

KIC 004150611

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})
004150611-01	OBS	3156.03	8.653134	136.655293	58074.4	3.951	445.8	366.1	1.50	6911	61.48	727.36
004150611-02	OBS	No	8.653110	134.302549	54146.4	4.584	403.3	405.1	1.50	6911	59.35	727.36
004150611-03	OBS	3156.04	94.225816	196.168203	48044.0	28.874	282.8	169.0	1.50	6911	33.26	30.14
004150611-04	OBS	3156.01	0.761121	131.687212	876.9	1.150	34.1	51.1	1.50	6911	5.23	18594.03
004150611-05	OBS	3156.02	1.434192	132.062700	14.6	3.500	23.0	-1.0	1.50	6911	0.58	7989.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004150611-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_SATURATED
004150611-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED
004150611-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—CENT_SATURATED
004150611-04	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
004150611-05	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

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

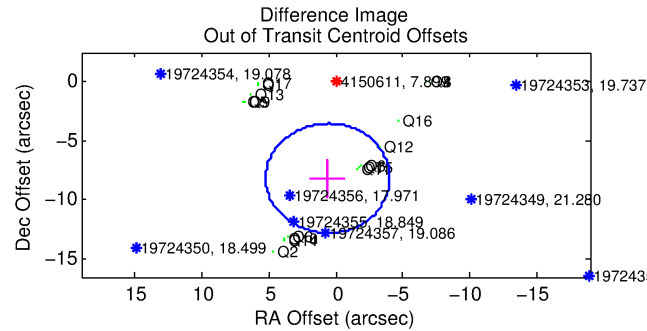
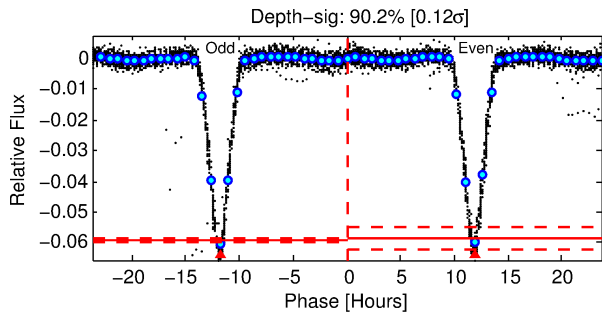
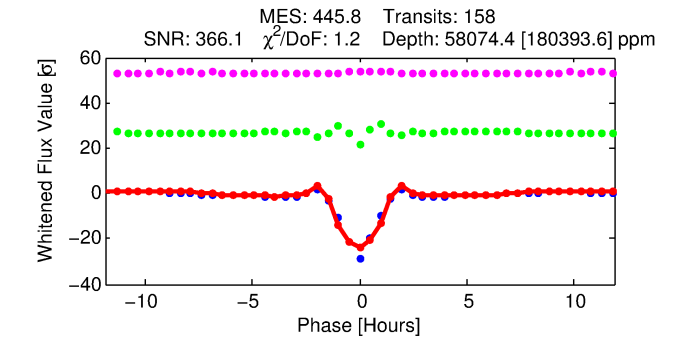
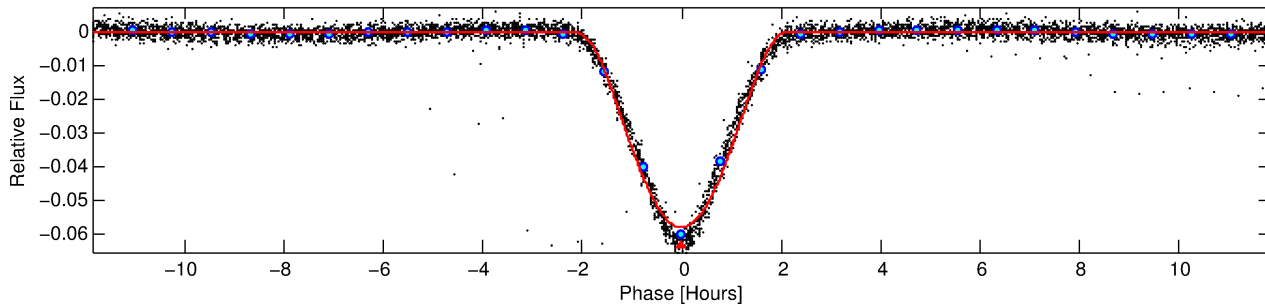
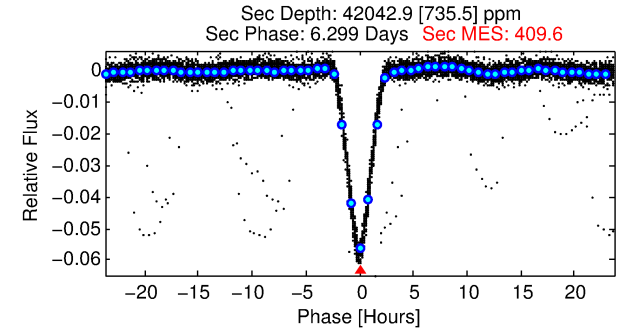
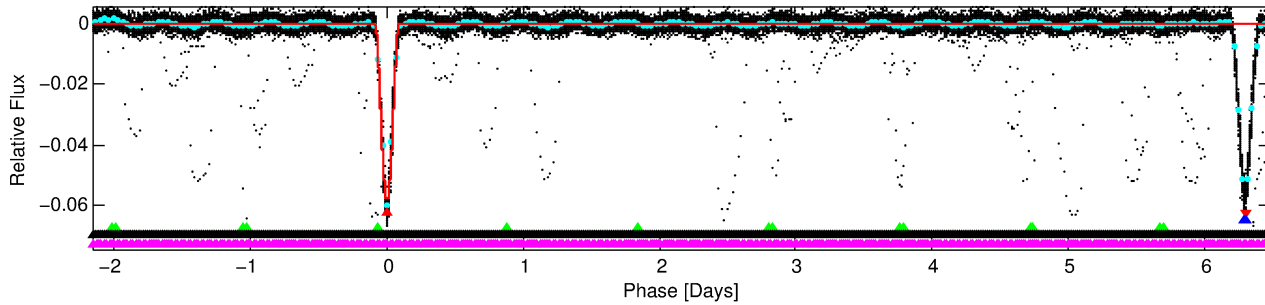
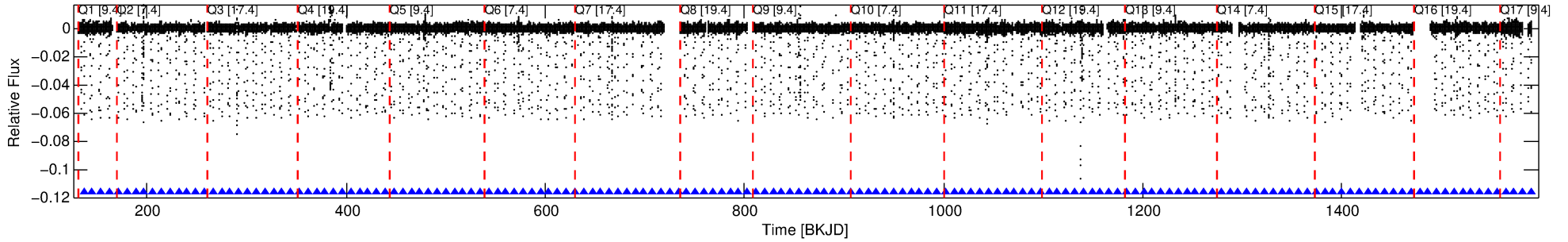
Ephemeris Match Information For 004150611-01

No Significant Match Found

DV One-Page Summary

KIC: 4150611 Candidate: 1 of 5 Period: 8.653 d
KOI: K03156.03 Corr: 0.979

Kp: 7.90 R*: 1.50 Rs Teff: 6911.0 K Logg: 4.04 Fe/H: -1.540



DV Fit Results:

Period = 8.65313 [0.00000] d
Epoch = 136.6553 [0.0002] BKJD
Rp/R* = 0.3754 [0.0417]
a/R* = 15.84 [0.03]
b = 1.00 [0.71]
Seff = 727.36 [503.80]
Teq = 1324 [229] K
Rp = 61.48 [25.63] Re
a = 0.0796 [0.0327] AU
Ag = 38.74 [27.66] [1.36sigma]
Teffp = 5108 [336] K [9.30sigma]

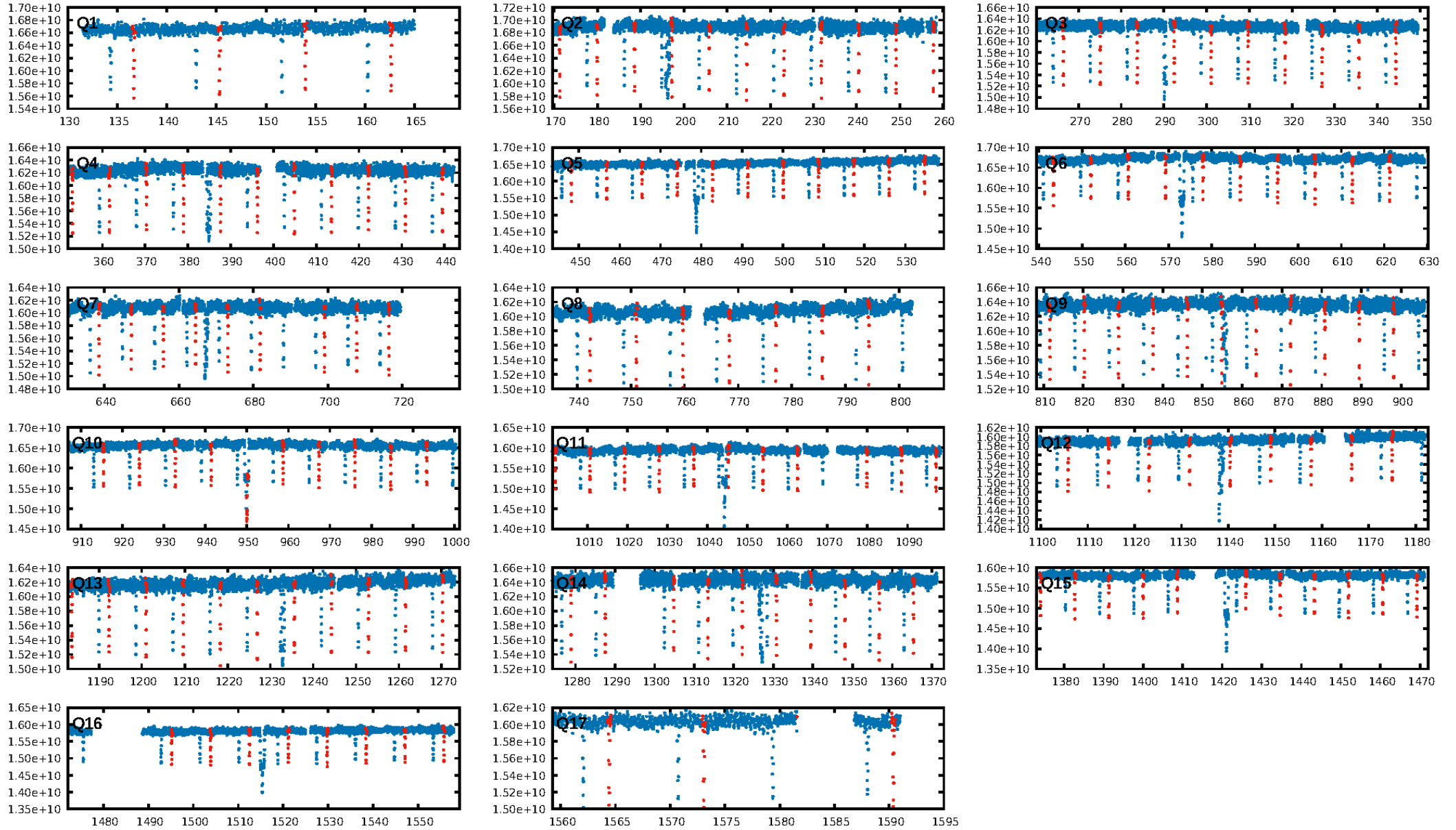
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00sigma]
LongPeriod-sig: 100.0% [70.47sigma]
ModelChiSquare2-sig: 95.4%
ModelChiSquareGof-sig: 61.6%
Bootstrap-pfa: N/A
RollingBand-figt: 1.00 [151/151]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 10.499 arcsec [478.45sigma]
OotOffset-rm: 8.169 arcsec [5.29sigma]
KicOffset-rm: 12.742 arcsec [9.45sigma]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

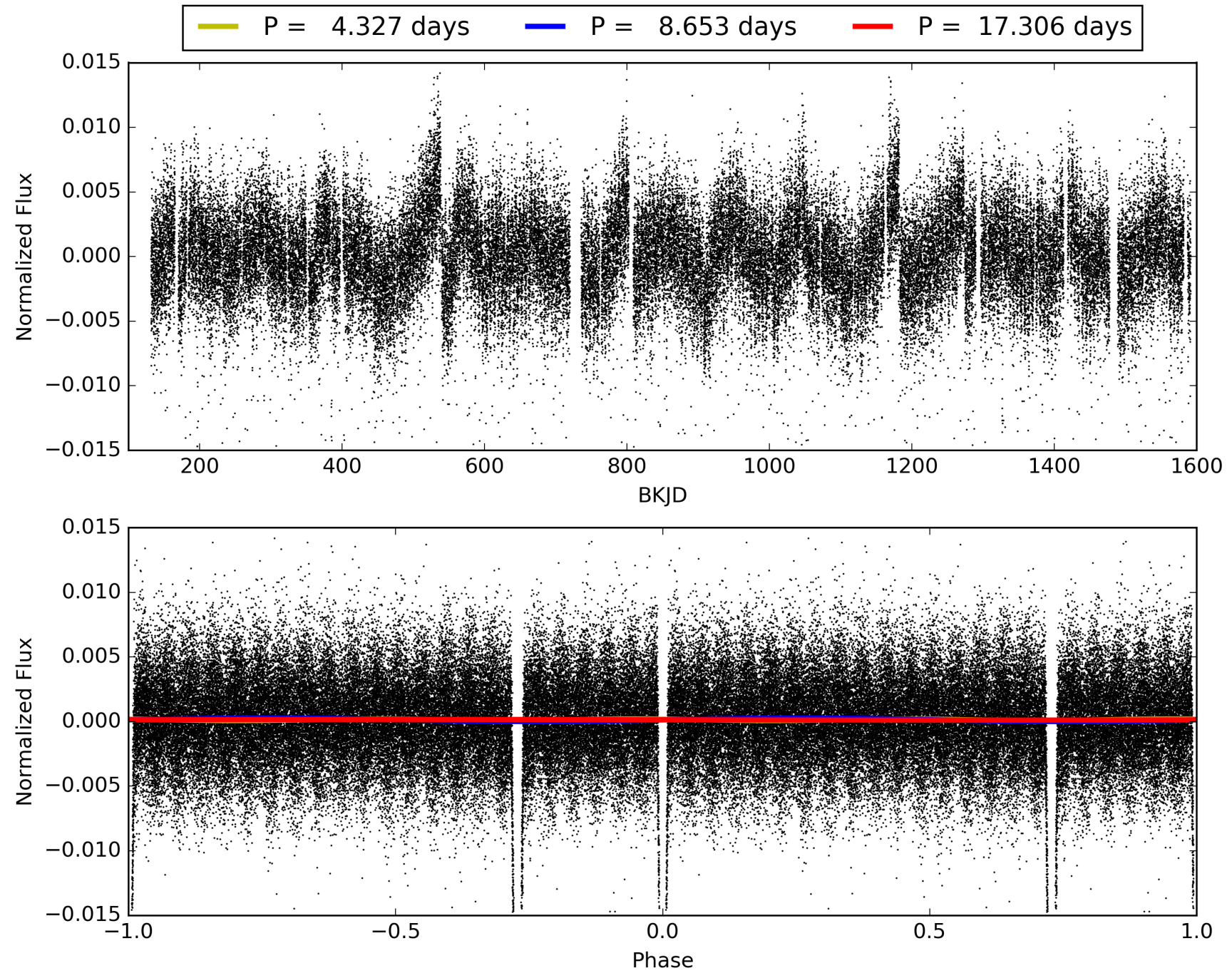
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:29:40 Z

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

TCE 004150611-01, PDC Light Curves

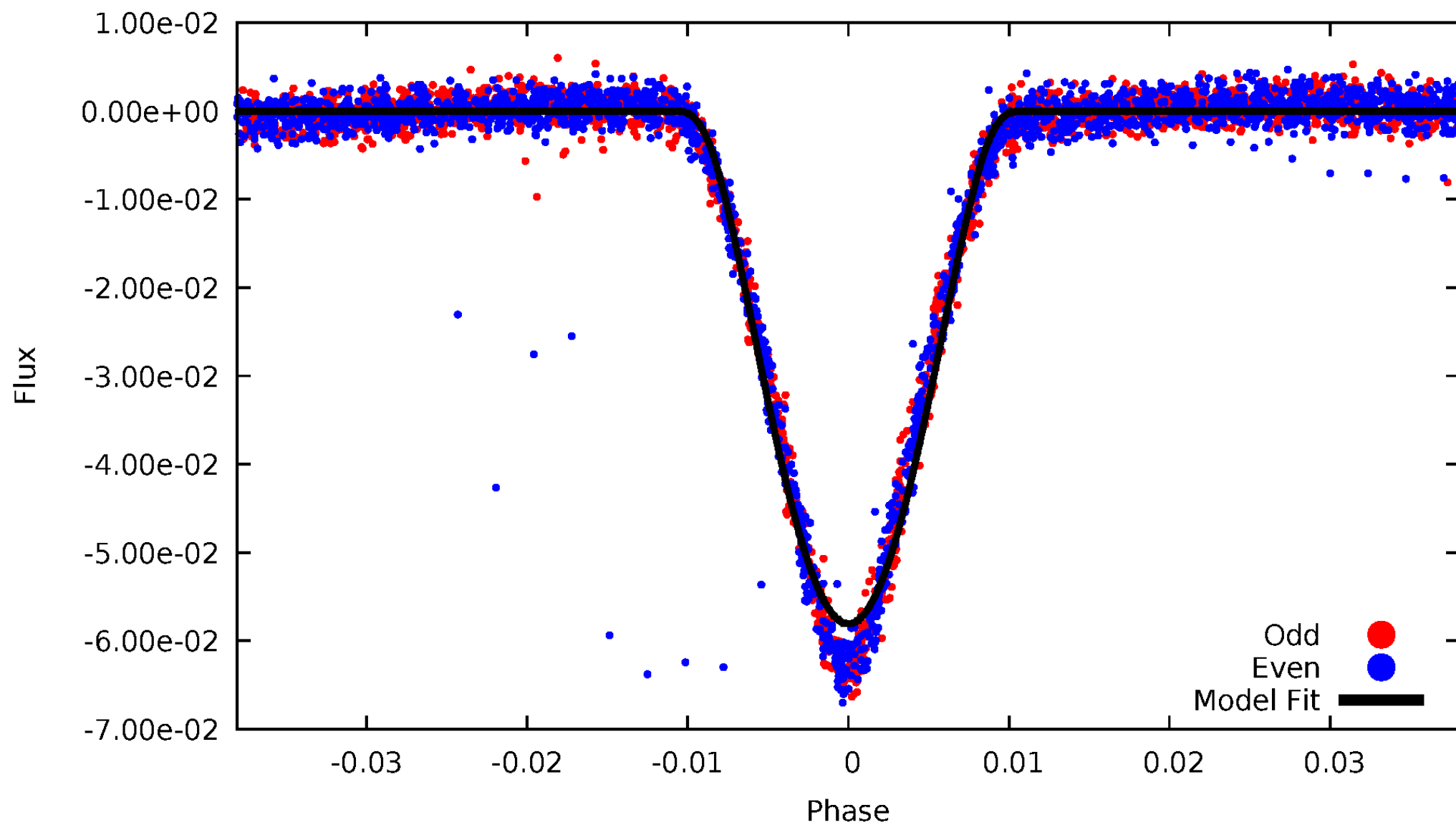


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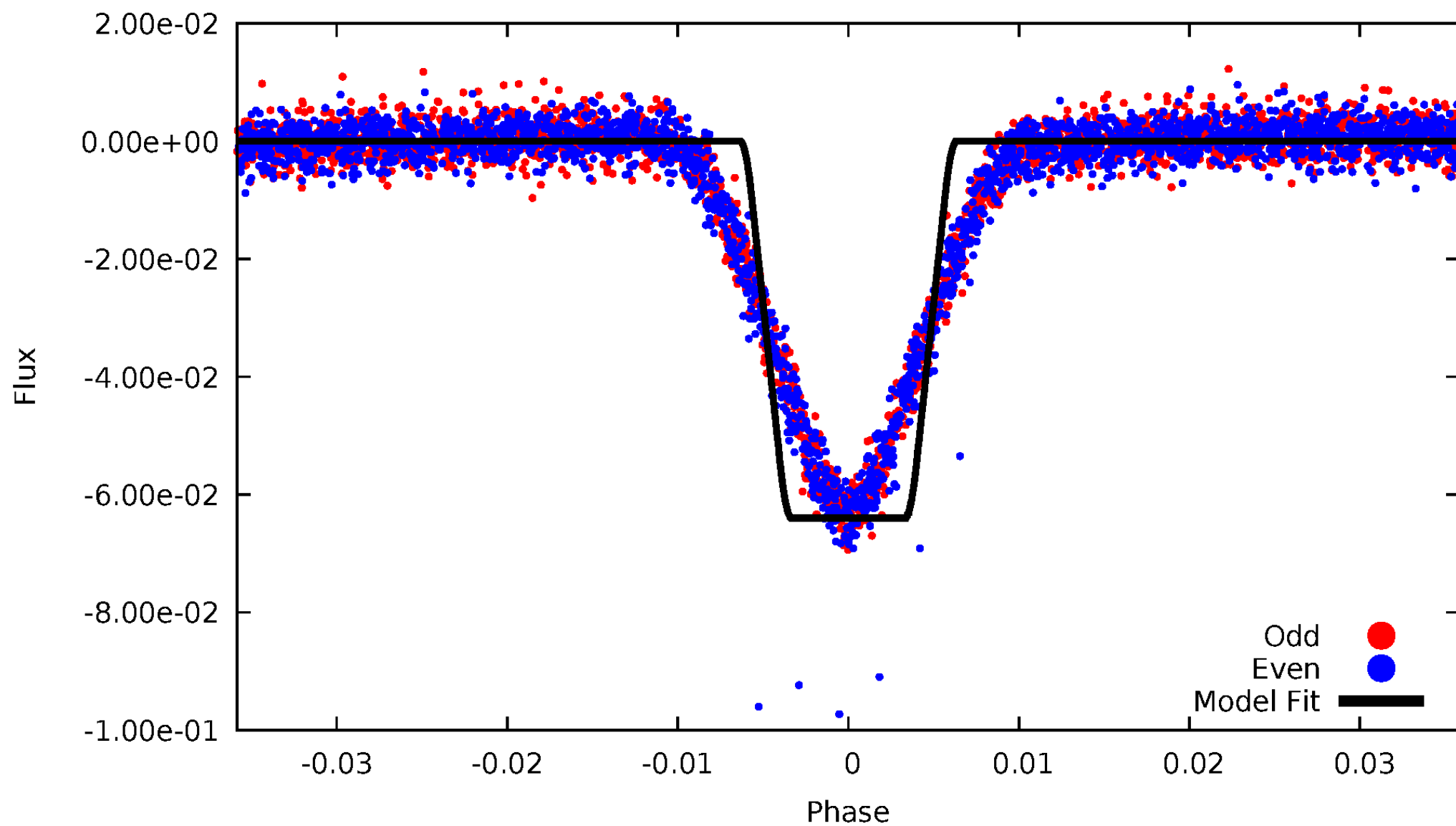
DV Odd/Even

TCE 004150611-01



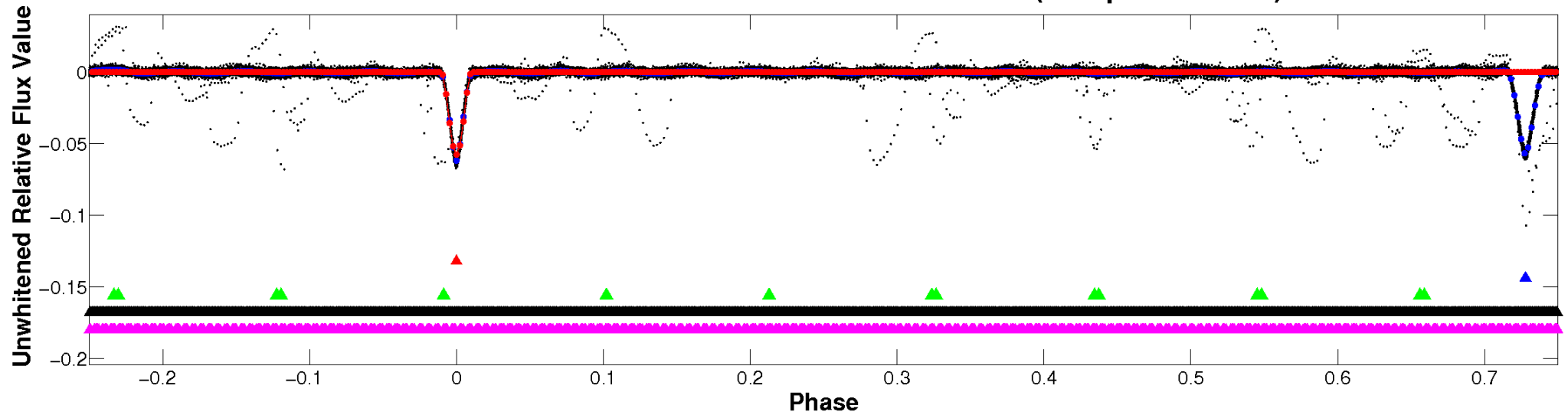
ALT Odd/Even

TCE 004150611-01

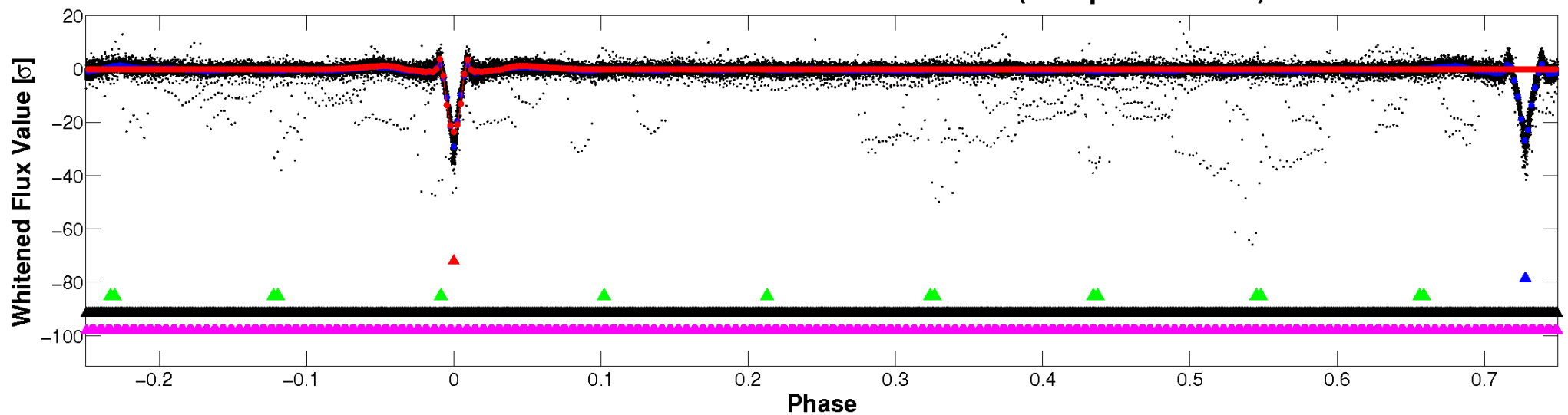


Non-Whitened Vs. Whitened Light Curve

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

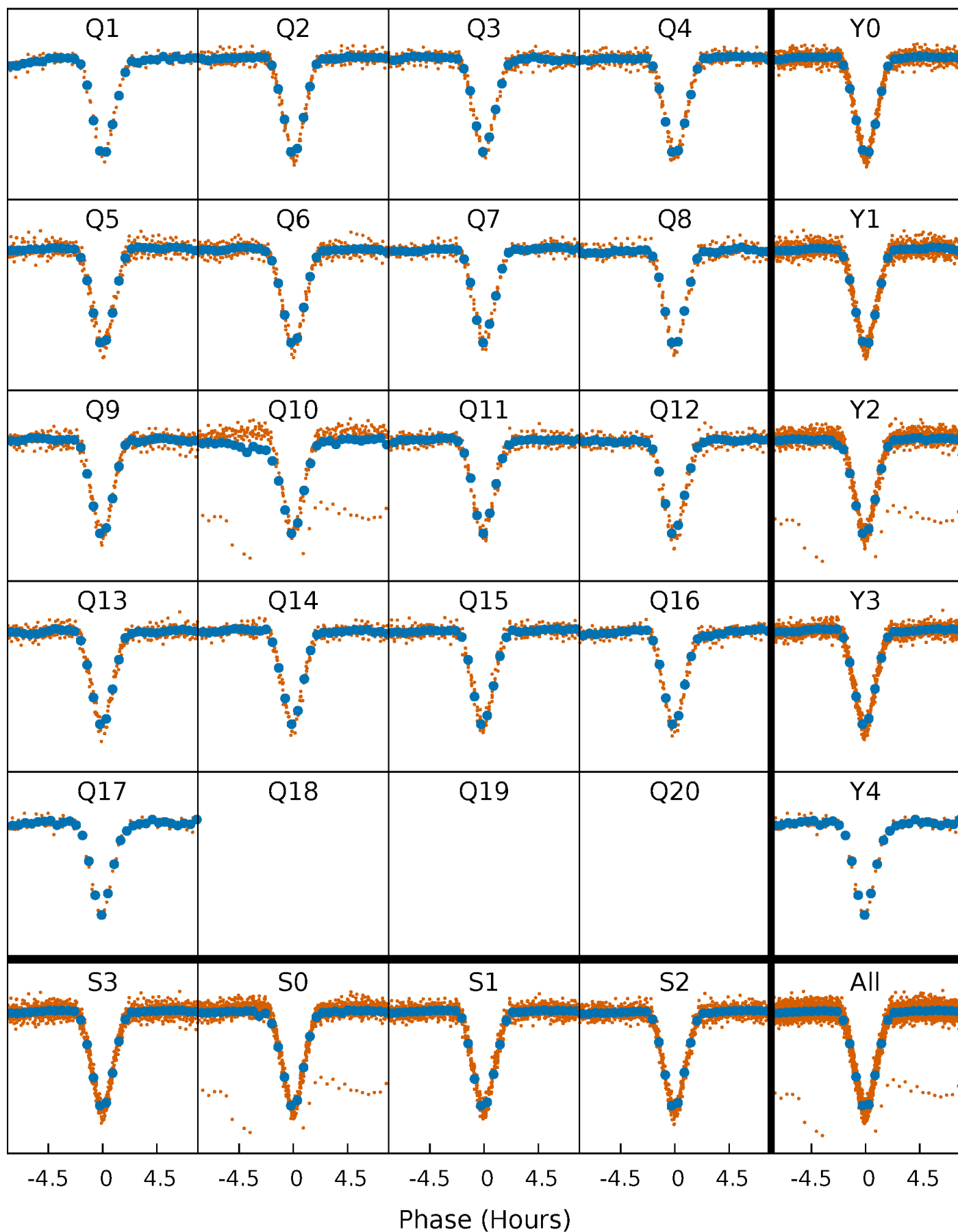


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



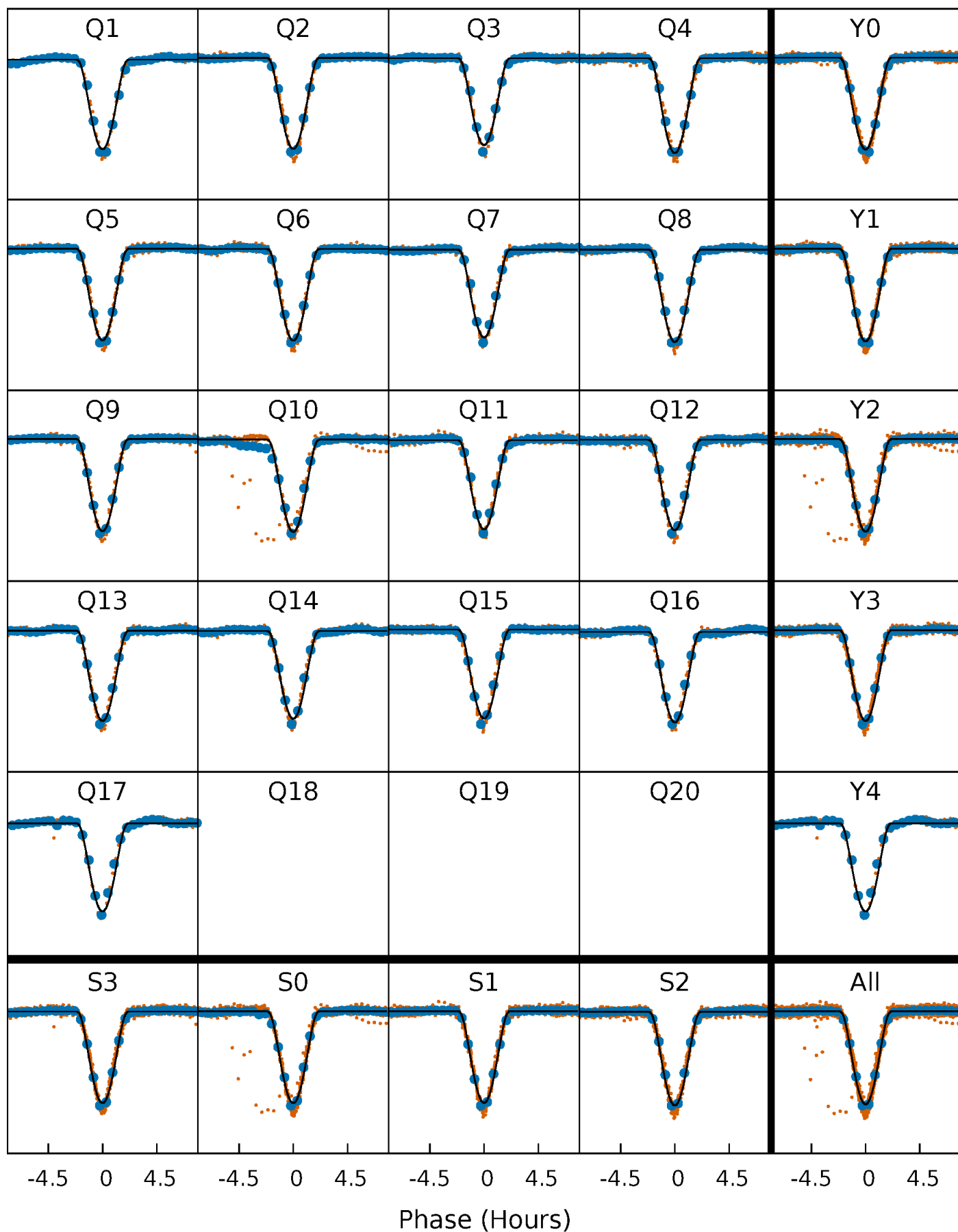
PDC Quarter-Phased Transit Curves

TCE 004150611-01 P= 8.653134 Days $T_0=136.655293$ (BKJD)



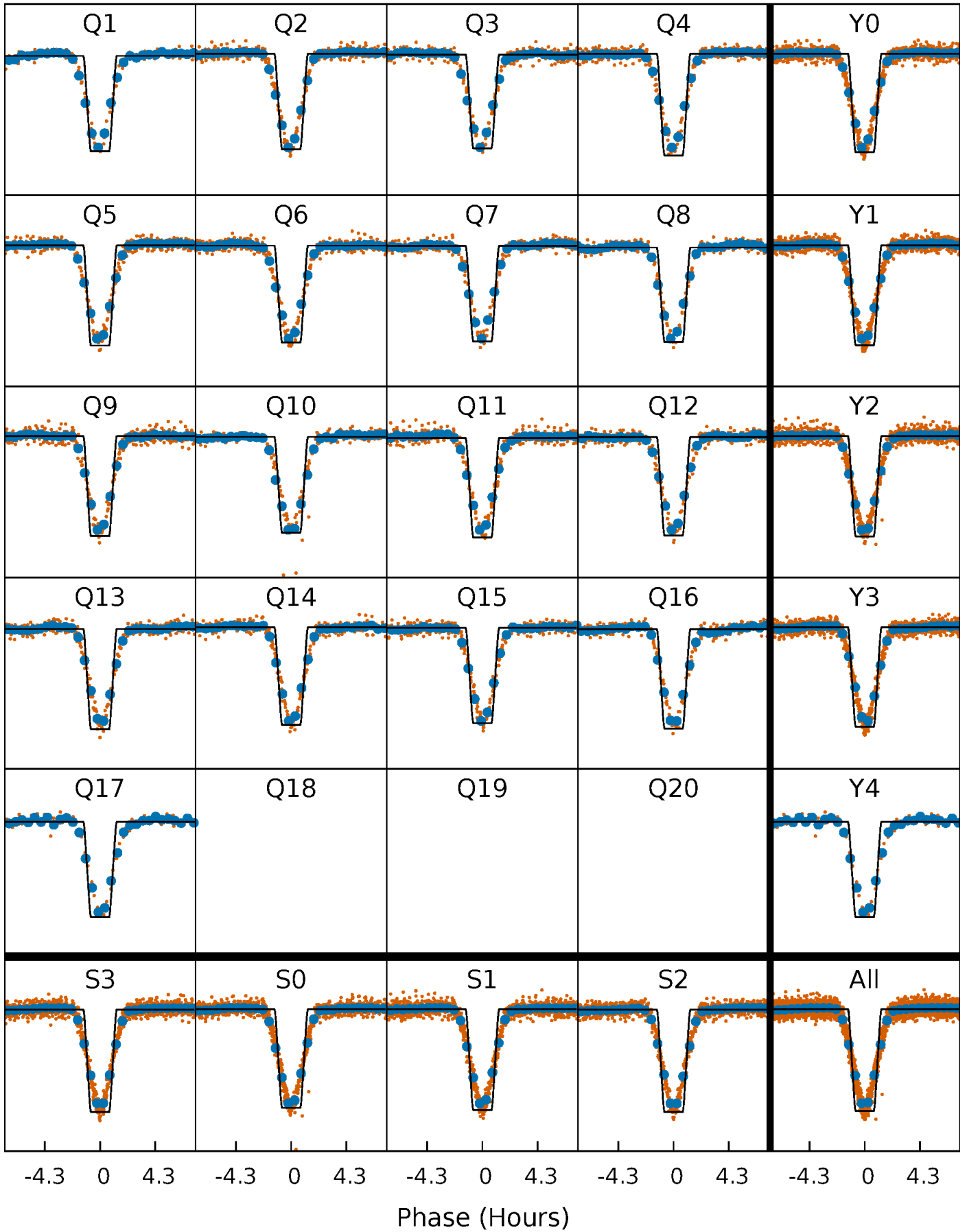
DV Quarter-Phased Transit Curves

TCE 004150611-01 P= 8.653134 Days $T_0=136.655293$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

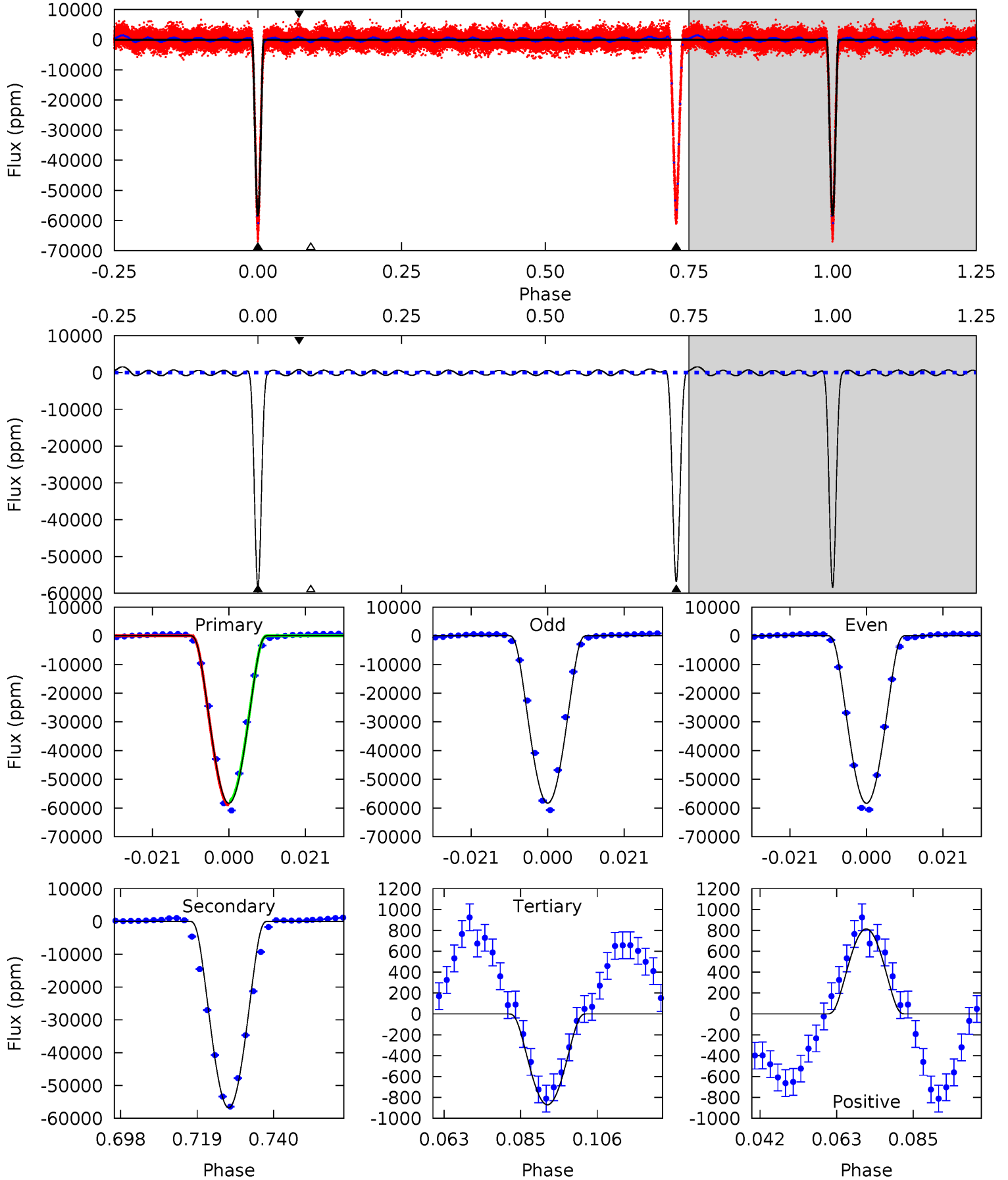
TCE 004150611-01 P= 8.653051 Days $T_0=136.661654$ (BKJD)



DV Model-Shift Uniqueness Test

004150611-01, P = 8.653134 Days, E = 128.002159 Days

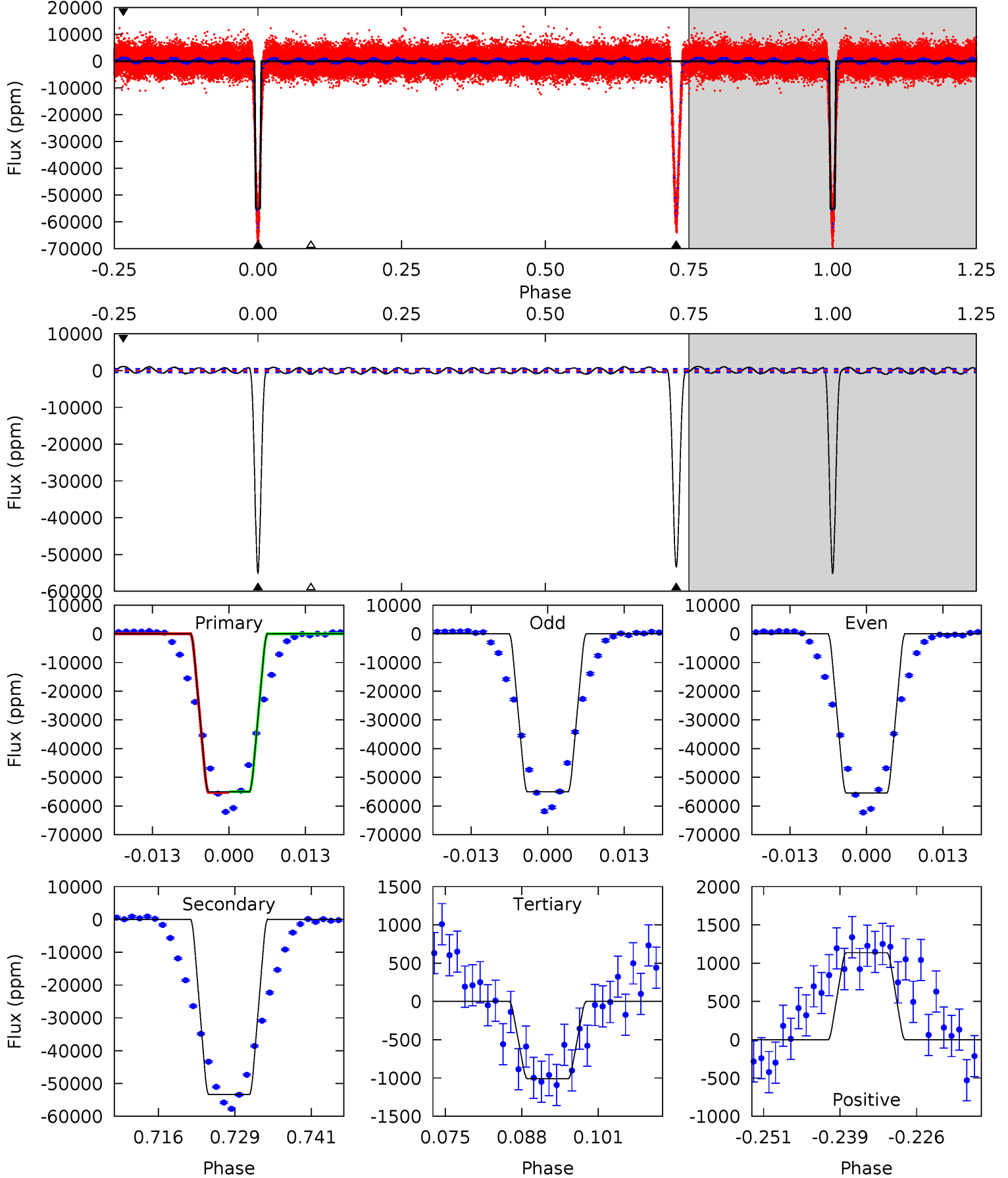
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1450	1411	21.6	20.2	4.88	2.31	13.7	1428	1429	1390	1391	0.73	1.00	0.03	16.5



Alt Model-Shift Uniqueness Test

004150611-01, P = 8.653051 Days, E = 128.008603 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
547.6	530.8	10.0	11.3	4.98	2.50	5.88	537.5	536.3	520.8	519.5	1.90	1.01	0.02	1.33



Stellar Parameters For KIC 004150611

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6911^{+194}_{-242}	$4.038^{+0.406}_{-0.145}$	$-1.540^{+0.300}_{-0.250}$	$1.501^{+0.371}_{-0.603}$	$0.897^{+0.069}_{-0.063}$	$0.373^{+1.169}_{-0.168}$
	+3%/-4%	+10%/-4%	+19%/-16%	+25%/-40%	+8%/-7%	+313%/-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 004150611-01 / KOI 3156.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-56795 ± 40	$58.81^{+12.30}_{-12.72}$	1816^{+145}_{-194}	5569^{+367}_{-301}	60^{+39}_{-19}
Alt.	-53367 ± 101	$39.45^{+10.44}_{-9.98}$	1820^{+134}_{-192}	6662^{+737}_{-568}	127^{+99}_{-47}

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

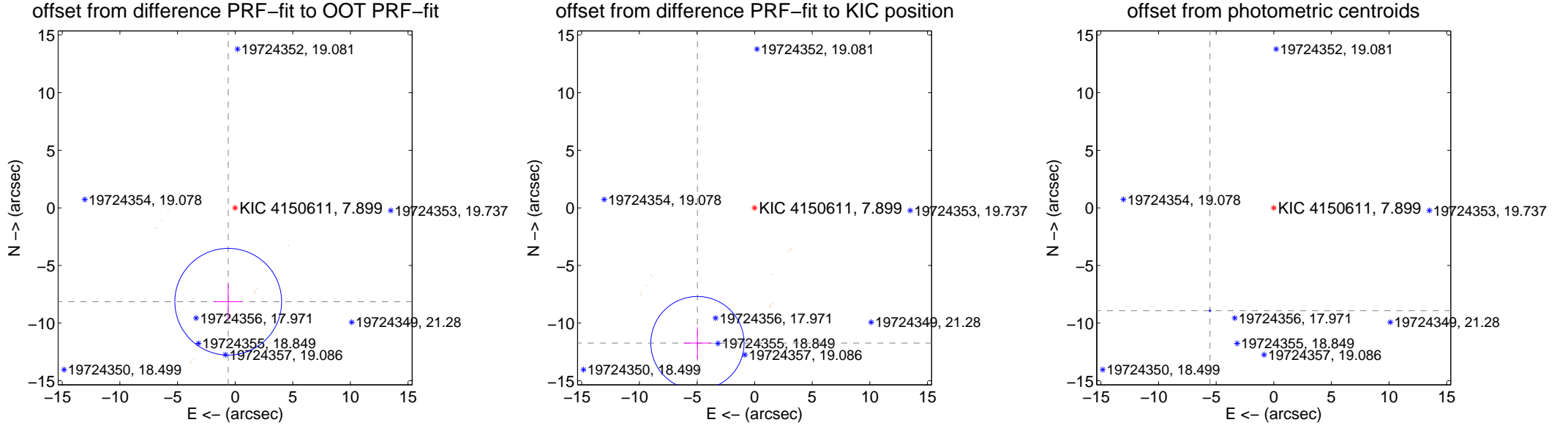
DV Centroid Data

Supplemental centroid analysis for 004150611-01. **Kepler magnitude: 7.90.** Transit SNR 366.11

There are 0 quarters with good PRF difference image offsets

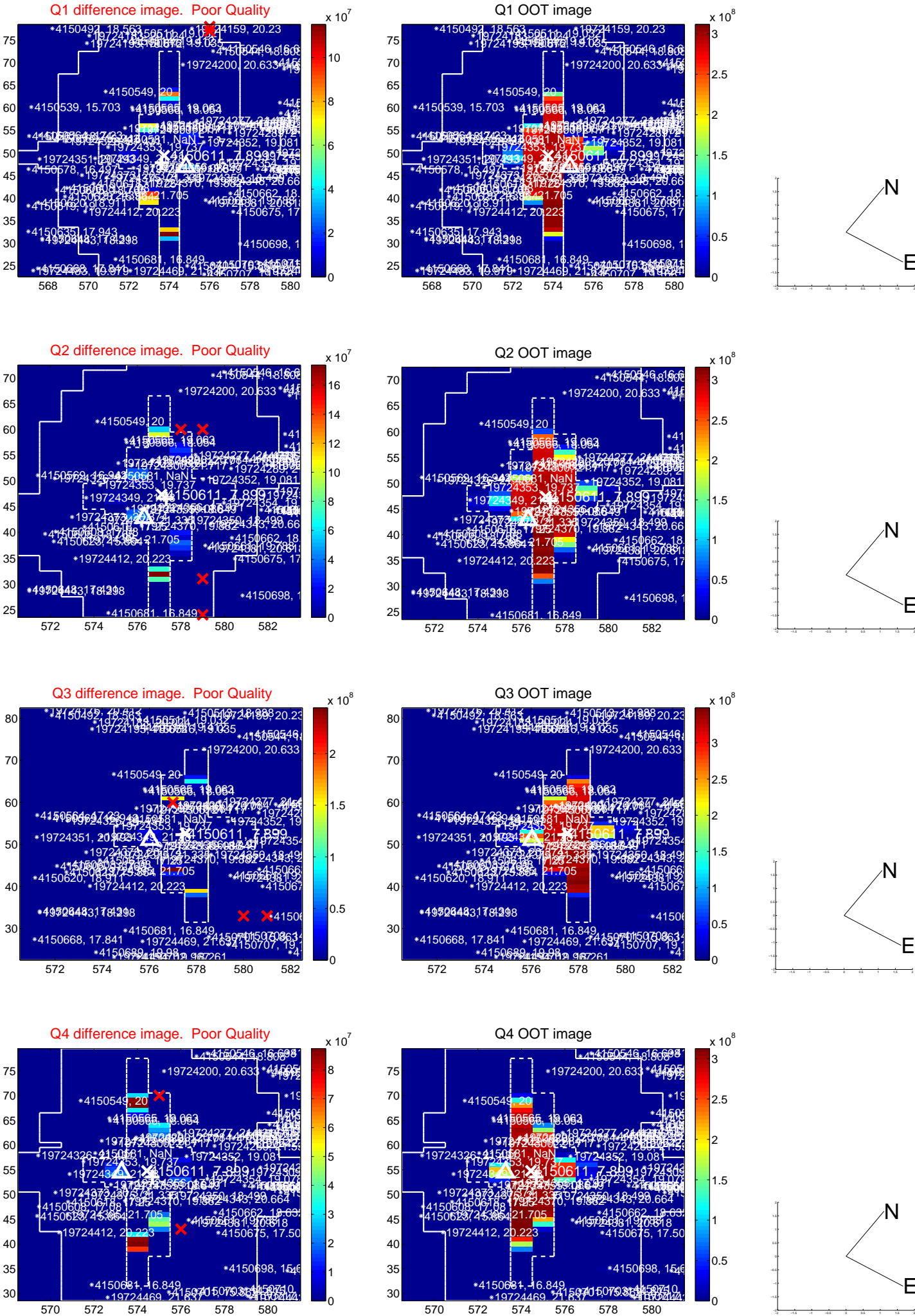
The OOT PRF centroid is offset from the target star catalog position by about 6.61 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.169 ± 1.544	5.29	0.601 ± 1.234	-8.147 ± 1.545
PRF-fit source offset from KIC position	12.742 ± 1.348	9.45	4.959 ± 1.199	-11.737 ± 1.373
photometric centroid source offset	10.50 ± 0.02	478.45	5.53 ± 0.02	-8.92 ± 0.02

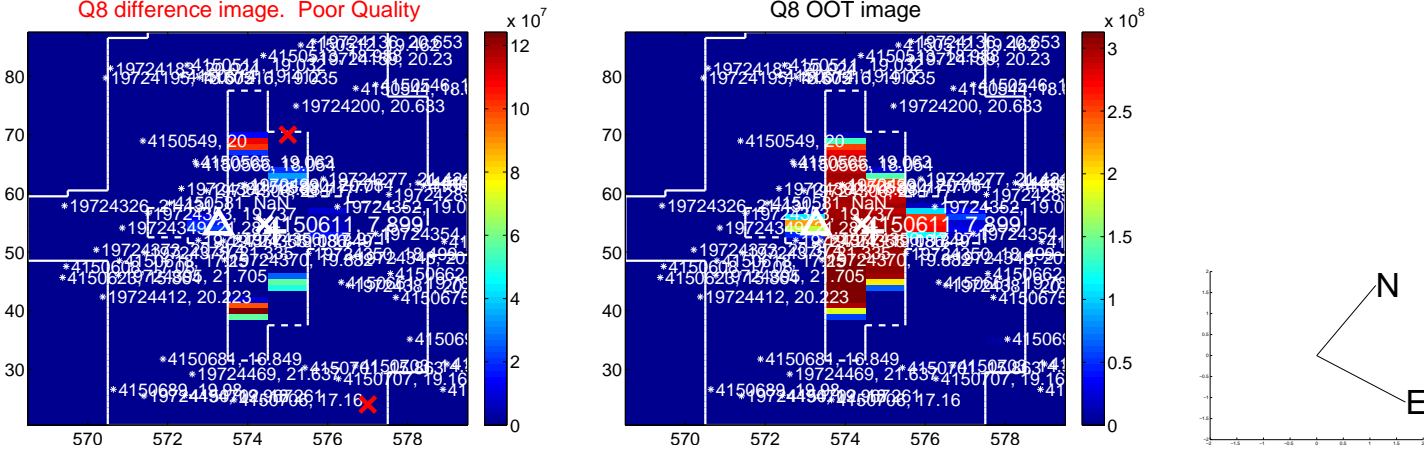
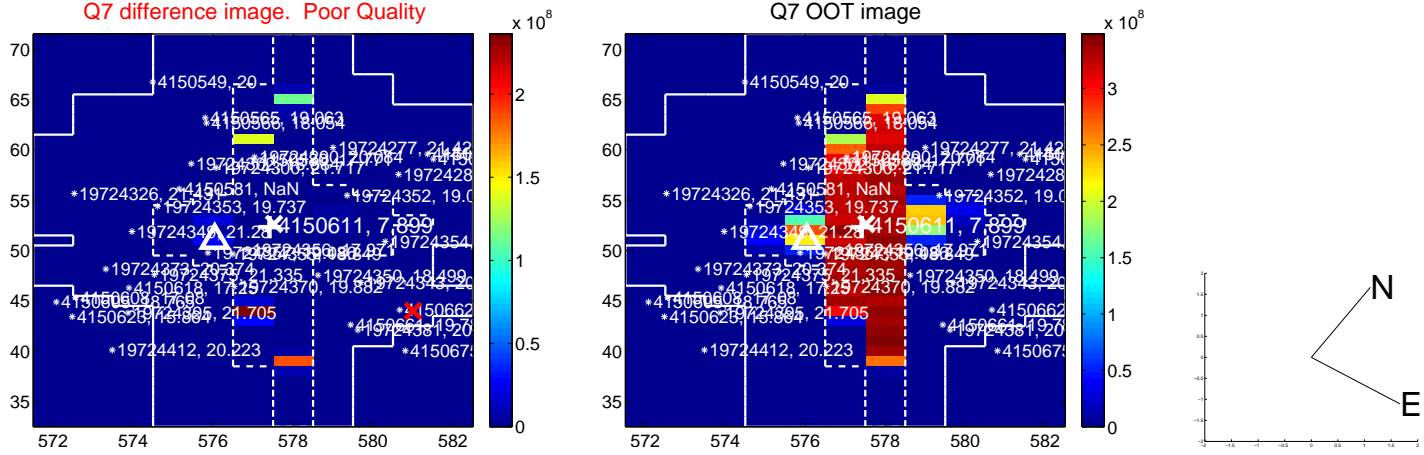
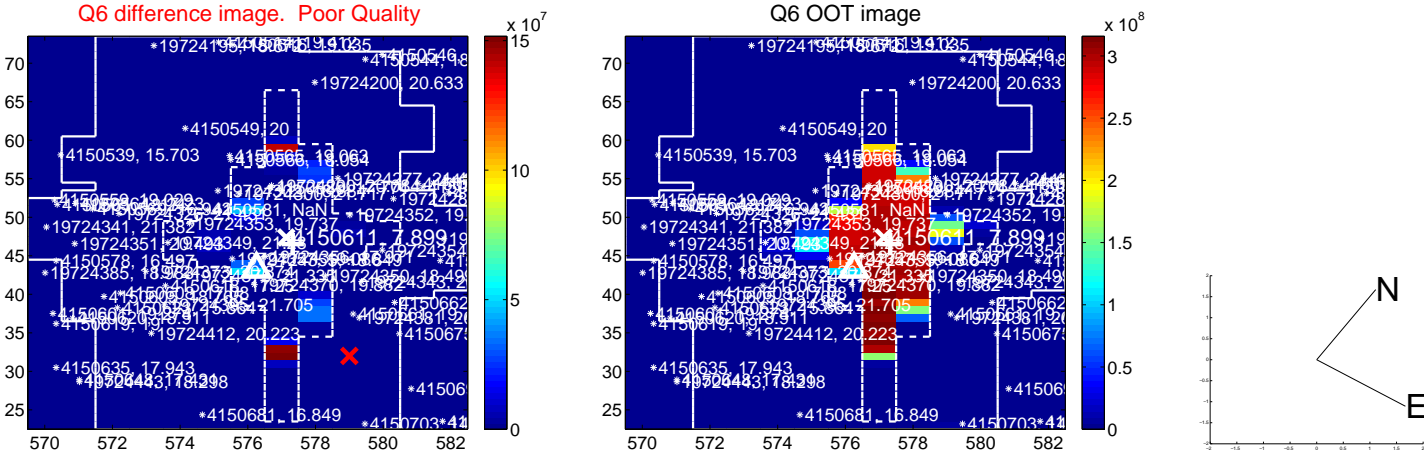
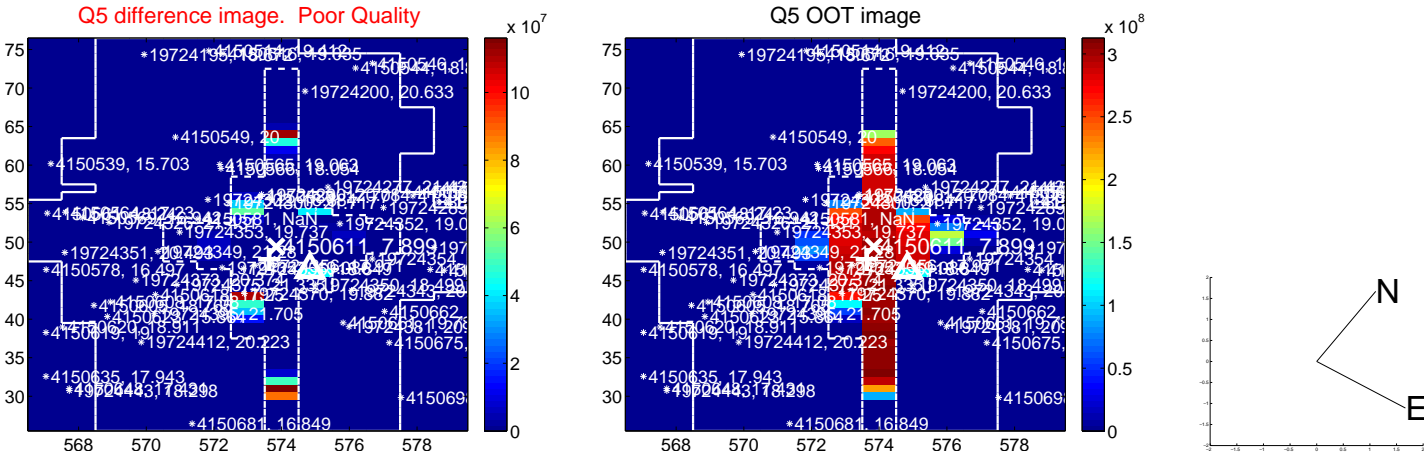


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

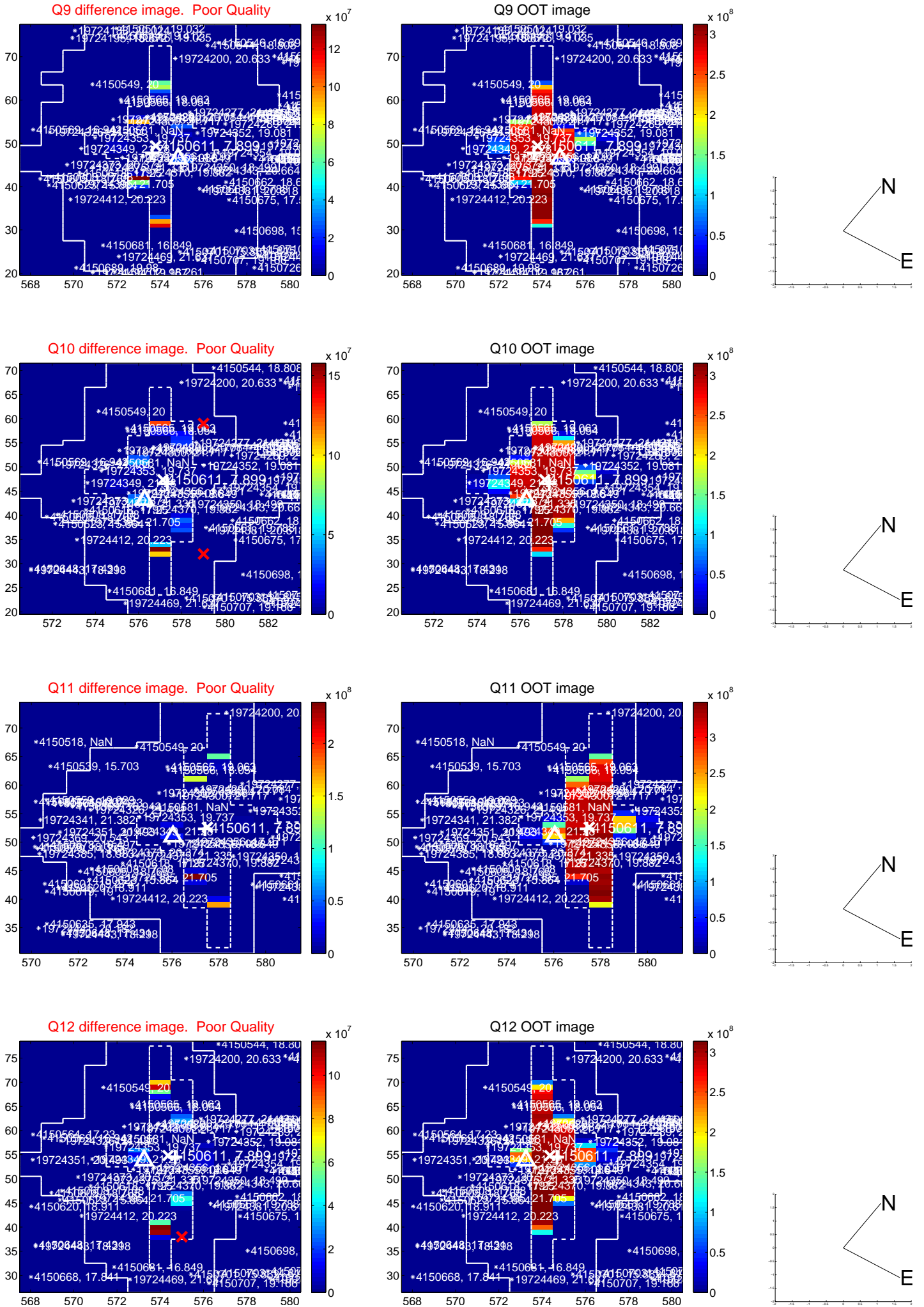
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



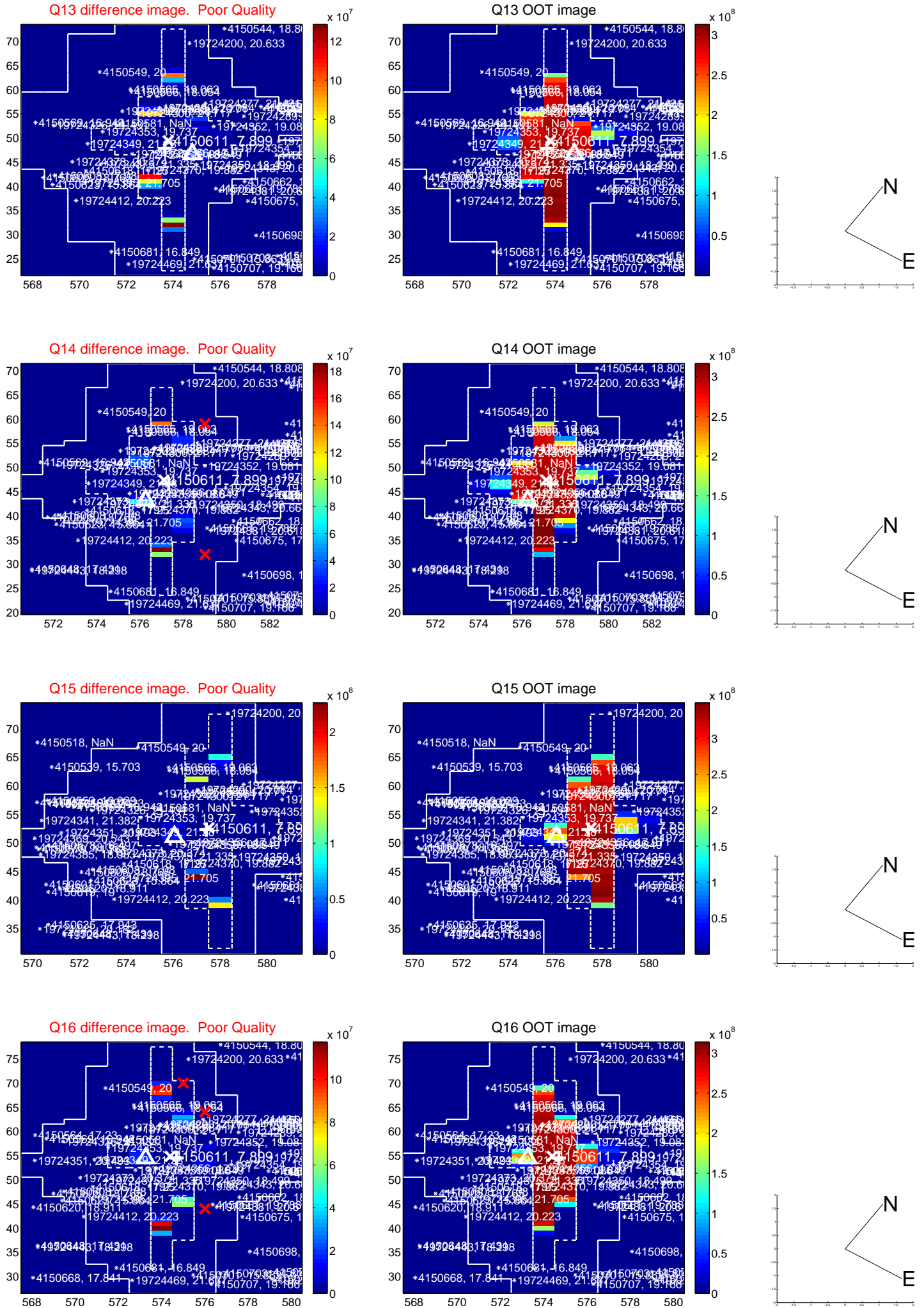
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



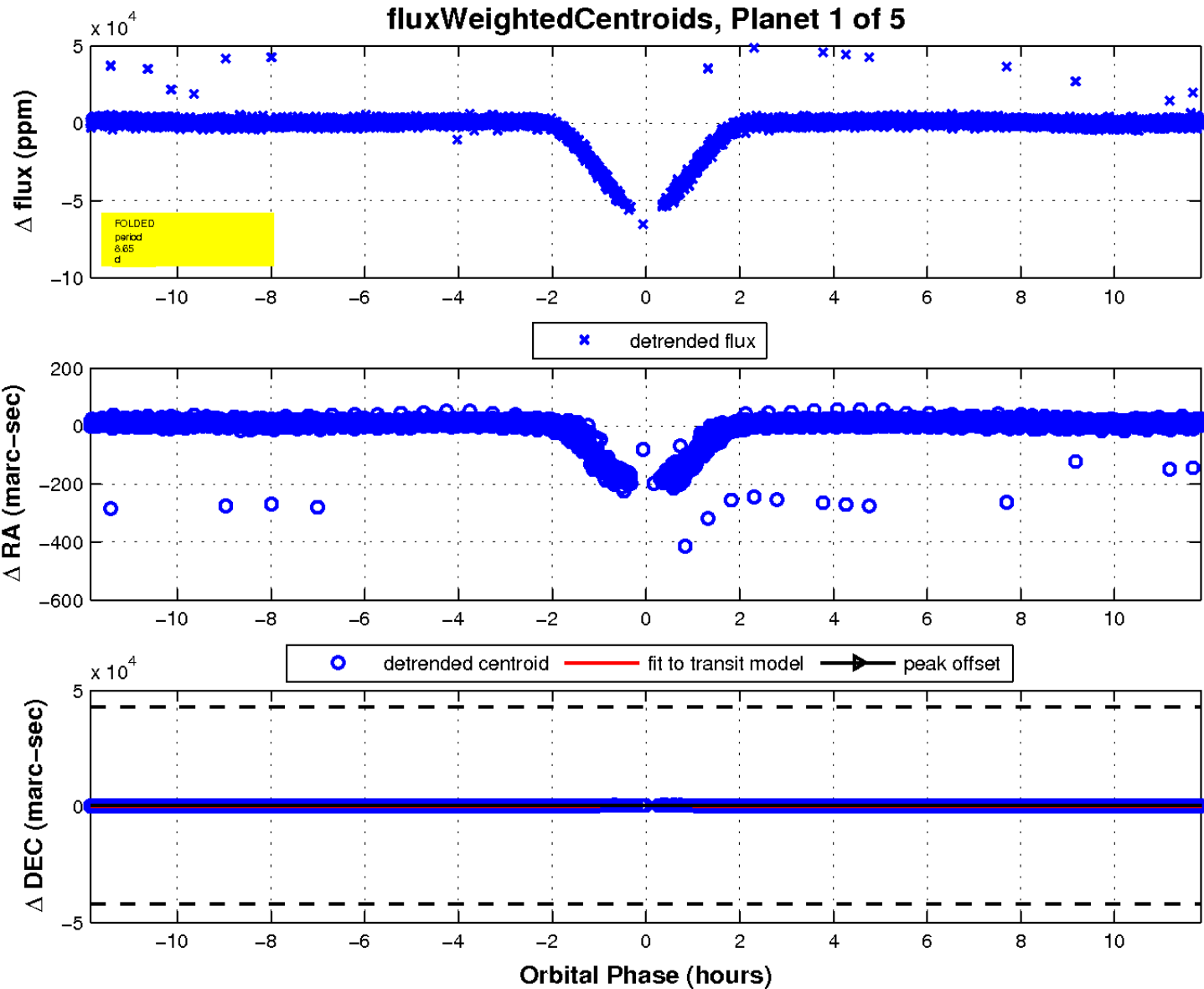
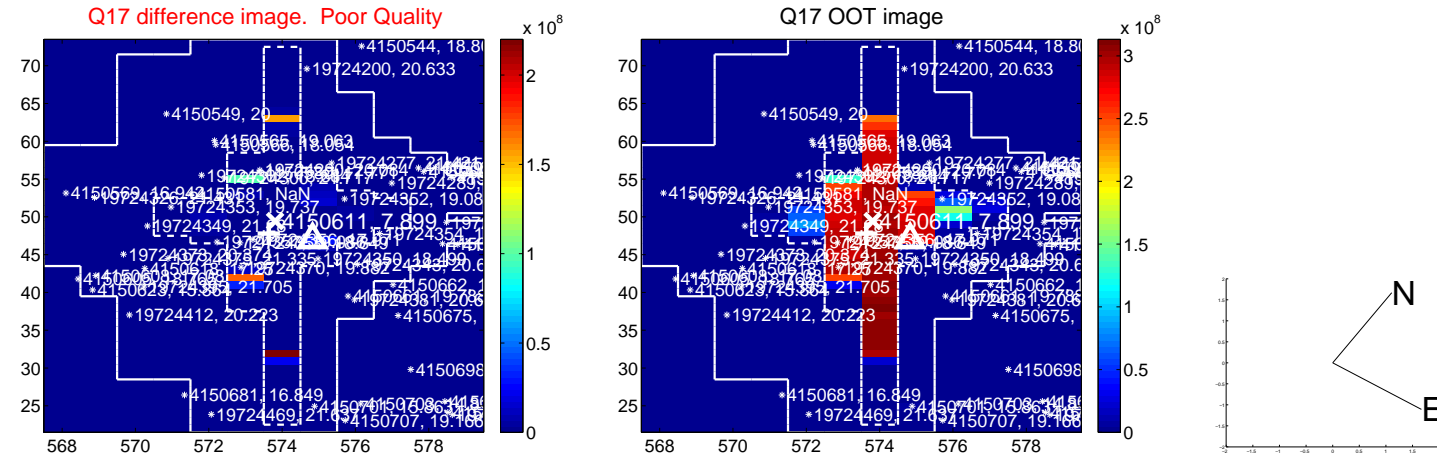
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



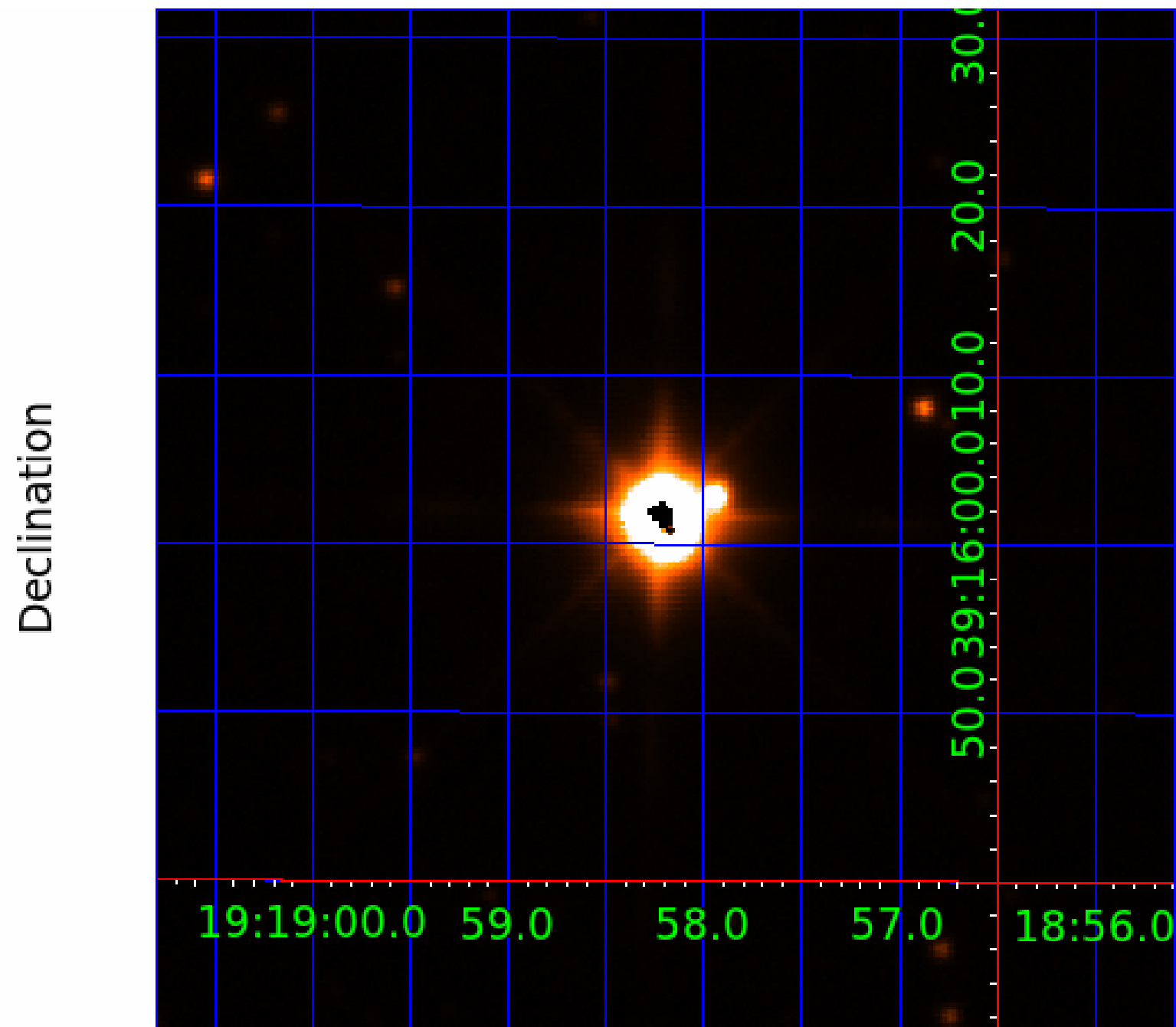
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004150611

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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004150611-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED
004150611-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—CENT_SATURATED
004150611-04	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
004150611-05	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

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

Ephemeris Match Information For 004150611-02

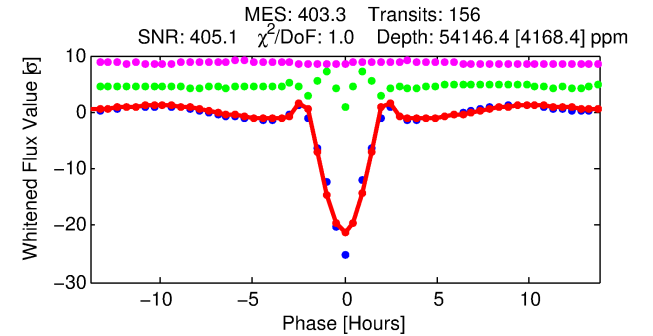
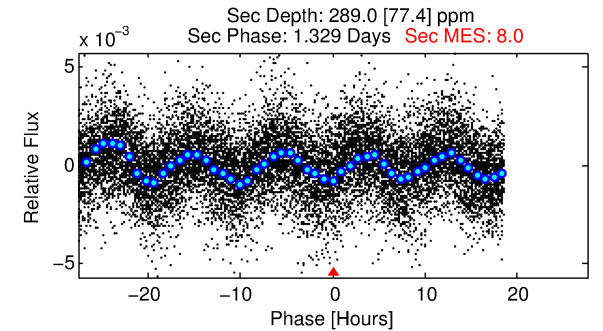
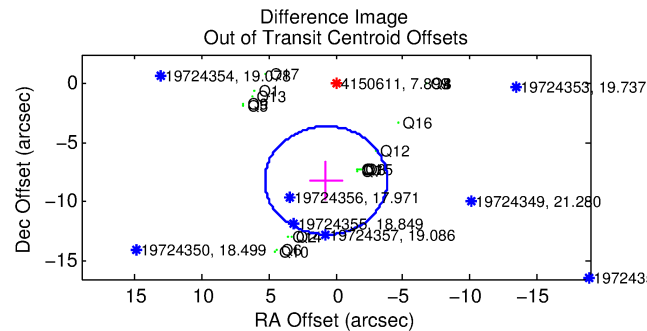
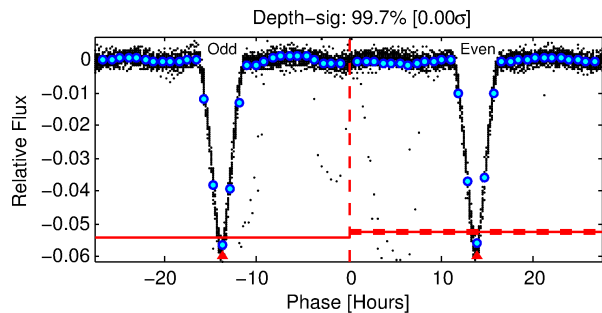
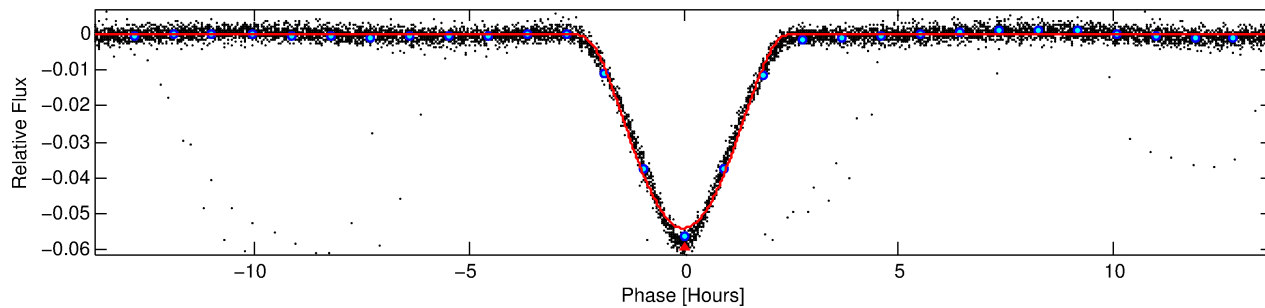
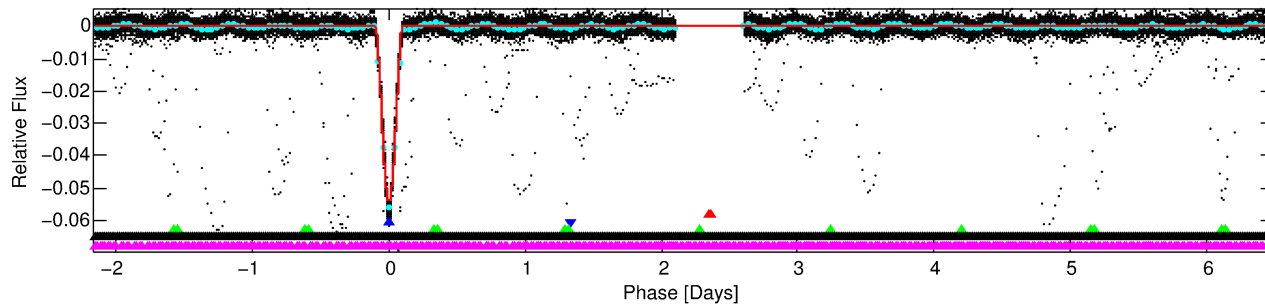
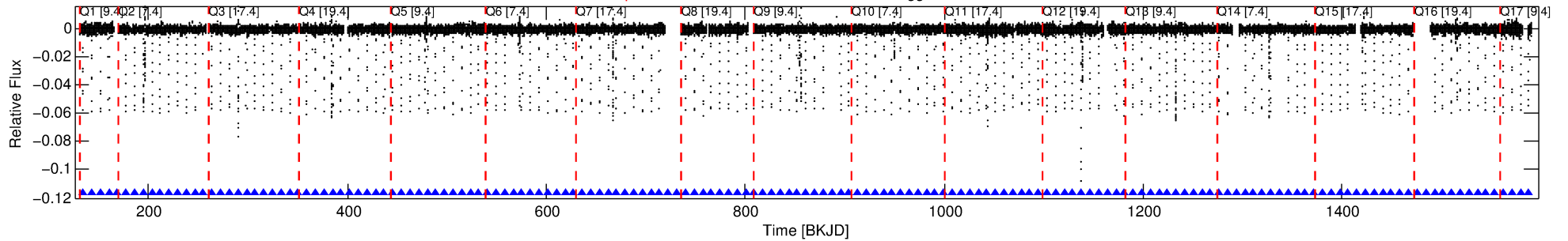
No Significant Match Found

DV One-Page Summary

KIC: 4150611 Candidate: 2 of 5 Period: 8.653 d

KOI: K03156 Corr: No Ephemeris Match

Kp: 7.90 R*: 1.50 Rs Teff: 6911.0 K Logg: 4.04 Fe/H: -1.540



DV Fit Results:

Period = 8.65311 [0.00000] d
Epoch = 134.3025 [0.0002] BKJD
Rp/R* = 0.3623 [0.0405]
a/R* = 13.39 [0.02]
b = 1.00 [0.07]
Seff = 727.36 [503.81]
Teq = 1324 [229] K
Rp = 59.35 [24.75] Re
a = 0.0796 [0.0327] AU
Ag = 0.29 [0.22] [-3.28σ]
Teffp = 1497 [141] K [0.64σ]

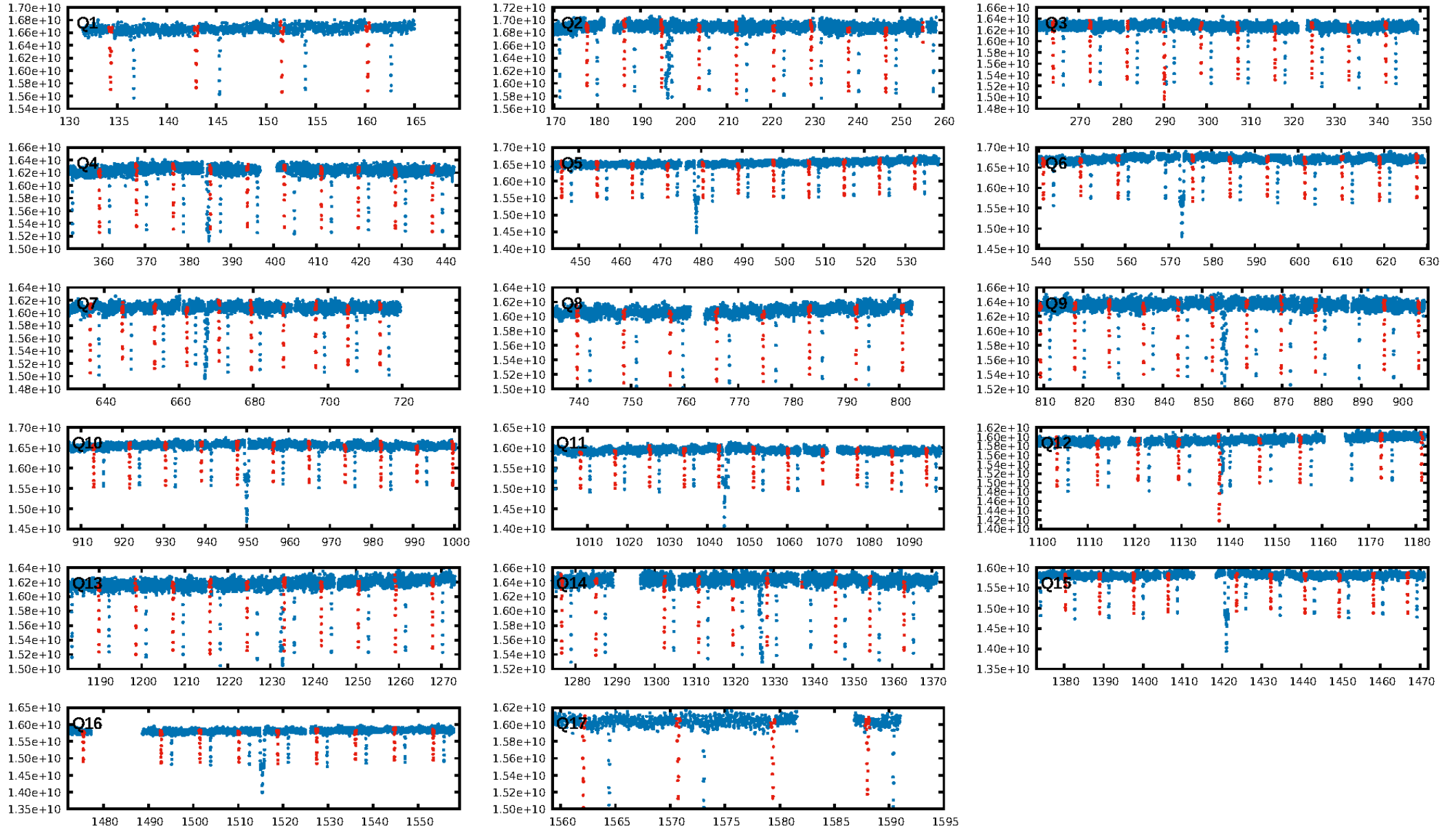
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [30.04σ]
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [148/148]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 11.005 arcsec [468.65σ]
OotOffset-rm: 8.205 arcsec [5.38σ]
KicOffset-rm: 12.833 arcsec [9.59σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

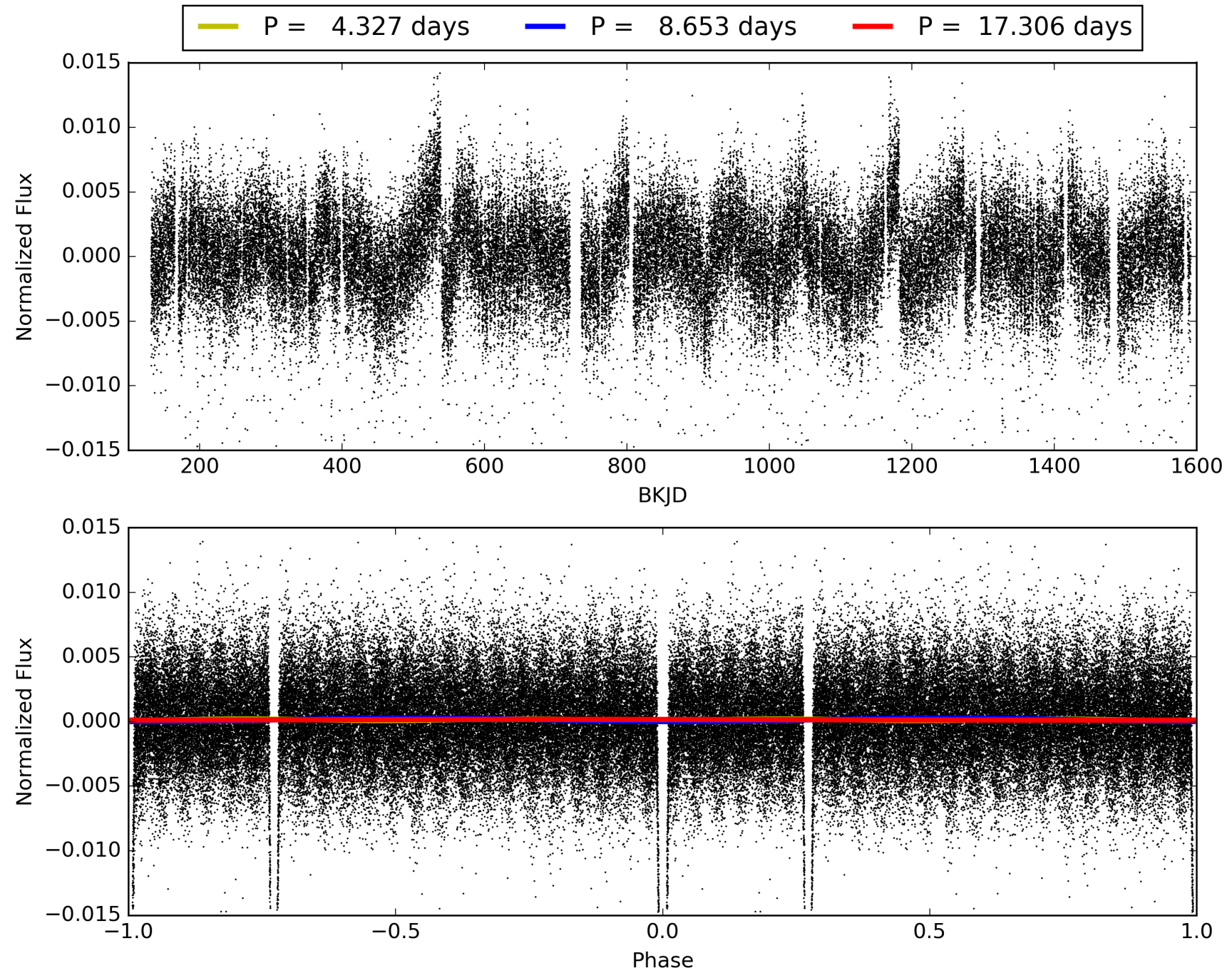
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:29:46 Z

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

TCE 004150611-02, PDC Light Curves

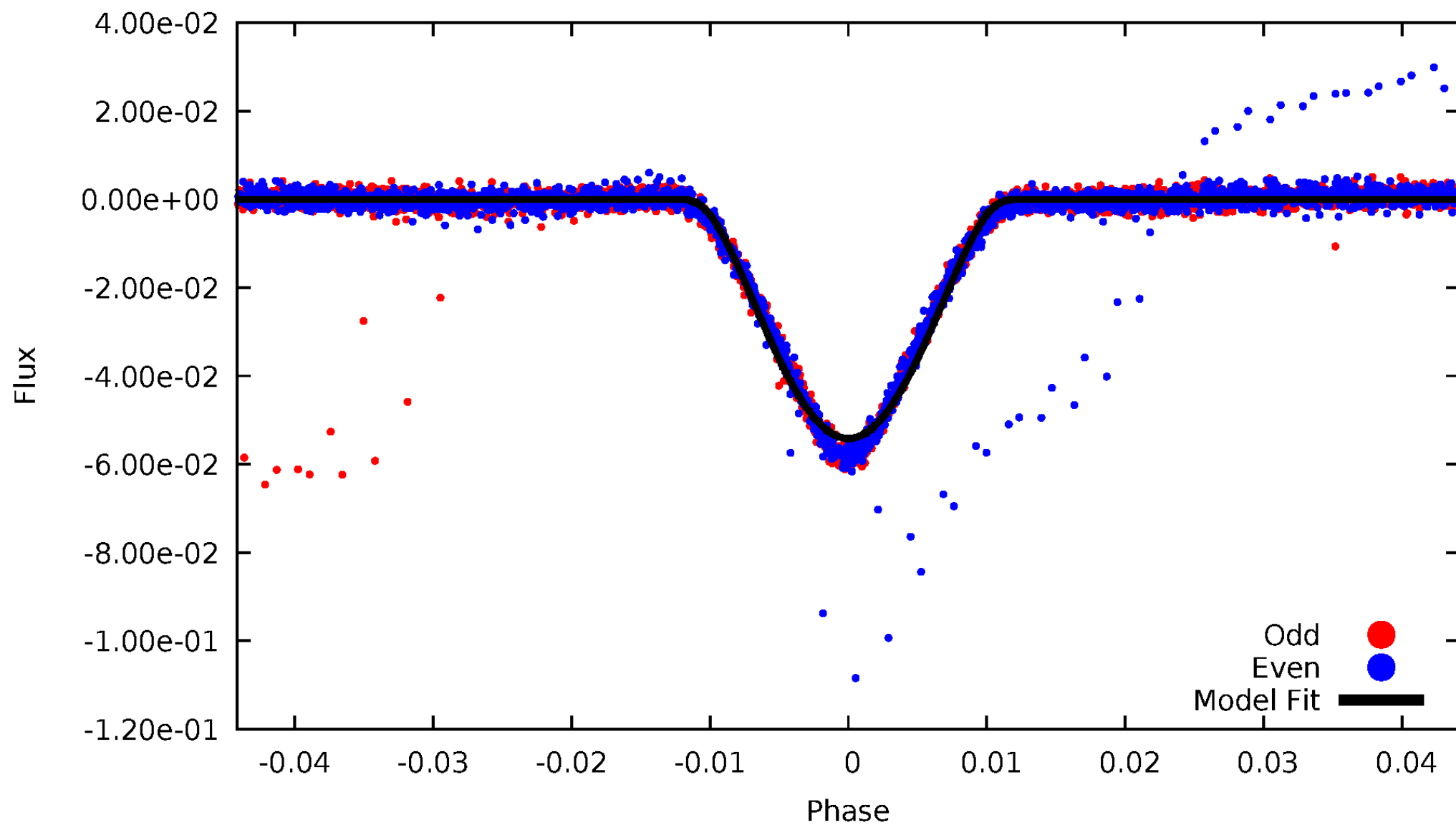


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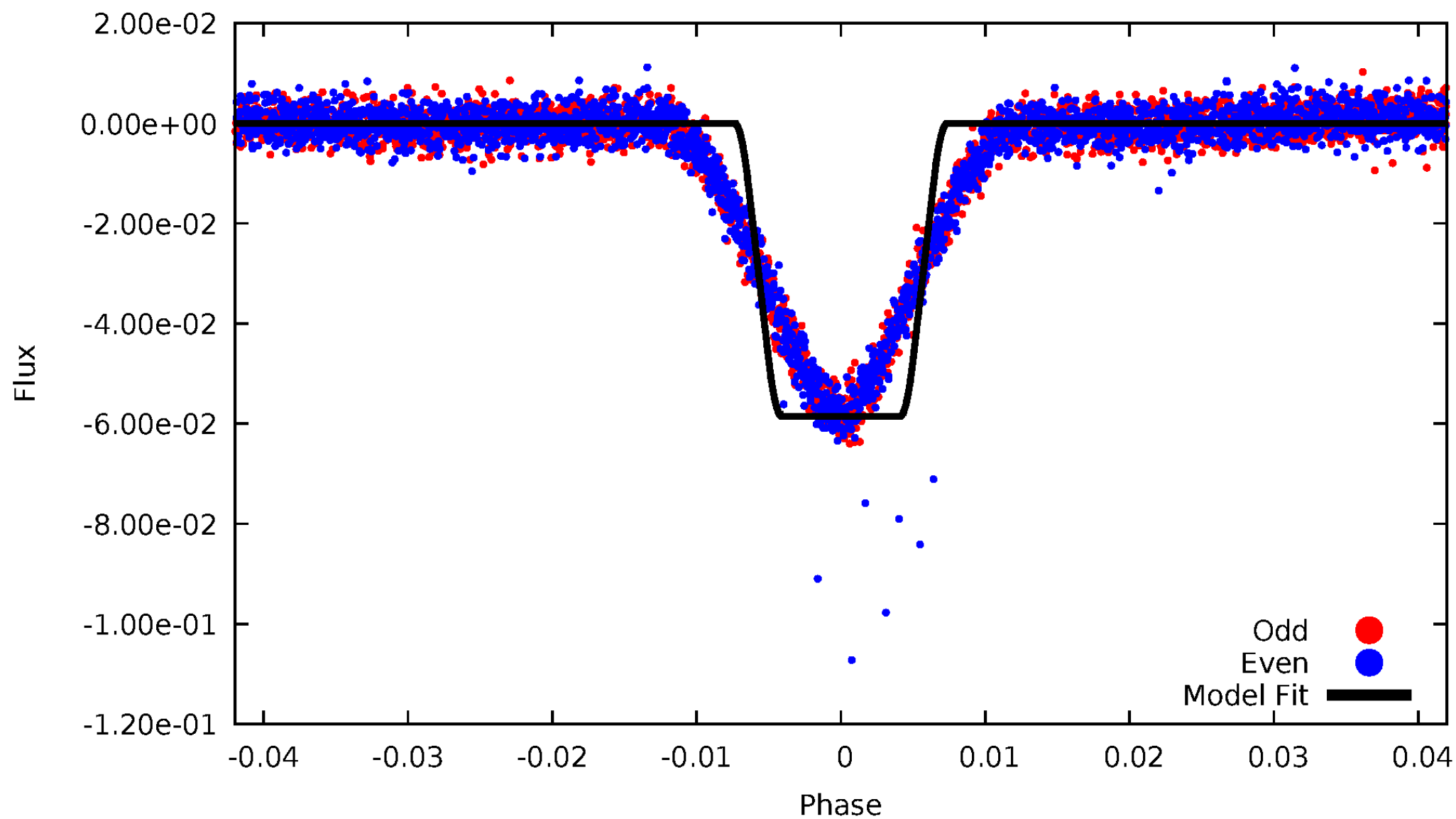
DV Odd/Even

TCE 004150611-02



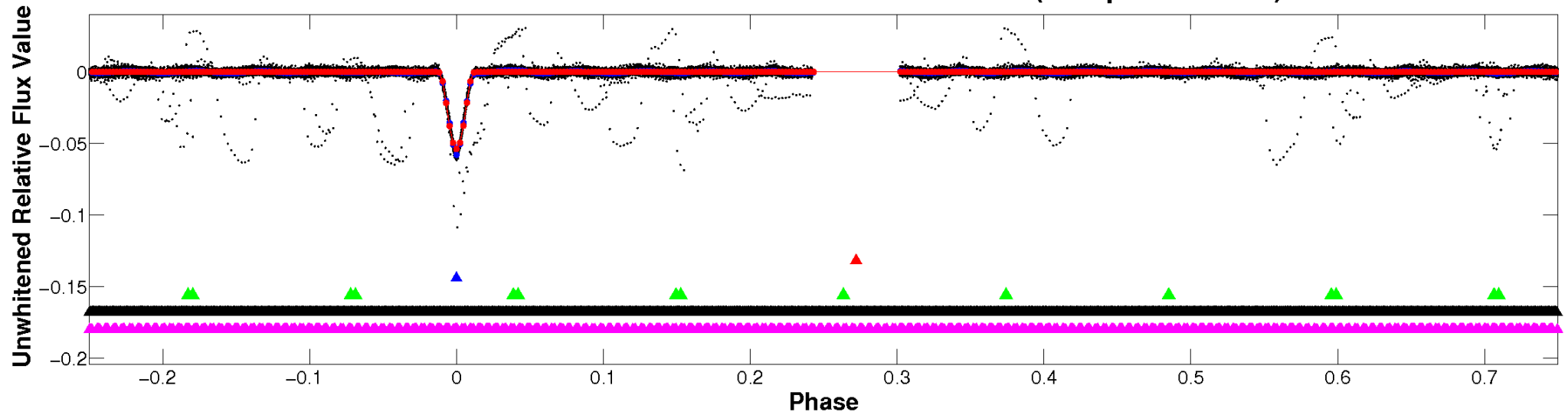
ALT Odd/Even

TCE 004150611-02

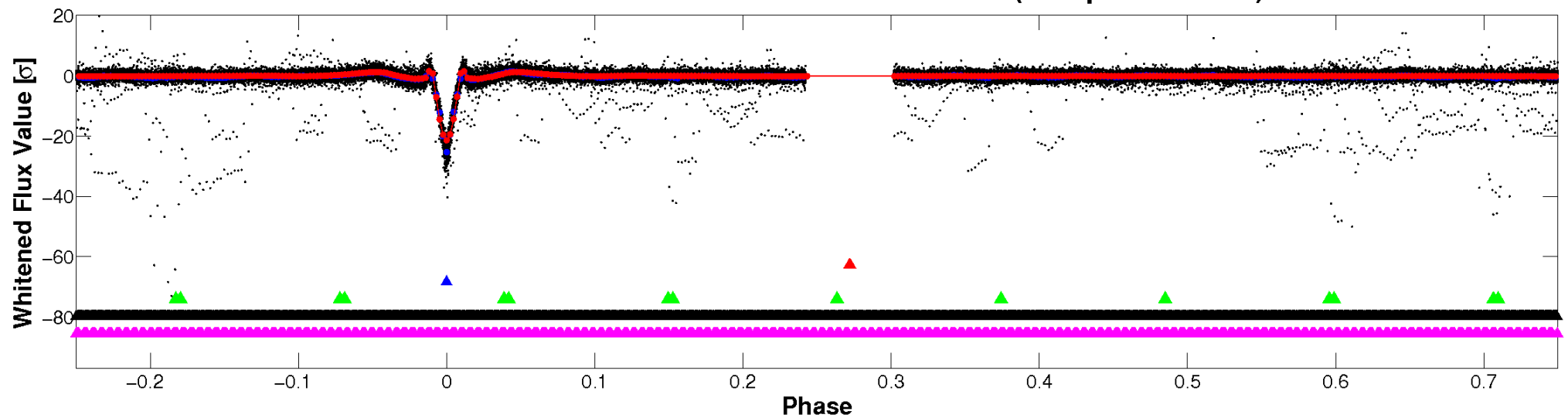


Non-Whitened Vs. Whitened Light Curve

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

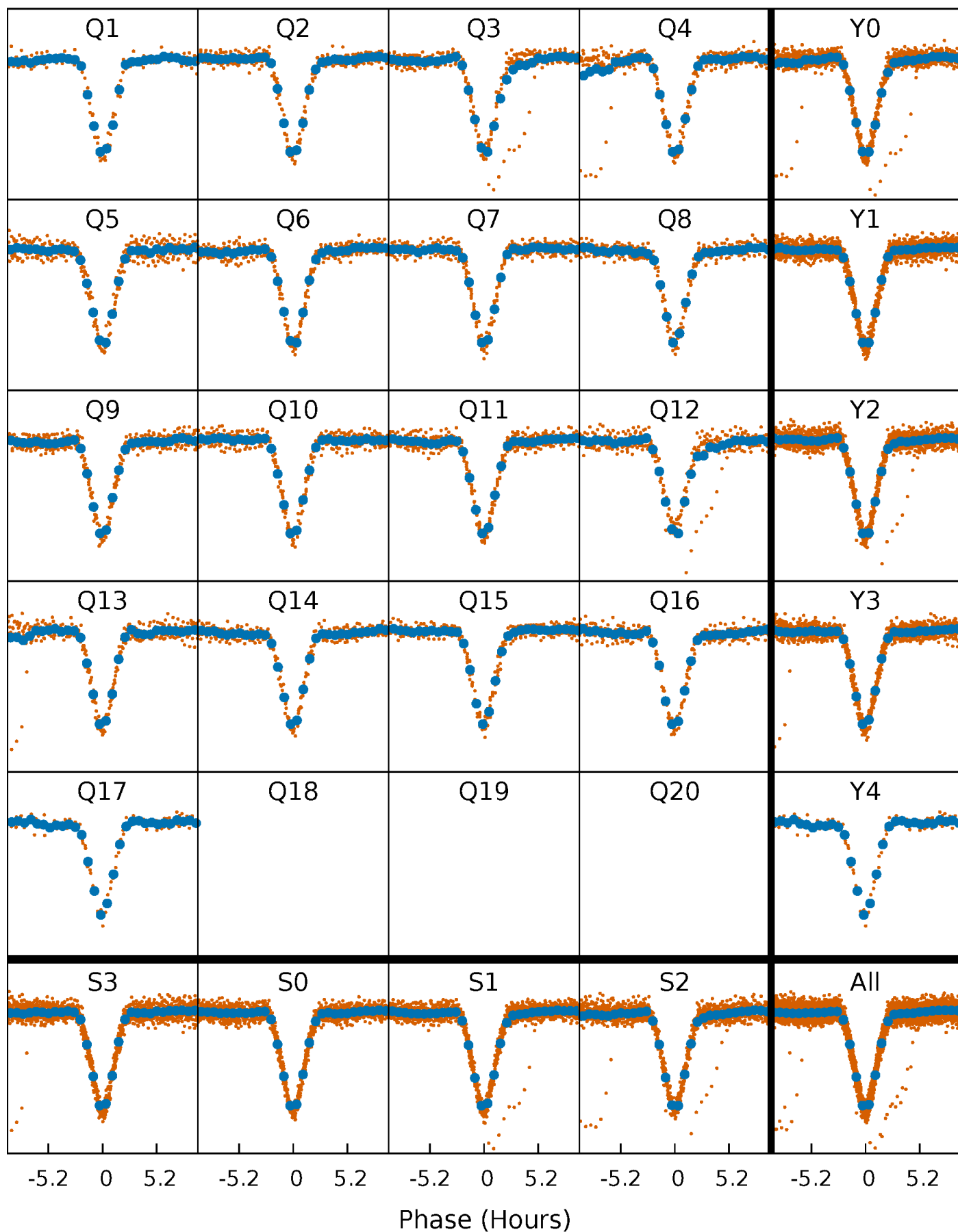


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



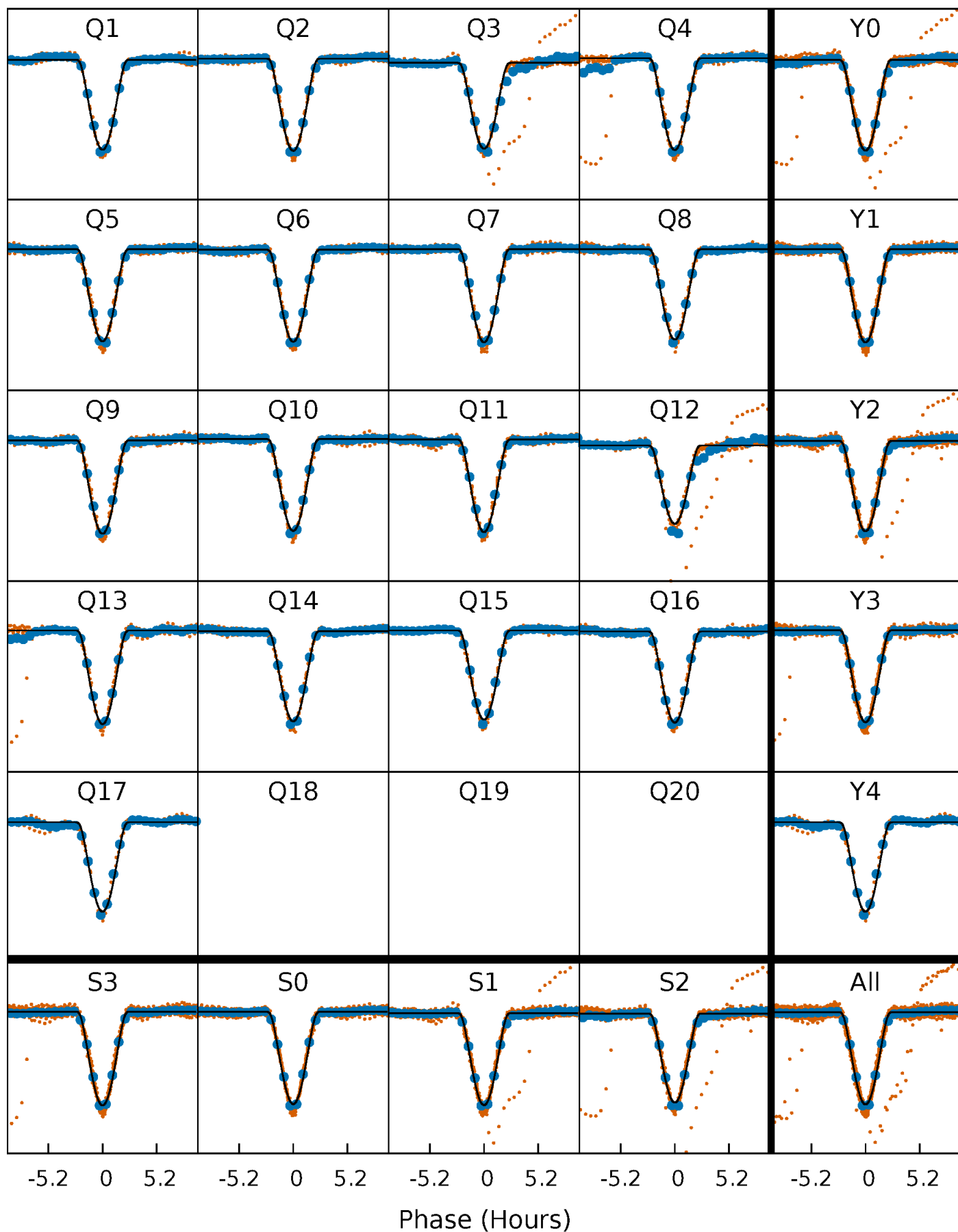
PDC Quarter-Phased Transit Curves

TCE 004150611-02 P= 8.653110 Days $T_0=134.302549$ (BKJD)



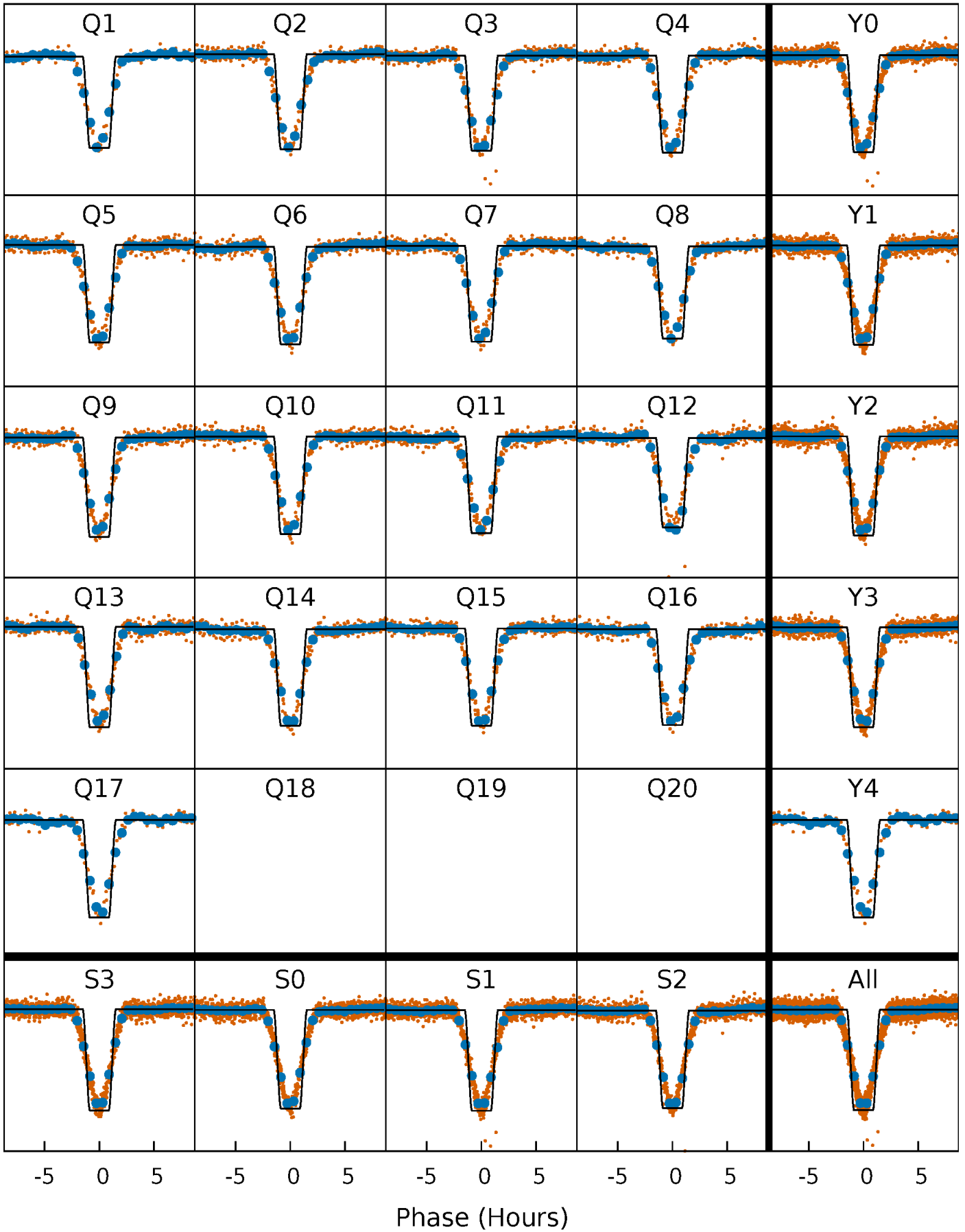
DV Quarter-Phased Transit Curves

TCE 004150611-02 P= 8.653110 Days $T_0=134.302549$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

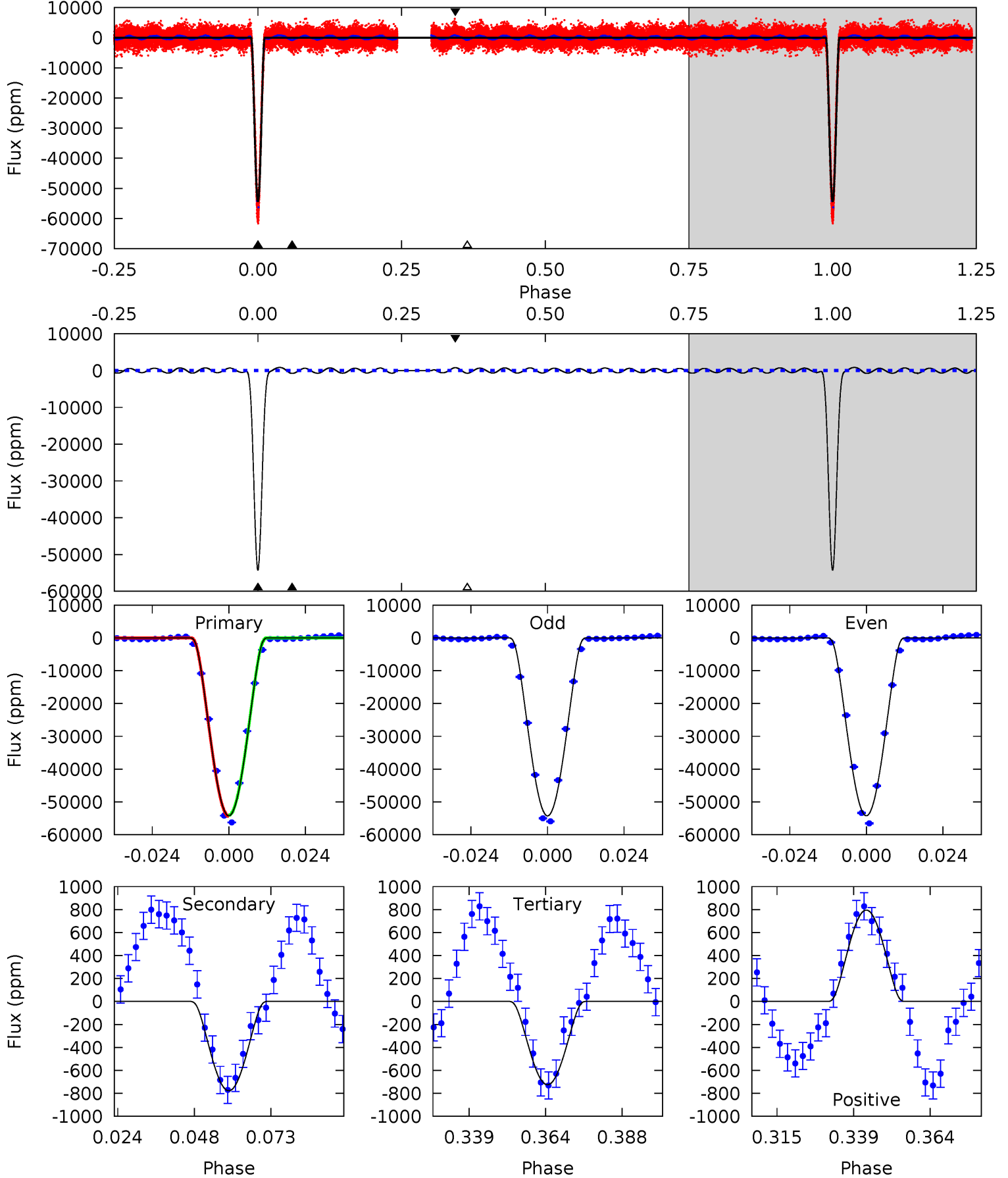
TCE 004150611-02 $P = 8.653051$ Days $T_0 = 134.307577$ (BKJD)



DV Model-Shift Uniqueness Test

004150611-02, P = 8.653110 Days, E = 125.649439 Days

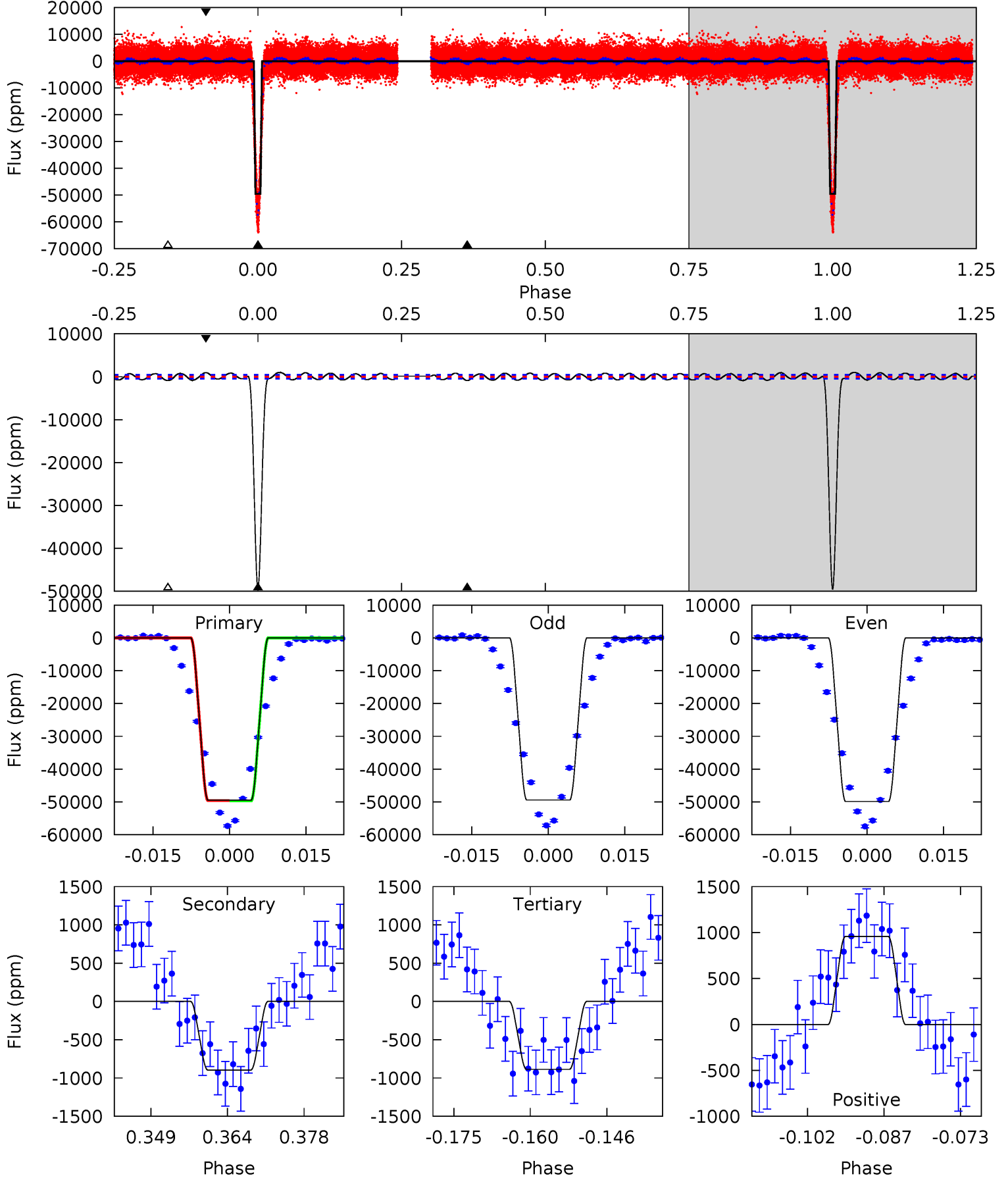
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1453	20.8	19.4	21.3	4.85	2.25	12.6	1434	1432	1.42	-0.48	0.29	1.01	0.02	4.43



Alt Model-Shift Uniqueness Test

004150611-02, P = 8.653051 Days, E = 125.654526 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
538.7	9.75	9.65	10.4	4.95	2.44	5.93	529.0	528.3	0.10	-0.66	2.45	1.01	0.02	0.40



Stellar Parameters For KIC 004150611

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6911^{+194}_{-242}	$4.038^{+0.406}_{-0.145}$	$-1.540^{+0.300}_{-0.250}$	$1.501^{+0.371}_{-0.603}$	$0.897^{+0.069}_{-0.063}$	$0.373^{+1.169}_{-0.168}$
	+3%/-4%	+10%/-4%	+19%/-16%	+25%/-40%	+8%/-7%	+313%/-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 004150611-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-778 ± 37	$57.60^{+12.41}_{-13.94}$	1818^{+152}_{-209}	2541^{+124}_{-149}	$0.818^{+0.598}_{-0.264}$
Alt.	-896 ± 92	$38.05^{+9.09}_{-9.83}$	1815^{+145}_{-204}	2993^{+186}_{-156}	$2.211^{+1.813}_{-0.803}$

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 $A_{obs} \gg 1.0$

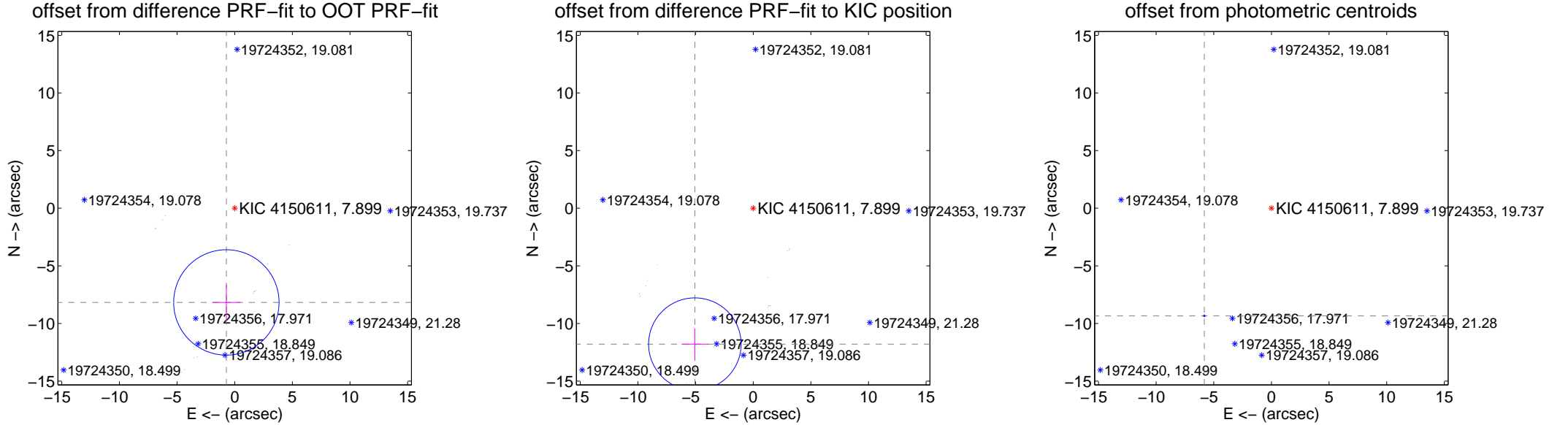
DV Centroid Data

Supplemental centroid analysis for 004150611-02. **Kepler magnitude: 7.90.** Transit SNR 405.05

There are 0 quarters with good PRF difference image offsets

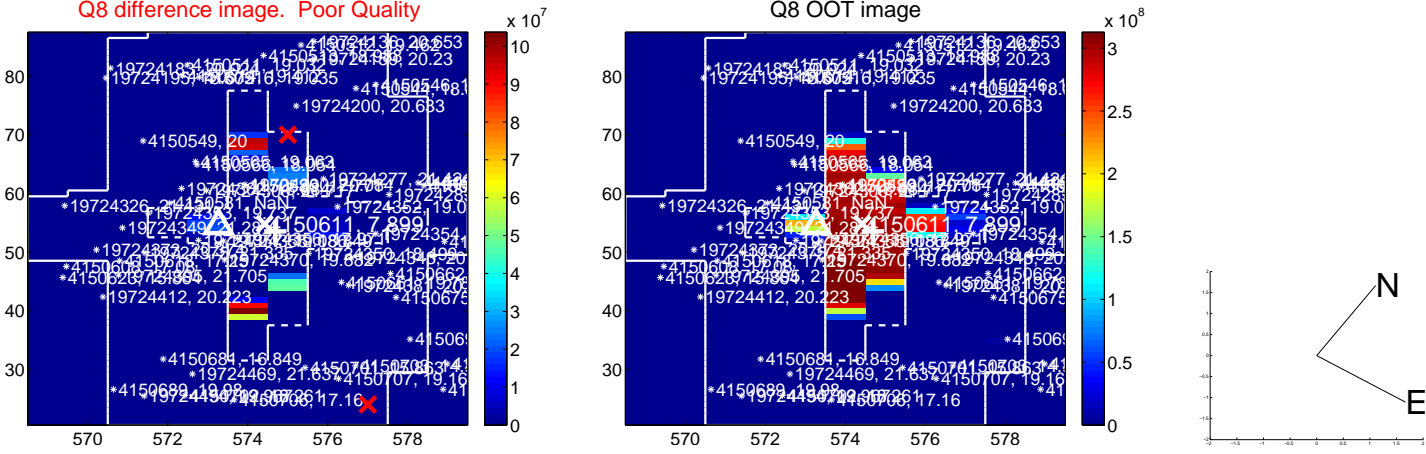
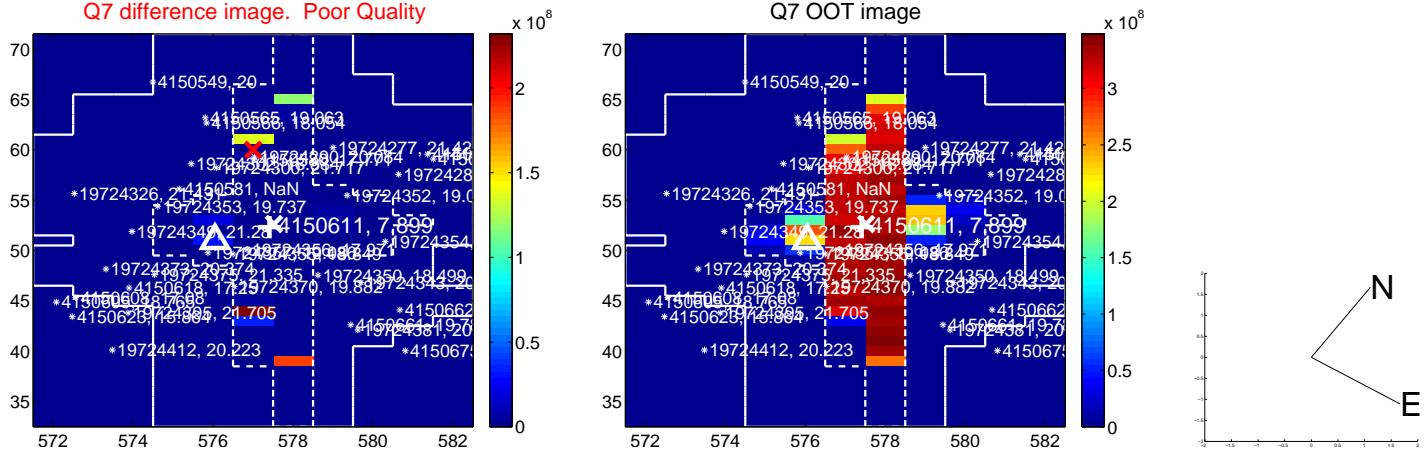
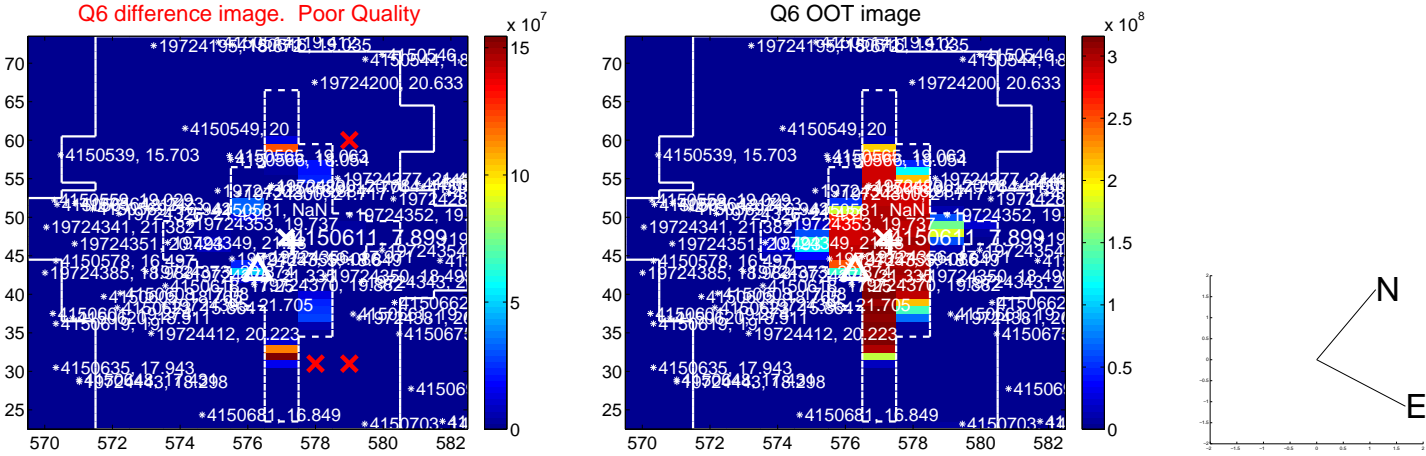
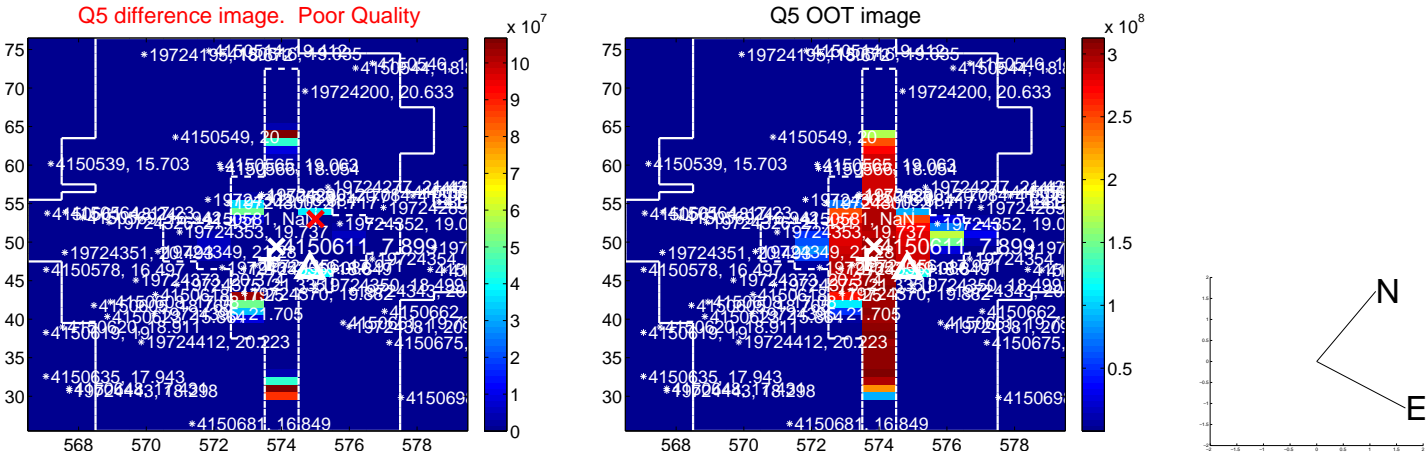
The OOT PRF centroid is offset from the target star catalog position by about 6.60 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	8.205 ± 1.524	5.38	0.724 ± 1.216	-8.173 ± 1.526
PRF-fit source offset from KIC position	12.833 ± 1.338	9.59	5.062 ± 1.160	-11.792 ± 1.368
photometric centroid source offset	11.00 ± 0.02	468.66	5.82 ± 0.02	-9.34 ± 0.03

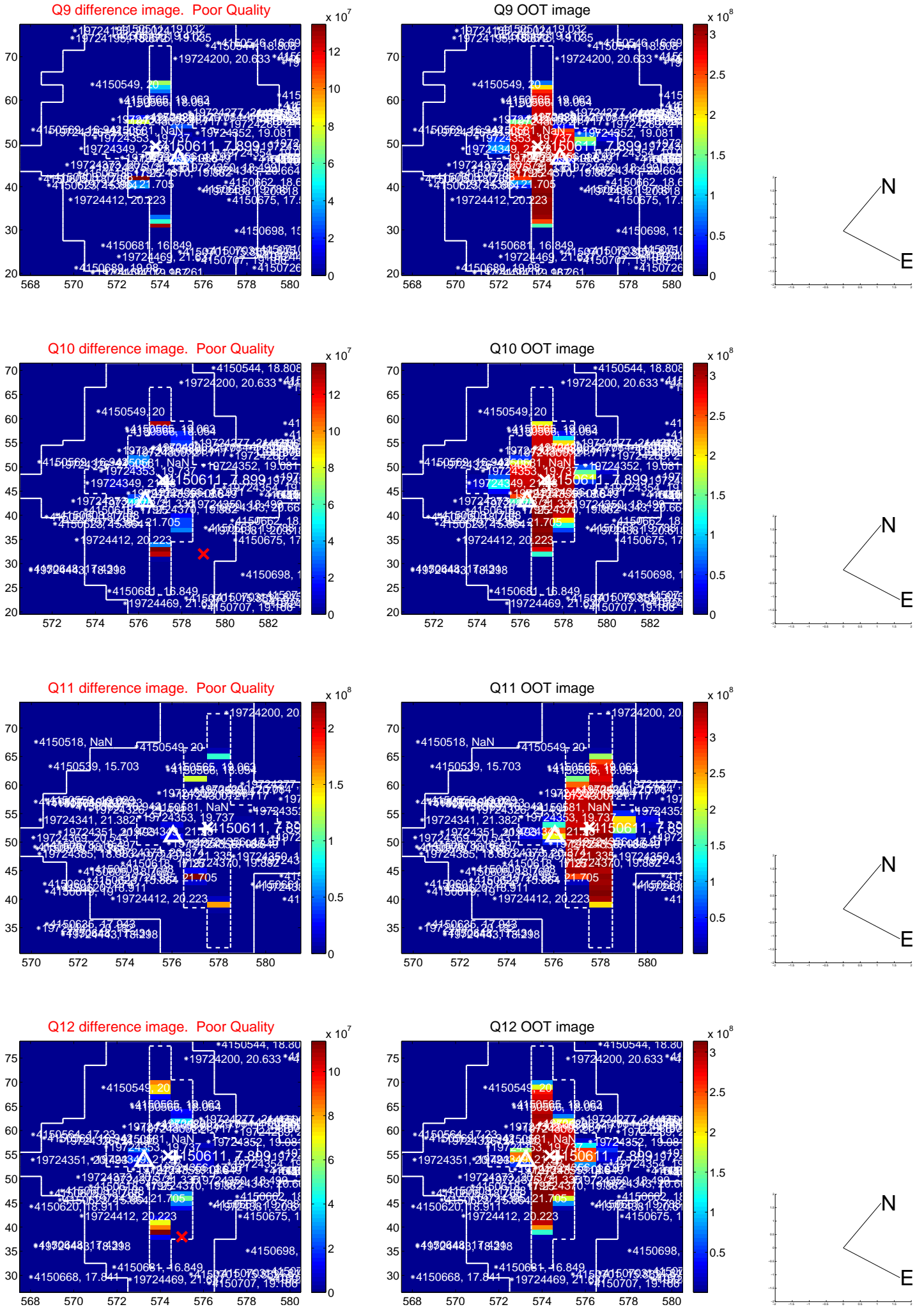


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

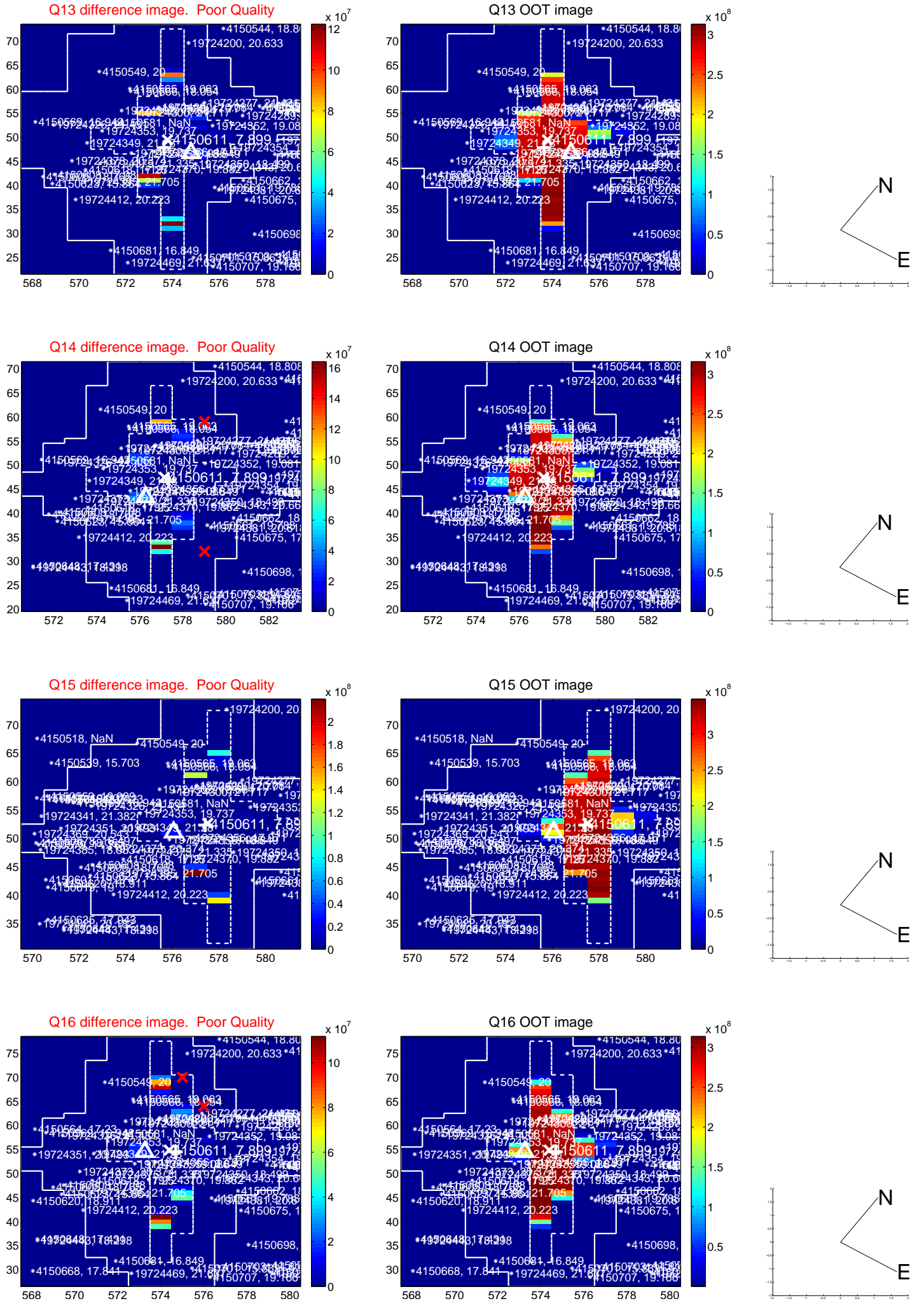
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



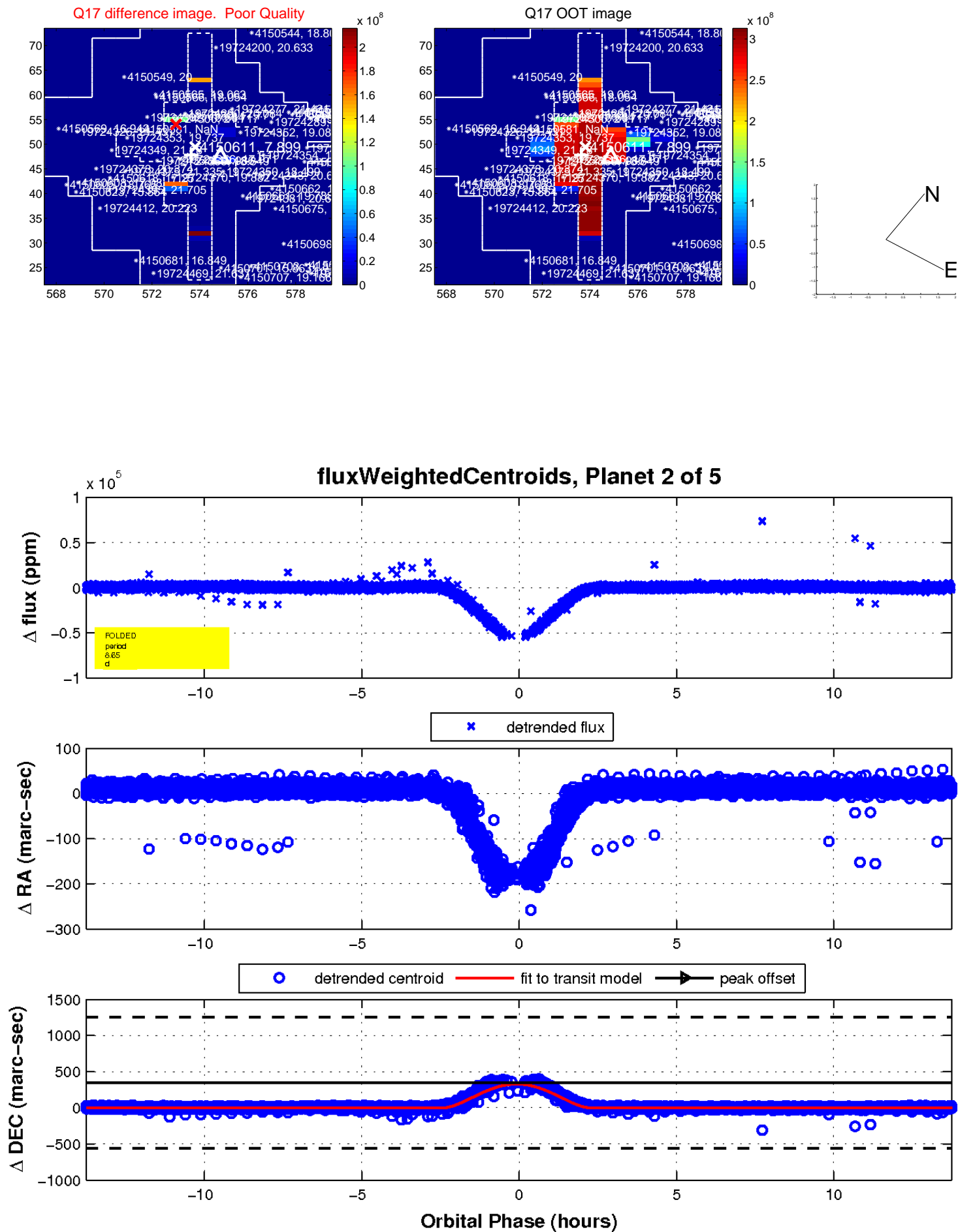
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



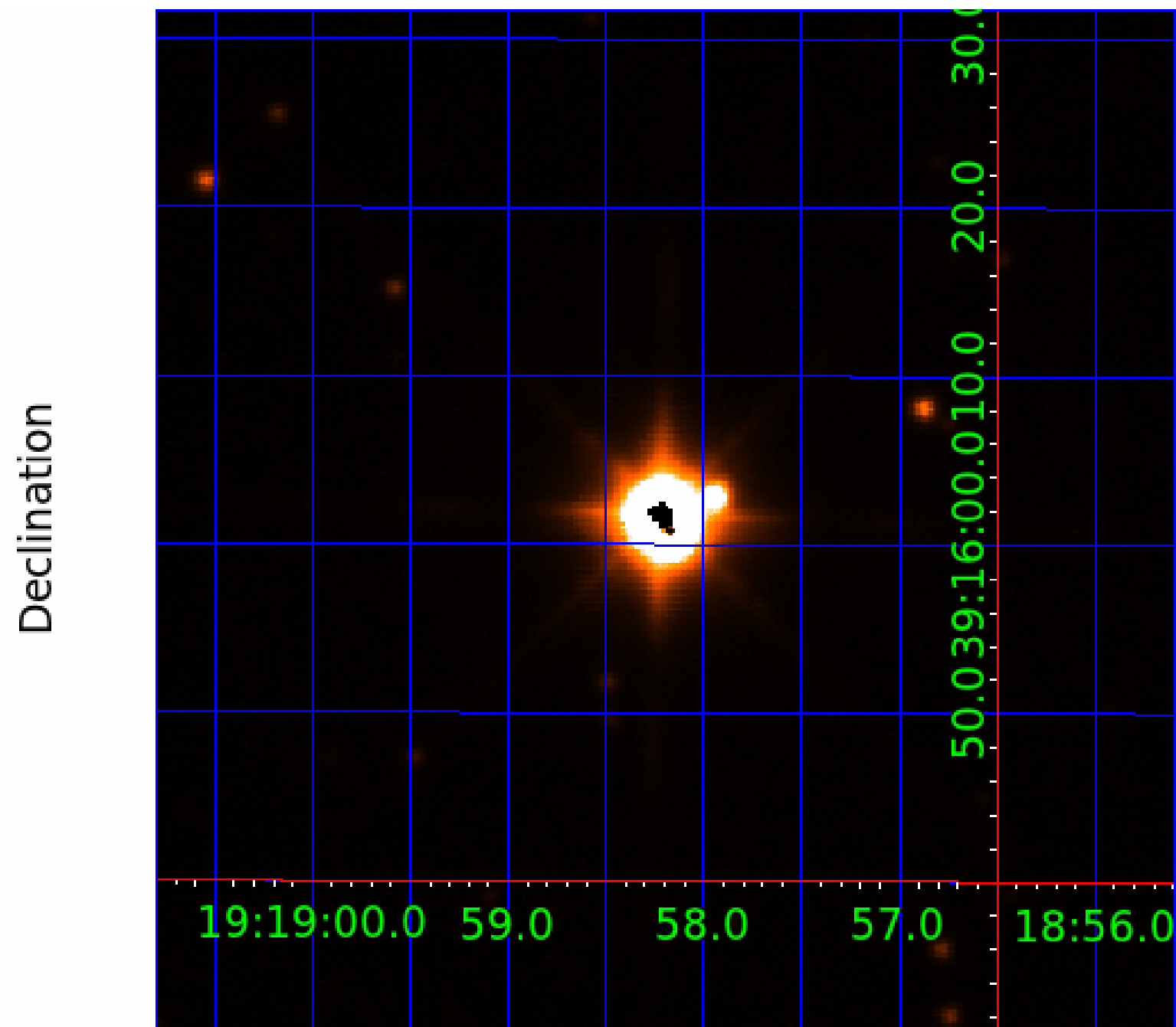
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004150611

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})
004150611-01	OBS	3156.03	8.653134	136.655293	58074.4	3.951	445.8	366.1	1.50	6911	61.48	727.36
004150611-02	OBS	No	8.653110	134.302549	54146.4	4.584	403.3	405.1	1.50	6911	59.35	727.36
004150611-03	OBS	3156.04	94.225816	196.168203	48044.0	28.874	282.8	169.0	1.50	6911	33.26	30.14
004150611-04	OBS	3156.01	0.761121	131.687212	876.9	1.150	34.1	51.1	1.50	6911	5.23	18594.03
004150611-05	OBS	3156.02	1.434192	132.062700	14.6	3.500	23.0	-1.0	1.50	6911	0.58	7989.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004150611-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_SATURATED
004150611-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED
004150611-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—CENT_SATURATED
004150611-04	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
004150611-05	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

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

Ephemeris Match Information For 004150611-03

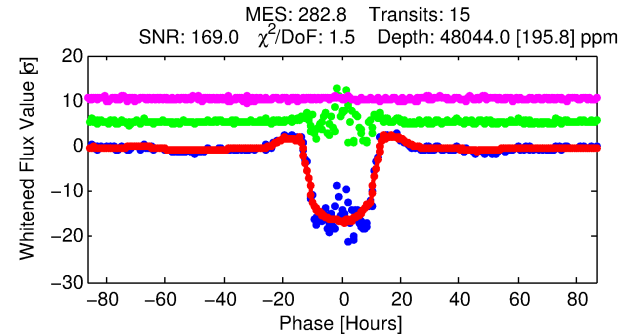
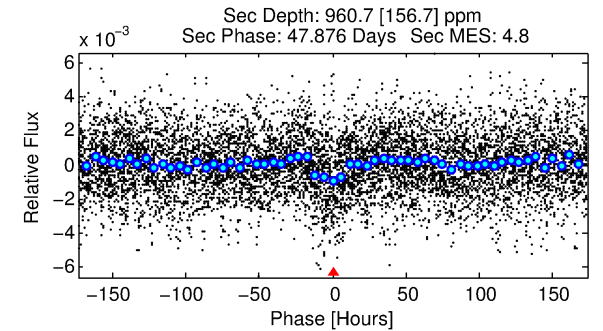
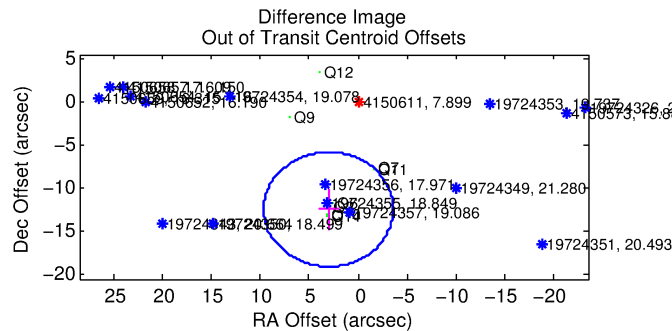
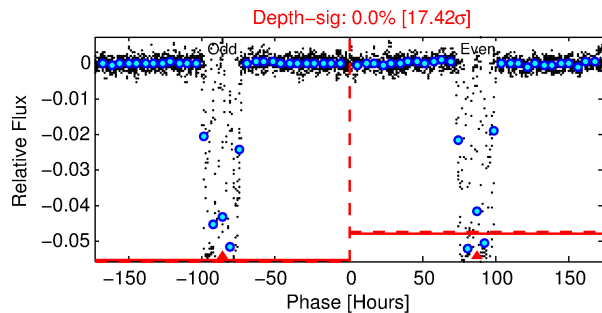
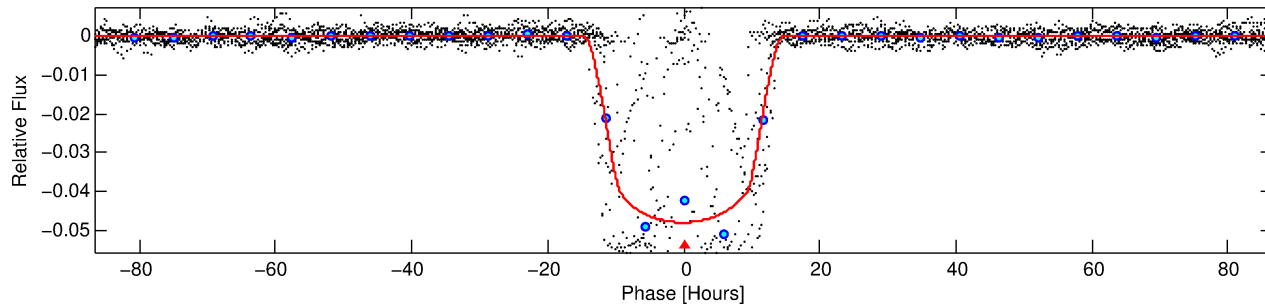
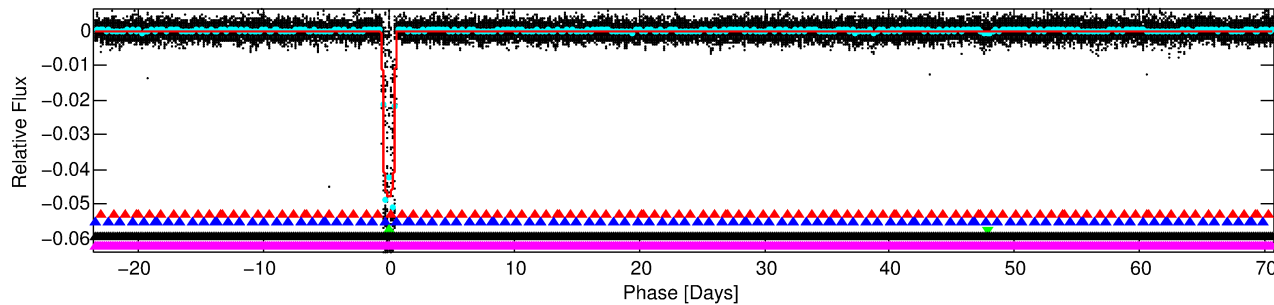
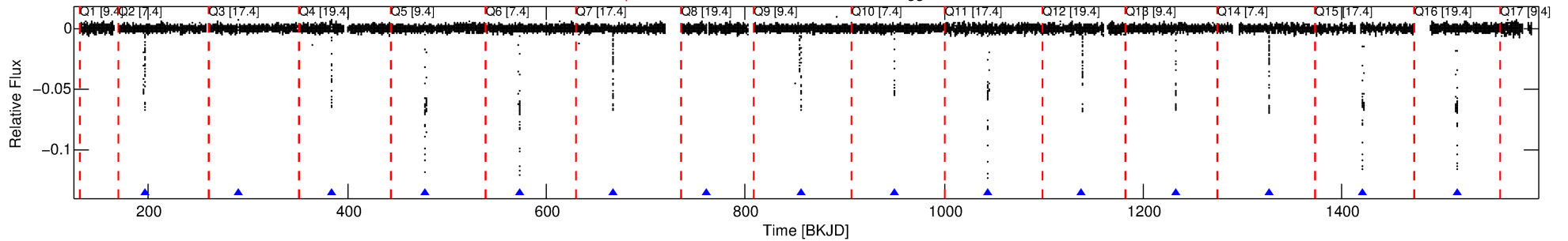
No Significant Match Found

DV One-Page Summary

KIC: 4150611 Candidate: 3 of 5 Period: 94.226 d

KOI: K03156.04 Corr: 0.994

Kp: 7.90 R*: 1.50 Rs Teff: 6911.0 K Logg: 4.04 Fe/H: -1.540



DV Fit Results:

Period = 94.22582 [0.00027] d
Epoch = 196.1682 [0.0022] BKJD
Rp/R* = 0.2031 [0.0006]
a/R* = 30.00 [0.32]
b = 0.00 [27.79]
Seff = 30.14 [20.87]
Teq = 597 [103] K
Rp = 33.26 [13.36] Re
a = 0.3909 [0.1606] AU
Ag = 73.01 [50.94] [1.41σ]
Teffp = 2700 [145] K [11.79σ]

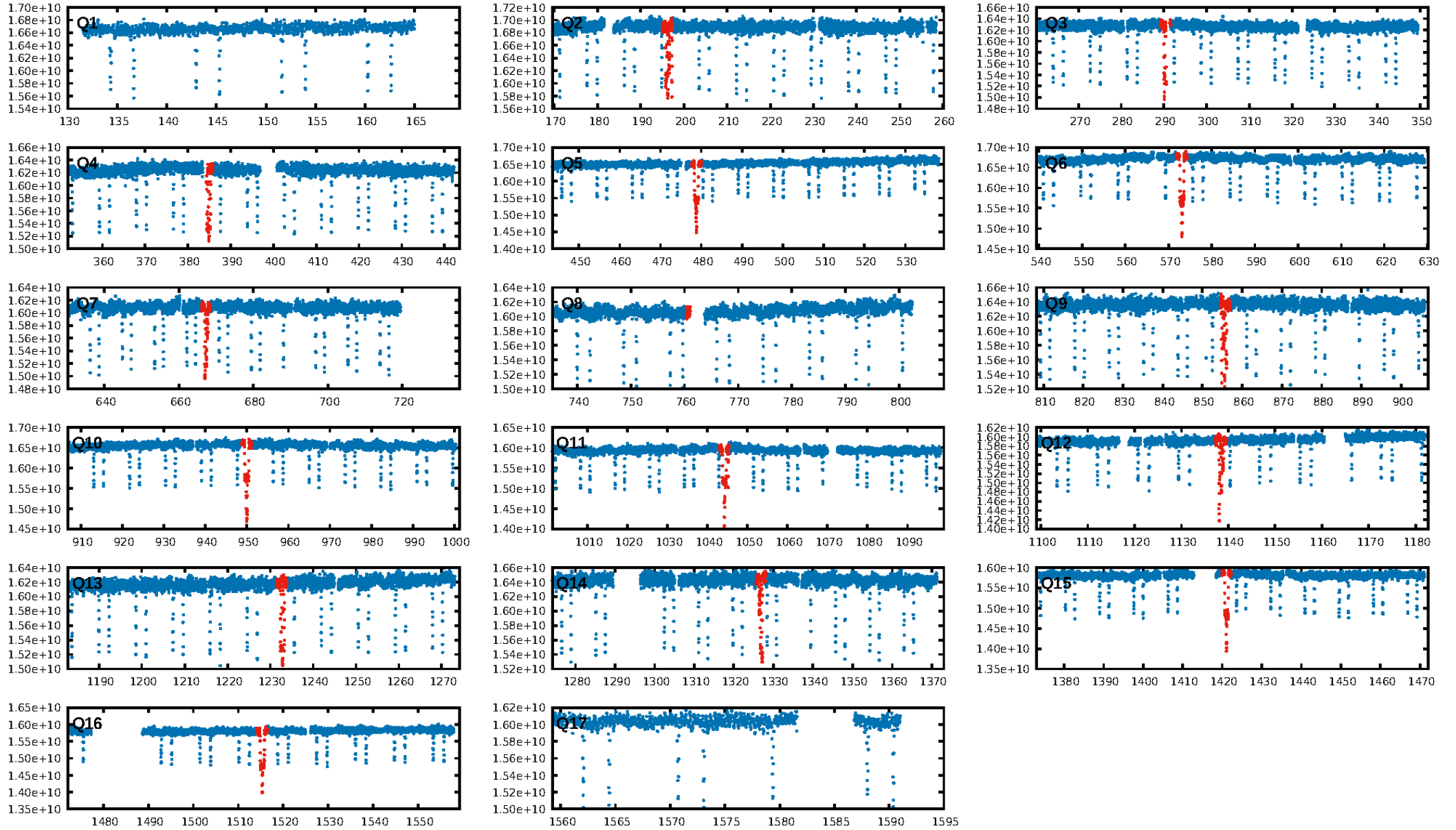
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [70.47σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [15/15]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 10.830 arcsec [241.14σ]
OotOffset-rm: 12.818 arcsec [5.81σ]
KicOffset-rm: 15.419 arcsec [7.78σ]
OotOffset-st: 4/2/1/1 [8]
KicOffset-st: 4/2/1/1 [8]
DiffImageQuality-fgm: 0.00 [0/8]
DiffImageOverlap-fno: 0.00 [0/8]

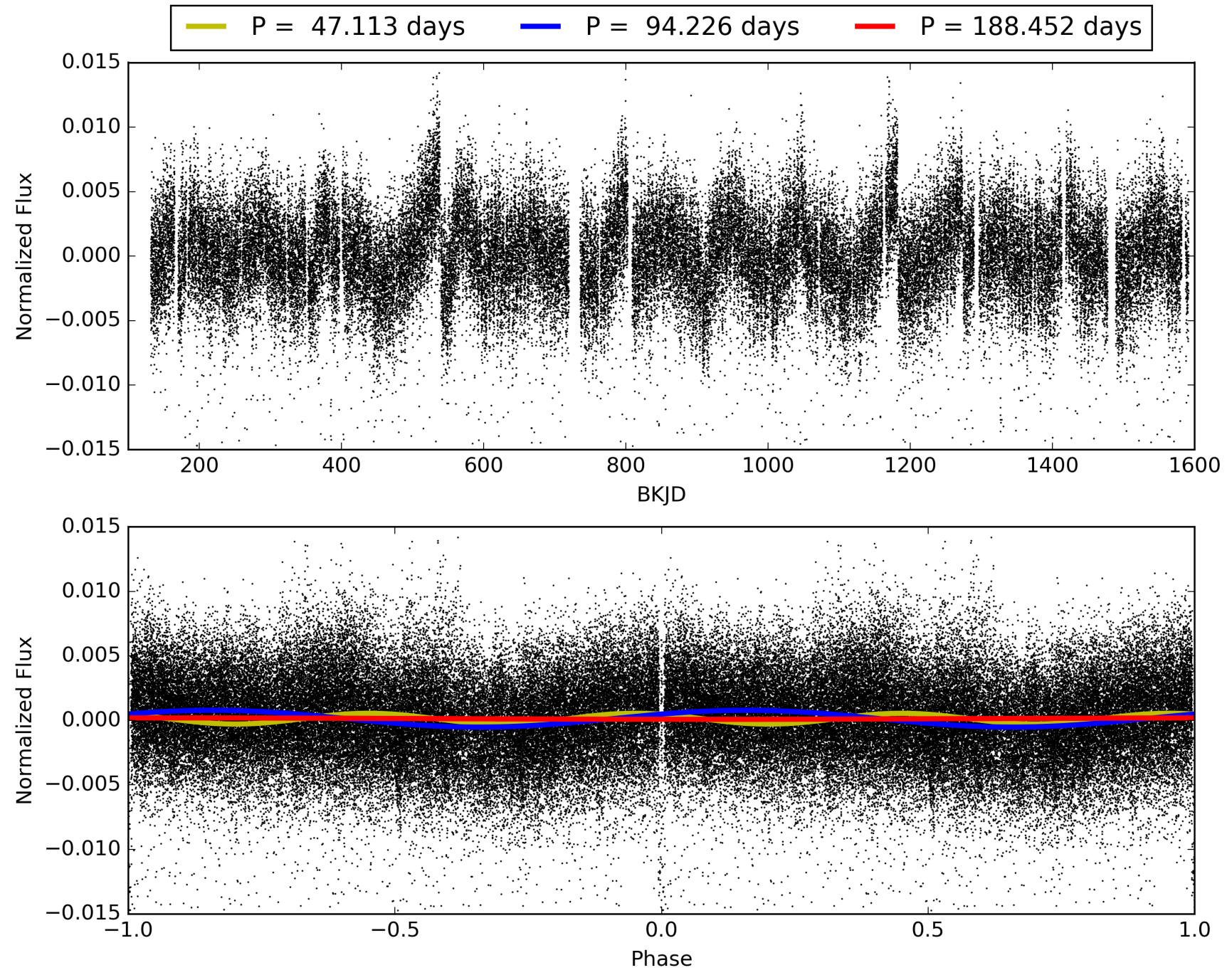
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:29:52 Z

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

TCE 004150611-03, PDC Light Curves

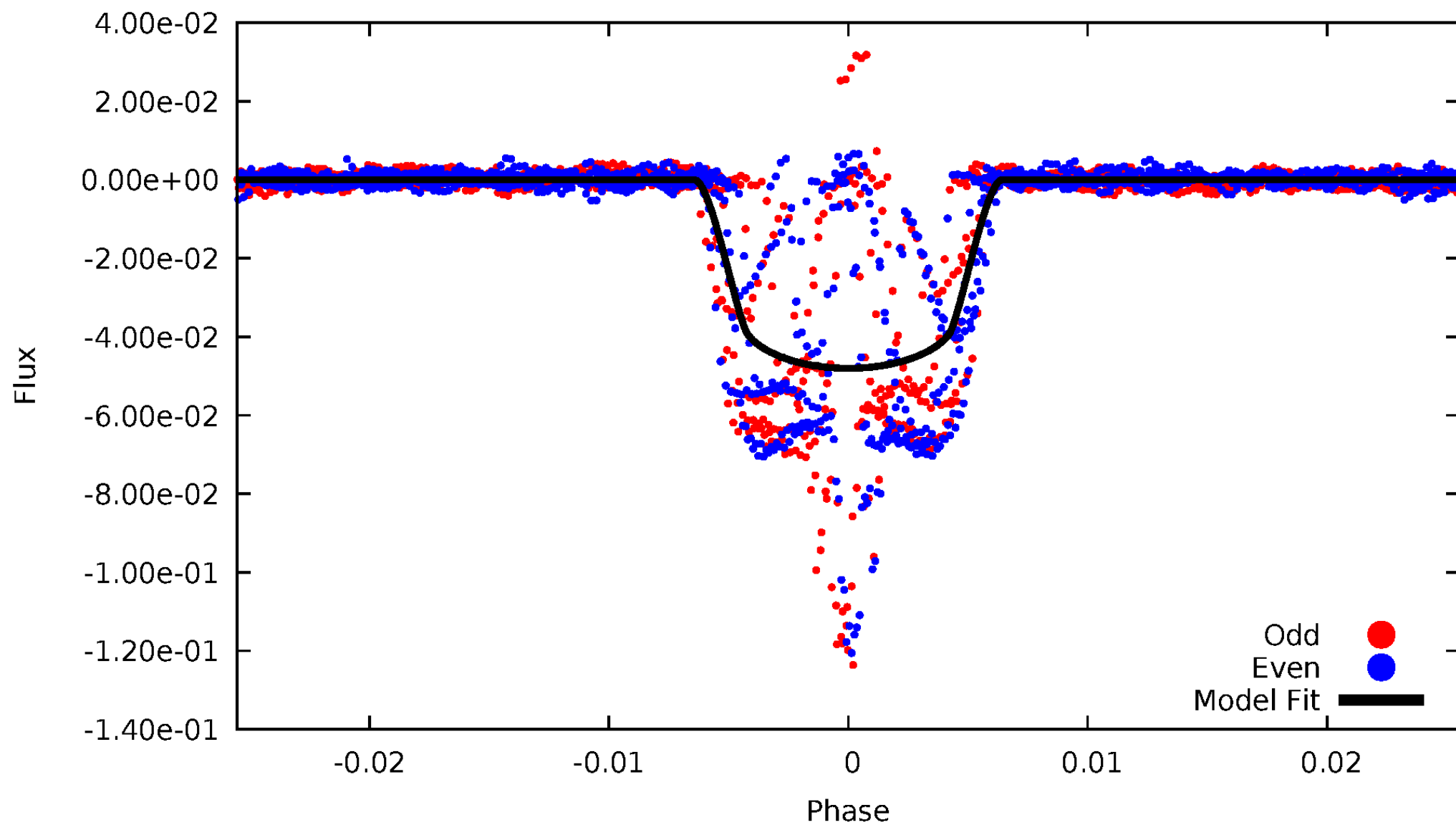


TCE 004150611-03



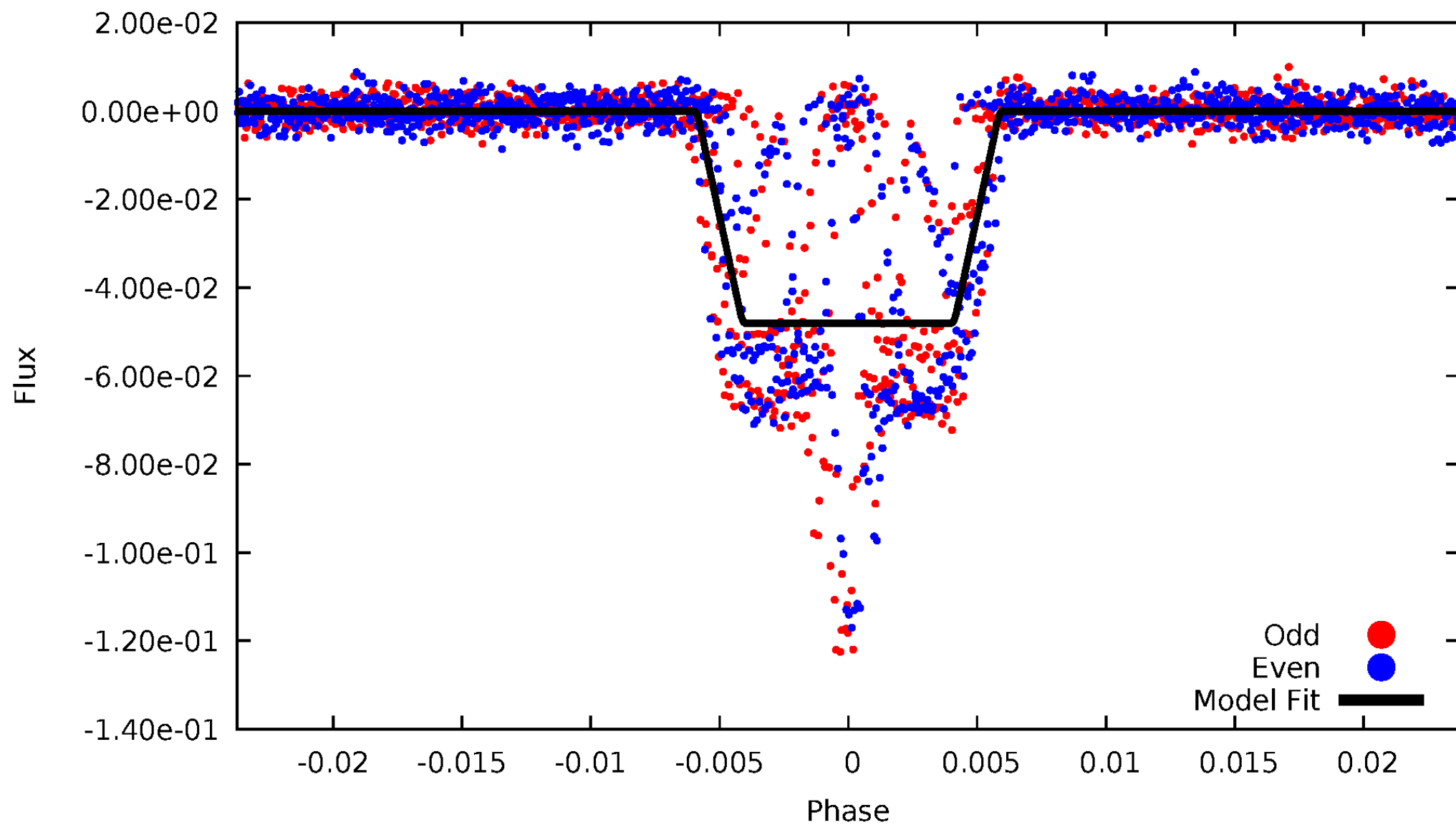
DV Odd/Even

TCE 004150611-03



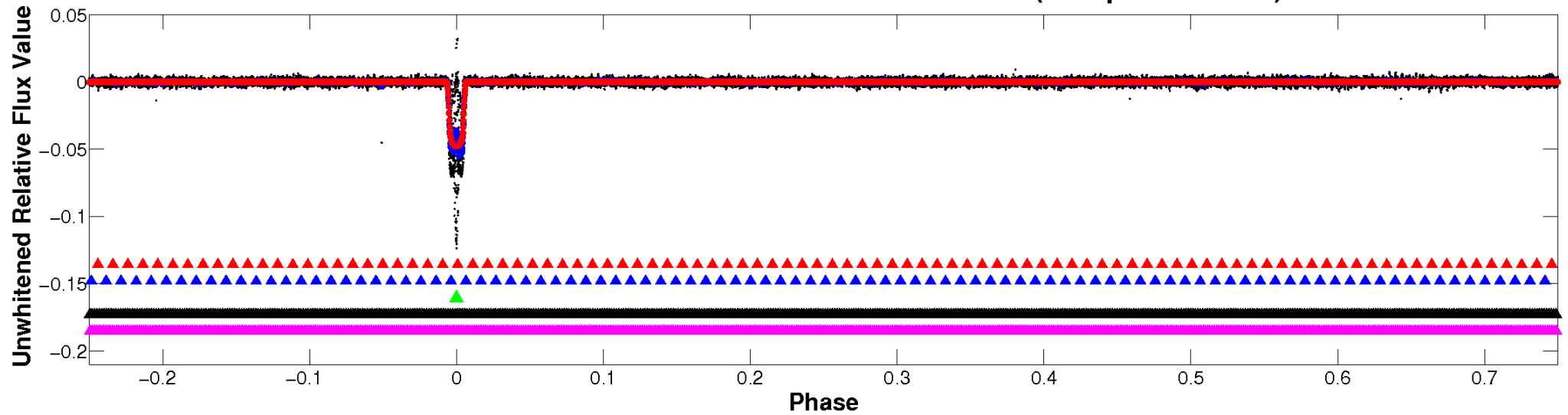
ALT Odd/Even

TCE 004150611-03

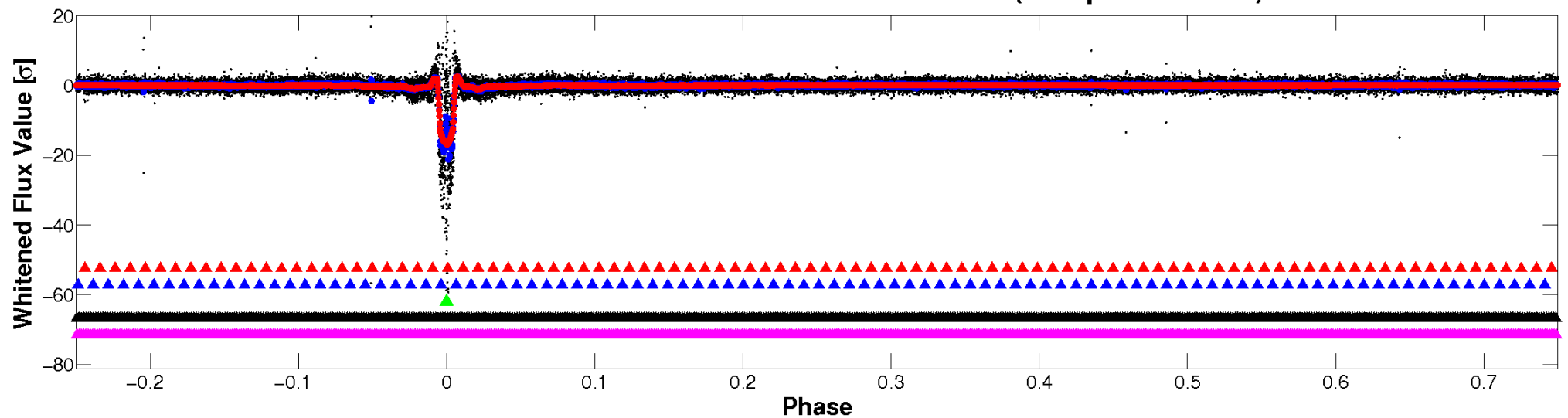


Non-Whitened Vs. Whitened Light Curve

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

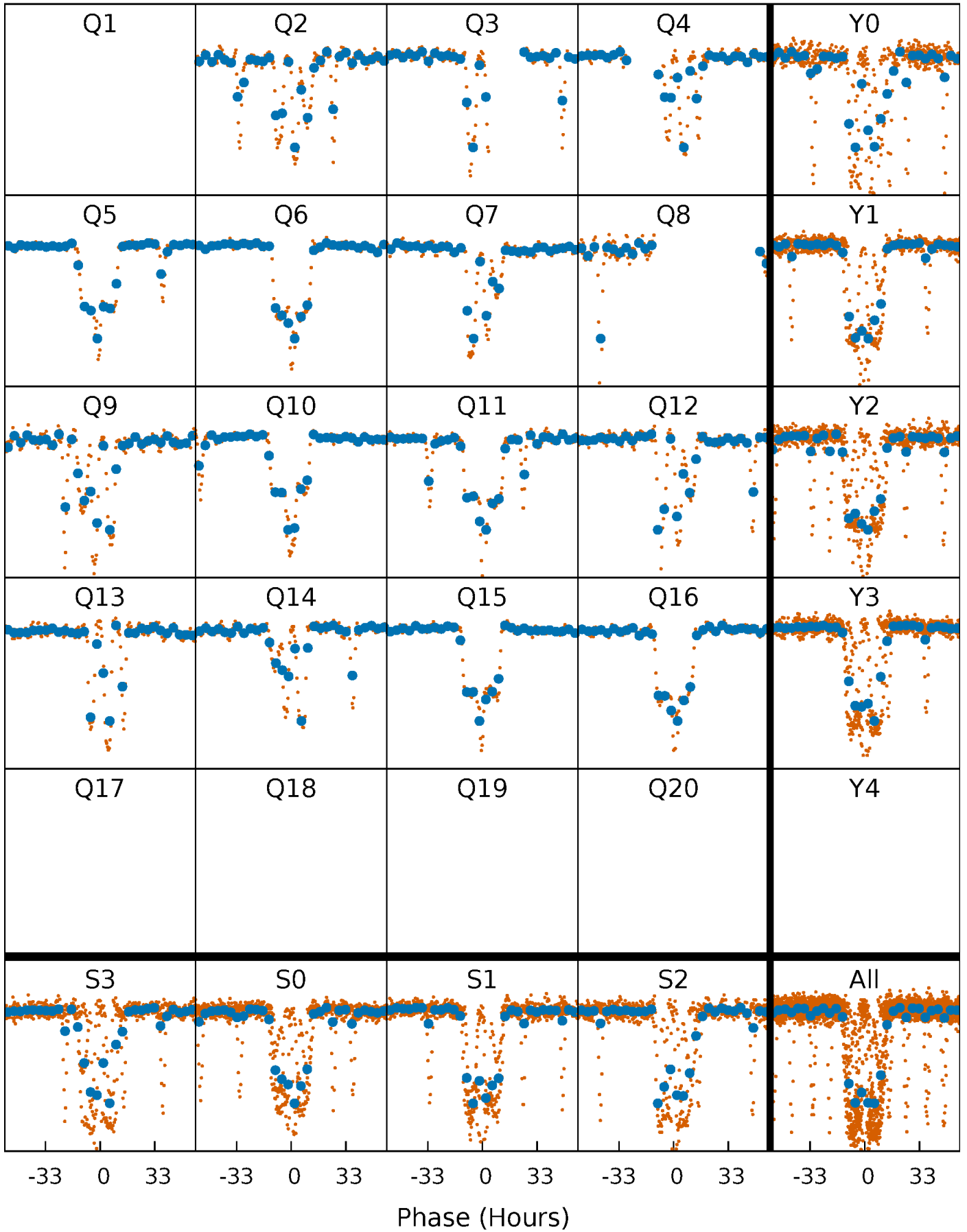


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



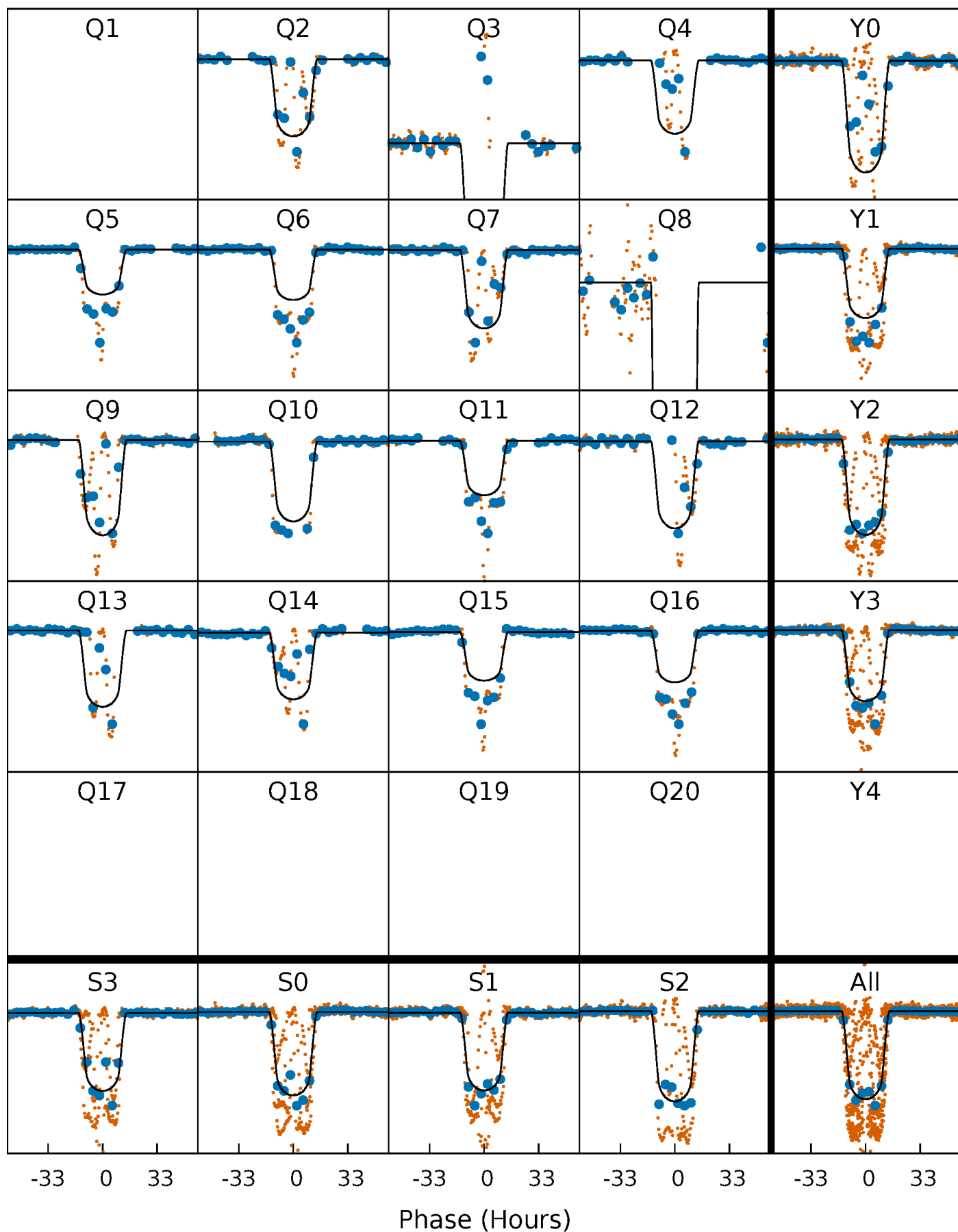
PDC Quarter-Phased Transit Curves

TCE 004150611-03 $P = 94.225816$ Days $T_0 = 196.168203$ (BKJD)



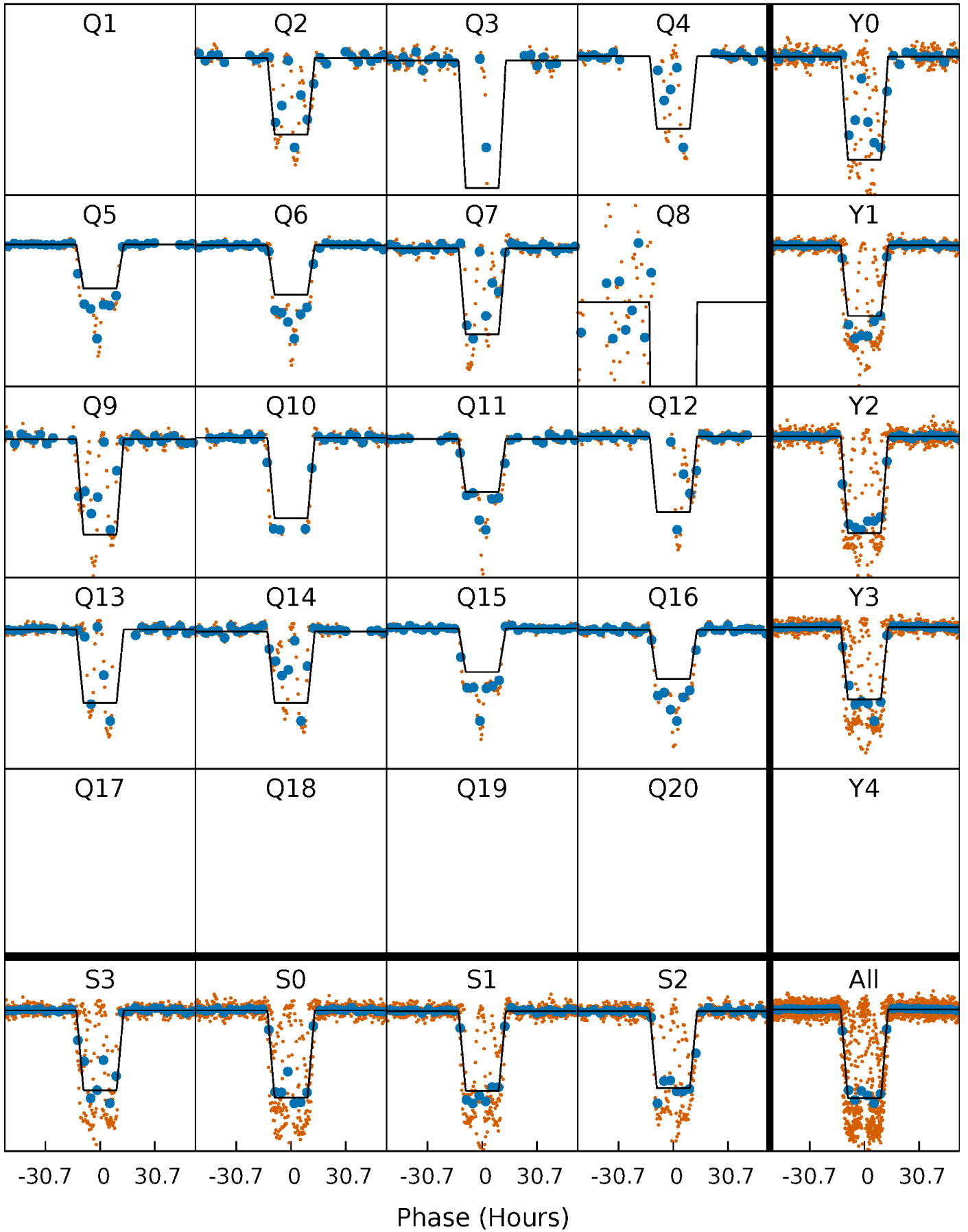
DV Quarter-Phased Transit Curves

TCE 004150611-03 P= 94.225816 Days $T_0=196.168203$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

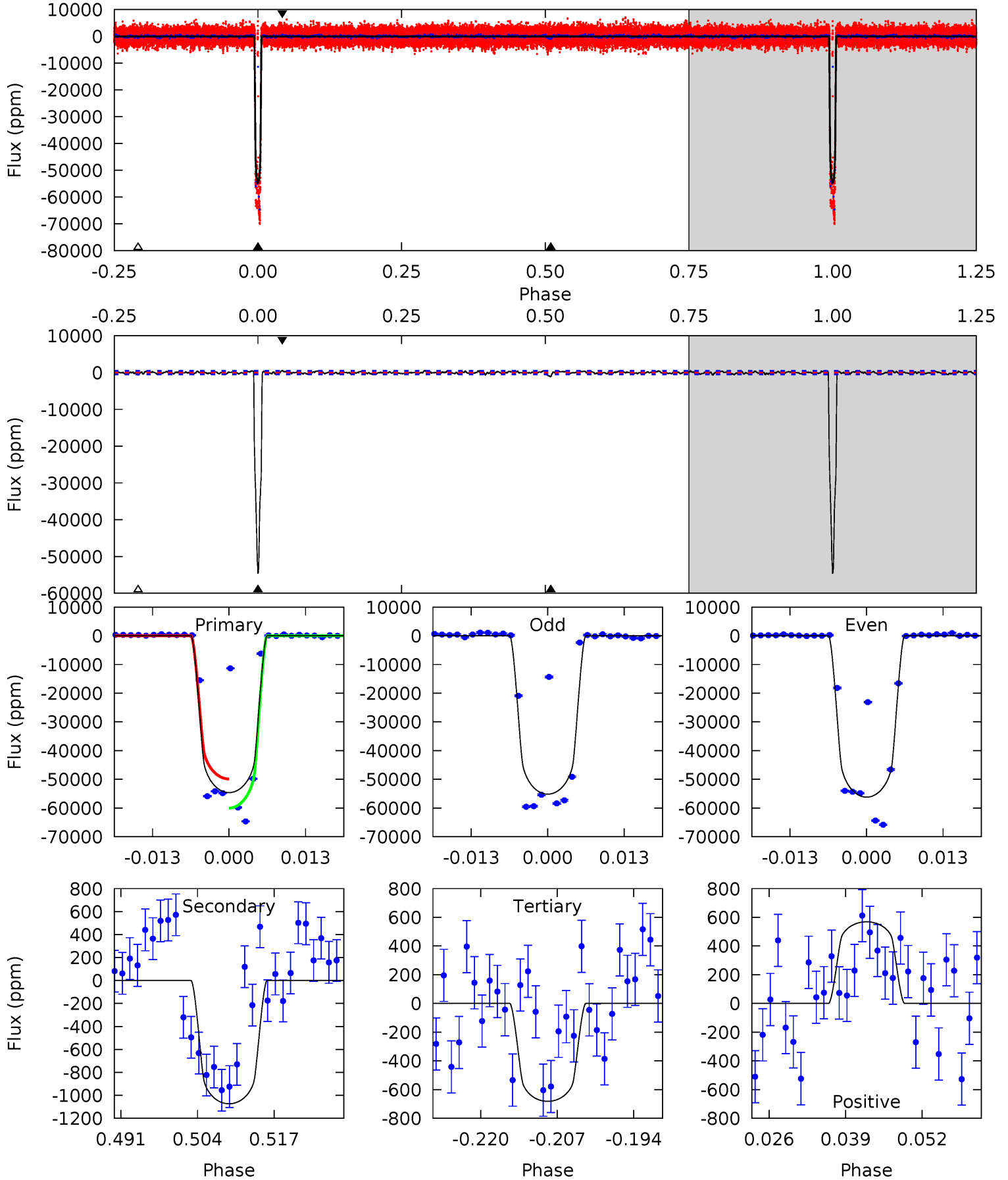
TCE 004150611-03 P= 94.225956 Days $T_0=196.167951$ (BKJD)



DV Model-Shift Uniqueness Test

004150611-03, P = 94.225816 Days, E = 101.942387 Days

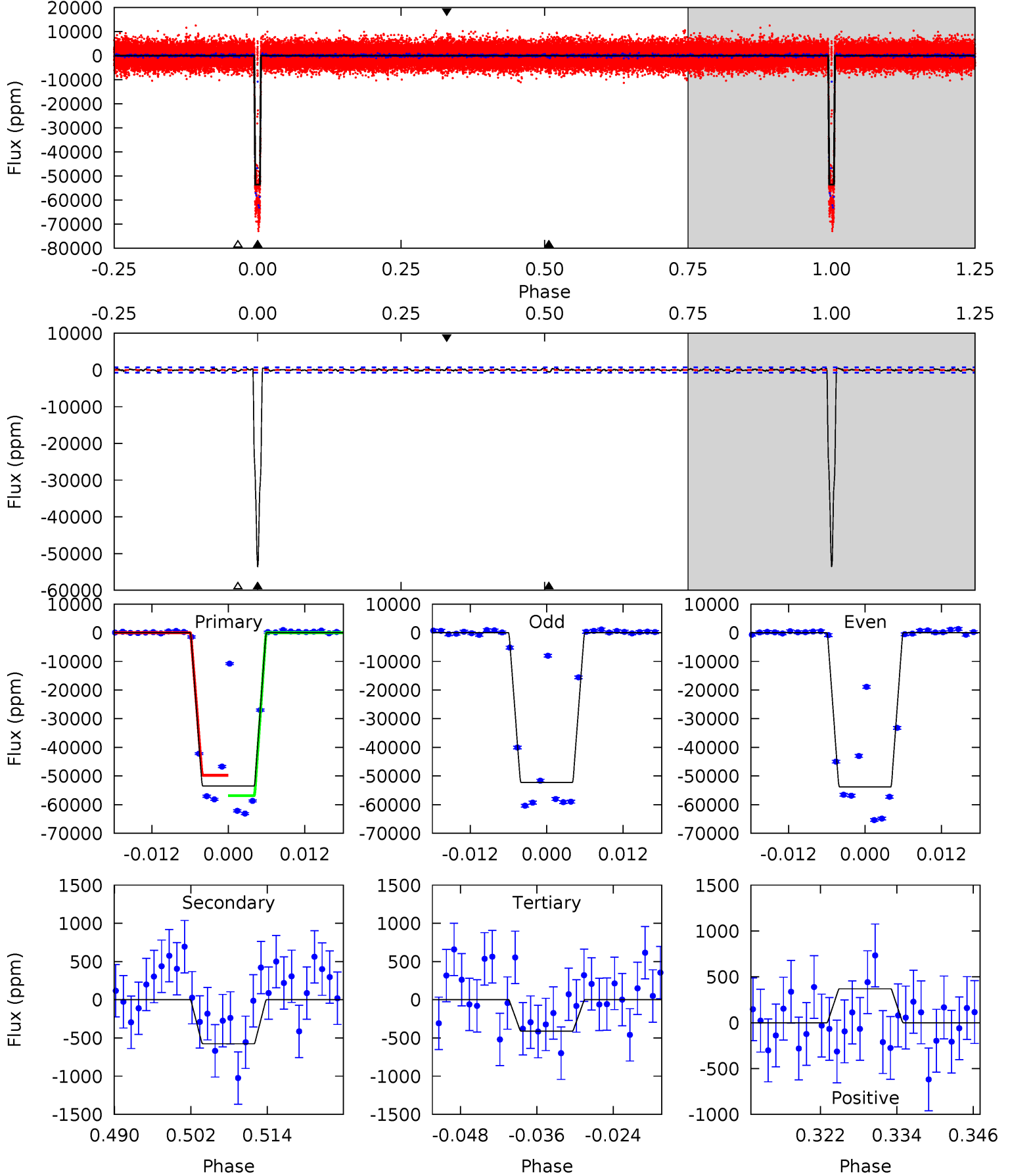
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
573.9	11.3	7.16	5.98	4.98	2.49	2.19	566.8	568.0	4.11	5.30	5.91	1.24	0.01	0



Alt Model-Shift Uniqueness Test

004150611-03, P = 94.225956 Days, E = 101.941995 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
367.3	3.95	2.82	2.54	4.99	2.51	0.96	364.5	364.7	1.13	1.41	5.52	1.33	0.01	24.2



Stellar Parameters For KIC 004150611

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6911^{+194}_{-242}	$4.038^{+0.406}_{-0.145}$	$-1.540^{+0.300}_{-0.250}$	$1.501^{+0.371}_{-0.603}$	$0.897^{+0.069}_{-0.063}$	$0.373^{+1.169}_{-0.168}$
	+3%/-4%	+10%/-4%	+19%/-16%	+25%/-40%	+8%/-7%	+313%/-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 004150611-03 / KOI 3156.04

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1074 ± 95	$32.82^{+4.66}_{-7.12}$	819^{+67}_{-87}	3309^{+76}_{-78}	85^{+51}_{-22}
Alt.	-575 ± 146	$35.49^{+4.53}_{-7.51}$	821^{+62}_{-90}	2952^{+105}_{-123}	40^{+25}_{-13}

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

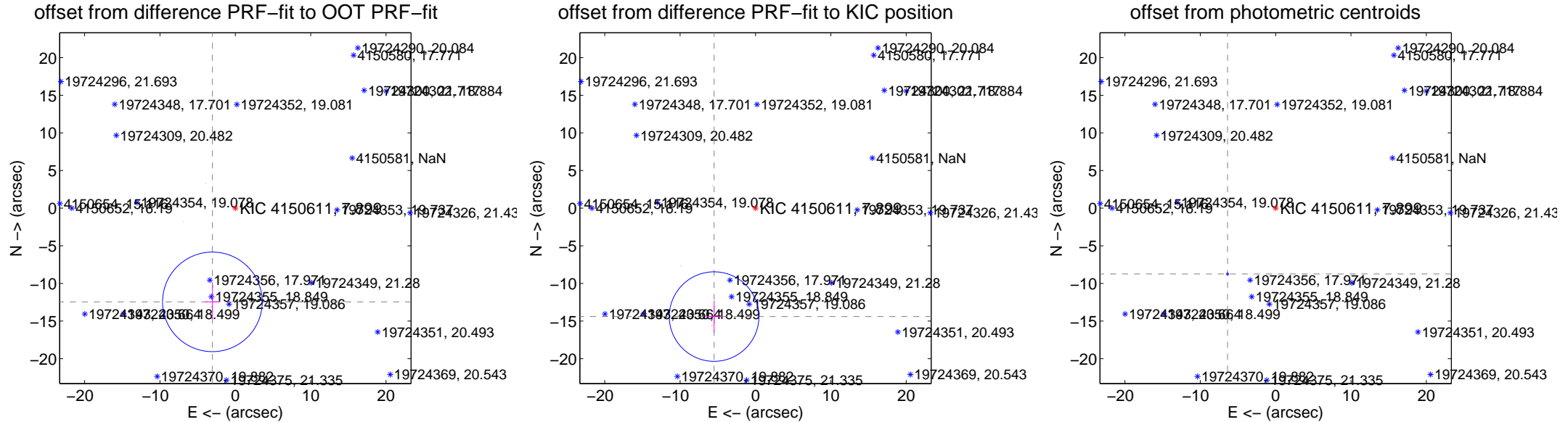
DV Centroid Data

Supplemental centroid analysis for 004150611-03. **Kepler magnitude: 7.90.** Transit SNR 169.04

There are 0 quarters with good PRF difference image offsets

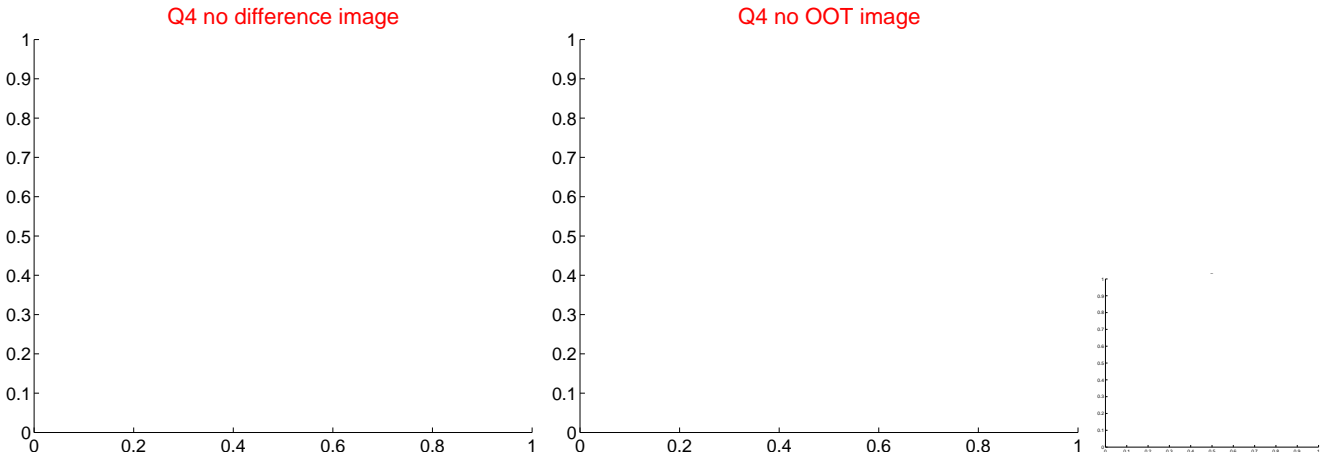
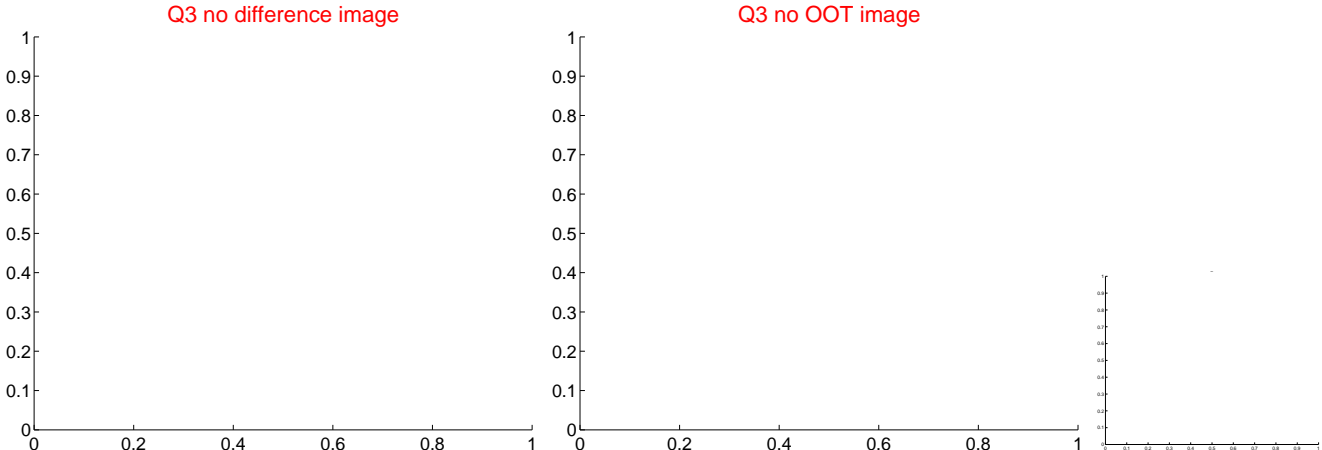
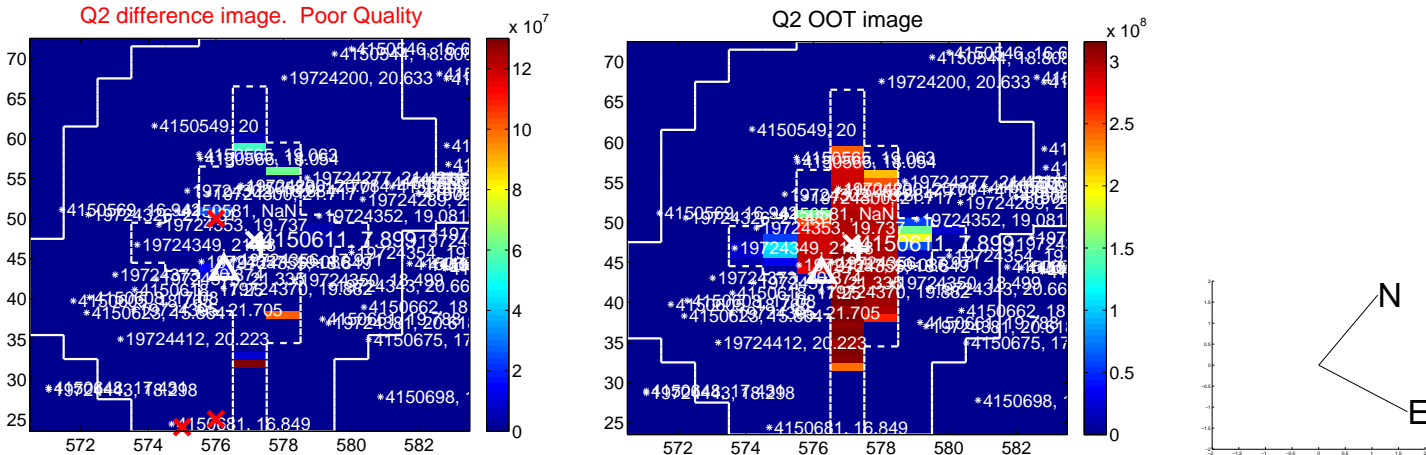
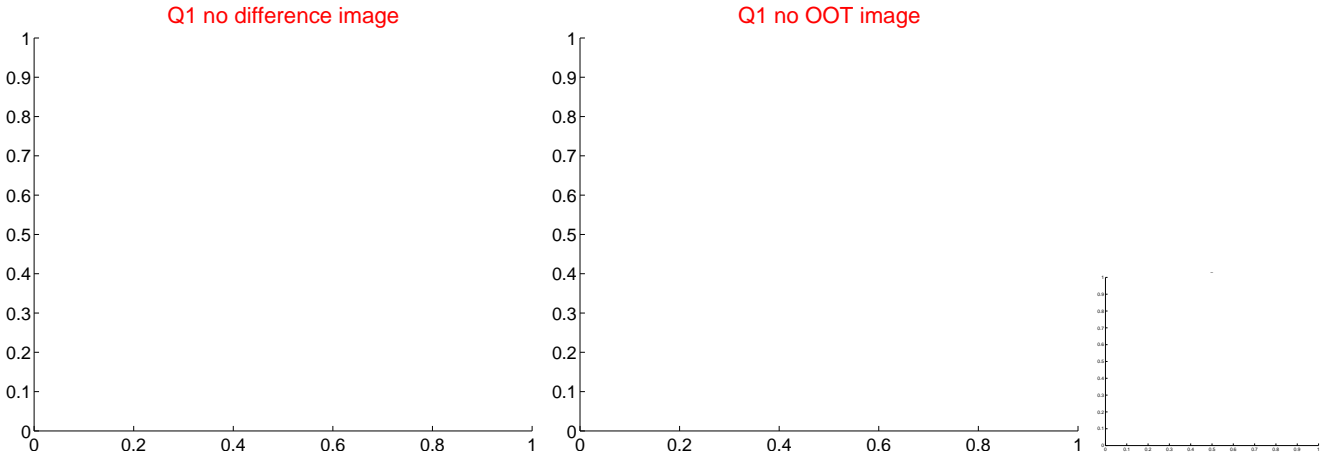
The OOT PRF centroid is offset from the target star catalog position by about 3.56 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	12.818 ± 2.205	5.81	3.044 ± 0.937	-12.451 ± 2.323
PRF-fit source offset from KIC position	15.419 ± 1.983	7.78	5.495 ± 1.030	-14.407 ± 2.085
photometric centroid source offset	10.83 ± 0.04	241.14	6.38 ± 0.03	-8.75 ± 0.05



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

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



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

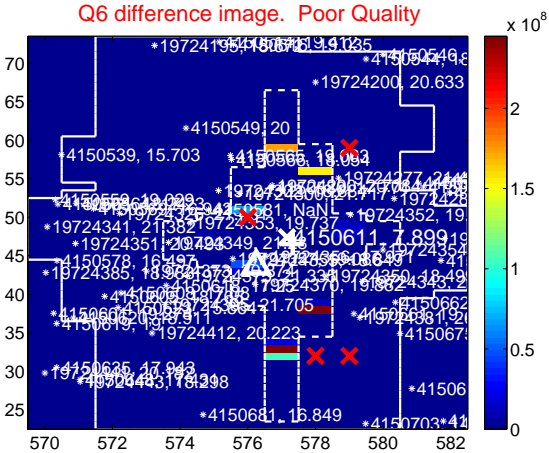
Q5 no difference image



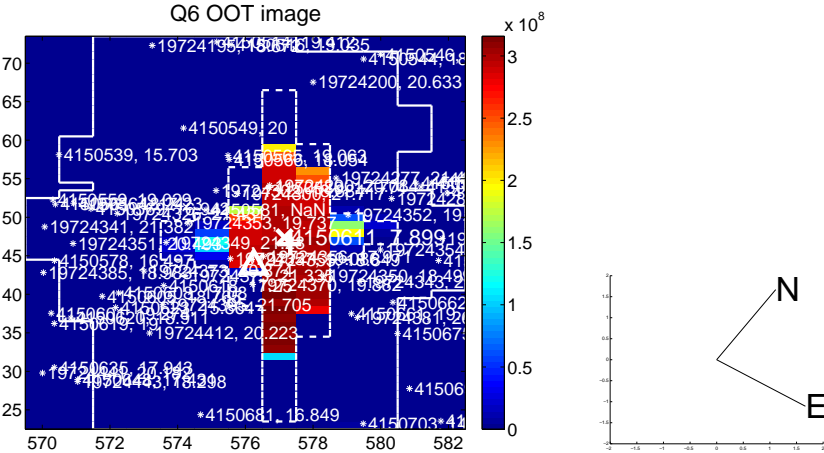
Q5 no OOT image



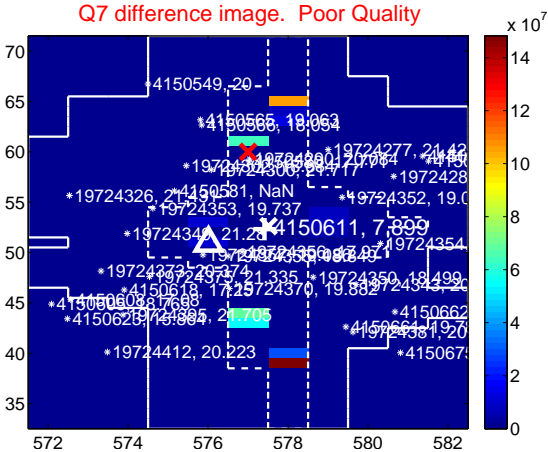
Q6 difference image. Poor Quality



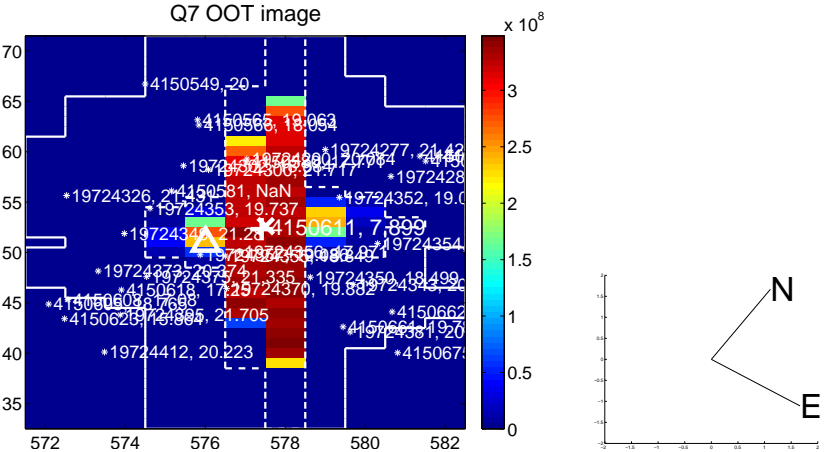
Q6 OOT image



Q7 difference image. Poor Quality



Q7 OOT image



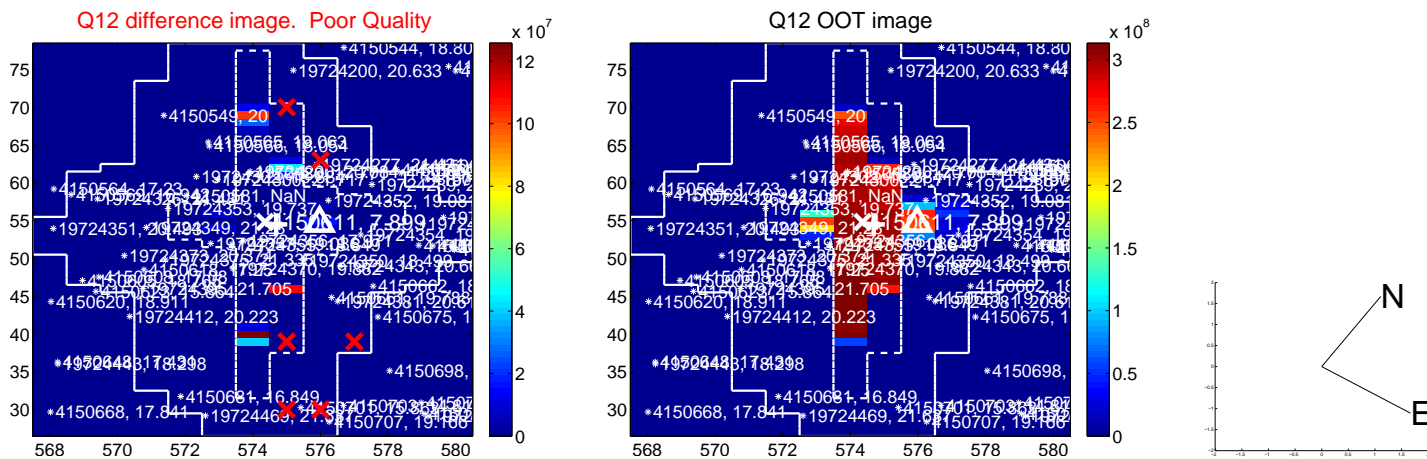
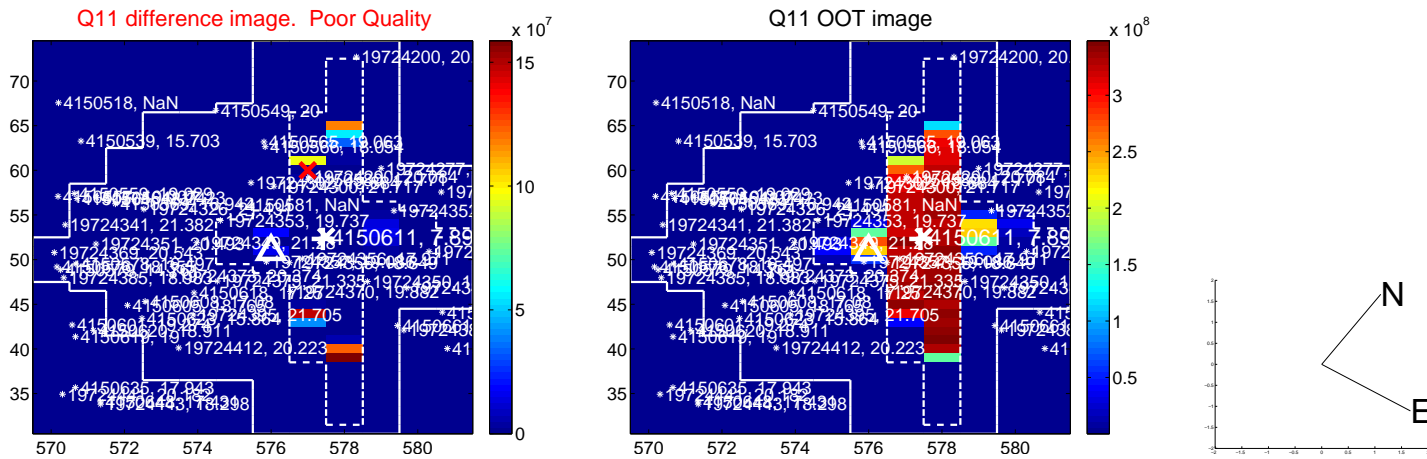
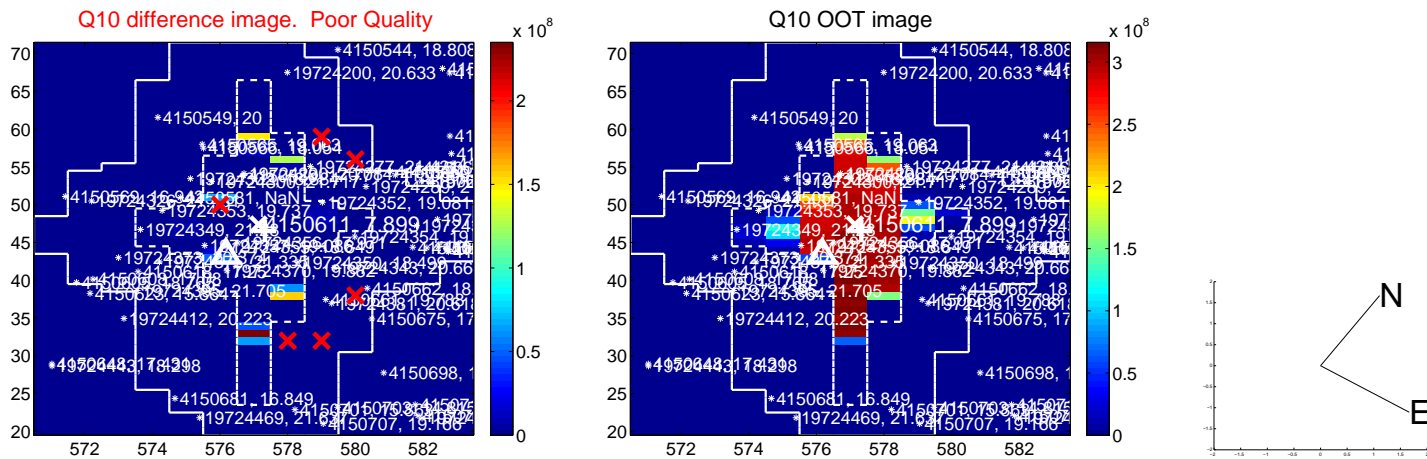
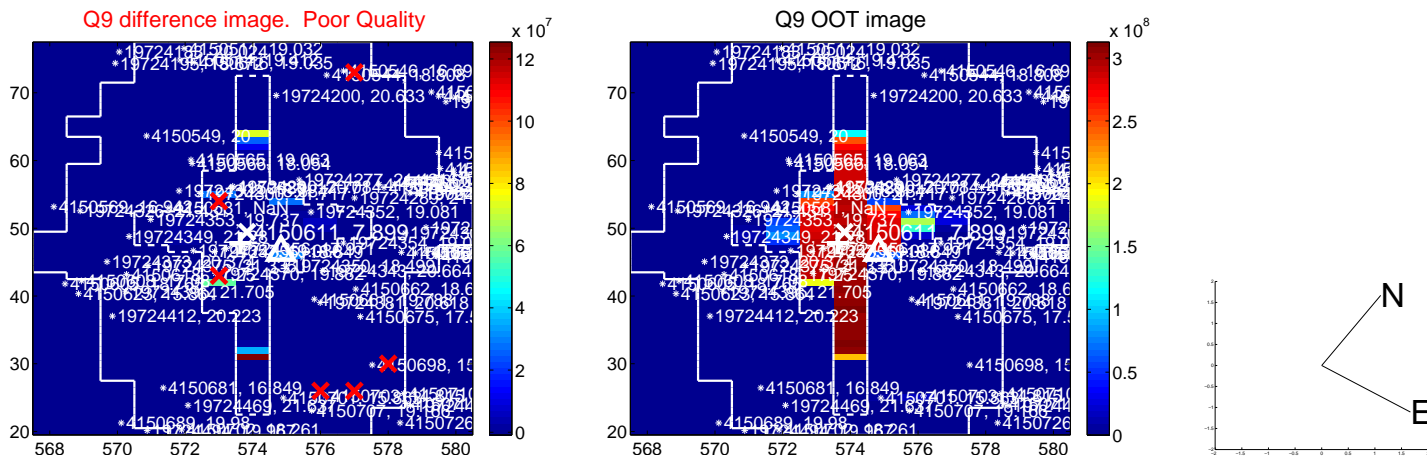
Q8 no difference image



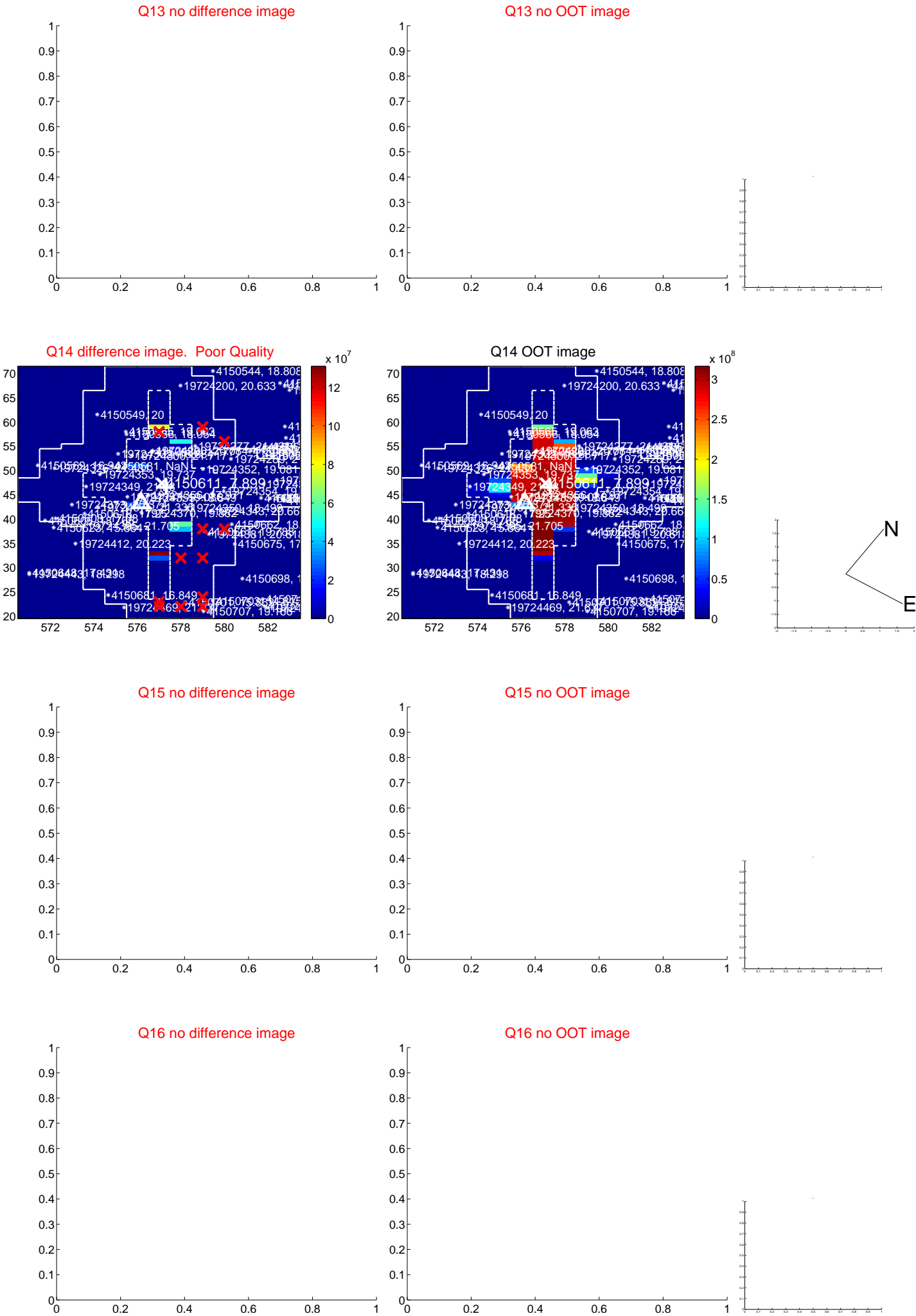
Q8 no OOT image



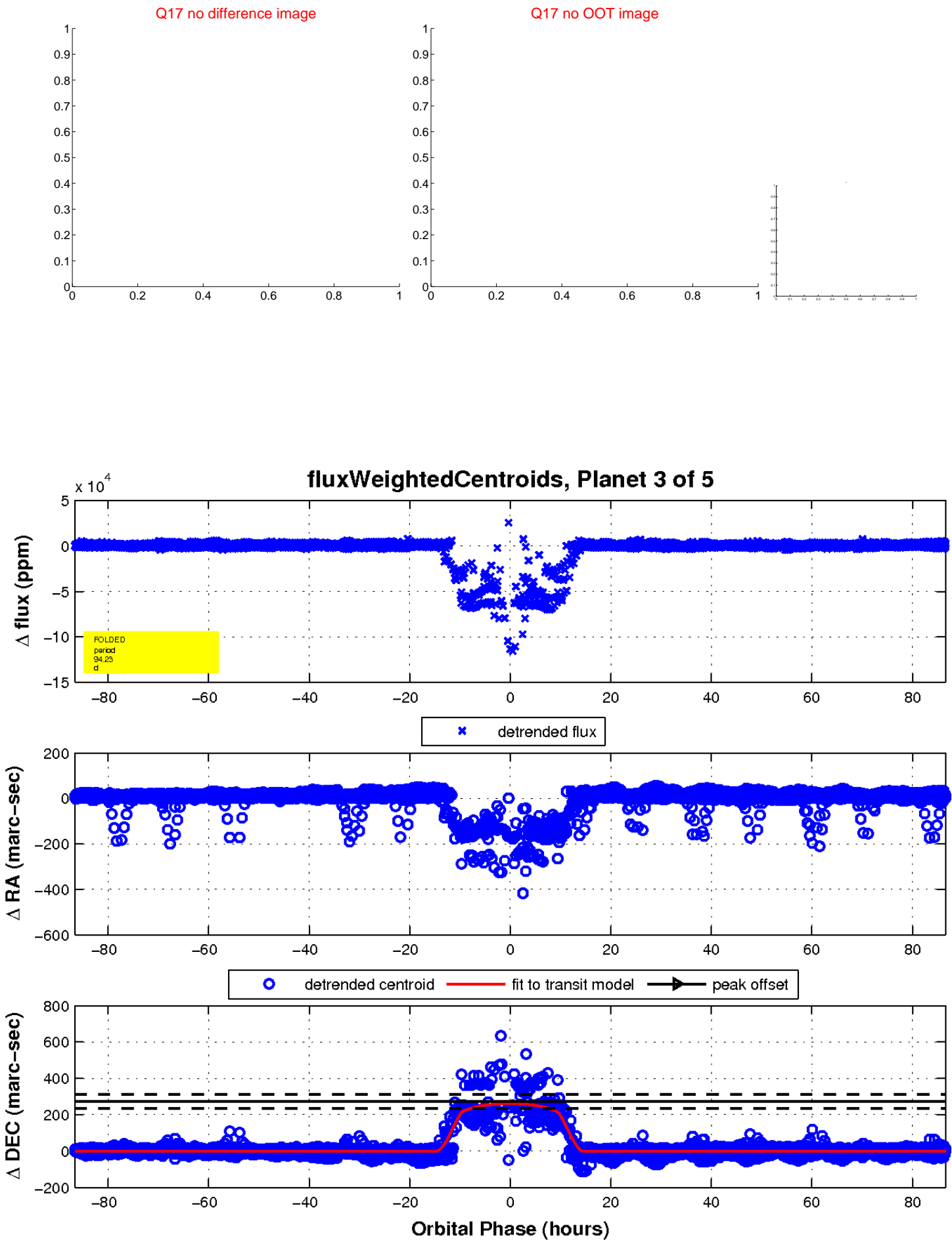
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



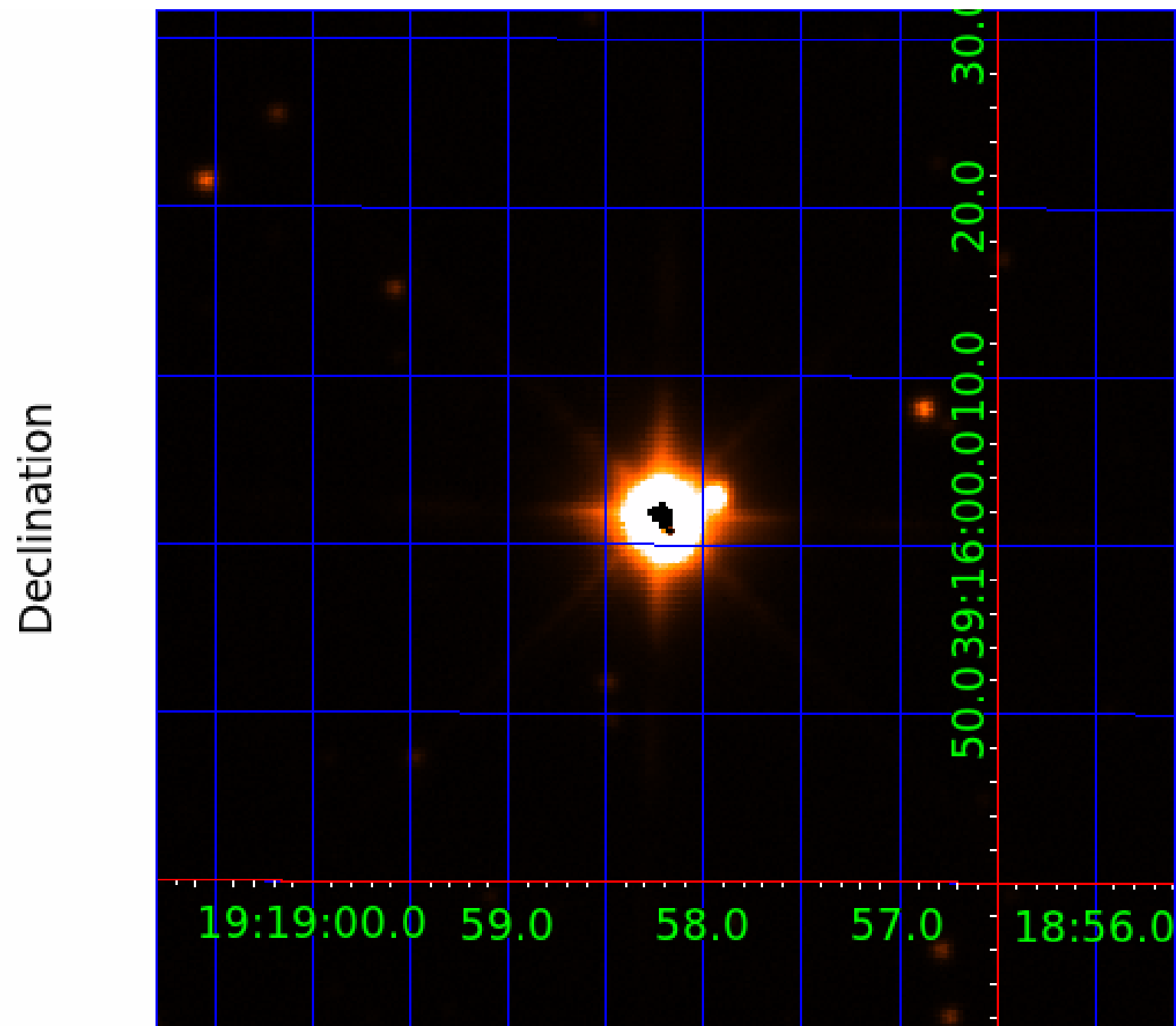
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004150611

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})
004150611-01	OBS	3156.03	8.653134	136.655293	58074.4	3.951	445.8	366.1	1.50	6911	61.48	727.36
004150611-02	OBS	No	8.653110	134.302549	54146.4	4.584	403.3	405.1	1.50	6911	59.35	727.36
004150611-03	OBS	3156.04	94.225816	196.168203	48044.0	28.874	282.8	169.0	1.50	6911	33.26	30.14
004150611-04	OBS	3156.01	0.761121	131.687212	876.9	1.150	34.1	51.1	1.50	6911	5.23	18594.03
004150611-05	OBS	3156.02	1.434192	132.062700	14.6	3.500	23.0	-1.0	1.50	6911	0.58	7989.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004150611-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_SATURATED
004150611-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED
004150611-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—CENT_SATURATED
004150611-04	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
004150611-05	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

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

Ephemeris Match Information For 004150611-04

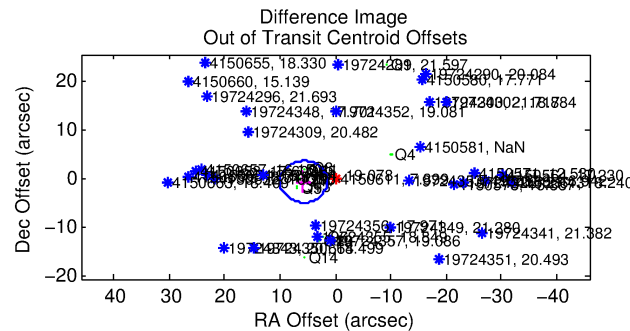
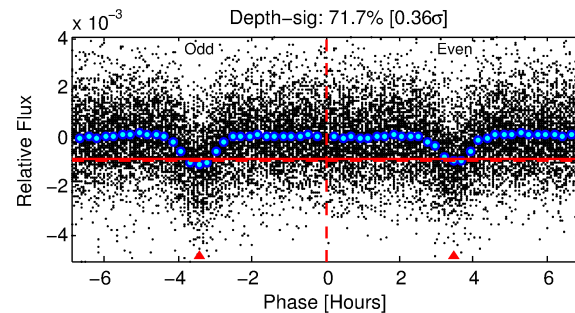
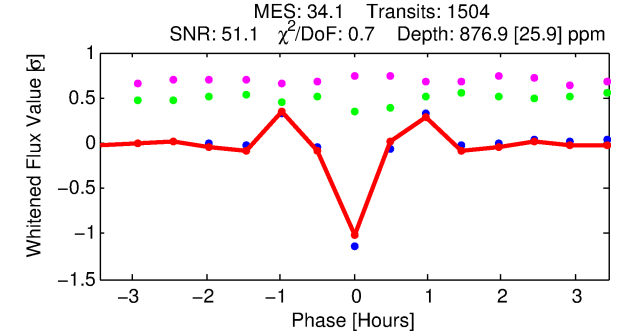
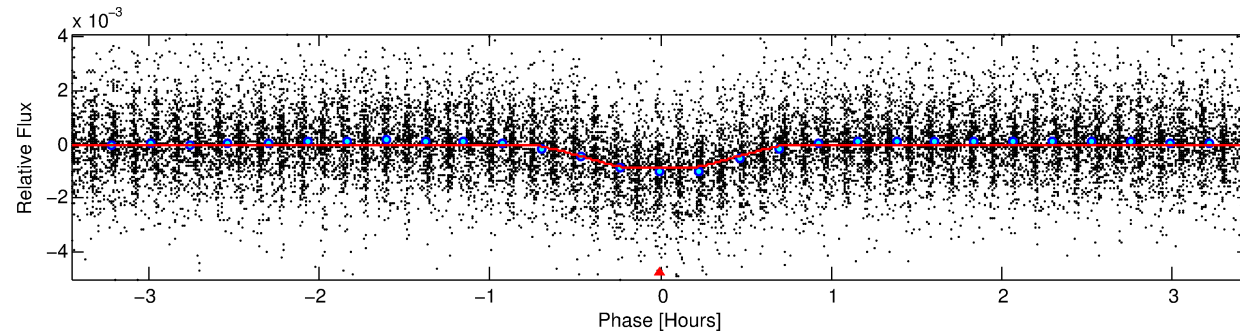
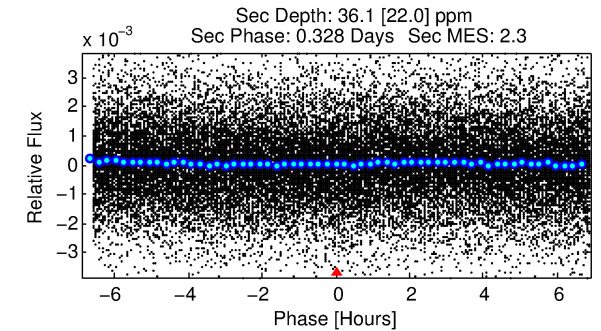
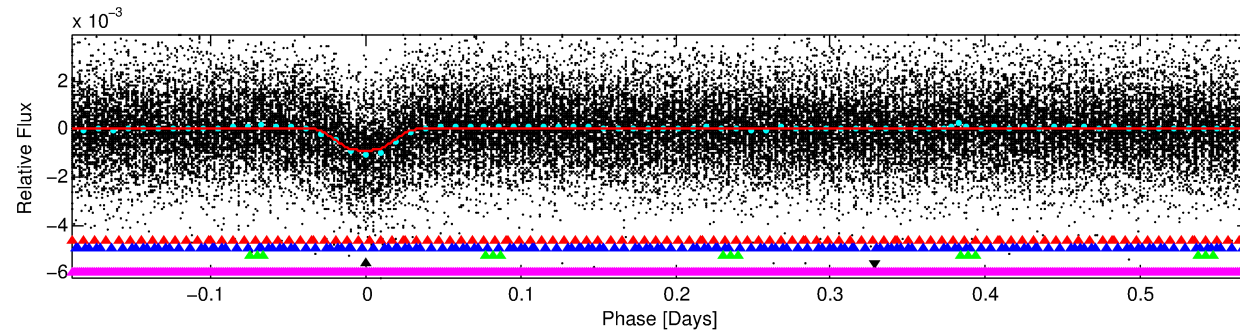
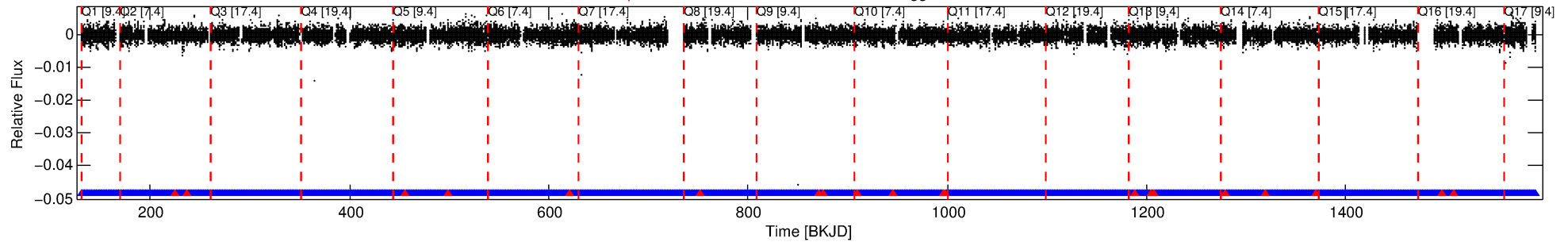
No Significant Match Found

DV One-Page Summary

KIC: 4150611 Candidate: 4 of 5 Period: 0.761 d

KOI: K03156.01 Corr: 0.945

Kp: 7.90 R*: 1.50 Rs Teff: 6911.0 K Logg: 4.04 Fe/H: -1.540



DV Fit Results:

Period = 0.76112 [0.00000] d
Epoch = 131.6872 [0.0002] BKJD
Rp/R* = 0.0319 [0.0014]
a/R* = 2.68 [0.49]
b = 0.91 [0.04]
Seff = 18594.03 [12879.19]
Teff = 2978 [516] K
Rp = 5.23 [2.11] Re
a = 0.0157 [0.0065] AU
Ag = 0.18 [0.16] [-4.99σ]
Teffp = 2997 [472] K [0.03σ]

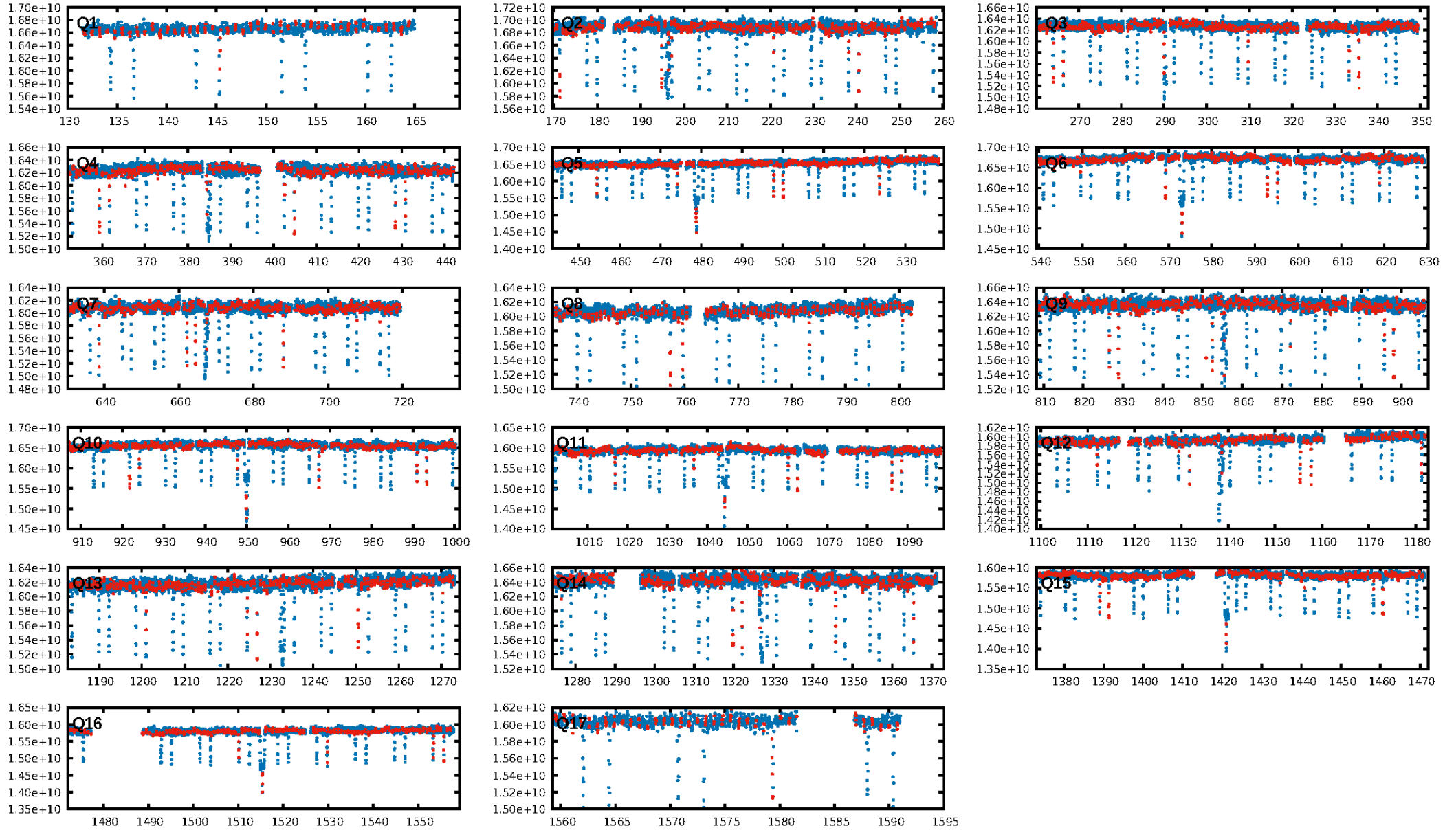
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [4.38σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.99 [1413/1433]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 11.051 arcsec [33.88σ]
OotOffset-rm: 5.808 arcsec [4.08σ]
KicOffset-rm: 9.783 arcsec [5.25σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

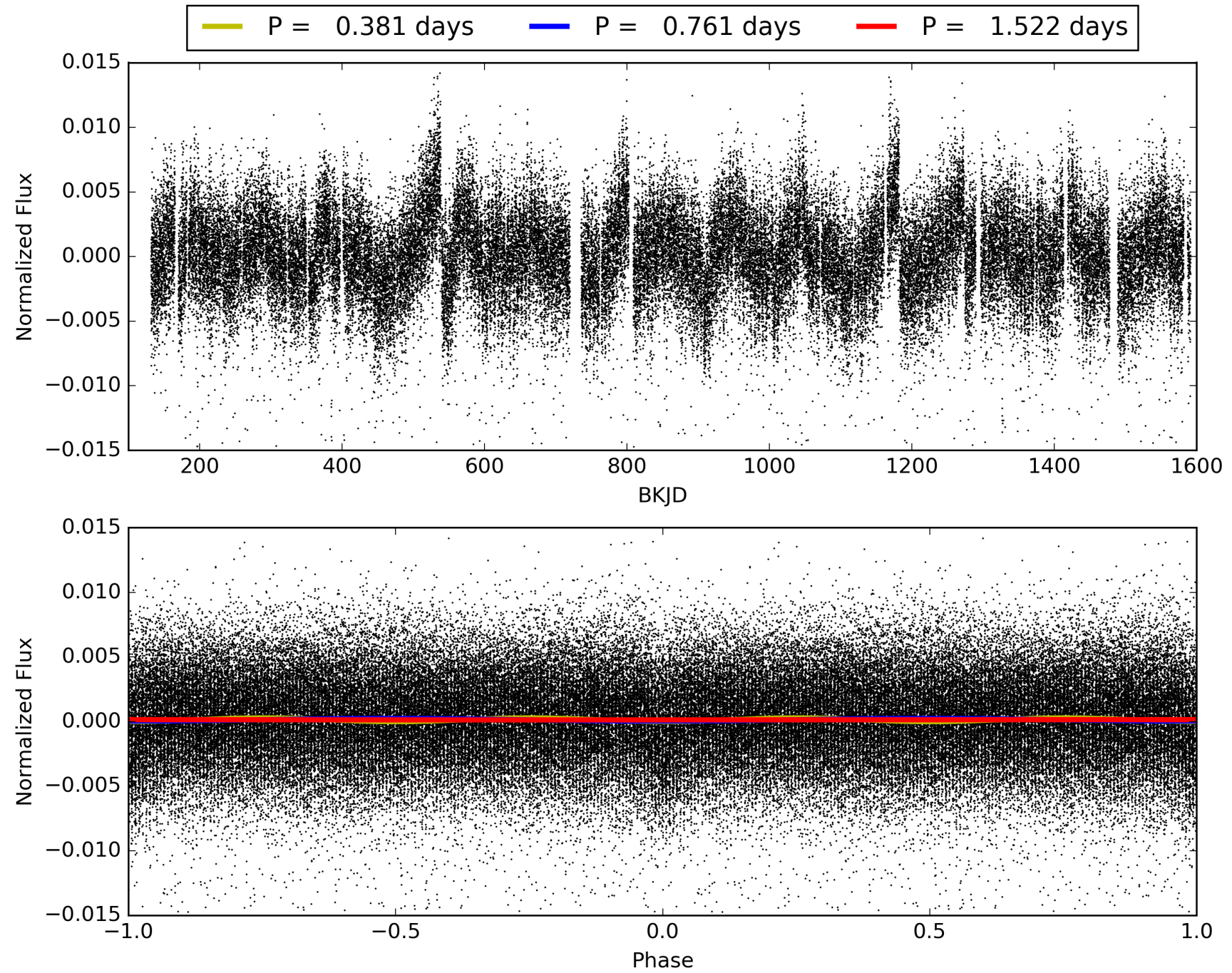
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:29:59 Z

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

TCE 004150611-04, PDC Light Curves

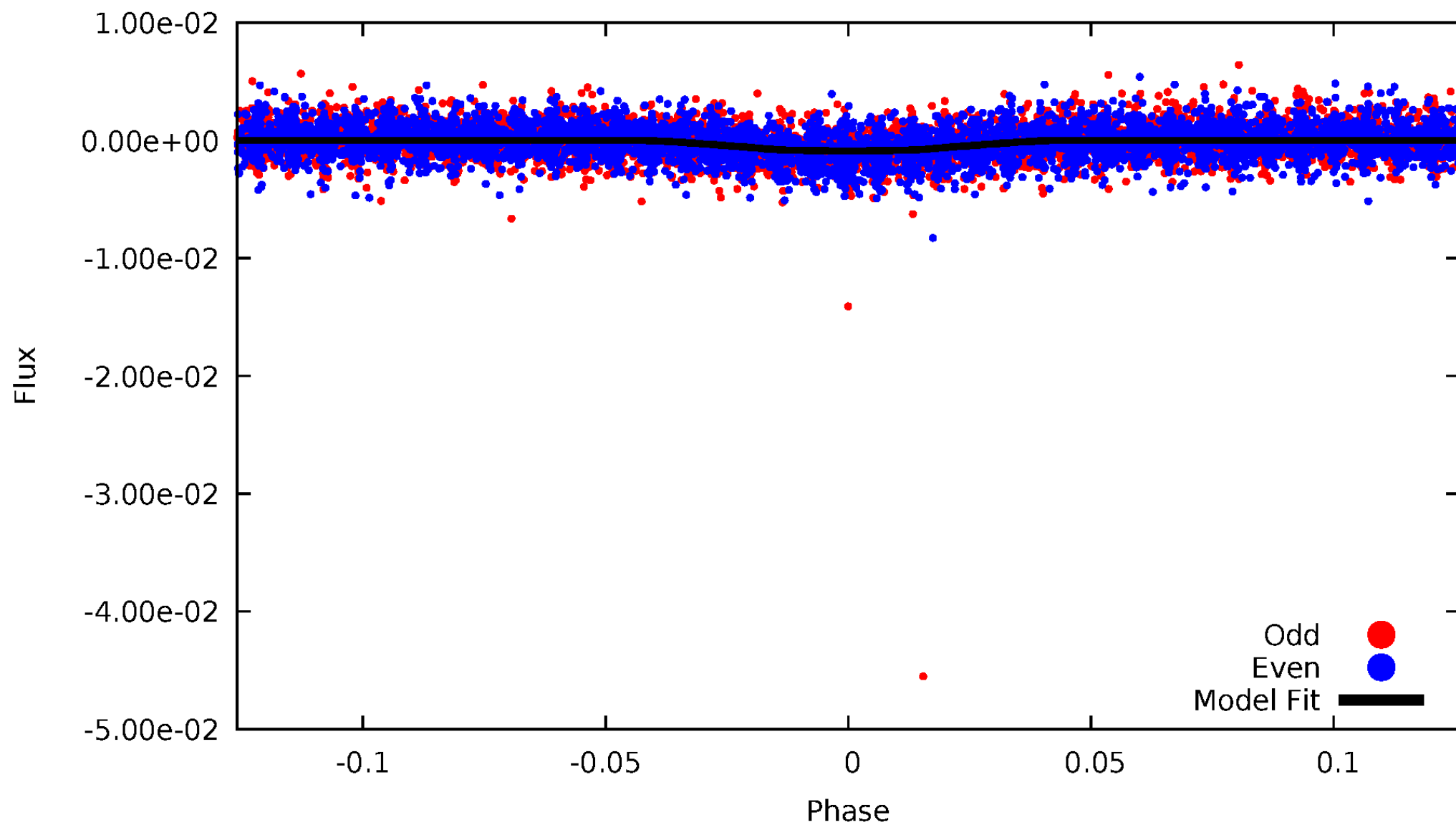


TCE 004150611-04



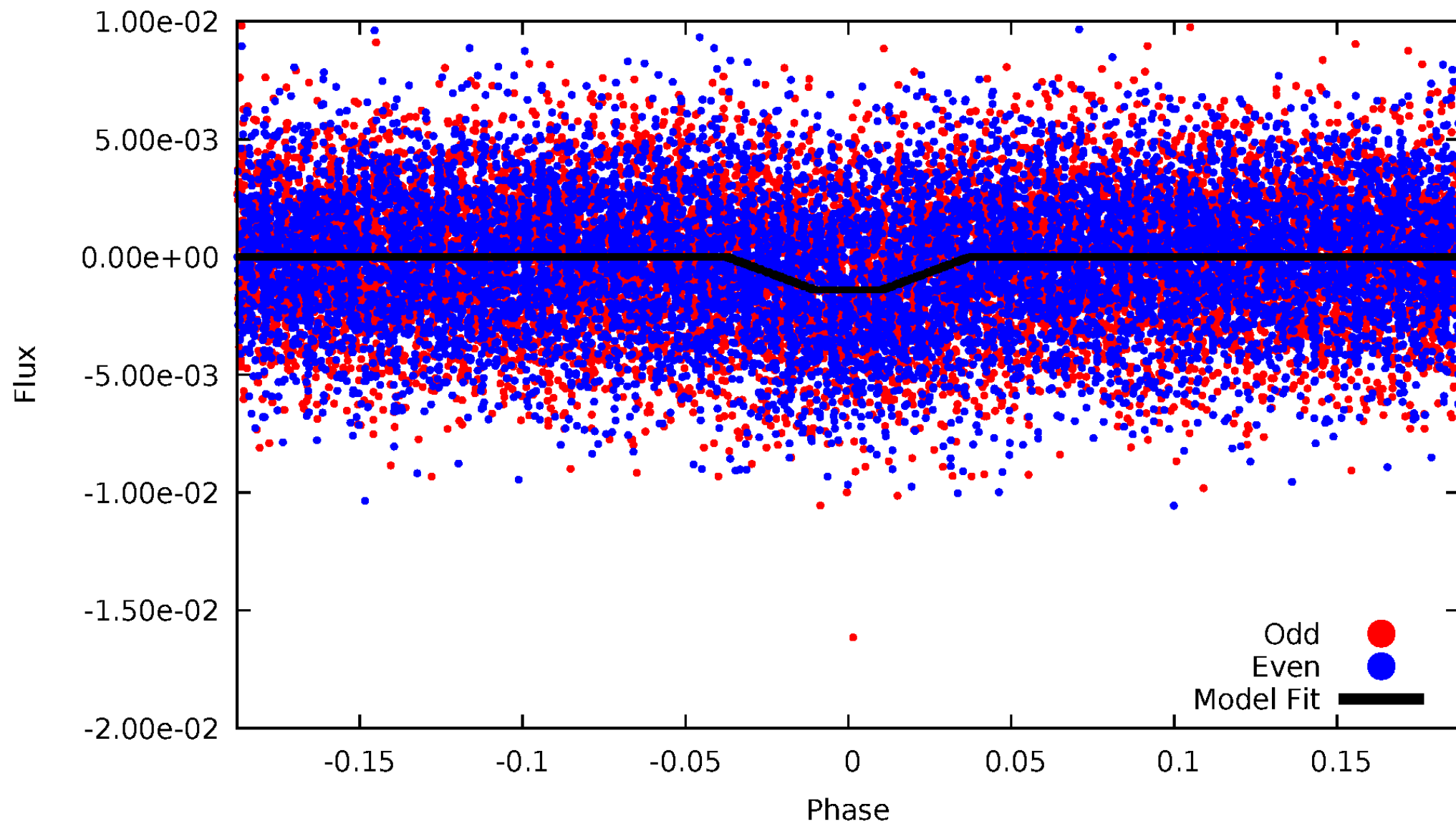
DV Odd/Even

TCE 004150611-04



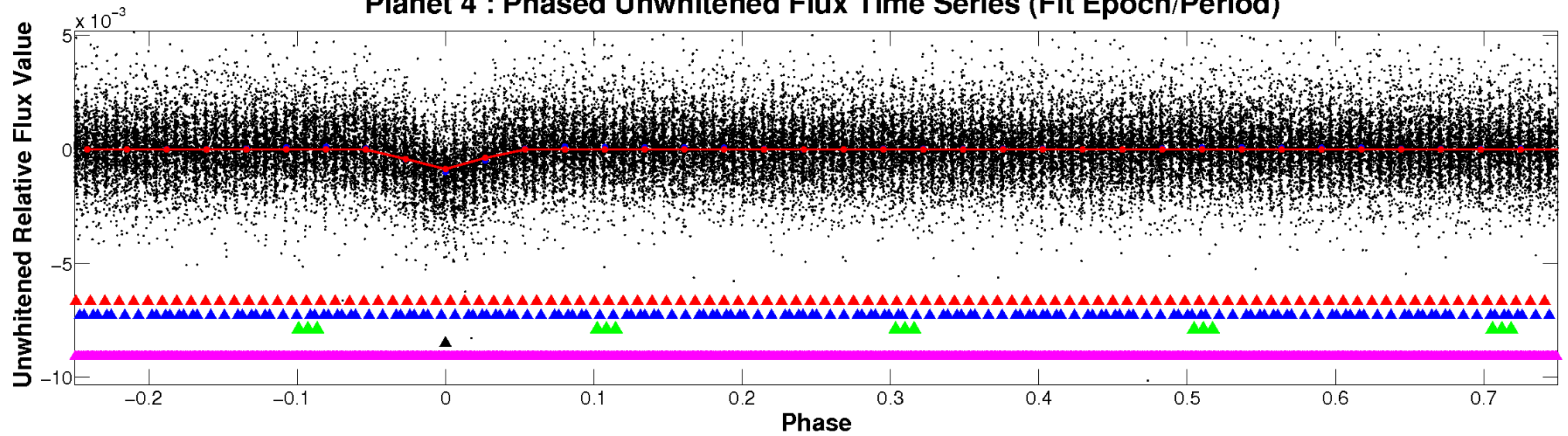
ALT Odd/Even

TCE 004150611-04

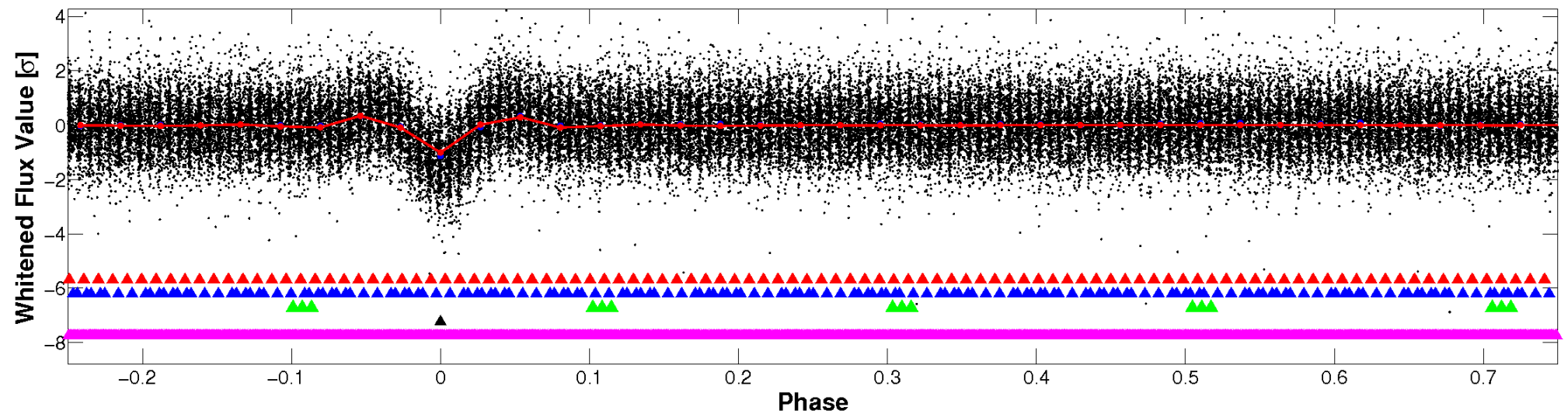


Non-Whitened Vs. Whitened Light Curve

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

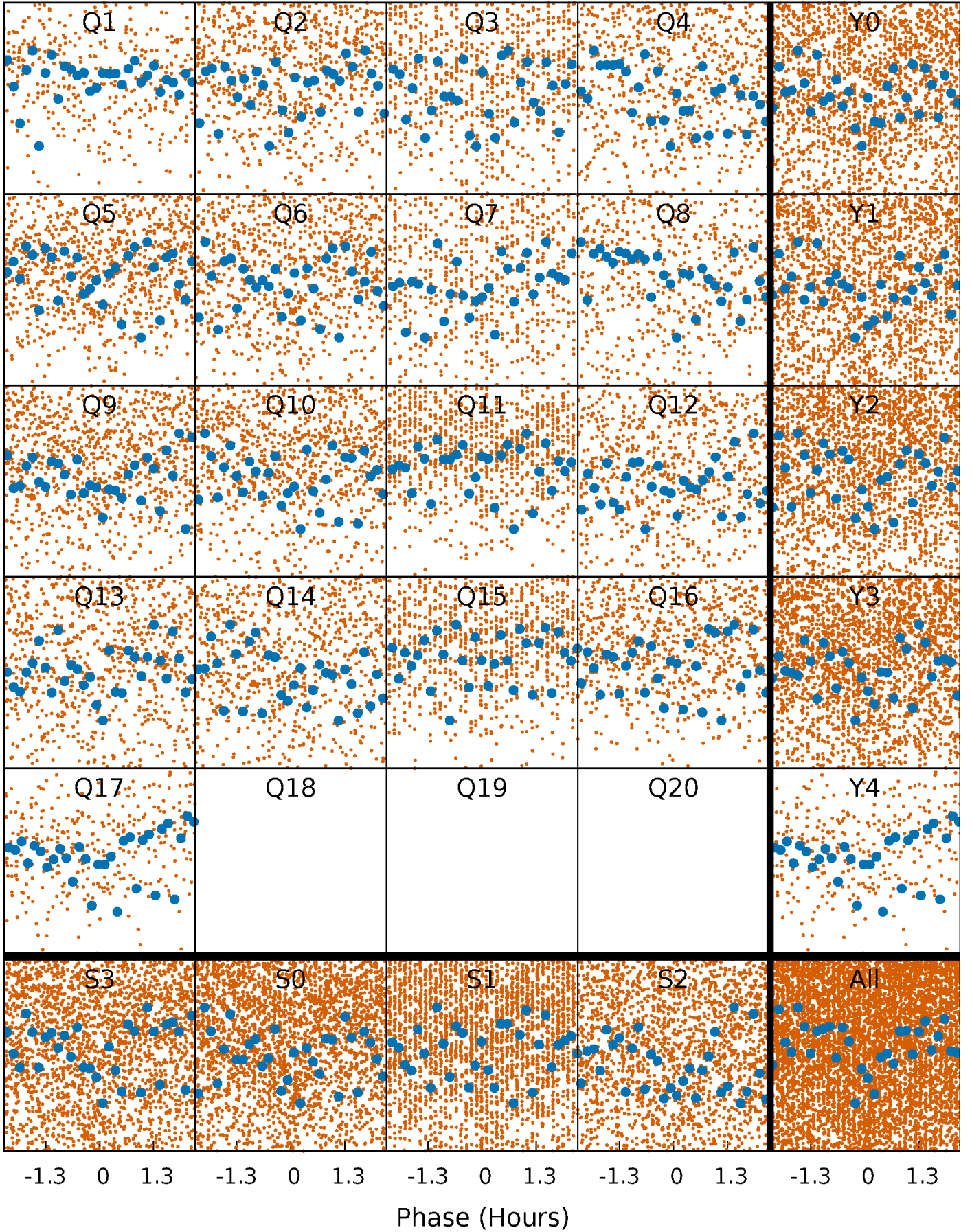


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



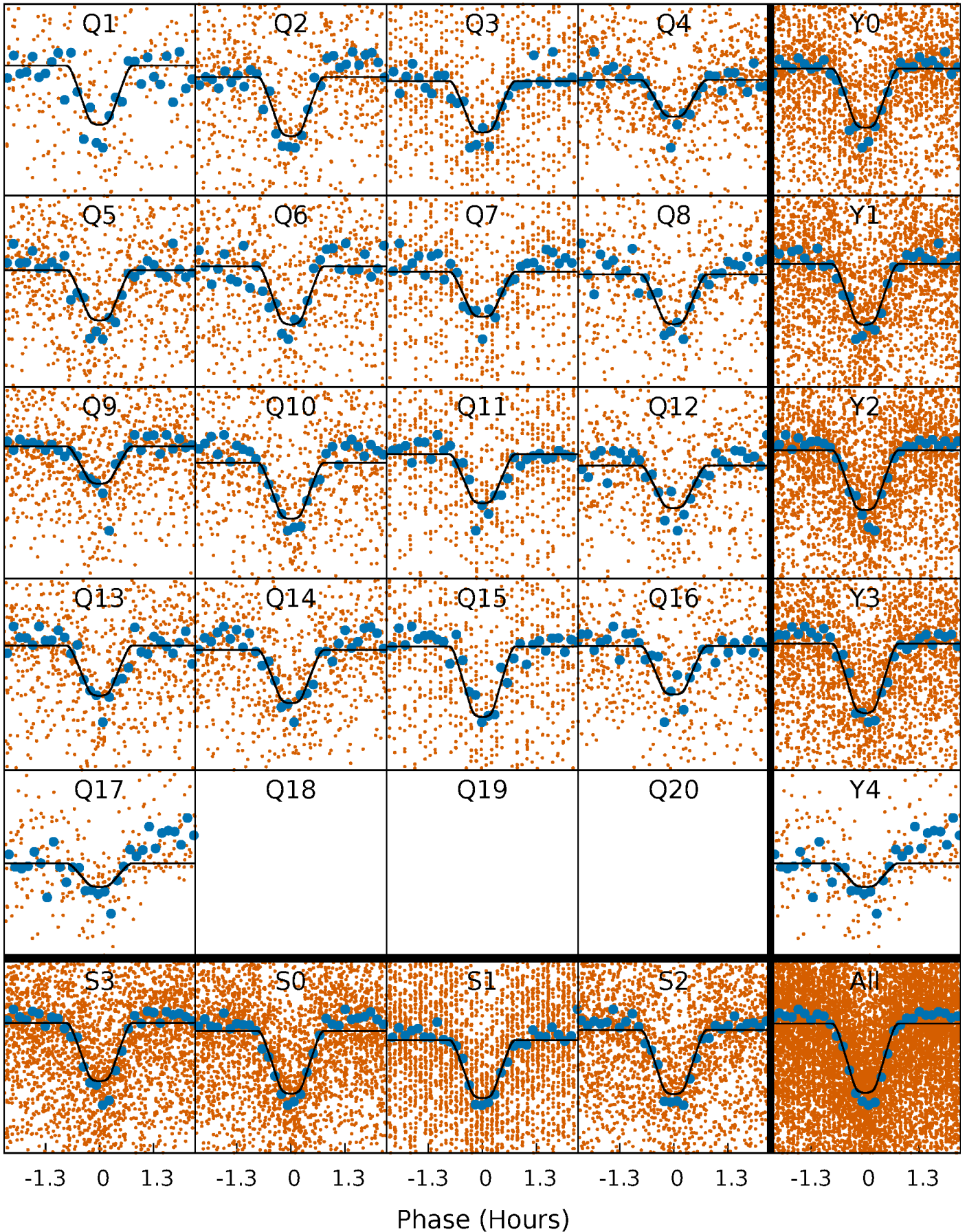
PDC Quarter-Phased Transit Curves

TCE 004150611-04 $P = 0.761121$ Days $T_0 = 131.687212$ (BKJD)



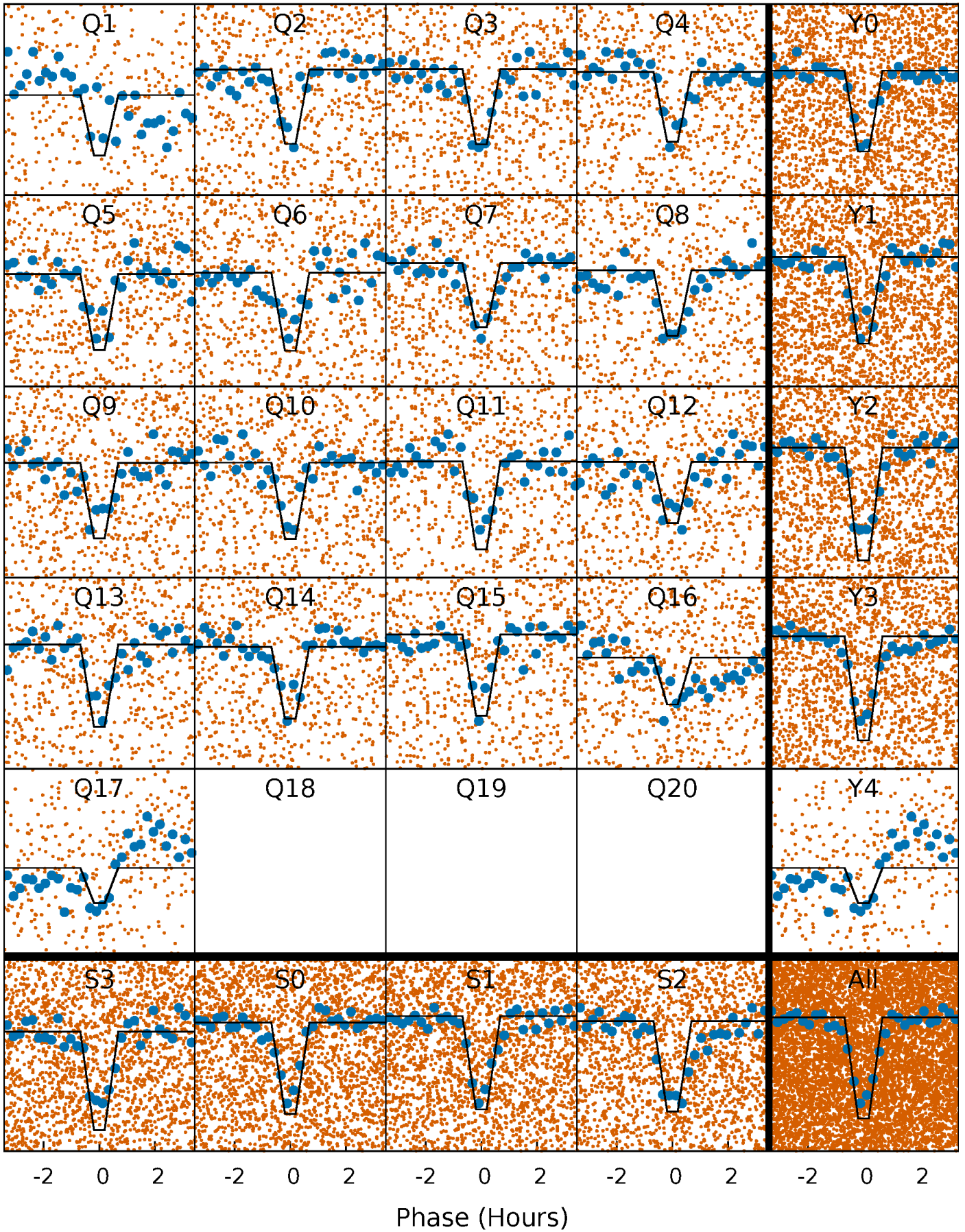
DV Quarter-Phased Transit Curves

TCE 004150611-04 $P = 0.761121$ Days $T_0 = 131.687212$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

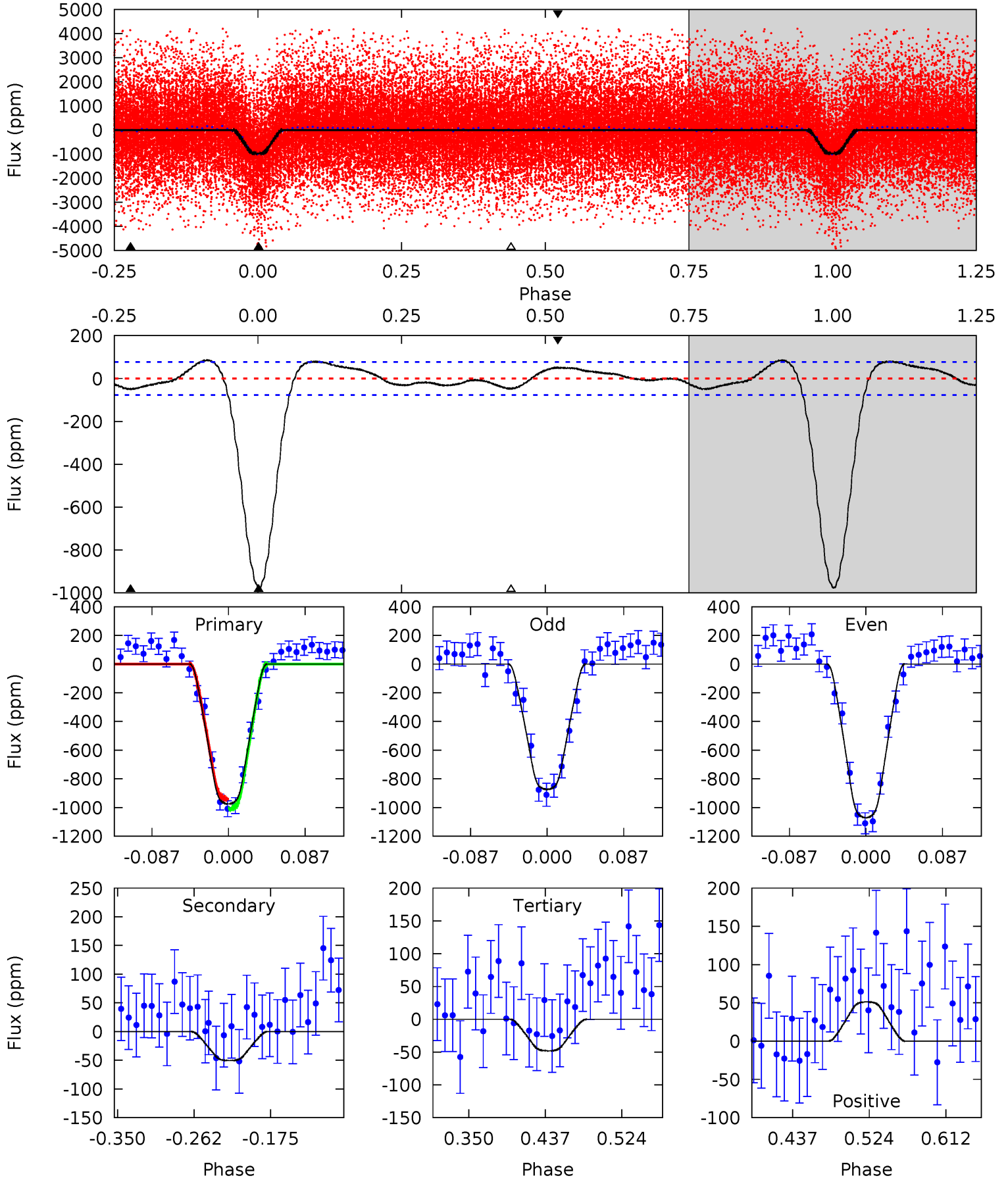
TCE 004150611-04 $P = 0.761124$ Days $T_0 = 131.685215$ (BKJD)



DV Model-Shift Uniqueness Test

004150611-04, P = 0.761121 Days, E = 130.926091 Days

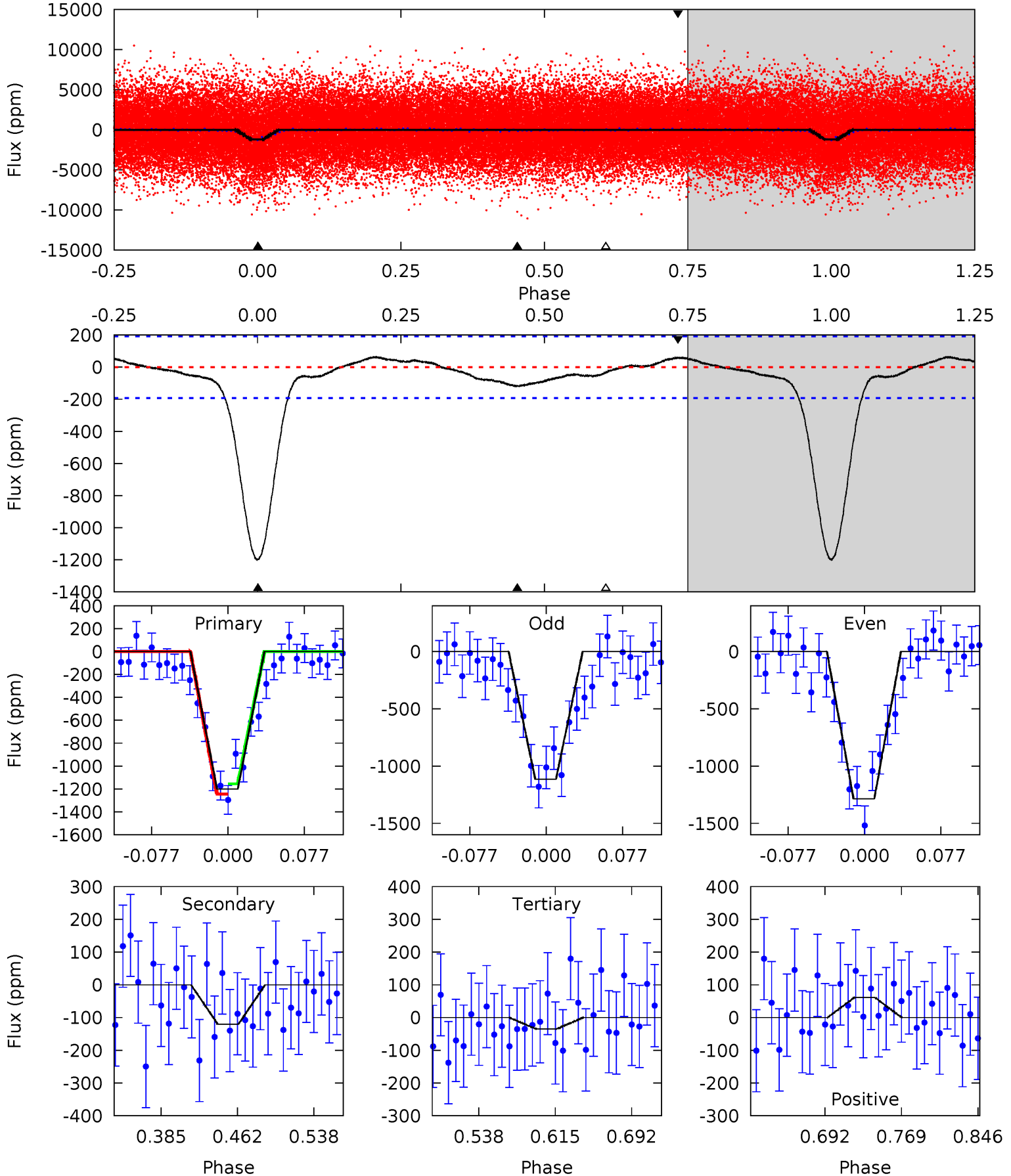
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
58.3	3.03	2.88	3.06	4.59	1.71	2.11	55.4	55.2	0.15	-0.04	5.91	1.06	0.08	2.10



Alt Model-Shift Uniqueness Test

004150611-04, P = 0.761124 Days, E = 130.924091 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
28.8	2.89	0.83	1.47	4.62	1.77	0.95	28.0	27.3	2.05	1.42	2.05	0.95	0.05	1.08



Stellar Parameters For KIC 004150611

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6911^{+194}_{-242}	$4.038^{+0.406}_{-0.145}$	$-1.540^{+0.300}_{-0.250}$	$1.501^{+0.371}_{-0.603}$	$0.897^{+0.069}_{-0.063}$	$0.373^{+1.169}_{-0.168}$
	+3%/-4%	+10%/-4%	+19%/-16%	+25%/-40%	+8%/-7%	+313%/-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 004150611-04 / KOI 3156.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-51 ± 17	$5.08^{+0.75}_{-1.15}$	4088^{+306}_{-452}	-2642^{+5820}_{-726}	$0.273^{+0.173}_{-0.105}$
Alt.	-120 ± 42	$5.92^{+0.93}_{-1.16}$	4081^{+324}_{-439}	3390^{+456}_{-5961}	$0.467^{+0.342}_{-0.189}$

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

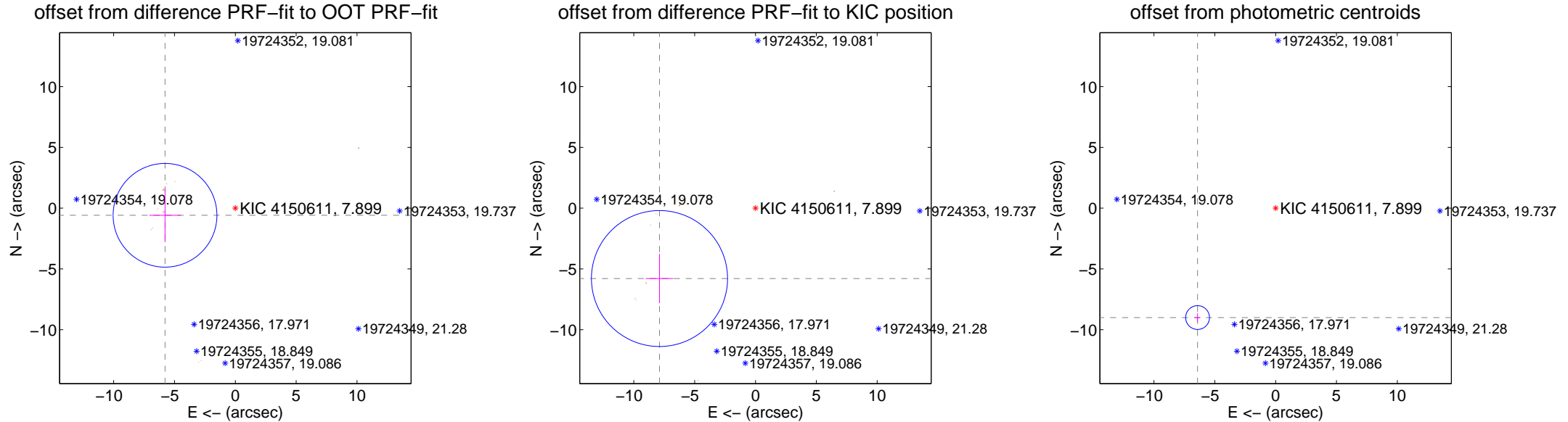
DV Centroid Data

Supplemental centroid analysis for 004150611-04. **Kepler magnitude: 7.90.** Transit SNR 51.08

There are 0 quarters with good PRF difference image offsets

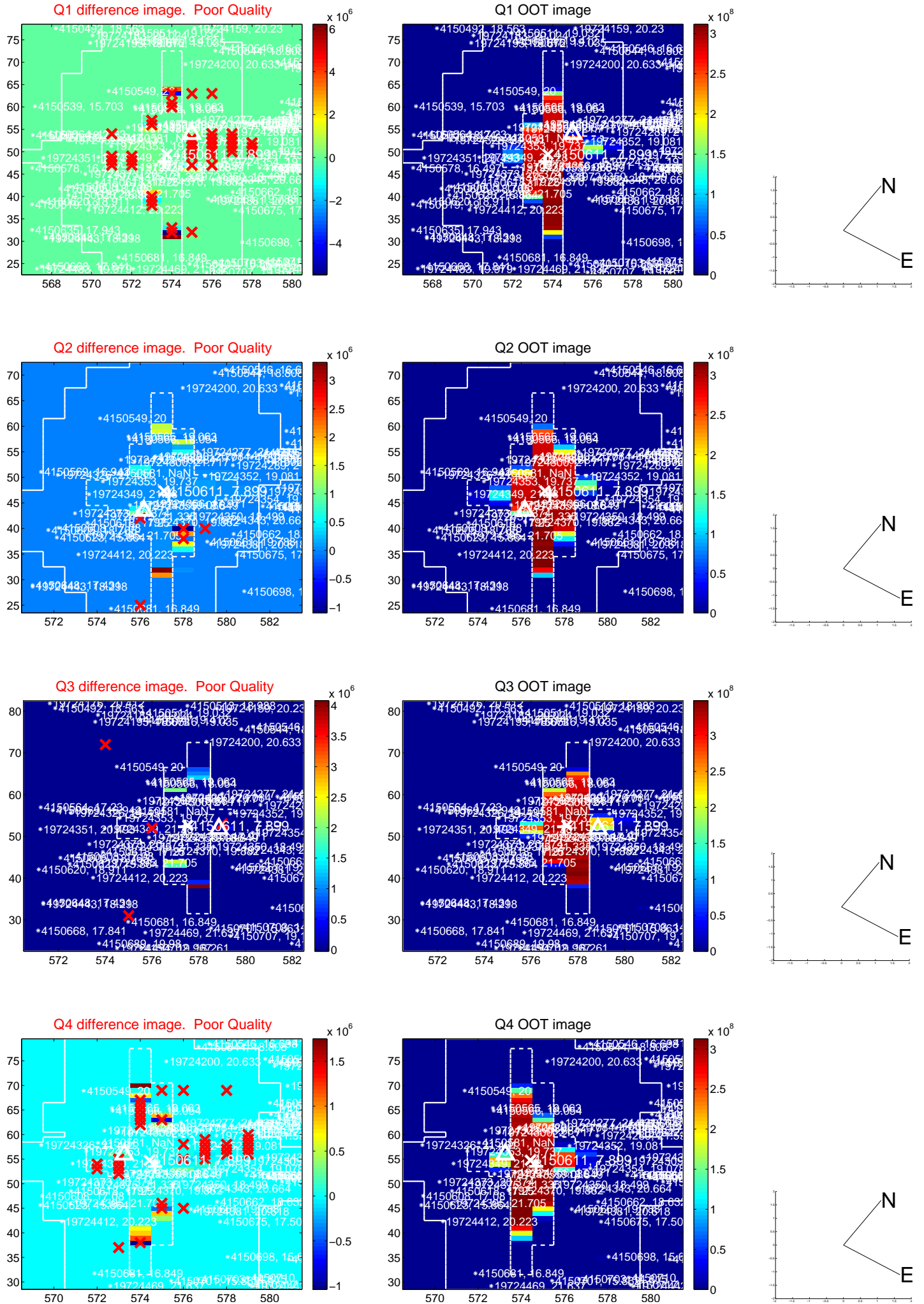
The OOT PRF centroid is offset from the target star catalog position by about 6.61 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.808 ± 1.422	4.08	5.778 ± 1.288	-0.586 ± 2.205
PRF-fit source offset from KIC position	9.783 ± 1.864	5.25	7.888 ± 1.137	-5.788 ± 2.027
photometric centroid source offset	11.05 ± 0.33	33.88	6.42 ± 0.24	-9.00 ± 0.36

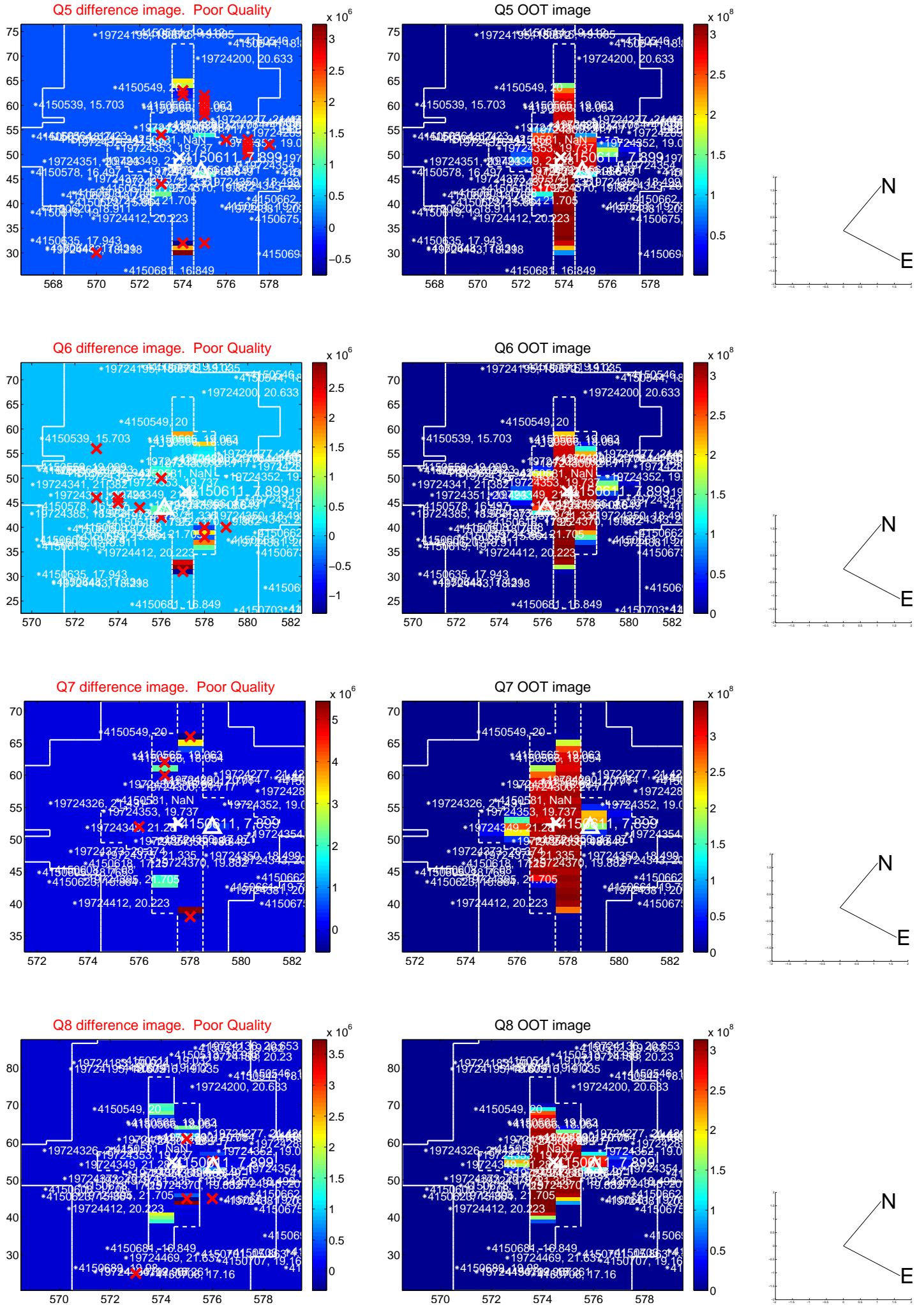


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

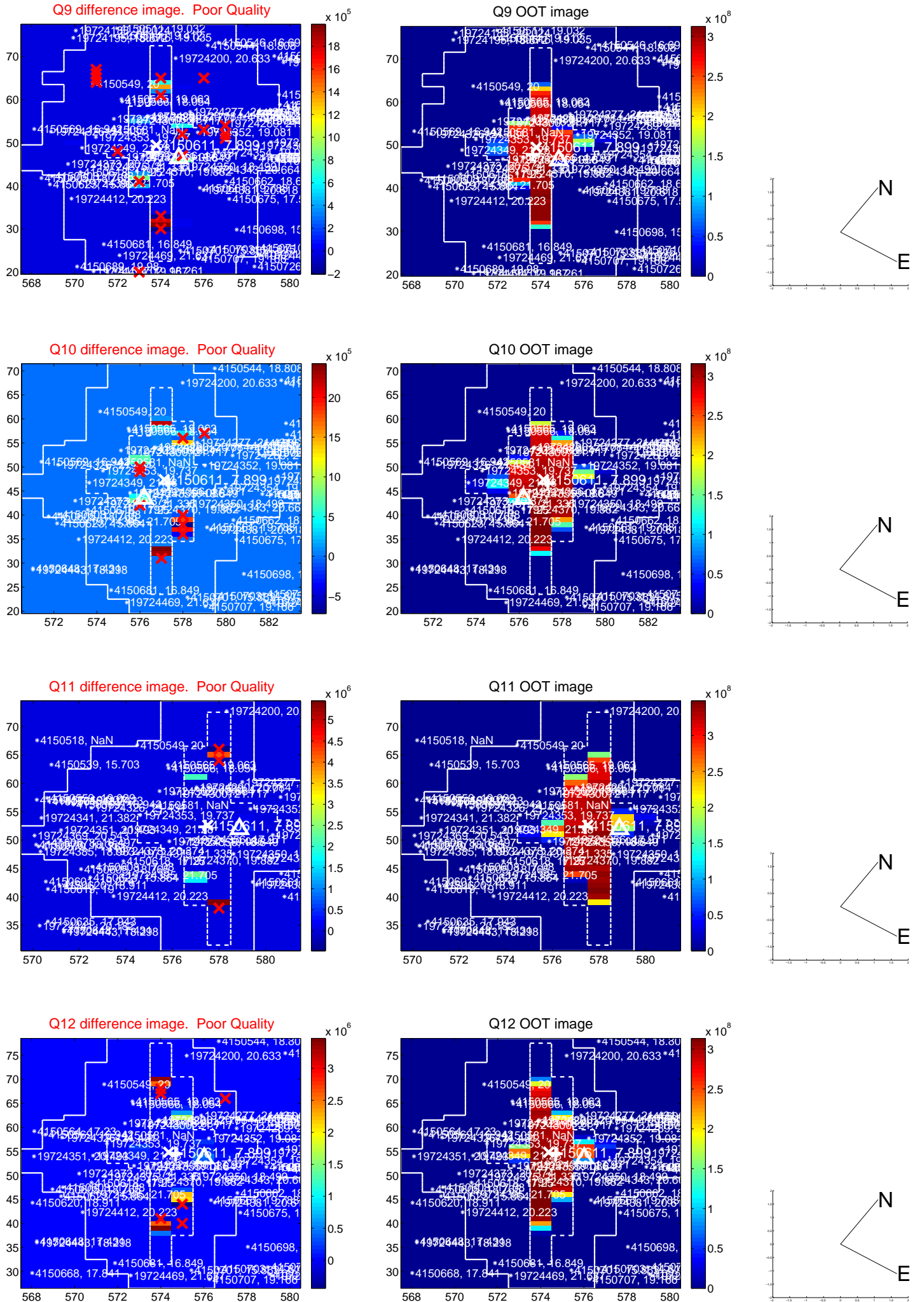
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



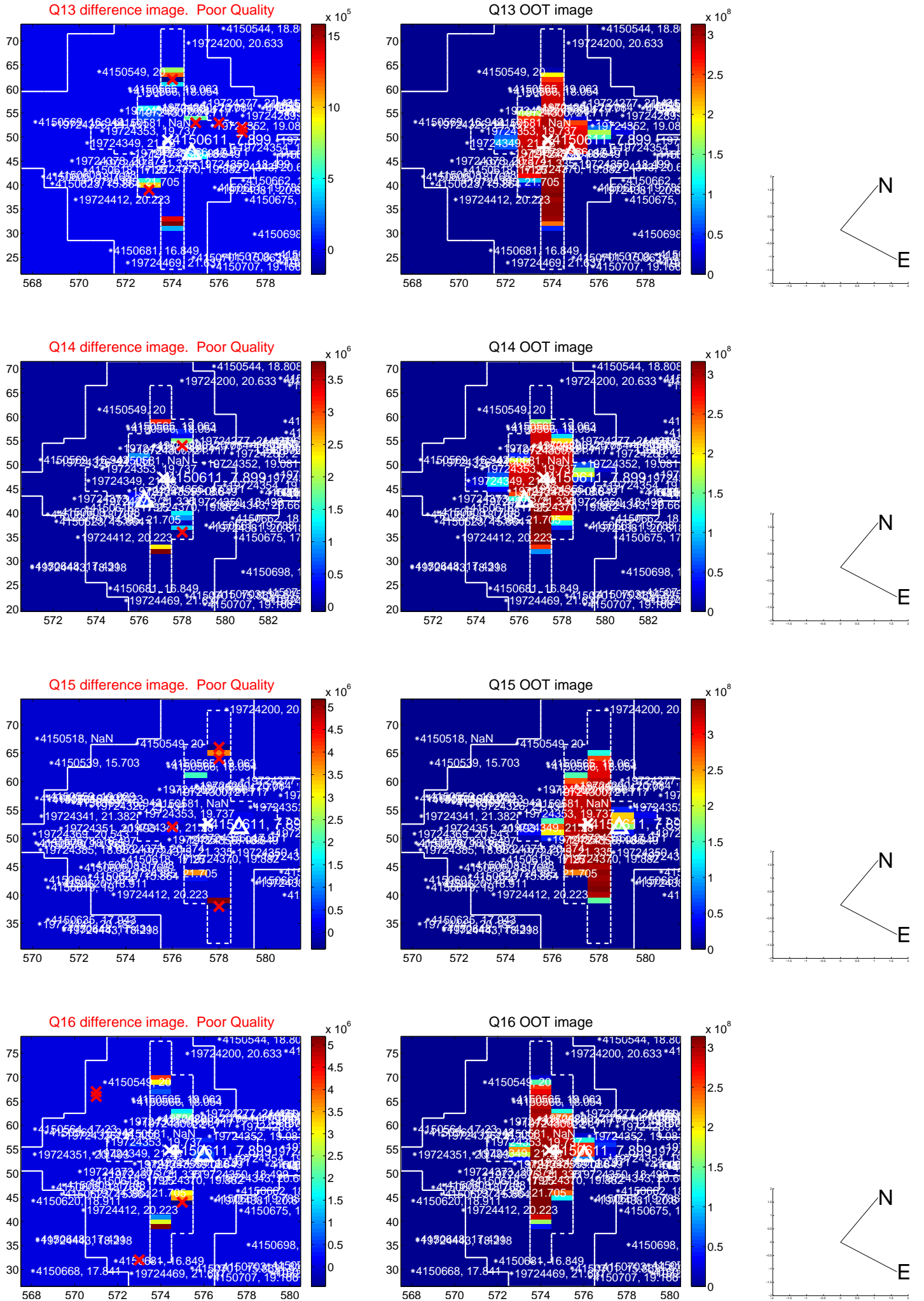
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



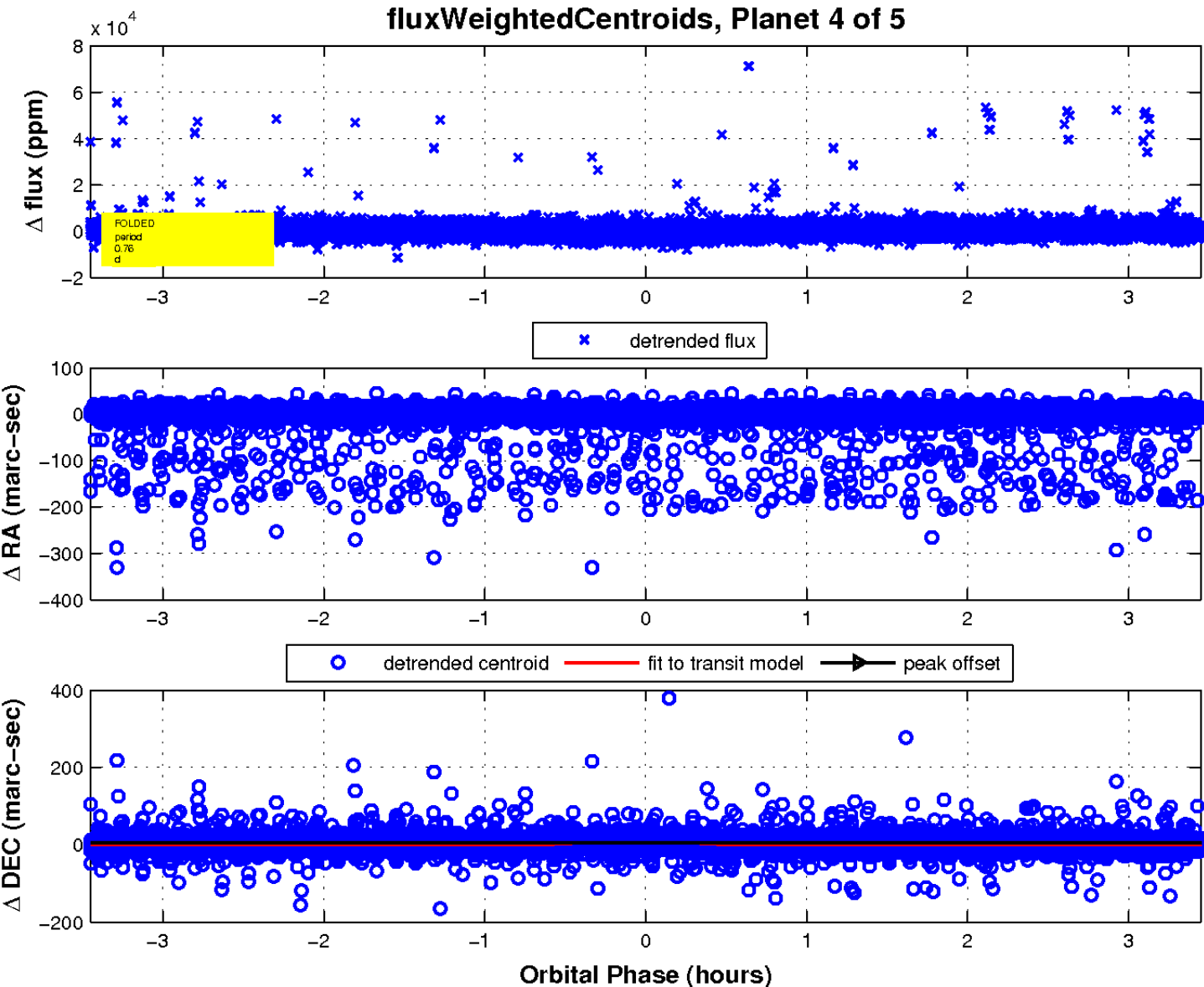
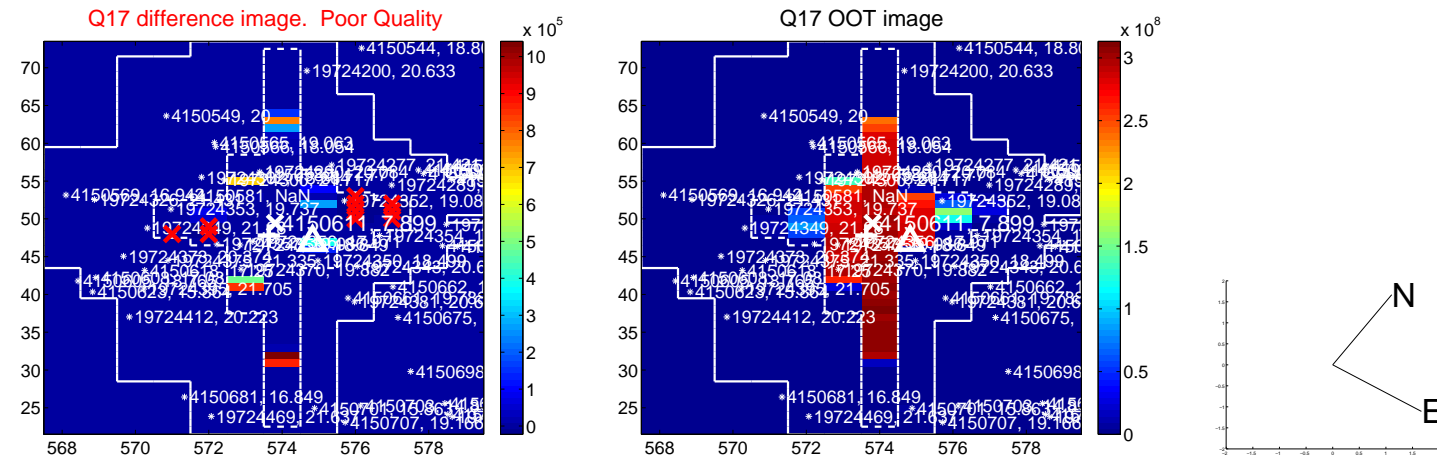
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



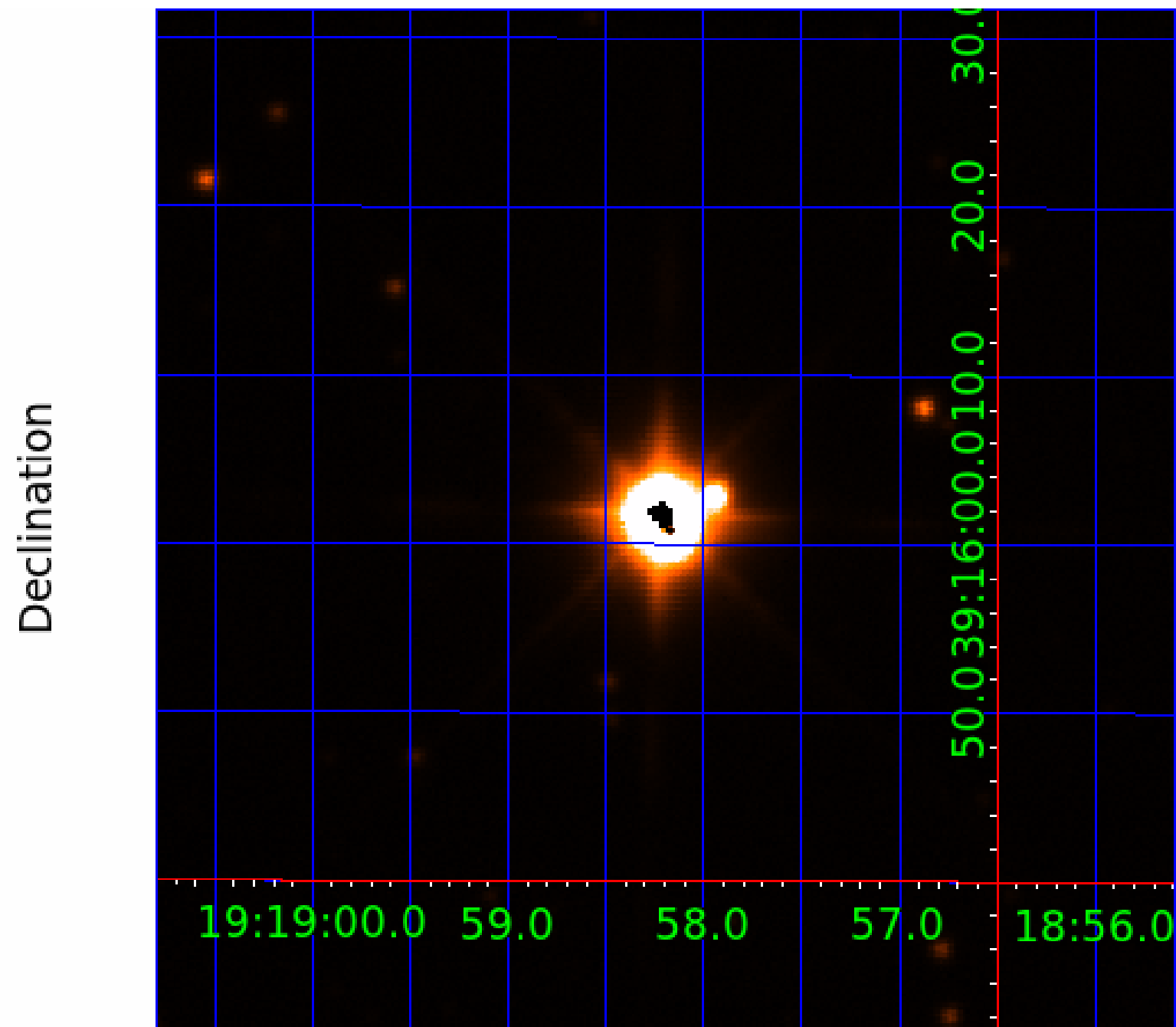
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 004150611

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})
004150611-01	OBS	3156.03	8.653134	136.655293	58074.4	3.951	445.8	366.1	1.50	6911	61.48	727.36
004150611-02	OBS	No	8.653110	134.302549	54146.4	4.584	403.3	405.1	1.50	6911	59.35	727.36
004150611-03	OBS	3156.04	94.225816	196.168203	48044.0	28.874	282.8	169.0	1.50	6911	33.26	30.14
004150611-04	OBS	3156.01	0.761121	131.687212	876.9	1.150	34.1	51.1	1.50	6911	5.23	18594.03
004150611-05	OBS	3156.02	1.434192	132.062700	14.6	3.500	23.0	-1.0	1.50	6911	0.58	7989.17

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004150611-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_SATURATED
004150611-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED
004150611-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—CENT_SATURATED
004150611-04	OBS	PC	1.00	0	0	0	0	CENT_SATURATED
004150611-05	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

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

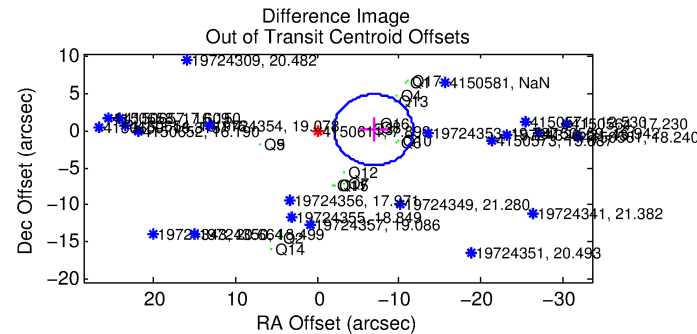
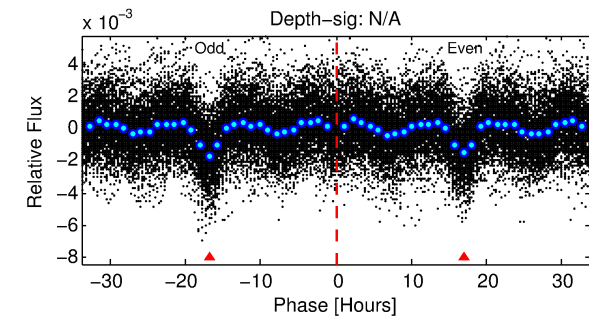
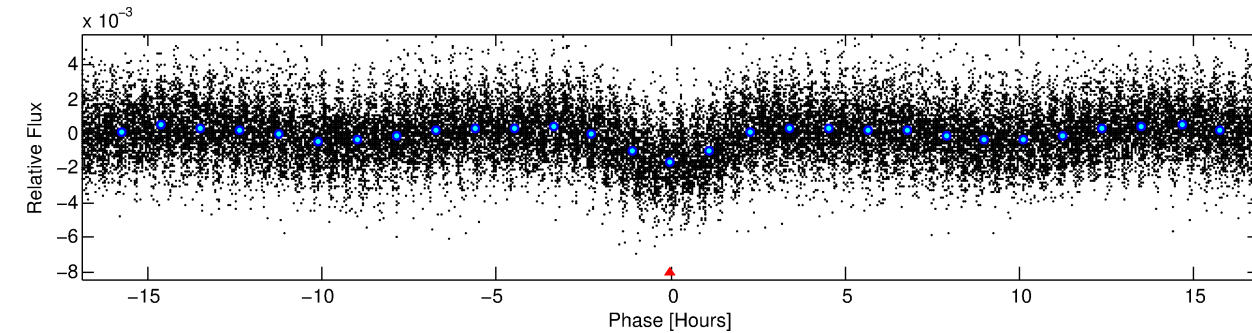
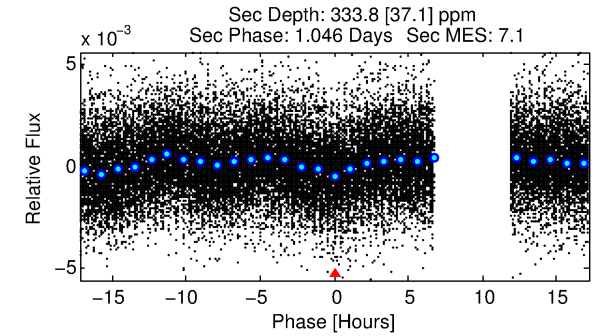
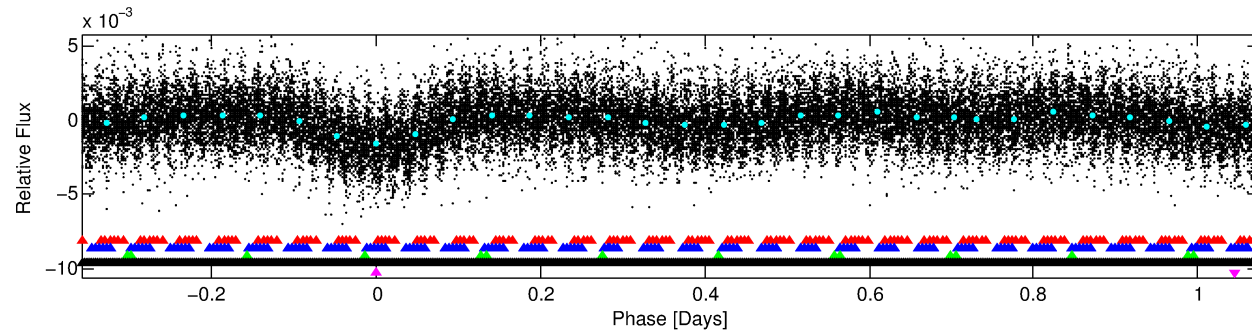
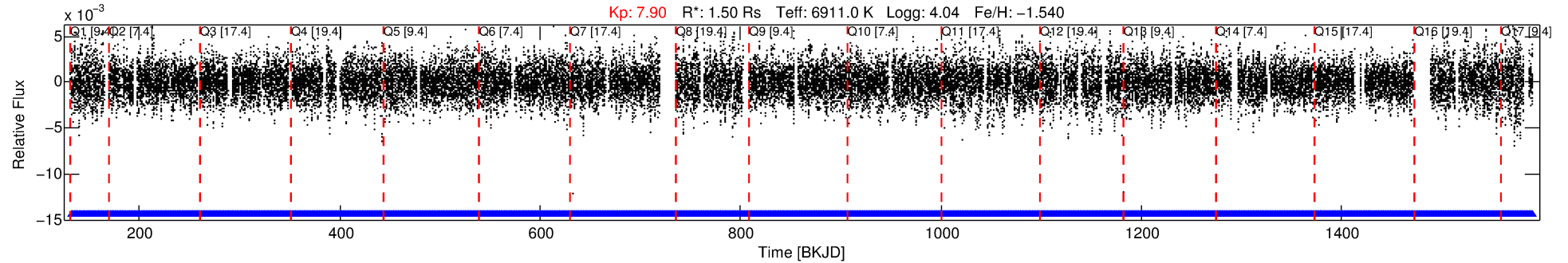
Ephemeris Match Information For 004150611-05

No Significant Match Found

DV One-Page Summary

KIC: 4150611 Candidate: 5 of 5 Period: 1.434 d

KOI: K03156.02 Corr: 0.776



TPS TCE Results:

Period = 1.43419 d

Epoch = 132.0627 BKJD

DV fit results are unavailable

DV Diagnostic Results:

ShortPeriod-sig: 100.0% [4.38 σ]

LongPeriod-sig: 100.0% [30.04 σ]

ModelChiSquare2-sig: N/A

ModelChiSquareGof-sig: N/A

Bootstrap-pfa: N/A

RollingBand-fgt: 1.00 [796/796]

GhostDiagnostic-chr: N/A

Centroid-sig: N/A

Centroid-so: 5.082 arcsec [38.80 σ]

OotOffset-rm: 6.867 arcsec [4.27 σ]

KicOffset-rm: 5.382 arcsec [5.32 σ]

OotOffset-st: 4/4/4/5 [17]

KicOffset-st: 4/4/4/5 [17]

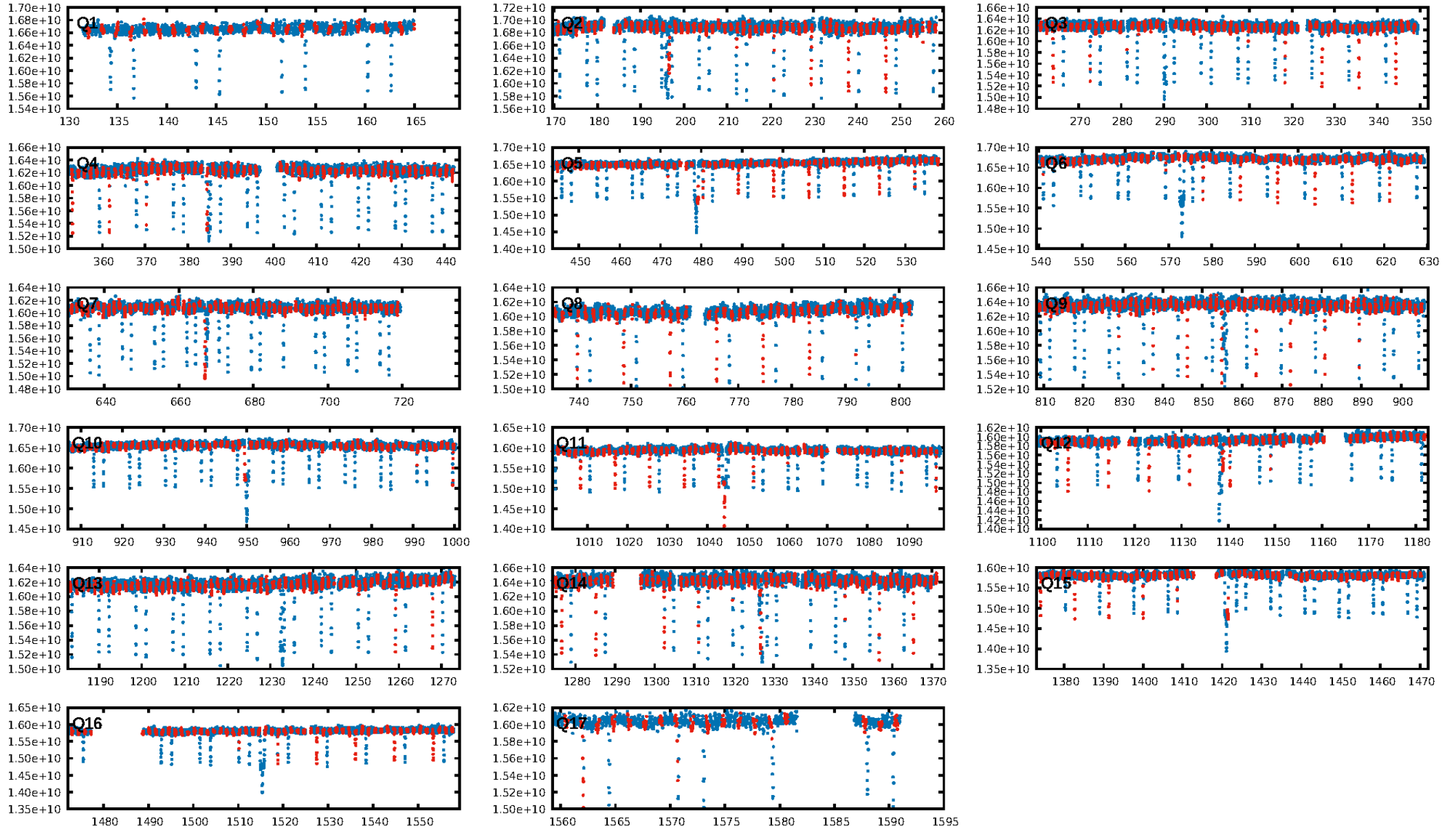
DiffImageQuality-fgm: 0.00 [0/17]

DiffImageOverlap-fno: 0.00 [0/17]

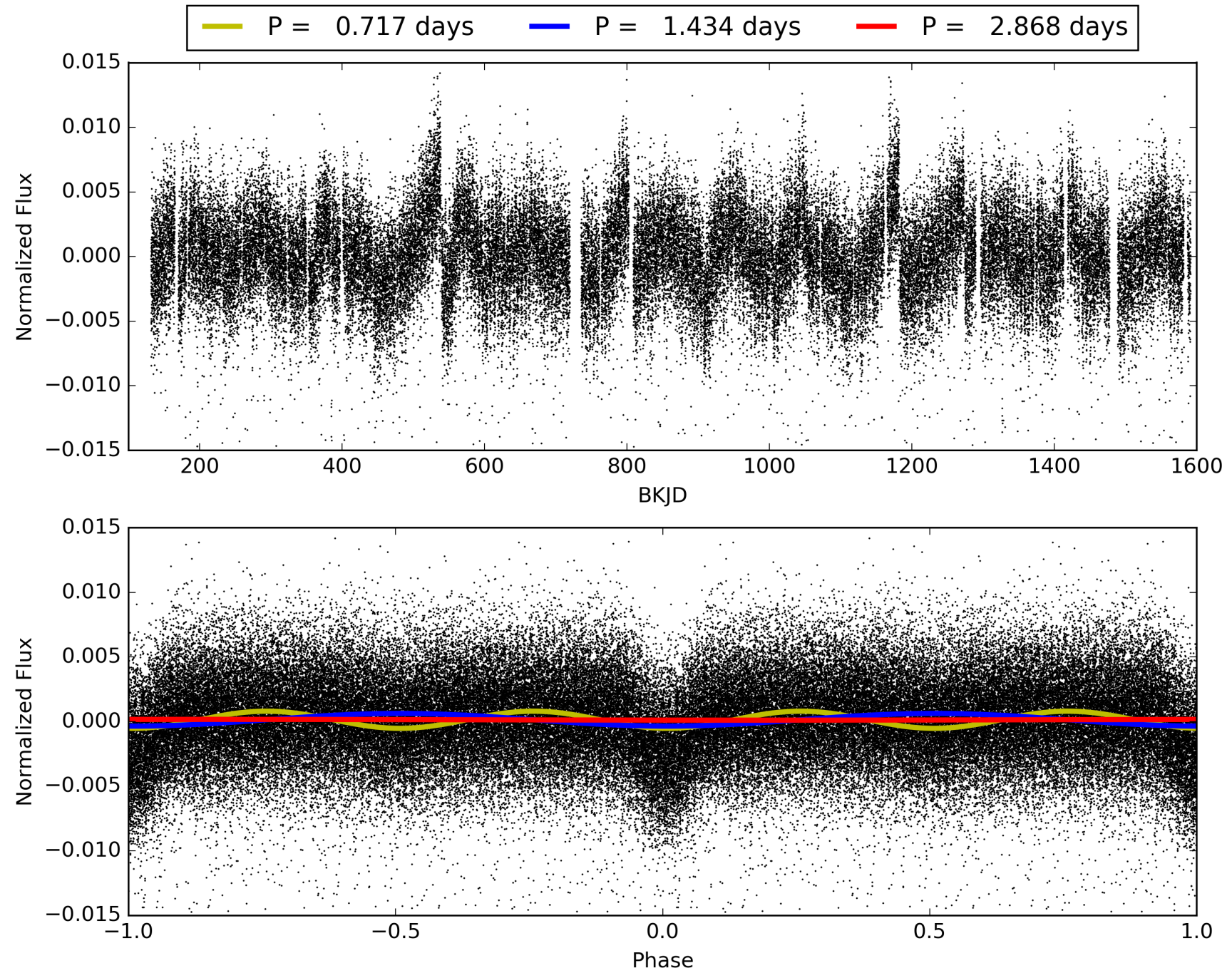
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 00:30:08 Z

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

TCE 004150611-05, PDC Light Curves

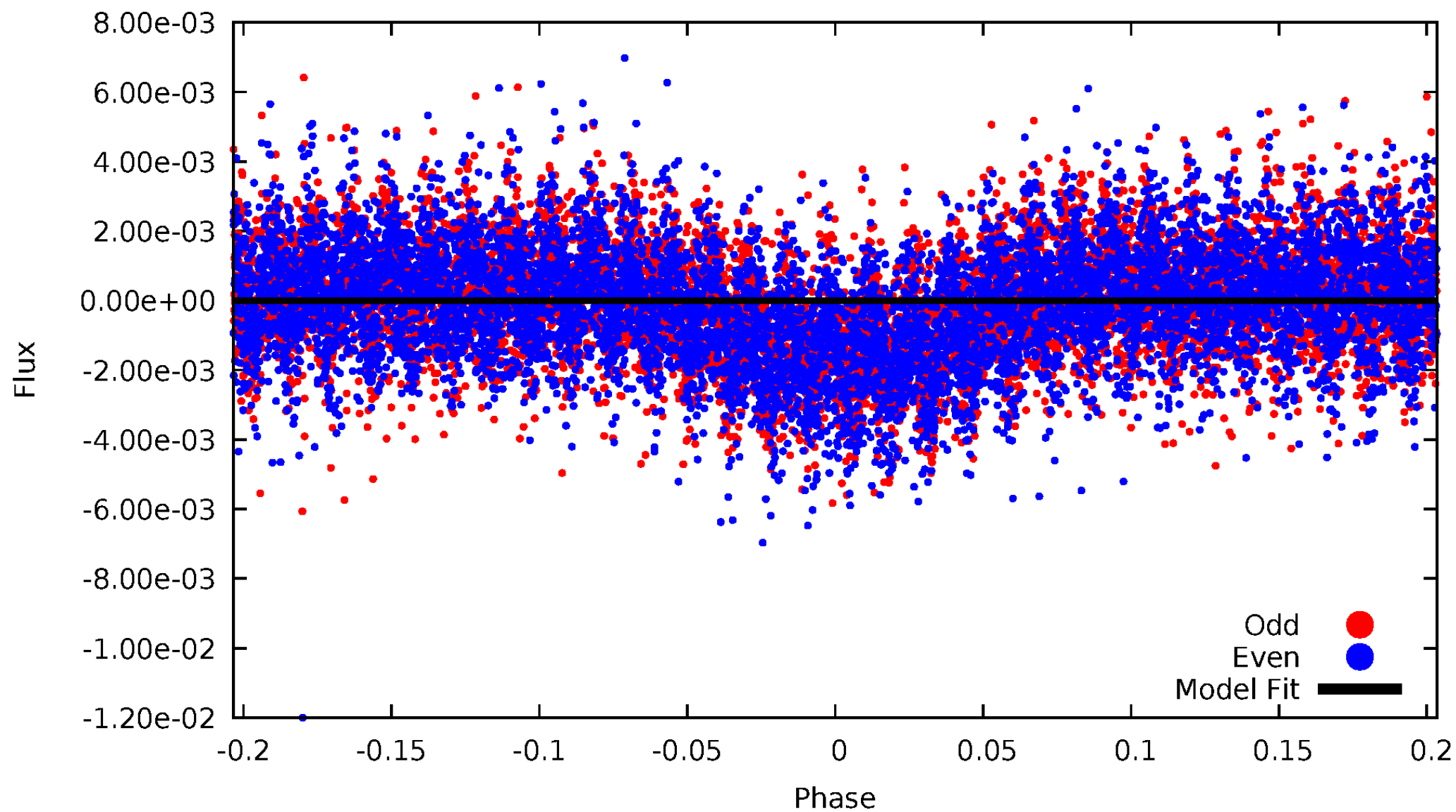


TCE 004150611-05



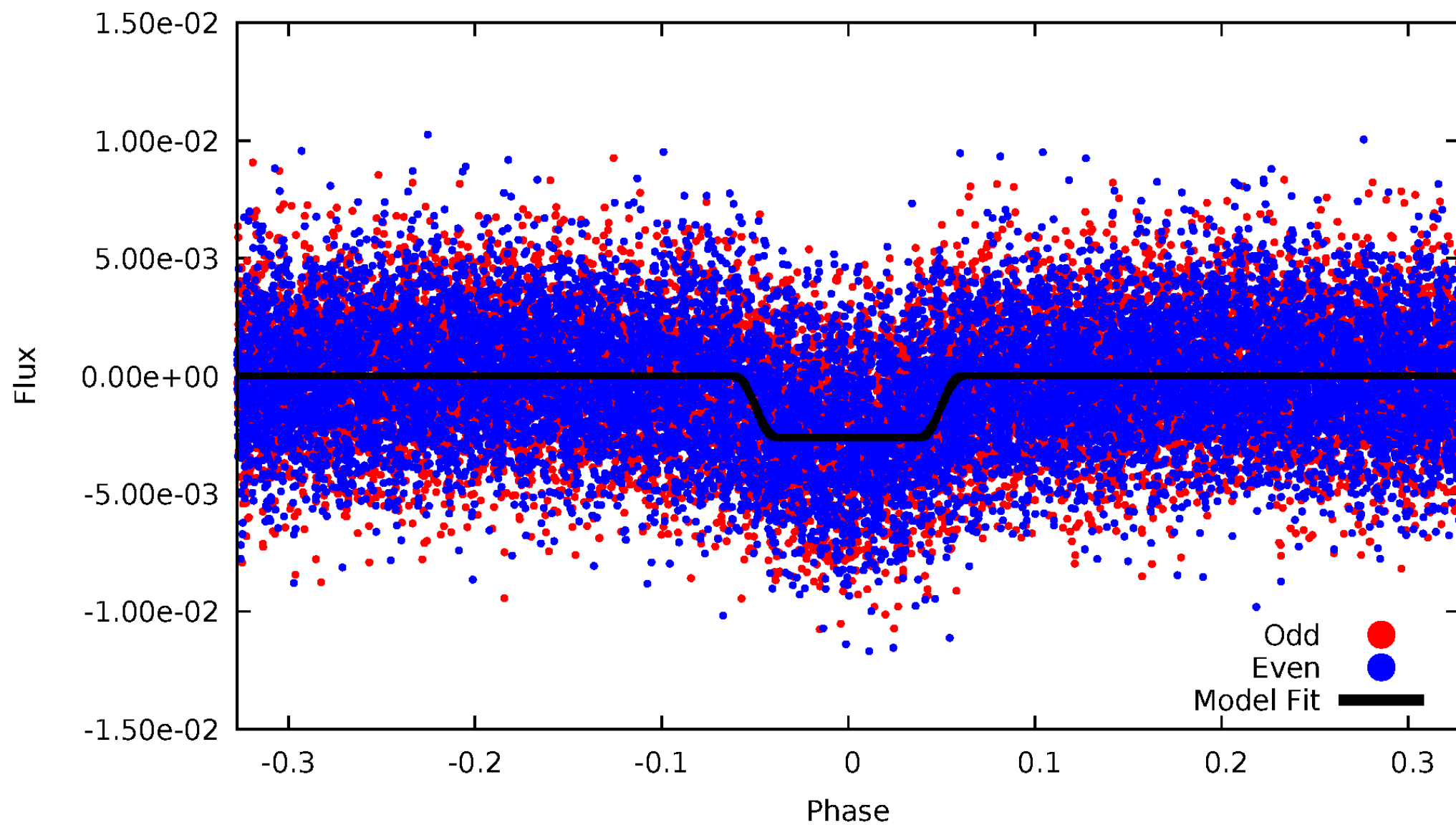
DV Odd/Even

TCE 004150611-05

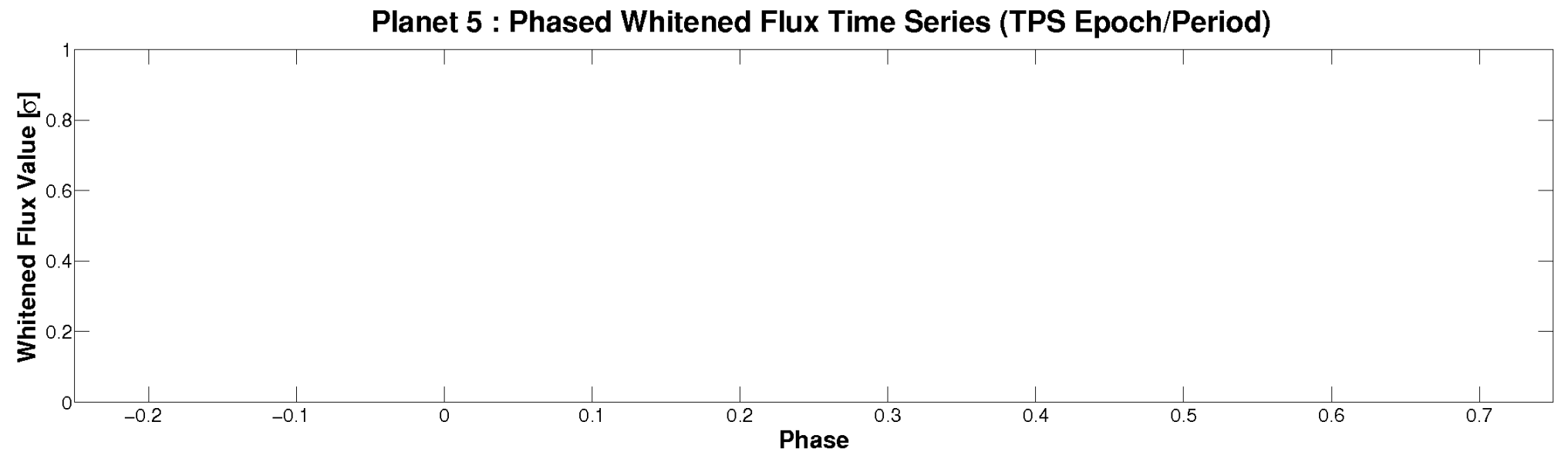
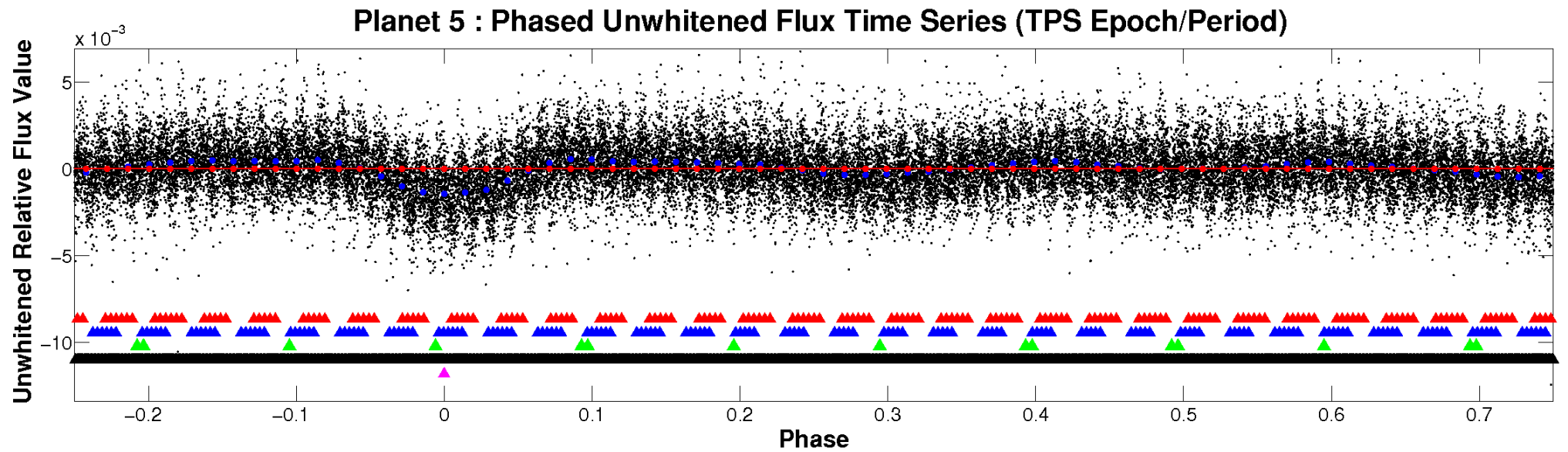


ALT Odd/Even

TCE 004150611-05

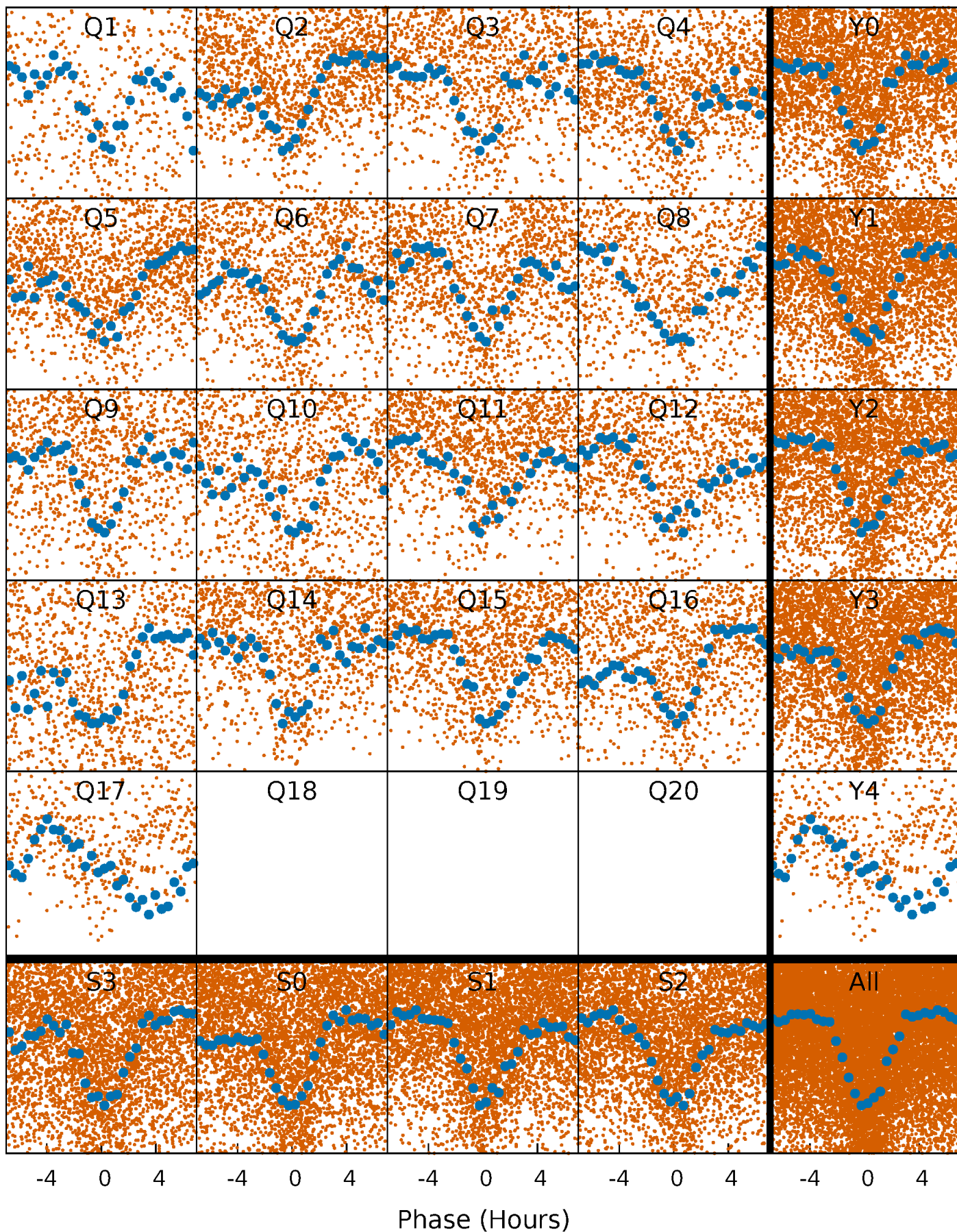


Non-Whitened Vs. Whitened Light Curve



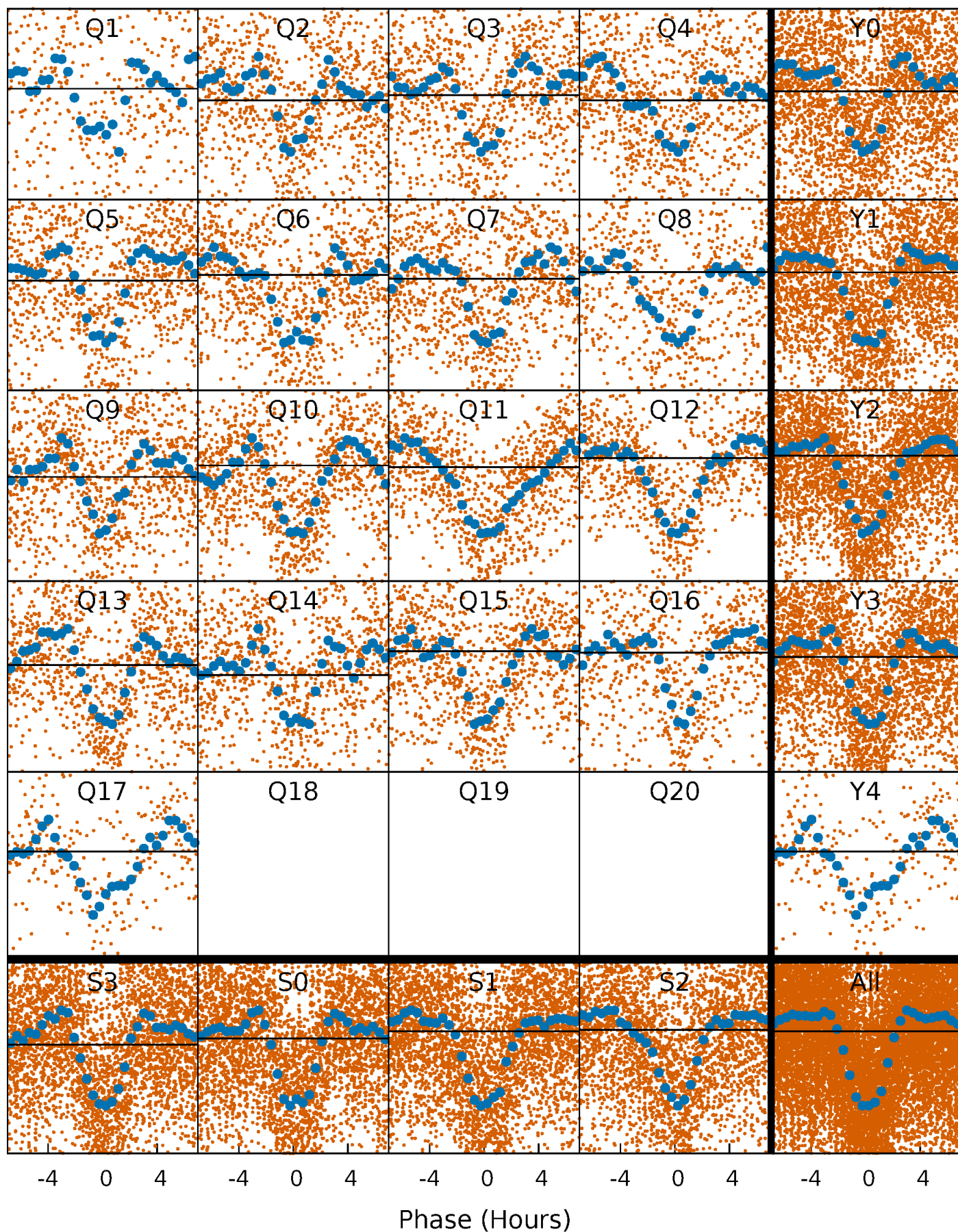
PDC Quarter-Phased Transit Curves

TCE 004150611-05 P= 1.434192 Days $T_0=132.062700$ (BKJD)



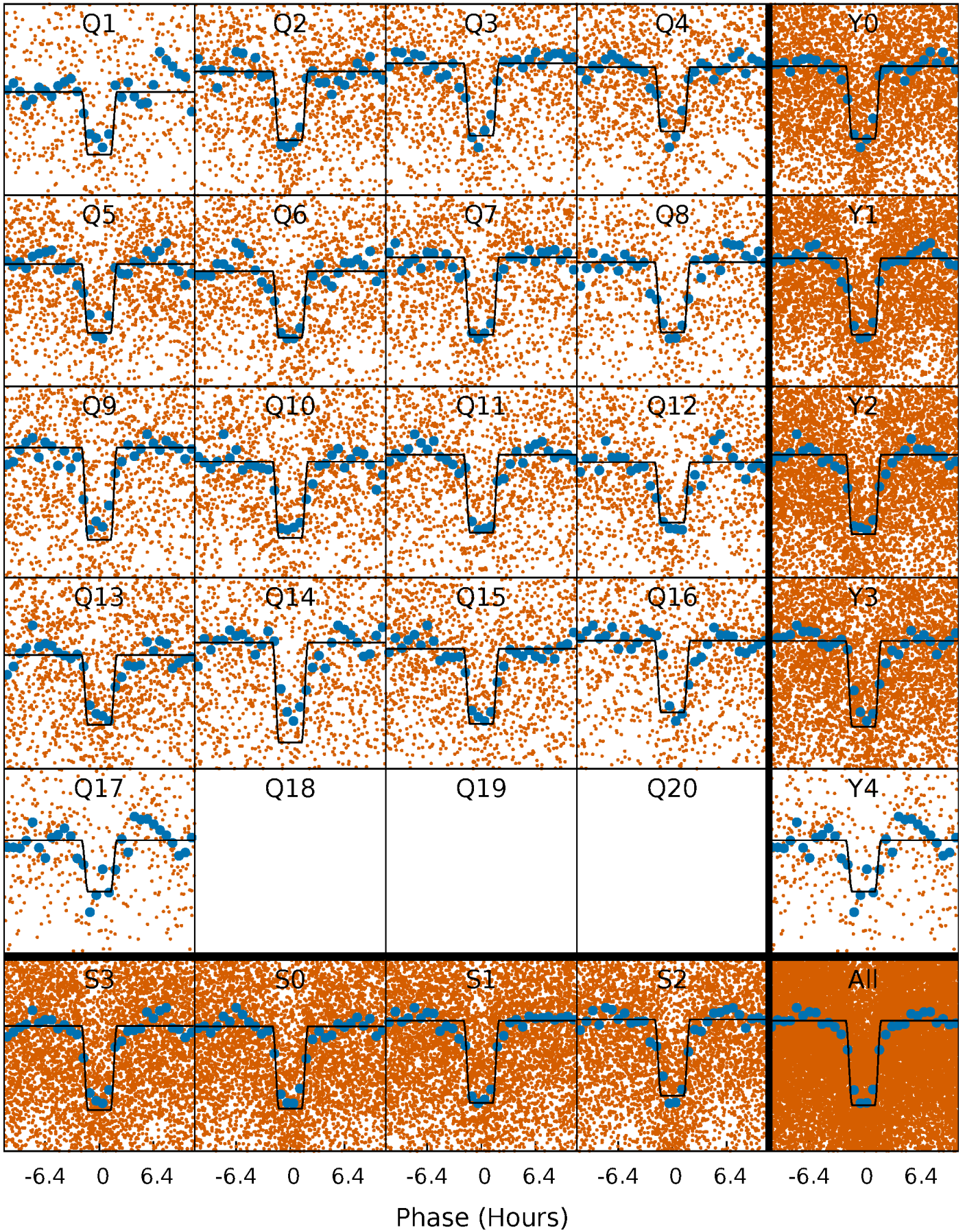
DV Quarter-Phased Transit Curves

TCE 004150611-05 P= 1.434192 Days $T_0=132.062700$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

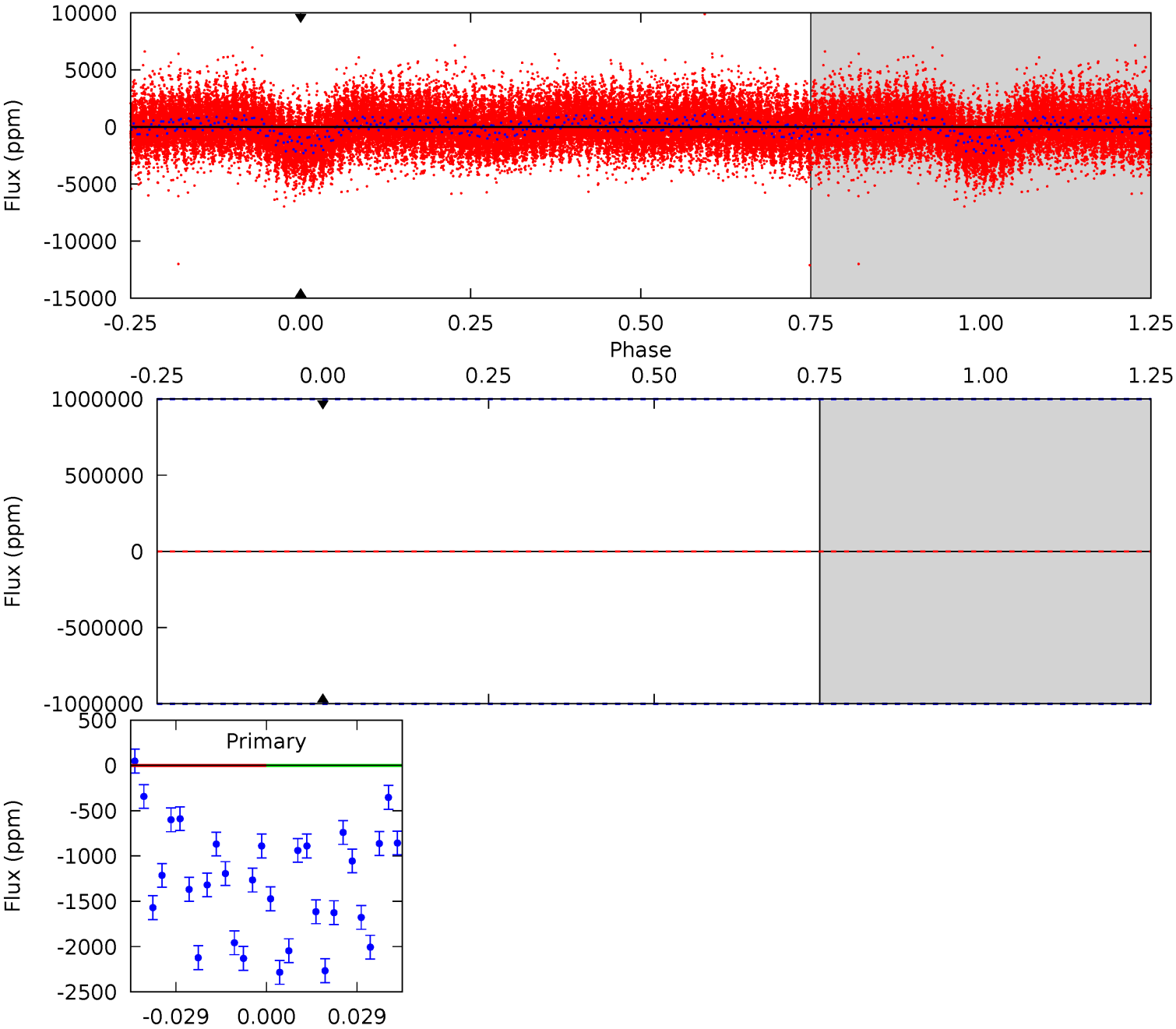
TCE 004150611-05 $P = 1.434192$ Days $T_0 = 132.068674$ (BKJD)



DV Model-Shift Uniqueness Test

004150611-05, P = 1.434192 Days, E = 130.628508 Days

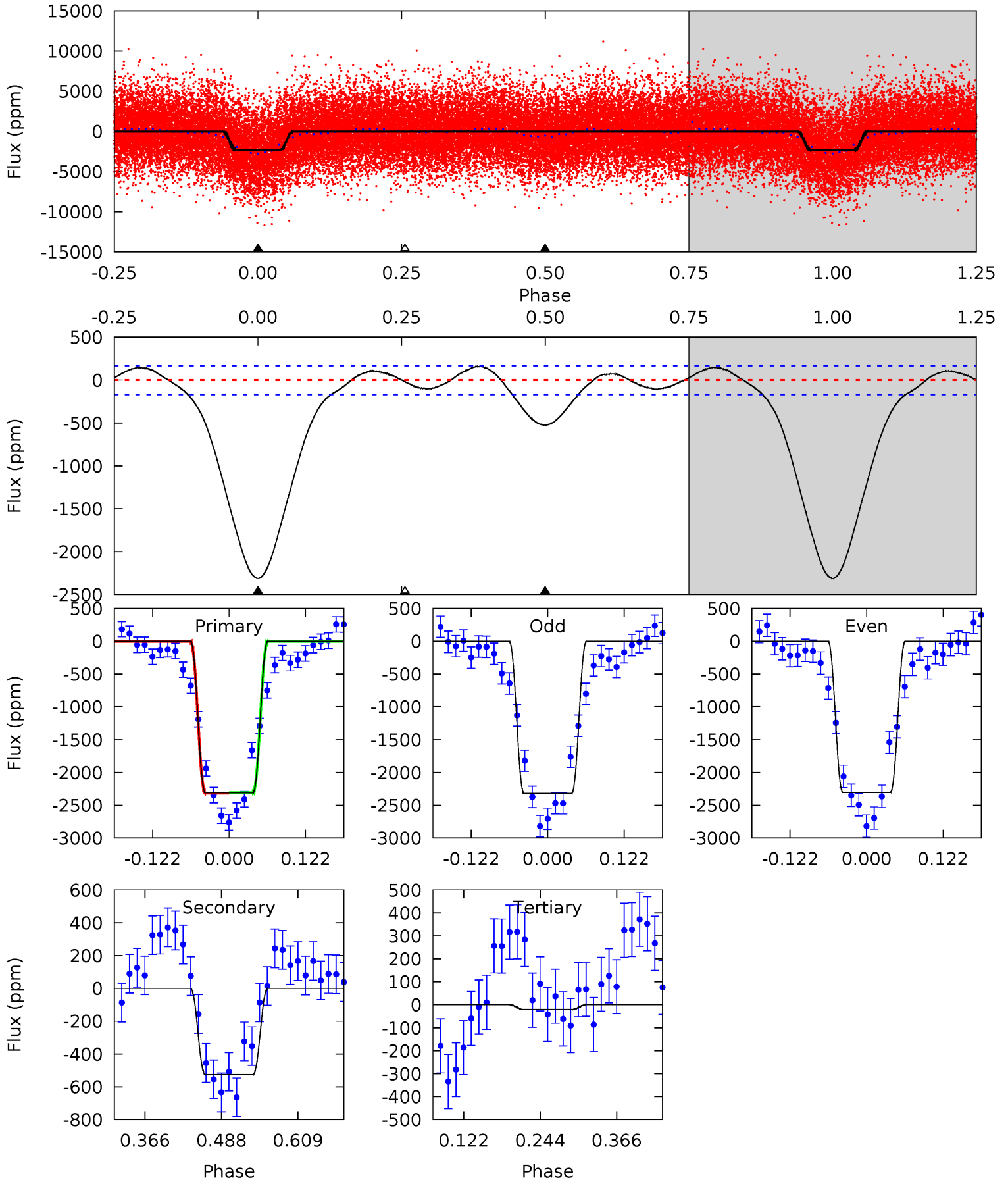
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

004150611-05, P = 1.434192 Days, E = 130.634482 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.0	14.1	0.55	0	4.52	1.55	2.29	61.4	62.0	13.6	14.1	0.20	0.98	0.06	0.12



Stellar Parameters For KIC 004150611

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6911^{+194}_{-242}	$4.038^{+0.406}_{-0.145}$	$-1.540^{+0.300}_{-0.250}$	$1.501^{+0.371}_{-0.603}$	$0.897^{+0.069}_{-0.063}$	$0.373^{+1.169}_{-0.168}$
	+3%/-4%	+10%/-4%	+19%/-16%	+25%/-40%	+8%/-7%	+313%/-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 004150611-05 / KOI 3156.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$11.05^{+11.79}_{-7.71}$	3320^{+260}_{-397}	5139^{+28285}_{-37092}	$3.618^{+519.826}_{-450.915}$
Alt.	-526 ± 37	$14.81^{+13.98}_{-10.11}$	3319^{+246}_{-391}	3411^{+2417}_{-6196}	$0.768^{+6.491}_{-0.566}$

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 $A_{obs} \gg 1.0$

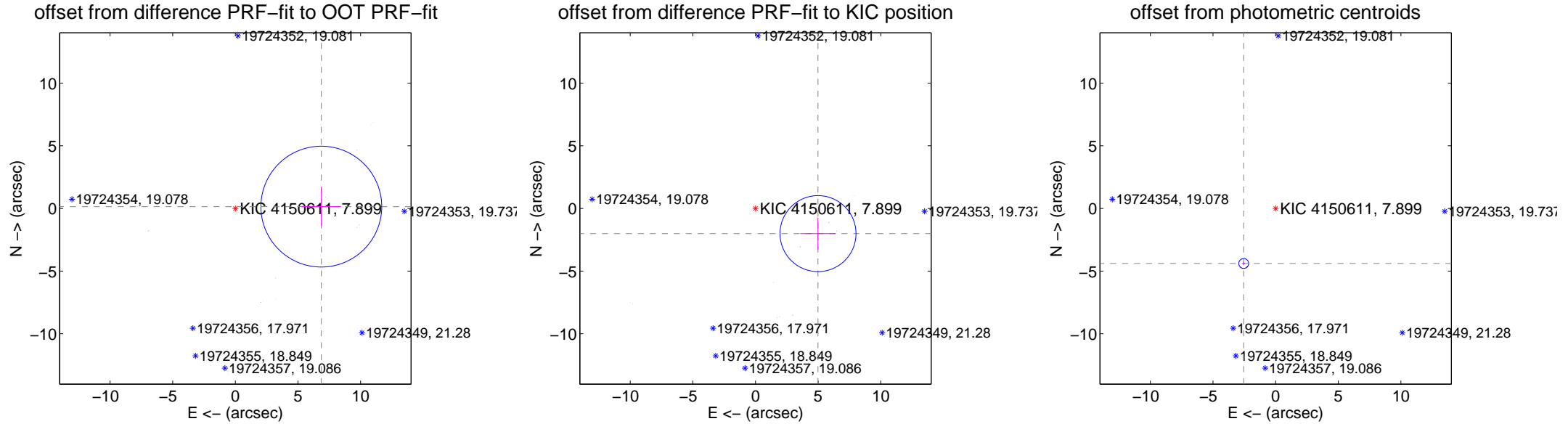
DV Centroid Data

Supplemental centroid analysis for 004150611-05. **Kepler magnitude: 7.90.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

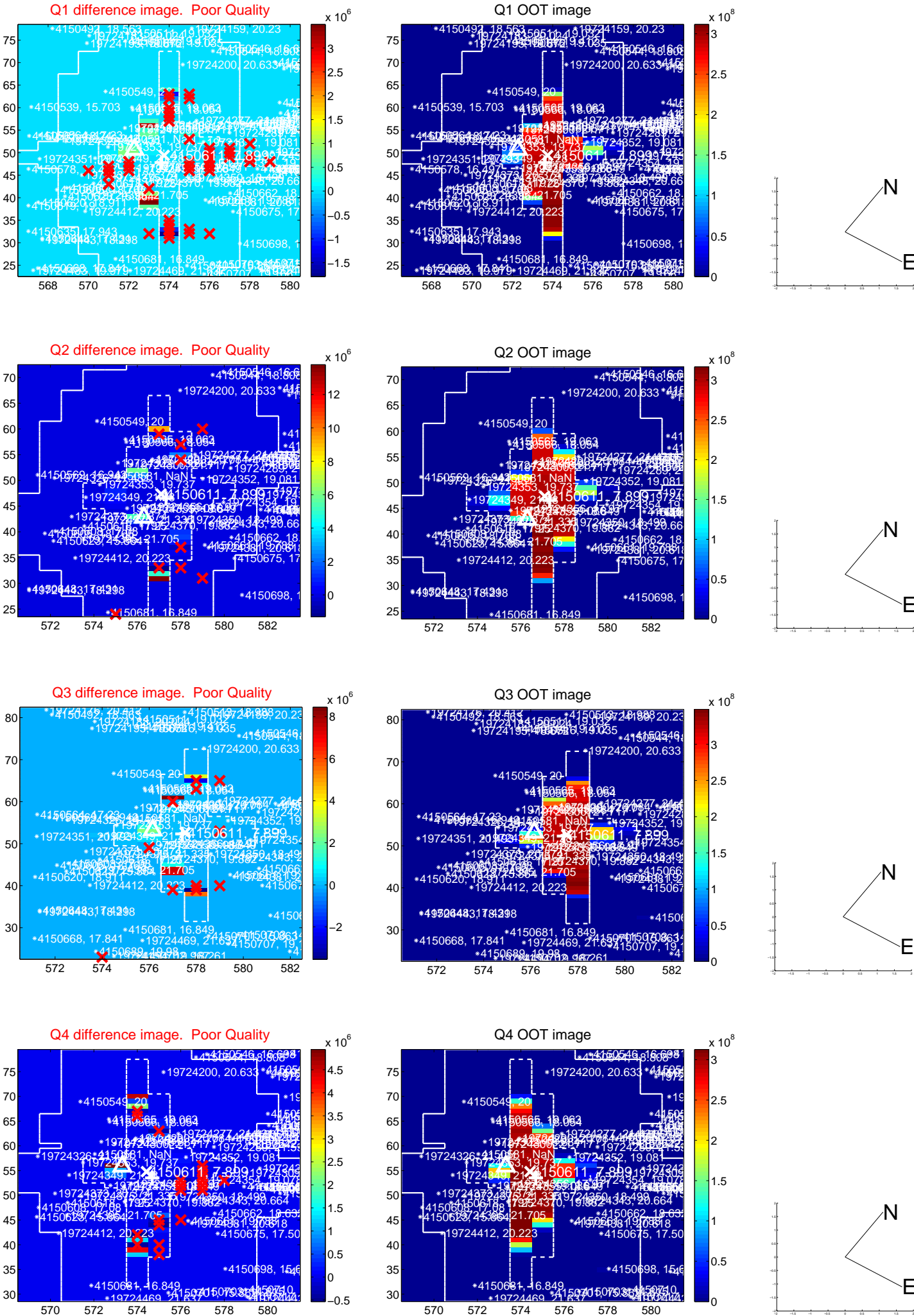
The OOT PRF centroid is offset from the target star catalog position by about 6.61 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.867 ± 1.608	4.27	-6.865 ± 1.584	0.145 ± 1.531
PRF-fit source offset from KIC position	5.382 ± 1.011	5.32	-4.992 ± 1.419	-2.010 ± 1.270
photometric centroid source offset	5.08 ± 0.13	38.80	2.55 ± 0.09	-4.39 ± 0.14

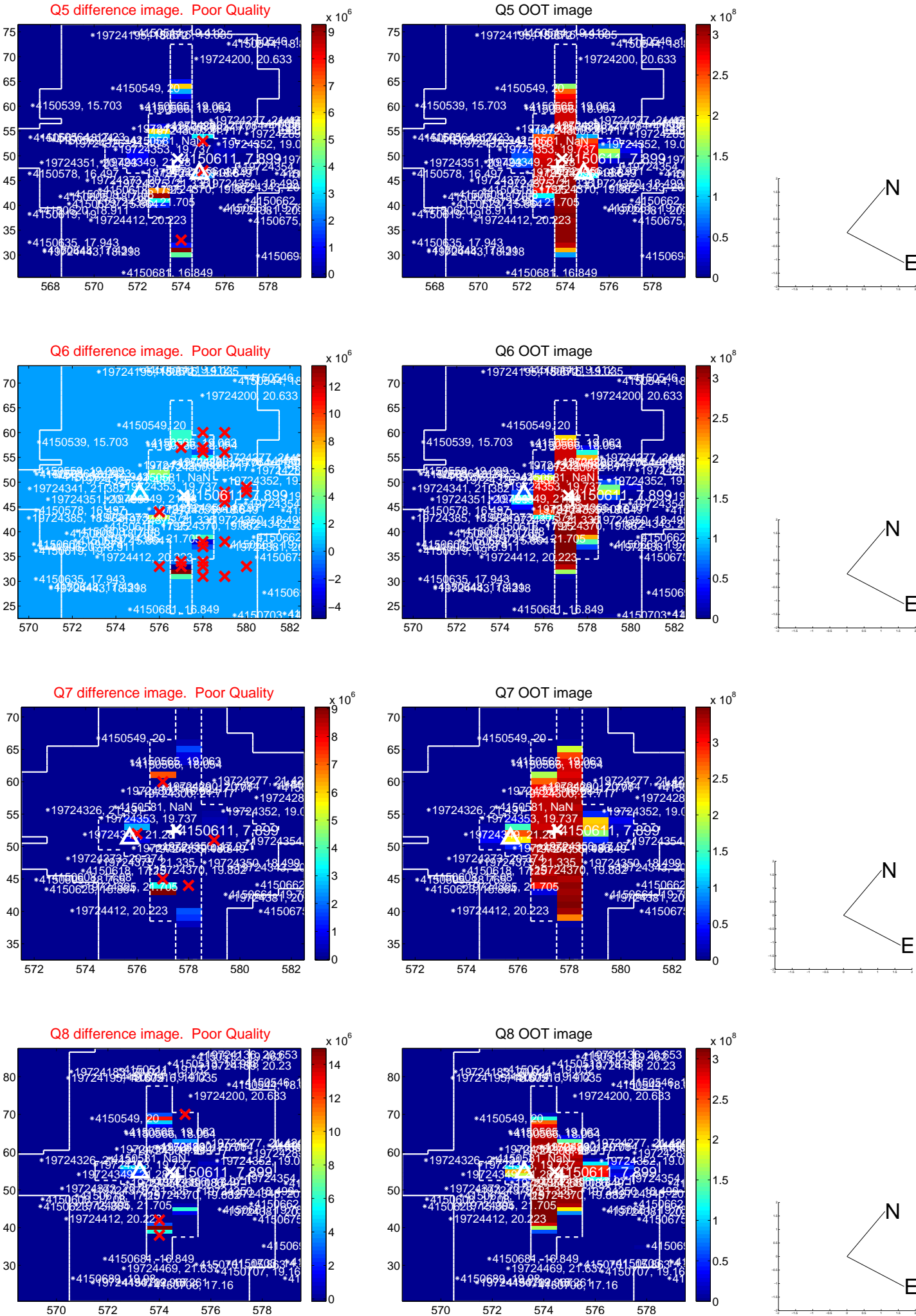


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

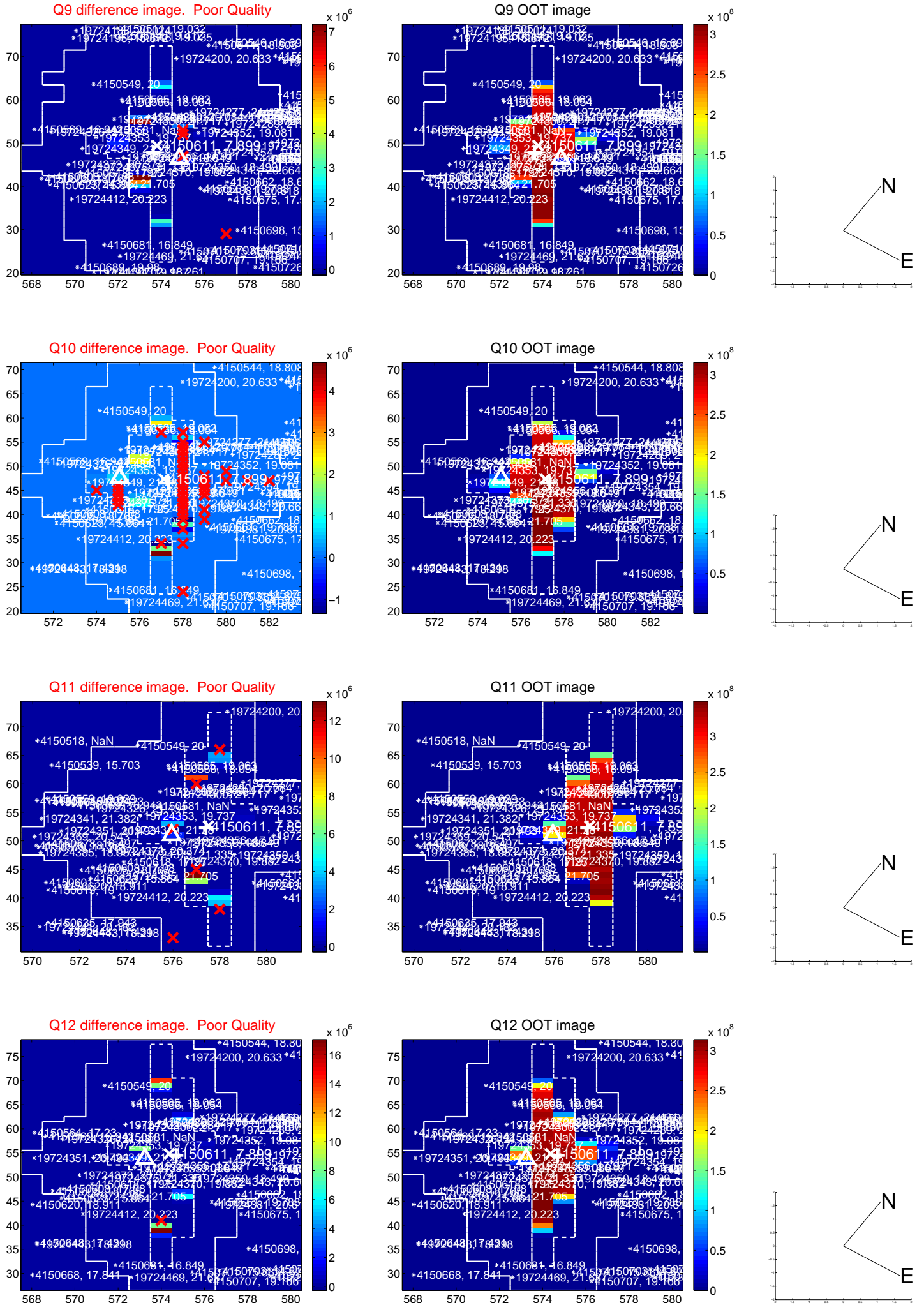
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



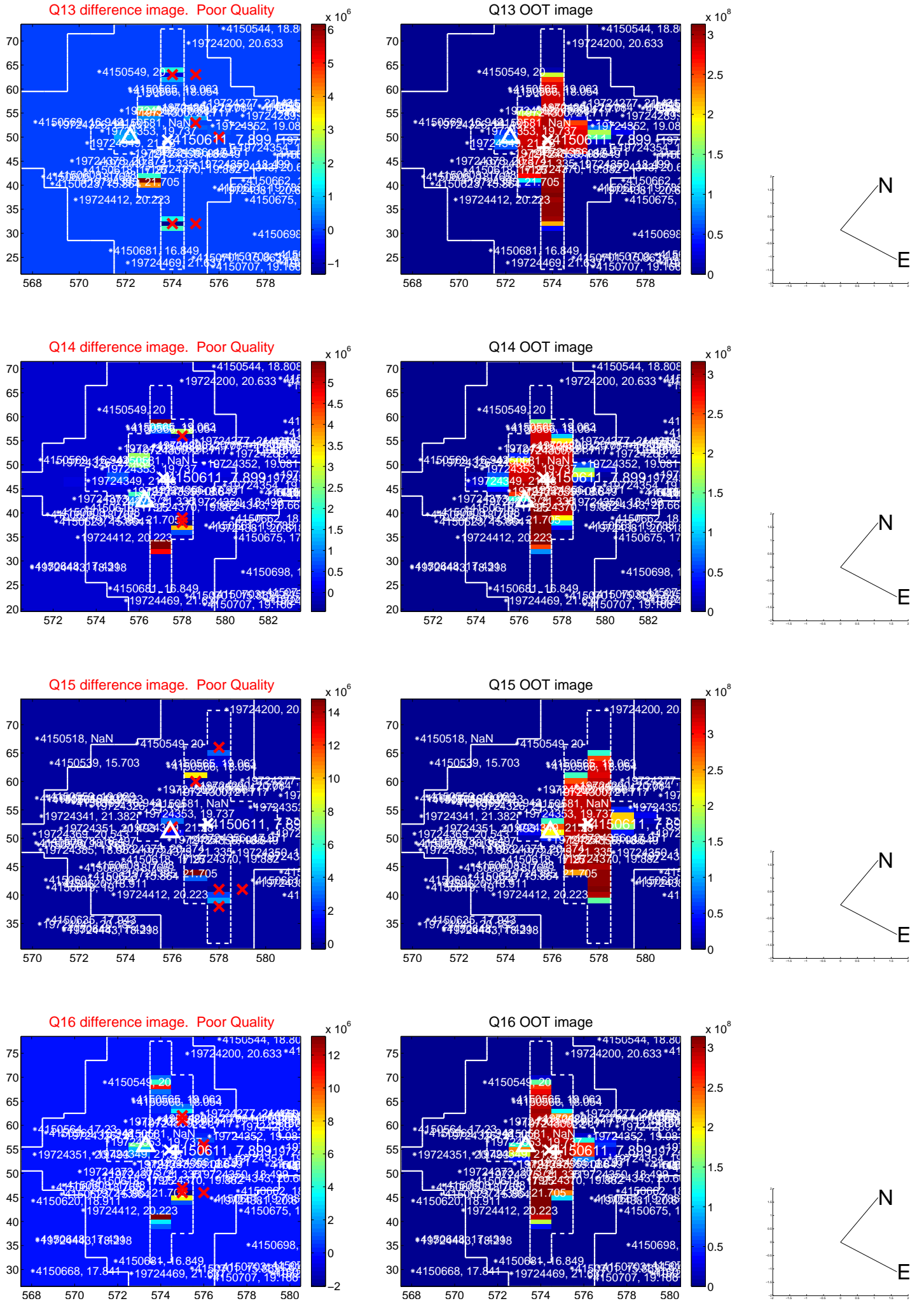
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



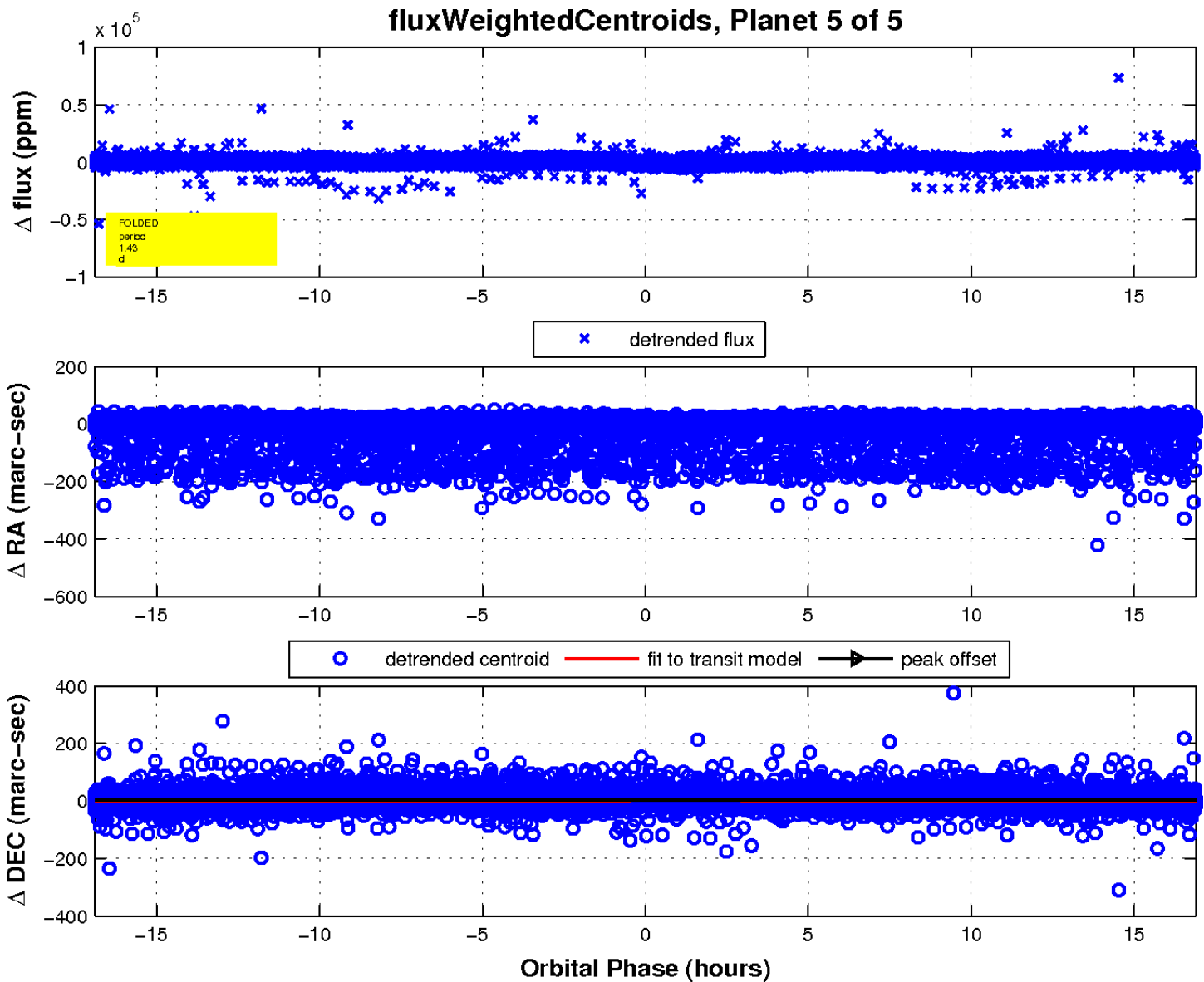
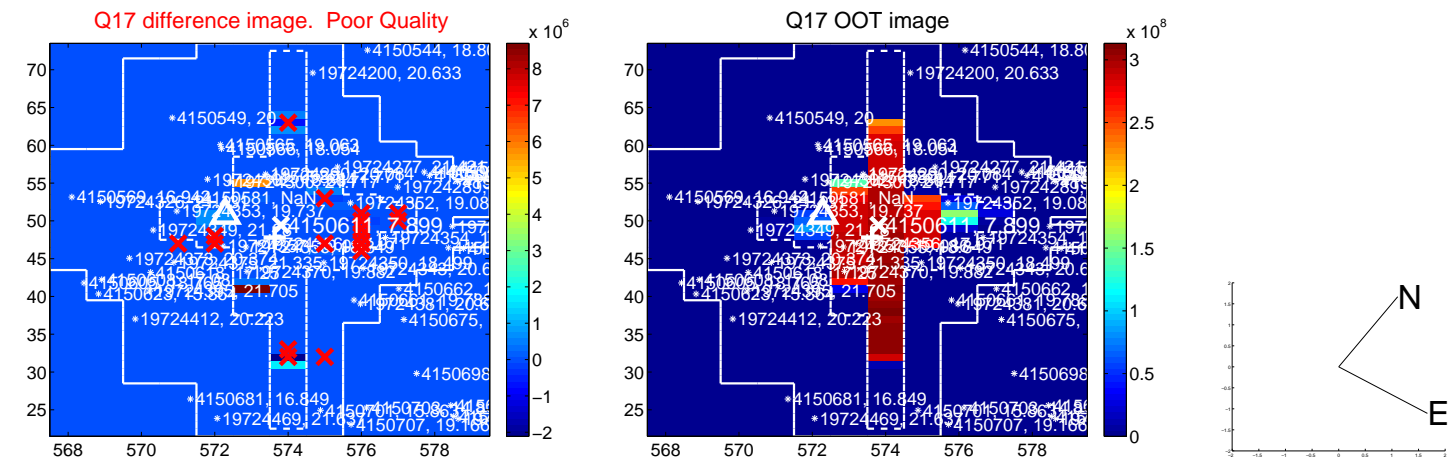
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

