

KIC 003339702

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})
003339702-01	OBS	No	1.250321	132.665077	35.9	6.444	8.2	8.8	1.66	6269	1.17	6180.62
003339702-02	OBS	No	198.409872	205.998139	203.0	3.211	11.2	2.6	1.66	6269	2.75	7.19
003339702-03	OBS	No	339.002369	181.529342	965.9	12.979	10.6	7.5	1.66	6269	6.61	3.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003339702-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
003339702-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003339702-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

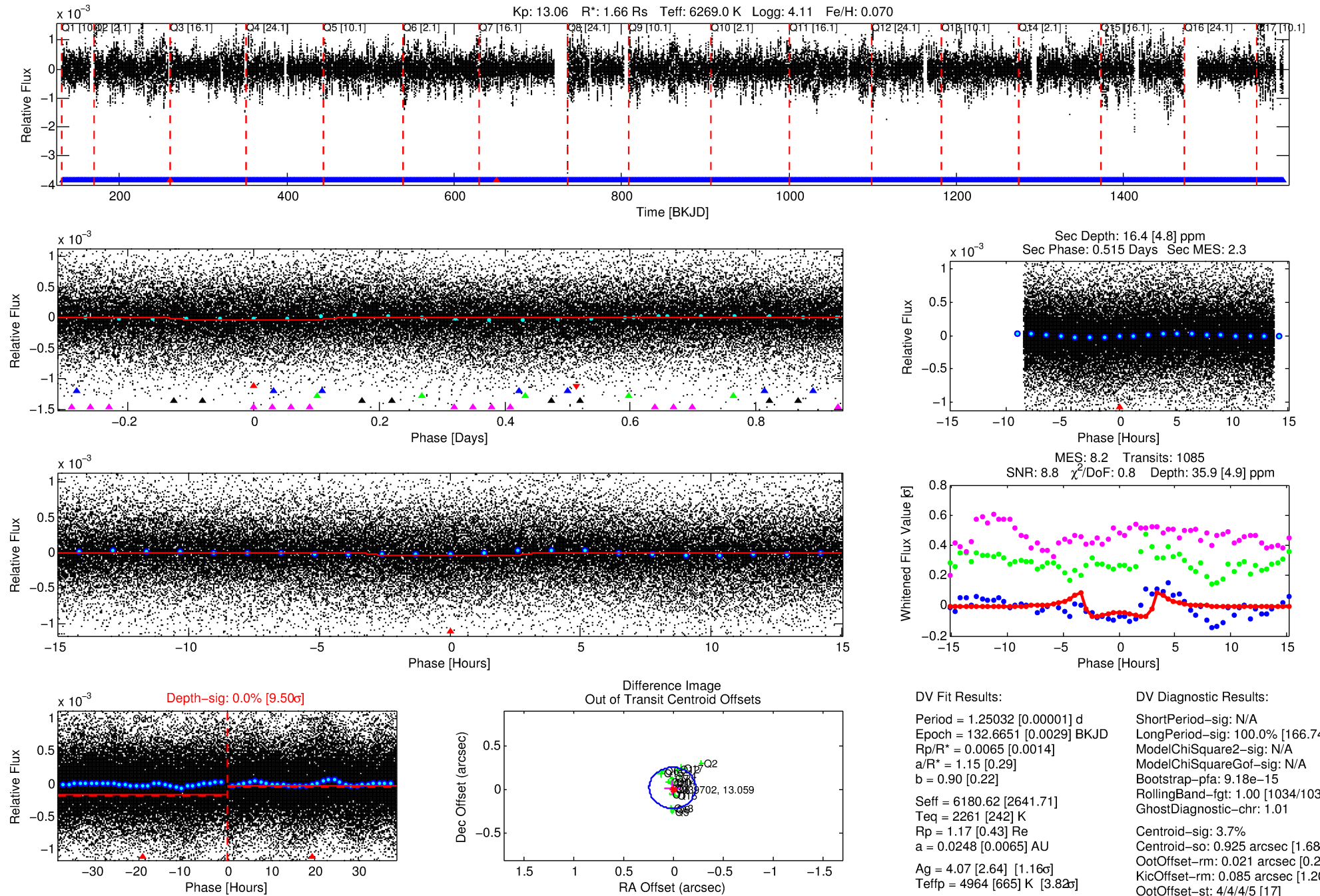
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003339702-01

No Significant Match Found

DV One-Page Summary

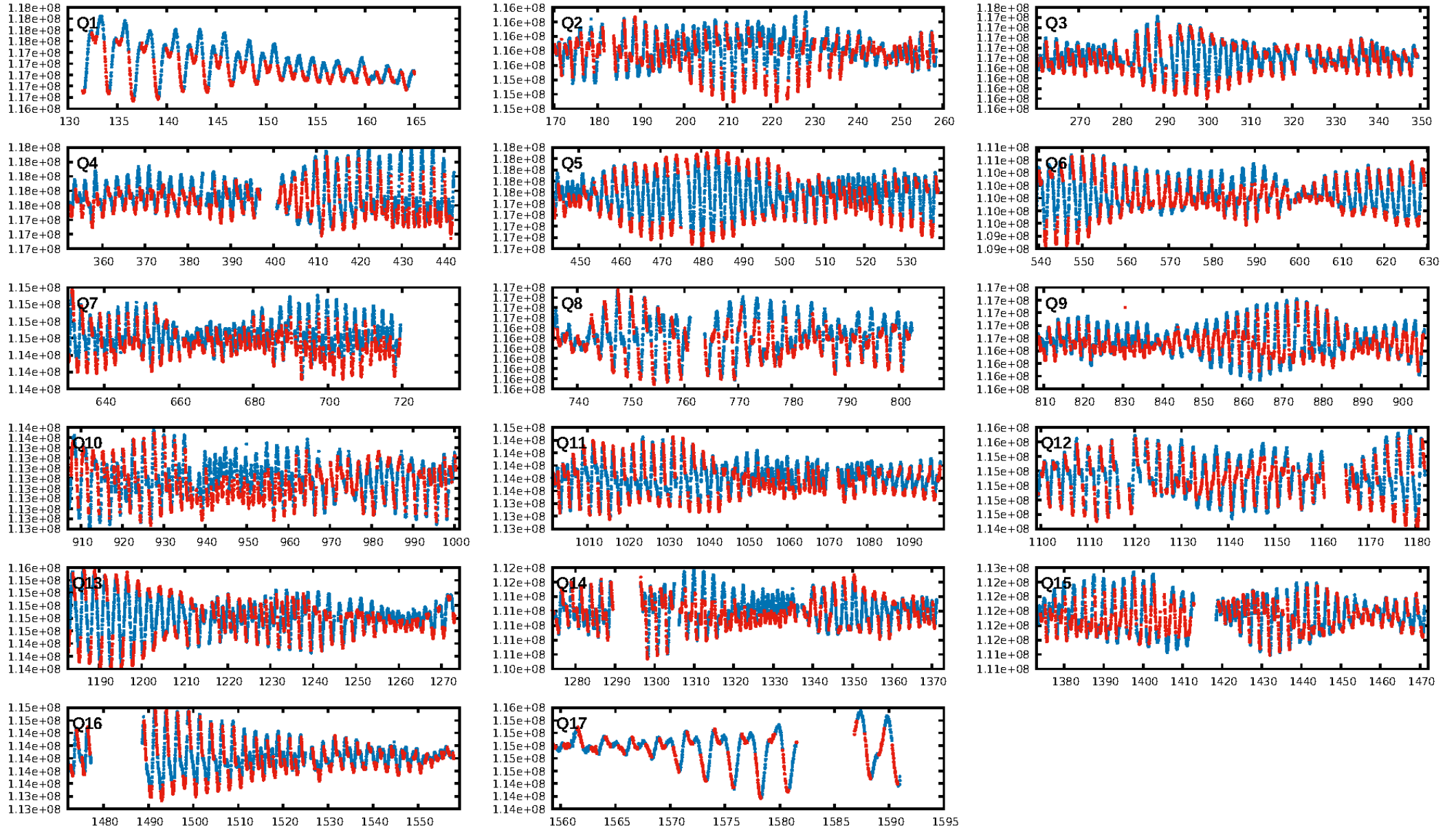
KIC: 3339702 Candidate: 1 of 5 Period: 1.250 d



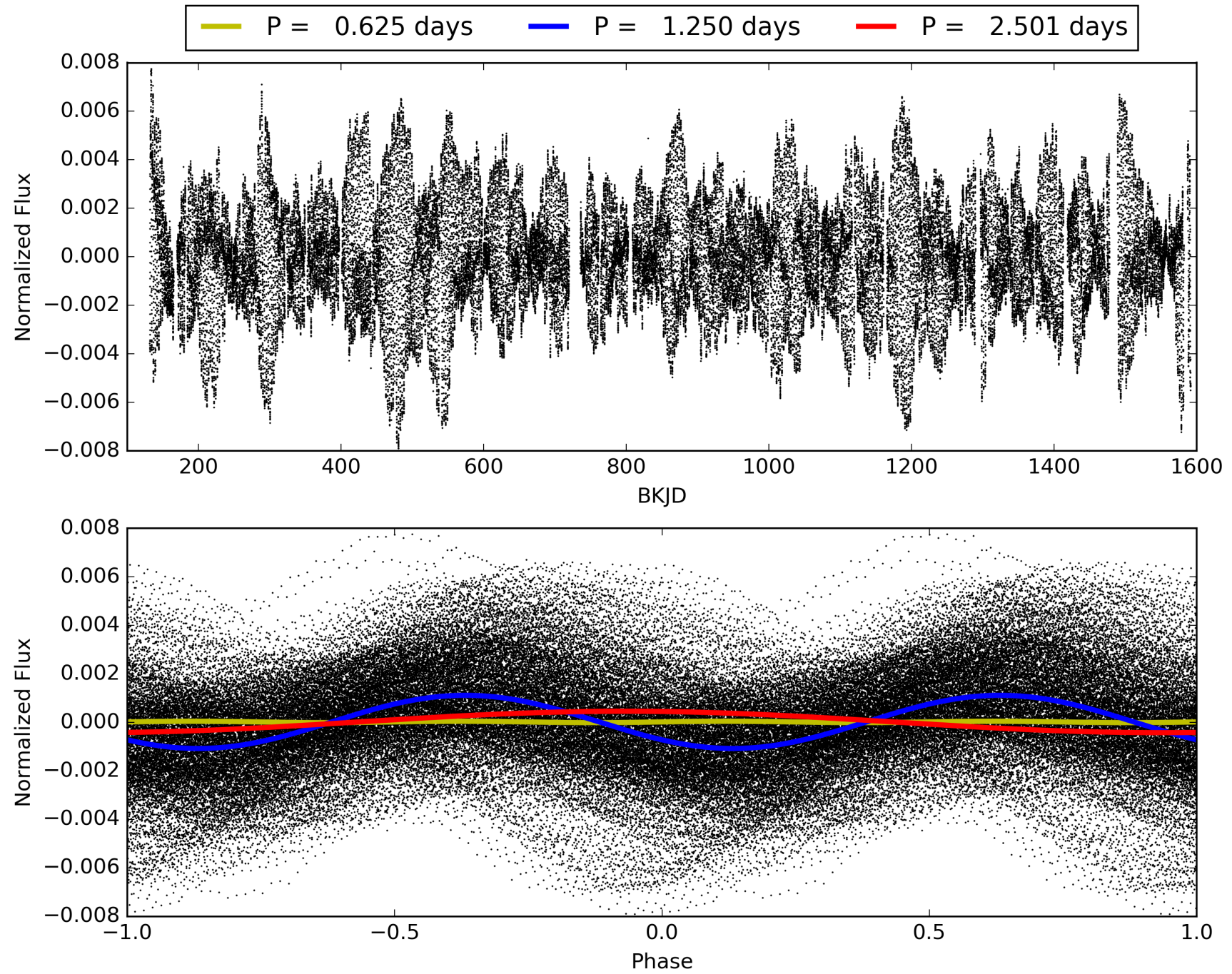
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:12:56 Z

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

TCE 003339702-01, PDC Light Curves

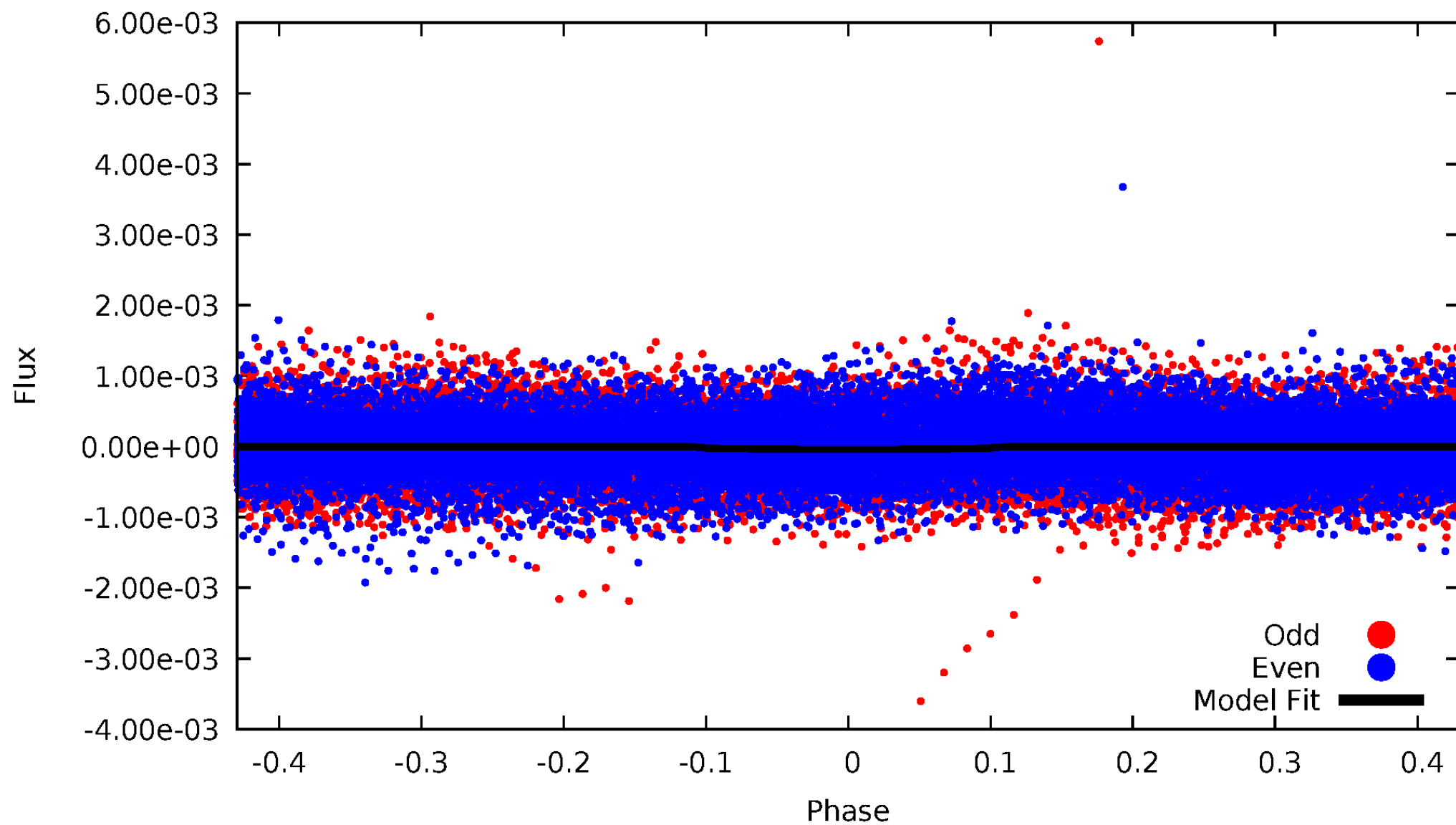


TCE 003339702-01



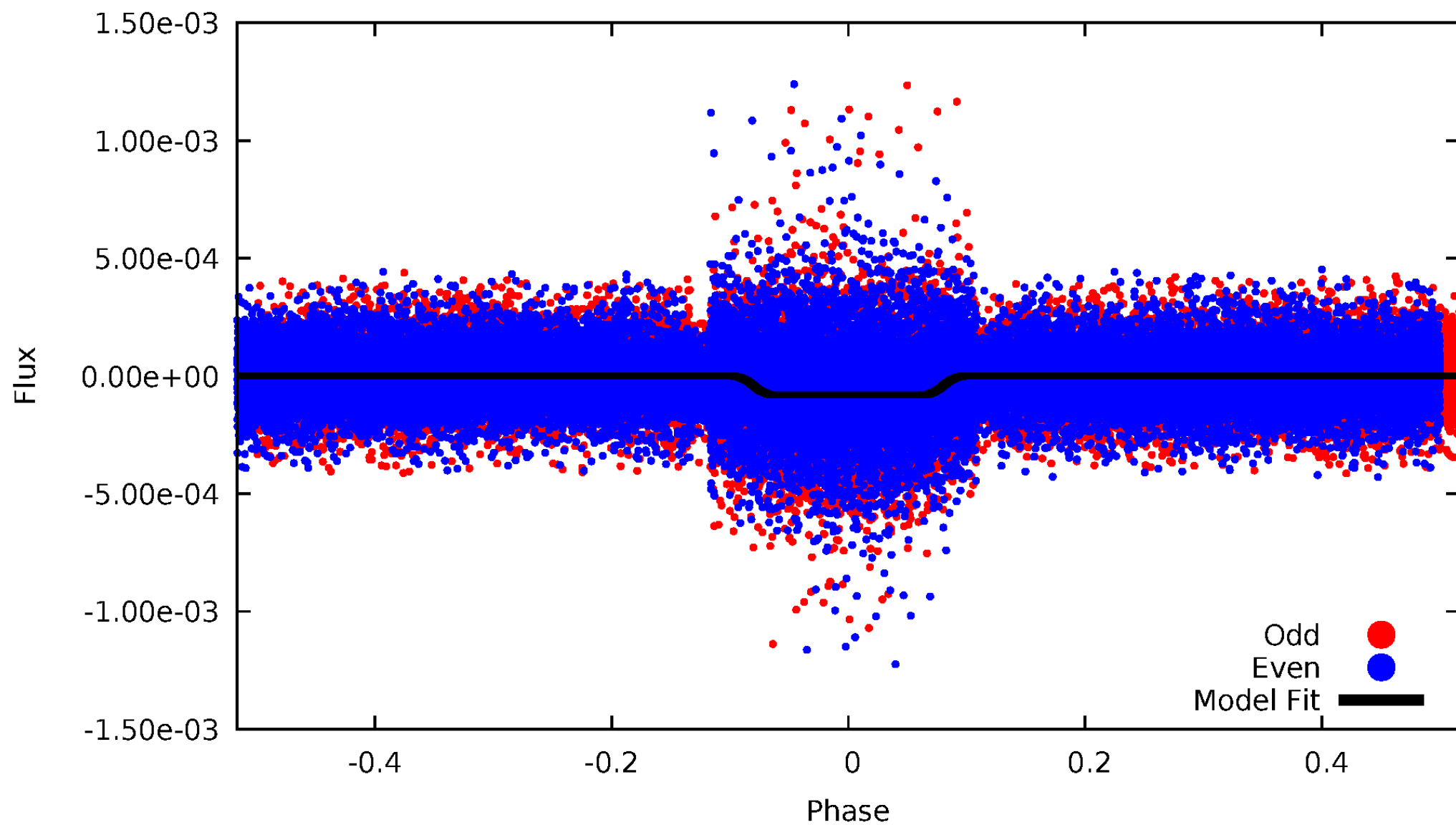
DV Odd/Even

TCE 003339702-01



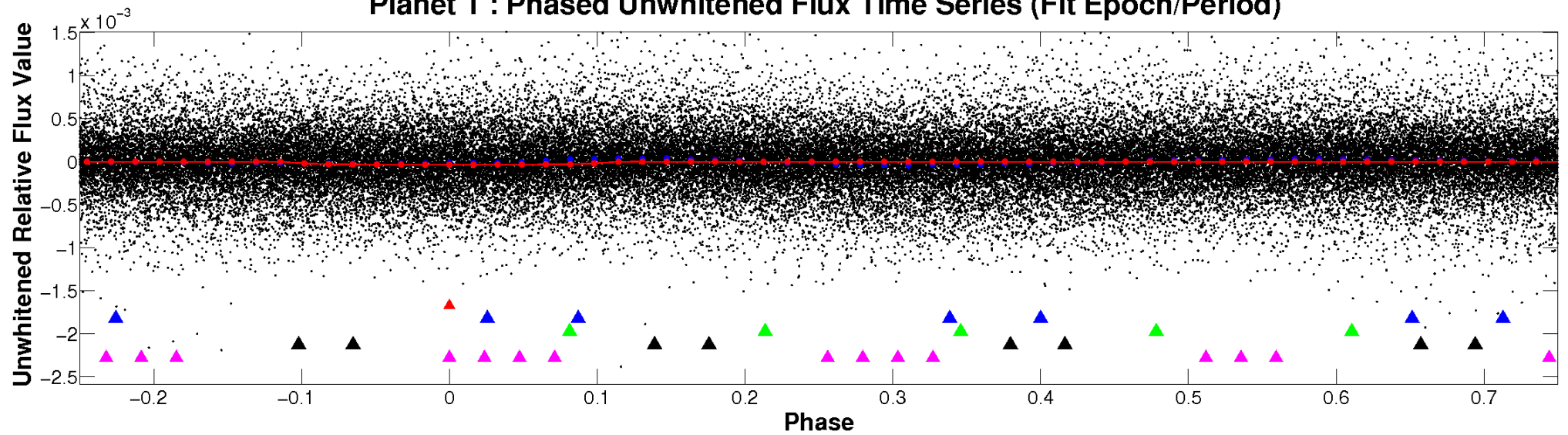
ALT Odd/Even

TCE 003339702-01

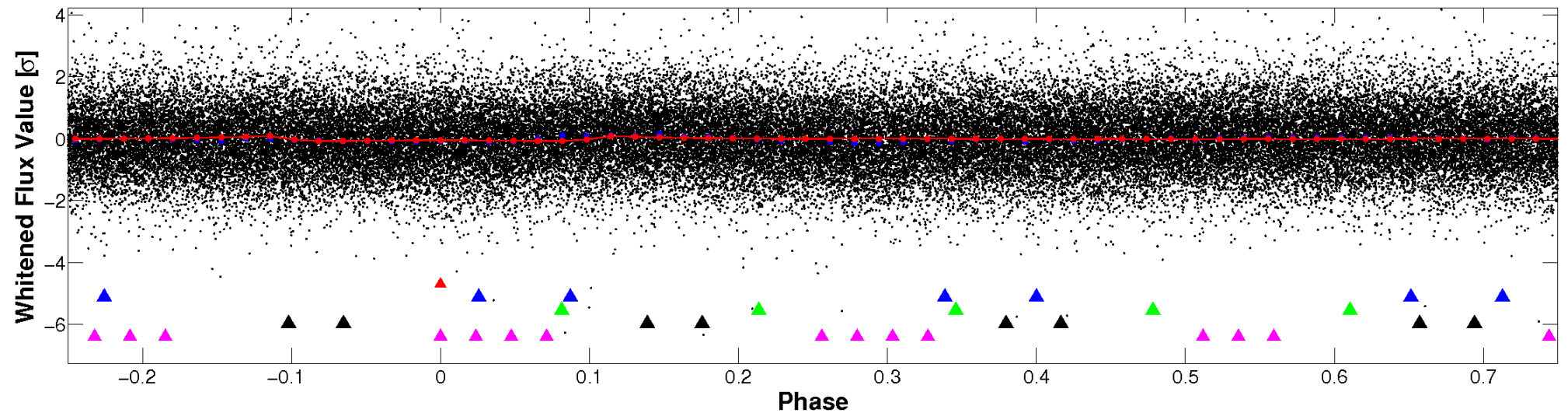


Non-Whitened Vs. Whitened Light Curve

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

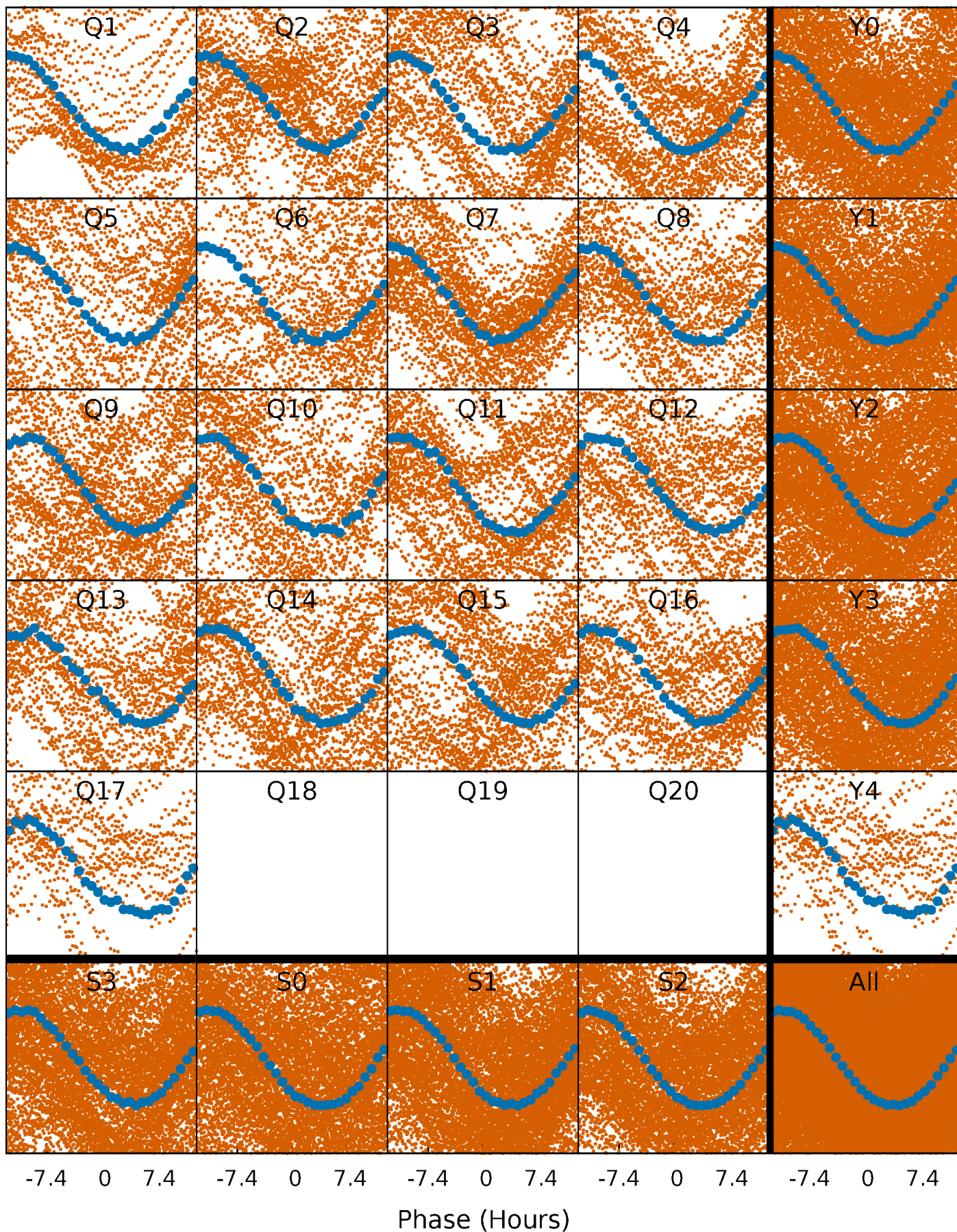


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



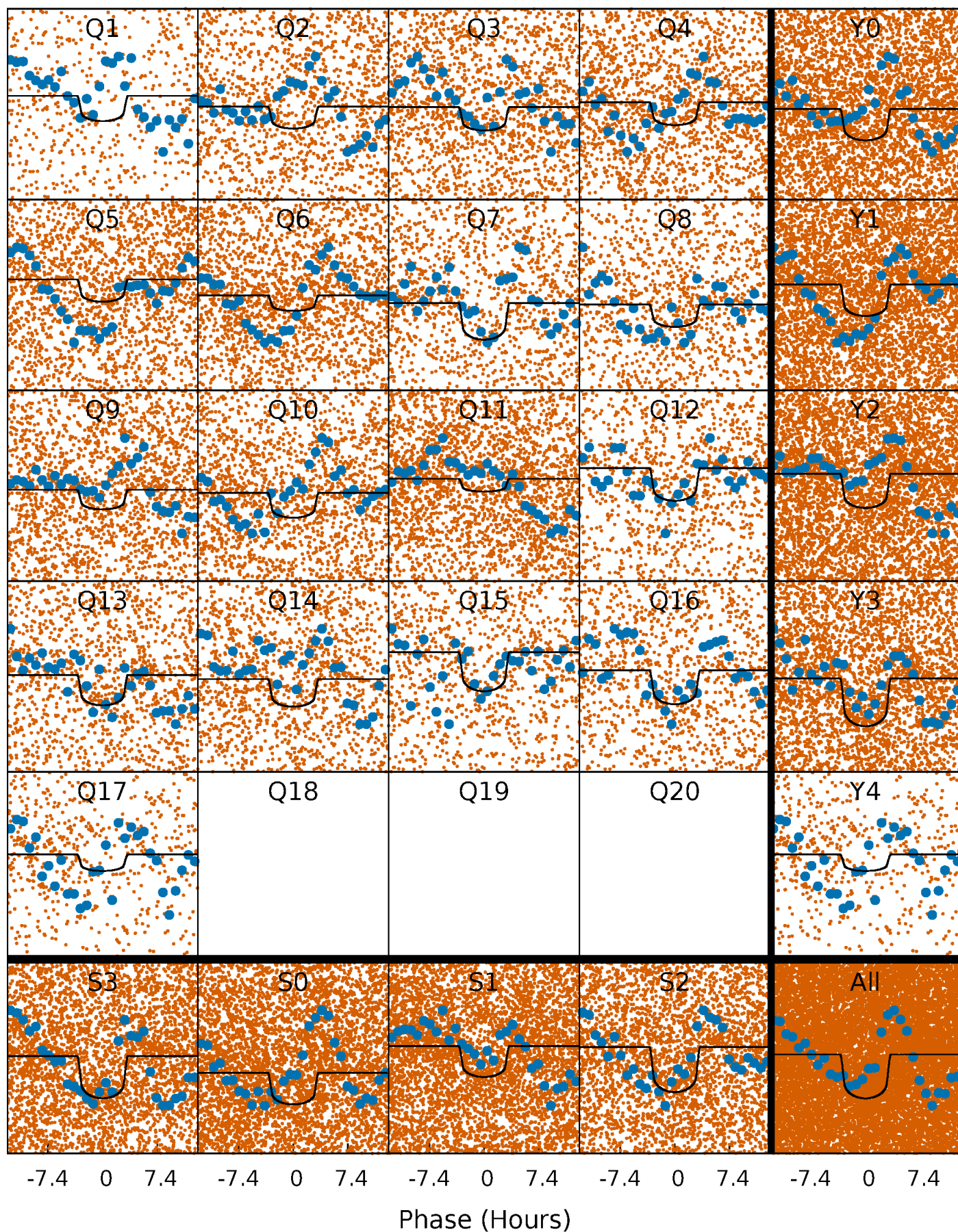
PDC Quarter-Phased Transit Curves

TCE 003339702-01 P= 1.250321 Days $T_0=132.665077$ (BKJD)



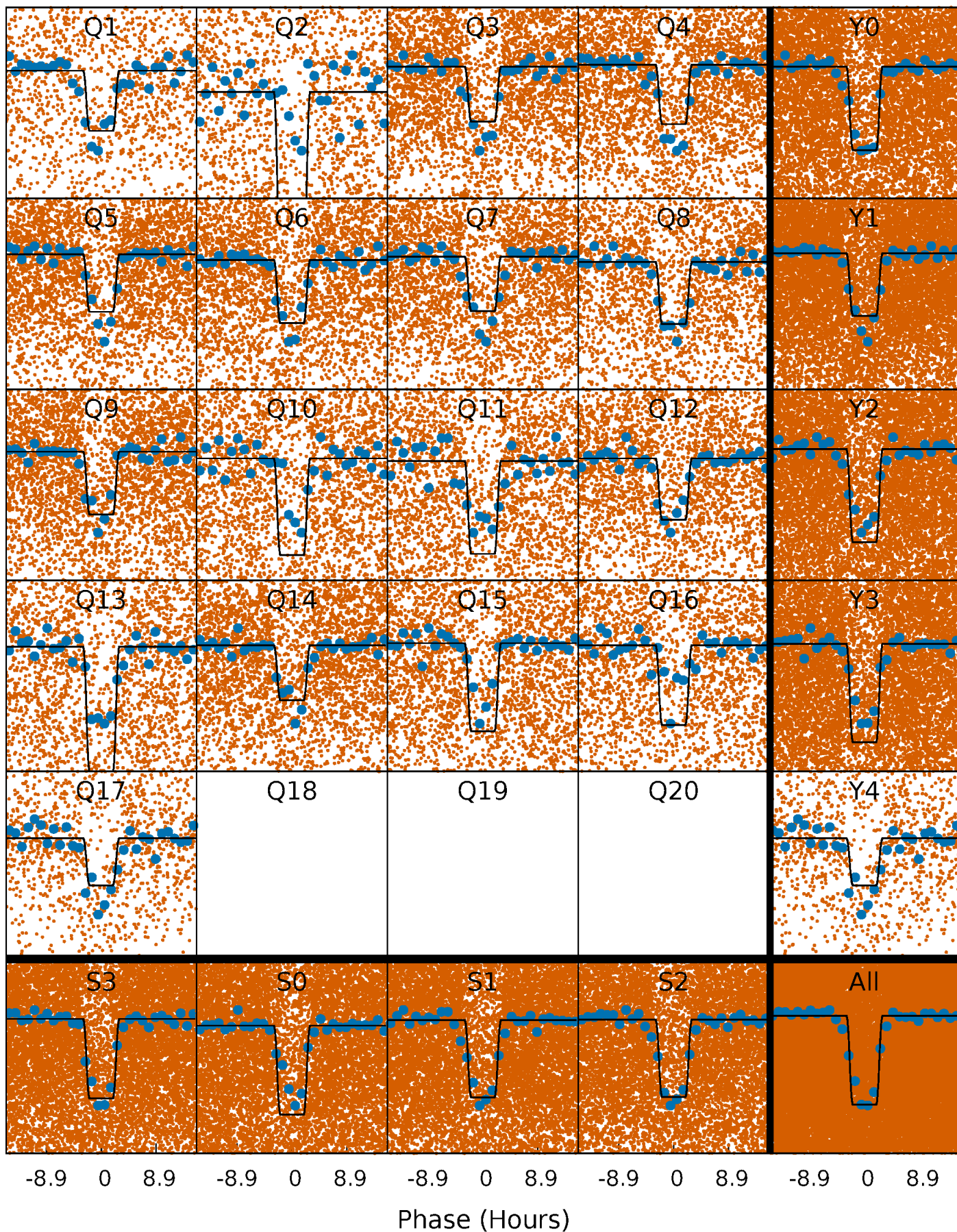
DV Quarter-Phased Transit Curves

TCE 003339702-01 P= 1.250321 Days $T_0=132.665077$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

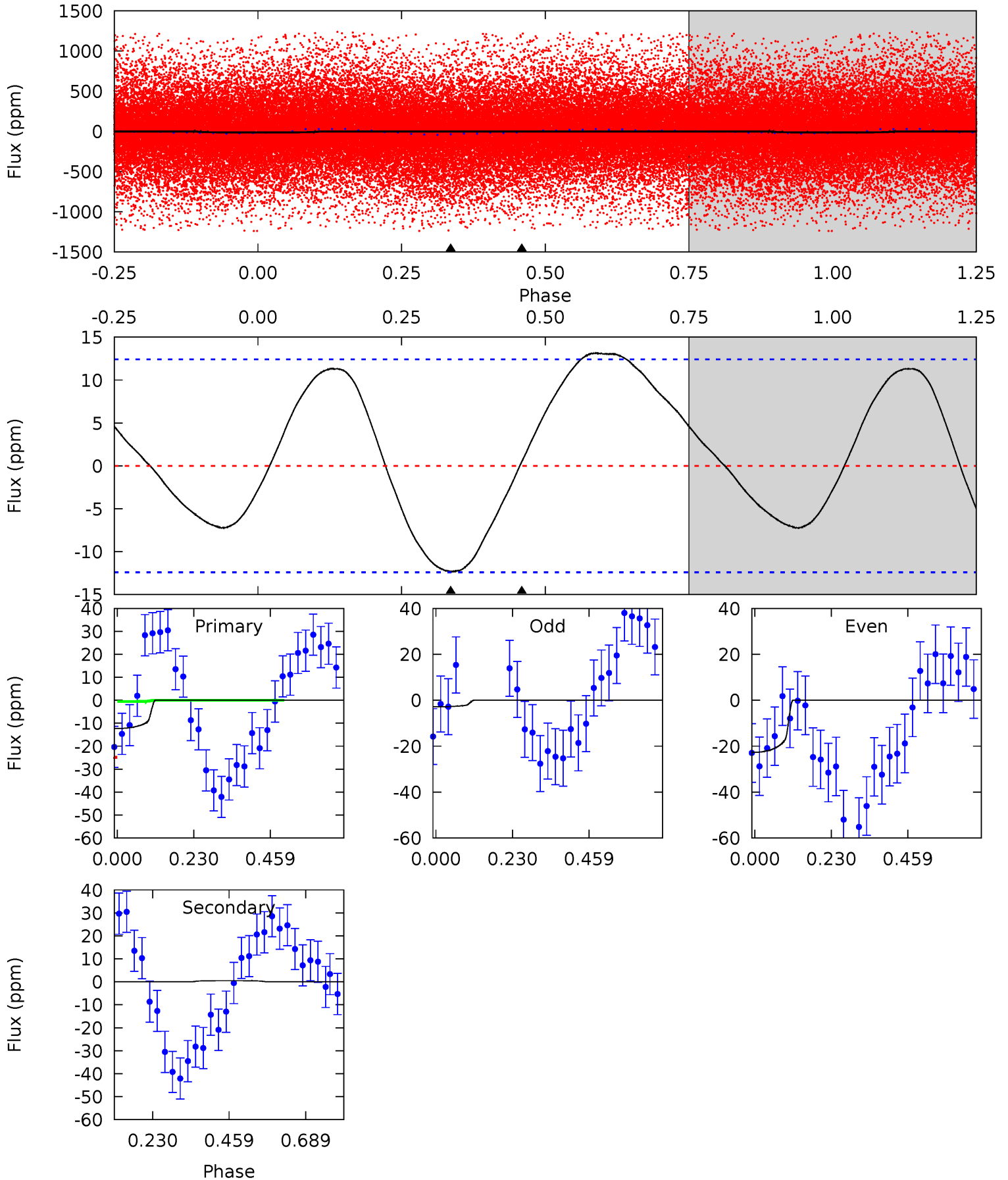
TCE 003339702-01 P= 1.250324 Days $T_0=132.662220$ (BKJD)



DV Model-Shift Uniqueness Test

003339702-01, P = 1.250321 Days, E = 131.414756 Days

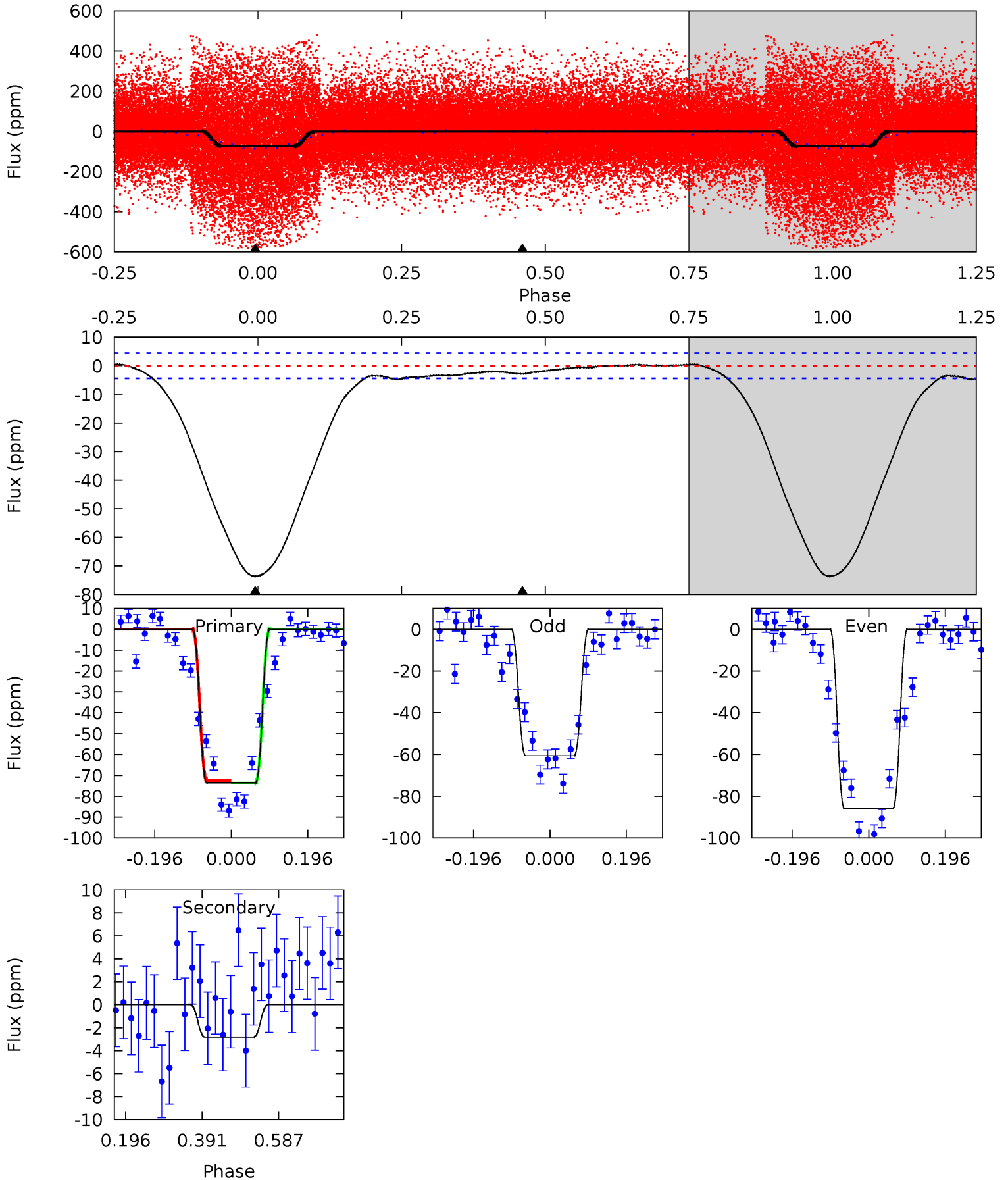
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.35	-0.17	0	0	4.39	1.20	1.95	4.35	4.35	-0.17	-0.17	3.51	0.63	0.52	4.35



Alt Model-Shift Uniqueness Test

003339702-01, P = 1.250324 Days, E = 131.411896 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
73.7	2.81	0	0	4.42	1.29	1.99	73.7	73.7	2.81	2.81	12.6	1.03	0.01	0.58



Stellar Parameters For KIC 003339702

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6269^{+176}_{-242}	$4.113^{+0.225}_{-0.184}$	$0.070^{+0.250}_{-0.300}$	$1.656^{+0.494}_{-0.494}$	$1.297^{+0.188}_{-0.251}$	$0.403^{+0.621}_{-0.185}$
	+3%/-4%	+5%/-4%	+357%/-429%	+30%/-30%	+14%/-19%	+154%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 003339702-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 3	$1.14^{+0.33}_{-0.30}$	3143^{+261}_{-280}	-3353^{+6543}_{-640}	$-0.117^{+0.740}_{-0.877}$
Alt.	-3 ± 1	$1.59^{+0.34}_{-0.34}$	3141^{+254}_{-257}	2559^{+590}_{-5367}	$0.362^{+0.283}_{-0.173}$

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 $A_{obs} \gg 1.0$

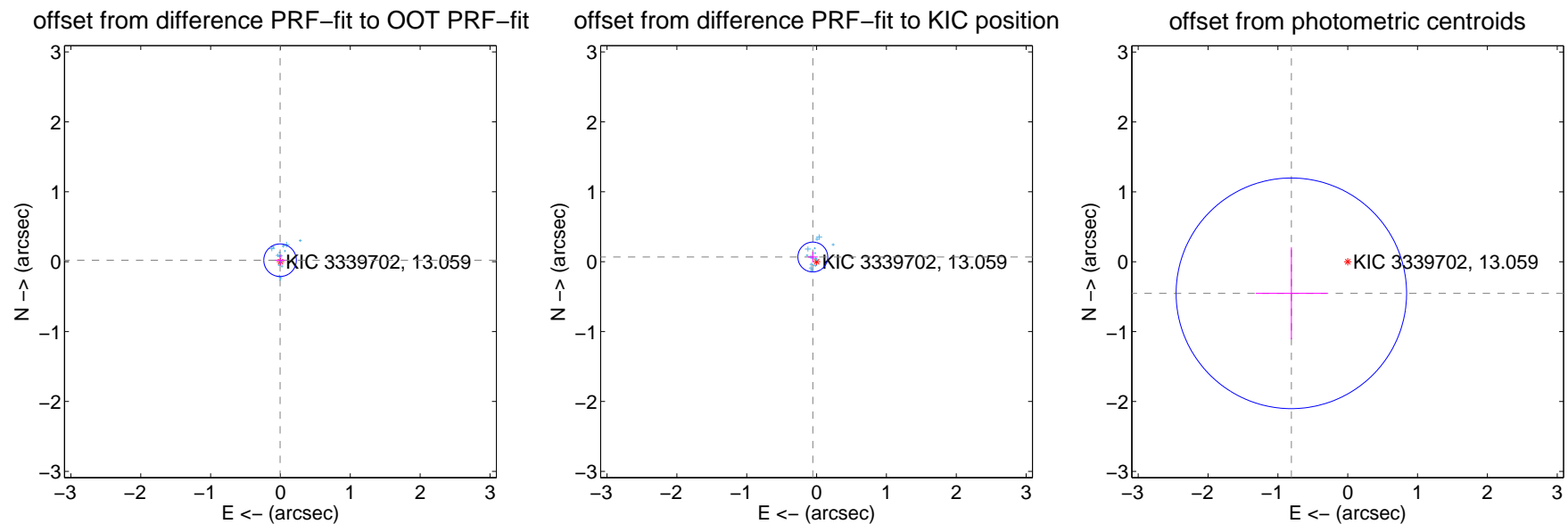
DV Centroid Data

Supplemental centroid analysis for 003339702-01. Kepler magnitude: 13.06. Transit SNR 8.77

There are 17 quarters with good PRF difference image offsets

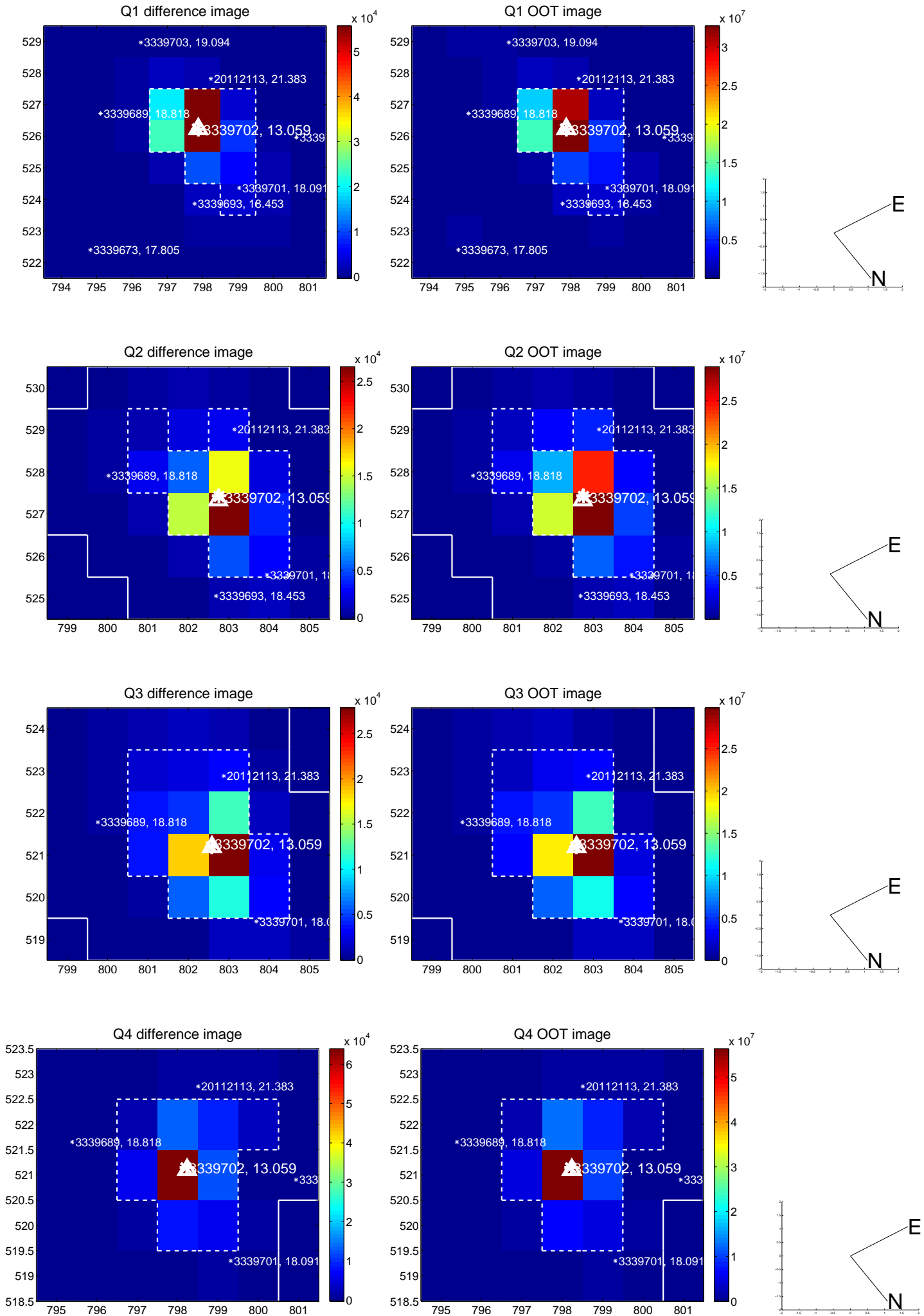
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.021 ± 0.078	0.27	0.006 ± 0.070	0.020 ± 0.079
PRF-fit source offset from KIC position	0.085 ± 0.071	1.20	0.054 ± 0.069	0.066 ± 0.076
photometric centroid source offset	0.93 ± 0.55	1.68	0.81 ± 0.51	-0.45 ± 0.66

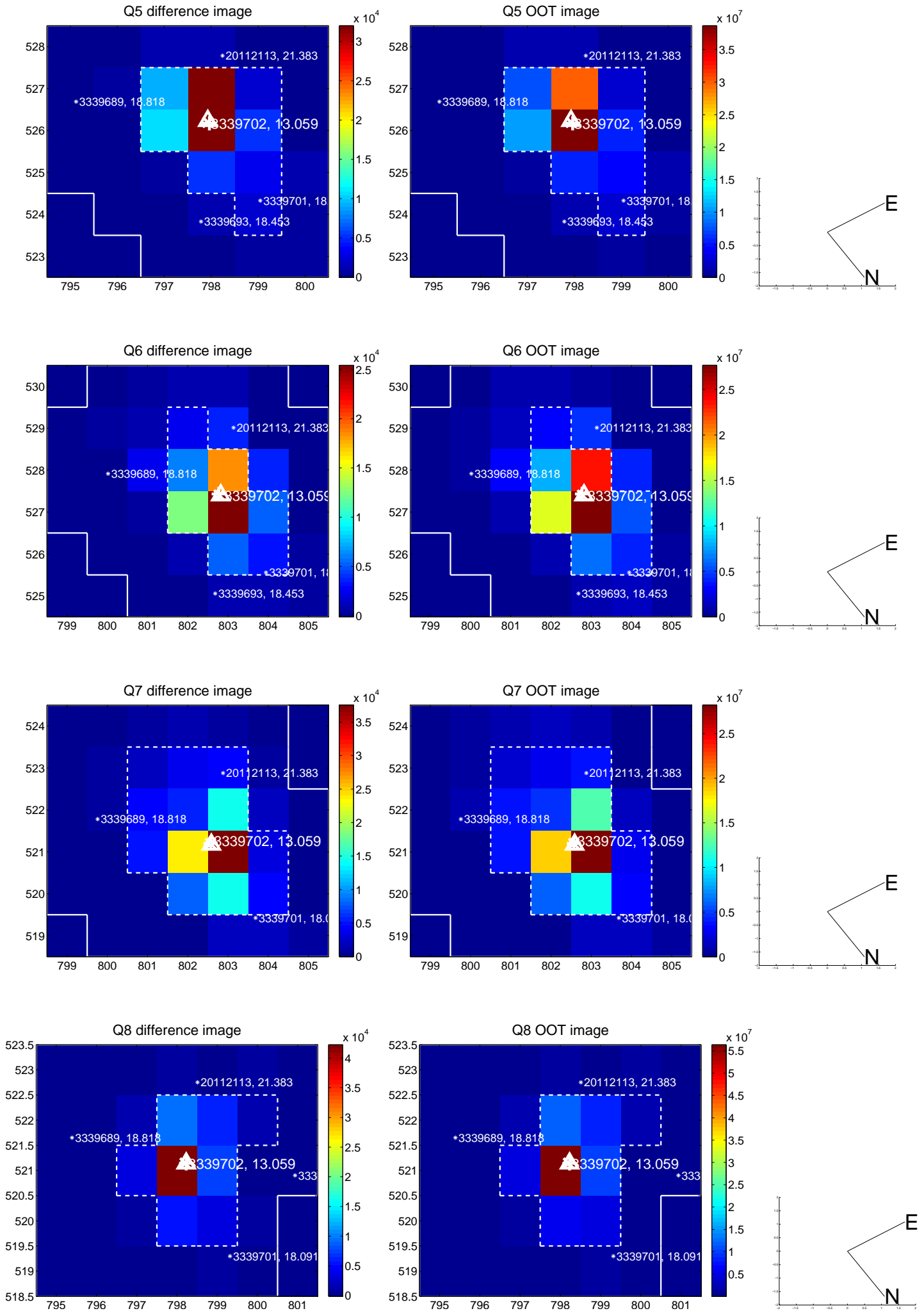


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

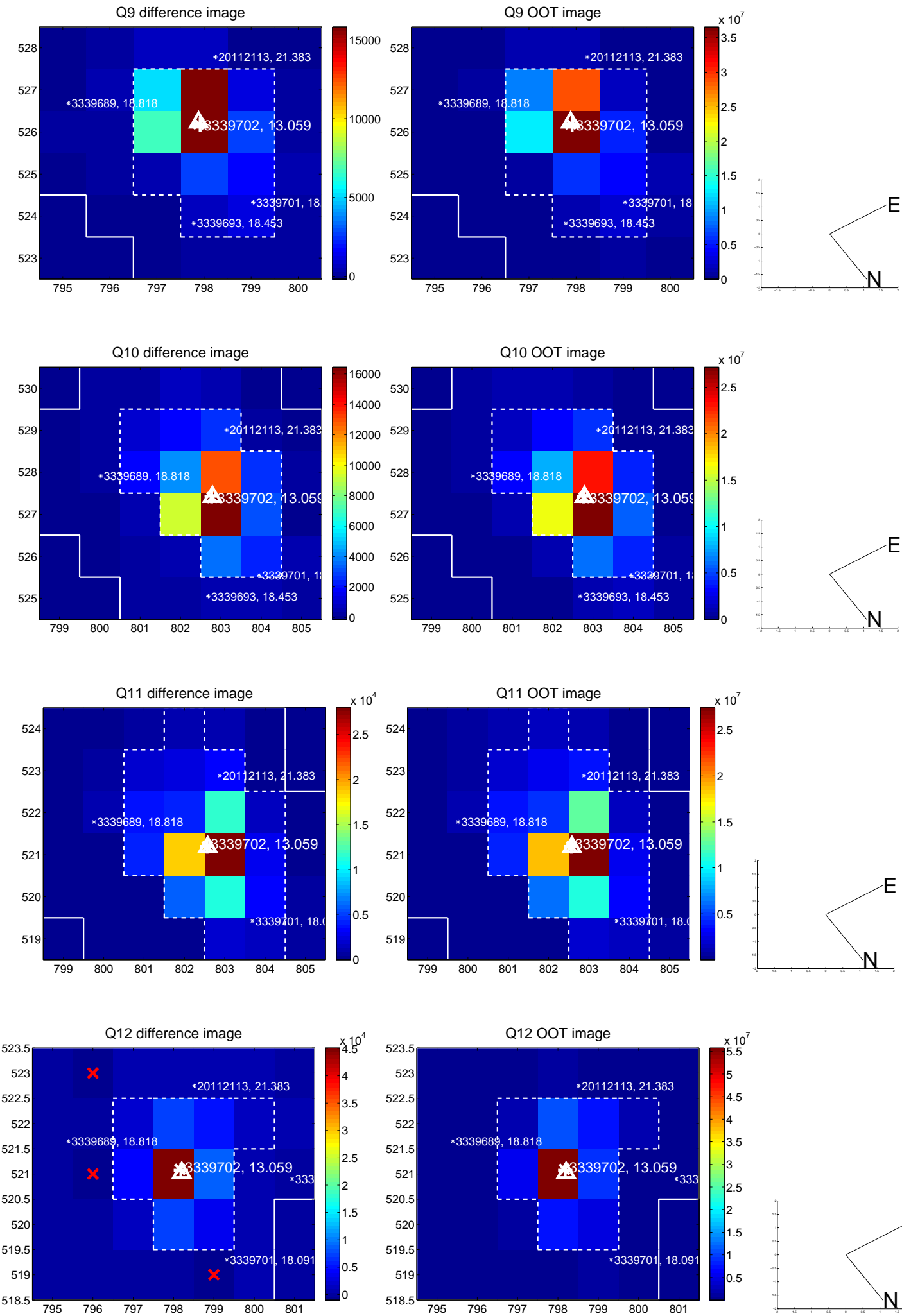
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



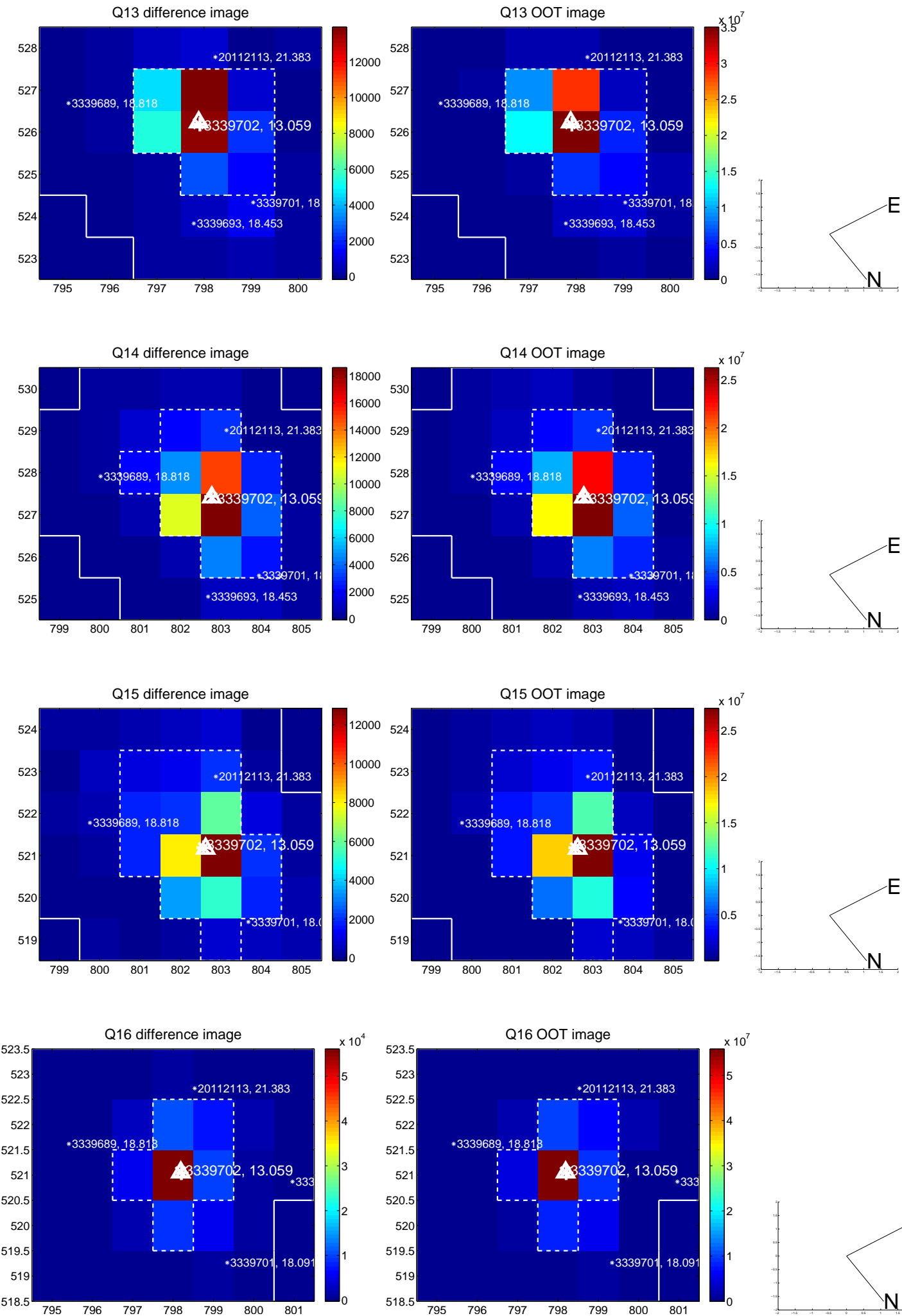
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



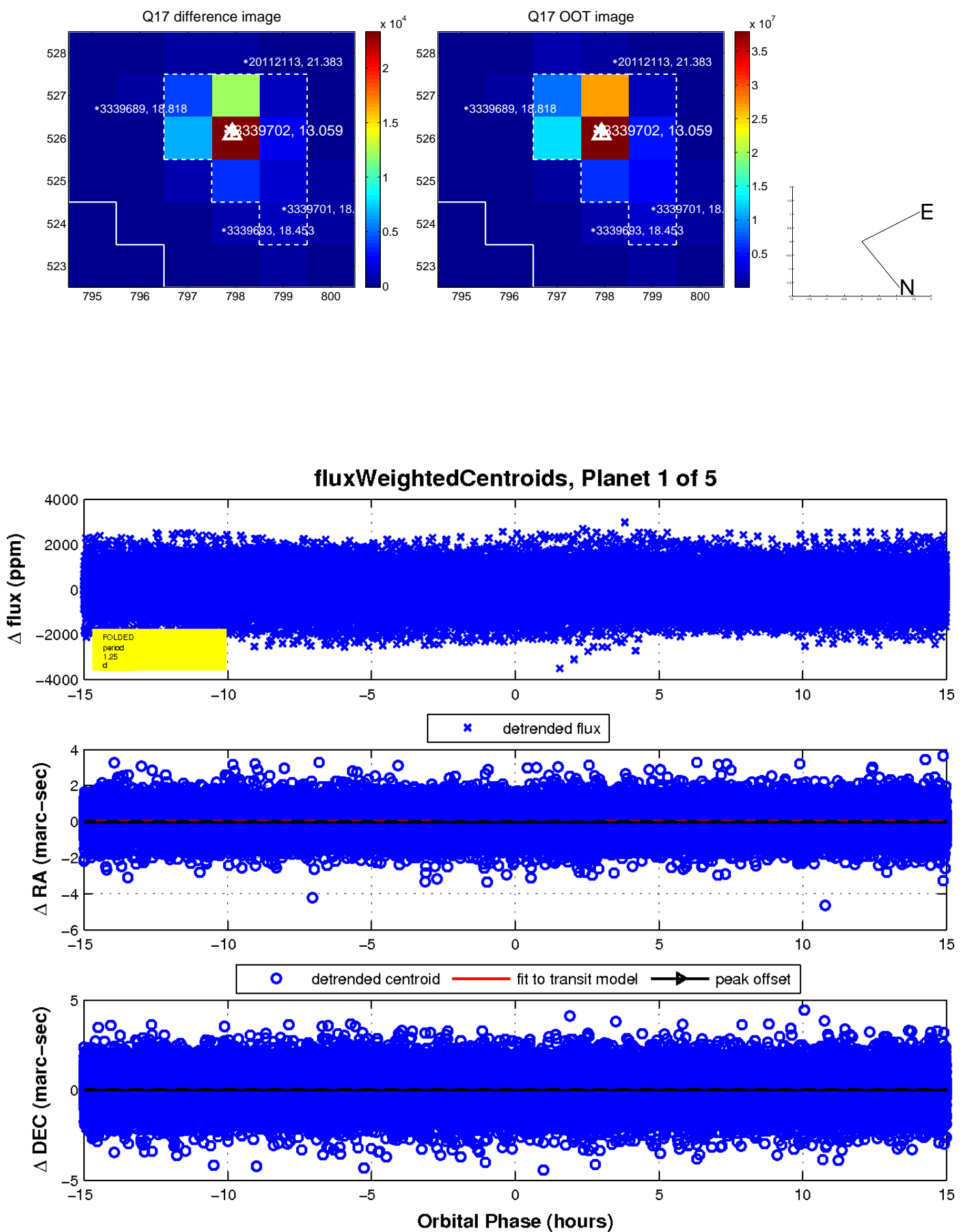
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

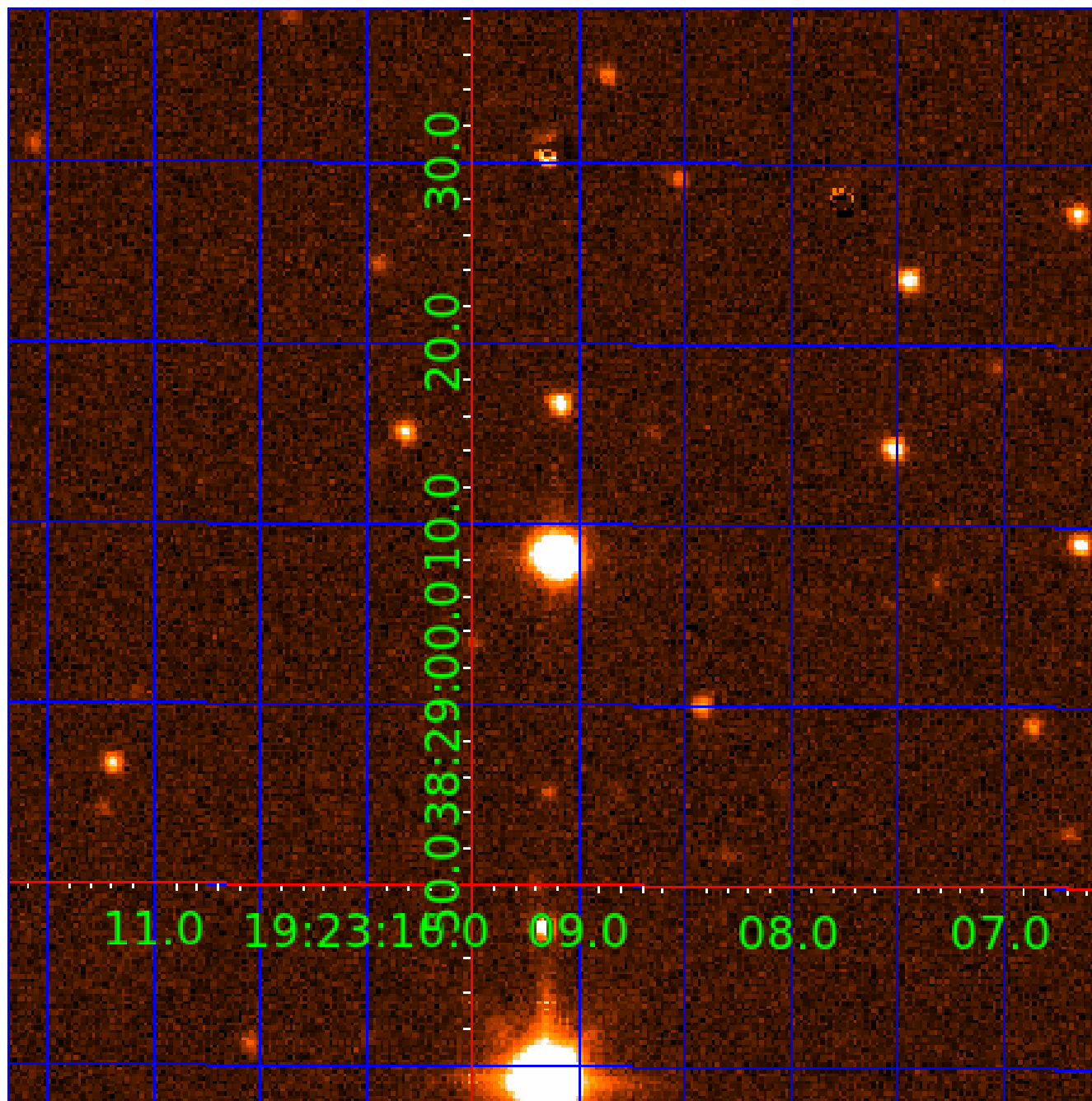


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003339702

Q1-17 DR25 TCE Parameters

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TCE	Run Type	Disp	Score	N	S	C	E	Comments
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003339702-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

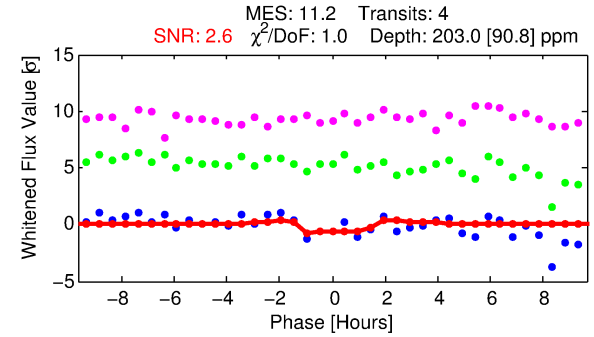
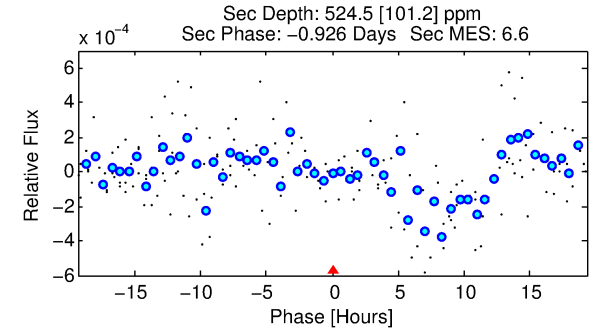
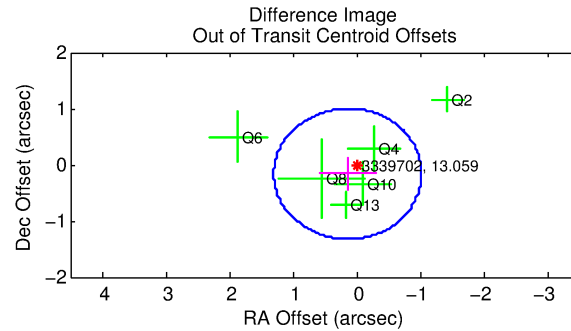
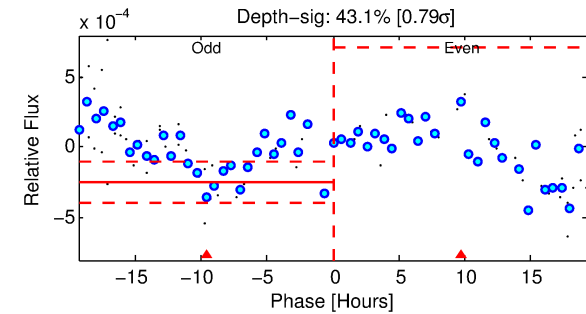
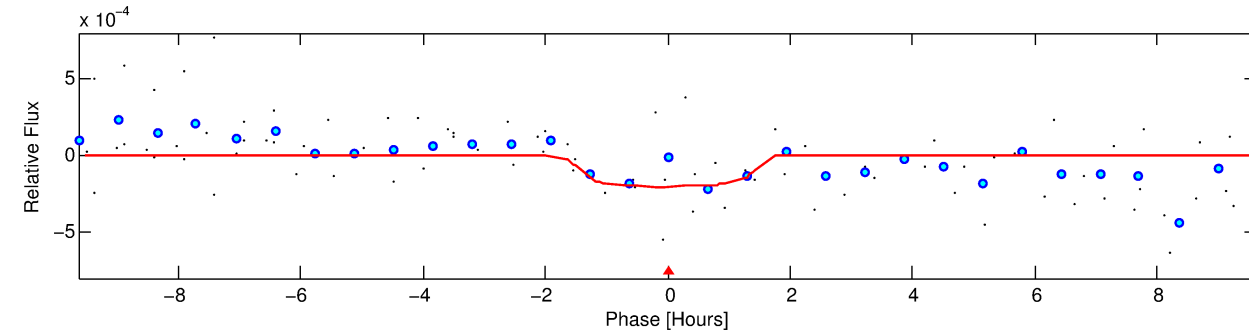
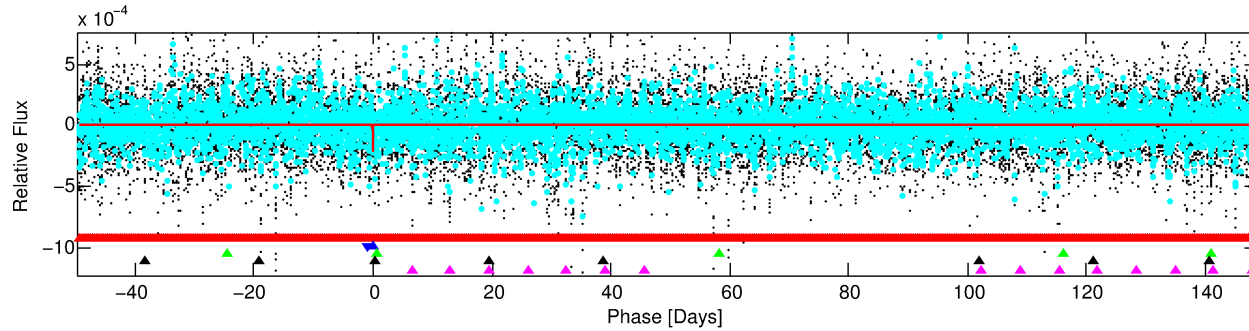
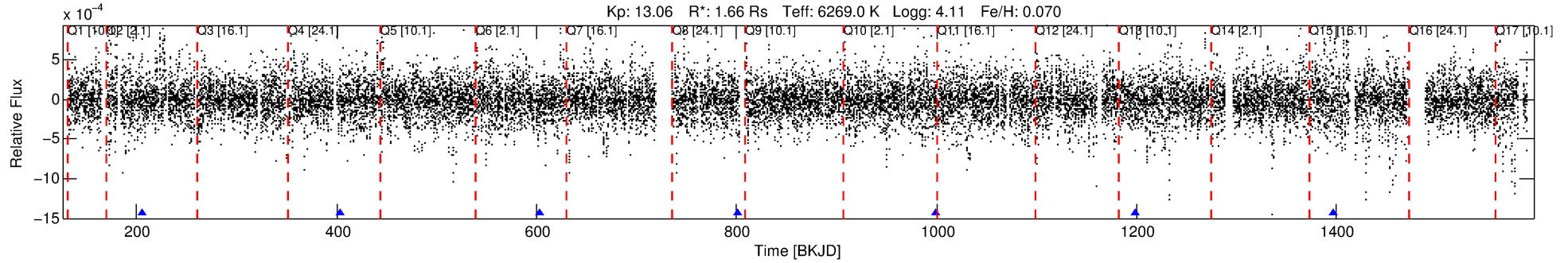
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003339702-02

No Significant Match Found

DV One-Page Summary

KIC: 3339702 Candidate: 2 of 5 Period: 198.410 d



DV Fit Results:

Period = 198.40987 [0.00663] d
Epoch = 205.9981 [0.0235] BKJD
Rp/R* = 0.0152 [0.0210]
a/R* = 229.24 [1633.89]
b = 0.89 [1.66]
Seff = 7.19 [3.07]
Teq = 418 [45] K
Rp = 2.75 [3.88] Re
a = 0.7263 [0.1913] AU
Ag = 20075.48 [56010.51] [0.36σ]
Teffp = 7686 [5314] K [1.37σ]

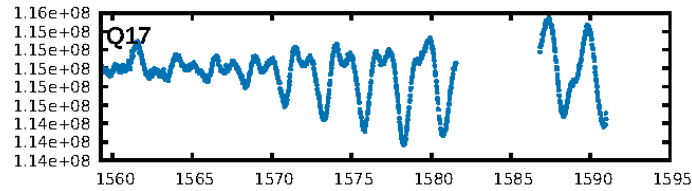
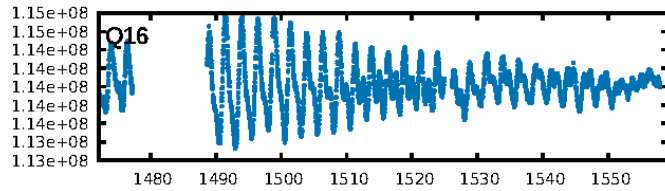
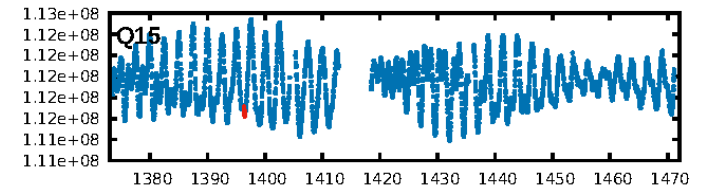
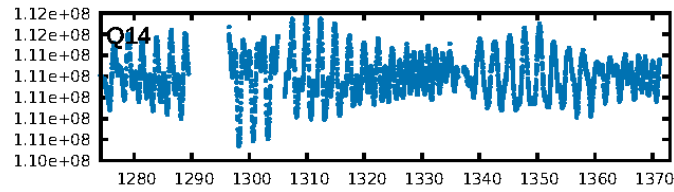
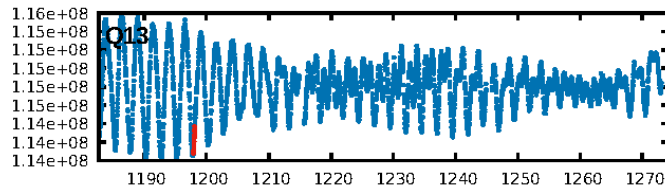
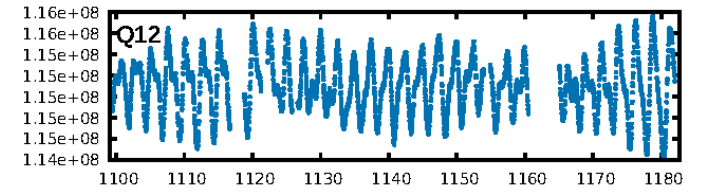
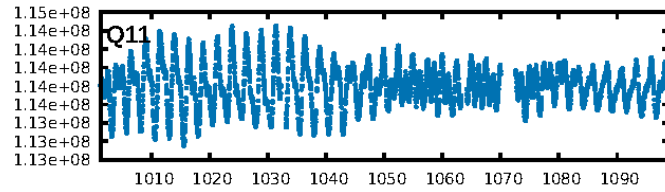
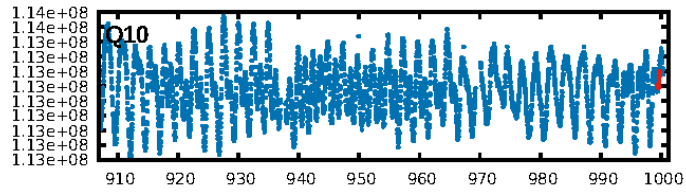
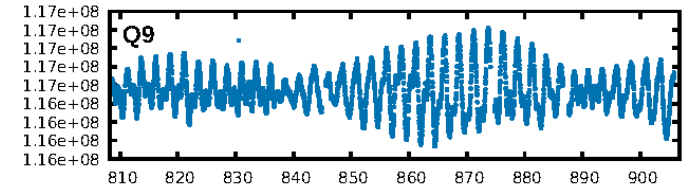
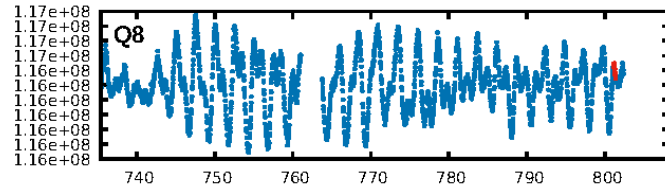
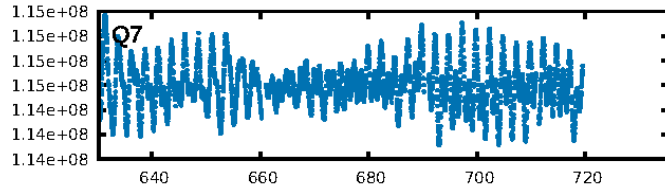
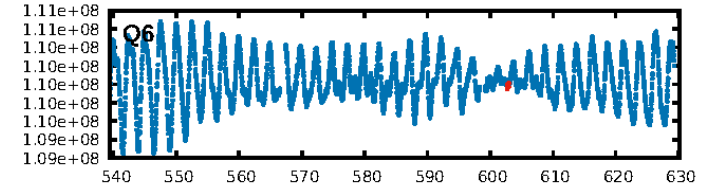
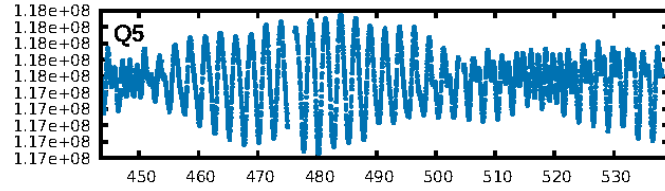
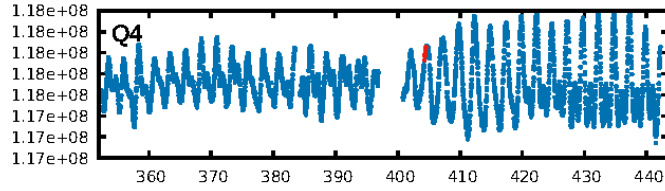
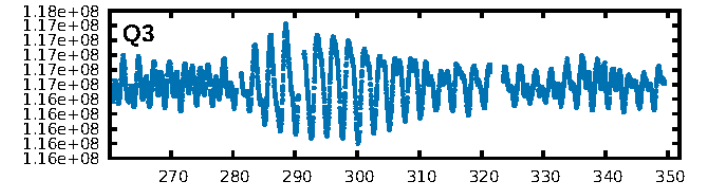
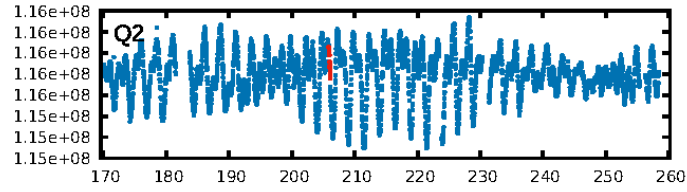
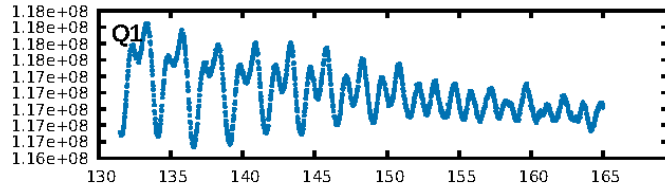
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [135.51σ]
LongPeriod-sig: 100.0% [252.36σ]
ModelChiSquare2-sig: 34.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.72e-15
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.399
Centroid-sig: 24.8%
Centroid-so: 1.888 arcsec [1.12σ]
OotOffset-rm: 0.214 arcsec [0.55σ]
KicOffset-rm: 0.308 arcsec [0.76σ]
OotOffset-st: 3/0/2/1 [6]
KicOffset-st: 3/0/2/1 [6]
DiffImageQuality-fgm: 0.50 [3/6]
DiffImageOverlap-fno: 0.17 [1/6]

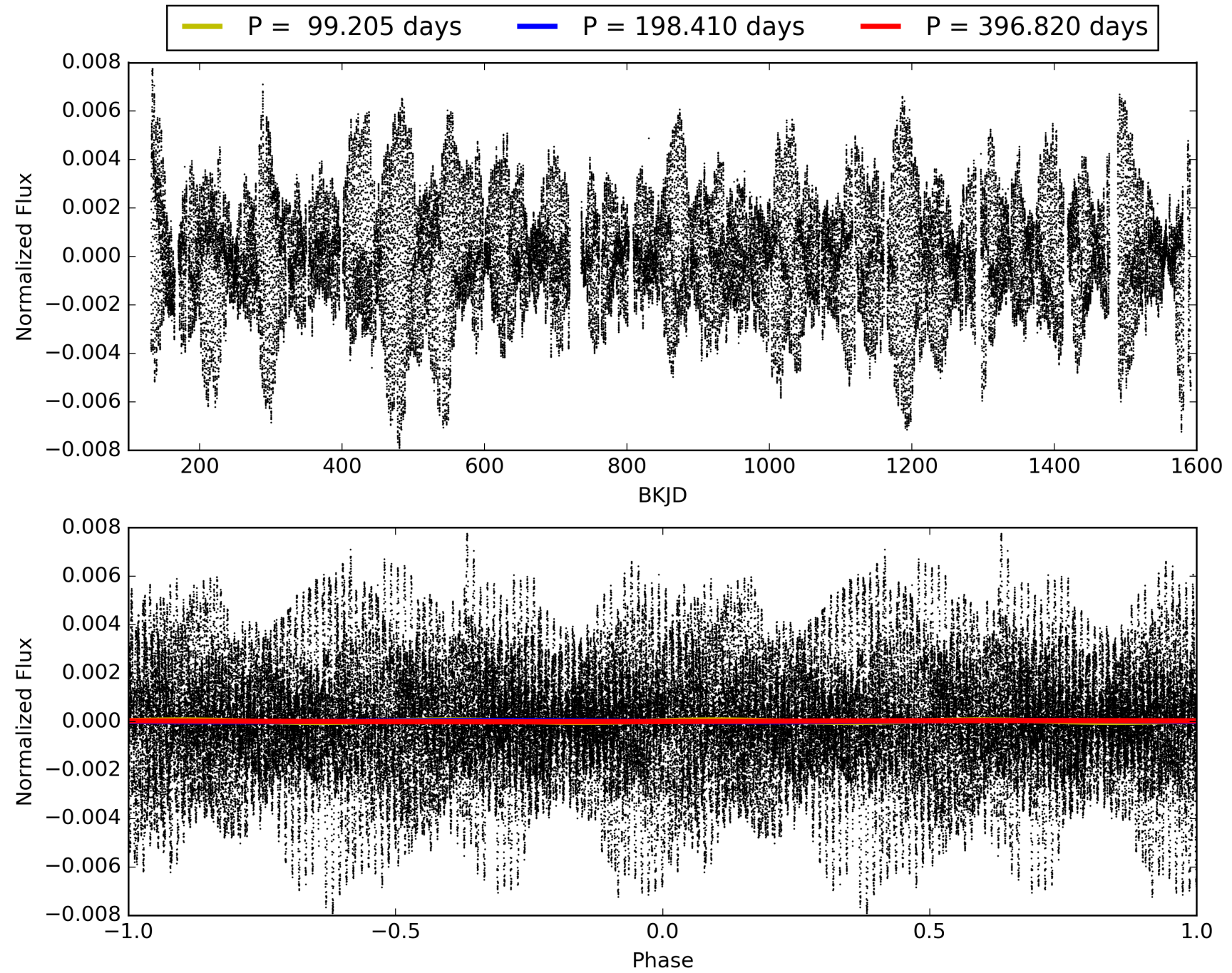
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:13:08 Z

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

TCE 003339702-02, PDC Light Curves

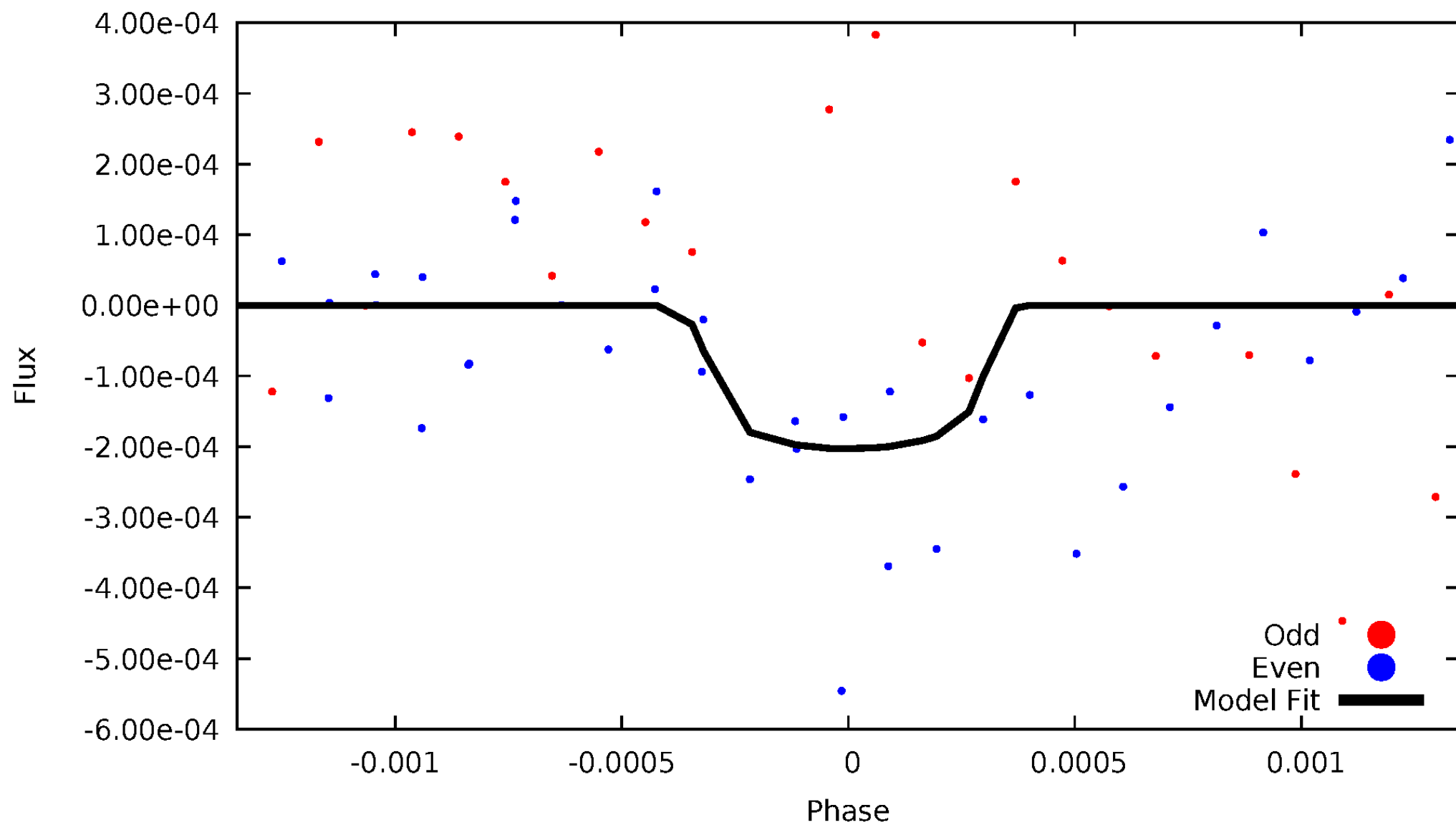


TCE 003339702-02



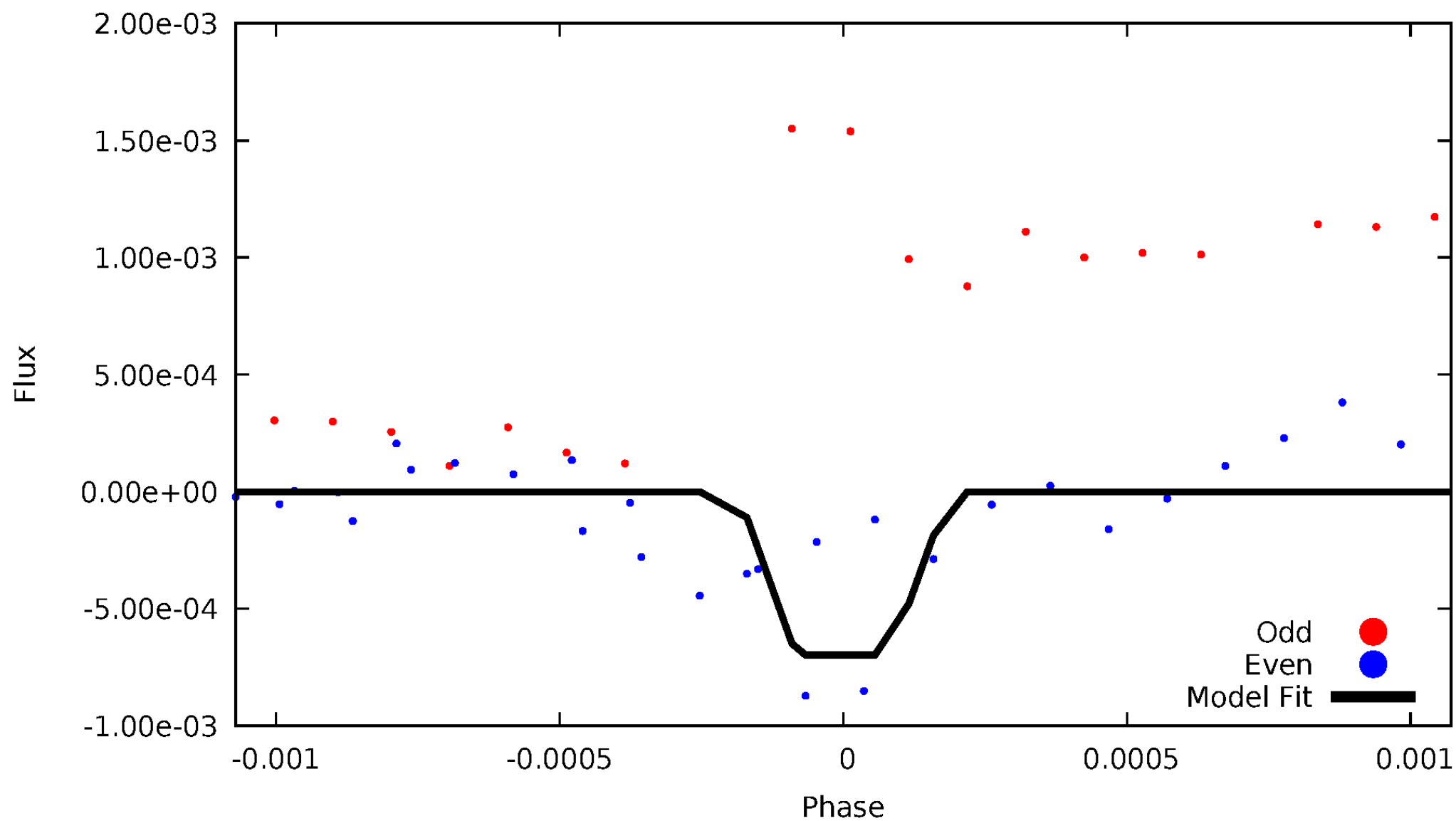
DV Odd/Even

TCE 003339702-02



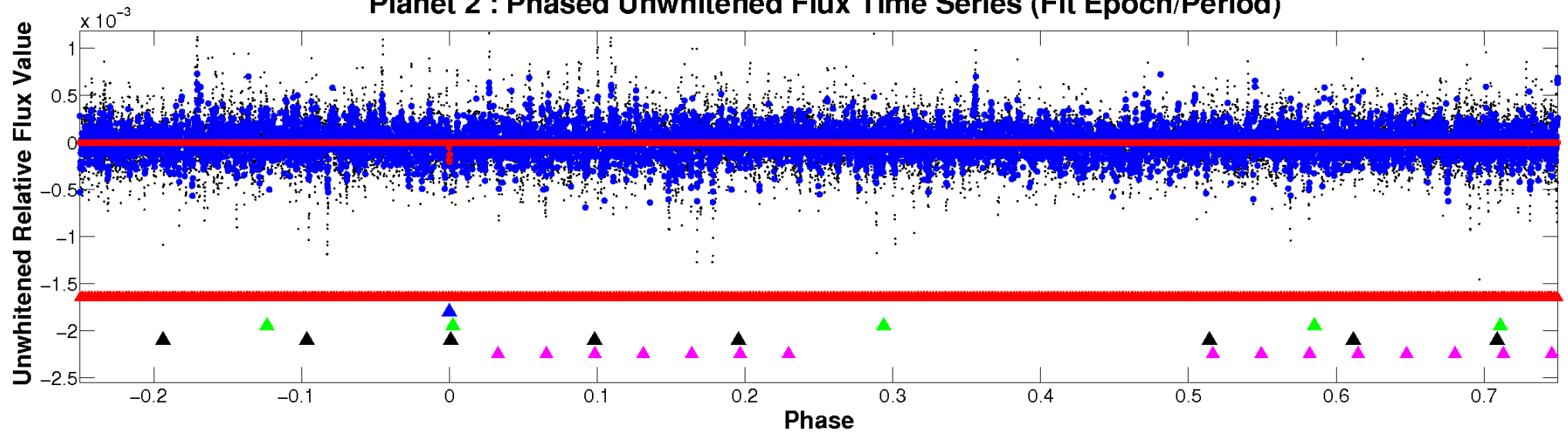
ALT Odd/Even

TCE 003339702-02

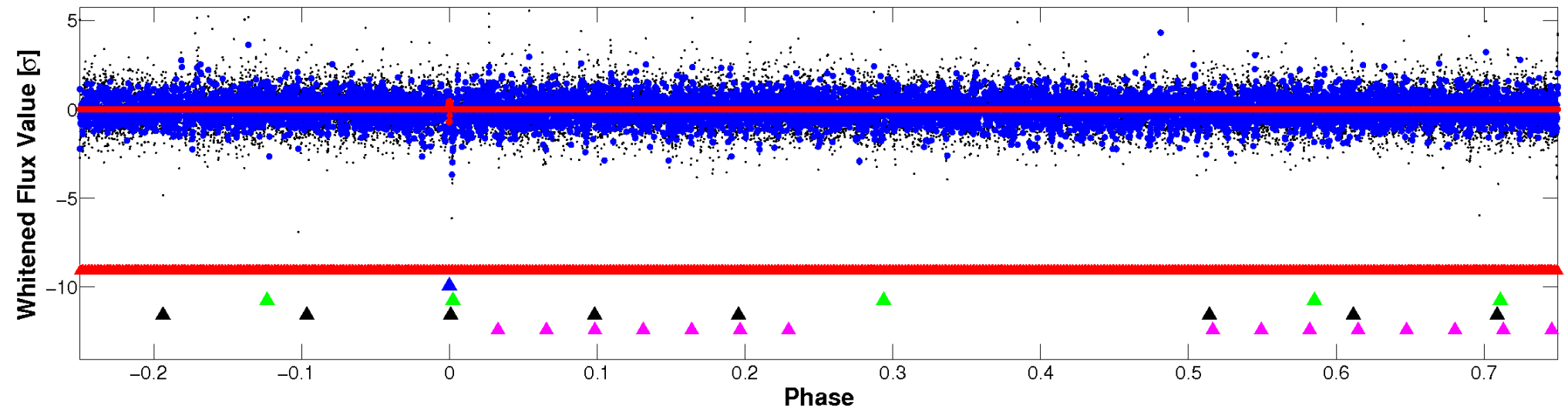


Non-Whitened Vs. Whitened Light Curve

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

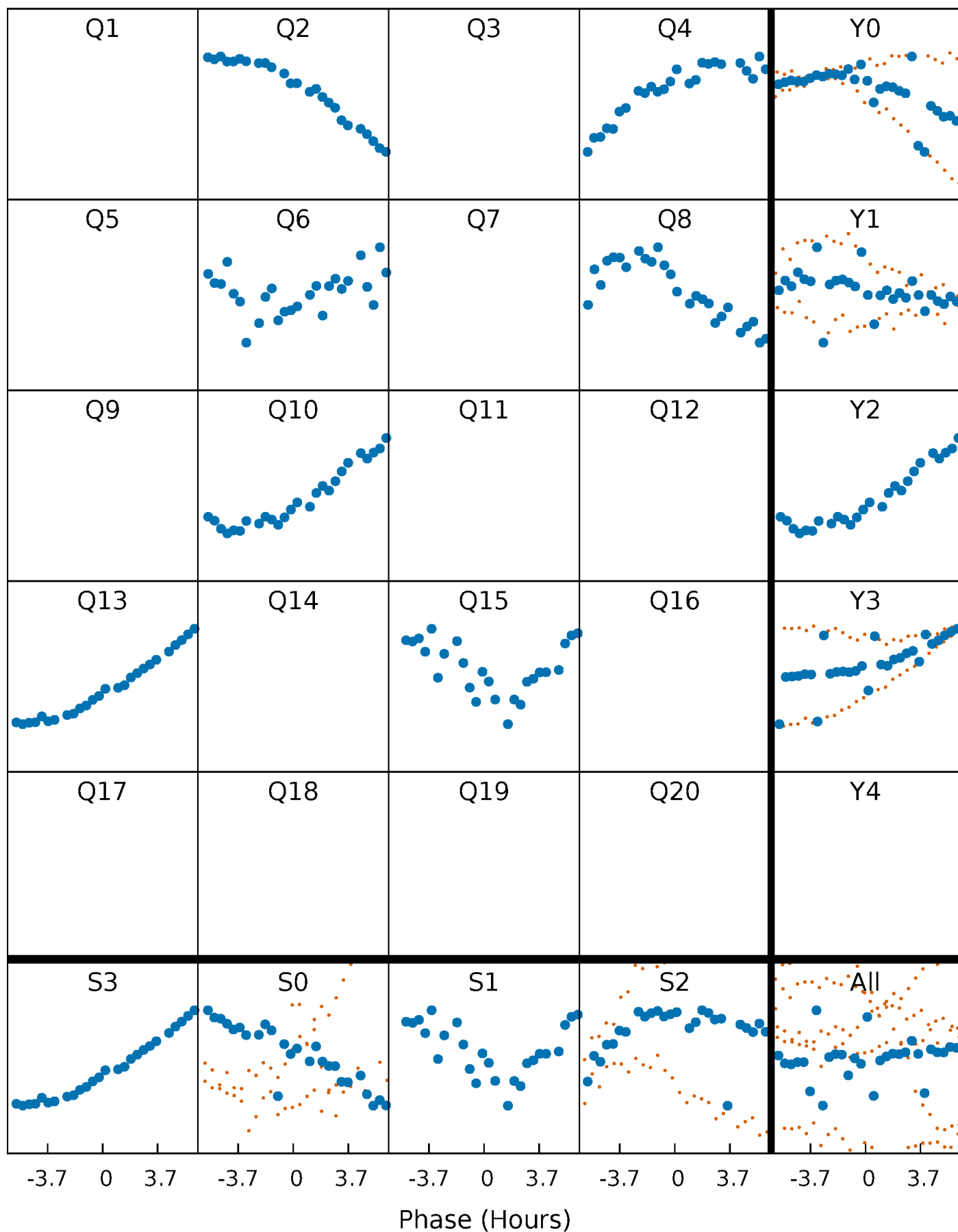


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



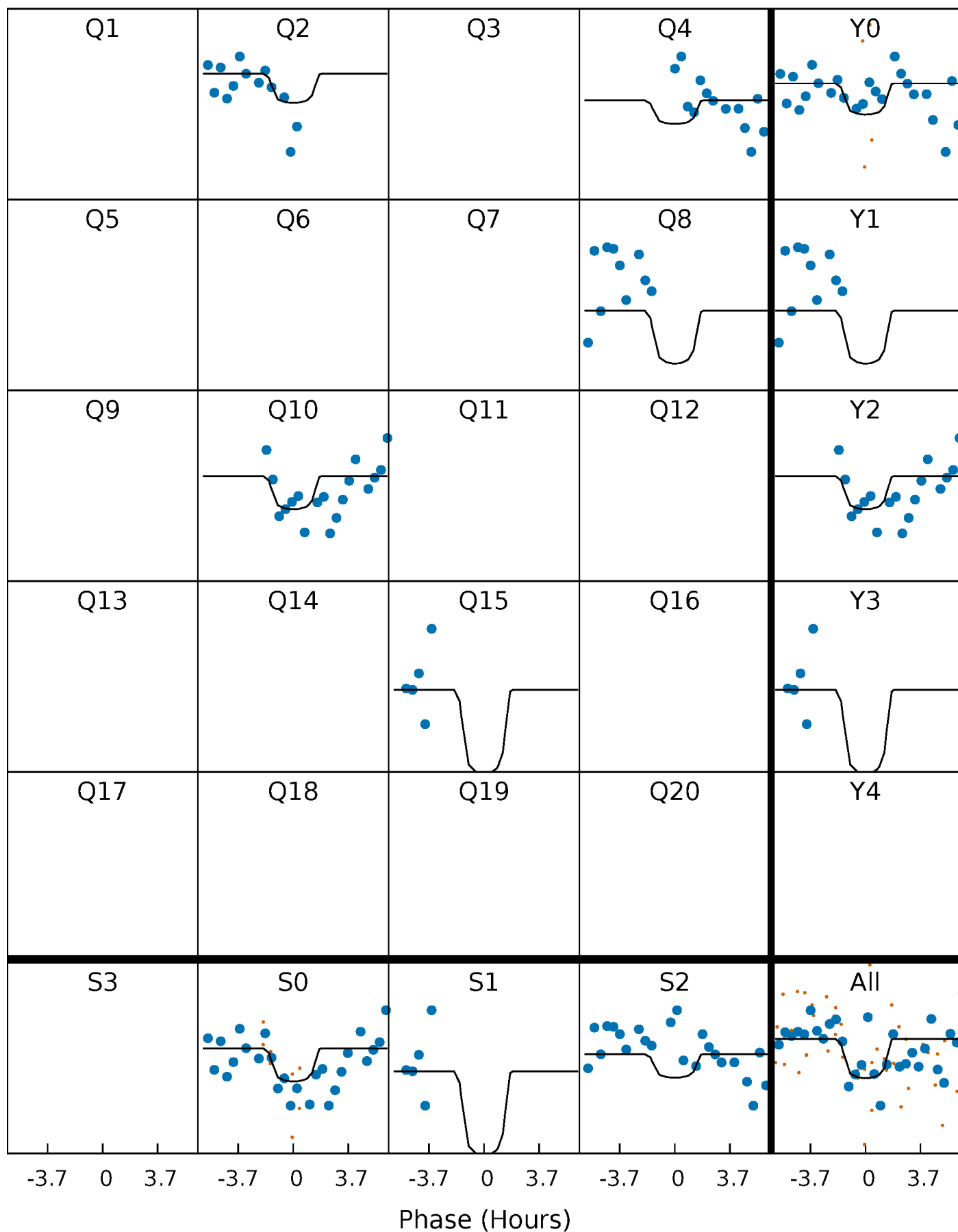
PDC Quarter-Phased Transit Curves

TCE 003339702-02 $P=198.409872$ Days $T_0=205.998139$ (BKJD)



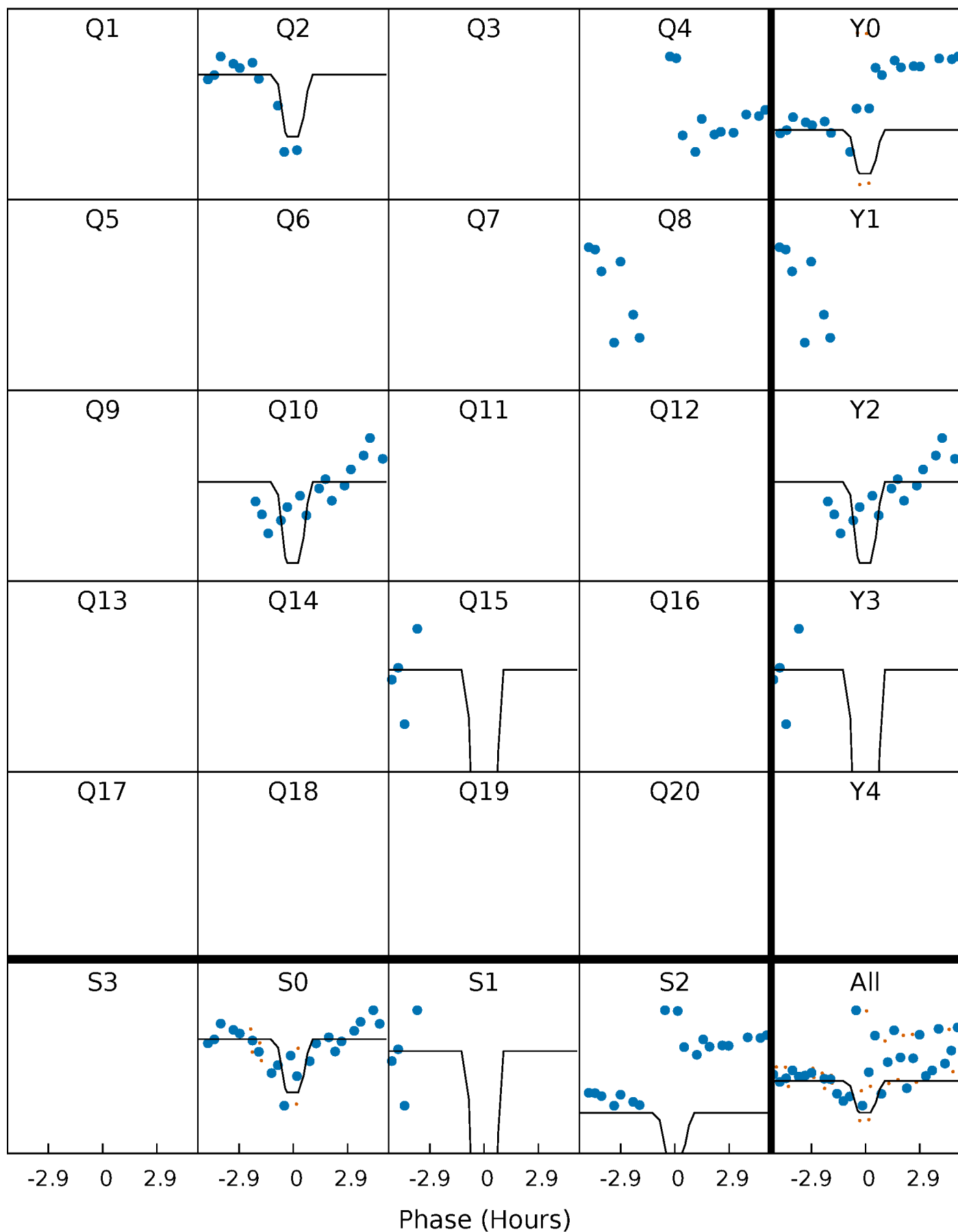
DV Quarter-Phased Transit Curves

TCE 003339702-02 P=198.409872 Days $T_0=205.998139$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

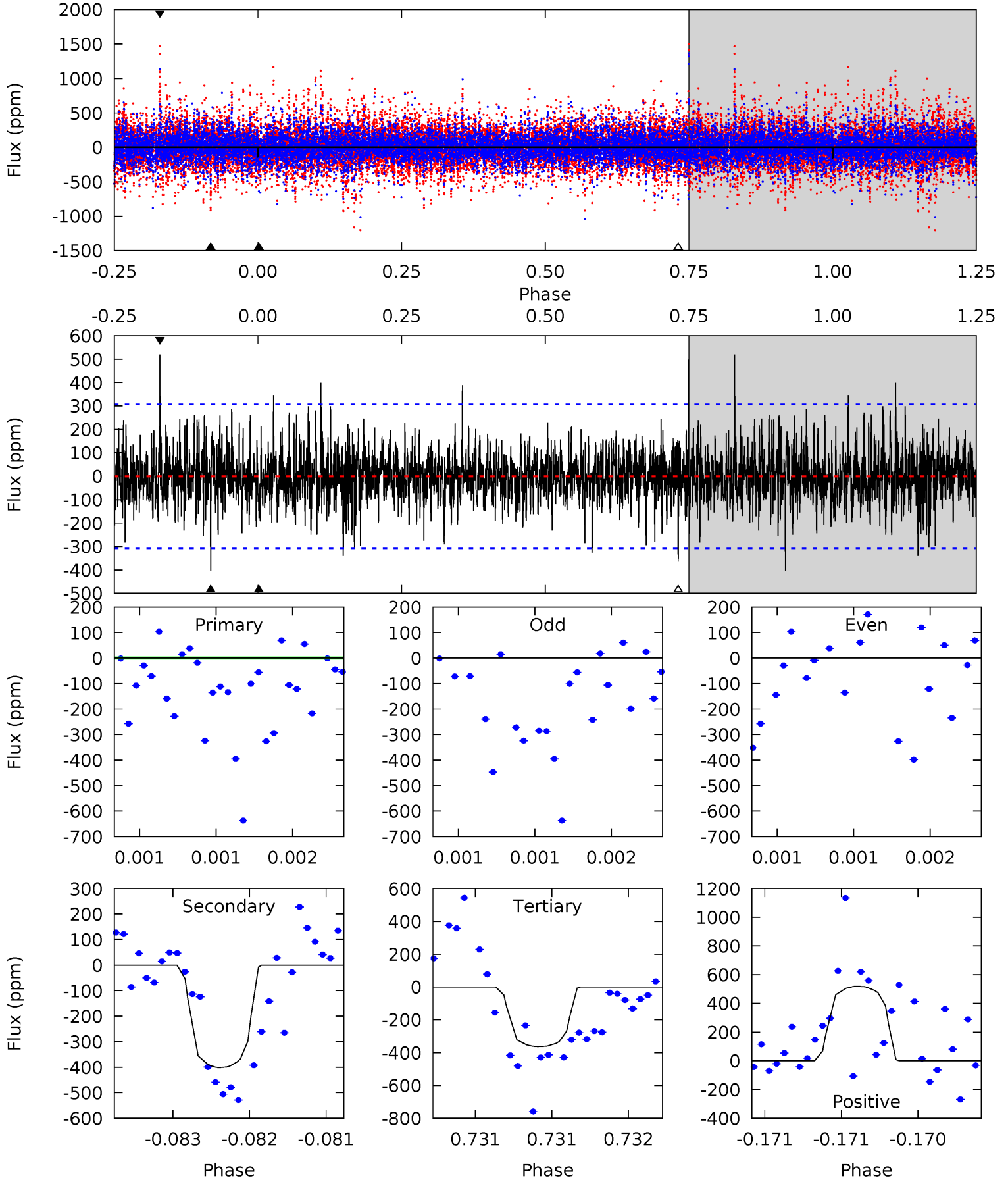
TCE 003339702-02 P=198.409071 Days $T_0=206.008487$ (BKJD)



DV Model-Shift Uniqueness Test

003339702-02, P = 198.409872 Days, E = 7.588267 Days

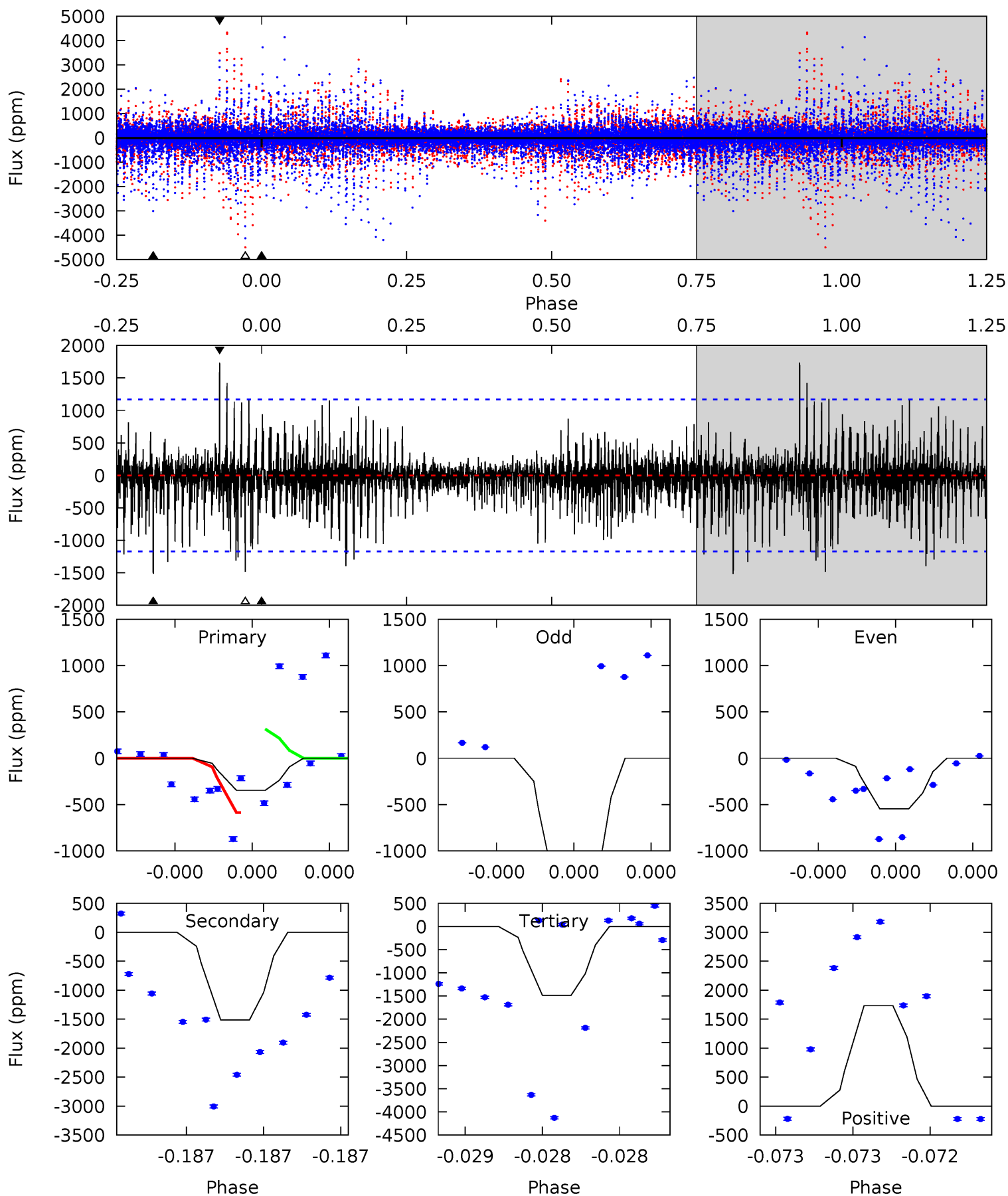
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.61	7.21	6.52	9.33	5.50	3.37	1.60	-3.91	-6.71	0.69	-2.12	1.01	0.64	0.56	0.55



Alt Model-Shift Uniqueness Test

003339702-02, P = 198.409071 Days, E = 7.599416 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.67	7.30	7.16	8.36	5.65	3.59	1.13	-5.49	-6.69	0.15	-1.06	2.30	-0.62	0.53	0.60



Stellar Parameters For KIC 003339702

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$\rho_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6269^{+176}_{-242}	$4.113^{+0.225}_{-0.184}$	$0.070^{+0.250}_{-0.300}$	$1.656^{+0.494}_{-0.494}$	$1.297^{+0.188}_{-0.251}$	$0.403^{+0.621}_{-0.185}$
	+3%/-4%	+5%/-4%	+357%/-429%	+30%/-30%	+14%/-19%	+154%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 003339702-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-402 ± 56	$3.82^{+3.36}_{-2.62}$	579^{+52}_{-46}	6115^{+6691}_{-1476}	8203^{+66924}_{-5878}
Alt.	-1514 ± 207	$5.01^{+3.95}_{-3.06}$	577^{+51}_{-49}	7459^{+7945}_{-1898}	$17538^{+107706}_{-12127}$

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

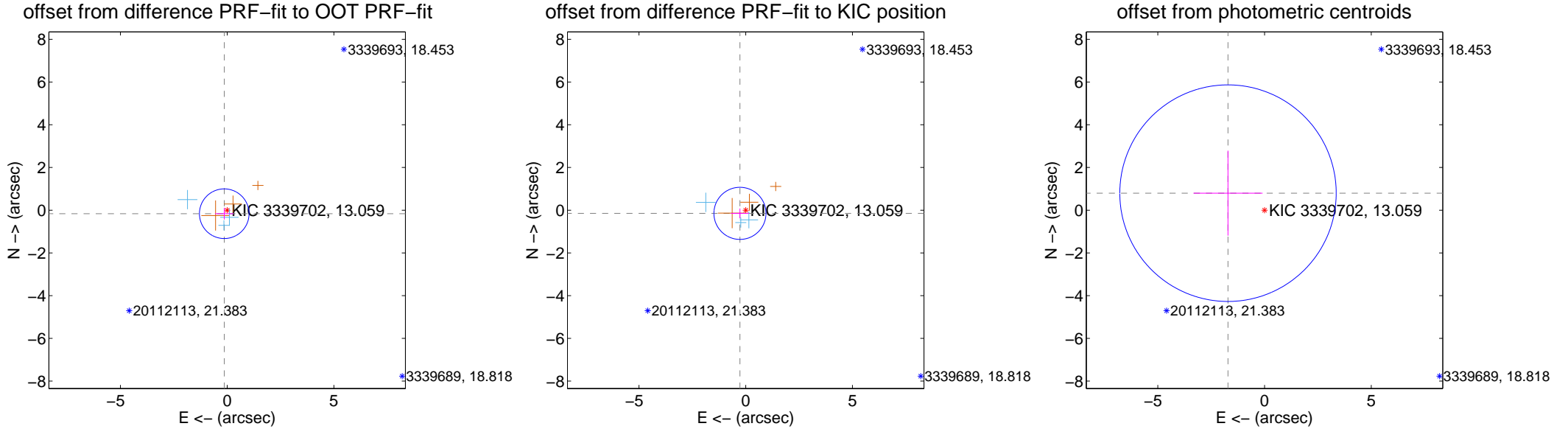
DV Centroid Data

Supplemental centroid analysis for 003339702-02. Kepler magnitude: 13.06. Transit SNR 2.62

There are 3 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.214 ± 0.387	0.55	0.137 ± 0.435	-0.164 ± 0.274
PRF-fit source offset from KIC position	0.308 ± 0.407	0.76	0.270 ± 0.421	-0.148 ± 0.227
photometric centroid source offset	1.89 ± 1.69	1.12	1.71 ± 1.62	0.80 ± 1.99



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.

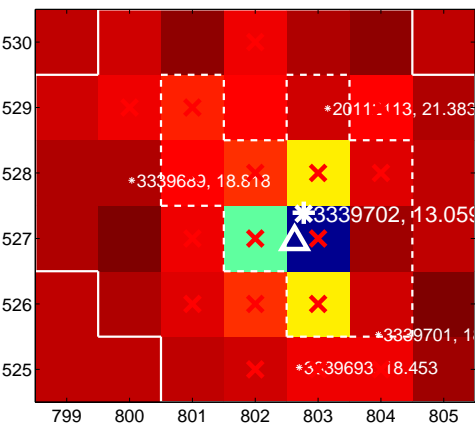
Q1 no difference image



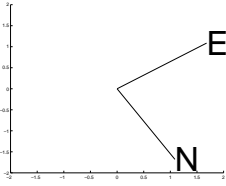
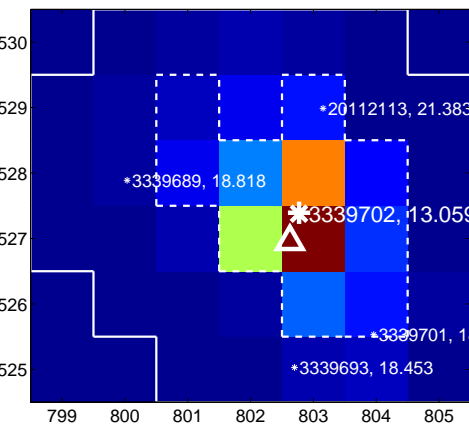
Q1 no OOT image



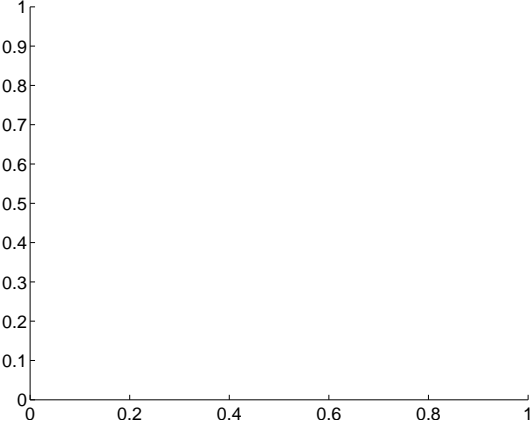
Q2 difference image. Poor Quality



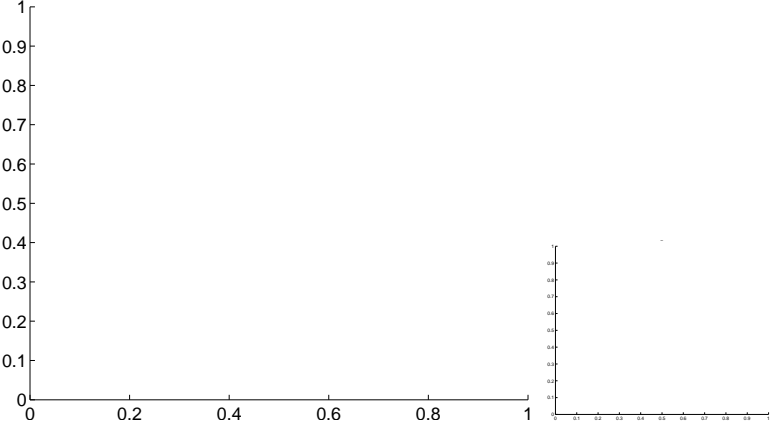
Q2 OOT image



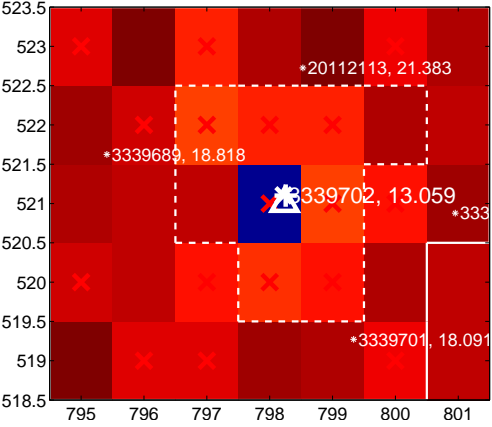
Q3 no difference image



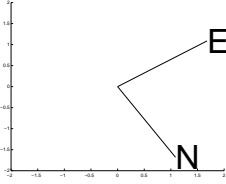
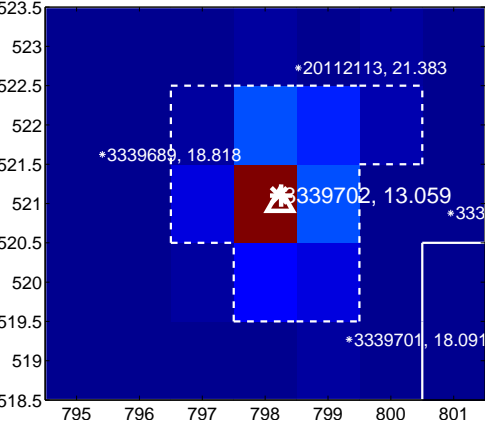
Q3 no OOT image



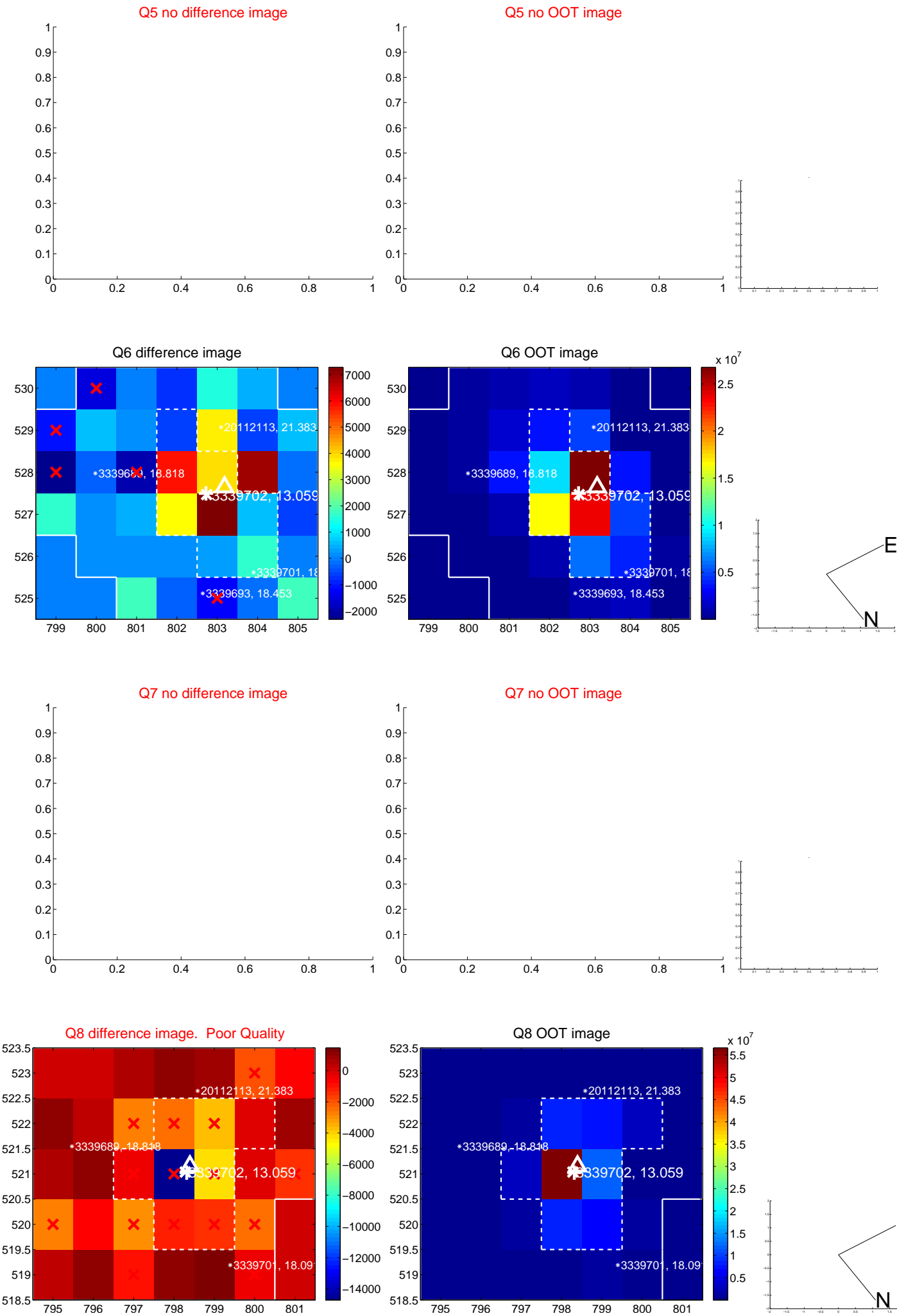
Q4 difference image. Poor Quality



Q4 OOT image



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.

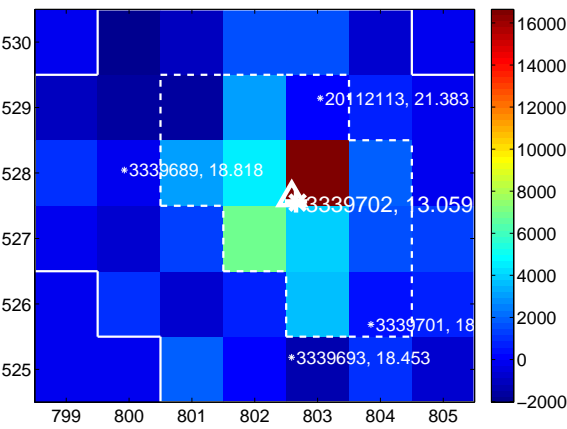
Q9 no difference image



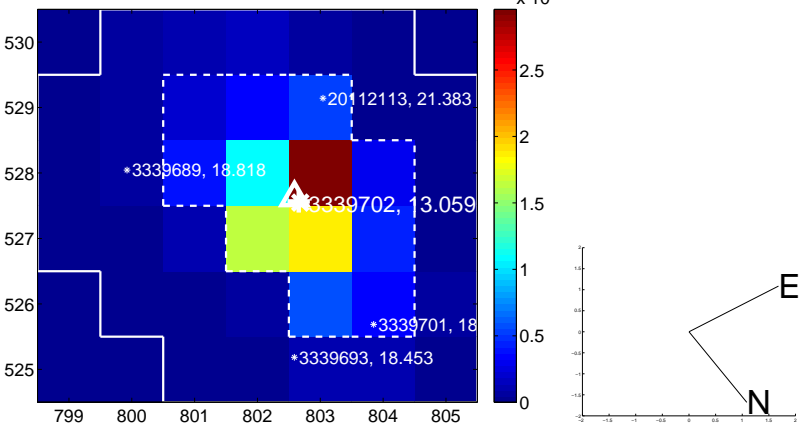
Q9 no OOT image



Q10 difference image



Q10 OOT image



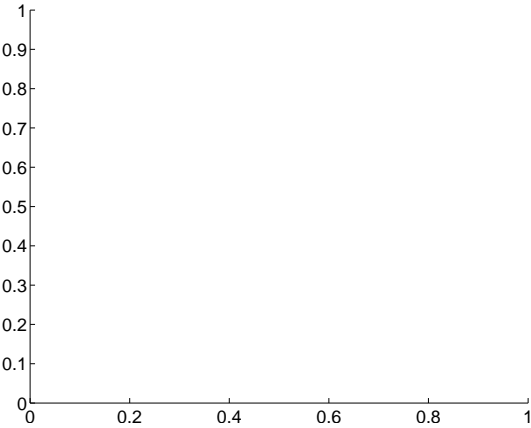
Q11 no difference image



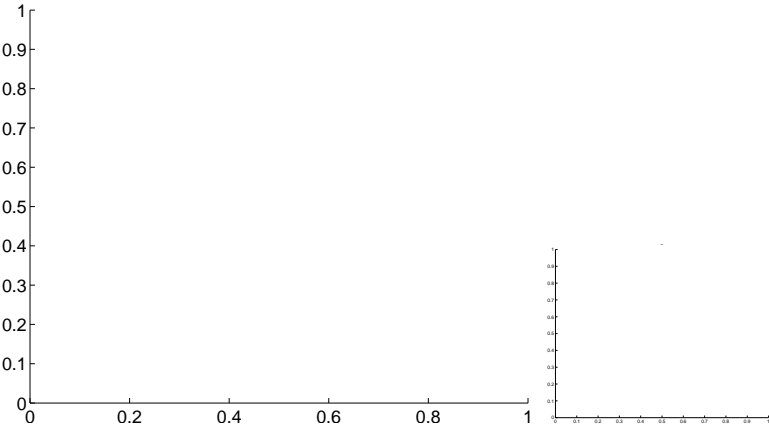
Q11 no OOT image



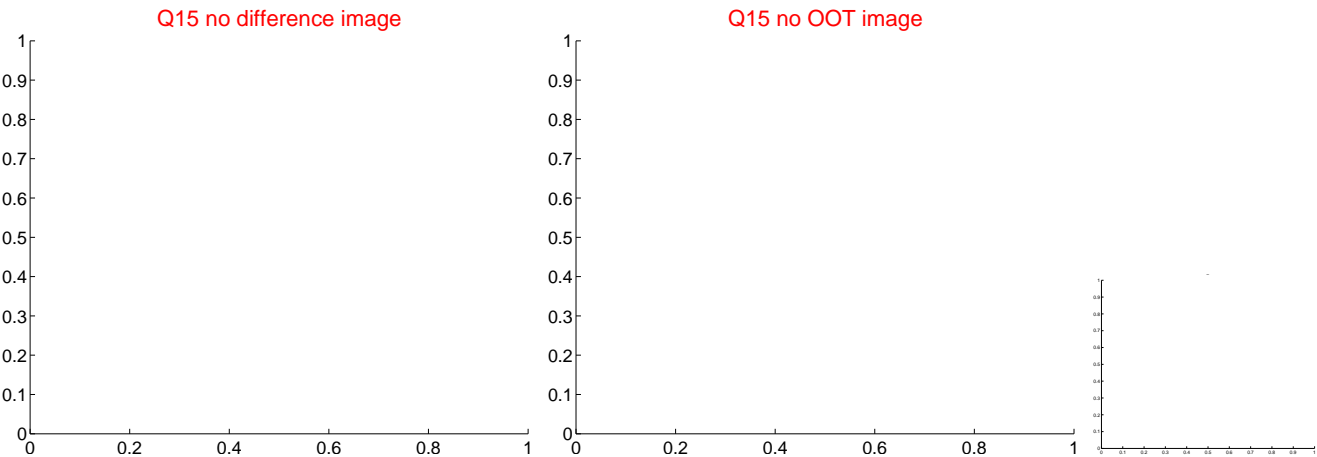
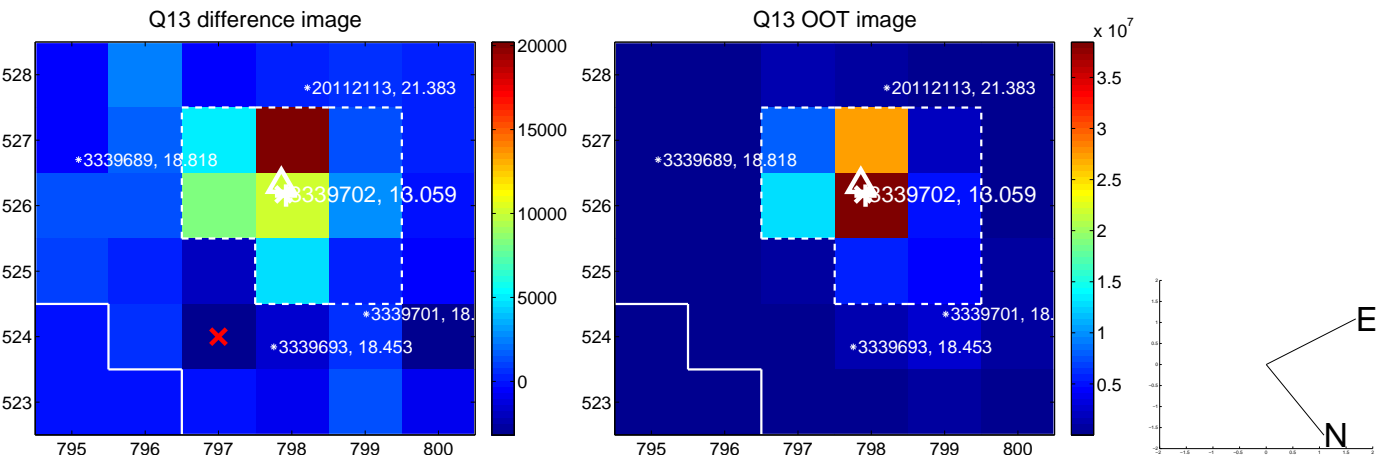
Q12 no difference image



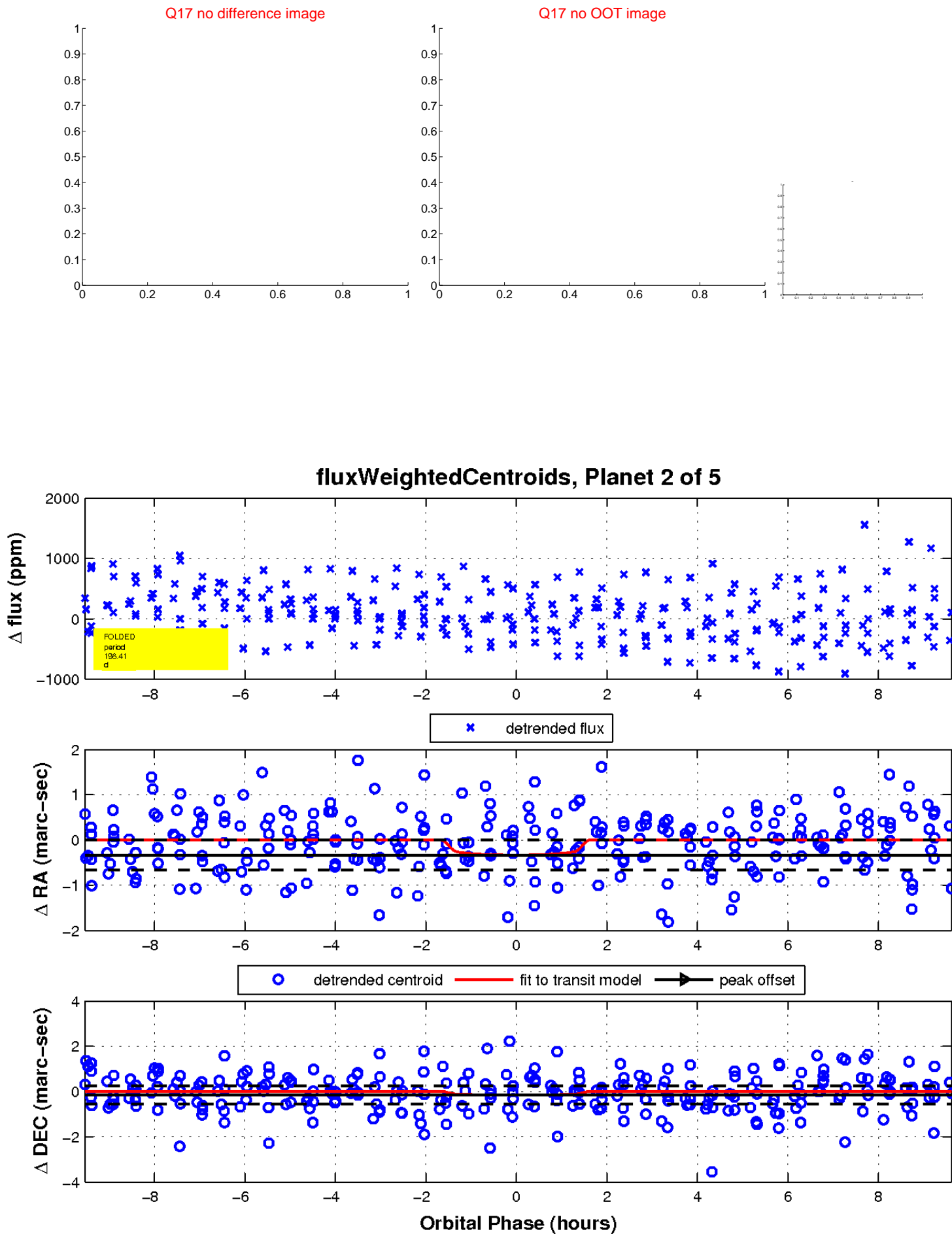
Q12 no OOT image



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

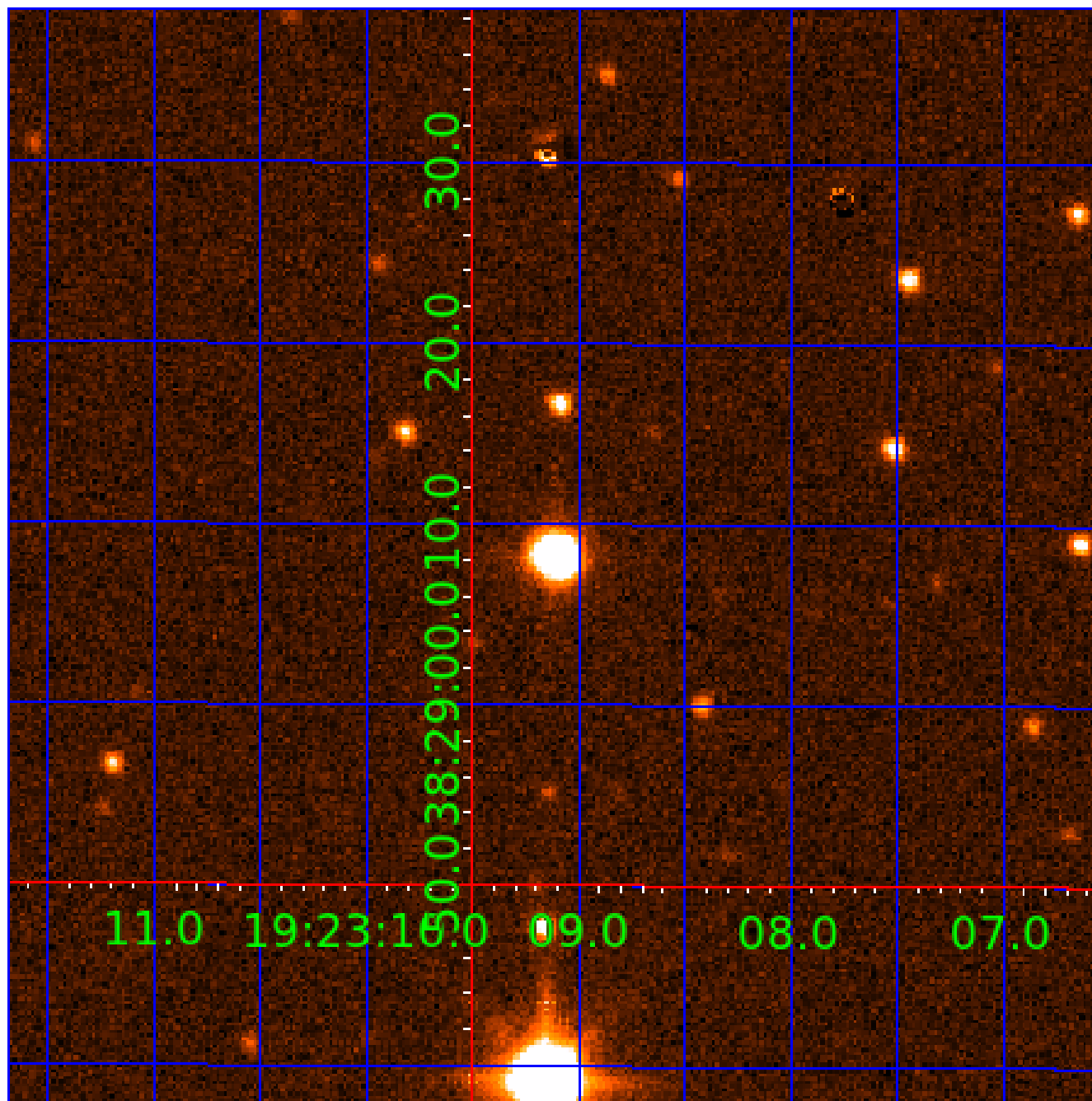


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 003339702

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})
003339702-01	OBS	No	1.250321	132.665077	35.9	6.444	8.2	8.8	1.66	6269	1.17	6180.62
003339702-02	OBS	No	198.409872	205.998139	203.0	3.211	11.2	2.6	1.66	6269	2.75	7.19
003339702-03	OBS	No	339.002369	181.529342	965.9	12.979	10.6	7.5	1.66	6269	6.61	3.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003339702-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—MOD_NONUNIQ_DV
003339702-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_TRACKER—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV— MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS
003339702-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT— MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

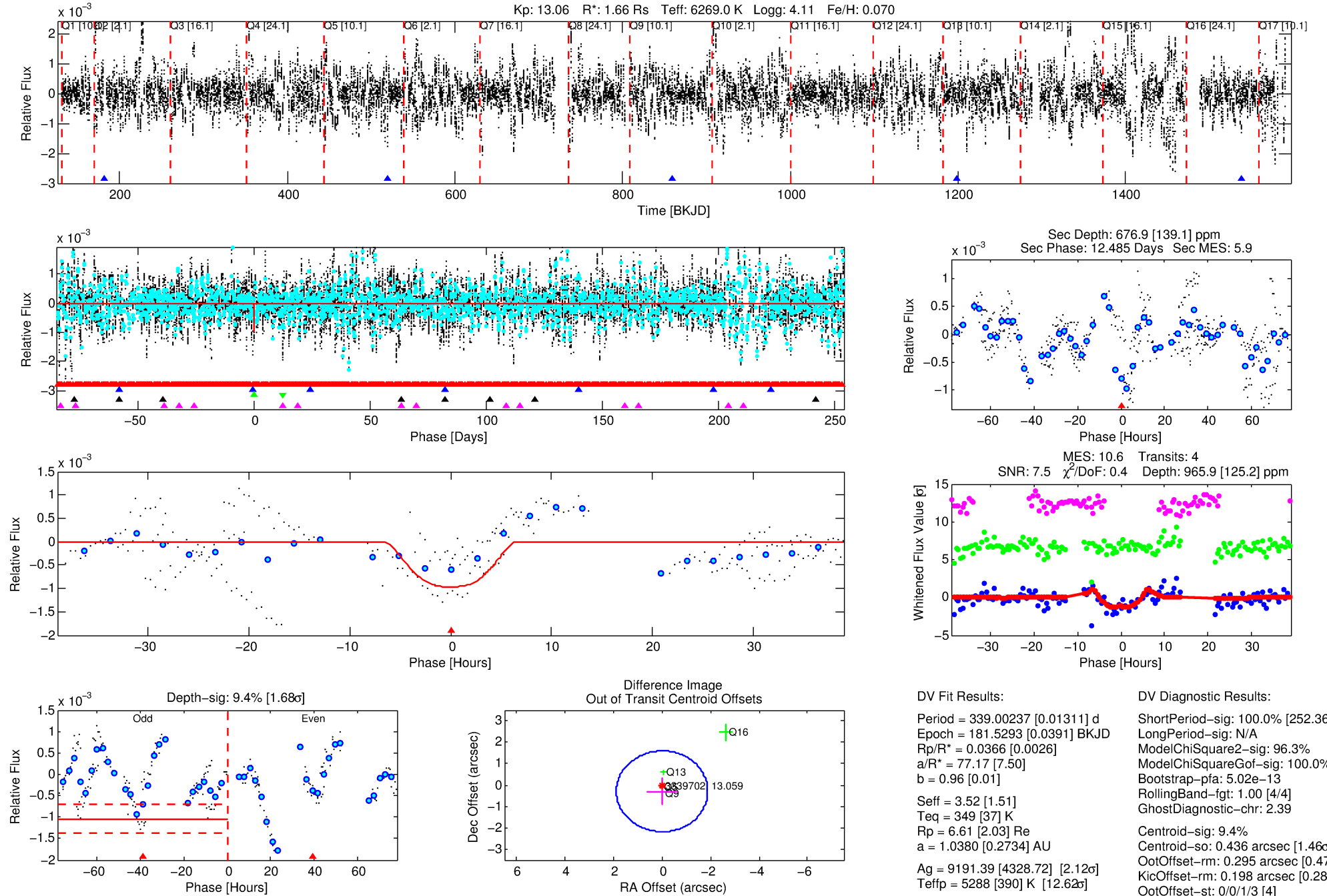
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003339702-03

No Significant Match Found

DV One-Page Summary

KIC: 3339702 Candidate: 3 of 5 Period: 339.002 d



DV Fit Results:

Period = 339.00237 [0.01311] d
Epoch = 181.5293 [0.0391] BKJD
Rp/R* = 0.0366 [0.0026]
a/R* = 77.17 [7.50]
b = 0.96 [0.01]
Seff = 3.52 [1.51]
Teff = 349 [37] K
Rp = 6.61 [2.03] Re
a = 1.0380 [0.2734] AU
Ag = 9191.39 [4328.72] [2.12 σ]
Teffp = 5288 [390] K [12.62 σ]

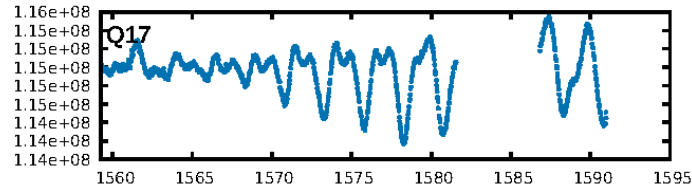
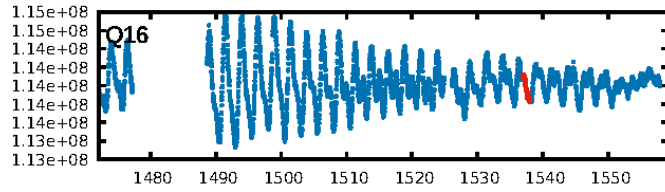
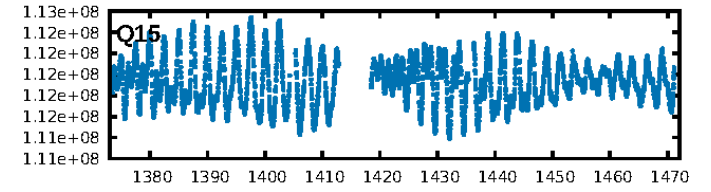
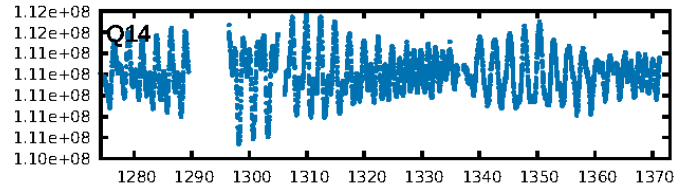
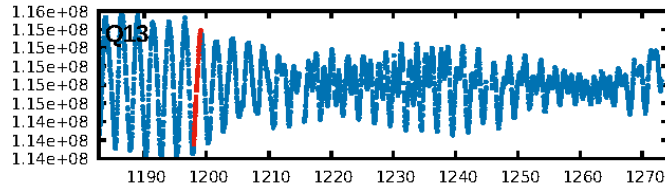
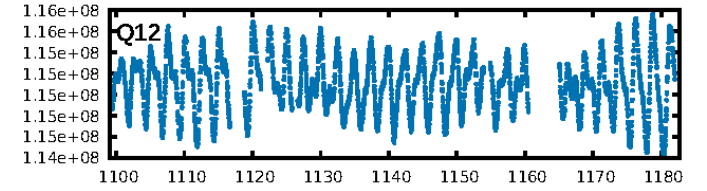
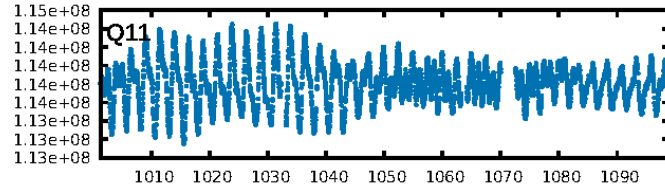
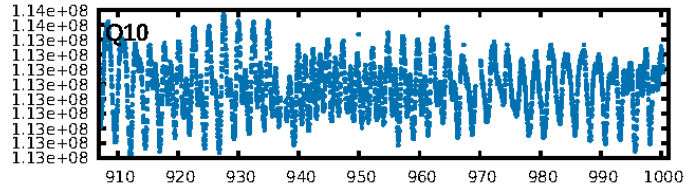
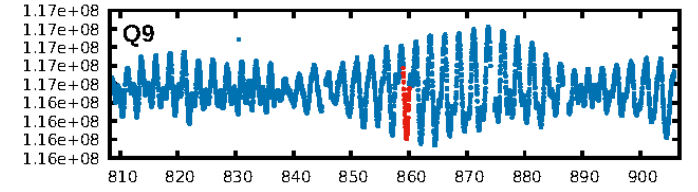
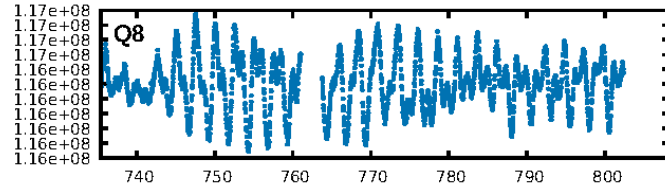
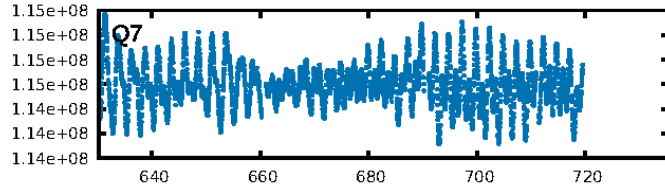
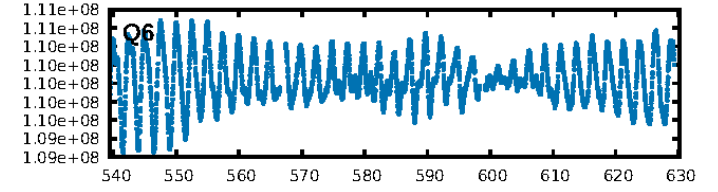
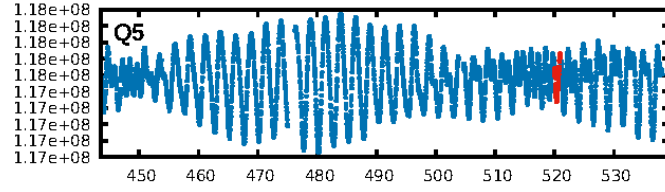
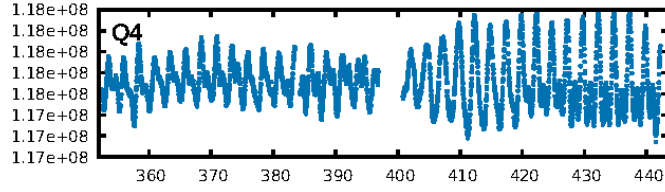
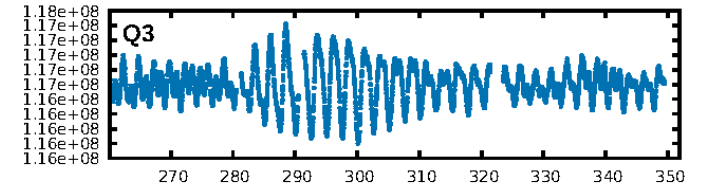
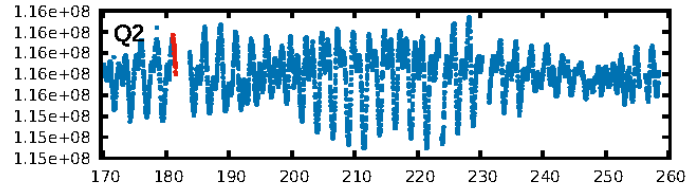
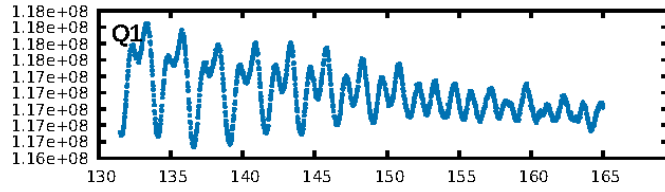
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [252.36 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 96.3%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.02e-13
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 2.39
Centroid-sig: 9.4%
Centroid-so: 0.436 arcsec [1.46 σ]
OotOffset-rm: 0.295 arcsec [0.47 σ]
KicOffset-rm: 0.198 arcsec [0.28 σ]
OotOffset-st: 0/0/1/3 [4]
KicOffset-st: 0/0/1/3 [4]
DiffImageQuality-fgm: 0.75 [3/4]
DiffImageOverlap-fno: 0.00 [0/4]

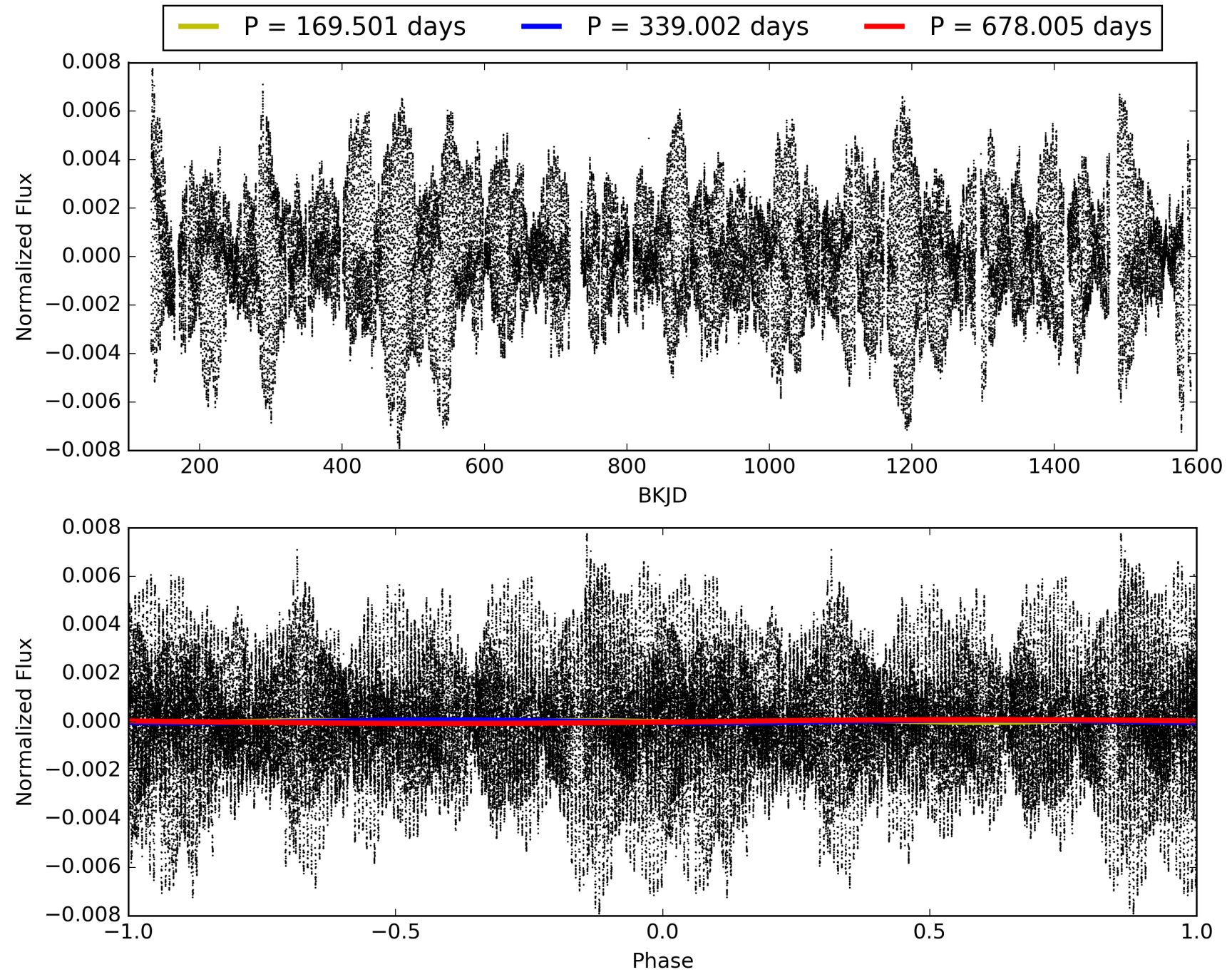
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 16:13:14 Z

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

TCE 003339702-03, PDC Light Curves

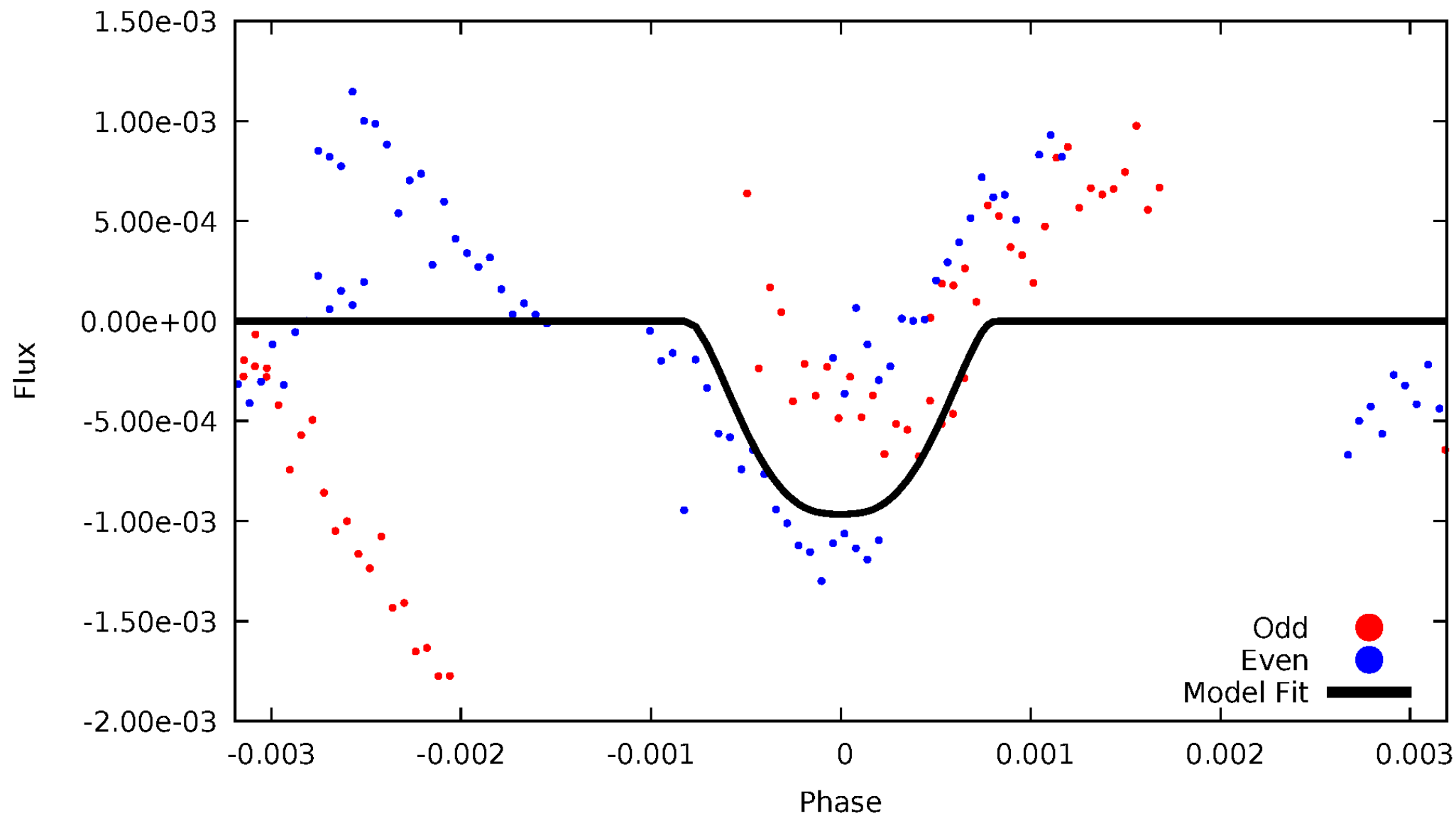


TCE 003339702-03



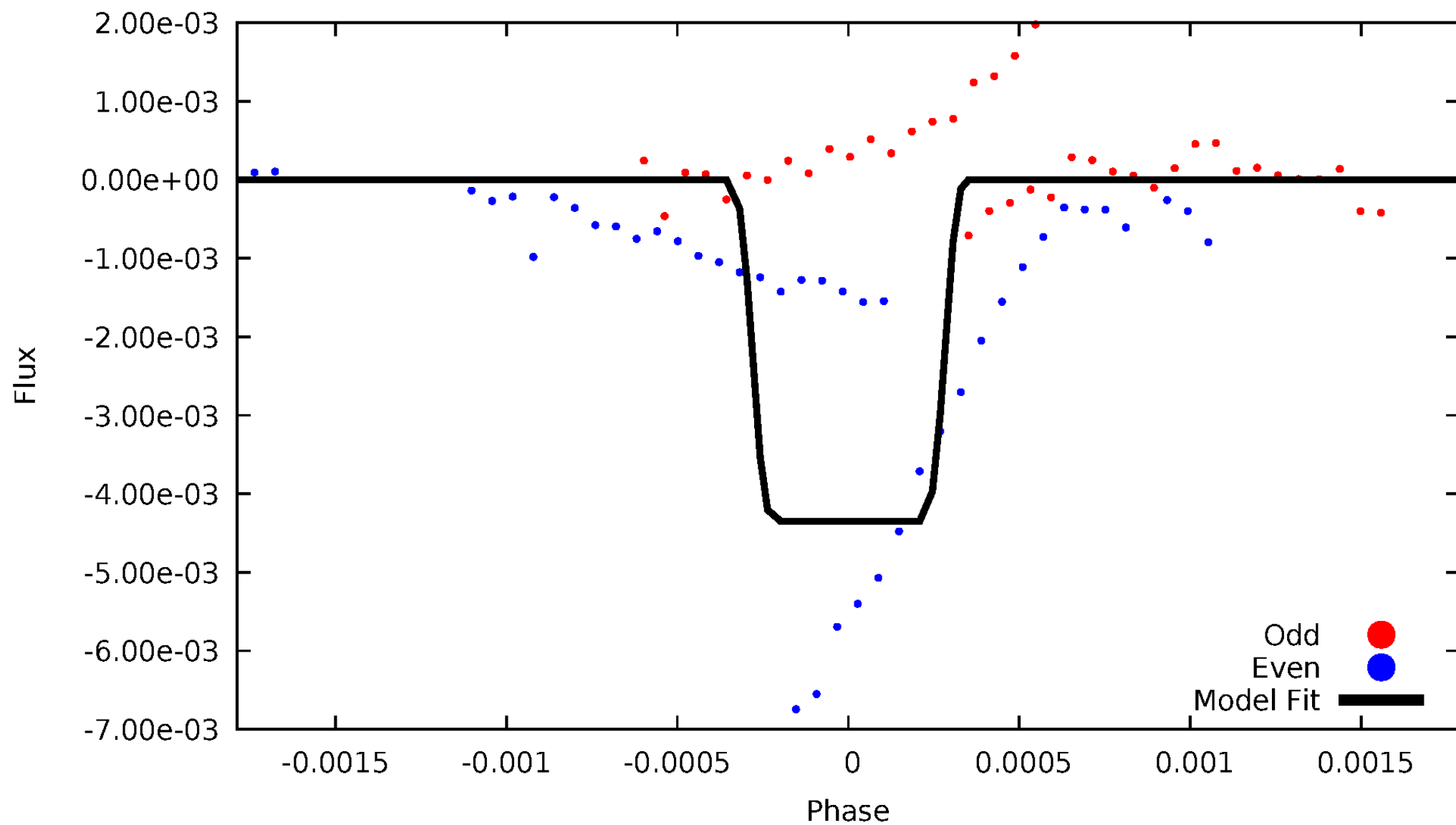
DV Odd/Even

TCE 003339702-03



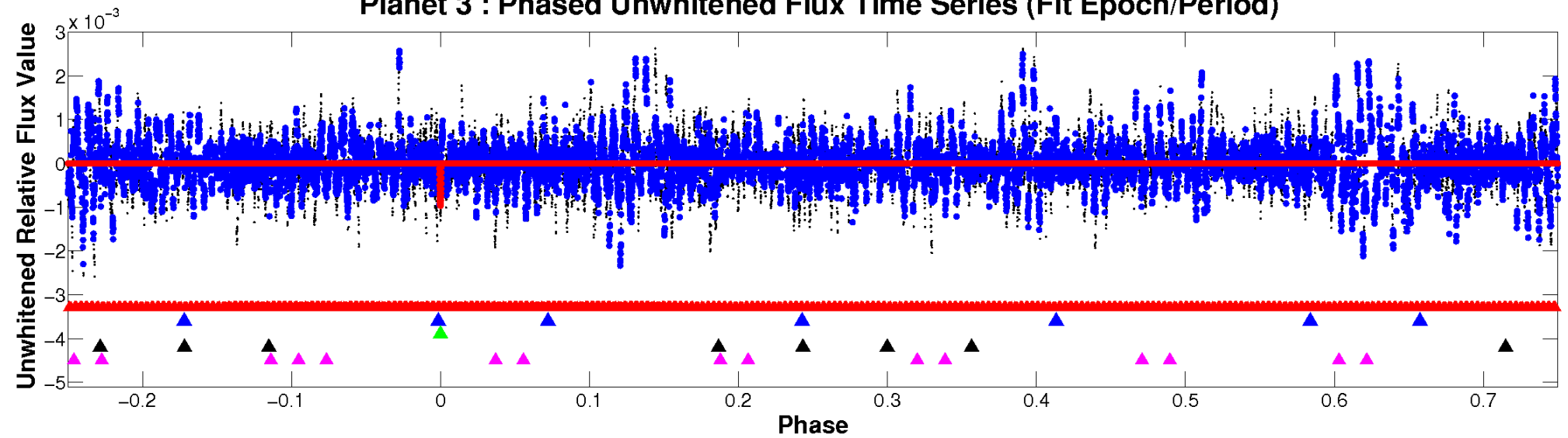
ALT Odd/Even

TCE 003339702-03

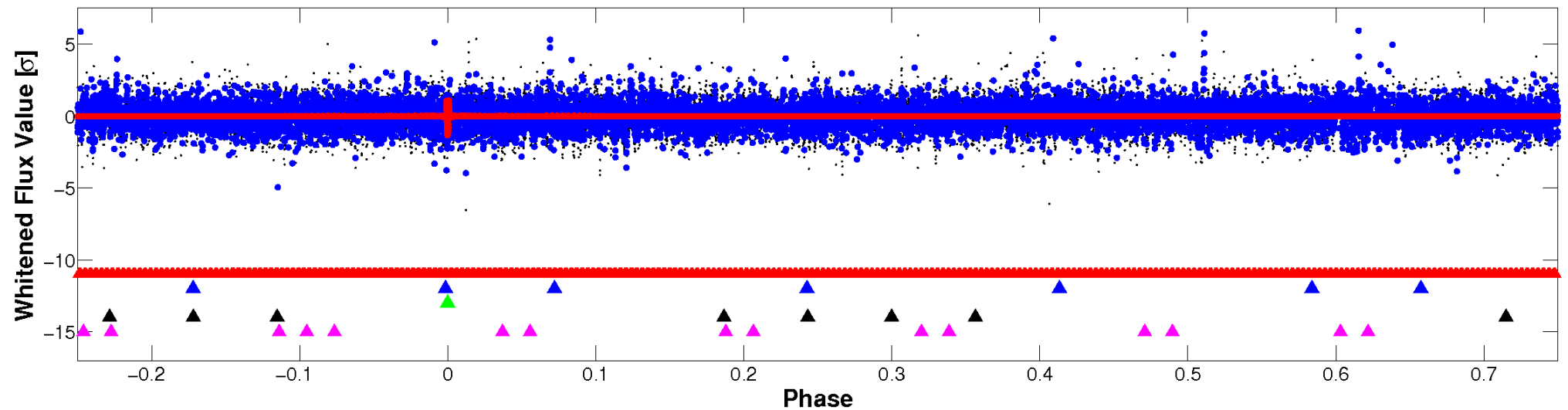


Non-Whitened Vs. Whitened Light Curve

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

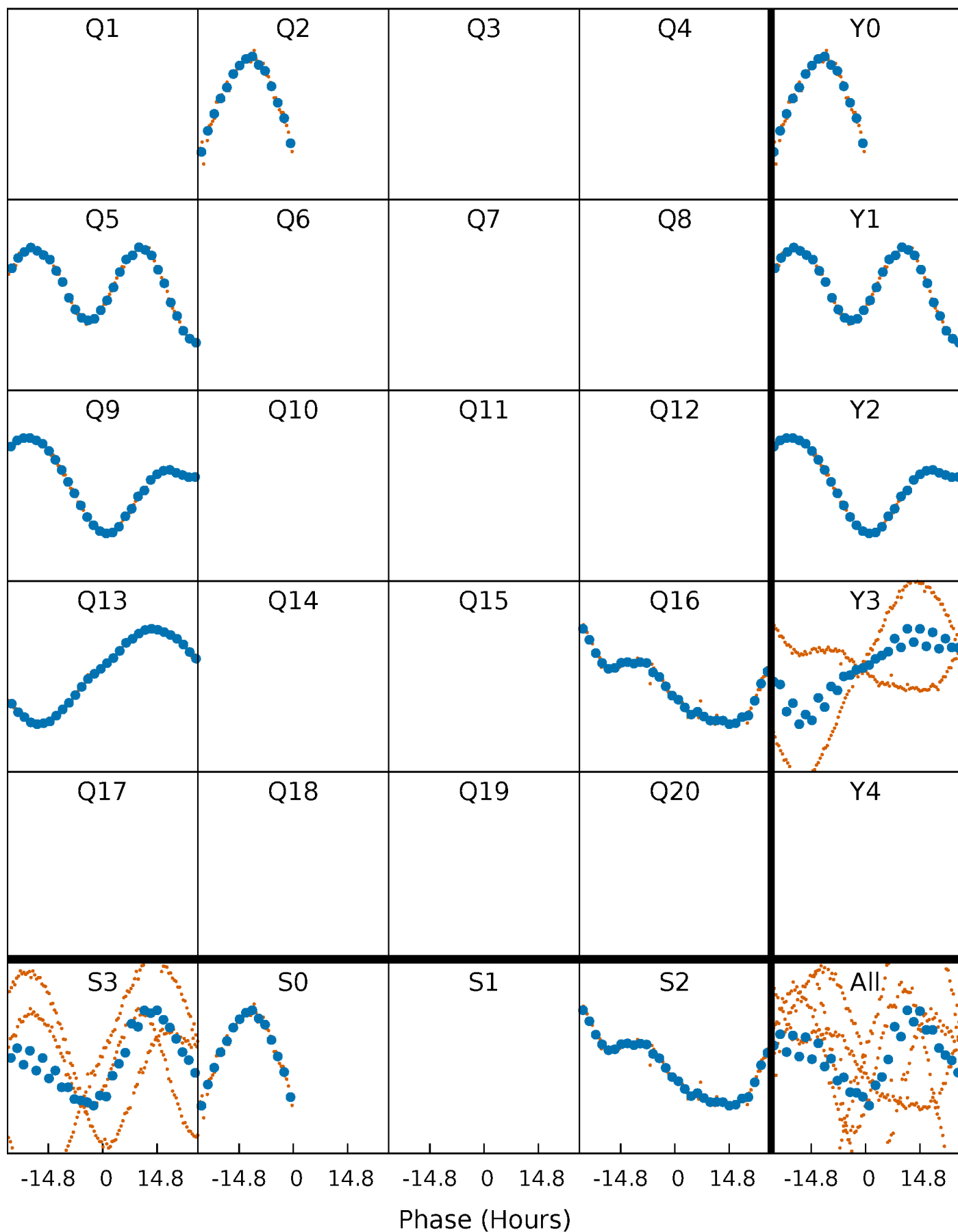


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



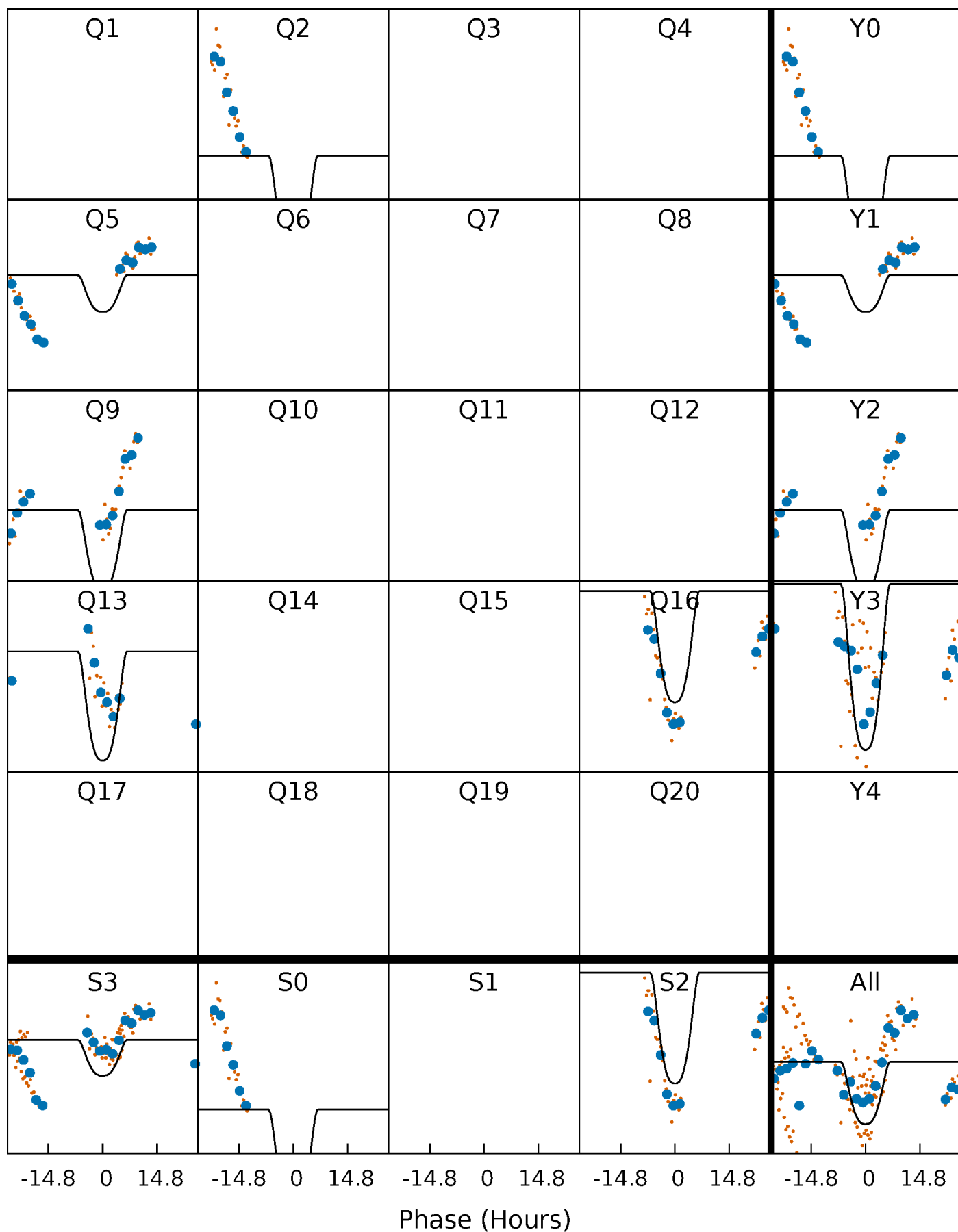
PDC Quarter-Phased Transit Curves

TCE 003339702-03 $P=339.002369$ Days $T_0=181.529342$ (BKJD)



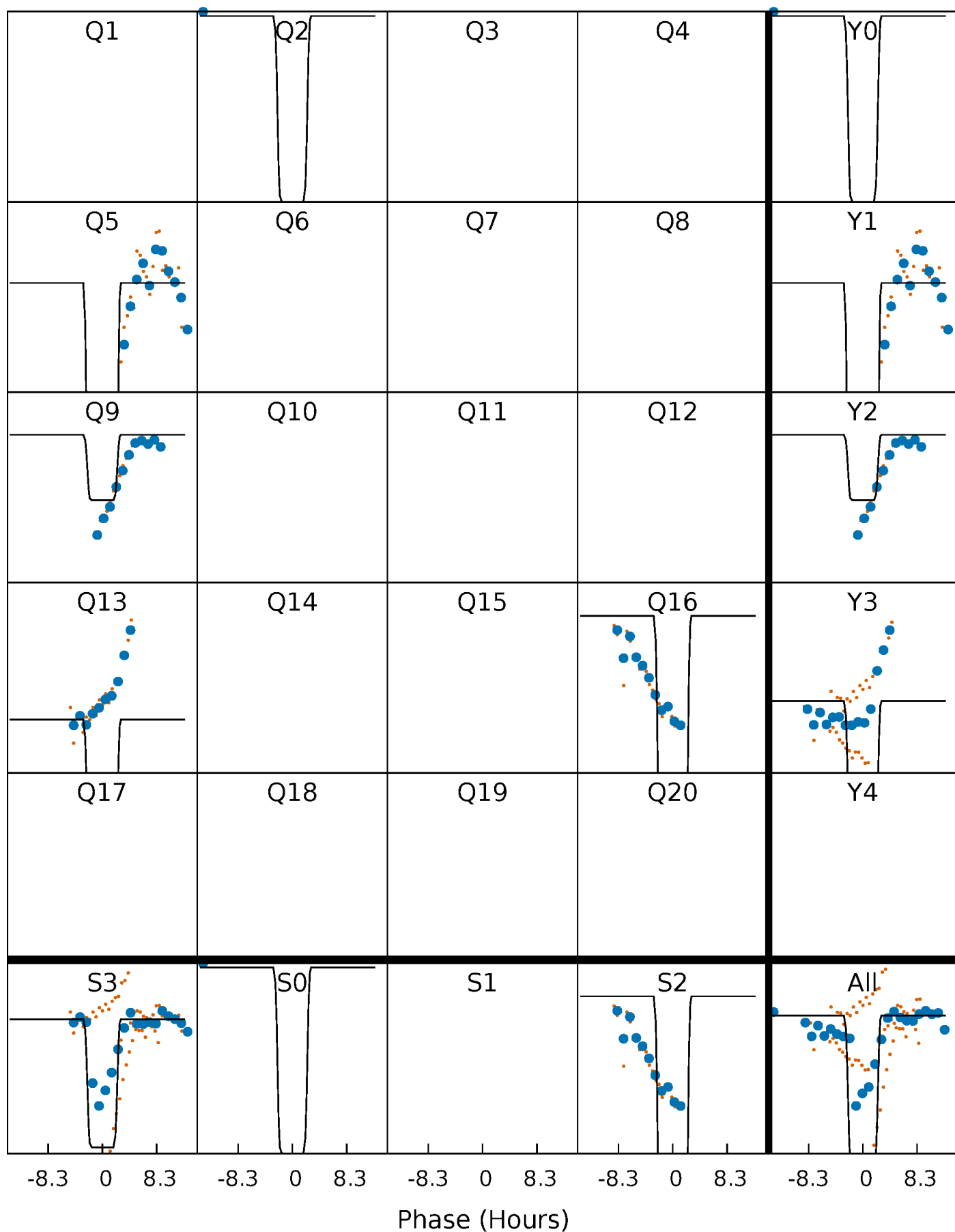
DV Quarter-Phased Transit Curves

TCE 003339702-03 $P=339.002369$ Days $T_0=181.529342$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

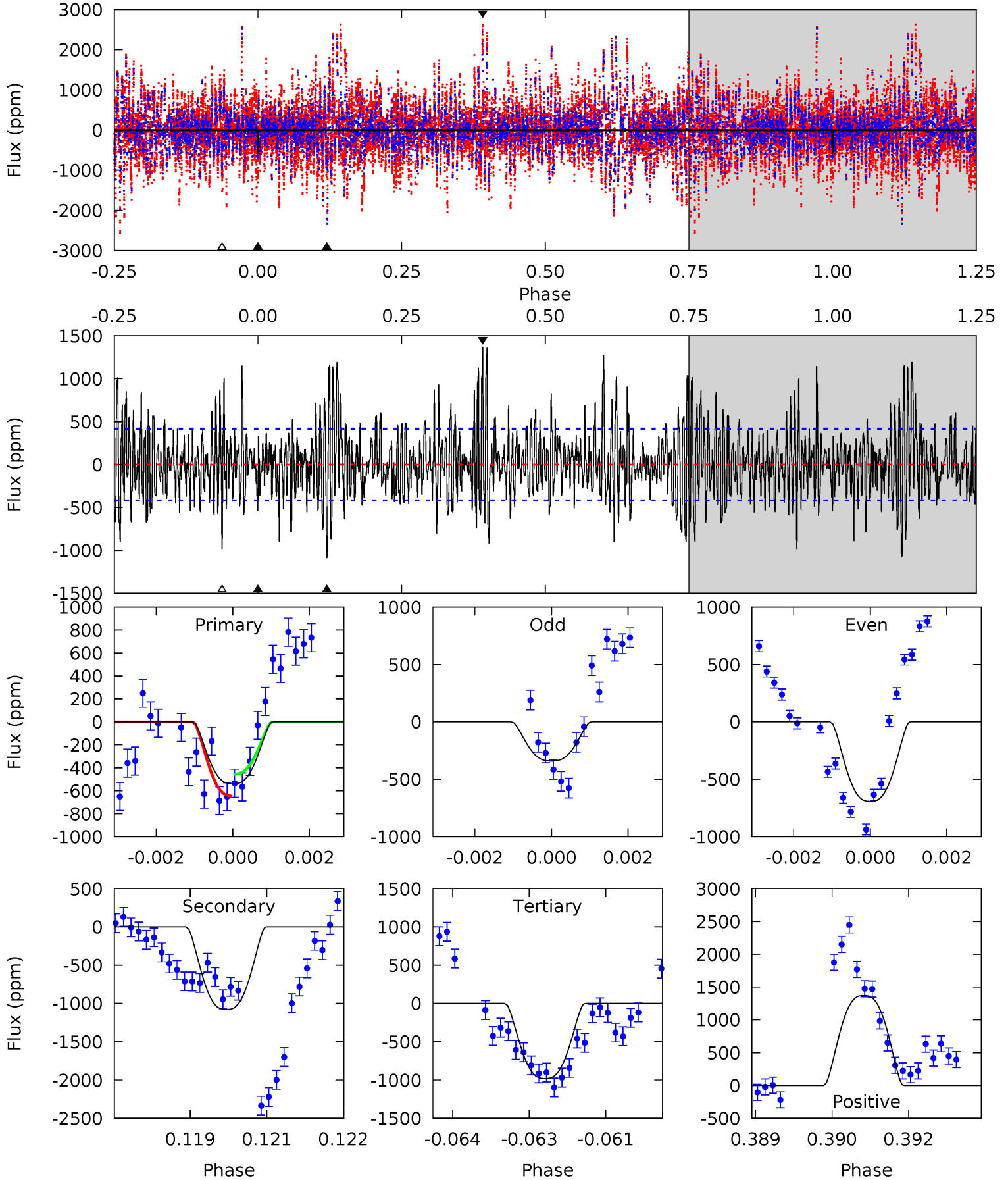
TCE 003339702-03 P=338.999572 Days $T_0=181.572932$ (BKJD)



DV Model-Shift Uniqueness Test

003339702-03, P = 339.002369 Days, E = 181.529342 Days

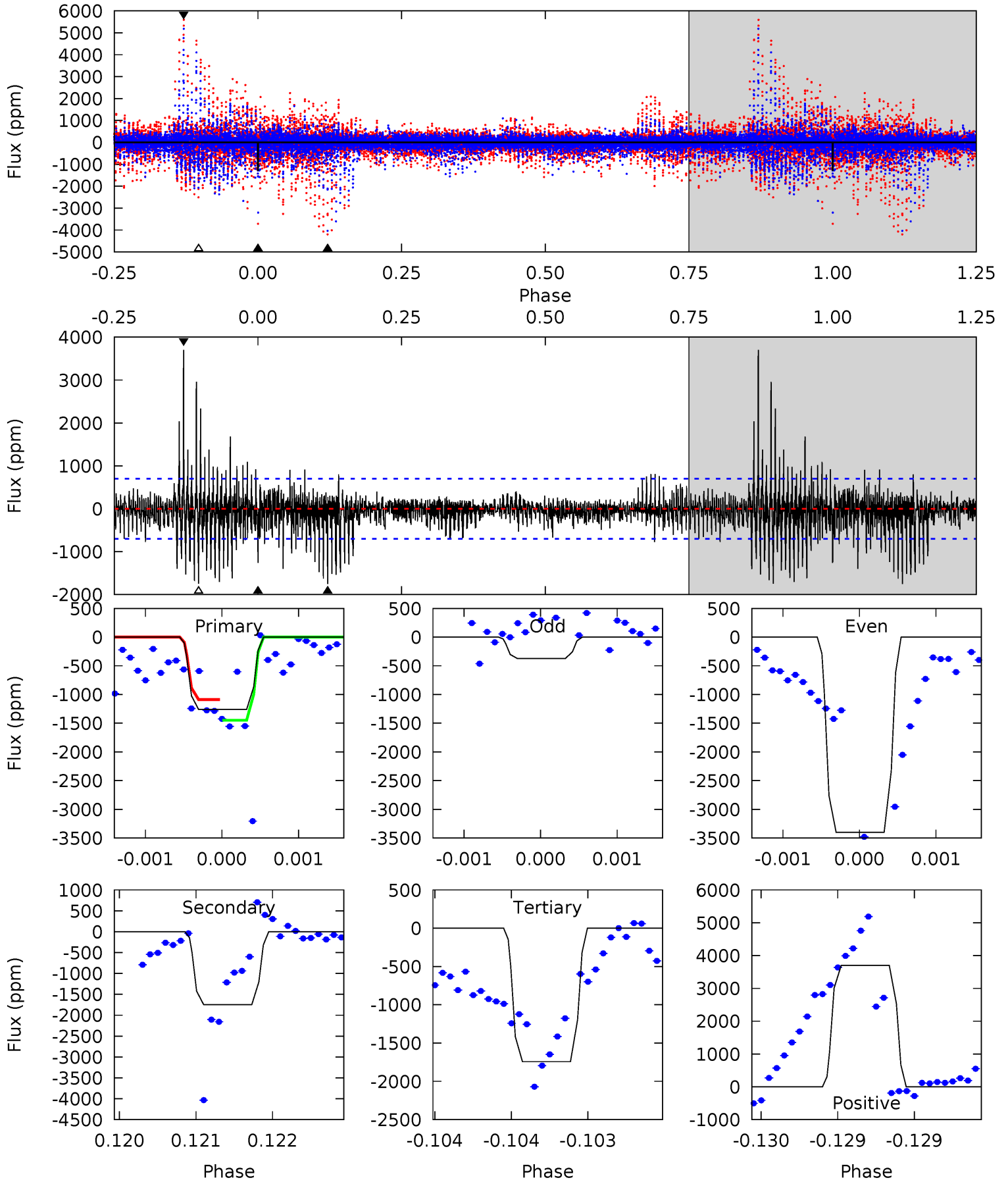
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.96	13.9	12.6	17.7	5.37	3.16	4.36	-5.69	-10.7	1.27	-3.76	2.28	1.46	0.56	1.20



Alt Model-Shift Uniqueness Test

003339702-03, P = 338.999572 Days, E = 181.572932 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.96	13.8	13.8	29.3	5.53	3.41	2.39	-3.82	-19.3	0.06	-15.4	13.0	1.48	0.68	1.42



Stellar Parameters For KIC 003339702

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6269^{+176}_{-242}	$4.113^{+0.225}_{-0.184}$	$0.070^{+0.250}_{-0.300}$	$1.656^{+0.494}_{-0.494}$	$1.297^{+0.188}_{-0.251}$	$0.403^{+0.621}_{-0.185}$
	+3%/-4%	+5%/-4%	+357%/-429%	+30%/-30%	+14%/-19%	+154%/-46%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 003339702-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1080 ± 78	$6.48^{+1.26}_{-1.09}$	485^{+40}_{-40}	5928^{+305}_{-275}	14936^{+6204}_{-4117}
Alt.	-1750 ± 126	$11.82^{+2.09}_{-1.95}$	484^{+40}_{-41}	5062^{+169}_{-206}	7389^{+2801}_{-2038}

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

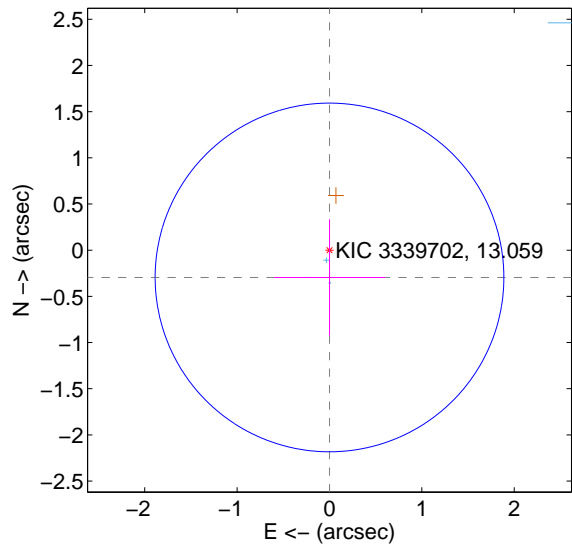
Supplemental centroid analysis for 003339702-03. Kepler magnitude: 13.06. Transit SNR 7.55

There are 3 quarters with good PRF difference image offsets

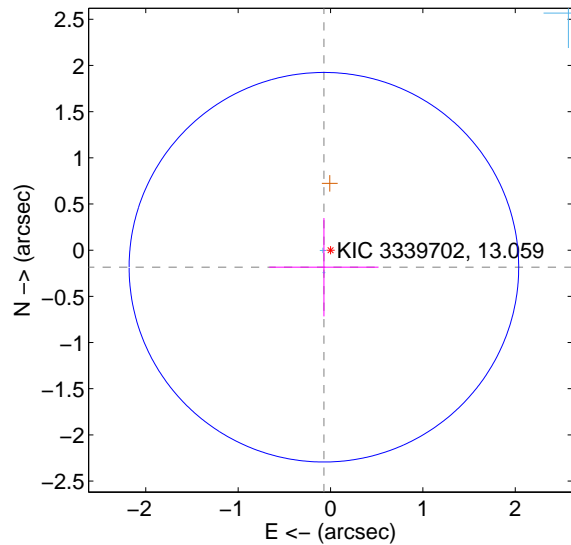
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.295 ± 0.629	0.47	-0.000 ± 0.603	-0.295 ± 0.630
PRF-fit source offset from KIC position	0.198 ± 0.703	0.28	0.072 ± 0.591	-0.185 ± 0.532
photometric centroid source offset	0.44 ± 0.30	1.46	0.29 ± 0.25	0.32 ± 0.33

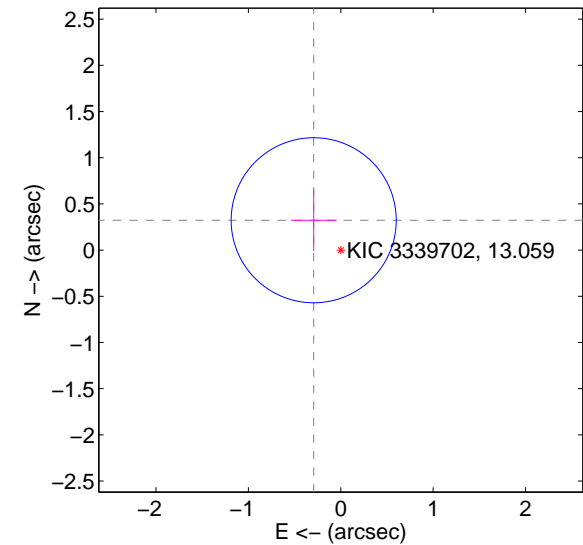
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

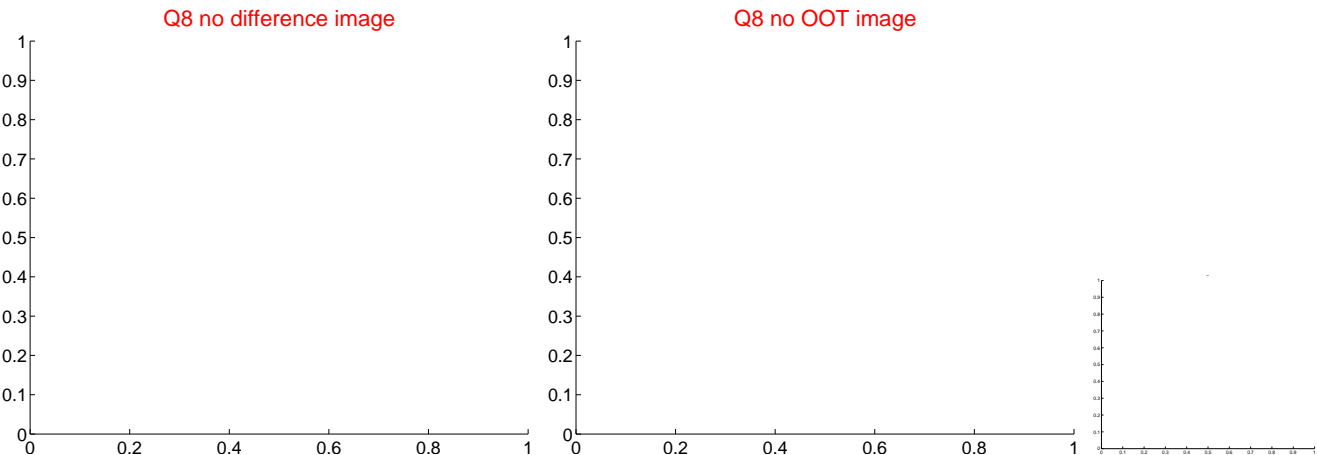
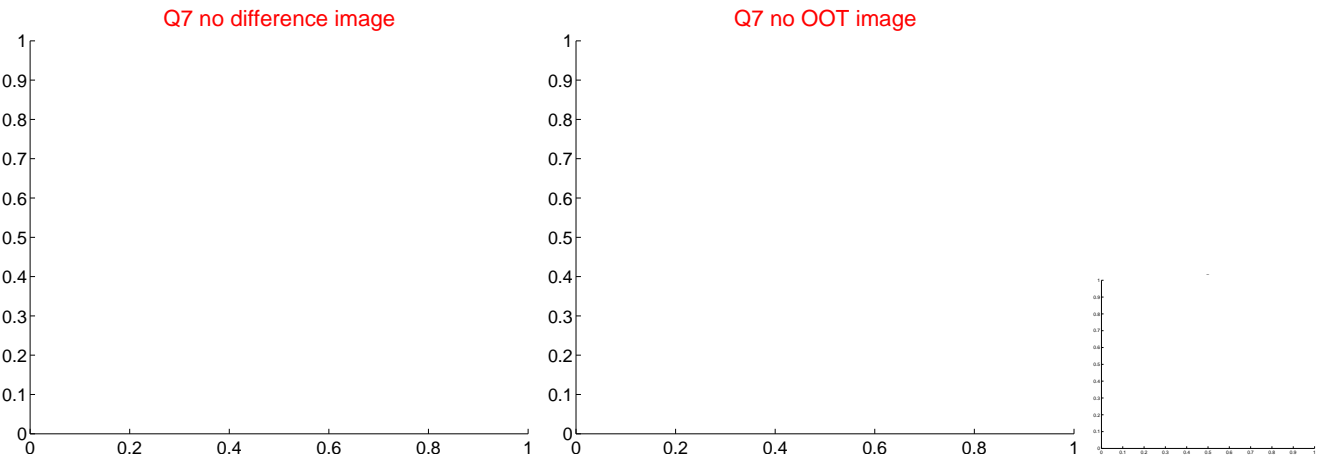
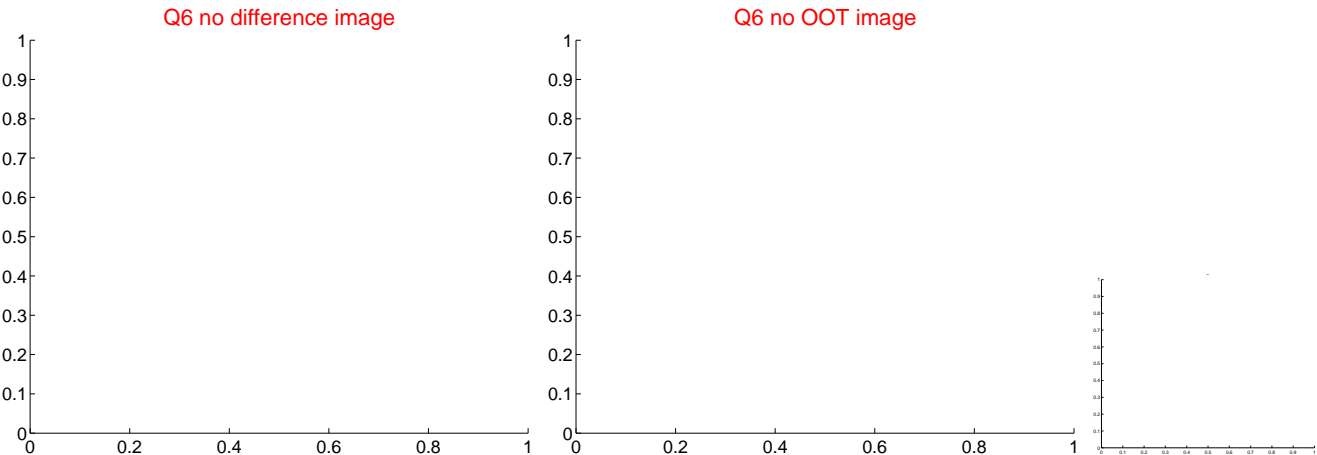
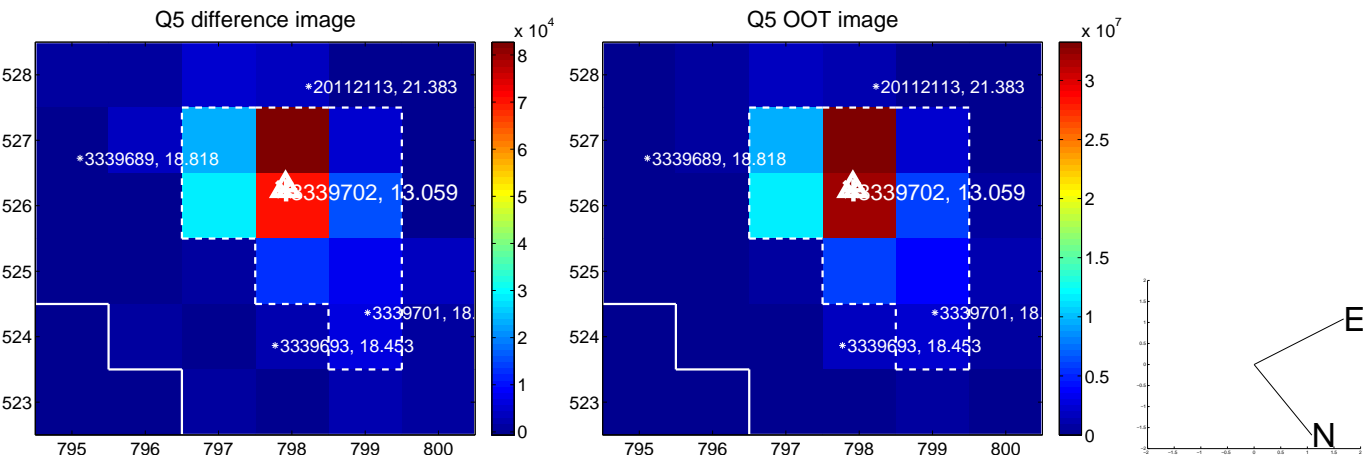


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

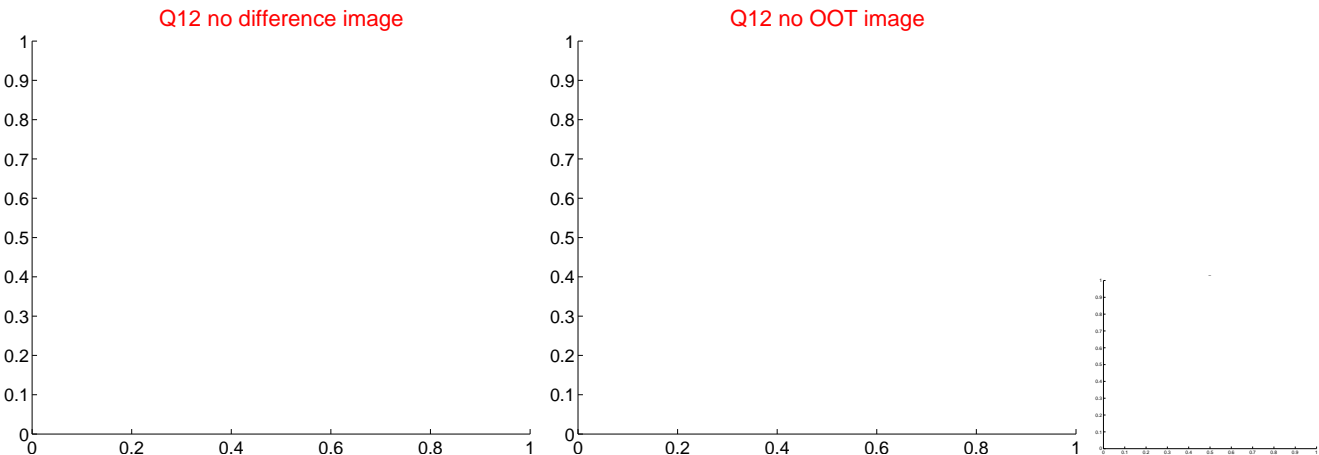
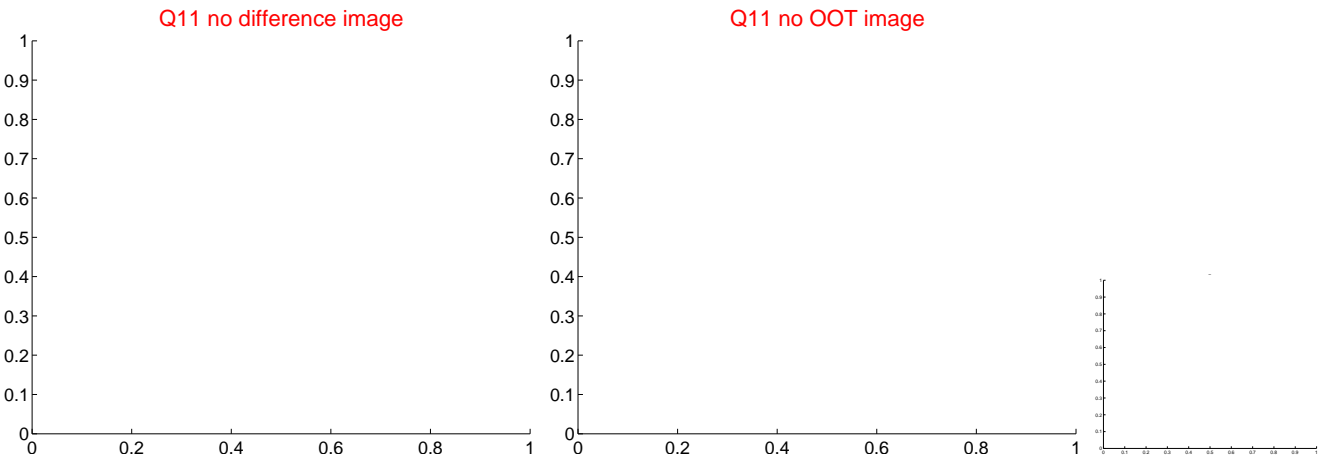
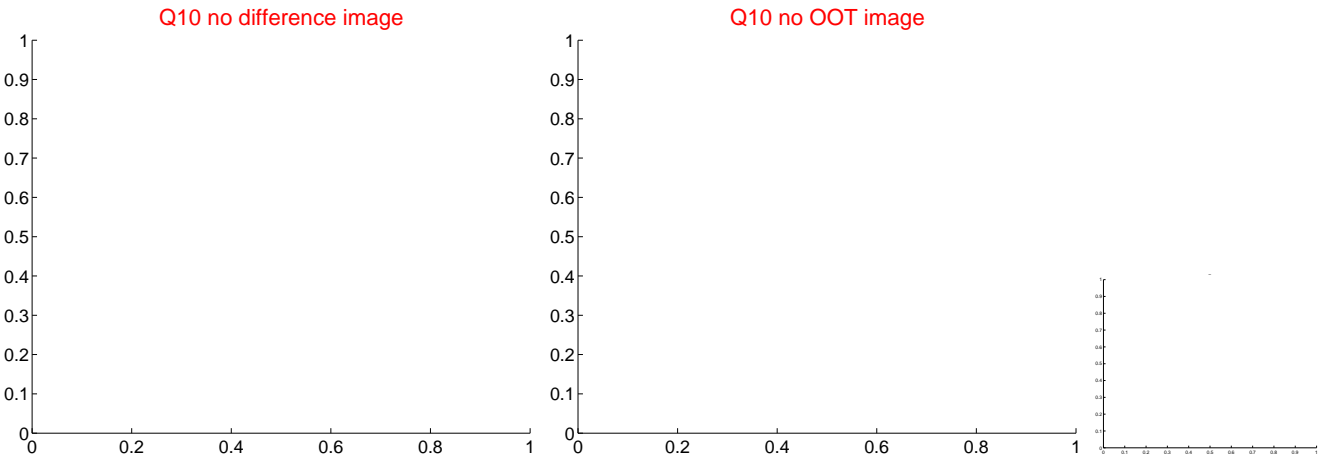
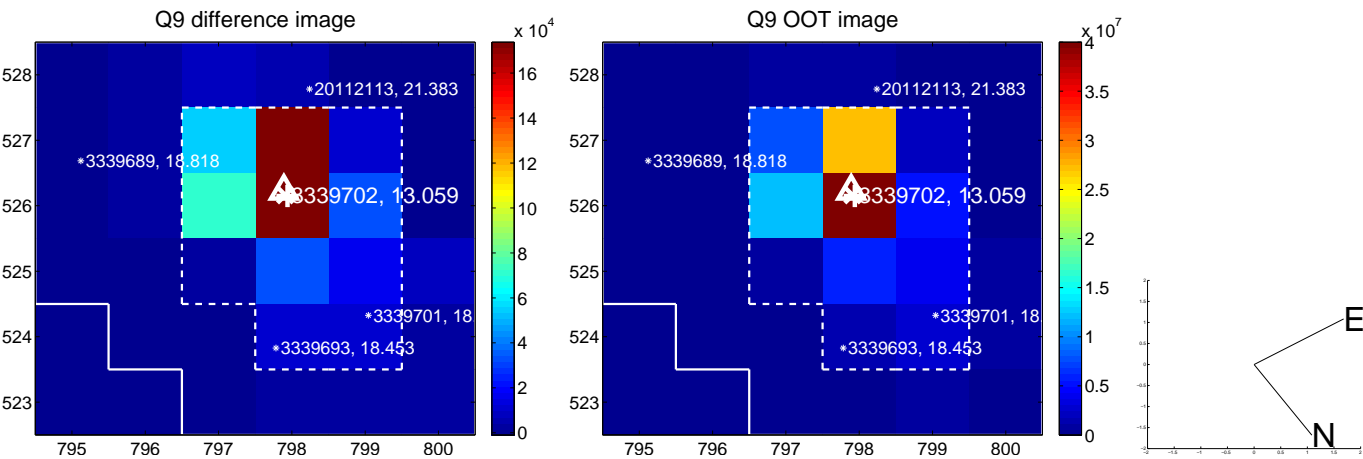
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



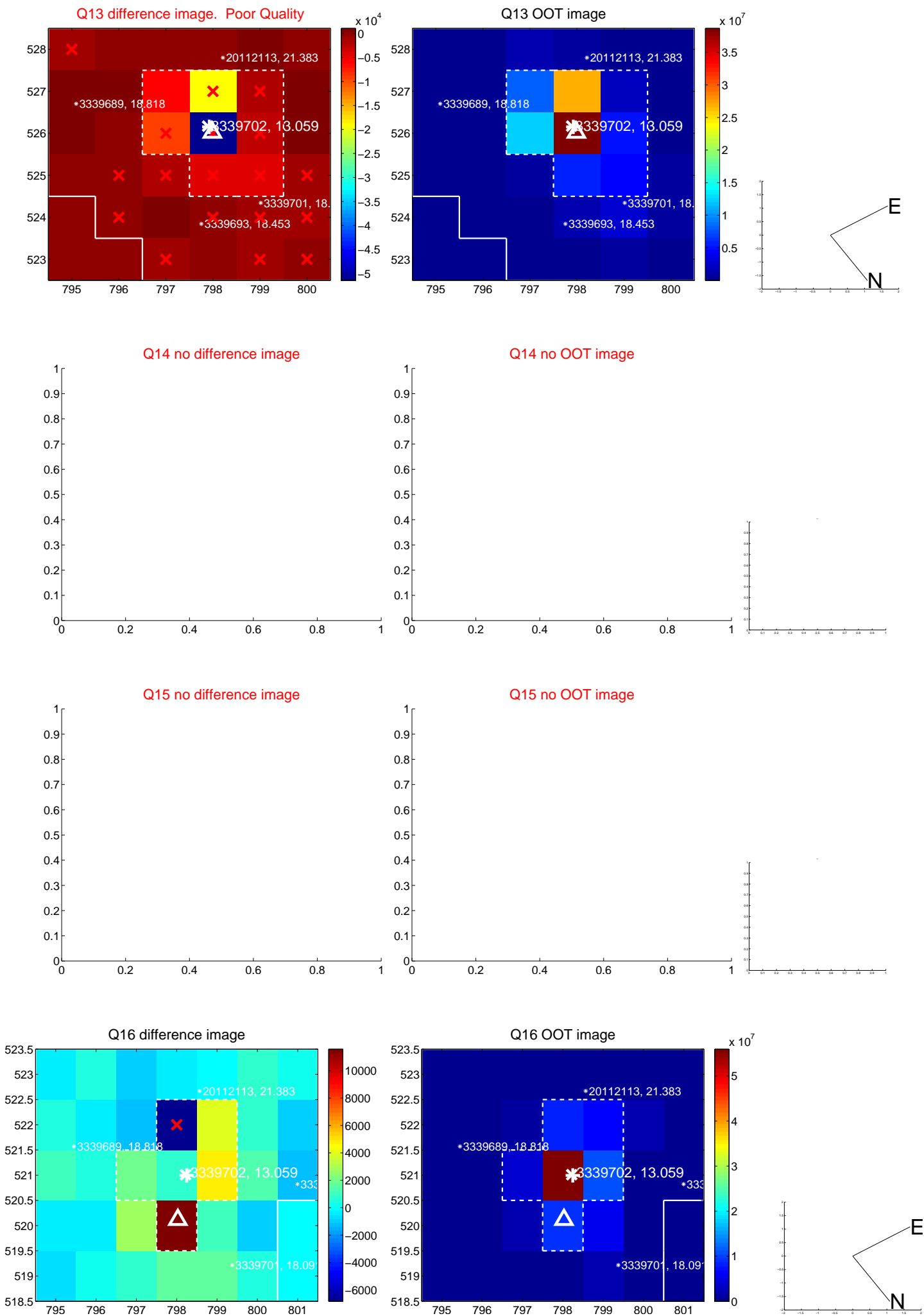
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



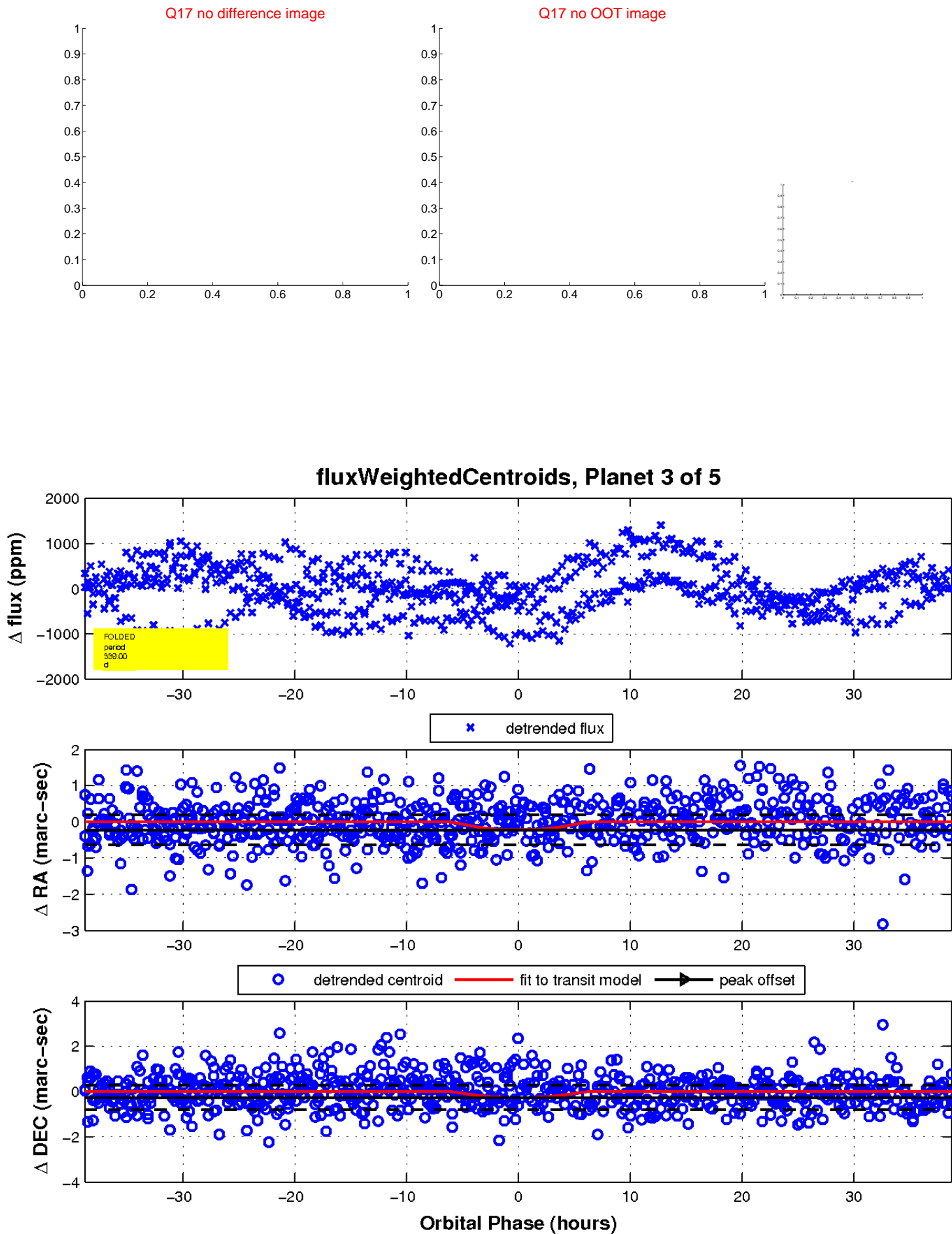
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

