

KIC 009592579

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})
009592579-01	OBS	0243.01	2.637573	131.575476	4574.3	5.705	553.5	299.5	1.03	6108	12.79	872.52
009592579-02	OBS	No	339.029310	377.532529	685.3	16.542	10.3	5.9	1.03	6108	2.82	1.34
009592579-03	OBS	No	189.596028	159.880133	501.9	18.832	12.3	5.2	1.03	6108	2.70	2.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009592579-01	OBS	FP	0.00	0	1	1	1	MOD_ODDEVEN_DV—DEEP_V_SHAPED—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_RESOLVED_OFFSET—EPHEM_MATCH
009592579-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009592579-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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 009592579-01

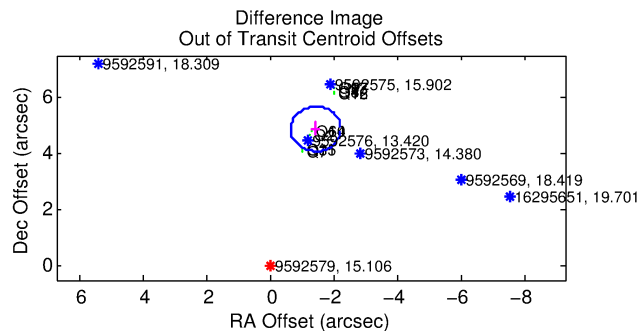
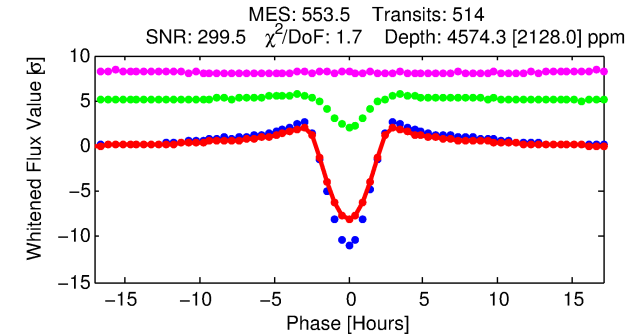
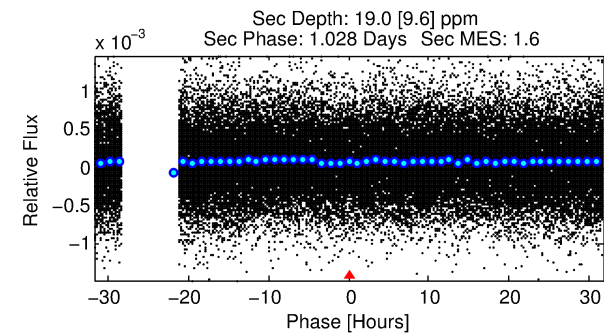
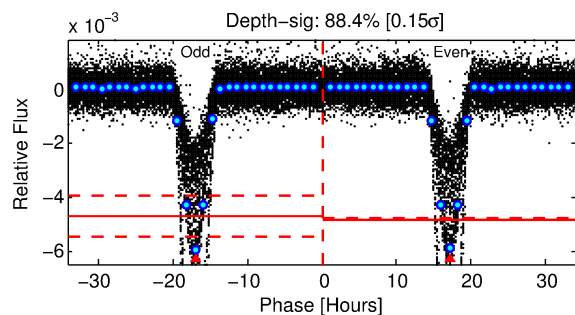
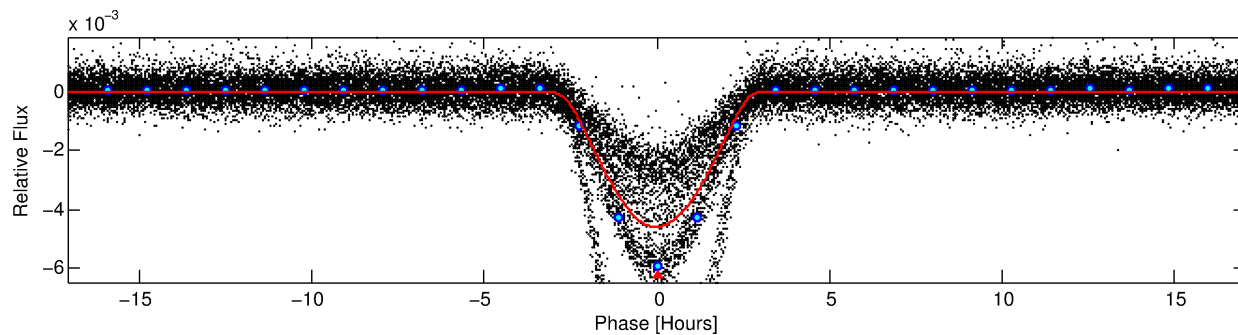
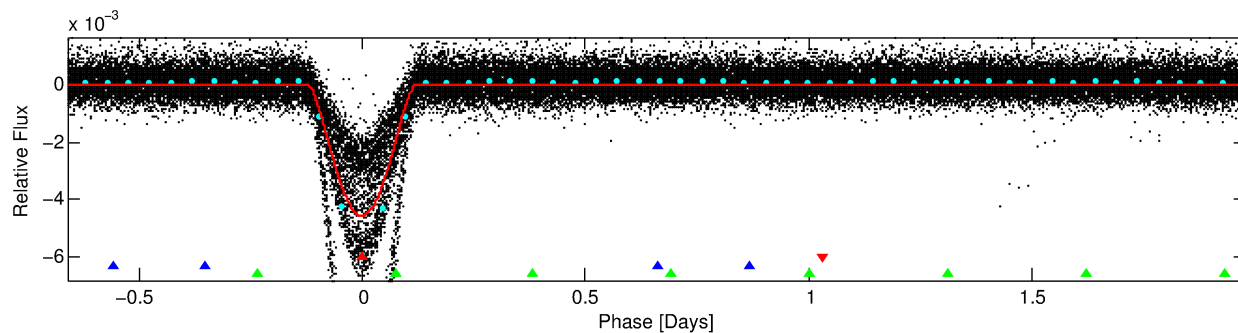
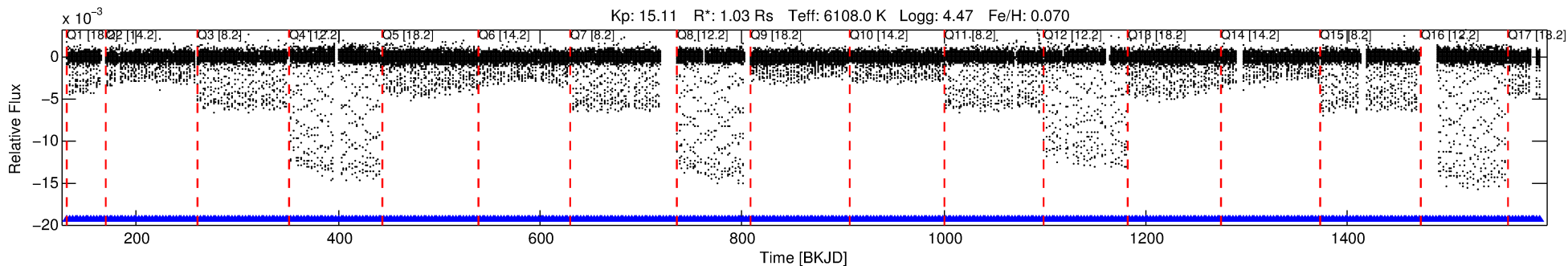
TCE (1)	KIC	Parent (2)	Parent KIC	P ₁ :P ₂	Dist (″)	Δ Row	Δ Col	m ₂	m ₁	D ₂ /D ₁	Mechanism	Flag	σ_P	σ_T
009592579-01	9592579	009592575-01	9592575	1:1	6.7	0	1	15.90	15.10	38.24	Direct-PRF	0	0.04	0.00

Notes: P₁:P₂ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m₂ and m₁ are the magnitudes of the parent and child. D₂/D₁ is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 9592579 Candidate: 1 of 3 Period: 2.638 d
KOI: K00243.01 Corr: 0.956

Kp: 15.11 R*: 1.03 Rs Teff: 6108.0 K Logg: 4.47 Fe/H: 0.070



DV Fit Results:

Period = 2.63757 [0.00000] d
Epoch = 131.5755 [0.0003] BKJD
Rp/R* = 0.1138 [0.0139]
a/R* = 2.02 [0.03]
b = 1.00 [0.02]
Seff = 872.52 [368.42]
Teq = 1386 [146] K
Rp = 12.79 [4.51] Re
a = 0.0389 [0.0107] AU
Ag = 0.10 [0.07] [-13.53σ]
Teff = 1196 [173] K [-0.84σ]

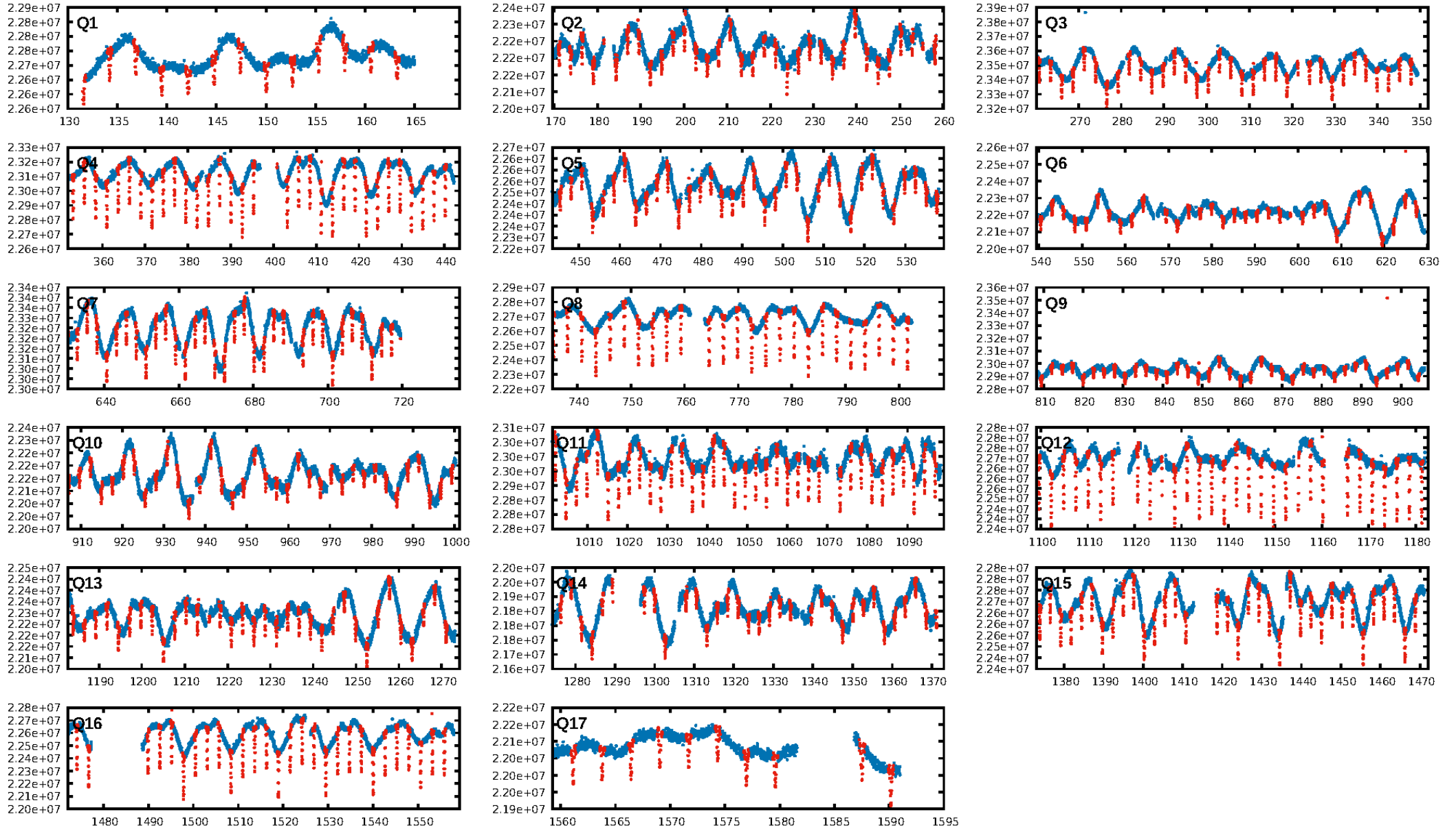
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [228.03σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [491/491]
GhostDiagnostic-chr: -0.4233
Centroid-sig: N/A
Centroid-so: 33.359 arcsec [995.14σ]
OotOffset-rm: 5.076 arcsec [19.23σ]
KicOffset-rm: 6.540 arcsec [97.57σ]
OotOffset-st: 4/4/5 [17]
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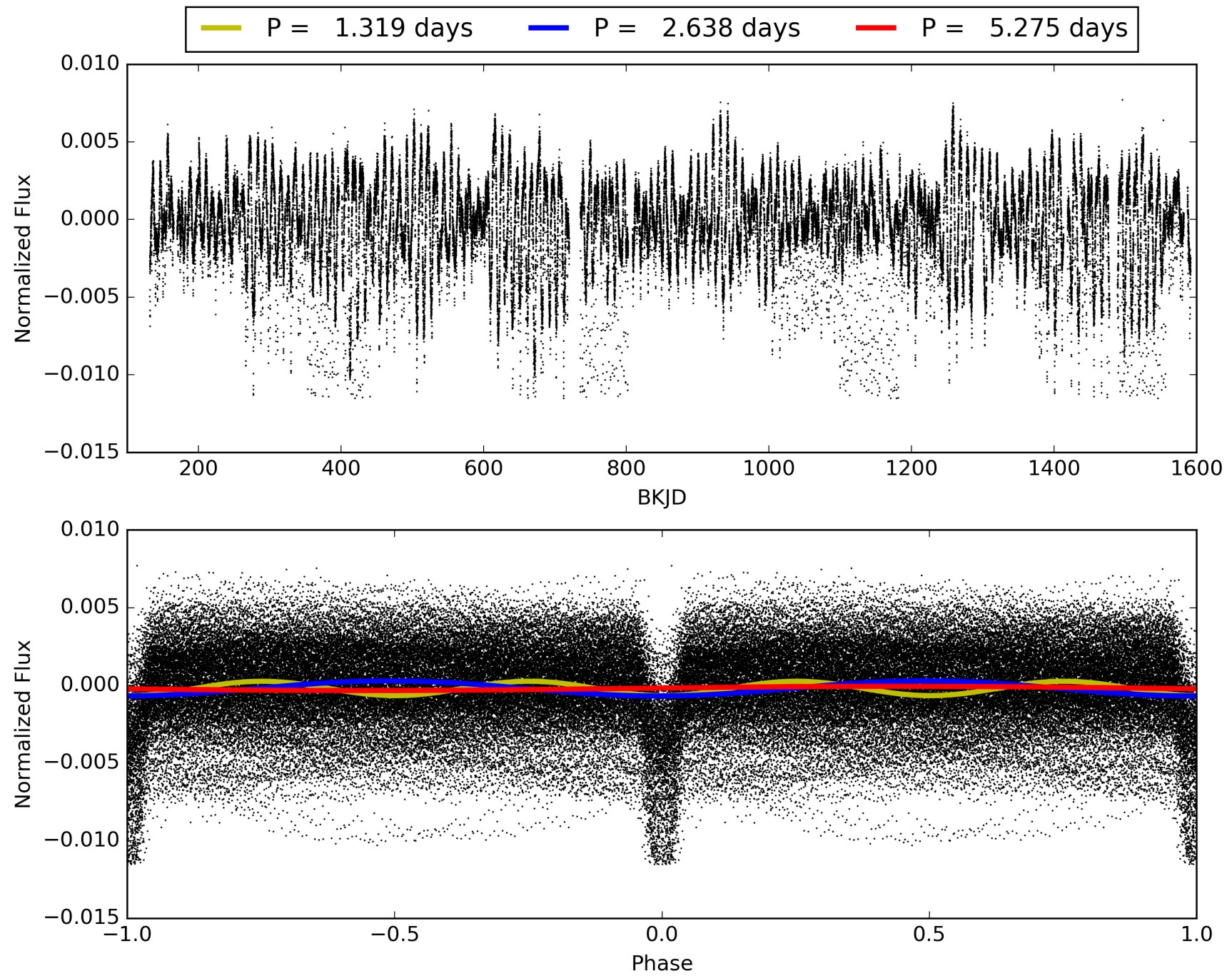
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009592579-01, PDC Light Curves

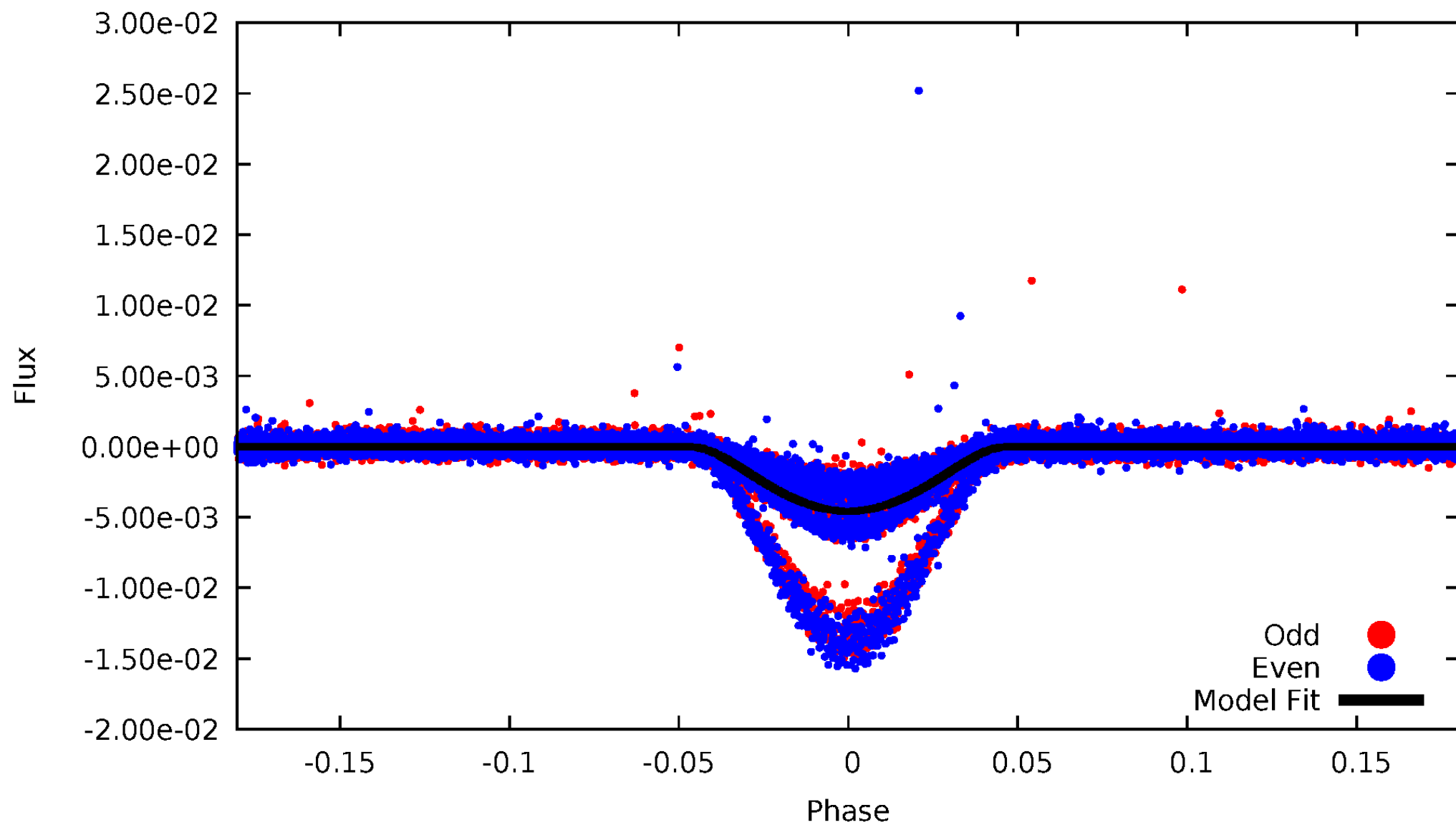


TCE 009592579-01



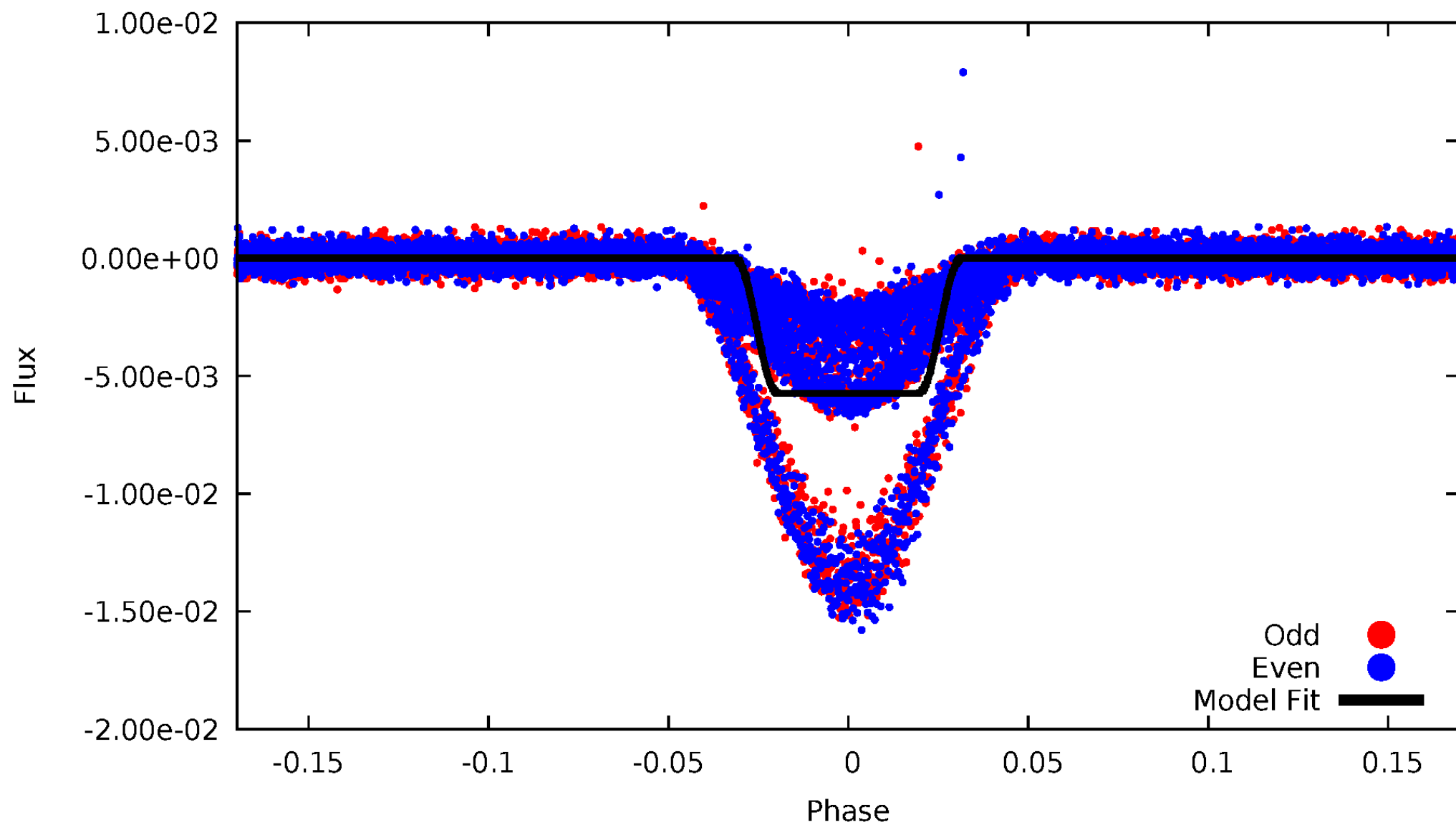
DV Odd/Even

TCE 009592579-01



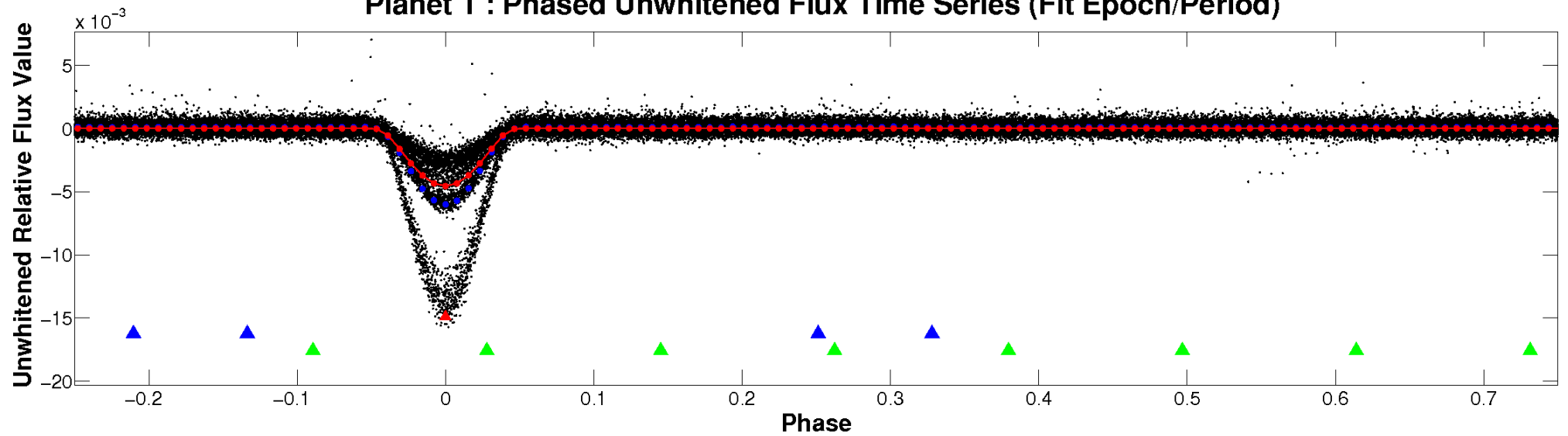
ALT Odd/Even

TCE 009592579-01

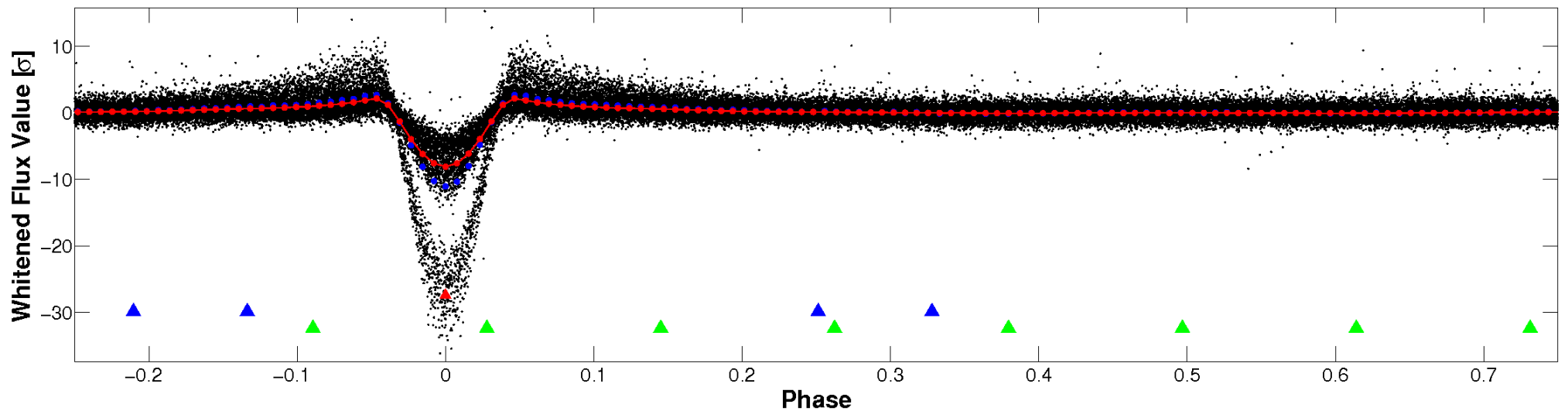


Non-Whitened Vs. Whitened Light Curve

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

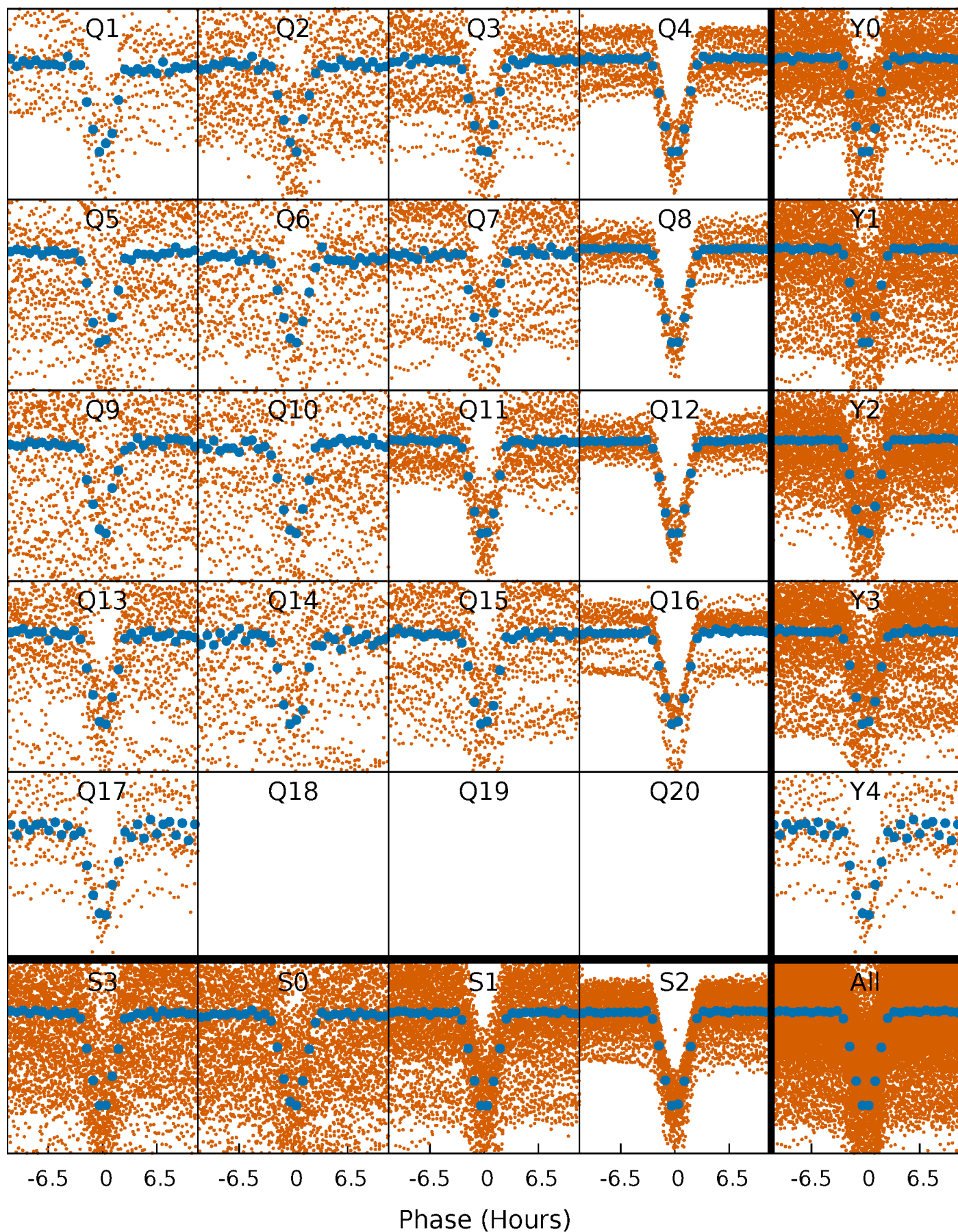


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



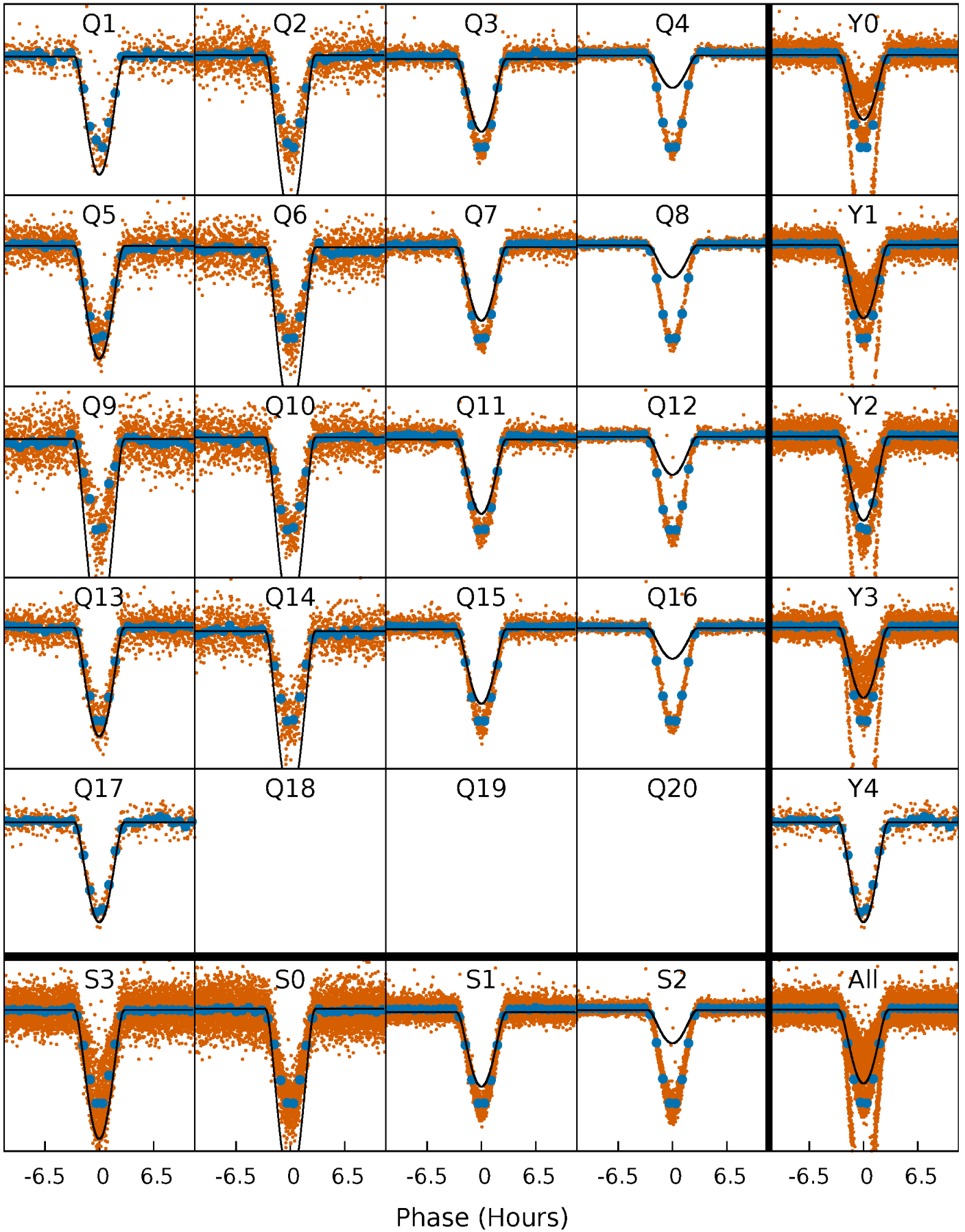
PDC Quarter-Phased Transit Curves

TCE 009592579-01 P= 2.637573 Days $T_0=131.575476$ (BKJD)



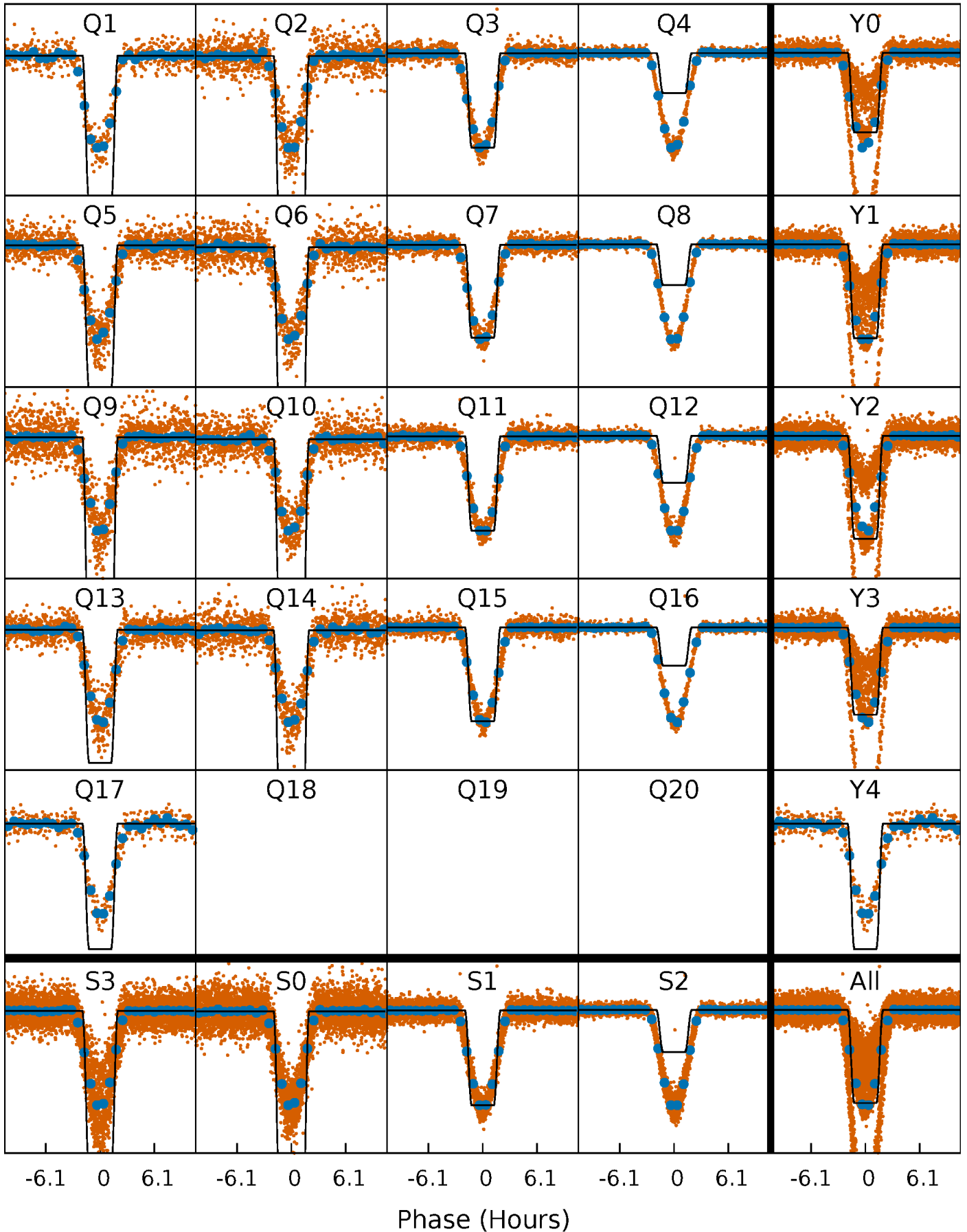
DV Quarter-Phased Transit Curves

TCE 009592579-01 P= 2.637573 Days $T_0=131.575476$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

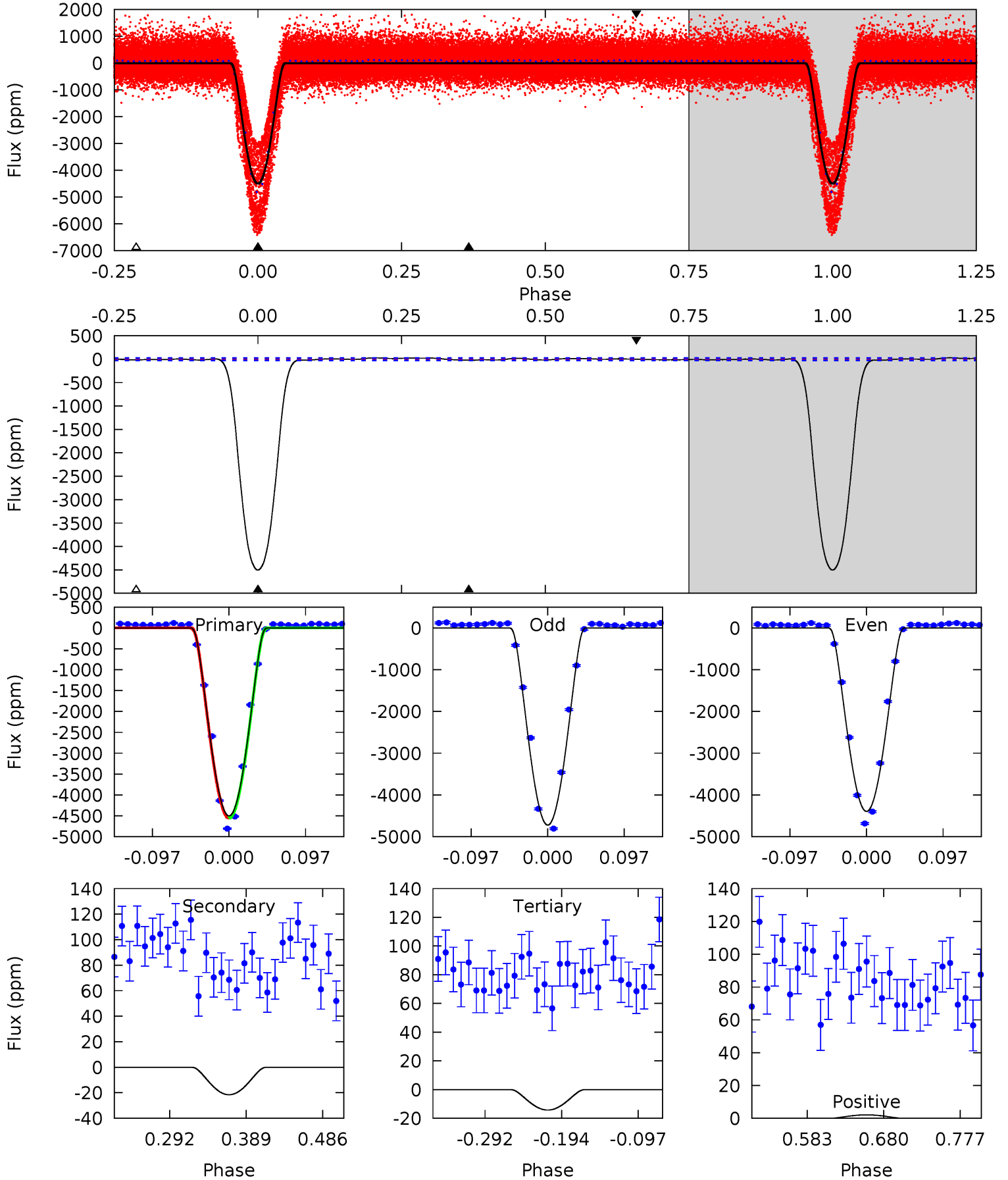
TCE 009592579-01 P= 2.637556 Days $T_0=131.580356$ (BKJD)



DV Model-Shift Uniqueness Test

009592579-01, P = 2.637573 Days, E = 128.937903 Days

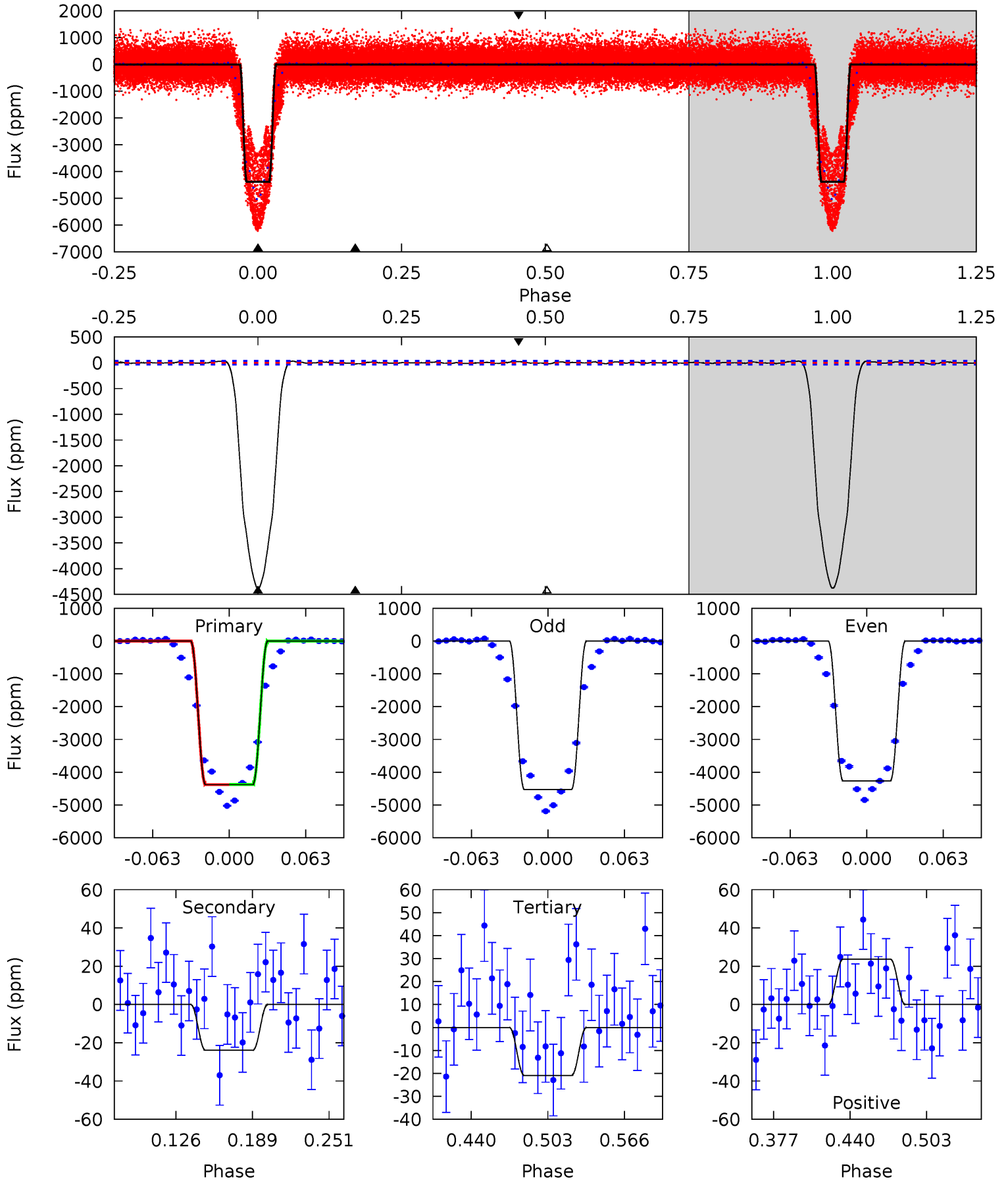
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
769.3	3.68	2.44	0.35	4.57	1.66	1.94	766.8	768.9	1.24	3.32	27.8	1.33	0.01	0.16



Alt Model-Shift Uniqueness Test

009592579-01, P = 2.637556 Days, E = 128.942800 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
564.5	3.08	2.69	3.06	4.66	1.86	1.20	561.8	561.5	0.39	0.03	16.4	1.29	0.01	0



Stellar Parameters For KIC 009592579

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6108^{+171}_{-214}	$4.466^{+0.054}_{-0.216}$	$0.070^{+0.250}_{-0.300}$	$1.030^{+0.341}_{-0.114}$	$1.132^{+0.135}_{-0.166}$	$1.457^{+0.324}_{-0.766}$
	+3%/-4%	+1%/-5%	+357%/-429%	+33%/-11%	+12%/-15%	+22%/-53%
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 009592579-01 / KOI 0243.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-22 ± 6	$13.36^{+2.33}_{-1.99}$	1979^{+159}_{-106}	-2364^{+100}_{-120}	$0.096^{+0.048}_{-0.035}$
Alt.	-24 ± 8	$8.82^{+2.08}_{-1.76}$	1972^{+146}_{-100}	-2062^{+4256}_{-278}	$0.242^{+0.163}_{-0.101}$

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 $A_{obs} \gg 1.0$

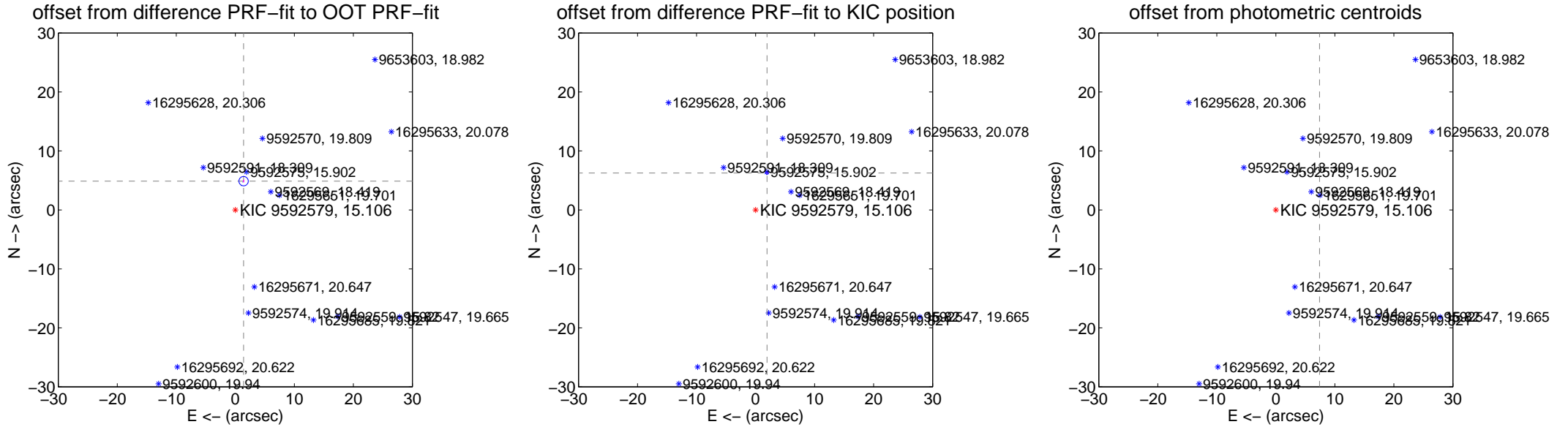
DV Centroid Data

Supplemental centroid analysis for 009592579-01. Kepler magnitude: 15.11. Transit SNR 299.54

There are 17 quarters with good PRF difference image offsets

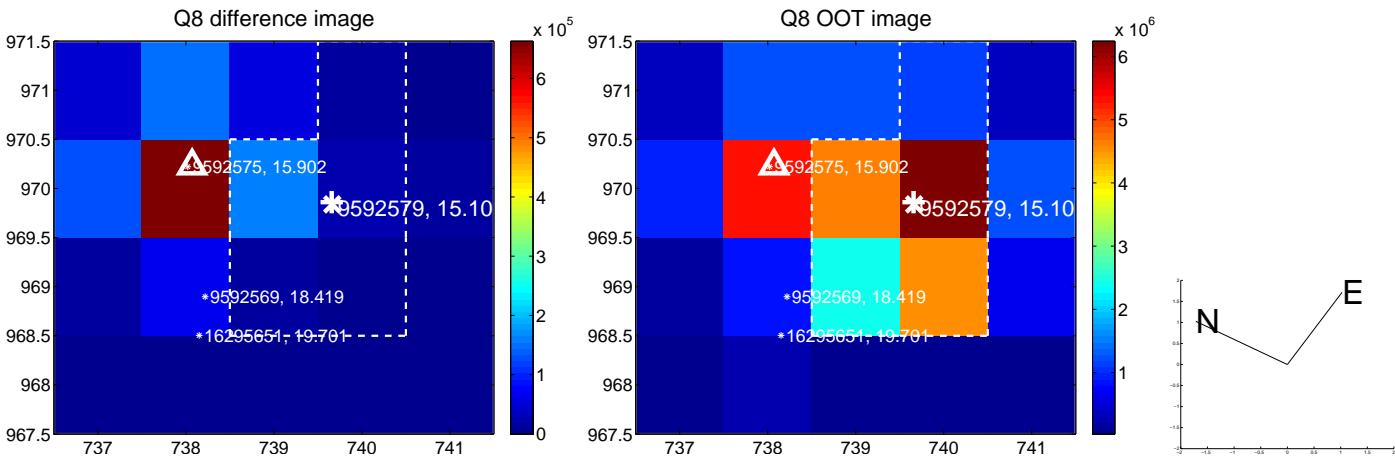
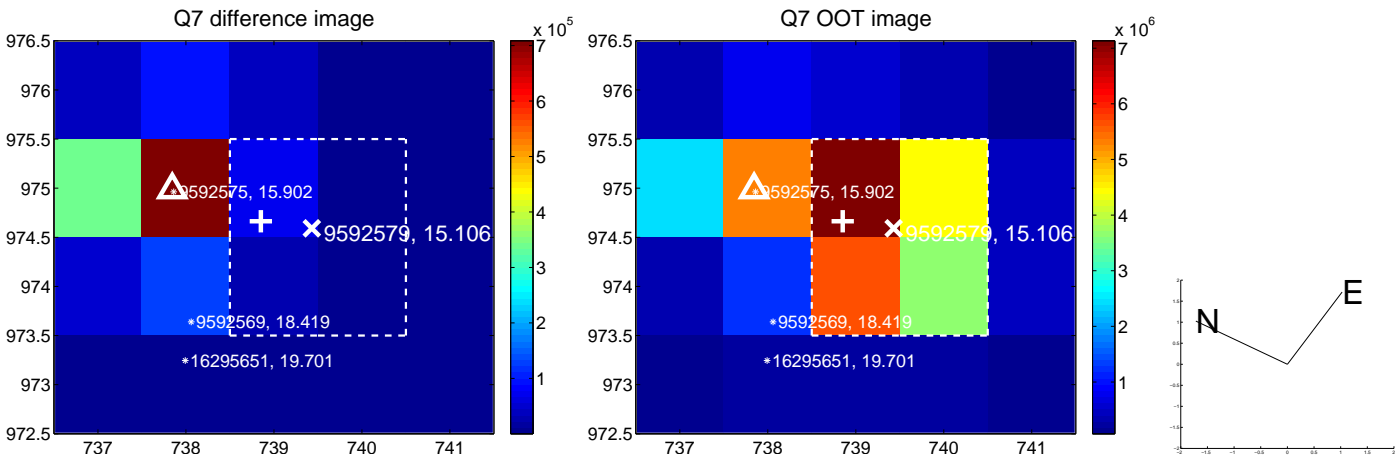
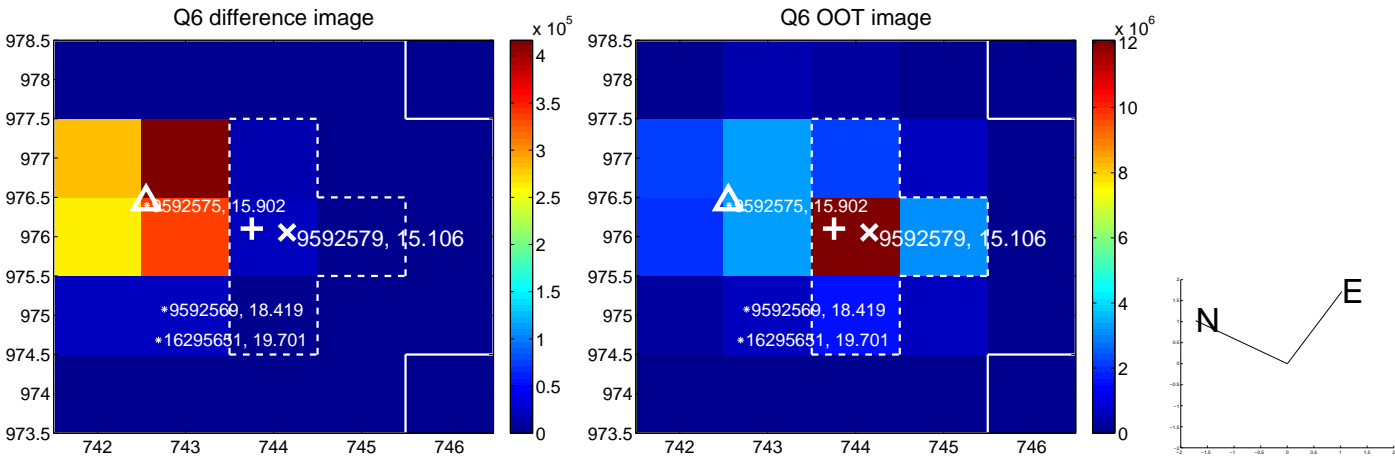
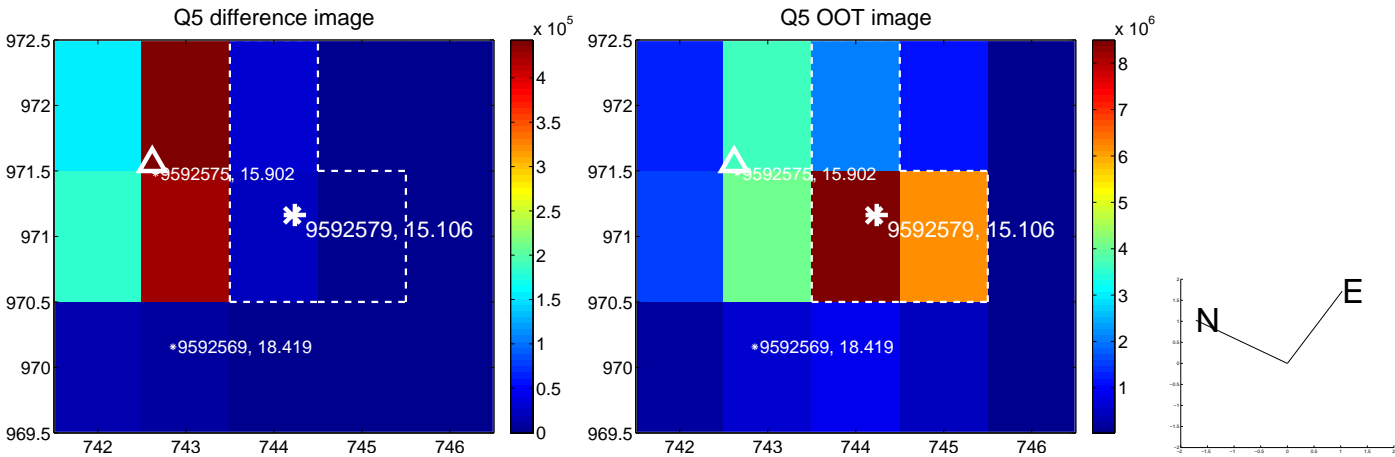
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.076 \pm 0.264	19.23	-1.402 \pm 0.129	4.879 \pm 0.243
PRF-fit source offset from KIC position	6.540 \pm 0.067	97.57	-1.931 \pm 0.067	6.248 \pm 0.067
photometric centroid source offset	33.36 \pm 0.03	995.13	-7.40 \pm 0.02	32.53 \pm 0.03

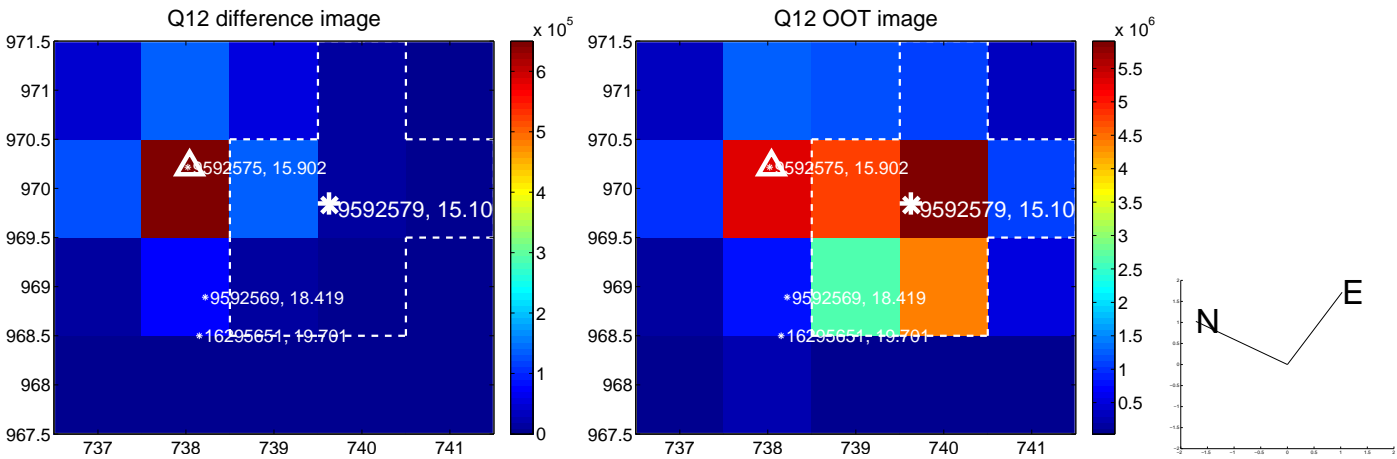
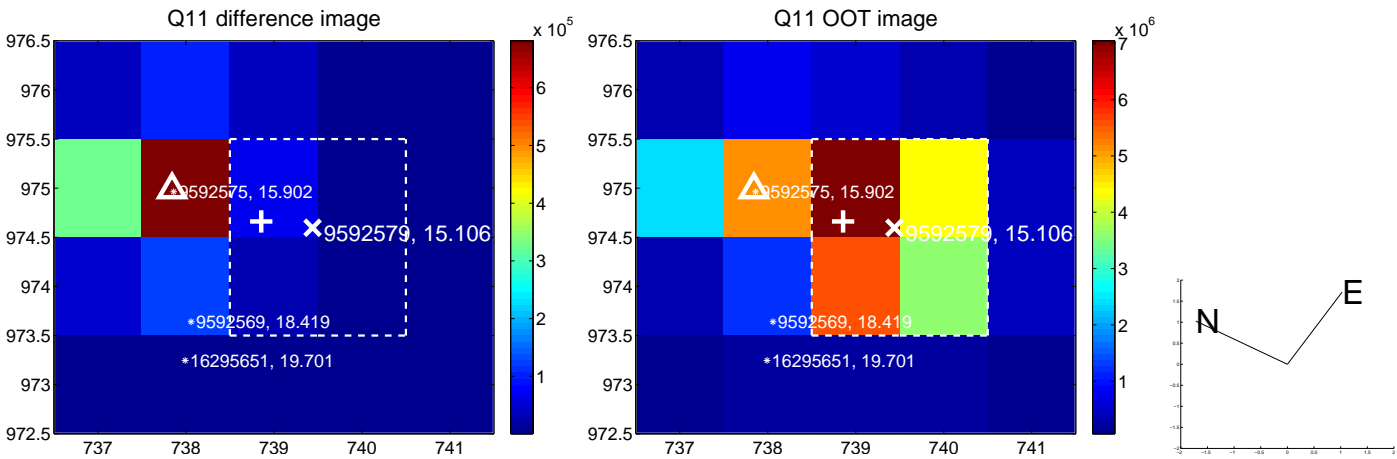
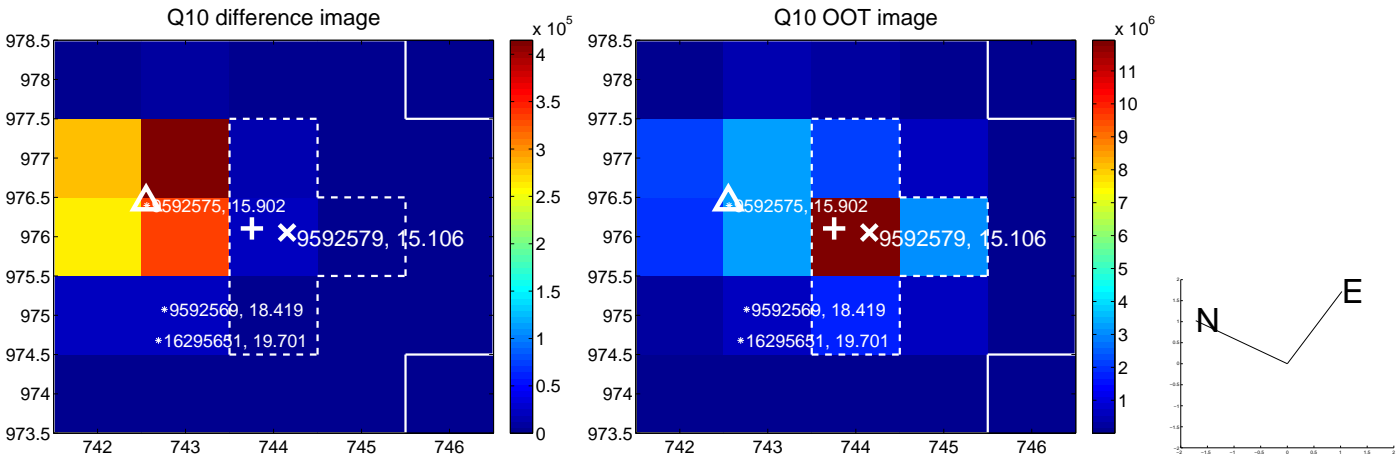
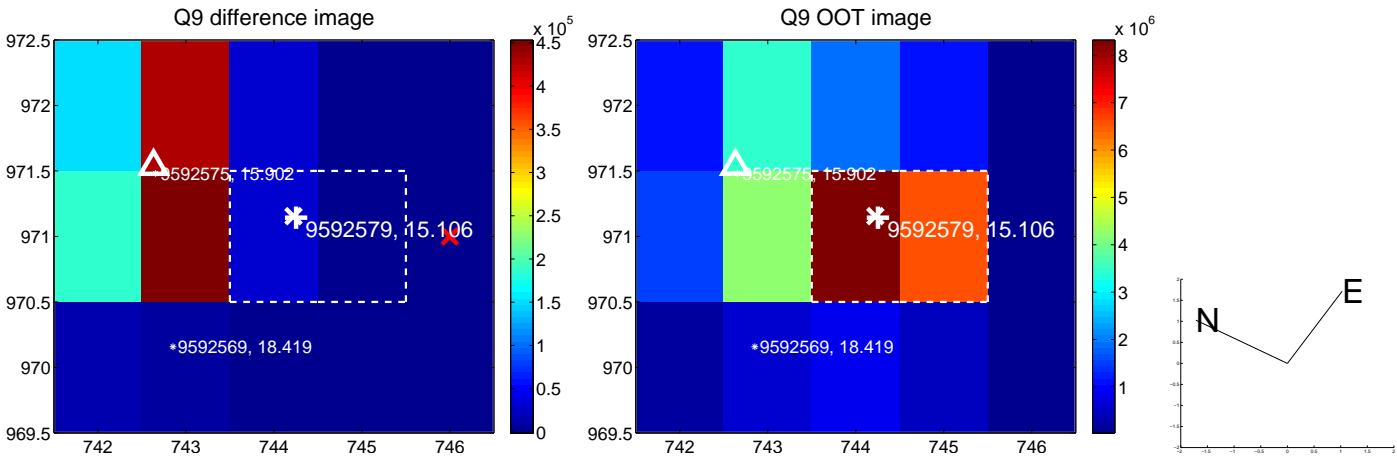


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

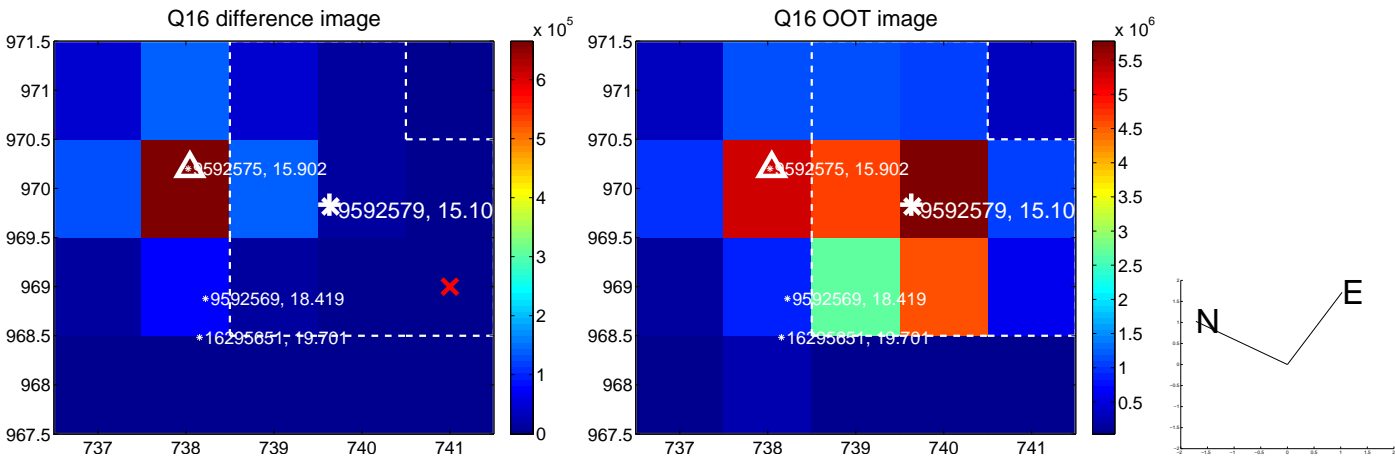
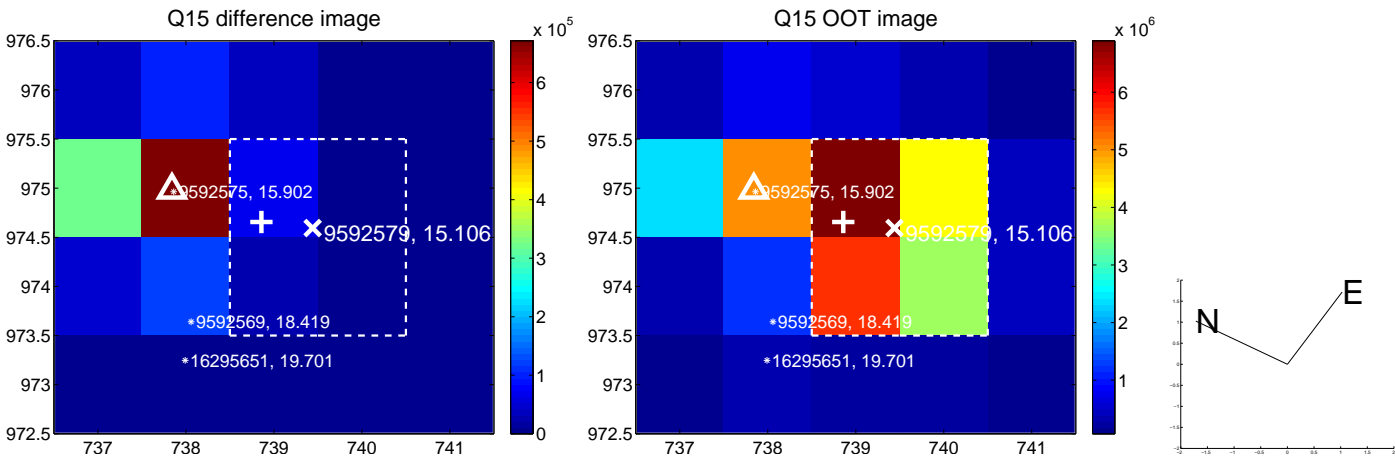
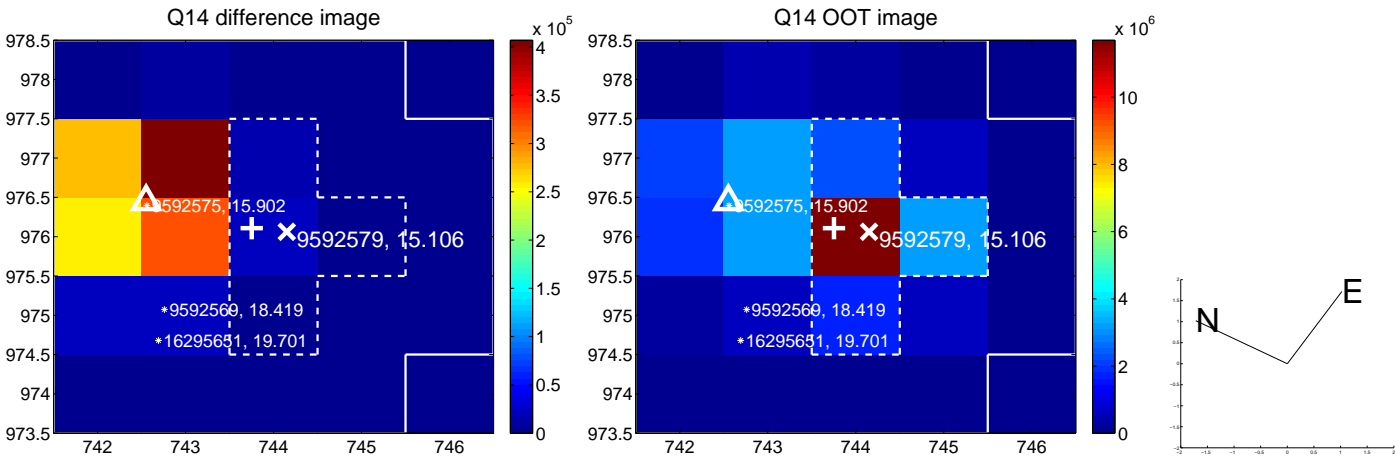
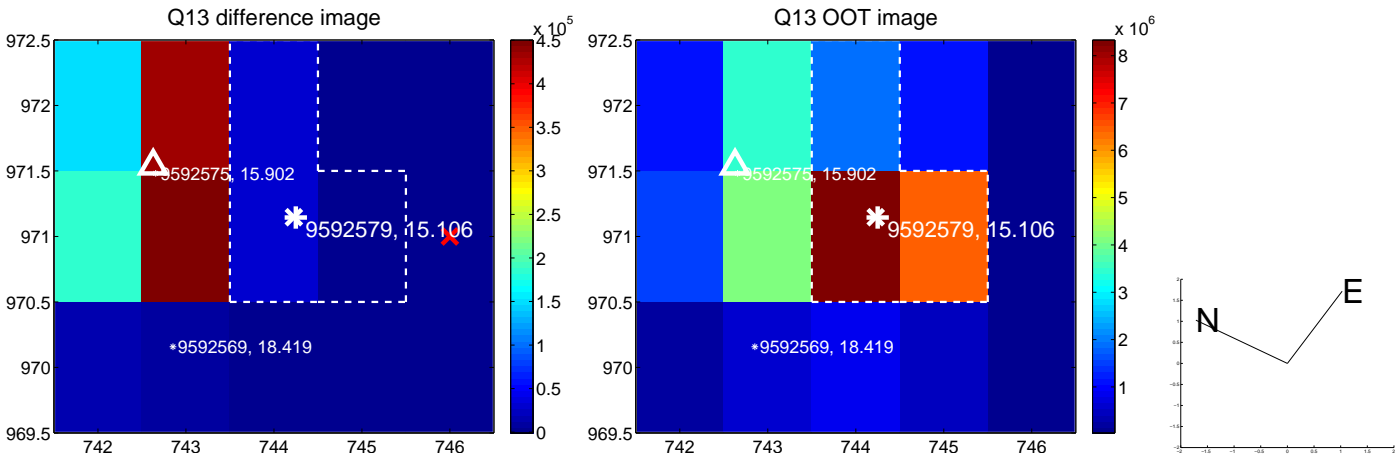
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



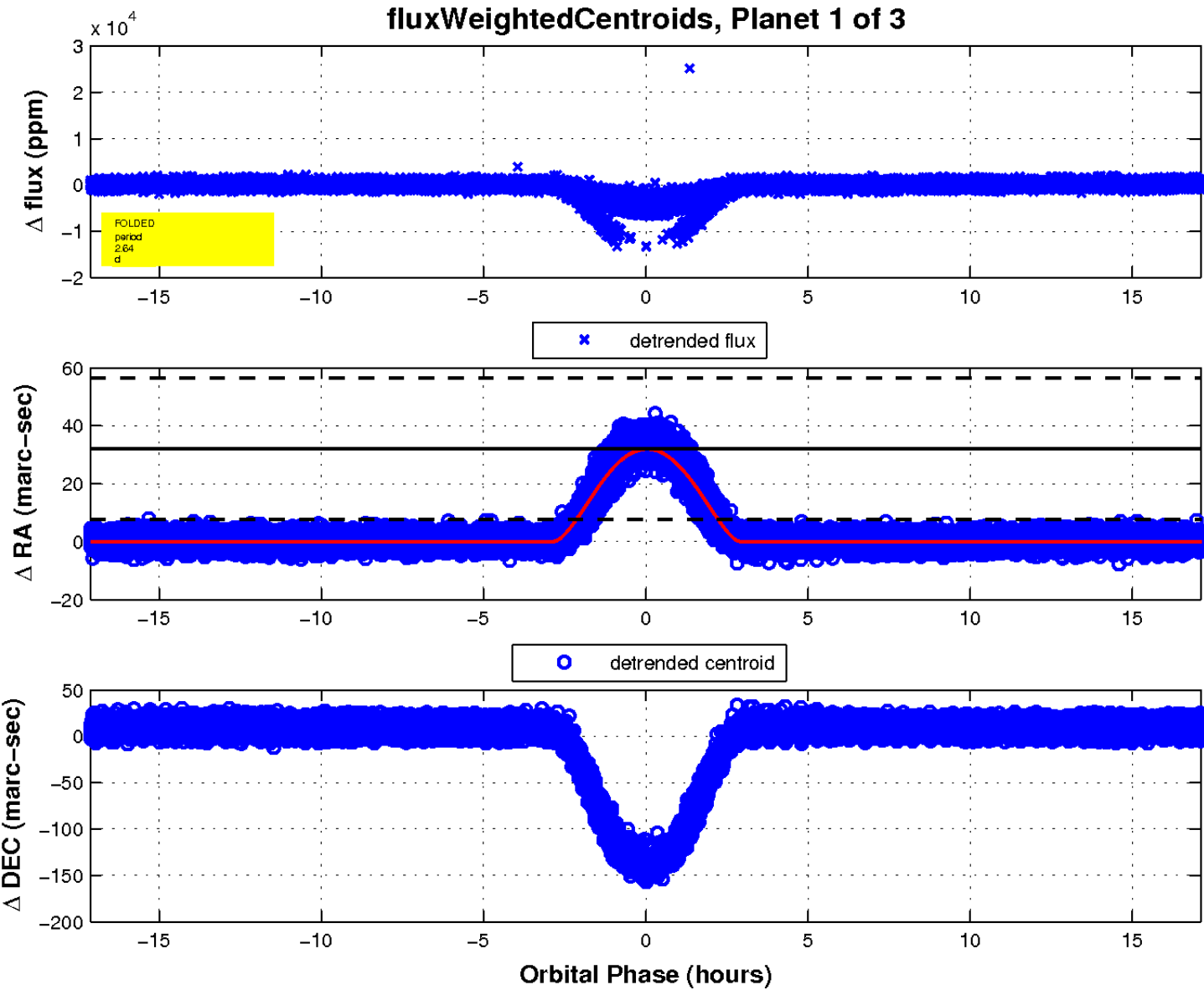
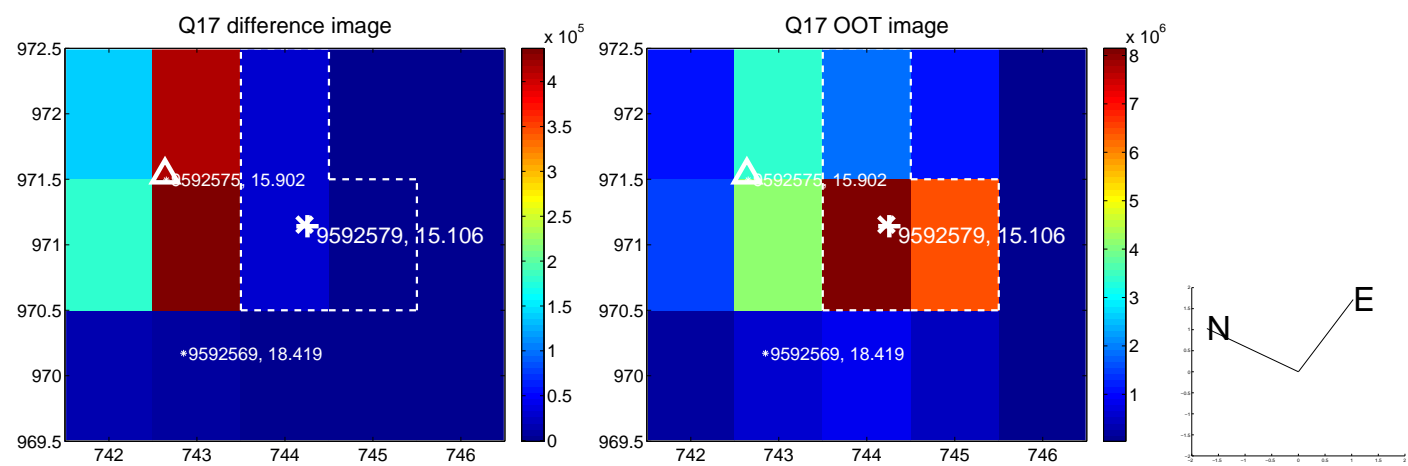
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

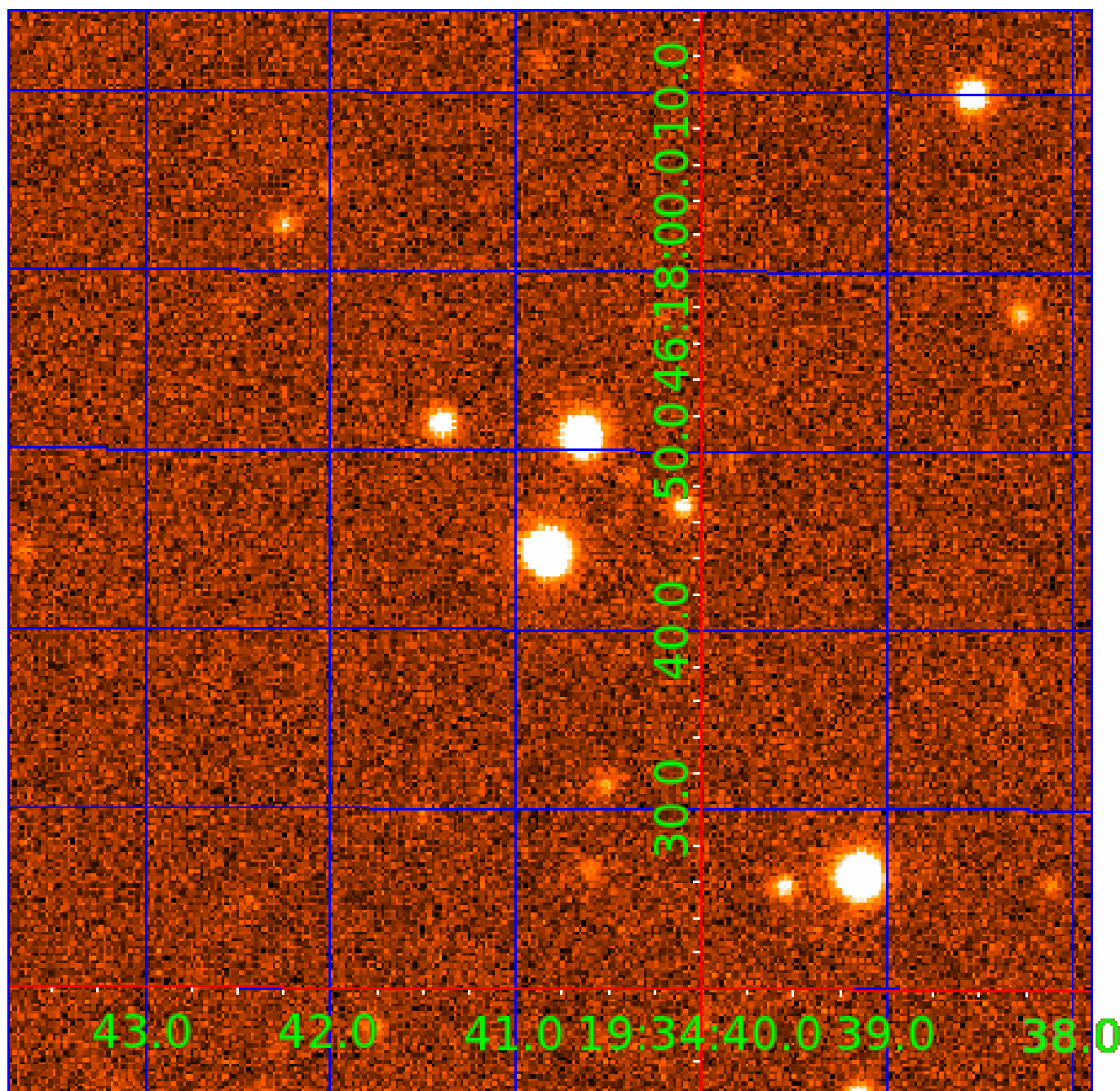


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009592579

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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009592579-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009592579-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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 009592579-02

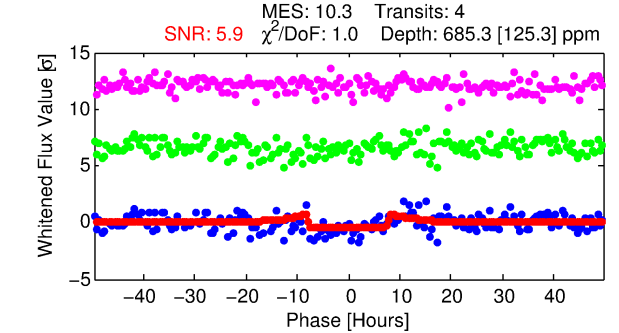
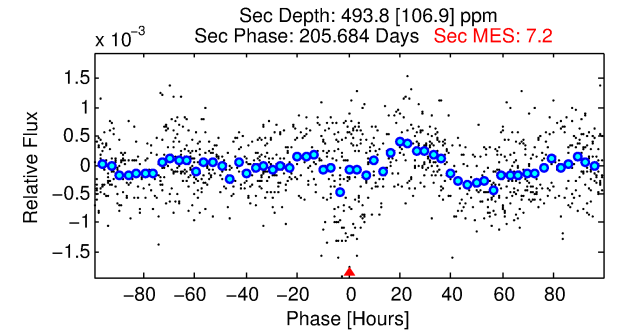
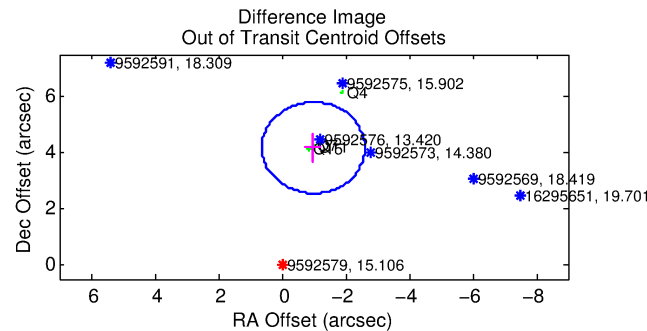
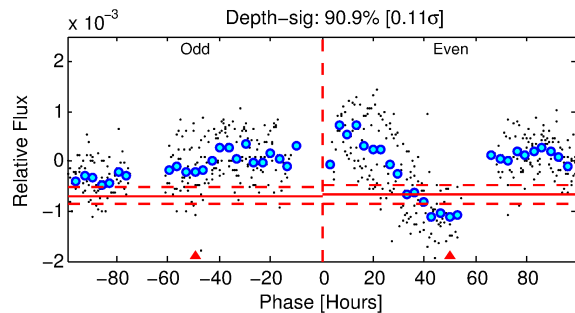
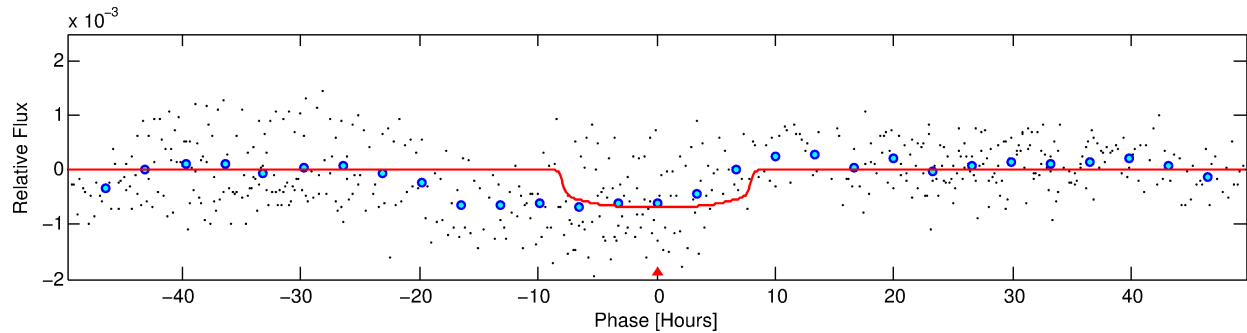
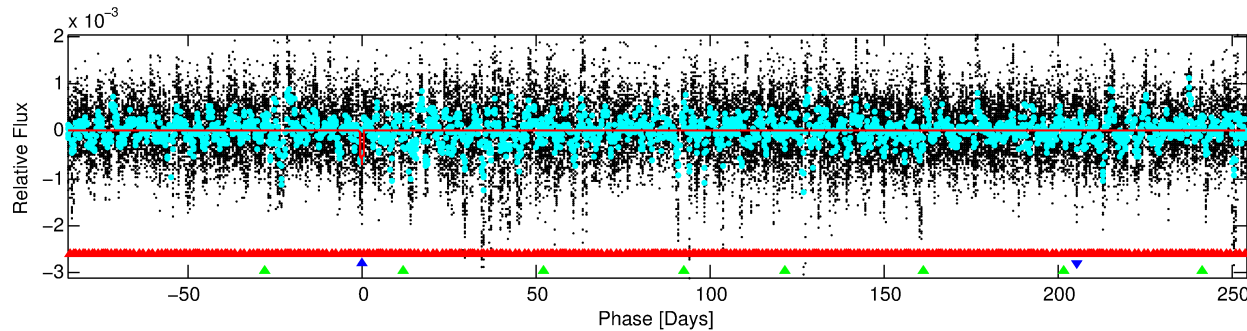
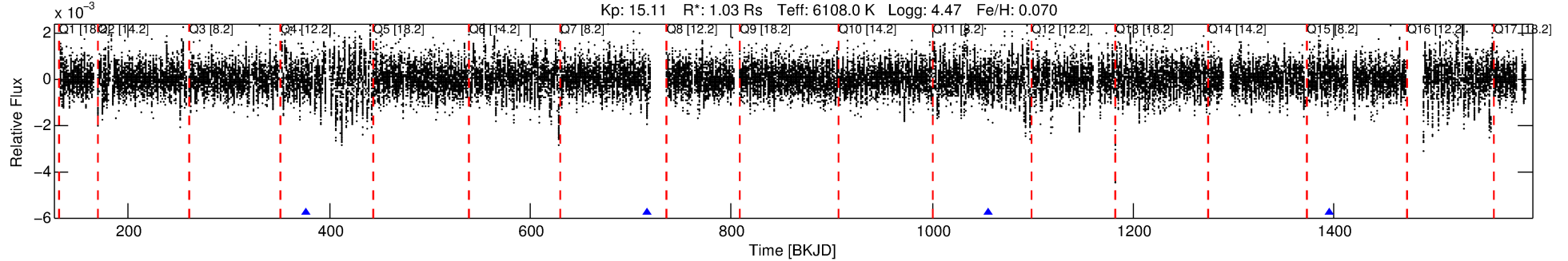
No Significant Match Found

DV One-Page Summary

KIC: 9592579 Candidate: 2 of 3 Period: 339.029 d

KOI: K00243 Corr: No Ephemeris Match

Kp: 15.11 R*: 1.03 Rs Teff: 6108.0 K Logg: 4.47 Fe/H: 0.070



DV Fit Results:

Period = 339.02931 [0.01267] d
Epoch = 377.5325 [0.0235] BKJD
Rp/R* = 0.0251 [0.0072]
a/R* = 127.96 [159.50]
b = 0.62 [1.25]
Seff = 1.35 [0.57]
Teq = 275 [29] K
Rp = 2.82 [1.24] Re
a = 0.9918 [0.2738] AU
Ag = 33507.86 [24518.72] [1.37σ]
Teff = 5744 [904] K [6.05σ]

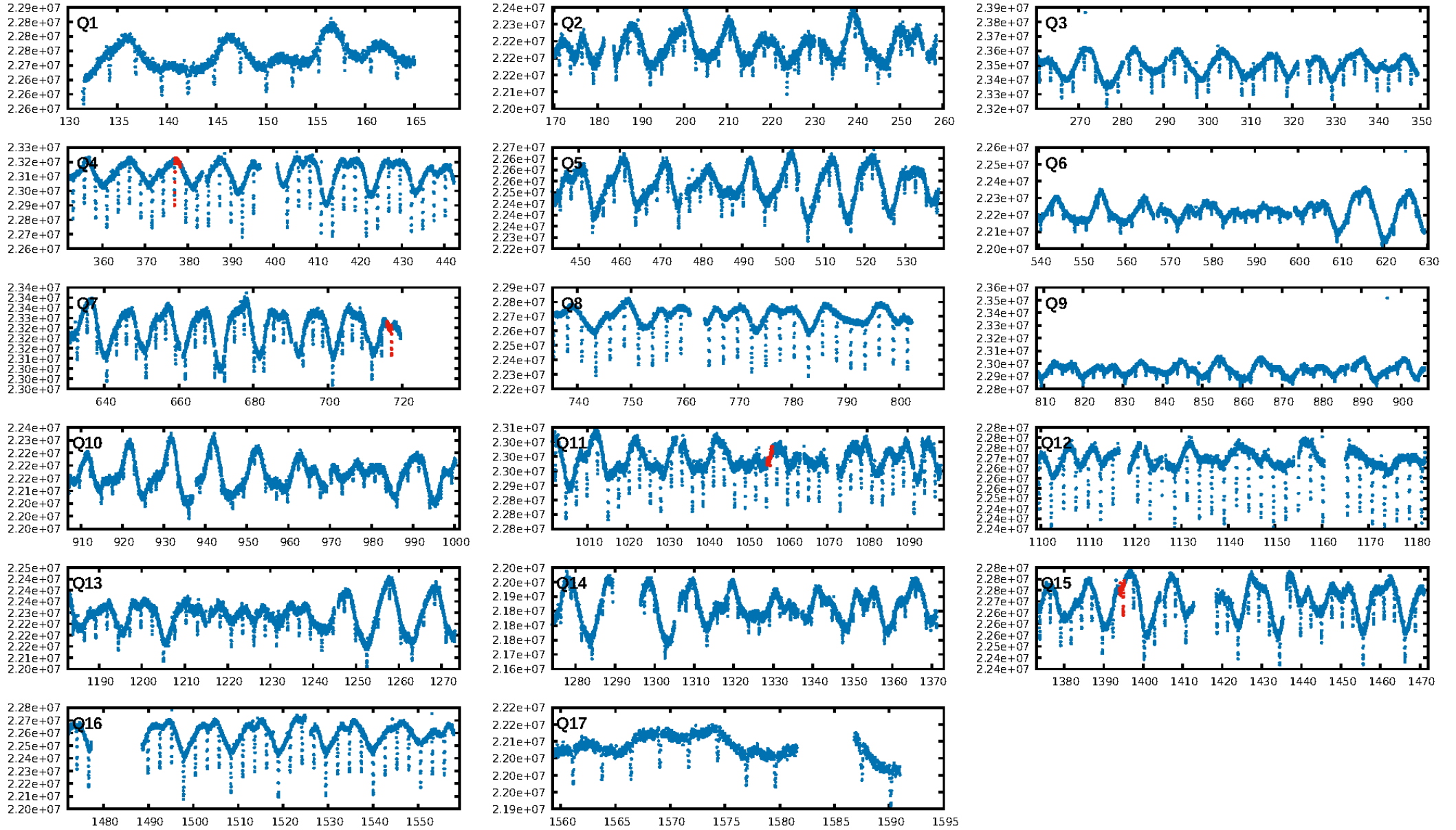
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [143.08σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.2%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.06e-12
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: 1.438
Centroid-sig: N/A
Centroid-so: 3.614 arcsec [1.34σ]
OotOffset-rm: 4.289 arcsec [7.93σ]
KicOffset-rm: 6.528 arcsec [94.17σ]
OotOffset-st: 0/3/1/0 [4]
KicOffset-st: 0/3/1/0 [4]
DiffImageQuality-fgm: 0.25 [1/4]
DiffImageOverlap-fno: 0.00 [0/4]

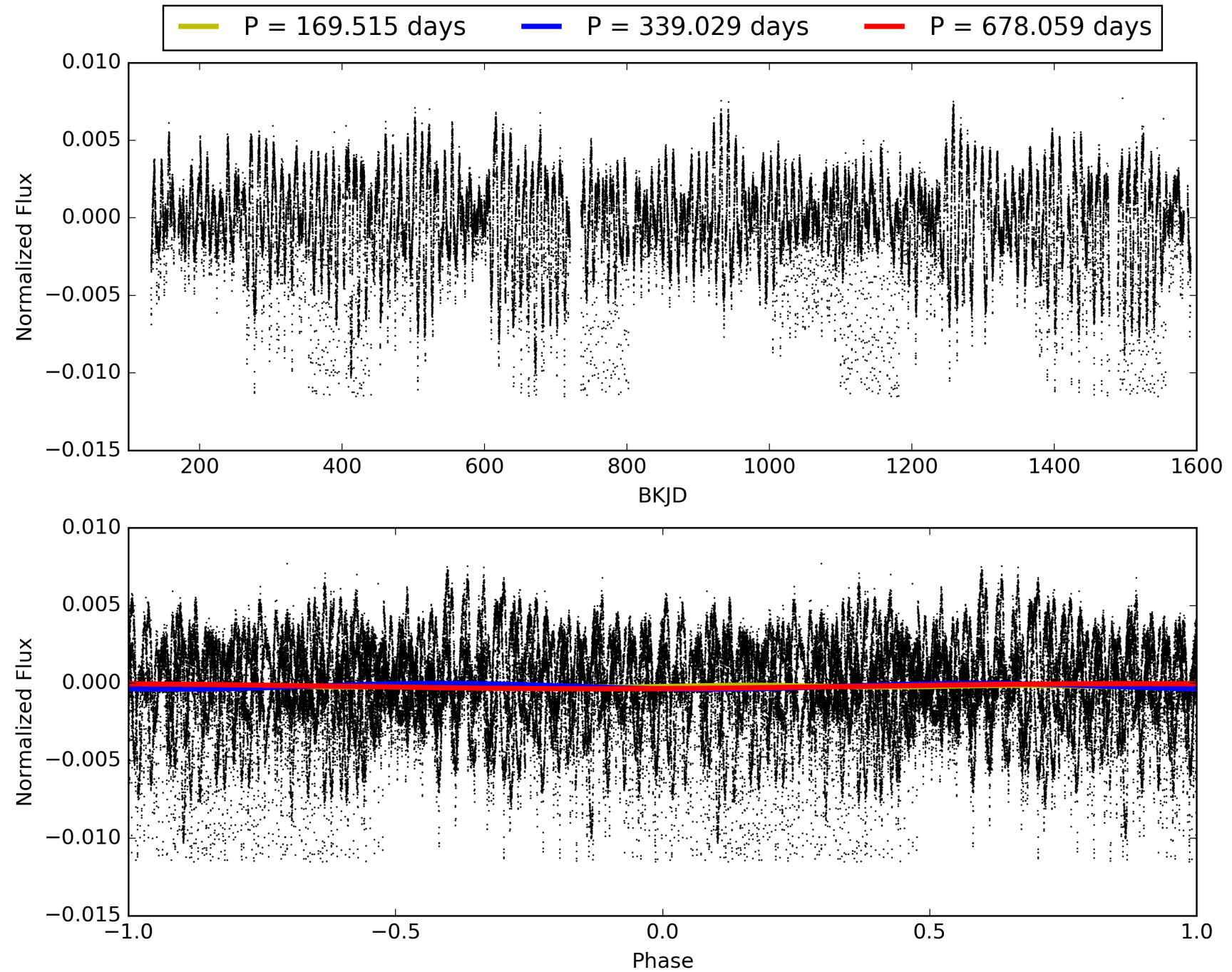
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:31:27 Z

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

TCE 009592579-02, PDC Light Curves

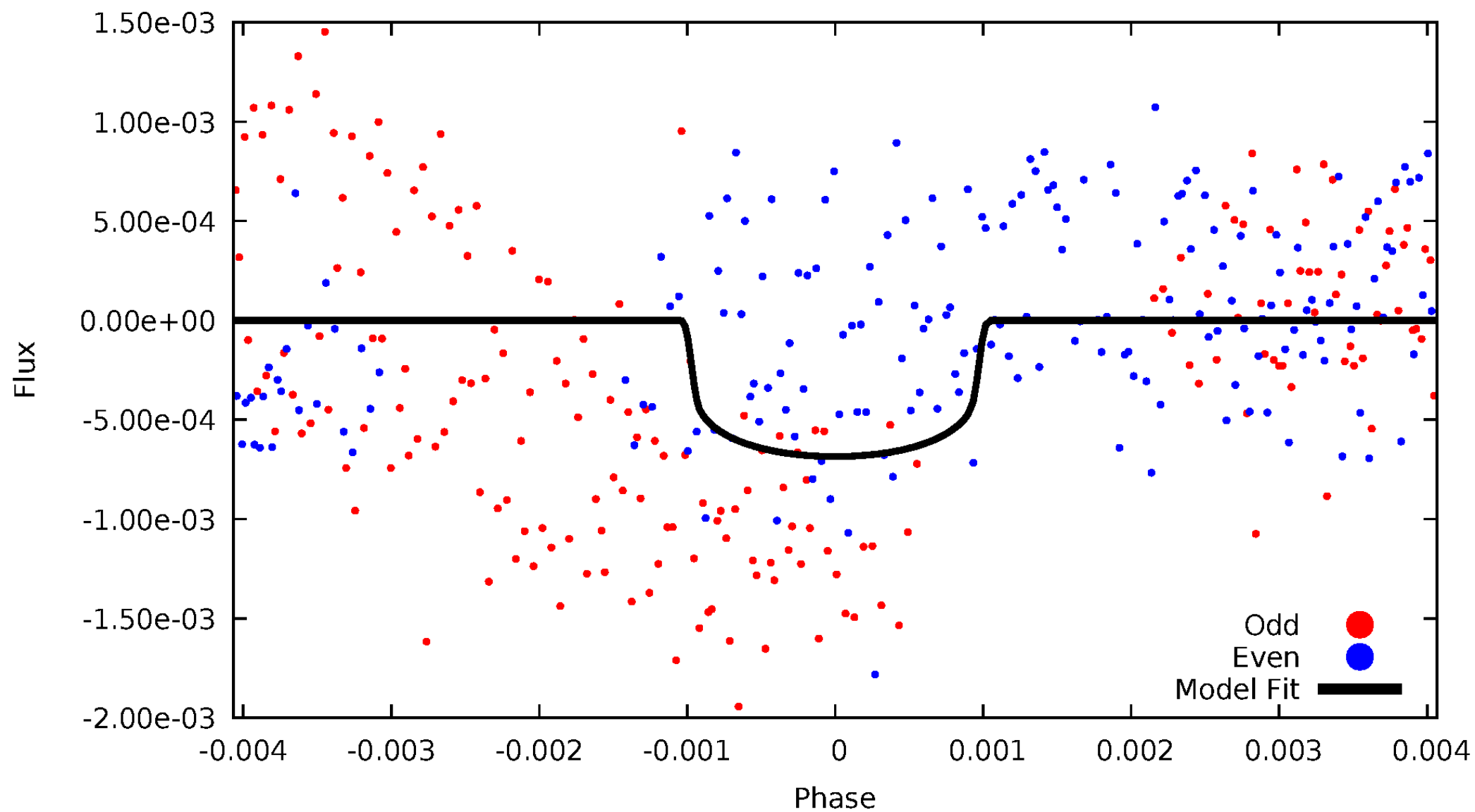


TCE 009592579-02



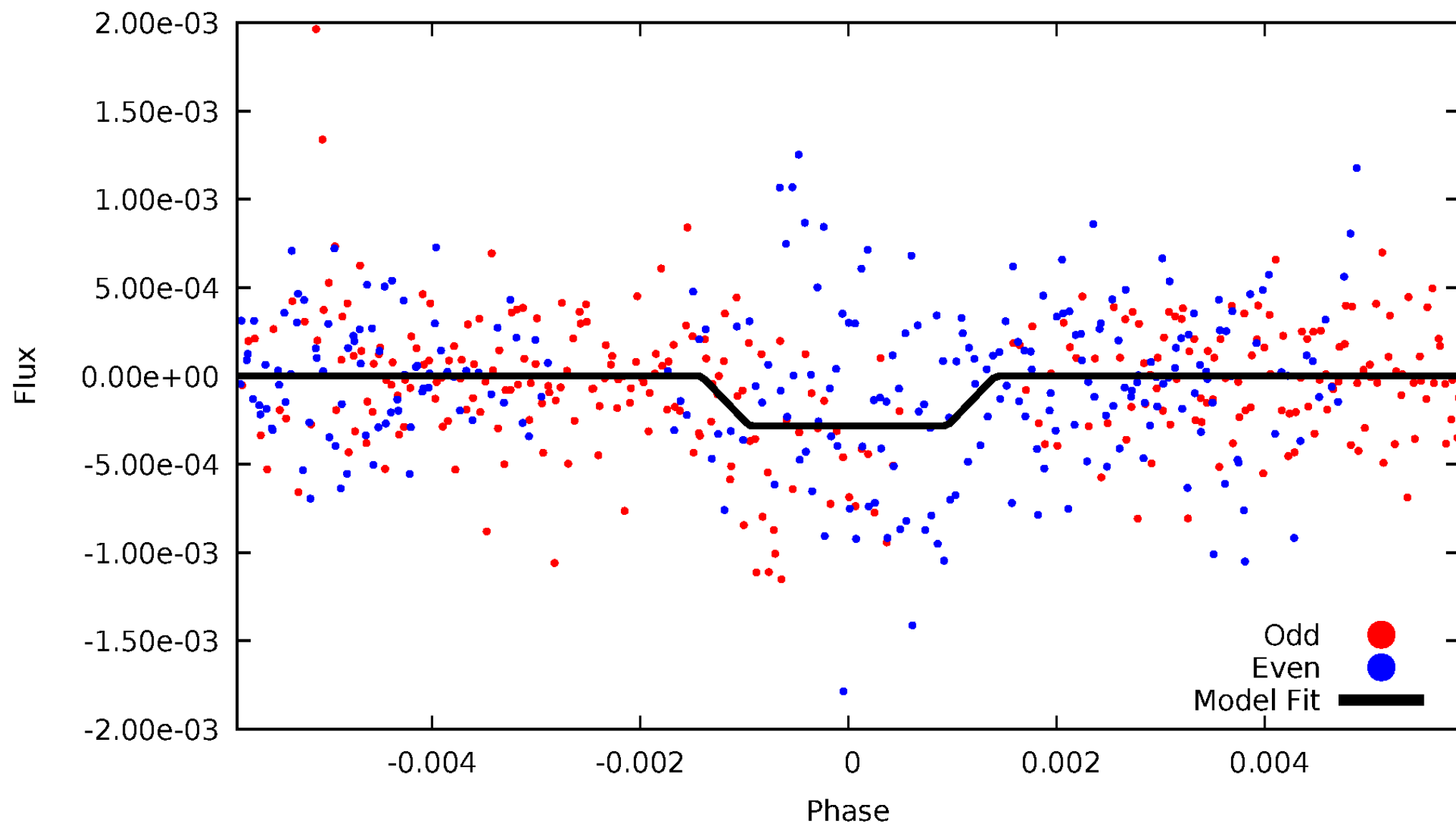
DV Odd/Even

TCE 009592579-02



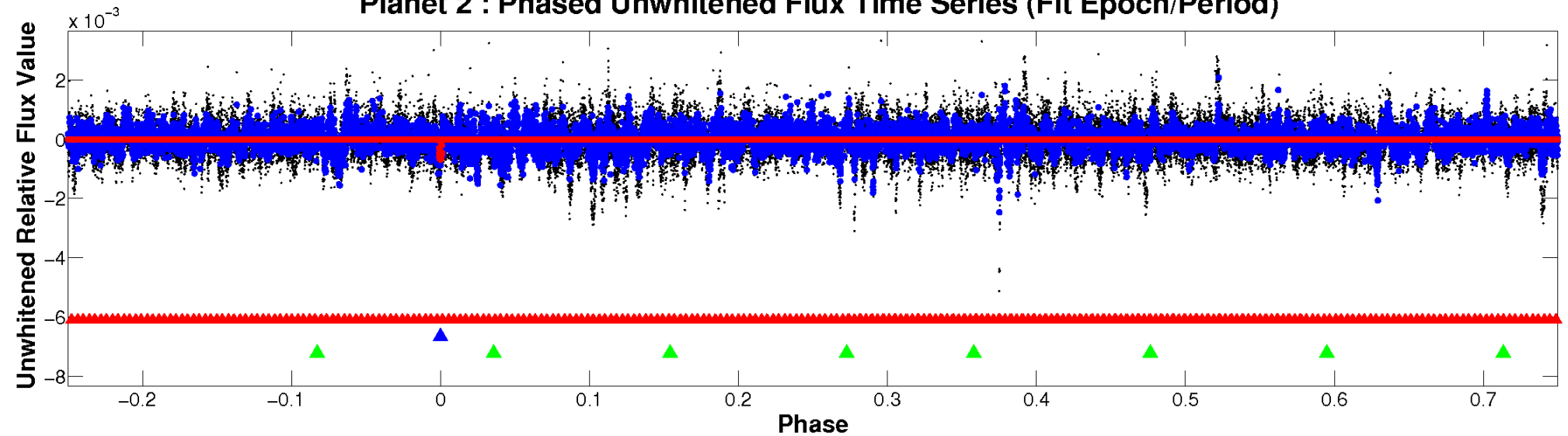
ALT Odd/Even

TCE 009592579-02

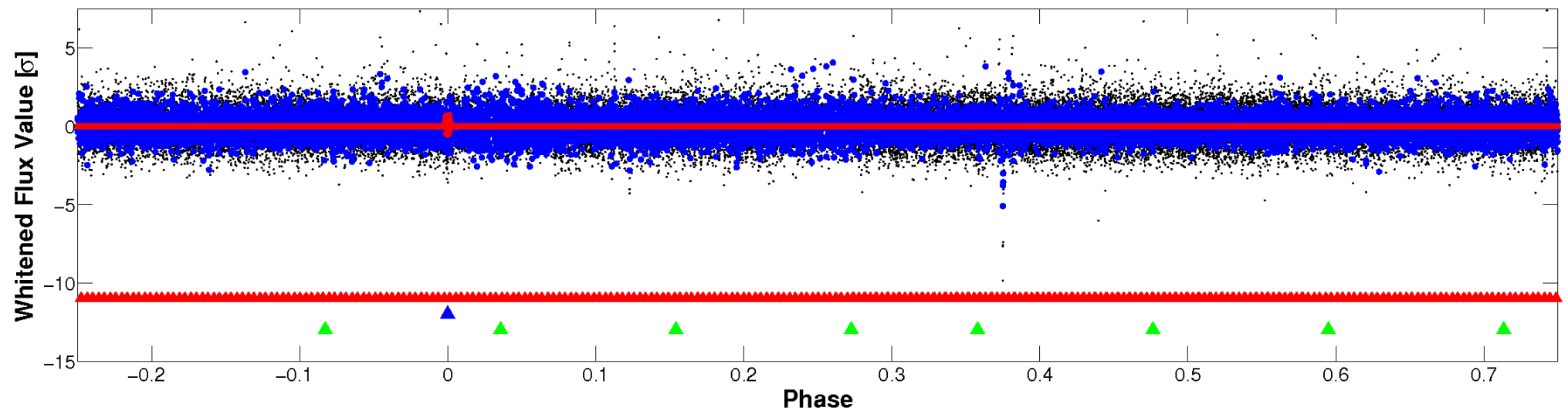


Non-Whitened Vs. Whitened Light Curve

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

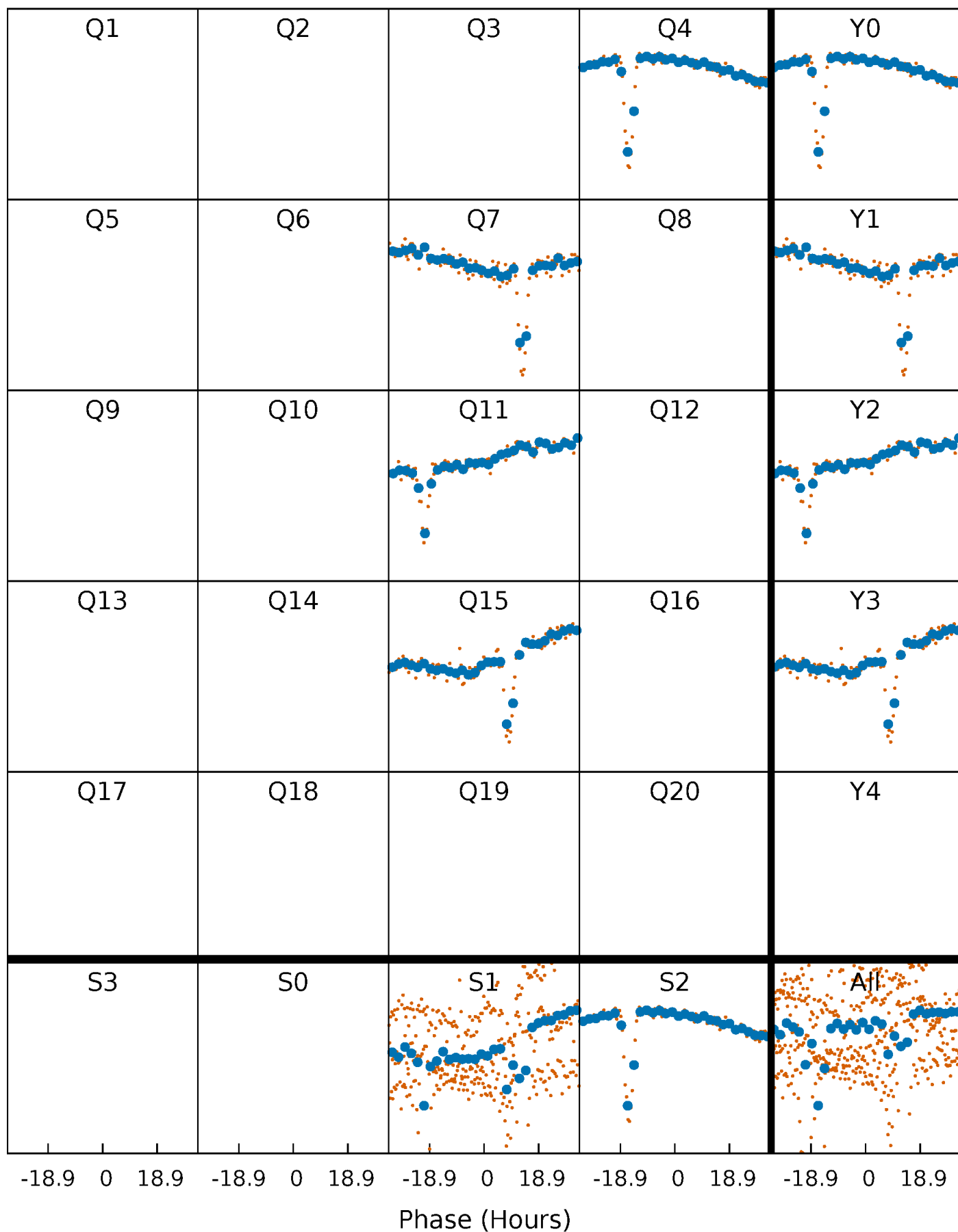


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



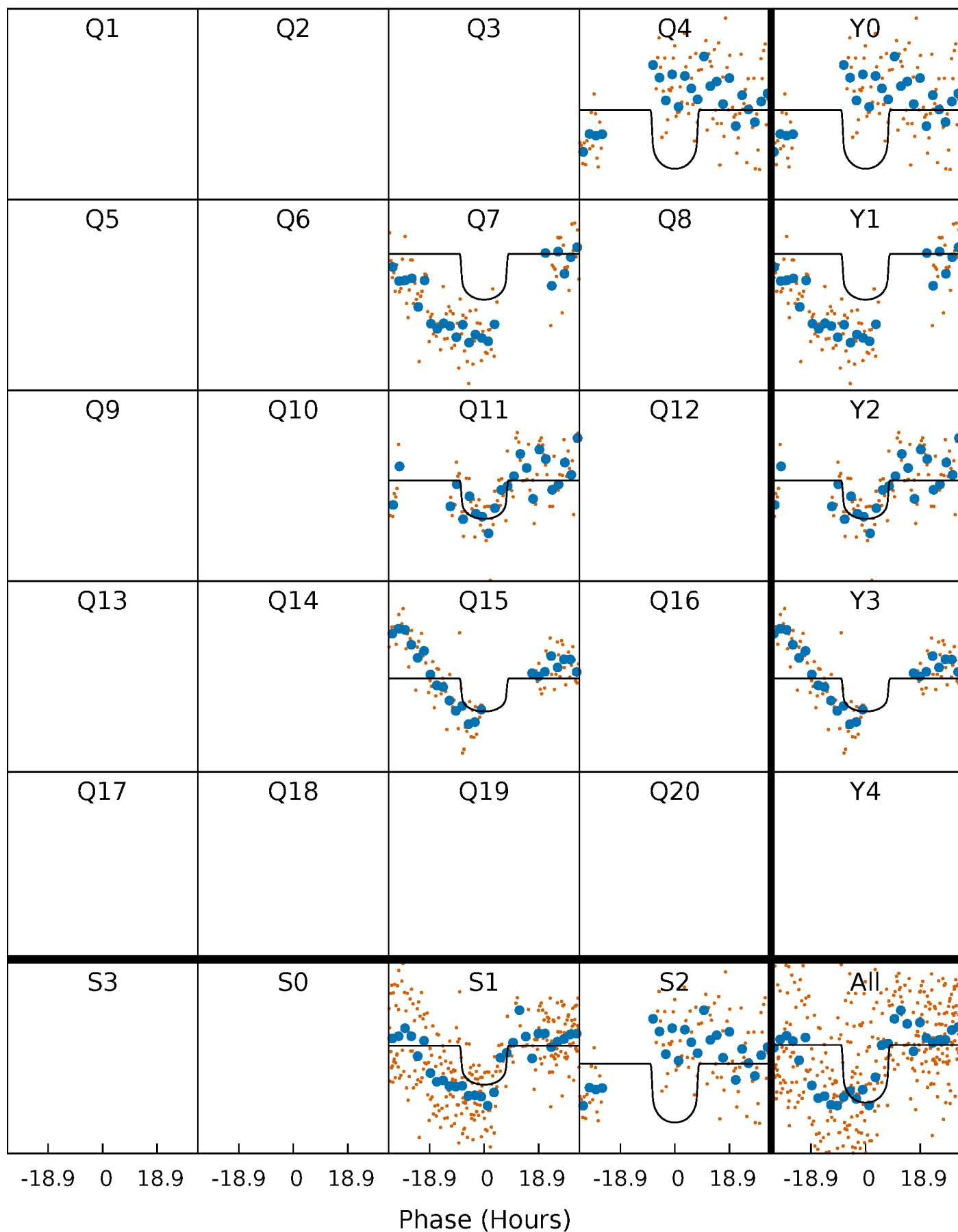
PDC Quarter-Phased Transit Curves

TCE 009592579-02 $P=339.029310$ Days $T_0=377.532530$ (BKJD)



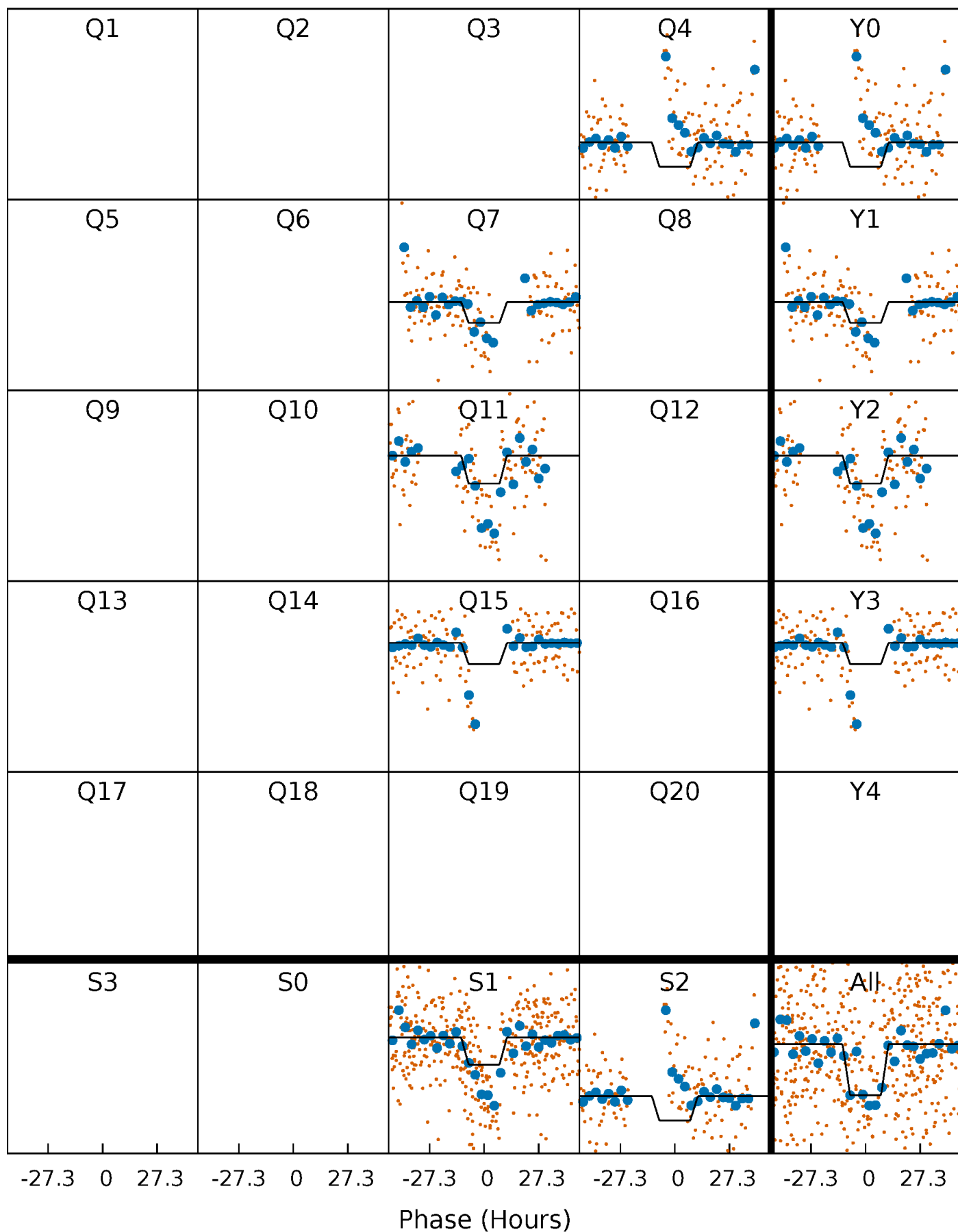
DV Quarter-Phased Transit Curves

TCE 009592579-02 $P=339.029310$ Days $T_0=377.532530$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

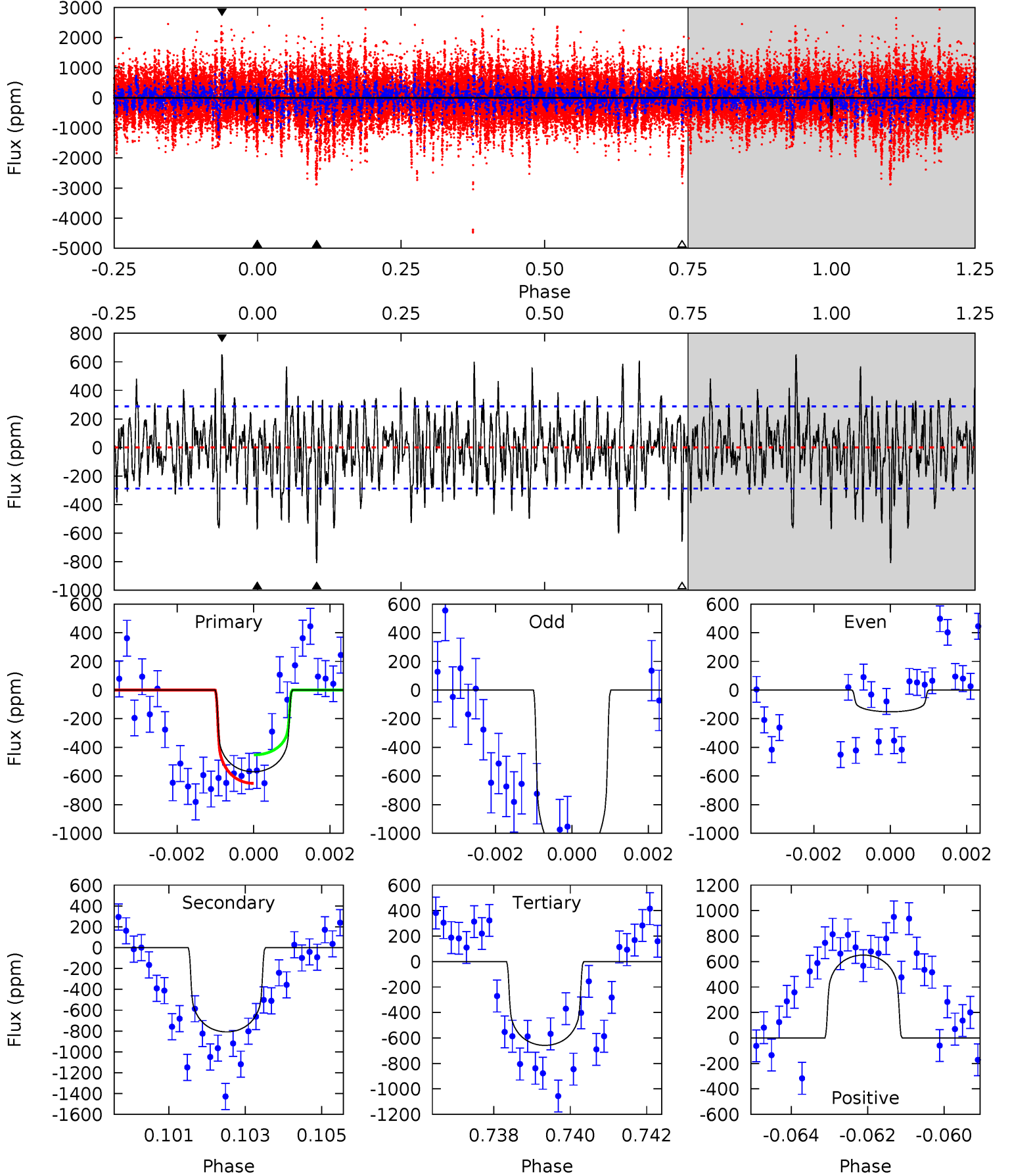
TCE 009592579-02 $P=339.115362$ Days $T_0=377.467368$ (BKJD)



DV Model-Shift Uniqueness Test

009592579-02, P = 339.029310 Days, E = 38.503220 Days

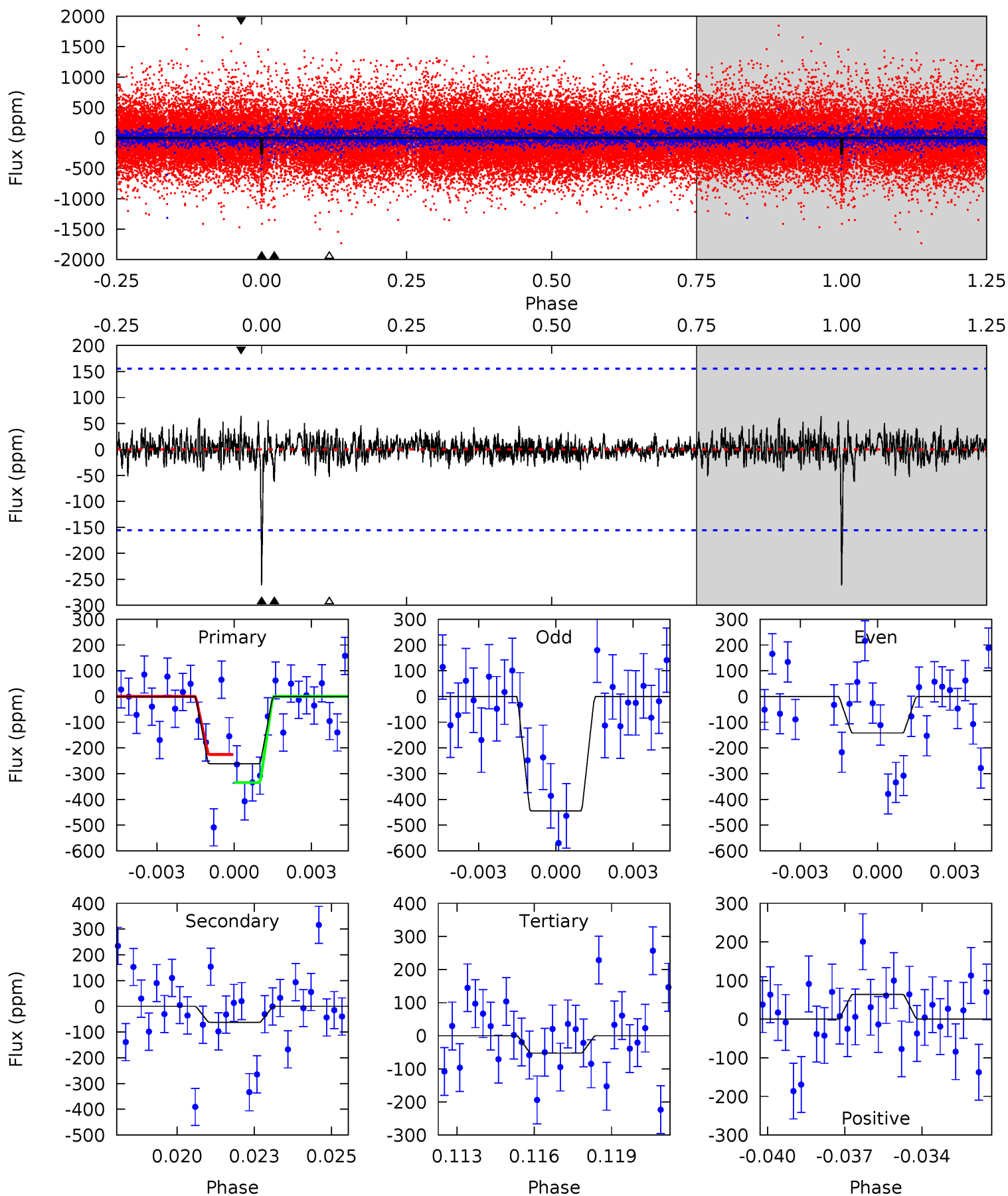
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.6	15.0	12.2	12.0	5.32	3.08	3.41	-1.62	-1.49	2.78	2.91	9.52	0.82	0.45	1.79



Alt Model-Shift Uniqueness Test

009592579-02, P = 339.115362 Days, E = 38.352006 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.84	2.10	1.77	2.17	5.26	2.99	0.50	7.06	6.67	0.33	-0.07	4.94	0.79	0.20	0



Stellar Parameters For KIC 009592579

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6108^{+171}_{-214}	$4.466^{+0.054}_{-0.216}$	$0.070^{+0.250}_{-0.300}$	$1.030^{+0.341}_{-0.114}$	$1.132^{+0.135}_{-0.166}$	$1.457^{+0.324}_{-0.766}$
	+3%/-4%	+1%/-5%	+357%/-429%	+33%/-11%	+12%/-15%	+22%/-53%
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 009592579-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-808 ± 54	$2.91^{+0.98}_{-0.84}$	393^{+28}_{-20}	6531^{+1472}_{-802}	50099^{+51811}_{-21706}
Alt.	-62 ± 30	$1.97^{+0.92}_{-0.84}$	392^{+28}_{-19}	4332^{+1088}_{-637}	7863^{+15738}_{-4833}

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

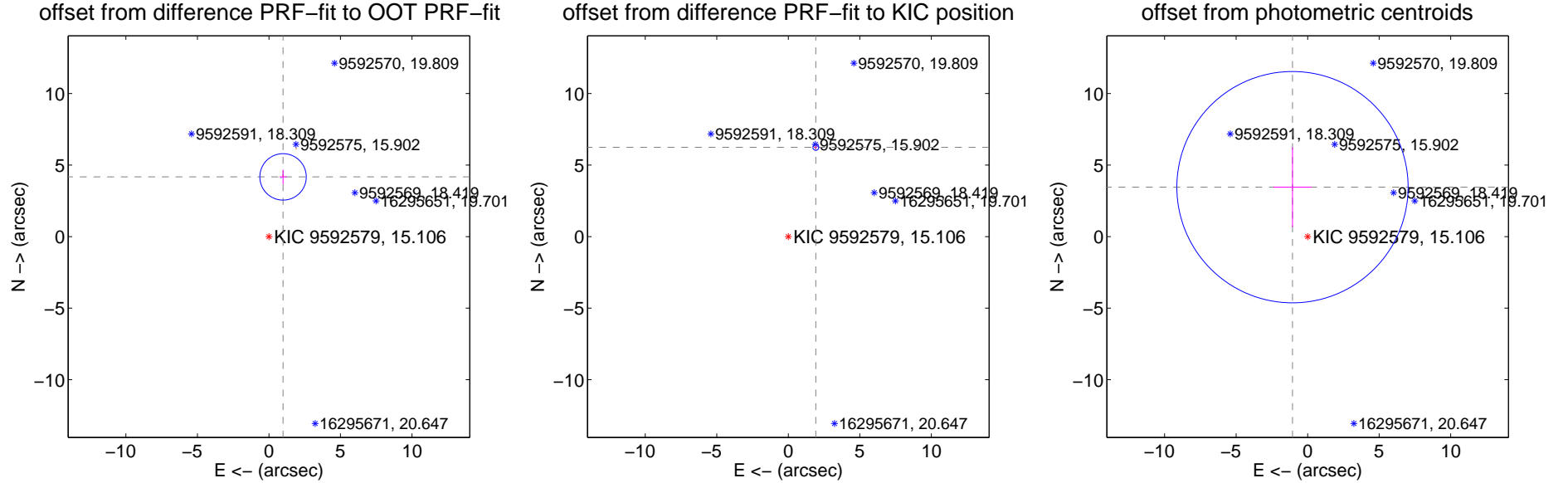
DV Centroid Data

Supplemental centroid analysis for 009592579-02. Kepler magnitude: 15.11. Transit SNR 5.93

There are 1 quarters with good PRF difference image offsets

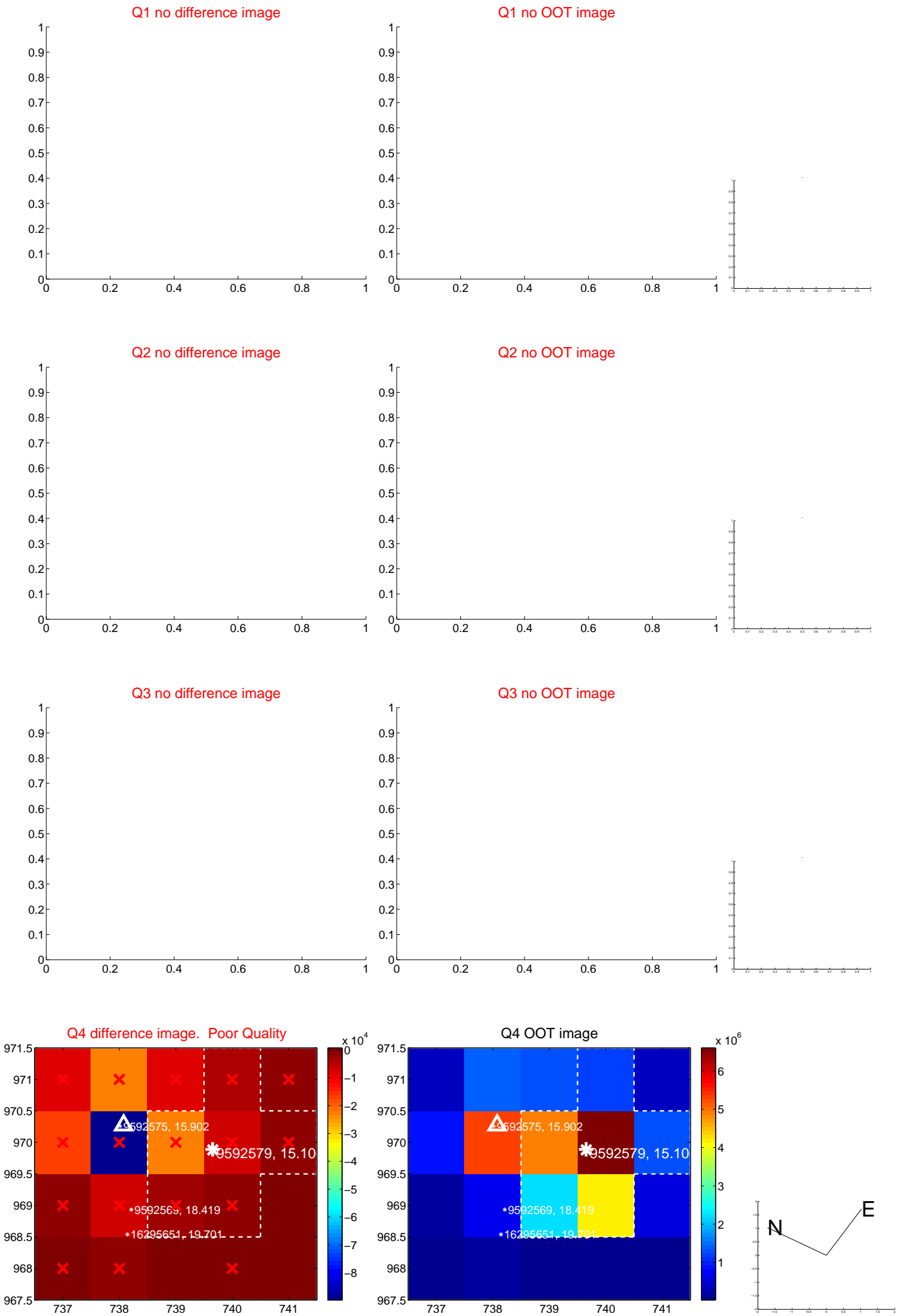
The OOT PRF centroid is offset from the target star catalog position by about 2.40 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.289 ± 0.541	7.93	-0.987 ± 0.247	4.174 ± 0.500
PRF-fit source offset from KIC position	6.528 ± 0.069	94.17	-1.923 ± 0.075	6.238 ± 0.069
photometric centroid source offset	3.61 ± 2.69	1.34	1.06 ± 1.34	3.46 ± 2.79



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.

Q5 no difference image



Q5 no OOT image



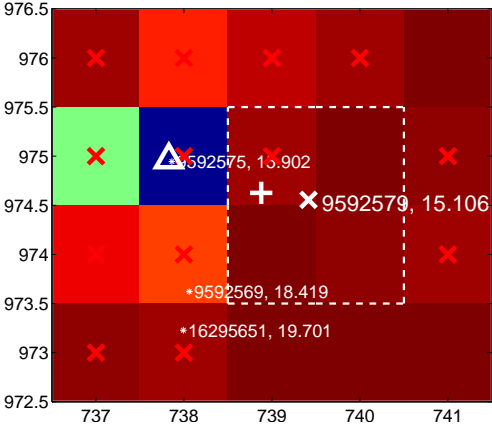
Q6 no difference image



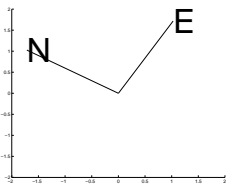
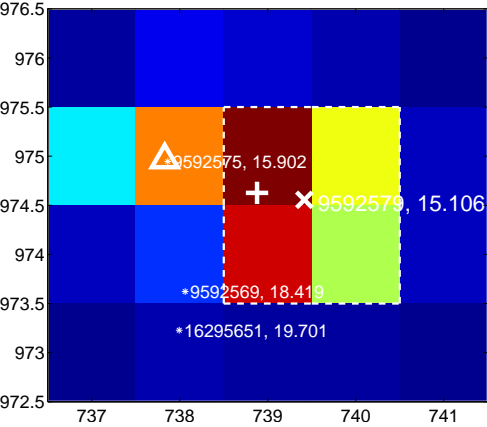
Q6 no OOT image



Q7 difference image. Poor Quality



Q7 OOT image



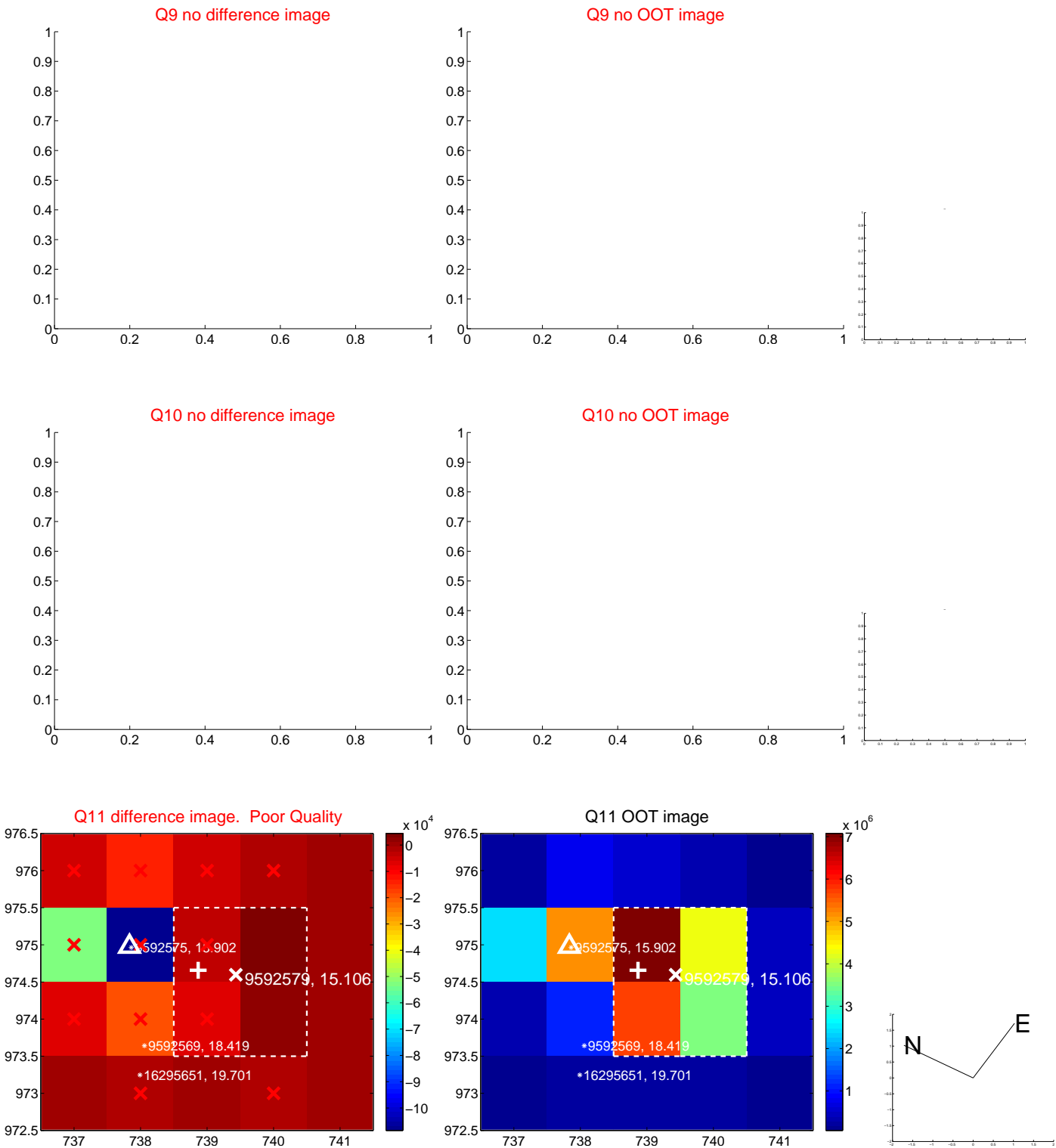
Q8 no difference image



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.

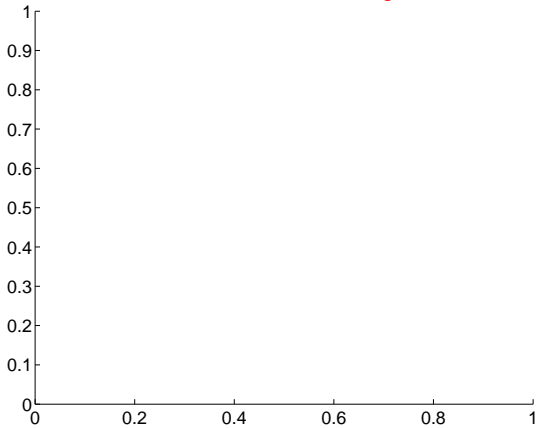
Q13 no difference image



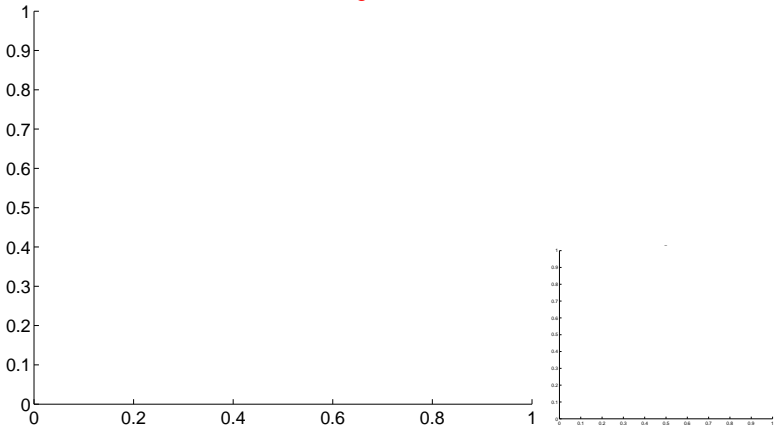
Q13 no OOT image



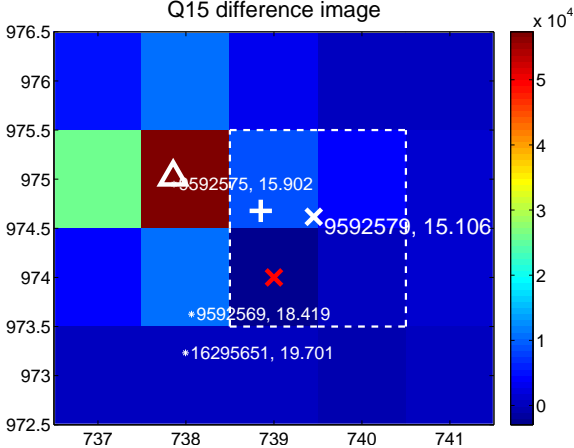
Q14 no difference image



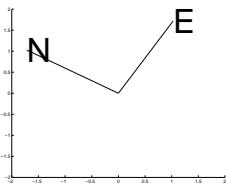
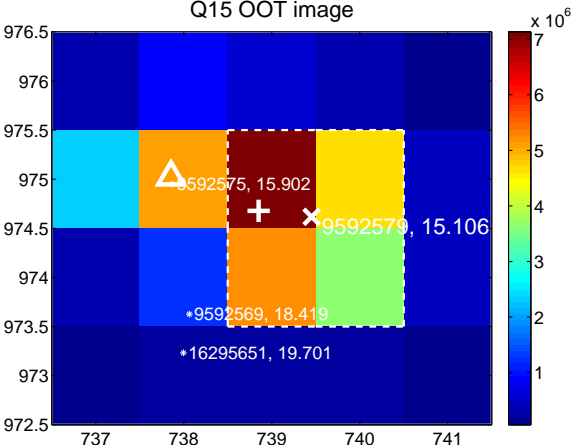
Q14 no OOT image



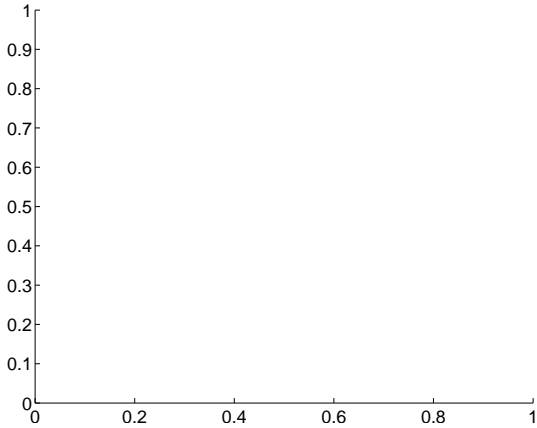
Q15 difference image



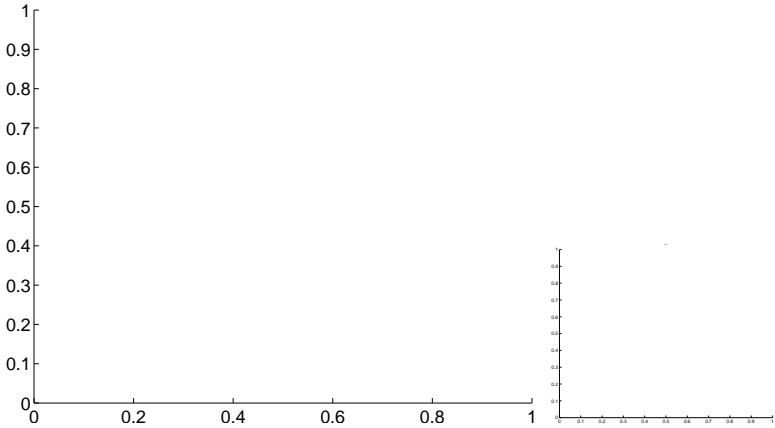
Q15 OOT image



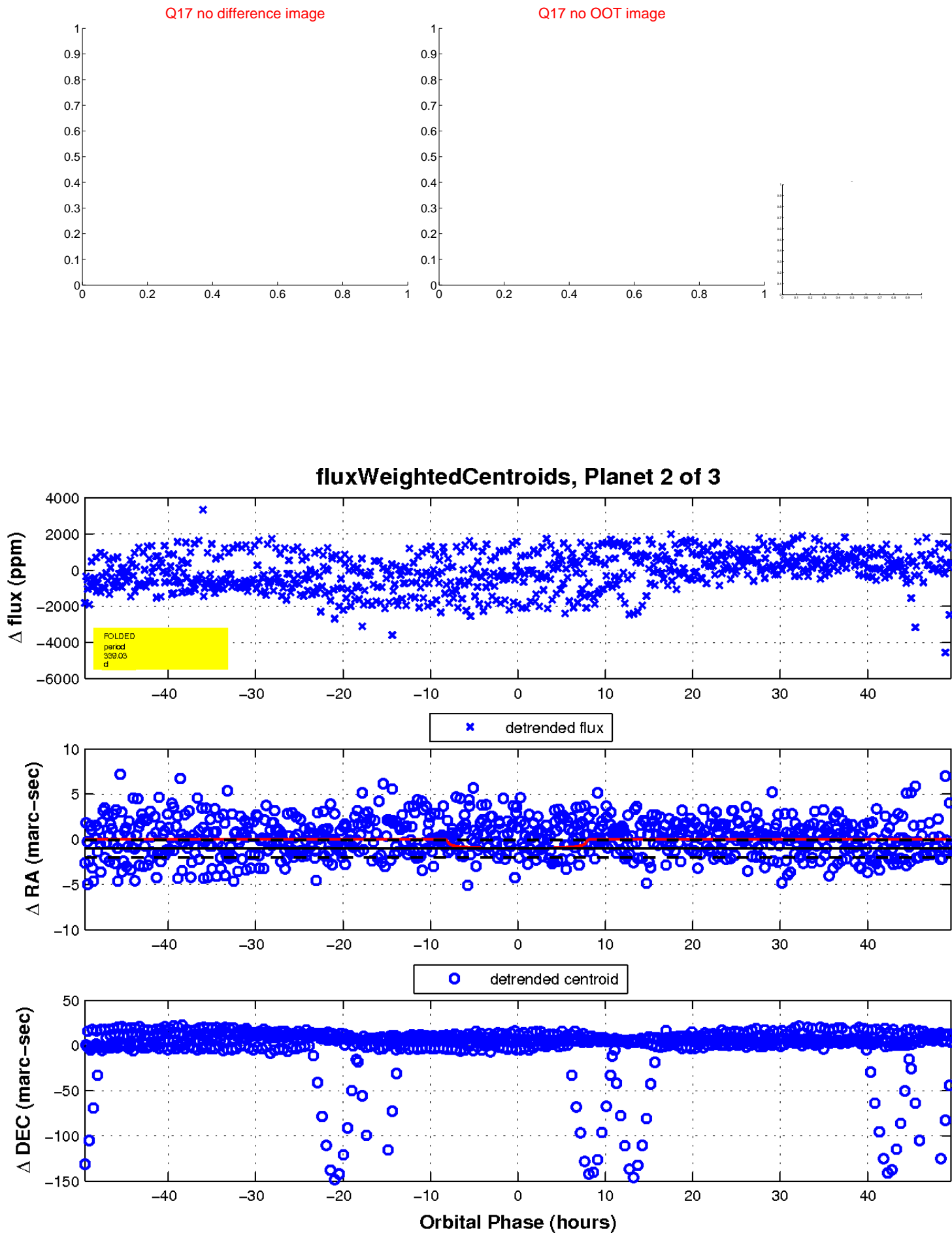
Q16 no difference image



Q16 no OOT image

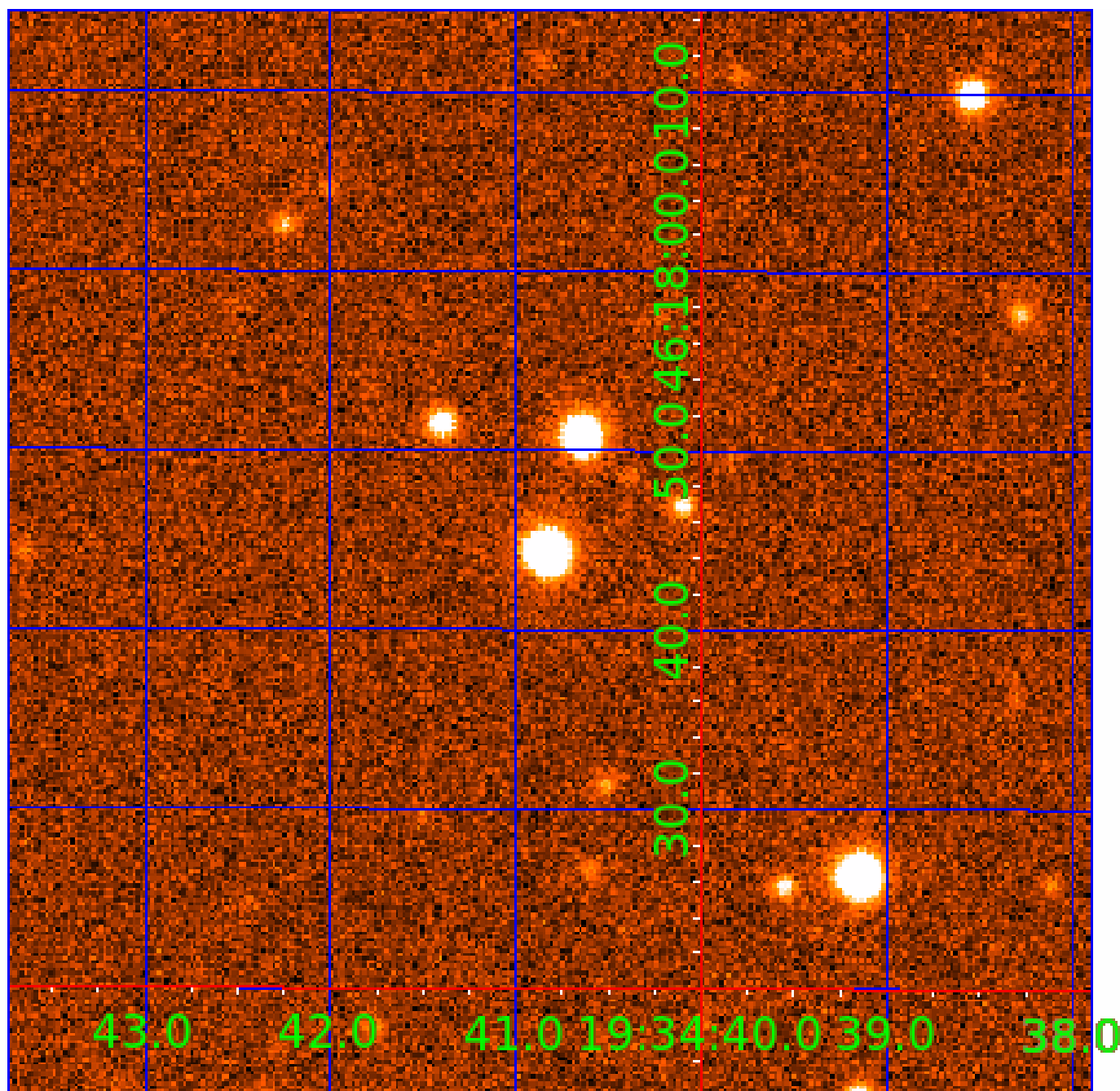


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 009592579

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})
009592579-01	OBS	0243.01	2.637573	131.575476	4574.3	5.705	553.5	299.5	1.03	6108	12.79	872.52
009592579-02	OBS	No	339.029310	377.532529	685.3	16.542	10.3	5.9	1.03	6108	2.82	1.34
009592579-03	OBS	No	189.596028	159.880133	501.9	18.832	12.3	5.2	1.03	6108	2.70	2.92

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009592579-01	OBS	FP	0.00	0	1	1	1	MOD_ODDEVEN_DV—DEEP_V_SHAPED—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT—CENT_RESOLVED_OFFSET—EPHEM_MATCH
009592579-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS
009592579-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—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.

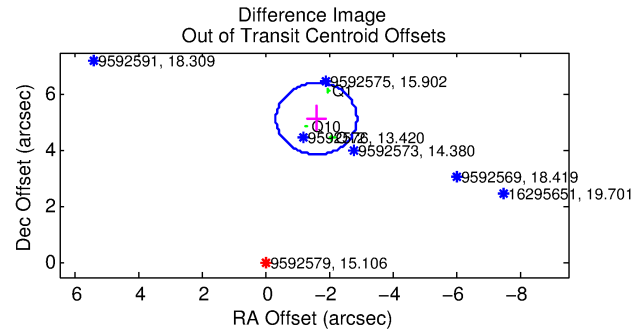
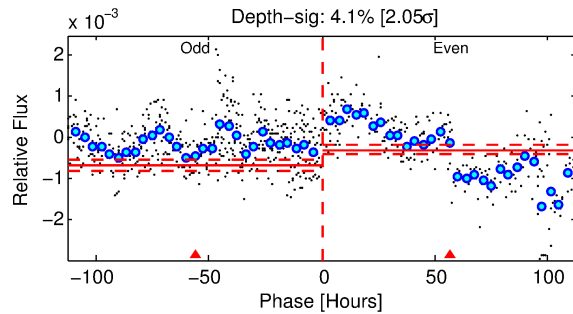
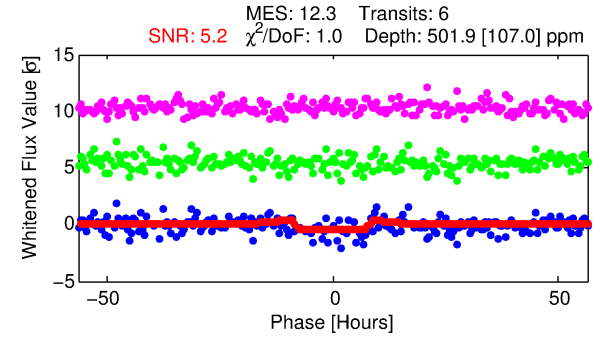
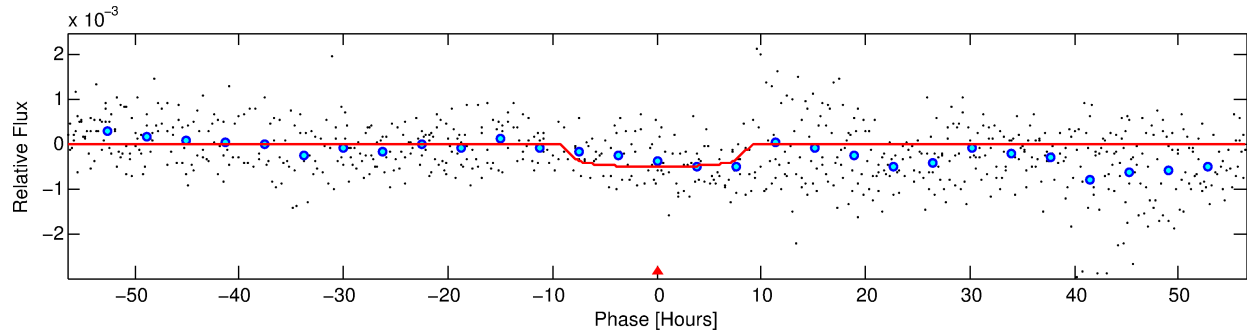
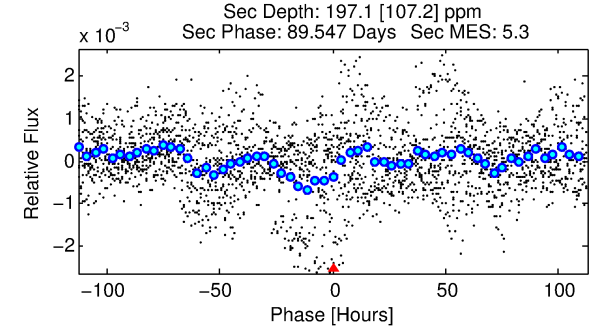
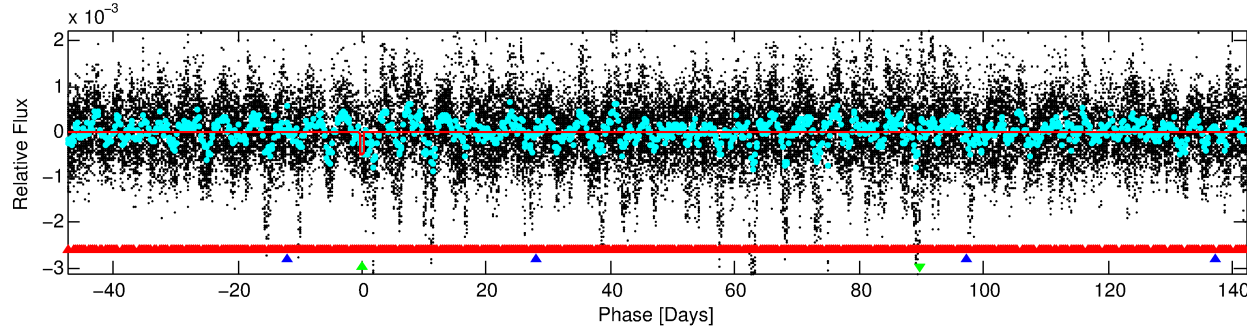
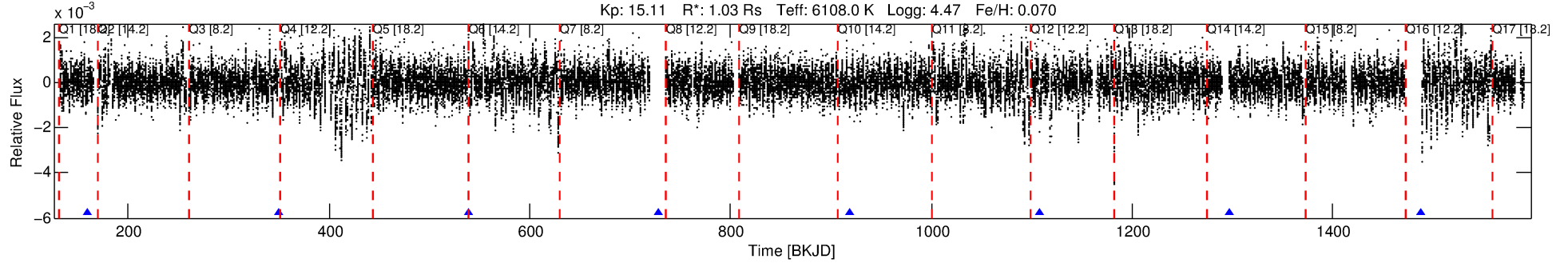
Ephemeris Match Information For 009592579-03

No Significant Match Found

DV One-Page Summary

KIC: 9592579 Candidate: 3 of 3 Period: 189.596 d
KOI: K00243 Corr: No Ephemeris Match

Kp: 15.11 R*: 1.03 Rs Teff: 6108.0 K Logg: 4.47 Fe/H: 0.070



DV Fit Results:

Period = 189.59603 [0.01468] d
Epoch = 159.8801 [0.0464] BKJD
Rp/R* = 0.0241 [0.0039]
a/R* = 38.68 [21.63]
b = 0.89 [0.12]
Seff = 2.92 [1.23]
Teq = 333 [35] K
Rp = 2.70 [1.00] Re
a = 0.6732 [0.1858] AU
Ag = 6722.07 [5037.82] [1.33σ]
Teff = 4666 [758] K [5.71σ]

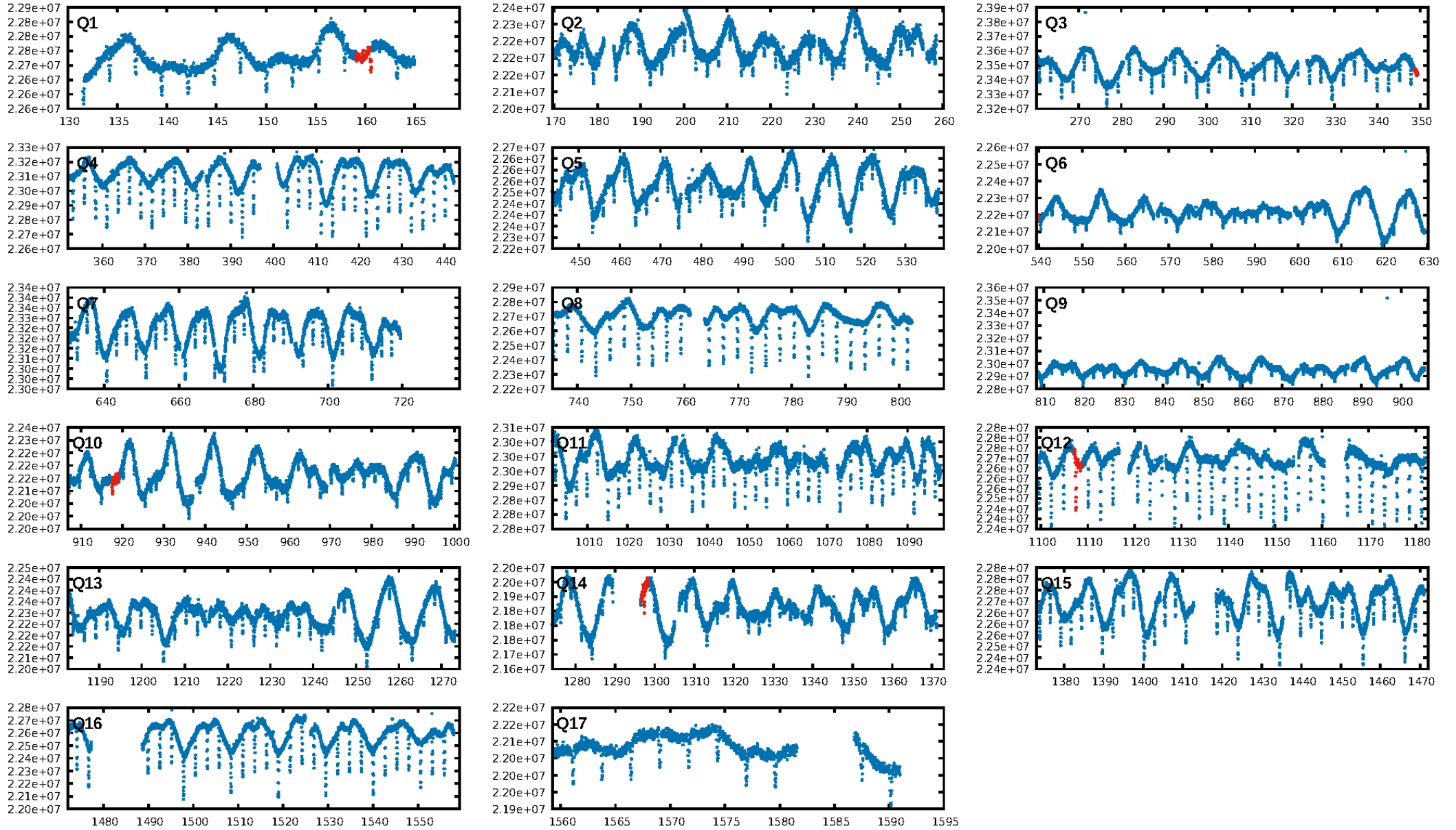
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [228.03σ]
LongPeriod-sig: 100.0% [143.08σ]
ModelChiSquare2-sig: 0.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.22e-19
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 0.9927
Centroid-sig: N/A
Centroid-so: 1.723 arcsec [0.82σ]
OotOffset-rm: 5.375 arcsec [12.67σ]
KicOffset-rm: 6.511 arcsec [15.22σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/3]

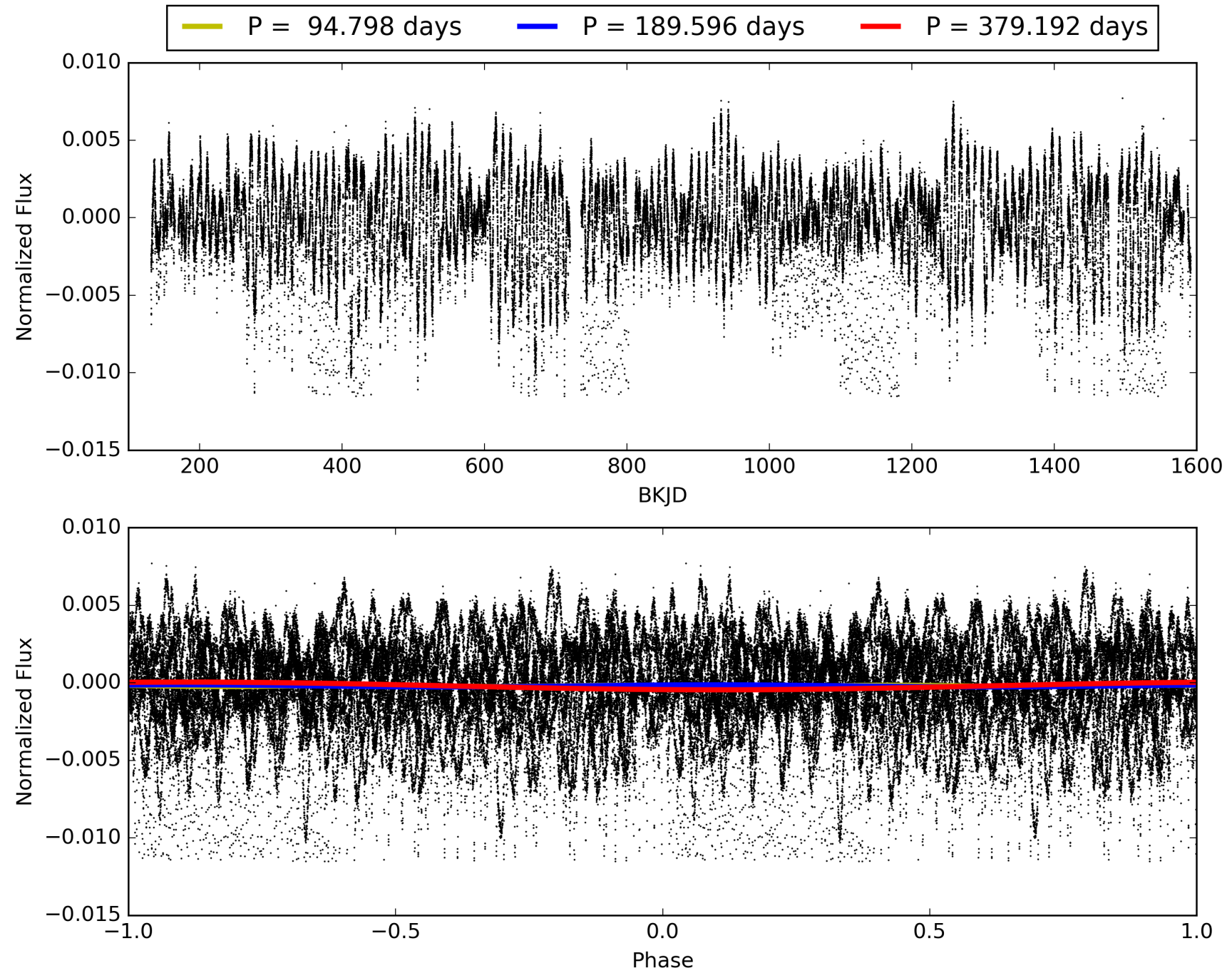
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 13:31:33 Z

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

TCE 009592579-03, PDC Light Curves

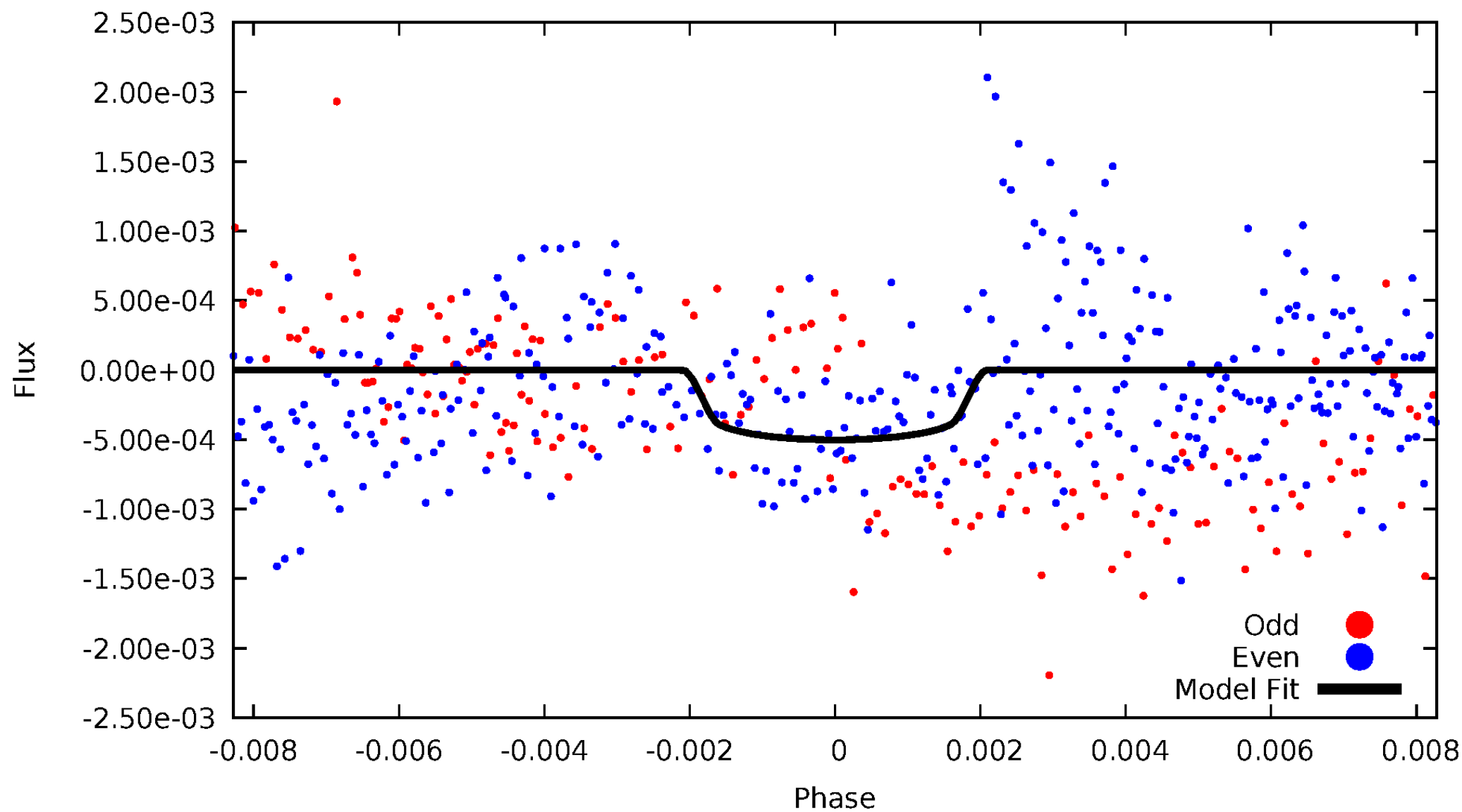


TCE 009592579-03



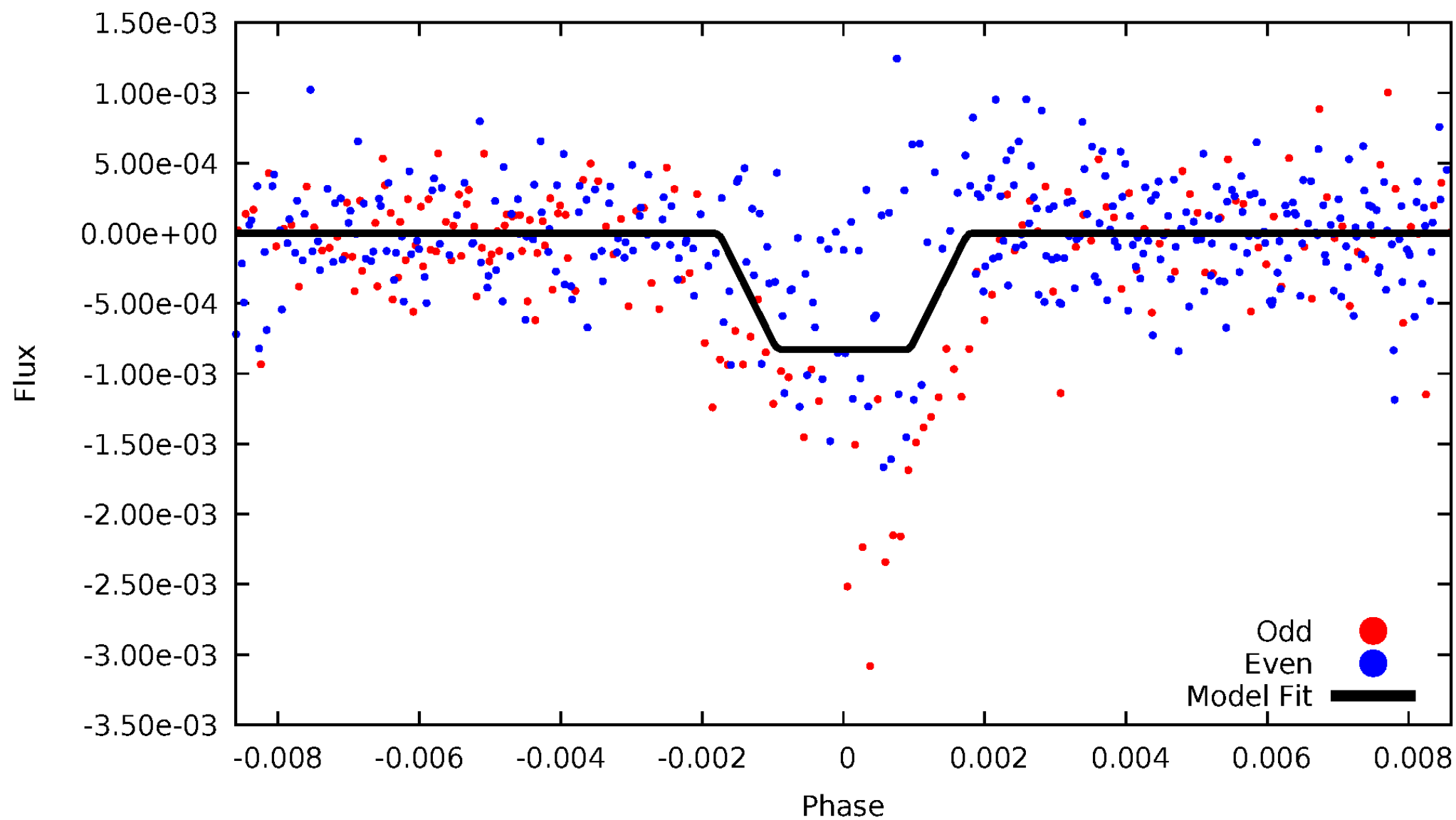
DV Odd/Even

TCE 009592579-03



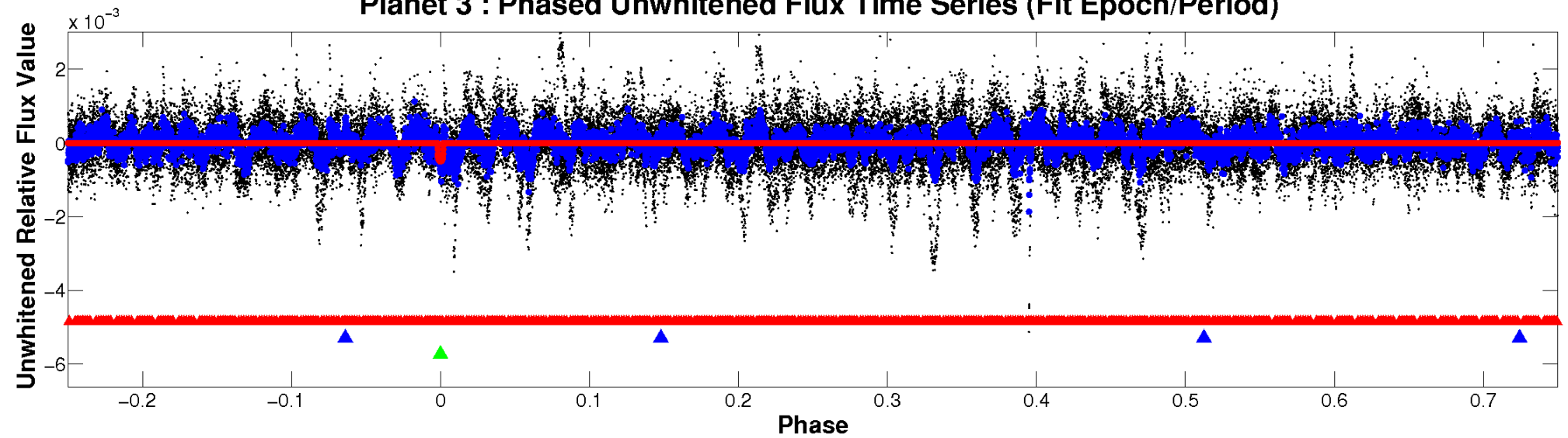
ALT Odd/Even

TCE 009592579-03

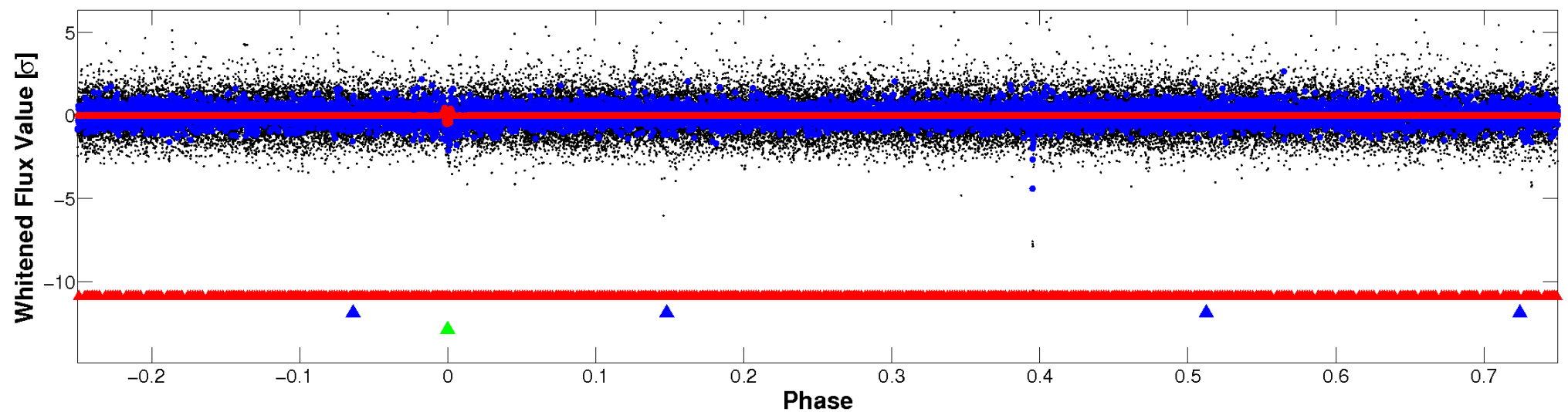


Non-Whitened Vs. Whitened Light Curve

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

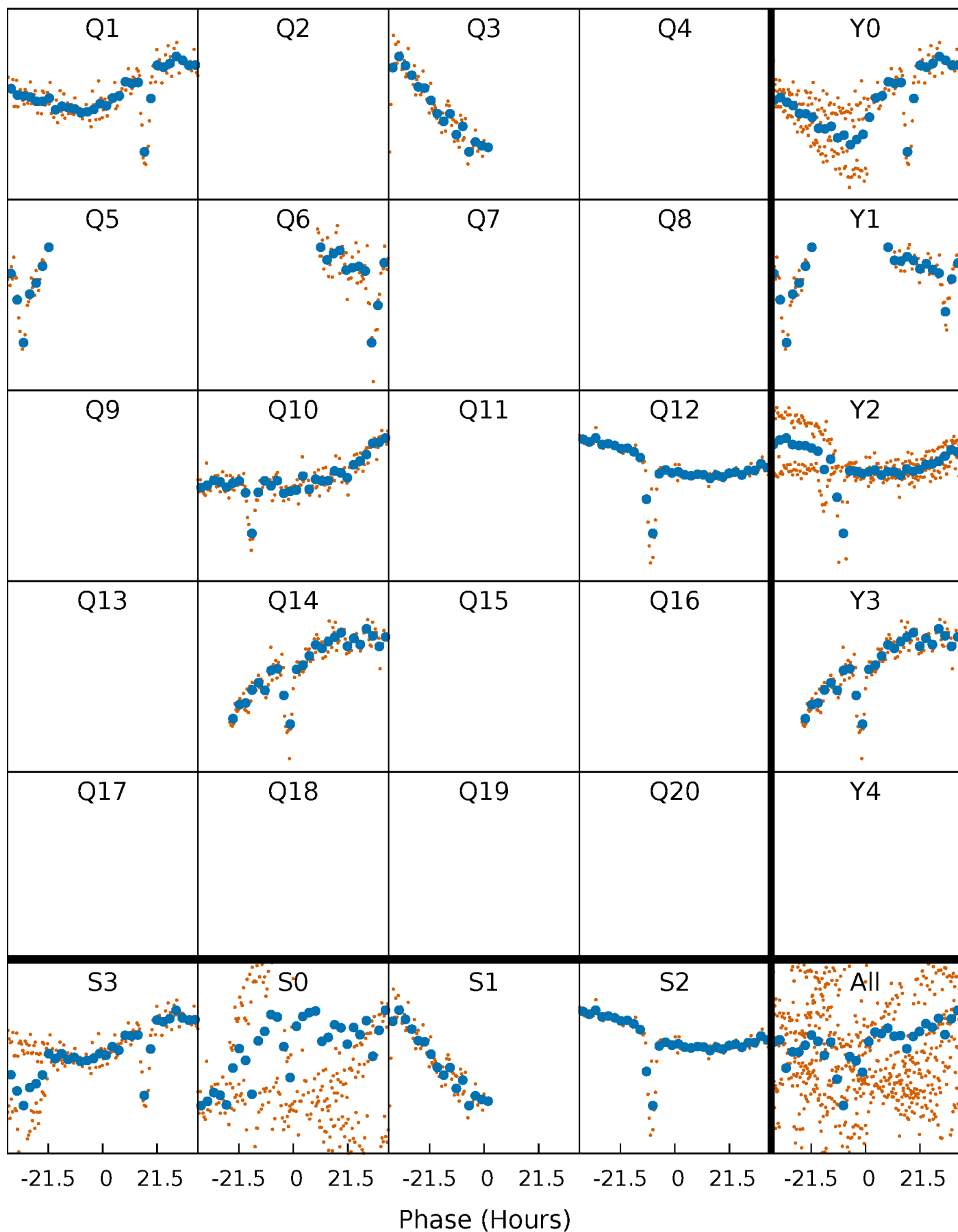


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



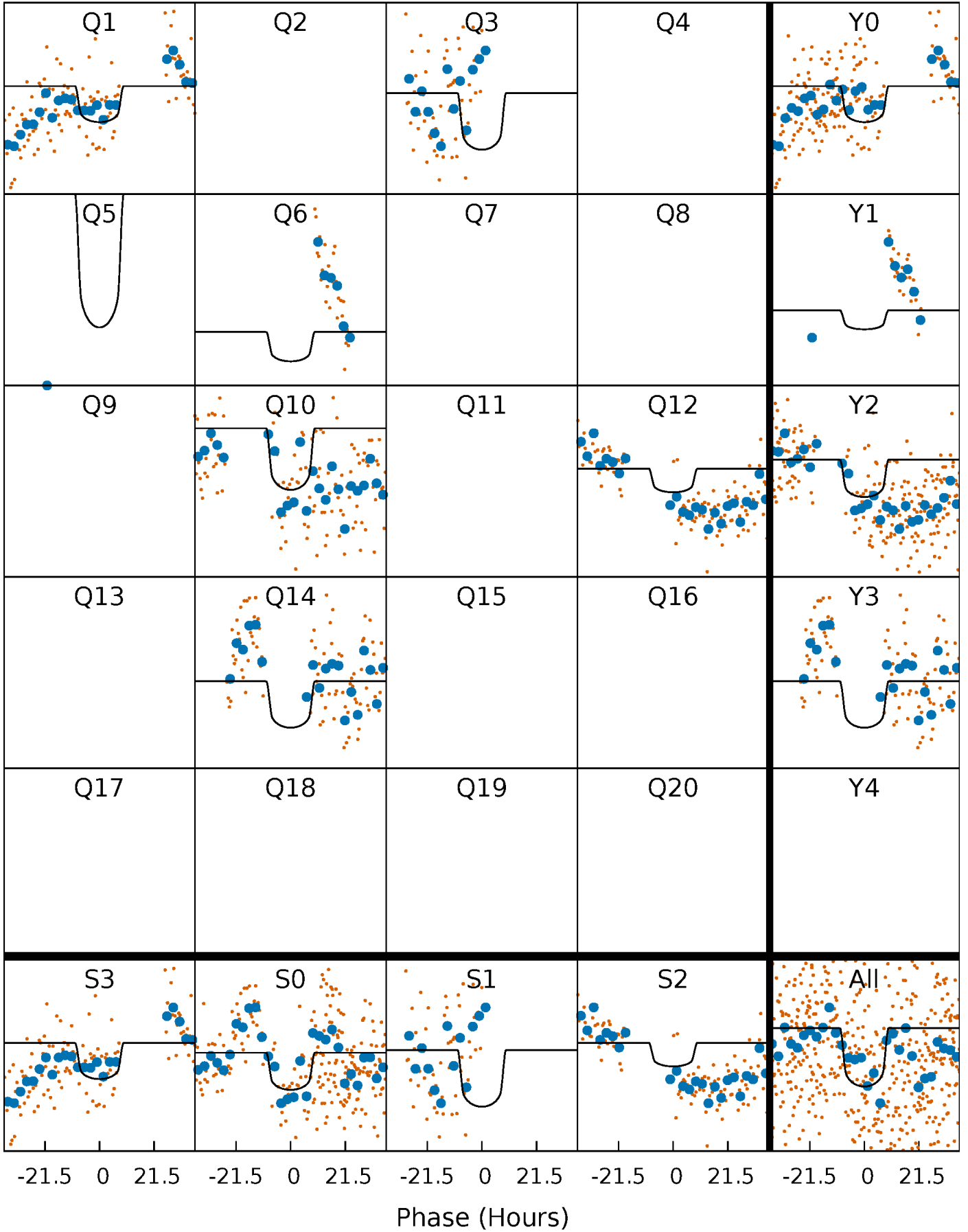
PDC Quarter-Phased Transit Curves

TCE 009592579-03 P=189.596028 Days $T_0=159.880133$ (BKJD)



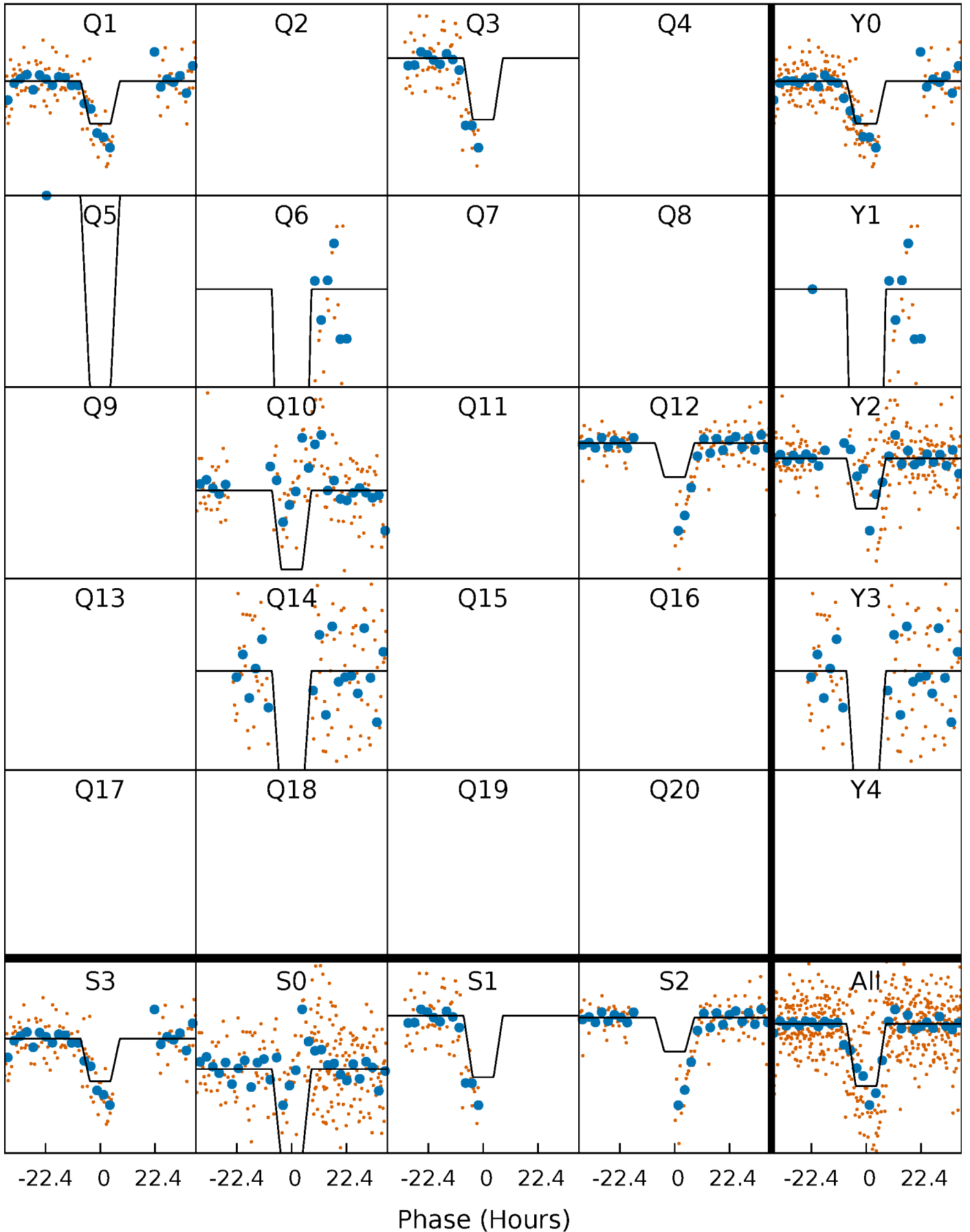
DV Quarter-Phased Transit Curves

TCE 009592579-03 P=189.596028 Days $T_0=159.880133$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

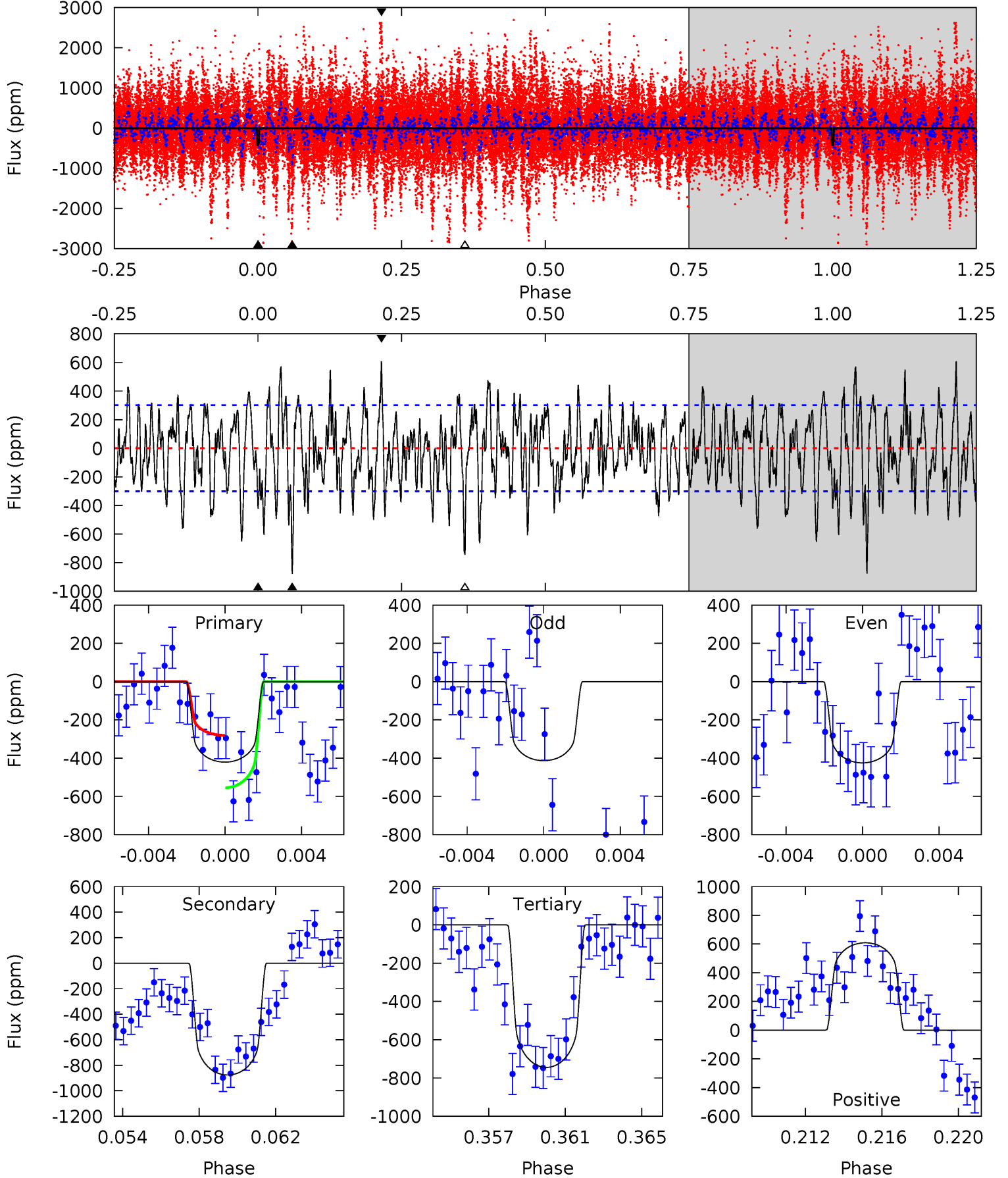
TCE 009592579-03 P=189.568947 Days $T_0=159.992209$ (BKJD)



DV Model-Shift Uniqueness Test

009592579-03, P = 189.596028 Days, E = 159.880133 Days

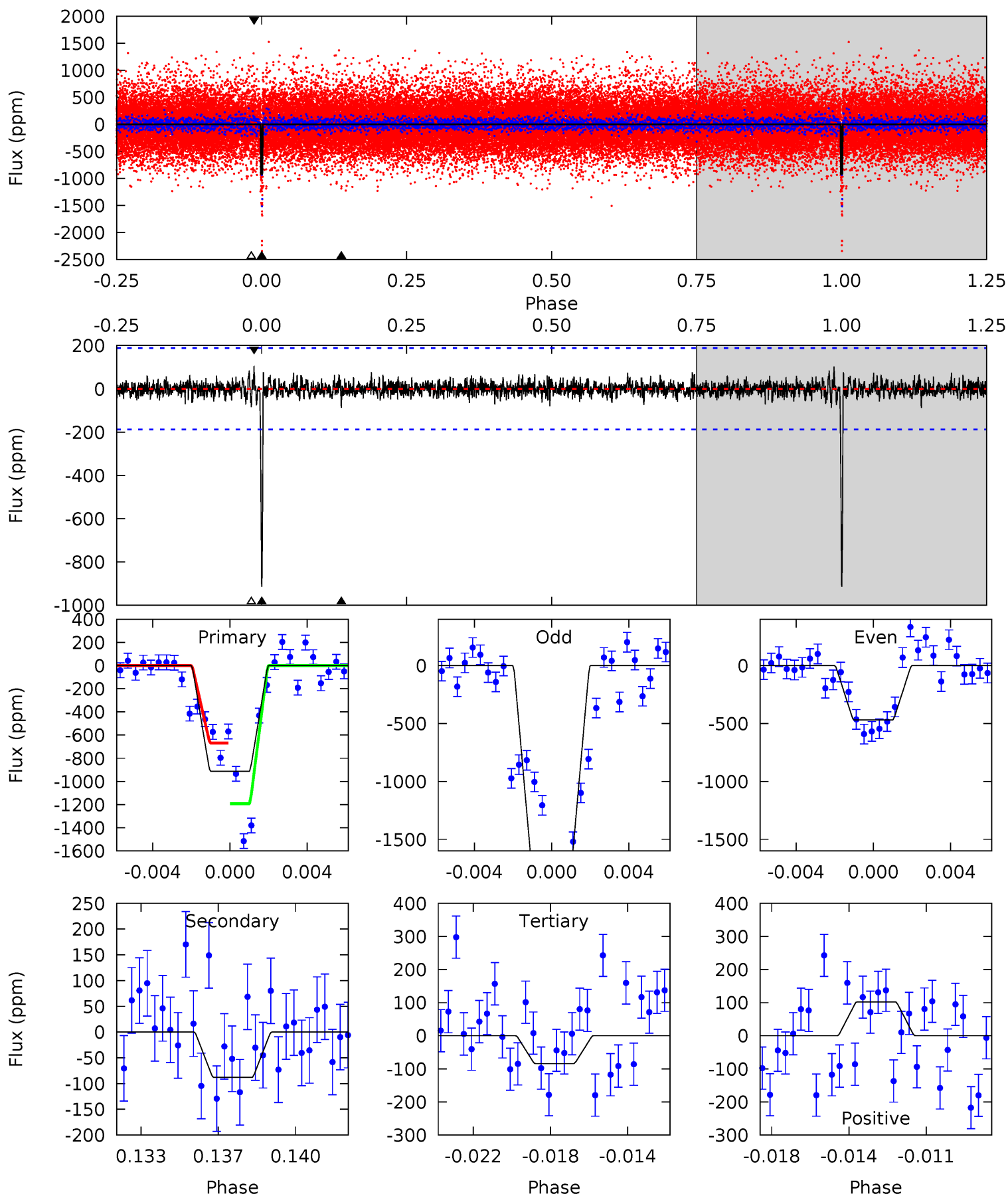
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.26	15.1	12.8	10.5	5.19	2.87	3.82	-5.58	-3.24	2.28	4.62	0.09	1.00	0.41	2.39



Alt Model-Shift Uniqueness Test

009592579-03, P = 189.568947 Days, E = 159.992209 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.4	2.44	2.34	2.85	5.22	2.91	0.60	23.0	22.5	0.11	-0.40	17.1	0.97	0.10	7.26



Stellar Parameters For KIC 009592579

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6108^{+171}_{-214}	$4.466^{+0.054}_{-0.216}$	$0.070^{+0.250}_{-0.300}$	$1.030^{+0.341}_{-0.114}$	$1.132^{+0.135}_{-0.166}$	$1.457^{+0.324}_{-0.766}$
	+3%/-4%	+1%/-5%	+357%/-429%	+33%/-11%	+12%/-15%	+22%/-53%
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 009592579-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-877 ± 58	$2.79^{+0.61}_{-0.51}$	475^{+36}_{-24}	6832^{+776}_{-563}	27655^{+13280}_{-8883}
Alt.	-88 ± 36	$3.36^{+0.74}_{-0.57}$	476^{+35}_{-25}	3840^{+330}_{-365}	1810^{+1212}_{-852}

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

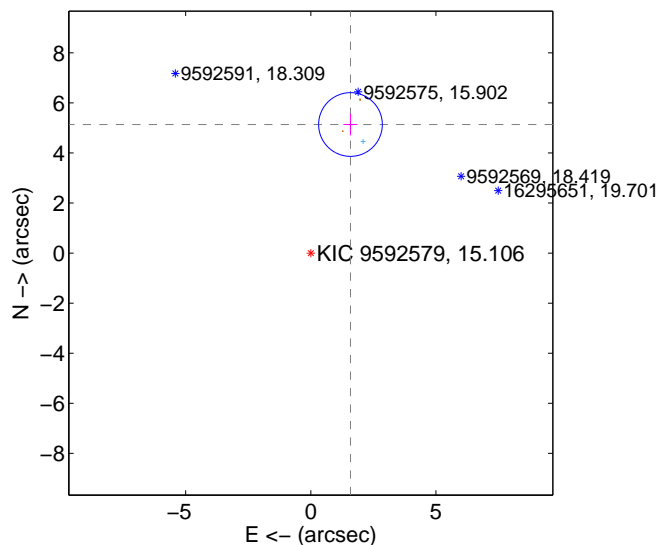
Supplemental centroid analysis for 009592579-03. Kepler magnitude: 15.11. Transit SNR 5.22

There are 1 quarters with good PRF difference image offsets

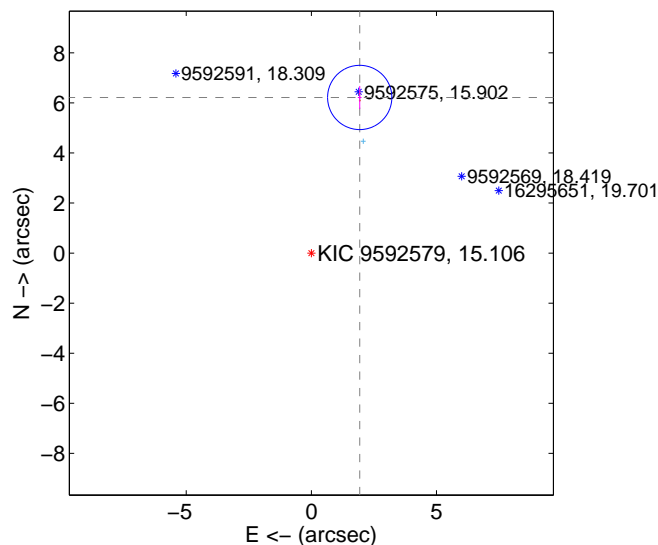
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.375 ± 0.424	12.67	-1.585 ± 0.282	5.136 ± 0.435
PRF-fit source offset from KIC position	6.511 ± 0.428	15.22	-1.932 ± 0.076	6.218 ± 0.459
photometric centroid source offset	1.72 ± 2.11	0.82	-1.18 ± 1.24	1.26 ± 2.64

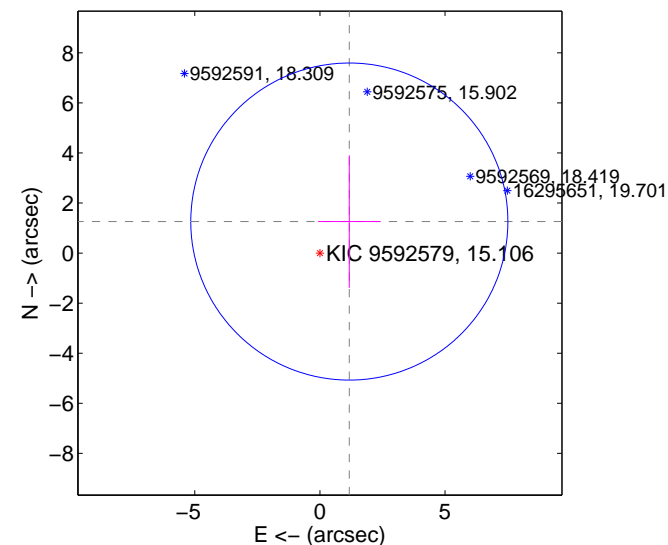
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

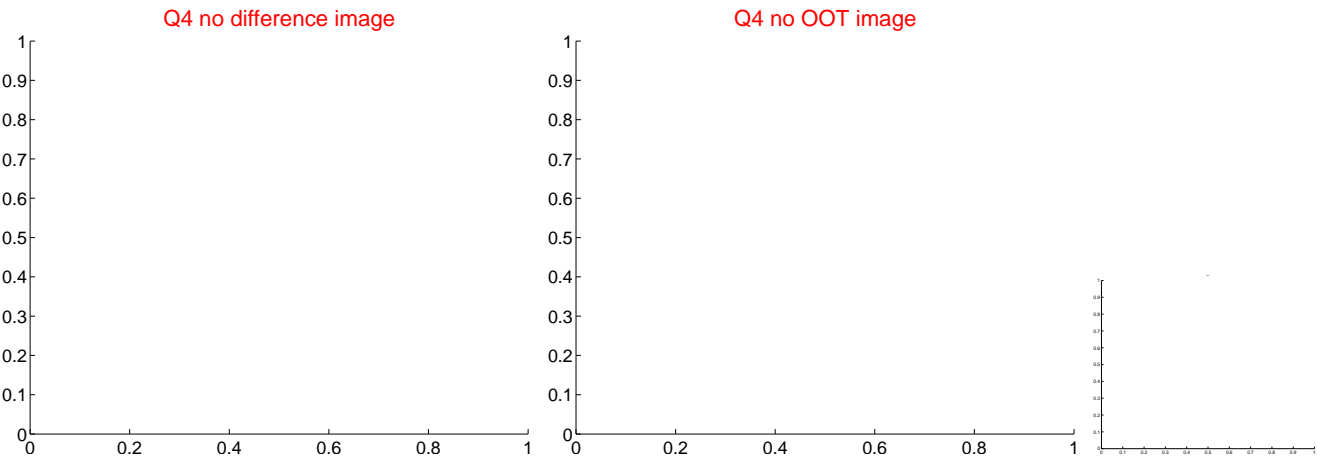
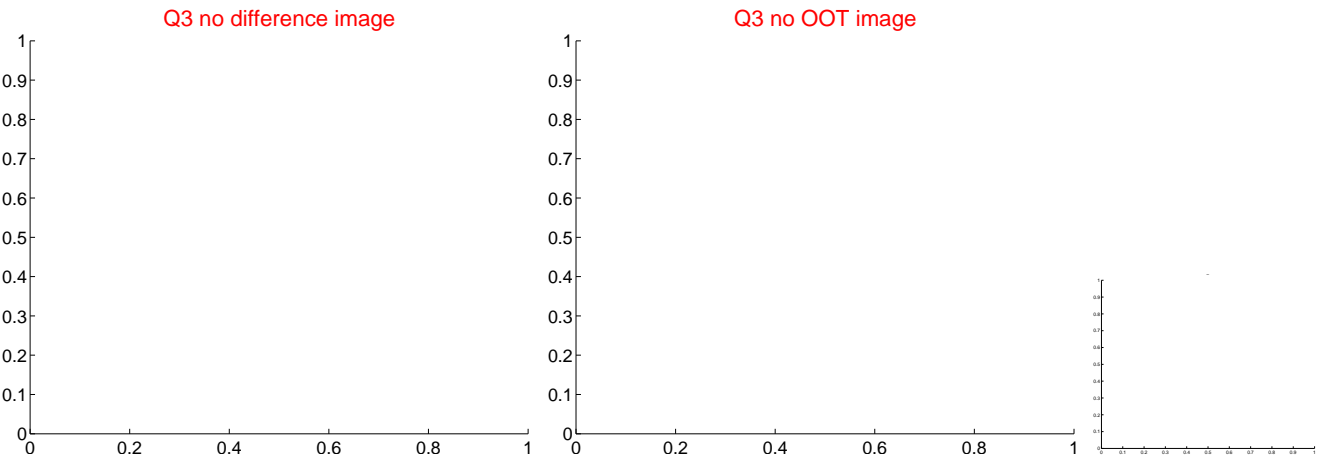
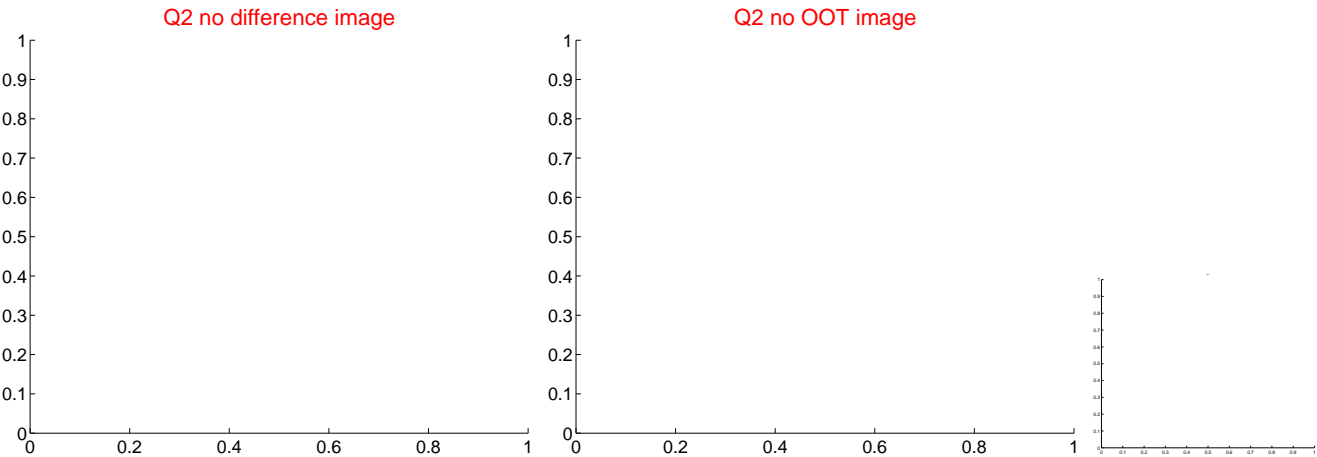
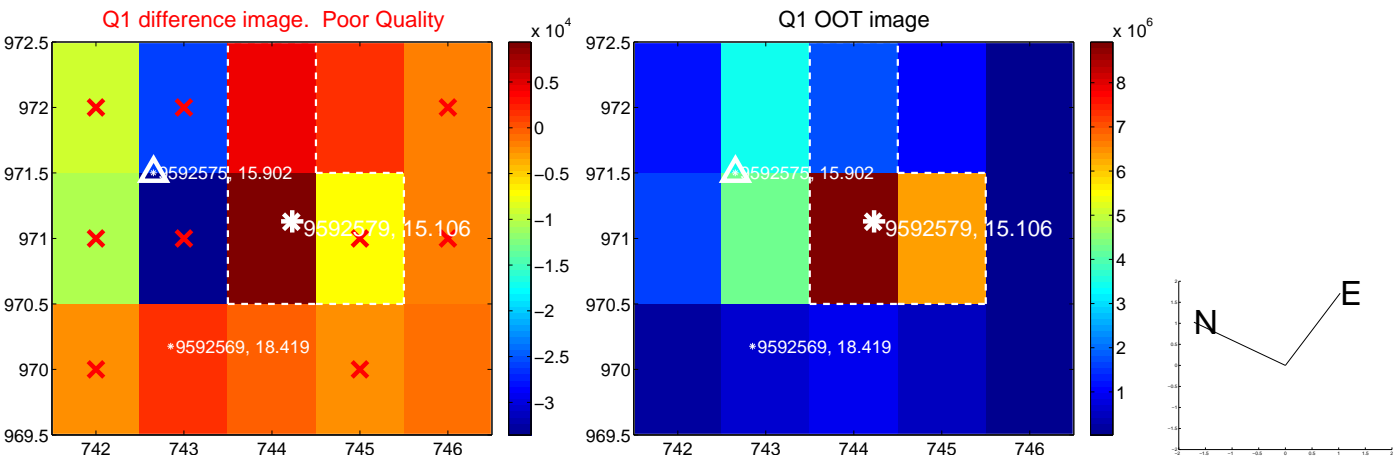


offset from photometric centroids

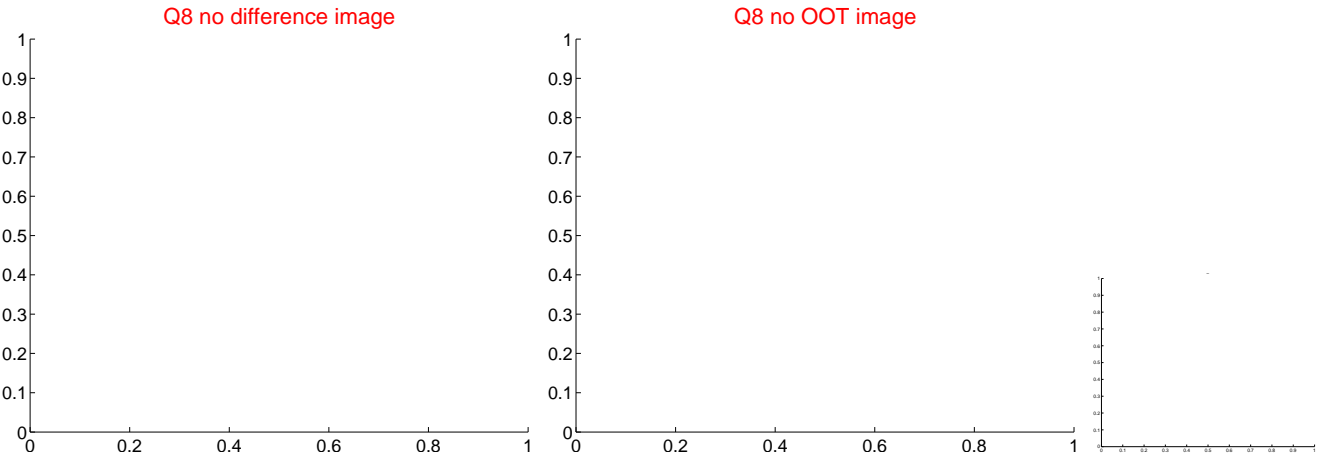
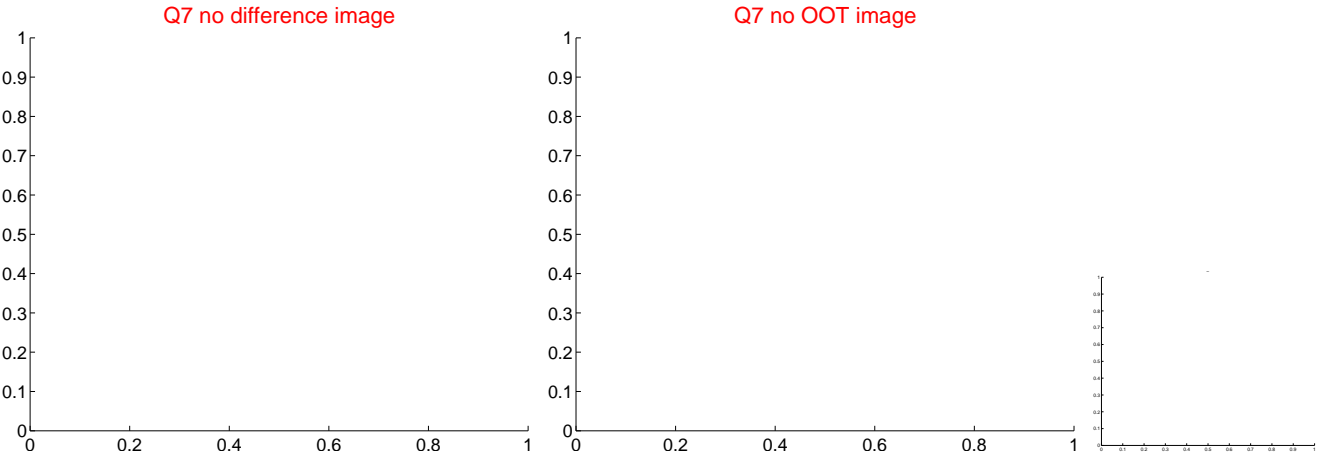
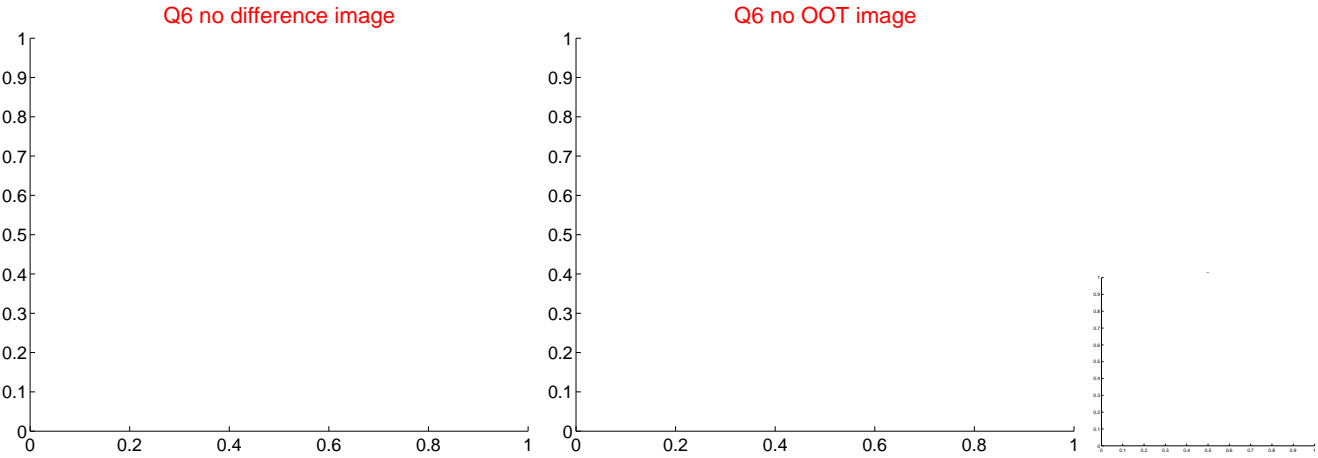
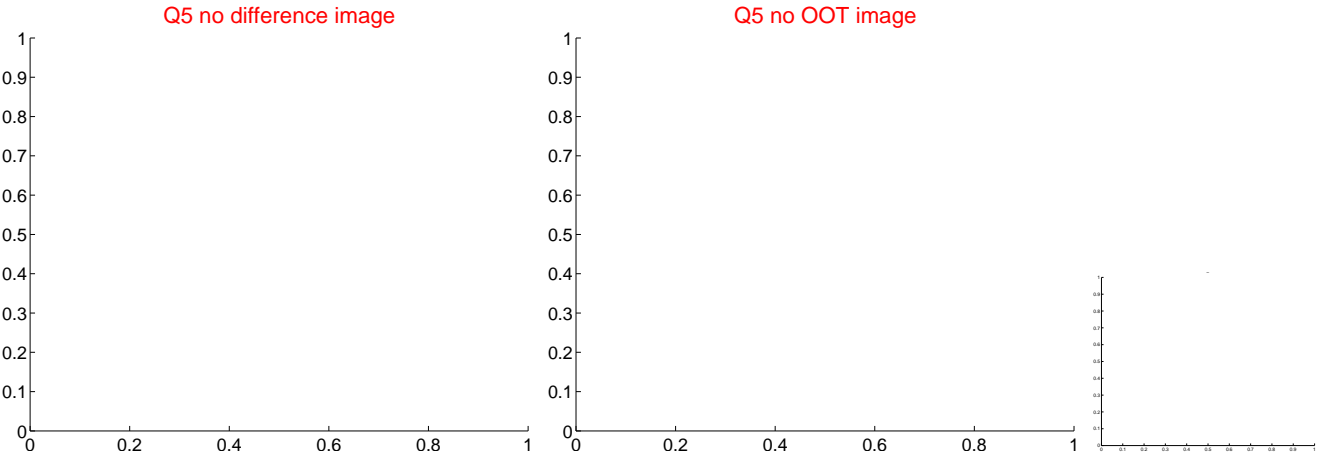


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

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



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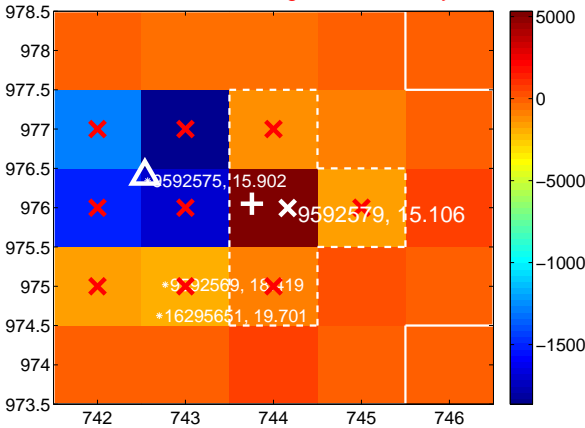
Q9 no difference image



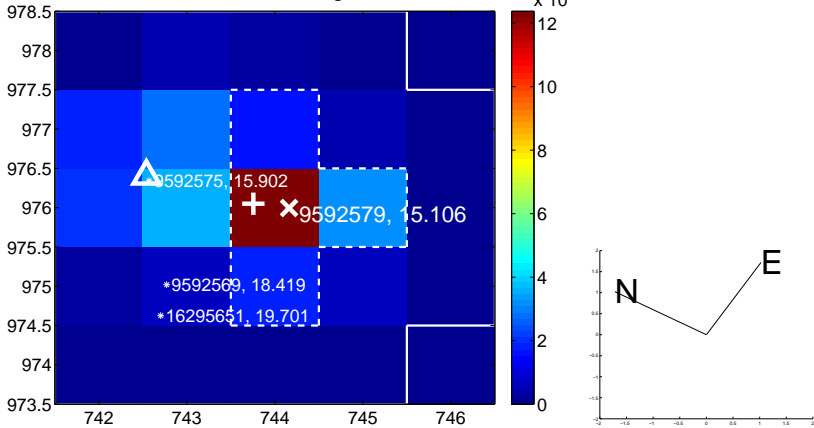
Q9 no OOT image



Q10 difference image. Poor Quality



Q10 OOT image



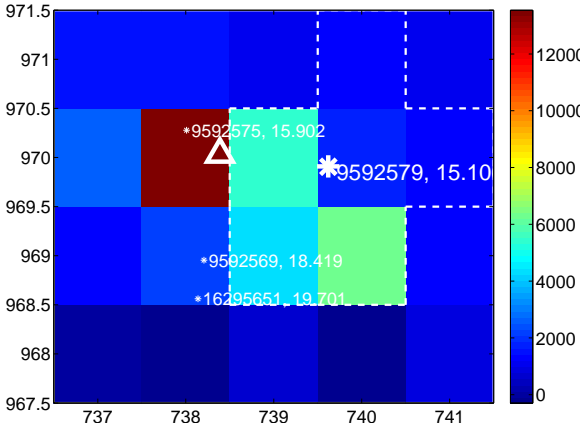
Q11 no difference image



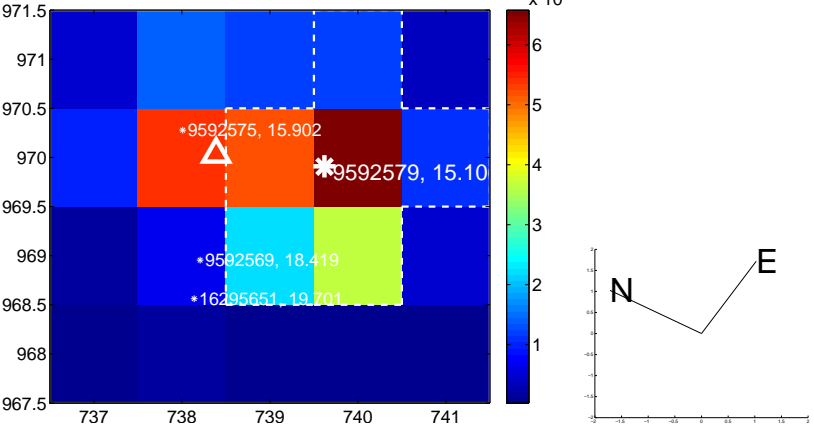
Q11 no OOT image



Q12 difference image



Q12 OOT image

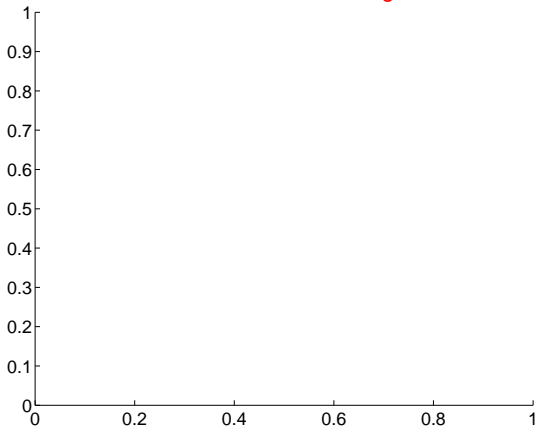


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

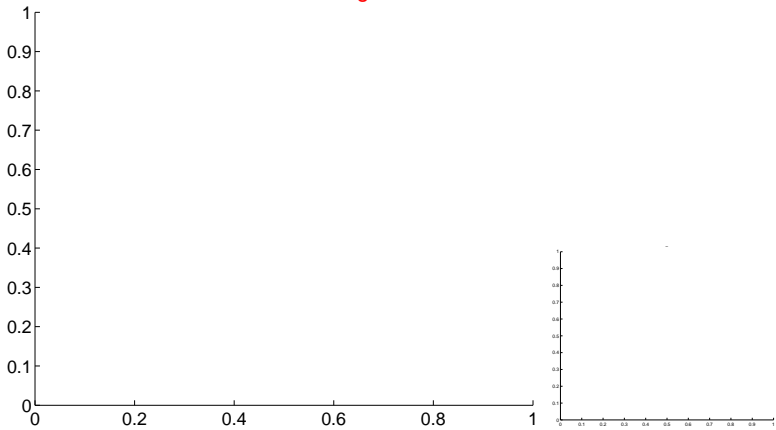


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

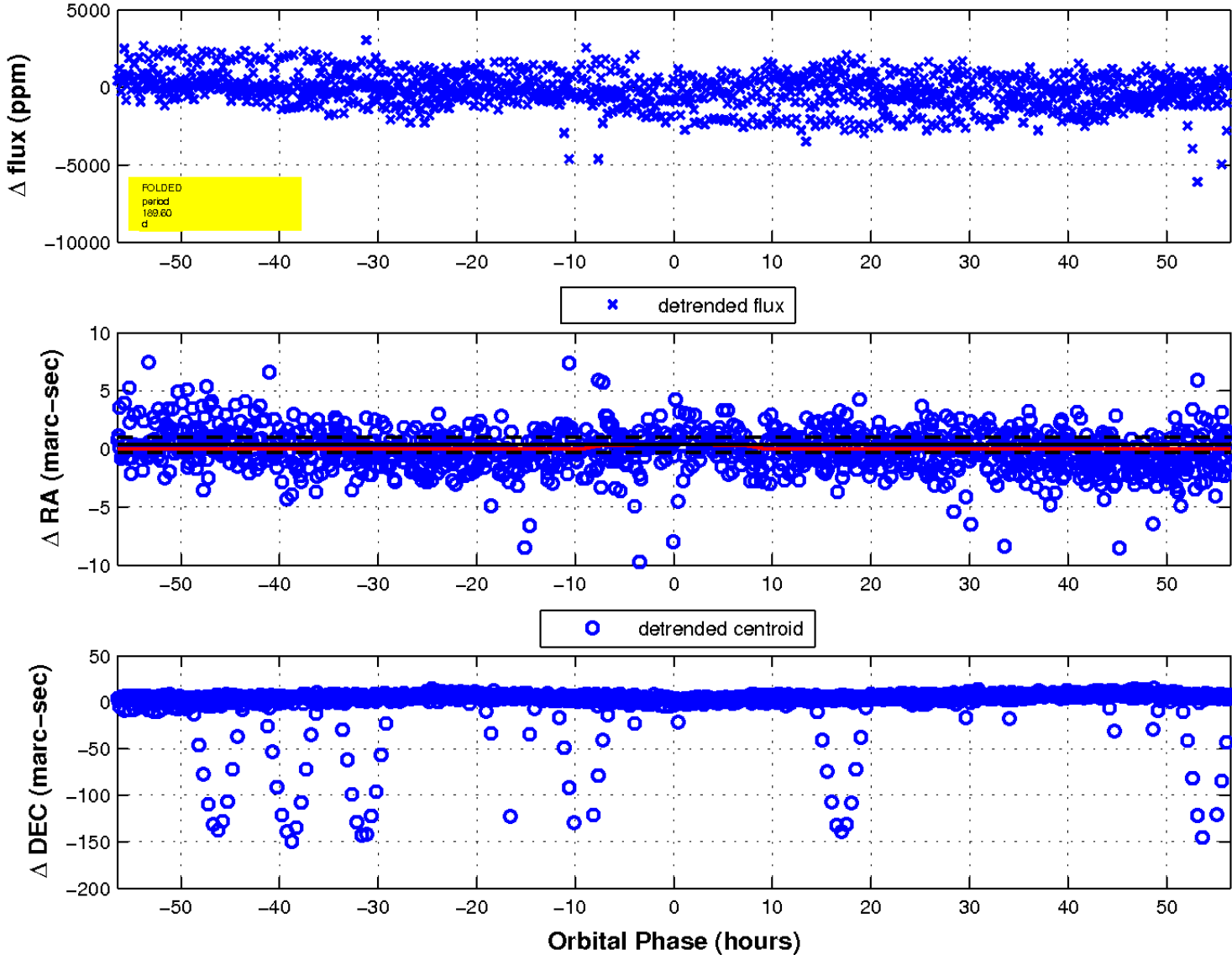
Q17 no difference image



Q17 no OOT image



fluxWeightedCentroids, Planet 3 of 3



UKIRT Image

Declination

