

KIC 005473556

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})
005473556-01	OBS	2939.01	11.258826	134.738437	195535.3	8.963	13999.1	9784.3	1.46	6217	88.72	322.79
005473556-02	OBS	No	11.258881	140.954704	119673.1	5.000	12215.3	-1.0	1.46	6217	51.18	322.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005473556-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005473556-02	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—CENT_NOFITS

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.

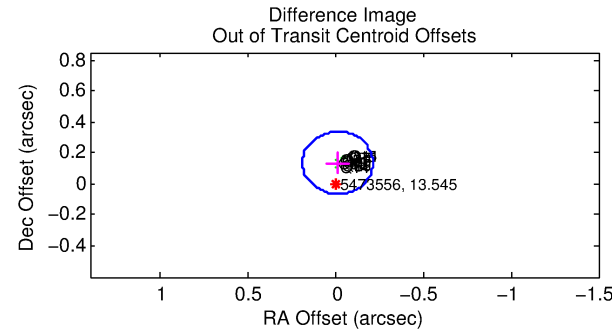
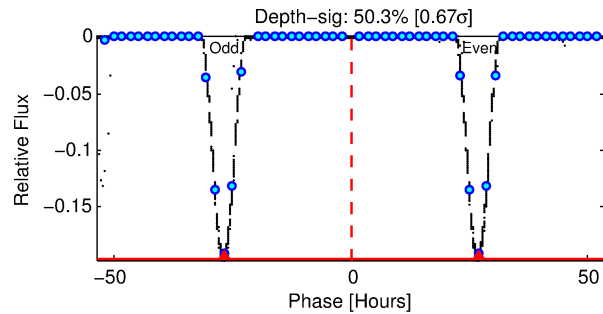
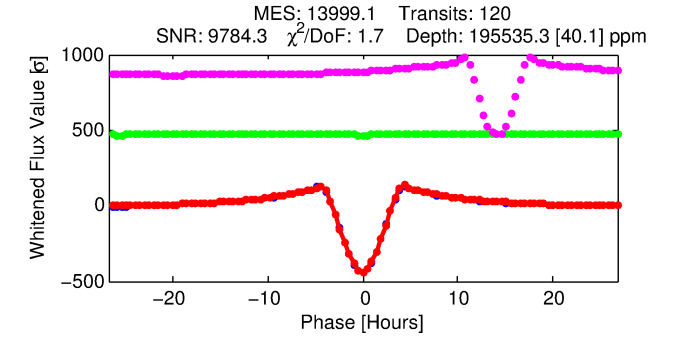
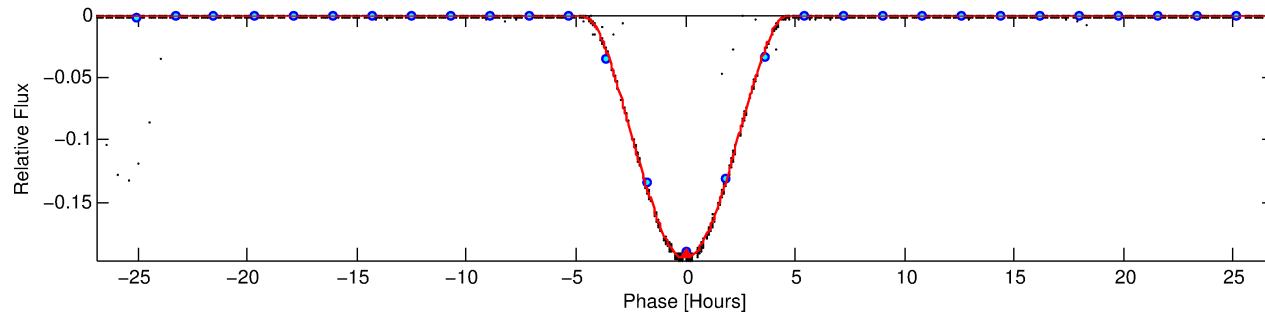
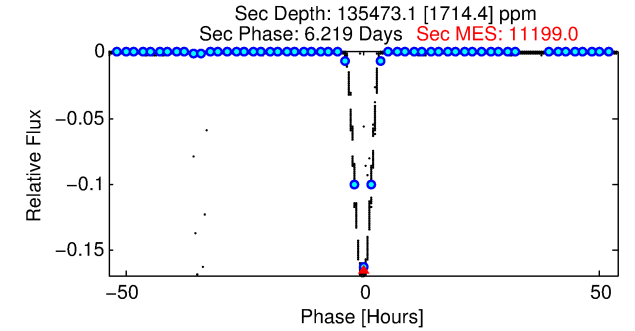
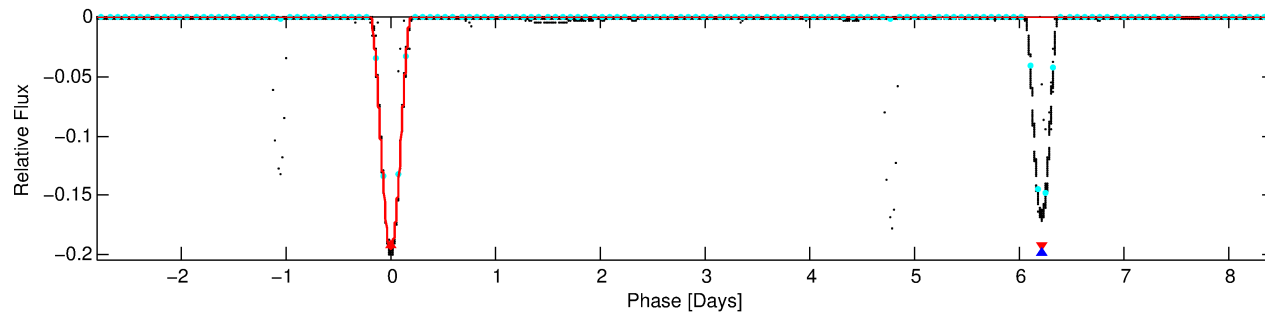
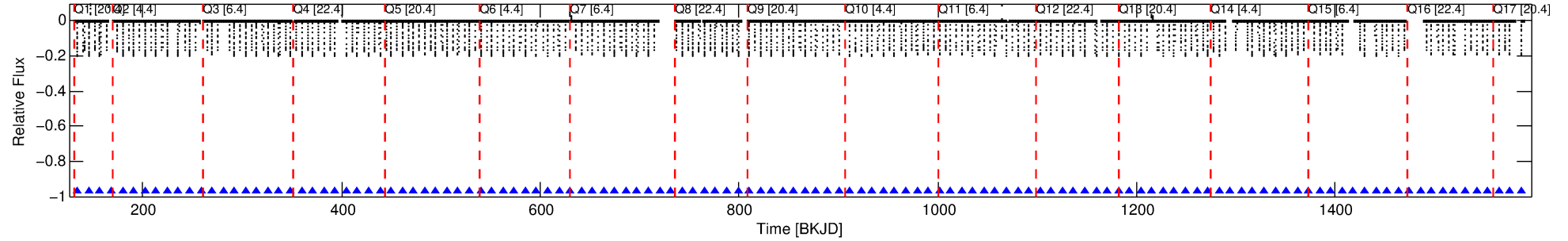
Ephemeris Match Information For 005473556-01

No Significant Match Found

DV One-Page Summary

KIC: 5473556 Candidate: 1 of 2 Period: 11.259 d
KOI: K02939.01 Corr: 0.998

Kp: 13.55 R*: 1.46 Rs Teff: 6217.0 K Logg: 4.05 Fe/H: -0.780



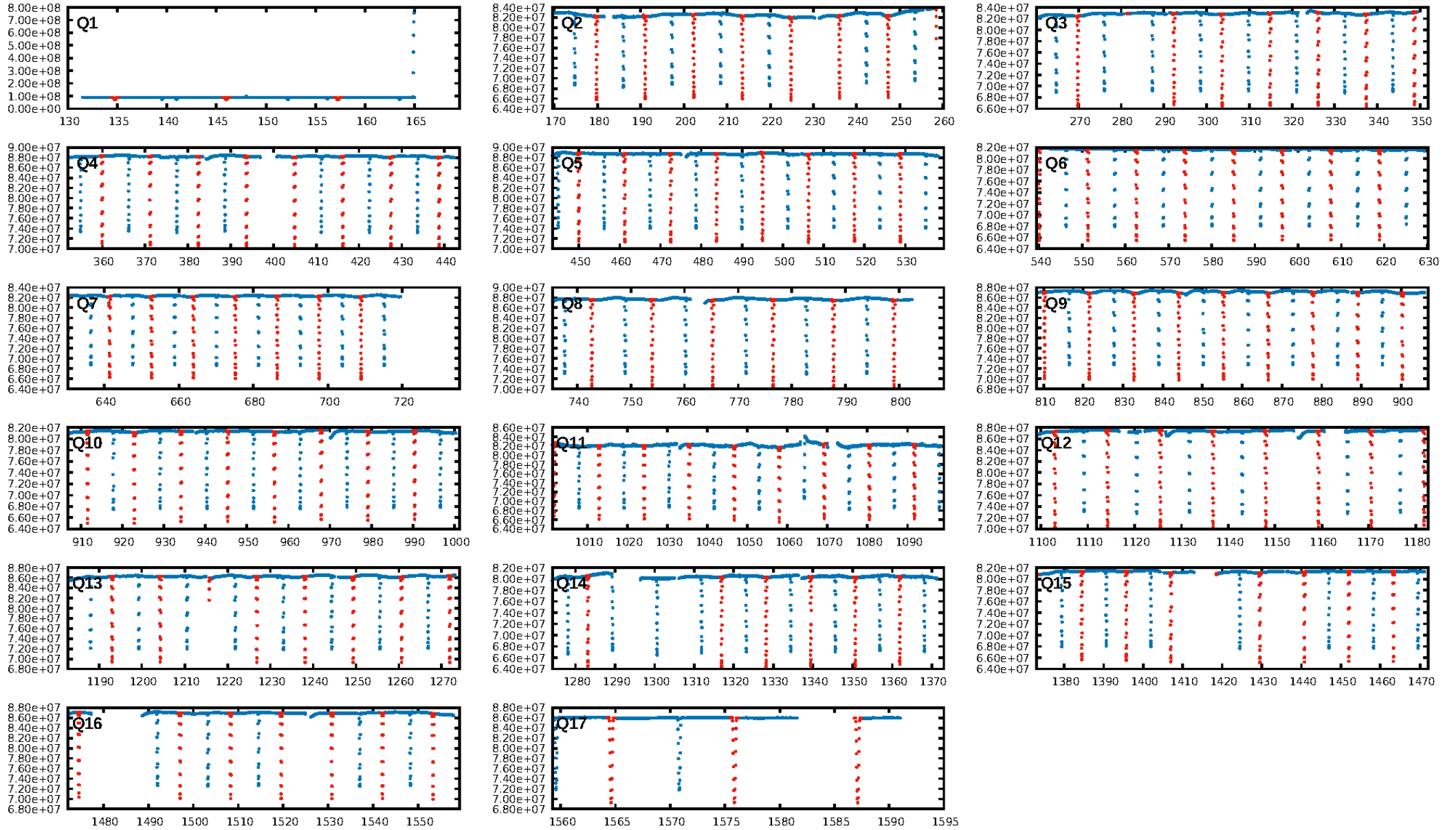
DV Fit Results:

Period = 11.25883 [0.00000] d
Epoch = 134.7384 [0.0000] BKJD
Rp/R* = 0.5553 [0.0119]
a/R* = 12.72 [0.03]
b = 0.82 [0.02]
Seff = 322.79 [225.33]
Teff = 1081 [189] K
Rp = 88.72 [35.44] Re
a = 0.0943 [0.0390] AU
Ag = 84.15 [57.98] [1.43σ]
Teffp = 5061 [163] K [15.96σ]

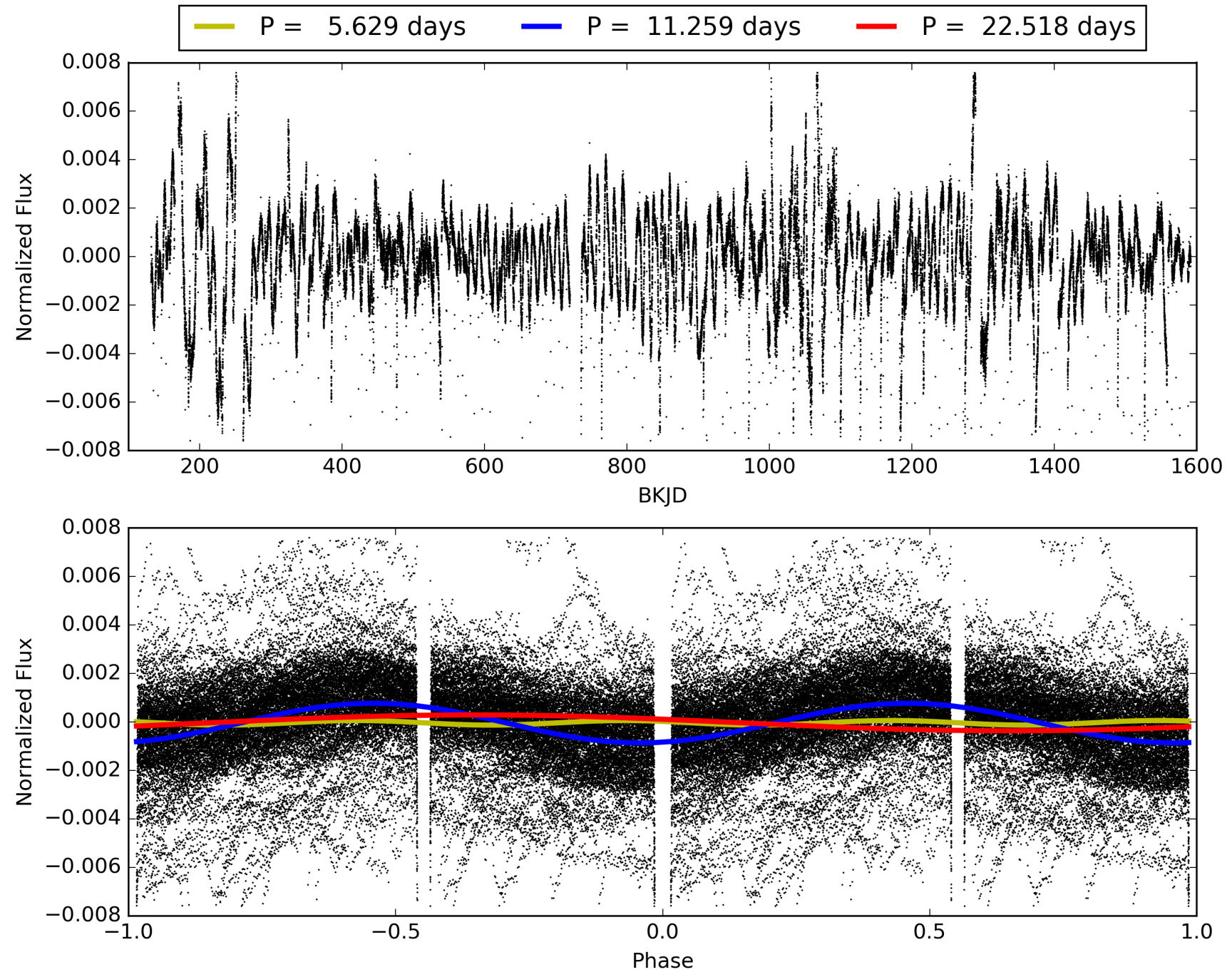
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 0.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [114/114]
GhostDiagnostic-chr: 3.762
Centroid-sig: 0.0%
Centroid-so: 0.084 arcsec [145.51σ]
OotOffset-rm: 0.136 arcsec [2.04σ]
KicOffset-rm: 0.023 arcsec [0.34σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 005473556-01, PDC Light Curves

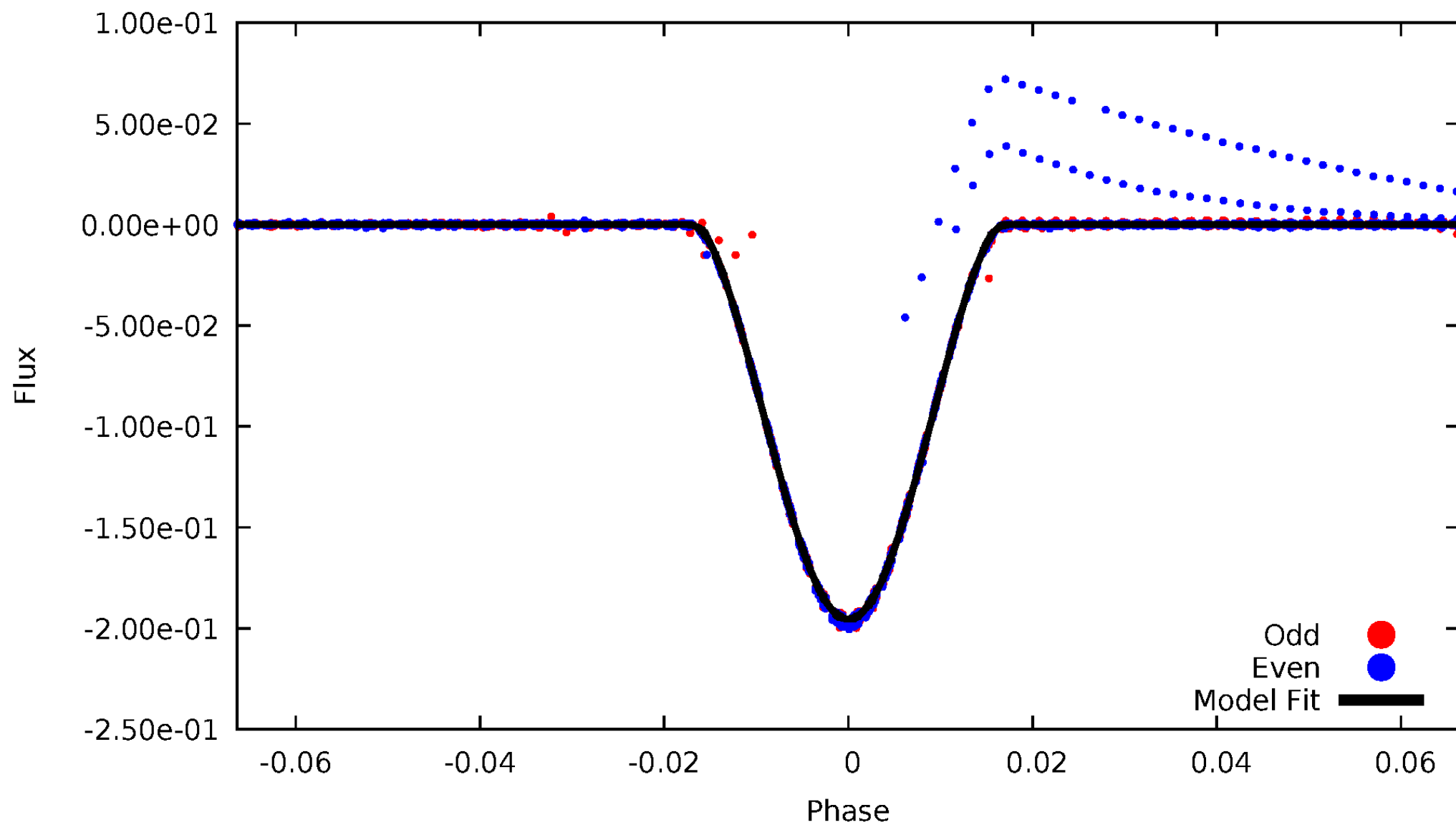


TCE 005473556-01



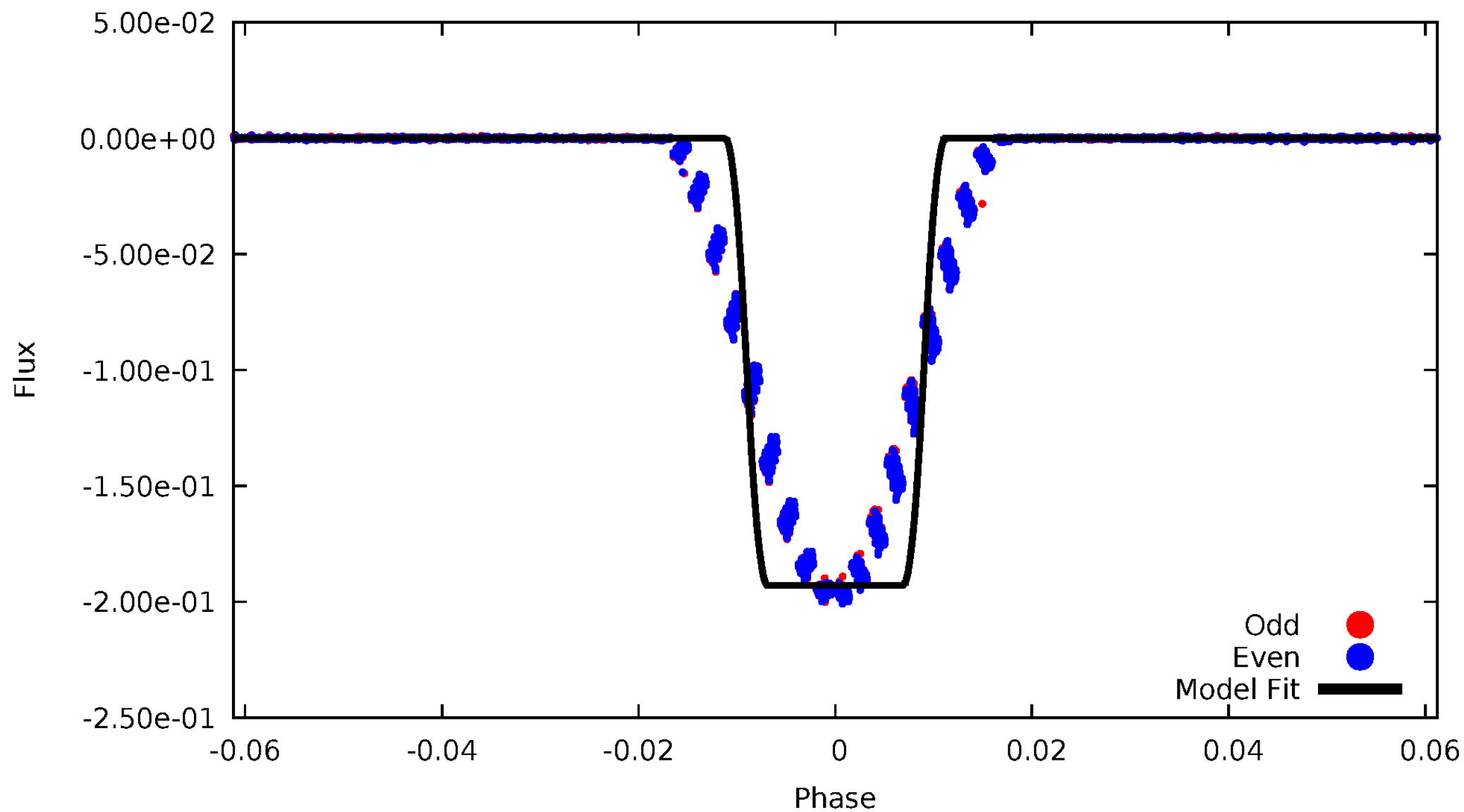
DV Odd/Even

TCE 005473556-01



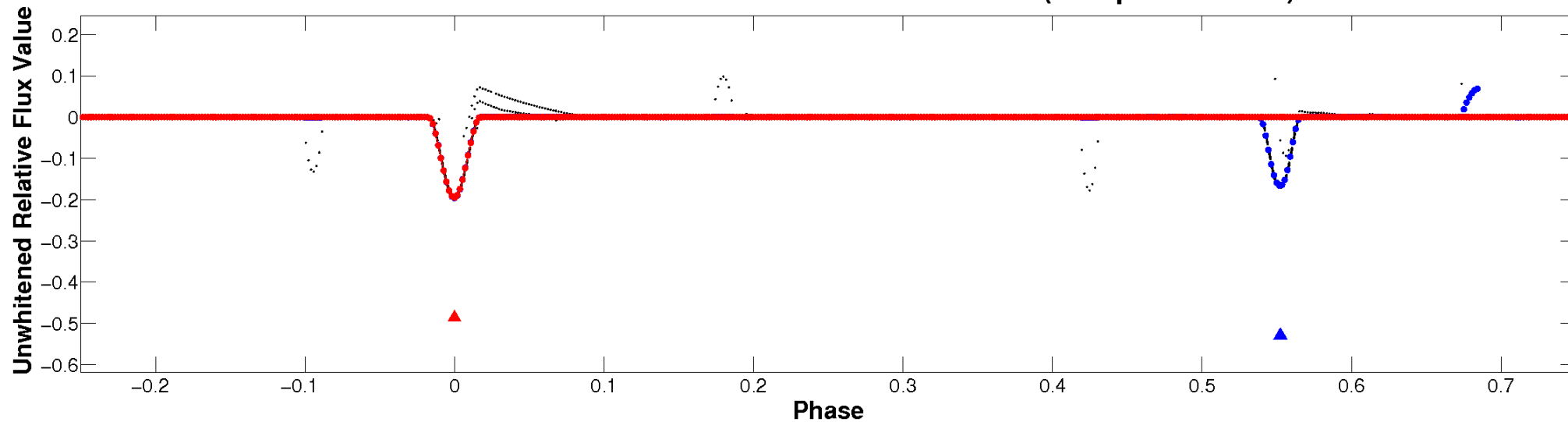
ALT Odd/Even

TCE 005473556-01

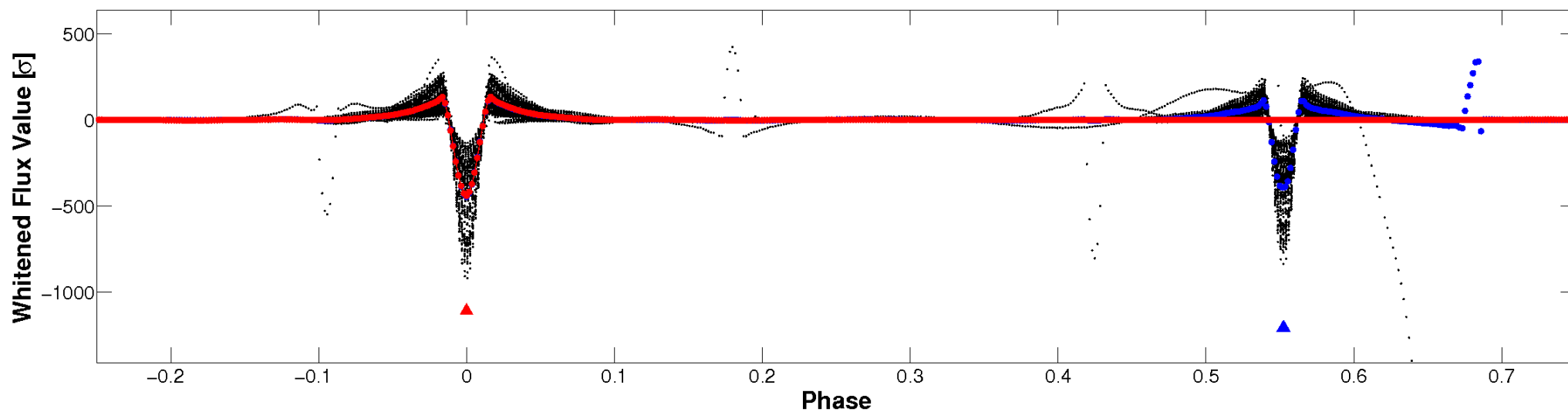


Non-Whitened Vs. Whitened Light Curve

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

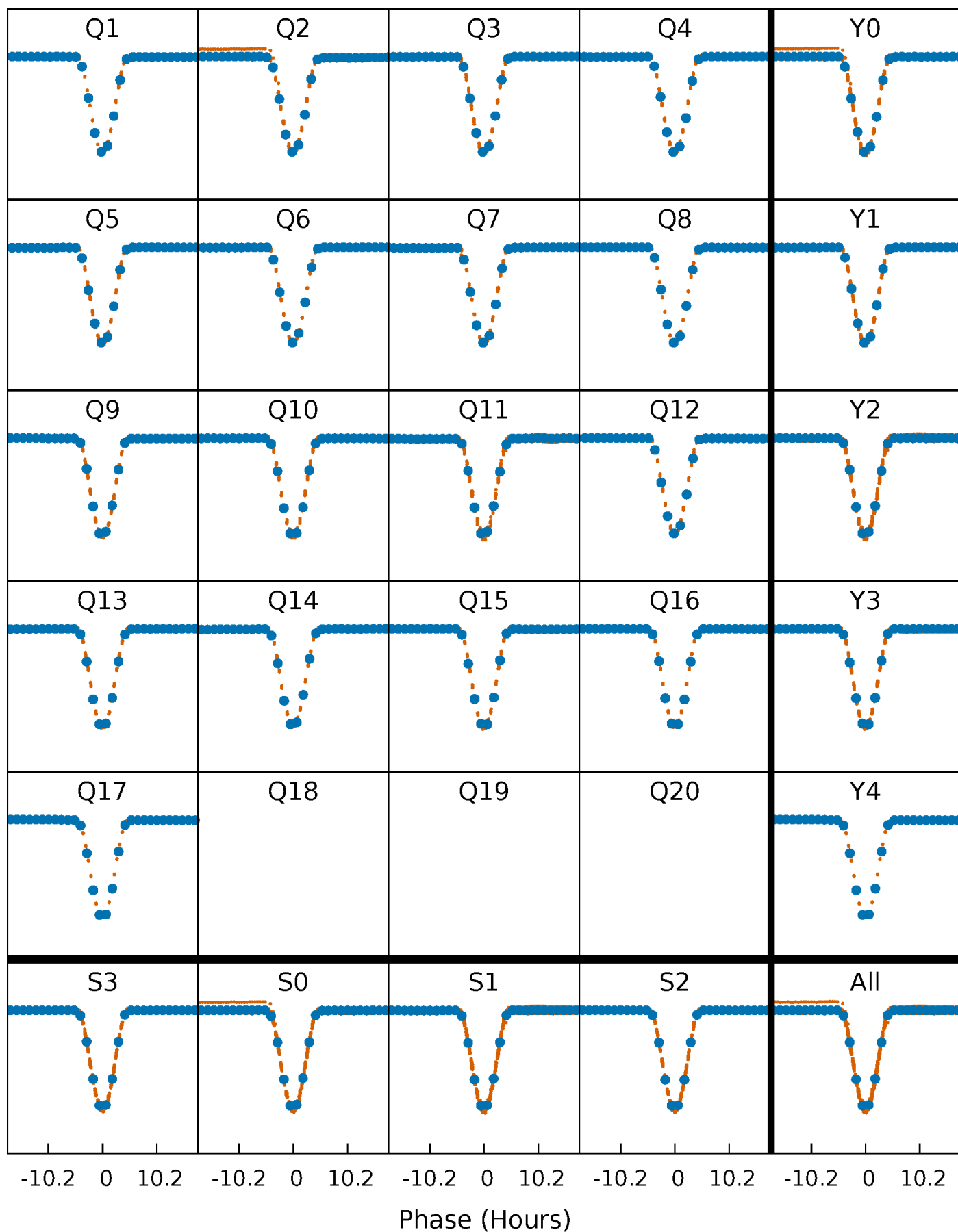


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



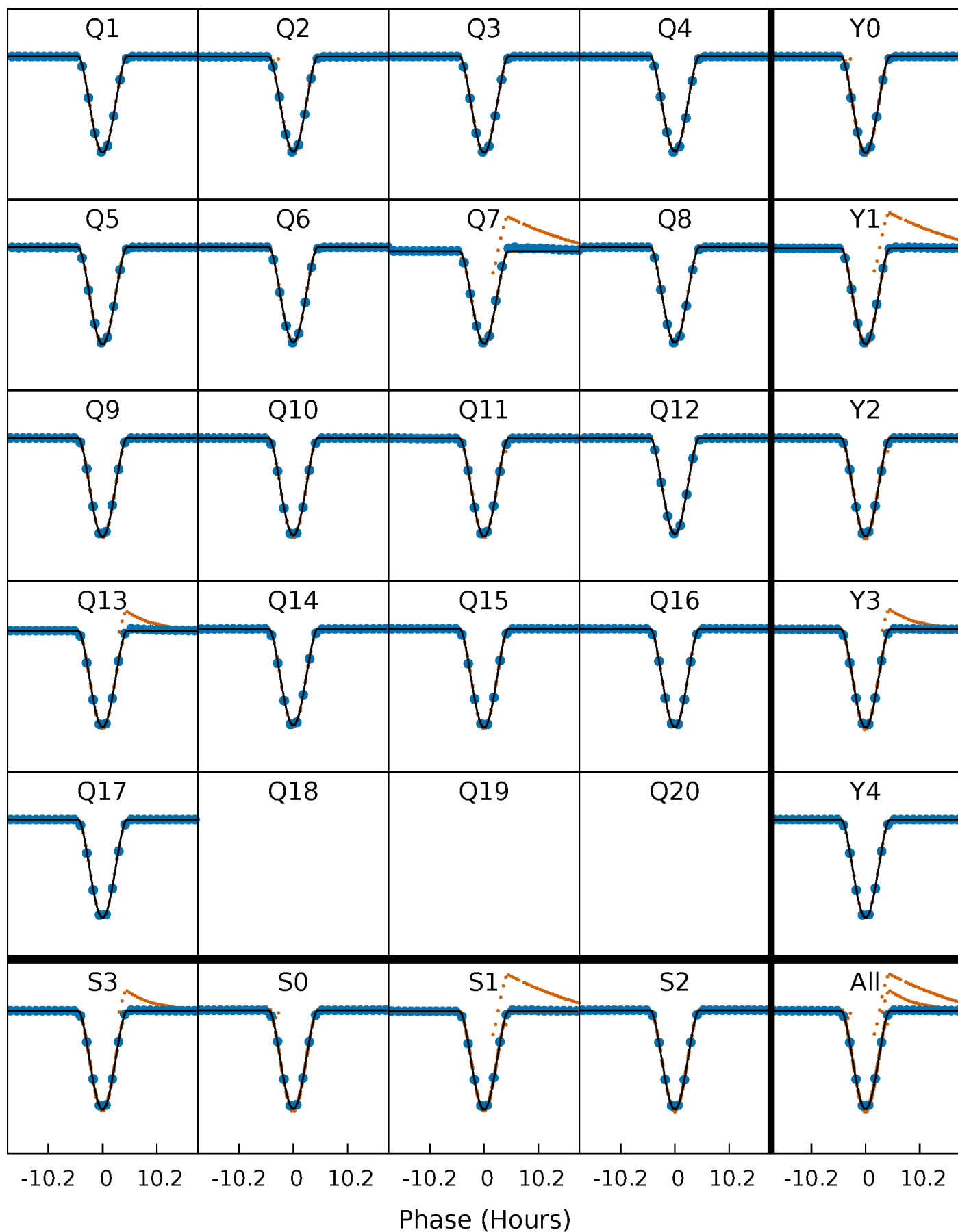
PDC Quarter-Phased Transit Curves

TCE 005473556-01 P= 11.258826 Days $T_0=134.738437$ (BKJD)



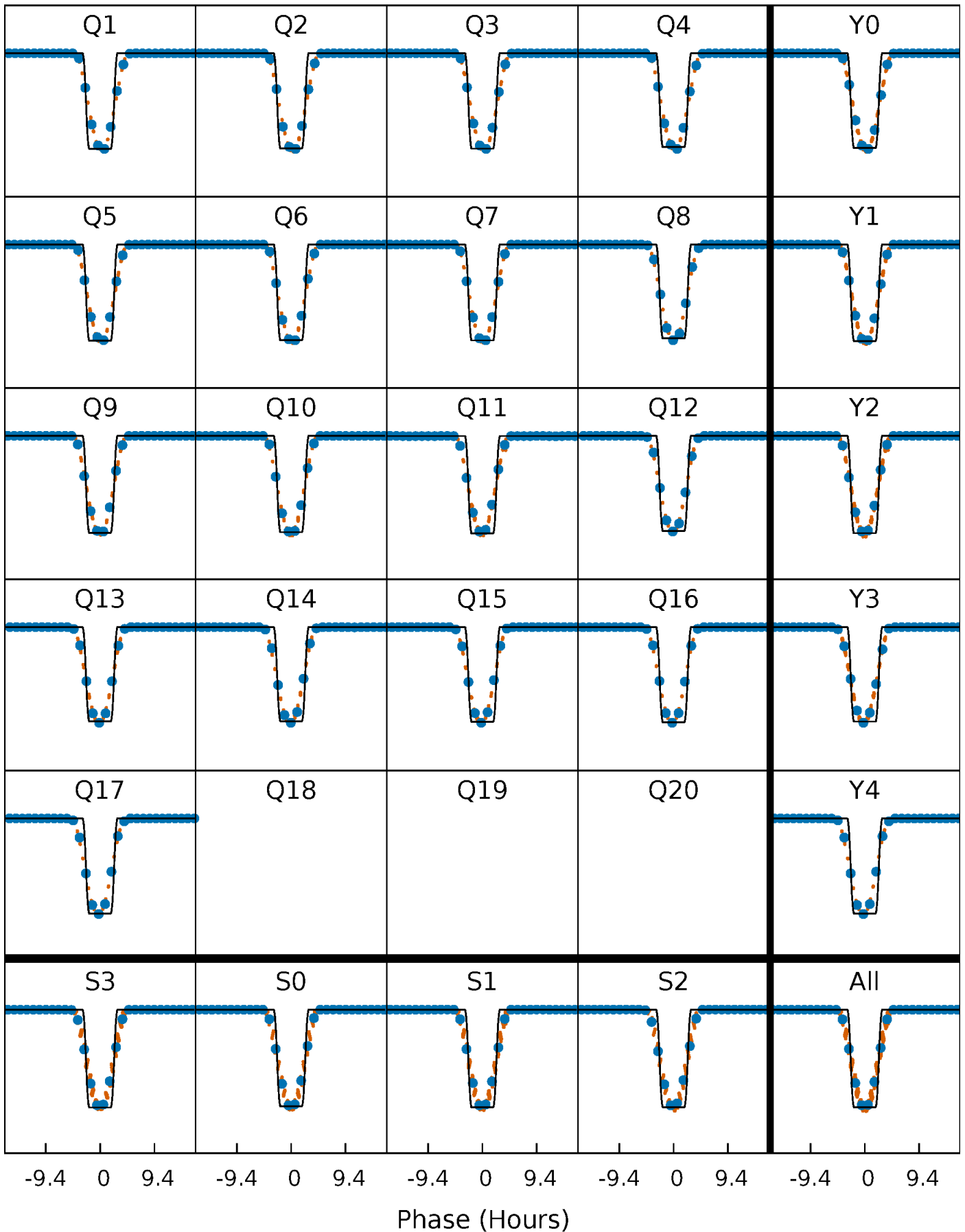
DV Quarter-Phased Transit Curves

TCE 005473556-01 P= 11.258826 Days $T_0=134.738437$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

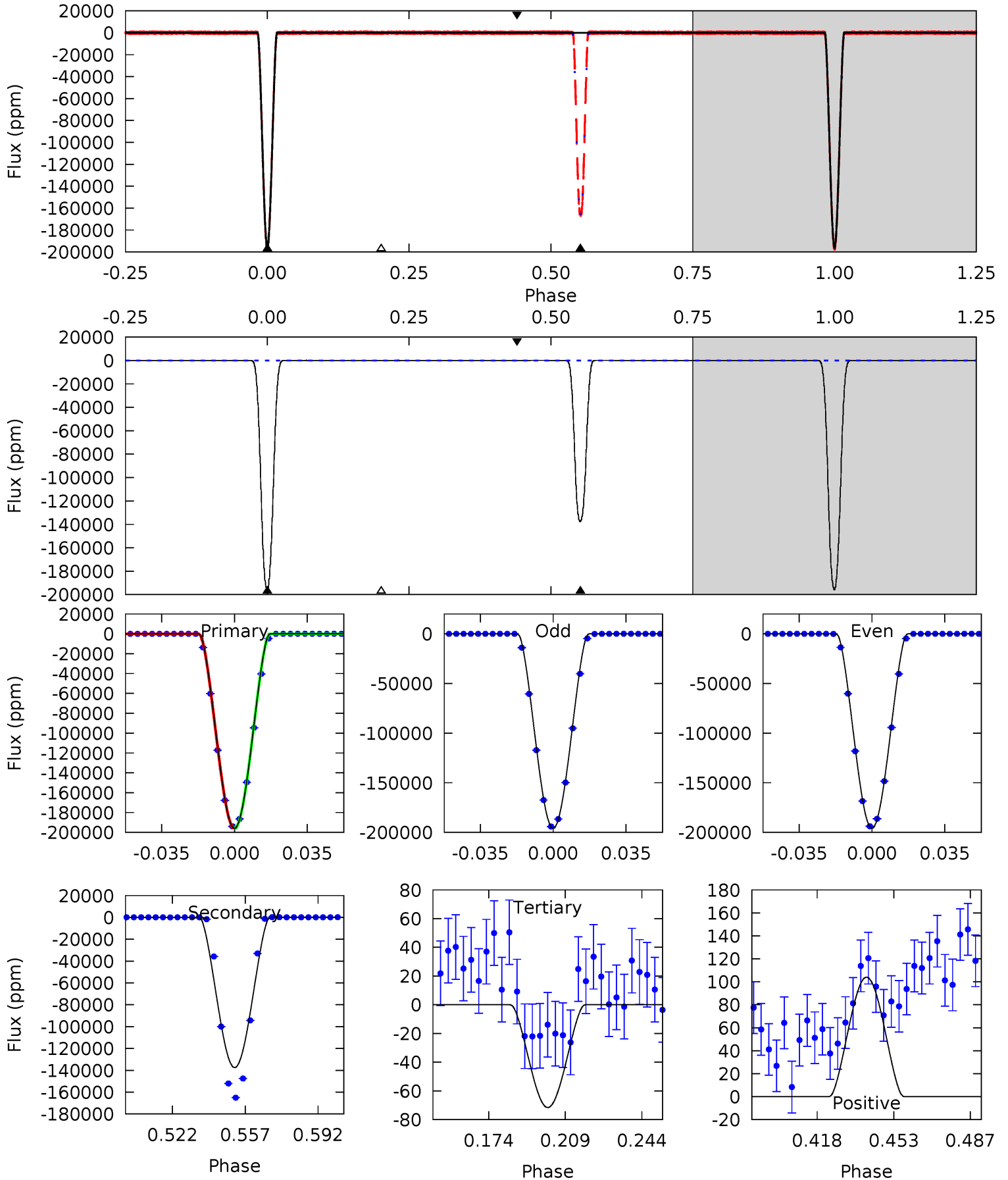
TCE 005473556-01 P= 11.259010 Days $T_0=134.726881$ (BKJD)



DV Model-Shift Uniqueness Test

005473556-01, P = 11.258826 Days, E = 123.479611 Days

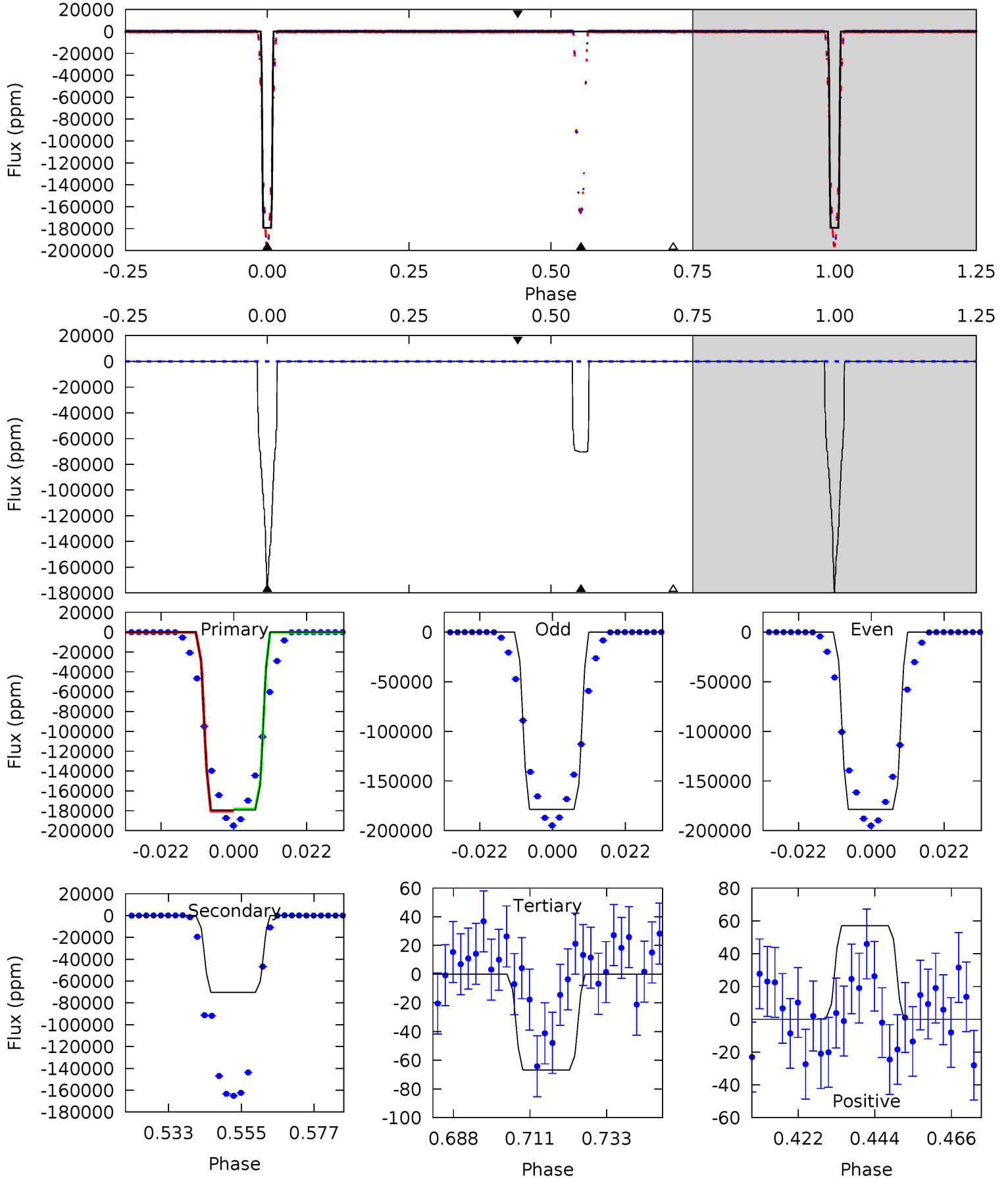
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
27441	19267	10.0	14.6	4.78	2.11	6.60	27431	27427	19257	19253	3.25	0.98	0.00	0.66



Alt Model-Shift Uniqueness Test

005473556-01, P = 11.259010 Days, E = 123.467871 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10656	4186	3.96	3.39	4.87	2.29	1.16	10652	10653	4182	4183	0.84	1.00	0.00	0



Stellar Parameters For KIC 005473556

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6217^{+188}_{-188}	$4.052^{+0.413}_{-0.177}$	$-0.780^{+0.300}_{-0.300}$	$1.464^{+0.390}_{-0.584}$	$0.882^{+0.102}_{-0.092}$	$0.396^{+1.353}_{-0.192}$
	+3%/-3%	+10%/-4%	+38%/-38%	+27%/-40%	+12%/-10%	+342%/-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 005473556-01 / KOI 2939.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-137563 ± 7	$87.27^{+14.51}_{-19.84}$	1492^{+127}_{-180}	5312^{+147}_{-136}	103^{+65}_{-27}
Alt.	-70448 ± 17	$68.82^{+11.39}_{-13.74}$	1493^{+130}_{-161}	5013^{+143}_{-147}	79^{+44}_{-20}

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

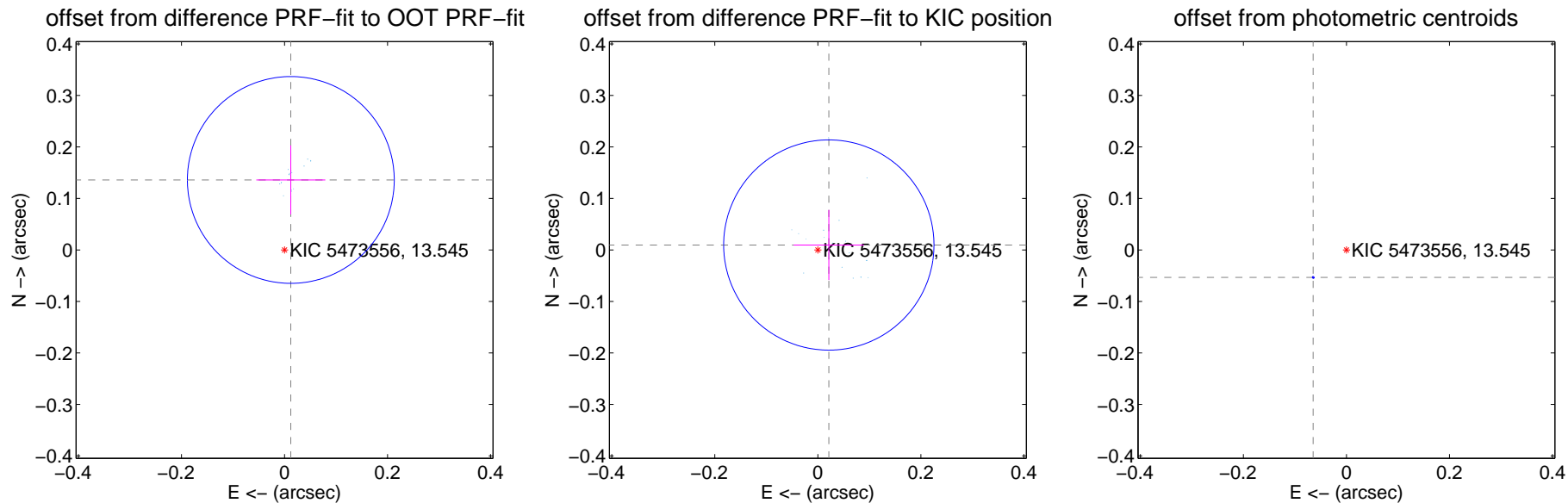
DV Centroid Data

Supplemental centroid analysis for 005473556-01. Kepler magnitude: 13.54. Transit SNR 9784.26

There are 17 quarters with good PRF difference image offsets

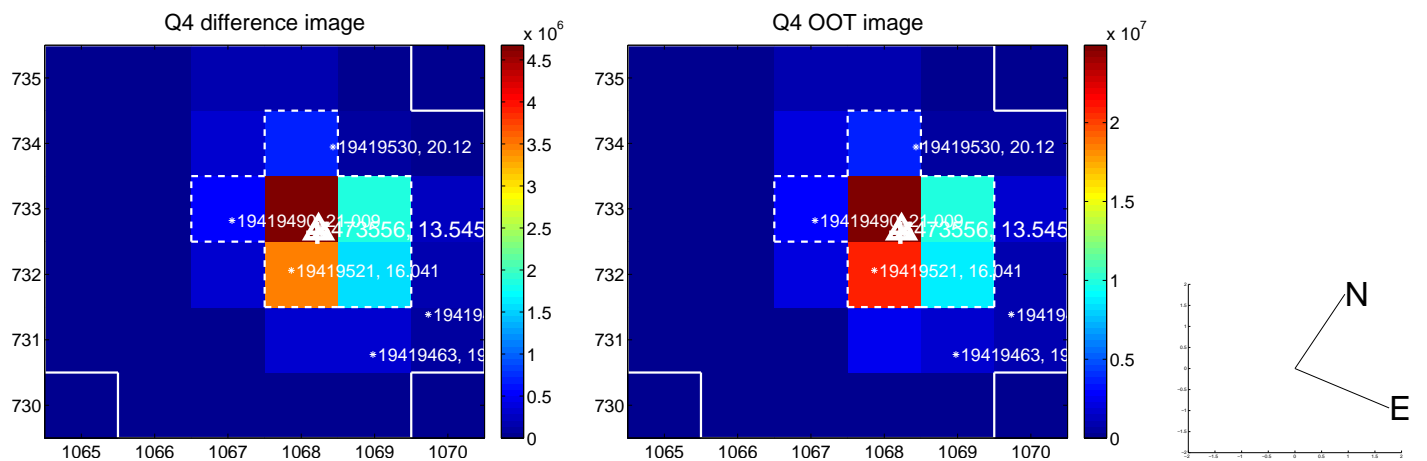
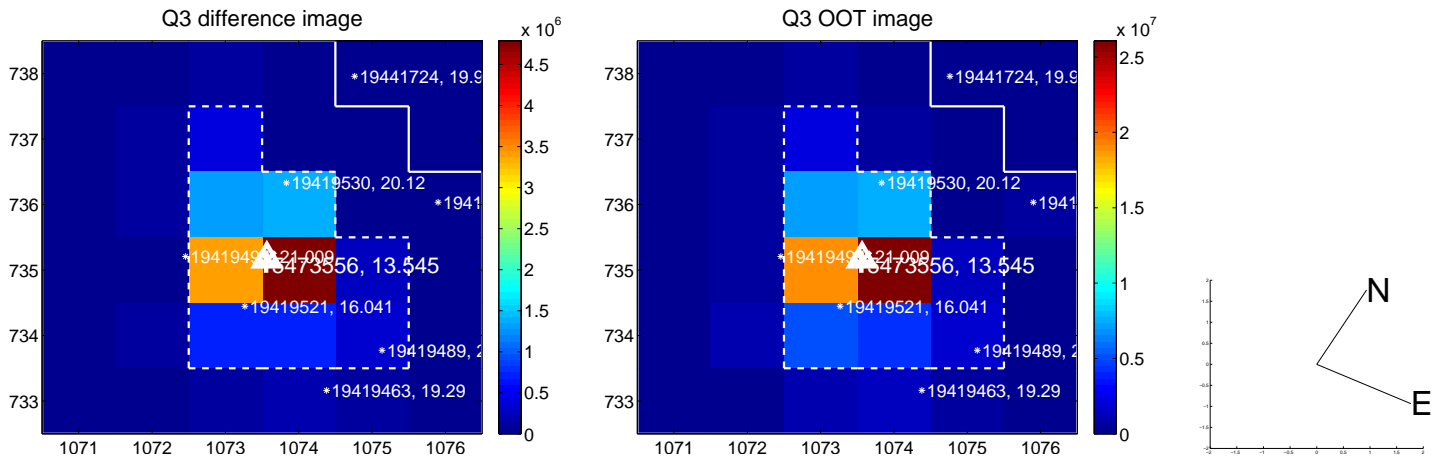
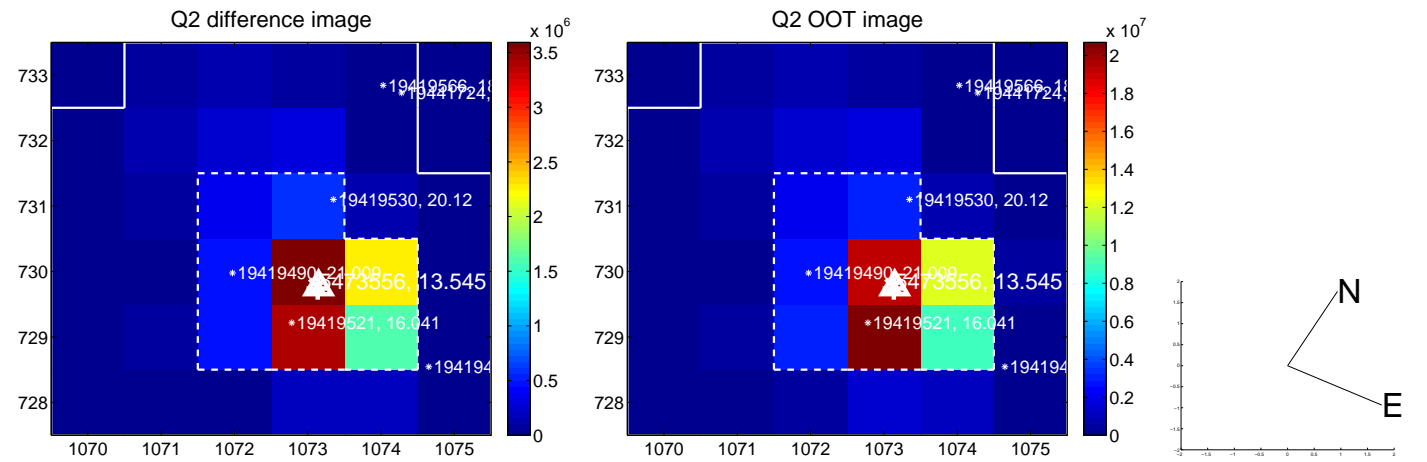
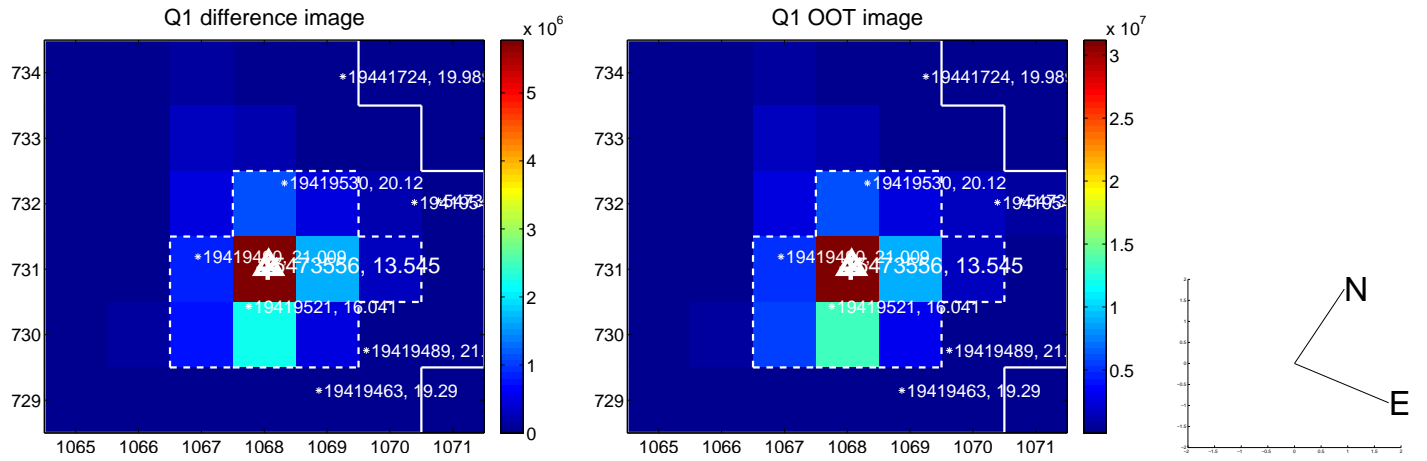
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.136 ± 0.067	2.04	-0.012 ± 0.067	0.136 ± 0.067
PRF-fit source offset from KIC position	0.023 ± 0.068	0.34	-0.021 ± 0.068	0.010 ± 0.068
photometric centroid source offset	0.08 ± 0.00	145.51	0.06 ± 0.00	-0.05 ± 0.00

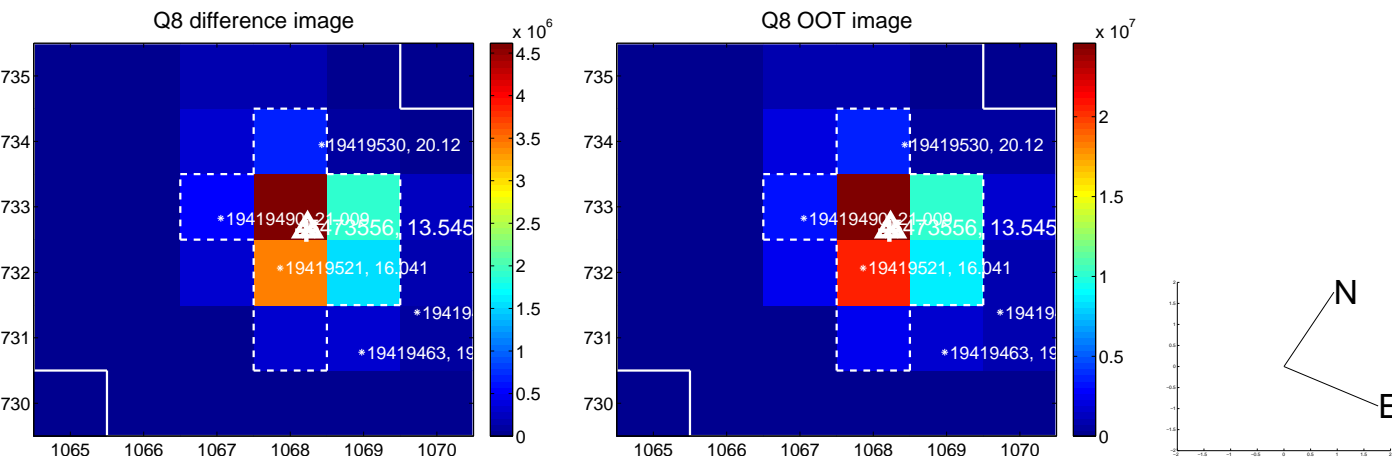
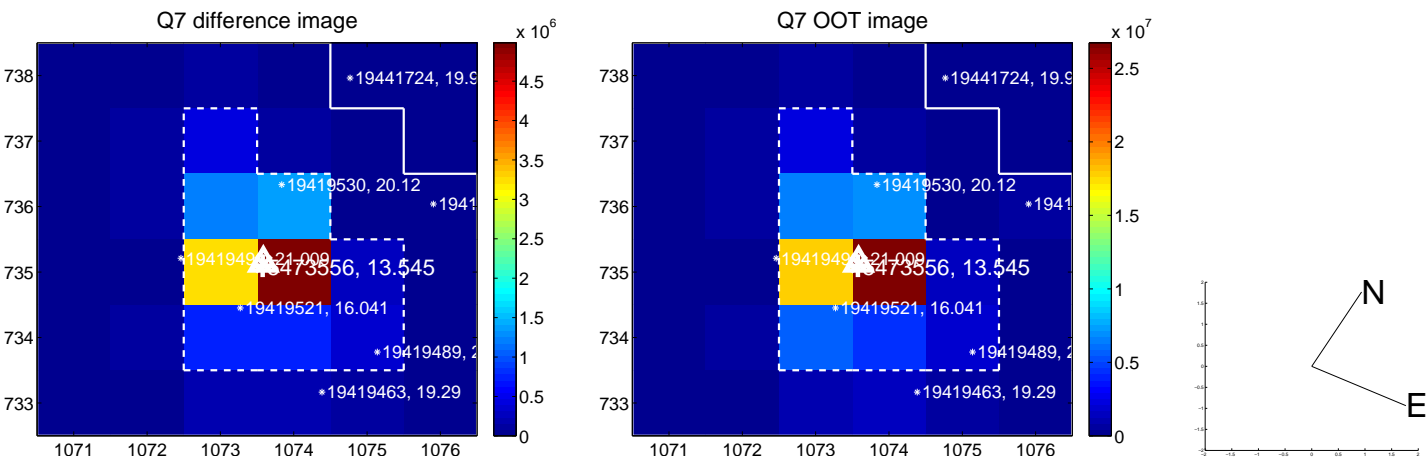
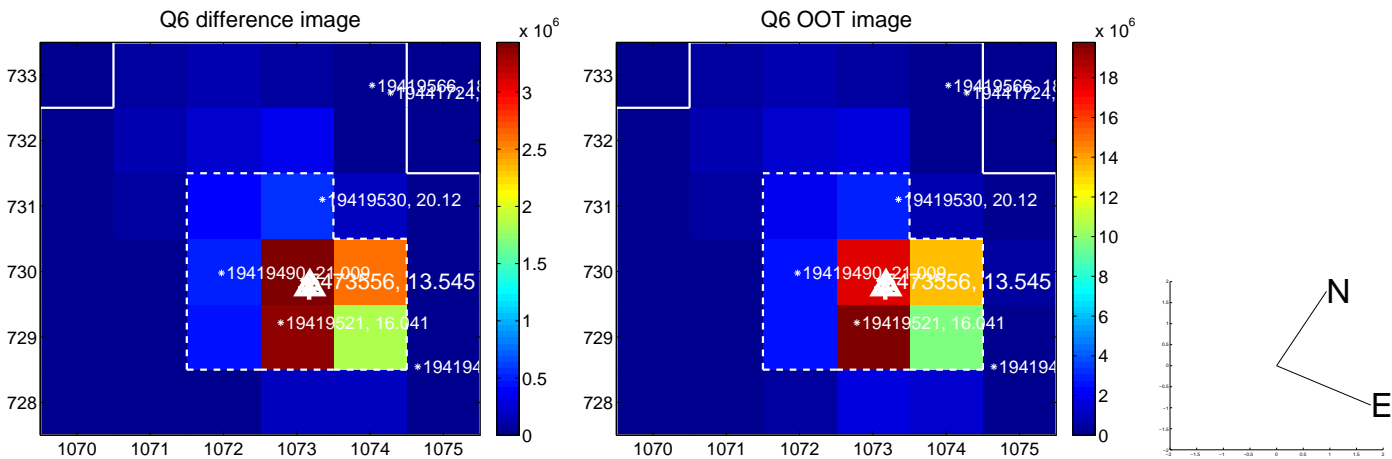
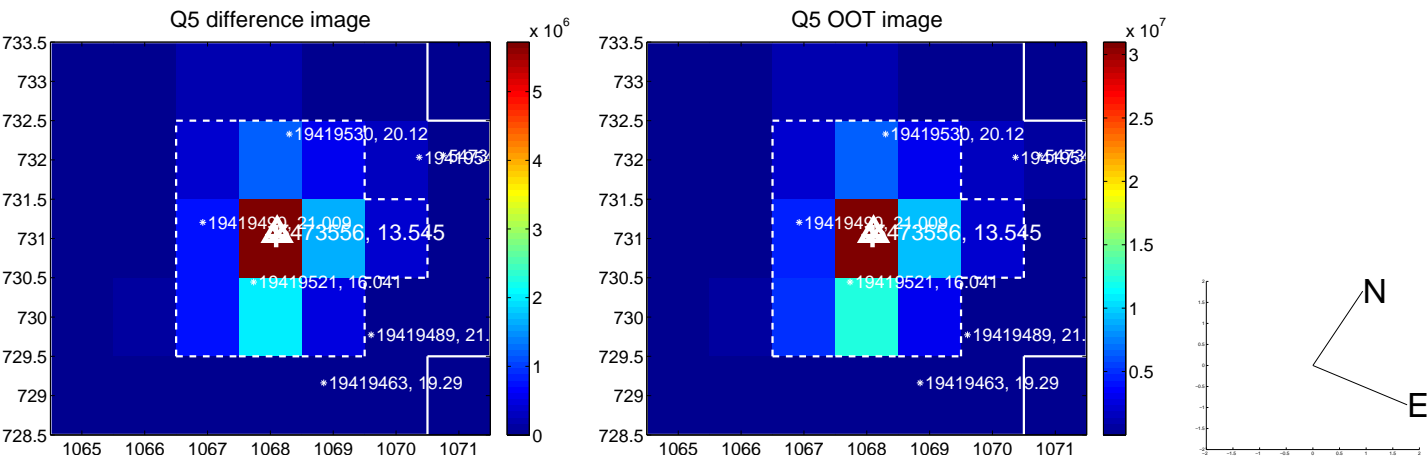


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

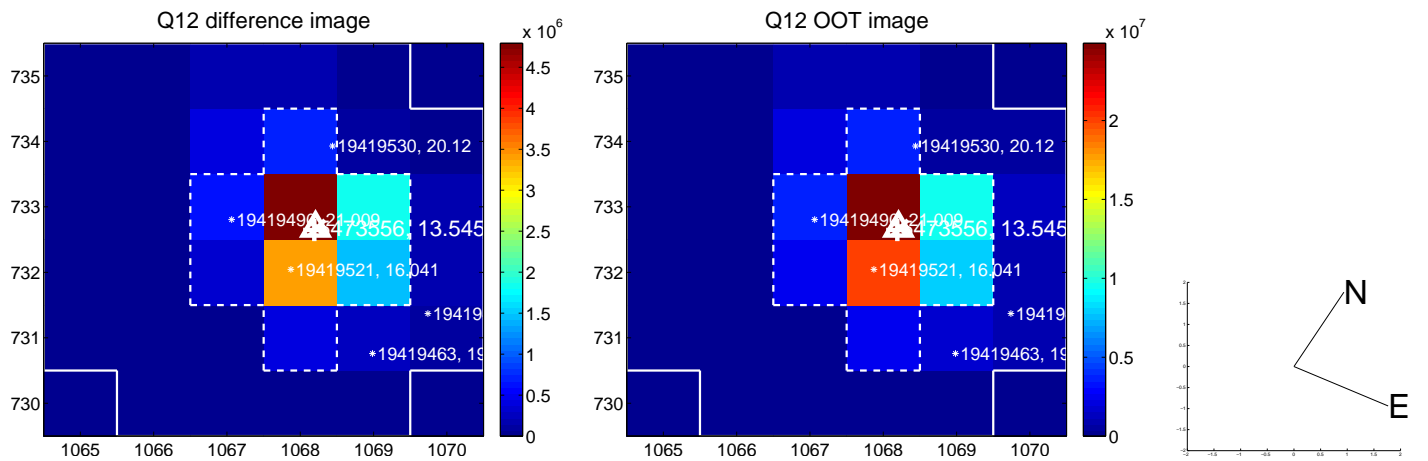
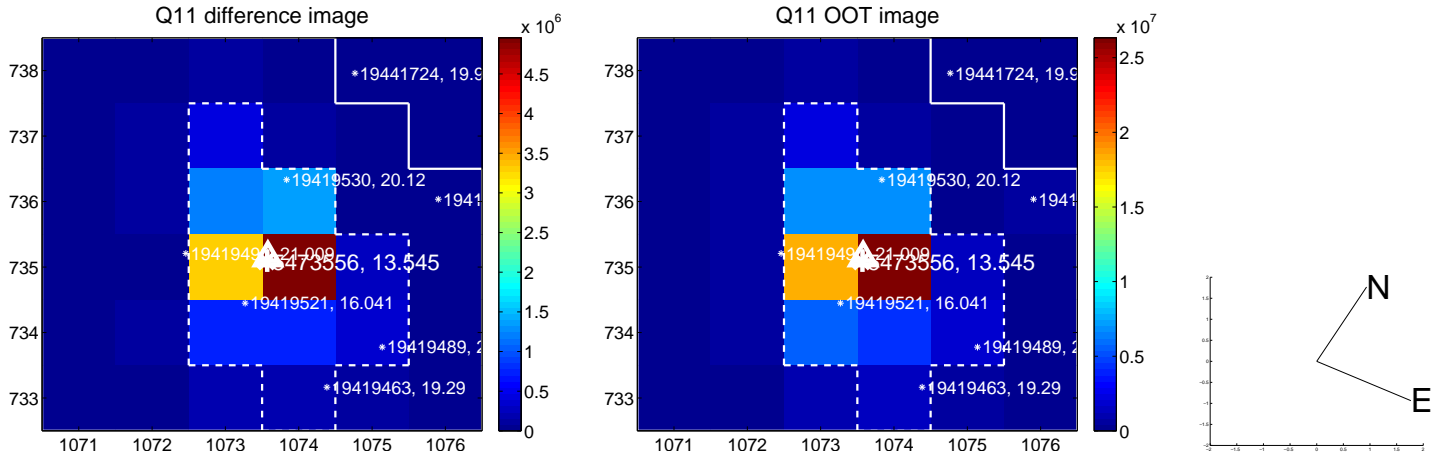
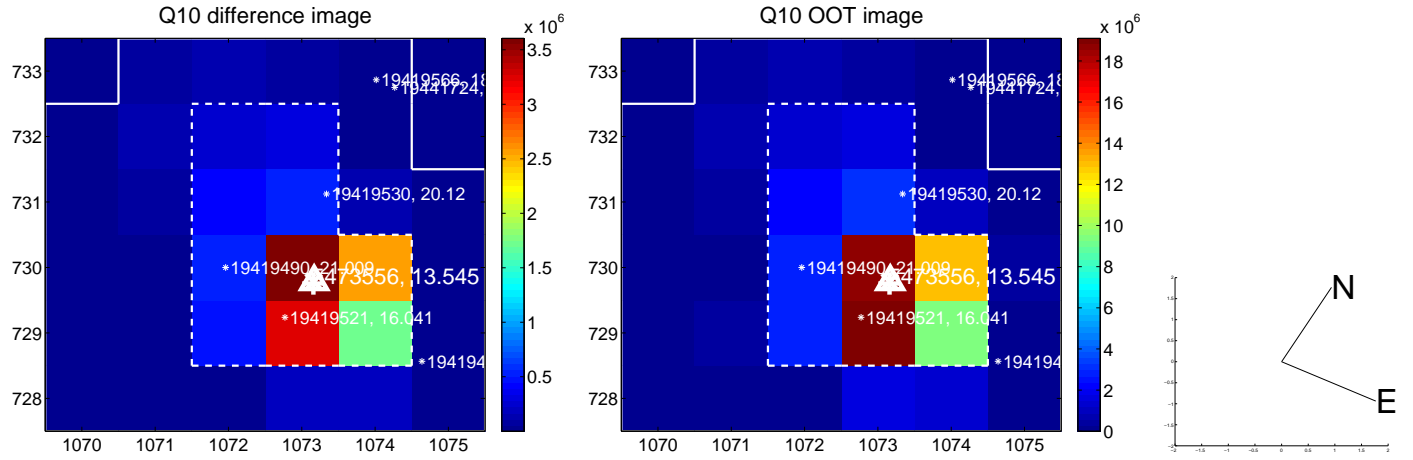
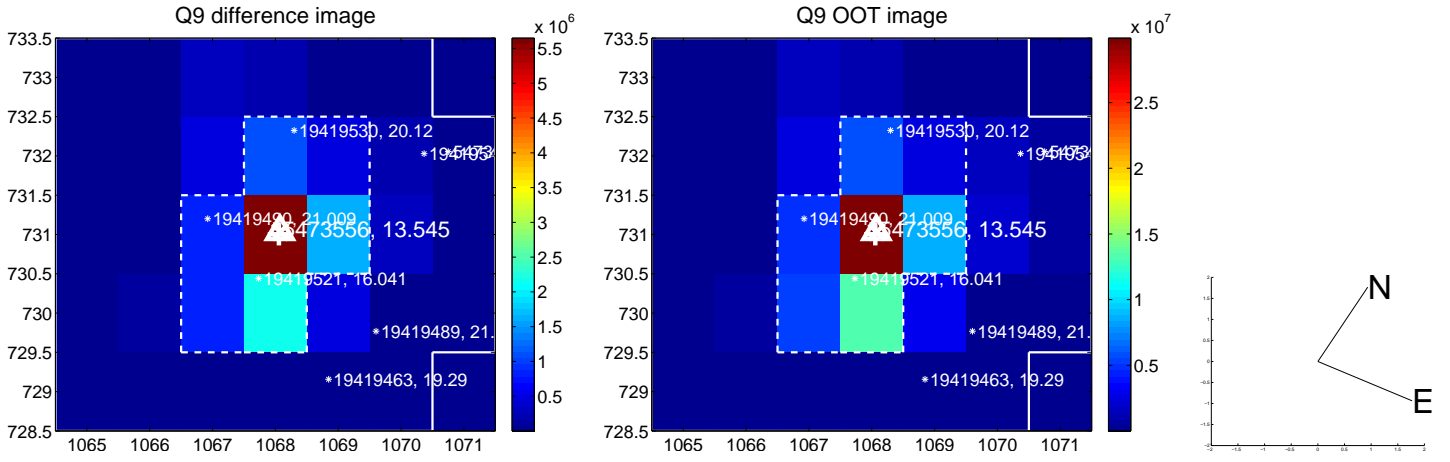
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



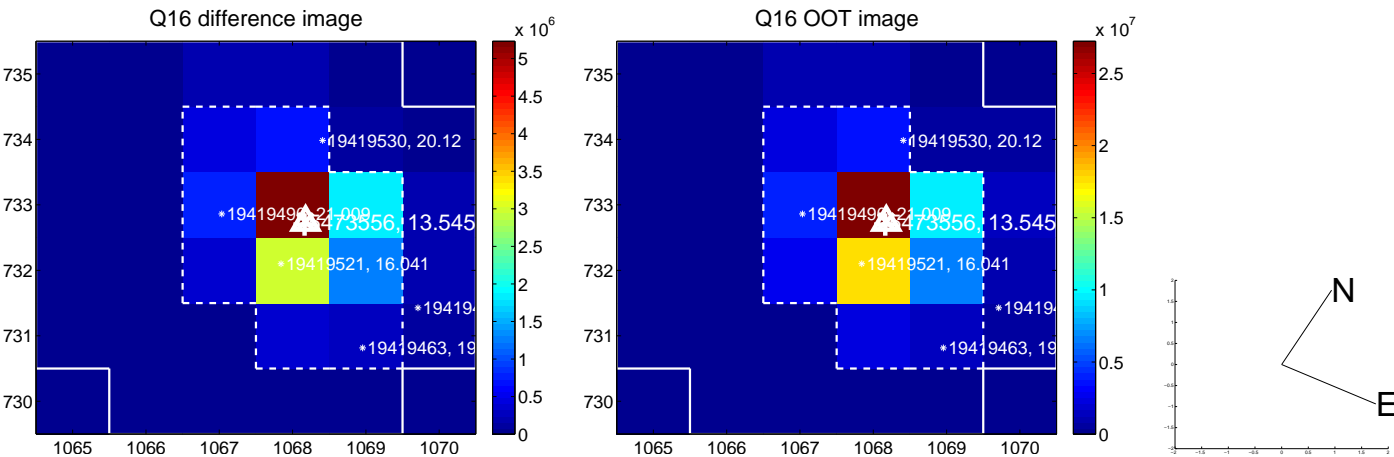
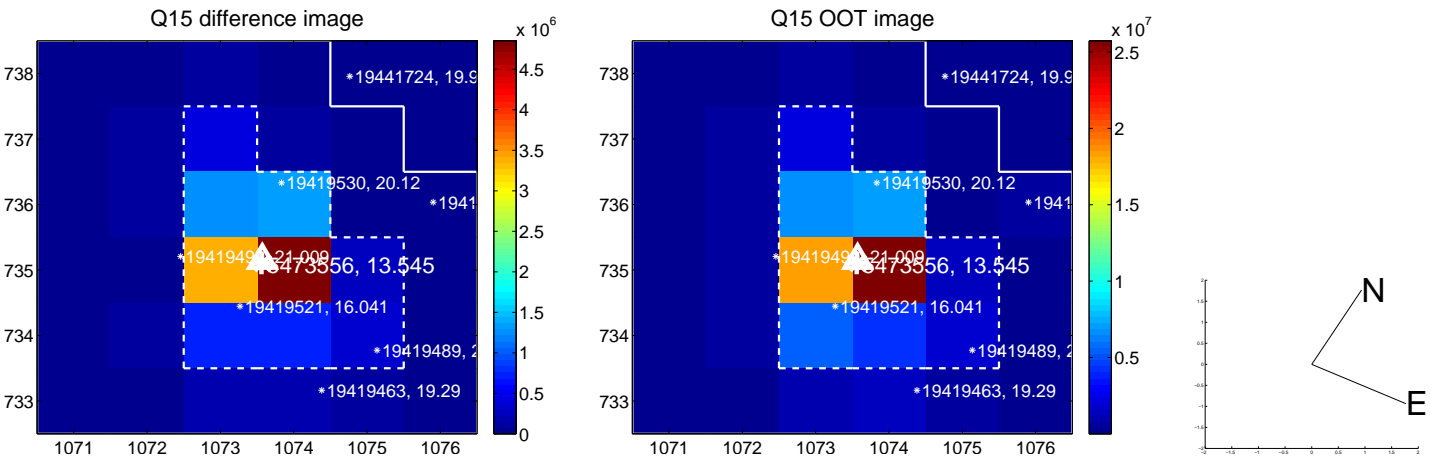
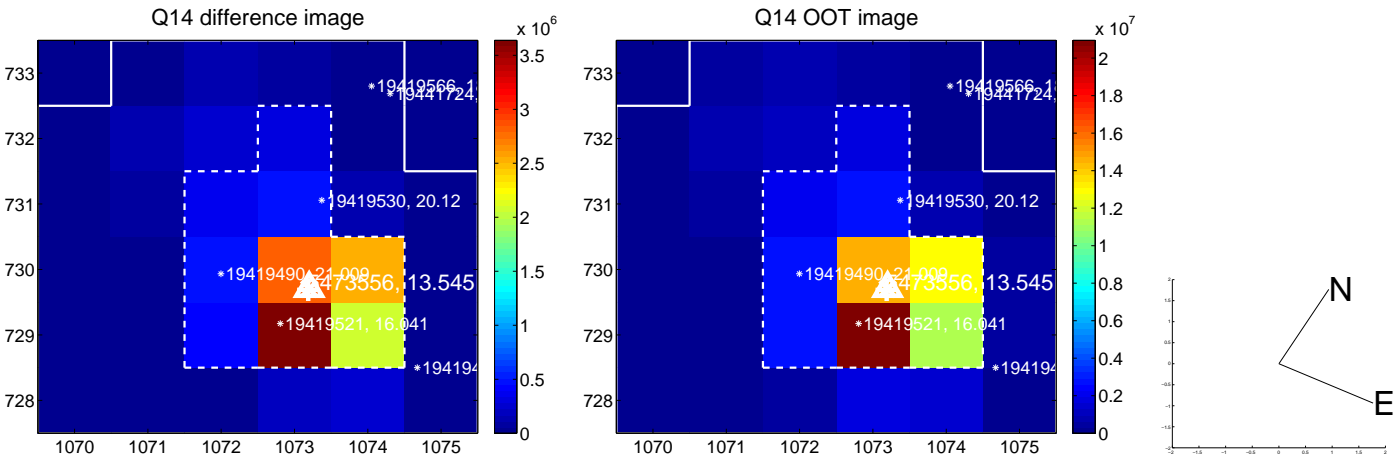
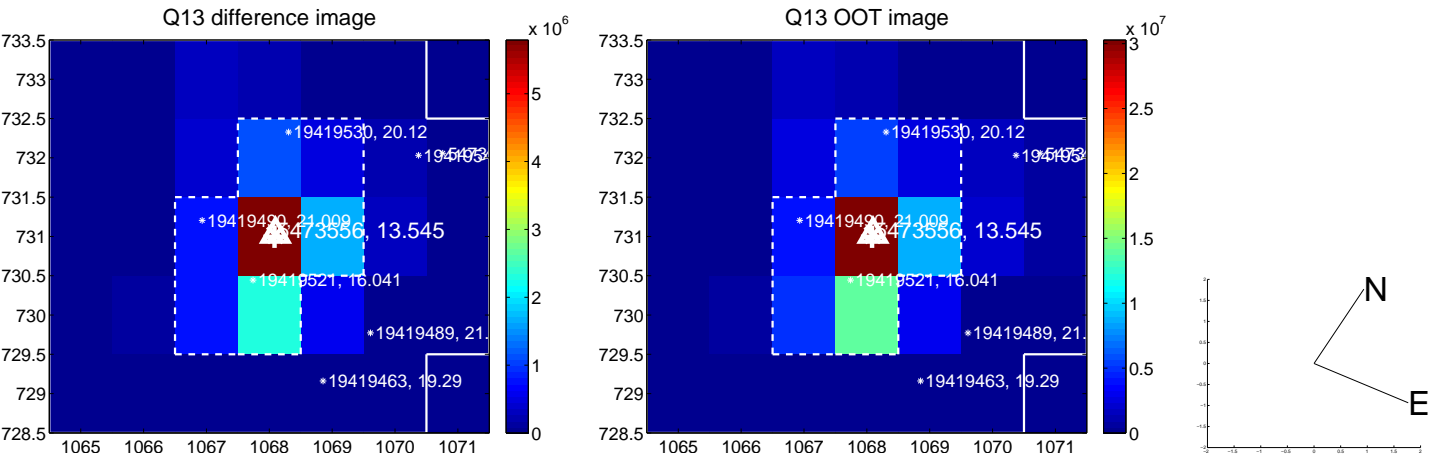
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



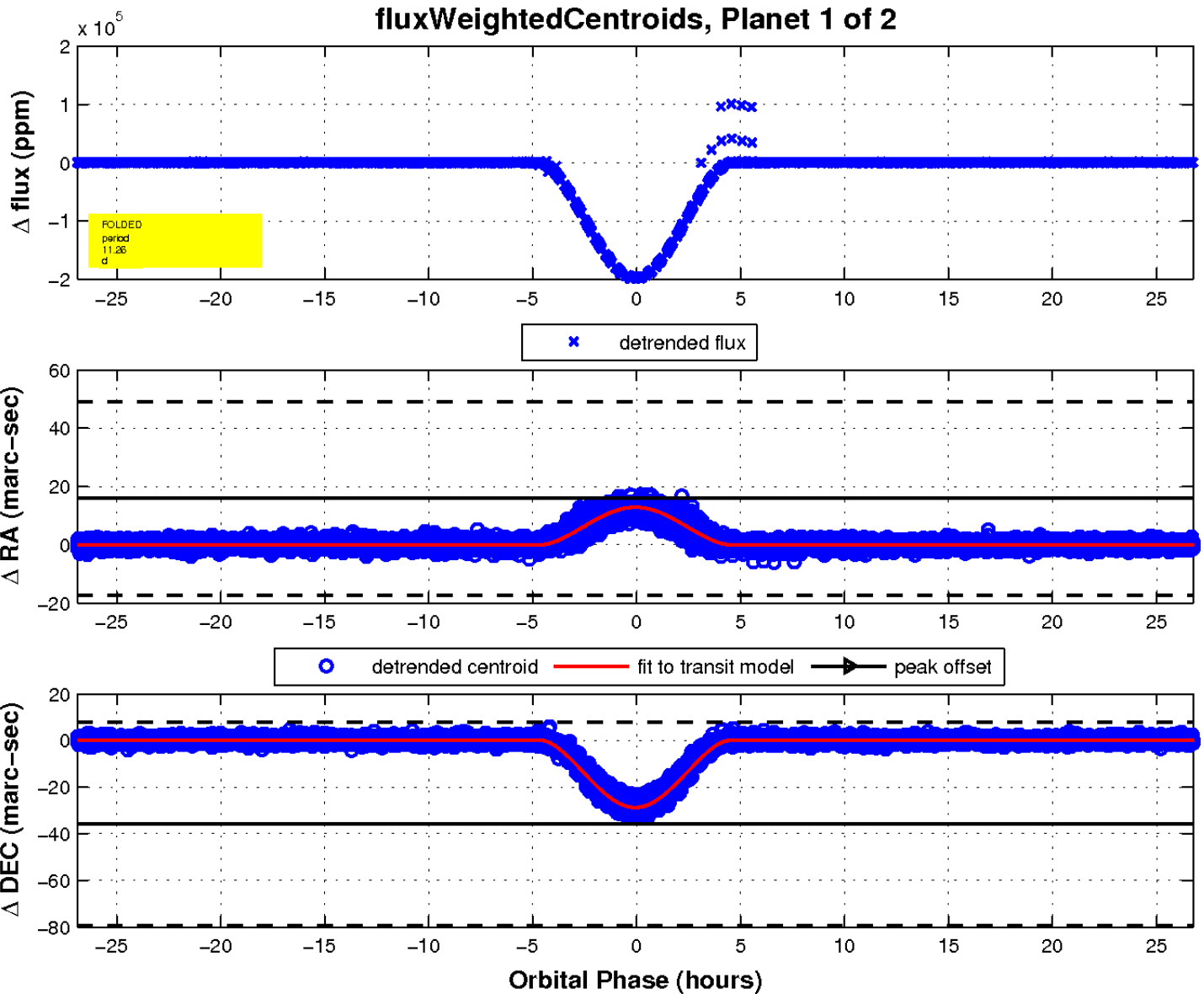
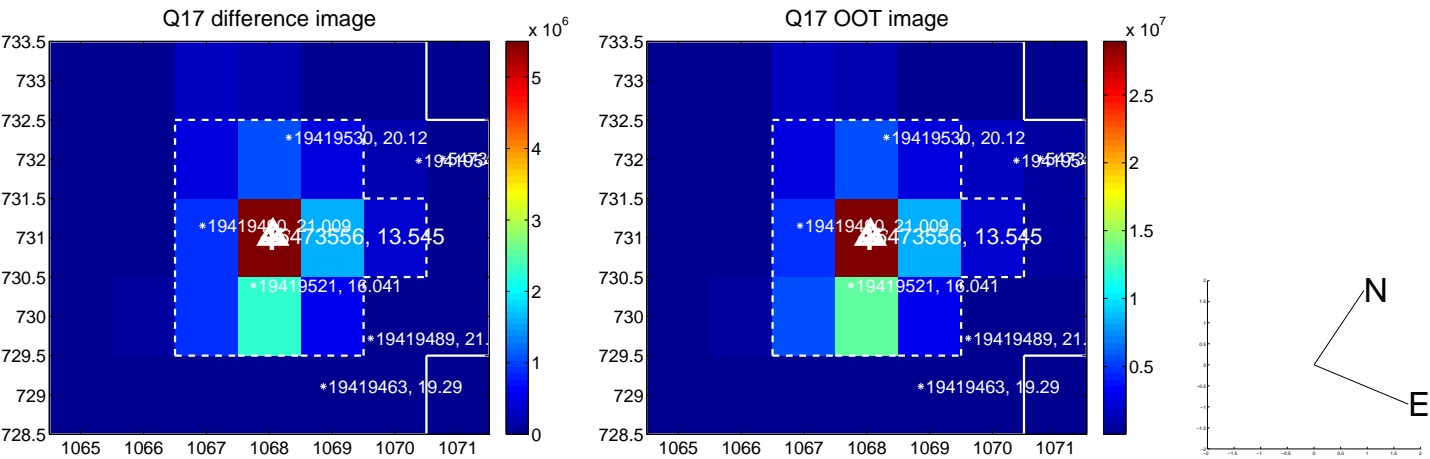
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

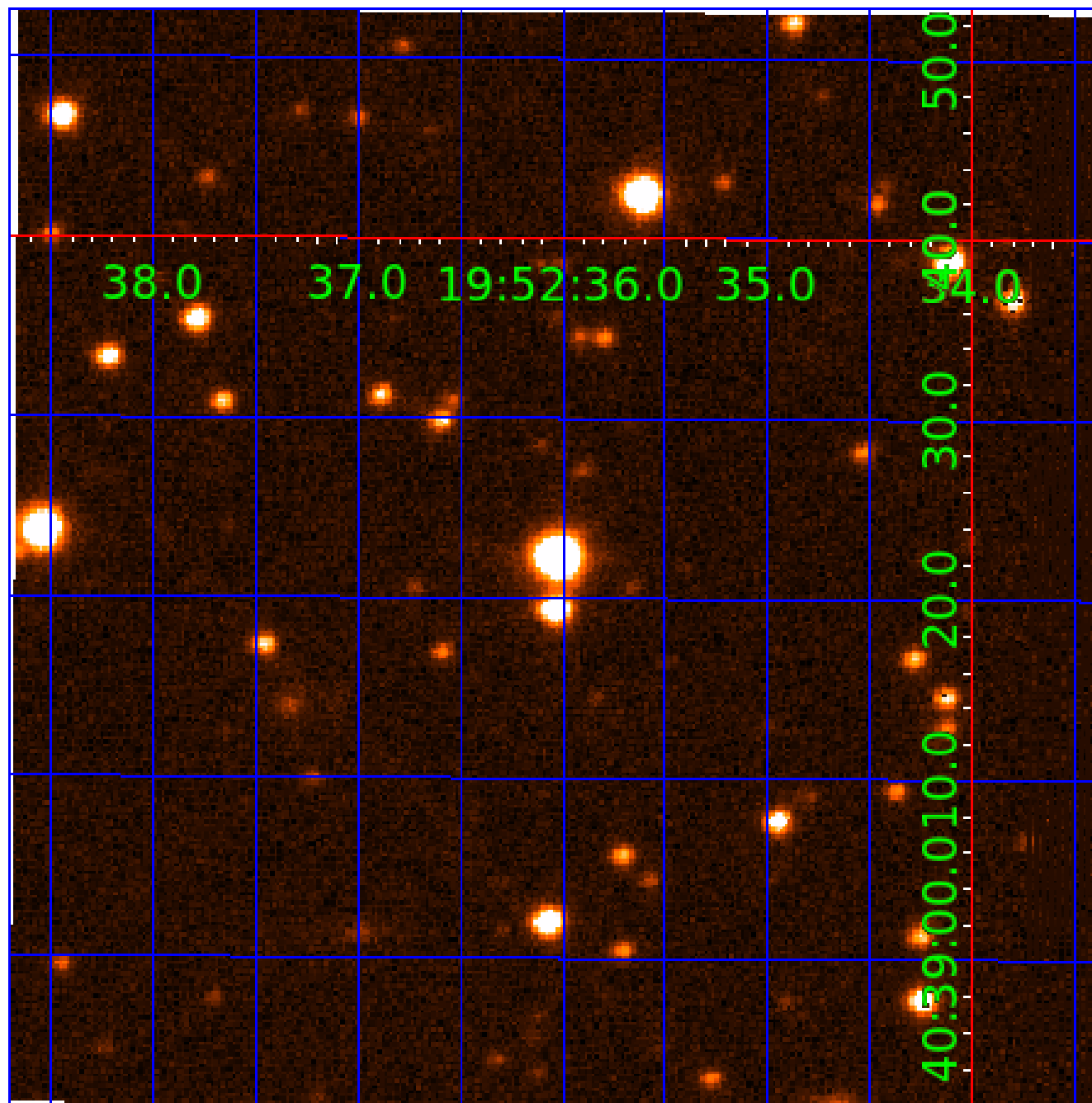


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005473556

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})
005473556-01	OBS	2939.01	11.258826	134.738437	195535.3	8.963	13999.1	9784.3	1.46	6217	88.72	322.79
005473556-02	OBS	No	11.258881	140.954704	119673.1	5.000	12215.3	-1.0	1.46	6217	51.18	322.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005473556-01	OBS	FP	0.00	1	0	0	0	LPP_DV
005473556-02	OBS	FP	0.00	1	0	0	0	SAME_NTL_PERIOD—CENT_NOFITS

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 005473556-02

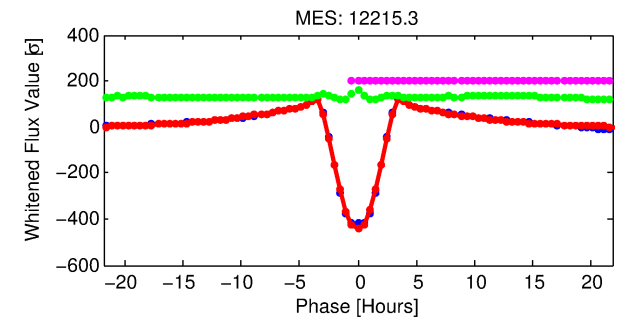
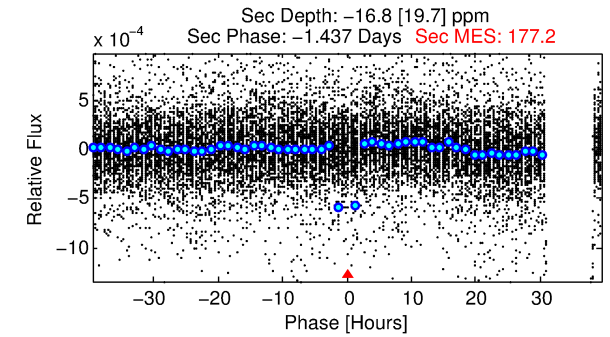
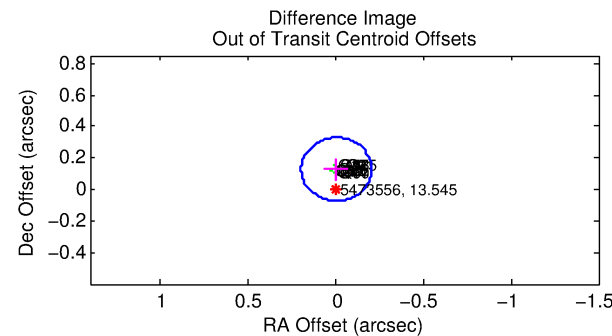
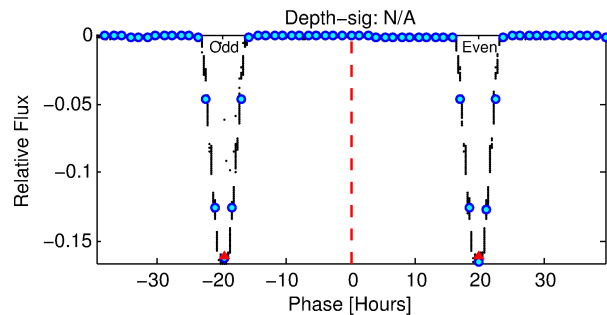
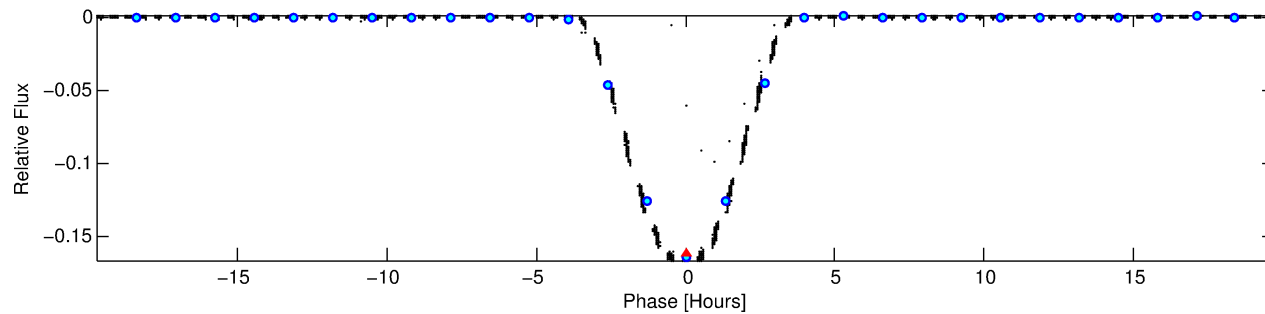
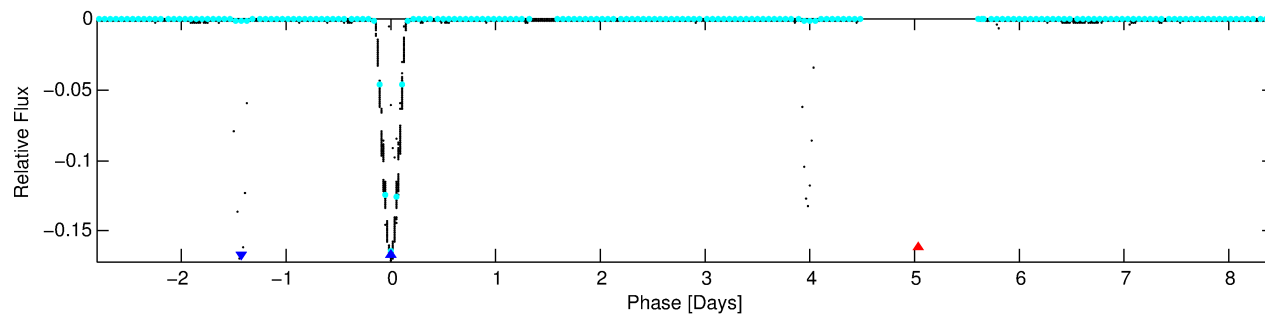
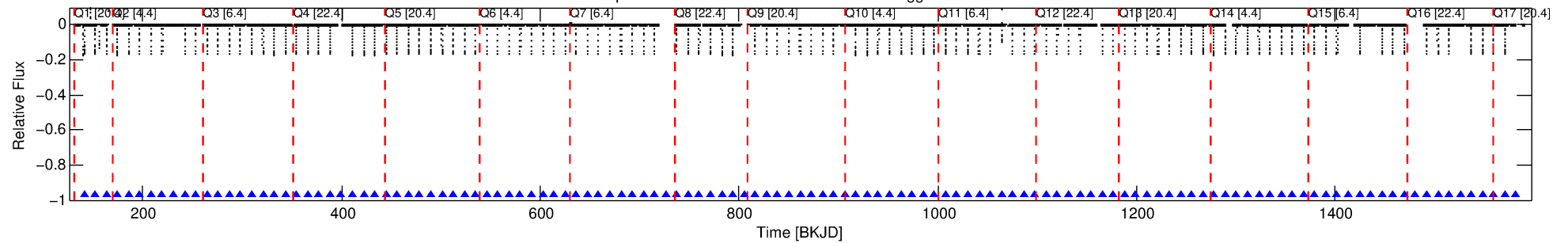
No Significant Match Found

DV One-Page Summary

KIC: 5473556 Candidate: 2 of 2 Period: 11.259 d

KOI: K02939 Corr: No Ephemeris Match

Kp: 13.55 R*: 1.46 Rs Teff: 6217.0 K Logg: 4.05 Fe/H: -0.780



TPS TCE Results:

Period = 11.2588 d
Epoch = 140.9547 BKJD

DV fit results are unavailable

DV Diagnostic Results:

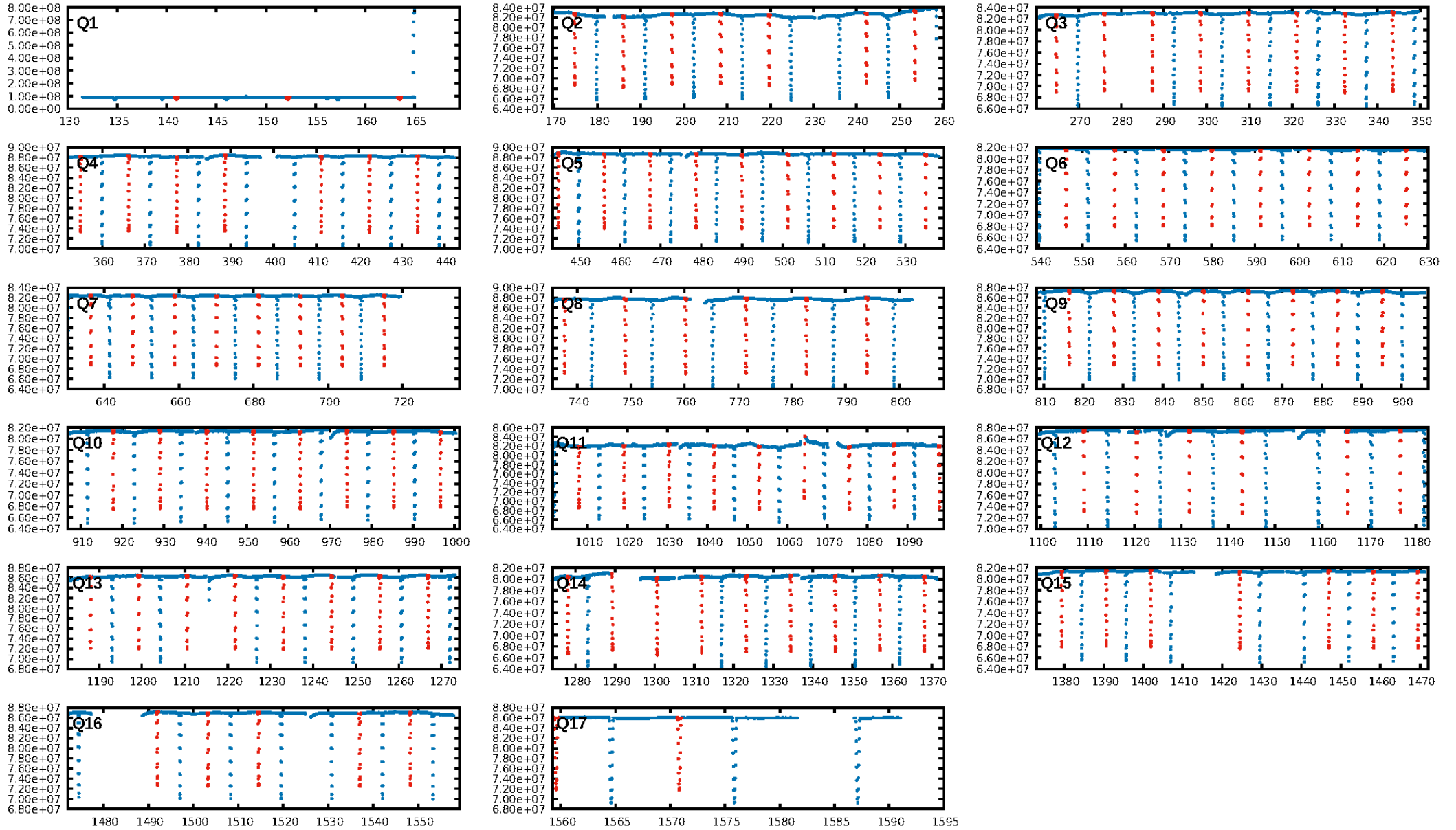
ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [113/113]
GhostDiagnostic-chr: 1.78

Centroid-sig: 0.0%
Centroid-so: 0.104 arcsec [167.33σ]
OotOffset-rm: 0.128 arcsec [1.92σ]
KicOffset-rm: 0.014 arcsec [0.21σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

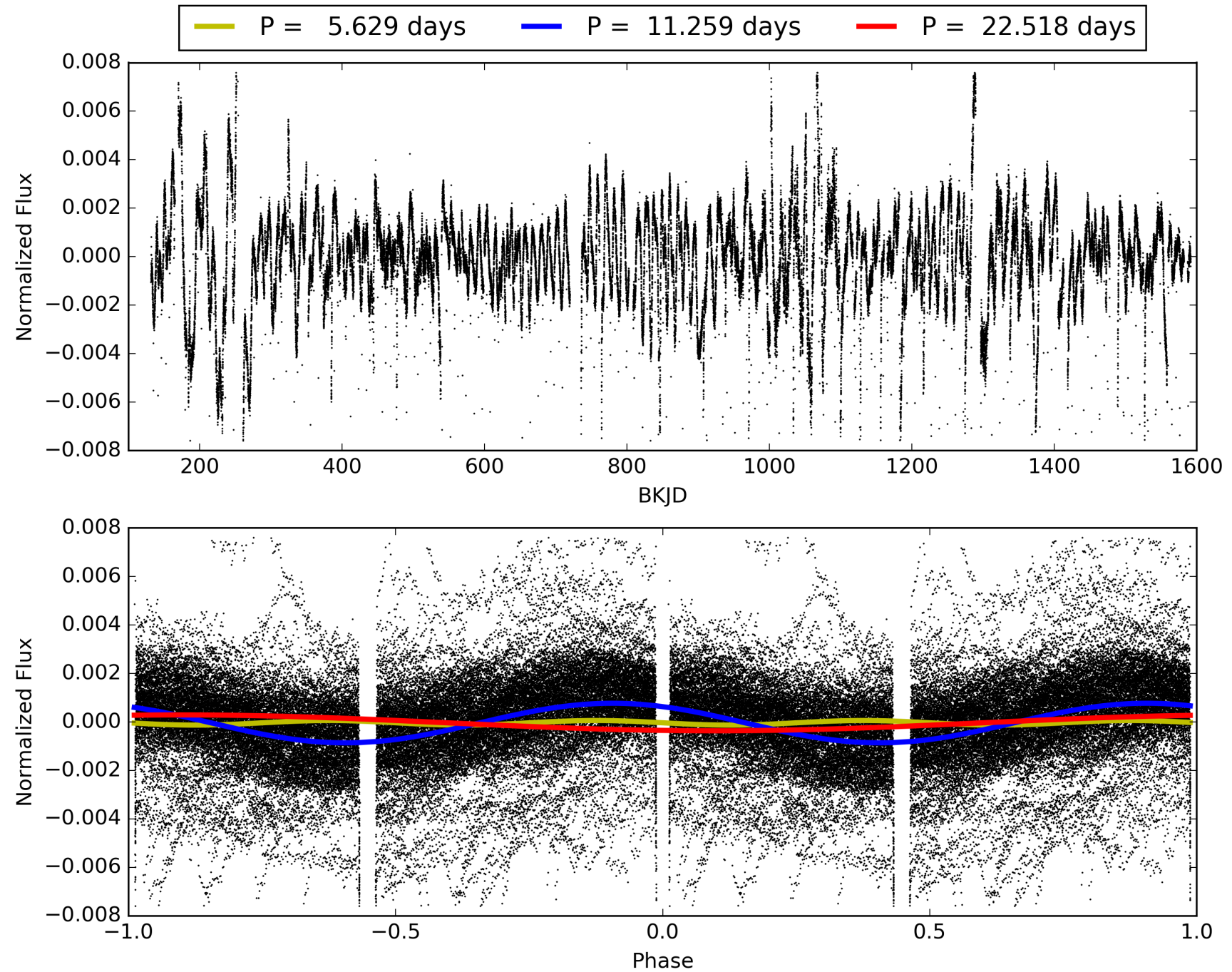
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:59:58 Z

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

TCE 005473556-02, PDC Light Curves

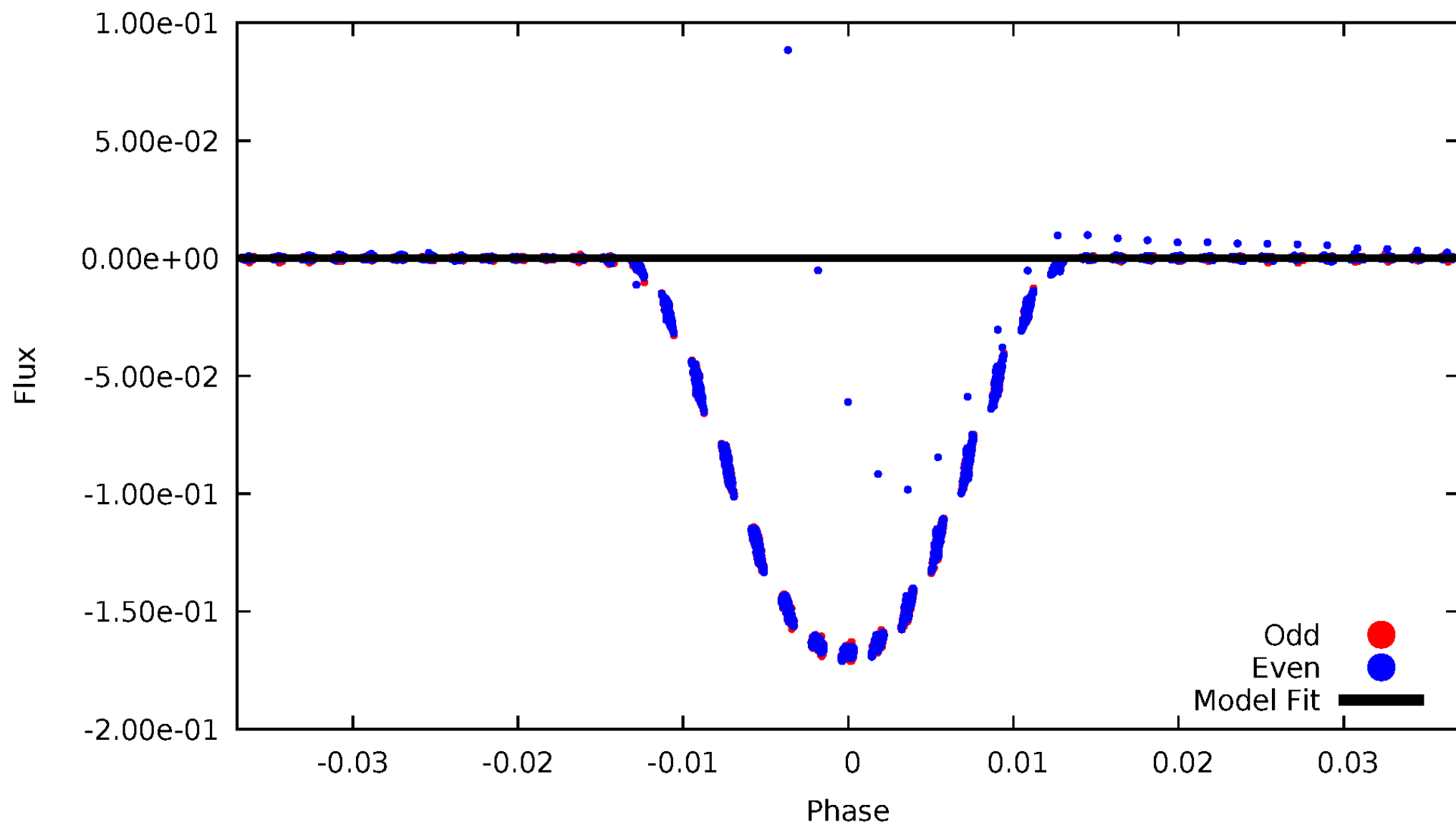


TCE 005473556-02



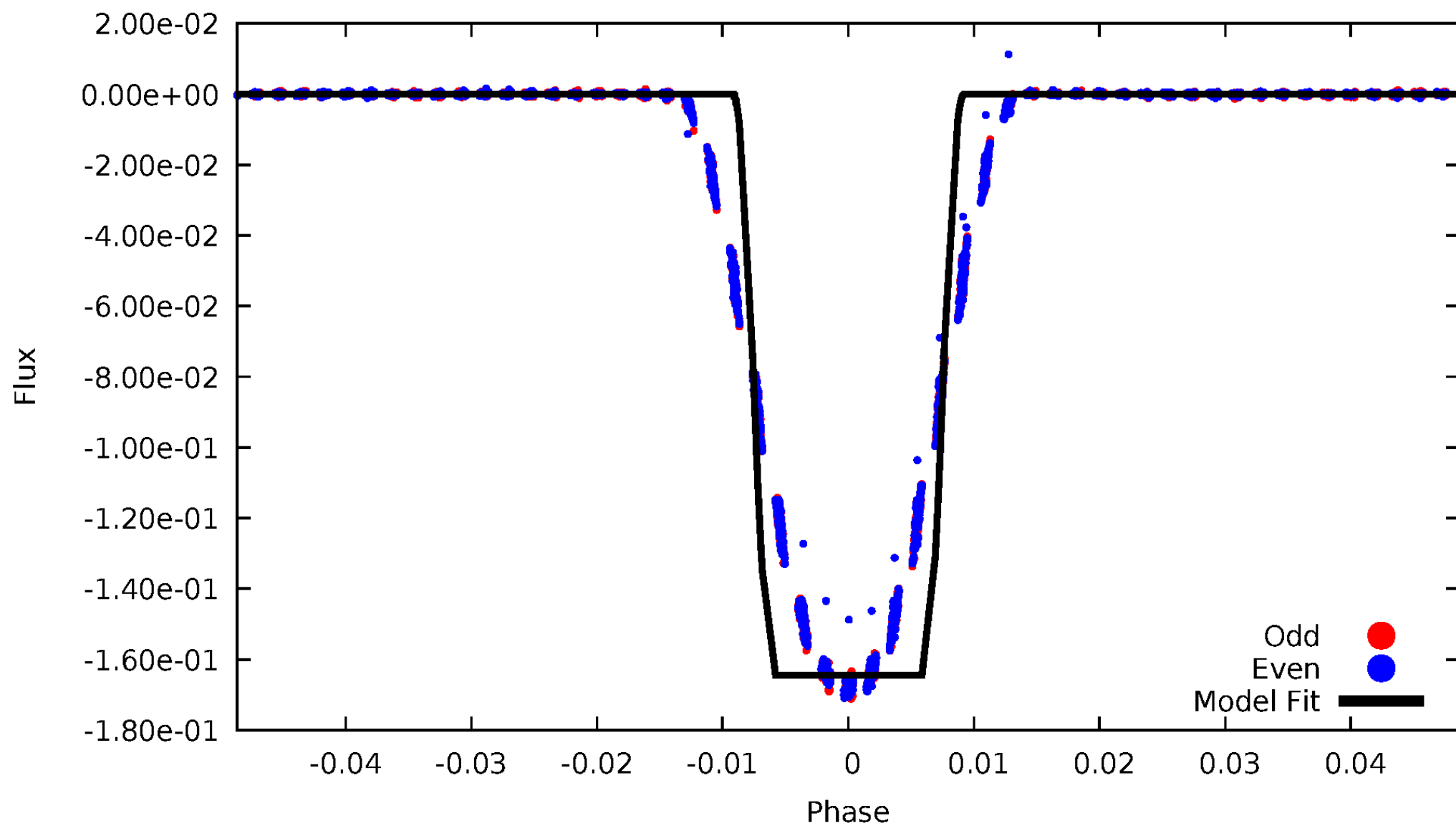
DV Odd/Even

TCE 005473556-02



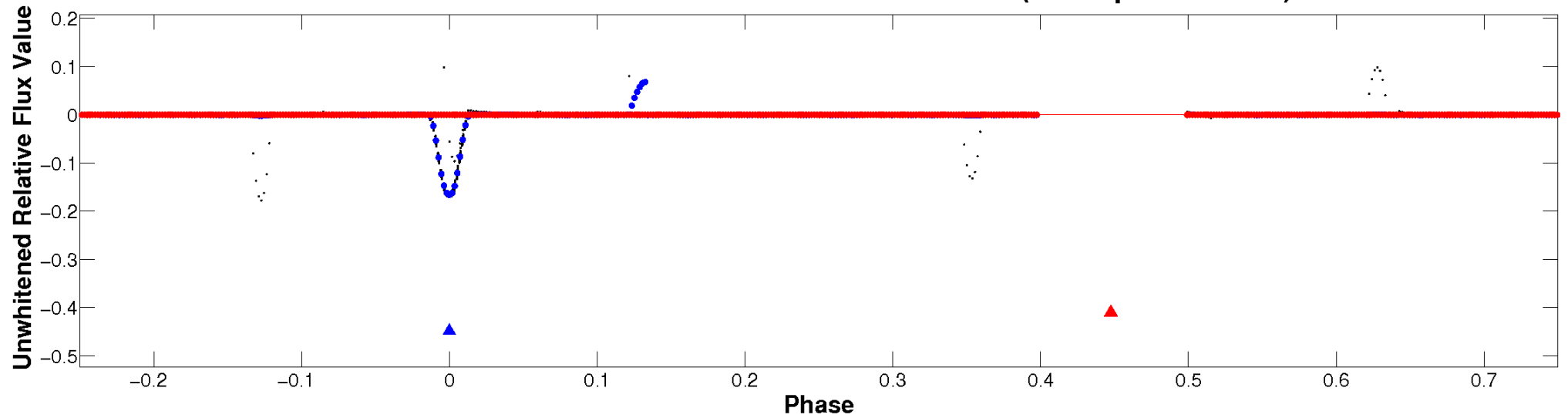
ALT Odd/Even

TCE 005473556-02

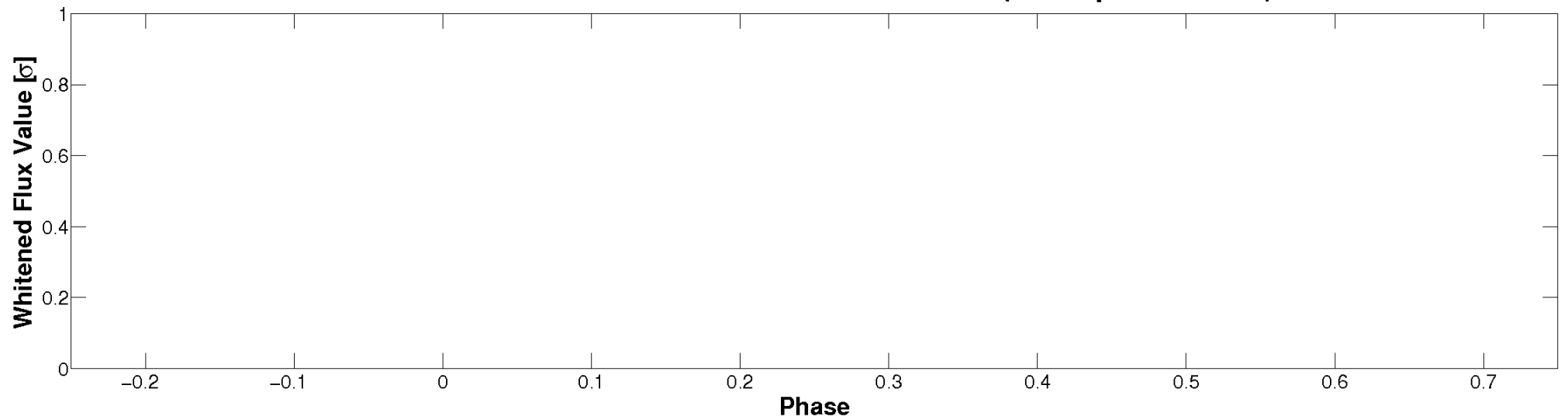


Non-Whitened Vs. Whitened Light Curve

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

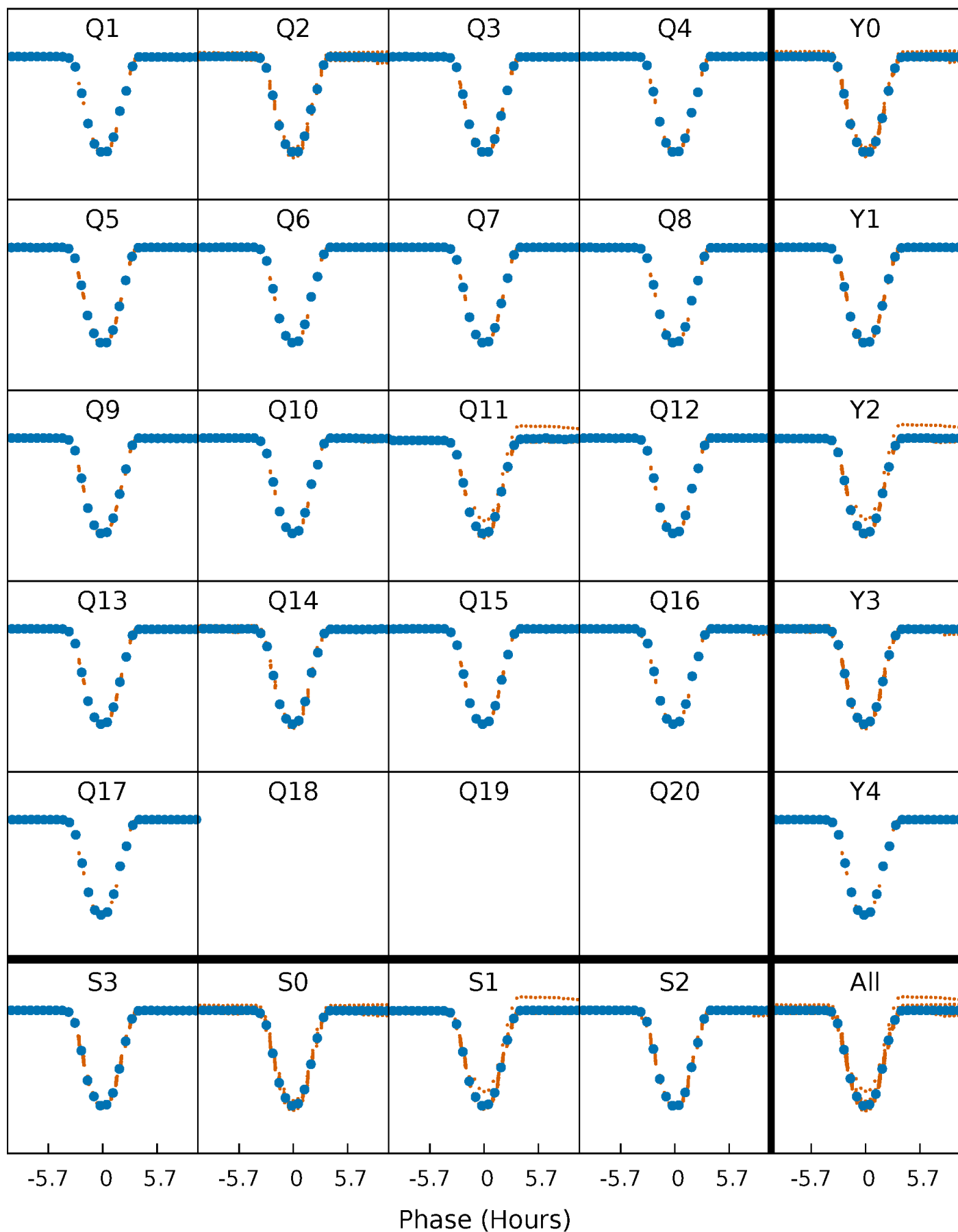


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



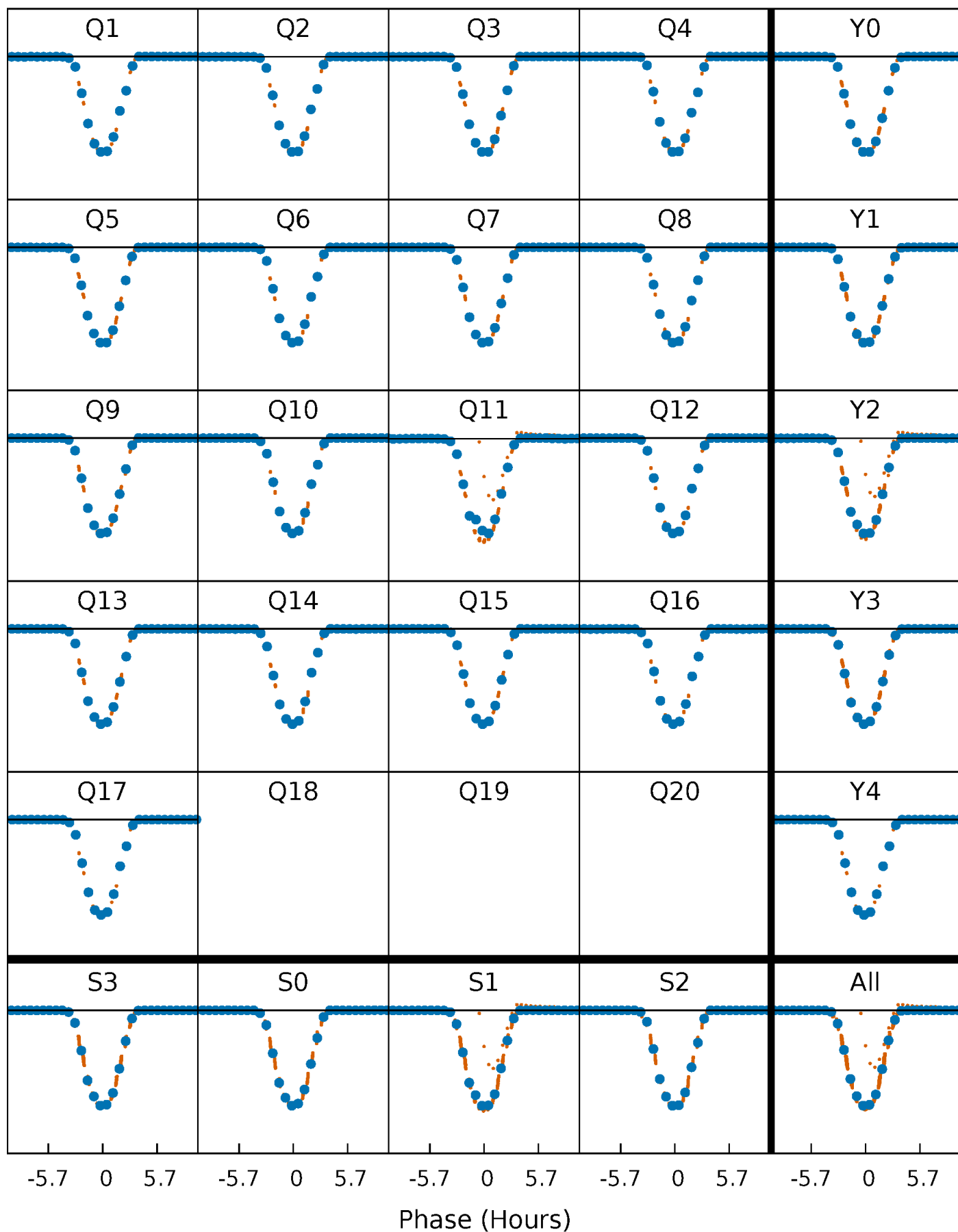
PDC Quarter-Phased Transit Curves

TCE 005473556-02 P= 11.258881 Days $T_0=140.954704$ (BKJD)



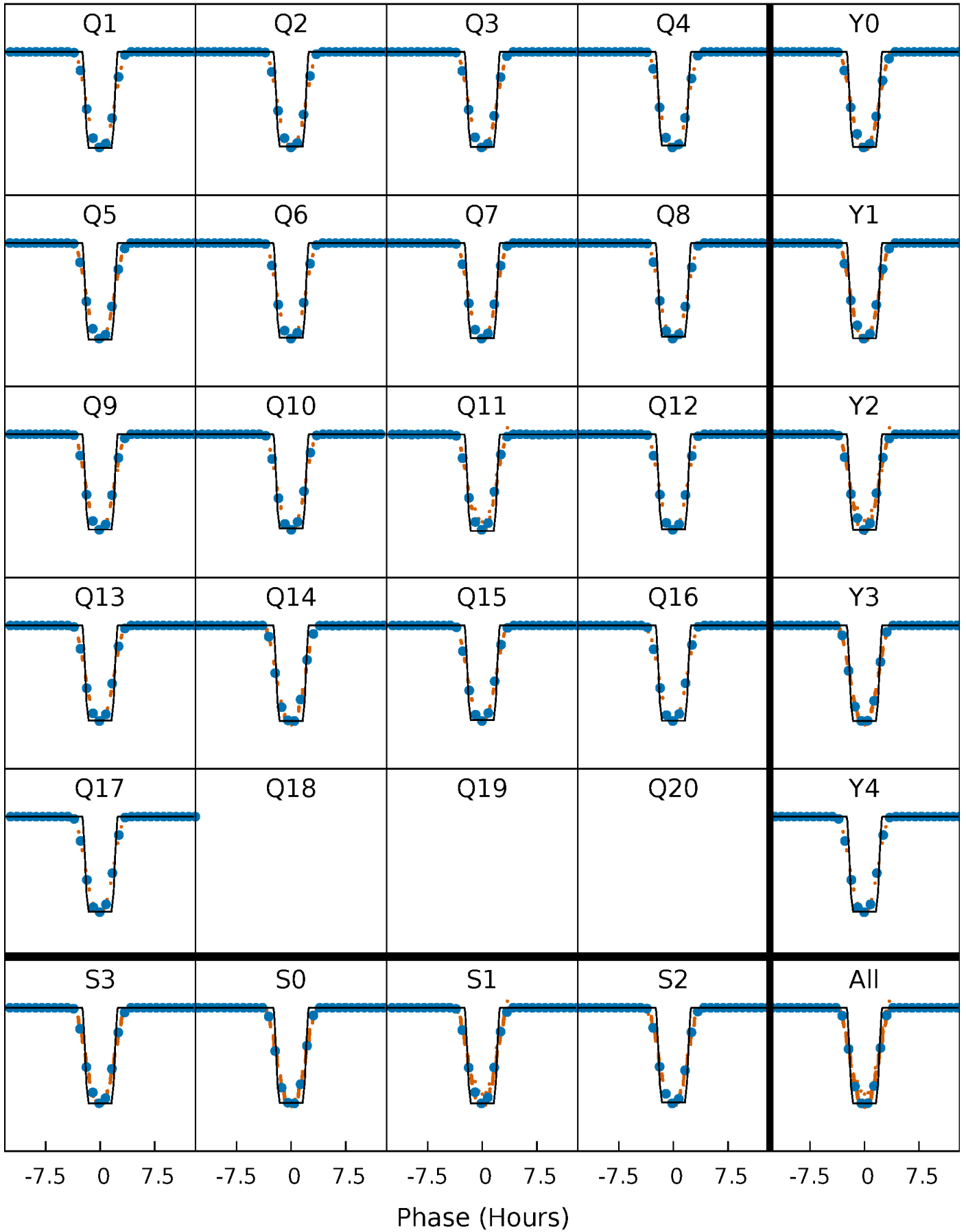
DV Quarter-Phased Transit Curves

TCE 005473556-02 P= 11.258881 Days $T_0=140.954704$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

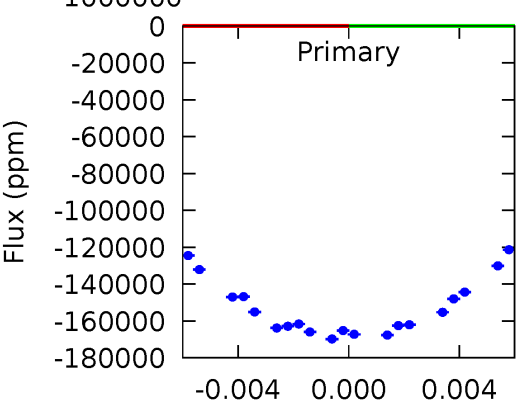
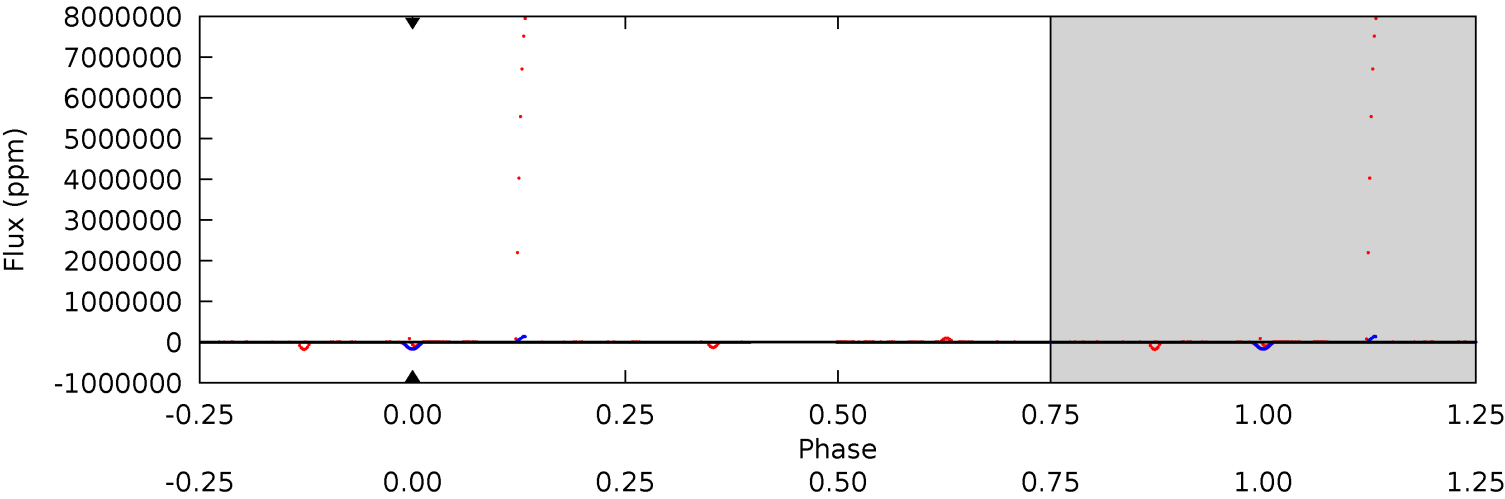
TCE 005473556-02 P= 11.258881 Days $T_0=140.953916$ (BKJD)



DV Model-Shift Uniqueness Test

005473556-02, P = 11.258881 Days, E = 129.695823 Days

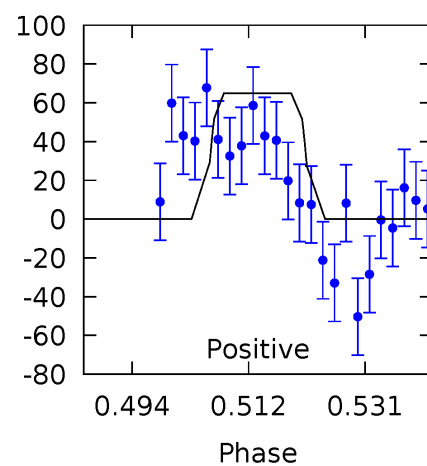
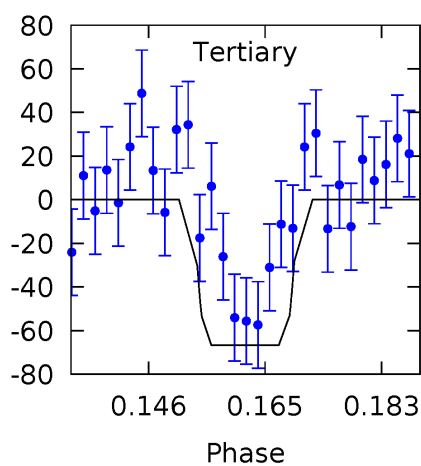
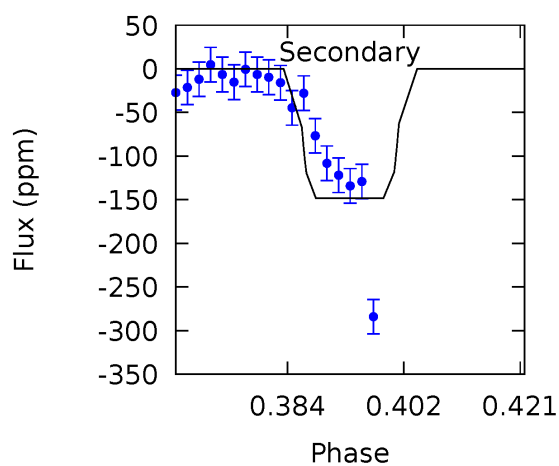
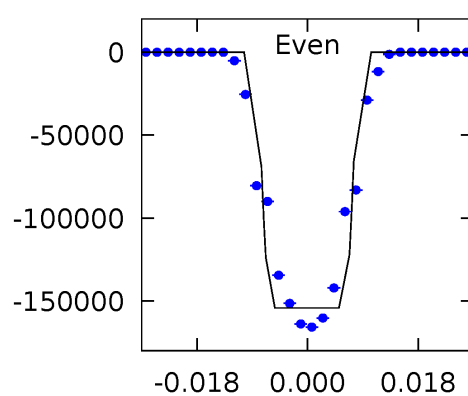
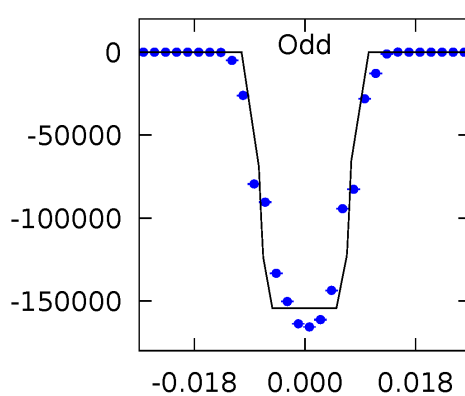
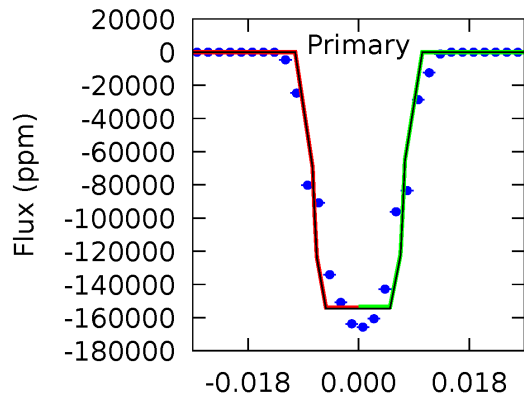
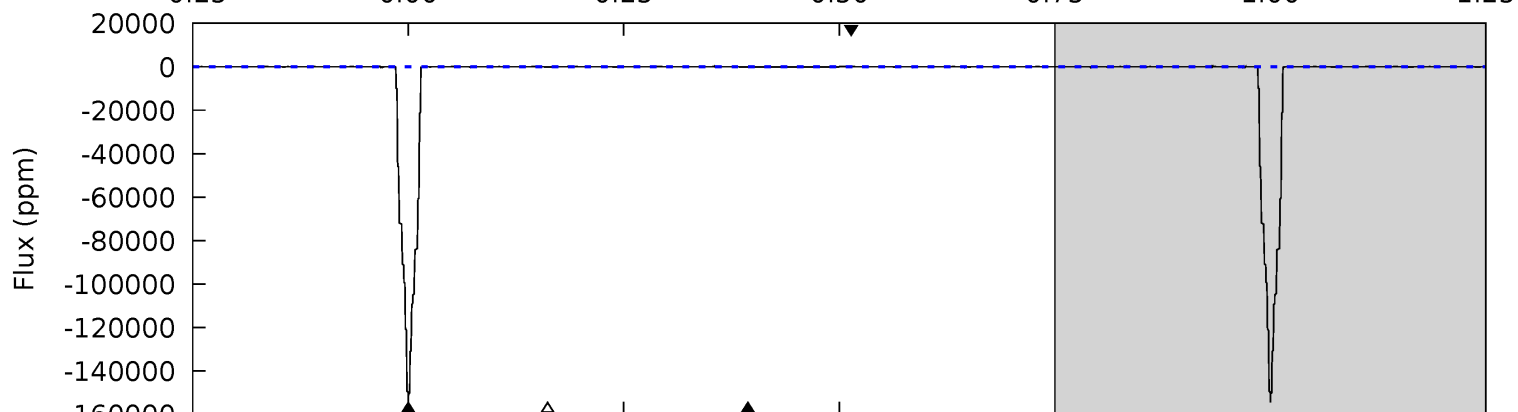
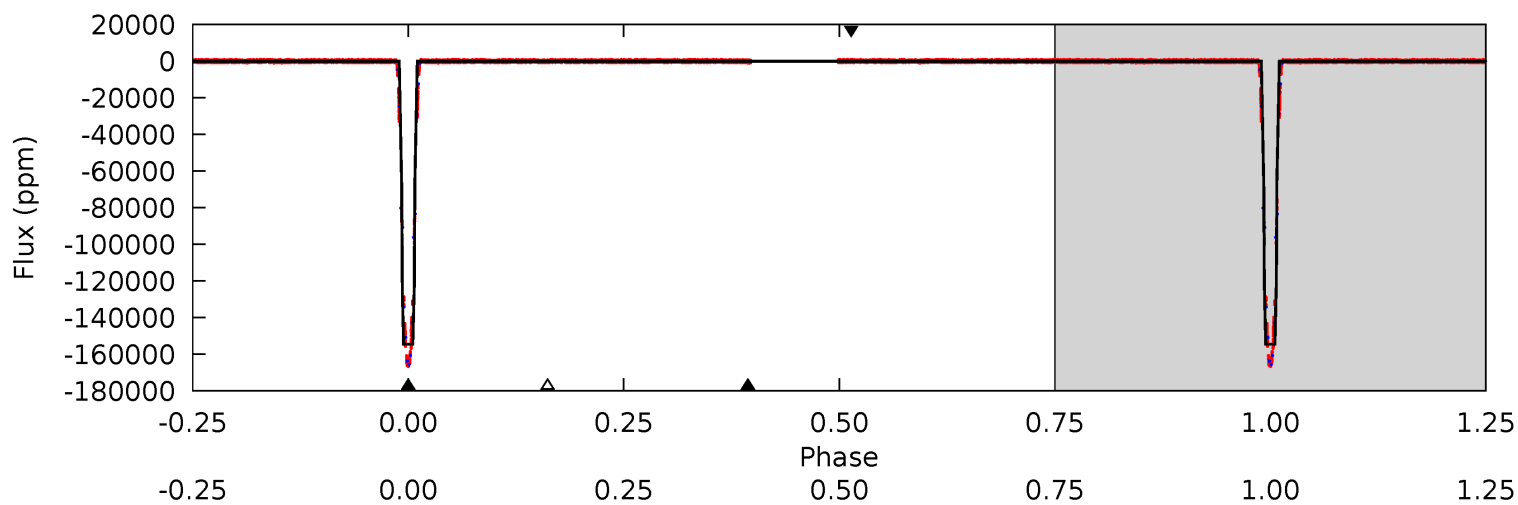
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005473556-02, P = 11.258881 Days, E = 129.695035 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10863	10.4	4.69	4.56	4.91	2.36	1.32	10858	10858	5.74	5.88	2.43	1.00	0.00	0



Stellar Parameters For KIC 005473556

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6217^{+188}_{-188}	$4.052^{+0.413}_{-0.177}$	$-0.780^{+0.300}_{-0.300}$	$1.464^{+0.390}_{-0.584}$	$0.882^{+0.102}_{-0.092}$	$0.396^{+1.353}_{-0.192}$
	+3%/-3%	+10%/-4%	+38%/-38%	+27%/-40%	+12%/-10%	+342%/-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 005473556-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	0 ± 1000000	$48.21^{+17.84}_{-17.42}$	1493^{+120}_{-169}	2519^{+4199}_{-8678}	$2.441^{+279.822}_{-227.648}$
Alt.	-148 ± 14	$62.20^{+20.18}_{-19.77}$	1496^{+122}_{-177}	-1941^{+3830}_{-181}	$0.193^{+0.210}_{-0.084}$

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 $A_{obs} \gg 1.0$

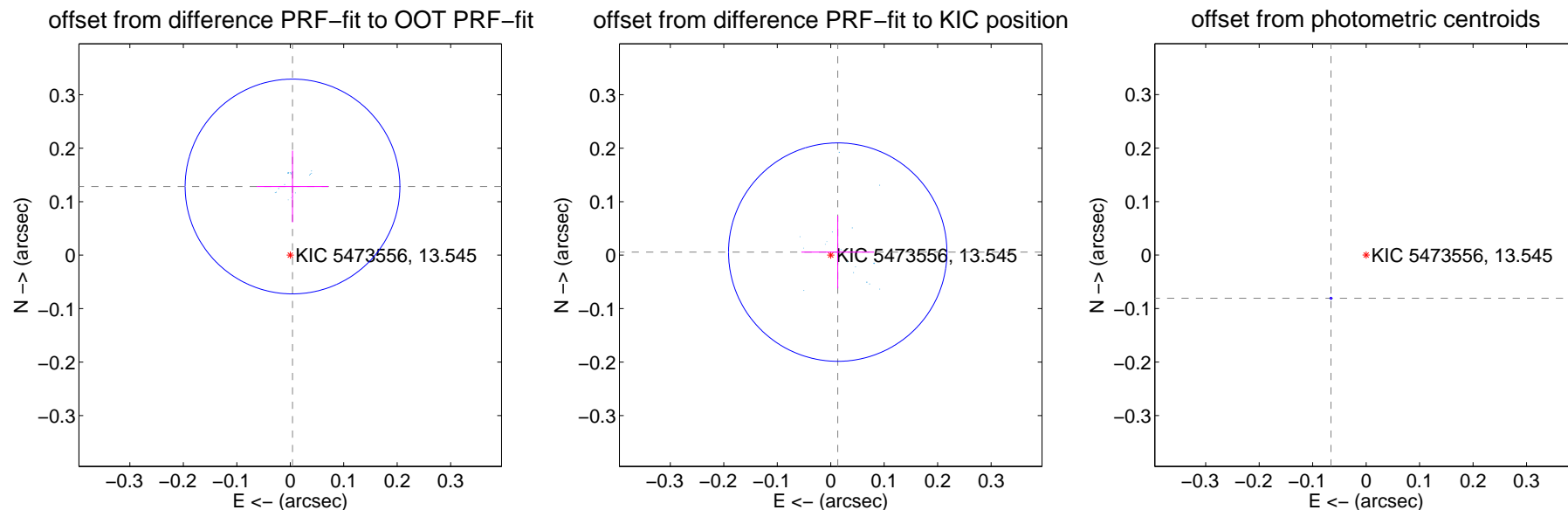
DV Centroid Data

Supplemental centroid analysis for 005473556-02. Kepler magnitude: 13.54. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

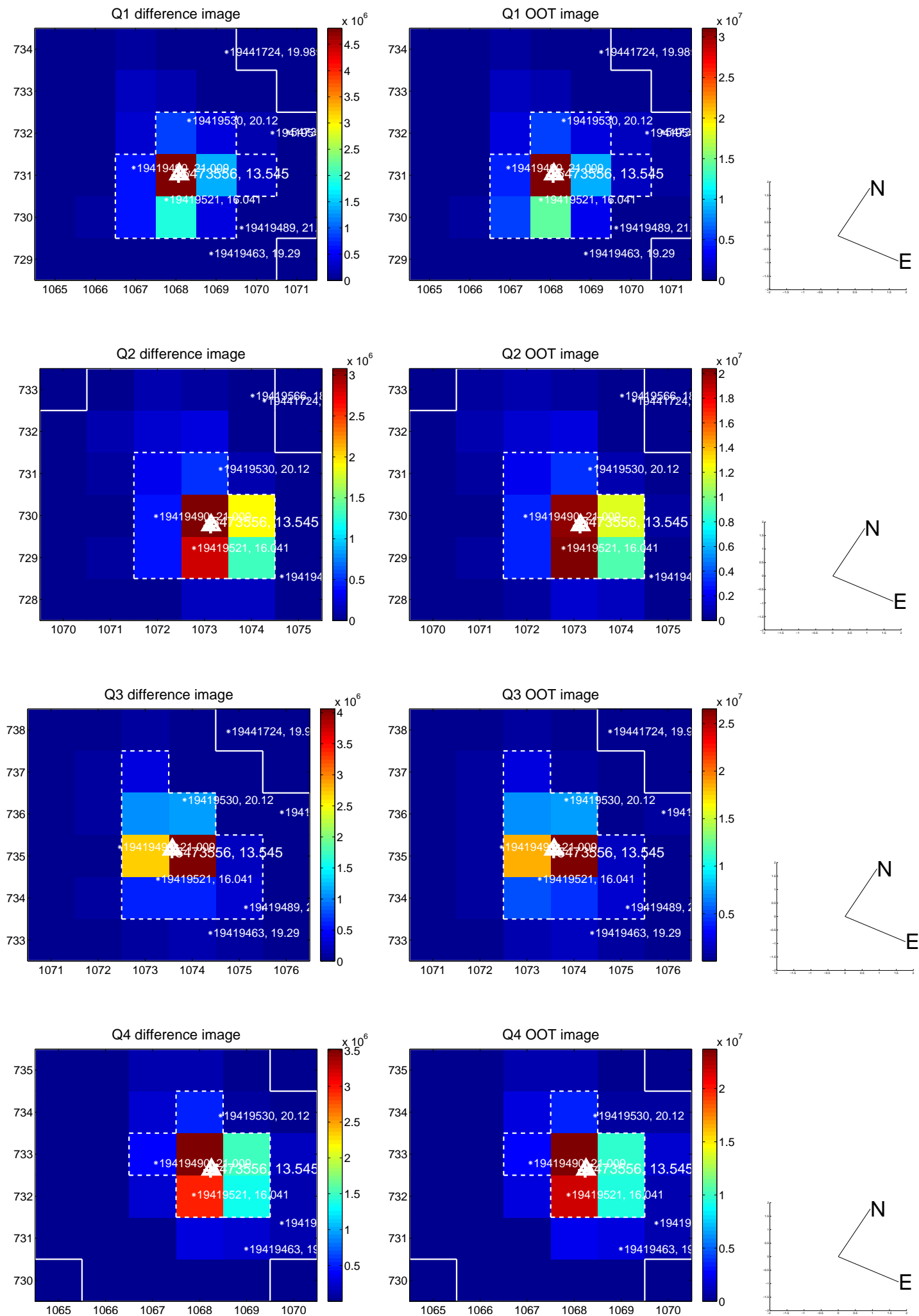
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.128 ± 0.067	1.92	-0.004 ± 0.067	0.128 ± 0.067
PRF-fit source offset from KIC position	0.014 ± 0.068	0.21	-0.013 ± 0.068	0.006 ± 0.068
photometric centroid source offset	0.10 ± 0.00	167.33	0.07 ± 0.00	-0.08 ± 0.00

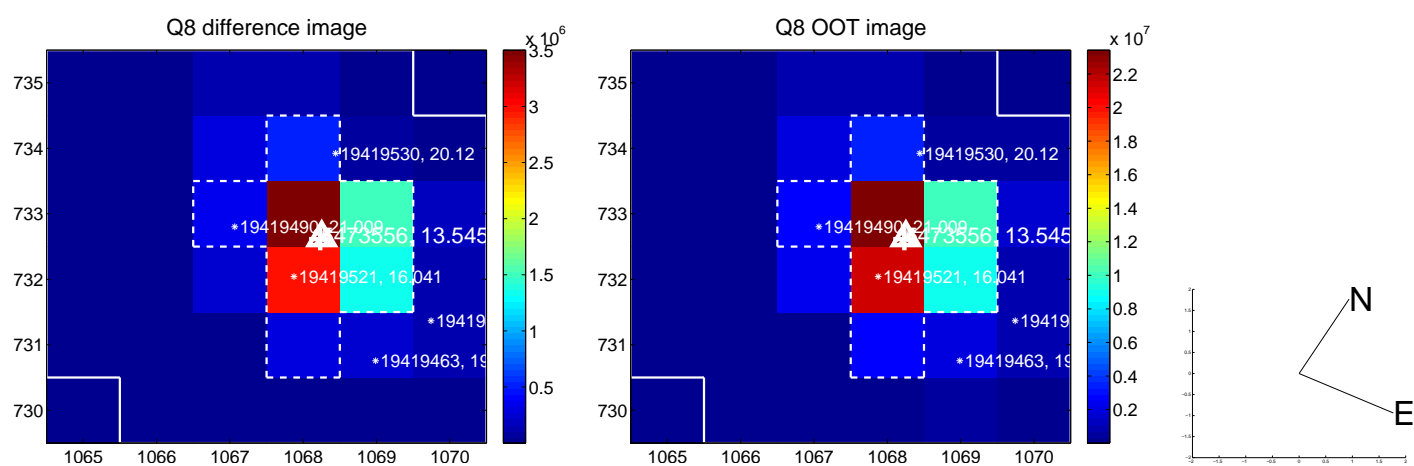
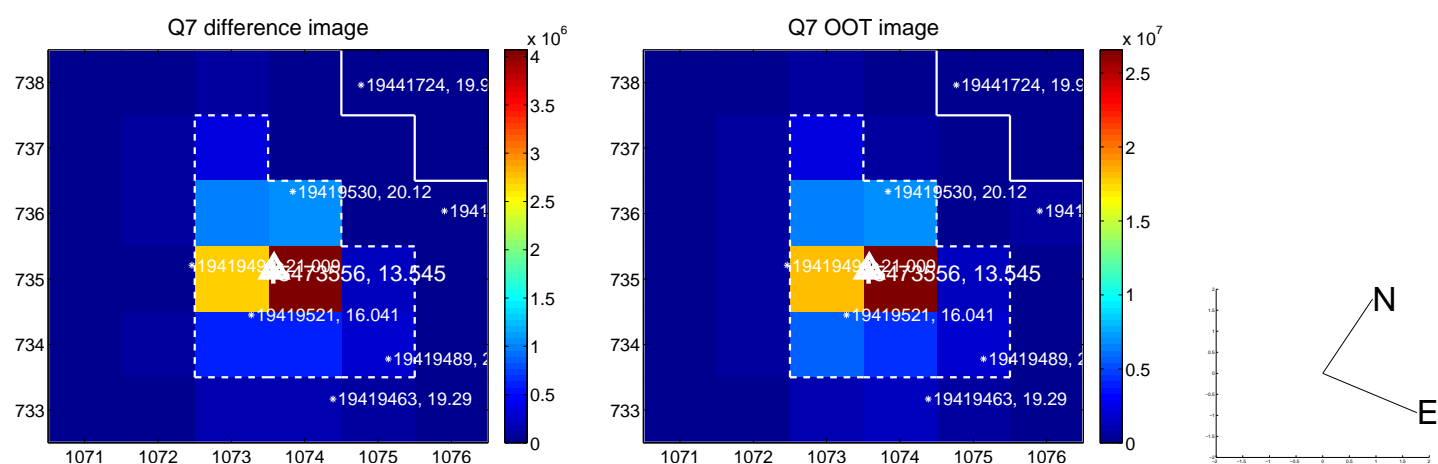
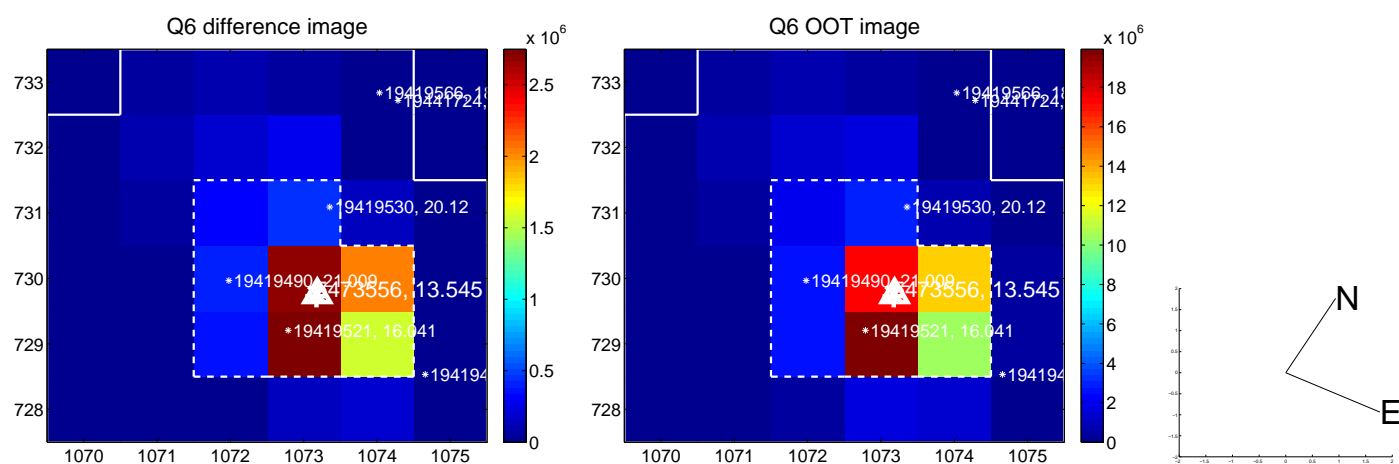
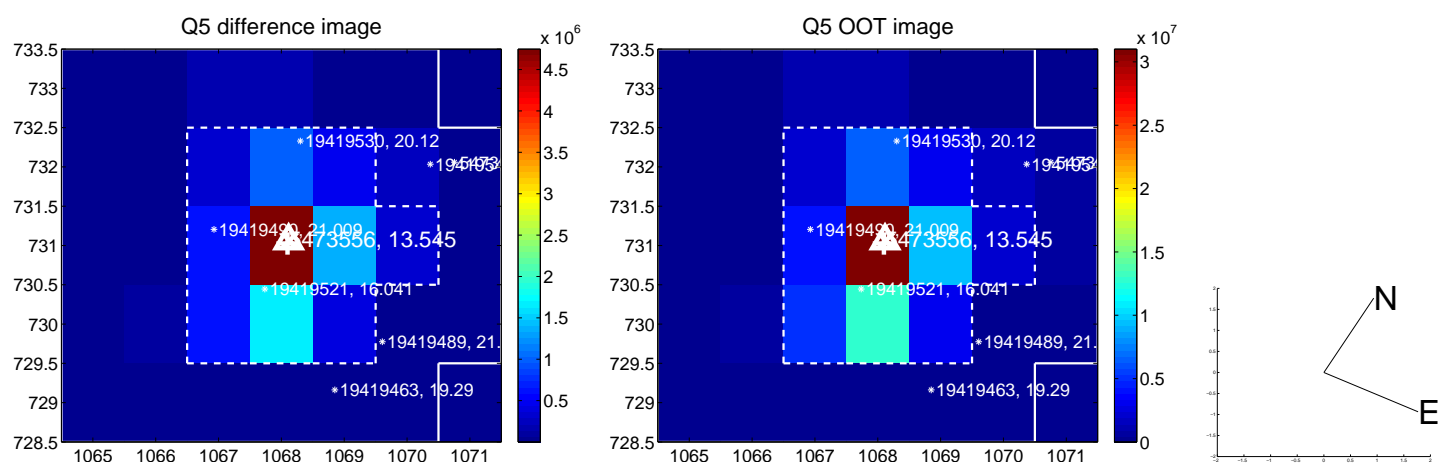


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

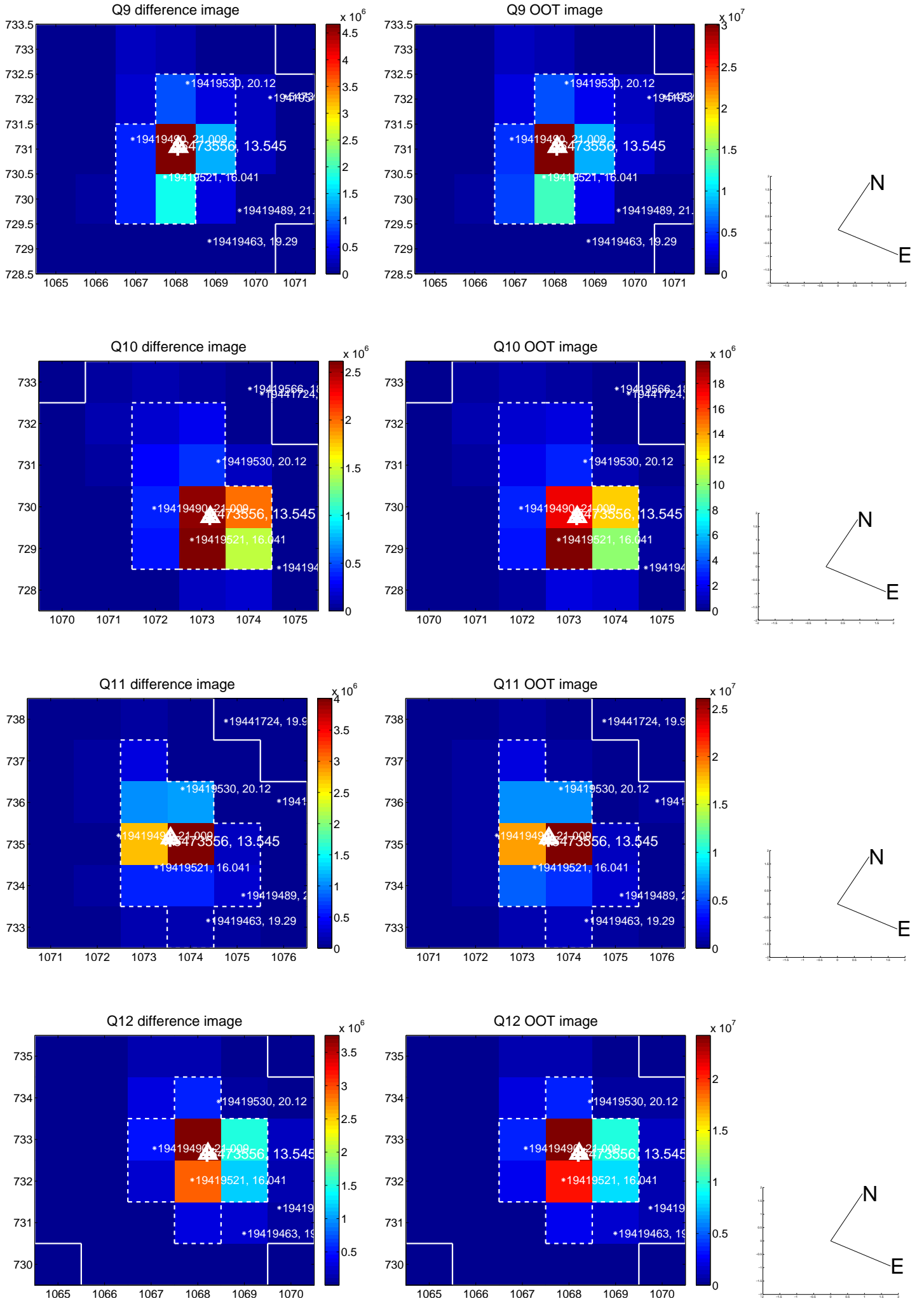
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



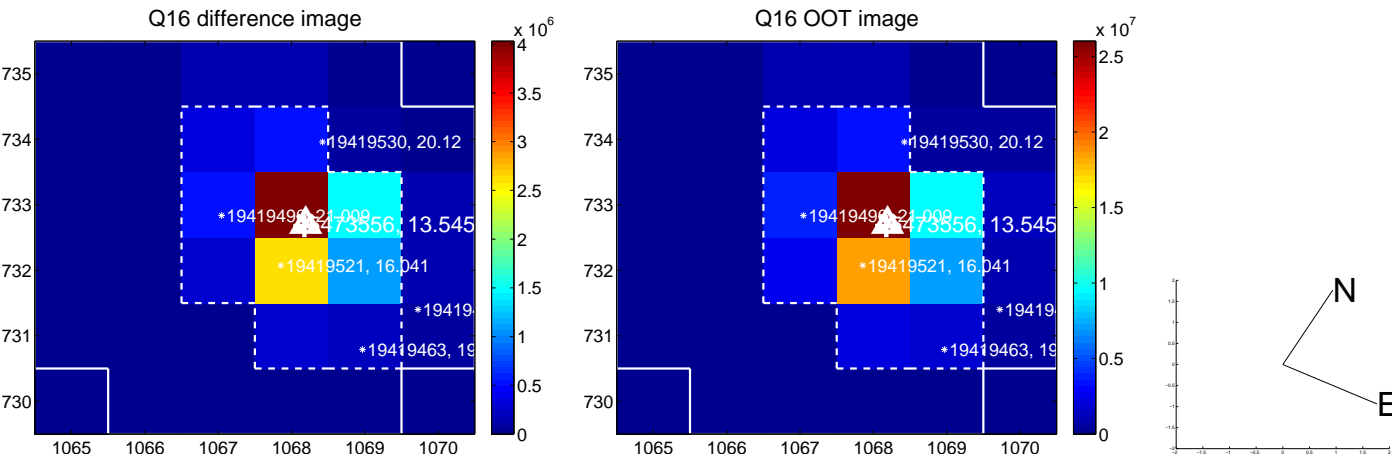
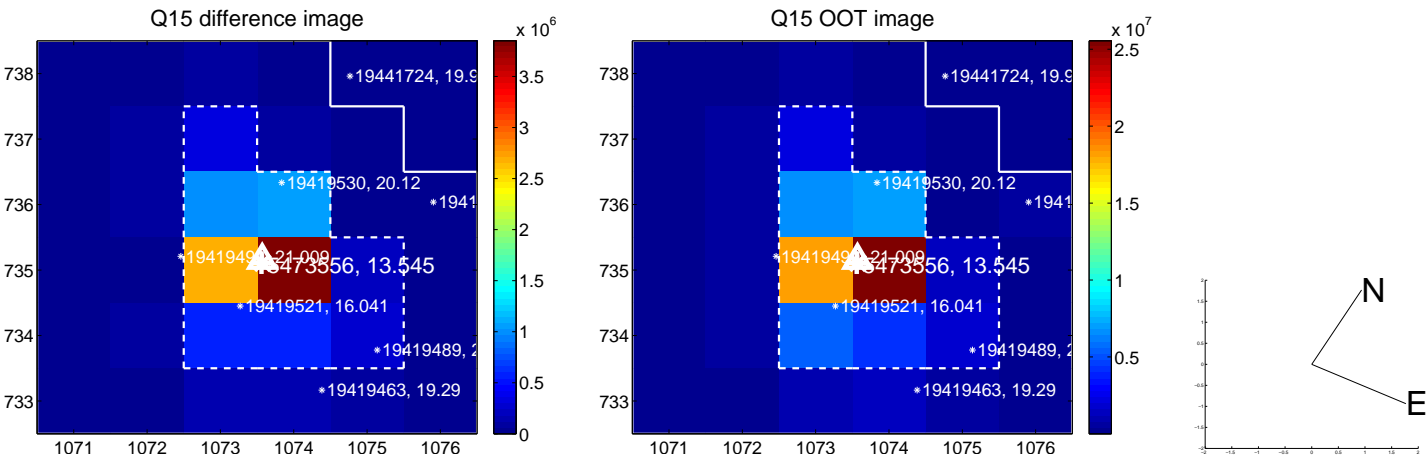
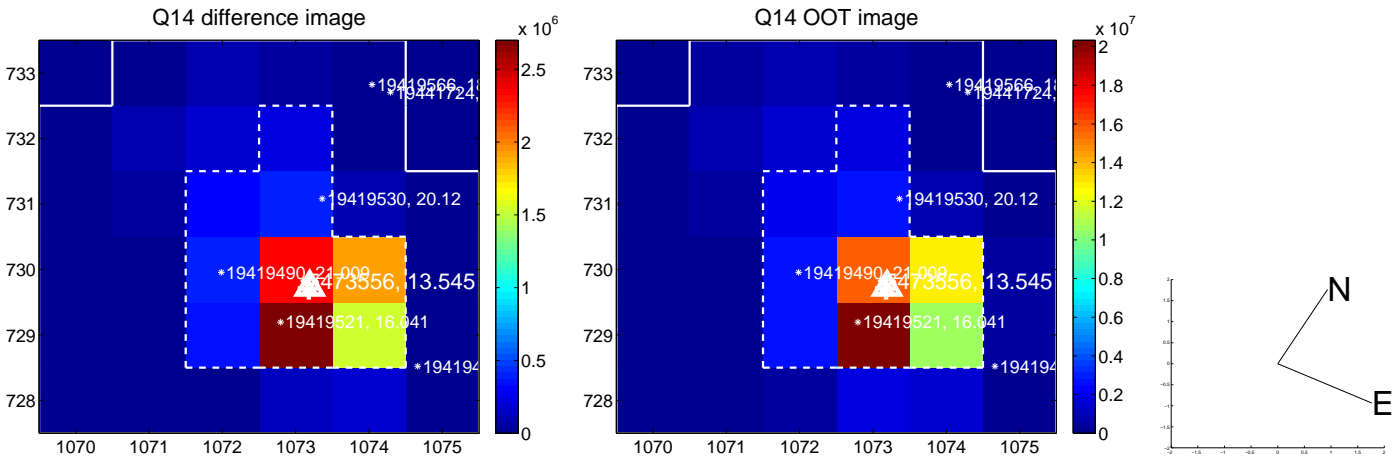
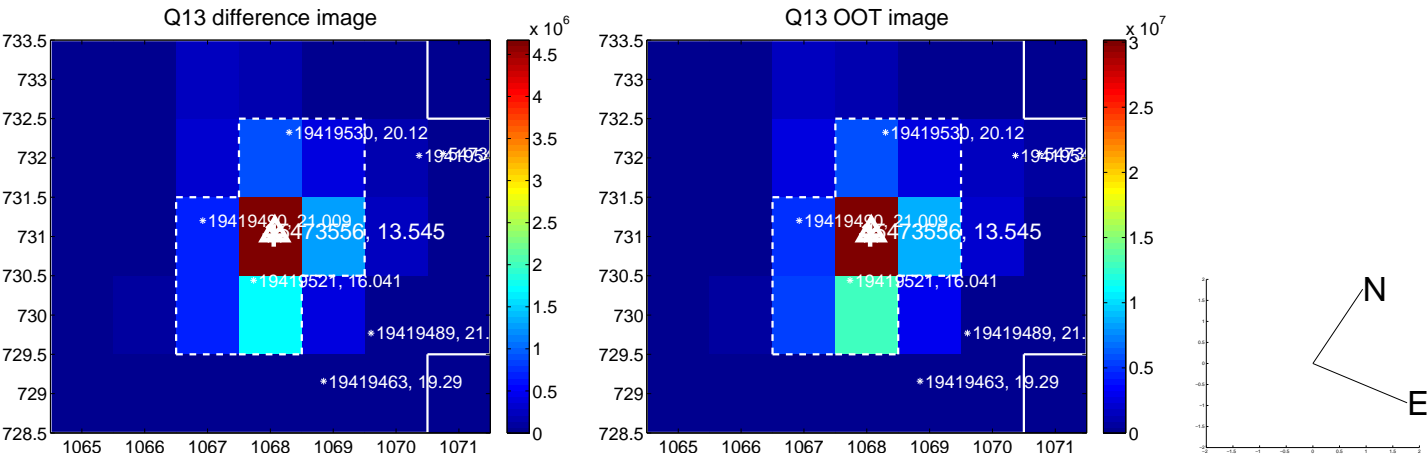
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



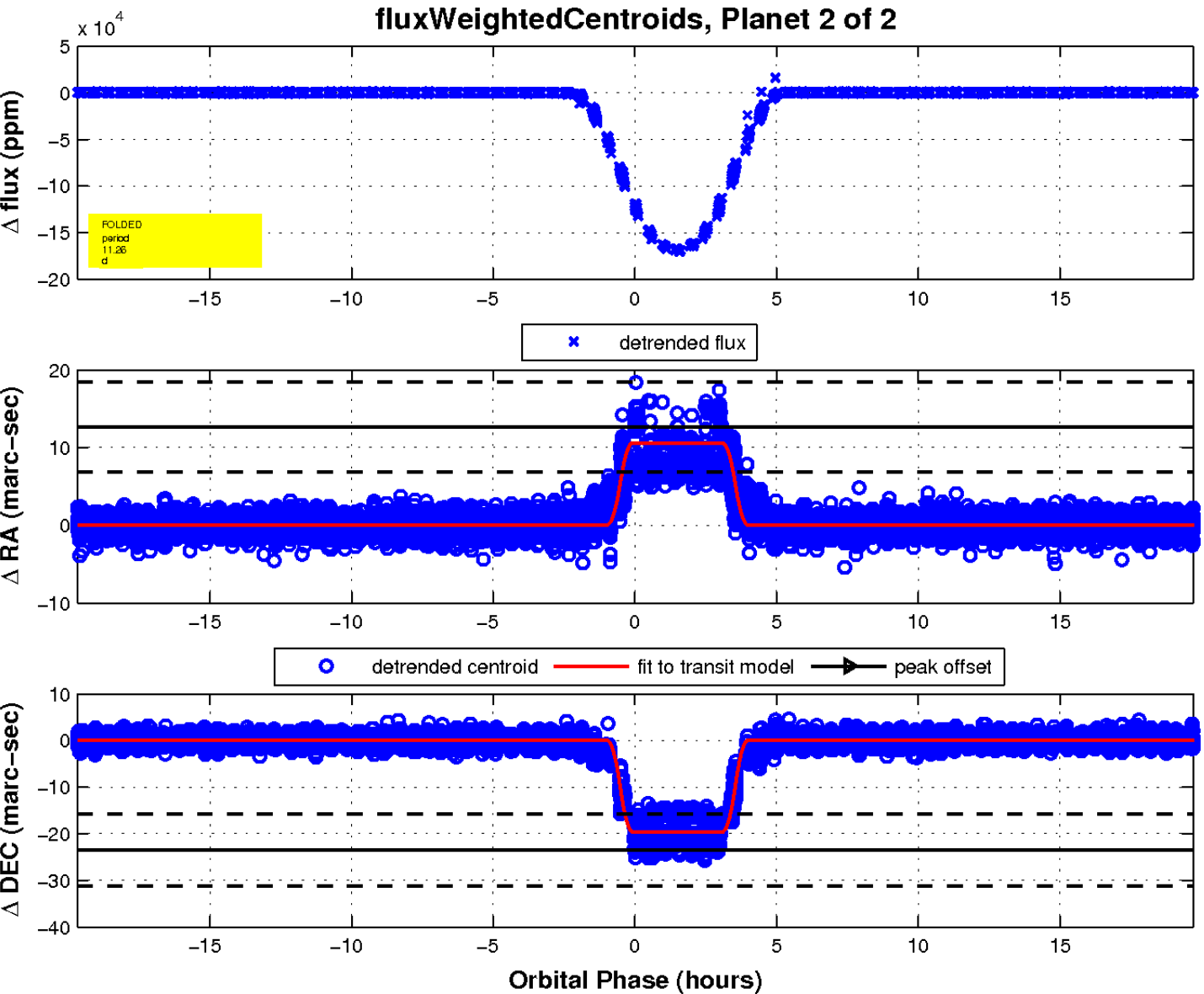
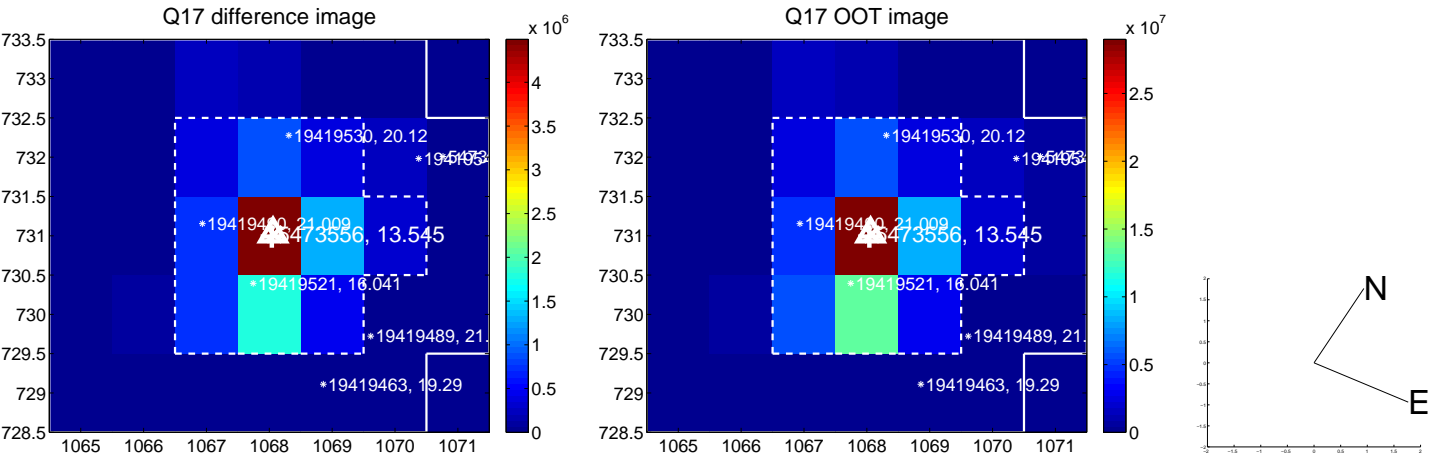
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

