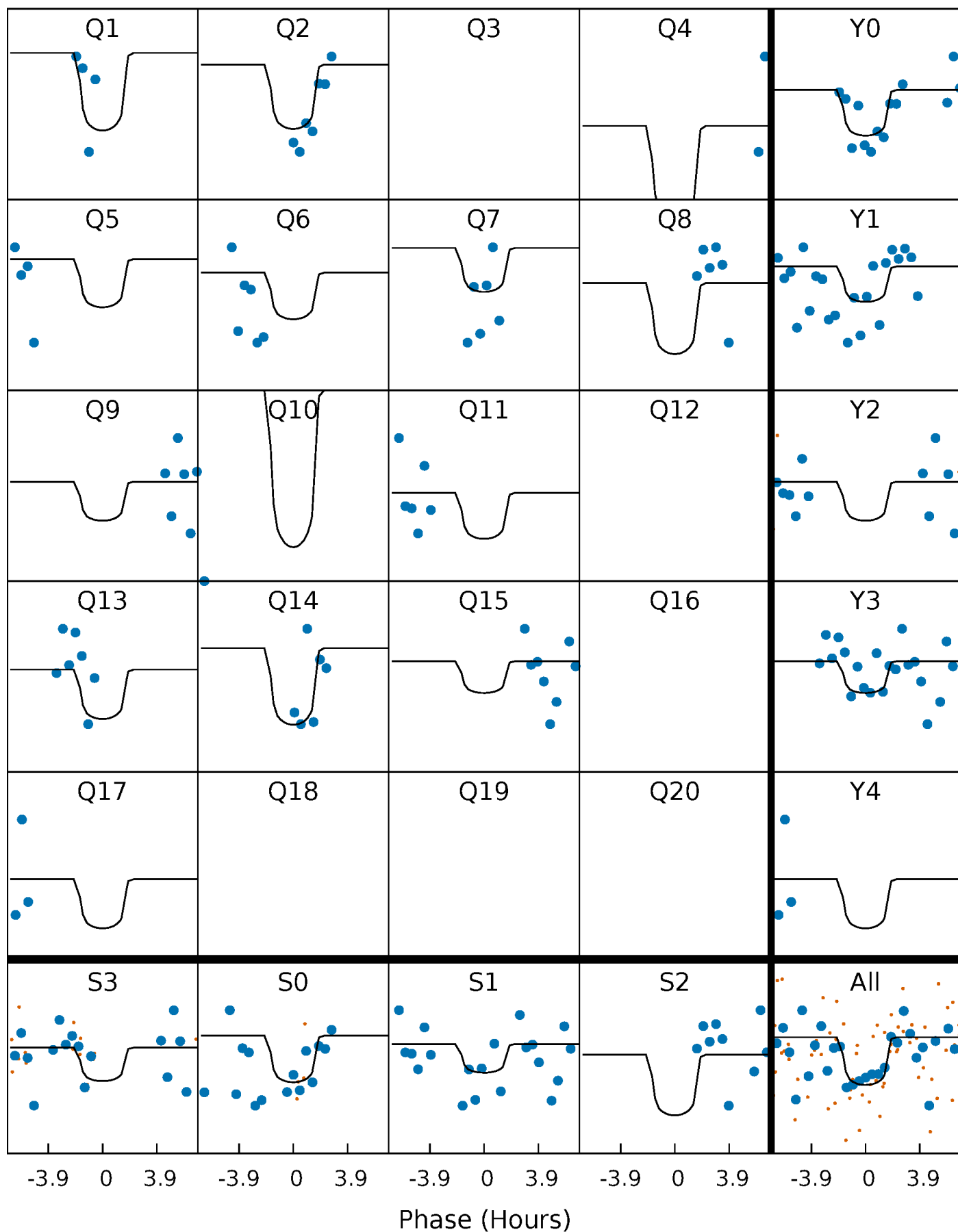
PDC Quarter-Phased Transit Curves

TCE 008182857-04 P= 95.654841 Days $T_0=131.600236$ (BKJD)



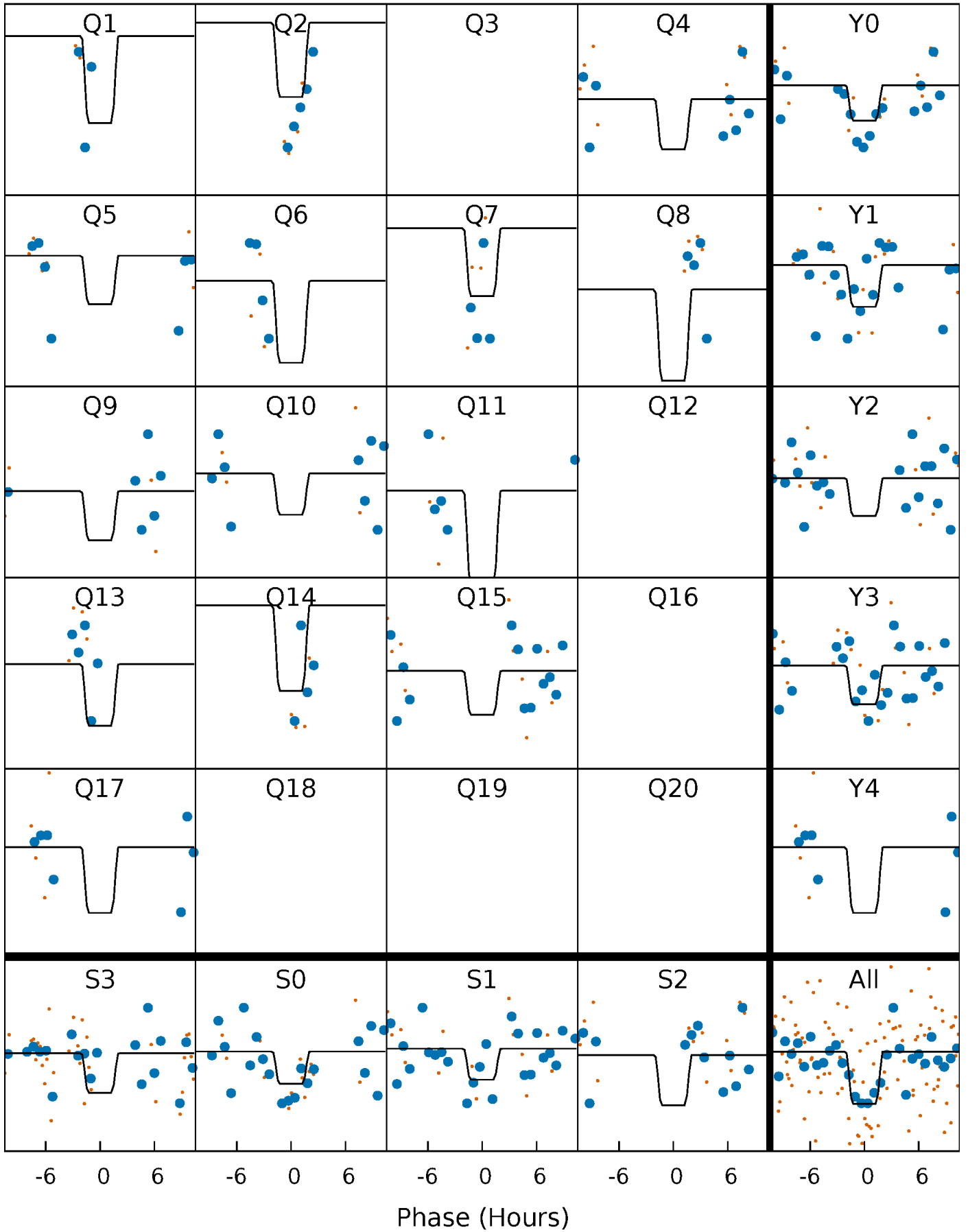
DV Quarter-Phased Transit Curves

TCE 008182857-04 $P = 95.654841$ Days $T_0 = 131.600236$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

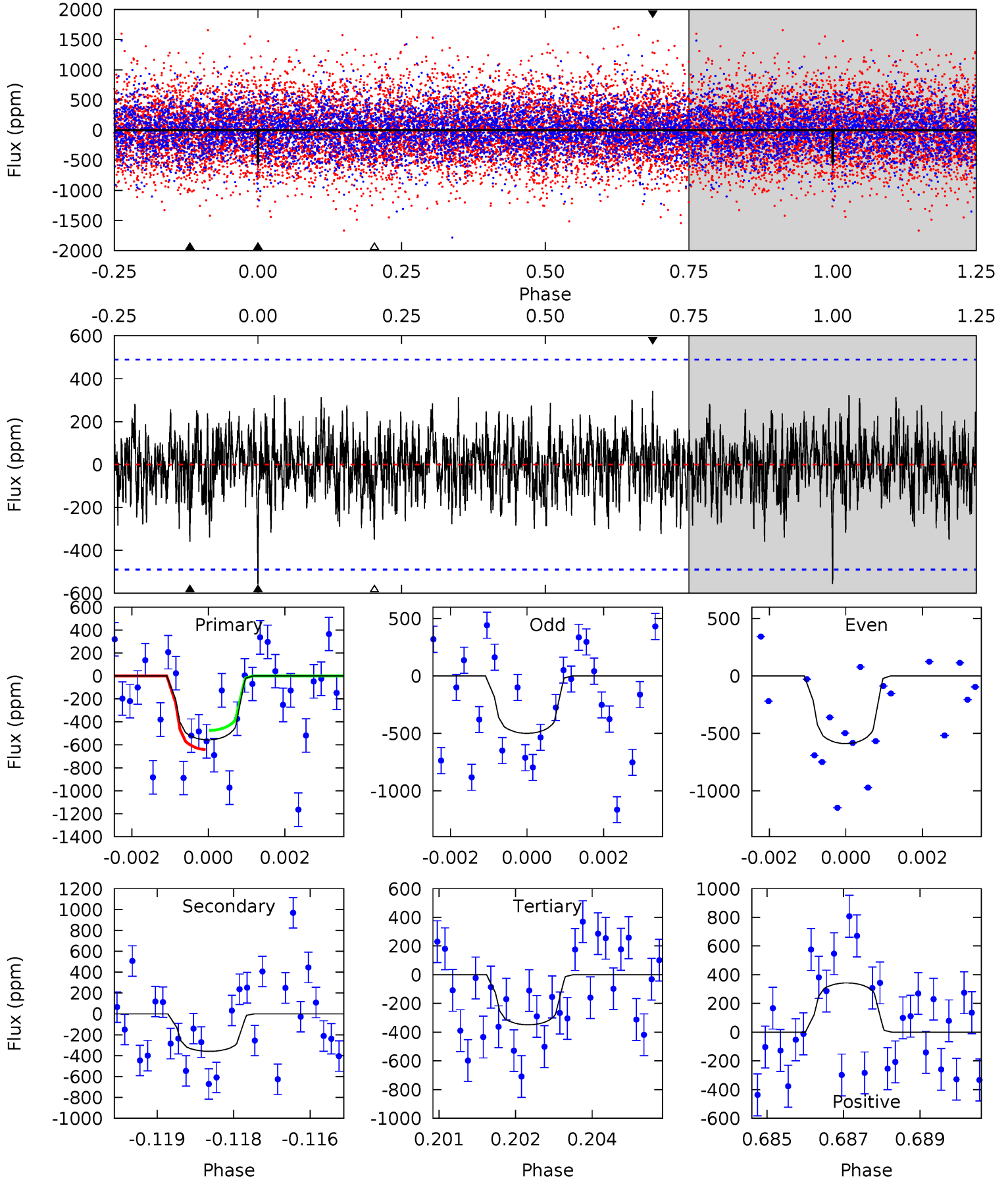
TCE 008182857-04 P= 95.652195 Days $T_0=131.624357$ (BKJD)



DV Model-Shift Uniqueness Test

008182857-04, P = 95.654841 Days, E = 35.945395 Days

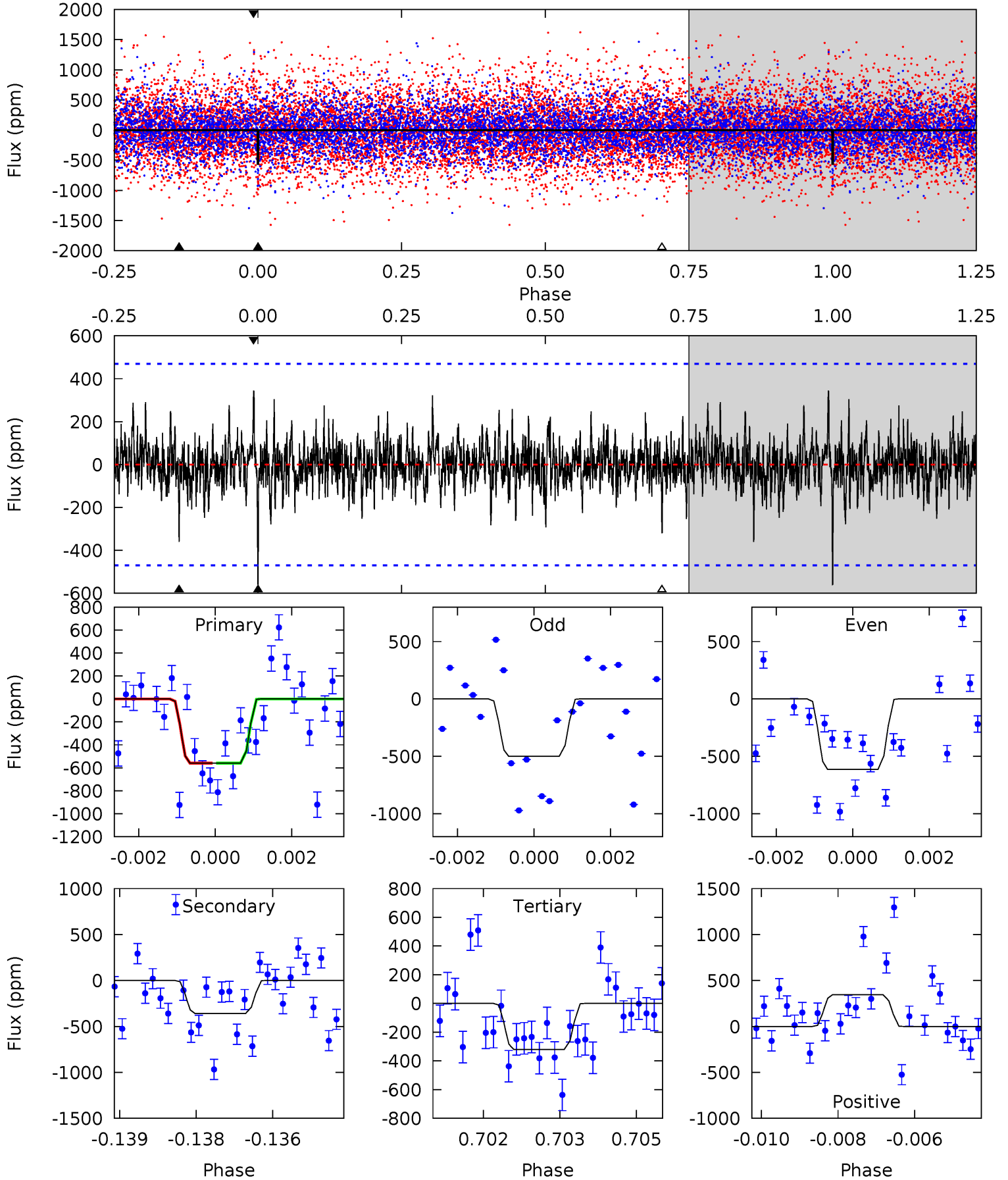
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.10	3.93	3.82	3.76	5.36	3.15	1.18	2.28	2.34	0.11	0.17	0.48	0.97	0.38	0.91



Alt Model-Shift Uniqueness Test

008182857-04, P = 95.652195 Days, E = 35.972162 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.39	4.11	3.66	3.94	5.36	3.15	0.97	2.73	2.45	0.45	0.17	0.65	0.79	0.38	0.01



Stellar Parameters For KIC 008182857

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6444^{+171}_{-228}	$4.433^{+0.065}_{-0.195}$	$-0.300^{+0.250}_{-0.300}$	$1.053^{+0.332}_{-0.111}$	$1.094^{+0.156}_{-0.142}$	$1.320^{+0.367}_{-0.684}$
	+3%/-4%	+1%/-4%	+83%/-100%	+32%/-11%	+14%/-13%	+28%/-52%
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 008182857-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-359 ± 91	$5.93^{+5.99}_{-3.81}$	636^{+42}_{-30}	4223^{+2455}_{-906}	990^{+6381}_{-755}
Alt.	-360 ± 88	$6.10^{+6.25}_{-4.44}$	637^{+46}_{-29}	4162^{+3346}_{-864}	883^{+11422}_{-674}

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

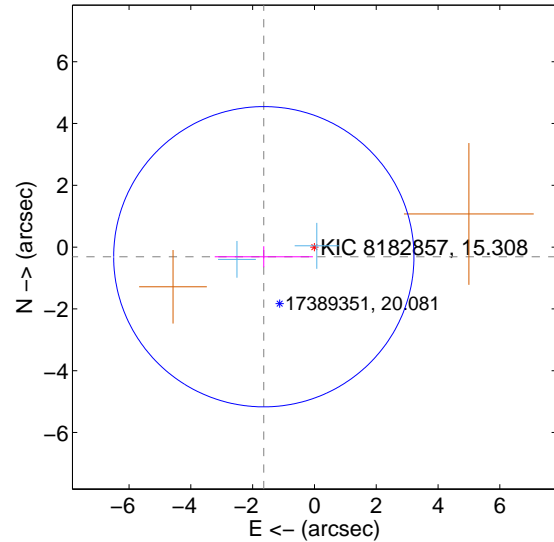
Supplemental centroid analysis for 008182857-04. Kepler magnitude: 15.31. Transit SNR 7.64

There are 2 quarters with good PRF difference image offsets

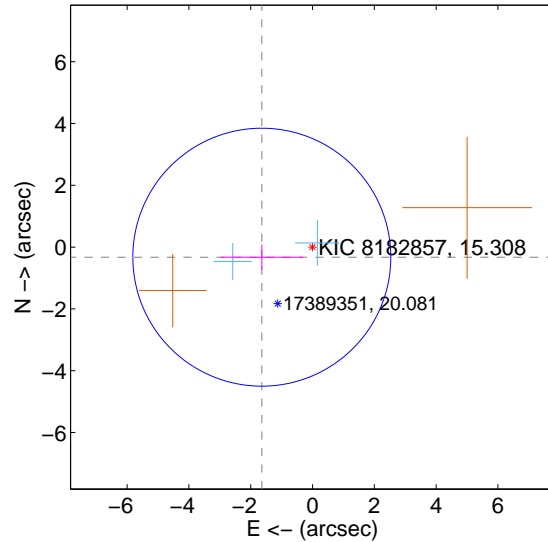
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.668 ± 1.619	1.03	1.638 ± 1.587	-0.312 ± 0.338
PRF-fit source offset from KIC position	1.673 ± 1.391	1.20	1.641 ± 1.341	-0.327 ± 0.406
photometric centroid source offset	1.33 ± 1.03	1.29	-1.28 ± 1.03	0.35 ± 1.02

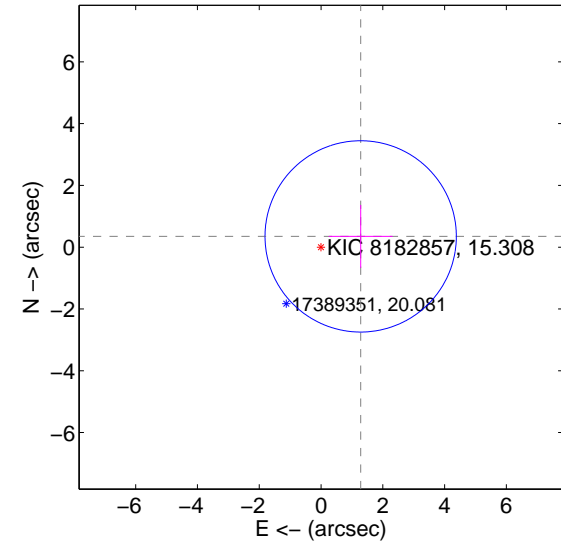
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

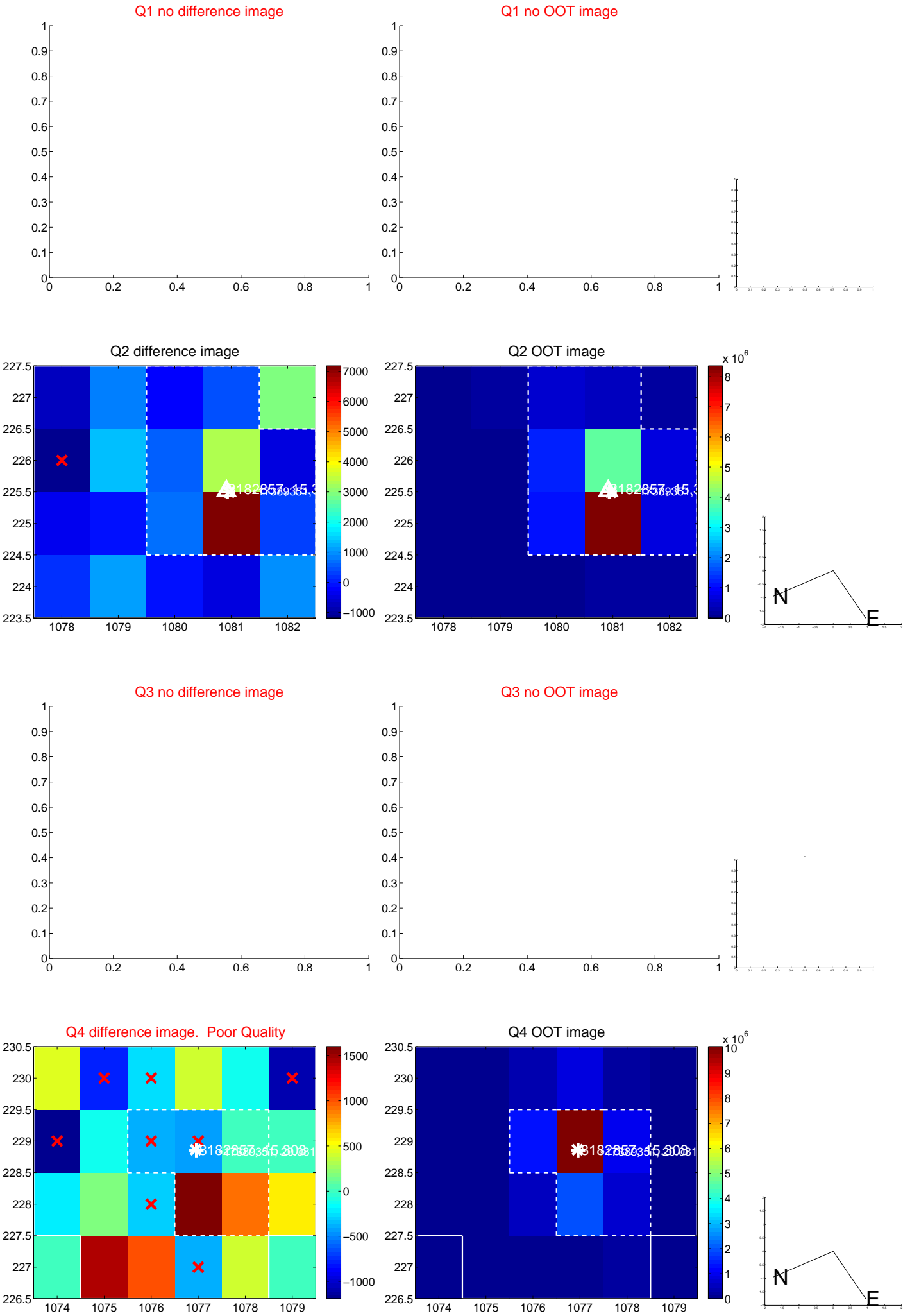


offset from photometric centroids

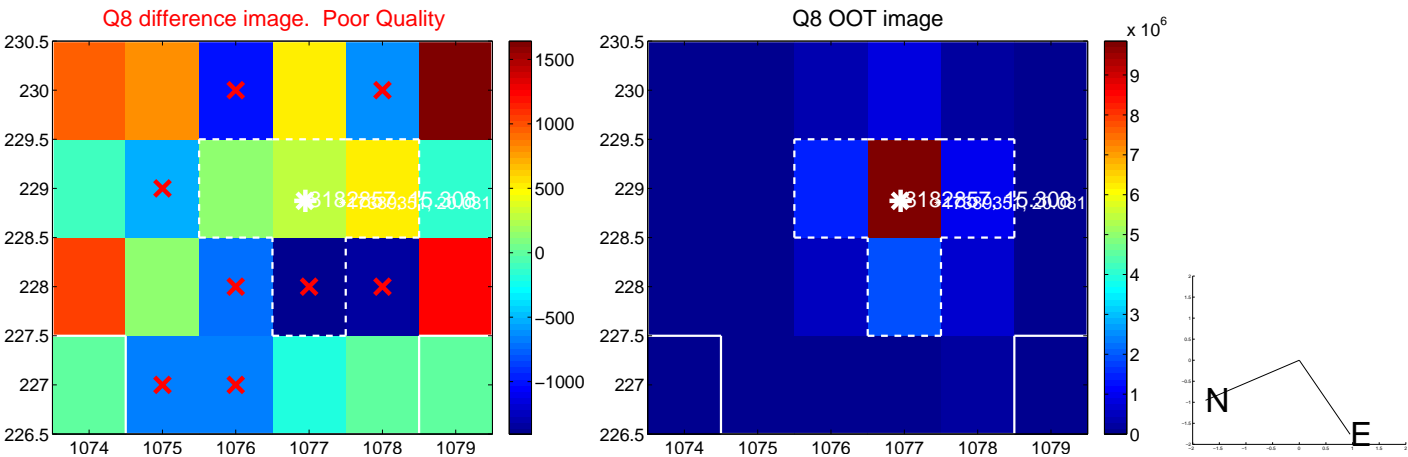
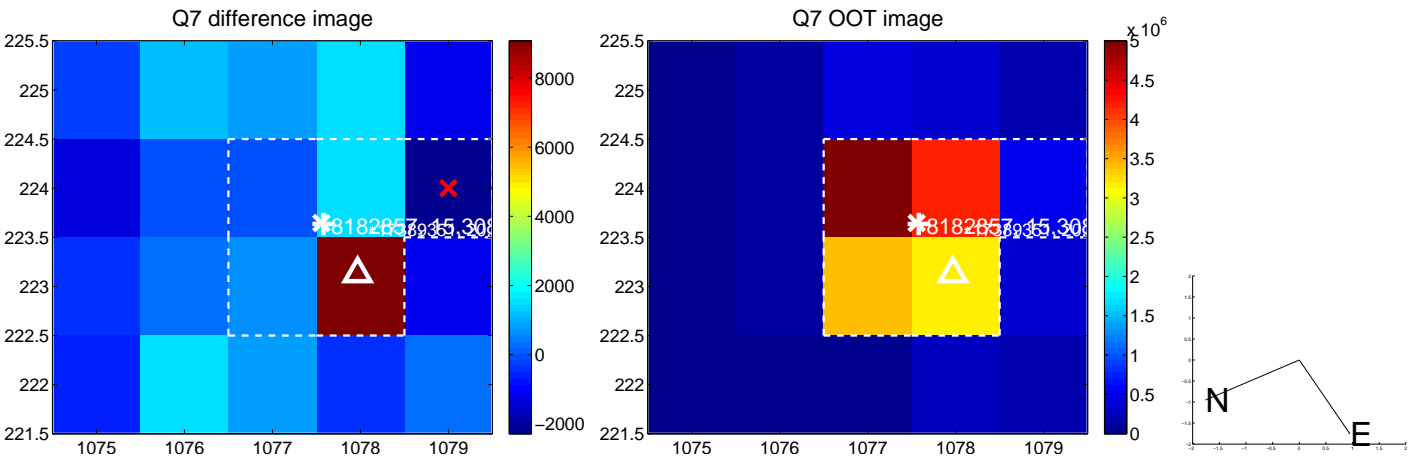
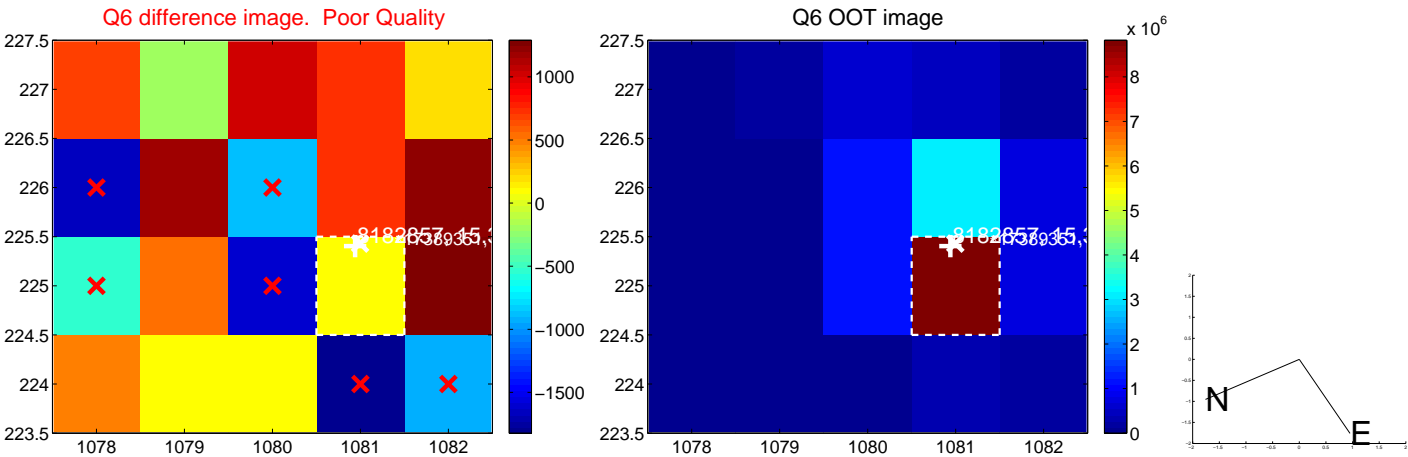
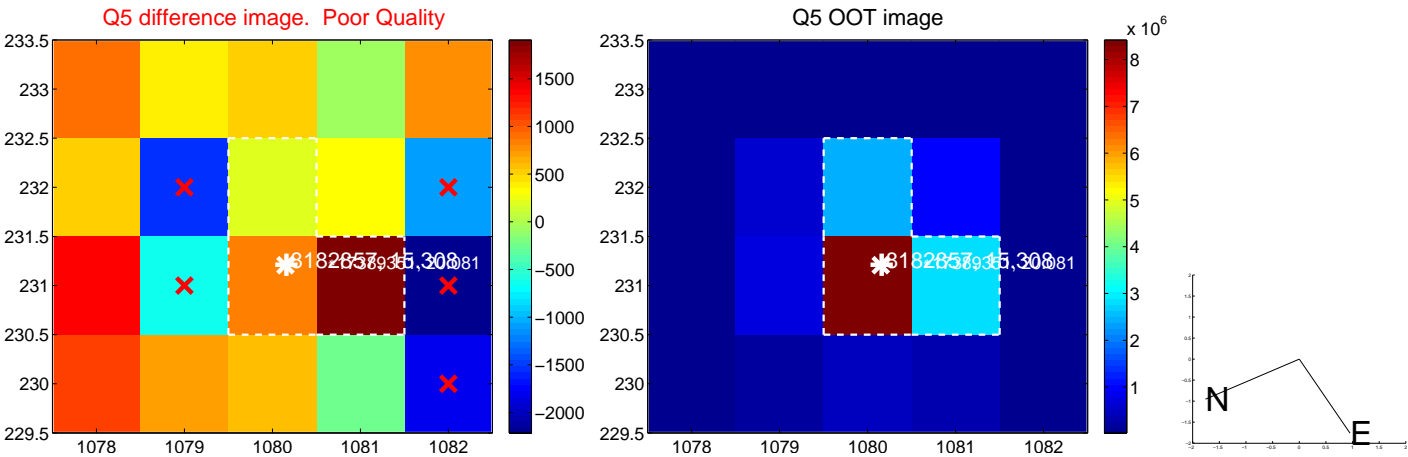


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

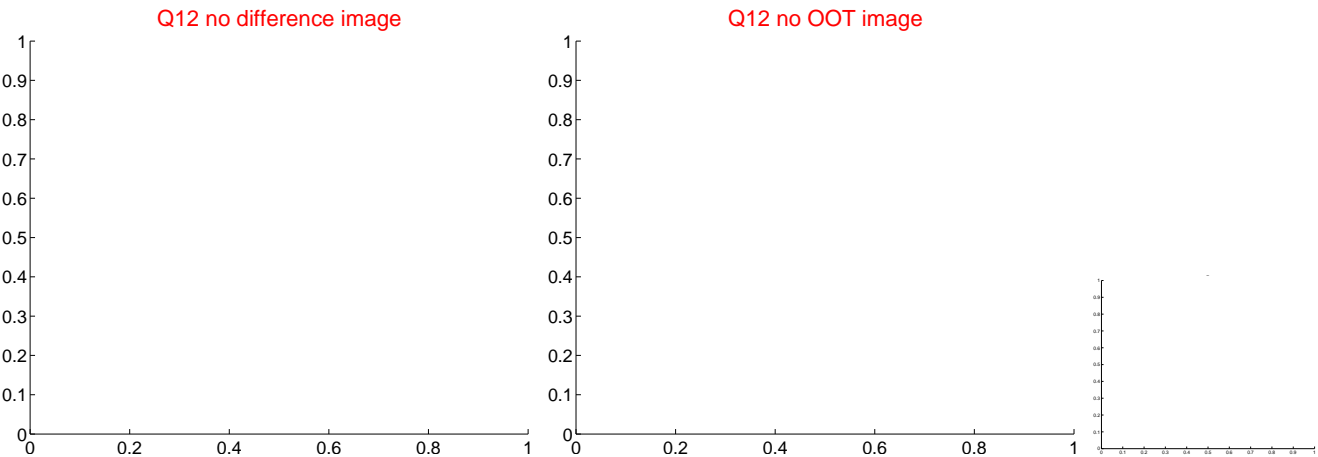
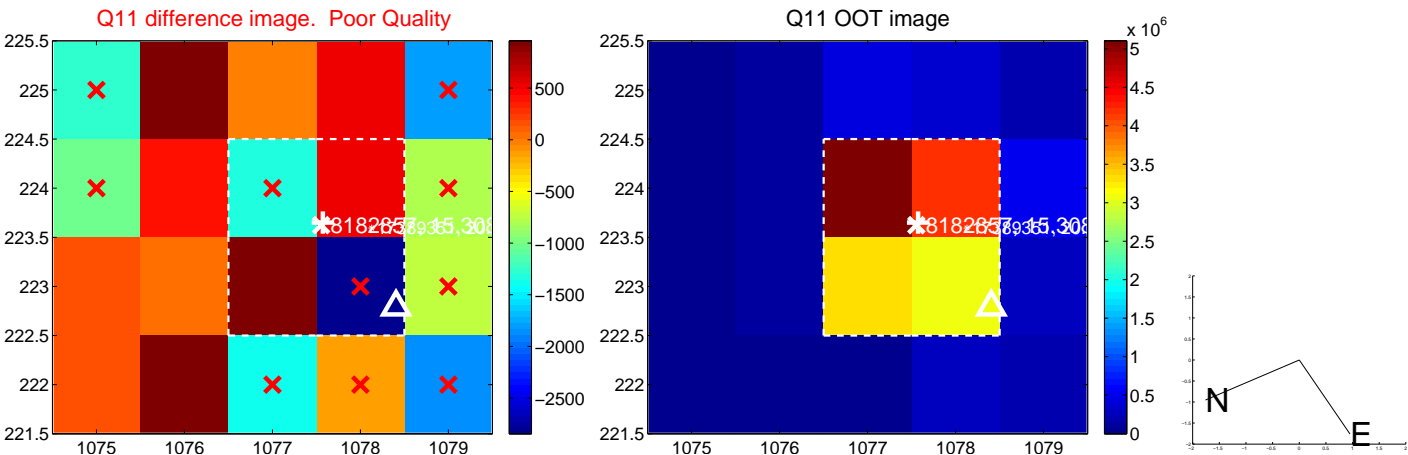
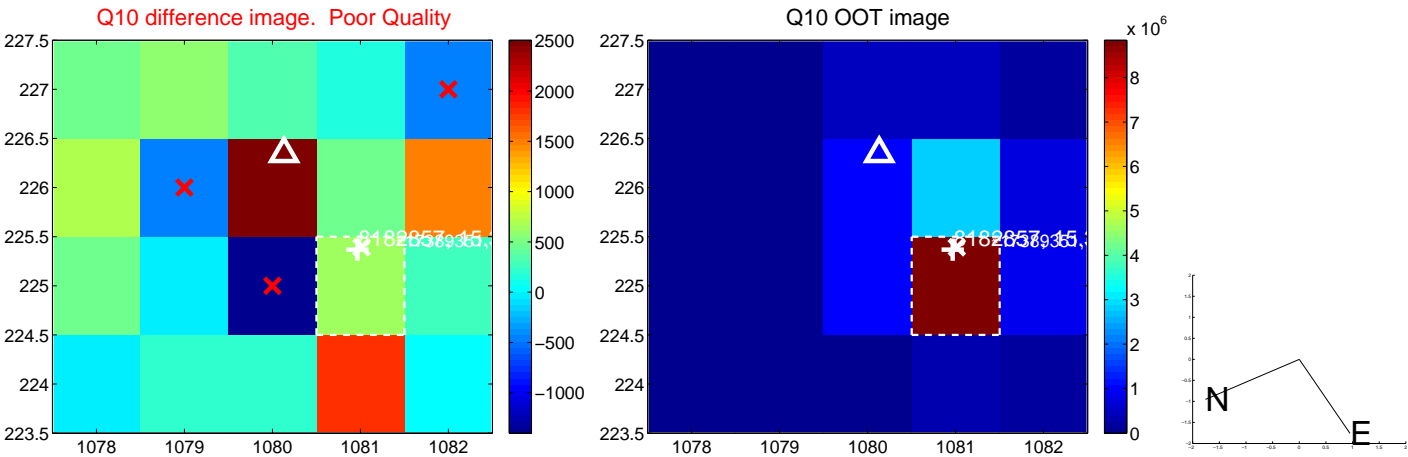
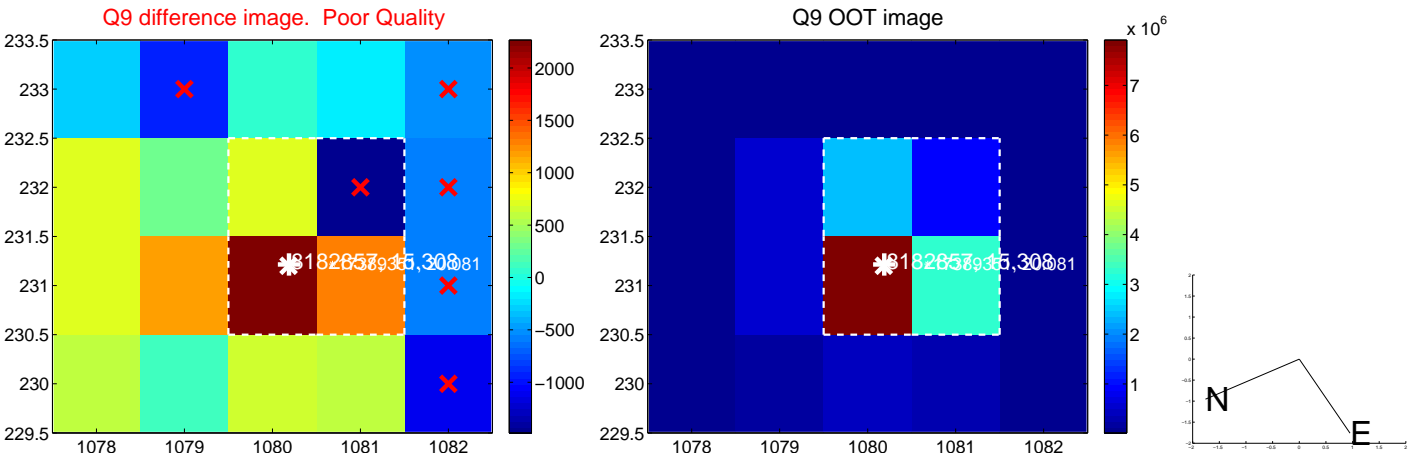
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



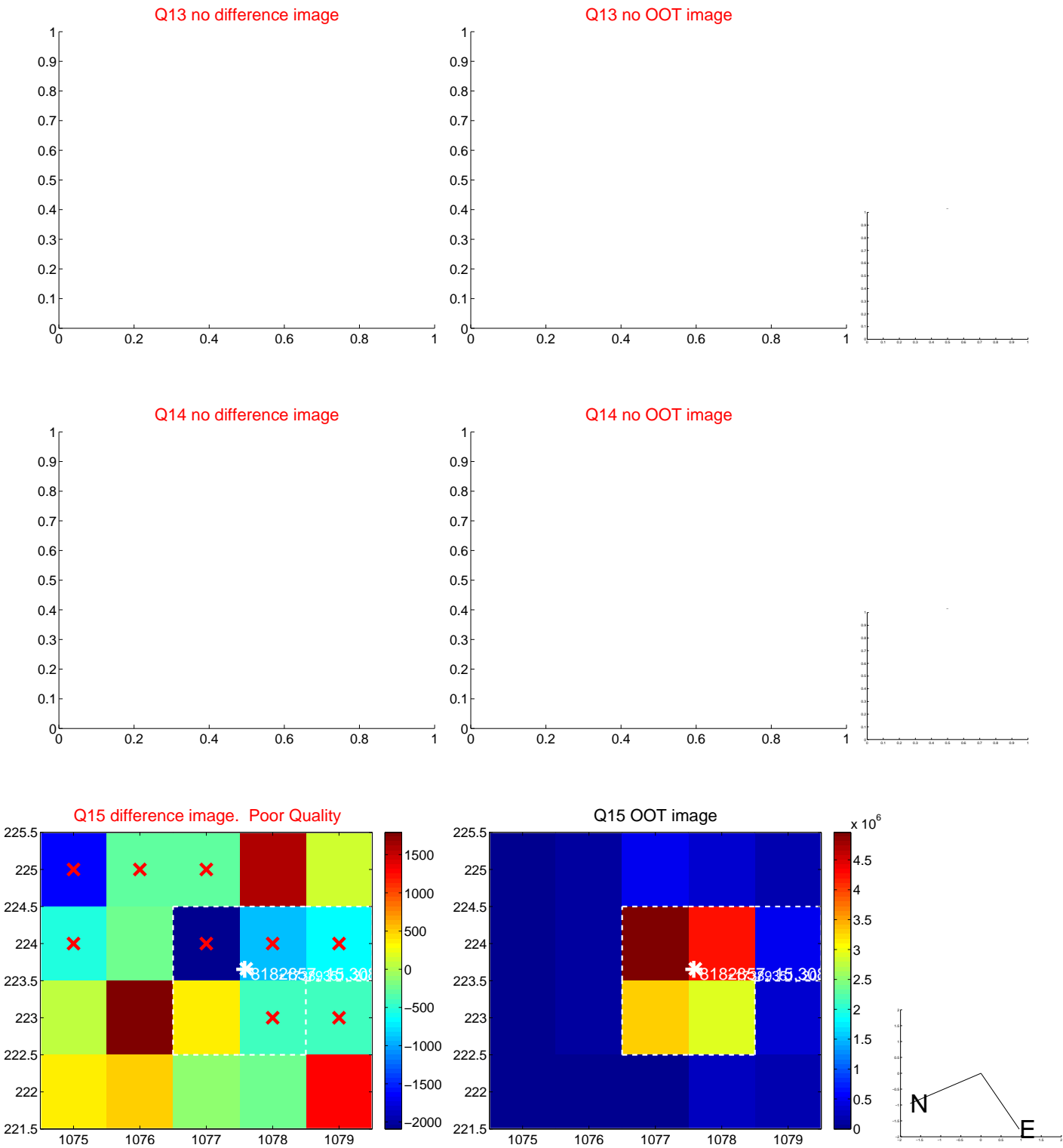
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



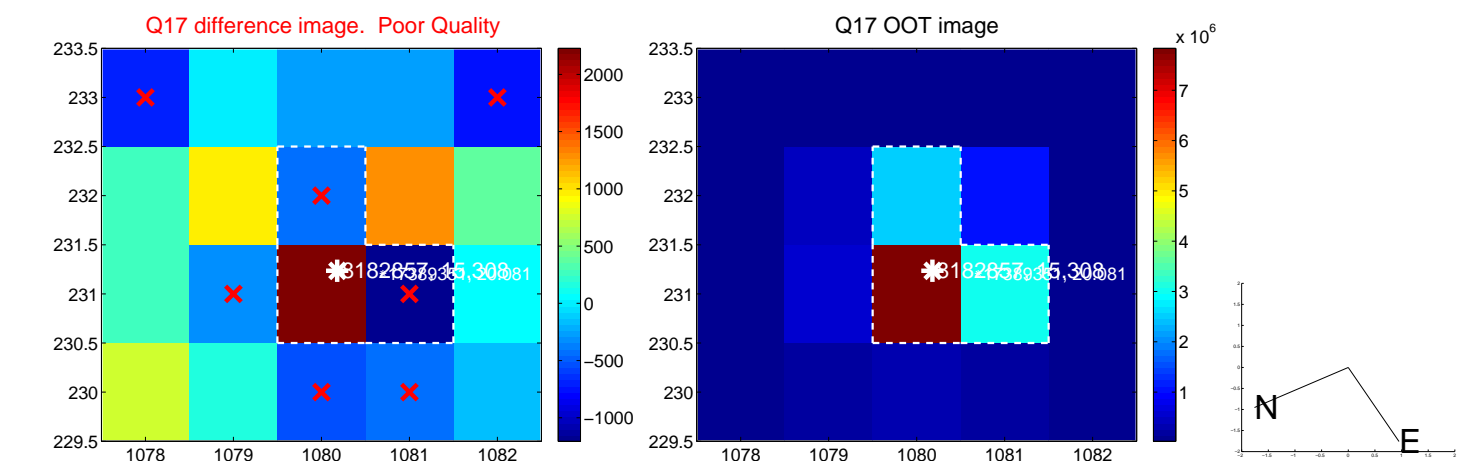
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



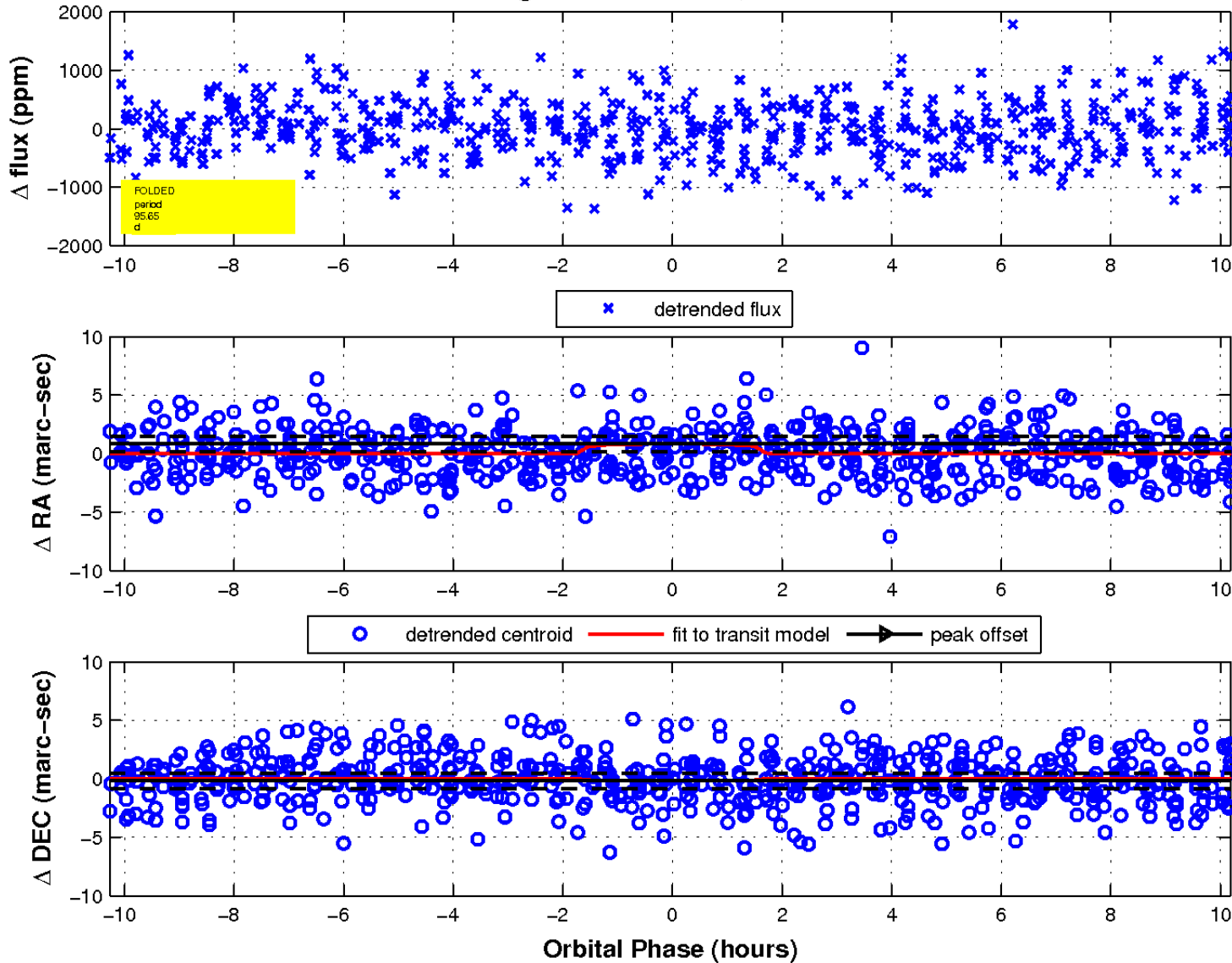
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

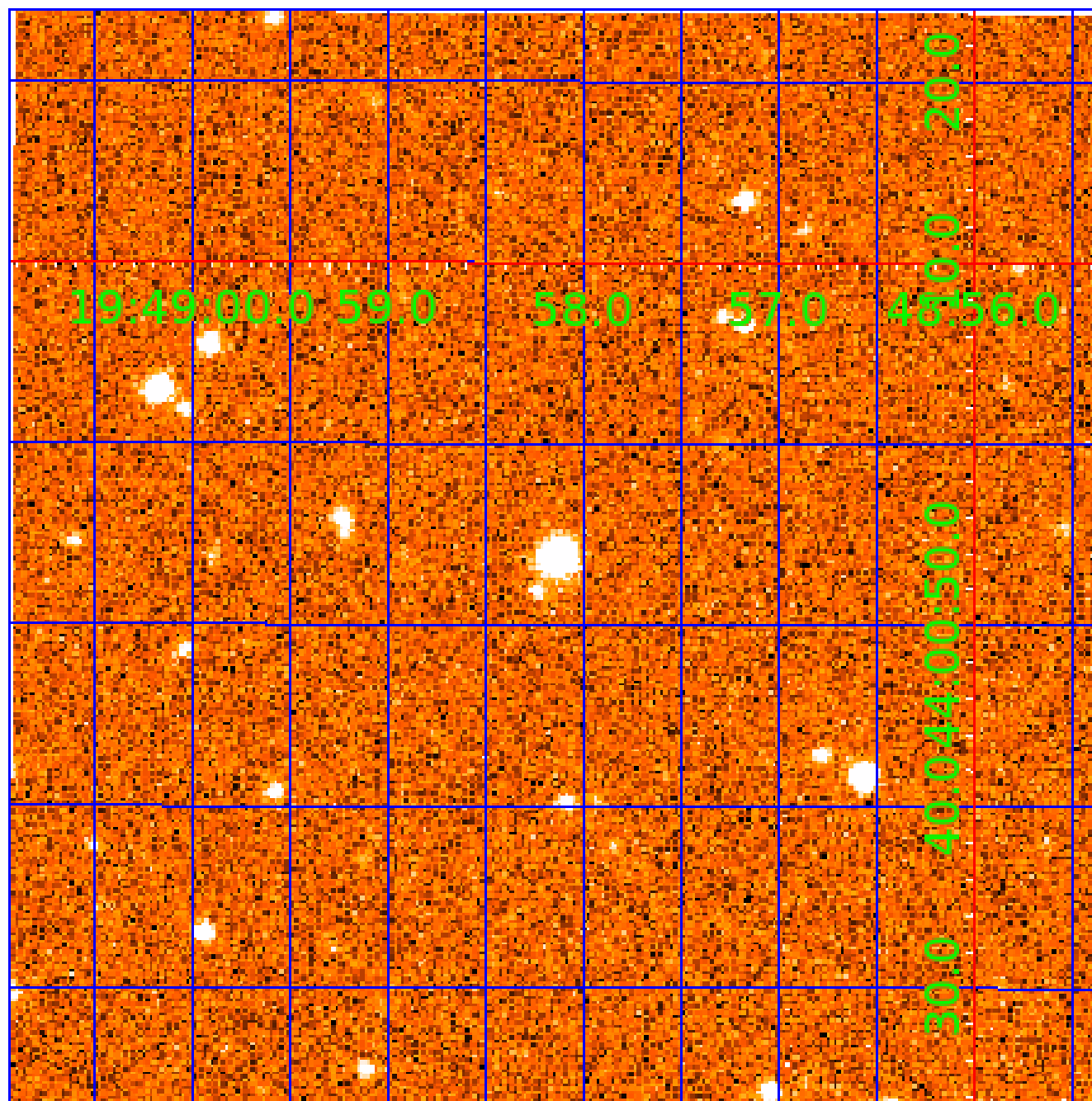


fluxWeightedCentroids, Planet 4 of 5



UKIRT Image

Declination



KIC 008182857

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})
008182857-01	OBS	No	0.694057	131.876012	21.4	4.359	9.8	5.0	1.05	6444	0.49	6843.45
008182857-02	OBS	No	40.148536	132.642221	733.6	1.819	9.4	10.7	1.05	6444	2.99	30.59
008182857-03	OBS	No	37.582174	168.621994	585.4	3.217	7.7	7.6	1.05	6444	2.80	33.41
008182857-04	OBS	No	95.654841	131.600236	587.8	3.424	8.1	7.6	1.05	6444	2.74	9.61
008182857-05	OBS	No	44.974723	168.071815	670.7	2.127	8.7	9.2	1.05	6444	2.96	26.29

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008182857-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV
008182857-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-04	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—HALO_GHOST
008182857-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT

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

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

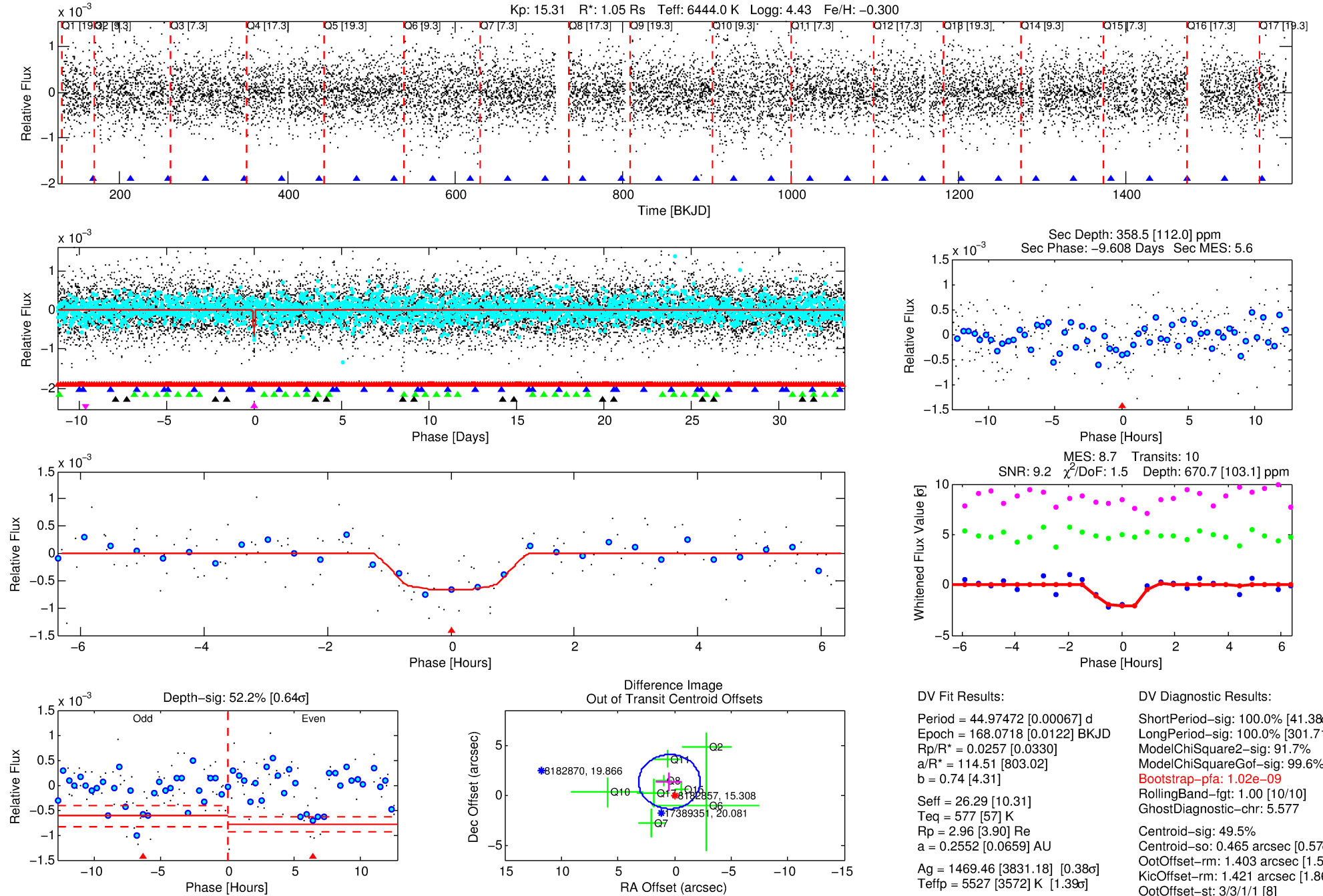
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008182857-05

No Significant Match Found

DV One-Page Summary

KIC: 8182857 Candidate: 5 of 5 Period: 44.975 d



DV Fit Results:

Period = 44.97472 [0.00067] d
Epoch = 168.0718 [0.0122] BKJD
Rp/R* = 0.0257 [0.0330]
a/R* = 114.51 [803.02]
b = 0.74 [4.31]
Seff = 26.29 [10.31]
Teq = 577 [57] K
Rp = 2.96 [3.90] Re
a = 0.2552 [0.0659] AU
Ag = 1469.46 [3831.18] [0.38 σ]
Teffp = 5527 [3572] K [1.39 σ]

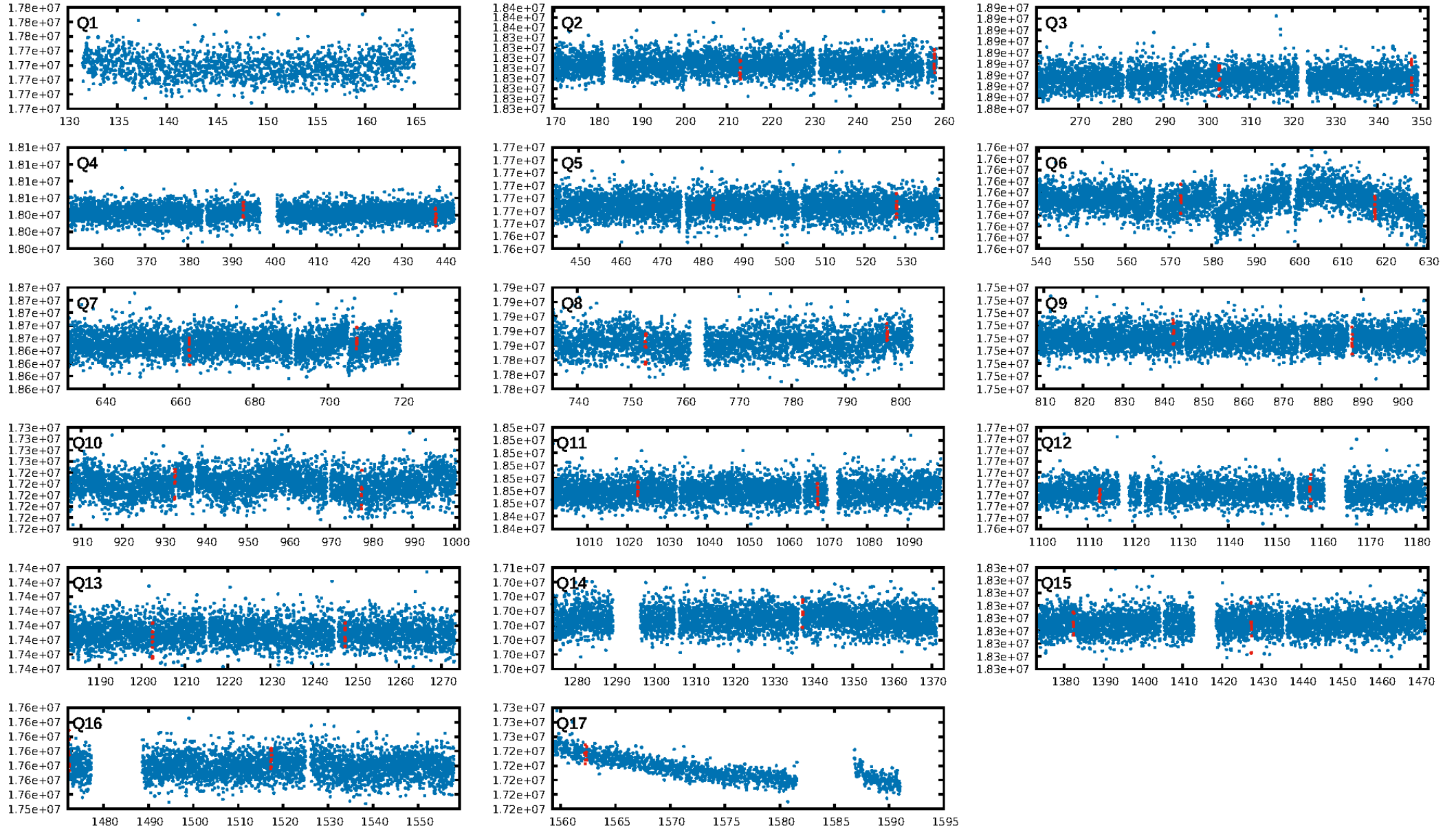
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [41.38 σ]
LongPeriod-sig: 100.0% [301.71 σ]
ModelChiSquare2-sig: 91.7%
ModelChiSquareGof-sig: 99.6%
Bootstrap-pfa: 1.02e-09
RollingBand-fgt: 1.00 [10/10]
GhostDiagnostic-chr: 5.577
Centroid-sig: 49.5%
Centroid-so: 0.465 arcsec [0.57 σ]
OotOffset-rm: 1.403 arcsec [1.55 σ]
KicOffset-rm: 1.421 arcsec [1.86 σ]
OotOffset-st: 3/3/1/1 [8]
KicOffset-st: 3/3/1/1 [8]
DiffImageQuality-fgm: 0.12 [1/8]
DiffImageOverlap-fno: 0.00 [0/15]

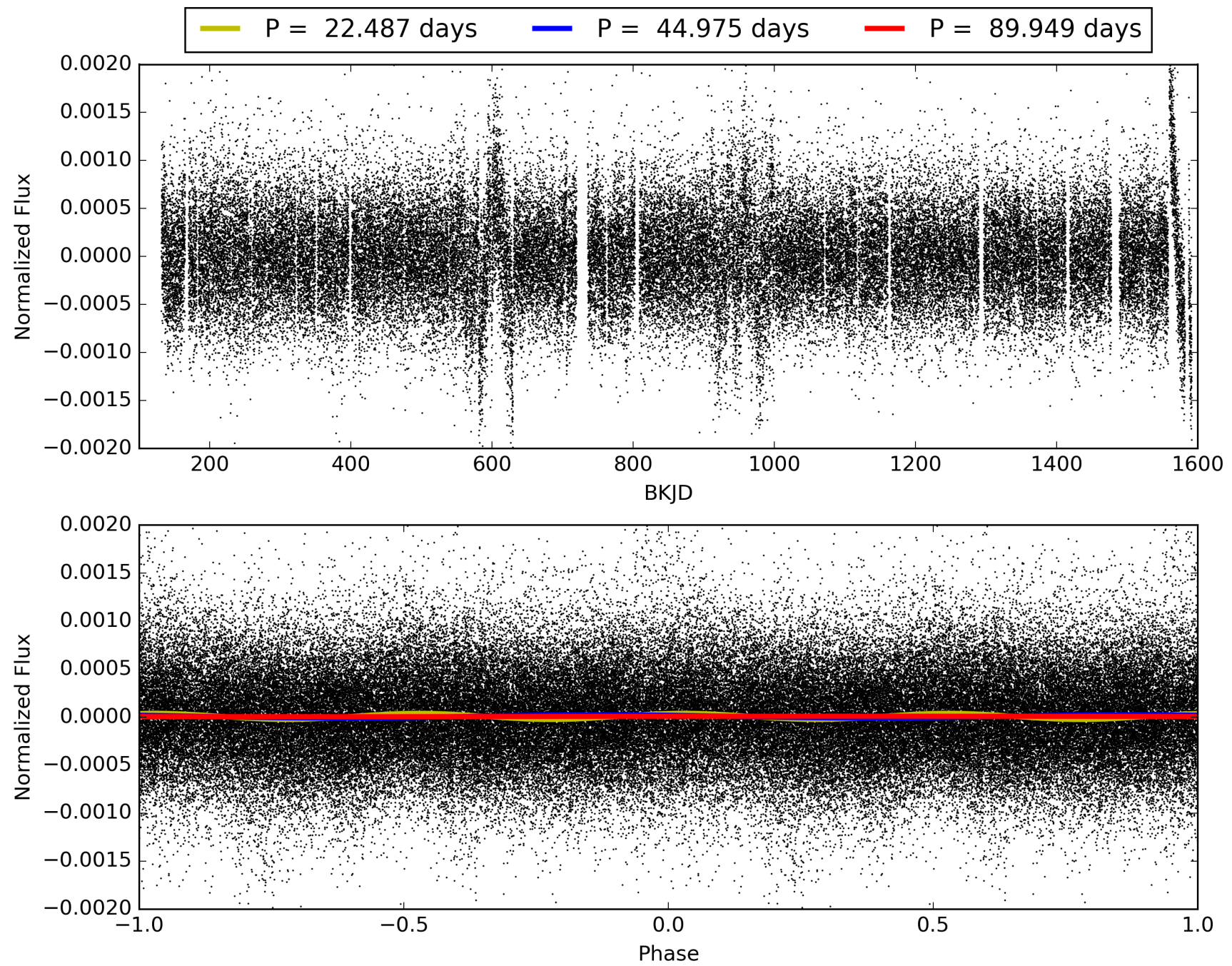
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 04:52:12 Z

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

TCE 008182857-05, PDC Light Curves

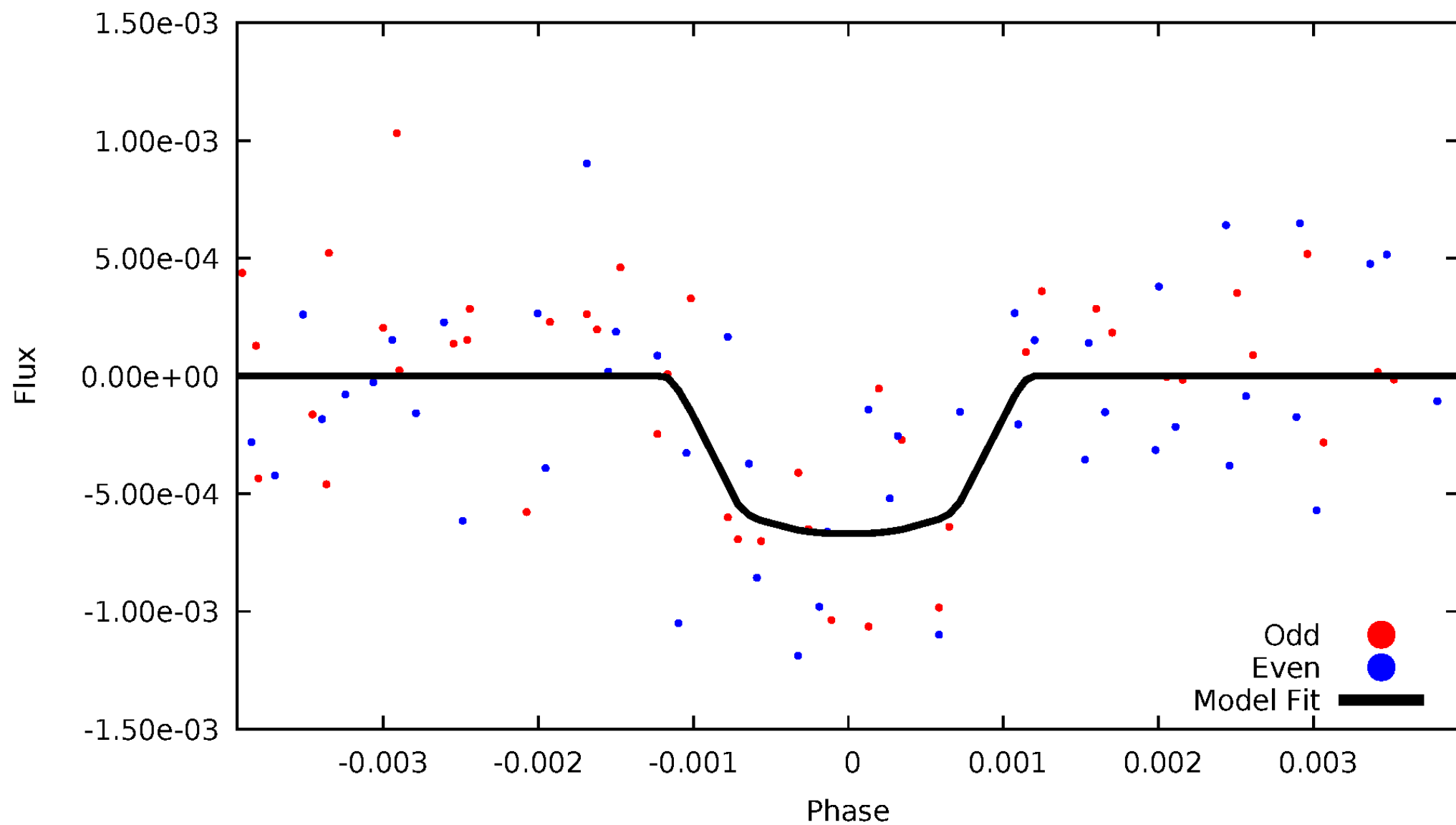


TCE 008182857-05



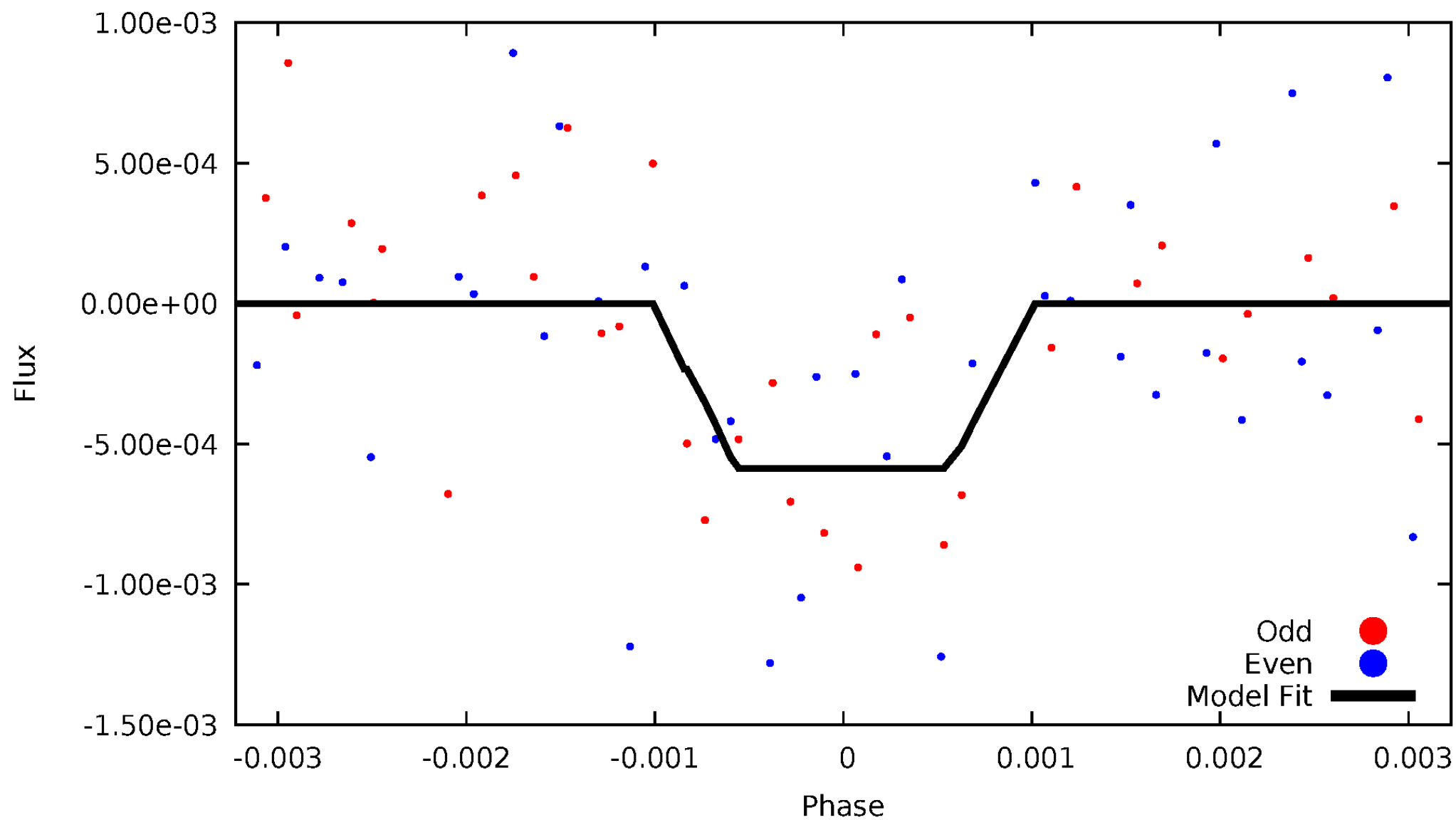
DV Odd/Even

TCE 008182857-05



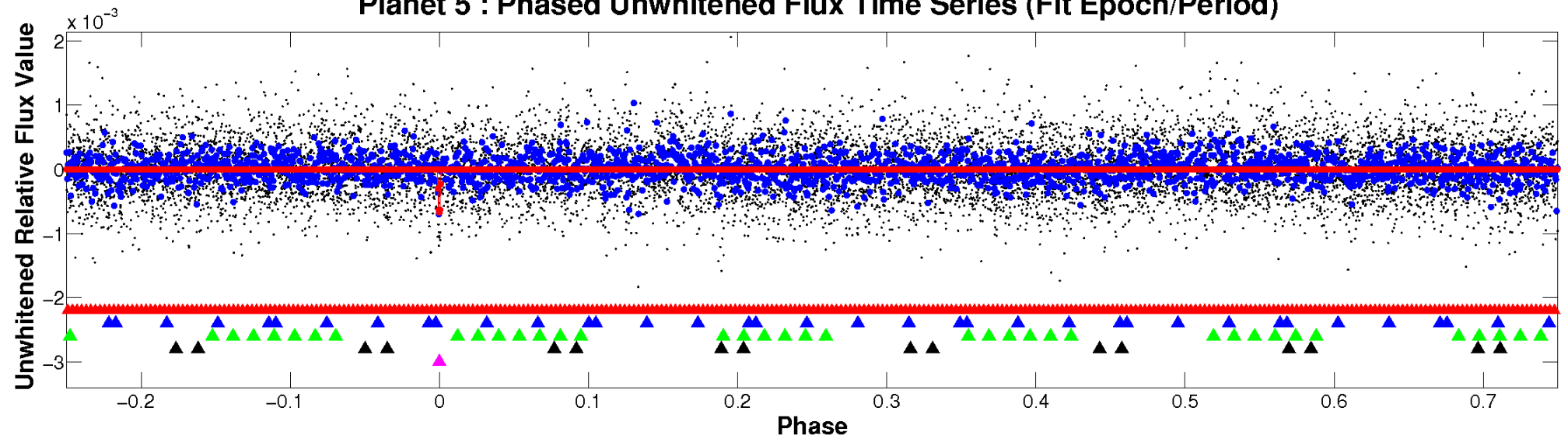
ALT Odd/Even

TCE 008182857-05

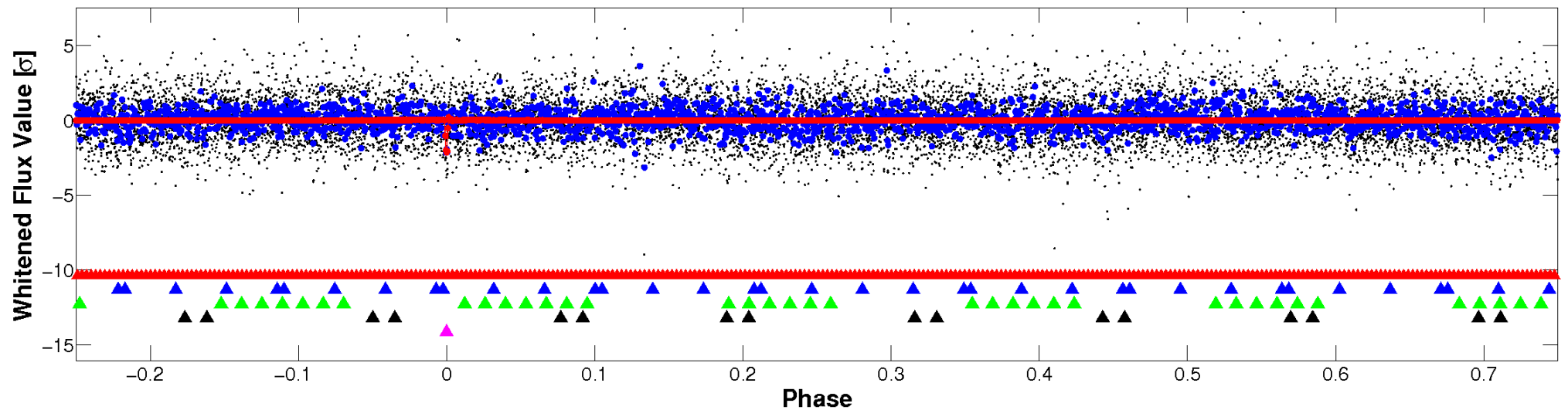


Non-Whitened Vs. Whitened Light Curve

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

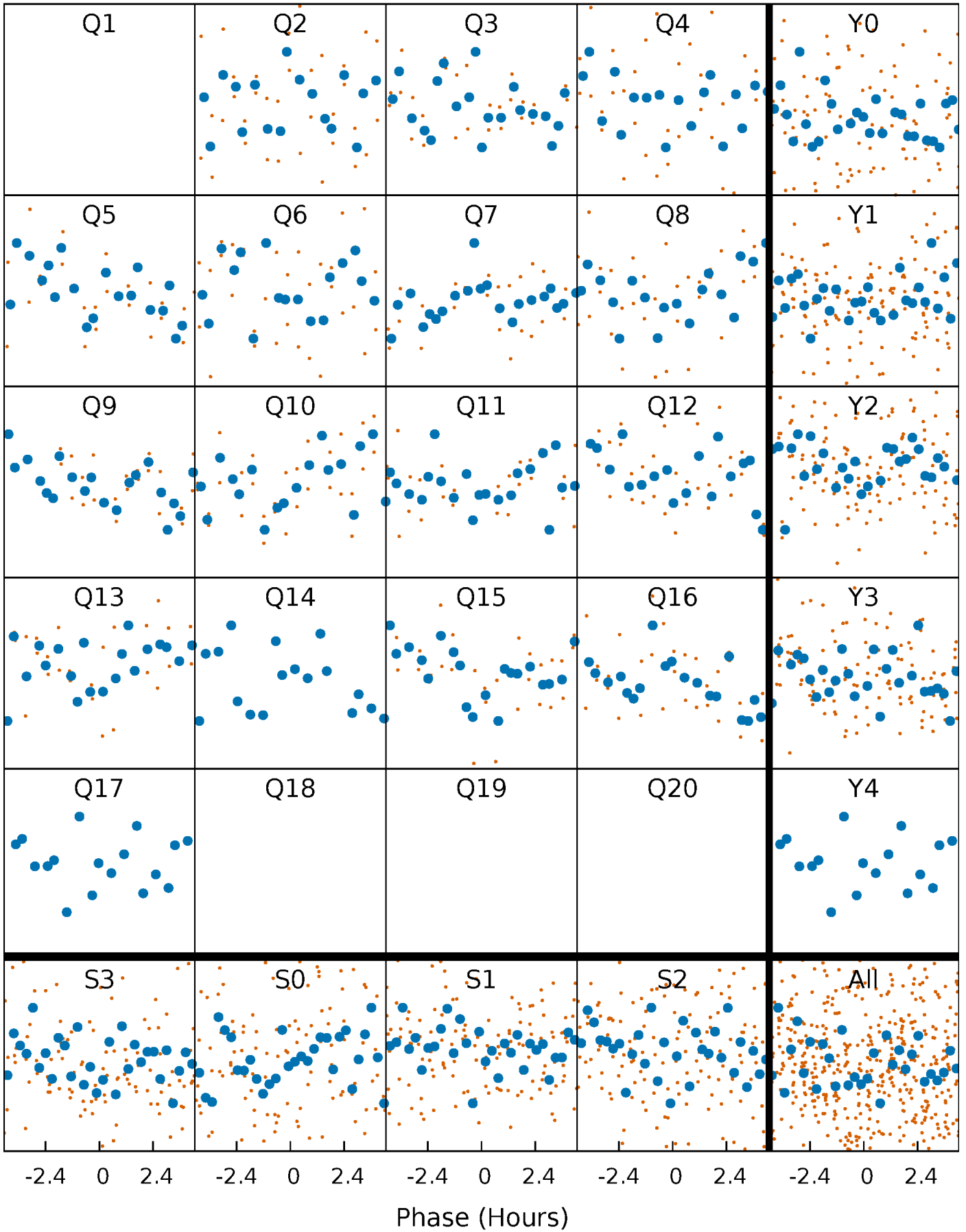


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



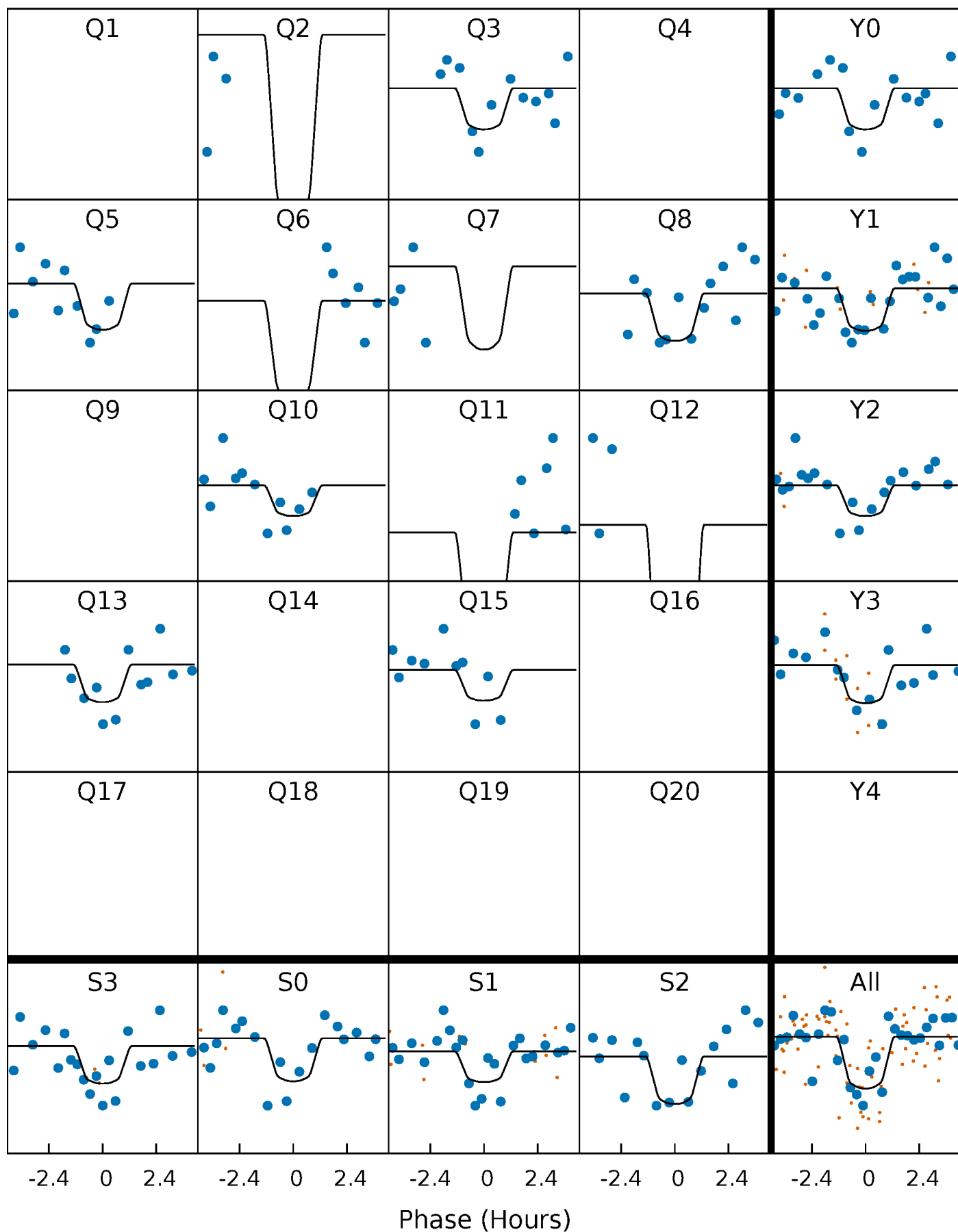
PDC Quarter-Phased Transit Curves

TCE 008182857-05 P= 44.974723 Days $T_0=168.071815$ (BKJD)



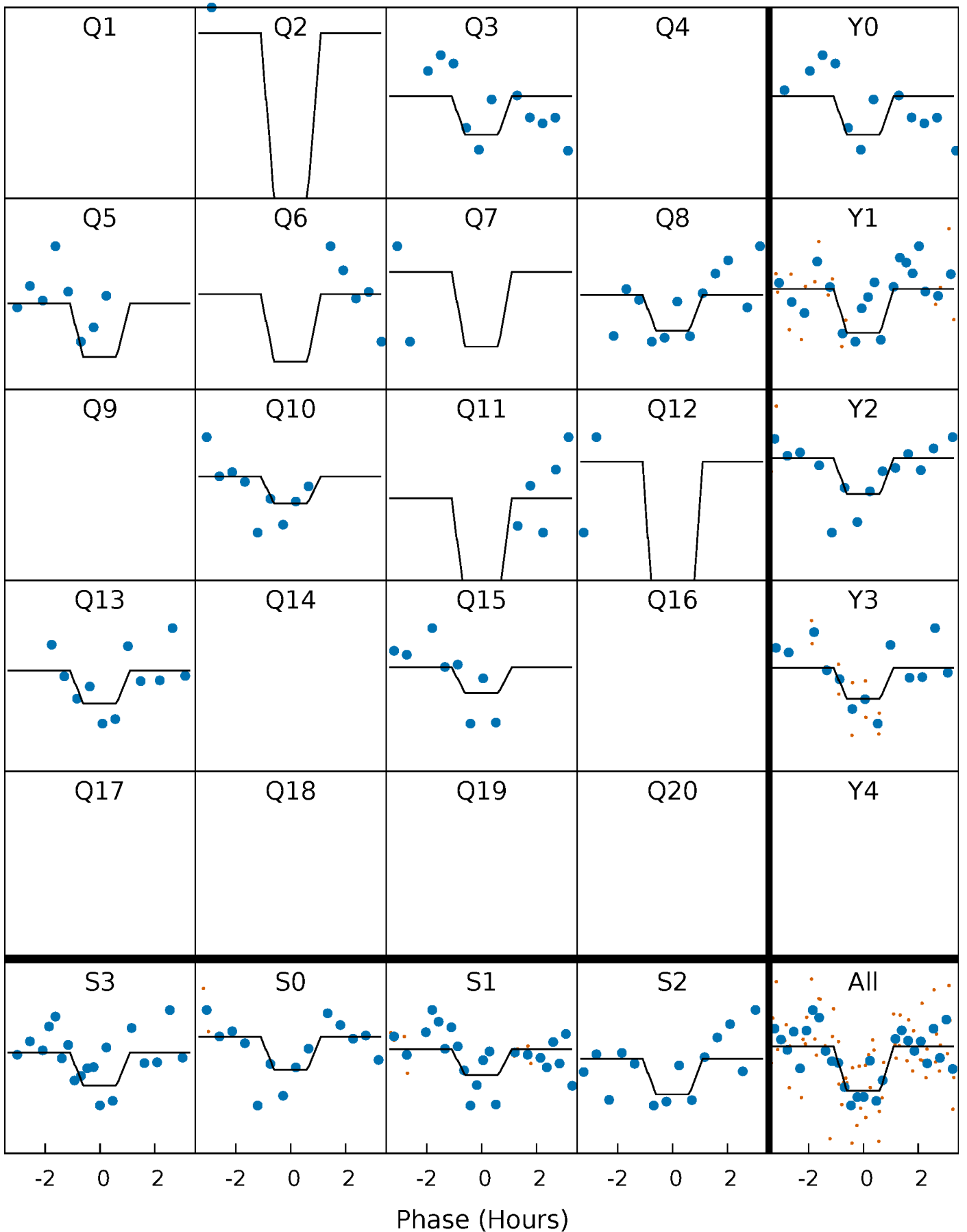
DV Quarter-Phased Transit Curves

TCE 008182857-05 $P = 44.974723$ Days $T_0 = 168.071815$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

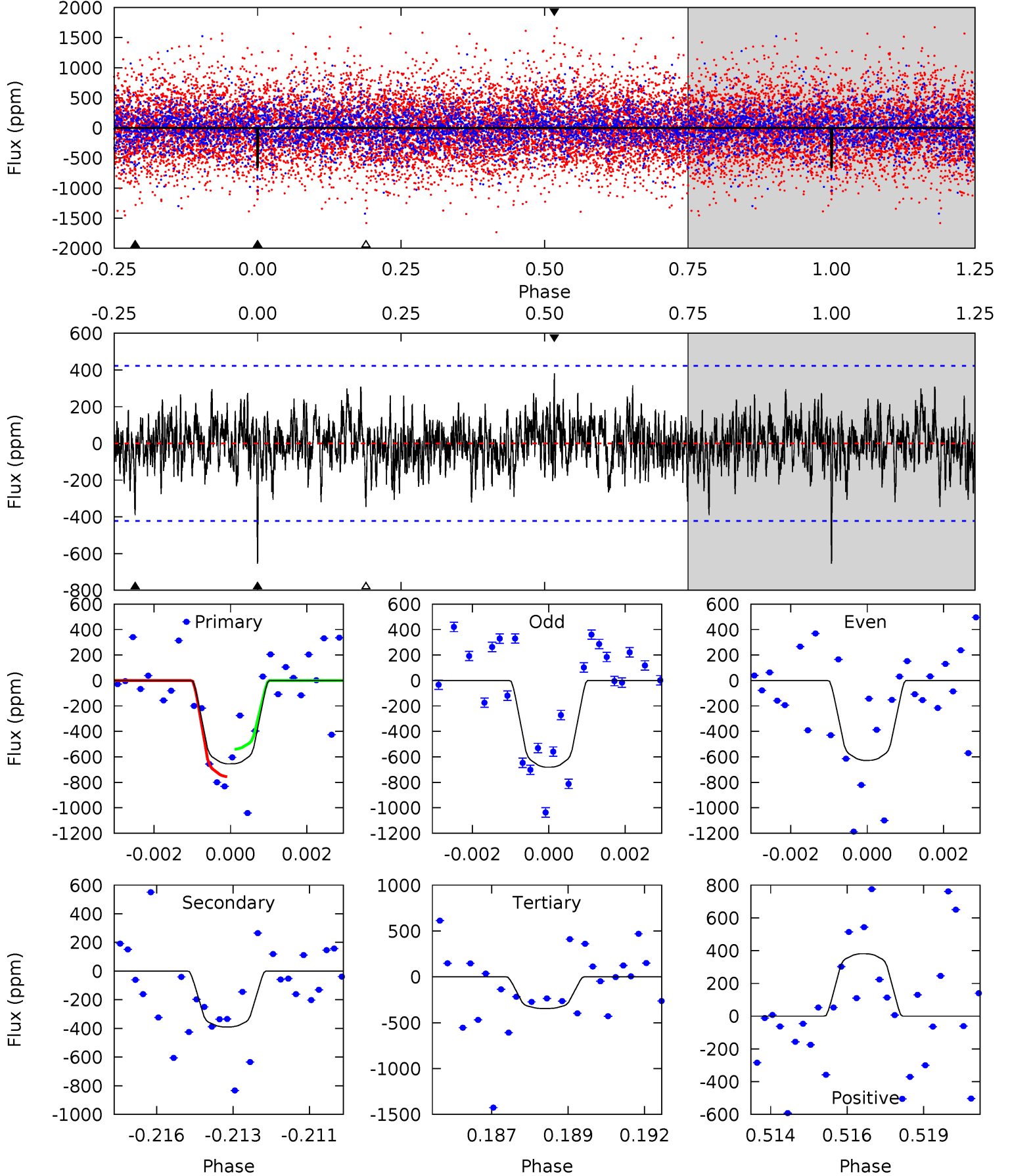
TCE 008182857-05 $P = 44.974854$ Days $T_0 = 168.071135$ (BKJD)



DV Model-Shift Uniqueness Test

008182857-05, P = 44.974723 Days, E = 123.097092 Days

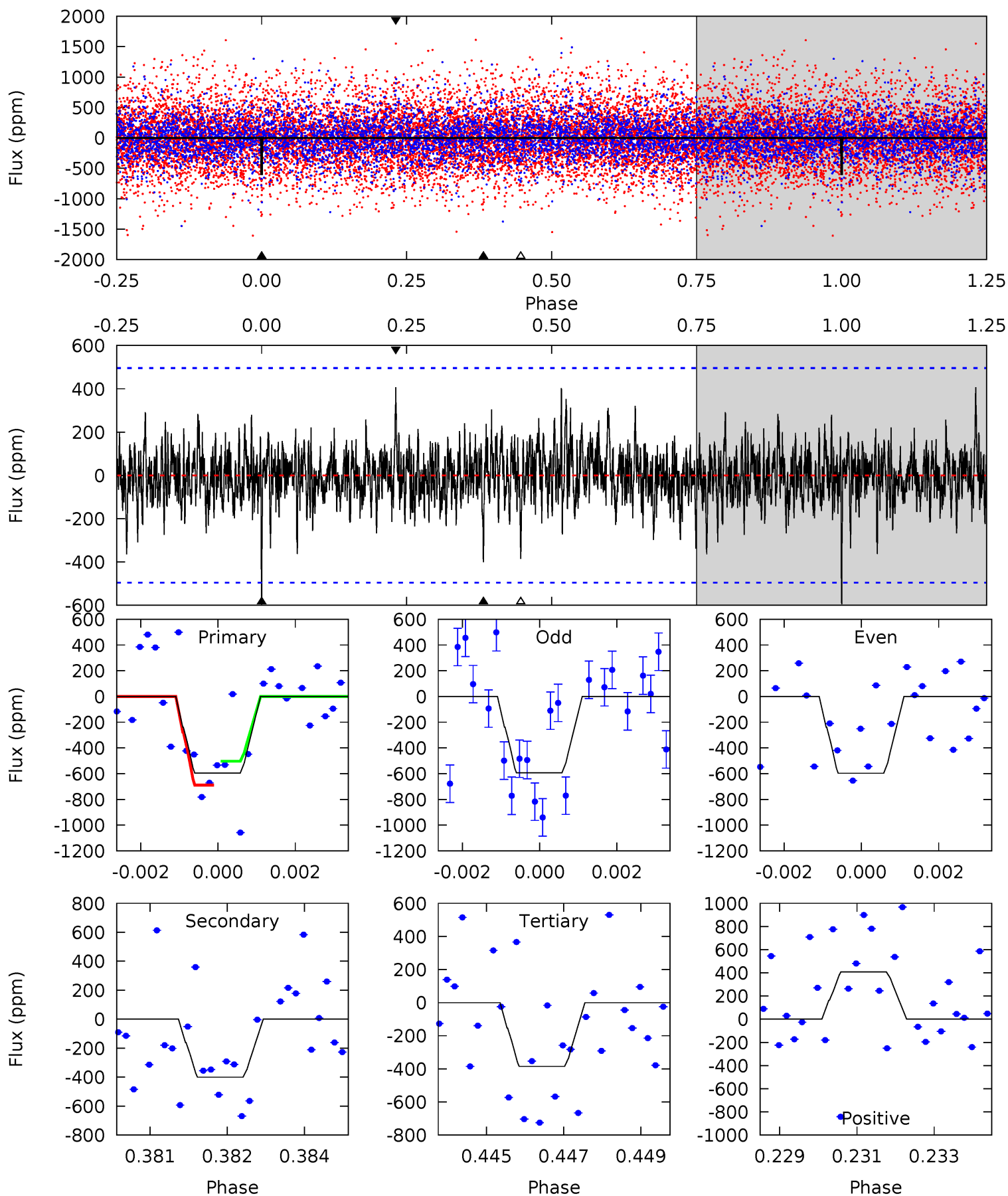
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.21	4.89	4.34	4.78	5.30	3.04	1.29	3.87	3.43	0.55	0.11	0.34	1.03	0.37	1.35



Alt Model-Shift Uniqueness Test

008182857-05, P = 44.974854 Days, E = 123.096281 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.41	4.31	4.15	4.39	5.34	3.11	1.10	2.26	2.02	0.16	-0.08	0.02	0.92	0.41	1.01



Stellar Parameters For KIC 008182857

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6444^{+171}_{-228}	$4.433^{+0.065}_{-0.195}$	$-0.300^{+0.250}_{-0.300}$	$1.053^{+0.332}_{-0.111}$	$1.094^{+0.156}_{-0.142}$	$1.320^{+0.367}_{-0.684}$
	+3%/-4%	+1%/-4%	+83%/-100%	+32%/-11%	+14%/-13%	+28%/-52%
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 008182857-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-390 ± 80	$4.21^{+3.45}_{-2.75}$	820^{+53}_{-41}	4861^{+3445}_{-1005}	769^{+5050}_{-557}
Alt.	-400 ± 93	$4.21^{+3.27}_{-2.70}$	818^{+54}_{-39}	4905^{+3537}_{-973}	771^{+5441}_{-533}

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

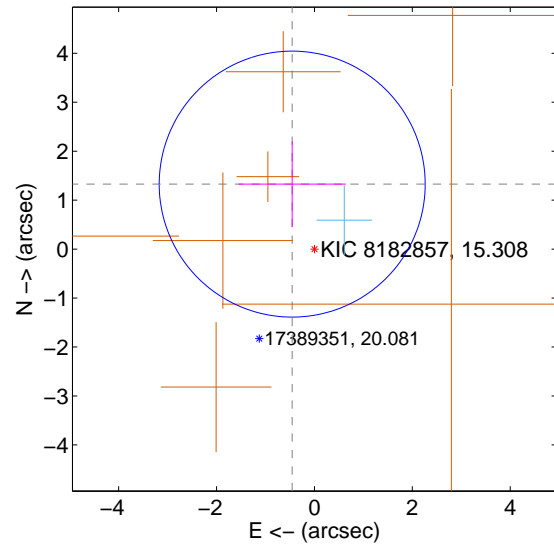
Supplemental centroid analysis for 008182857-05. Kepler magnitude: 15.31. Transit SNR 9.20

There are 1 quarters with good PRF difference image offsets

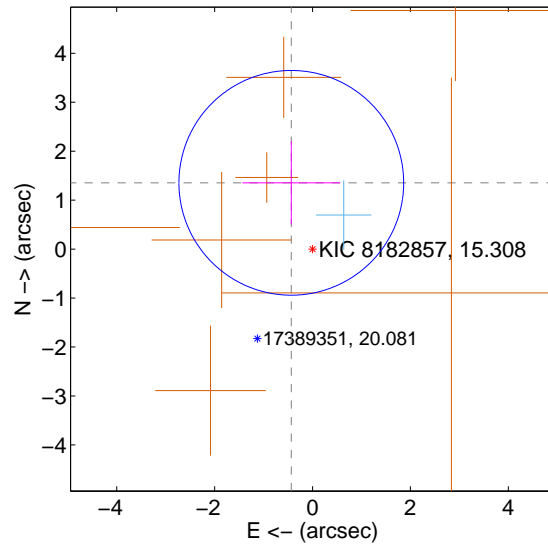
The direct PRF centroid is offset from the target star catalog position by about 0.02 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.403 ± 0.905	1.55	0.454 ± 1.097	1.327 ± 0.870
PRF-fit source offset from KIC position	1.421 ± 0.765	1.86	0.433 ± 0.999	1.353 ± 0.849
photometric centroid source offset	0.46 ± 0.81	0.57	0.01 ± 0.83	-0.46 ± 0.81

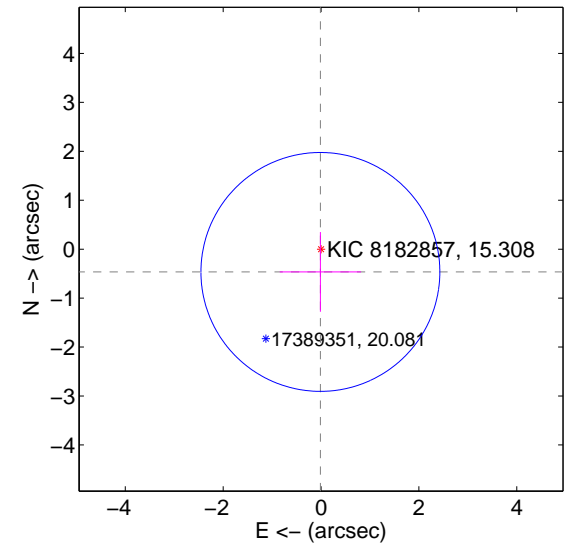
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

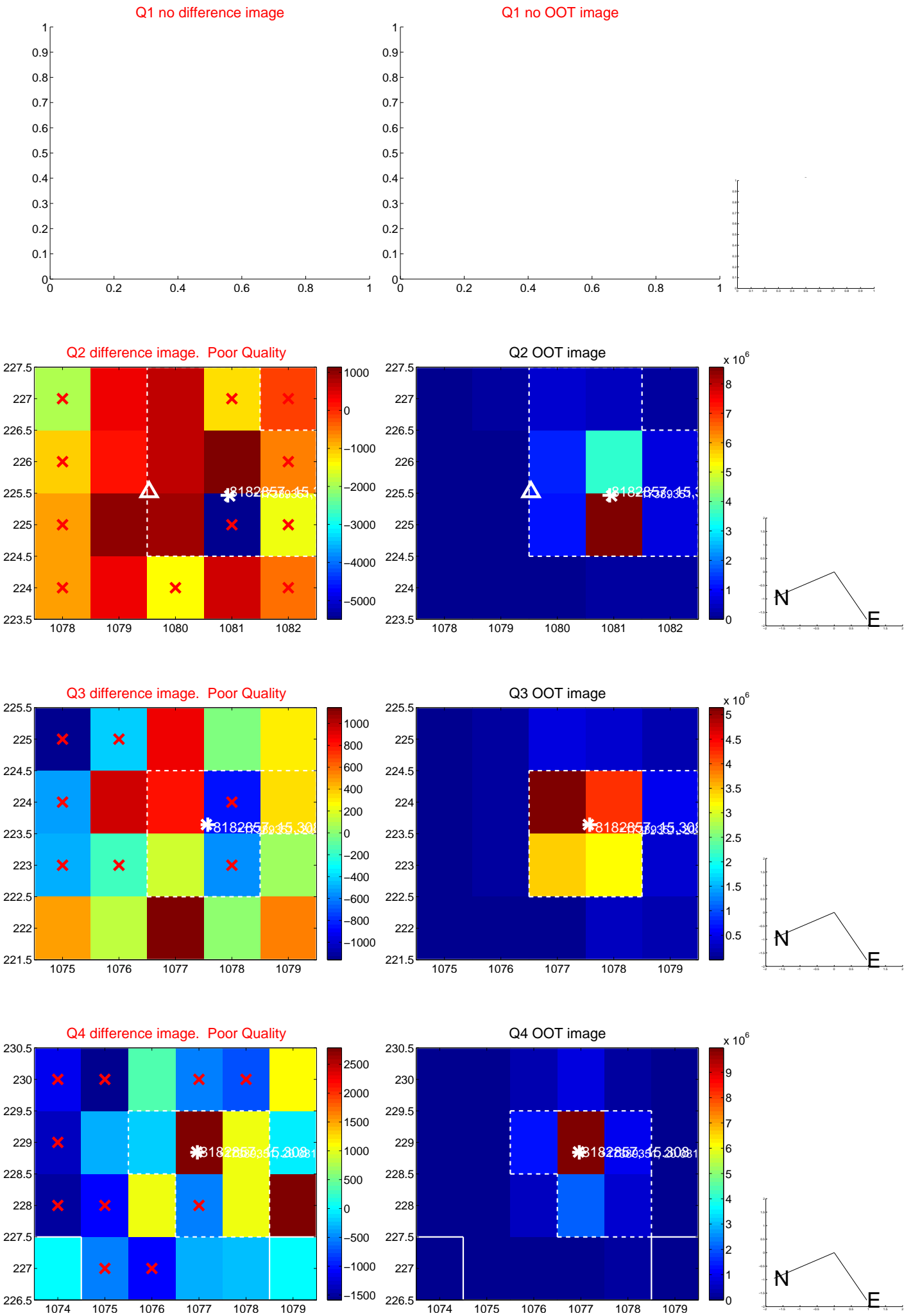


offset from photometric centroids

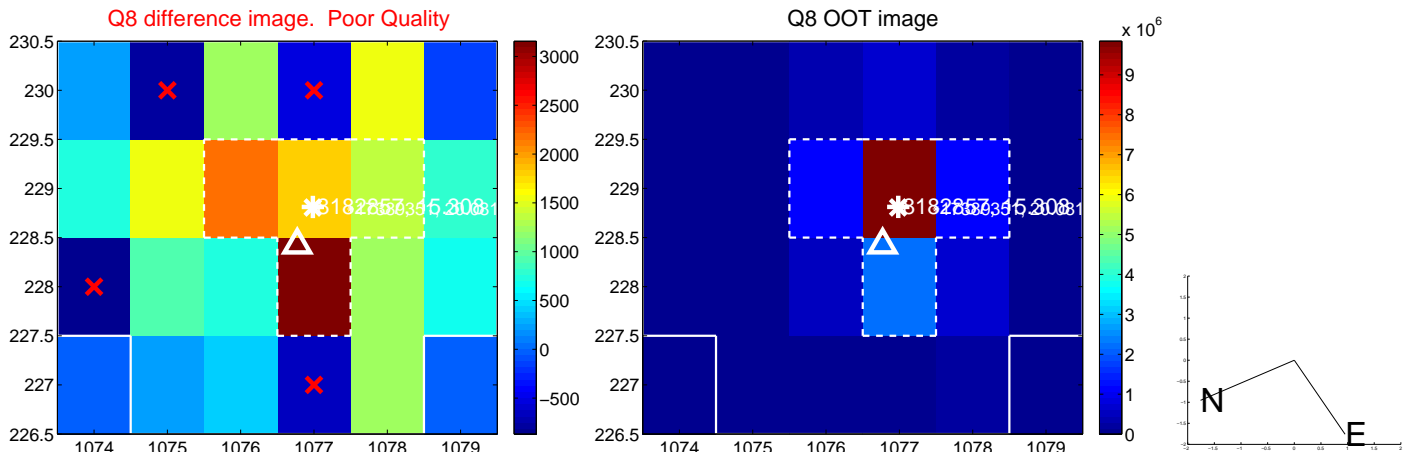
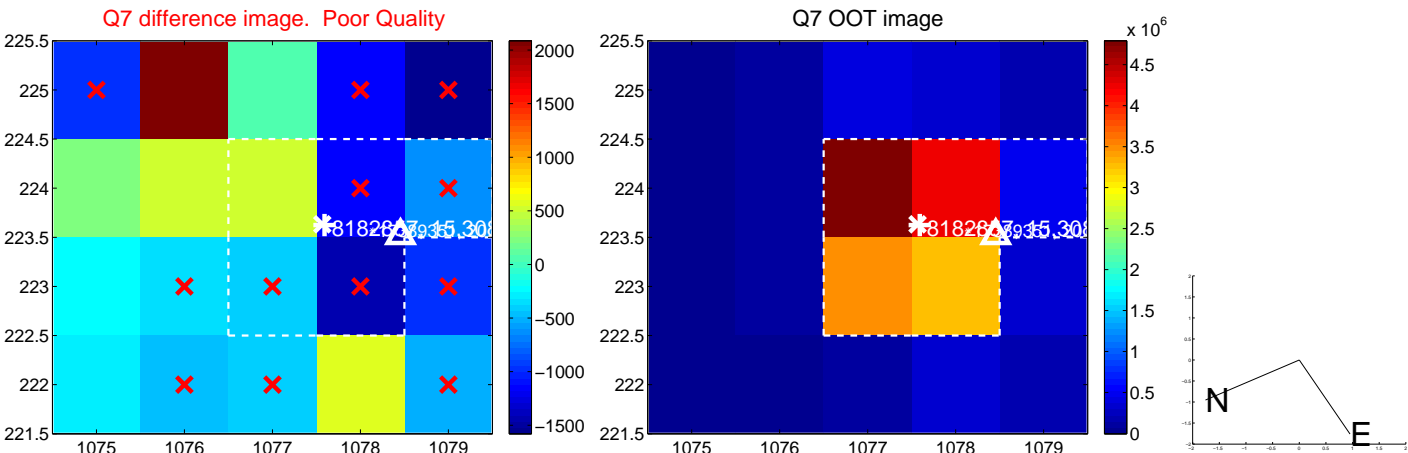
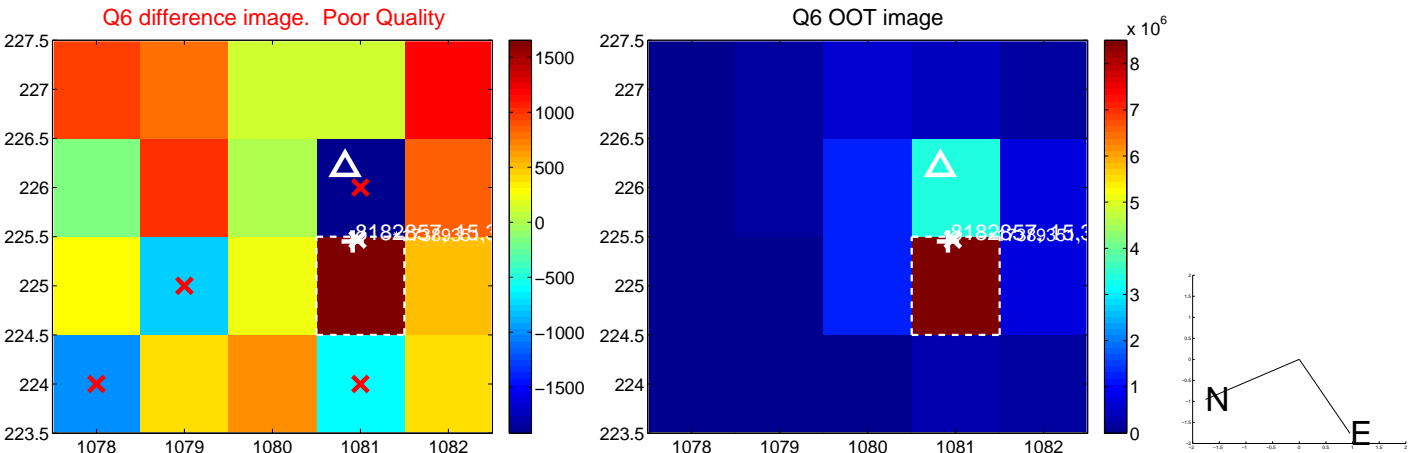
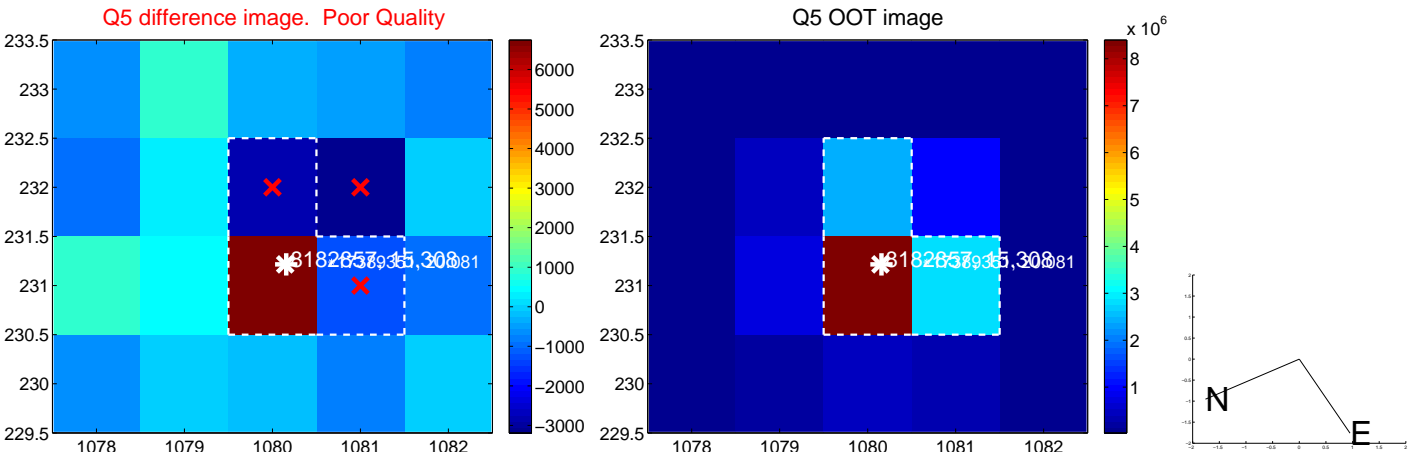


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

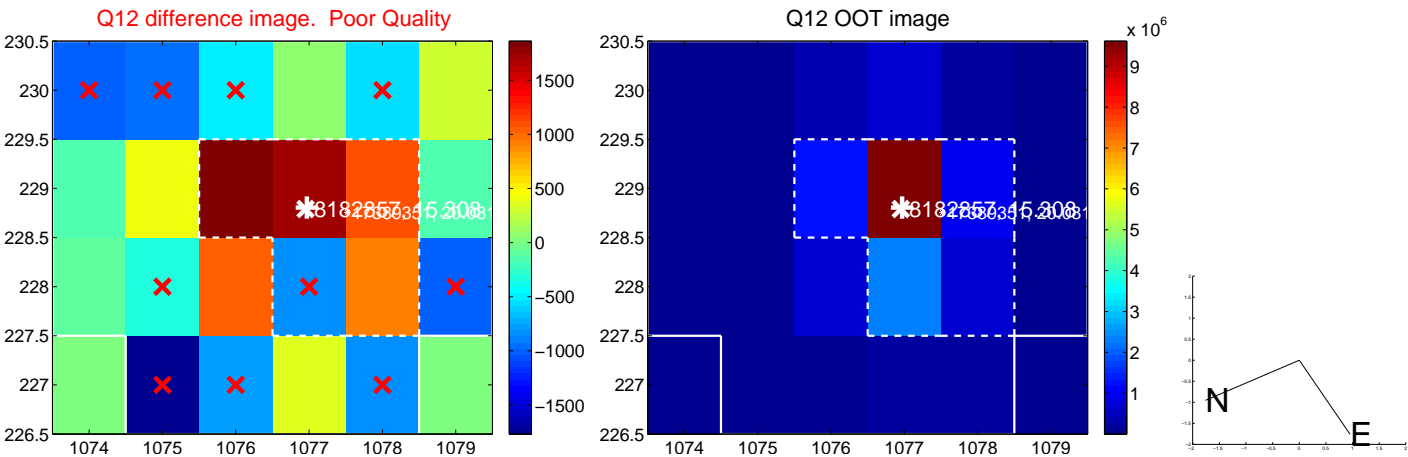
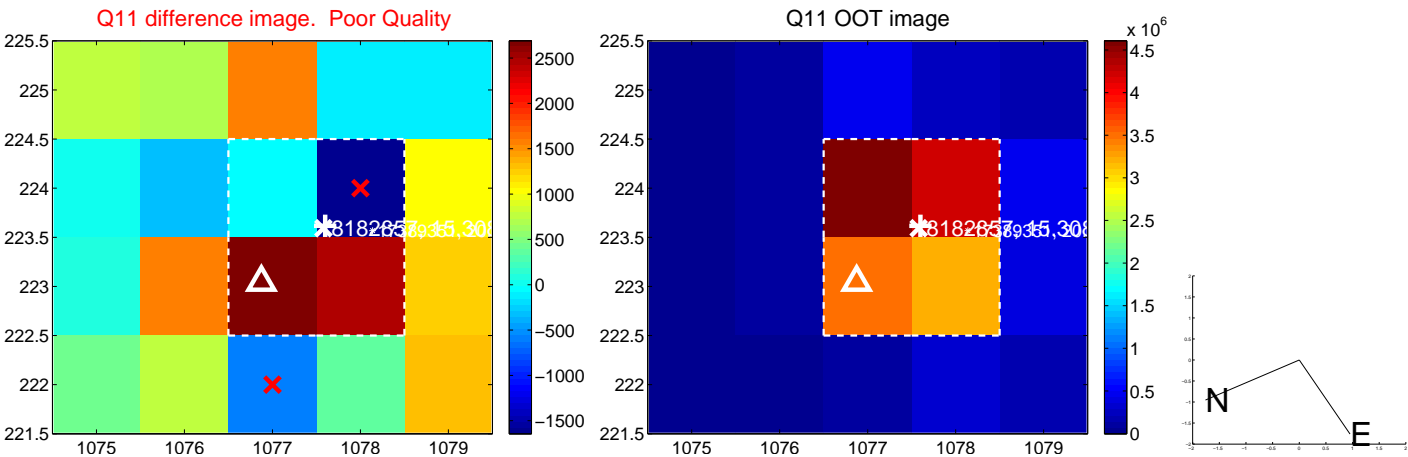
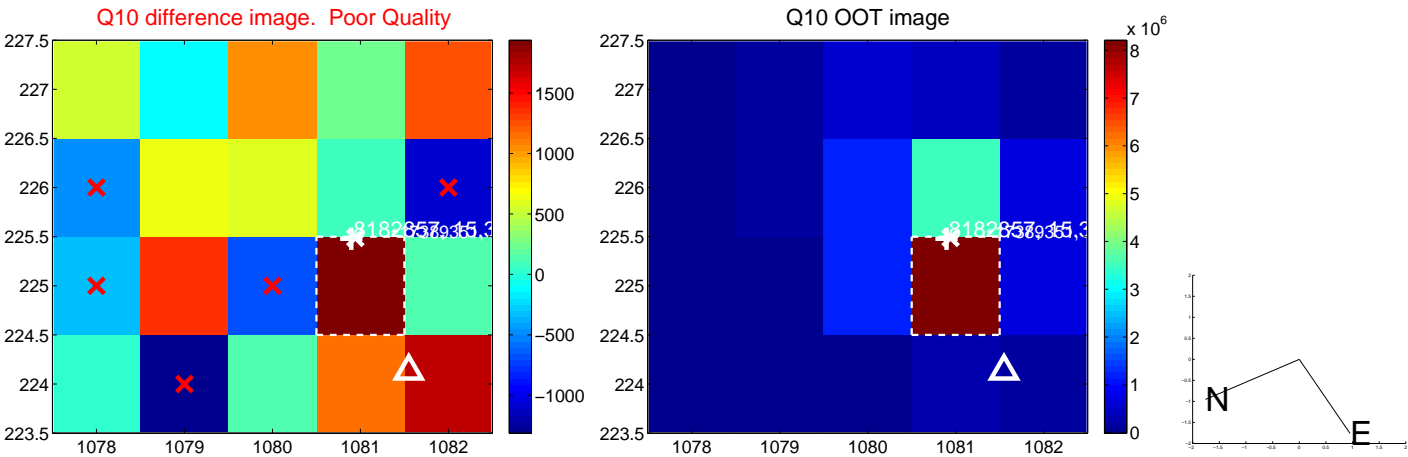
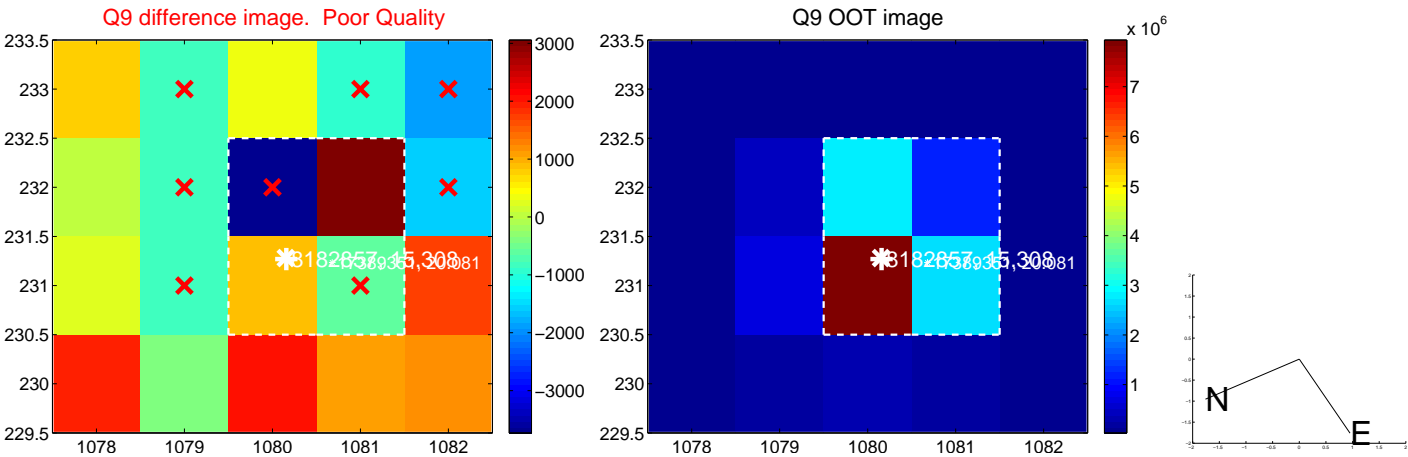
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



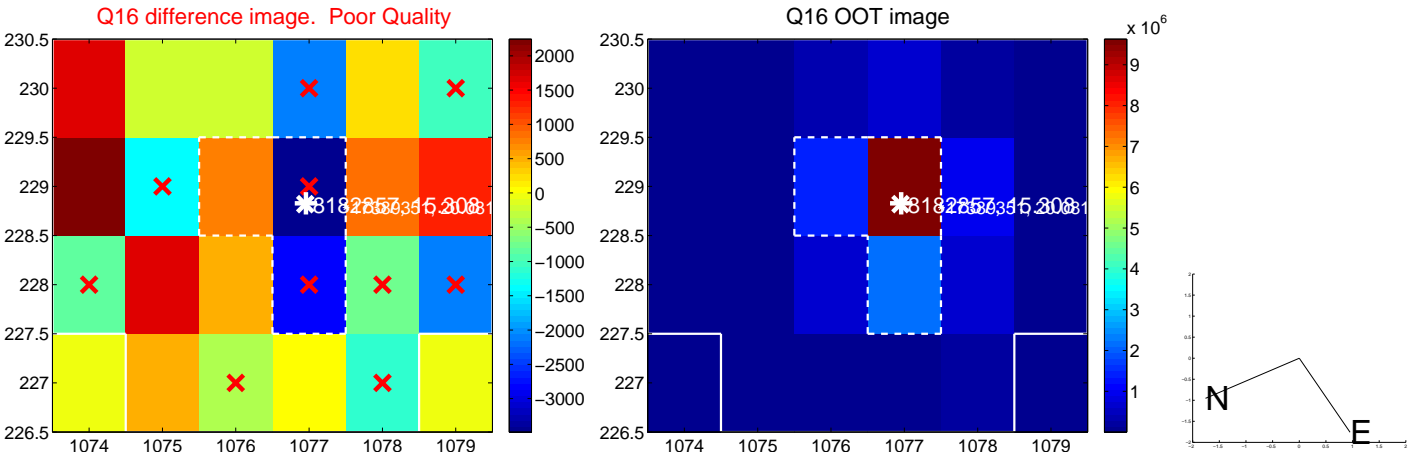
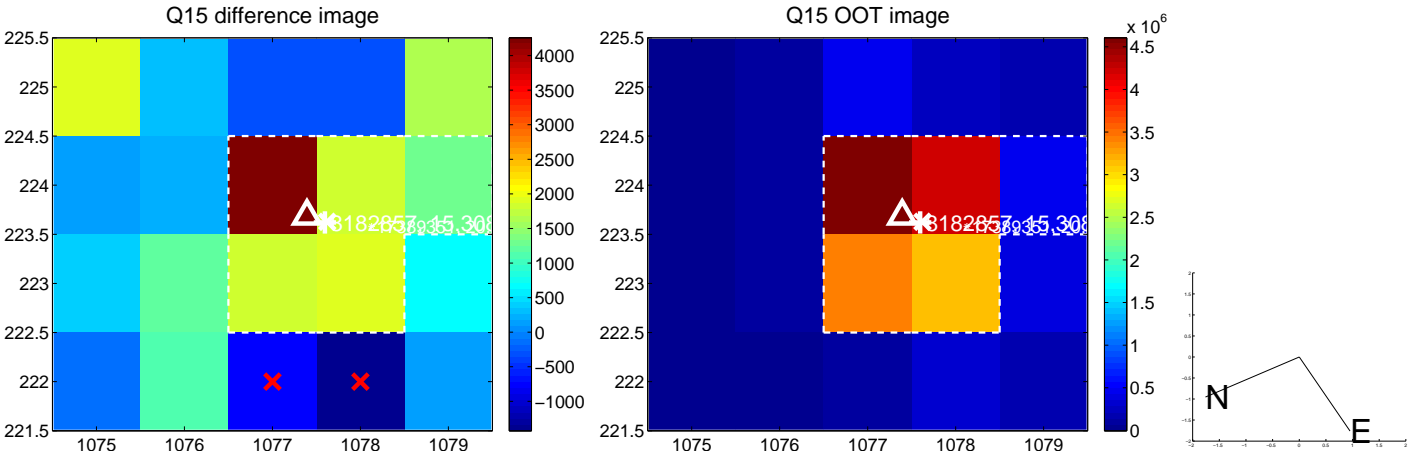
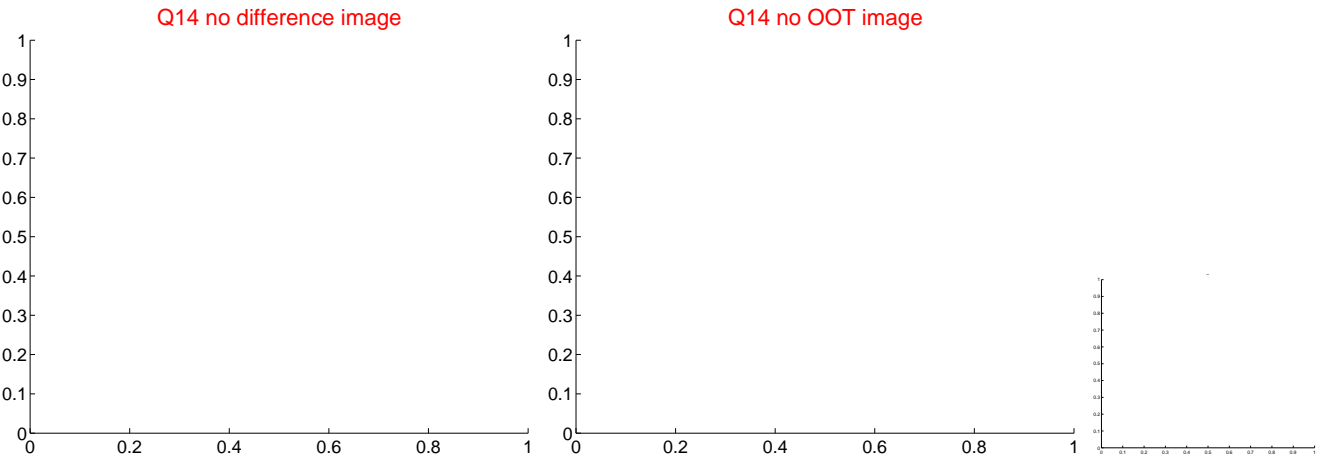
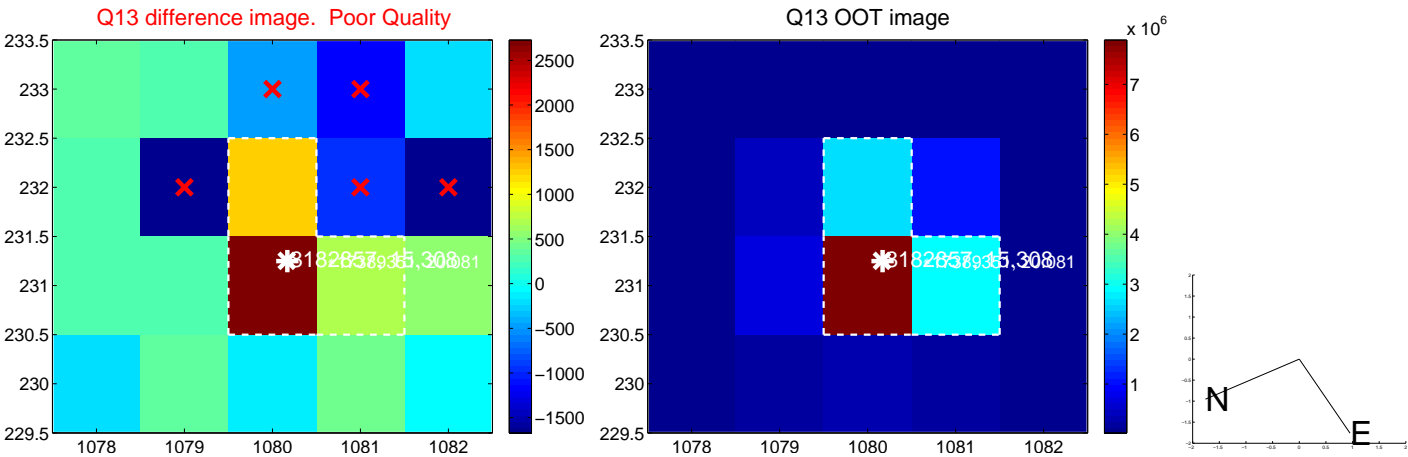
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



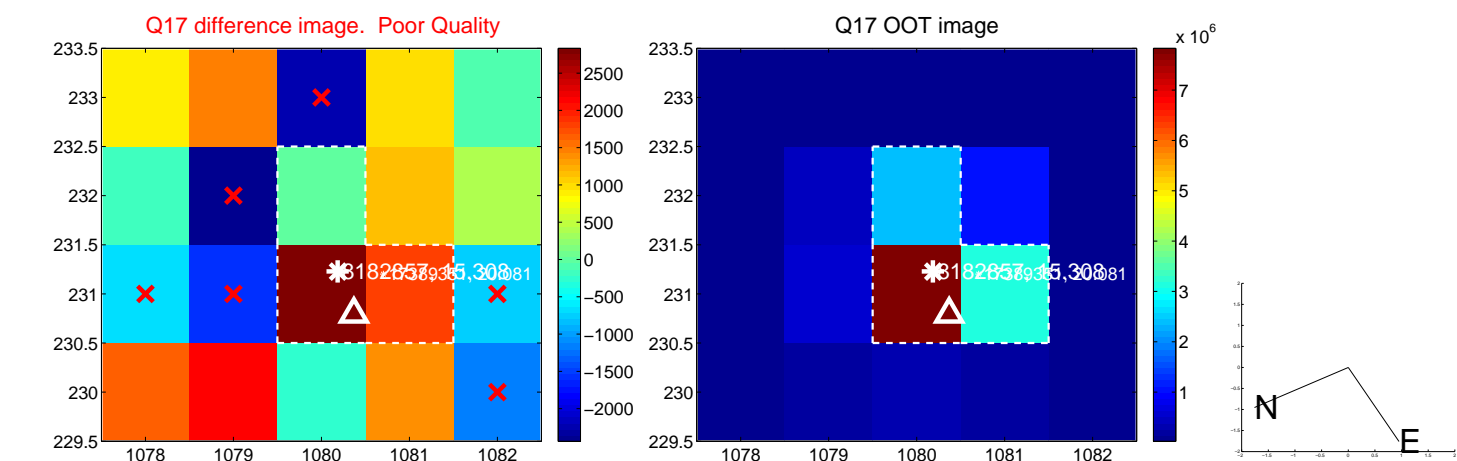
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



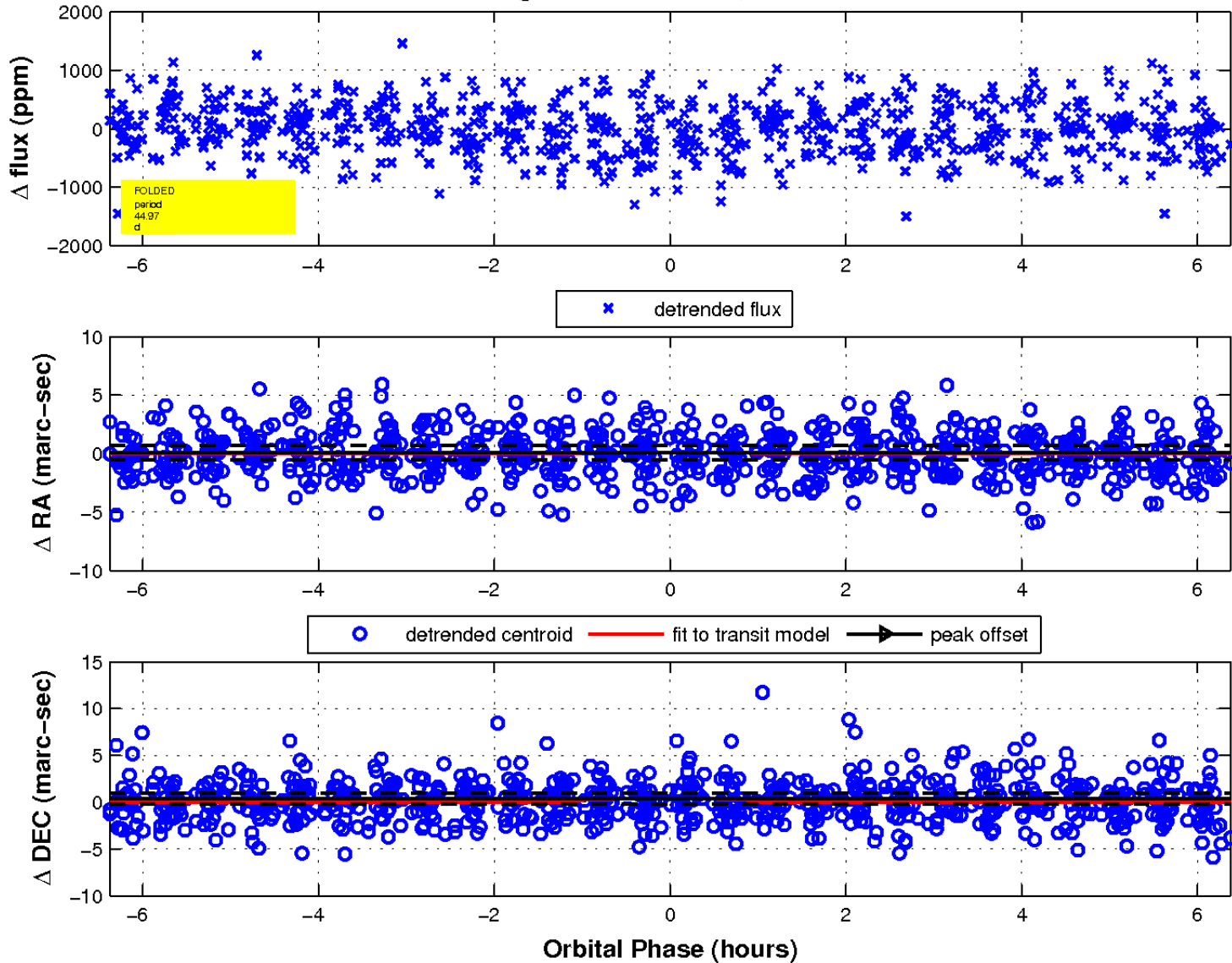
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 5 of 5



UKIRT Image

Declination

