

KIC 001162339

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})
001162339-01	OBS	No	0.837073	132.287367	35.9	3.325	7.9	6.3	1.66	6644	1.16	13499.01
001162339-02	OBS	No	417.690521	168.622050	1516.1	6.117	9.1	8.3	1.66	6644	7.46	3.41
001162339-03	OBS	No	163.312132	133.781940	866.4	6.753	8.4	7.7	1.66	6644	5.17	11.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001162339-01	OBS	FP	0.00	1	0	1	0	LPP_DV —LPP_ALT —MOD_NONUNIQ_DV —MOD_NONUNIQ_ALT —CENT_RESOLVED_OFFSET
001162339-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL —ALL_TRANS_CHASES —MOD_NONUNIQ_DV —MOD_NONUNIQ_ALT —INCONSISTENT_TRANS —CENT_FEW_DIFFS
001162339-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL —TRANS_GAPPED —ALL_TRANS_CHASES —MOD_NONUNIQ_ALT —CENT_RESOLVED_OFFSET

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

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

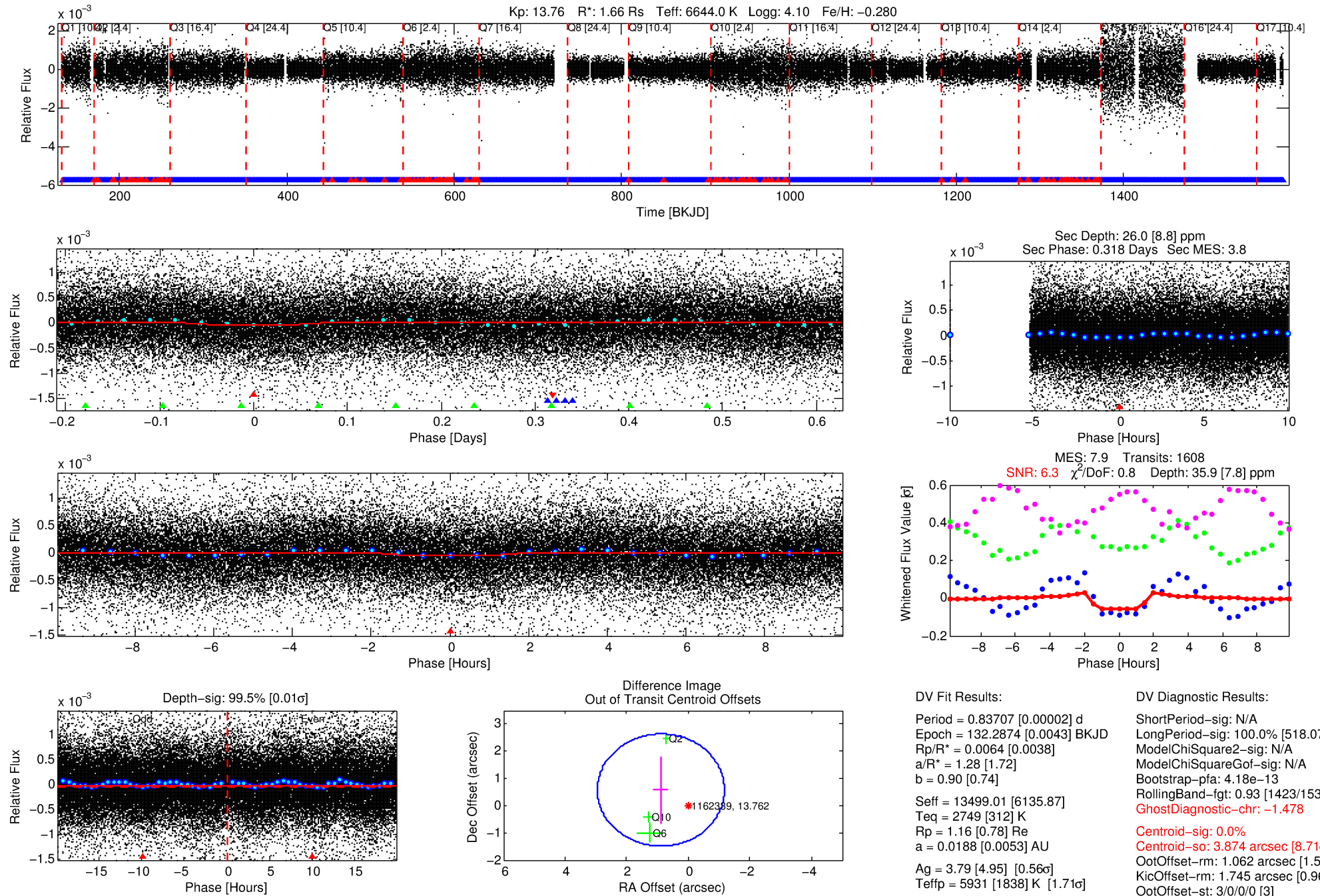
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001162339-01

No Significant Match Found

DV One-Page Summary

KIC: 1162339 Candidate: 1 of 3 Period: 0.837 d



DV Fit Results:

Period = 0.83707 [0.00002] d
Epoch = 132.2874 [0.0043] BKJD
Rp/R* = 0.0064 [0.0038]
a/R* = 1.28 [1.72]
b = 0.90 [0.74]
Seff = 13499.01 [6135.87]
Teff = 2749 [312] K
Rp = 1.16 [0.78] Re
a = 0.0188 [0.0053] AU
Ag = 3.79 [4.95] [0.56 σ]
Teffp = 5931 [1838] K [1.71 σ]

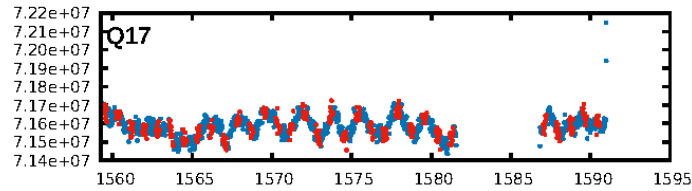
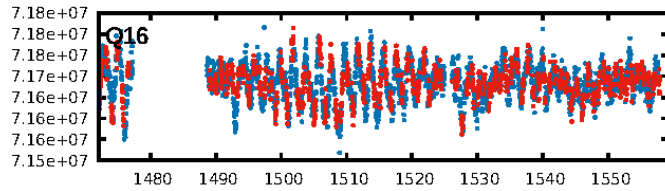
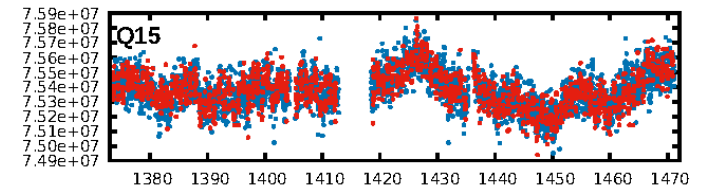
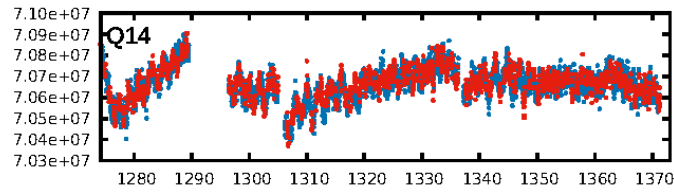
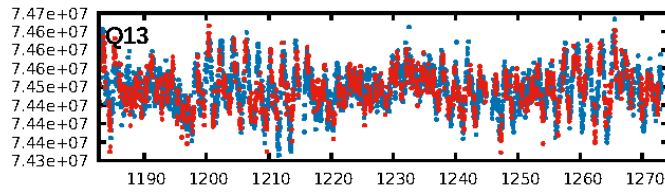
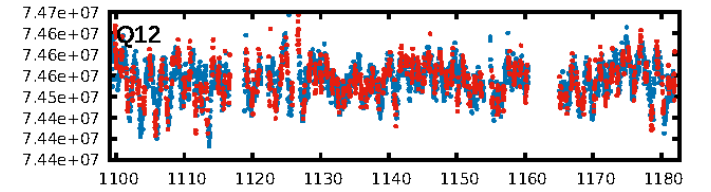
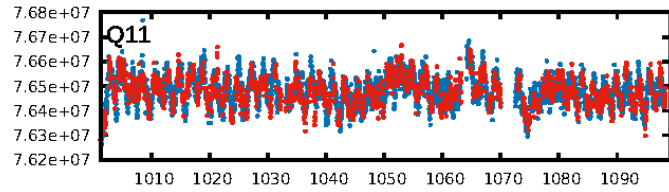
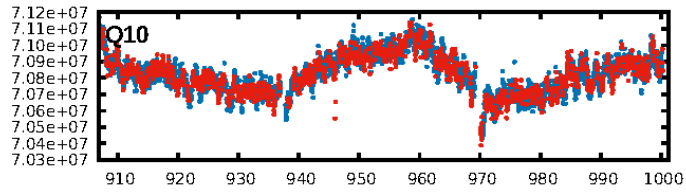
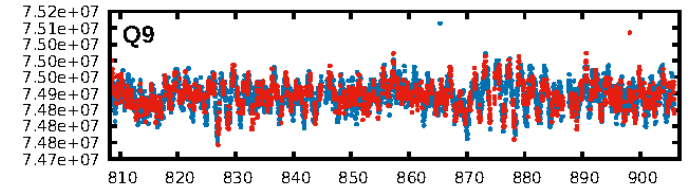
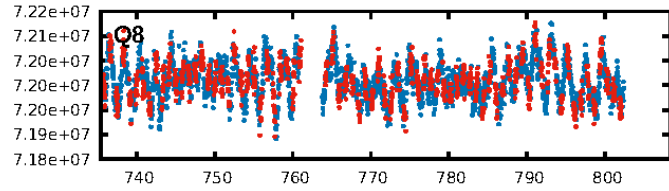
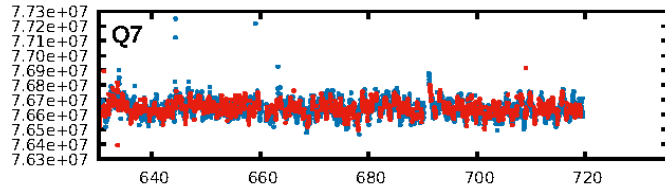
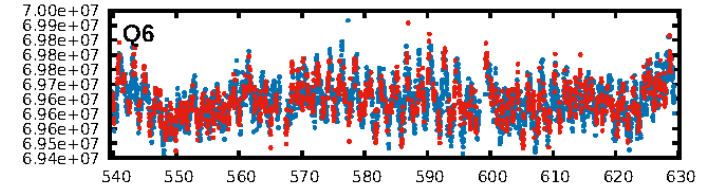
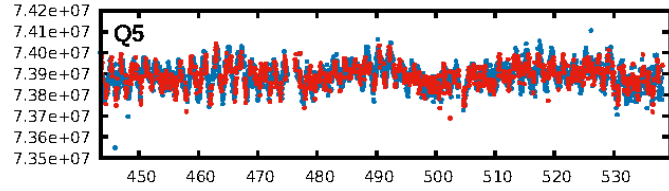
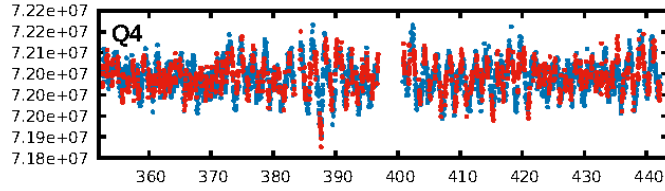
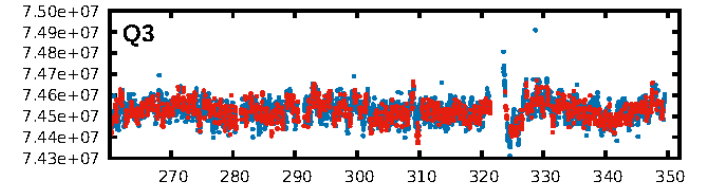
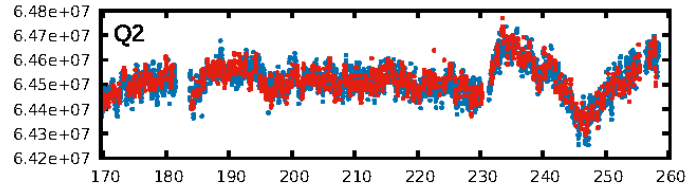
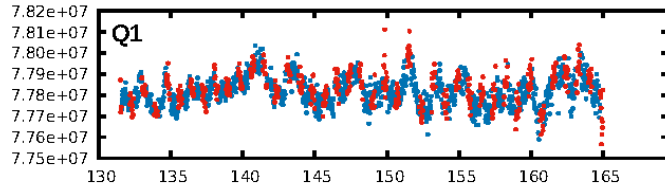
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [518.07 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.18e-13
RollingBand-fgt: 0.93 [1423/1535]
GhostDiagnostic-chr: -1.478
Centroid-sig: 0.0%
Centroid-so: 3.874 arcsec [8.71 σ]
OotOffset-rm: 1.062 arcsec [1.54 σ]
KicOffset-rm: 1.745 arcsec [0.96 σ]
OotOffset-st: 3/0/0/0 [3]
KicOffset-st: 3/0/0/2 [5]
DiffImageQuality-fgm: 0.60 [3/5]
DiffImageOverlap-fno: 1.00 [17/17]

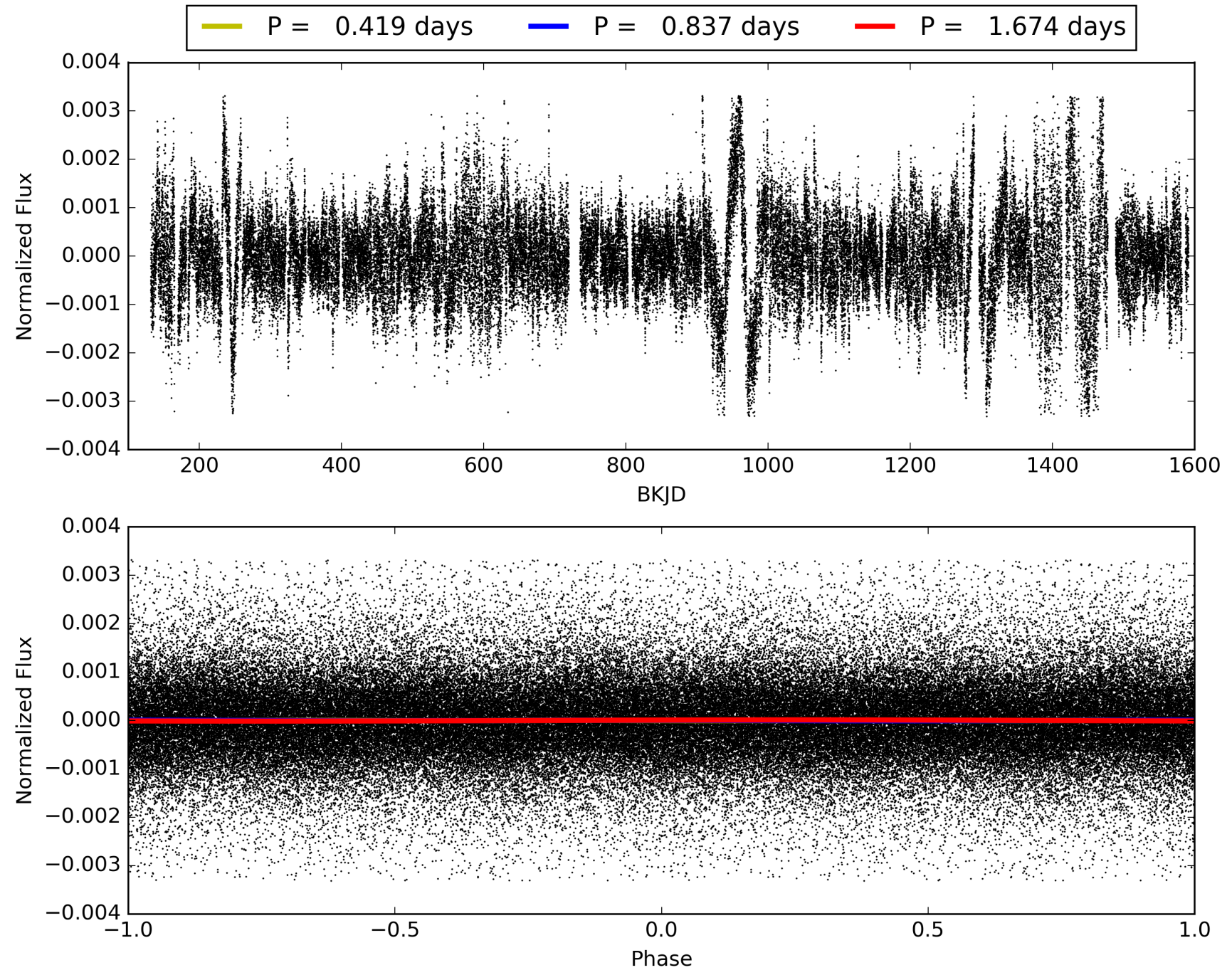
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 001162339-01, PDC Light Curves

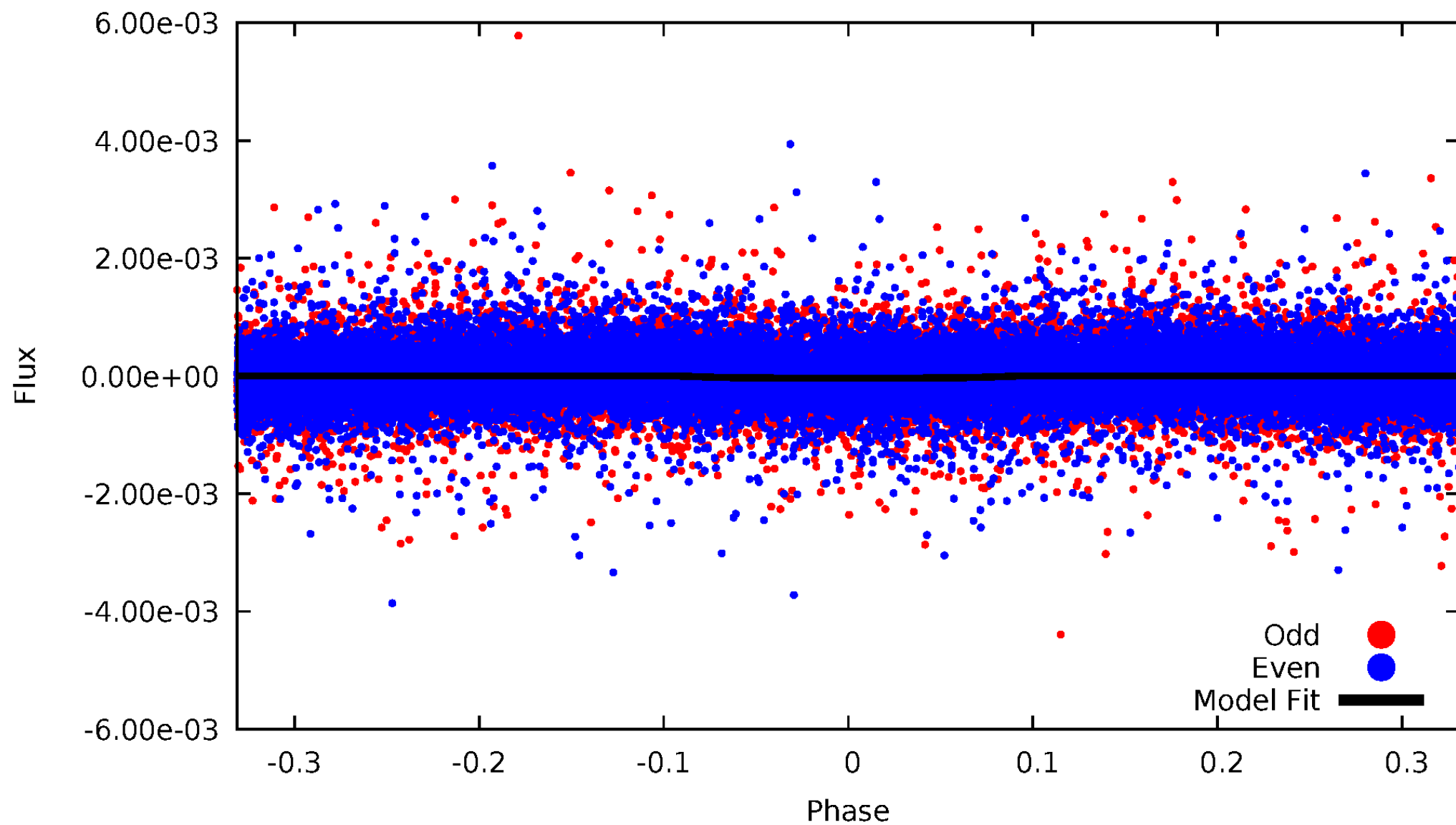


TCE 001162339-01



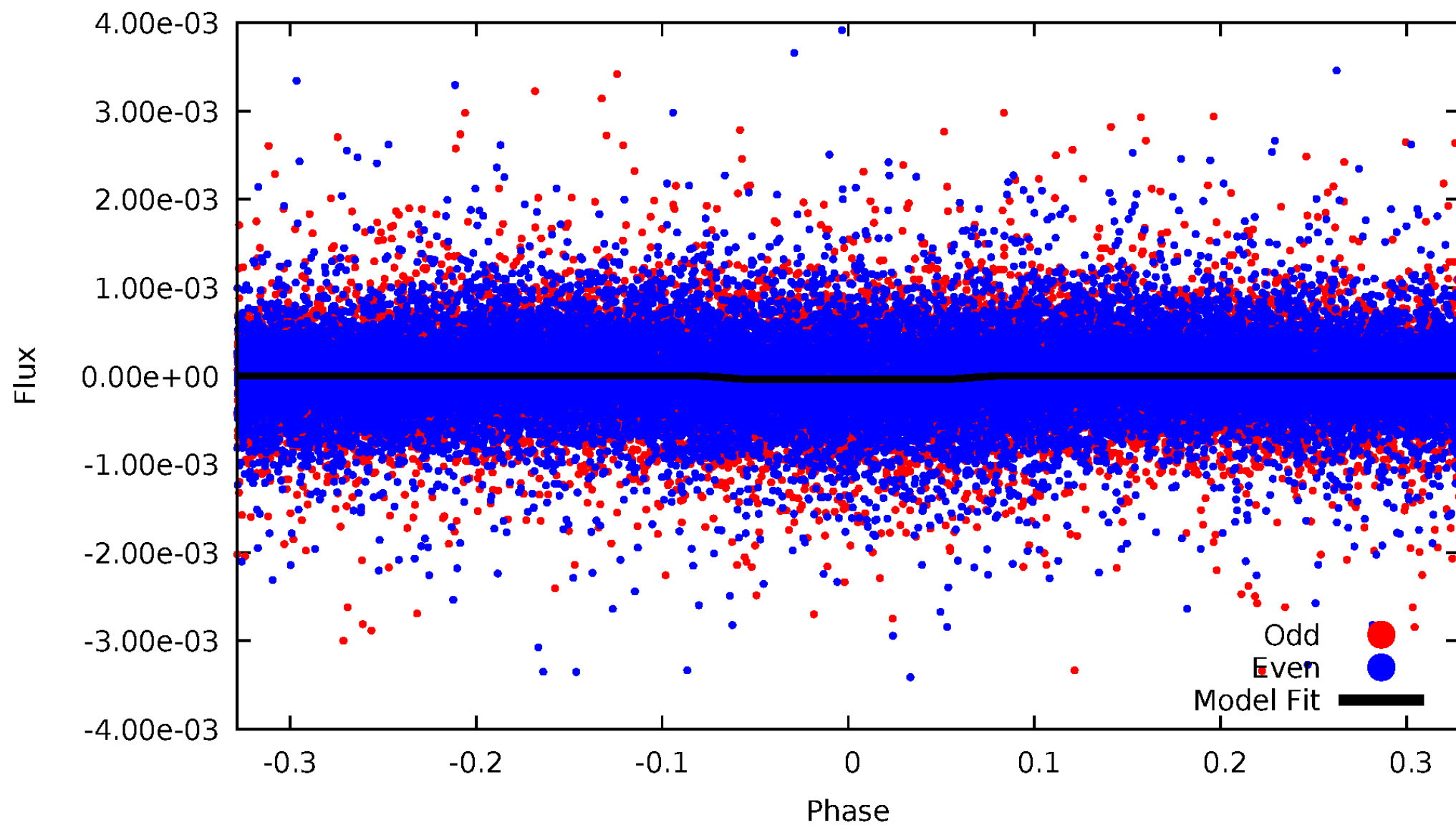
DV Odd/Even

TCE 001162339-01



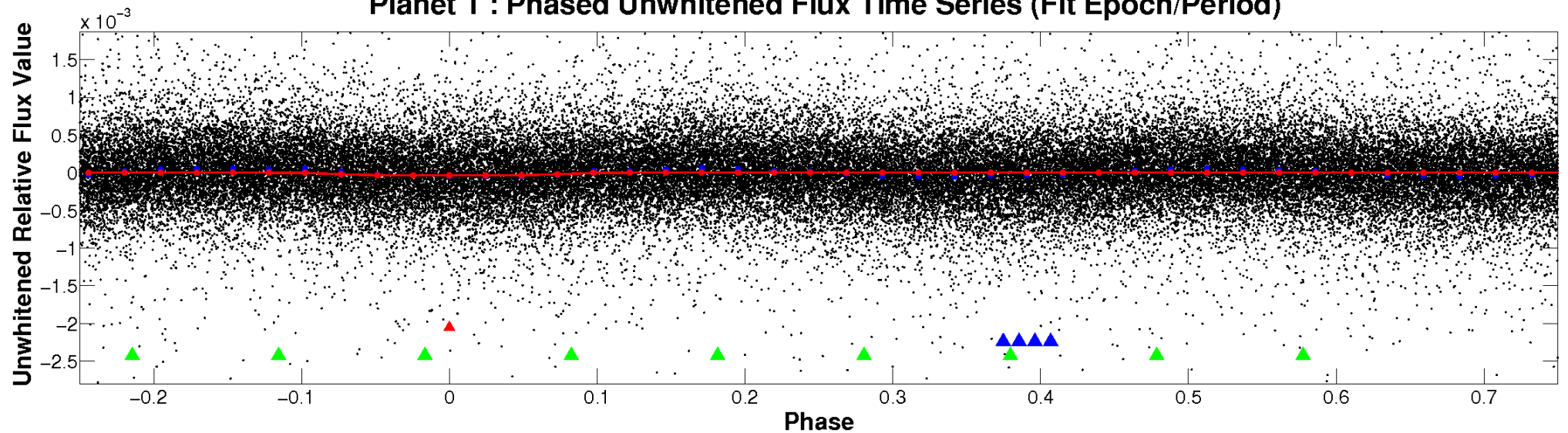
ALT Odd/Even

TCE 001162339-01

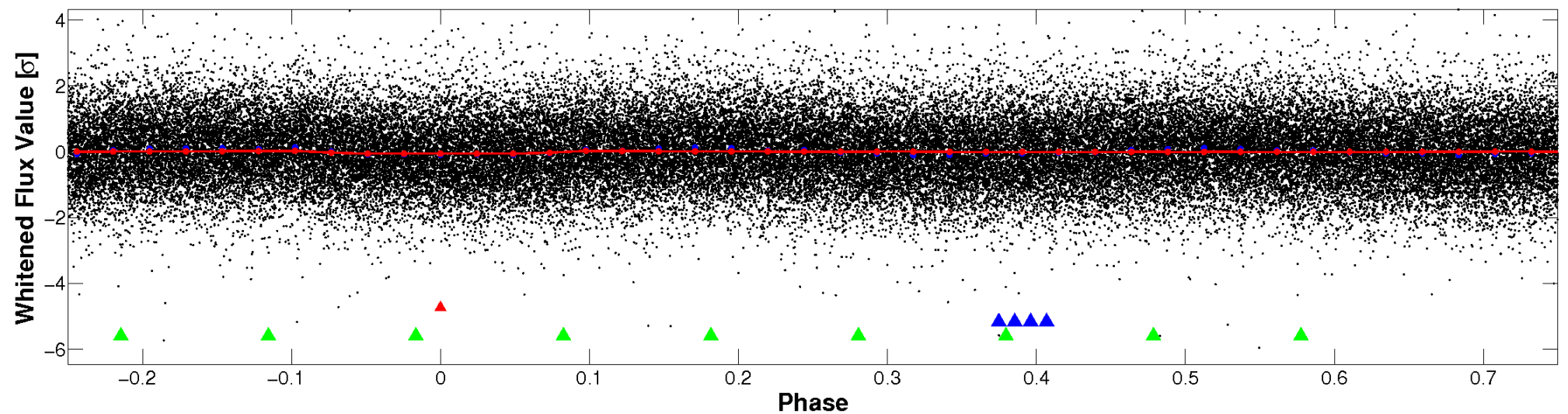


Non-Whitened Vs. Whitened Light Curve

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

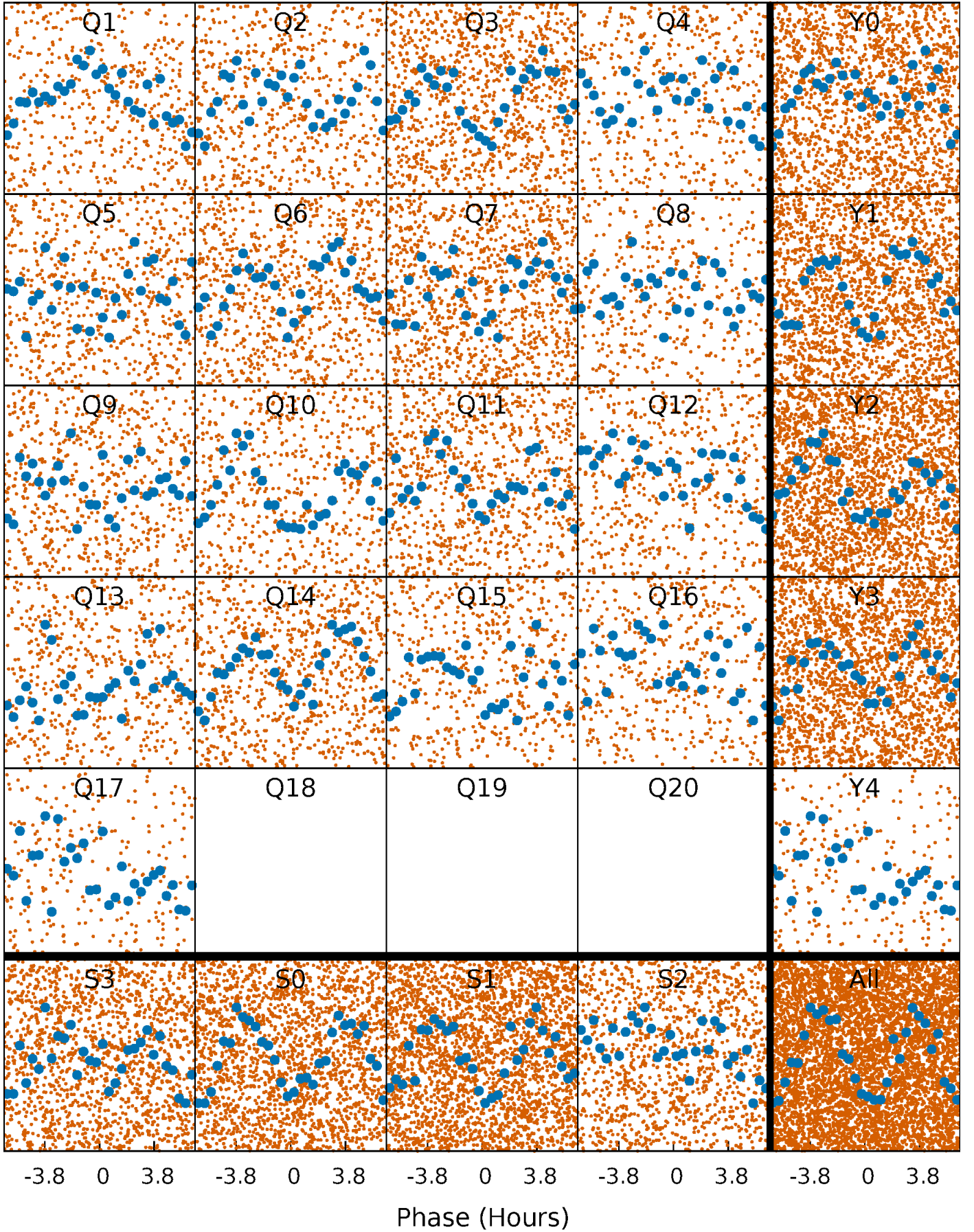


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



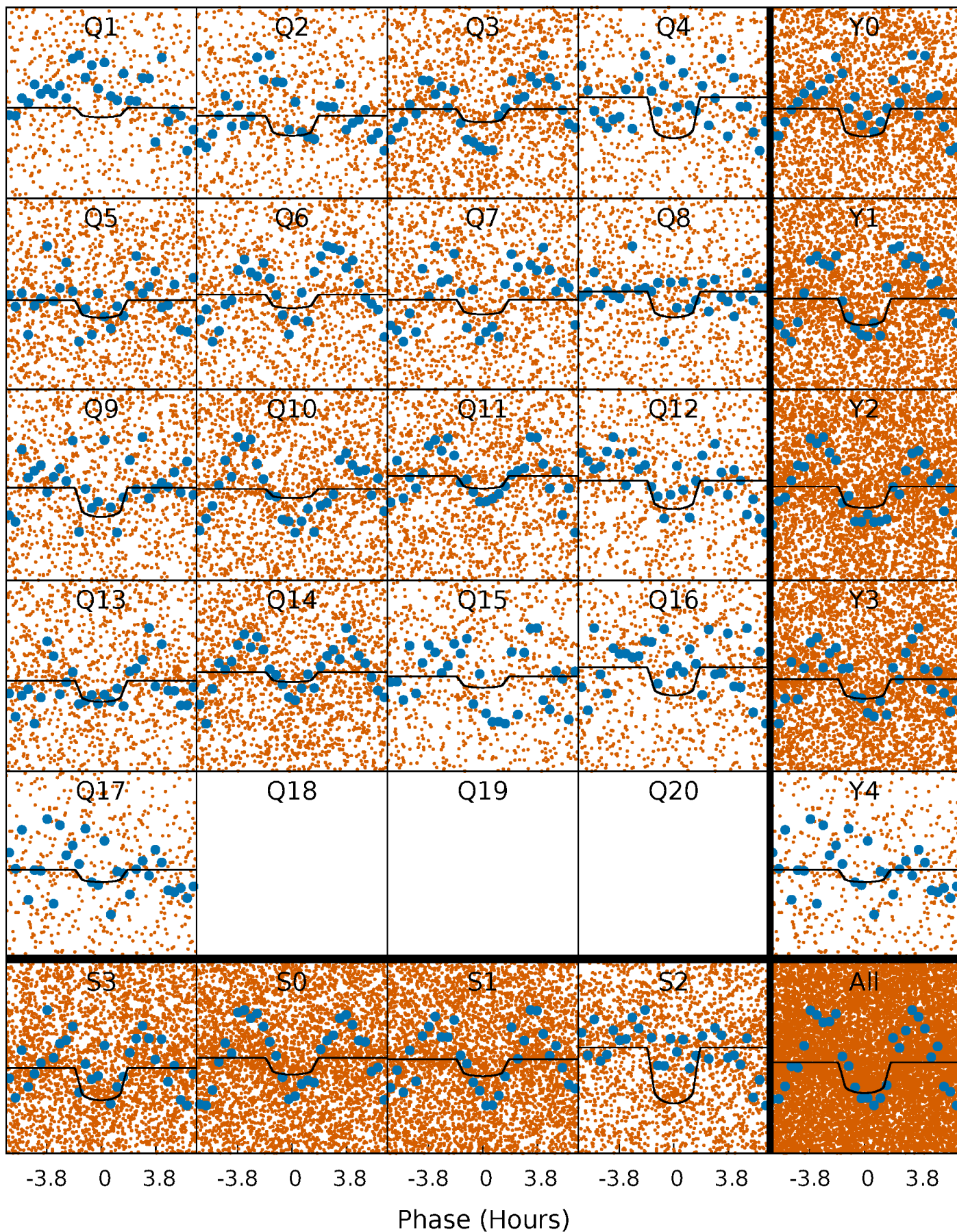
PDC Quarter-Phased Transit Curves

TCE 001162339-01 P= 0.837073 Days $T_0=132.287367$ (BKJD)



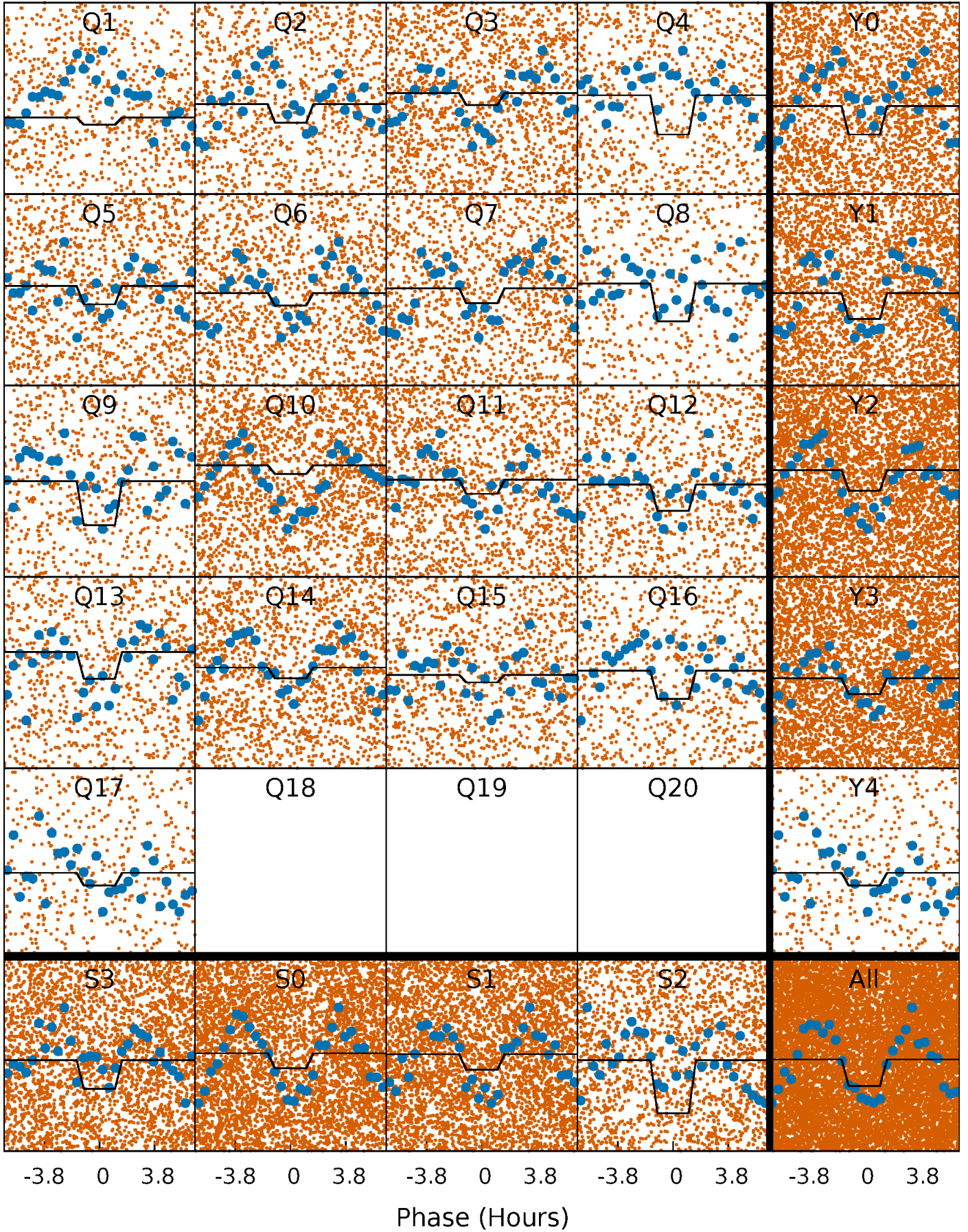
DV Quarter-Phased Transit Curves

TCE 001162339-01 P= 0.837073 Days $T_0=132.287367$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

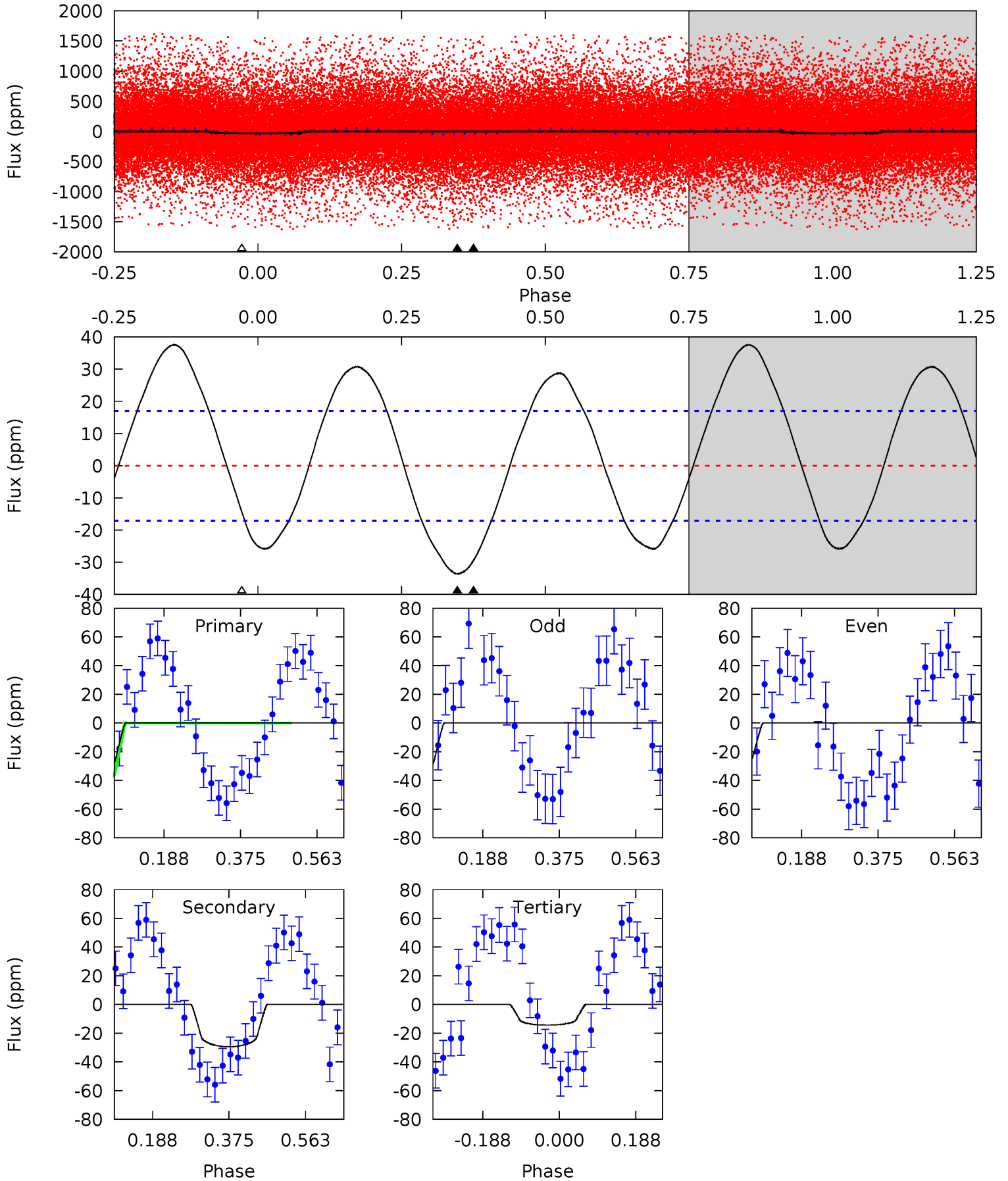
TCE 001162339-01 P= 0.837083 Days $T_0=132.288033$ (BKJD)



DV Model-Shift Uniqueness Test

001162339-01, P = 0.837073 Days, E = 131.450294 Days

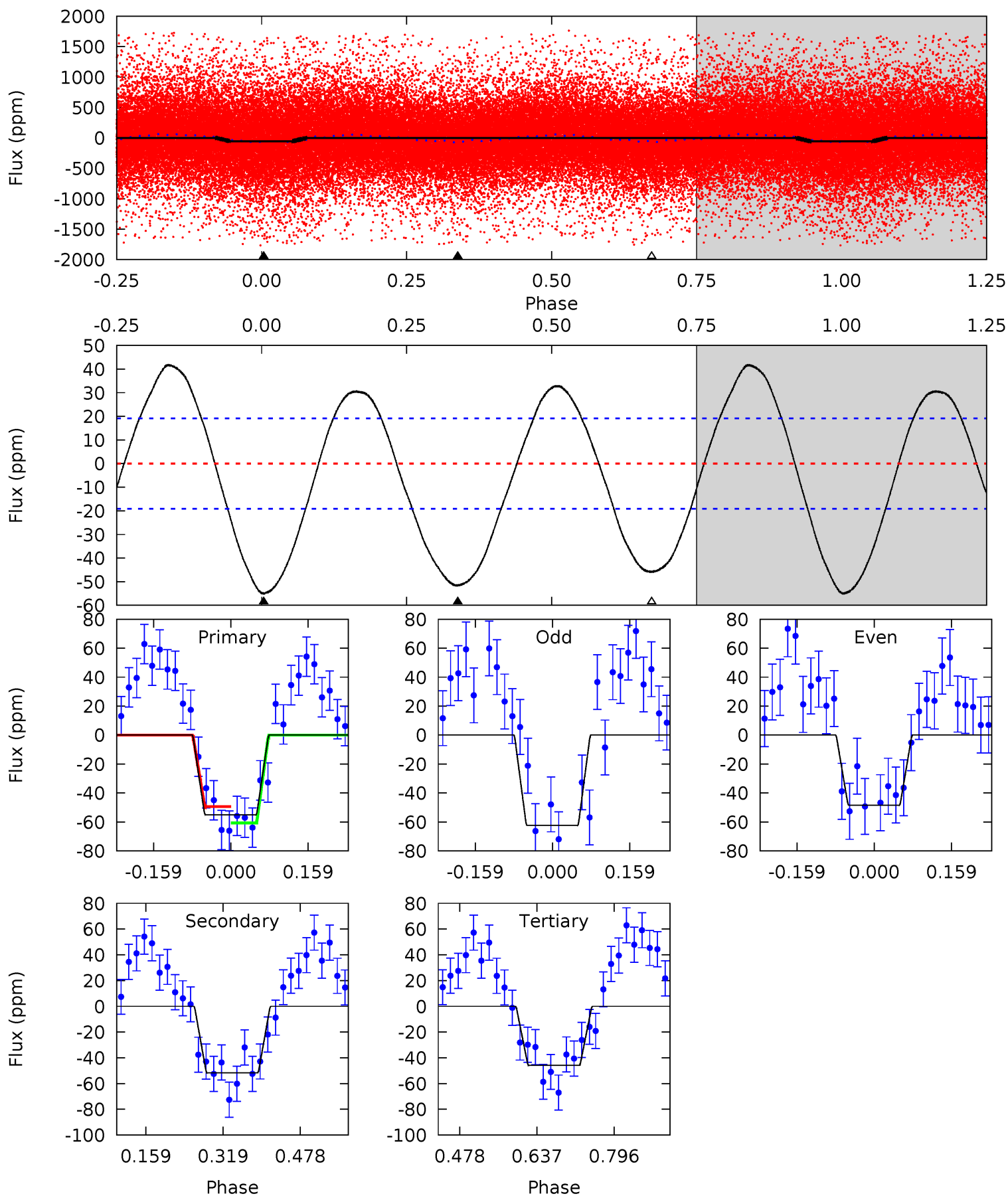
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.73	7.65	3.72	0	4.43	1.32	5.35	5.01	8.73	3.92	7.65	0.51	1.06	0.53	3.01



Alt Model-Shift Uniqueness Test

001162339-01, P = 0.837083 Days, E = 131.450950 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	12.0	10.7	0	4.47	1.41	6.99	2.14	12.9	1.34	12.0	1.64	1.34	0.43	1.27



Stellar Parameters For KIC 001162339

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6644^{+188}_{-235}	$4.104^{+0.246}_{-0.164}$	$-0.280^{+0.250}_{-0.300}$	$1.656^{+0.473}_{-0.521}$	$1.279^{+0.183}_{-0.224}$	$0.397^{+0.579}_{-0.177}$
	+3%/-4%	+6%/-4%	+89%/-107%	+29%/-31%	+14%/-18%	+146%/-45%
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 001162339-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-29 ± 4	$1.16^{+0.71}_{-0.59}$	3820^{+279}_{-308}	5876^{+3130}_{-1215}	$4.286^{+13.445}_{-2.610}$
Alt.	-52 ± 4	$1.13^{+0.70}_{-0.57}$	3810^{+284}_{-305}	6913^{+3863}_{-1508}	$7.794^{+22.261}_{-4.755}$

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 $A_{obs} \gg 1.0$

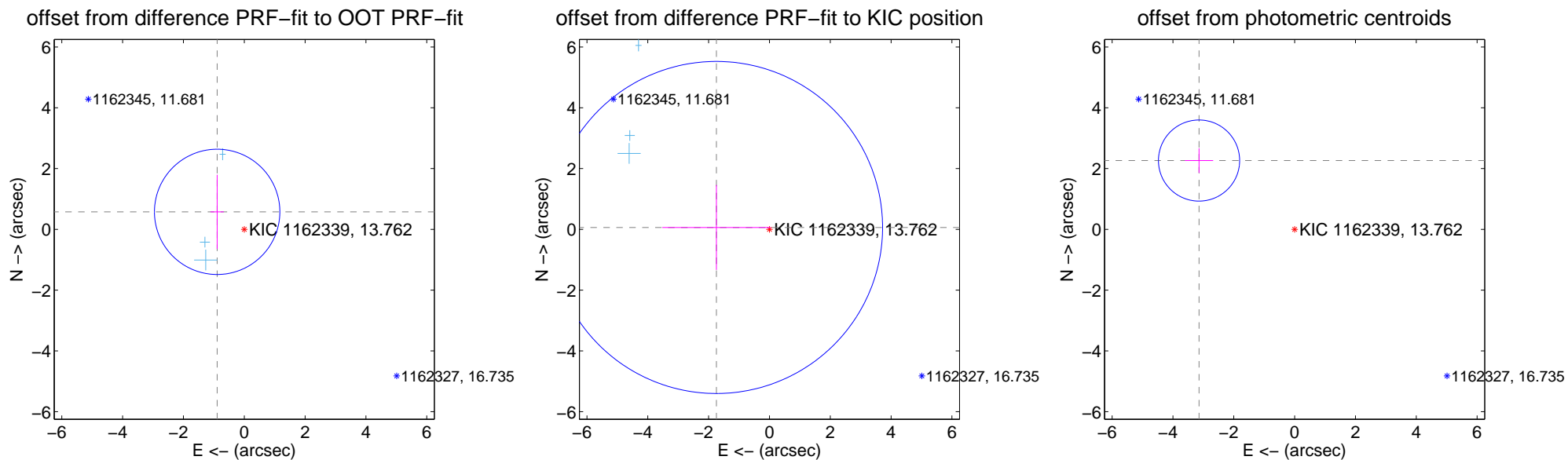
DV Centroid Data

Supplemental centroid analysis for 001162339-01. Kepler magnitude: 13.76. Transit SNR 6.32

There are 3 quarters with good PRF difference image offsets

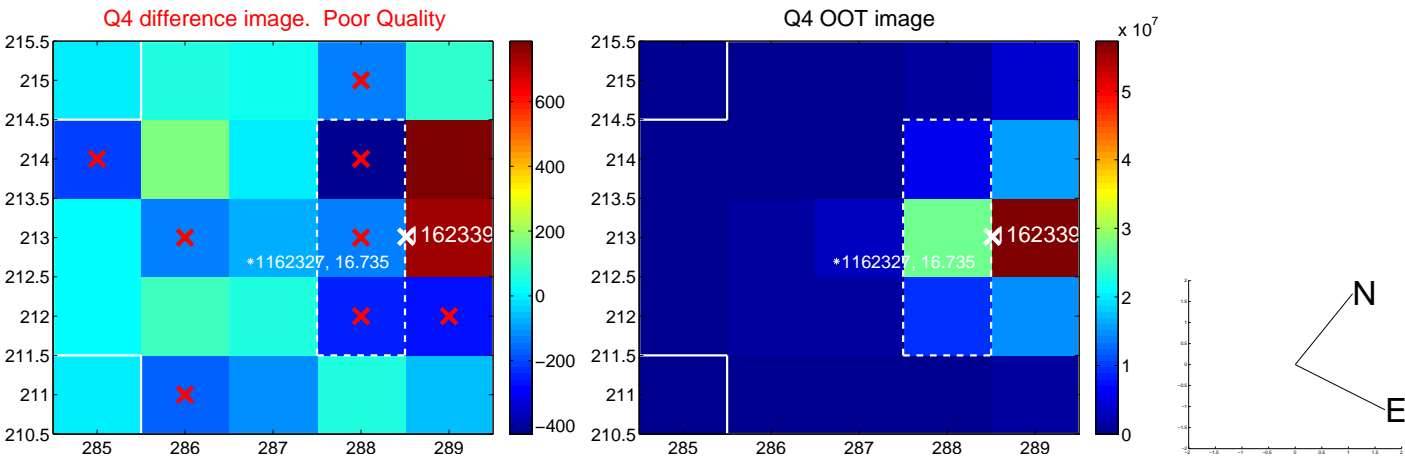
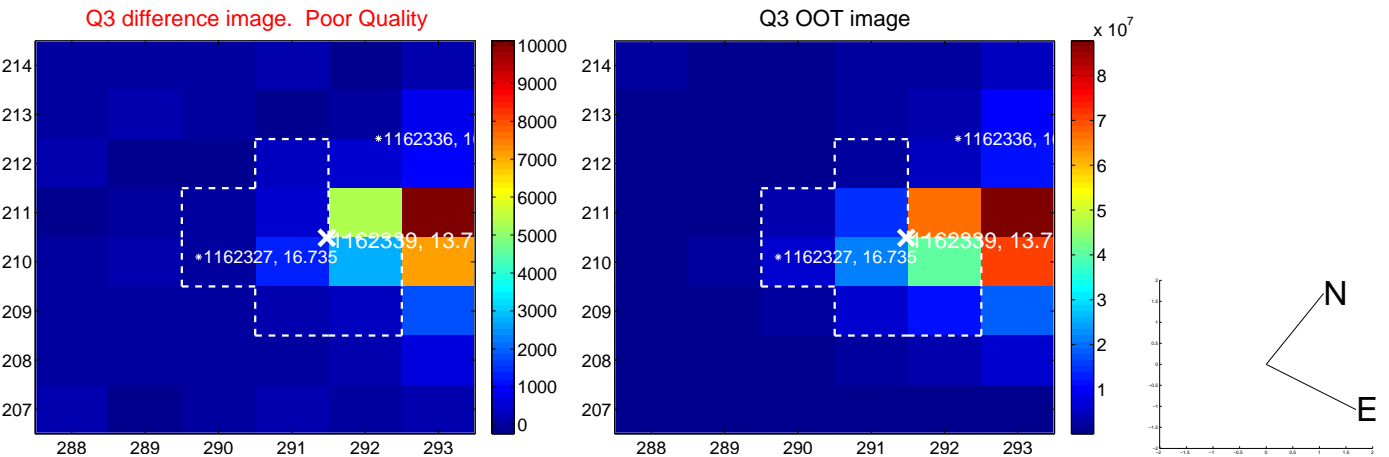
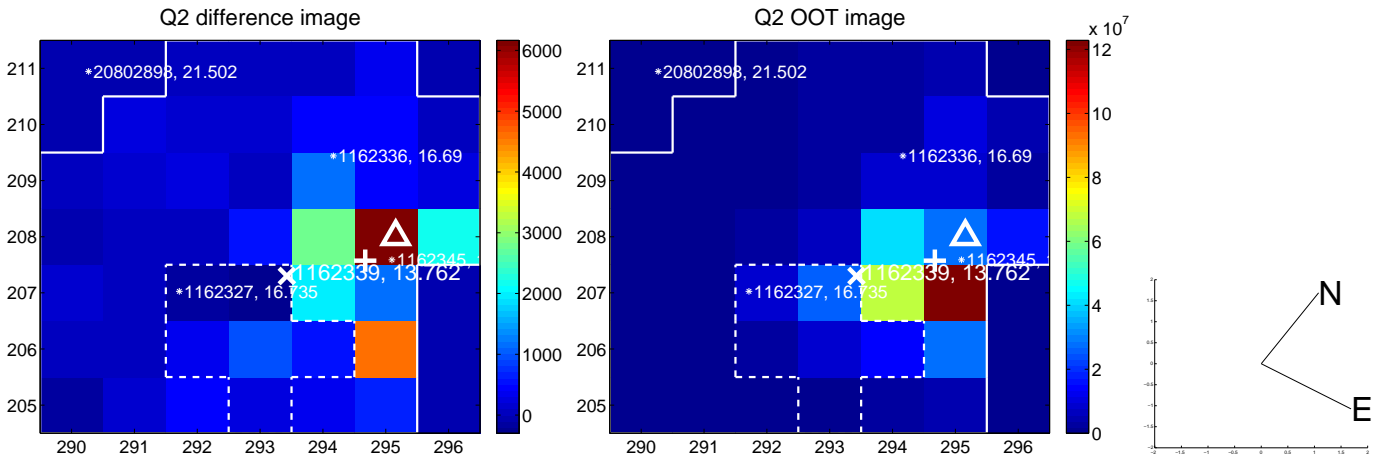
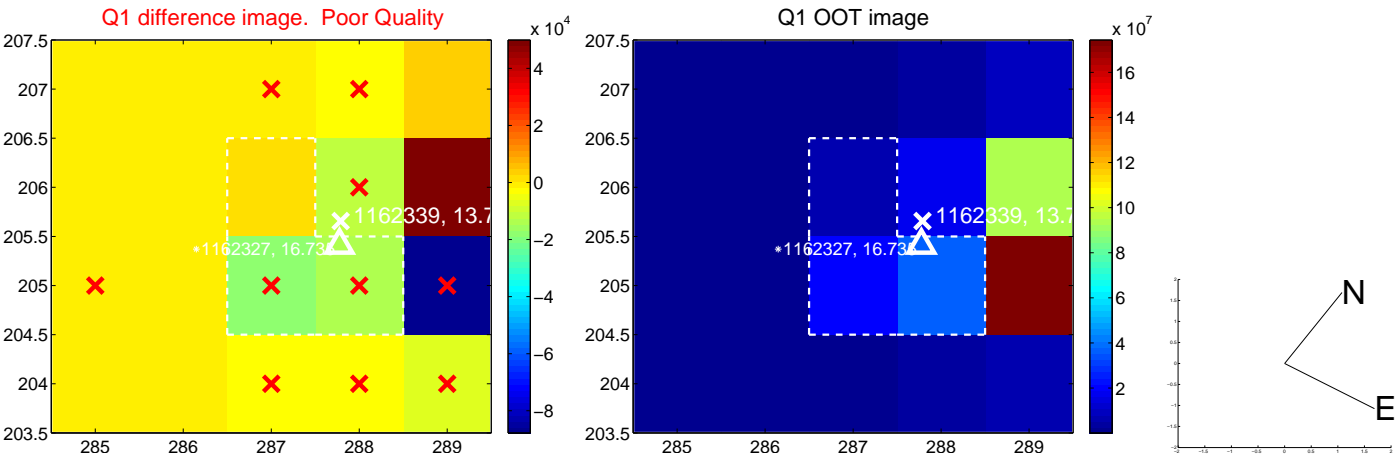
The OOT PRF centroid is offset from the target star catalog position by about 4.82 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.062 ± 0.687	1.54	0.892 ± 0.219	0.576 ± 1.221
PRF-fit source offset from KIC position	1.745 ± 1.822	0.96	1.744 ± 1.780	0.062 ± 1.398
photometric centroid source offset	3.87 ± 0.45	8.71	3.14 ± 0.46	2.26 ± 0.41

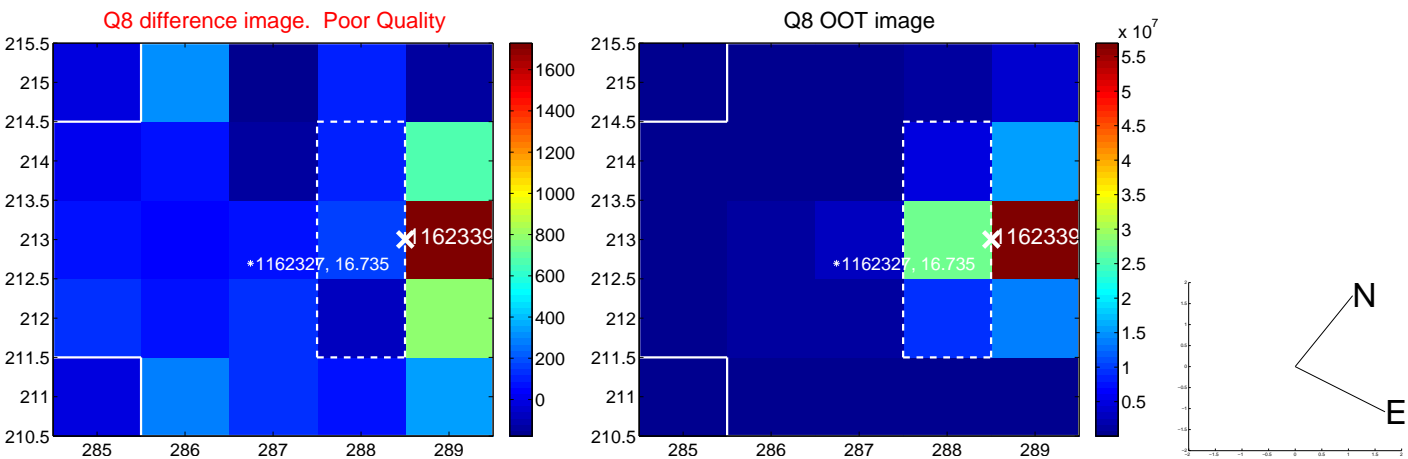
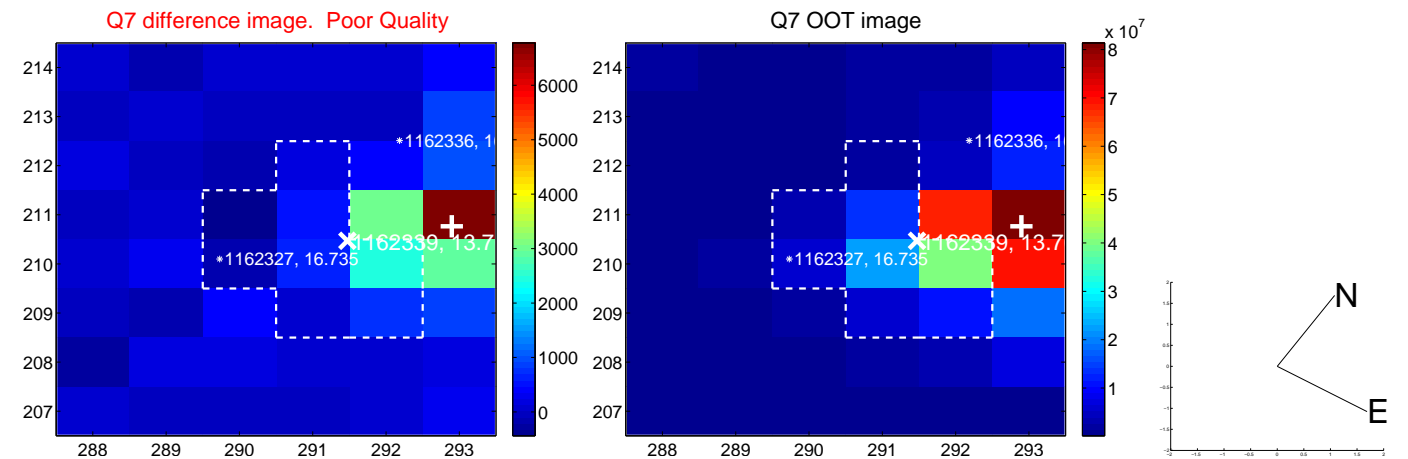
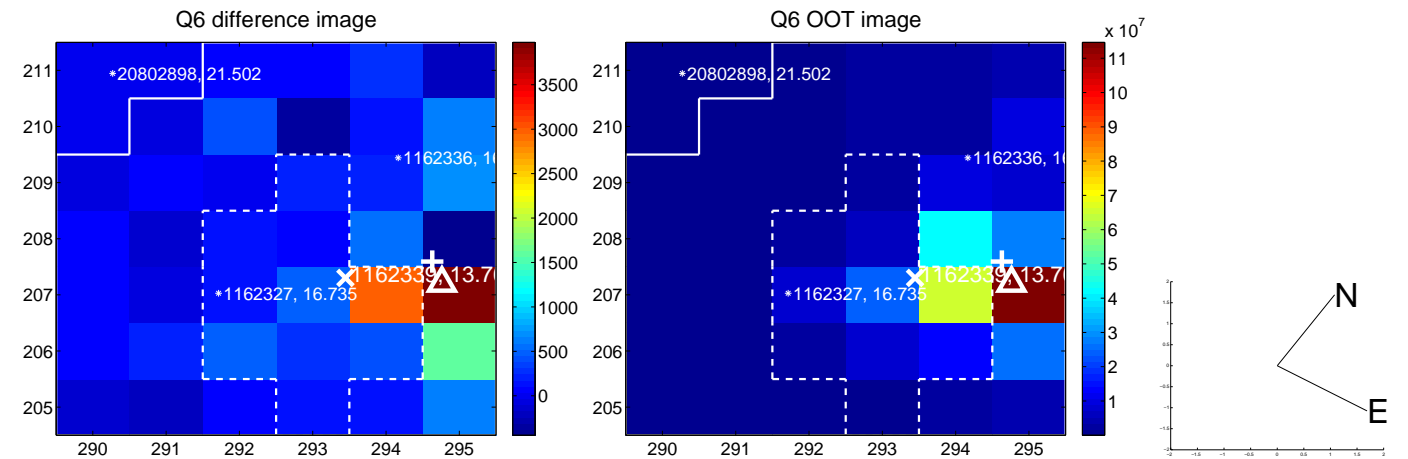
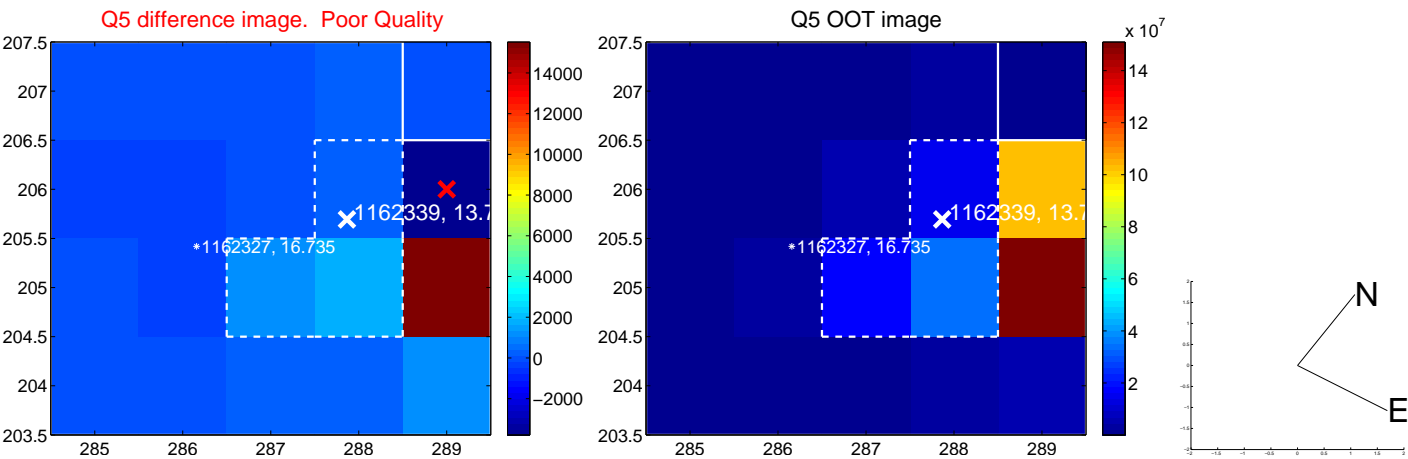


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

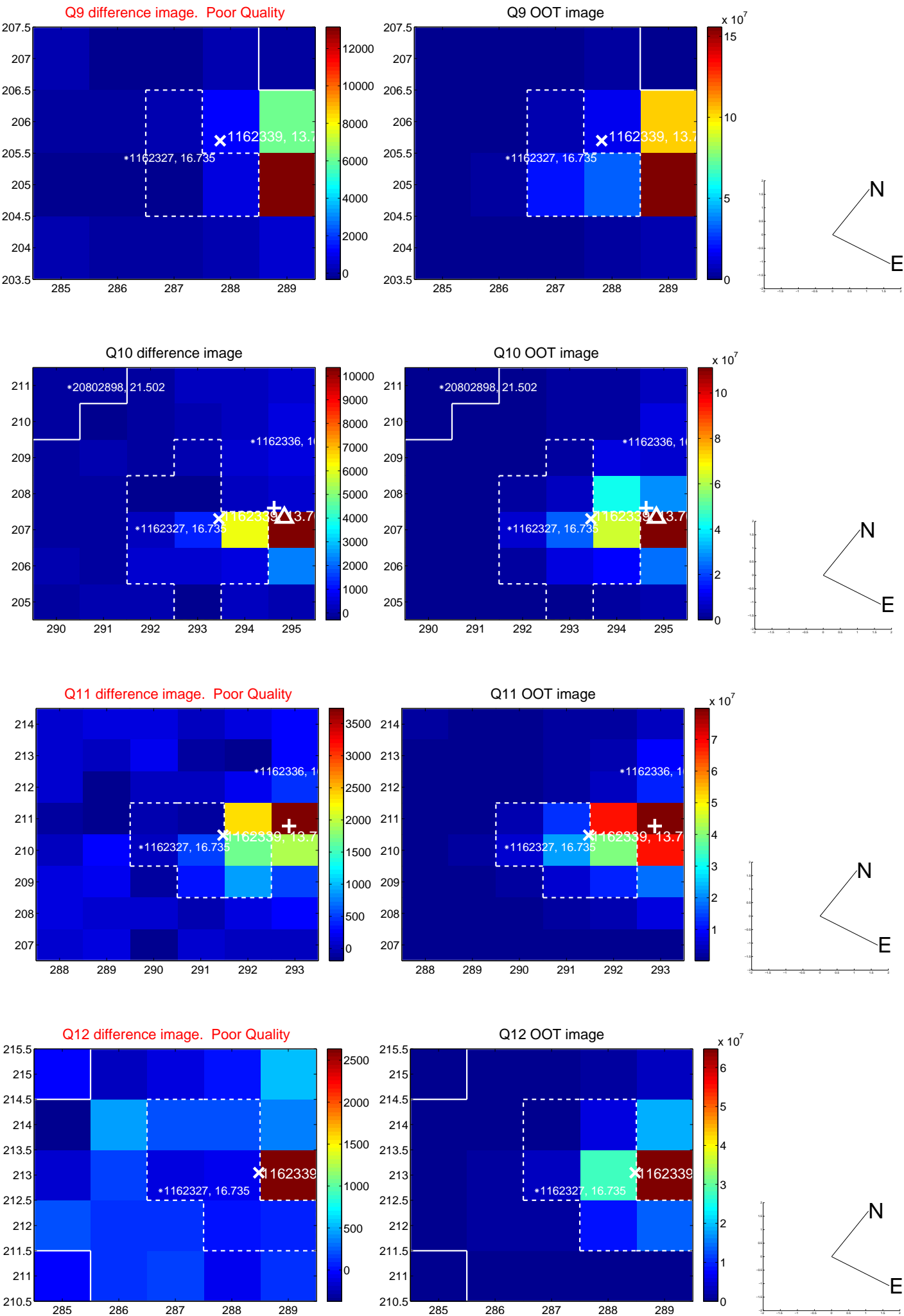
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



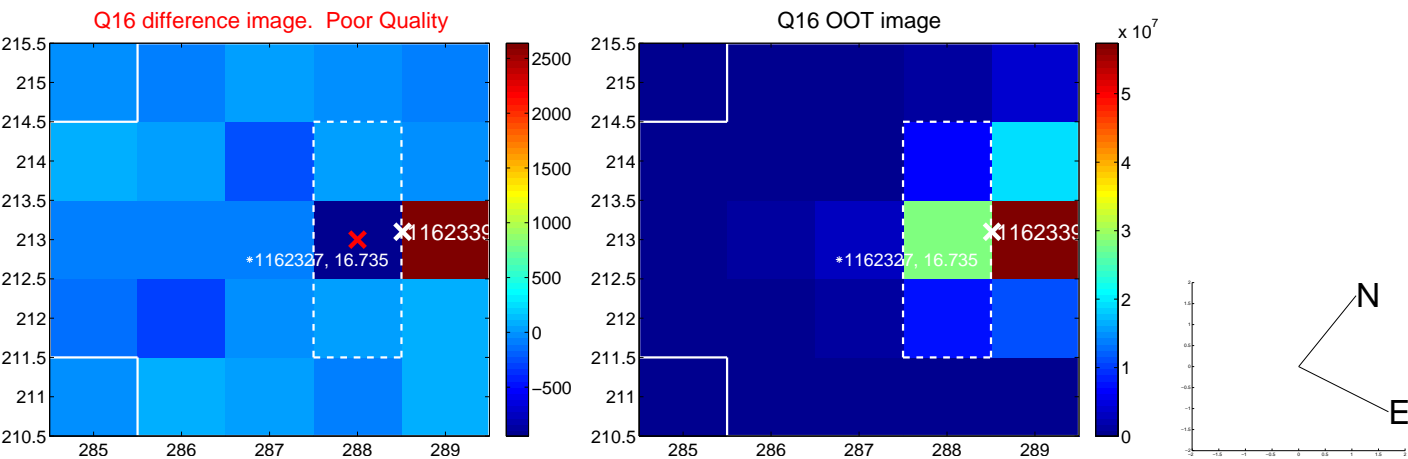
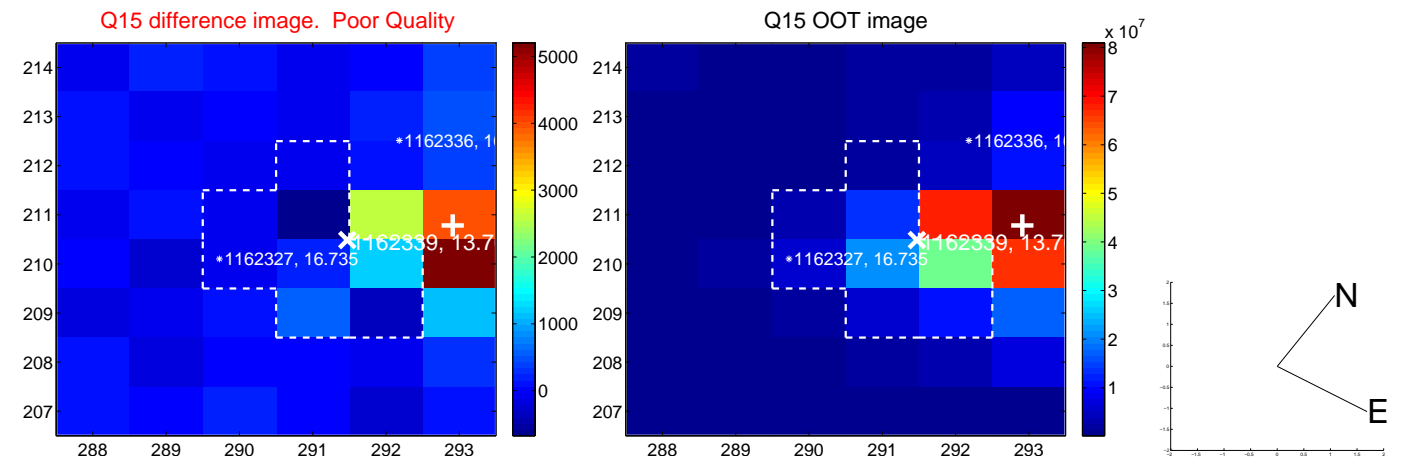
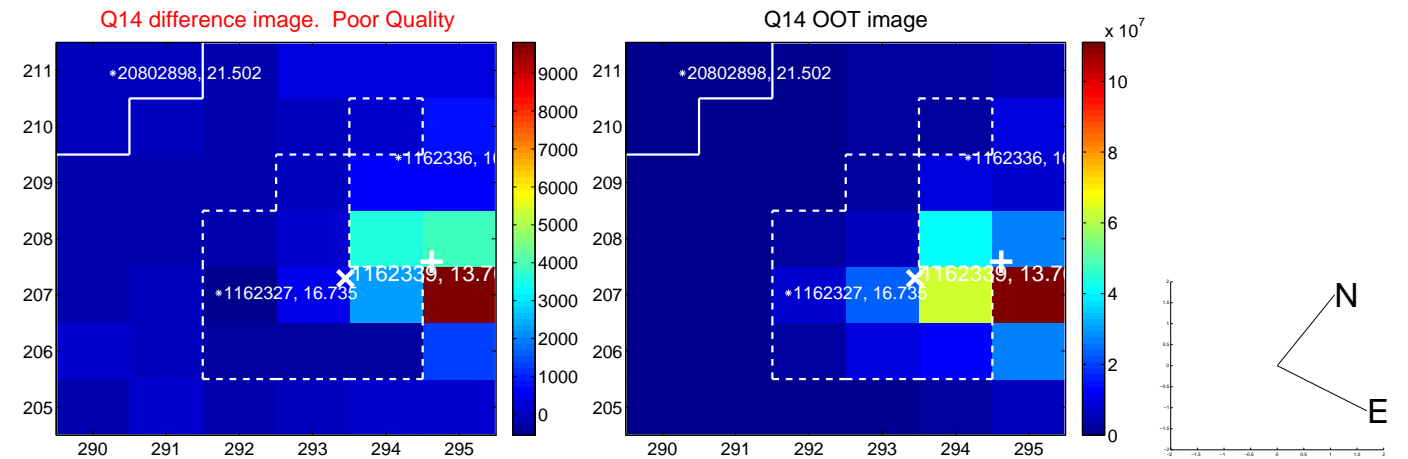
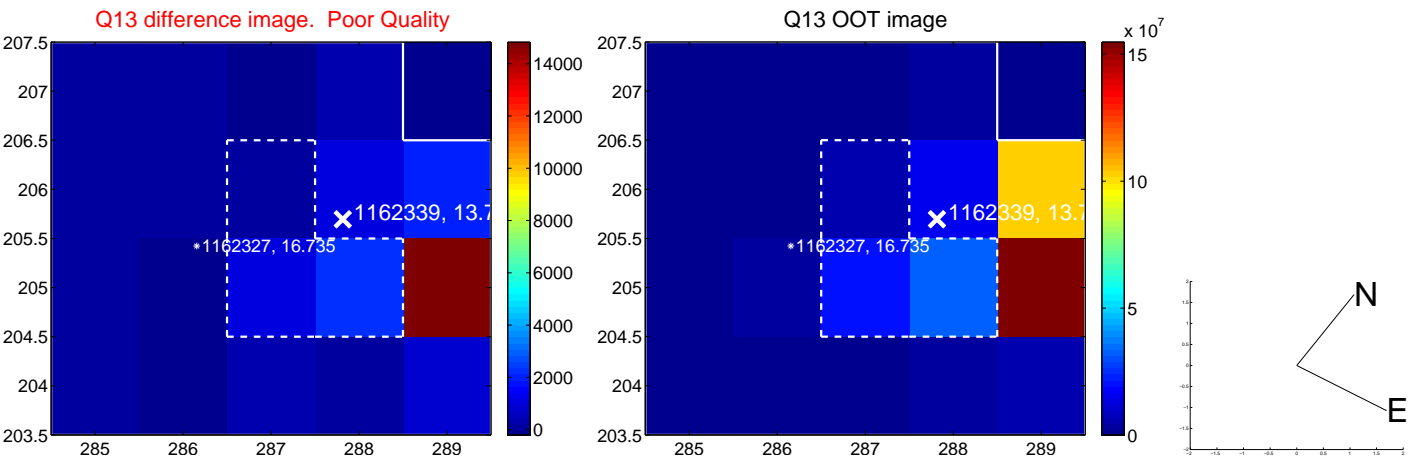
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



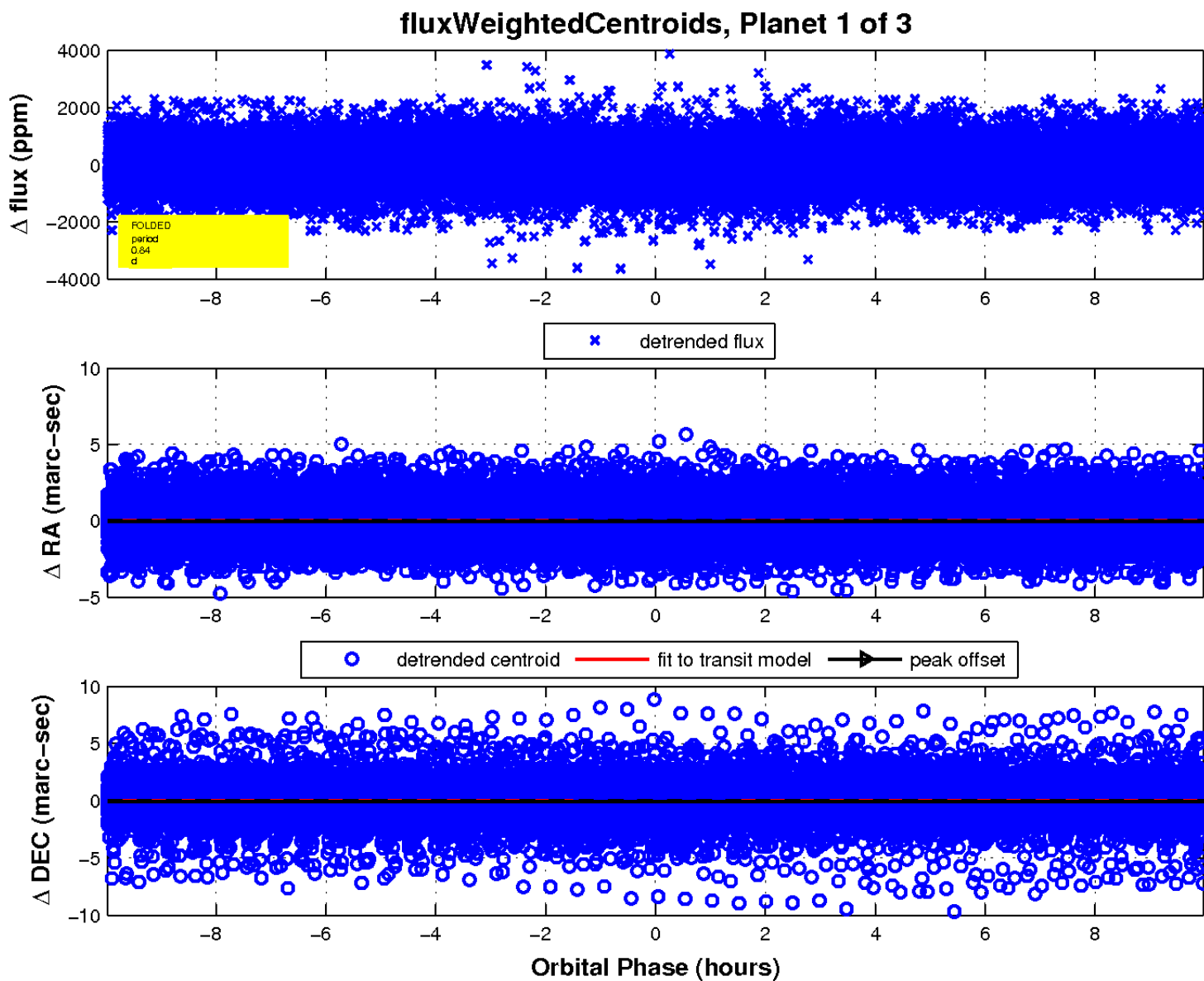
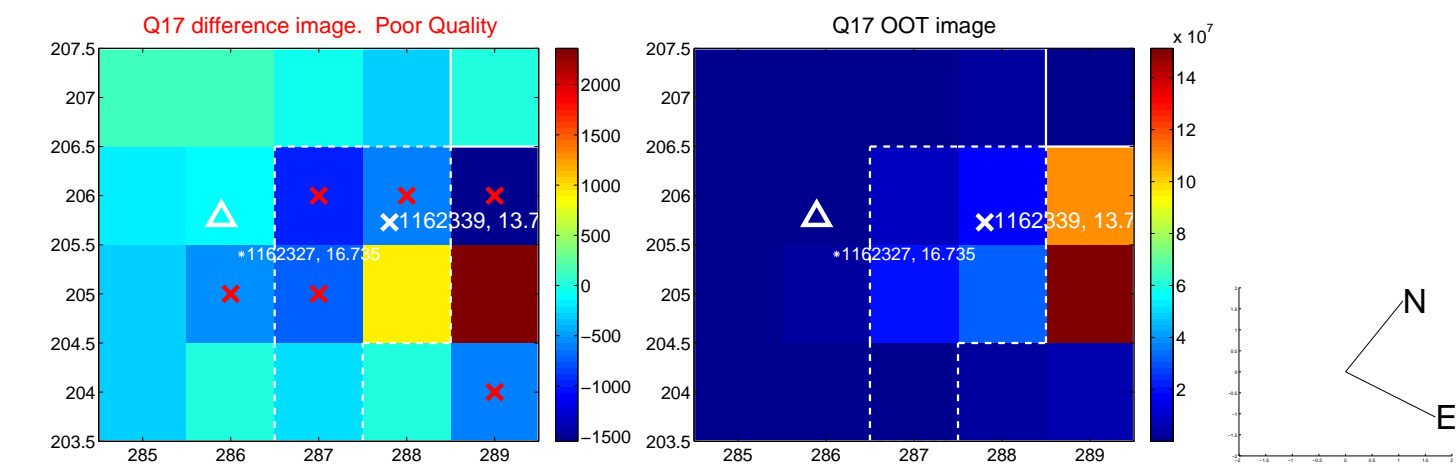
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



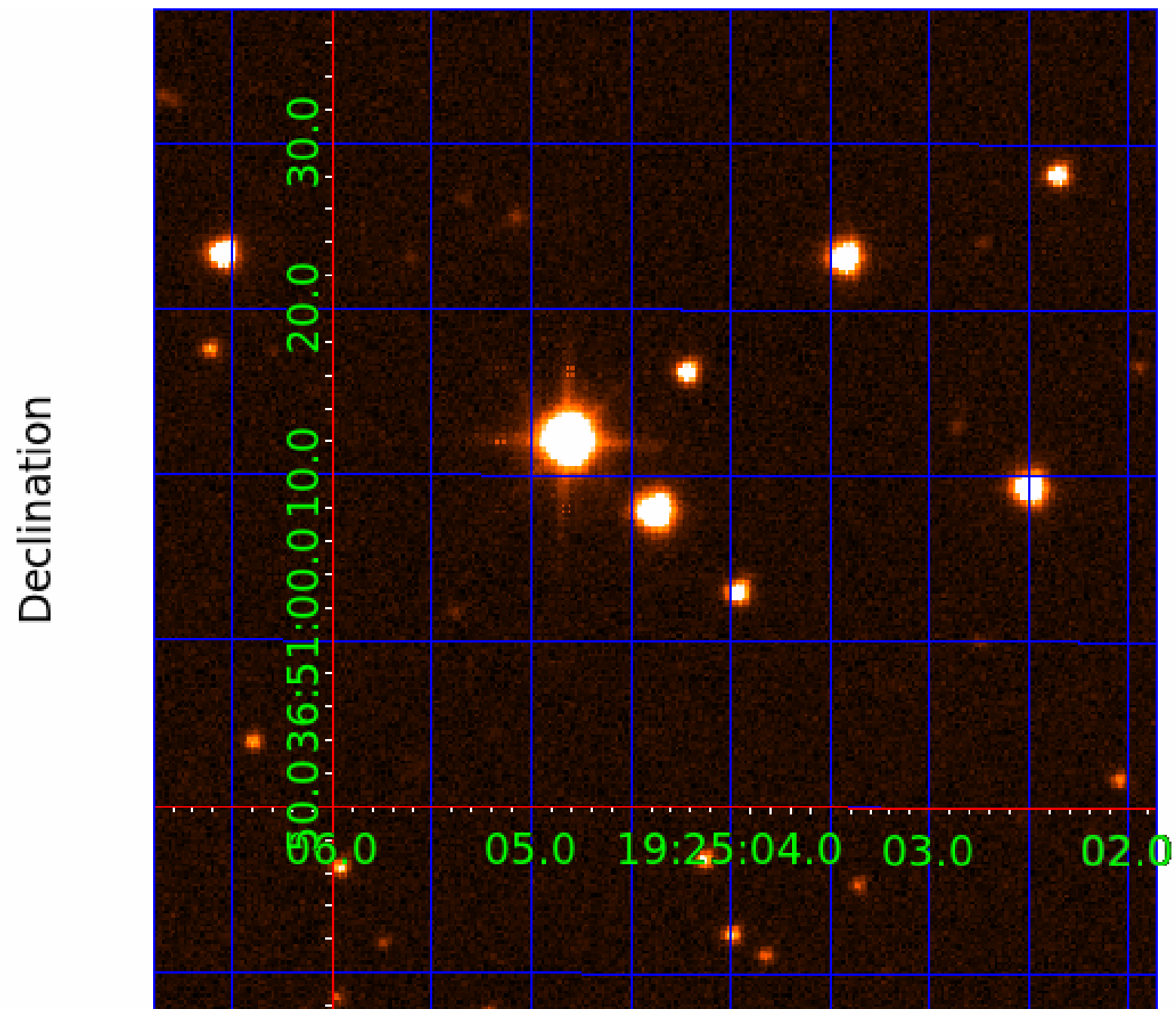
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 001162339

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

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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001162339-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

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

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

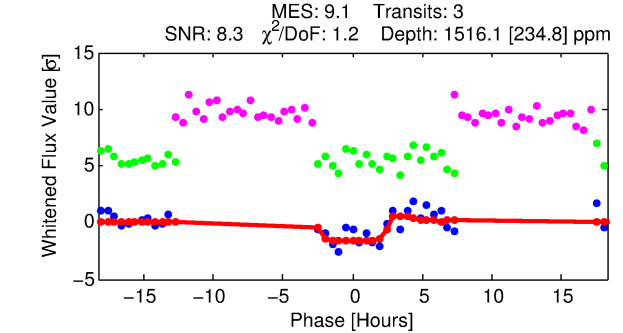
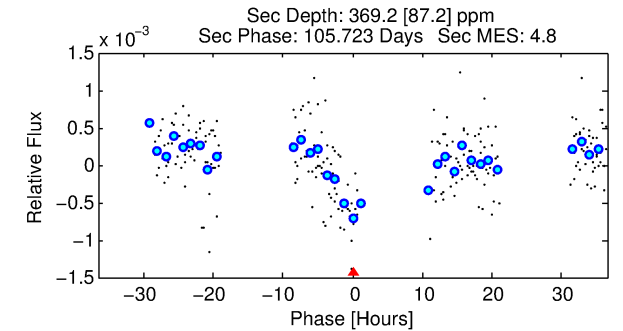
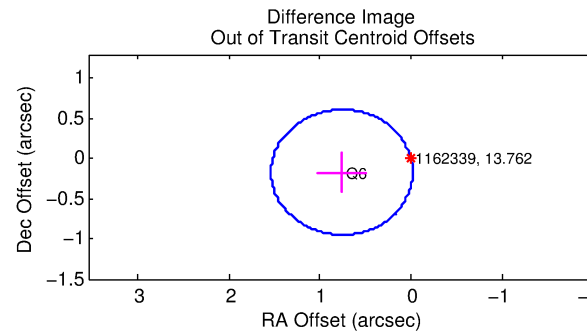
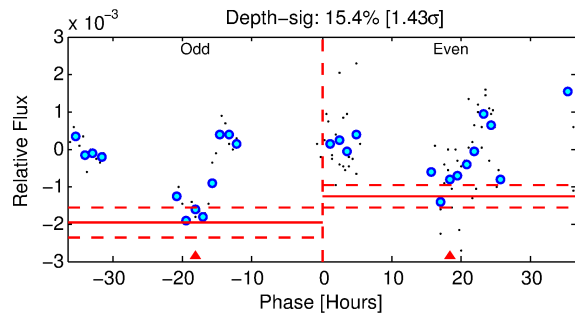
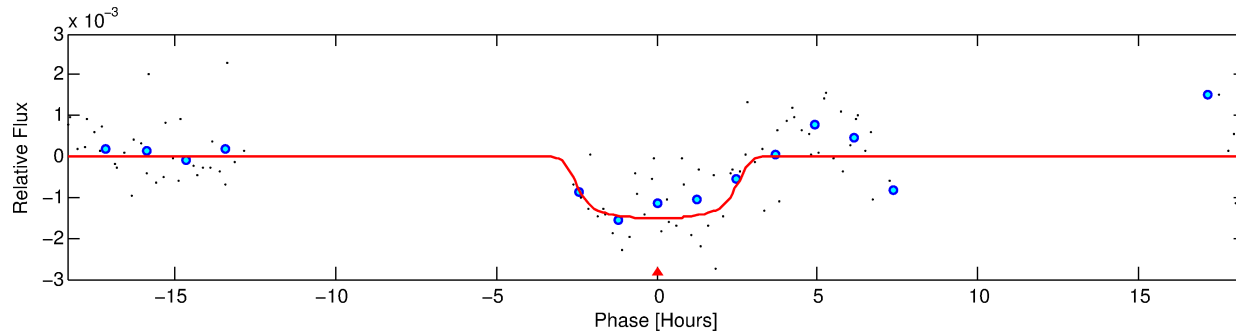
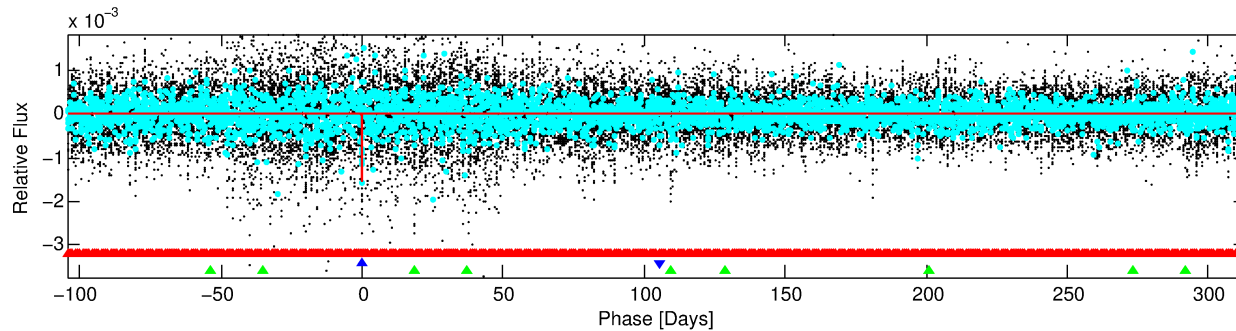
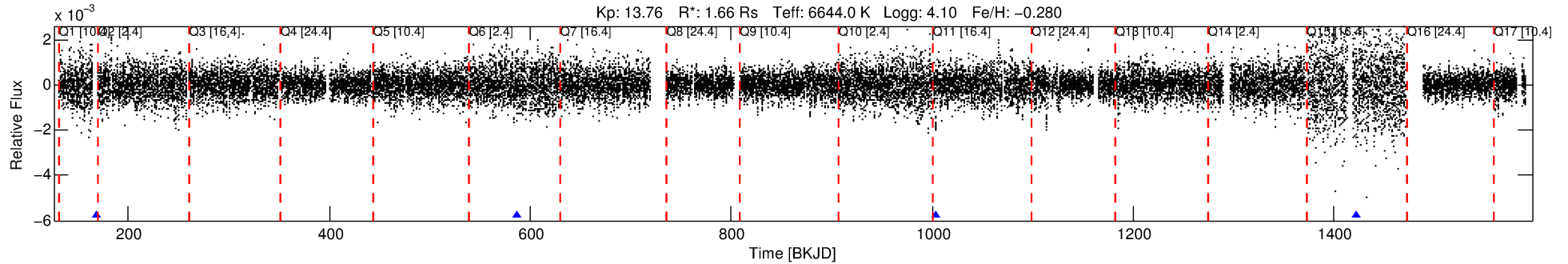
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001162339-02

No Significant Match Found

DV One-Page Summary

KIC: 1162339 Candidate: 2 of 3 Period: 417.691 d



DV Fit Results:

Period = 417.69052 [0.01009] d
Epoch = 168.6221 [0.0184] BKJD
Rp/R* = 0.0413 [0.0049]
a/R* = 283.42 [124.47]
b = 0.89 [0.10]
Seff = 3.41 [1.55]
Teq = 347 [39] K
Rp = 7.46 [2.51] Re
a = 1.1848 [0.3344] AU
Ag = 5127.16 [2806.96] [1.83 σ]
Teff = 4534 [414] K [10.08 σ]

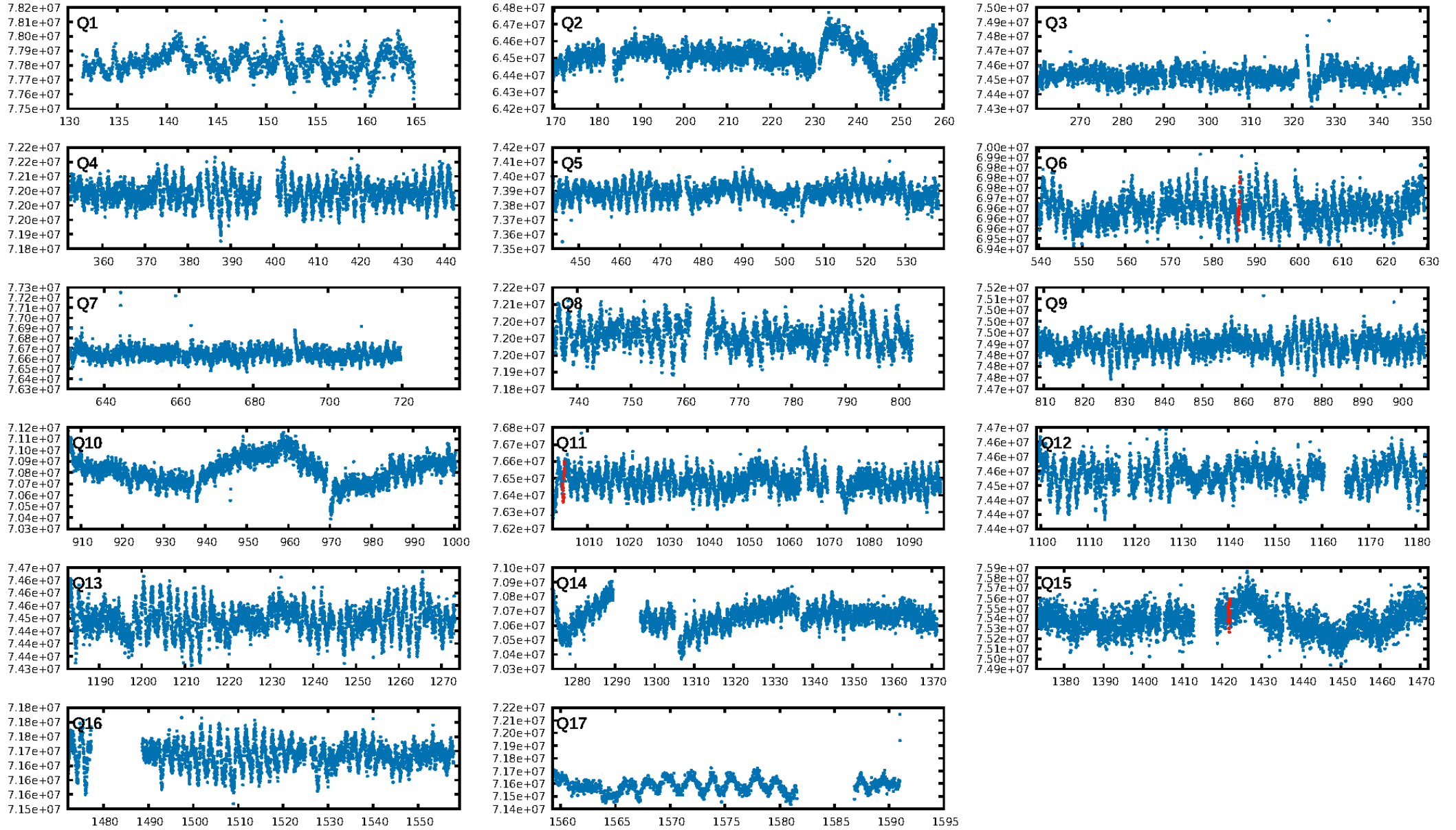
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [670.04 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 29.5%
ModelChiSquareGof-sig: 94.1%
Bootstrap-pfa: 1.56e-10
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.8438
Centroid-sig: 4.5%
Centroid-so: 3.089 arcsec [10.60 σ]
OotOffset-rm: 0.778 arcsec [3.00 σ]
KicOffset-rm: 5.324 arcsec [20.79 σ]
OotOffset-st: 1/0/0/0 [1]
KicOffset-st: 1/0/0/0 [1]
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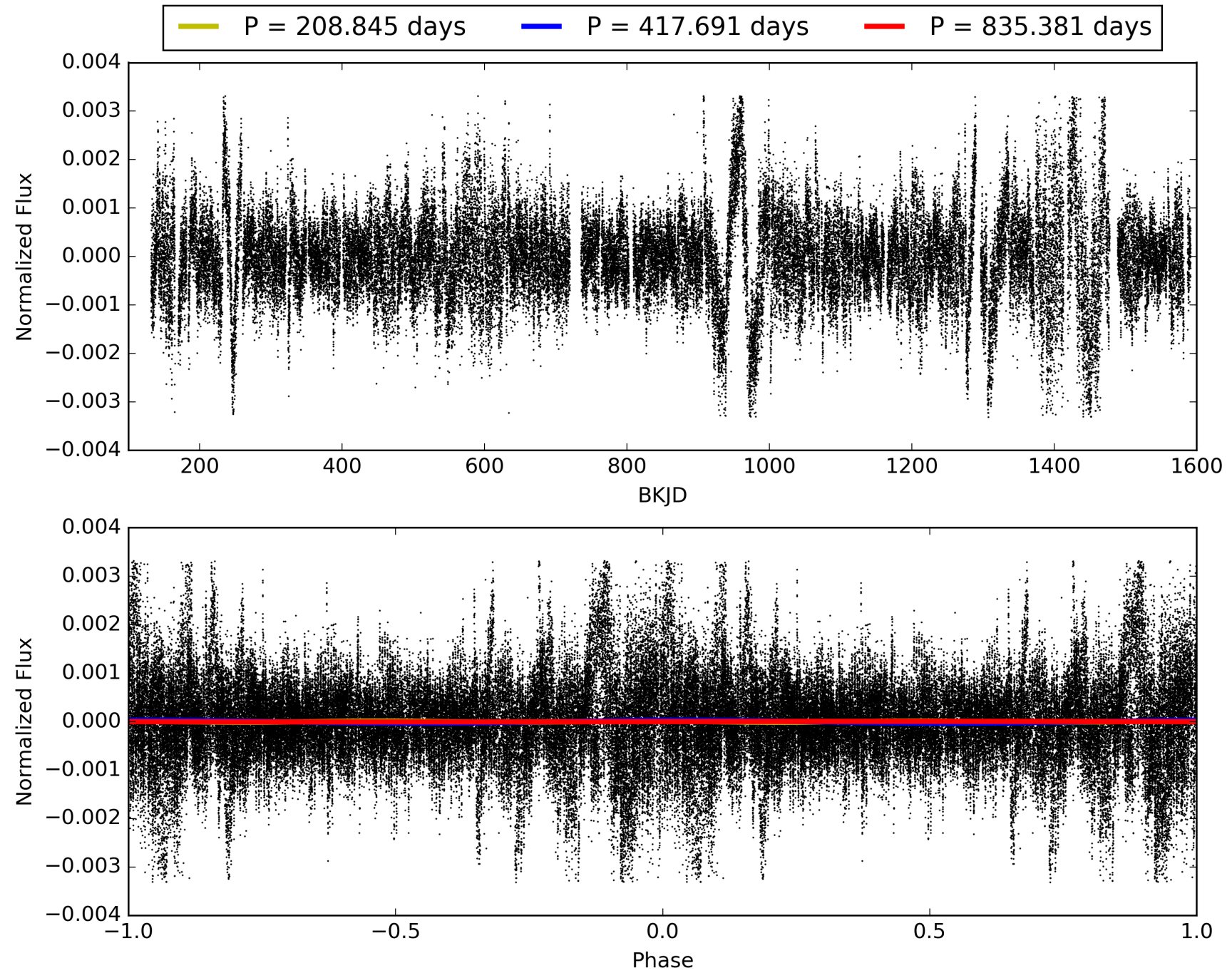
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:59:31 Z

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

TCE 001162339-02, PDC Light Curves

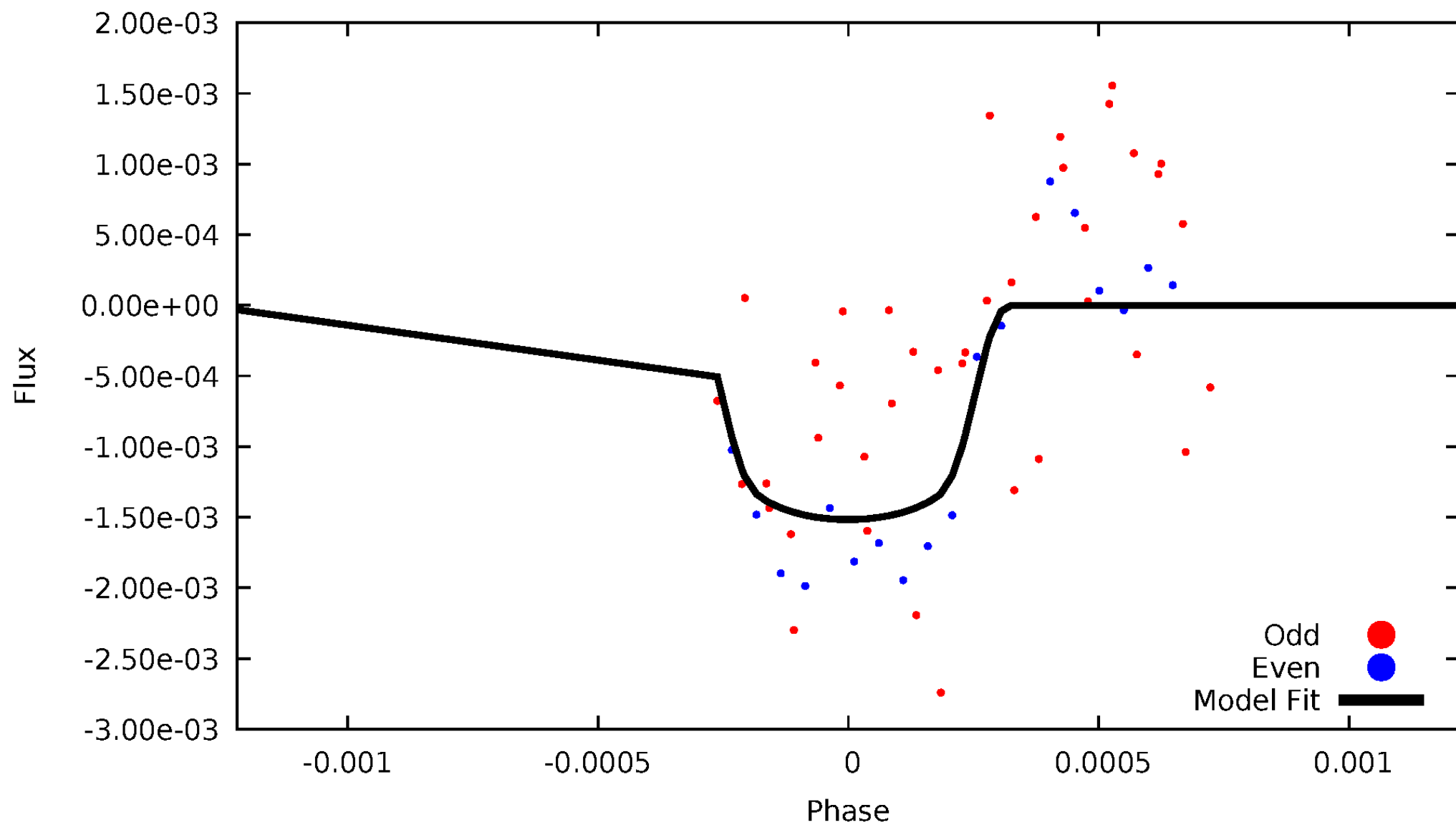


TCE 001162339-02



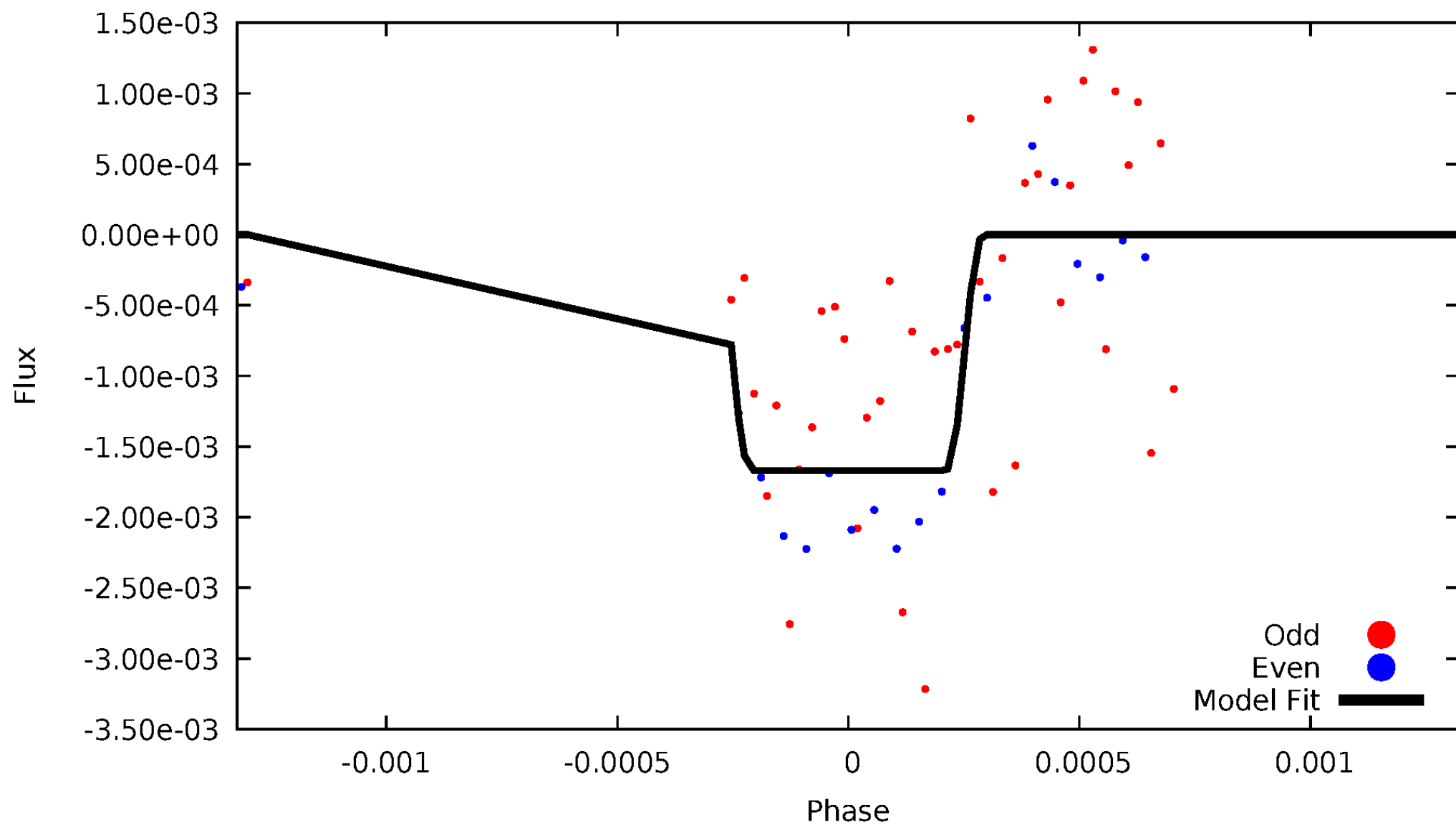
DV Odd/Even

TCE 001162339-02



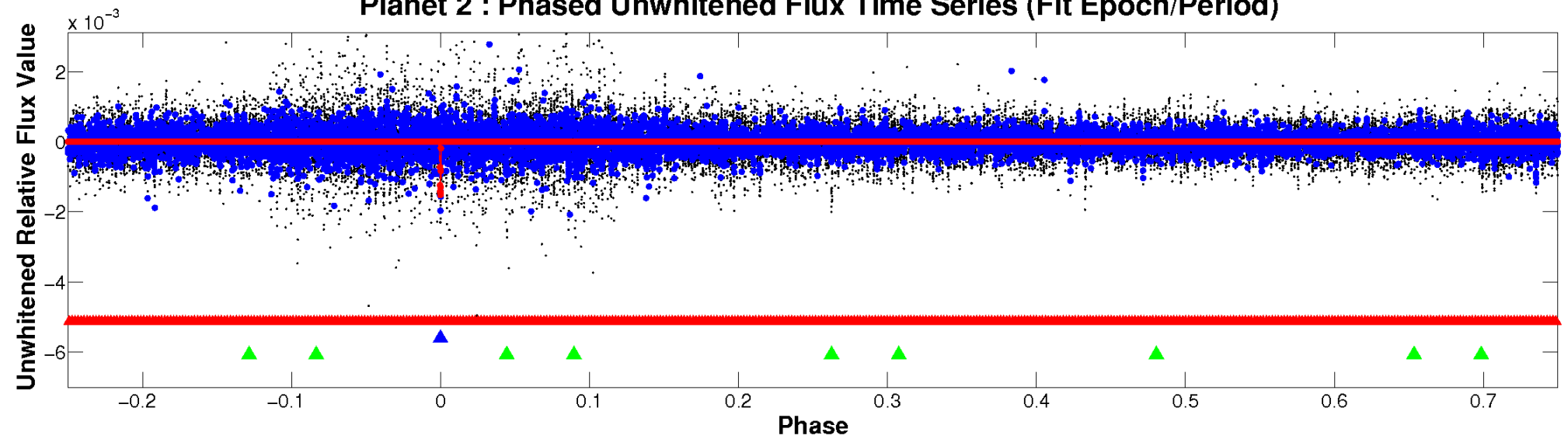
ALT Odd/Even

TCE 001162339-02

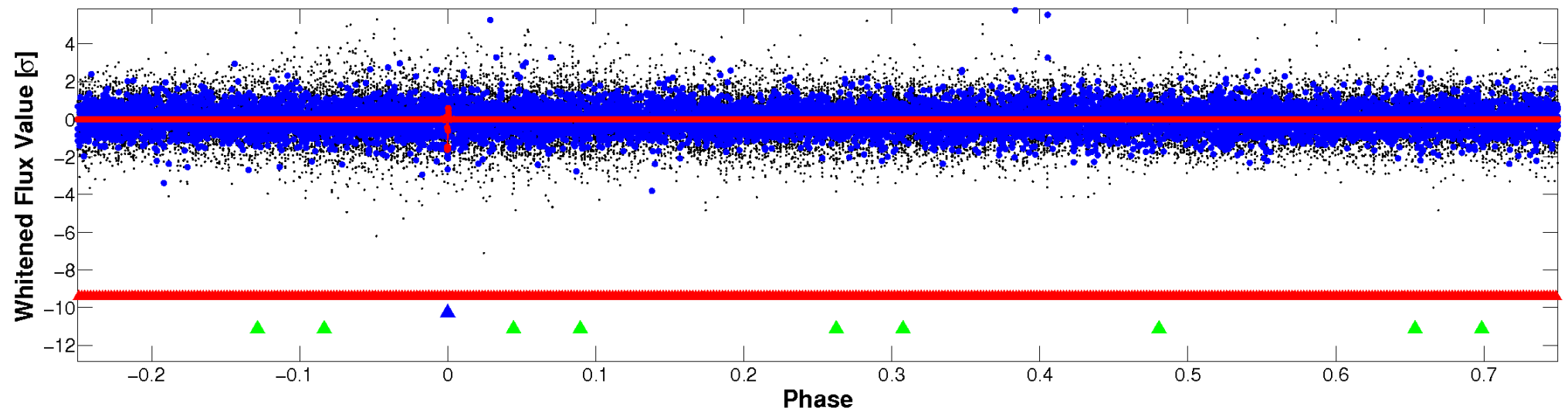


Non-Whitened Vs. Whitened Light Curve

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

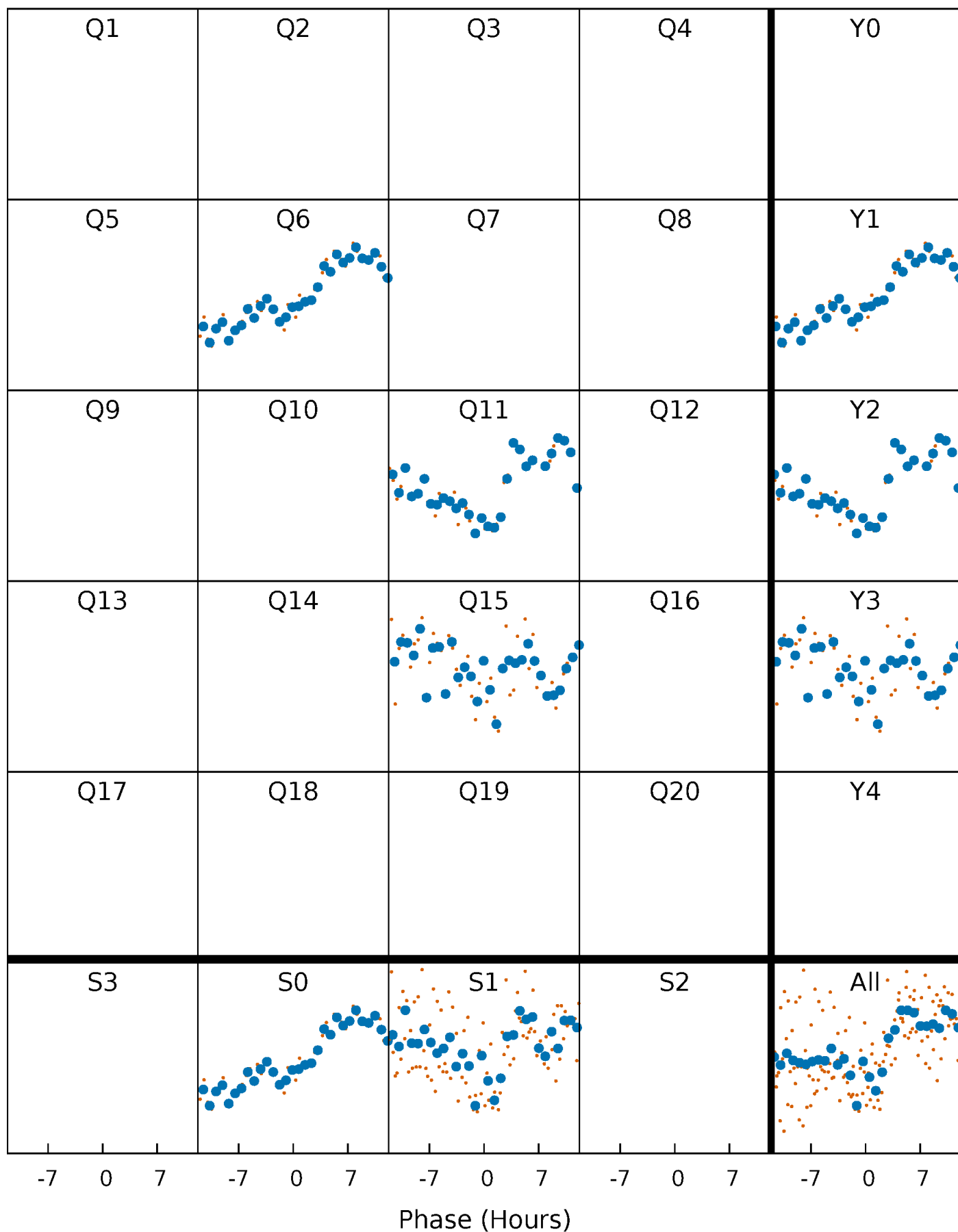


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



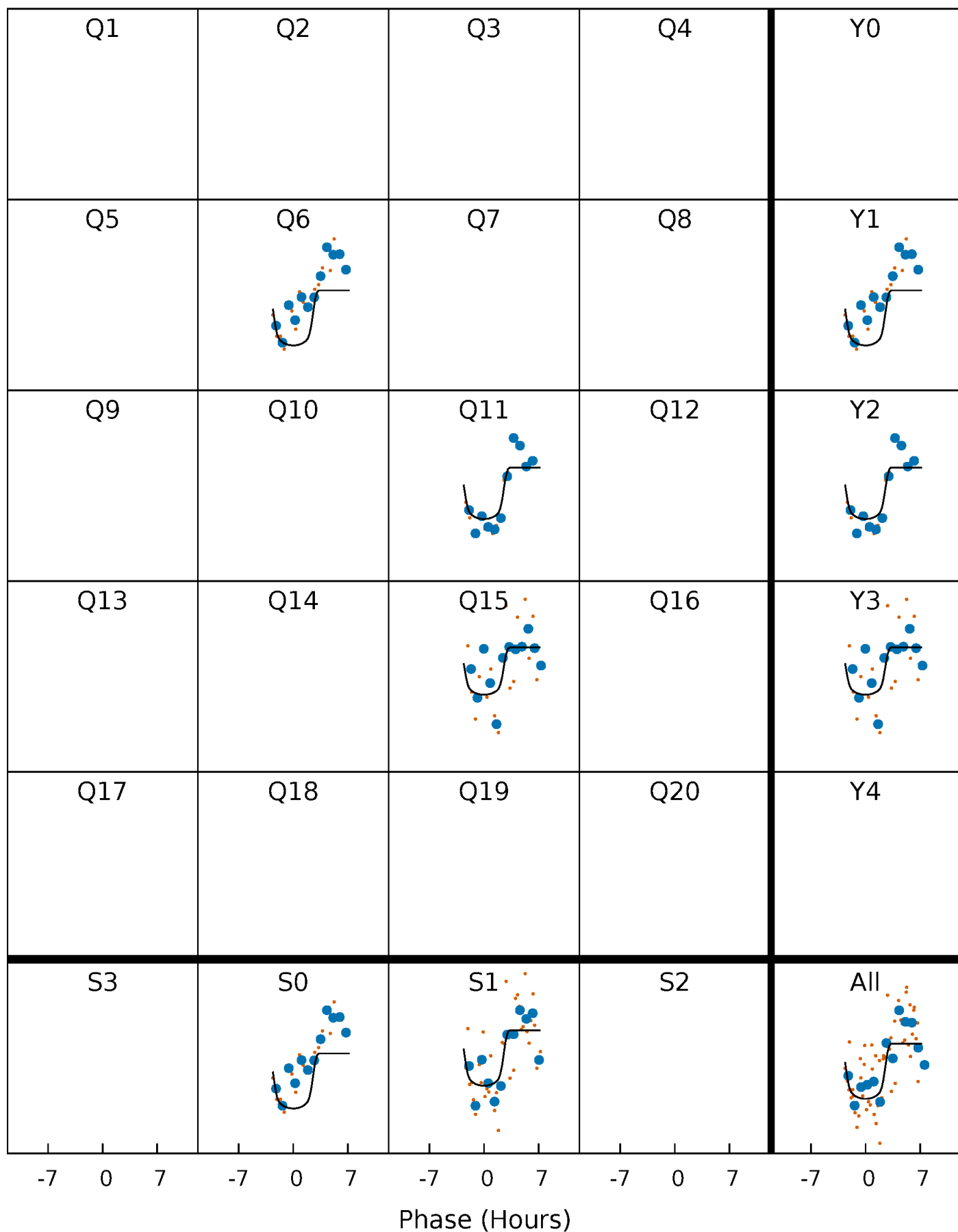
PDC Quarter-Phased Transit Curves

TCE 001162339-02 P=417.690521 Days $T_0=168.622050$ (BKJD)



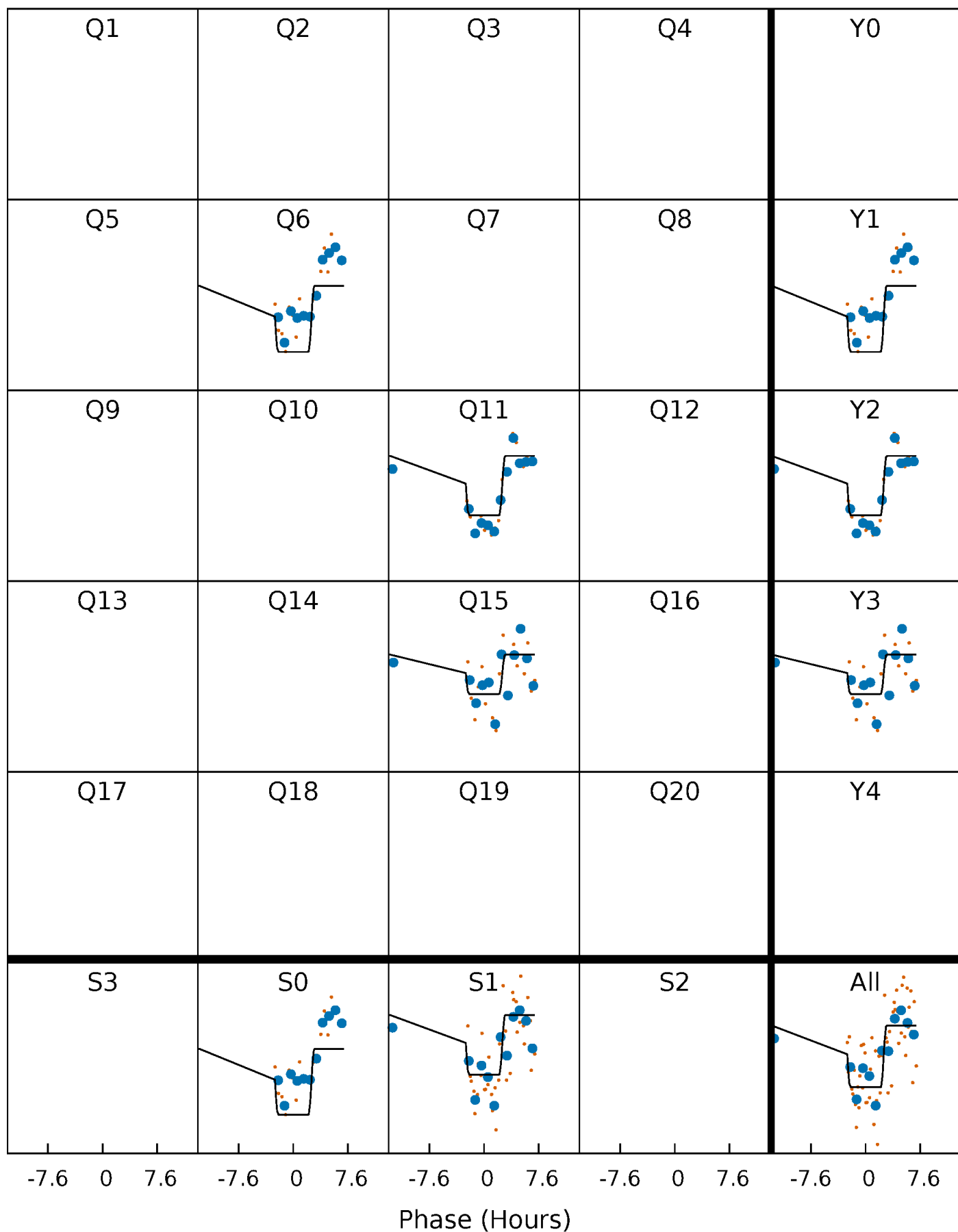
DV Quarter-Phased Transit Curves

TCE 001162339-02 P=417.690521 Days $T_0=168.622050$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

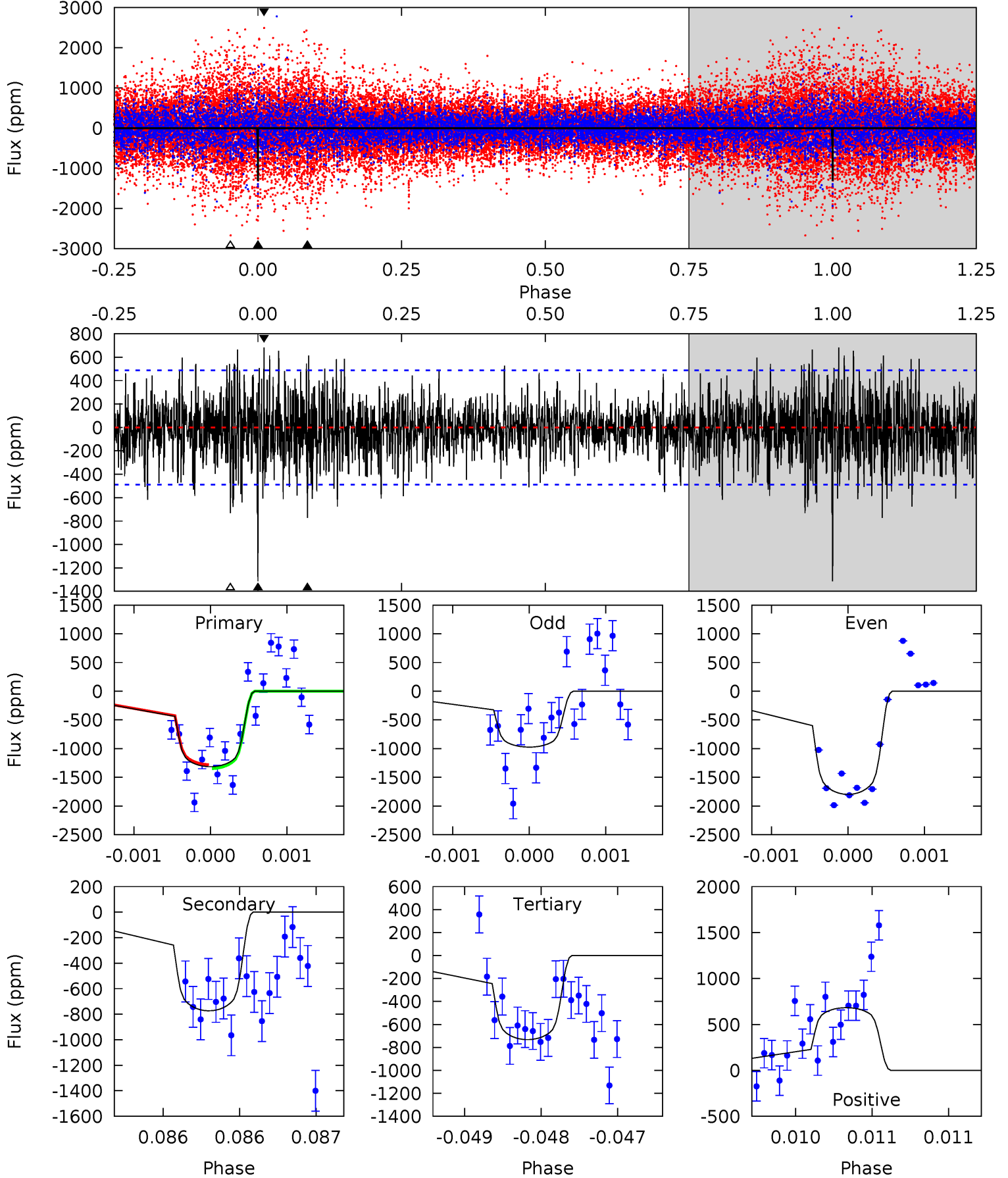
TCE 001162339-02 P=417.696022 Days $T_0=168.613175$ (BKJD)



DV Model-Shift Uniqueness Test

001162339-02, P = 417.690521 Days, E = 168.622050 Days

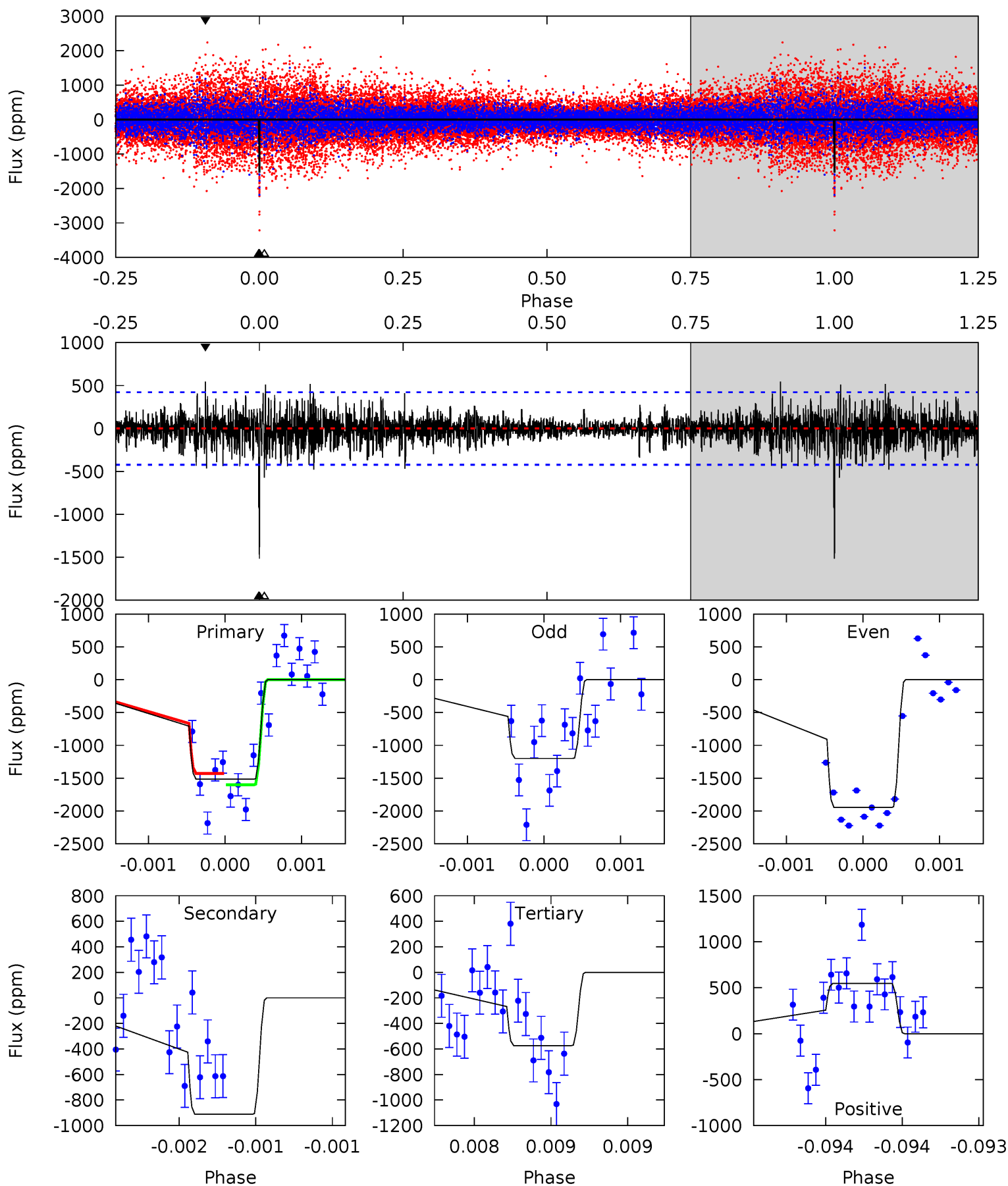
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.9	8.78	8.32	7.75	5.55	3.45	2.20	6.62	7.19	0.47	1.03	4.41	0.99	0.34	0.38



Alt Model-Shift Uniqueness Test

001162339-02, P = 417.696022 Days, E = 168.613175 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	12.0	7.55	7.20	5.56	3.46	1.61	12.4	12.8	4.45	4.80	4.73	0.91	0.26	1.15



Stellar Parameters For KIC 001162339

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6644^{+188}_{-235}	$4.104^{+0.246}_{-0.164}$	$-0.280^{+0.250}_{-0.300}$	$1.656^{+0.473}_{-0.521}$	$1.279^{+0.183}_{-0.224}$	$0.397^{+0.579}_{-0.177}$
	+3%/-4%	+6%/-4%	+89%/-107%	+29%/-31%	+14%/-18%	+146%/-45%
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 001162339-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-773 ± 88	$7.38^{+1.64}_{-1.46}$	482^{+37}_{-41}	5454^{+383}_{-347}	10948^{+5232}_{-3578}
Alt.	-911 ± 76	$7.30^{+1.65}_{-1.47}$	483^{+39}_{-41}	5699^{+415}_{-359}	13253^{+6306}_{-4435}

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

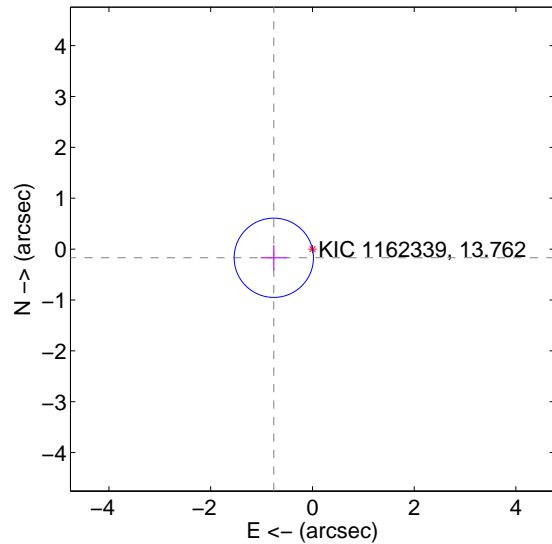
Supplemental centroid analysis for 001162339-02. Kepler magnitude: 13.76. Transit SNR 8.28

There are 1 quarters with good PRF difference image offsets

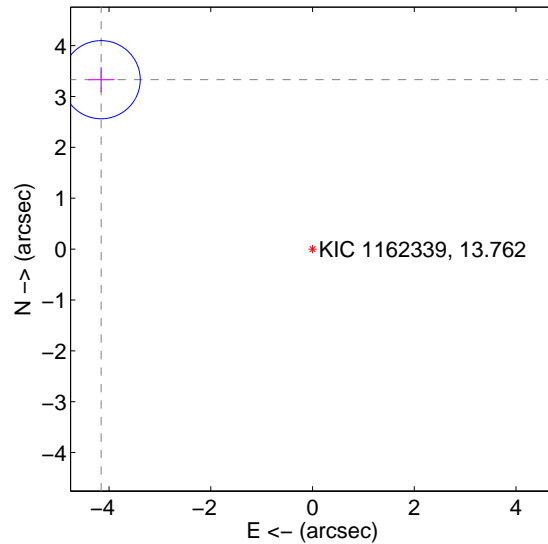
The OOT PRF centroid is offset from the target star catalog position by about 4.88 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.778 ± 0.260	3.00	0.759 ± 0.260	-0.171 ± 0.249
PRF-fit source offset from KIC position	5.324 ± 0.256	20.79	4.154 ± 0.260	3.329 ± 0.249
photometric centroid source offset	3.09 ± 0.29	10.60	2.92 ± 0.30	1.00 ± 0.25

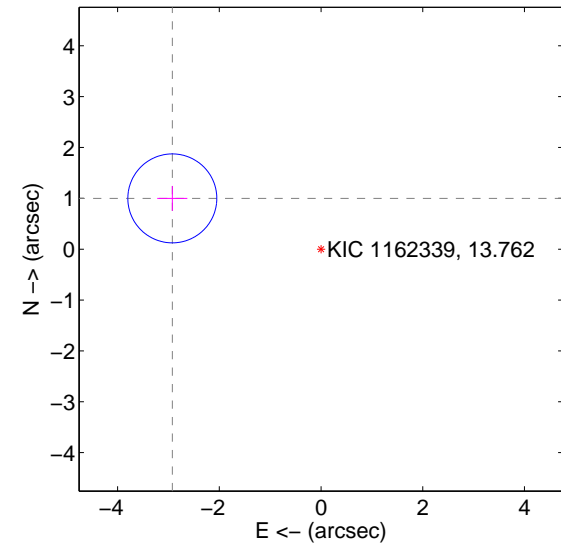
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

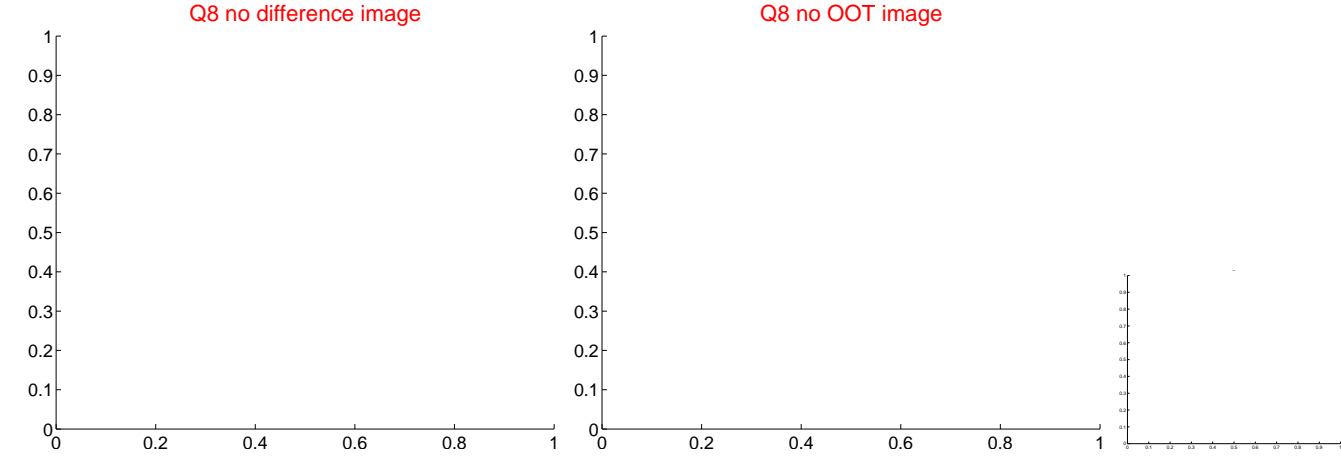
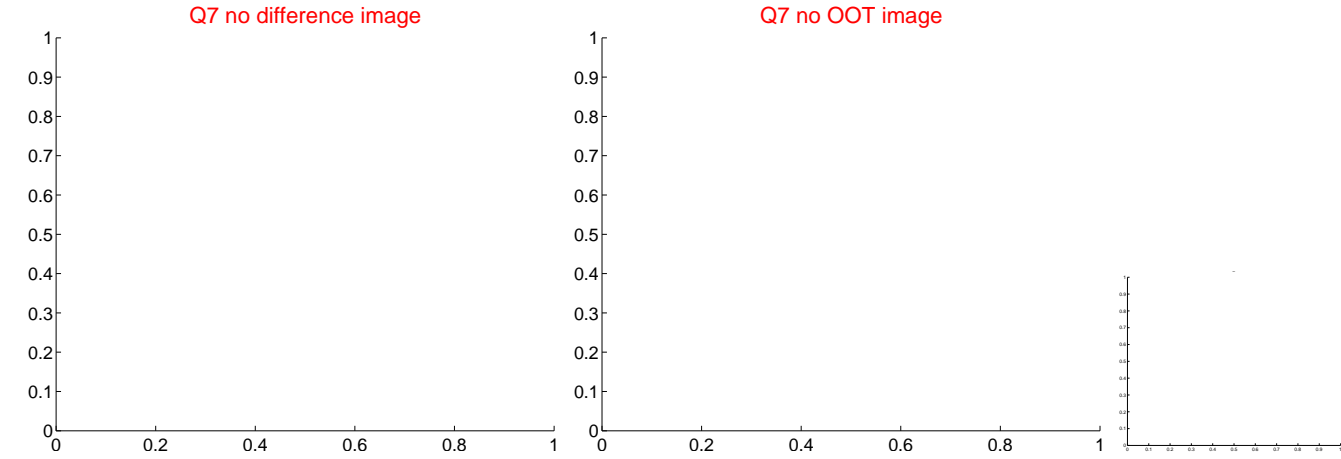
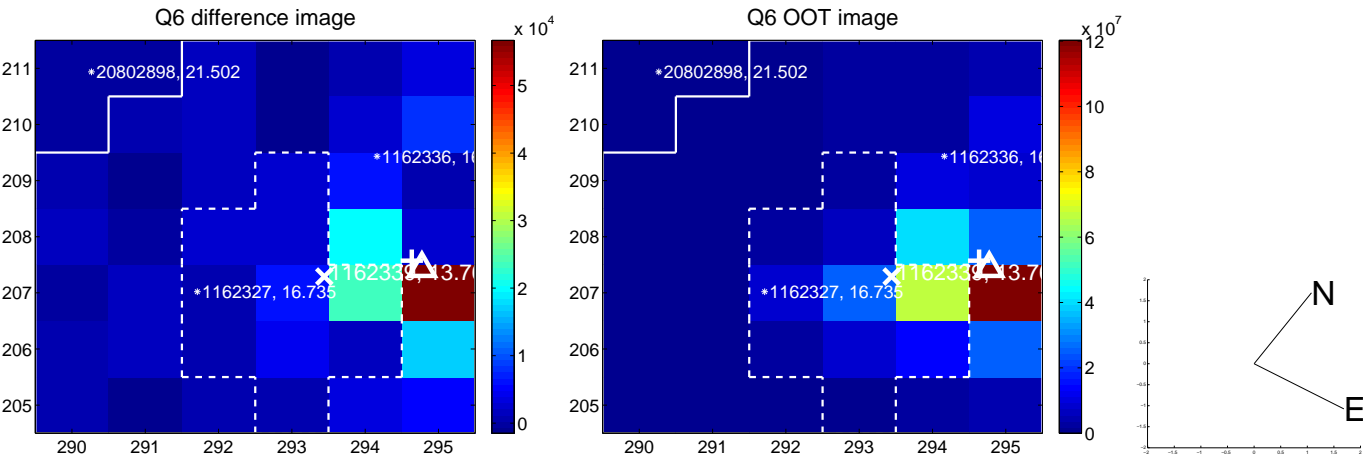


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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



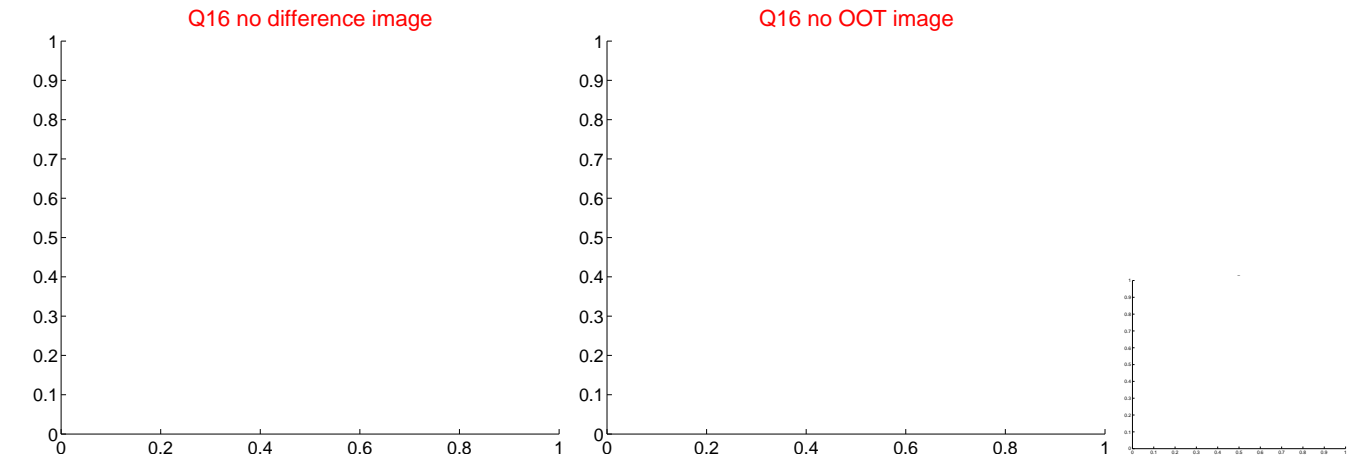
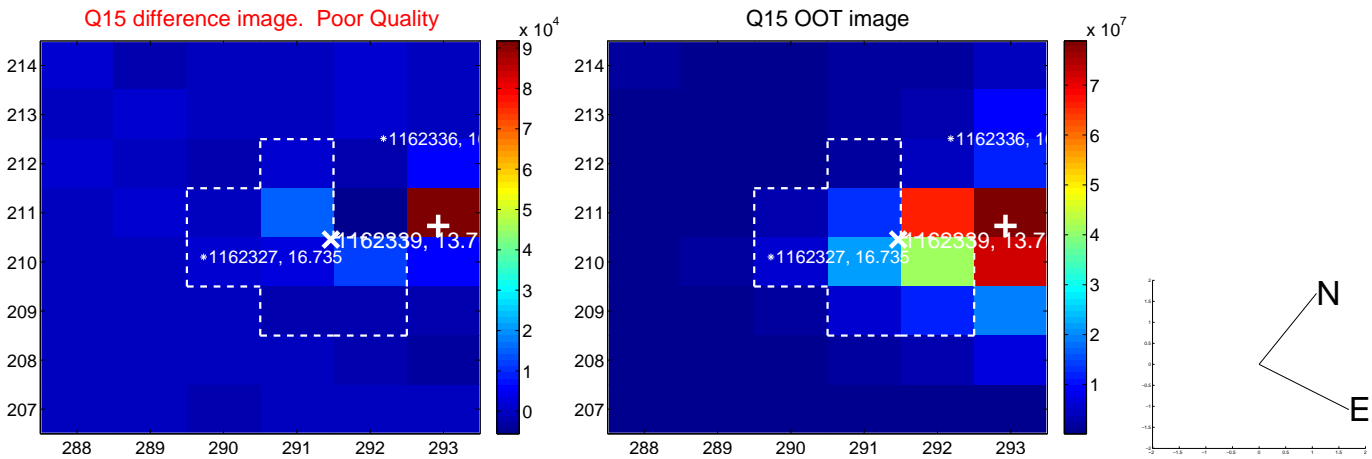
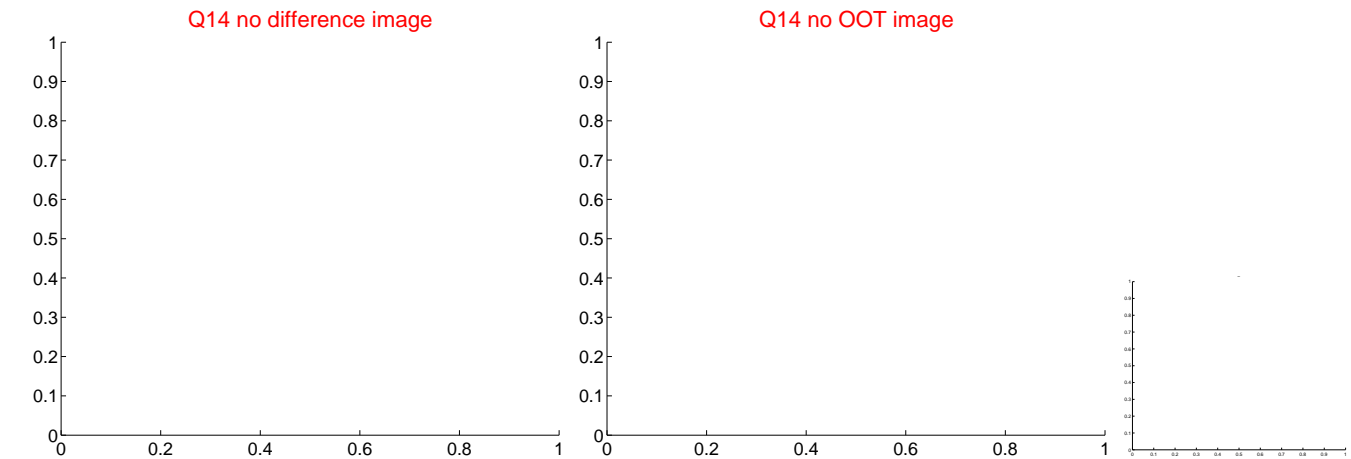
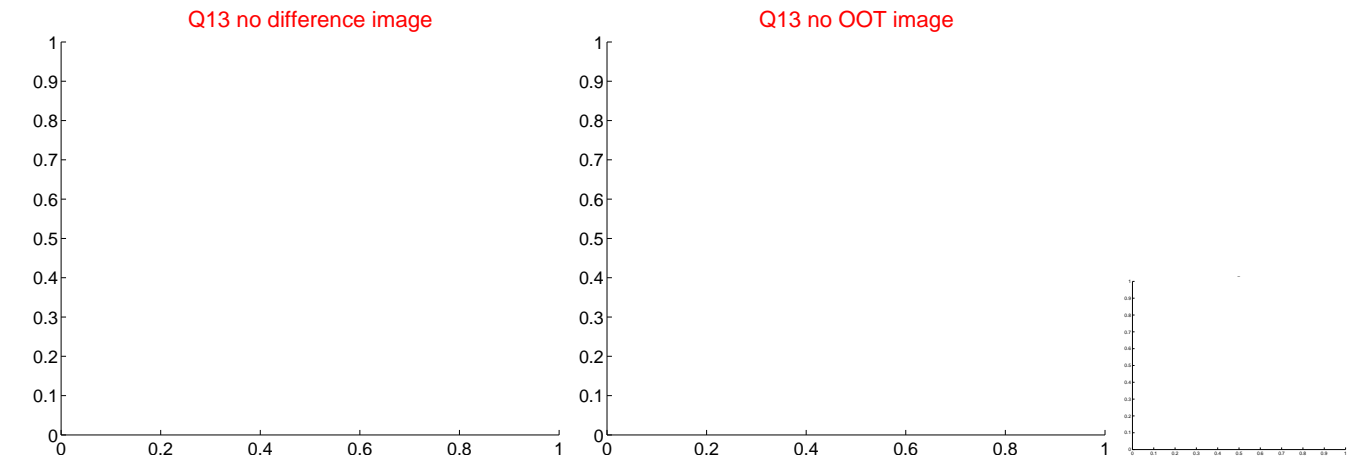
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



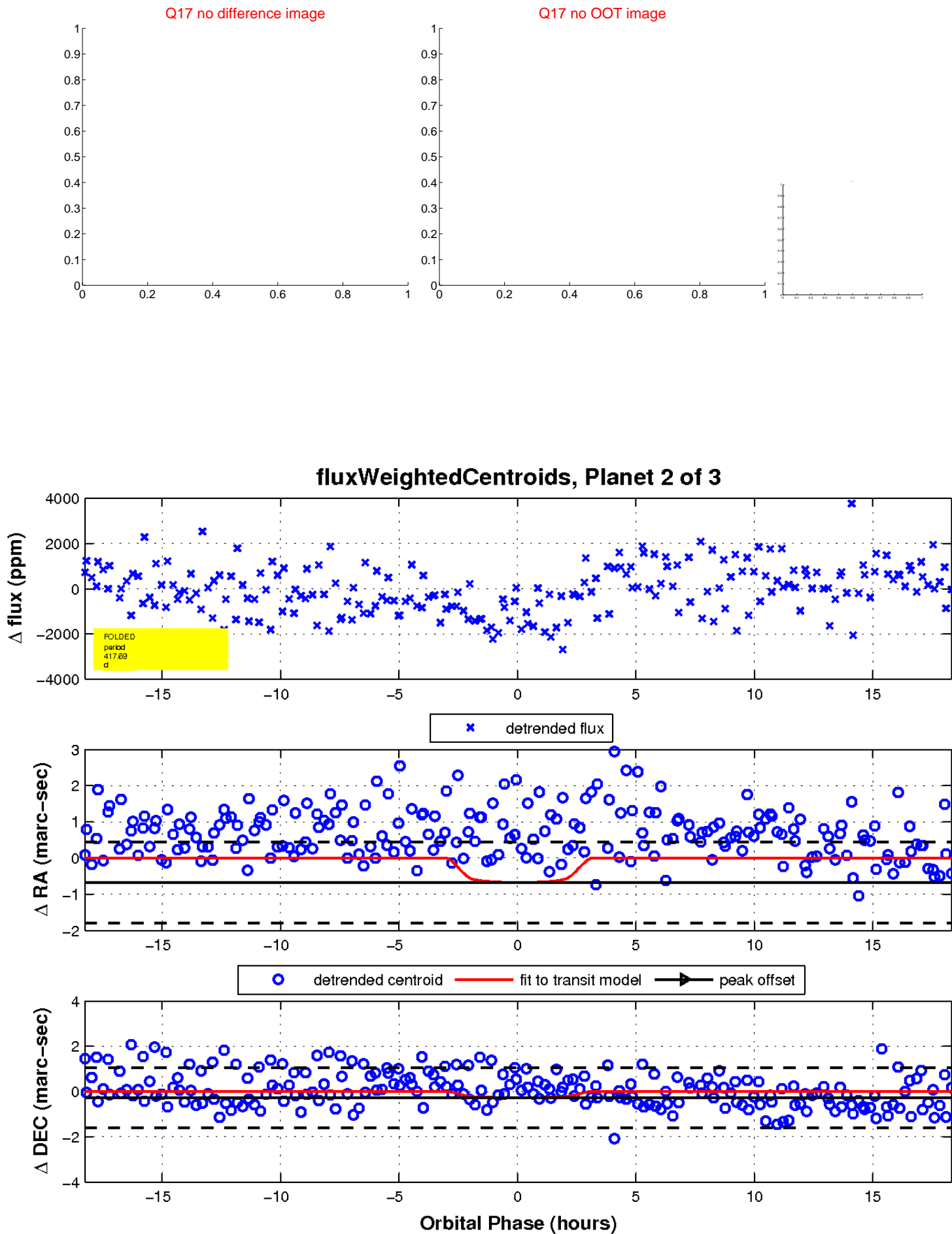
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



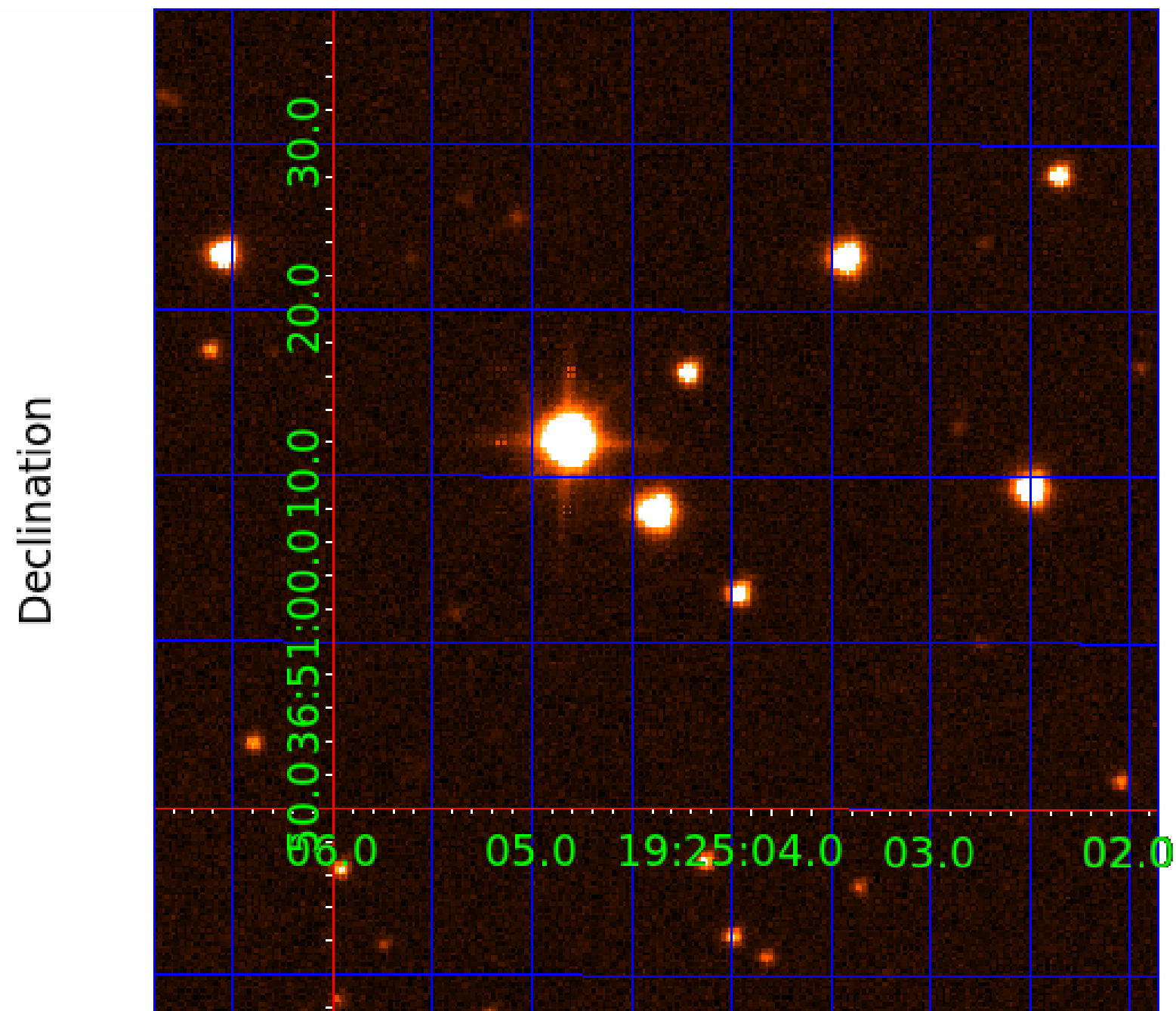
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image



KIC 001162339

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})
001162339-01	OBS	No	0.837073	132.287367	35.9	3.325	7.9	6.3	1.66	6644	1.16	13499.01
001162339-02	OBS	No	417.690521	168.622050	1516.1	6.117	9.1	8.3	1.66	6644	7.46	3.41
001162339-03	OBS	No	163.312132	133.781940	866.4	6.753	8.4	7.7	1.66	6644	5.17	11.93

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001162339-01	OBS	FP	0.00	1	0	1	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET
001162339-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_CHASES_MARSHALL—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
001162339-03	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—CENT_RESOLVED_OFFSET

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

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

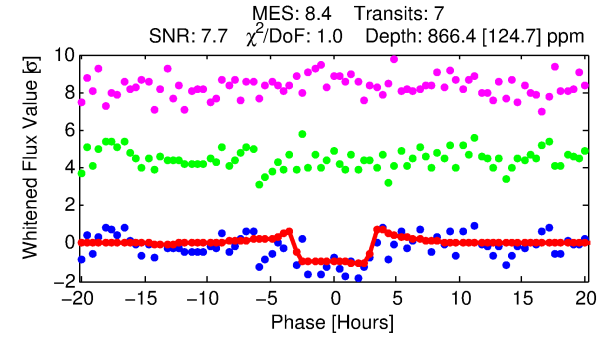
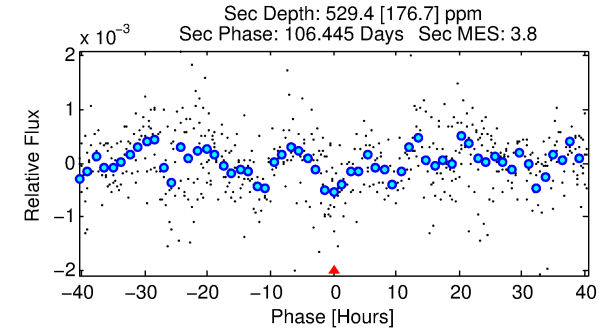
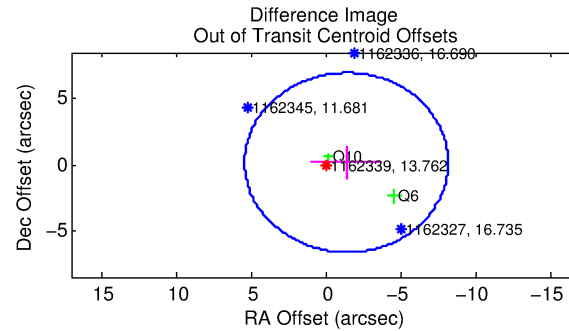
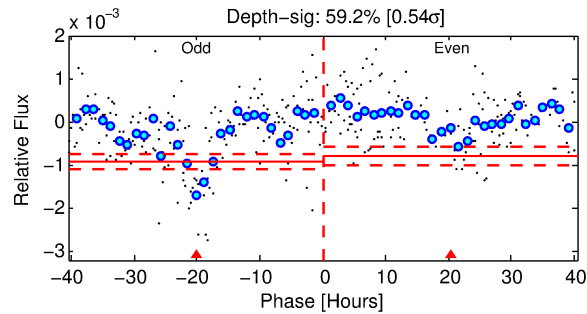
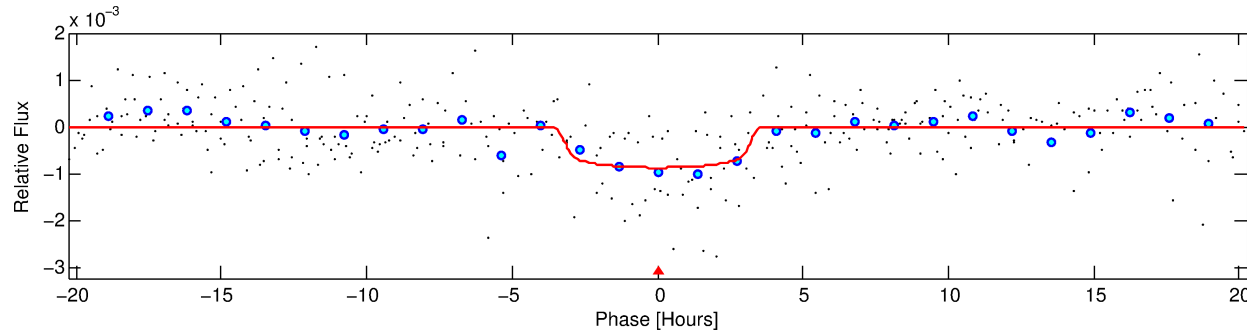
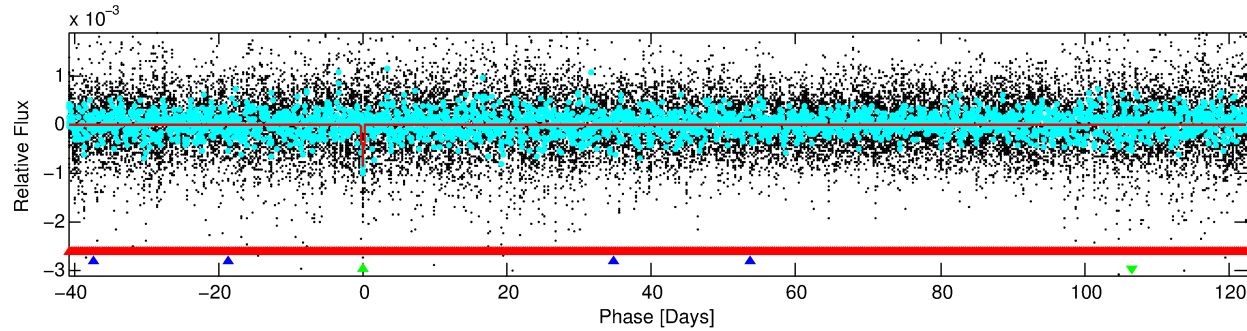
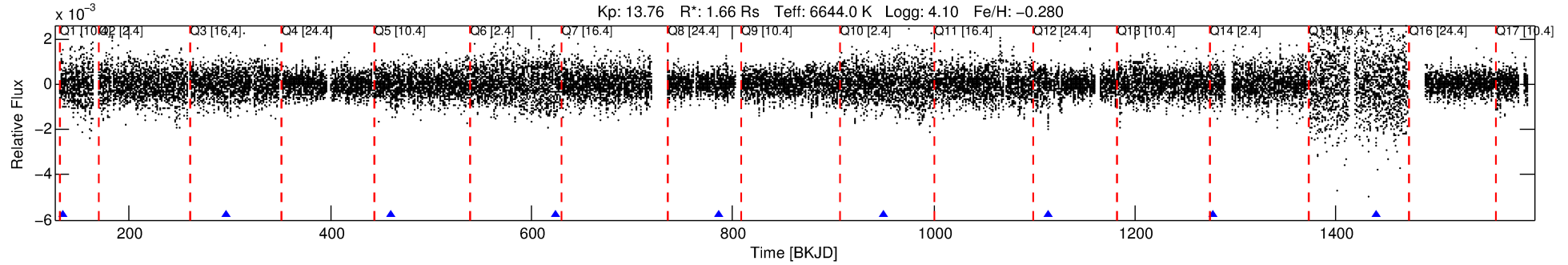
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001162339-03

No Significant Match Found

DV One-Page Summary

KIC: 1162339 Candidate: 3 of 3 Period: 163.312 d



DV Fit Results:

Period = 163.31213 [0.00222] d
Epoch = 133.7819 [0.0114] BKJD
Rp/R* = 0.0286 [0.0135]
a/R* = 146.62 [377.07]
b = 0.65 [2.26]
Seff = 11.93 [5.42]
Teq = 474 [54] K
Rp = 5.17 [2.93] Re
a = 0.6335 [0.1788] AU
Ag = 4379.70 [4776.56] [0.92 σ]
Teffp = 5961 [1507] K [3.64 σ]

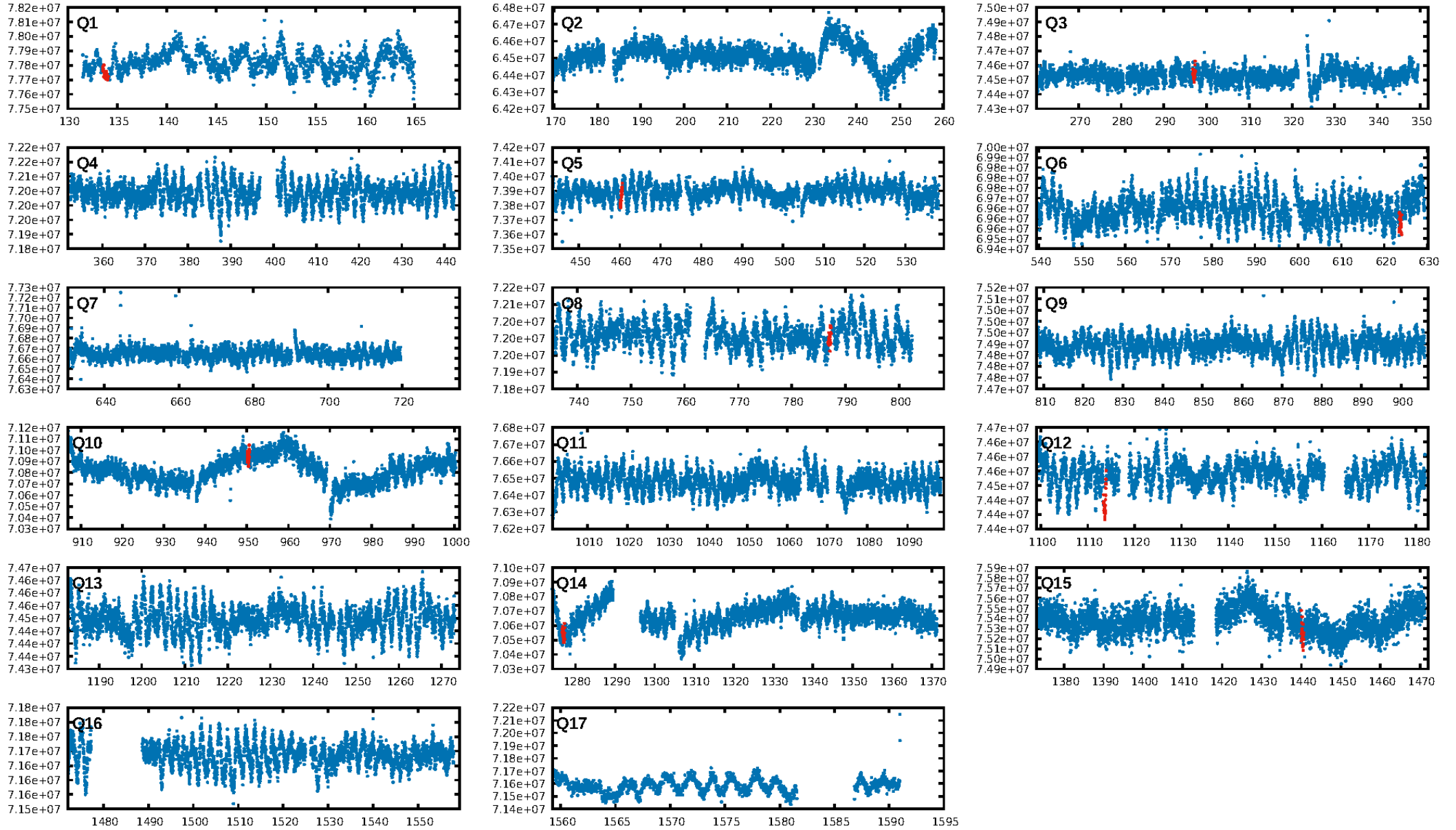
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [518.07 σ]
LongPeriod-sig: 100.0% [670.04 σ]
ModelChiSquare2-sig: 28.8%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.87e-11
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 2.546
Centroid-sig: 84.3%
Centroid-so: 2.566 arcsec [9.40 σ]
OotOffset-rm: 1.407 arcsec [0.62 σ]
KicOffset-rm: 4.159 arcsec [2.92 σ]
OotOffset-st: 2/0/0/0 [2]
KicOffset-st: 2/0/0/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 0.00 [0/8]

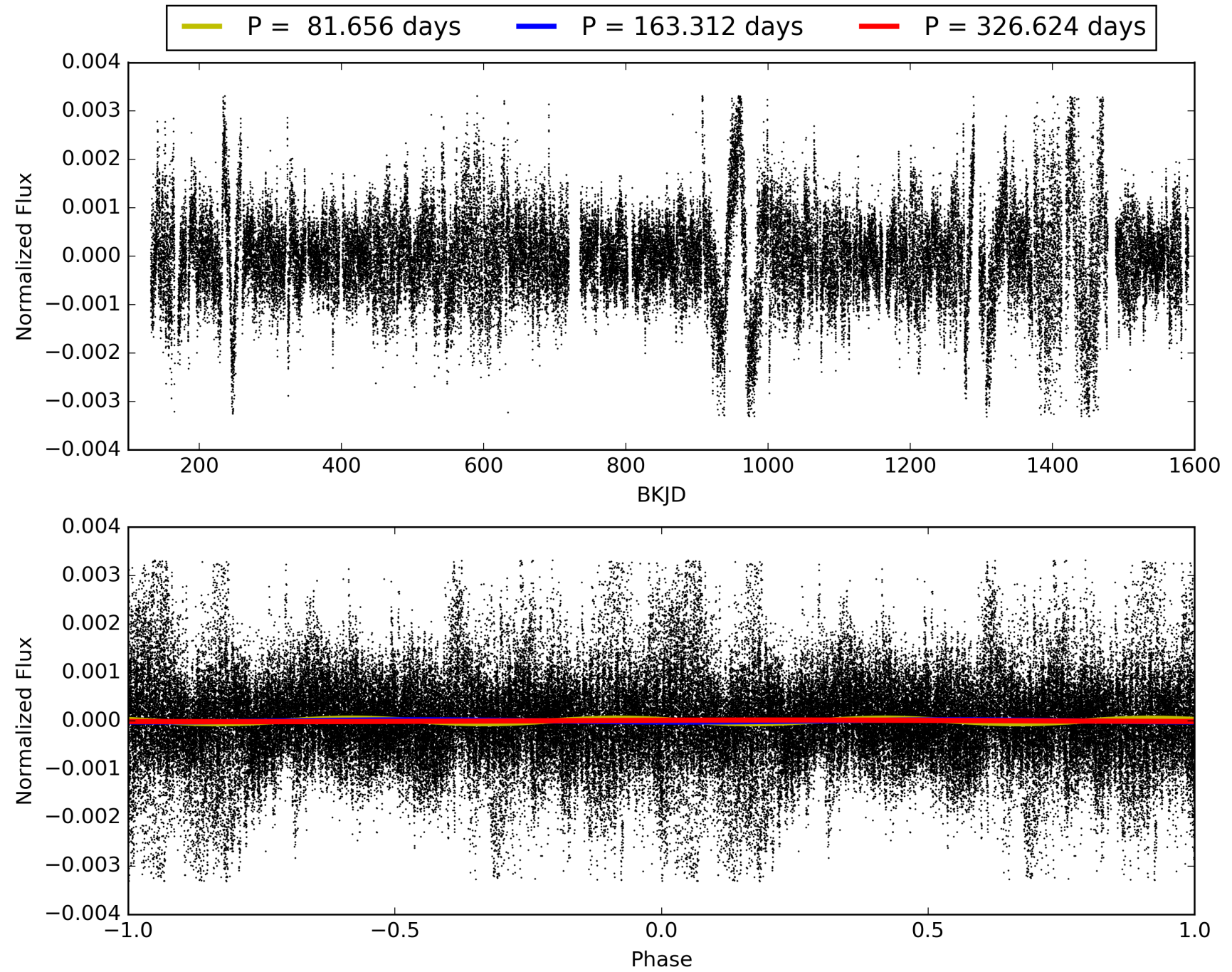
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 02:59:36 Z

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

TCE 001162339-03, PDC Light Curves

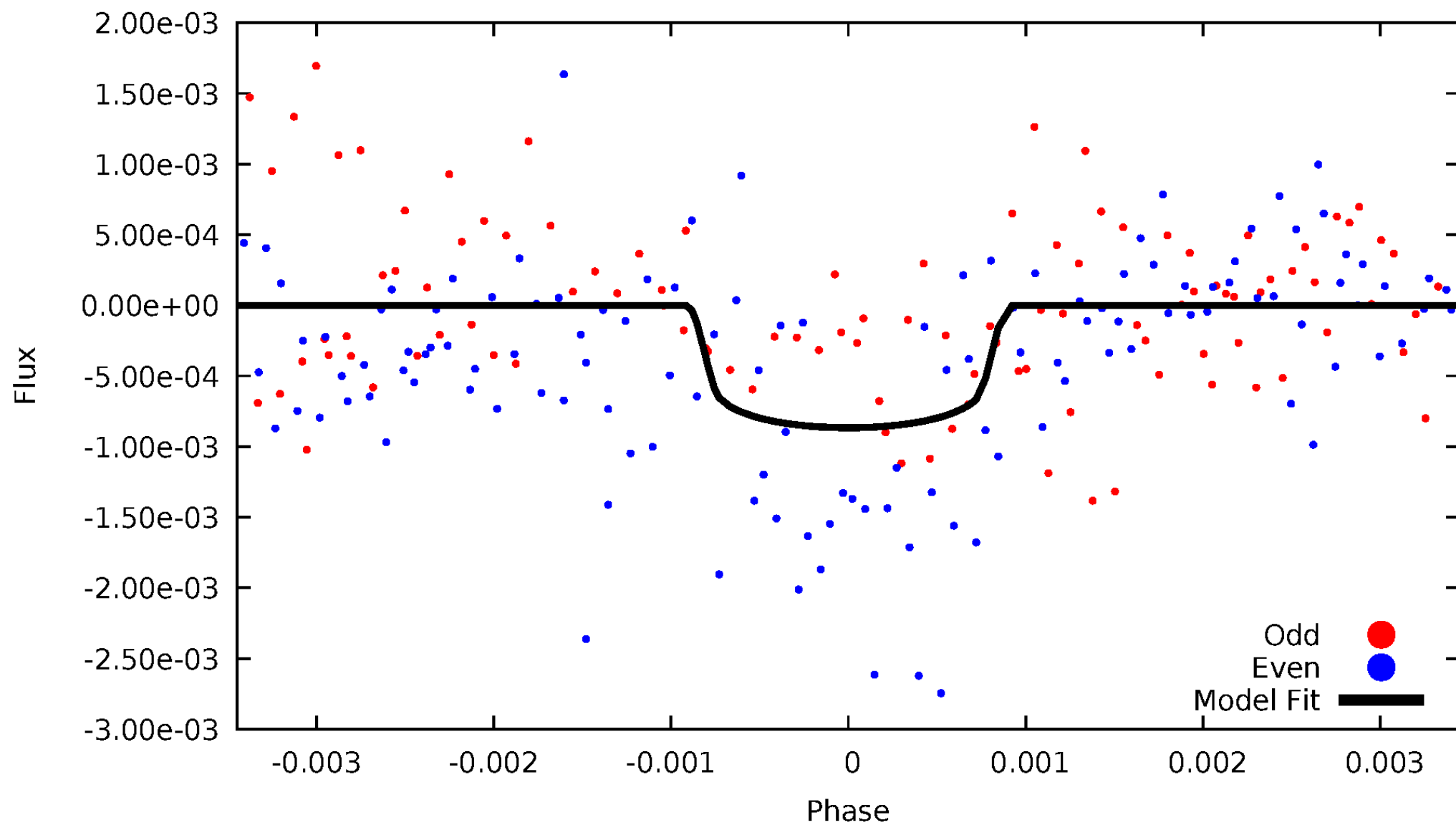


TCE 001162339-03



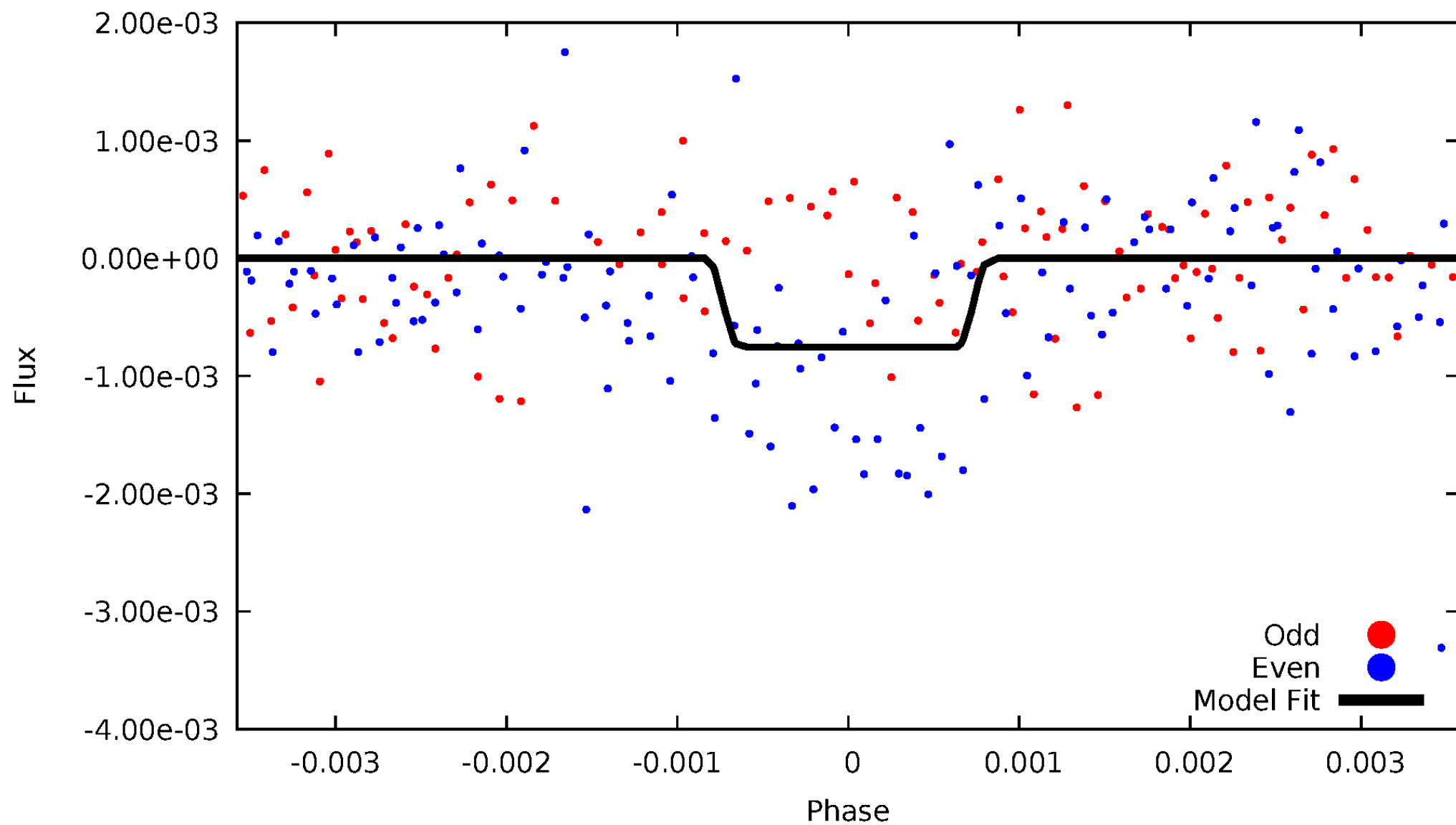
DV Odd/Even

TCE 001162339-03



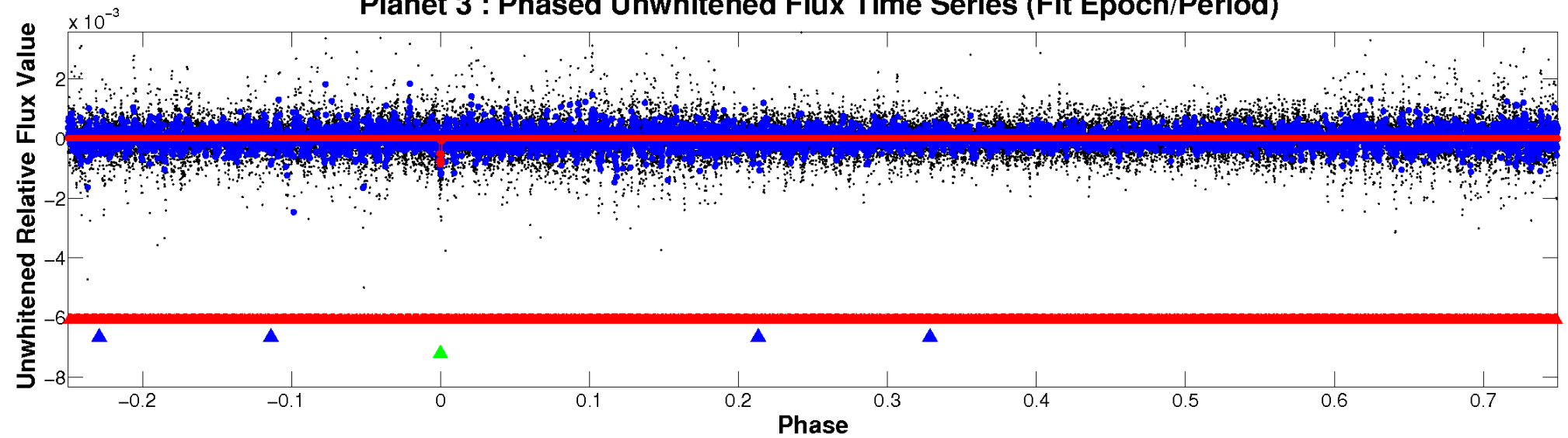
ALT Odd/Even

TCE 001162339-03

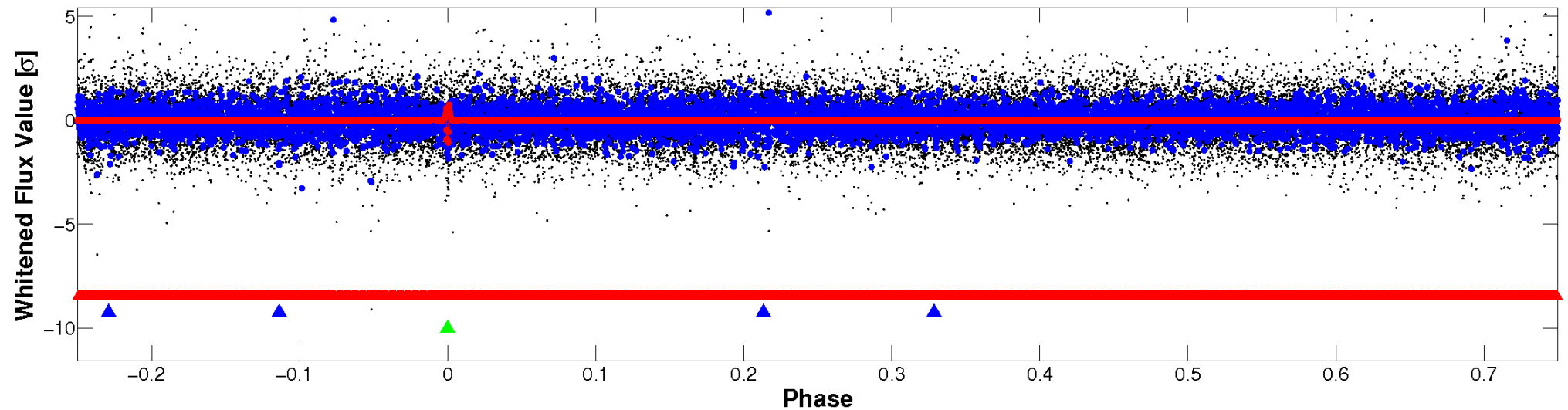


Non-Whitened Vs. Whitened Light Curve

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

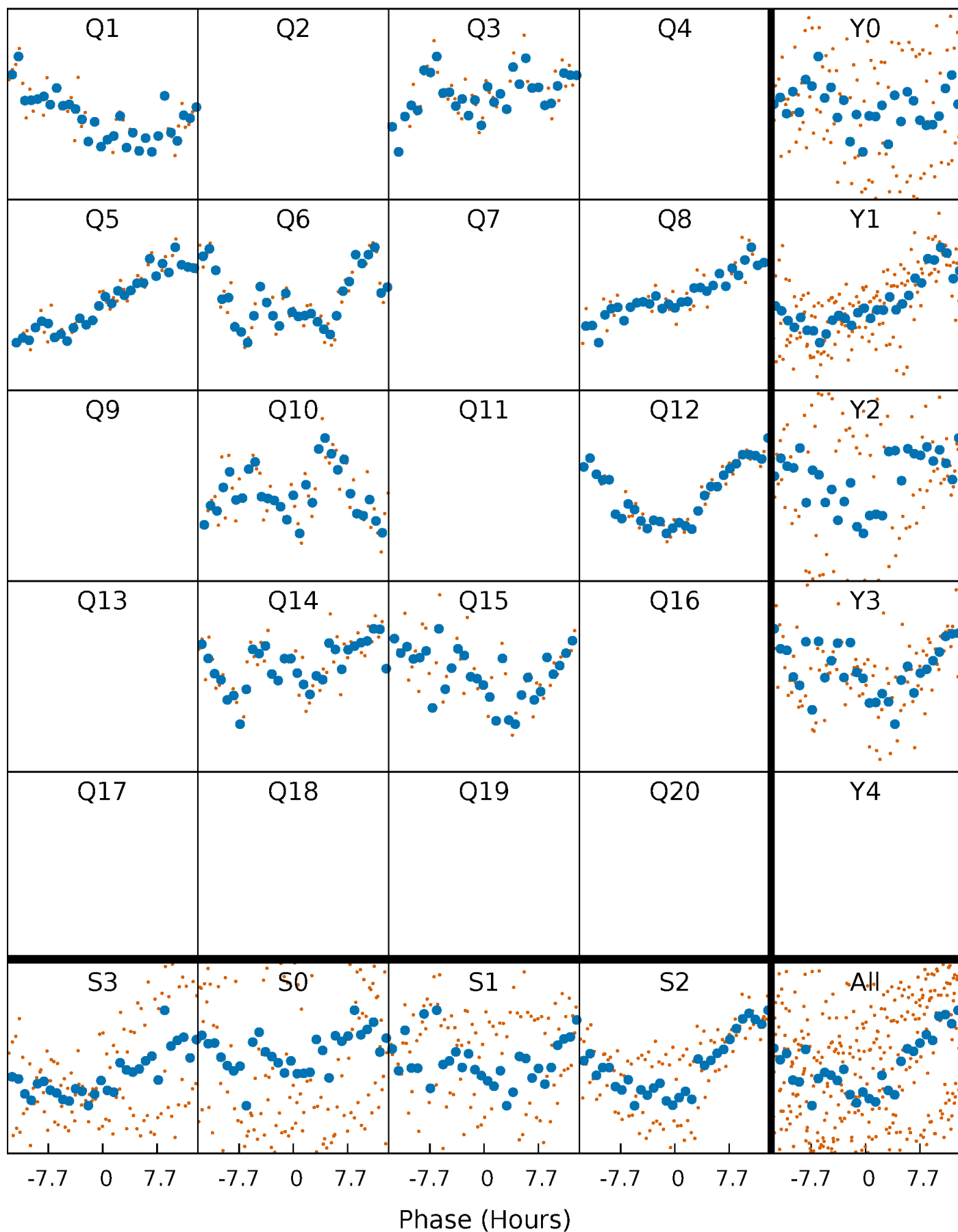


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



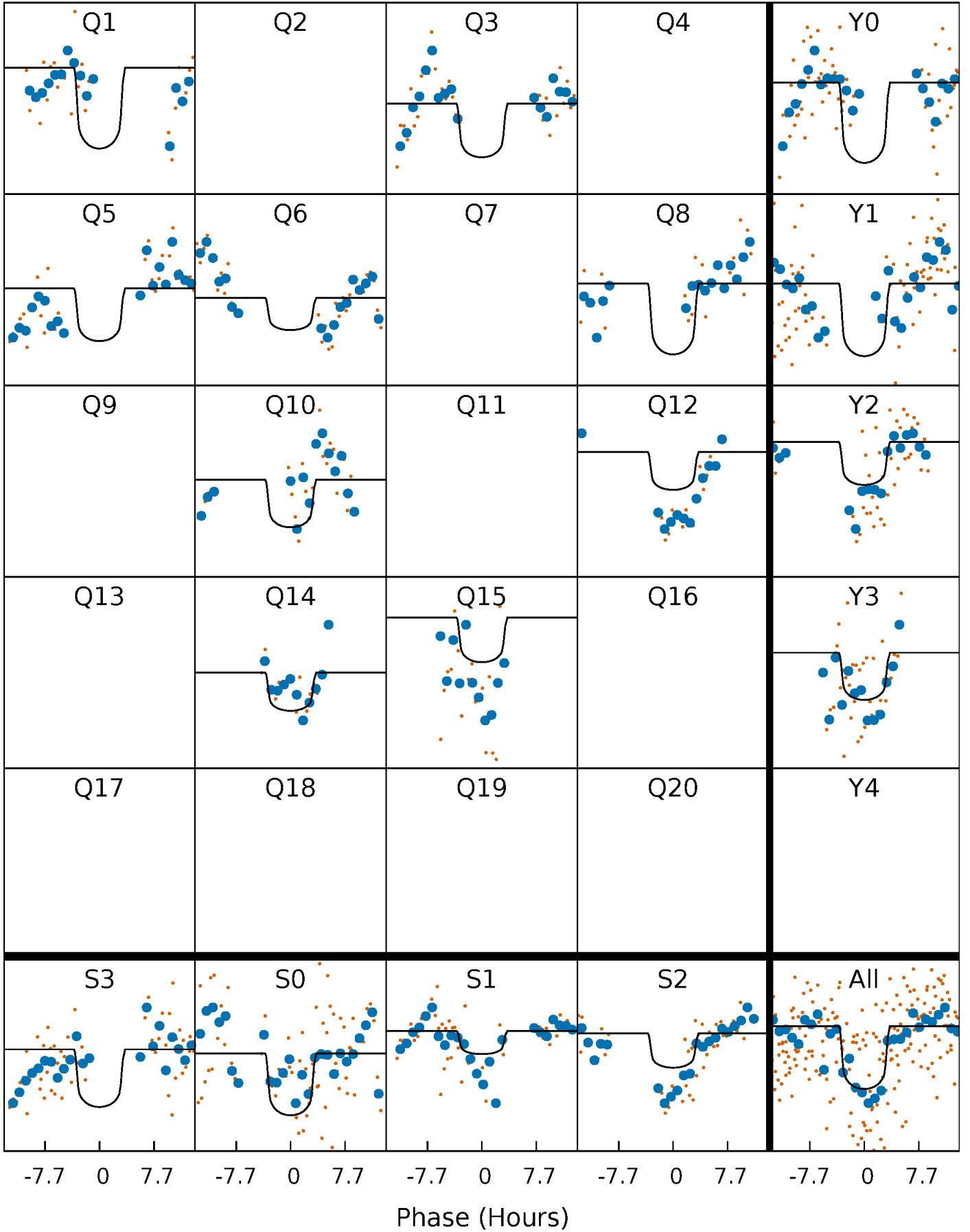
PDC Quarter-Phased Transit Curves

TCE 001162339-03 P=163.312132 Days $T_0=133.781940$ (BKJD)



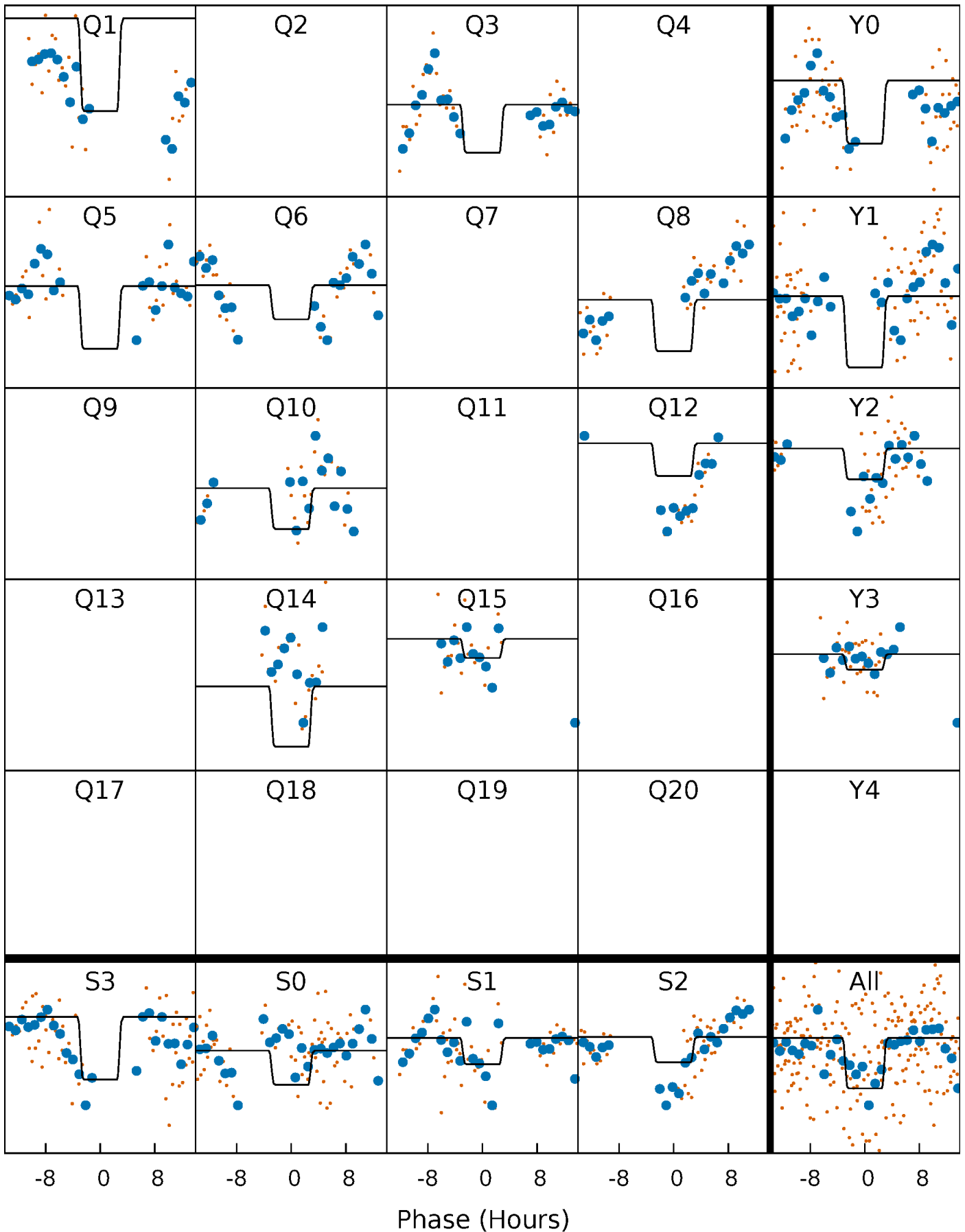
DV Quarter-Phased Transit Curves

TCE 001162339-03 P=163.312132 Days $T_0=133.781940$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

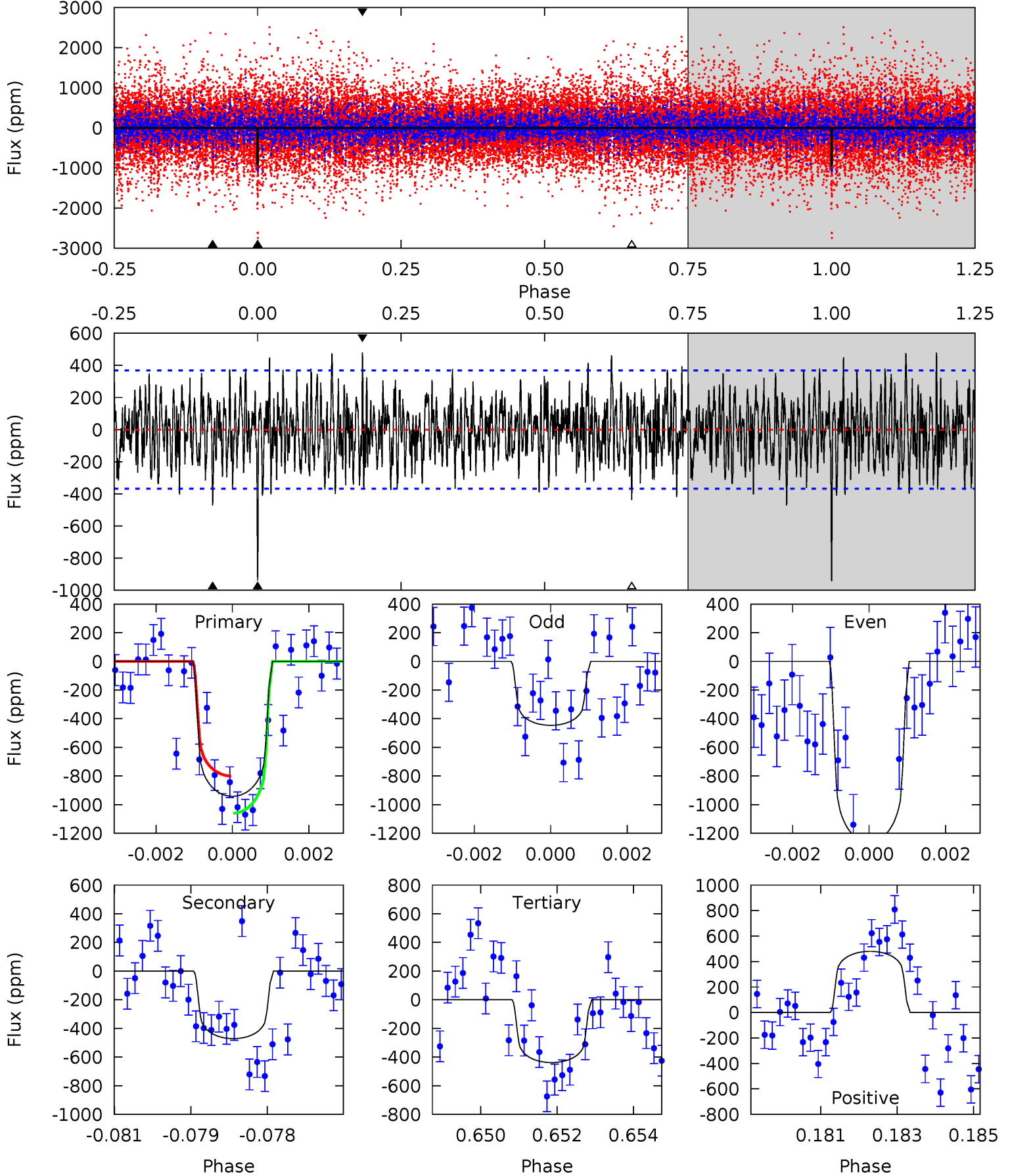
TCE 001162339-03 P=163.312535 Days $T_0=133.787616$ (BKJD)



DV Model-Shift Uniqueness Test

001162339-03, P = 163.312132 Days, E = 133.781940 Days

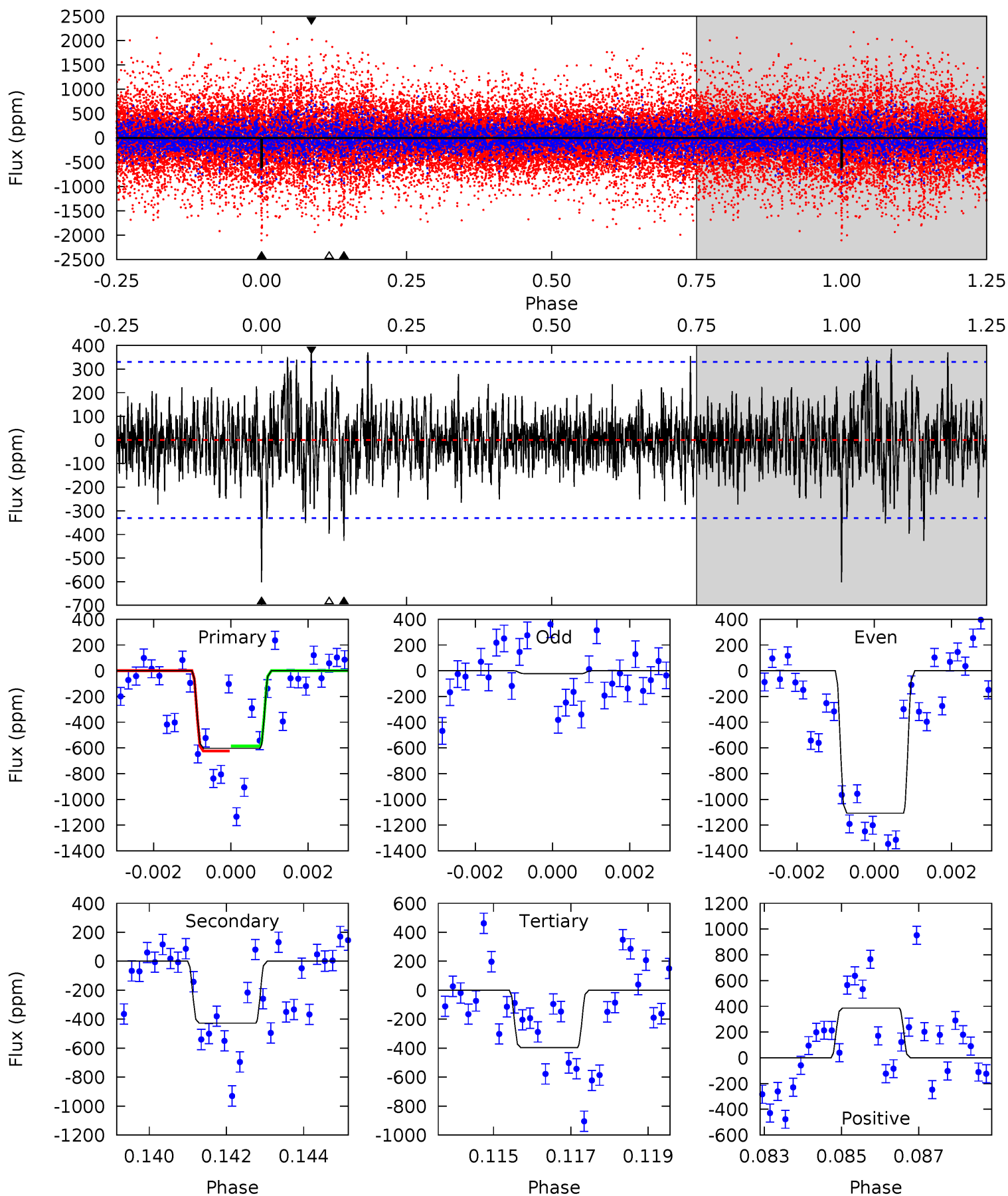
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	6.85	6.37	6.97	5.35	3.13	2.23	7.31	6.71	0.48	-0.13	5.79	1.76	0.34	1.88



Alt Model-Shift Uniqueness Test

001162339-03, P = 163.312535 Days, E = 133.787616 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.77	6.92	6.43	6.25	5.36	3.14	1.55	3.34	3.51	0.50	0.67	8.63	1.19	0.39	0.31



Stellar Parameters For KIC 001162339

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6644^{+188}_{-235}	$4.104^{+0.246}_{-0.164}$	$-0.280^{+0.250}_{-0.300}$	$1.656^{+0.473}_{-0.521}$	$1.279^{+0.183}_{-0.224}$	$0.397^{+0.579}_{-0.177}$
	+3%/-4%	+6%/-4%	+89%/-107%	+29%/-31%	+14%/-18%	+146%/-45%
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 001162339-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-471 ± 69	$4.97^{+2.70}_{-2.22}$	659^{+52}_{-53}	5771^{+2264}_{-924}	4132^{+9005}_{-2404}
Alt.	-427 ± 62	$4.79^{+2.69}_{-2.22}$	659^{+50}_{-53}	5726^{+2324}_{-939}	4017^{+9595}_{-2360}

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

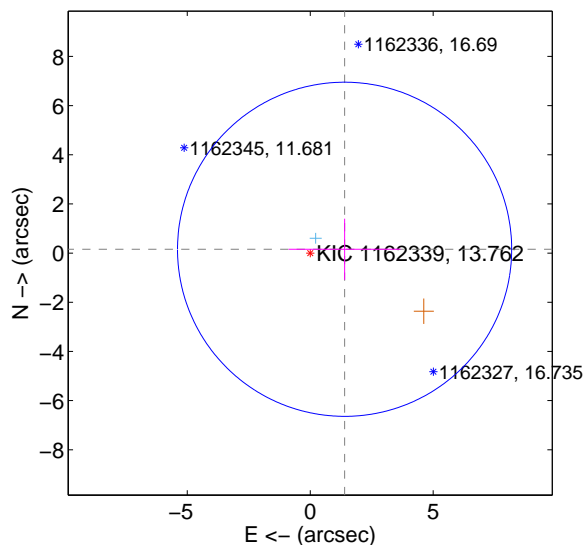
Supplemental centroid analysis for 001162339-03. Kepler magnitude: 13.76. Transit SNR 7.70

There are 1 quarters with good PRF difference image offsets

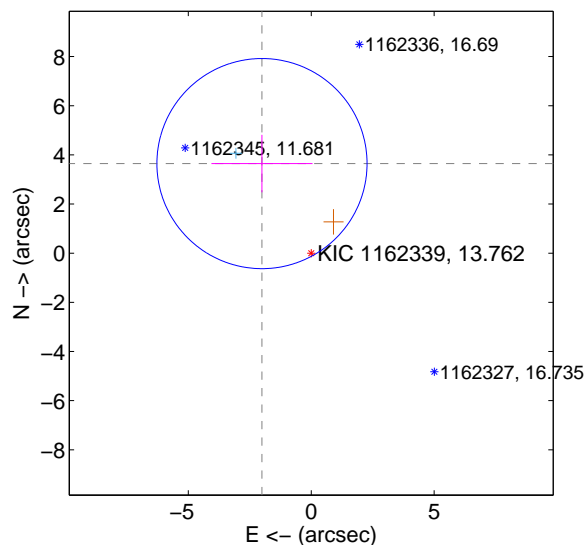
The OOT PRF centroid is offset from the target star catalog position by about 4.78 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.407 ± 2.265	0.62	-1.399 ± 2.275	0.156 ± 1.243
PRF-fit source offset from KIC position	4.159 ± 1.425	2.92	2.004 ± 2.055	3.645 ± 1.169
photometric centroid source offset	2.57 ± 0.27	9.40	2.45 ± 0.28	0.75 ± 0.23

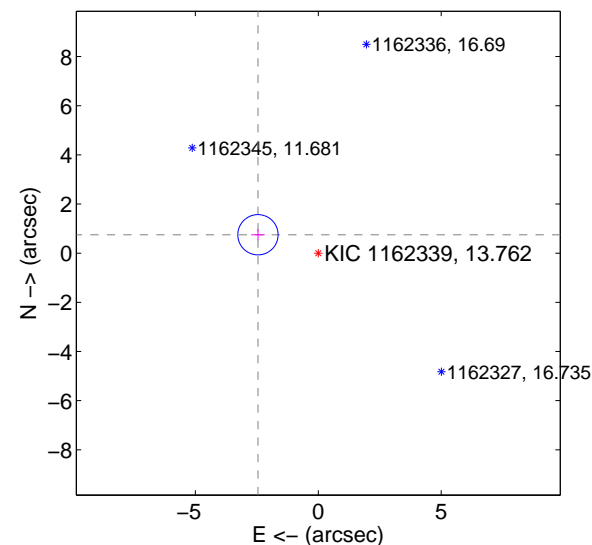
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

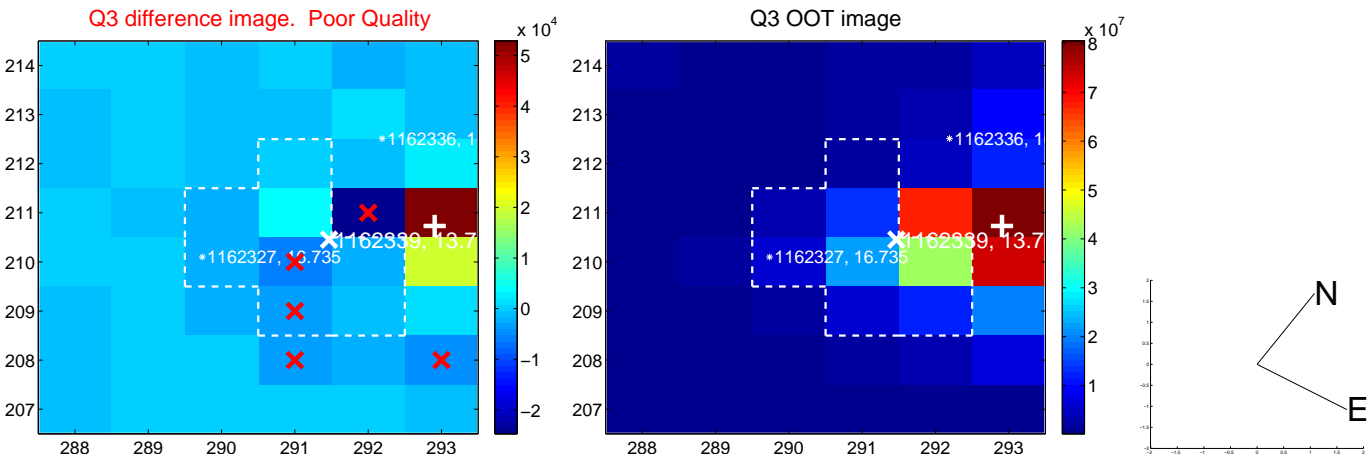
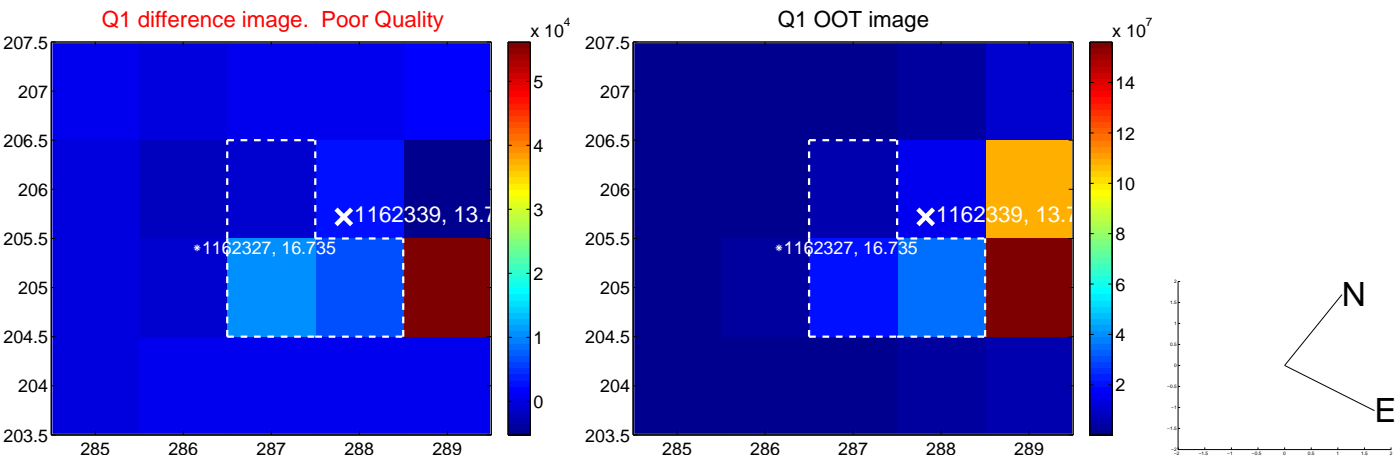


offset from photometric centroids

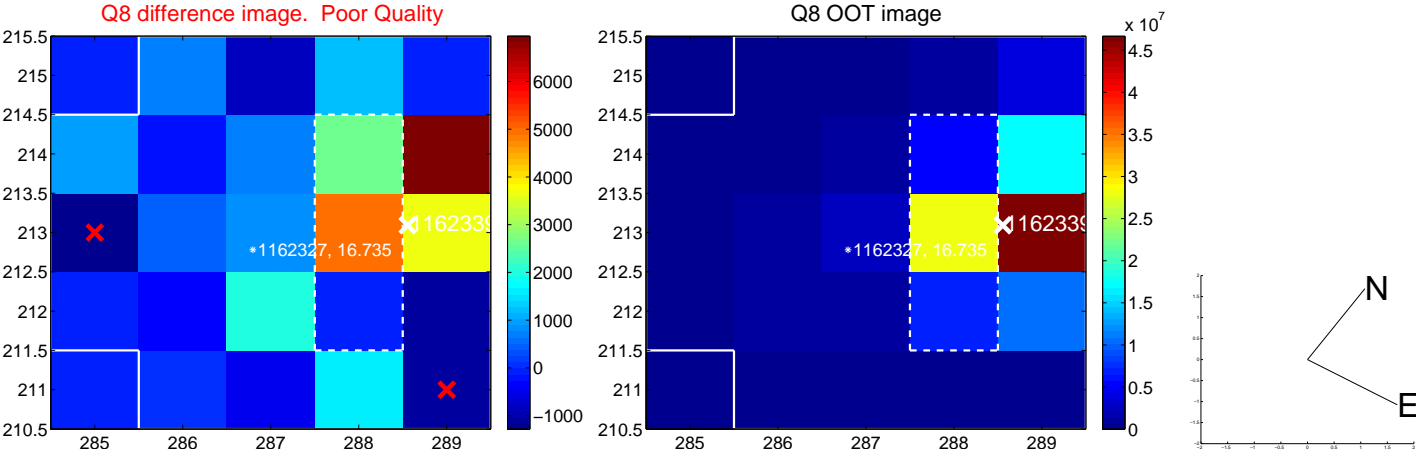
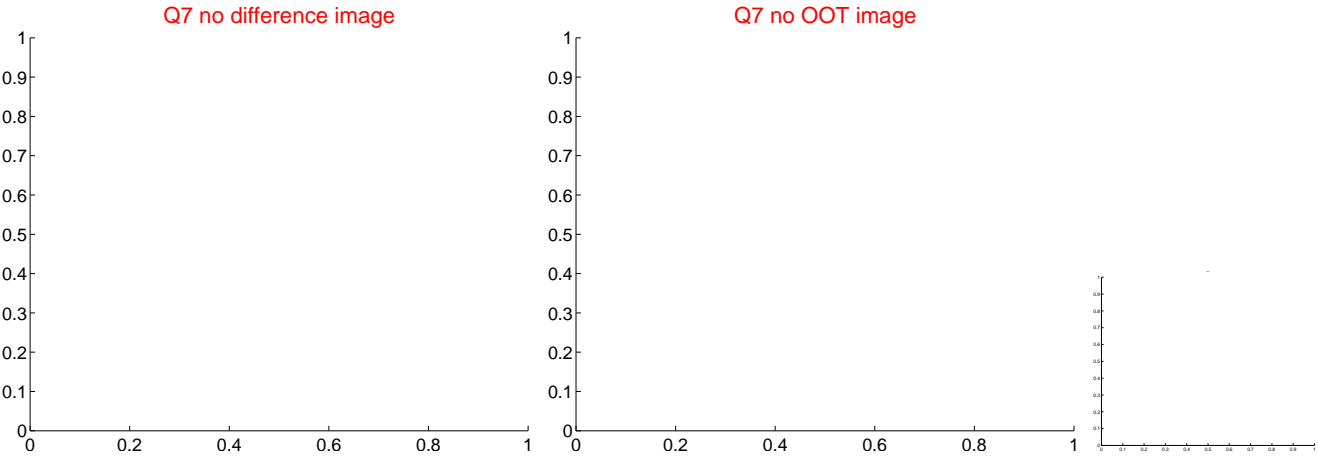
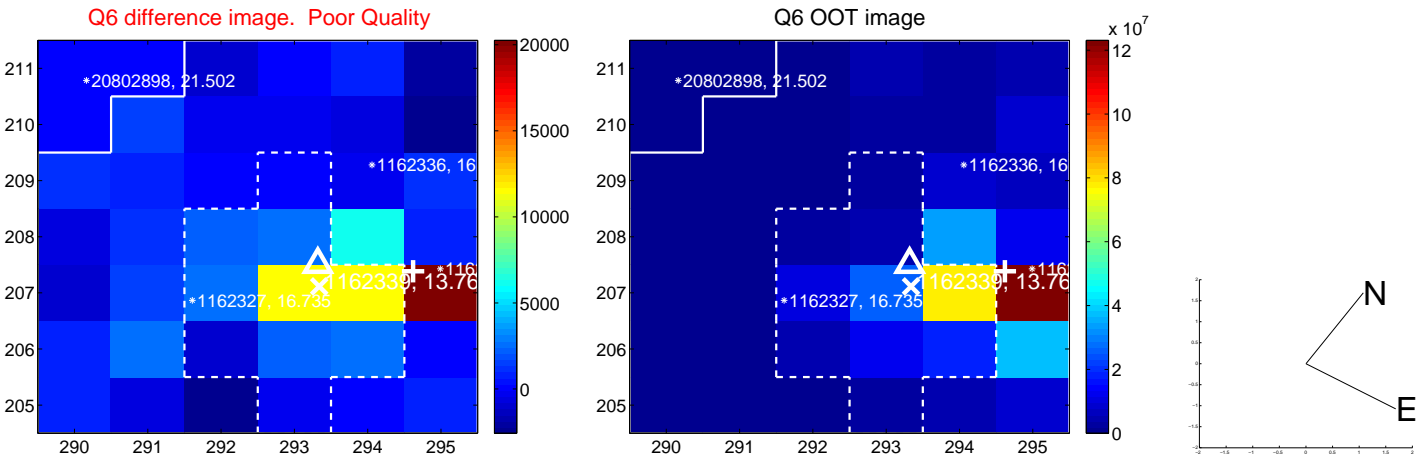
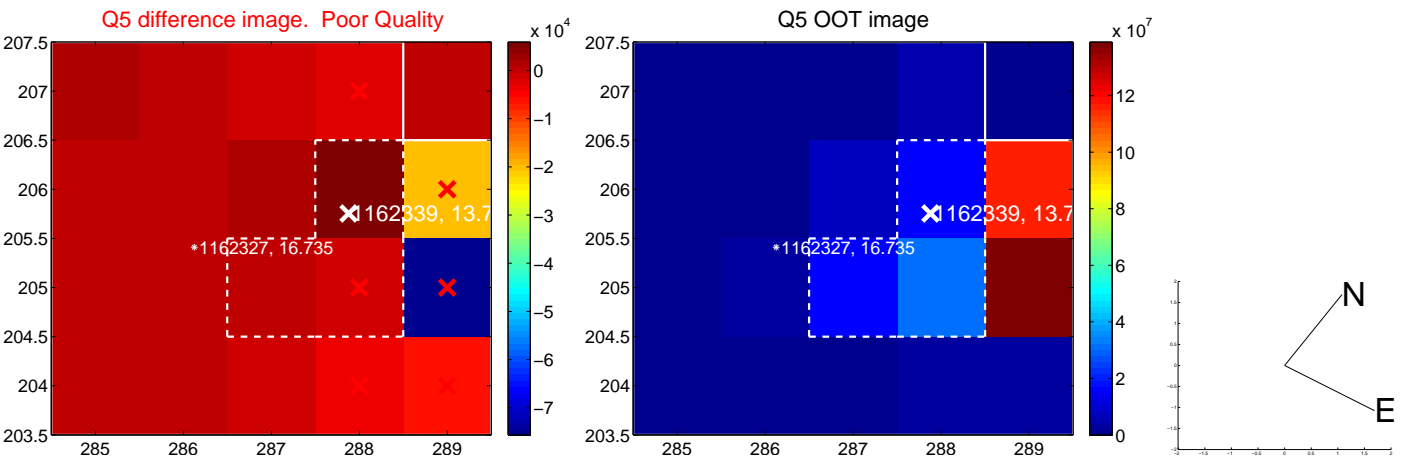


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

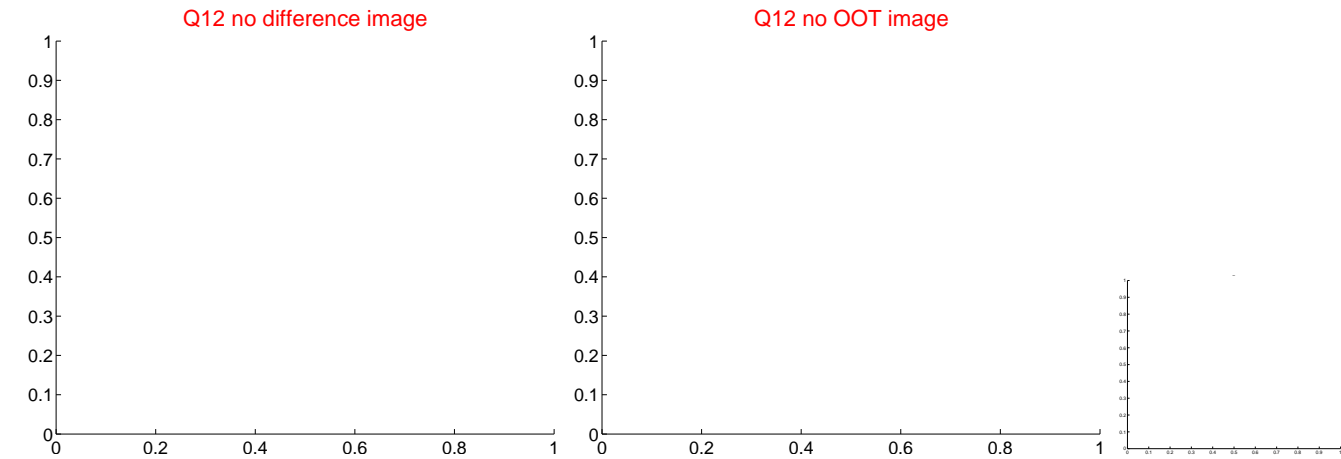
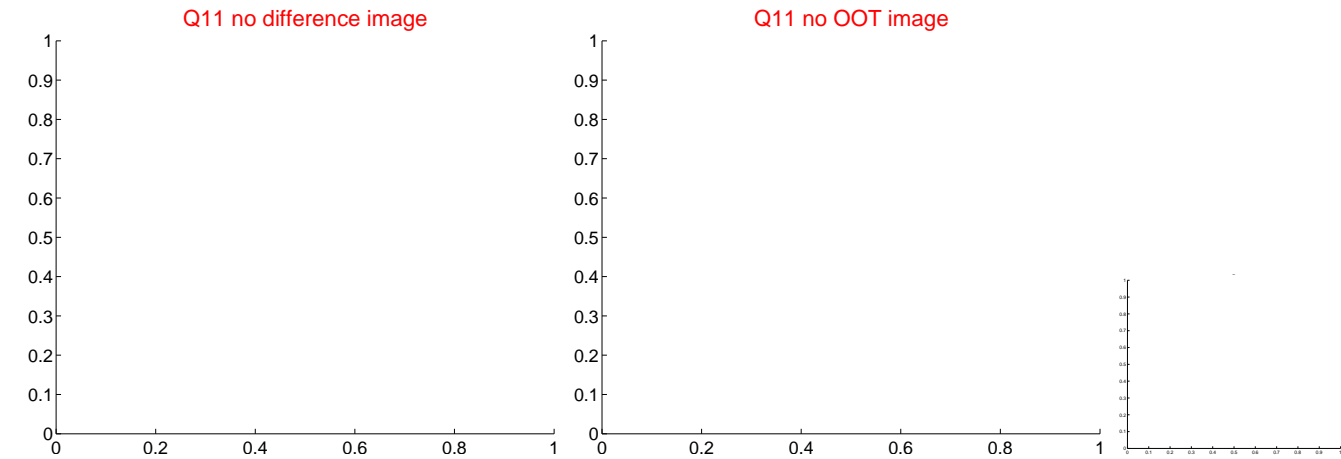
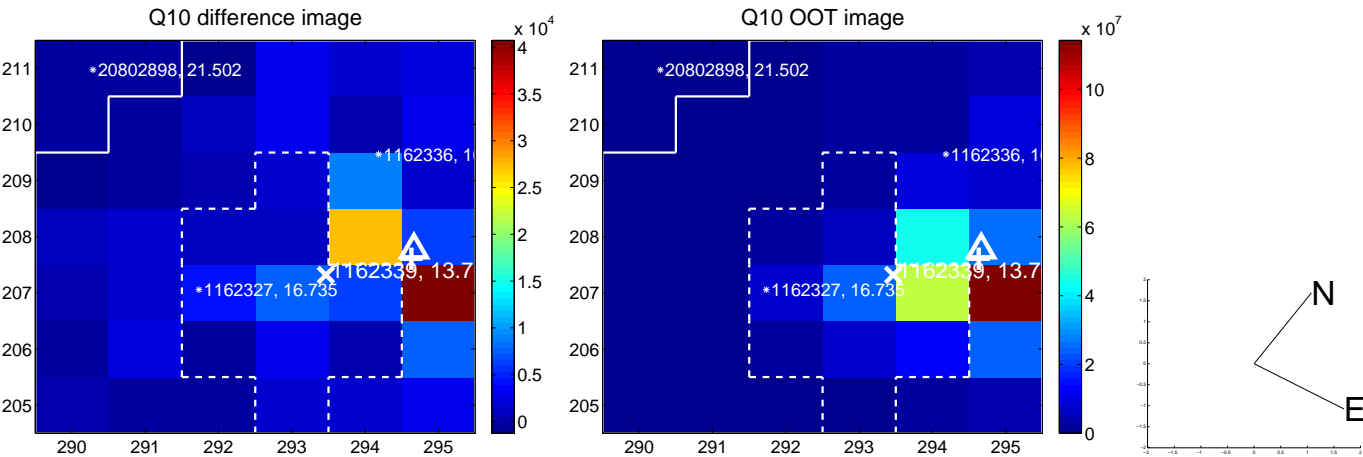
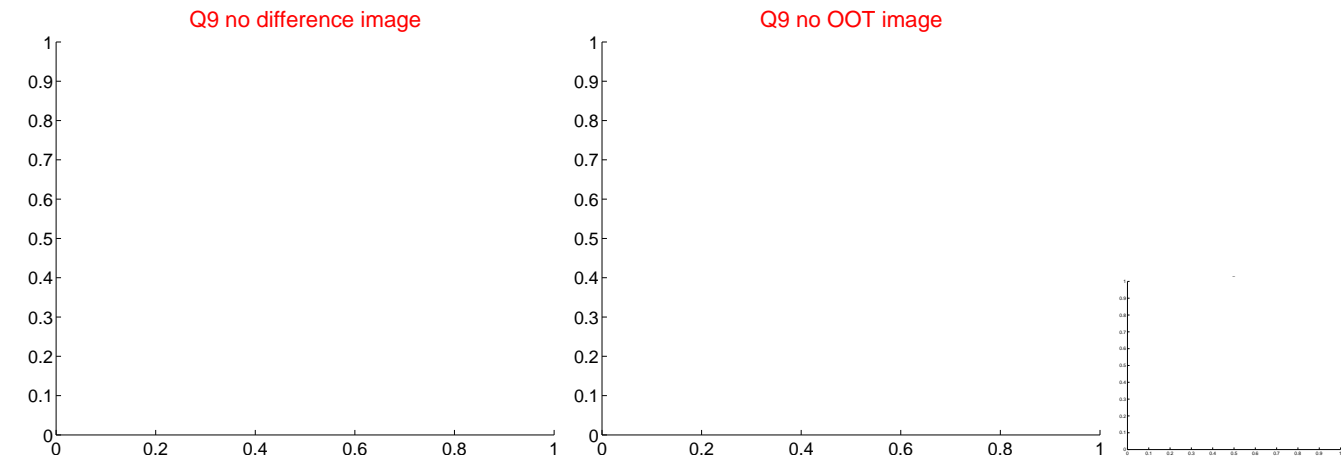
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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

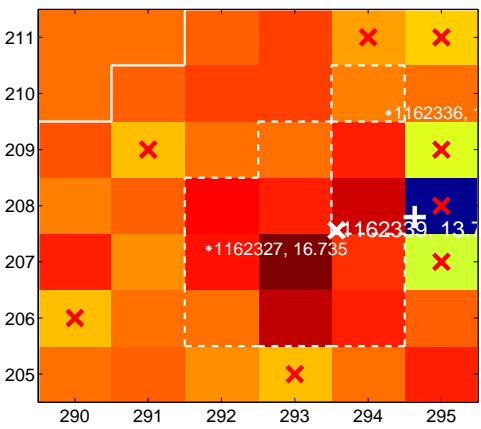
Q13 no difference image



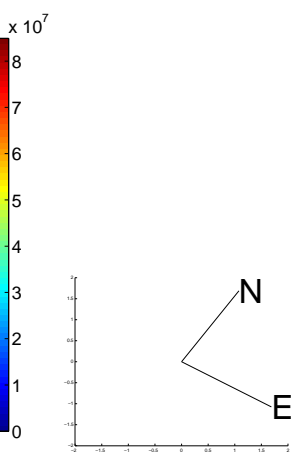
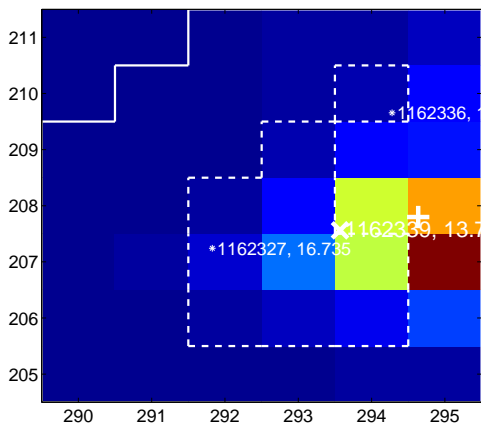
Q13 no OOT image



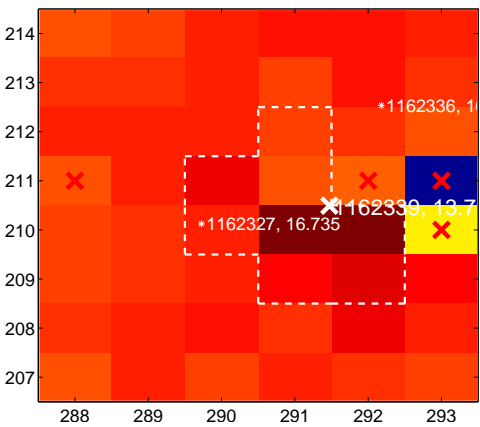
Q14 difference image. Poor Quality



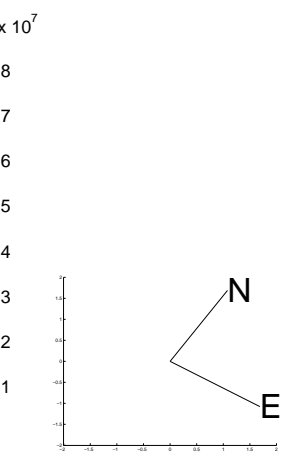
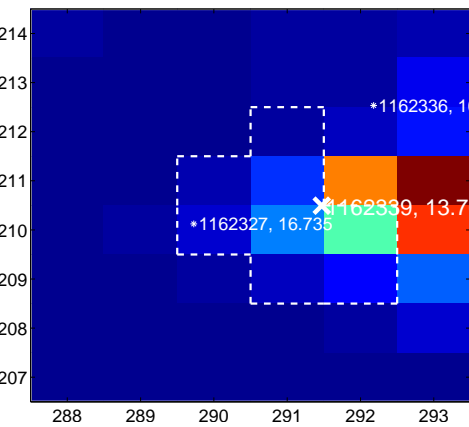
Q14 OOT image



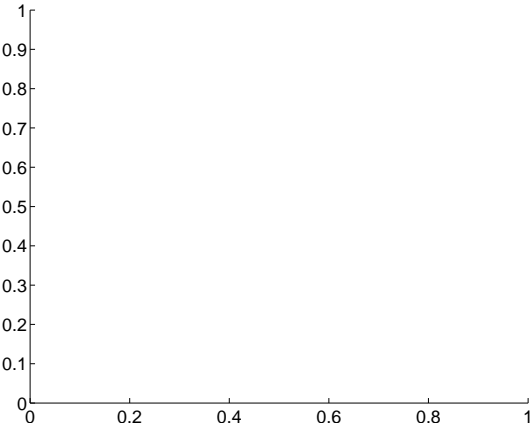
Q15 difference image. Poor Quality



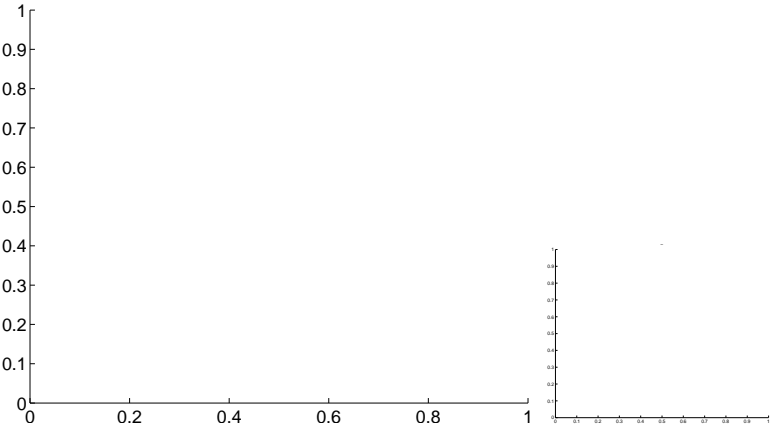
Q15 OOT image



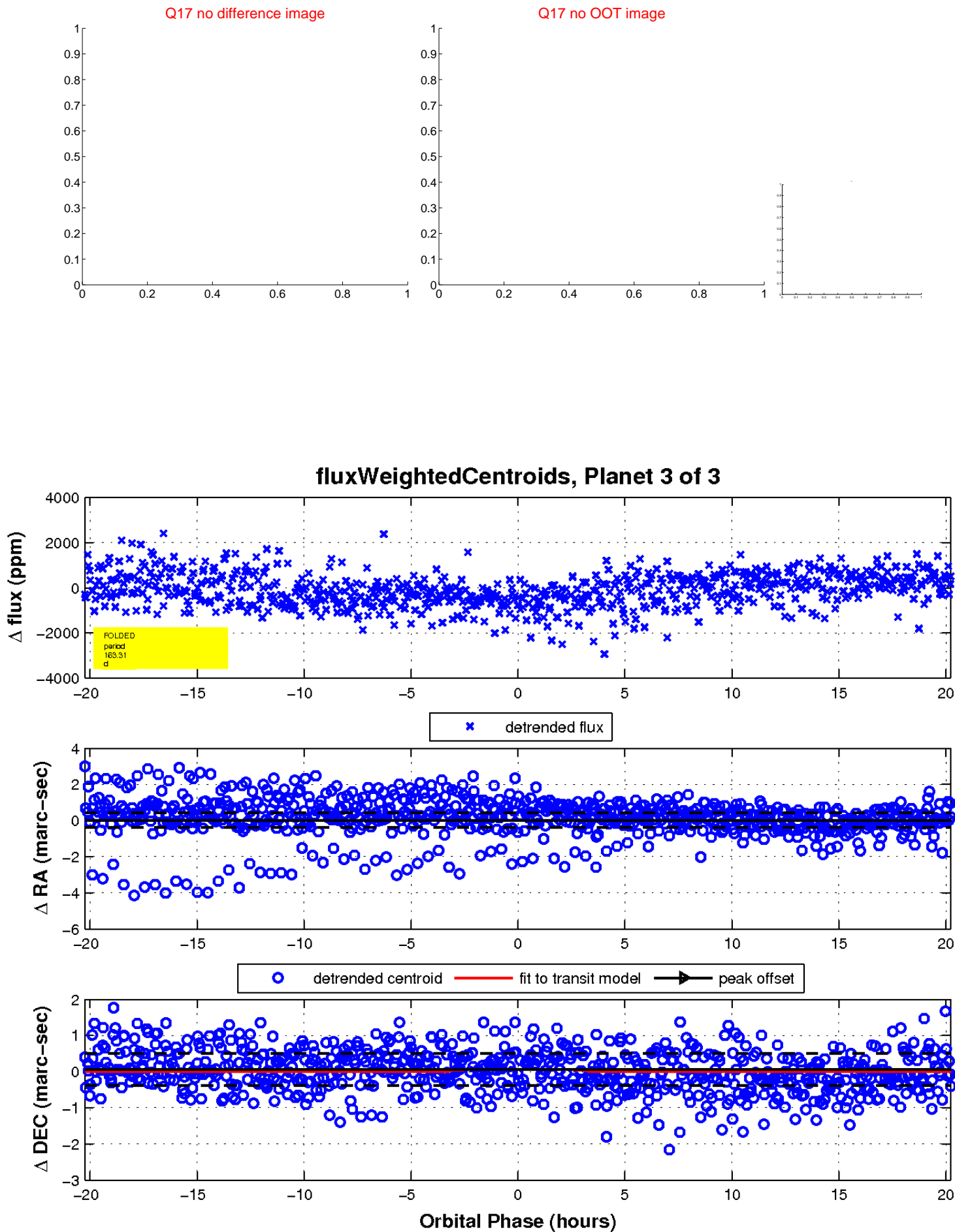
Q16 no difference image



Q16 no OOT image



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



UKIRT Image

