

KIC 012366084

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})
012366084-01	OBS	0787.01	4.431222	135.567472	1012.3	3.250	58.3	64.5	1.01	5714	3.50	351.24
012366084-02	OBS	0787.02	11.379370	133.850952	1021.0	2.591	29.9	33.5	1.01	5714	3.86	99.88
012366084-03	OBS	0787.03	0.589371	131.877611	60.6	2.029	8.4	8.3	1.01	5714	0.95	5173.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012366084-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
012366084-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
012366084-03	OBS	PC	0.87	0	0	0	0	NO_COMMENT

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

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

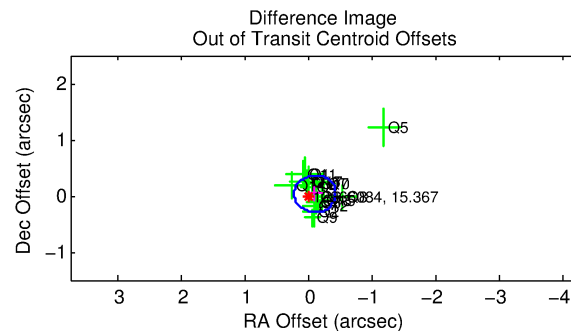
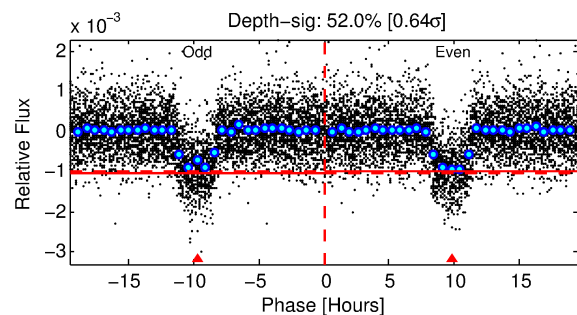
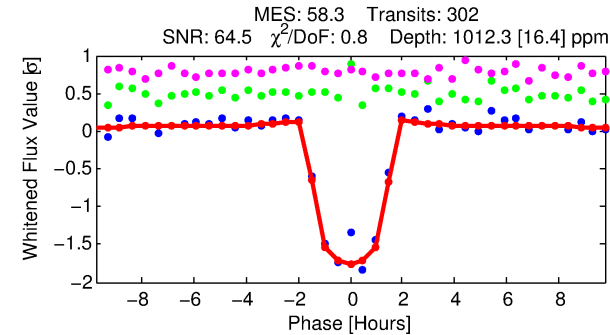
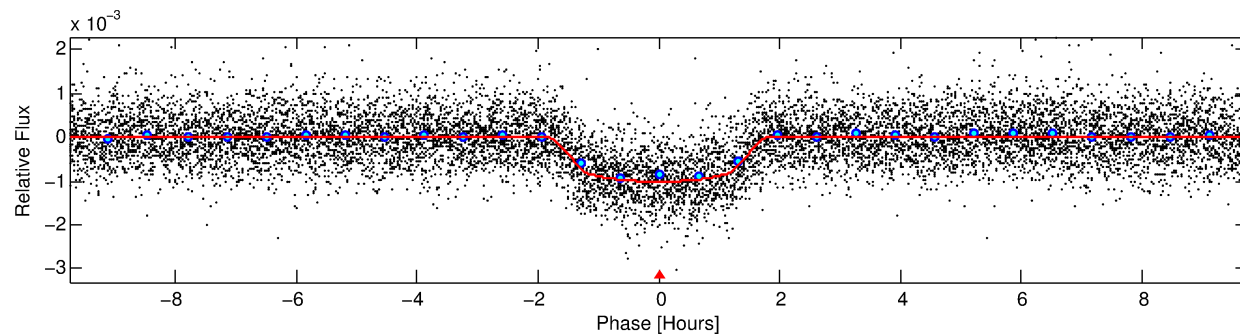
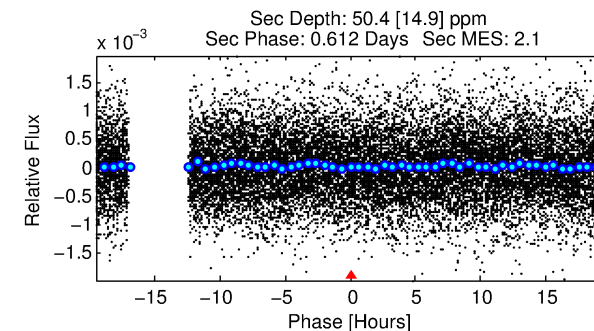
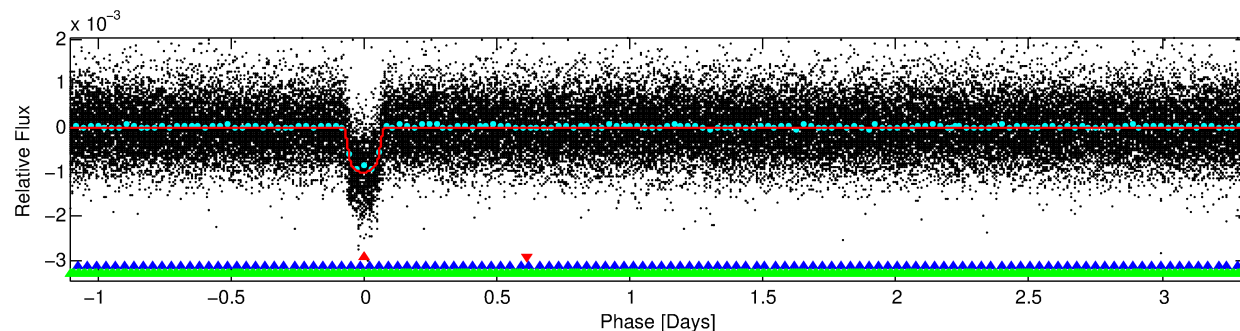
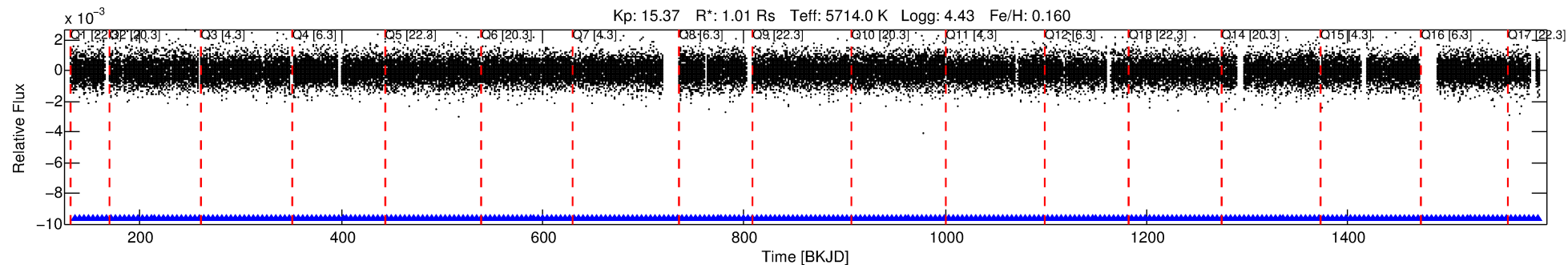
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012366084-01

No Significant Match Found

DV One-Page Summary

KIC: 12366084 Candidate: 1 of 3 Period: 4.431 d
KOI: K00787.01 Name: Kepler-232b Corr: 0.979



DV Fit Results:

Period = 4.43122 [0.00001] d
Epoch = 135.5675 [0.0008] BKJD
Rp/R* = 0.0316 [0.0044]
a/R* = 7.56 [4.31]
b = 0.74 [0.36]
Seff = 351.24 [74.19]
Teff = 1104 [58] K
Rp = 3.49 [0.70] Re
a = 0.0529 [0.0070] AU
Ag = 6.36 [2.88] [1.86σ]
Teffp = 2710 [276] K [5.69σ]

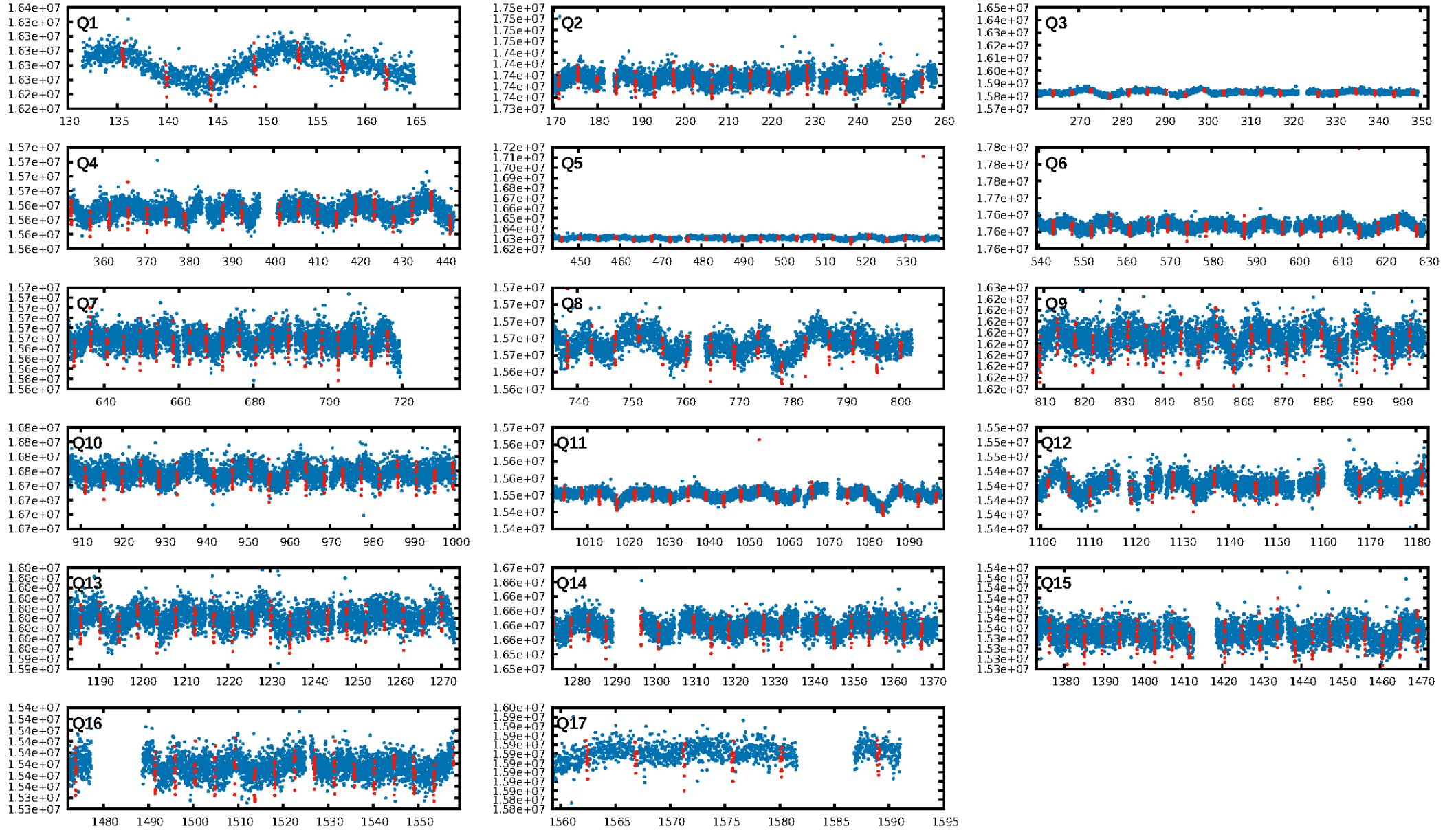
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [24.07σ]
LongPeriod-sig: 100.0% [40.12σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [289/289]
GhostDiagnostic-chr: 3.777
Centroid-sig: 1.6%
Centroid-so: 0.816 arcsec [3.80σ]
OotOffset-rm: 0.103 arcsec [0.94σ]
KicOffset-rm: 0.072 arcsec [0.63σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

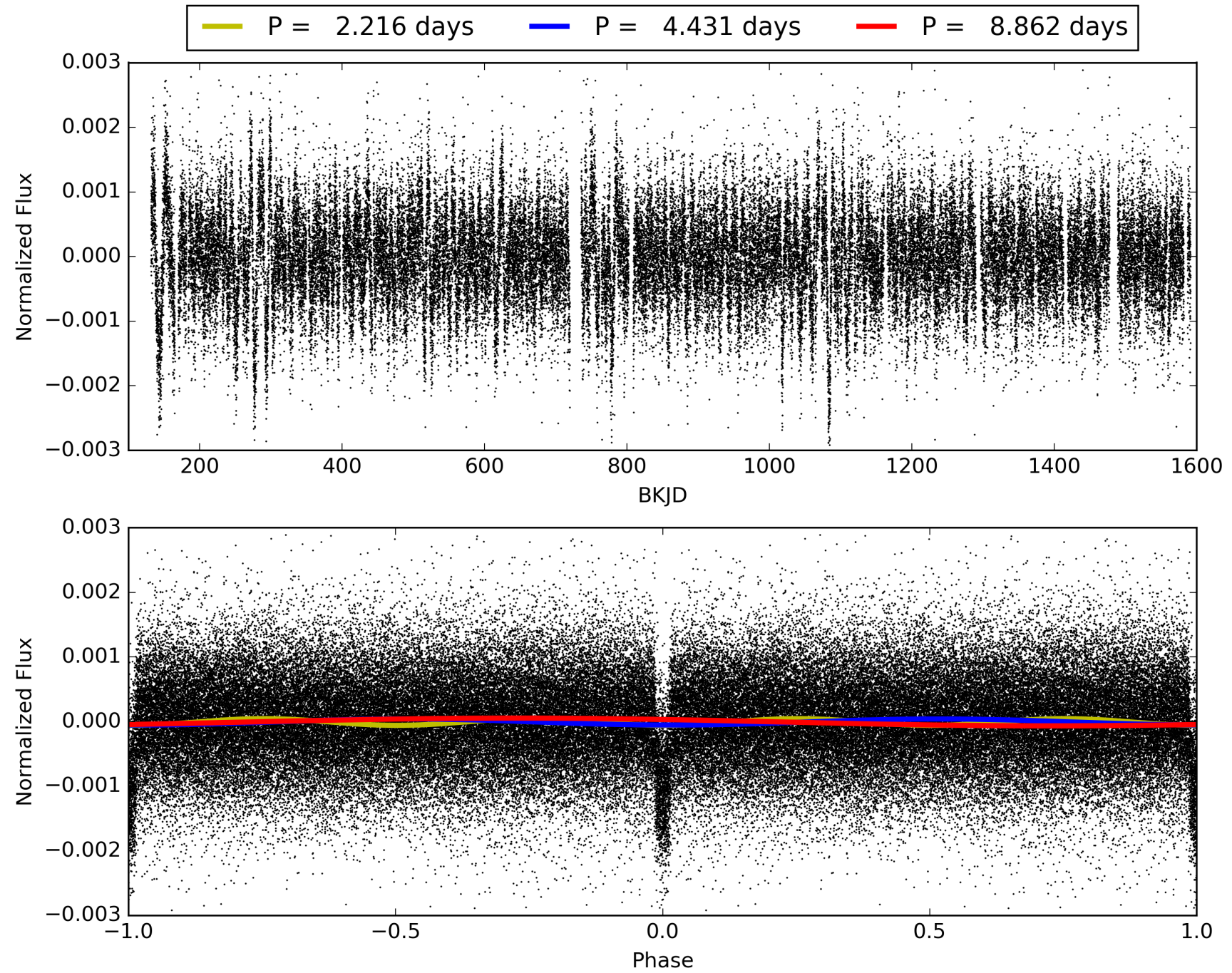
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:31:32 Z

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

TCE 012366084-01, PDC Light Curves

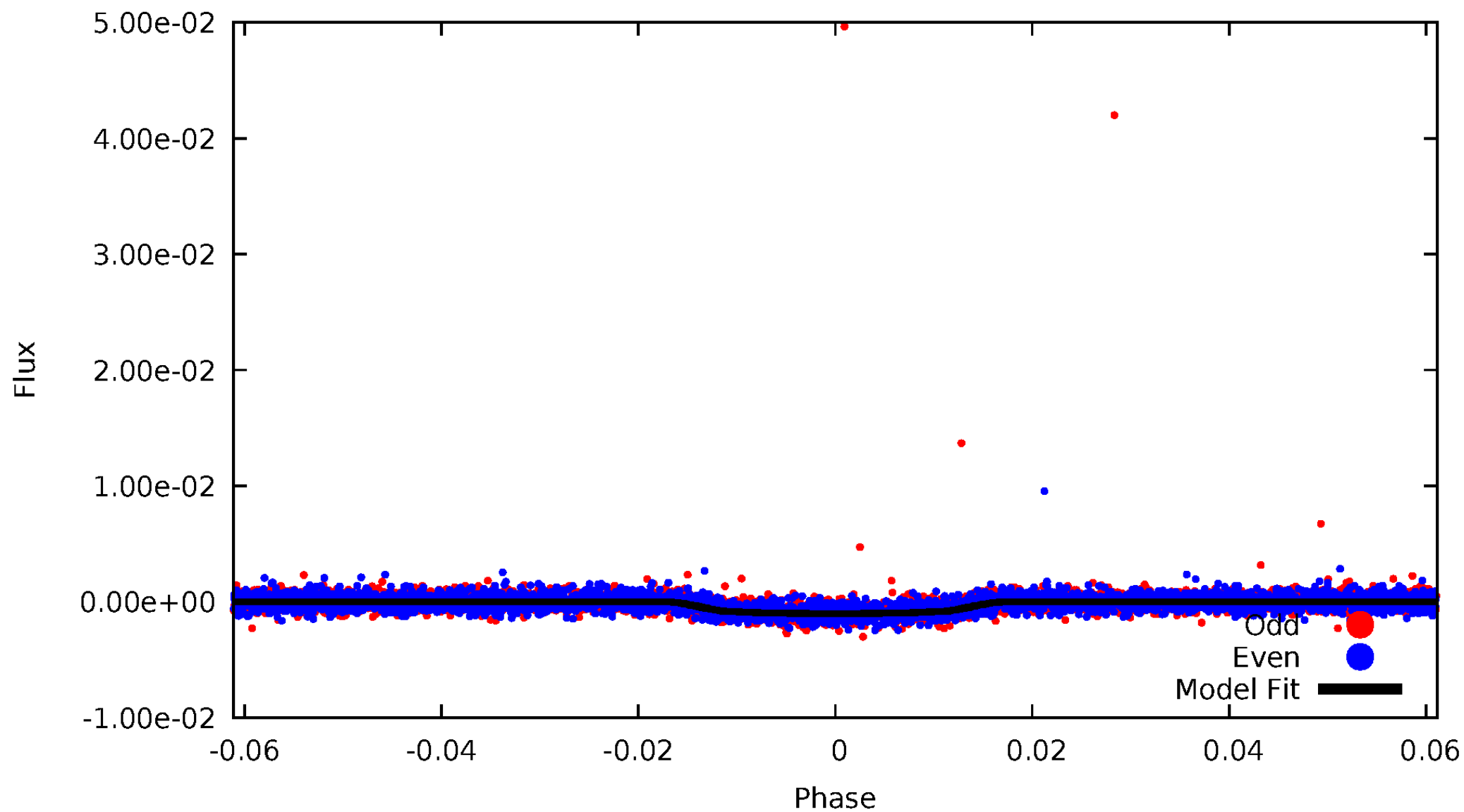


TCE 012366084-01



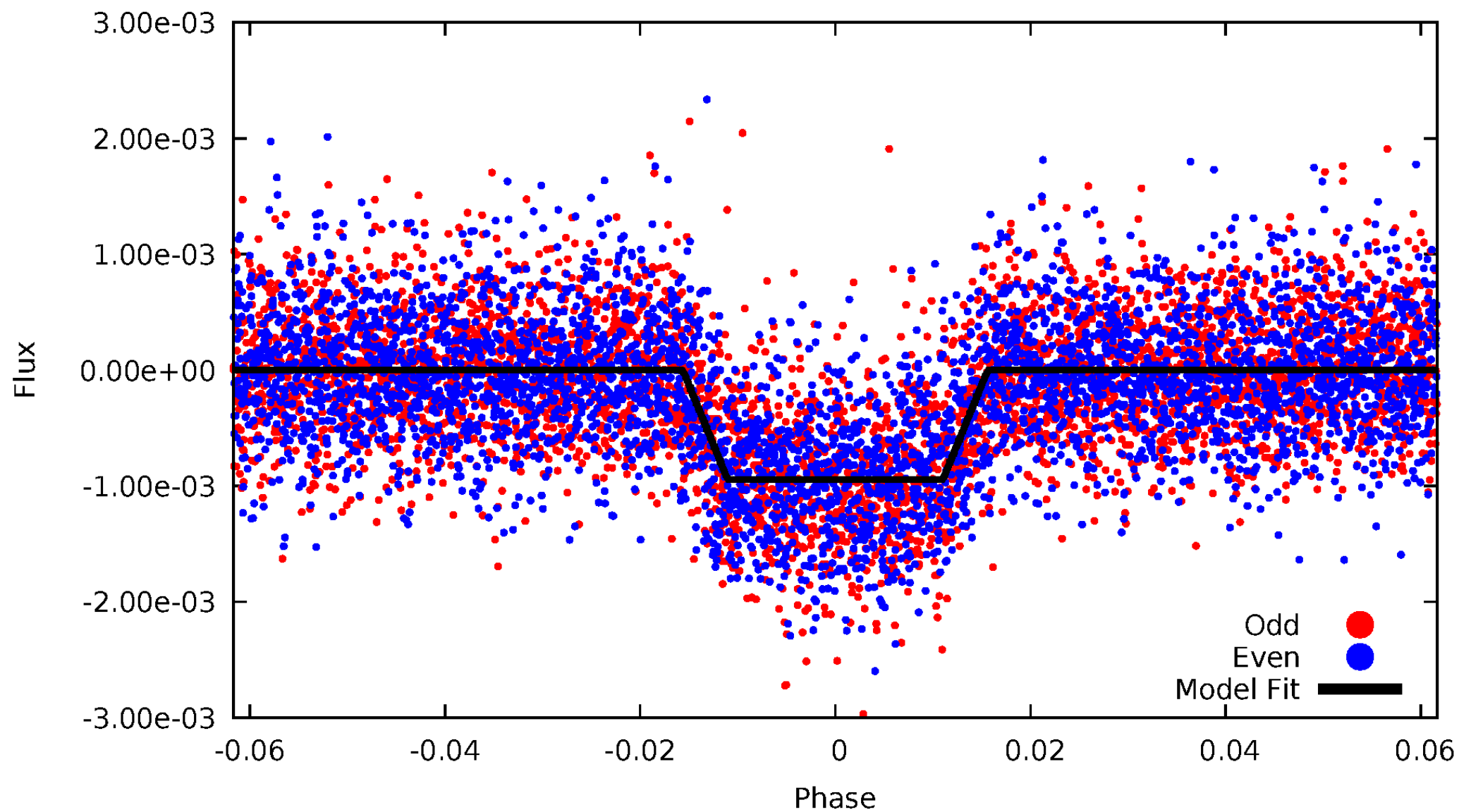
DV Odd/Even

TCE 012366084-01

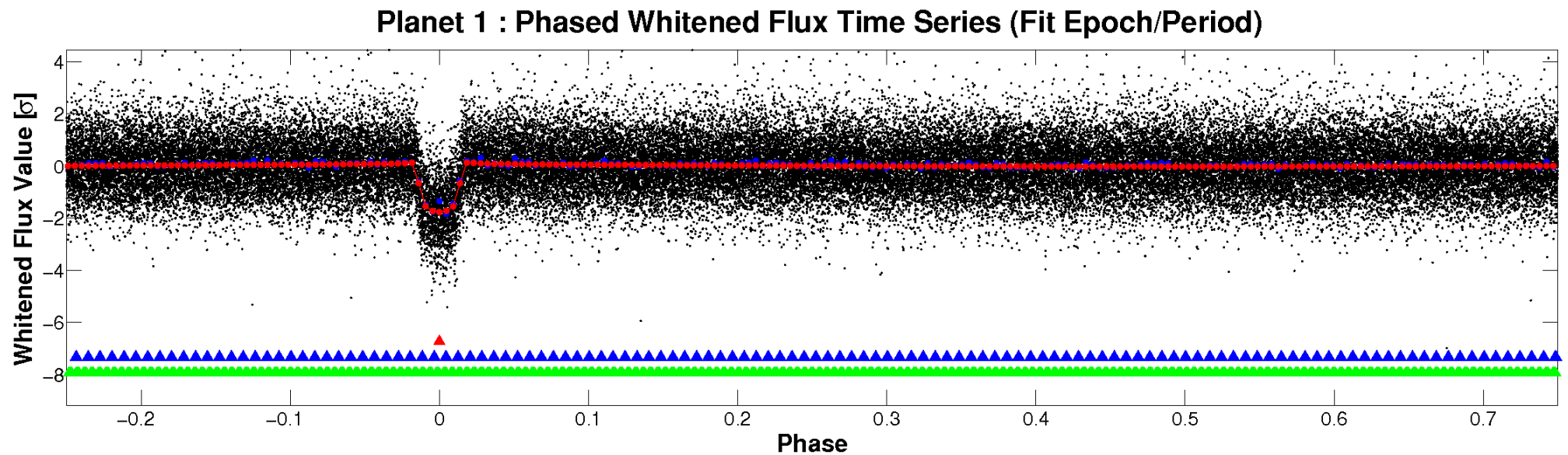
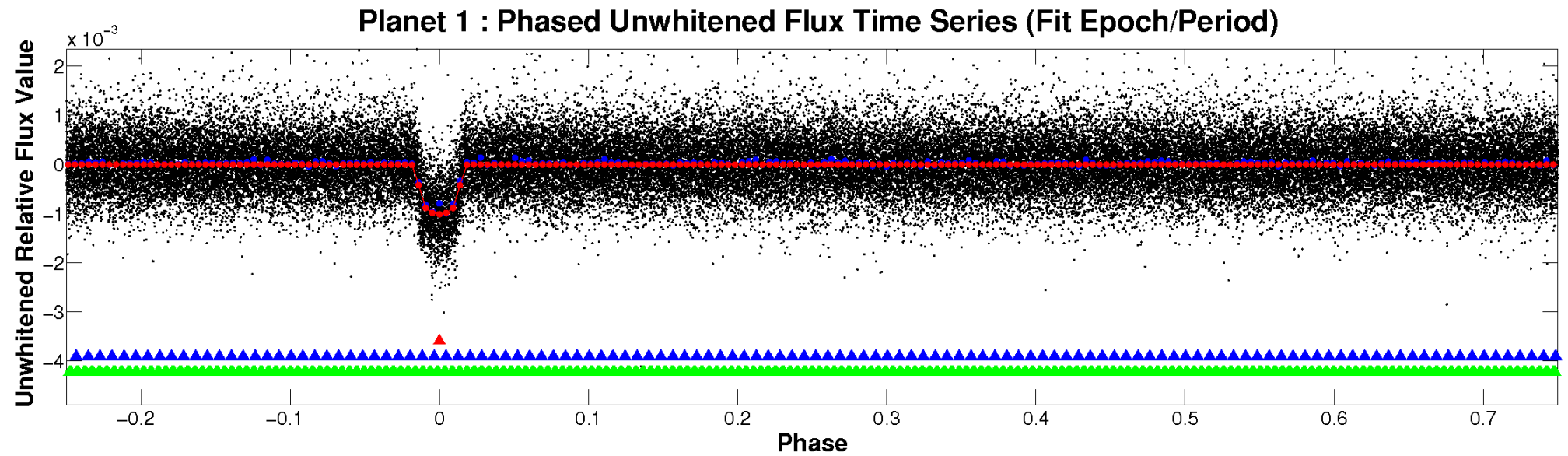


ALT Odd/Even

TCE 012366084-01

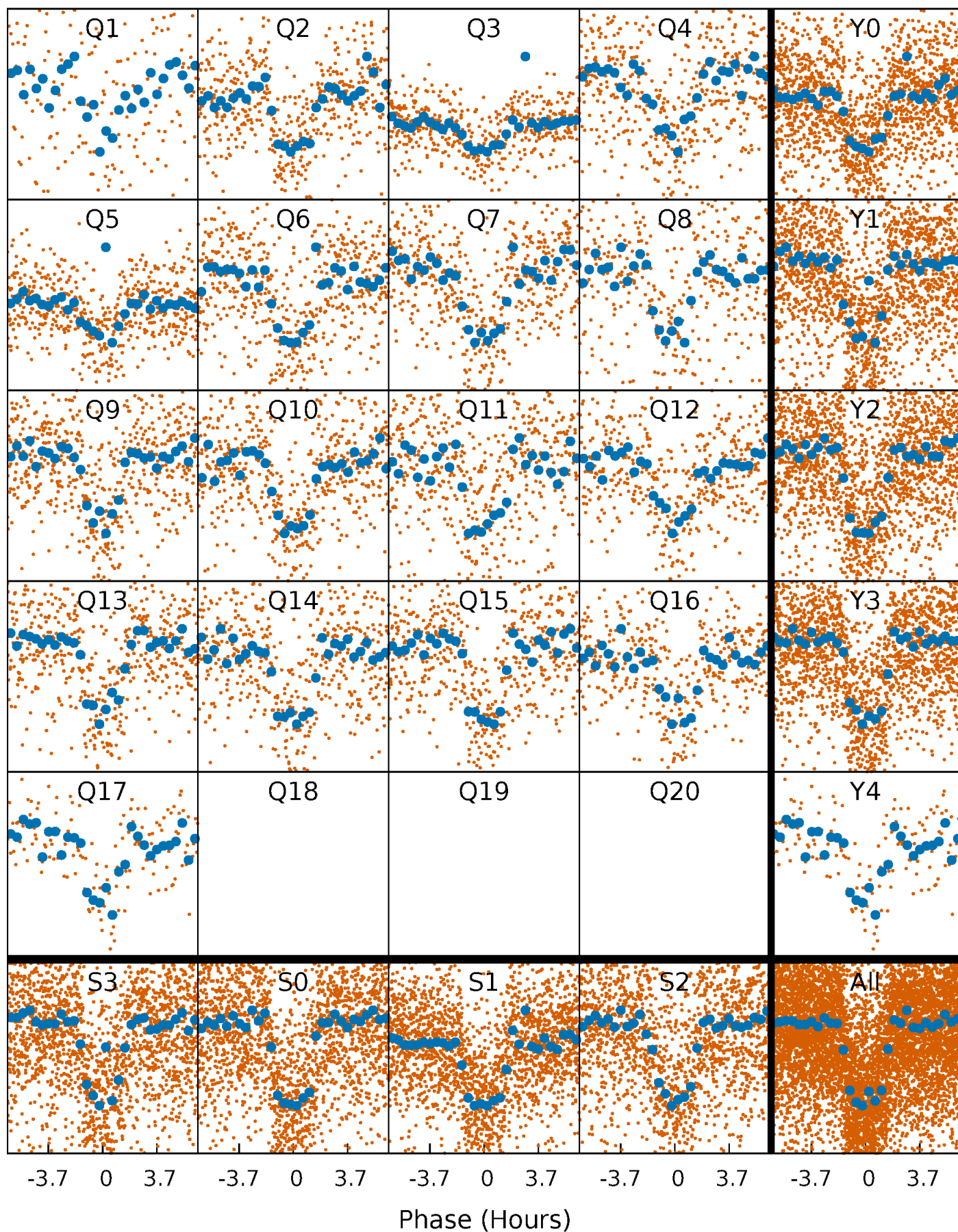


Non-Whitened Vs. Whitened Light Curve



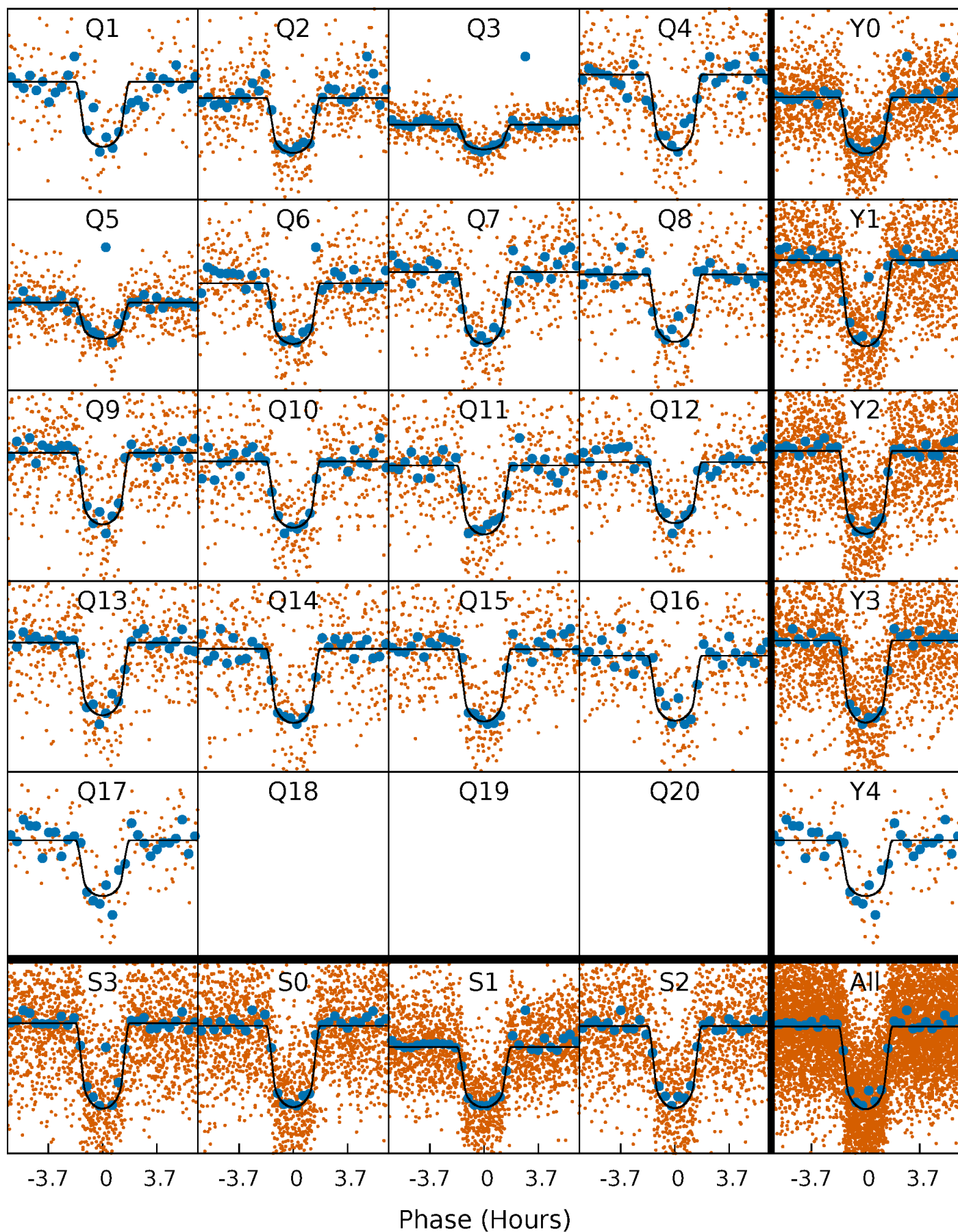
PDC Quarter-Phased Transit Curves

TCE 012366084-01 P= 4.431222 Days $T_0=135.567472$ (BKJD)



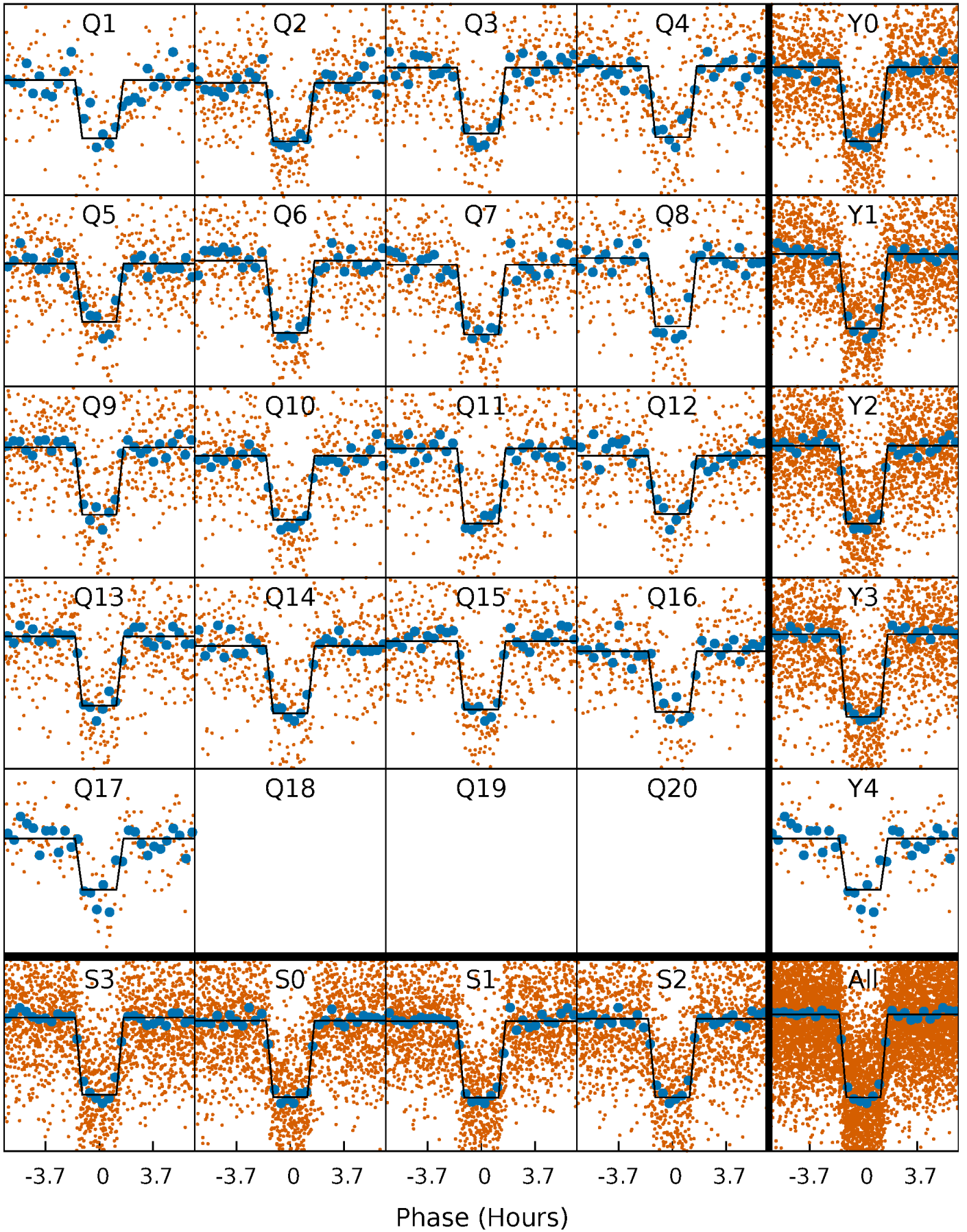
DV Quarter-Phased Transit Curves

TCE 012366084-01 P= 4.431222 Days $T_0=135.567472$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

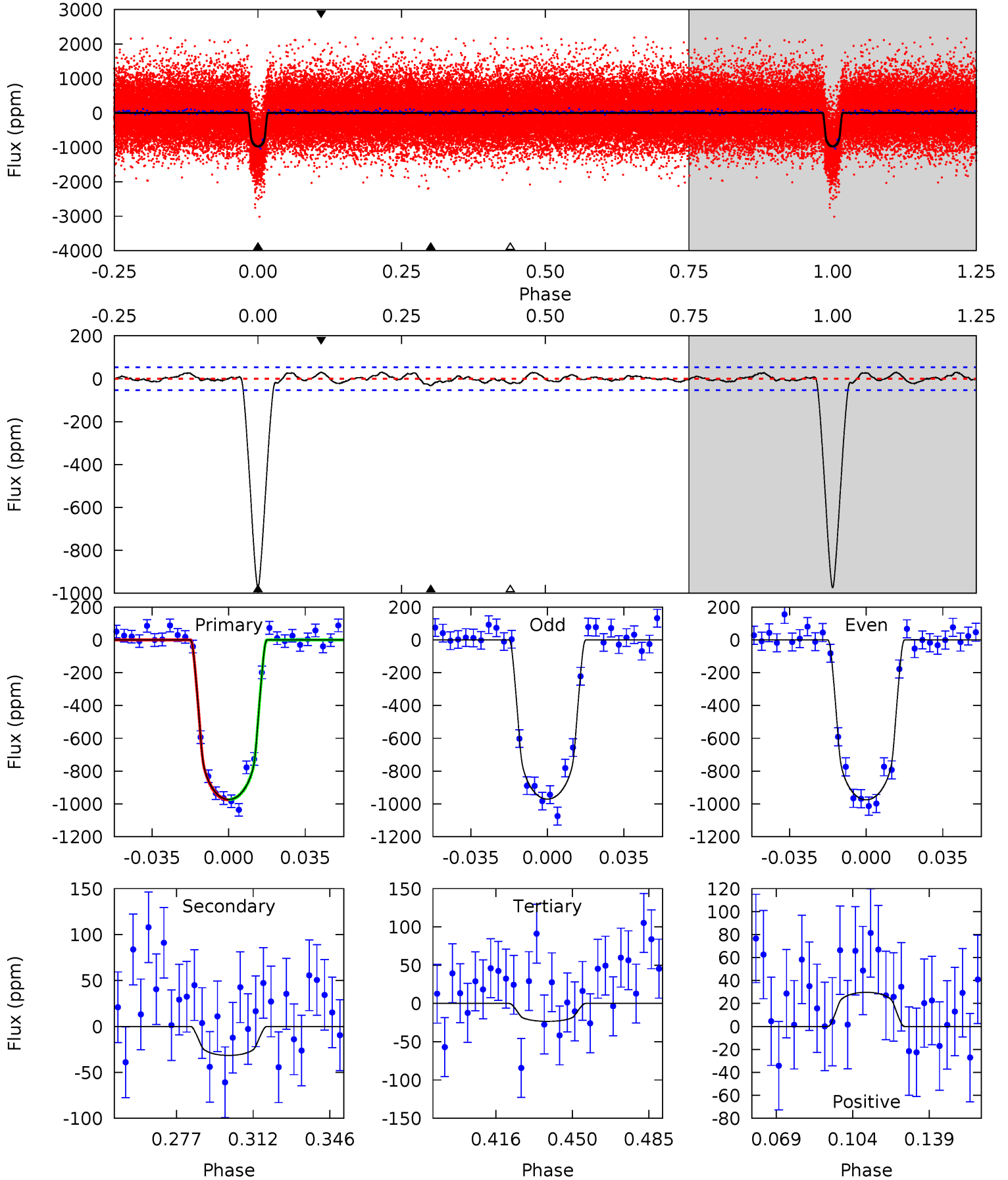
TCE 012366084-01 P= 4.431227 Days $T_0=135.566814$ (BKJD)



DV Model-Shift Uniqueness Test

012366084-01, P = 4.431222 Days, E = 131.136250 Days

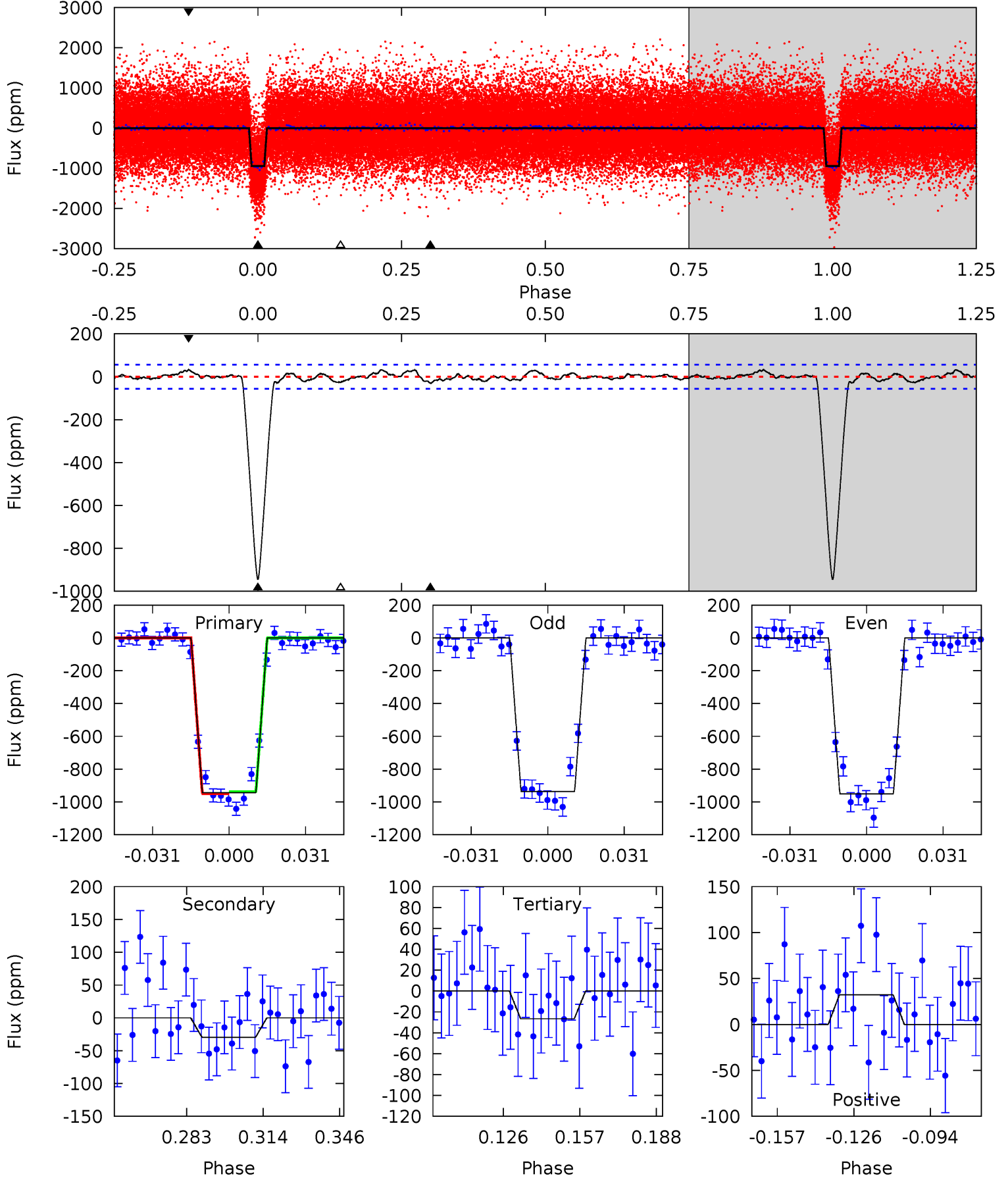
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
86.7	2.82	2.09	2.65	4.78	2.11	1.07	84.6	84.1	0.73	0.17	0.20	0.95	0.03	0.04



Alt Model-Shift Uniqueness Test

012366084-01, P = 4.431227 Days, E = 131.135587 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
80.4	2.52	2.26	2.76	4.80	2.15	1.03	78.1	77.6	0.26	-0.24	0.61	1.00	0.03	0.54



Stellar Parameters For KIC 012366084

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5714^{+77}_{-77}	$4.428^{+0.063}_{-0.117}$	$0.160^{+0.150}_{-0.150}$	$1.015^{+0.148}_{-0.079}$	$1.007^{+0.056}_{-0.062}$	$1.355^{+0.332}_{-0.454}$
	+1%/-1%	+1%/-3%	+94%/-94%	+15%/-8%	+6%/-6%	+24%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 012366084-01 / KOI 0787.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-32 ± 11	$3.54^{+0.55}_{-0.50}$	1549^{+55}_{-45}	3018^{+205}_{-217}	$3.898^{+1.992}_{-1.608}$
Alt.	-30 ± 12	$3.47^{+0.55}_{-0.52}$	1550^{+63}_{-45}	3009^{+227}_{-262}	$3.794^{+2.344}_{-1.760}$

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

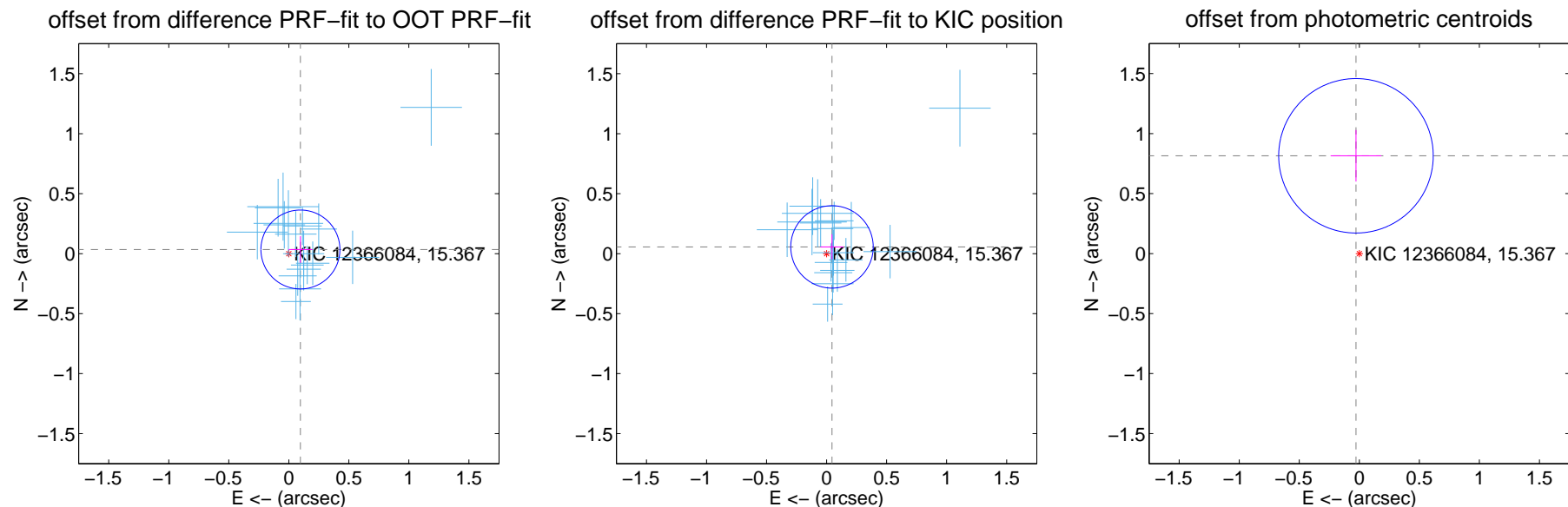
DV Centroid Data

Supplemental centroid analysis for 012366084-01. Kepler magnitude: 15.37. Transit SNR 64.50

There are 17 quarters with good PRF difference image offsets

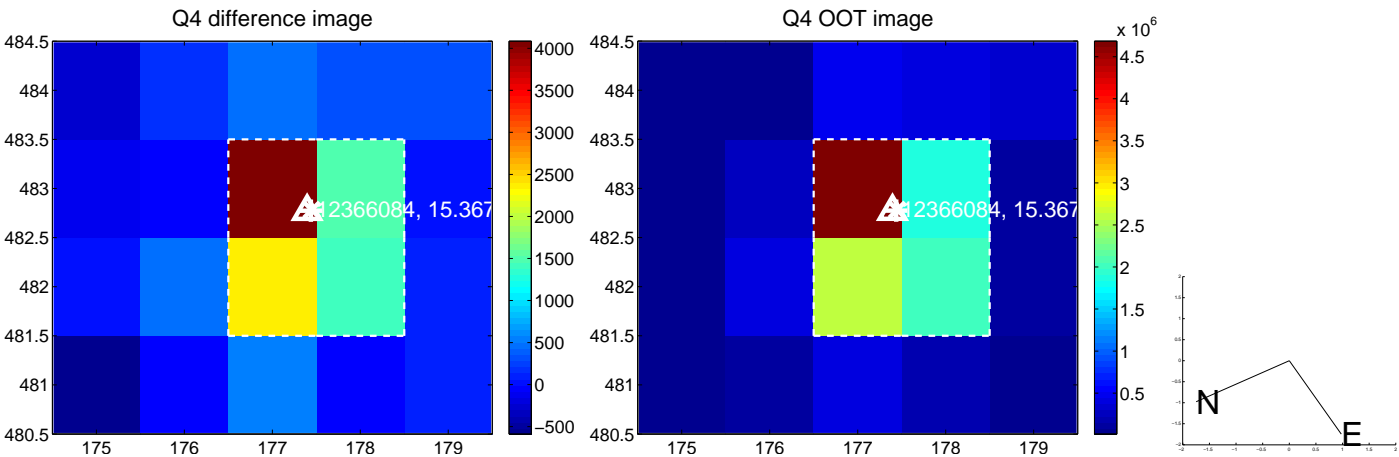
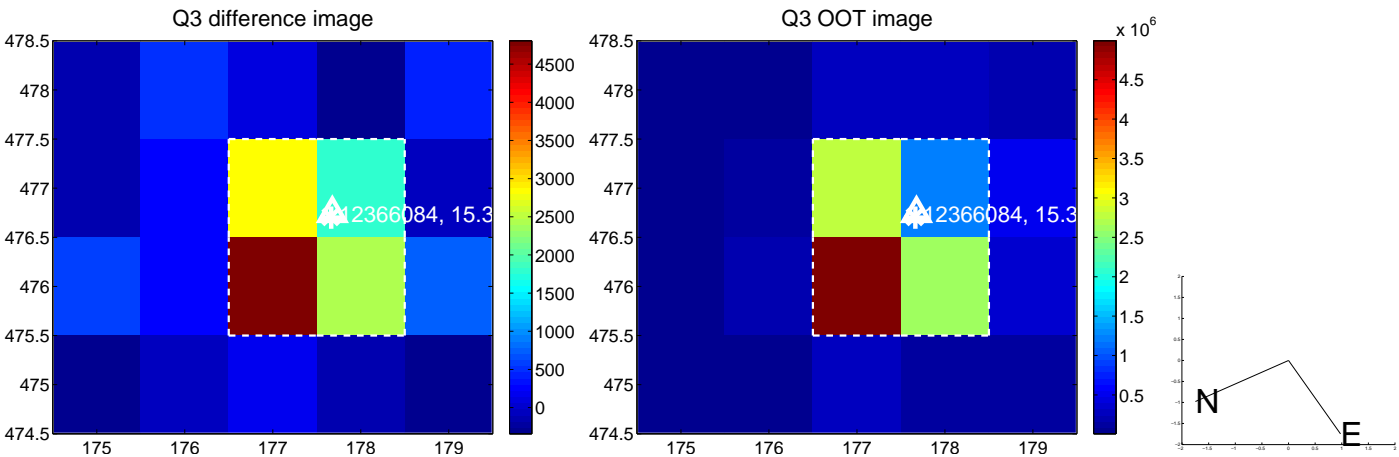
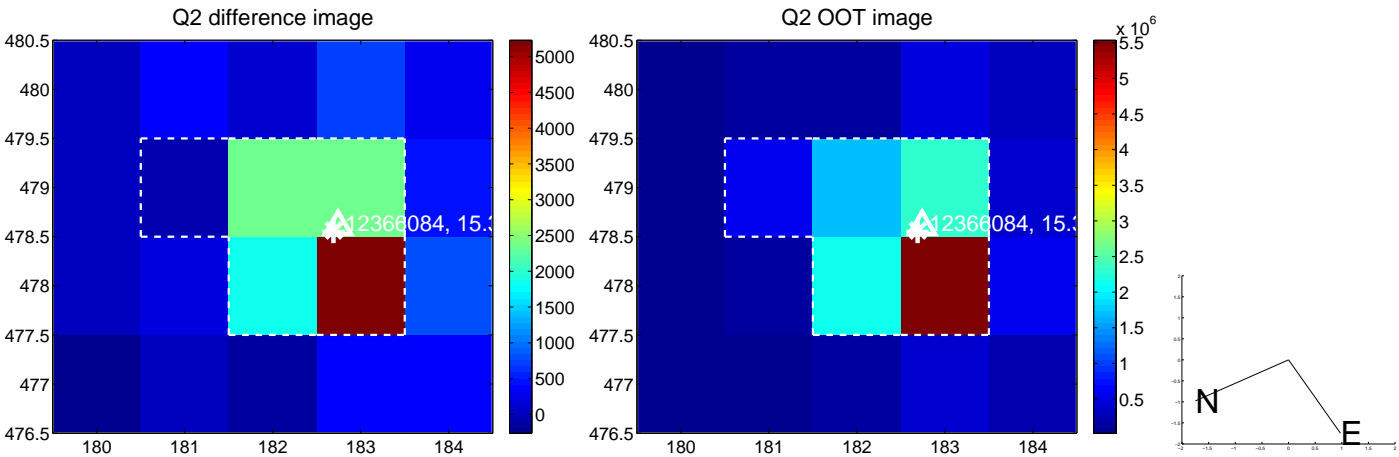
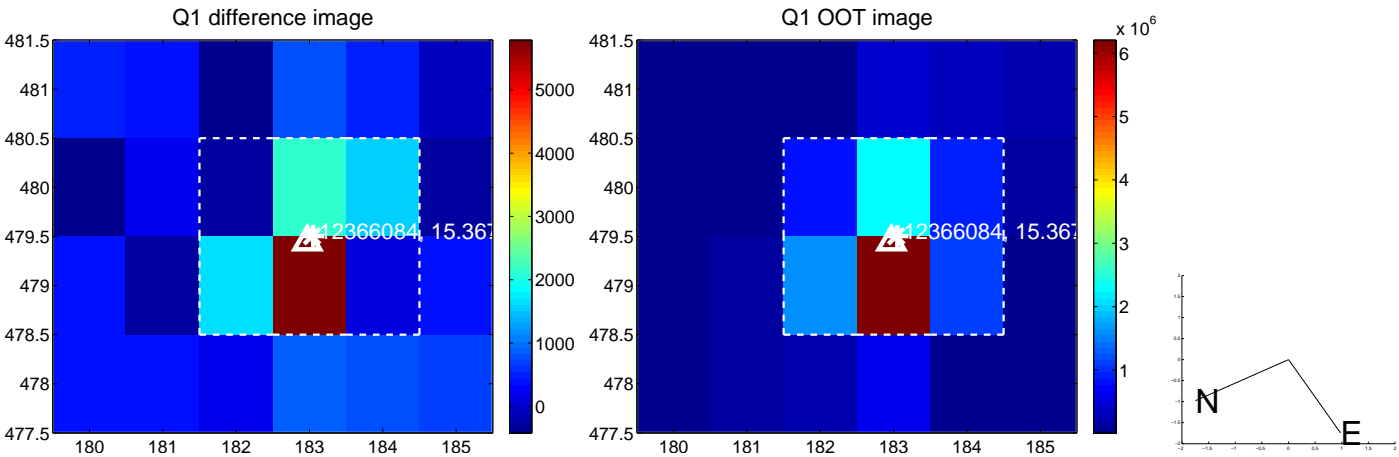
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.103 ± 0.110	0.94	-0.097 ± 0.099	0.035 ± 0.111
PRF-fit source offset from KIC position	0.072 ± 0.114	0.63	-0.045 ± 0.096	0.056 ± 0.105
photometric centroid source offset	0.82 ± 0.21	3.80	0.03 ± 0.21	0.82 ± 0.21

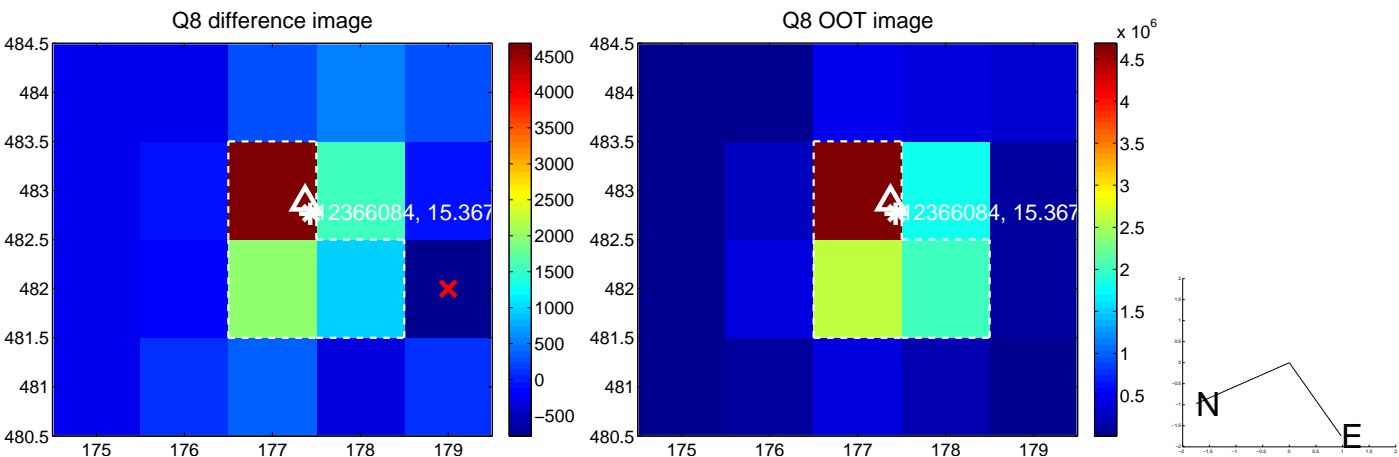
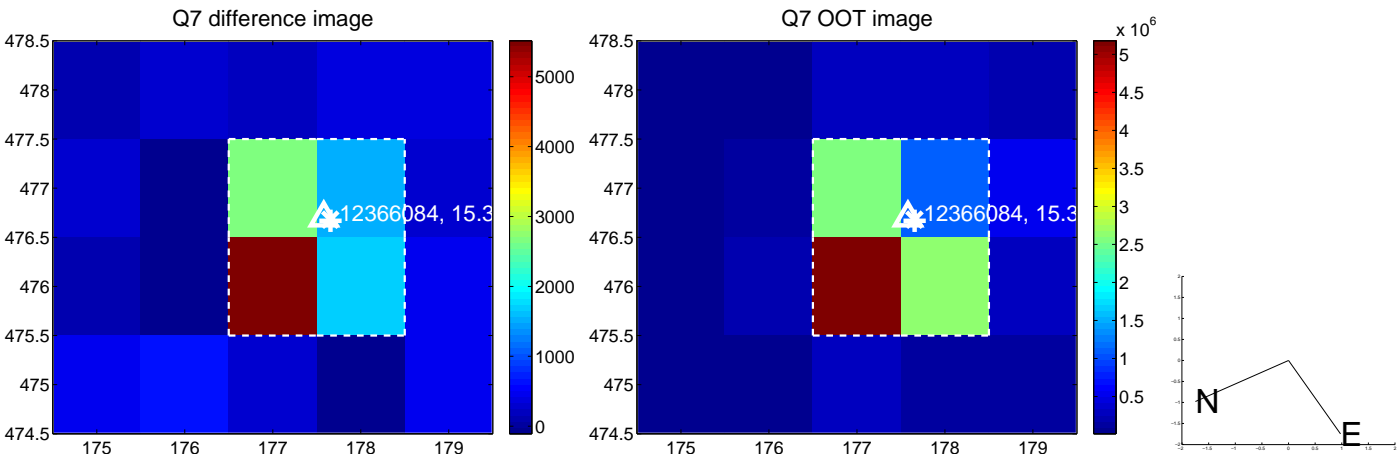
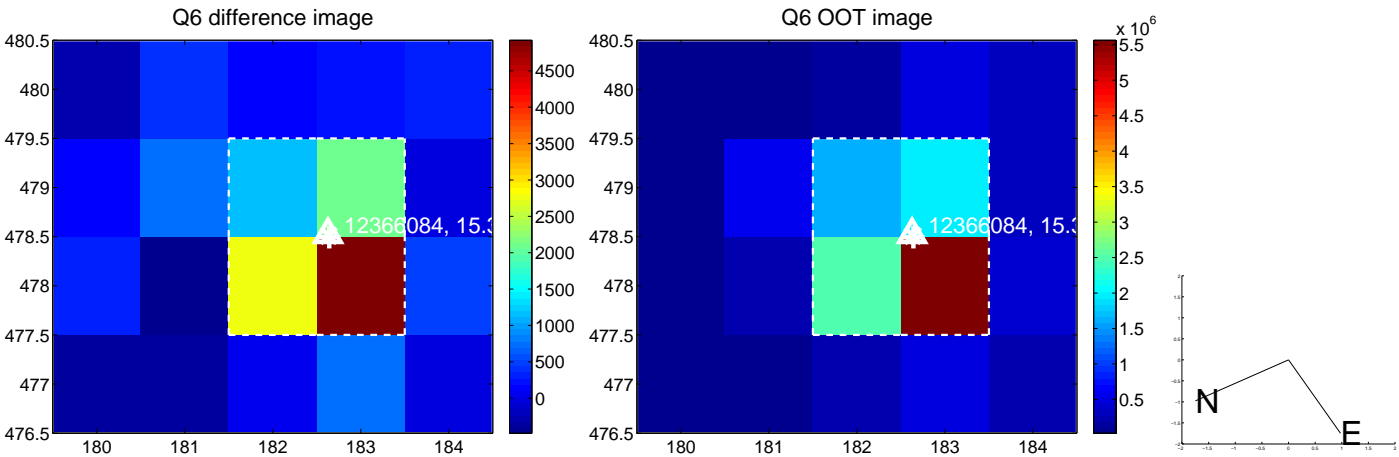
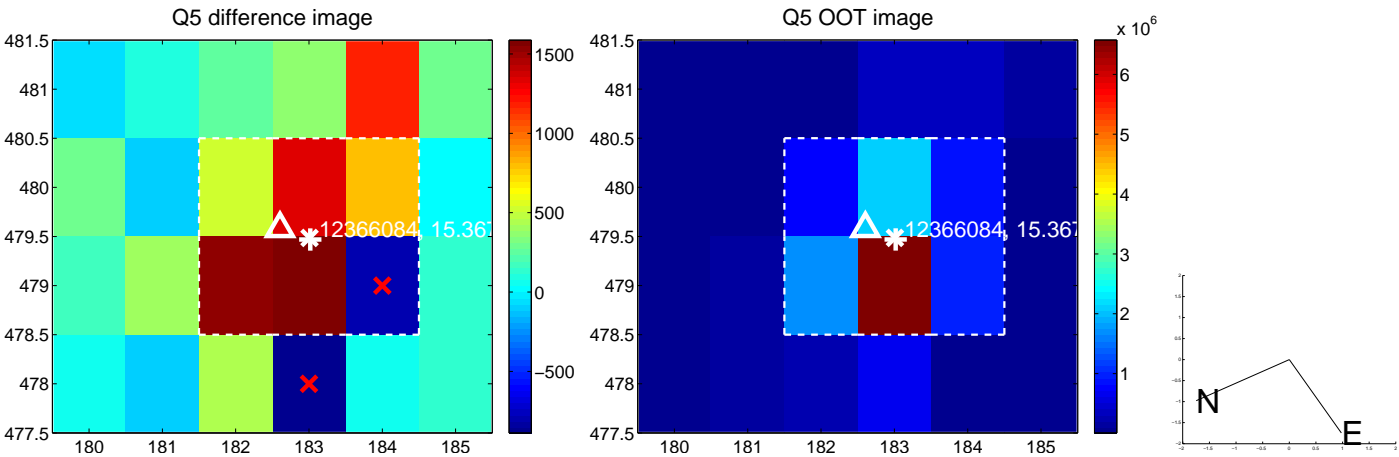


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

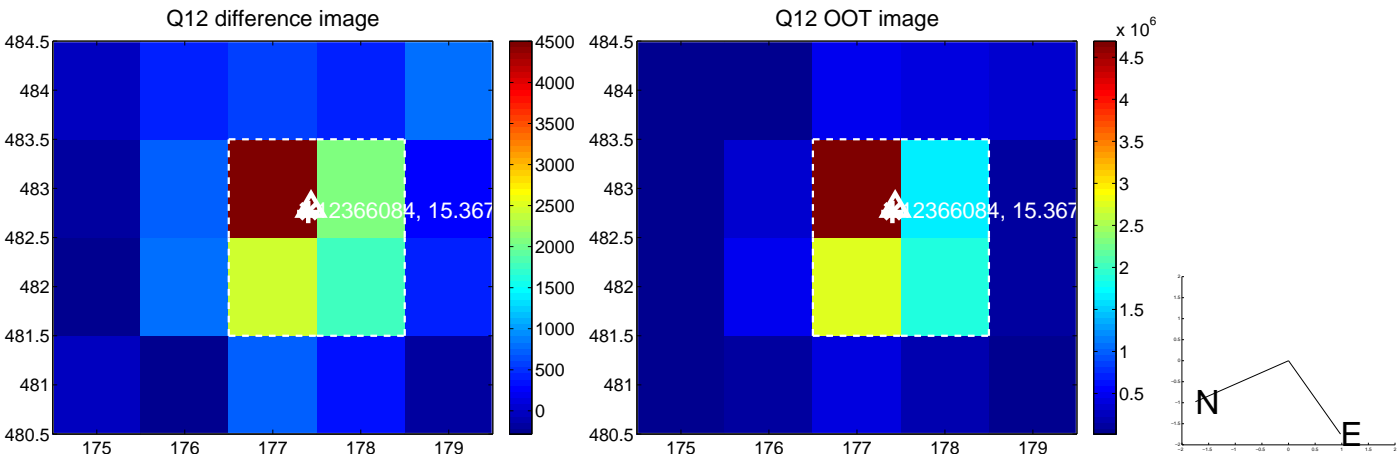
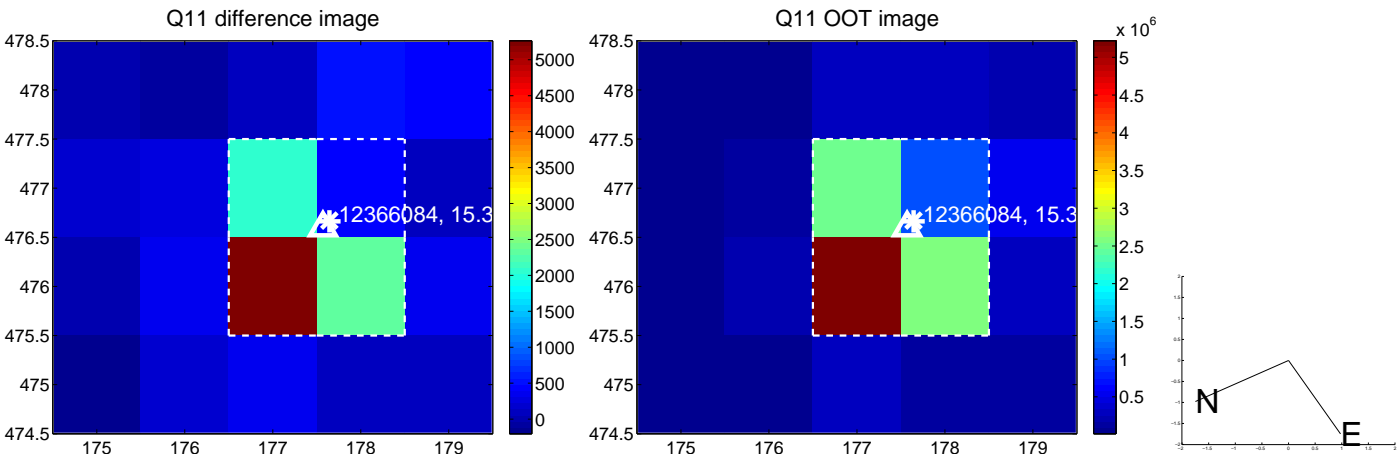
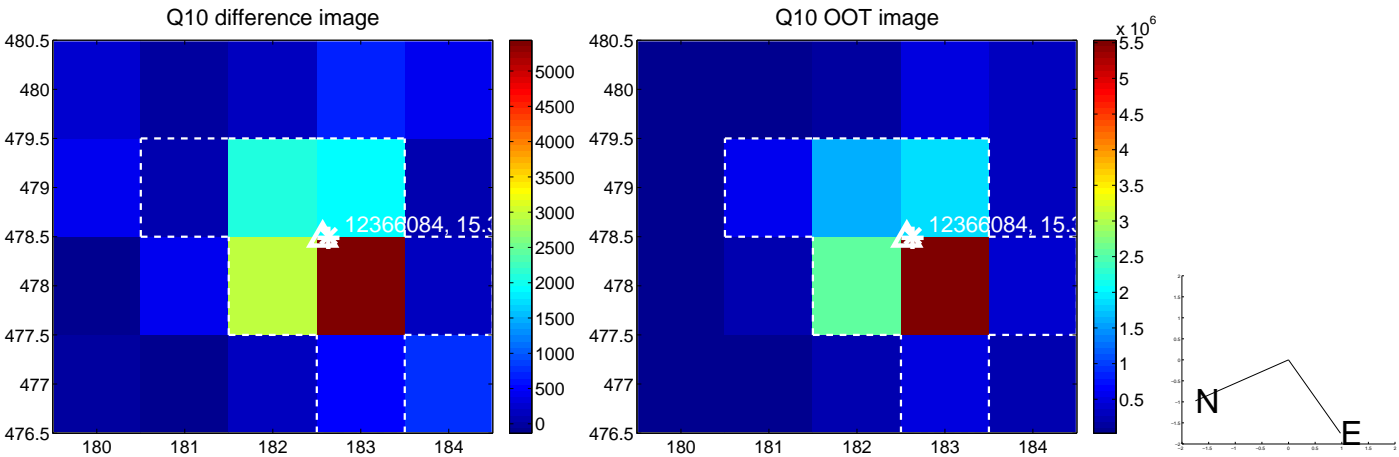
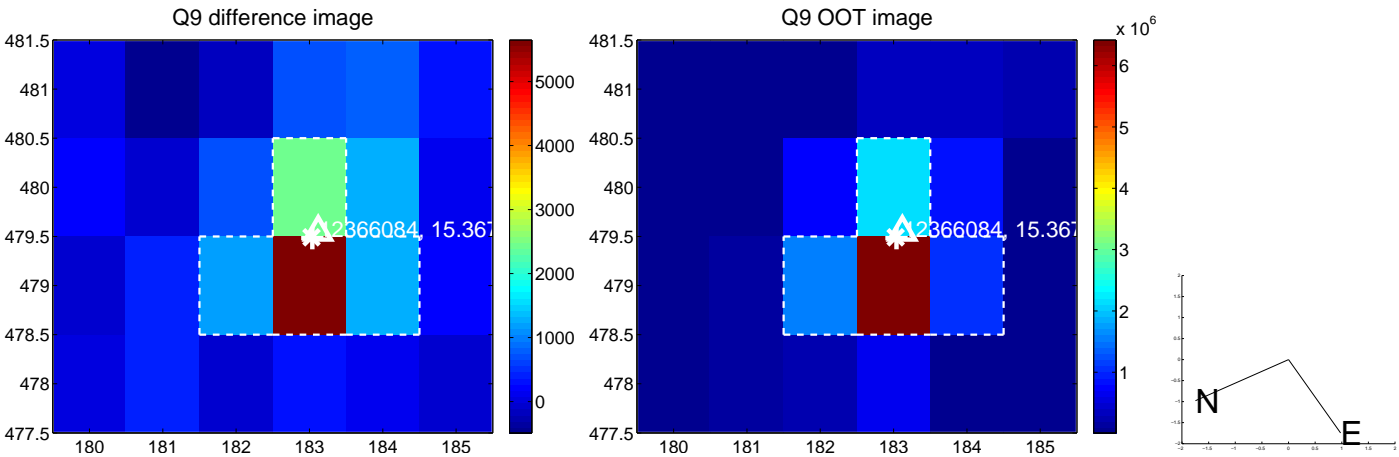
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



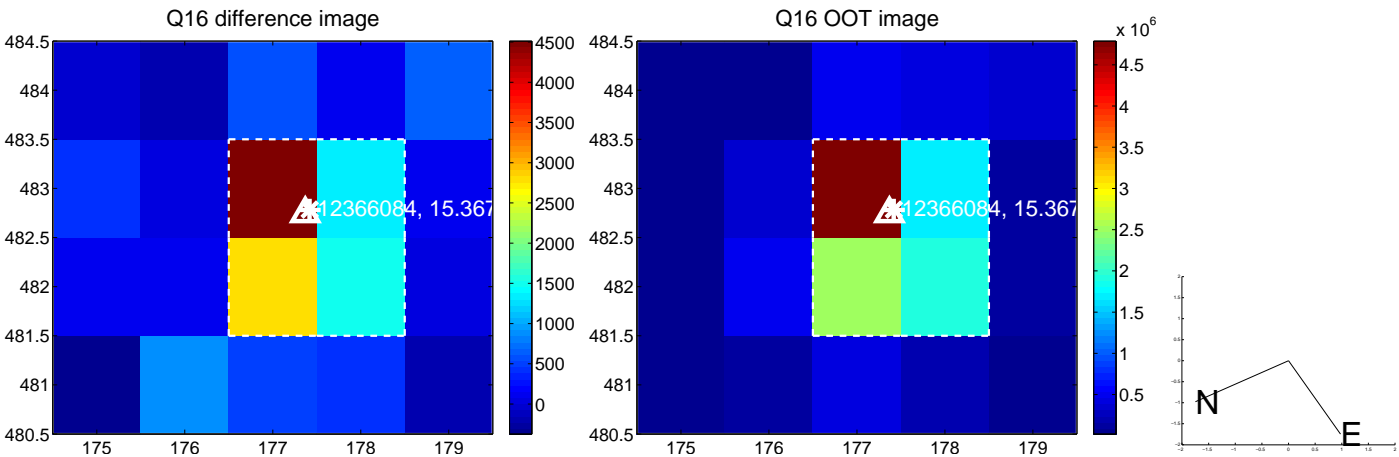
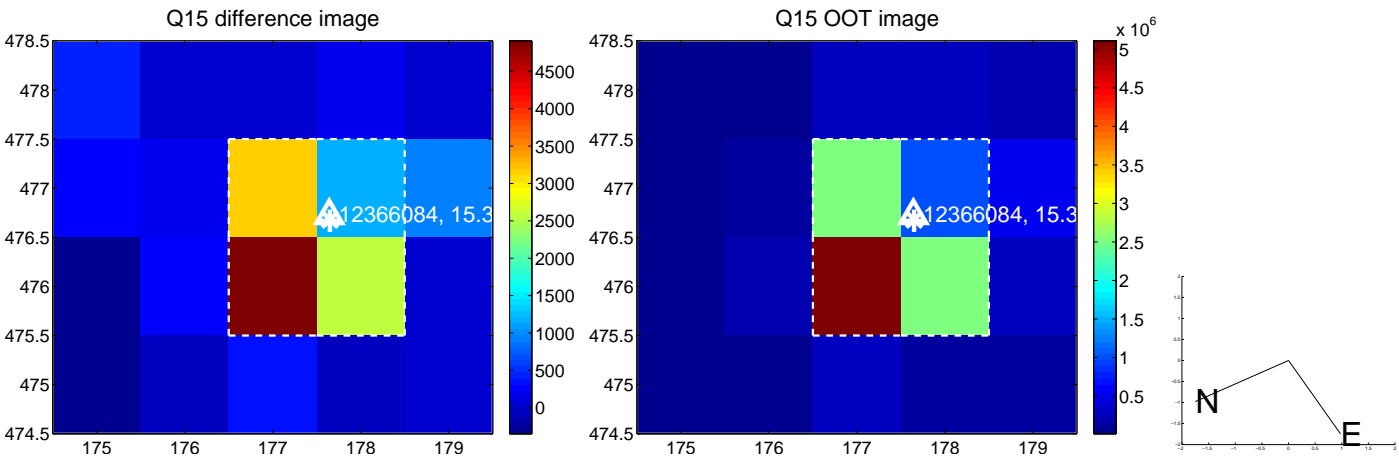
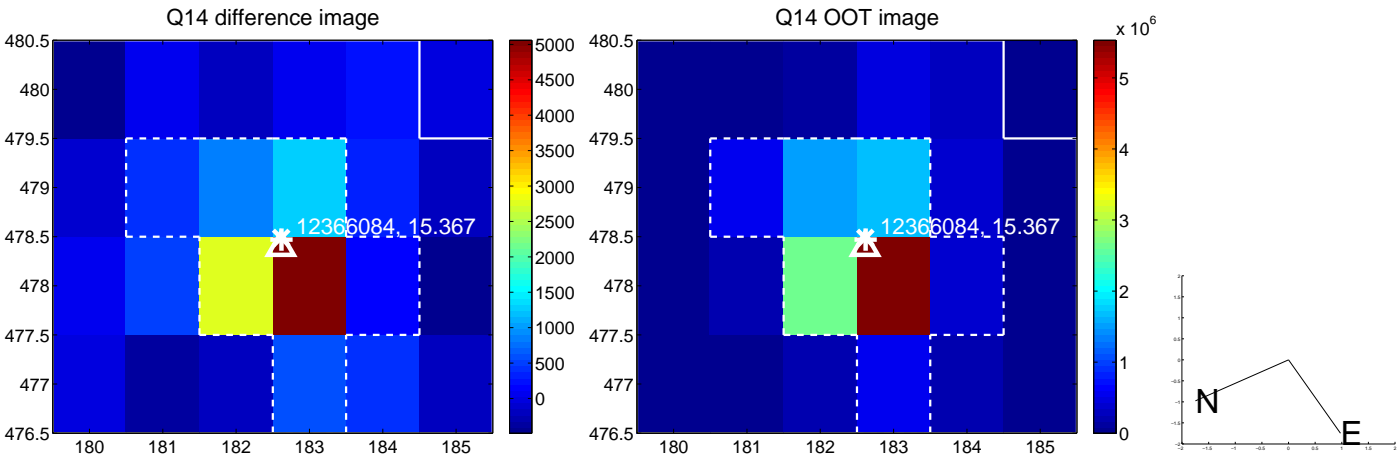
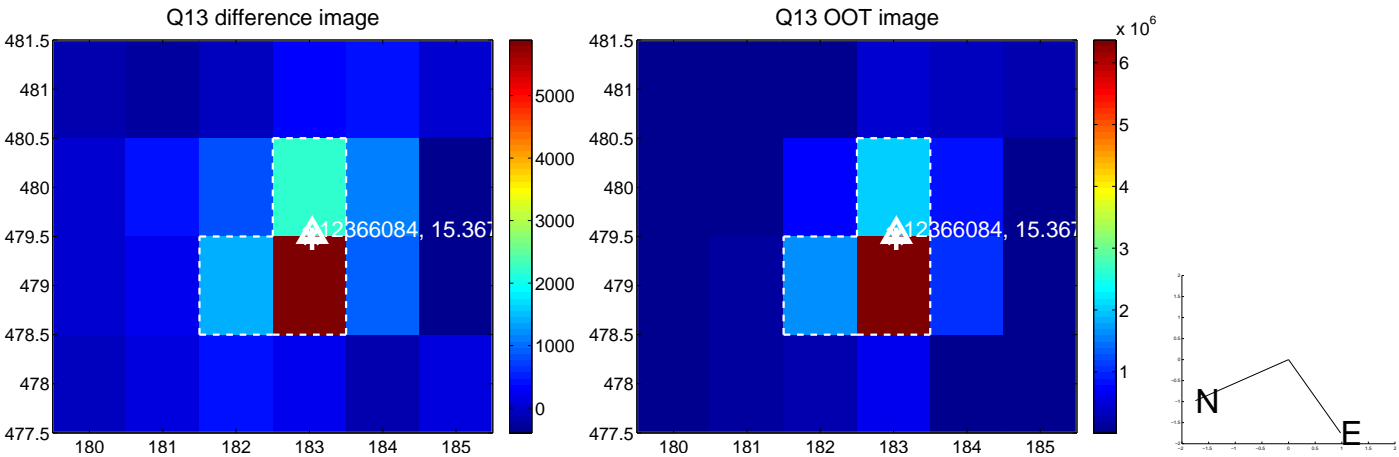
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



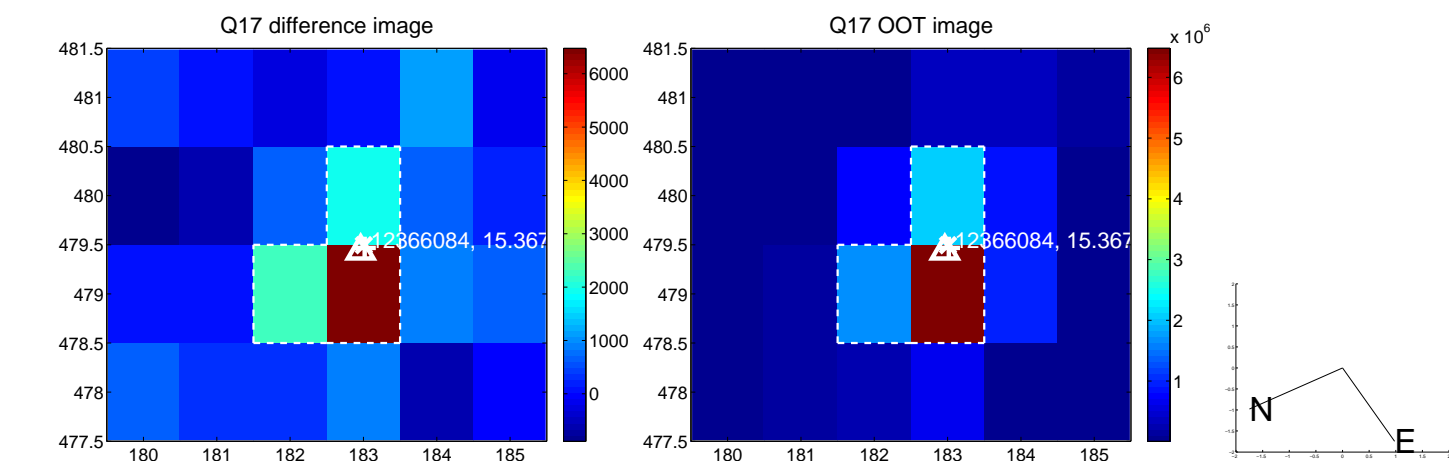
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



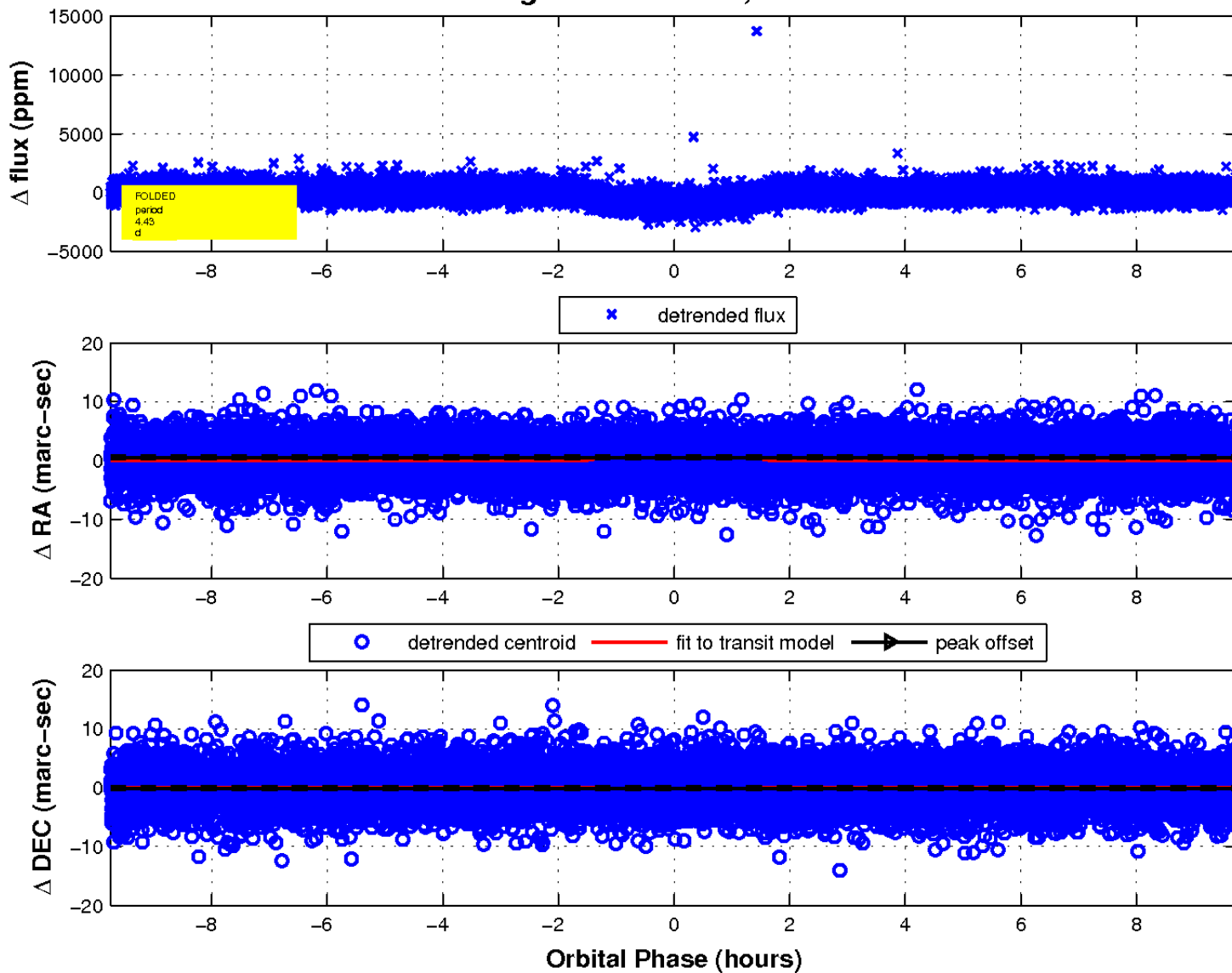
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

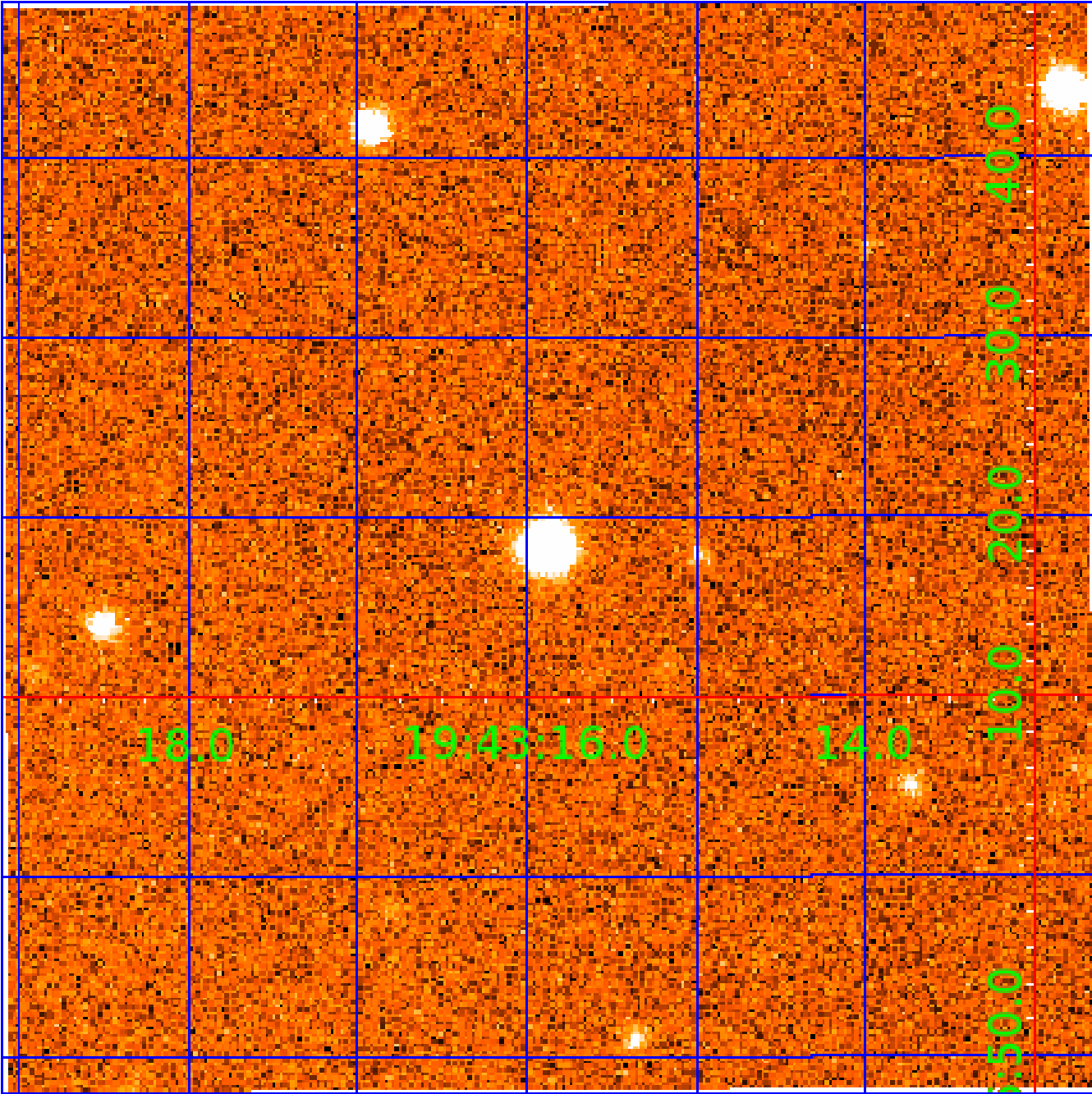


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 012366084

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})
012366084-01	OBS	0787.01	4.431222	135.567472	1012.3	3.250	58.3	64.5	1.01	5714	3.50	351.24
012366084-02	OBS	0787.02	11.379370	133.850952	1021.0	2.591	29.9	33.5	1.01	5714	3.86	99.88
012366084-03	OBS	0787.03	0.589371	131.877611	60.6	2.029	8.4	8.3	1.01	5714	0.95	5173.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012366084-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
012366084-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
012366084-03	OBS	PC	0.87	0	0	0	0	NO_COMMENT

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

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

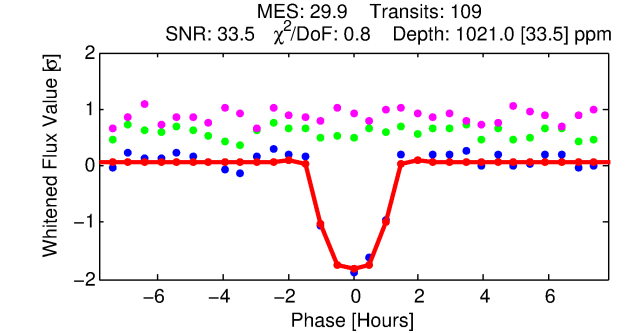
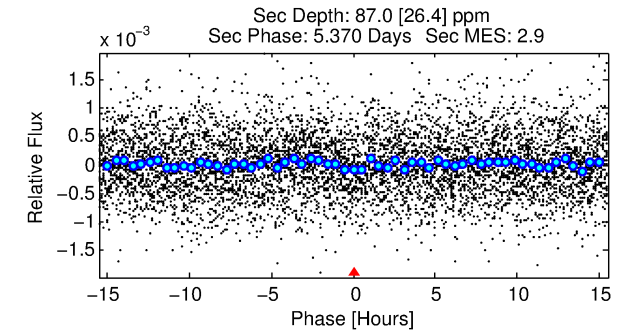
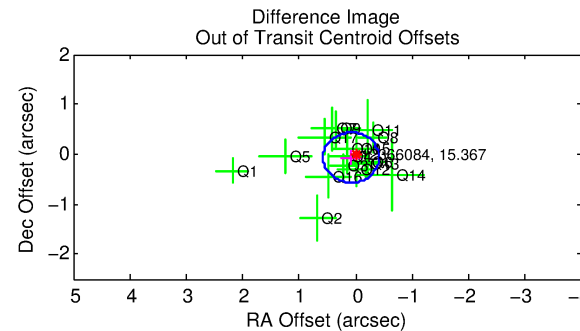
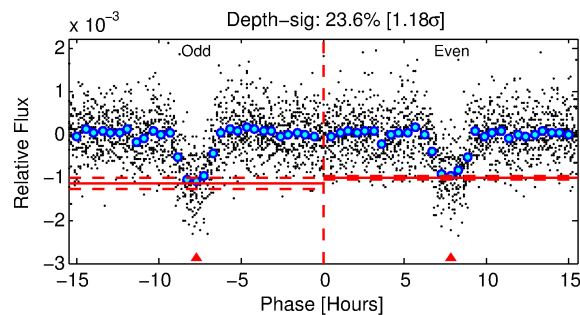
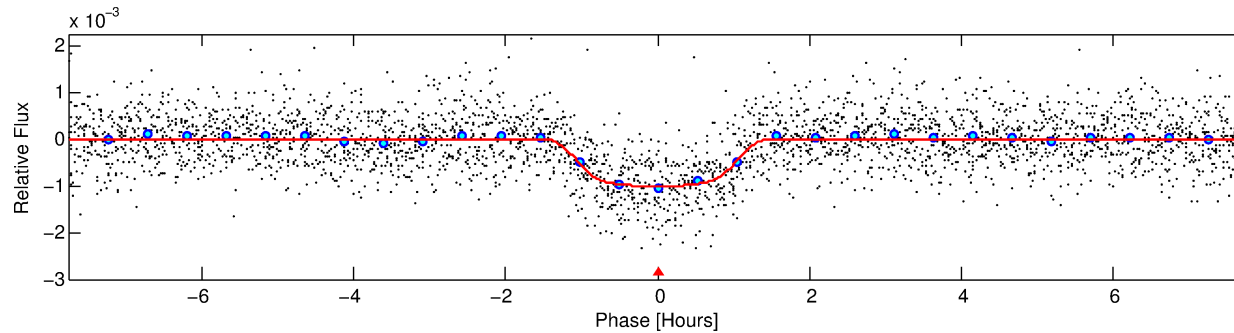
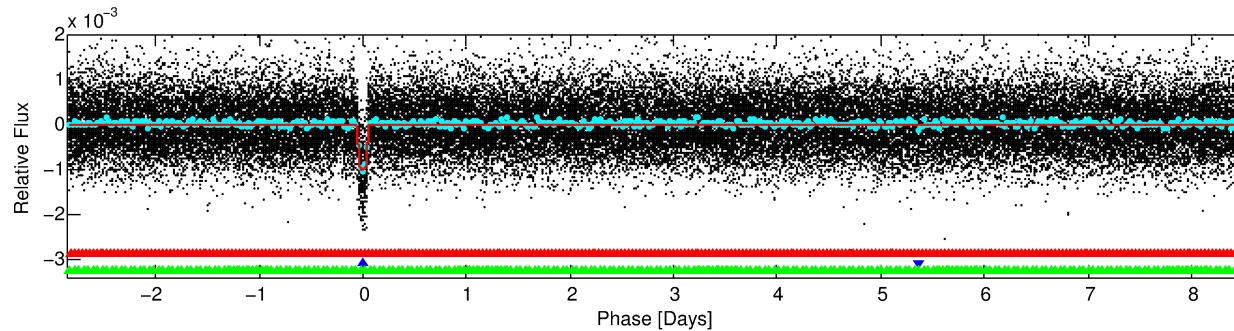
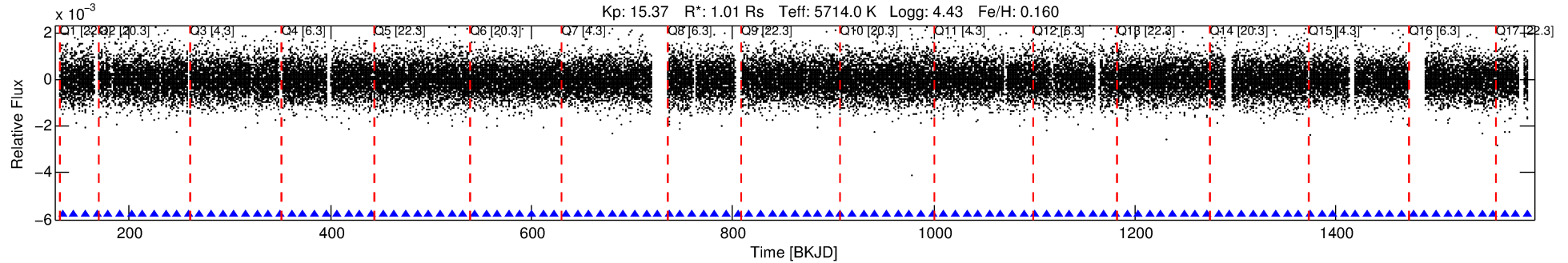
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012366084-02

No Significant Match Found

DV One-Page Summary

KIC: 12366084 Candidate: 2 of 3 Period: 11.379 d
KOI: K00787.02 Name: Kepler-232c Corr: 0.979



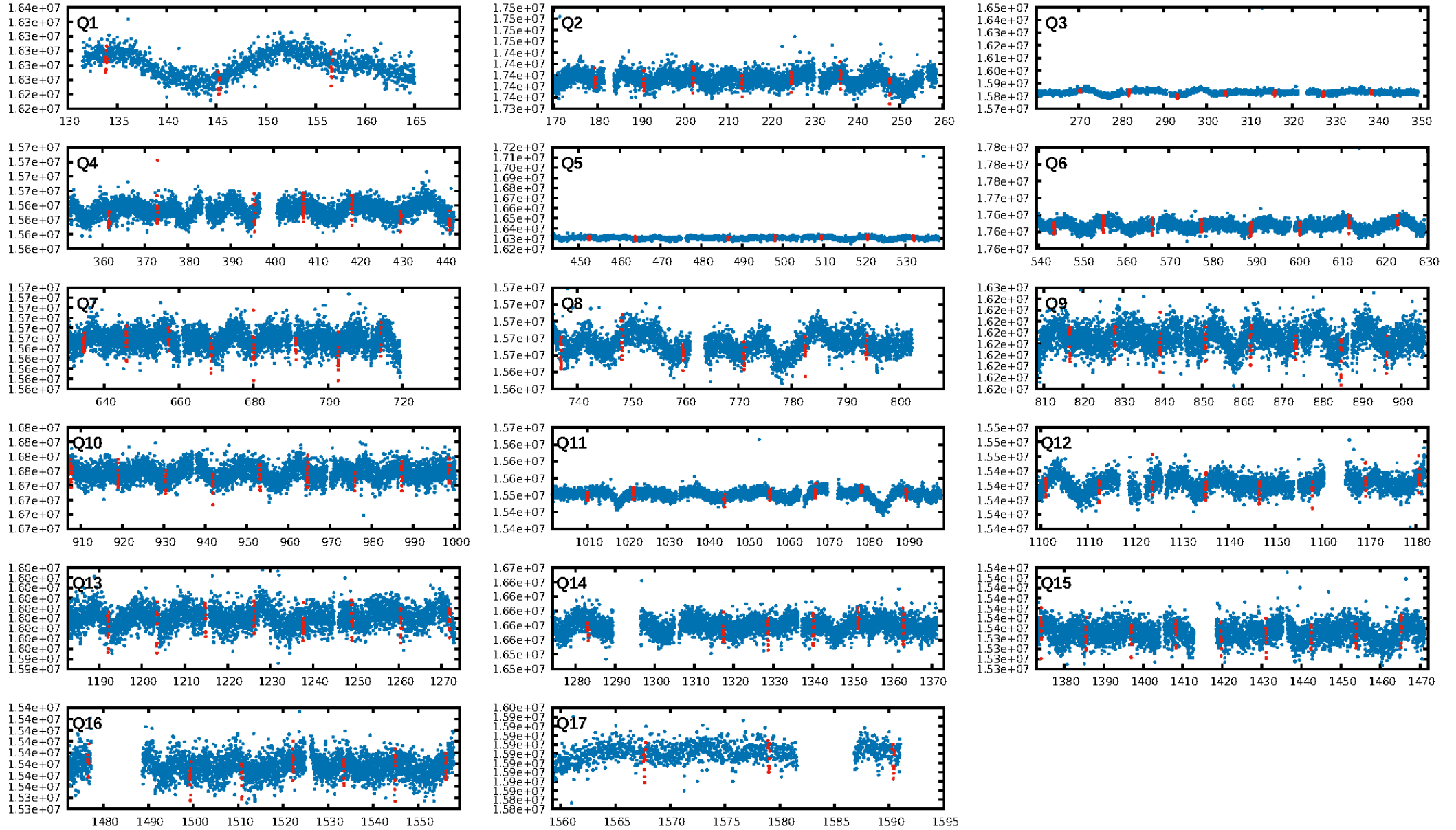
DV Fit Results:

Period = 11.37937 [0.00003] d
Epoch = 133.8510 [0.0018] BKJD
Rp/R* = 0.0348 [0.0028]
a/R* = 17.48 [5.75]
b = 0.89 [0.08]
Seff = 99.88 [21.10]
Teq = 806 [43] K
Rp = 3.86 [0.64] Re
a = 0.0993 [0.0131] AU
Ag = 31.68 [12.63] [2.43 σ]
Teffp = 2957 [256] K [8.28 σ]

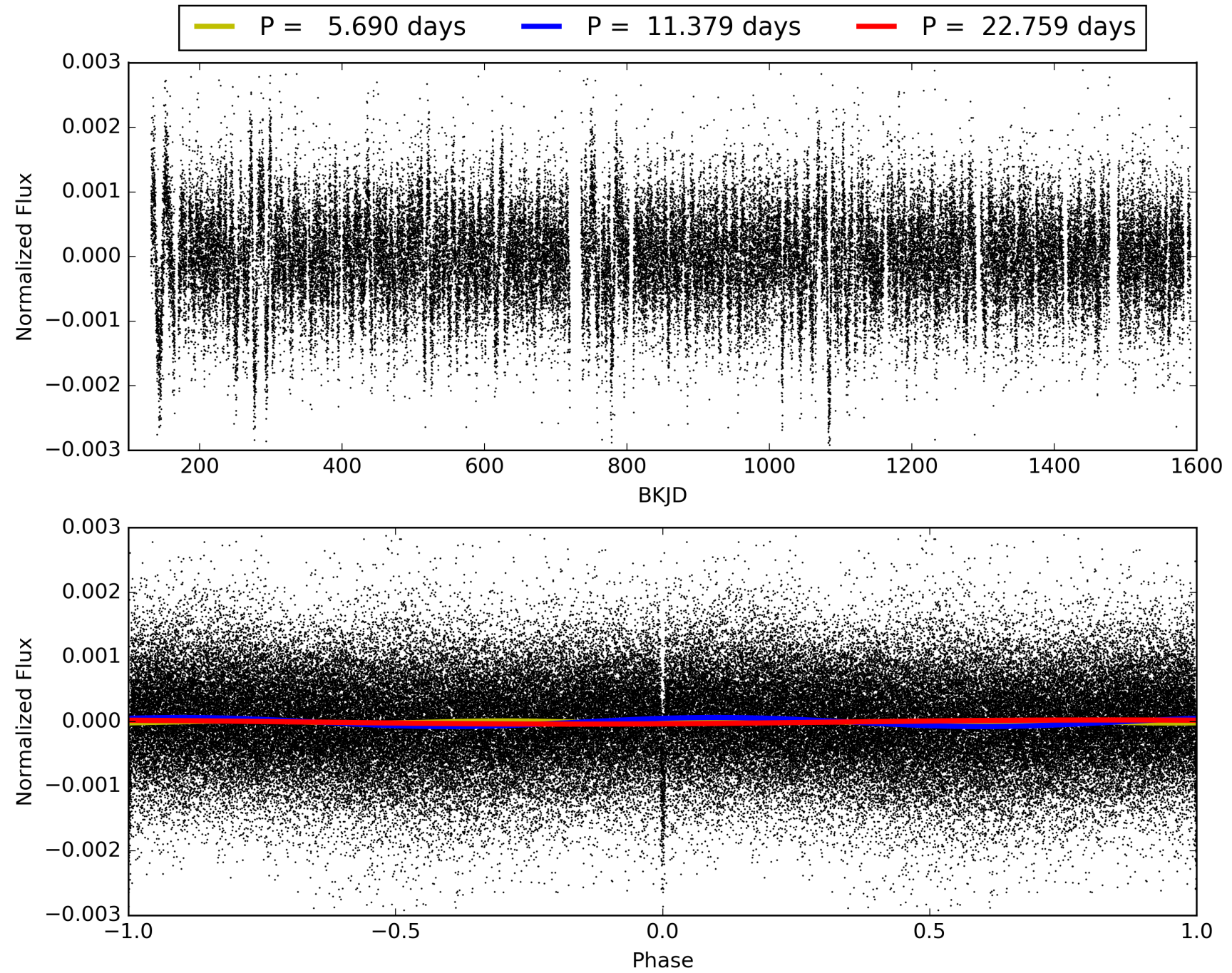
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [40.12 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 98.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.01e-180
RollingBand-fgt: 1.00 [103/103]
GhostDiagnostic-chr: 3.468
Centroid-sig: 37.2%
Centroid-so: 1.279 arcsec [3.25 σ]
OotOffset-rm: 0.108 arcsec [0.65 σ]
KicOffset-rm: 0.151 arcsec [0.85 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 0.00 [0/17]

TCE 012366084-02, PDC Light Curves

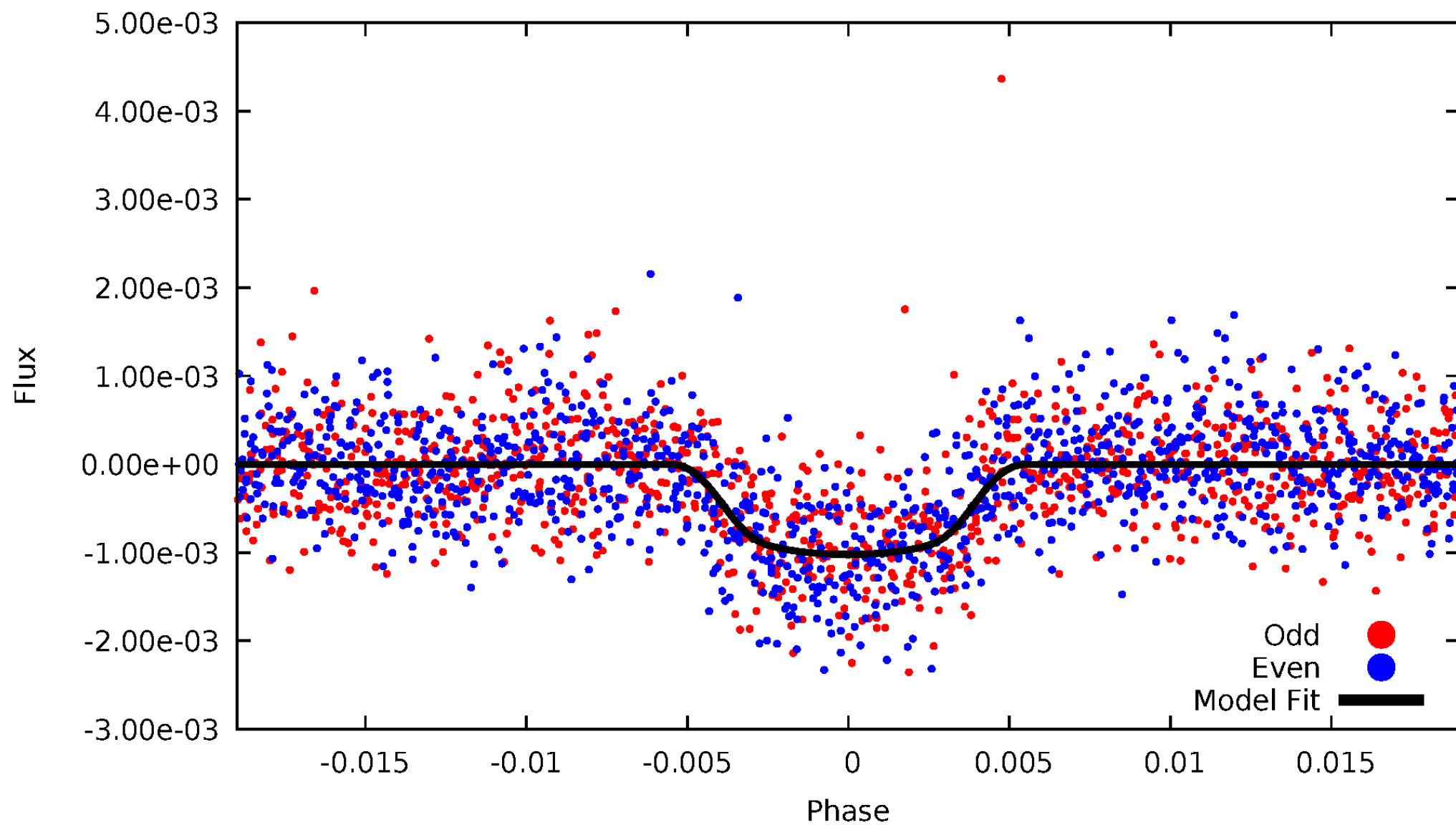


TCE 012366084-02



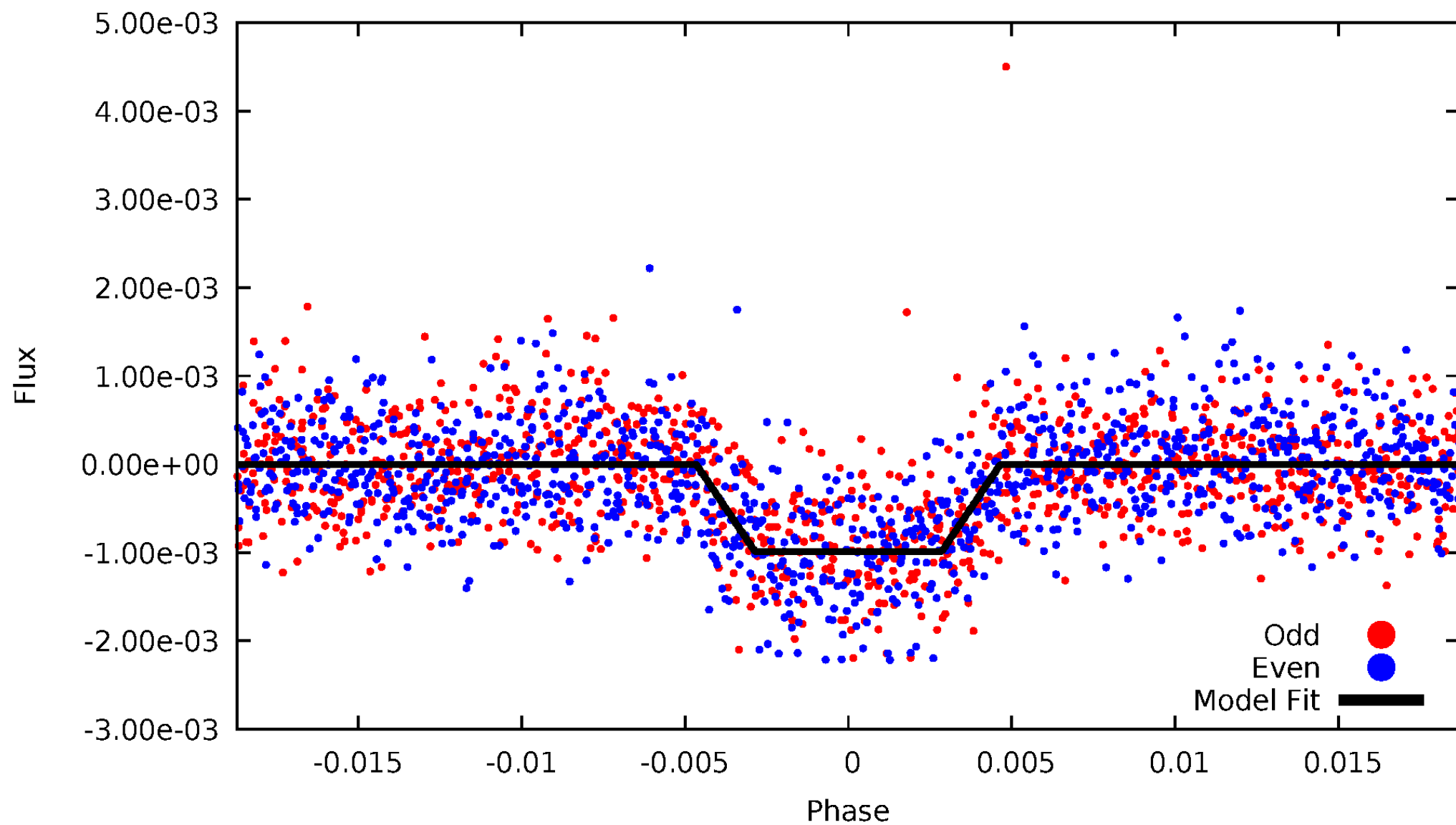
DV Odd/Even

TCE 012366084-02



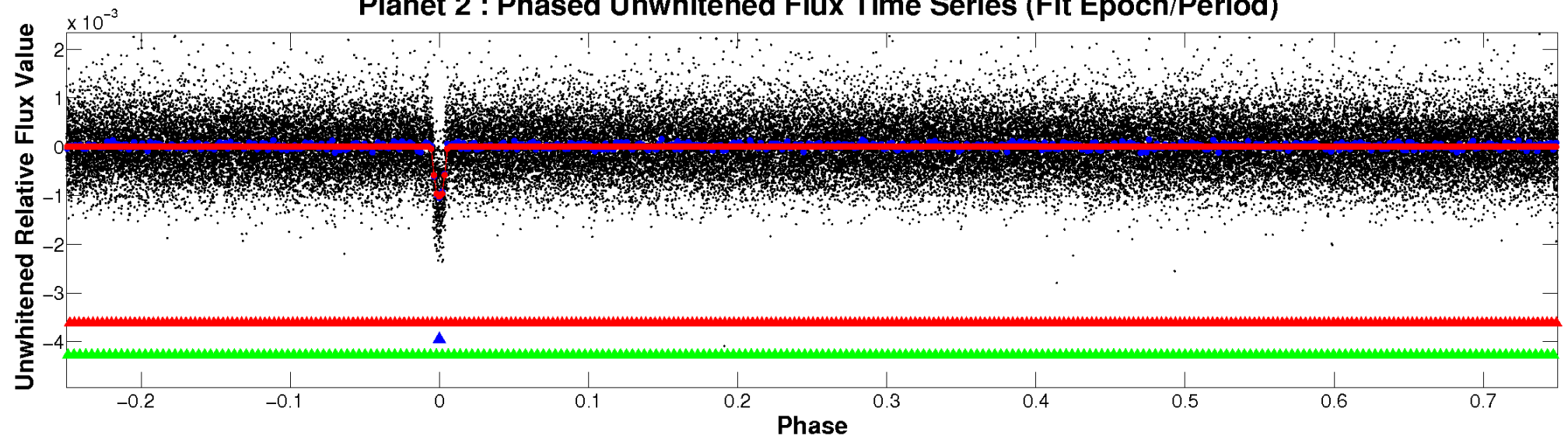
ALT Odd/Even

TCE 012366084-02

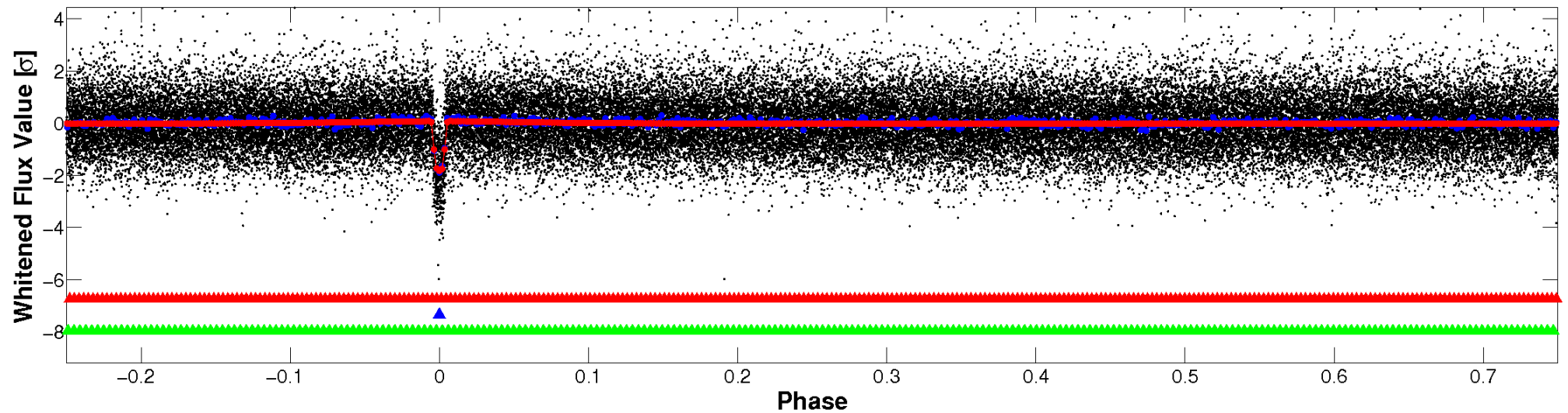


Non-Whitened Vs. Whitened Light Curve

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

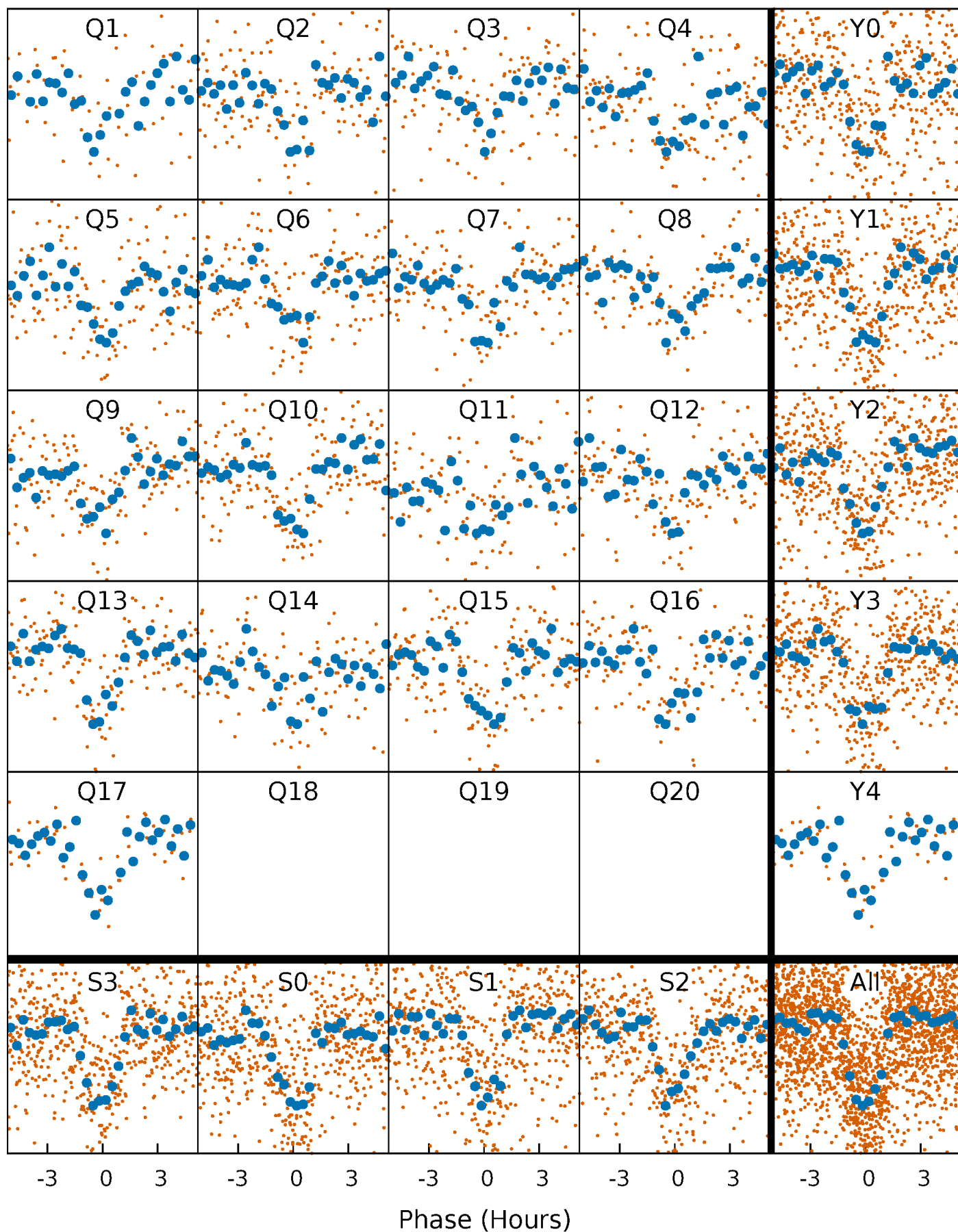


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



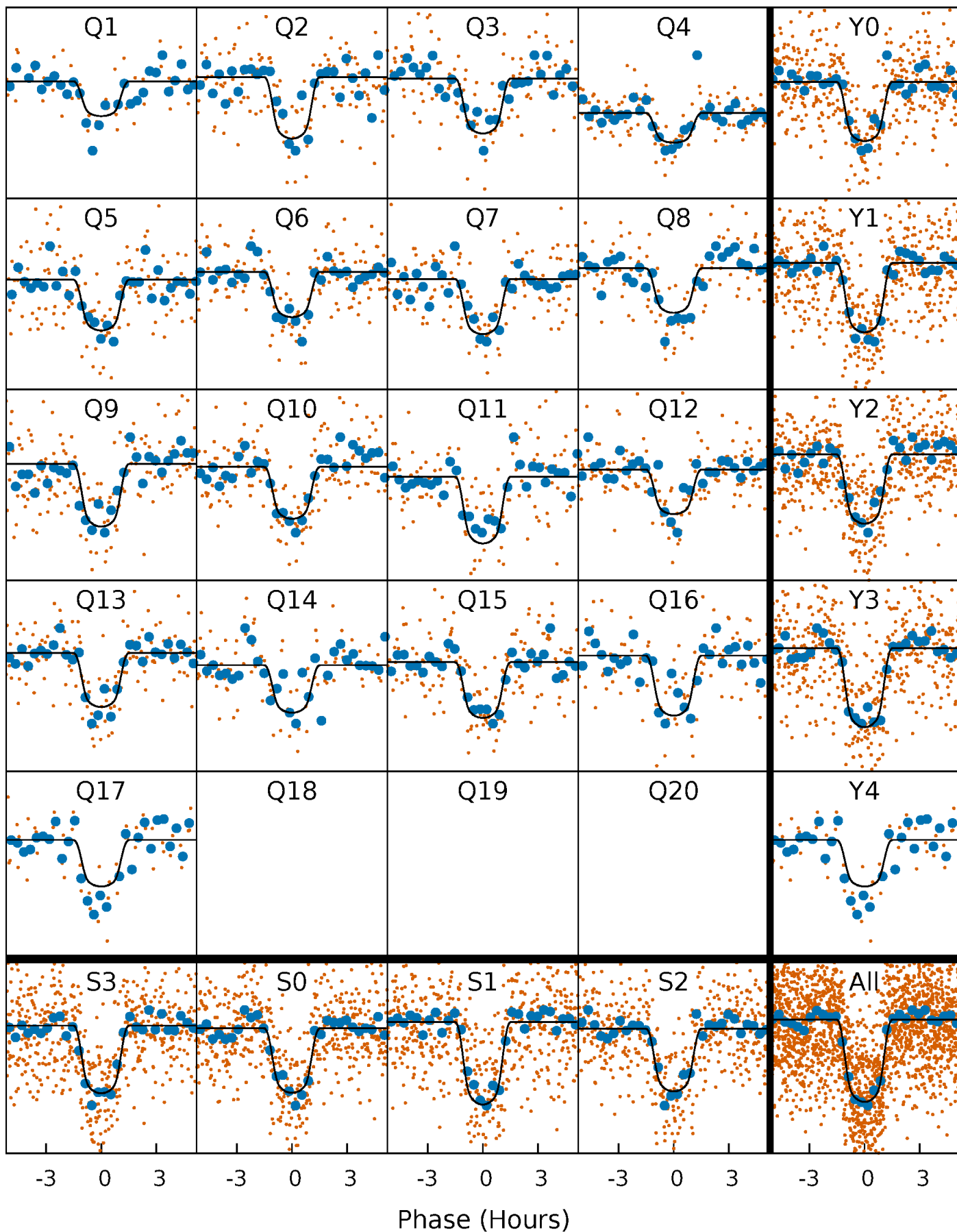
PDC Quarter-Phased Transit Curves

TCE 012366084-02 P= 11.379370 Days $T_0=133.850952$ (BKJD)



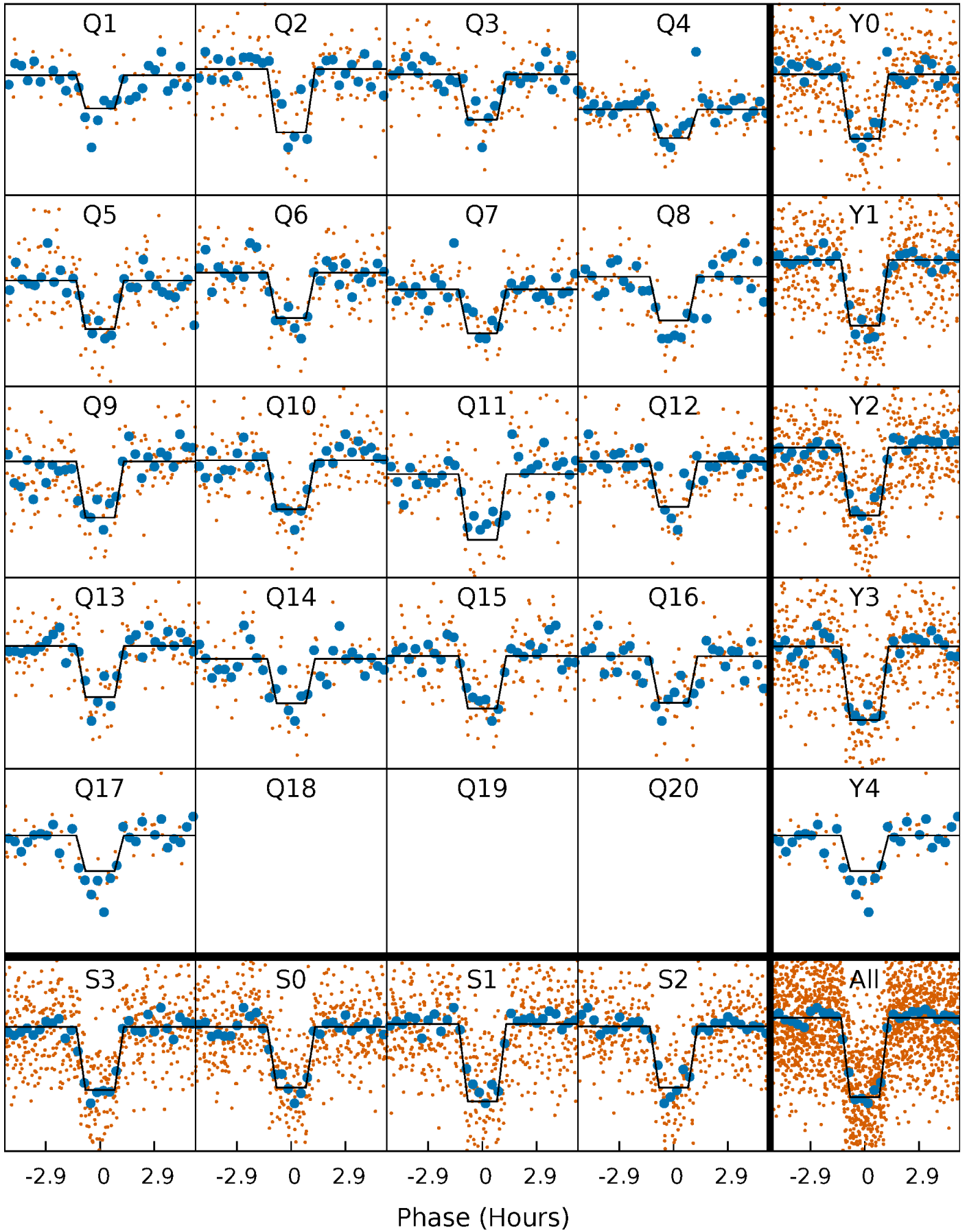
DV Quarter-Phased Transit Curves

TCE 012366084-02 P= 11.379370 Days $T_0=133.850952$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

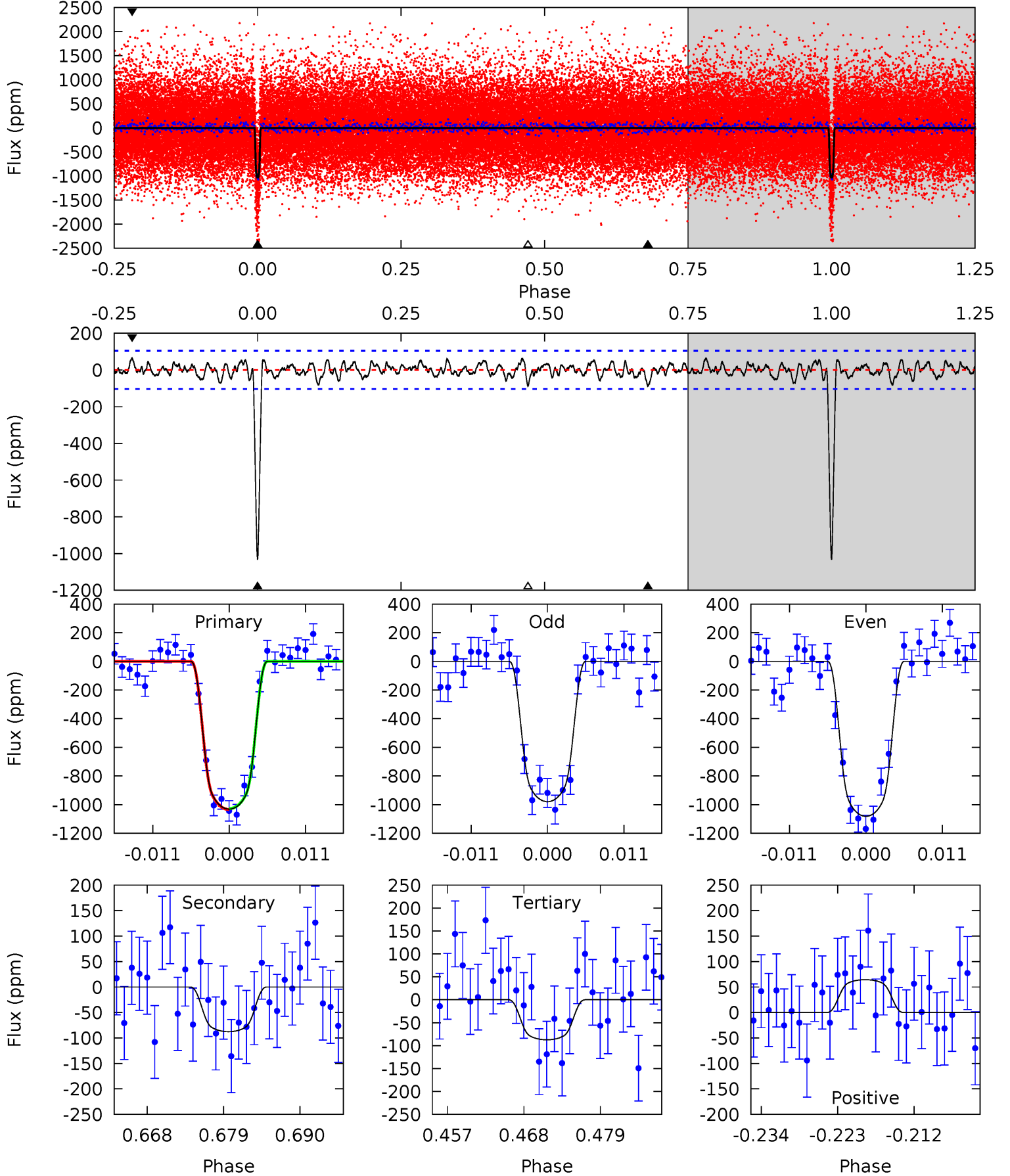
TCE 012366084-02 P= 11.379377 Days $T_0=133.849986$ (BKJD)



DV Model-Shift Uniqueness Test

012366084-02, $P = 11.379370$ Days, $E = 122.471582$ Days

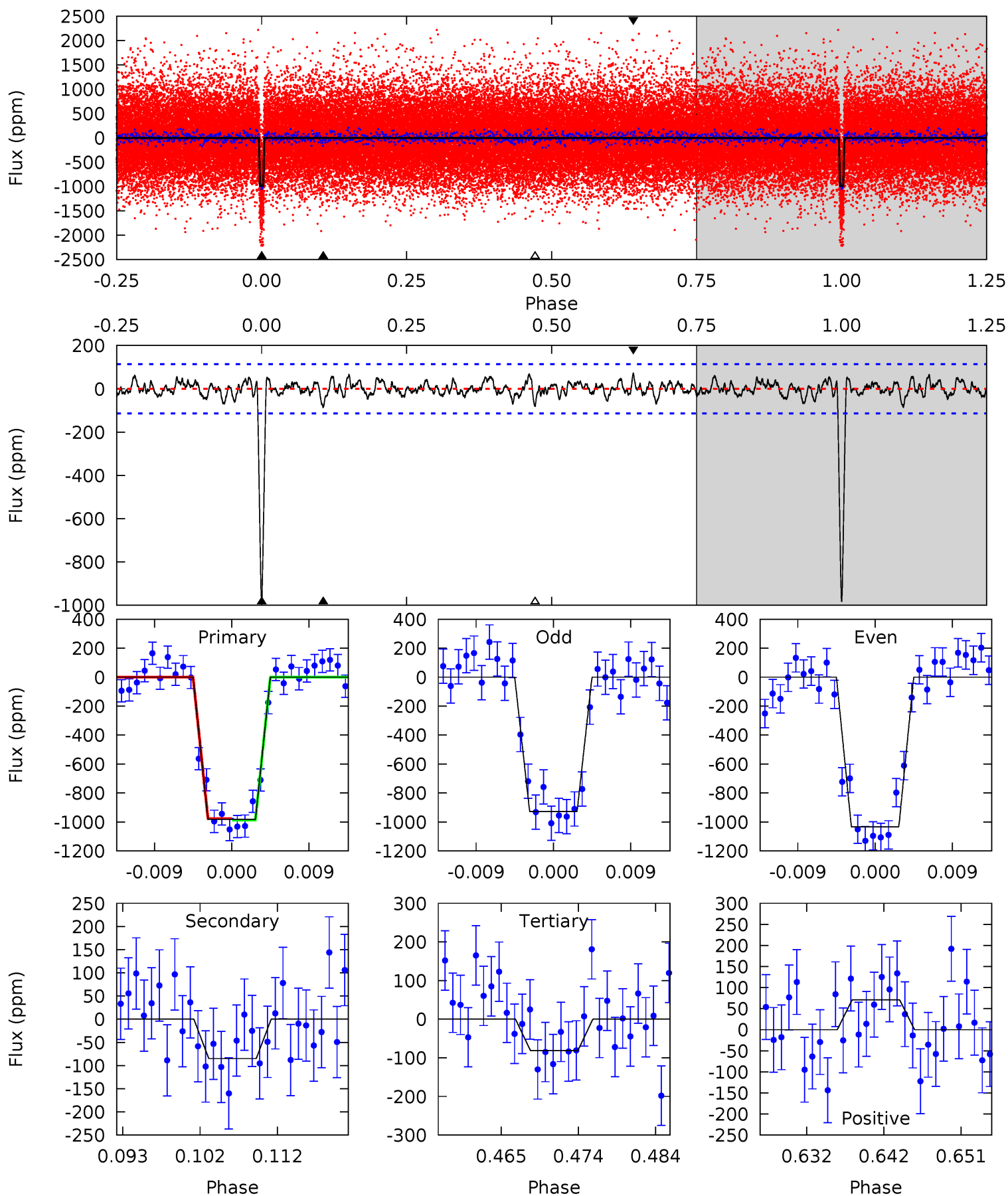
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
49.7	4.23	4.22	3.11	5.01	2.54	1.31	45.5	46.6	0.01	1.12	2.47	1.00	0.06	0.15



Alt Model-Shift Uniqueness Test

012366084-02, P = 11.379377 Days, E = 122.470609 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
43.3	3.75	3.59	3.13	5.04	2.60	1.12	39.8	40.2	0.16	0.61	2.36	1.03	0.07	0.22



Stellar Parameters For KIC 012366084

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5714^{+77}_{-77}	$4.428^{+0.063}_{-0.117}$	$0.160^{+0.150}_{-0.150}$	$1.015^{+0.148}_{-0.079}$	$1.007^{+0.056}_{-0.062}$	$1.355^{+0.332}_{-0.454}$
	+1%/-1%	+1%/-3%	+94%/-94%	+15%/-8%	+6%/-6%	+24%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 012366084-02 / KOI 0787.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-88 ± 21	$3.91^{+0.42}_{-0.37}$	1134^{+41}_{-32}	3463^{+144}_{-185}	31^{+10}_{-10}
Alt.	-85 ± 23	$3.55^{+0.40}_{-0.39}$	1135^{+42}_{-35}	3529^{+194}_{-195}	35^{+14}_{-11}

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

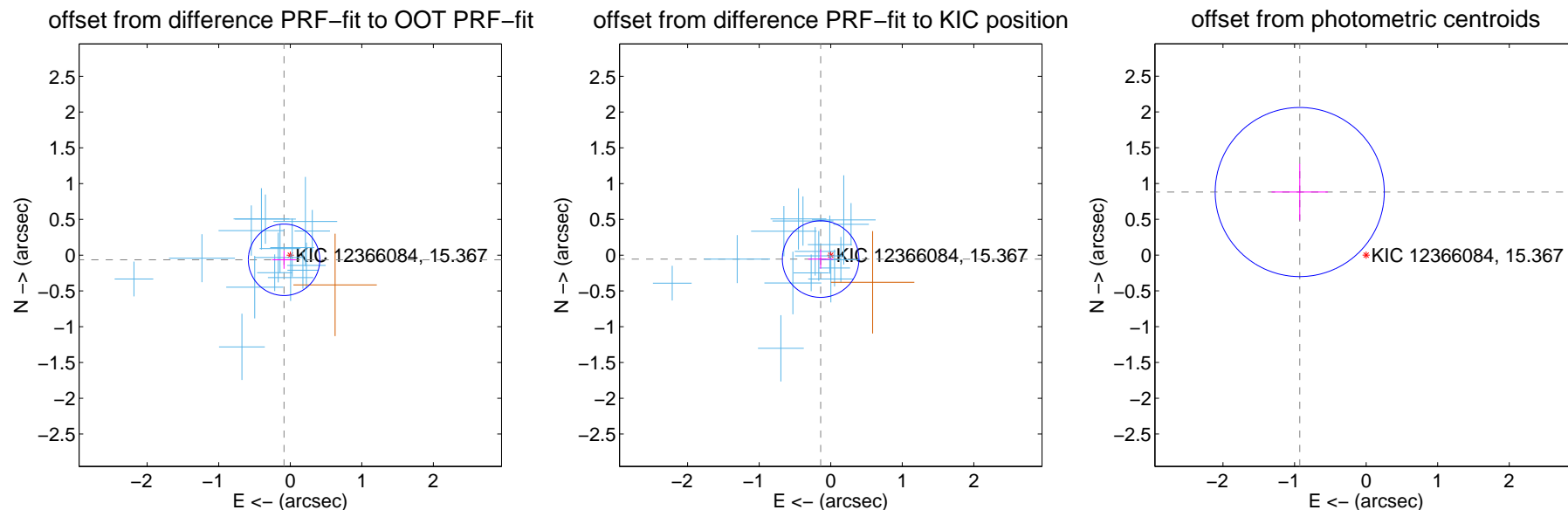
DV Centroid Data

Supplemental centroid analysis for 012366084-02. Kepler magnitude: 15.37. Transit SNR 33.49

There are 16 quarters with good PRF difference image offsets

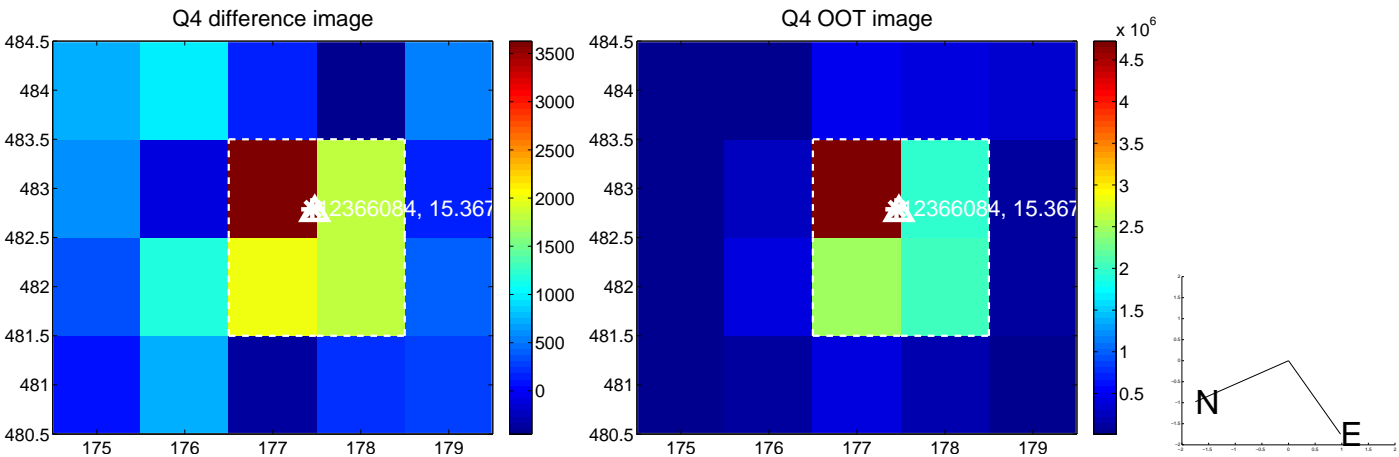
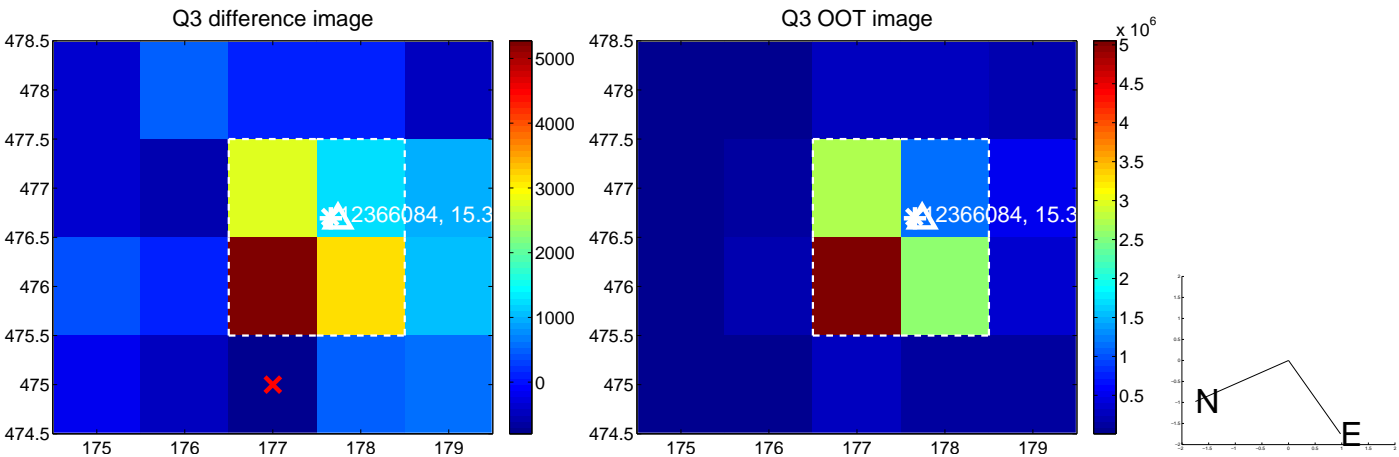
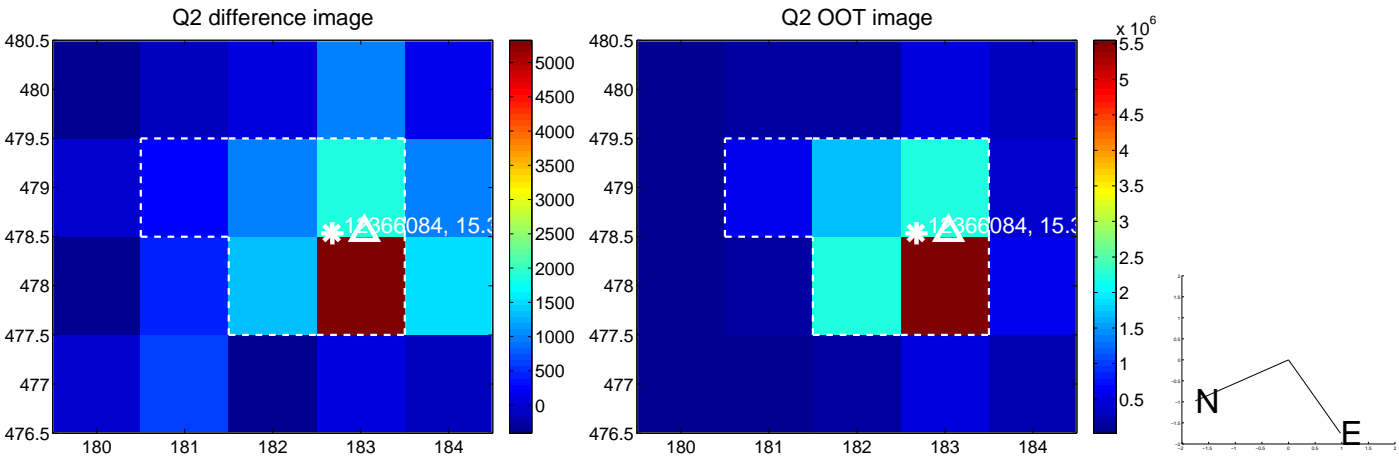
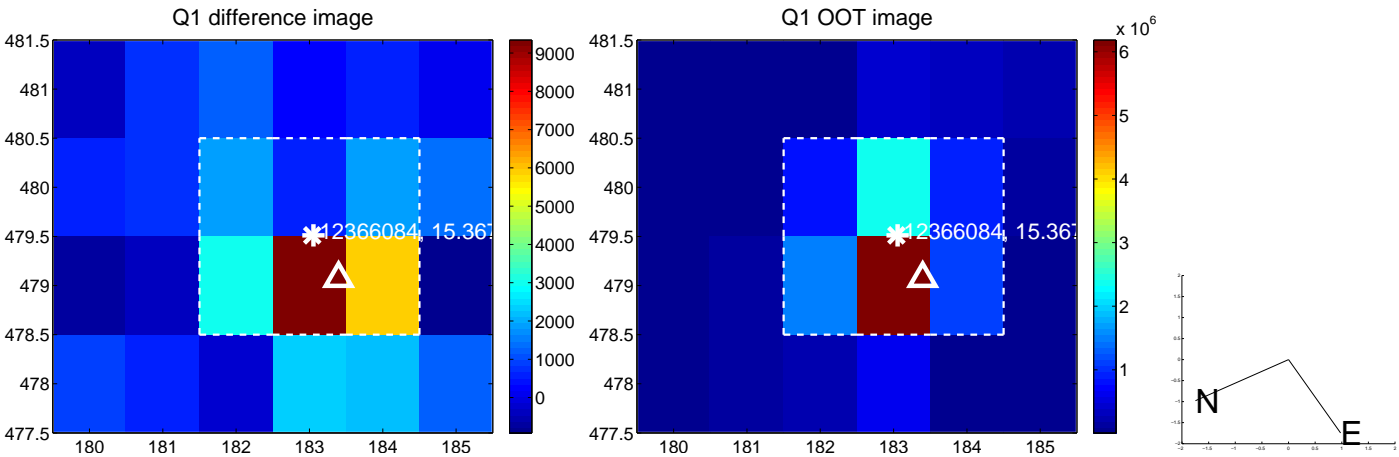
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.108 ± 0.166	0.65	0.087 ± 0.167	-0.065 ± 0.127
PRF-fit source offset from KIC position	0.151 ± 0.178	0.85	0.141 ± 0.175	-0.055 ± 0.134
photometric centroid source offset	1.28 ± 0.39	3.25	0.93 ± 0.39	0.88 ± 0.39

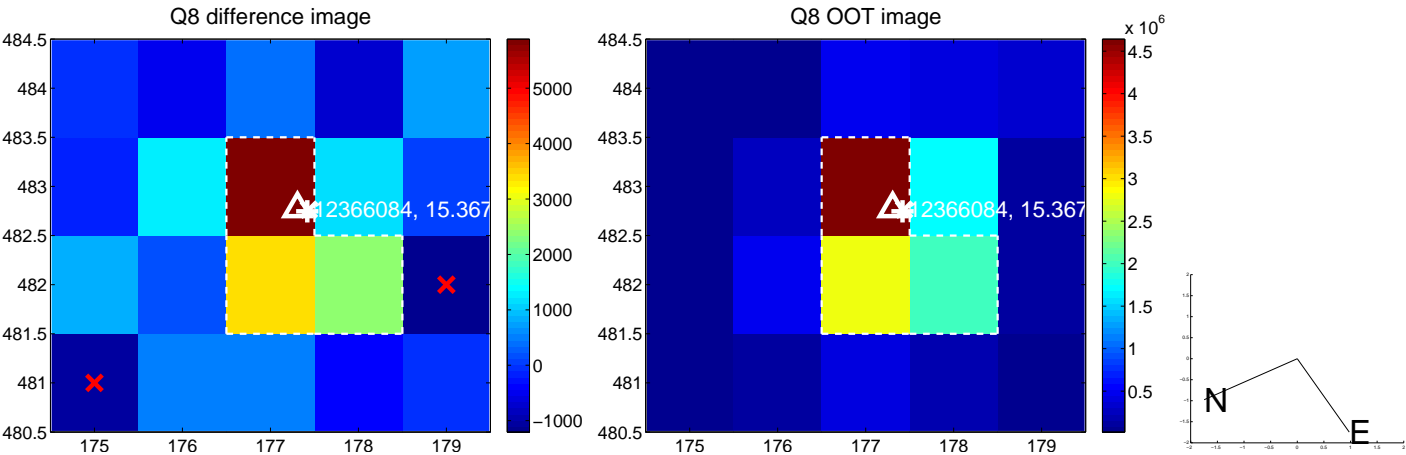
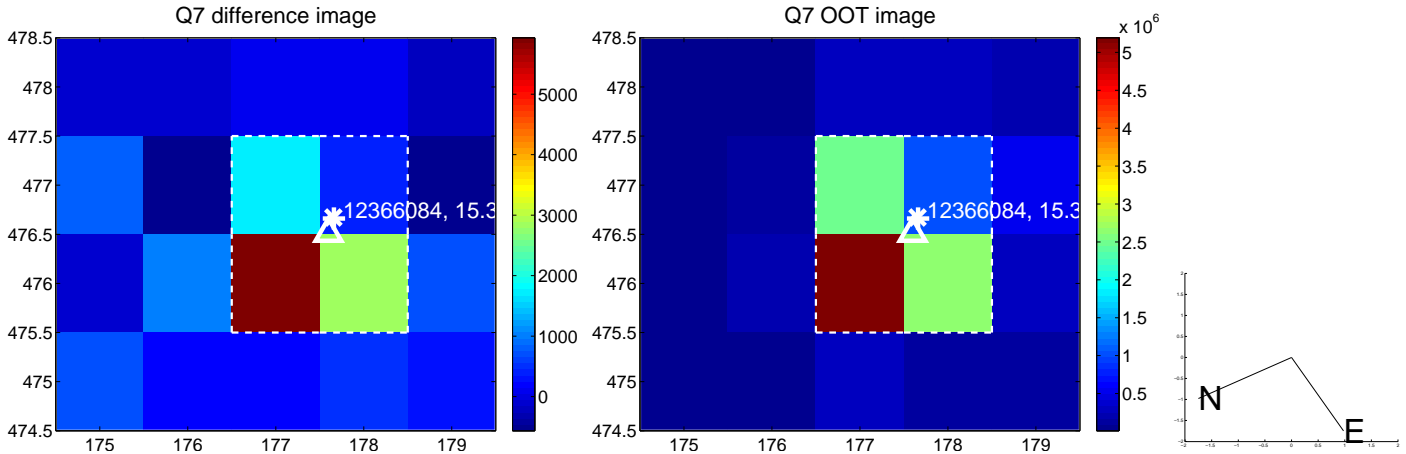
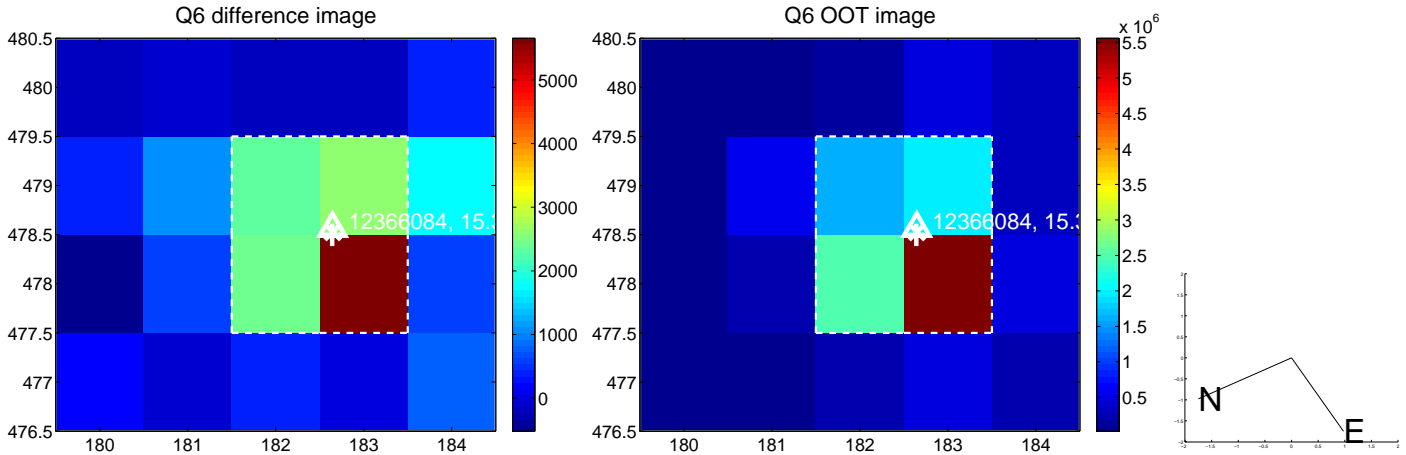
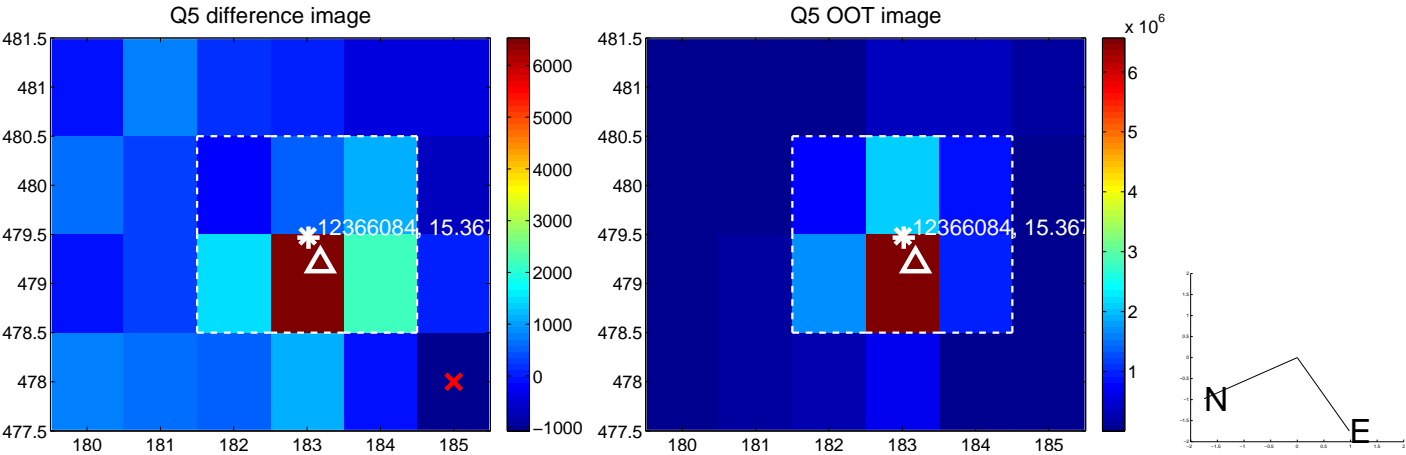


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

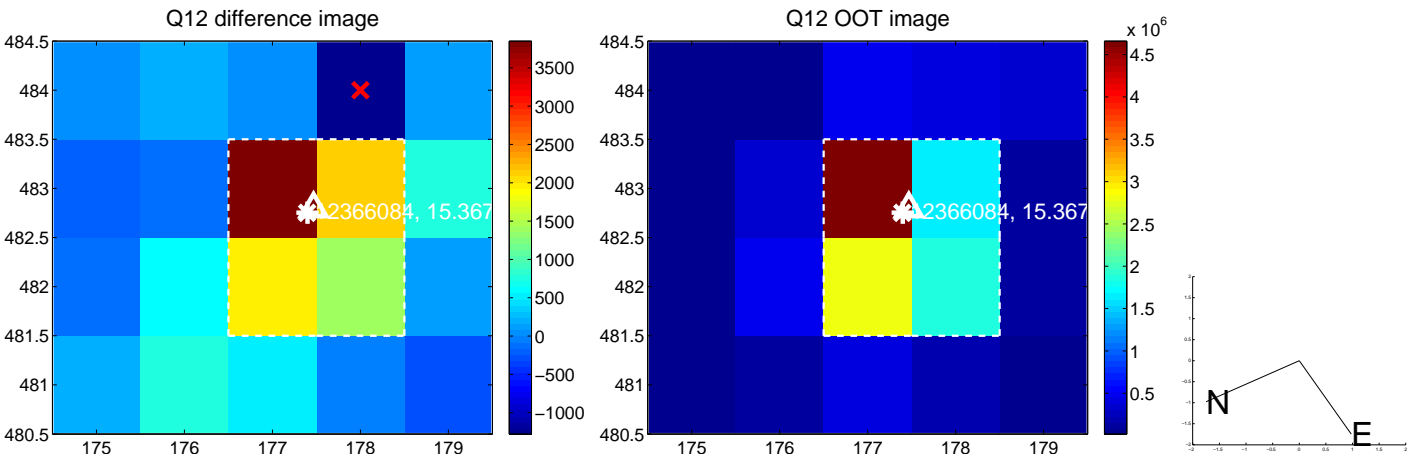
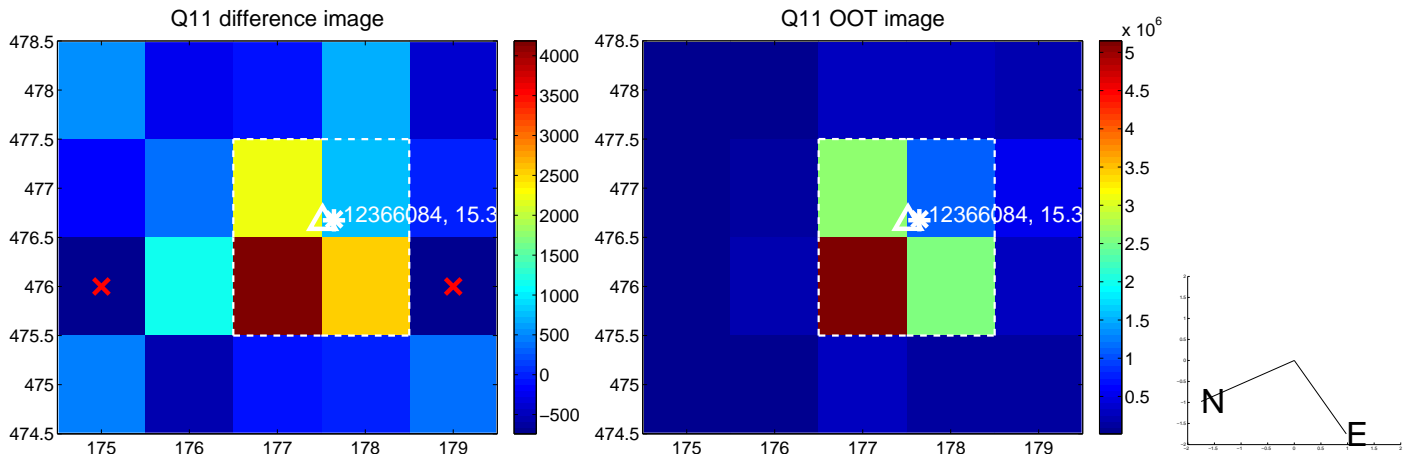
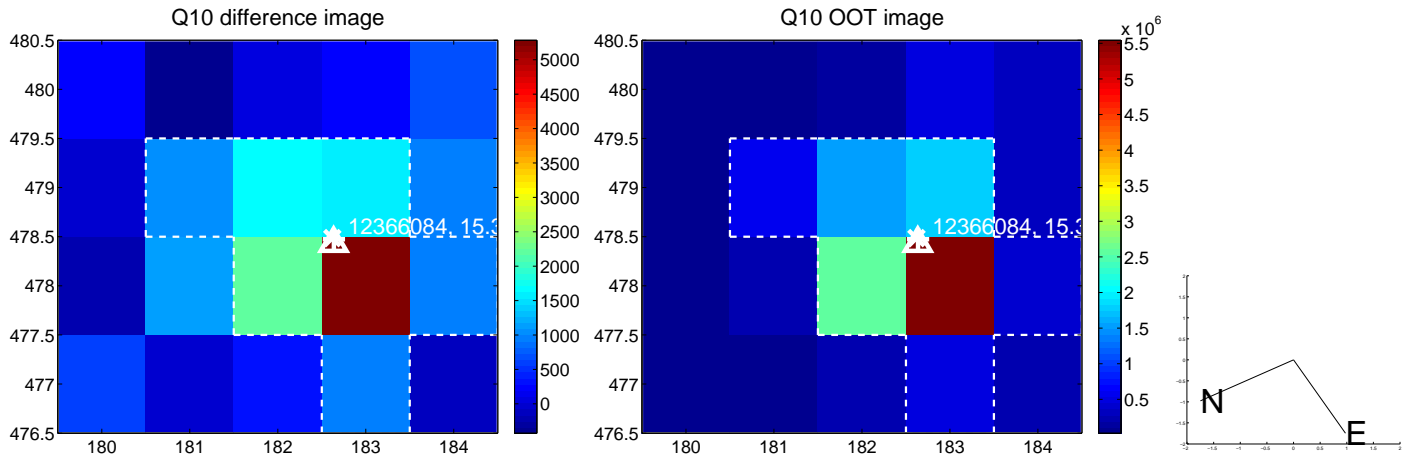
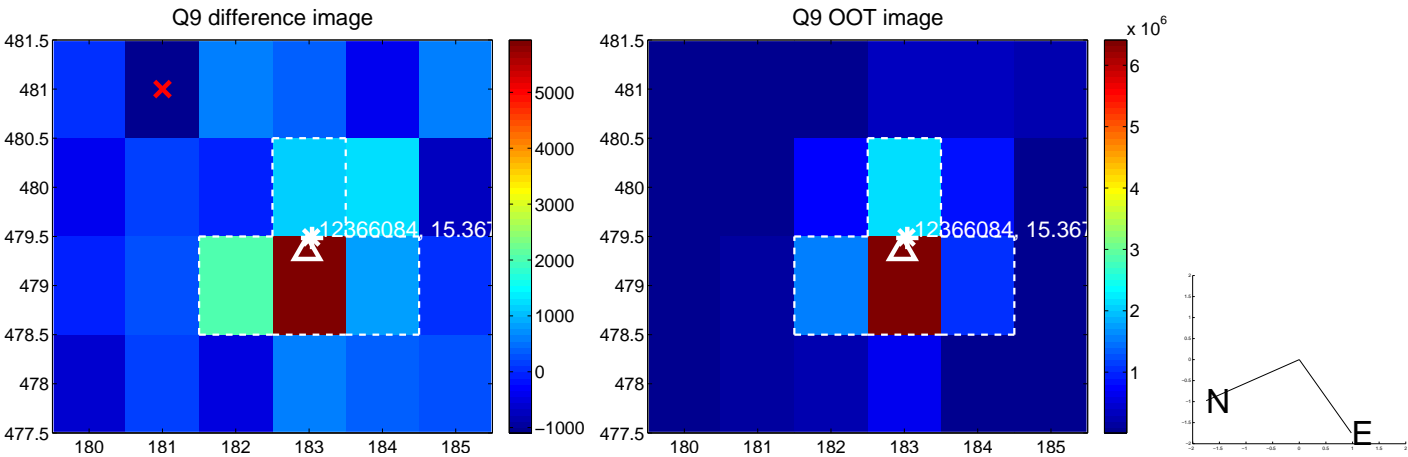
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



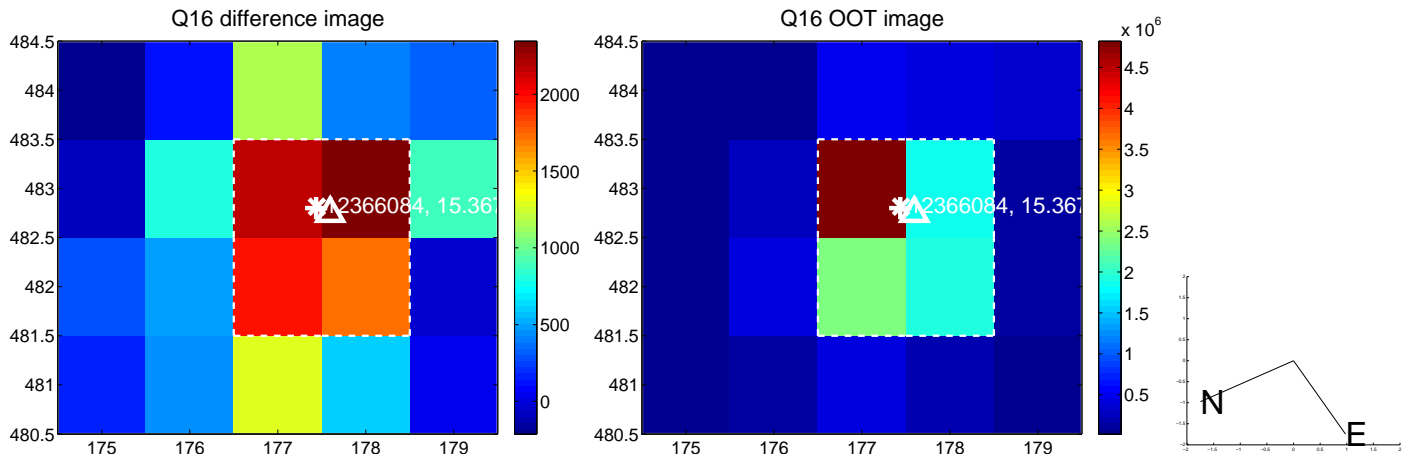
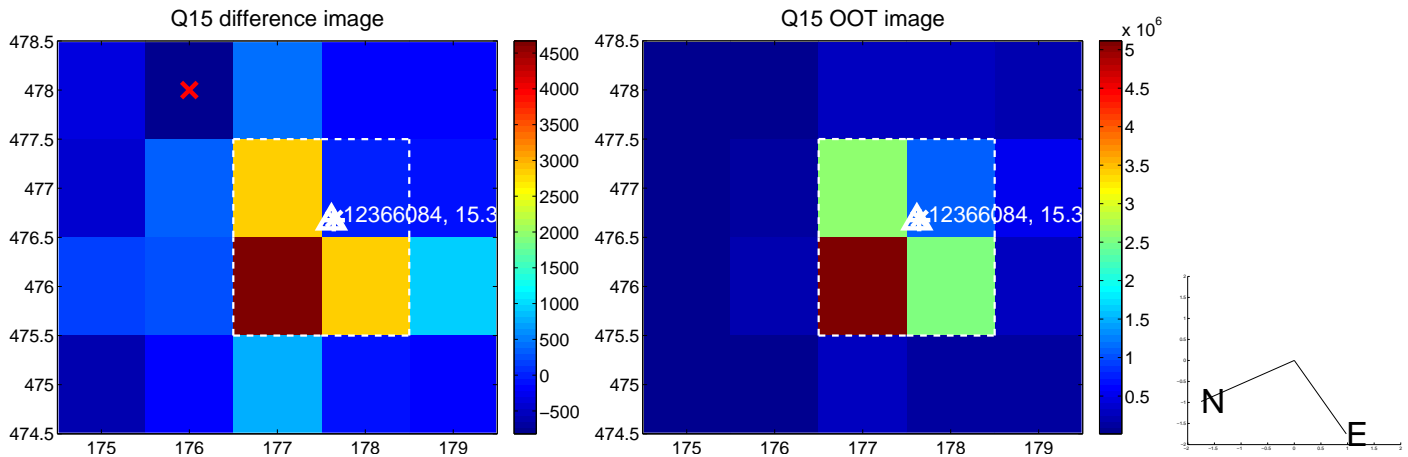
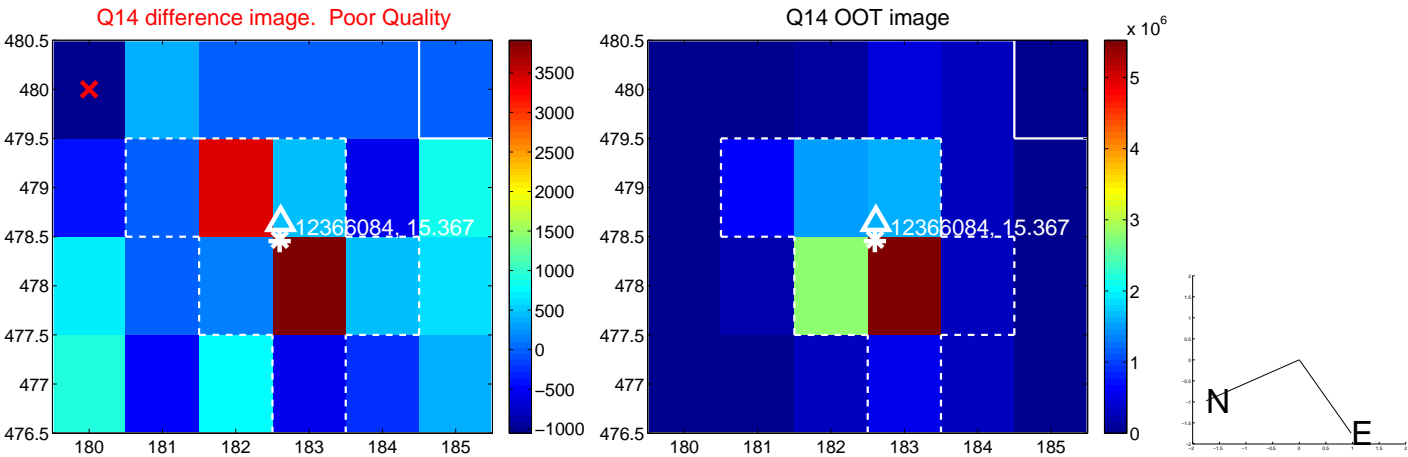
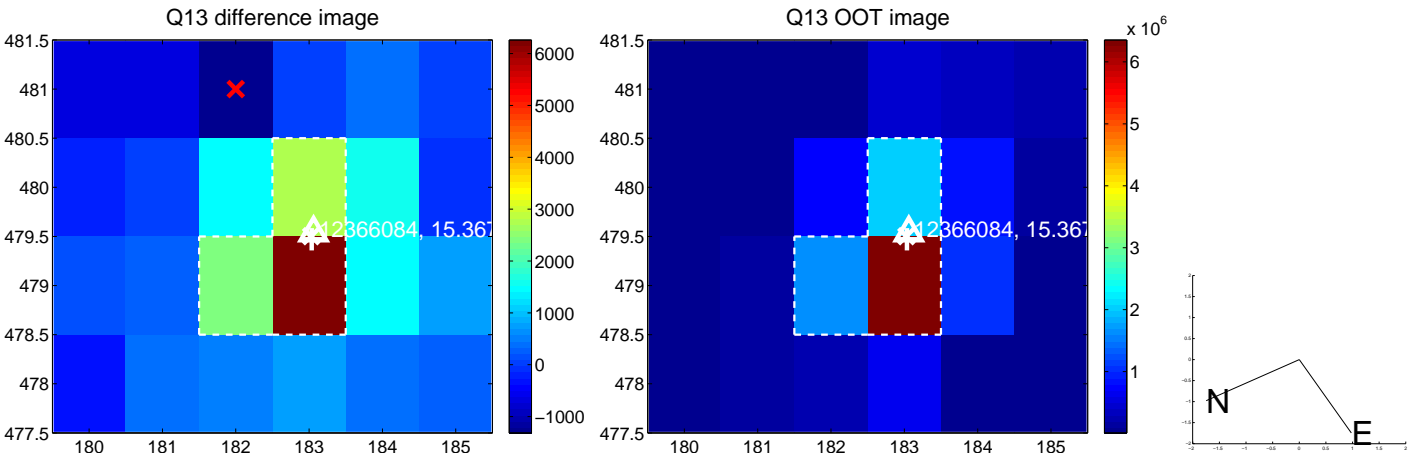
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



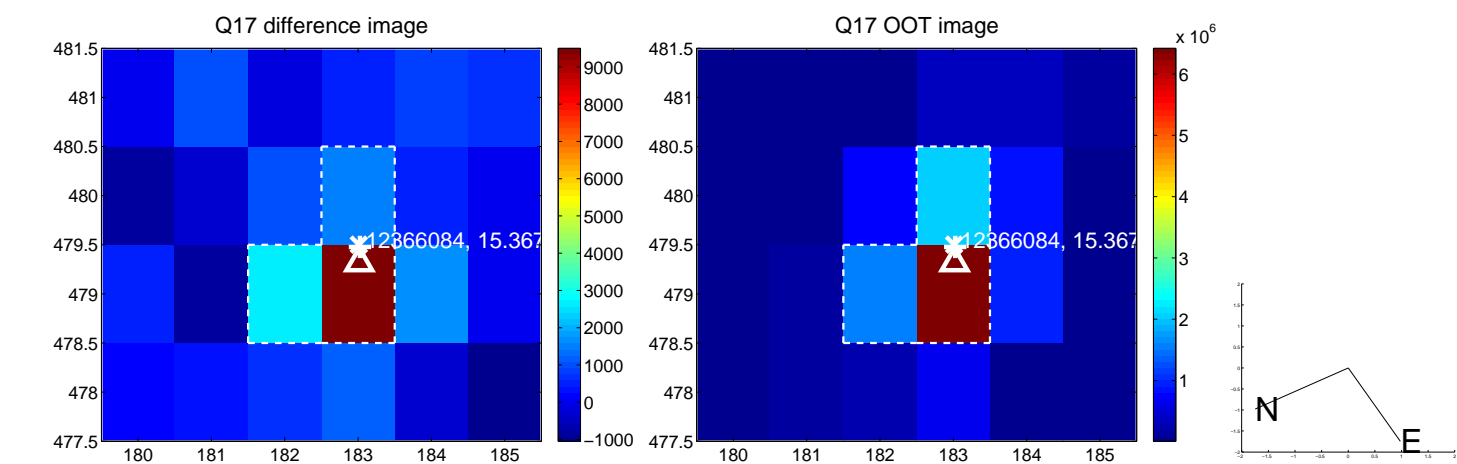
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



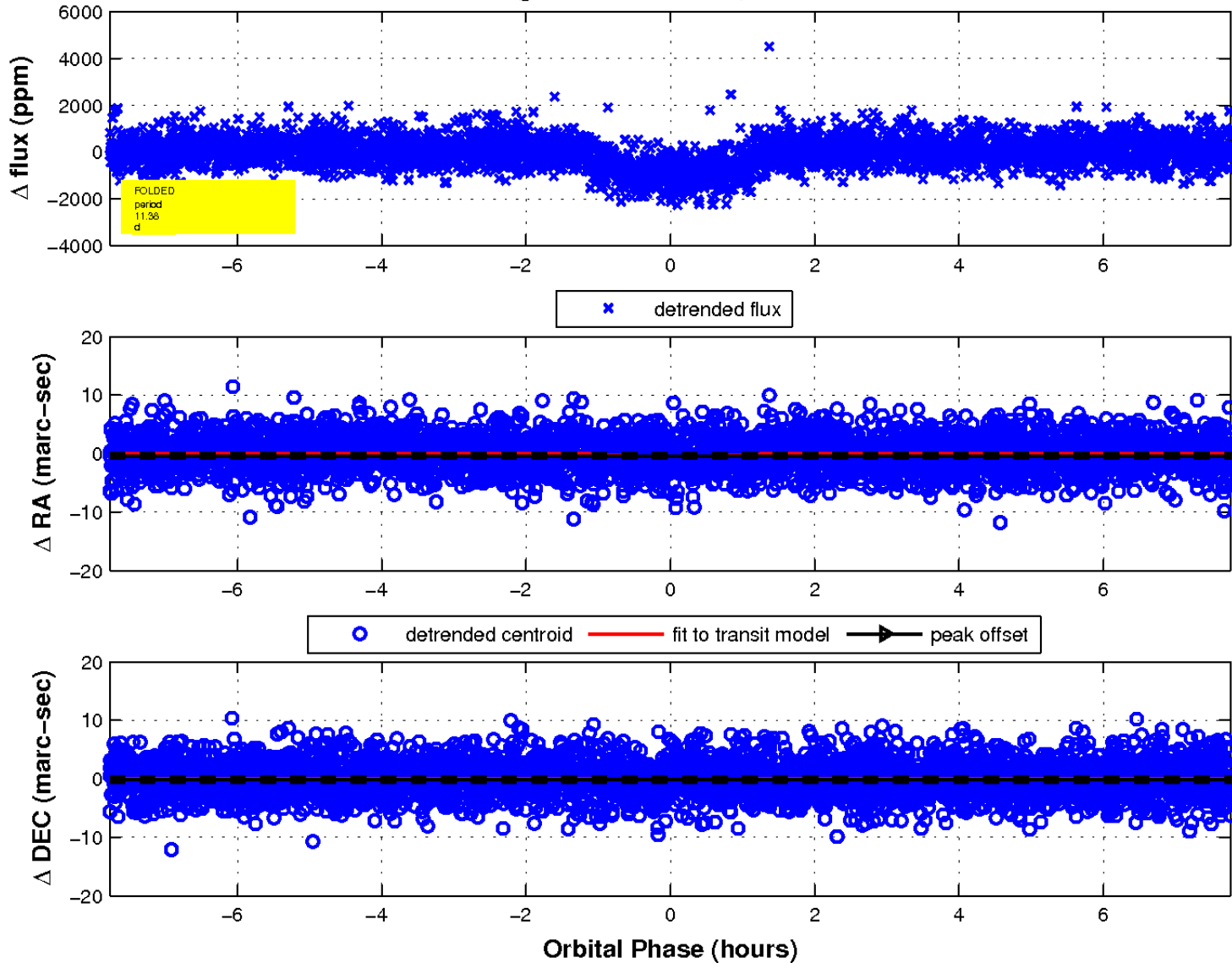
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

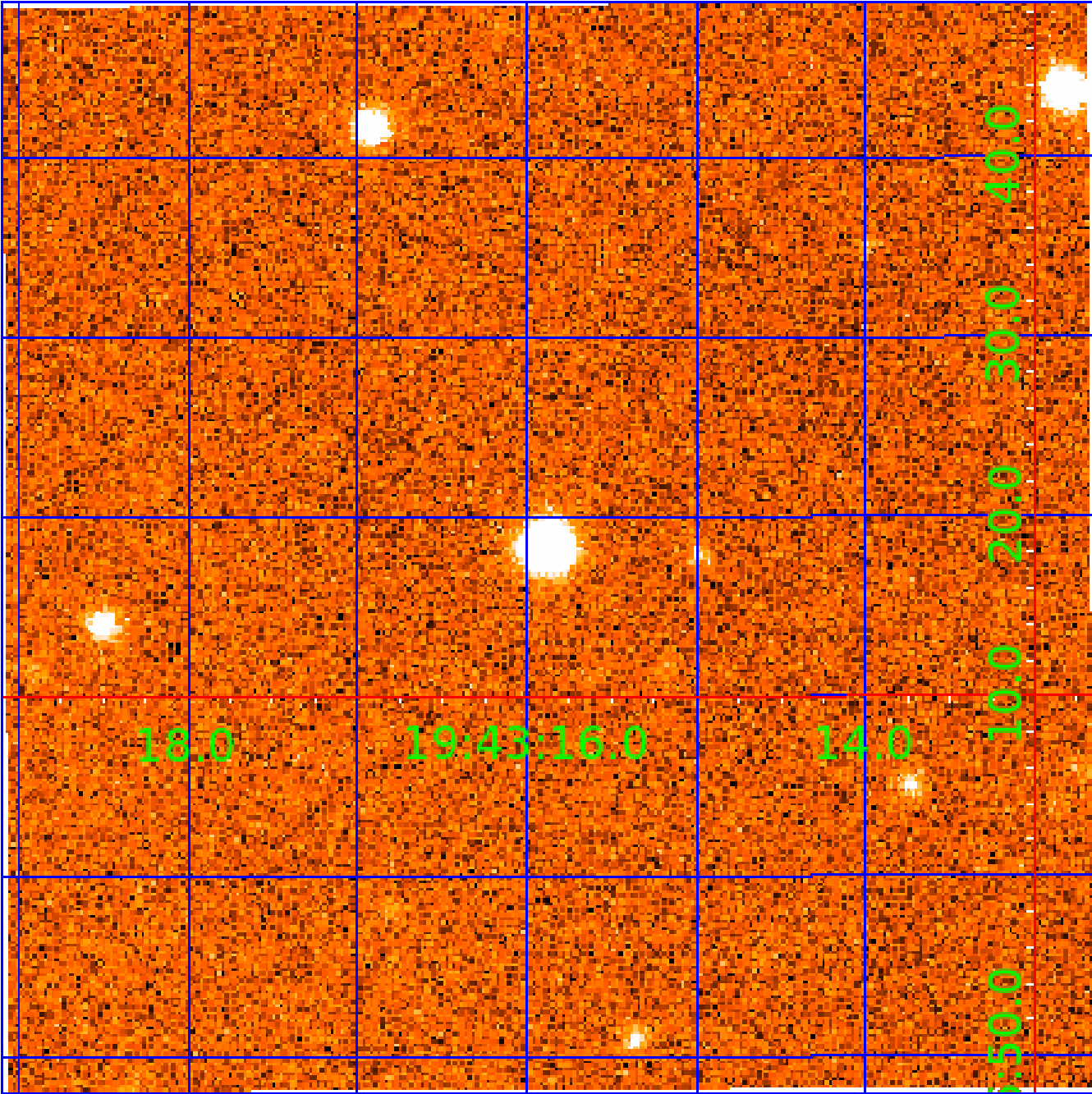


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 012366084

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})
012366084-01	OBS	0787.01	4.431222	135.567472	1012.3	3.250	58.3	64.5	1.01	5714	3.50	351.24
012366084-02	OBS	0787.02	11.379370	133.850952	1021.0	2.591	29.9	33.5	1.01	5714	3.86	99.88
012366084-03	OBS	0787.03	0.589371	131.877611	60.6	2.029	8.4	8.3	1.01	5714	0.95	5173.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012366084-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
012366084-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT
012366084-03	OBS	PC	0.87	0	0	0	0	NO_COMMENT

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

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

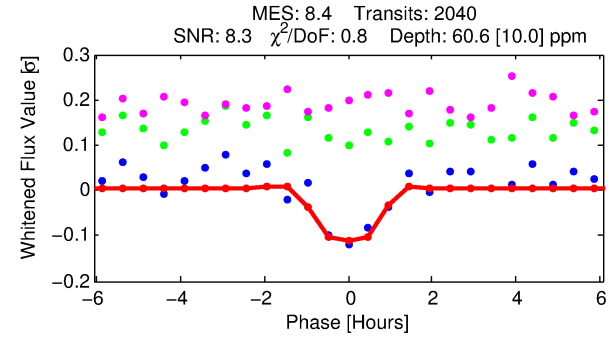
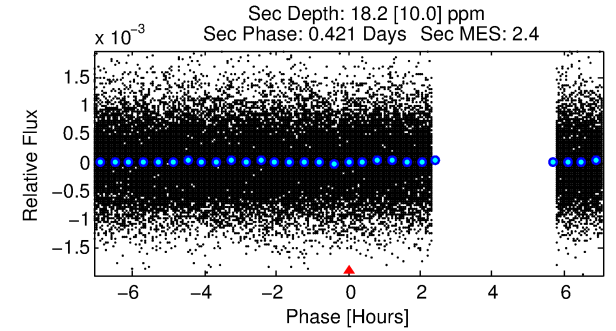
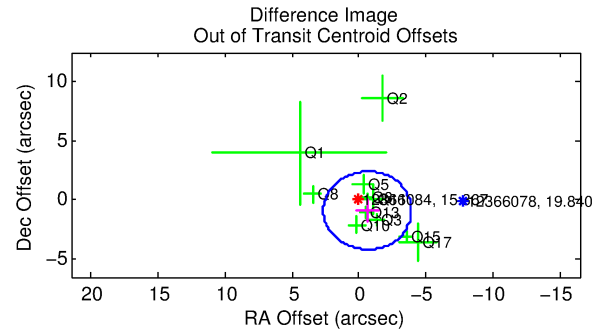
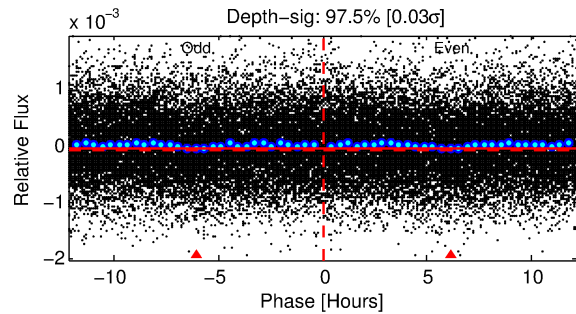
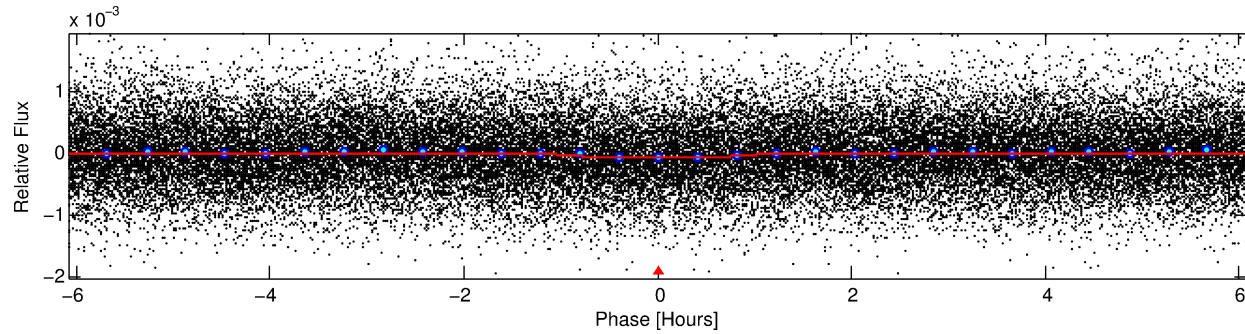
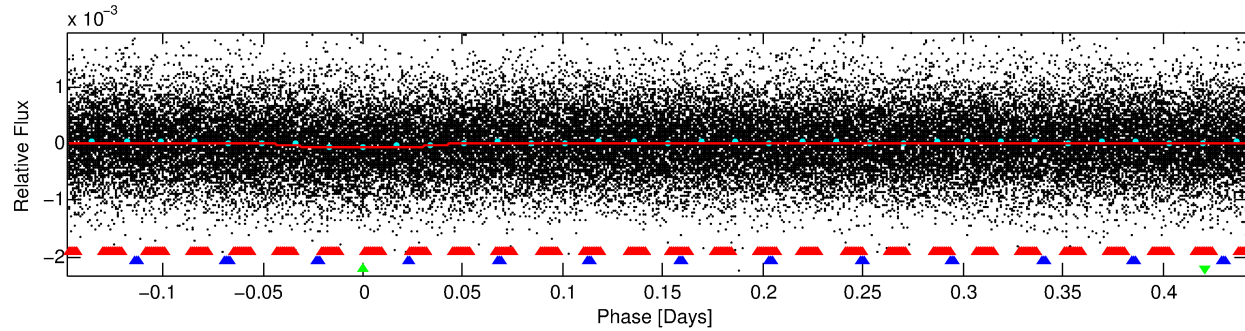
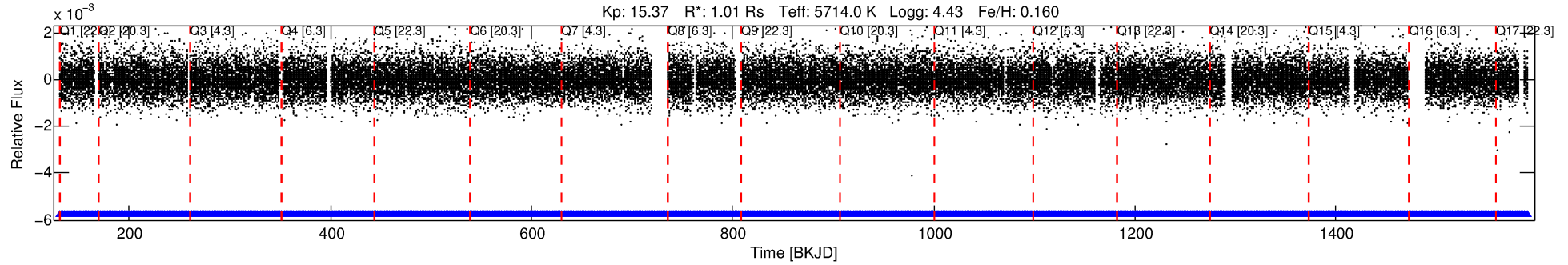
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012366084-03

No Significant Match Found

DV One-Page Summary

KIC: 12366084 Candidate: 3 of 3 Period: 0.589 d
KOI: K00787 Name: Kepler-232 Corr: No Ephemeris Match



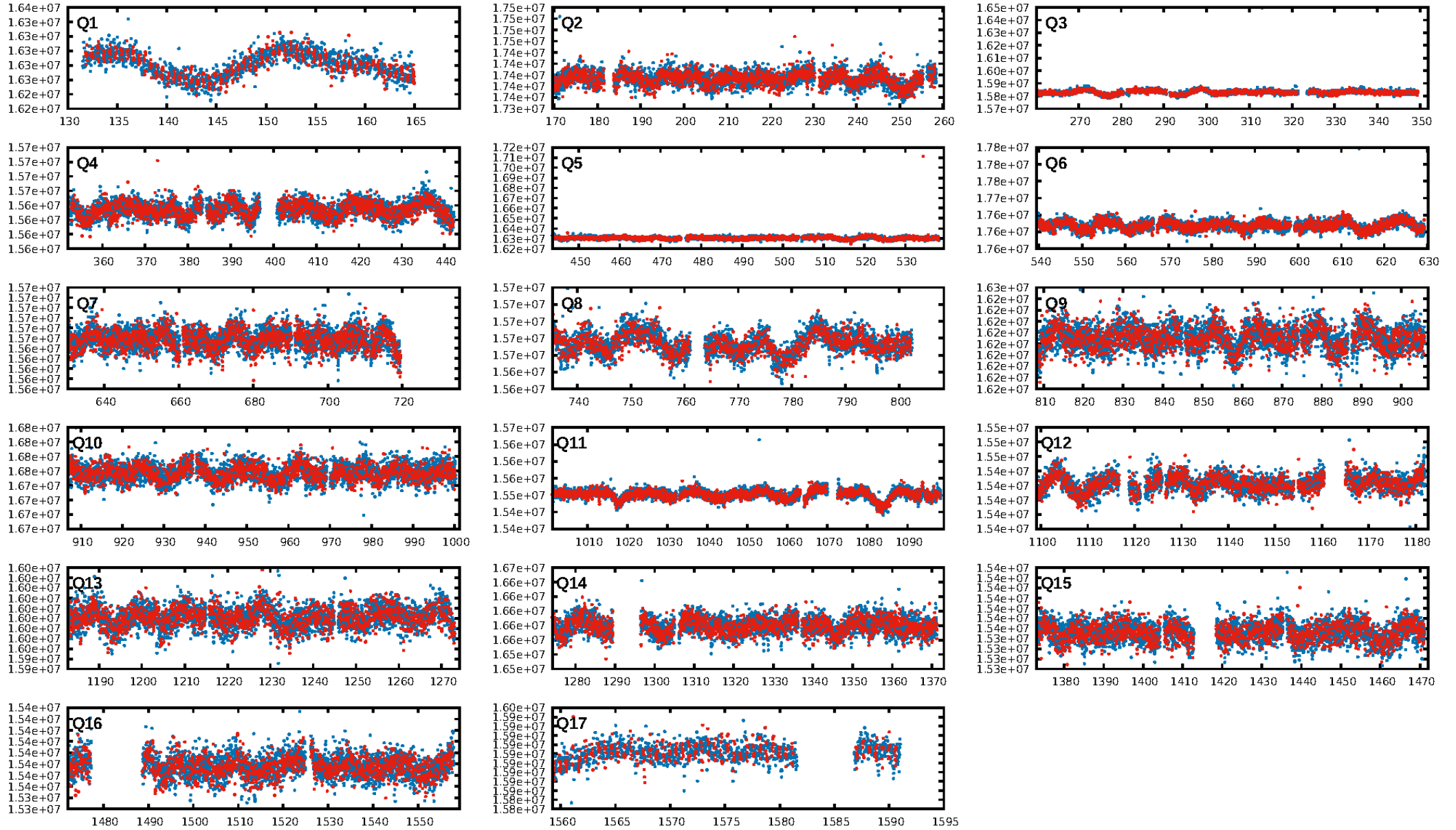
DV Fit Results:

Period = 0.58937 [0.00001] d
Epoch = 131.8776 [0.0032] BKJD
Rp/R* = 0.0086 [0.0078]
a/R* = 1.37 [2.73]
b = 0.90 [0.89]
Seff = 5173.46 [1092.71]
Teq = 2163 [114] K
Rp = 0.95 [0.87] Re
a = 0.0138 [0.0018] AU
Ag = 2.13 [4.06] [0.28 σ]
Teffp = 4038 [1917] K [0.98 σ]

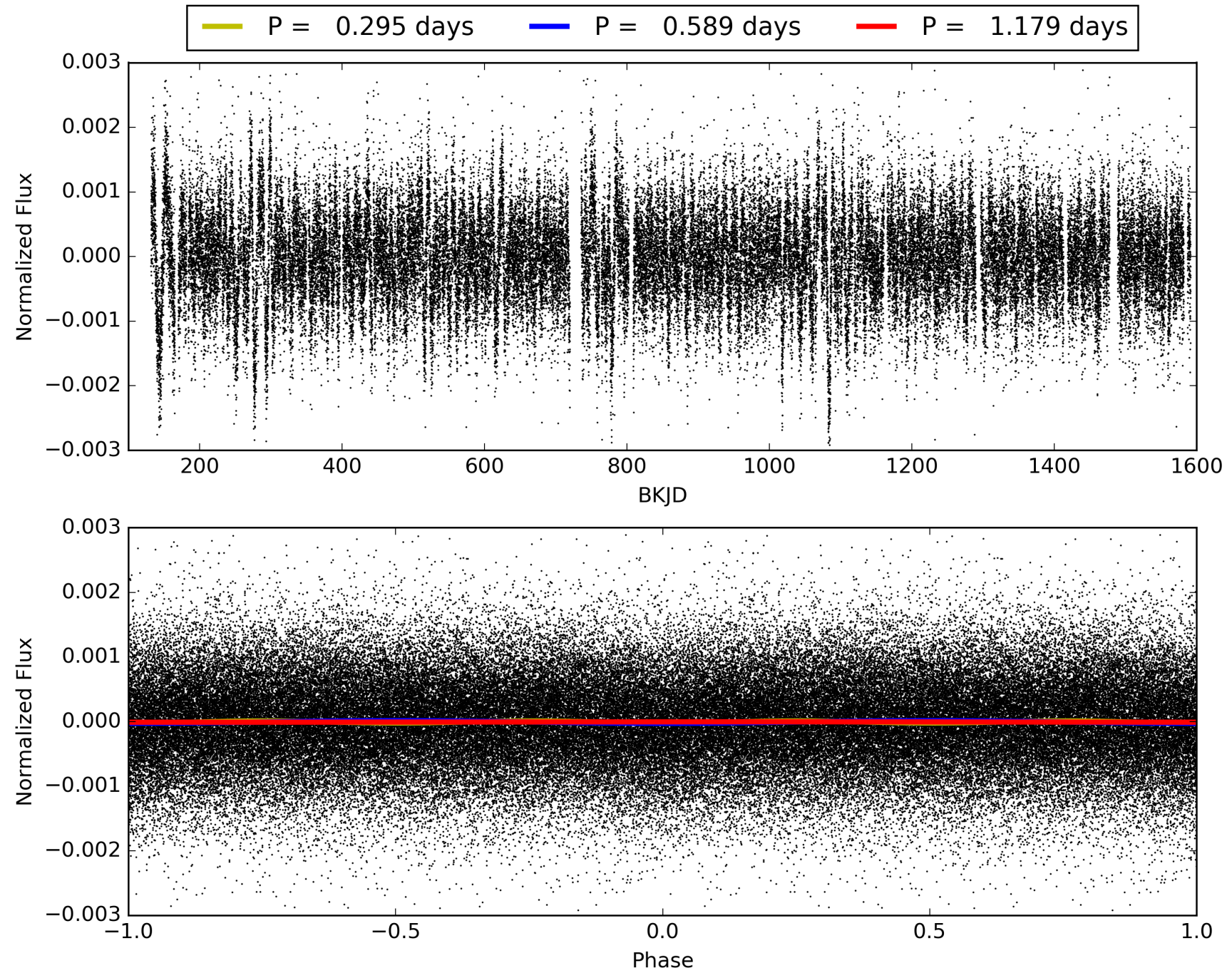
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [24.07 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.48e-18
RollingBand-fgt: 1.00 [1949/1949]
GhostDiagnostic-chr: 18.88
Centroid-sig: 3.3%
Centroid-so: 4.250 arcsec [2.63 σ]
OotOffset-rm: 1.082 arcsec [0.99 σ]
OotOffset-st: 3/3/1/4 [11]
KicOffset-rm: 1.021 arcsec [1.00 σ]
KicOffset-st: 3/3/1/4 [11]
DiffImageQuality-fgm: 0.55 [6/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 012366084-03, PDC Light Curves

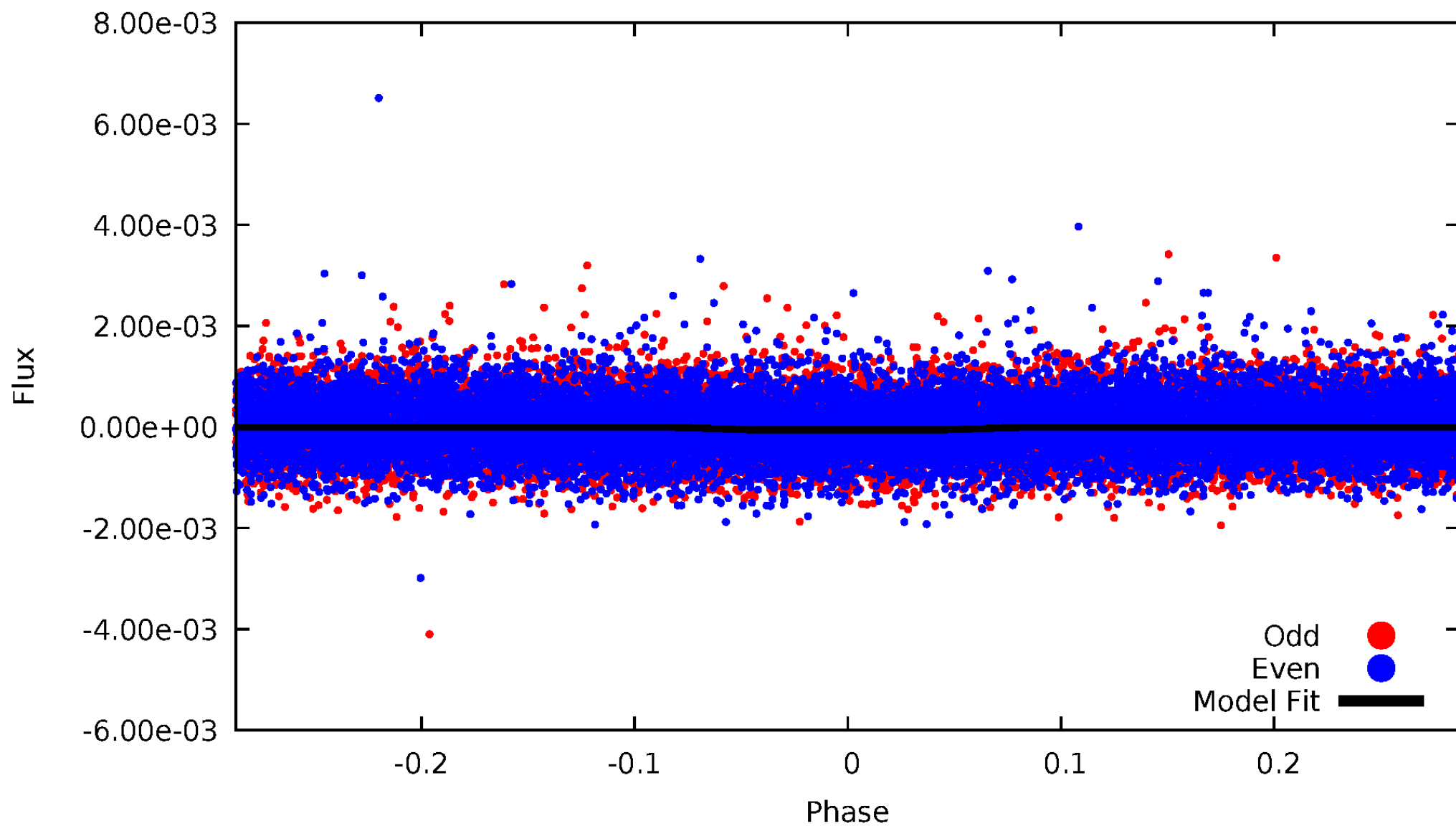


TCE 012366084-03



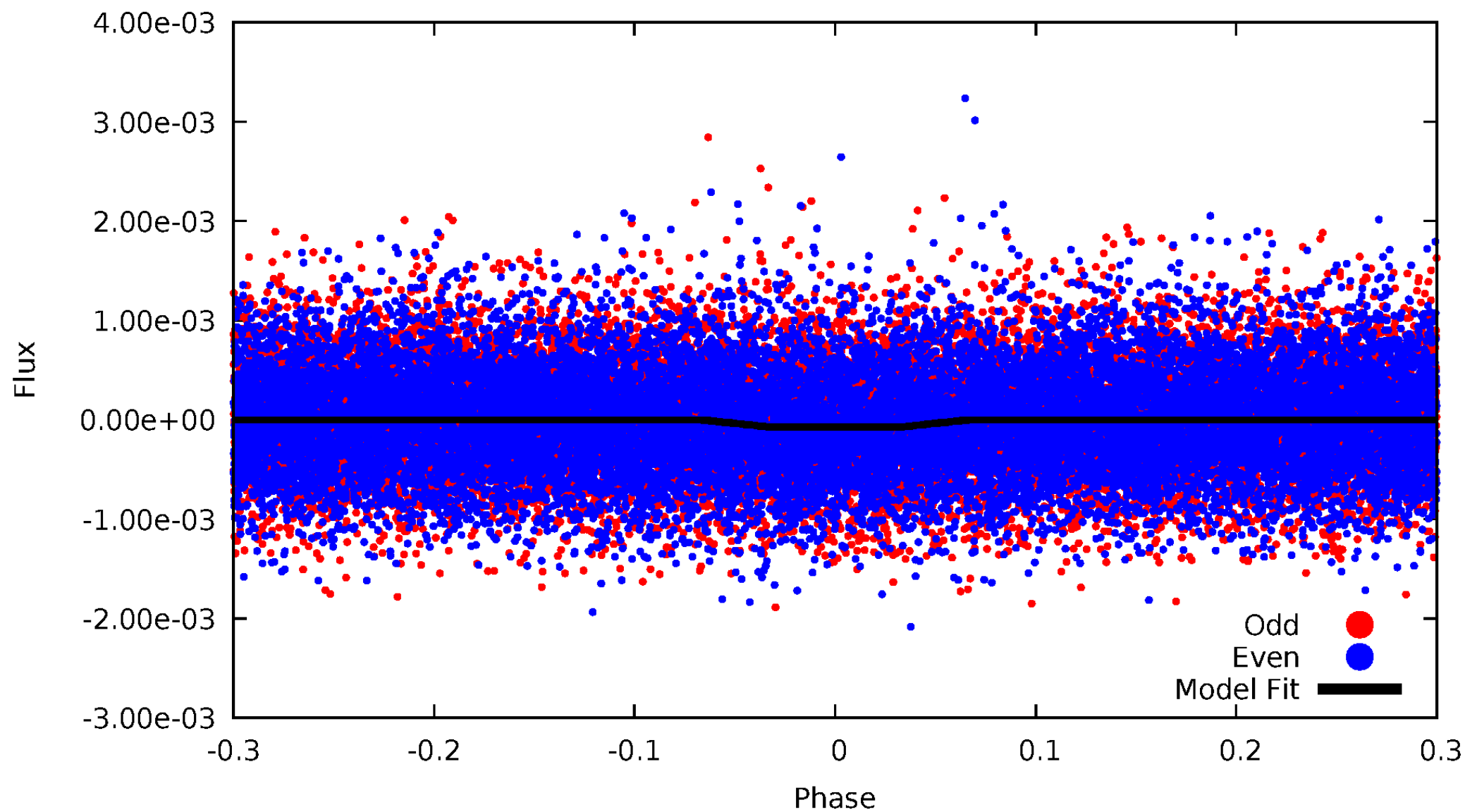
DV Odd/Even

TCE 012366084-03



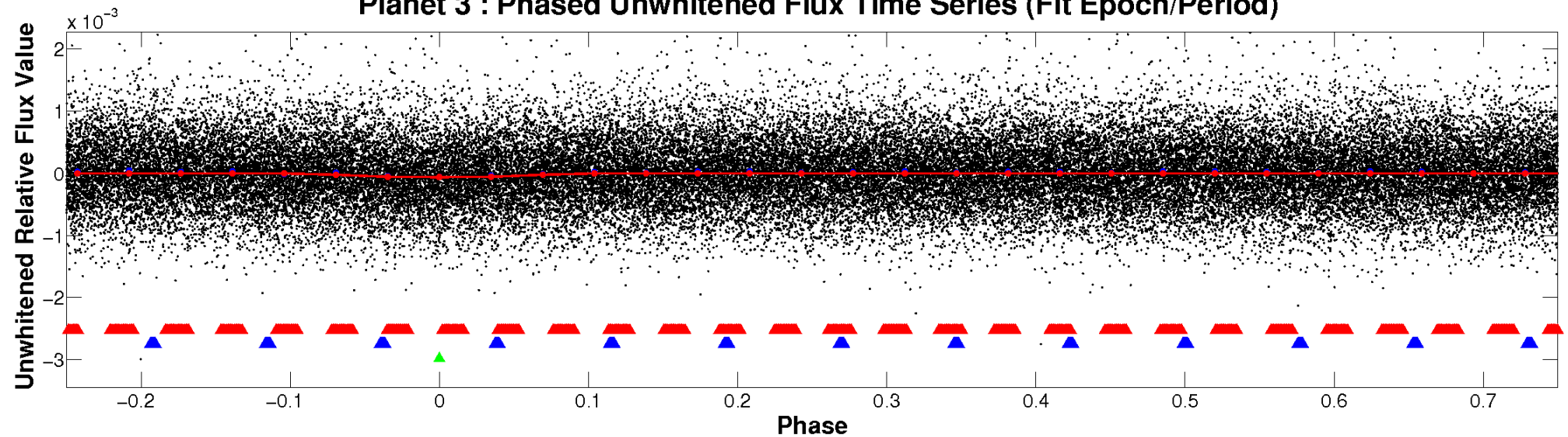
ALT Odd/Even

TCE 012366084-03

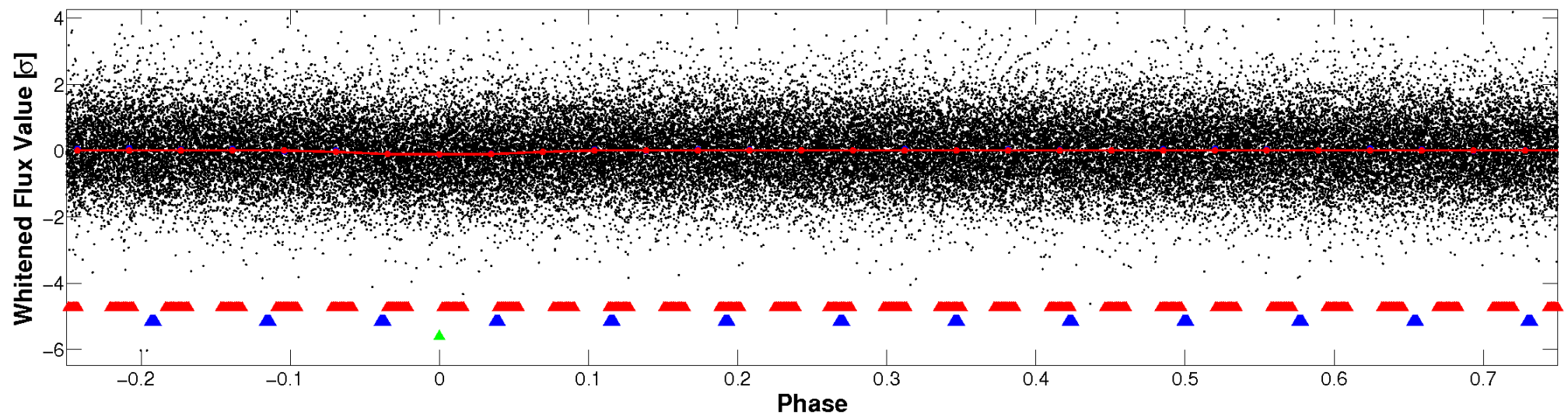


Non-Whitened Vs. Whitened Light Curve

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

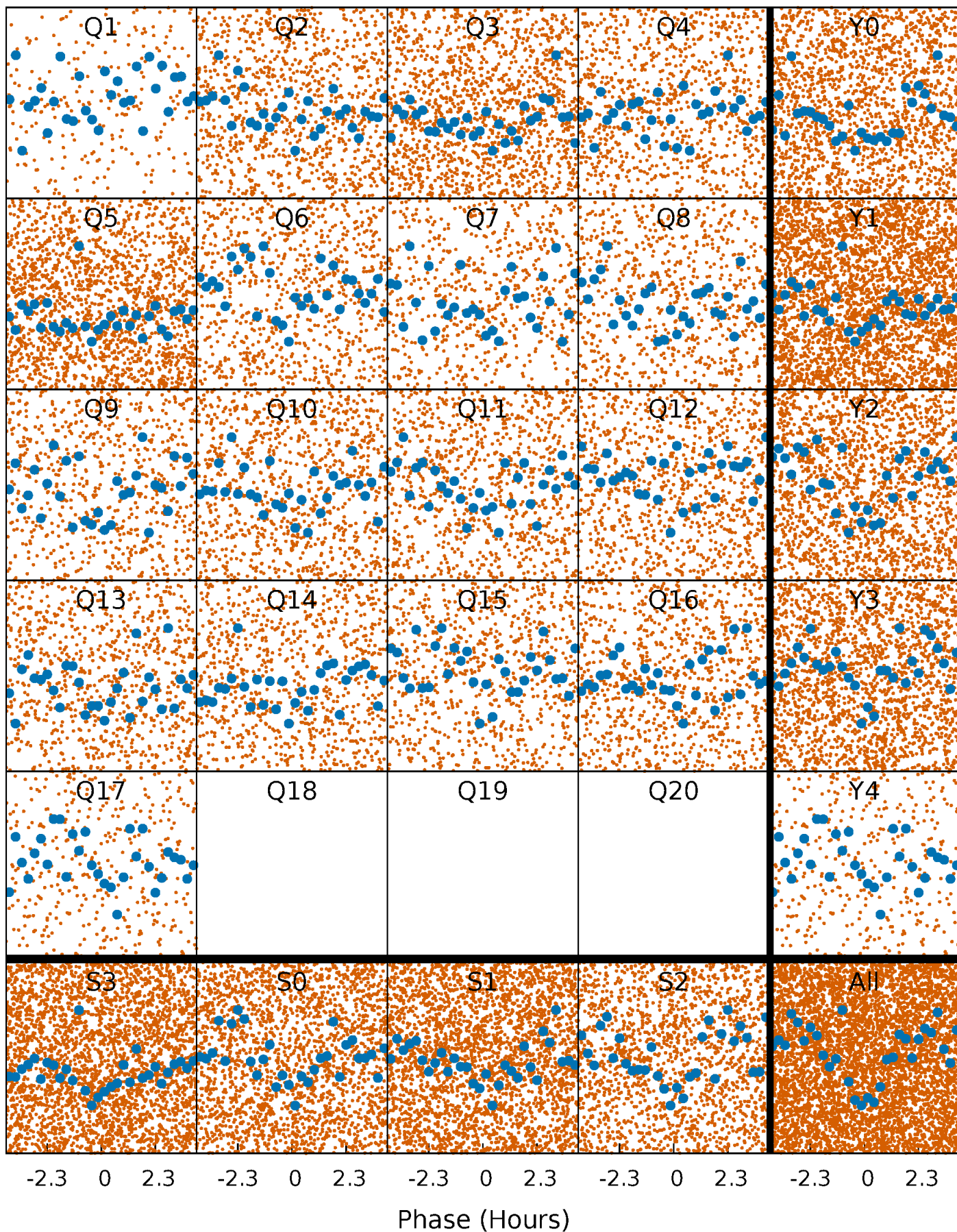


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



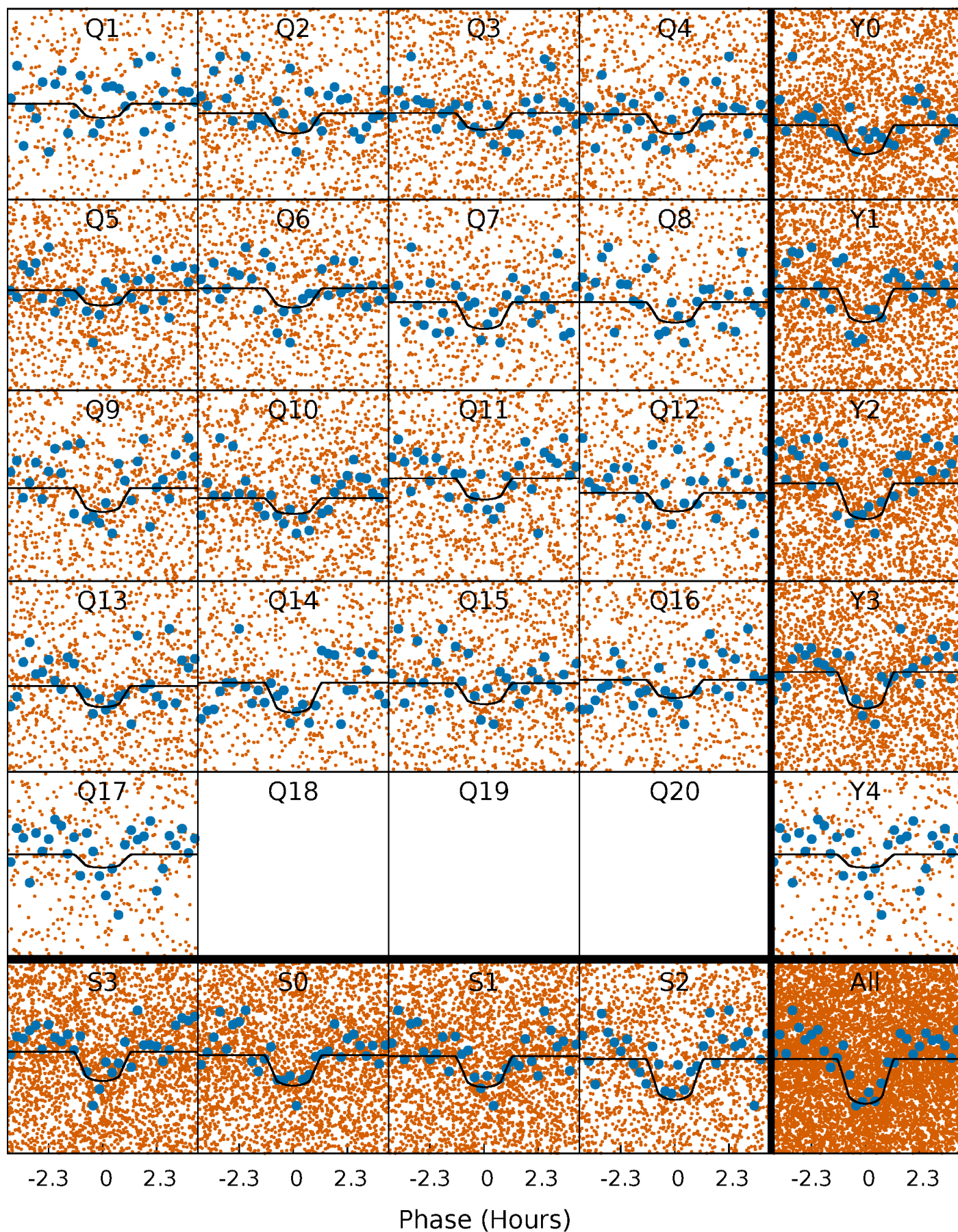
PDC Quarter-Phased Transit Curves

TCE 012366084-03 P= 0.589371 Days $T_0=131.877611$ (BKJD)



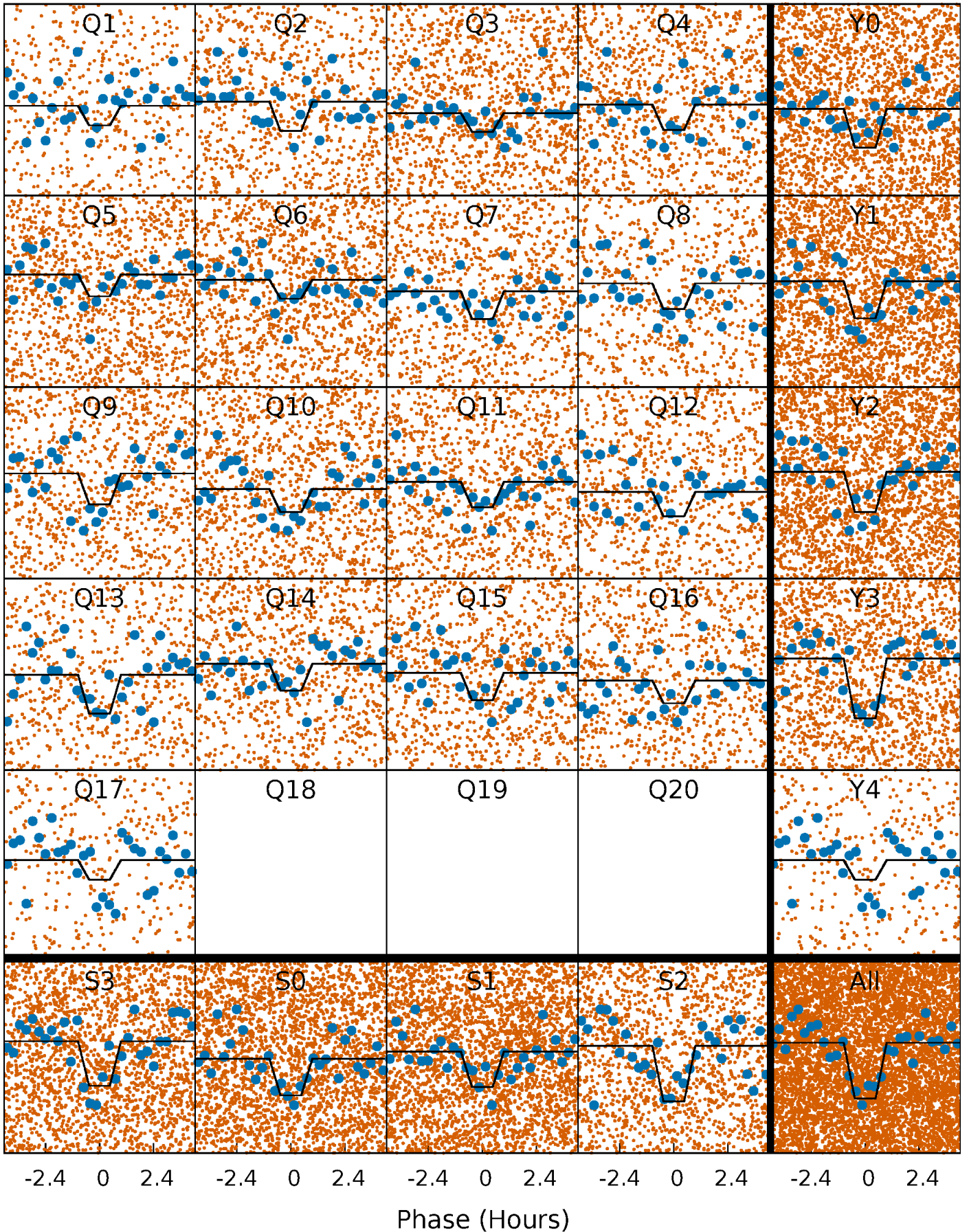
DV Quarter-Phased Transit Curves

TCE 012366084-03 P= 0.589371 Days $T_0=131.877611$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

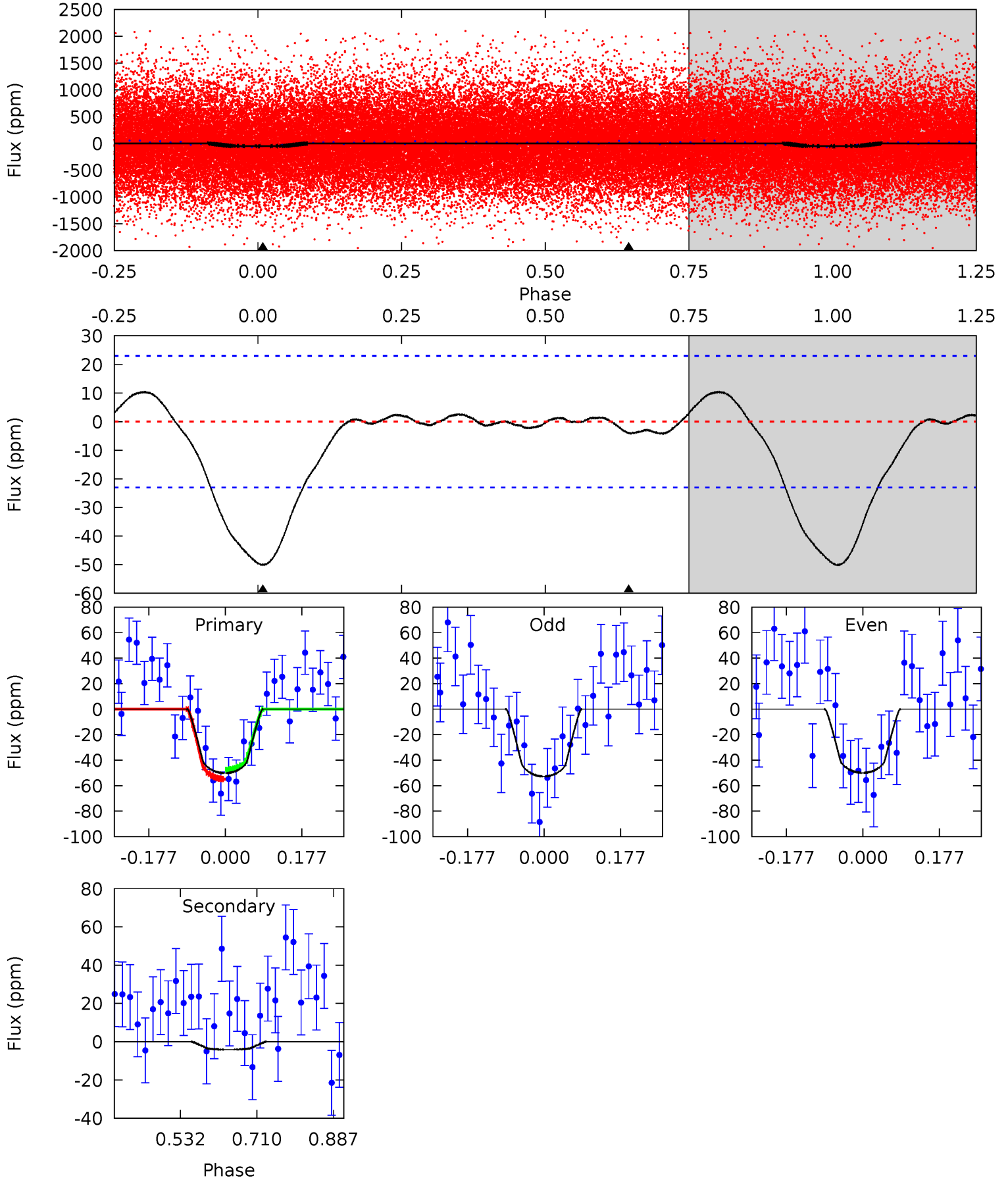
TCE 012366084-03 P= 0.589373 Days $T_0=131.877018$ (BKJD)



DV Model-Shift Uniqueness Test

012366084-03, P = 0.589371 Days, E = 131.288240 Days

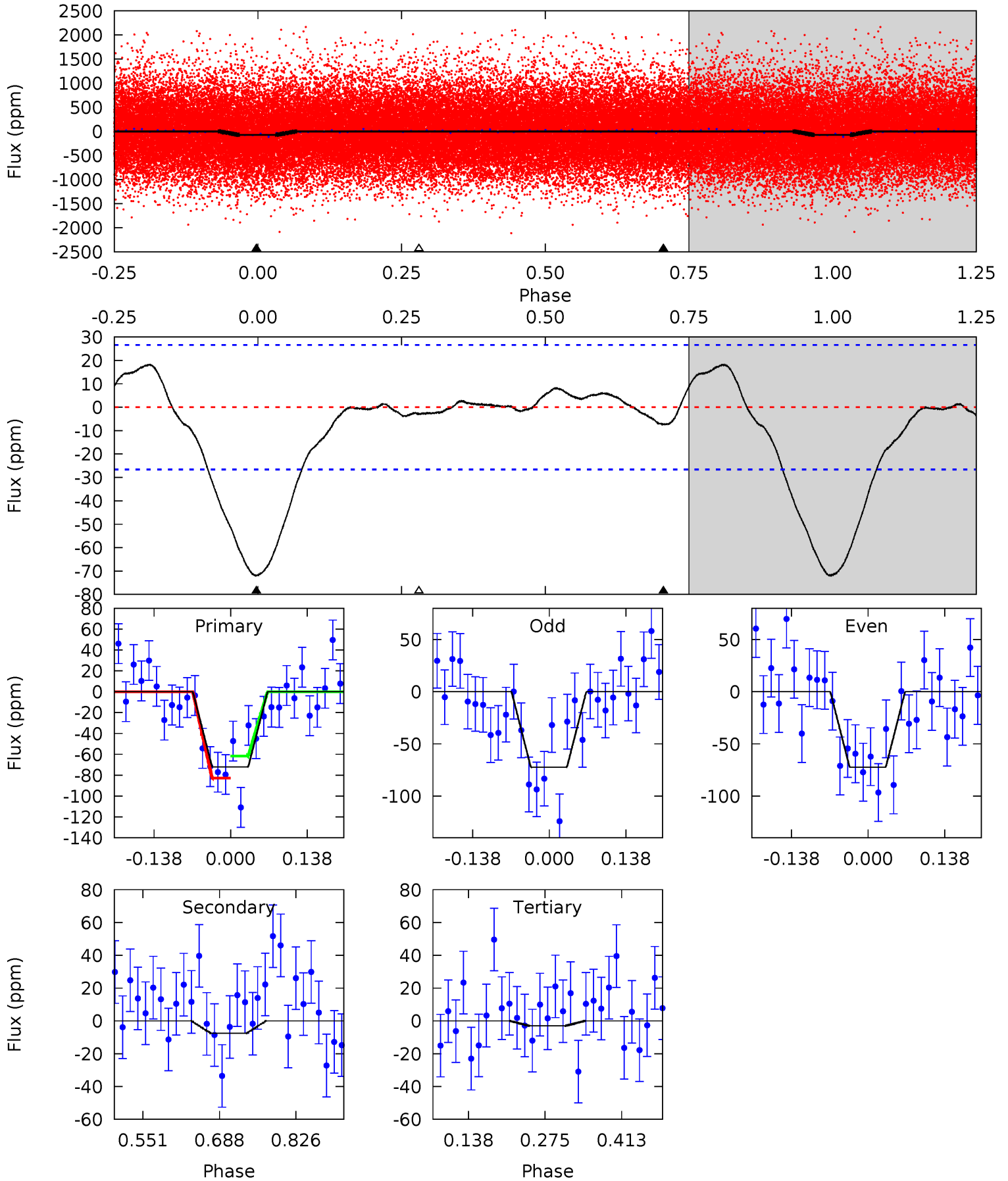
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.67	0.79	0	0	4.44	1.35	0.35	9.67	9.67	0.79	0.79	0.27	0.79	0.17	0.70



Alt Model-Shift Uniqueness Test

012366084-03, P = 0.589373 Days, E = 131.287645 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	1.26	0.51	0	4.50	1.48	0.49	11.7	12.2	0.75	1.26	0.00	0.83	0.20	1.78



Stellar Parameters For KIC 012366084

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5714^{+77}_{-77}	$4.428^{+0.063}_{-0.117}$	$0.160^{+0.150}_{-0.150}$	$1.015^{+0.148}_{-0.079}$	$1.007^{+0.056}_{-0.062}$	$1.355^{+0.332}_{-0.454}$
	+1%/-1%	+1%/-3%	+94%/-94%	+15%/-8%	+6%/-6%	+24%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 012366084-03 / KOI 0787.03

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-4 ± 5	$1.14^{+0.76}_{-0.68}$	3034^{+125}_{-87}	-2337^{+6419}_{-833}	$0.266^{+1.578}_{-0.295}$
Alt.	-7 ± 6	$1.05^{+0.85}_{-0.65}$	3034^{+112}_{-90}	3123^{+1840}_{-6090}	$0.605^{+4.158}_{-0.520}$

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 $A_{obs} \gg 1.0$

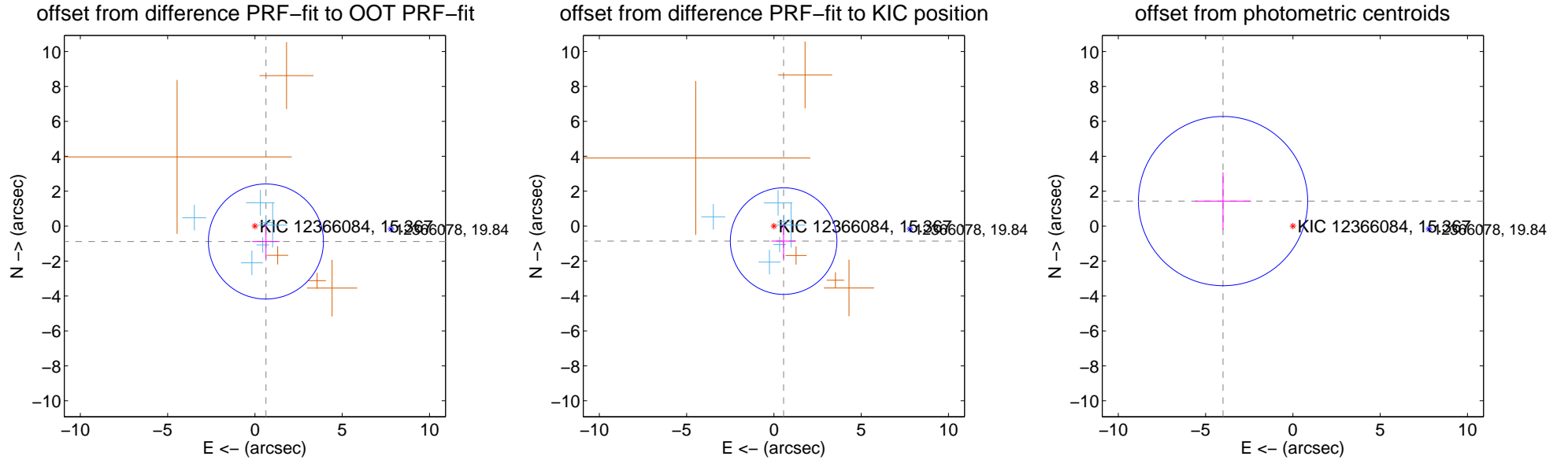
DV Centroid Data

Supplemental centroid analysis for 012366084-03. Kepler magnitude: 15.37. Transit SNR 8.33

There are 6 quarters with good PRF difference image offsets

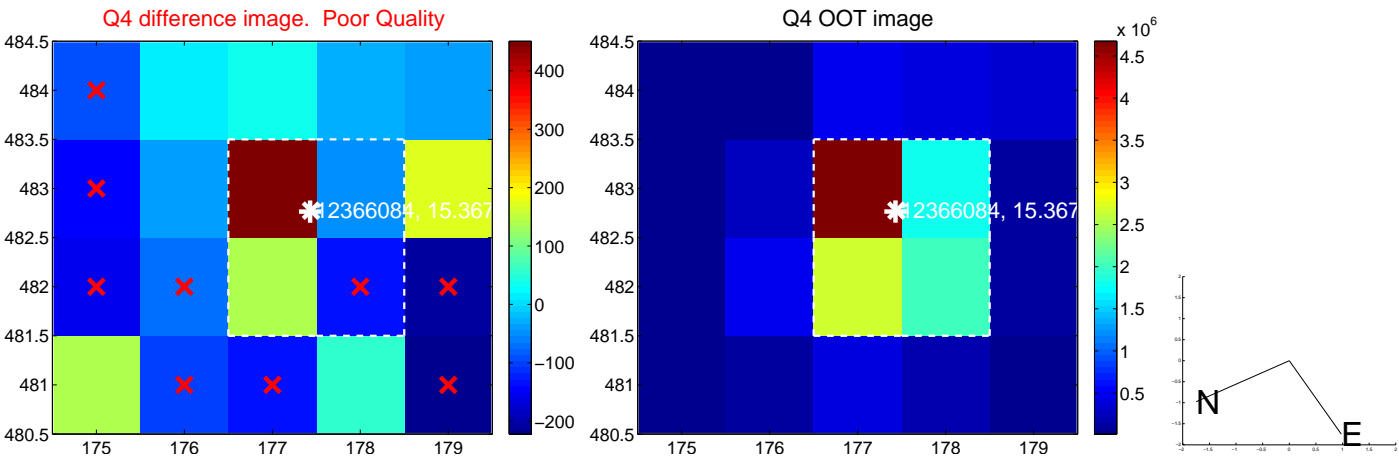
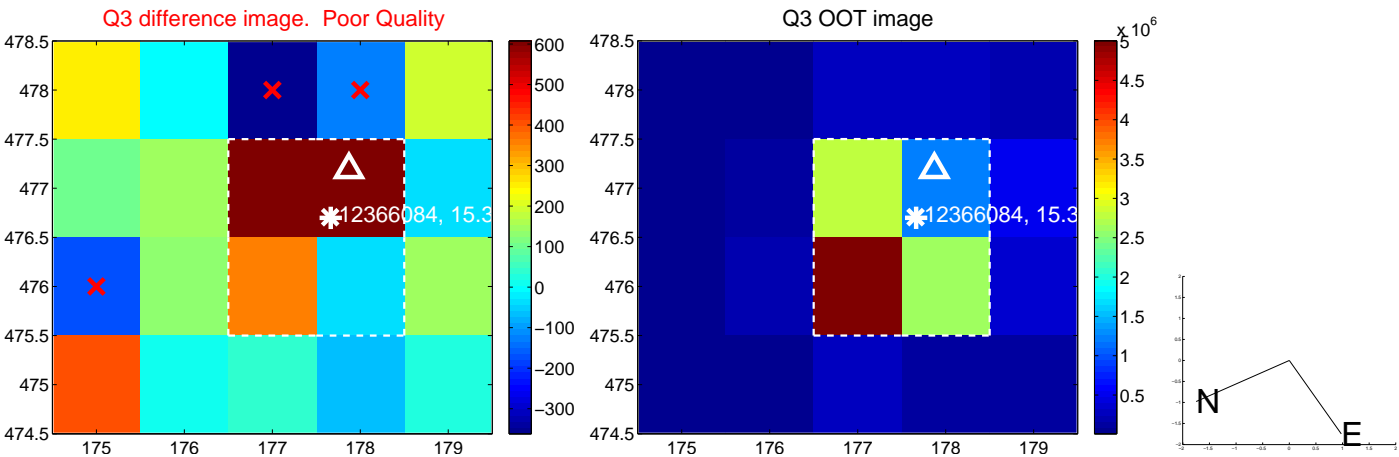
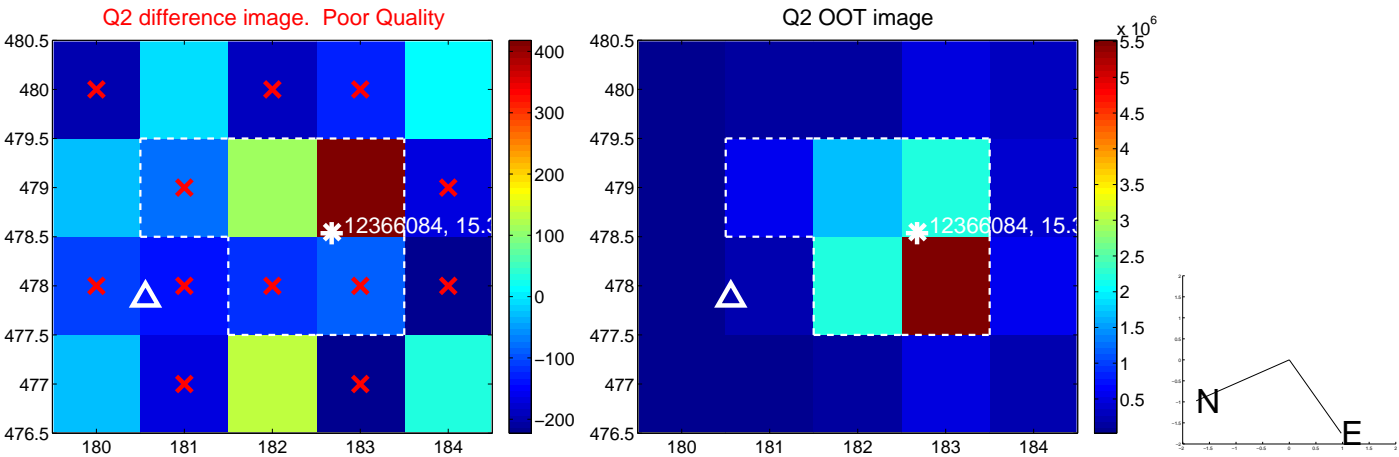
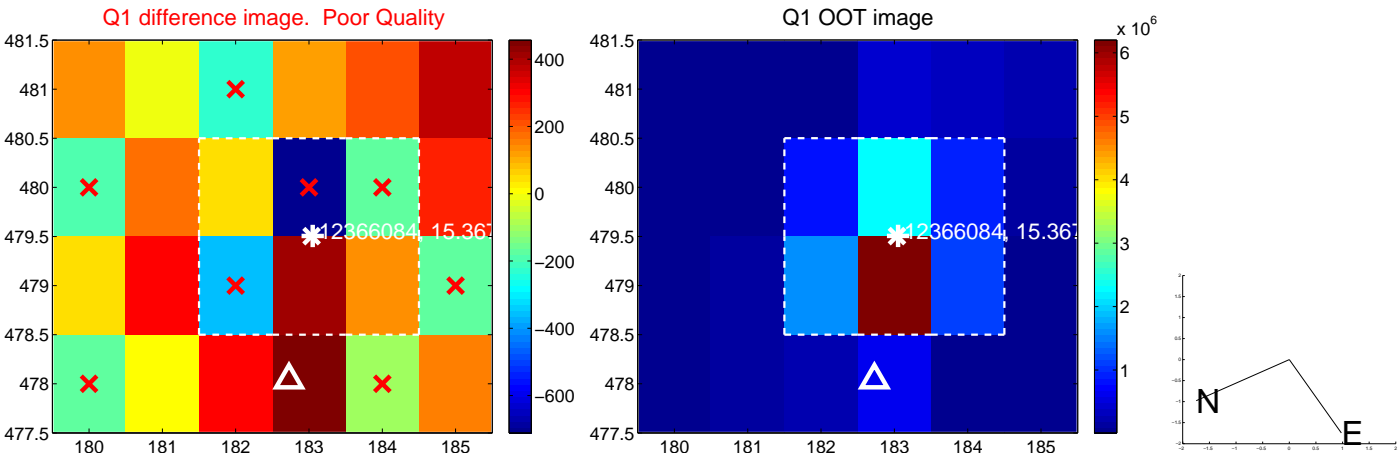
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.082 ± 1.098	0.99	-0.630 ± 0.786	-0.880 ± 0.986
PRF-fit source offset from KIC position	1.021 ± 1.017	1.00	-0.556 ± 0.701	-0.857 ± 1.013
photometric centroid source offset	4.25 ± 1.62	2.63	4.00 ± 1.61	1.44 ± 1.64

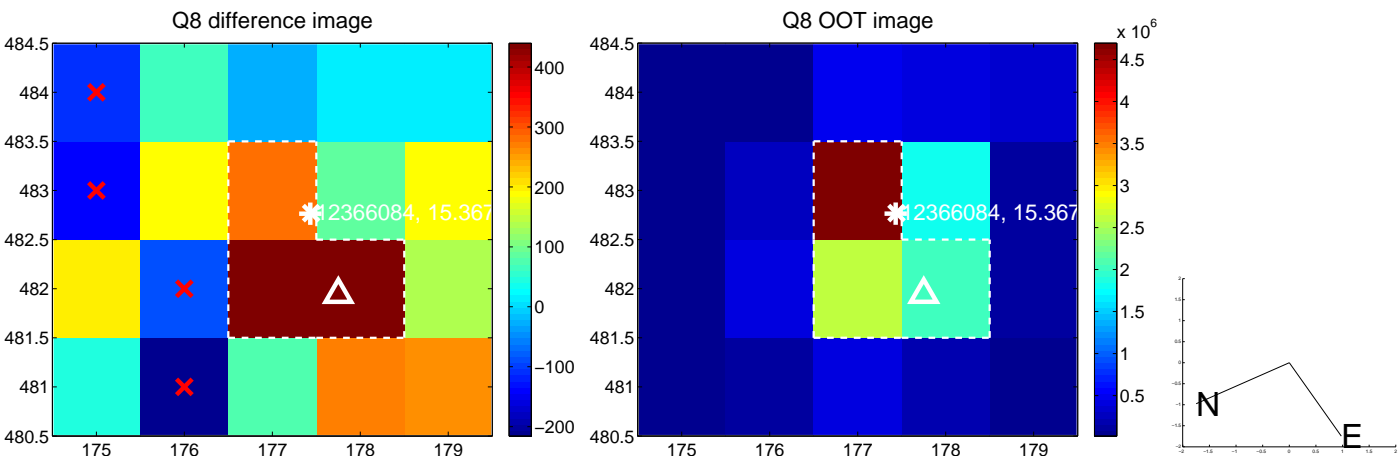
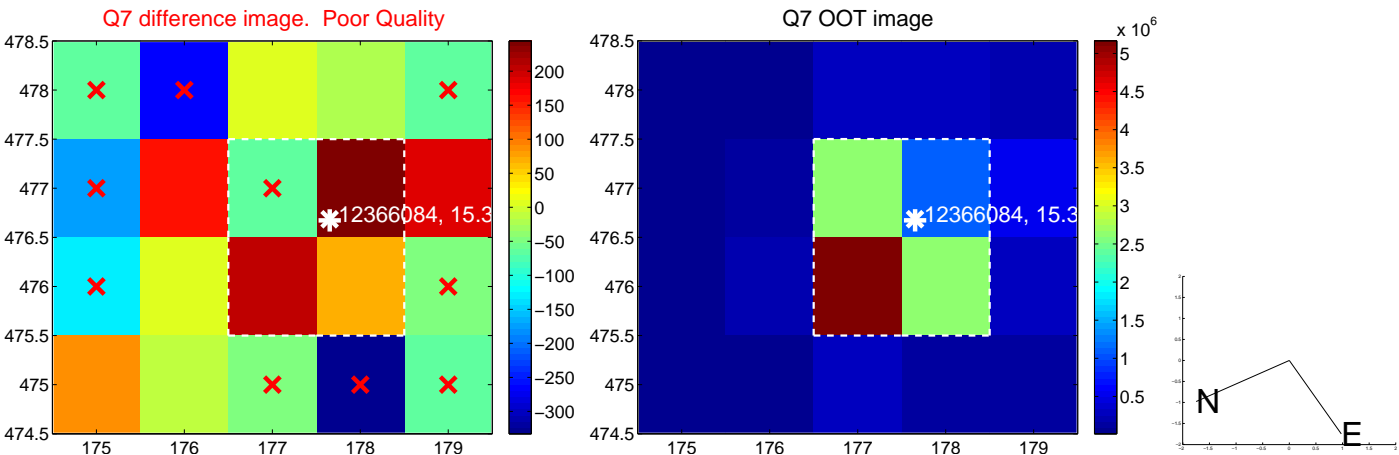
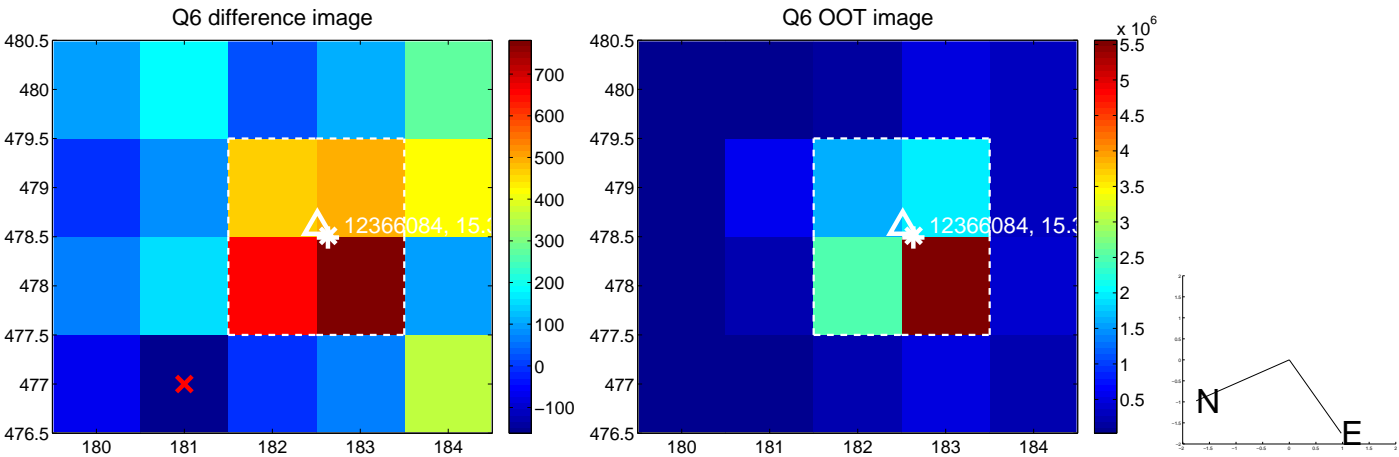
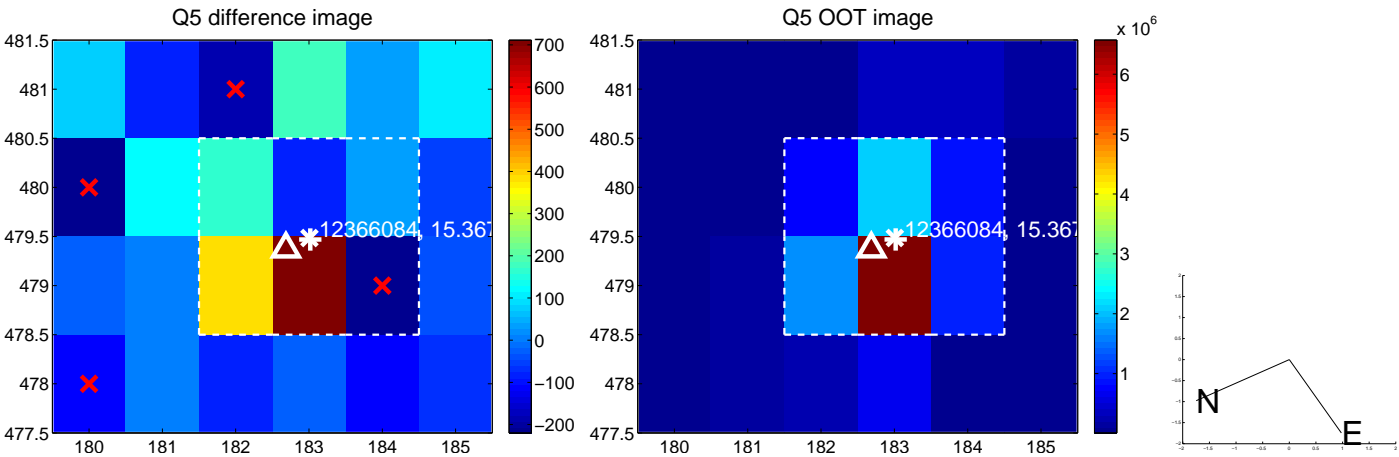


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

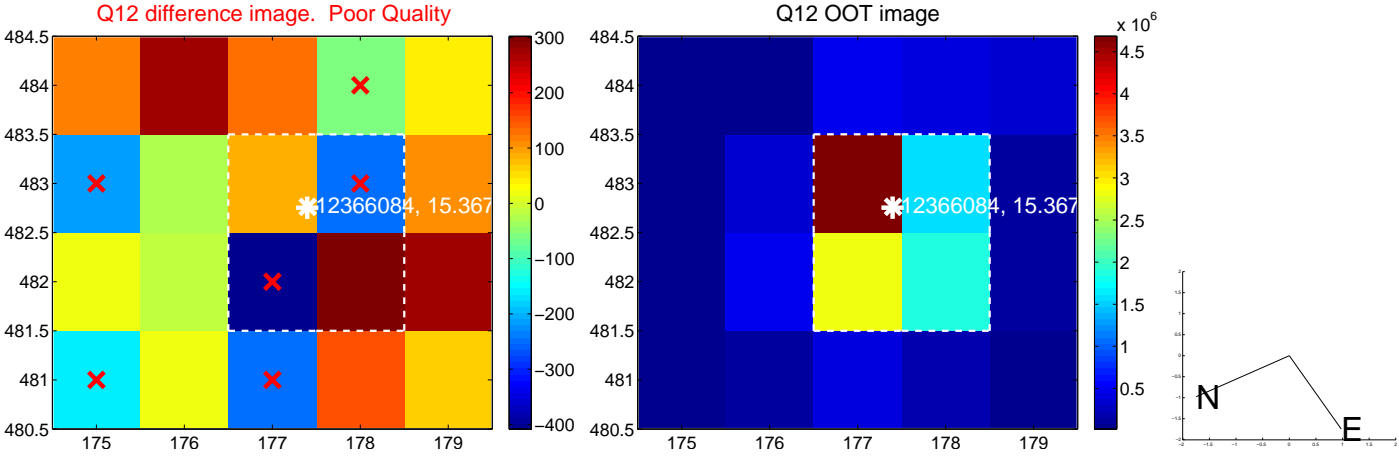
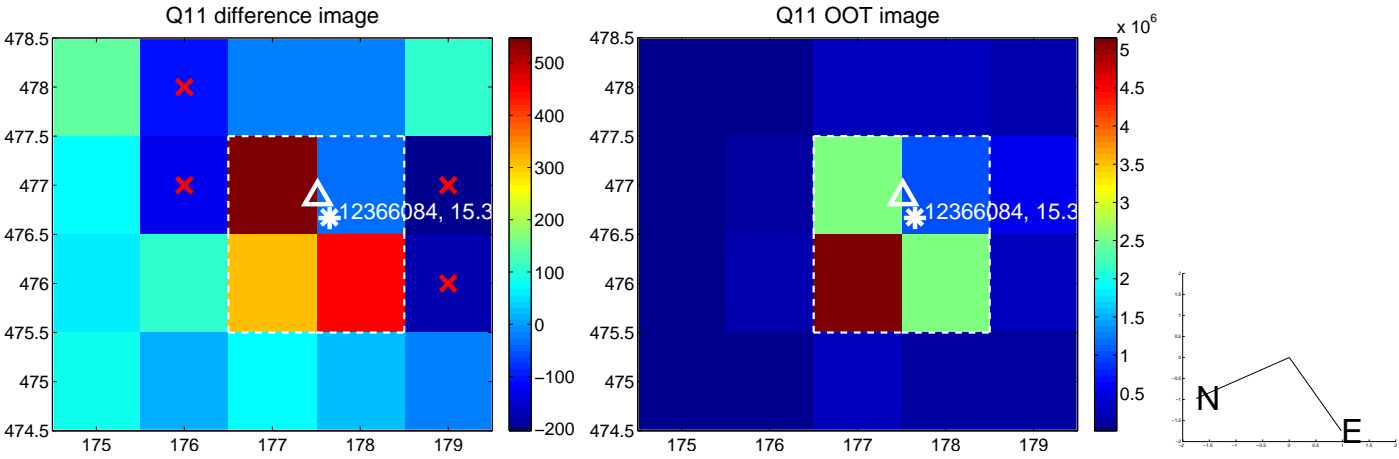
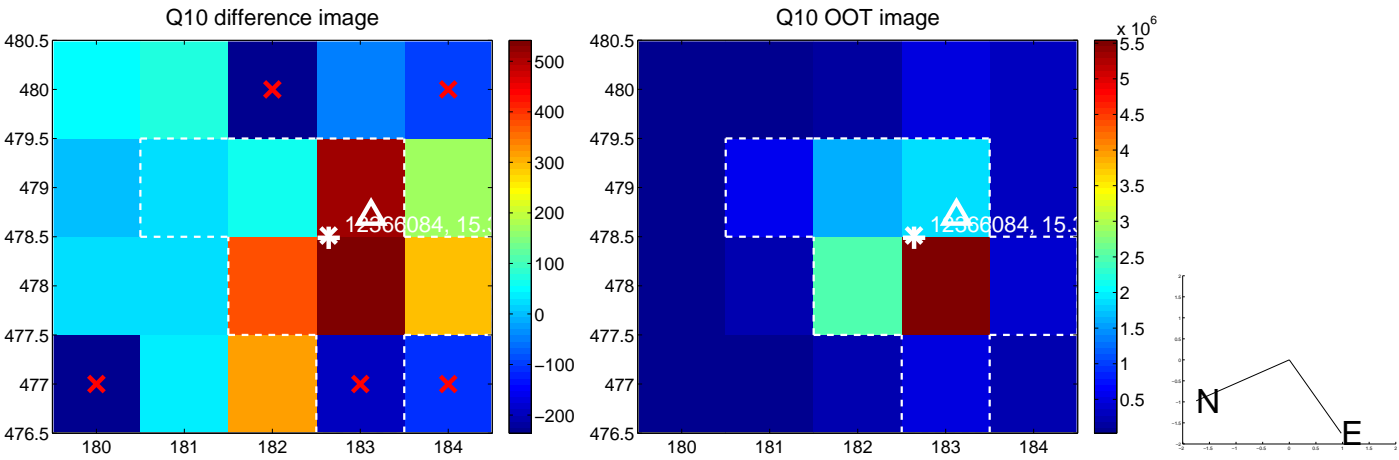
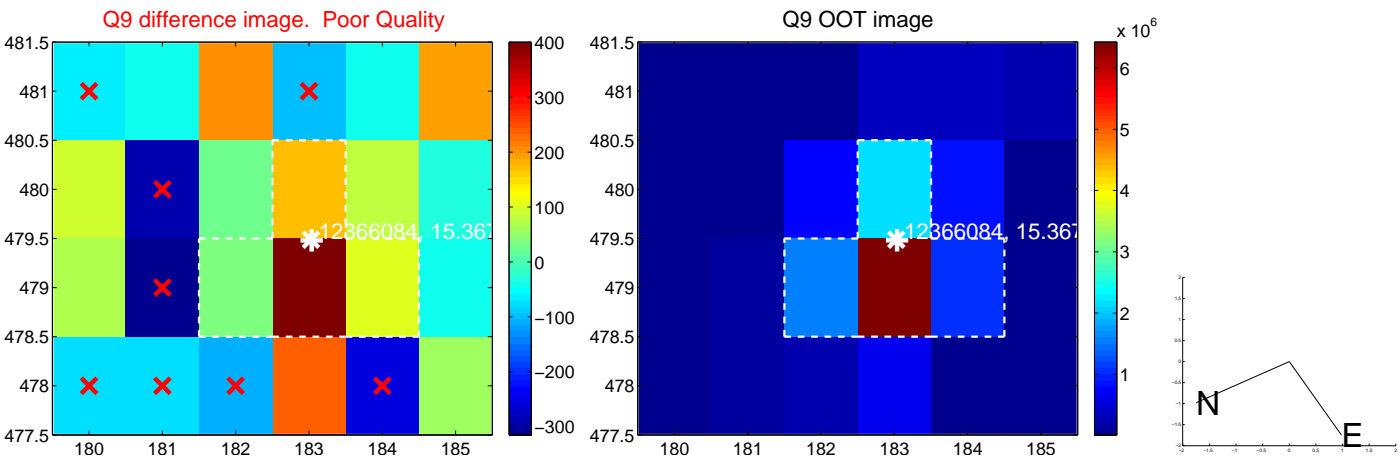
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



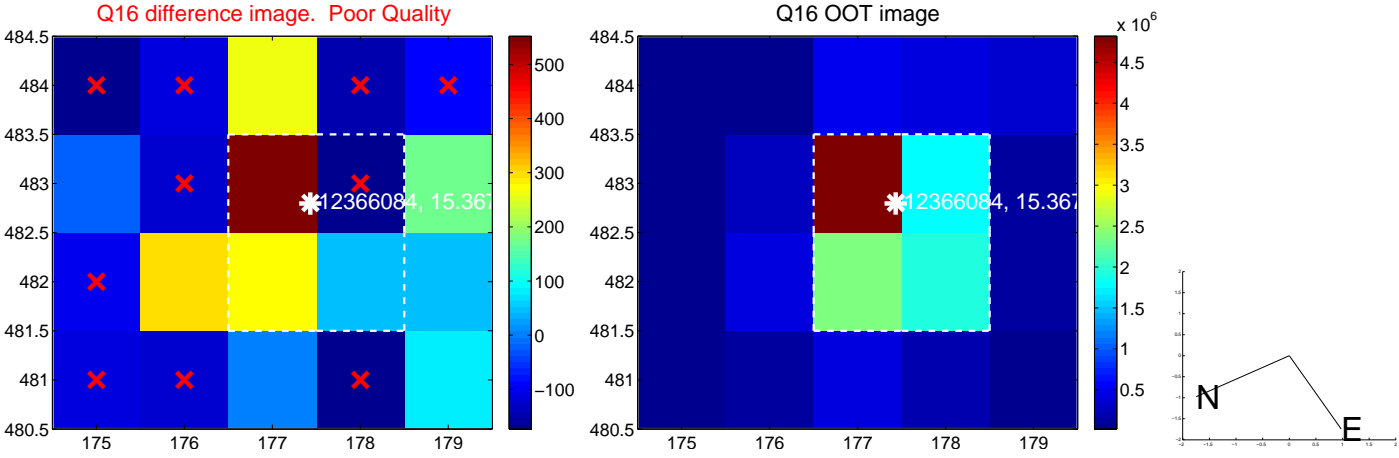
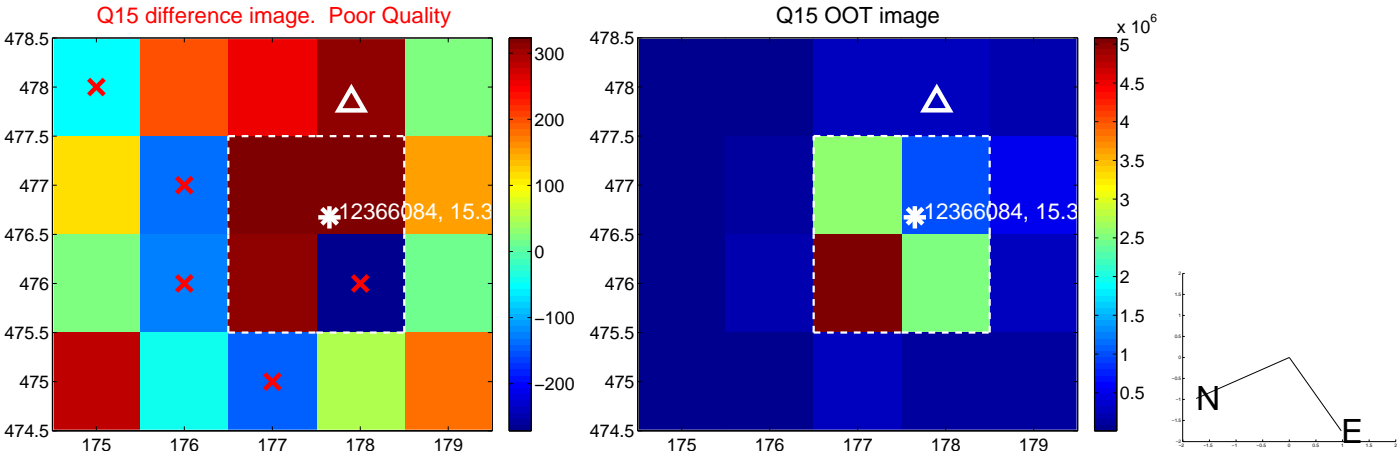
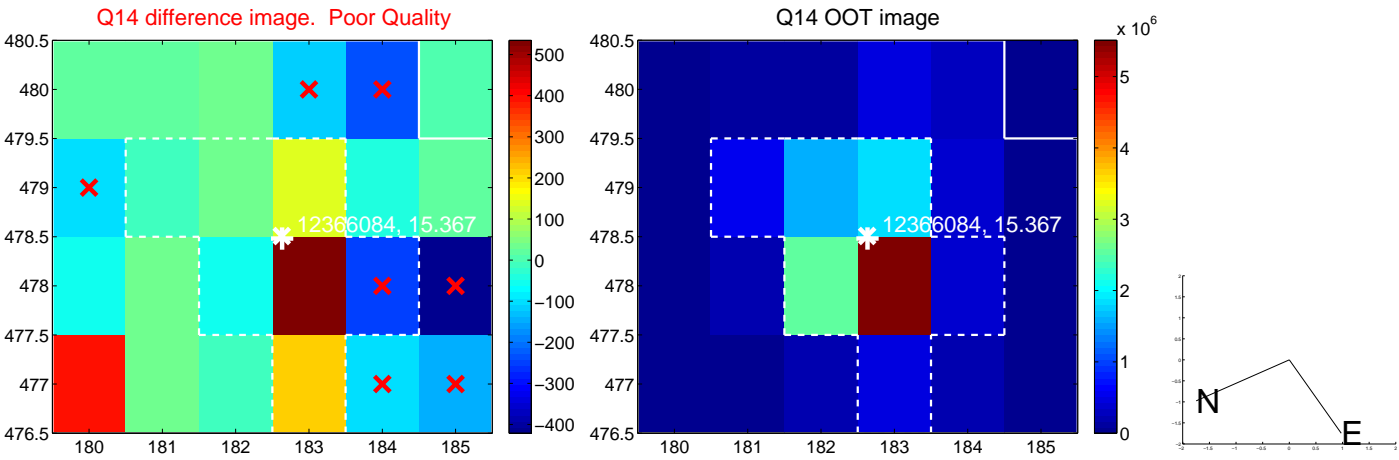
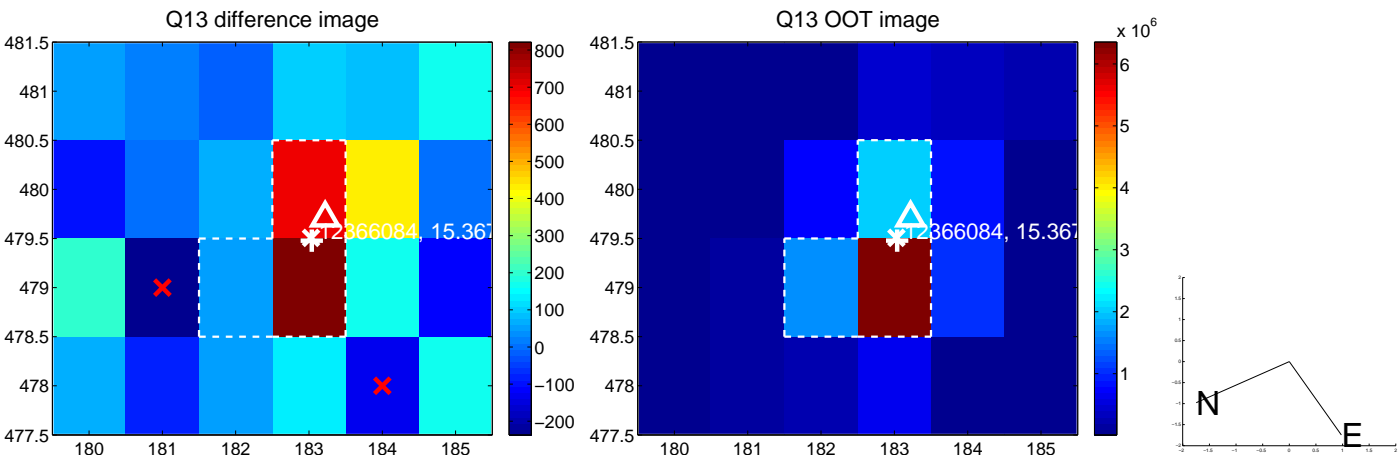
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



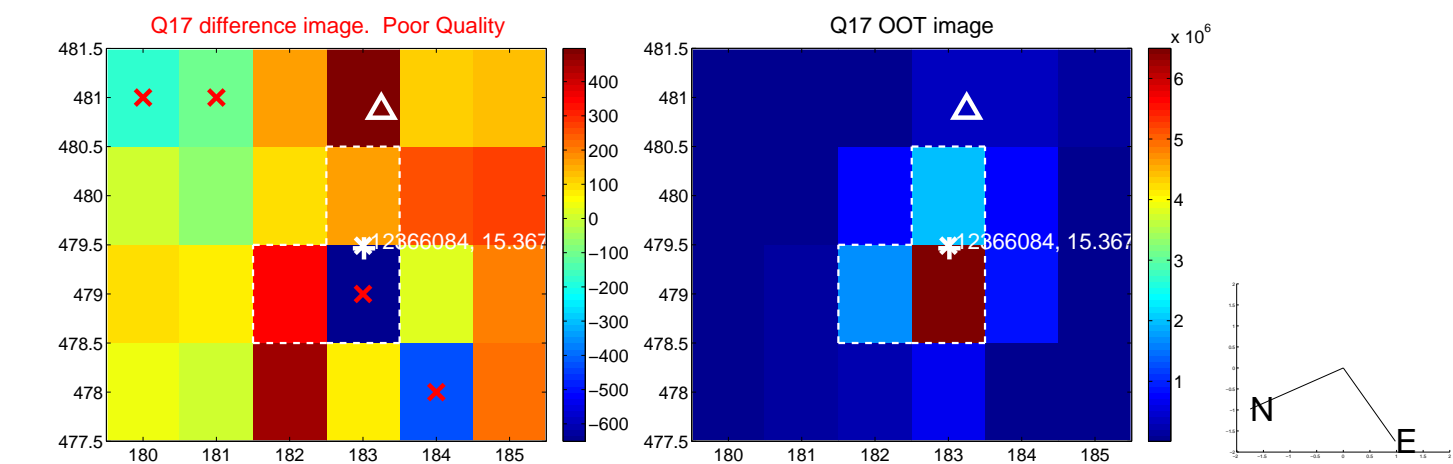
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



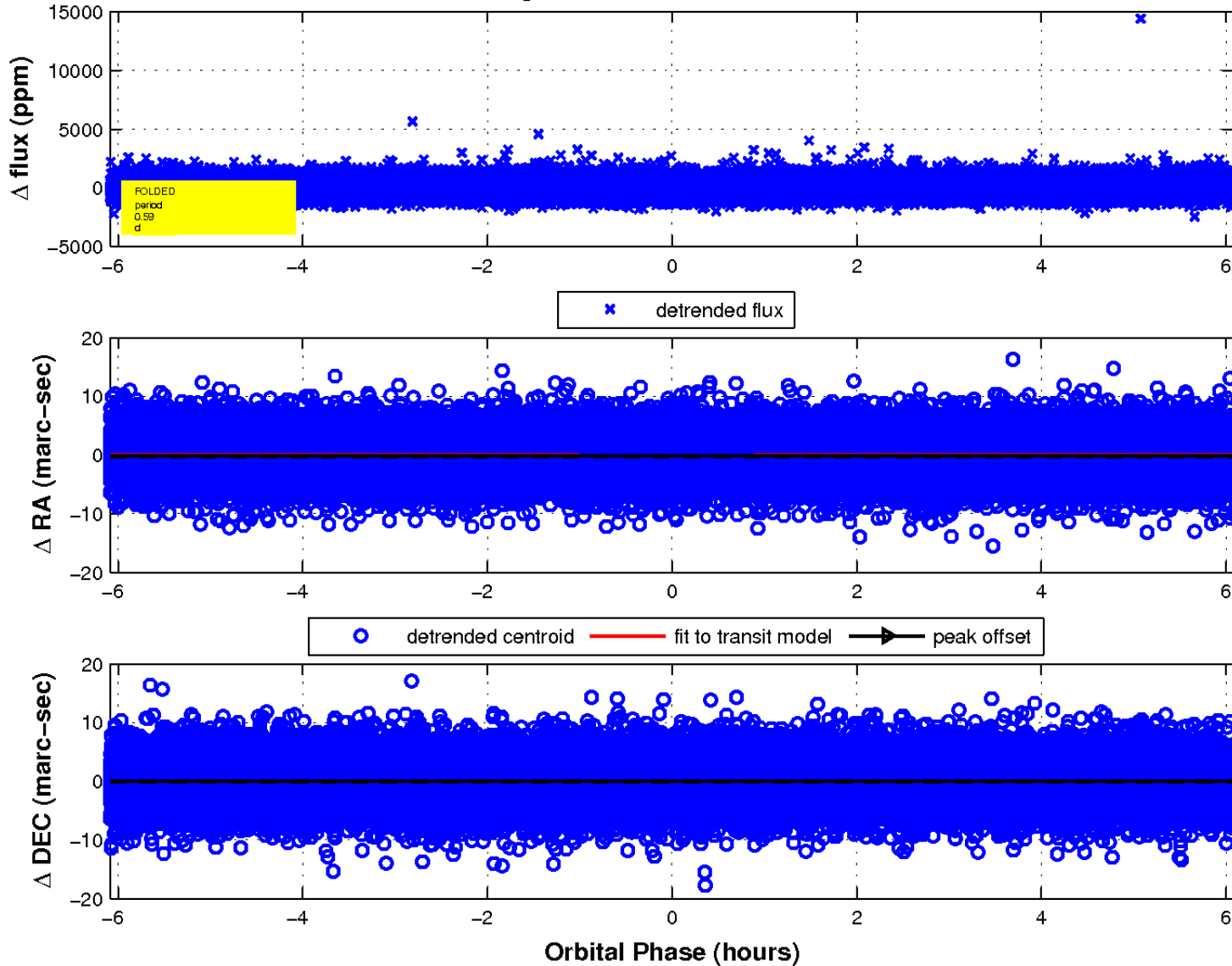
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

