

KIC 004285359

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})
004285359-01	OBS	No	0.569282	132.016930	618.0	1.339	13.3	12.3	3.44	7892	9.96	141413.42
004285359-02	OBS	No	0.569272	131.653478	691.2	1.371	10.1	13.6	3.44	7892	9.39	141416.73
004285359-03	OBS	No	0.783896	131.869835	910.0	6.216	7.9	12.2	3.44	7892	10.73	92310.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004285359-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004285359-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
004285359-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

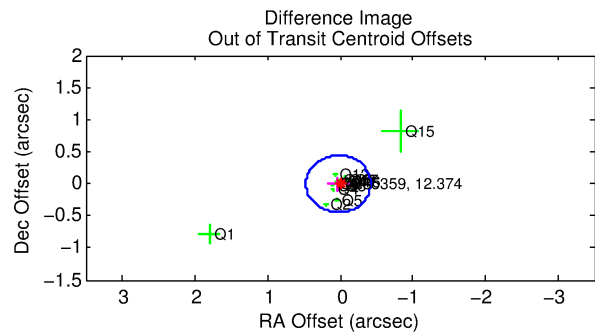
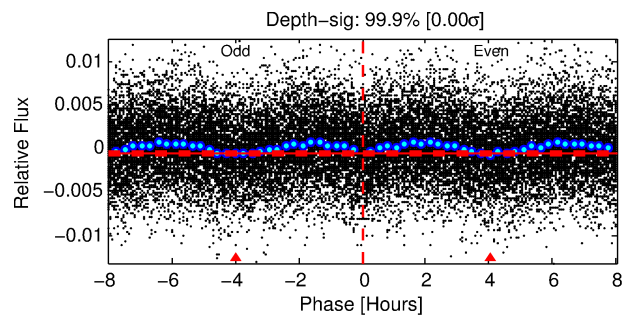
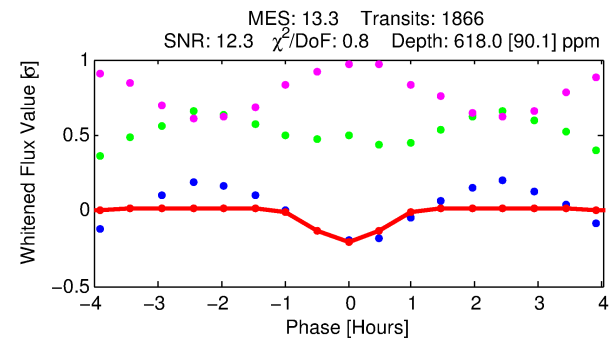
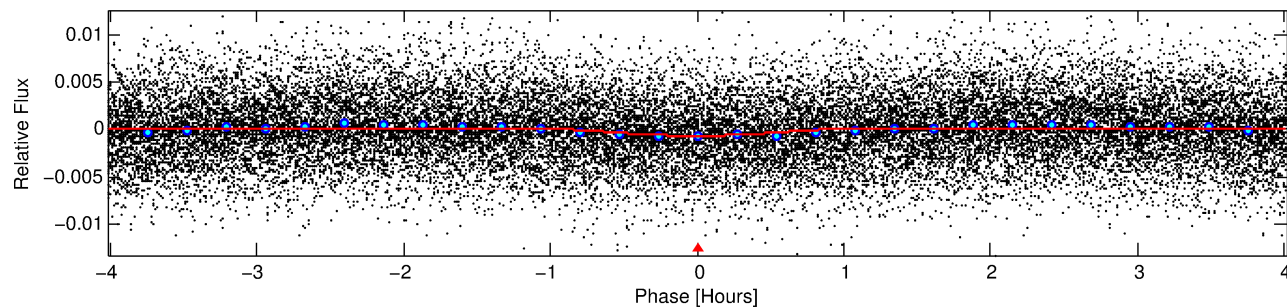
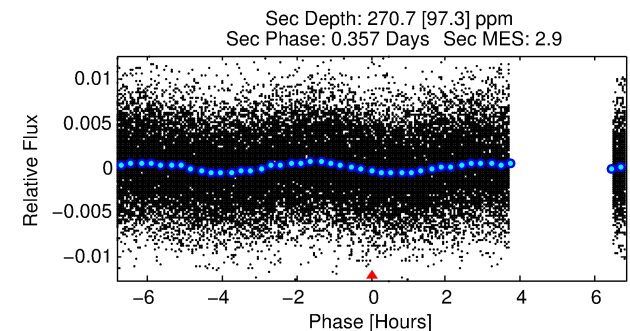
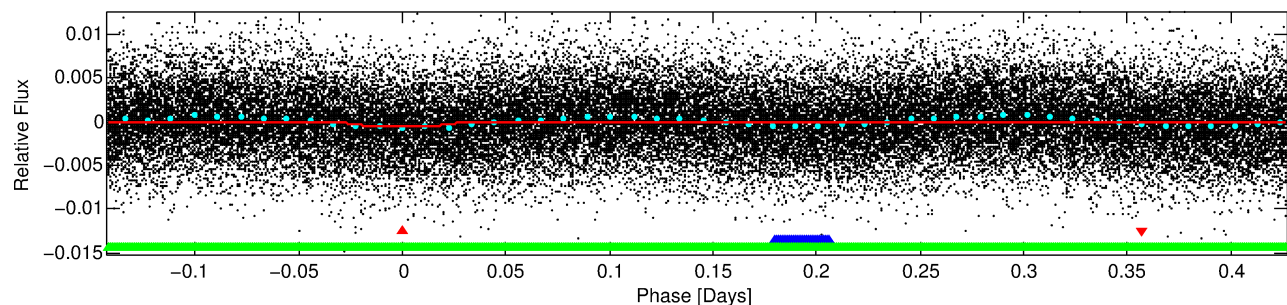
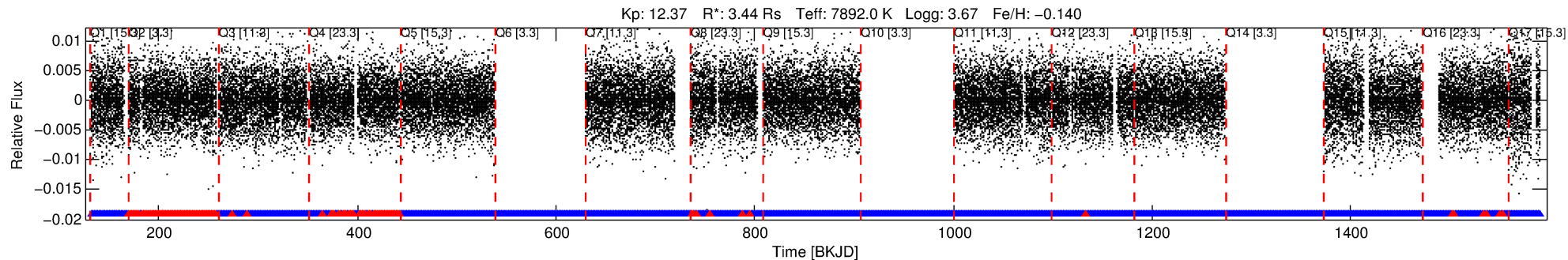
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004285359-01

No Significant Match Found

DV One-Page Summary

KIC: 4285359 Candidate: 1 of 3 Period: 0.569 d



DV Fit Results:

Period = 0.56928 [0.00001] d
Epoch = 132.0169 [0.0019] BKJD
Rp/R* = 0.0266 [0.0129]
a/R* = 1.88 [3.77]
b = 0.90 [0.63]
Seff = 141413.42 [111622.38]
Teq = 4945 [976] K
Rp = 9.96 [6.78] Re
a = 0.0170 [0.0080] AU
Ag = 0.43 [0.56] [-1.01σ]
Teffp = 6209 [1633] K [0.66σ]

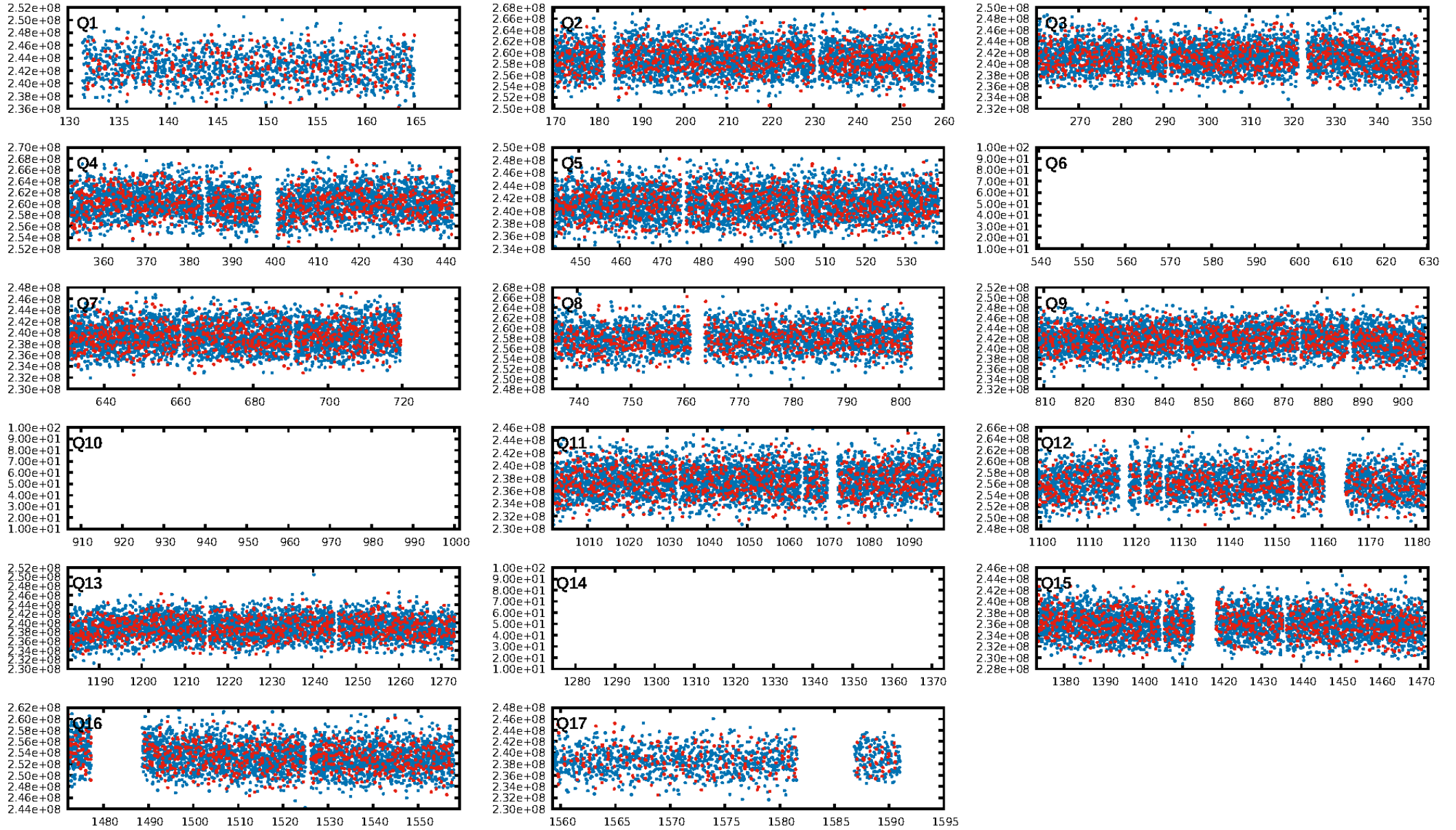
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 58.2% [0.81σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.87 [1534/1762]
GhostDiagnostic-chr: 1.149
Centroid-sig: 53.7%
Centroid-so: 0.123 arcsec [2.90σ]
OotOffset-rm: 0.027 arcsec [0.18σ]
KicOffset-rm: 0.029 arcsec [0.19σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.86 [12/14]
DiffImageOverlap-fno: 0.00 [0/14]

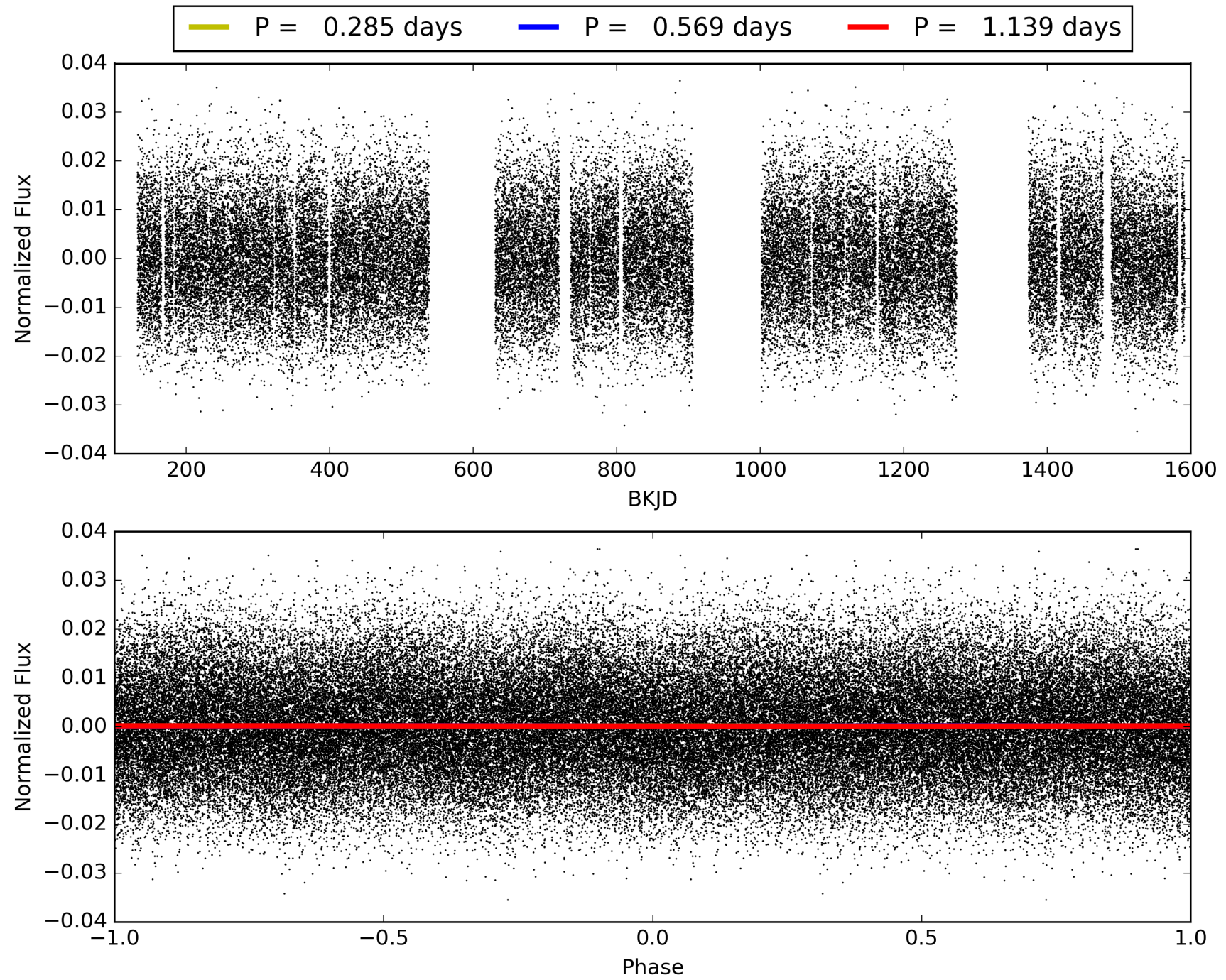
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:01:44 Z

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

TCE 004285359-01, PDC Light Curves

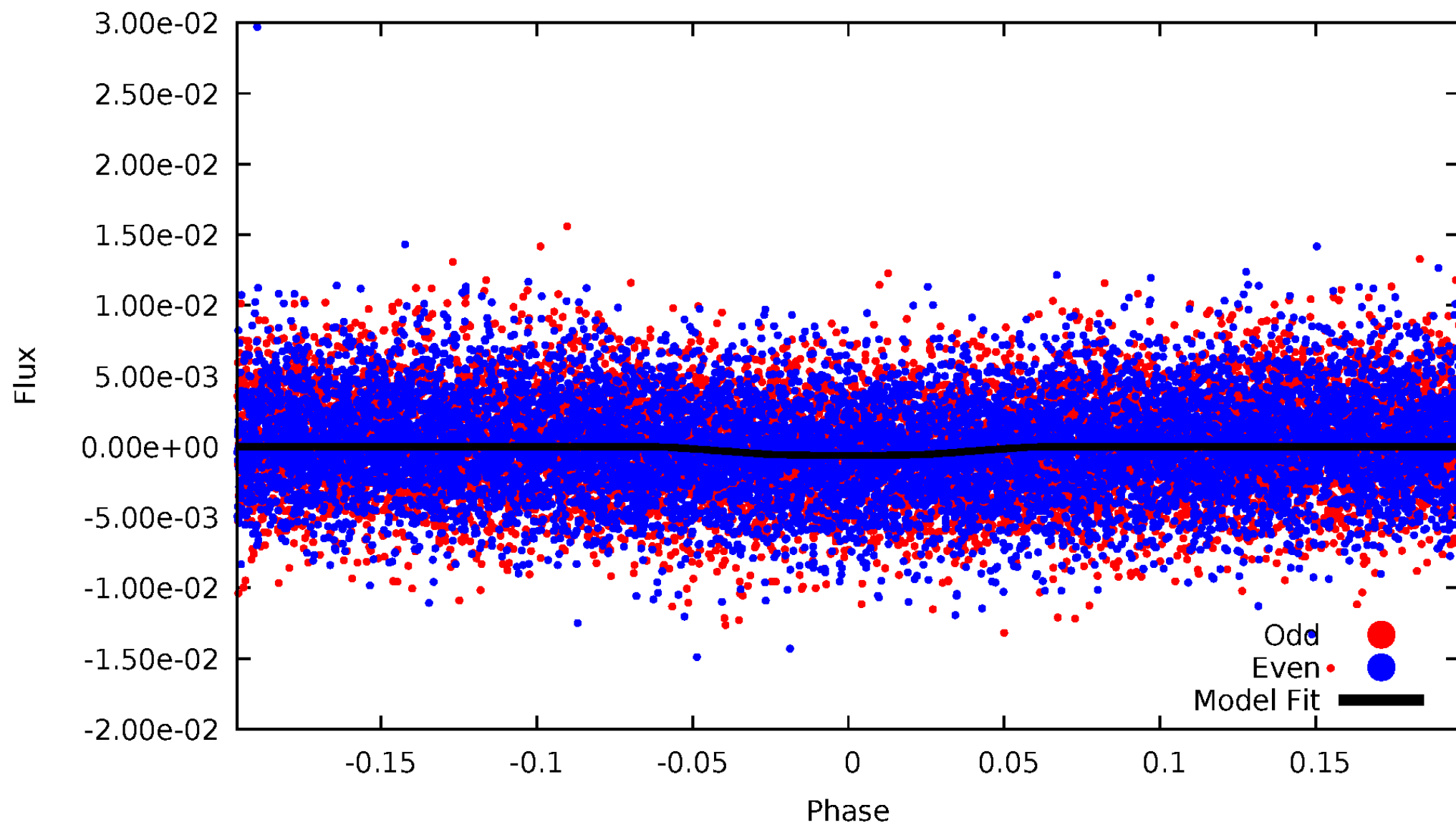


TCE 004285359-01



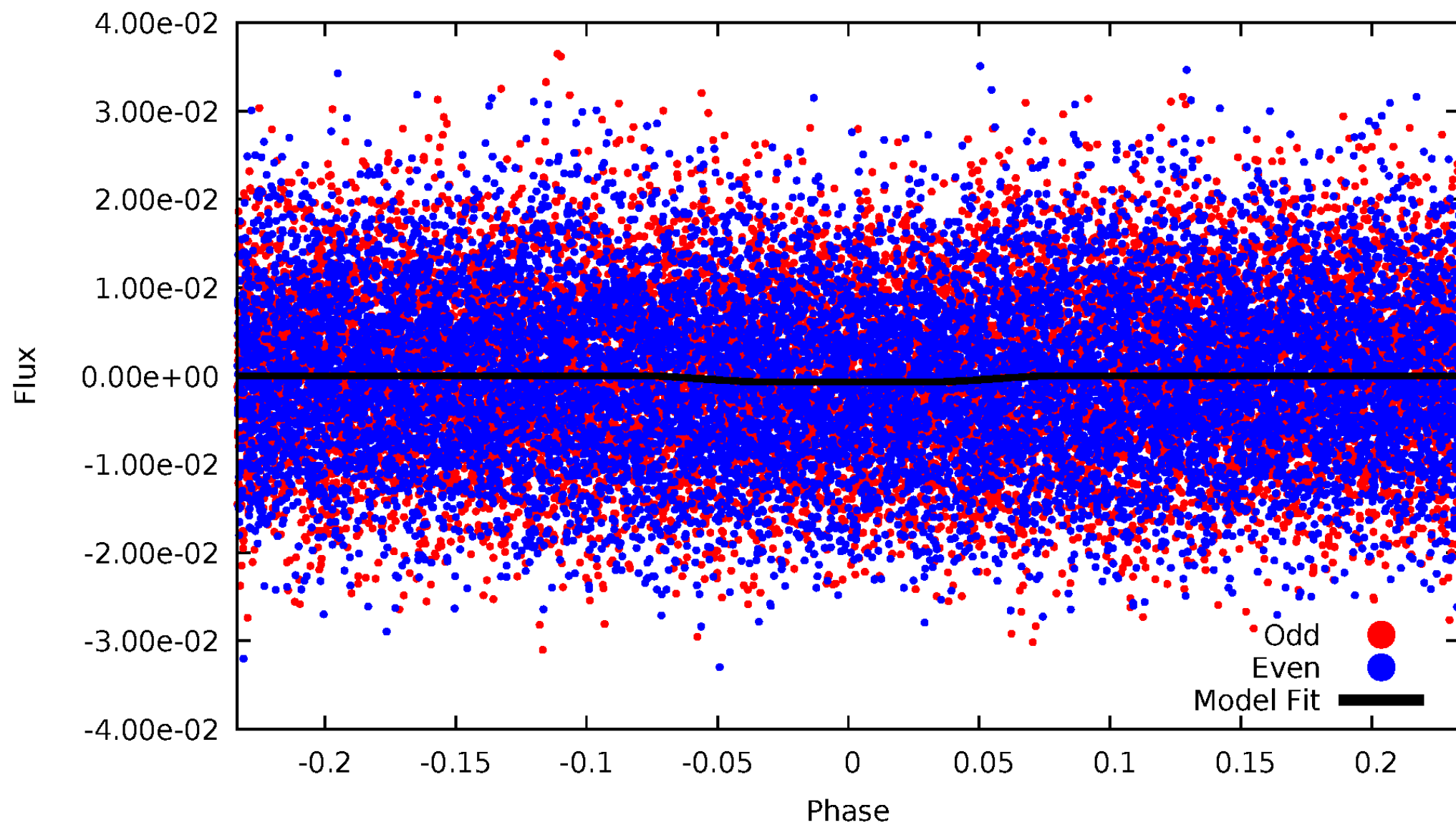
DV Odd/Even

TCE 004285359-01



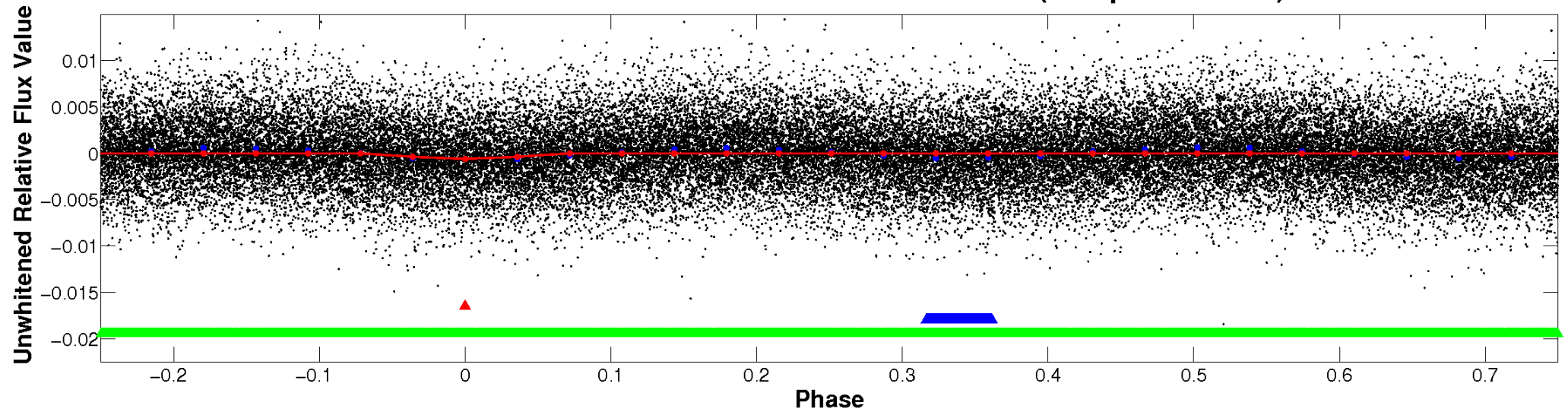
ALT Odd/Even

TCE 004285359-01

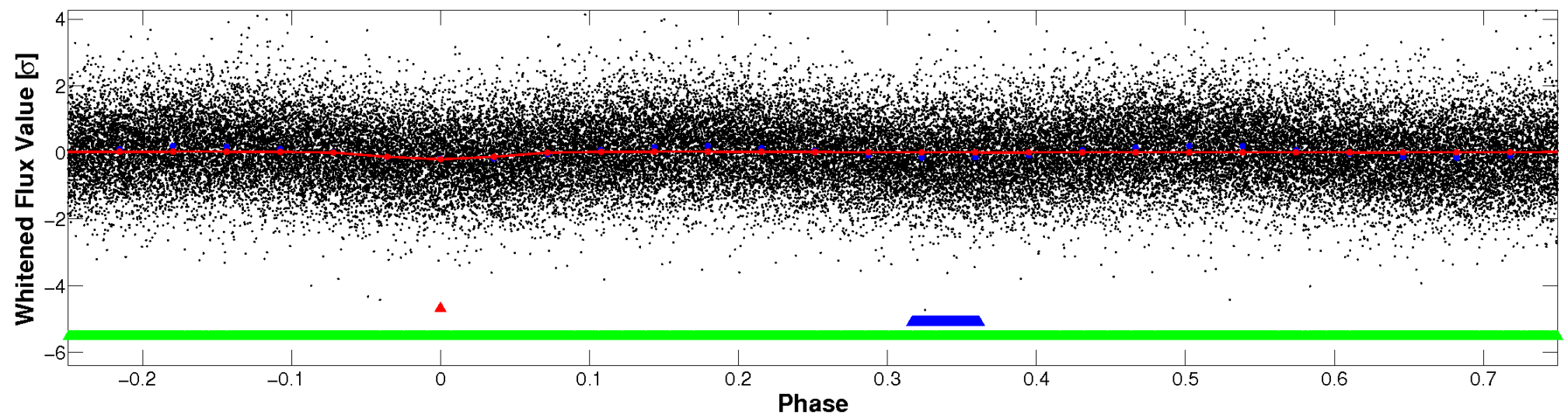


Non-Whitened Vs. Whitened Light Curve

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

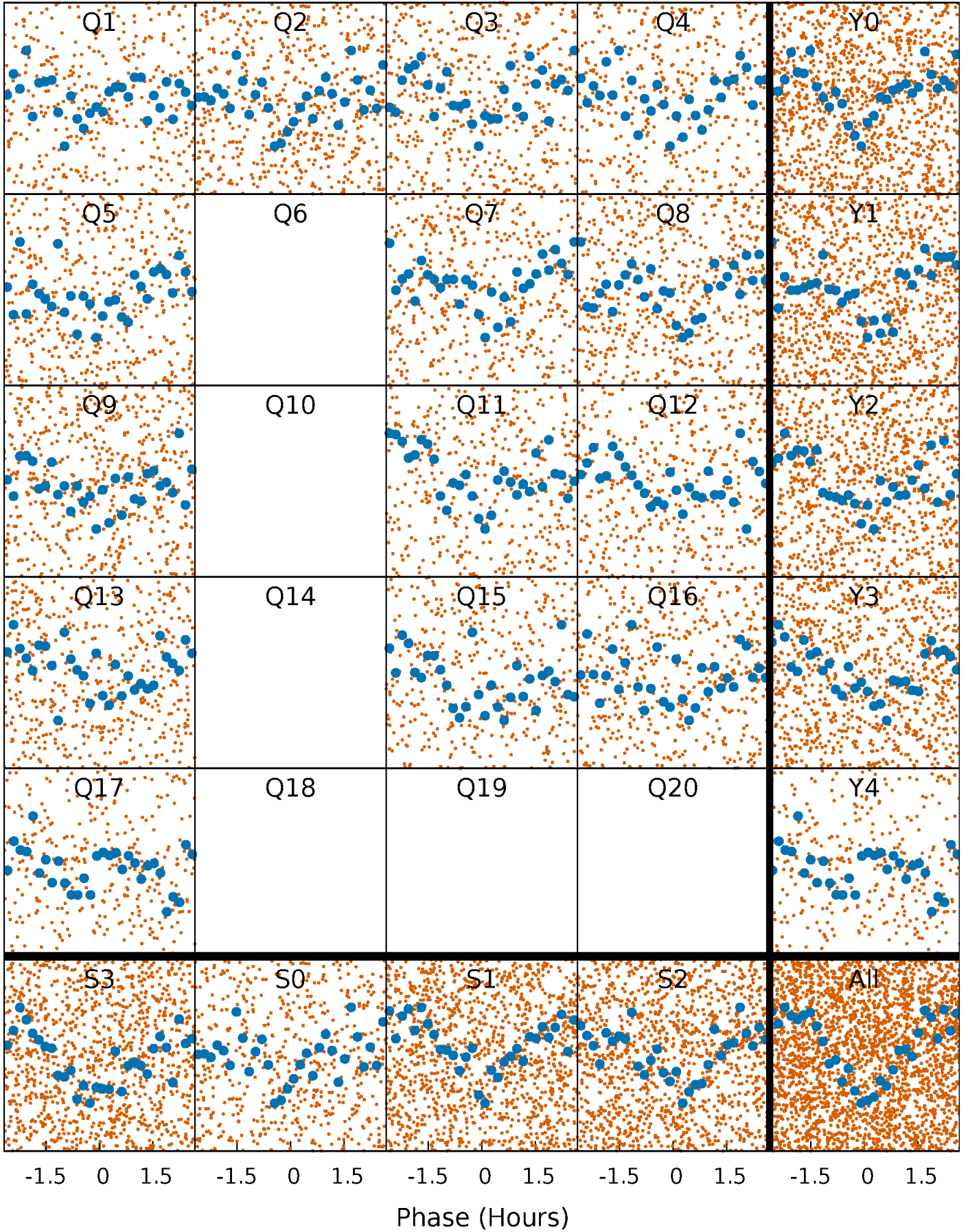


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



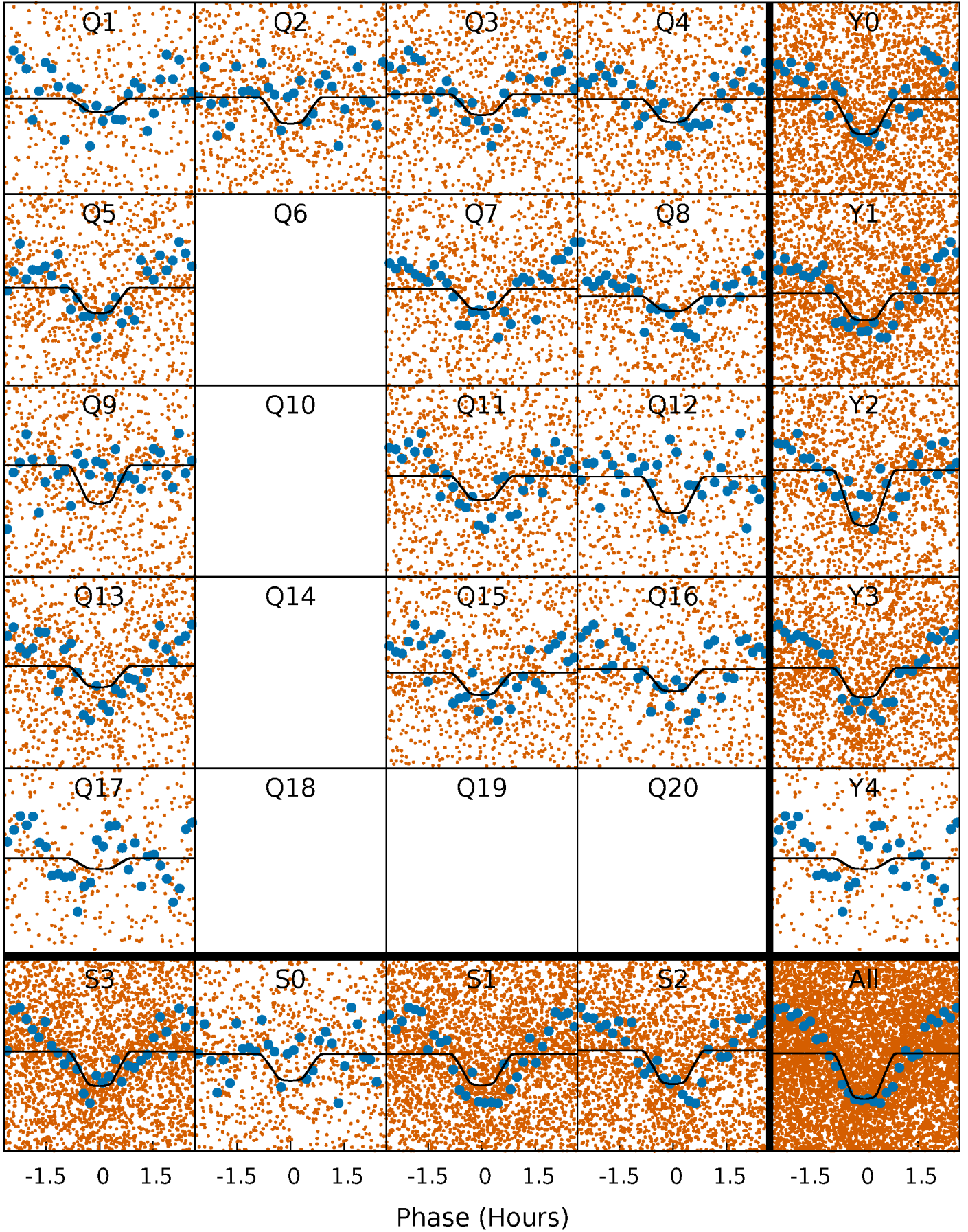
PDC Quarter-Phased Transit Curves

TCE 004285359-01 P= 0.569282 Days $T_0=132.016930$ (BKJD)



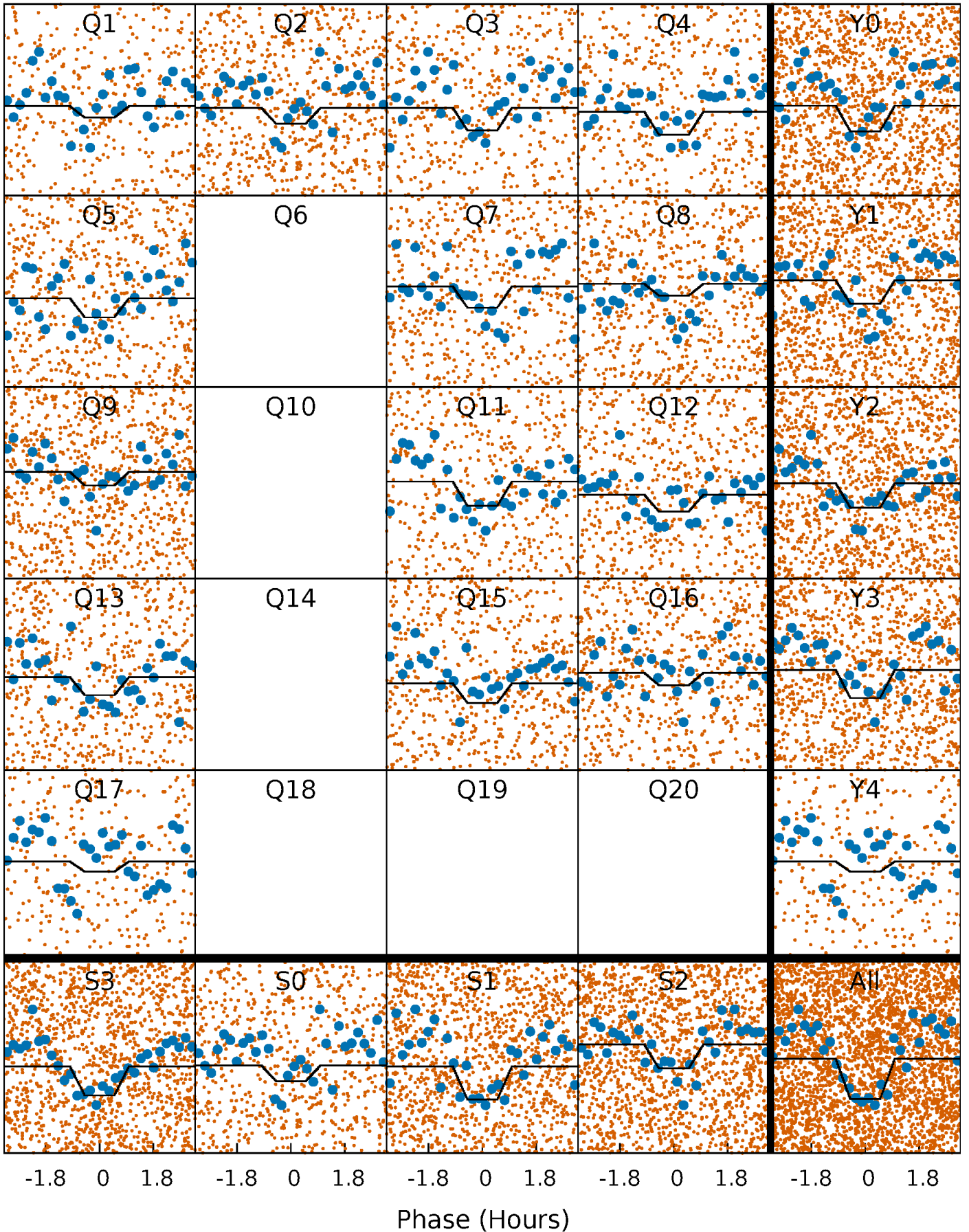
DV Quarter-Phased Transit Curves

TCE 004285359-01 P= 0.569282 Days $T_0=132.016930$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

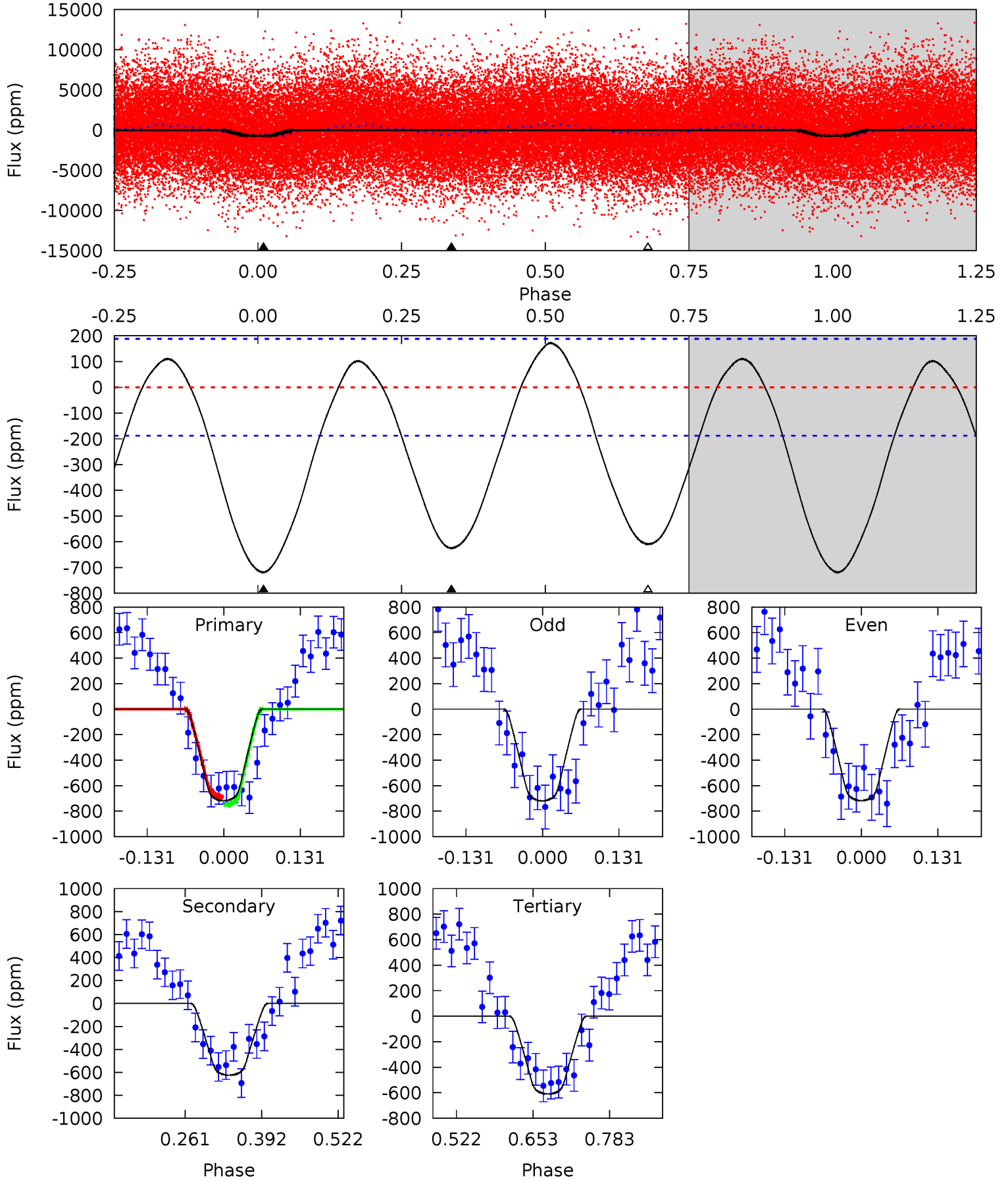
TCE 004285359-01 P= 0.569285 Days $T_0=132.016610$ (BKJD)



DV Model-Shift Uniqueness Test

004285359-01, P = 0.569282 Days, E = 131.447648 Days

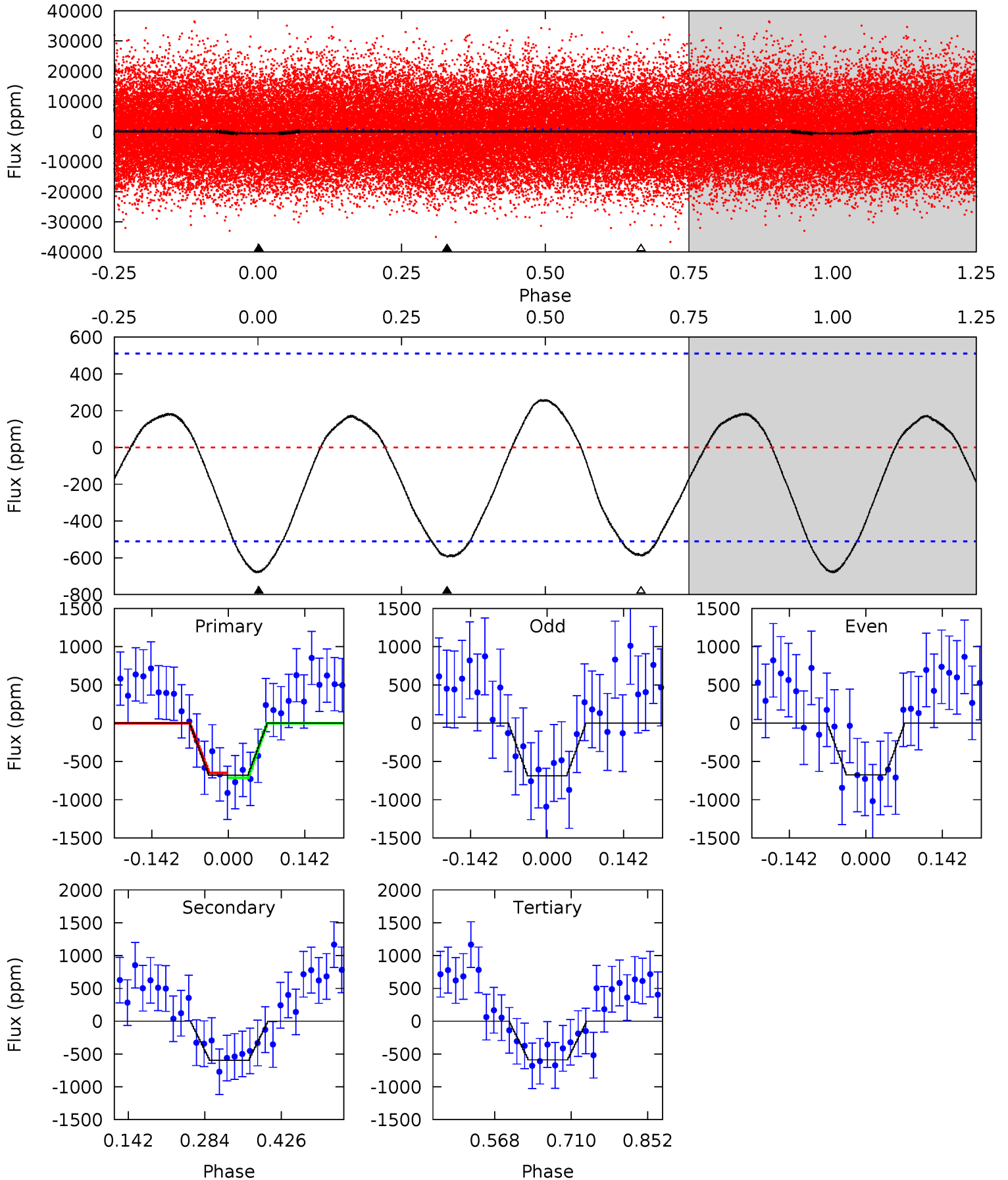
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.2	15.0	14.6	0	4.51	1.51	6.39	2.61	17.2	0.37	15.0	0.02	1.05	0.19	0.79



Alt Model-Shift Uniqueness Test

004285359-01, P = 0.569285 Days, E = 131.447325 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.98	5.23	5.18	0	4.49	1.47	2.55	0.80	5.98	0.05	5.23	0.05	0.96	0.28	0.27



Stellar Parameters For KIC 004285359

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7892^{+218}_{-355}	$3.674^{+0.456}_{-0.085}$	$-0.140^{+0.200}_{-0.350}$	$3.435^{+0.701}_{-1.635}$	$2.032^{+0.328}_{-0.492}$	$0.071^{+0.321}_{-0.025}$
	+3%/-4%	+12%/-2%	+143%/-250%	+20%/-48%	+16%/-24%	+455%/-35%
Source	KIC0	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 004285359-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-625 ± 42	$8.86^{+4.92}_{-4.22}$	6653^{+500}_{-799}	6947^{+4015}_{-1837}	$1.243^{+3.459}_{-0.716}$
Alt.	-595 ± 114	$8.93^{+5.57}_{-4.38}$	6575^{+569}_{-820}	6728^{+3868}_{-2079}	$1.185^{+3.226}_{-0.740}$

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

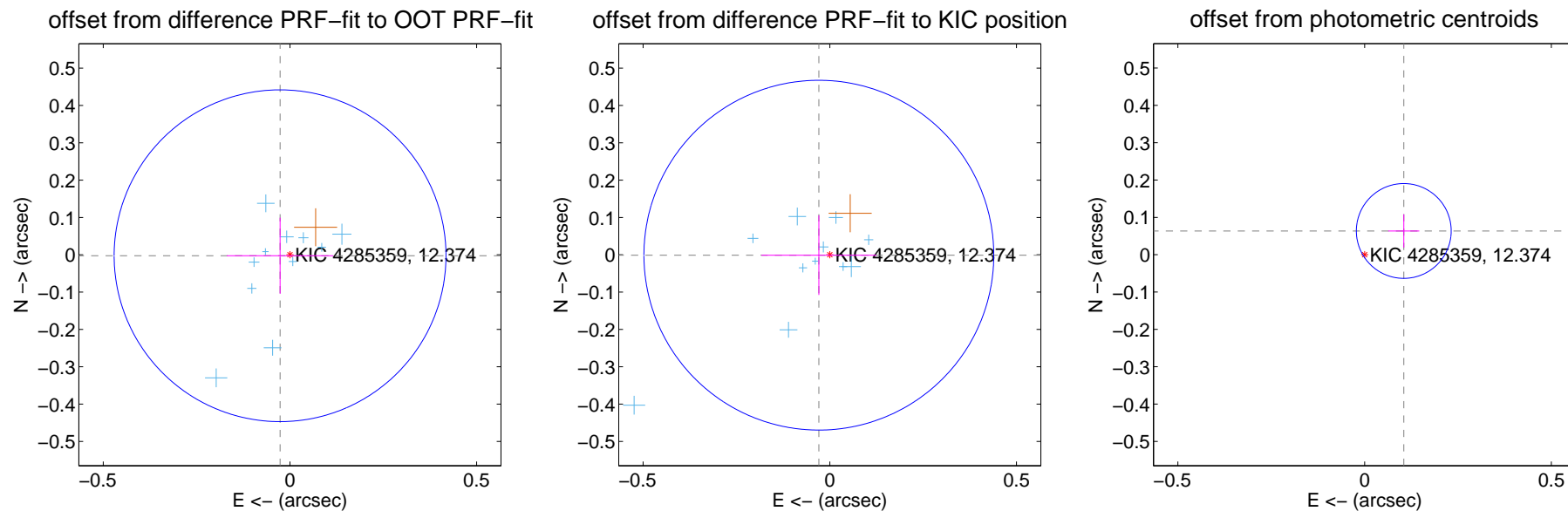
DV Centroid Data

Supplemental centroid analysis for 004285359-01. Kepler magnitude: 12.37. Transit SNR 12.29

There are 12 quarters with good PRF difference image offsets

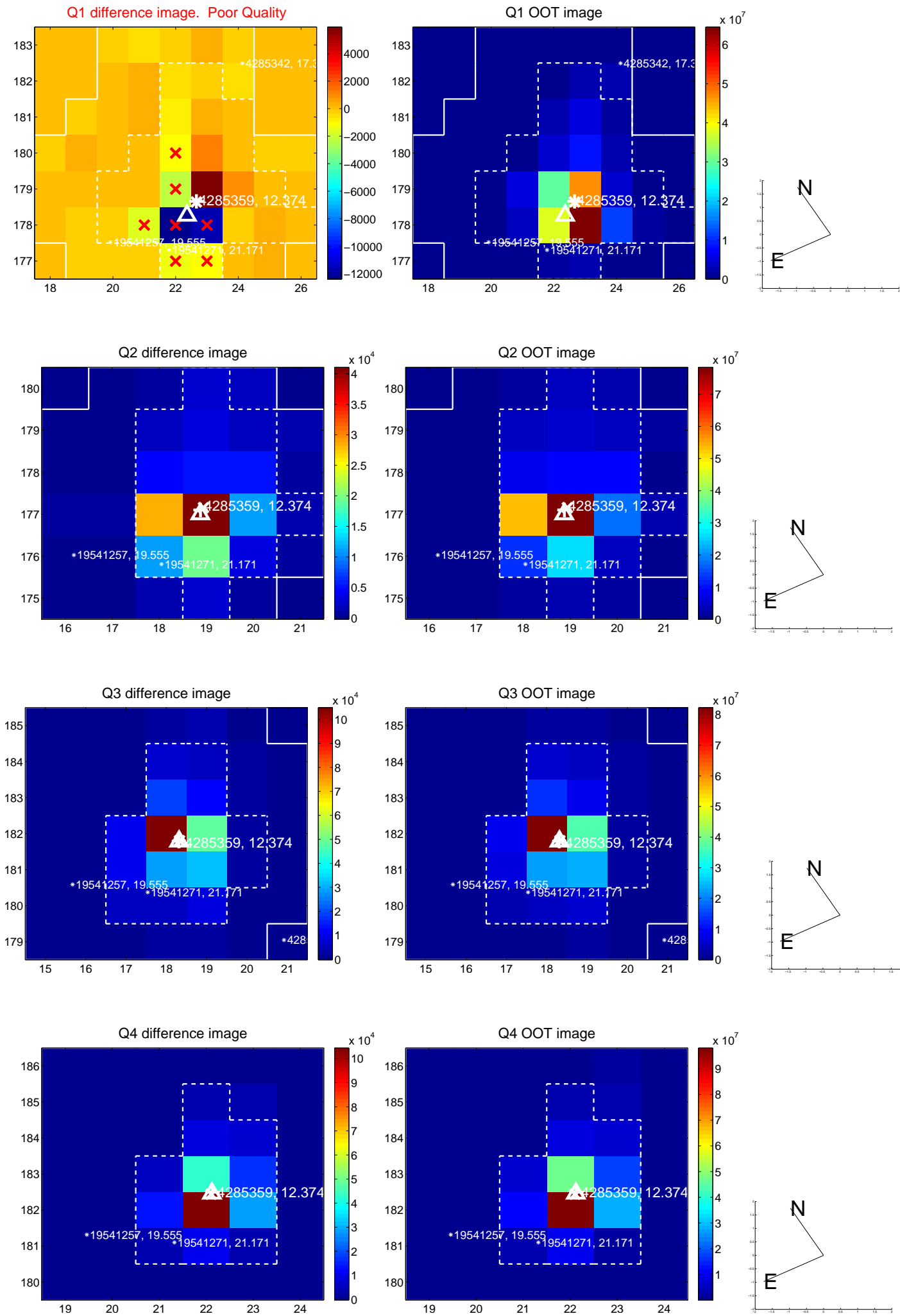
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.027 ± 0.148	0.18	0.026 ± 0.143	-0.003 ± 0.102
PRF-fit source offset from KIC position	0.029 ± 0.156	0.19	0.029 ± 0.154	-0.001 ± 0.107
photometric centroid source offset	0.12 ± 0.04	2.90	-0.10 ± 0.04	0.06 ± 0.04

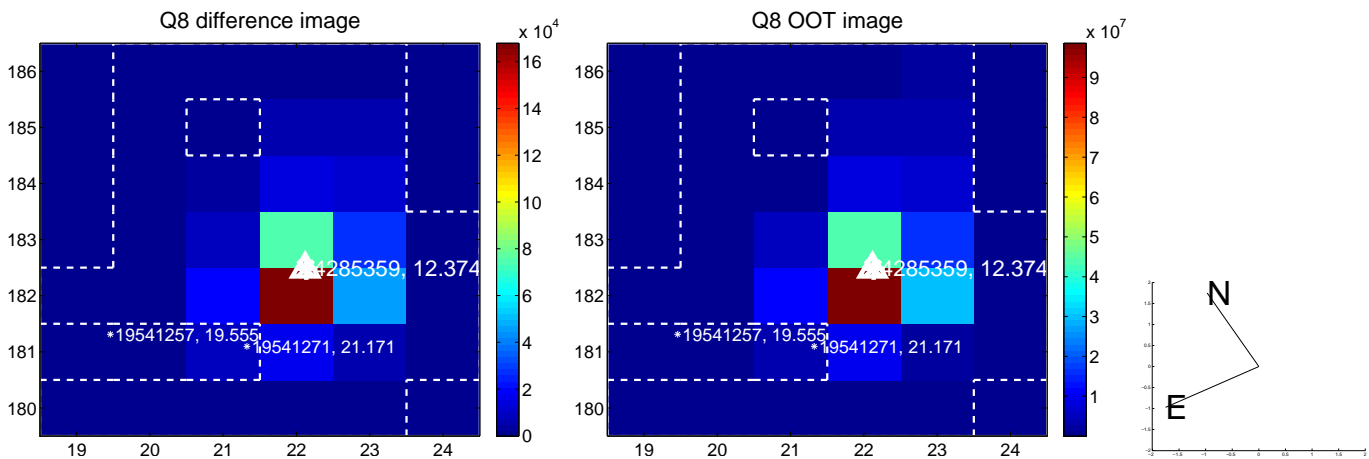
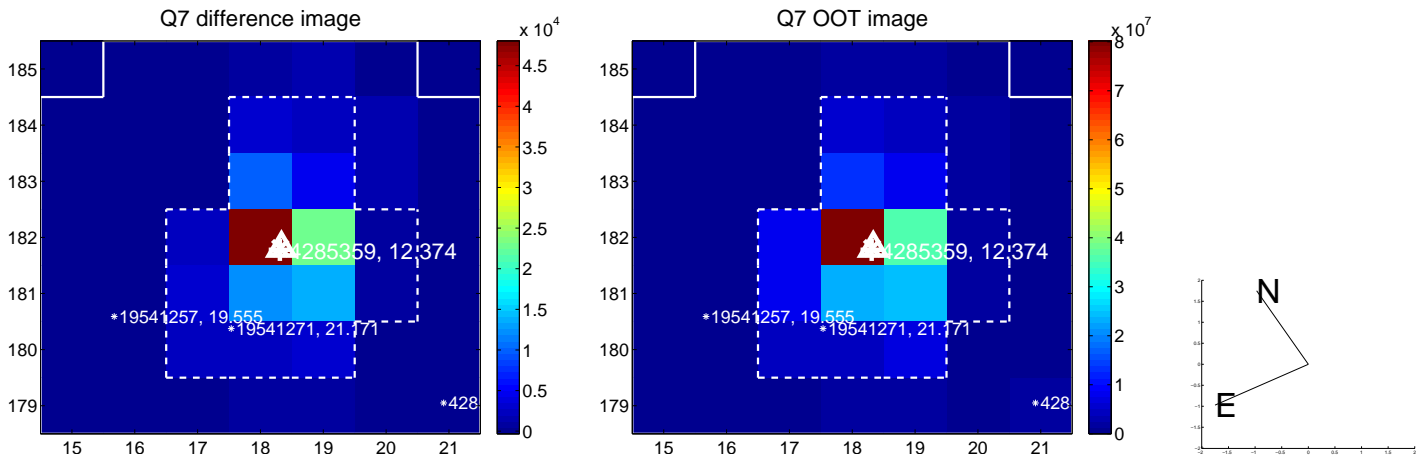
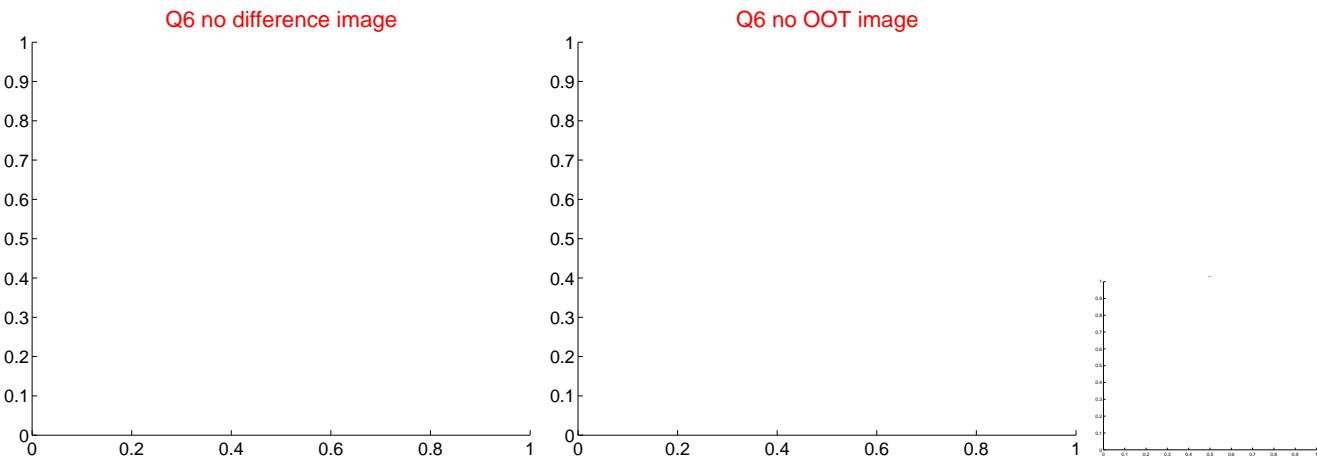
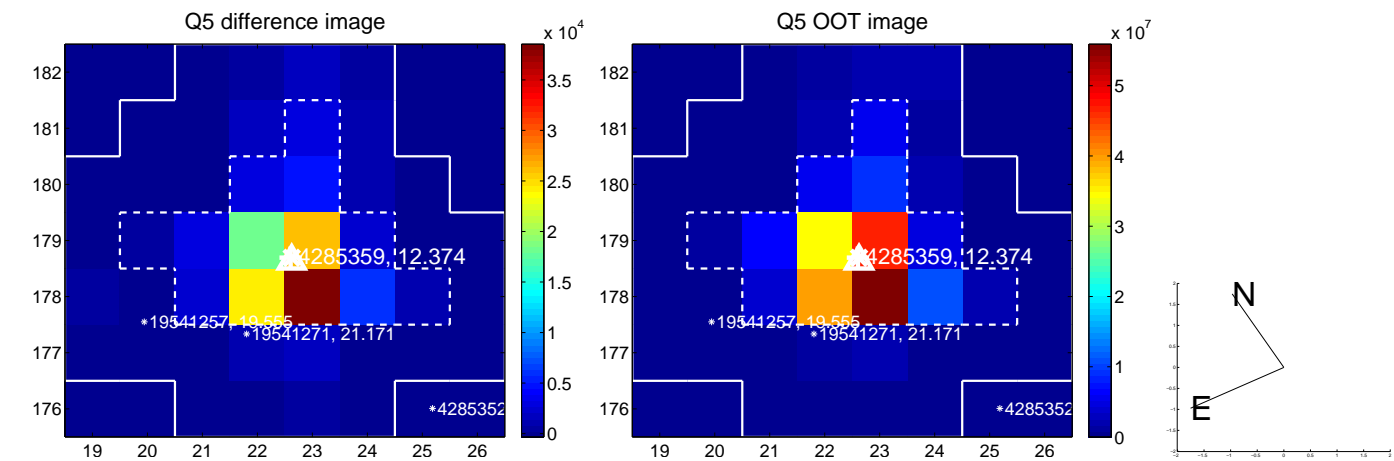


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

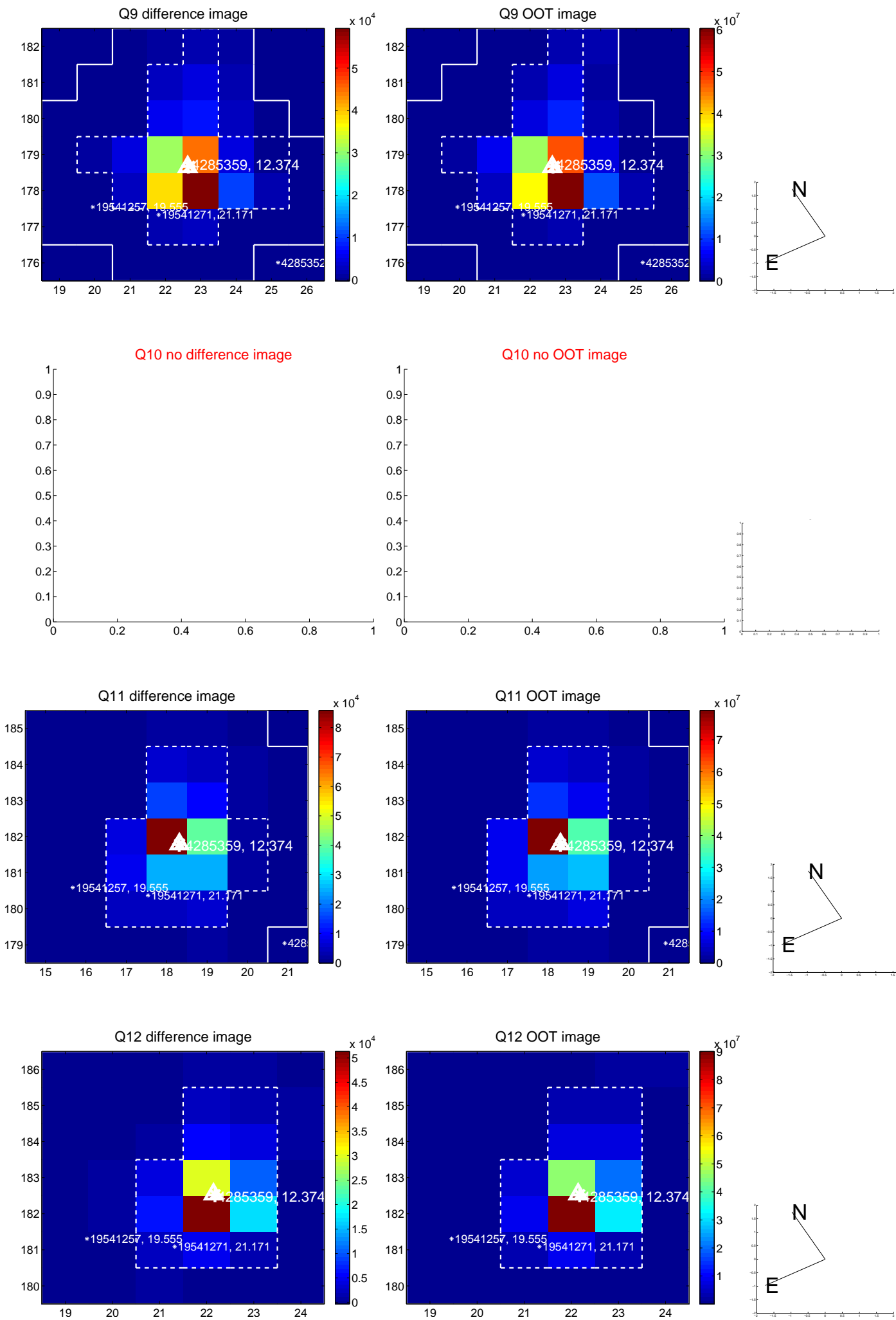
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



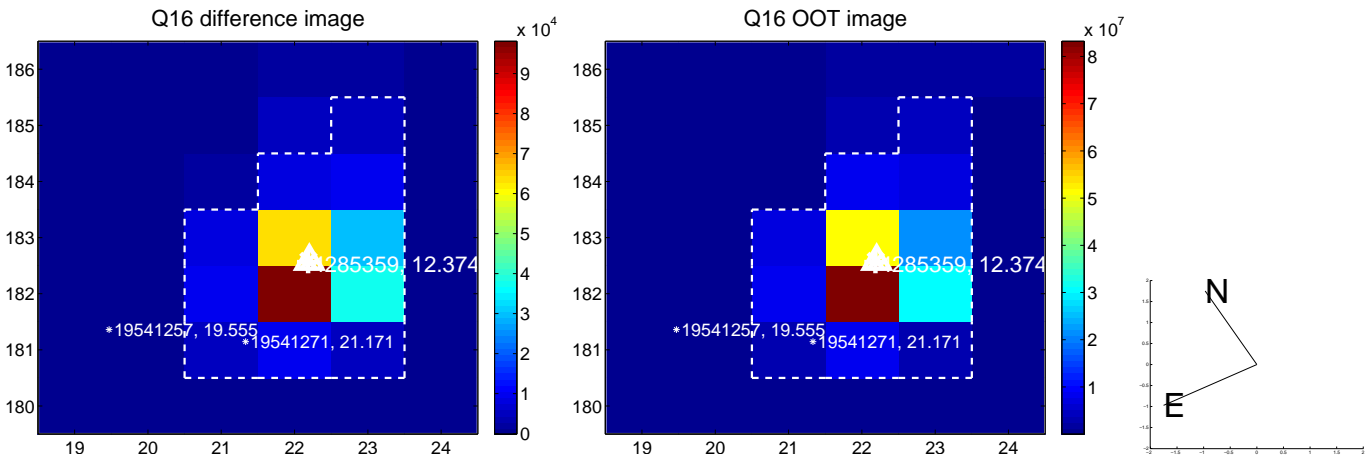
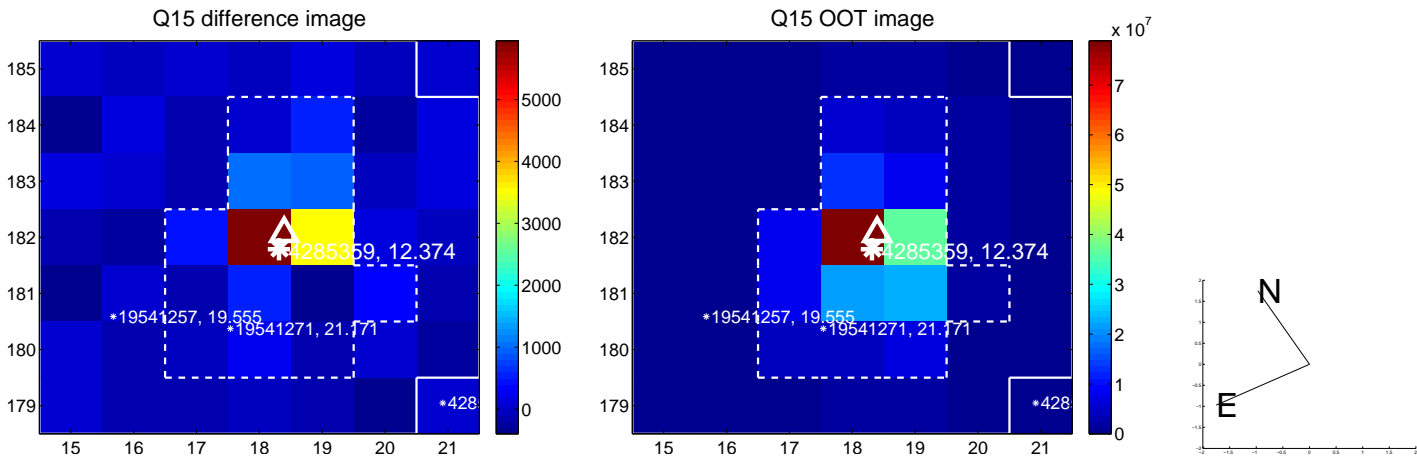
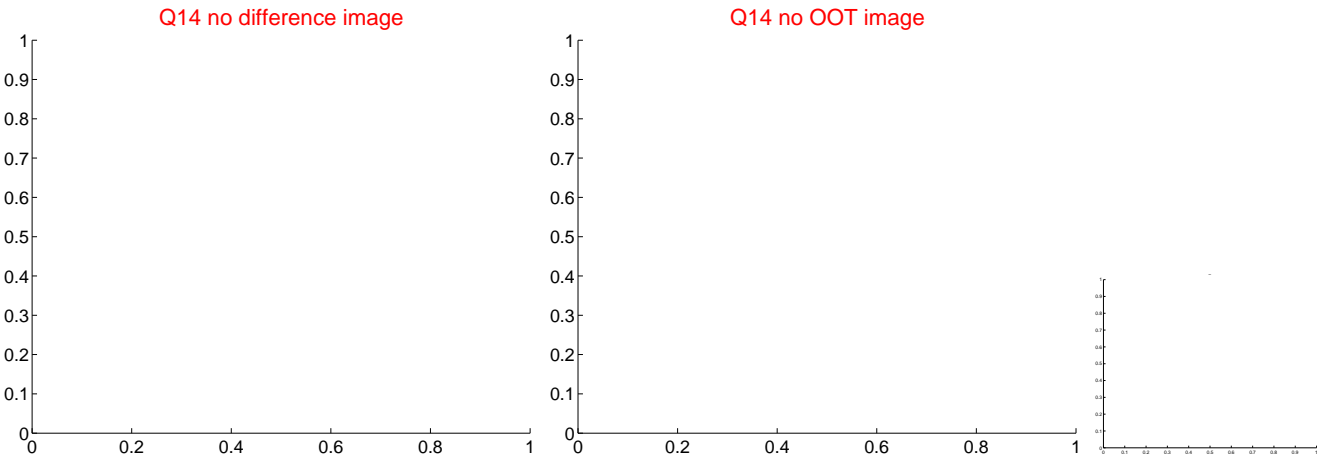
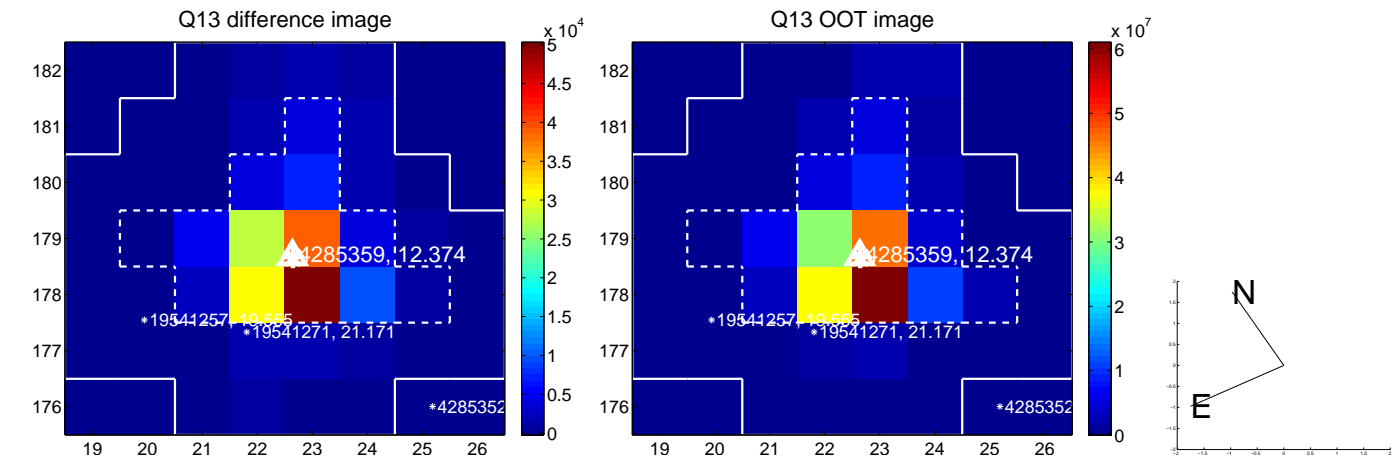
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



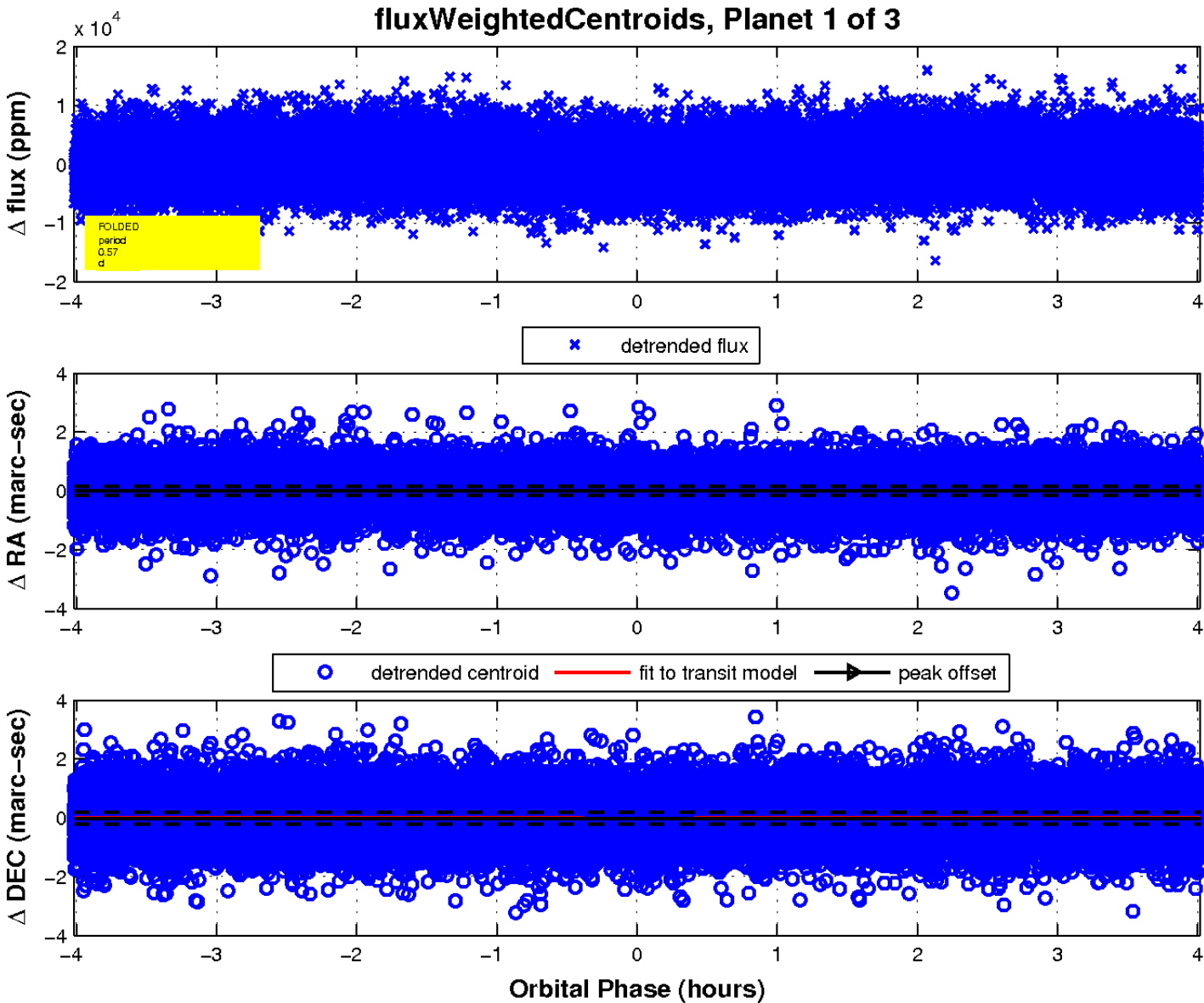
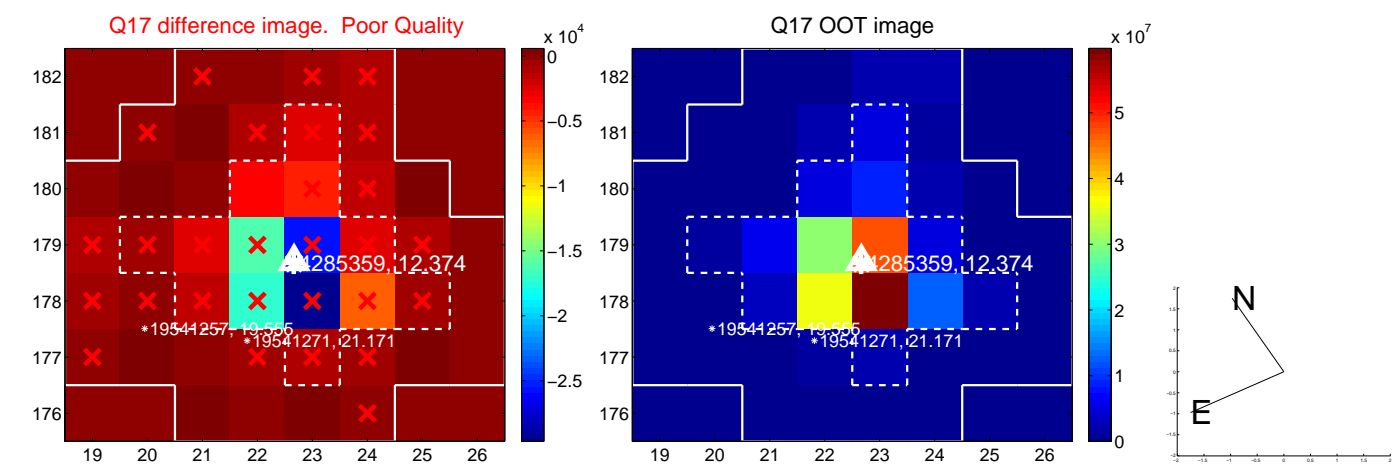
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

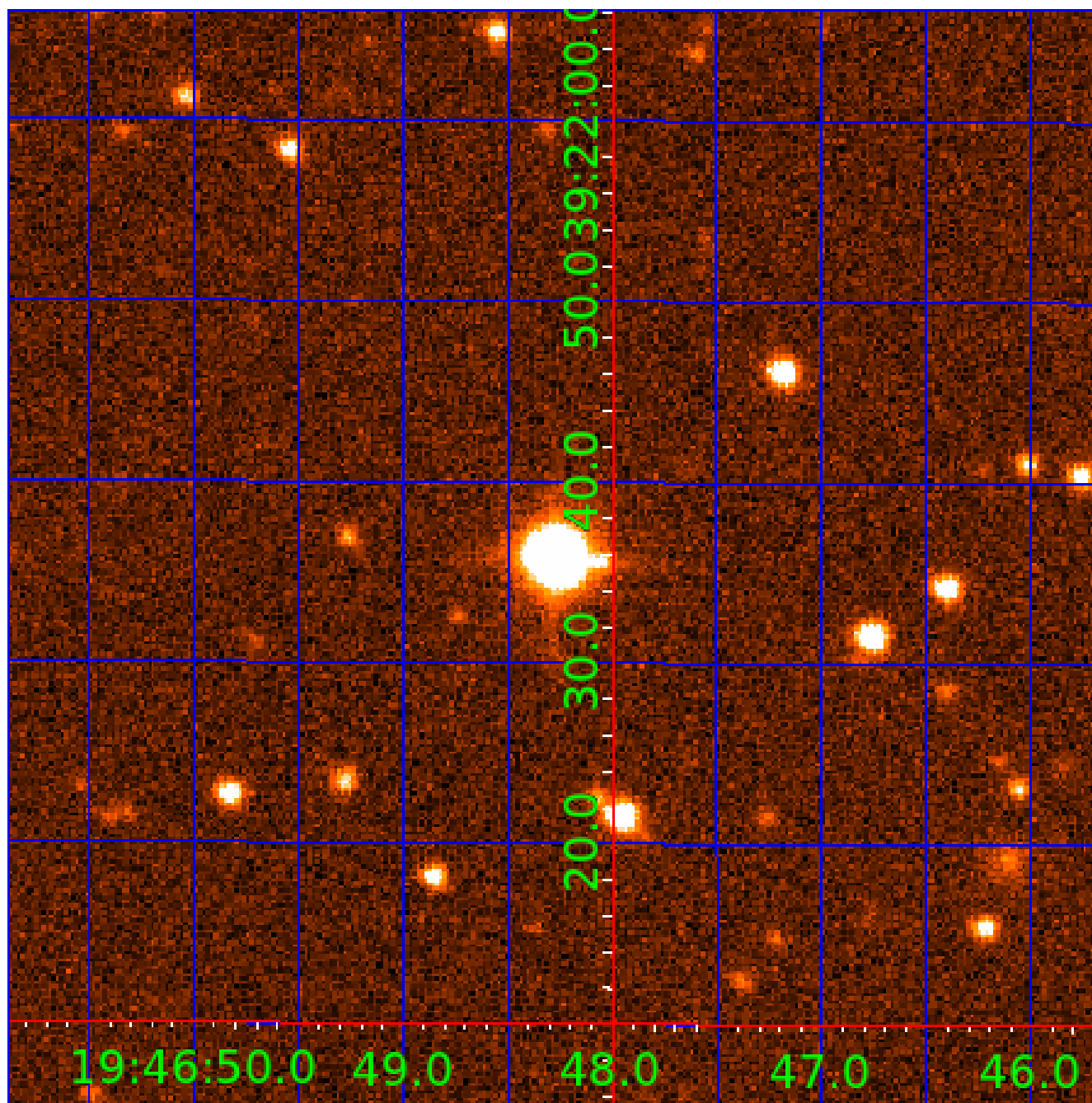


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004285359

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})
004285359-01	OBS	No	0.569282	132.016930	618.0	1.339	13.3	12.3	3.44	7892	9.96	141413.42
004285359-02	OBS	No	0.569272	131.653478	691.2	1.371	10.1	13.6	3.44	7892	9.39	141416.73
004285359-03	OBS	No	0.783896	131.869835	910.0	6.216	7.9	12.2	3.44	7892	10.73	92310.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004285359-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004285359-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
004285359-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

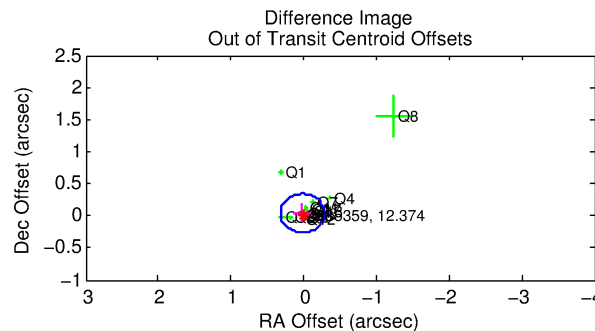
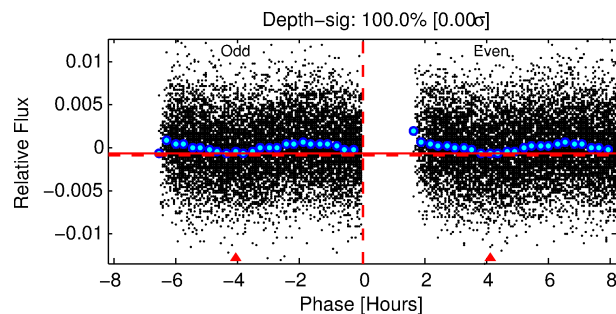
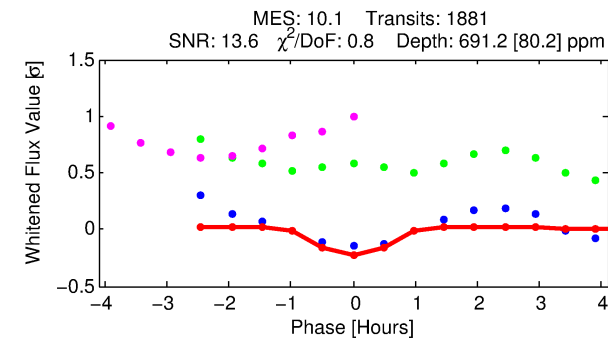
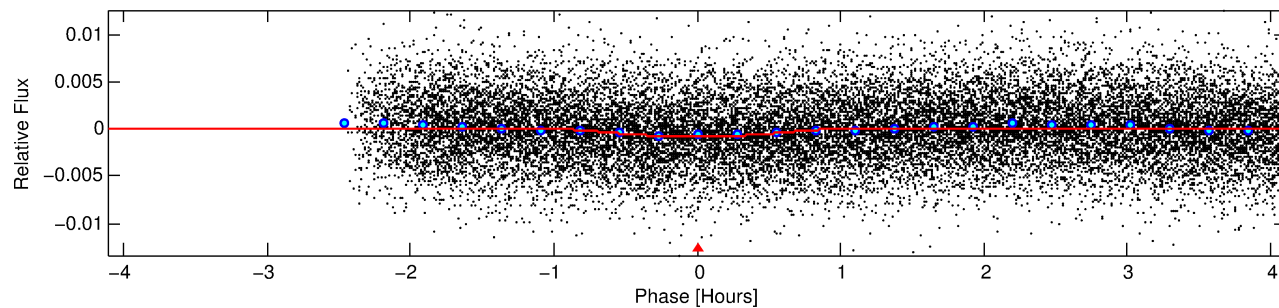
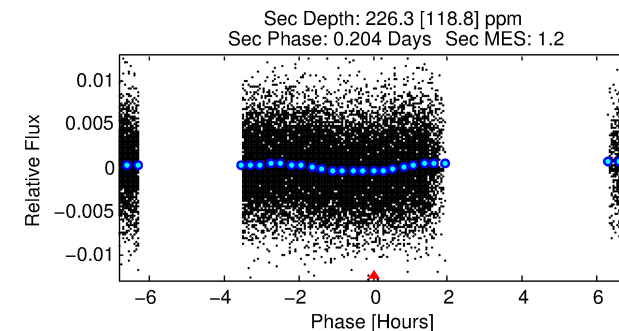
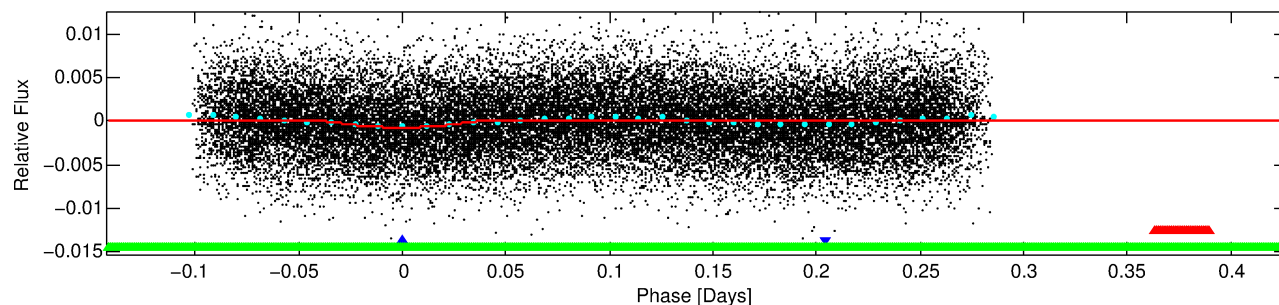
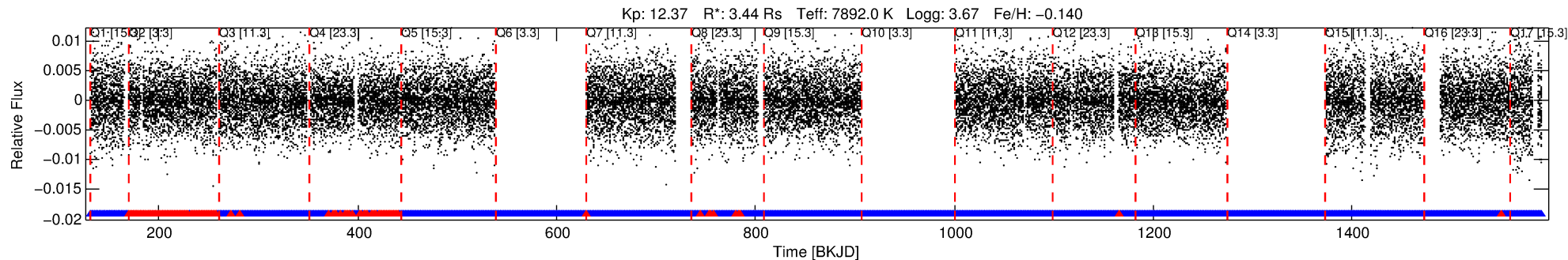
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004285359-02

No Significant Match Found

DV One-Page Summary

KIC: 4285359 Candidate: 2 of 3 Period: 0.569 d



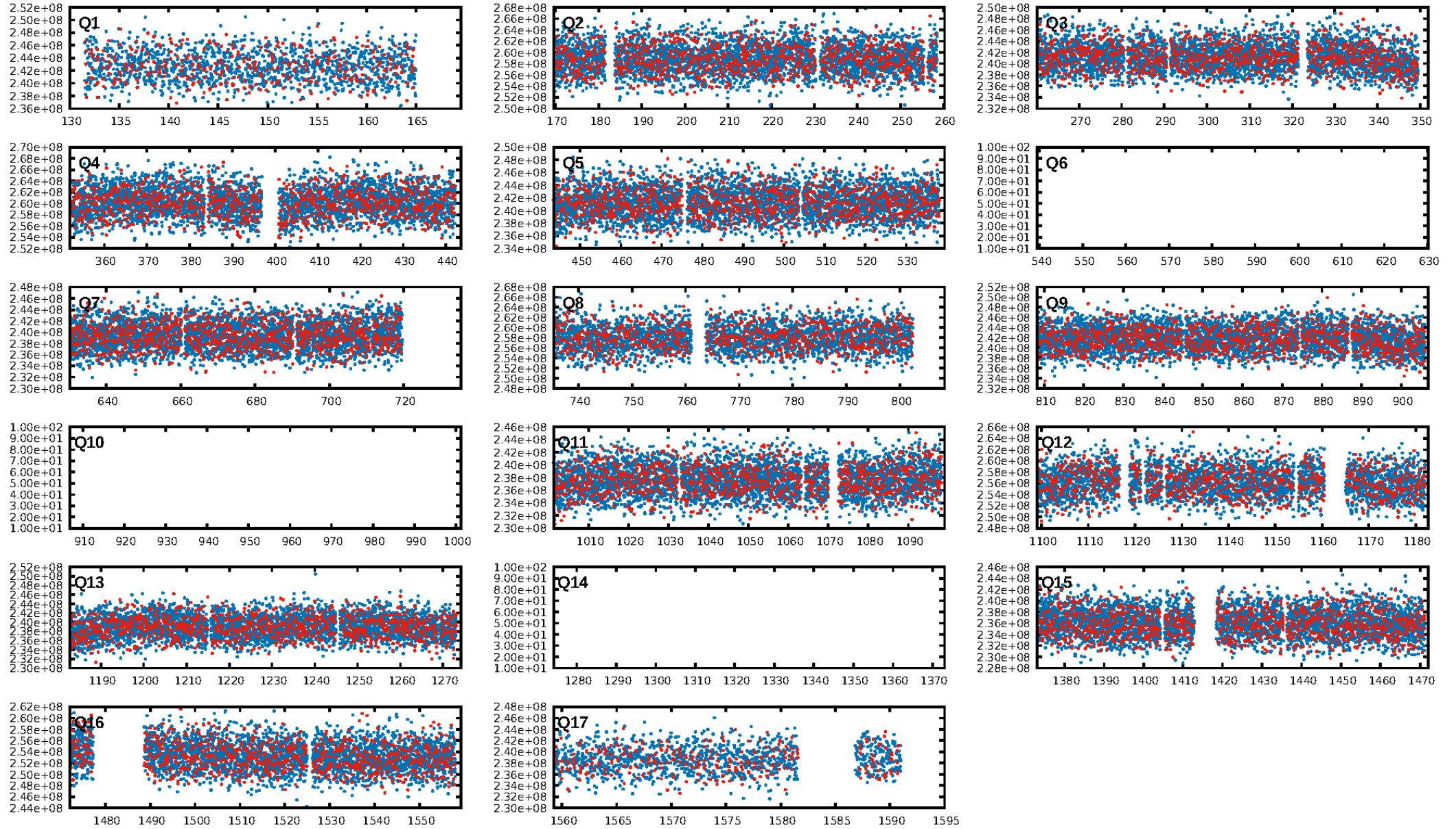
DV Fit Results:

Period = 0.56927 [0.00001] d
Epoch = 131.6535 [0.0017] BKJD
Rp/R* = 0.0251 [0.0130]
a/R* = 2.92 [7.42]
b = 0.50 [4.32]
Seff = 141416.73 [111624.99]
Teq = 4945 [976] K
Rp = 9.39 [6.60] Re
a = 0.0170 [0.0080] AU
Ag = 0.41 [0.57] [-1.04σ]
Teffp = 6115 [1794] K [0.57σ]

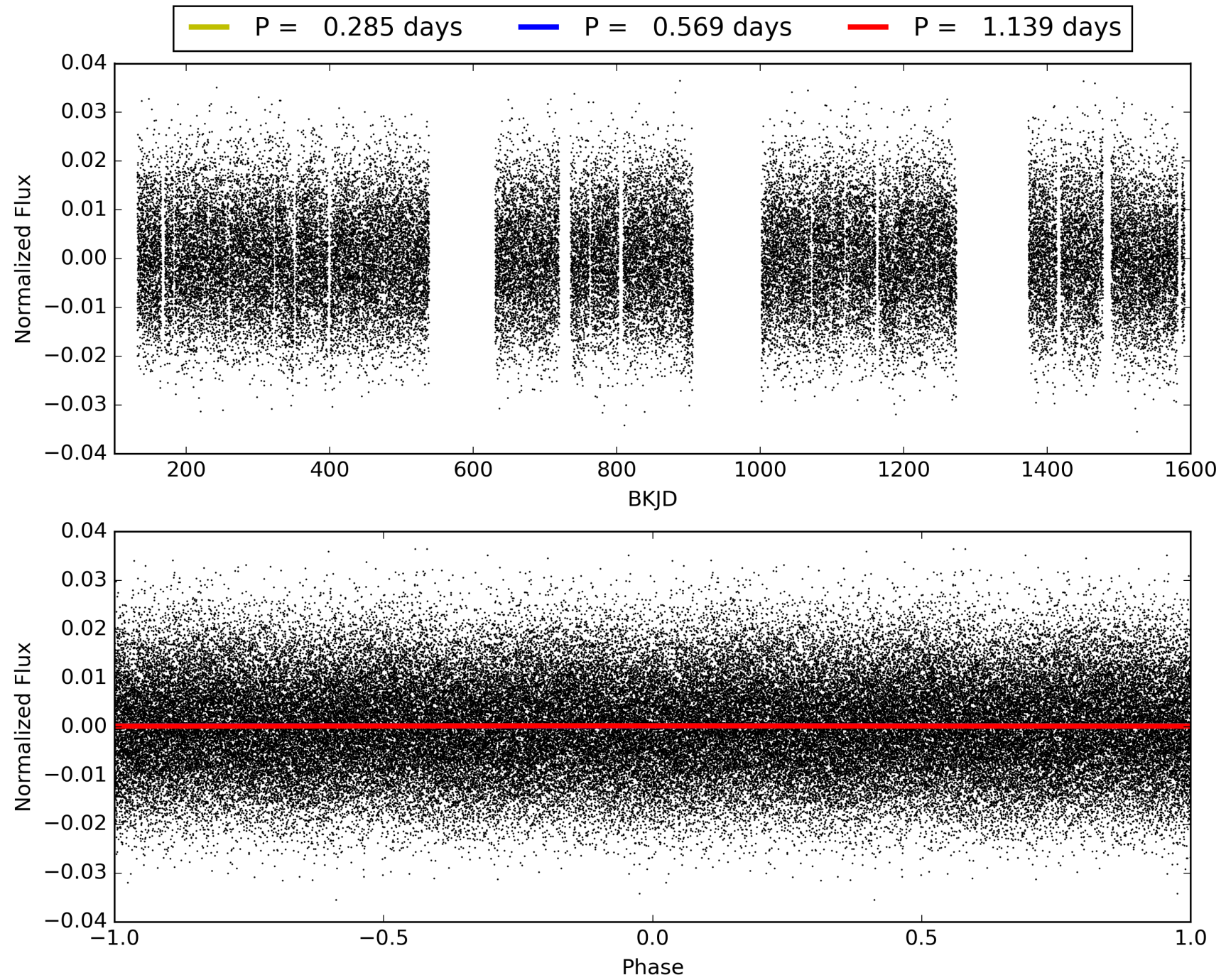
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.87 [1551/1775]
GhostDiagnostic-chr: 1.03
Centroid-sig: 0.0%
Centroid-so: 0.132 arcsec [3.52σ]
OotOffset-rm: 0.045 arcsec [0.45σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-rm: 0.099 arcsec [1.12σ]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 0.93 [13/14]
DiffImageOverlap-fno: 0.00 [0/14]

TCE 004285359-02, PDC Light Curves

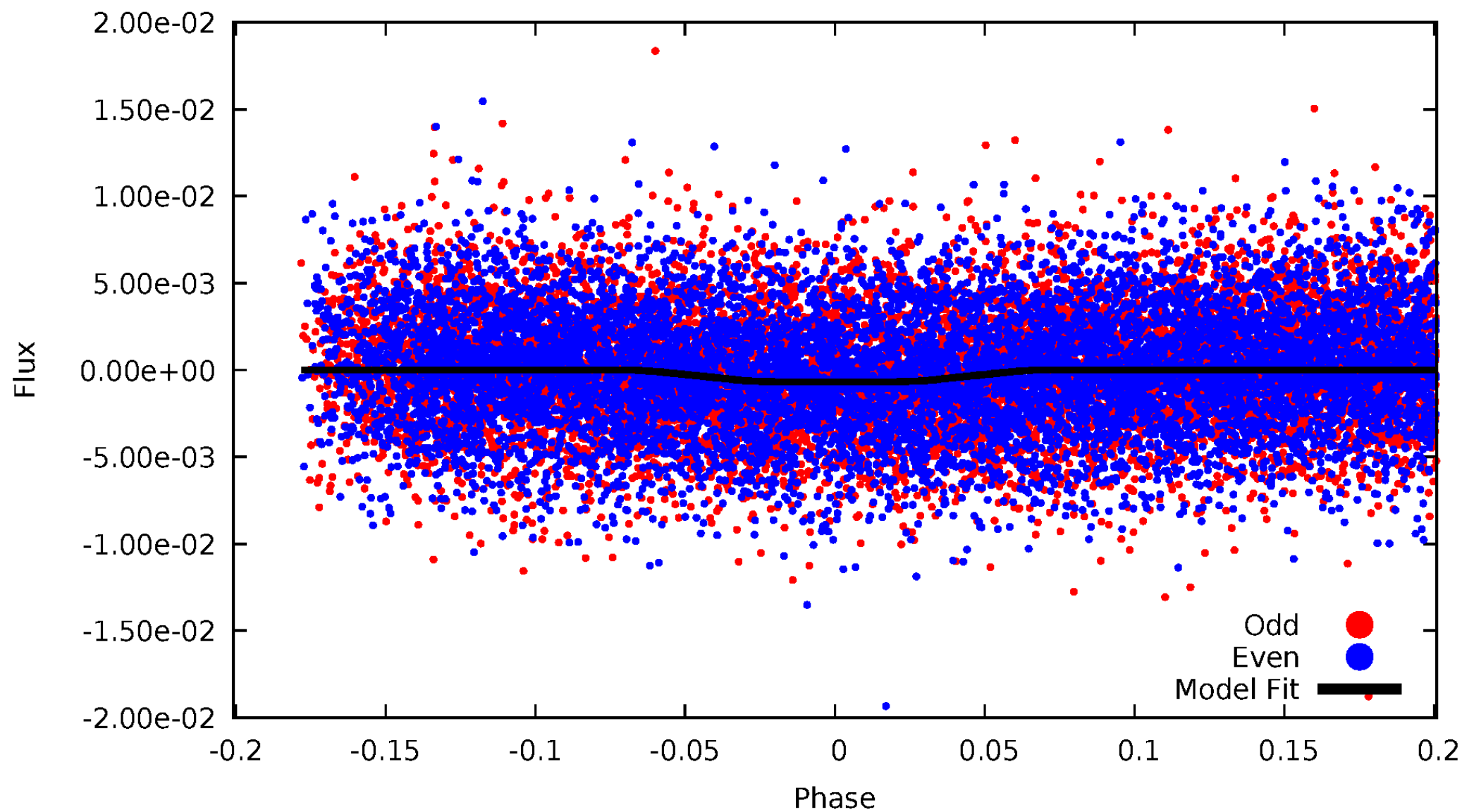


TCE 004285359-02



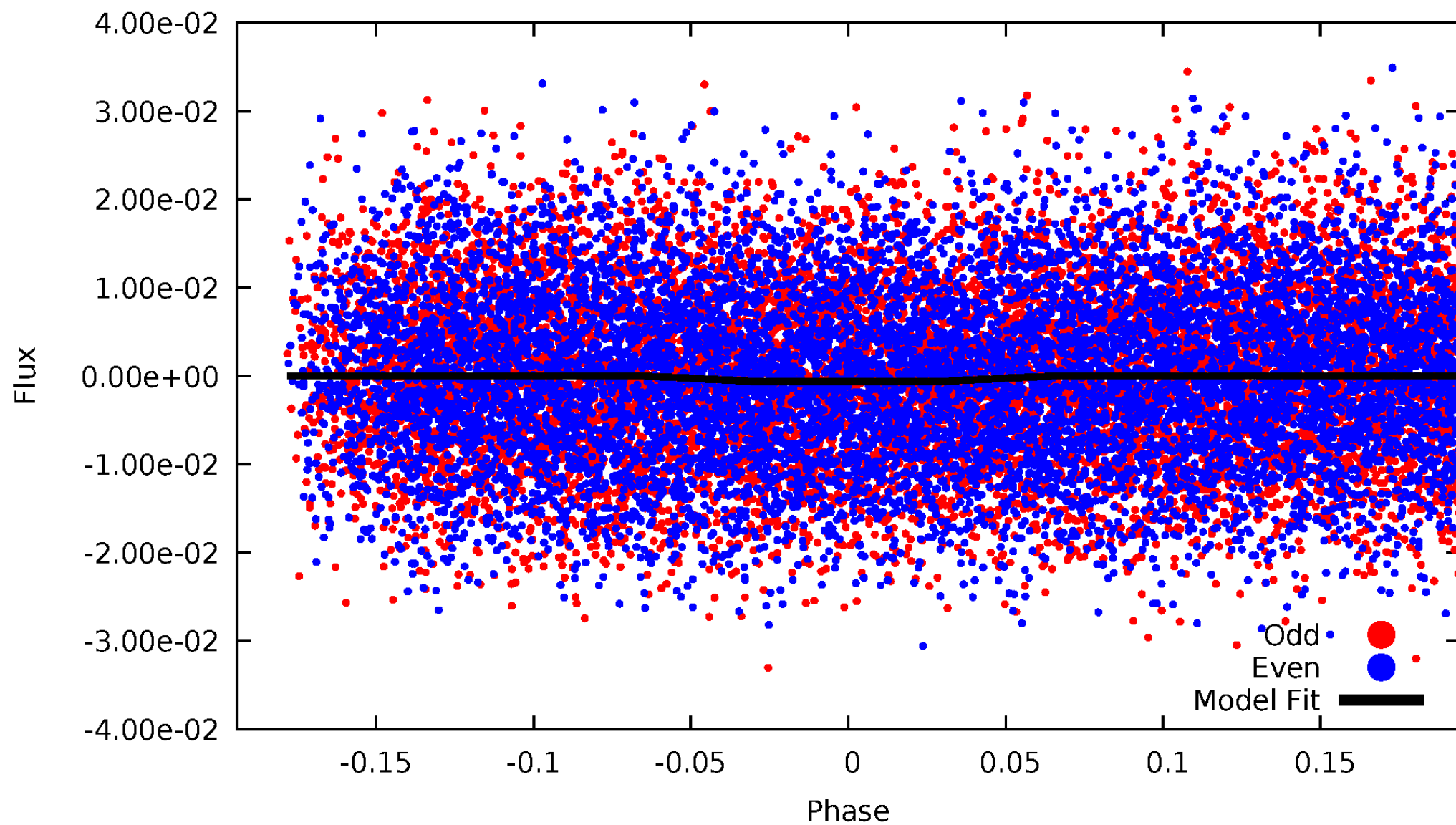
DV Odd/Even

TCE 004285359-02



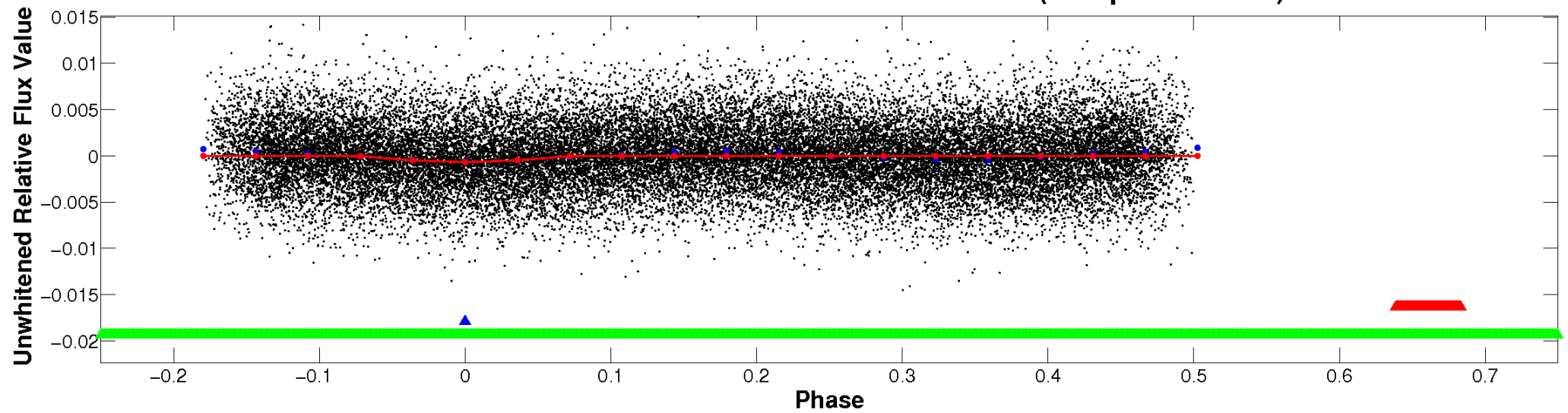
ALT Odd/Even

TCE 004285359-02

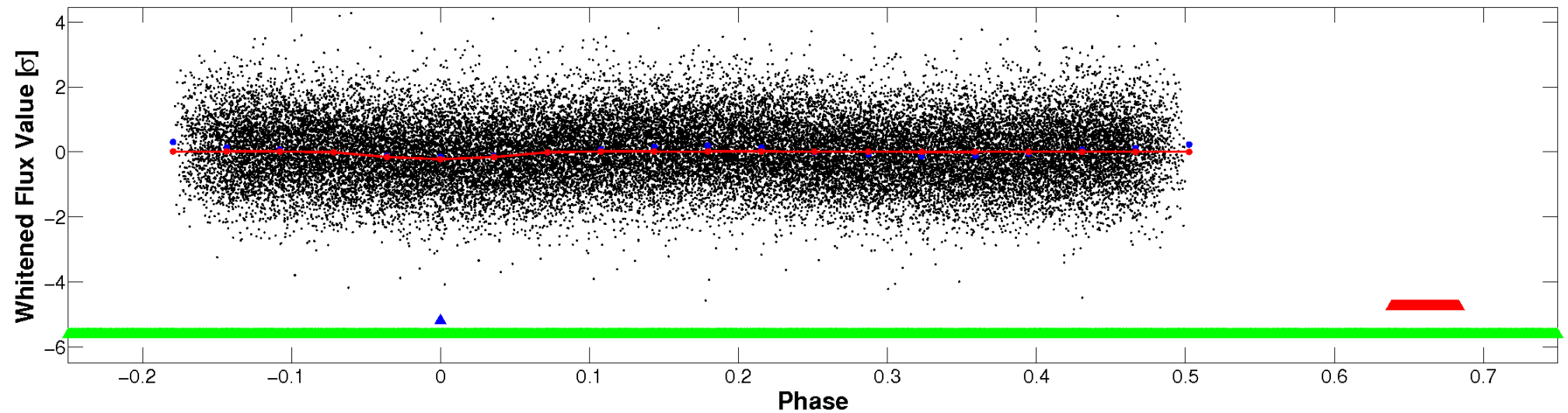


Non-Whitened Vs. Whitened Light Curve

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

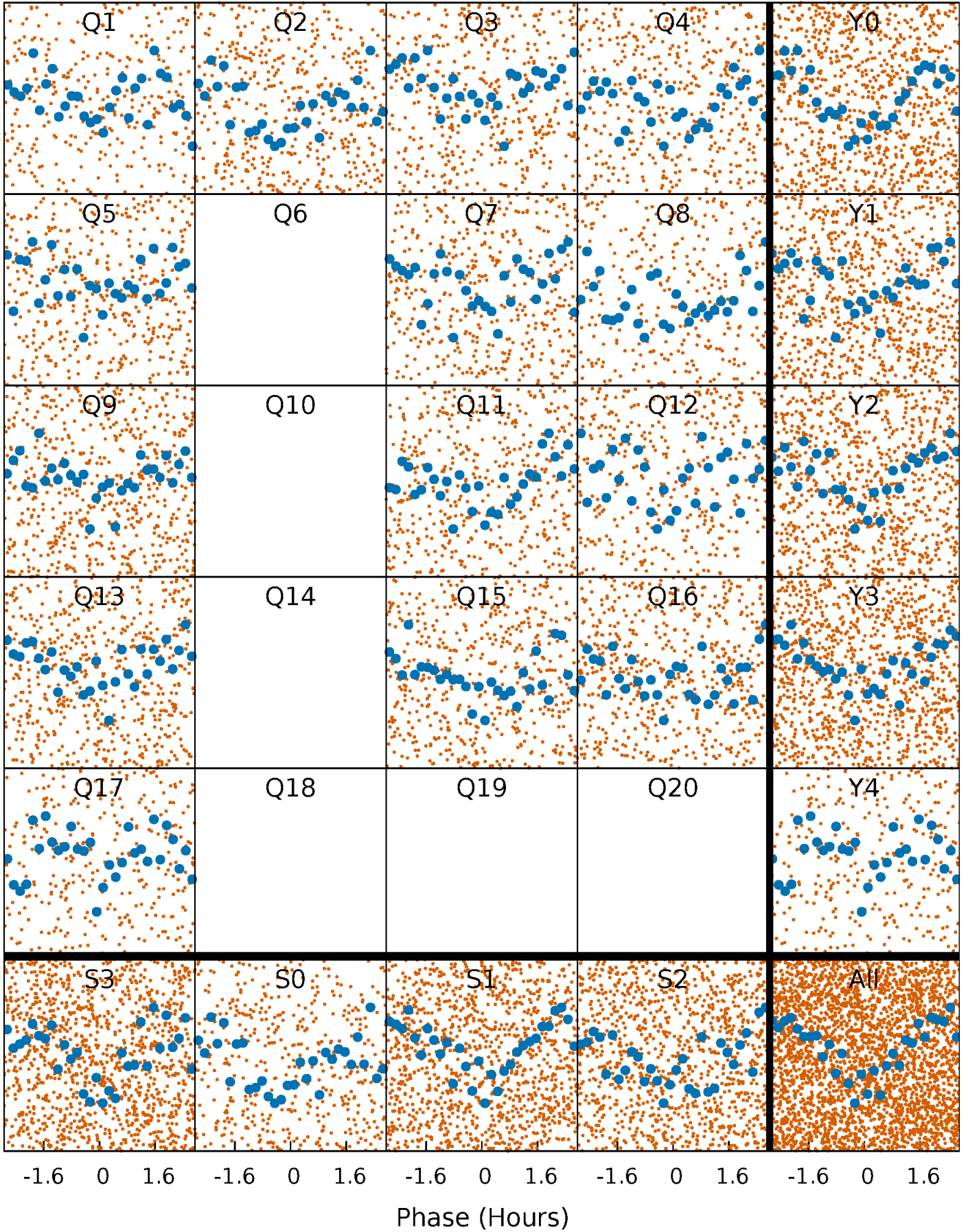


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



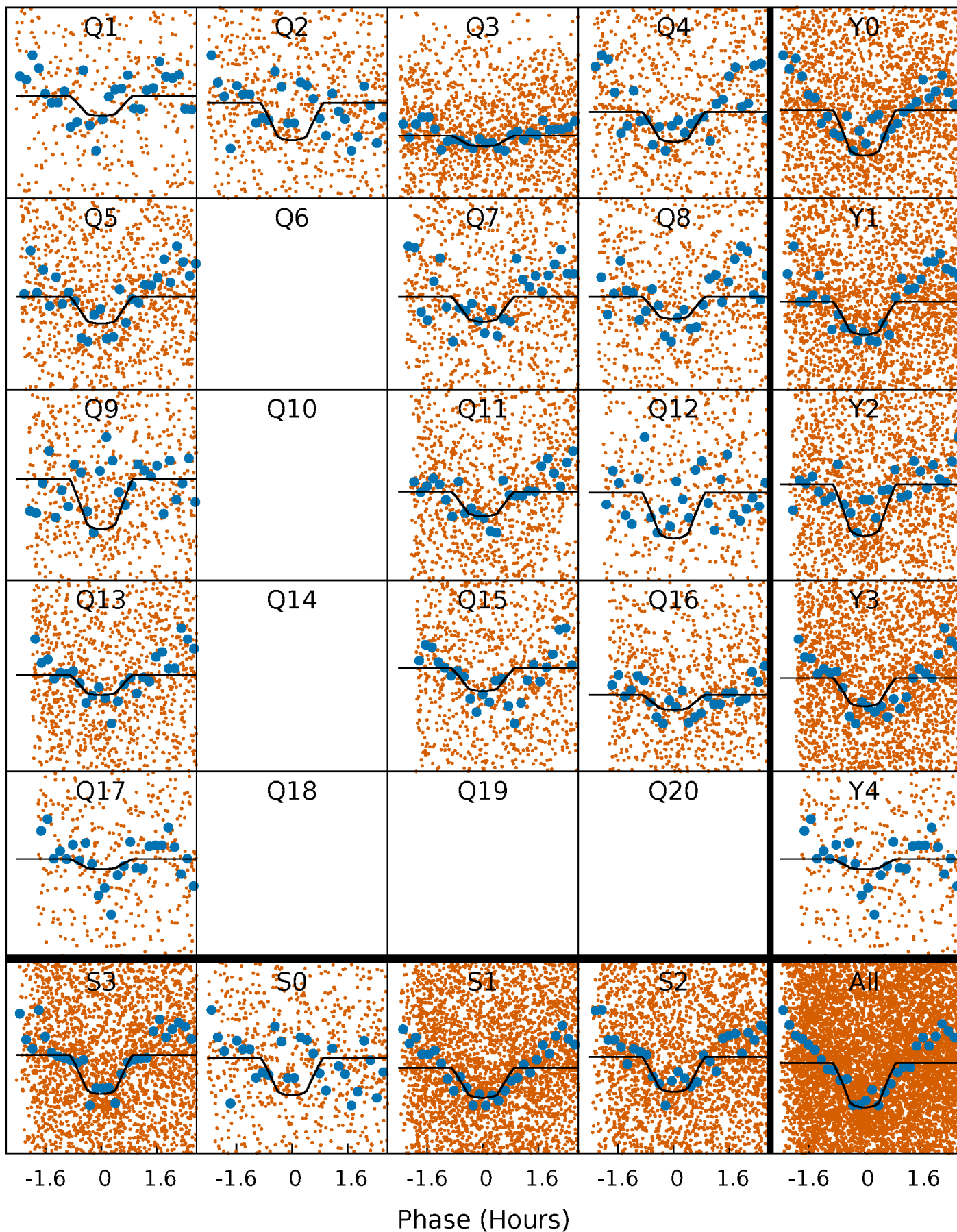
PDC Quarter-Phased Transit Curves

TCE 004285359-02 $P = 0.569272$ Days $T_0 = 131.653478$ (BKJD)



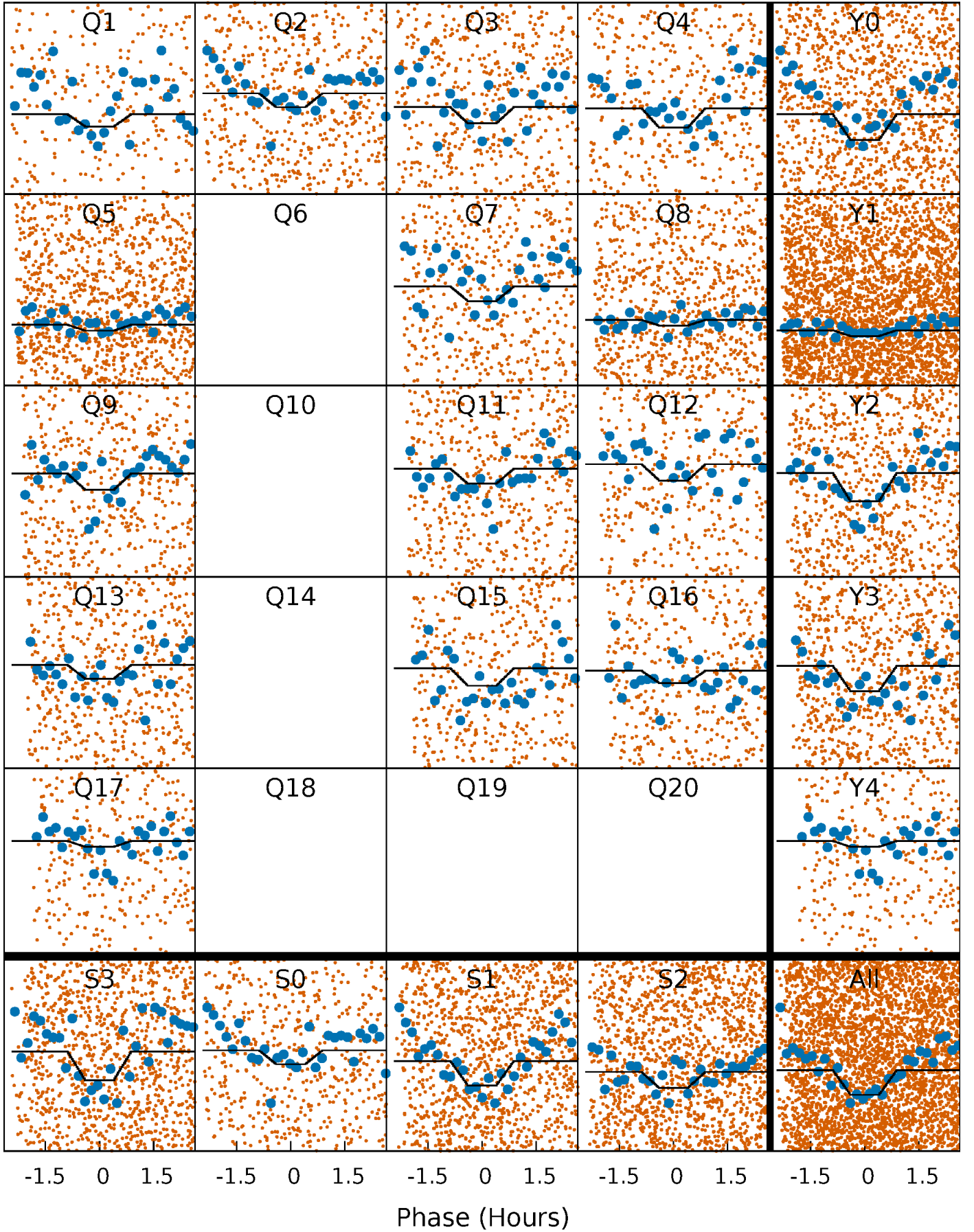
DV Quarter-Phased Transit Curves

TCE 004285359-02 P= 0.569272 Days $T_0=131.653478$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

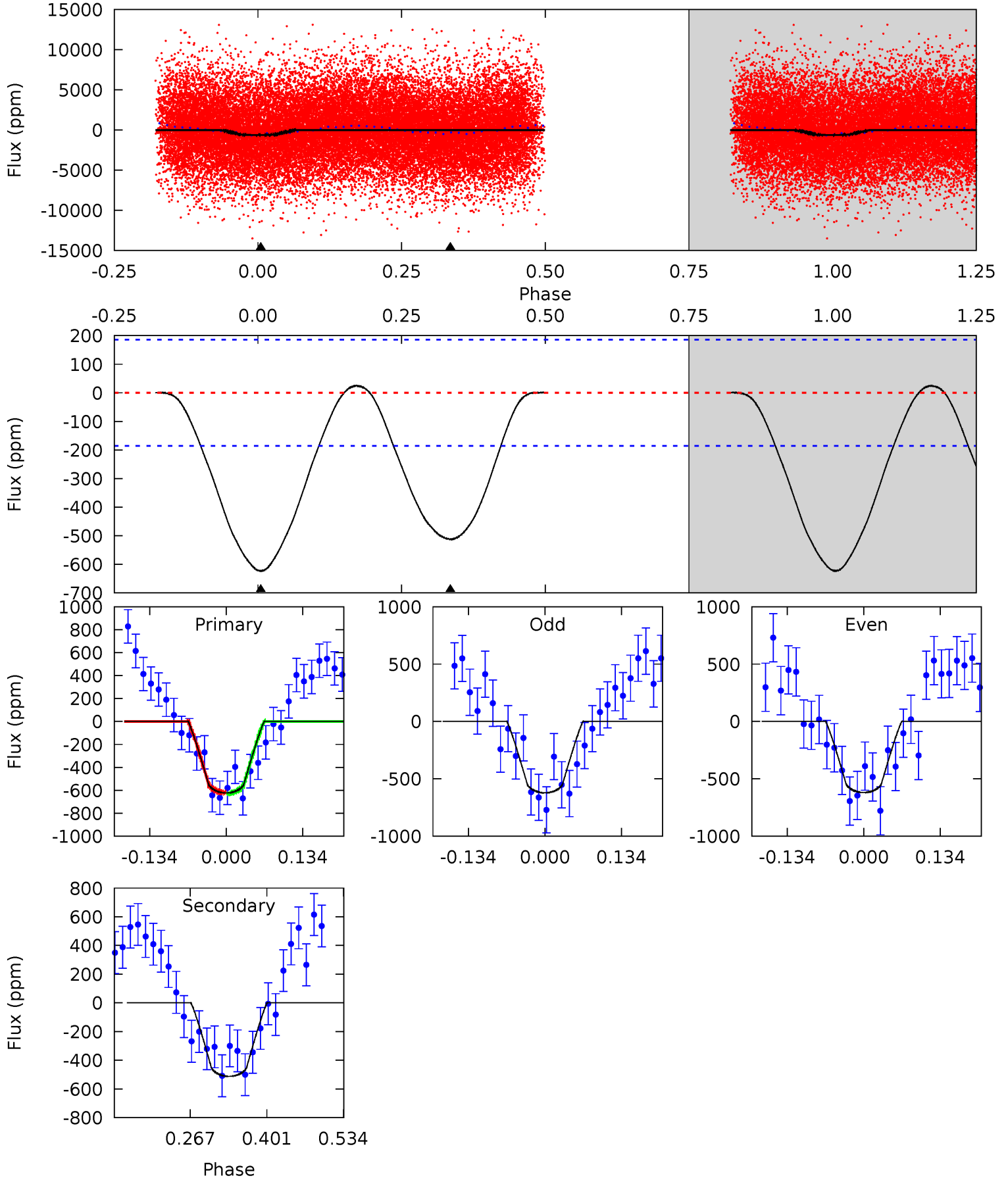
TCE 004285359-02 P= 0.569272 Days $T_0=131.653445$ (BKJD)



DV Model-Shift Uniqueness Test

004285359-02, P = 0.569272 Days, E = 131.084206 Days

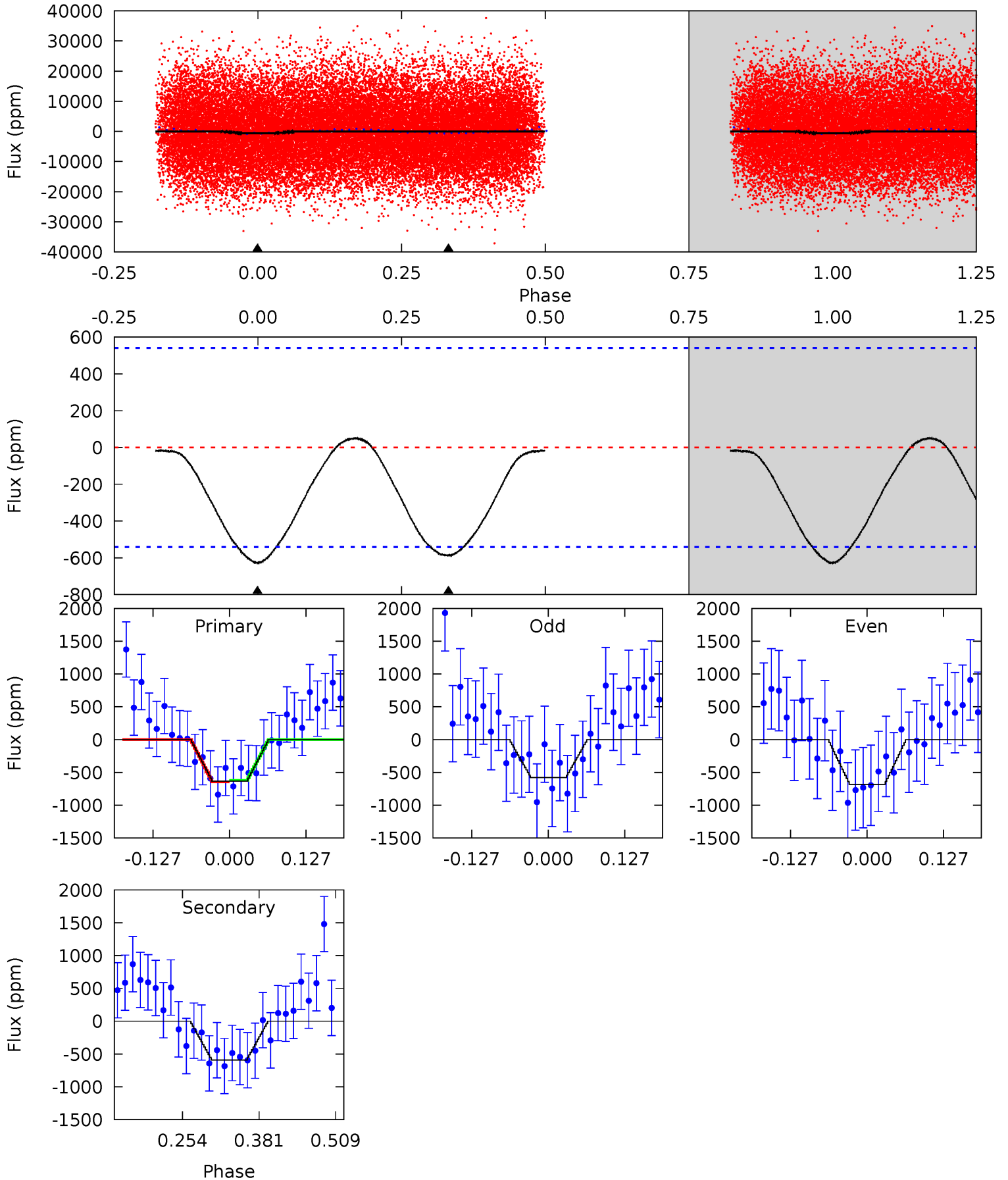
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	12.4	0	0	4.50	1.50	0.45	15.1	15.1	12.4	12.4	0.03	0.97	0.04	0.07



Alt Model-Shift Uniqueness Test

004285359-02, P = 0.569272 Days, E = 131.084173 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.27	4.93	0	0	4.51	1.53	0.27	5.27	5.27	4.93	4.93	0.44	0.83	0.08	0.10



Stellar Parameters For KIC 004285359

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7892^{+218}_{-355}	$3.674^{+0.456}_{-0.085}$	$-0.140^{+0.200}_{-0.350}$	$3.435^{+0.701}_{-1.635}$	$2.032^{+0.328}_{-0.492}$	$0.071^{+0.321}_{-0.025}$
	+3%/-4%	+12%/-2%	+143%/-250%	+20%/-48%	+16%/-24%	+455%/-35%
Source	KIC0	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 004285359-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-513 ± 41	$8.23^{+5.43}_{-4.20}$	6600^{+530}_{-803}	6814^{+4298}_{-2130}	$1.187^{+3.922}_{-0.727}$
Alt.	-591 ± 120	$8.40^{+5.37}_{-4.17}$	6603^{+543}_{-775}	6948^{+4462}_{-2117}	$1.322^{+3.908}_{-0.844}$

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 $A_{obs} \gg 1.0$

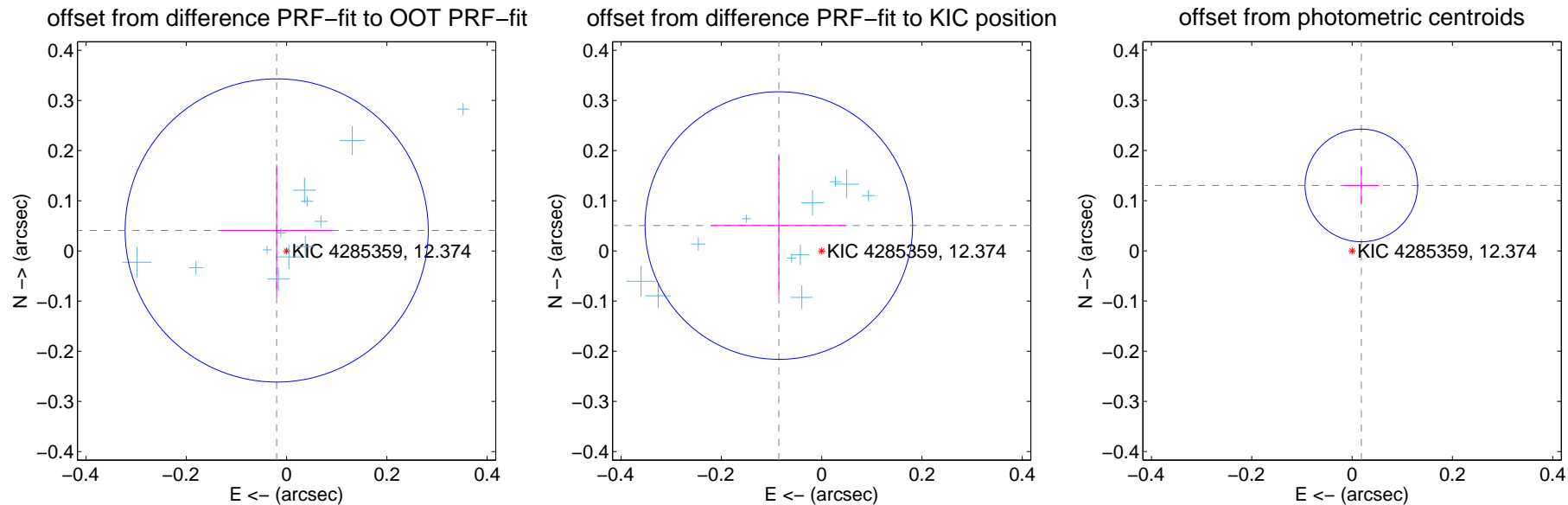
DV Centroid Data

Supplemental centroid analysis for 004285359-02. Kepler magnitude: 12.37. Transit SNR 13.58

There are 13 quarters with good PRF difference image offsets

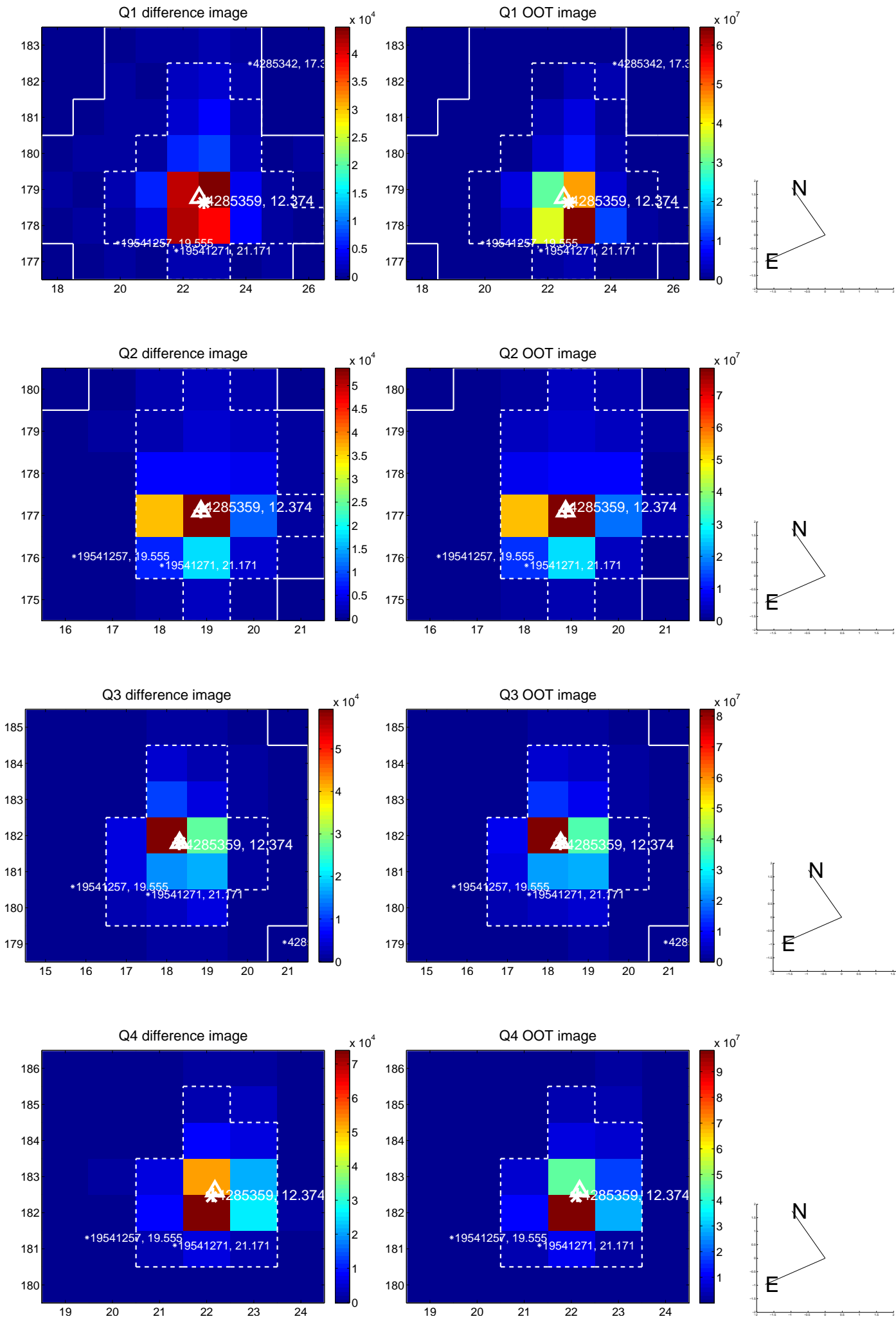
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.045 ± 0.101	0.45	0.020 ± 0.113	0.041 ± 0.131
PRF-fit source offset from KIC position	0.099 ± 0.089	1.12	0.085 ± 0.135	0.051 ± 0.140
photometric centroid source offset	0.13 ± 0.04	3.52	-0.02 ± 0.03	0.13 ± 0.04

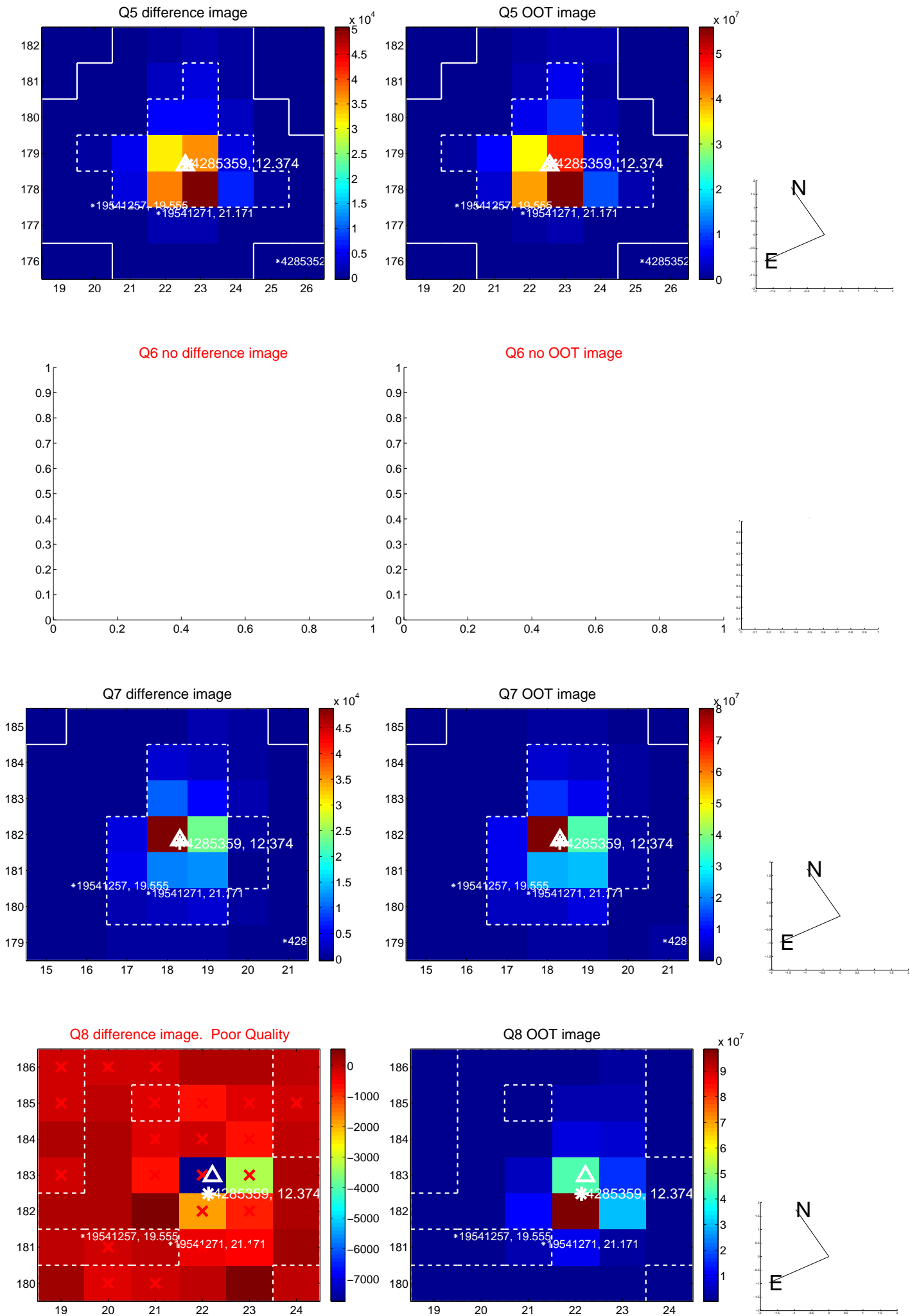


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

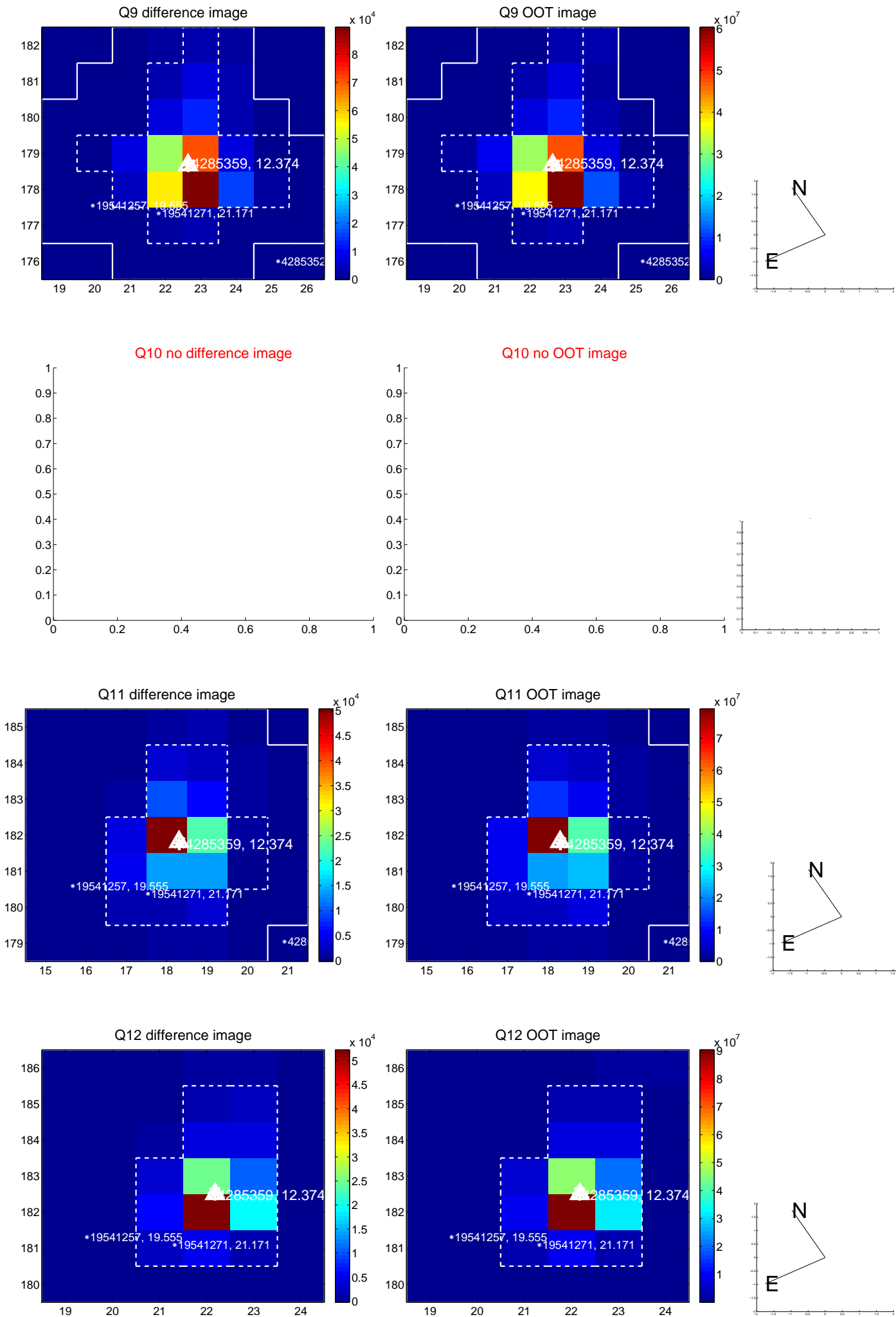
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



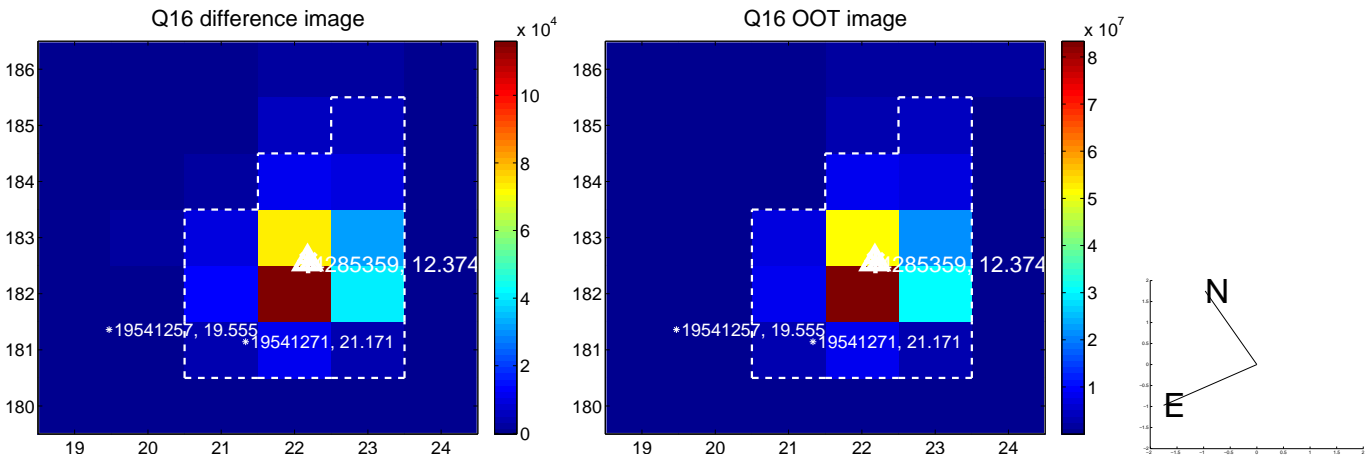
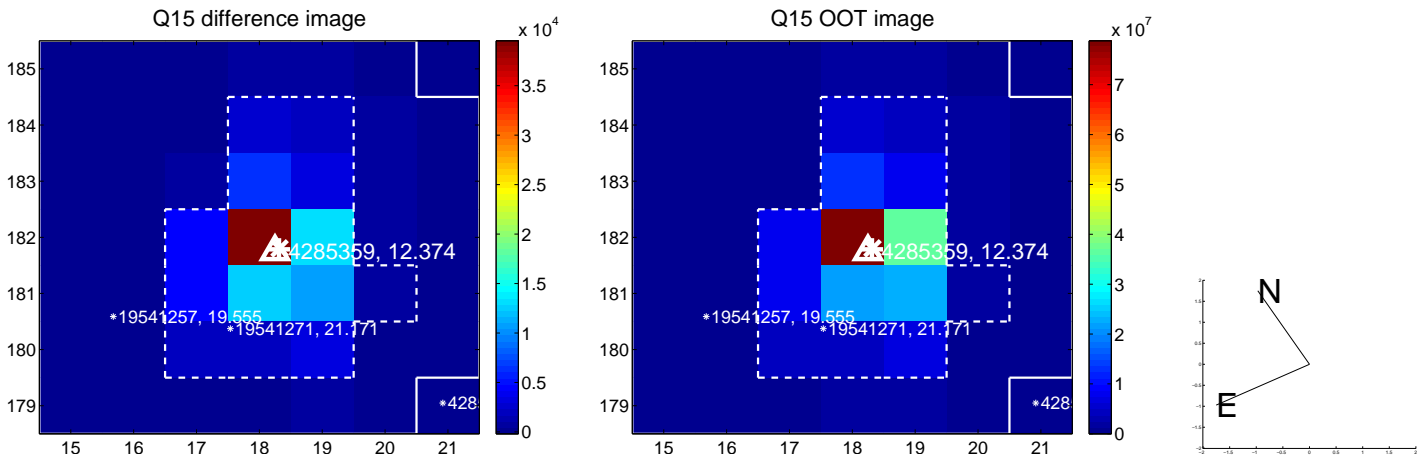
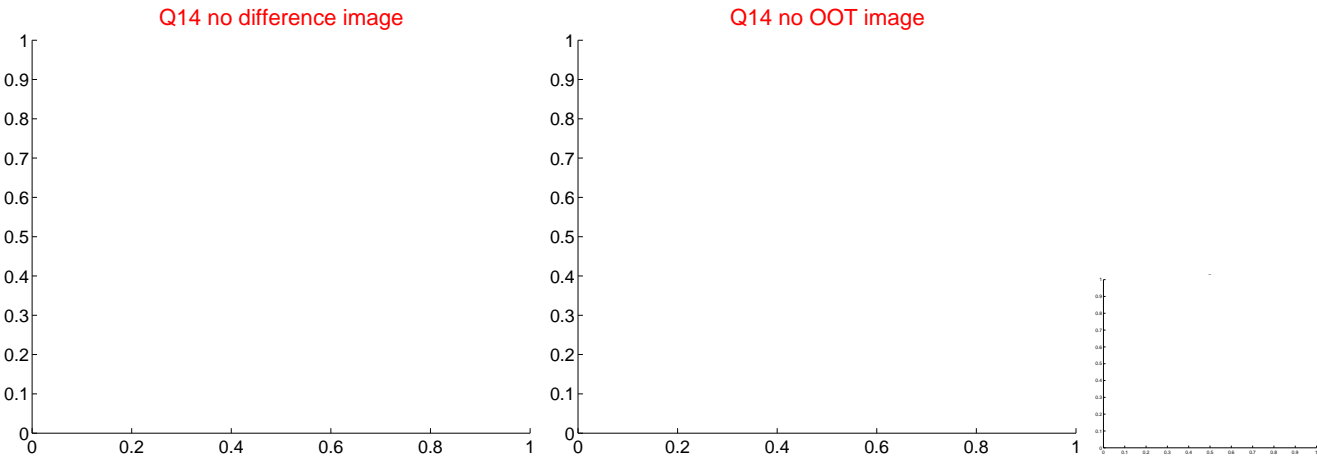
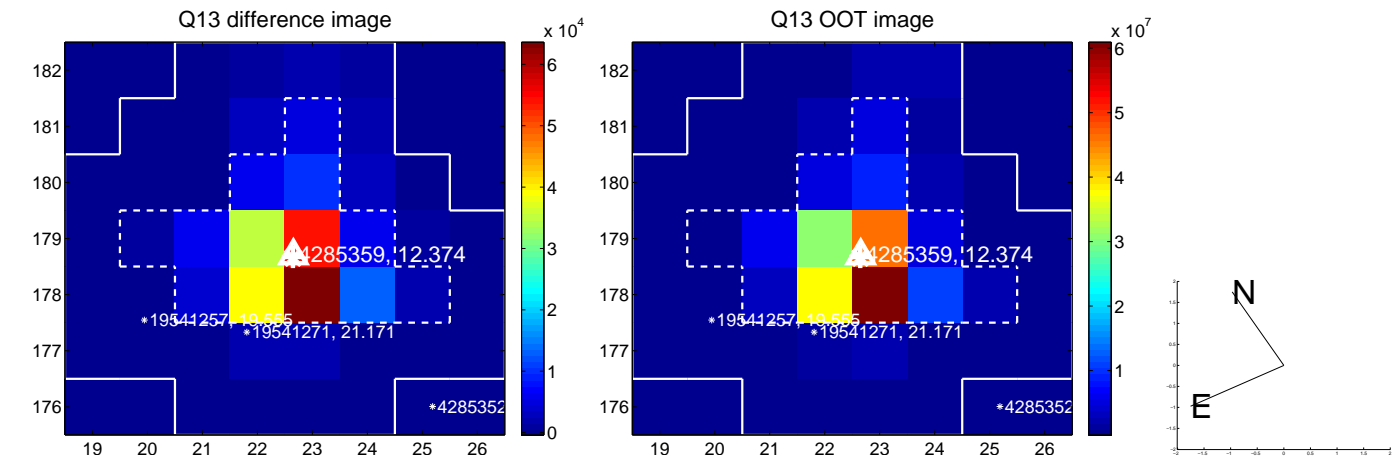
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



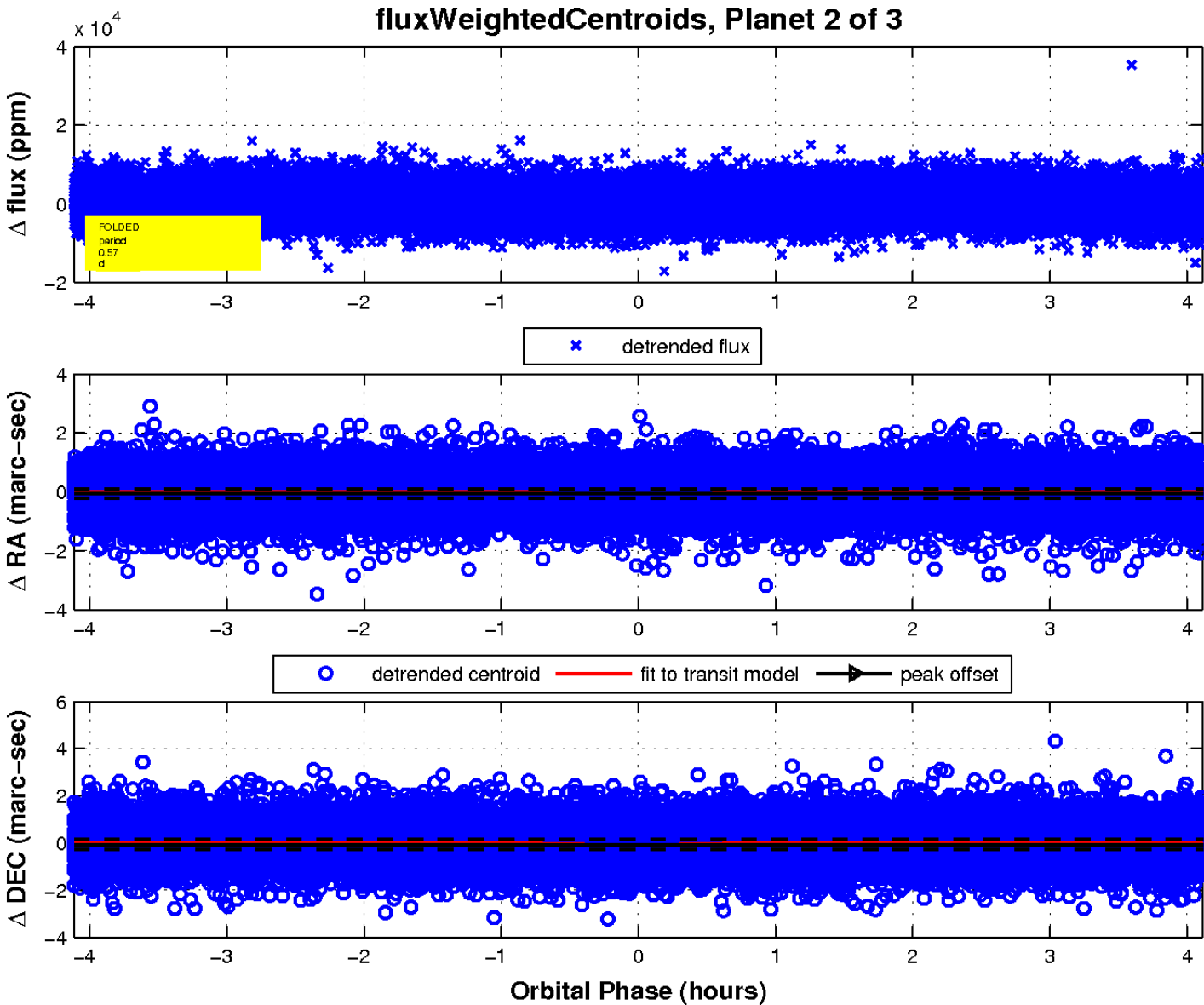
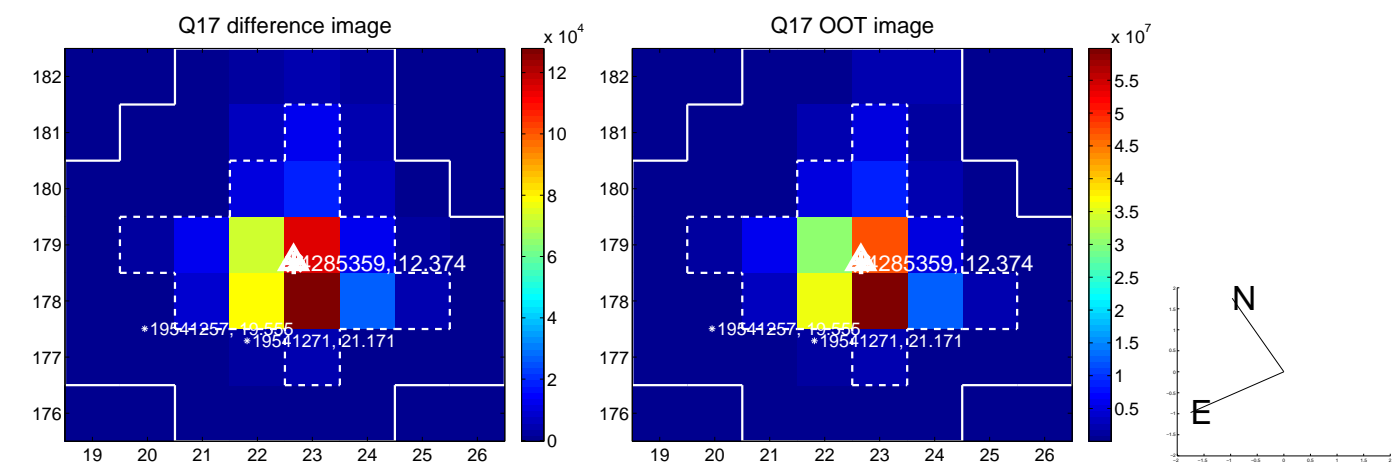
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

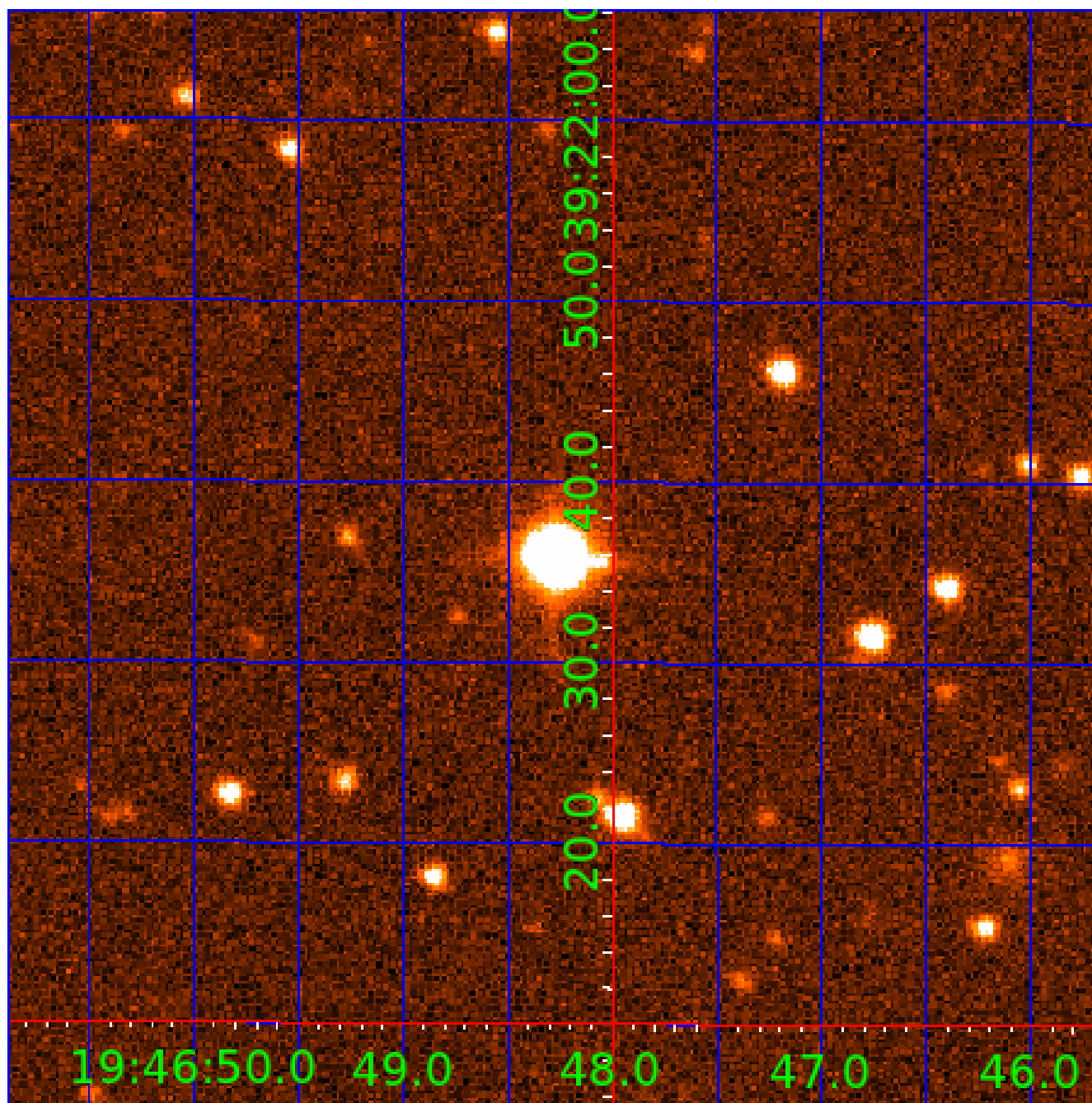


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004285359

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})
004285359-01	OBS	No	0.569282	132.016930	618.0	1.339	13.3	12.3	3.44	7892	9.96	141413.42
004285359-02	OBS	No	0.569272	131.653478	691.2	1.371	10.1	13.6	3.44	7892	9.39	141416.73
004285359-03	OBS	No	0.783896	131.869835	910.0	6.216	7.9	12.2	3.44	7892	10.73	92310.16

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004285359-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
004285359-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD
004285359-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT

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

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

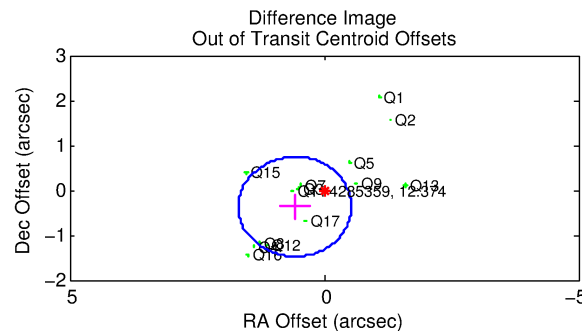
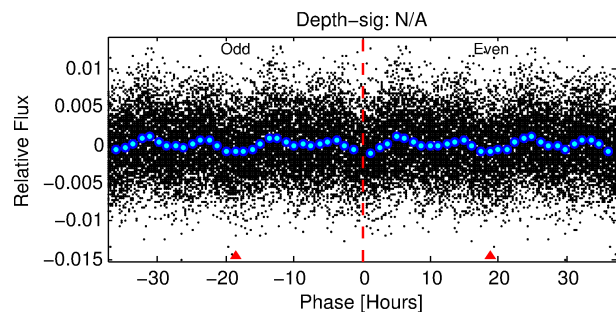
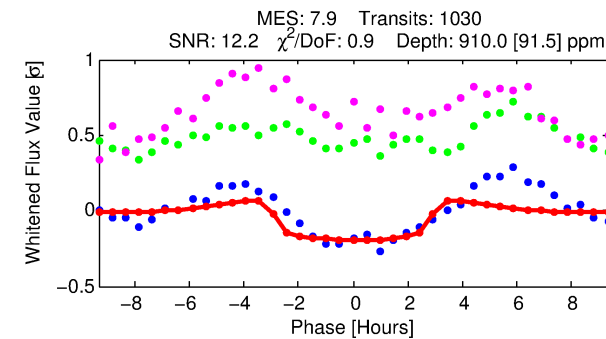
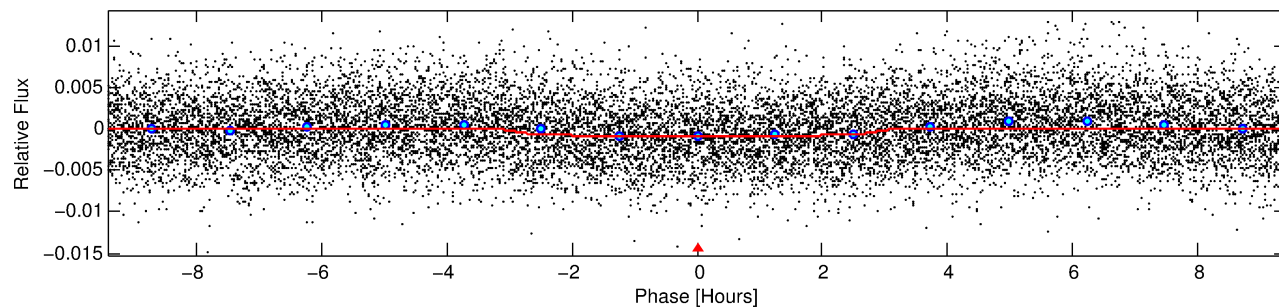
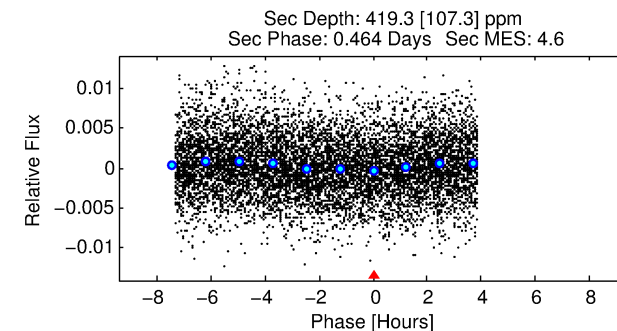
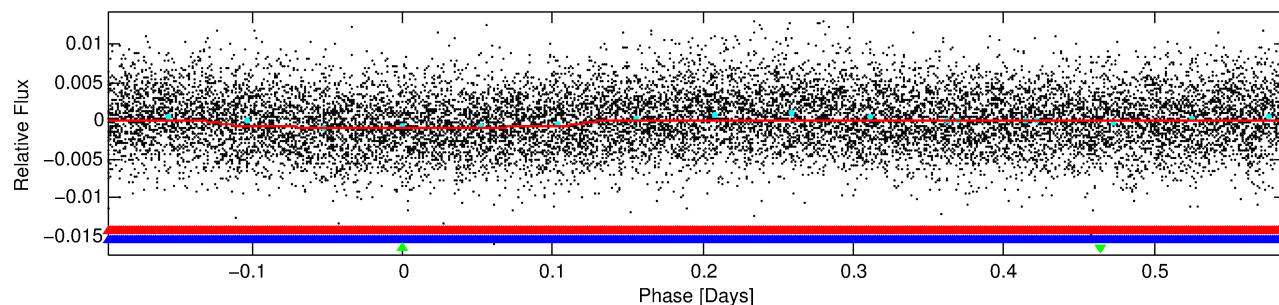
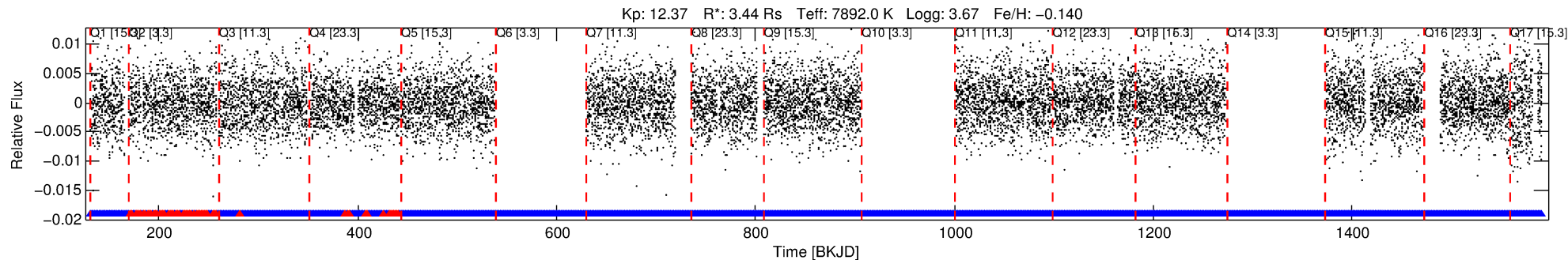
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004285359-03

No Significant Match Found

DV One-Page Summary

KIC: 4285359 Candidate: 3 of 3 Period: 0.784 d



DV Fit Results:

Period = 0.78390 [0.00001] d
Epoch = 131.8698 [0.0045] BKJD
Rp/R* = 0.0286 [0.0104]
a/R* = 1.16 [0.58]
b = 0.50 [3.02]
Seff = 92310.16 [72863.52]
Teq = 4445 [877] K
Rp = 10.73 [6.42] Re
a = 0.0211 [0.0100] AU
Ag = 0.89 [0.97] [-0.11σ]
Teff = 6675 [1320] K [1.41σ]

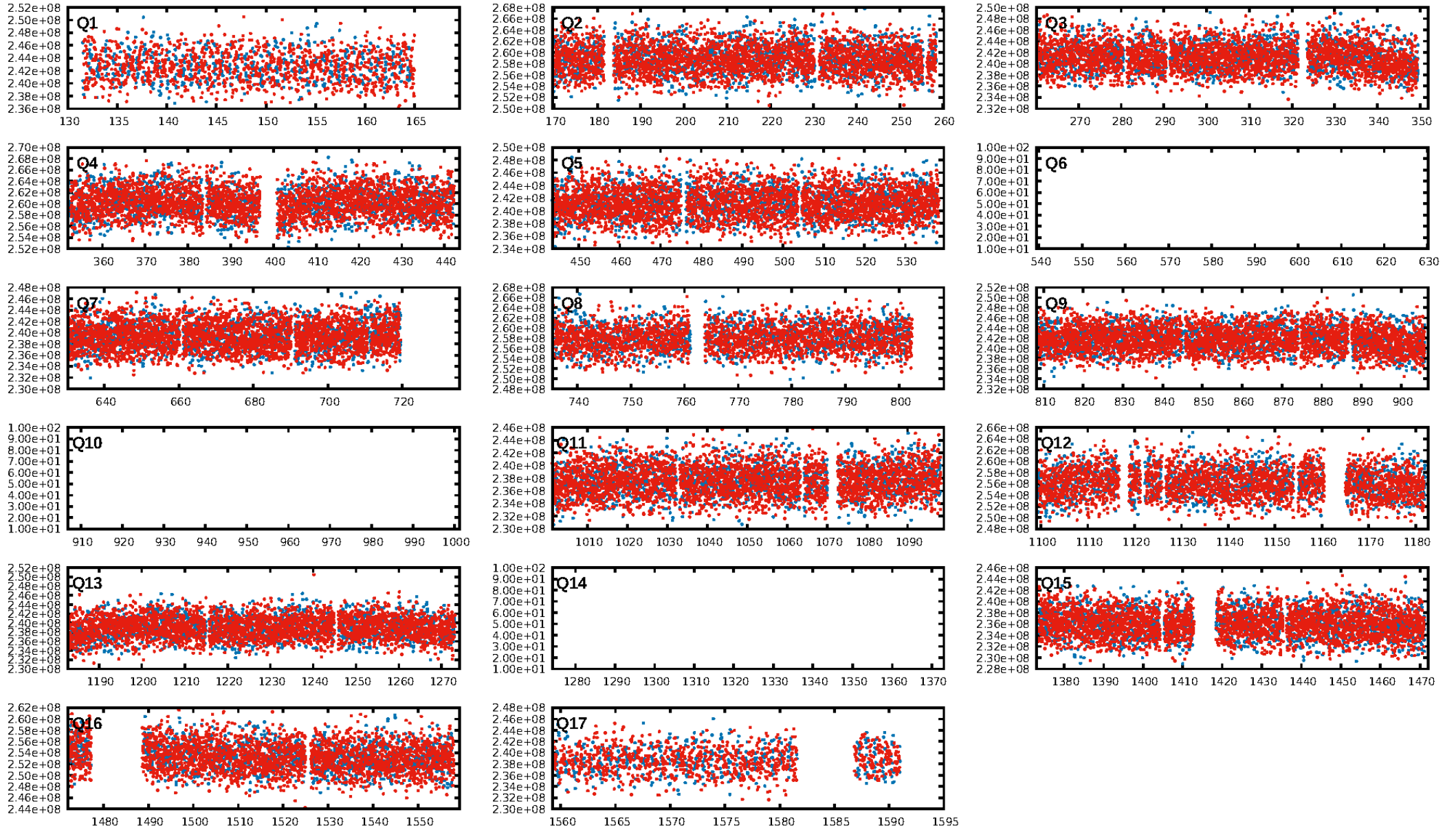
DV Diagnostic Results:

ShortPeriod-sig: 58.2% [0.81σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.93 [904/971]
GhostDiagnostic-chr: 0.9087
Centroid-sig: 0.5%
Centroid-so: 0.137 arcsec [8.18σ]
OotOffset-rm: 0.685 arcsec [1.86σ]
KicOffset-rm: 0.702 arcsec [2.06σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

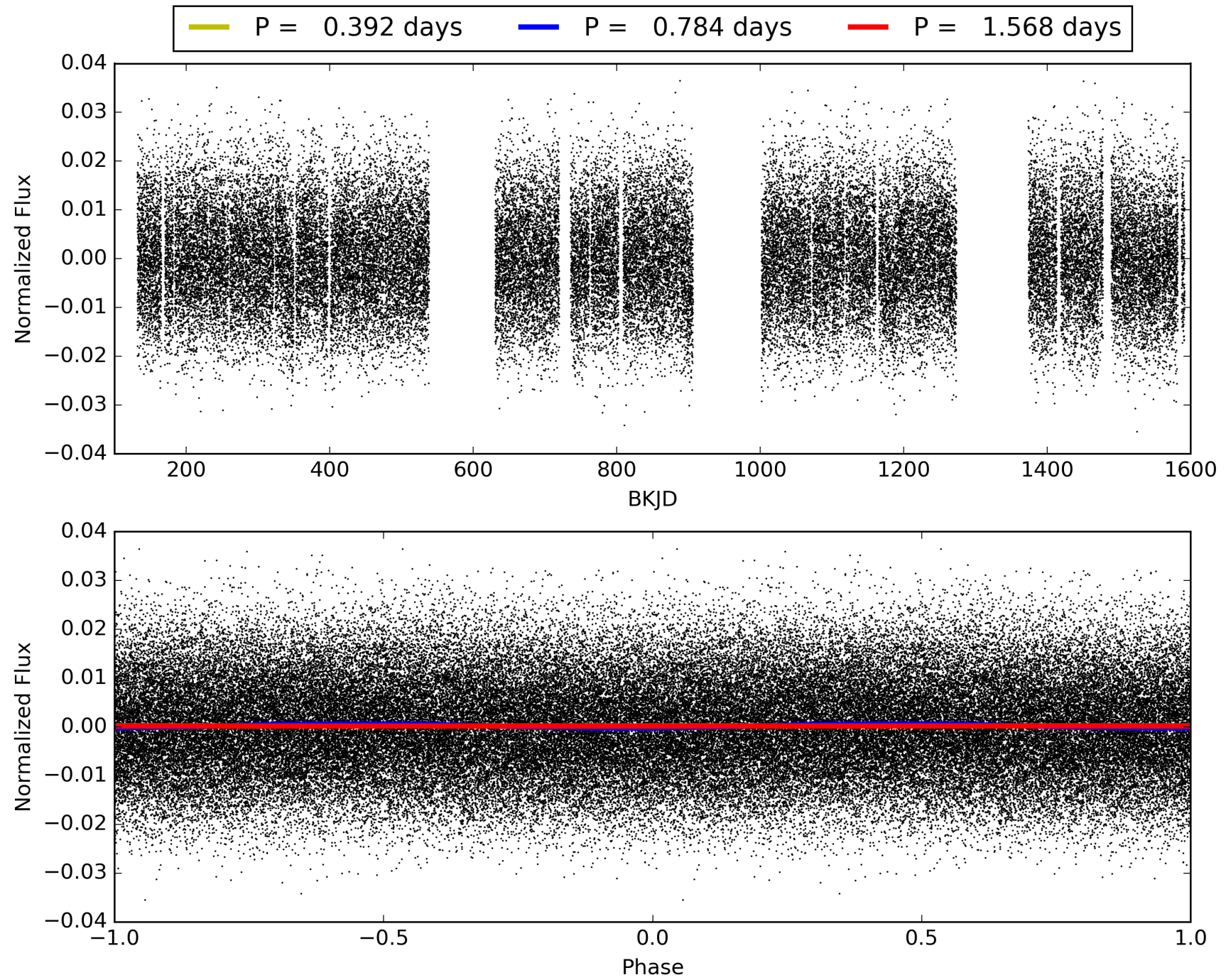
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:02:05 Z

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

TCE 004285359-03, PDC Light Curves

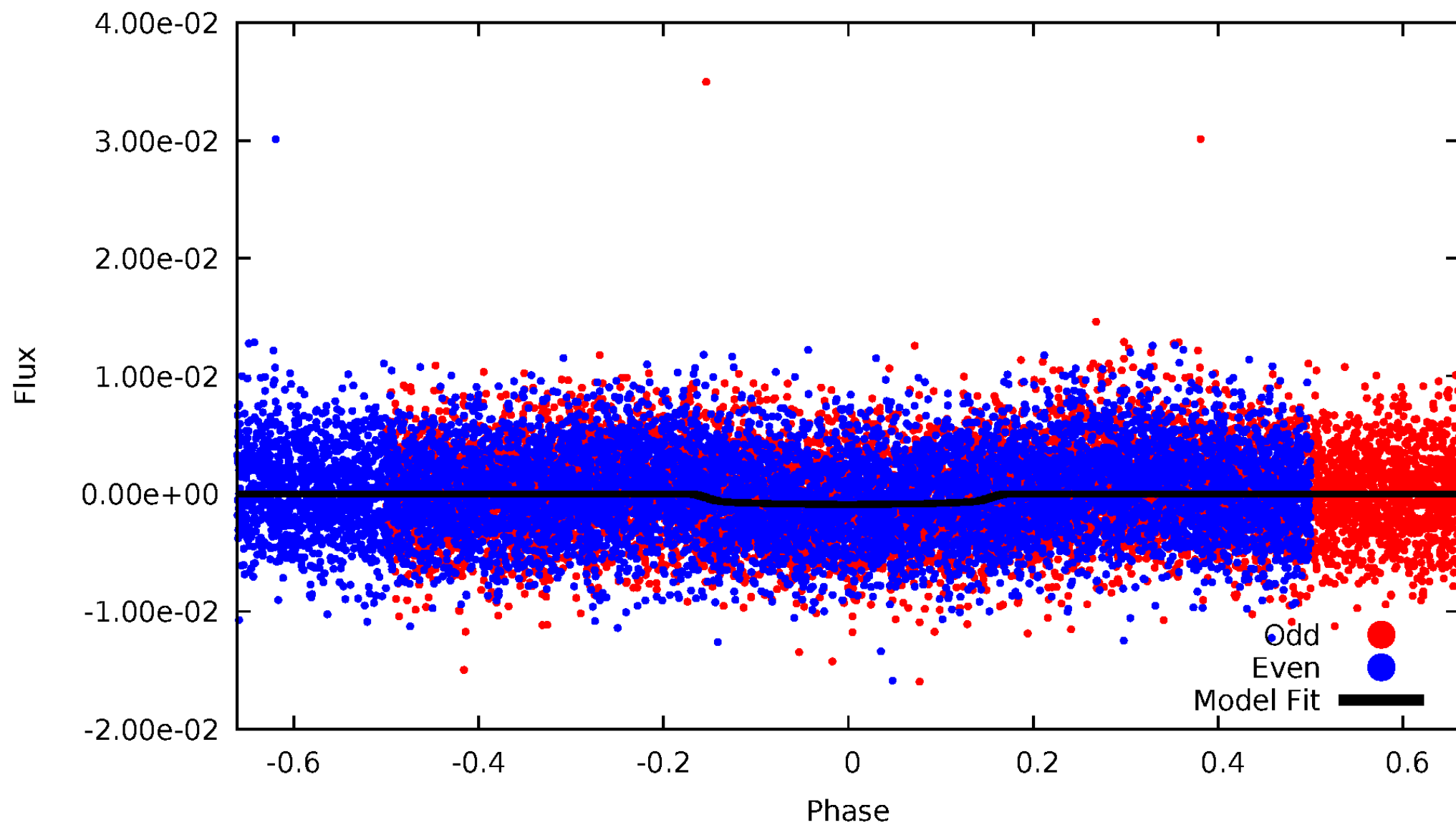


TCE 004285359-03



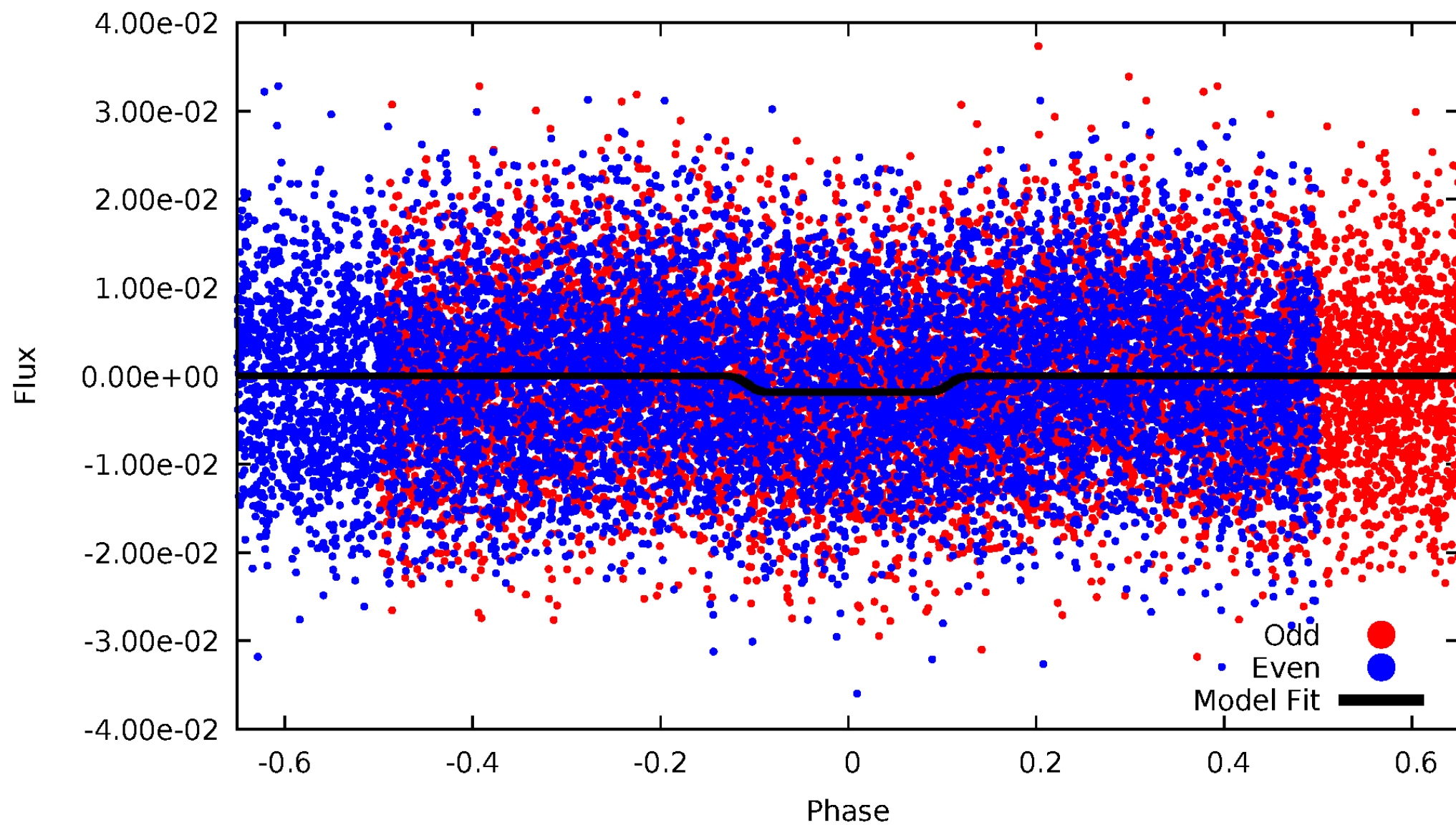
DV Odd/Even

TCE 004285359-03



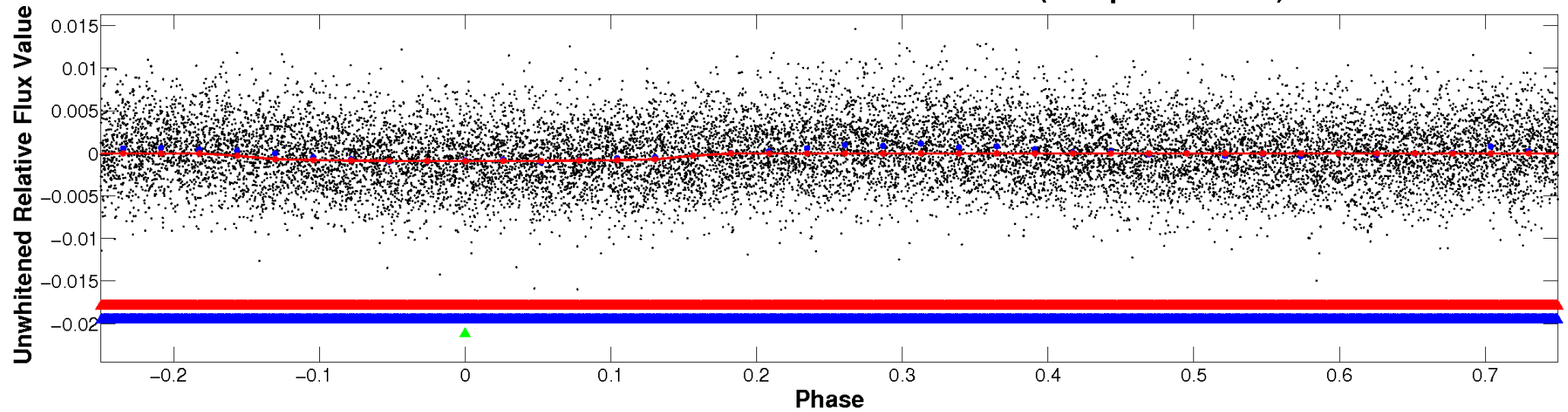
ALT Odd/Even

TCE 004285359-03

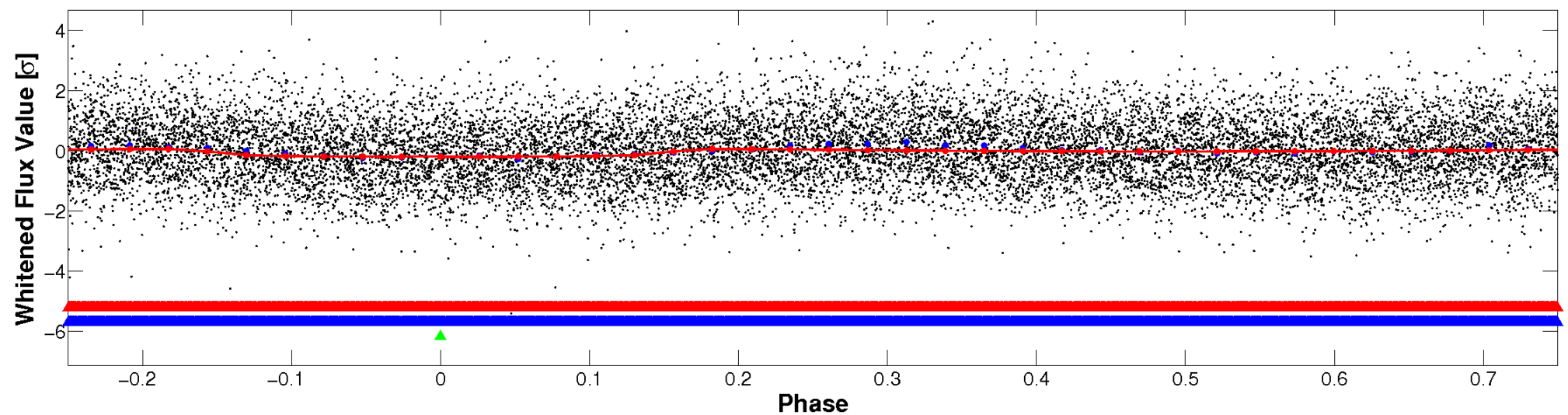


Non-Whitened Vs. Whitened Light Curve

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

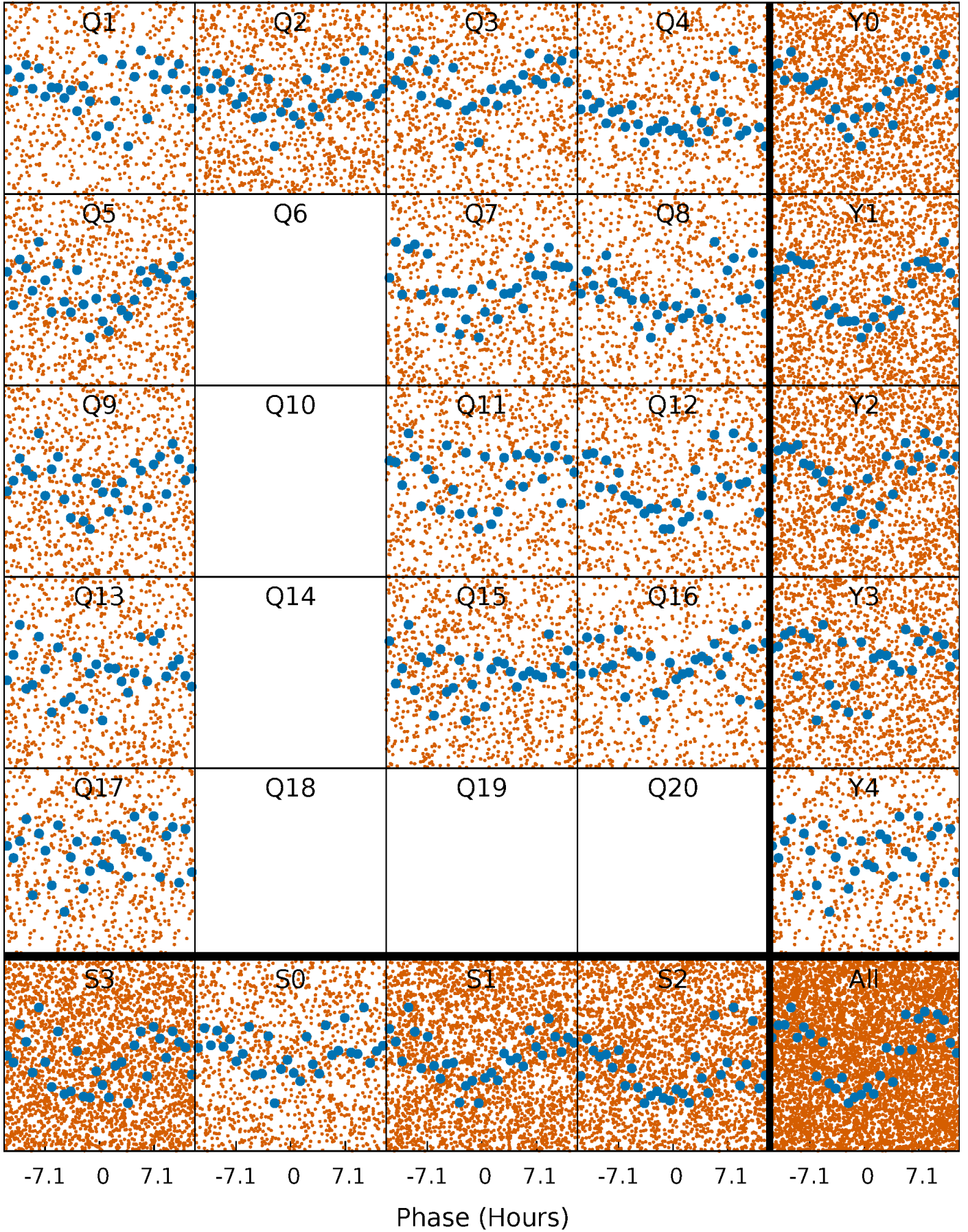


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



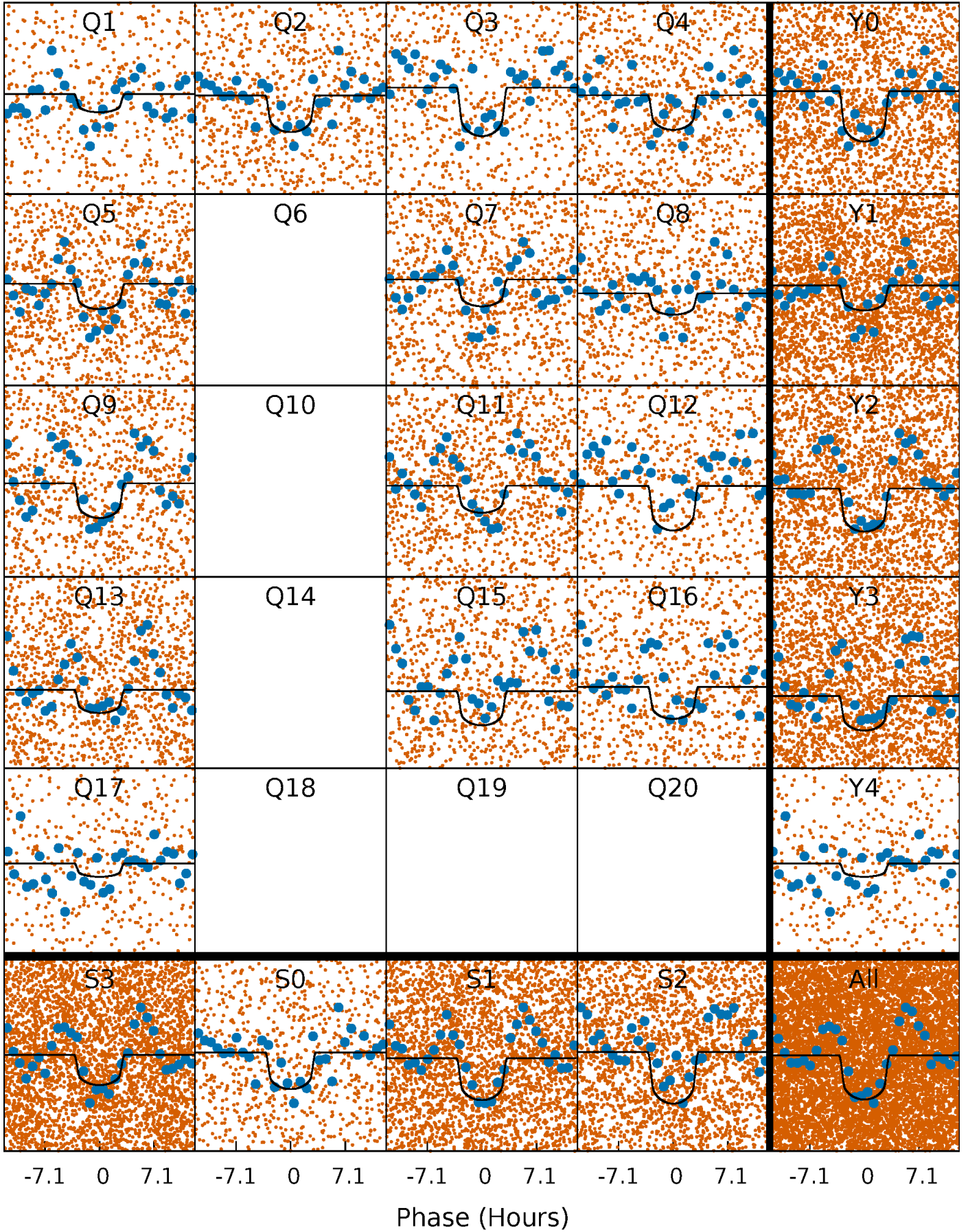
PDC Quarter-Phased Transit Curves

TCE 004285359-03 $P = 0.783896$ Days $T_0 = 131.869835$ (BKJD)



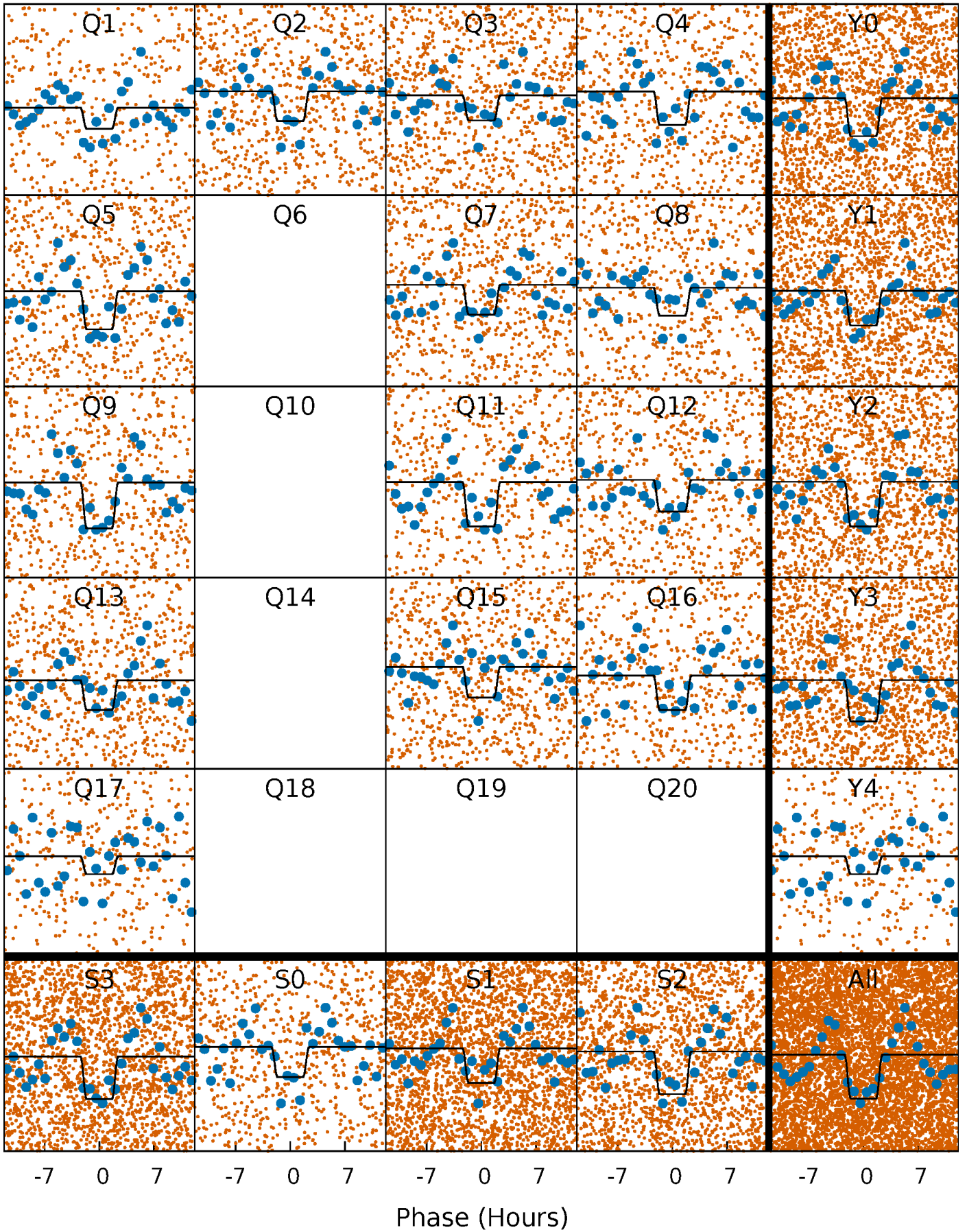
DV Quarter-Phased Transit Curves

TCE 004285359-03 P= 0.783896 Days $T_0=131.869835$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

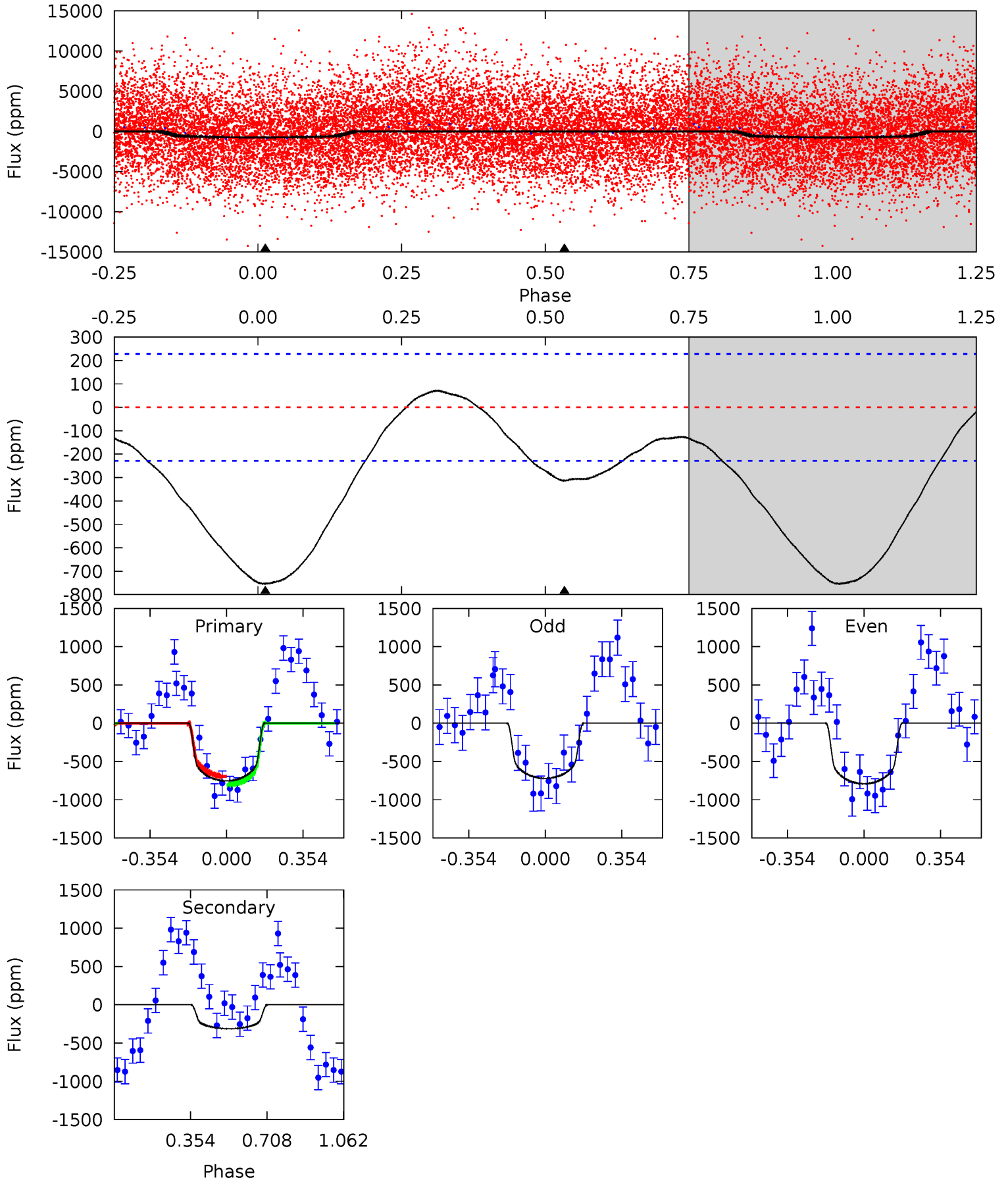
TCE 004285359-03 P= 0.783930 Days $T_0=131.844916$ (BKJD)



DV Model-Shift Uniqueness Test

004285359-03, P = 0.783896 Days, E = 131.085939 Days

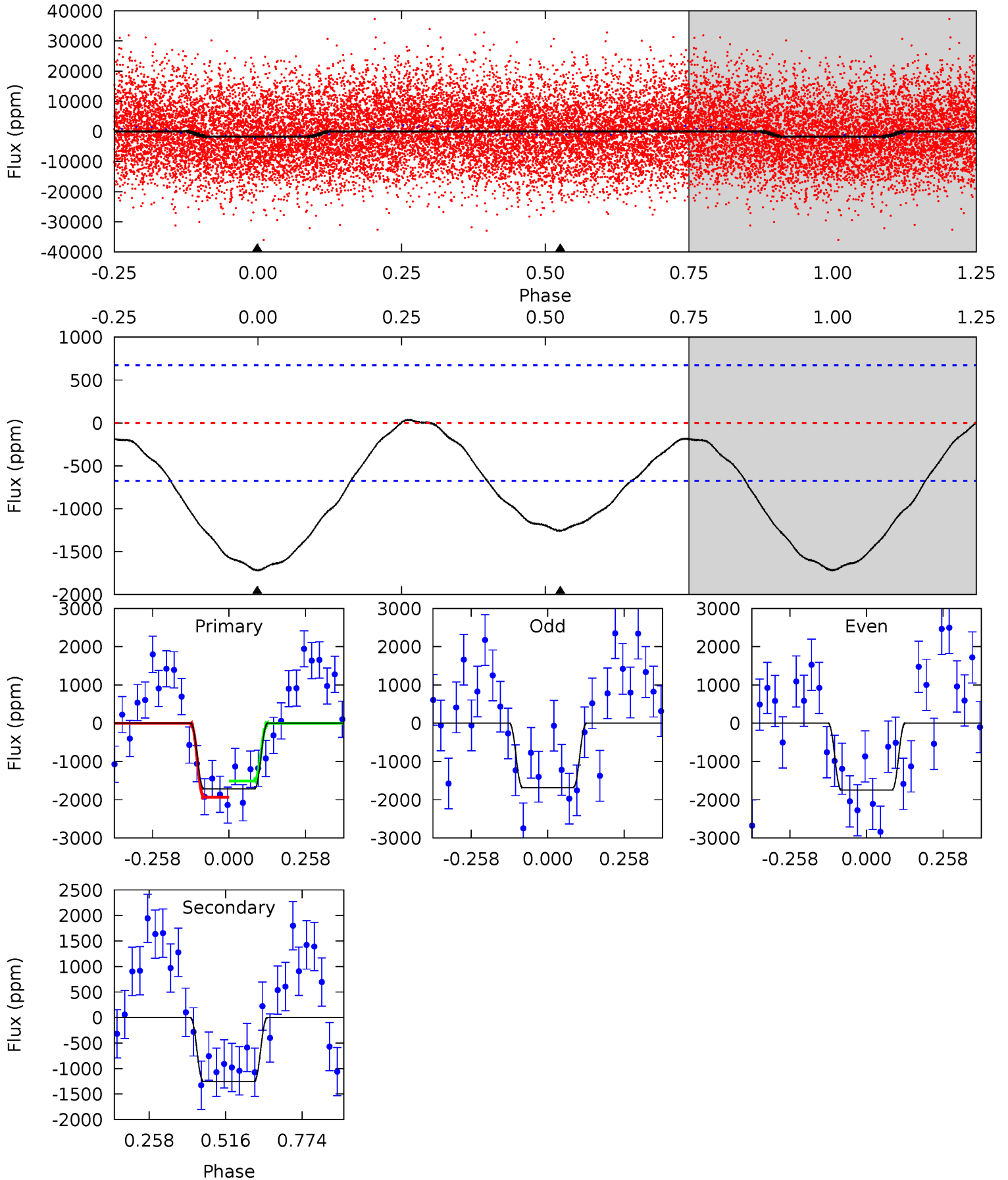
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.2	5.88	0	0	4.29	0.93	1.65	14.2	14.2	5.88	5.88	0.67	0.61	0.09	1.08



Alt Model-Shift Uniqueness Test

004285359-03, P = 0.783930 Days, E = 131.060986 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.1	8.12	0	0	4.36	1.13	0.57	11.1	11.1	8.12	8.12	0.21	0.79	0.02	1.38



Stellar Parameters For KIC 004285359

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	ρ_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7892^{+218}_{-355}	$3.674^{+0.456}_{-0.085}$	$-0.140^{+0.200}_{-0.350}$	$3.435^{+0.701}_{-1.635}$	$2.032^{+0.328}_{-0.492}$	$0.071^{+0.321}_{-0.025}$
	+3%/-4%	+12%/-2%	+143%/-250%	+20%/-48%	+16%/-24%	+455%/-35%
Source	KIC0	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 004285359-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-313 ± 53	$9.33^{+4.34}_{-3.75}$	5901^{+479}_{-681}	5398^{+1982}_{-1417}	$0.873^{+1.486}_{-0.476}$
Alt.	-1255 ± 155	$14.47^{+4.91}_{-4.60}$	5927^{+459}_{-706}	6519^{+1533}_{-907}	$1.470^{+1.606}_{-0.626}$

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

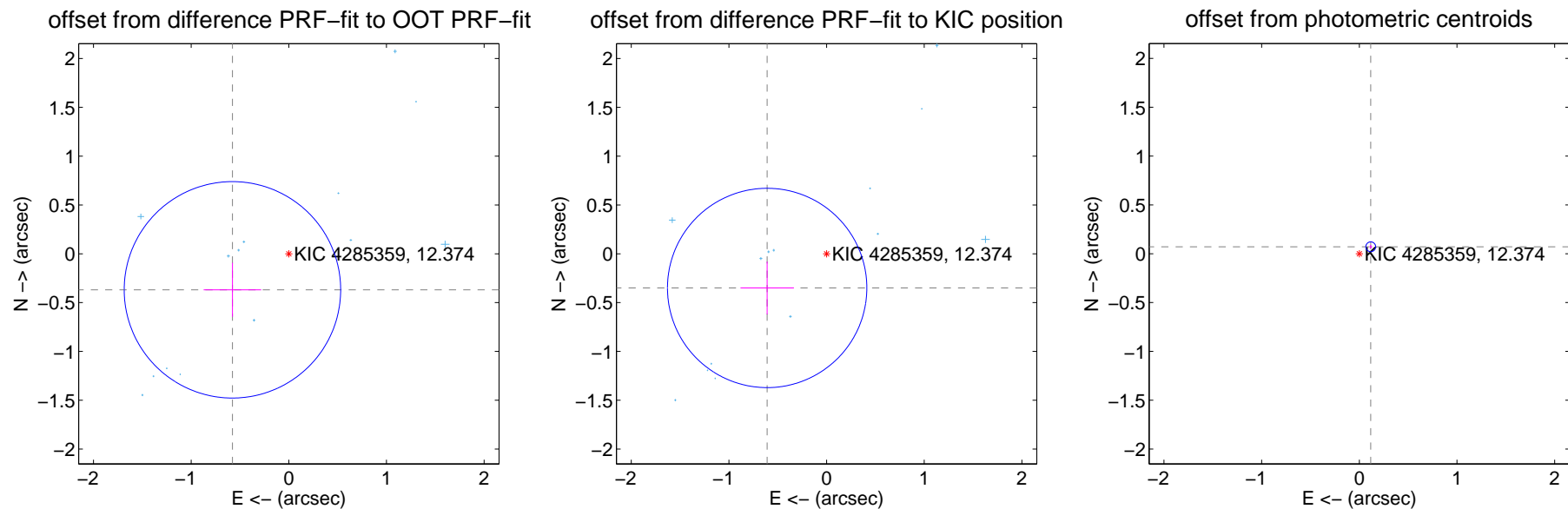
DV Centroid Data

Supplemental centroid analysis for 004285359-03. Kepler magnitude: 12.37. Transit SNR 12.17

There are 14 quarters with good PRF difference image offsets

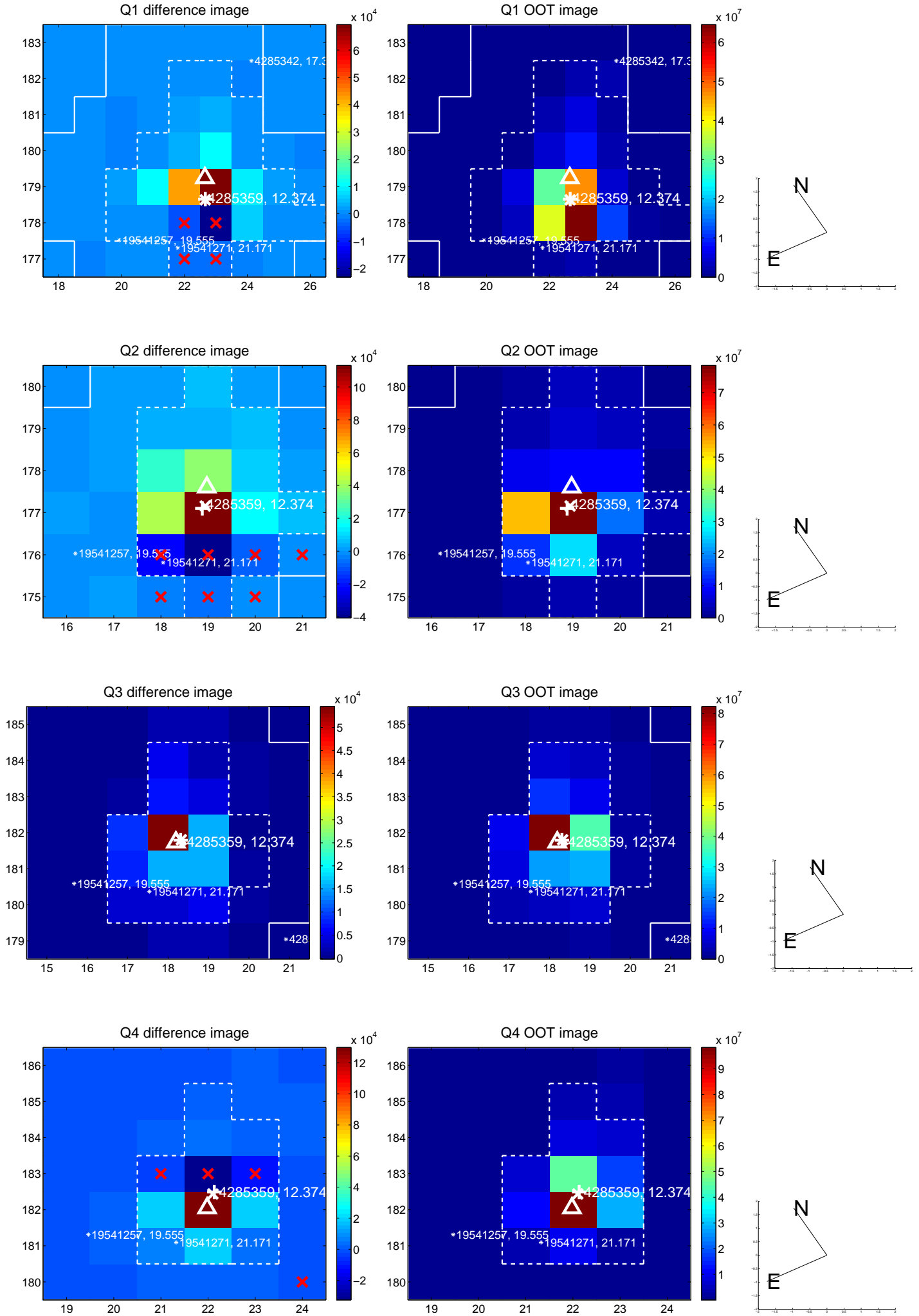
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.685 ± 0.369	1.86	0.577 ± 0.295	-0.369 ± 0.277
PRF-fit source offset from KIC position	0.702 ± 0.340	2.06	0.609 ± 0.274	-0.350 ± 0.271
photometric centroid source offset	0.14 ± 0.02	8.18	-0.12 ± 0.02	0.07 ± 0.02

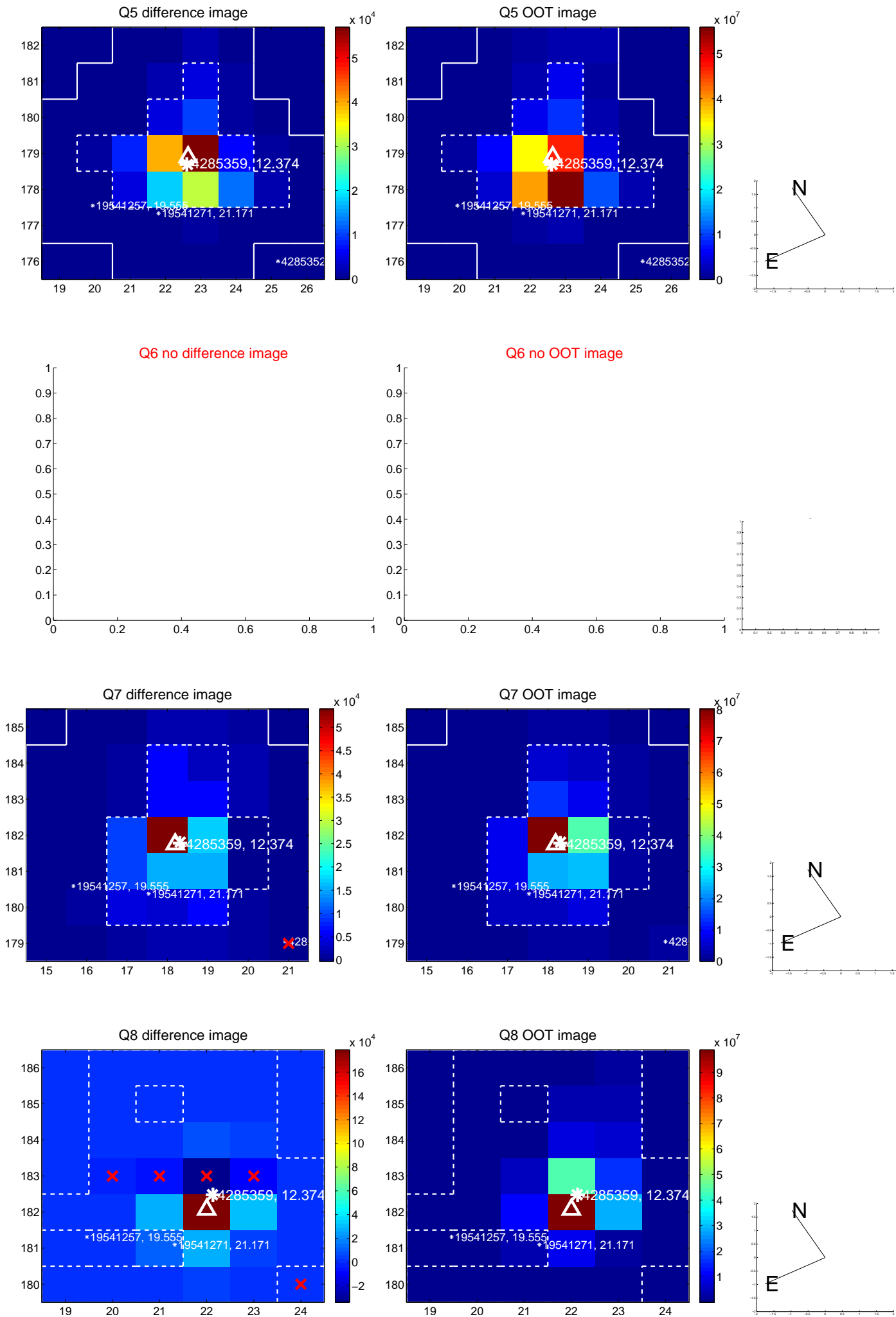


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

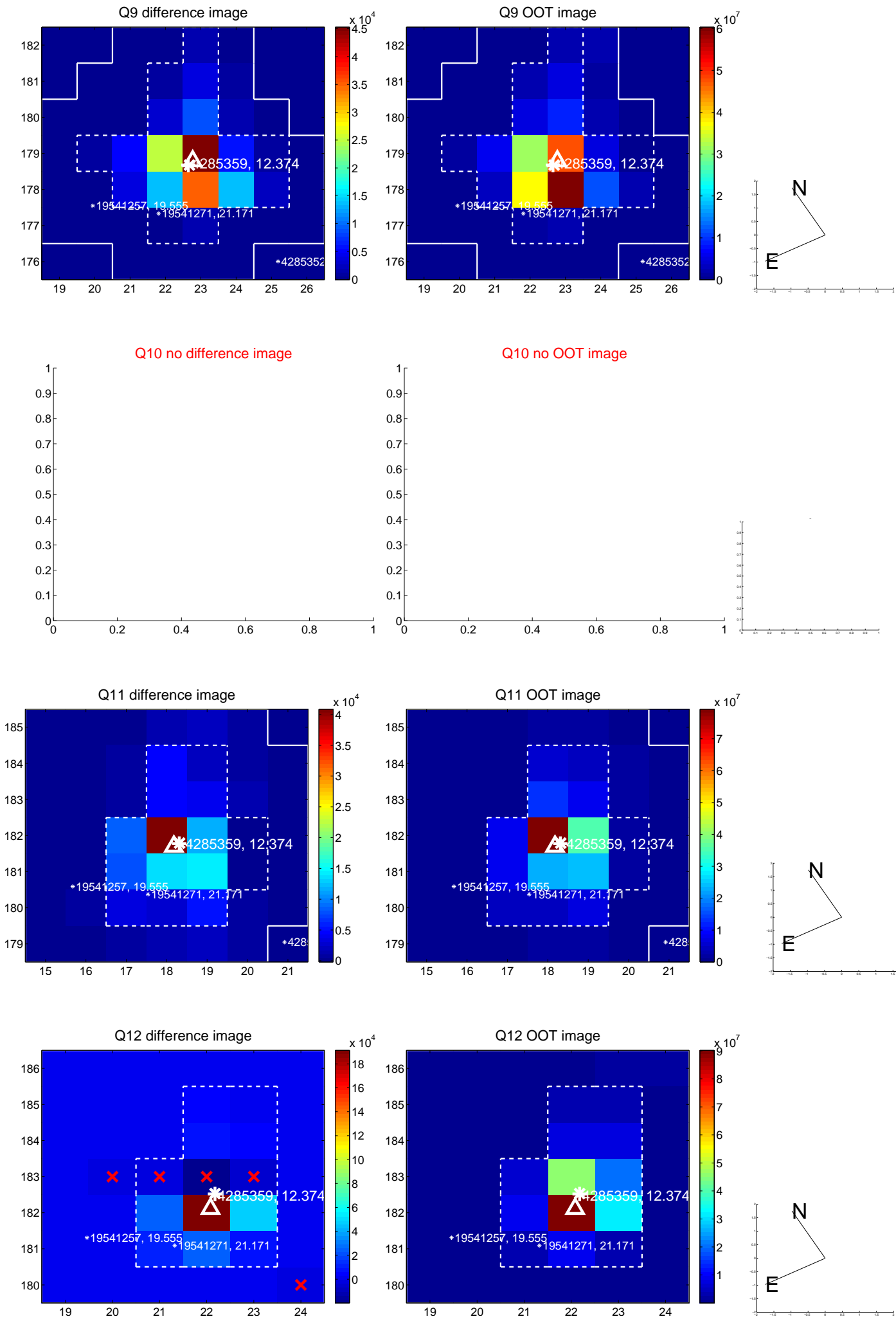
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



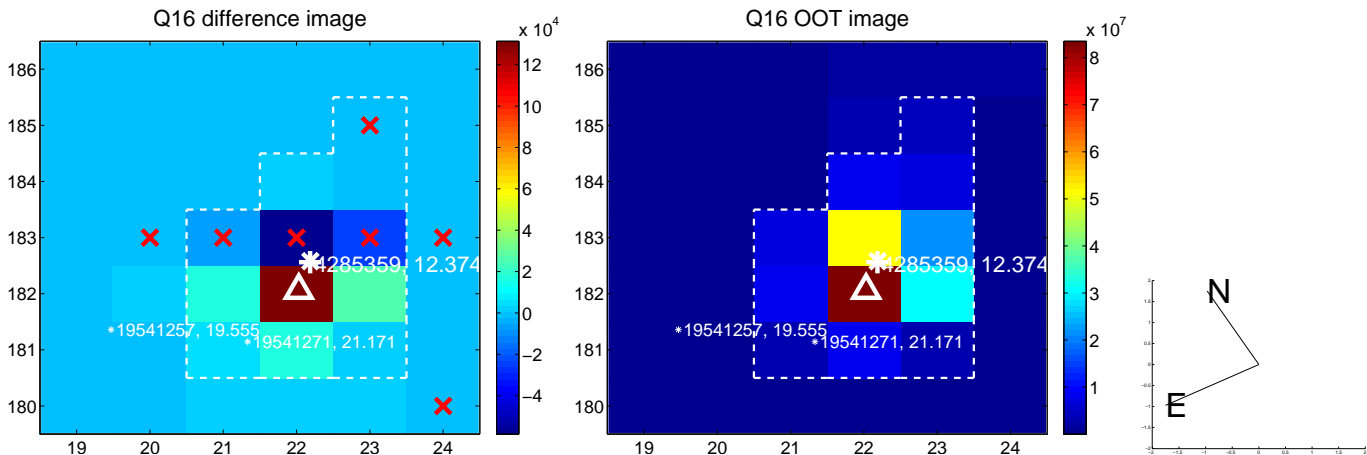
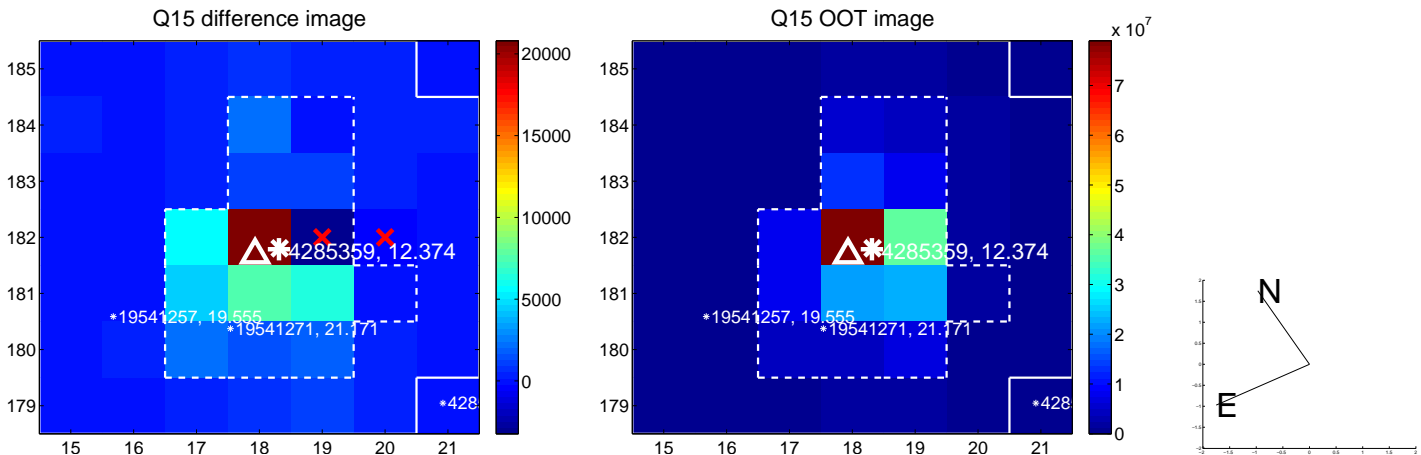
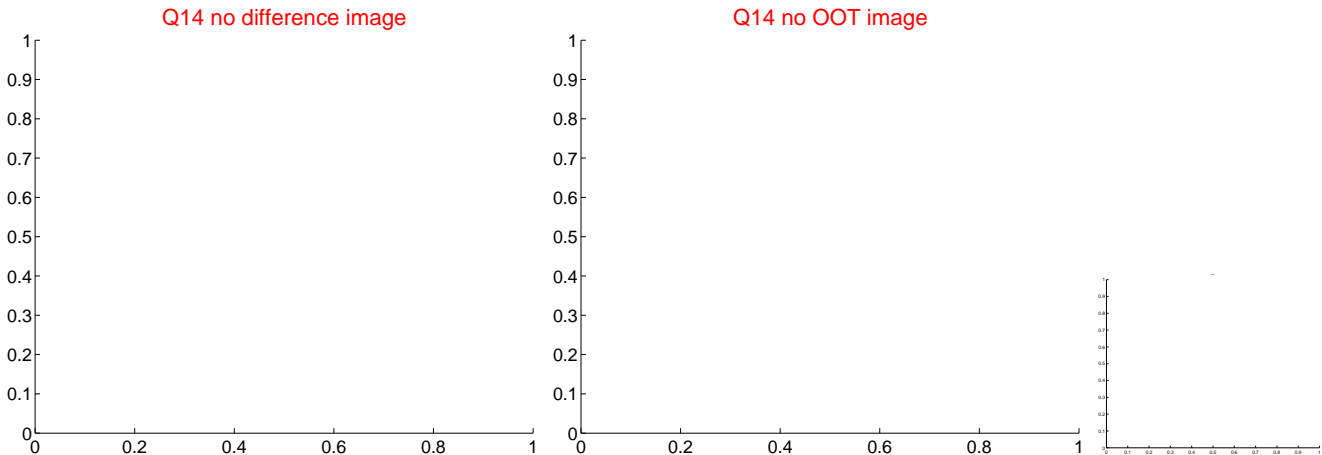
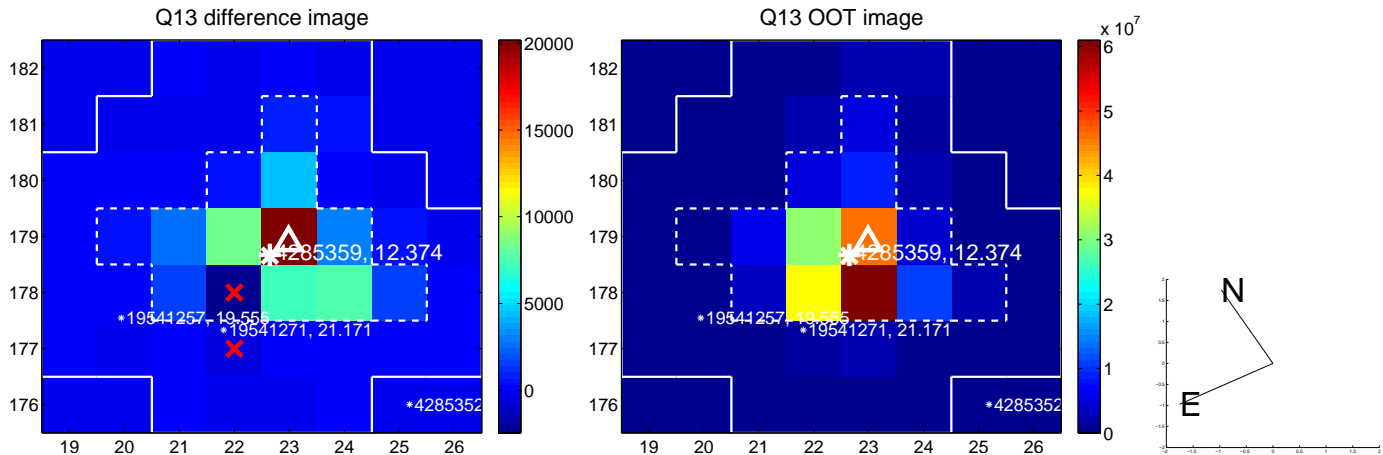
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



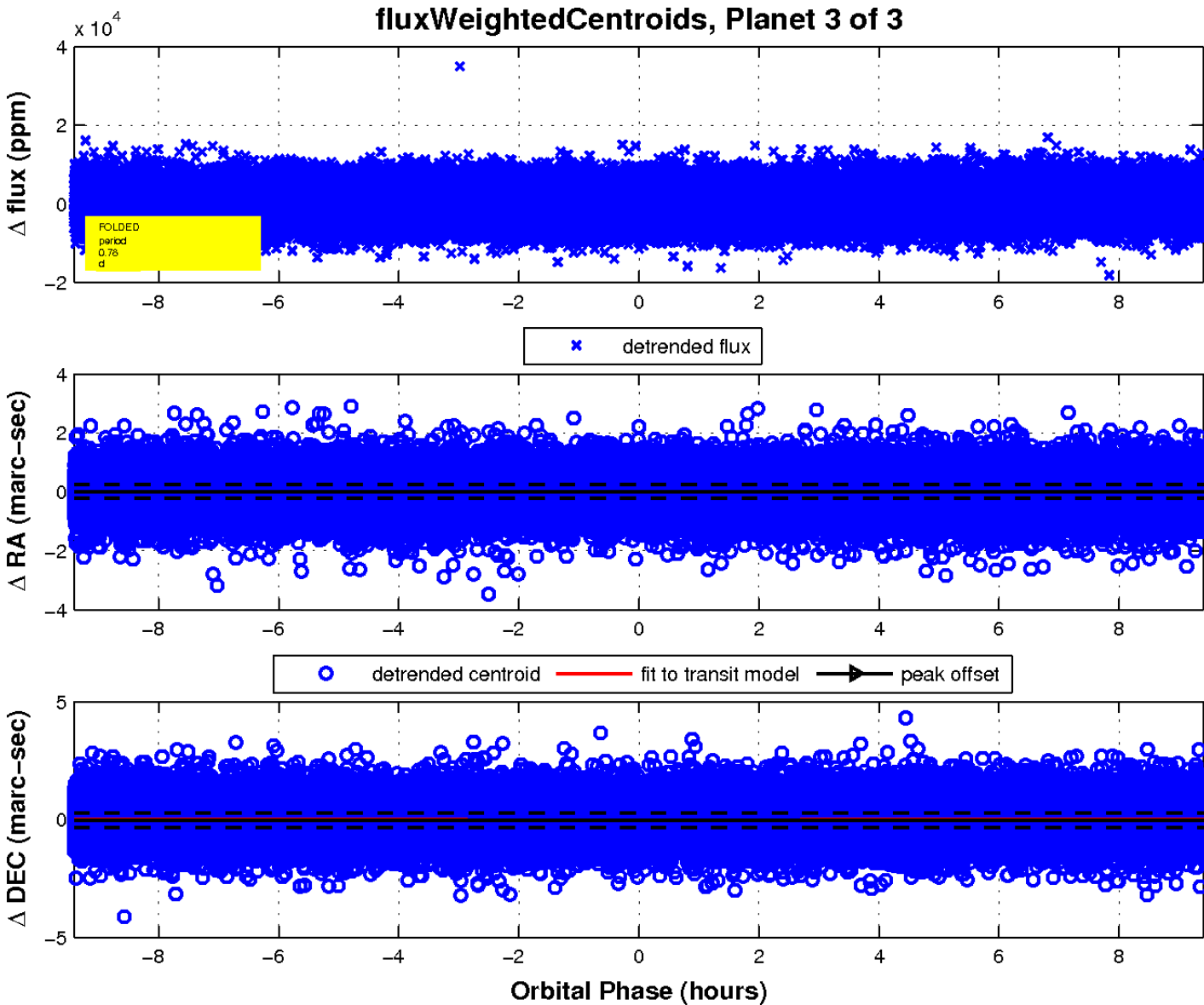
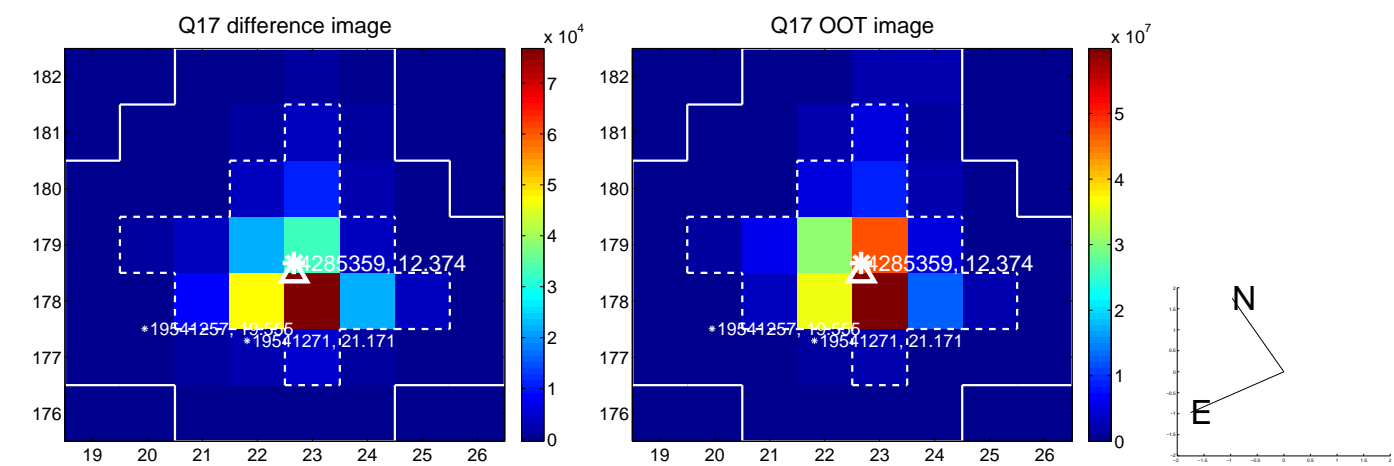
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

