

KIC 003222183

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})
003222183-01	OBS	No	2.057369	132.886055	15.5	9.197	9.9	8.7	1.86	6495	0.84	4873.08
003222183-02	OBS	No	179.202321	278.666682	151.3	12.500	16.2	-1.0	1.86	6495	2.30	12.62
003222183-03	OBS	No	2.057443	131.854467	21.6	11.048	12.9	15.4	1.86	6495	0.87	4872.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003222183-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
003222183-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
003222183-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

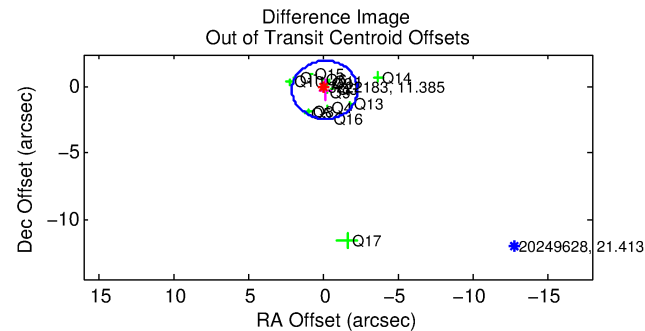
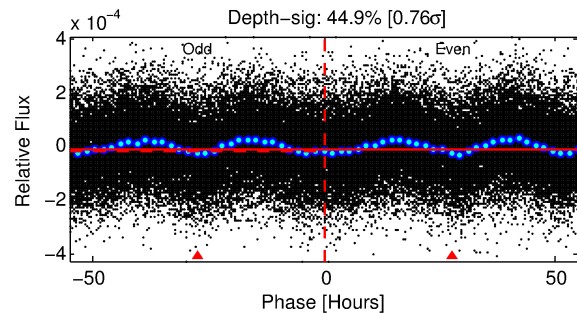
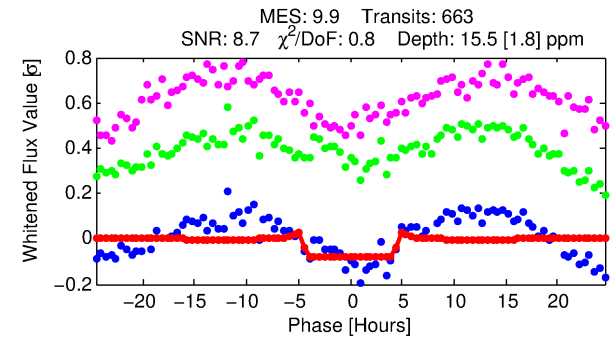
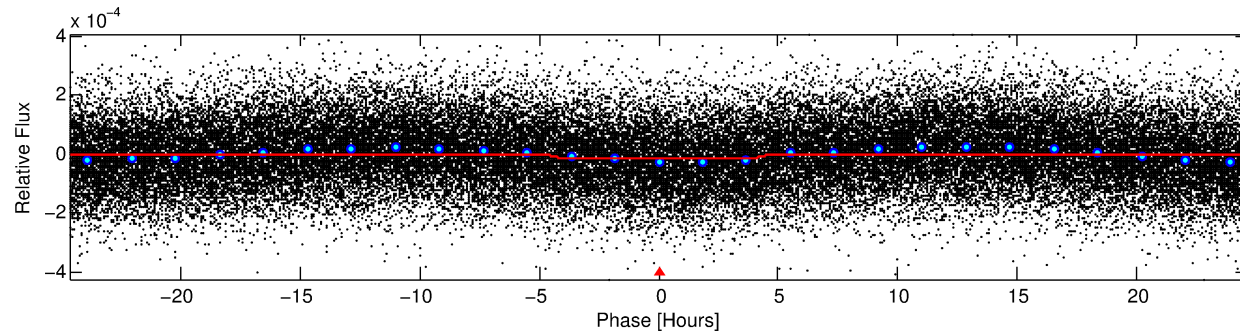
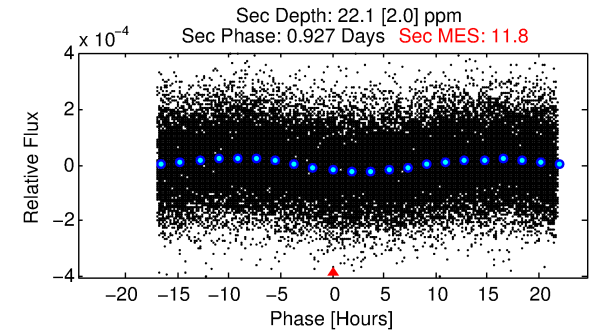
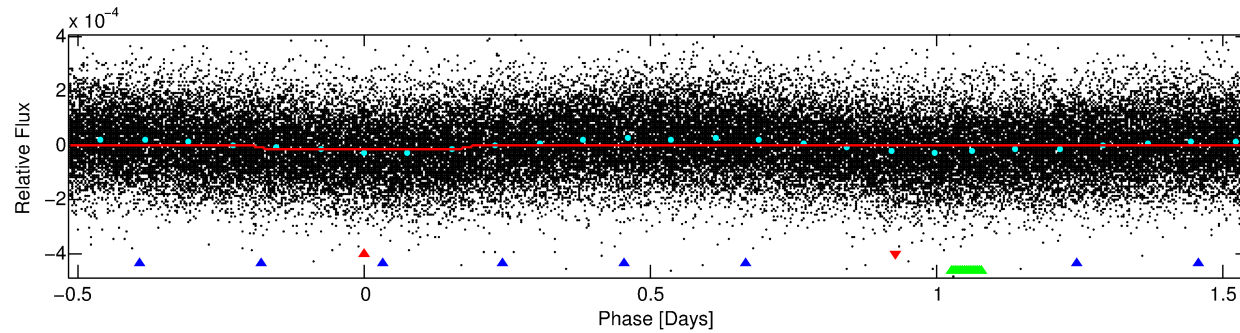
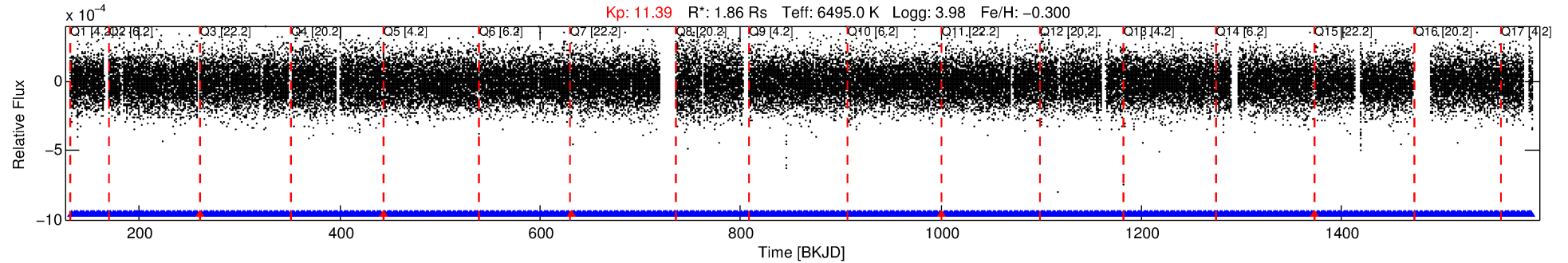
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003222183-01

No Significant Match Found

DV One-Page Summary

KIC: 3222183 Candidate: 1 of 3 Period: 2.057 d



DV Fit Results:

Period = 2.05737 [0.00003] d
Epoch = 132.8861 [0.0059] BKJD
Rp/R* = 0.0041 [0.0010]
a/R* = 1.24 [0.60]
b = 0.88 [0.36]
Seff = 4873.08 [2986.30]
Teq = 2130 [326] K
Rp = 0.84 [0.38] Re
a = 0.0336 [0.0126] AU
Ag = 19.41 [14.94] [1.23σ]
Teffp = 6914 [874] K [5.12σ]

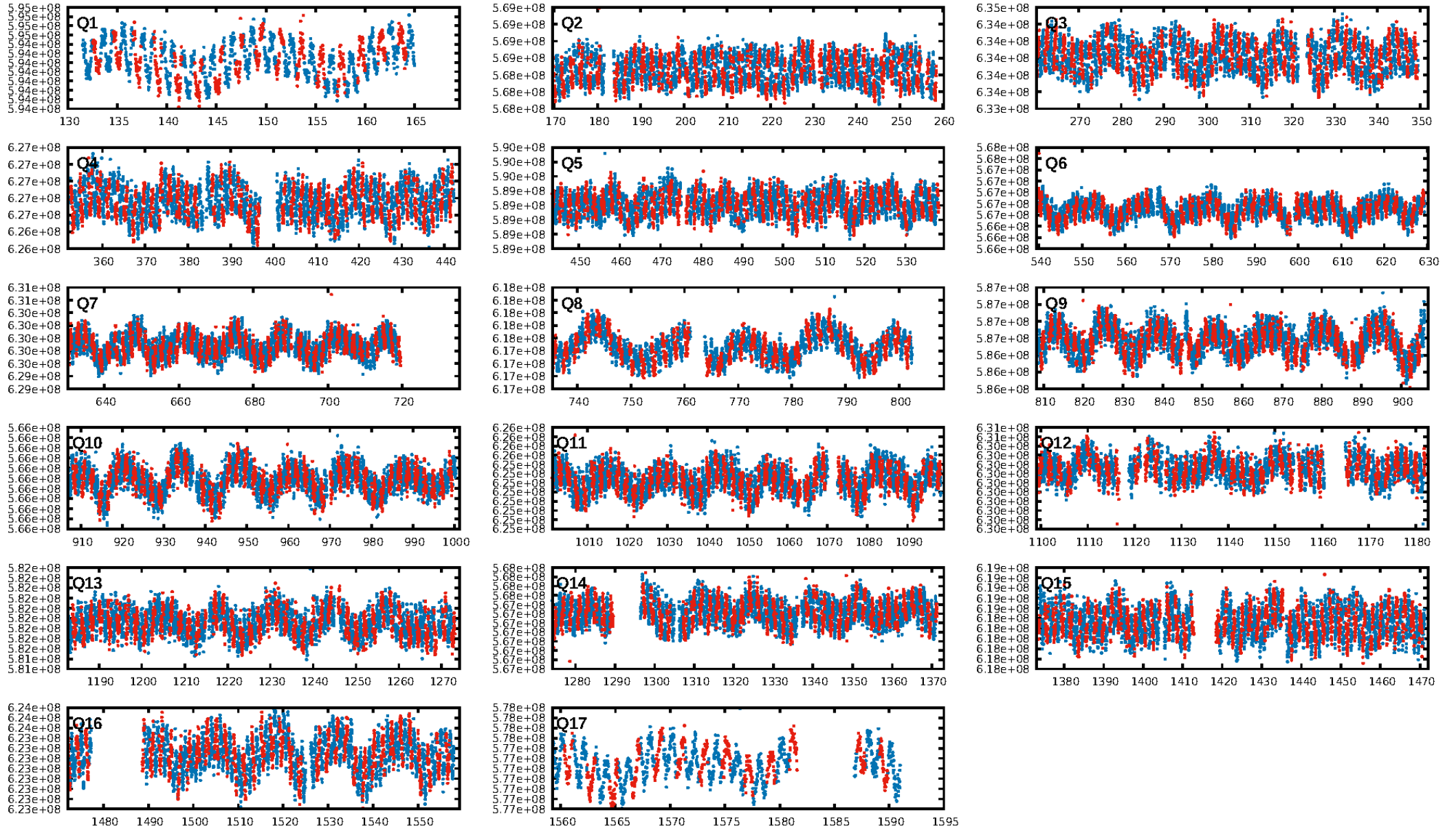
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [629/634]
GhostDiagnostic-chr: 2.508
Centroid-sig: 67.3%
Centroid-so: 0.337 arcsec [0.43σ]
OotOffset-rm: 0.240 arcsec [0.33σ]
OotOffset-st: 4/3/3/5 [15]
KicOffset-rm: 0.236 arcsec [0.33σ]
KicOffset-st: 4/3/3/5 [15]
DiffImageQuality-fgm: 0.67 [10/15]
DiffImageOverlap-fno: 1.00 [17/17]

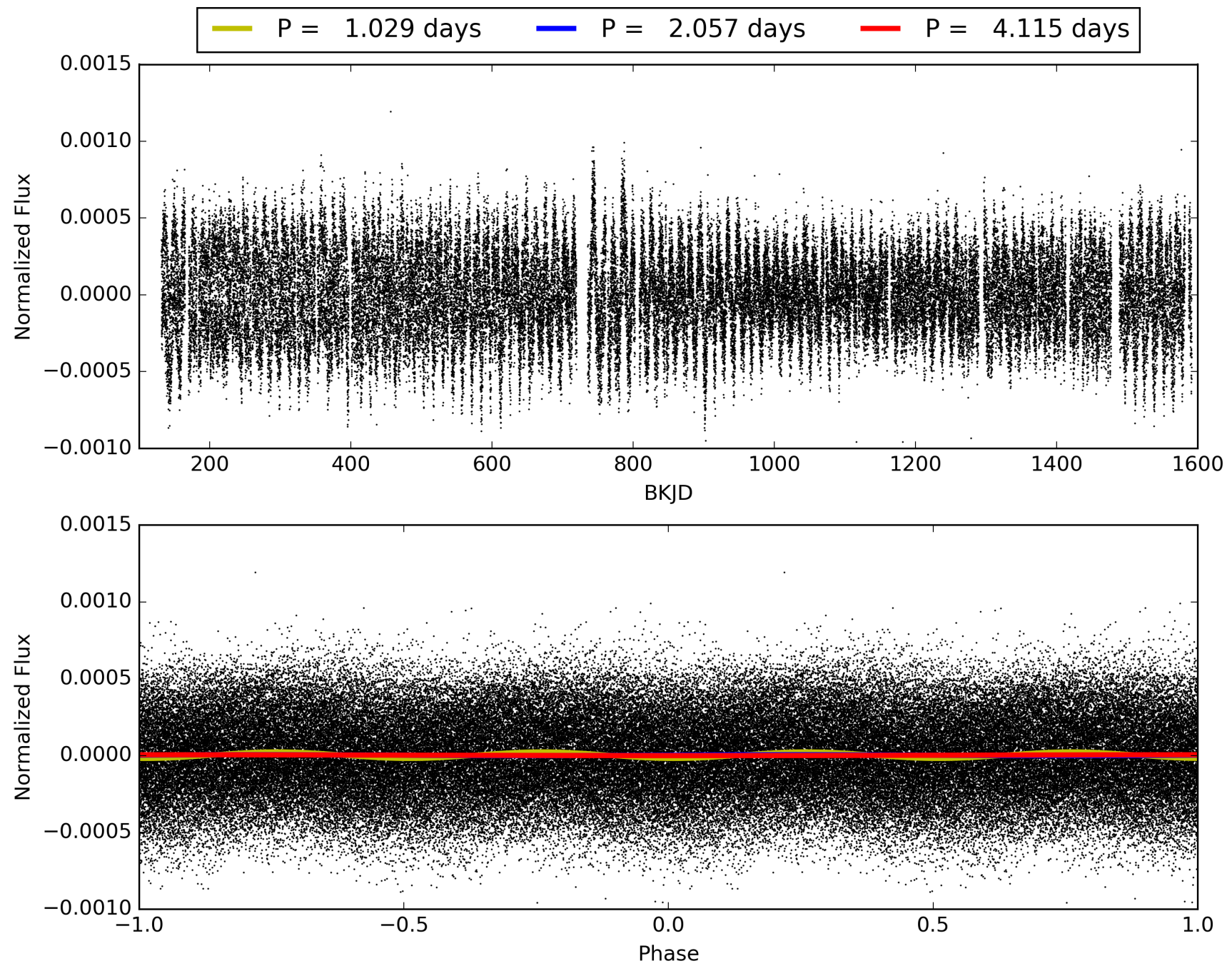
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:38:40 Z

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

TCE 003222183-01, PDC Light Curves

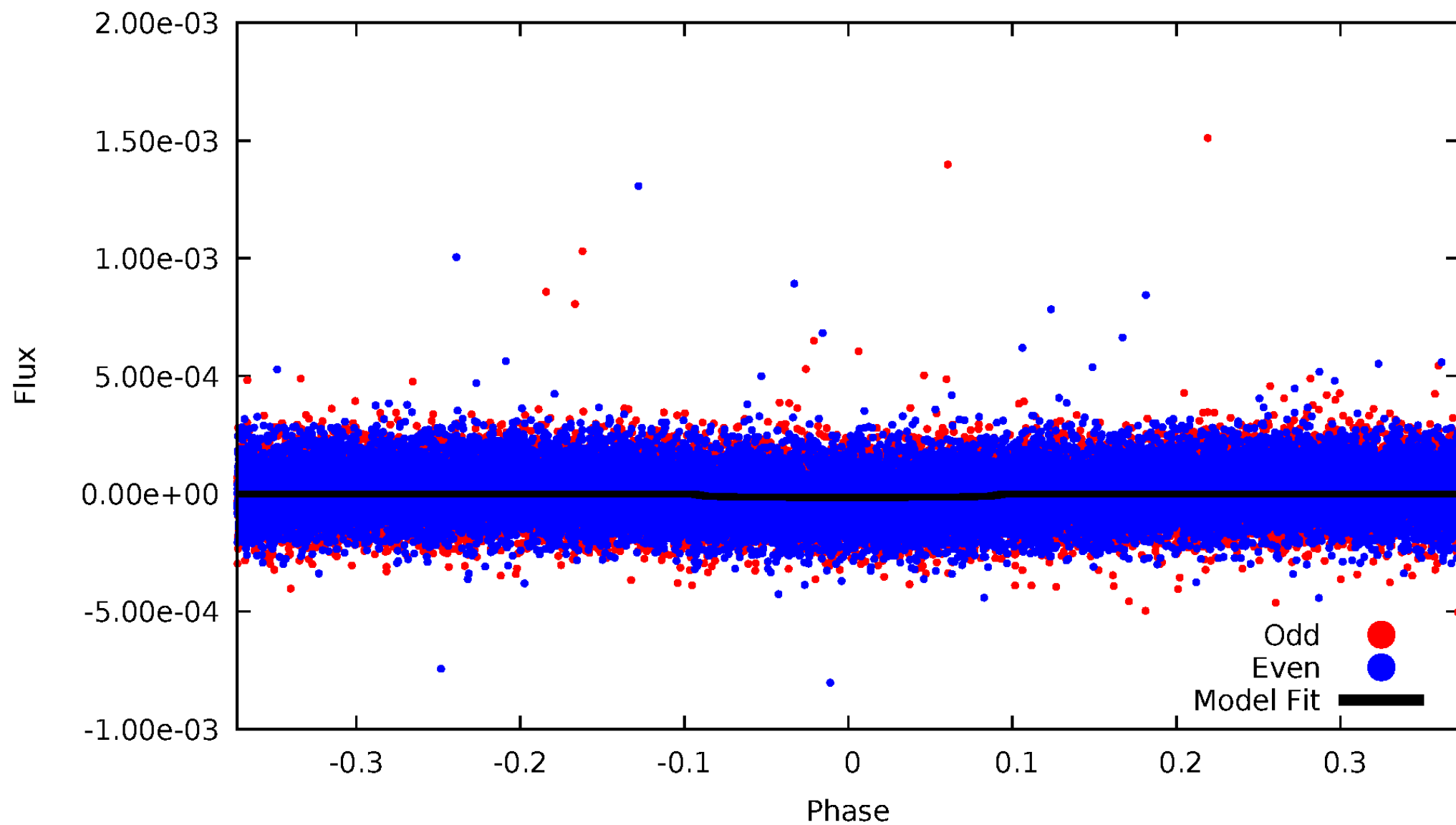


TCE 003222183-01



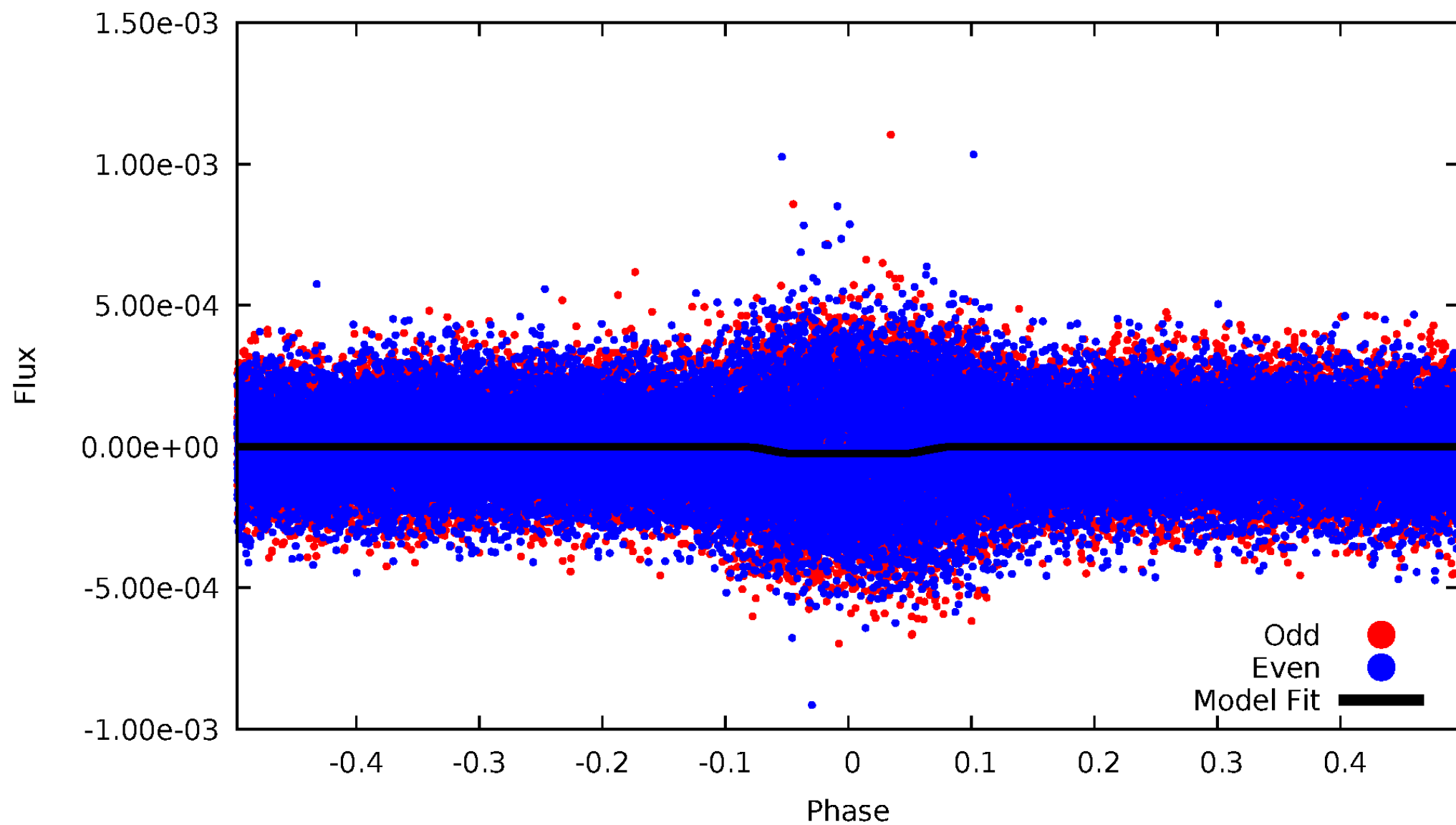
DV Odd/Even

TCE 003222183-01

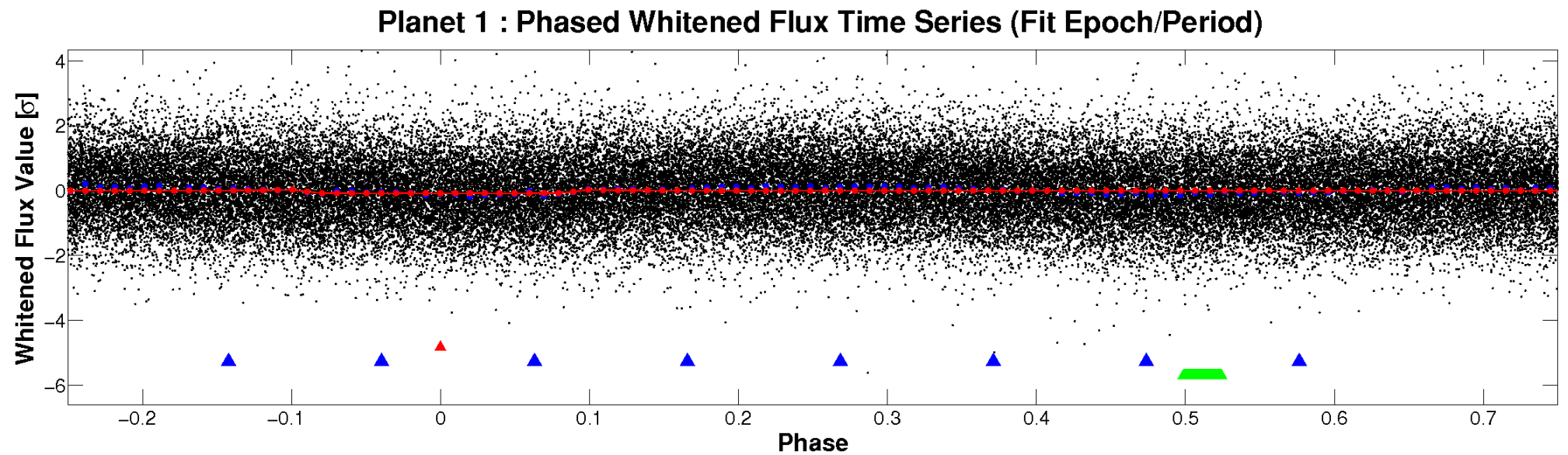
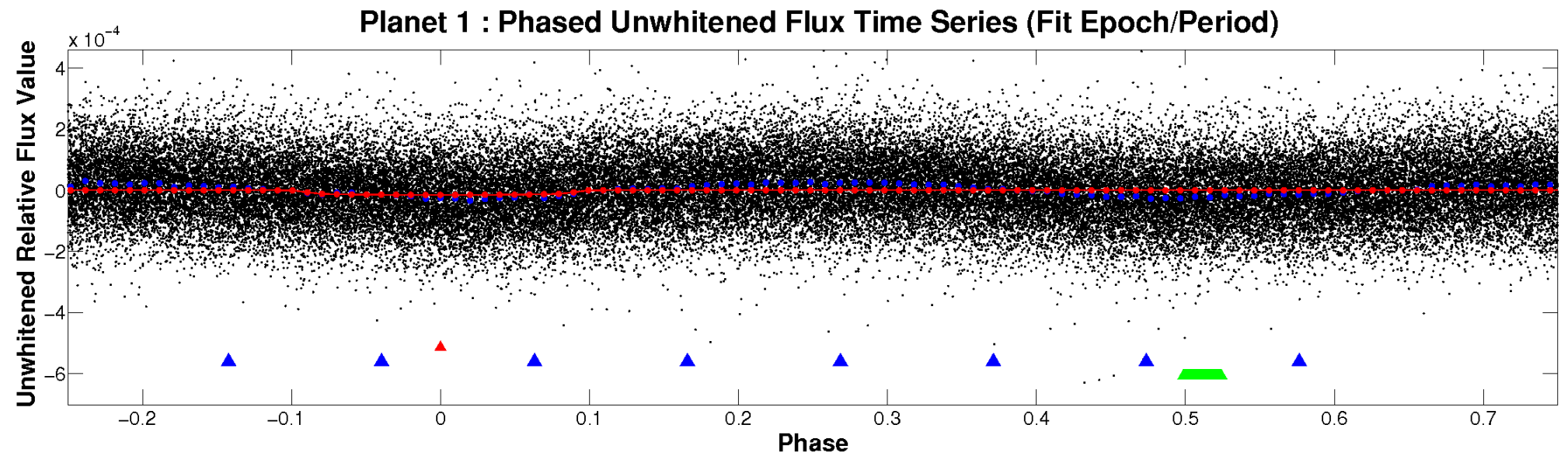


ALT Odd/Even

TCE 003222183-01

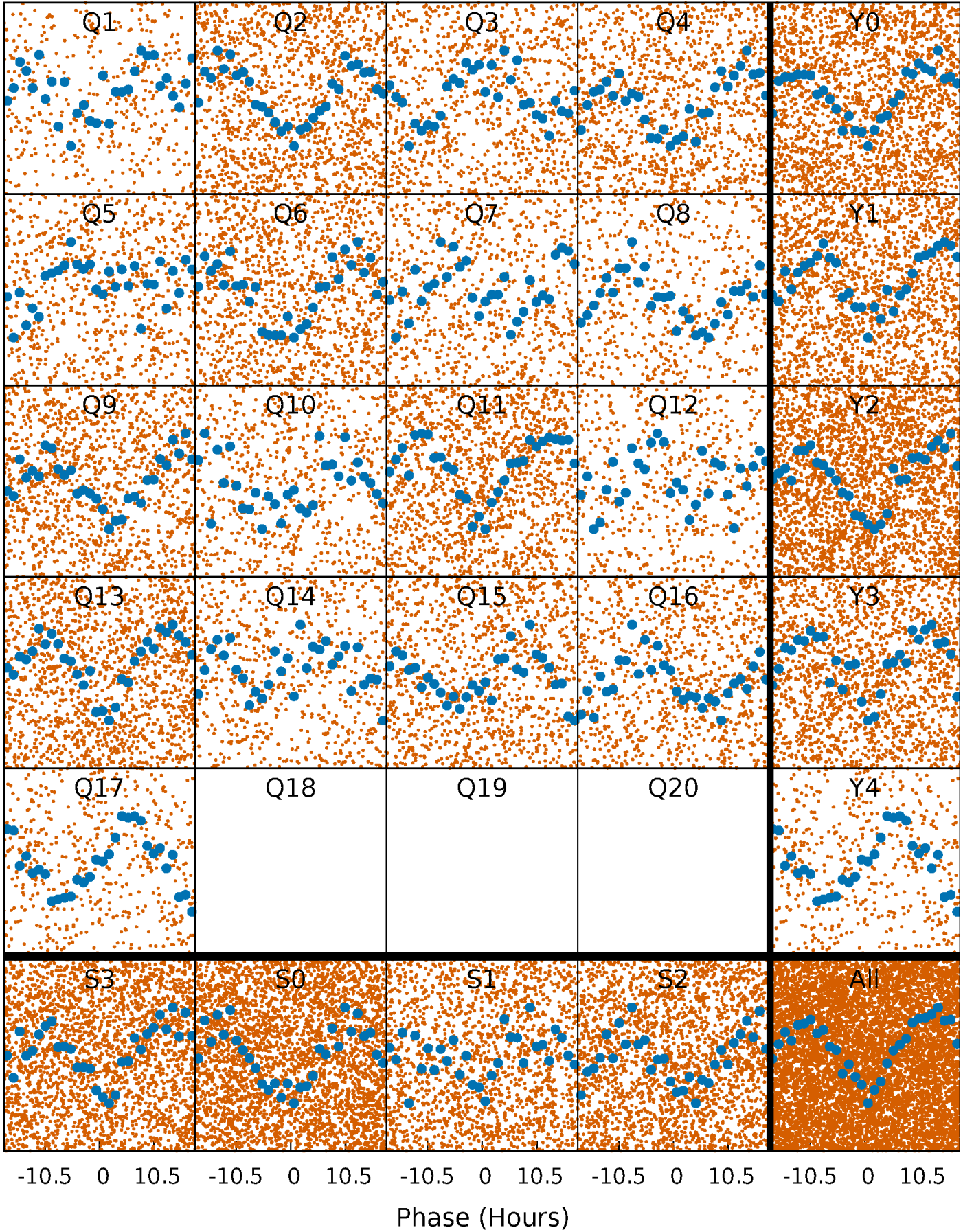


Non-Whitened Vs. Whitened Light Curve



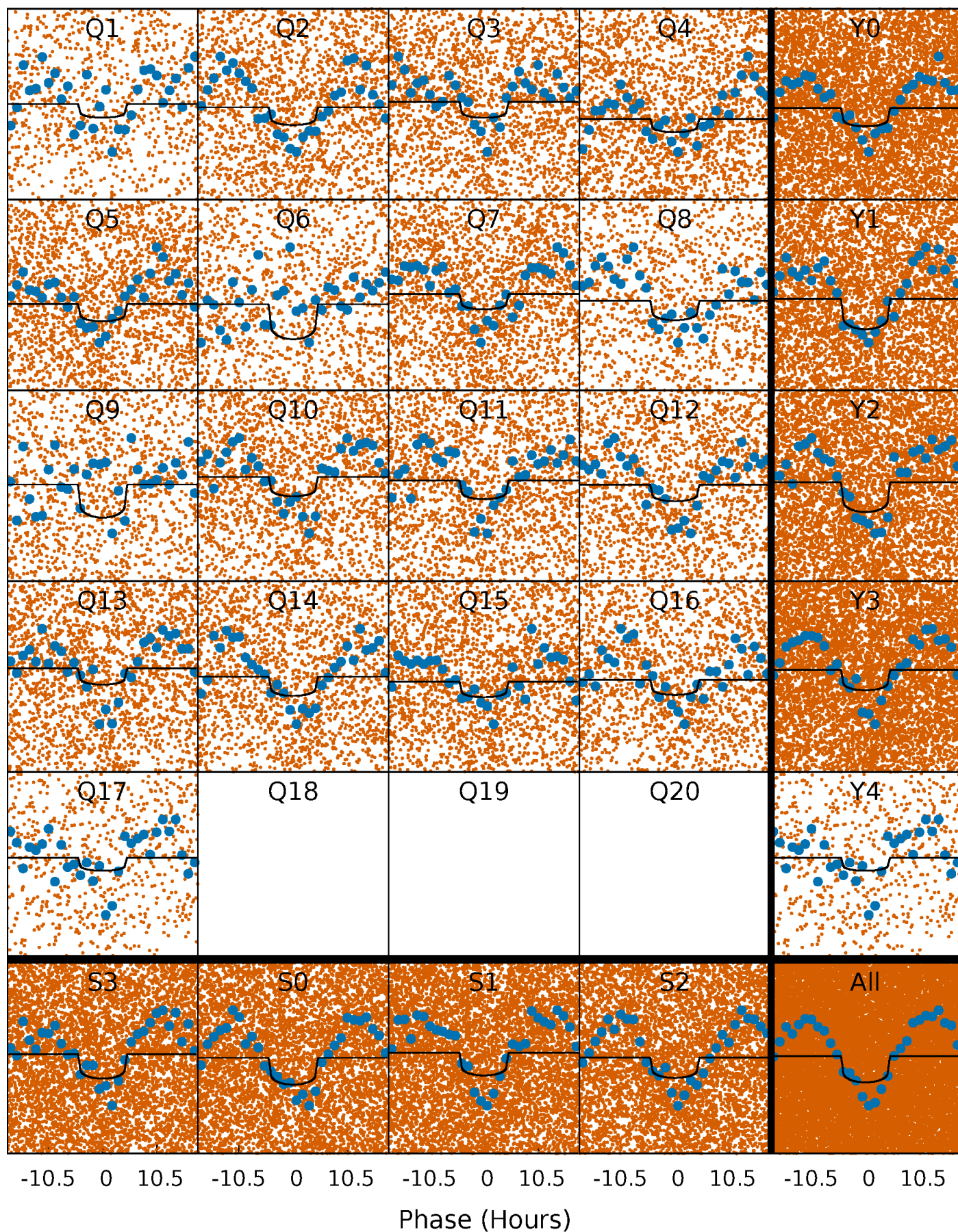
PDC Quarter-Phased Transit Curves

TCE 003222183-01 P= 2.057369 Days $T_0=132.886055$ (BKJD)



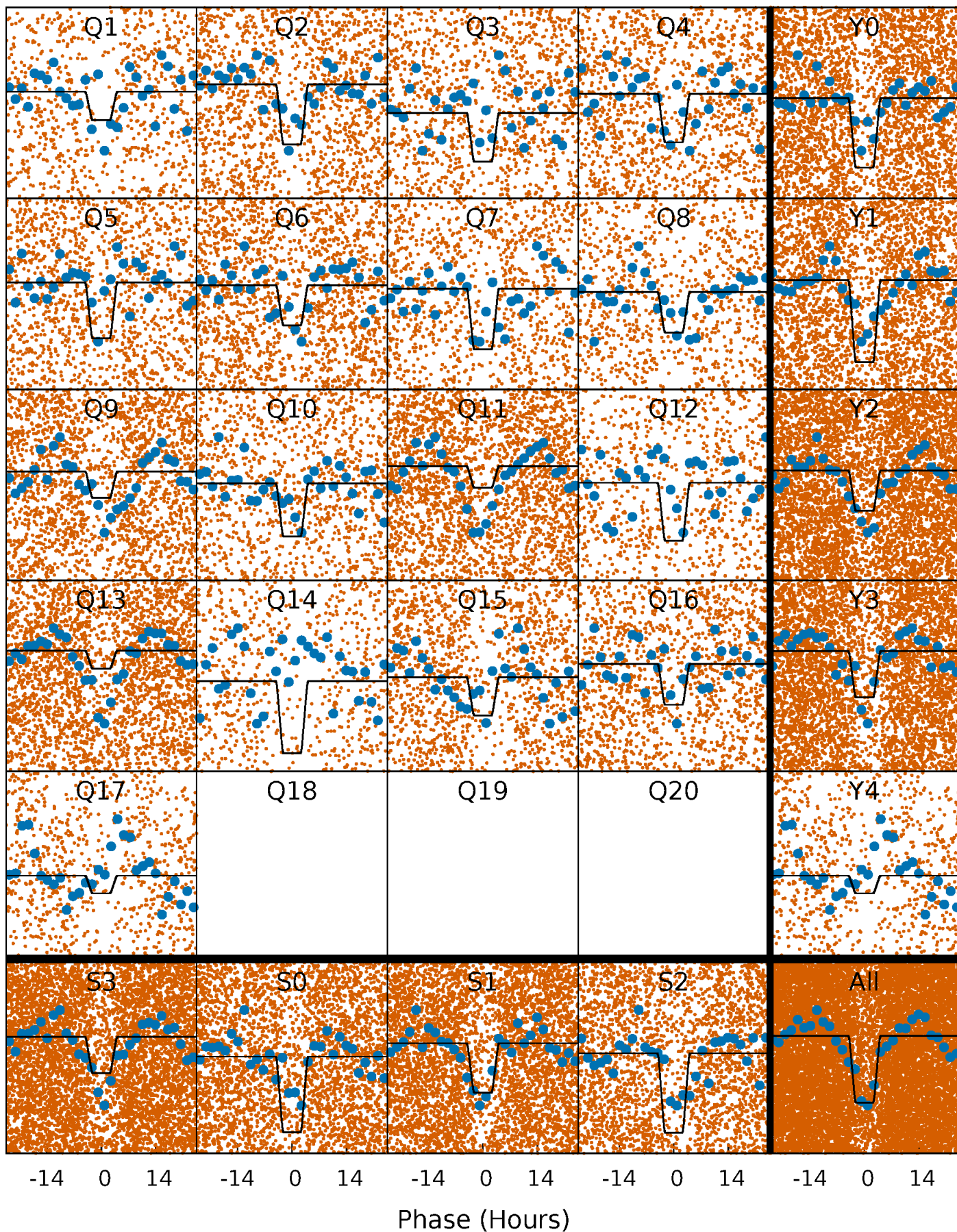
DV Quarter-Phased Transit Curves

TCE 003222183-01 P= 2.057369 Days $T_0=132.886055$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

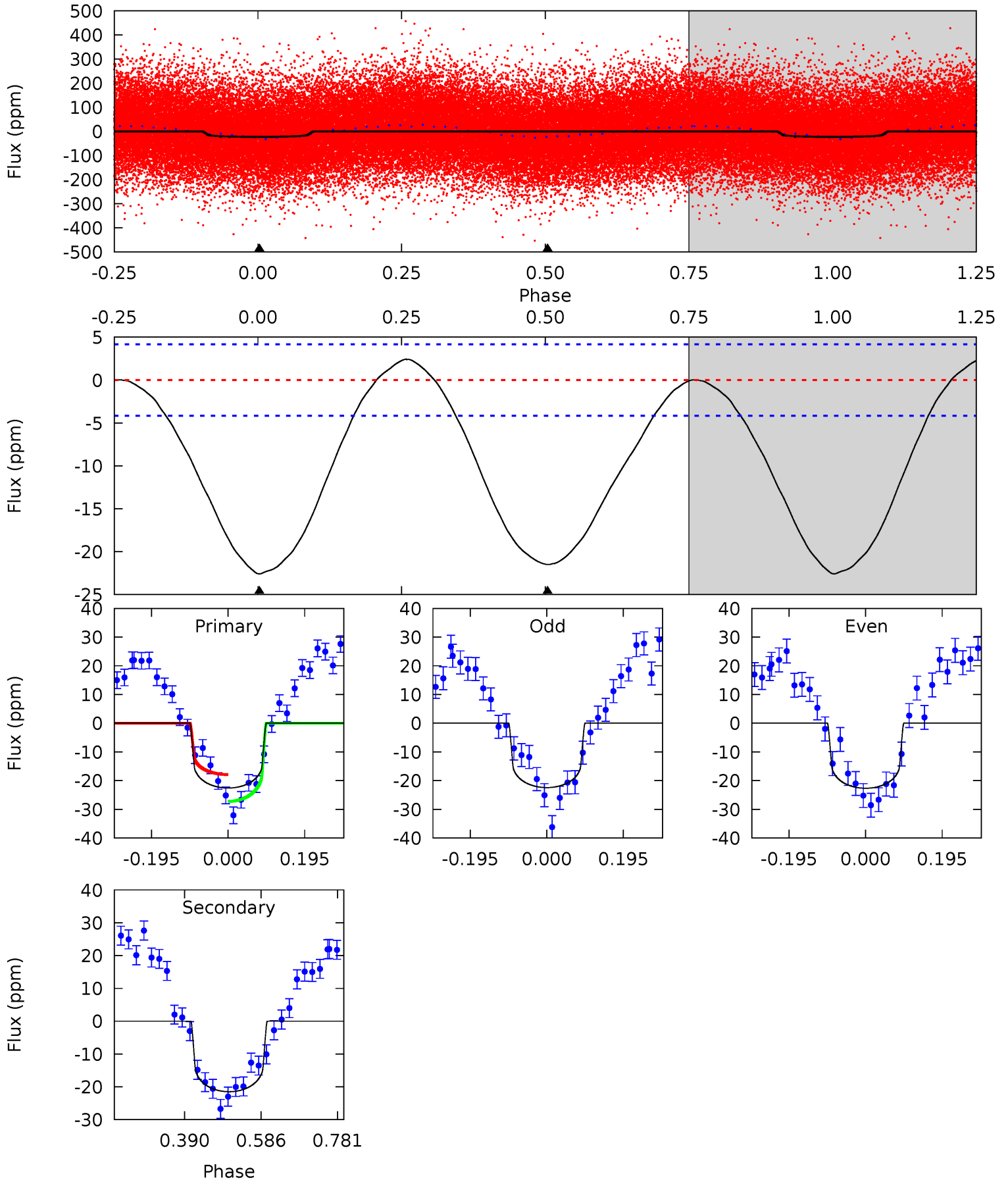
TCE 003222183-01 P= 2.057335 Days $T_0=132.940745$ (BKJD)



DV Model-Shift Uniqueness Test

003222183-01, P = 2.057369 Days, E = 130.828686 Days

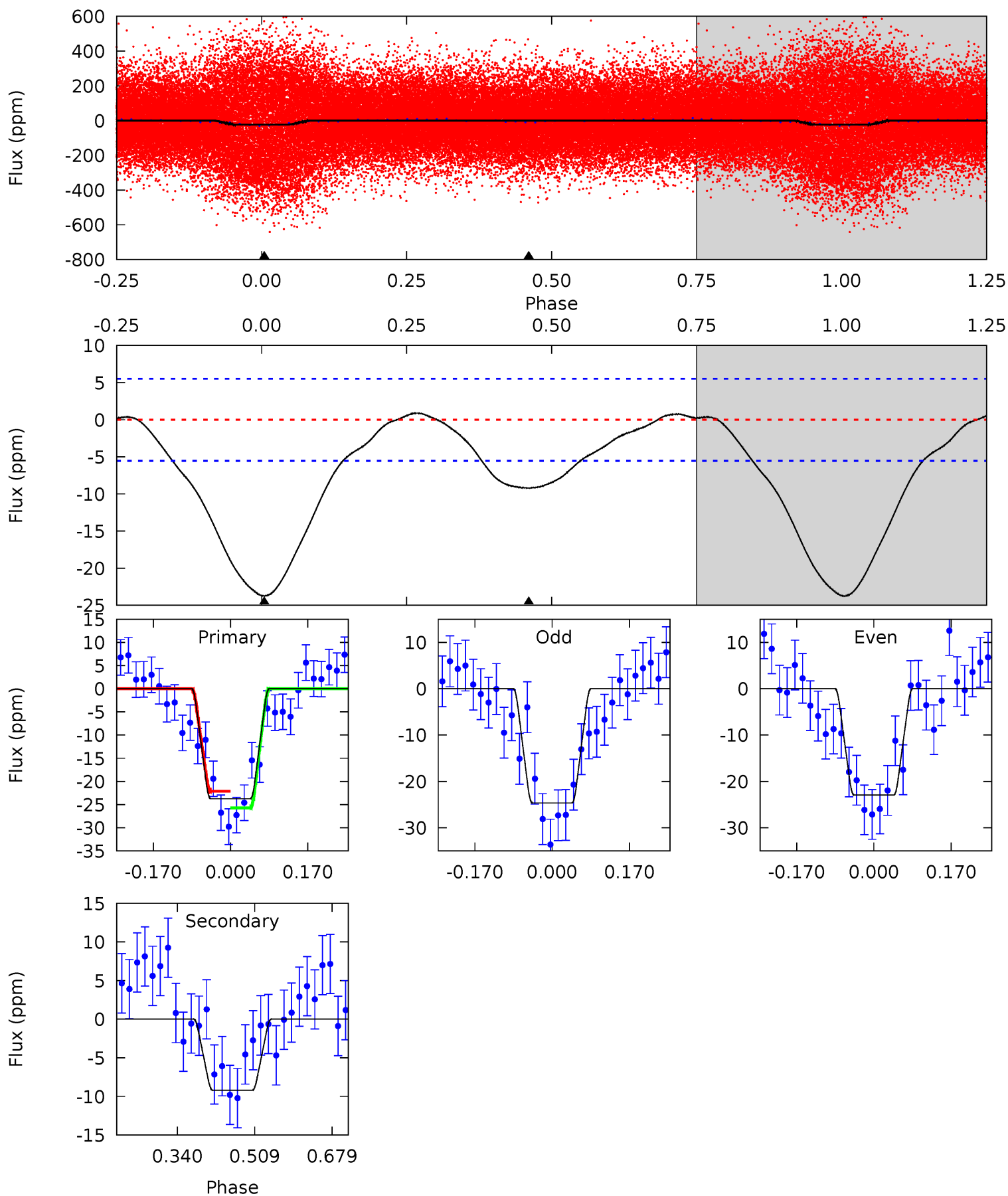
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.0	22.8	0	0	4.42	1.30	1.46	24.0	24.0	22.8	22.8	0.12	0.87	0.10	4.96



Alt Model-Shift Uniqueness Test

003222183-01, P = 2.057335 Days, E = 130.883410 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	7.41	0	0	4.45	1.37	1.02	19.1	19.1	7.41	7.41	0.68	0.93	0.04	1.46



Stellar Parameters For KIC 003222183

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6495^{+181}_{-227}	$3.978^{+0.350}_{-0.150}$	$-0.300^{+0.250}_{-0.300}$	$1.860^{+0.483}_{-0.724}$	$1.198^{+0.181}_{-0.201}$	$0.263^{+0.694}_{-0.111}$
	+3%/-3%	+9%/-4%	+83%/-100%	+26%/-39%	+15%/-17%	+264%/-42%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 003222183-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-21 ± 1	$0.80^{+0.27}_{-0.21}$	2935^{+213}_{-295}	6817^{+1140}_{-765}	21^{+18}_{-9}
Alt.	-9 ± 1	$0.97^{+0.28}_{-0.25}$	2932^{+244}_{-272}	5065^{+616}_{-440}	$6.092^{+5.140}_{-2.464}$

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 $A_{obs} \gg 1.0$

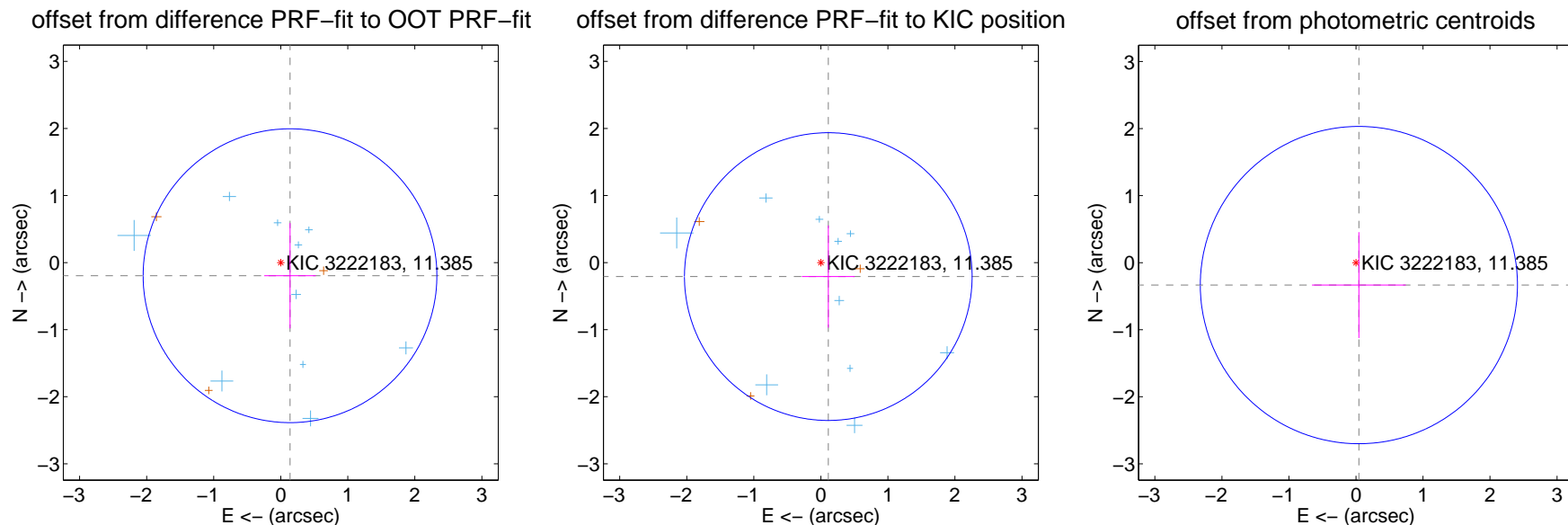
DV Centroid Data

Supplemental centroid analysis for 003222183-01. **Kepler magnitude: 11.38.** Transit SNR 8.67

There are 10 quarters with good PRF difference image offsets

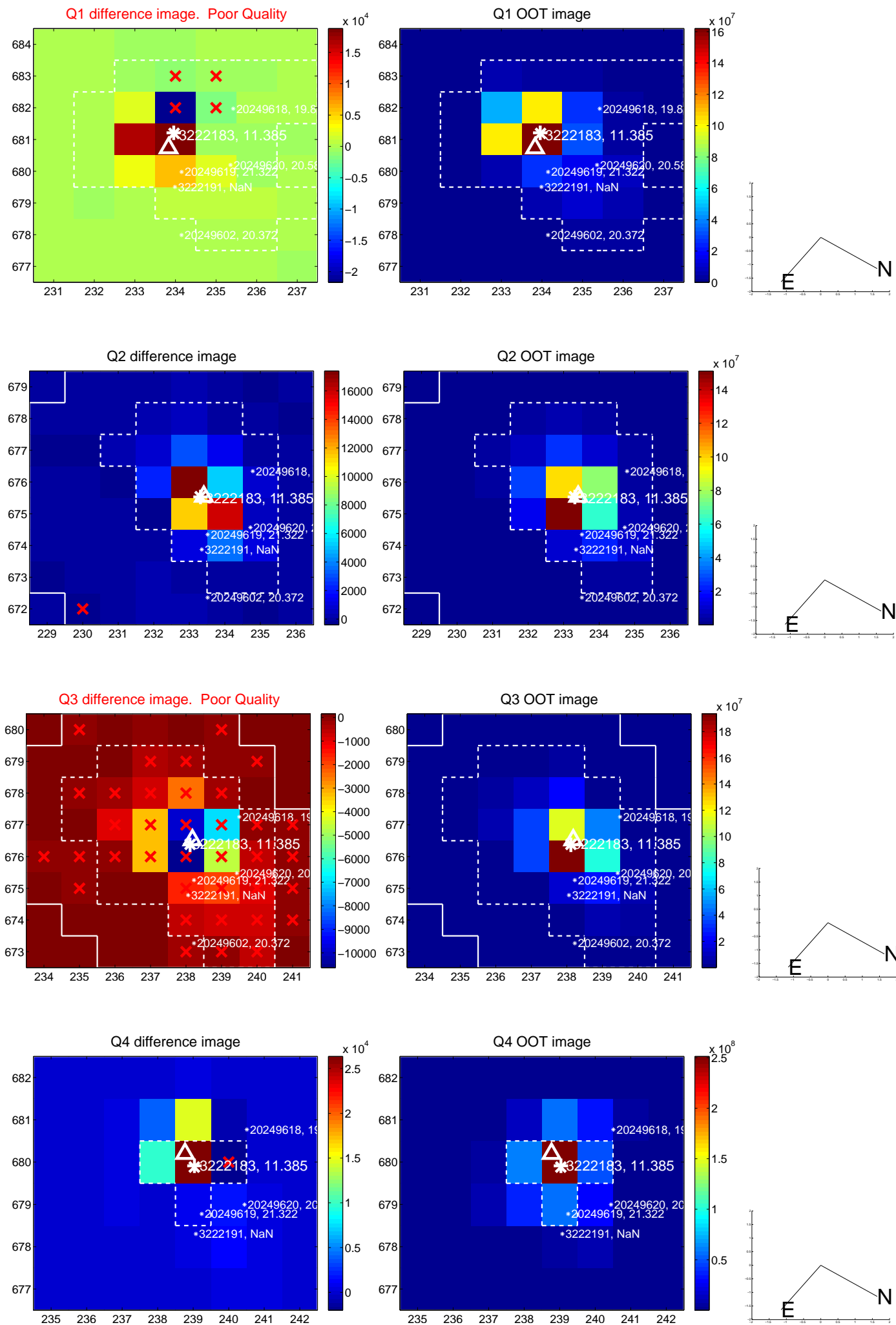
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.240 ± 0.730	0.33	-0.138 ± 0.385	-0.196 ± 0.785
PRF-fit source offset from KIC position	0.236 ± 0.715	0.33	-0.111 ± 0.394	-0.209 ± 0.761
photometric centroid source offset	0.34 ± 0.79	0.43	-0.04 ± 0.70	-0.33 ± 0.79

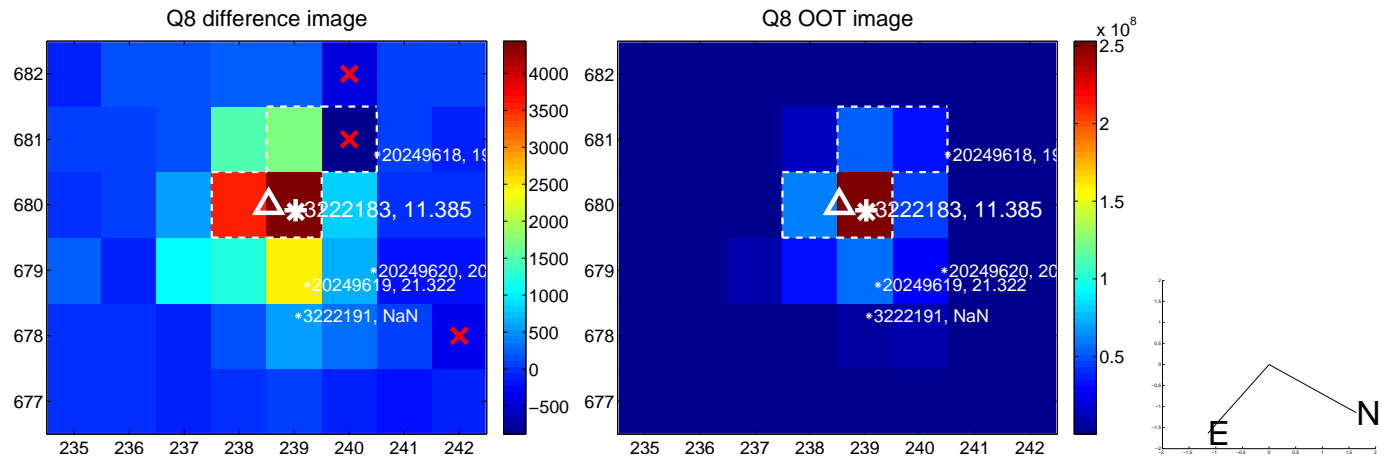
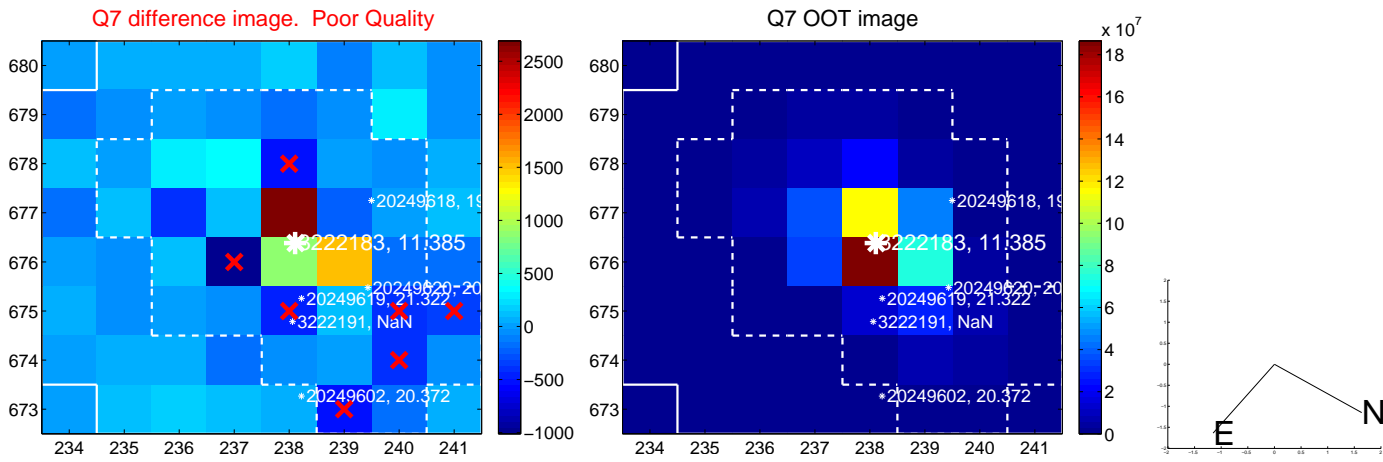
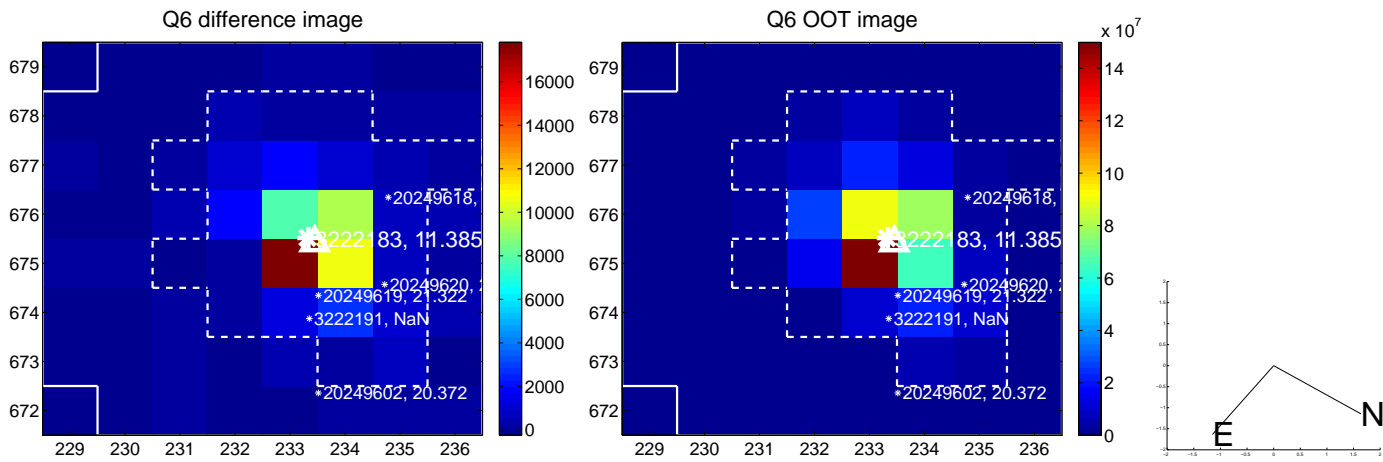
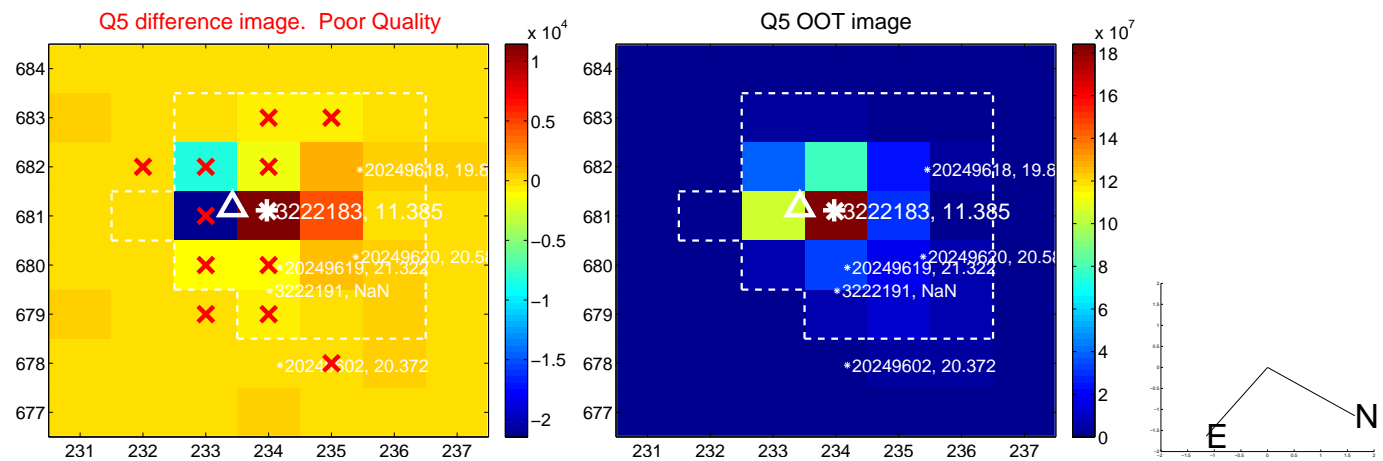


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

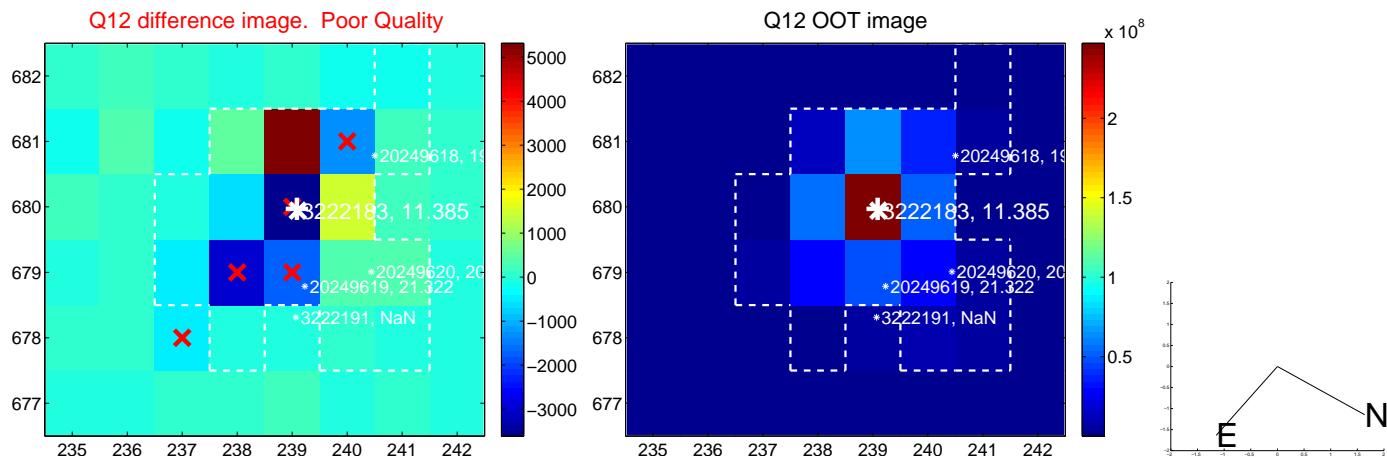
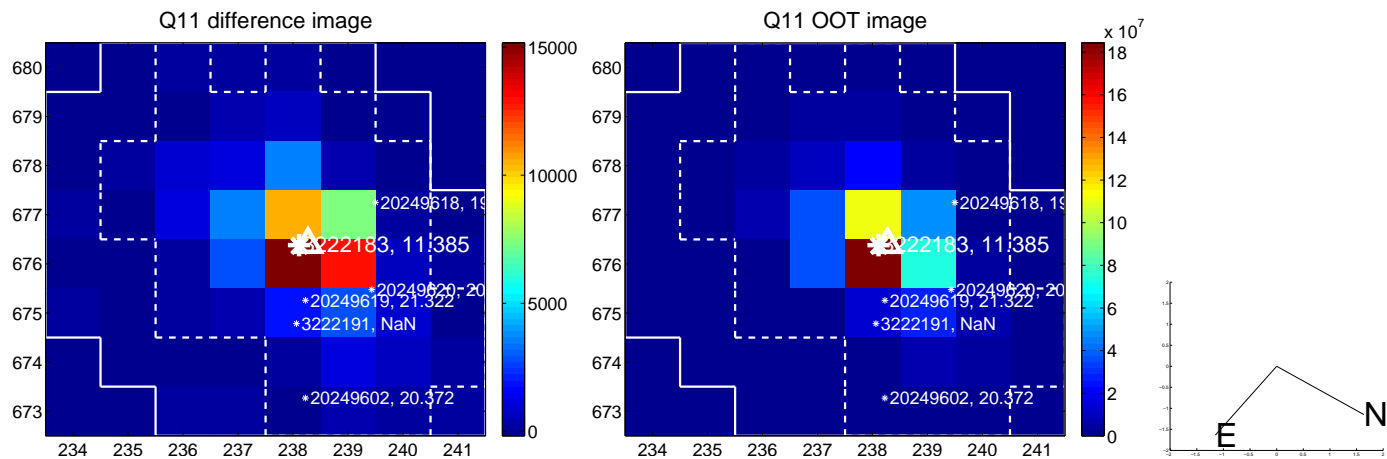
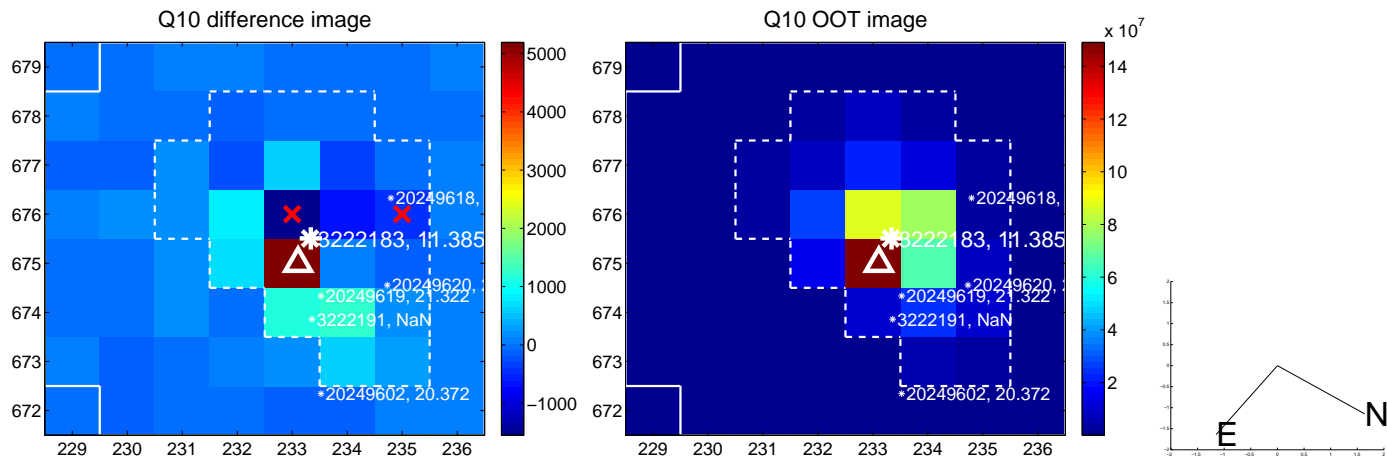
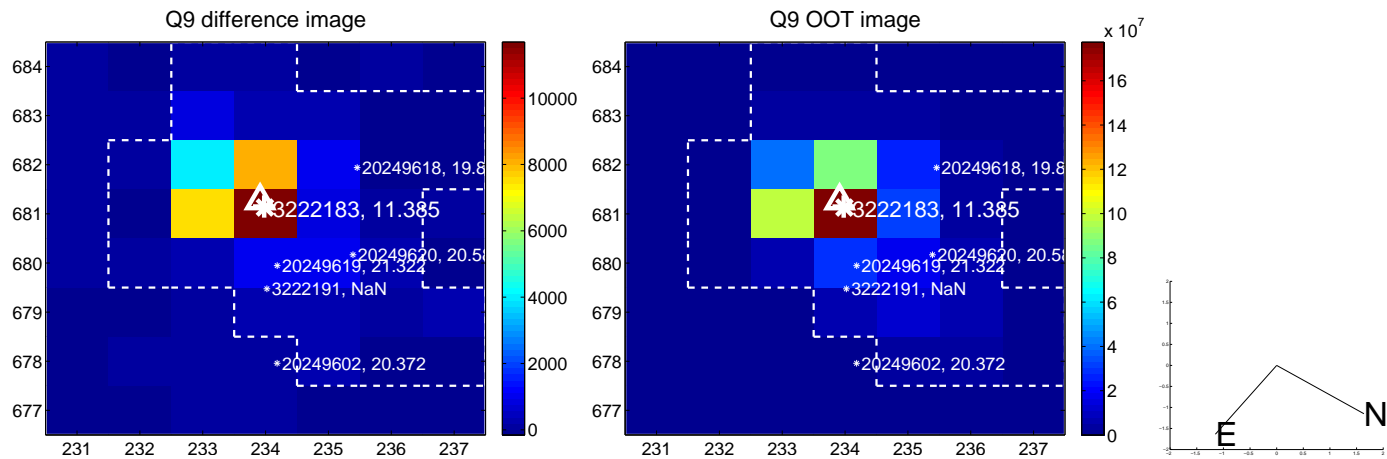
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



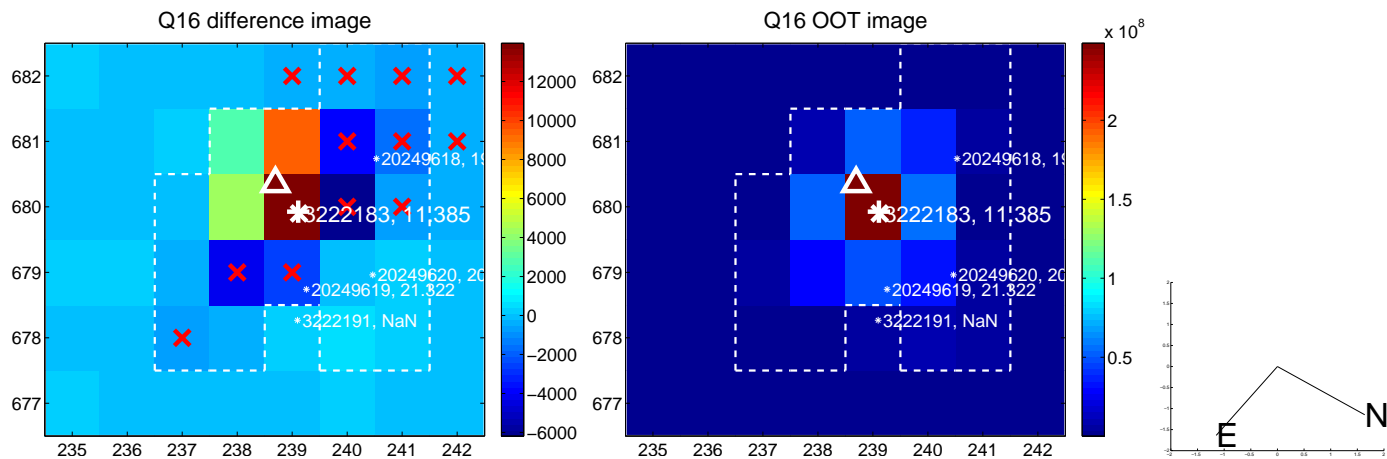
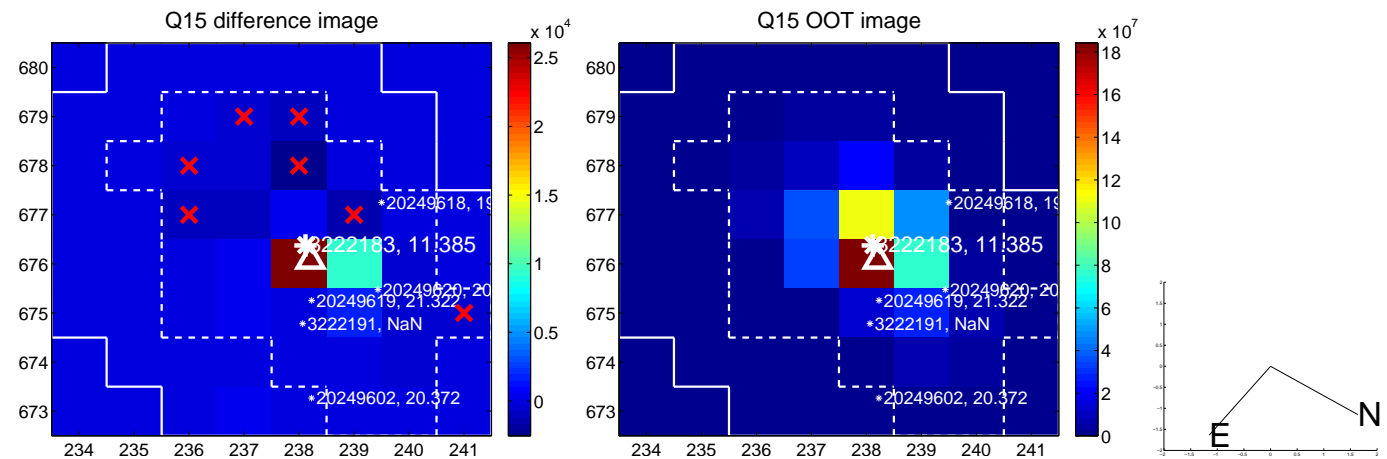
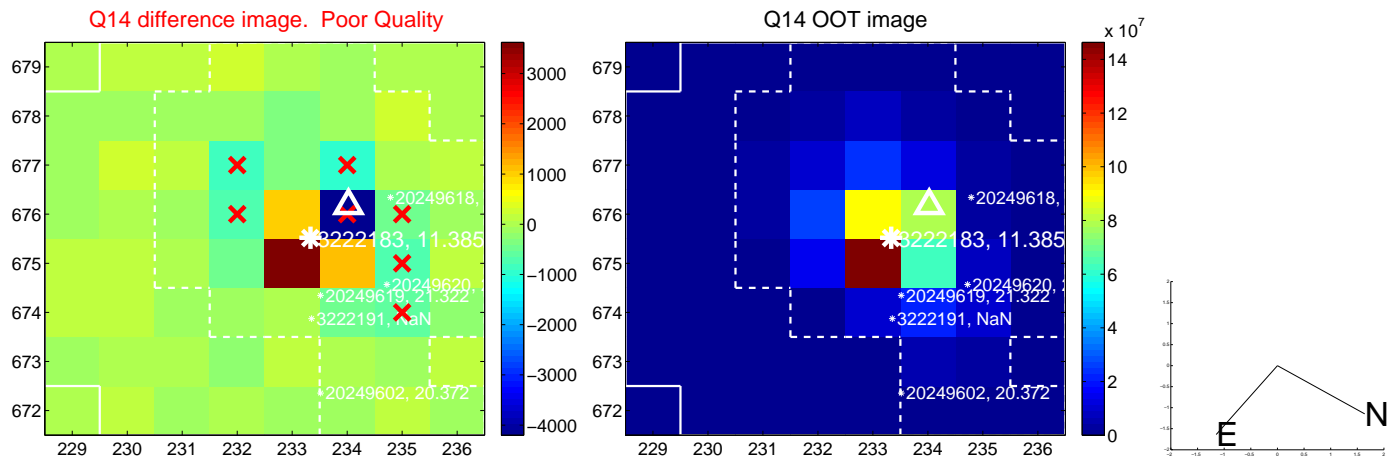
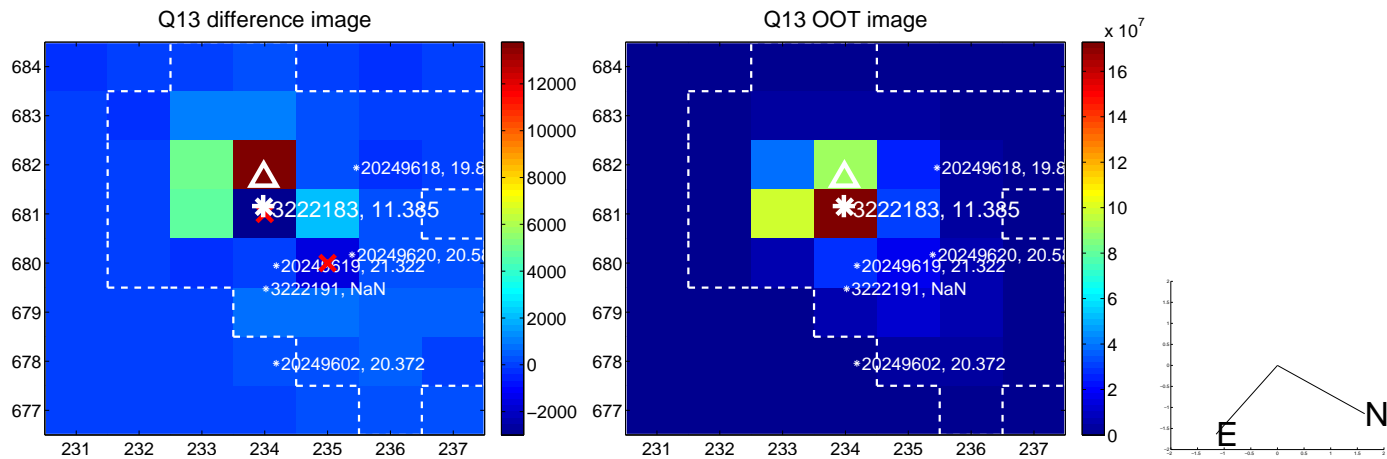
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



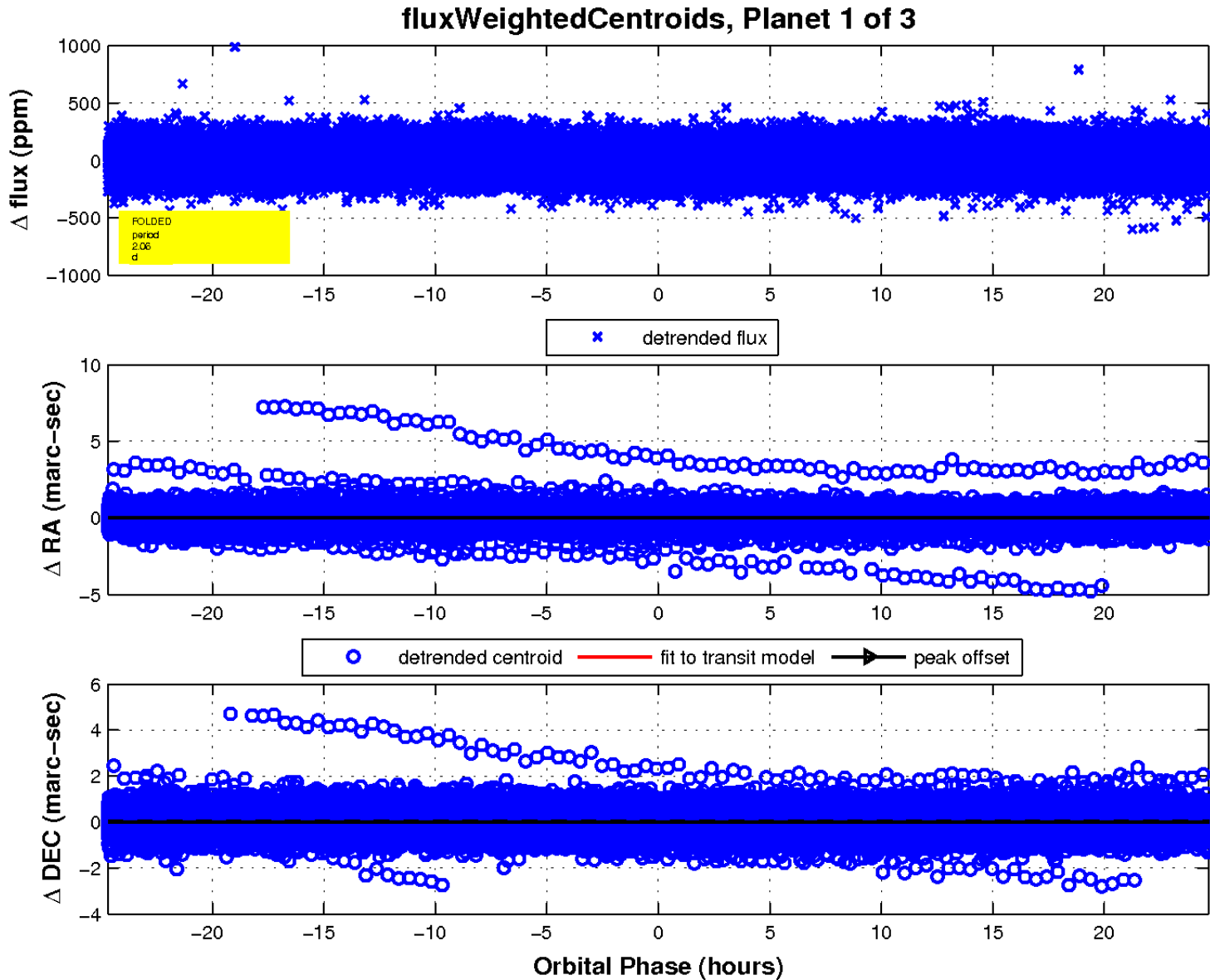
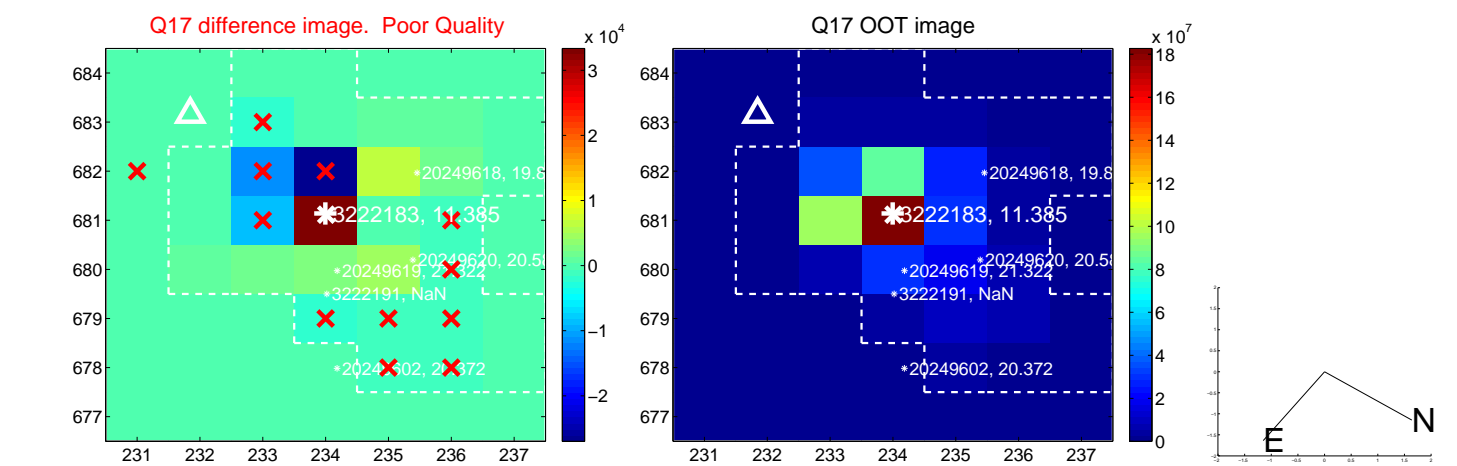
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

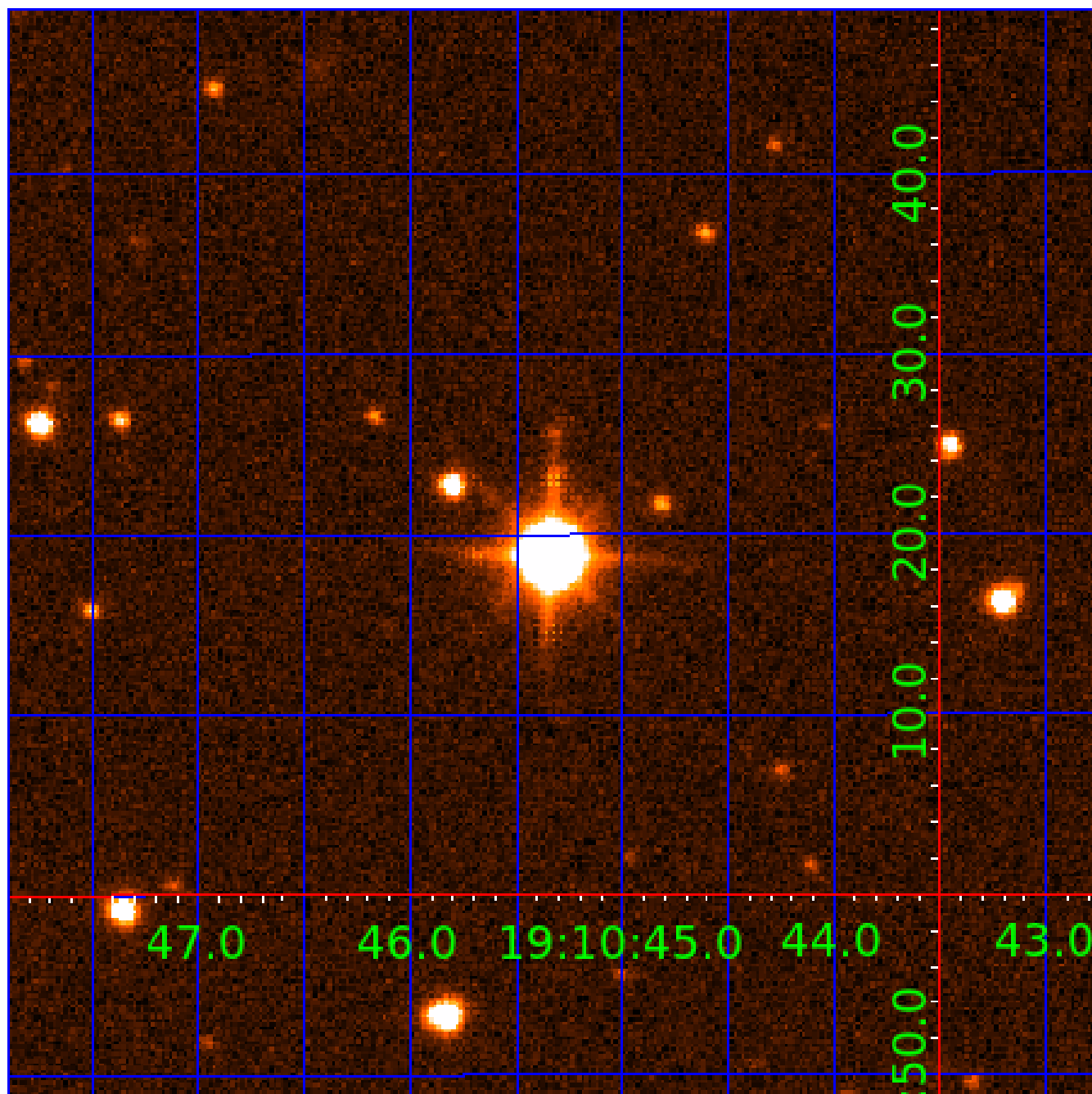


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003222183

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})
003222183-01	OBS	No	2.057369	132.886055	15.5	9.197	9.9	8.7	1.86	6495	0.84	4873.08
003222183-02	OBS	No	179.202321	278.666682	151.3	12.500	16.2	-1.0	1.86	6495	2.30	12.62
003222183-03	OBS	No	2.057443	131.854467	21.6	11.048	12.9	15.4	1.86	6495	0.87	4872.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003222183-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
003222183-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
003222183-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

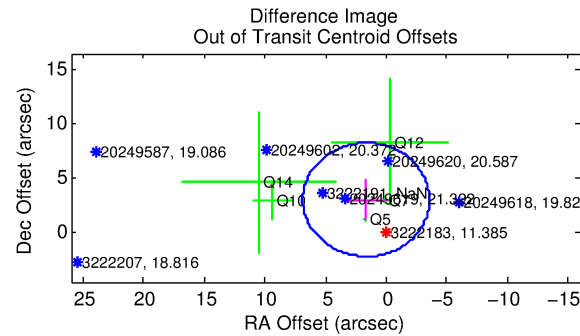
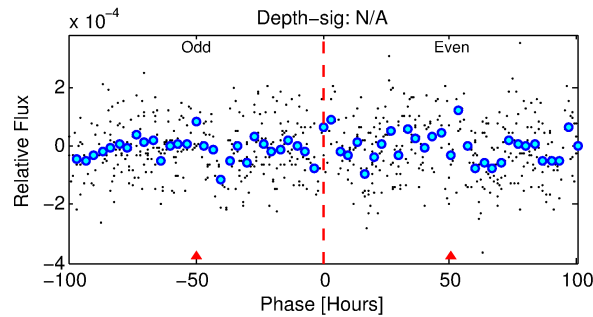
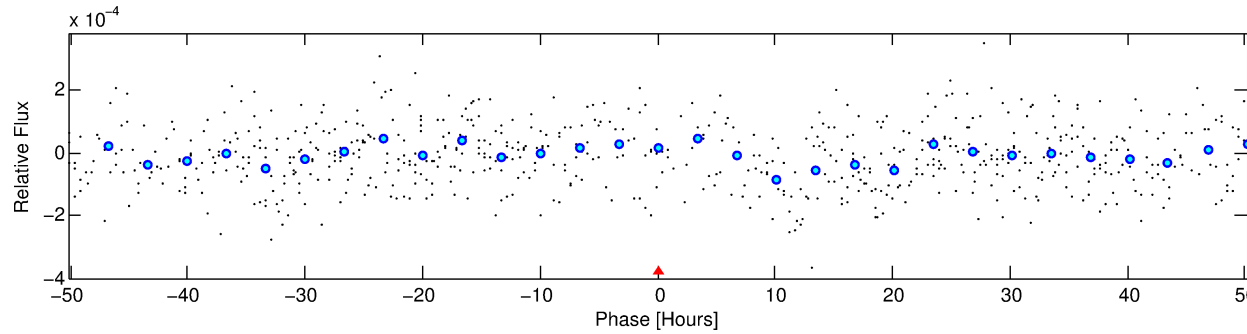
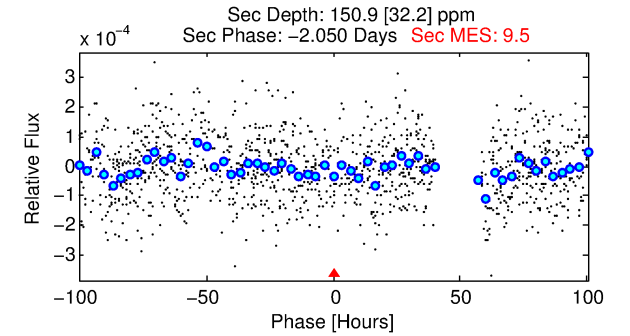
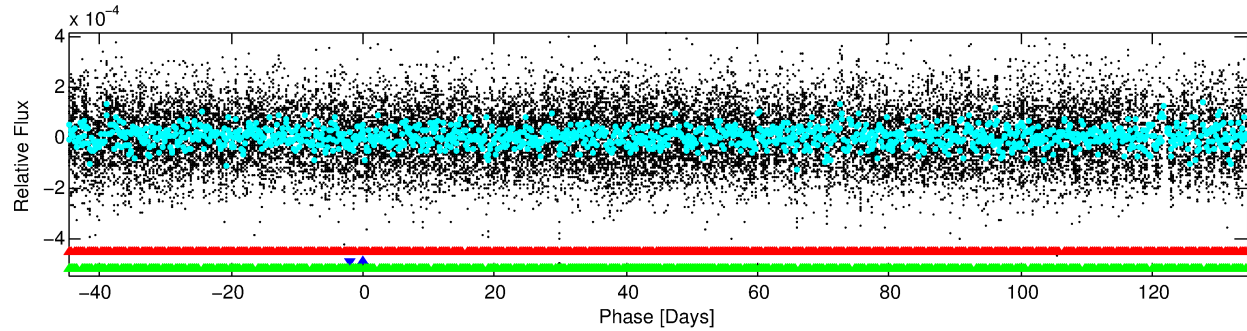
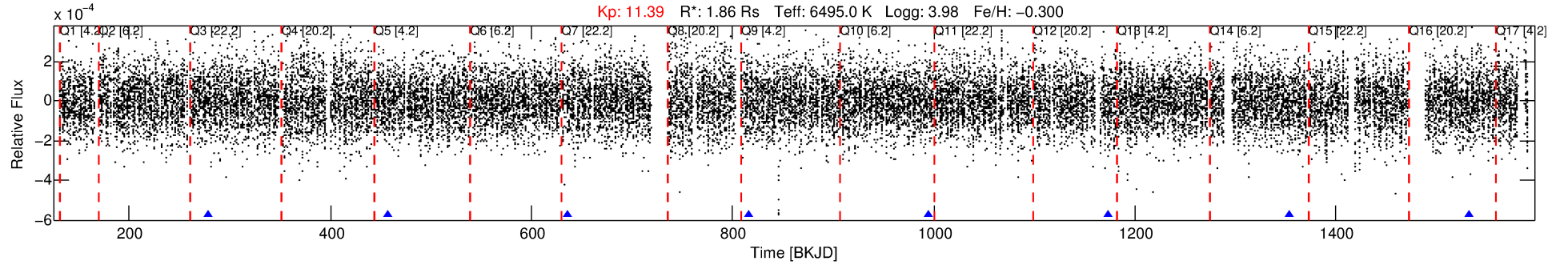
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003222183-02

No Significant Match Found

DV One-Page Summary

KIC: 3222183 Candidate: 2 of 3 Period: 179.202 d



TPS TCE Results:

Period = 179.20232 d
Epoch = 278.6667 BKJD

DV fit results are unavailable

DV Diagnostic Results:

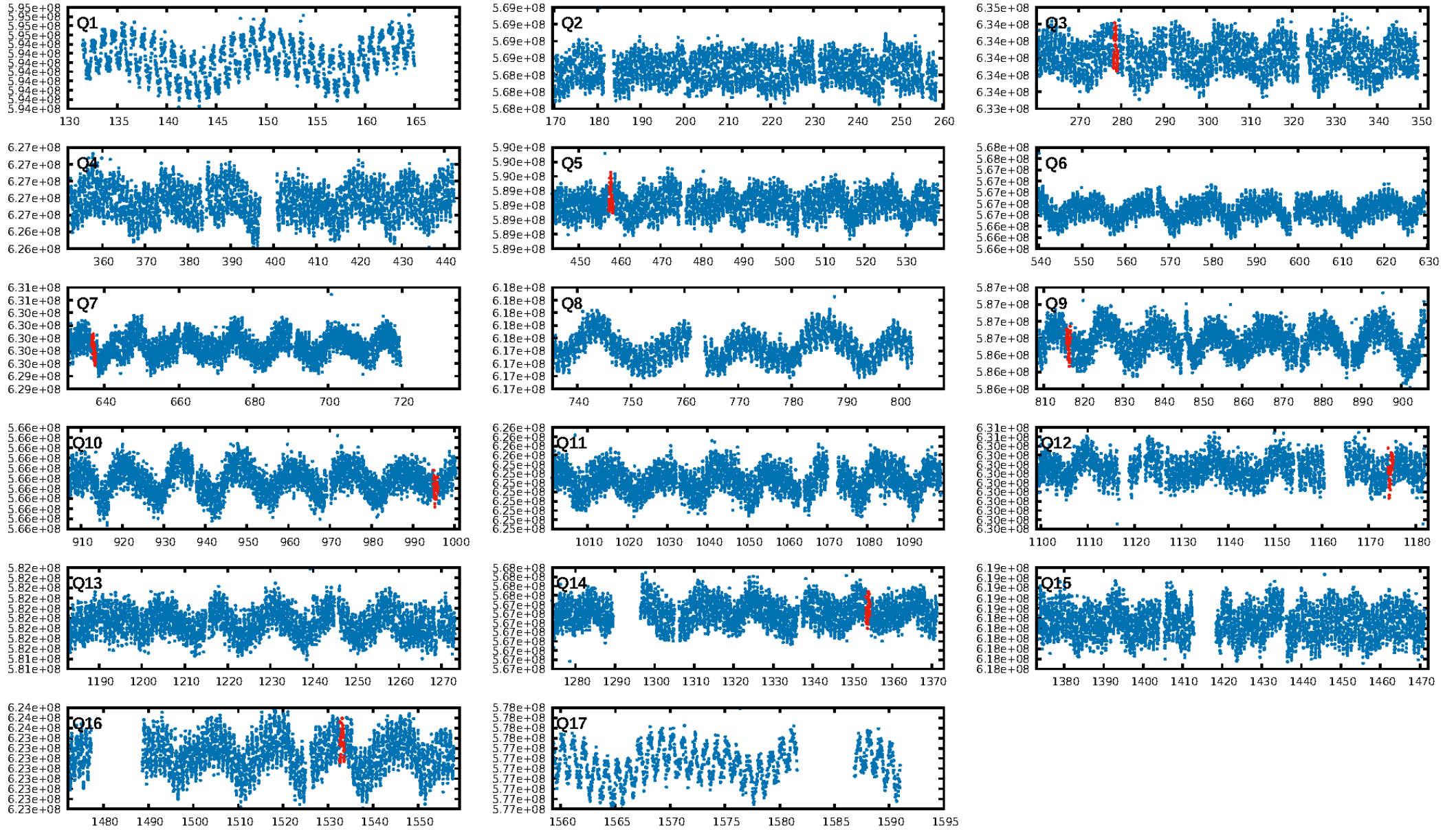
ShortPeriod-sig: 100.0% [254.84σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -6.748

Centroid-sig: 0.0%
Centroid-so: 4.226 arcsec [2.57σ]
OotOffset-rm: 3.483 arcsec [2.00σ]
KicOffset-rm: 3.467 arcsec [1.99σ]
OotOffset-st: 2/1/1/1 [5]
KicOffset-st: 2/1/1/1 [5]
DiffImageQuality-fgm: 0.20 [1/5]
DiffImageOverlap-fno: 0.00 [0/7]

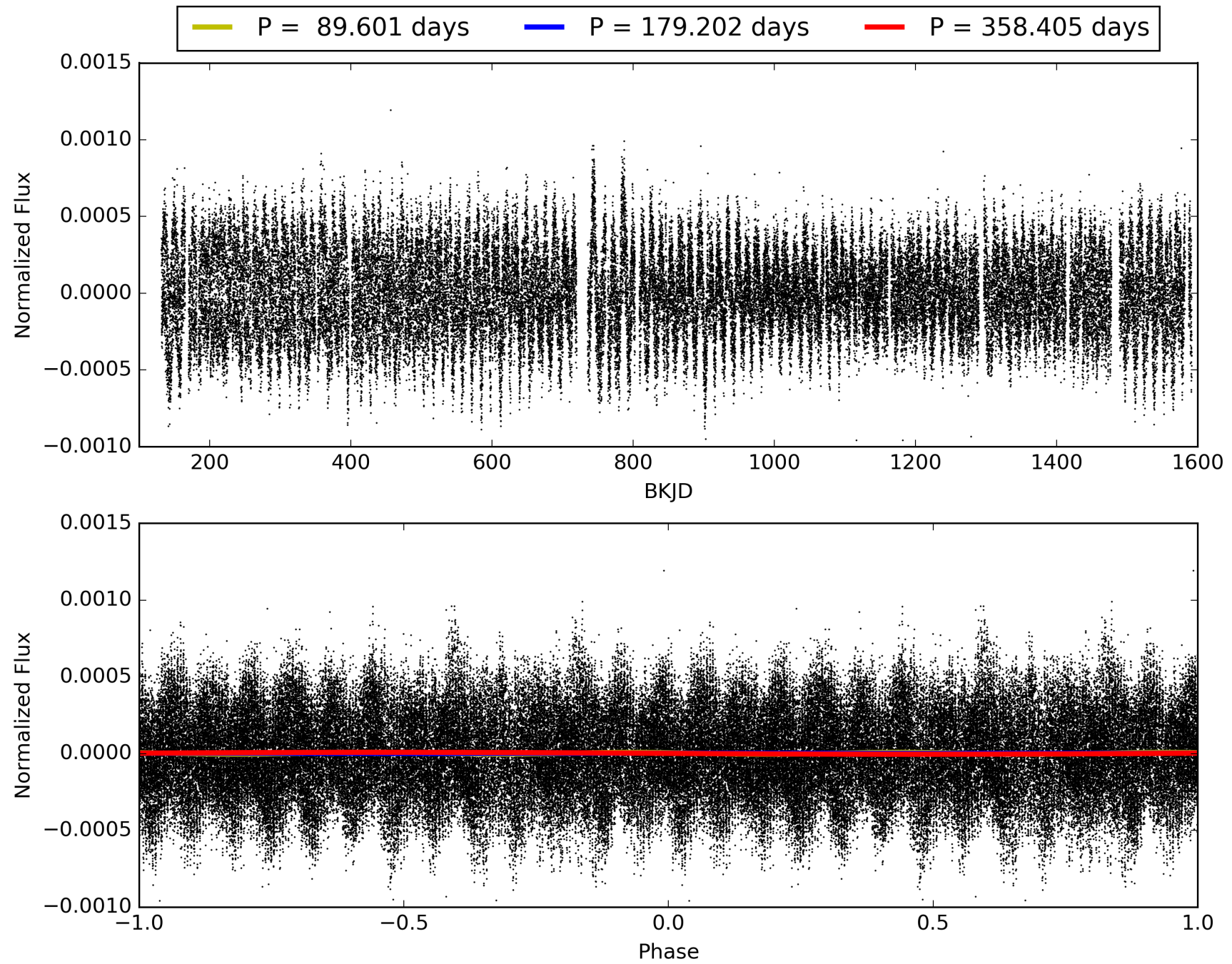
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:38:51 Z

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

TCE 003222183-02, PDC Light Curves

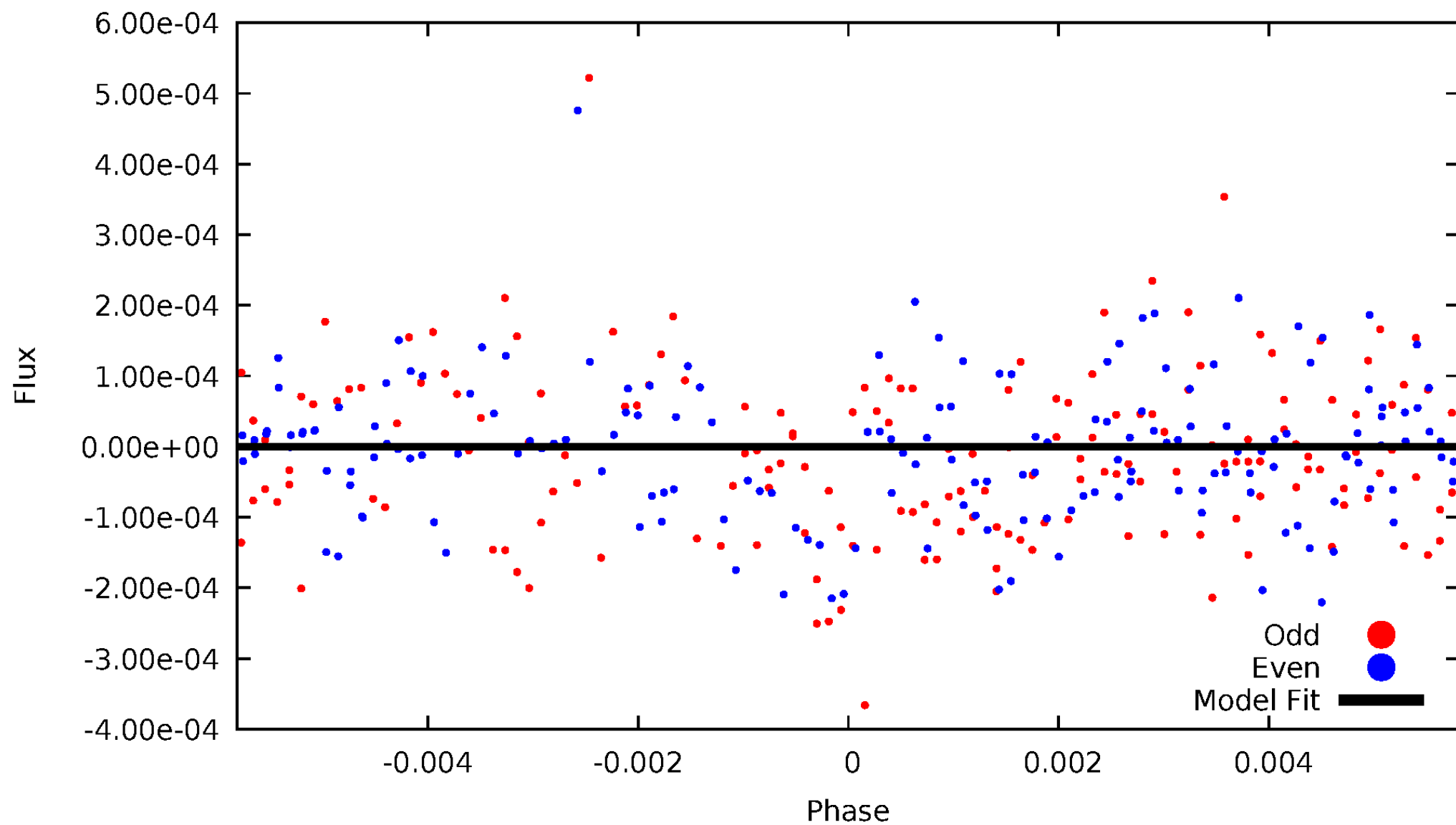


TCE 003222183-02



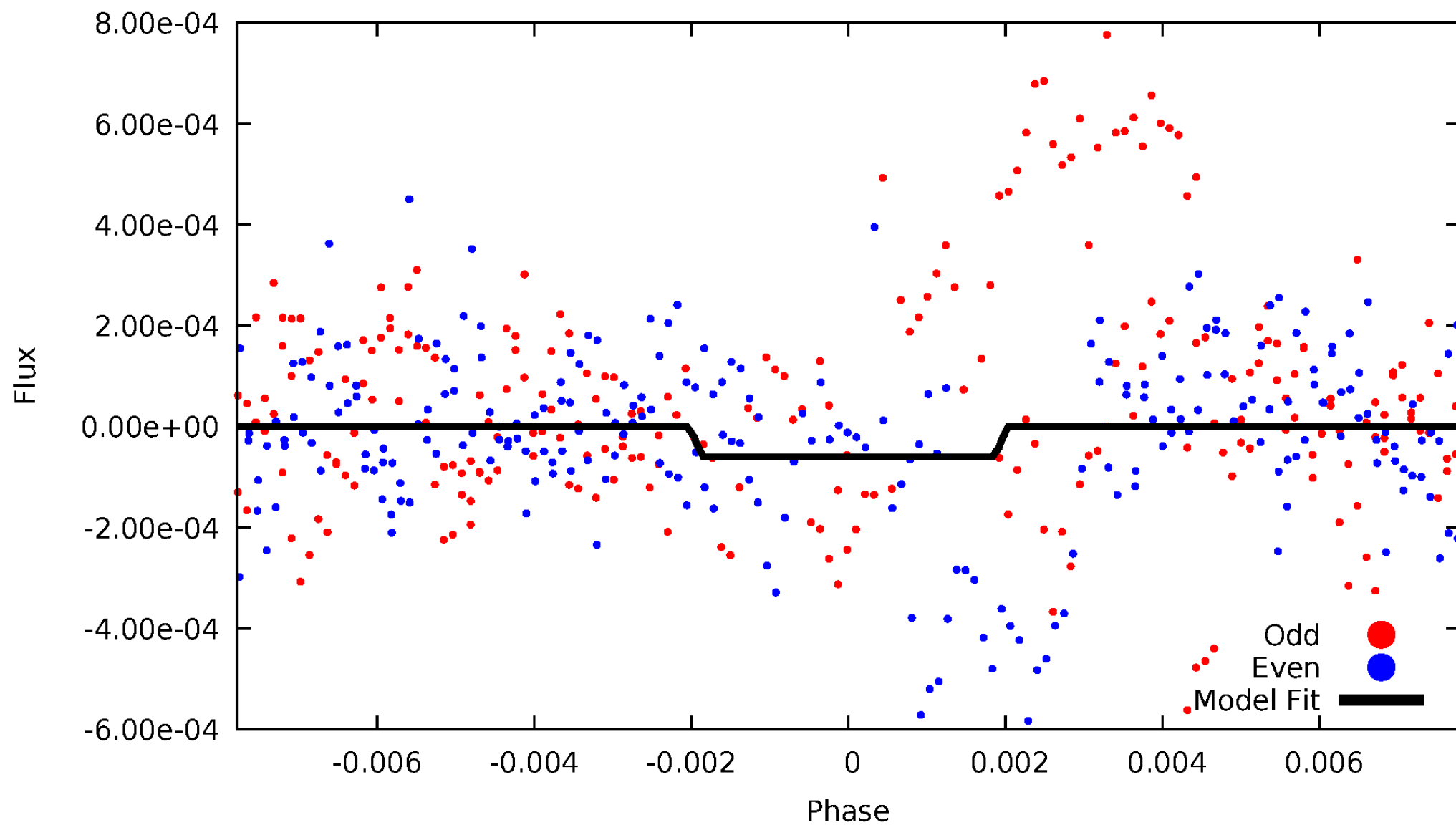
DV Odd/Even

TCE 003222183-02



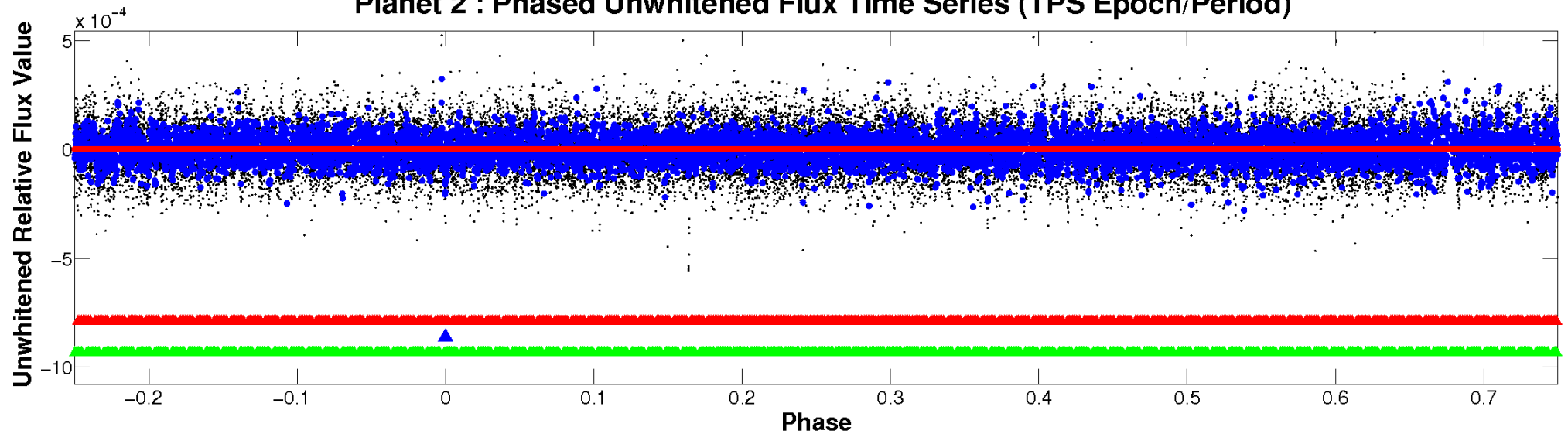
ALT Odd/Even

TCE 003222183-02

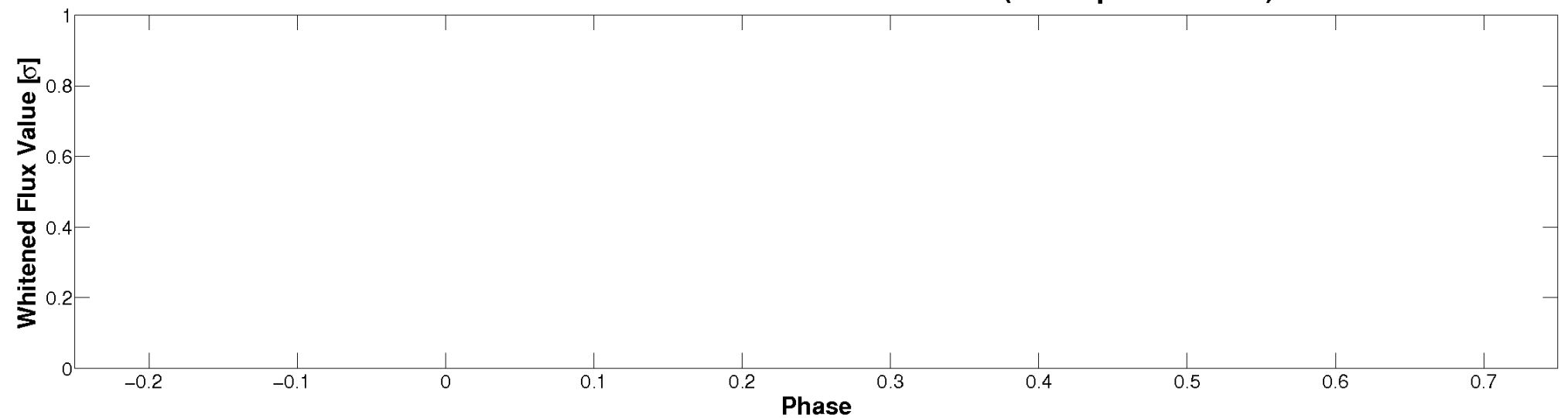


Non-Whitened Vs. Whitened Light Curve

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

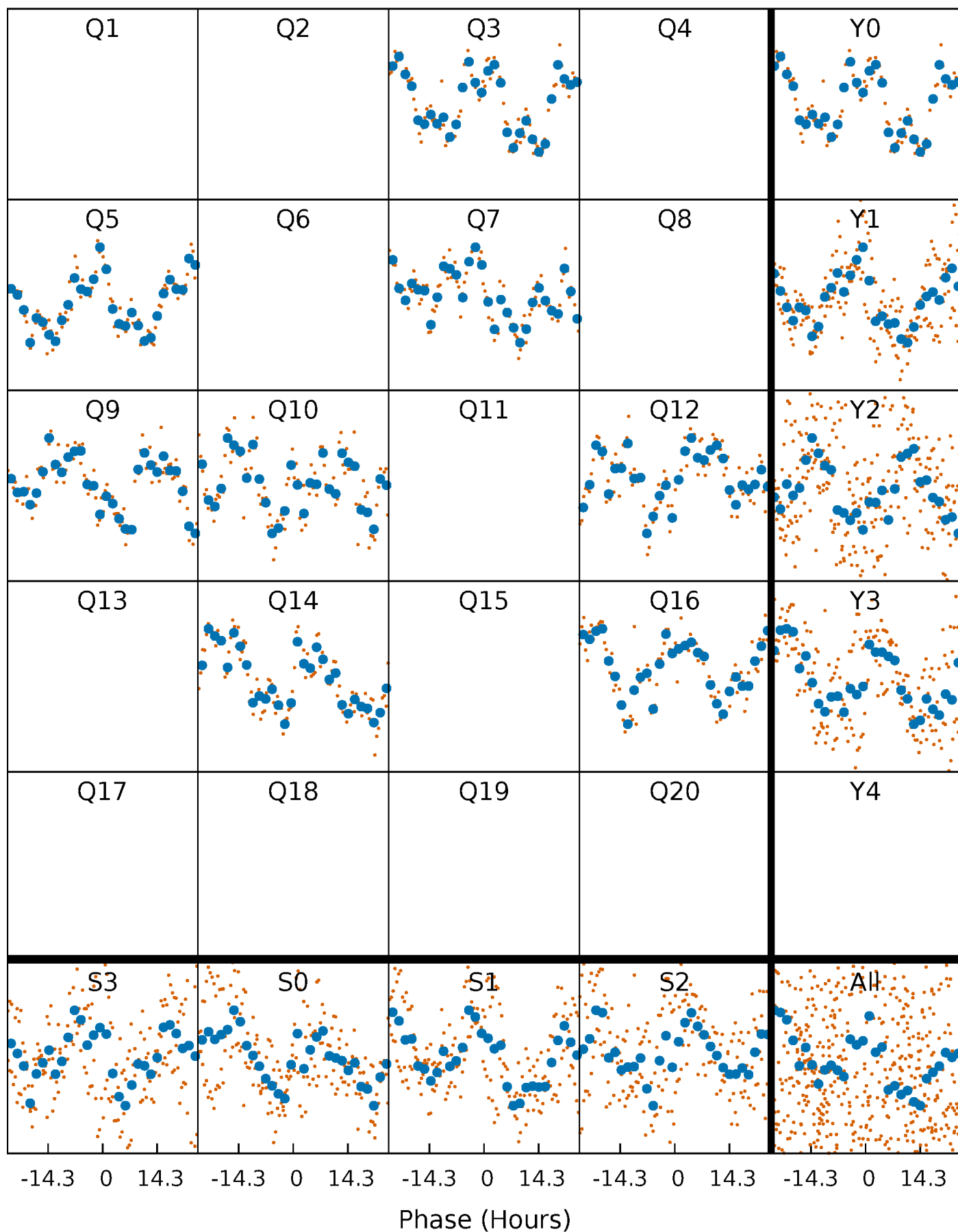


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



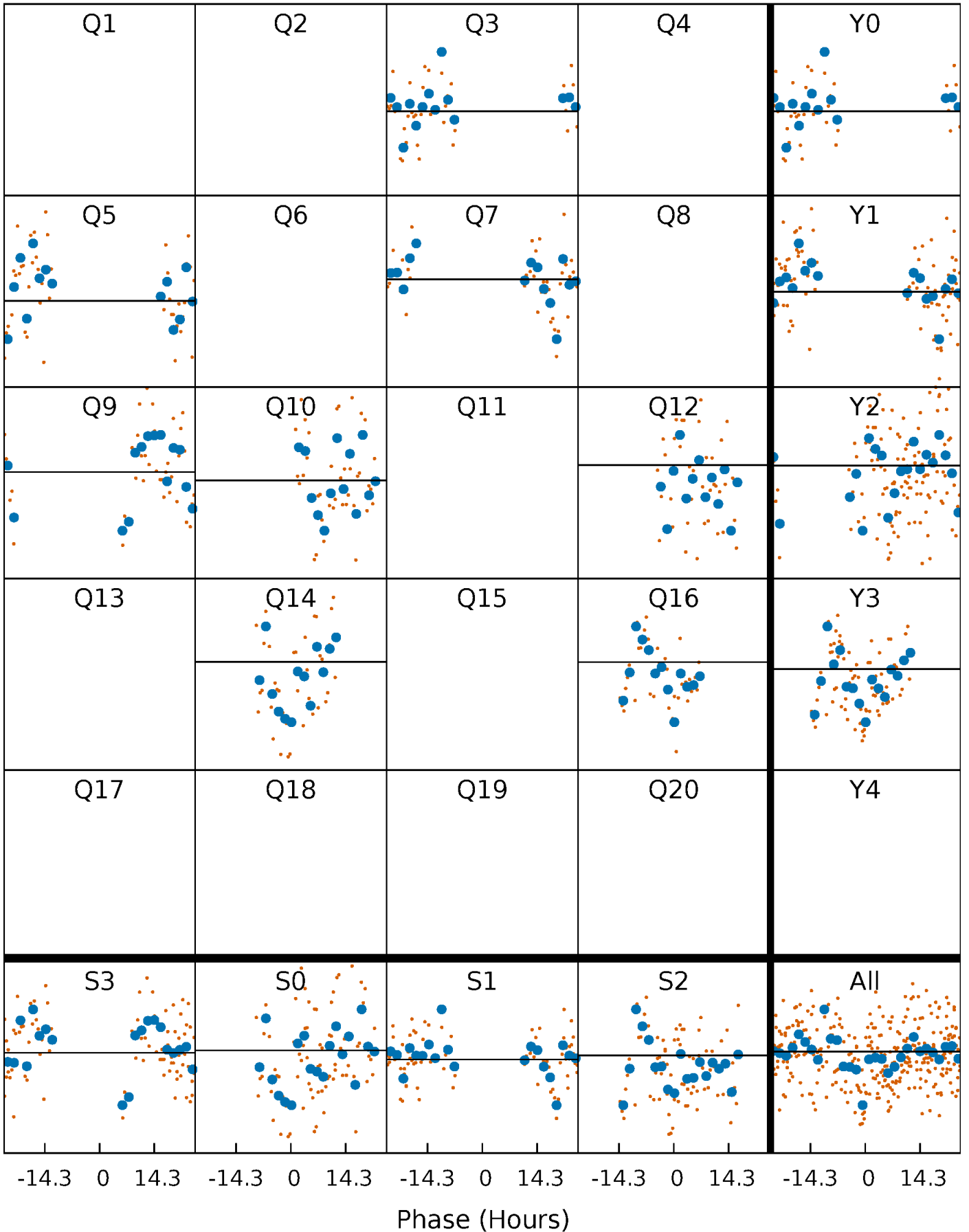
PDC Quarter-Phased Transit Curves

TCE 003222183-02 P=179.202321 Days $T_0=278.666682$ (BKJD)



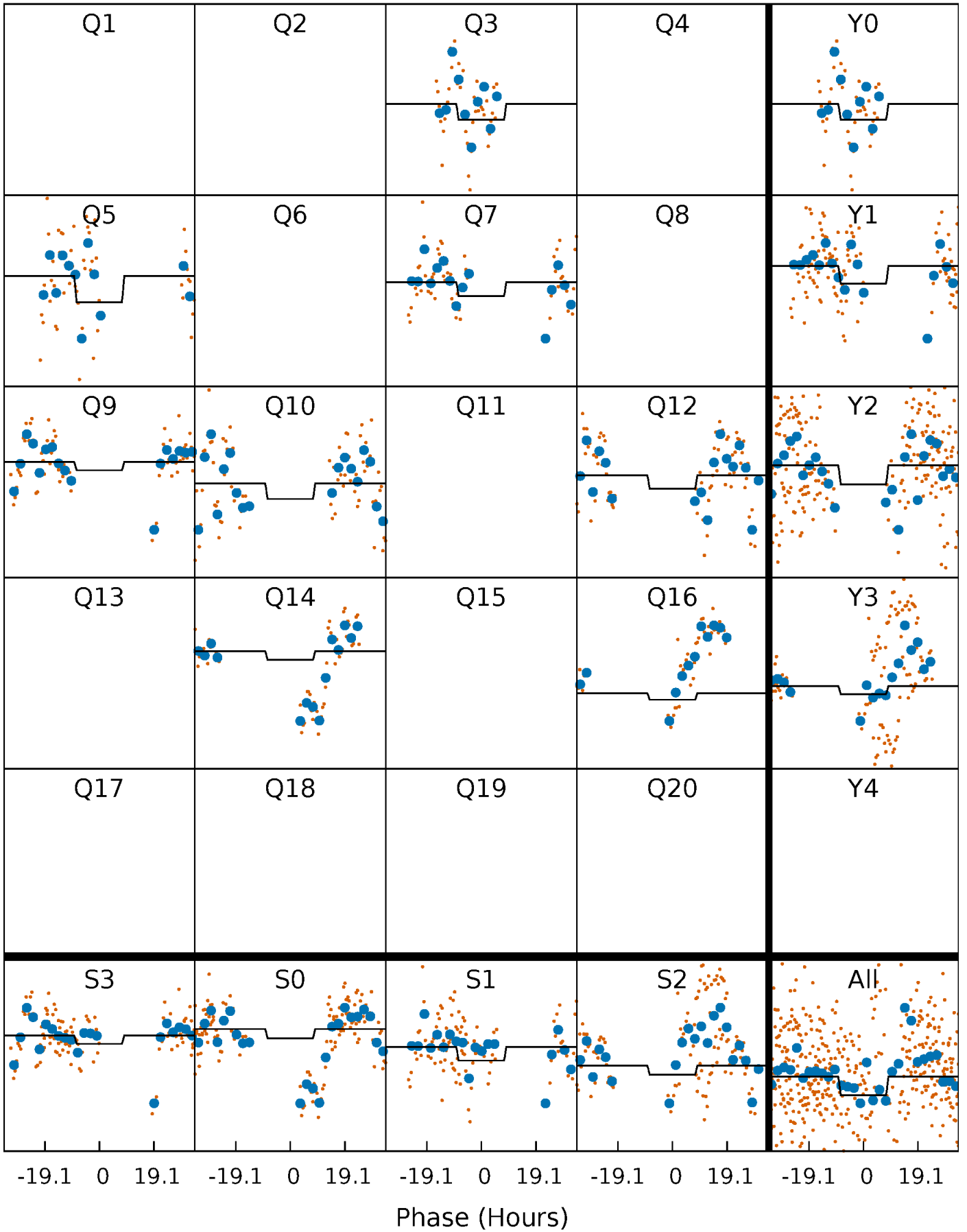
DV Quarter-Phased Transit Curves

TCE 003222183-02 P=179.202321 Days $T_0=278.666682$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

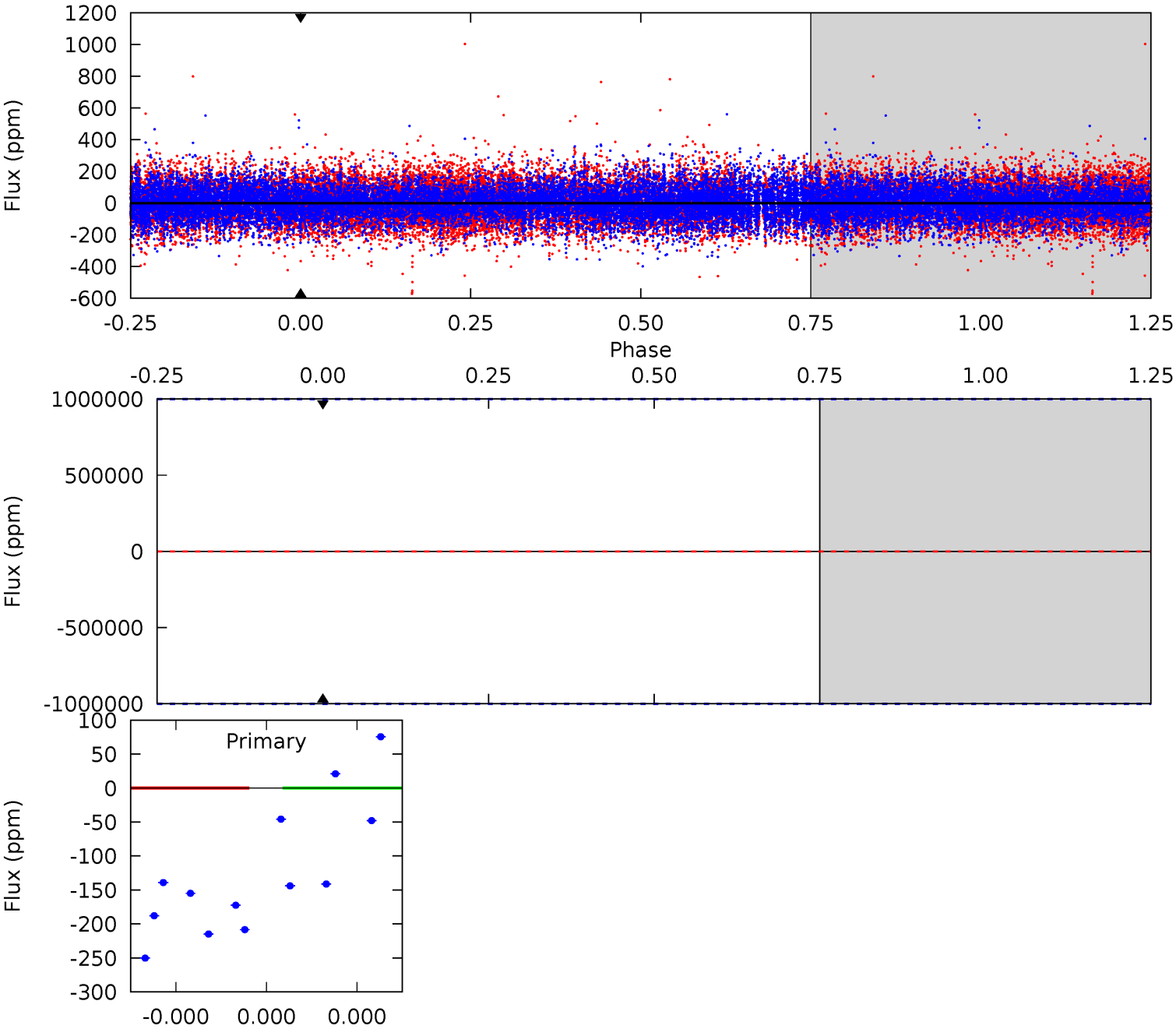
TCE 003222183-02 P=179.202321 Days $T_0=278.146050$ (BKJD)



DV Model-Shift Uniqueness Test

003222183-02, P = 179.202321 Days, E = 99.464361 Days

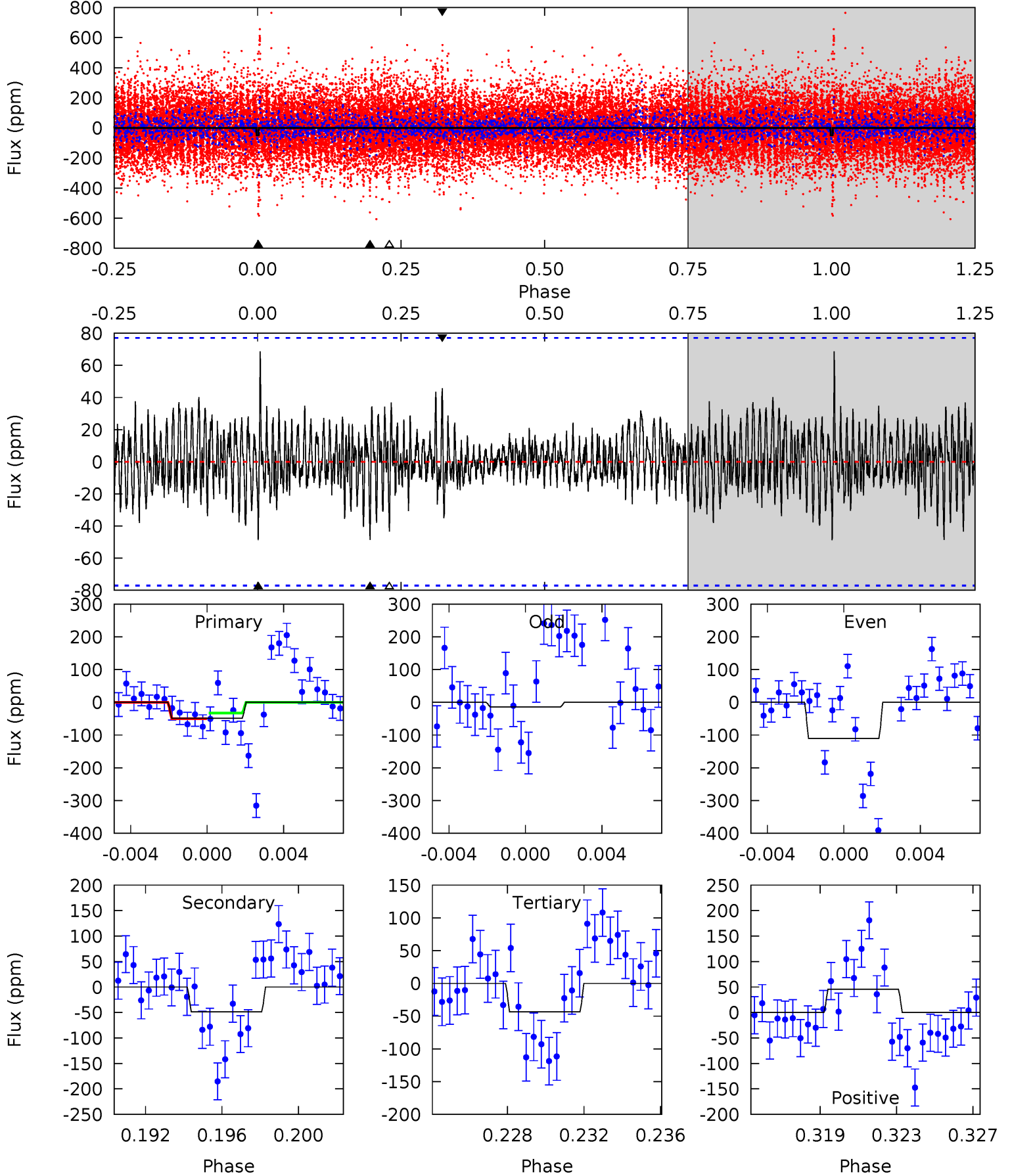
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

003222183-02, P = 179.202321 Days, E = 98.943729 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.29	3.27	2.93	3.09	5.20	2.88	0.88	0.36	0.21	0.34	0.19	3.19	3.61	0.58	0.58



Stellar Parameters For KIC 003222183

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6495^{+181}_{-227}	$3.978^{+0.350}_{-0.150}$	$-0.300^{+0.250}_{-0.300}$	$1.860^{+0.483}_{-0.724}$	$1.198^{+0.181}_{-0.201}$	$0.263^{+0.694}_{-0.111}$
	+3%/-3%	+9%/-4%	+83%/-100%	+26%/-39%	+15%/-17%	+264%/-42%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 003222183-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$13.27^{+16.59}_{-9.11}$	660^{+54}_{-67}	-3453^{+30688}_{-28111}	$-496.343^{+205739.680}_{-240675.454}$
Alt.	-49 ± 15	$14.23^{+15.00}_{-9.99}$	659^{+53}_{-68}	2715^{+1184}_{-428}	54^{+546}_{-41}

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

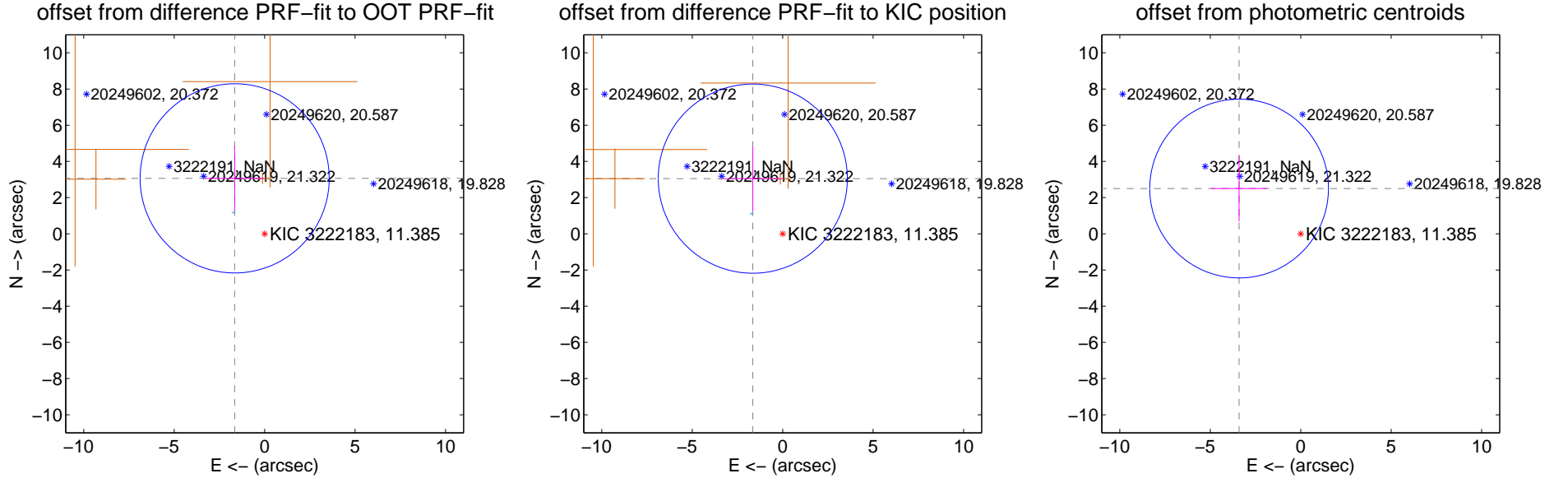
DV Centroid Data

Supplemental centroid analysis for 003222183-02. **Kepler magnitude: 11.38.** Transit SNR -1.00

There are 1 quarters with good PRF difference image offsets

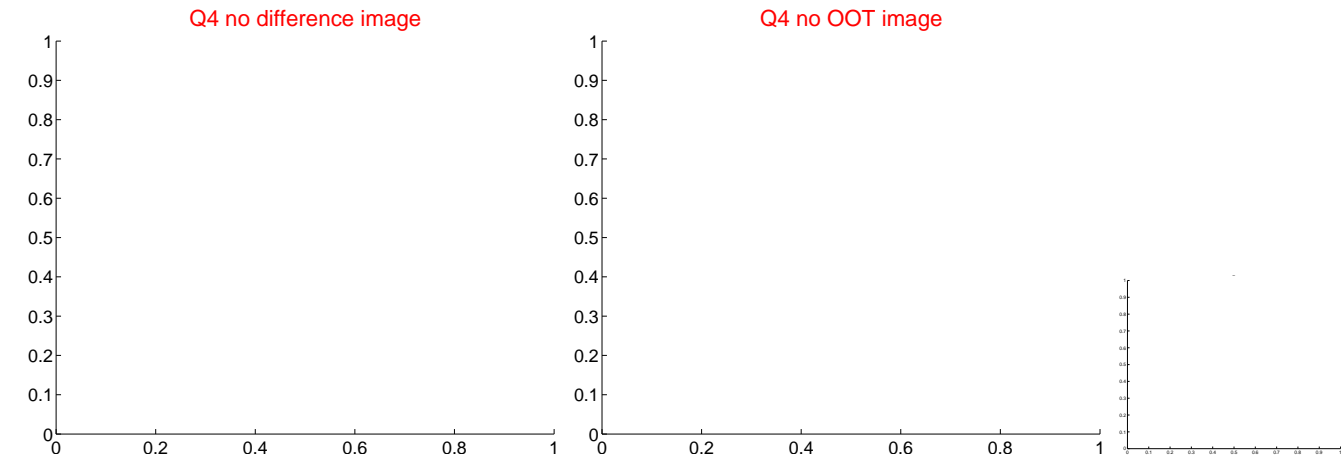
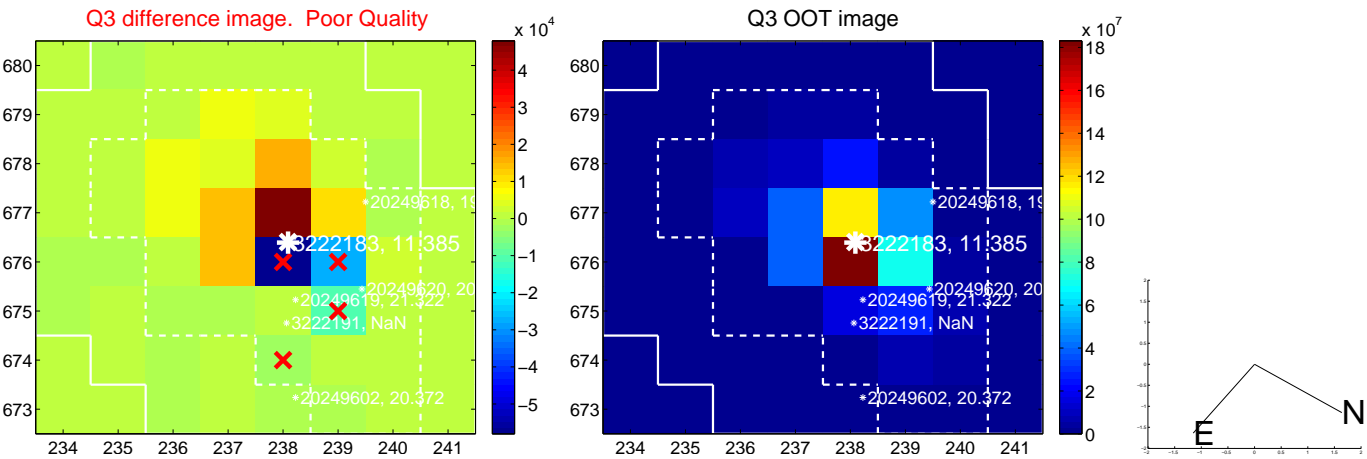
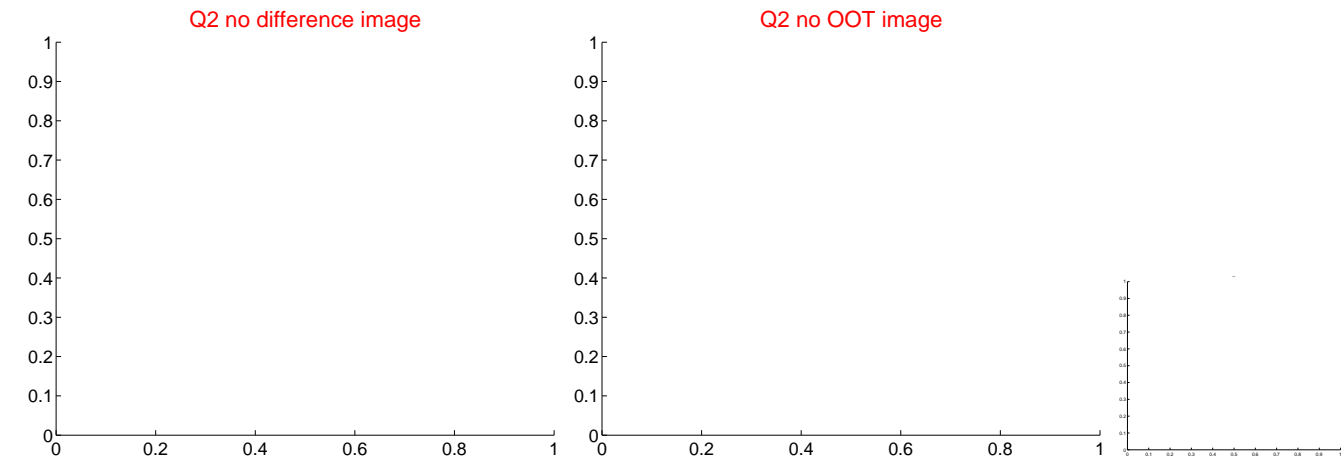
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.483 ± 1.742	2.00	1.657 ± 1.625	3.064 ± 1.775
PRF-fit source offset from KIC position	3.467 ± 1.742	1.99	1.652 ± 1.625	3.048 ± 1.775
photometric centroid source offset	4.23 ± 1.65	2.57	3.41 ± 1.54	2.50 ± 1.82

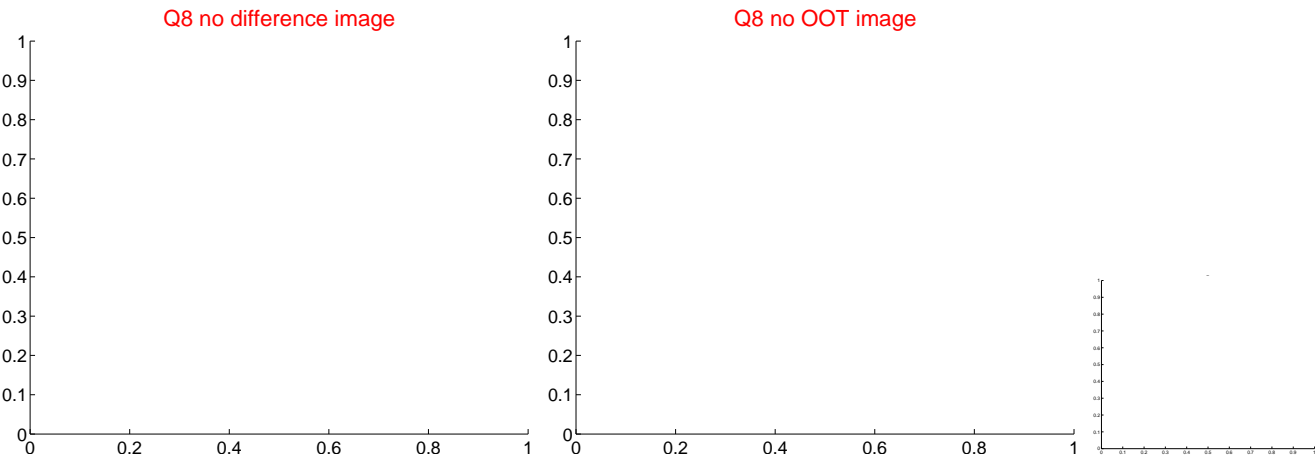
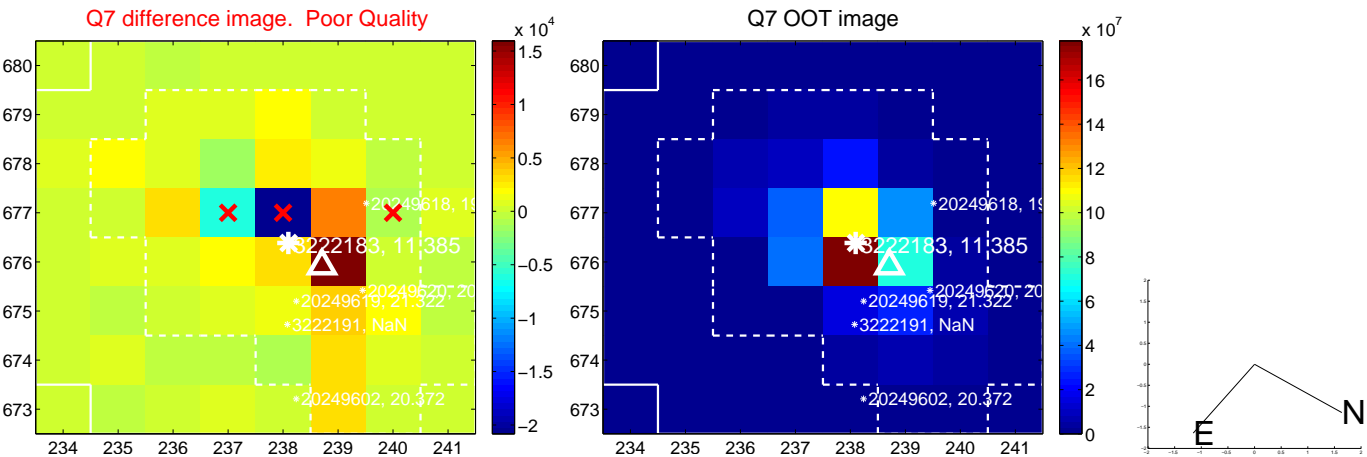
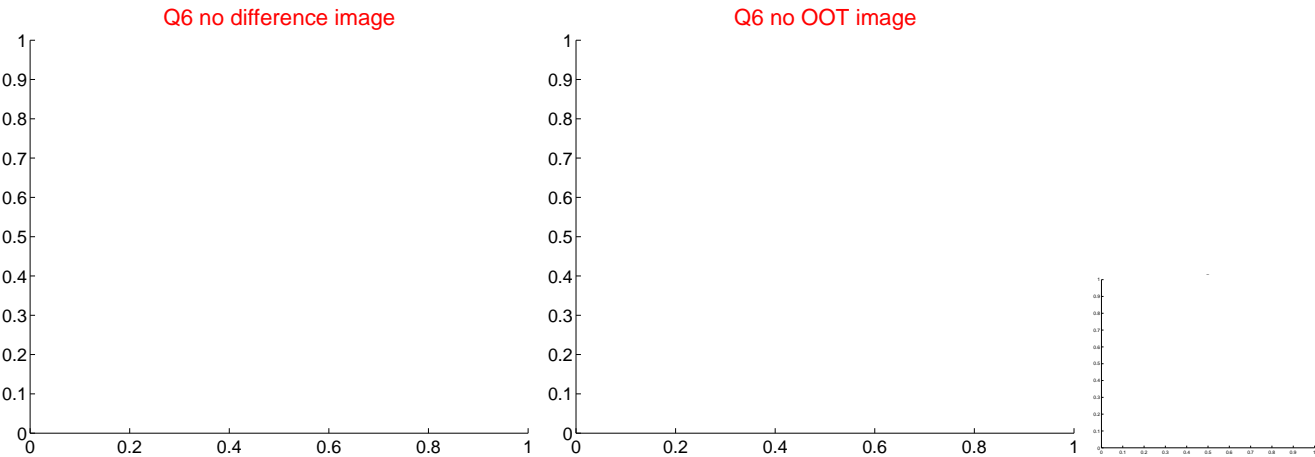
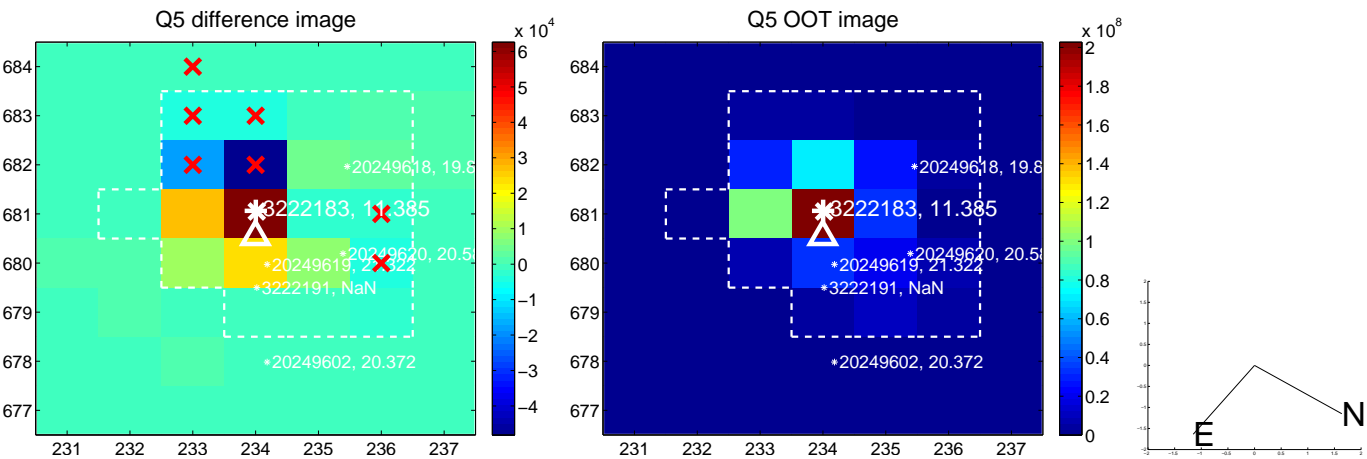


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

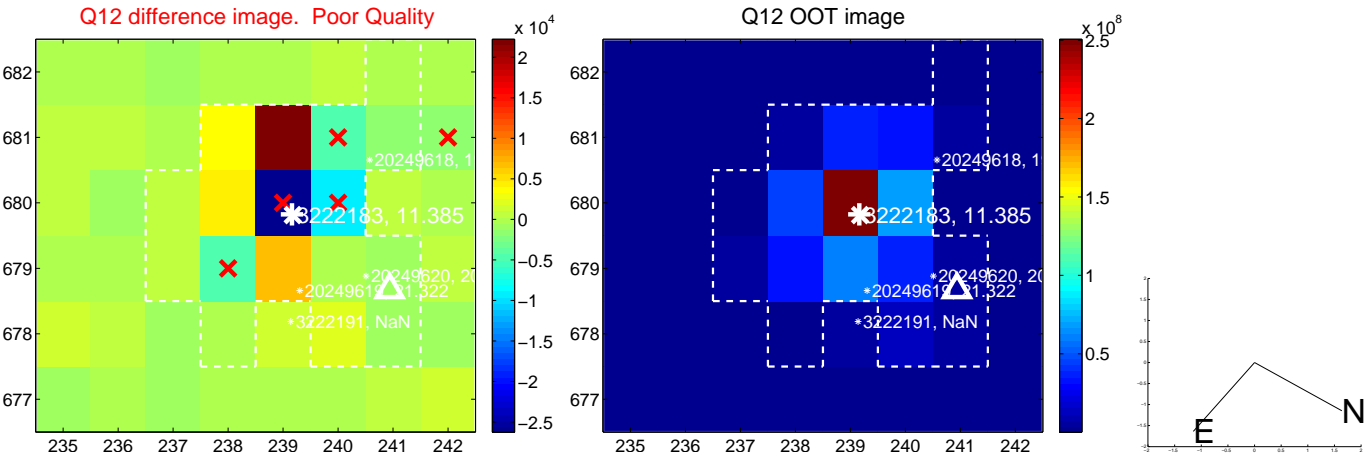
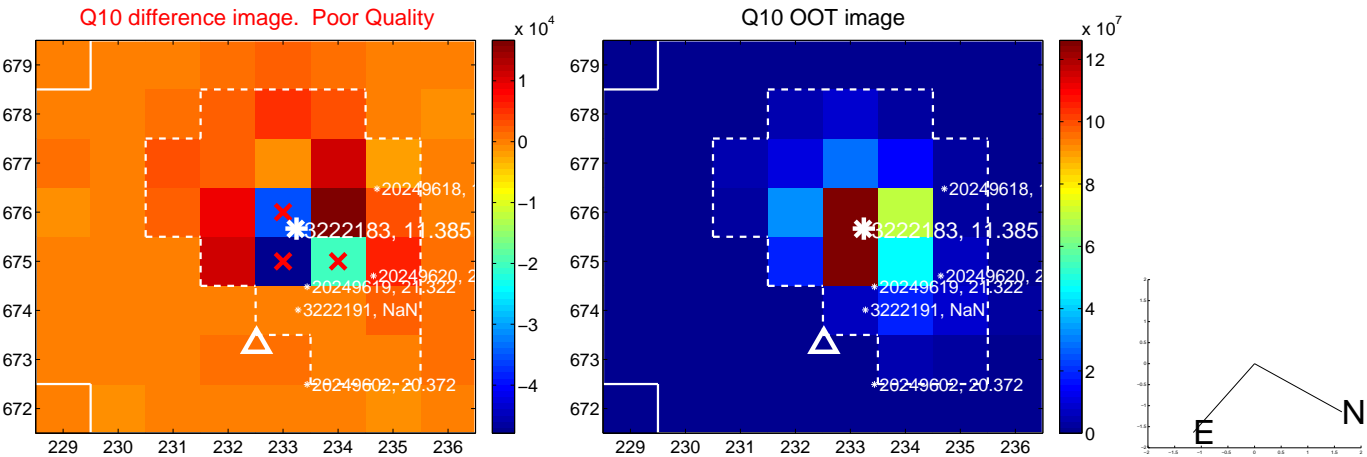
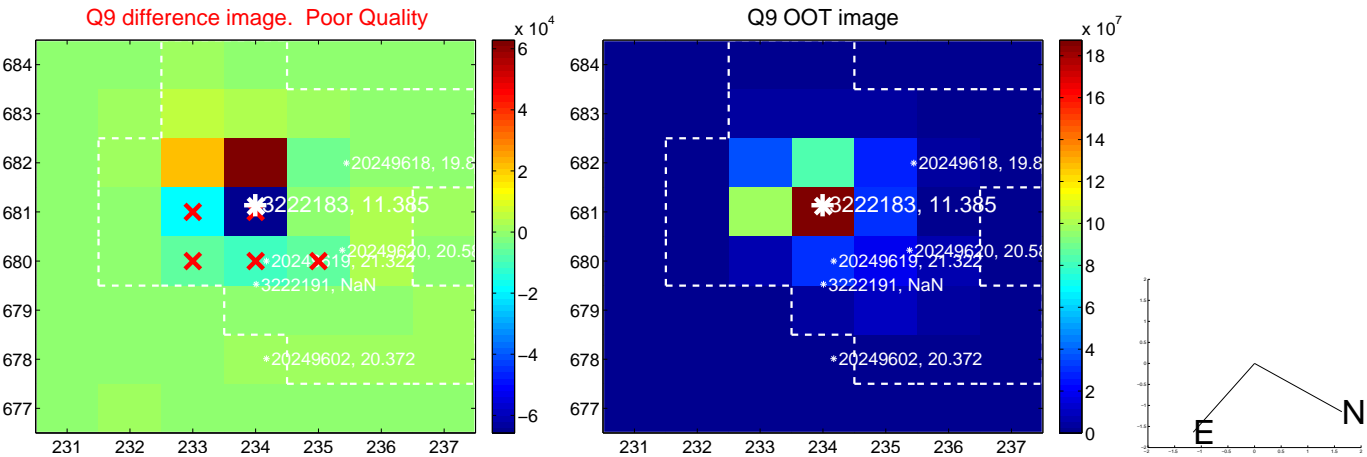
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



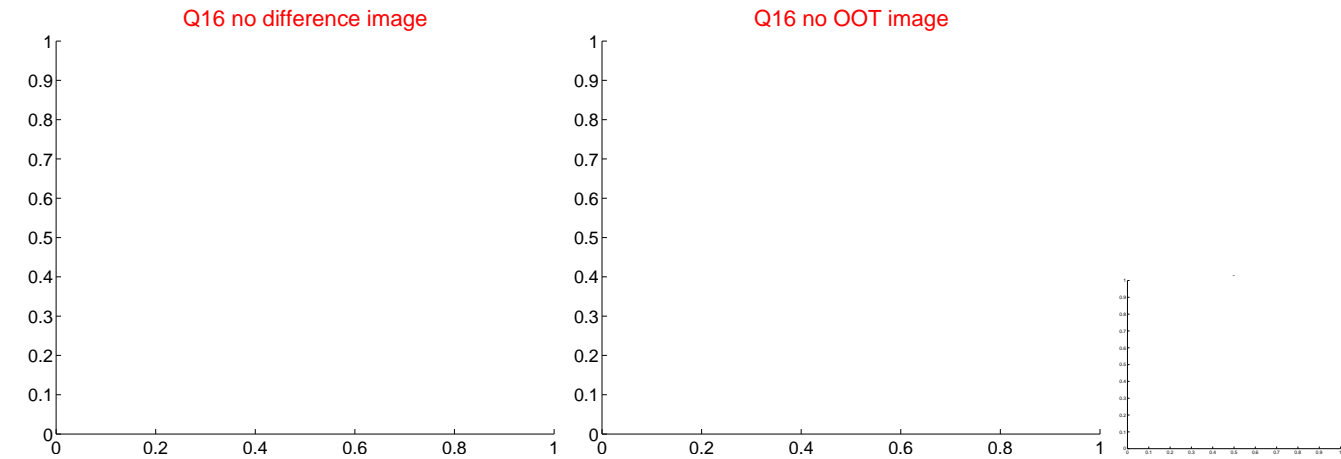
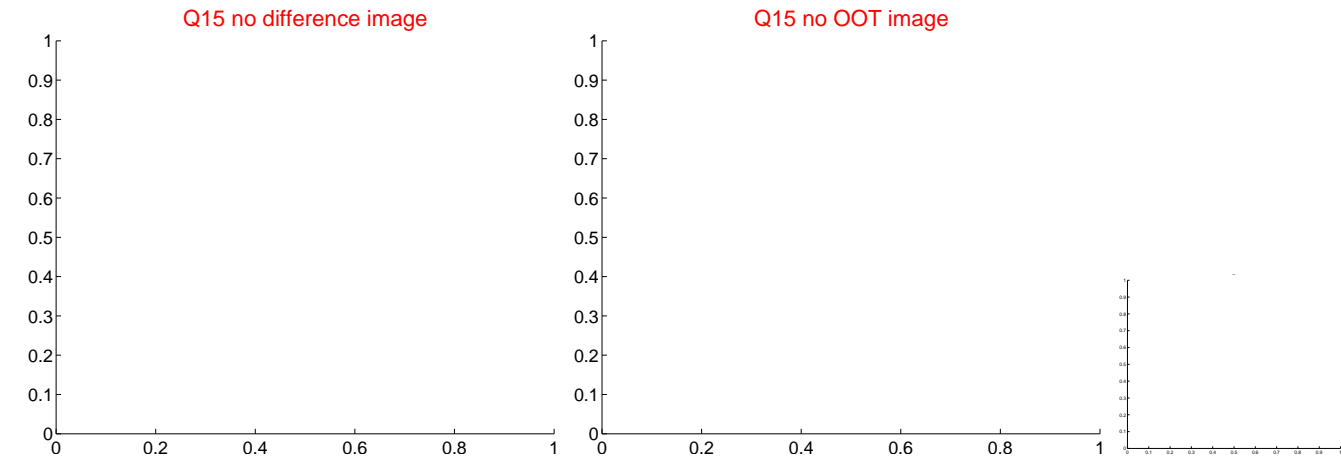
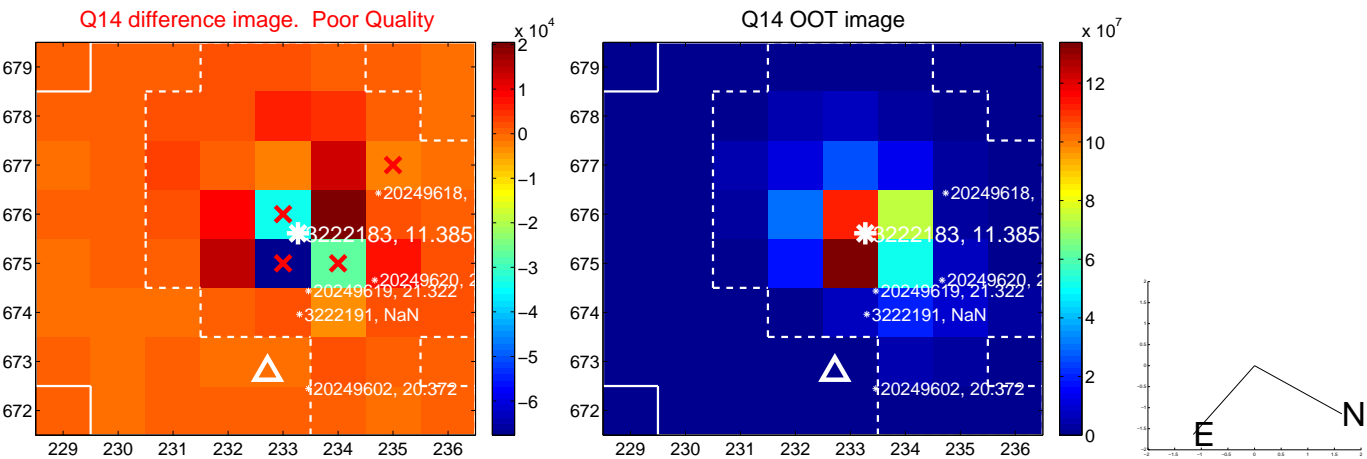
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



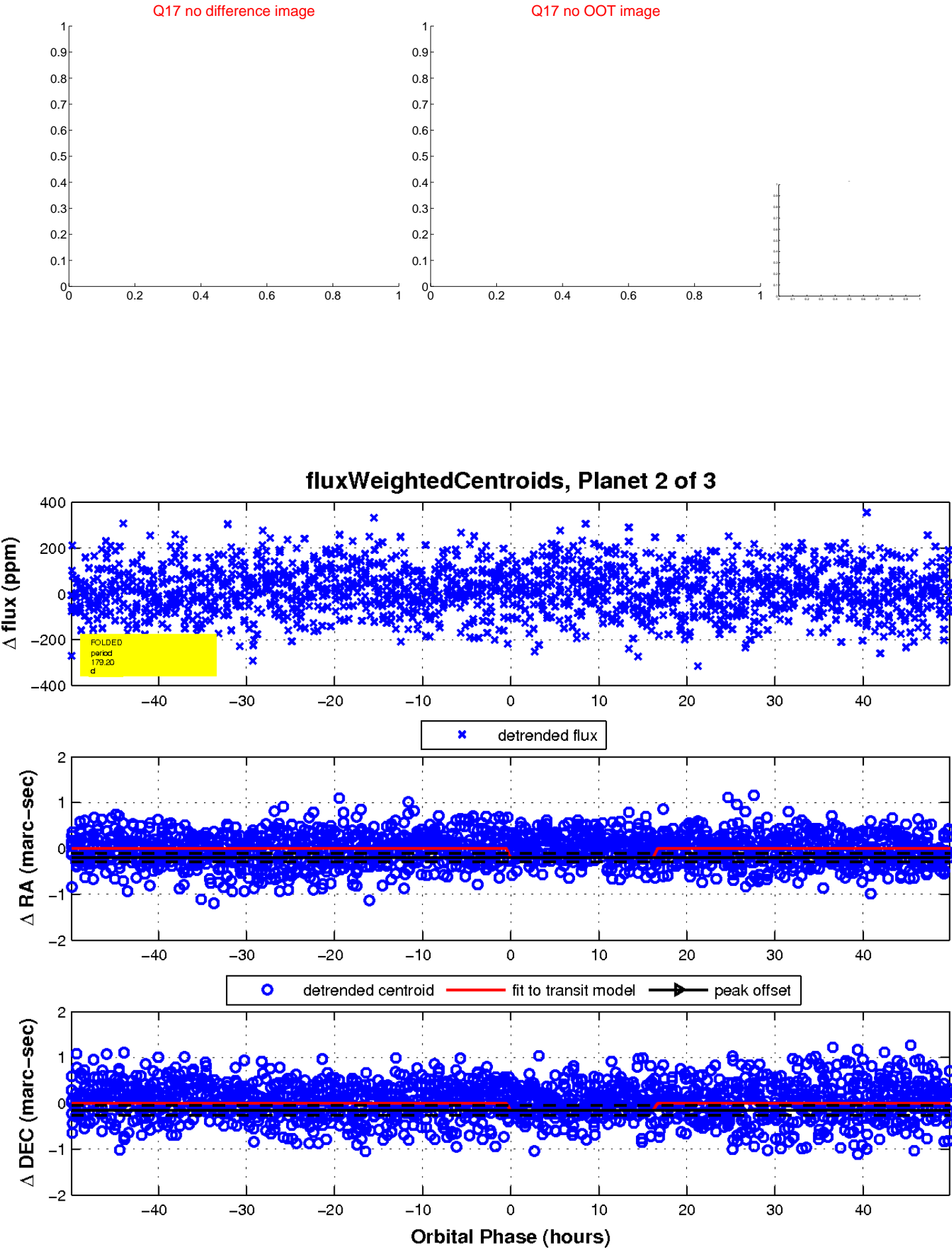
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

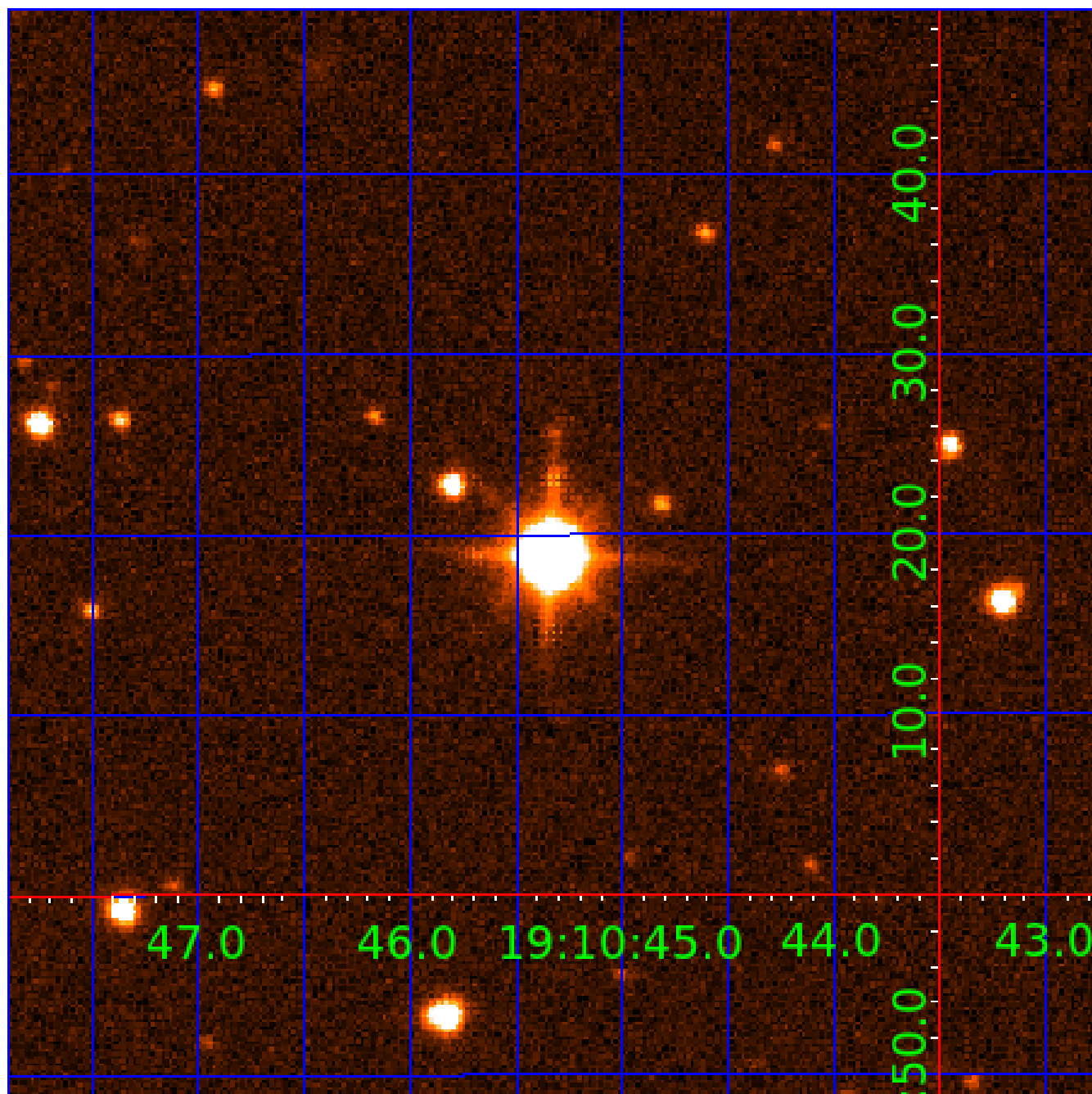


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003222183

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})
003222183-01	OBS	No	2.057369	132.886055	15.5	9.197	9.9	8.7	1.86	6495	0.84	4873.08
003222183-02	OBS	No	179.202321	278.666682	151.3	12.500	16.2	-1.0	1.86	6495	2.30	12.62
003222183-03	OBS	No	2.057443	131.854467	21.6	11.048	12.9	15.4	1.86	6495	0.87	4872.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003222183-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
003222183-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—CENT_SATURATED
003222183-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

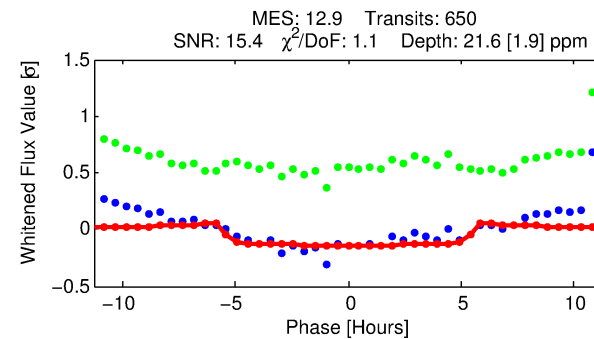
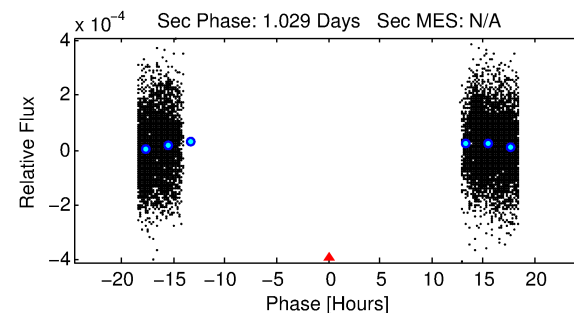
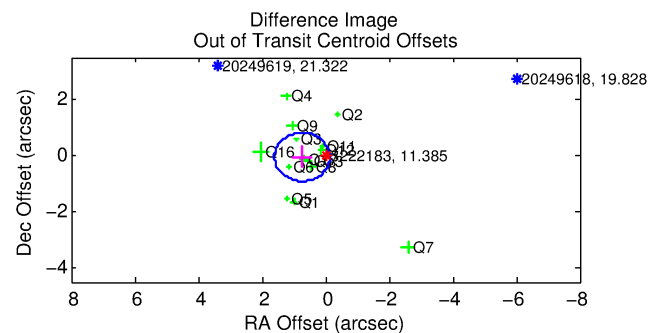
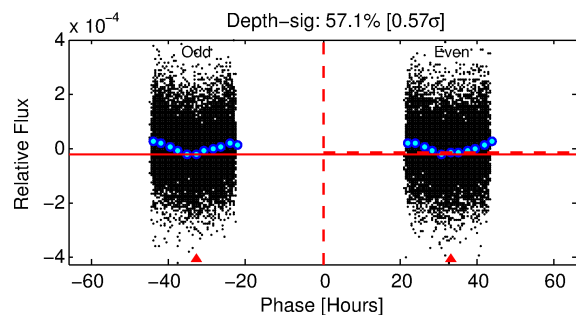
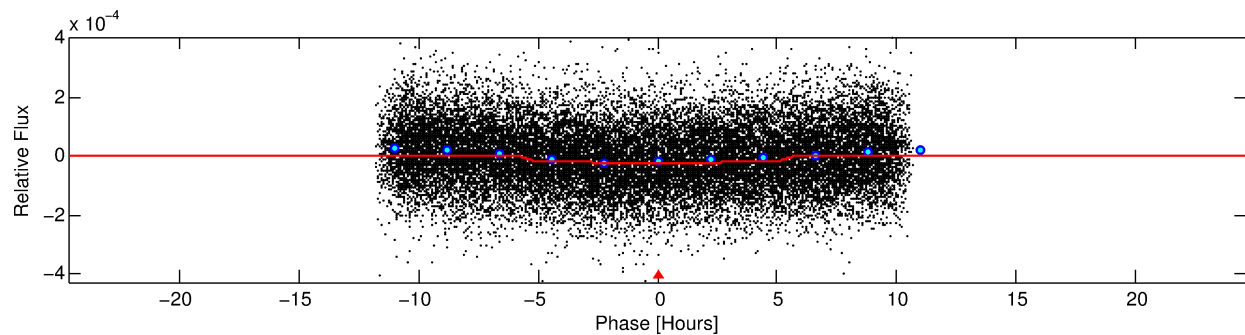
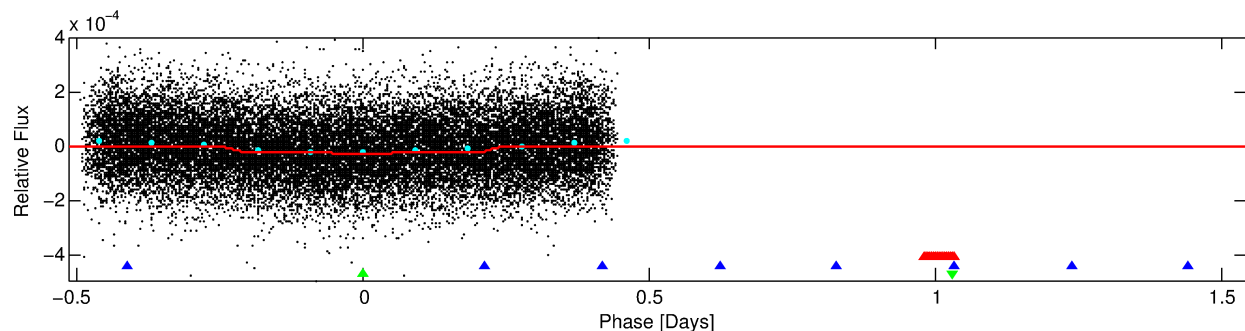
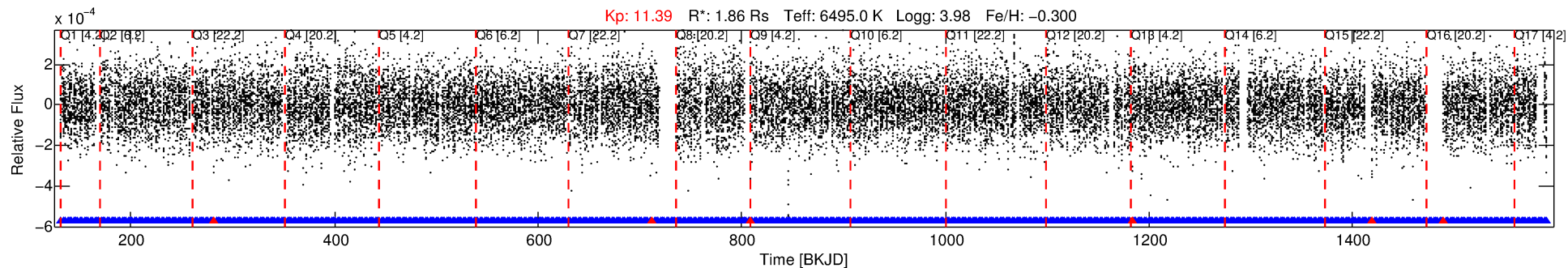
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003222183-03

No Significant Match Found

DV One-Page Summary

KIC: 3222183 Candidate: 3 of 3 Period: 2.057 d



DV Fit Results:

Period = 2.05744 [0.00002] d
Epoch = 131.8545 [0.0047] BKJD
Rp/R* = 0.0043 [0.0028]
a/R* = 1.54 [3.09]
b = 0.17 [20.44]
Seff = 4872.84 [2986.15]
Teq = 2130 [326] K
Rp = 0.87 [0.66] Re
a = 0.0336 [0.0126] AU

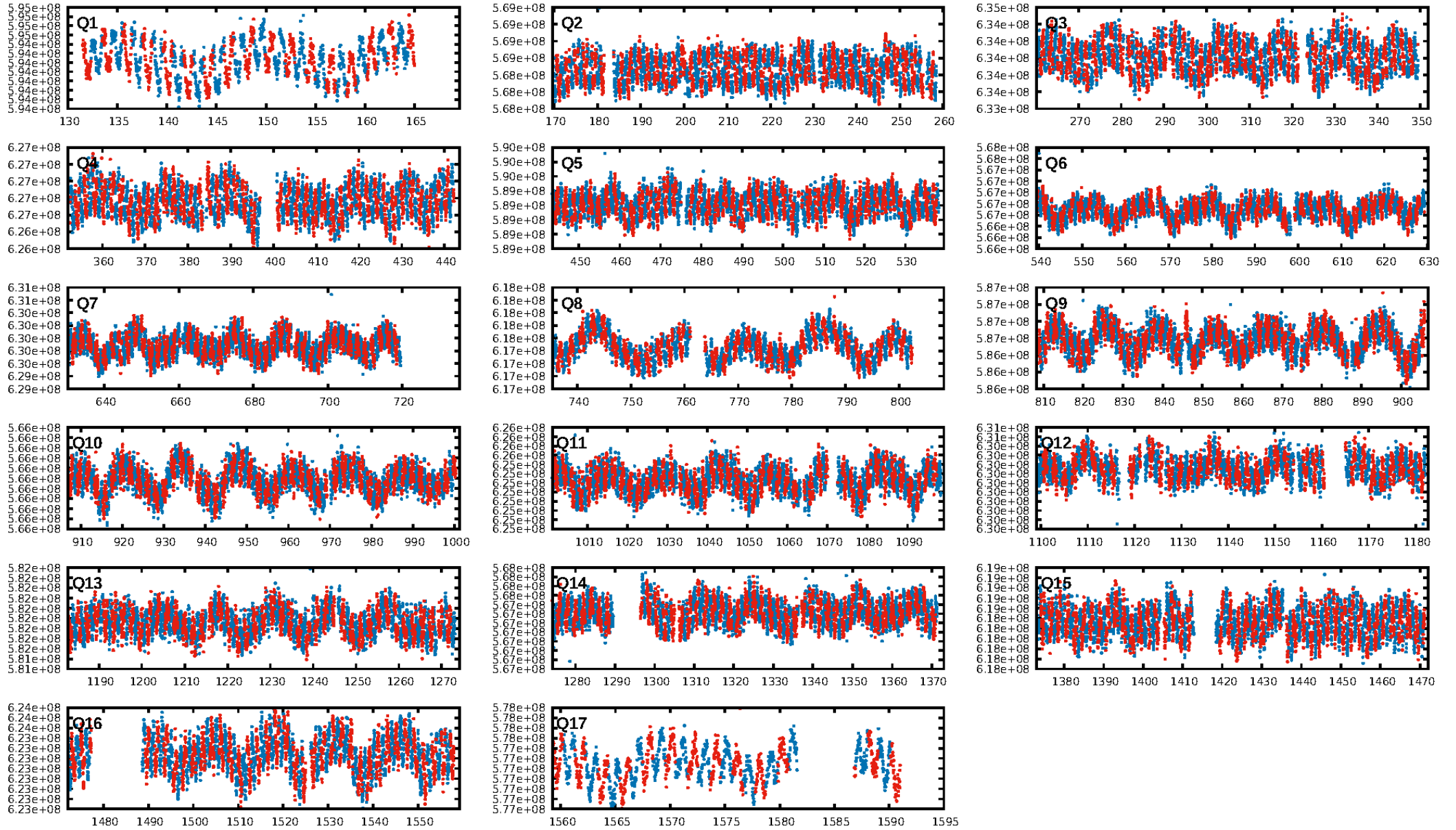
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: 100.0% [254.84 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [614/620]
GhostDiagnostic-chr: 5.913
Centroid-sig: 80.1%
Centroid-so: 0.296 arcsec [0.60 σ]
OotOffset-rm: 0.741 arcsec [2.56 σ]
KicOffset-rm: 0.721 arcsec [2.78 σ]
OotOffset-st: 2/3/4/5 [14]
KicOffset-st: 2/3/4/5 [14]
DiffImageQuality-fgm: 0.36 [5/14]
DiffImageOverlap-fno: 0.53 [9/17]

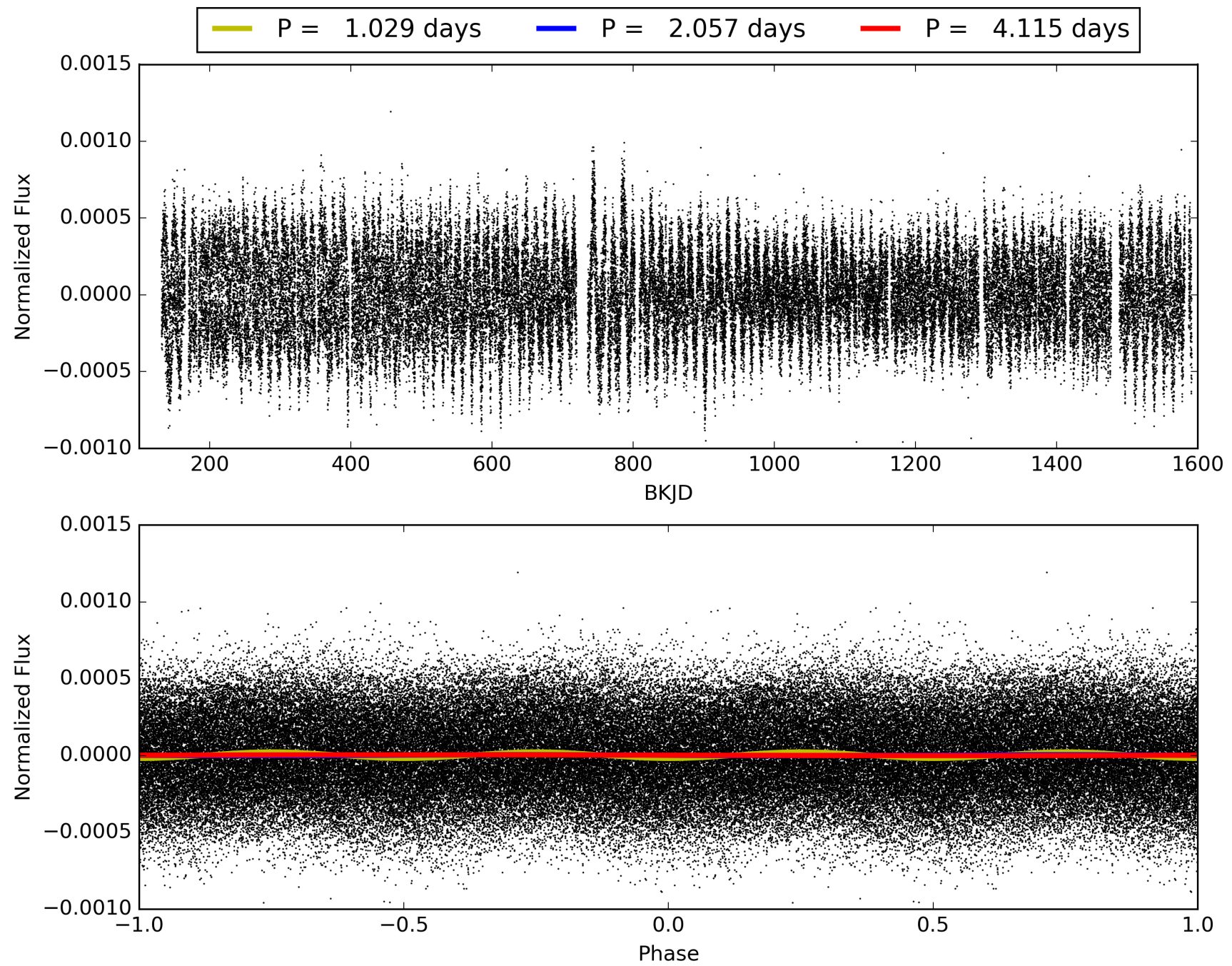
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 01:38:59 Z

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

TCE 003222183-03, PDC Light Curves

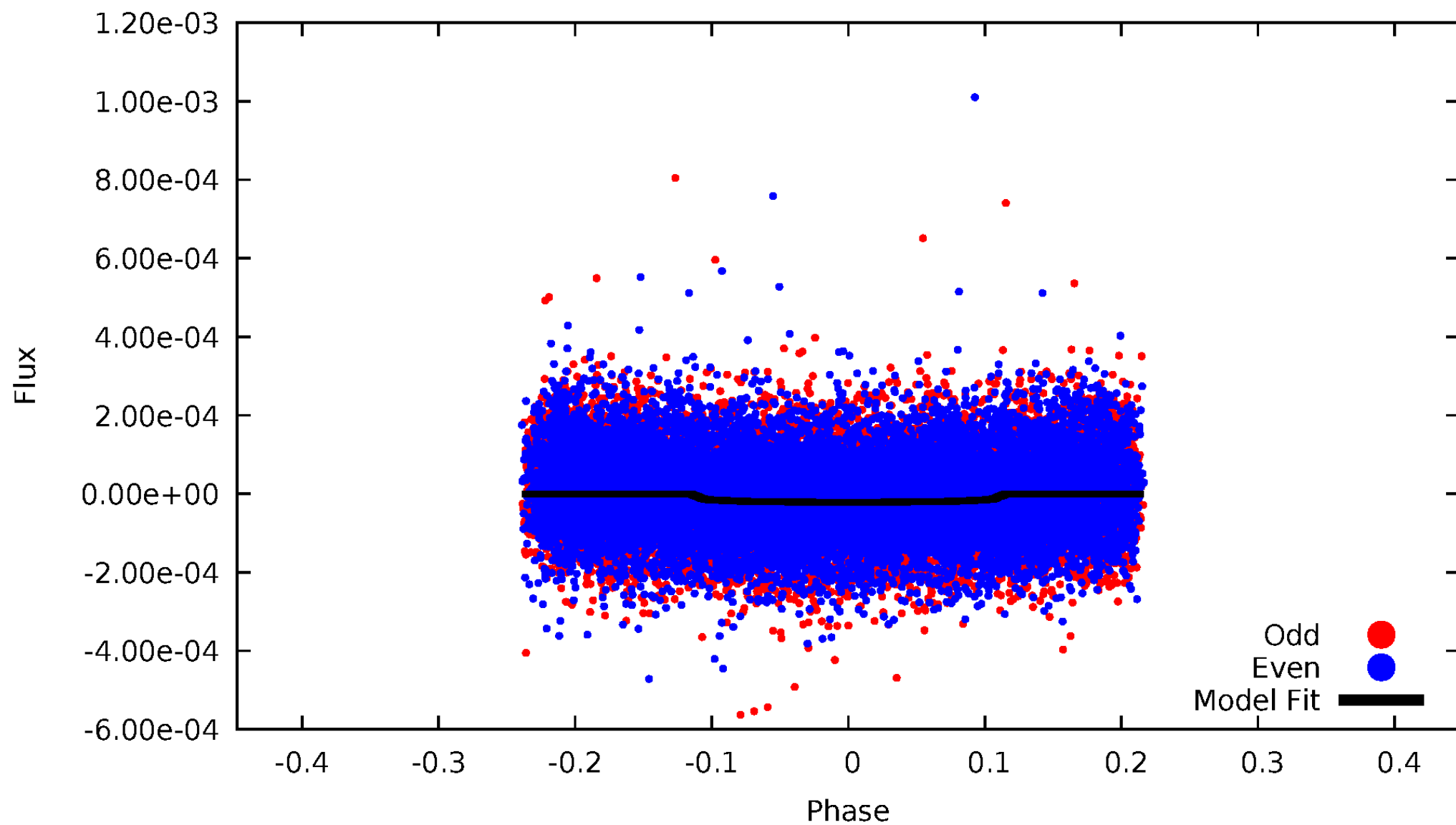


TCE 003222183-03



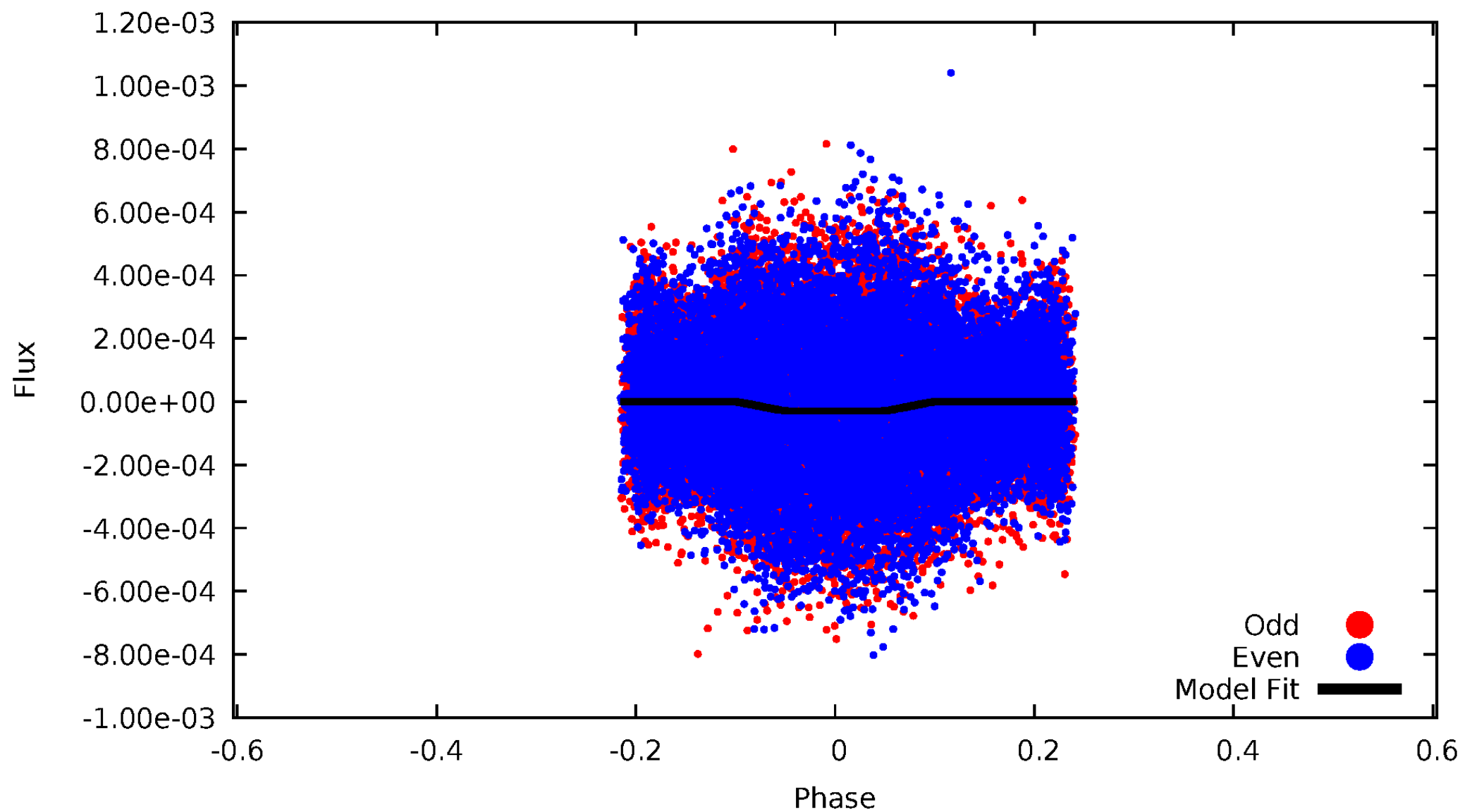
DV Odd/Even

TCE 003222183-03



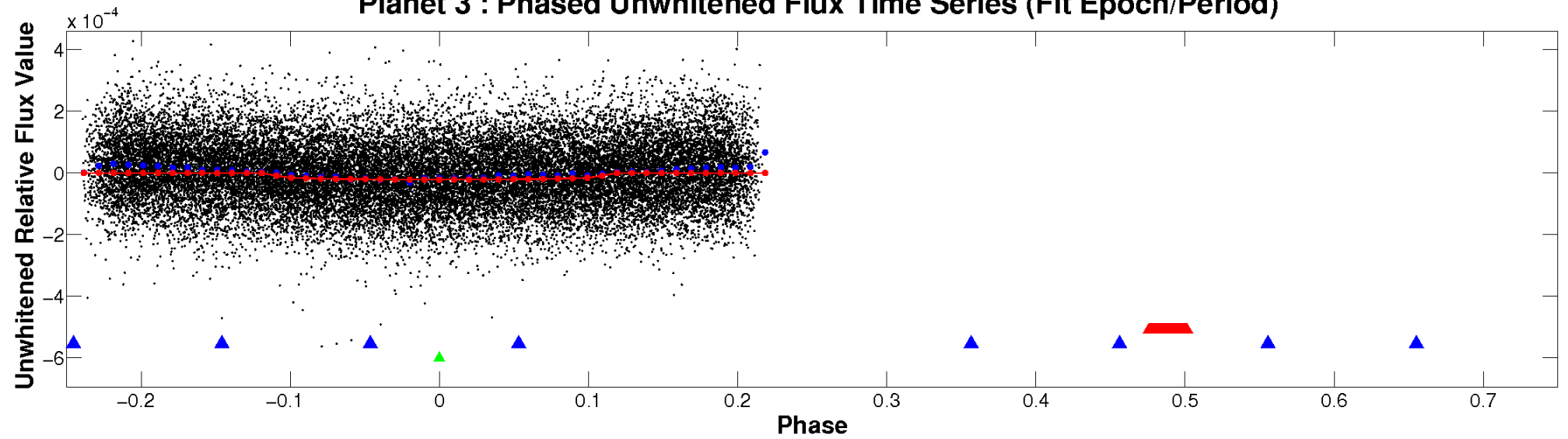
ALT Odd/Even

TCE 003222183-03

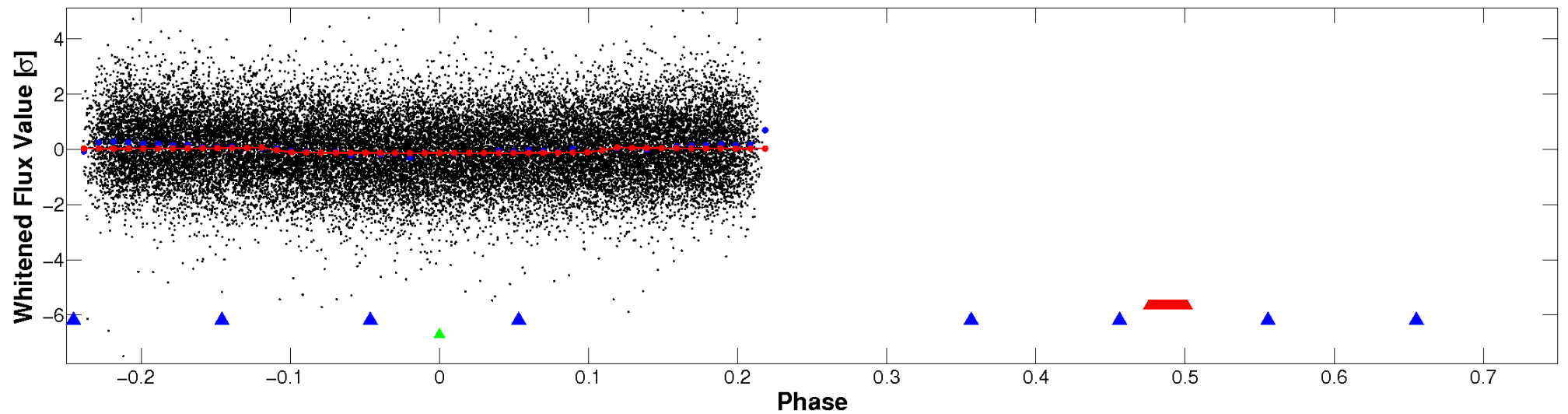


Non-Whitened Vs. Whitened Light Curve

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

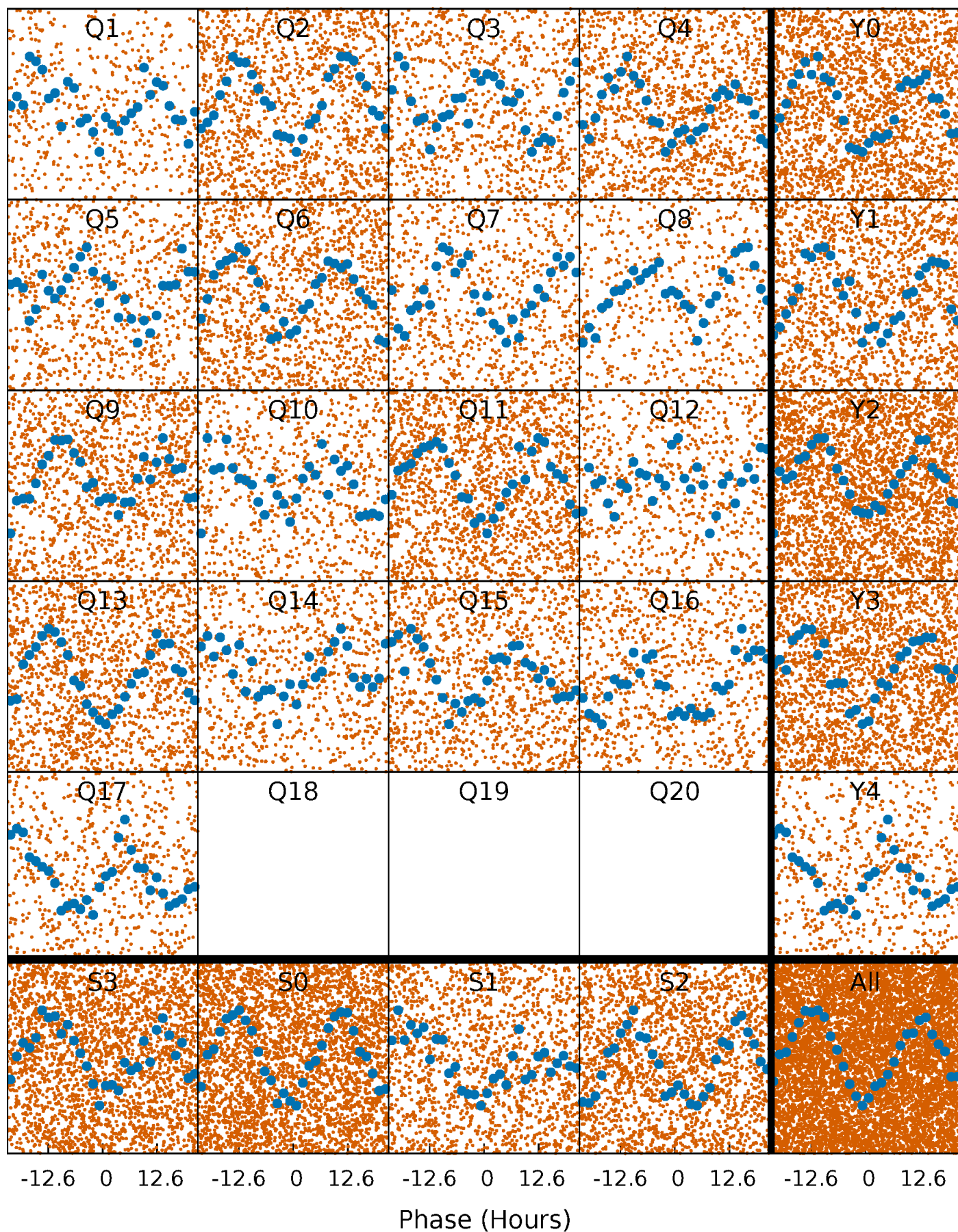


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



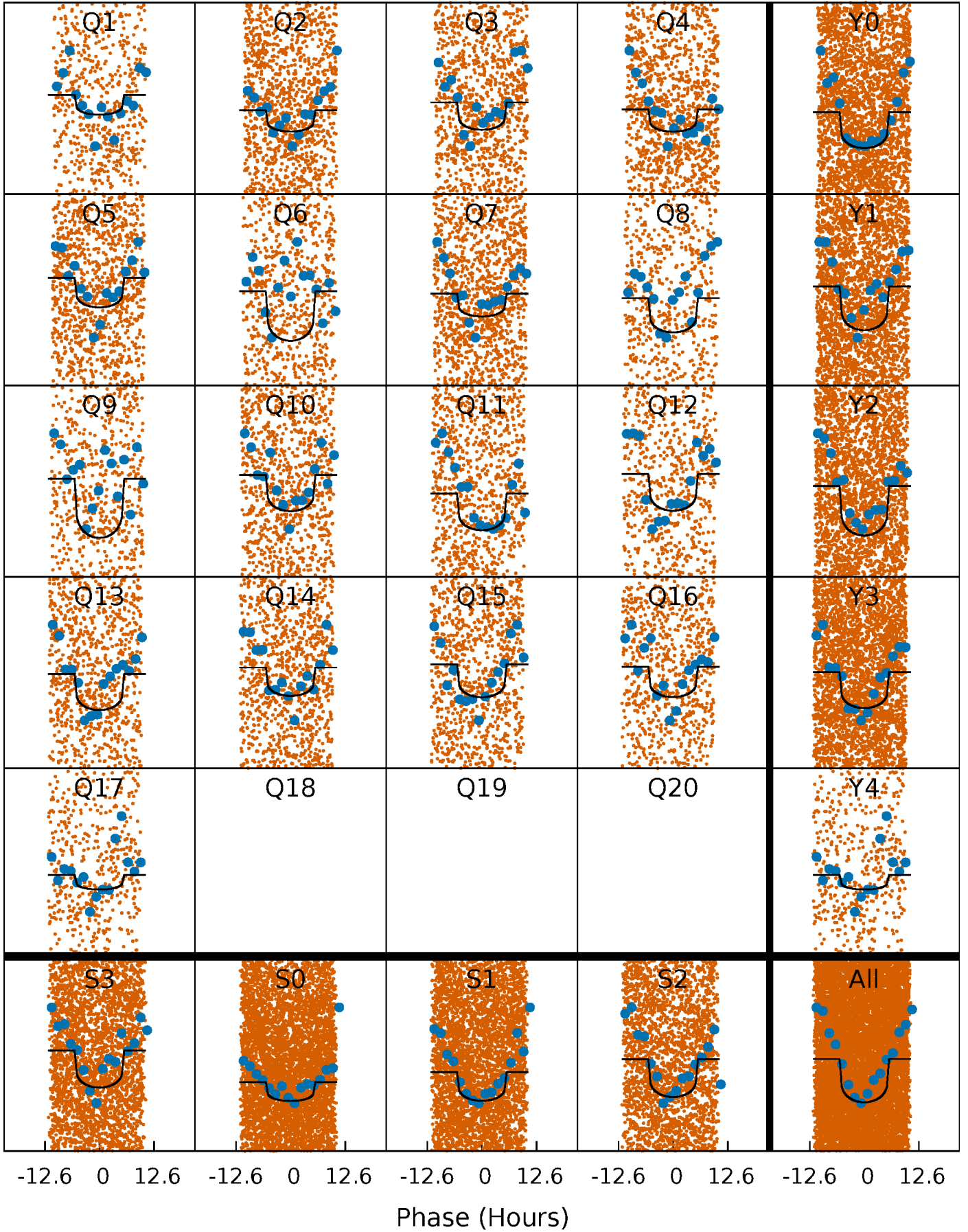
PDC Quarter-Phased Transit Curves

TCE 003222183-03 P= 2.057443 Days $T_0=131.854467$ (BKJD)



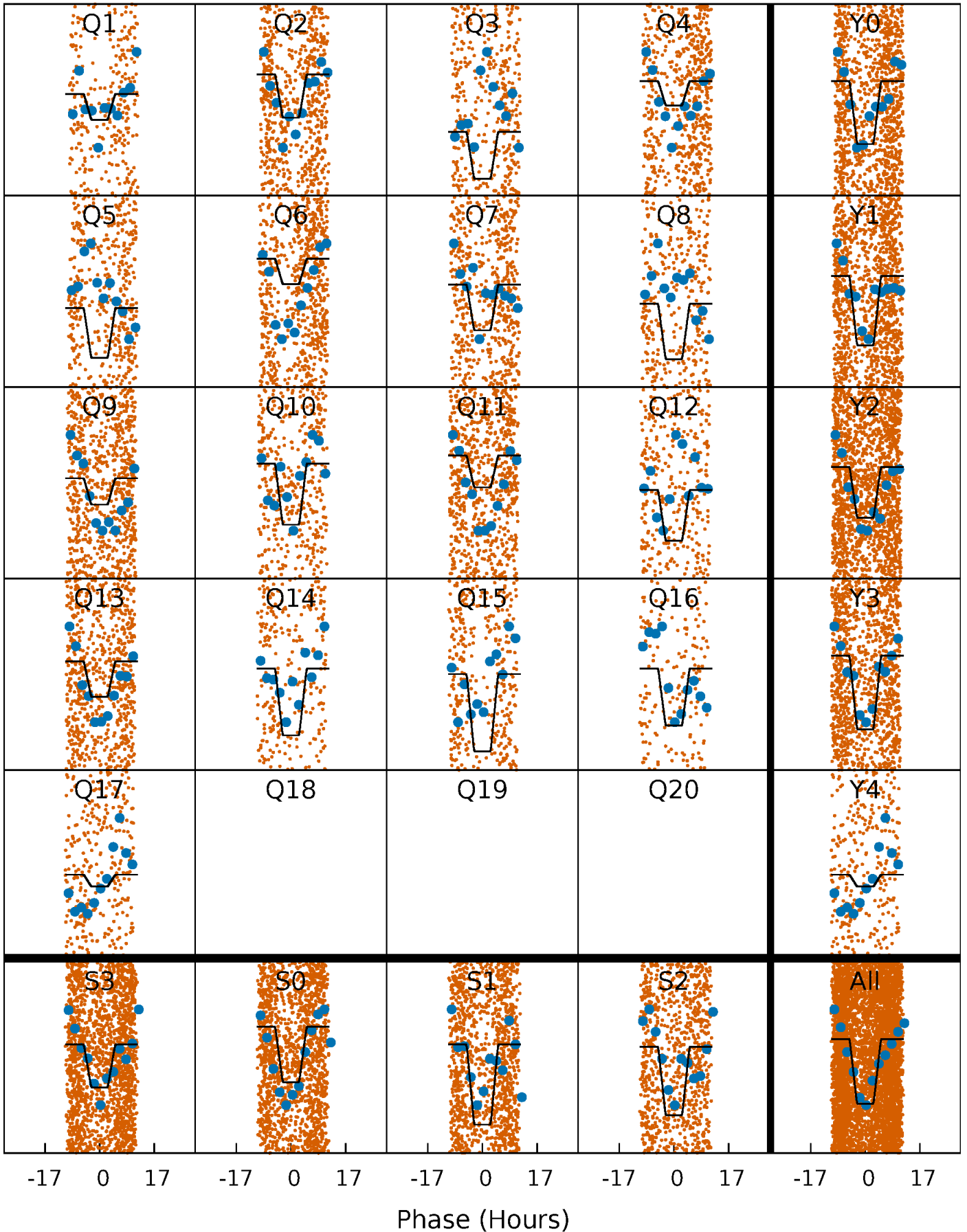
DV Quarter-Phased Transit Curves

TCE 003222183-03 P= 2.057443 Days $T_0=131.854467$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

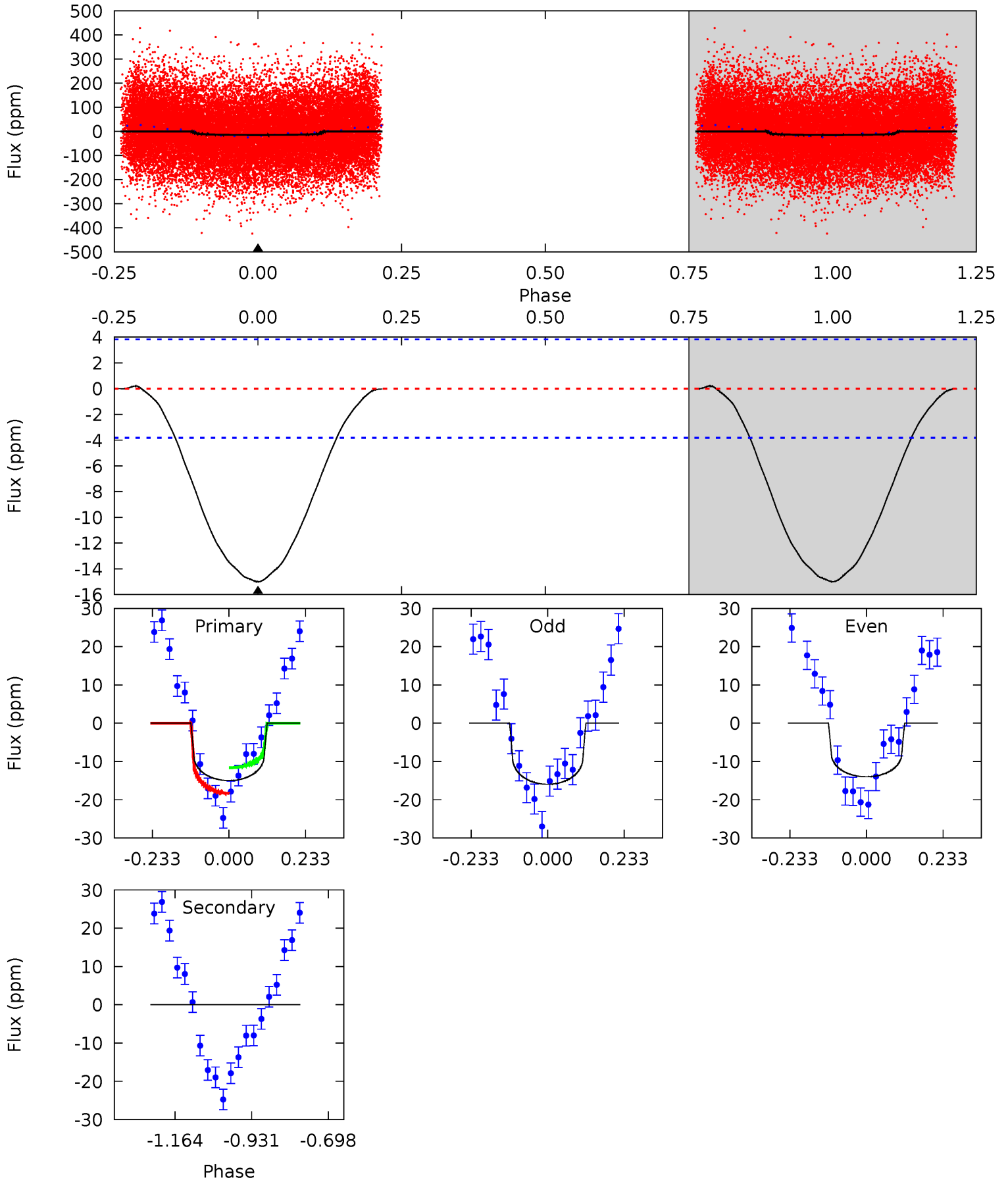
TCE 003222183-03 P= 2.057448 Days $T_0=131.803109$ (BKJD)



DV Model-Shift Uniqueness Test

003222183-03, P = 2.057443 Days, E = 129.797024 Days

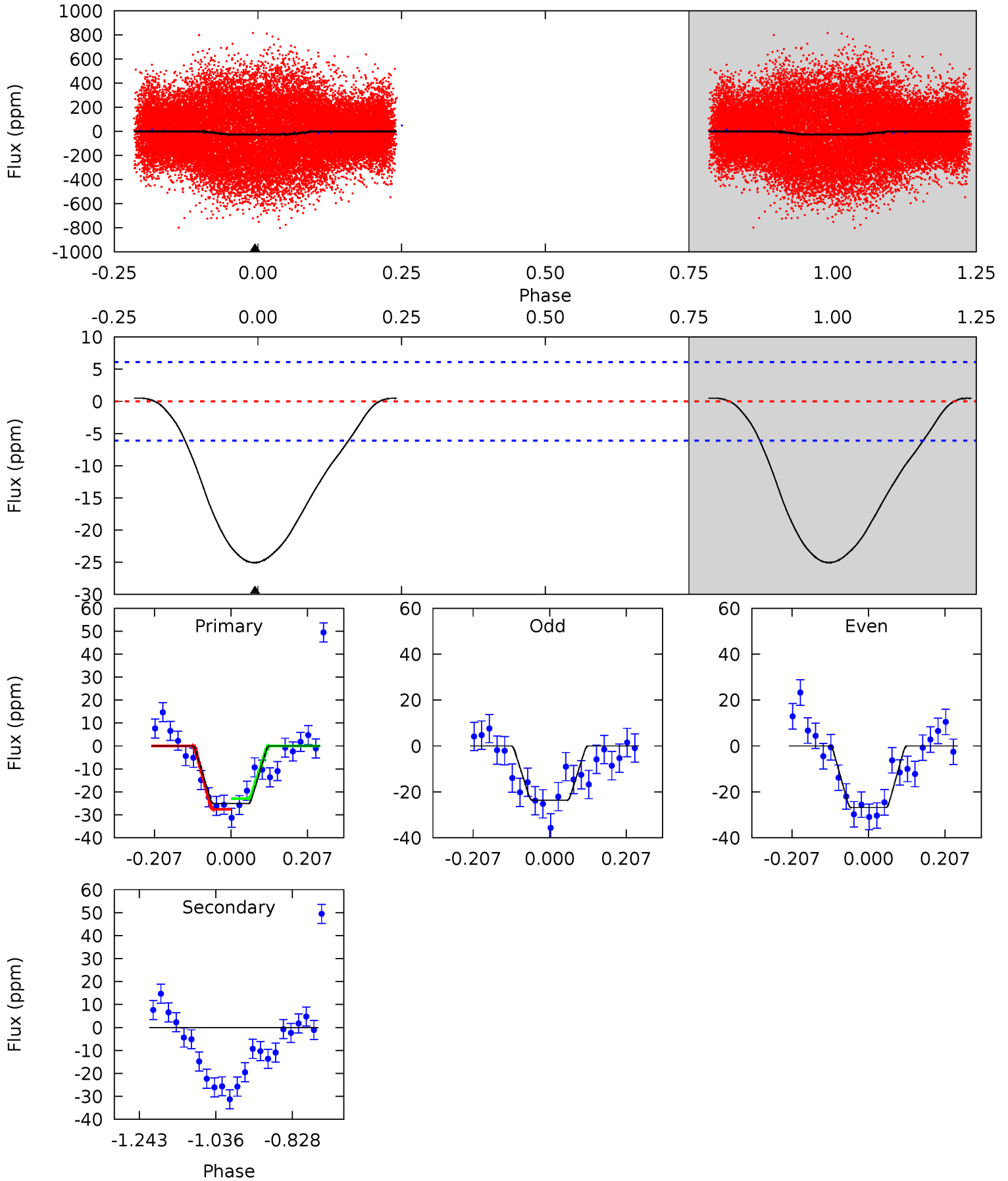
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	0	0	0	4.38	1.19	0.19	17.2	17.2	0	0	1.12	1.02	0.01	3.82



Alt Model-Shift Uniqueness Test

003222183-03, P = 2.057448 Days, E = 129.745661 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	0	0	0	4.41	1.26	0.50	18.2	18.2	0	0	1.14	1.26	0.02	1.24



Stellar Parameters For KIC 003222183

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6495^{+181}_{-227}	$3.978^{+0.350}_{-0.150}$	$-0.300^{+0.250}_{-0.300}$	$1.860^{+0.483}_{-0.724}$	$1.198^{+0.181}_{-0.201}$	$0.263^{+0.694}_{-0.111}$
	+3%/-3%	+9%/-4%	+83%/-100%	+26%/-39%	+15%/-17%	+264%/-42%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 003222183-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1	$0.89^{+0.57}_{-0.51}$	2920^{+234}_{-306}	-3035^{+6430}_{-685}	$0.009^{+1.045}_{-0.832}$
Alt.	0 ± 1	$1.03^{+0.58}_{-0.48}$	2941^{+231}_{-293}	-3048^{+6492}_{-771}	$0.008^{+1.048}_{-0.976}$

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 $A_{obs} \gg 1.0$

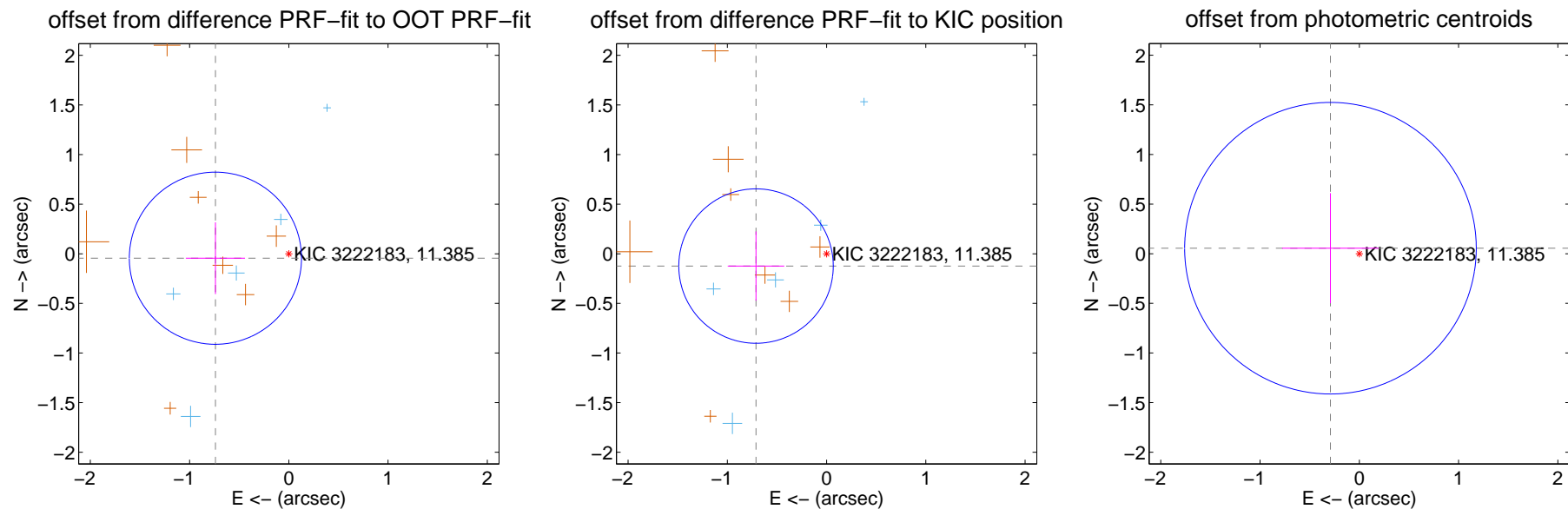
DV Centroid Data

Supplemental centroid analysis for 003222183-03. **Kepler magnitude: 11.38.** Transit SNR 15.43

There are 5 quarters with good PRF difference image offsets

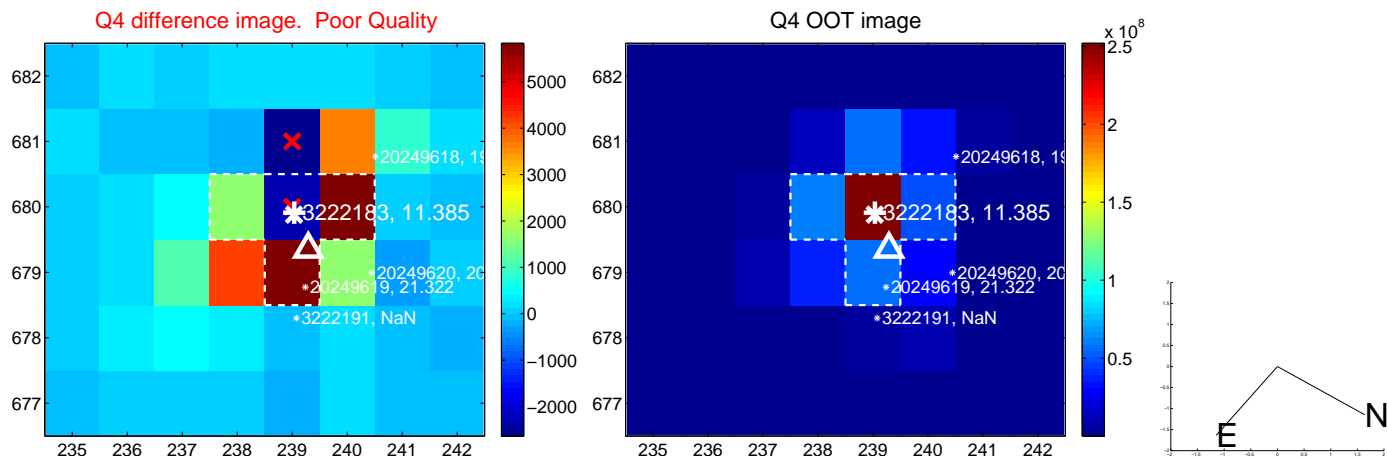
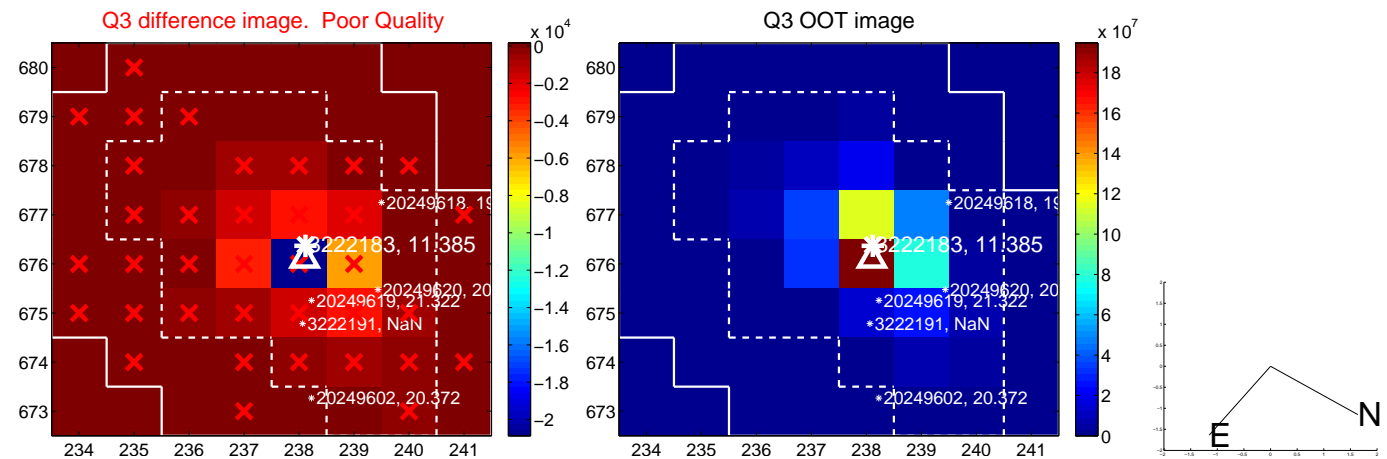
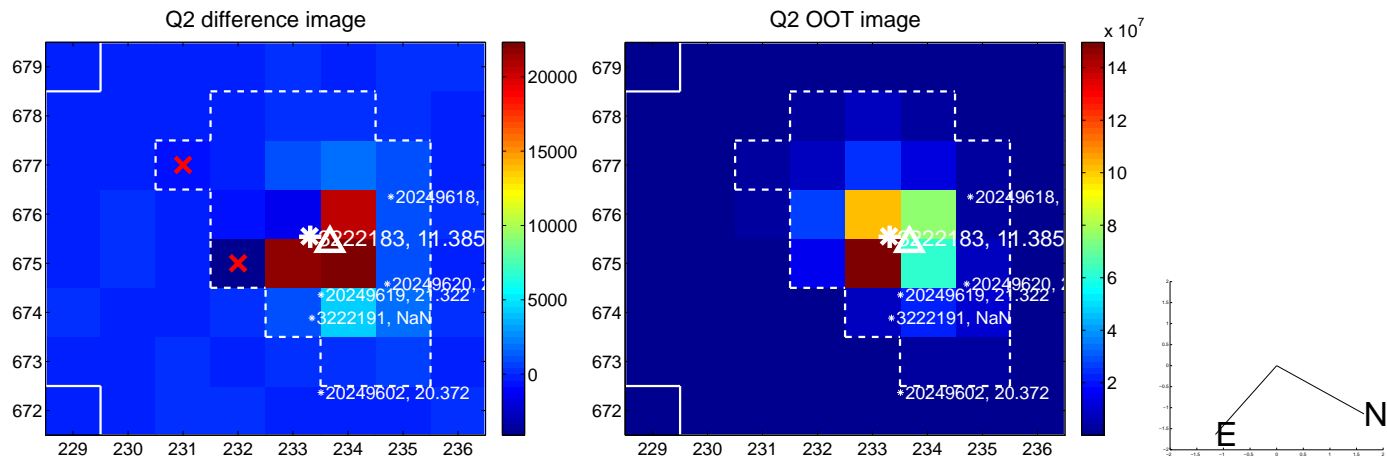
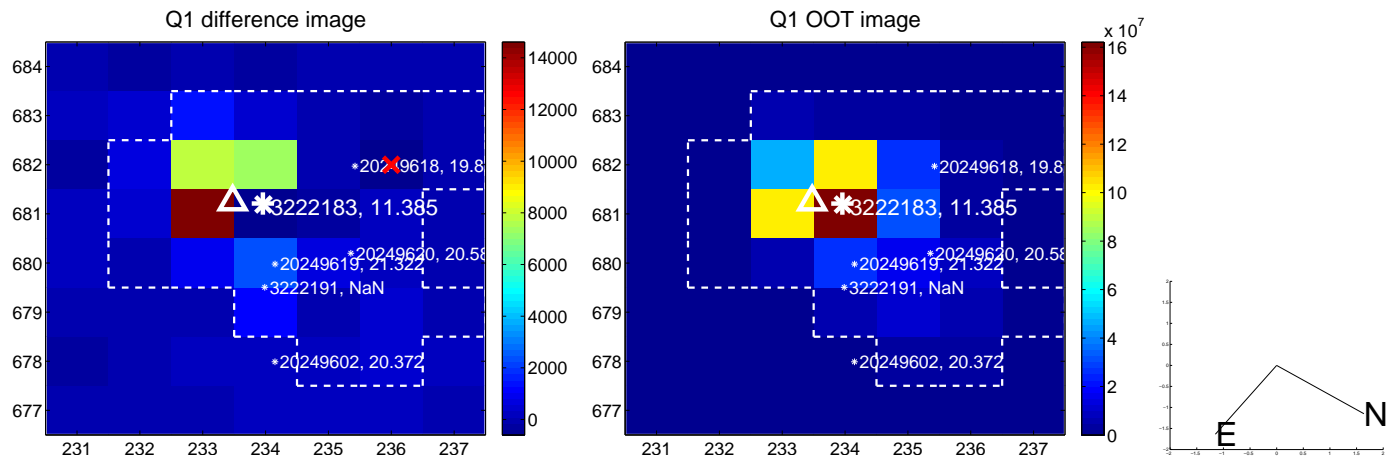
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.741 ± 0.289	2.56	0.740 ± 0.298	-0.045 ± 0.362
PRF-fit source offset from KIC position	0.721 ± 0.259	2.78	0.711 ± 0.284	-0.124 ± 0.349
photometric centroid source offset	0.30 ± 0.49	0.60	0.29 ± 0.49	0.06 ± 0.55

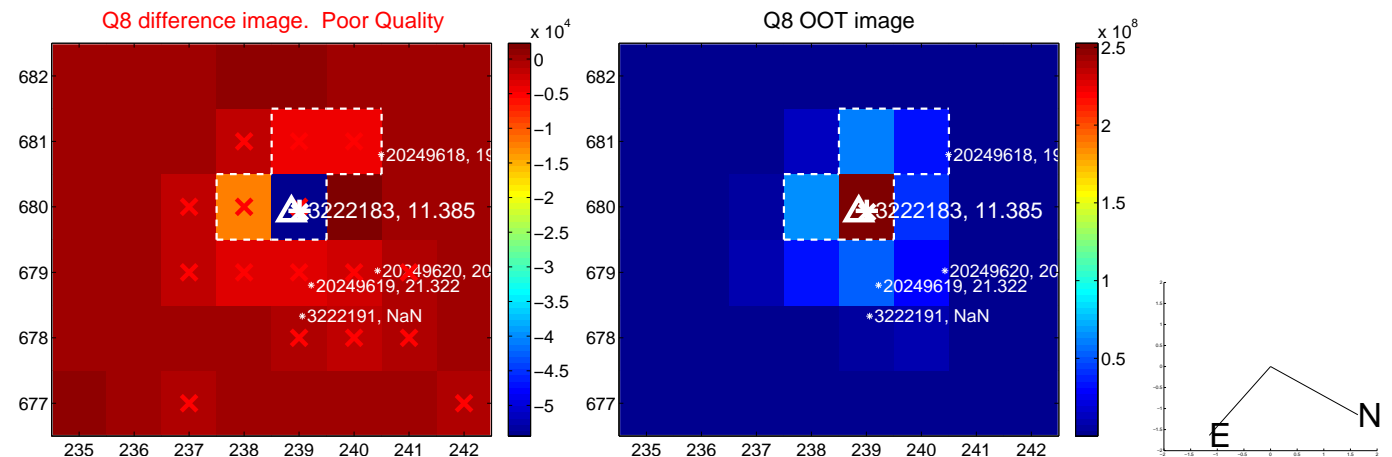
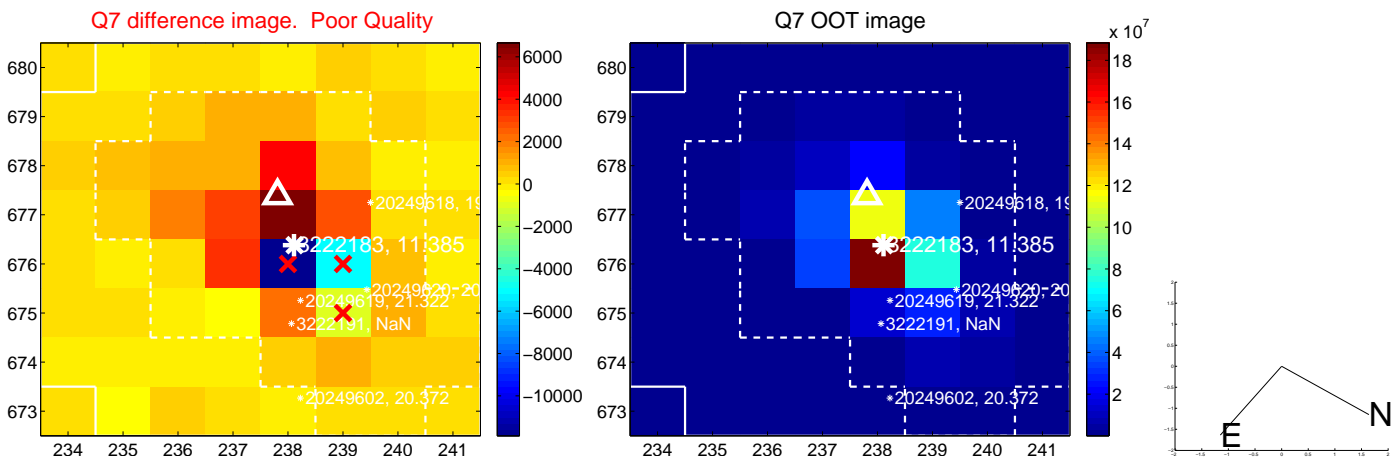
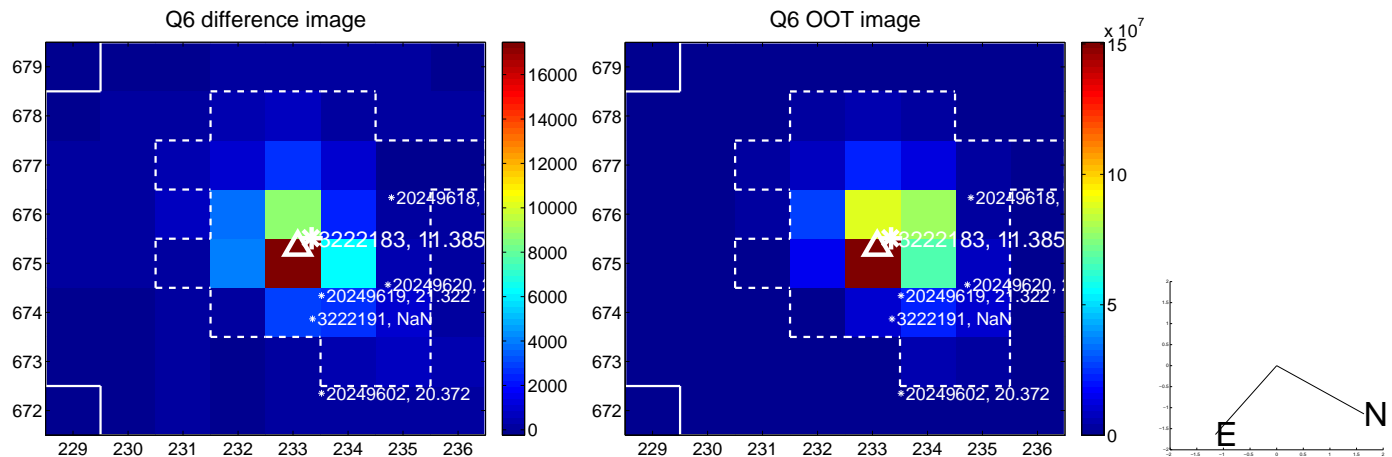
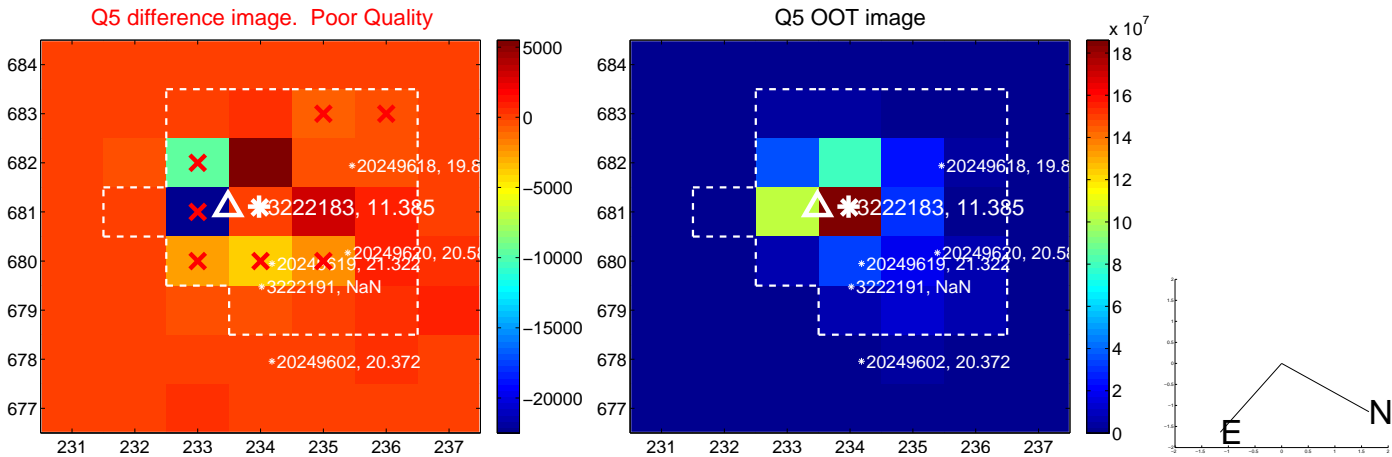


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

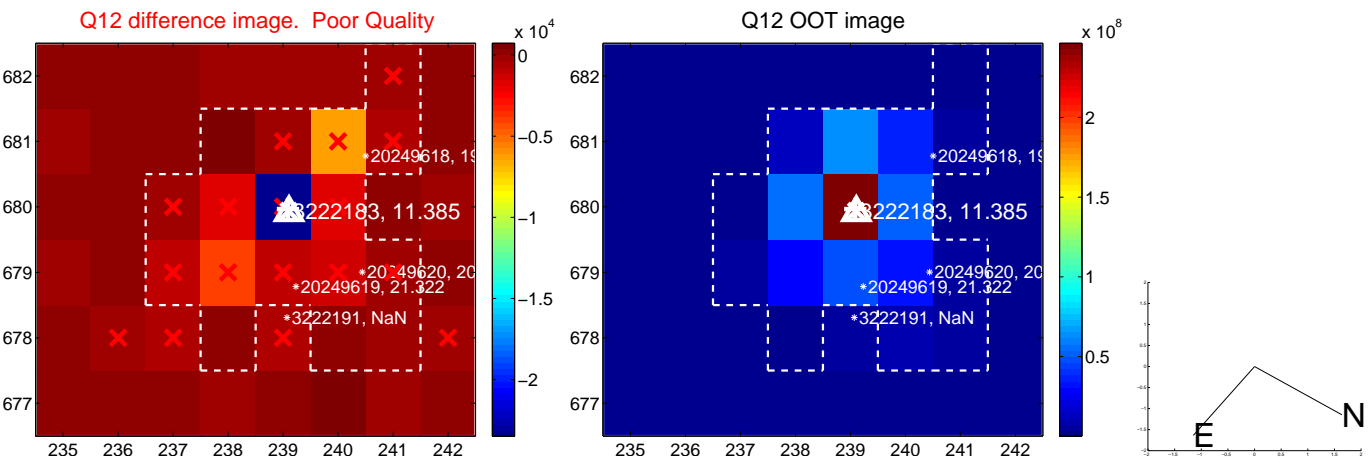
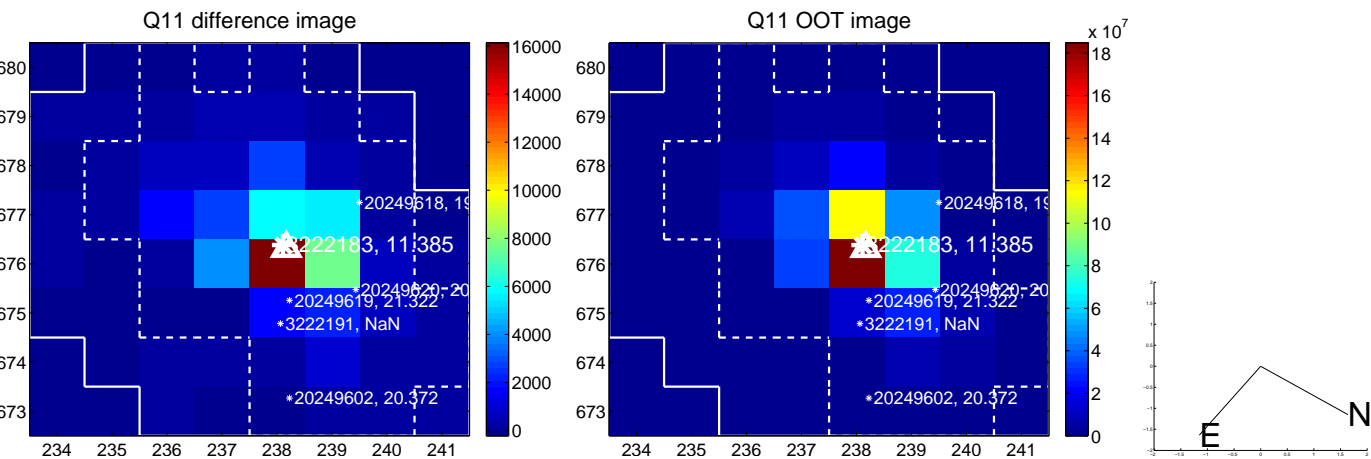
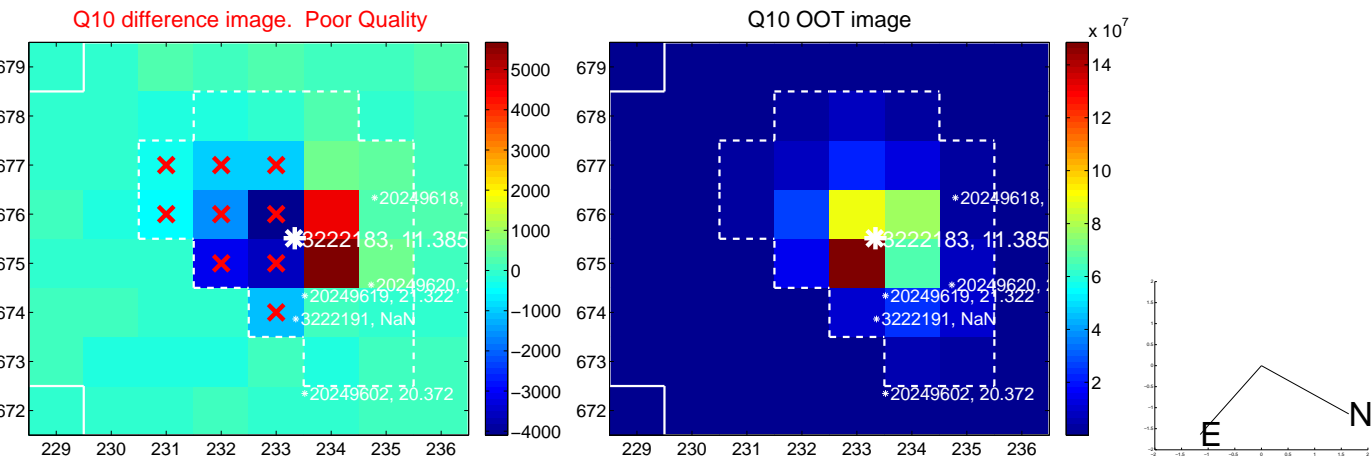
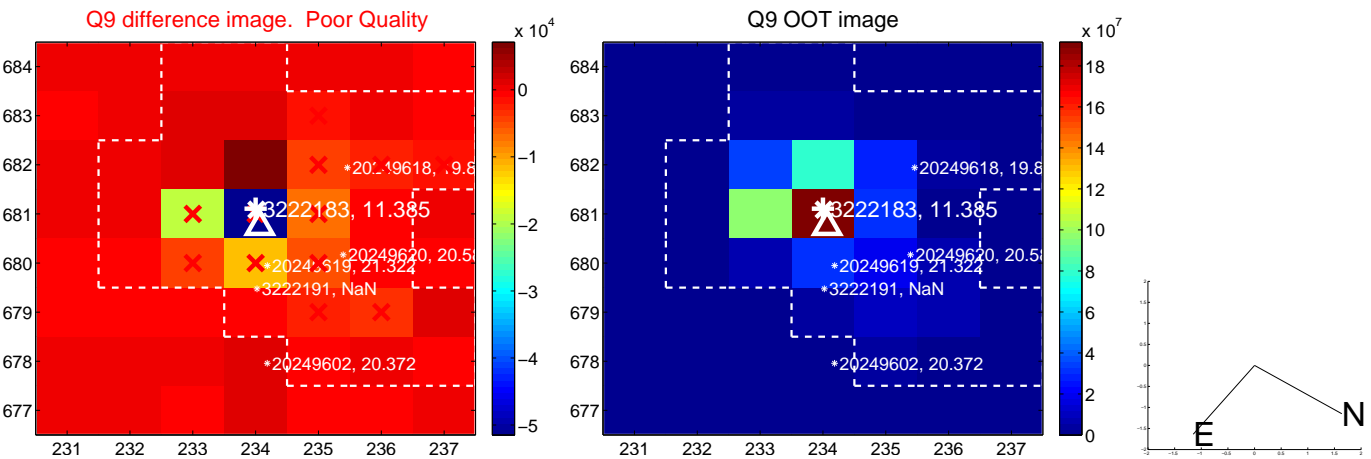
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



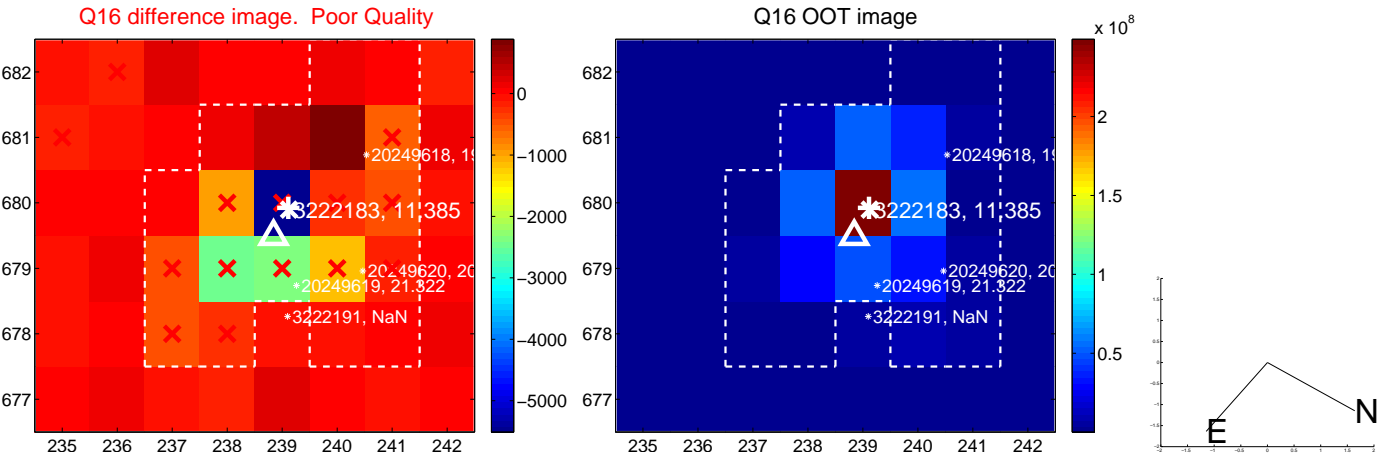
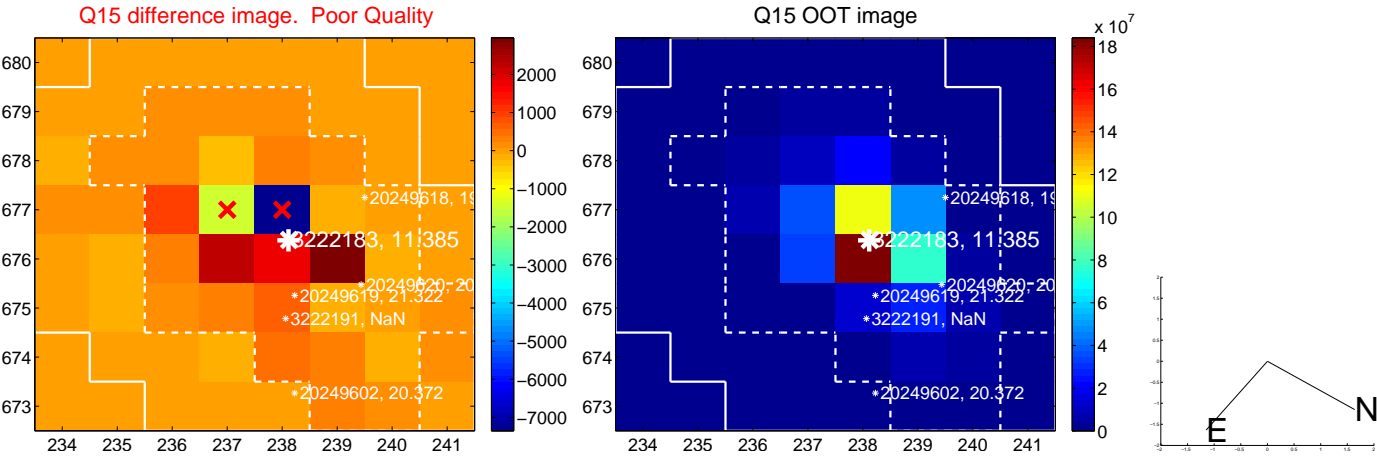
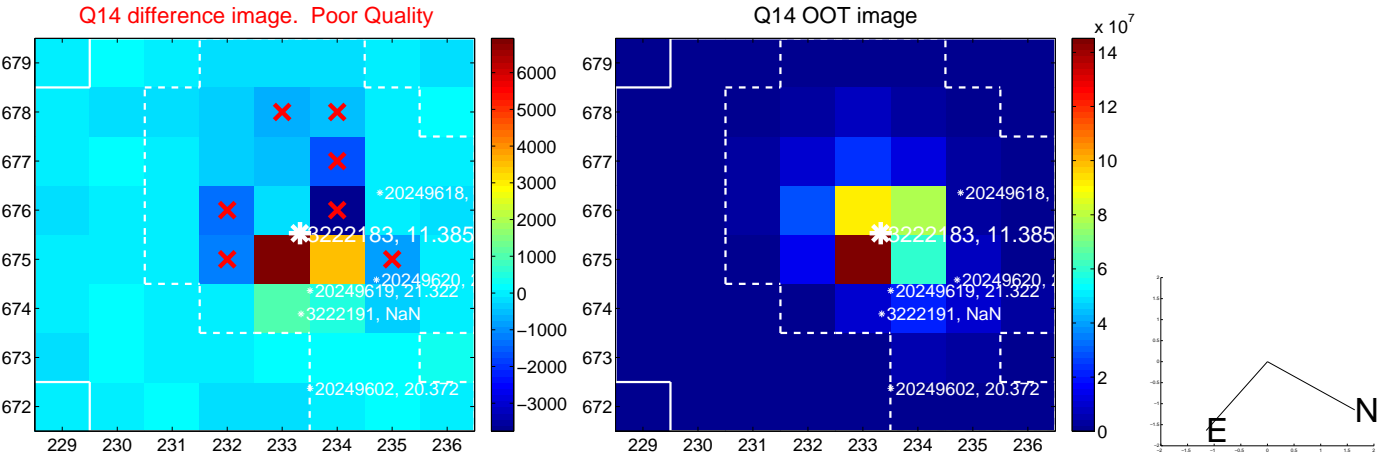
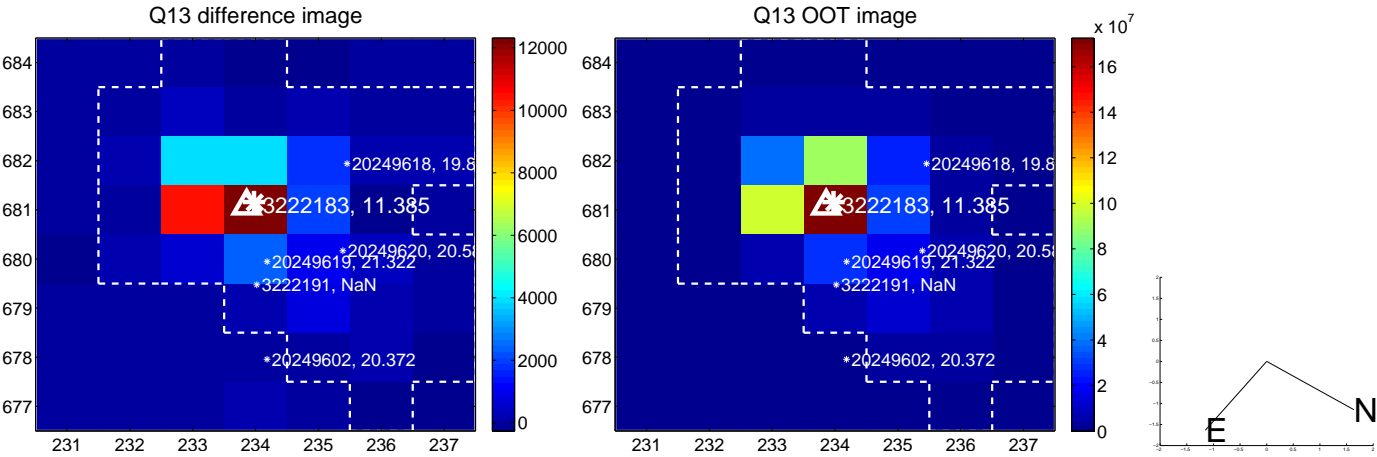
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



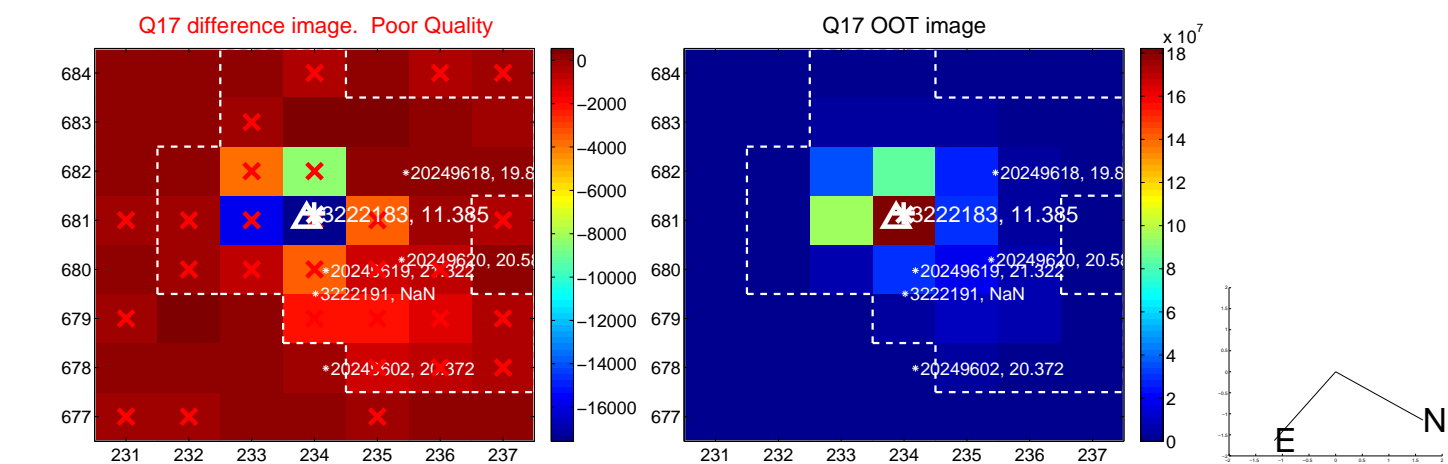
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



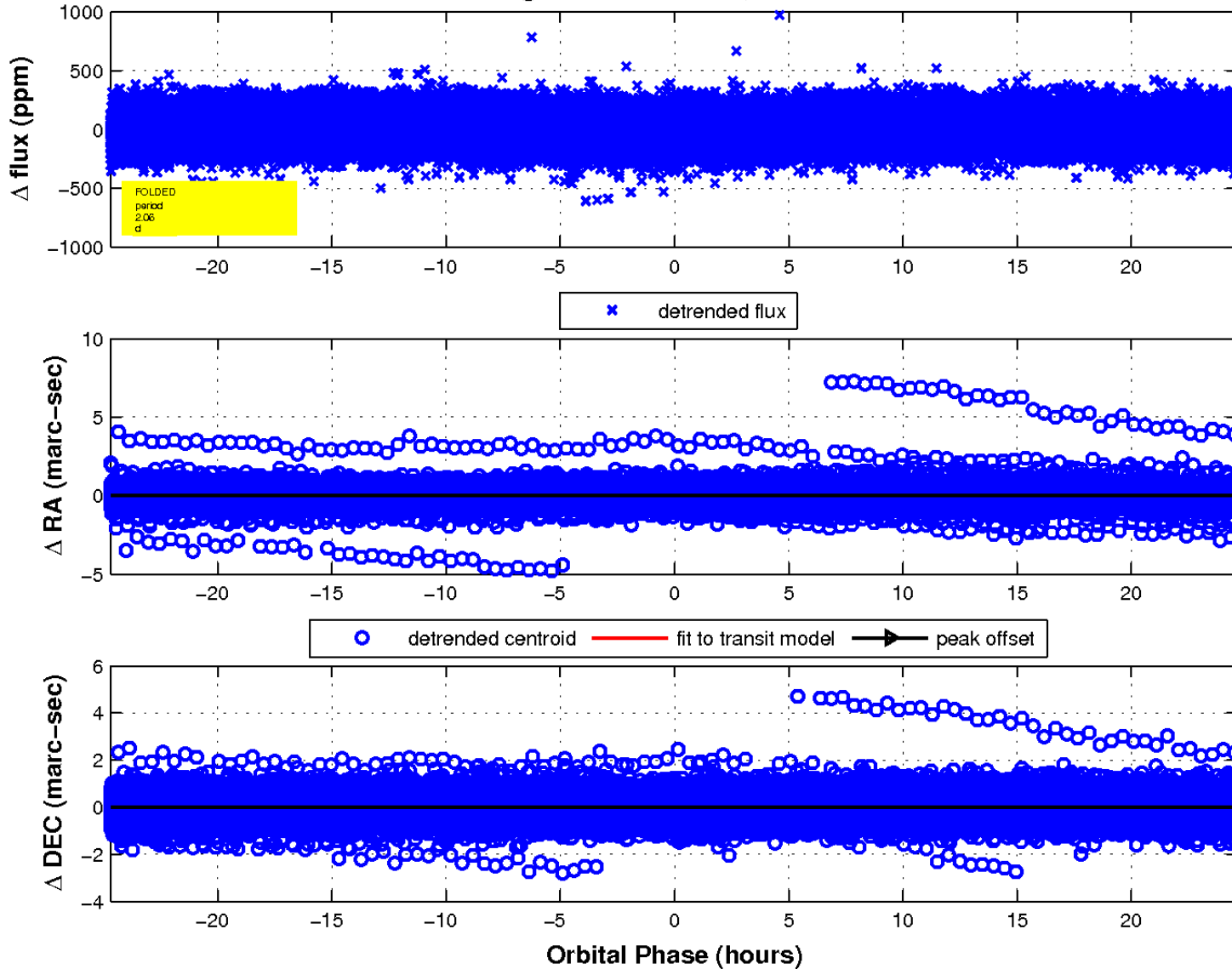
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

