

KIC 004067549

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})
004067549-01	OBS	6380.01	7.698431	137.868024	42062.7	5.462	1558.1	1180.8	0.88	5774	29.81	140.58
004067549-02	OBS	No	7.698430	134.018366	11341.8	5.455	430.6	413.0	0.88	5774	14.46	140.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004067549-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
004067549-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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

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

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

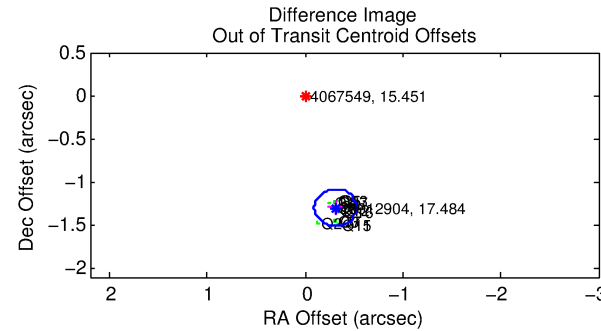
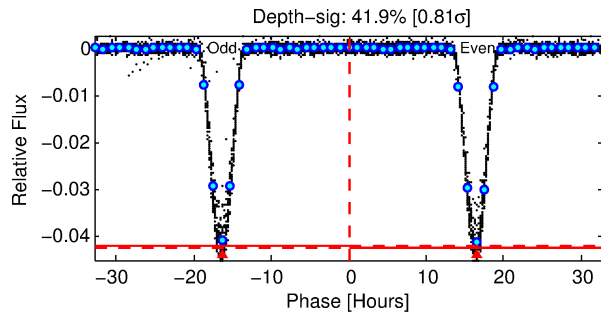
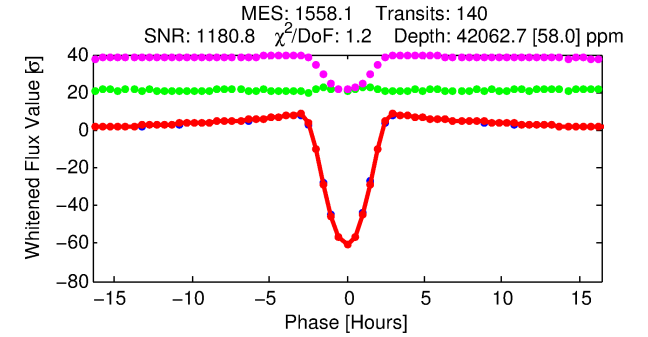
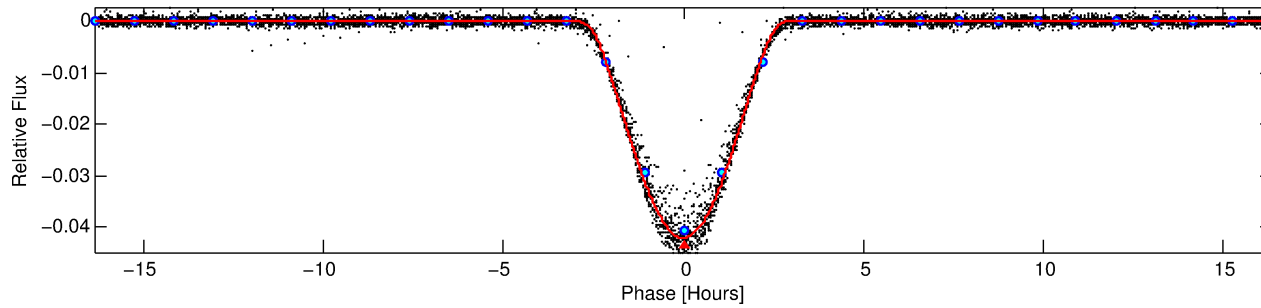
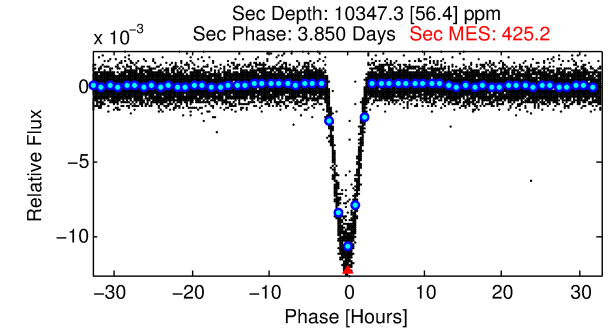
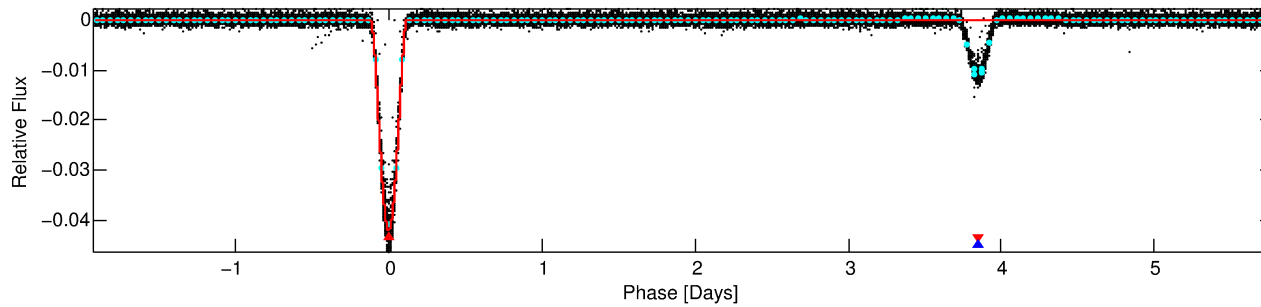
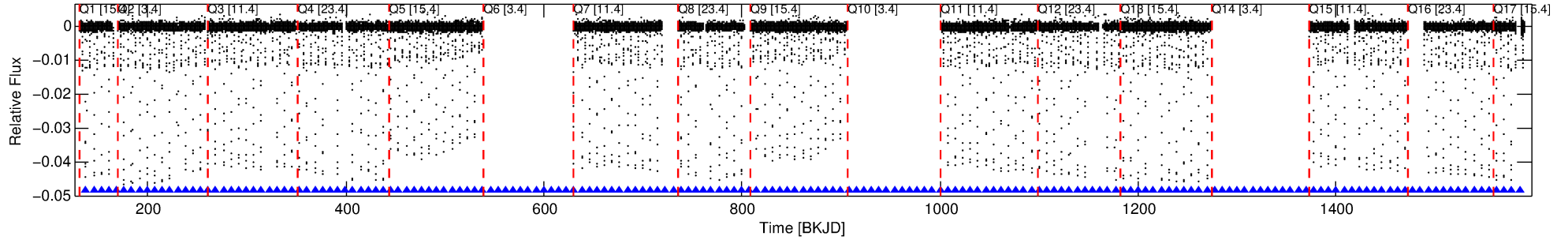
Ephemeris Match Information For 004067549-01

No Significant Match Found

DV One-Page Summary

KIC: 4067549 Candidate: 1 of 2 Period: 7.698 d
KOI: K06380.01 Corr: 1.000

Kp: 15.45 R*: 0.88 Rs Teff: 5774.0 K Logg: 4.51 Fe/H: -0.240



DV Fit Results:

Period = 7.69843 [0.00000] d
Epoch = 137.8680 [0.0001] BKJD
Rp/R* = 0.3118 [0.0189]
a/R* = 9.43 [0.02]
b = 0.98 [0.03]
Seff = 140.58 [51.35]
Teq = 878 [80] K
Rp = 29.81 [8.66] Re
a = 0.0737 [0.0176] AU
Ag = 34.82 [12.74] [2.65σ]
Teffp = 3298 [140] K [14.98σ]

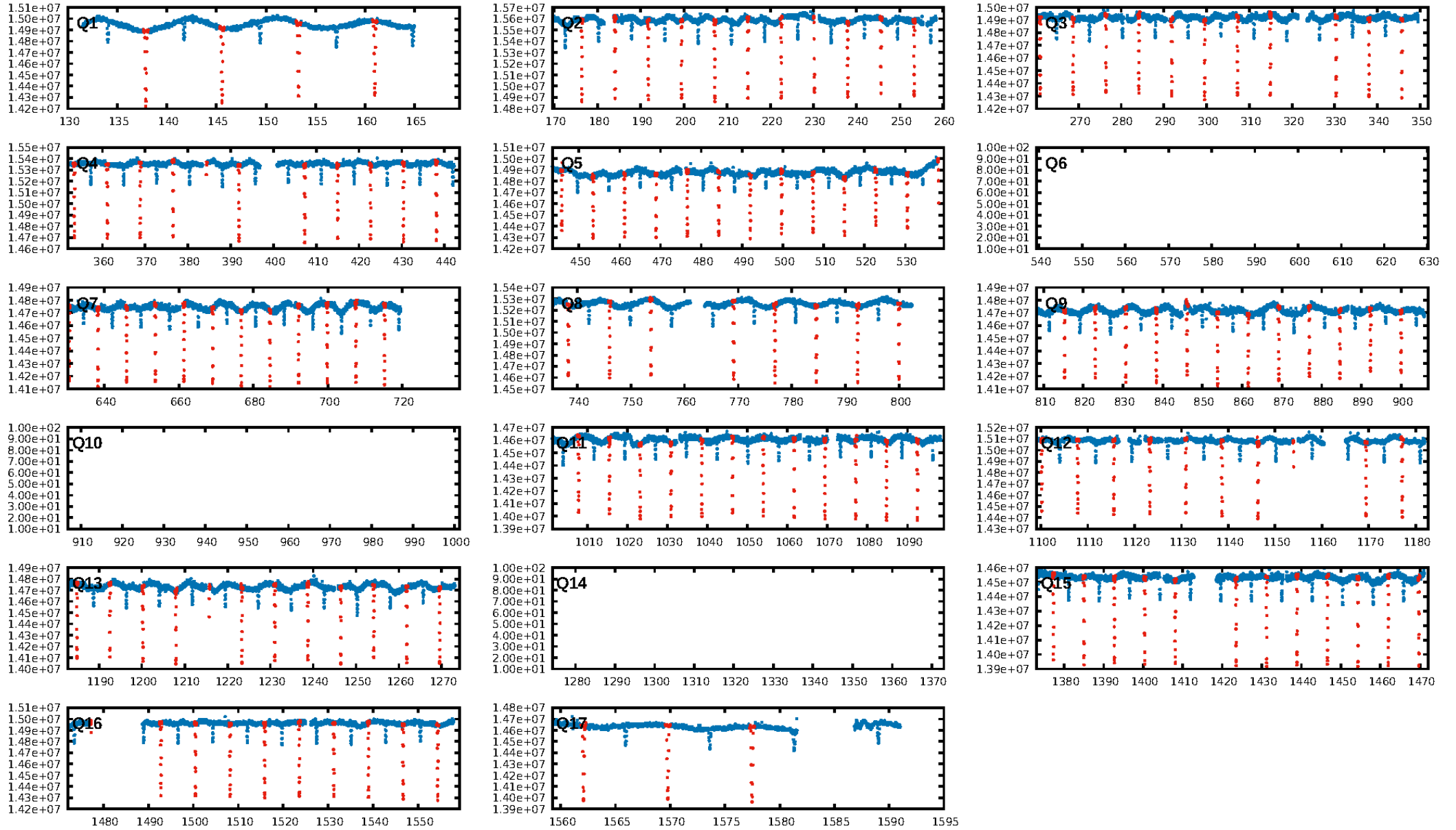
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 59.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [133/133]
GhostDiagnostic-chr: 1.848
Centroid-sig: 0.0%
Centroid-so: 1.392 arcsec [164.41σ]
OotOffset-rm: 1.334 arcsec [18.58σ]
KicOffset-rm: 1.329 arcsec [19.07σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
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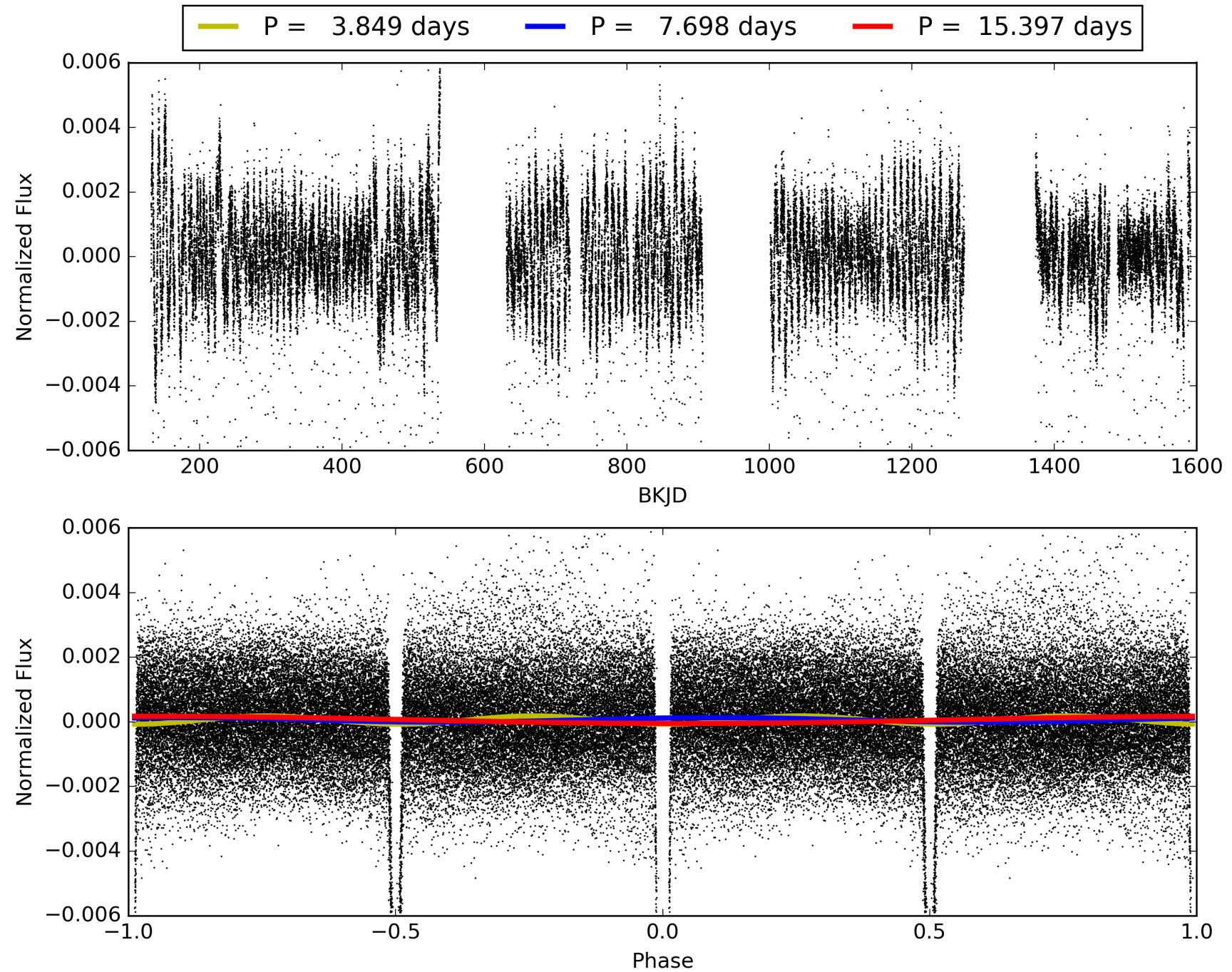
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:12:57 Z

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

TCE 004067549-01, PDC Light Curves

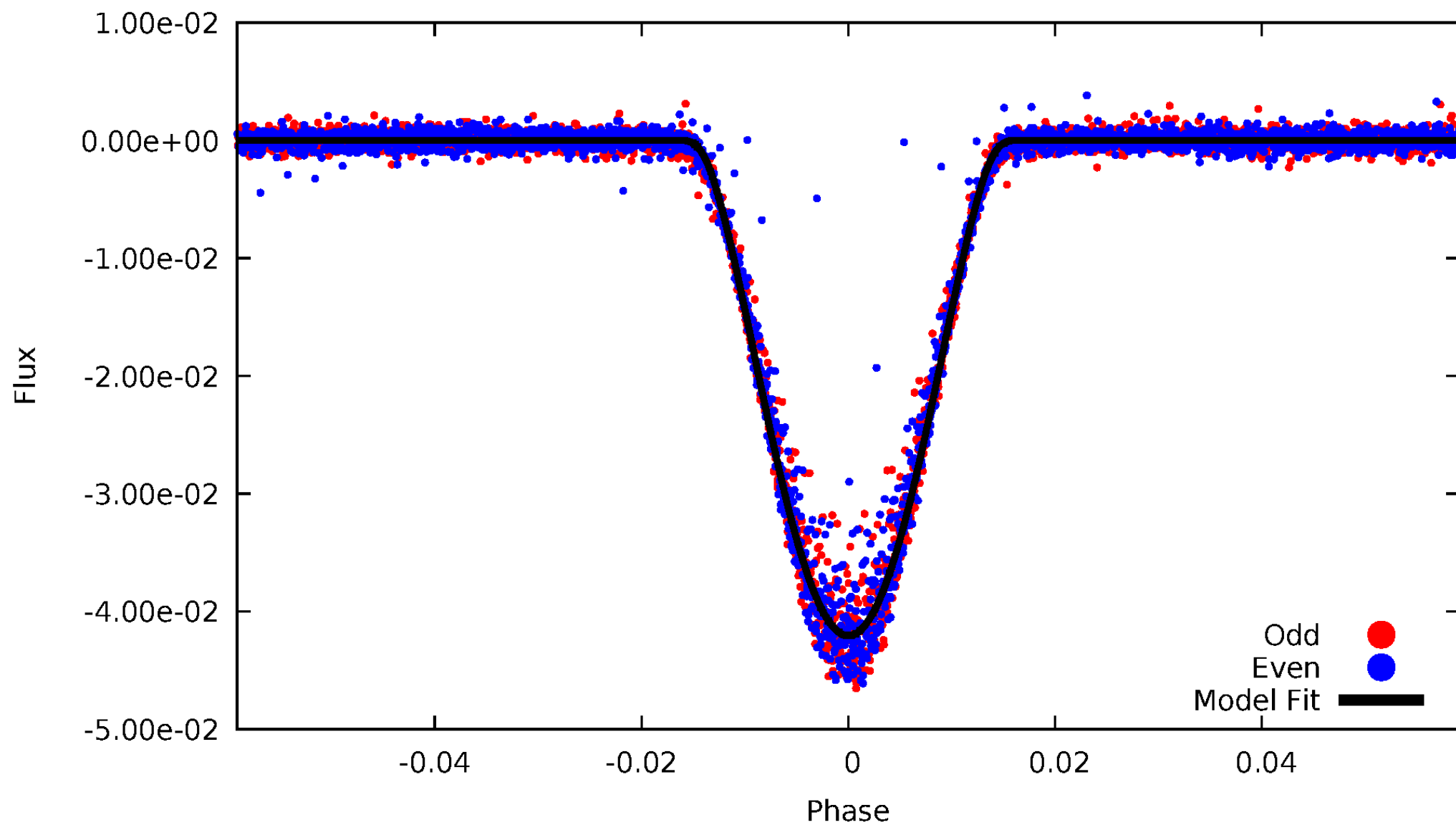


TCE 004067549-01



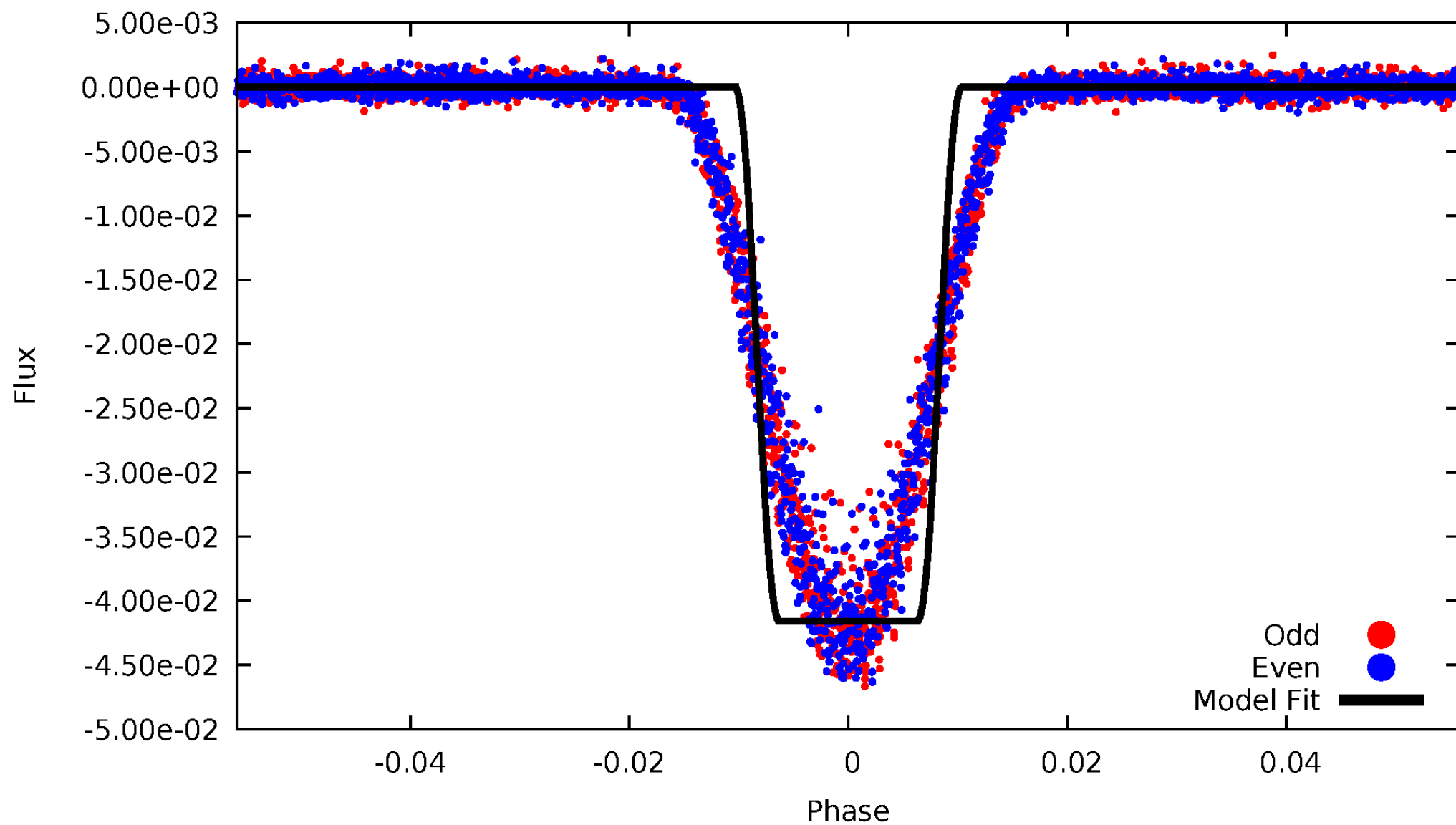
DV Odd/Even

TCE 004067549-01



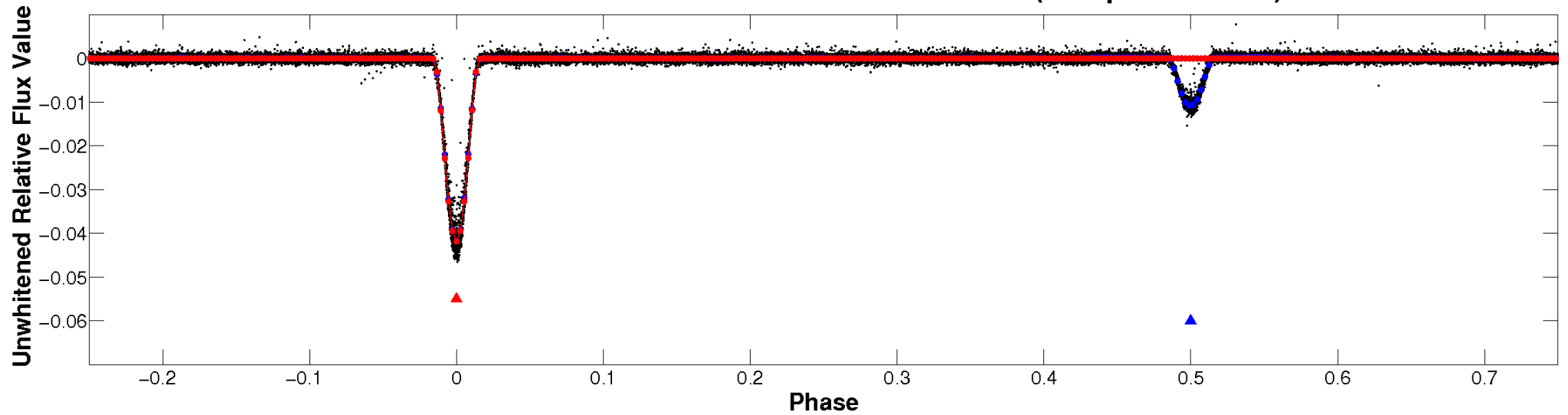
ALT Odd/Even

TCE 004067549-01

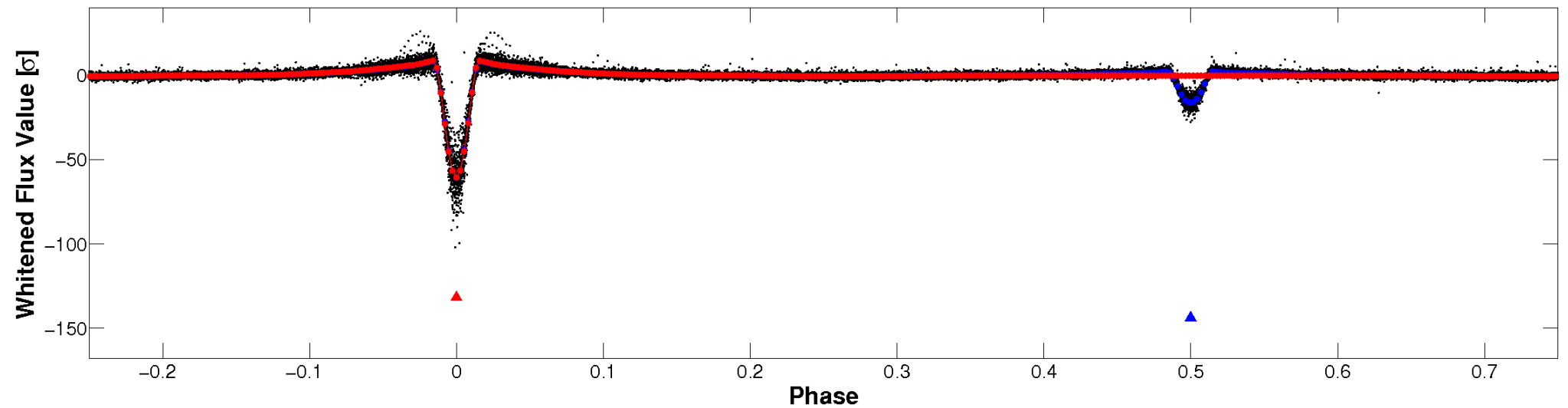


Non-Whitened Vs. Whitened Light Curve

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

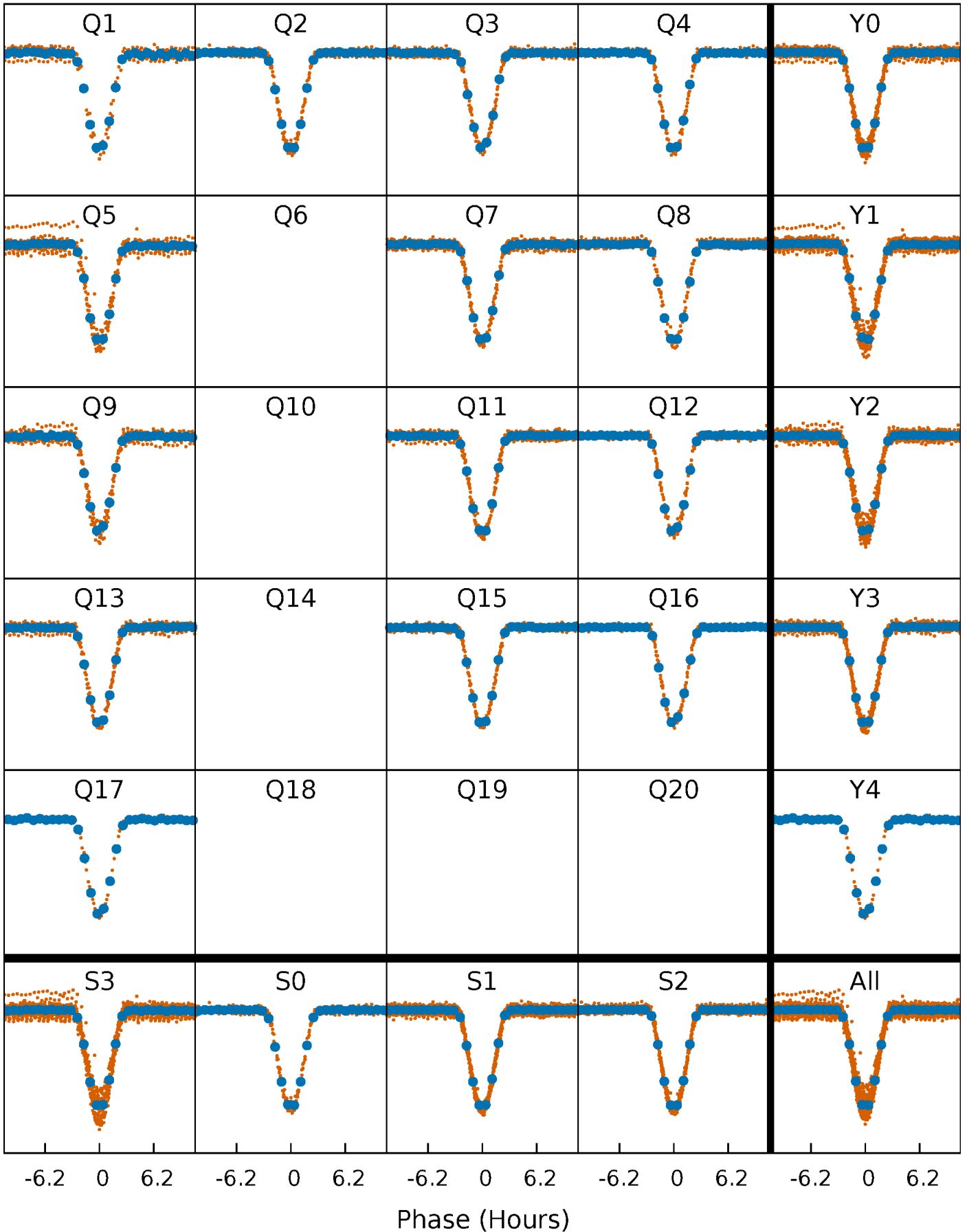


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



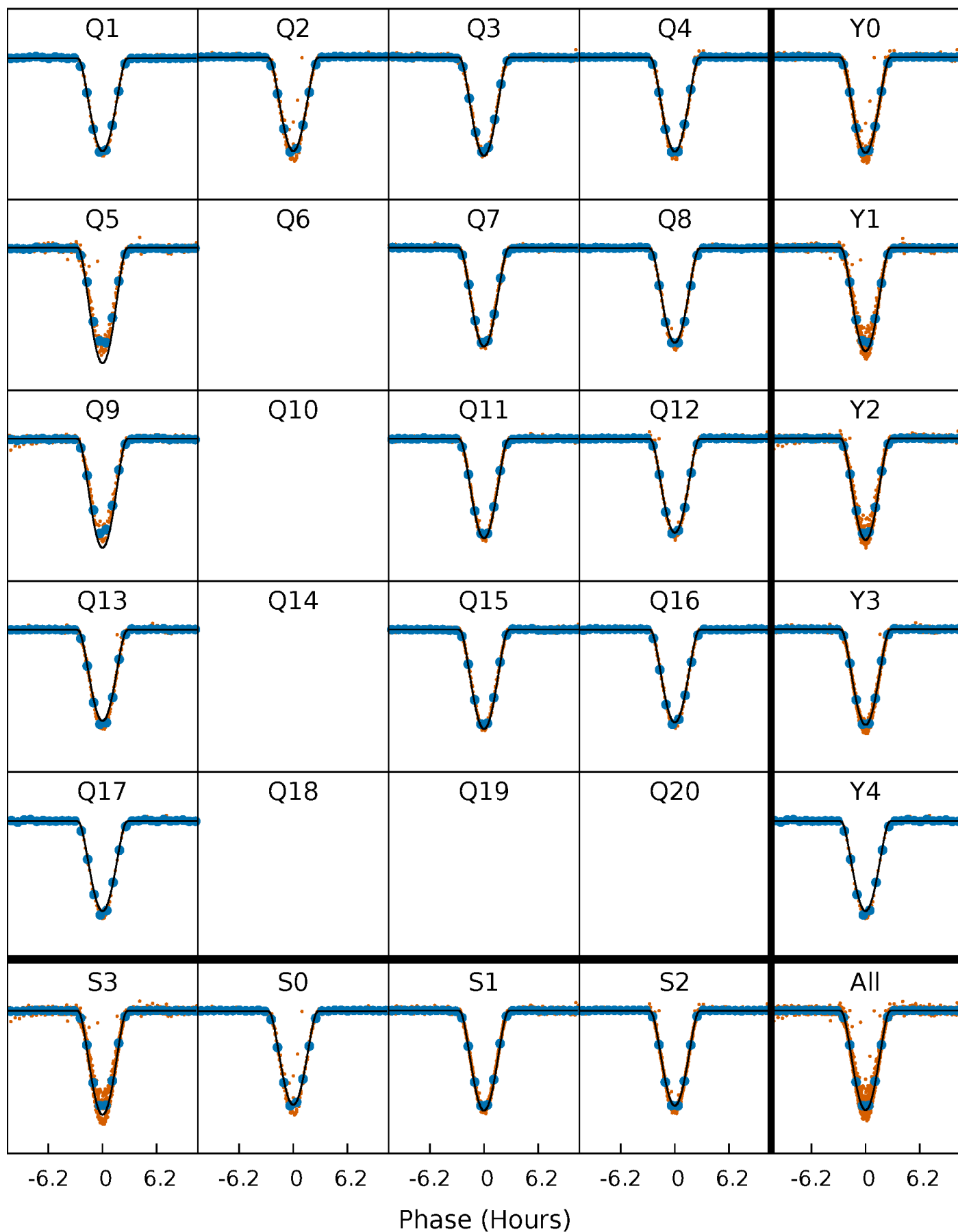
PDC Quarter-Phased Transit Curves

TCE 004067549-01 P= 7.698431 Days $T_0=137.868024$ (BKJD)



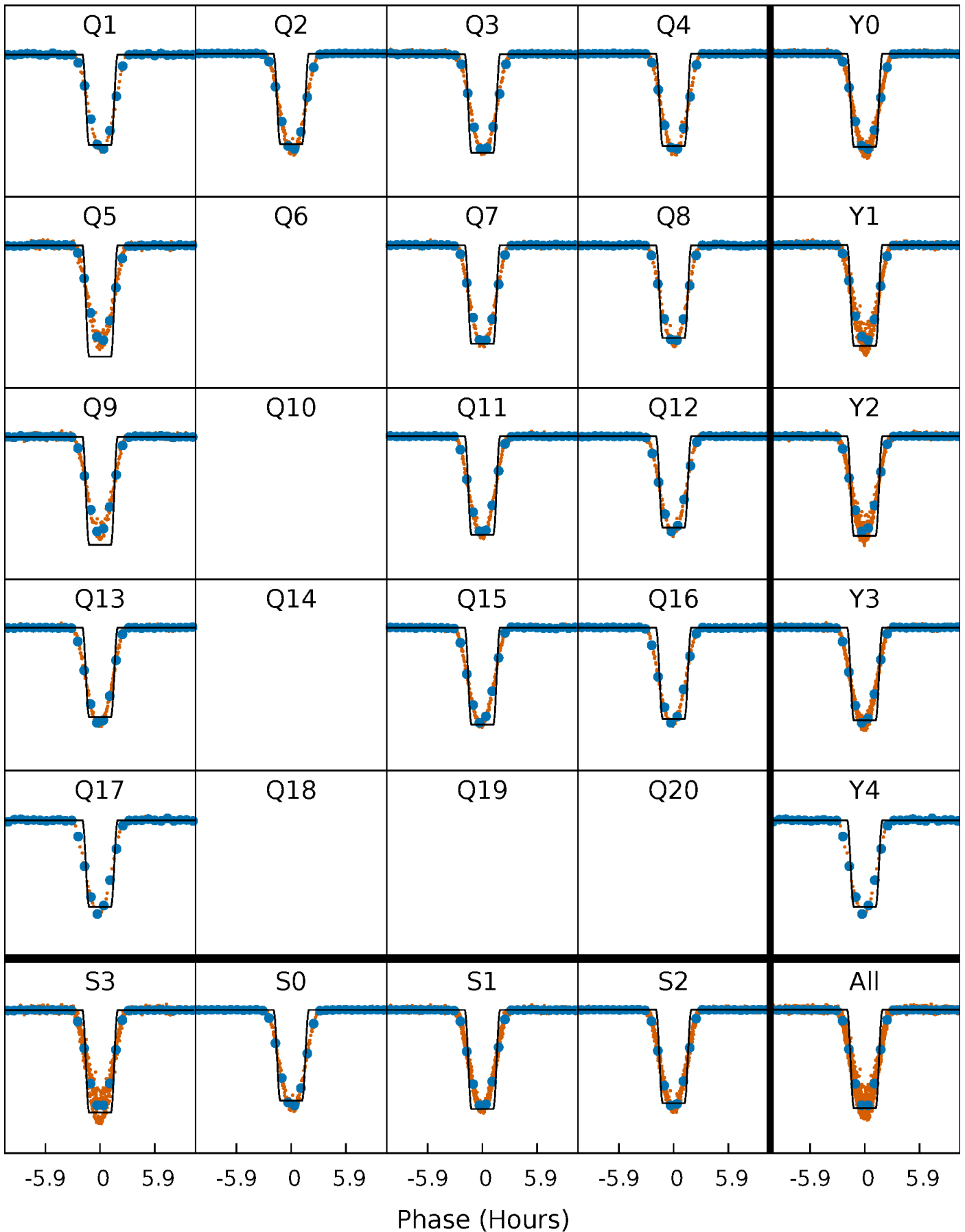
DV Quarter-Phased Transit Curves

TCE 004067549-01 P= 7.698431 Days $T_0=137.868024$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

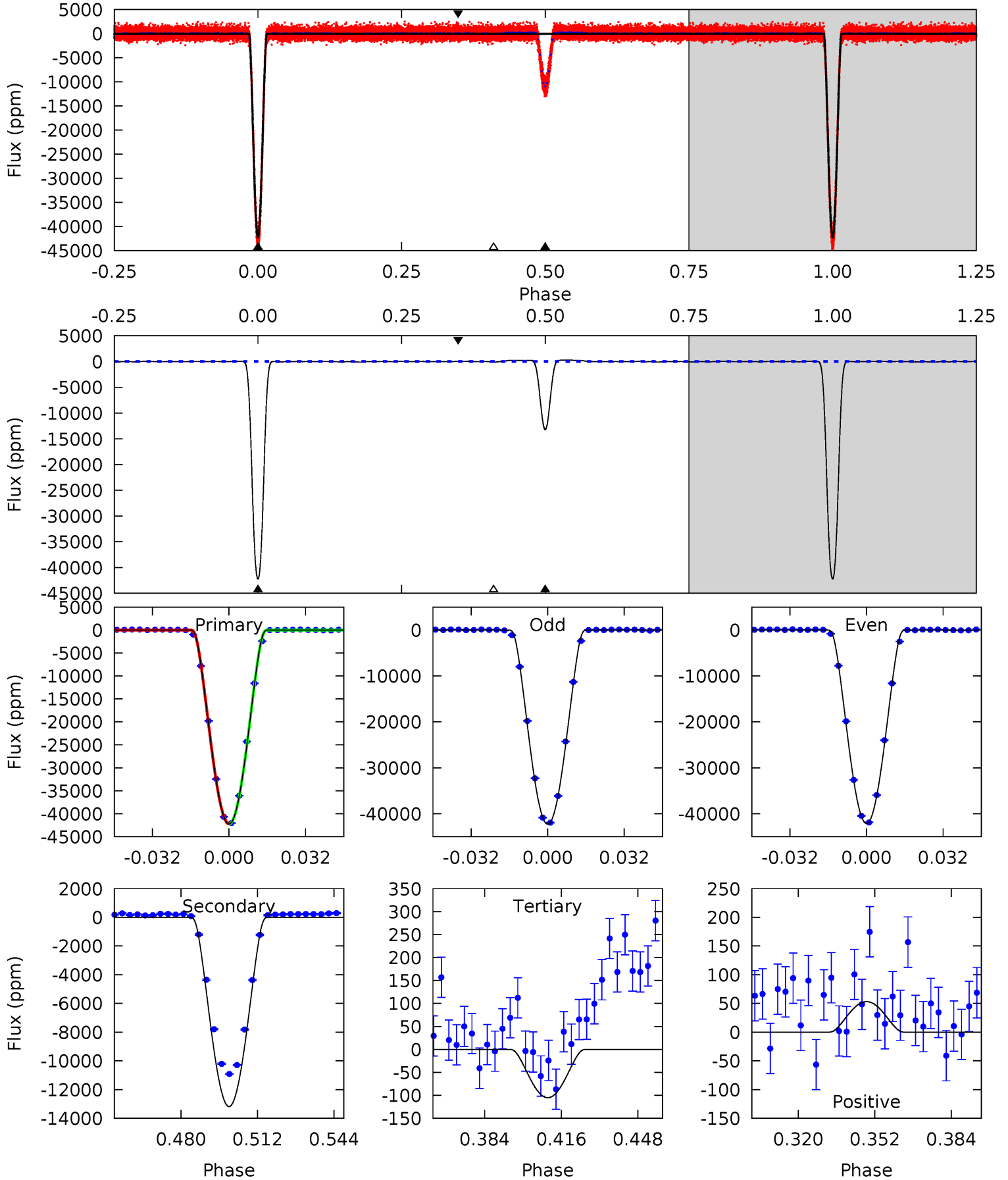
TCE 004067549-01 P= 7.698502 Days $T_0=137.861660$ (BKJD)



DV Model-Shift Uniqueness Test

004067549-01, P = 7.698431 Days, E = 130.169593 Days

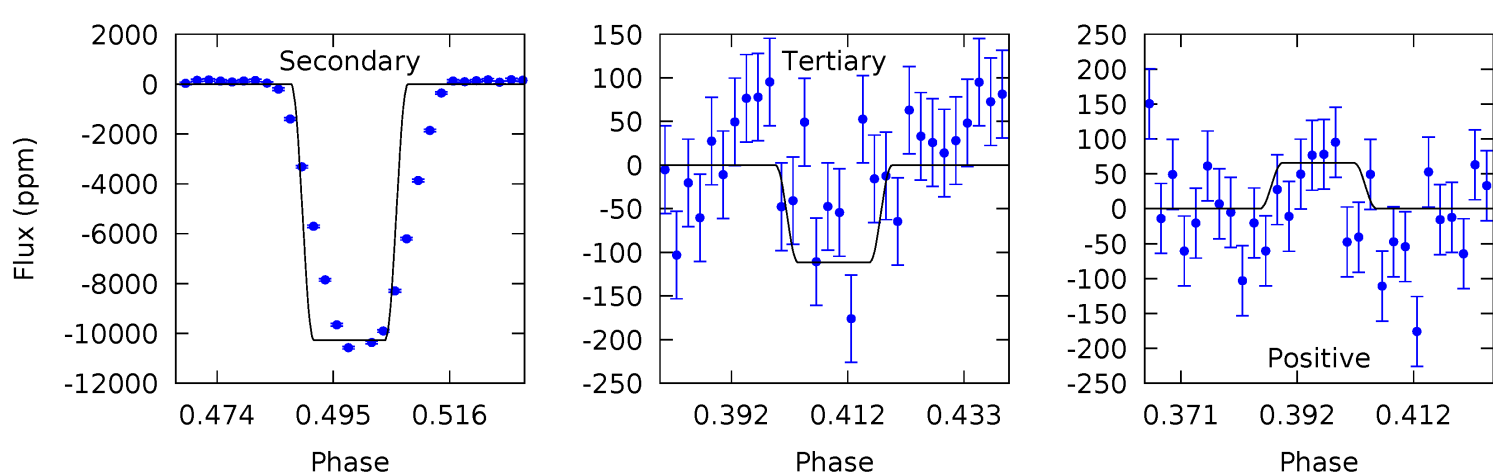
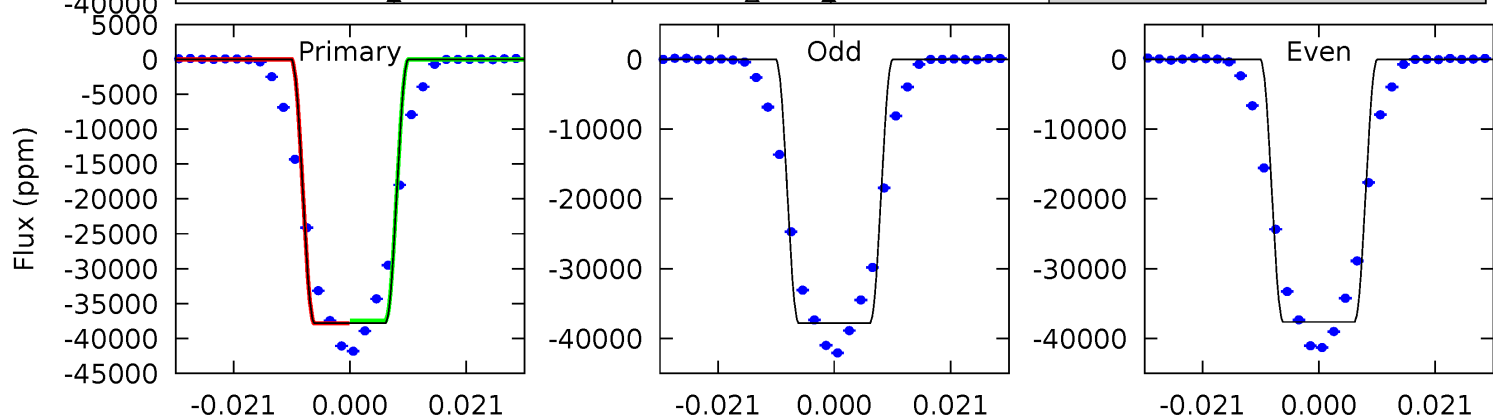
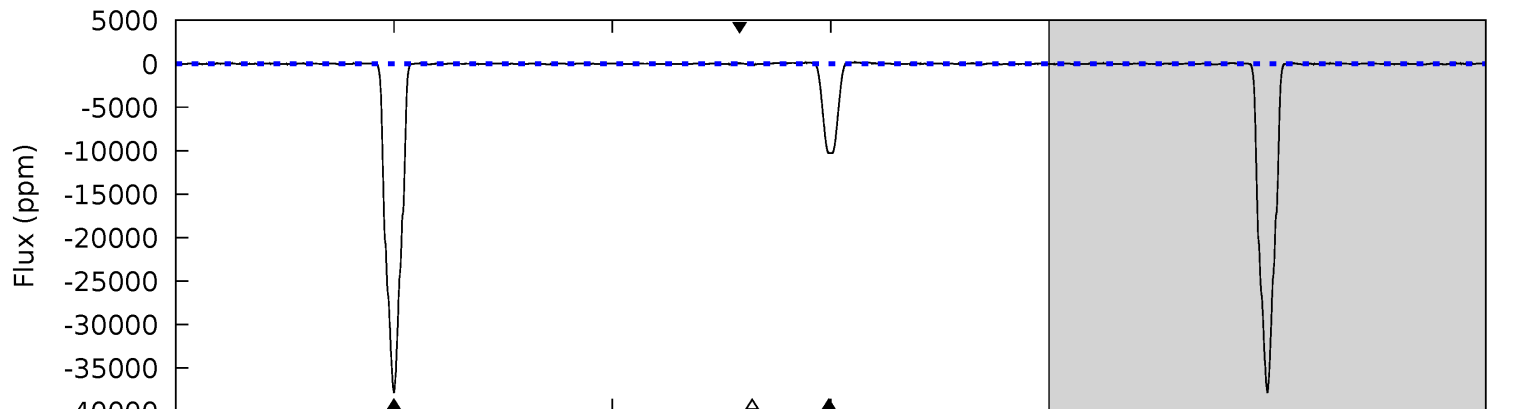
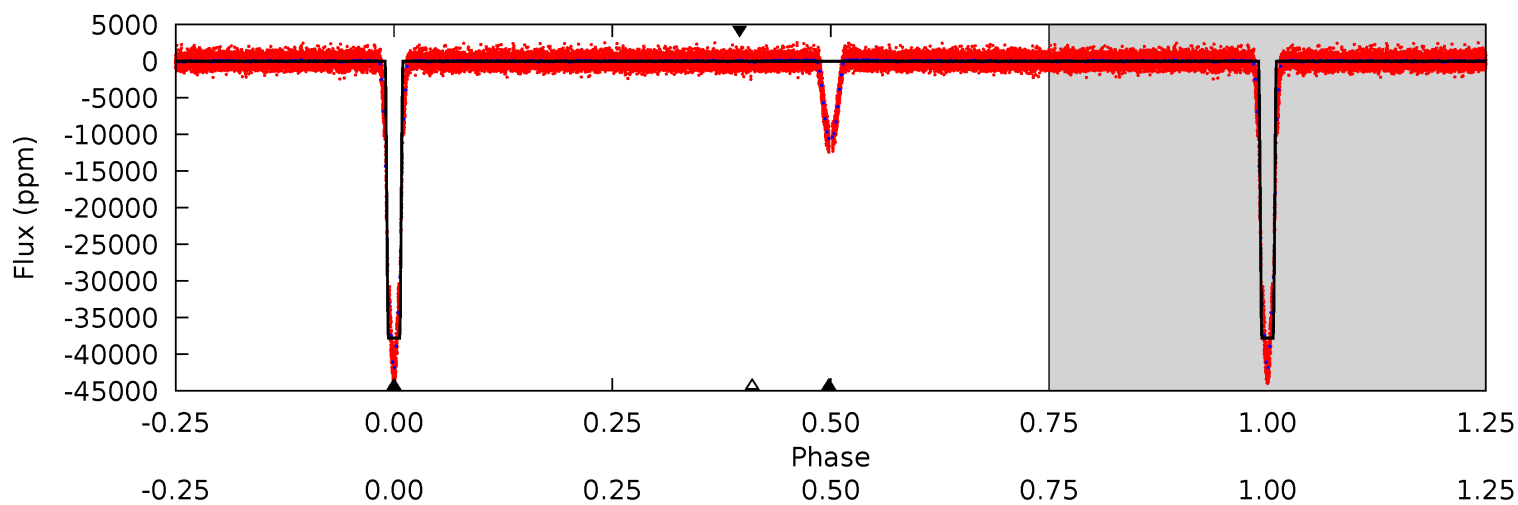
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2693	840.7	6.71	3.39	4.80	2.14	4.55	2687	2690	834.0	837.3	4.78	0.96	0.01	2.27



Alt Model-Shift Uniqueness Test

004067549-01, P = 7.698502 Days, E = 130.163158 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1501	407.9	4.44	2.61	4.89	2.31	1.60	1497	1499	403.5	405.3	3.32	0.99	0.00	0



Stellar Parameters For KIC 004067549

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5774^{+155}_{-172}	$4.508^{+0.062}_{-0.188}$	$-0.240^{+0.300}_{-0.300}$	$0.876^{+0.249}_{-0.083}$	$0.903^{+0.110}_{-0.090}$	$1.892^{+0.602}_{-0.899}$
	+3%/-3%	+1%/-4%	+125%/-125%	+28%/-9%	+12%/-10%	+32%/-48%
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 004067549-01 / KOI 6380.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-13184 ± 16	$30.61^{+4.59}_{-3.14}$	1246^{+84}_{-58}	3873^{+110}_{-112}	42^{+9}_{-10}
Alt.	-10267 ± 25	$20.02^{+3.33}_{-2.43}$	1243^{+86}_{-59}	4306^{+177}_{-177}	76^{+21}_{-19}

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

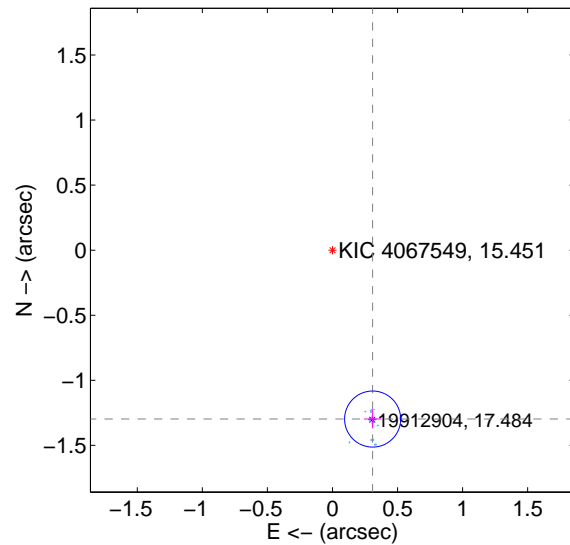
Supplemental centroid analysis for 004067549-01. Kepler magnitude: 15.45. Transit SNR 1180.84

There are 14 quarters with good PRF difference image offsets

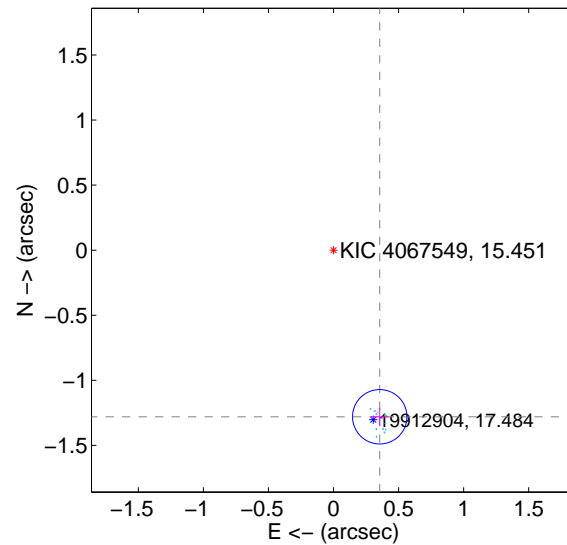
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.334 ± 0.072	18.58	-0.309 ± 0.067	-1.298 ± 0.072
PRF-fit source offset from KIC position	1.329 ± 0.070	19.07	-0.355 ± 0.067	-1.280 ± 0.069
photometric centroid source offset	1.39 ± 0.01	164.41	-0.39 ± 0.01	-1.34 ± 0.01

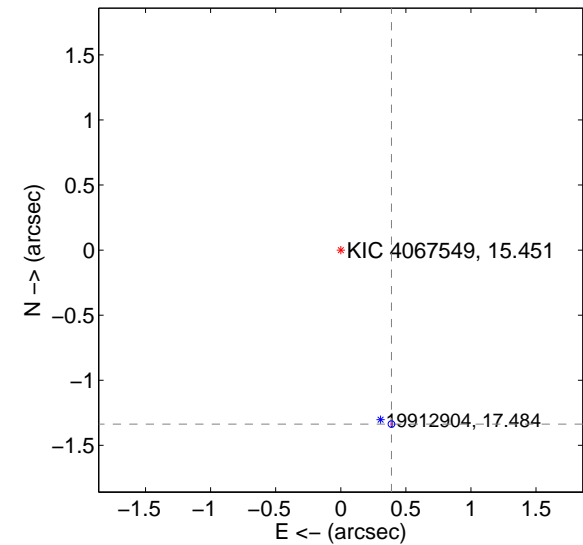
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

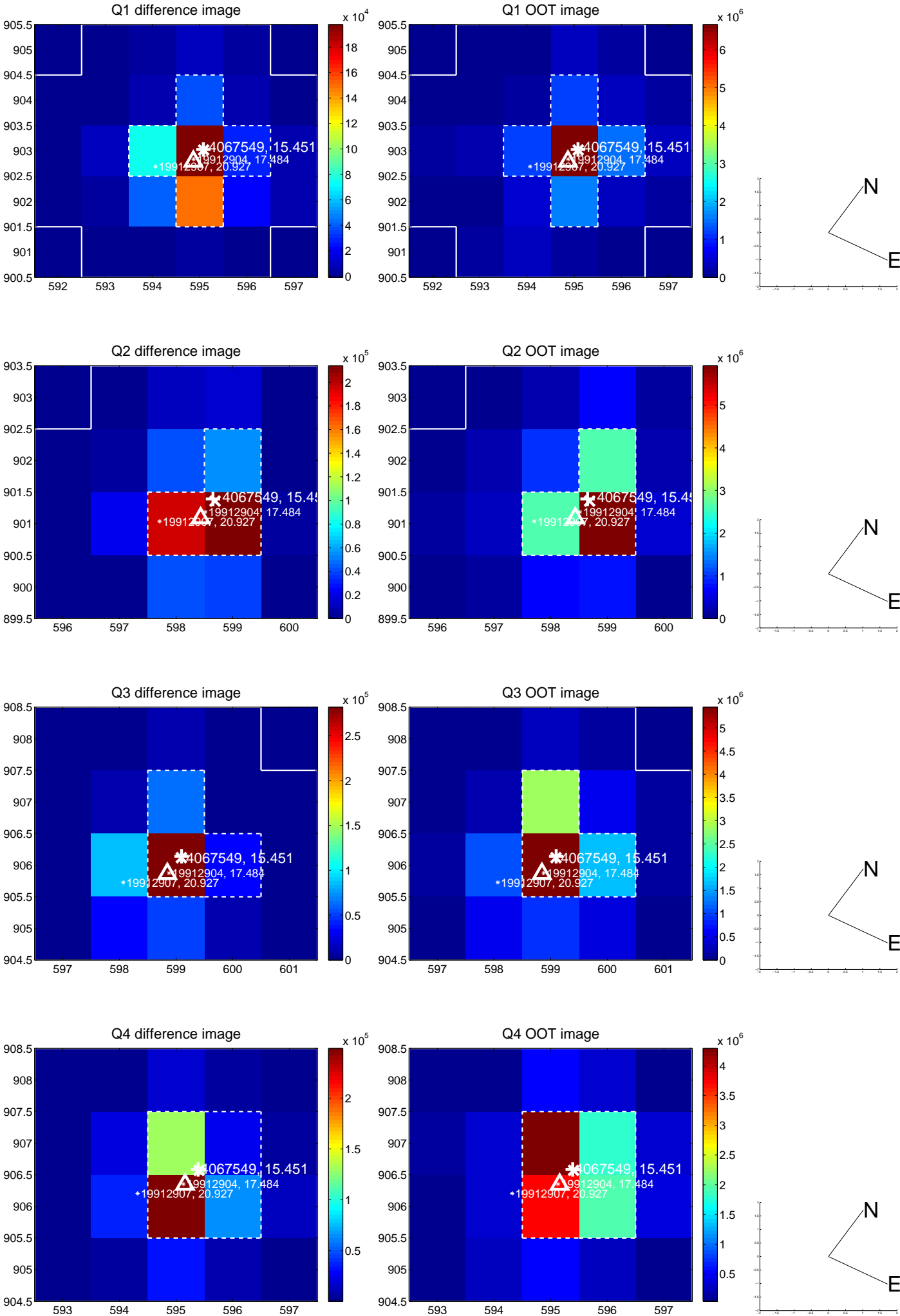


offset from photometric centroids

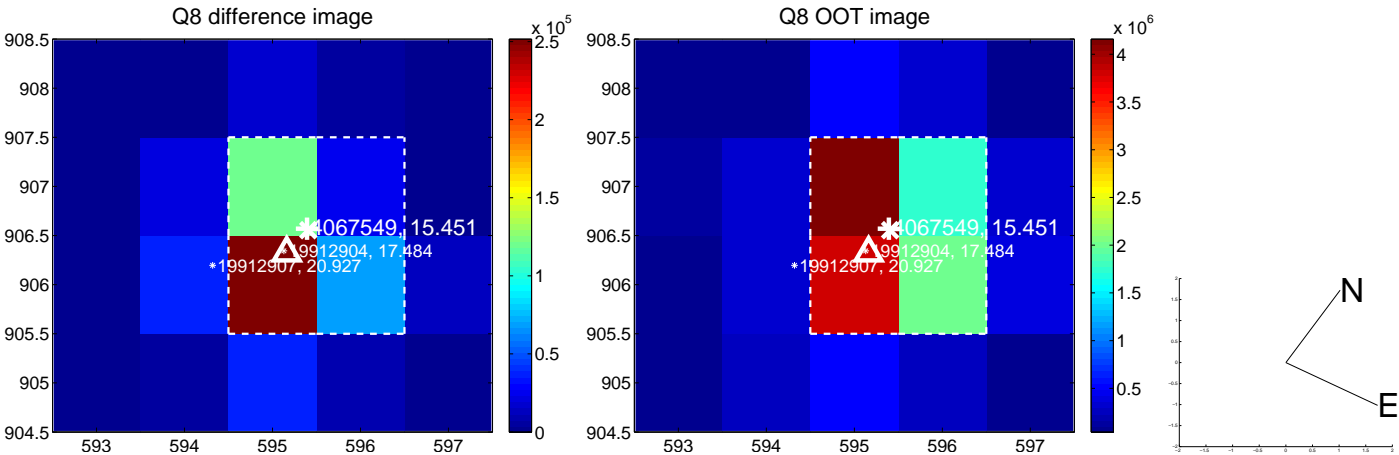
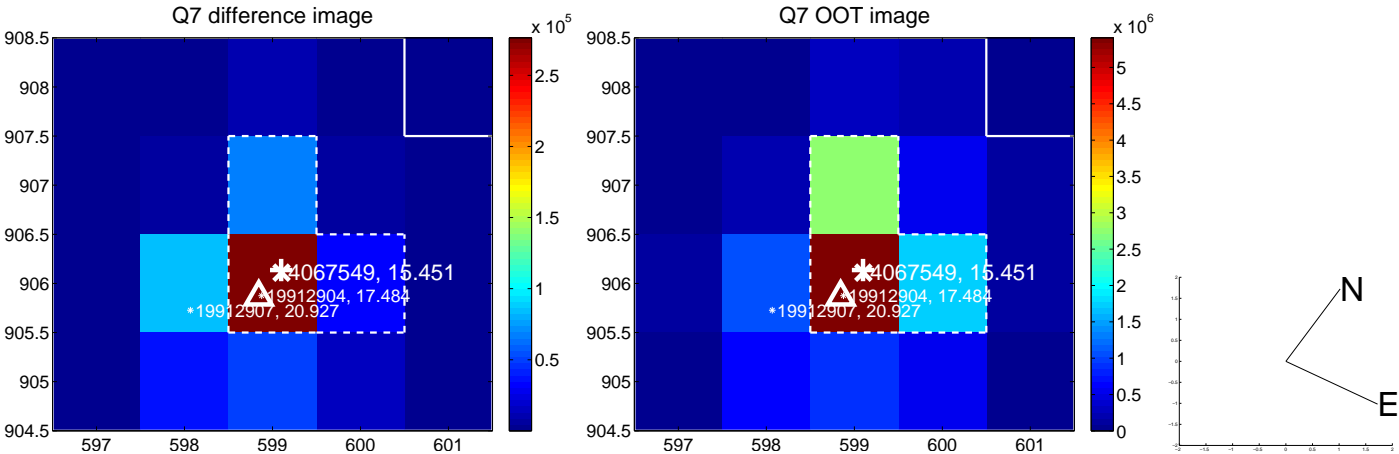
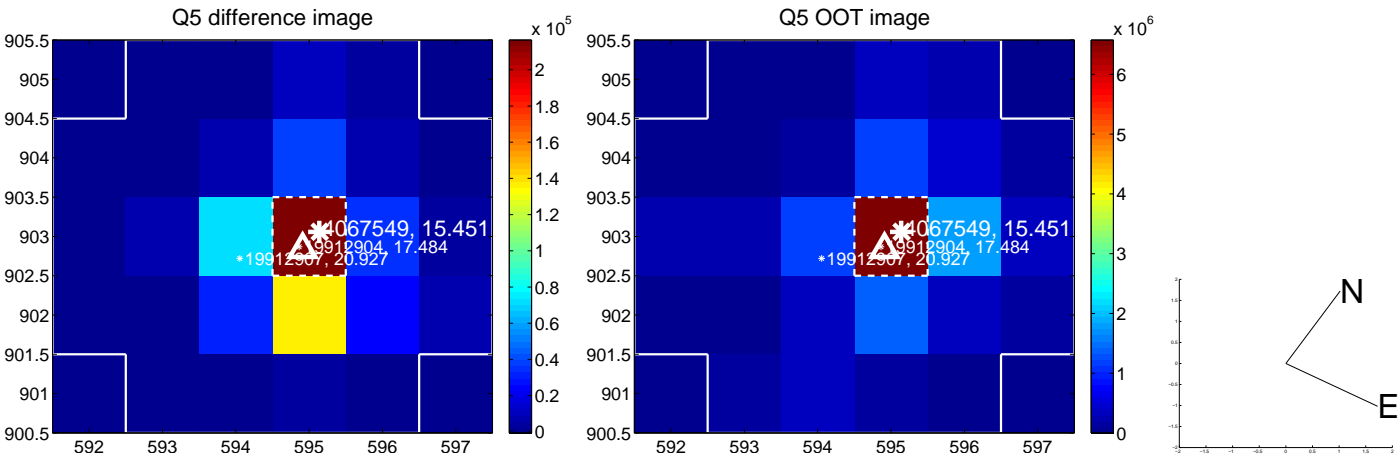


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

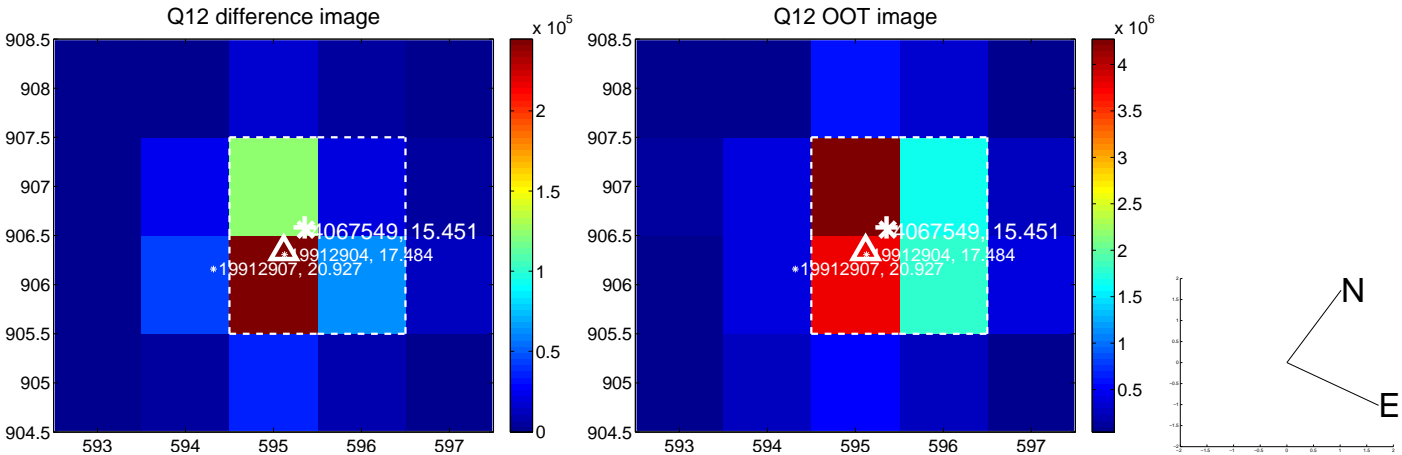
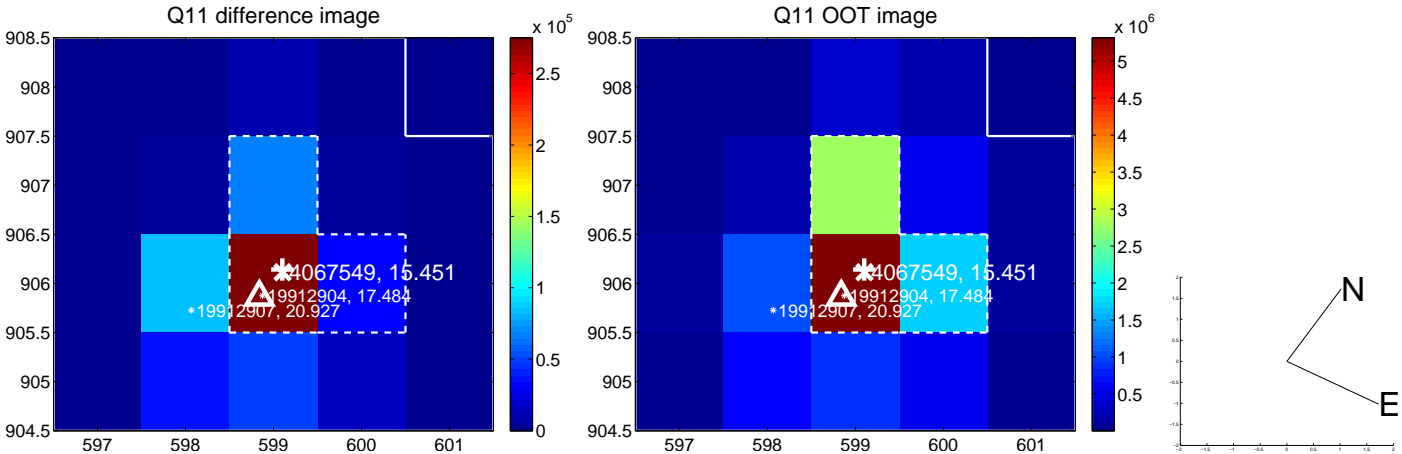
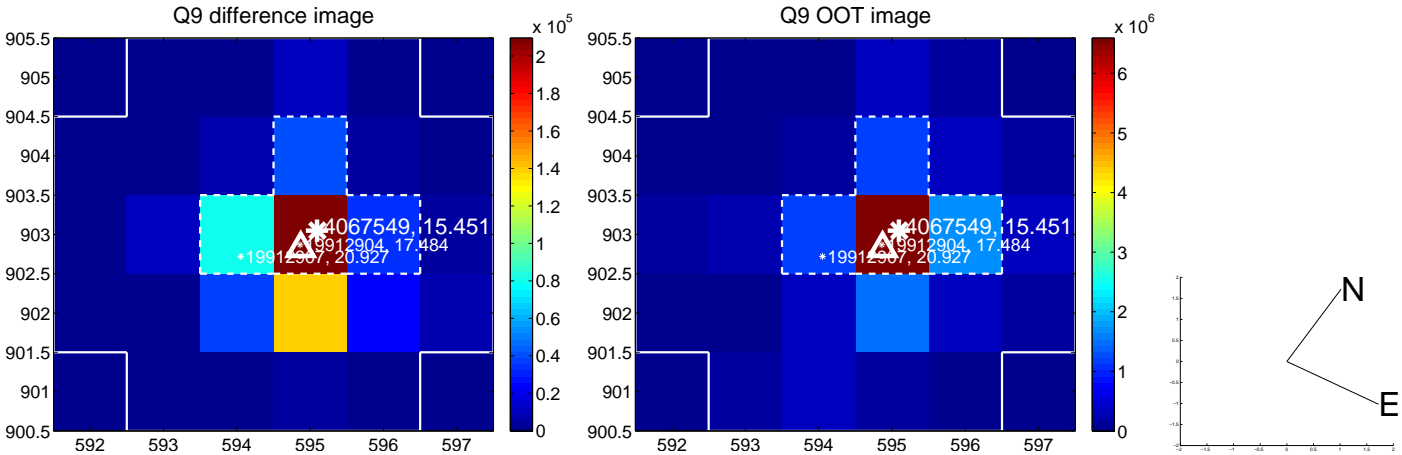
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



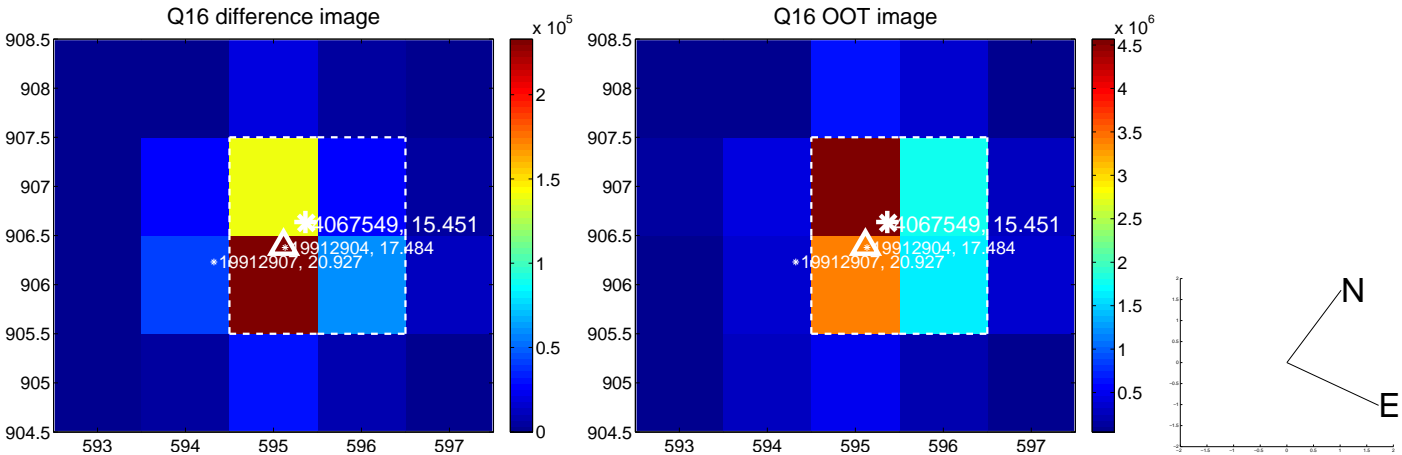
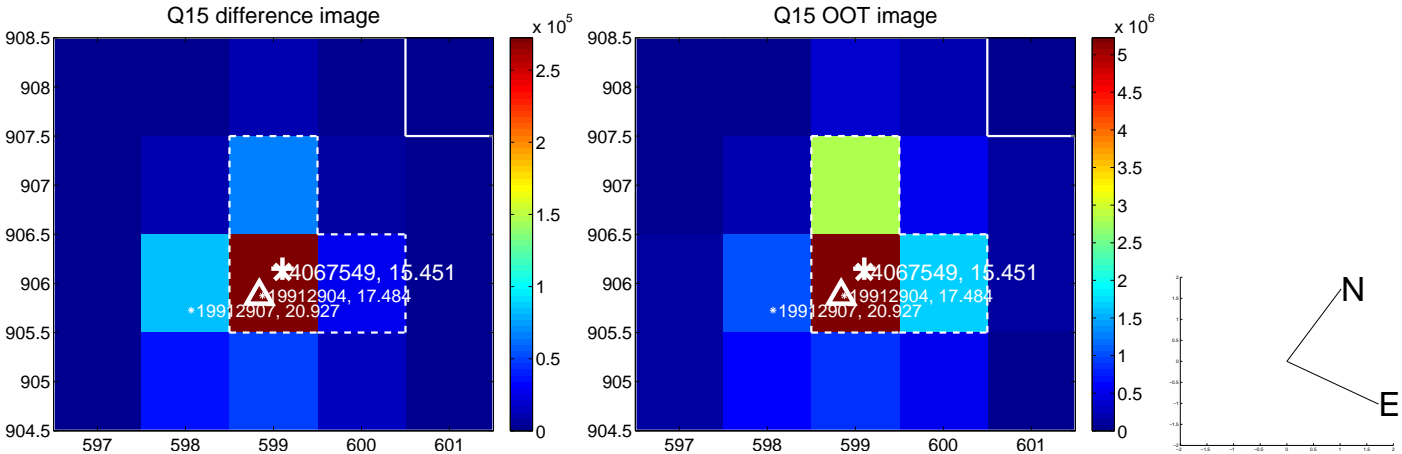
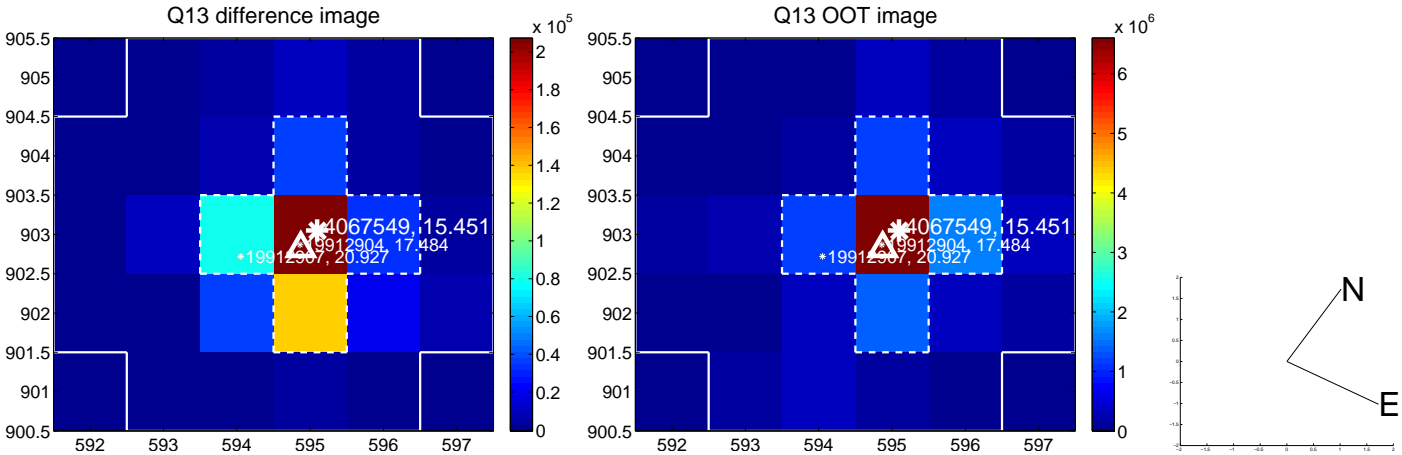
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



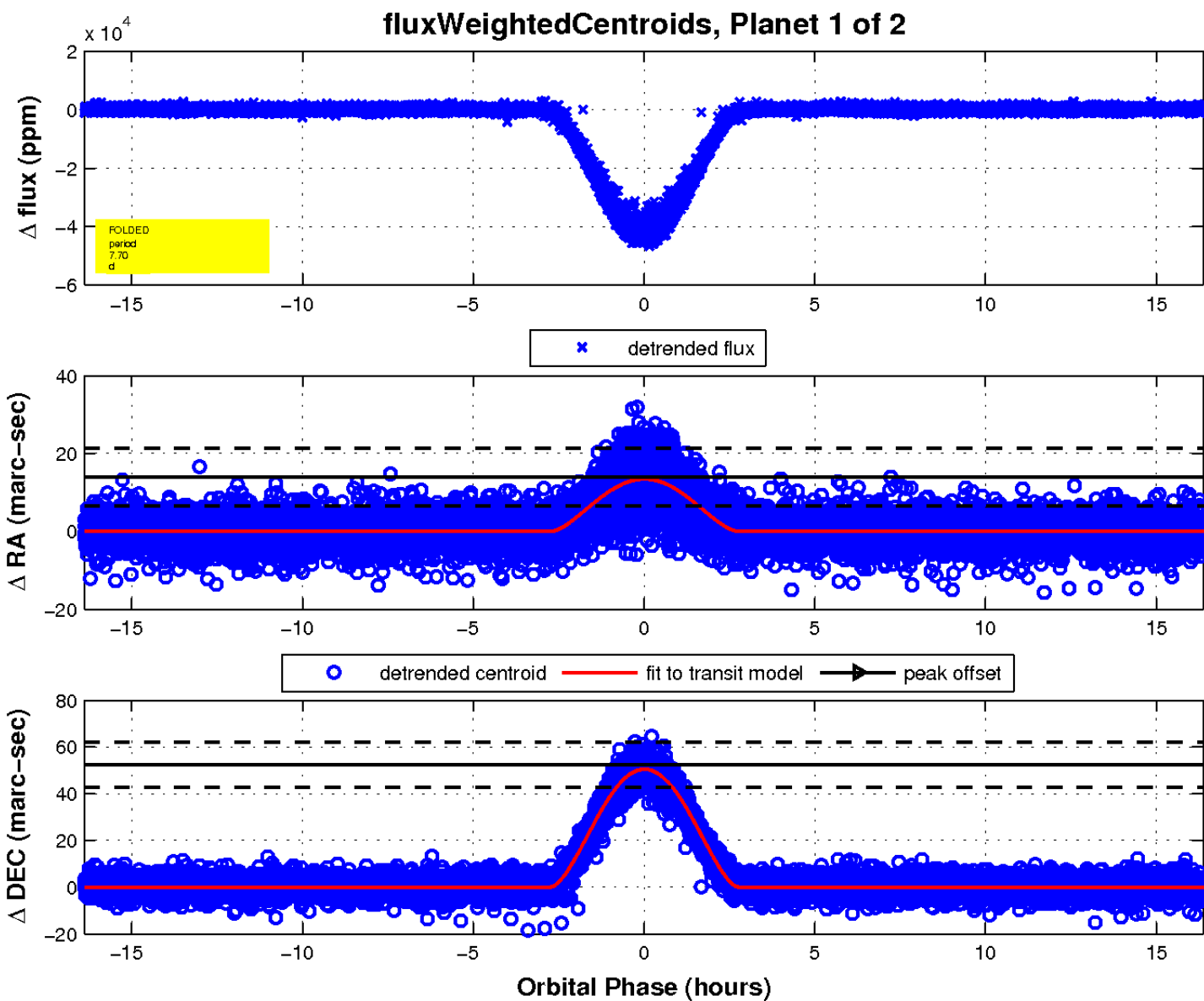
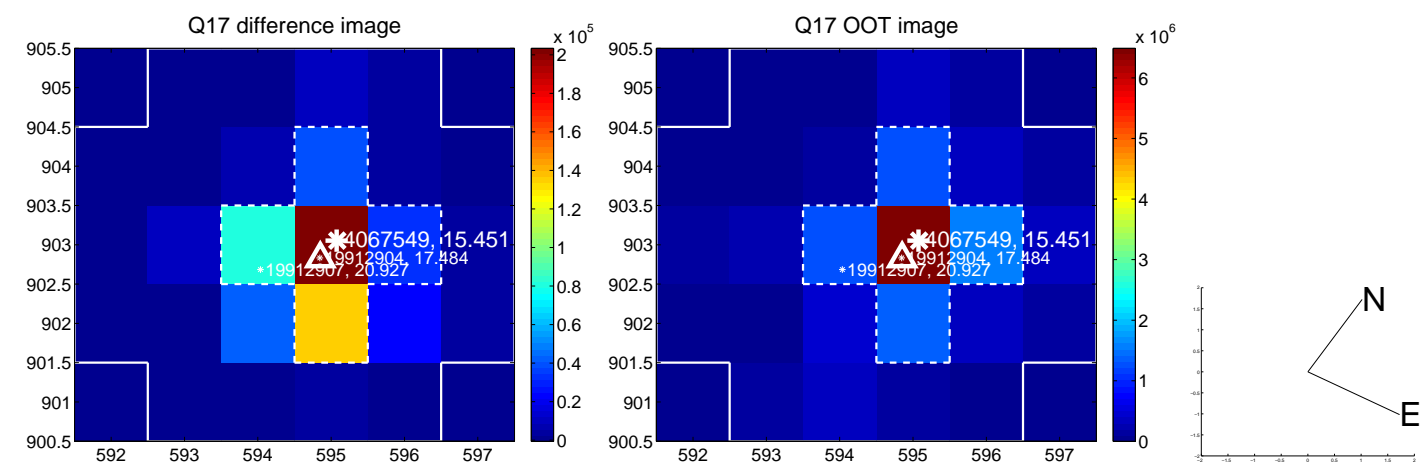
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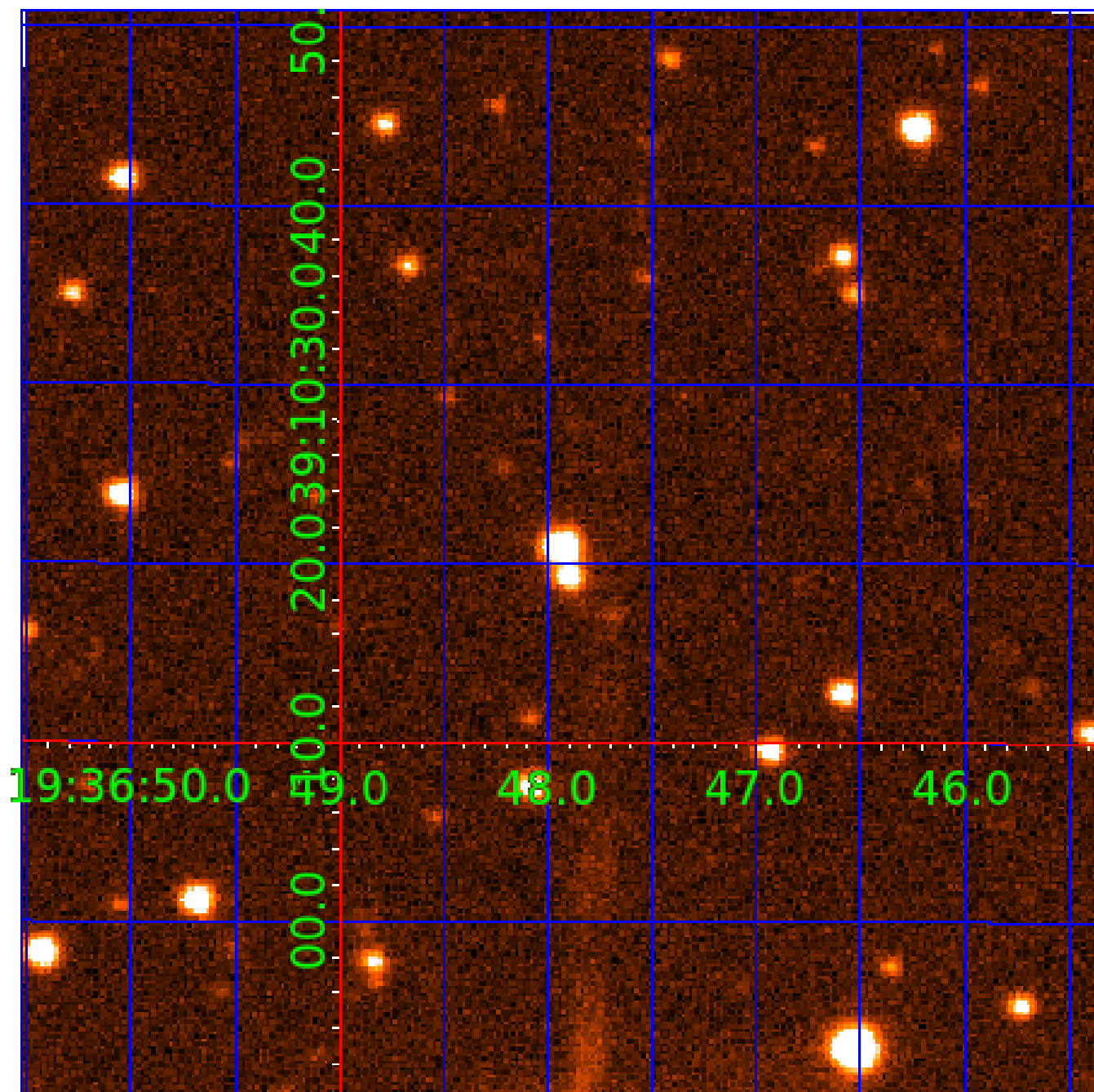


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 004067549

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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004067549-02	OBS	No	7.698430	134.018366	11341.8	5.455	430.6	413.0	0.88	5774	14.46	140.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004067549-01	OBS	FP	0.00	0	1	1	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE—CENT_UNRESOLVED_OFFSET
004067549-02	OBS	FP	0.00	1	1	1	0	IS_SEC_TCE—CENT_UNRESOLVED_OFFSET

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

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

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

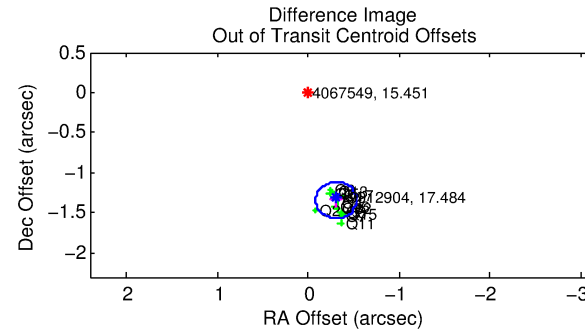
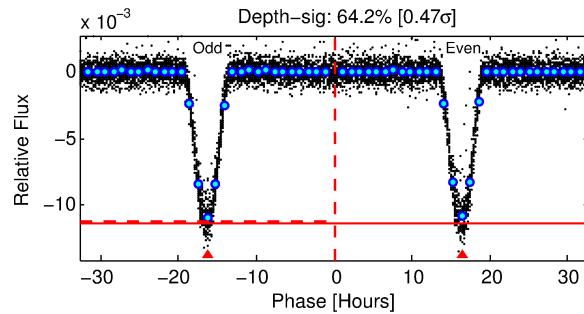
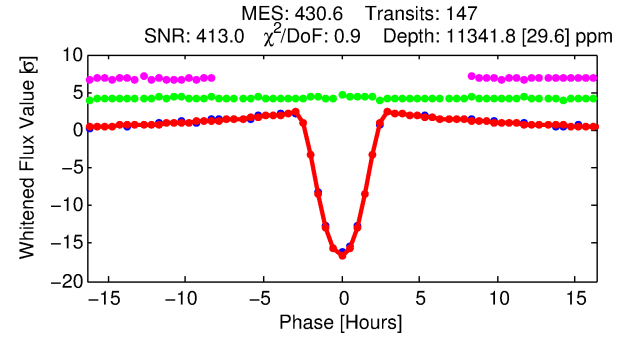
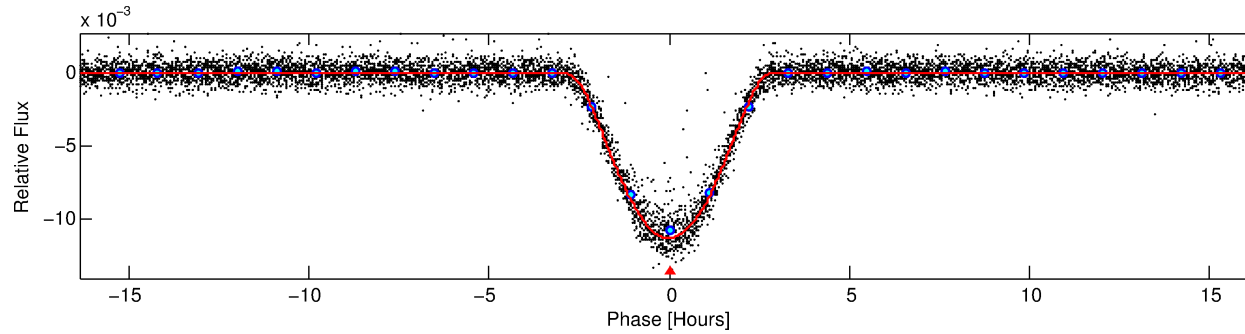
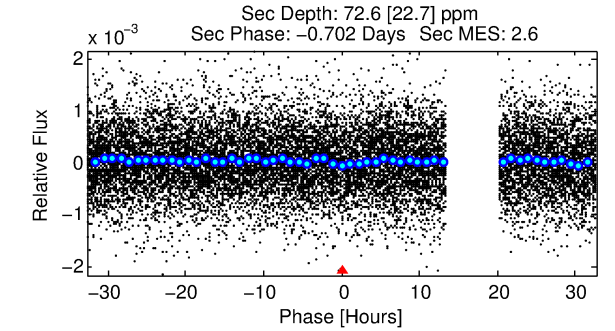
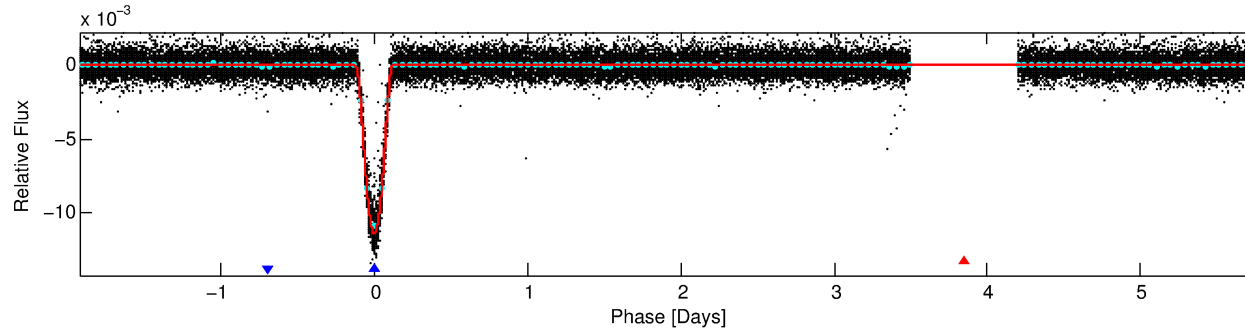
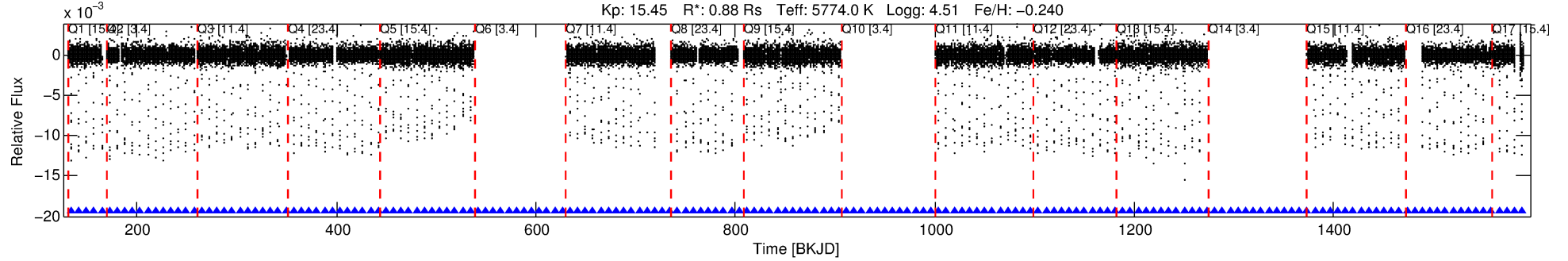
Ephemeris Match Information For 004067549-02

No Significant Match Found

DV One-Page Summary

KIC: 4067549 Candidate: 2 of 2 Period: 7.698 d
KOI: K06380 Corr: No Ephemeris Match

Kp: 15.45 R*: 0.88 Rs Teff: 5774.0 K Logg: 4.51 Fe/H: -0.240



DV Fit Results:

Period = 7.69843 [0.00000] d
Epoch = 134.0184 [0.0003] BKJD
Rp/R* = 0.1513 [0.0097]
a/R* = 6.86 [0.09]
b = 0.96 [0.02]
Seff = 140.58 [51.35]
Teq = 878 [80] K
Rp = 14.46 [4.21] Re
a = 0.0737 [0.0176] AU
Ag = 1.04 [0.50] [0.08σ]
Teffp = 1370 [123] K [3.36σ]

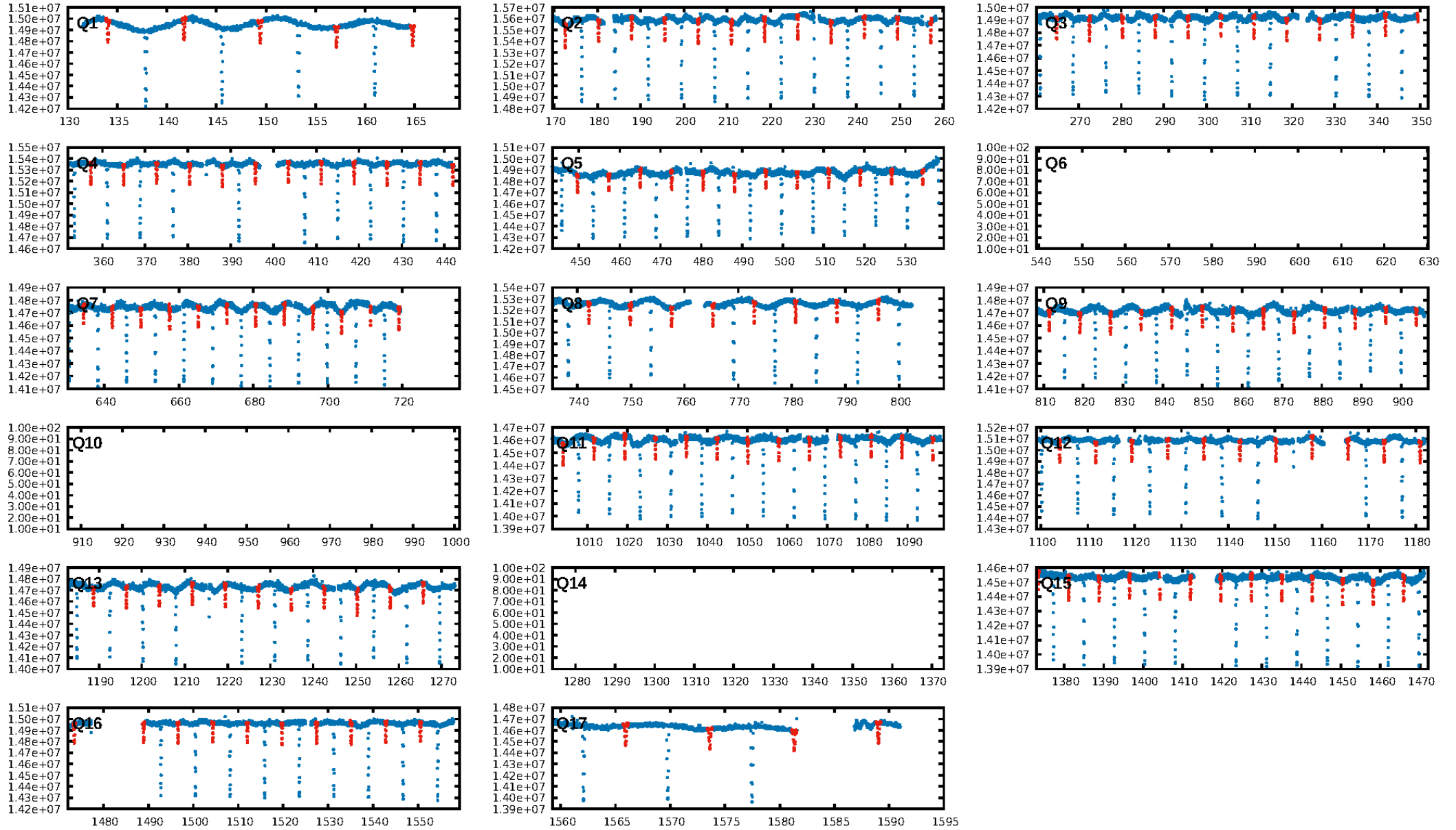
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [138/138]
GhostDiagnostic-chr: 2.221
Centroid-sig: 0.0%
Centroid-so: 1.443 arcsec [48.27σ]
OotOffset-rm: 1.377 arcsec [18.28σ]
KicOffset-rm: 1.373 arcsec [18.94σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

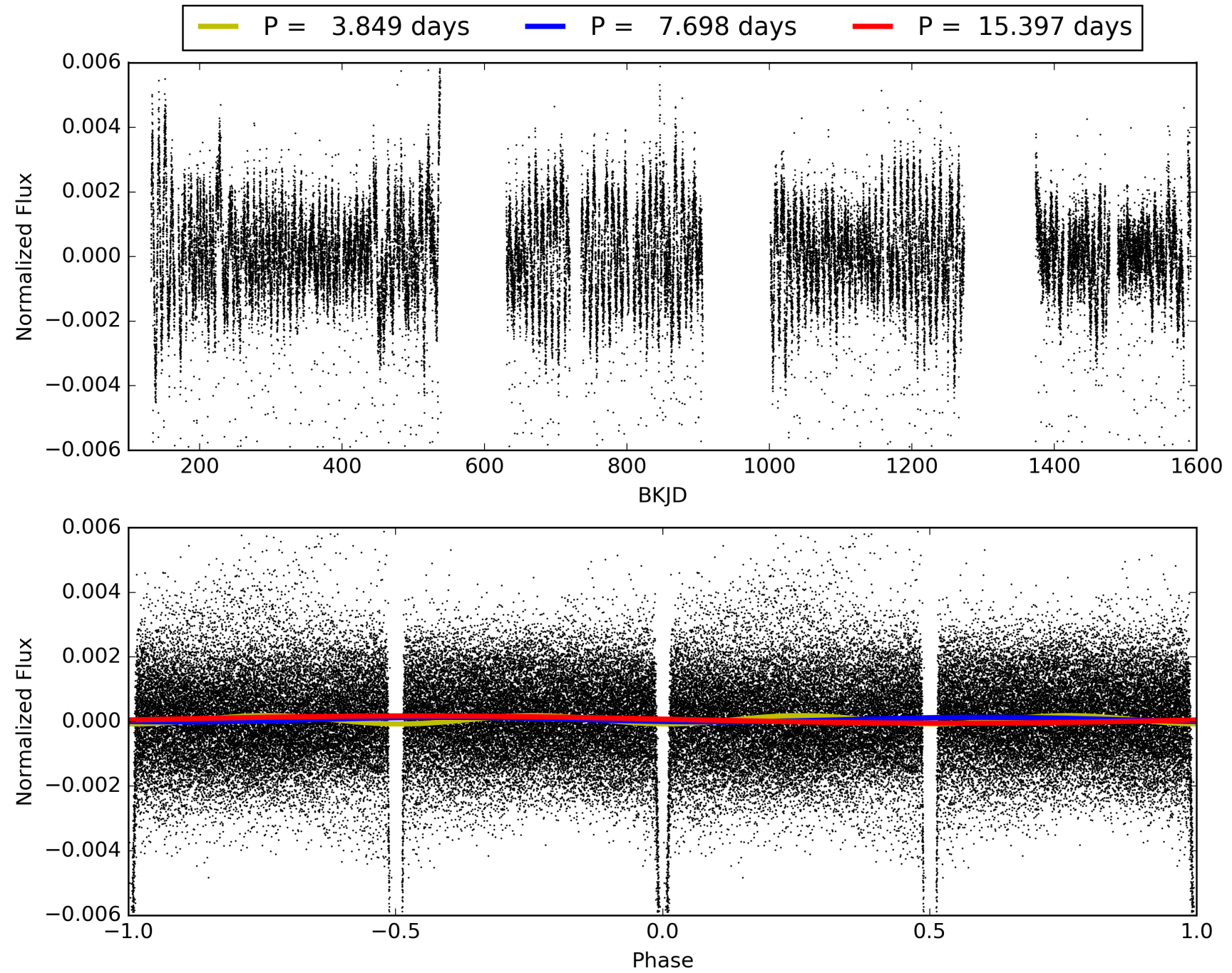
Software Revision: svn-ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:13:03 Z

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

TCE 004067549-02, PDC Light Curves

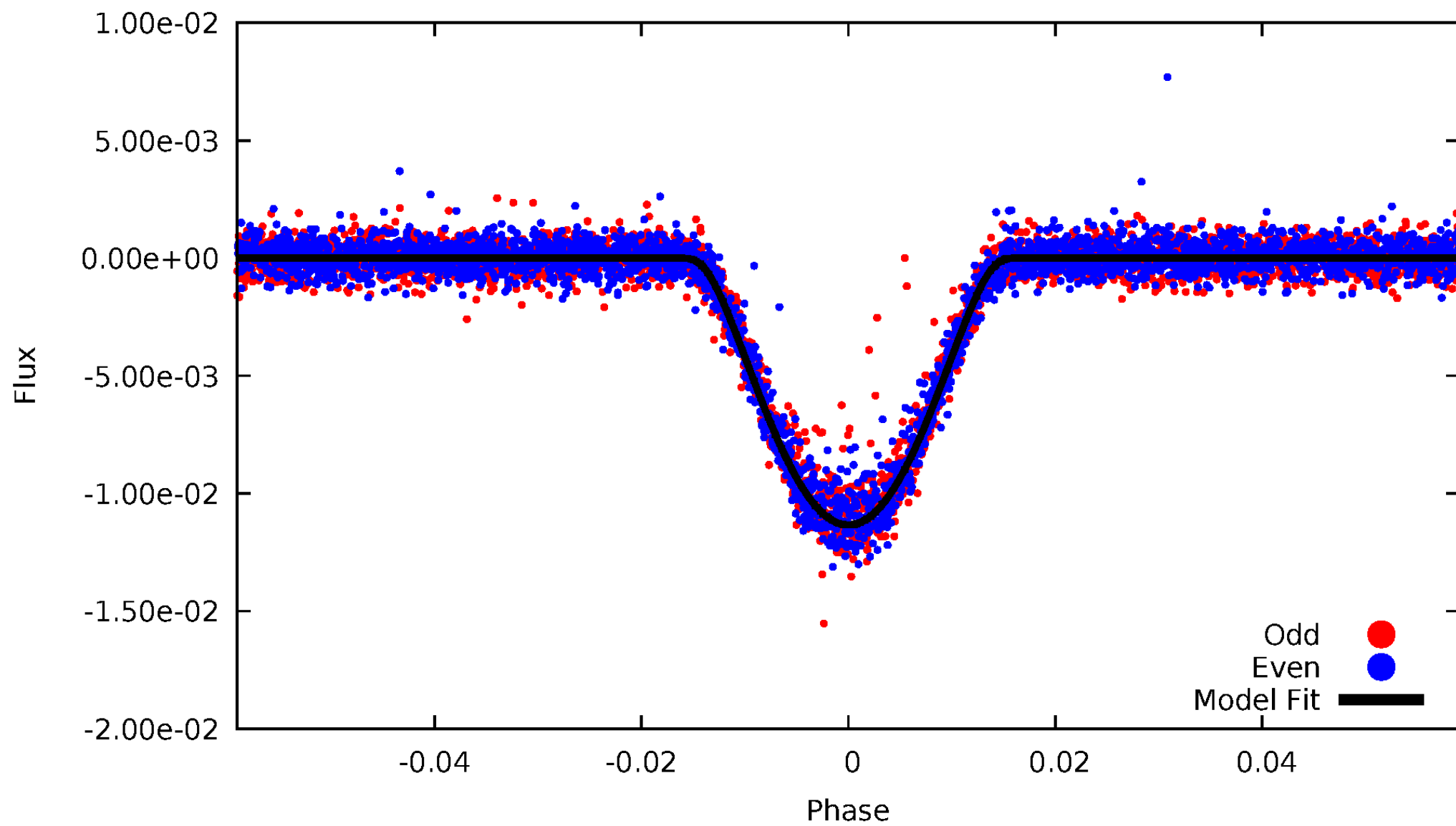


TCE 004067549-02



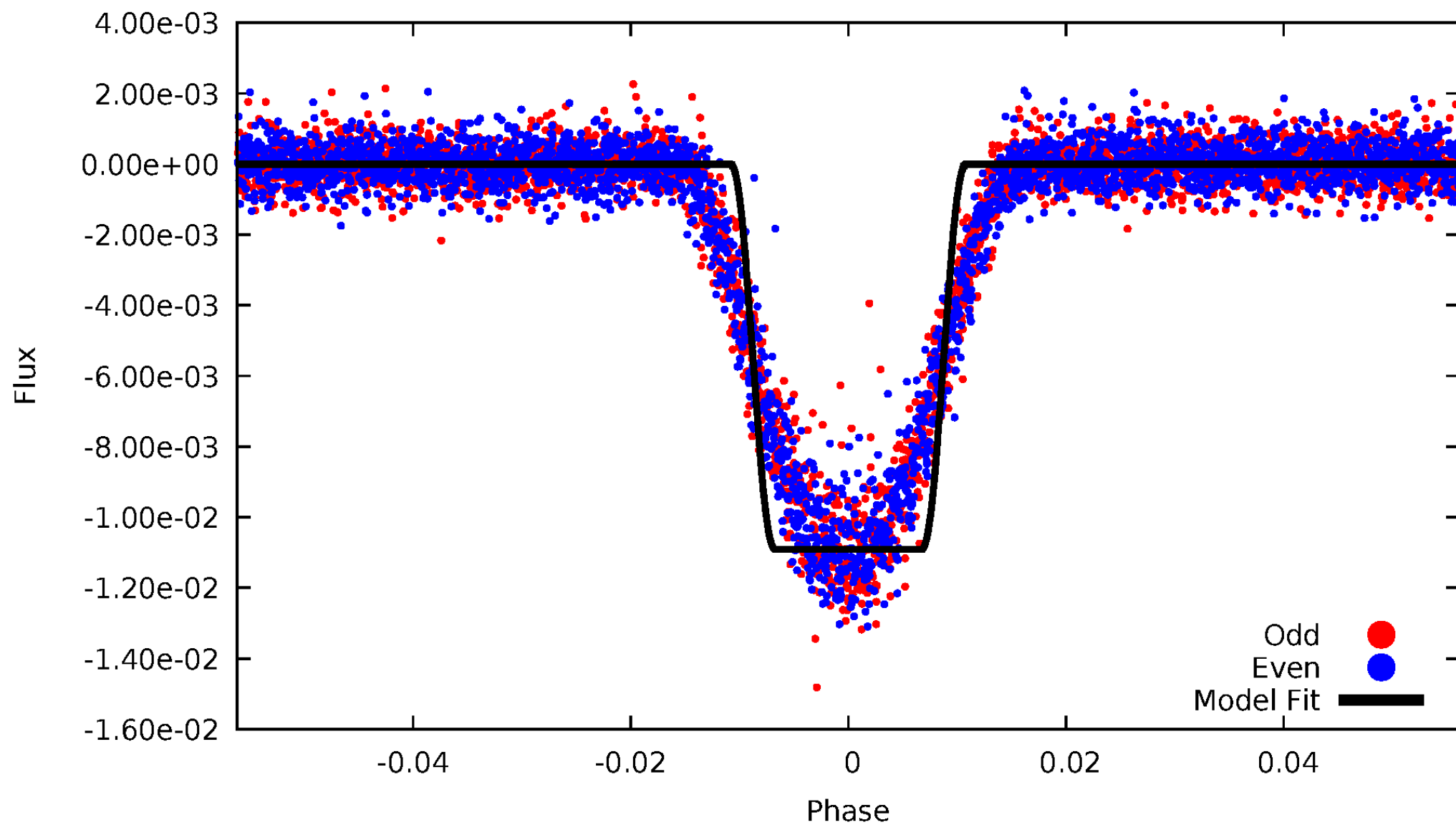
DV Odd/Even

TCE 004067549-02



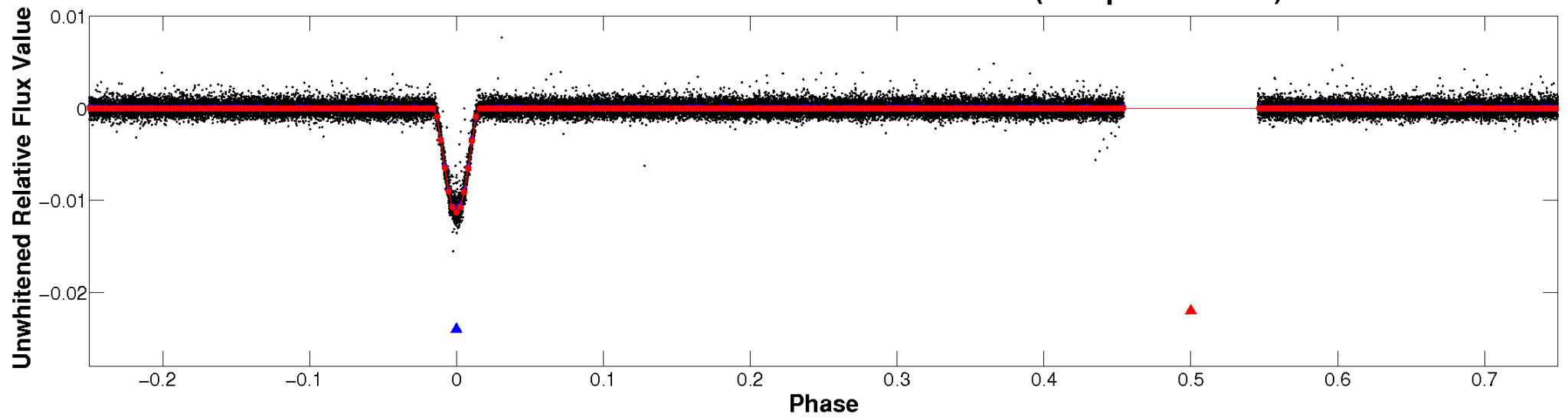
ALT Odd/Even

TCE 004067549-02

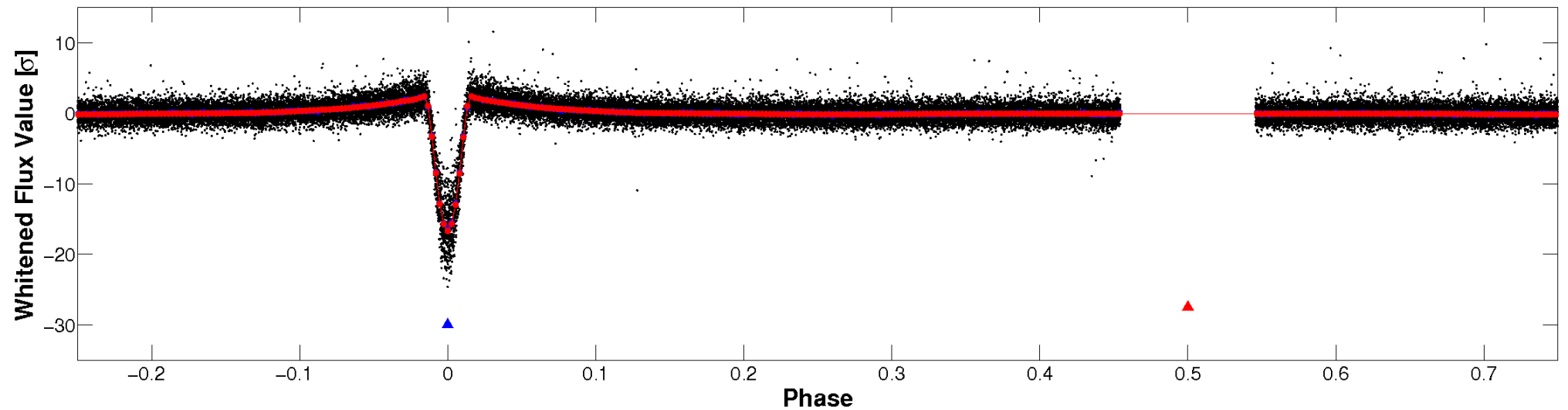


Non-Whitened Vs. Whitened Light Curve

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

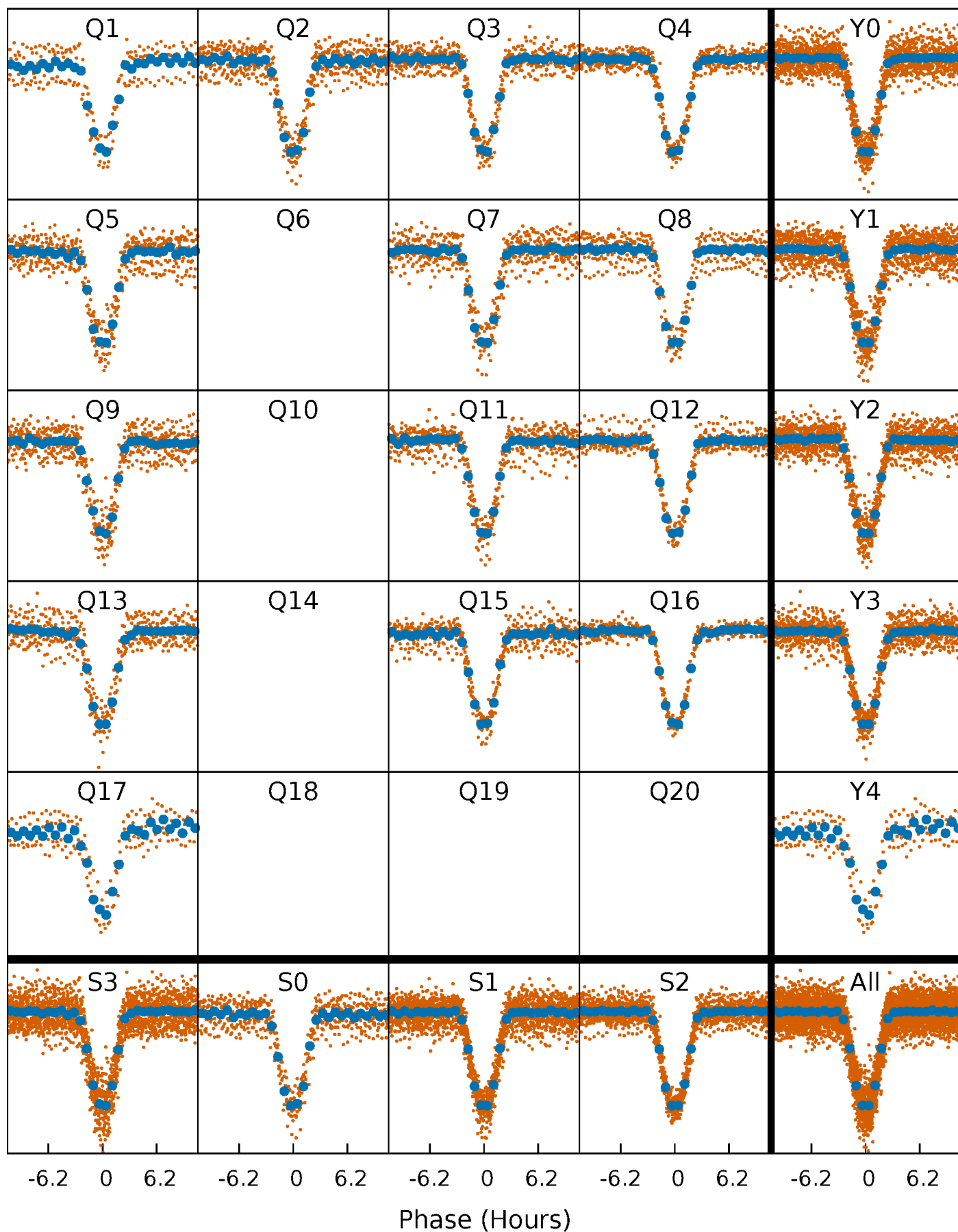


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



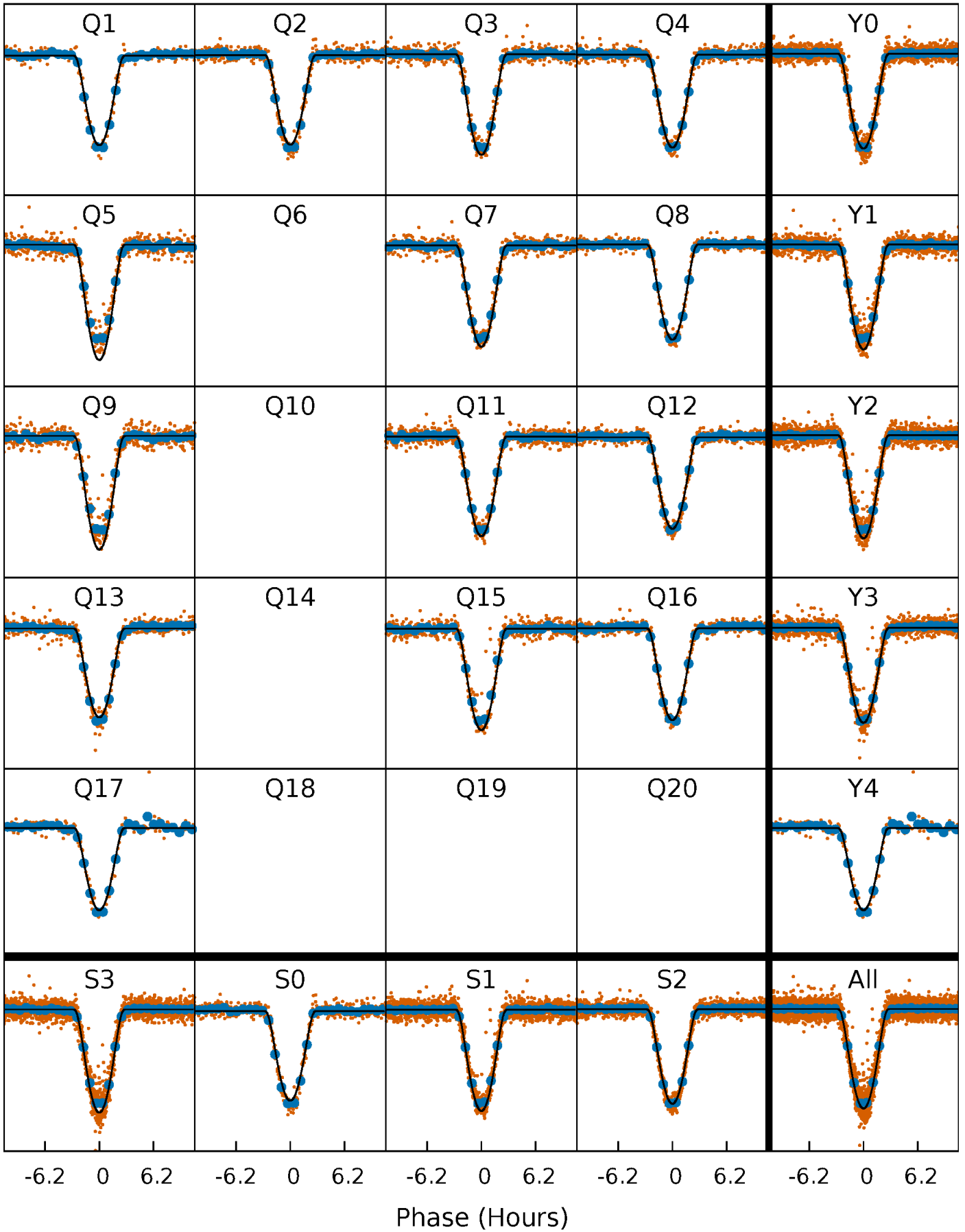
PDC Quarter-Phased Transit Curves

TCE 004067549-02 $P = 7.698430$ Days $T_0 = 134.018366$ (BKJD)



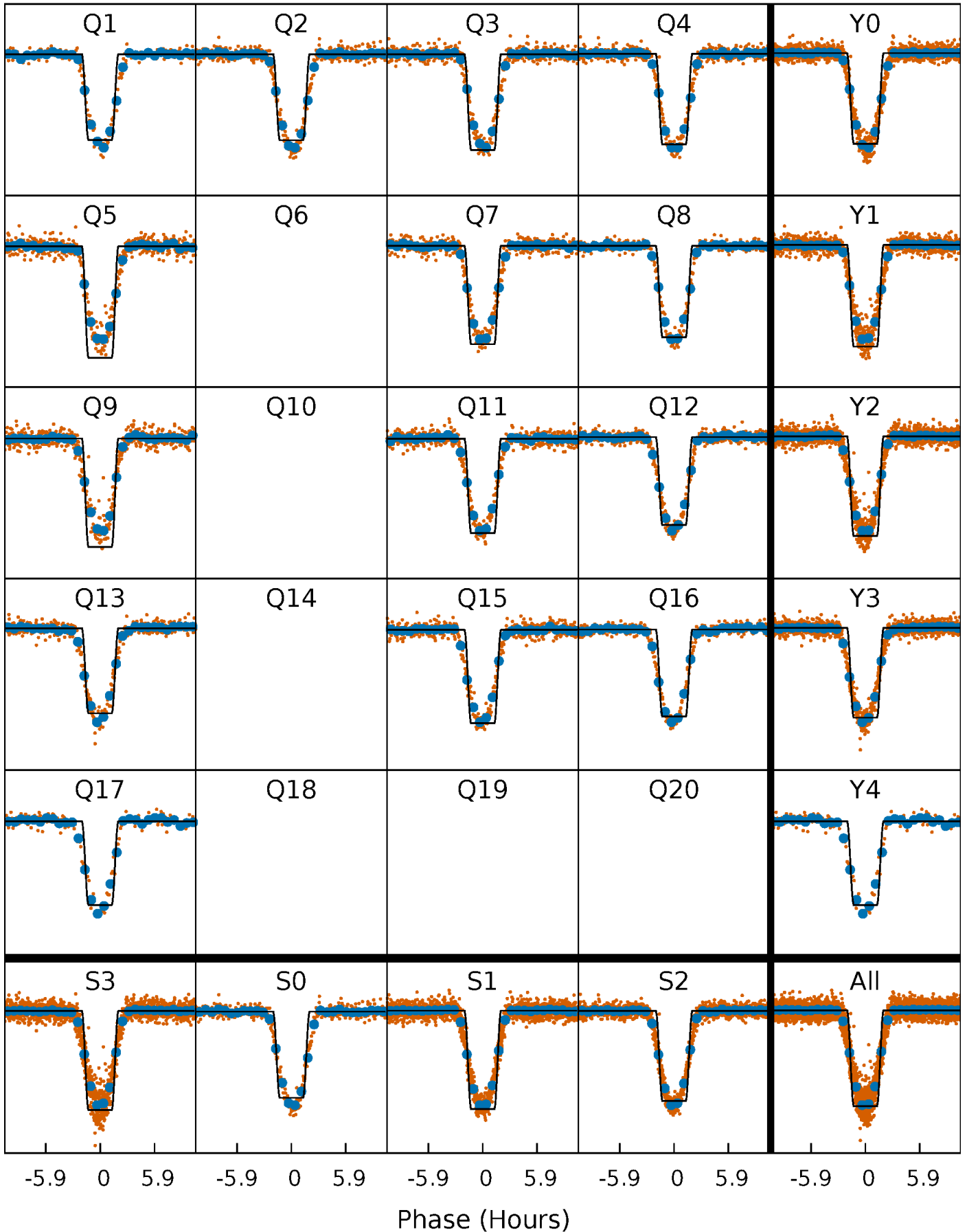
DV Quarter-Phased Transit Curves

TCE 004067549-02 P= 7.698430 Days $T_0=134.018366$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

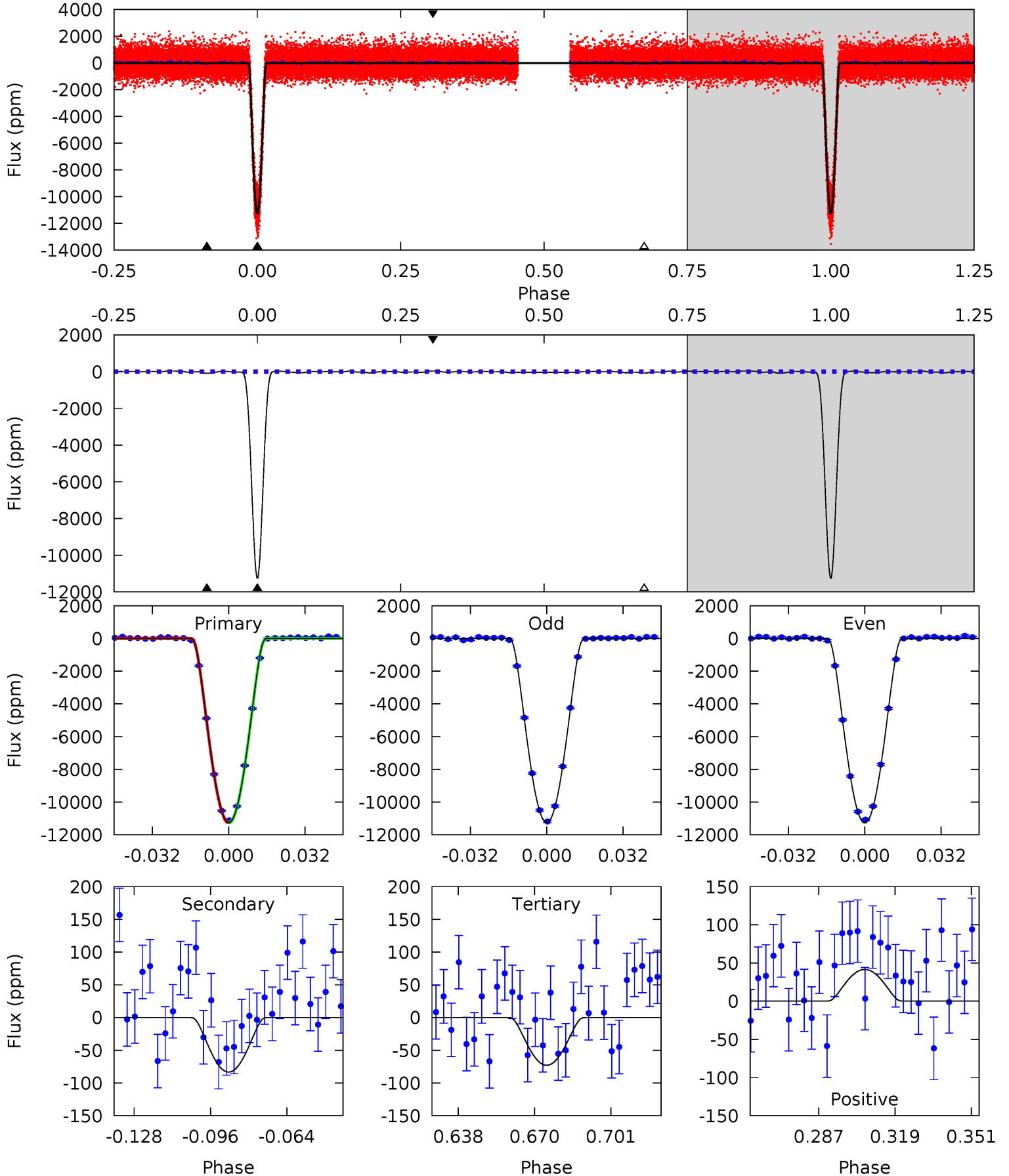
TCE 004067549-02 $P = 7.698502$ Days $T_0 = 134.012065$ (BKJD)



DV Model-Shift Uniqueness Test

004067549-02, P = 7.698430 Days, E = 126.319936 Days

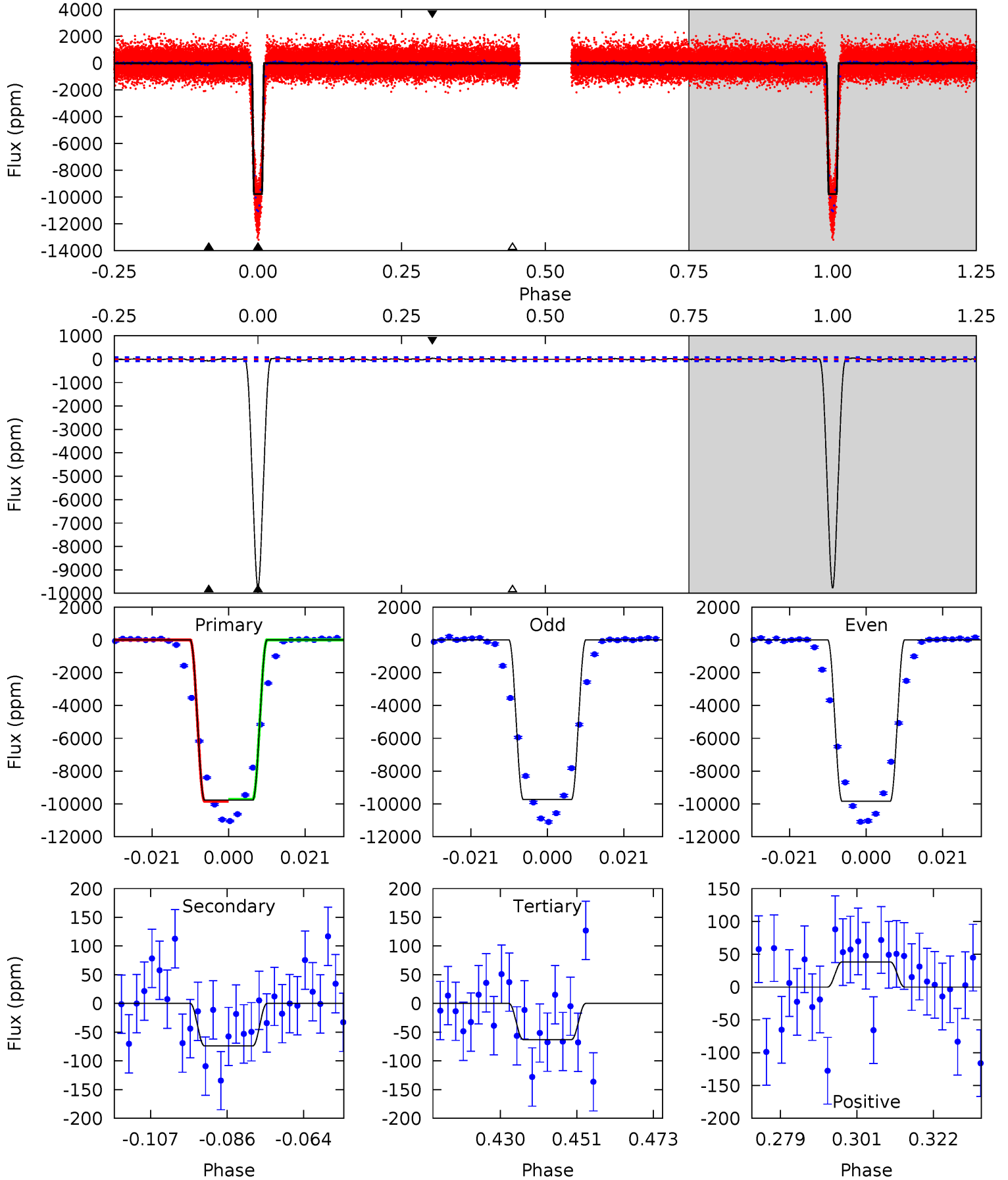
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
811.2	6.00	5.26	2.99	4.80	2.15	1.77	805.9	808.2	0.74	3.01	0.89	0.98	0.00	0.55



Alt Model-Shift Uniqueness Test

004067549-02, P = 7.698502 Days, E = 126.313563 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
581.4	4.40	3.74	2.28	4.88	2.30	1.08	577.7	579.2	0.66	2.12	2.97	0.99	0.01	3.34



Stellar Parameters For KIC 004067549

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5774^{+155}_{-172}	$4.508^{+0.062}_{-0.188}$	$-0.240^{+0.300}_{-0.300}$	$0.876^{+0.249}_{-0.083}$	$0.903^{+0.110}_{-0.090}$	$1.892^{+0.602}_{-0.899}$
	+3%/-3%	+1%/-4%	+125%/-125%	+28%/-9%	+12%/-10%	+32%/-48%
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 004067549-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-83 ± 14	$14.85^{+2.40}_{-1.39}$	1246^{+81}_{-58}	2239^{+81}_{-87}	$1.095^{+0.333}_{-0.305}$
Alt.	-74 ± 17	$10.30^{+1.64}_{-1.25}$	1244^{+80}_{-60}	2451^{+108}_{-106}	$2.015^{+0.805}_{-0.640}$

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 $A_{obs} \gg 1.0$

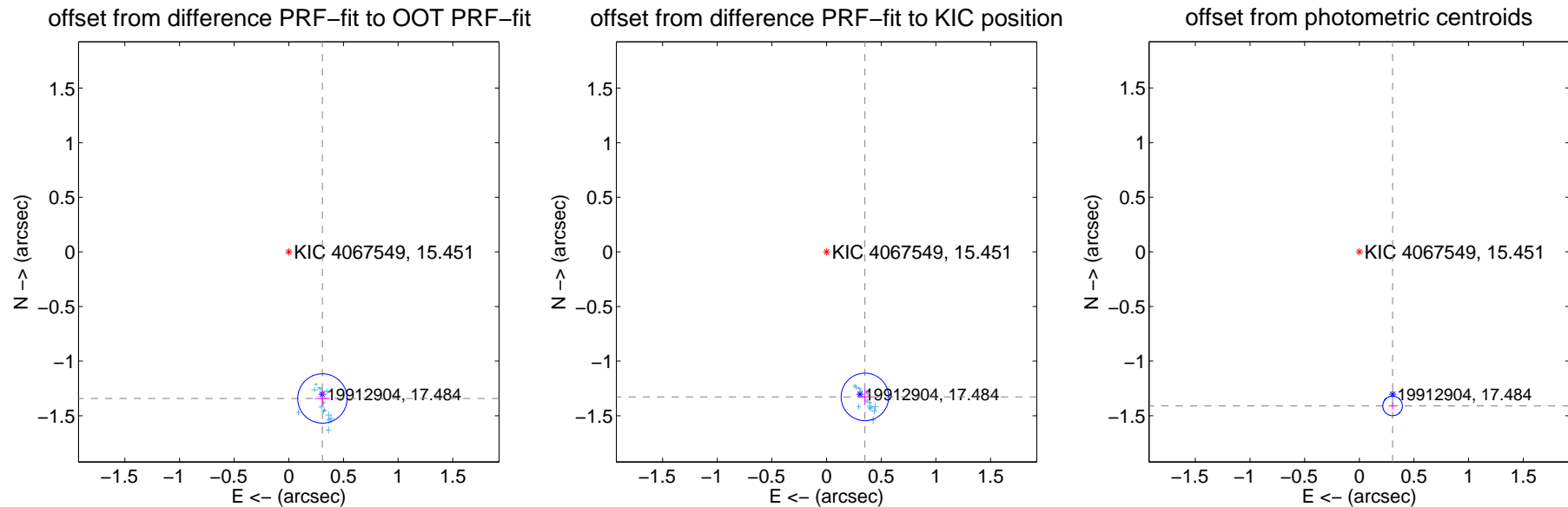
DV Centroid Data

Supplemental centroid analysis for 004067549-02. Kepler magnitude: 15.45. Transit SNR 412.98

There are 14 quarters with good PRF difference image offsets

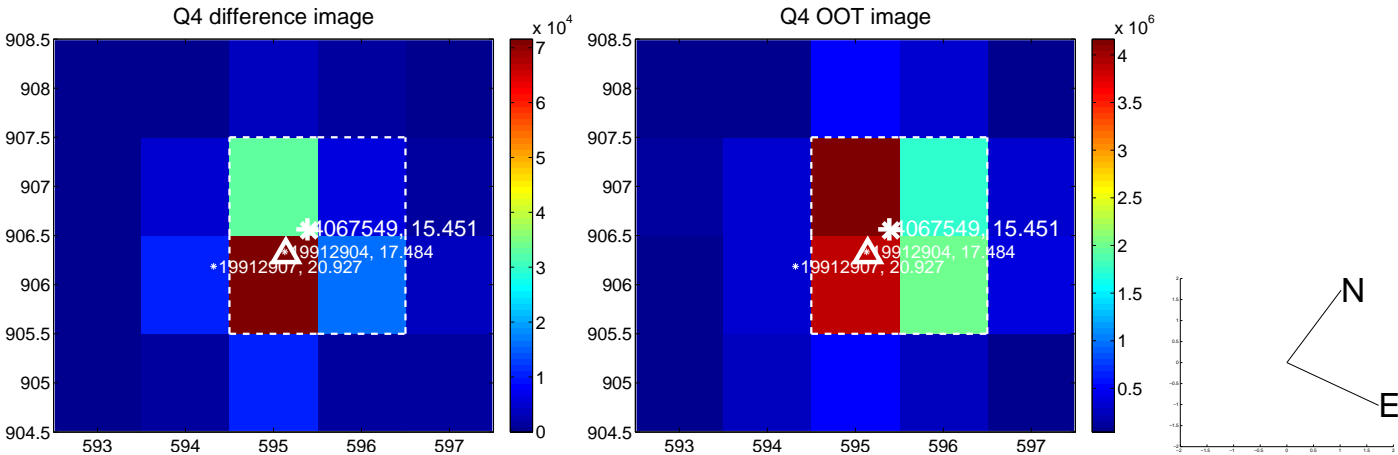
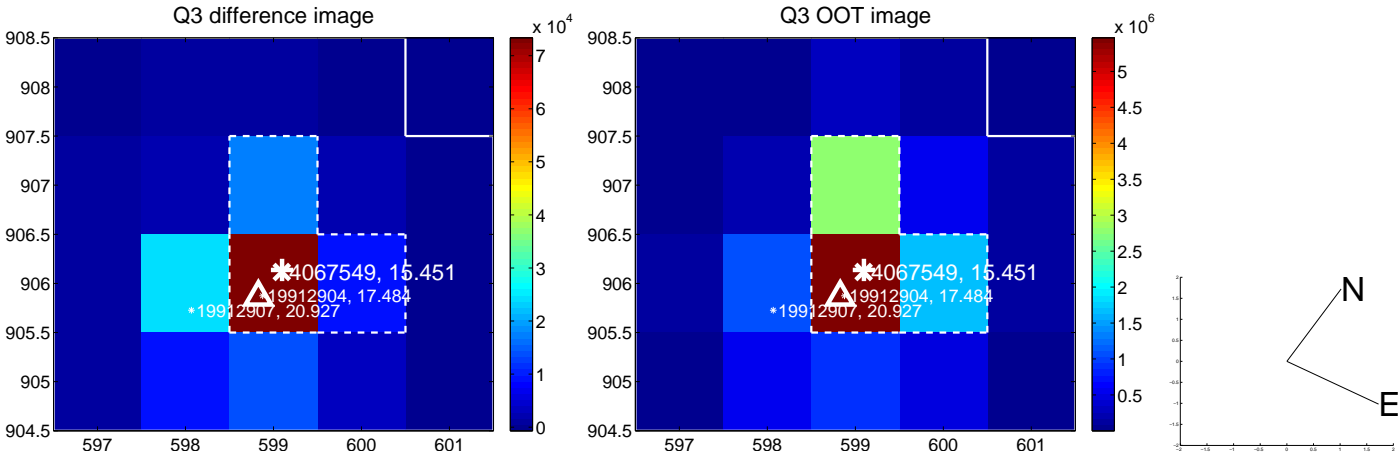
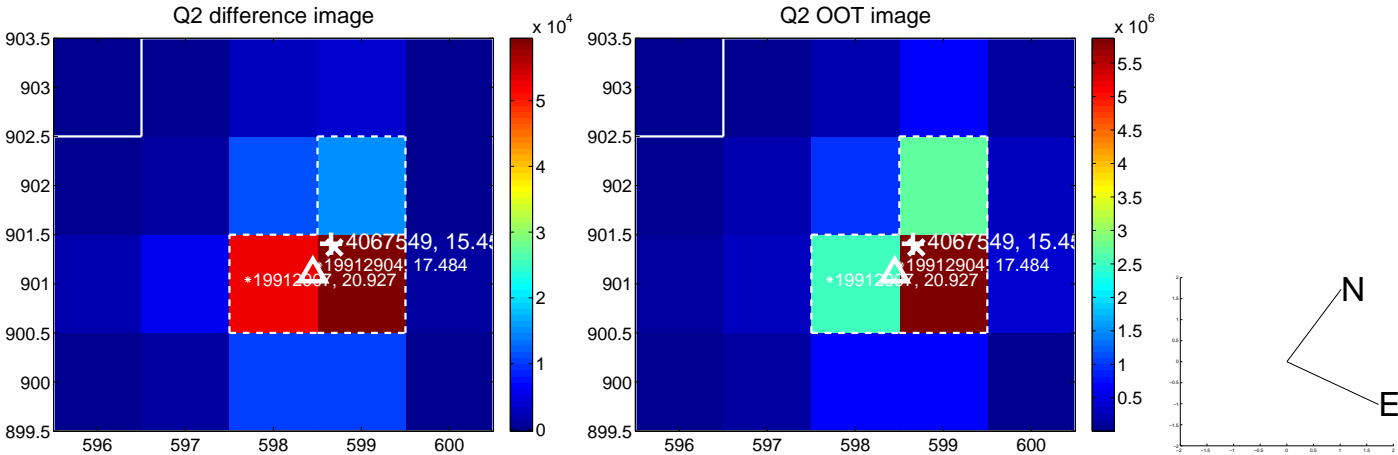
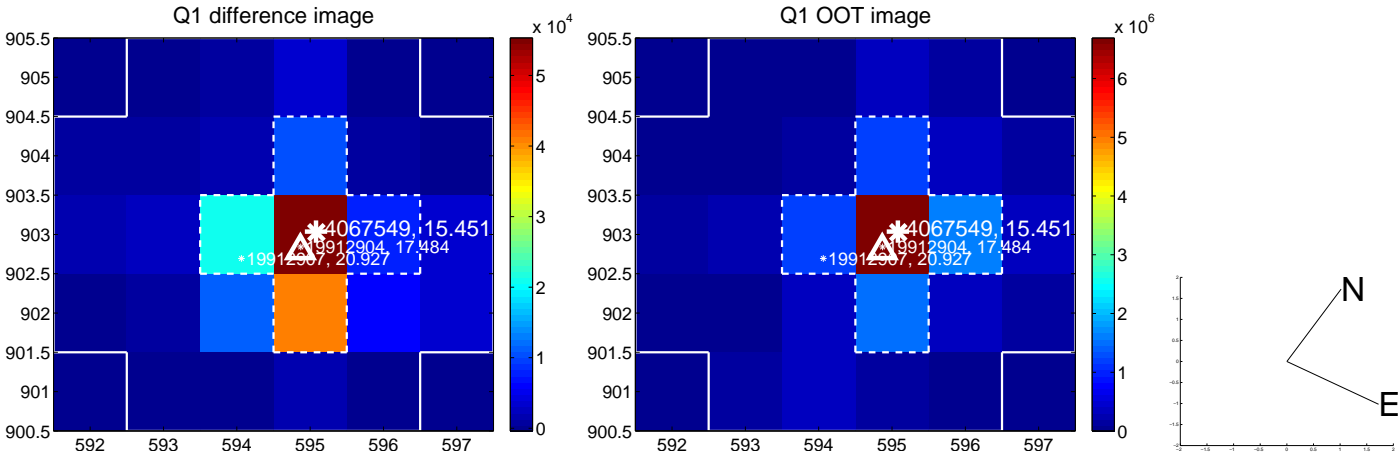
The direct PRF centroid is offset from the target star catalog position by about 0.03 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.377 ± 0.075	18.28	-0.307 ± 0.068	-1.342 ± 0.076
PRF-fit source offset from KIC position	1.373 ± 0.073	18.94	-0.351 ± 0.069	-1.328 ± 0.072
photometric centroid source offset	1.44 ± 0.03	48.27	-0.30 ± 0.03	-1.41 ± 0.03

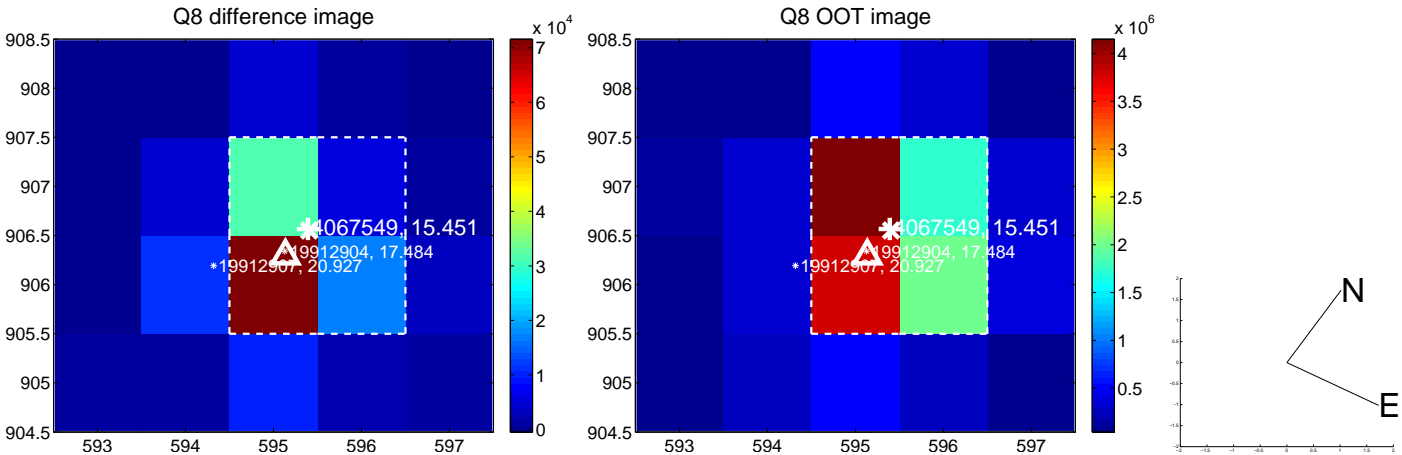
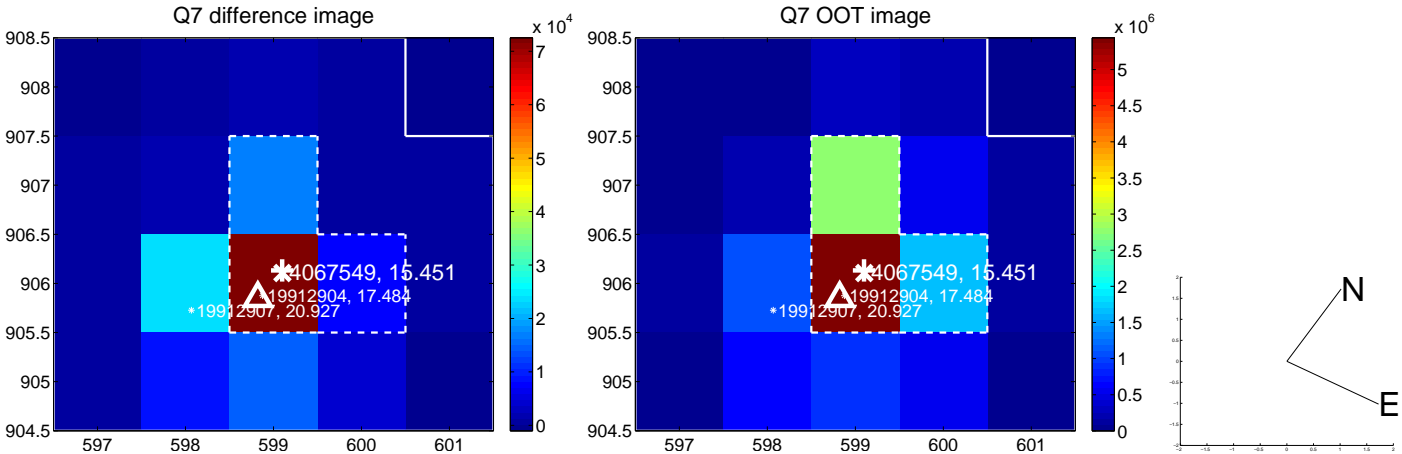
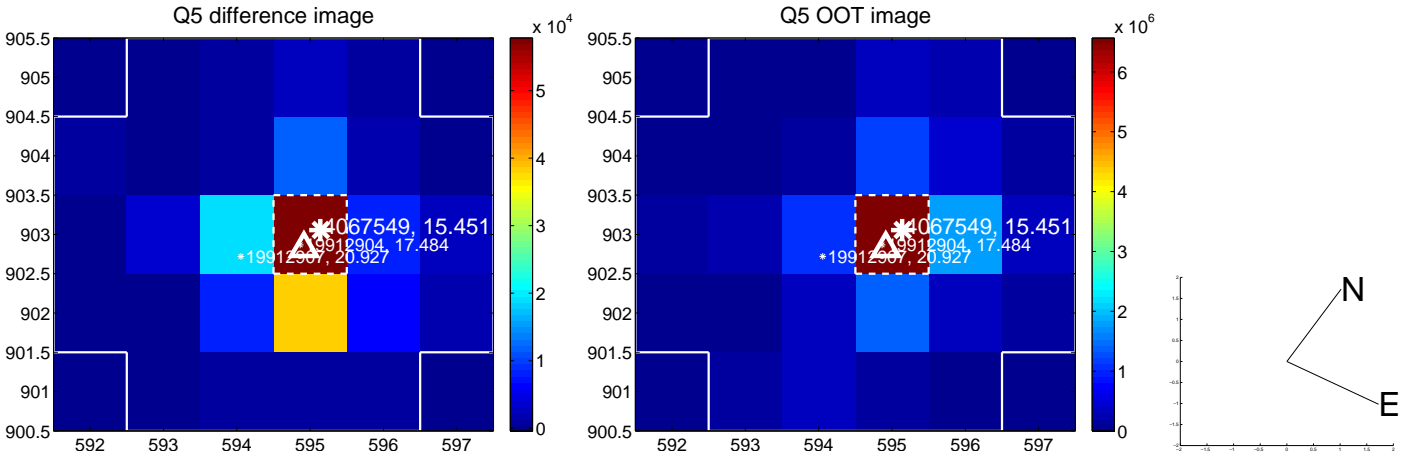


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

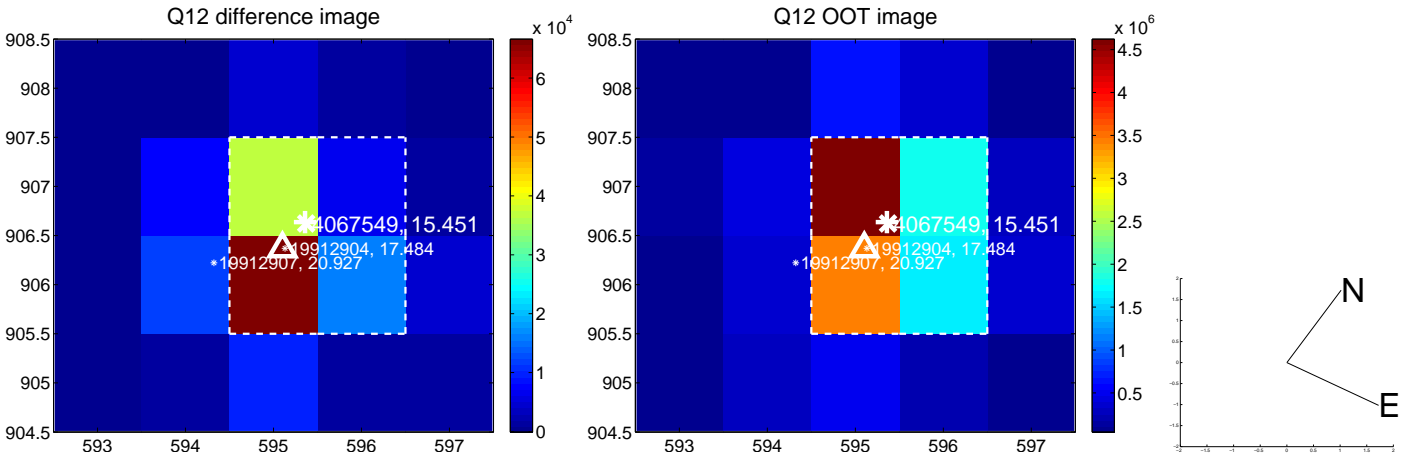
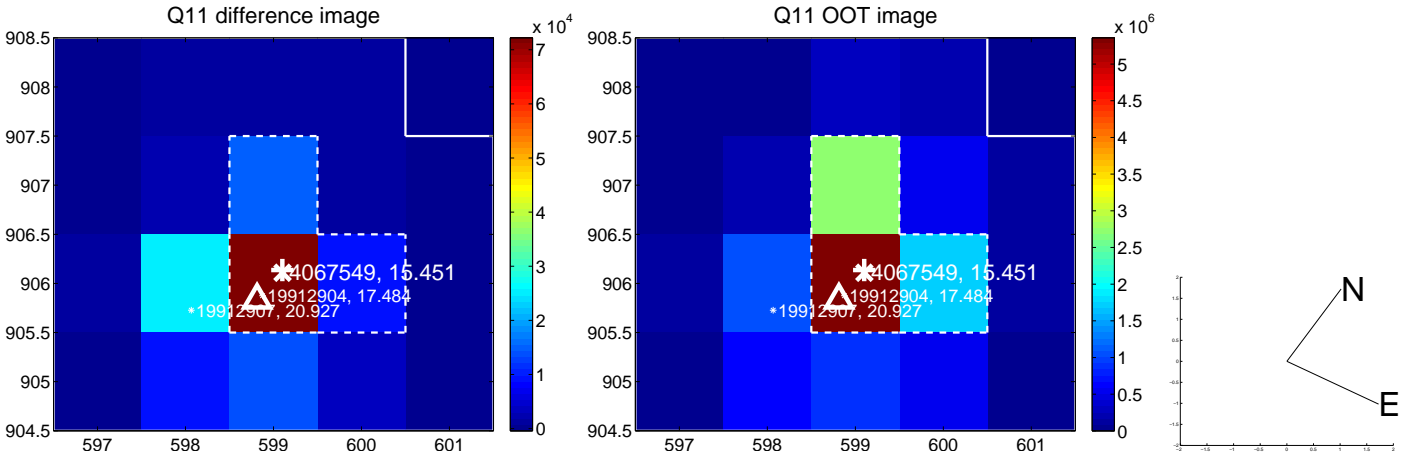
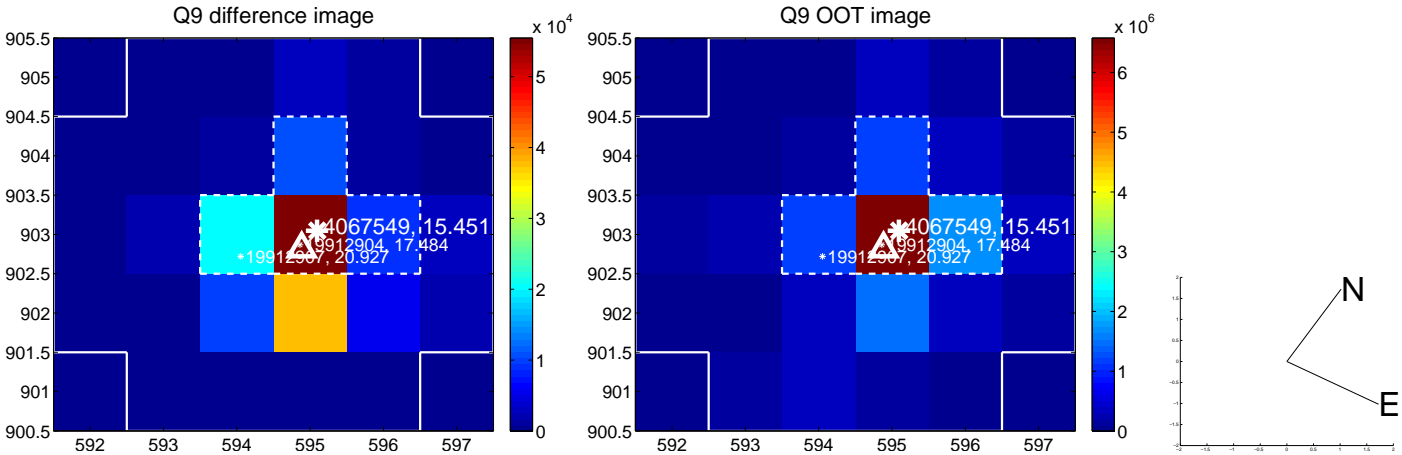
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



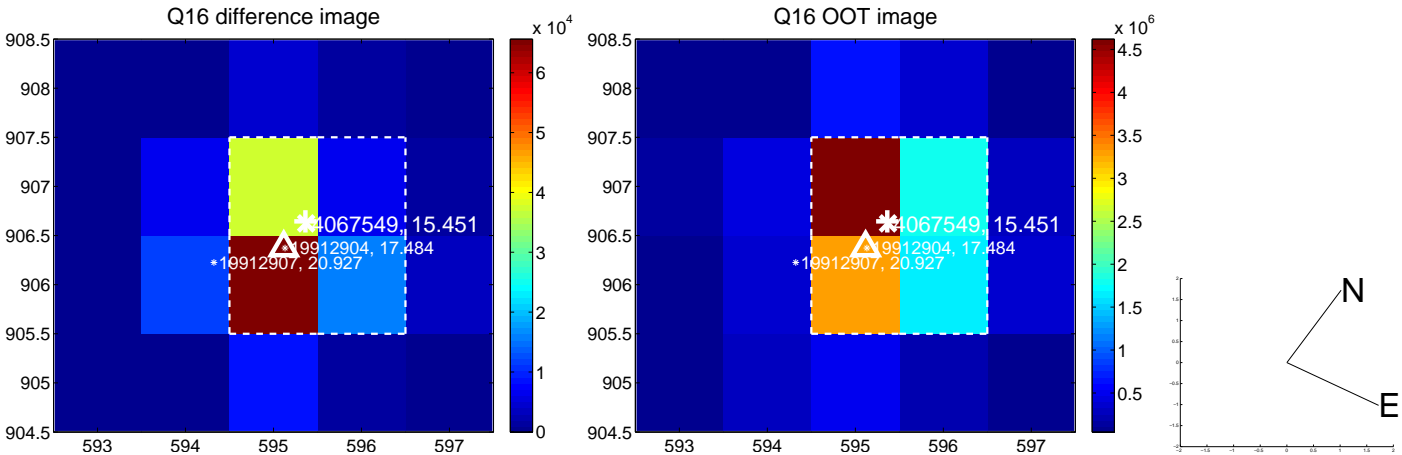
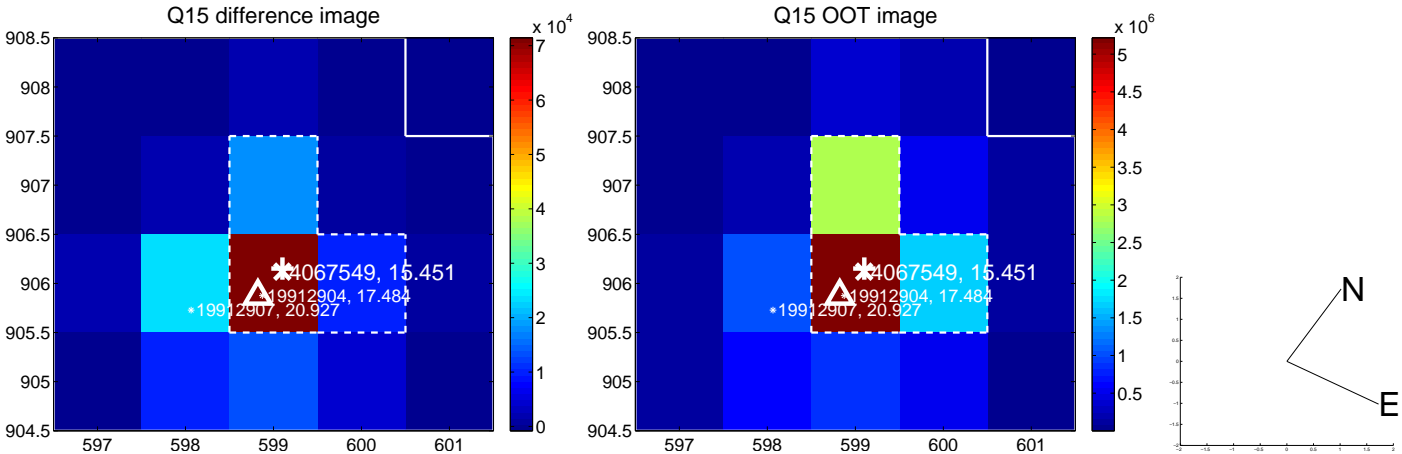
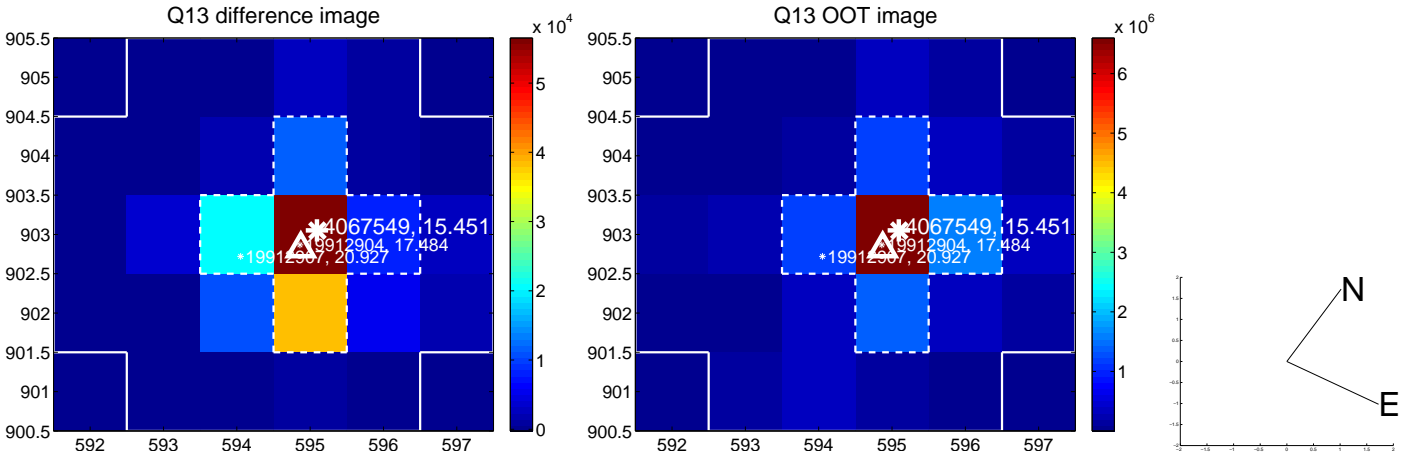
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

