

KIC 012557713

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})
012557713-01	OBS	7541.01	7.214721	132.498624	46598.2	2.385	1693.6	1375.5	0.55	4705	16.99	37.22
012557713-02	OBS	No	7.214721	136.031061	10523.9	2.395	377.2	365.9	0.55	4705	9.32	37.22

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012557713-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—DEEP_V_SHAPED—HAS_SEC_TCE
012557713-02	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.

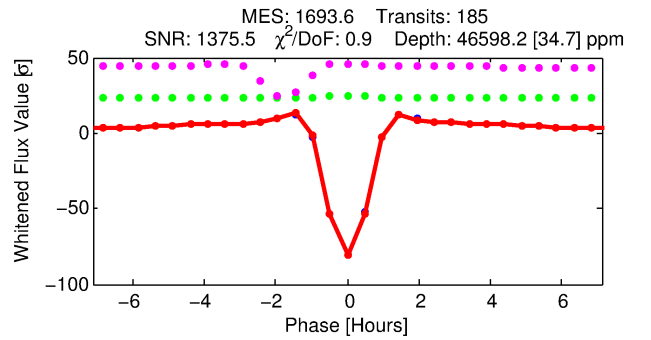
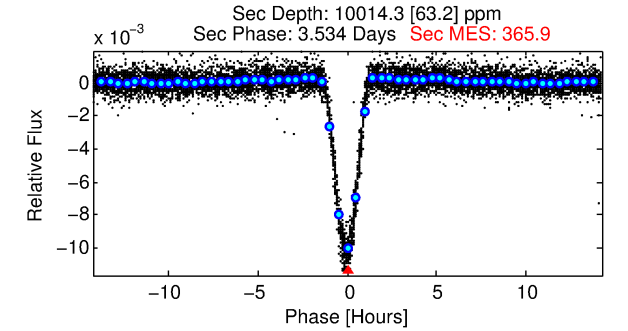
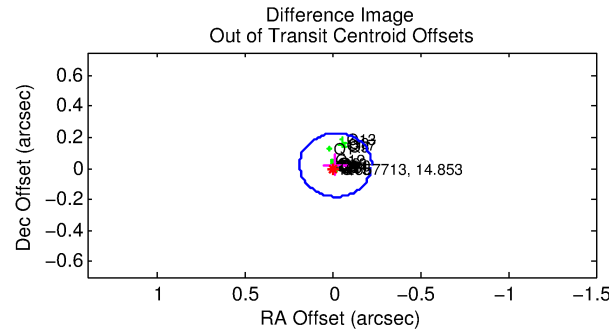
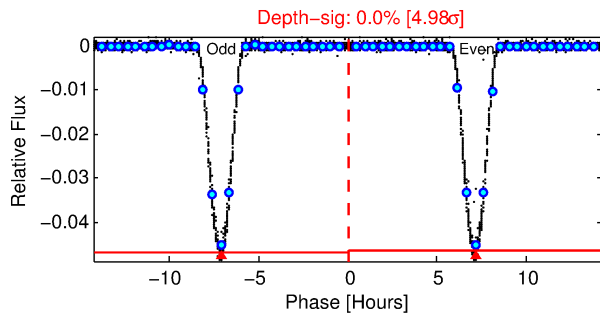
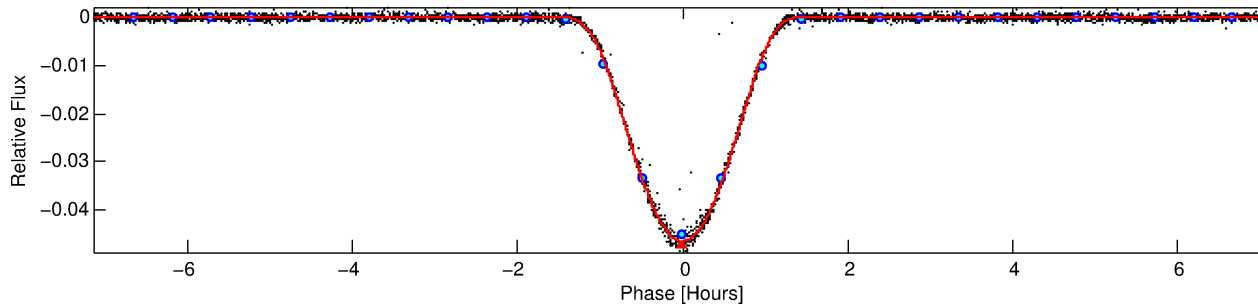
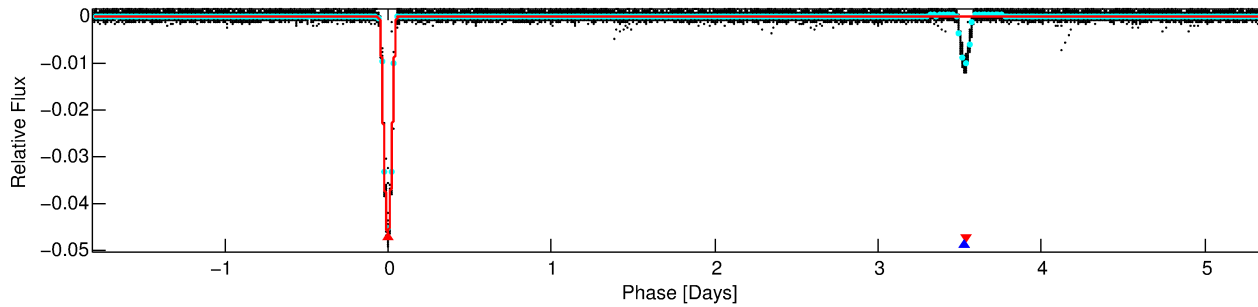
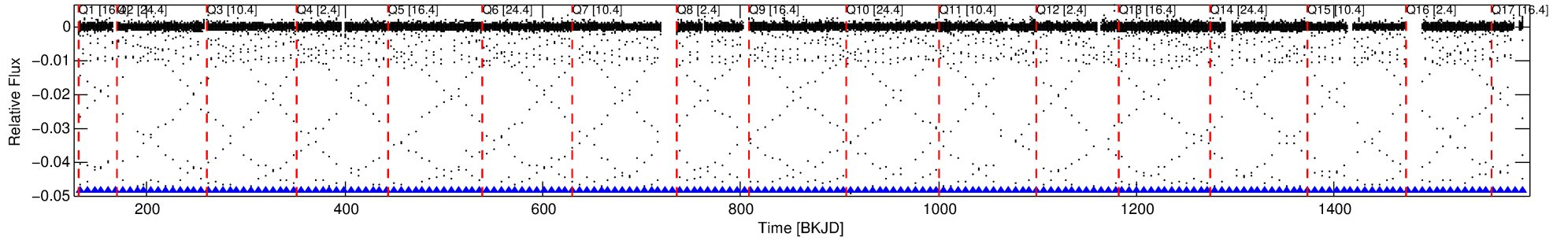
Ephemeris Match Information For 012557713-01

No Significant Match Found

DV One-Page Summary

KIC: 12557713 Candidate: 1 of 2 Period: 7.215 d
KOI: K07541.01 Corr: 0.998

Kp: 14.85 R*: 0.55 Rs Teff: 4705.0 K Logg: 4.70 Fe/H: -1.080



DV Fit Results:

Period = 7.21472 [0.00000] d
Epoch = 132.4986 [0.0000] BKJD
Rp/R* = 0.2820 [0.0073]
a/R* = 21.08 [0.06]
b = 0.90 [0.01]
Seff = 37.22 [5.92]
Teq = 630 [25] K
Rp = 16.99 [1.22] Re
a = 0.0600 [0.0036] AU
Ag = 68.61 [7.23] [9.35σ]
Teffp = 2803 [98] K [21.44σ]

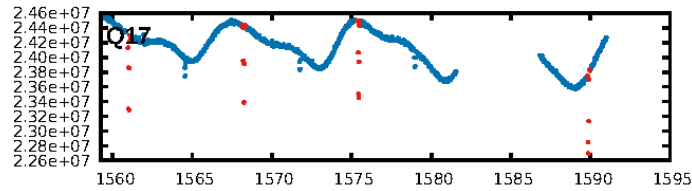
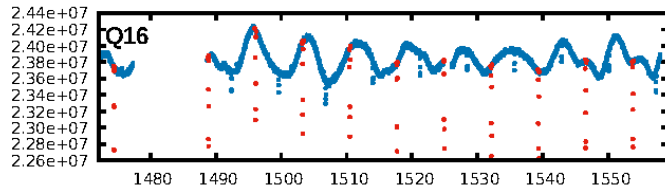
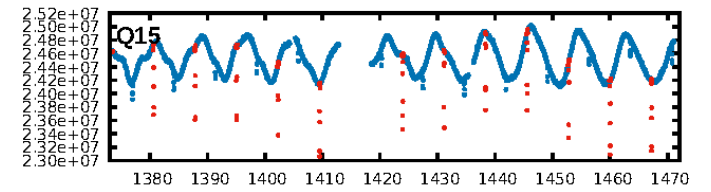
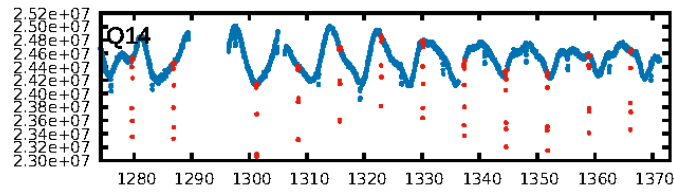
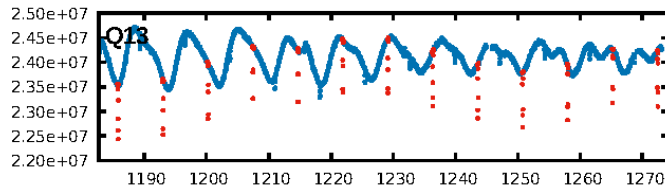
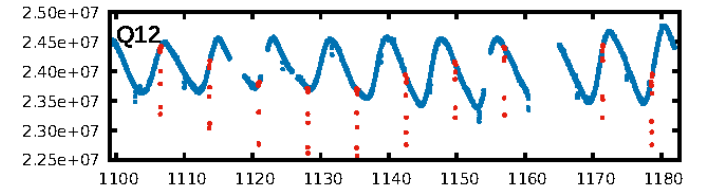
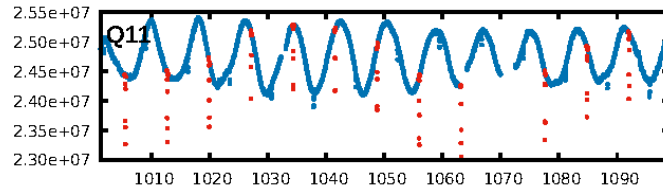
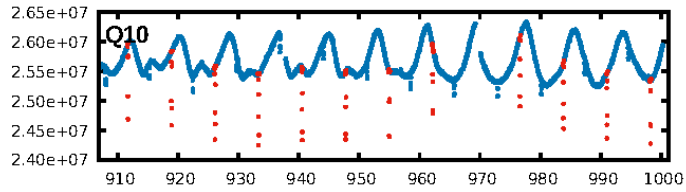
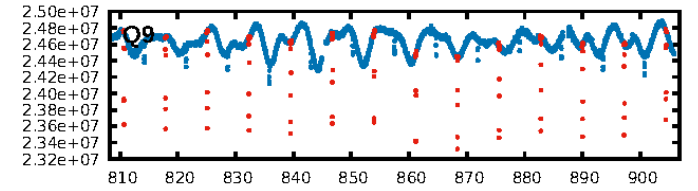
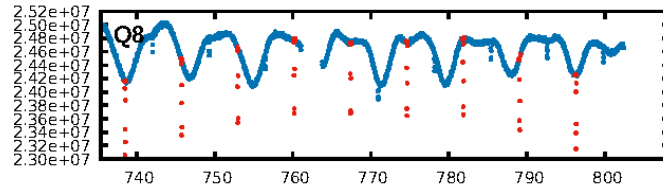
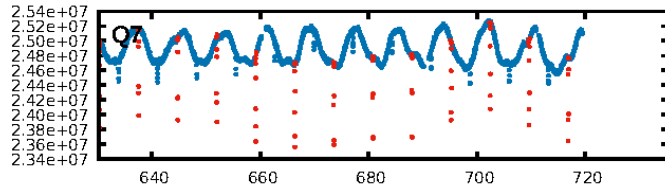
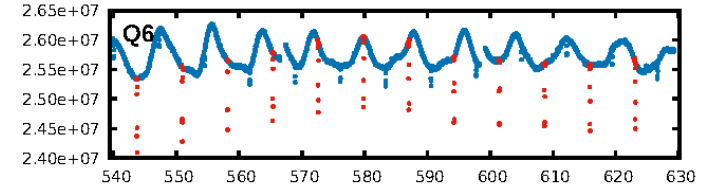
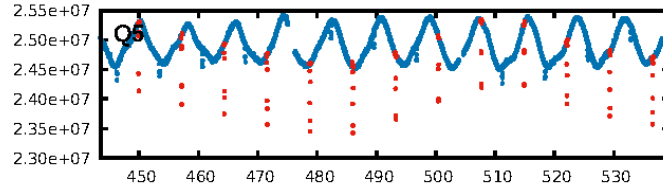
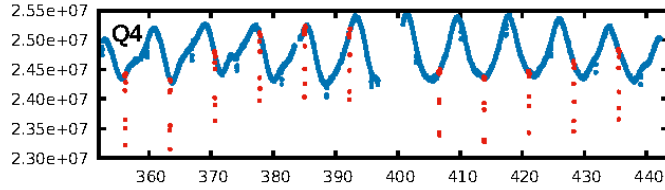
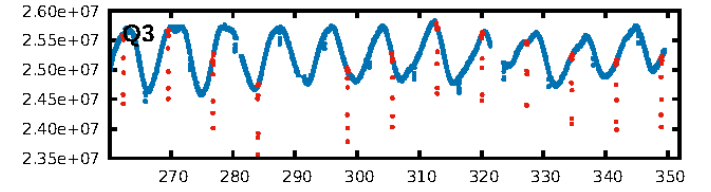
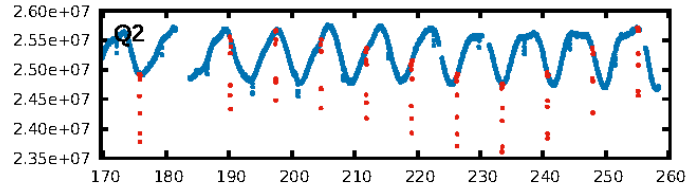
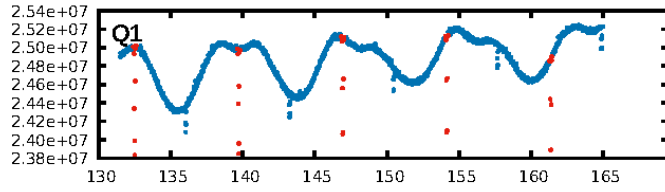
DV Diagnostic Results:

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 [176/176]
GhostDiagnostic-chr: 3.491
Centroid-sig: 0.0%
Centroid-so: 0.144 arcsec [21.02σ]
OotOffset-rm: 0.028 arcsec [0.41σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-rm: 0.245 arcsec [3.22σ]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

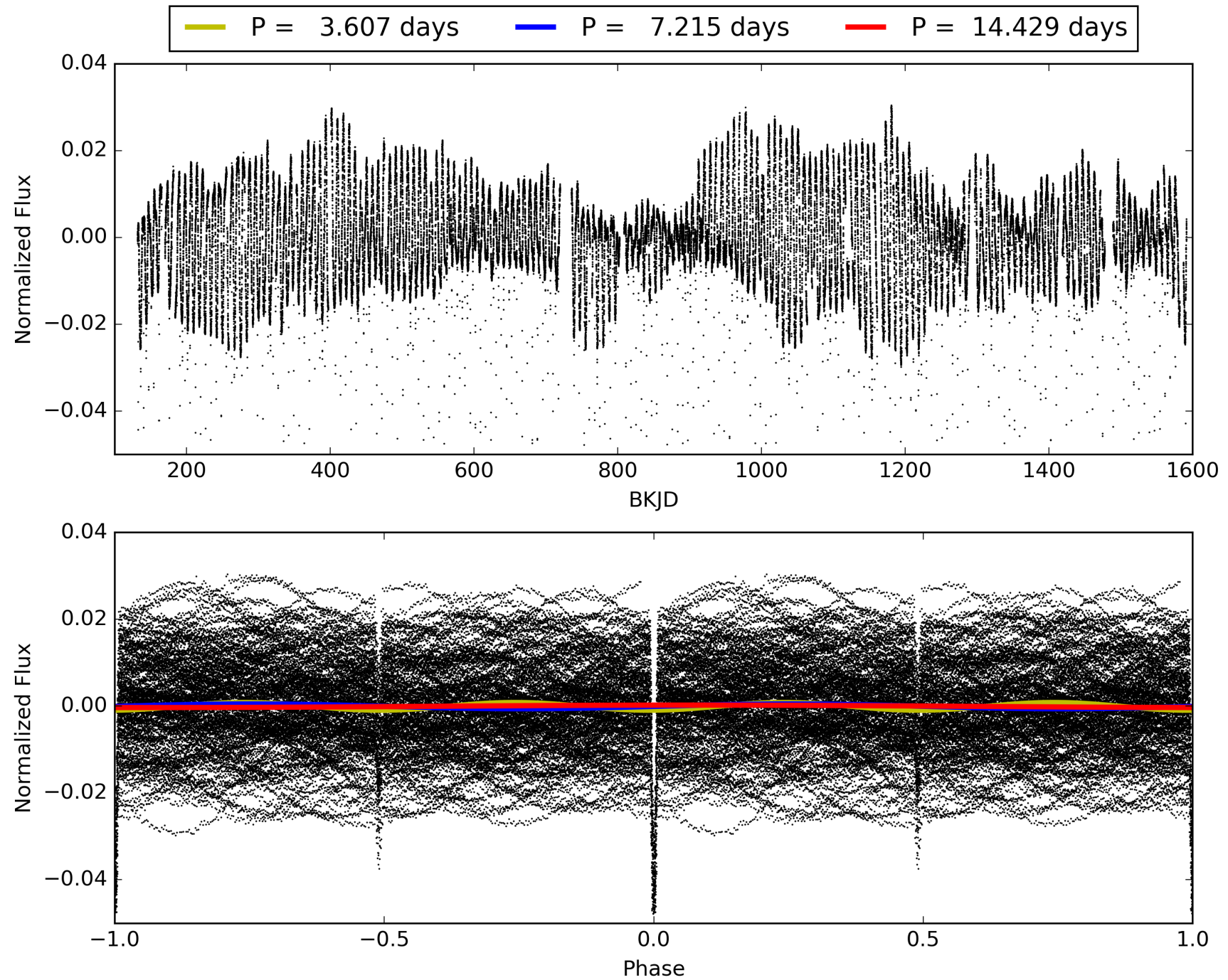
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:45:55 Z

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

TCE 012557713-01, PDC Light Curves

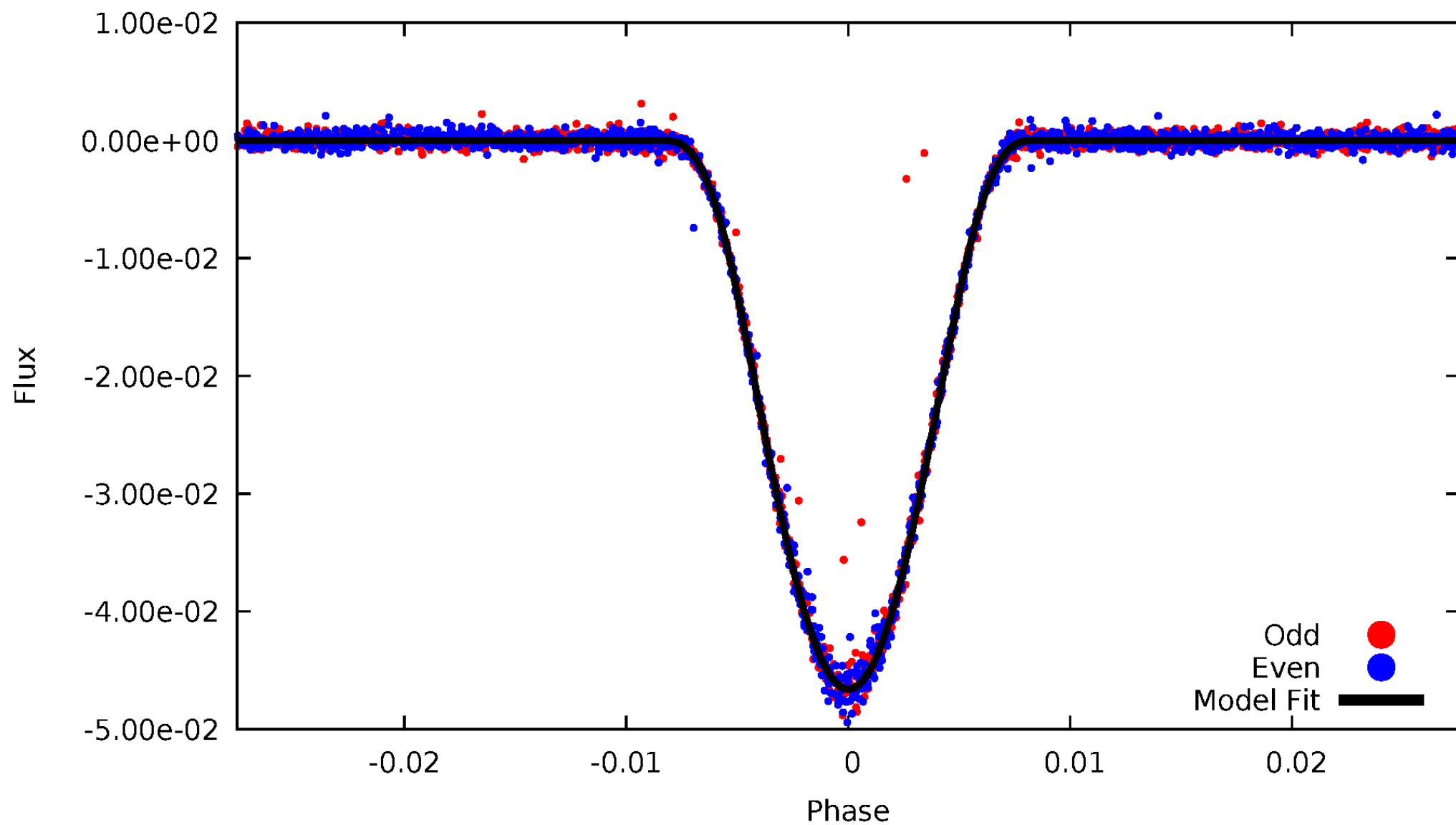


TCE 012557713-01



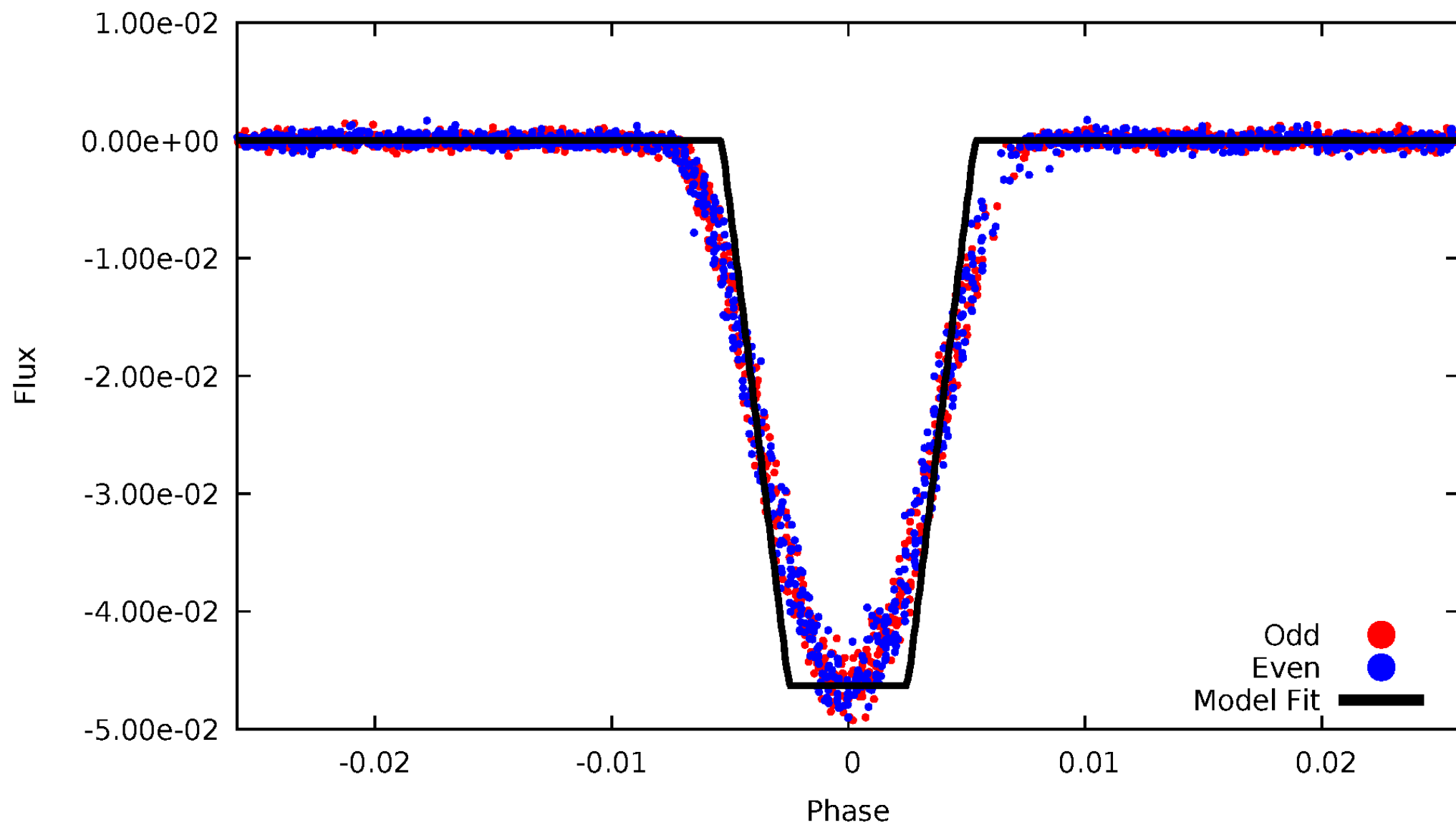
DV Odd/Even

TCE 012557713-01



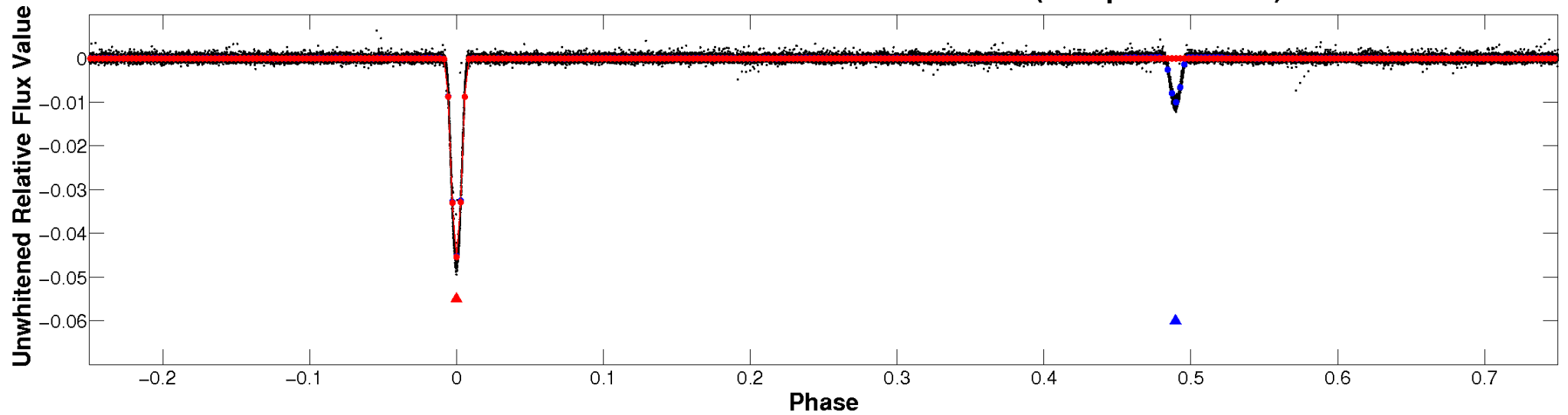
ALT Odd/Even

TCE 012557713-01

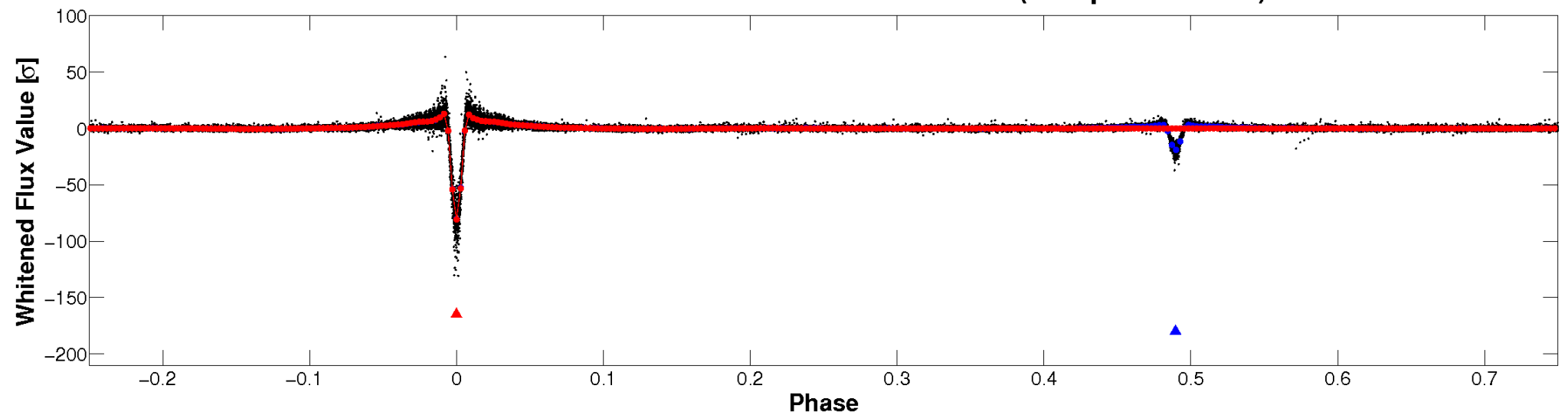


Non-Whitened Vs. Whitened Light Curve

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

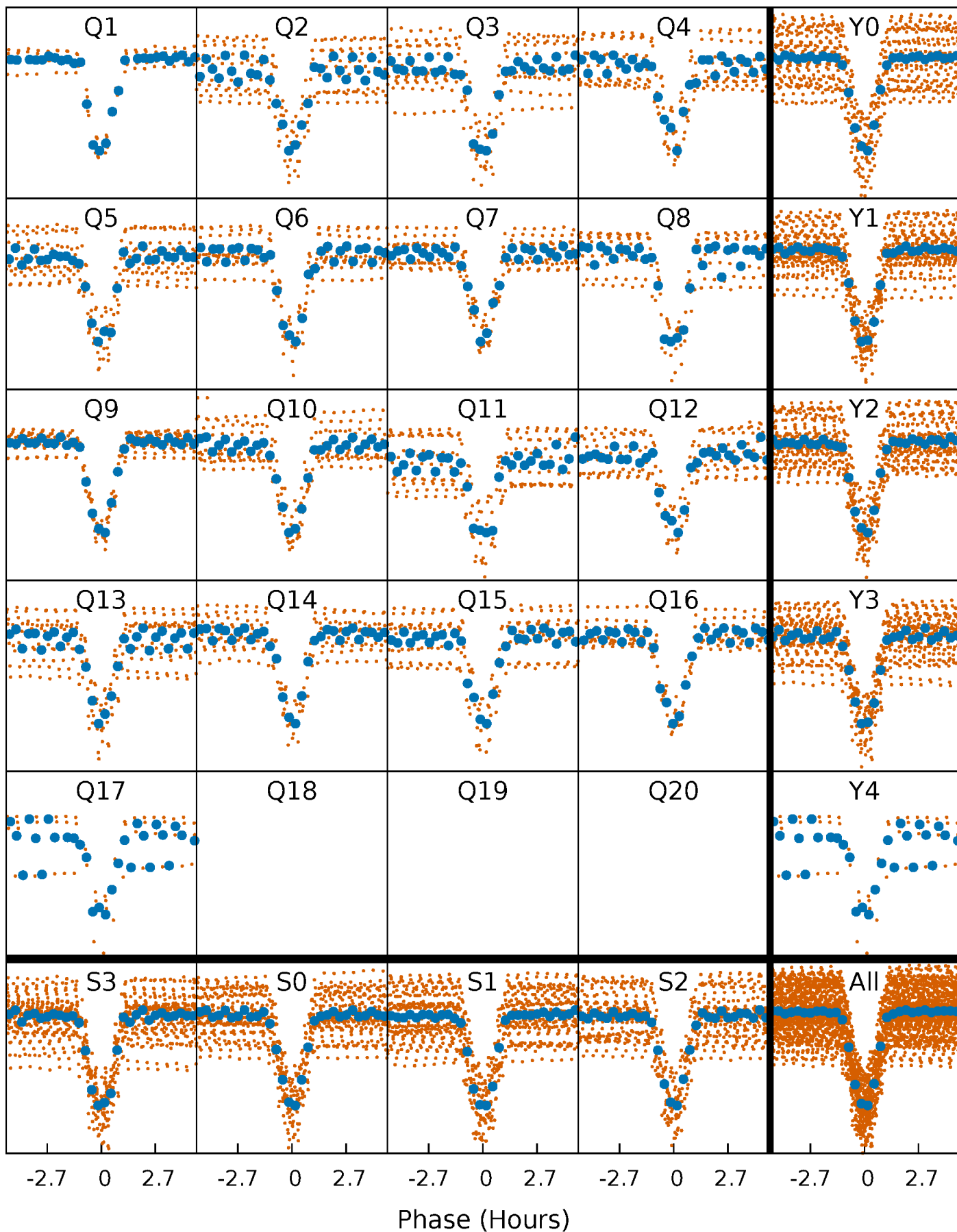


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



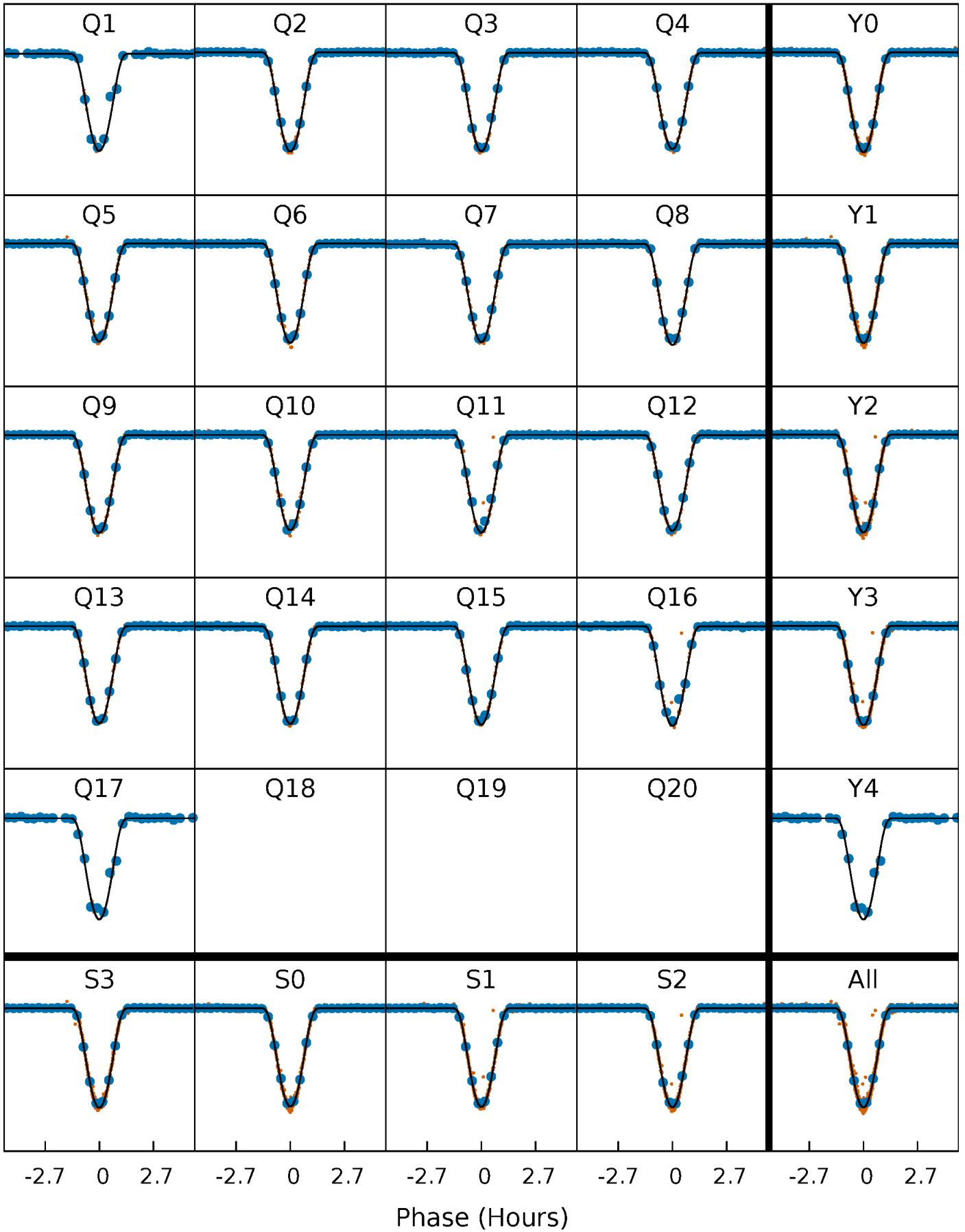
PDC Quarter-Phased Transit Curves

TCE 012557713-01 P= 7.214721 Days $T_0=132.498624$ (BKJD)



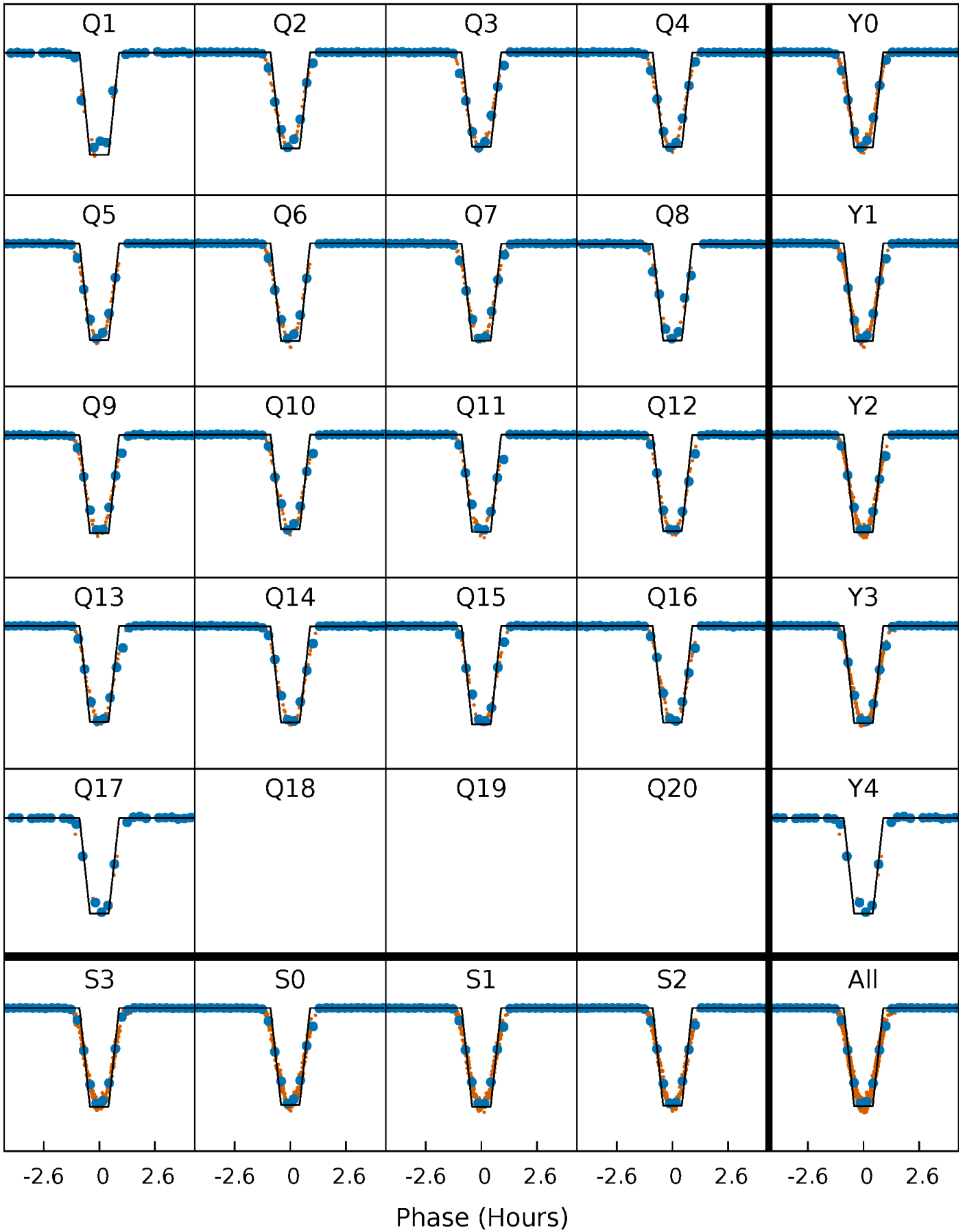
DV Quarter-Phased Transit Curves

TCE 012557713-01 P= 7.214721 Days $T_0=132.498624$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

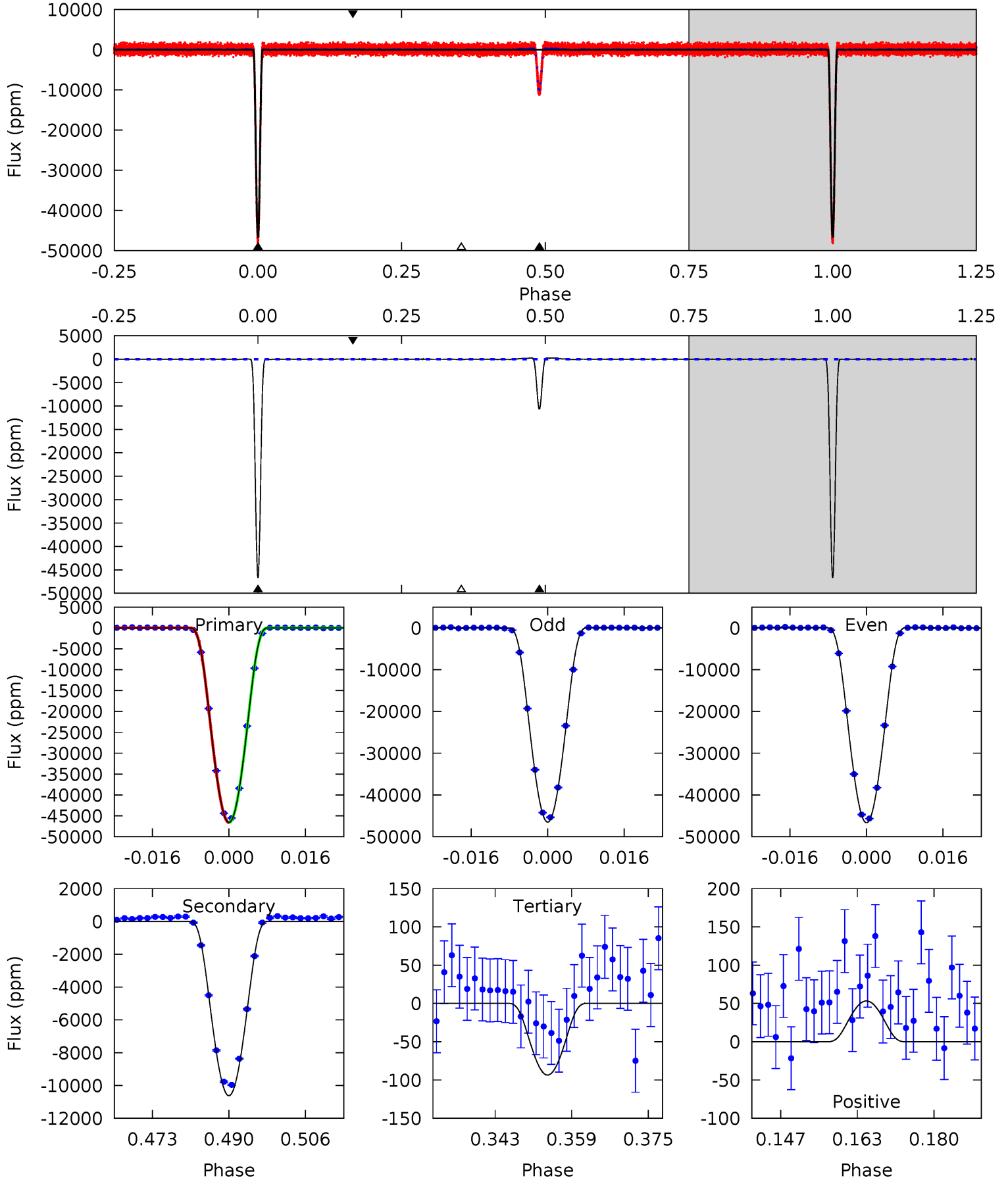
TCE 012557713-01 P= 7.214689 Days $T_0=132.501770$ (BKJD)



DV Model-Shift Uniqueness Test

012557713-01, P = 7.214721 Days, E = 125.283903 Days

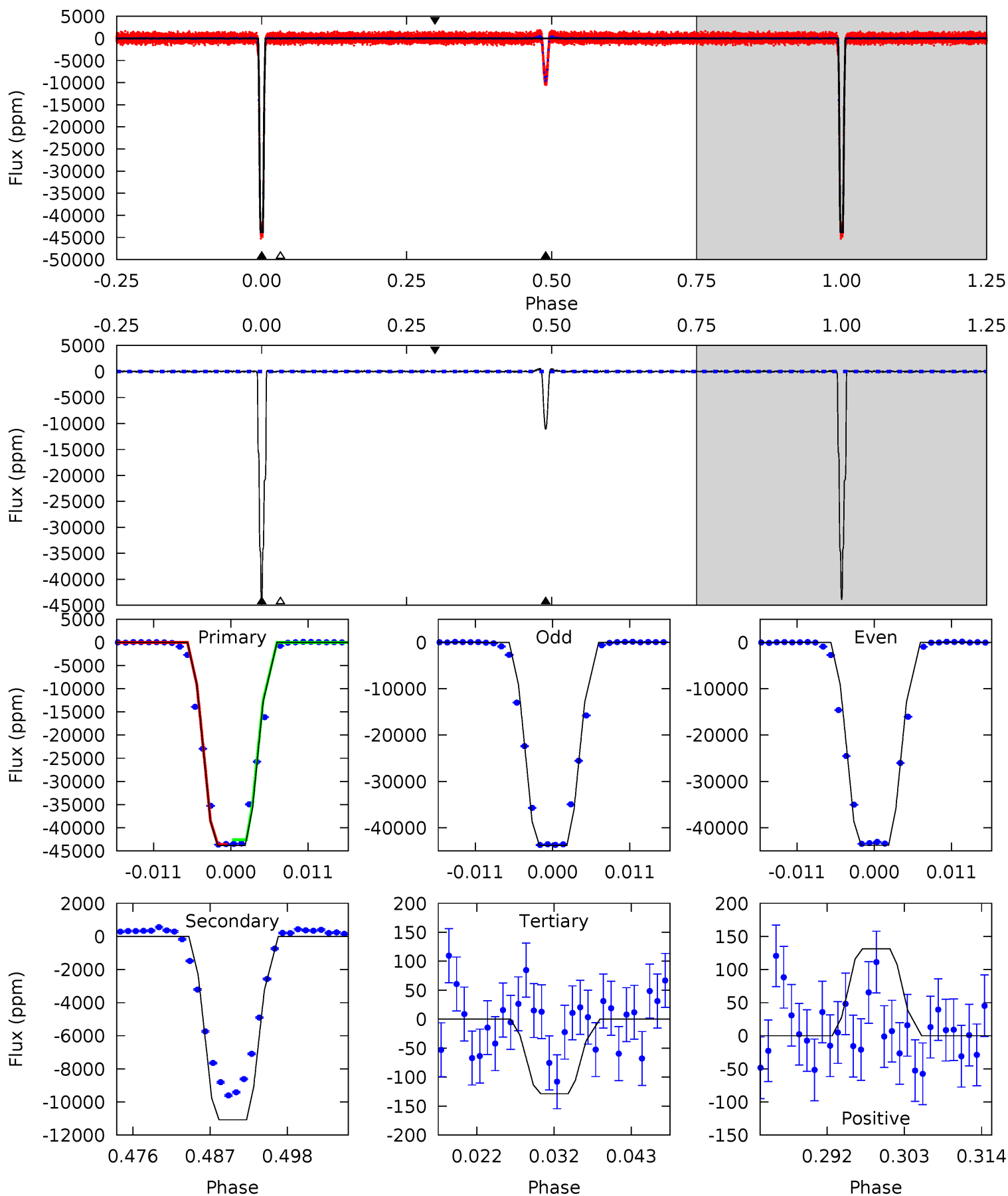
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3189	727.1	6.40	3.65	4.93	2.40	3.48	3182	3185	720.7	723.5	6.09	0.99	0.01	1.04



Alt Model-Shift Uniqueness Test

012557713-01, P = 7.214689 Days, E = 125.287081 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1332	336.9	3.91	3.99	5.01	2.55	1.73	1328	1328	333.0	332.9	0.51	1.00	0.01	0



Stellar Parameters For KIC 012557713

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4705^{+153}_{-139}	$4.696^{+0.052}_{-0.028}$	$-1.080^{+0.300}_{-0.300}$	$0.552^{+0.037}_{-0.037}$	$0.552^{+0.044}_{-0.024}$	$4.615^{+0.895}_{-0.558}$
	+3%/-3%	+1%/-1%	+28%/-28%	+7%/-7%	+8%/-4%	+19%/-12%
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 012557713-01 / KOI 7541.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-10624 ± 15	$16.89^{+0.83}_{-0.74}$	877^{+29}_{-29}	3321^{+79}_{-79}	75^{+7}_{-5}
Alt.	-11079 ± 33	$12.90^{+0.70}_{-0.60}$	875^{+32}_{-26}	3637^{+106}_{-98}	134^{+14}_{-12}

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

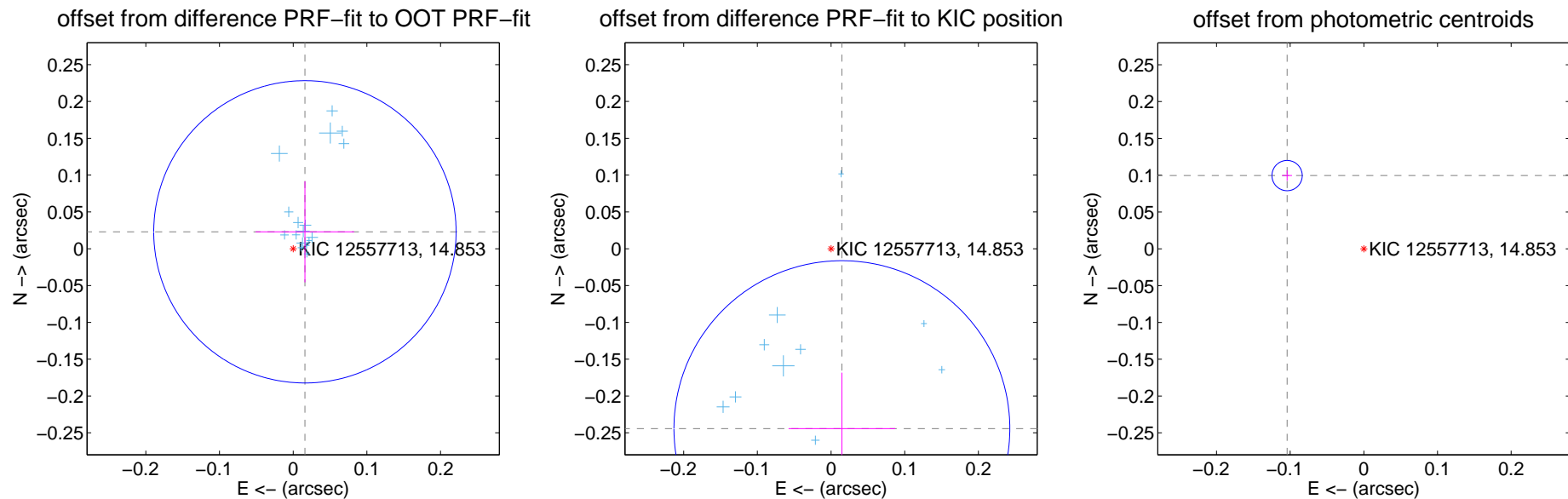
DV Centroid Data

Supplemental centroid analysis for 012557713-01. Kepler magnitude: 14.85. Transit SNR 1375.46

There are 17 quarters with good PRF difference image offsets

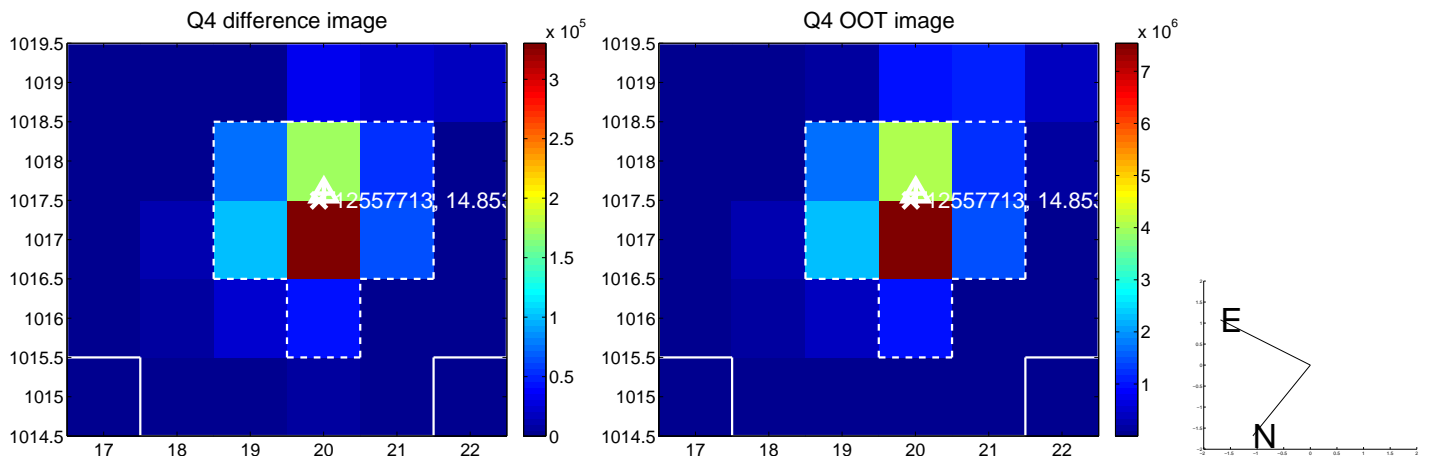
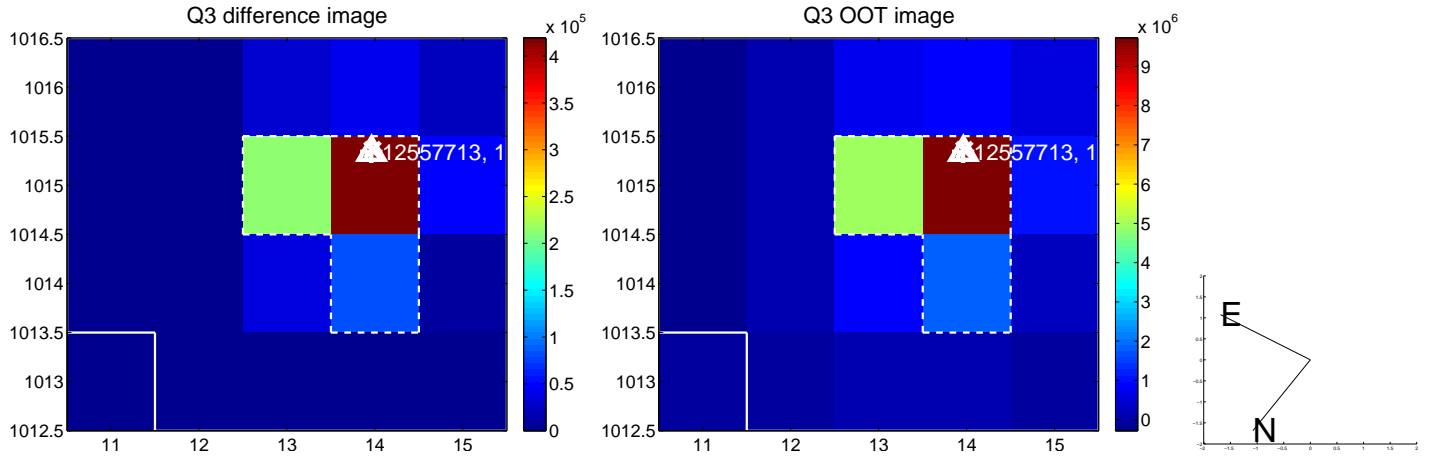
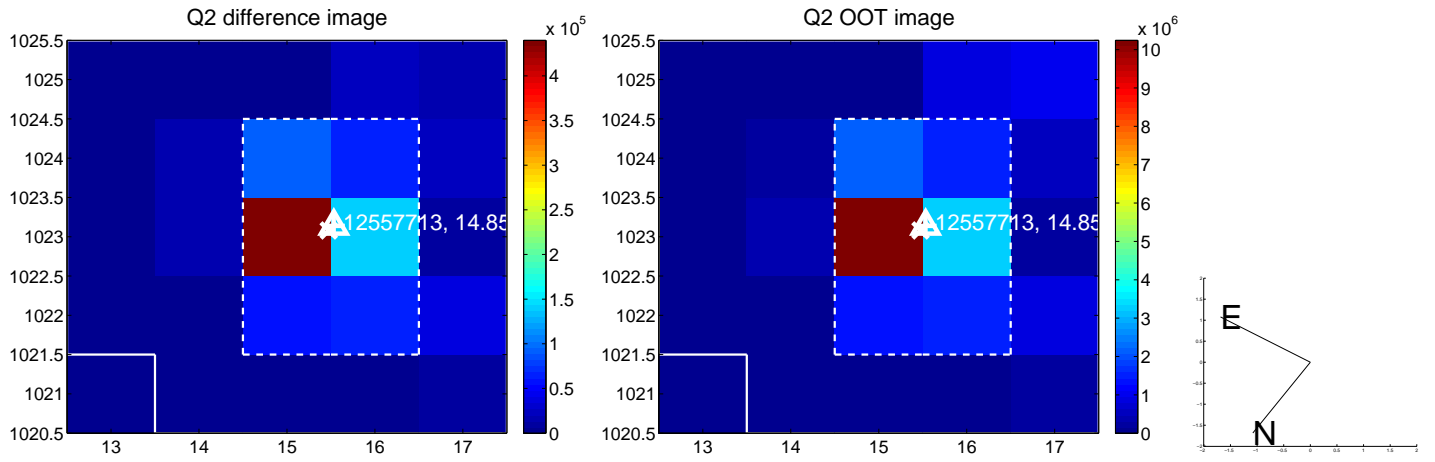
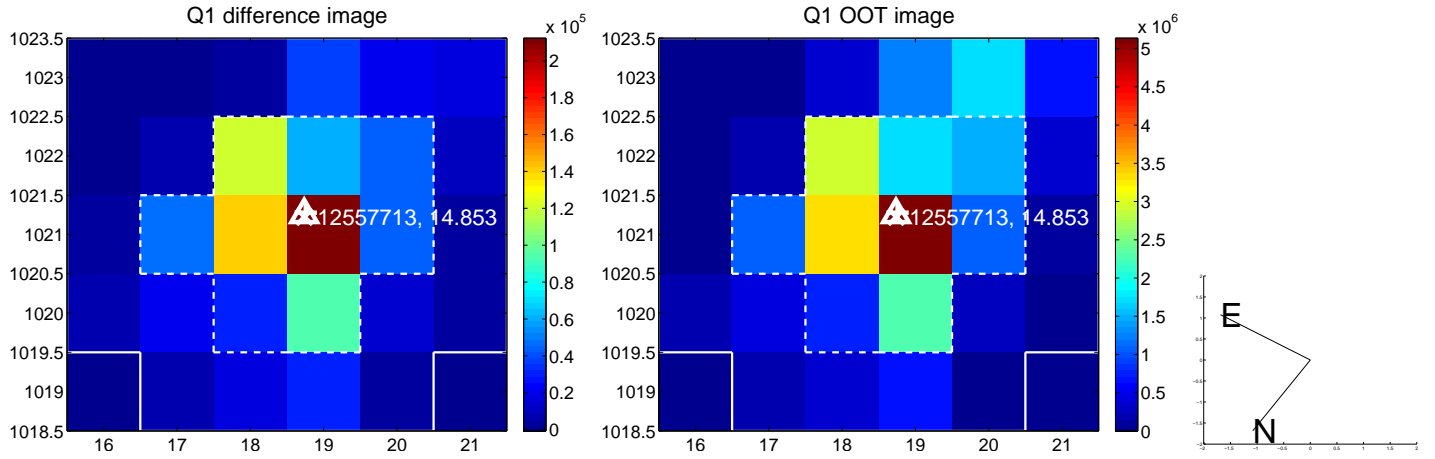
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.028 ± 0.068	0.41	-0.016 ± 0.067	0.023 ± 0.069
PRF-fit source offset from KIC position	0.245 ± 0.076	3.22	-0.015 ± 0.072	-0.244 ± 0.076
photometric centroid source offset	0.14 ± 0.01	21.02	0.10 ± 0.01	0.10 ± 0.01

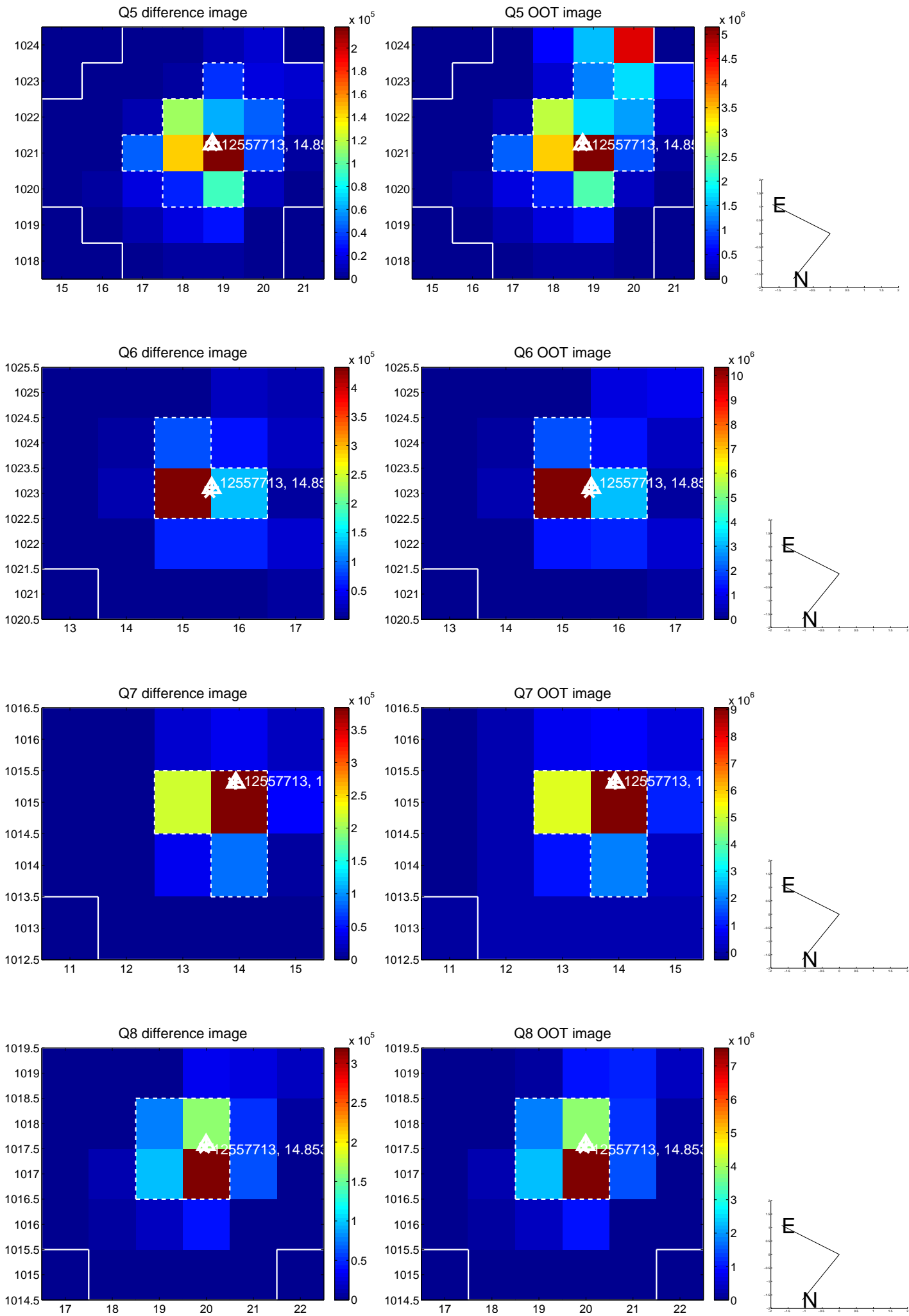


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

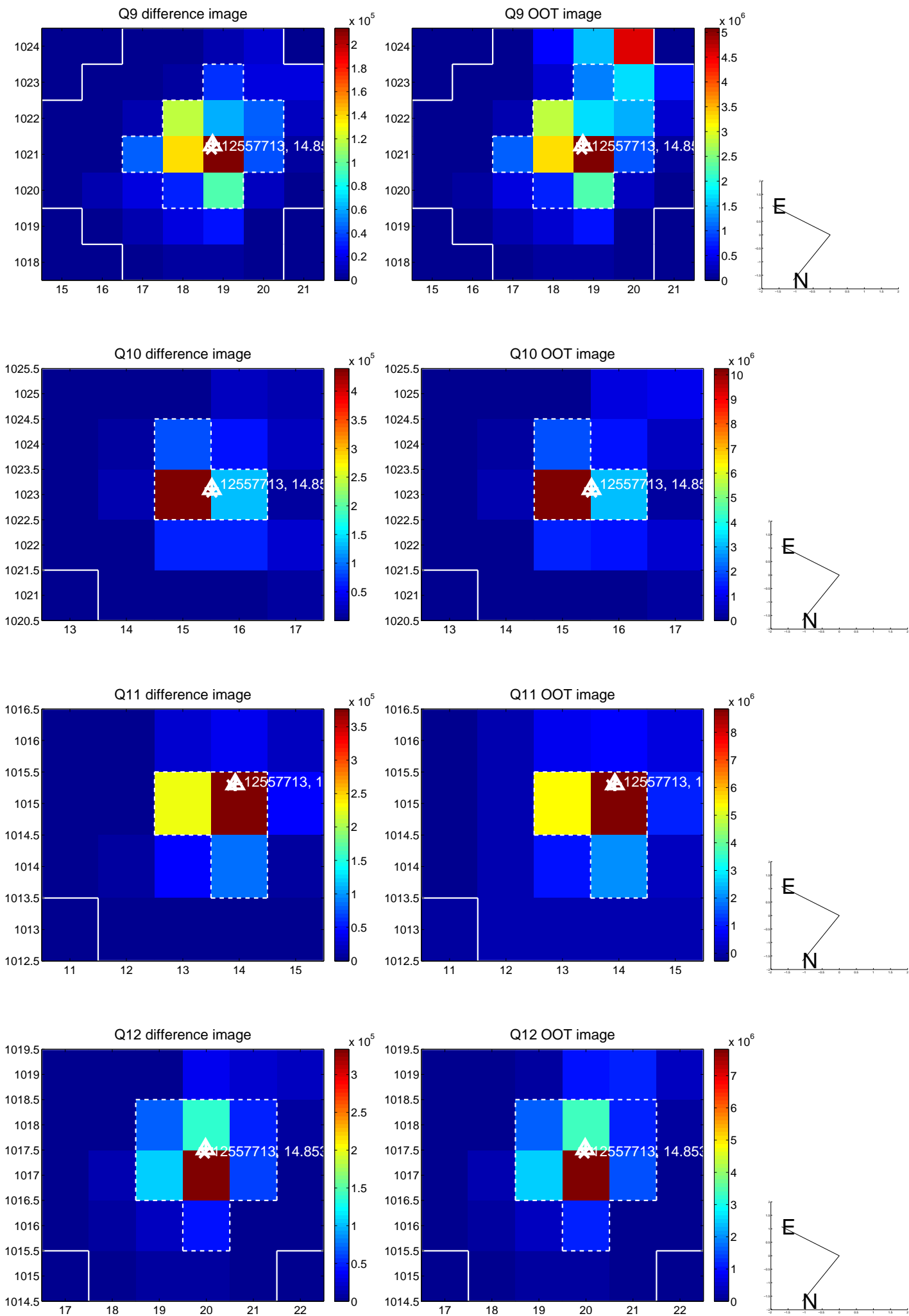
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



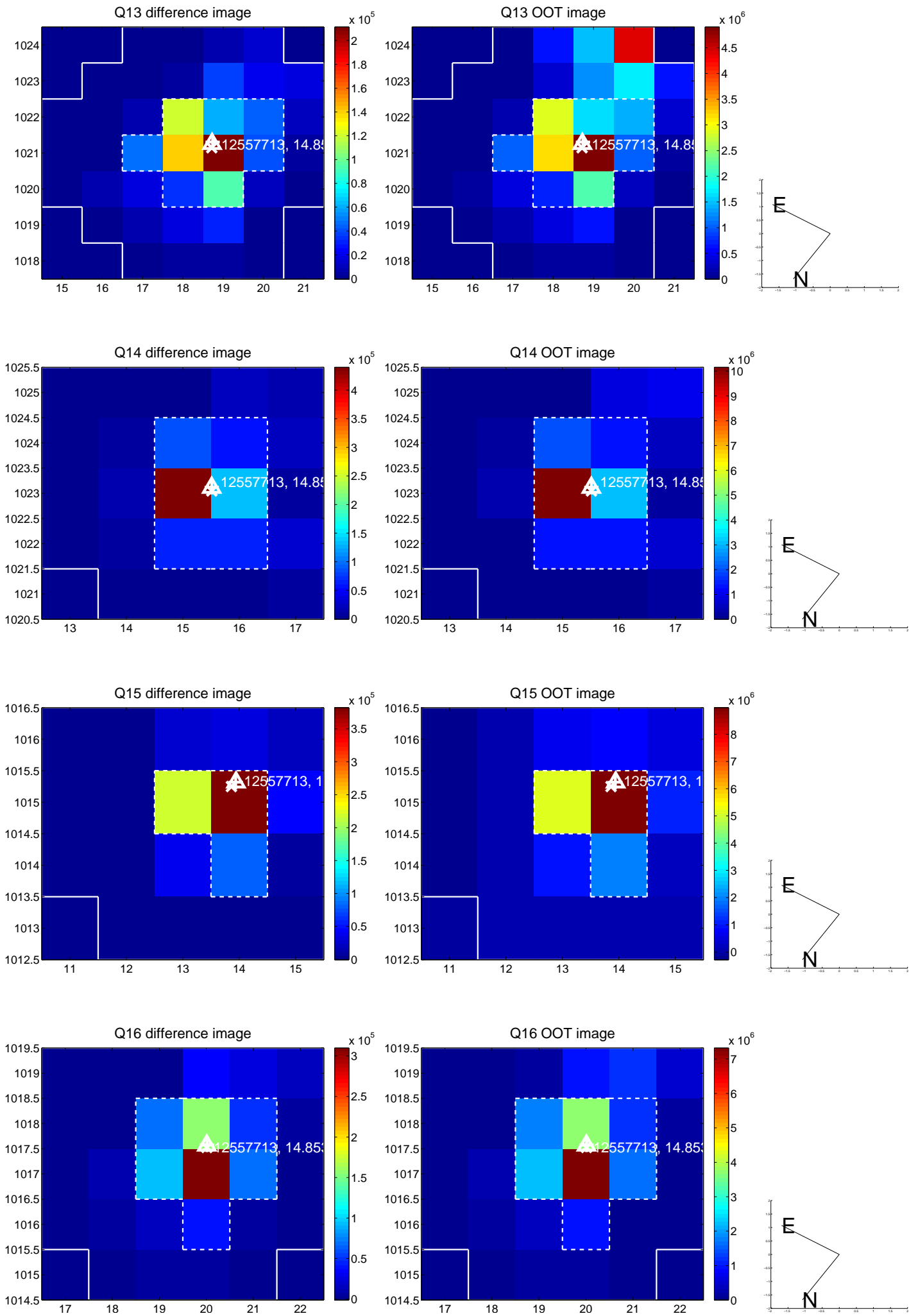
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



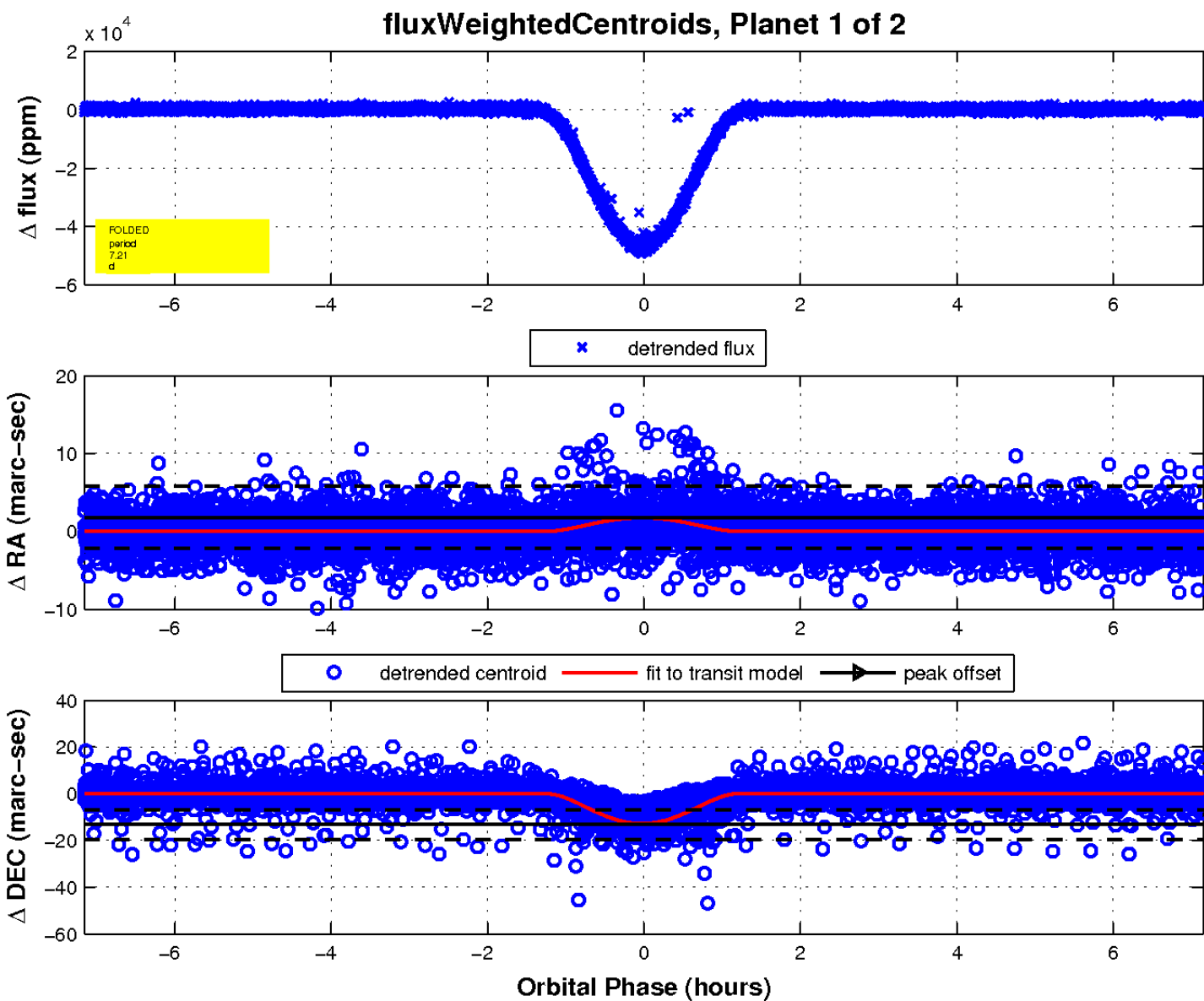
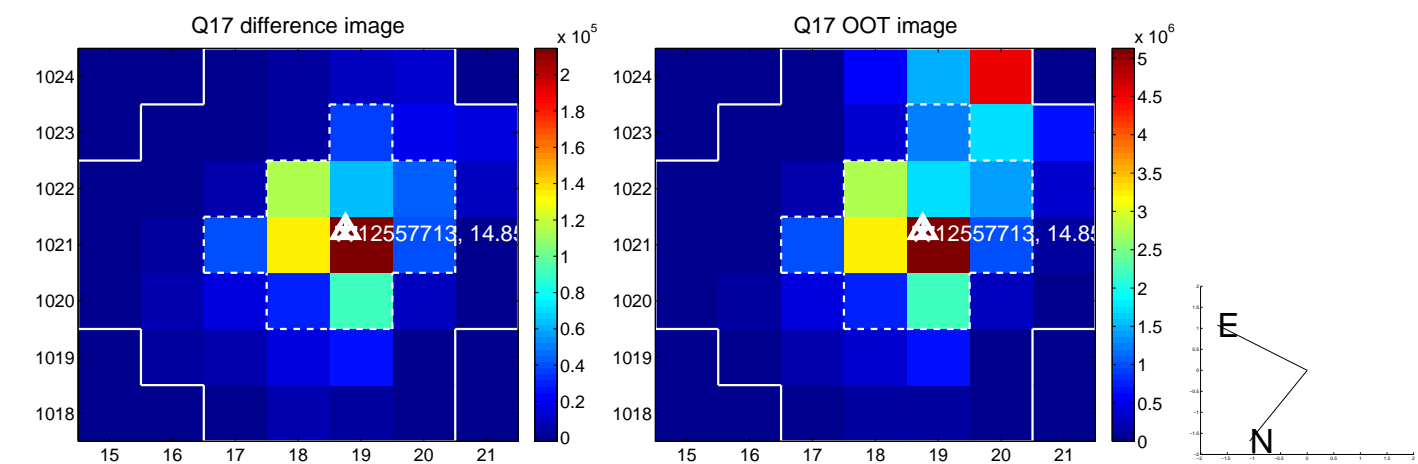
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



This plot does not exist for this TCE.

KIC 012557713

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

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012557713-02	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.

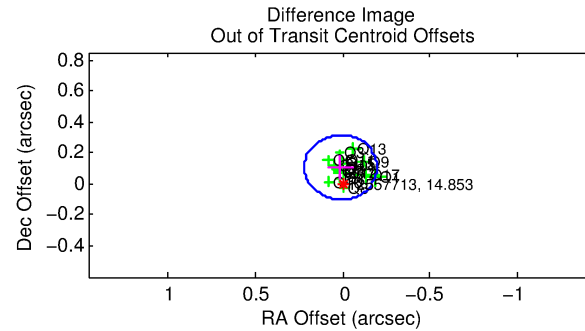
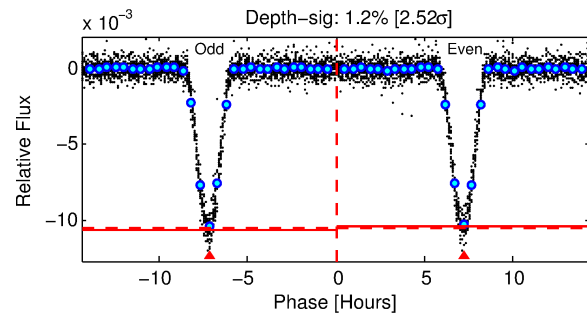
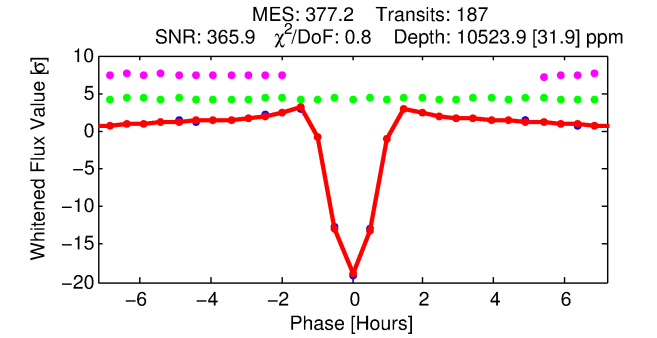
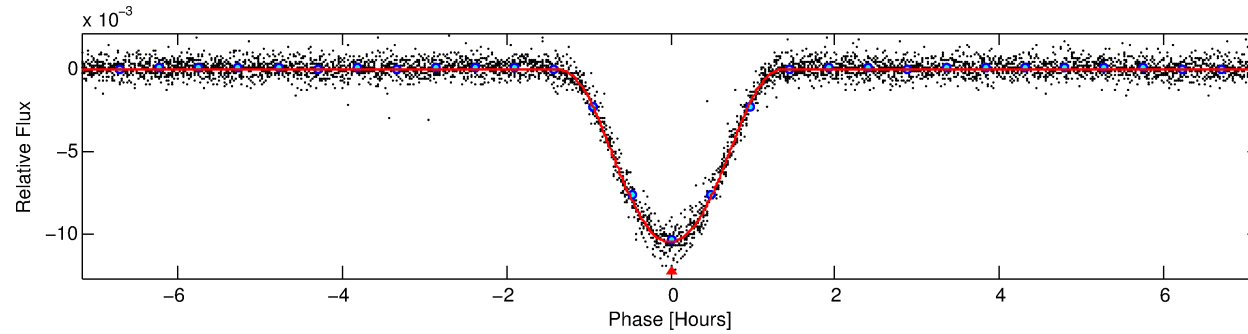
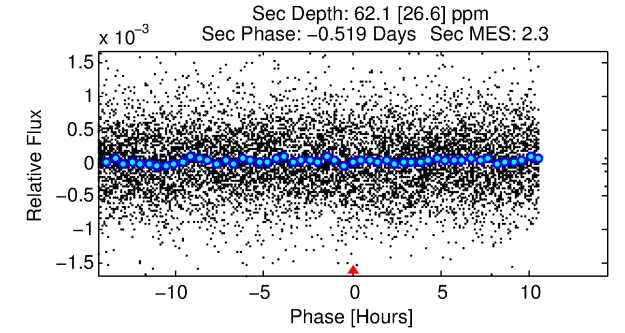
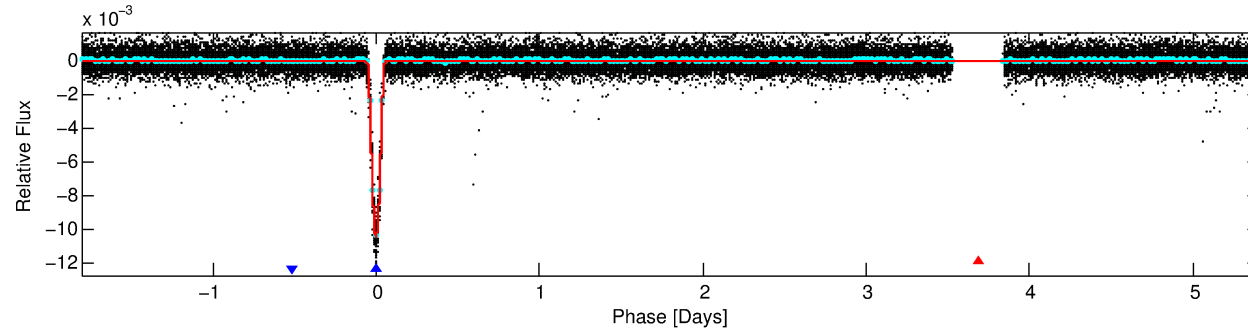
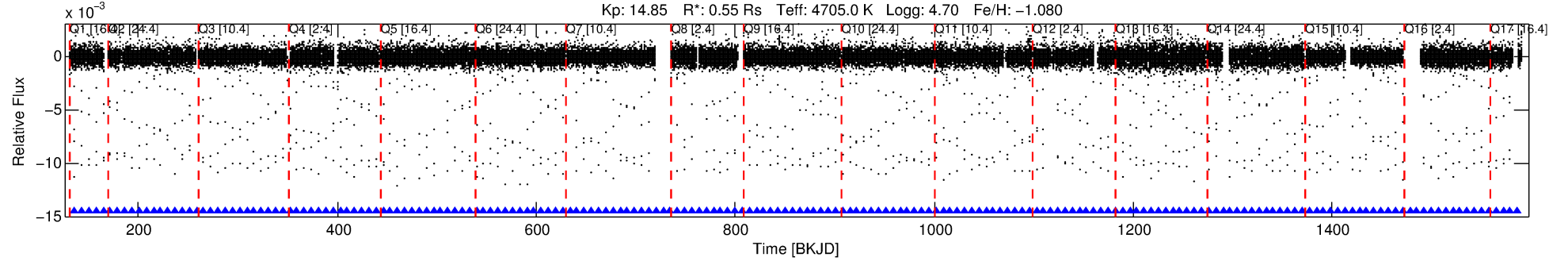
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012557713-02

No Significant Match Found

DV One-Page Summary

KIC: 12557713 Candidate: 2 of 2 Period: 7.215 d
KOI: K07541 Corr: No Ephemeris Match



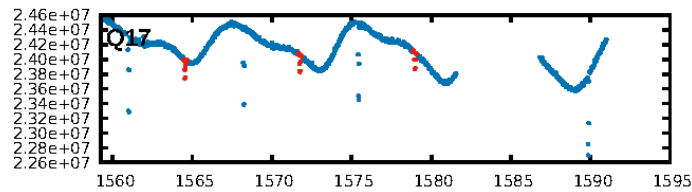
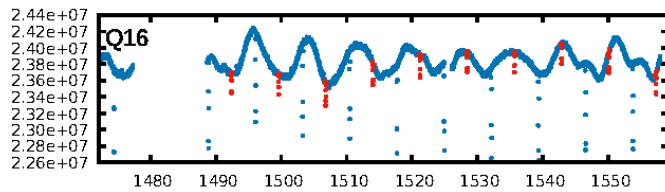
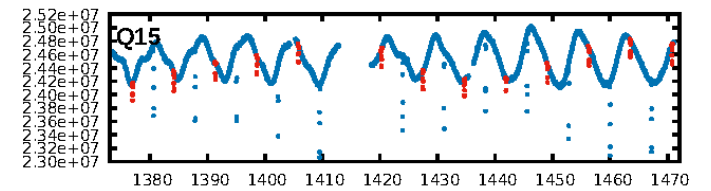
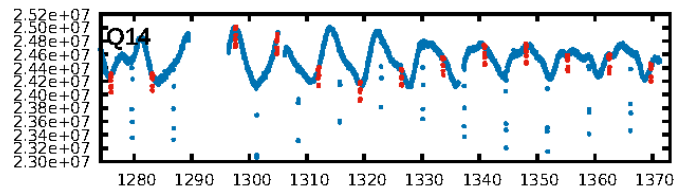
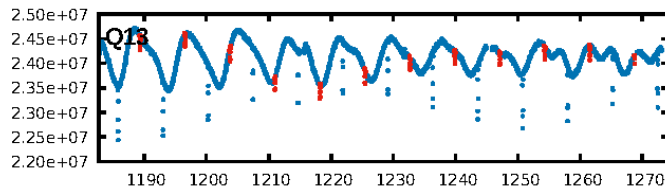
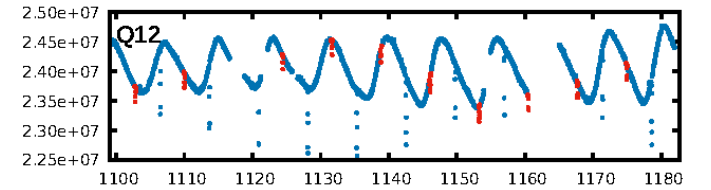
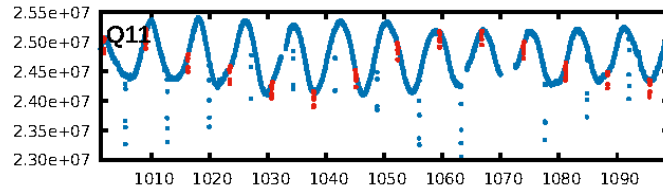
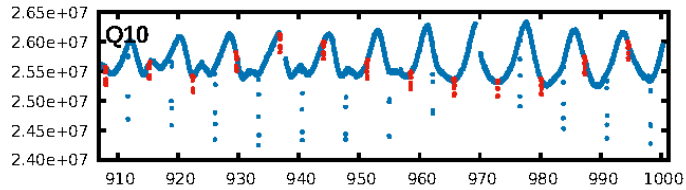
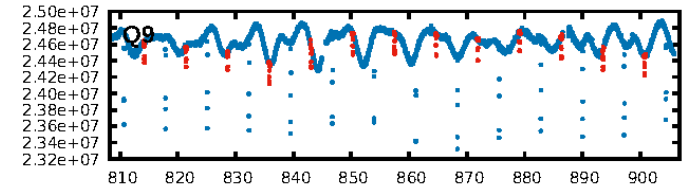
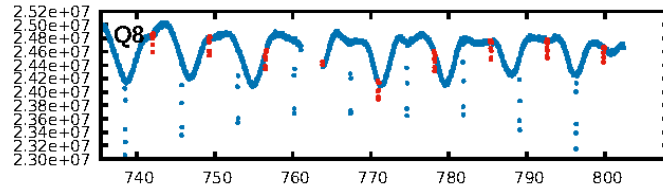
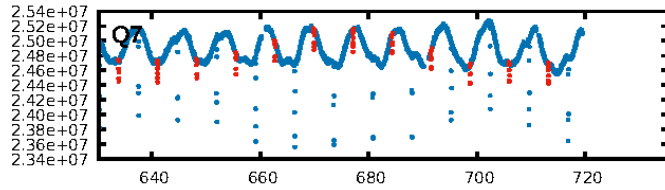
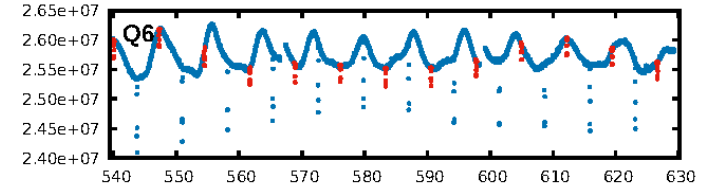
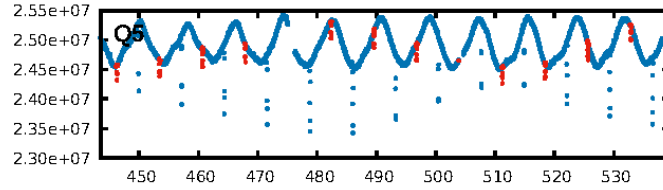
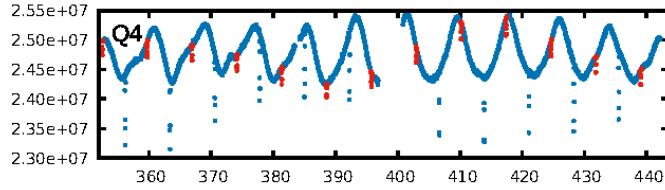
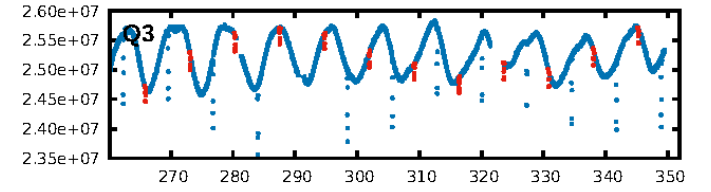
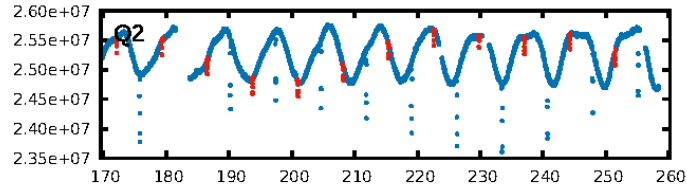
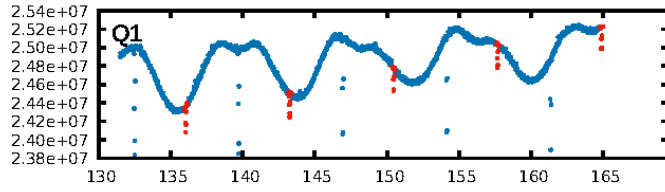
DV Fit Results:

Period = 7.21472 [0.00000] d
Epoch = 136.0311 [0.0001] BKJD
Rp/R* = 0.1547 [0.0161]
a/R* = 14.44 [0.28]
b = 0.97 [0.02]
Seff = 37.22 [5.92]
Teq = 630 [25] K
Rp = 9.32 [1.16] Re
a = 0.0600 [0.0036] AU
Ag = 1.41 [0.68] [0.60 σ]
Teffp = 1062 [131] K [3.24 σ]

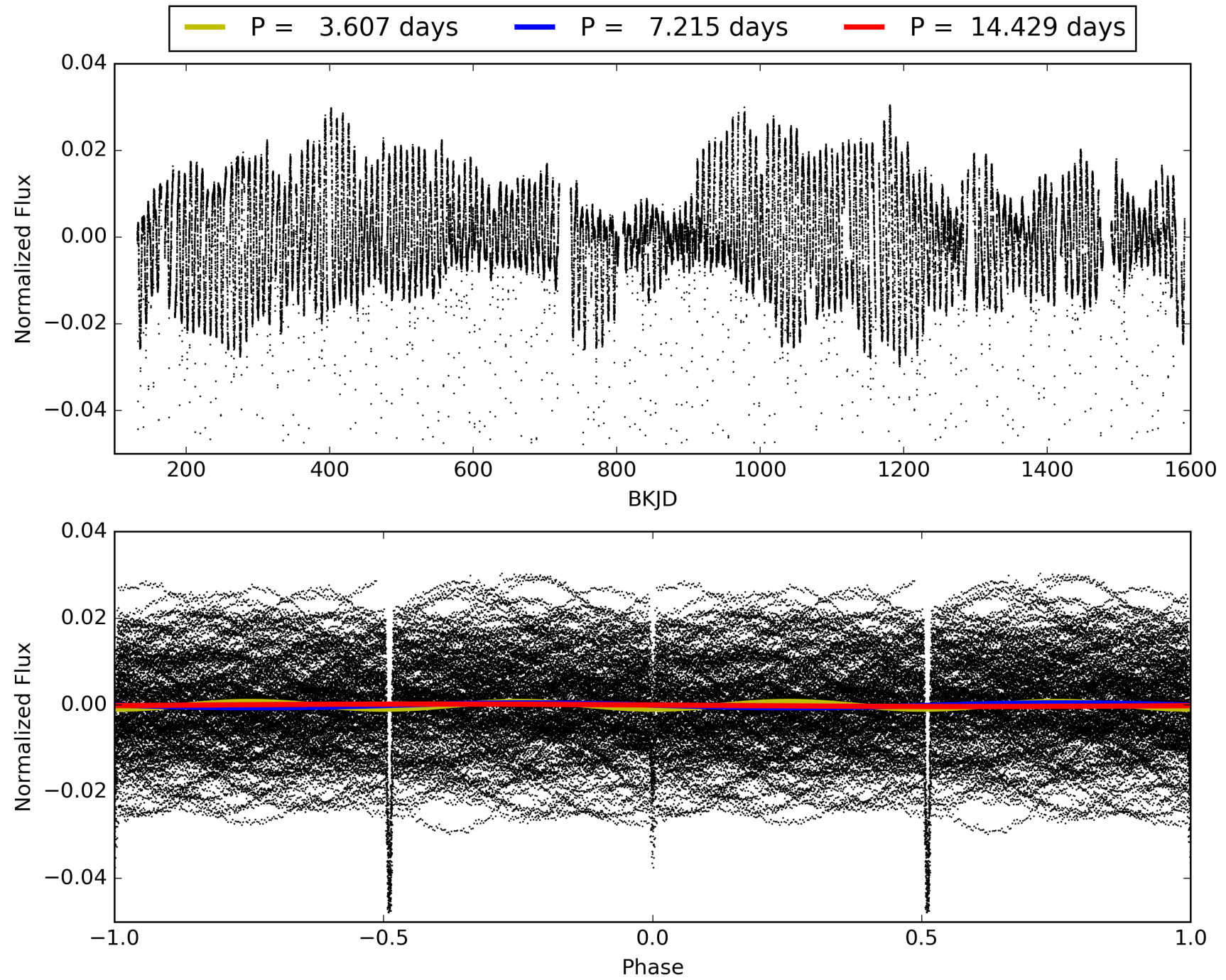
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 7.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [179/179]
GhostDiagnostic-chr: 2.875
Centroid-sig: 0.0%
Centroid-so: 0.160 arcsec [5.53 σ]
OotOffset-rm: 0.108 arcsec [1.56 σ]
KicOffset-rm: 0.225 arcsec [2.89 σ]
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 012557713-02, PDC Light Curves

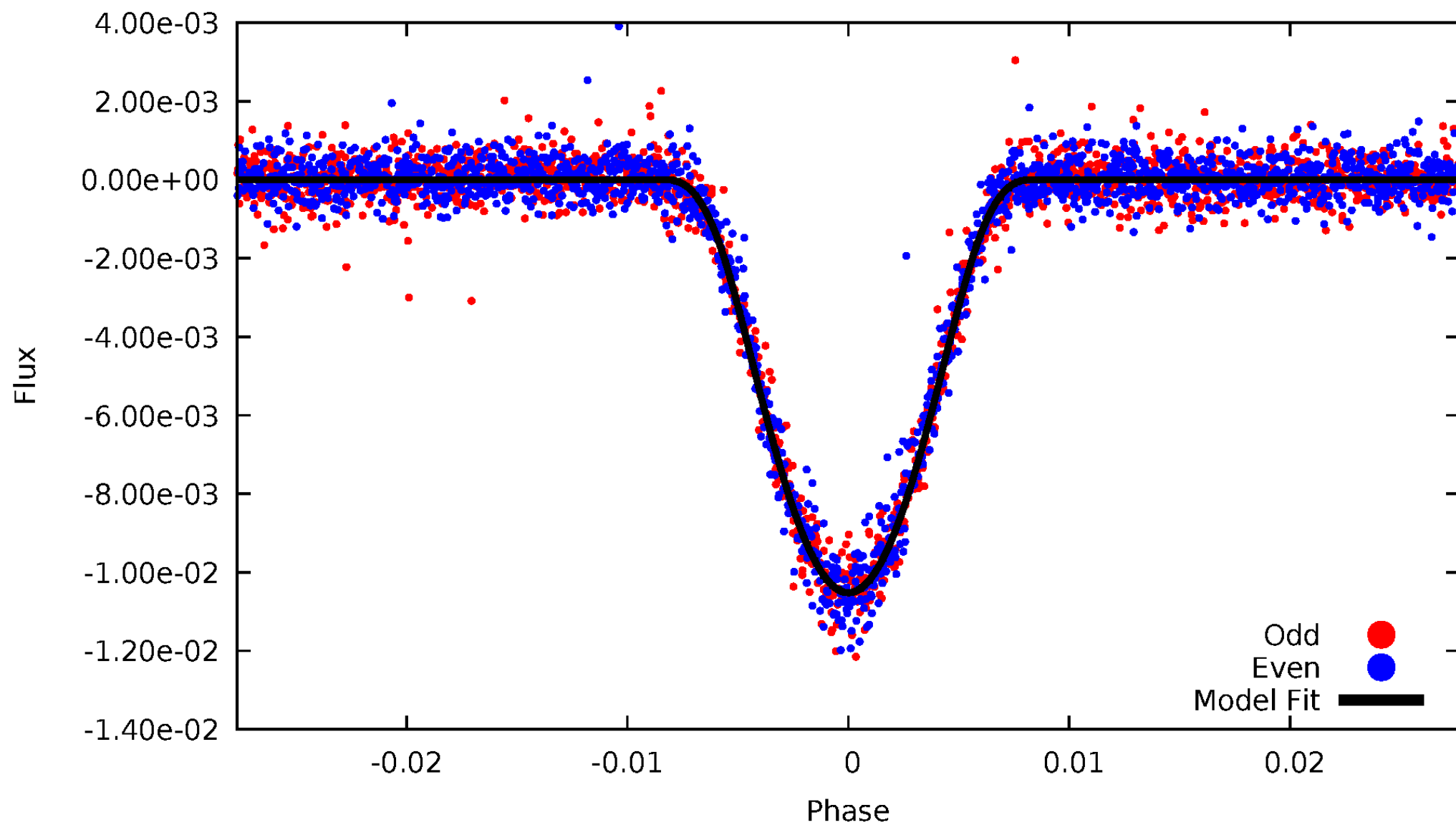


TCE 012557713-02



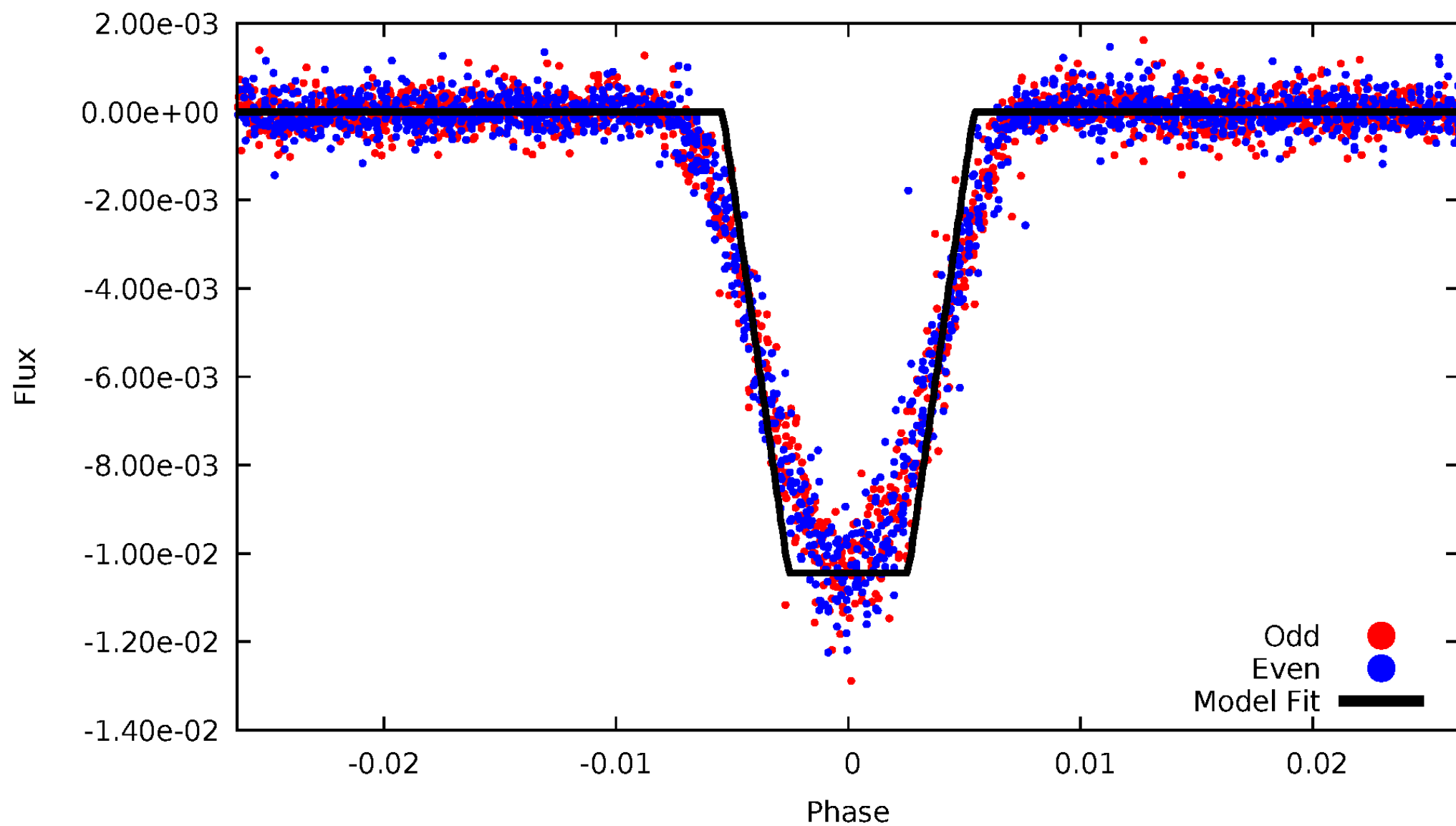
DV Odd/Even

TCE 012557713-02



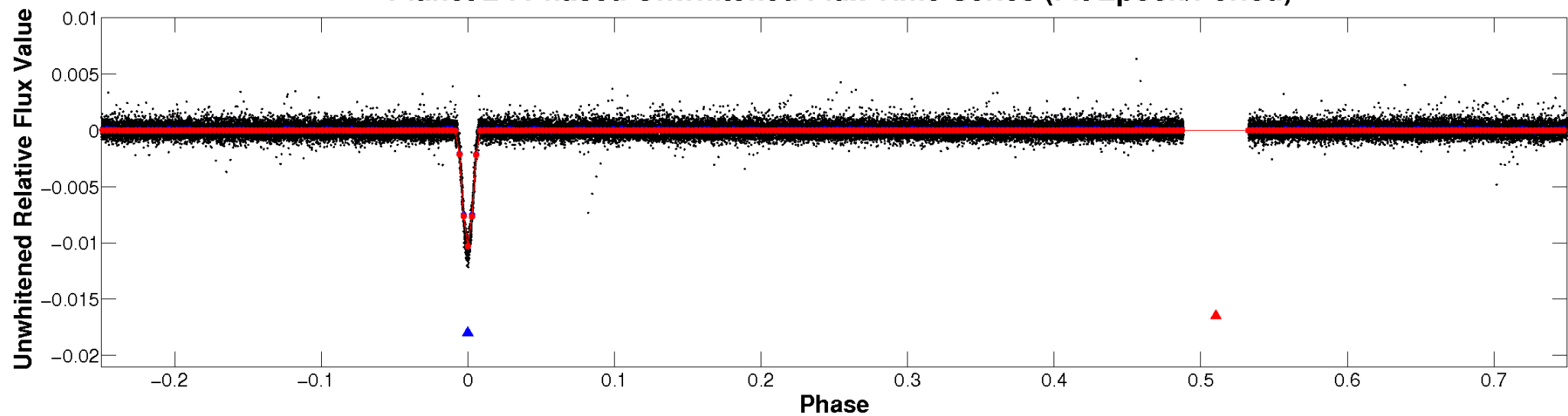
ALT Odd/Even

TCE 012557713-02

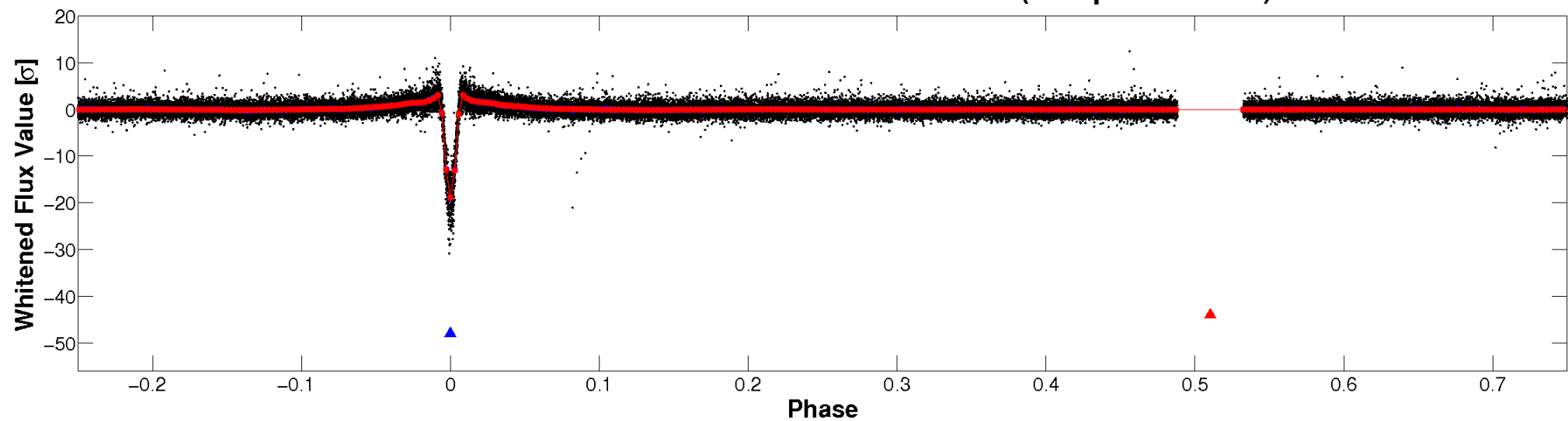


Non-Whitened Vs. Whitened Light Curve

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

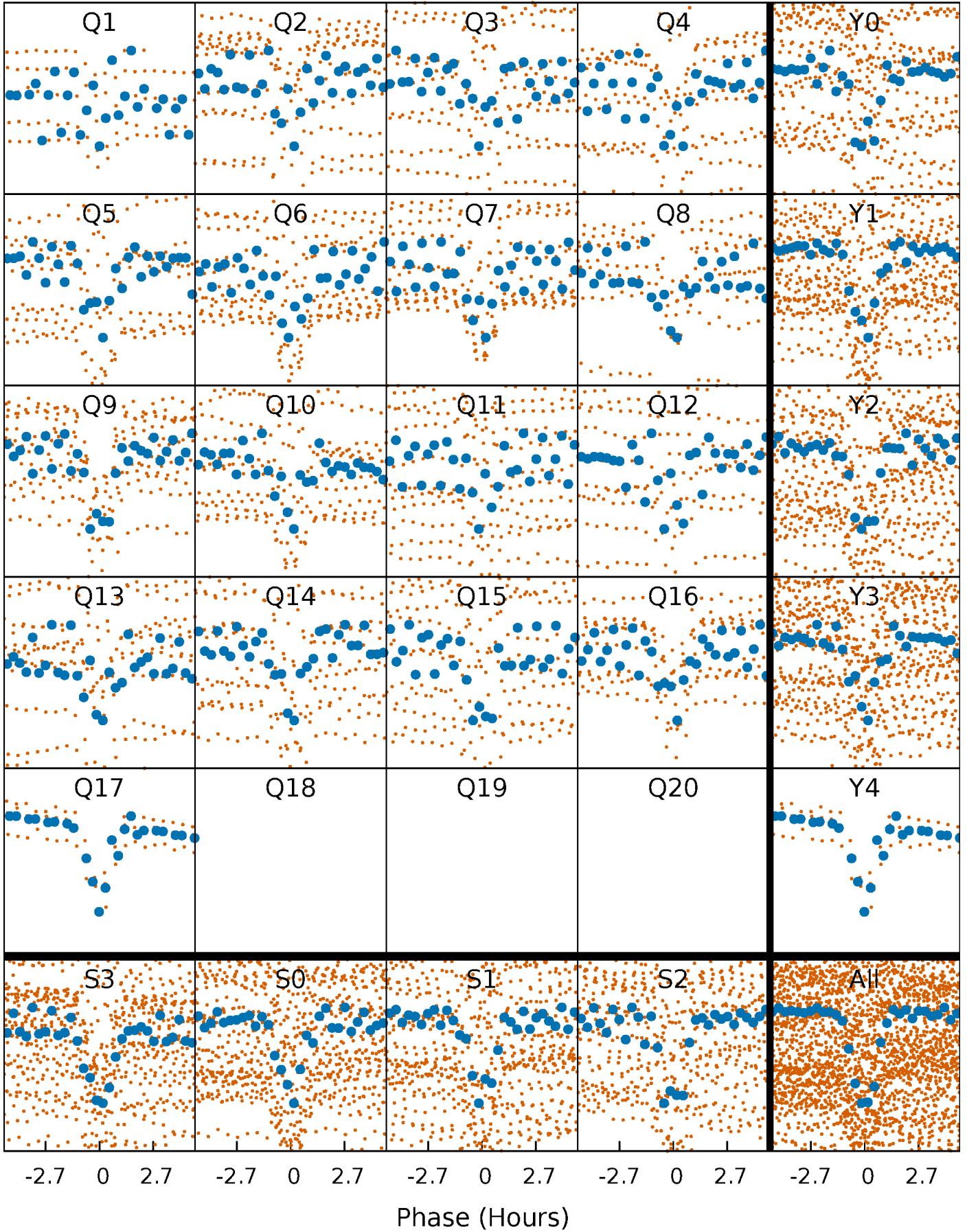


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



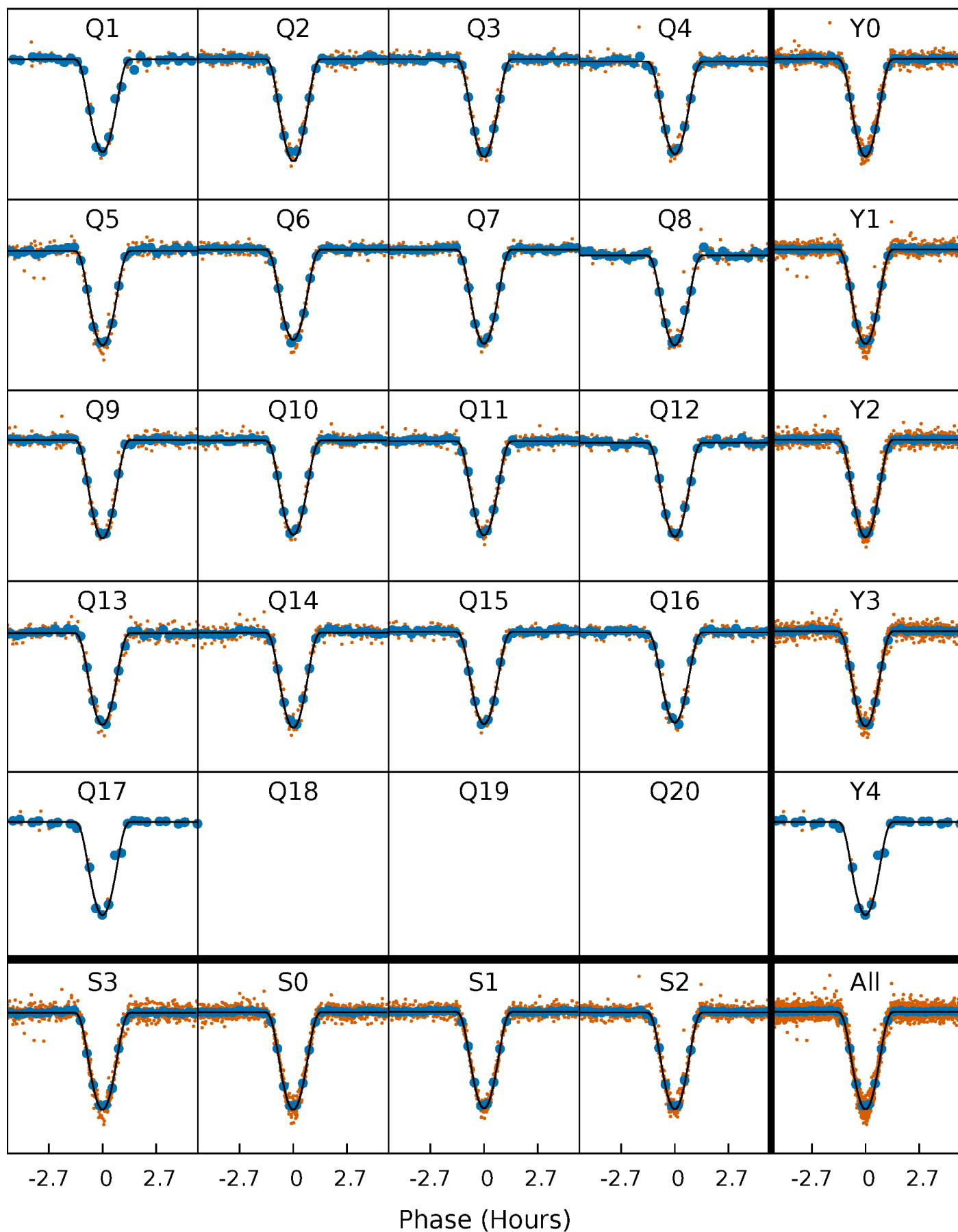
PDC Quarter-Phased Transit Curves

TCE 012557713-02 P= 7.214721 Days $T_0=136.031061$ (BKJD)



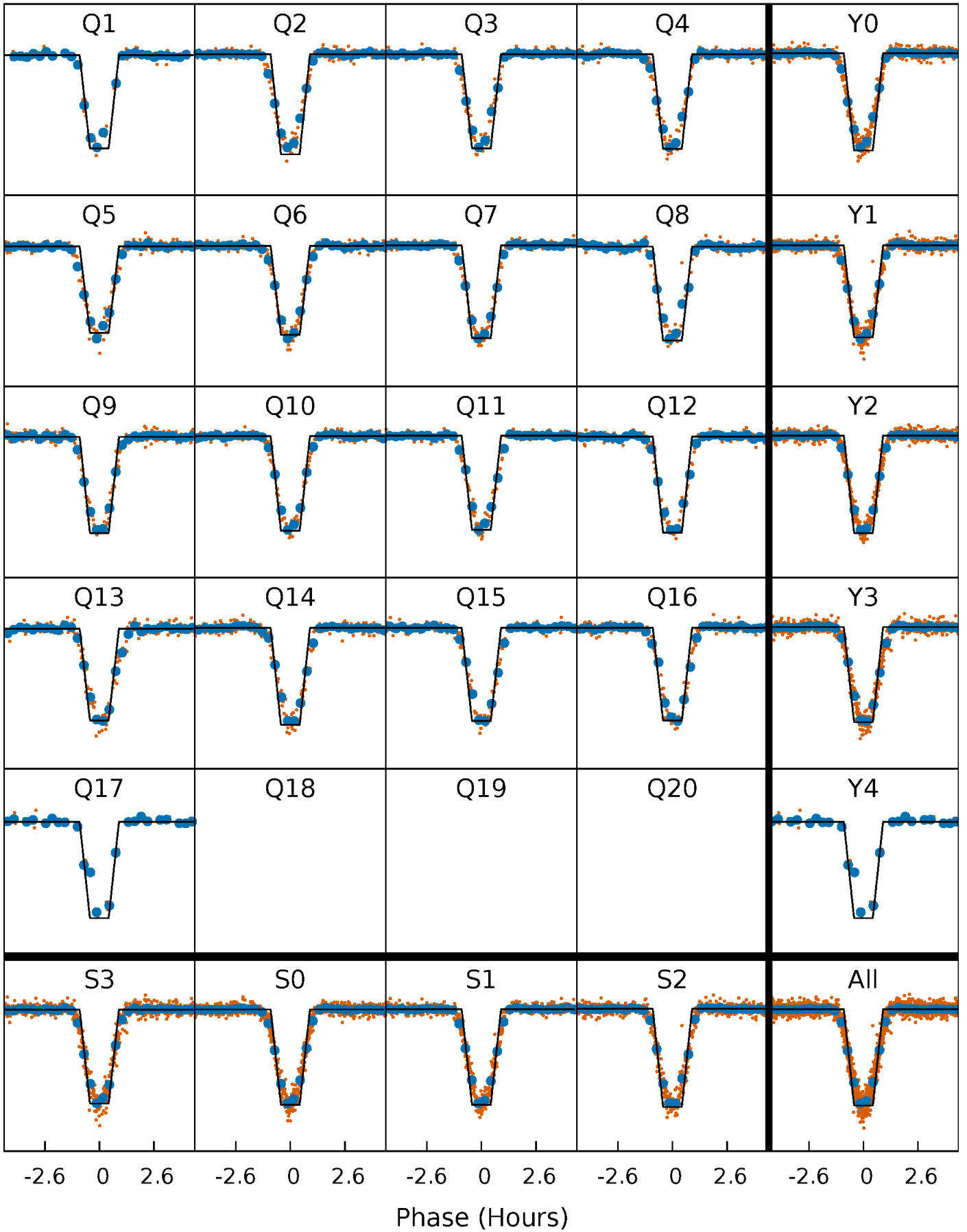
DV Quarter-Phased Transit Curves

TCE 012557713-02 P= 7.214721 Days $T_0=136.031061$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

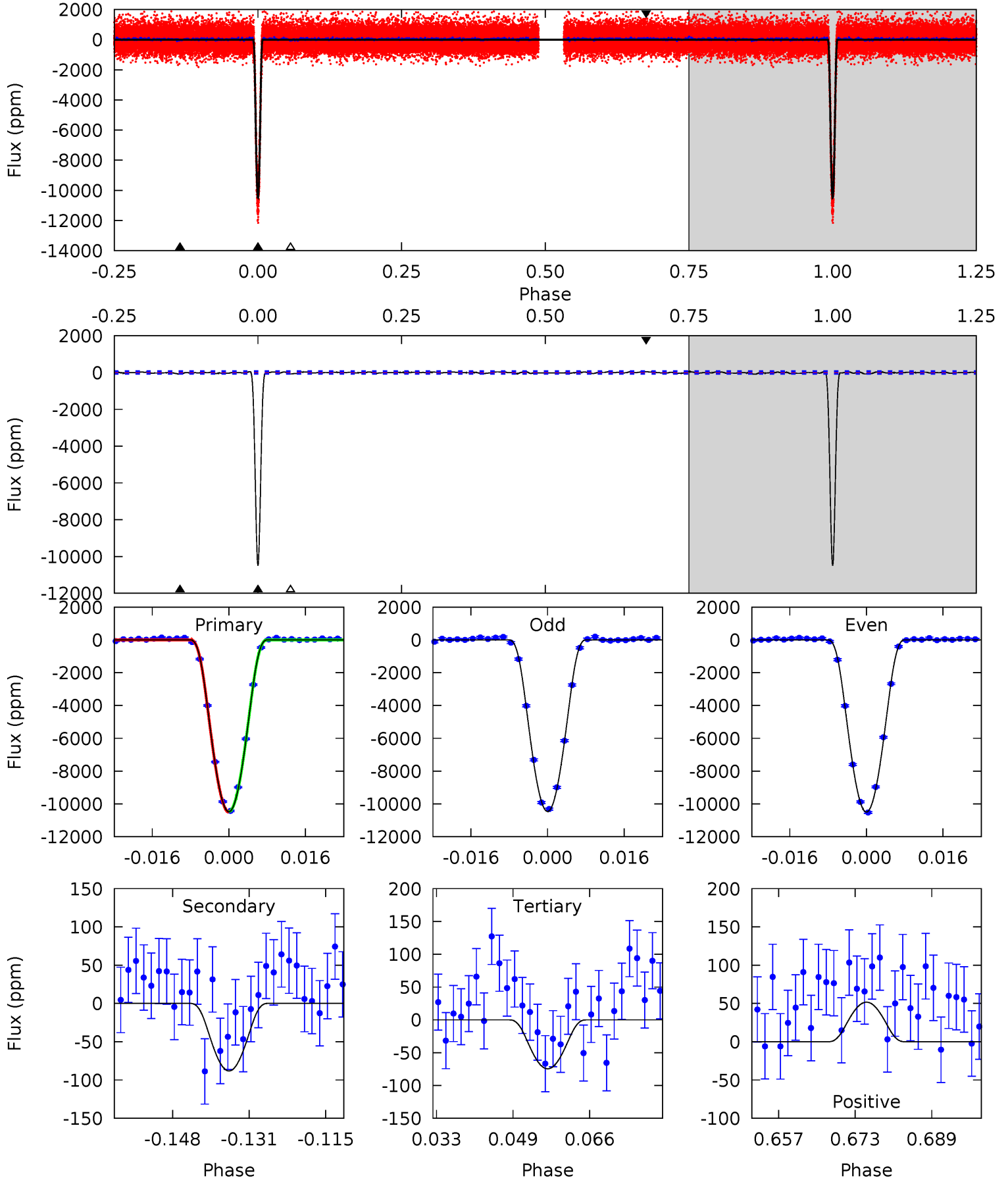
TCE 012557713-02 P= 7.214689 Days $T_0=136.034098$ (BKJD)



DV Model-Shift Uniqueness Test

012557713-02, P = 7.214721 Days, E = 128.816340 Days

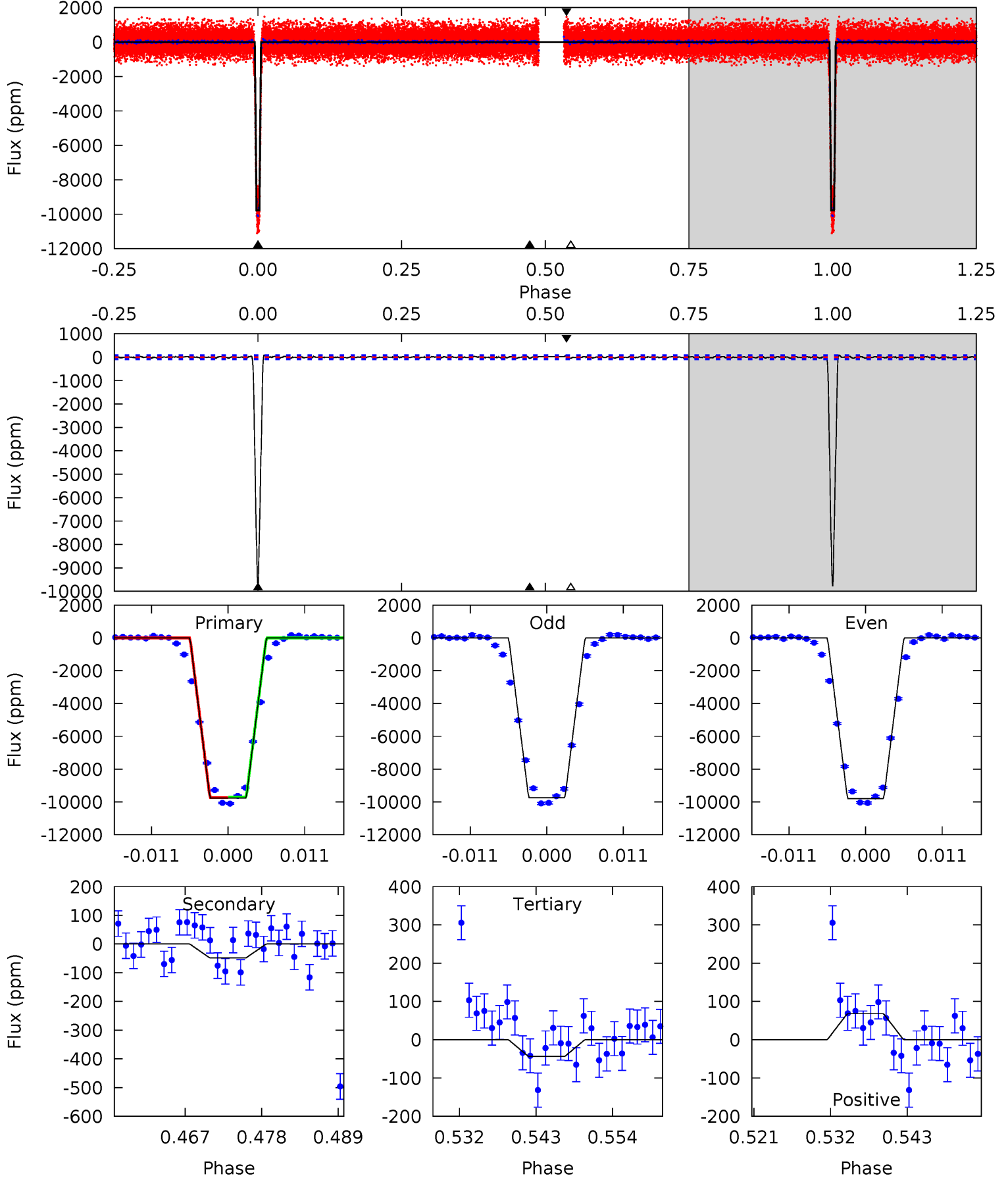
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
739.5	6.22	5.27	3.65	4.93	2.40	1.70	734.2	735.9	0.96	2.58	1.16	1.00	0.00	1.17



Alt Model-Shift Uniqueness Test

012557713-02, P = 7.214689 Days, E = 128.819409 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
611.3	3.02	2.73	4.25	5.01	2.55	1.05	608.5	607.0	0.29	-1.23	1.59	1.00	0.01	1.03



Stellar Parameters For KIC 012557713

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4705^{+153}_{-139}	$4.696^{+0.052}_{-0.028}$	$-1.080^{+0.300}_{-0.300}$	$0.552^{+0.037}_{-0.037}$	$0.552^{+0.044}_{-0.024}$	$4.615^{+0.895}_{-0.558}$
	+3%/-3%	+1%/-1%	+28%/-28%	+7%/-7%	+8%/-4%	+19%/-12%
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 012557713-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-88 ± 14	$9.30^{+1.10}_{-1.02}$	878^{+31}_{-28}	2068^{+78}_{-80}	$2.013^{+0.661}_{-0.488}$
Alt.	-48 ± 16	$6.16^{+0.94}_{-1.05}$	874^{+31}_{-29}	2115^{+135}_{-130}	$2.501^{+1.473}_{-1.005}$

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

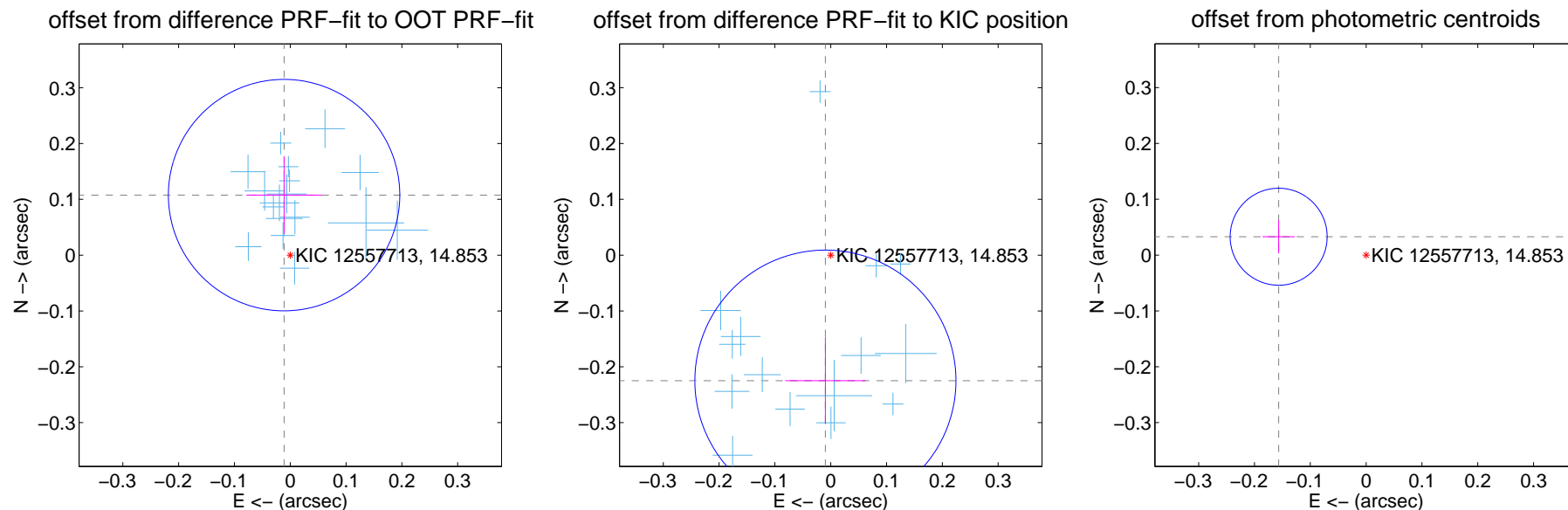
DV Centroid Data

Supplemental centroid analysis for 012557713-02. Kepler magnitude: 14.85. Transit SNR 365.90

There are 17 quarters with good PRF difference image offsets

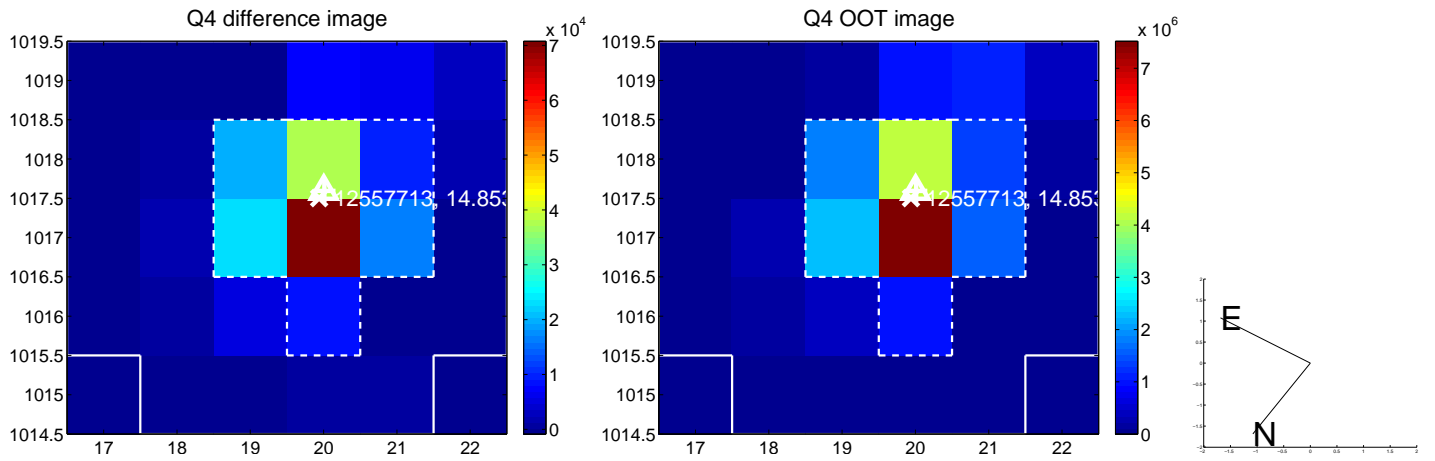
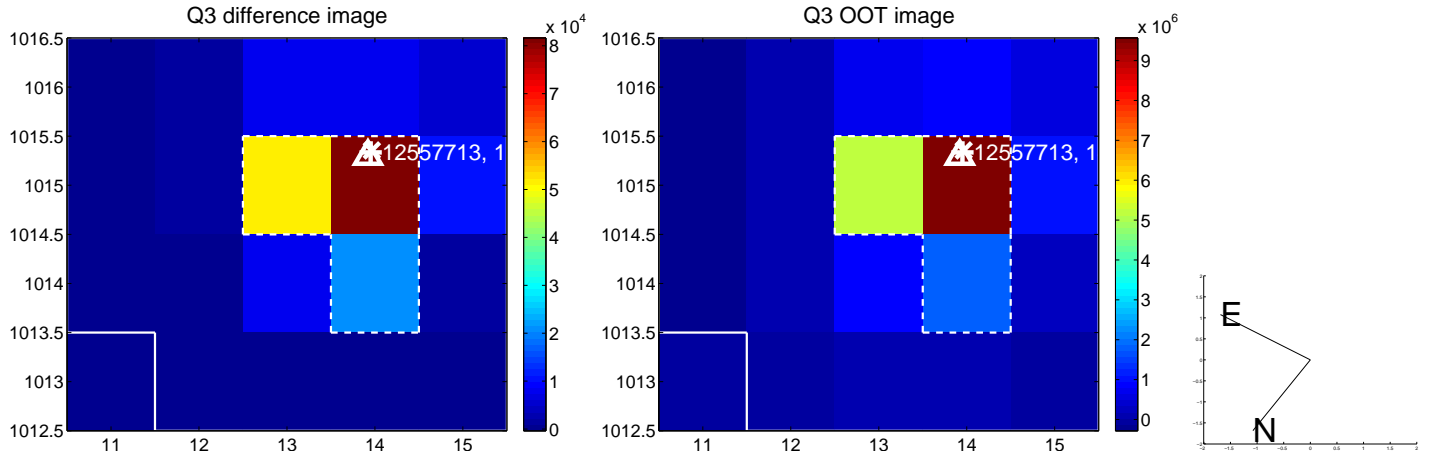
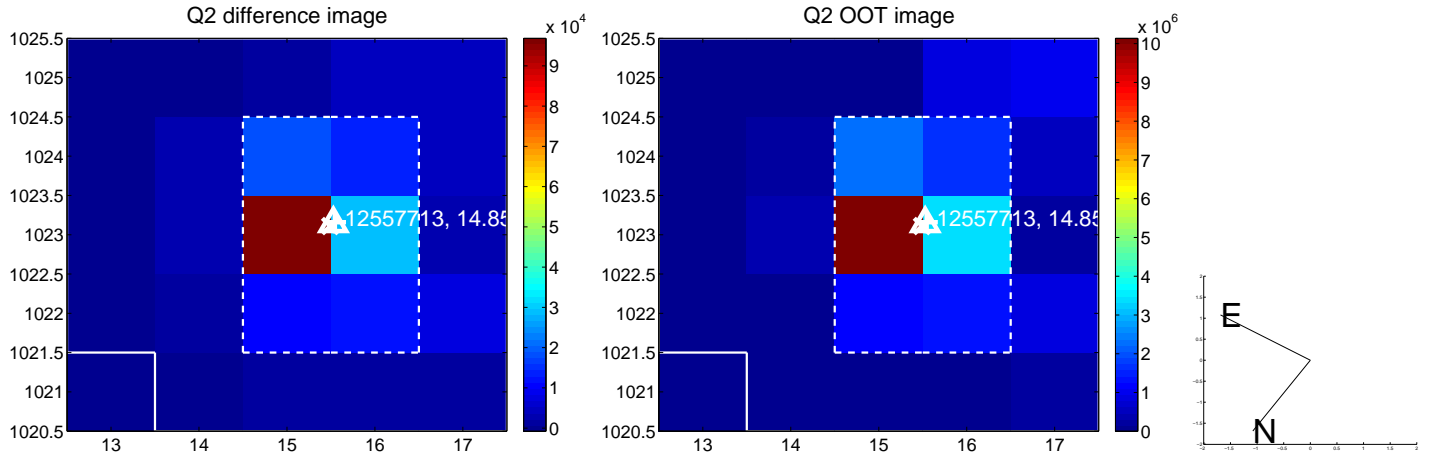
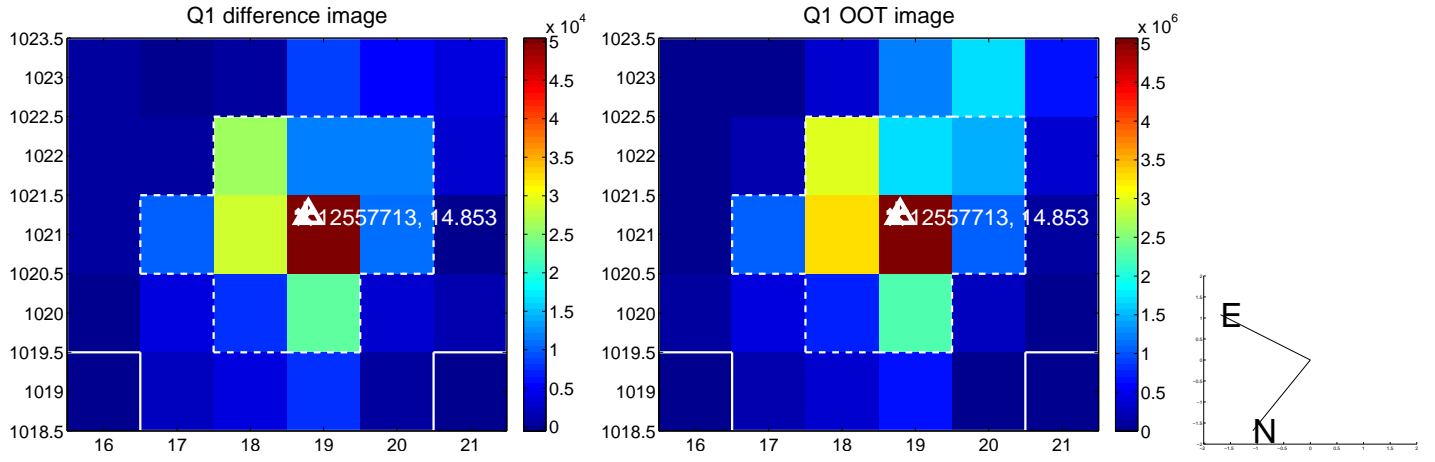
The direct PRF centroid is offset from the target star catalog position by about 0.34 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.108 ± 0.069	1.56	0.011 ± 0.068	0.108 ± 0.069
PRF-fit source offset from KIC position	0.225 ± 0.078	2.89	0.010 ± 0.072	-0.225 ± 0.078
photometric centroid source offset	0.16 ± 0.03	5.53	0.16 ± 0.03	0.03 ± 0.03

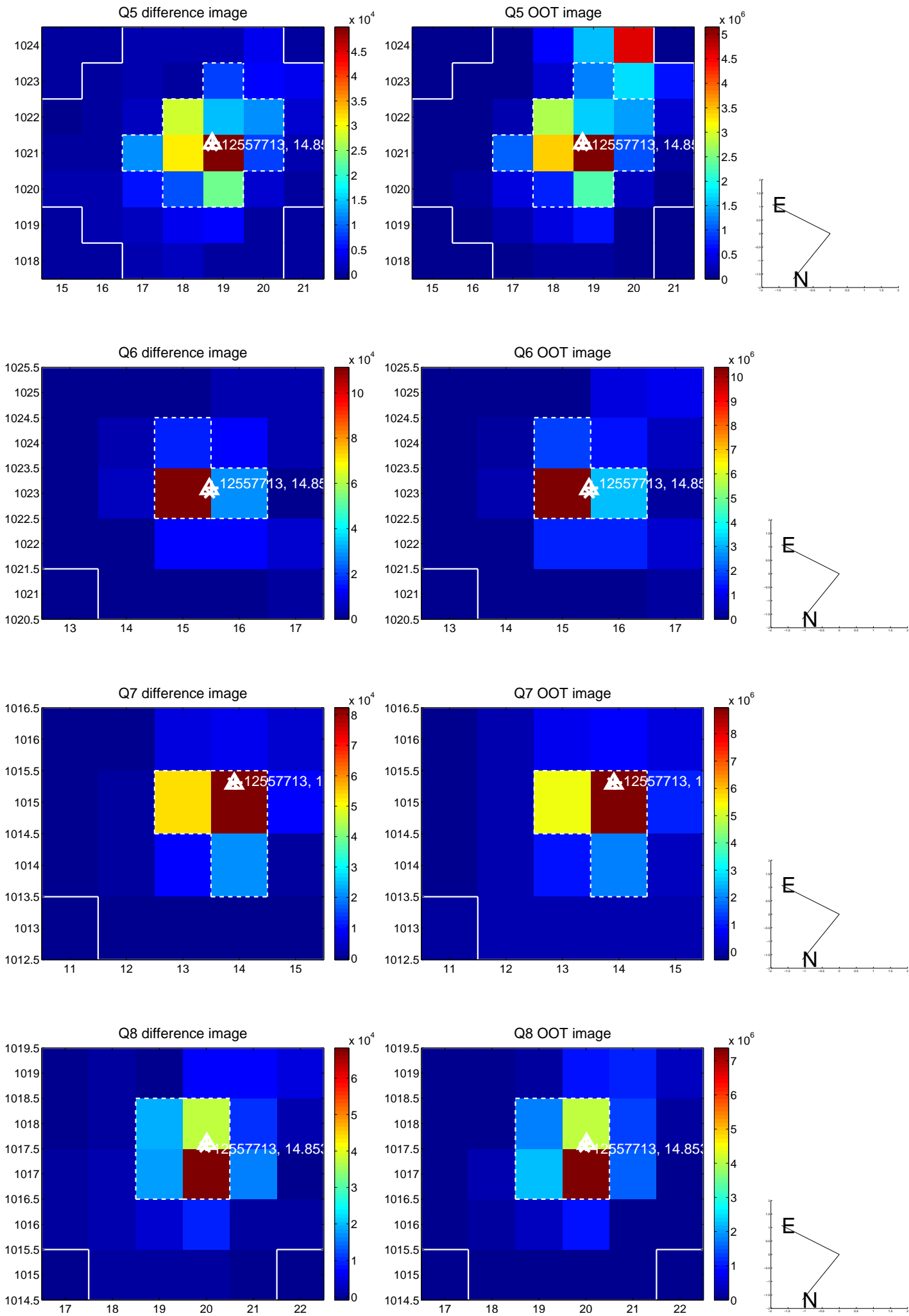


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

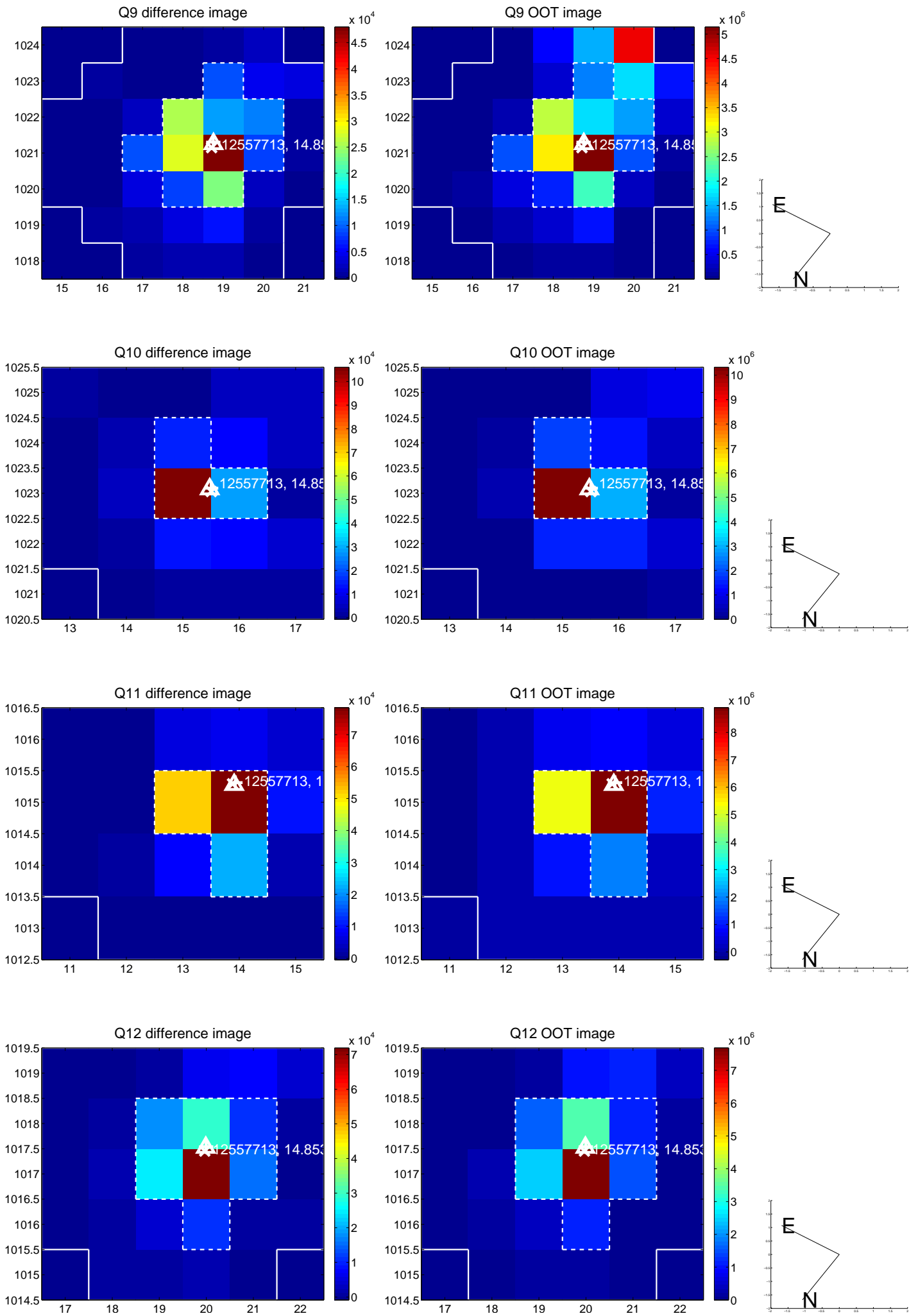
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



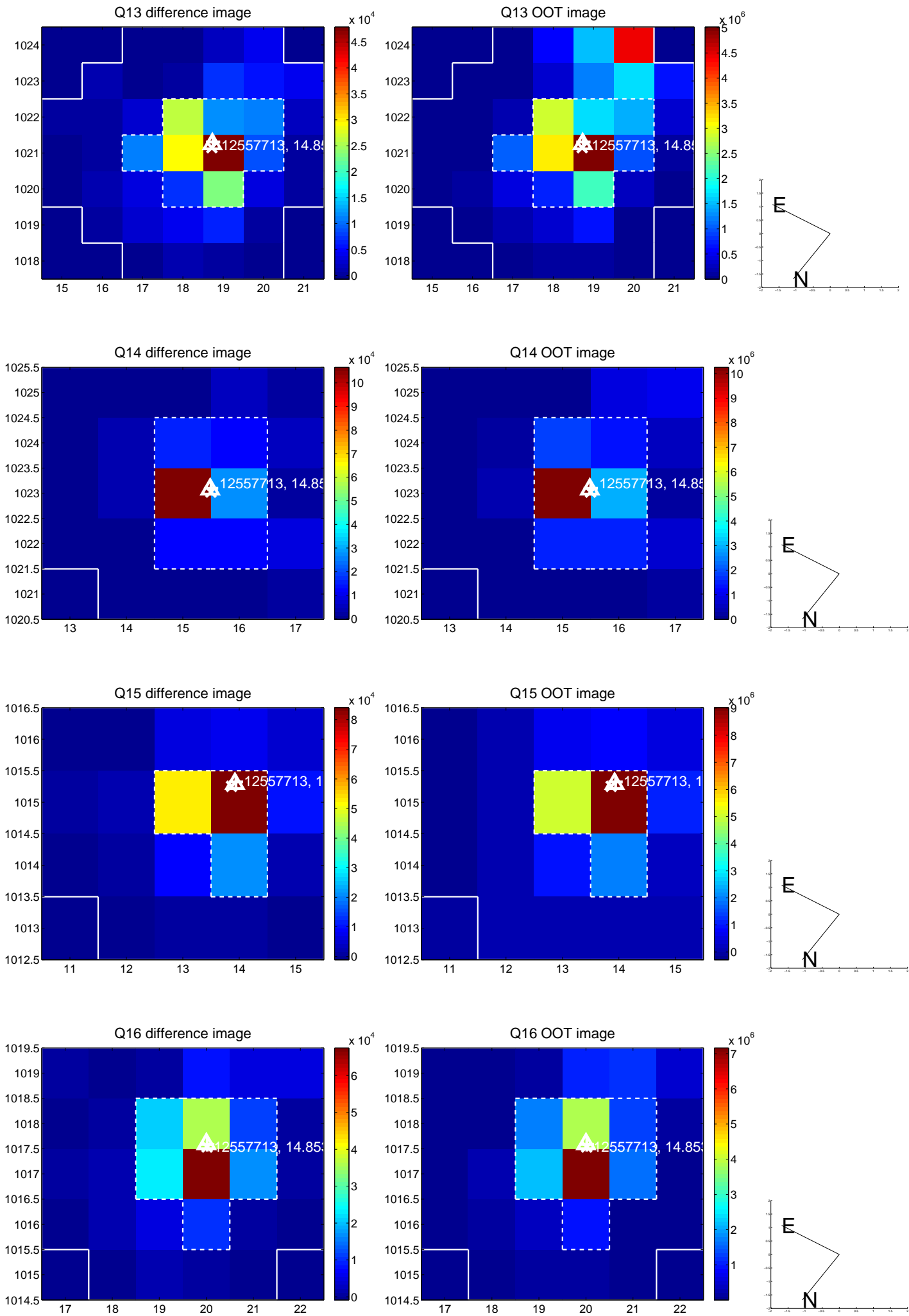
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



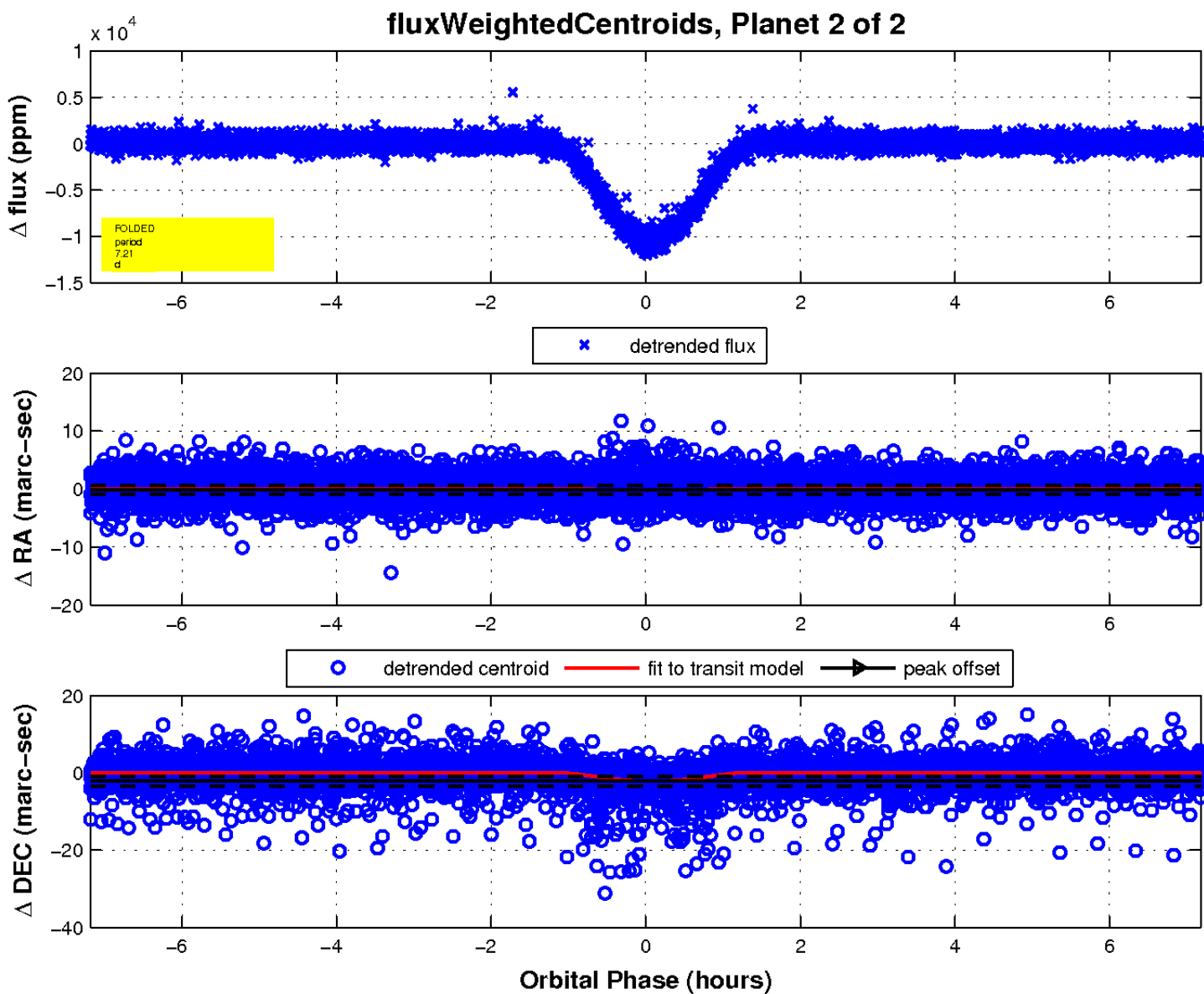
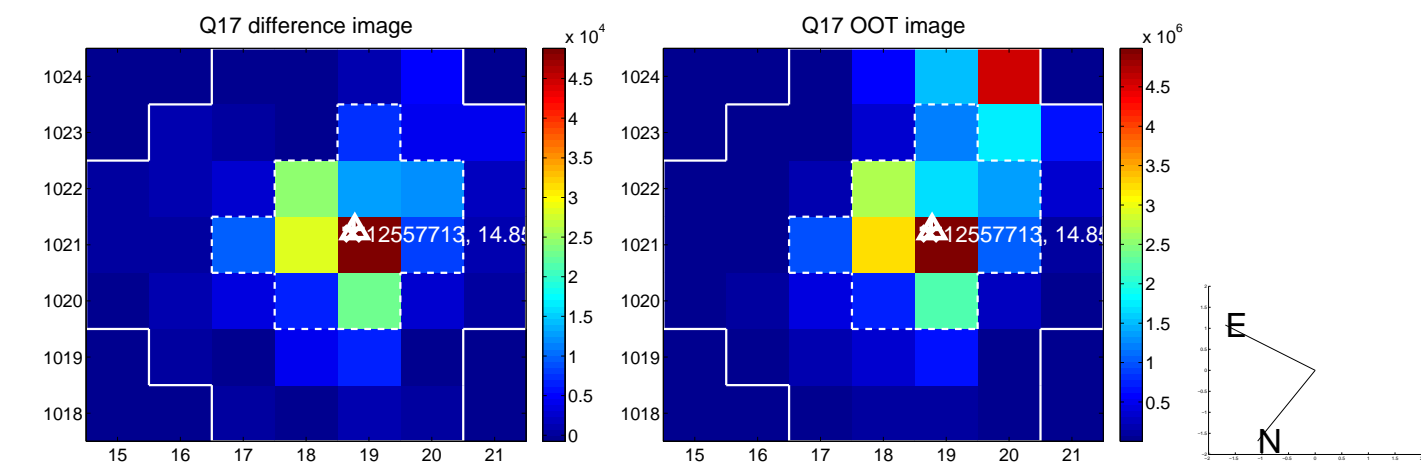
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



This plot does not exist for this TCE.