

KIC 002722074

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})
002722074-01	OBS	No	1.938472	131.902287	30.5	11.900	10.2	9.4	0.96	6344	0.53	1429.50
002722074-02	OBS	No	225.027985	335.730804	794.1	15.000	22.7	-1.0	0.96	6344	2.72	2.52
002722074-03	OBS	No	117.843399	212.927728	341.5	11.391	8.2	8.2	0.96	6344	3.46	5.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002722074-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
002722074-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
002722074-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

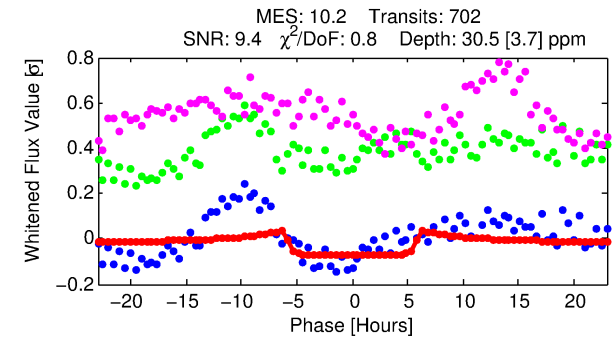
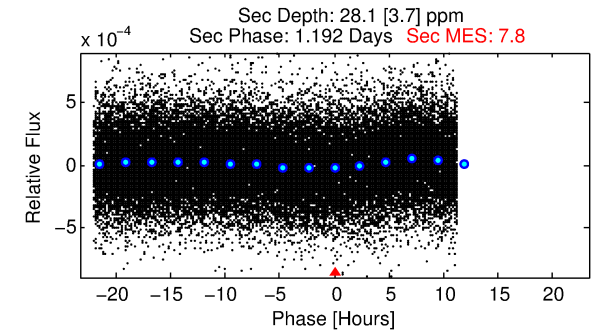
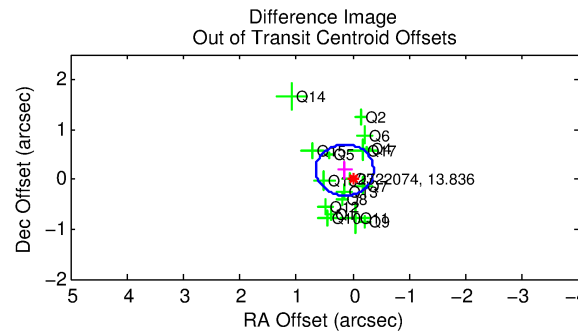
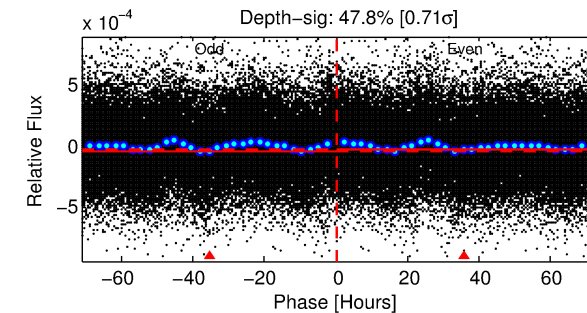
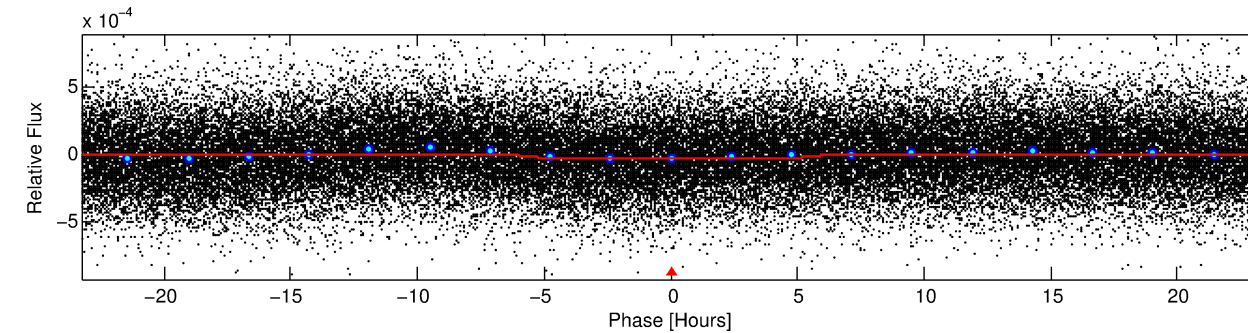
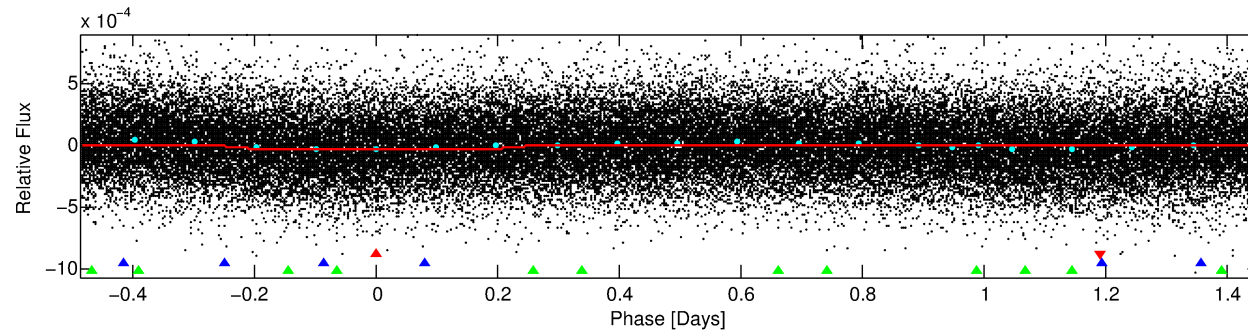
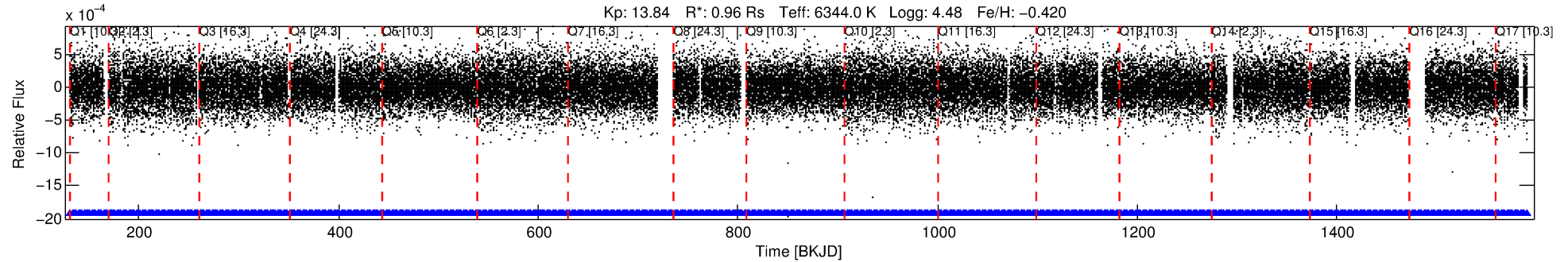
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002722074-01

No Significant Match Found

DV One-Page Summary

KIC: 2722074 Candidate: 1 of 3 Period: 1.938 d



DV Fit Results:

Period = 1.93847 [0.00003] d
Epoch = 131.9023 [0.0076] BKJD
Rp/R* = 0.0051 [0.0051]
a/R* = 1.40 [3.63]
b = 0.01 [533.57]
Seff = 1429.50 [590.96]
Teq = 1568 [162] K
Rp = 0.53 [0.57] Re
a = 0.0307 [0.0082] AU
Ag = 51.11 [105.65] [0.47 σ]
Teffp = 6482 [3295] K [1.49 σ]

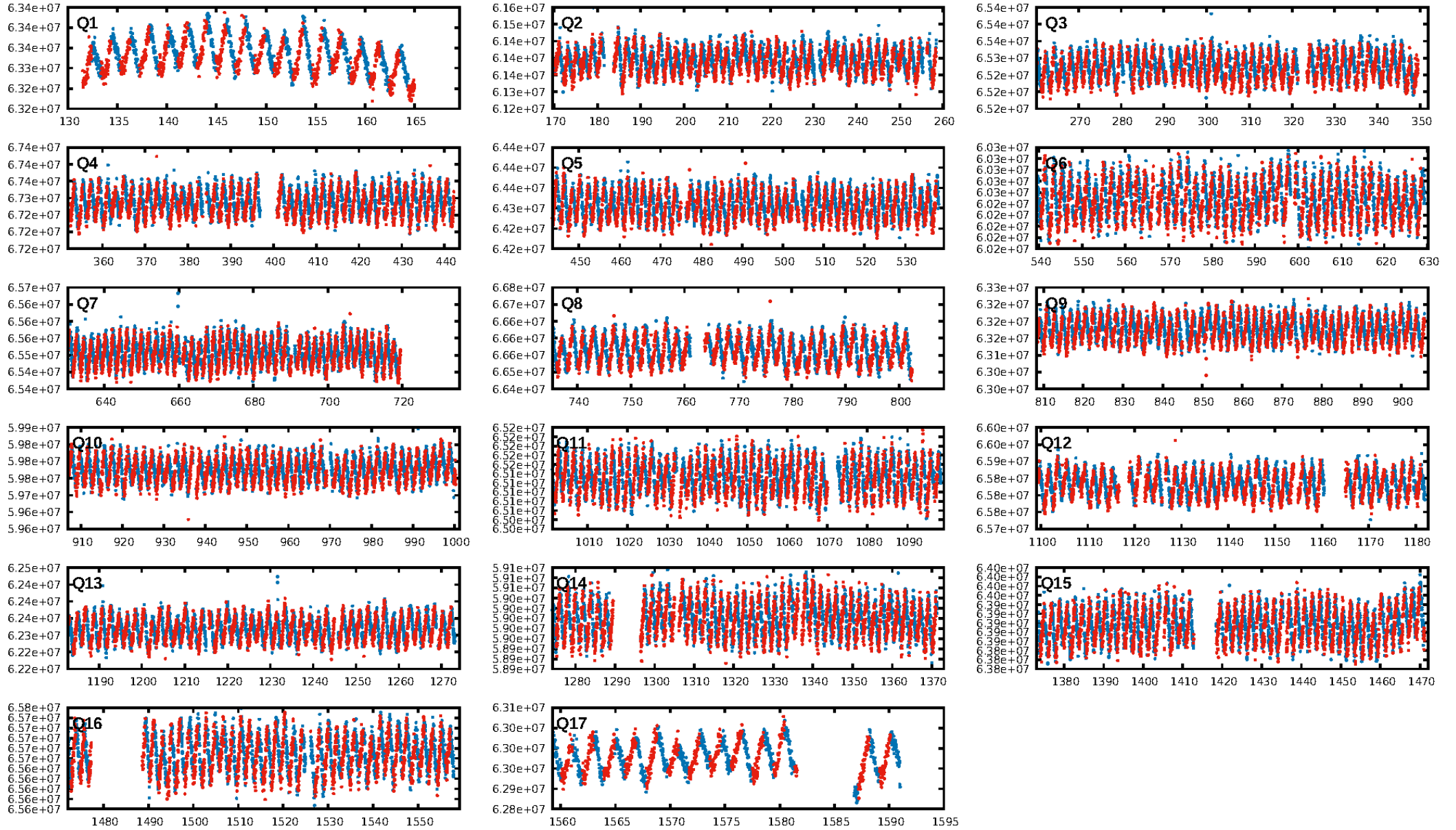
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [168.87 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.14e-15
RollingBand-fgt: 1.00 [671/671]
GhostDiagnostic-chr: 1.404
Centroid-sig: 28.7%
Centroid-so: 1.537 arcsec [1.55 σ]
OotOffset-rm: 0.233 arcsec [1.37 σ]
KicOffset-rm: 0.342 arcsec [1.89 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

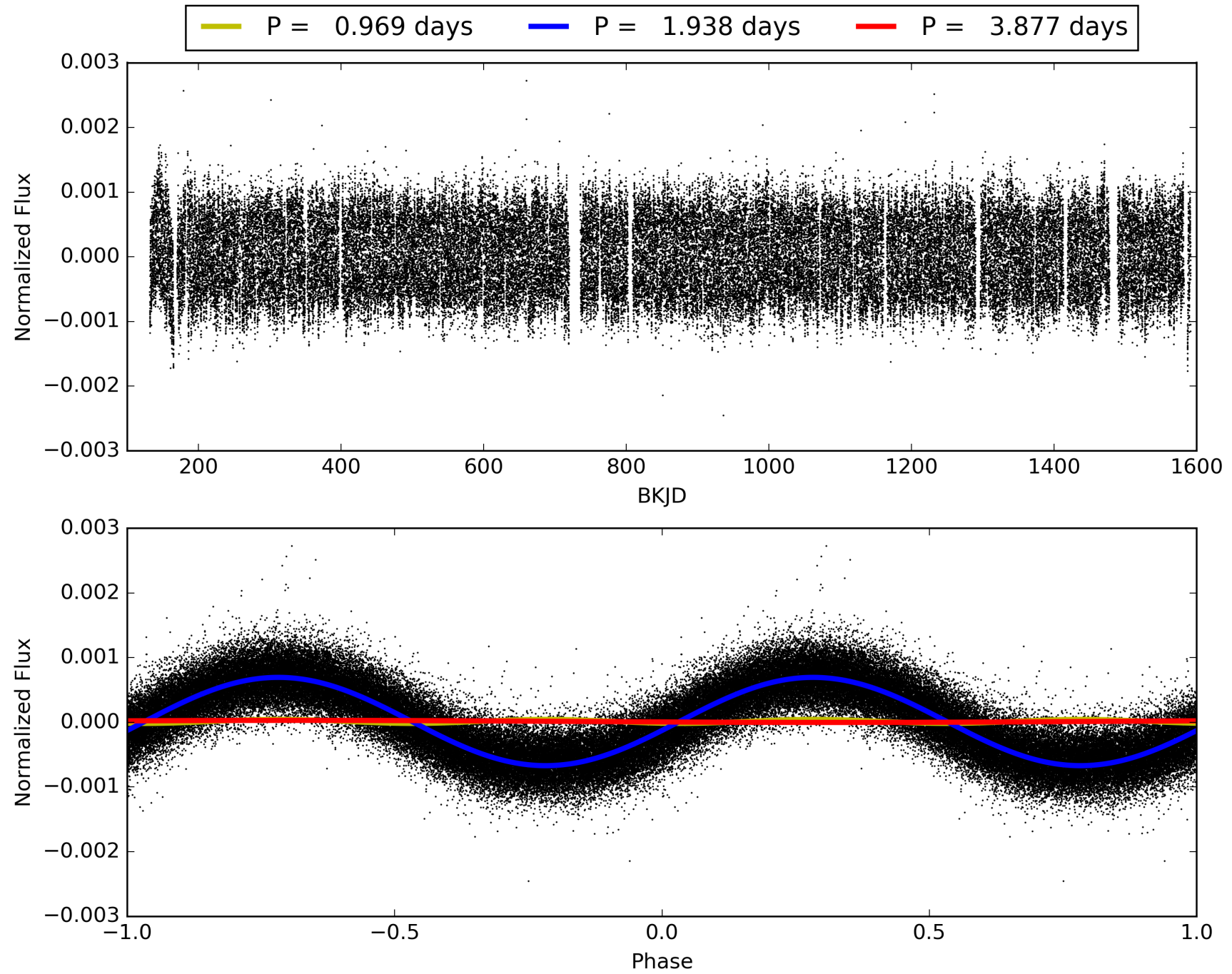
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:20:47 Z

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

TCE 002722074-01, PDC Light Curves

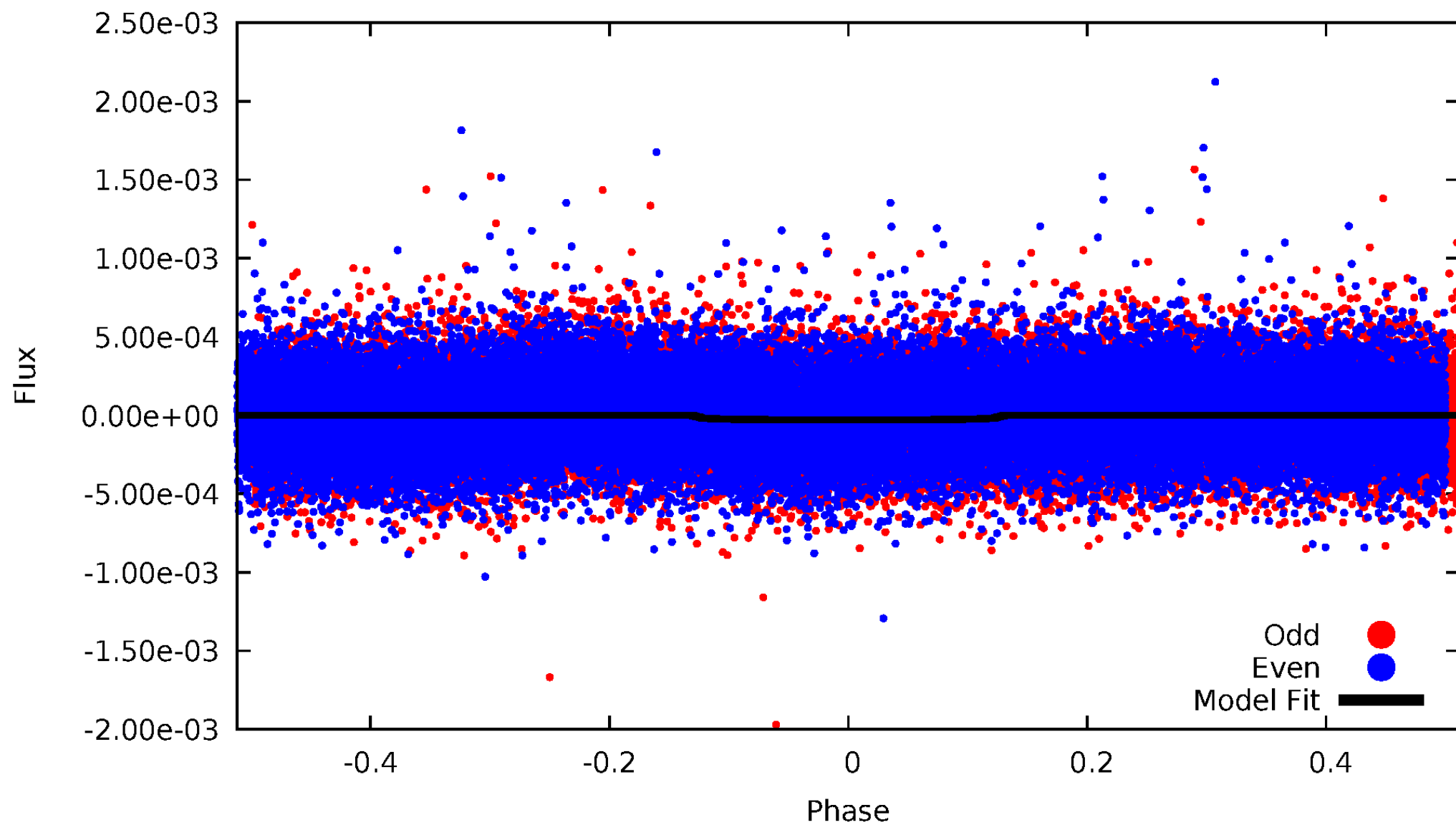


TCE 002722074-01



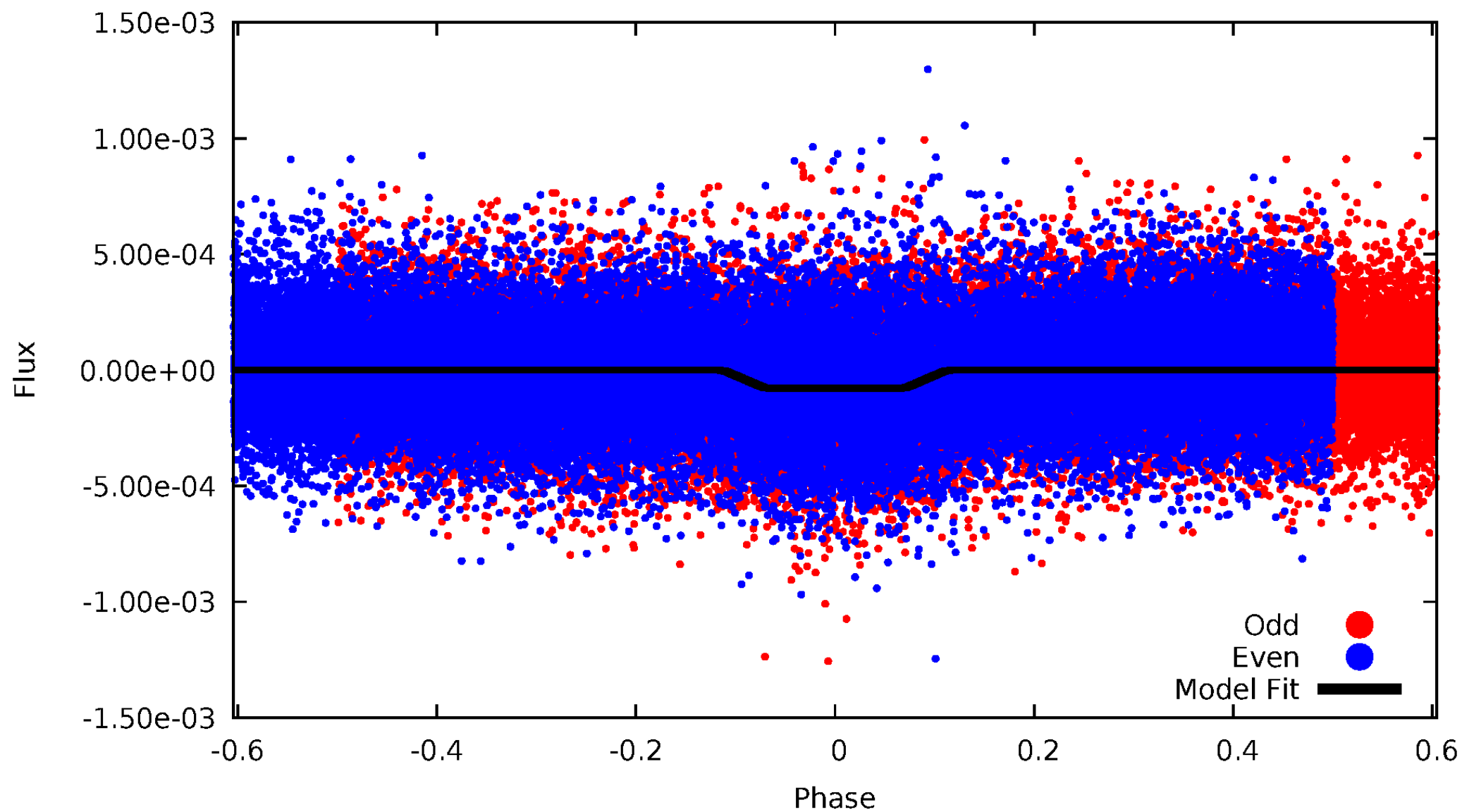
DV Odd/Even

TCE 002722074-01



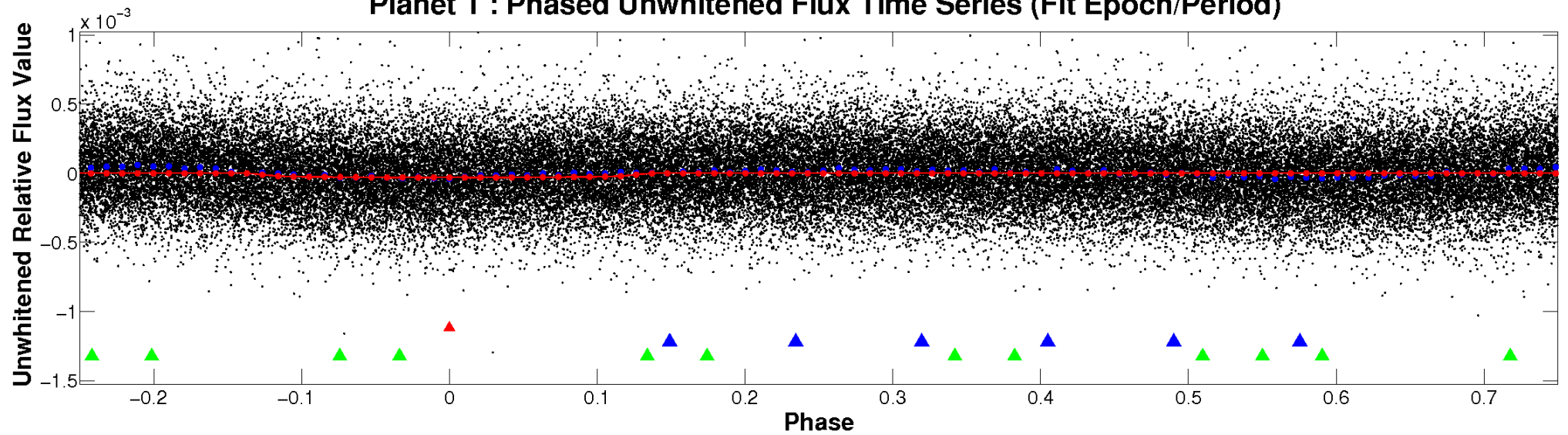
ALT Odd/Even

TCE 002722074-01

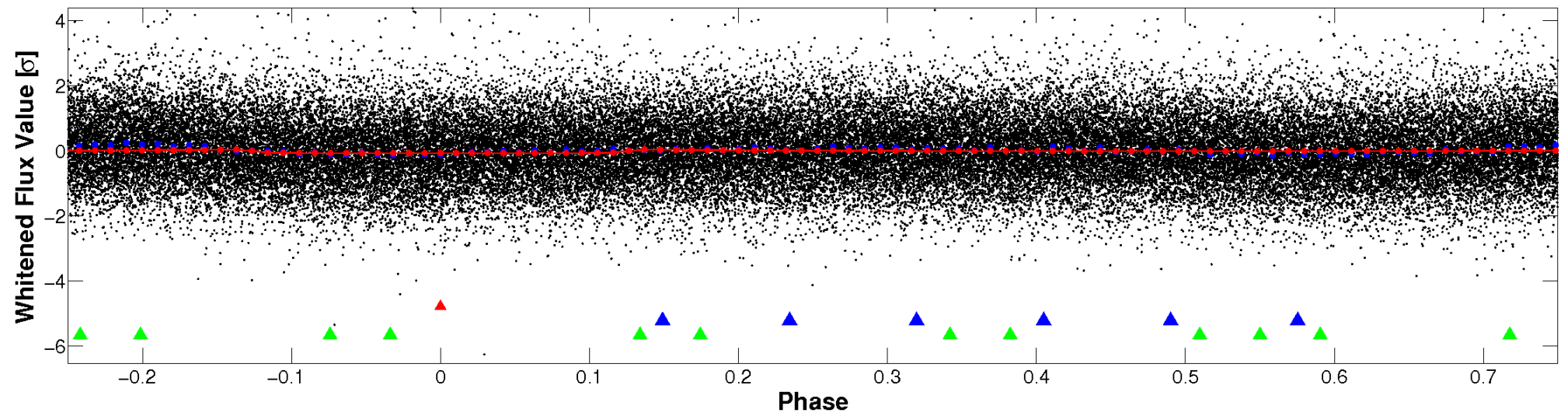


Non-Whitened Vs. Whitened Light Curve

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

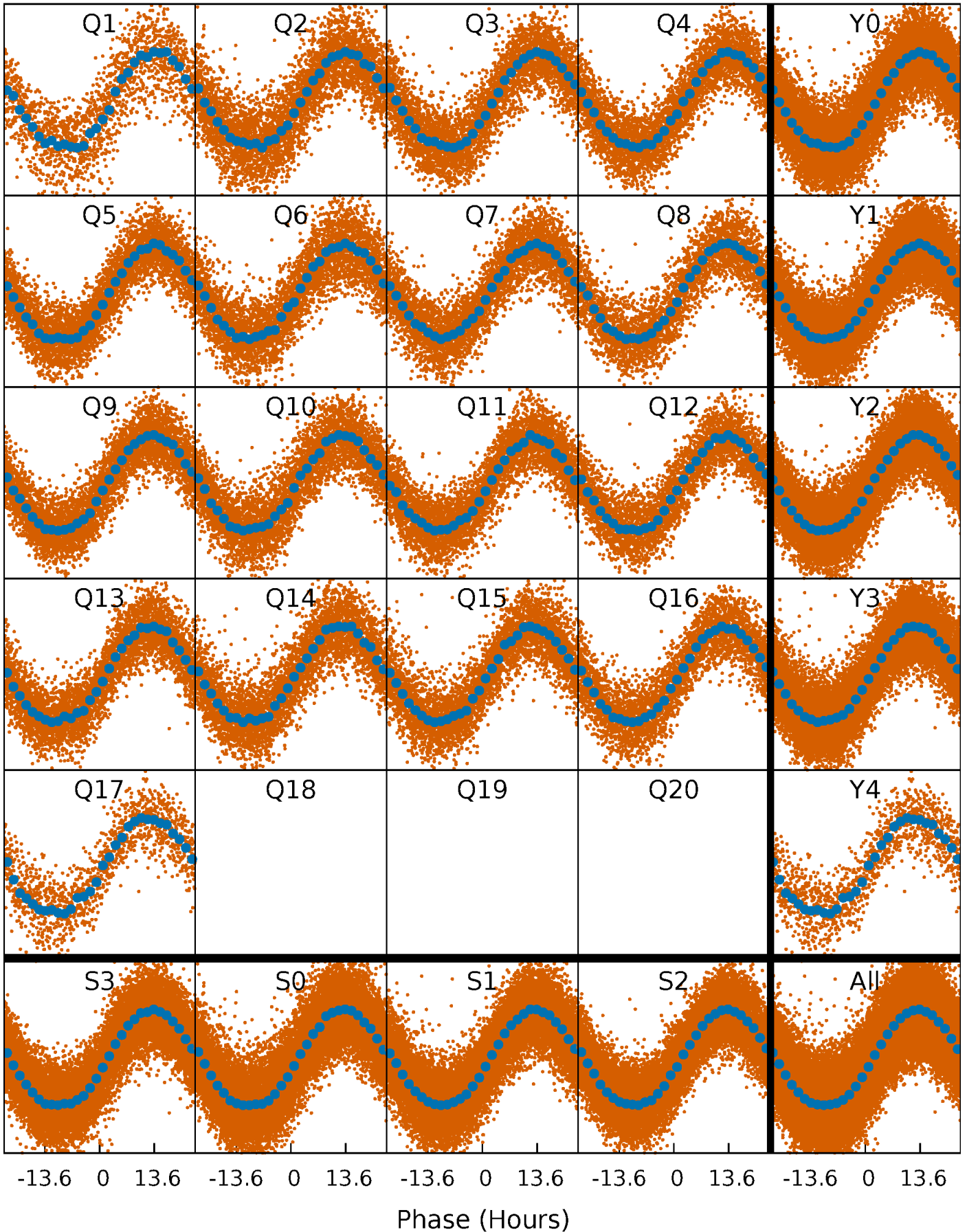


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



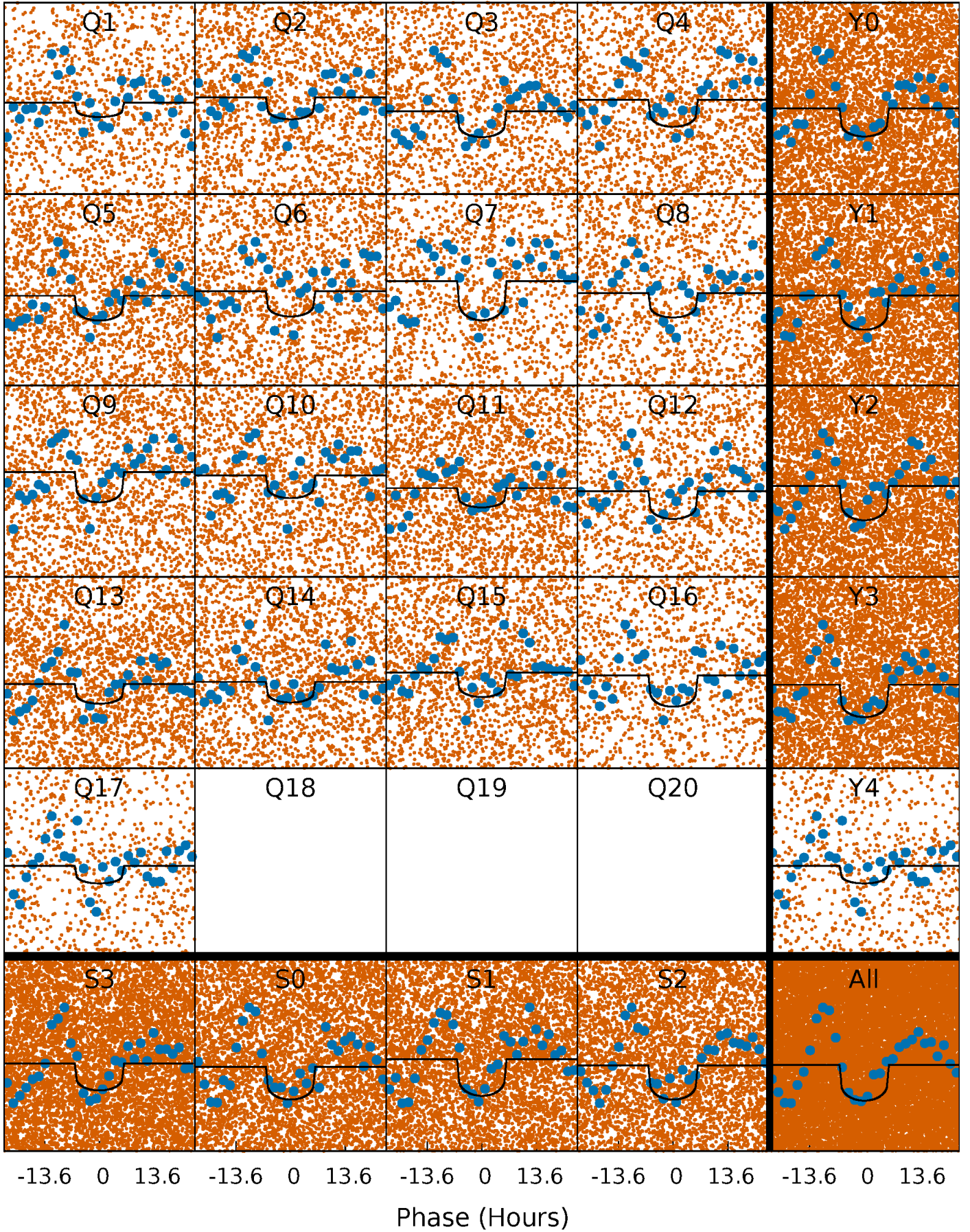
PDC Quarter-Phased Transit Curves

TCE 002722074-01 P= 1.938472 Days $T_0=131.902287$ (BKJD)



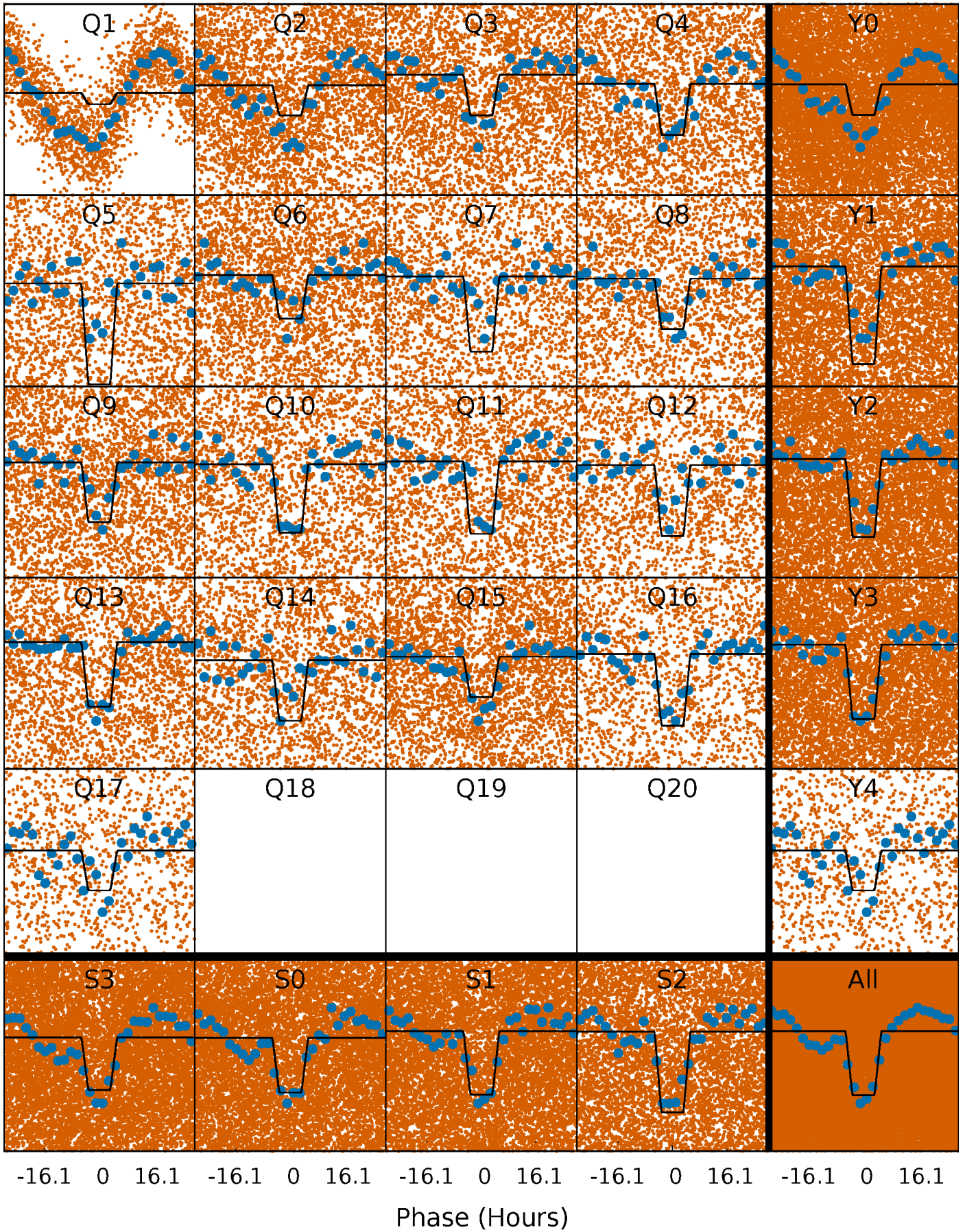
DV Quarter-Phased Transit Curves

TCE 002722074-01 P= 1.938472 Days $T_0=131.902287$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

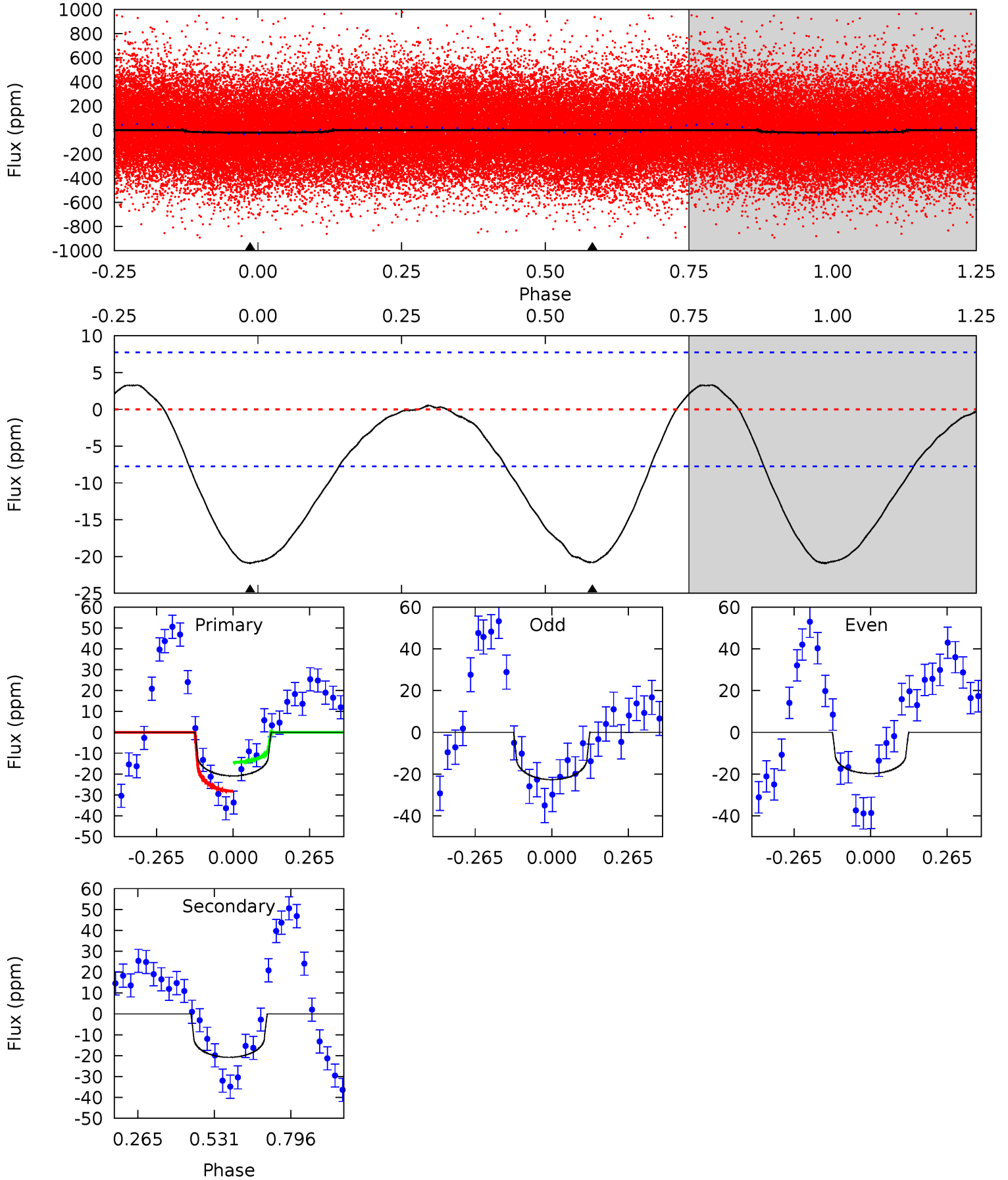
TCE 002722074-01 P= 1.938429 Days $T_0=131.793529$ (BKJD)



DV Model-Shift Uniqueness Test

002722074-01, P = 1.938472 Days, E = 129.963815 Days

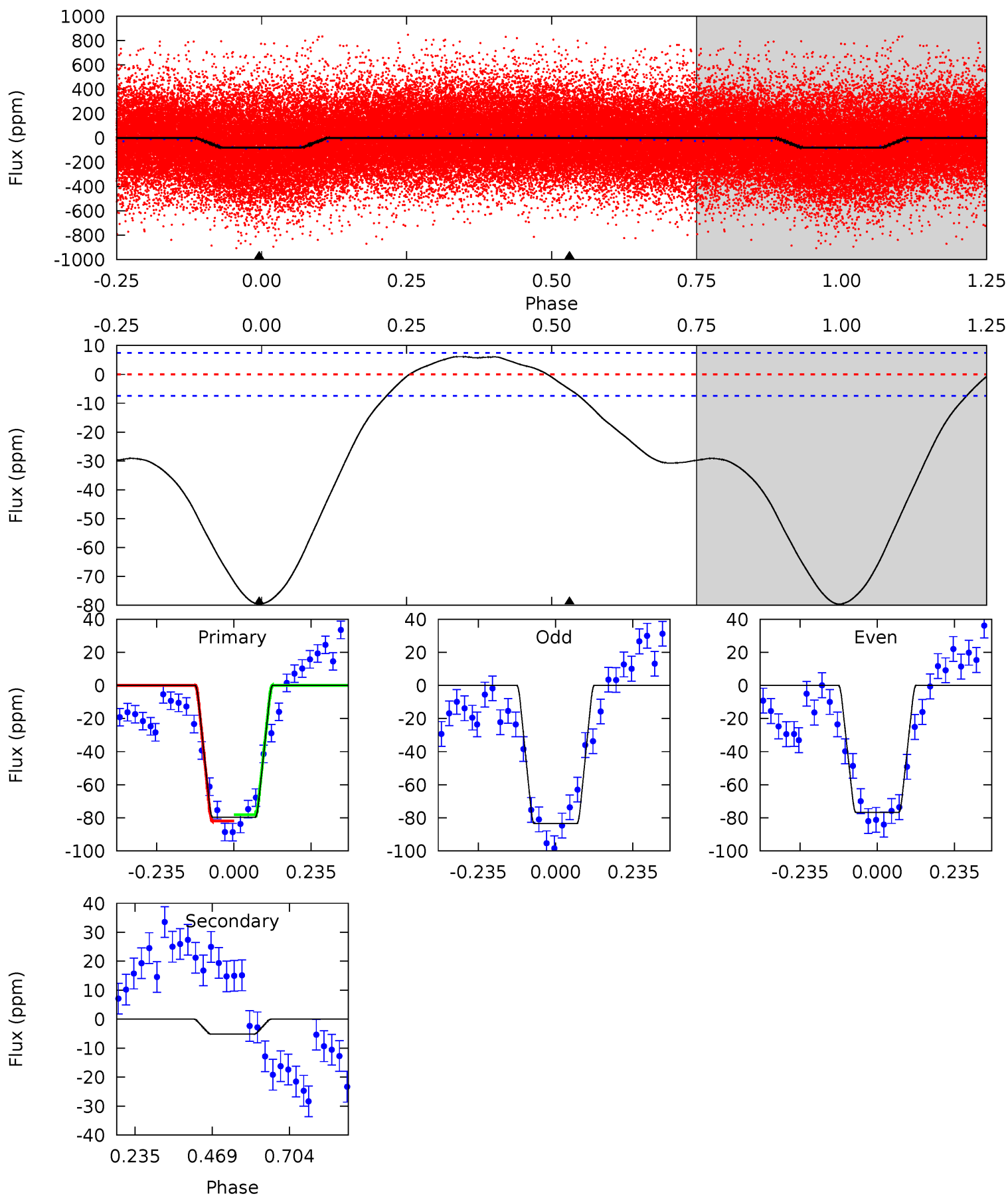
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.7	11.7	0	0	4.36	1.11	0.19	11.7	11.7	11.7	11.7	0.84	0.98	0.14	3.90



Alt Model-Shift Uniqueness Test

002722074-01, P = 1.938429 Days, E = 129.855100 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
46.8	3.04	0	0	4.38	1.19	6.63	46.8	46.8	3.04	3.04	1.96	1.03	0.07	1.13



Stellar Parameters For KIC 002722074

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6344^{+158}_{-206}	$4.481^{+0.054}_{-0.216}$	$-0.420^{+0.300}_{-0.300}$	$0.962^{+0.303}_{-0.101}$	$1.024^{+0.132}_{-0.132}$	$1.618^{+0.359}_{-0.897}$
	+2%/-3%	+1%/-5%	+71%/-71%	+31%/-10%	+13%/-13%	+22%/-55%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 002722074-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-21 ± 2	$0.68^{+0.54}_{-0.41}$	2238^{+169}_{-107}	5457^{+3535}_{-1187}	23^{+114}_{-16}
Alt.	-5 ± 2	$0.99^{+0.61}_{-0.51}$	2235^{+176}_{-100}	3516^{+1131}_{-595}	$2.552^{+8.336}_{-1.645}$

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

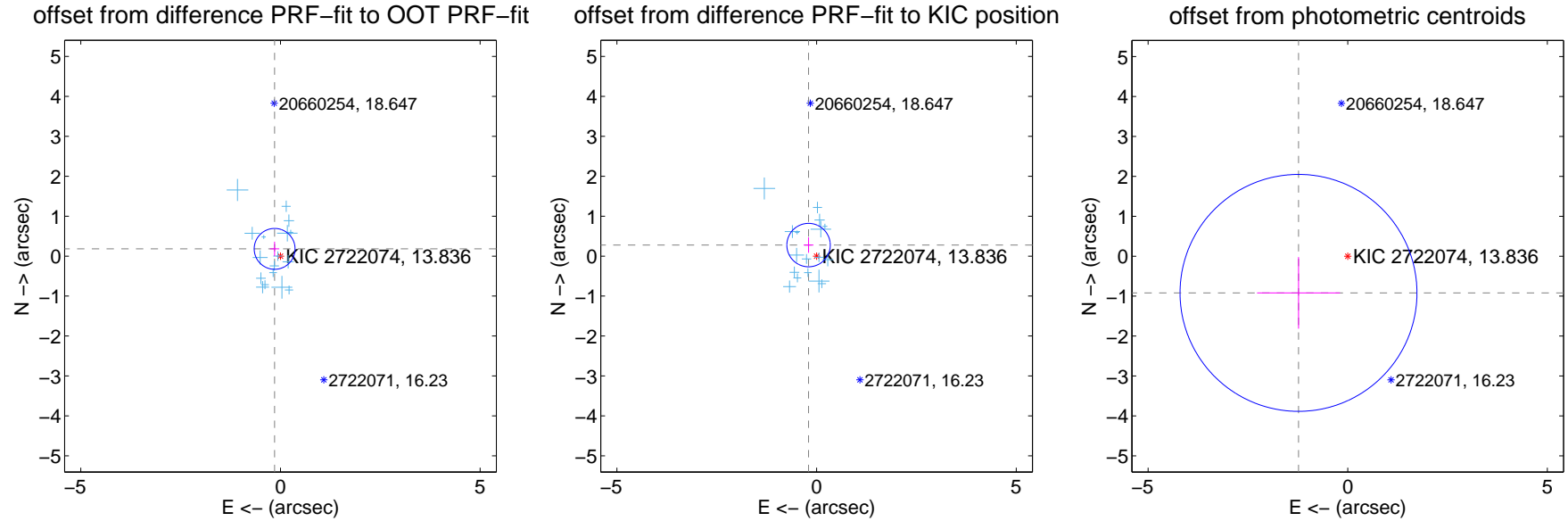
DV Centroid Data

Supplemental centroid analysis for 002722074-01. Kepler magnitude: 13.84. Transit SNR 9.35

There are 17 quarters with good PRF difference image offsets

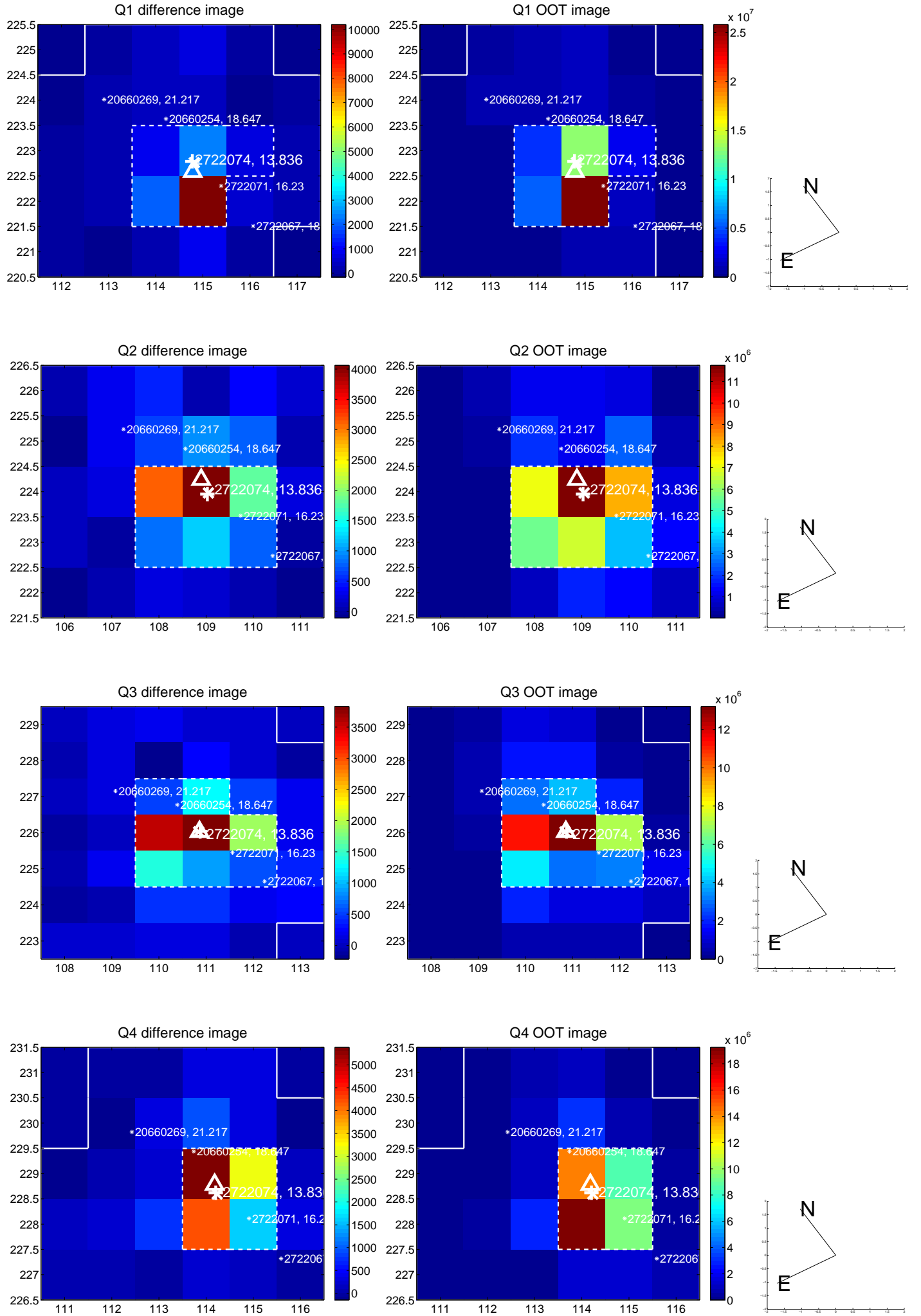
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.233 ± 0.170	1.37	0.146 ± 0.117	0.182 ± 0.180
PRF-fit source offset from KIC position	0.342 ± 0.181	1.89	0.201 ± 0.122	0.277 ± 0.193
photometric centroid source offset	1.54 ± 0.99	1.55	1.23 ± 1.04	-0.92 ± 0.90

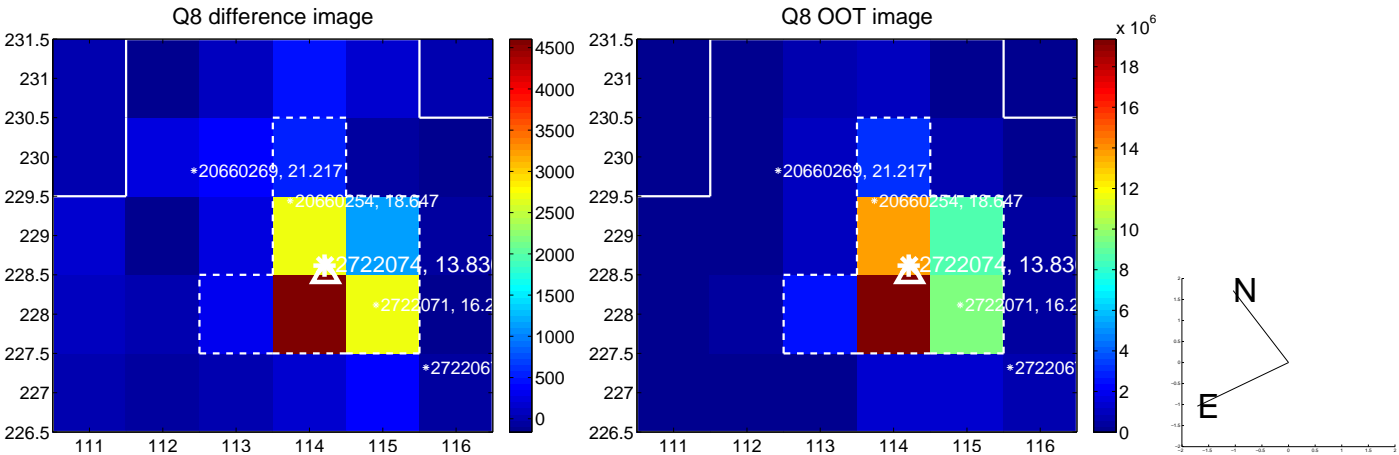
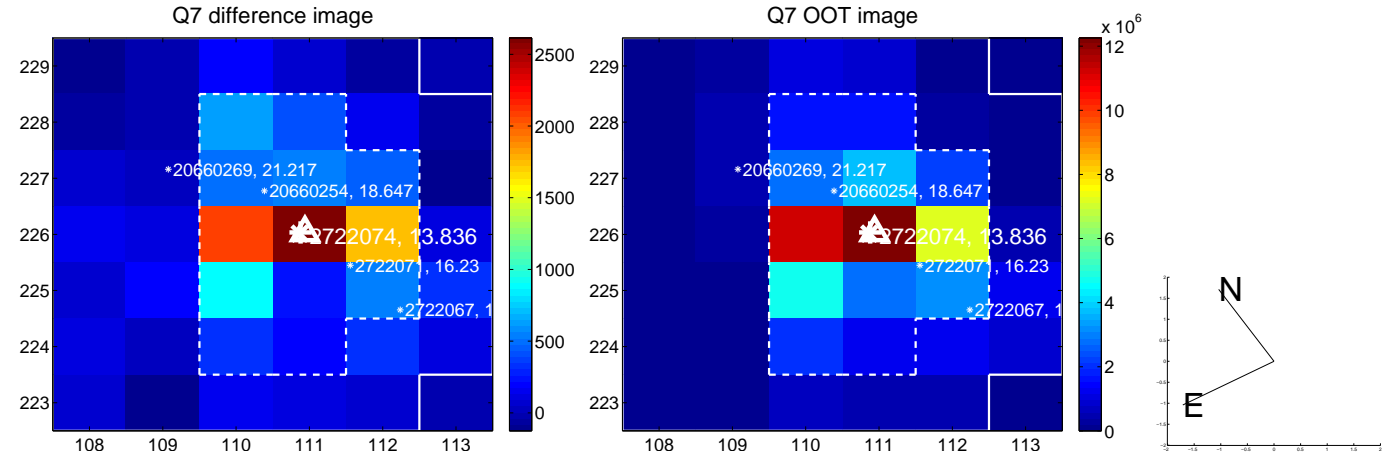
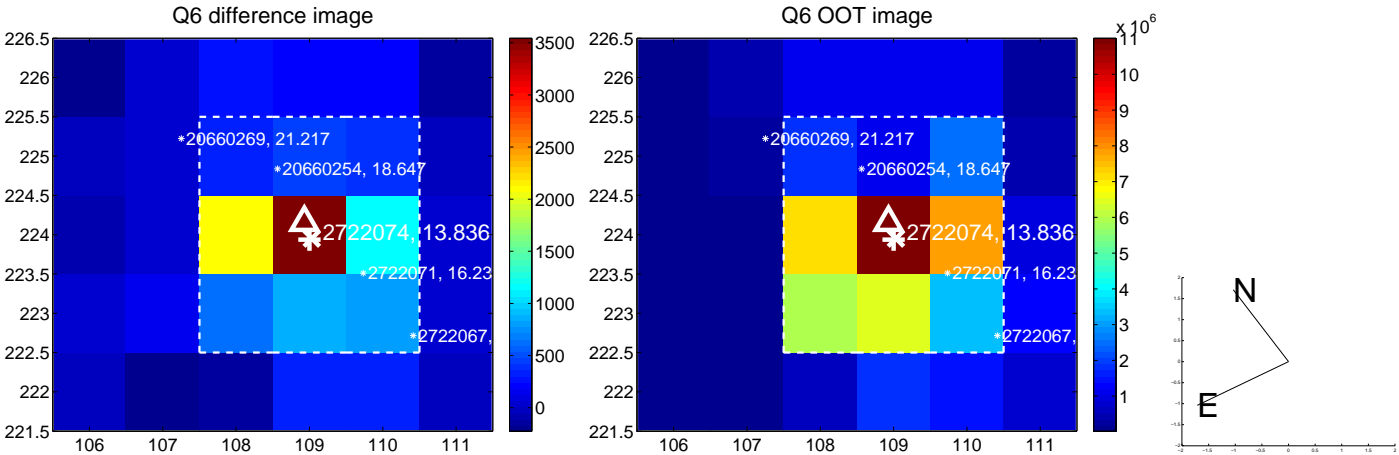
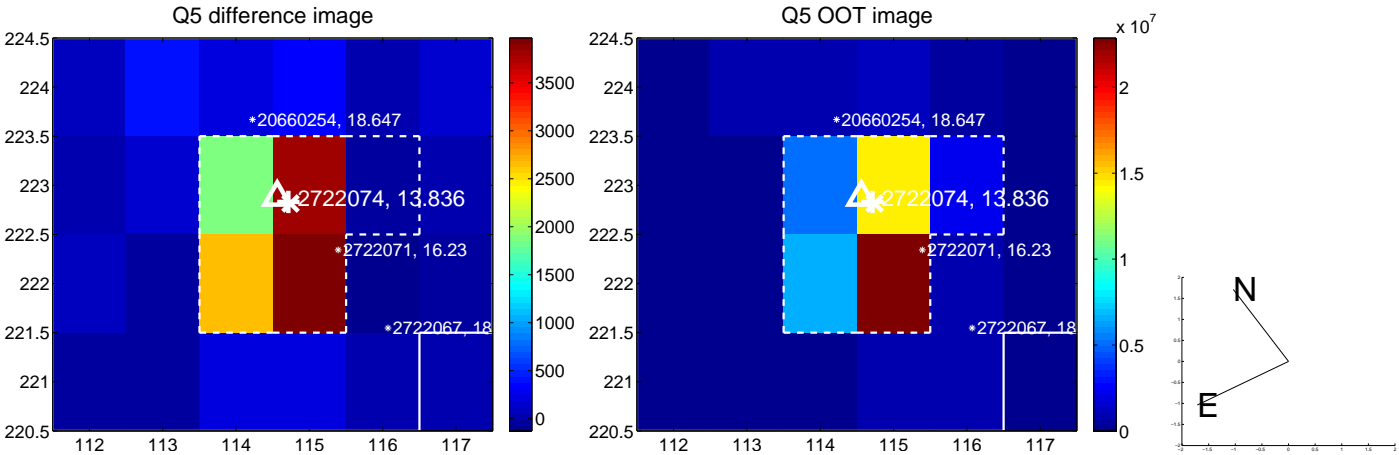


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

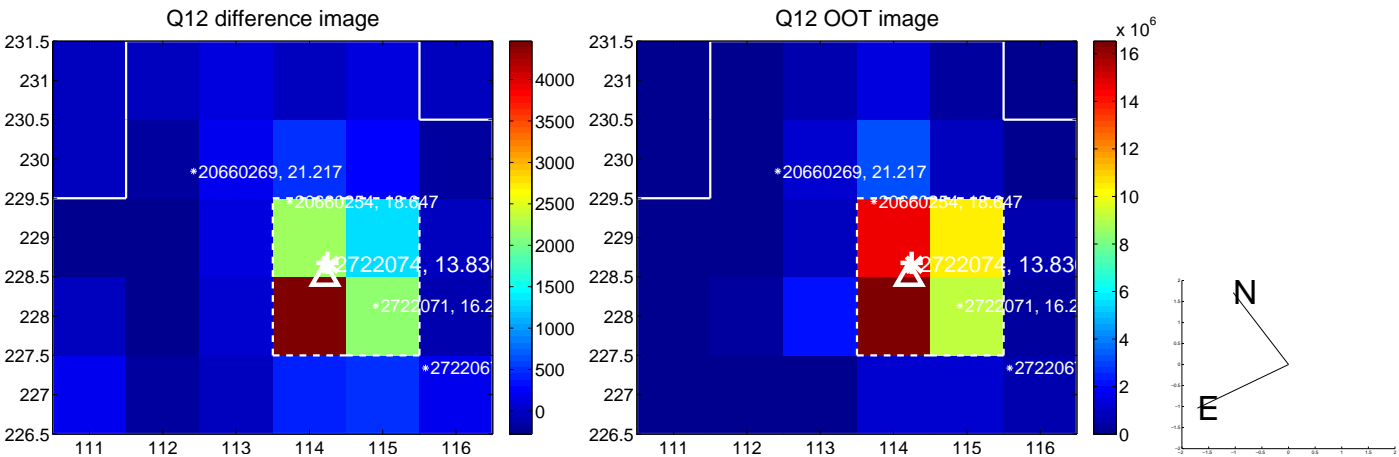
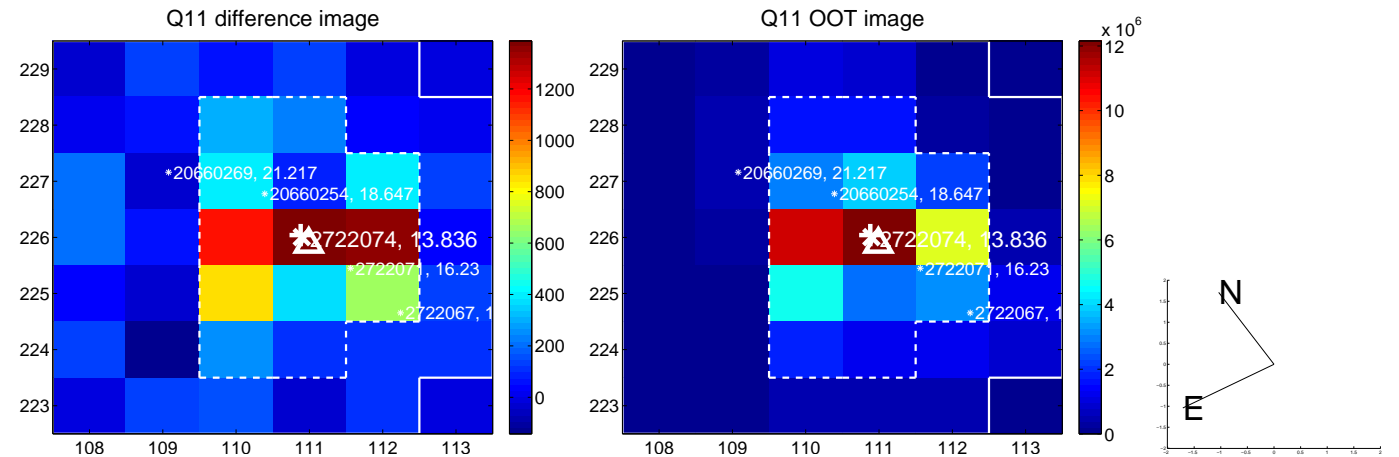
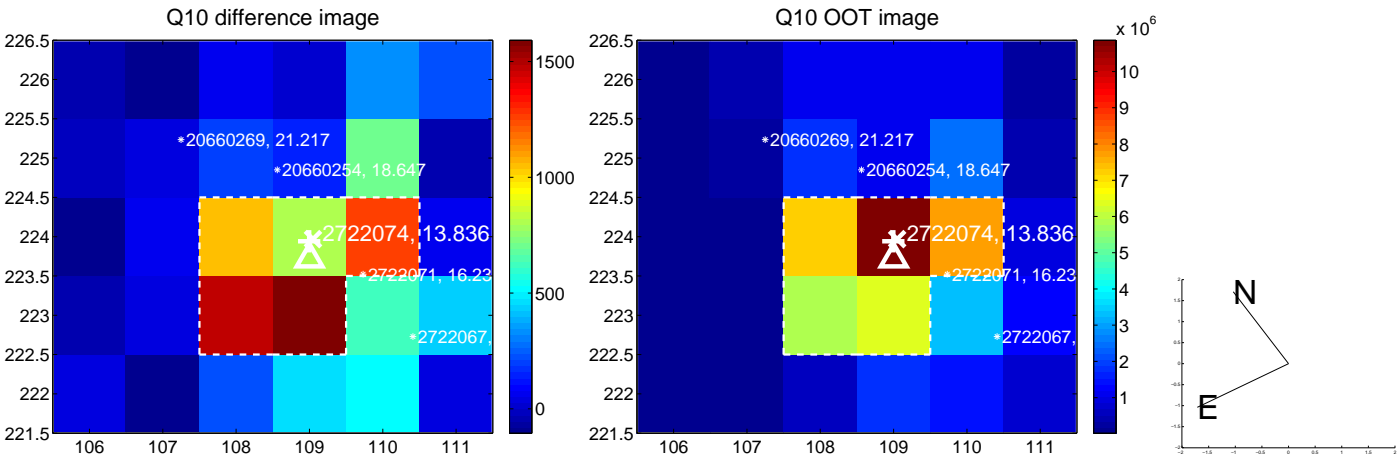
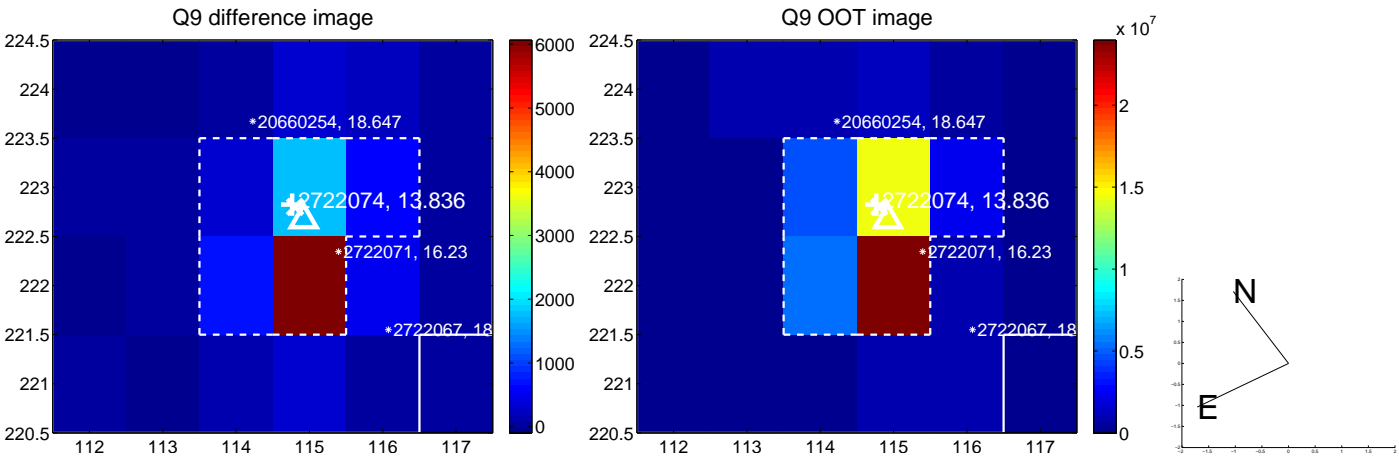
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



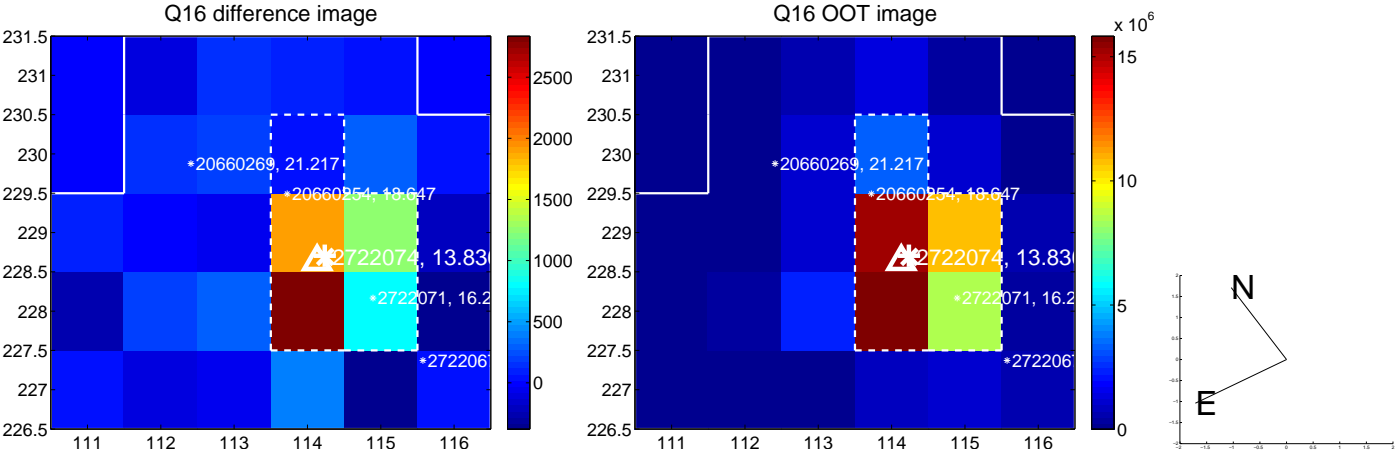
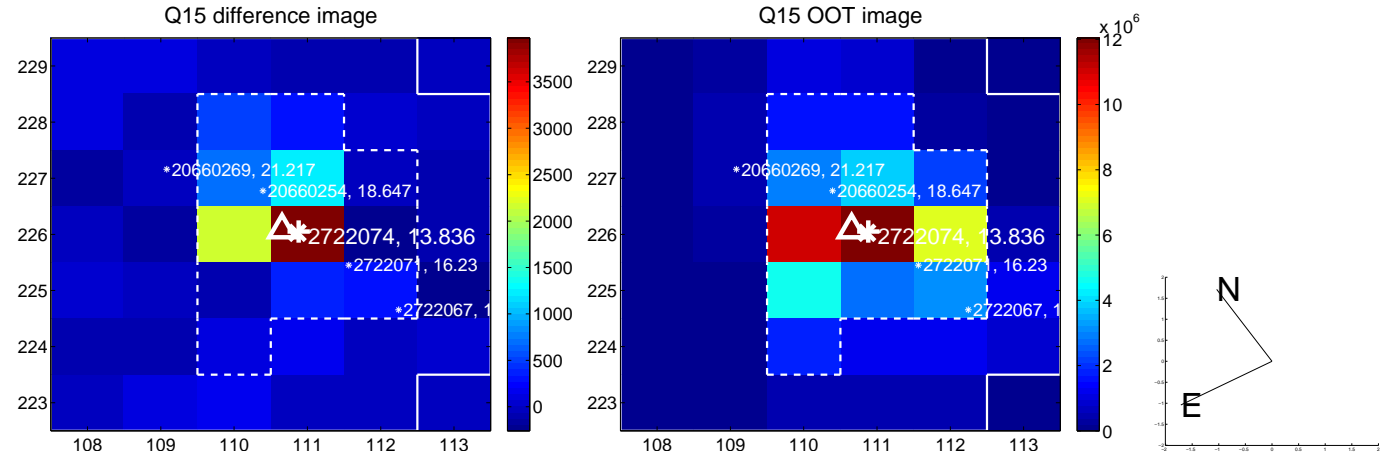
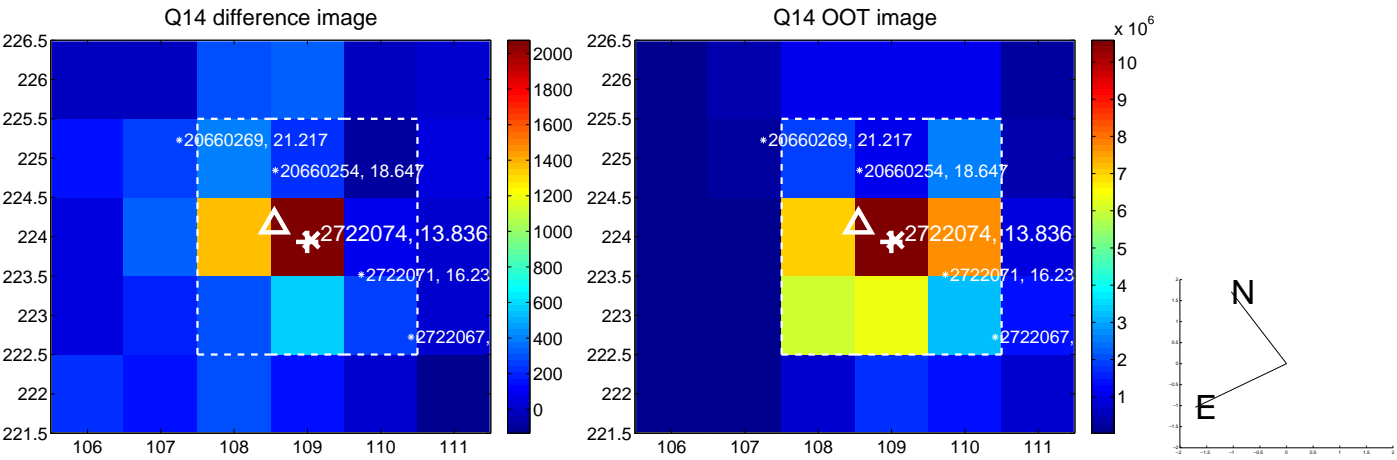
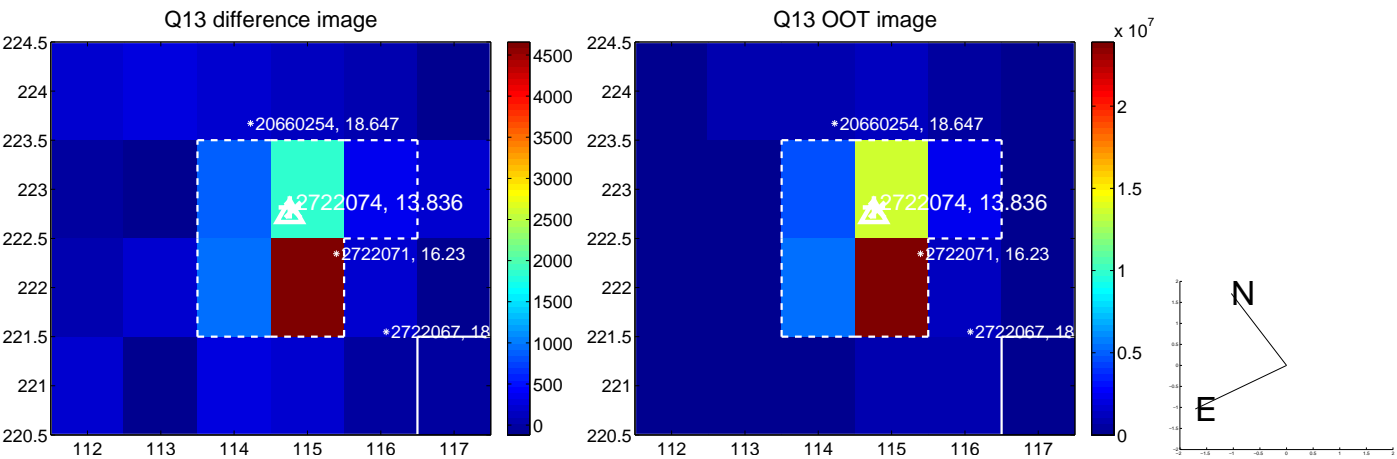
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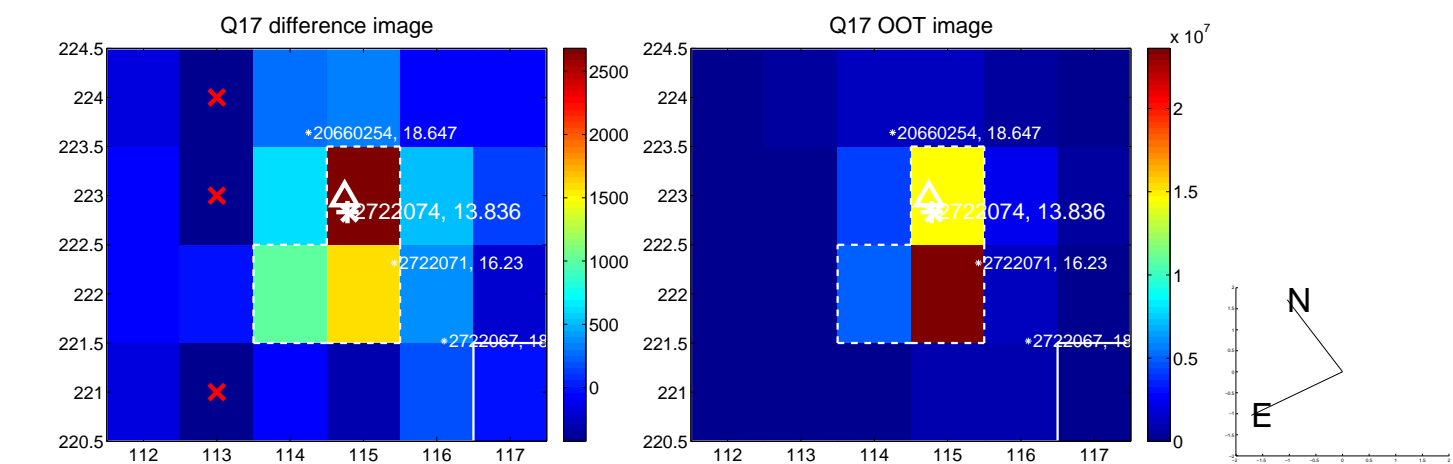
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



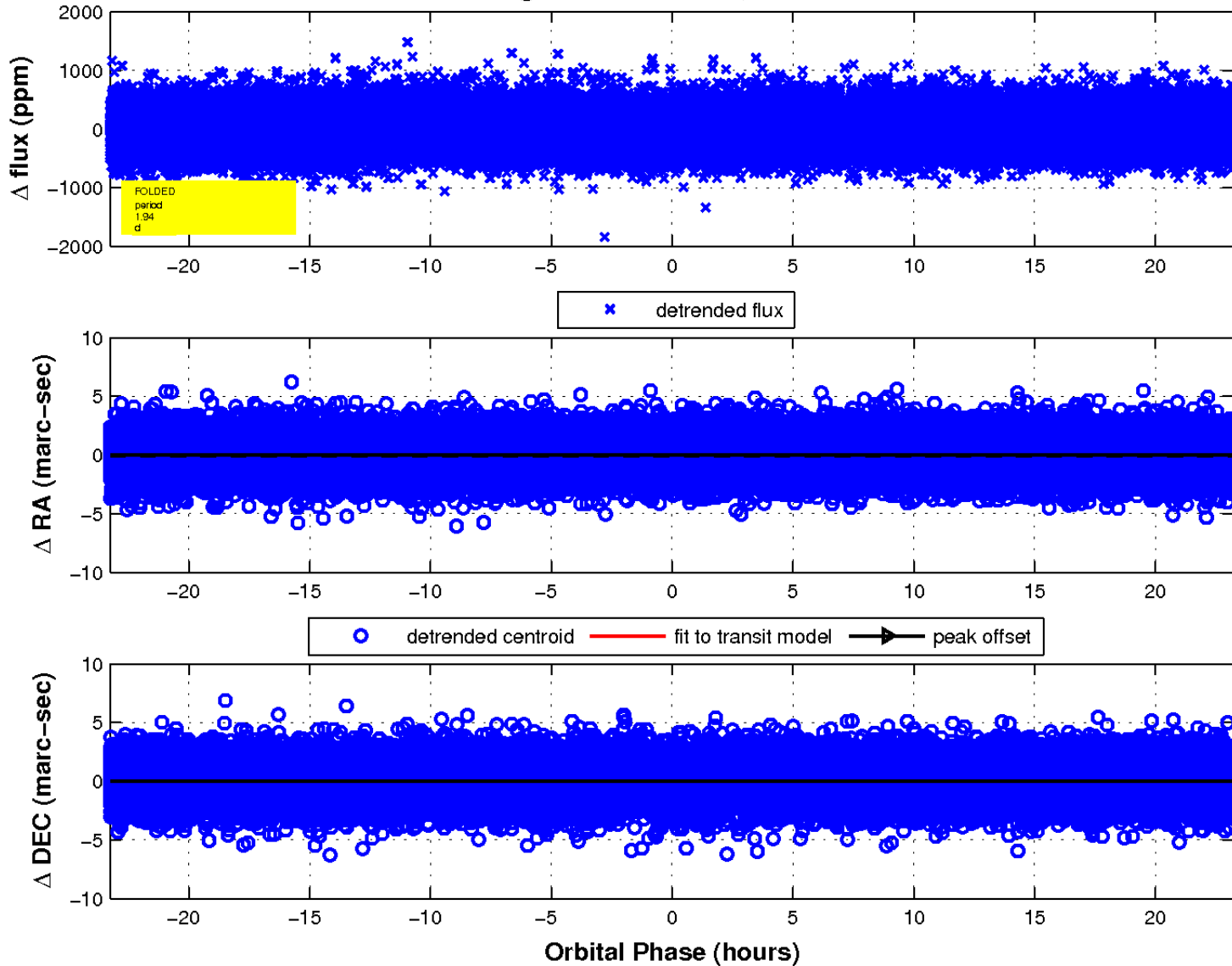
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

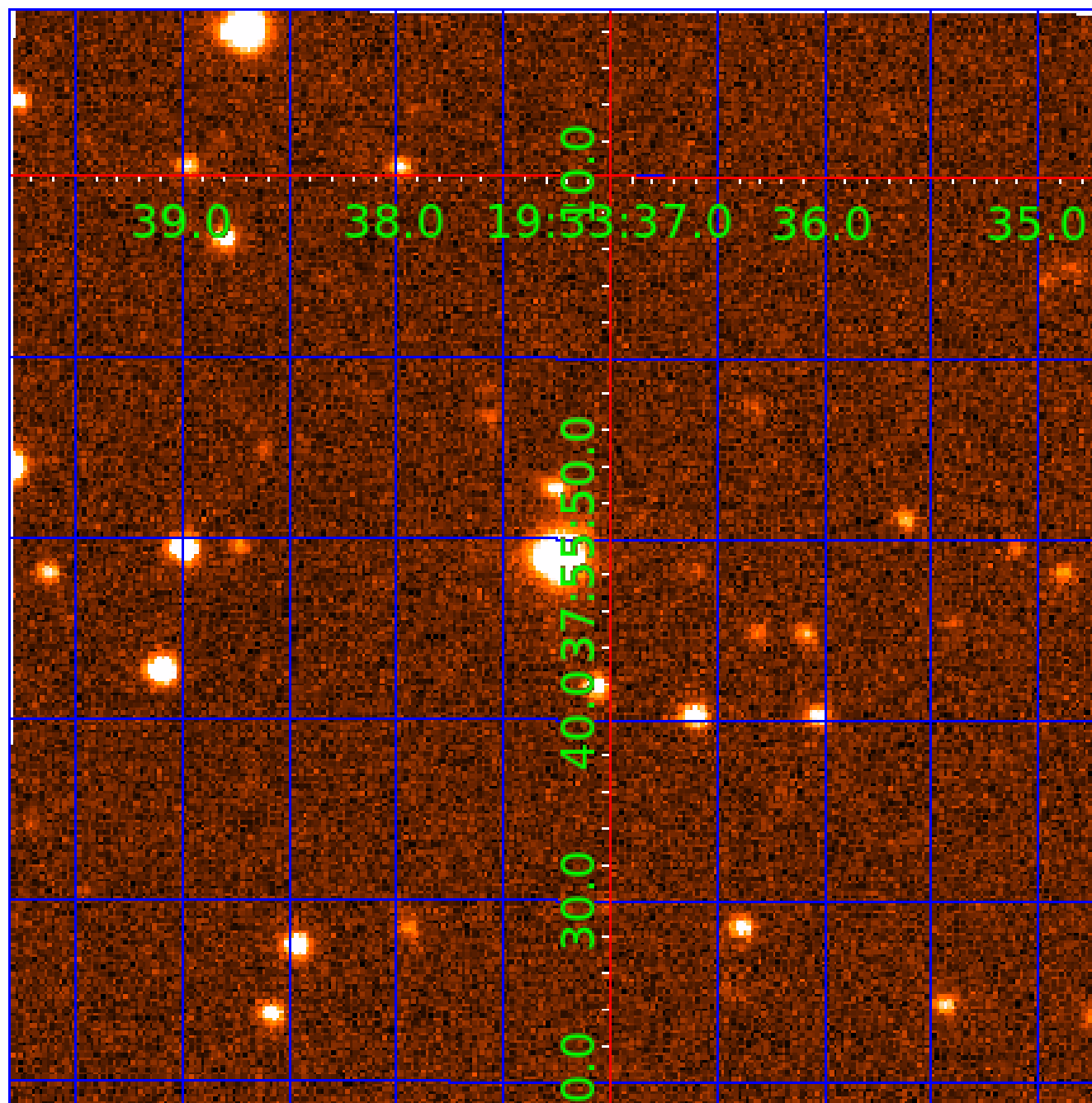


fluxWeightedCentroids, Planet 1 of 3



UKIRT Image

Declination



KIC 002722074

Q1-17 DR25 TCE Parameters

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

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002722074-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
002722074-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
002722074-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

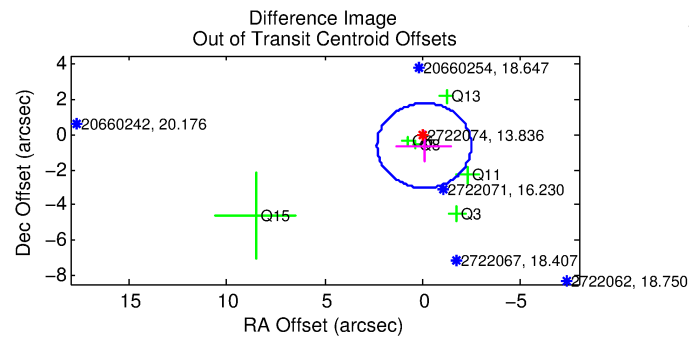
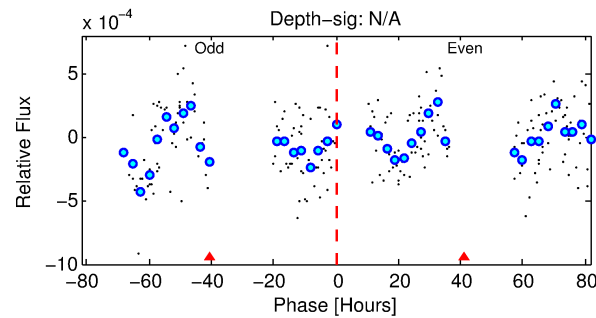
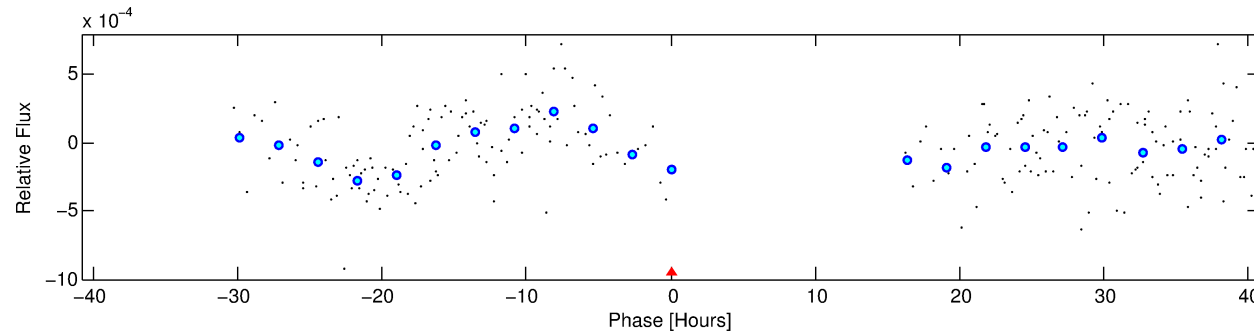
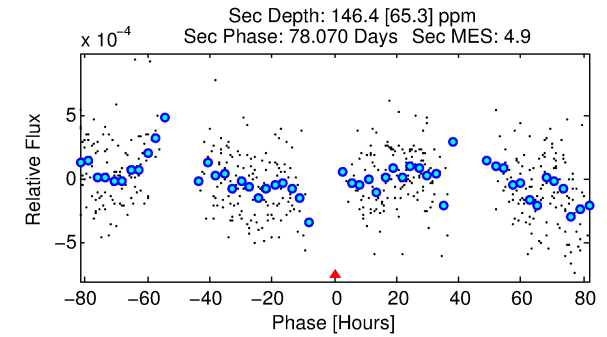
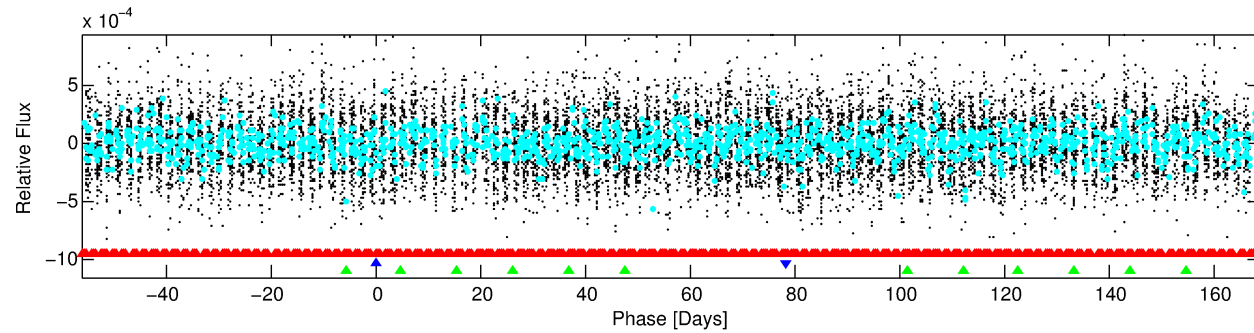
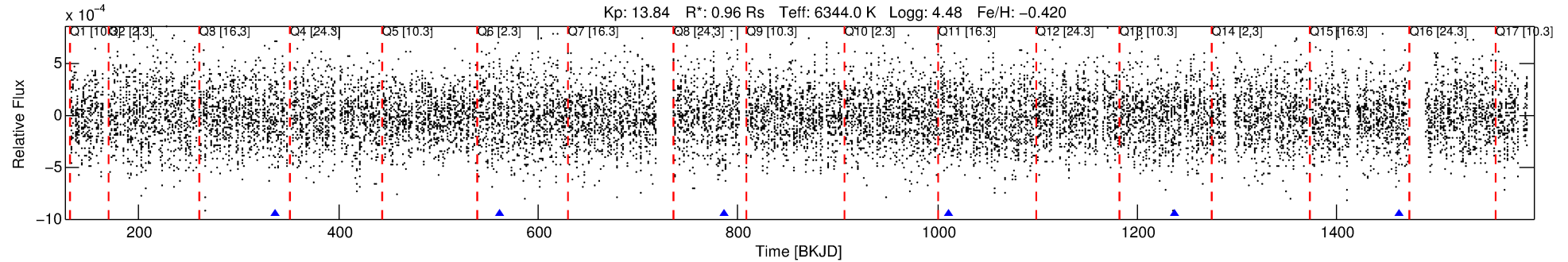
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002722074-02

No Significant Match Found

DV One-Page Summary

KIC: 2722074 Candidate: 2 of 3 Period: 225.028 d



TPS TCE Results:

Period = 225.02799 d
Epoch = 335.7308 BKJD

DV fit results are unavailable

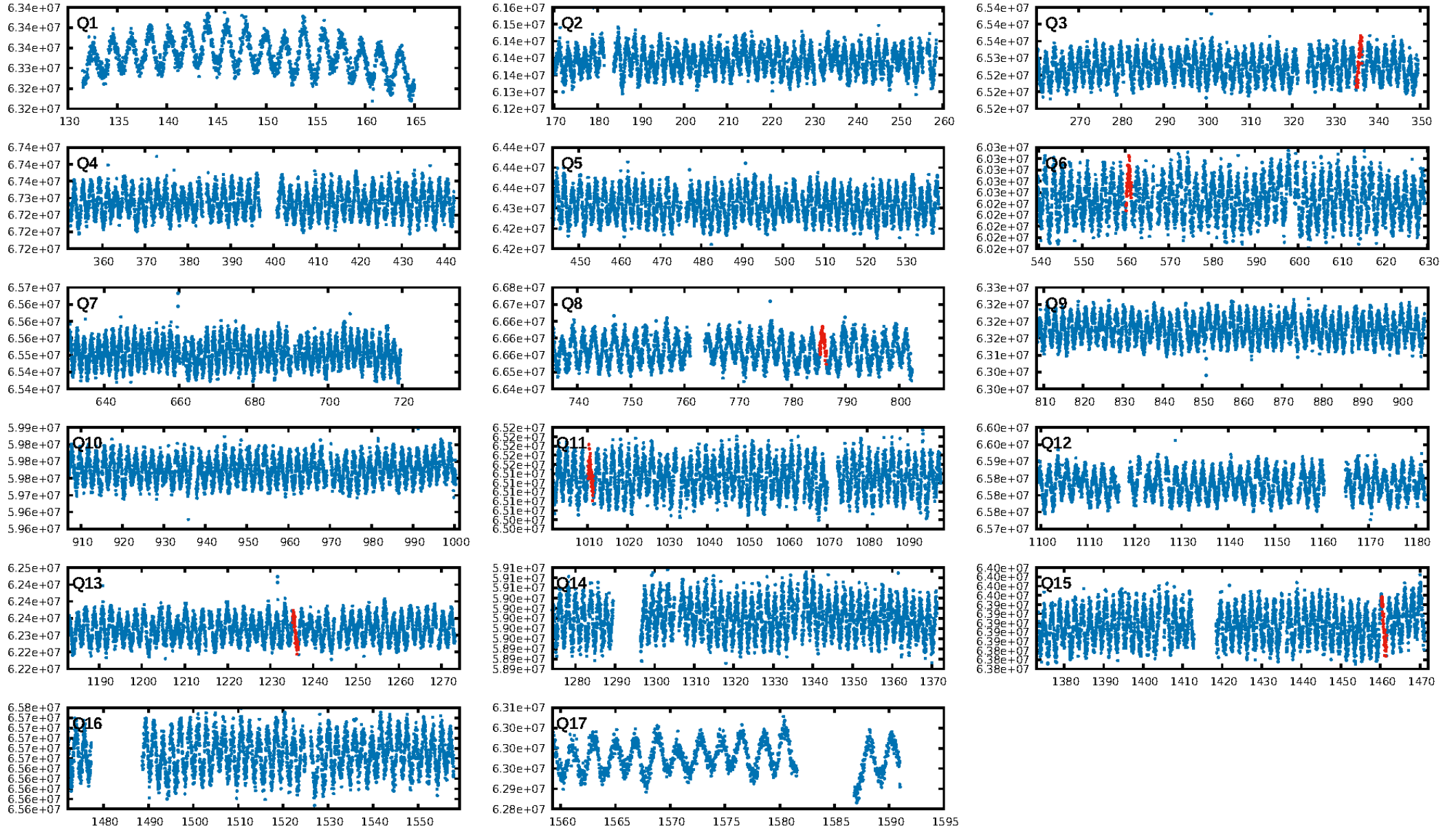
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [136.58σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.19e-88
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.5349
Centroid-sig: 14.1%
Centroid-so: 0.912 arcsec [1.48σ]
OotOffset-rm: 0.630 arcsec [0.78σ]
KicOffset-rm: 0.598 arcsec [0.60σ]
OotOffset-st: 1/3/1/1 [6]
KicOffset-st: 1/3/1/1 [6]
DiffImageQuality-fgm: 0.67 [4/6]
DiffImageOverlap-fno: 0.00 [0/6]

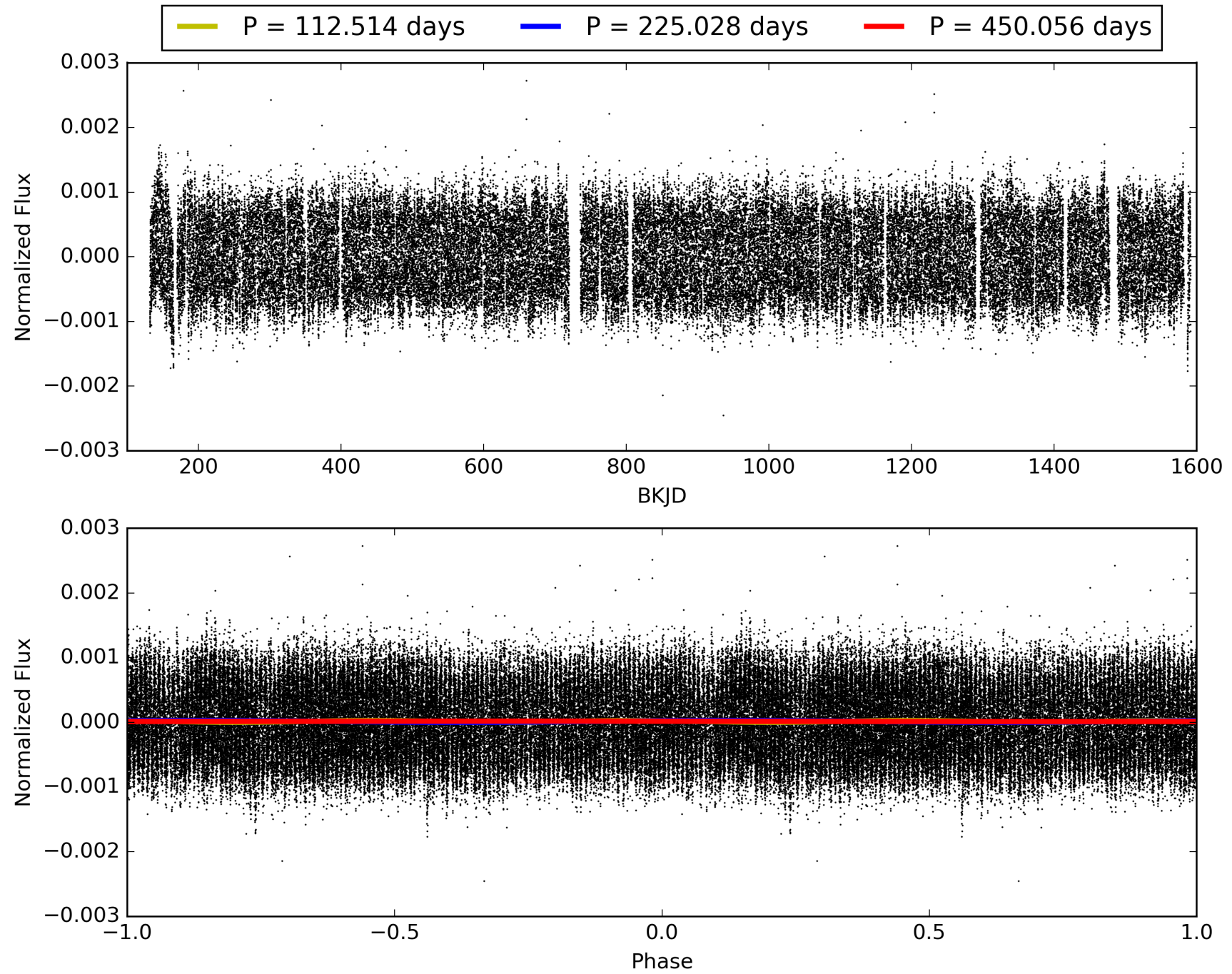
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:21:00 Z

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

TCE 002722074-02, PDC Light Curves

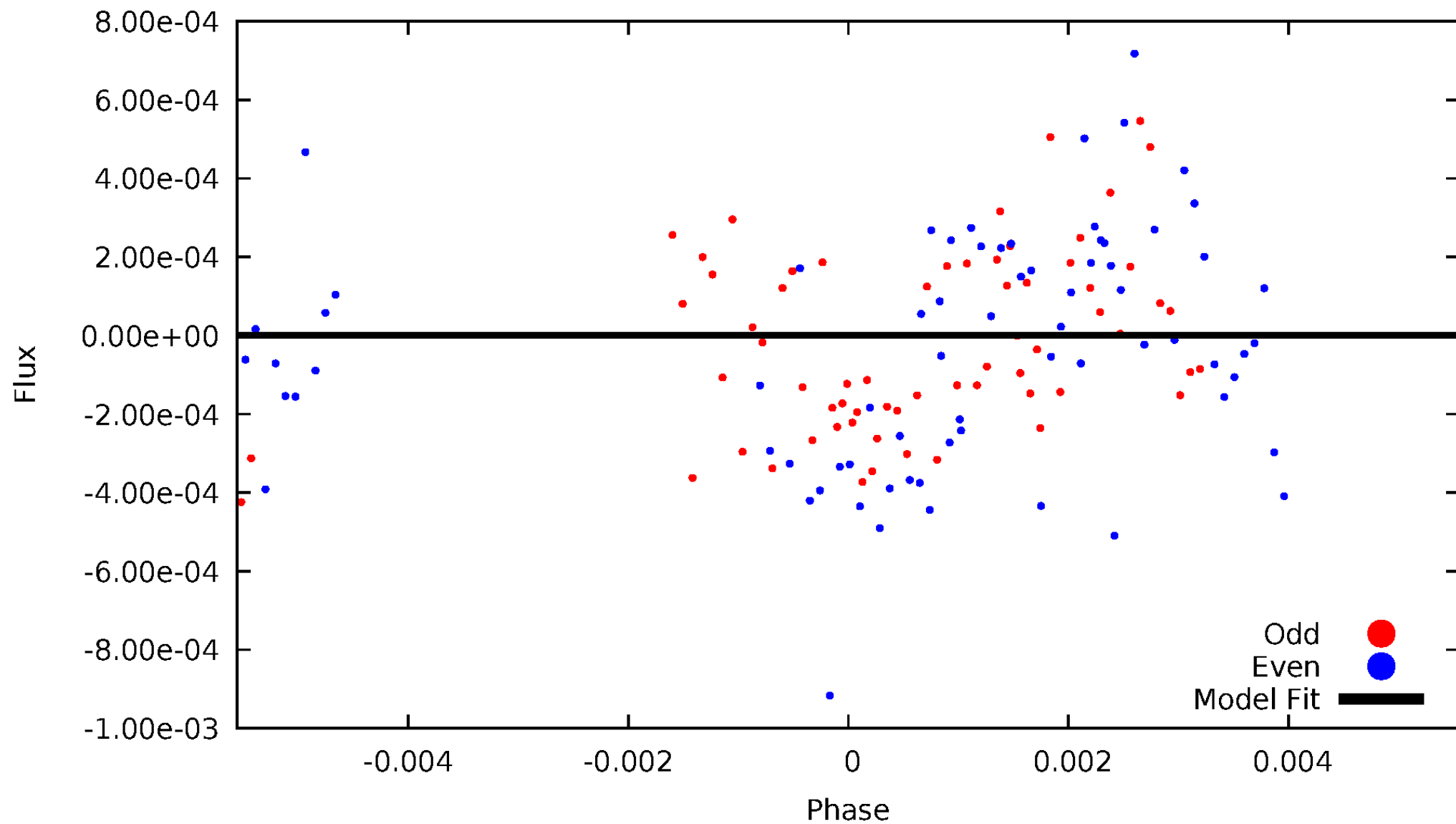


TCE 002722074-02



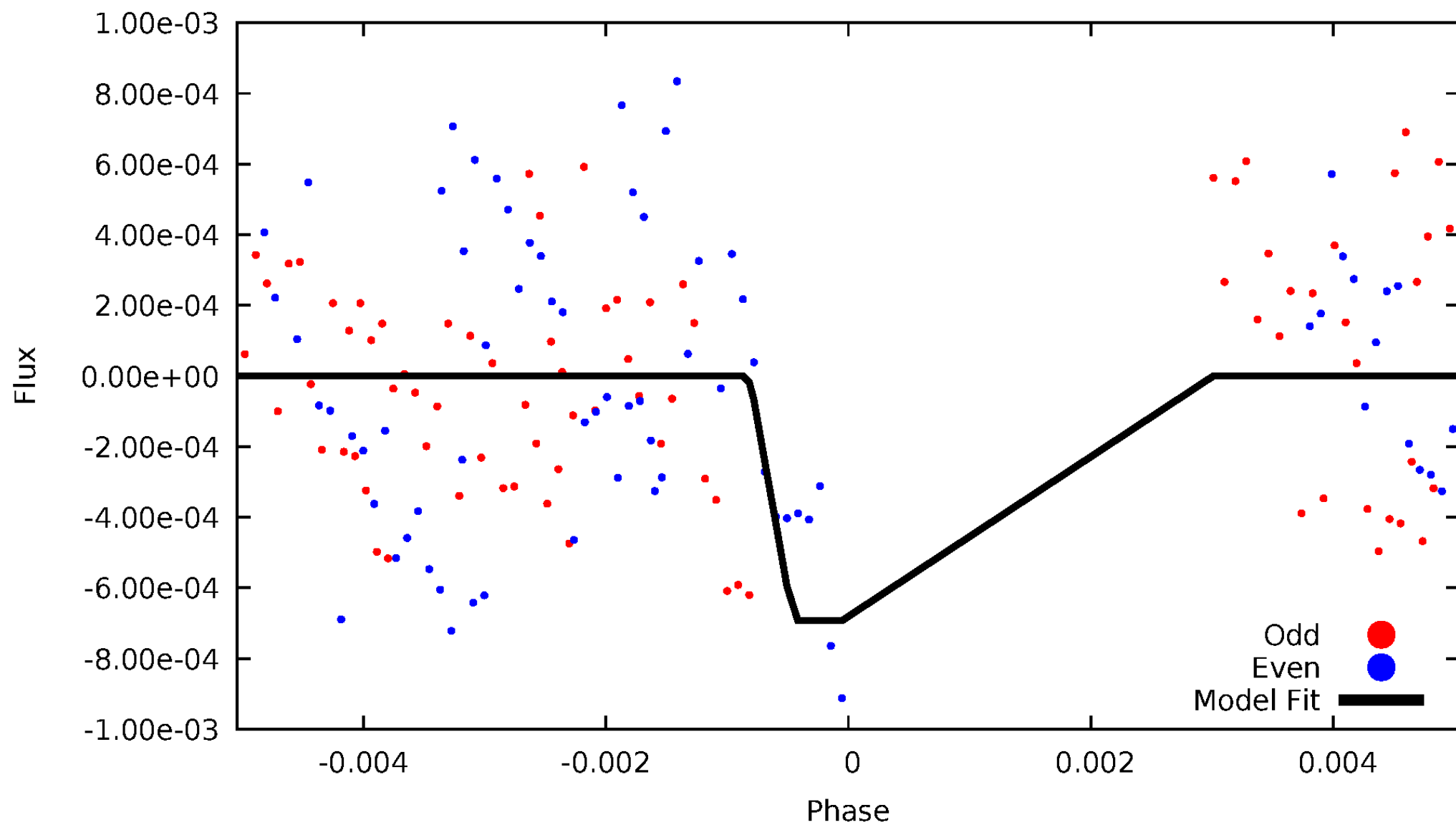
DV Odd/Even

TCE 002722074-02



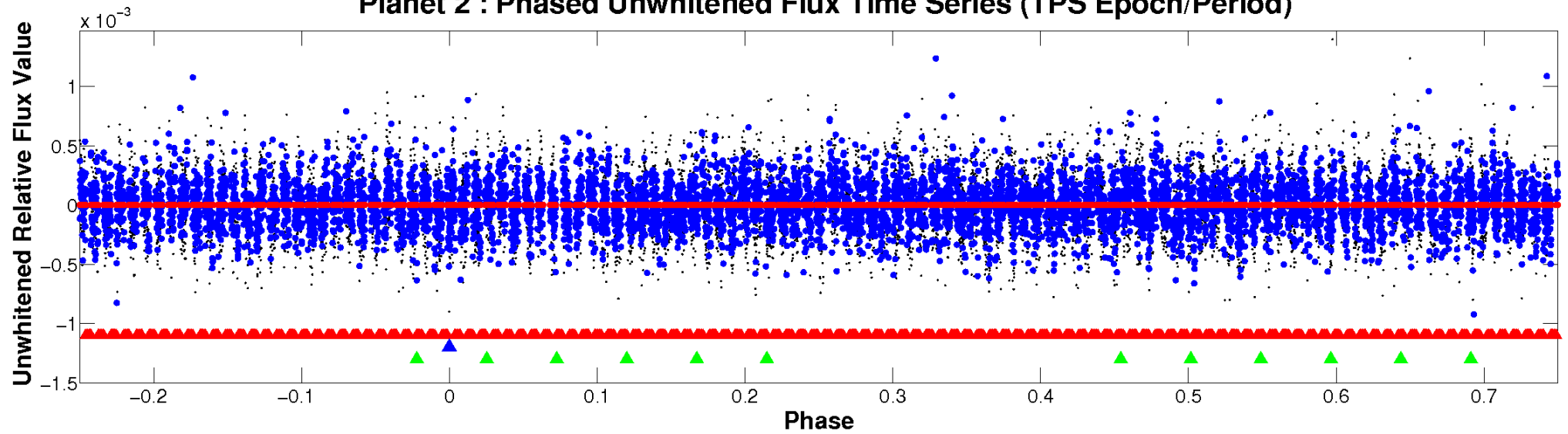
ALT Odd/Even

TCE 002722074-02

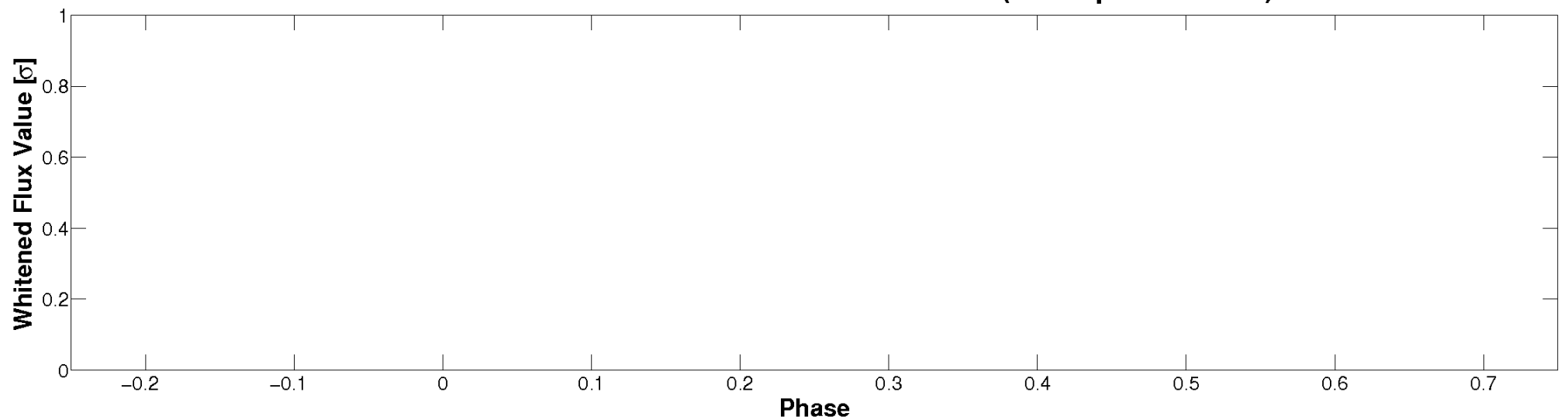


Non-Whitened Vs. Whitened Light Curve

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

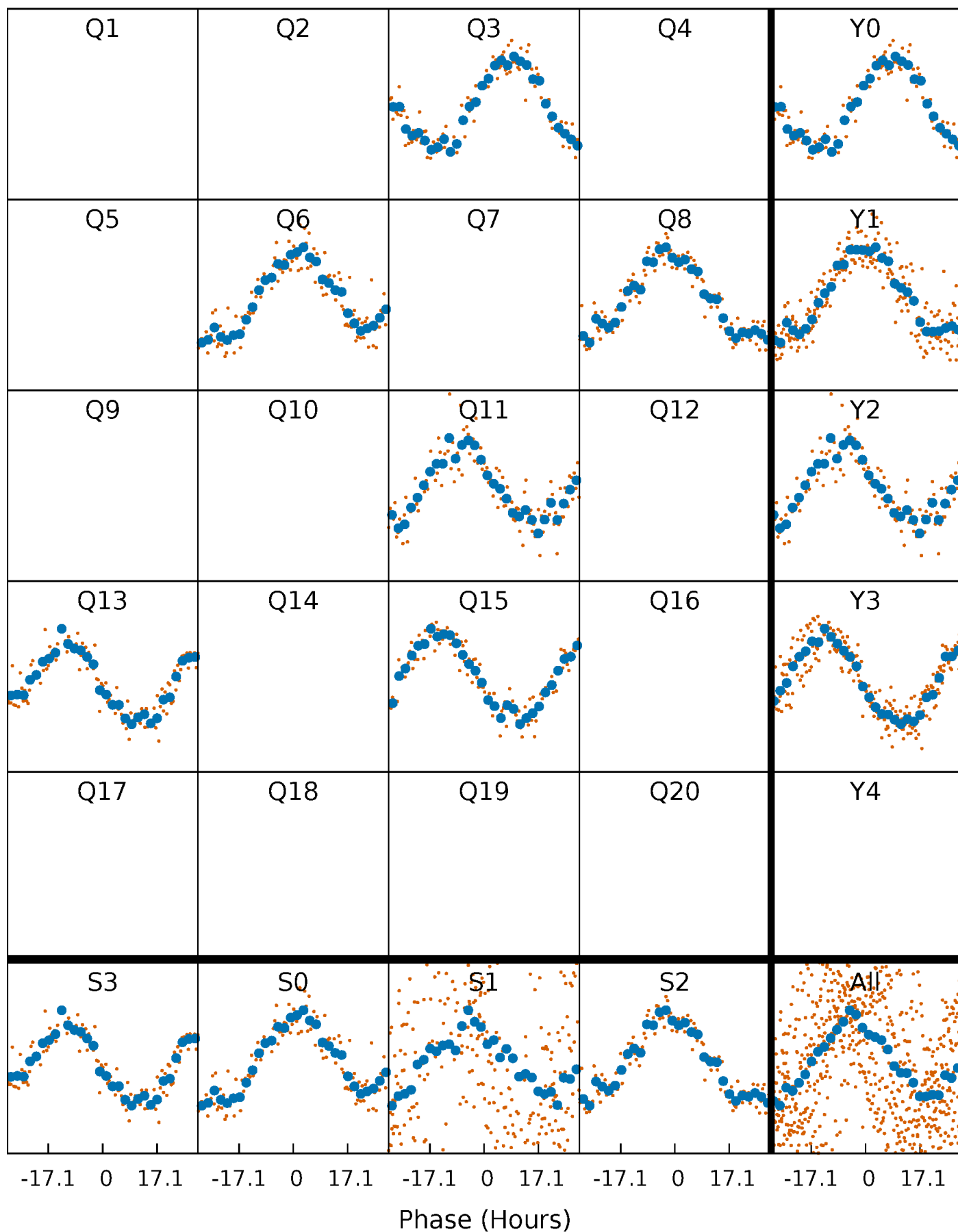


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



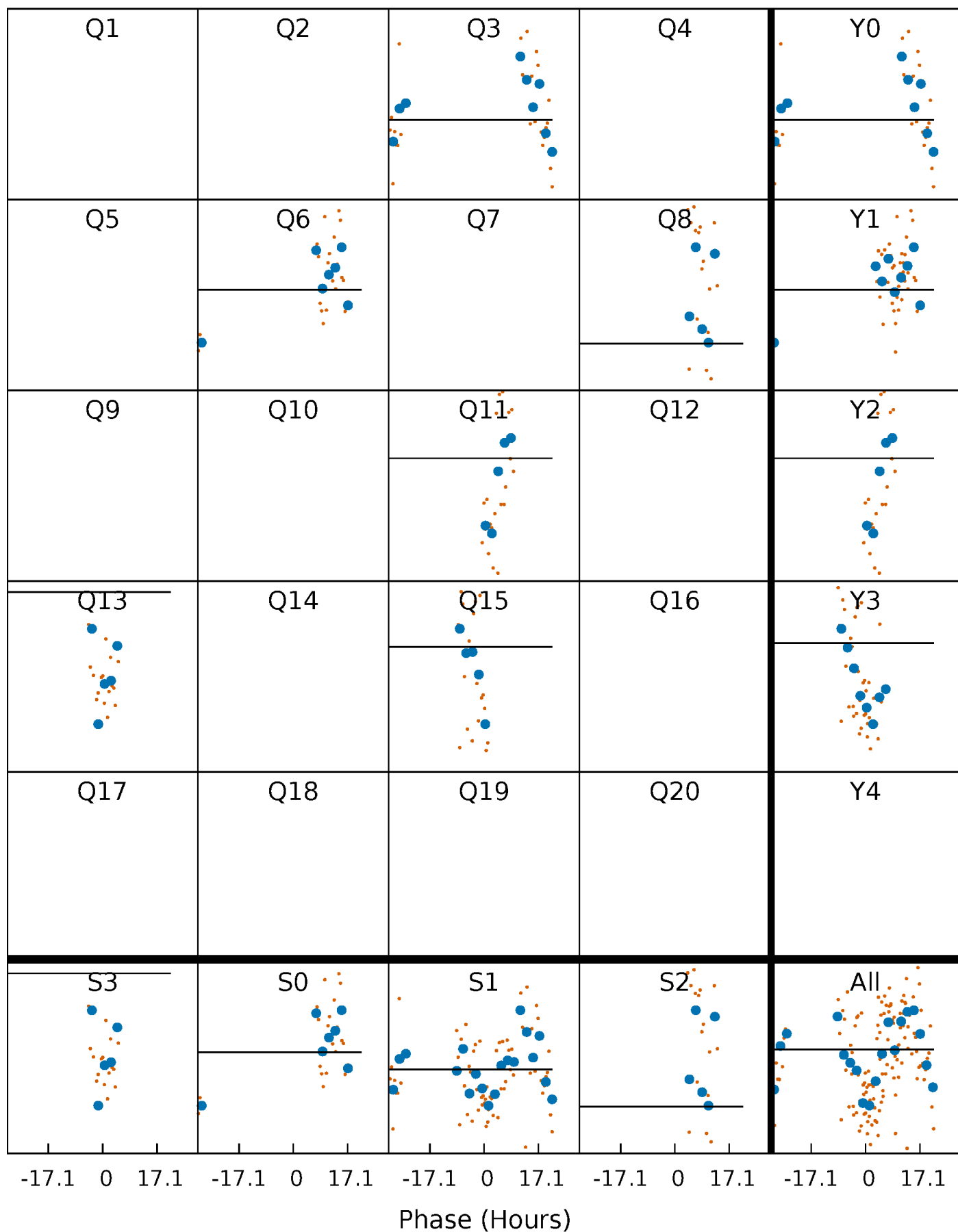
PDC Quarter-Phased Transit Curves

TCE 002722074-02 $P=225.027985$ Days $T_0=335.730804$ (BKJD)



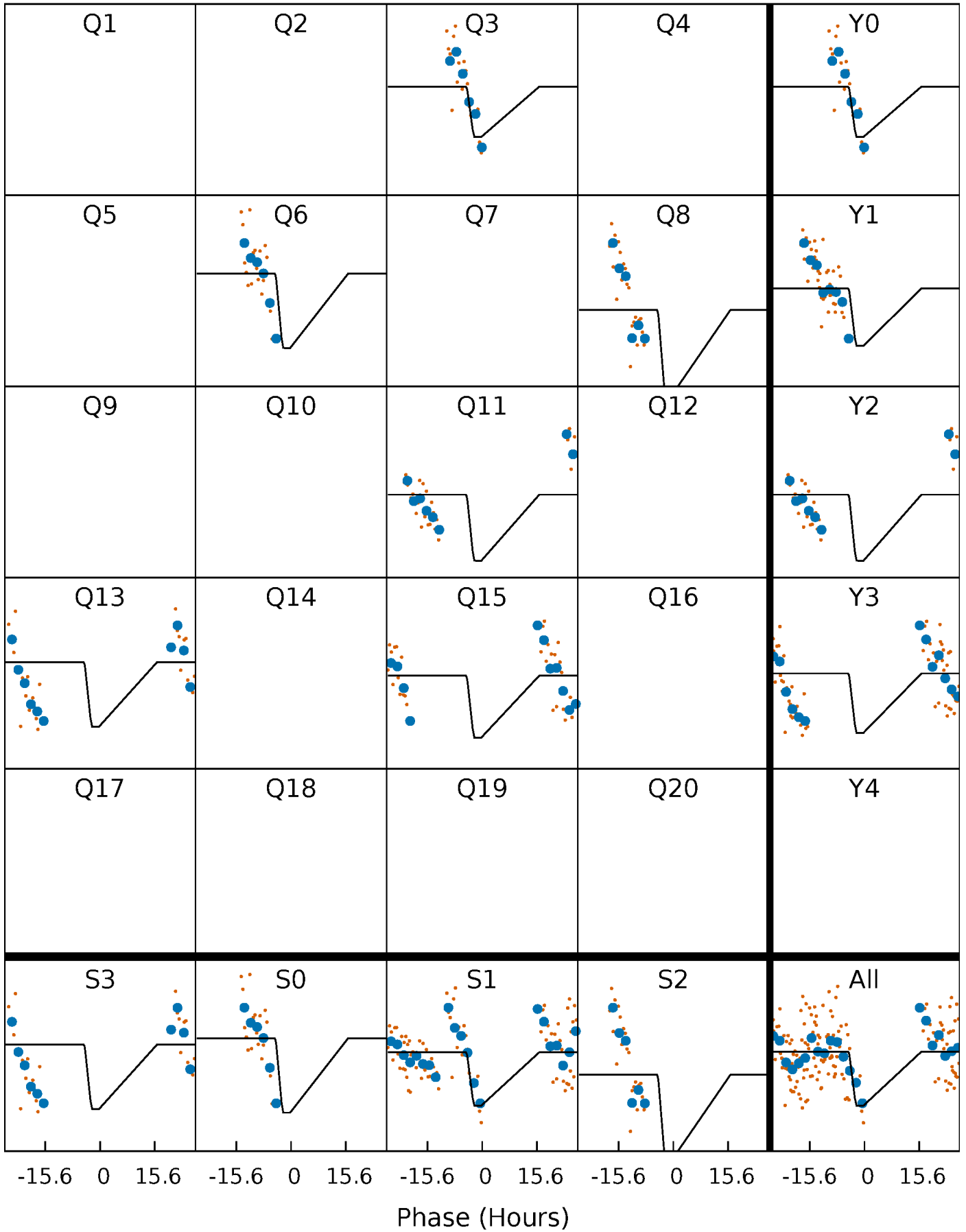
DV Quarter-Phased Transit Curves

TCE 002722074-02 P=225.027985 Days $T_0=335.730804$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

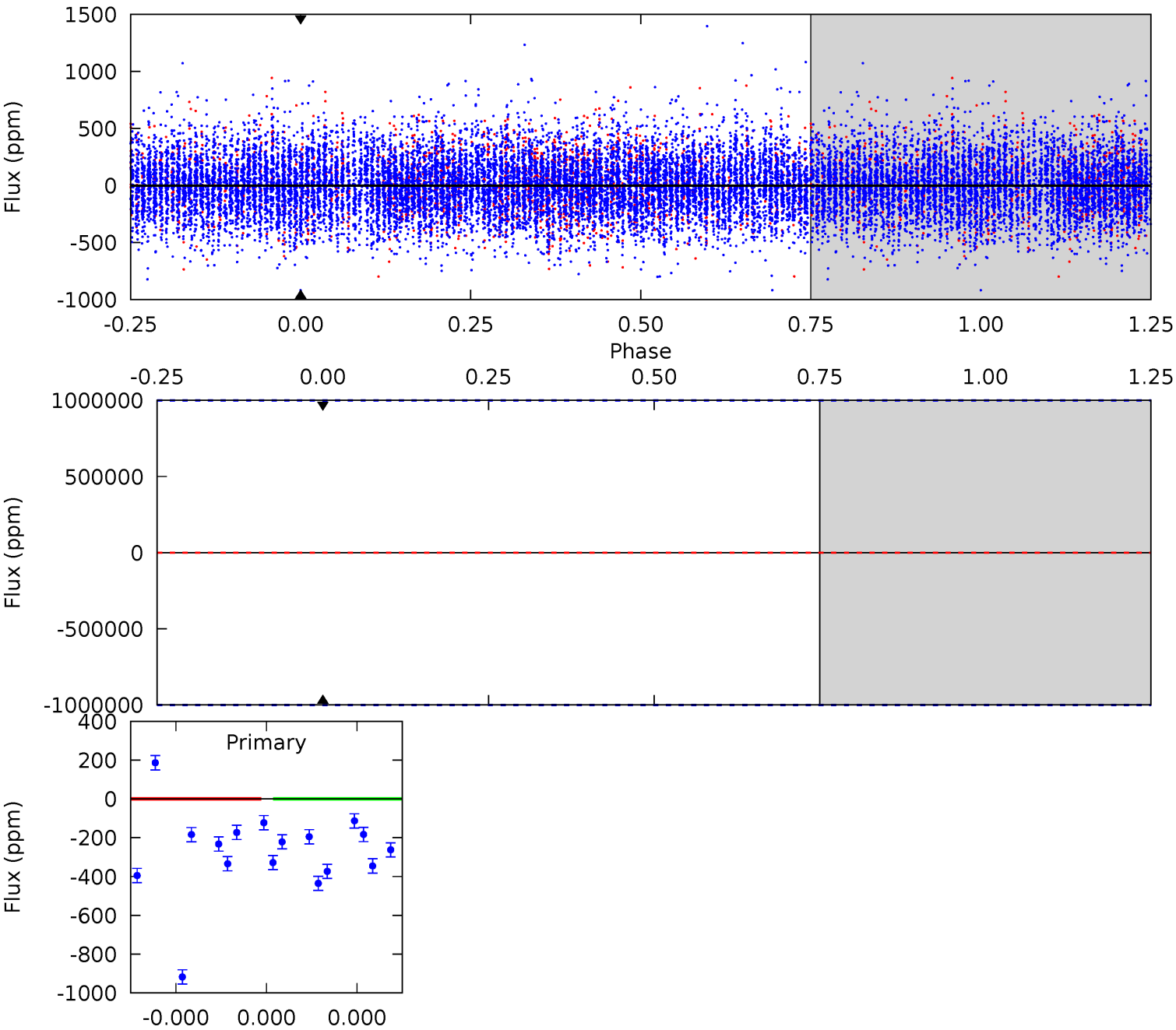
TCE 002722074-02 P=225.027985 Days $T_0=336.634516$ (BKJD)



DV Model-Shift Uniqueness Test

002722074-02, P = 225.027985 Days, E = 110.702819 Days

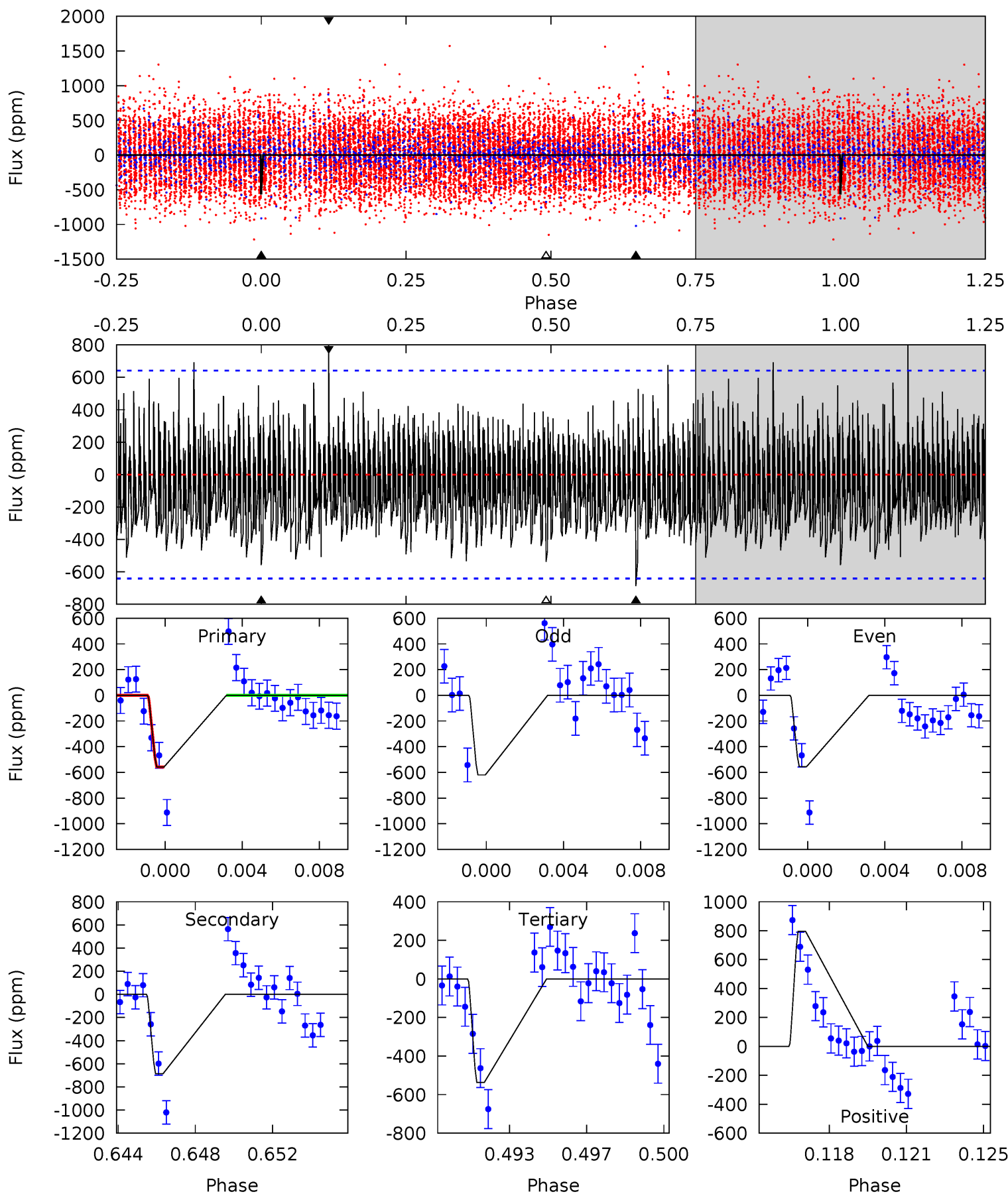
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

002722074-02, P = 225.027985 Days, E = 111.606531 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.53	5.58	4.37	6.47	5.21	2.90	1.31	0.16	-1.94	1.22	-0.89	0.37	0	0.54	0



Stellar Parameters For KIC 002722074

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6344^{+158}_{-206}	$4.481^{+0.054}_{-0.216}$	$-0.420^{+0.300}_{-0.300}$	$0.962^{+0.303}_{-0.101}$	$1.024^{+0.132}_{-0.132}$	$1.618^{+0.359}_{-0.897}$
	+2%/-3%	+1%/-5%	+71%/-71%	+31%/-10%	+13%/-13%	+22%/-55%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 002722074-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$8.49^{+8.33}_{-5.63}$	457^{+35}_{-22}	-4431^{+32223}_{-18360}	$-4306.077^{+874398.351}_{-628039.643}$
Alt.	-687 ± 123	$8.49^{+9.02}_{-5.88}$	456^{+34}_{-22}	3984^{+2608}_{-785}	2655^{+25682}_{-2029}

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

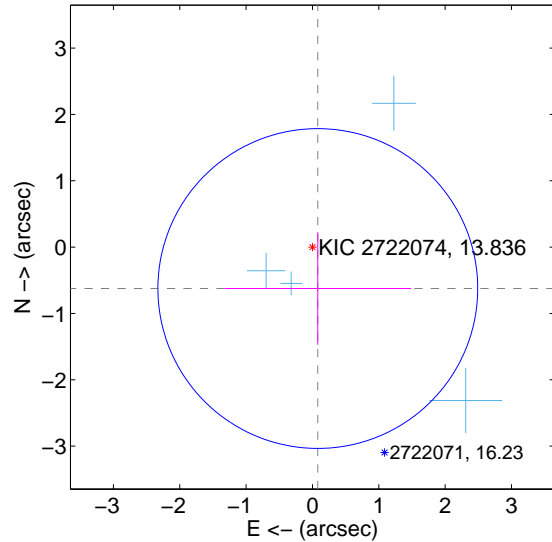
Supplemental centroid analysis for 002722074-02. Kepler magnitude: 13.84. Transit SNR -1.00

There are 4 quarters with good PRF difference image offsets

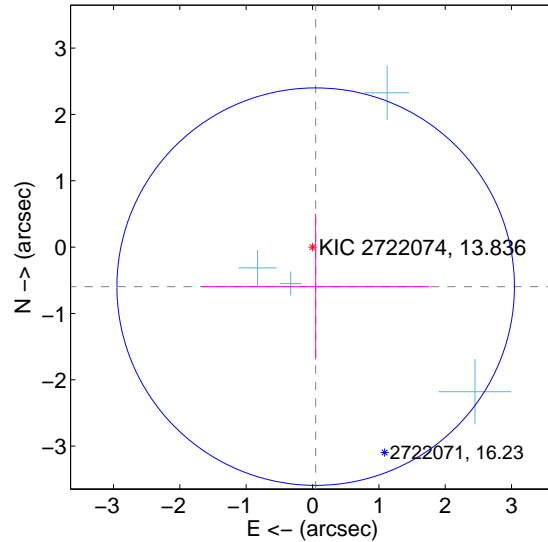
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.630 ± 0.803	0.78	-0.081 ± 1.406	-0.624 ± 0.847
PRF-fit source offset from KIC position	0.598 ± 0.998	0.60	-0.048 ± 1.716	-0.596 ± 1.098
photometric centroid source offset	0.91 ± 0.62	1.48	-0.61 ± 0.66	-0.68 ± 0.58

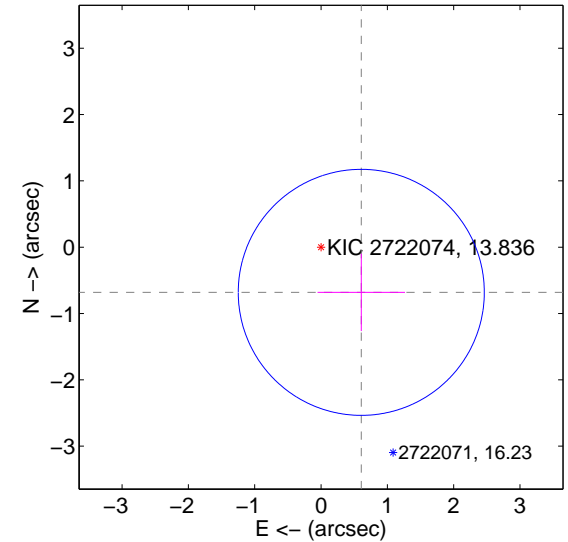
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

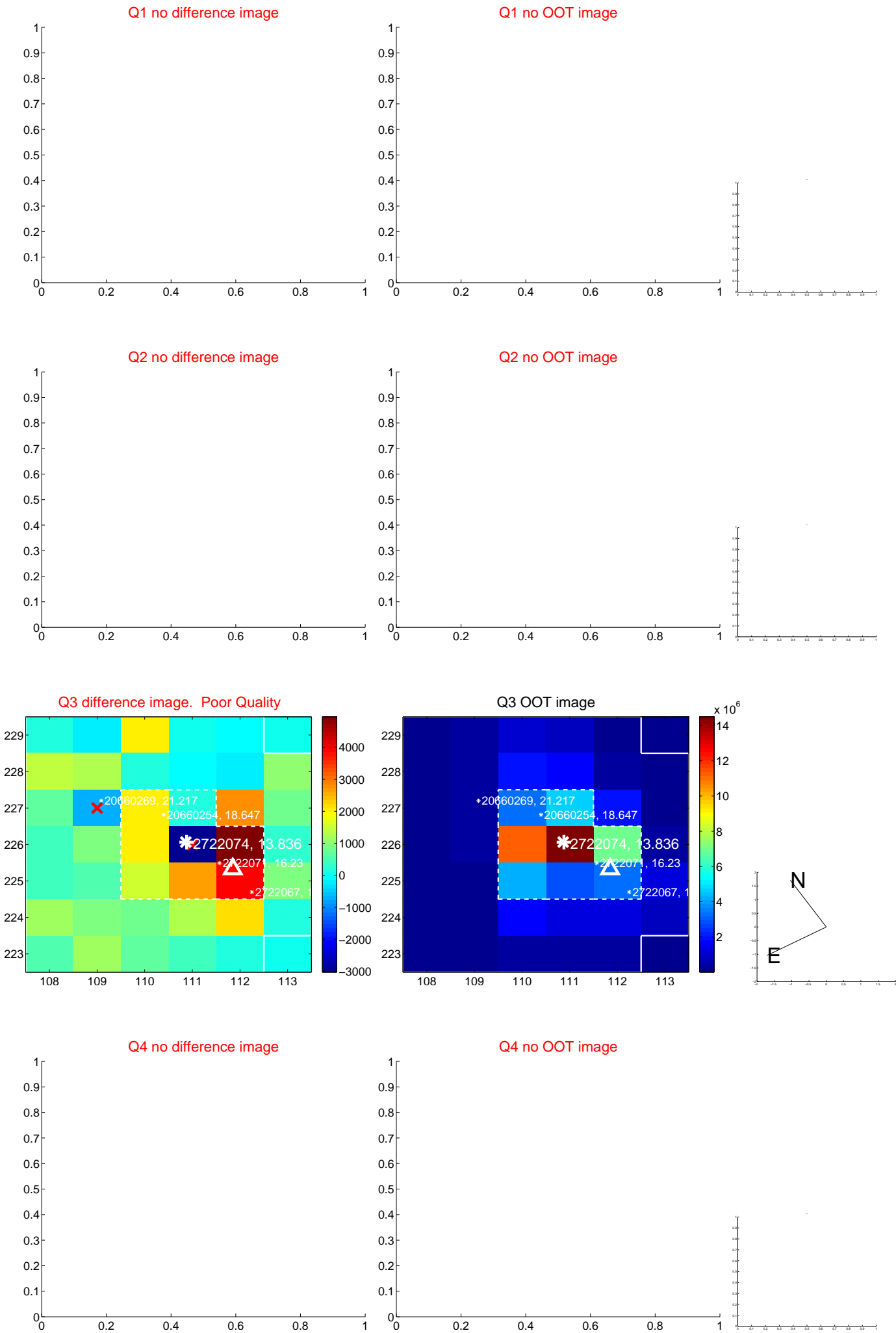


offset from photometric centroids

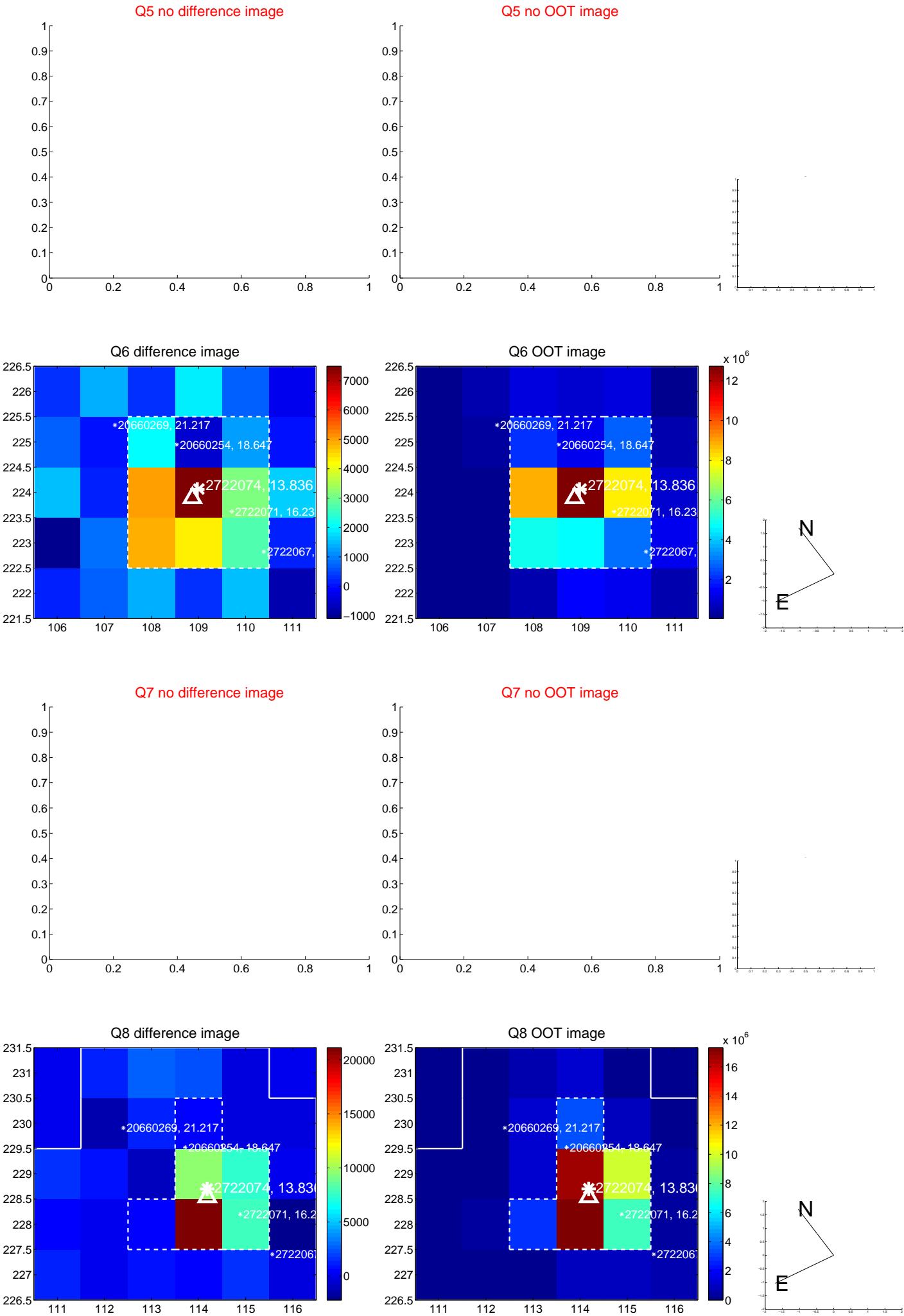


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

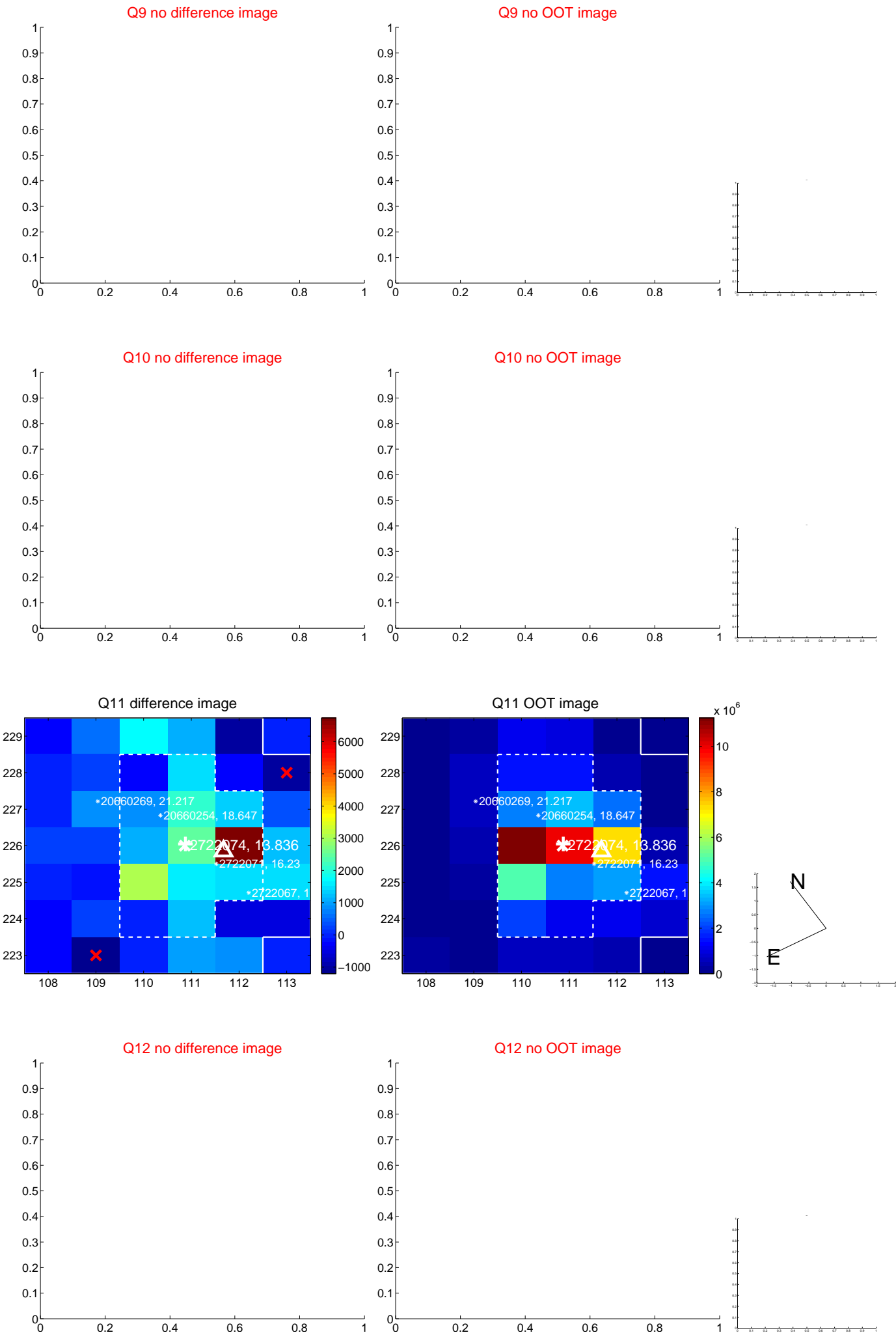
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



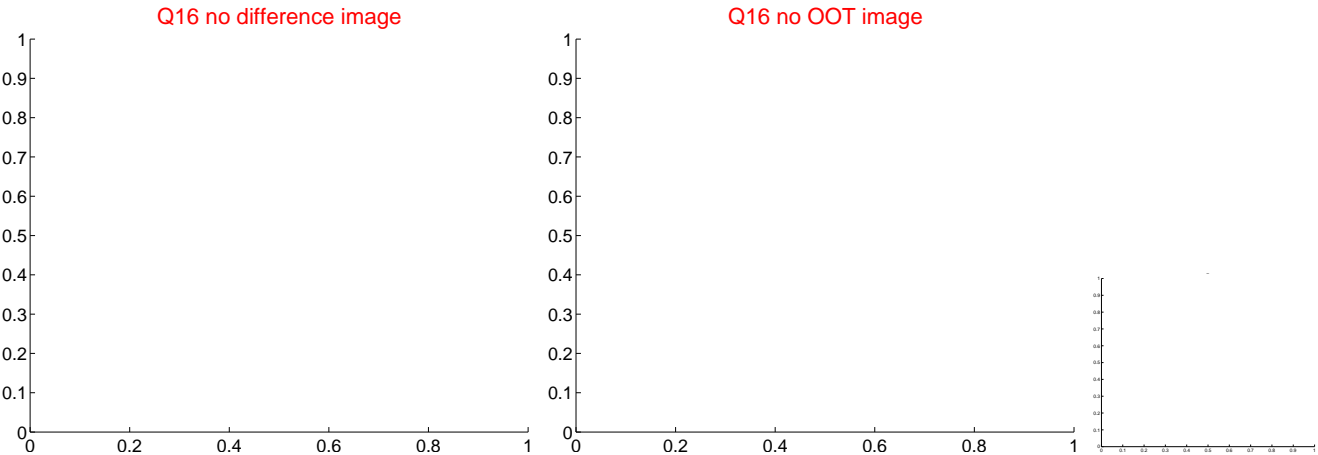
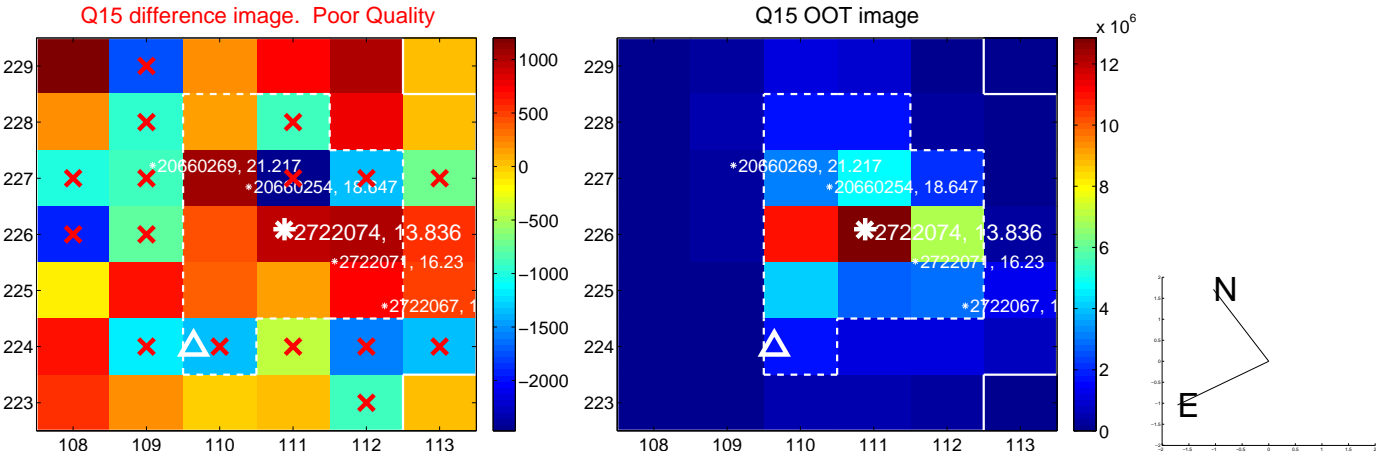
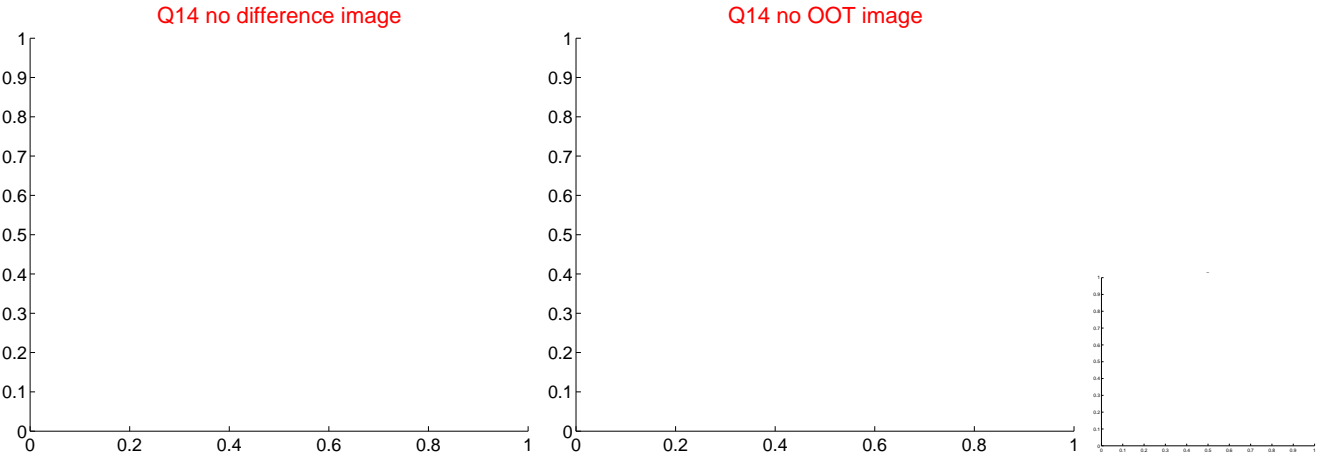
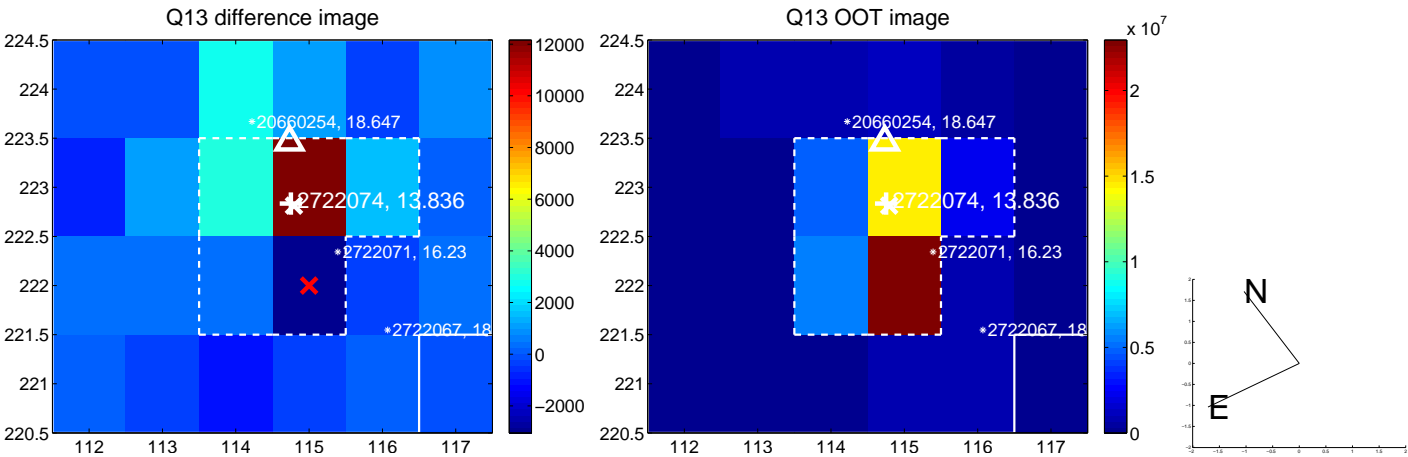
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



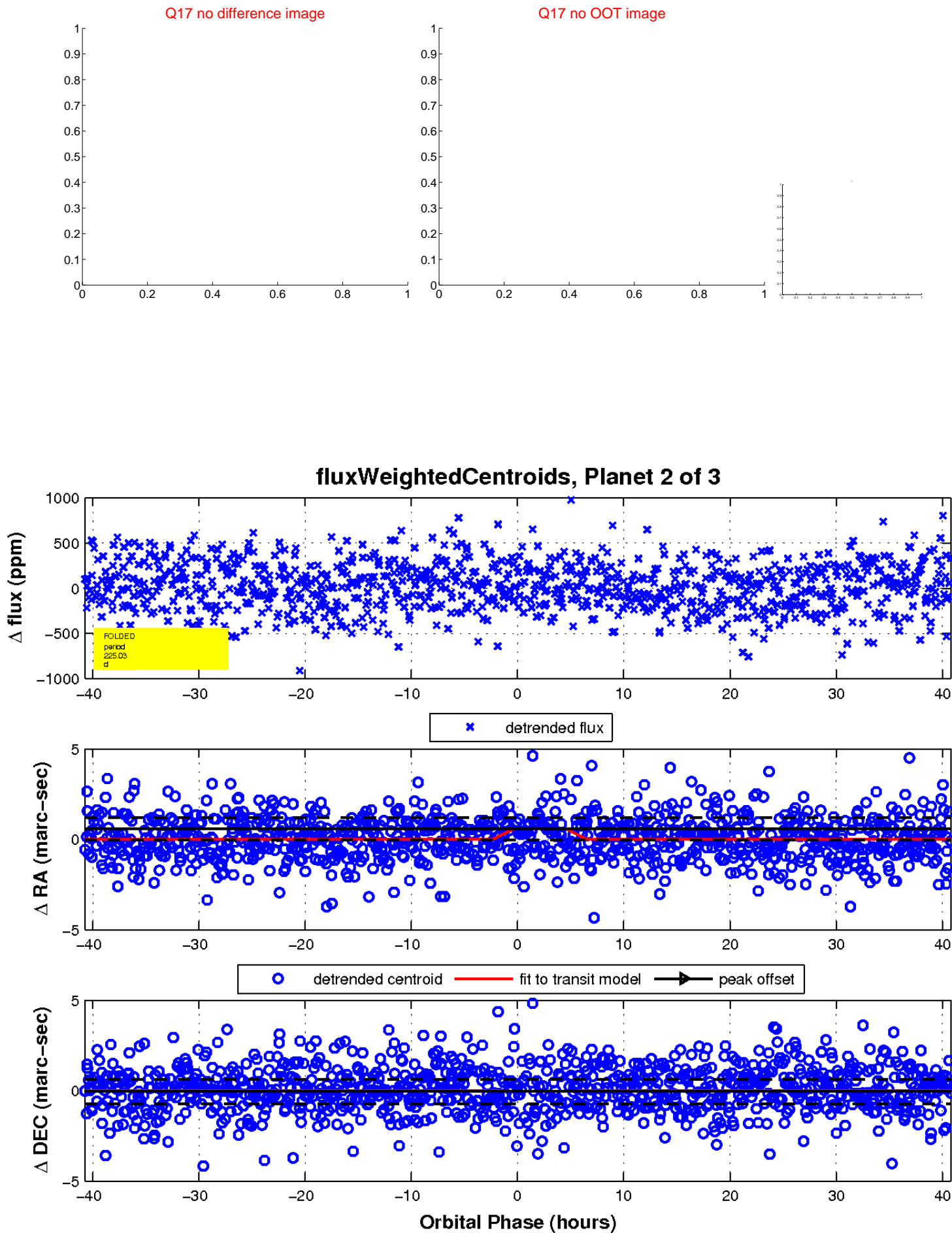
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

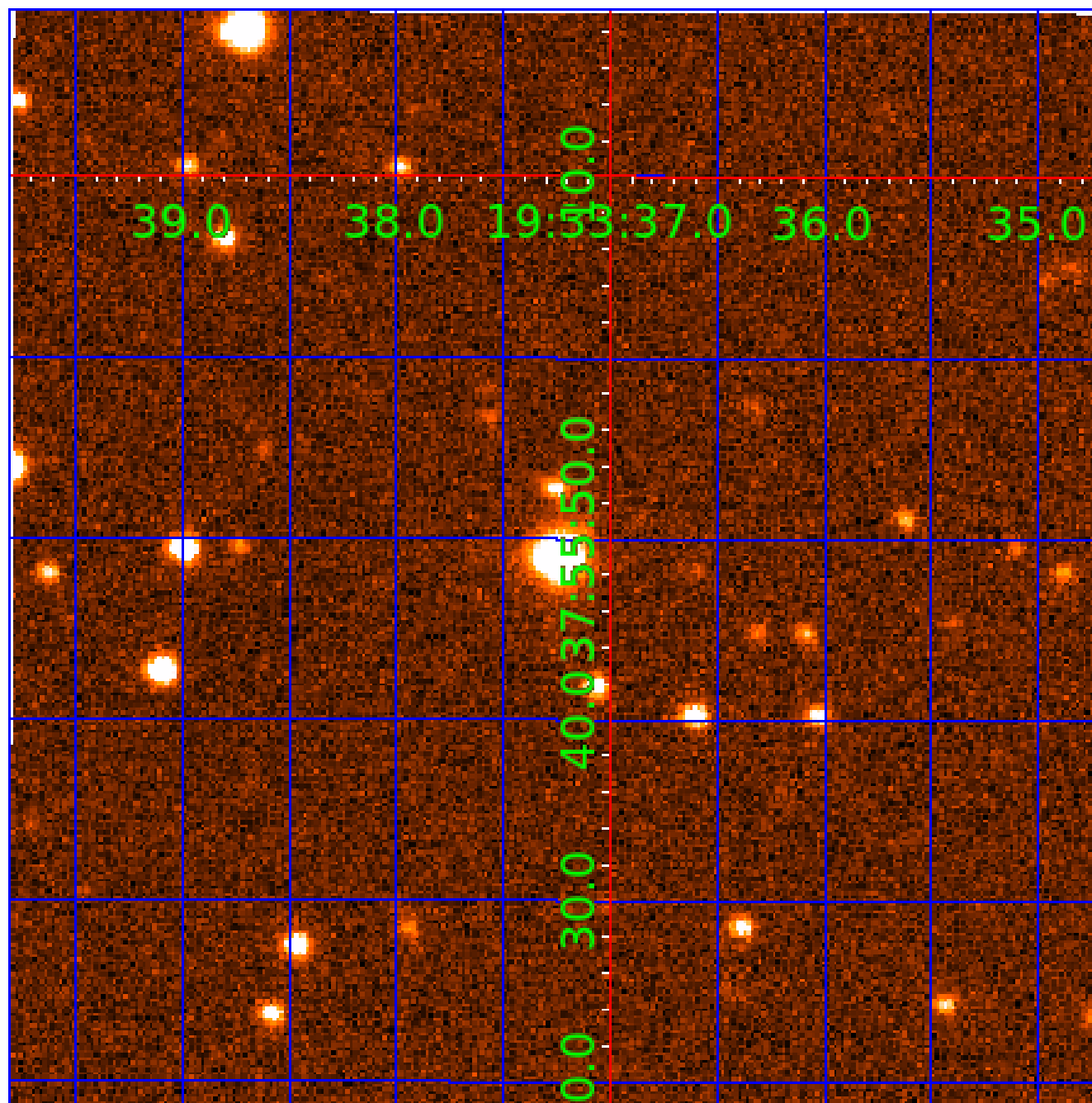


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 002722074

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})
002722074-01	OBS	No	1.938472	131.902287	30.5	11.900	10.2	9.4	0.96	6344	0.53	1429.50
002722074-02	OBS	No	225.027985	335.730804	794.1	15.000	22.7	-1.0	0.96	6344	2.72	2.52
002722074-03	OBS	No	117.843399	212.927728	341.5	11.391	8.2	8.2	0.96	6344	3.46	5.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002722074-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_ALT
002722074-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_NOFITS
002722074-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

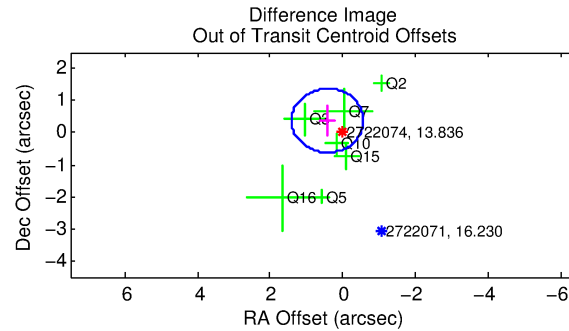
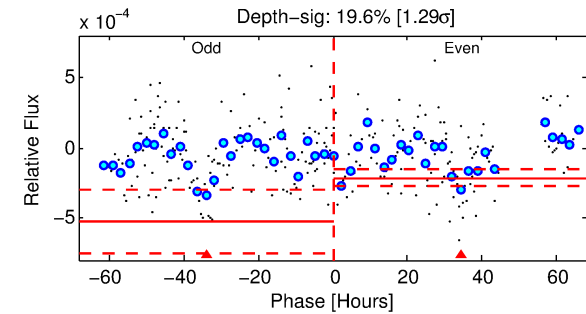
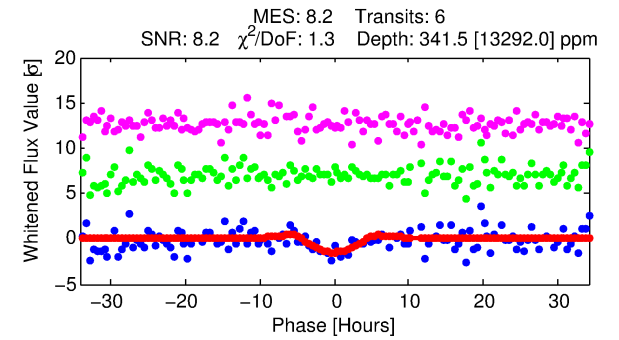
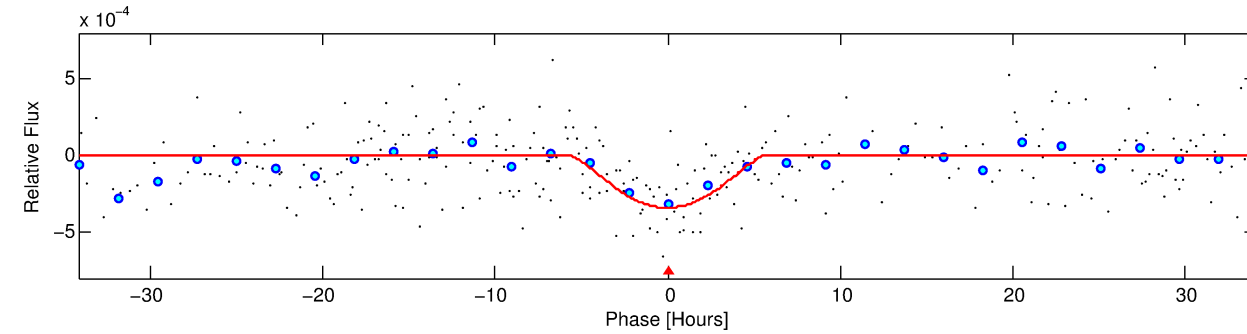
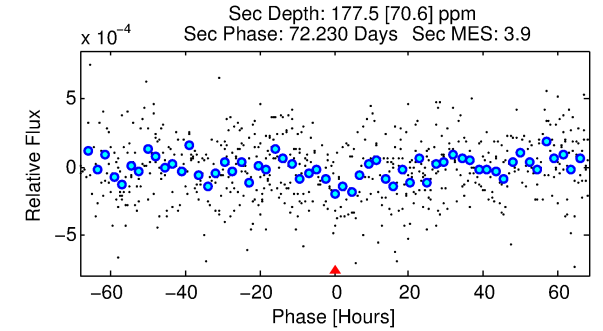
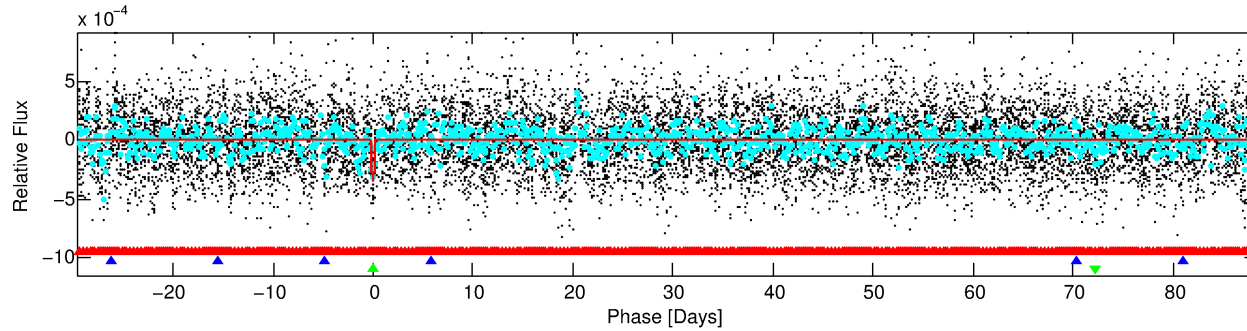
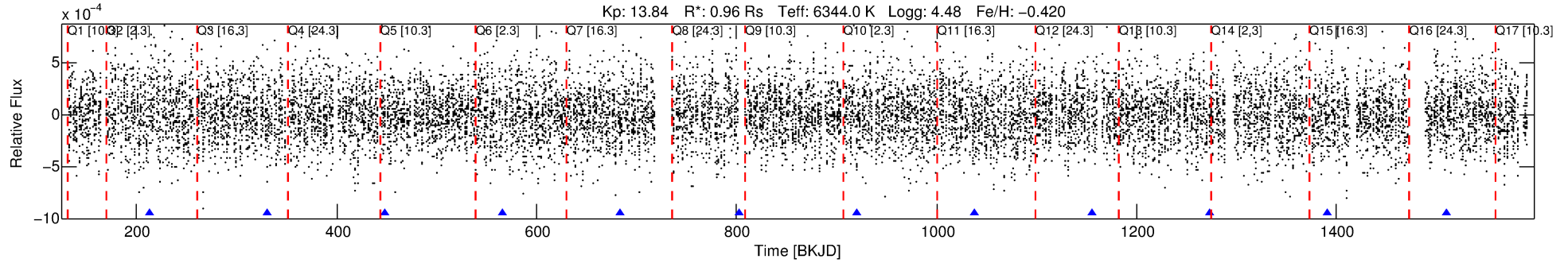
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 002722074-03

No Significant Match Found

DV One-Page Summary

KIC: 2722074 Candidate: 3 of 3 Period: 117.843 d



DV Fit Results:

Period = 117.84340 [0.00437] d
Epoch = 212.9277 [0.0316] BKJD
Rp/R* = 0.0330 [0.1184]
a/R* = 20.50 [19.48]
b = 1.00 [0.71]
Seff = 5.98 [2.47]
Teq = 399 [41] K
Rp = 3.46 [12.48] Re
a = 0.4739 [0.1268] AU
Ag = 1827.13 [13149.28] [0.14σ]
Teffp = 4031 [7242] K [0.50σ]

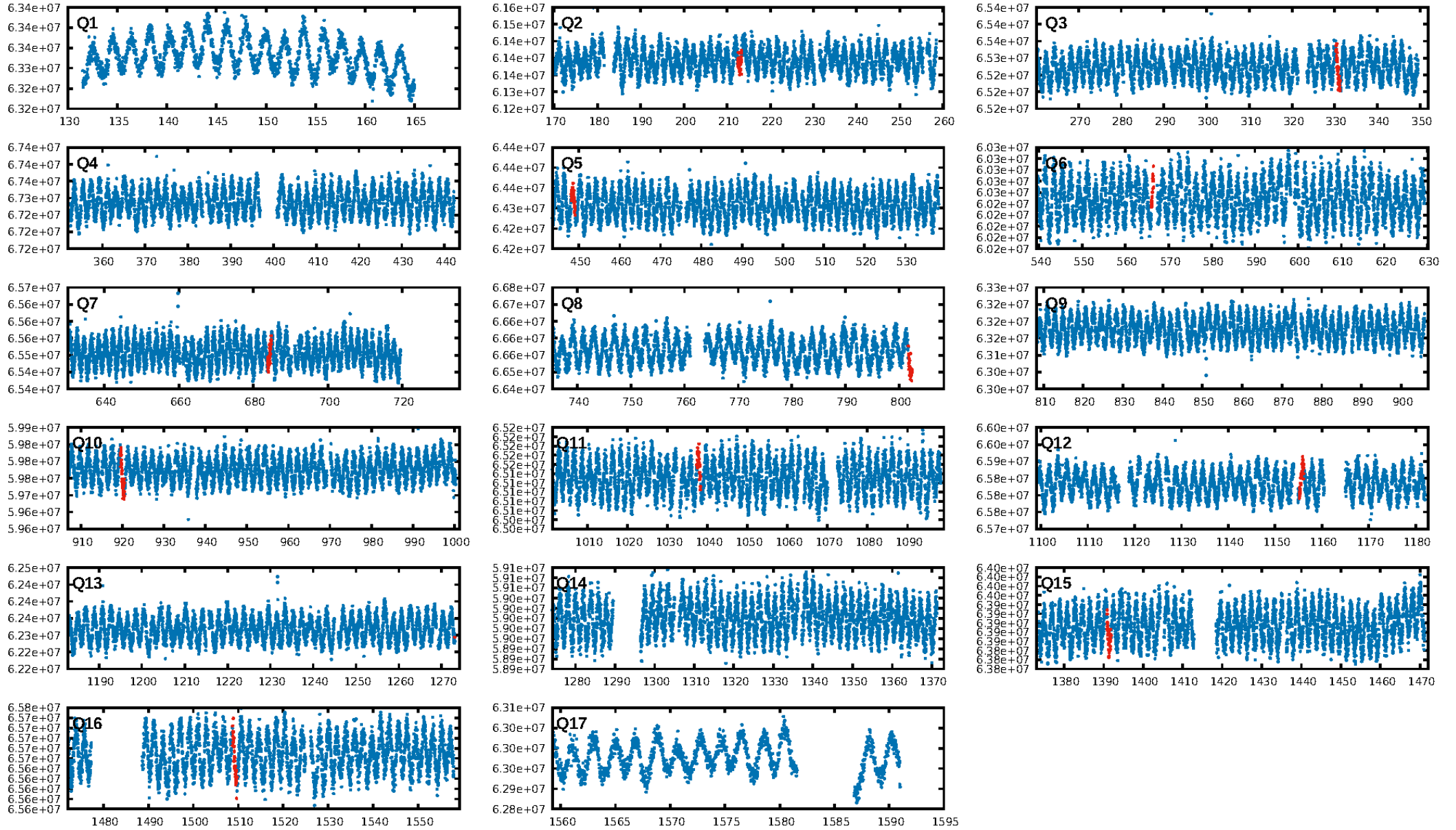
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [168.87σ]
LongPeriod-sig: 100.0% [136.58σ]
ModelChiSquare2-sig: 8.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.10e-08
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 1.228
Centroid-sig: 9.6%
Centroid-so: 2.021 arcsec [2.01σ]
OotOffset-rm: 0.566 arcsec [1.71σ]
OotOffset-st: 2/3/1/1 [7]
KicOffset-rm: 0.601 arcsec [1.89σ]
KicOffset-st: 2/3/1/1 [7]
DiffImageQuality-fgm: 0.57 [4/7]
DiffImageOverlap-fno: 0.00 [0/7]

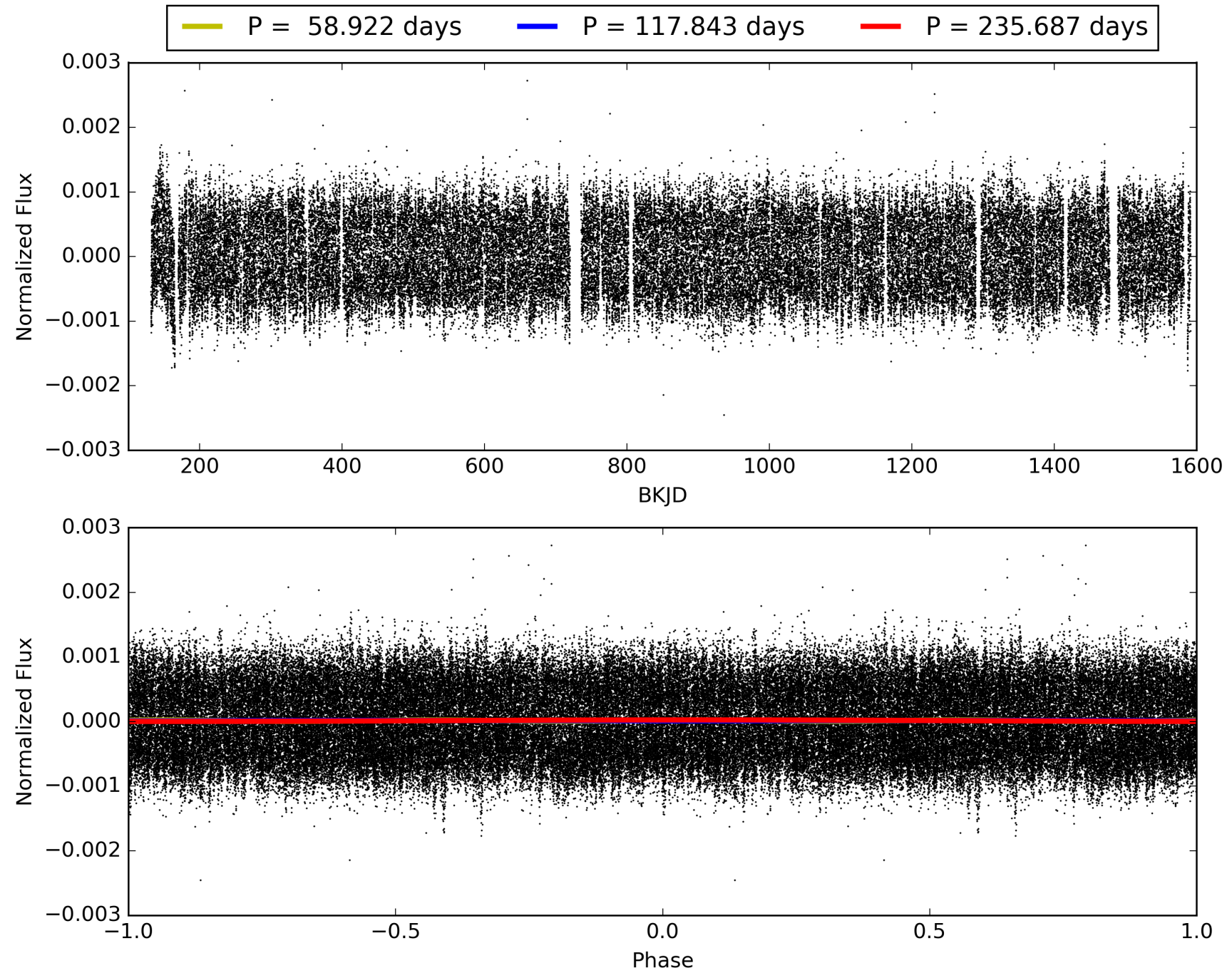
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 02:21:04 Z

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

TCE 002722074-03, PDC Light Curves

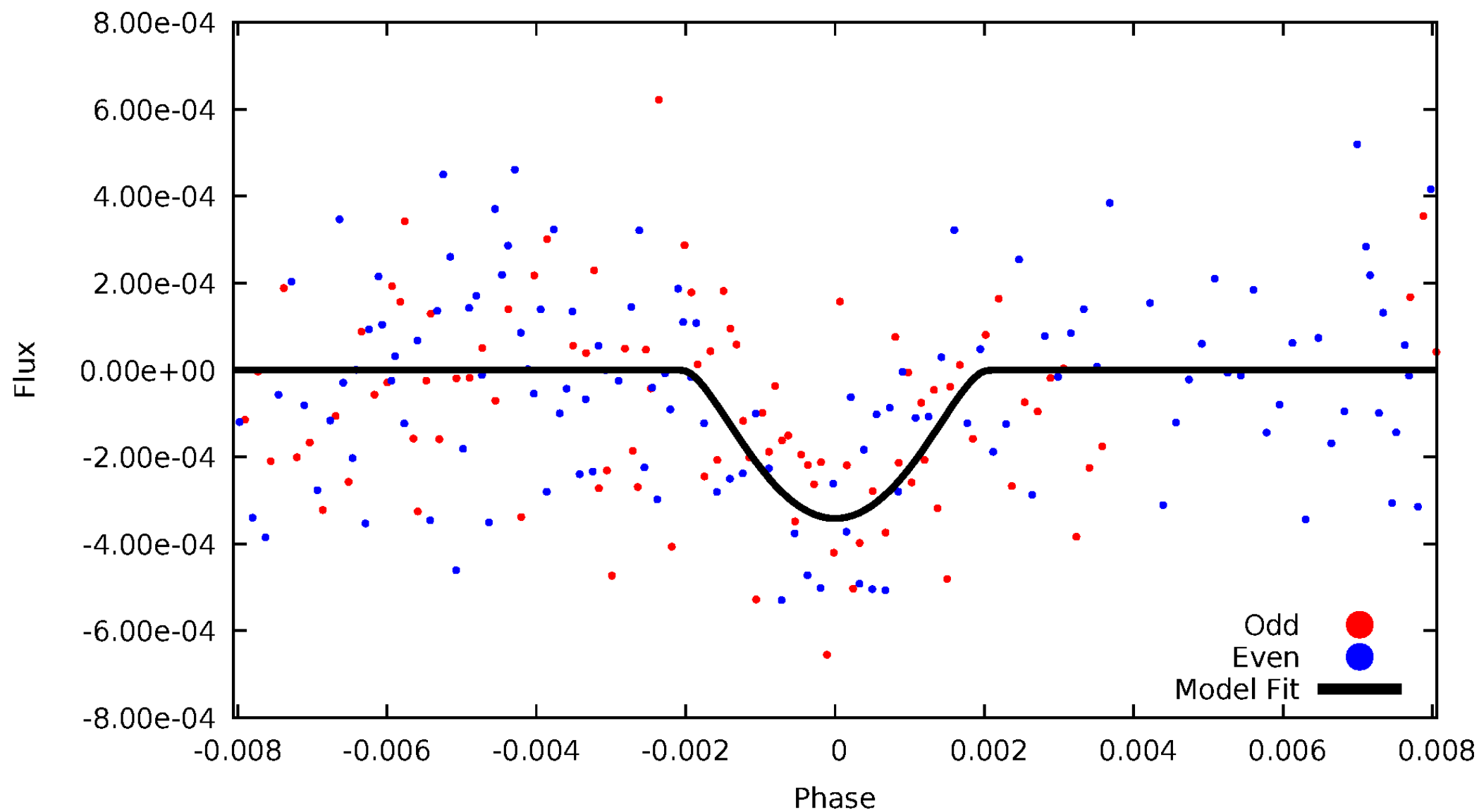


TCE 002722074-03



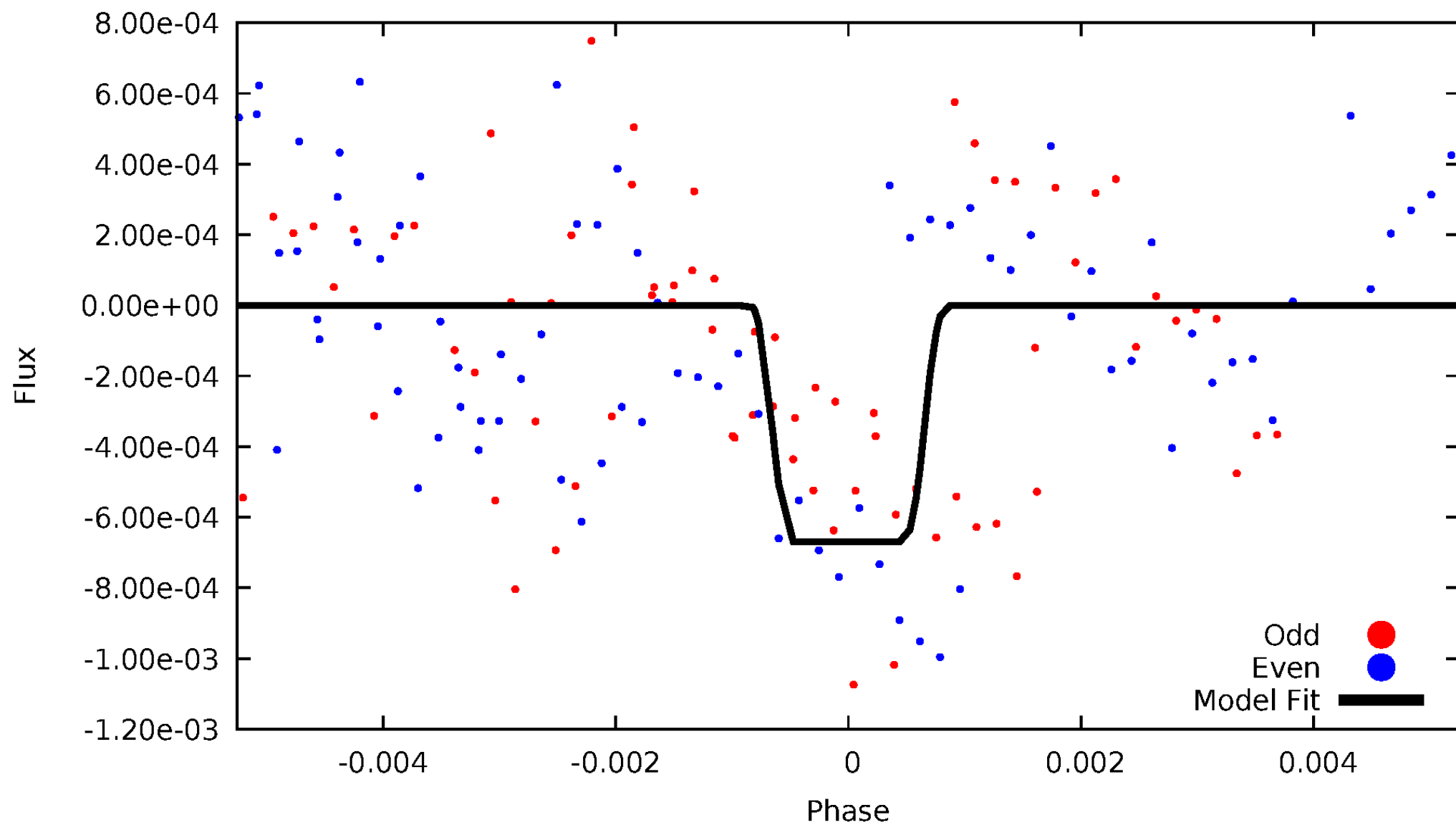
DV Odd/Even

TCE 002722074-03



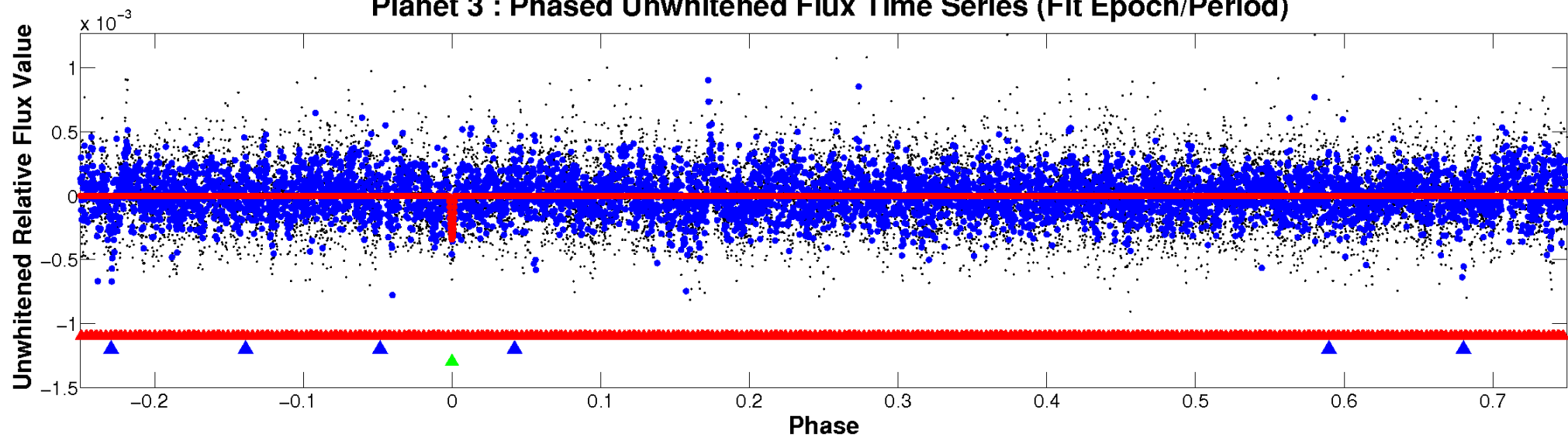
ALT Odd/Even

TCE 002722074-03

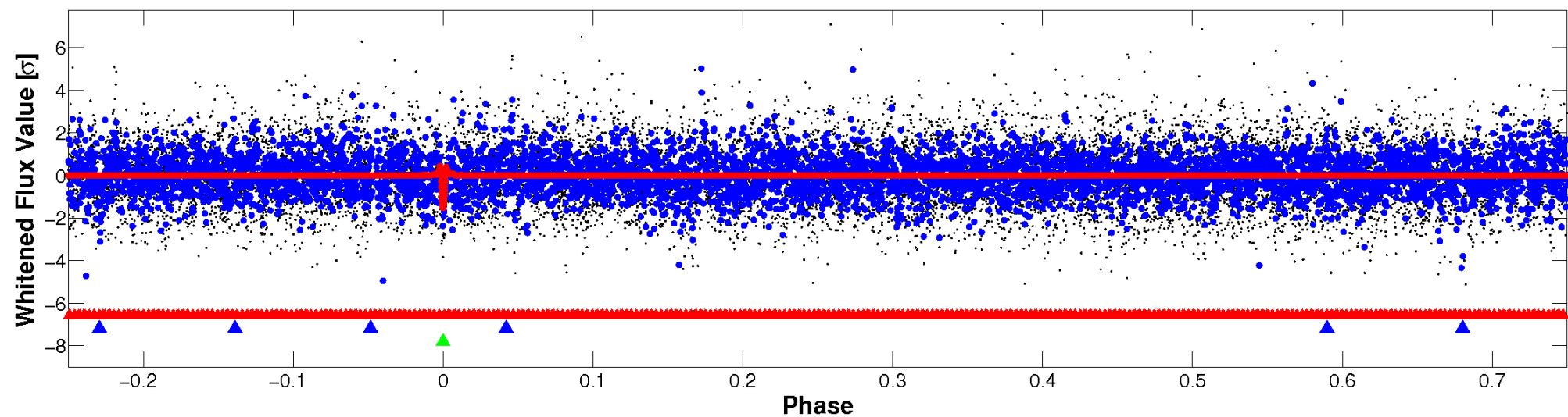


Non-Whitened Vs. Whitened Light Curve

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

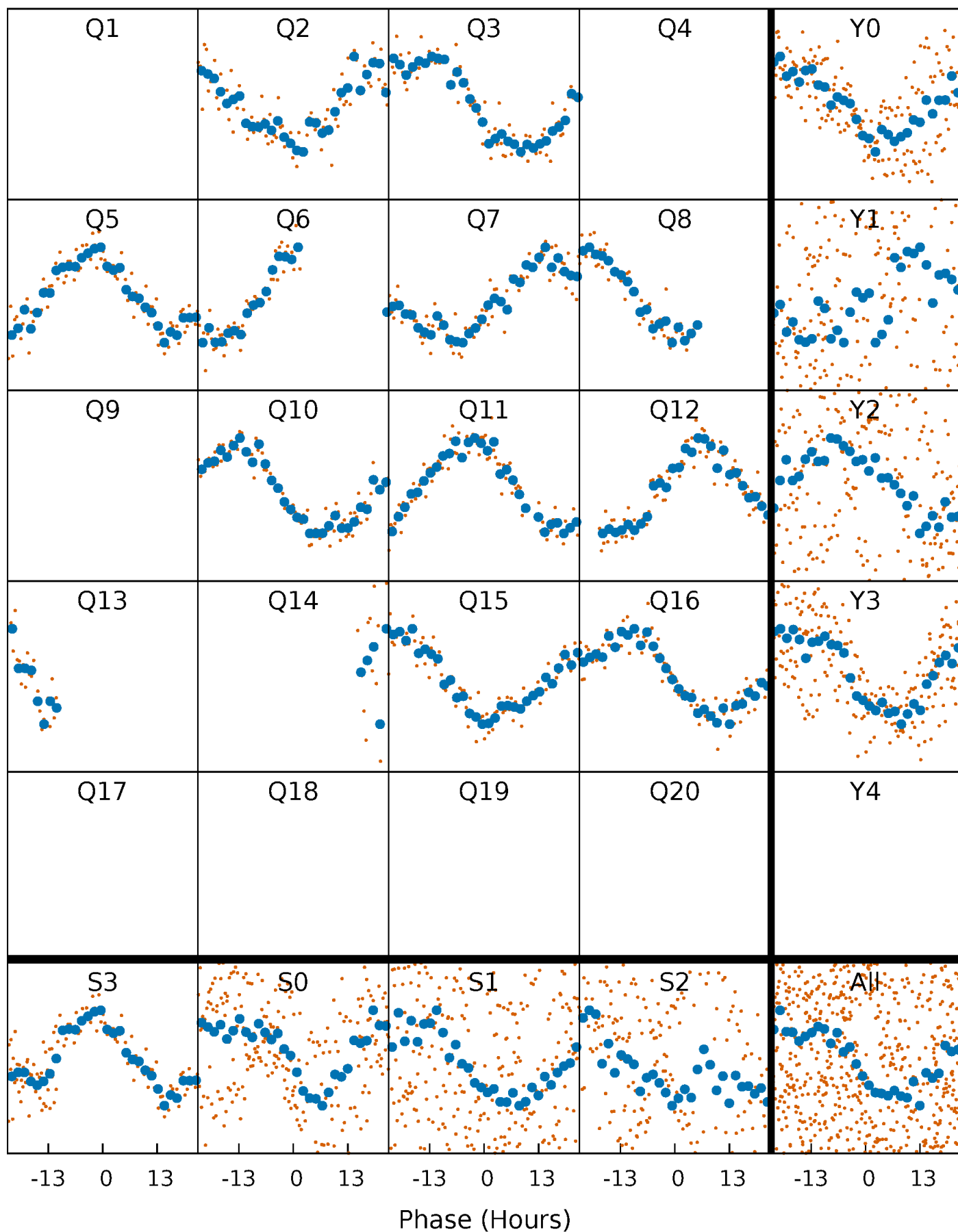


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



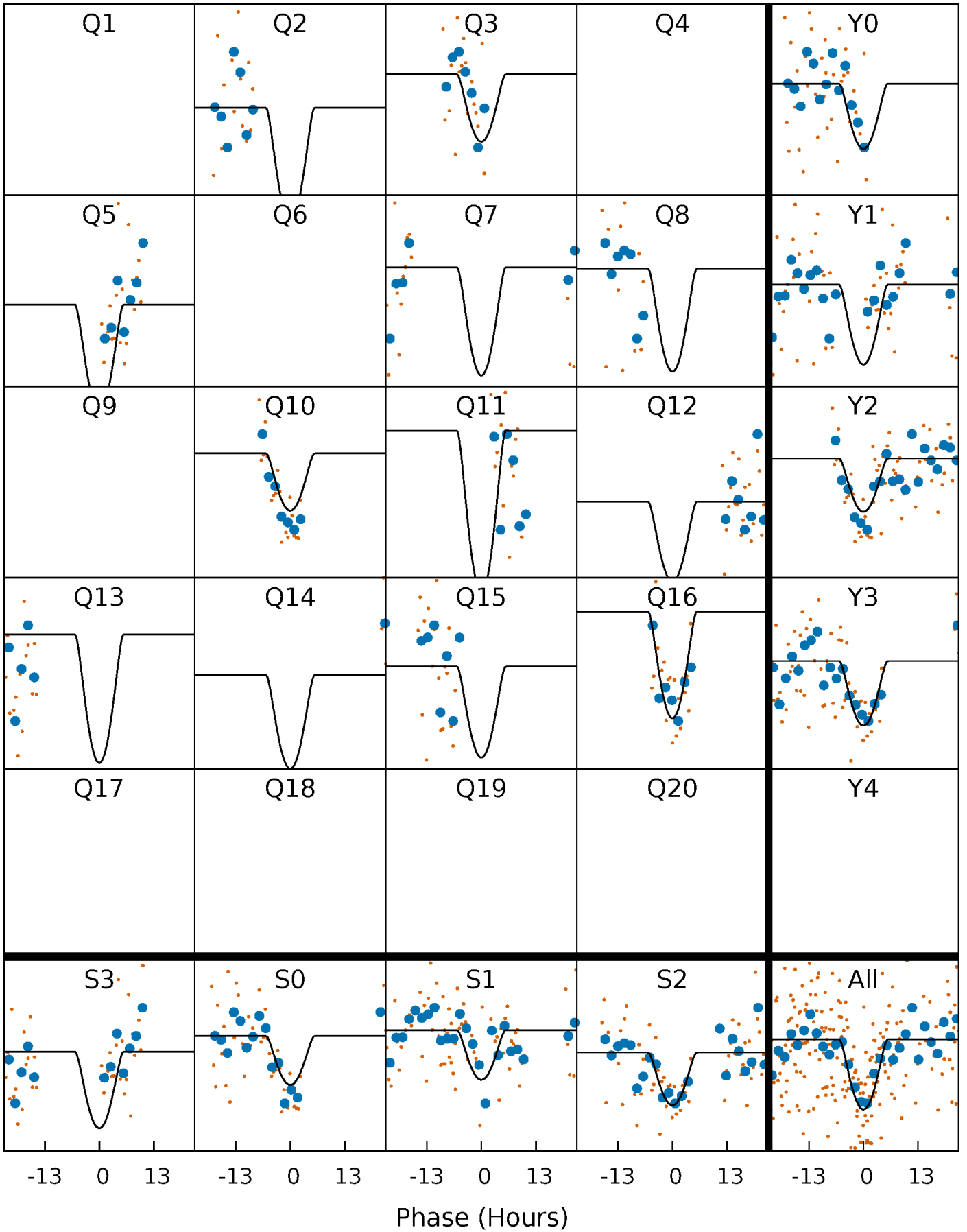
PDC Quarter-Phased Transit Curves

TCE 002722074-03 P=117.843399 Days $T_0=212.927728$ (BKJD)



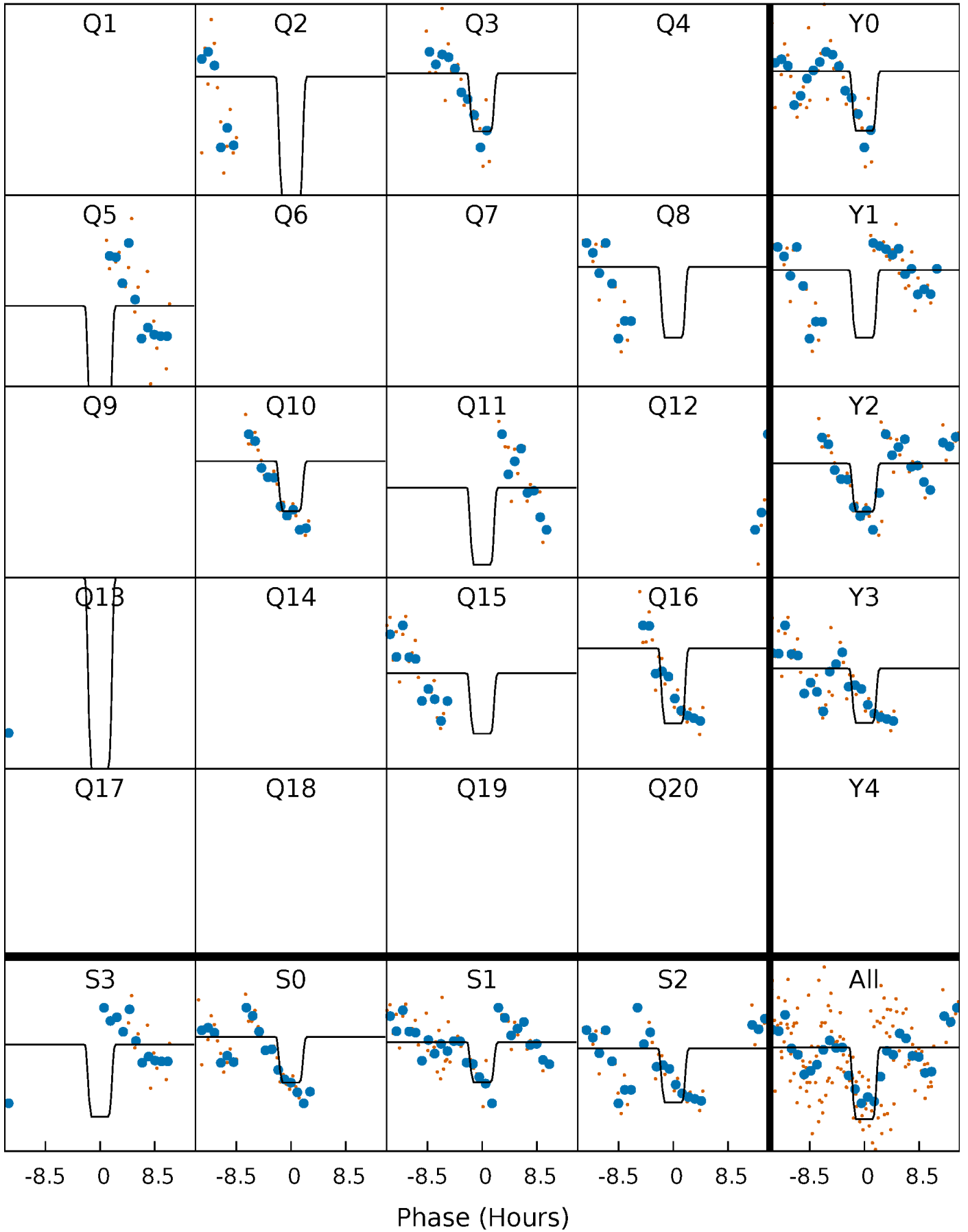
DV Quarter-Phased Transit Curves

TCE 002722074-03 P=117.843399 Days $T_0=212.927728$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

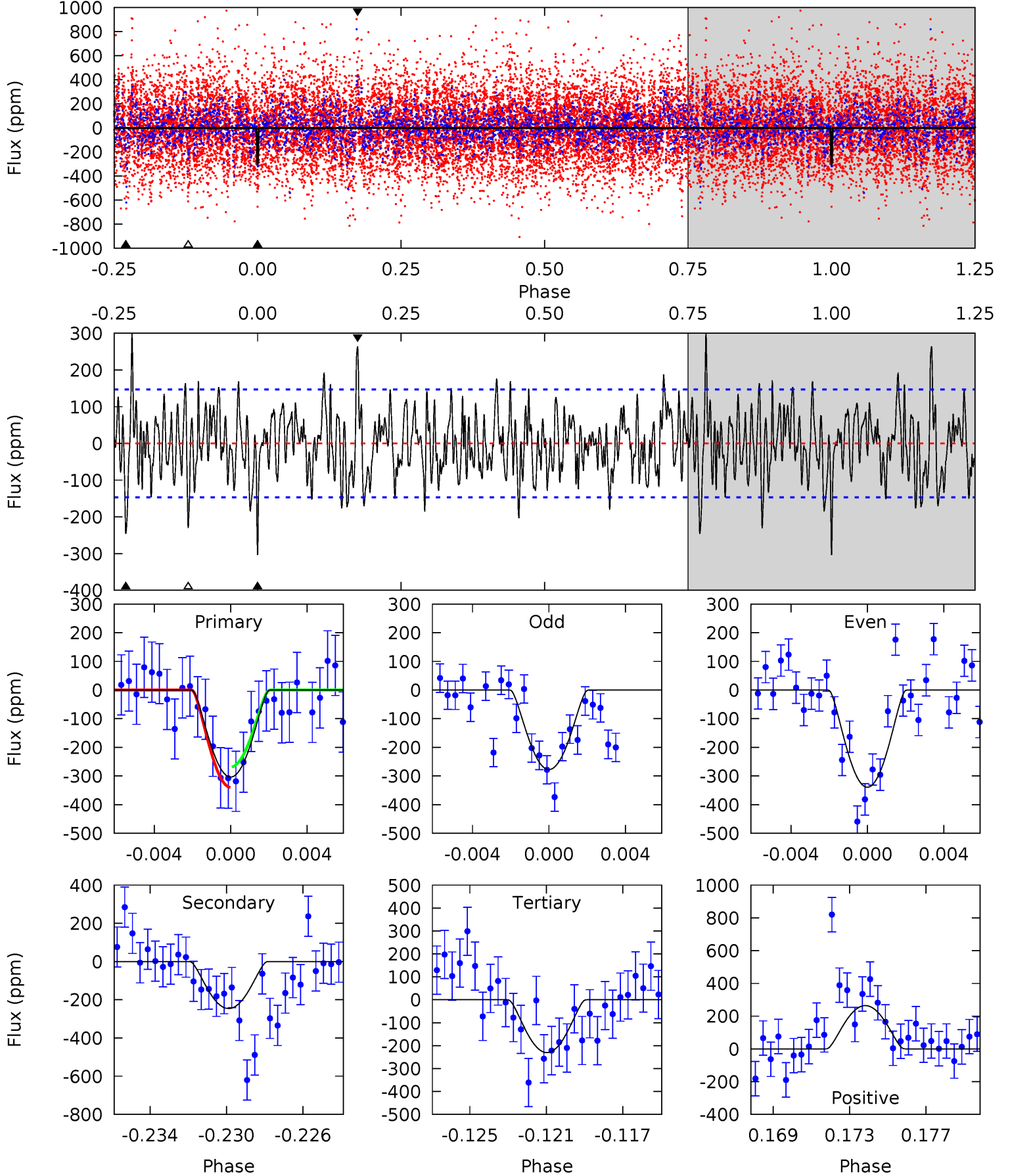
TCE 002722074-03 P=117.844281 Days $T_0=212.908834$ (BKJD)



DV Model-Shift Uniqueness Test

002722074-03, P = 117.843399 Days, E = 95.084329 Days

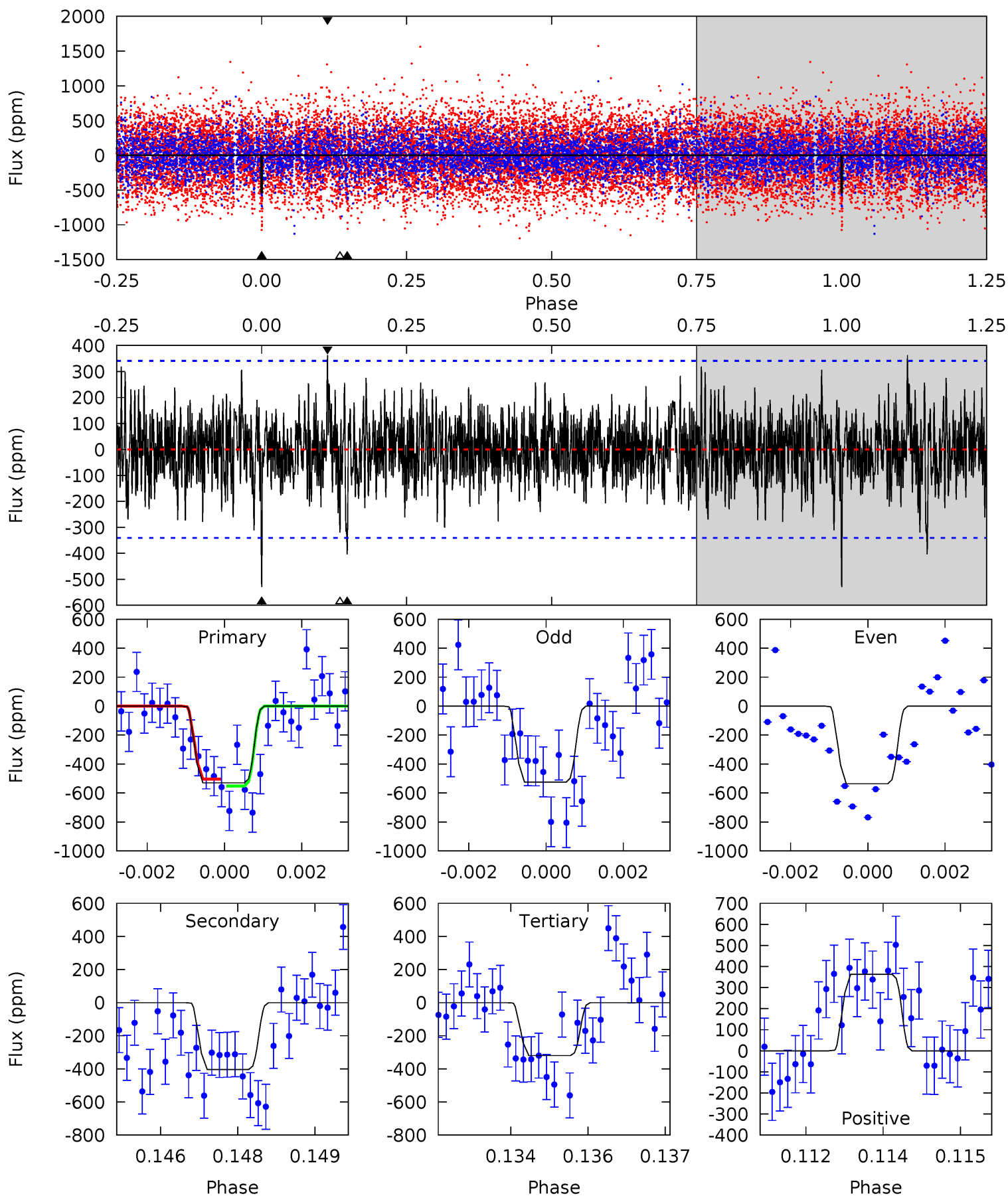
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.7	8.70	8.15	9.35	5.20	2.88	2.65	2.59	1.40	0.55	-0.65	1.08	-0.87	0.50	1.26



Alt Model-Shift Uniqueness Test

002722074-03, P = 117.844281 Days, E = 95.064553 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.32	6.34	5.02	5.69	5.36	3.14	1.62	3.30	2.63	1.32	0.65	0.09	0.72	0.41	0.37



Stellar Parameters For KIC 002722074

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6344^{+158}_{-206}	$4.481^{+0.054}_{-0.216}$	$-0.420^{+0.300}_{-0.300}$	$0.962^{+0.303}_{-0.101}$	$1.024^{+0.132}_{-0.132}$	$1.618^{+0.359}_{-0.897}$
	+2%/-3%	+1%/-5%	+71%/-71%	+31%/-10%	+13%/-13%	+22%/-55%
Source	PHO1	KIC0	KIC0	DSEP		

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

Secondary Eclipse Parameters for KIC 002722074-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-246 ± 28	$10.13^{+11.78}_{-7.05}$	568^{+41}_{-28}	3179^{+1692}_{-577}	289^{+2837}_{-227}
Alt.	-404 ± 64	$10.30^{+10.59}_{-7.00}$	567^{+42}_{-27}	3432^{+1656}_{-611}	459^{+3824}_{-349}

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

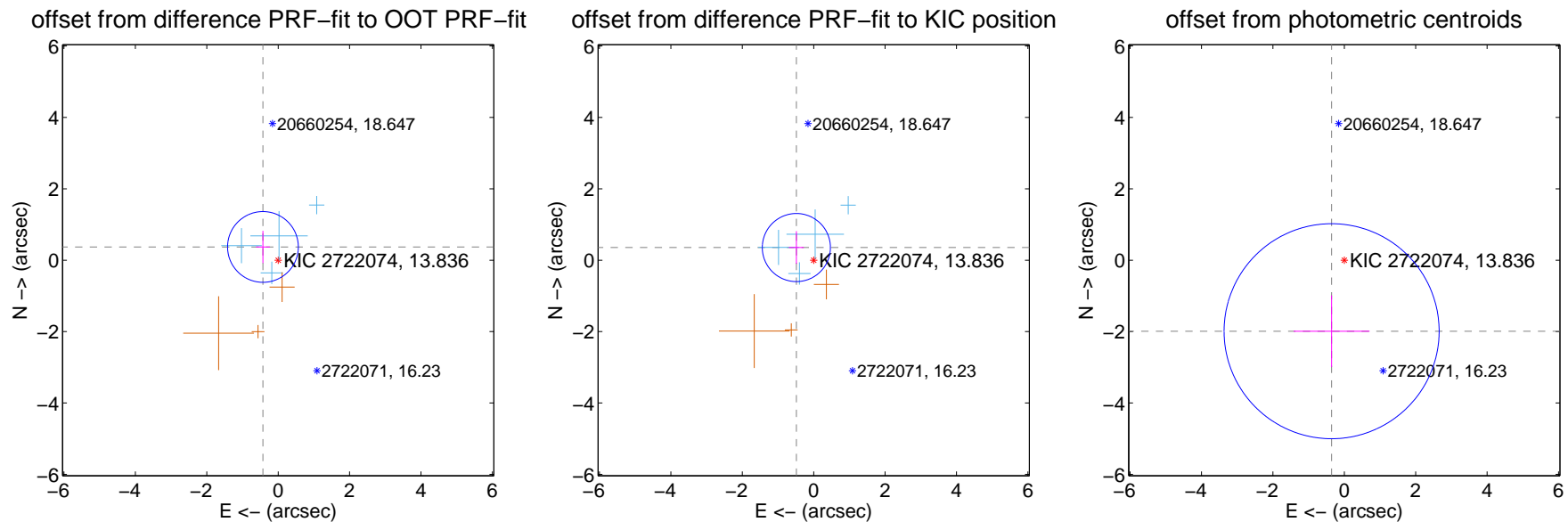
DV Centroid Data

Supplemental centroid analysis for 002722074-03. Kepler magnitude: 13.84. Transit SNR 8.18

There are 4 quarters with good PRF difference image offsets

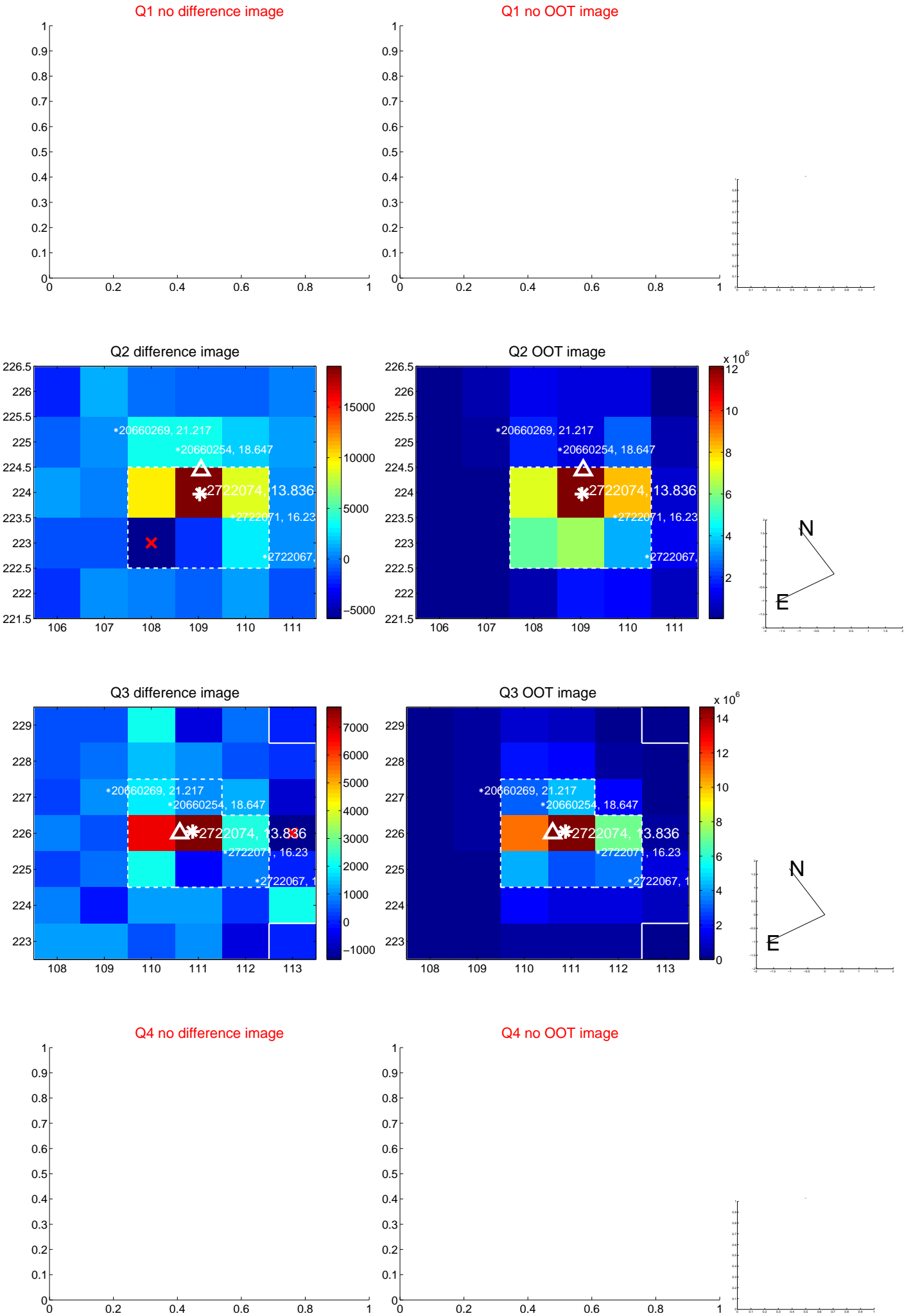
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.566 ± 0.330	1.71	0.427 ± 0.193	0.371 ± 0.451
PRF-fit source offset from KIC position	0.601 ± 0.318	1.89	0.485 ± 0.208	0.354 ± 0.457
photometric centroid source offset	2.02 ± 1.00	2.01	0.36 ± 1.06	-1.99 ± 1.00

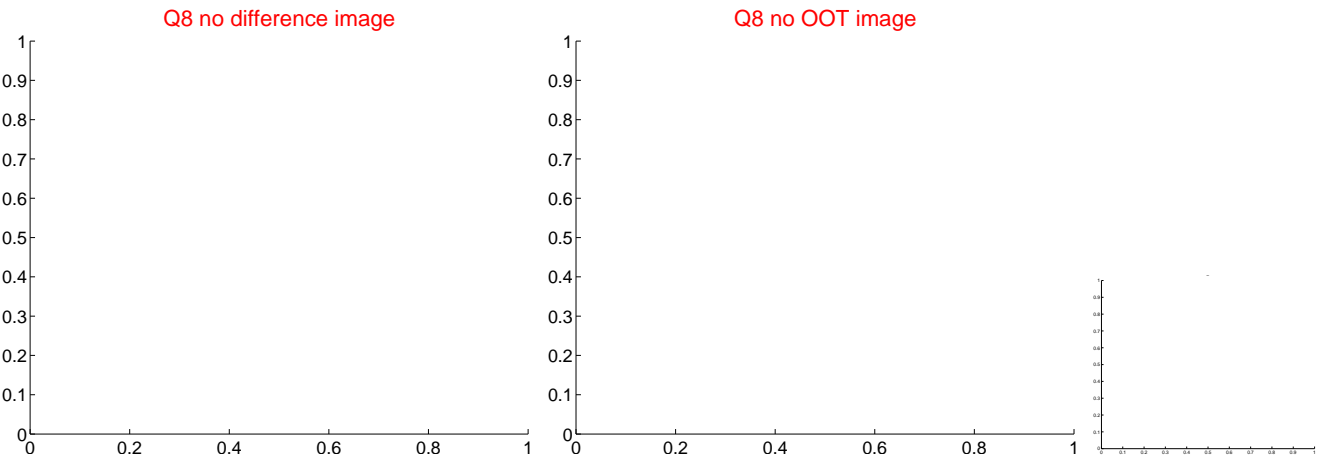
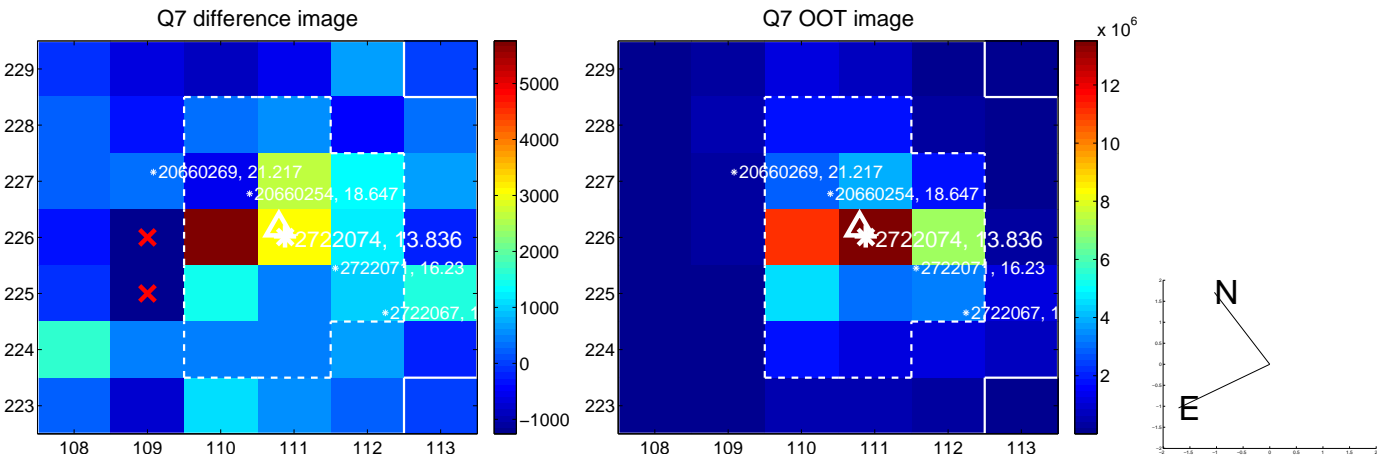
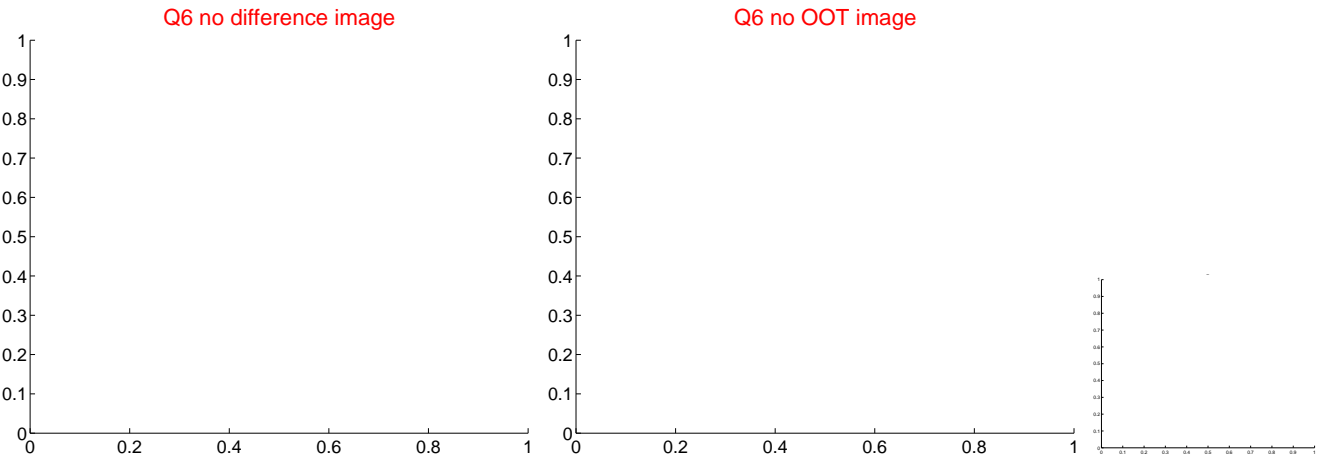
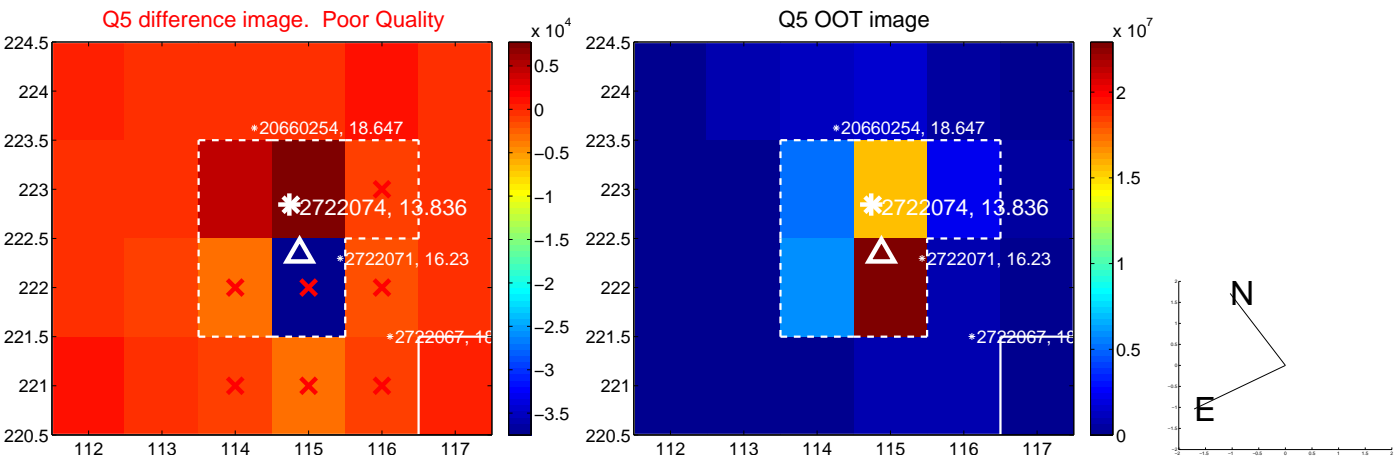


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

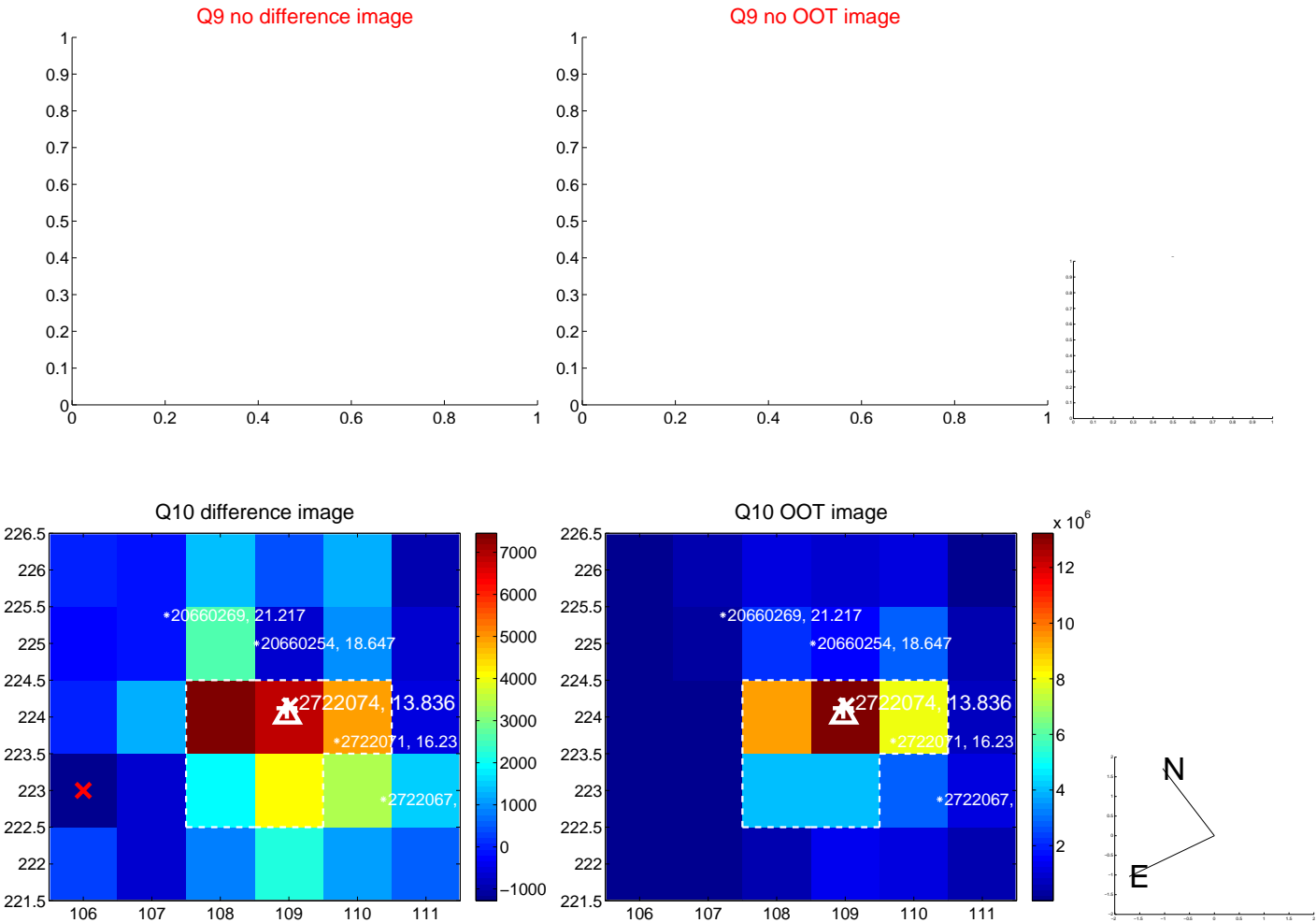
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



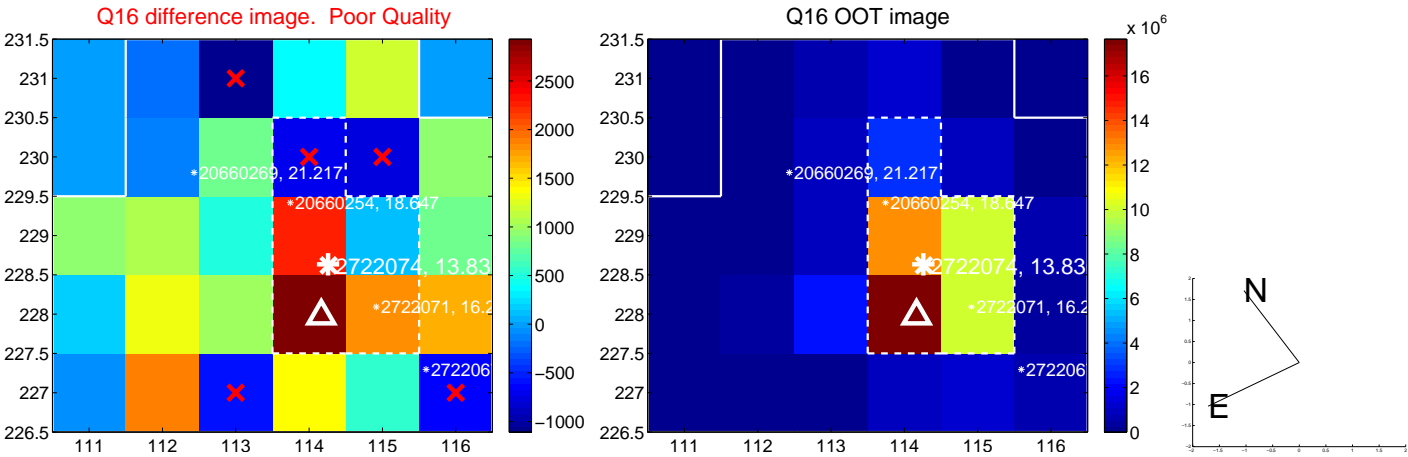
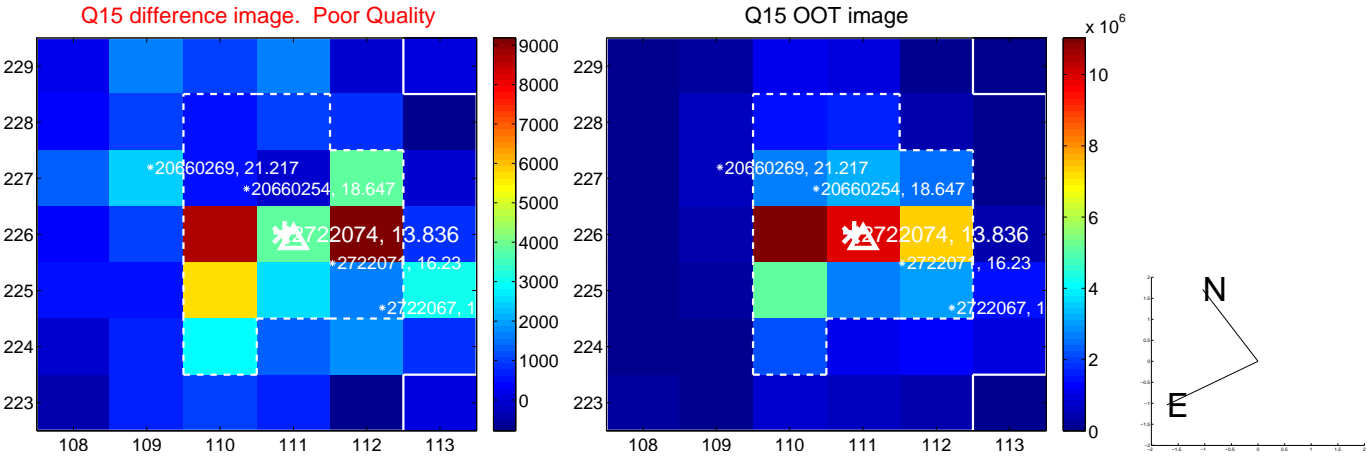
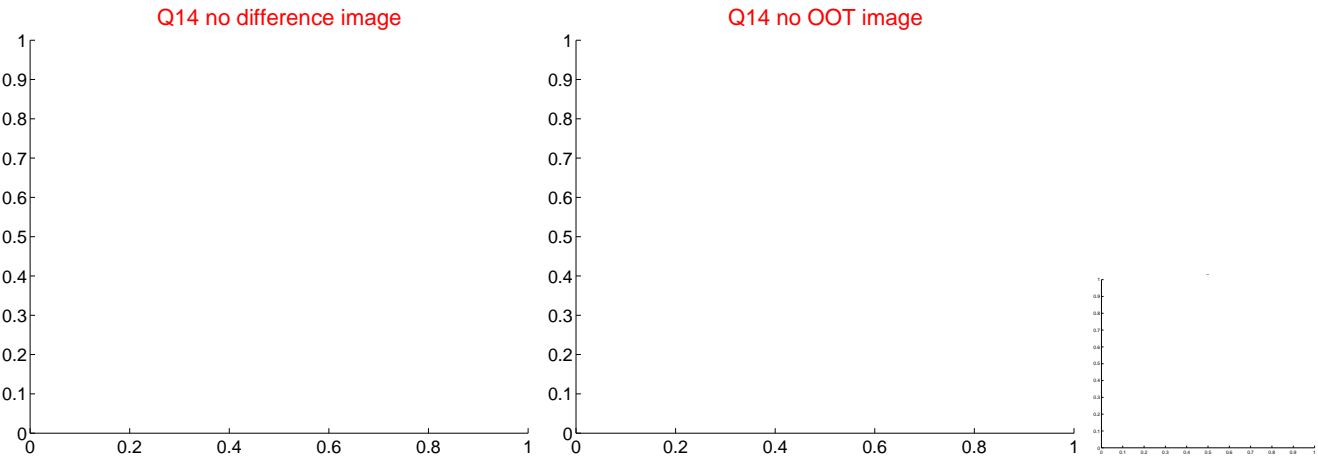
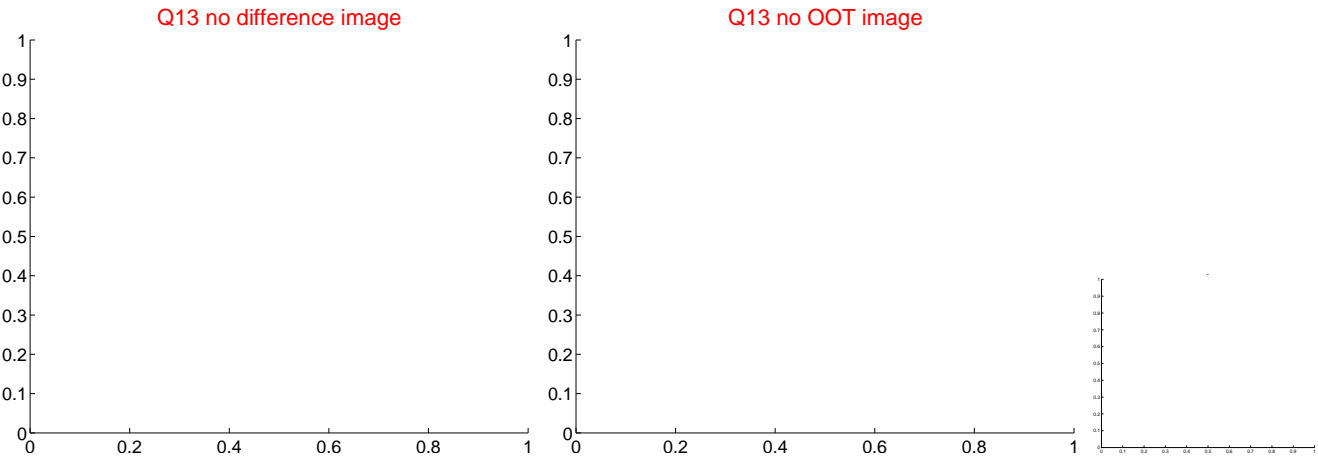
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



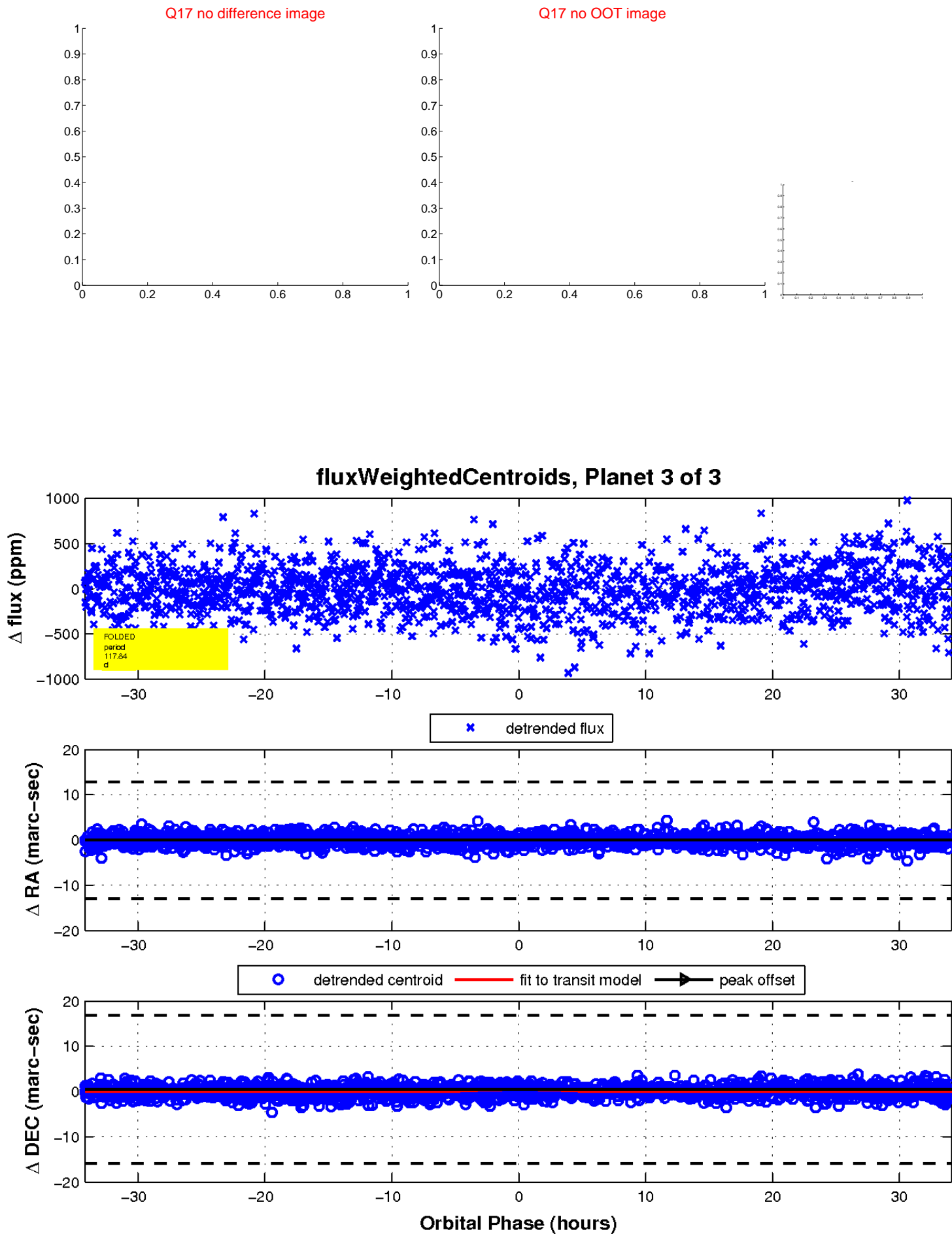
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

