

KIC 005301474

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})
005301474-01	OBS	No	4.764848	133.882618	26.8	8.513	8.0	7.7	2.45	6609	1.46	2477.16
005301474-02	OBS	No	4.764713	134.530830	10.2	12.076	7.7	2.5	2.45	6609	0.99	2477.26
005301474-03	OBS	No	4.764840	135.020389	29.8	19.883	9.5	5.5	2.45	6609	1.42	2477.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005301474-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
005301474-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED
005301474-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

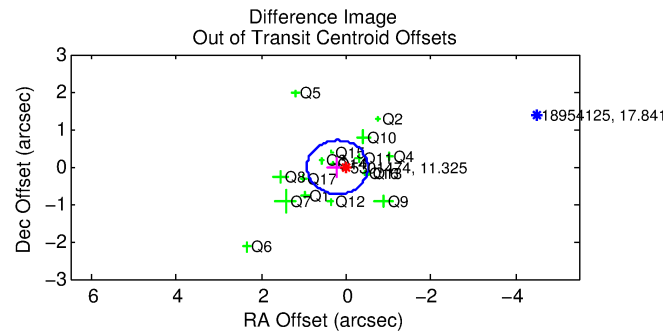
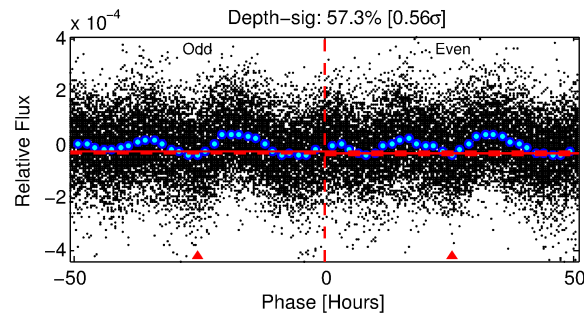
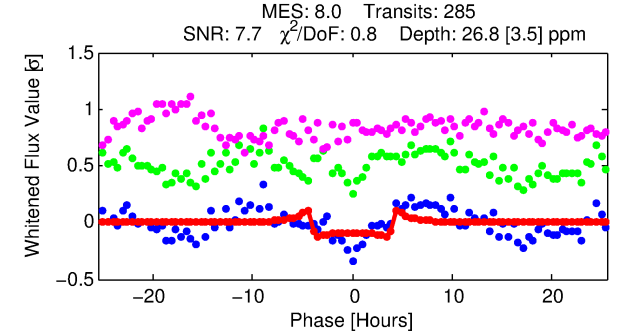
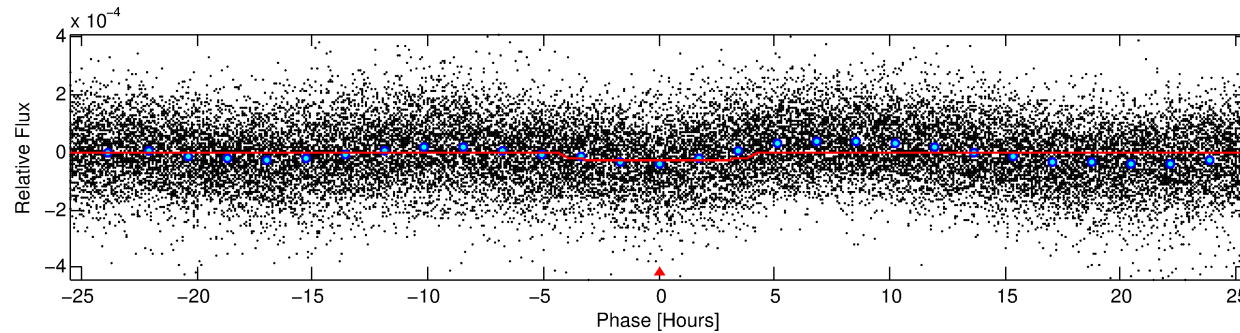
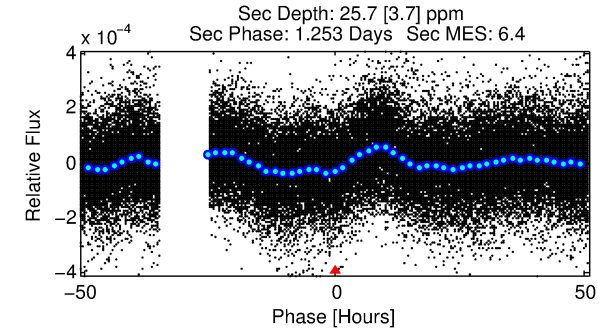
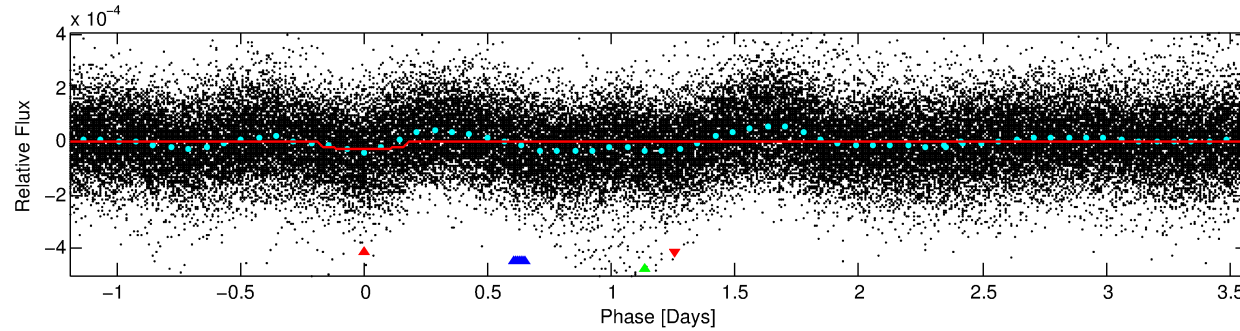
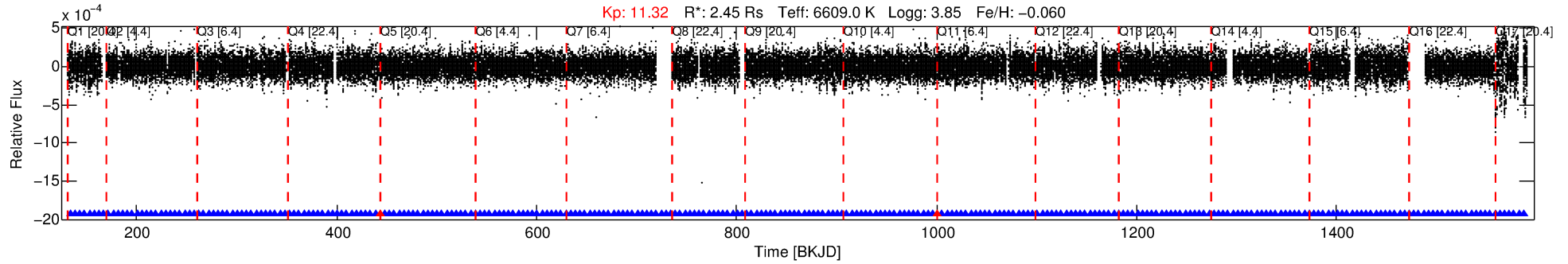
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005301474-01

No Significant Match Found

DV One-Page Summary

KIC: 5301474 Candidate: 1 of 3 Period: 4.765 d



DV Fit Results:

Period = 4.76485 [0.00004] d
Epoch = 133.8826 [0.0049] BKJD
 R_p/R^* = 0.0055 [0.0008]
 a/R^* = 2.25 [1.40]
 b = 0.88 [0.19]
 S_{eff} = 2477.17 [1225.24]
 T_{eq} = 1799 [222] K
 R_p = 1.46 [0.56] R_{e}
 a = 0.0645 [0.0203] AU
 A_g = 27.41 [16.08] [1.64σ]
 T_{eff} = 6364 [568] K [7.49σ]

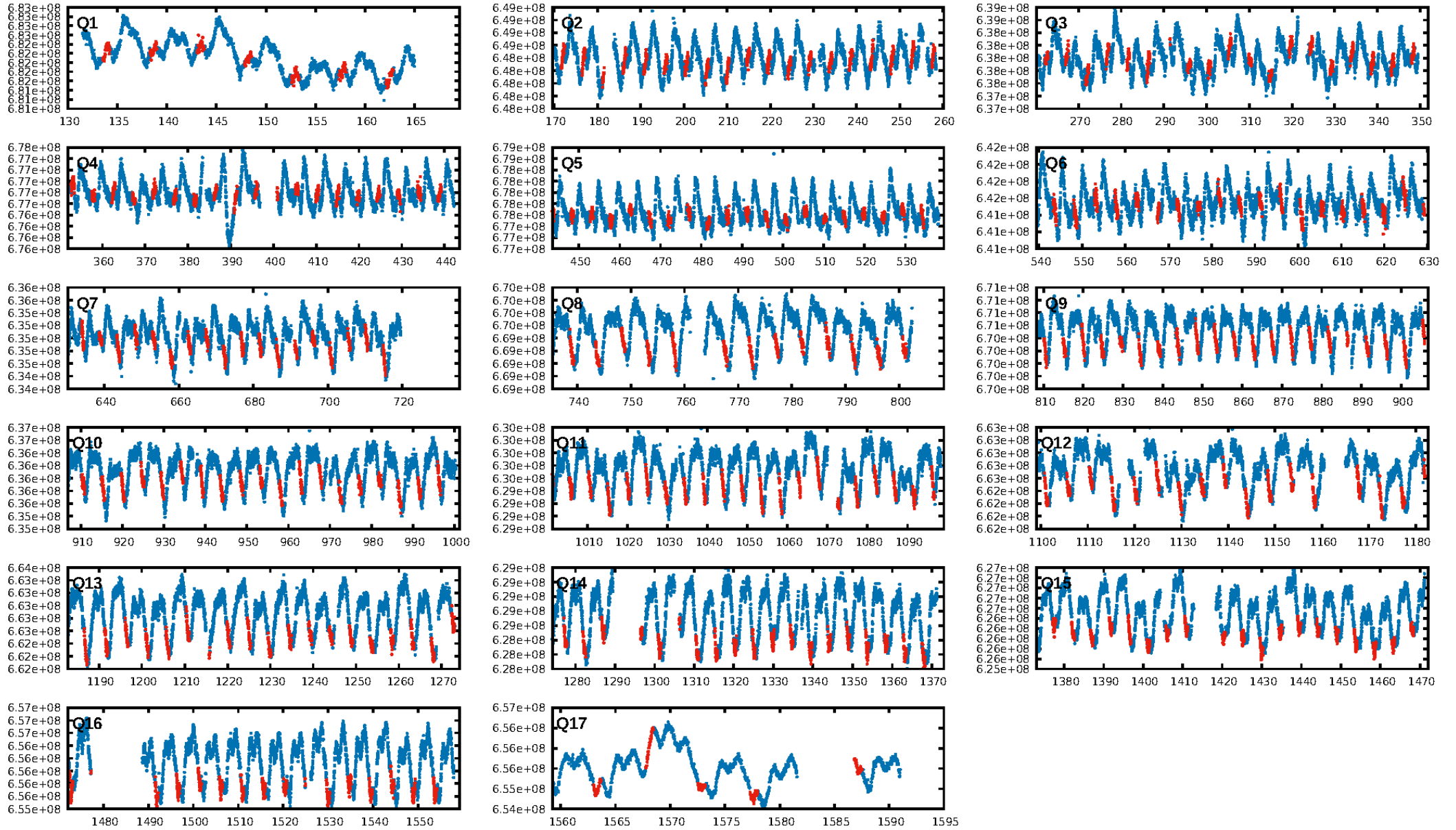
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.01e-07
RollingBand-fgt: 0.99 [271/273]
GhostDiagnostic-chr: 2.565
Centroid-sig: 1.6%
Centroid-so: 1.349 arcsec [1.56σ]
OotOffset-rm: 0.199 arcsec [0.83σ]
KicOffset-rm: 0.359 arcsec [1.87σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.59 [10/17]
DiffImageOverlap-fno: 0.00 [0/17]

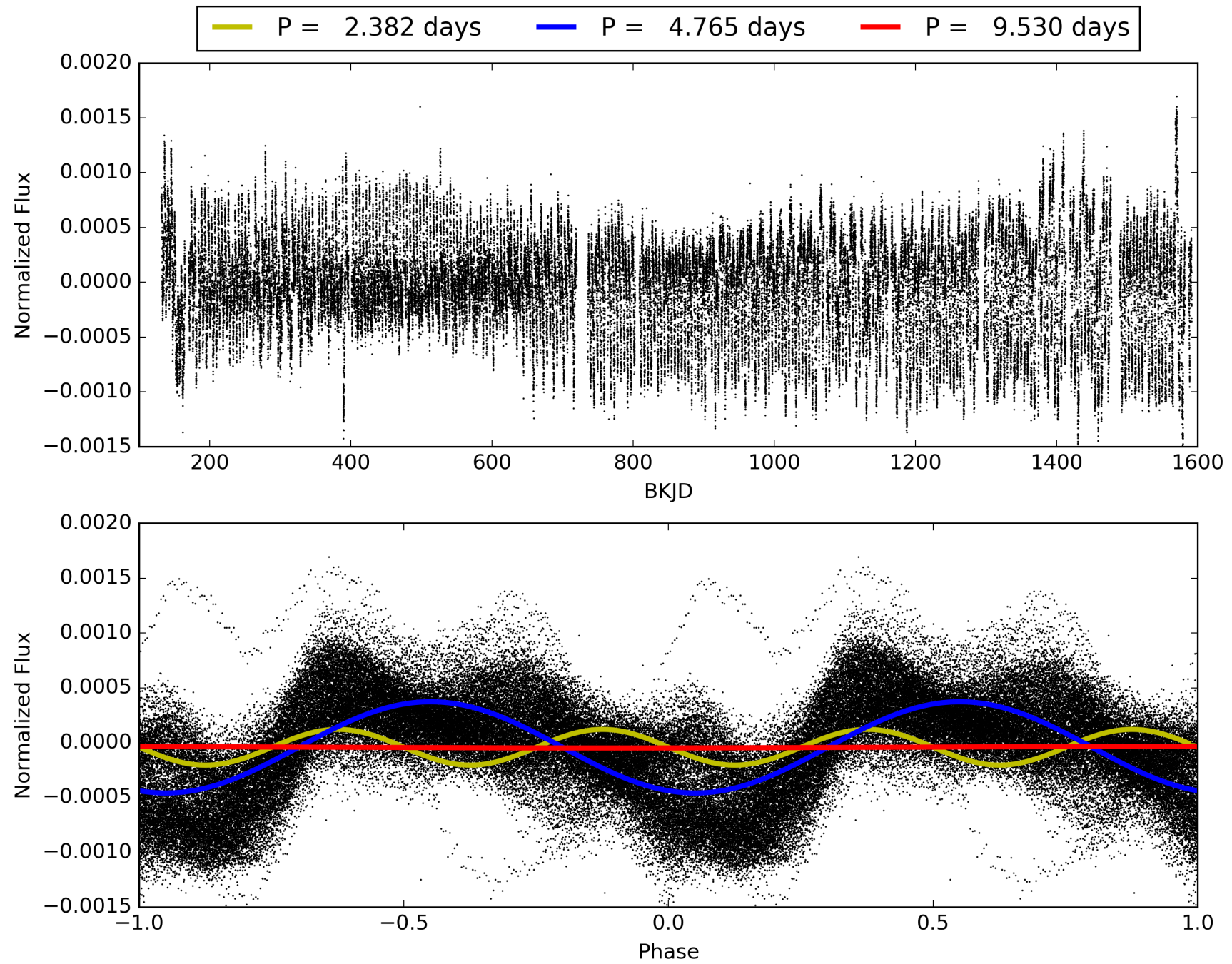
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 005301474-01, PDC Light Curves

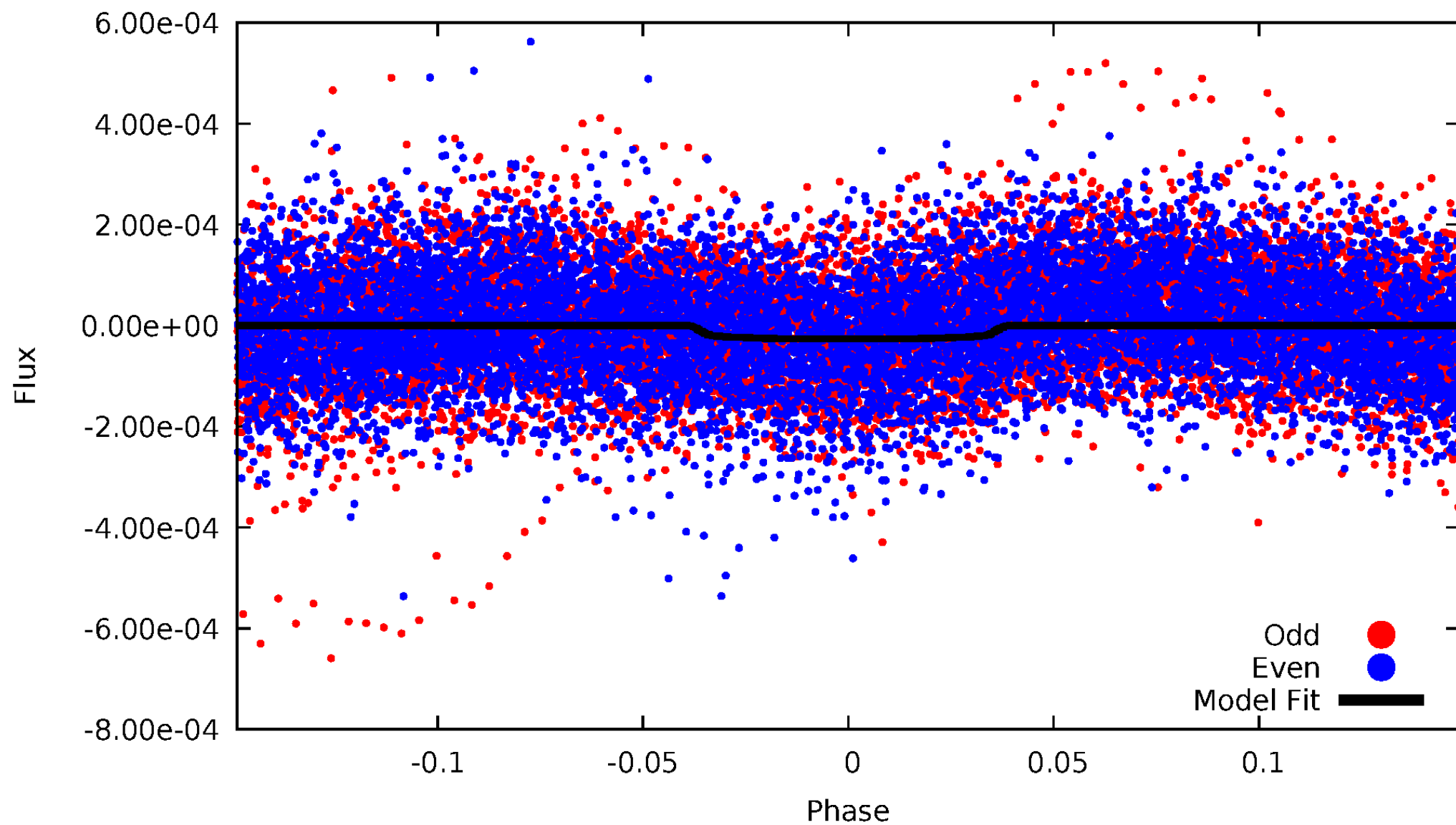


TCE 005301474-01



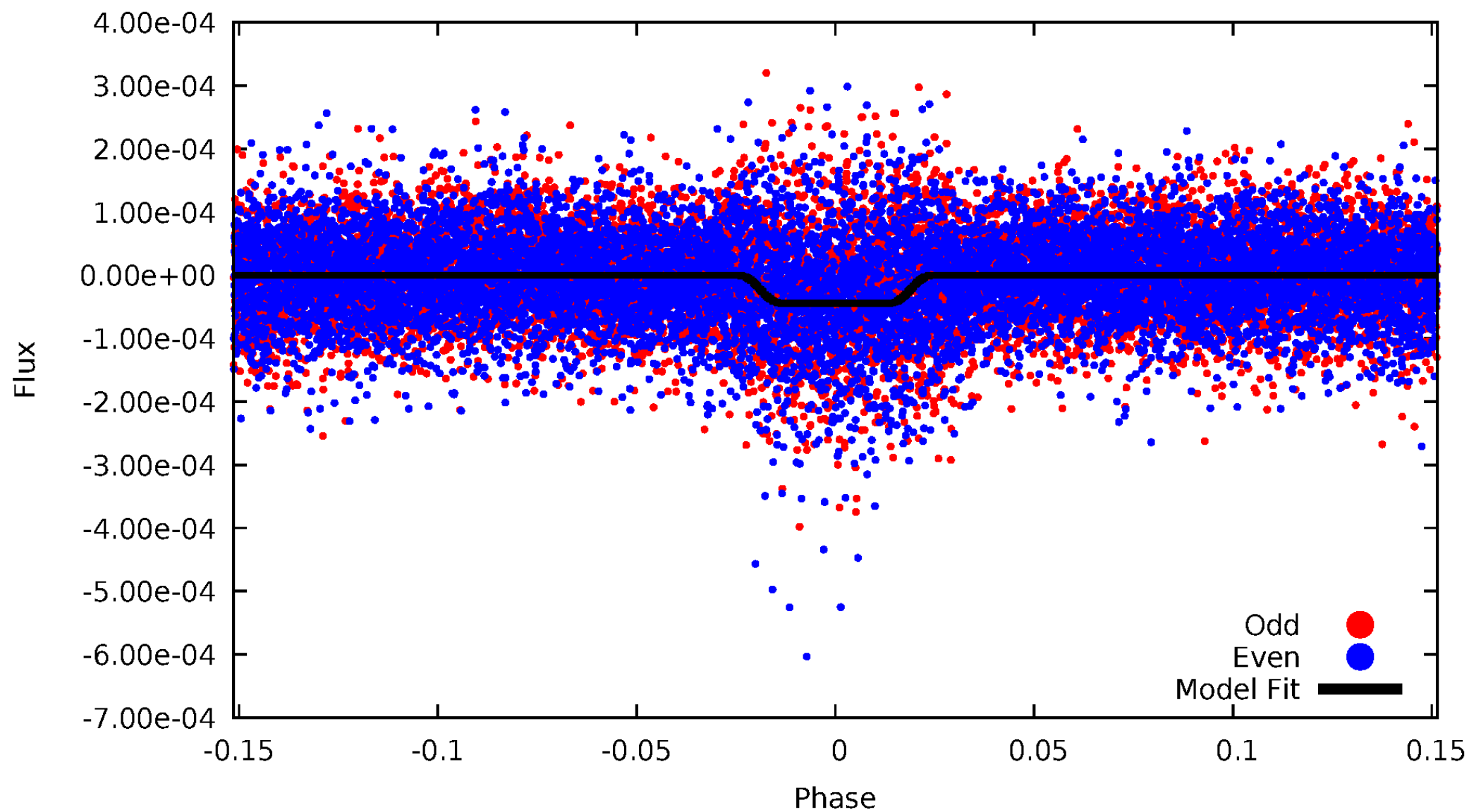
DV Odd/Even

TCE 005301474-01



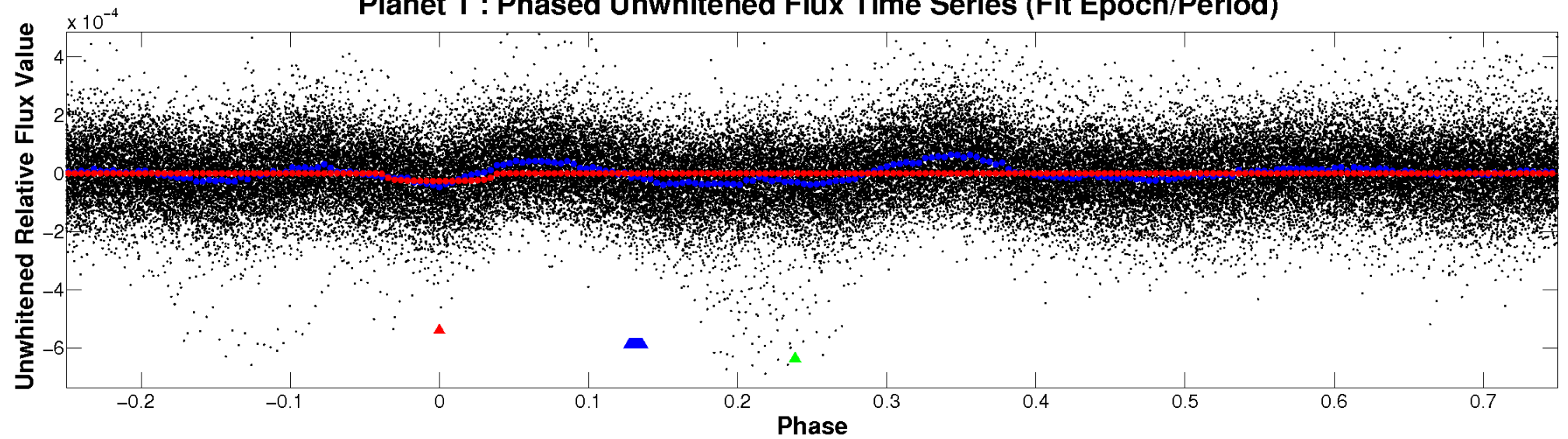
ALT Odd/Even

TCE 005301474-01

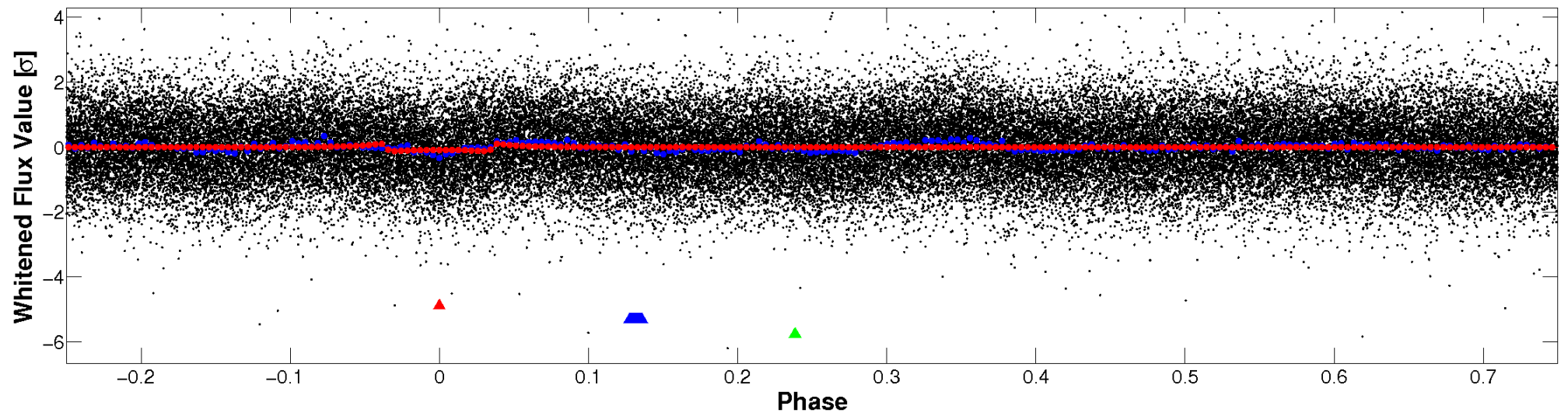


Non-Whitened Vs. Whitened Light Curve

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

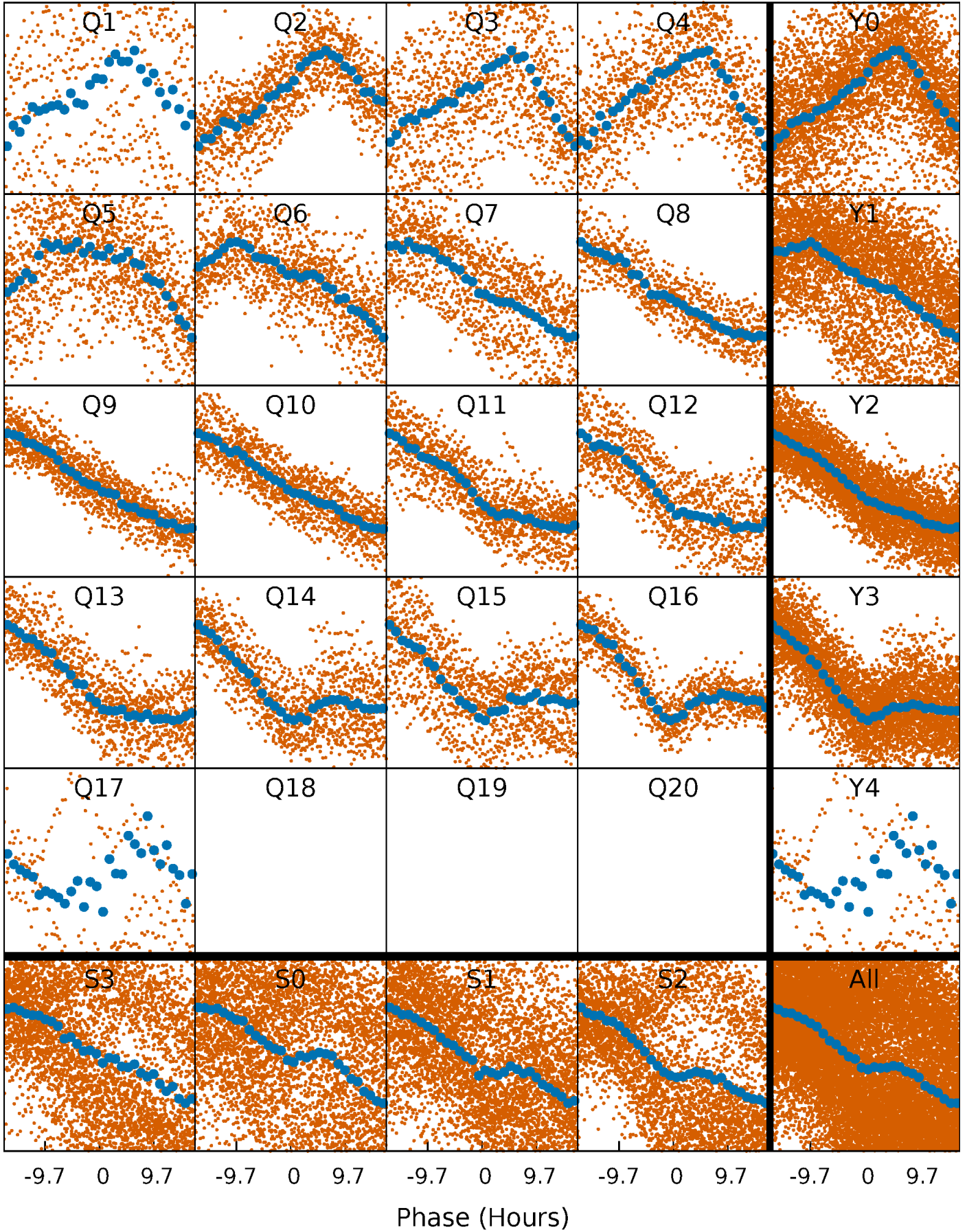


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



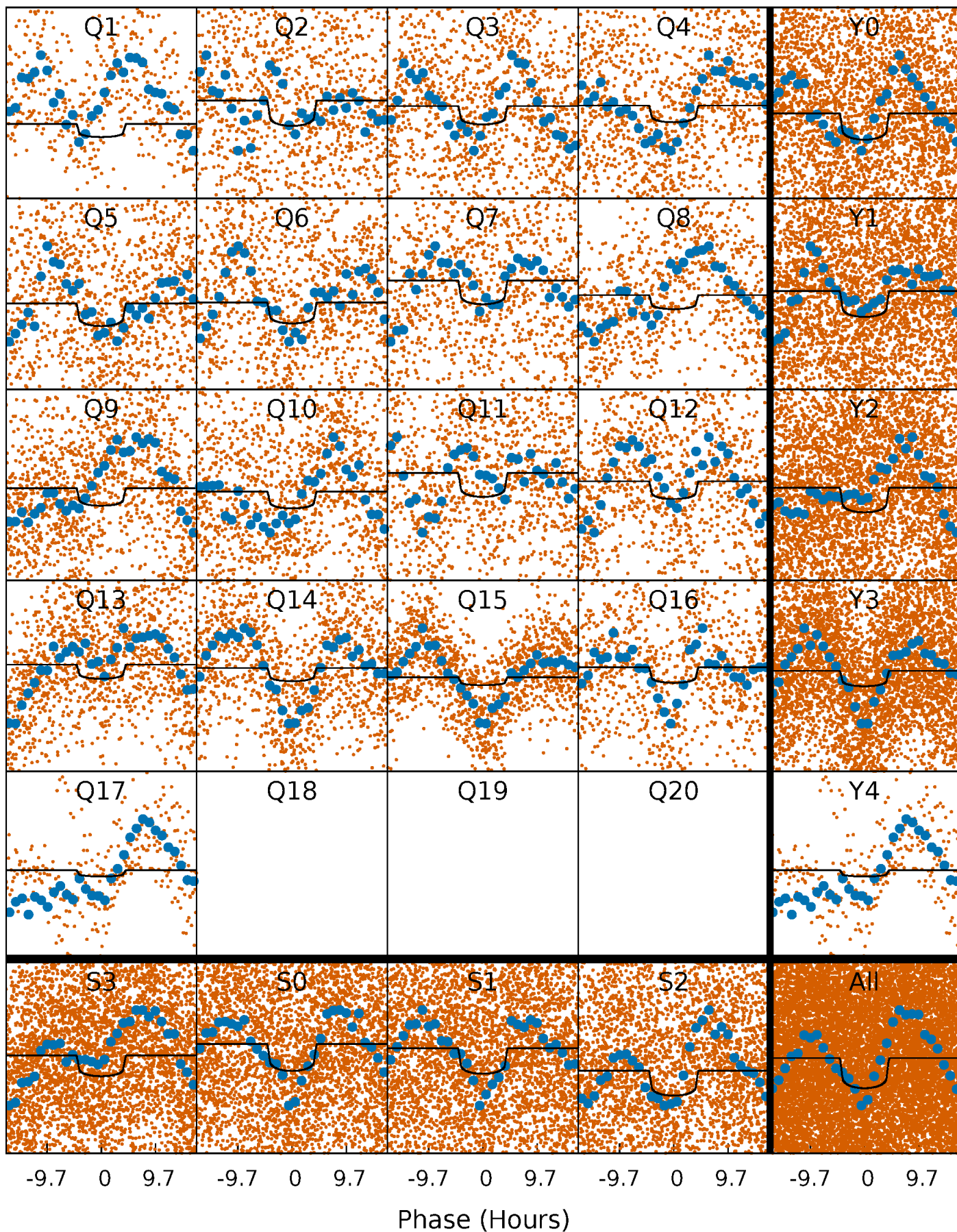
PDC Quarter-Phased Transit Curves

TCE 005301474-01 P= 4.764848 Days $T_0=133.882618$ (BKJD)



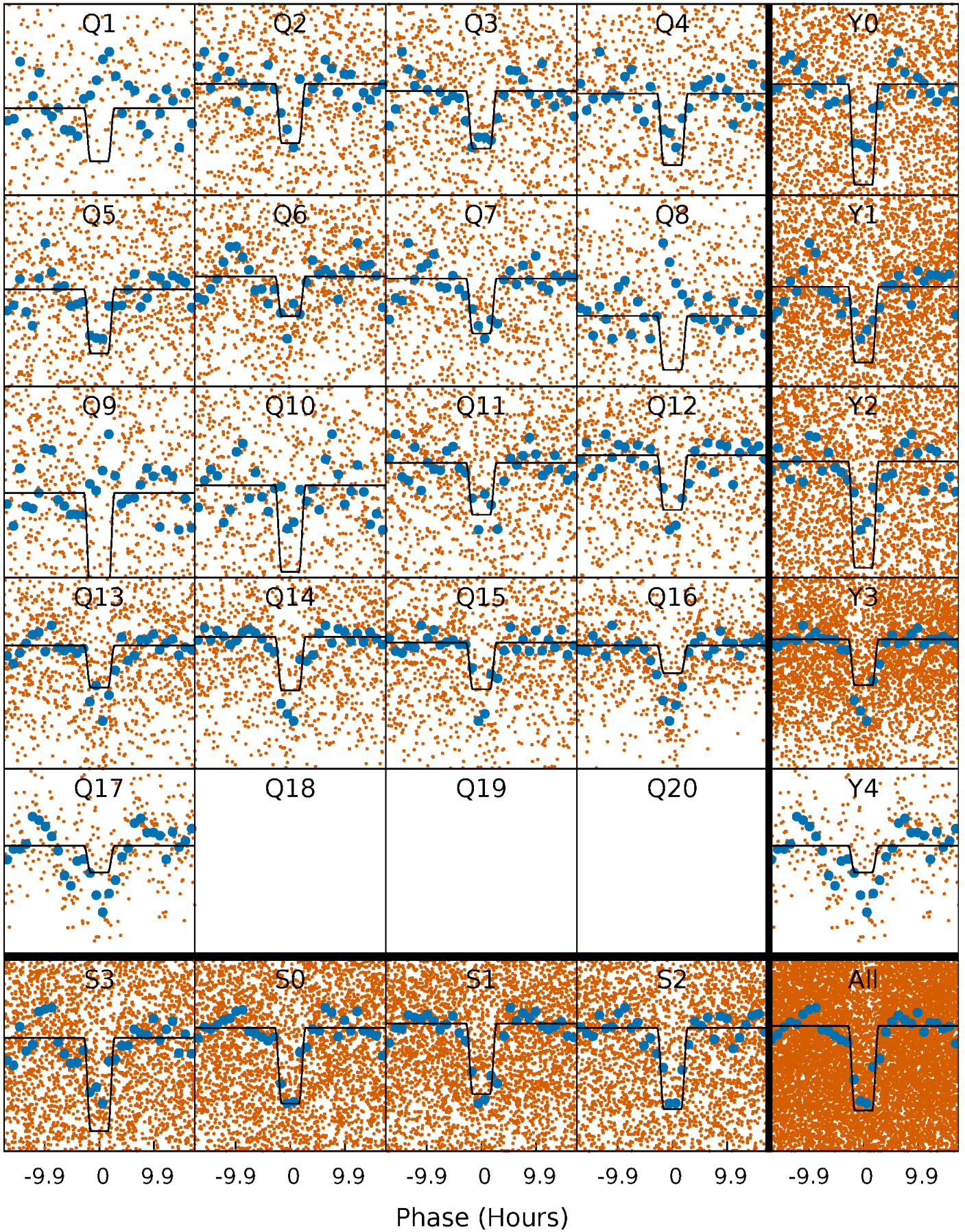
DV Quarter-Phased Transit Curves

TCE 005301474-01 P= 4.764848 Days $T_0=133.882618$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

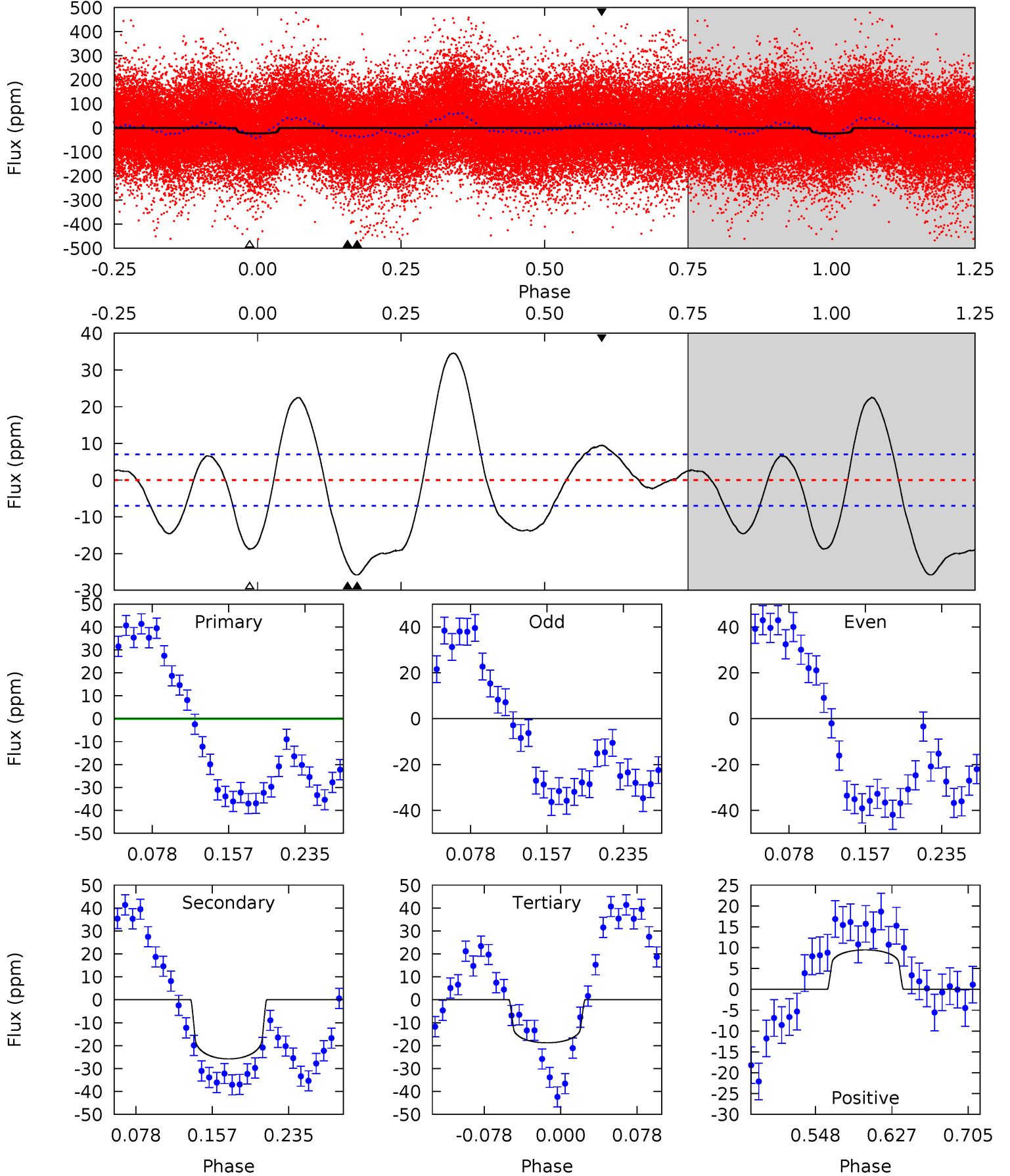
TCE 005301474-01 P= 4.764796 Days $T_0=133.898588$ (BKJD)



DV Model-Shift Uniqueness Test

005301474-01, P = 4.764848 Days, E = 129.117770 Days

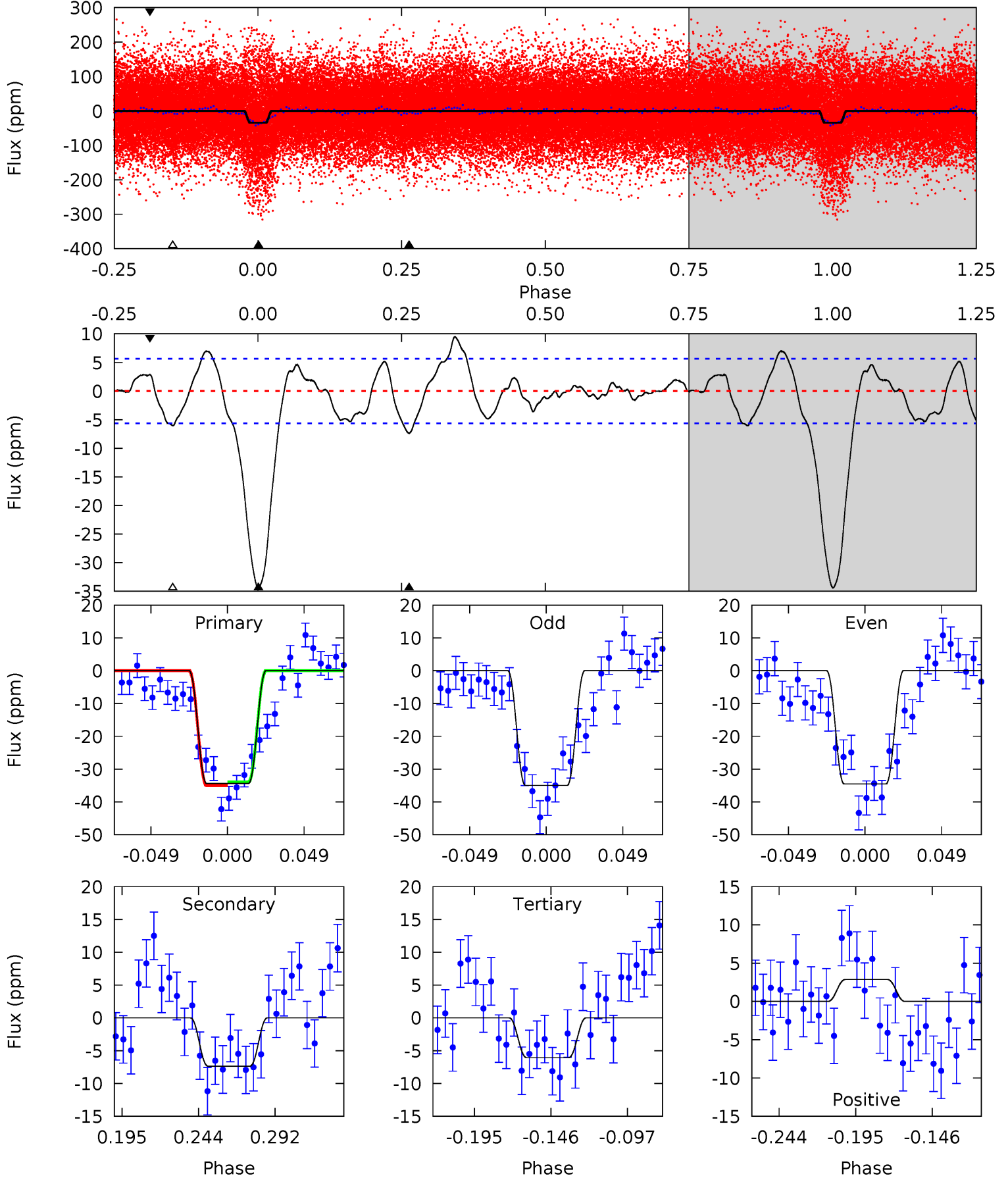
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	17.0	12.4	6.24	4.62	1.76	8.25	2.68	8.83	4.64	10.8	2.03	1.06	0.57	4.25



Alt Model-Shift Uniqueness Test

005301474-01, P = 4.764796 Days, E = 129.133792 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.7	6.14	5.07	2.40	4.71	1.97	2.64	23.6	26.3	1.07	3.74	0.18	1.02	0.22	0.47



Stellar Parameters For KIC 005301474

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6609^{+156}_{-195}	$3.855^{+0.273}_{-0.117}$	$-0.060^{+0.300}_{-0.250}$	$2.454^{+0.465}_{-0.864}$	$1.571^{+0.183}_{-0.339}$	$0.150^{+0.275}_{-0.054}$
	+2%/-3%	+7%/-3%	+500%/-417%	+19%/-35%	+12%/-22%	+184%/-36%
Source	PHO1	FLK73	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 005301474-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-26 ± 2	$1.39^{+0.31}_{-0.29}$	2488^{+147}_{-217}	6357^{+638}_{-472}	30^{+18}_{-9}
Alt.	-7 ± 1	$1.73^{+0.32}_{-0.36}$	2486^{+141}_{-223}	4350^{+283}_{-257}	$5.564^{+3.014}_{-1.715}$

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

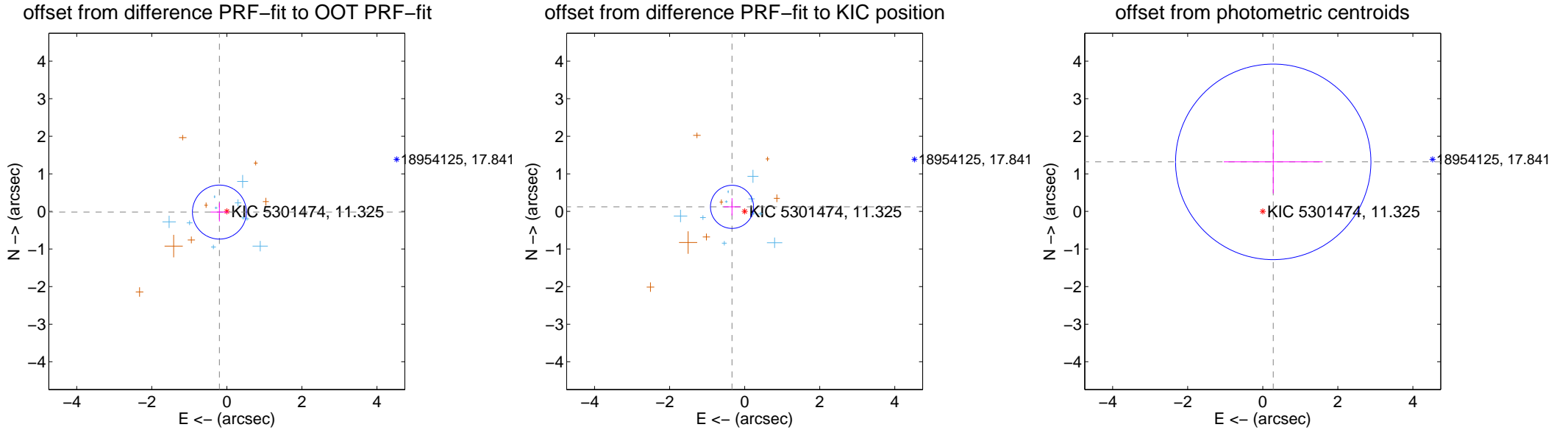
DV Centroid Data

Supplemental centroid analysis for 005301474-01. **Kepler magnitude: 11.32.** Transit SNR 7.66

There are 10 quarters with good PRF difference image offsets

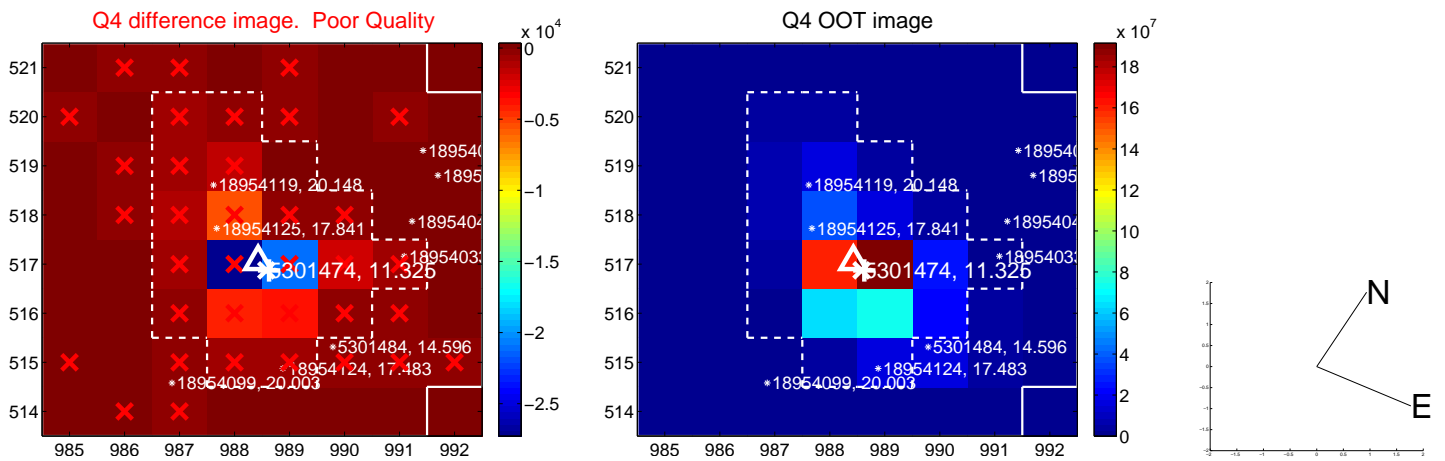
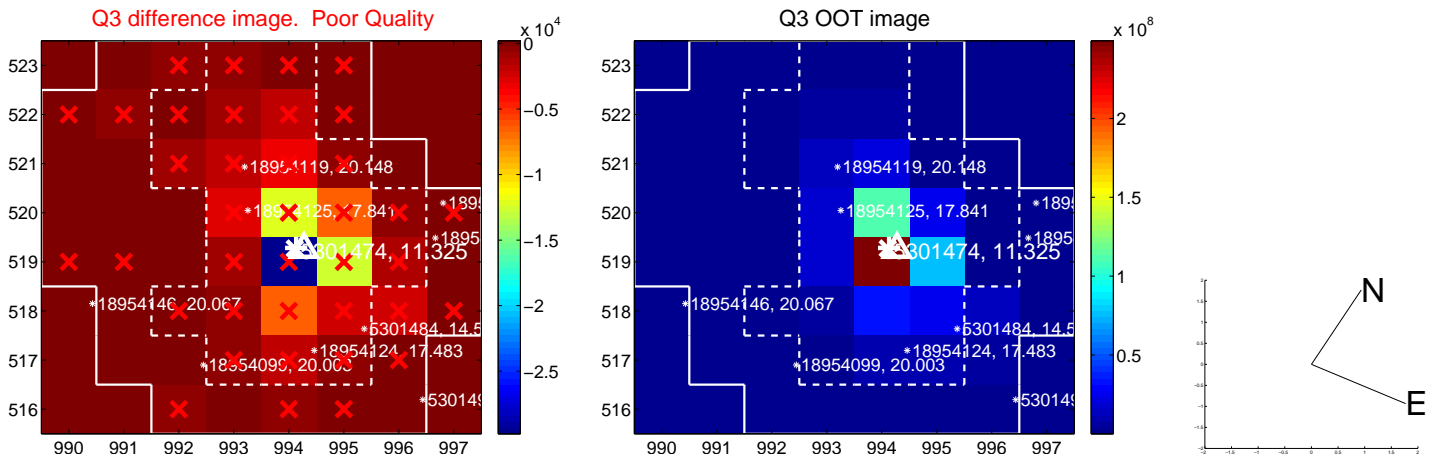
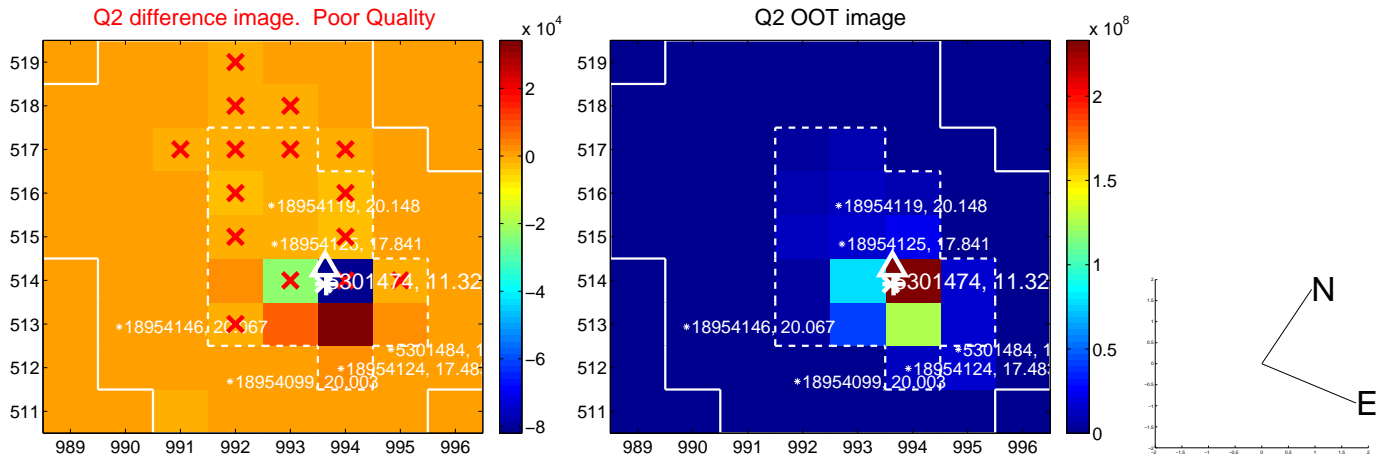
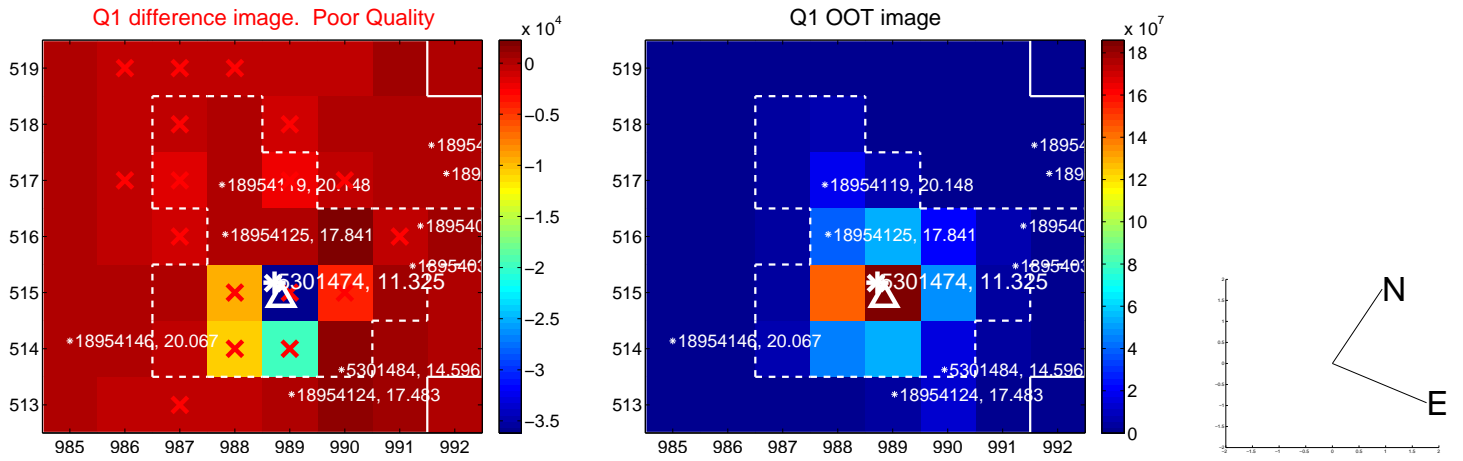
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.199 ± 0.240	0.83	0.198 ± 0.233	-0.017 ± 0.248
PRF-fit source offset from KIC position	0.359 ± 0.191	1.87	0.337 ± 0.224	0.122 ± 0.232
photometric centroid source offset	1.35 ± 0.87	1.56	-0.28 ± 1.32	1.32 ± 0.84

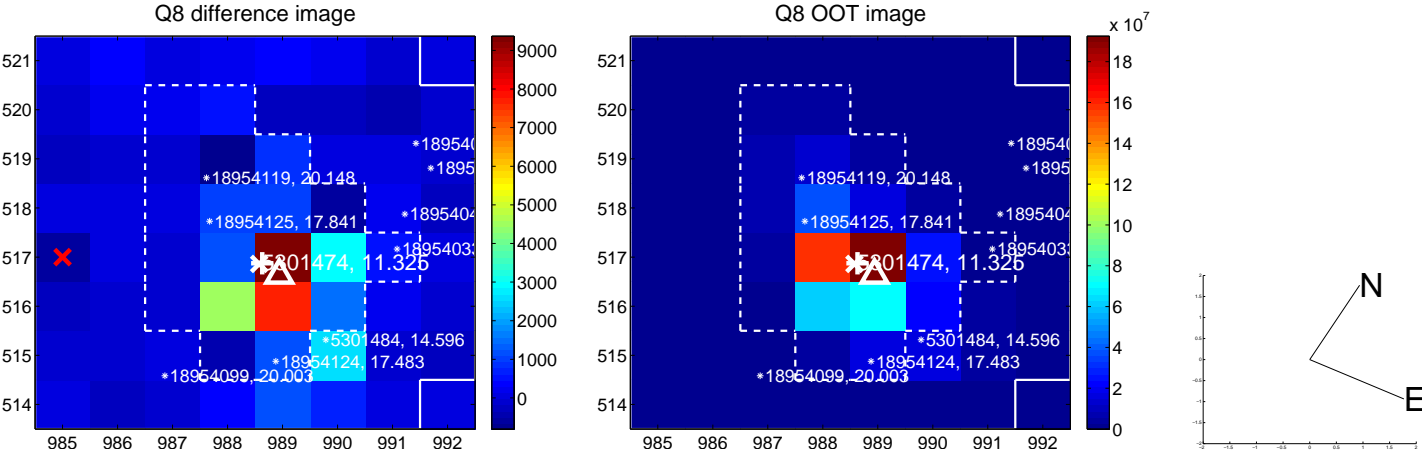
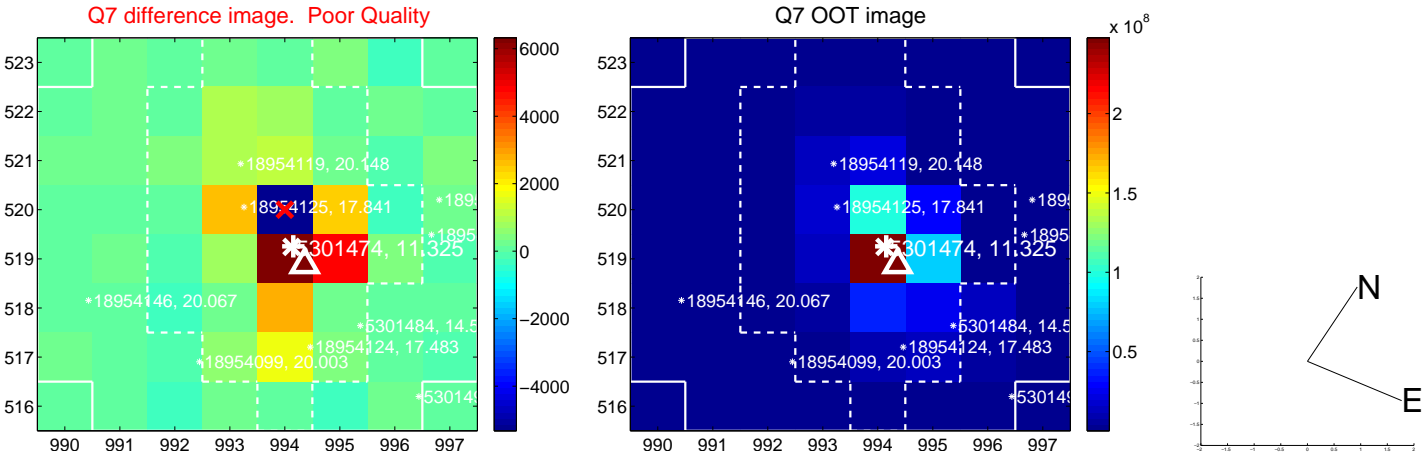
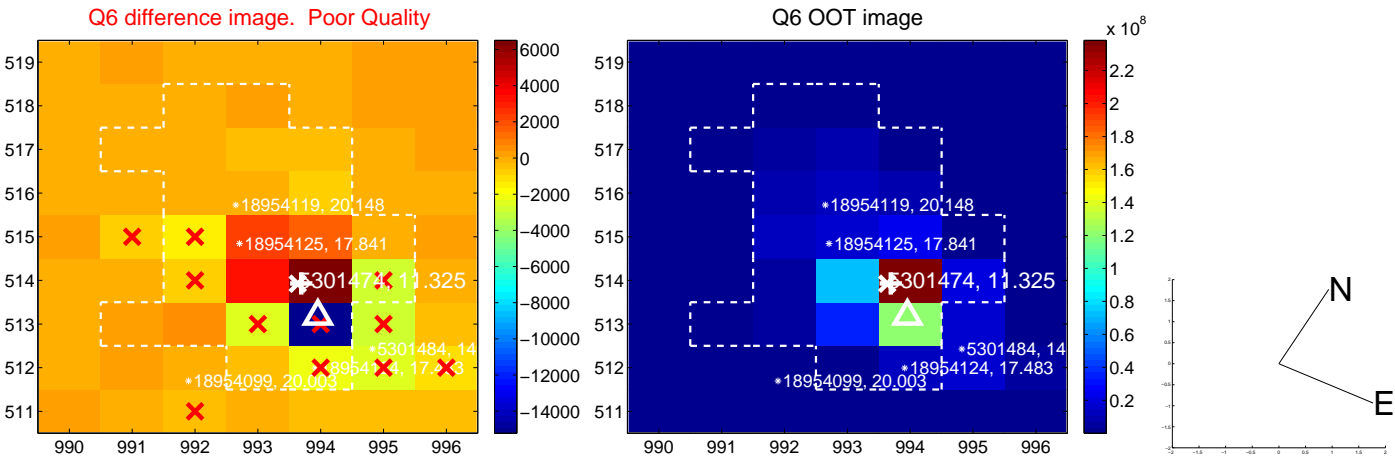
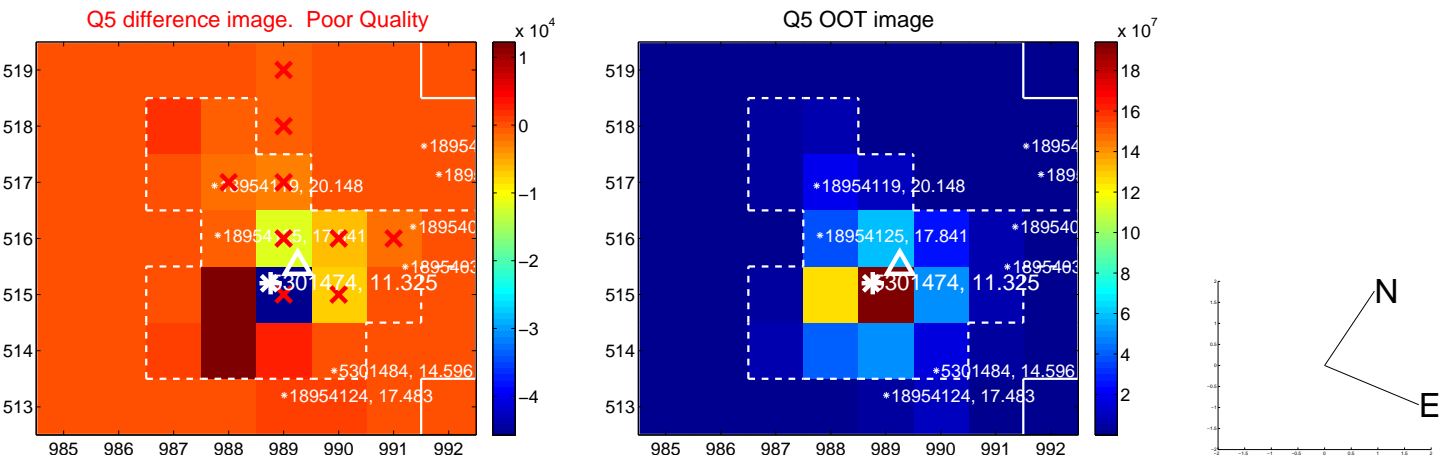


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

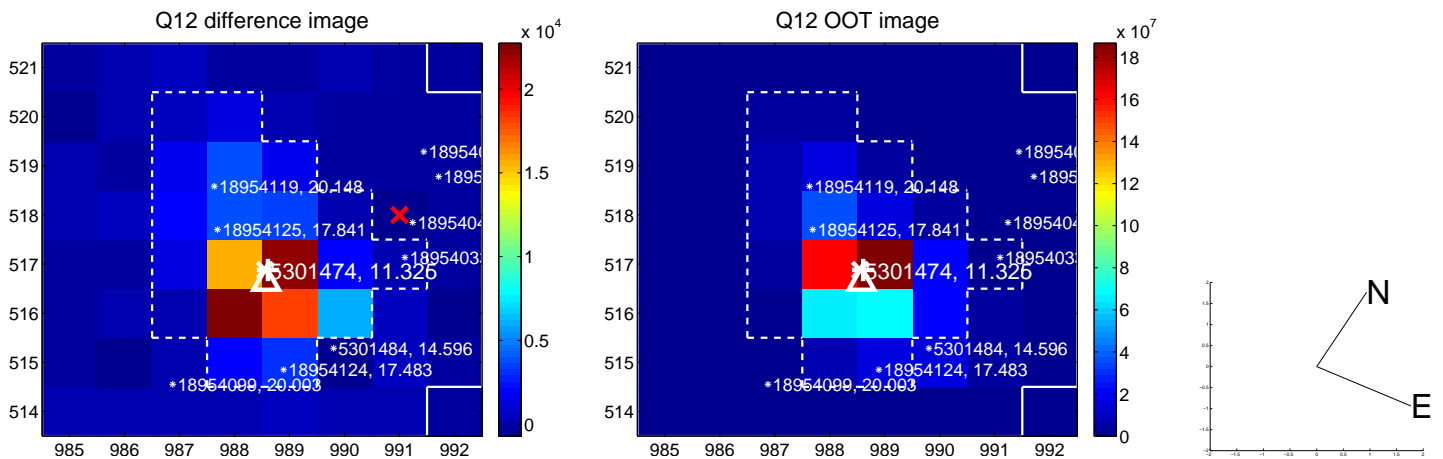
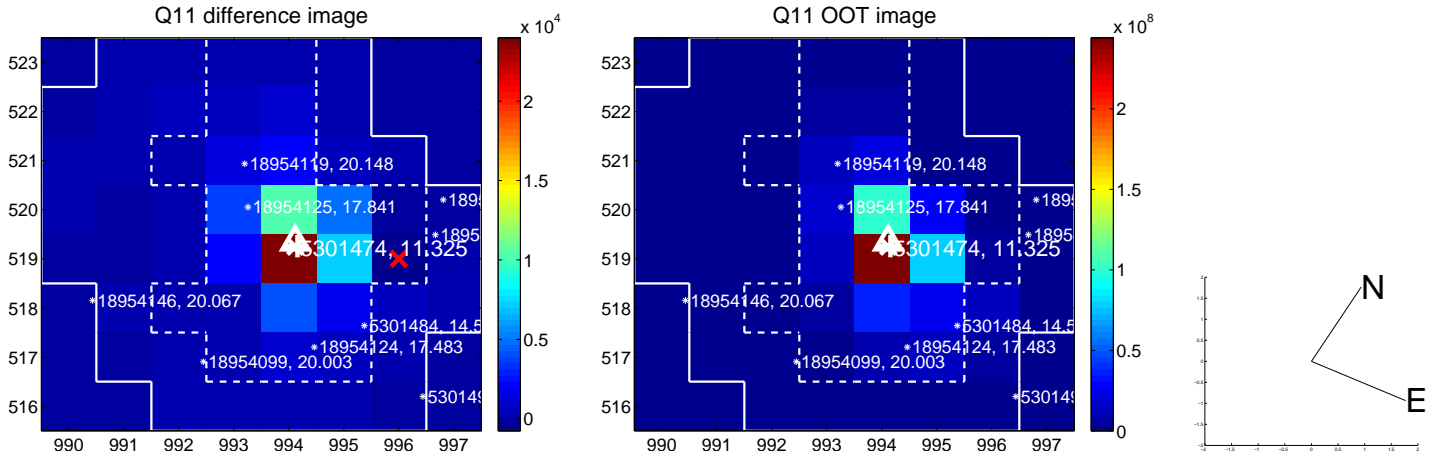
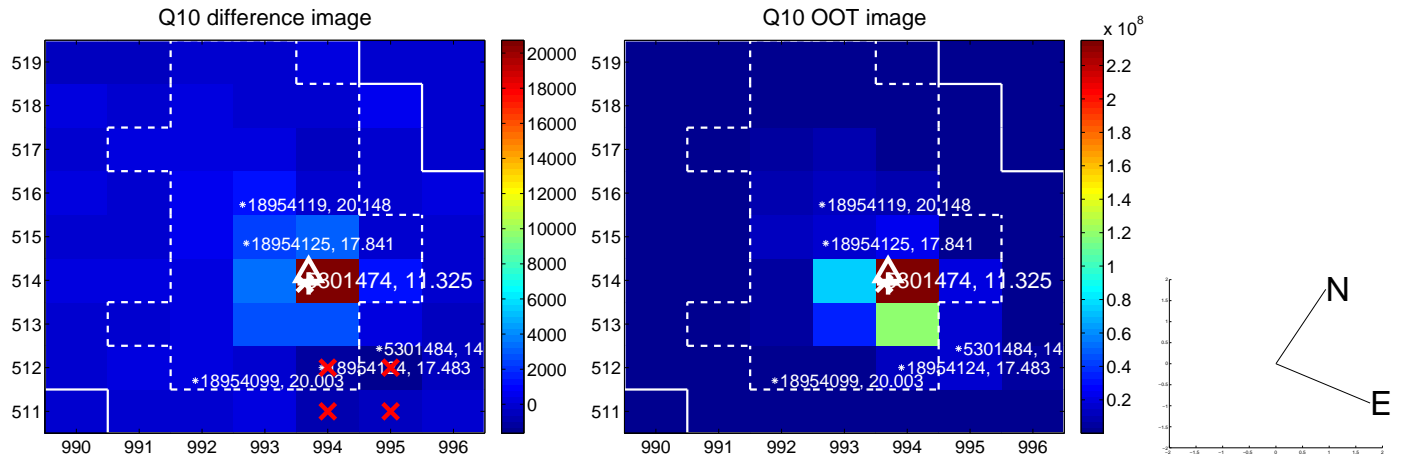
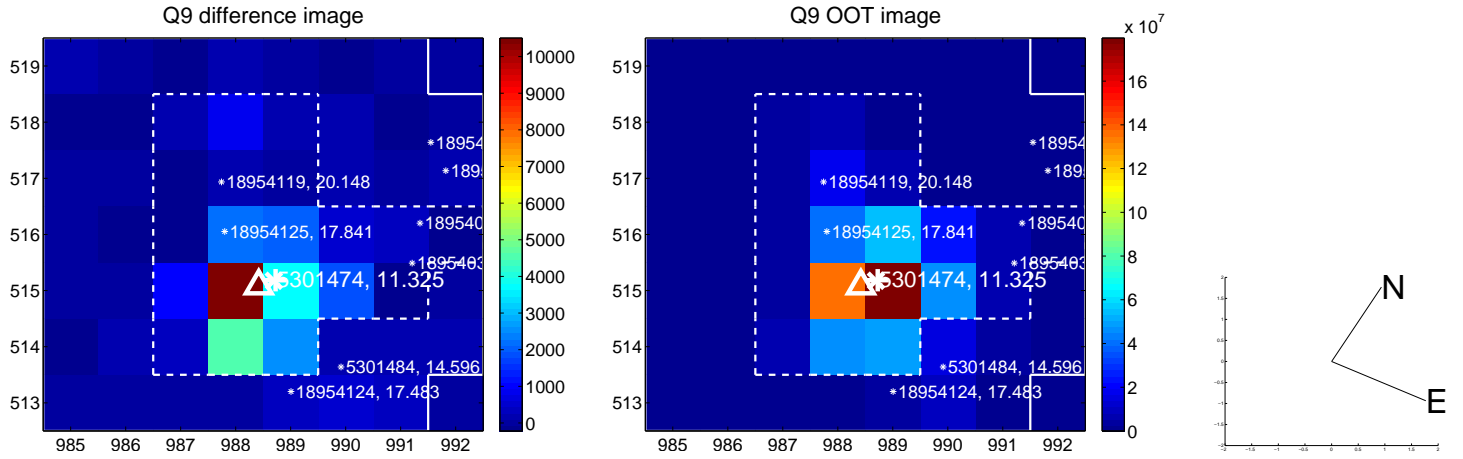
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



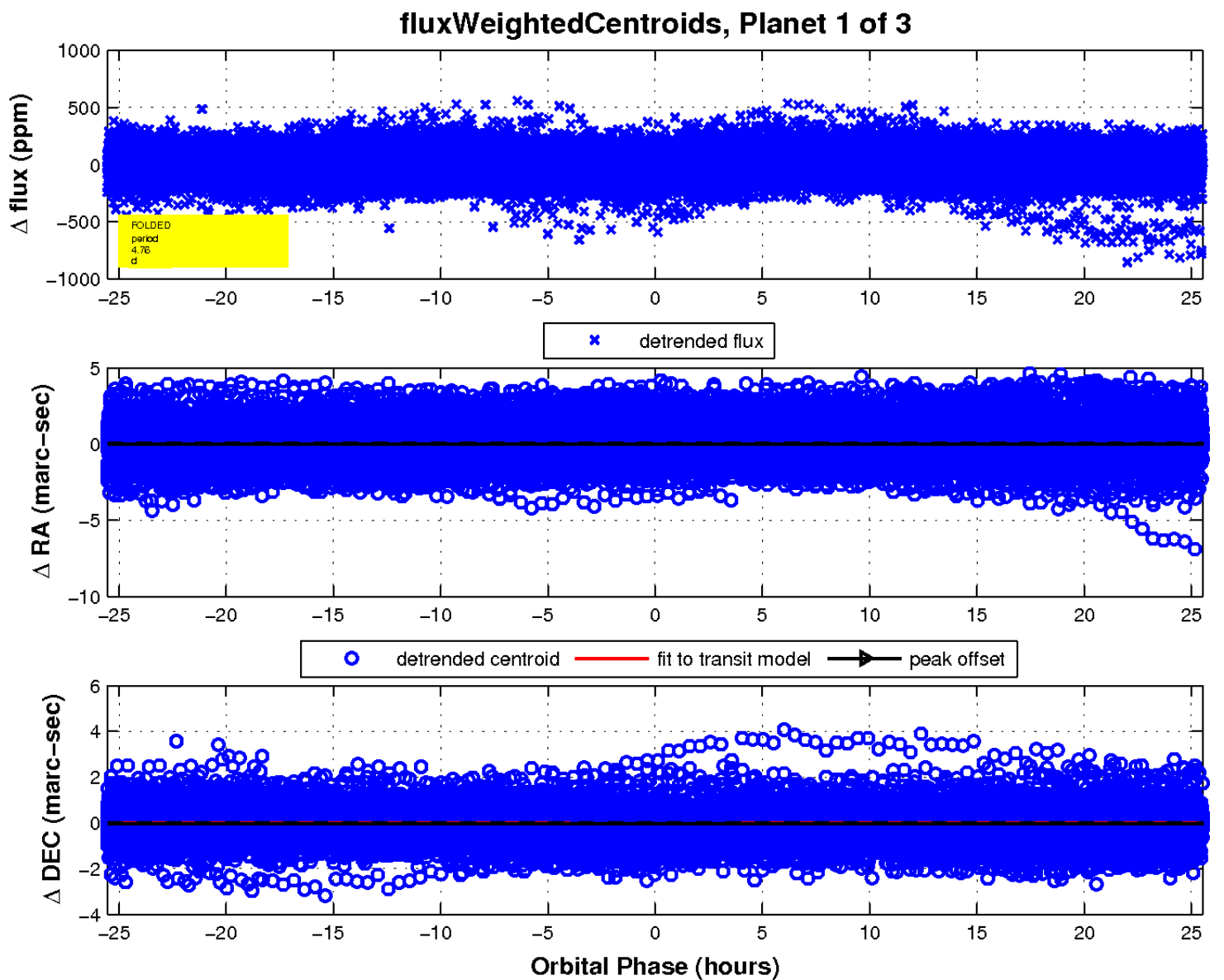
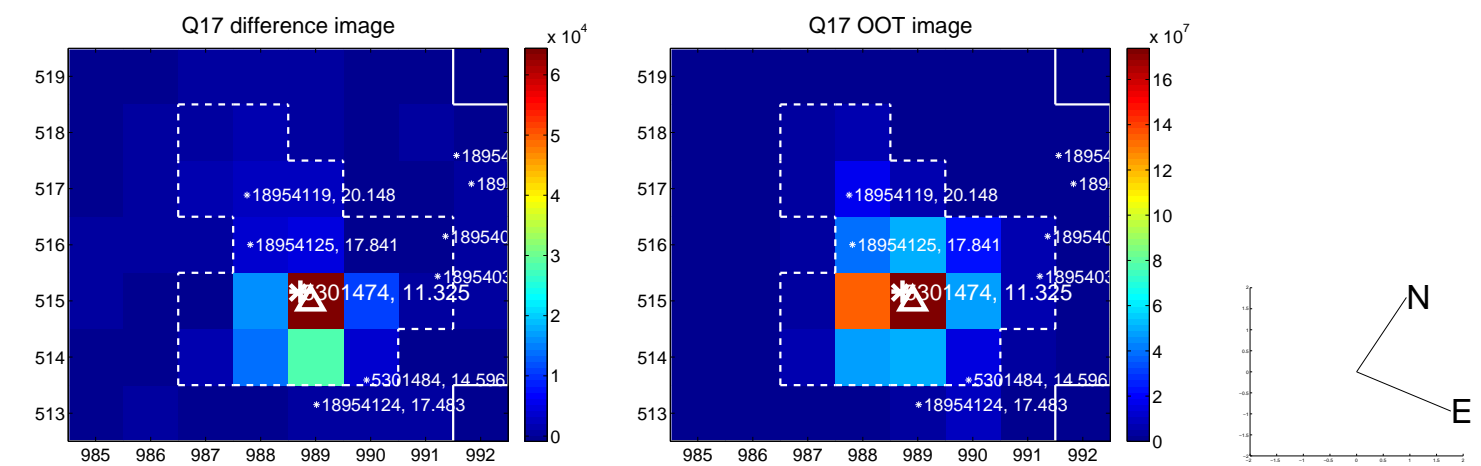
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

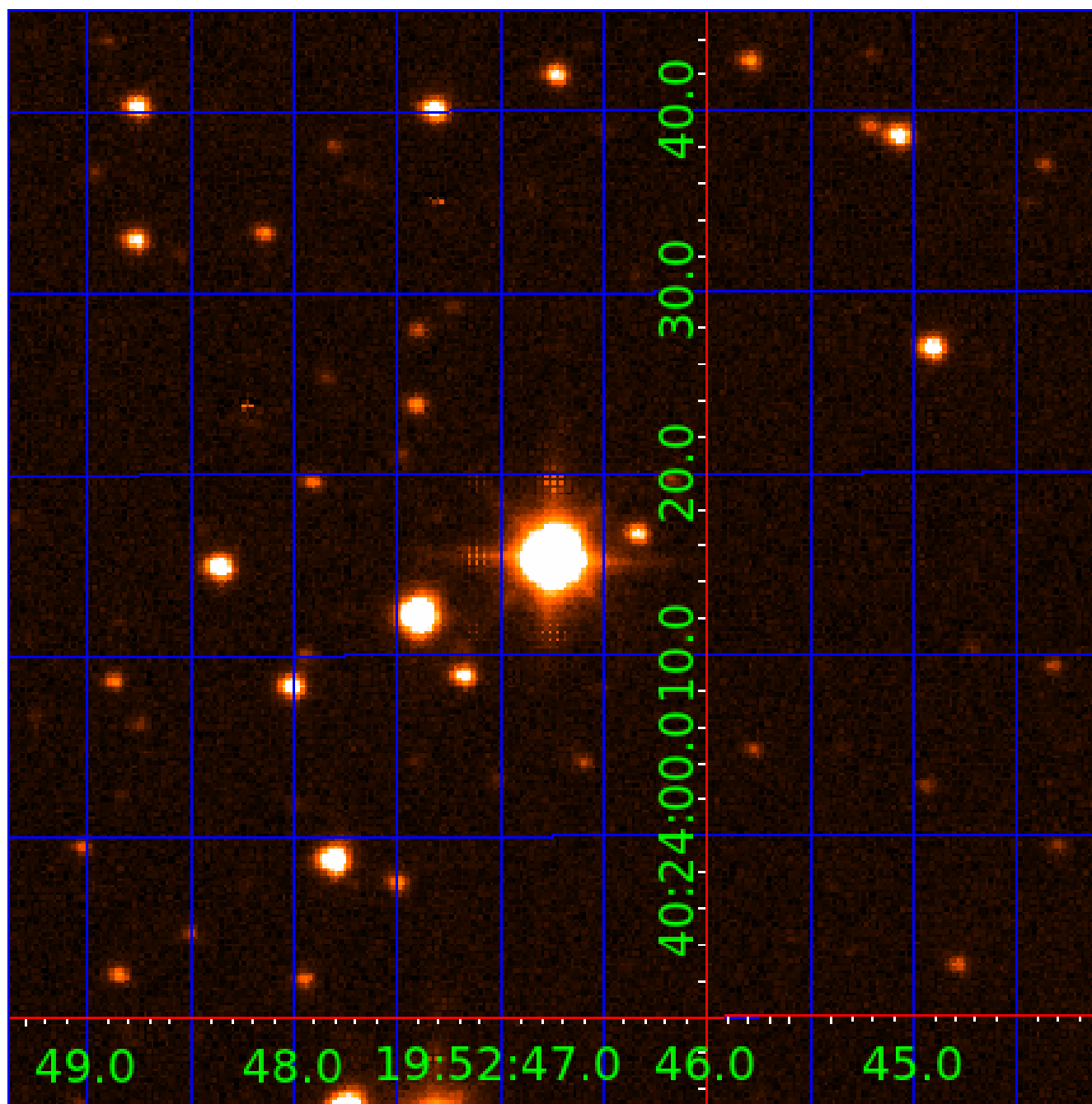


white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005301474

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})
005301474-01	OBS	No	4.764848	133.882618	26.8	8.513	8.0	7.7	2.45	6609	1.46	2477.16
005301474-02	OBS	No	4.764713	134.530830	10.2	12.076	7.7	2.5	2.45	6609	0.99	2477.26
005301474-03	OBS	No	4.764840	135.020389	29.8	19.883	9.5	5.5	2.45	6609	1.42	2477.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005301474-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
005301474-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED
005301474-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

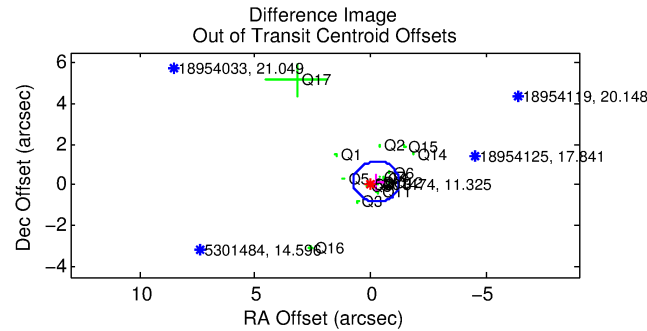
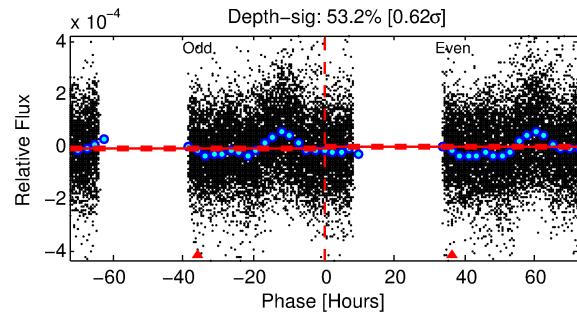
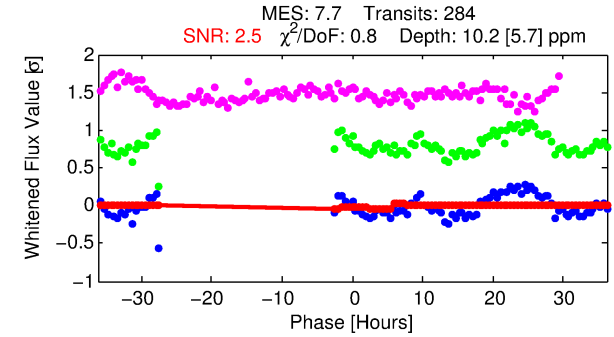
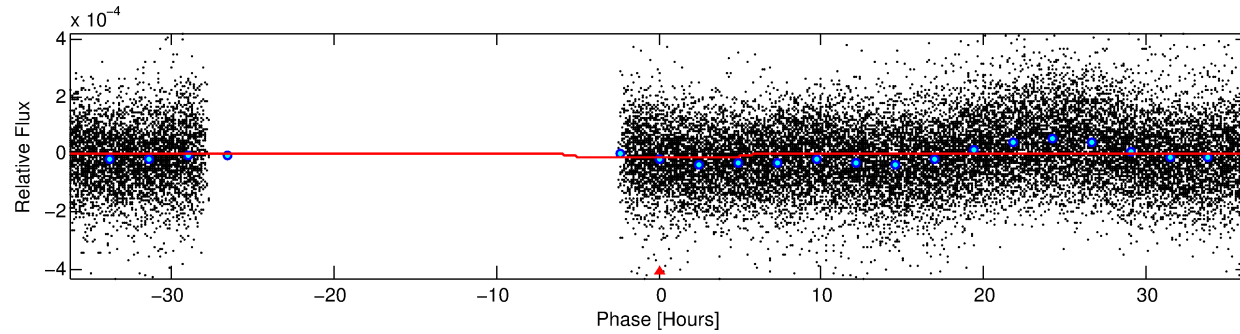
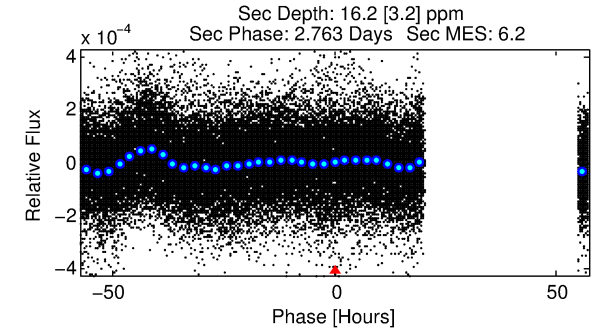
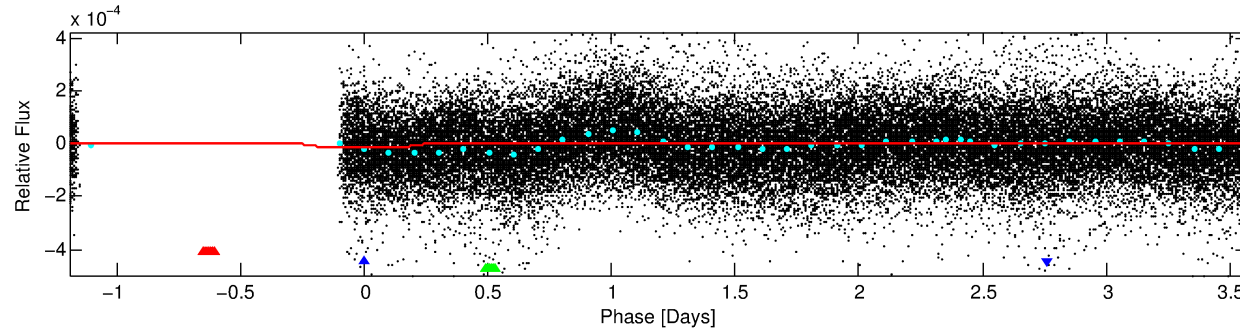
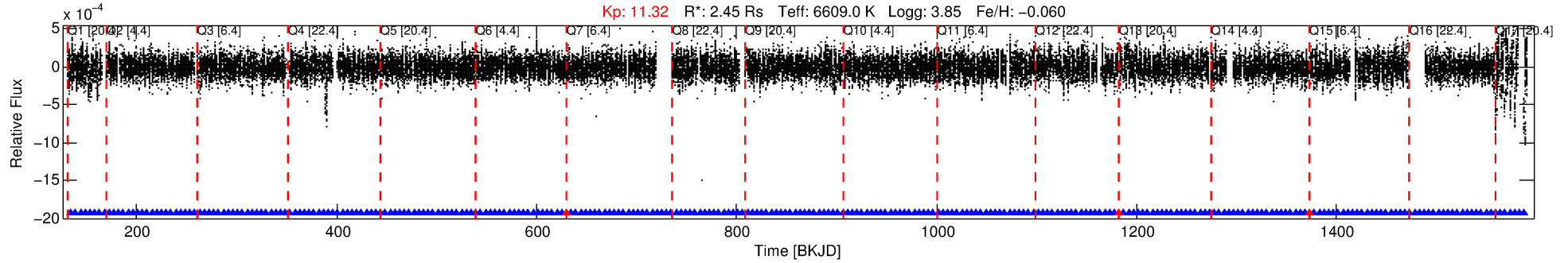
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005301474-02

No Significant Match Found

DV One-Page Summary

KIC: 5301474 Candidate: 2 of 3 Period: 4.765 d



DV Fit Results:

Period = 4.76471 [0.00019] d
Epoch = 134.5308 [0.2302] BKJD
Rp/R* = 0.0037 [0.0019]
a/R* = 1.28 [1.39]
b = 0.97 [0.13]
Seff = 2477.26 [1225.28]
Teq = 1799 [222] K
Rp = 1.00 [0.61] Re
a = 0.0645 [0.0203] AU
Ag = 37.34 [42.26] [0.86σ]
Teffp = 6876 [1773] K [2.84σ]

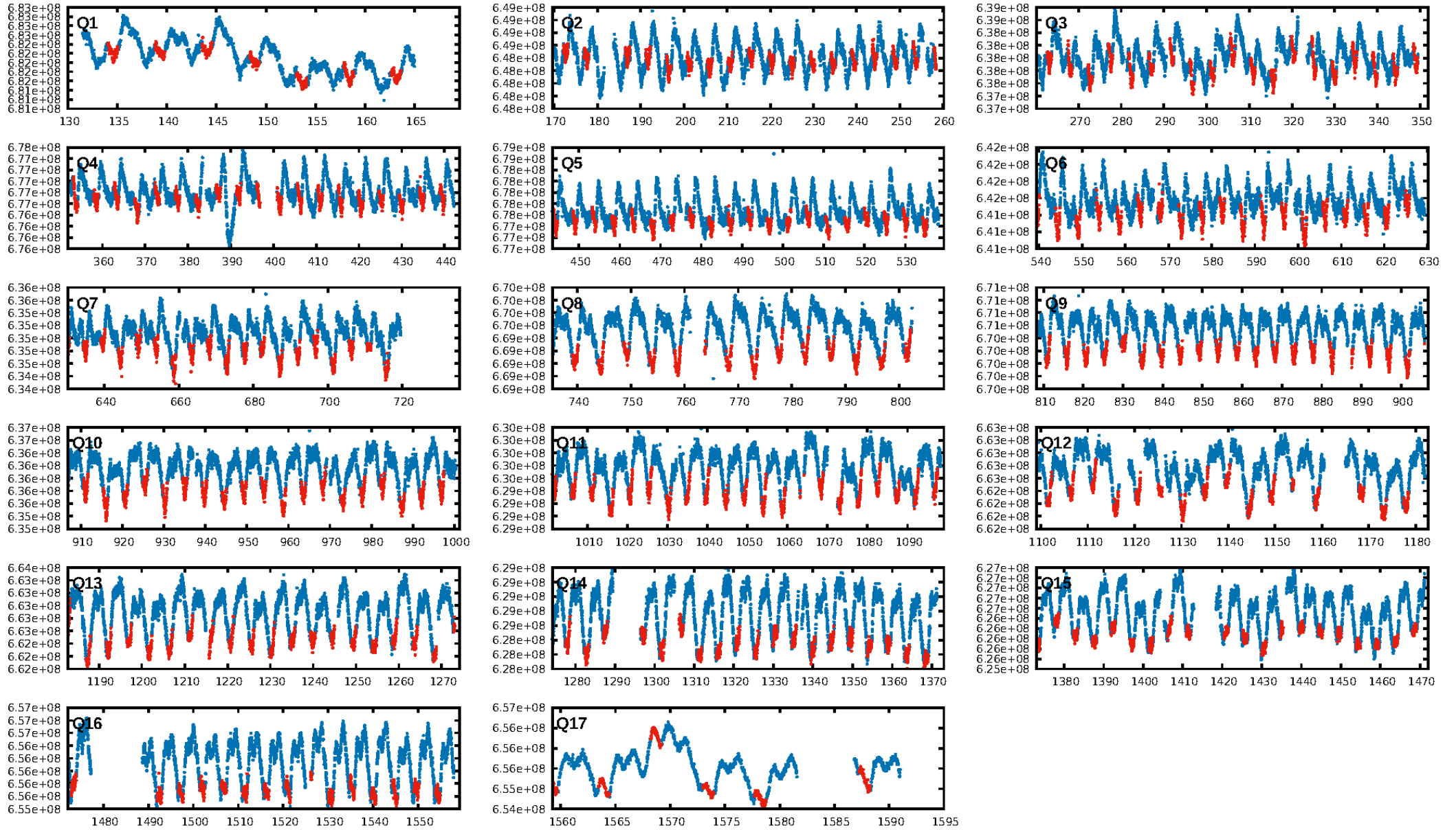
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.20e-06
RollingBand-fgt: 0.99 [268/271]
GhostDiagnostic-chr: 1.121
Centroid-sig: 0.0%
Centroid-so: 5.545 arcsec [2.37σ]
OotOffset-rm: 0.288 arcsec [0.87σ]
KicOffset-rm: 0.289 arcsec [0.73σ]
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]

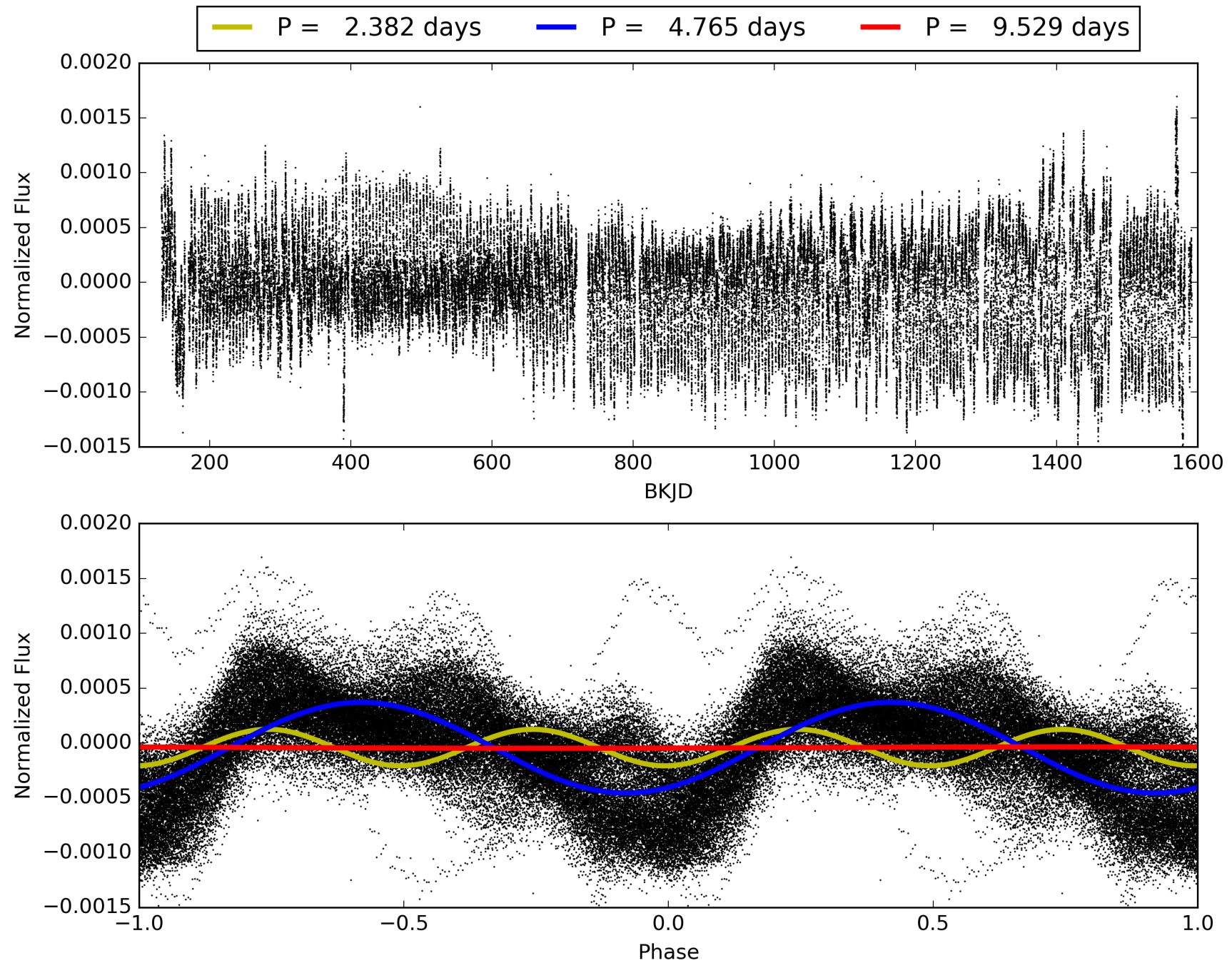
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:36:36 Z

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

TCE 005301474-02, PDC Light Curves

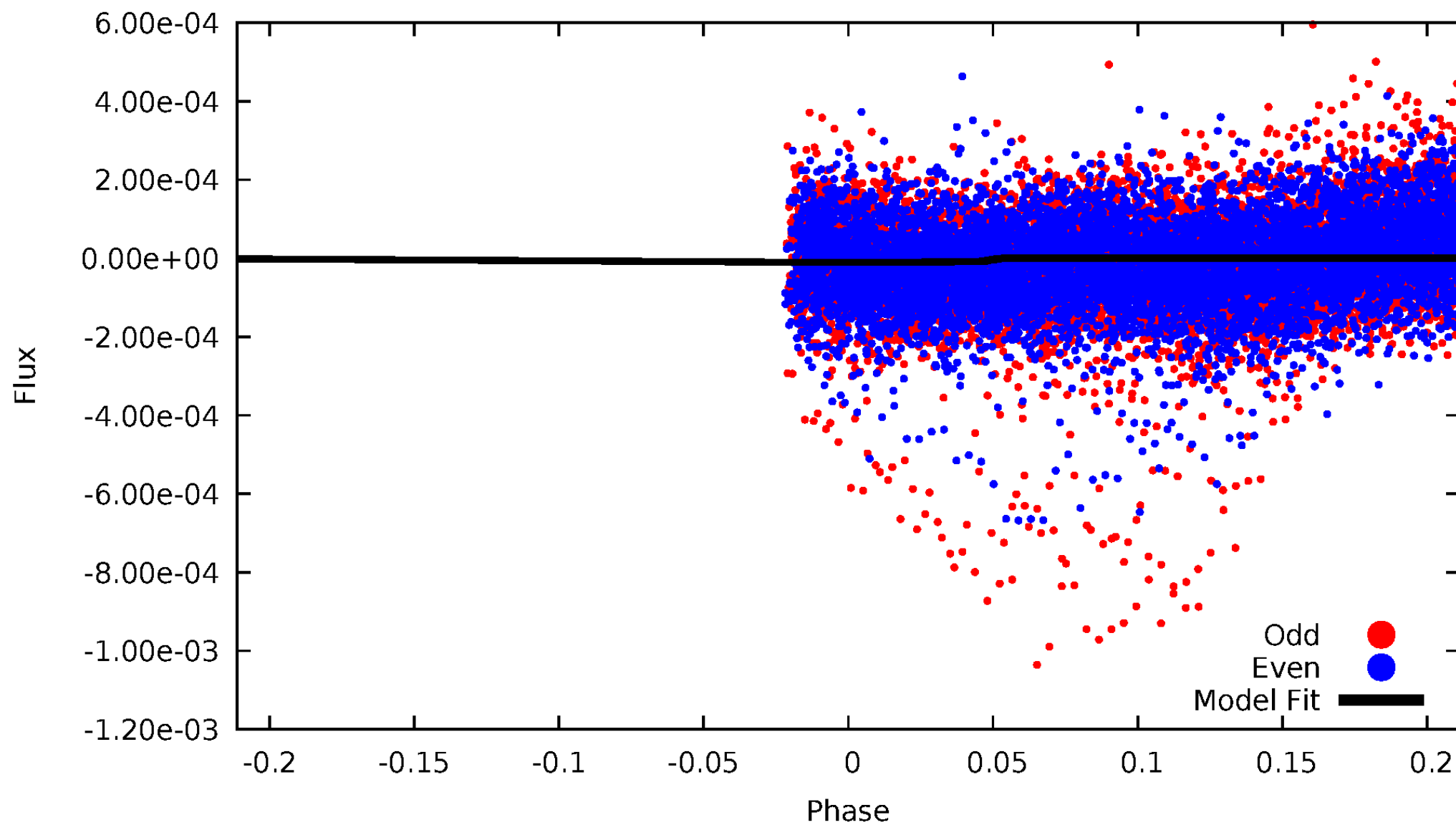


TCE 005301474-02



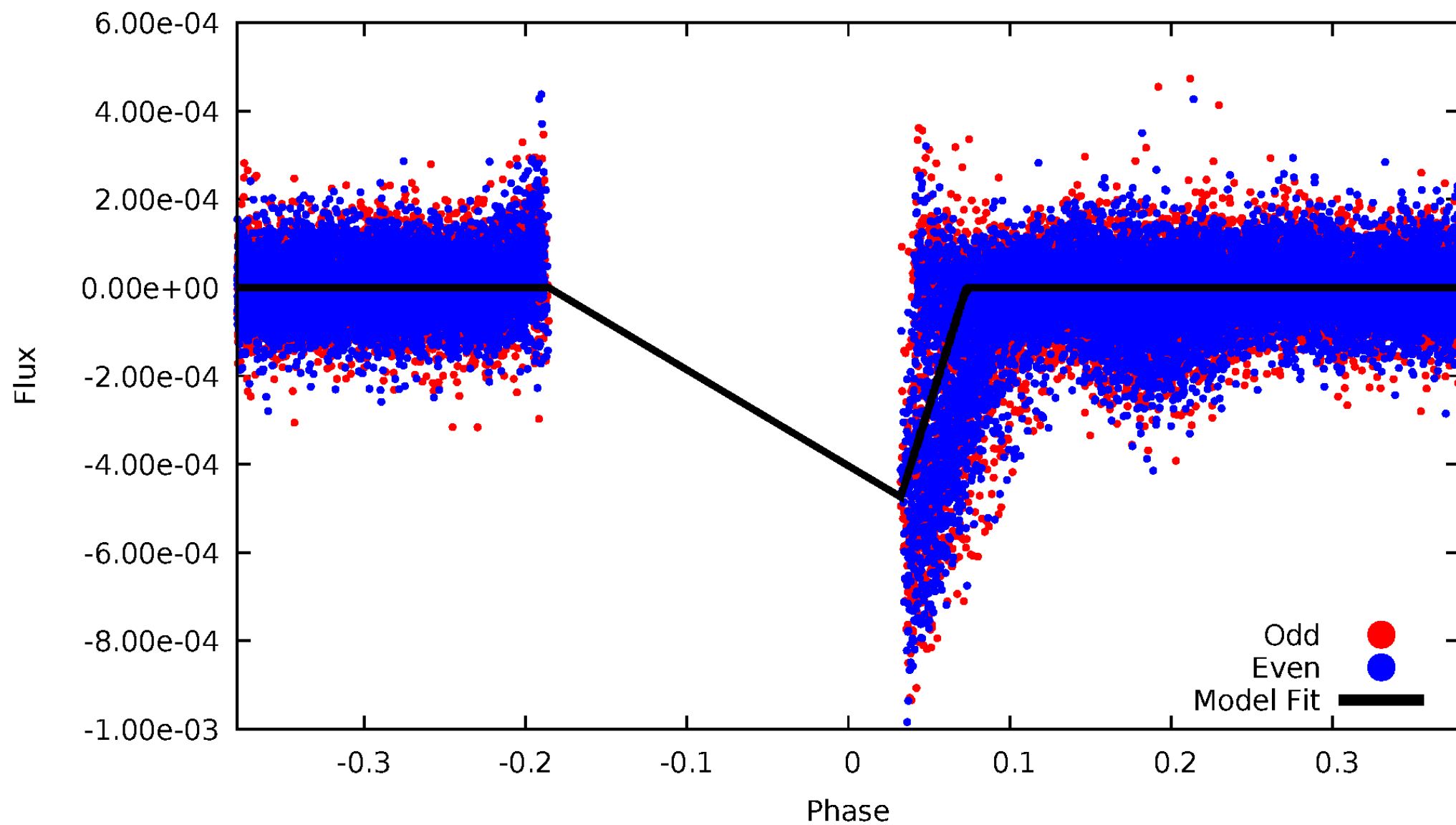
DV Odd/Even

TCE 005301474-02



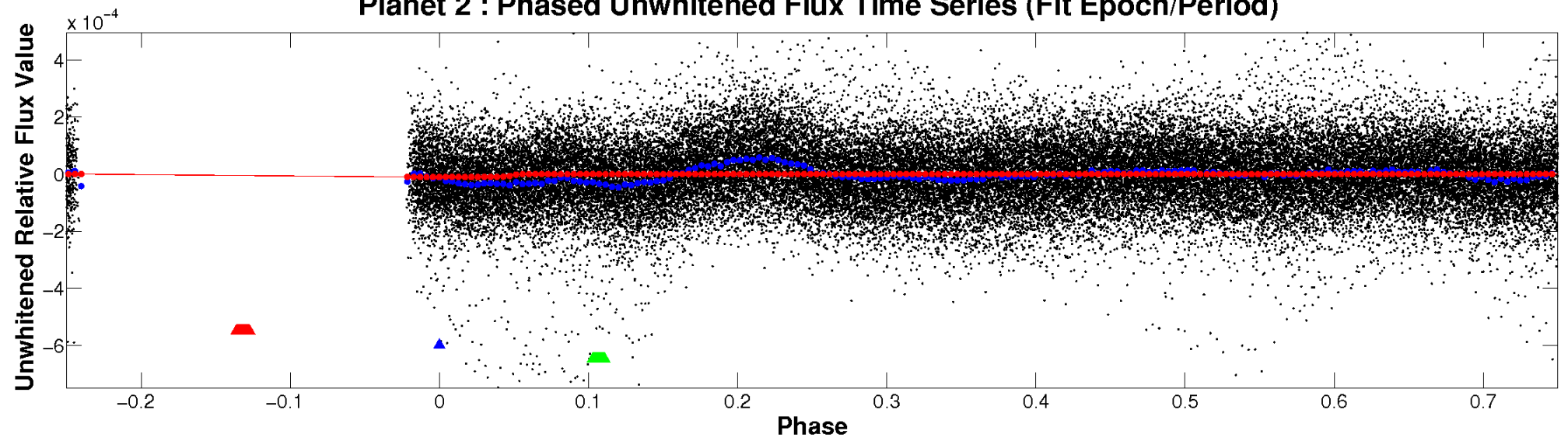
ALT Odd/Even

TCE 005301474-02

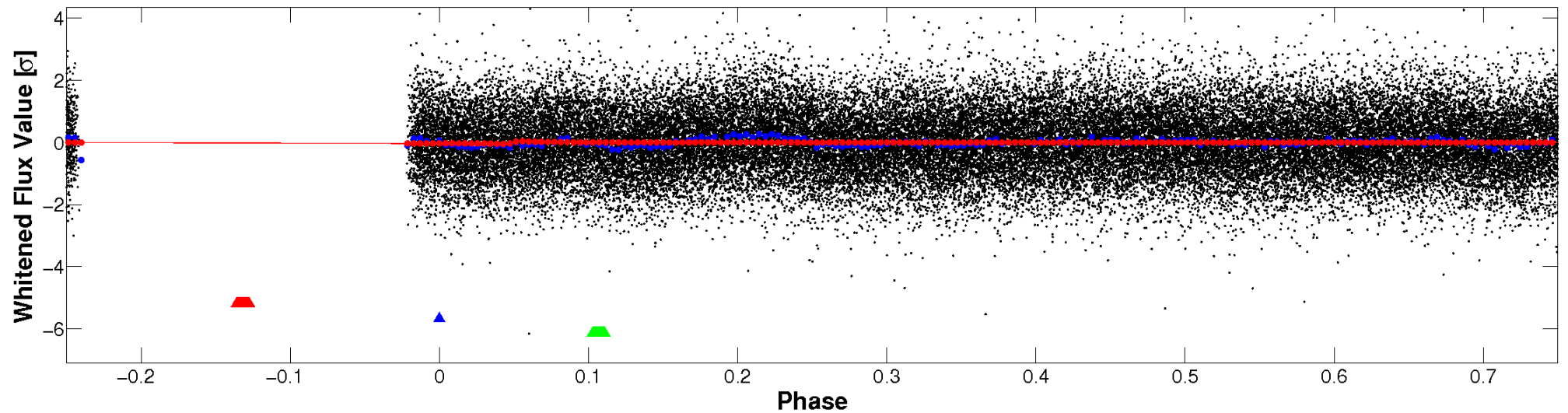


Non-Whitened Vs. Whitened Light Curve

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

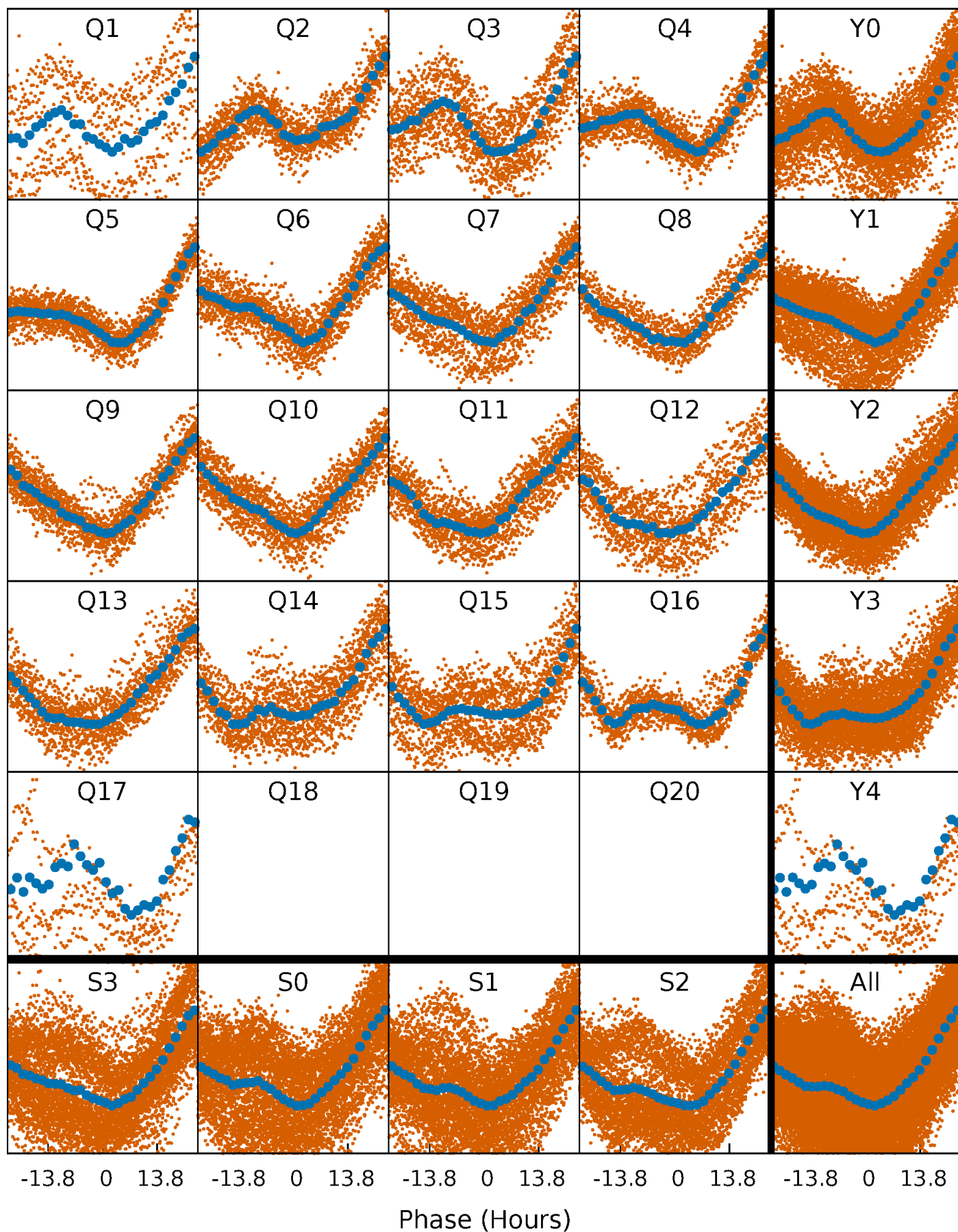


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



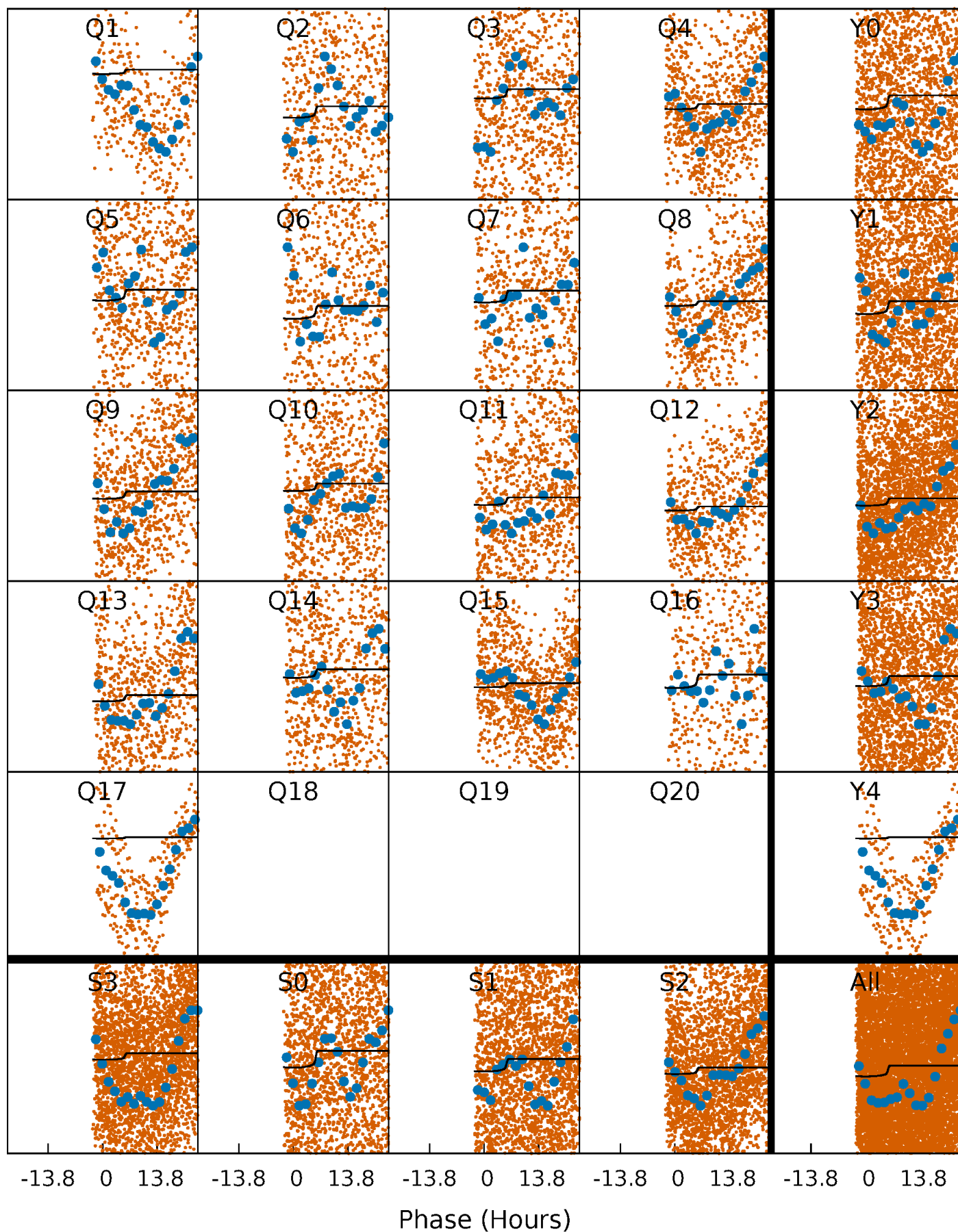
PDC Quarter-Phased Transit Curves

TCE 005301474-02 P= 4.764713 Days $T_0=134.530830$ (BKJD)



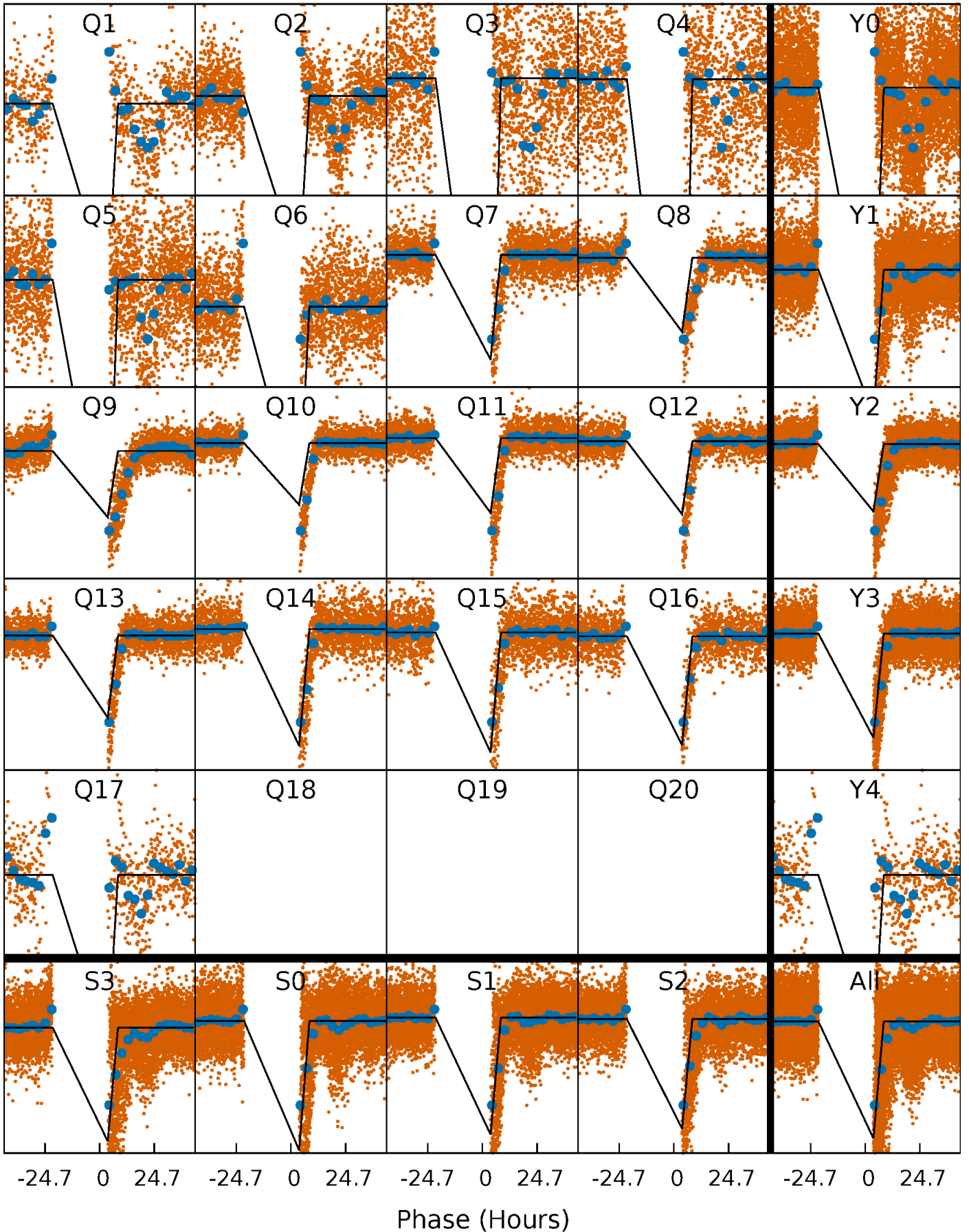
DV Quarter-Phased Transit Curves

TCE 005301474-02 $P = 4.764713$ Days $T_0 = 134.530830$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

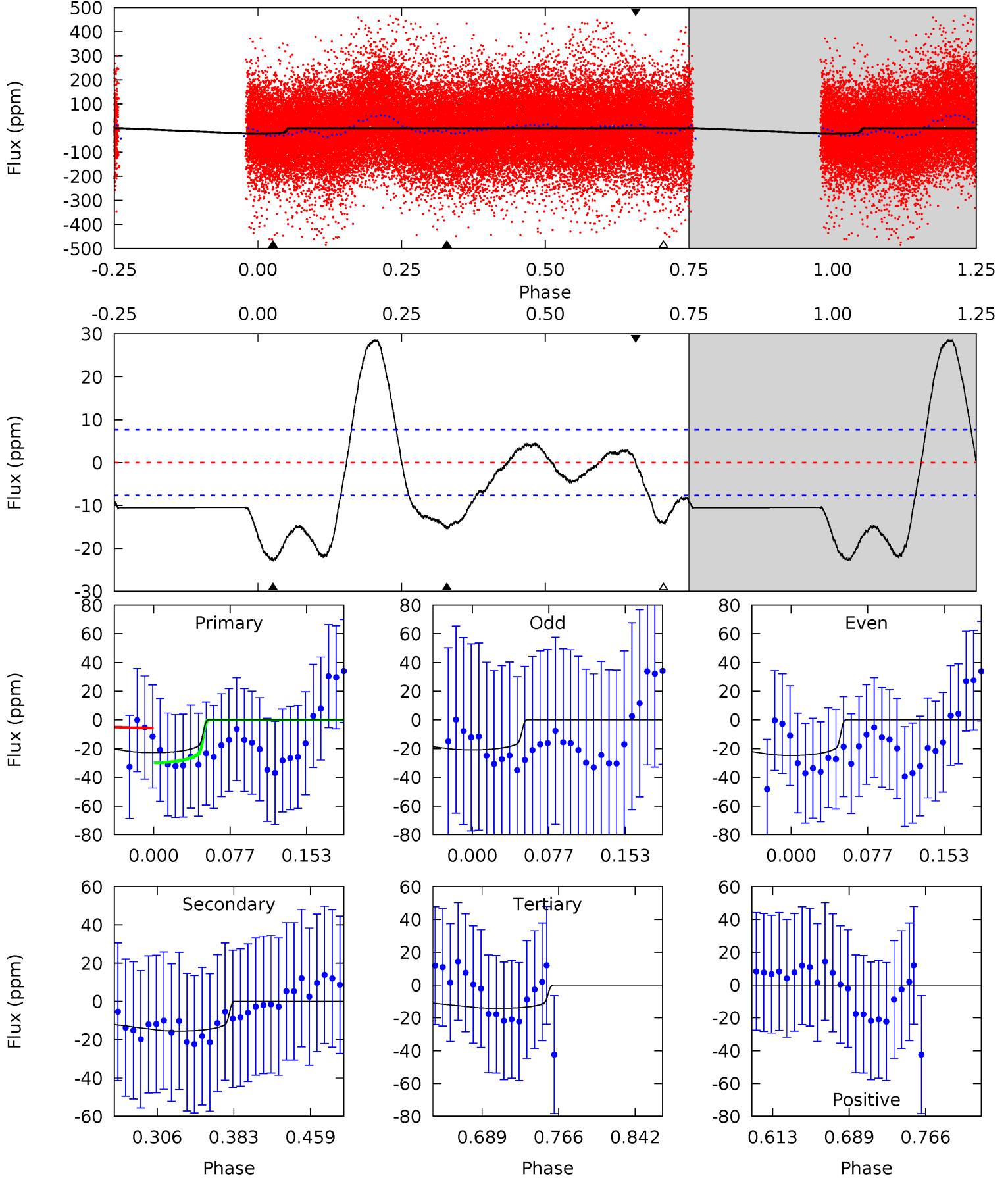
TCE 005301474-02 $P = 4.765020$ Days $T_0 = 134.222208$ (BKJD)



DV Model-Shift Uniqueness Test

005301474-02, P = 4.764713 Days, E = 129.766117 Days

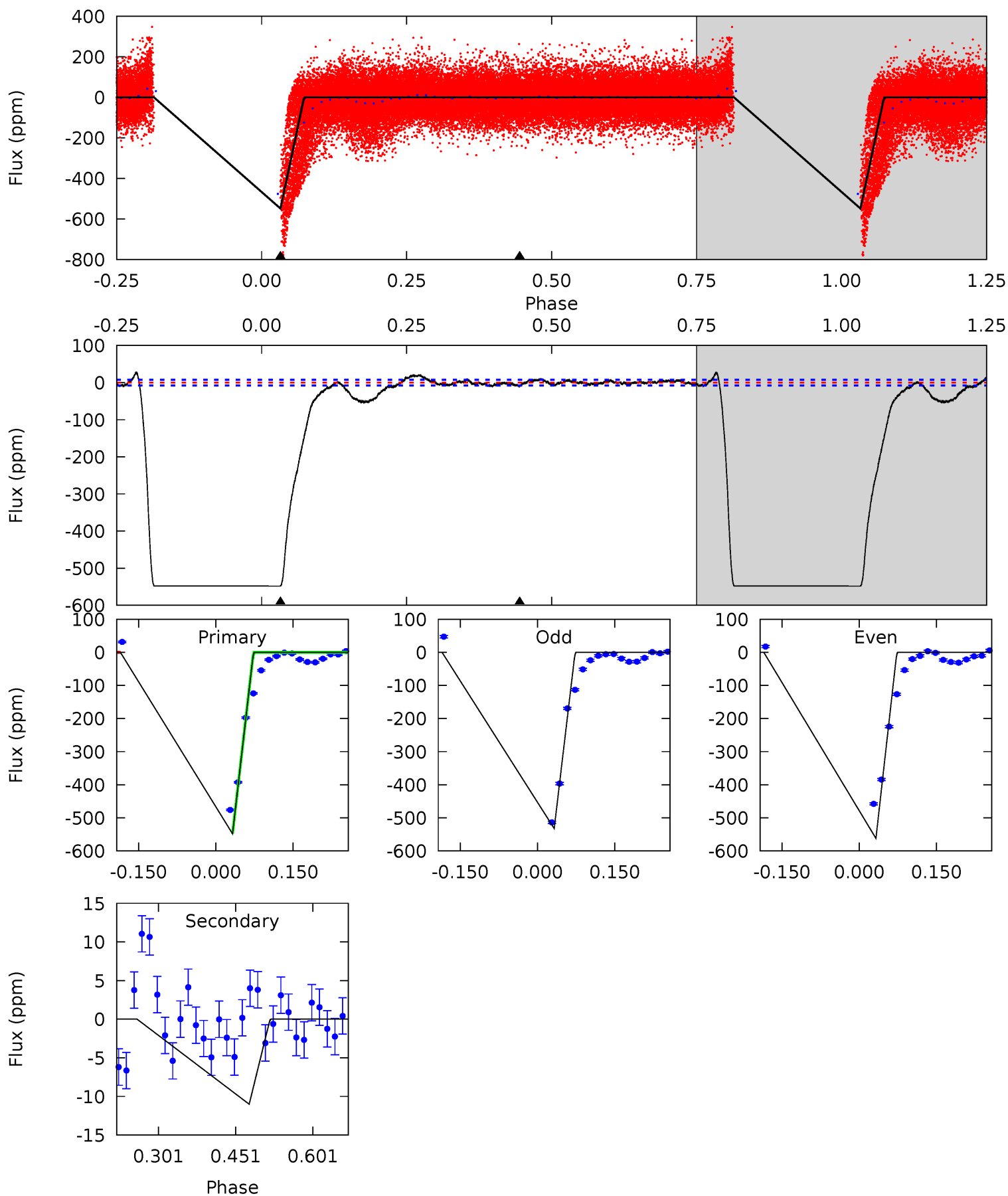
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.8	9.37	8.60	-0.02	4.62	1.77	6.46	5.24	13.9	0.77	9.40	1.19	1.11	0.56	6.39



Alt Model-Shift Uniqueness Test

005301474-02, P = 4.765020 Days, E = 129.457188 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
324.4	6.51	0	0	4.48	1.44	38.5	324.4	324.4	6.51	6.51	8.72	0.92	0.05	0



Stellar Parameters For KIC 005301474

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6609^{+156}_{-195}	$3.855^{+0.273}_{-0.117}$	$-0.060^{+0.300}_{-0.250}$	$2.454^{+0.465}_{-0.864}$	$1.571^{+0.183}_{-0.339}$	$0.150^{+0.275}_{-0.054}$
	+2%/-3%	+7%/-3%	+500%/-417%	+19%/-35%	+12%/-22%	+184%/-36%
Source	PHO1	FLK73	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 005301474-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-15 ± 2	$0.90^{+0.54}_{-0.47}$	2481^{+146}_{-219}	6842^{+4165}_{-1345}	42^{+146}_{-25}
Alt.	-11 ± 2	$5.73^{+0.89}_{-1.12}$	2471^{+163}_{-192}	2947^{+164}_{-190}	$0.772^{+0.353}_{-0.229}$

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

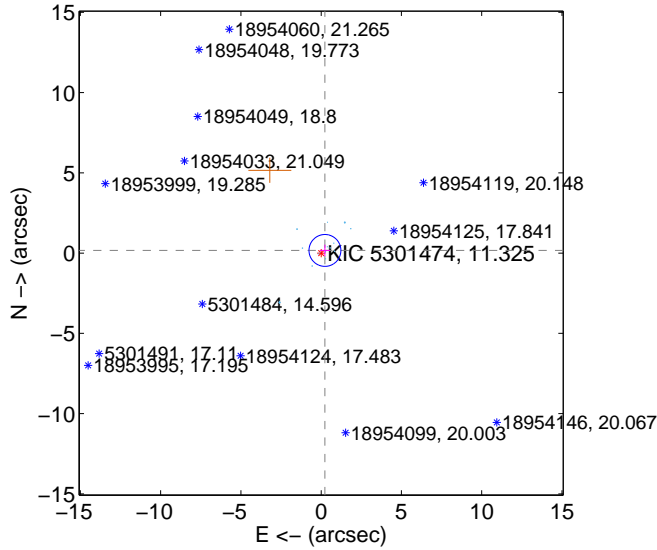
Supplemental centroid analysis for 005301474-02. **Kepler magnitude: 11.32.** Transit SNR 2.48

There are 16 quarters with good PRF difference image offsets

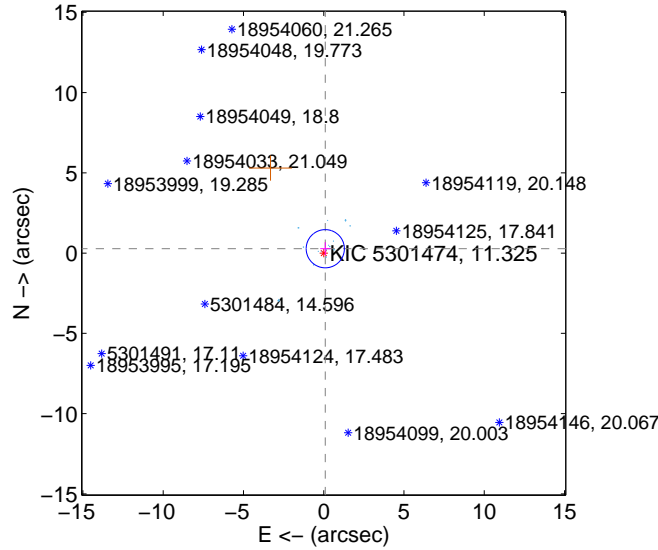
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.288 ± 0.331	0.87	-0.235 ± 0.320	0.166 ± 0.362
PRF-fit source offset from KIC position	0.289 ± 0.396	0.73	-0.097 ± 0.316	0.272 ± 0.407
photometric centroid source offset	5.55 ± 2.34	2.37	-1.70 ± 3.55	5.28 ± 2.18

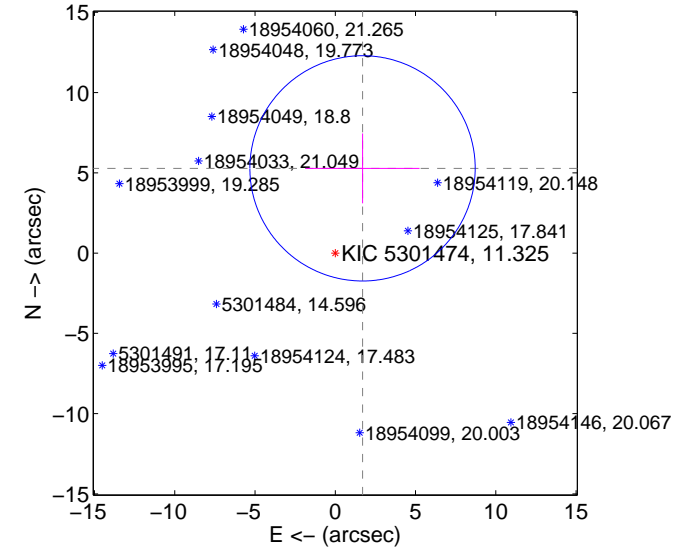
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

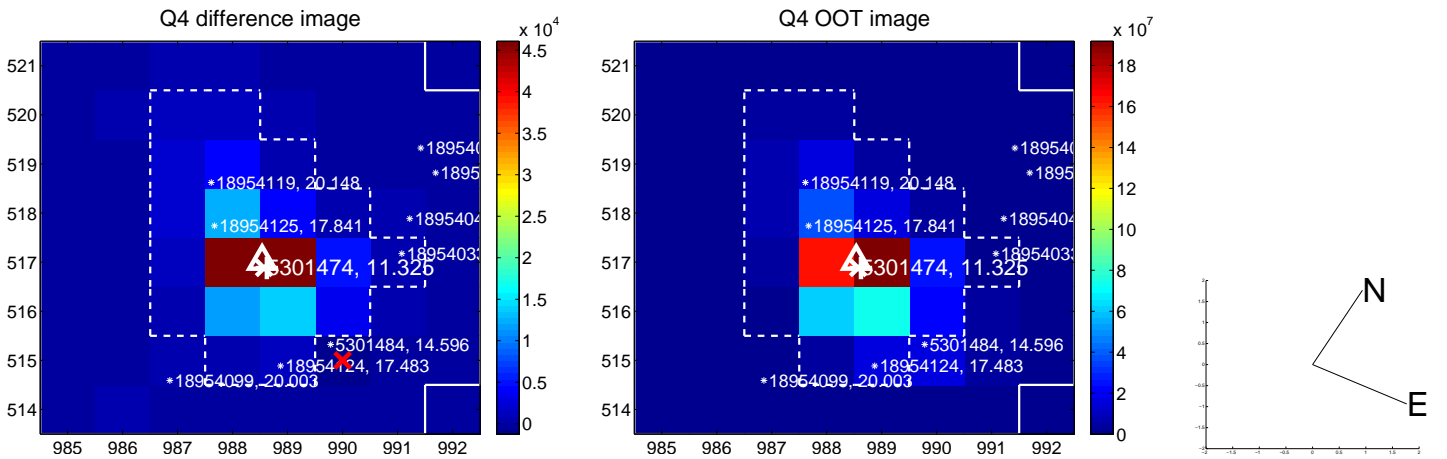
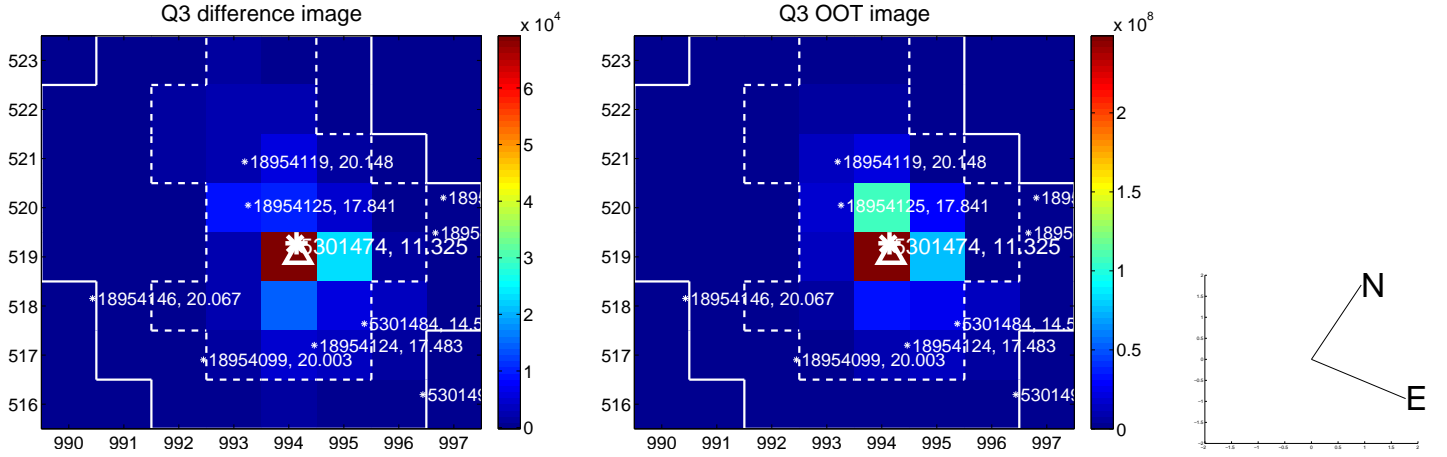
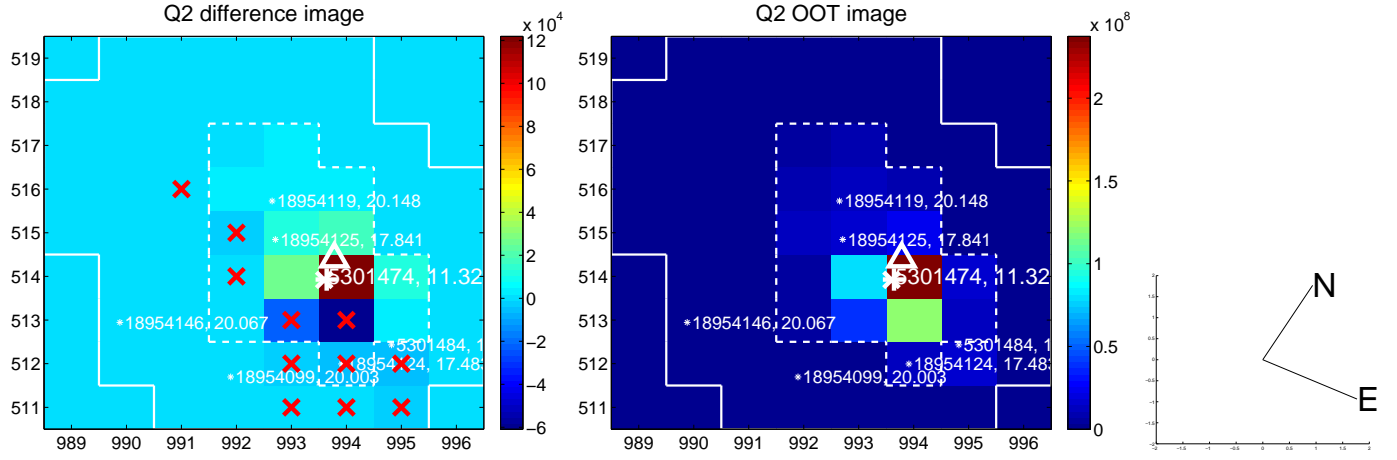
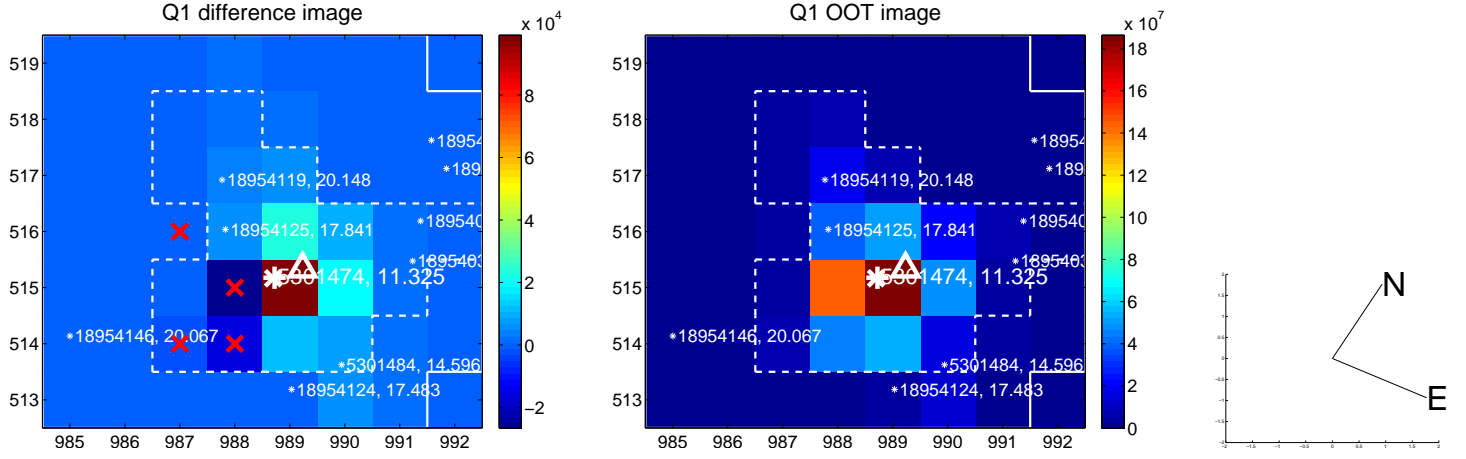


offset from photometric centroids

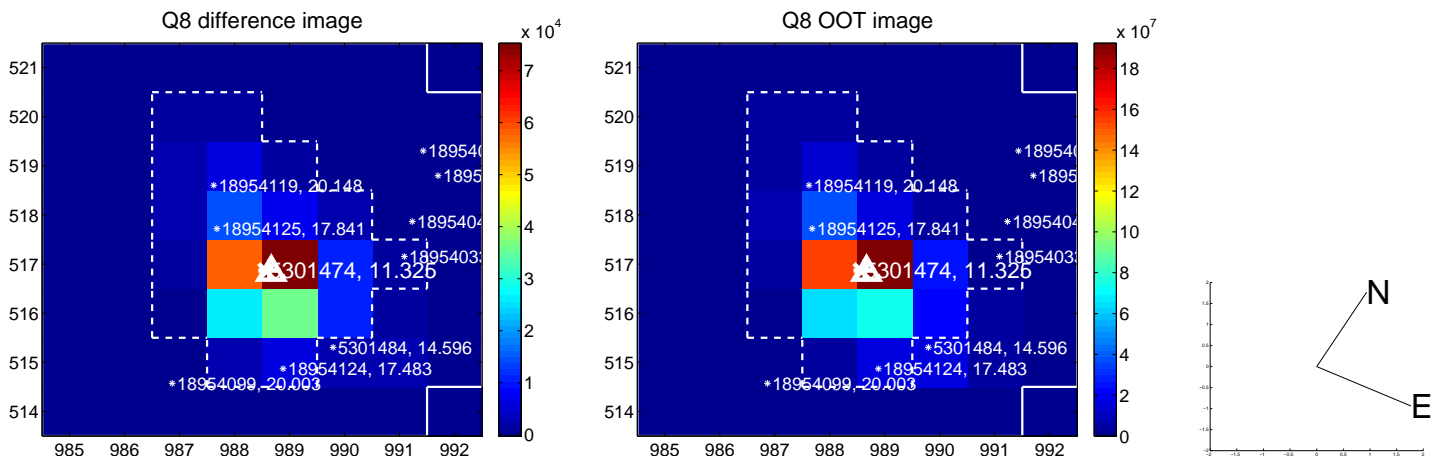
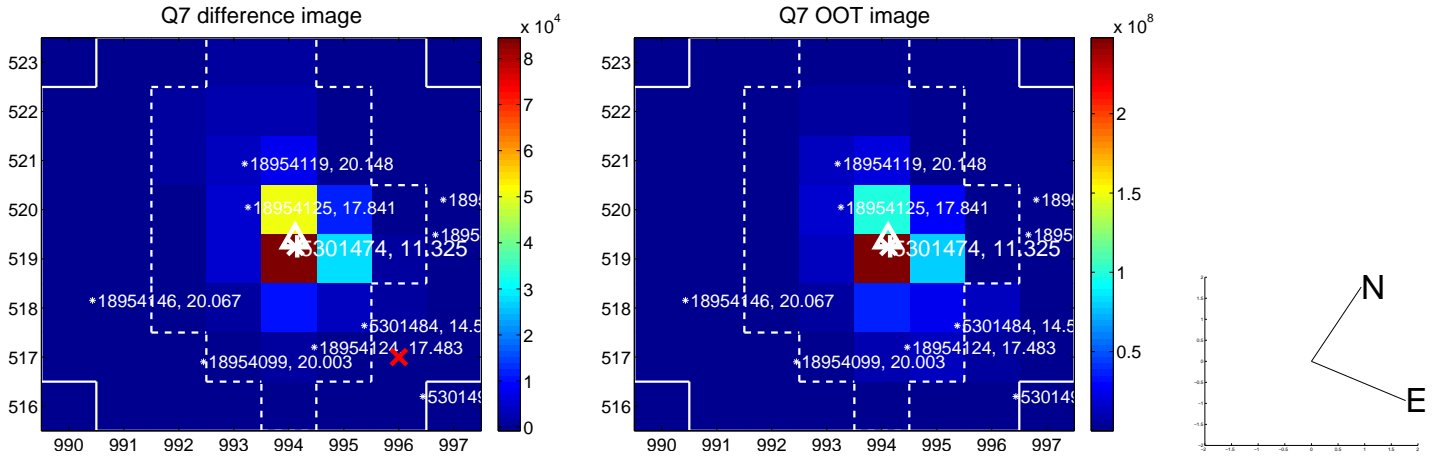
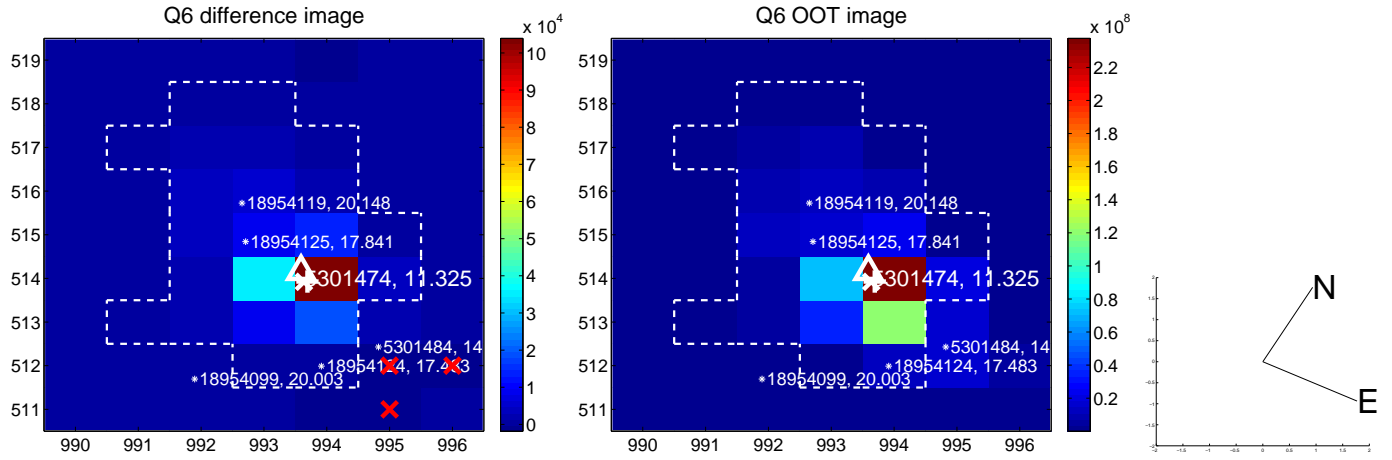
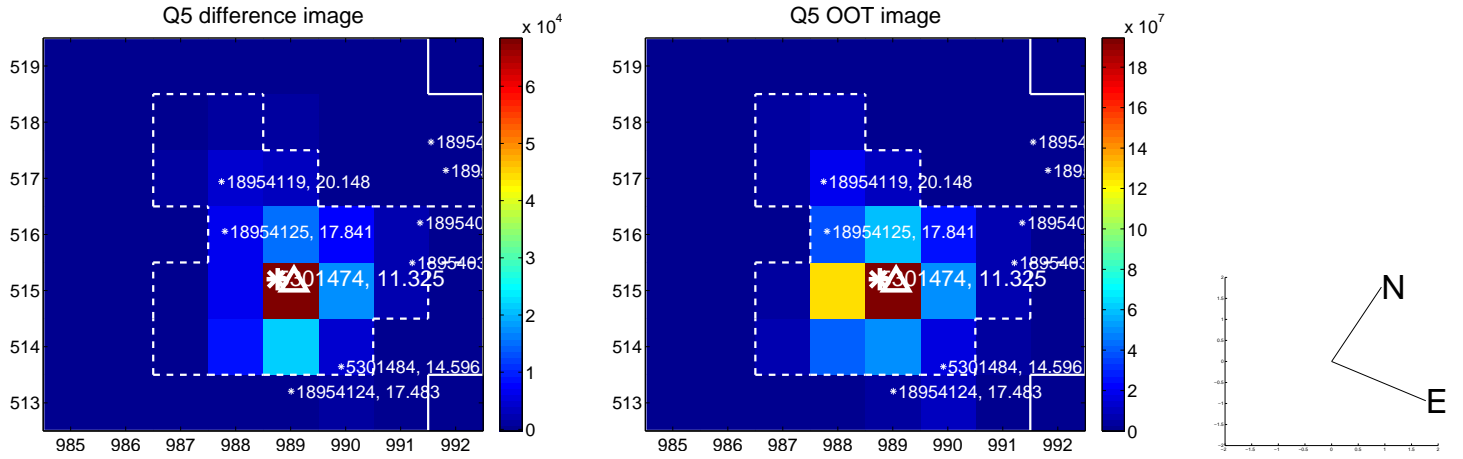


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

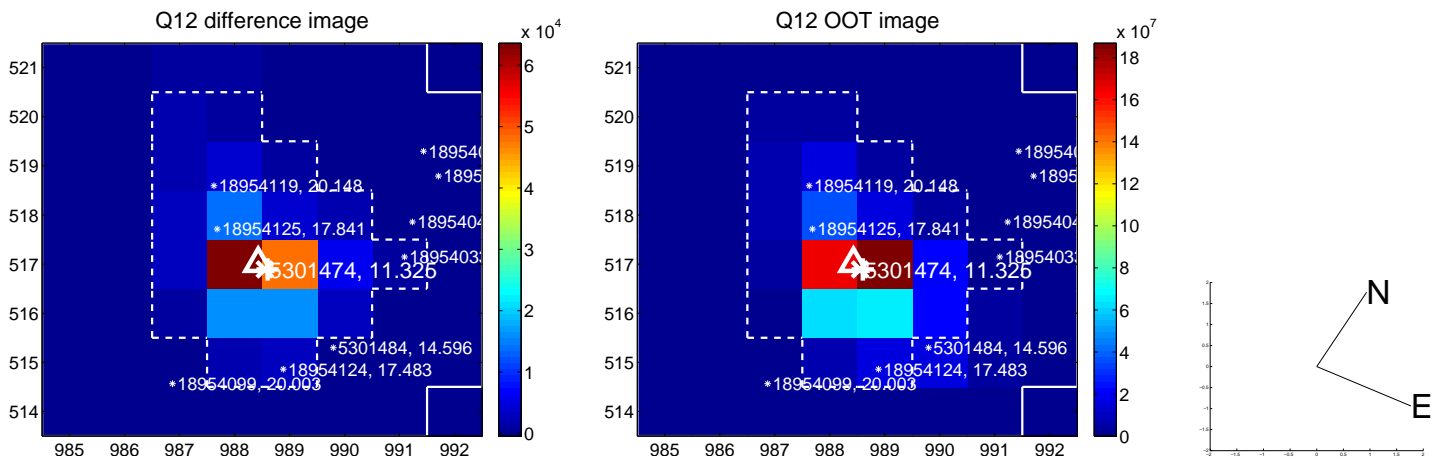
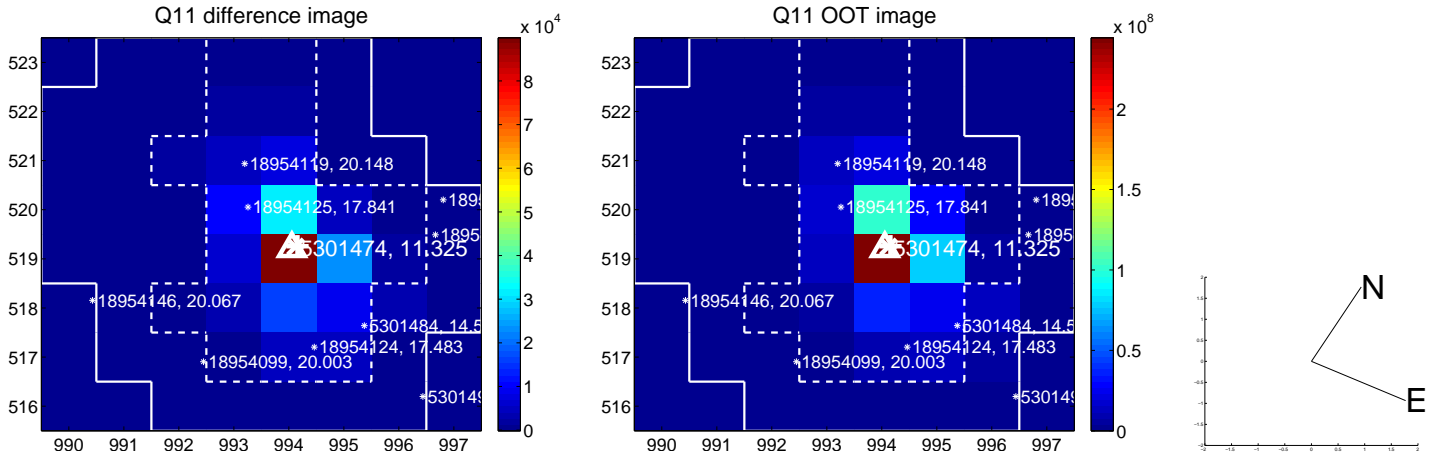
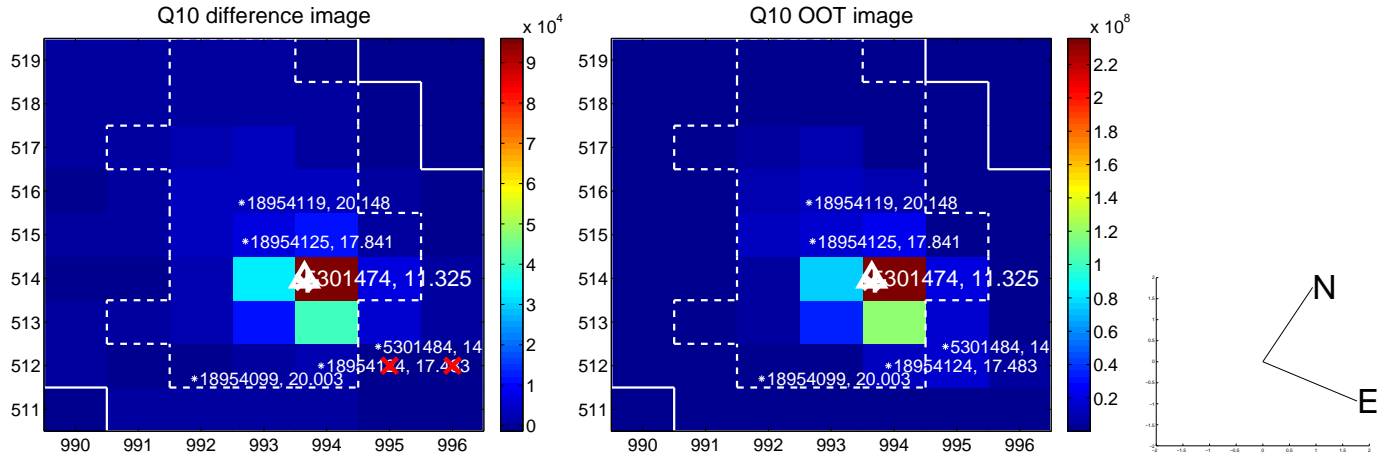
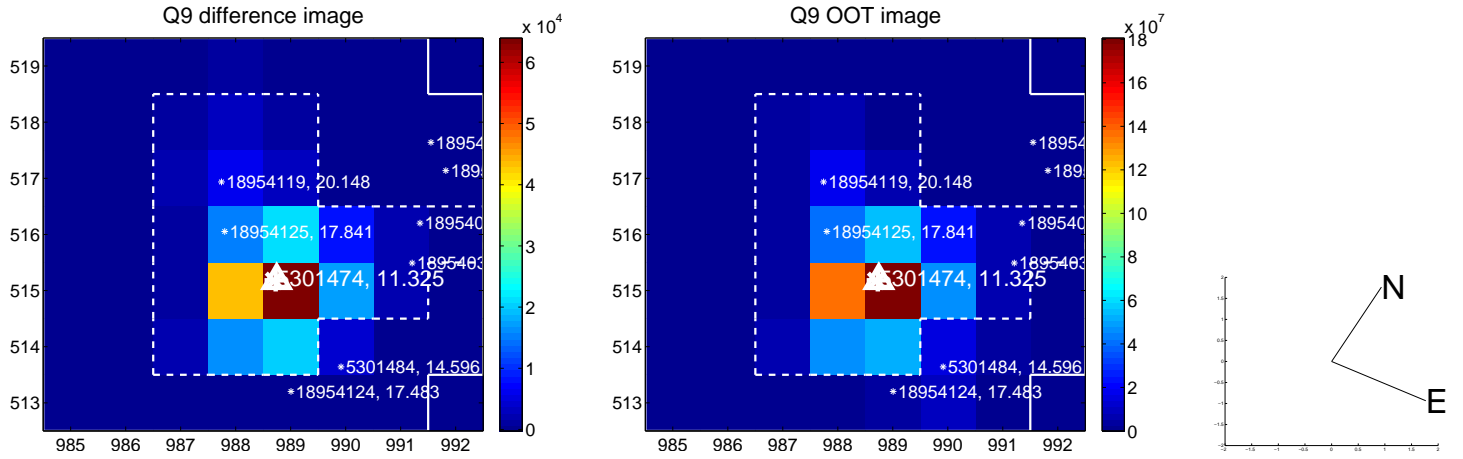
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



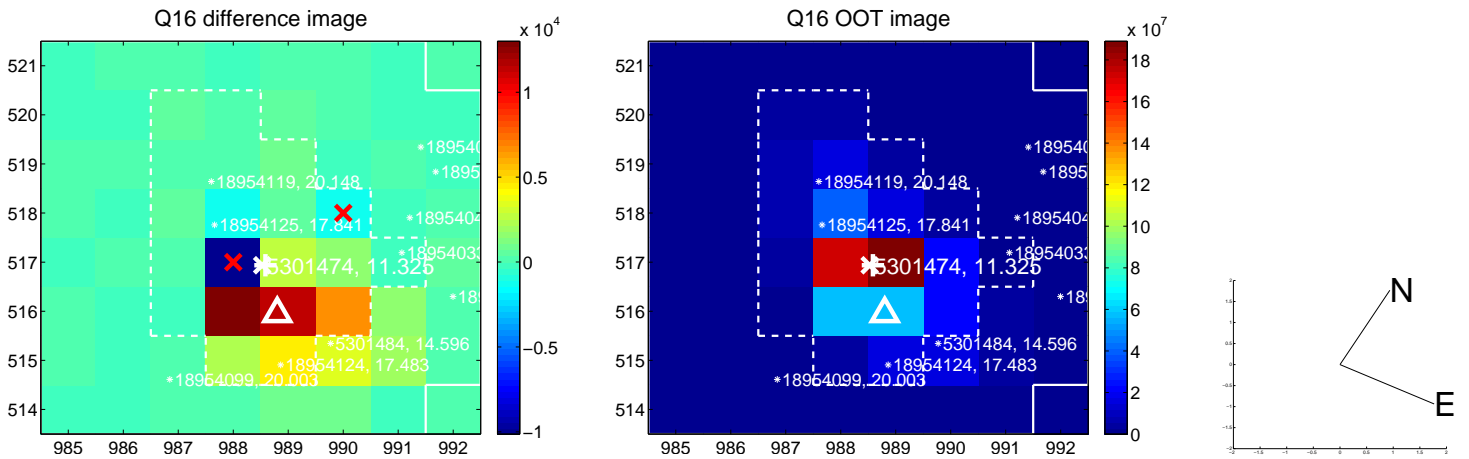
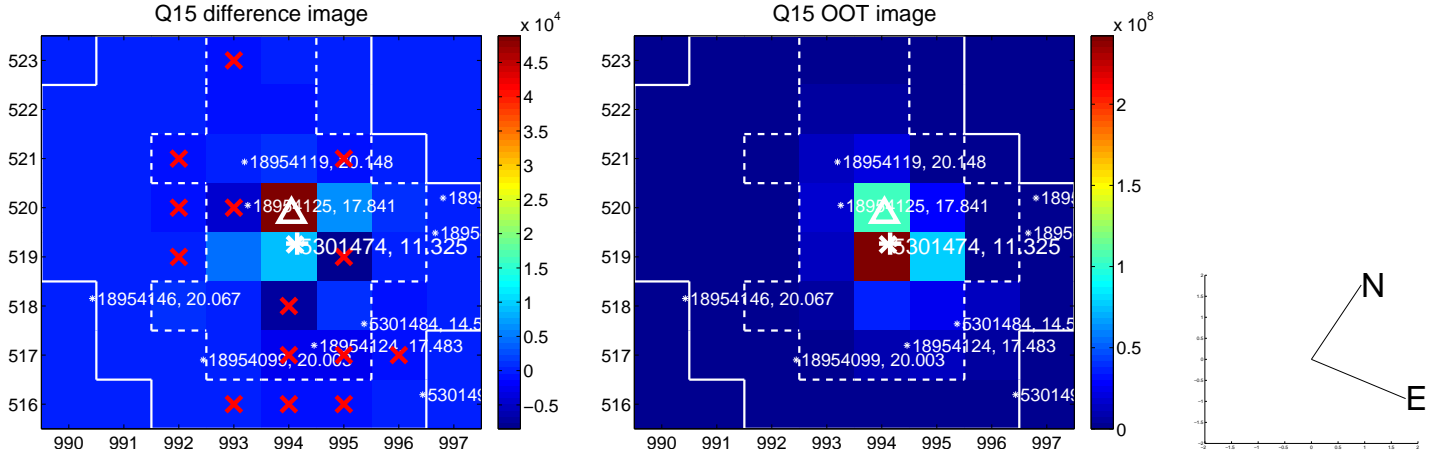
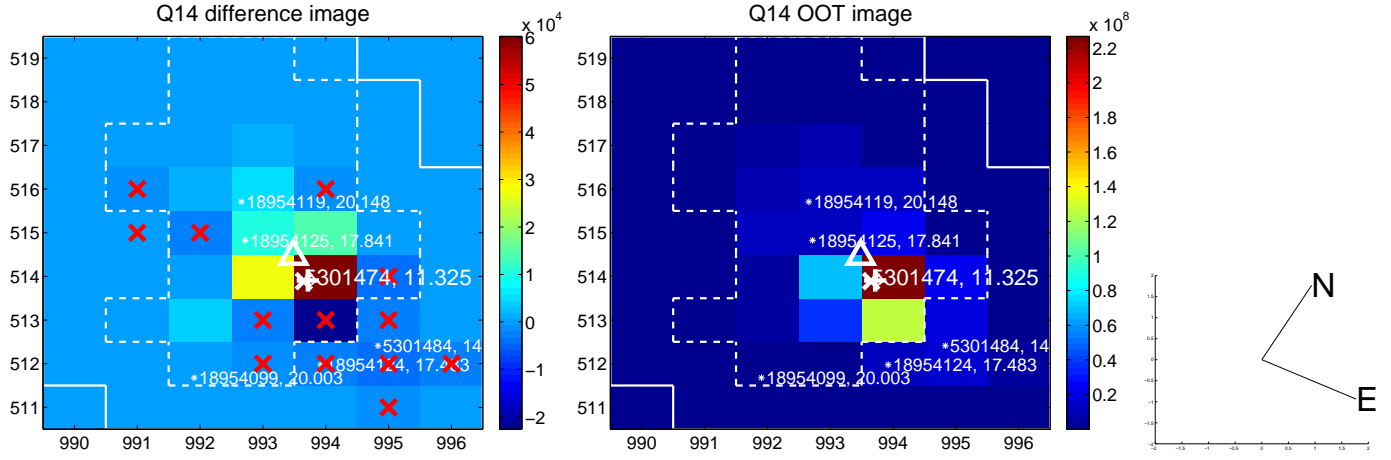
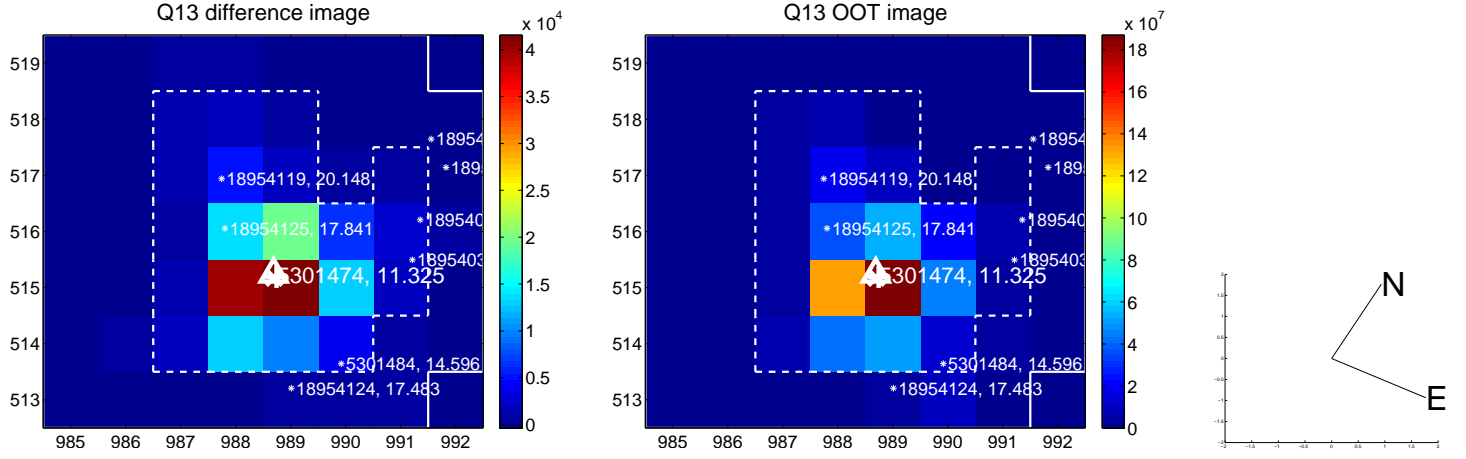
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



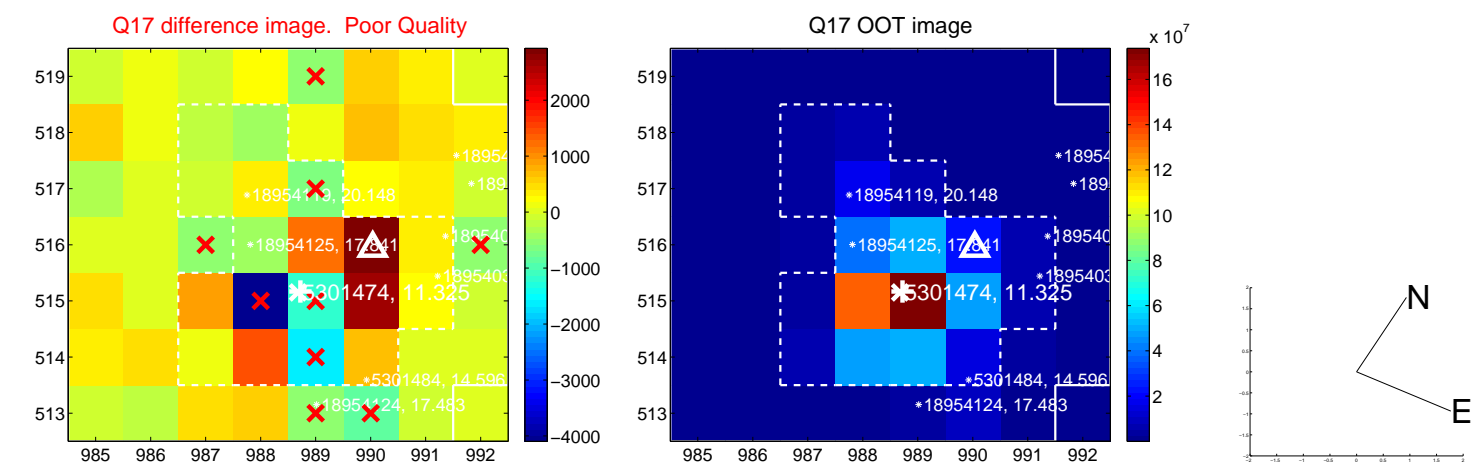
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



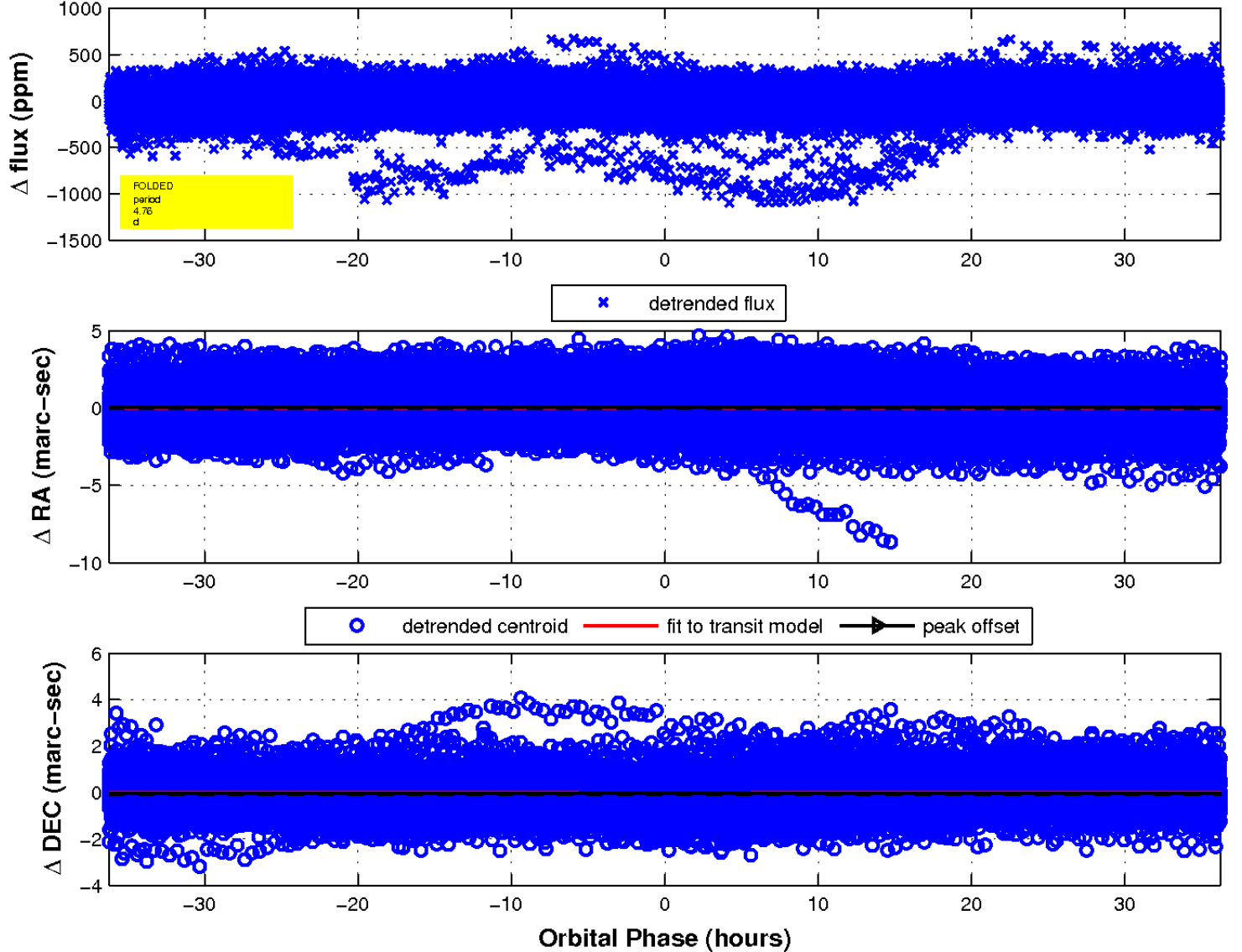
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

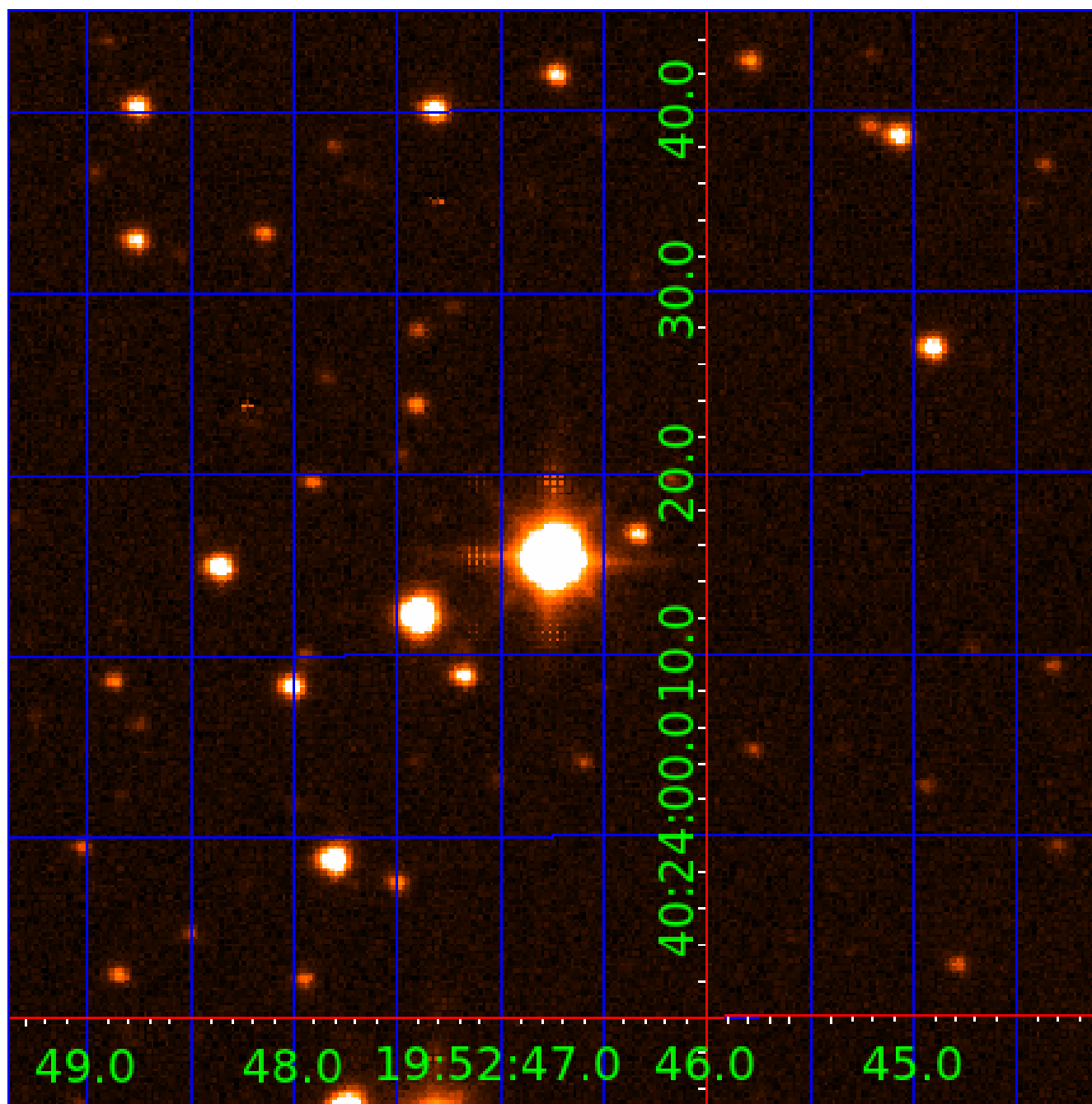


fluxWeightedCentroids, Planet 2 of 3



UKIRT Image

Declination



KIC 005301474

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})
005301474-01	OBS	No	4.764848	133.882618	26.8	8.513	8.0	7.7	2.45	6609	1.46	2477.16
005301474-02	OBS	No	4.764713	134.530830	10.2	12.076	7.7	2.5	2.45	6609	0.99	2477.26
005301474-03	OBS	No	4.764840	135.020389	29.8	19.883	9.5	5.5	2.45	6609	1.42	2477.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005301474-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV—CENT_SATURATED
005301474-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—MOD_NONUNIQ_DV—SAME_NTL_PERIOD—CENT_SATURATED
005301474-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_SATURATED

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

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

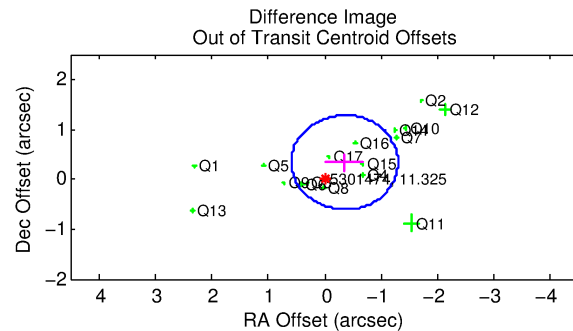
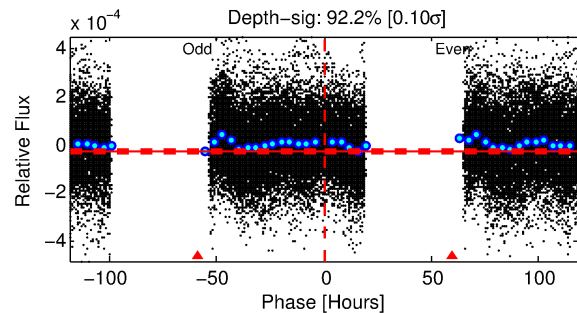
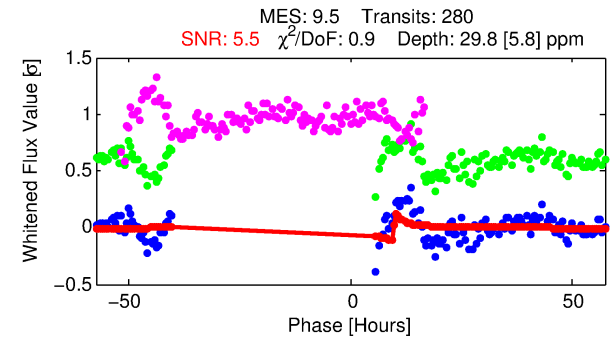
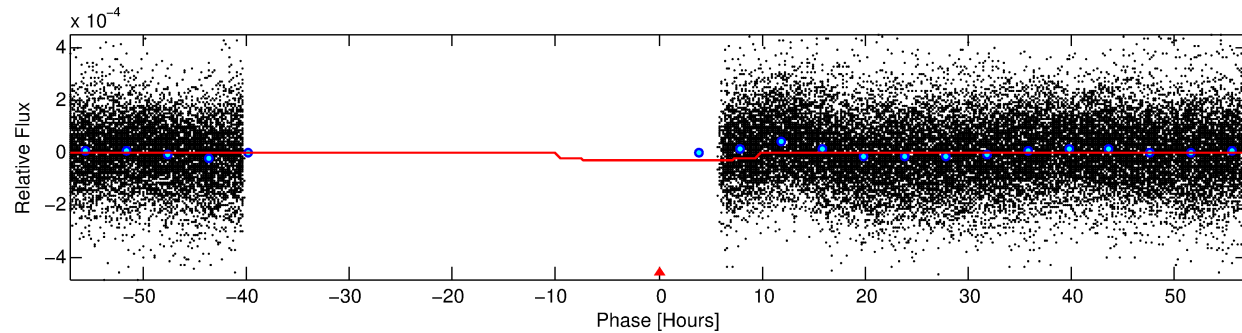
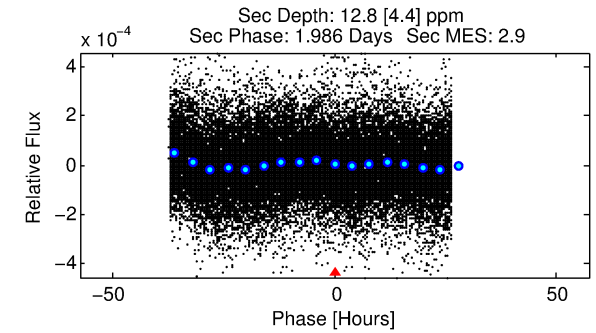
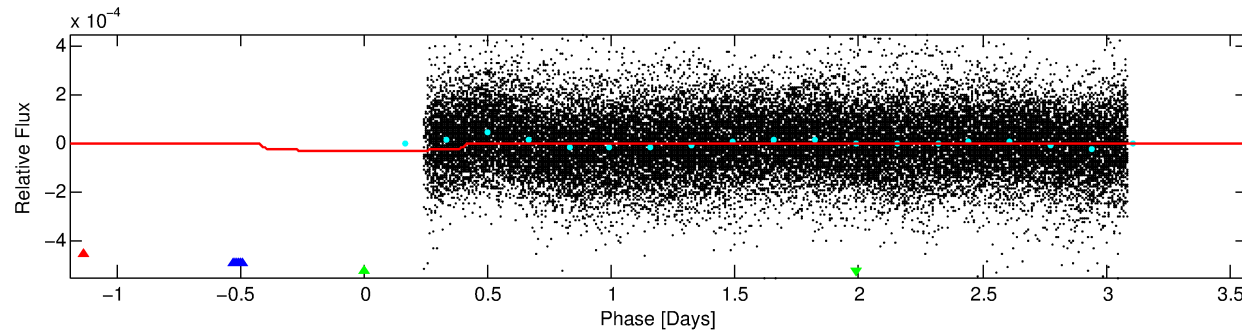
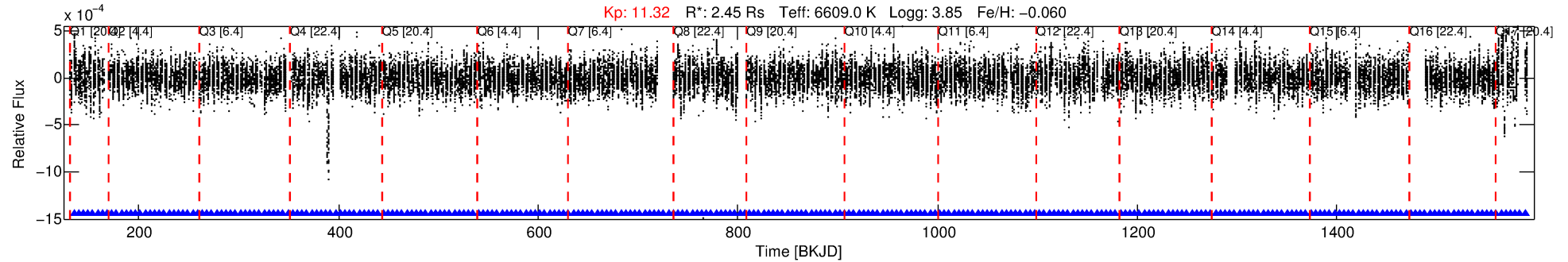
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005301474-03

No Significant Match Found

DV One-Page Summary

KIC: 5301474 Candidate: 3 of 3 Period: 4.765 d



DV Fit Results:

Period = 4.76484 [0.00006] d
Epoch = 135.0204 [0.0405] BKJD
Rp/R* = 0.0053 [0.0013]
a/R* = 1.61 [1.33]
b = 0.65 [1.13]
Seff = 2477.17 [1225.24]
Teff = 1799 [222] K
Rp = 1.42 [0.60] Re
a = 0.0645 [0.0203] AU
Ag = 14.54 [11.03] [1.23σ]
Teffp = 5431 [813] K [4.31σ]

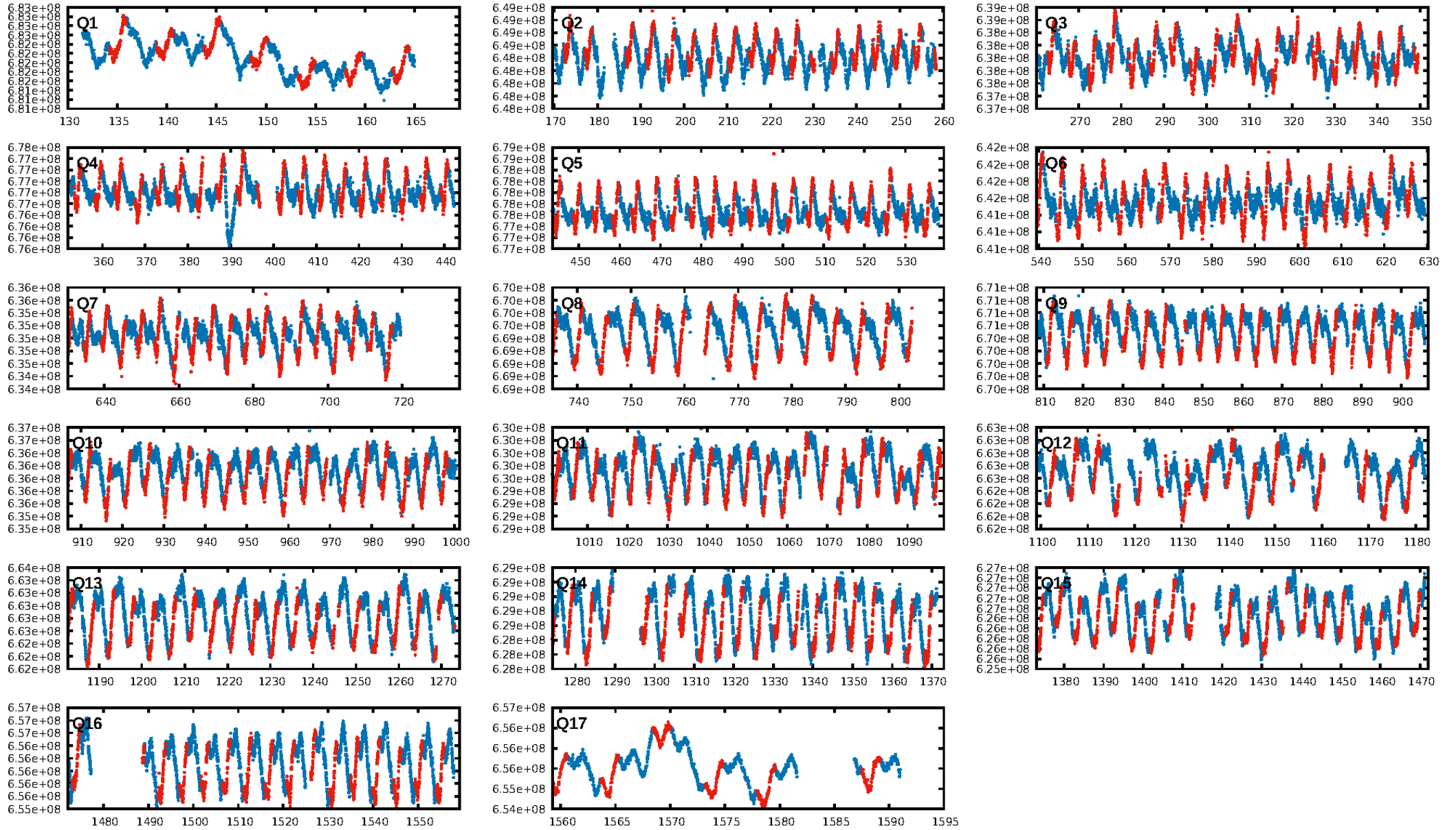
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.67e-09
RollingBand-fgt: 1.00 [267/267]
GhostDiagnostic-chr: 0.7331
Centroid-sig: 2.8%
Centroid-so: 1.450 arcsec [1.29σ]
OotOffset-rm: 0.487 arcsec [1.55σ]
KicOffset-rm: 0.477 arcsec [1.83σ]
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]

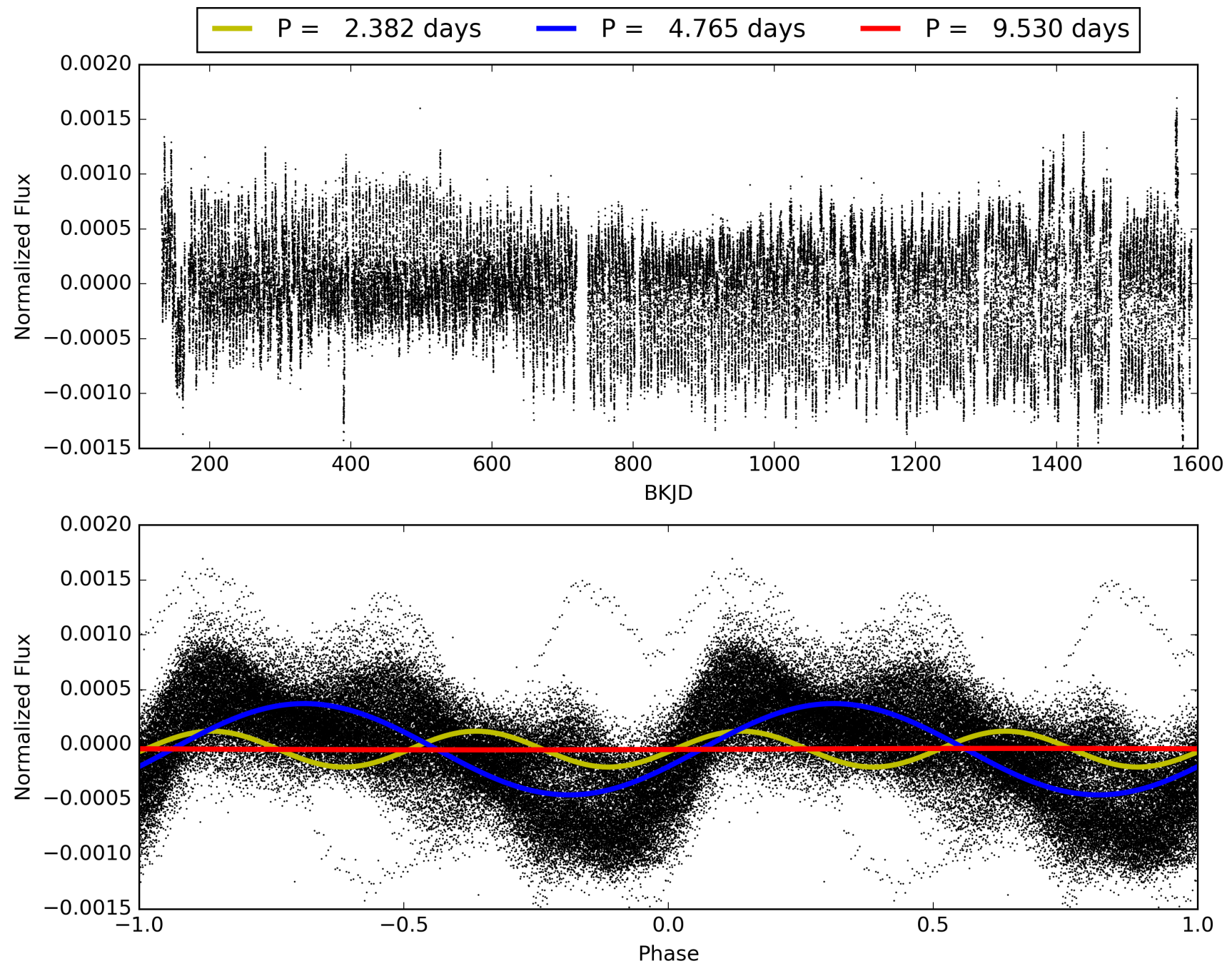
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 15:36:46 Z

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

TCE 005301474-03, PDC Light Curves

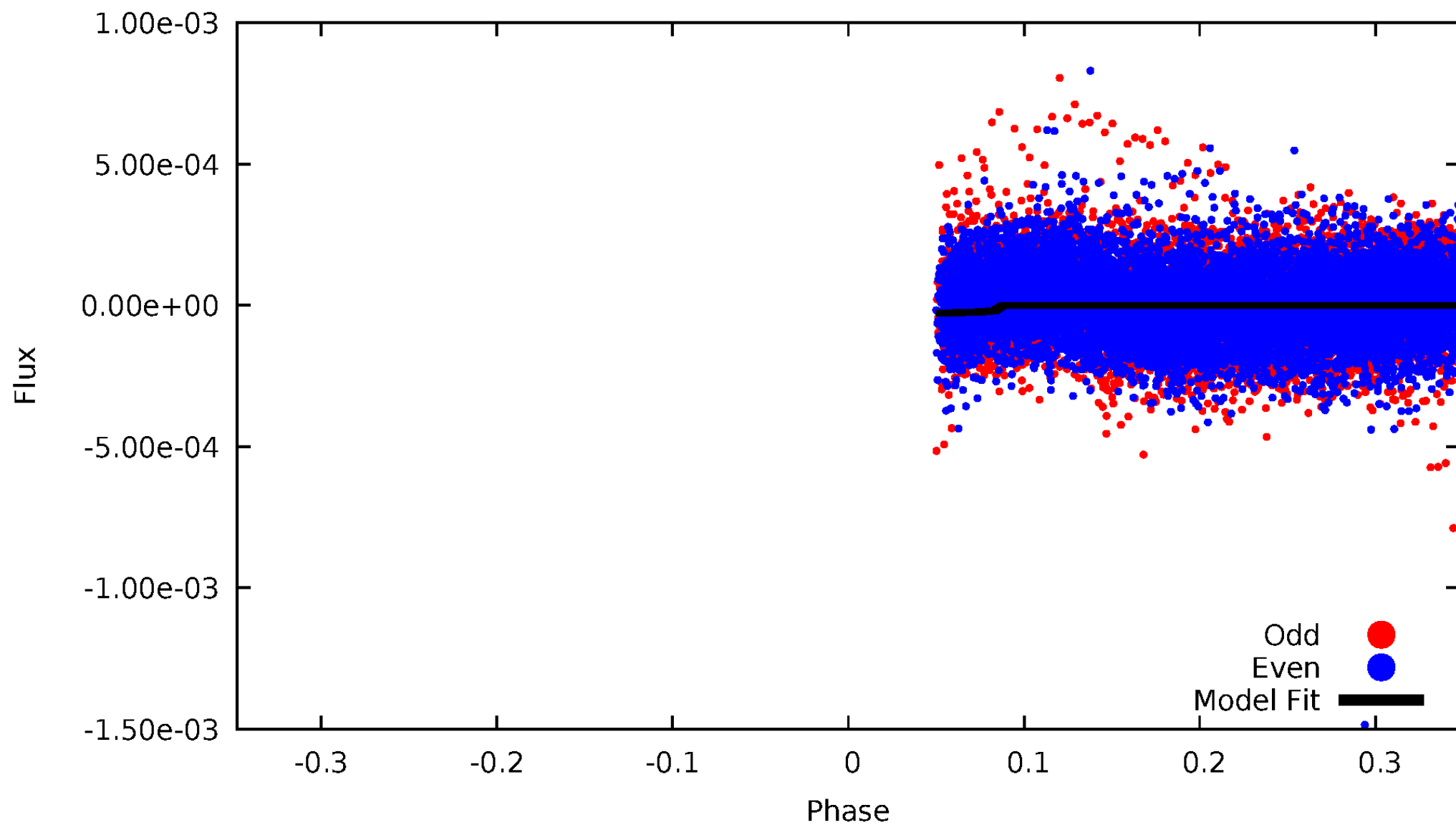


TCE 005301474-03



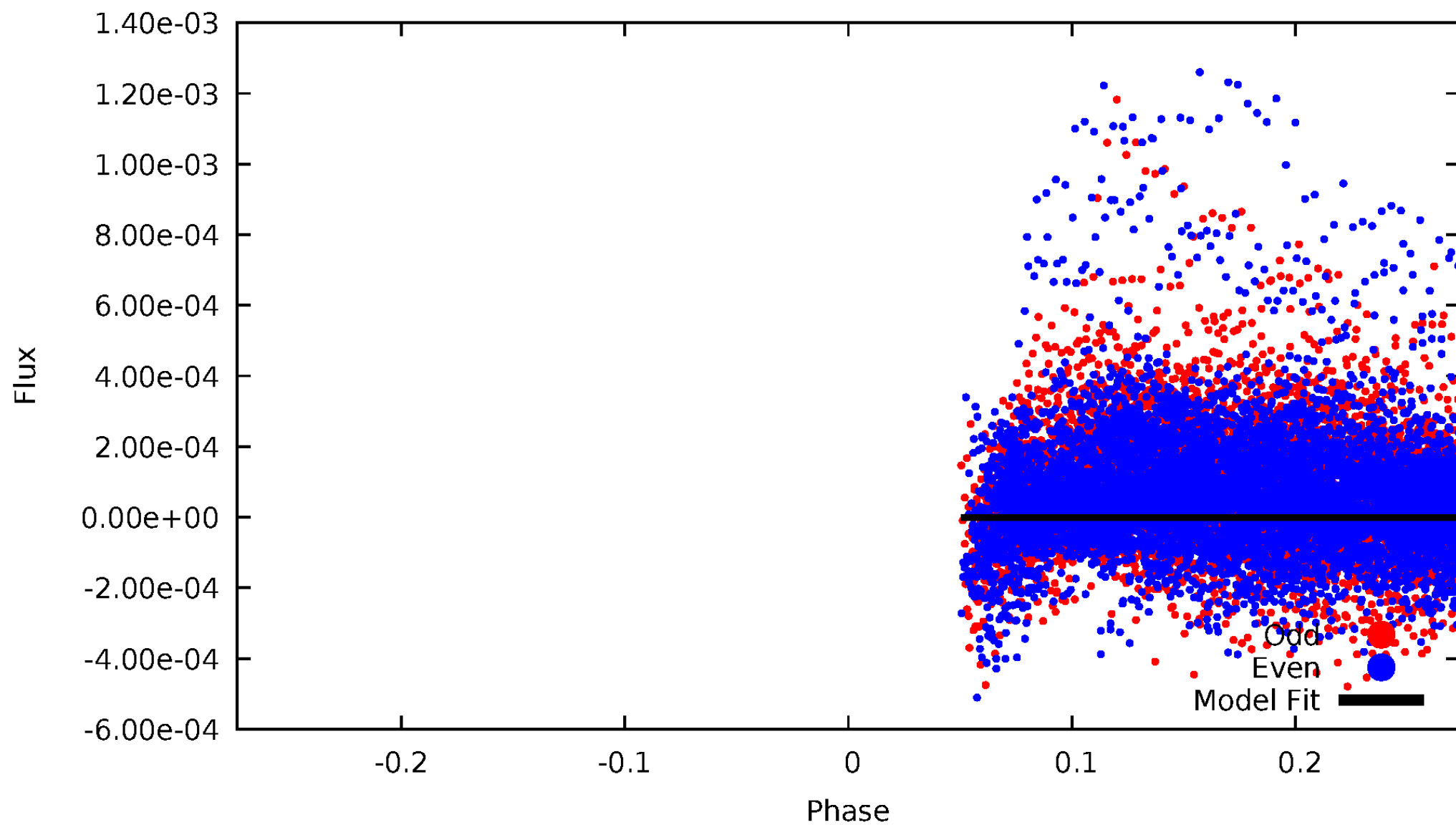
DV Odd/Even

TCE 005301474-03



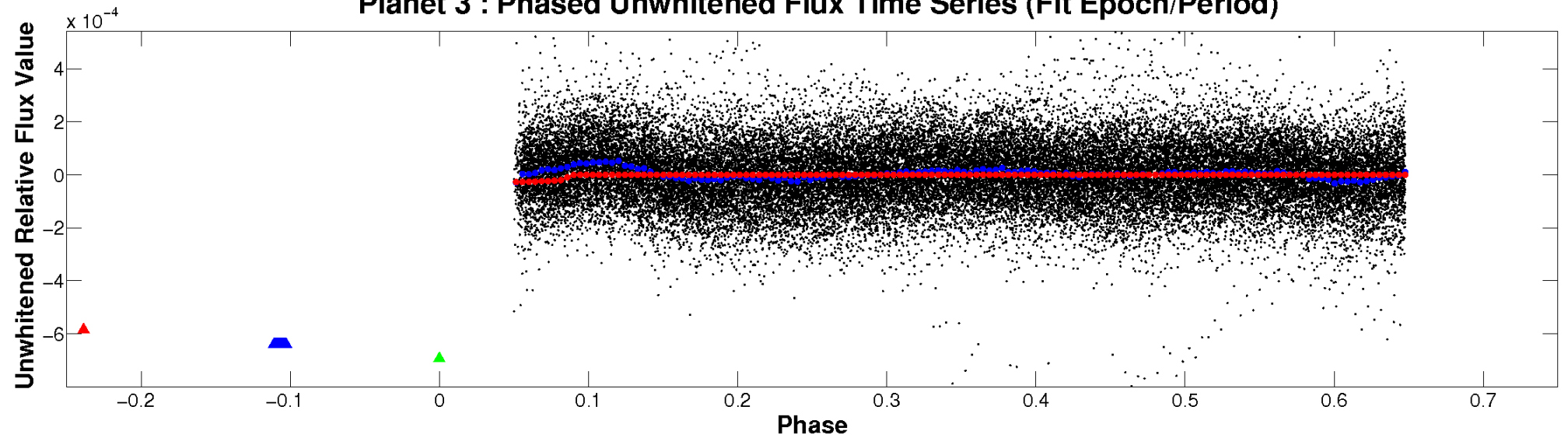
ALT Odd/Even

TCE 005301474-03

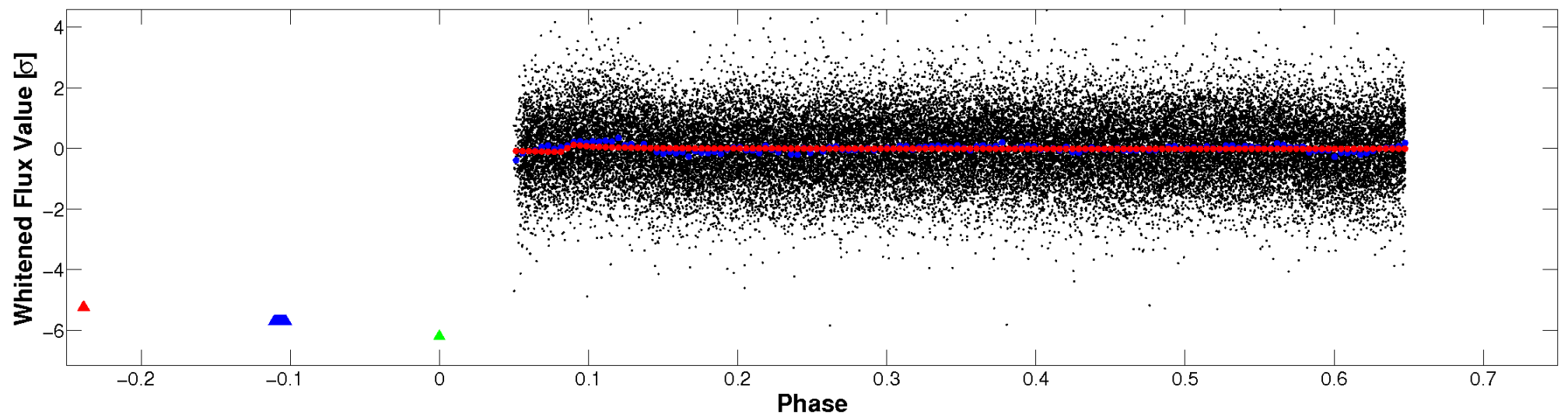


Non-Whitened Vs. Whitened Light Curve

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

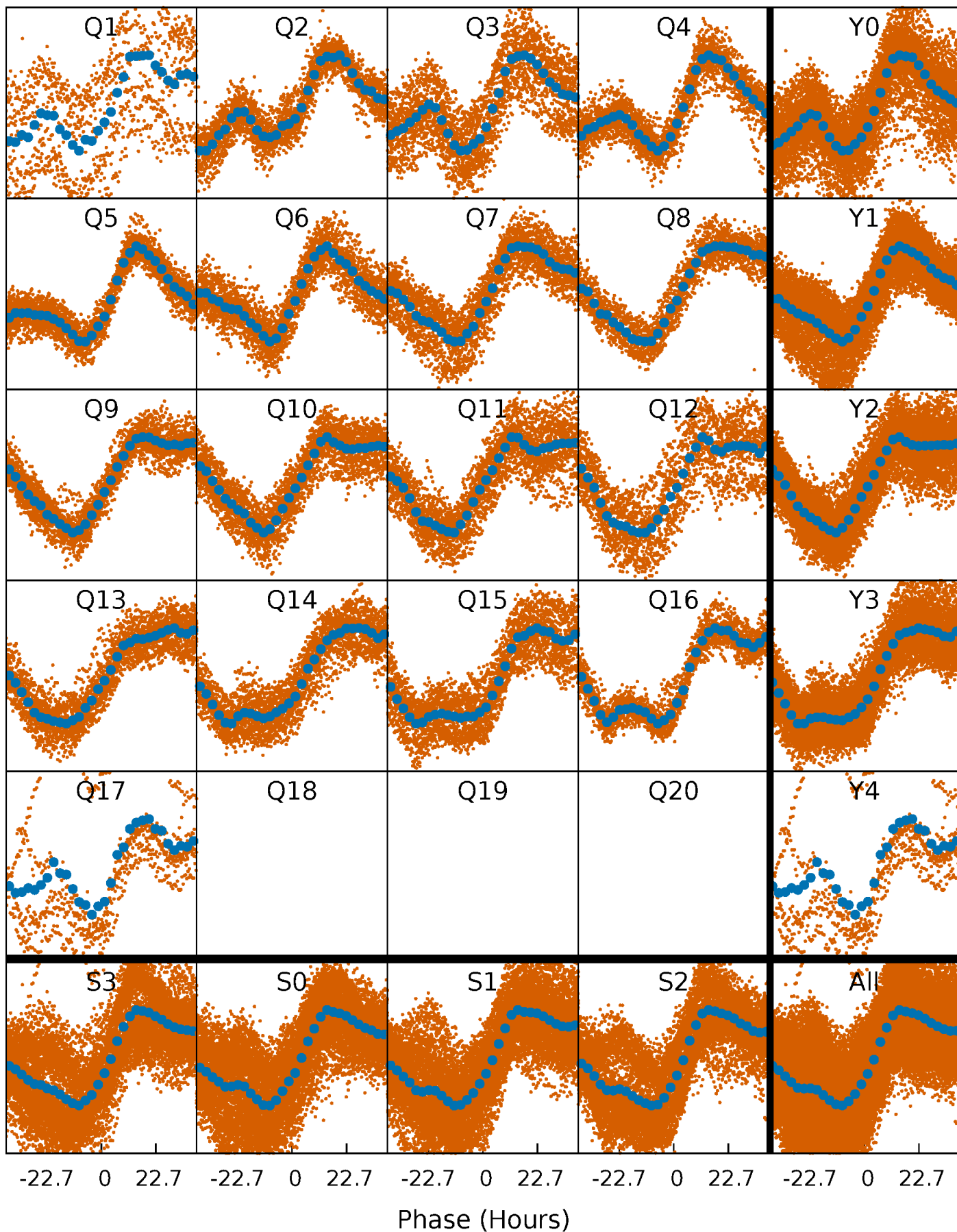


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



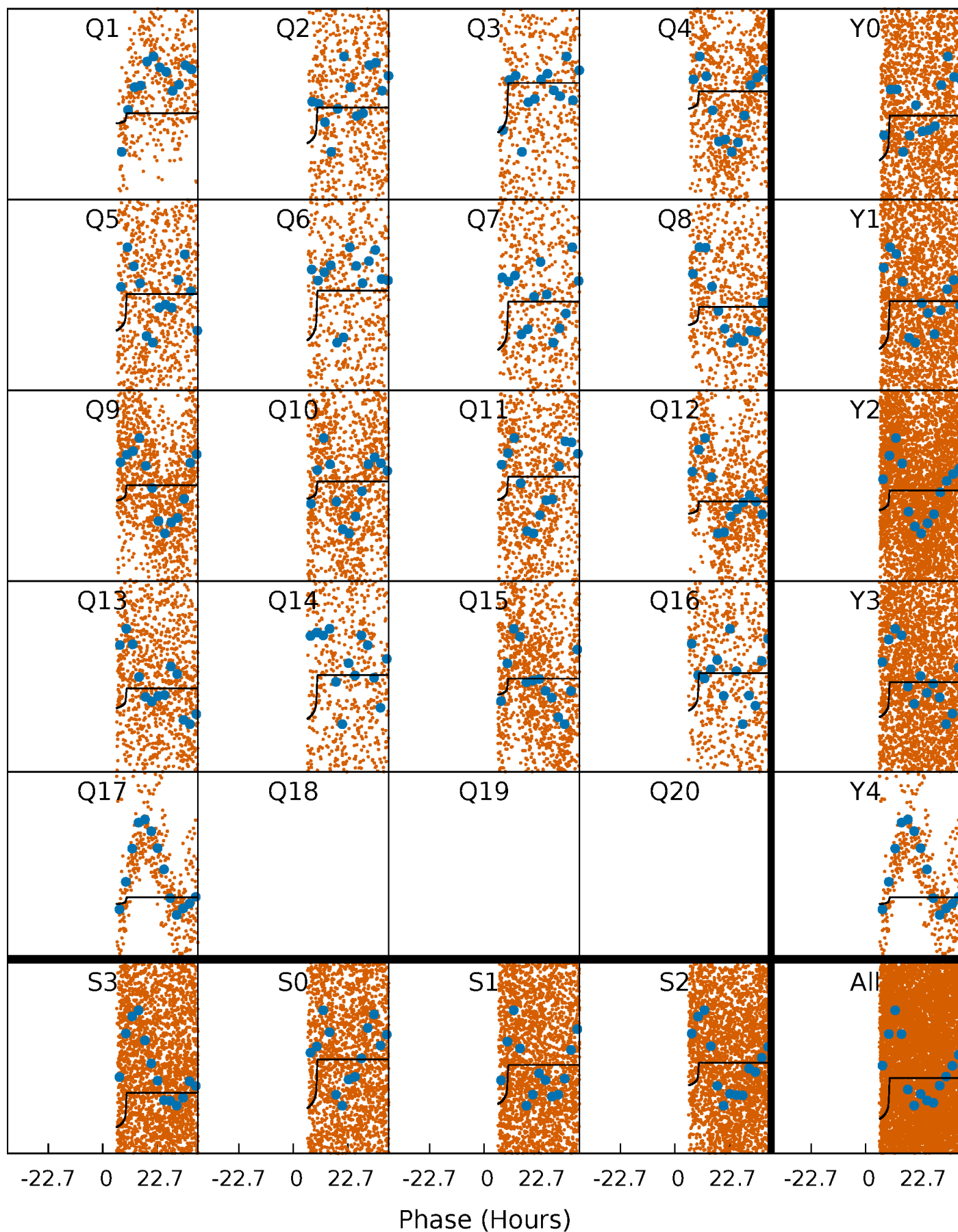
PDC Quarter-Phased Transit Curves

TCE 005301474-03 P= 4.764840 Days $T_0=135.020389$ (BKJD)



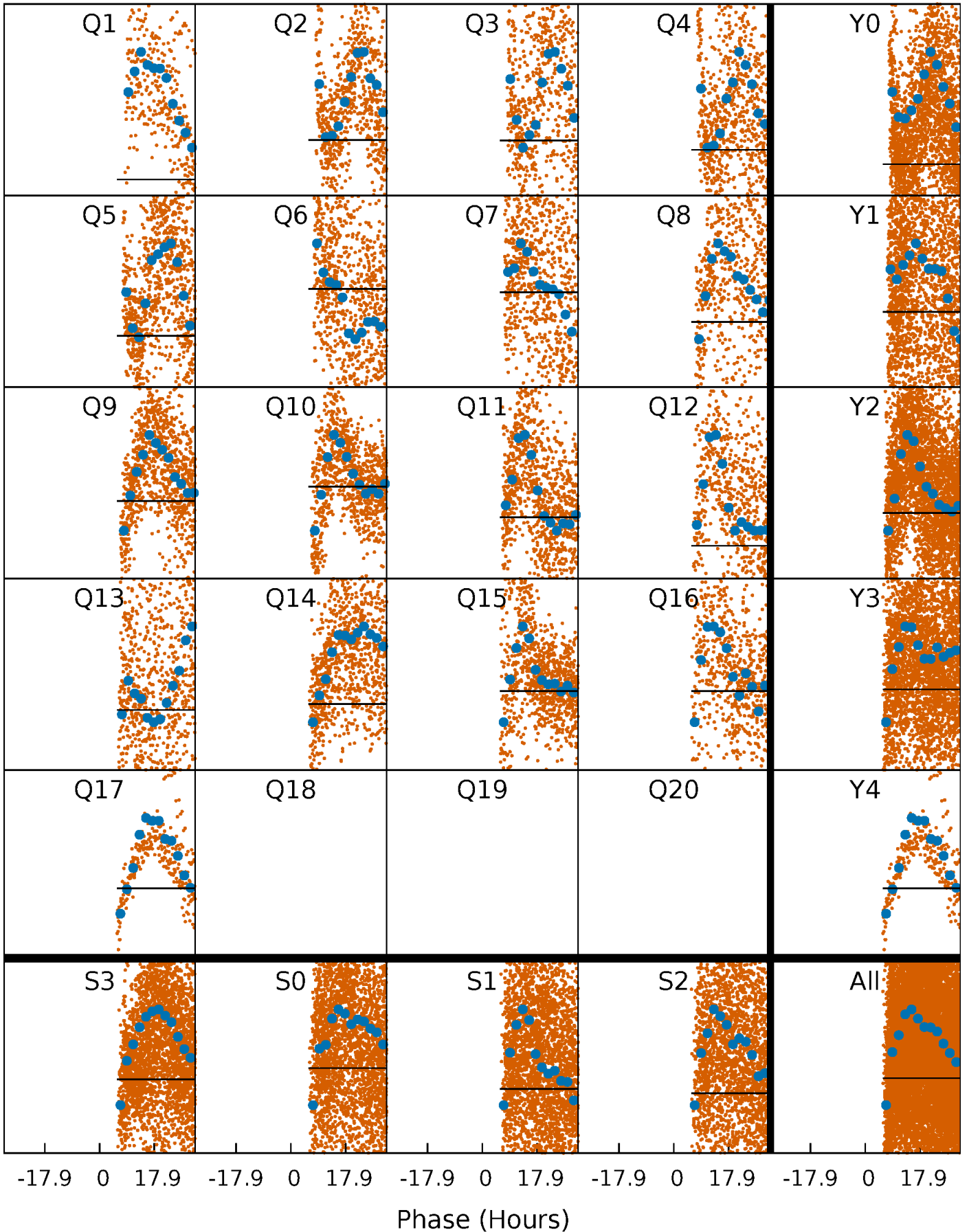
DV Quarter-Phased Transit Curves

TCE 005301474-03 P= 4.764840 Days $T_0=135.020389$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

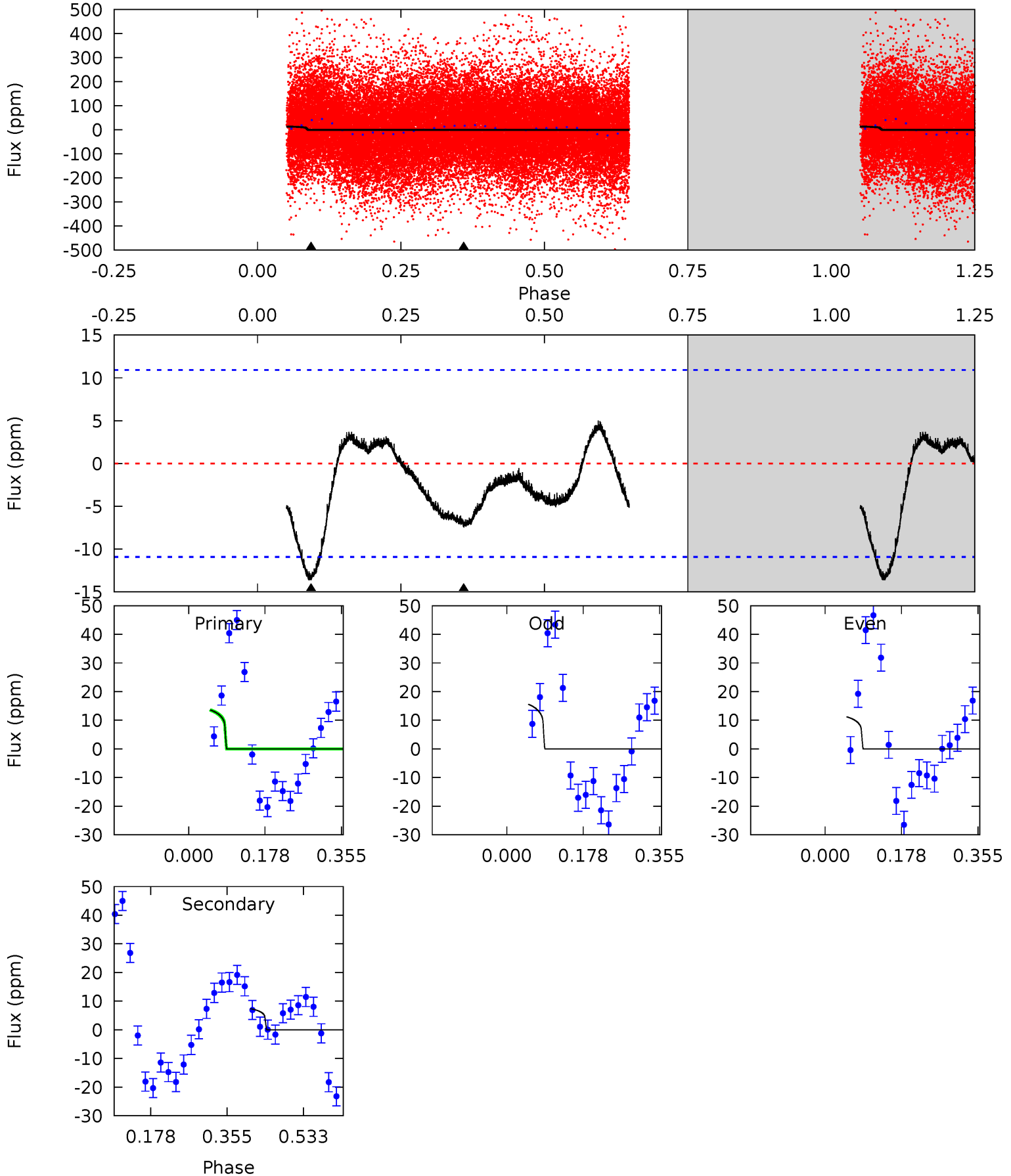
TCE 005301474-03 P= 4.765078 Days $T_0=134.949598$ (BKJD)



DV Model-Shift Uniqueness Test

005301474-03, P = 4.764840 Days, E = 130.255549 Days

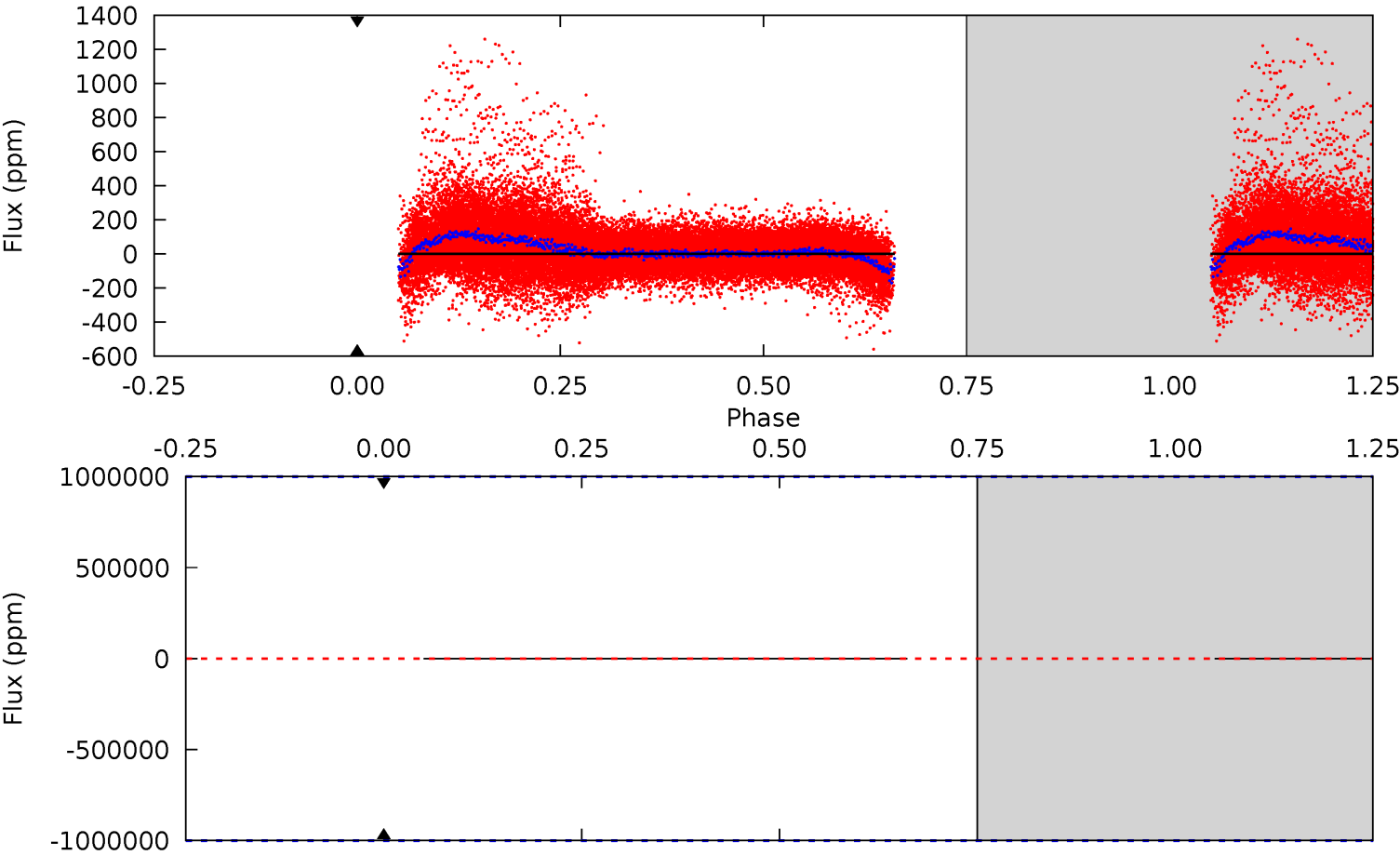
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.54	3.01	0	0	4.44	1.35	1.18	5.54	5.54	3.01	3.01	0.89	1.57	0.27	0



Alt Model-Shift Uniqueness Test

005301474-03, P = 4.765078 Days, E = 130.184520 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



Stellar Parameters For KIC 005301474

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6609^{+156}_{-195}	$3.855^{+0.273}_{-0.117}$	$-0.060^{+0.300}_{-0.250}$	$2.454^{+0.465}_{-0.864}$	$1.571^{+0.183}_{-0.339}$	$0.150^{+0.275}_{-0.054}$
	+2%/-3%	+7%/-3%	+500%/-417%	+19%/-35%	+12%/-22%	+184%/-36%
Source	PHO1	FLK73	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 005301474-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-7 ± 2	$1.33^{+0.41}_{-0.34}$	2475^{+164}_{-210}	4833^{+659}_{-569}	$9.489^{+8.713}_{-4.615}$
Alt.	0 ± 1000000	$5.26^{+0.82}_{-1.00}$	2484^{+152}_{-231}	$13620^{+150945}_{-151842}$	221^{+9644}_{-8162}

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

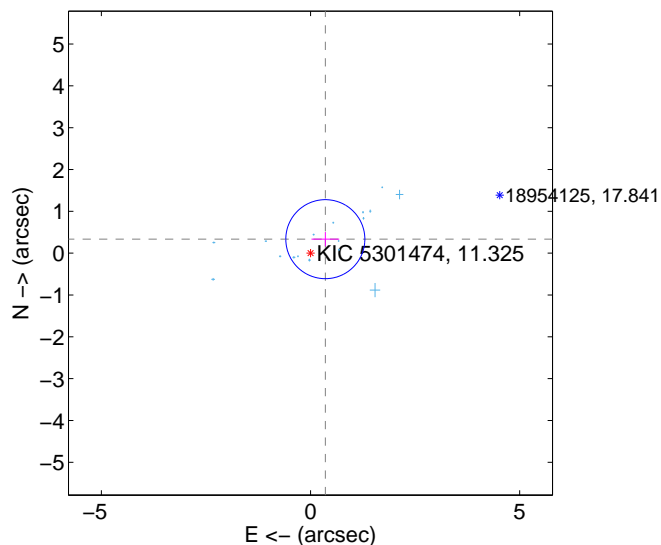
Supplemental centroid analysis for 005301474-03. **Kepler magnitude: 11.32.** Transit SNR 5.52

There are 17 quarters with good PRF difference image offsets

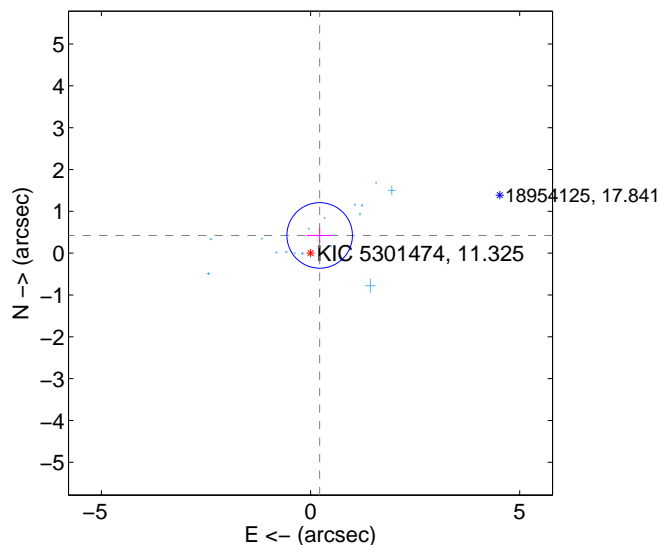
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.487 ± 0.315	1.55	-0.354 ± 0.332	0.335 ± 0.170
PRF-fit source offset from KIC position	0.477 ± 0.261	1.83	-0.218 ± 0.314	0.424 ± 0.171
photometric centroid source offset	1.45 ± 1.12	1.29	-1.21 ± 1.26	0.80 ± 0.73

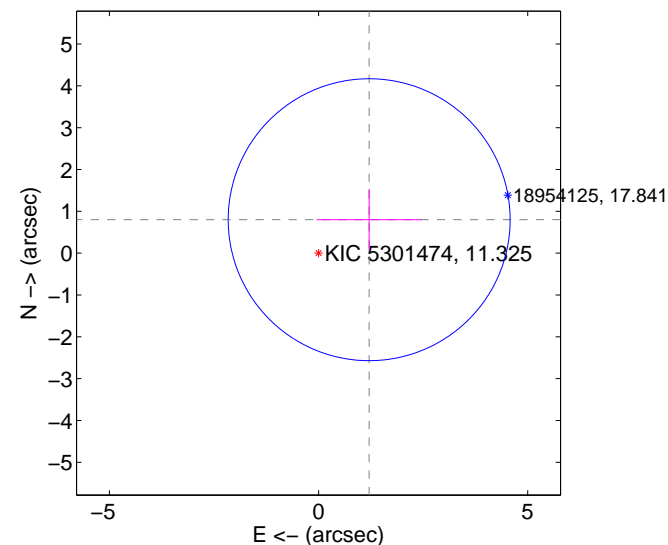
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

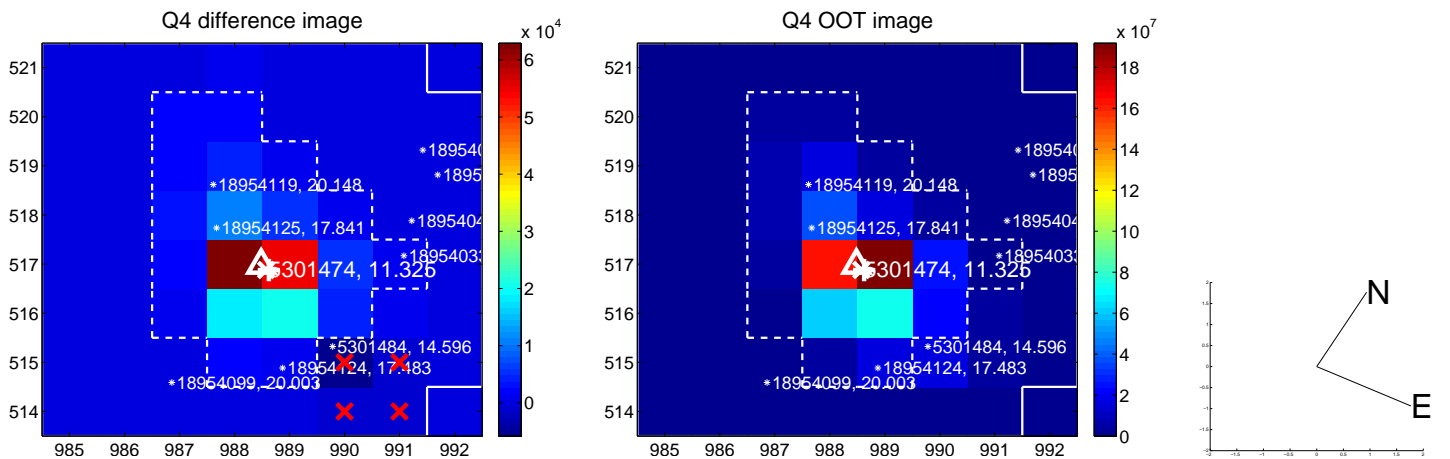
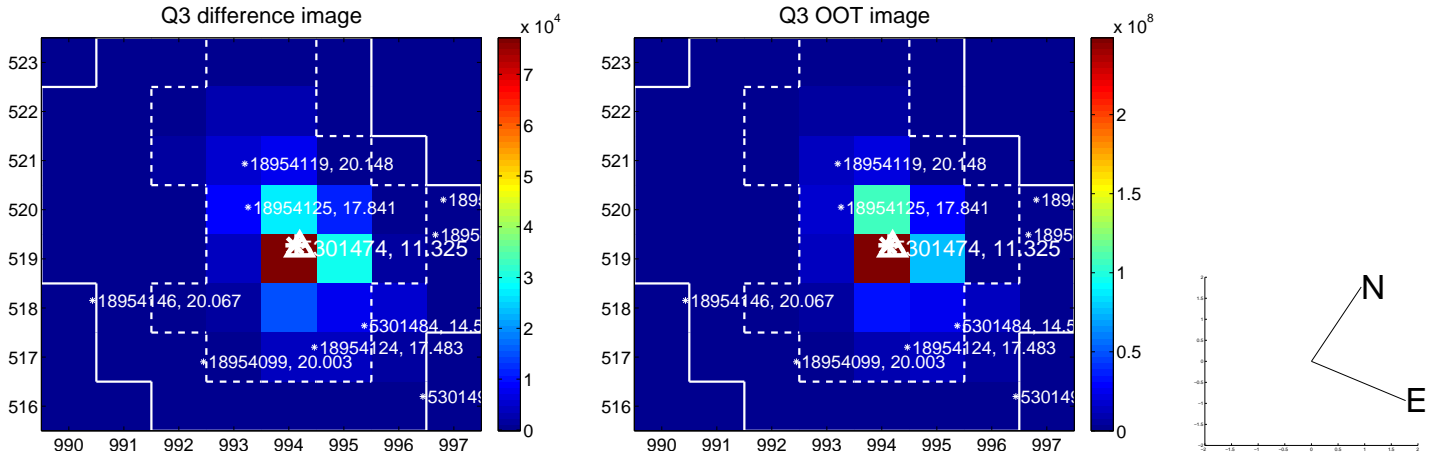
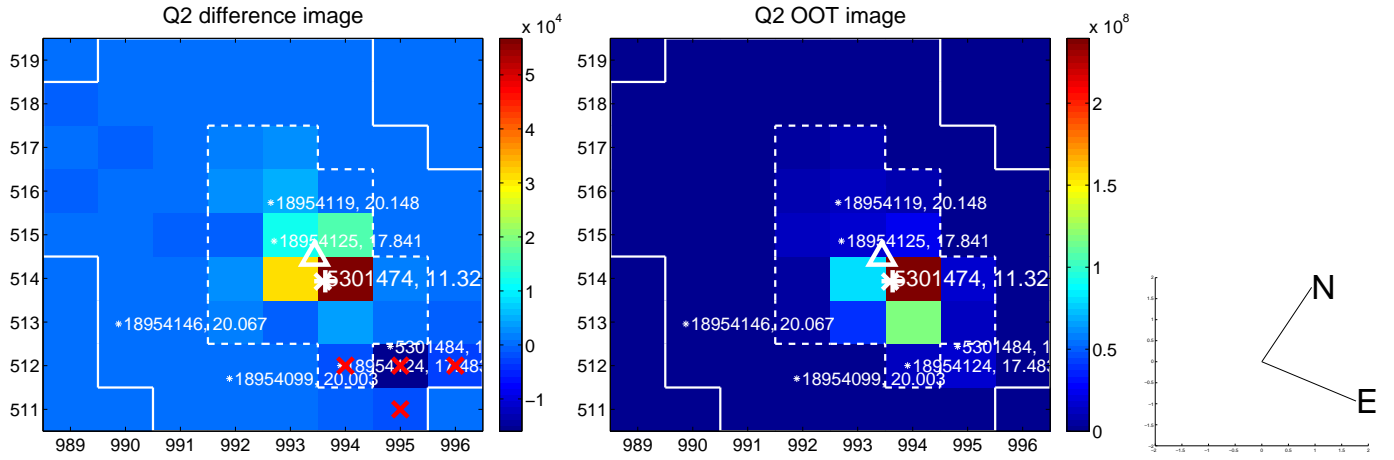
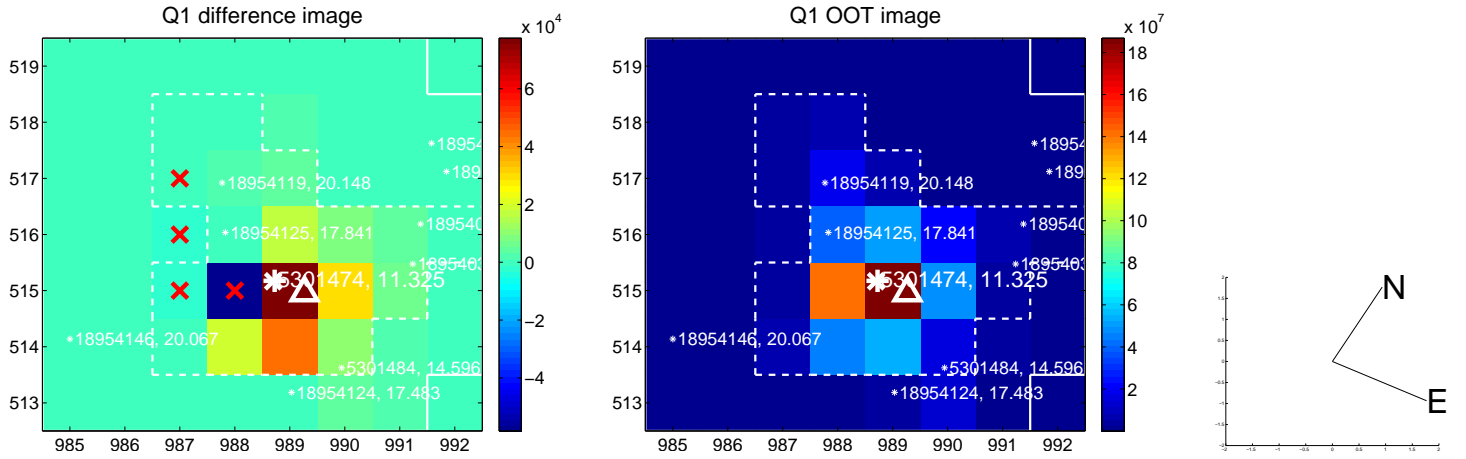


offset from photometric centroids

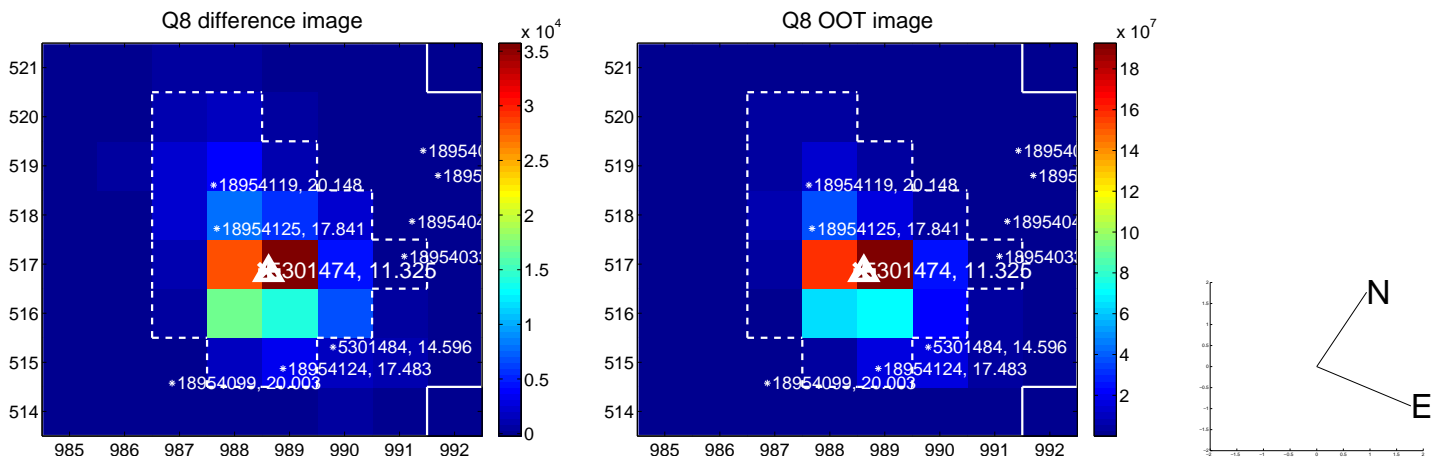
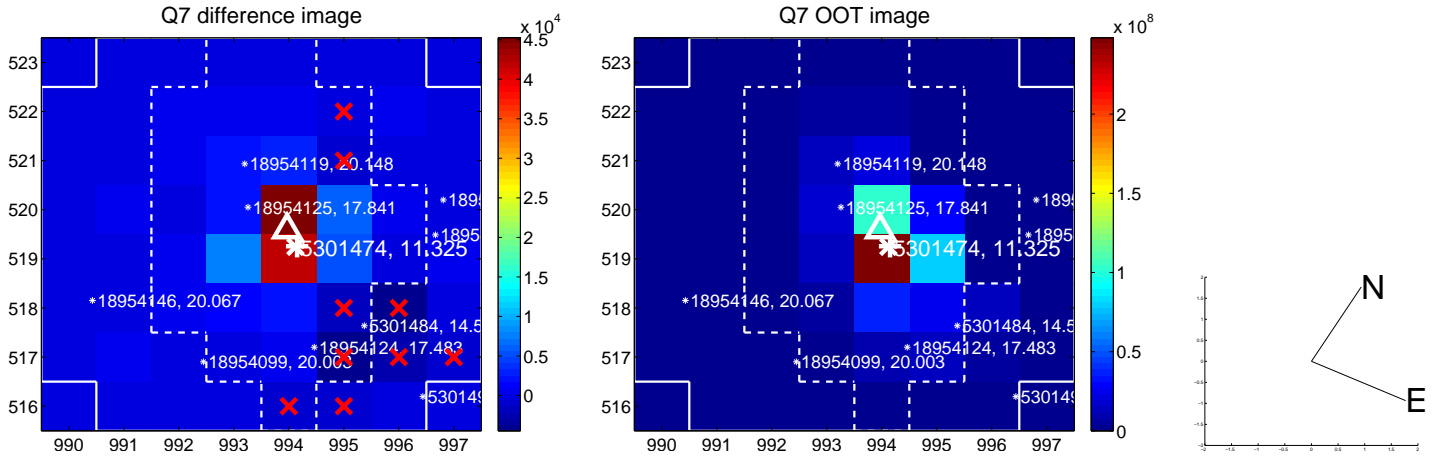
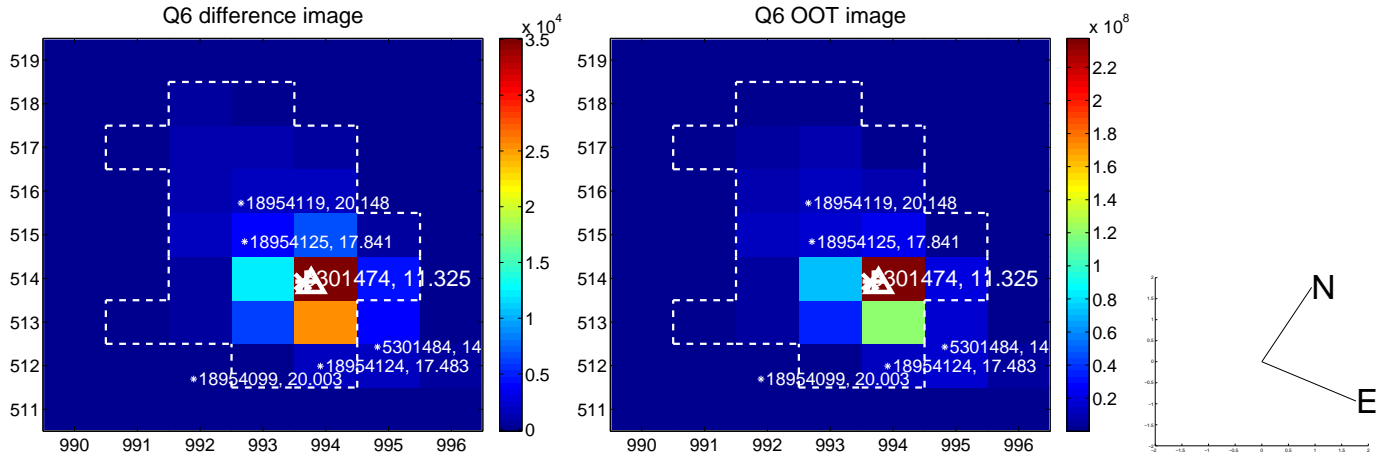
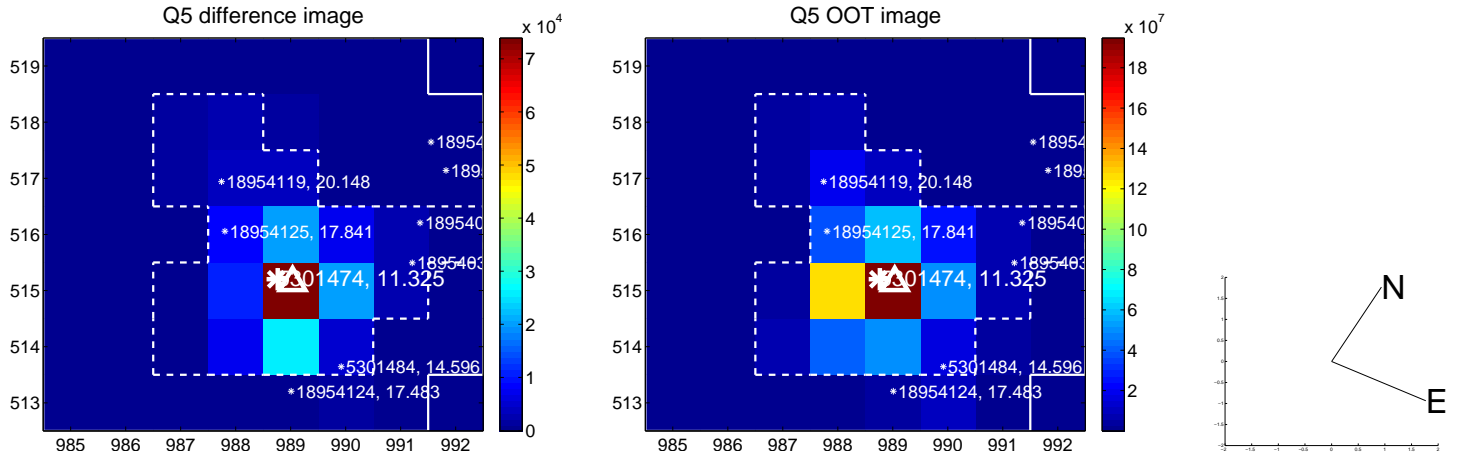


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

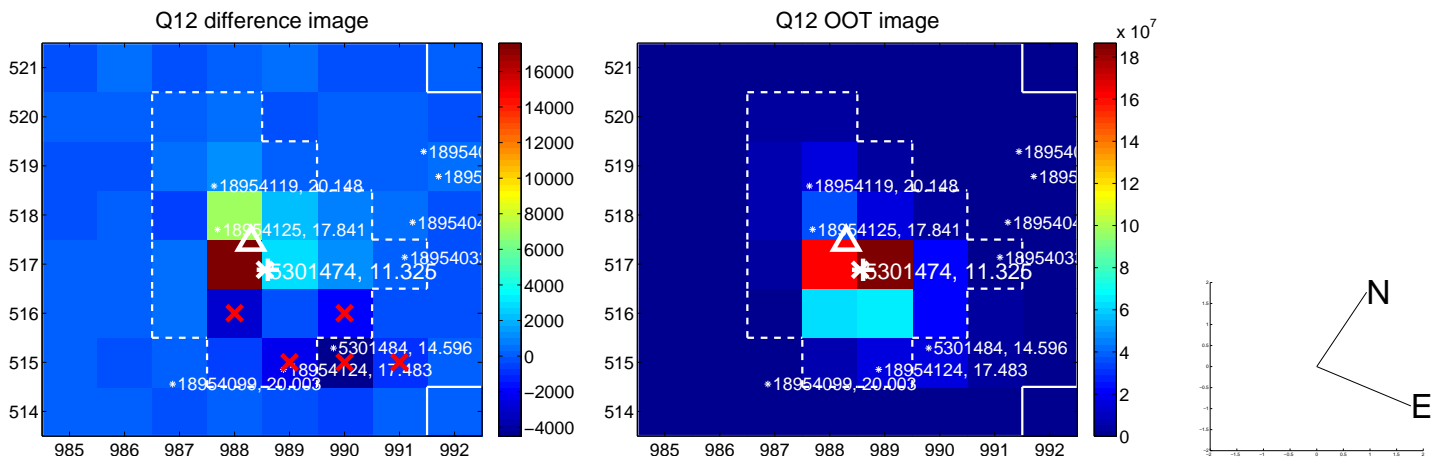
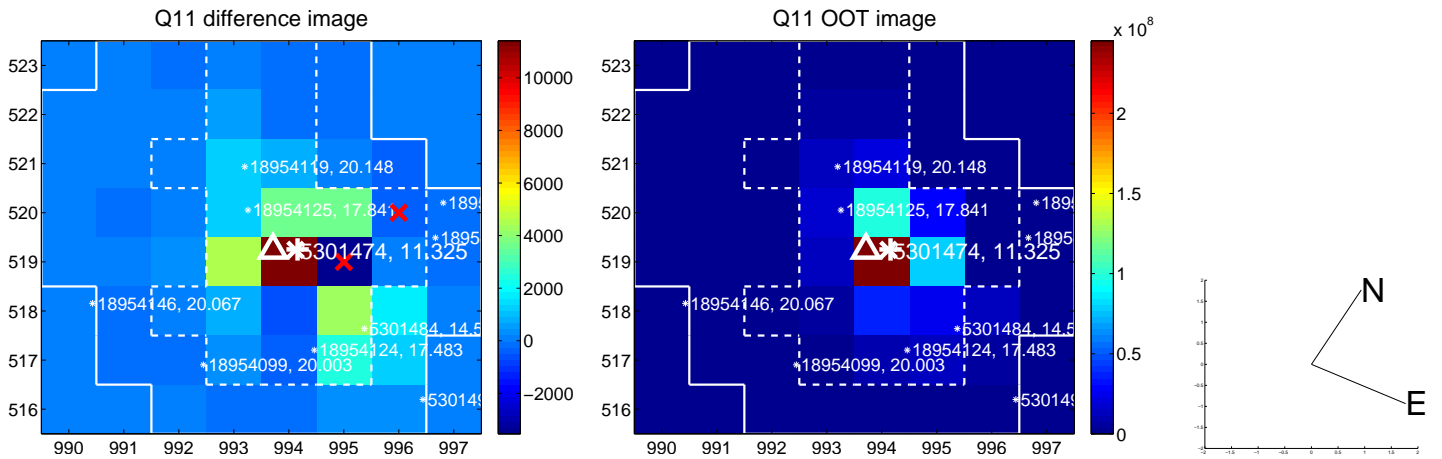
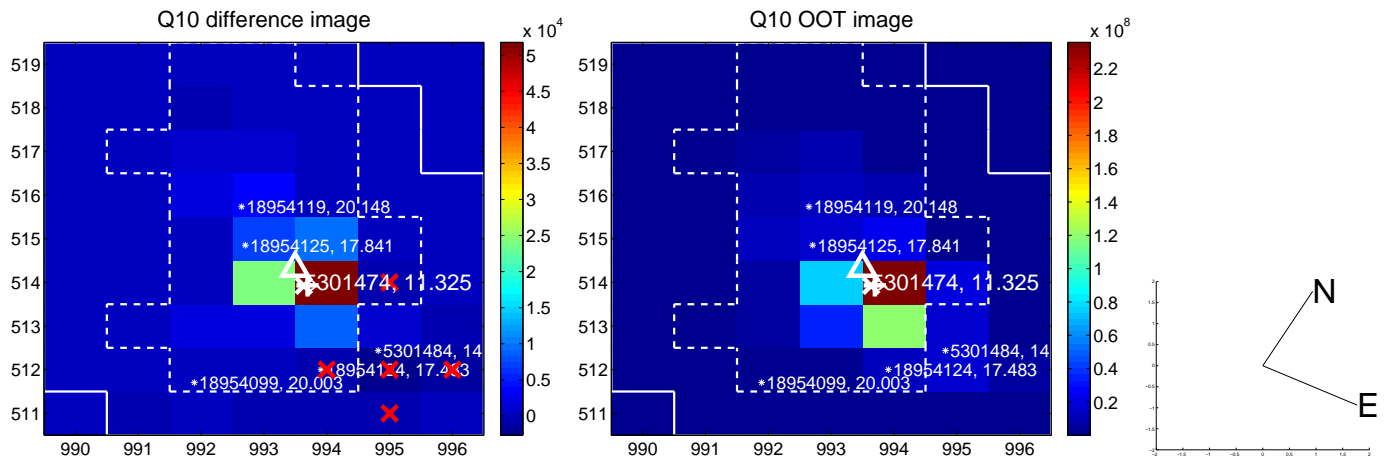
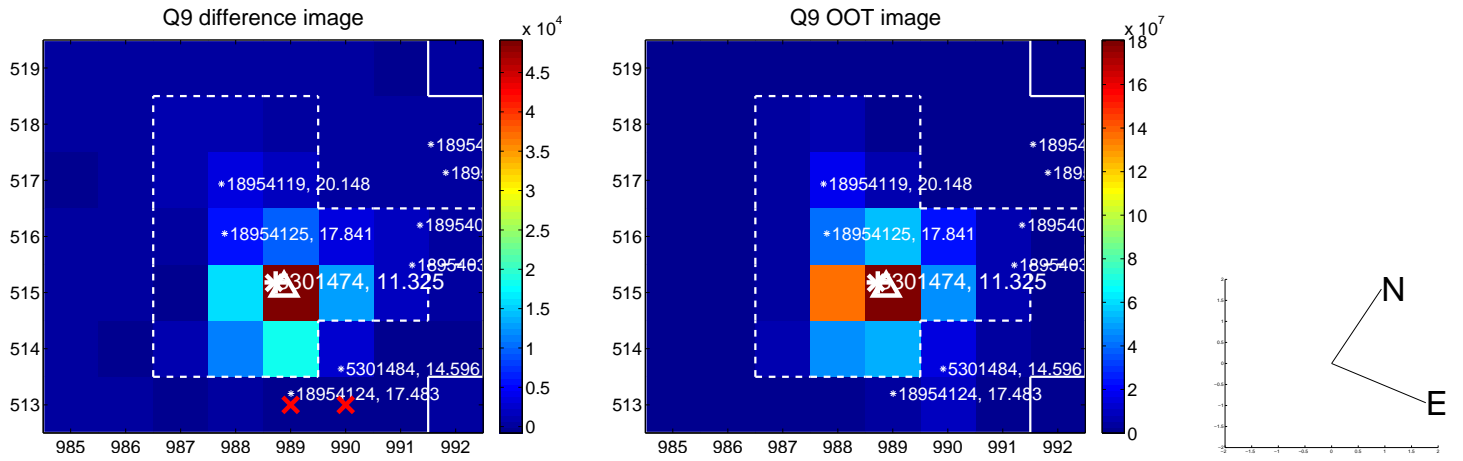
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



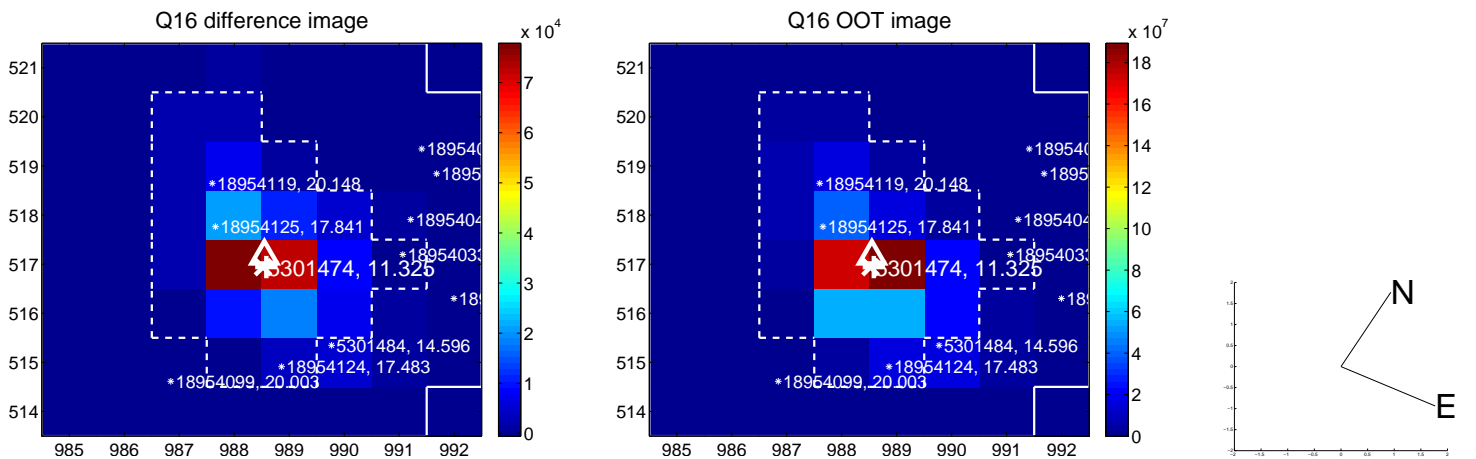
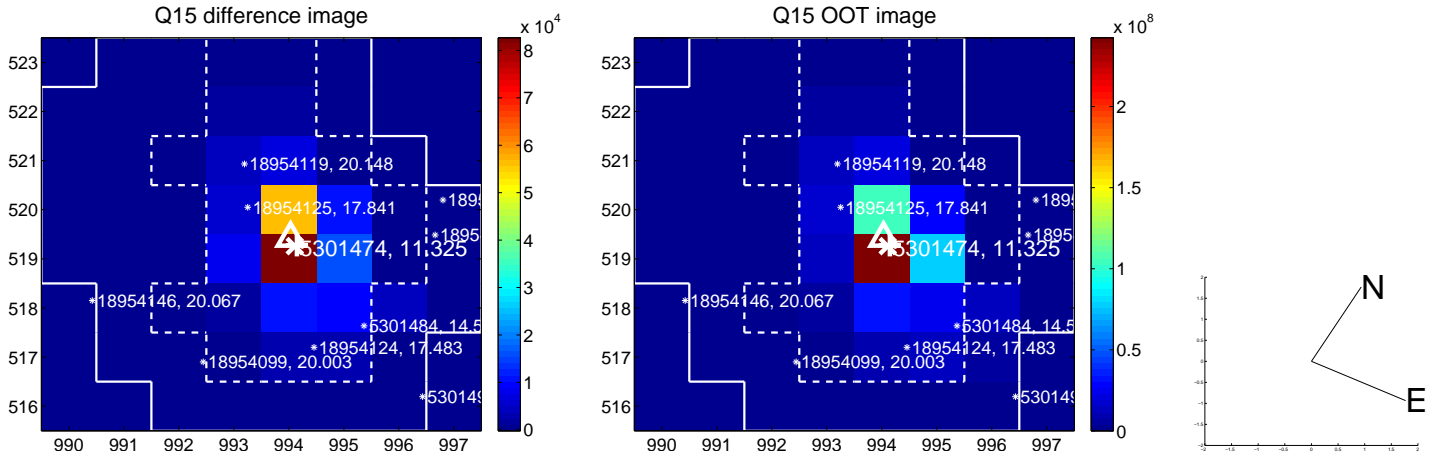
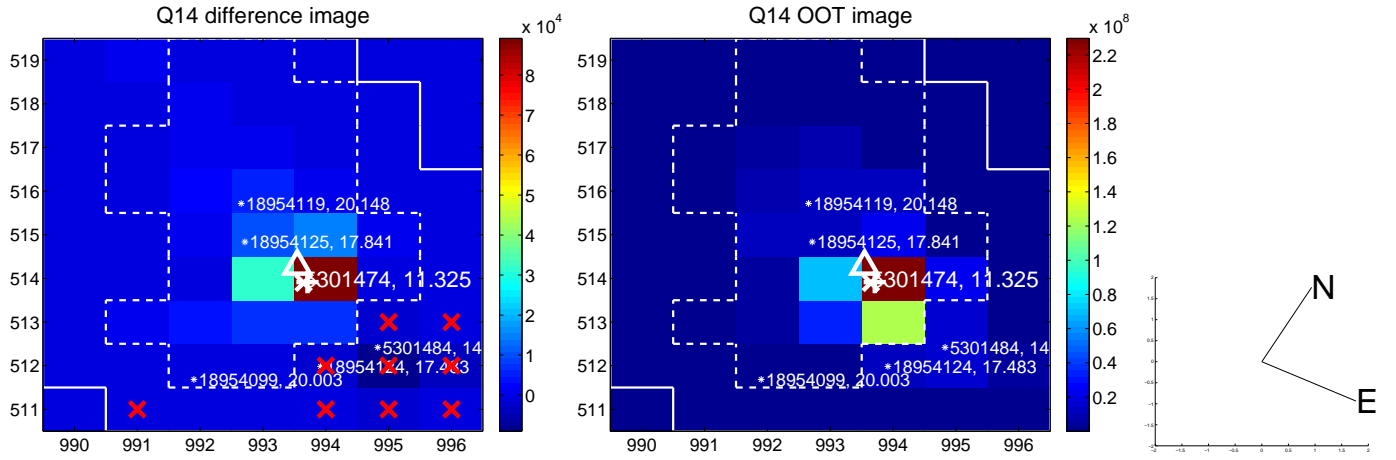
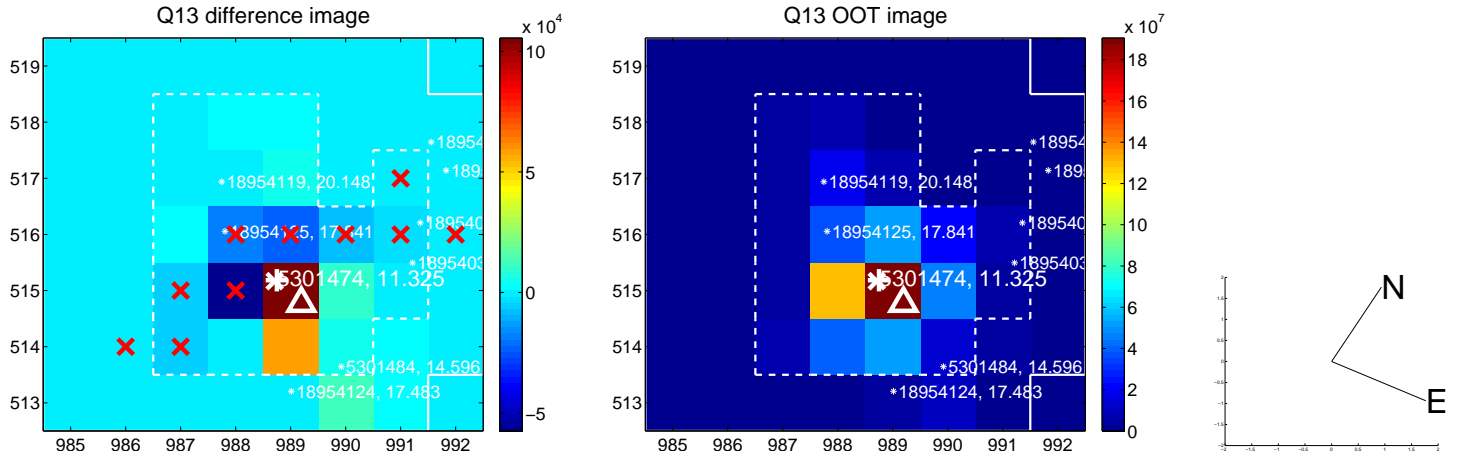
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



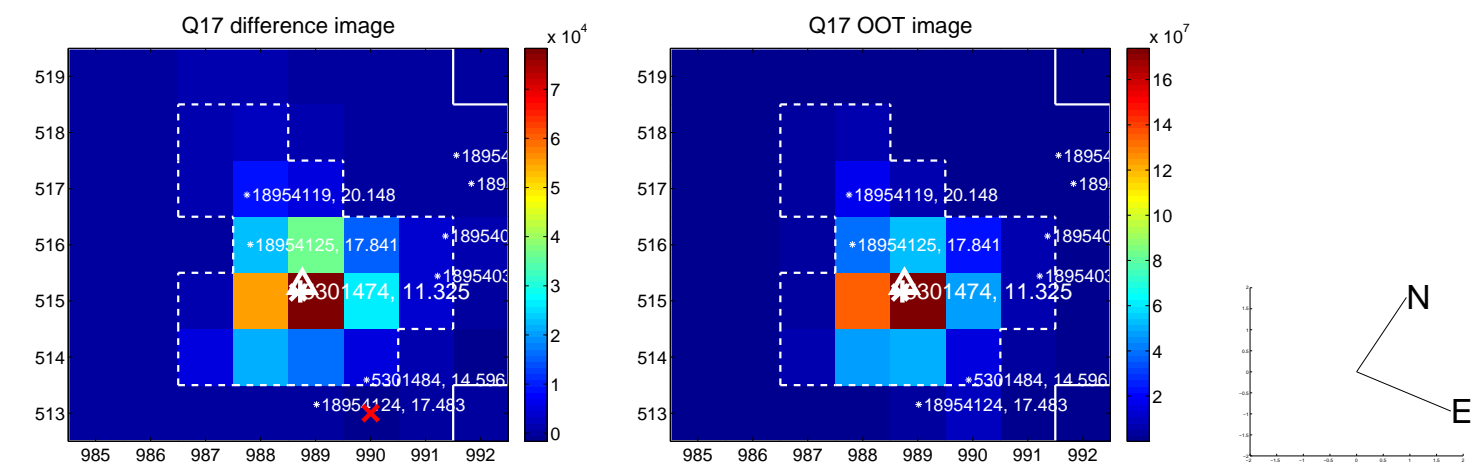
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



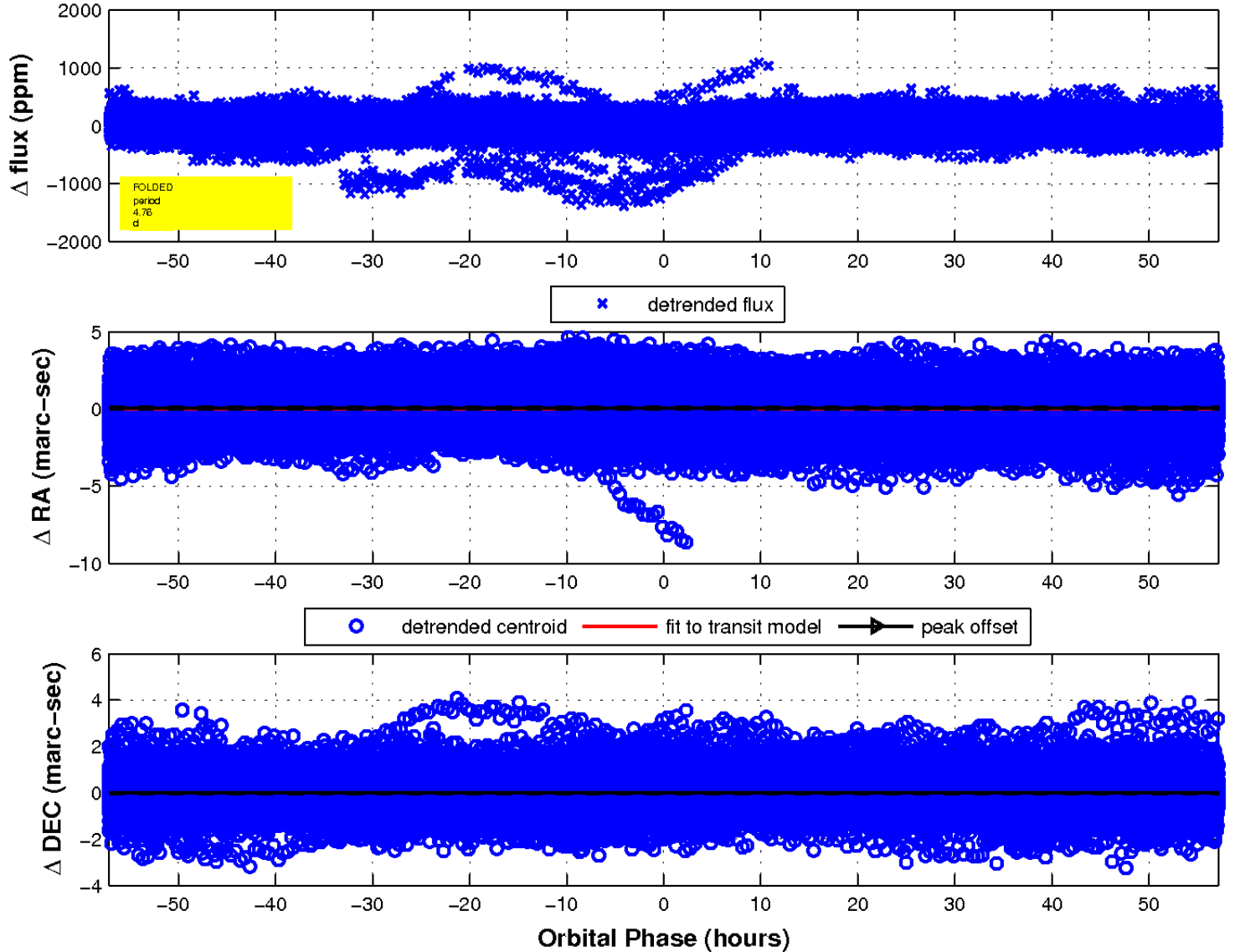
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

