

KIC 005271224

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})
005271224-01	OBS	No	2.300305	132.382538	98.0	10.329	8.6	8.3	1.70	7550	1.75	5128.00
005271224-03	OBS	No	228.408596	132.713355	914.4	1.165	11.1	2.8	1.70	7550	5.99	11.15
005271224-04	OBS	No	228.480137	133.512420	974.4	26.024	10.9	8.3	1.70	7550	6.36	11.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005271224-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005271224-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005271224-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD

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

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

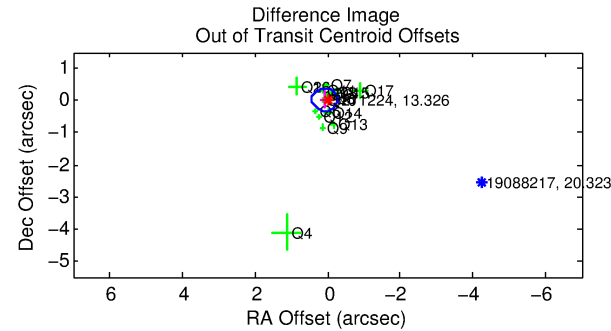
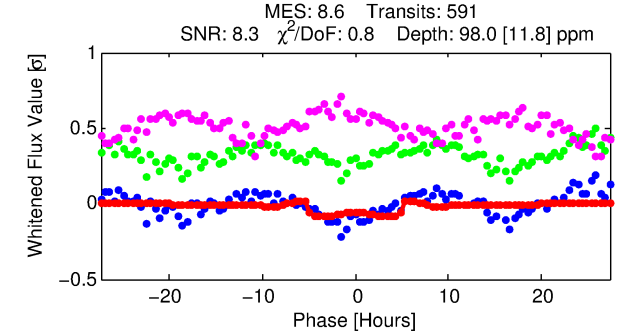
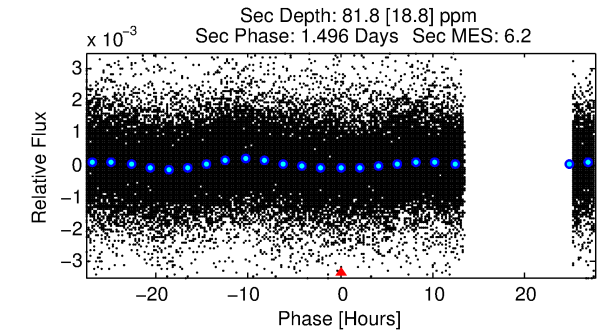
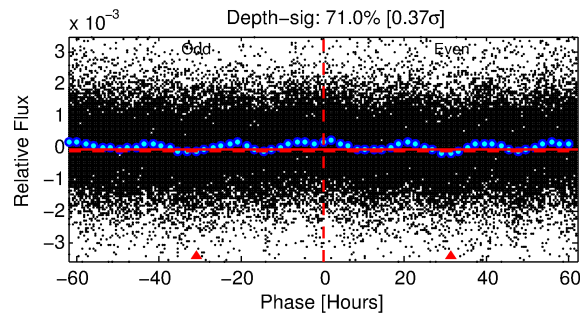
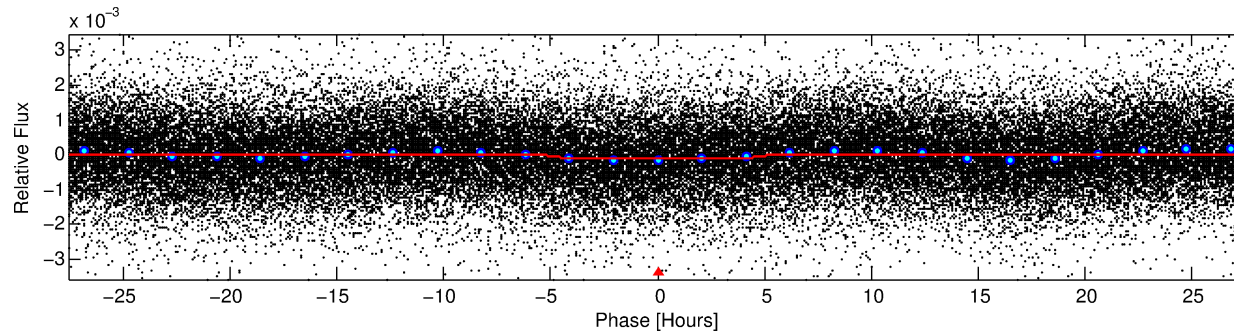
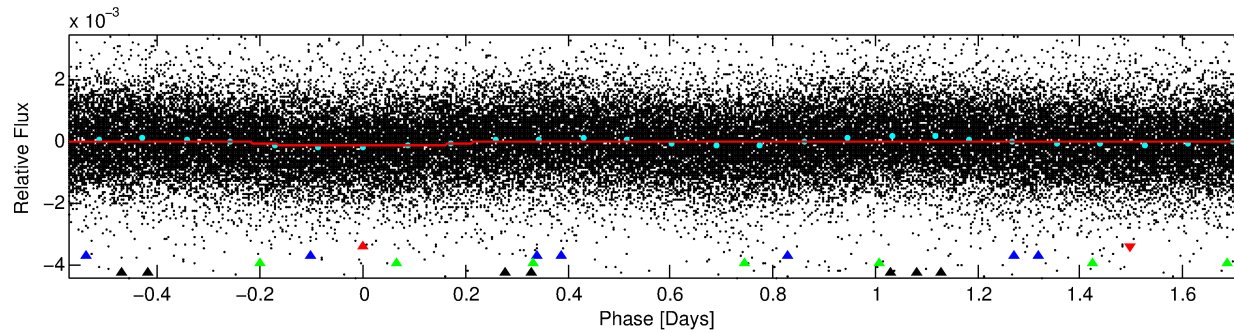
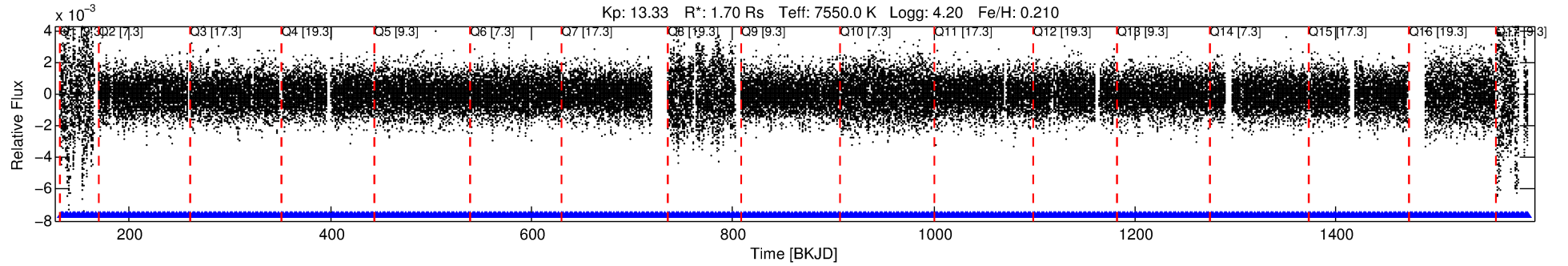
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005271224-01

No Significant Match Found

DV One-Page Summary

KIC: 5271224 Candidate: 1 of 4 Period: 2.300 d



DV Fit Results:

Period = 2.30031 [0.00003] d
Epoch = 132.3825 [0.0071] BKJD
Rp/R* = 0.0094 [0.0055]
a/R* = 1.67 [3.92]
b = 0.49 [5.77]
Seff = 5128.00 [1517.86]
Teff = 2158 [160] K
Rp = 1.75 [1.11] Re
a = 0.0406 [0.0082] AU
Ag = 24.21 [29.94] [0.78 σ]
Teffp = 7400 [2224] K [2.35 σ]

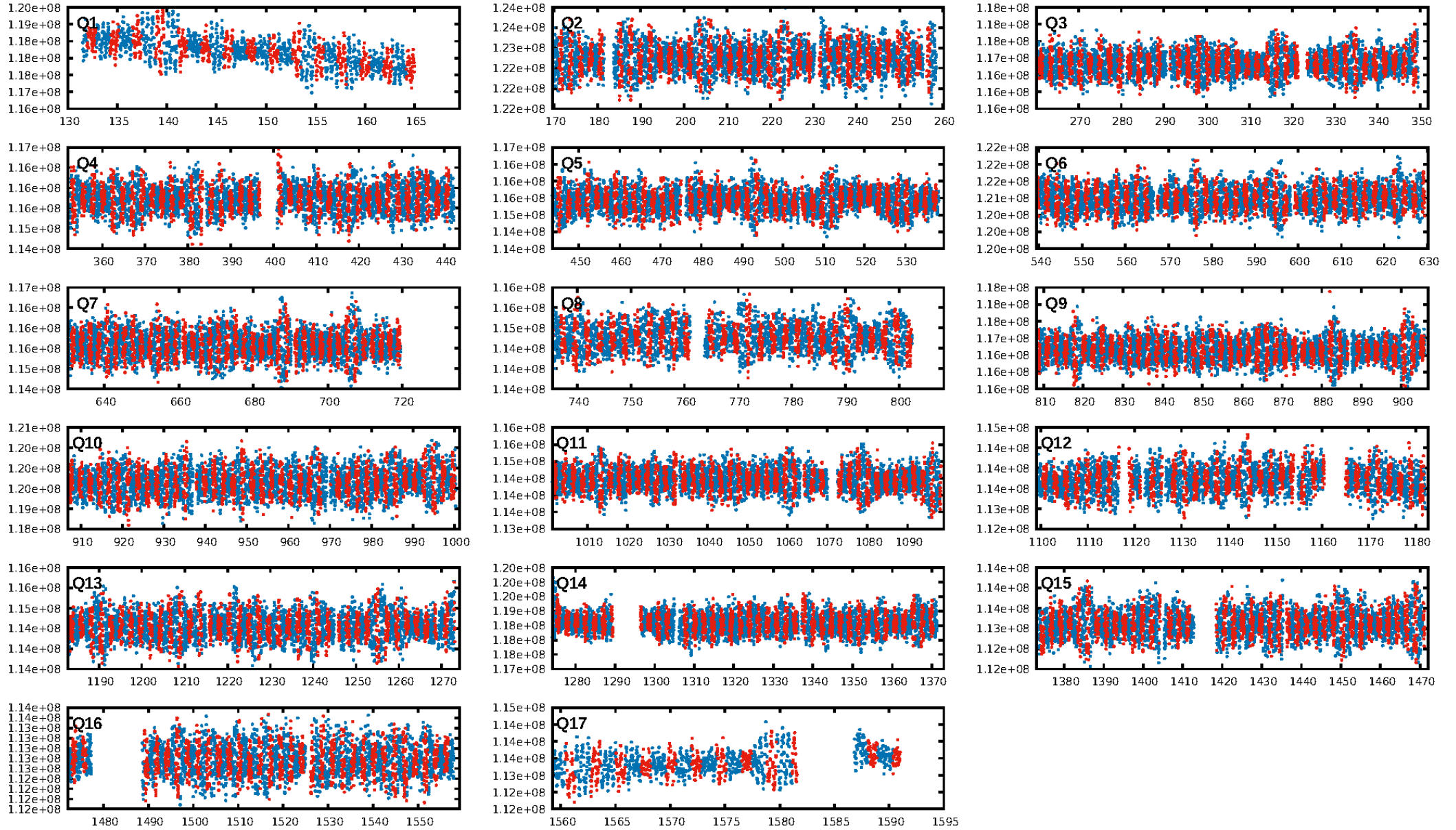
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [431.14 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.76e-13
RollingBand-fgt: 1.00 [564/564]
GhostDiagnostic-chr: 2.727
Centroid-sig: 0.2%
Centroid-so: 0.261 arcsec [1.60 σ]
OotOffset-rm: 0.083 arcsec [0.71 σ]
KicOffset-rm: 0.031 arcsec [0.13 σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 1.00 [16/16]
DiffImageOverlap-fno: 1.00 [17/17]

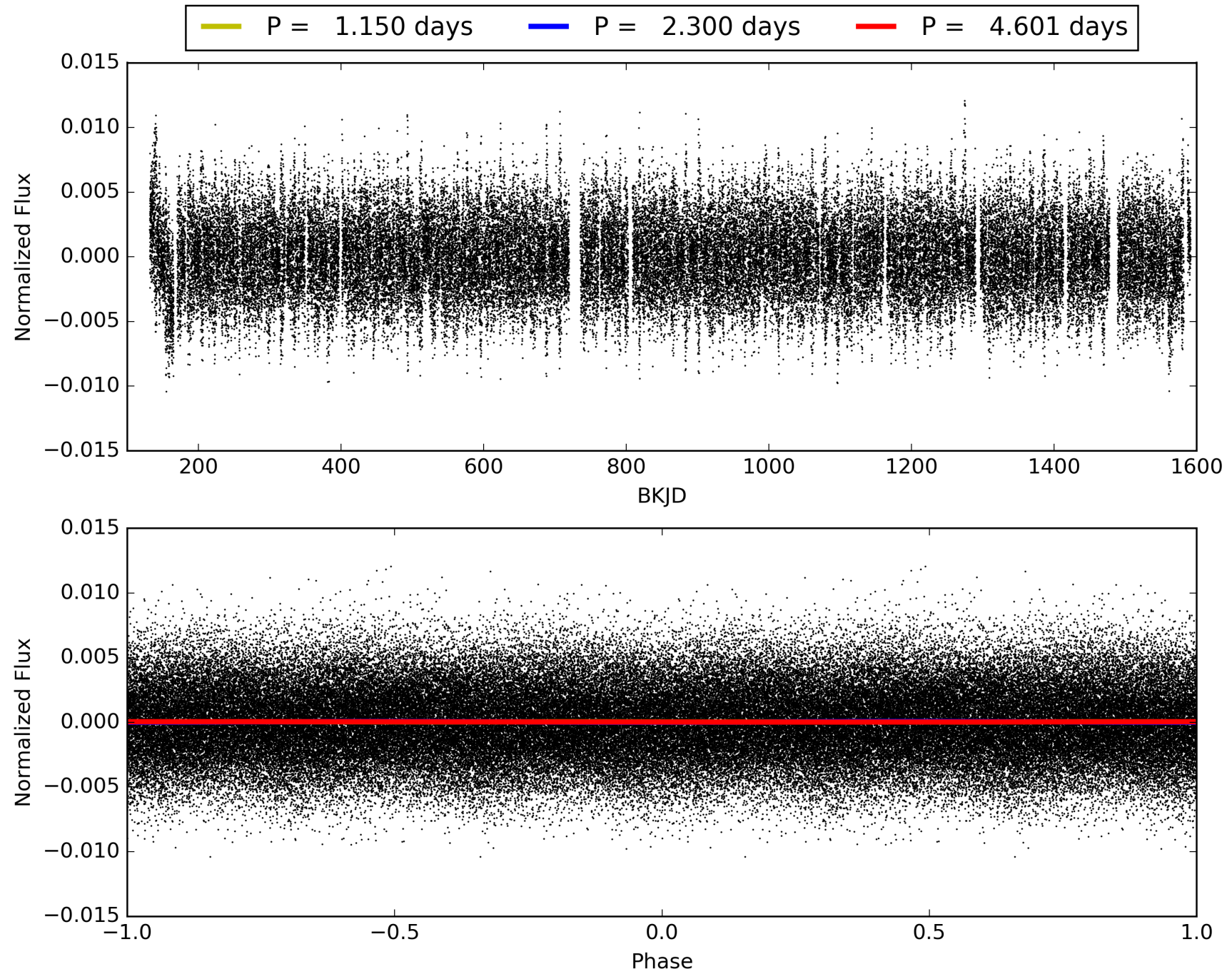
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:26:42 Z

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

TCE 005271224-01, PDC Light Curves

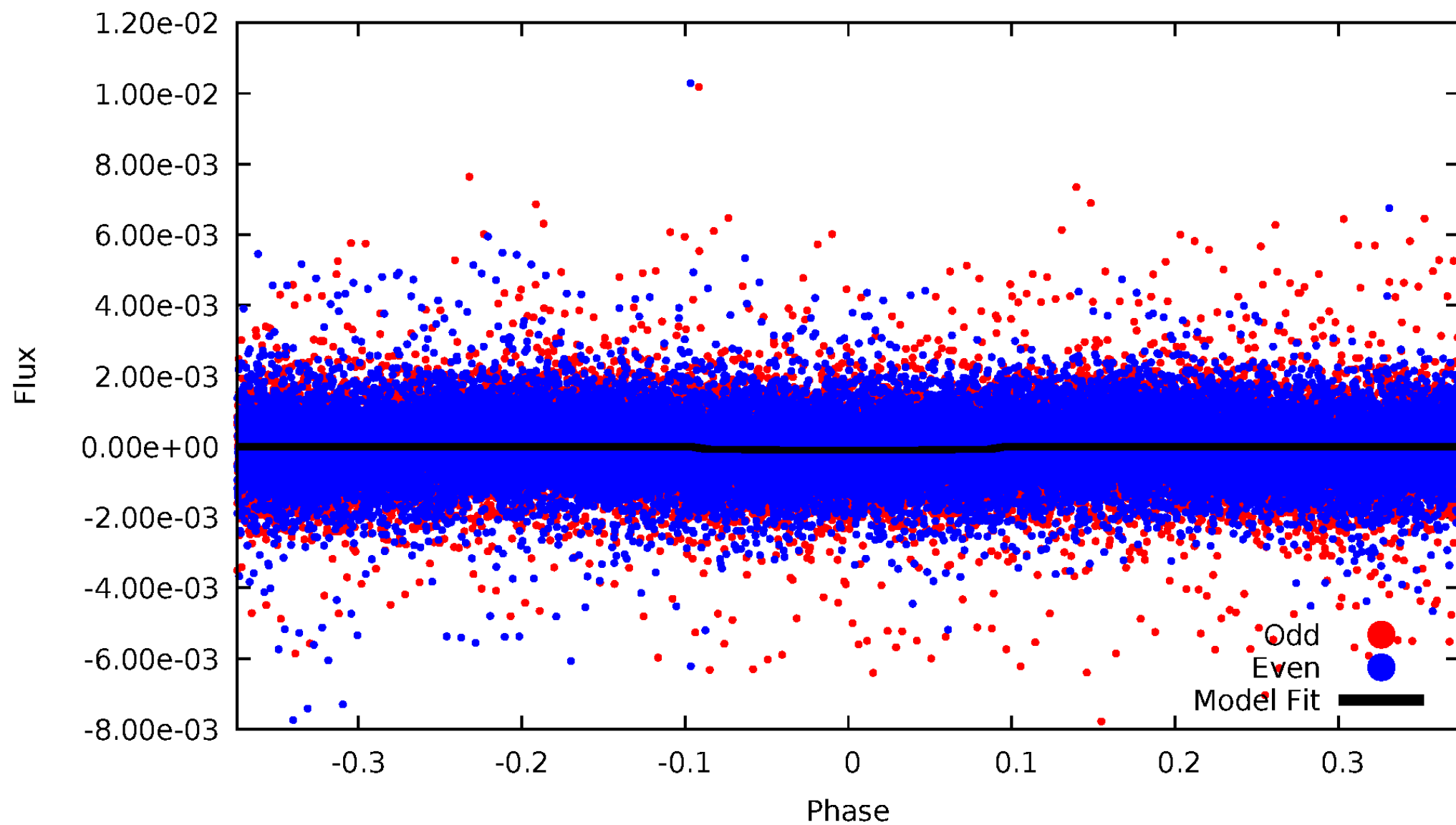


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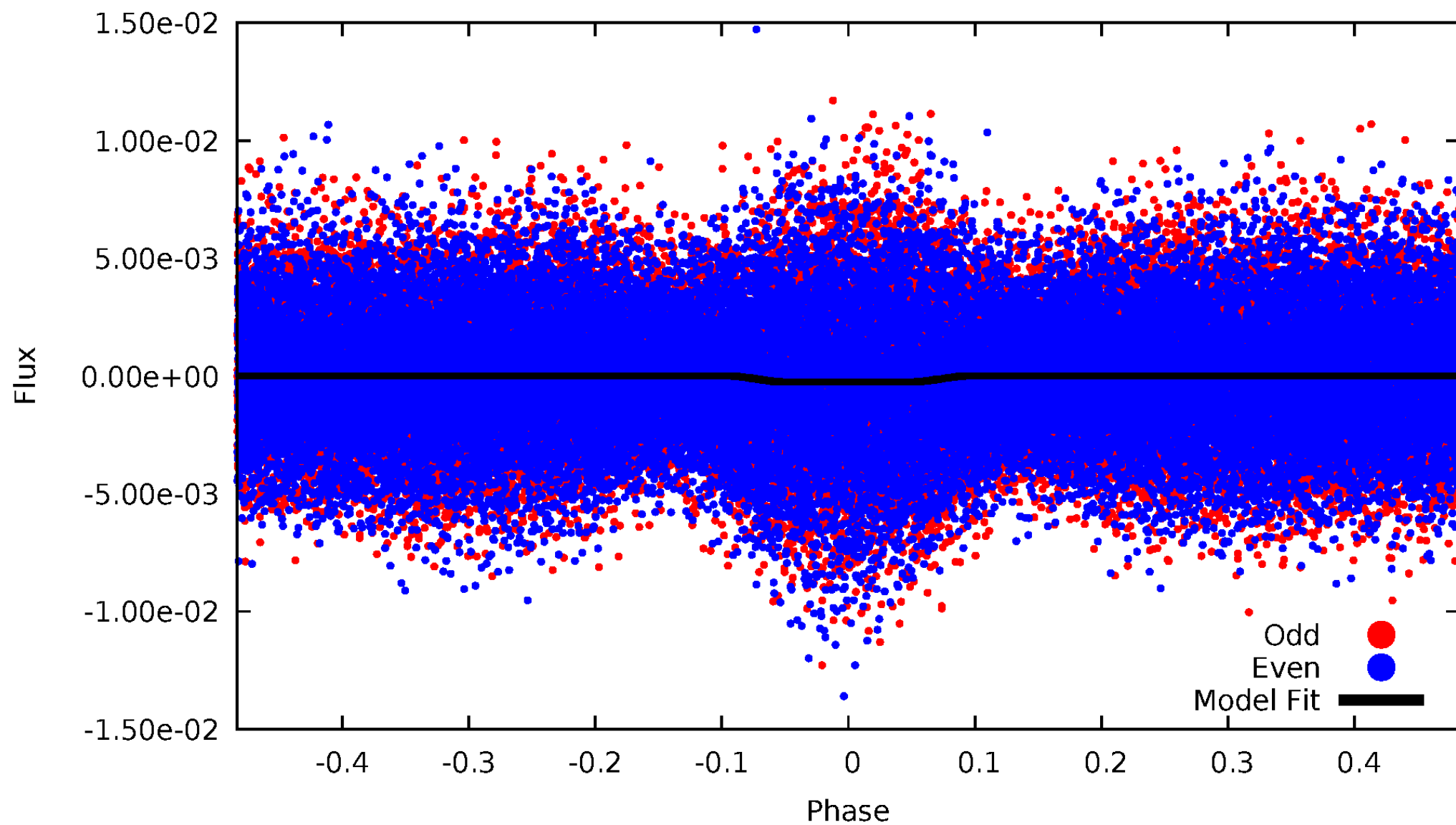
DV Odd/Even

TCE 005271224-01

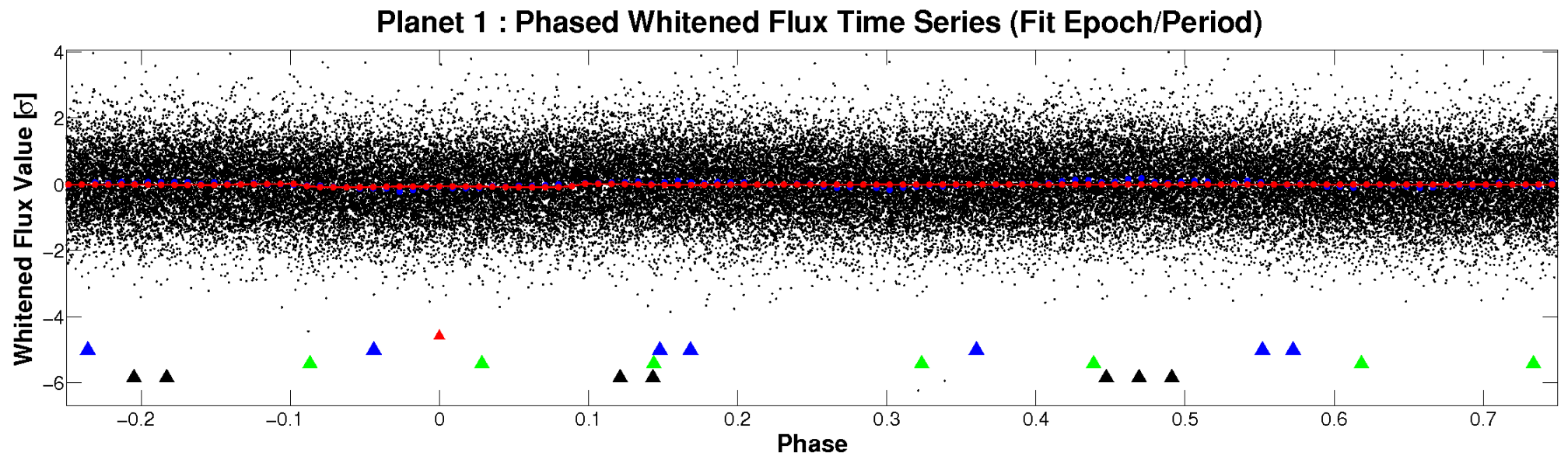
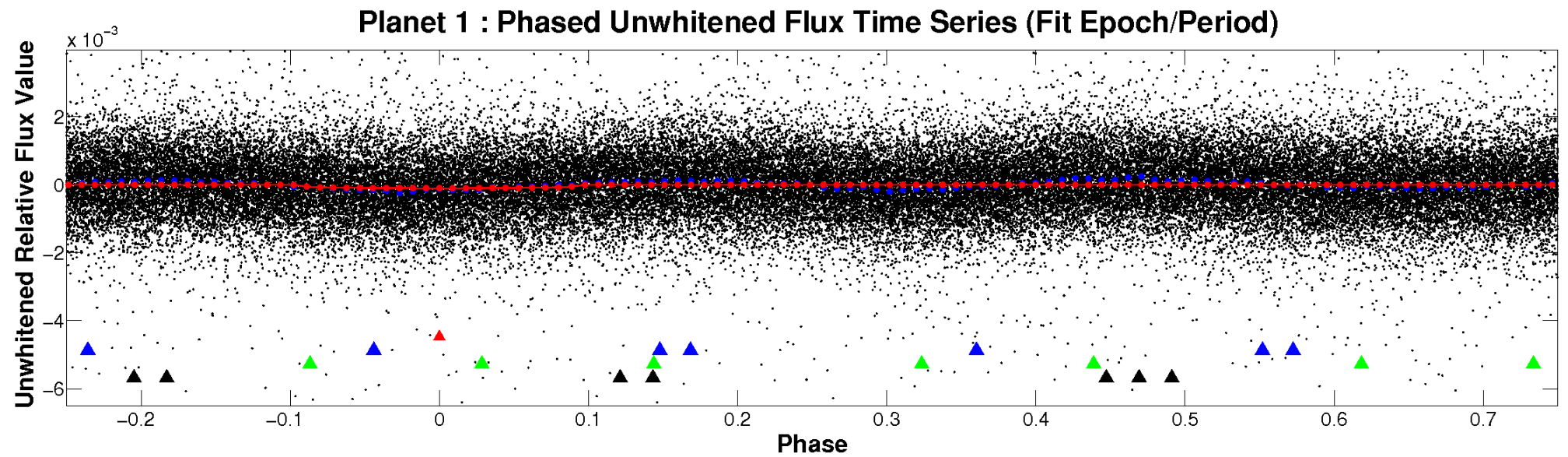


ALT Odd/Even

TCE 005271224-01

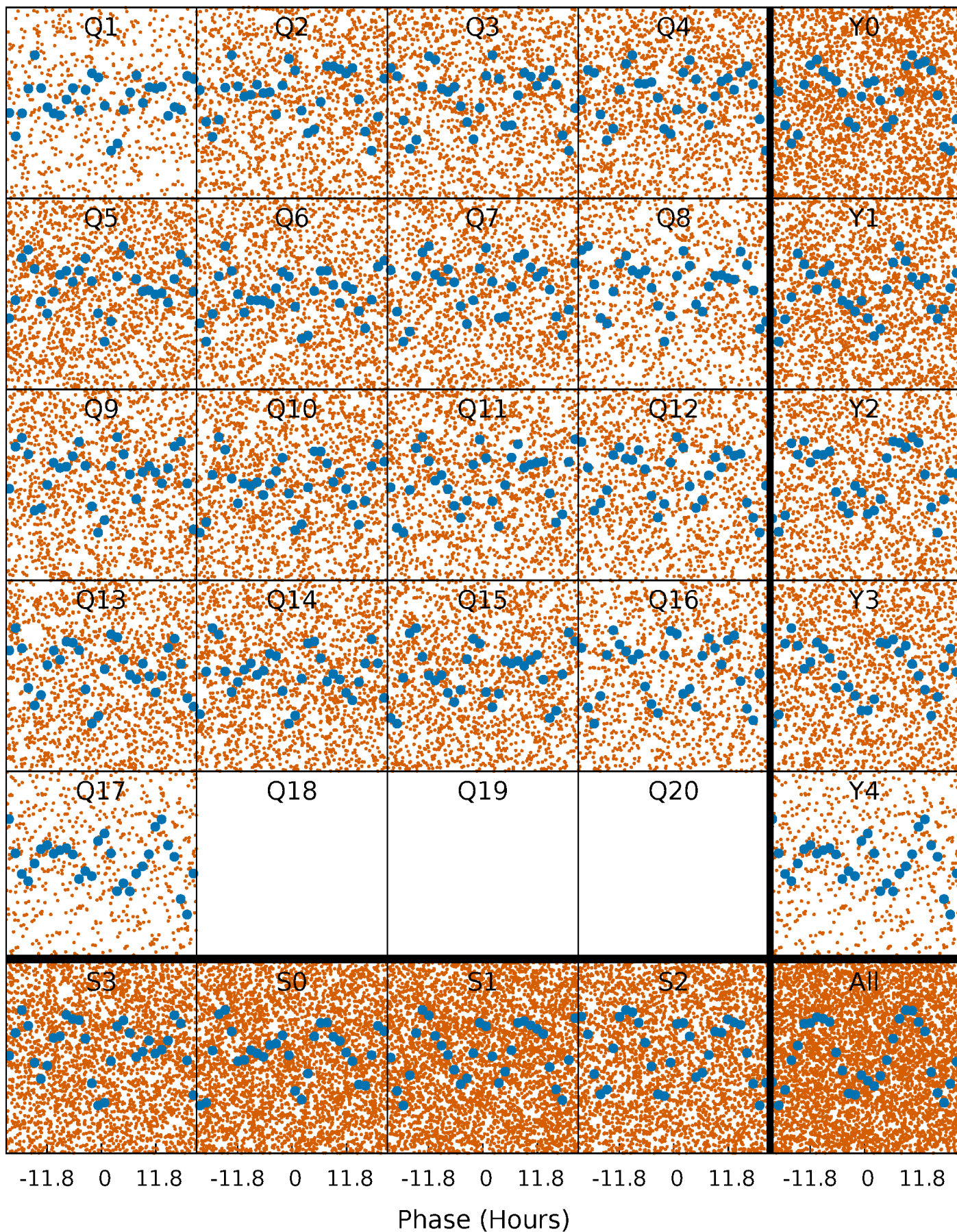


Non-Whitened Vs. Whitened Light Curve



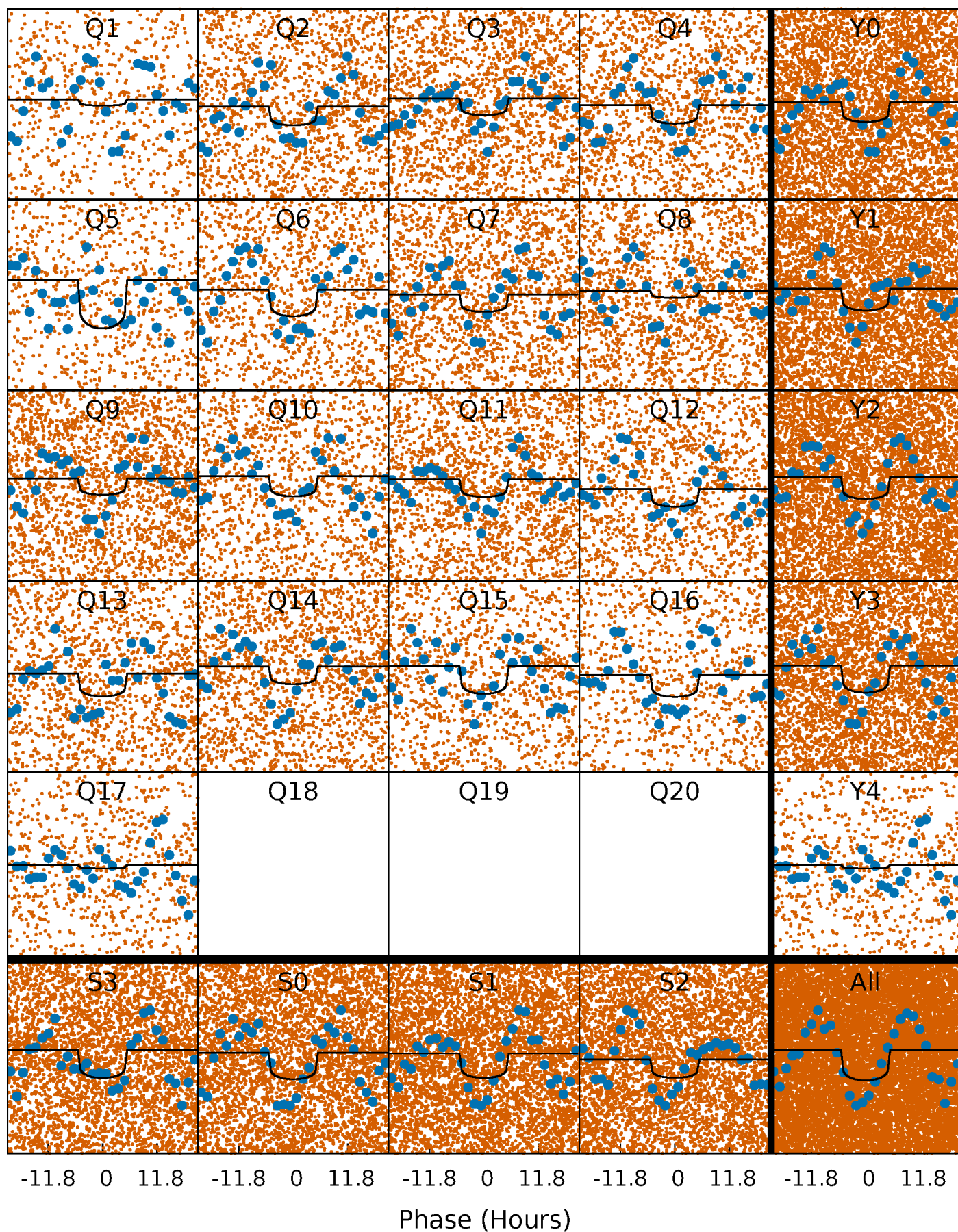
PDC Quarter-Phased Transit Curves

TCE 005271224-01 P= 2.300305 Days $T_0=132.382538$ (BKJD)



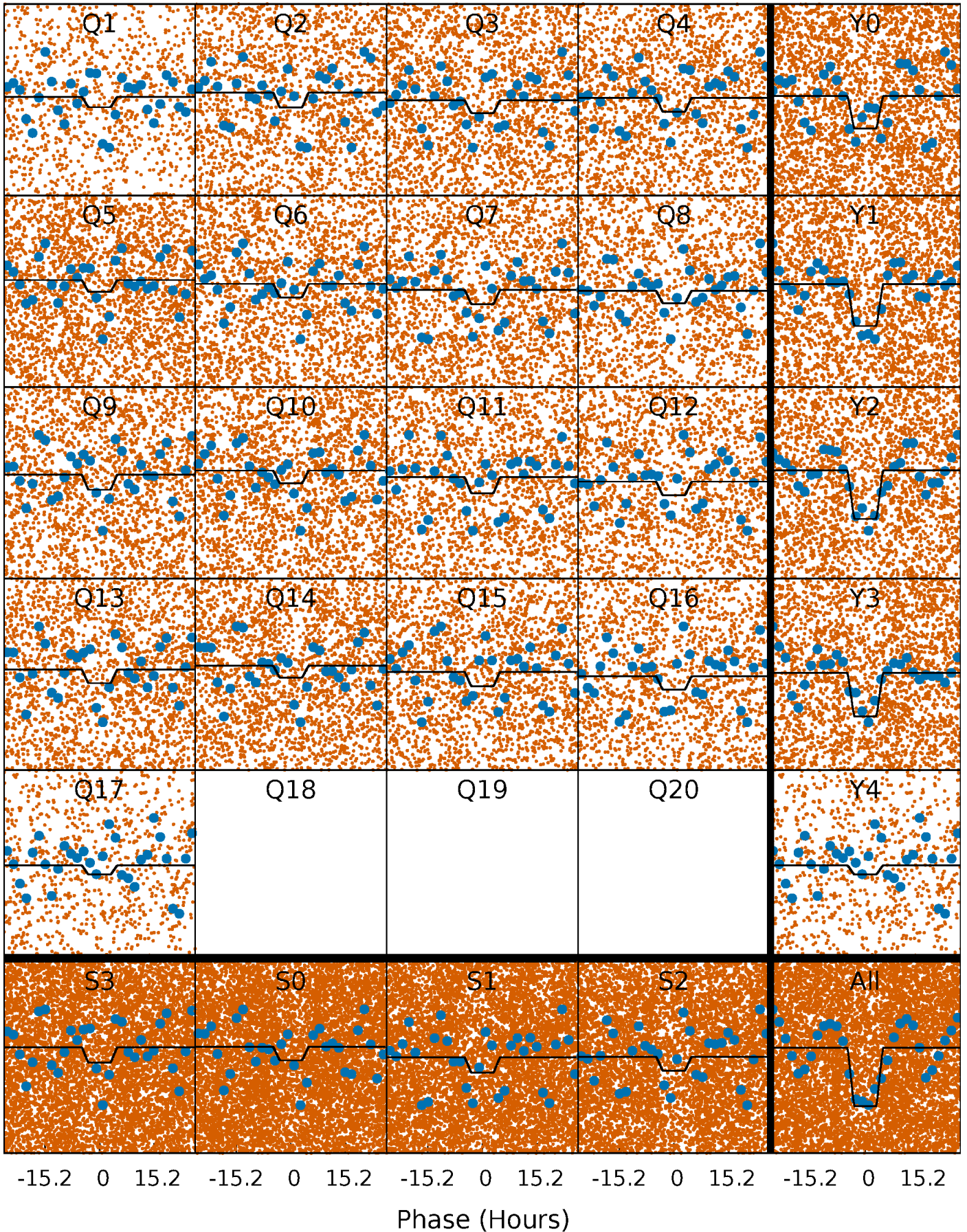
DV Quarter-Phased Transit Curves

TCE 005271224-01 P= 2.300305 Days $T_0=132.382538$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

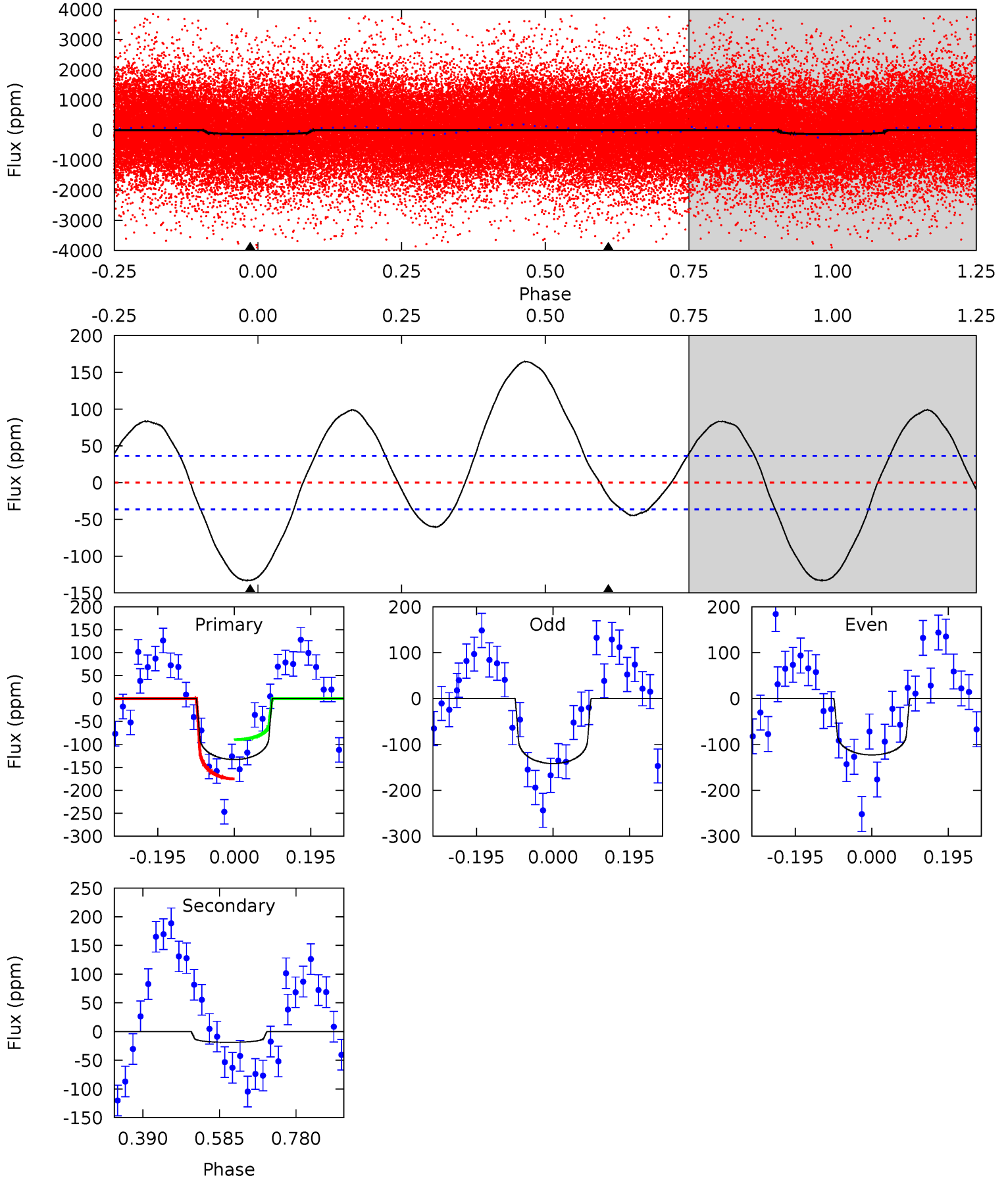
TCE 005271224-01 P= 2.300057 Days $T_0=132.408591$ (BKJD)



DV Model-Shift Uniqueness Test

005271224-01, P = 2.300305 Days, E = 130.082233 Days

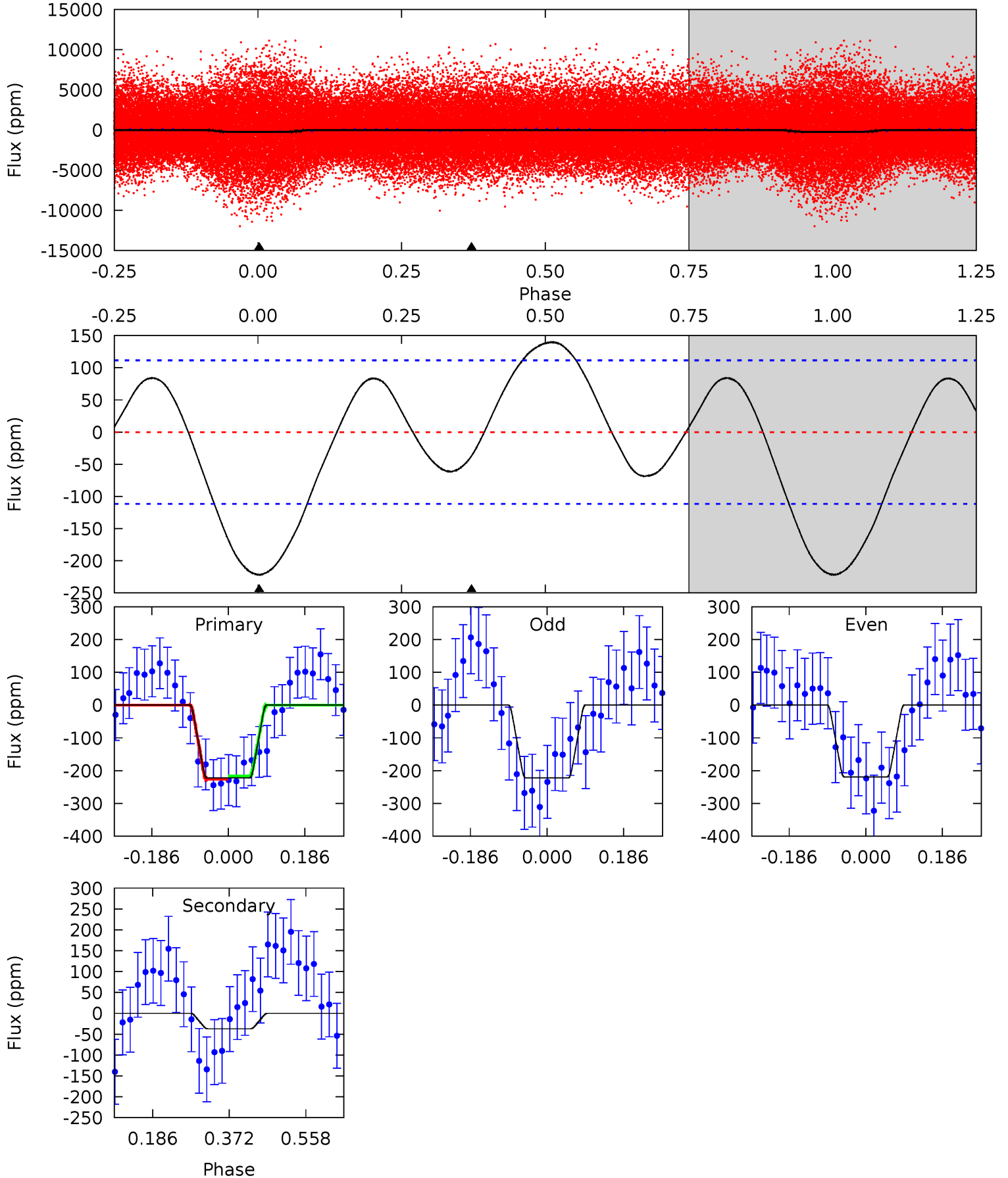
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.2	2.29	0	0	4.42	1.30	6.42	16.2	16.2	2.29	2.29	1.15	1.12	0.55	5.20



Alt Model-Shift Uniqueness Test

005271224-01, P = 2.300057 Days, E = 130.108534 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.81	1.48	0	0	4.43	1.32	2.17	8.81	8.81	1.48	1.48	0.06	0.97	0.39	0.20



Stellar Parameters For KIC 005271224

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7550^{+75}_{-83}	$4.202^{+0.040}_{-0.160}$	$0.210^{+0.200}_{-0.150}$	$1.704^{+0.407}_{-0.109}$	$1.696^{+0.145}_{-0.092}$	$0.483^{+0.080}_{-0.223}$
	+1%/-1%	+1%/-4%	+95%/-71%	+24%/-6%	+9%/-5%	+17%/-46%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005271224-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-19 ± 8	$1.92^{+1.07}_{-1.02}$	3050^{+164}_{-84}	4859^{+2188}_{-931}	$4.322^{+14.636}_{-2.766}$
Alt.	-37 ± 25	$3.10^{+1.07}_{-1.06}$	3039^{+157}_{-76}	4582^{+1167}_{-1152}	$3.335^{+5.245}_{-2.508}$

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

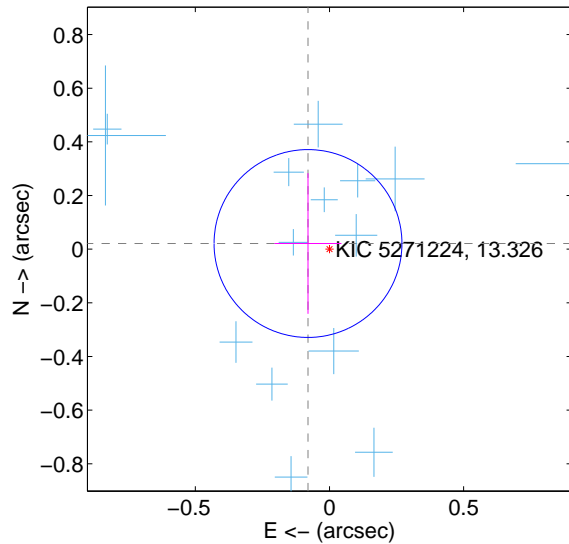
Supplemental centroid analysis for 005271224-01. Kepler magnitude: 13.33. Transit SNR 8.31

There are 16 quarters with good PRF difference image offsets

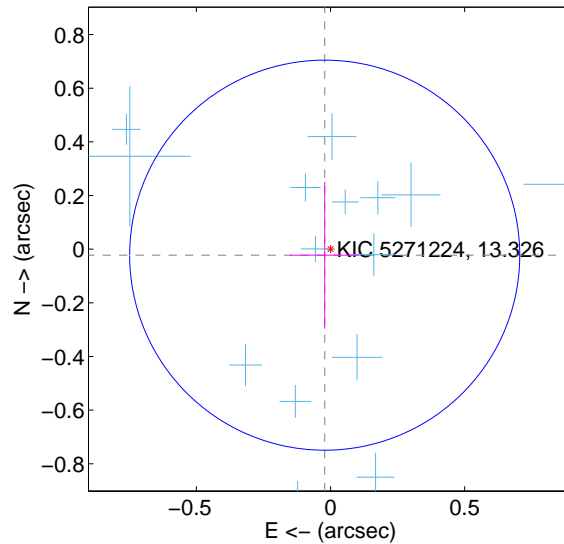
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.083 ± 0.117	0.71	0.080 ± 0.125	0.021 ± 0.262
PRF-fit source offset from KIC position	0.031 ± 0.242	0.13	0.022 ± 0.130	-0.022 ± 0.274
photometric centroid source offset	0.26 ± 0.16	1.60	-0.17 ± 0.16	0.20 ± 0.16

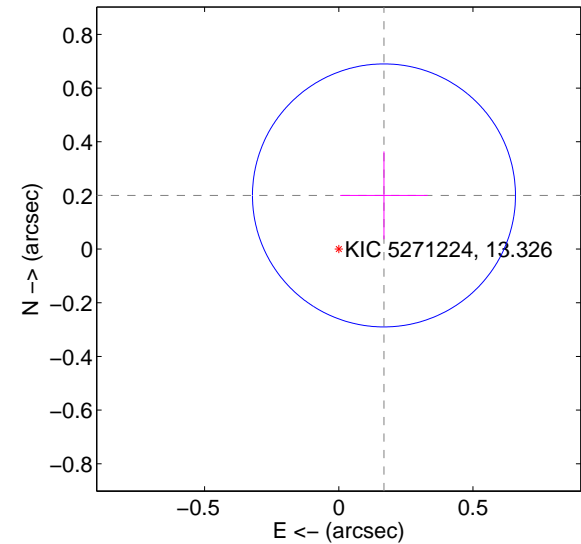
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

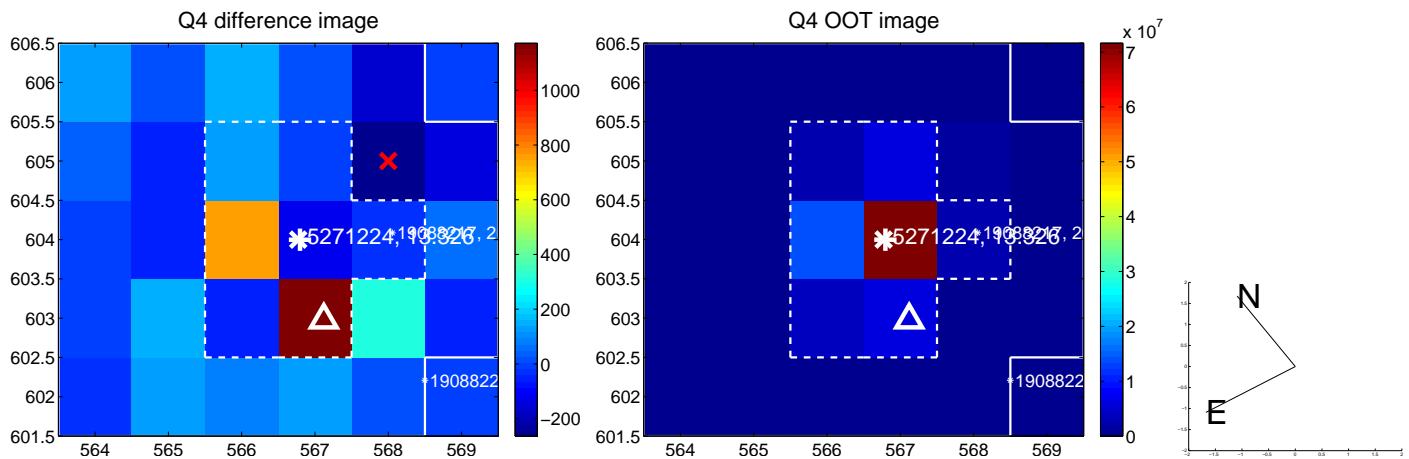
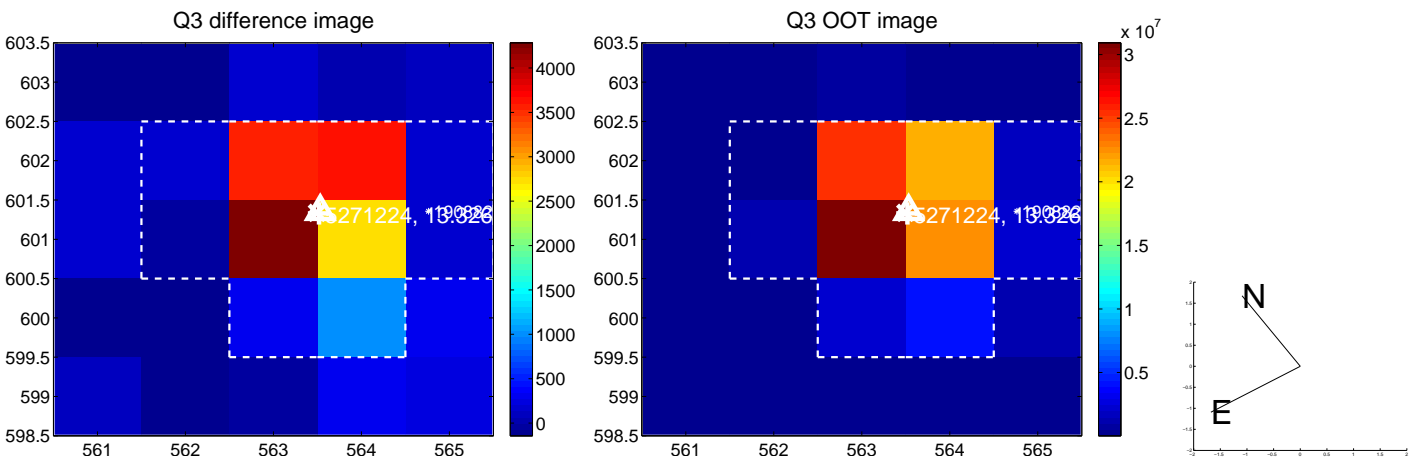
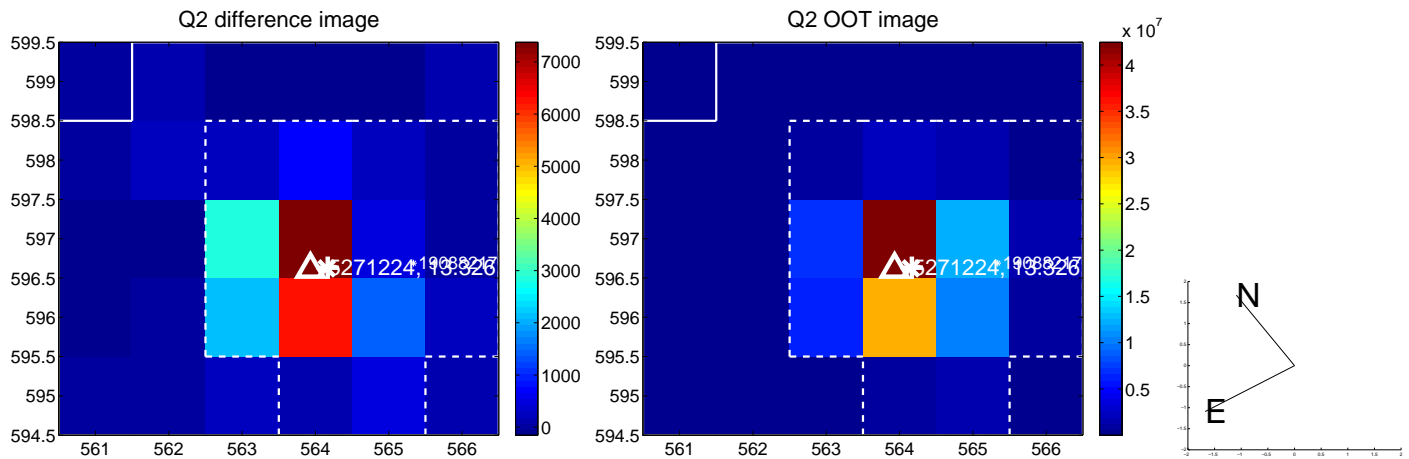
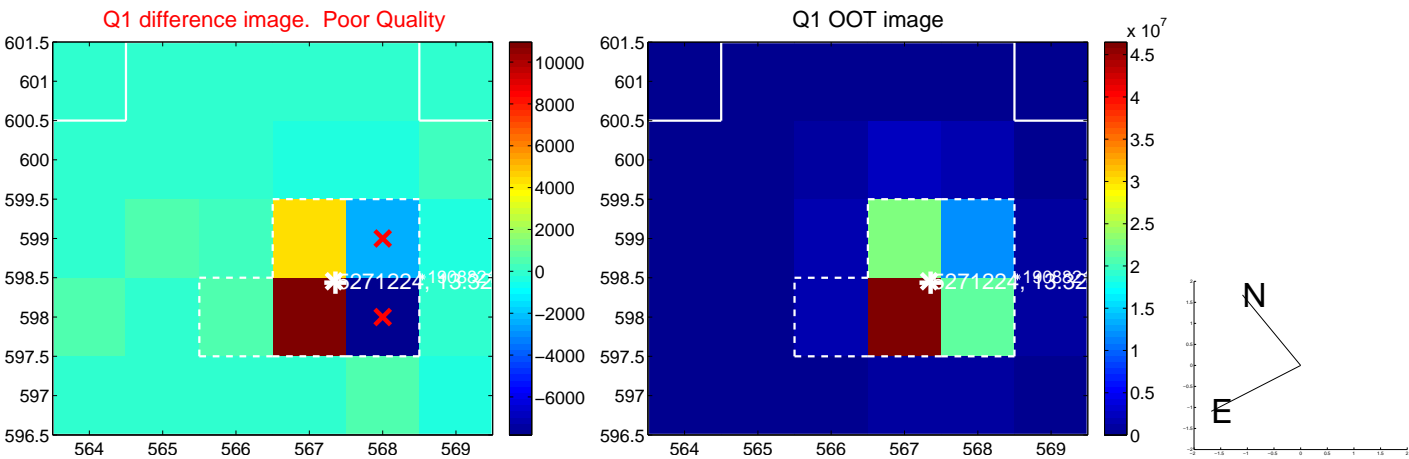


offset from photometric centroids

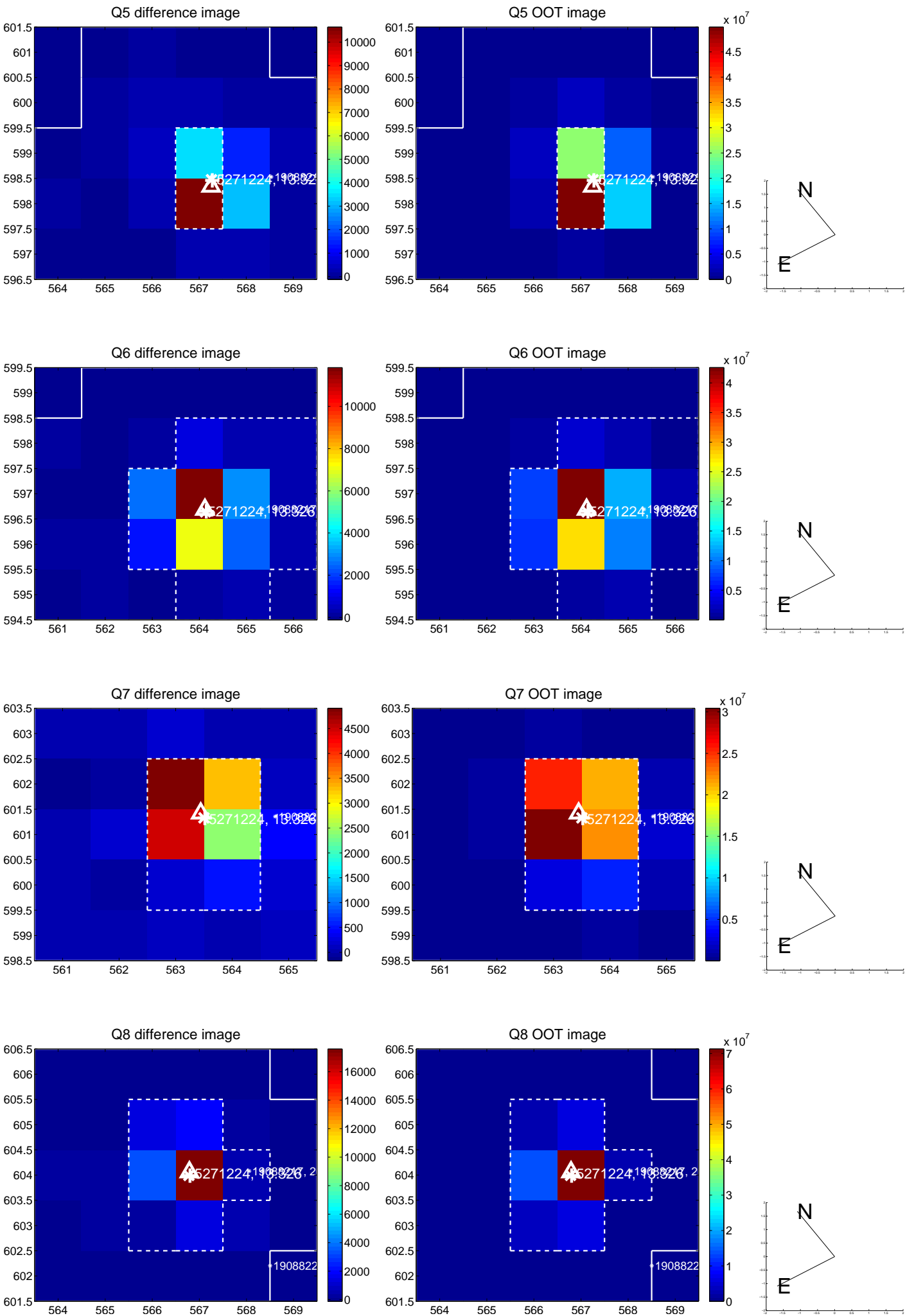


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

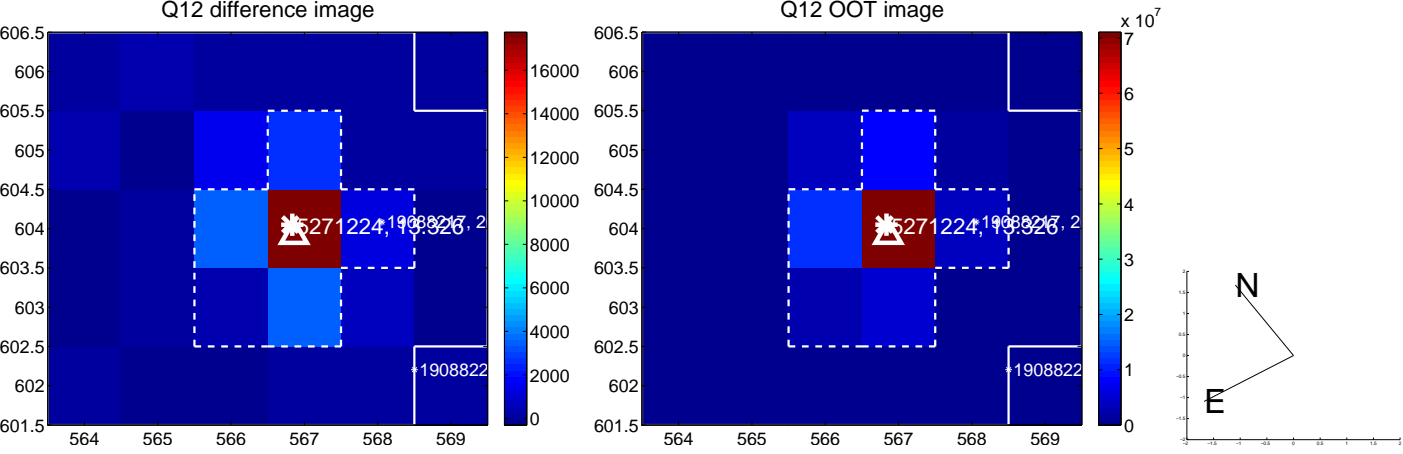
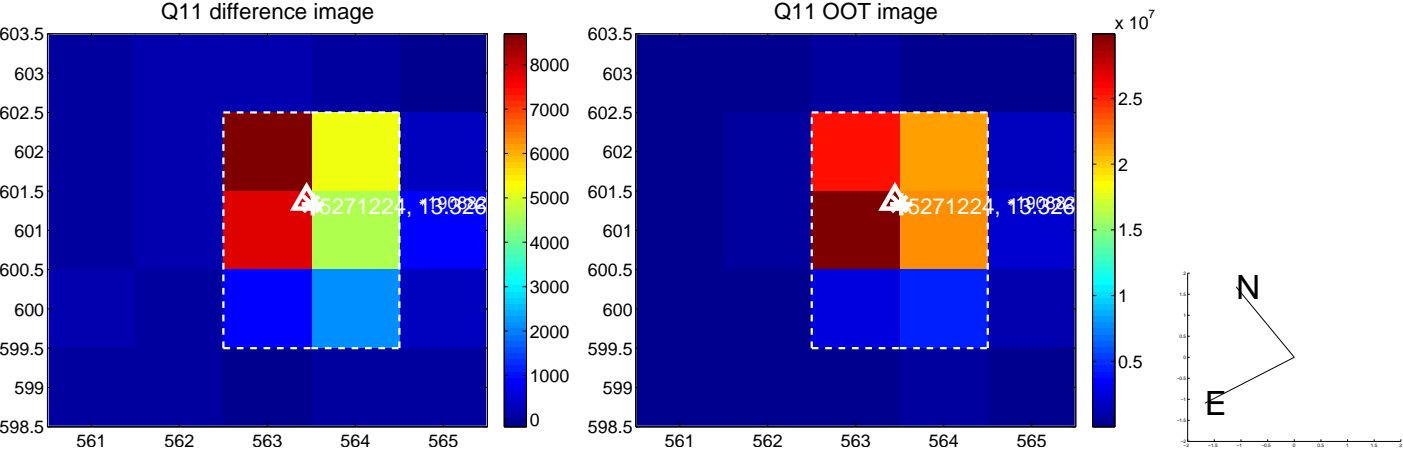
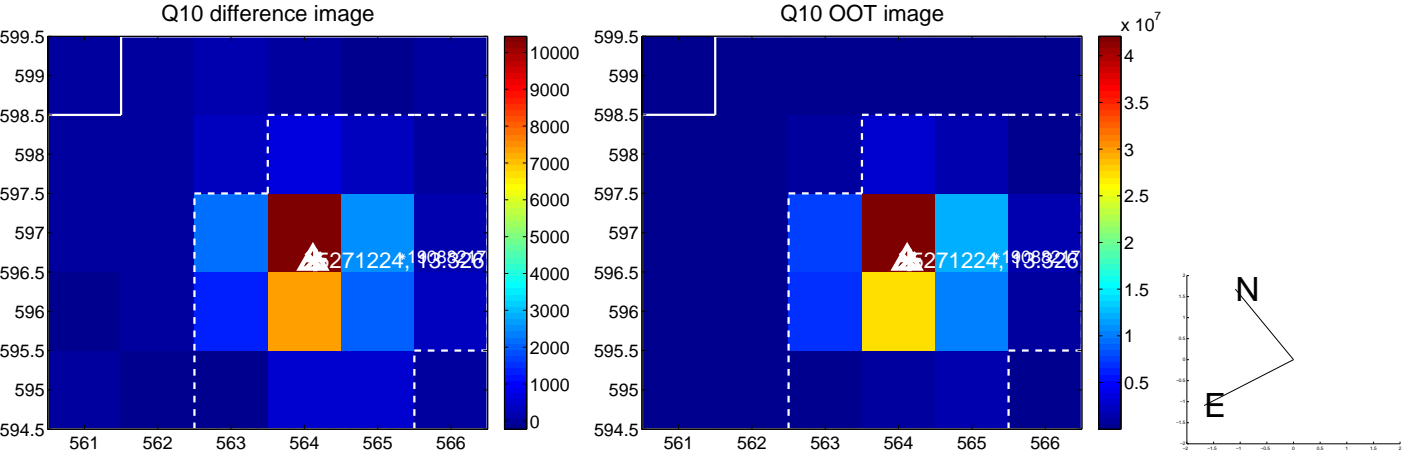
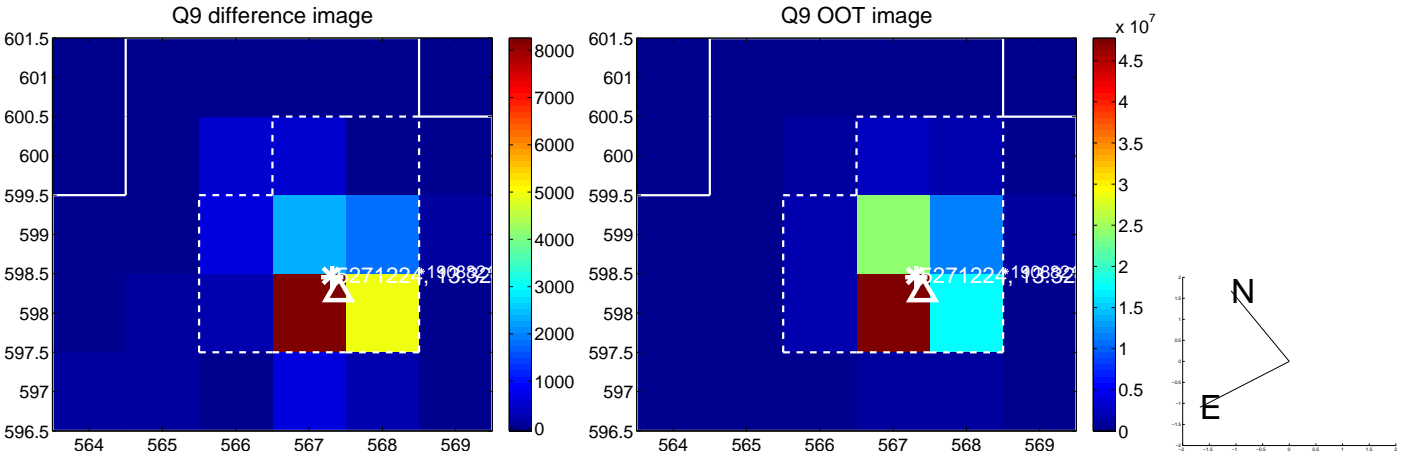
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



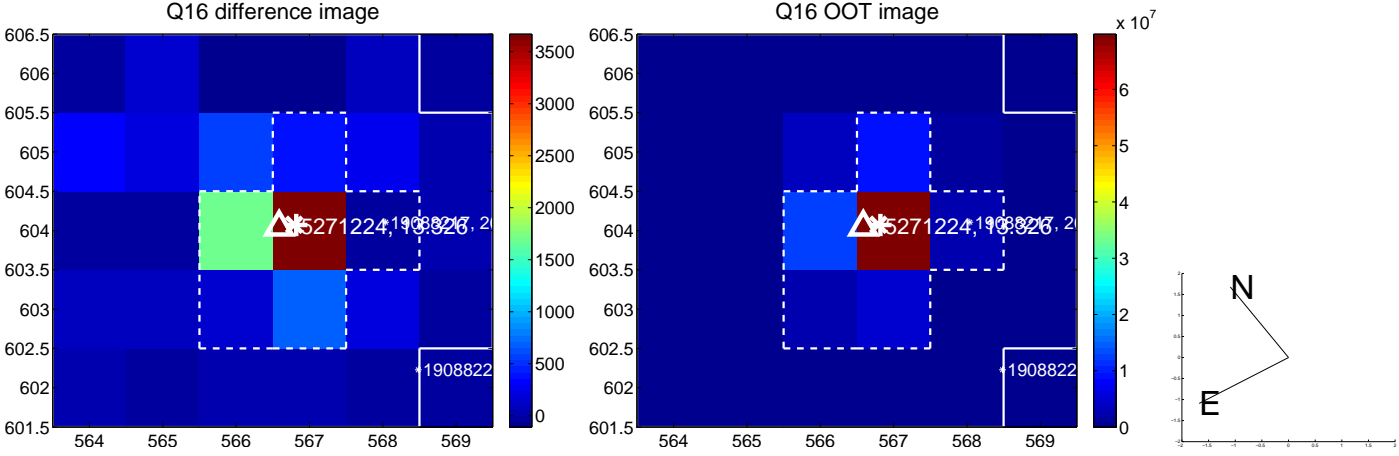
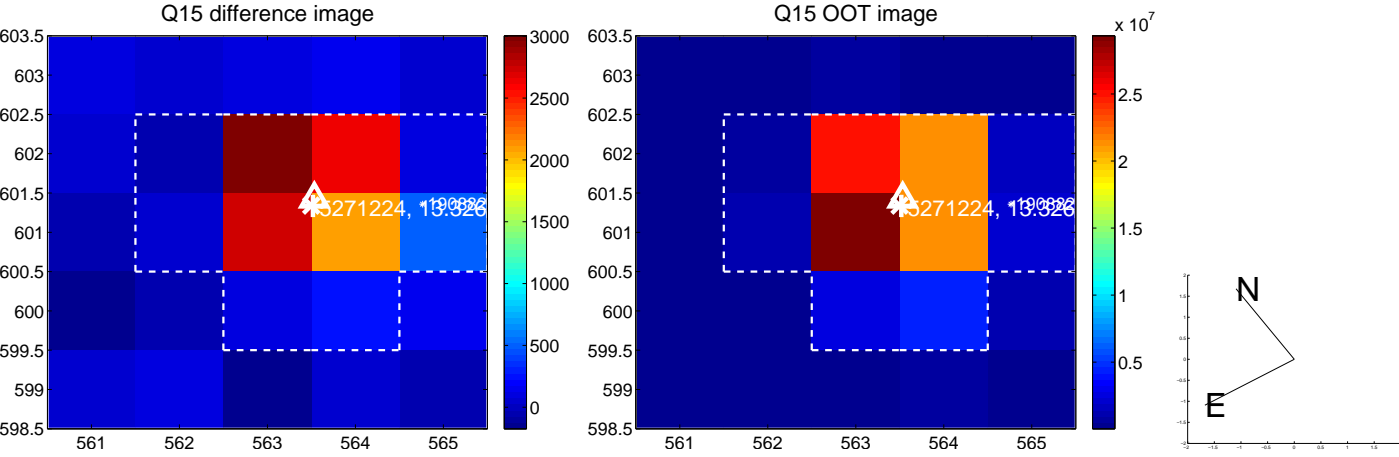
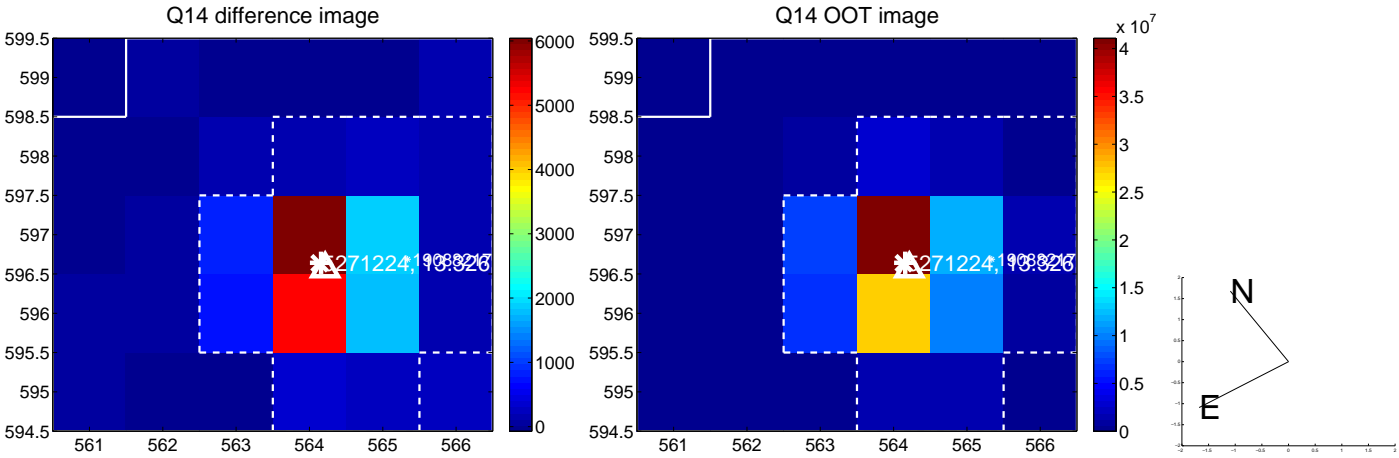
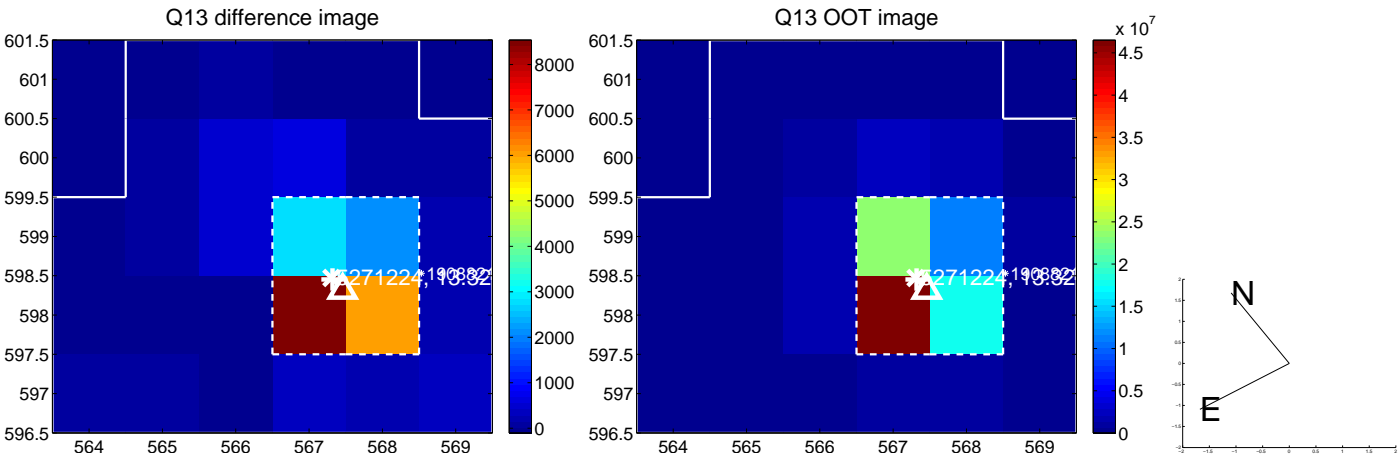
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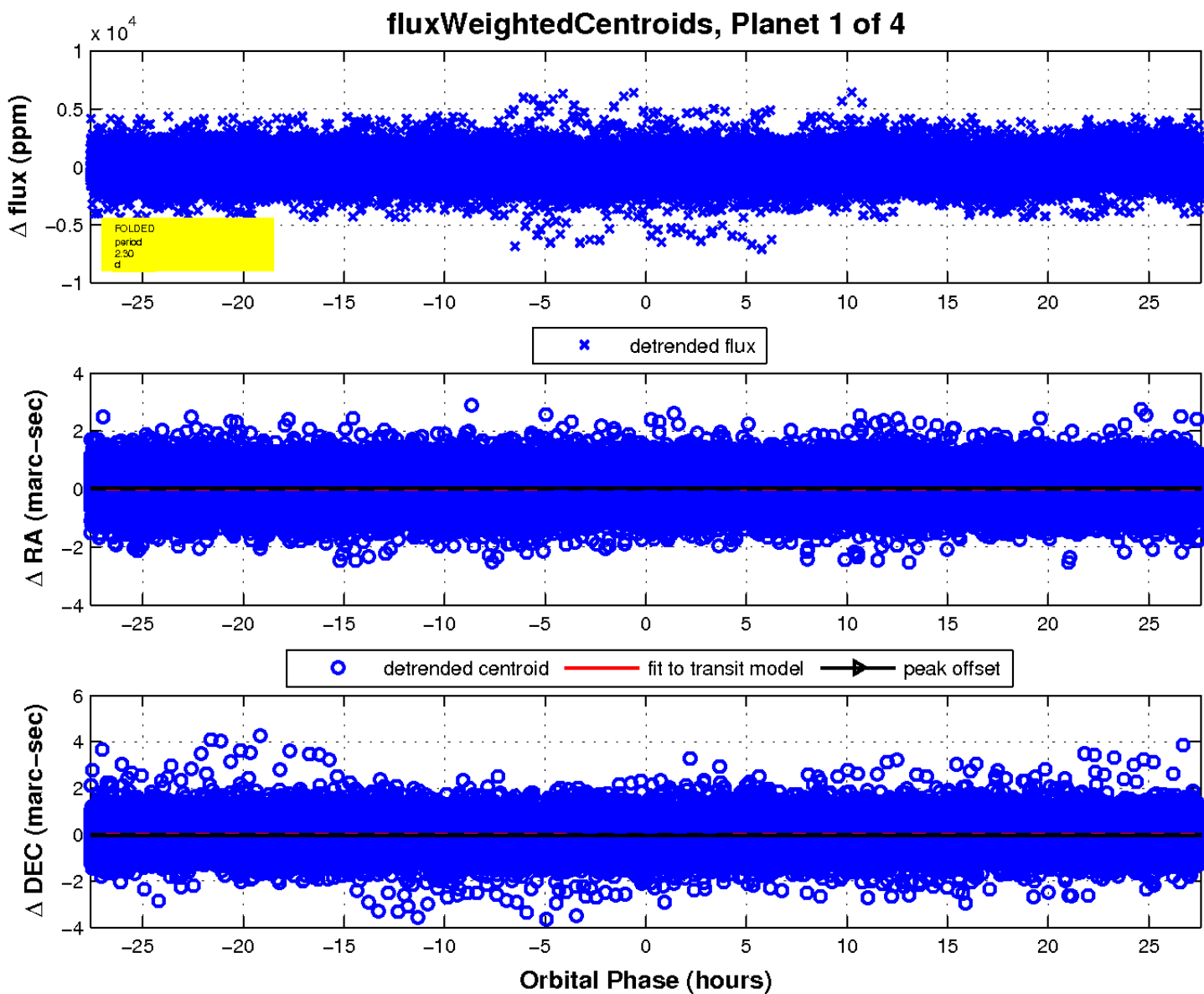
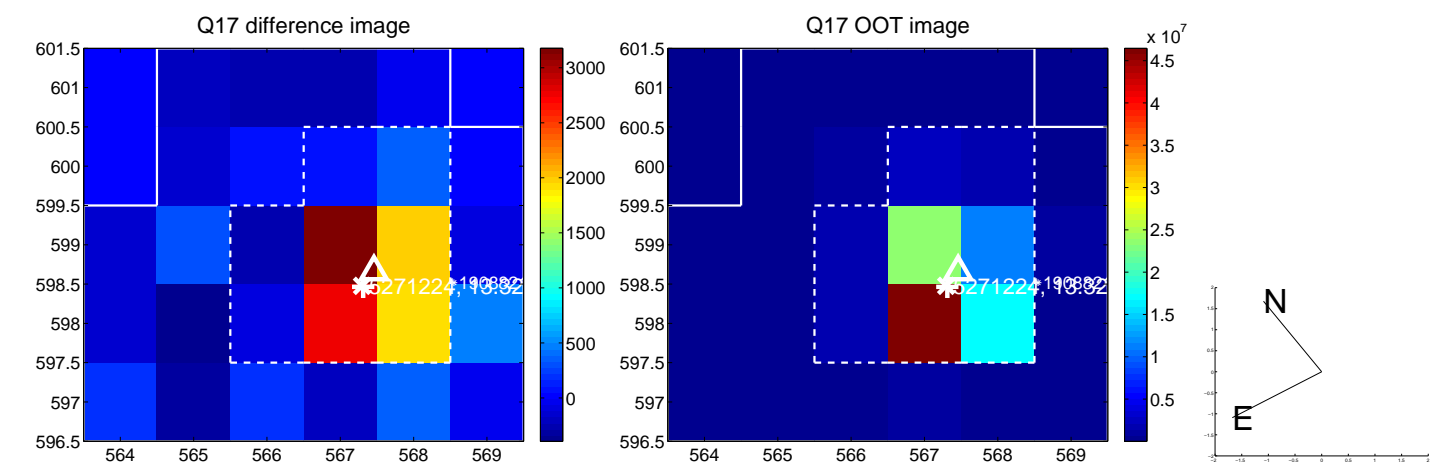
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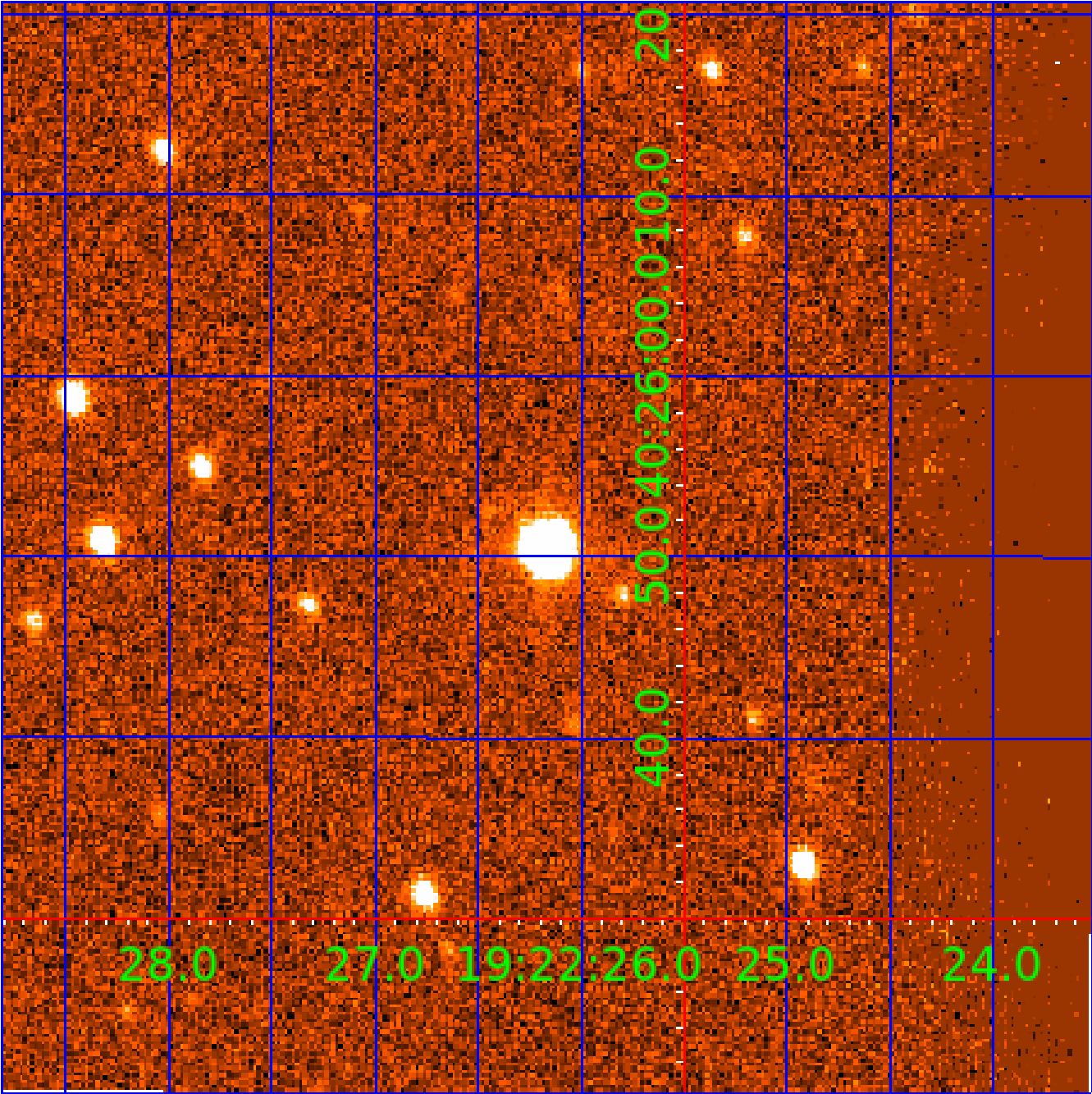


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005271224

Q1-17 DR25 TCE Parameters

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005271224-01	OBS	No	2.300305	132.382538	98.0	10.329	8.6	8.3	1.70	7550	1.75	5128.00
005271224-03	OBS	No	228.408596	132.713355	914.4	1.165	11.1	2.8	1.70	7550	5.99	11.15
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005271224-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005271224-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD

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

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

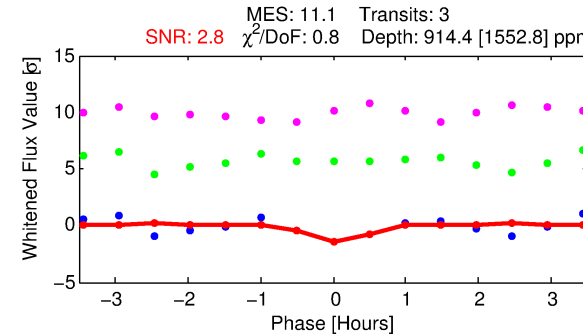
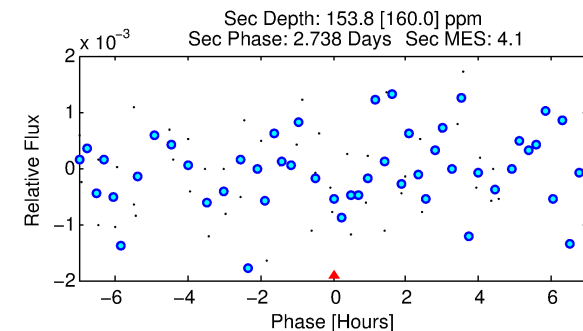
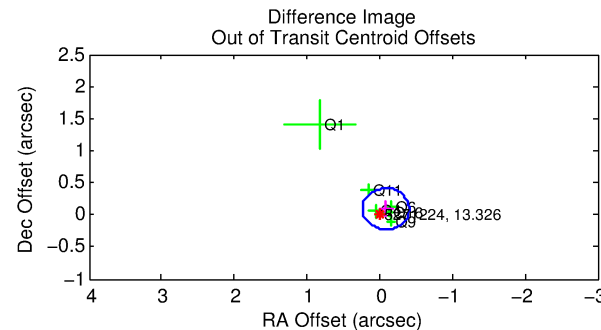
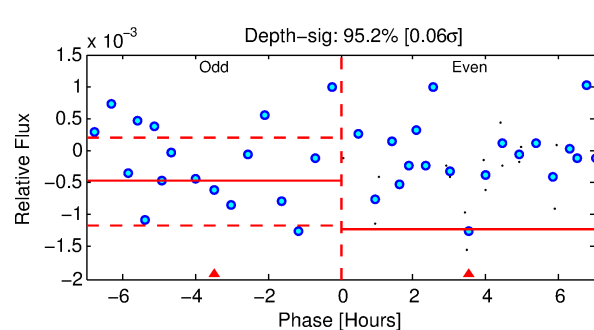
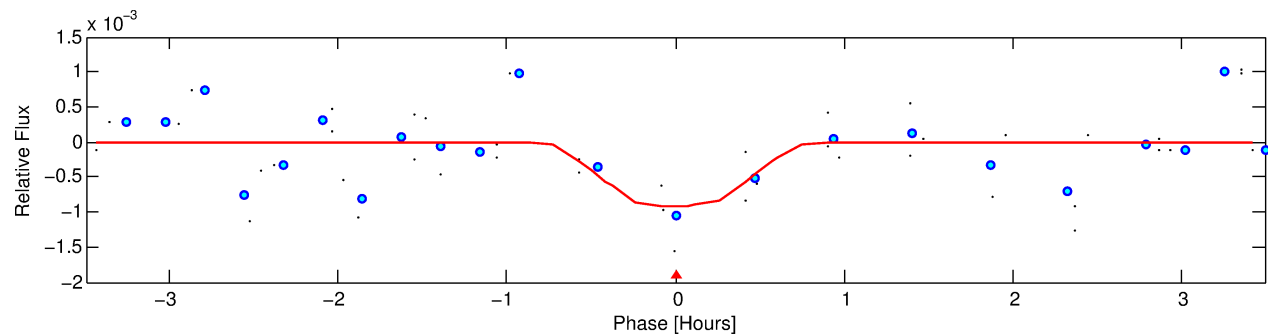
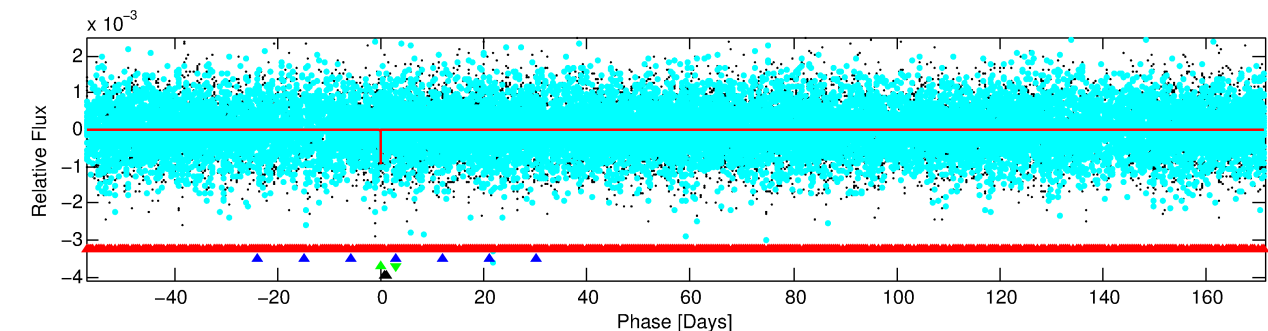
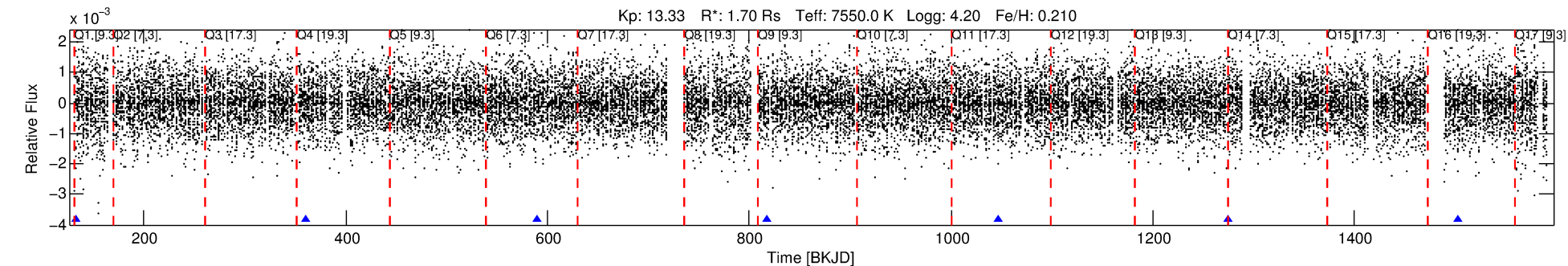
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005271224-03

No Significant Match Found

DV One-Page Summary

KIC: 5271224 Candidate: 3 of 4 Period: 228.409 d



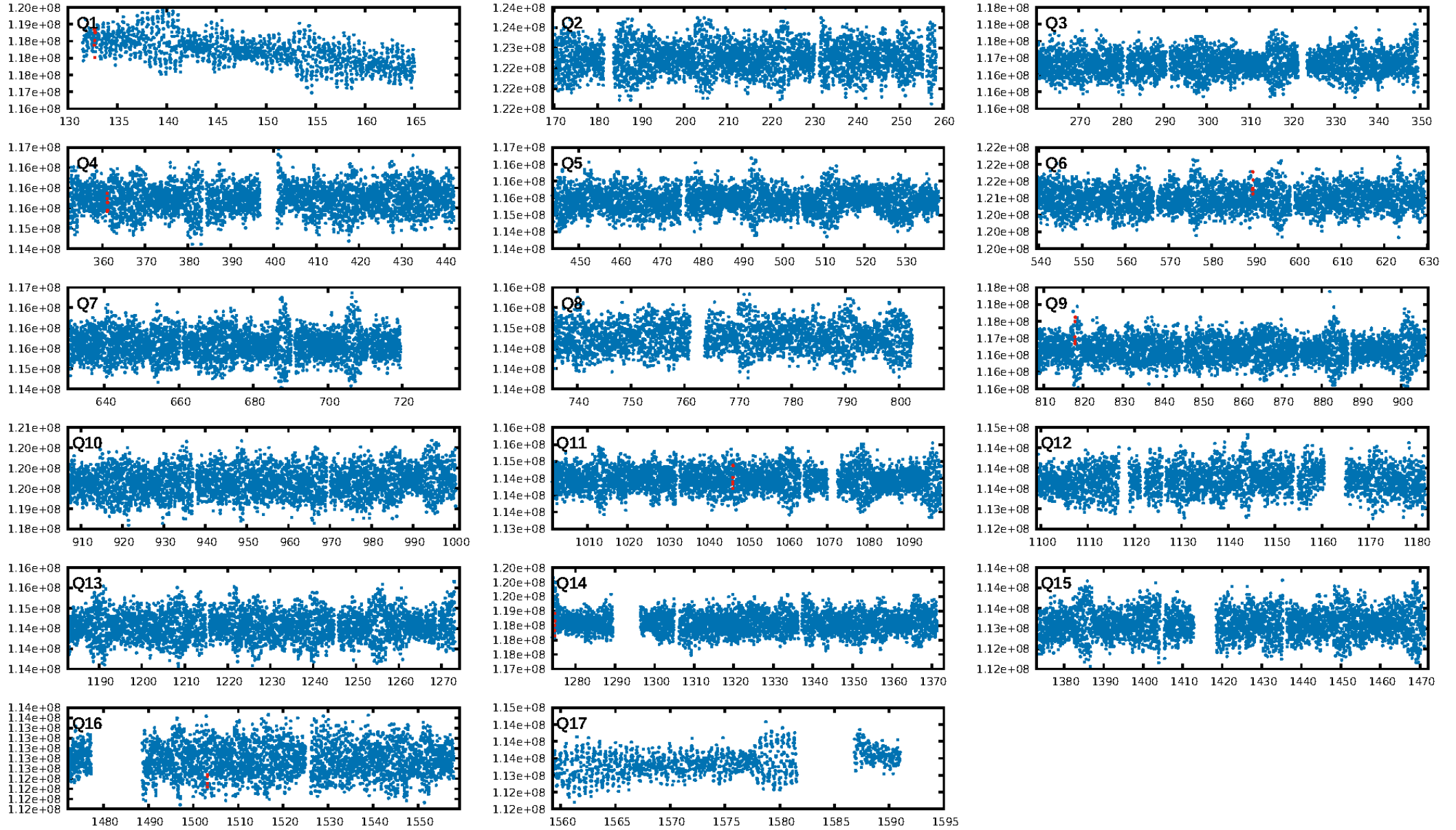
DV Fit Results:

Period = 228.40860 [0.00669] d
Epoch = 132.7134 [0.0276] BKJD
Rp/R* = 0.0322 [0.6617]
a/R* = 765.57 [101478.83]
b = 0.90 [29.24]
Seff = 11.15 [3.30]
Teq = 466 [34] K
Rp = 5.99 [123.05] Re
a = 0.8706 [0.1751] AU
Ag = 1788.67 [73537.55] [0.02 σ]
Teff = 4685 [48156] K [0.09 σ]

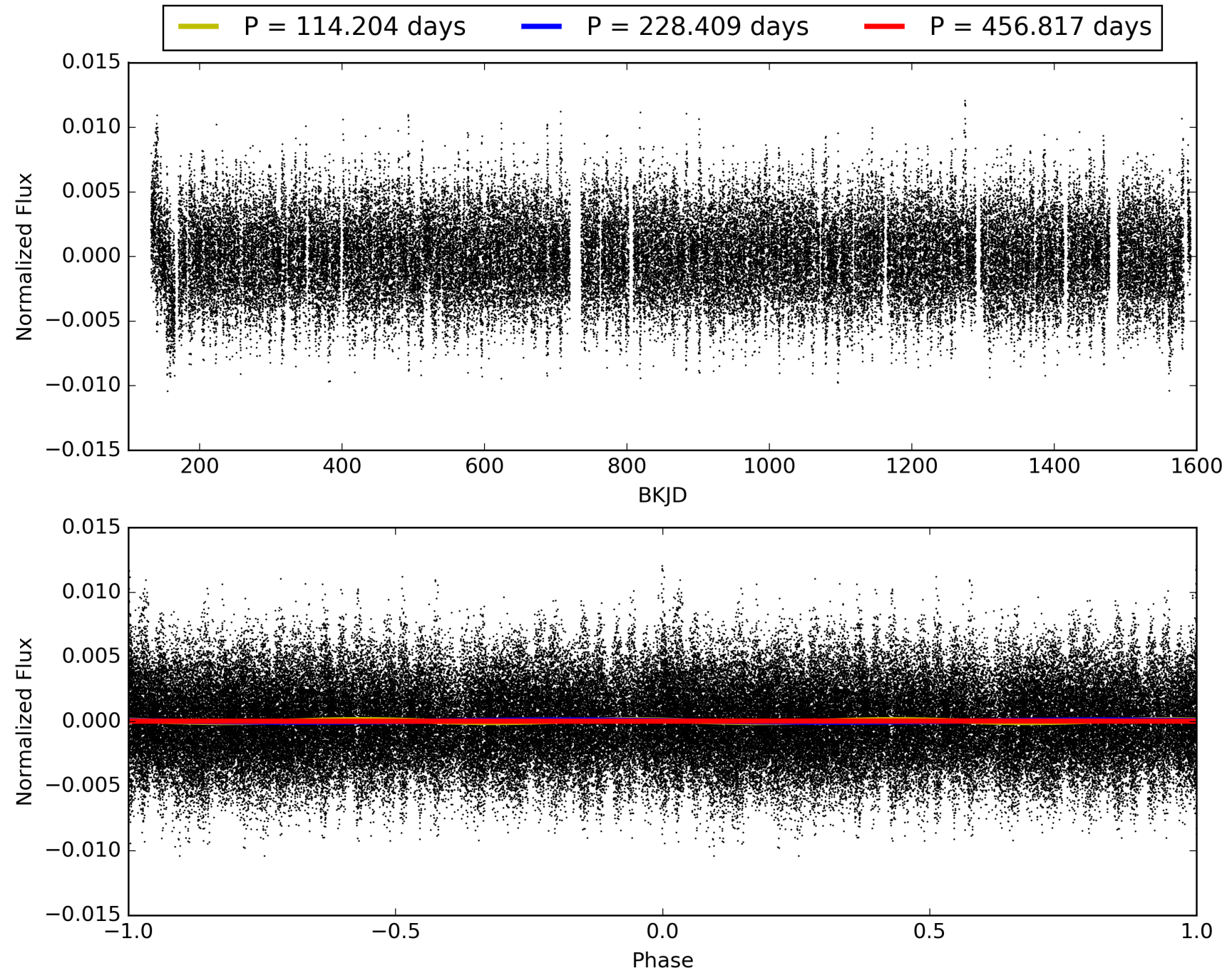
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [33.63 σ]
LongPeriod-sig: 5.3% [0.07 σ]
ModelChiSquare2-sig: 68.2%
ModelChiSquareGof-sig: 99.4%
Bootstrap-pfa: 3.52e-22
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 2.875
Centroid-sig: 70.9%
Centroid-so: 0.237 arcsec [0.51 σ]
OotOffset-rm: 0.124 arcsec [1.16 σ]
KicOffset-rm: 0.146 arcsec [1.35 σ]
OotOffset-st: 1/1/2/2 [6]
KicOffset-st: 1/1/2/2 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 0.50 [3/6]

TCE 005271224-03, PDC Light Curves

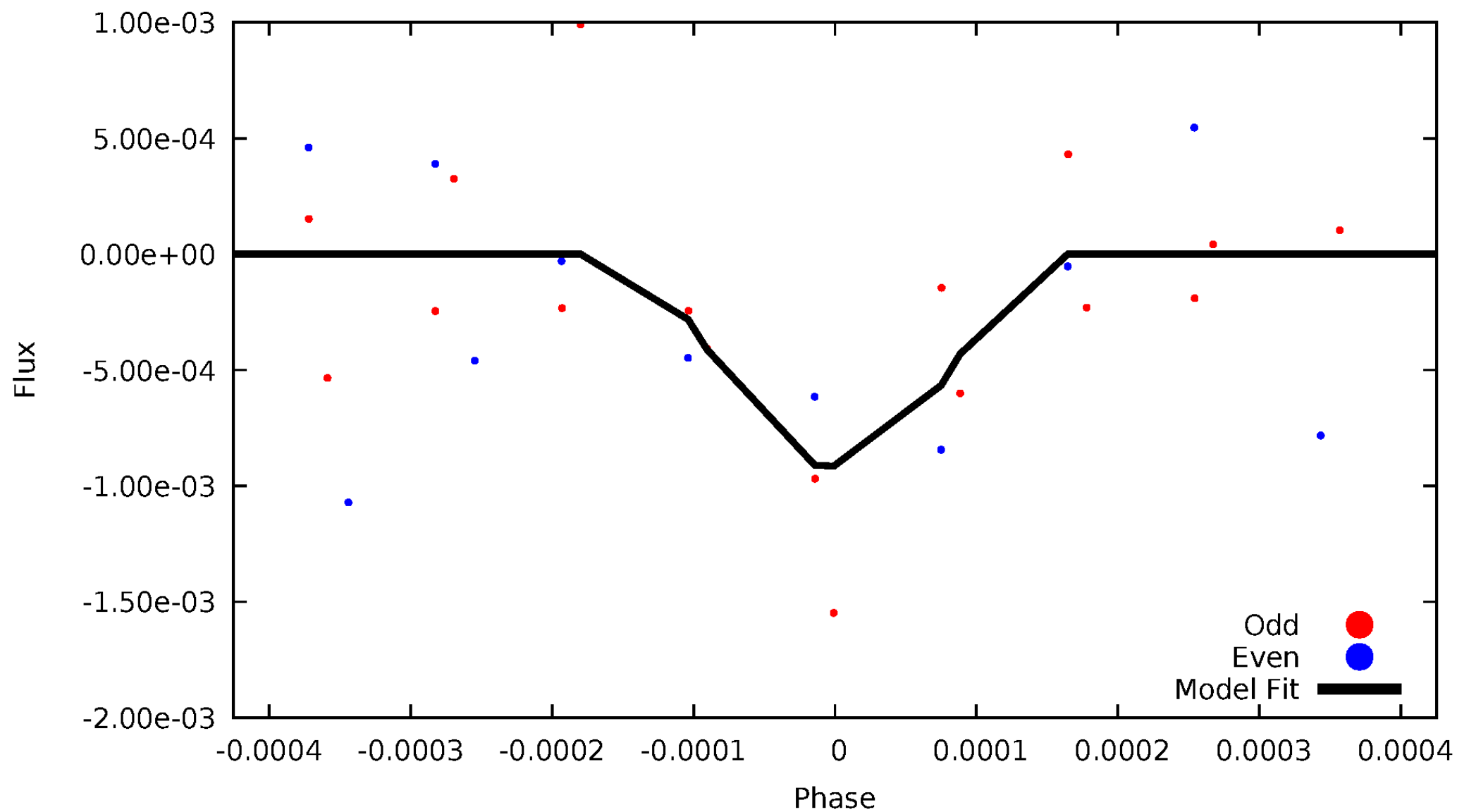


TCE 005271224-03



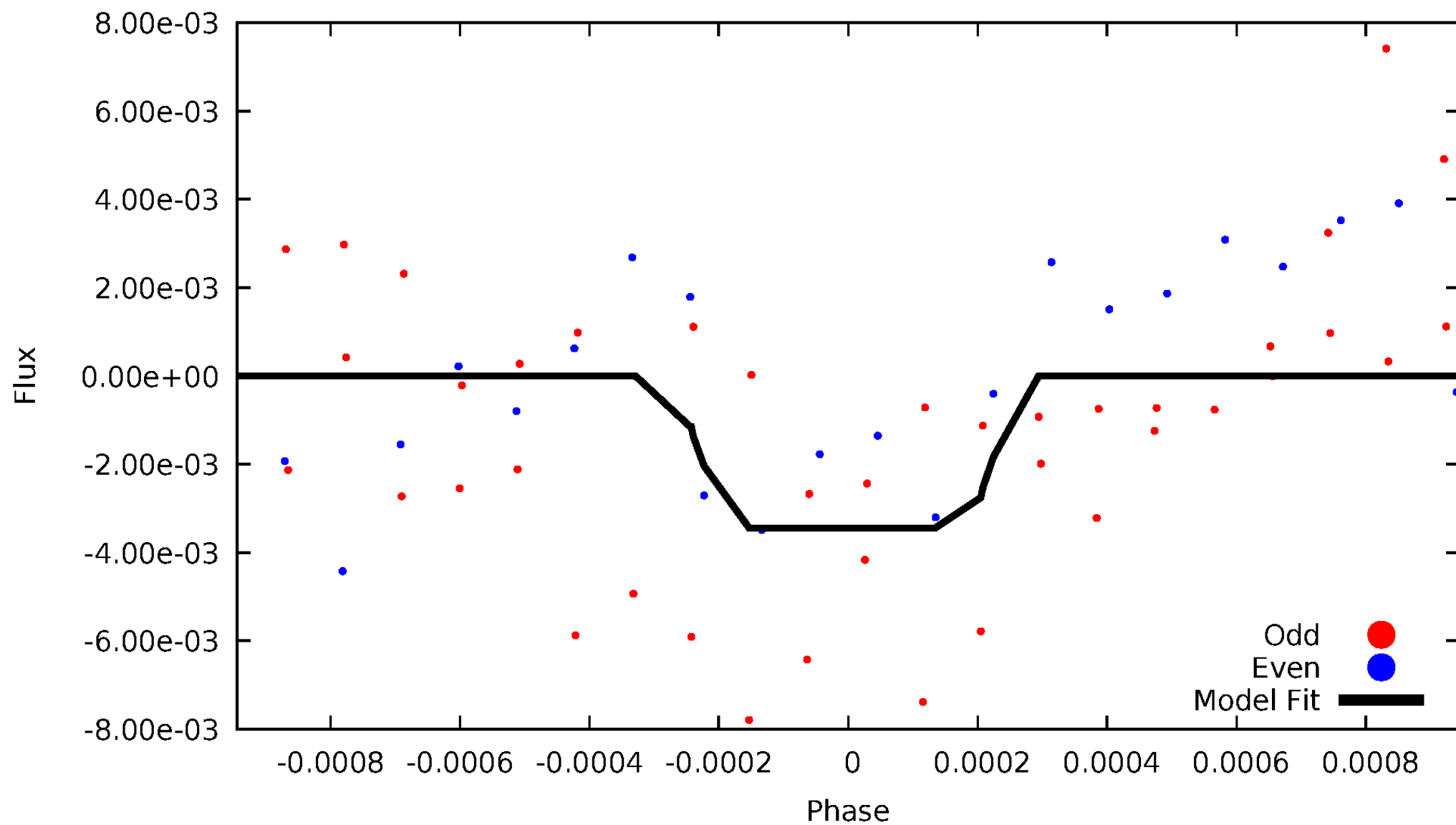
DV Odd/Even

TCE 005271224-03



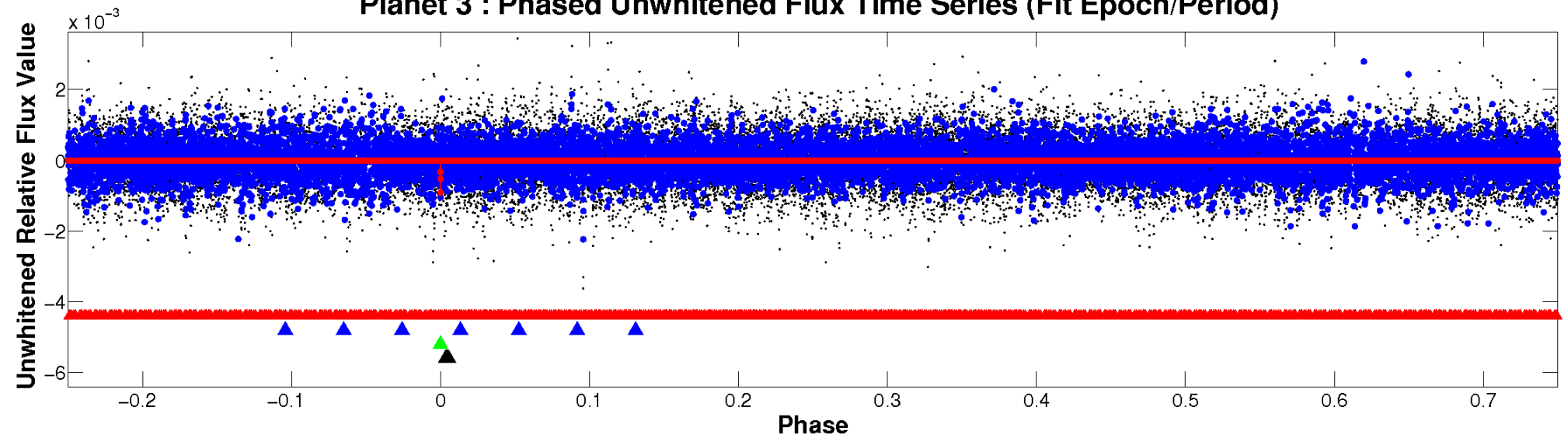
ALT Odd/Even

TCE 005271224-03

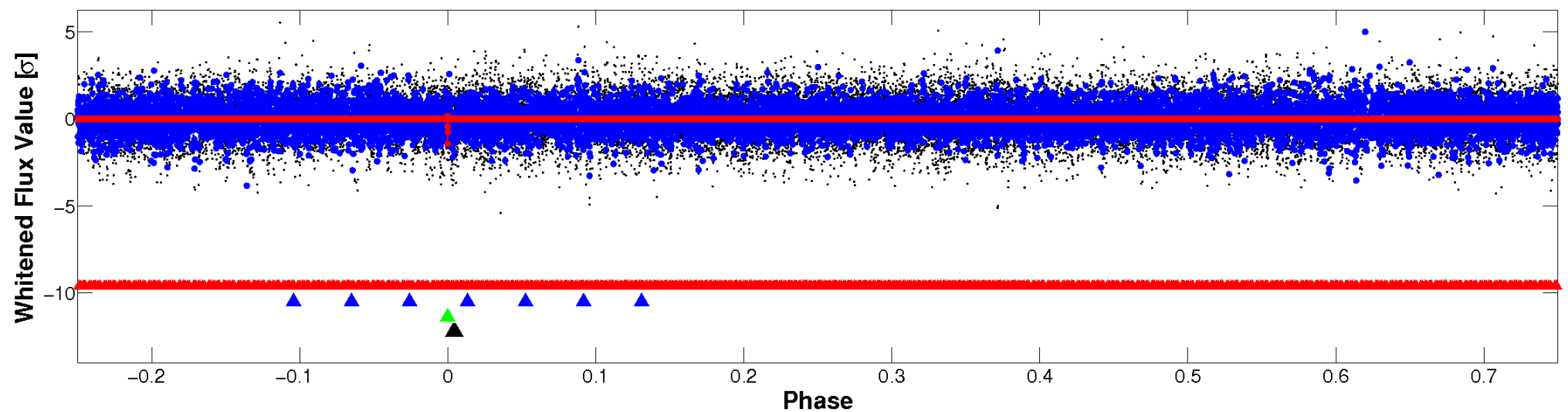


Non-Whitened Vs. Whitened Light Curve

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

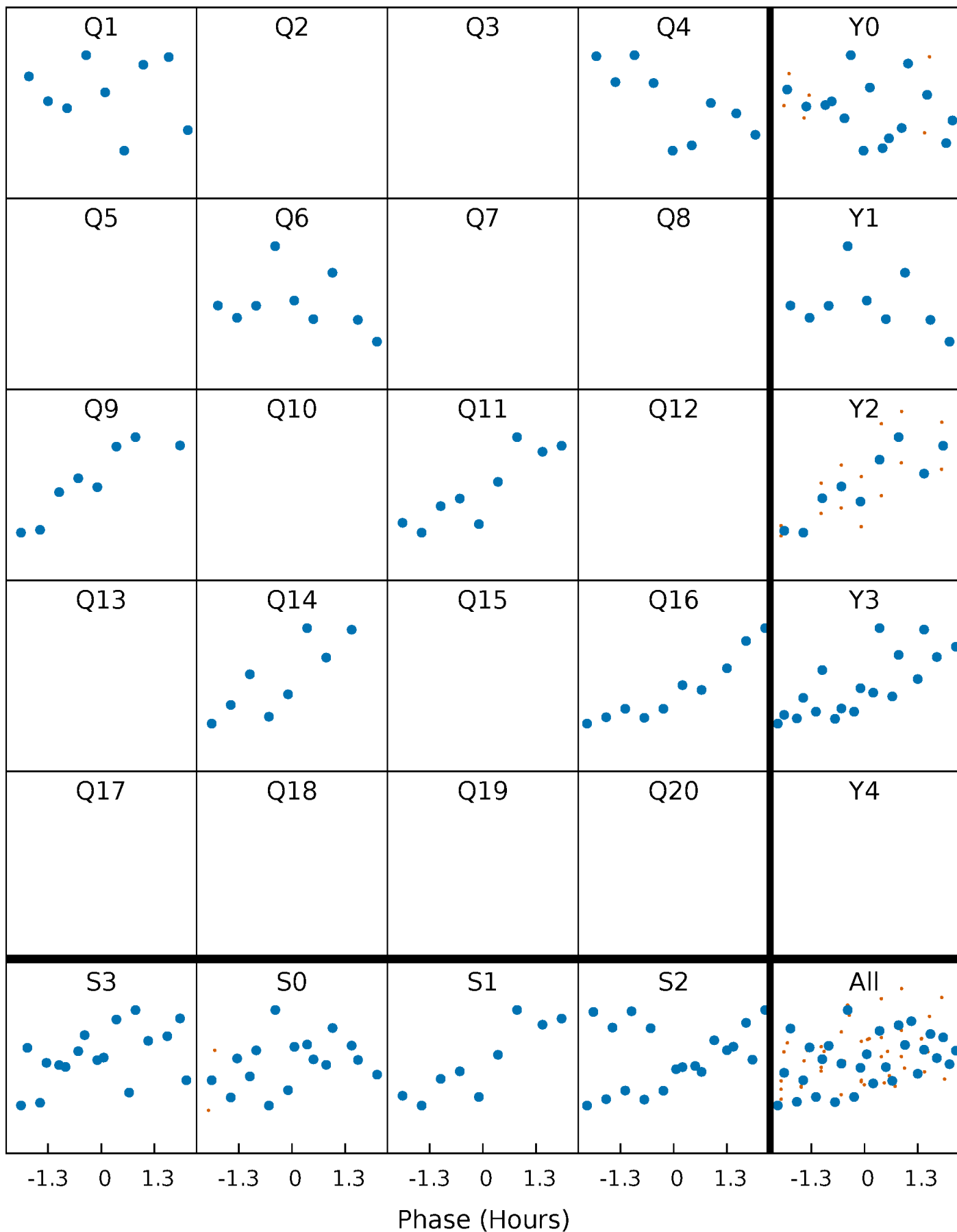


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



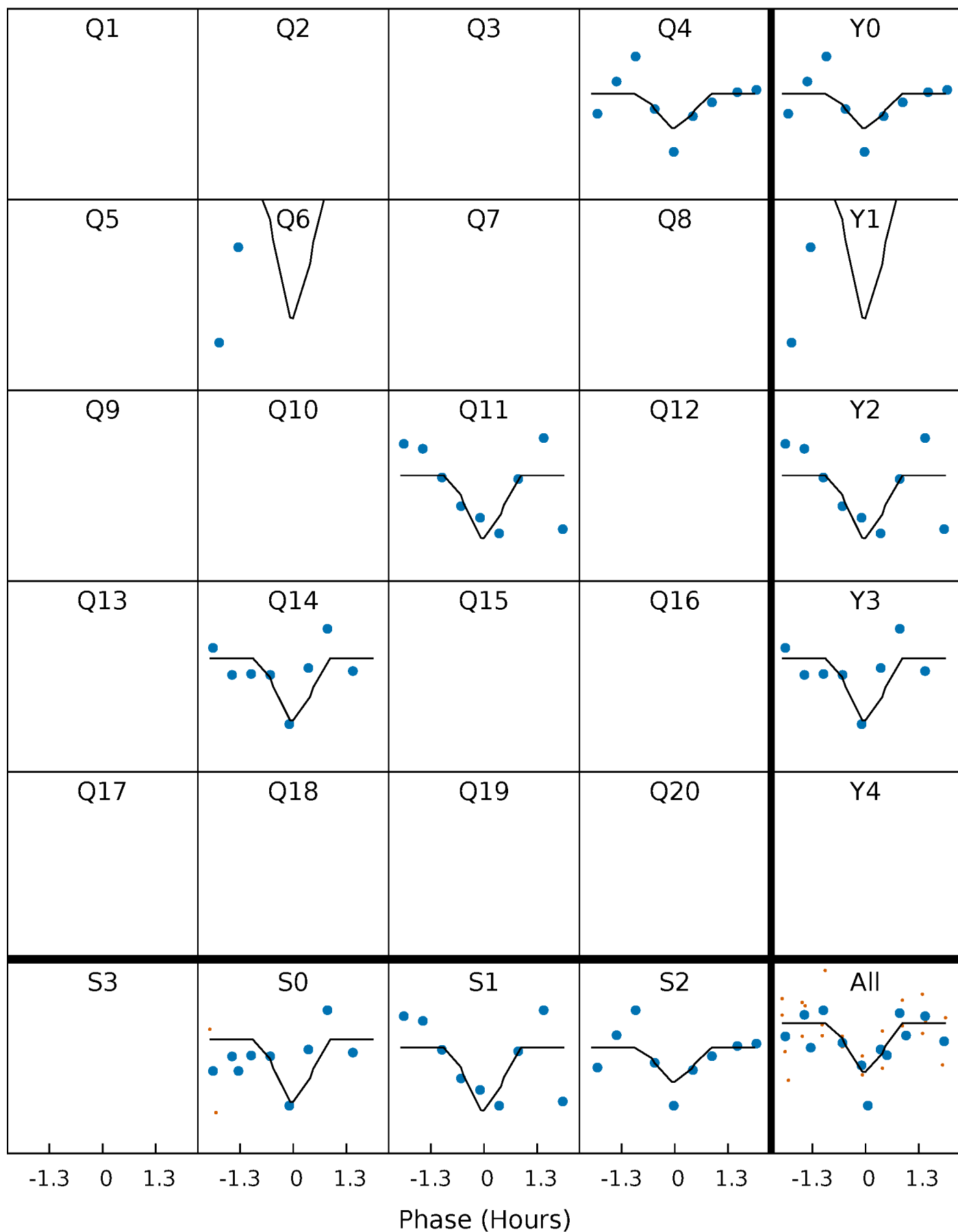
PDC Quarter-Phased Transit Curves

TCE 005271224-03 P=228.408595 Days $T_0=132.713355$ (BKJD)



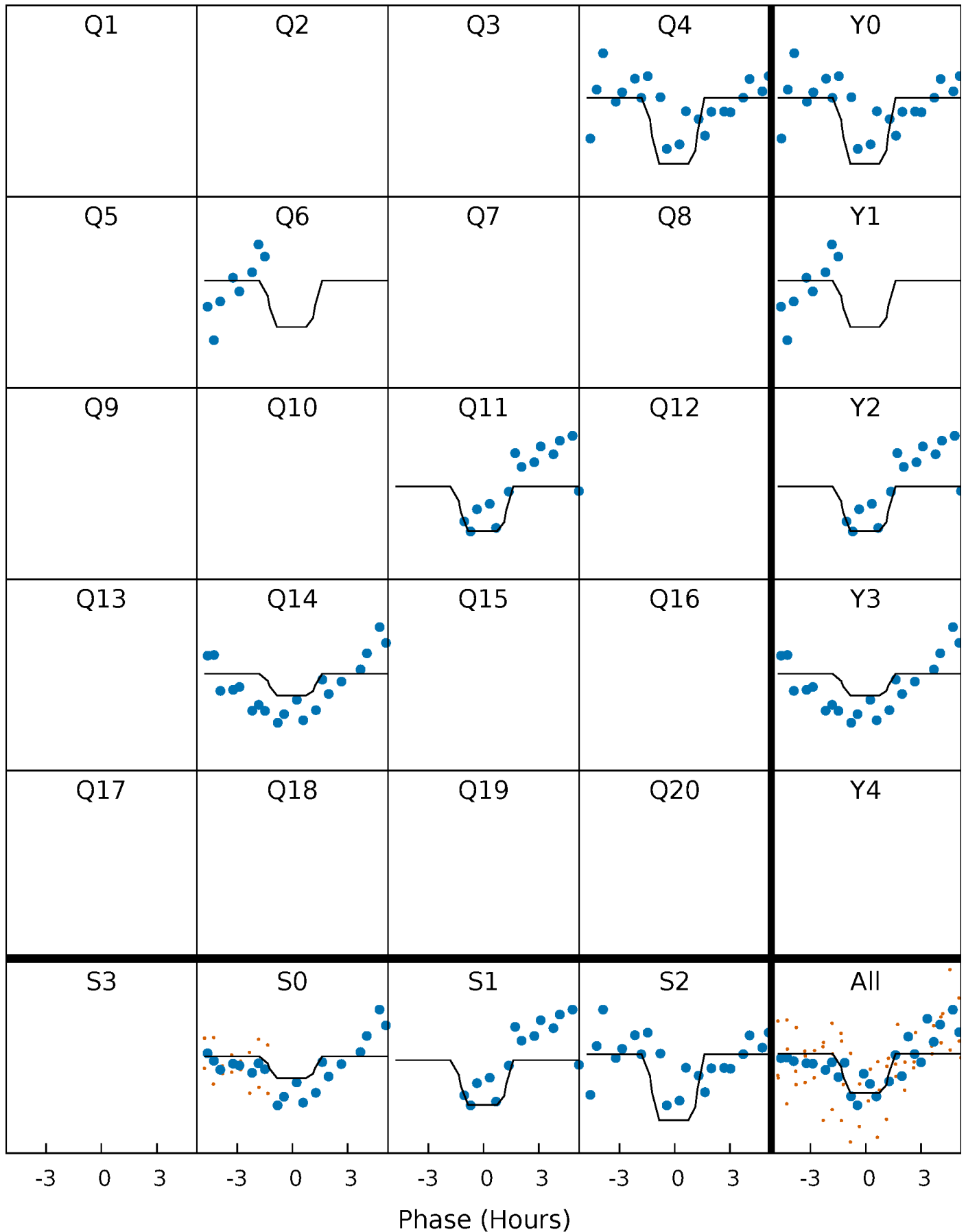
DV Quarter-Phased Transit Curves

TCE 005271224-03 P=228.408595 Days $T_0=132.713355$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

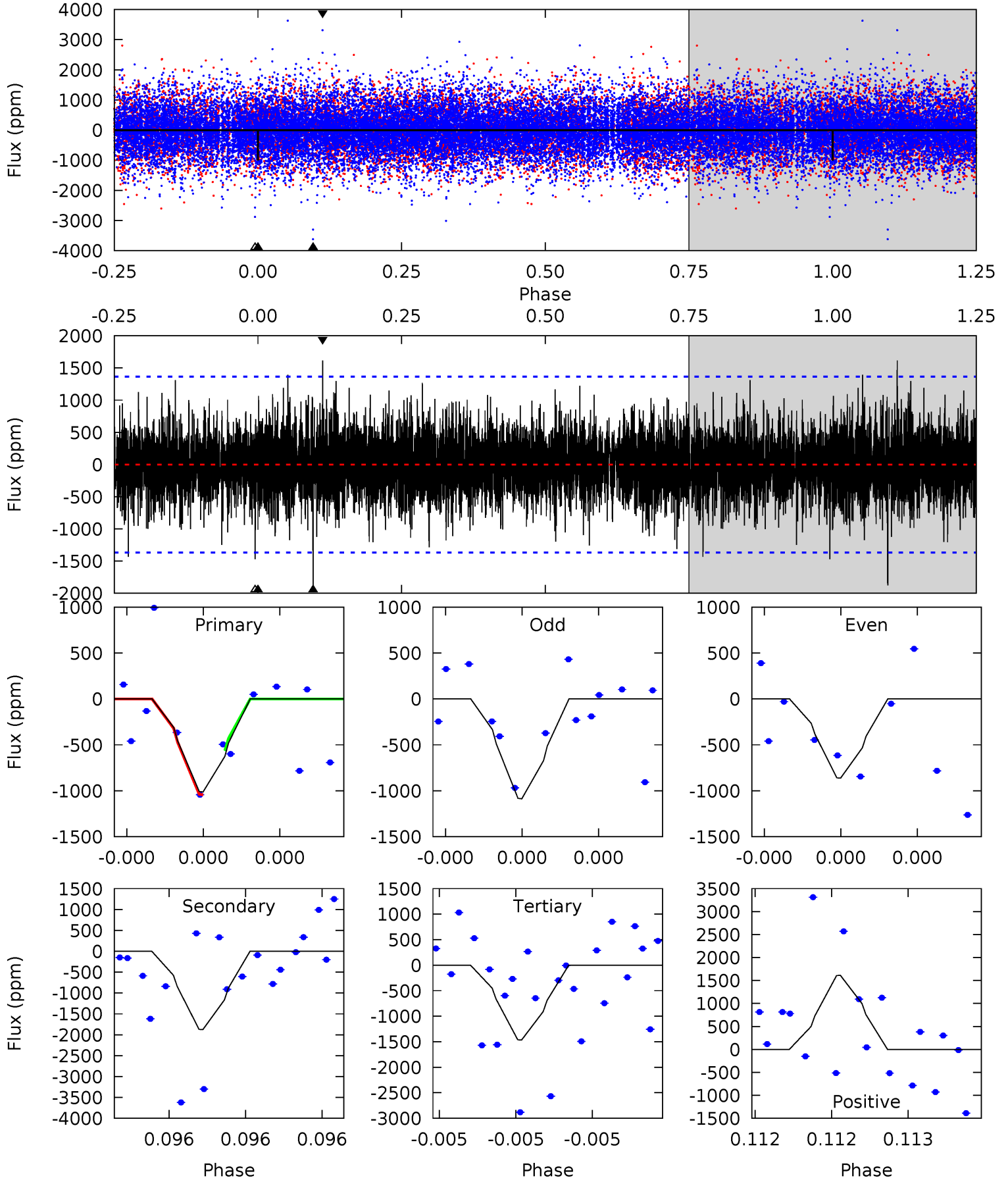
TCE 005271224-03 P=228.392711 Days $T_0=132.742819$ (BKJD)



DV Model-Shift Uniqueness Test

005271224-03, P = 228.408595 Days, E = 132.713355 Days

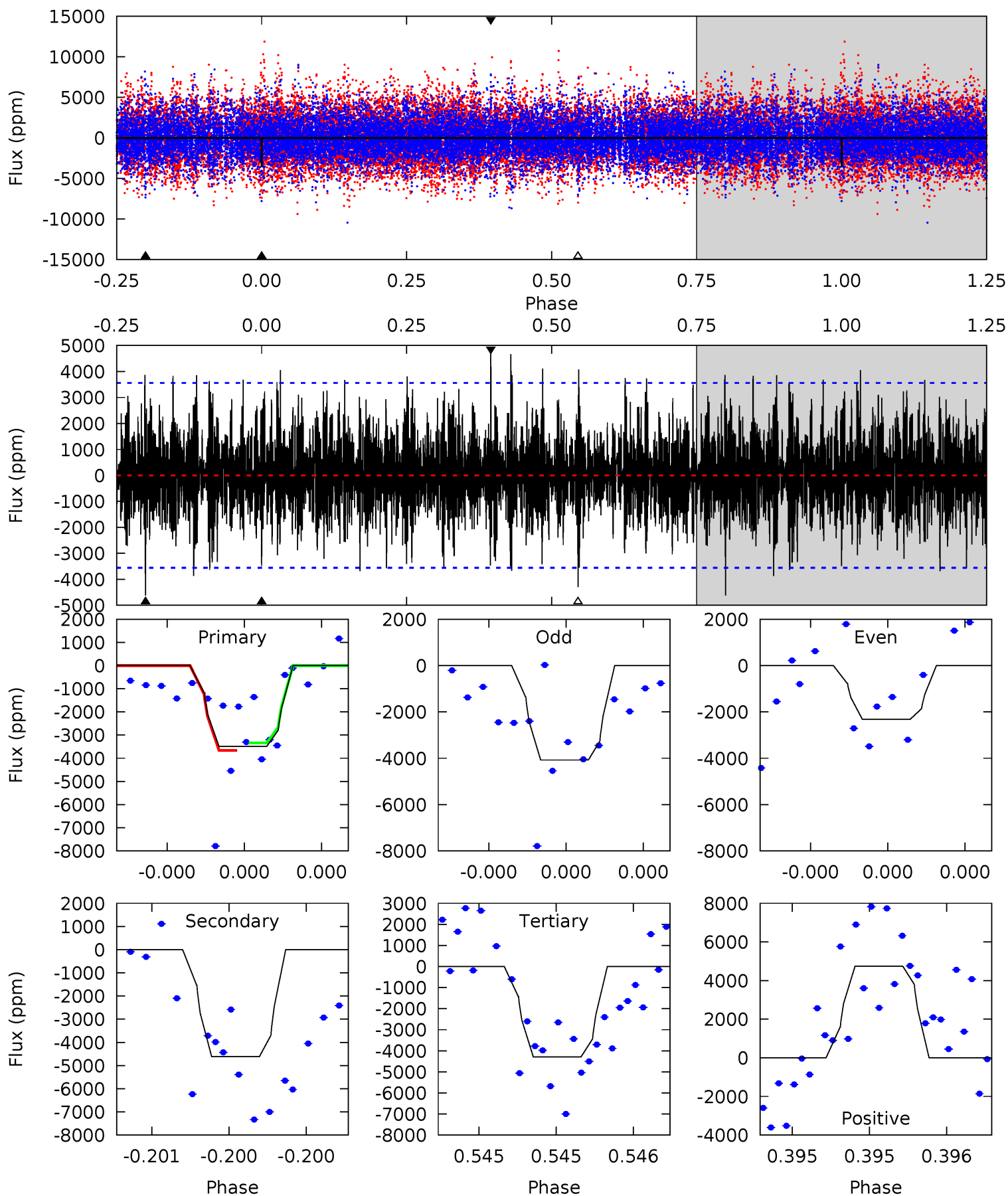
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.21	7.81	6.10	6.71	5.68	3.64	1.39	-1.89	-2.49	1.70	1.10	0.40	1.17	0.46	0.97



Alt Model-Shift Uniqueness Test

005271224-03, P = 228.392711 Days, E = 132.742819 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.48	7.25	6.74	7.45	5.59	3.50	1.88	-1.26	-1.97	0.51	-0.20	1.27	1.41	0.51	0.25



Stellar Parameters For KIC 005271224

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7550^{+75}_{-83}	$4.202^{+0.040}_{-0.160}$	$0.210^{+0.200}_{-0.150}$	$1.704^{+0.407}_{-0.109}$	$1.696^{+0.145}_{-0.092}$	$0.483^{+0.080}_{-0.223}$
	+1%/-1%	+1%/-4%	+95%/-71%	+24%/-6%	+9%/-5%	+17%/-46%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005271224-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-1877 ± 241	$91.31^{+99.20}_{-64.87}$	658^{+37}_{-16}	2960^{+1427}_{-534}	95^{+1056}_{-74}
Alt.	-4620 ± 637	$91.68^{+95.02}_{-63.51}$	660^{+33}_{-19}	3370^{+1784}_{-635}	232^{+2267}_{-178}

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 $A_{obs} \gg 1.0$

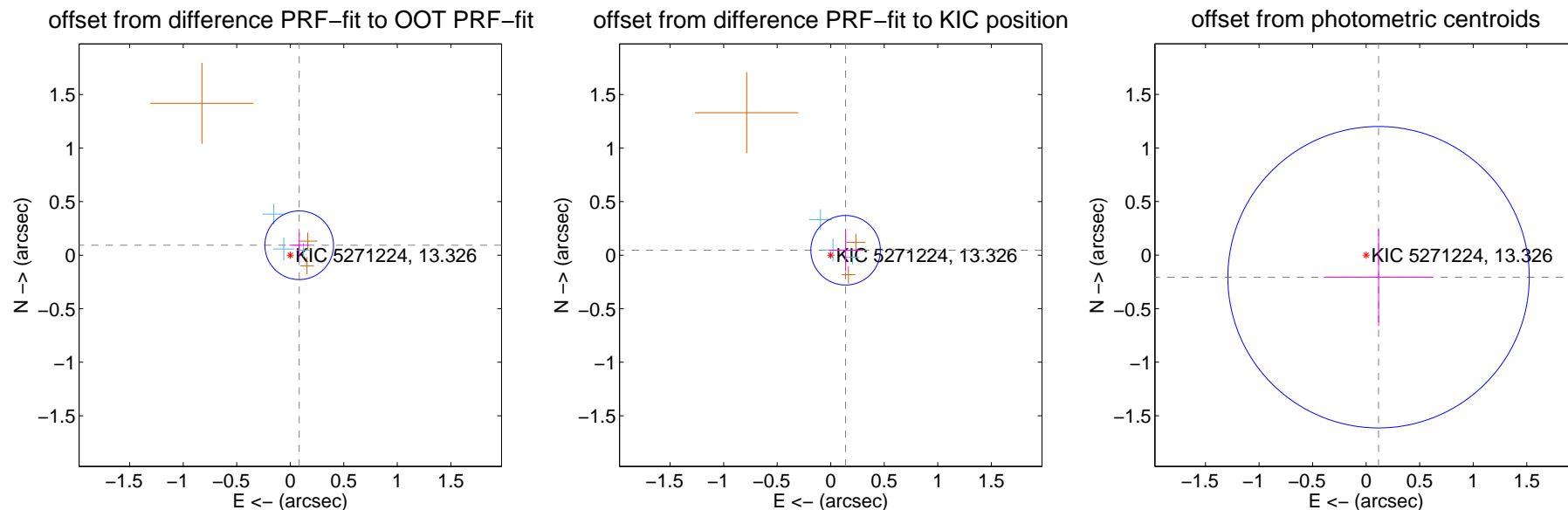
DV Centroid Data

Supplemental centroid analysis for 005271224-03. Kepler magnitude: 13.33. Transit SNR 2.83

There are 3 quarters with good PRF difference image offsets

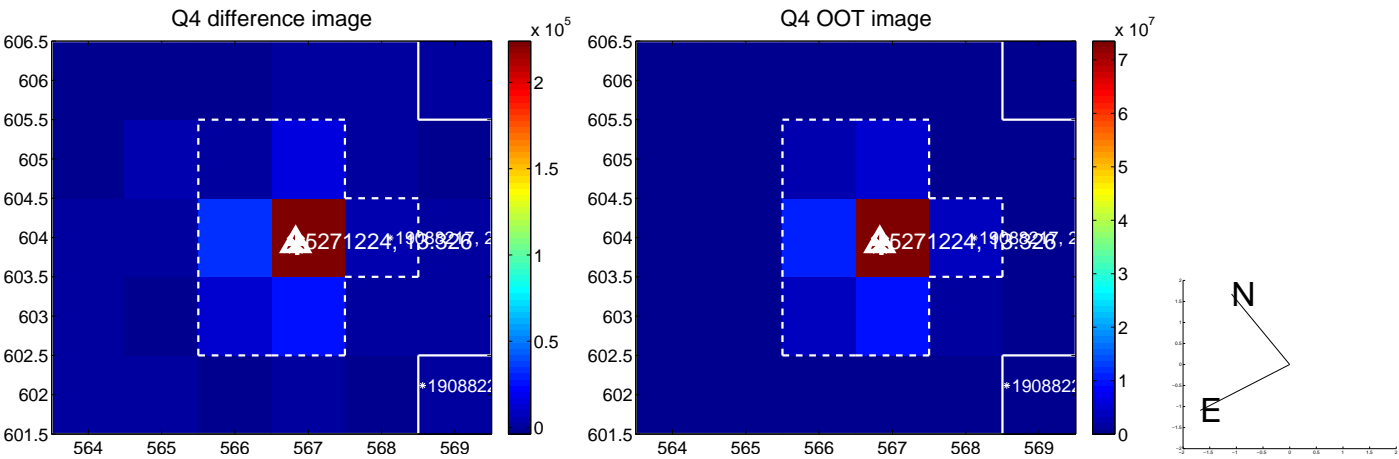
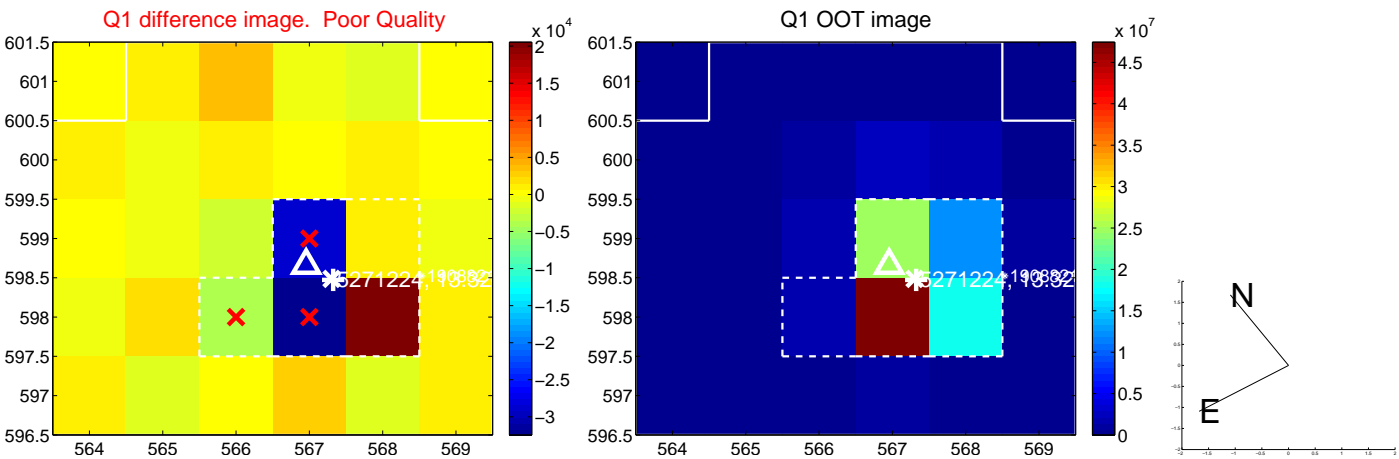
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.124 ± 0.107	1.16	-0.083 ± 0.092	0.092 ± 0.117
PRF-fit source offset from KIC position	0.146 ± 0.108	1.35	-0.139 ± 0.161	0.046 ± 0.196
photometric centroid source offset	0.24 ± 0.47	0.51	-0.12 ± 0.51	-0.21 ± 0.46

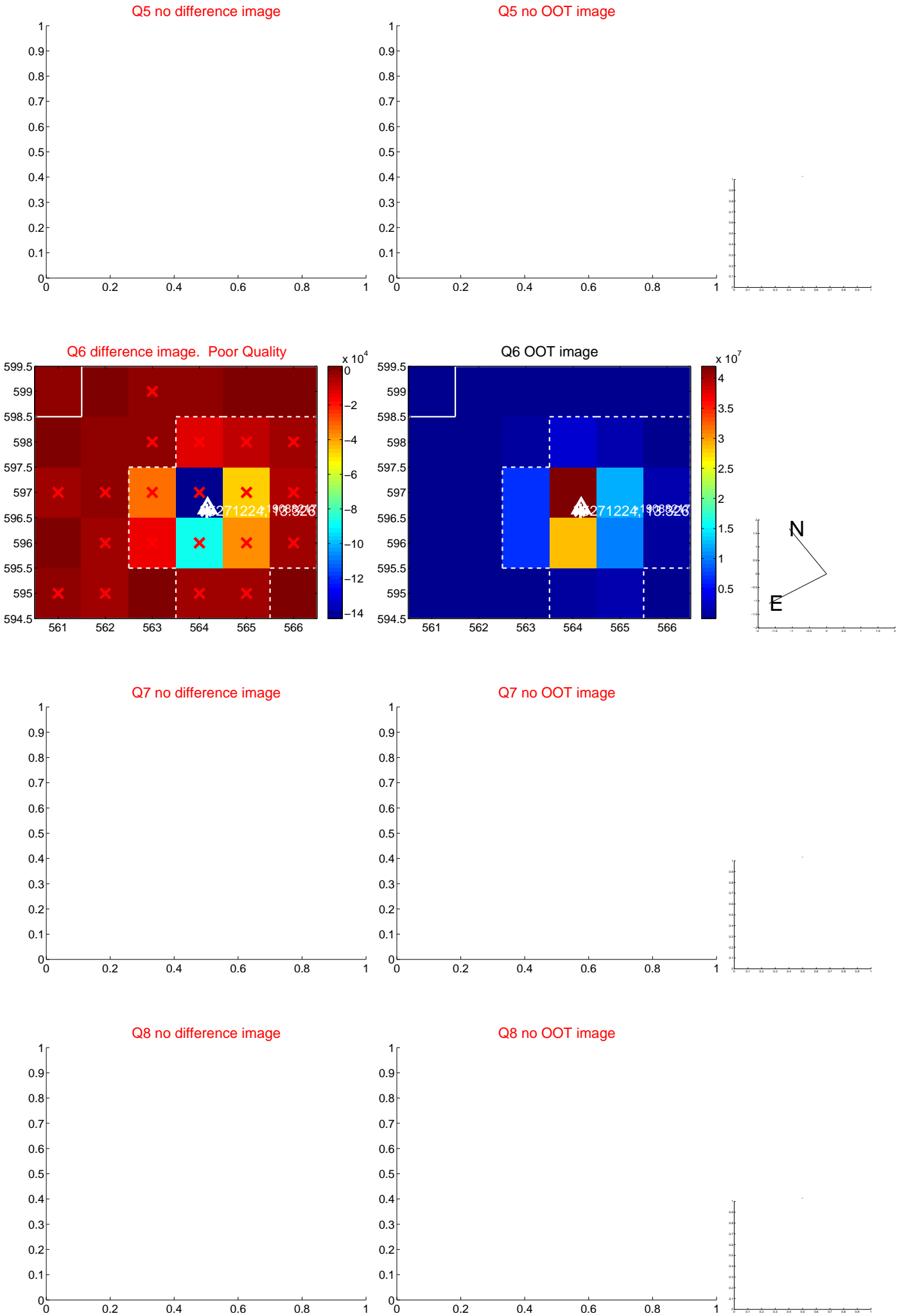


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

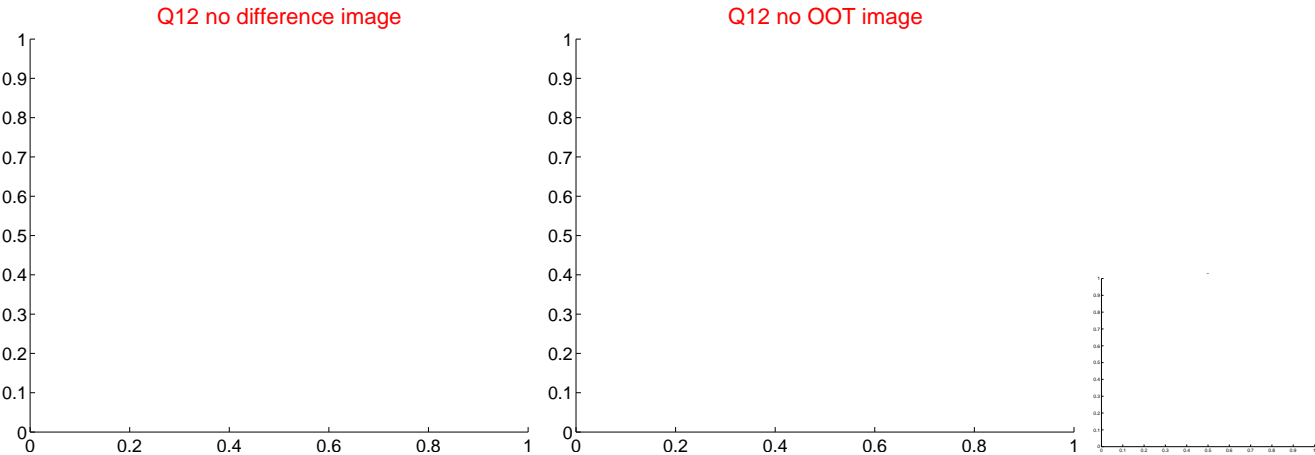
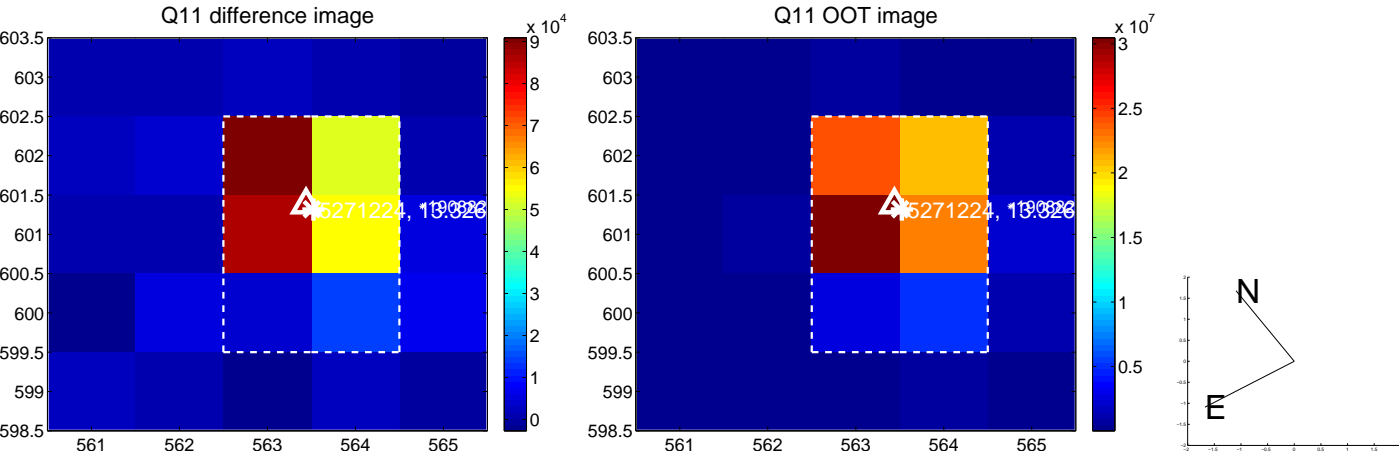
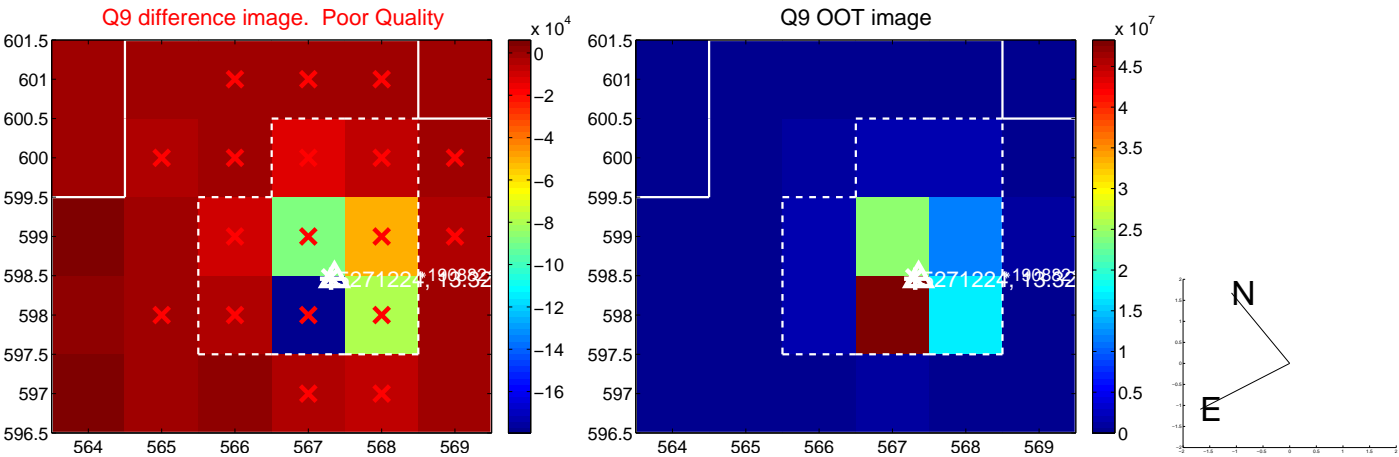
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



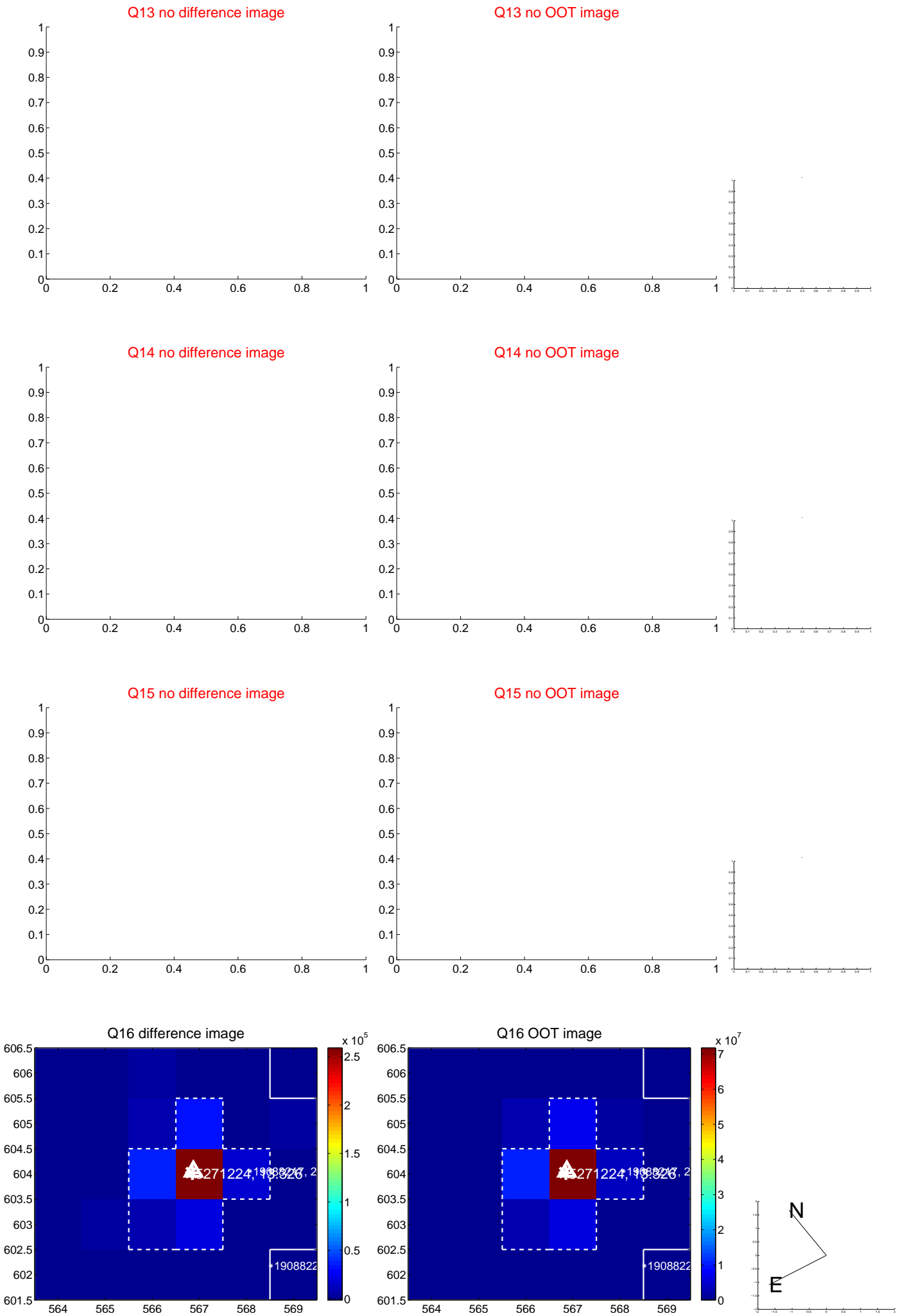
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



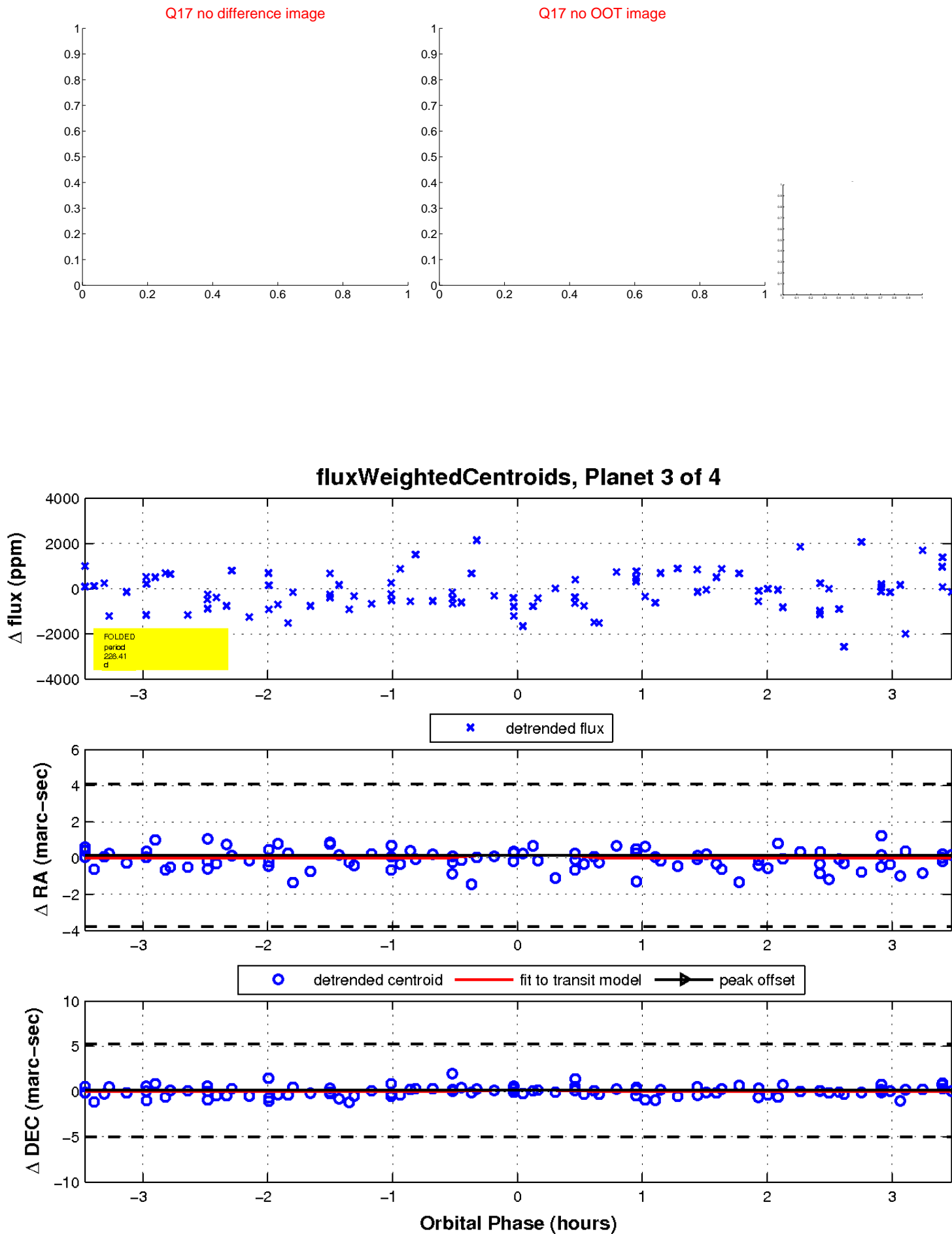
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

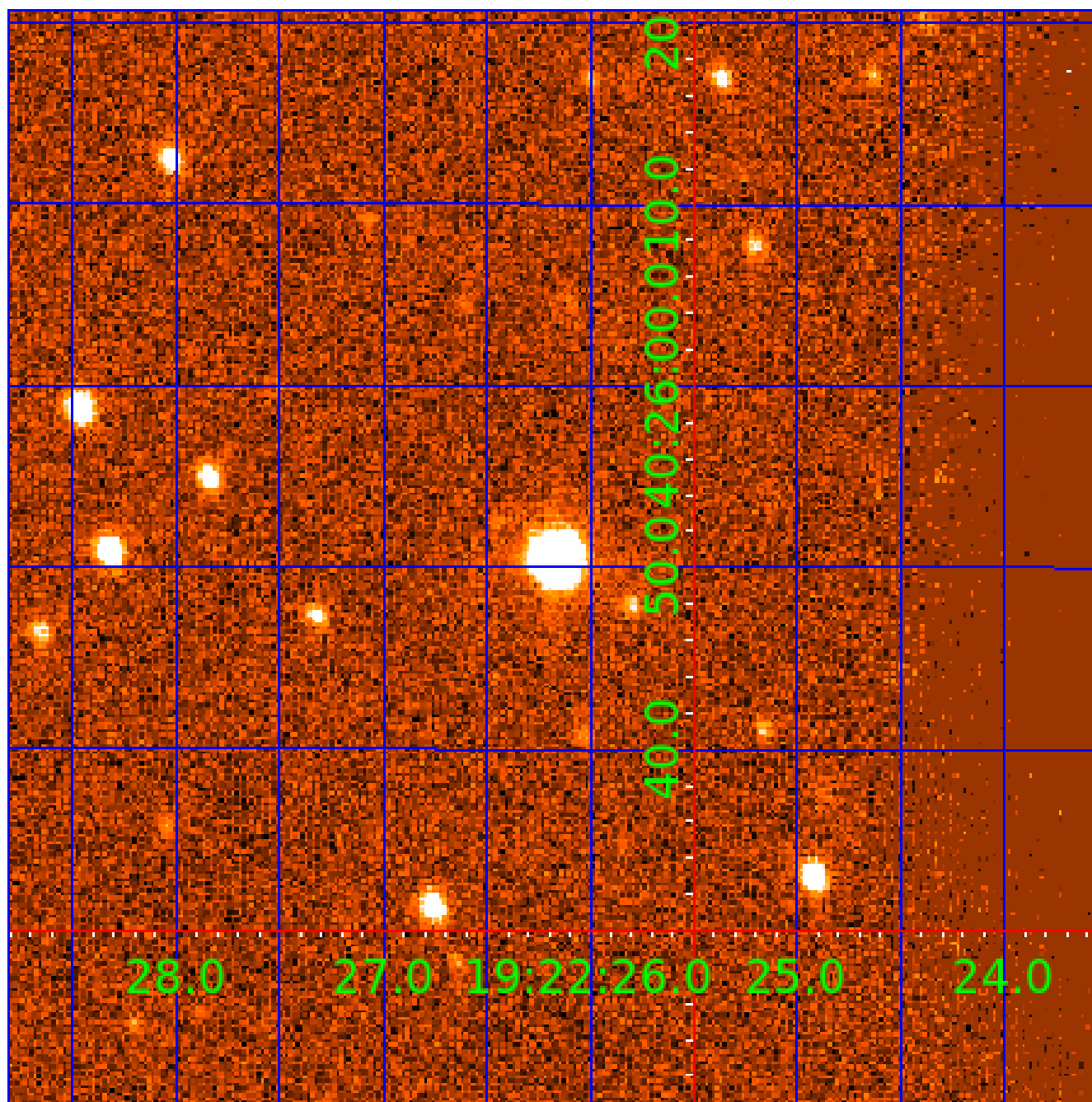


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005271224

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})
005271224-01	OBS	No	2.300305	132.382538	98.0	10.329	8.6	8.3	1.70	7550	1.75	5128.00
005271224-03	OBS	No	228.408596	132.713355	914.4	1.165	11.1	2.8	1.70	7550	5.99	11.15
005271224-04	OBS	No	228.480137	133.512420	974.4	26.024	10.9	8.3	1.70	7550	6.36	11.15

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005271224-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
005271224-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
005271224-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—SAME_NTL_PERIOD

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

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

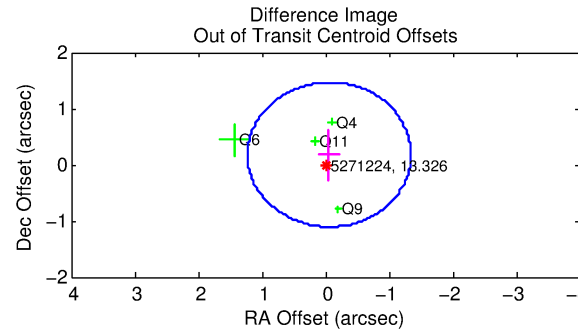
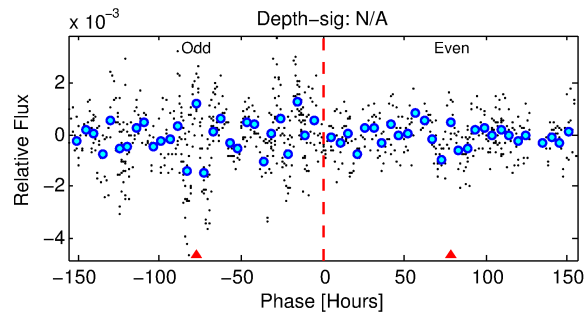
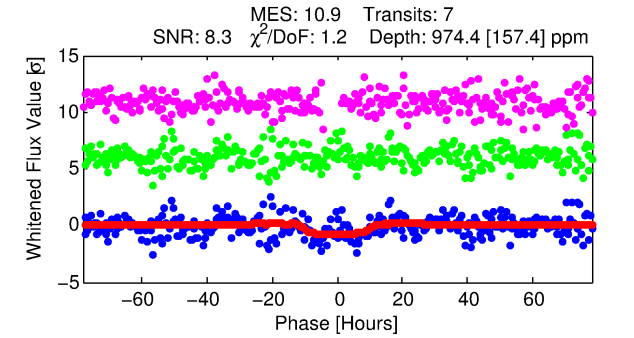
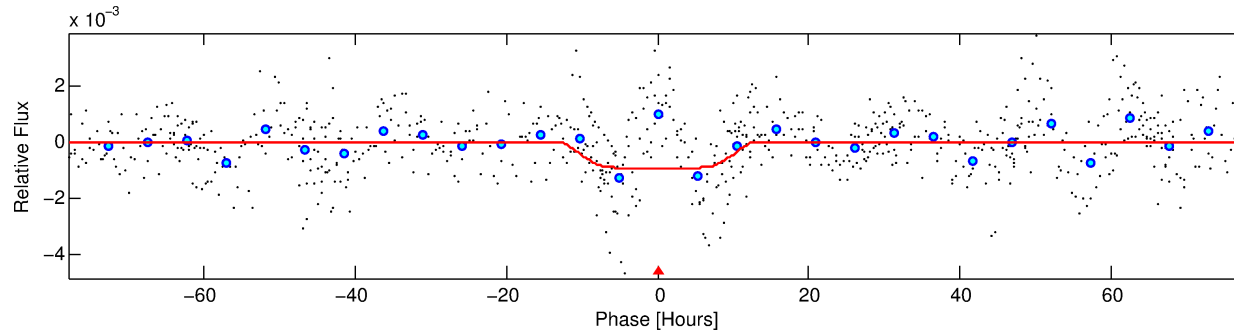
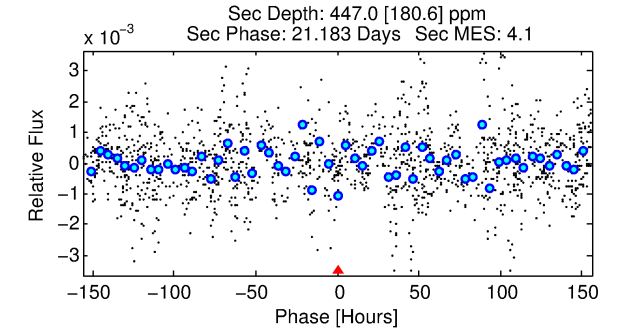
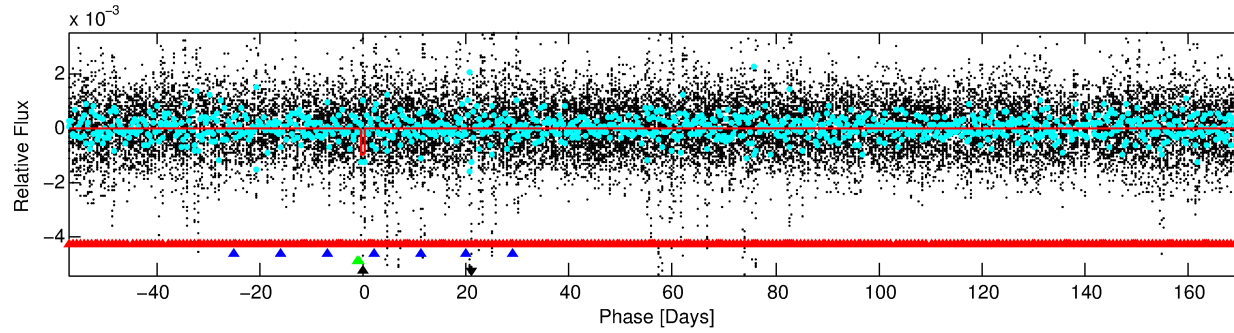
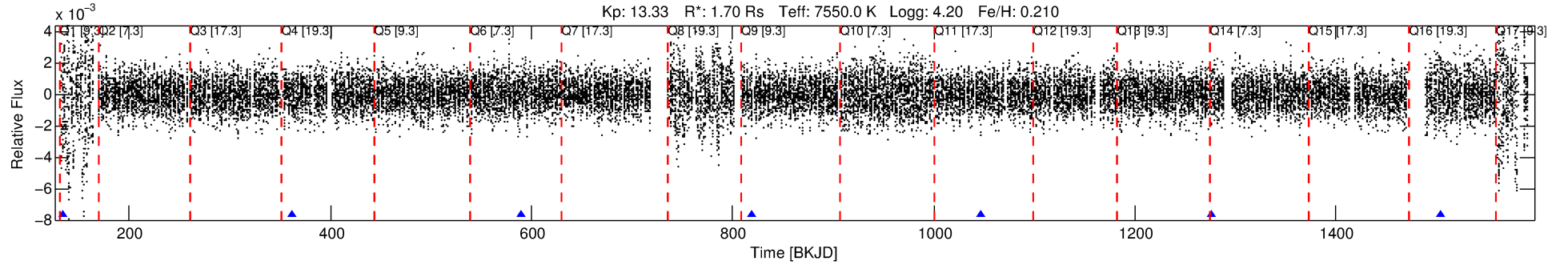
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005271224-04

No Significant Match Found

DV One-Page Summary

KIC: 5271224 Candidate: 4 of 4 Period: 228.480 d



DV Fit Results:

Period = 228.48014 [0.01861] d
Epoch = 133.5124 [0.0652] BKJD
Rp/R* = 0.0342 [0.0035]
a/R* = 29.57 [7.70]
b = 0.94 [0.04]
Seff = 11.15 [3.30]
Teq = 466 [34] K
Rp = 6.36 [1.65] Re
a = 0.8708 [0.1751] AU
Ag = 4610.04 [2482.24] [1.86σ]
Teffp = 5936 [674] K [8.1σ]

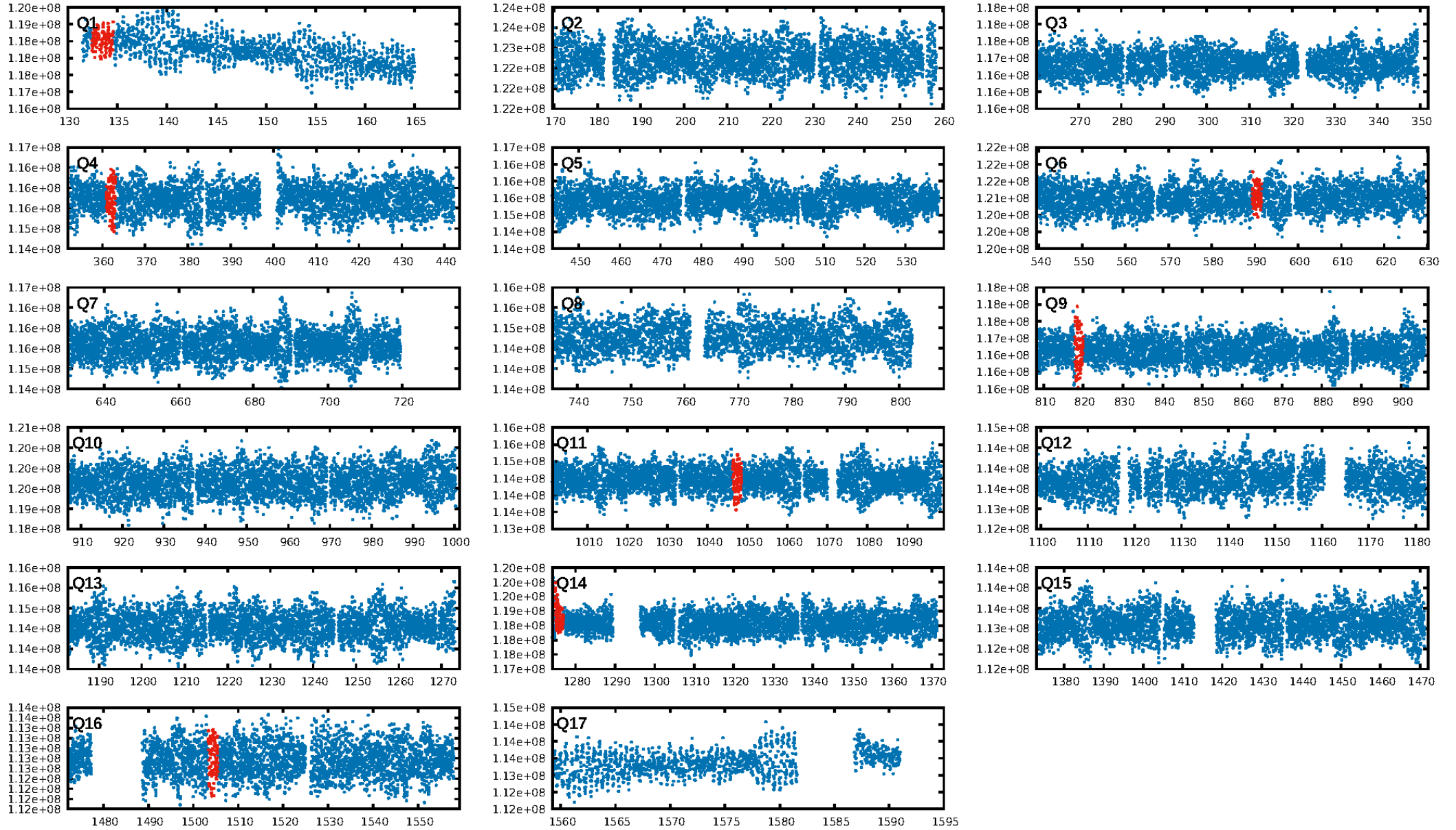
DV Diagnostic Results:

ShortPeriod-sig: 5.3% [0.07σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.70e-21
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -1.011
Centroid-sig: 1.7%
Centroid-so: 0.311 arcsec [2.61σ]
OotOffset-rm: 0.187 arcsec [0.44σ]
KicOffset-rm: 0.161 arcsec [0.42σ]
OotOffset-st: 1/1/1/1 [4]
KicOffset-st: 1/1/1/1 [4]
DiffImageQuality-fgm: 1.00 [4/4]
DiffImageOverlap-fno: 0.00 [0/5]

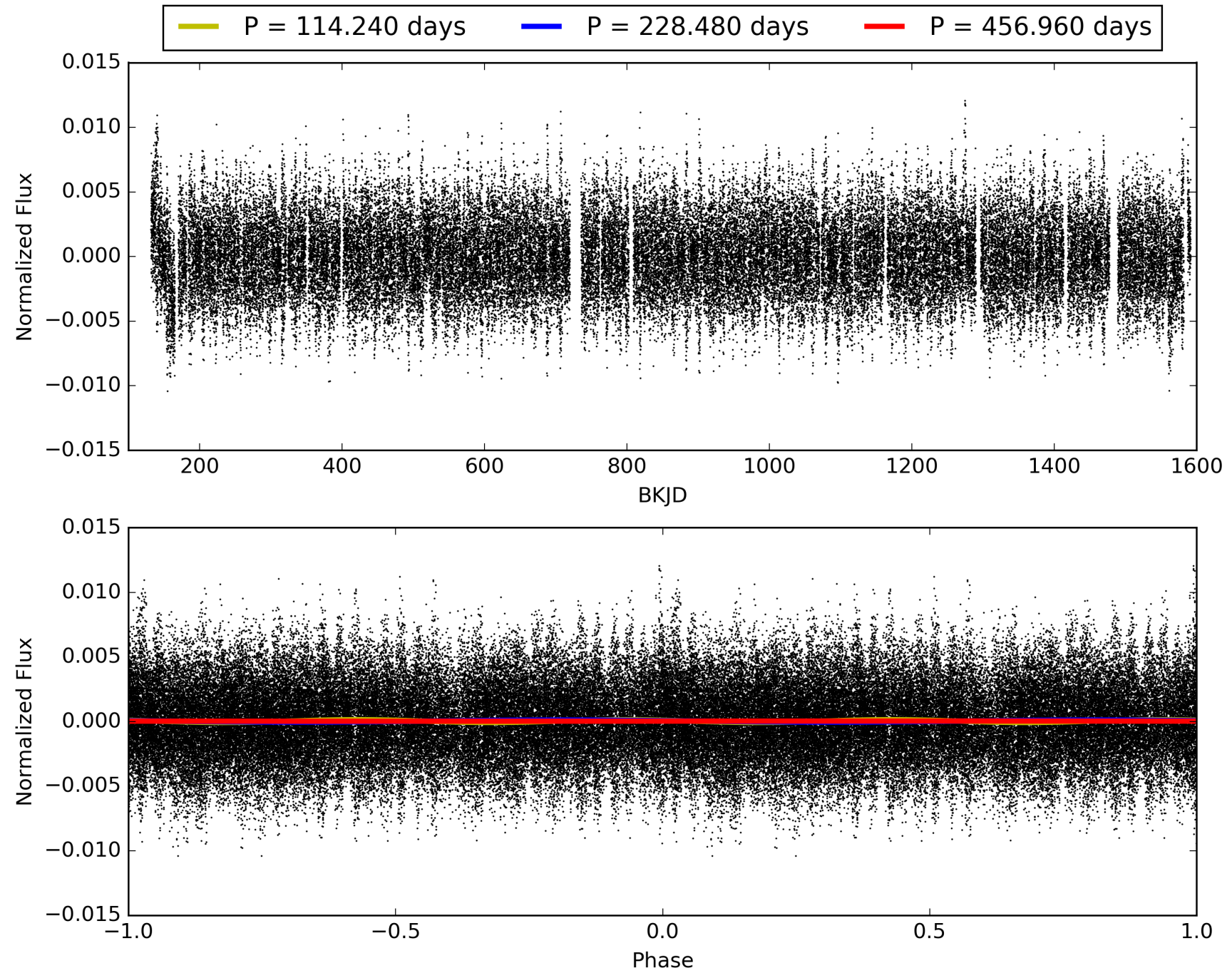
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 15:27:13 Z

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

TCE 005271224-04, PDC Light Curves

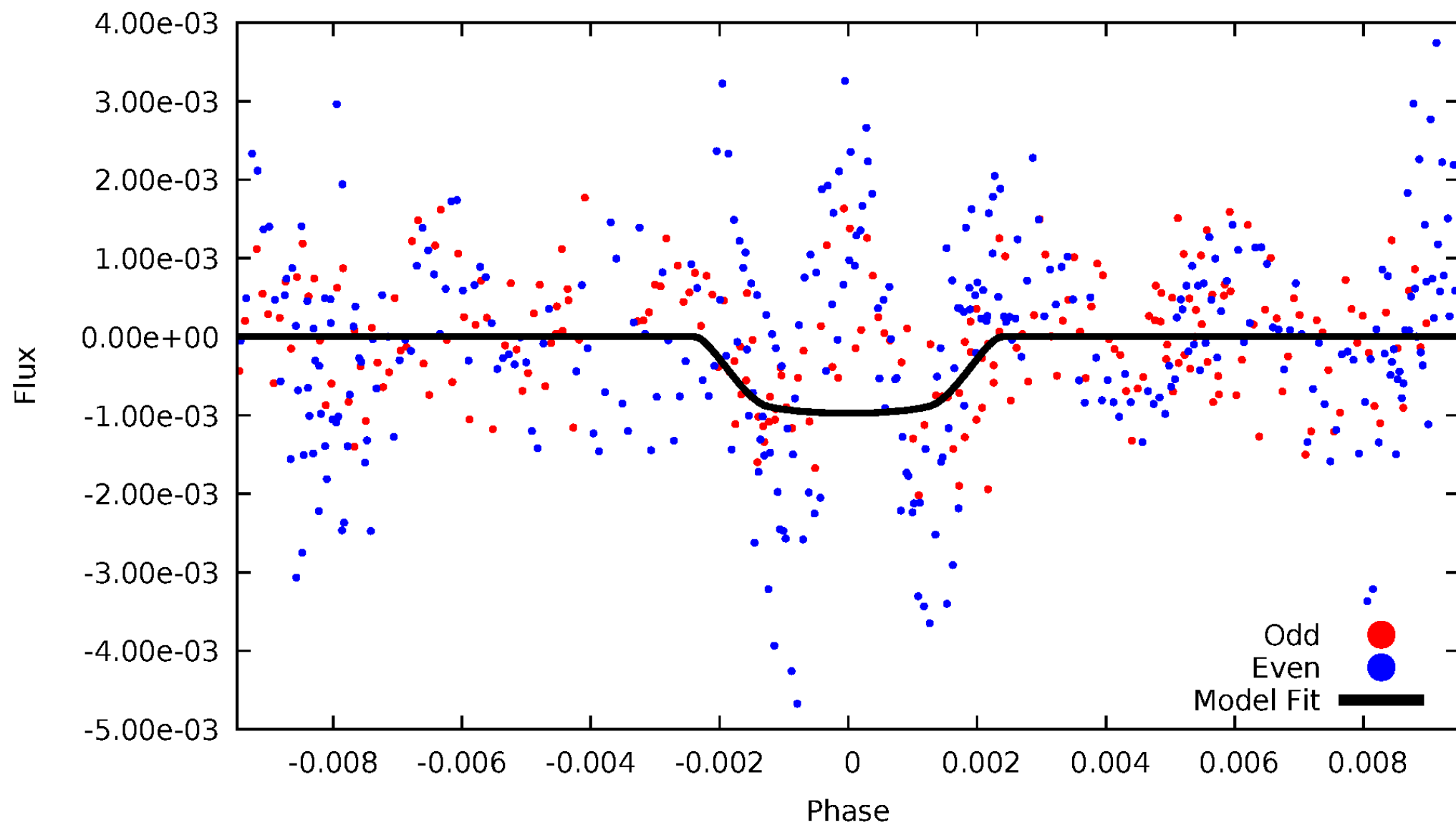


TCE 005271224-04



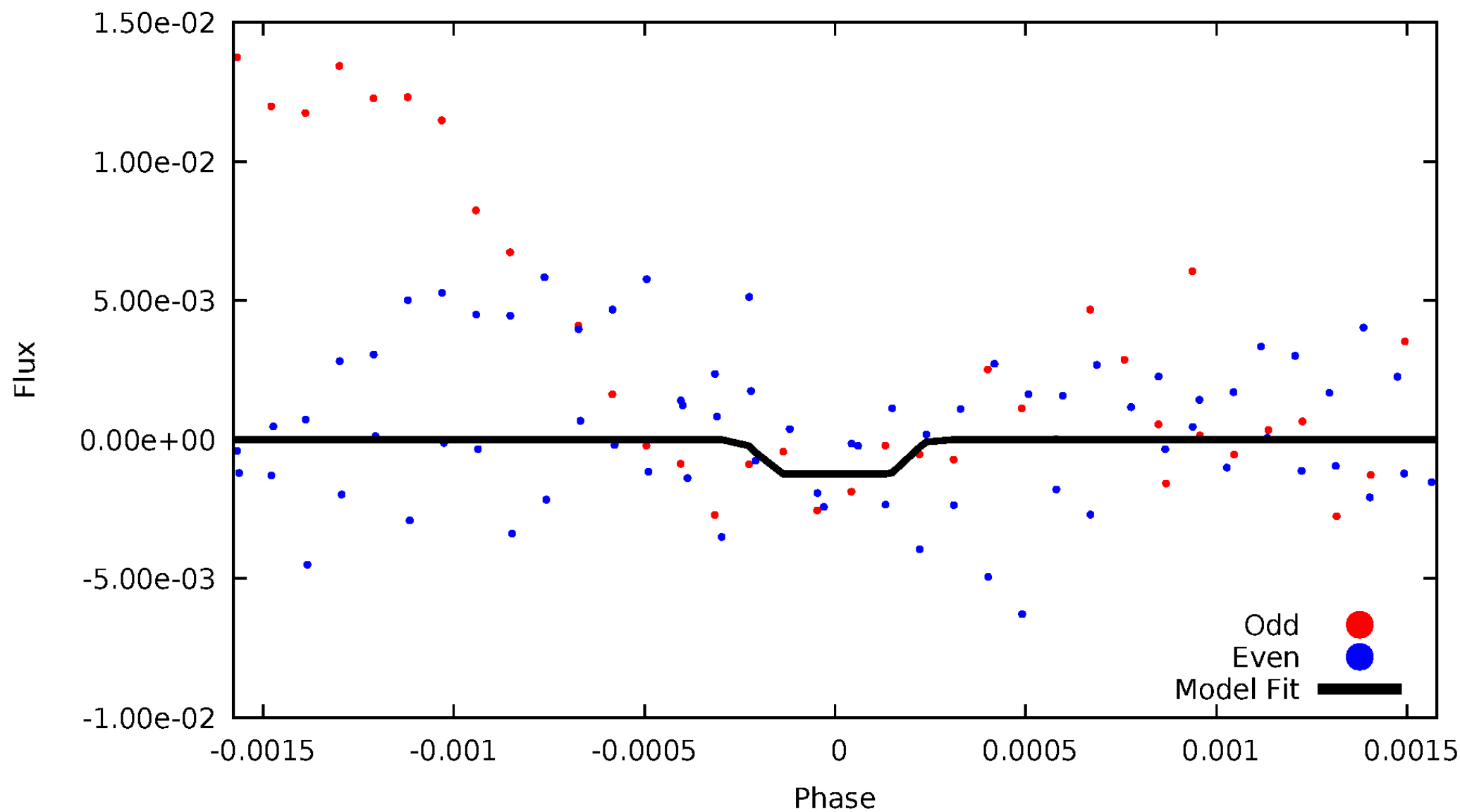
DV Odd/Even

TCE 005271224-04



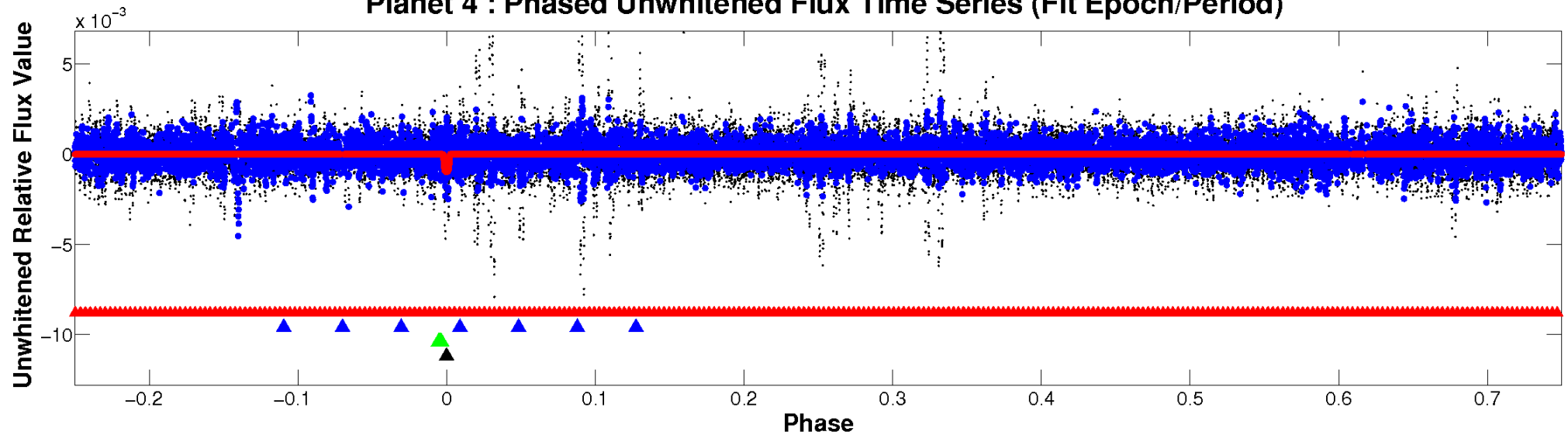
ALT Odd/Even

TCE 005271224-04

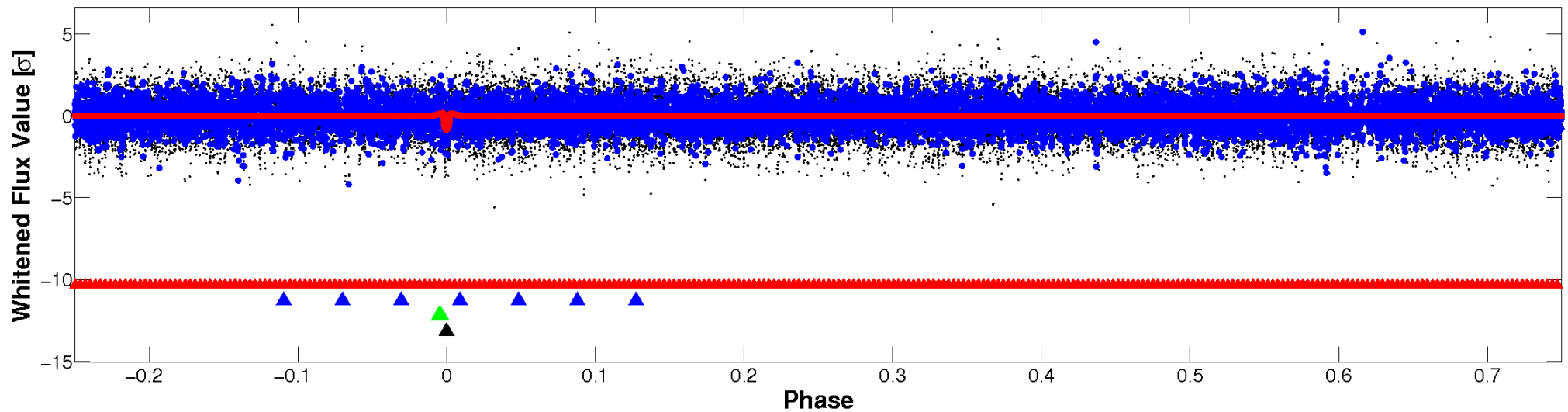


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

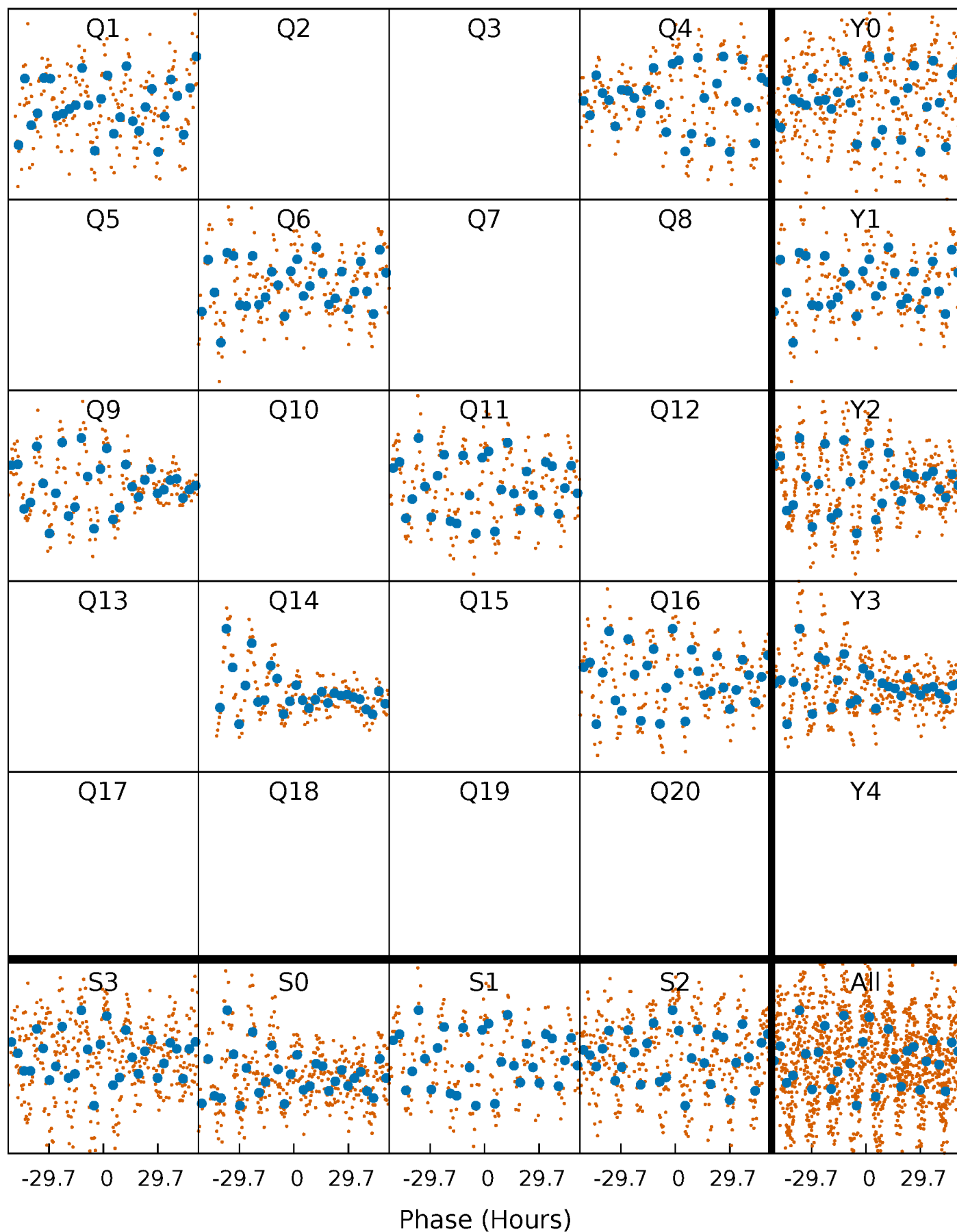


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



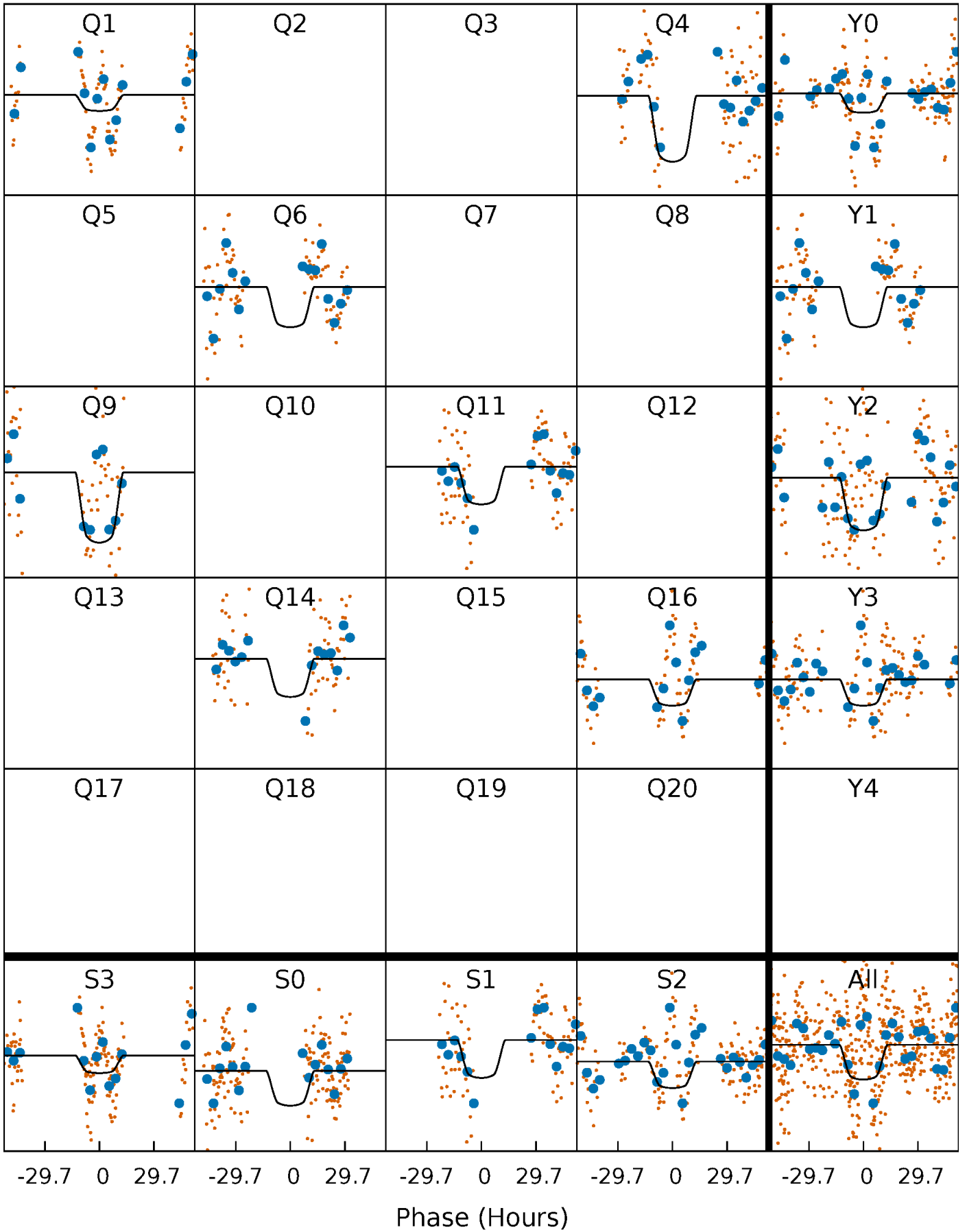
PDC Quarter-Phased Transit Curves

TCE 005271224-04 P=228.480137 Days $T_0=133.512420$ (BKJD)



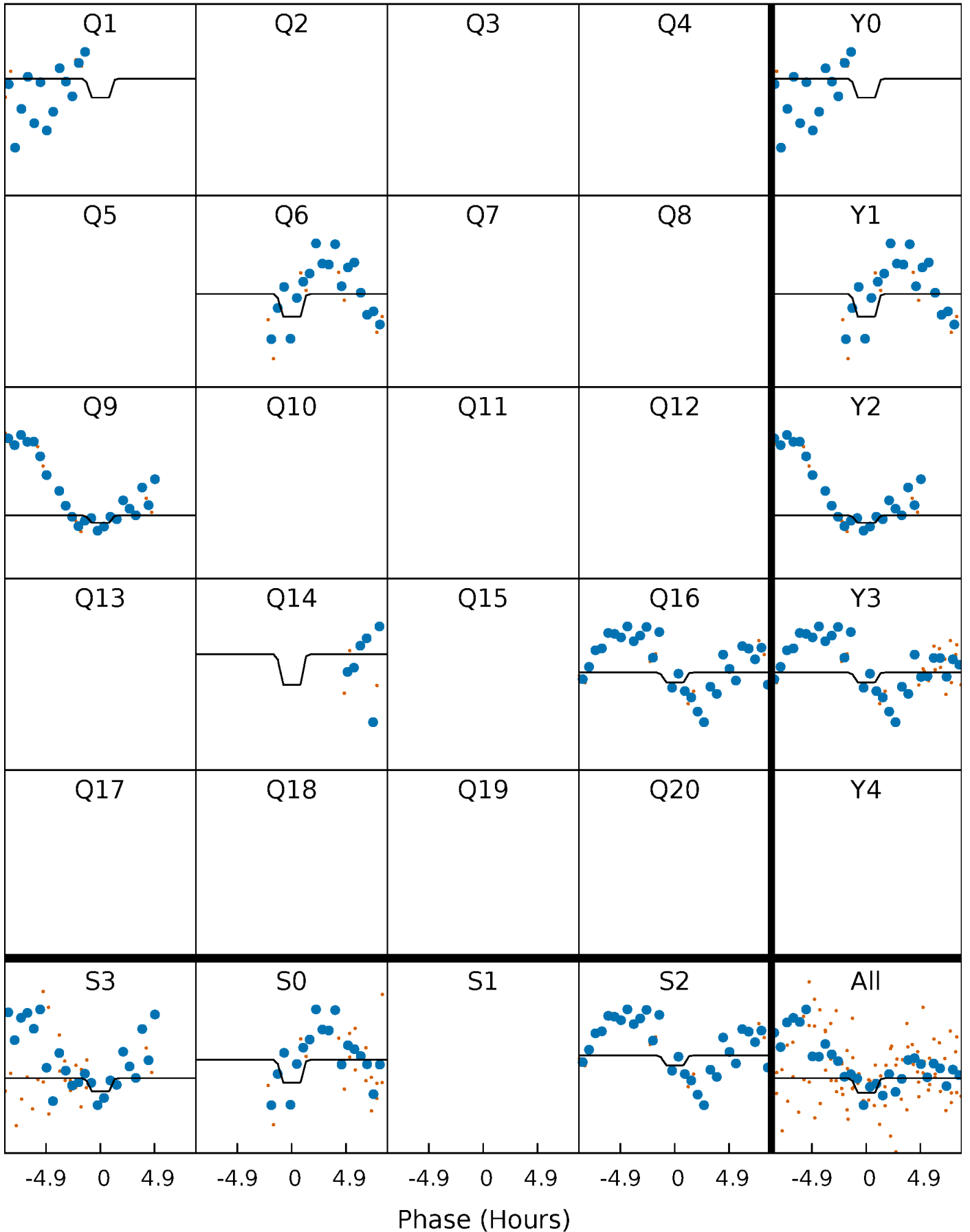
DV Quarter-Phased Transit Curves

TCE 005271224-04 P=228.480137 Days $T_0=133.512420$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

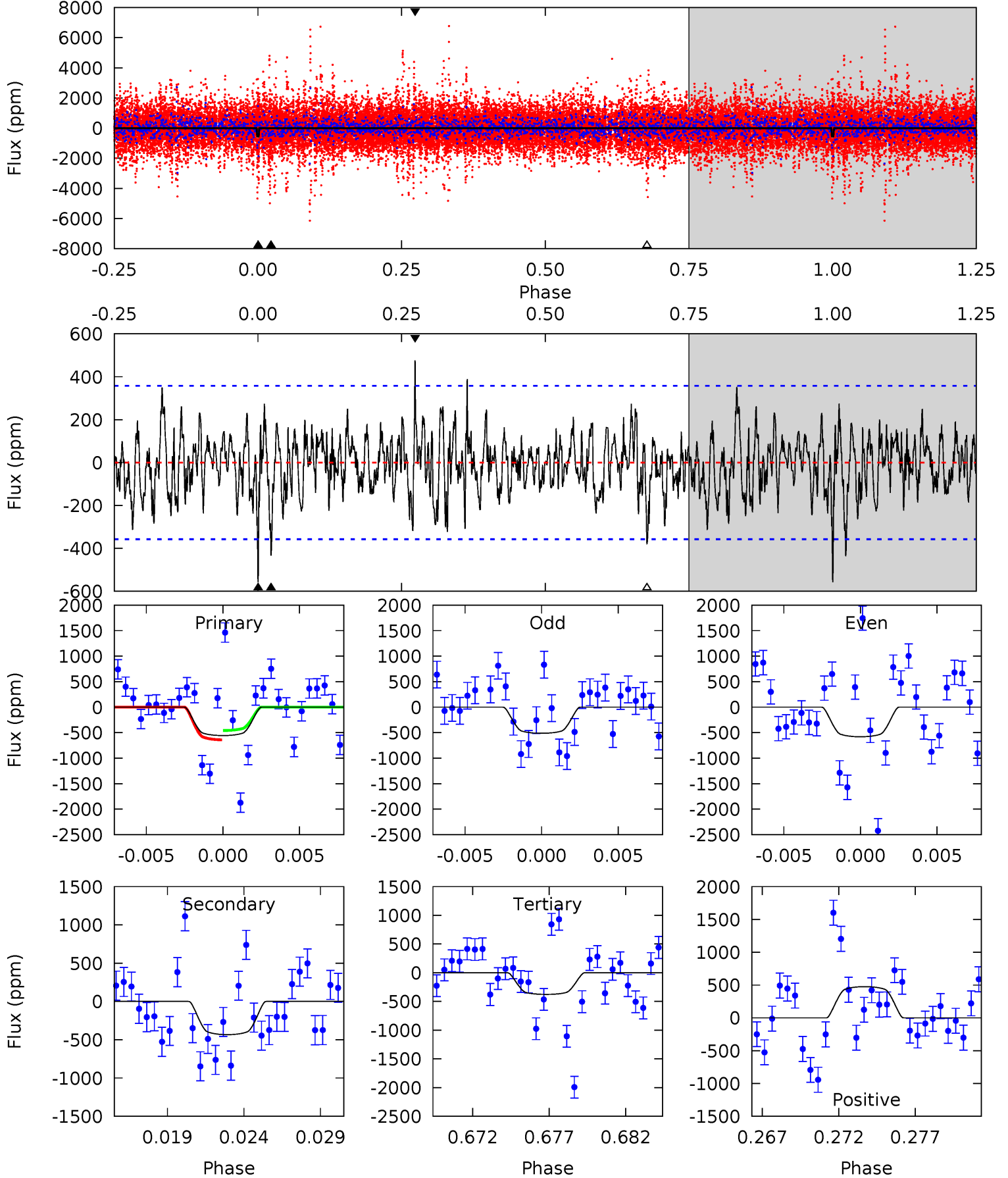
TCE 005271224-04 $P=228.406334$ Days $T_0=134.076330$ (BKJD)



DV Model-Shift Uniqueness Test

005271224-04, P = 228.480137 Days, E = 133.512420 Days

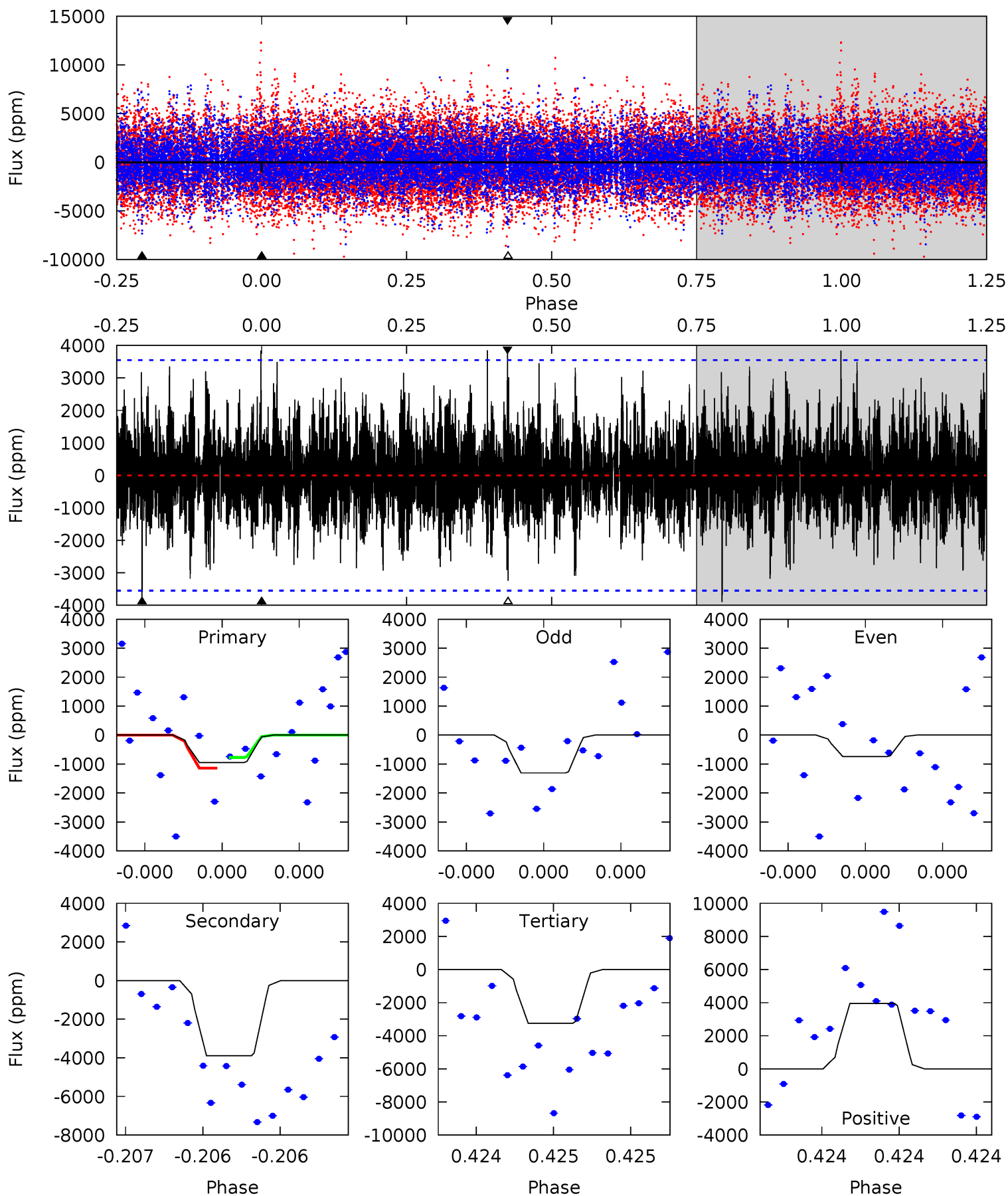
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.04	6.26	5.45	6.87	5.17	2.82	1.68	2.59	1.17	0.81	-0.61	0.47	0.93	0.46	1.33



Alt Model-Shift Uniqueness Test

005271224-04, P = 228.406334 Days, E = 134.076330 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.49	6.13	5.10	6.21	5.59	3.50	1.58	-3.62	-4.72	1.02	-0.08	0.41	0.78	0.50	0.29



Stellar Parameters For KIC 005271224

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7550^{+75}_{-83}	$4.202^{+0.040}_{-0.160}$	$0.210^{+0.200}_{-0.150}$	$1.704^{+0.407}_{-0.109}$	$1.696^{+0.145}_{-0.092}$	$0.483^{+0.080}_{-0.223}$
	+1%/-1%	+1%/-4%	+95%/-71%	+24%/-6%	+9%/-5%	+17%/-46%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005271224-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-434 ± 69	$6.61^{+1.01}_{-0.82}$	658^{+37}_{-16}	5830^{+377}_{-341}	4174^{+1489}_{-1141}
Alt.	-3895 ± 635	$6.87^{+0.94}_{-0.85}$	661^{+34}_{-20}	11159^{+1201}_{-1046}	34549^{+12811}_{-9207}

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

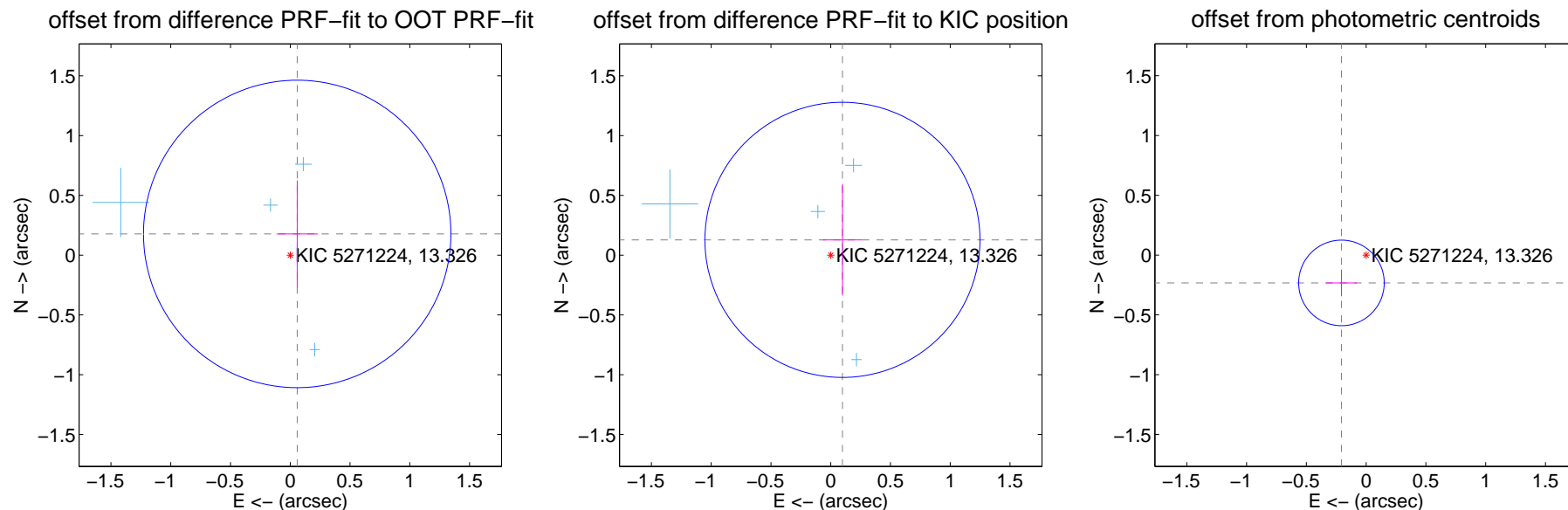
DV Centroid Data

Supplemental centroid analysis for 005271224-04. Kepler magnitude: 13.33. Transit SNR 8.28

There are 4 quarters with good PRF difference image offsets

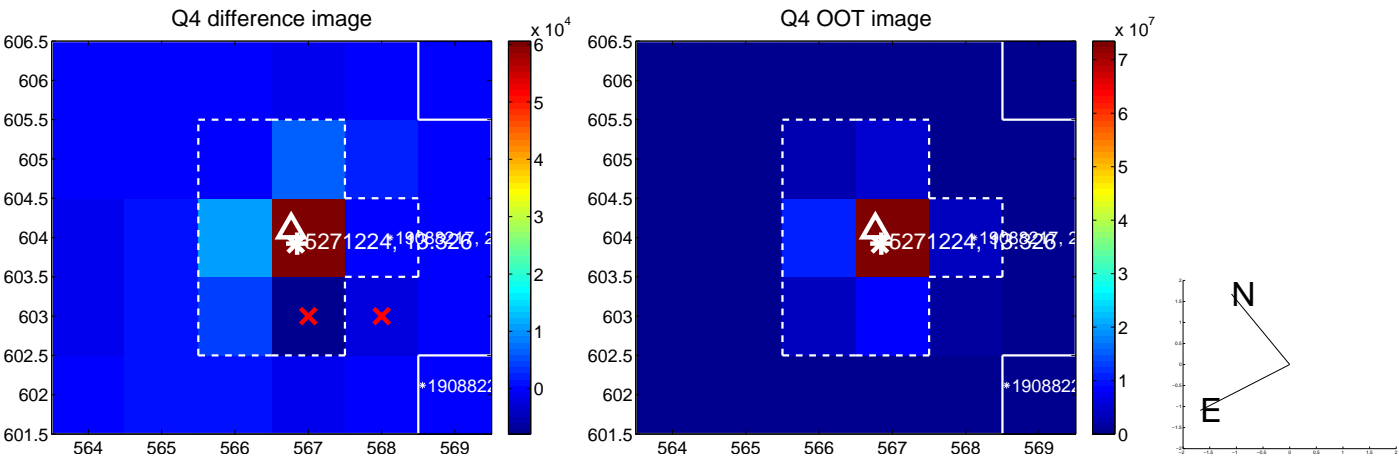
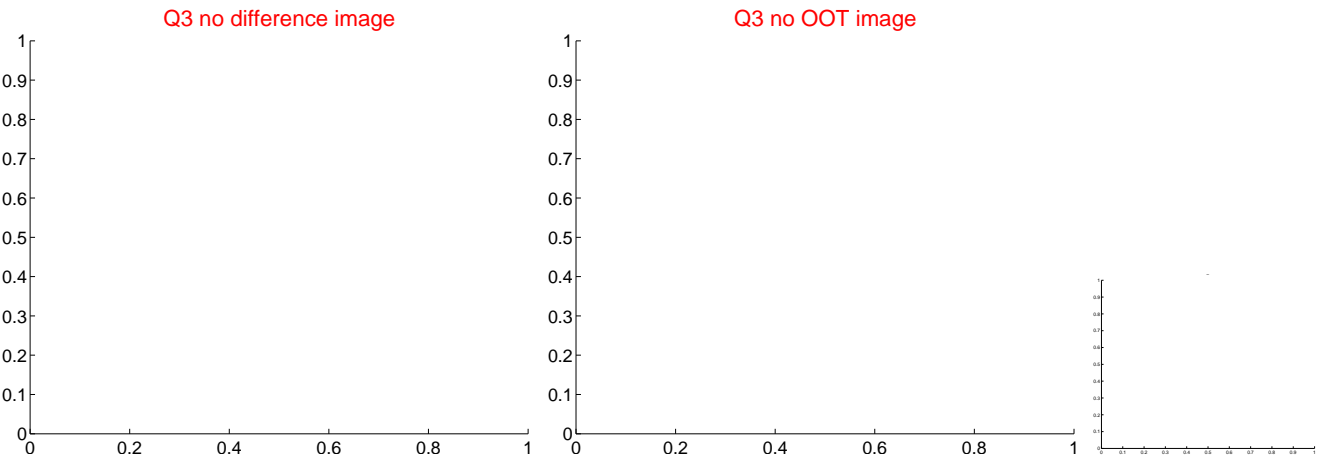
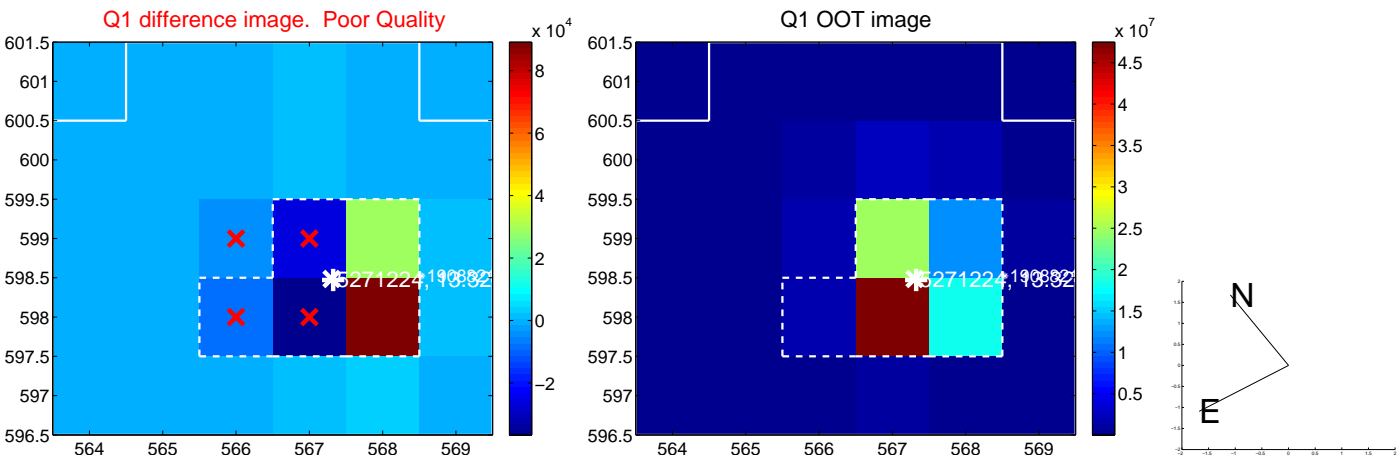
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.187 ± 0.429	0.44	-0.058 ± 0.172	0.178 ± 0.448
PRF-fit source offset from KIC position	0.161 ± 0.384	0.42	-0.098 ± 0.166	0.128 ± 0.466
photometric centroid source offset	0.31 ± 0.12	2.61	0.21 ± 0.13	-0.23 ± 0.11

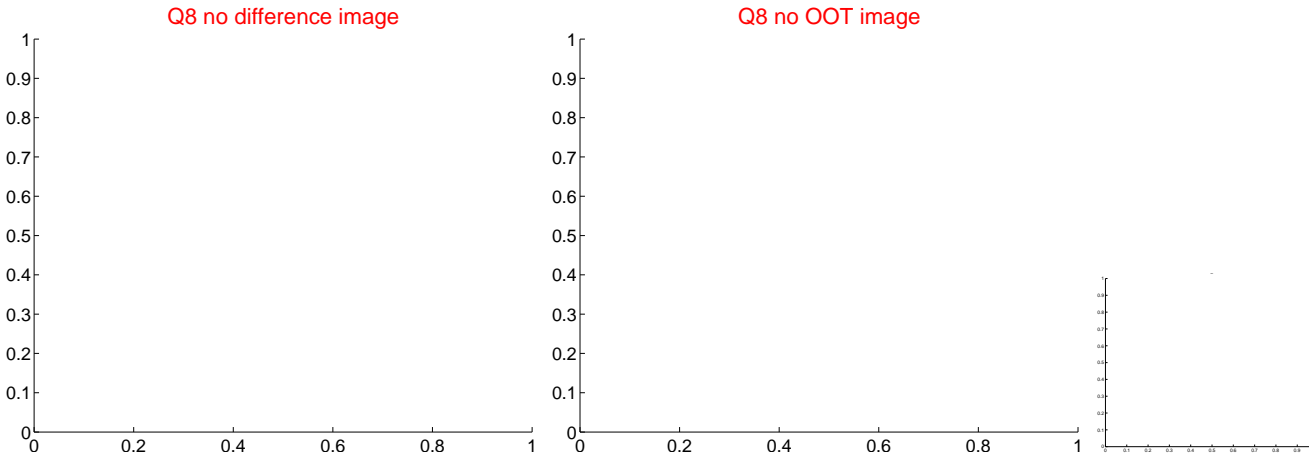
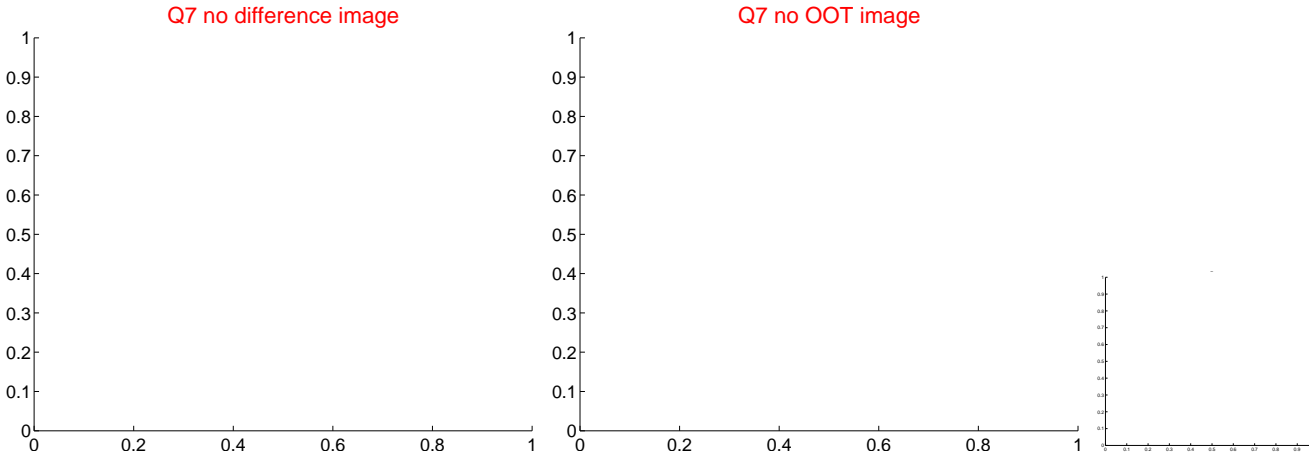
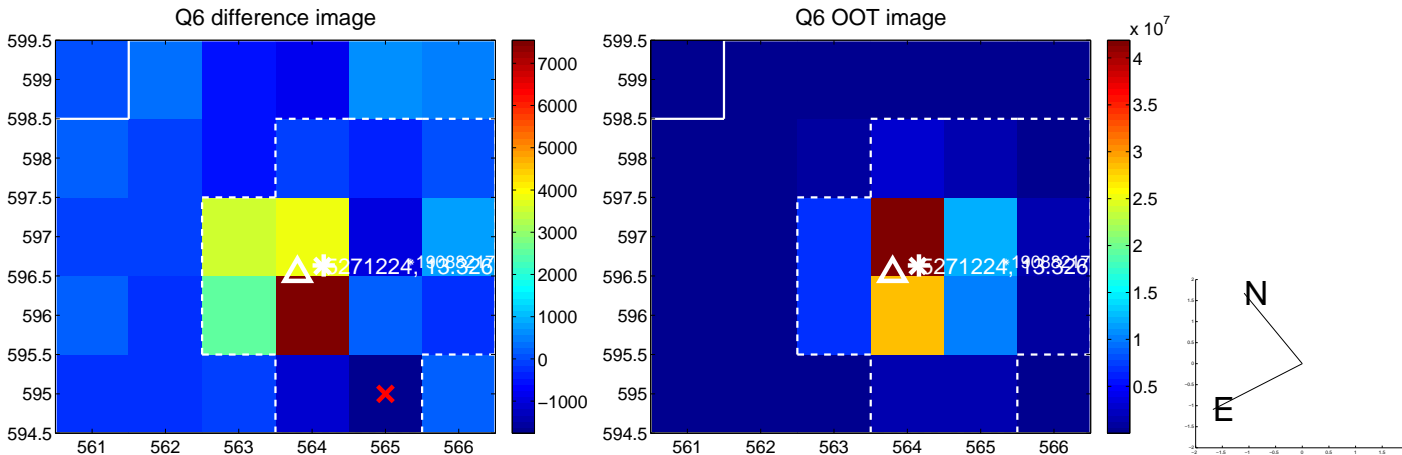
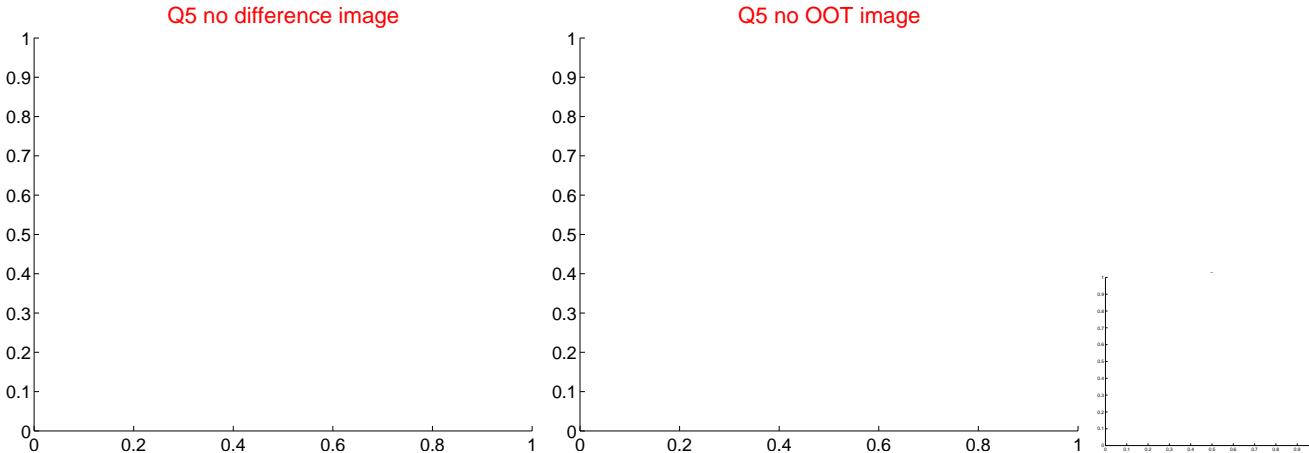


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

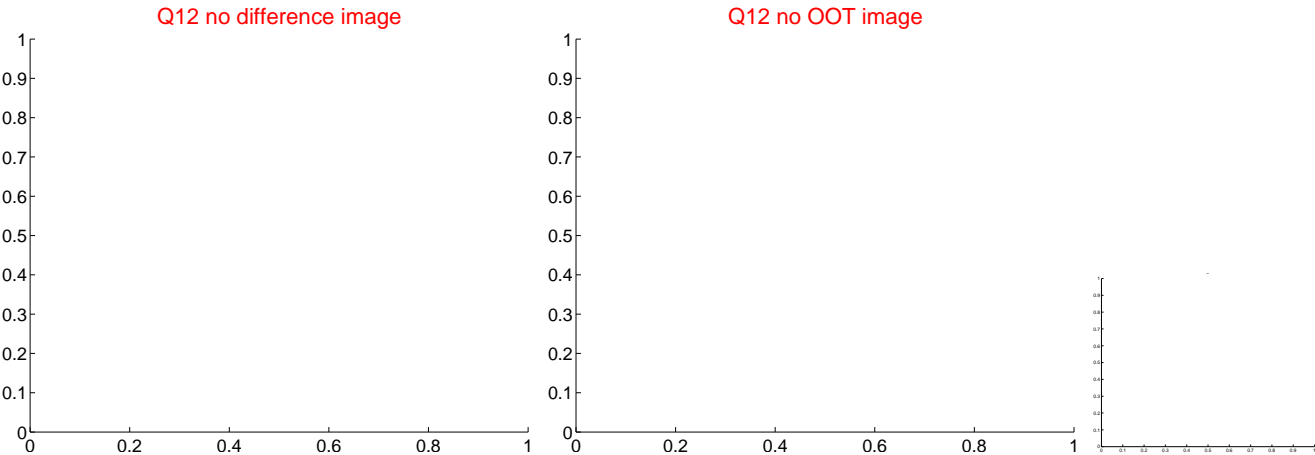
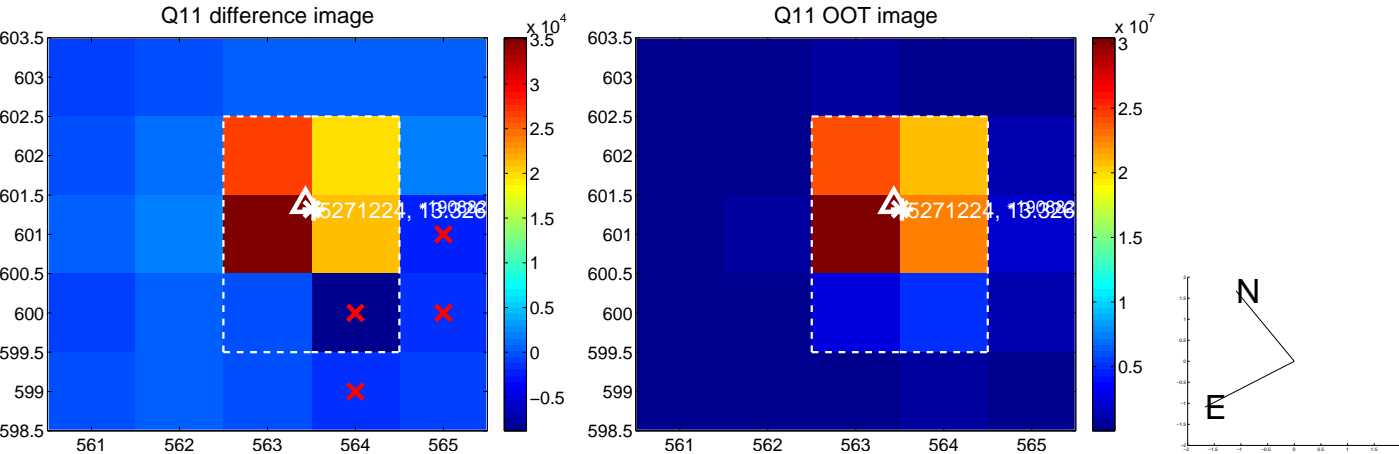
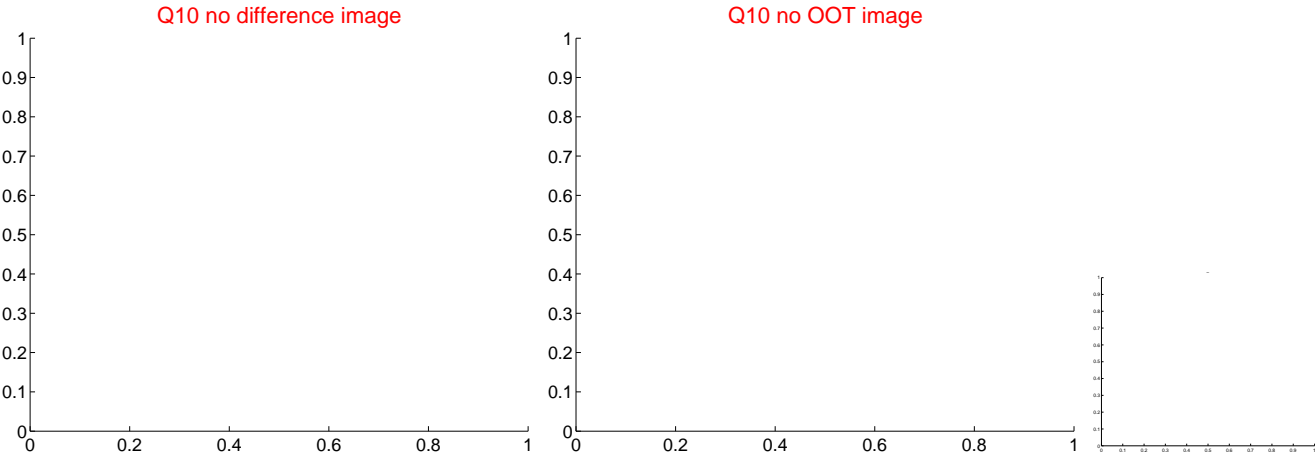
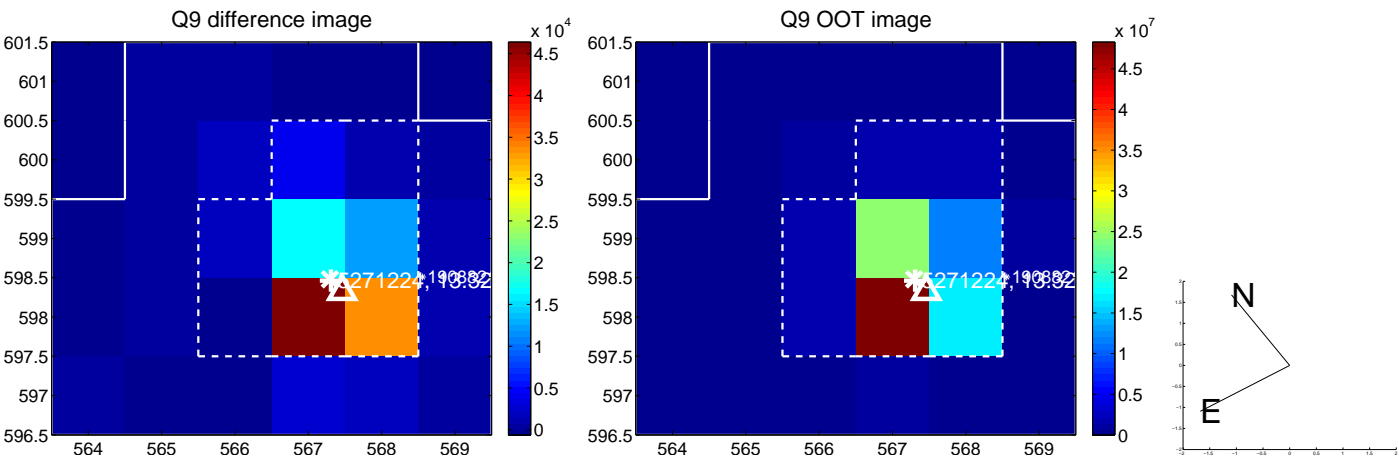
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



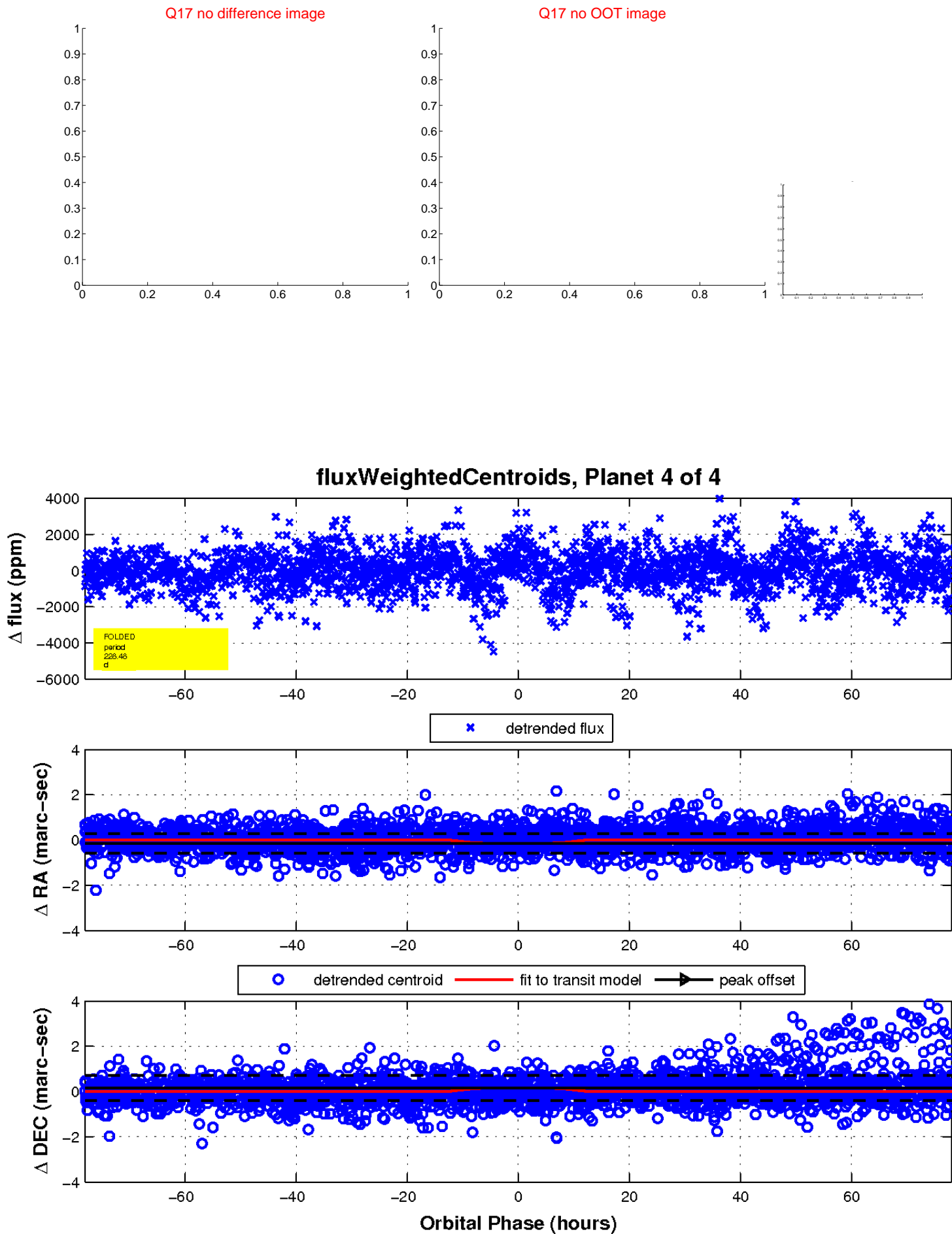
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

