

KIC 007136958

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})
007136958-01	OBS	3350.01	29.015847	156.506225	139404.7	9.059	3503.7	2847.6	0.94	5783	51.79	29.18
007136958-02	OBS	No	29.015845	138.402728	71073.6	7.277	1648.8	1495.5	0.94	5783	28.99	29.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007136958-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
007136958-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

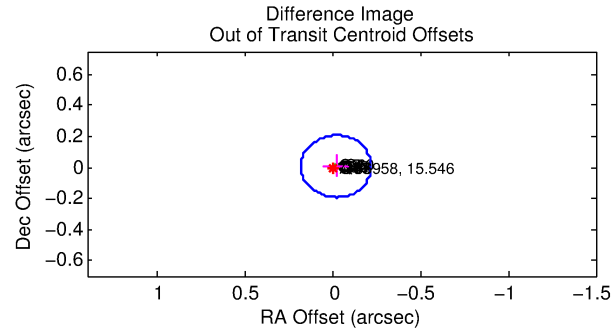
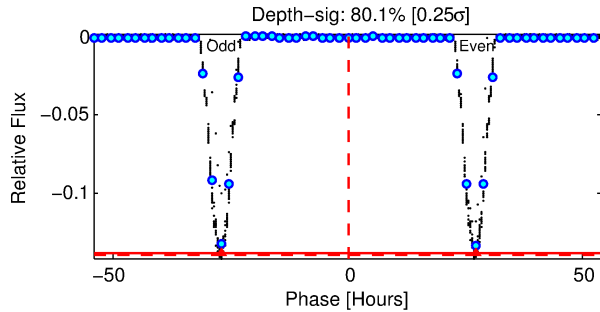
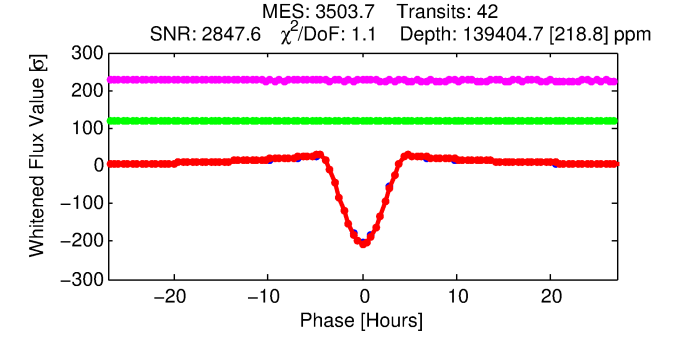
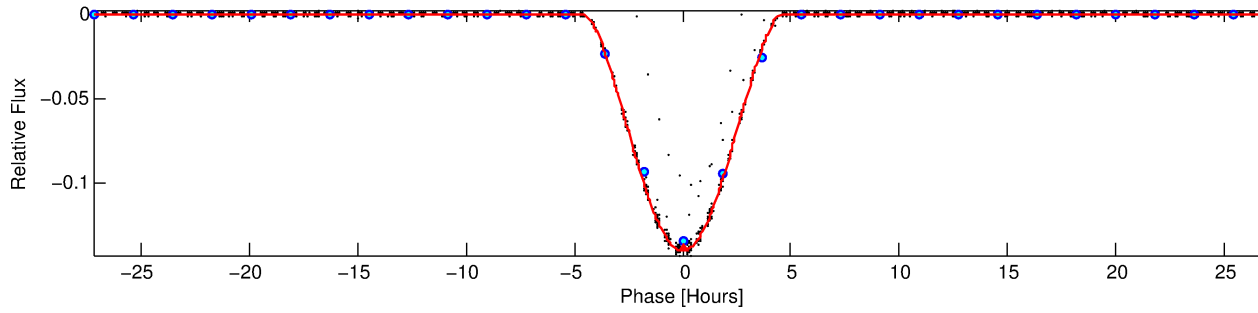
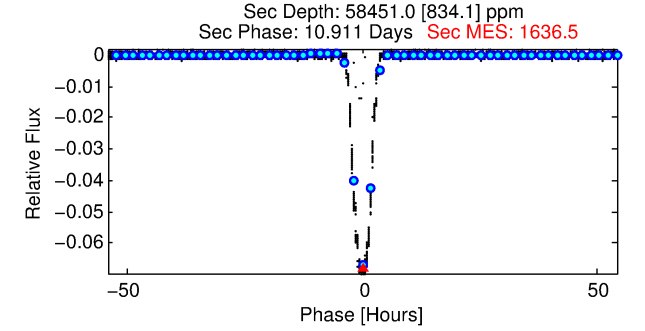
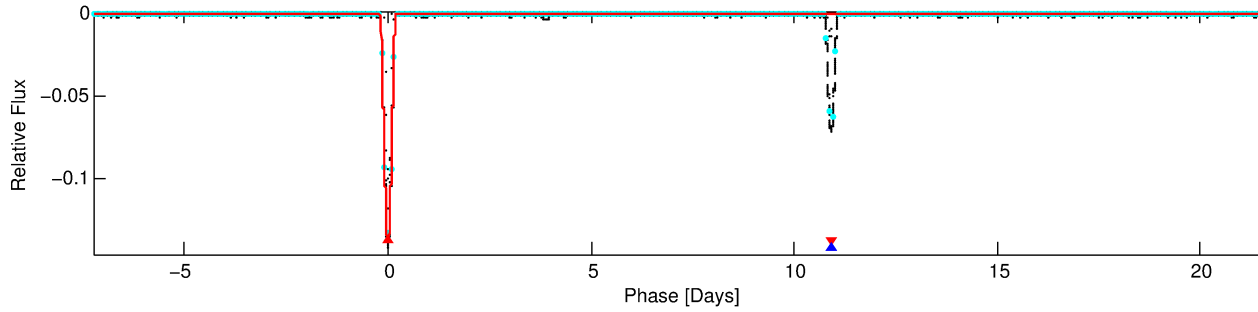
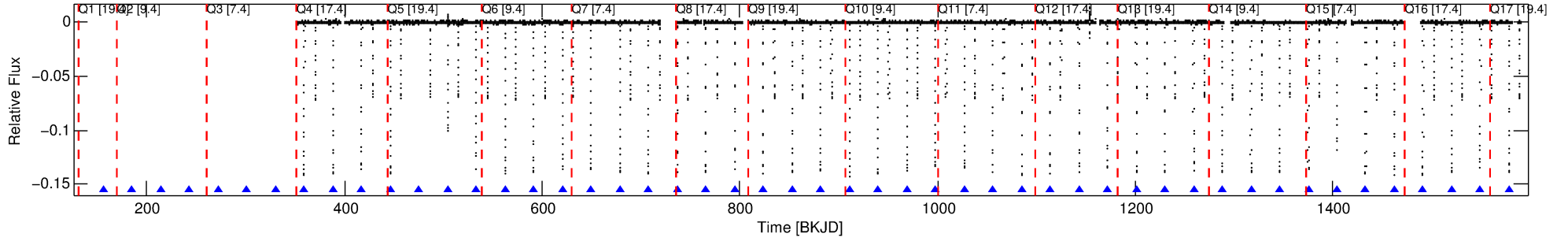
Ephemeris Match Information For 007136958-01

No Significant Match Found

DV One-Page Summary

KIC: 7136958 Candidate: 1 of 2 Period: 29.016 d
KOI: K03350 Corr: No Ephemeris Match

Kp: 15.55 R*: 0.94 Rs Teff: 5783.0 K Logg: 4.42 Fe/H: -0.360



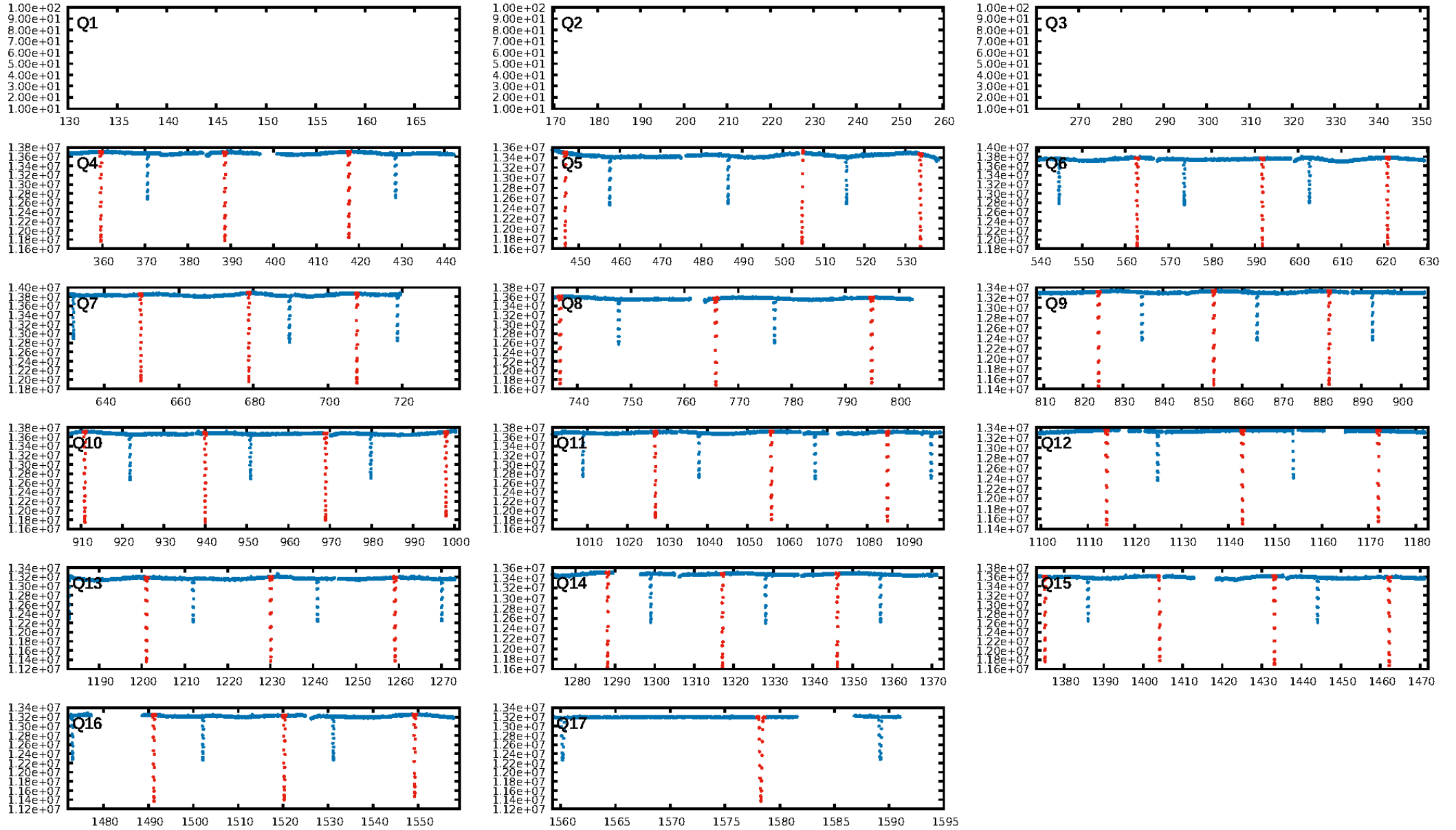
DV Fit Results:

Period = 29.01585 [0.00000] d
Epoch = 156.5062 [0.0001] BKJD
Rp/R* = 0.5044 [0.0716]
a/R* = 29.55 [0.35]
b = 0.90 [0.10]
Seff = 29.18 [10.64]
Teq = 593 [54] K
Rp = 51.79 [16.14] Re
a = 0.1744 [0.0407] AU
Ag = 364.53 [161.61] [2.25σ]
Teffp = 4004 [314] K [10.72σ]

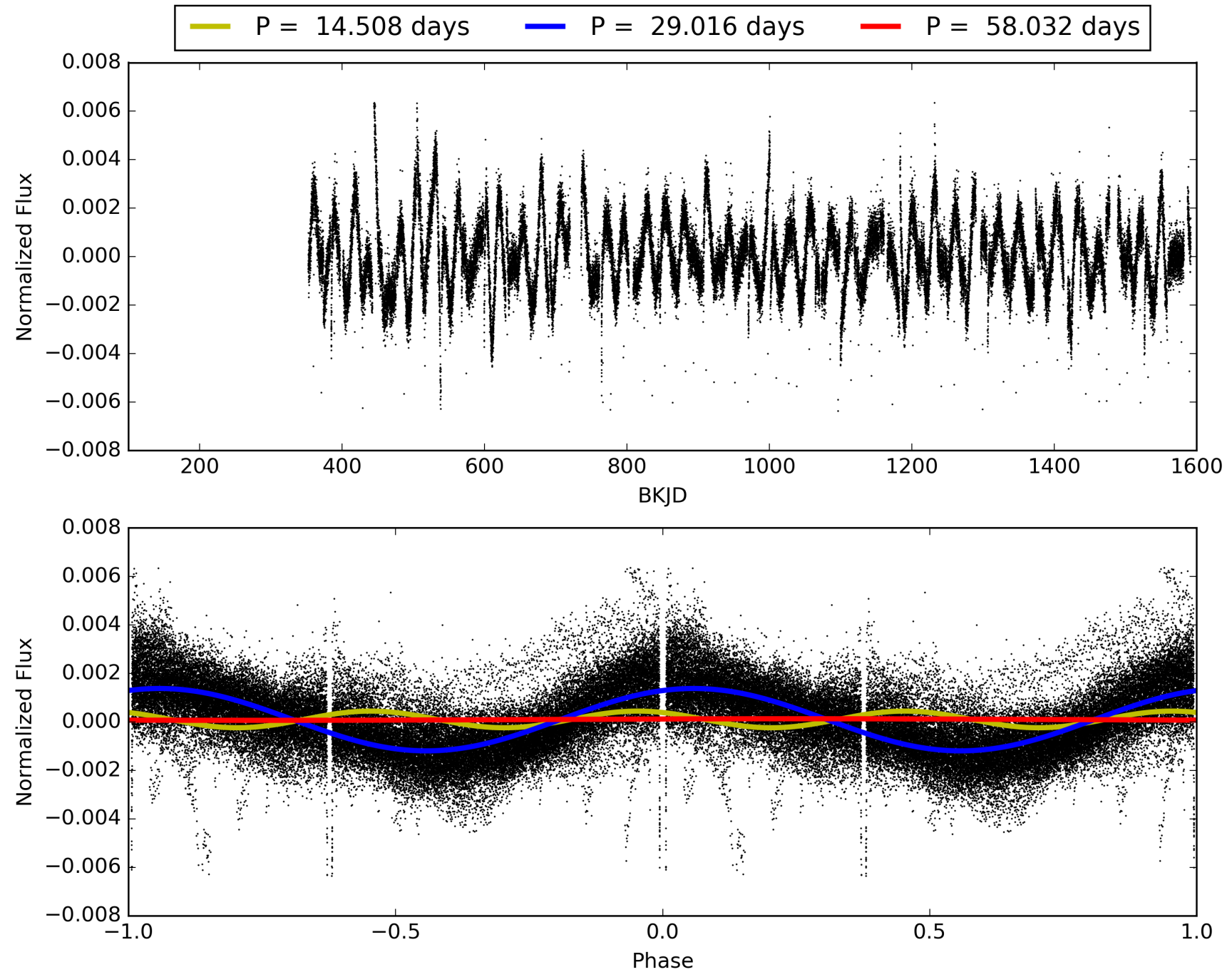
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [41/41]
GhostDiagnostic-chr: 4.607
Centroid-sig: 0.0%
Centroid-so: 0.061 arcsec [19.12σ]
OotOffset-rm: 0.021 arcsec [0.31σ]
KicOffset-rm: 0.051 arcsec [0.75σ]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 007136958-01, PDC Light Curves

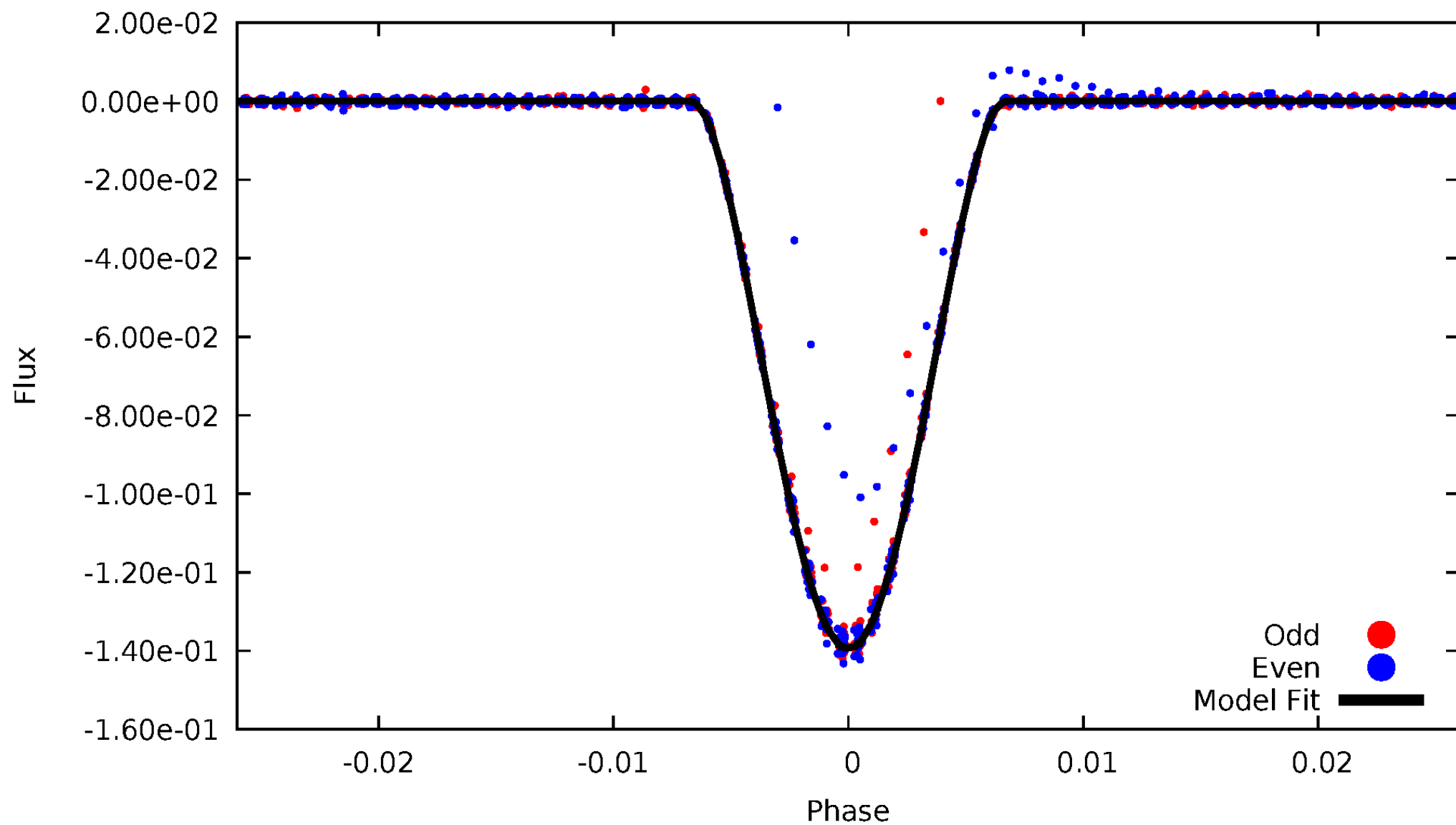


TCE 007136958-01



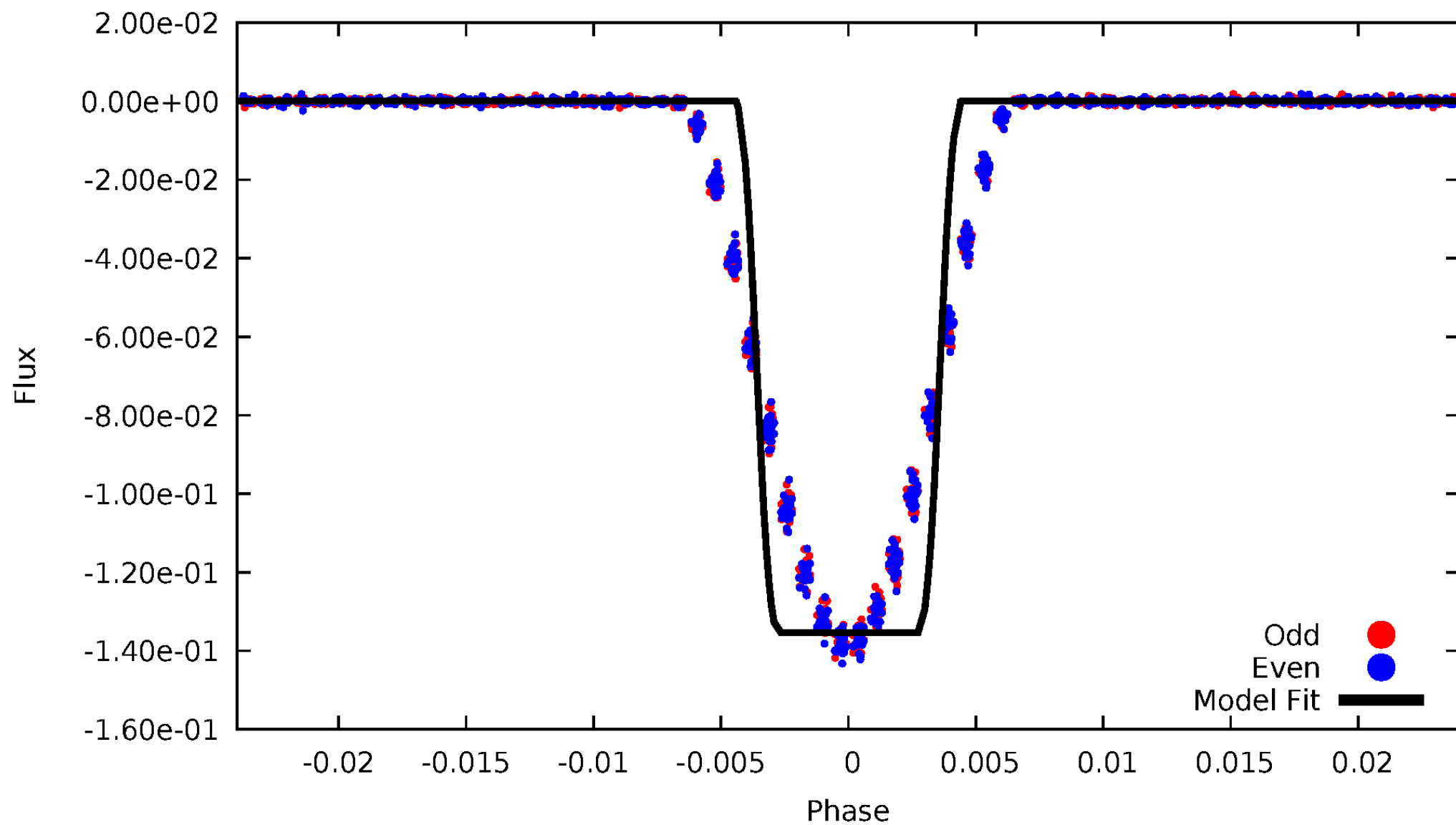
DV Odd/Even

TCE 007136958-01



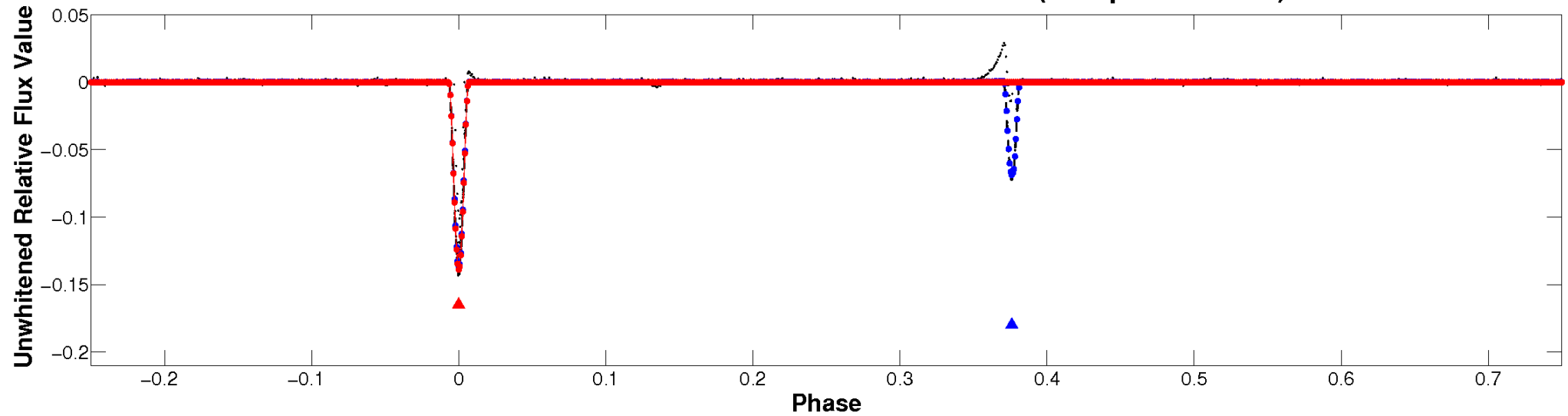
ALT Odd/Even

TCE 007136958-01

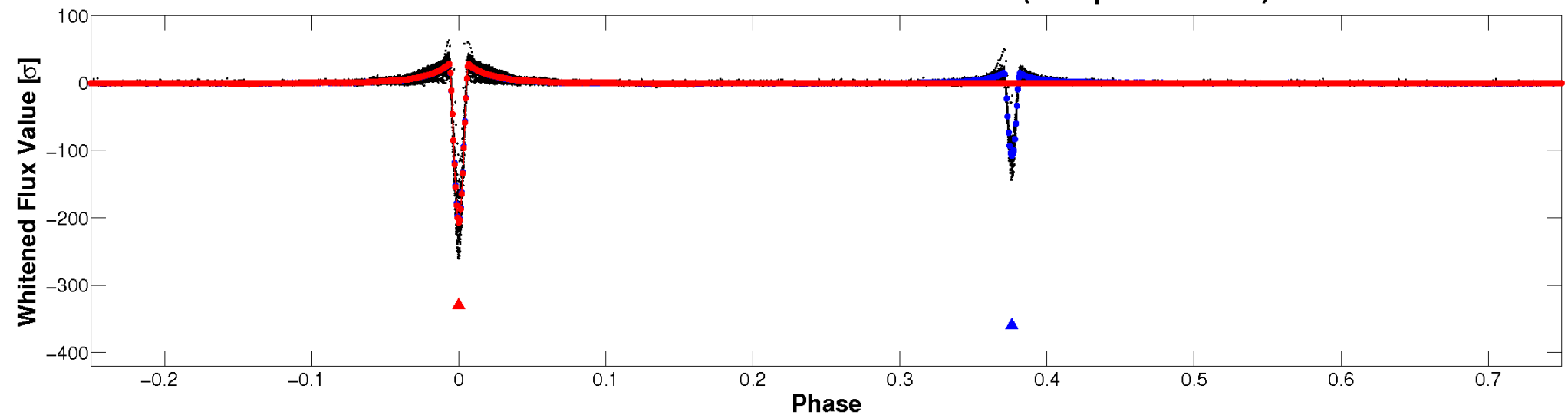


Non-Whitened Vs. Whitened Light Curve

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

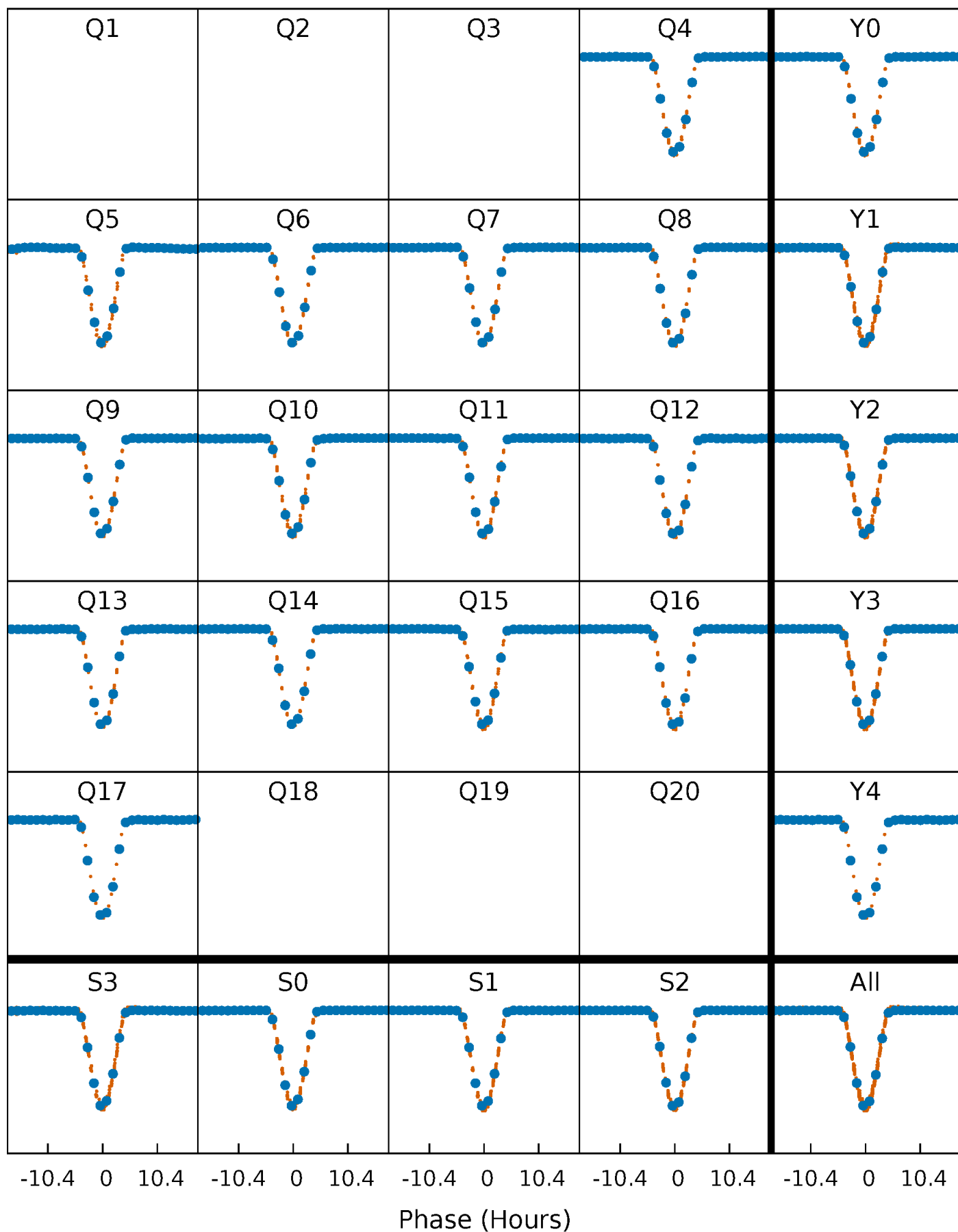


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



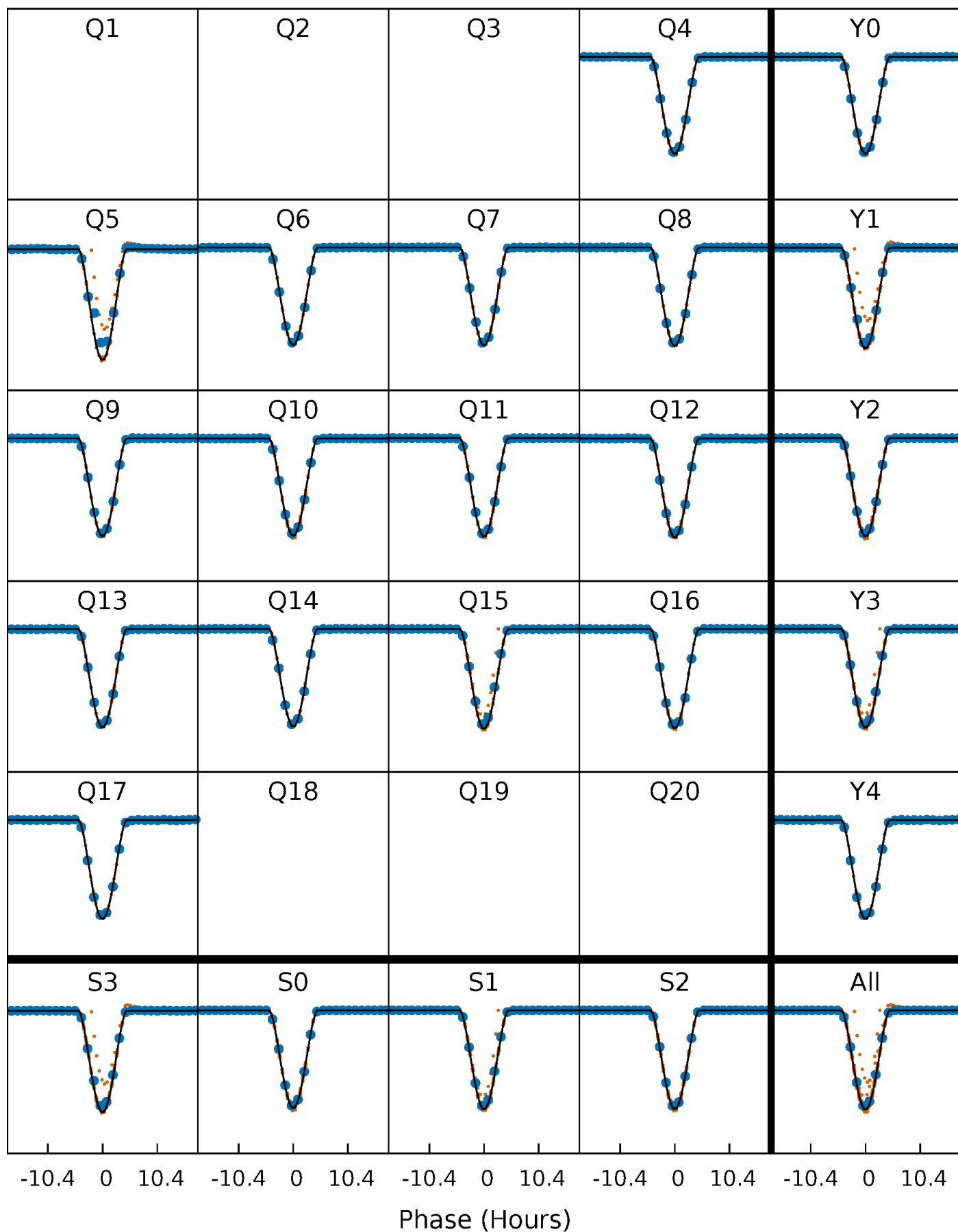
PDC Quarter-Phased Transit Curves

TCE 007136958-01 P= 29.015847 Days $T_0=156.506225$ (BKJD)



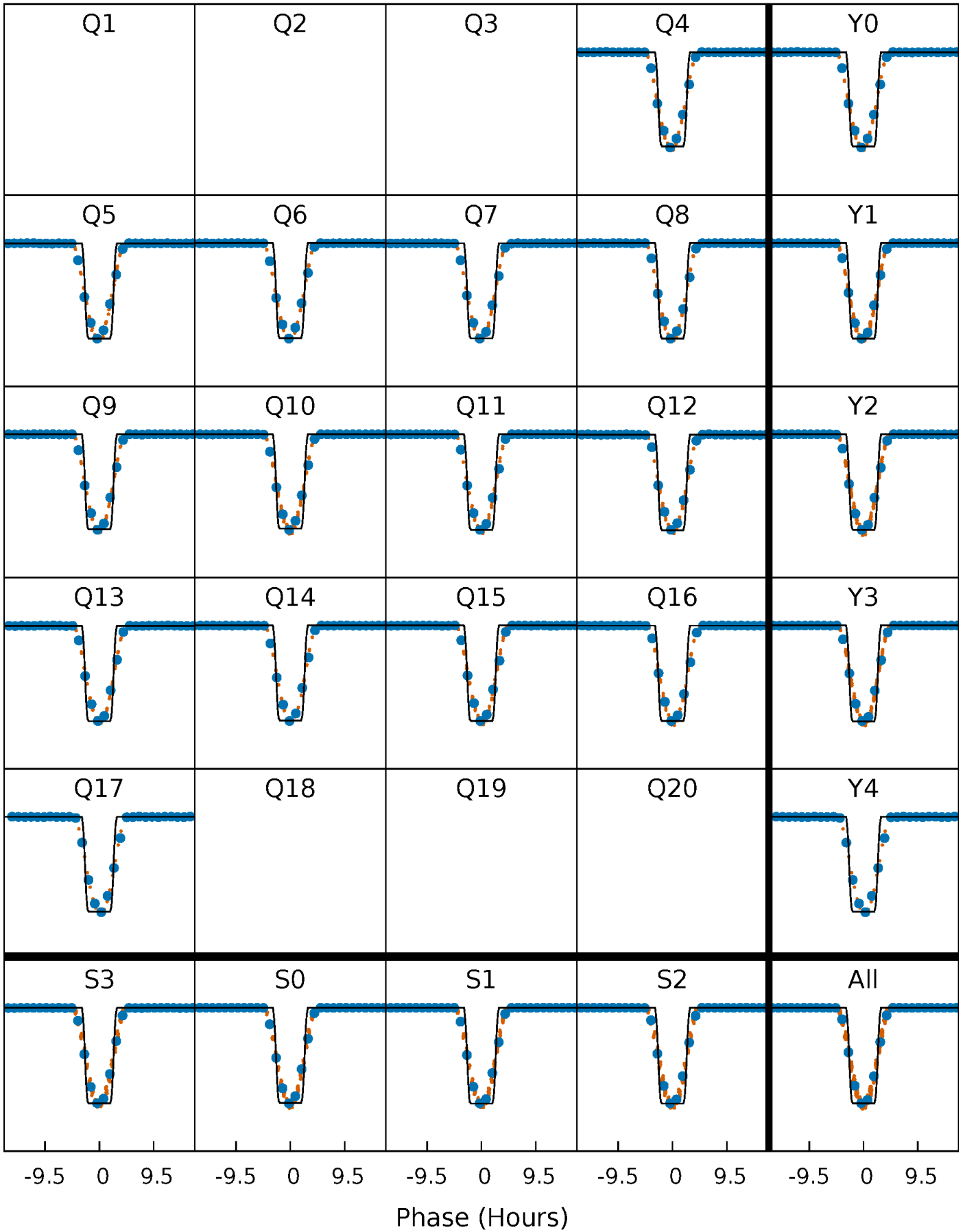
DV Quarter-Phased Transit Curves

TCE 007136958-01 P= 29.015847 Days $T_0=156.506225$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

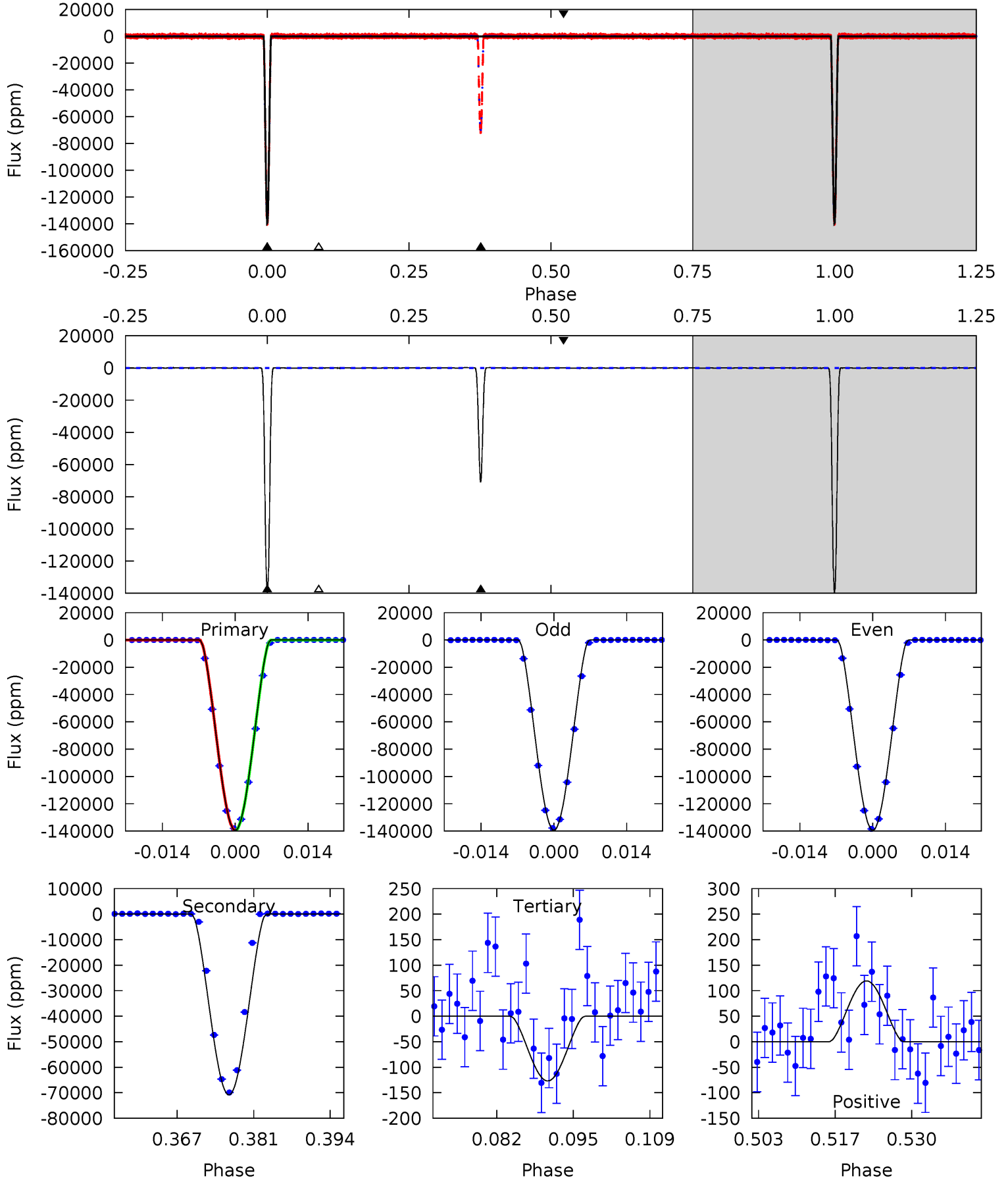
TCE 007136958-01 P= 29.015488 Days $T_0=156.516447$ (BKJD)



DV Model-Shift Uniqueness Test

007136958-01, P = 29.015847 Days, E = 156.506225 Days

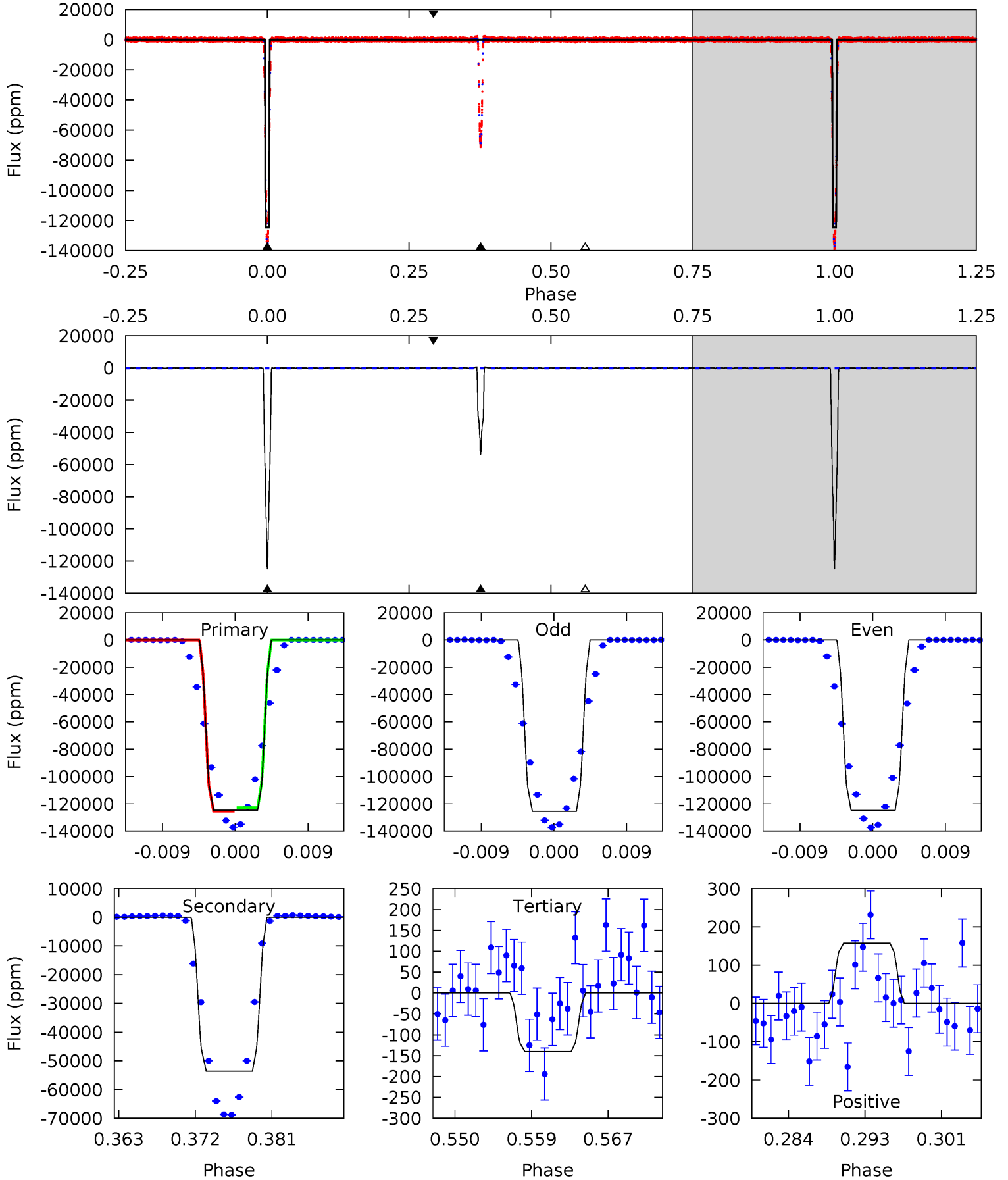
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7133	3625	6.49	6.10	4.97	2.47	2.71	7126	7126	3619	3619	0.54	0.98	0.00	0.37



Alt Model-Shift Uniqueness Test

007136958-01, P = 29.015488 Days, E = 156.516447 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3573	1535	4.02	4.52	5.05	2.62	1.44	3569	3568	1531	1530	10.1	1.00	0.01	4.96



Stellar Parameters For KIC 007136958

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5783^{+190}_{-190}	$4.415^{+0.139}_{-0.186}$	$-0.360^{+0.300}_{-0.300}$	$0.941^{+0.261}_{-0.160}$	$0.841^{+0.116}_{-0.068}$	$1.422^{+0.845}_{-0.721}$
	+3%/-3%	+3%/-4%	+83%/-83%	+28%/-17%	+14%/-8%	+59%/-51%
Source	KIC0	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 007136958-01 / KOI 3350.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-70815 ± 20	$52.41^{+9.85}_{-9.00}$	827^{+70}_{-46}	4484^{+299}_{-274}	473^{+208}_{-140}
Alt.	-53550 ± 35	$39.30^{+9.03}_{-8.98}$	834^{+62}_{-53}	4759^{+474}_{-359}	620^{+410}_{-205}

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 $A_{obs} \gg 1.0$

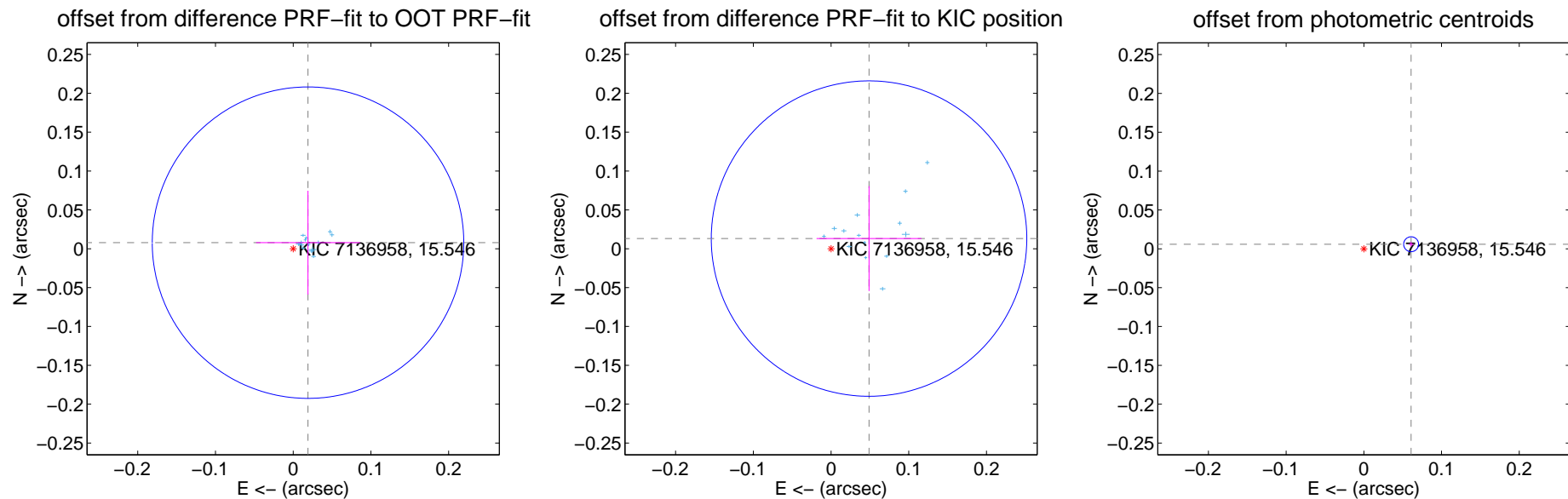
DV Centroid Data

Supplemental centroid analysis for 007136958-01. Kepler magnitude: 15.55. Transit SNR 2847.60

There are 14 quarters with good PRF difference image offsets

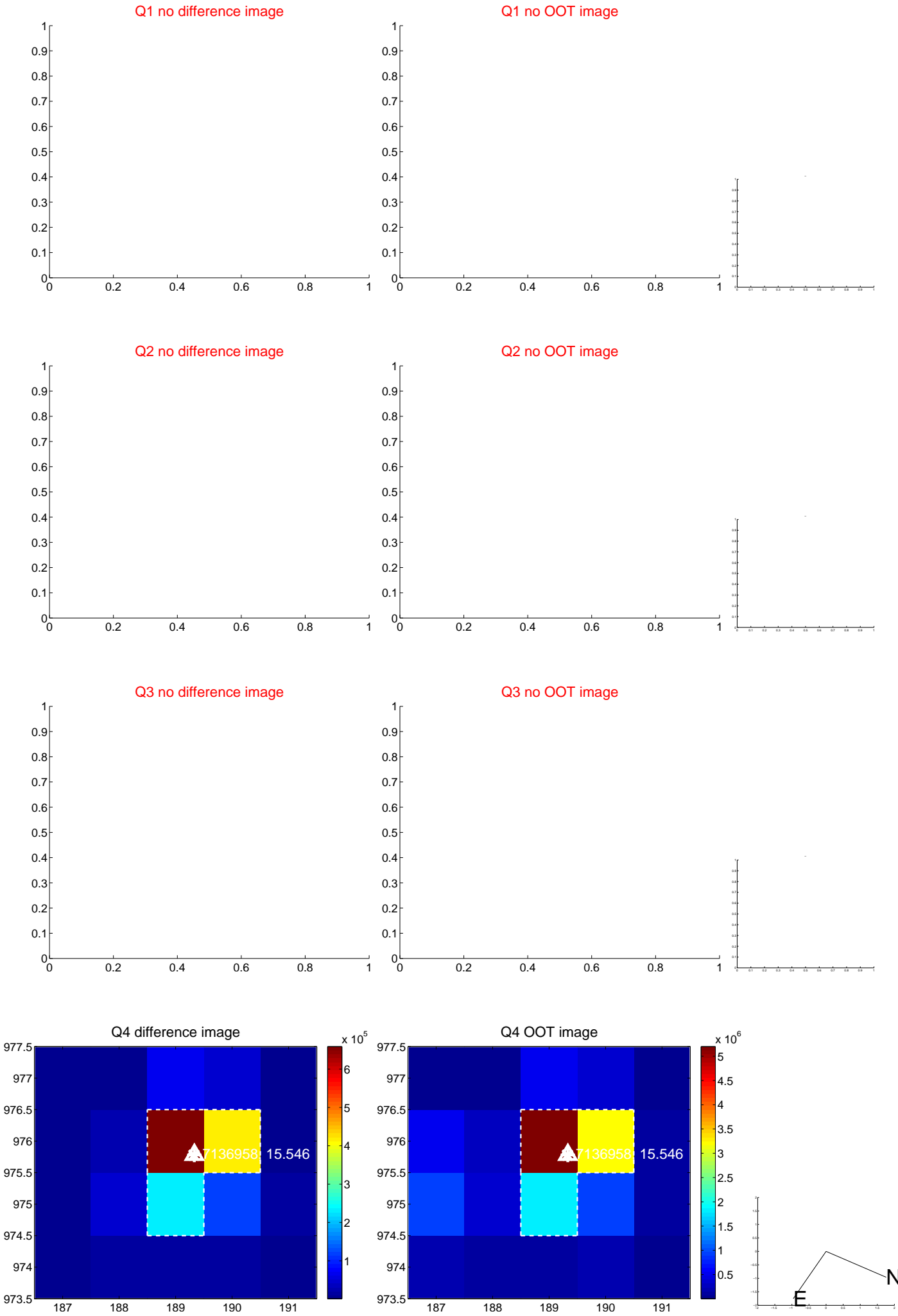
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.021 ± 0.067	0.31	-0.019 ± 0.067	0.008 ± 0.067
PRF-fit source offset from KIC position	0.051 ± 0.068	0.75	-0.049 ± 0.067	0.013 ± 0.067
photometric centroid source offset	0.06 ± 0.00	19.12	-0.06 ± 0.00	0.01 ± 0.00

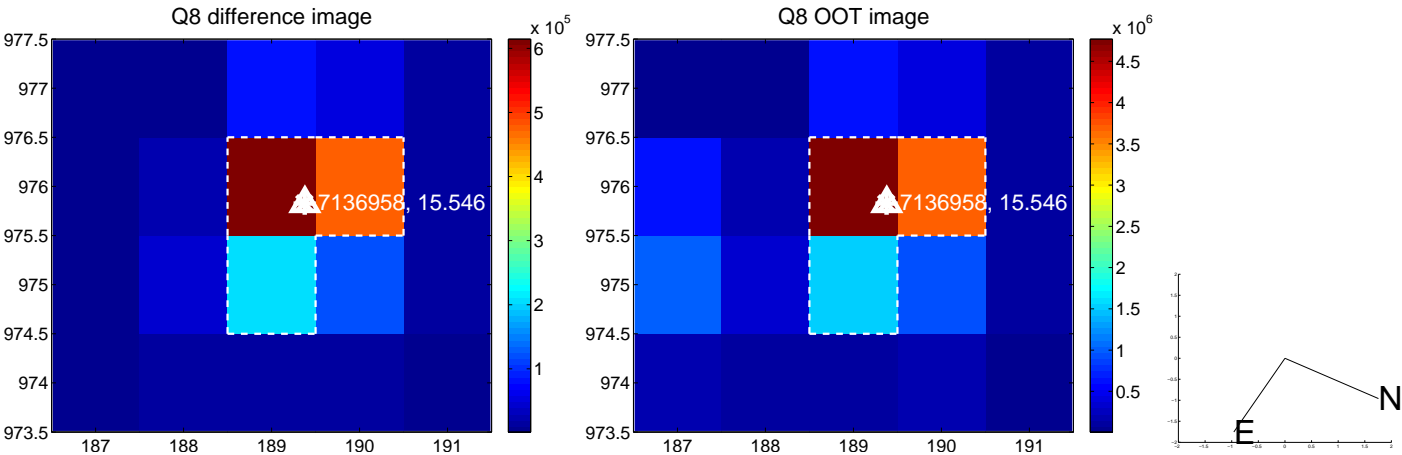
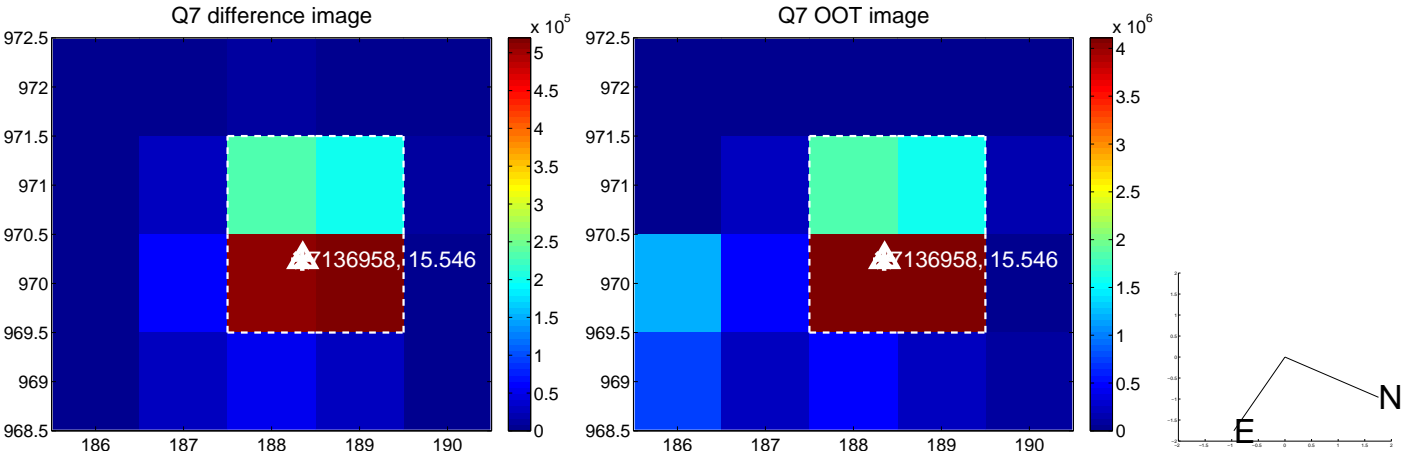
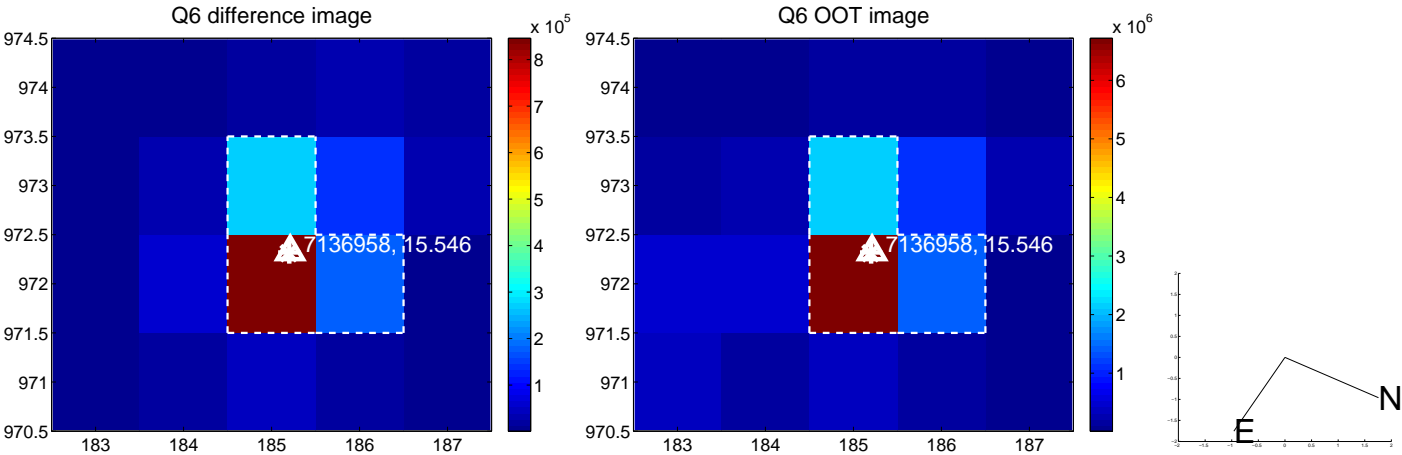
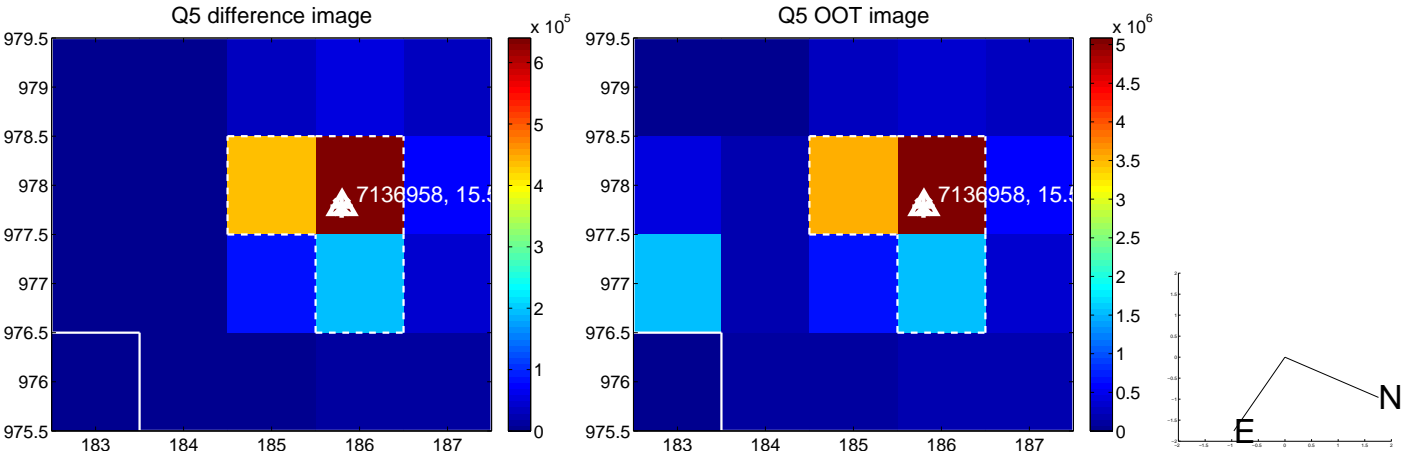


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

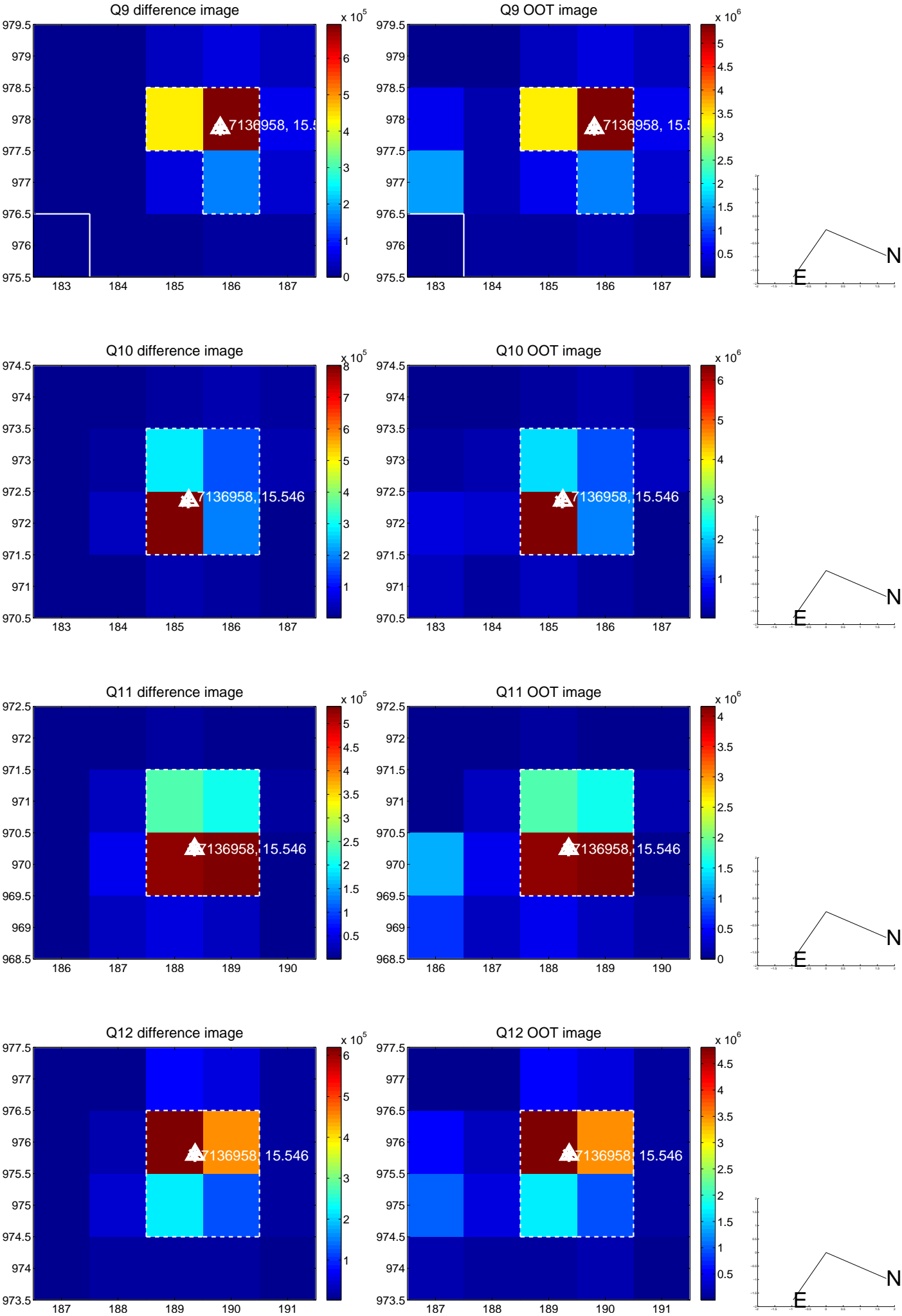
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



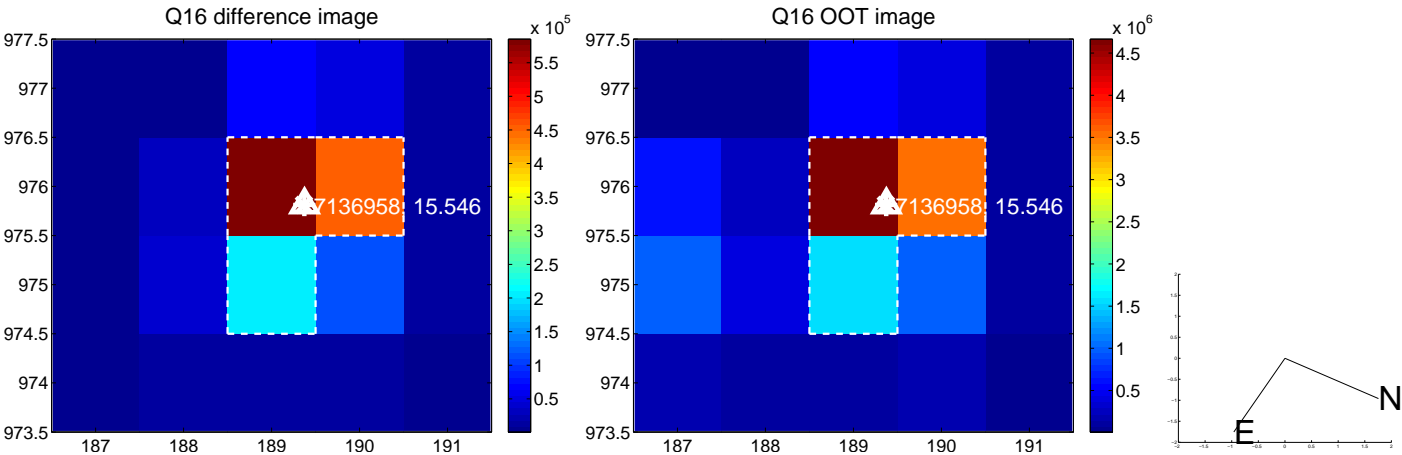
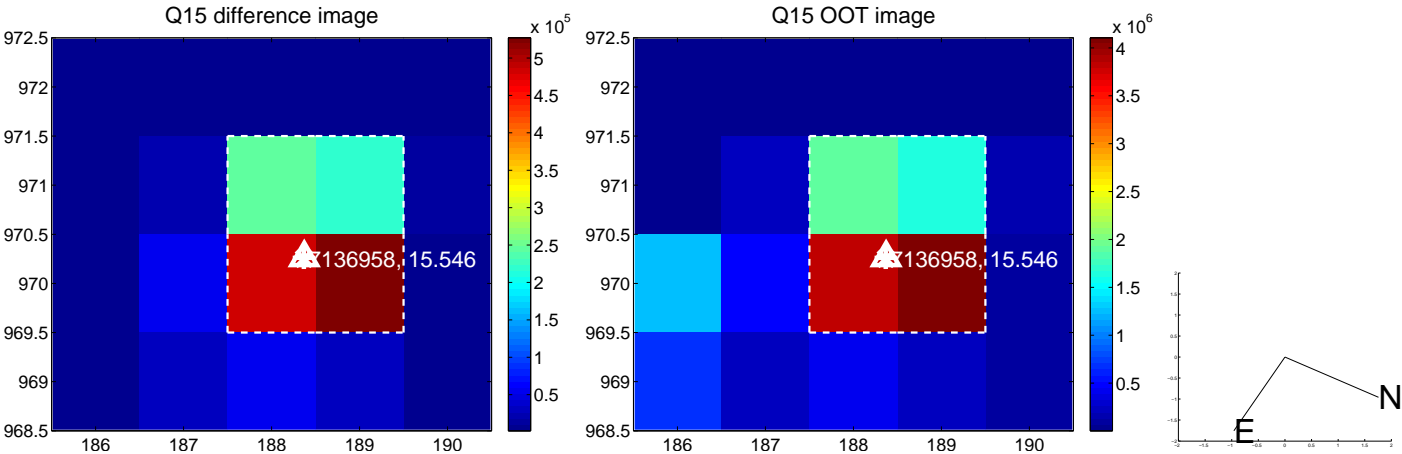
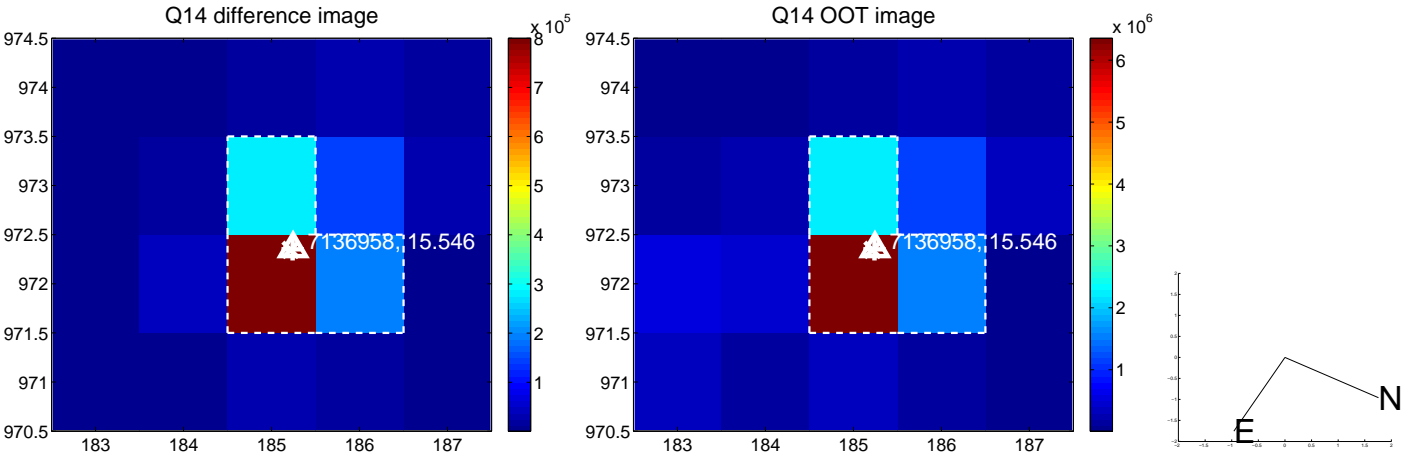
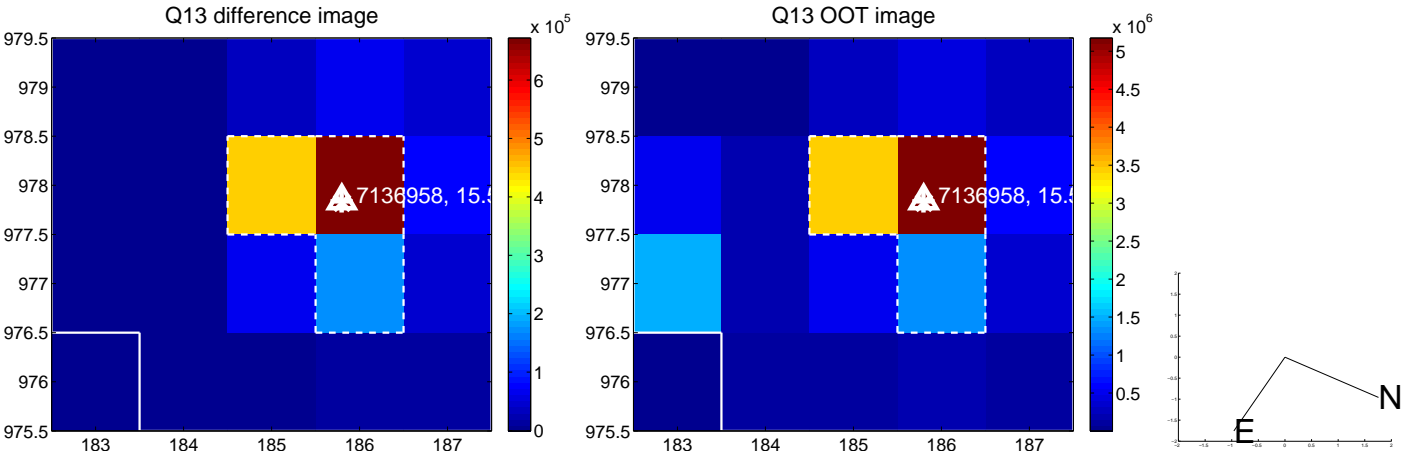
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



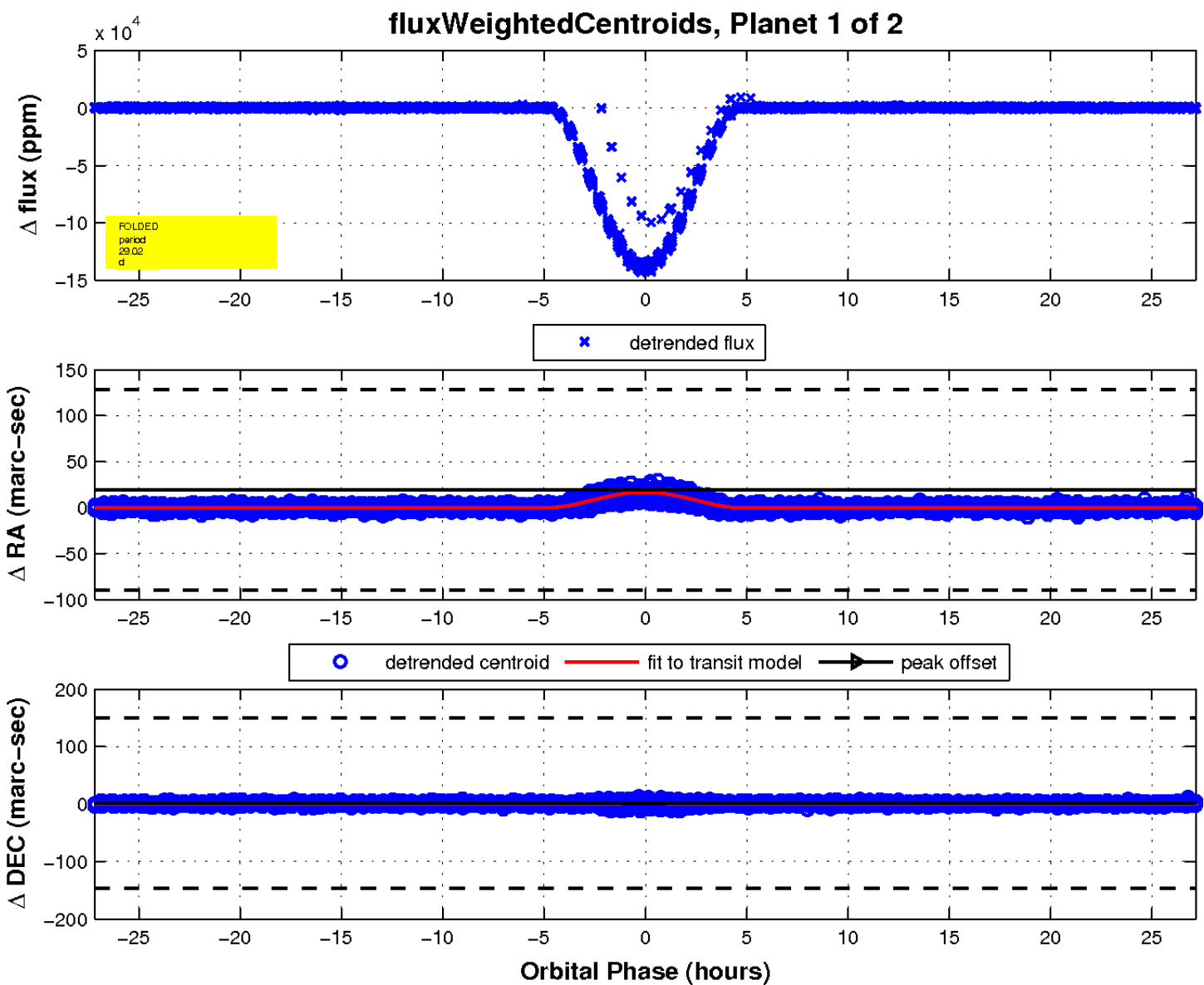
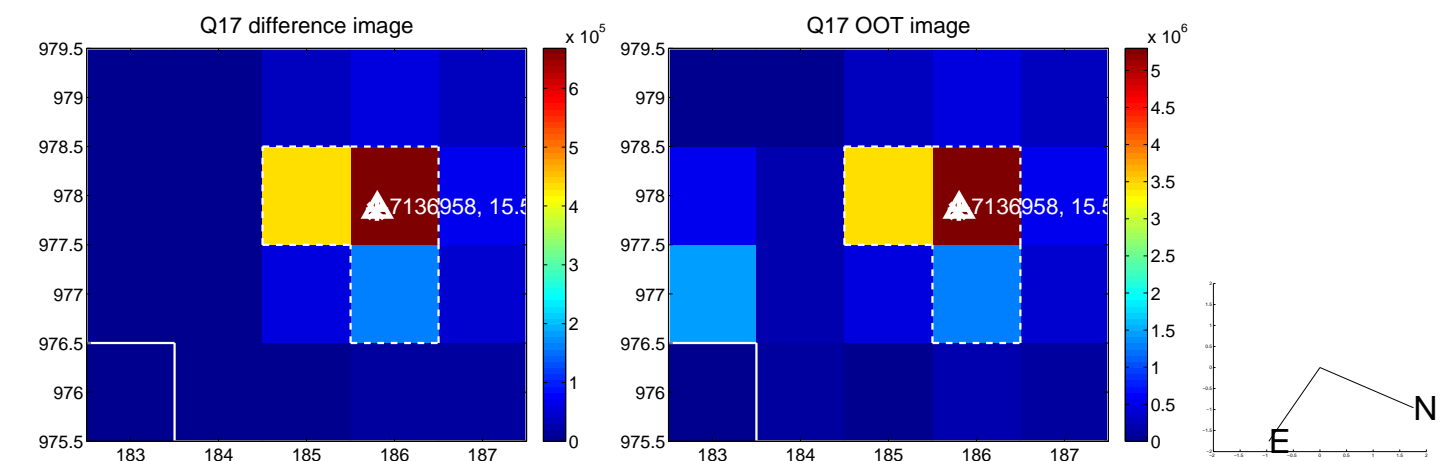
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

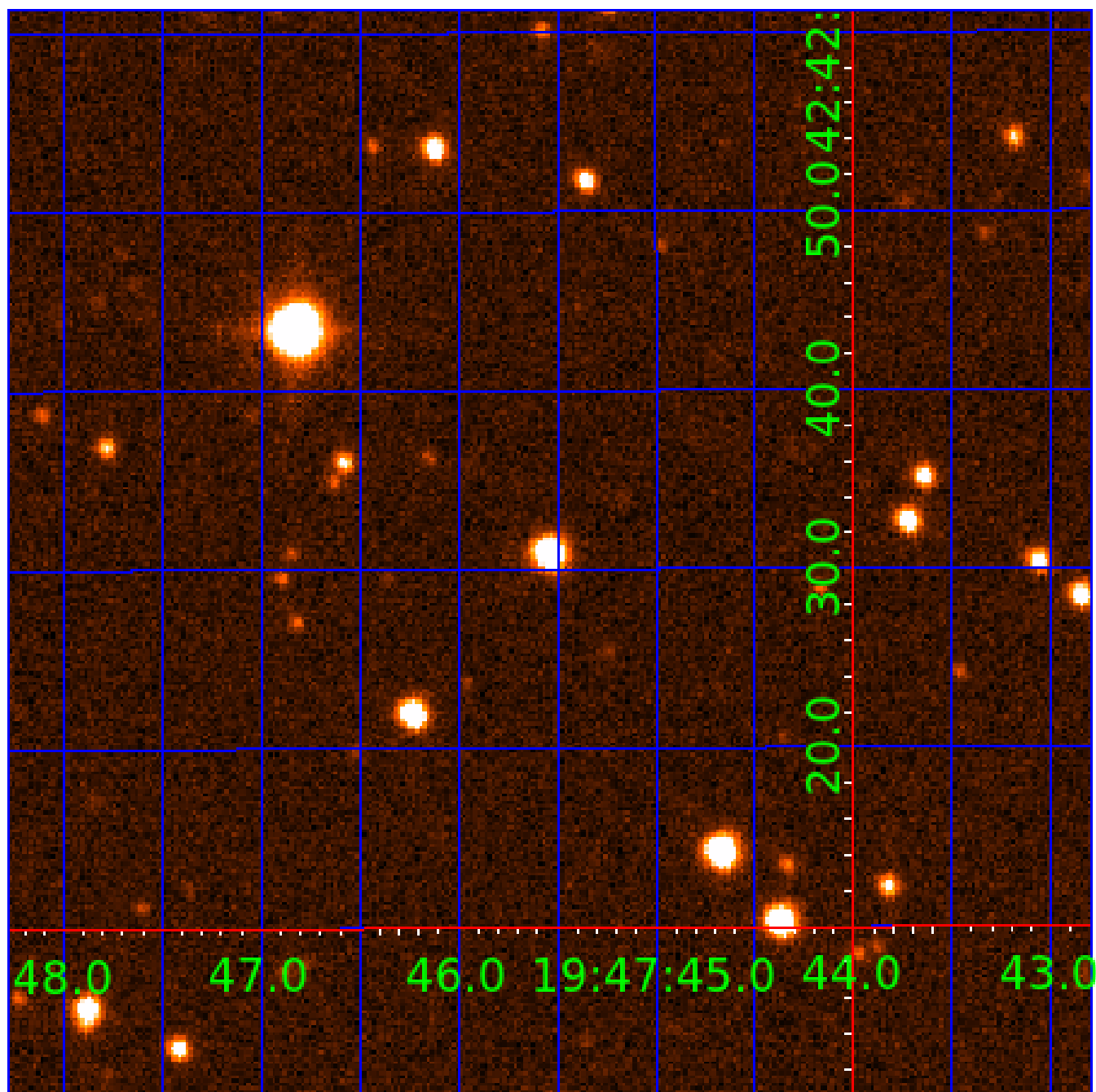


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007136958

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})
007136958-01	OBS	3350.01	29.015847	156.506225	139404.7	9.059	3503.7	2847.6	0.94	5783	51.79	29.18
007136958-02	OBS	No	29.015845	138.402728	71073.6	7.277	1648.8	1495.5	0.94	5783	28.99	29.18

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007136958-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
007136958-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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 007136958-02

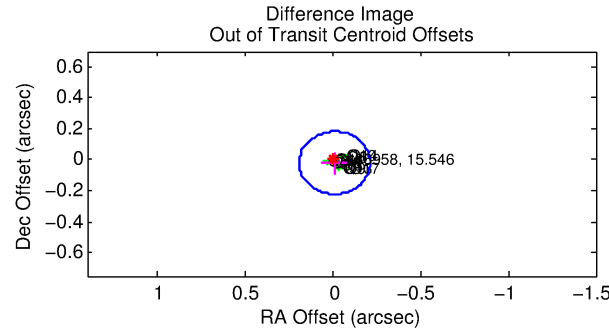
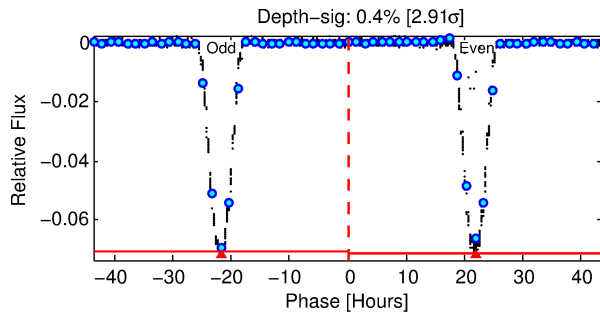
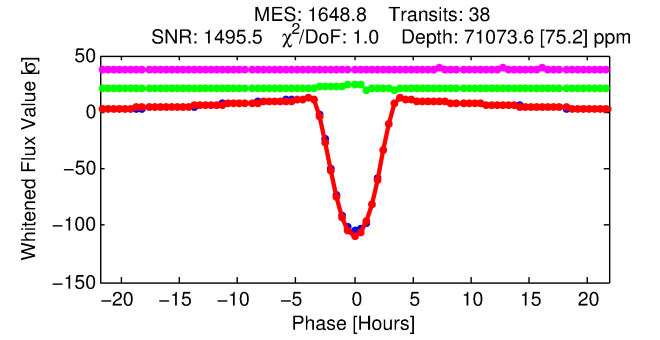
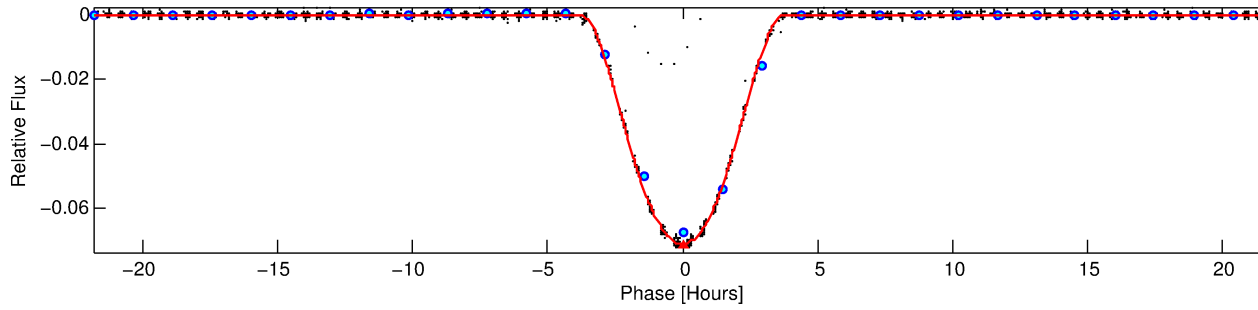
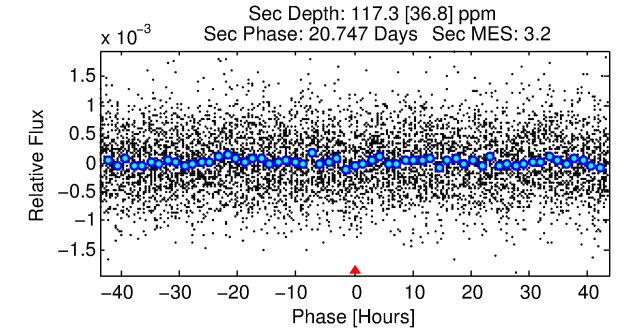
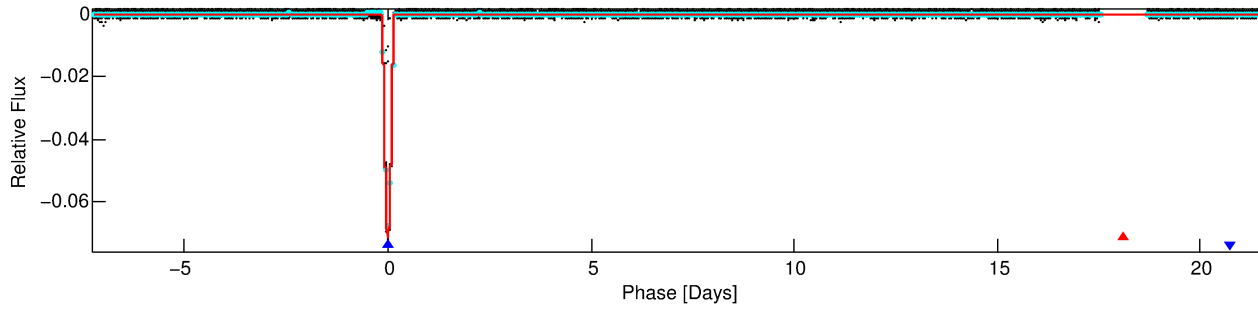
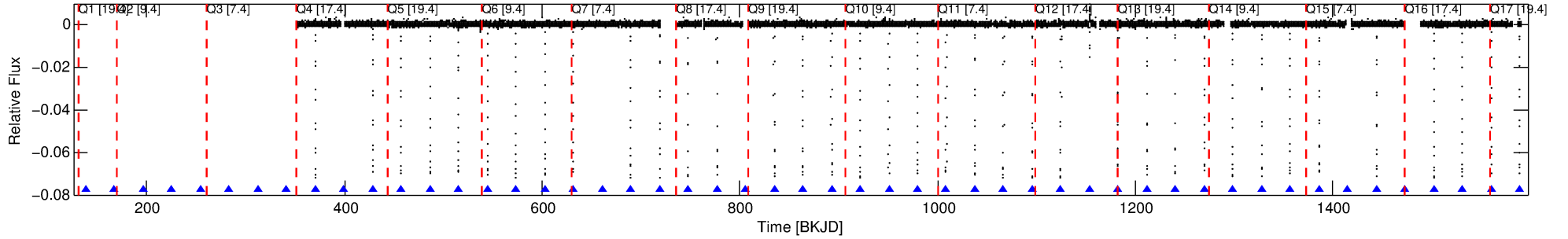
No Significant Match Found

DV One-Page Summary

KIC: 7136958 Candidate: 2 of 2 Period: 29.016 d

KOI: K03350.01 Corr: 0.994

Kp: 15.55 R*: 0.94 Rs Teff: 5783.0 K Logg: 4.42 Fe/H: -0.360



DV Fit Results:

Period = 29.01585 [0.00000] d
Epoch = 138.4027 [0.0002] BKJD
Rp/R* = 0.2823 [0.0013]
a/R* = 31.10 [0.05]
b = 0.78 [0.00]
Seff = 29.18 [10.64]
Teq = 593 [54] K
Rp = 28.99 [8.04] Re
a = 0.1744 [0.0407] AU
Ag = 2.34 [1.08] [1.23 sigma]
Teffp = 1133 [96] K [4.89 sigma]

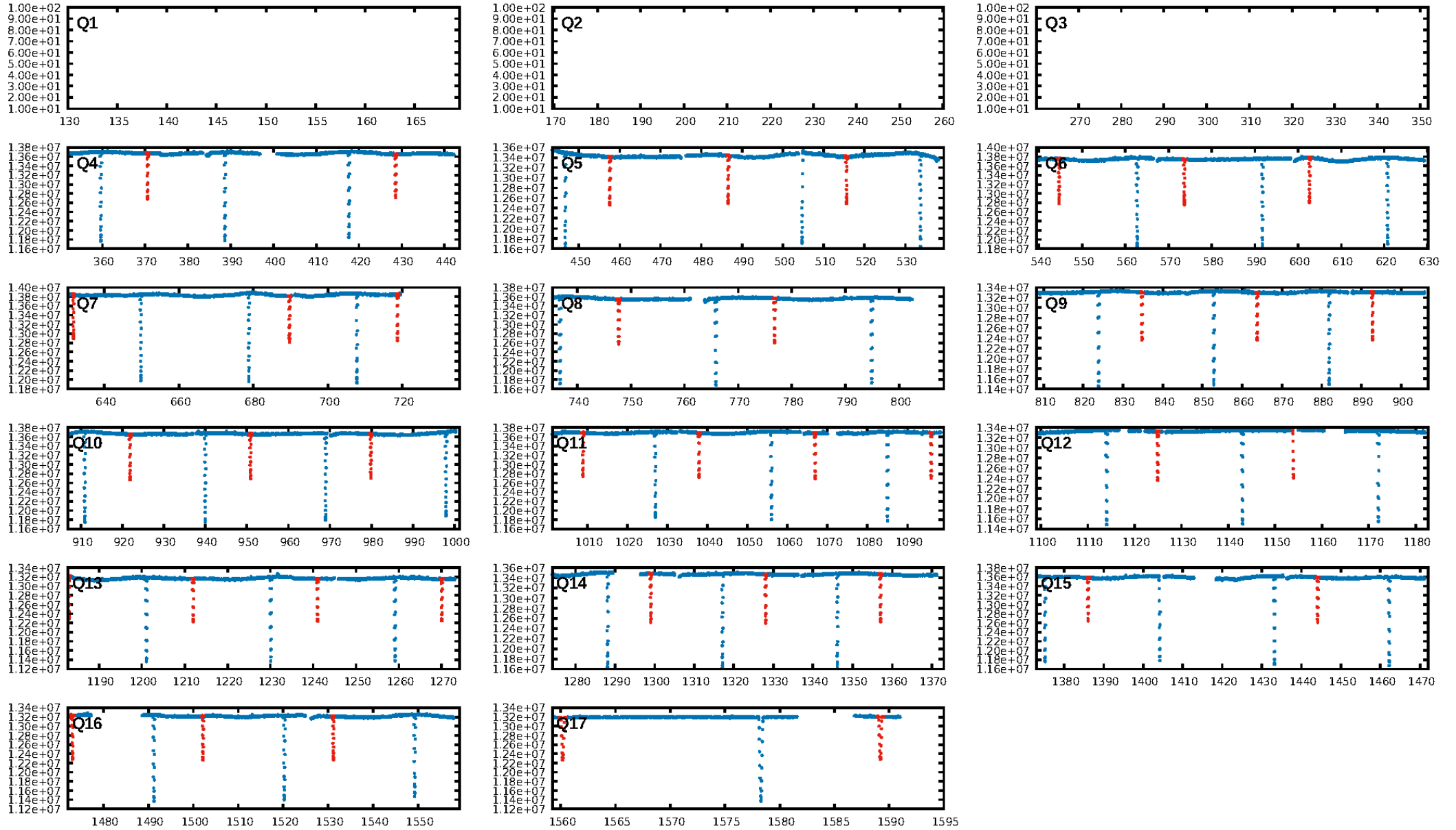
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00 sigma]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 64.7%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [36/36]
GhostDiagnostic-chr: 4.066
Centroid-sig: 0.0%
Centroid-so: 0.017 arcsec [2.55 sigma]
OotOffset-rm: 0.022 arcsec [0.33 sigma]
KicOffset-rm: 0.038 arcsec [0.55 sigma]
OotOffset-st: 3/3/4/4 [14]
KicOffset-st: 3/3/4/4 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 1.00 [14/14]

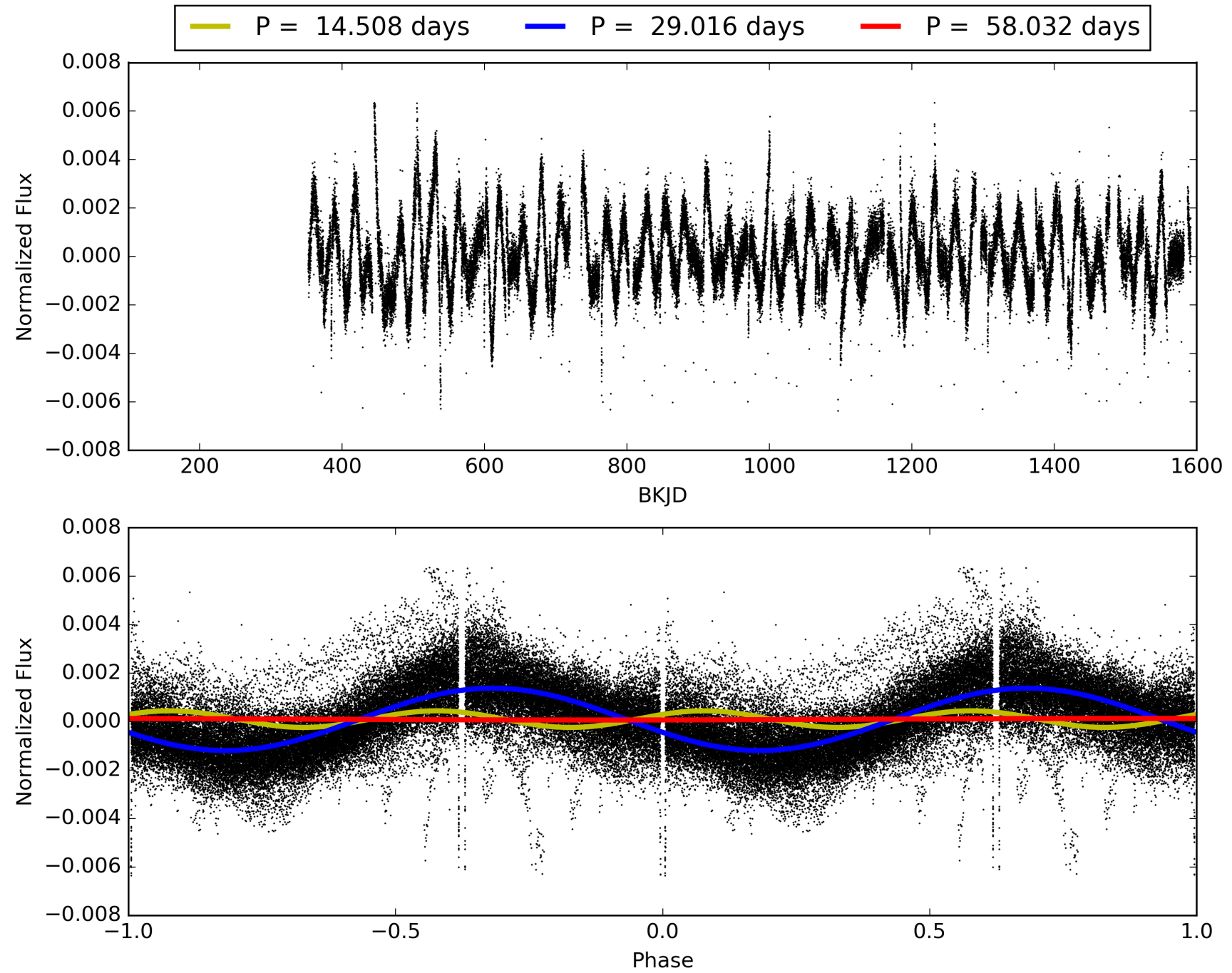
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:12:30 Z

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

TCE 007136958-02, PDC Light Curves

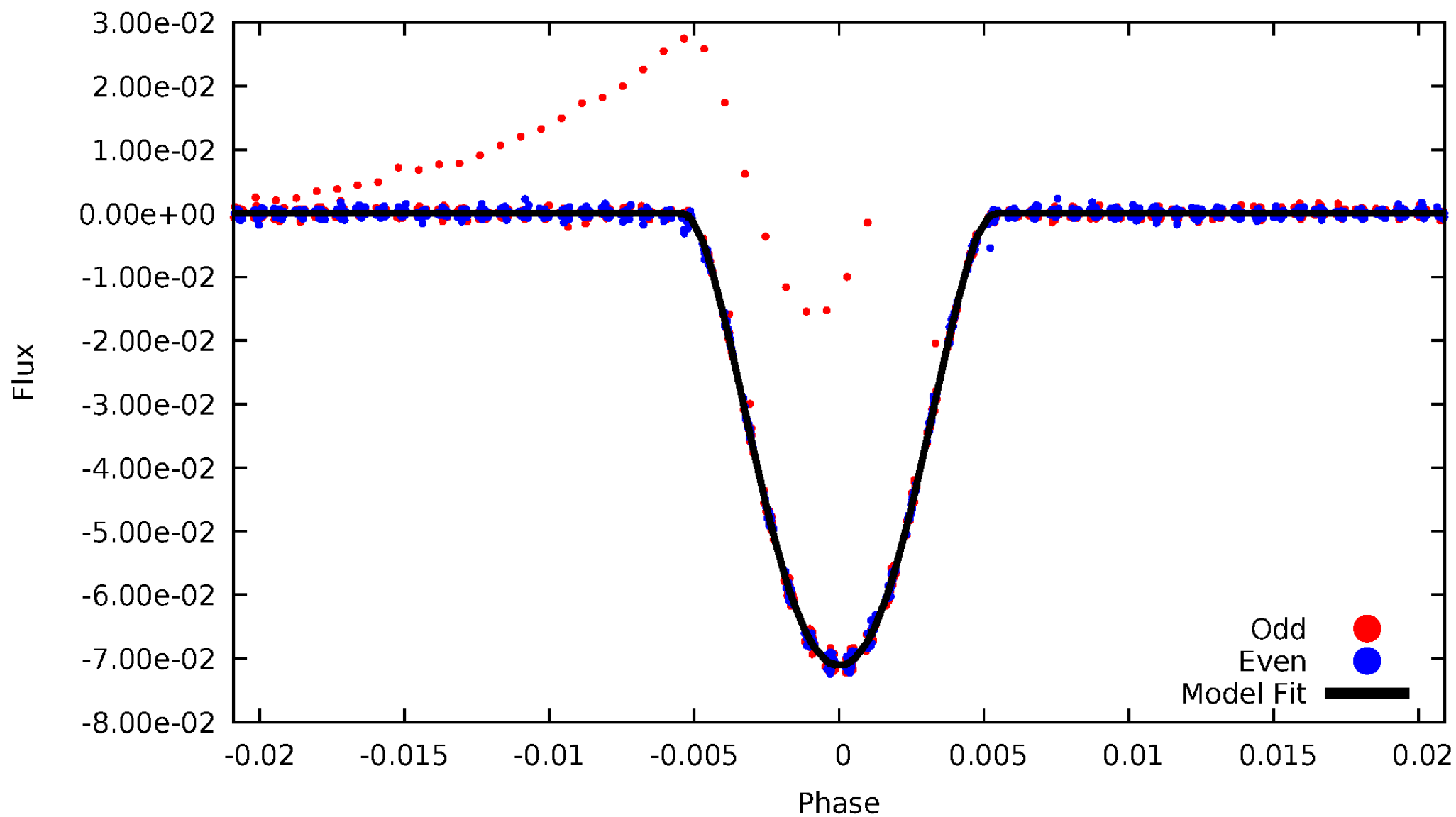


TCE 007136958-02



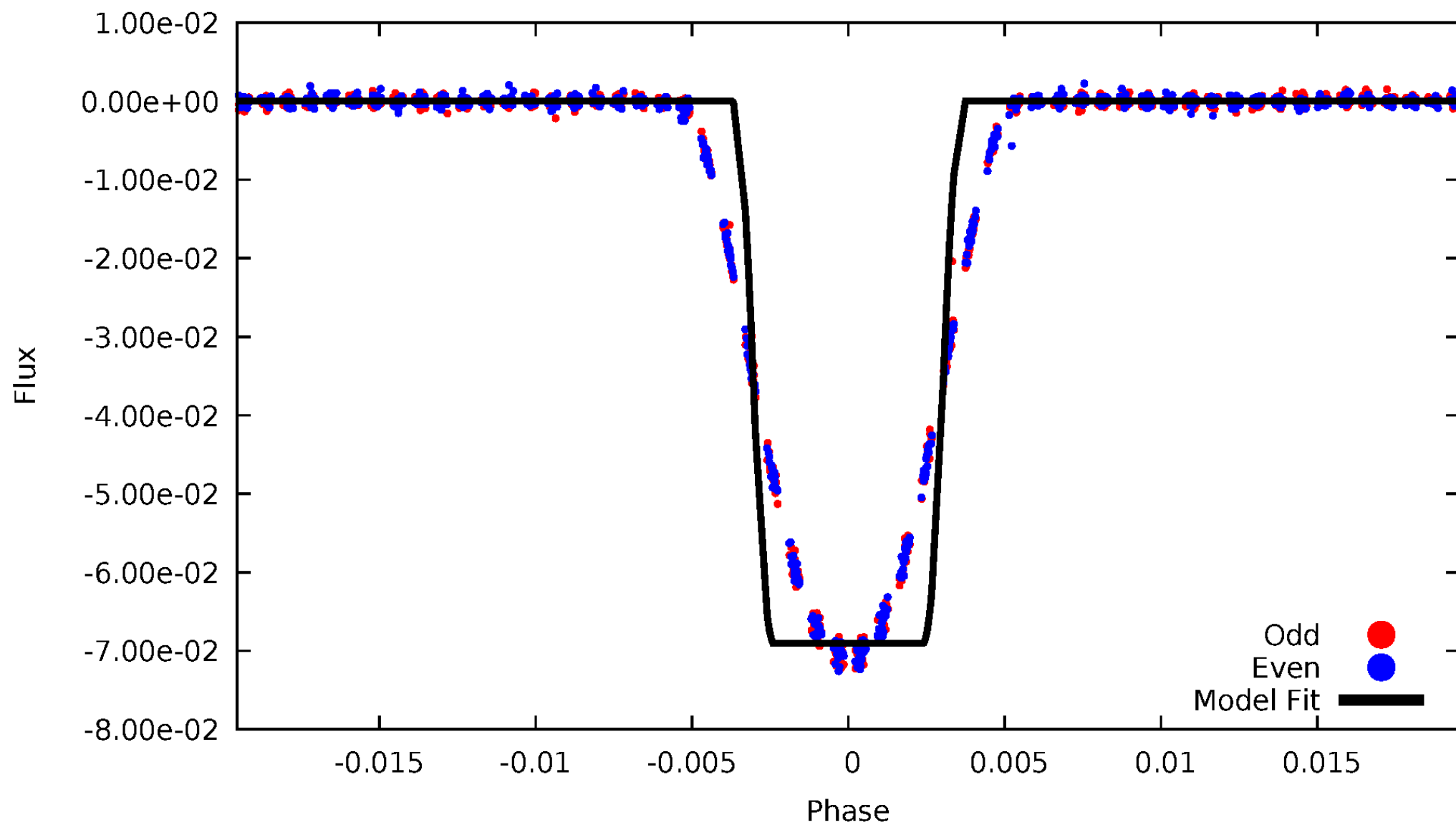
DV Odd/Even

TCE 007136958-02



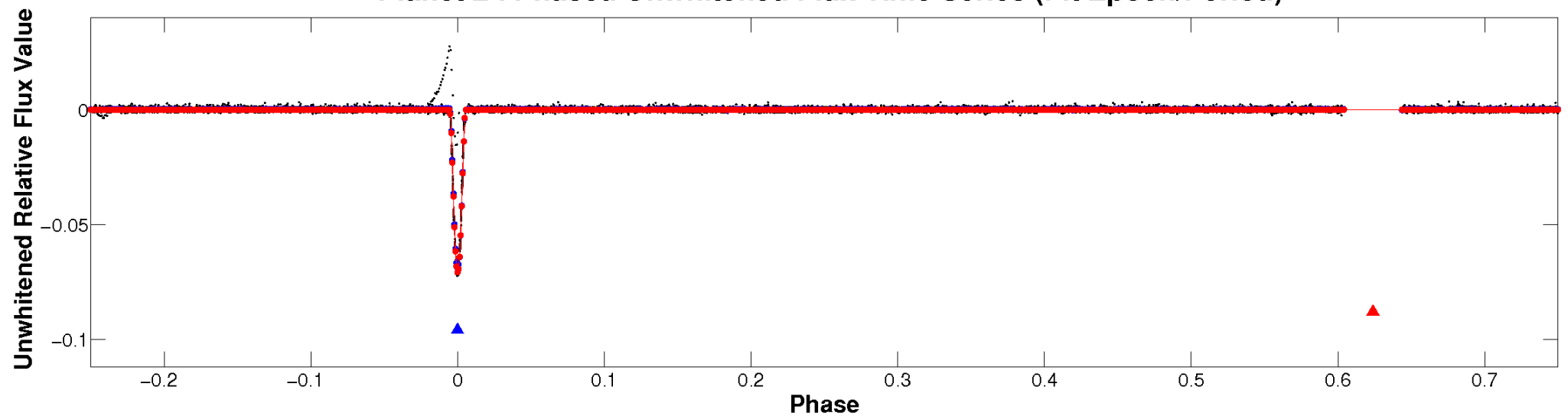
ALT Odd/Even

TCE 007136958-02

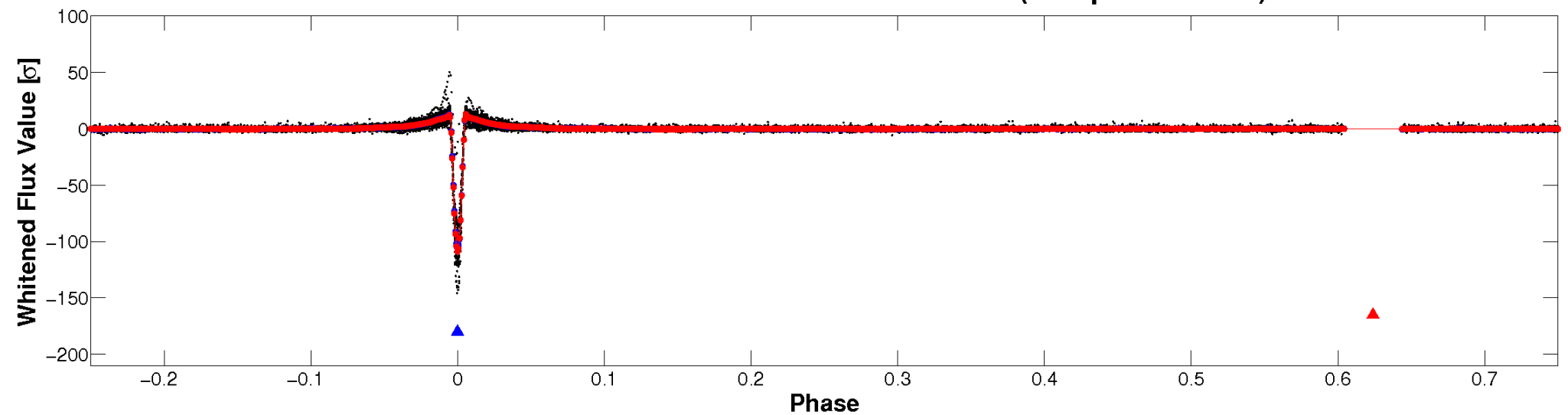


Non-Whitened Vs. Whitened Light Curve

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

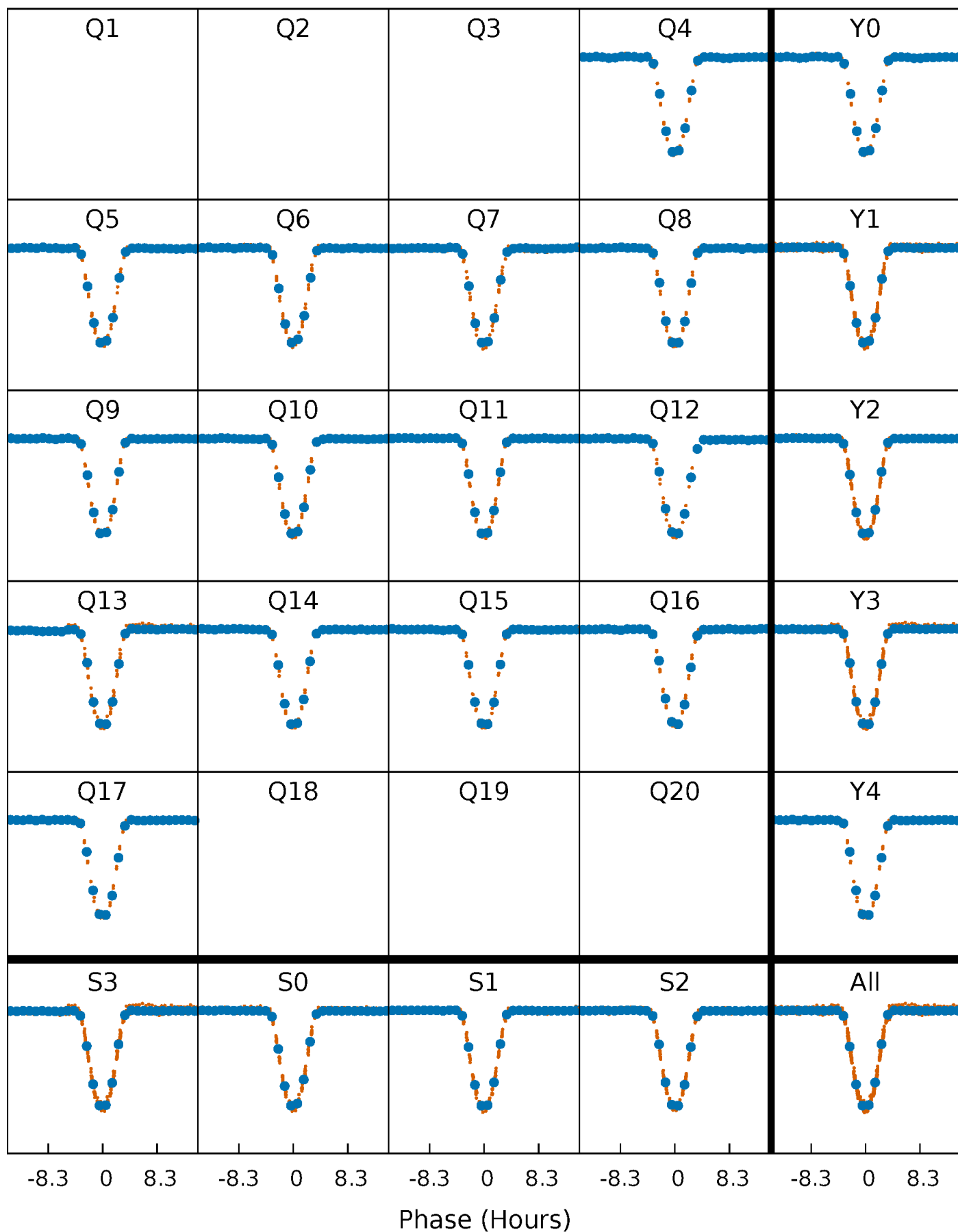


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



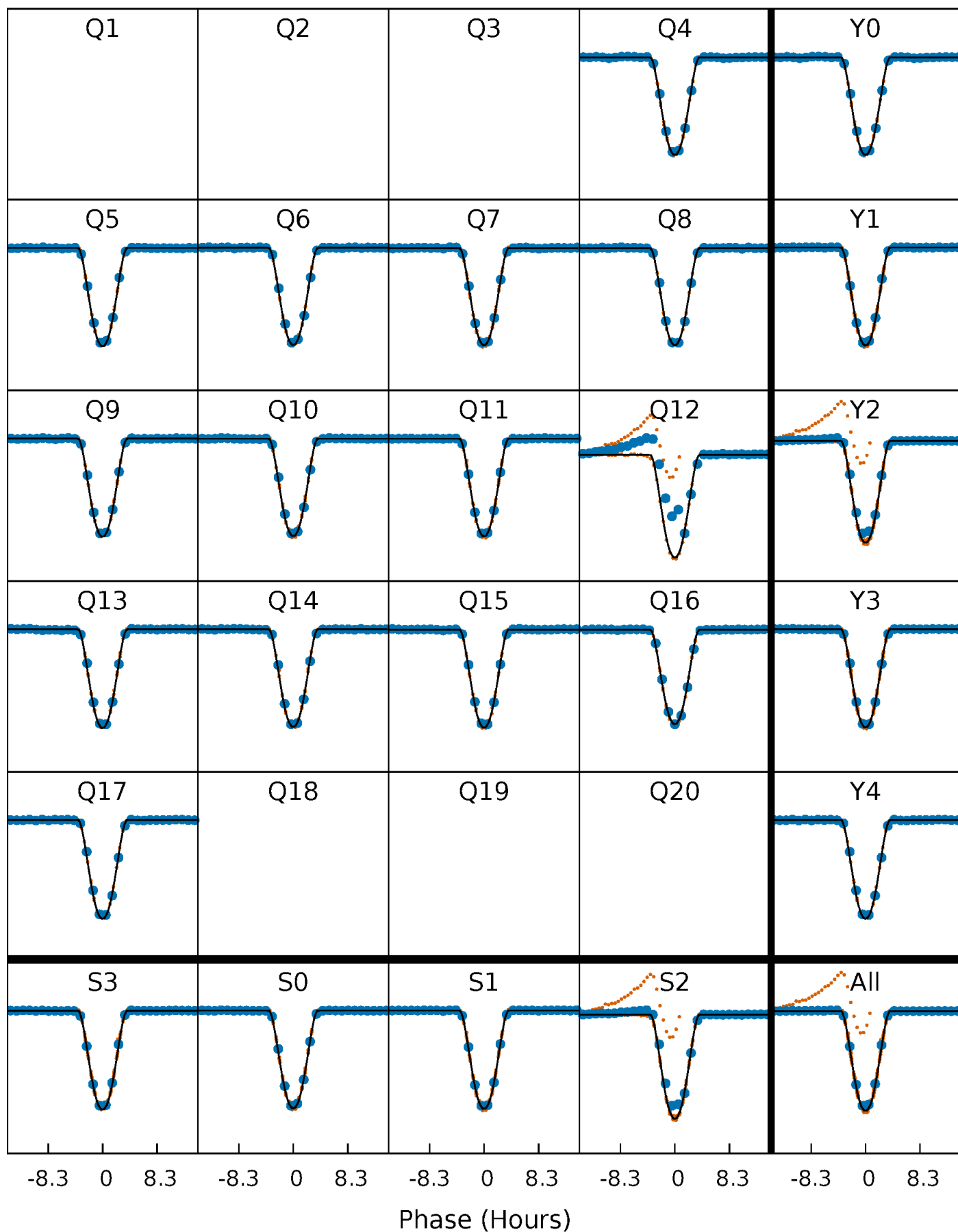
PDC Quarter-Phased Transit Curves

TCE 007136958-02 P= 29.015845 Days $T_0=138.402728$ (BKJD)



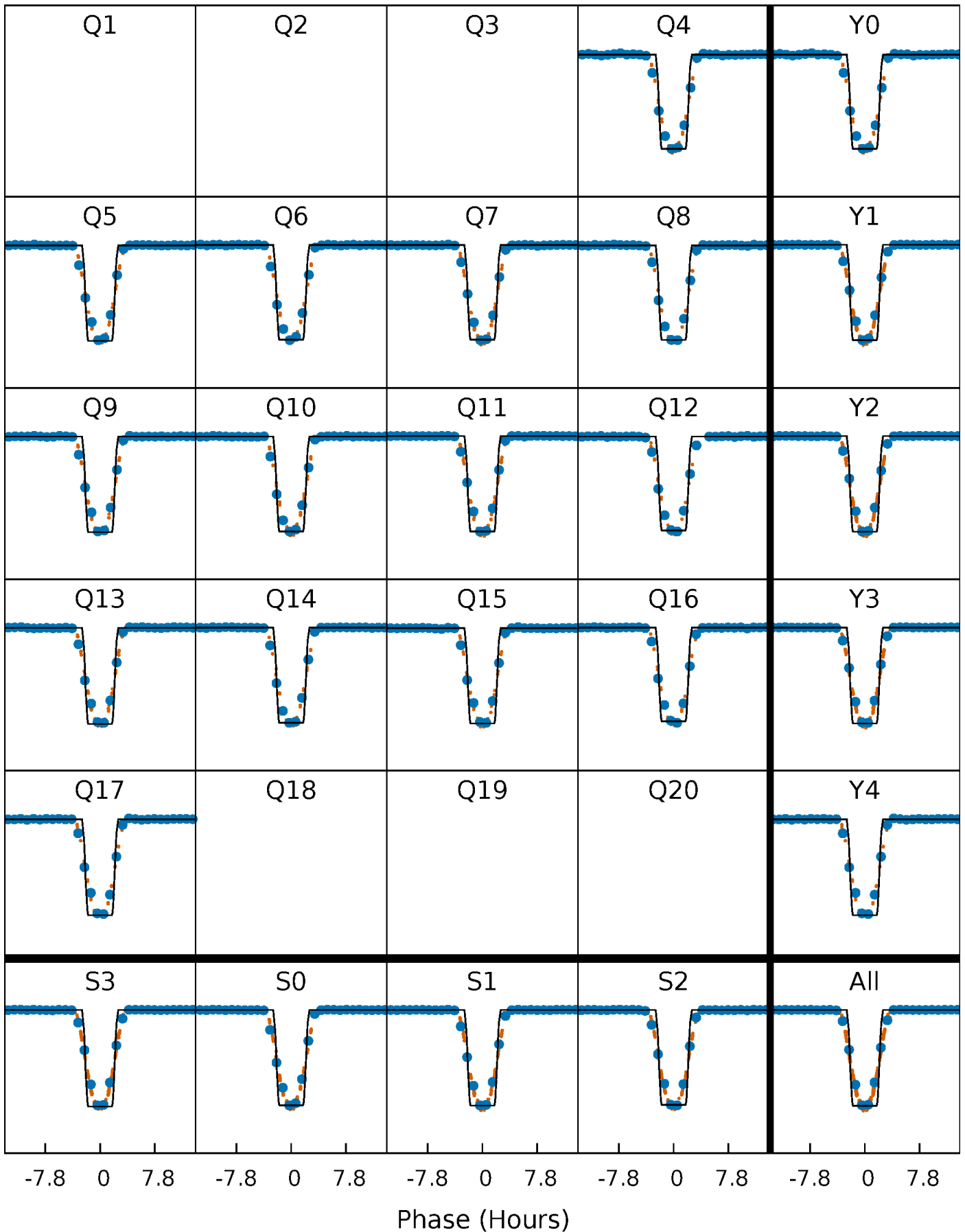
DV Quarter-Phased Transit Curves

TCE 007136958-02 P= 29.015845 Days $T_0=138.402728$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

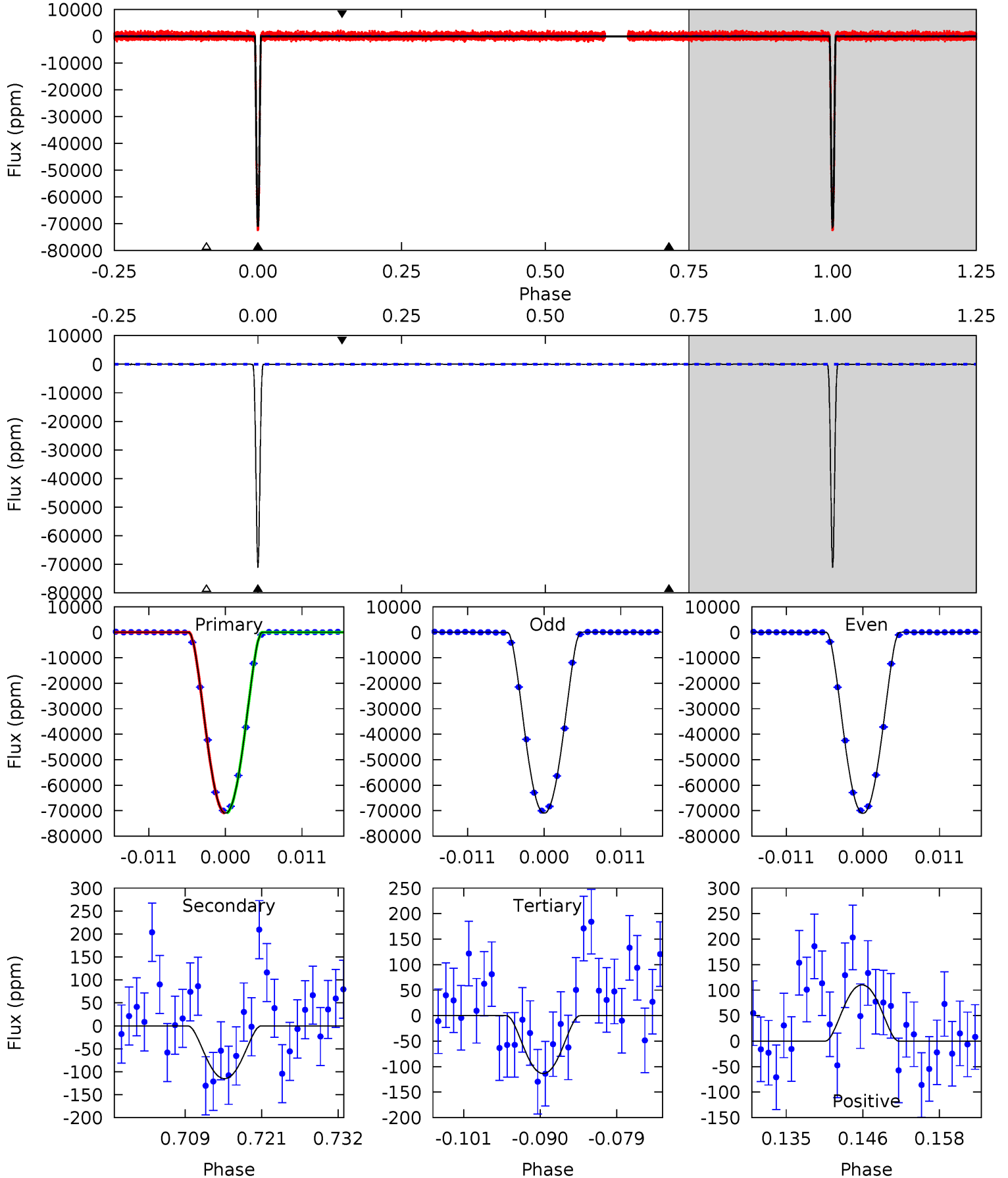
TCE 007136958-02 P= 29.015842 Days $T_0=138.402823$ (BKJD)



DV Model-Shift Uniqueness Test

007136958-02, P = 29.015845 Days, E = 138.402728 Days

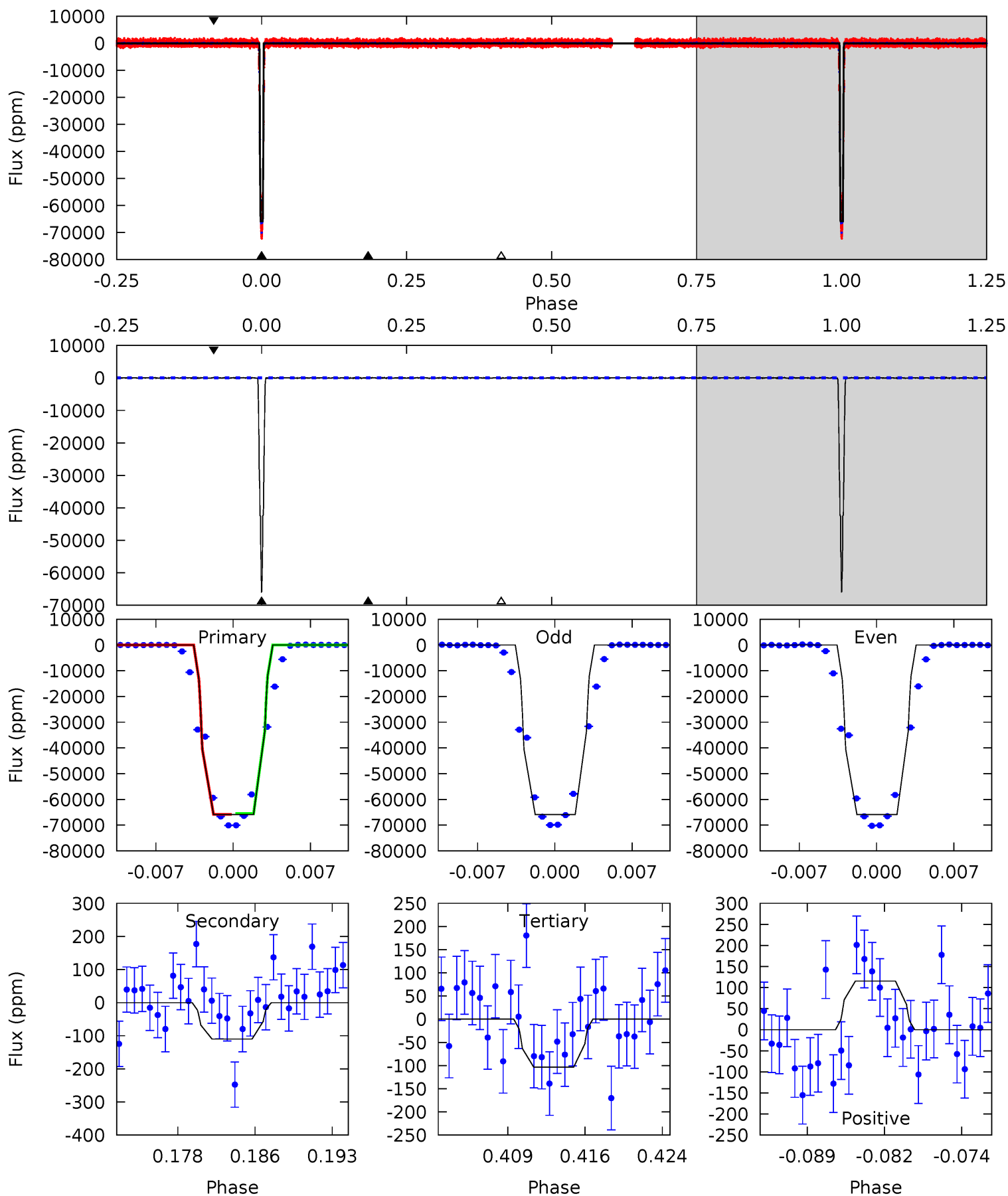
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3399	5.50	5.43	5.27	5.00	2.53	1.87	3393	3394	0.07	0.23	1.70	0.98	0.00	1.05



Alt Model-Shift Uniqueness Test

007136958-02, P = 29.015842 Days, E = 138.402823 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2263	3.78	3.55	3.97	5.08	2.68	1.08	2260	2259	0.23	-0.18	1.18	1.00	0.00	5.25



Stellar Parameters For KIC 007136958

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5783^{+190}_{-190}	$4.415^{+0.139}_{-0.186}$	$-0.360^{+0.300}_{-0.300}$	$0.941^{+0.261}_{-0.160}$	$0.841^{+0.116}_{-0.068}$	$1.422^{+0.845}_{-0.721}$
	+3%/-3%	+3%/-4%	+83%/-83%	+28%/-17%	+14%/-8%	+59%/-51%
Source	KIC0	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 007136958-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-115 ± 21	$29.17^{+4.58}_{-2.64}$	831^{+61}_{-50}	2069^{+56}_{-59}	$2.265^{+0.659}_{-0.702}$
Alt.	-110 ± 29	$27.16^{+4.21}_{-2.57}$	833^{+58}_{-54}	2094^{+67}_{-75}	$2.459^{+0.850}_{-0.802}$

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 $A_{obs} \gg 1.0$

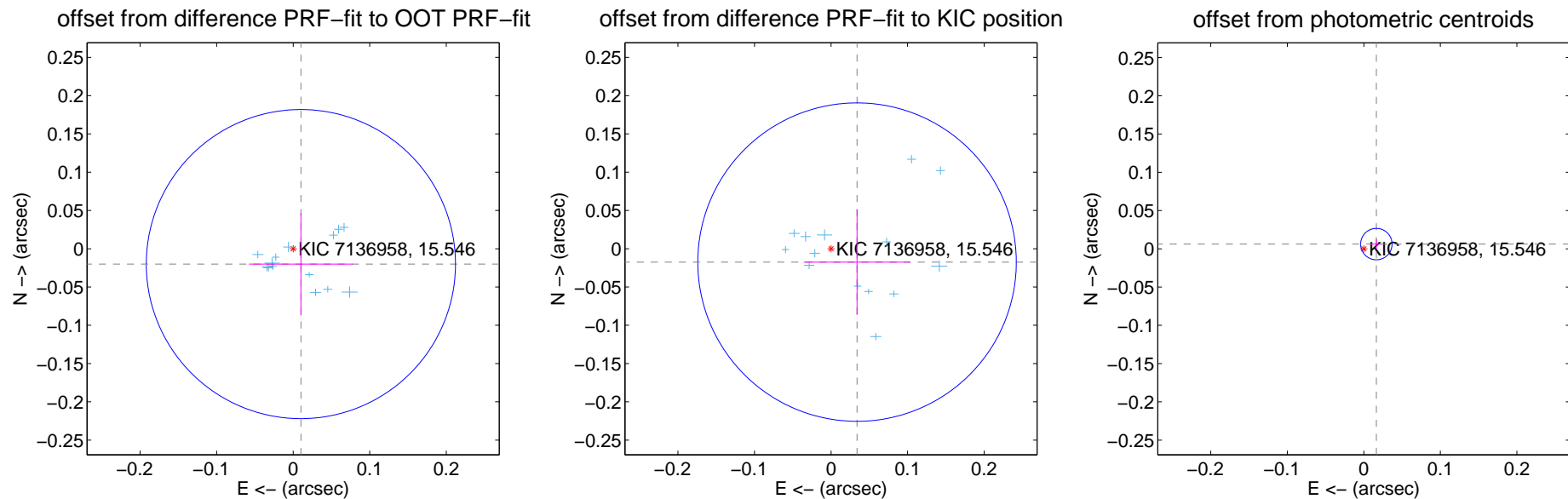
DV Centroid Data

Supplemental centroid analysis for 007136958-02. Kepler magnitude: 15.55. Transit SNR 1495.47

There are 14 quarters with good PRF difference image offsets

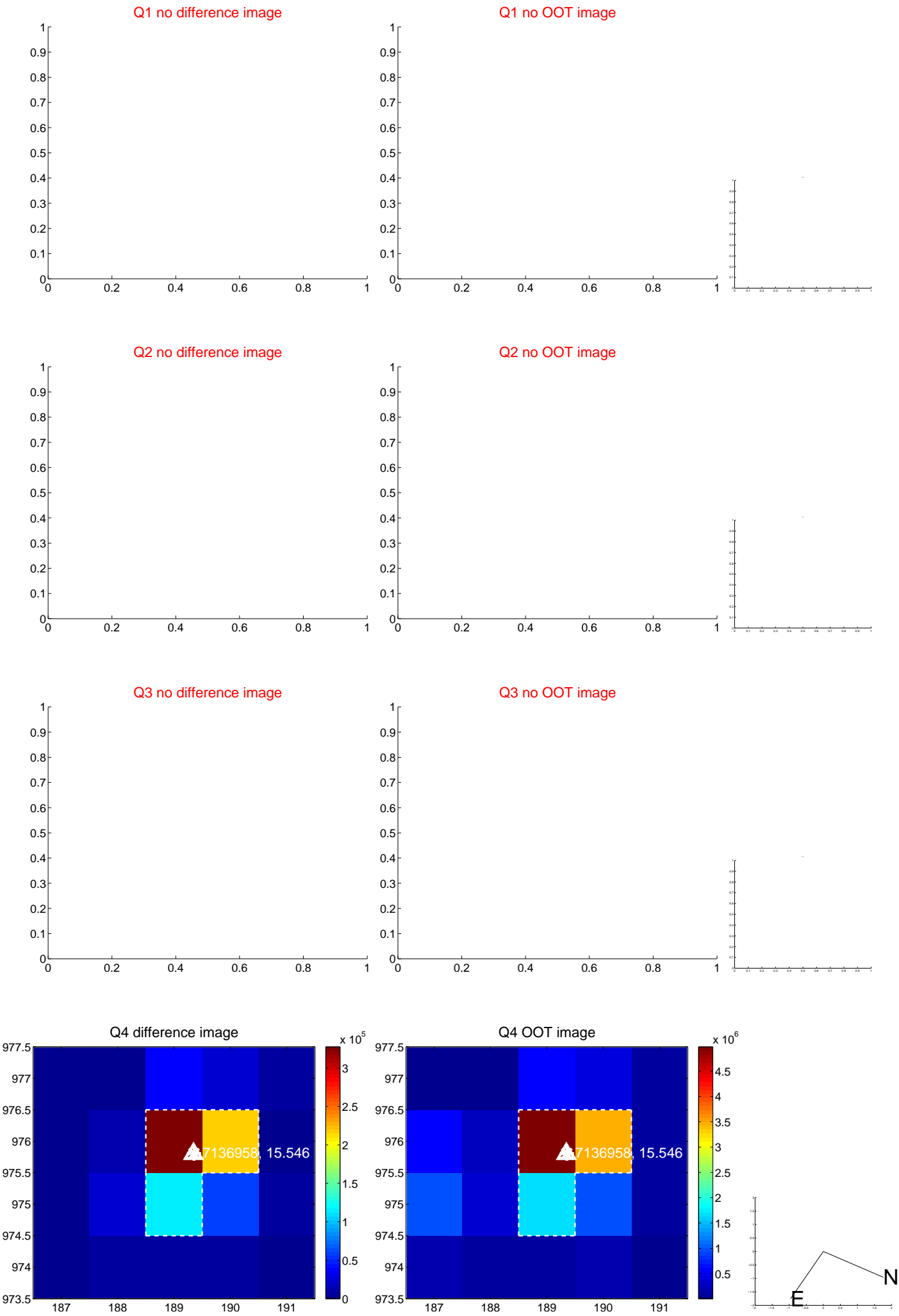
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.022 ± 0.067	0.33	-0.010 ± 0.068	-0.020 ± 0.067
PRF-fit source offset from KIC position	0.038 ± 0.069	0.55	-0.034 ± 0.069	-0.017 ± 0.069
photometric centroid source offset	0.02 ± 0.01	2.55	-0.02 ± 0.01	0.01 ± 0.01

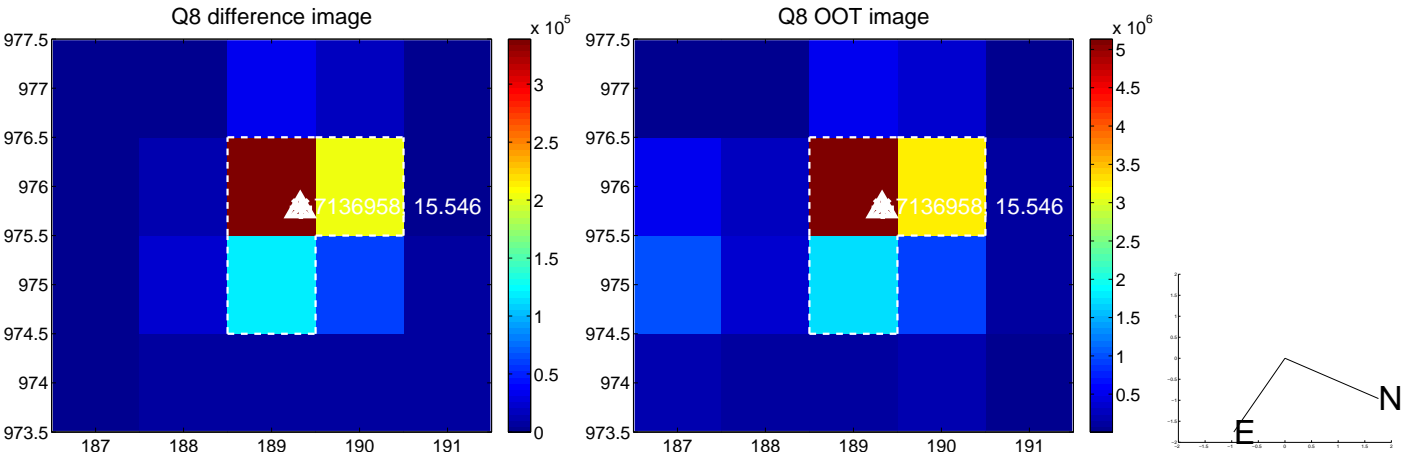
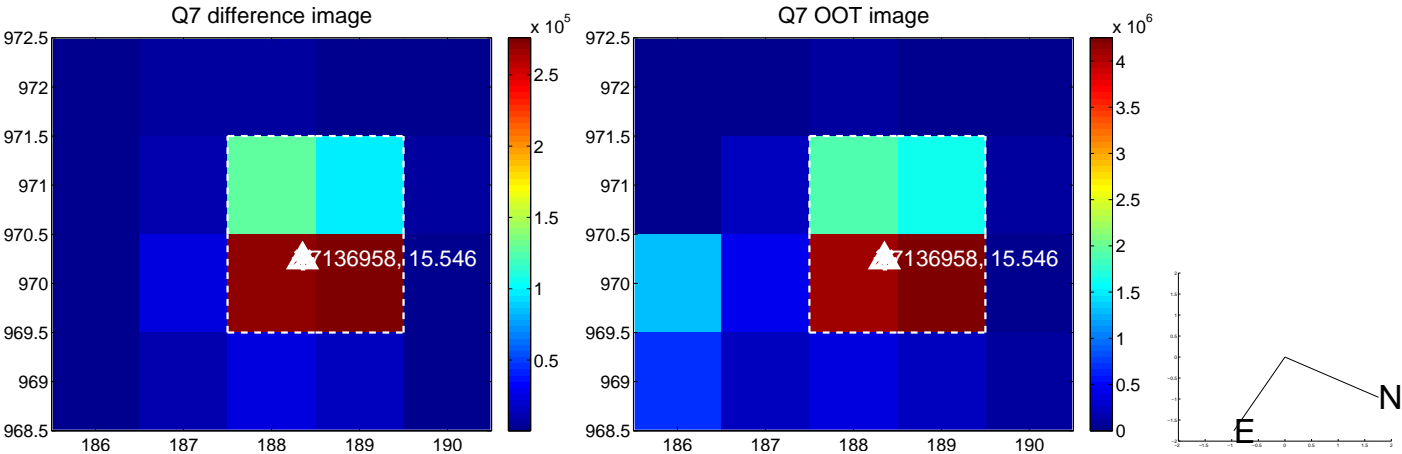
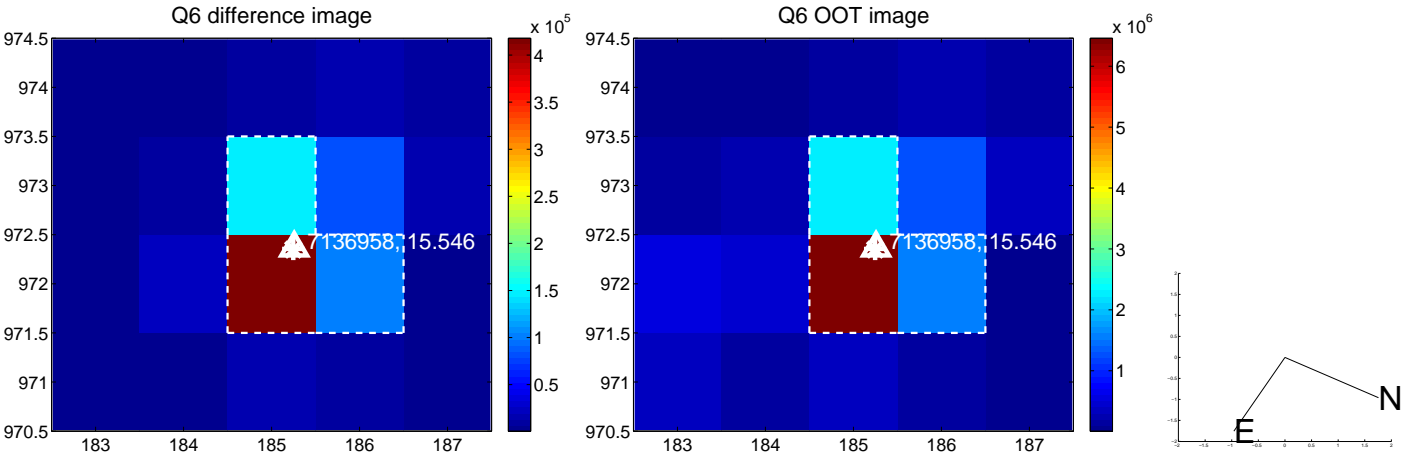
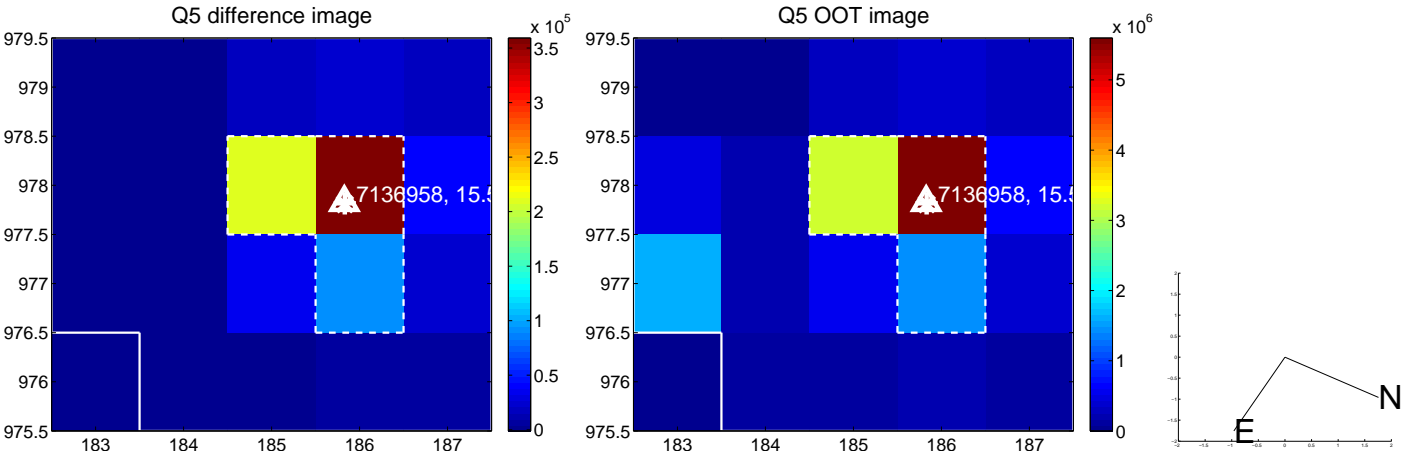


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

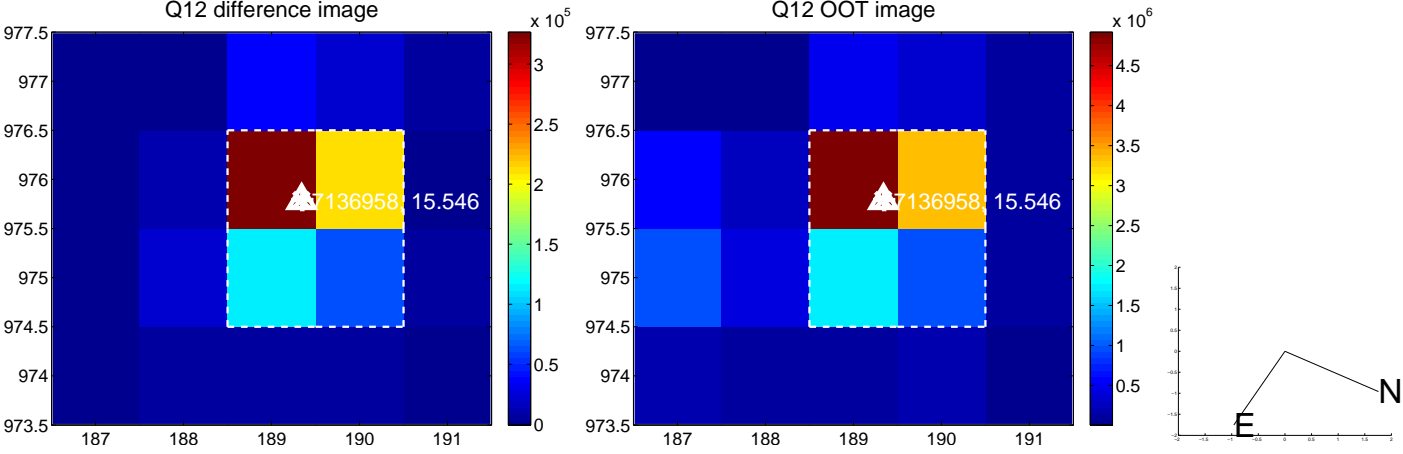
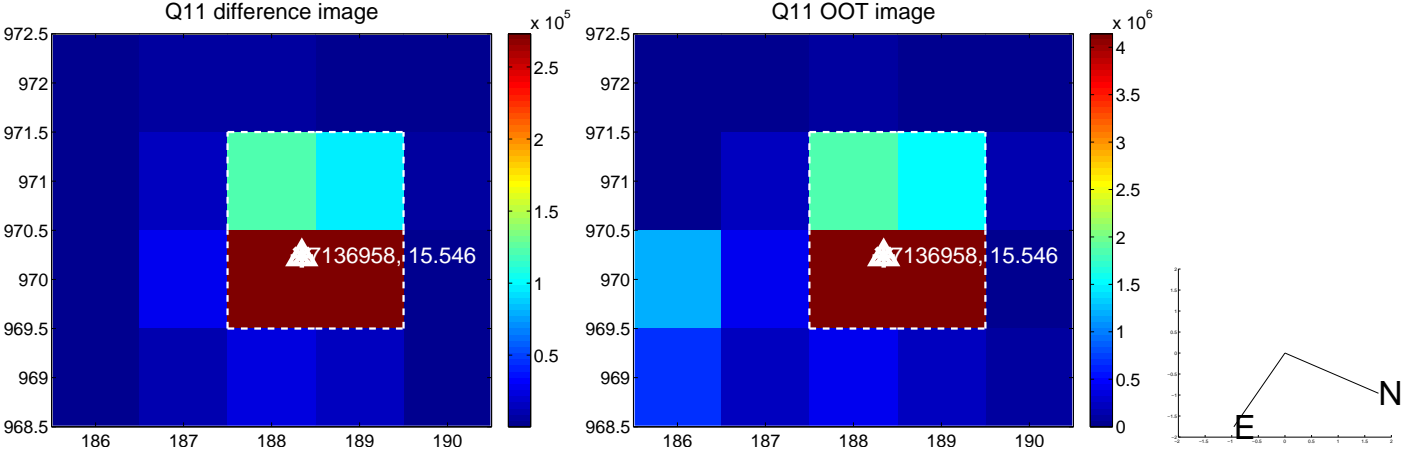
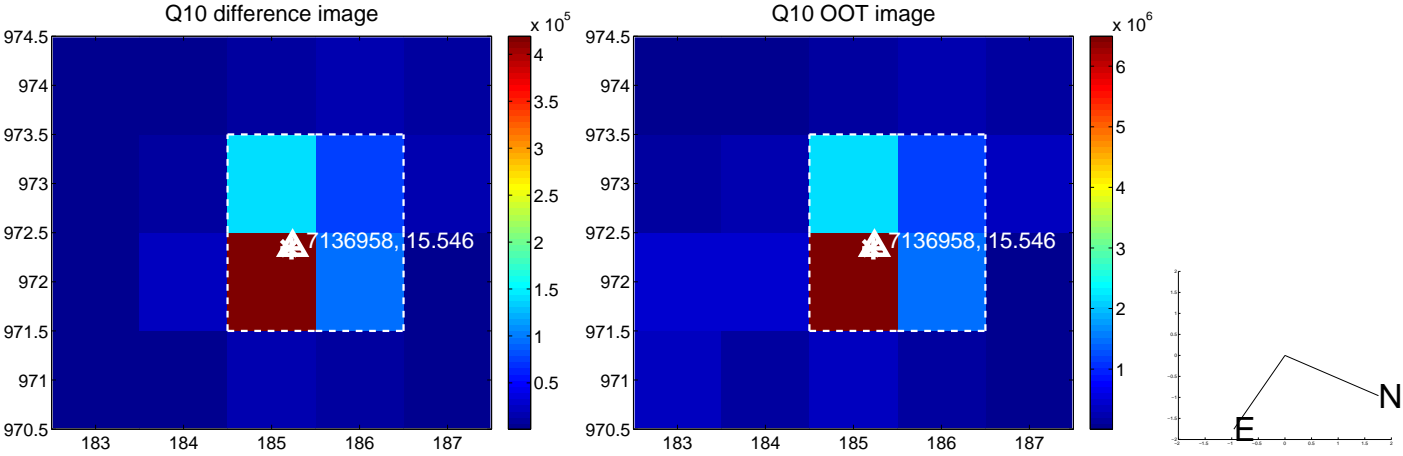
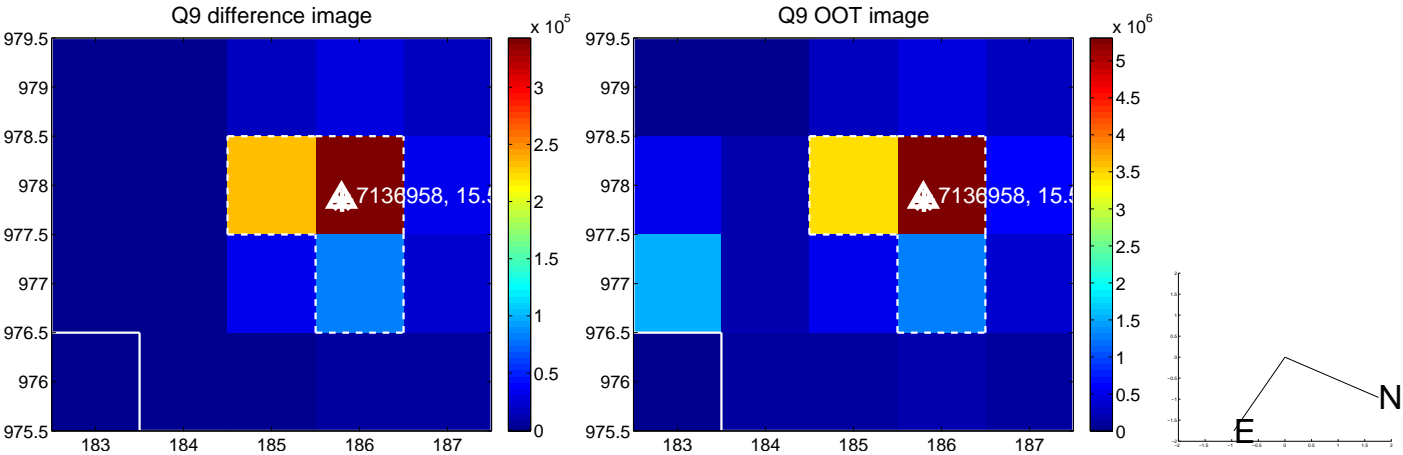
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



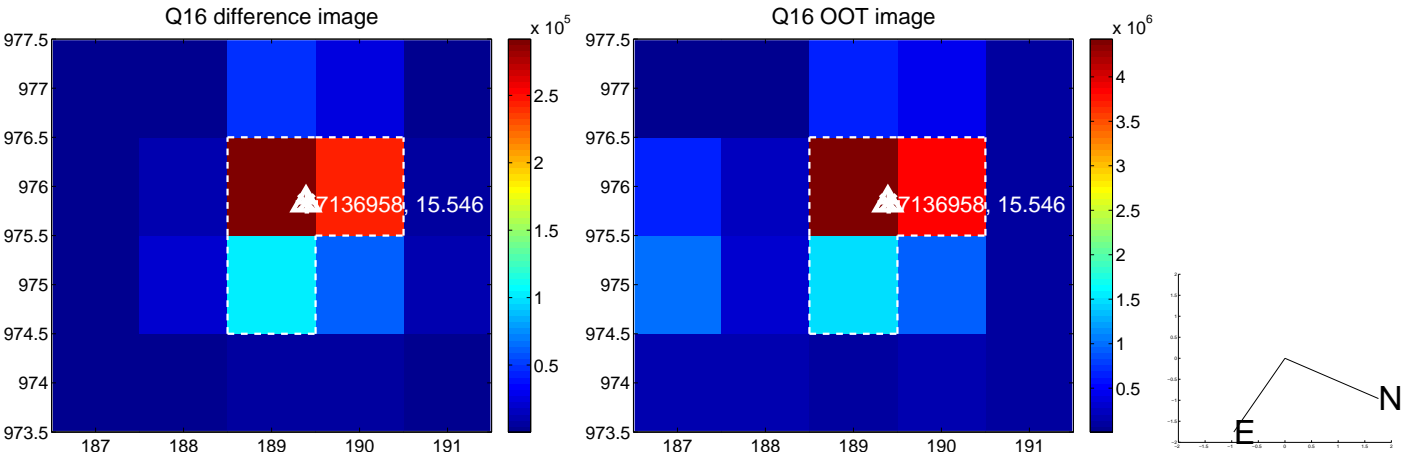
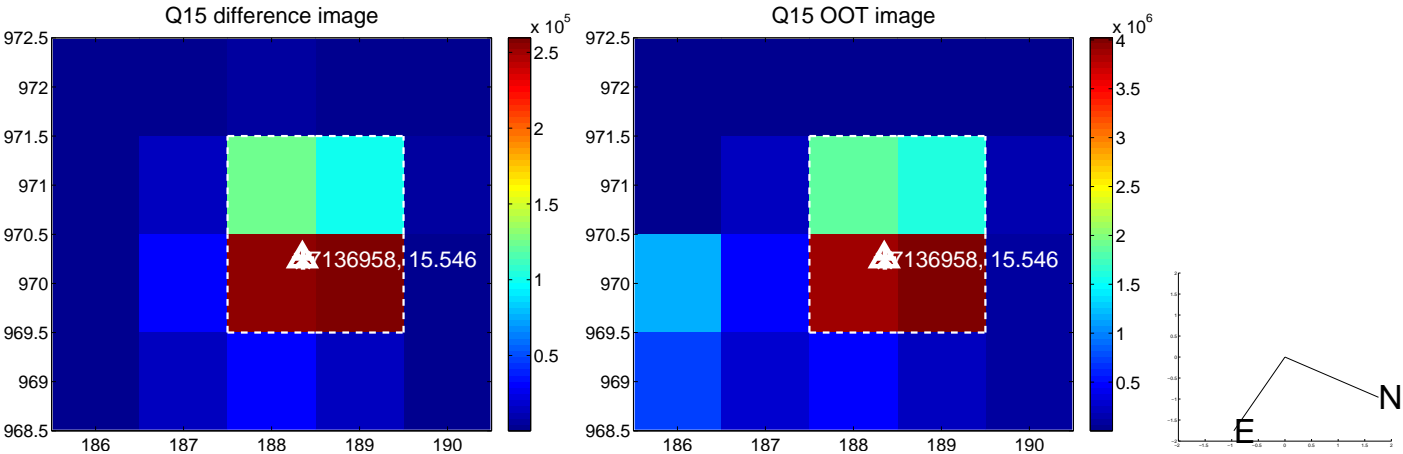
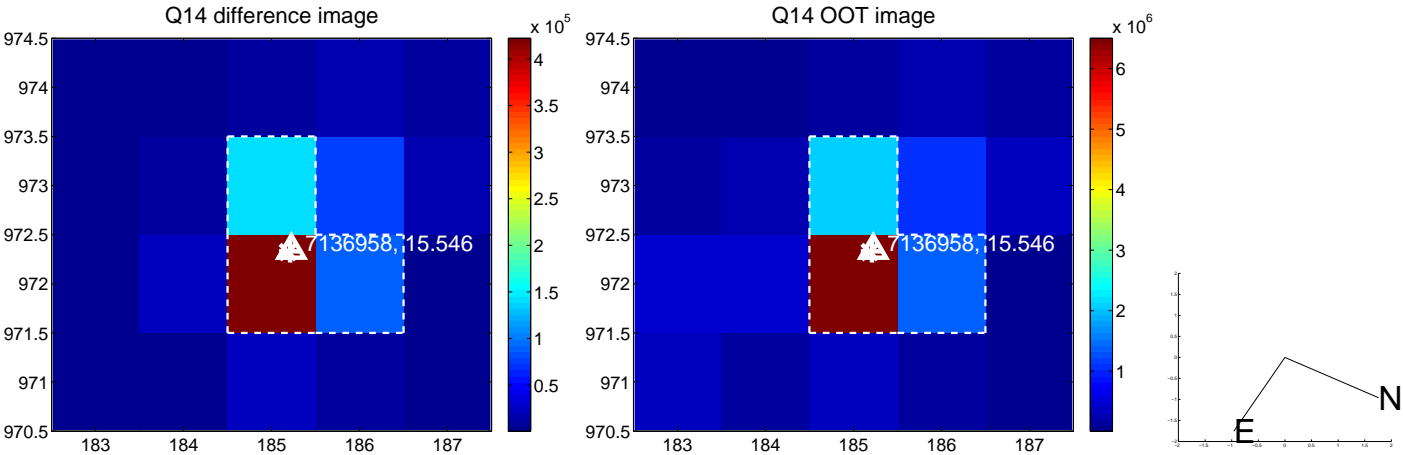
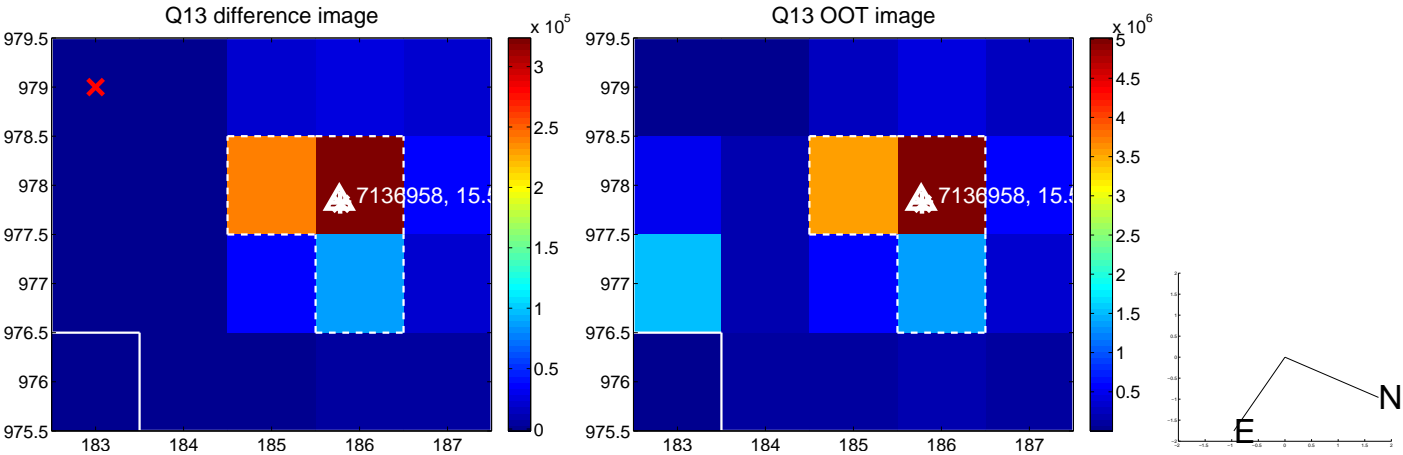
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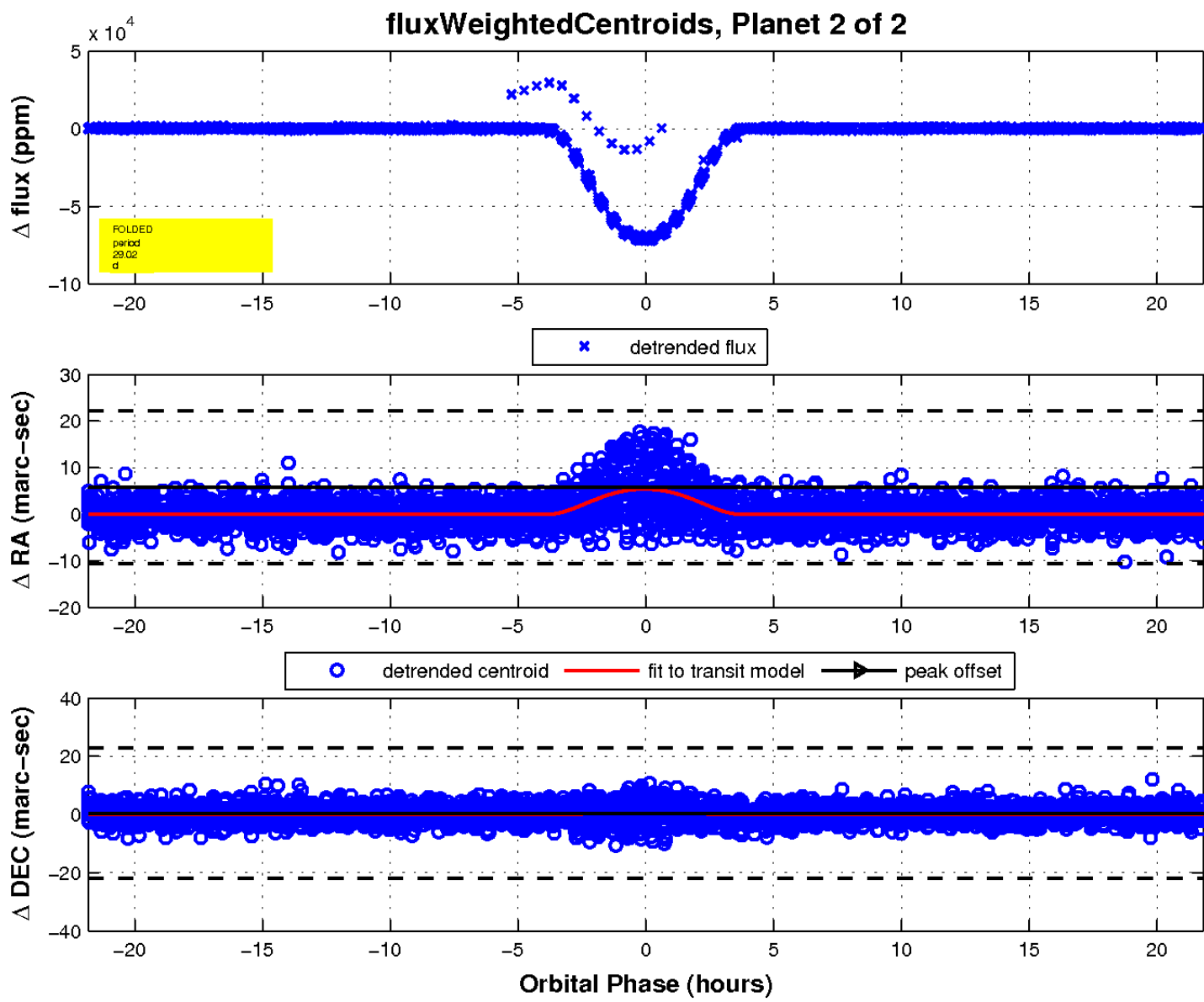
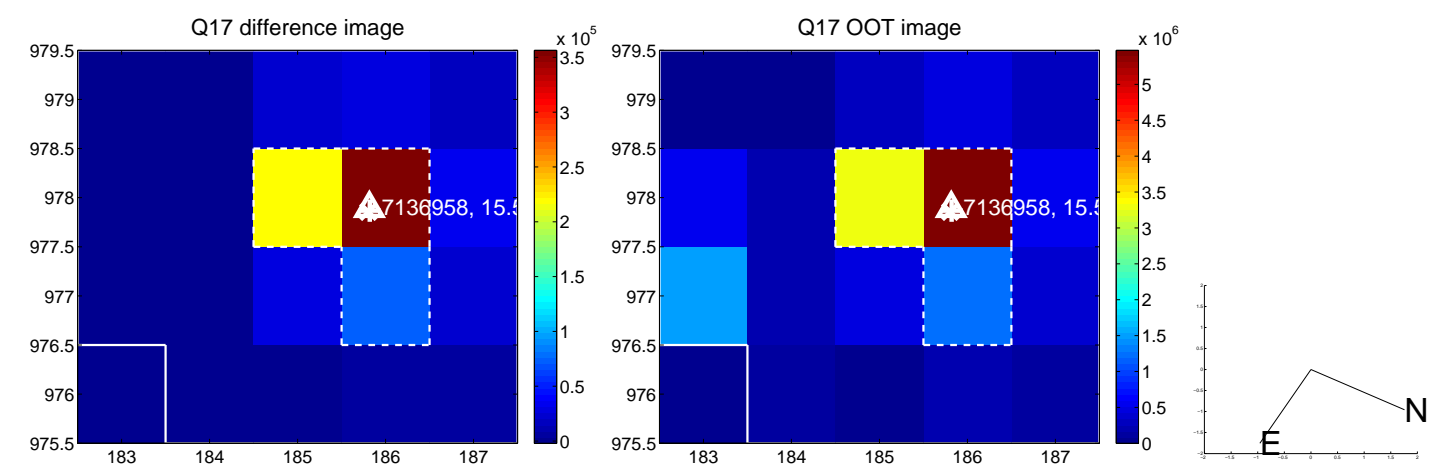
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UKIRT Image

Declination

