

KIC 011455711

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})
011455711-01	OBS	No	432.795779	310.136735	447.0	9.609	9.7	7.3	0.86	5907	1.89	0.67
011455711-02	OBS	No	449.280098	183.617359	538.0	9.728	10.1	8.7	0.86	5907	2.11	0.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011455711-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS
011455711-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

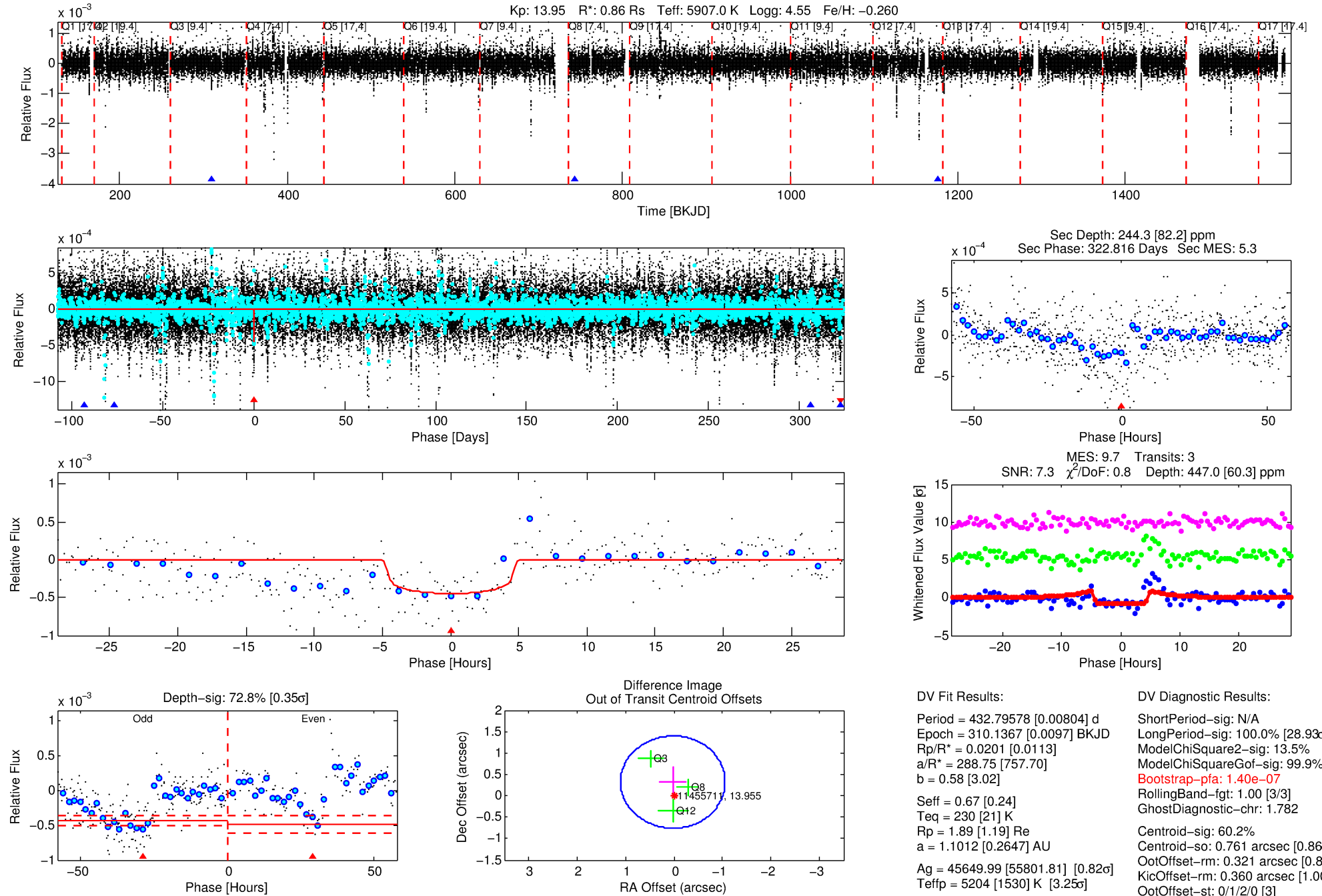
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011455711-01

No Significant Match Found

DV One-Page Summary

KIC: 11455711 Candidate: 1 of 2 Period: 432.796 d



DV Fit Results:

Period = 432.79578 [0.00804] d
Epoch = 310.1367 [0.0097] BKJD
Rp/R* = 0.0201 [0.0113]
a/R* = 288.75 [757.70]
b = 0.58 [3.02]
Seff = 0.67 [0.24]
Teq = 230 [21] K
Rp = 1.89 [1.19] Re
a = 1.1012 [0.2647] AU
Ag = 45649.99 [55801.81] [0.82 σ]
Teffp = 5204 [1530] K [3.25 σ]

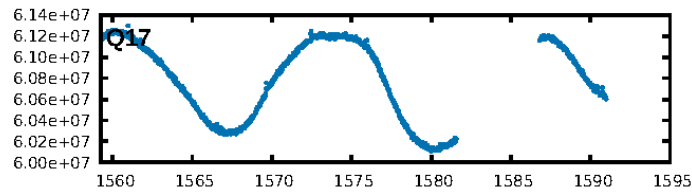
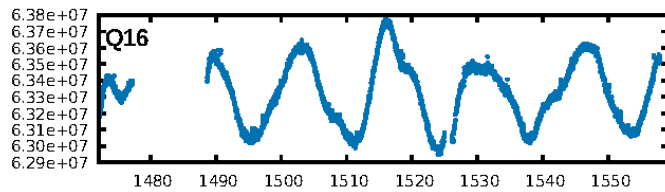
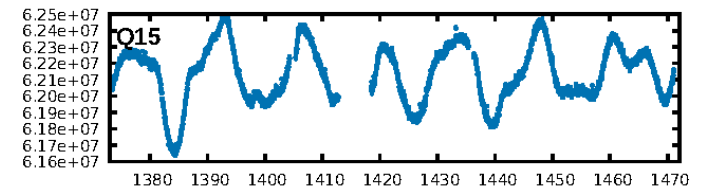
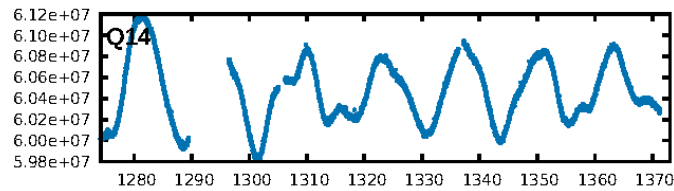
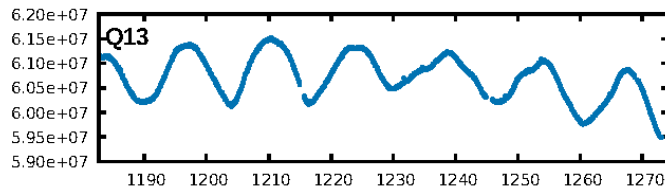
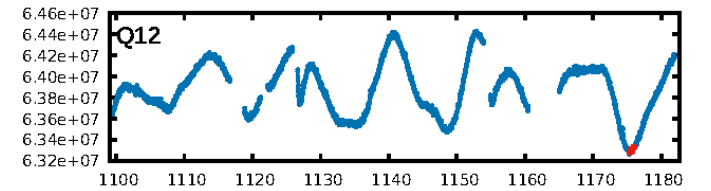
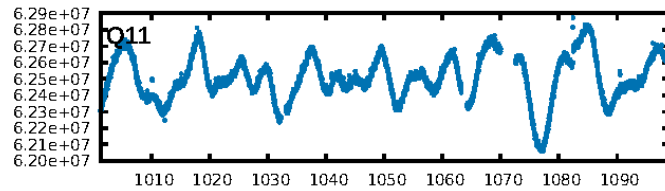
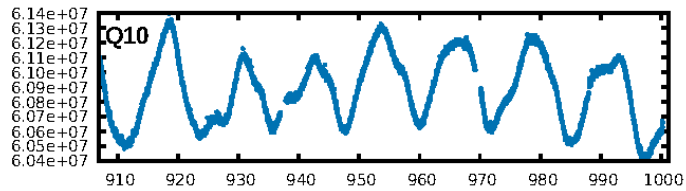
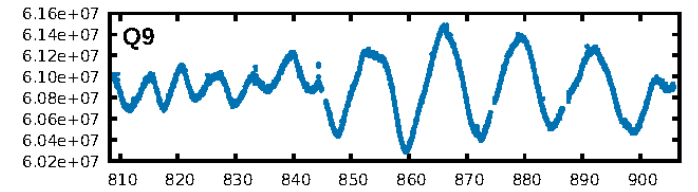
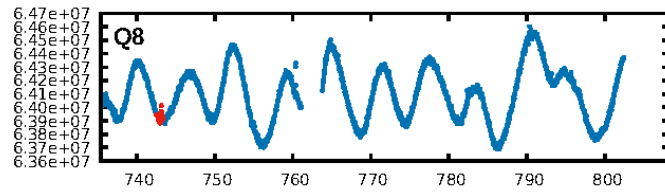
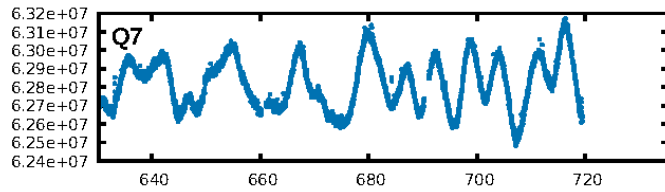
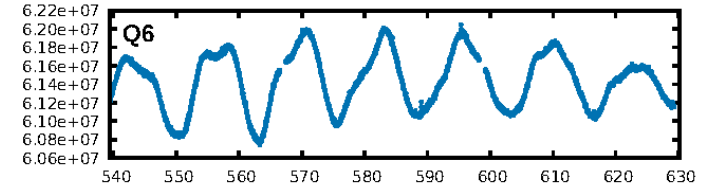
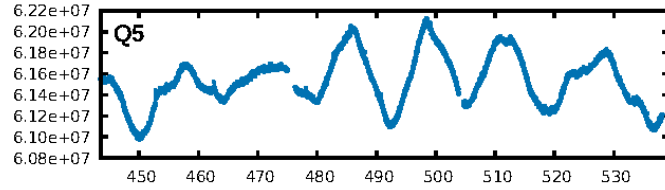
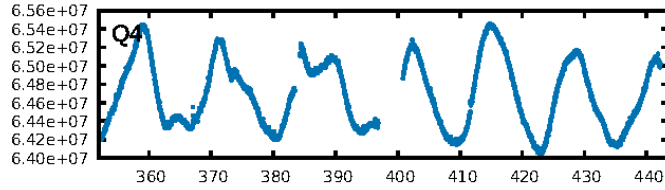
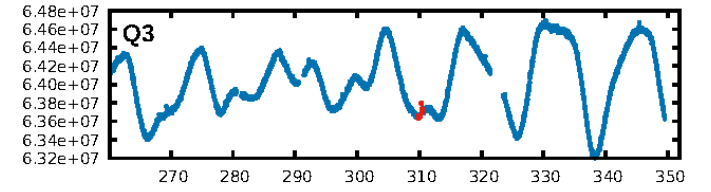
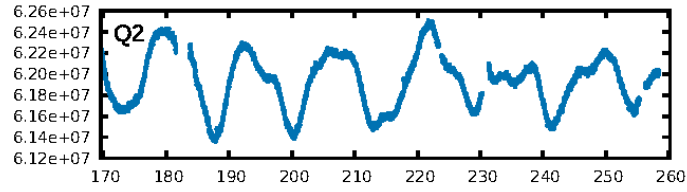
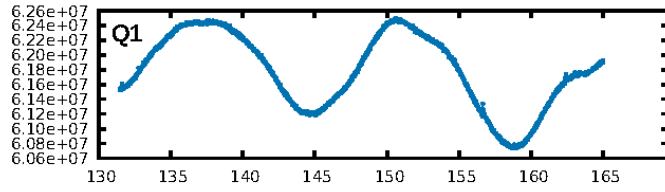
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [28.93 σ]
ModelChiSquare2-sig: 13.5%
ModelChiSquareGof-sig: 99.9%
Bootstrap-pfa: 1.40e-07
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.782
Centroid-sig: 60.2%
Centroid-so: 0.761 arcsec [0.86 σ]
OotOffset-rm: 0.321 arcsec [0.89 σ]
KicOffset-rm: 0.360 arcsec [1.00 σ]
OotOffset-st: 0/1/2/0 [3]
KicOffset-st: 0/1/2/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 1.00 [3/3]

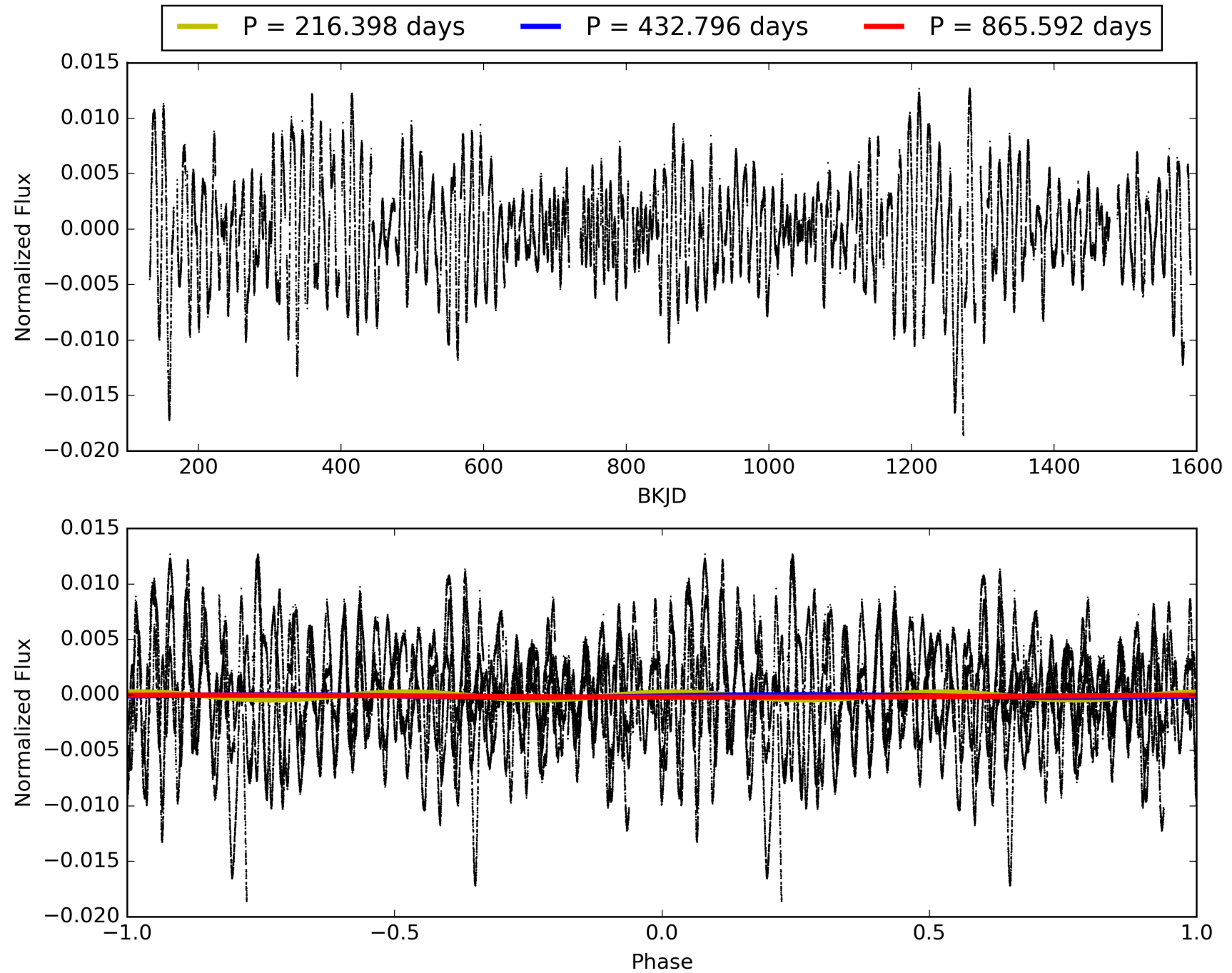
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 011455711-01, PDC Light Curves

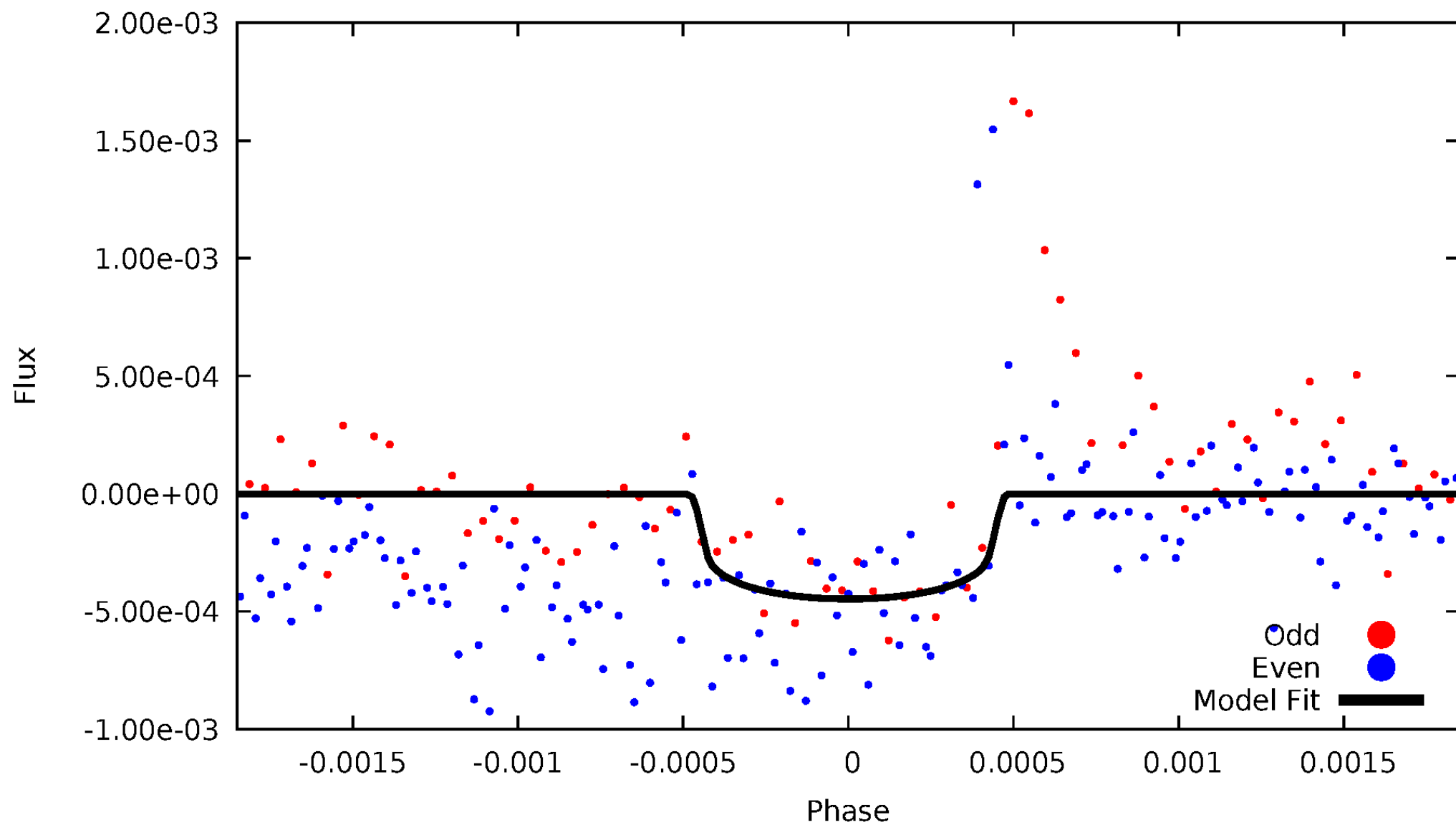


TCE 011455711-01



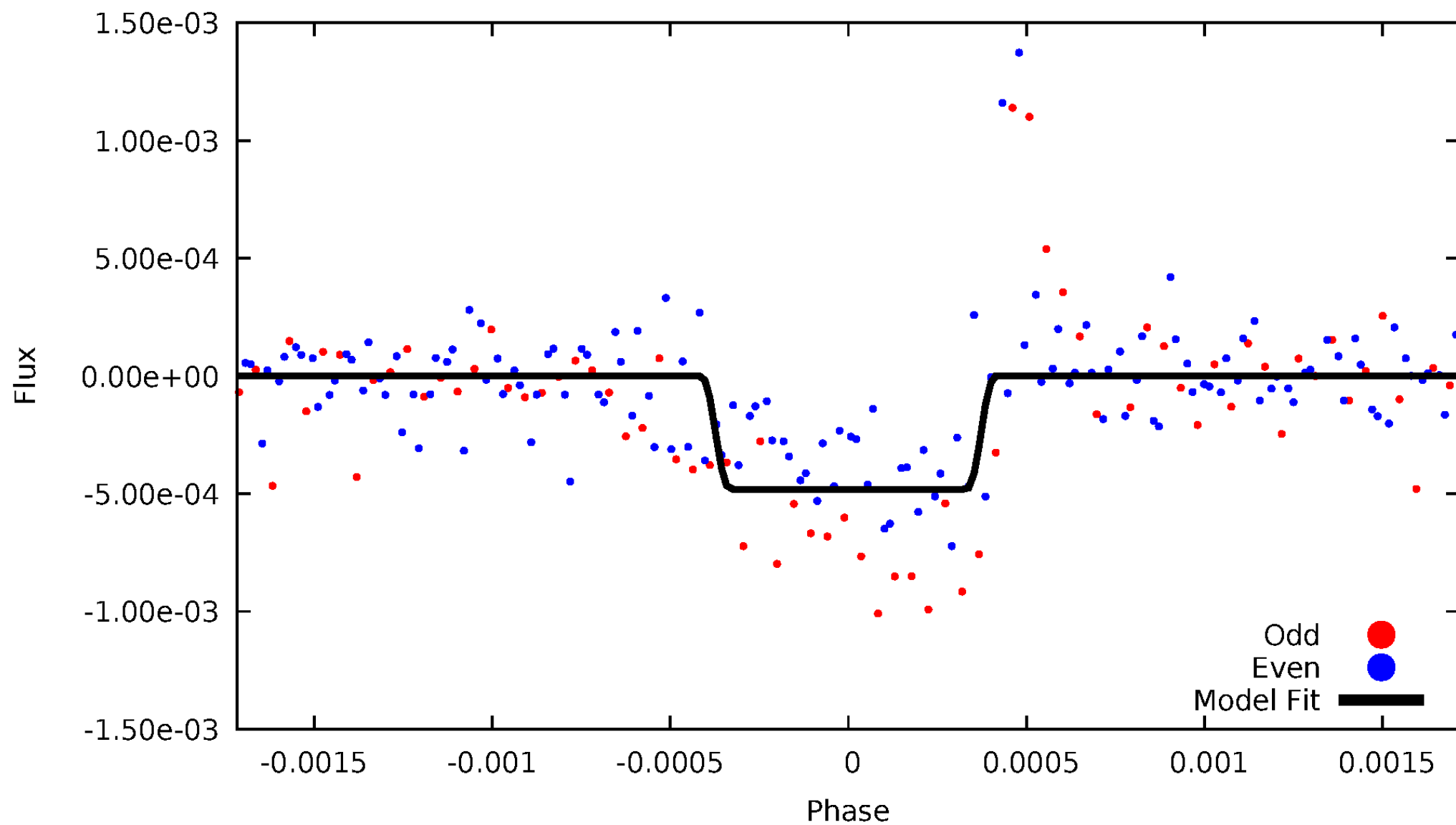
DV Odd/Even

TCE 011455711-01



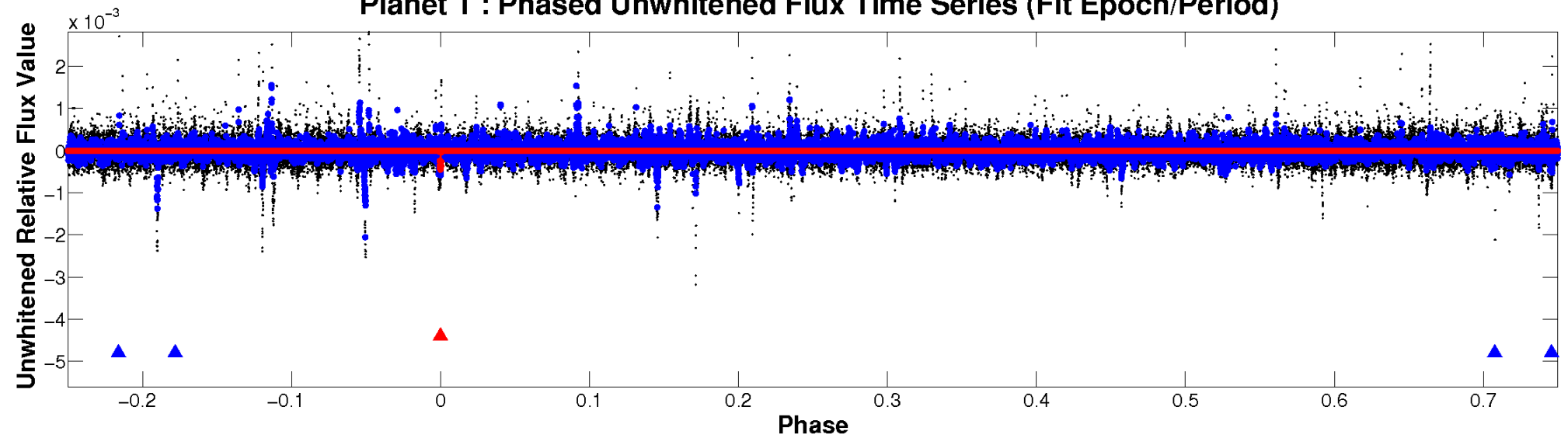
ALT Odd/Even

TCE 011455711-01

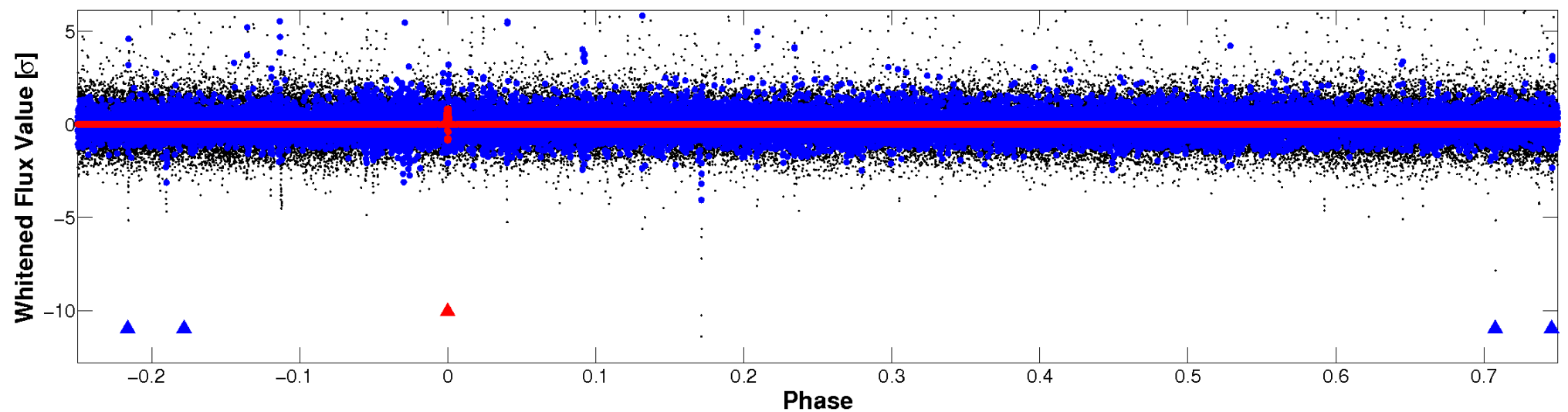


Non-Whitened Vs. Whitened Light Curve

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

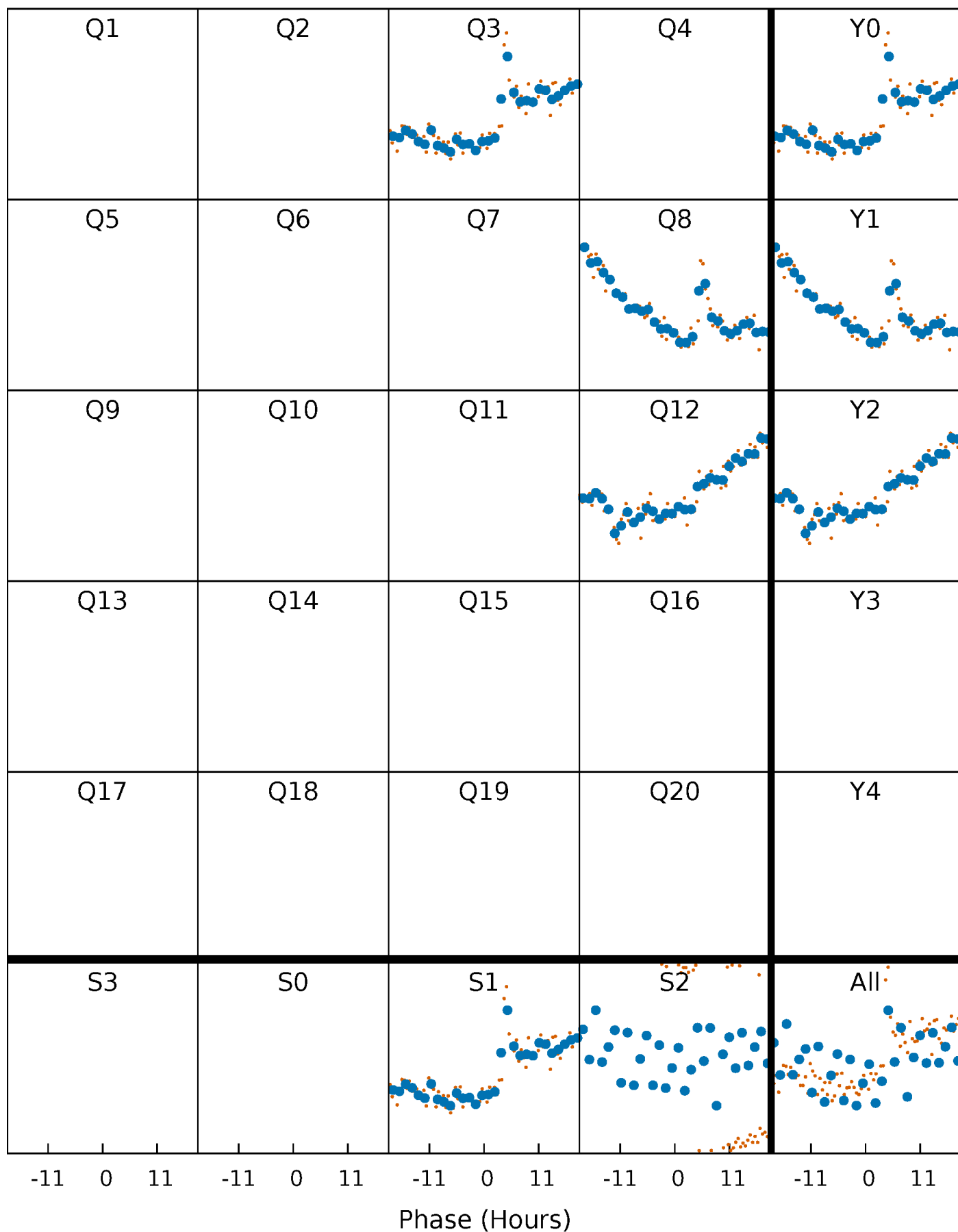


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



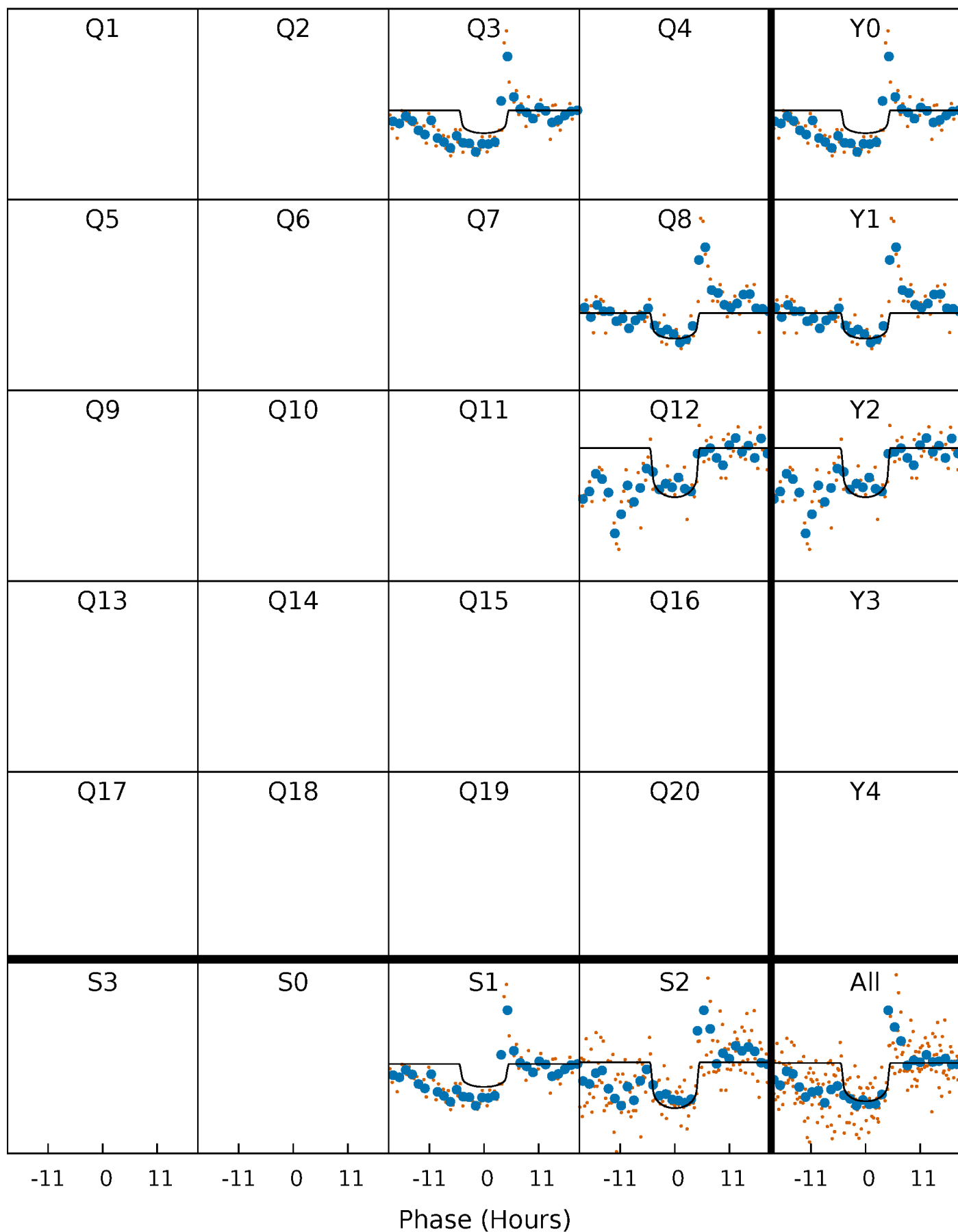
PDC Quarter-Phased Transit Curves

TCE 011455711-01 P=432.795779 Days $T_0=310.136735$ (BKJD)



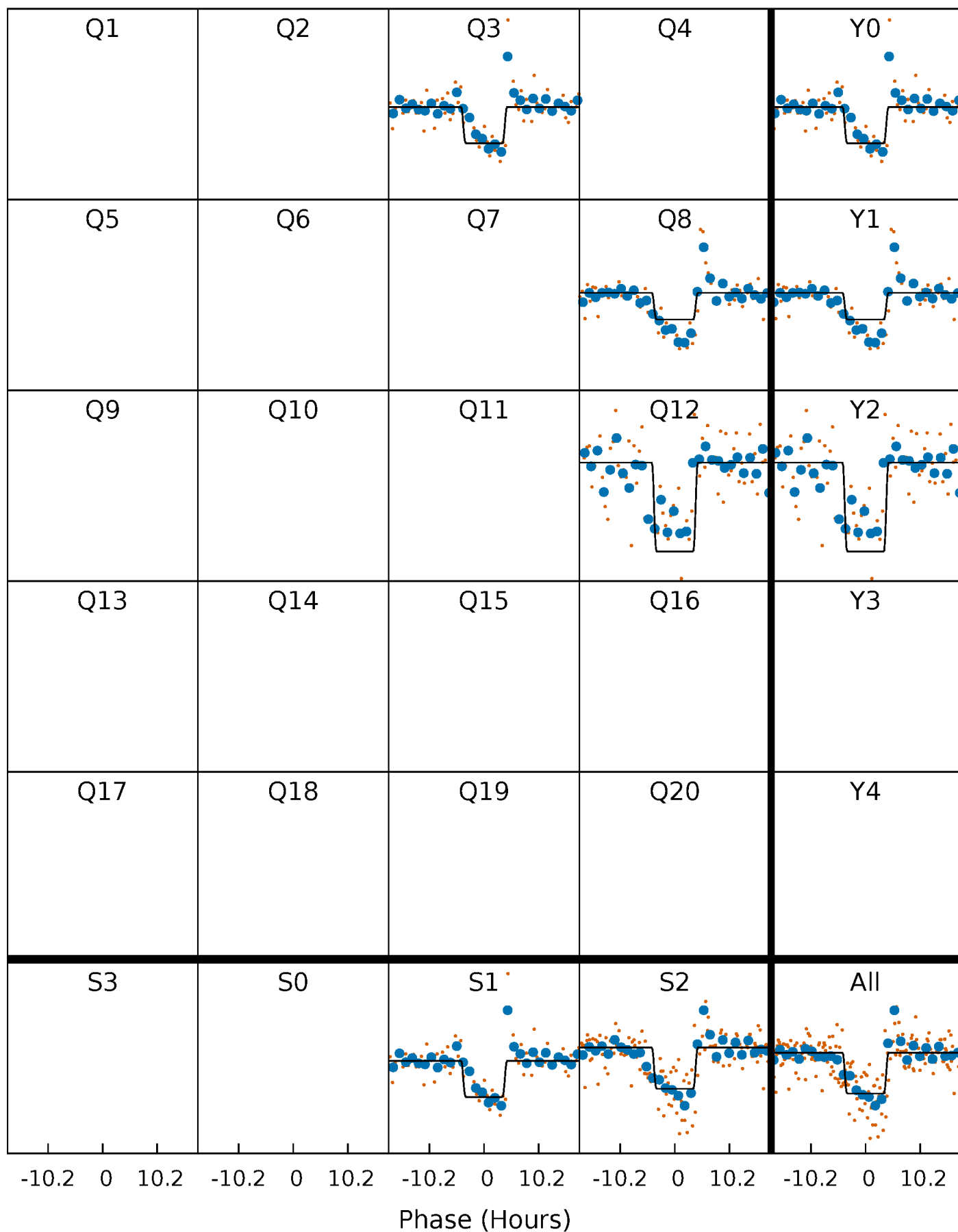
DV Quarter-Phased Transit Curves

TCE 011455711-01 P=432.795779 Days $T_0=310.136735$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

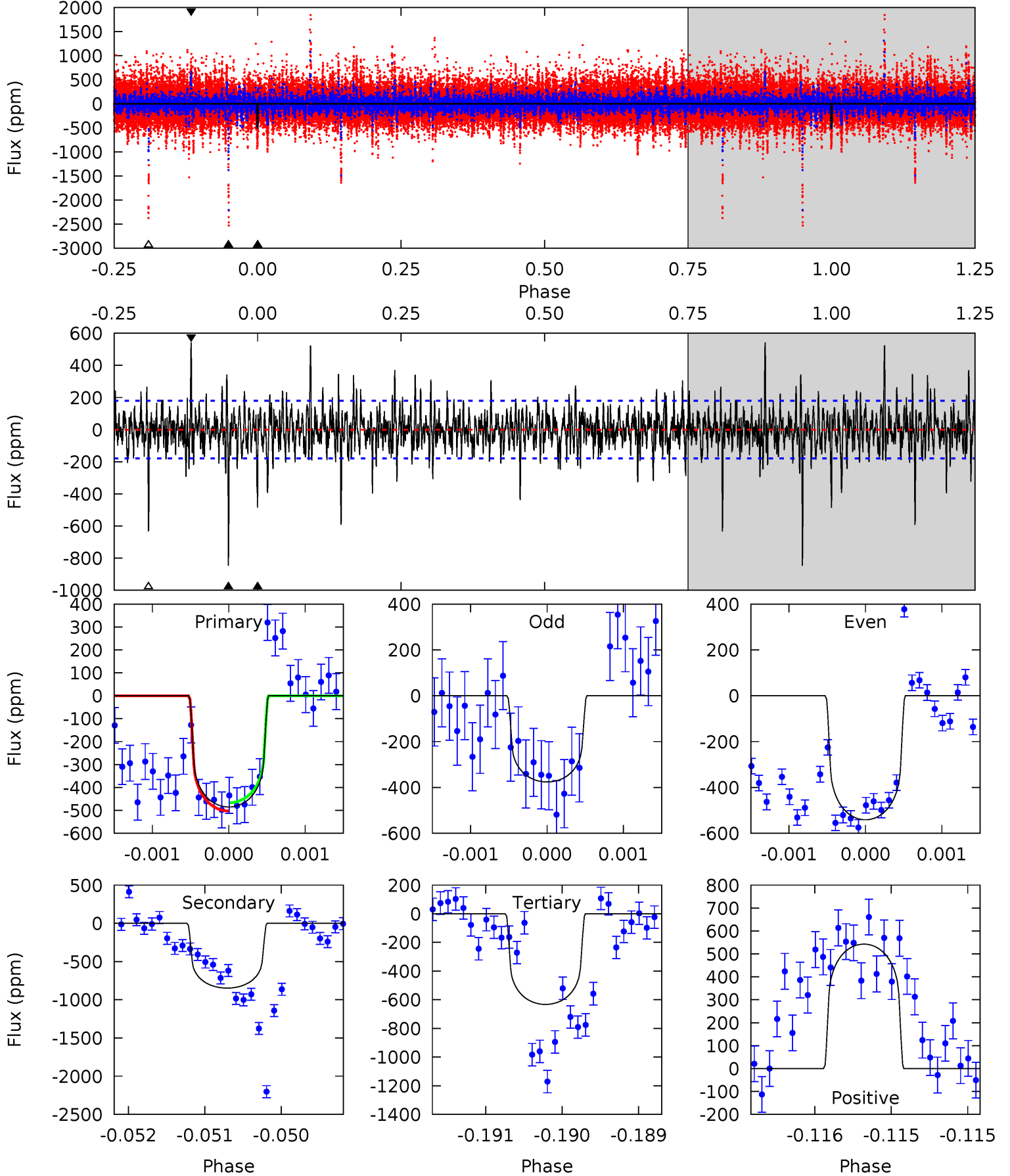
TCE 011455711-01 P=432.830479 Days $T_0=310.118892$ (BKJD)



DV Model-Shift Uniqueness Test

011455711-01, P = 432.795779 Days, E = 310.136735 Days

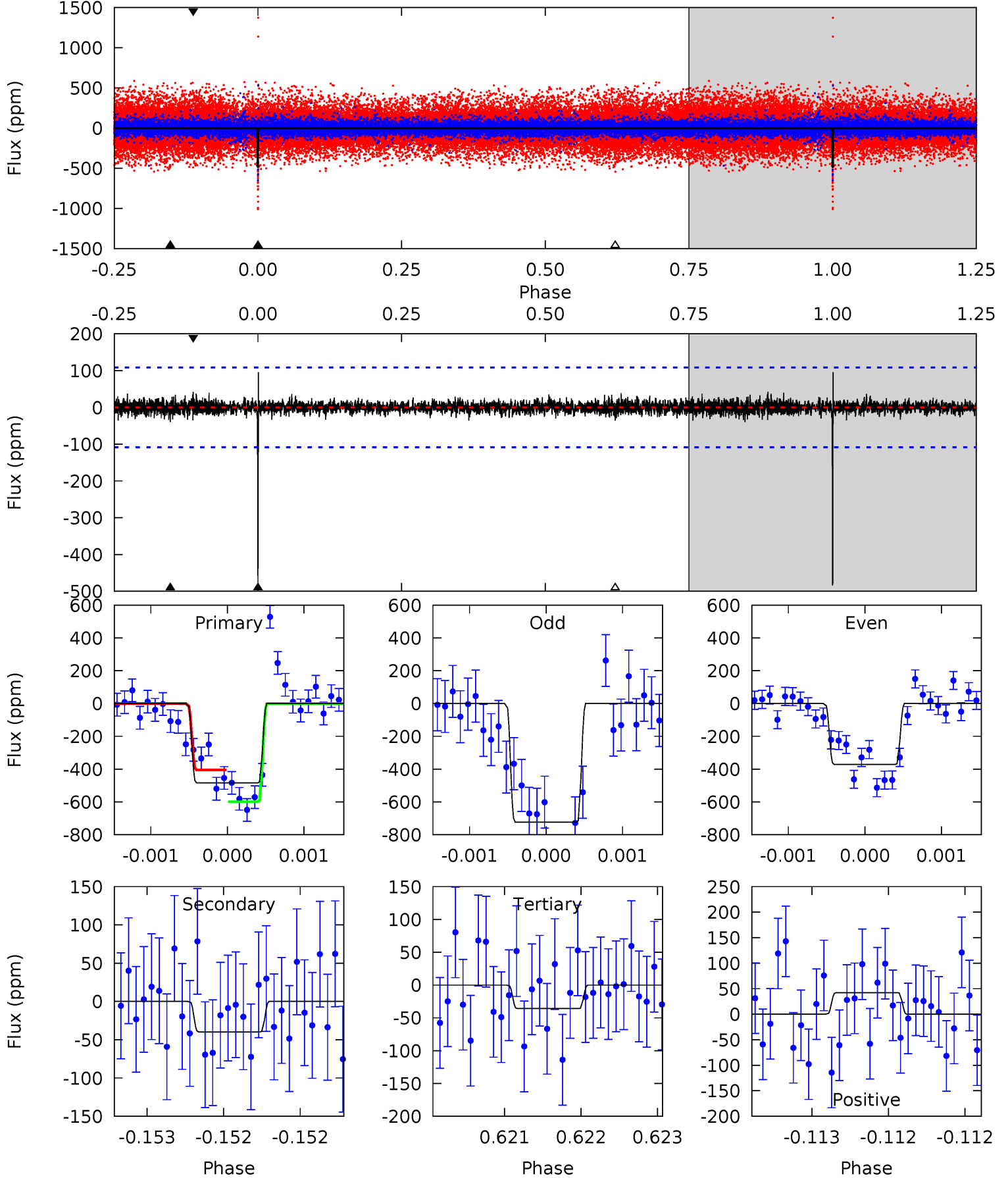
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.8	25.8	19.2	16.5	5.46	3.31	2.96	-4.48	-1.74	6.53	9.27	2.27	1.15	0.39	0.55



Alt Model-Shift Uniqueness Test

011455711-01, P = 432.830479 Days, E = 310.118892 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.5	2.01	1.82	2.13	5.49	3.35	0.45	22.7	22.3	0.19	-0.12	8.62	1.15	0.16	4.95



Stellar Parameters For KIC 011455711

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5907^{+142}_{-160}	$4.547^{+0.036}_{-0.192}$	$-0.260^{+0.300}_{-0.300}$	$0.860^{+0.245}_{-0.065}$	$0.951^{+0.109}_{-0.109}$	$2.103^{+0.413}_{-1.076}$
	+2%/-3%	+1%/-4%	+115%/-115%	+28%/-8%	+11%/-11%	+20%/-51%
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 011455711-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-847 ± 33	$2.06^{+1.13}_{-1.09}$	329^{+22}_{-13}	6998^{+4539}_{-1351}	$131469^{+455153}_{-76571}$
Alt.	-40 ± 20	$2.32^{+1.13}_{-1.15}$	329^{+23}_{-13}	3512^{+1009}_{-466}	4621^{+14113}_{-2908}

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

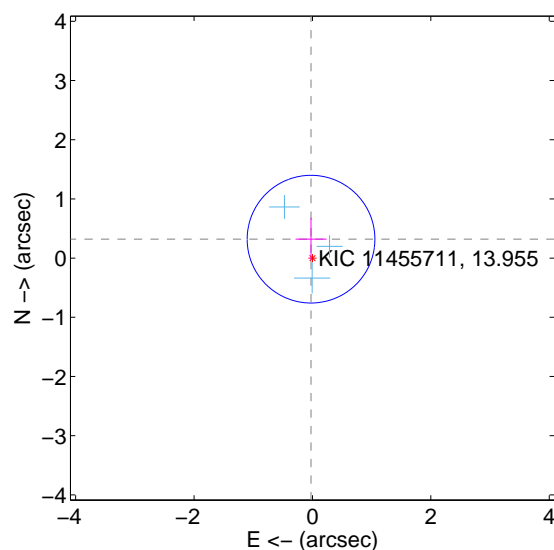
Supplemental centroid analysis for 011455711-01. Kepler magnitude: 13.96. Transit SNR 7.27

There are 3 quarters with good PRF difference image offsets

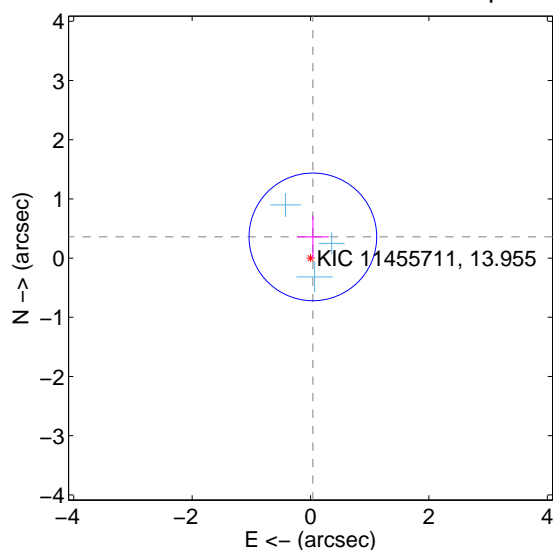
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.321 ± 0.360	0.89	0.024 ± 0.262	0.320 ± 0.360
PRF-fit source offset from KIC position	0.360 ± 0.359	1.00	-0.040 ± 0.268	0.358 ± 0.360
photometric centroid source offset	0.76 ± 0.88	0.86	-0.70 ± 0.85	-0.31 ± 1.01

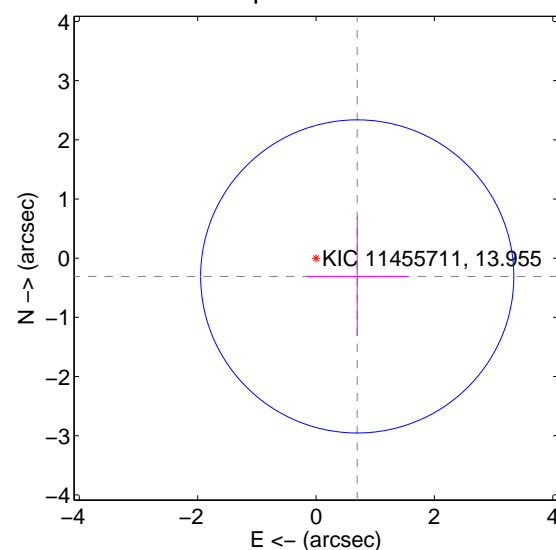
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

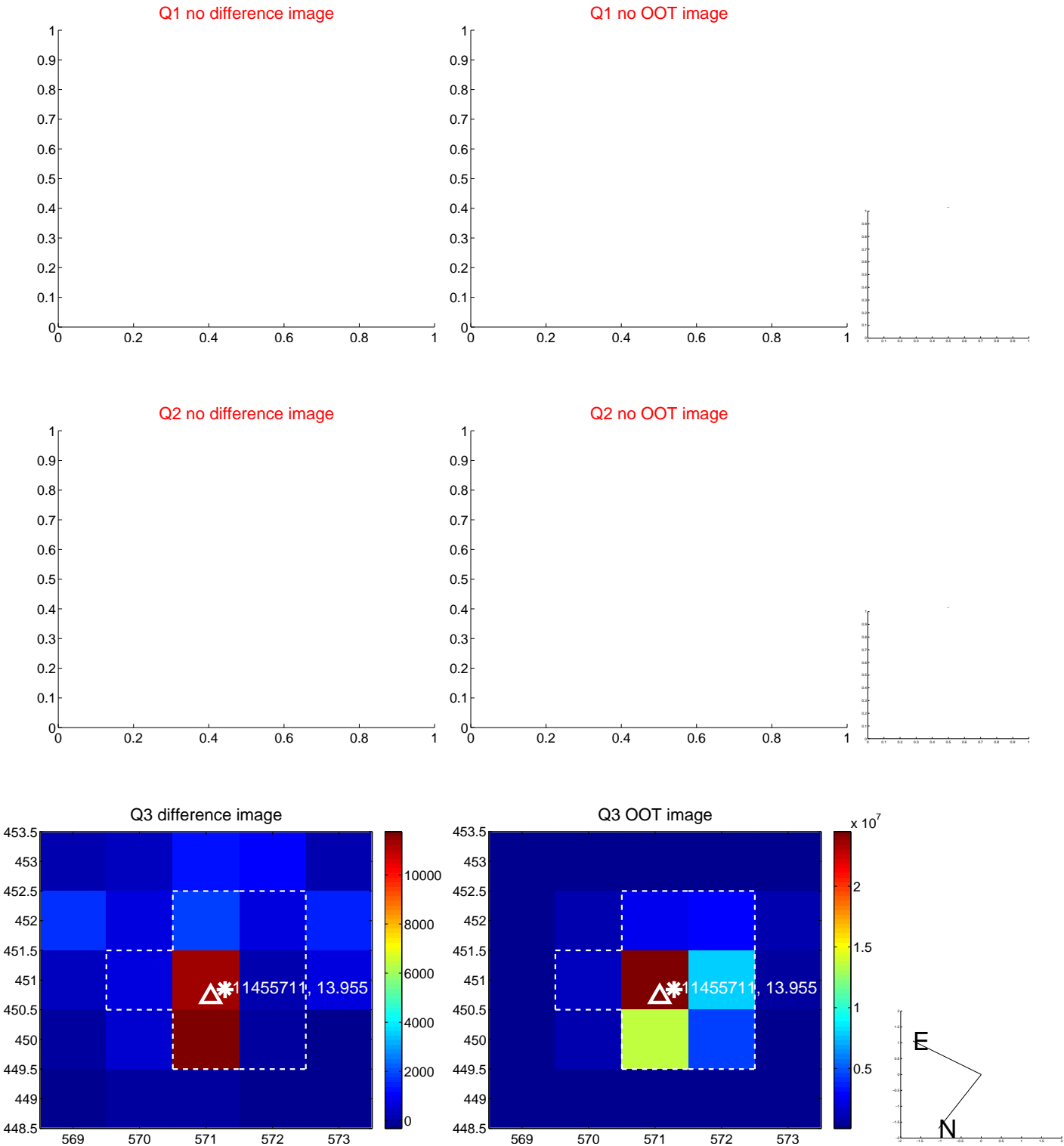


offset from photometric centroids

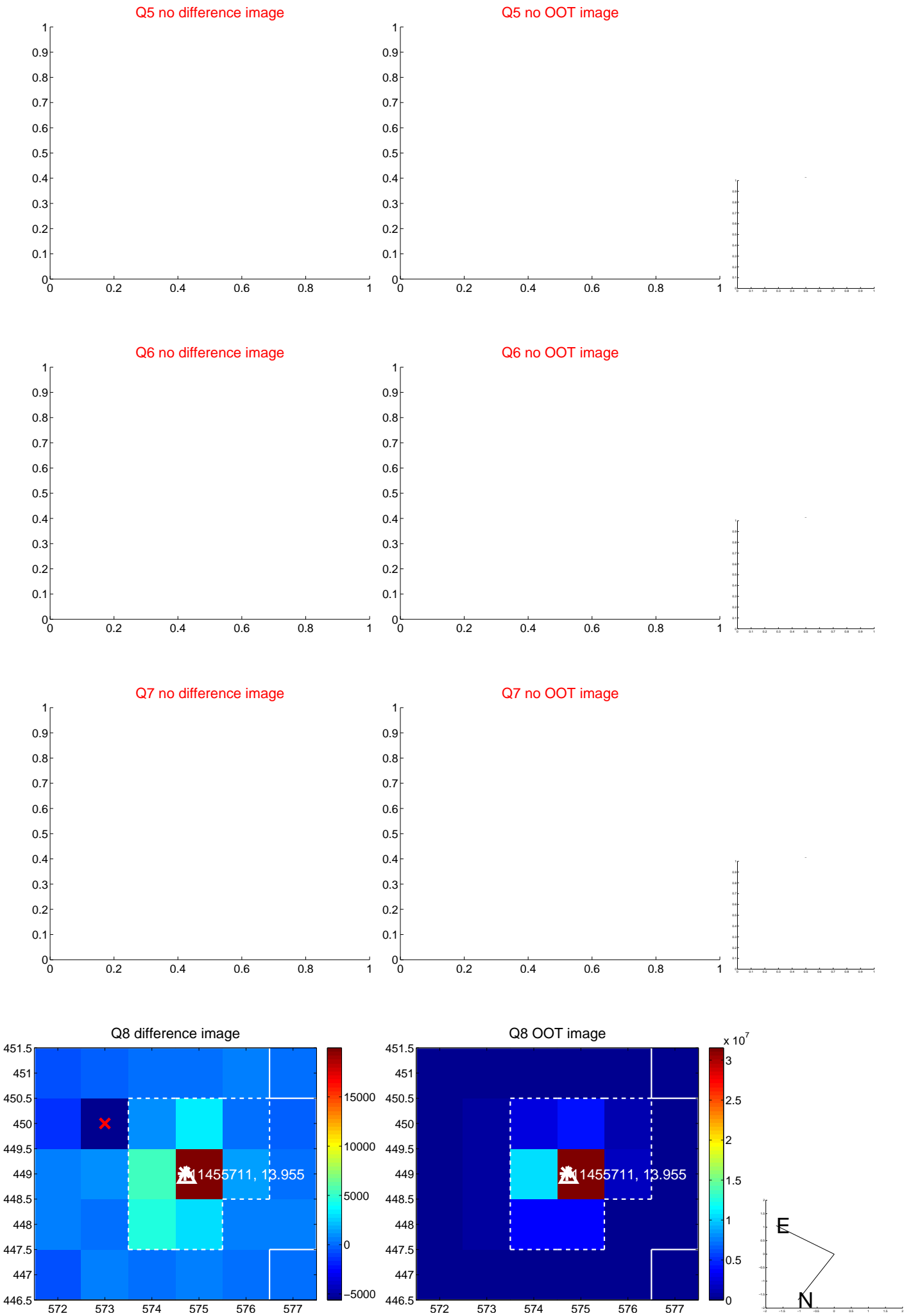


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

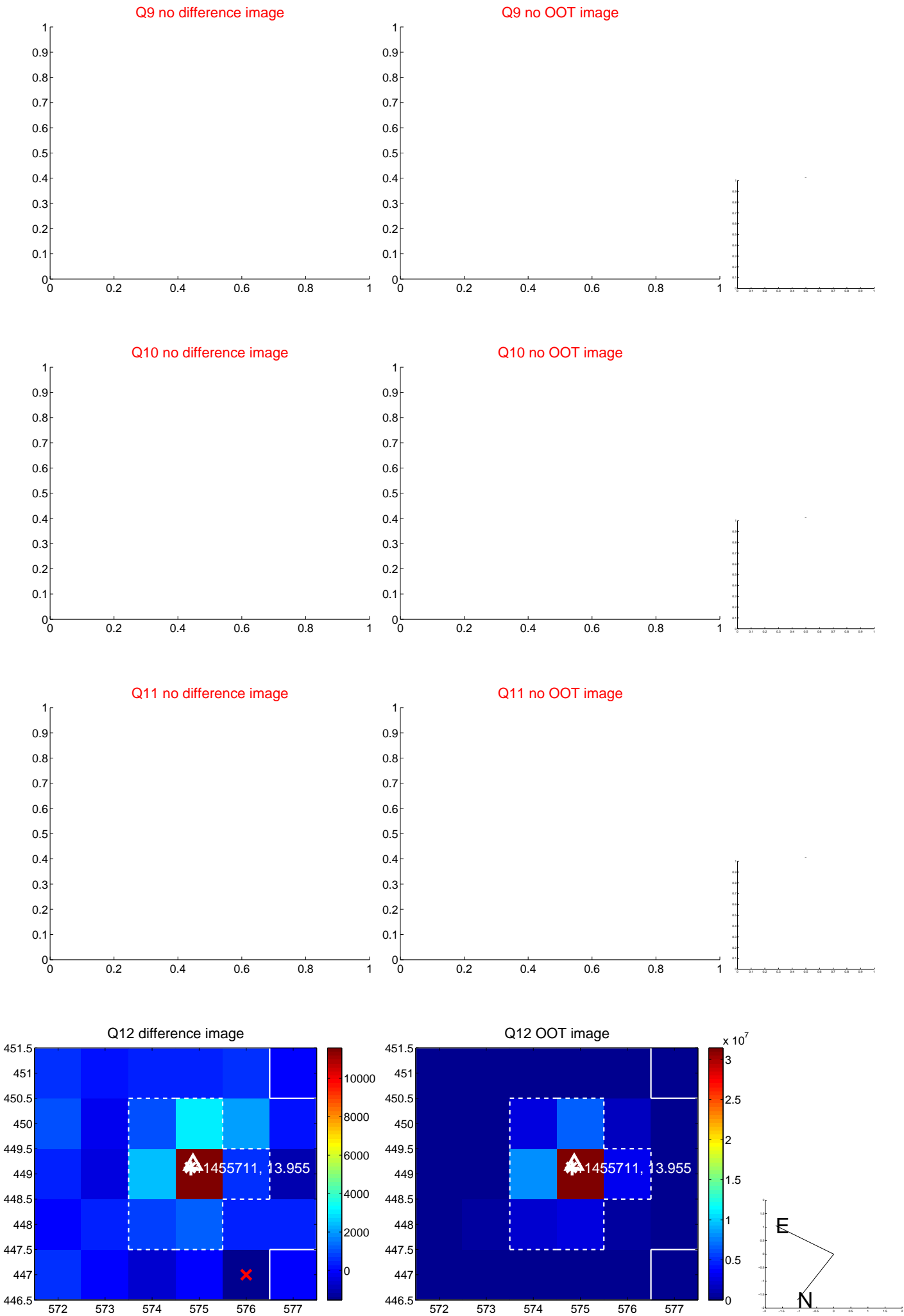
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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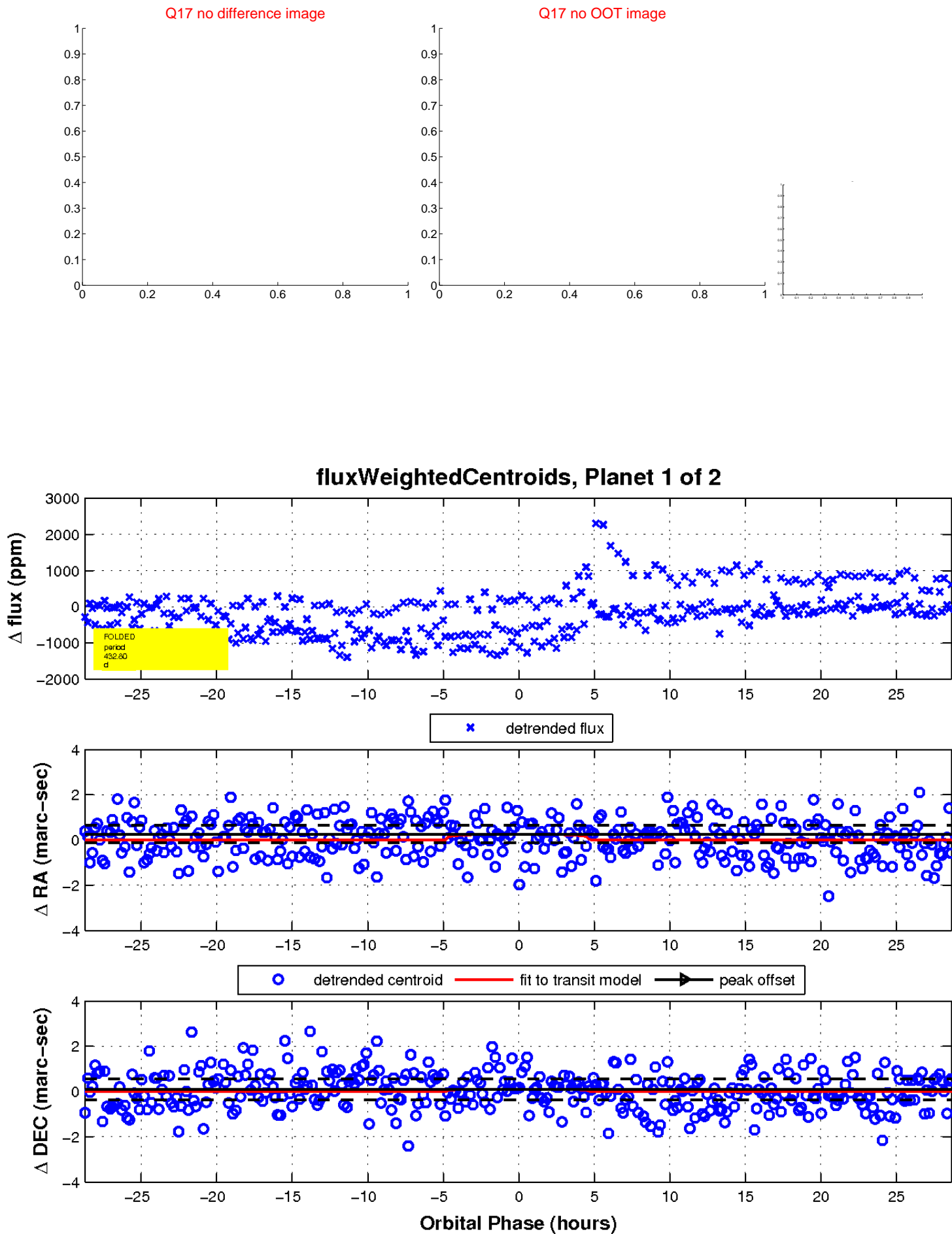
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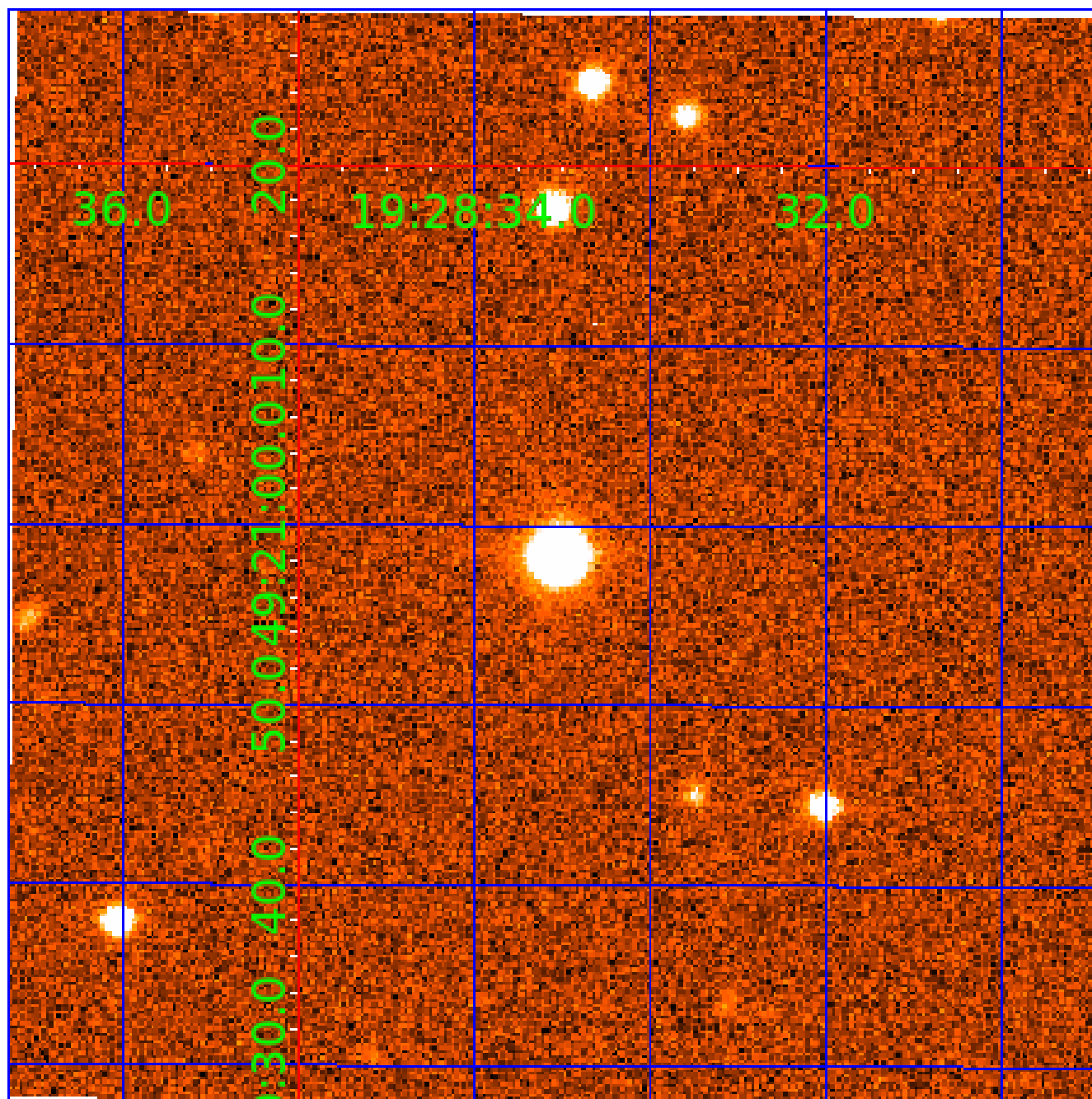


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 011455711

Q1-17 DR25 TCE Parameters

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

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

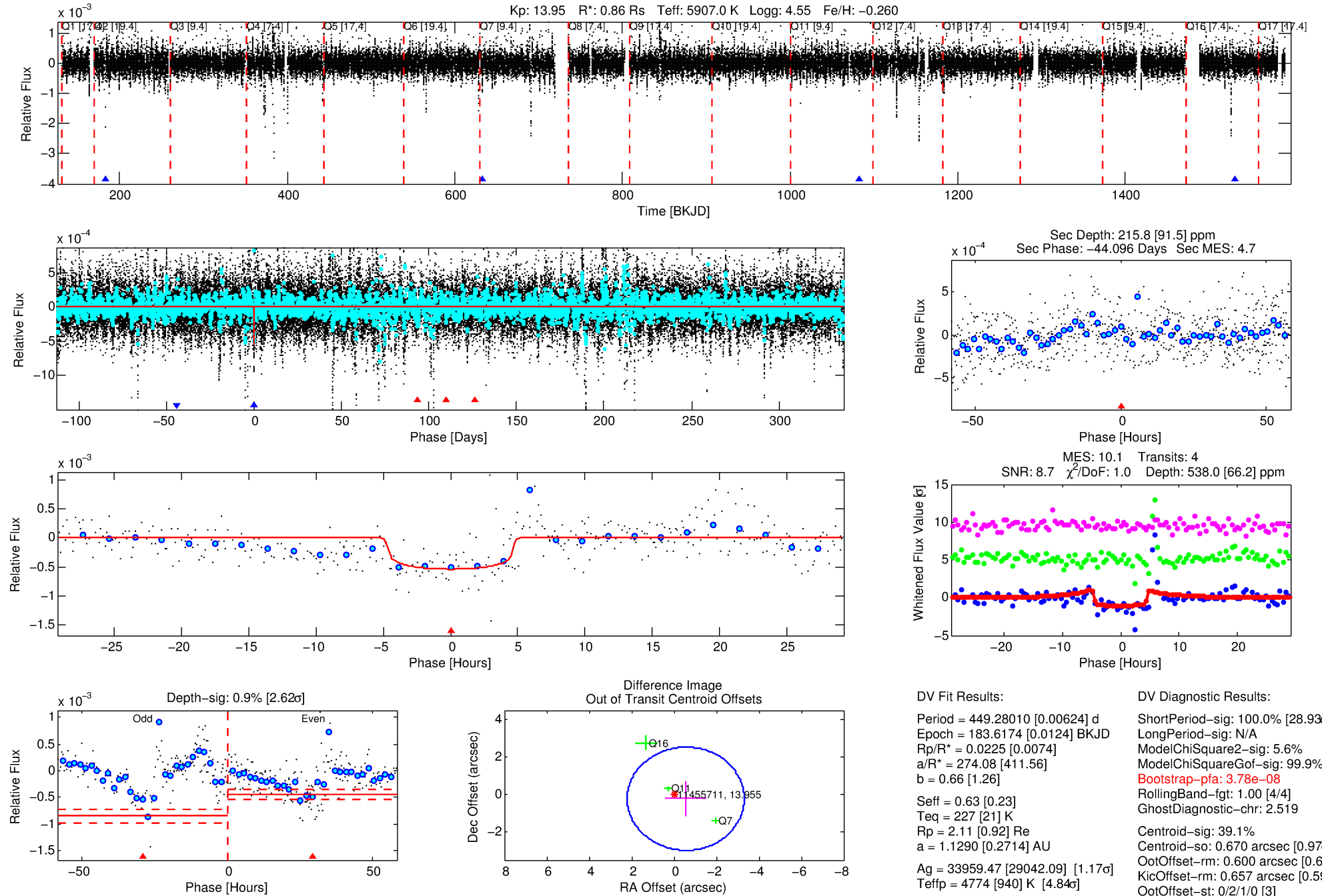
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 011455711-02

No Significant Match Found

DV One-Page Summary

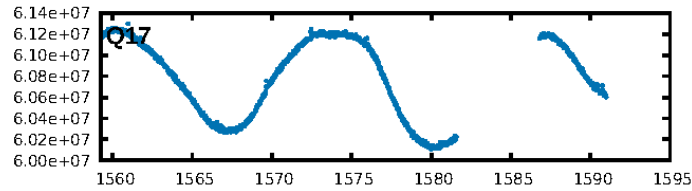
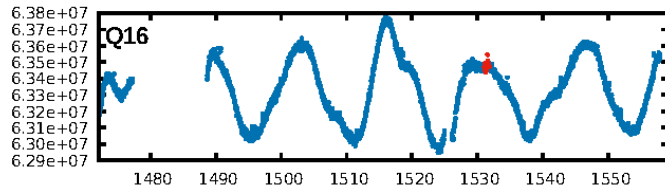
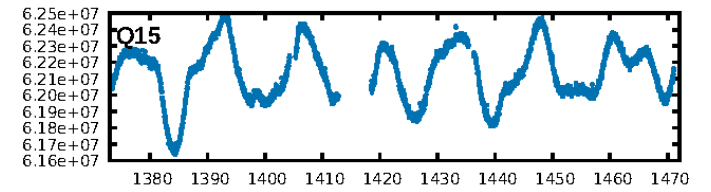
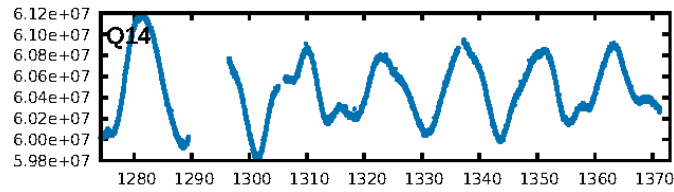
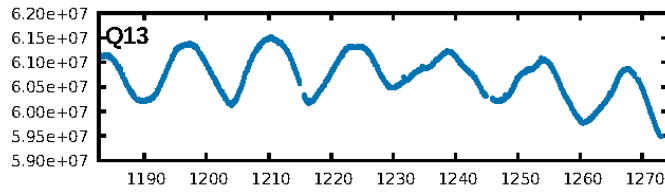
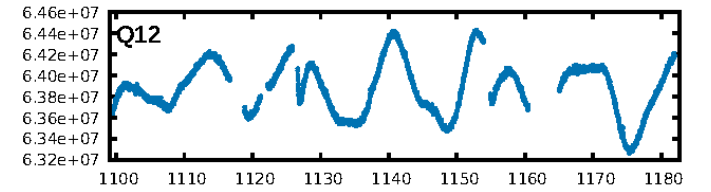
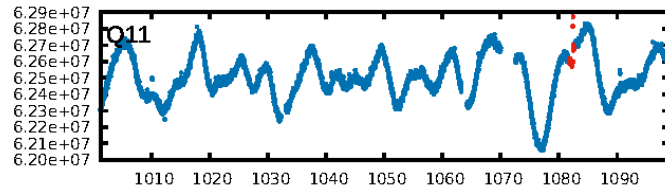
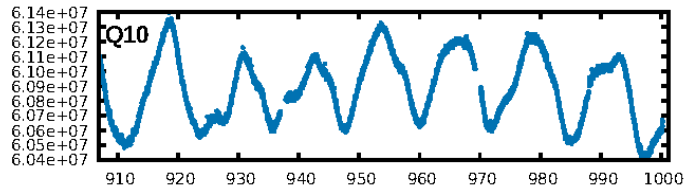
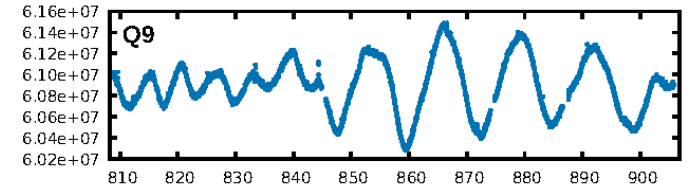
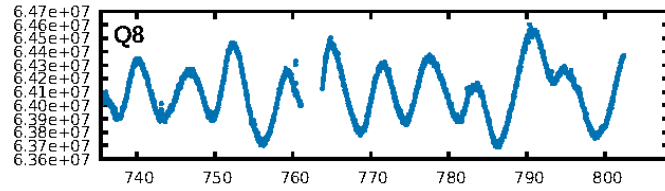
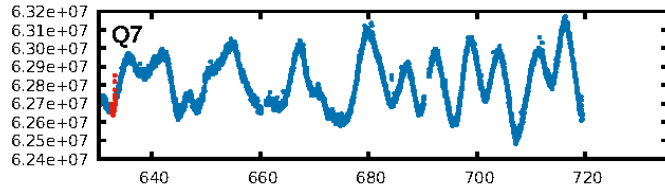
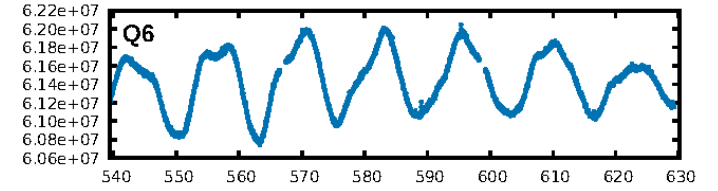
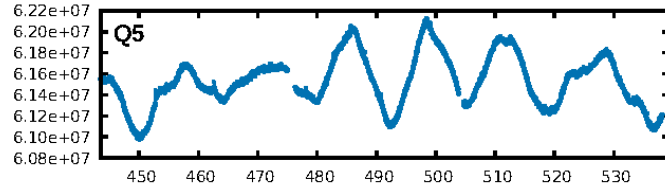
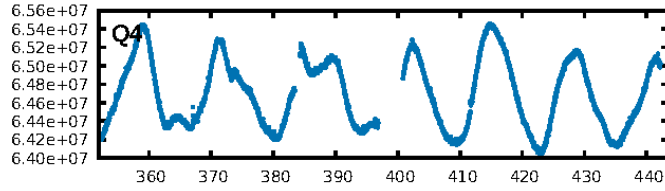
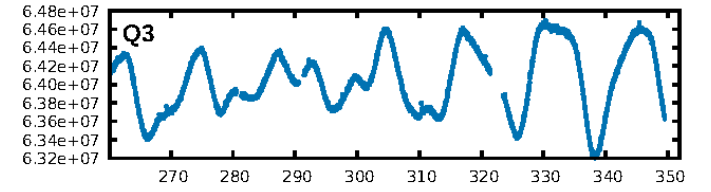
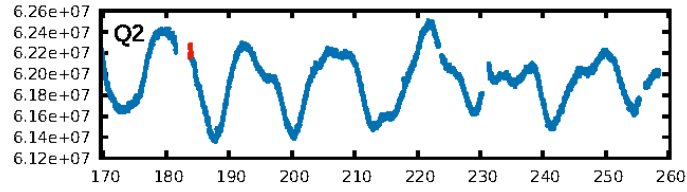
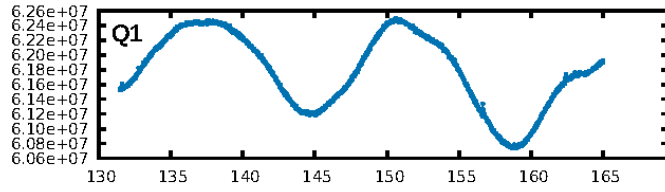
KIC: 11455711 Candidate: 2 of 2 Period: 449.280 d



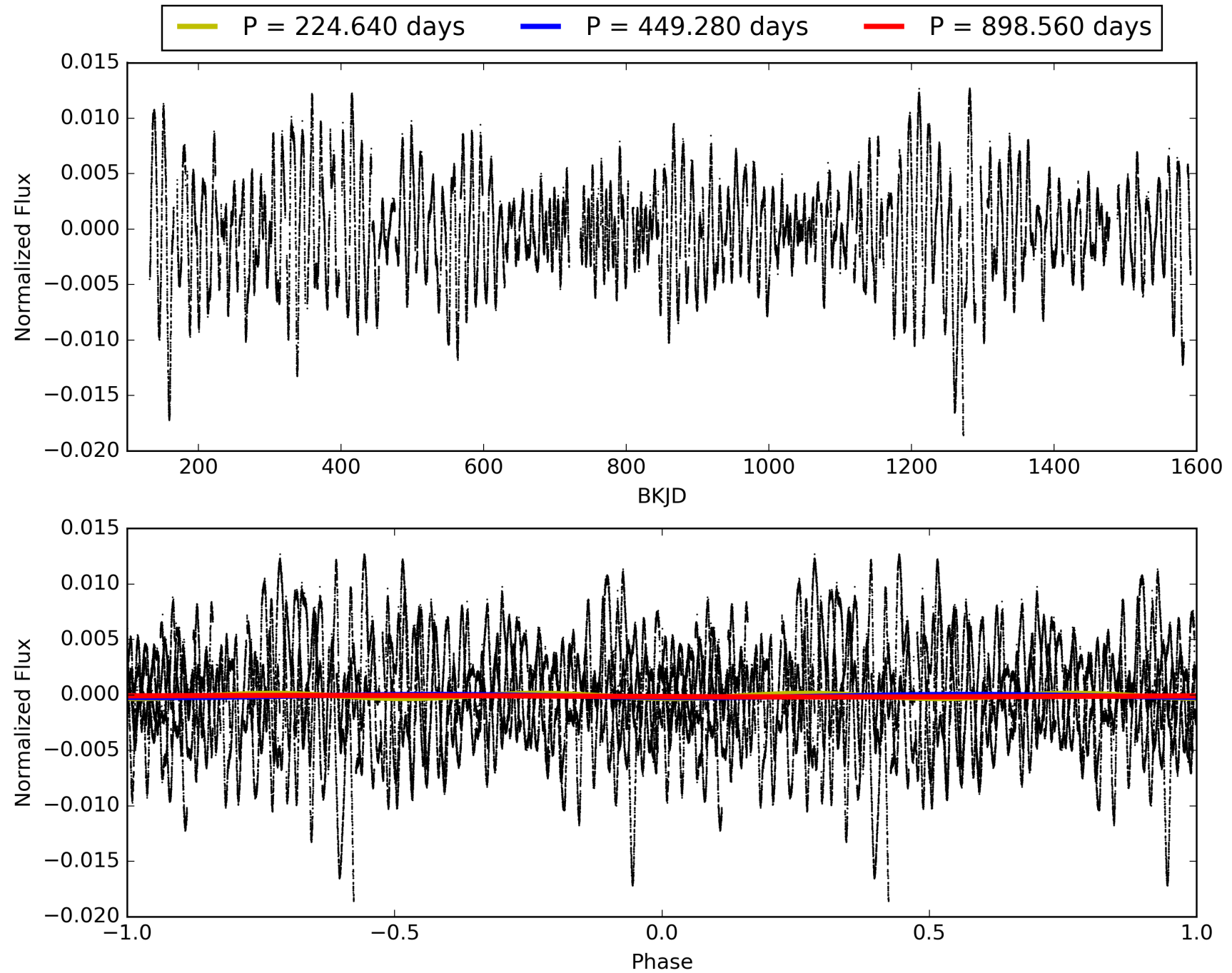
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 03:12:10 Z

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TCE 011455711-02, PDC Light Curves

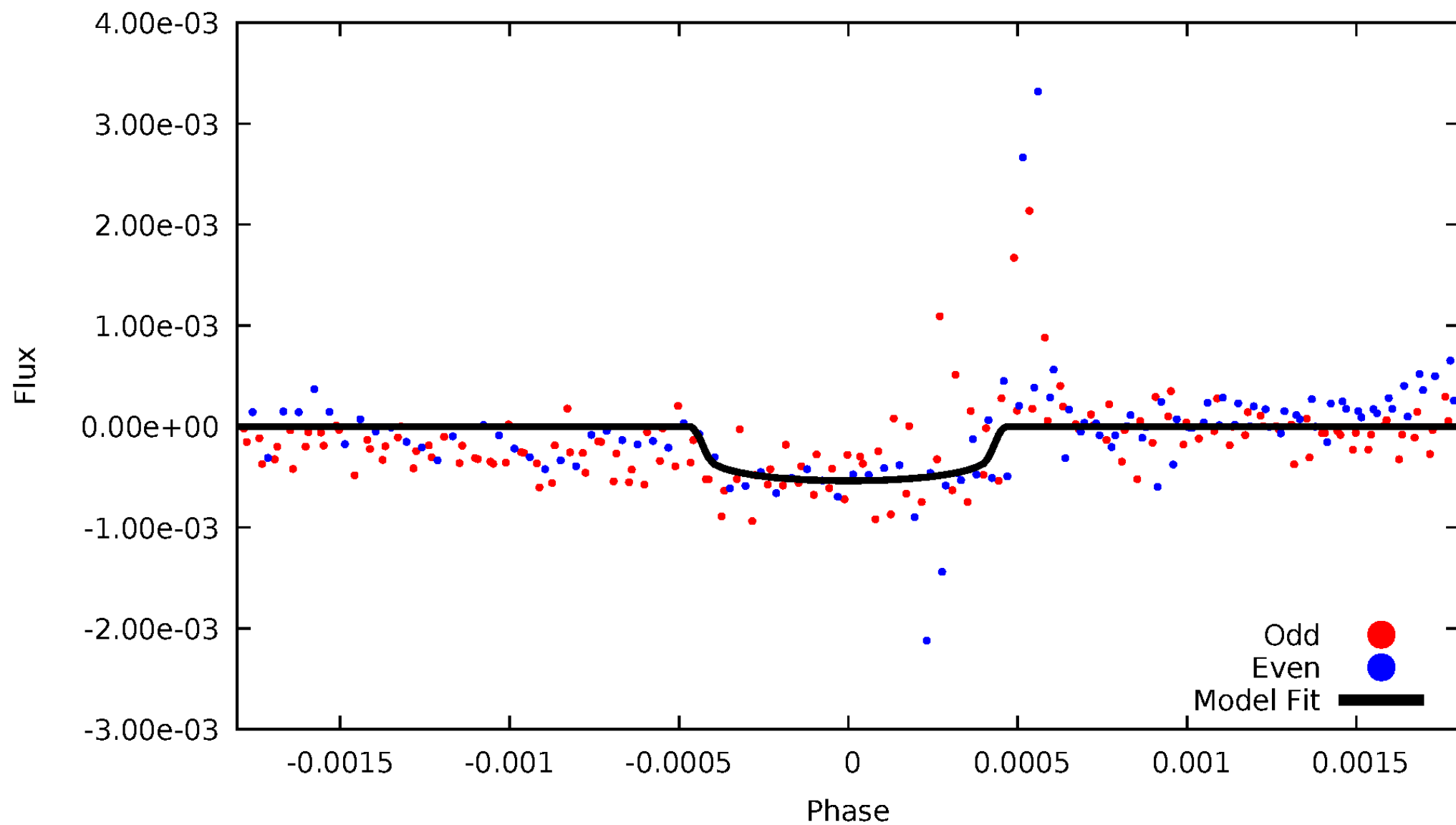


TCE 011455711-02



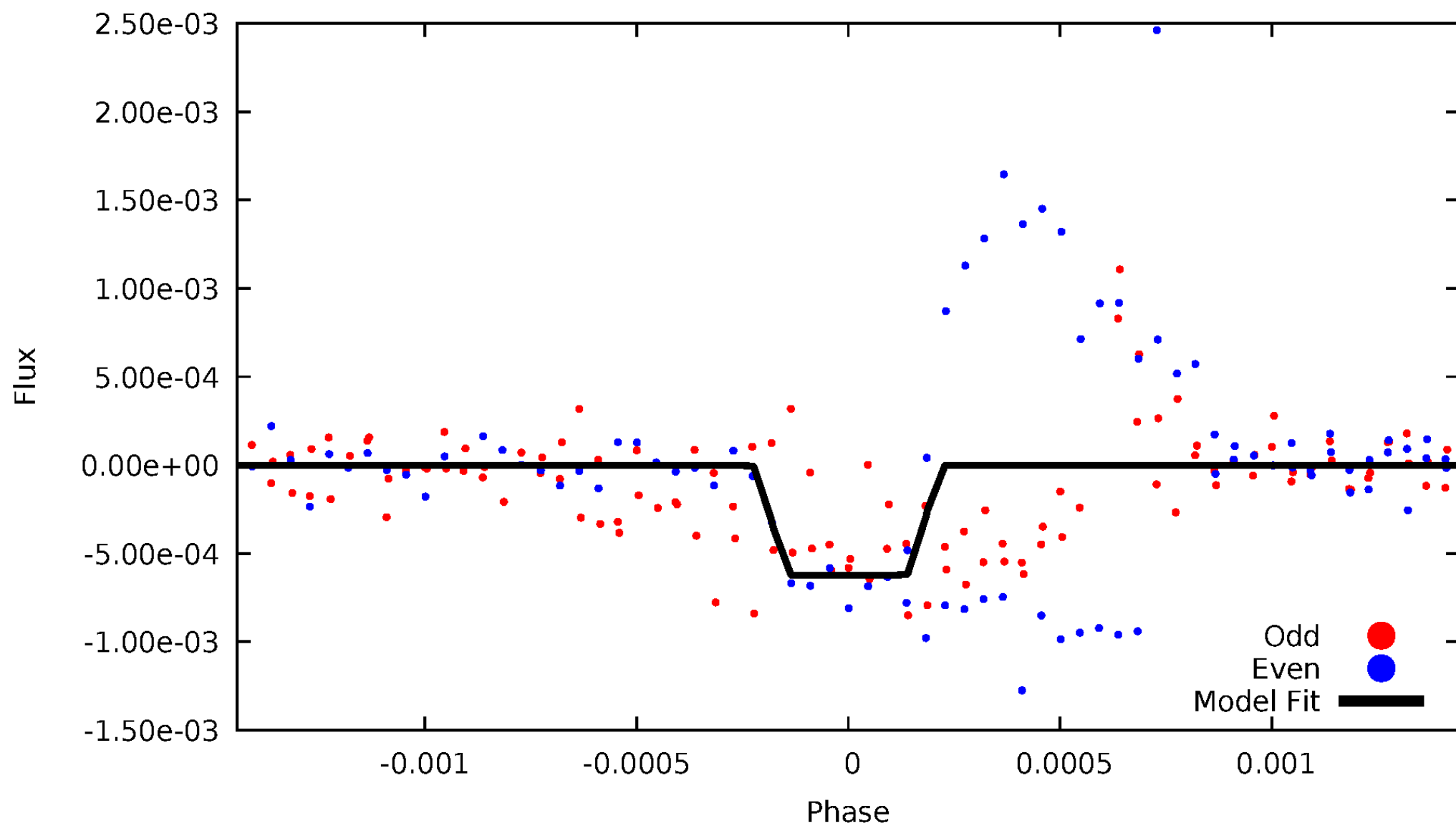
DV Odd/Even

TCE 011455711-02



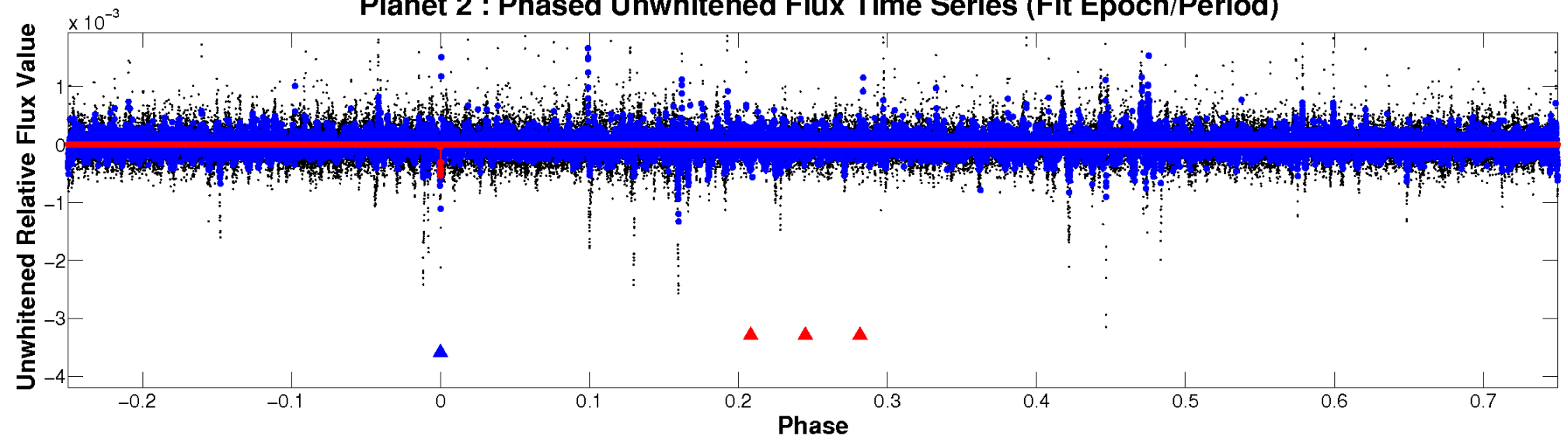
ALT Odd/Even

TCE 011455711-02

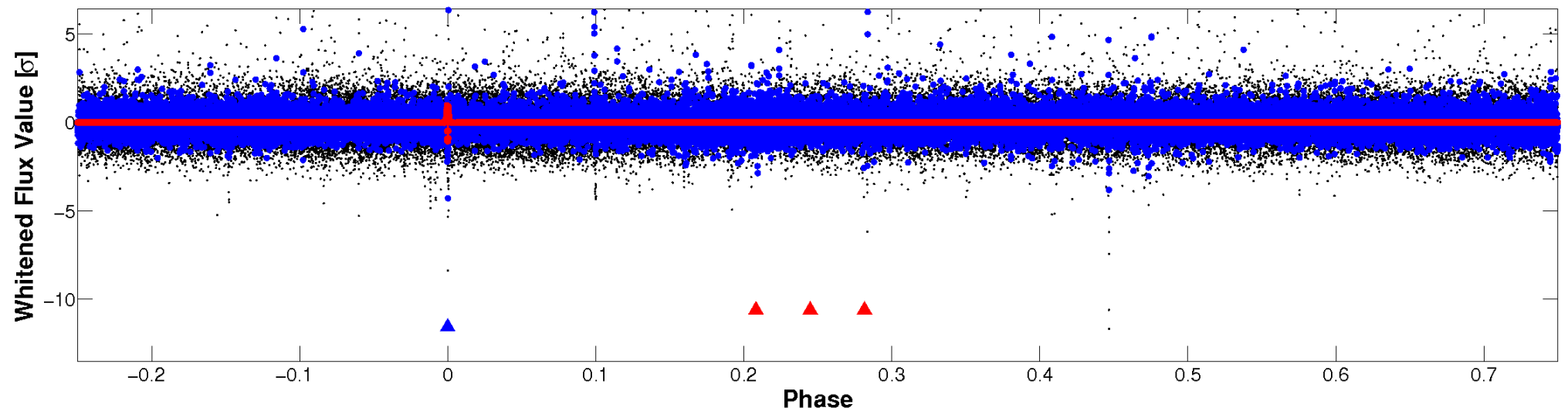


Non-Whitened Vs. Whitened Light Curve

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

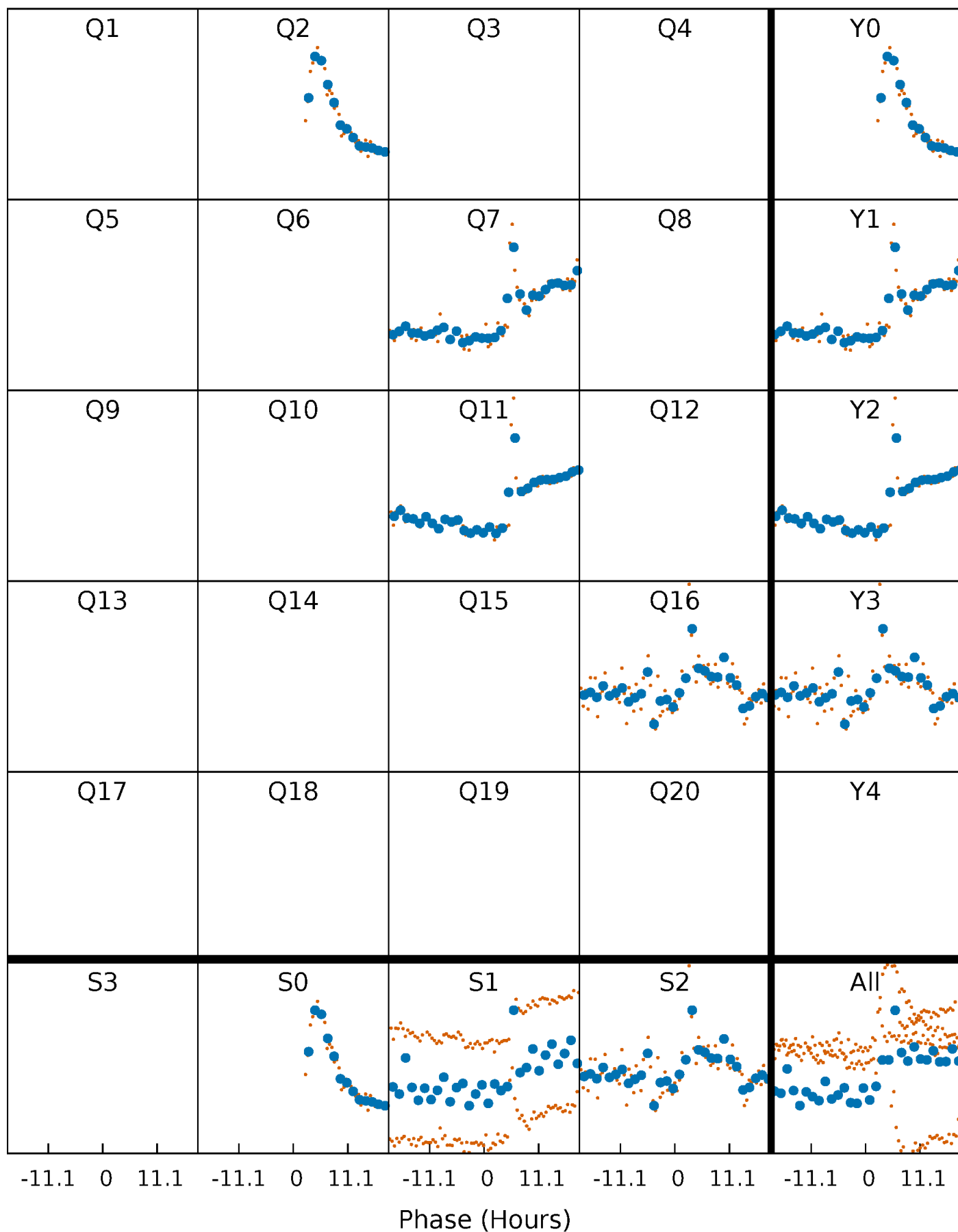


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



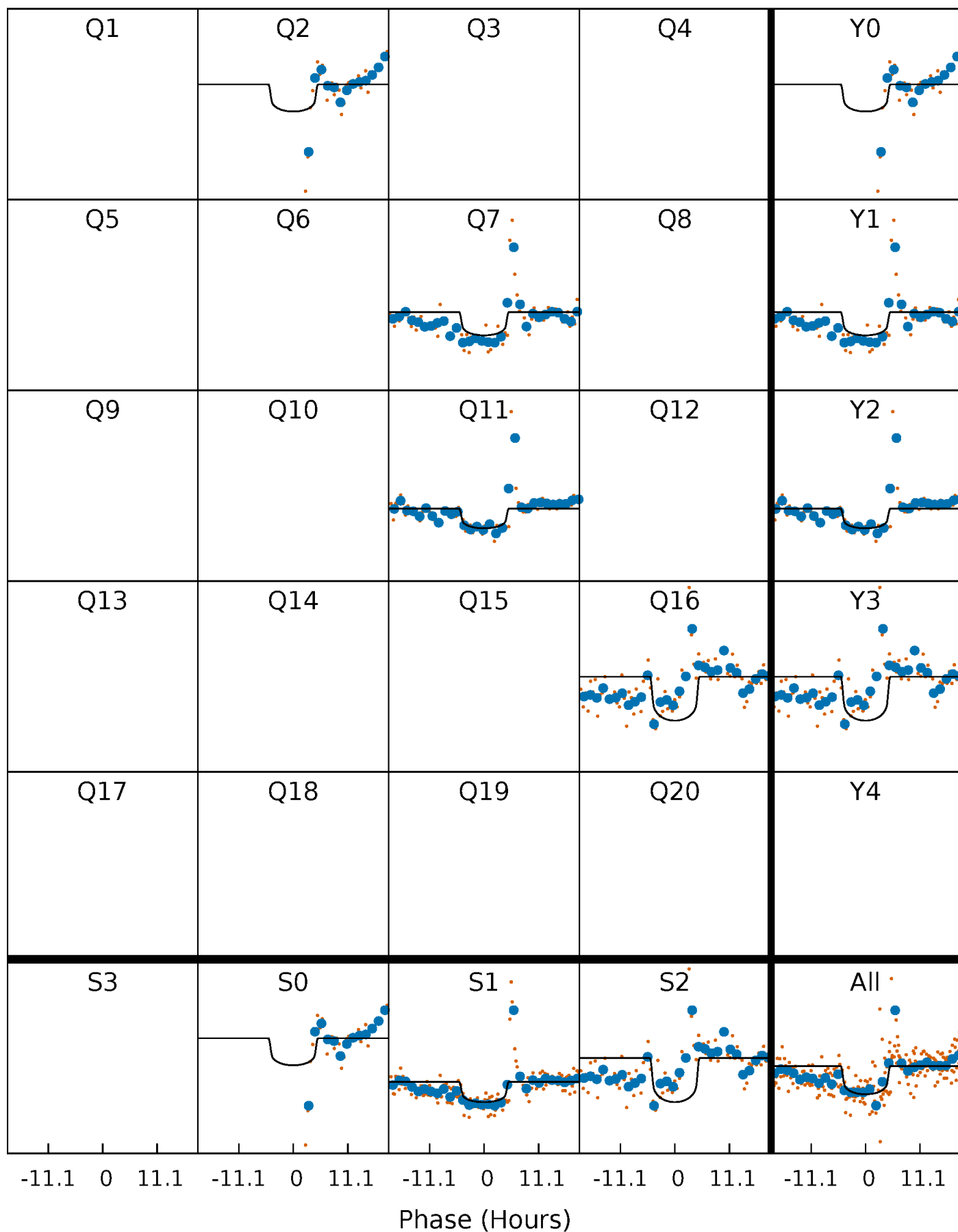
PDC Quarter-Phased Transit Curves

TCE 011455711-02 $P=449.280098$ Days $T_0=183.617359$ (BKJD)



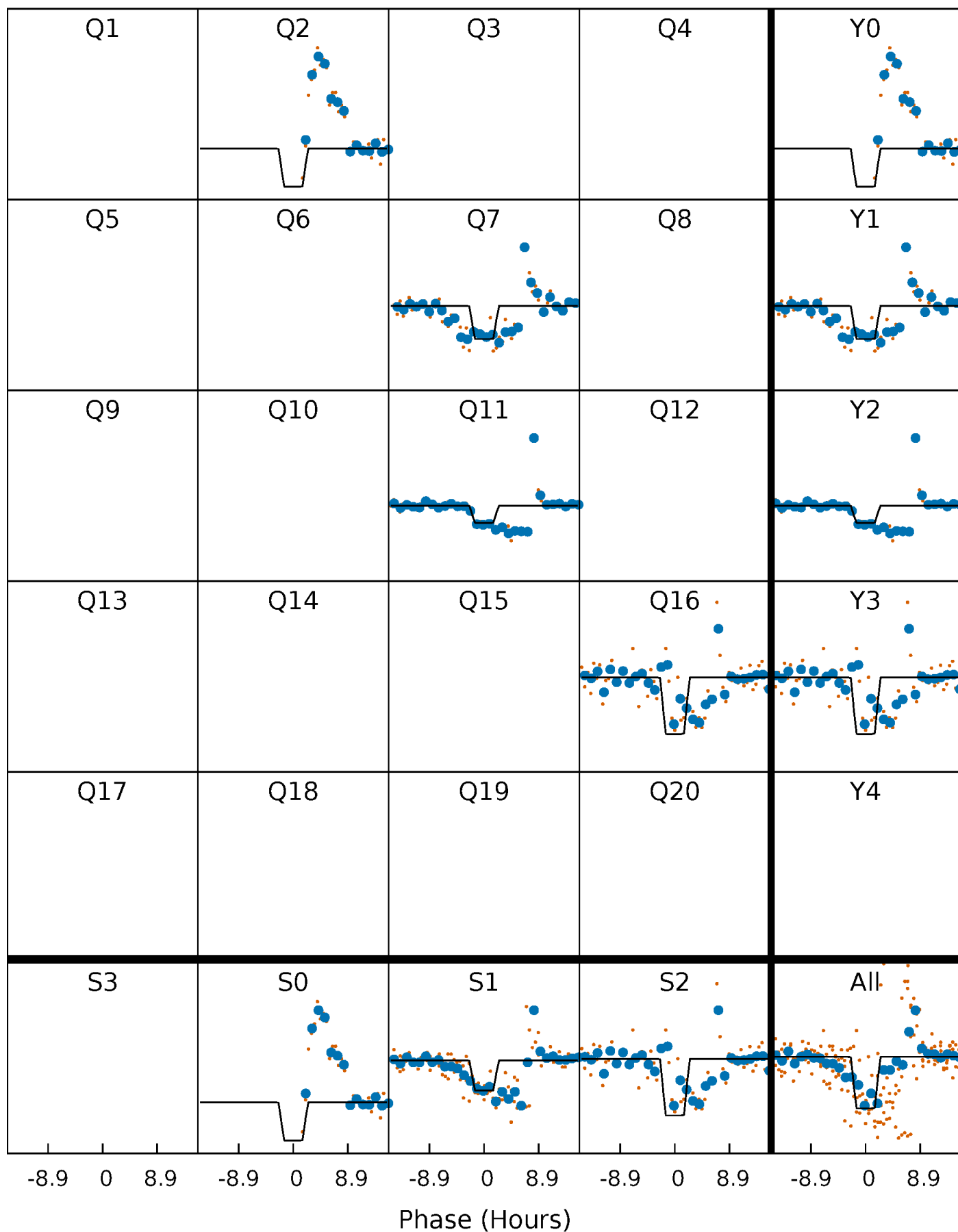
DV Quarter-Phased Transit Curves

TCE 011455711-02 $P=449.280098$ Days $T_0=183.617359$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

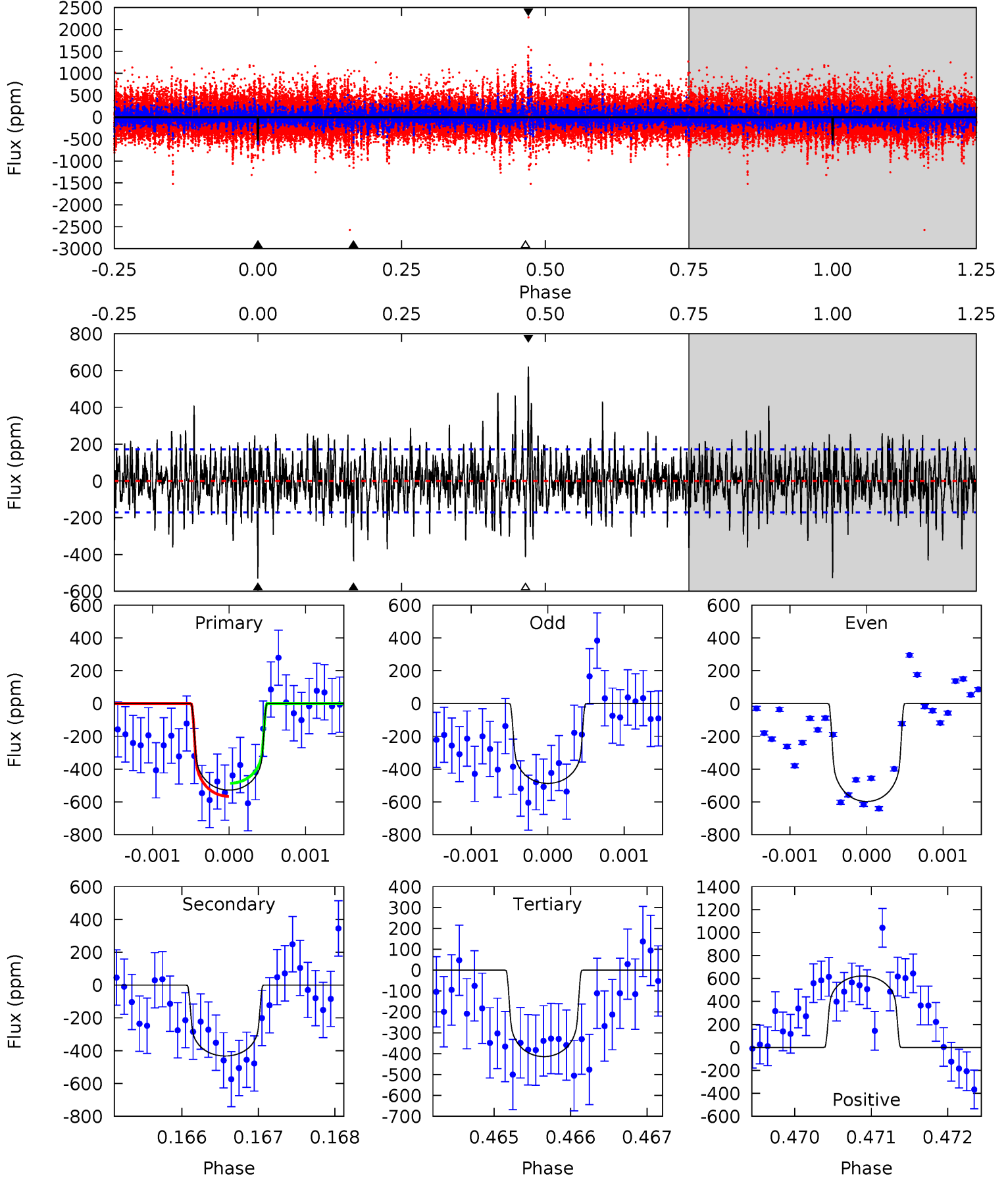
TCE 011455711-02 P=449.211383 Days $T_0=183.658576$ (BKJD)



DV Model-Shift Uniqueness Test

011455711-02, P = 449.280098 Days, E = 183.617359 Days

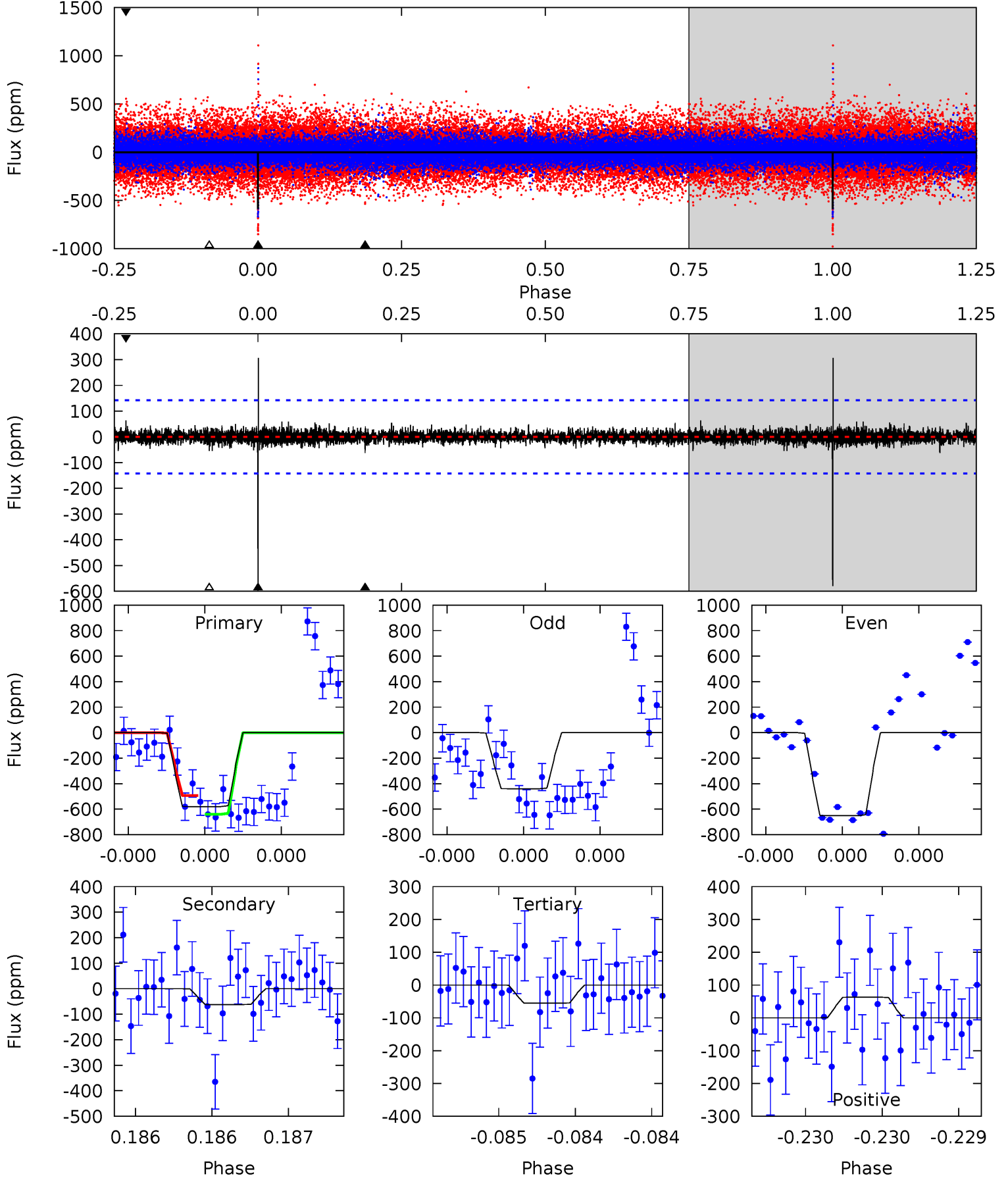
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	13.8	13.2	19.8	5.46	3.31	3.36	3.64	-2.99	0.58	-6.04	1.64	0.99	0.54	1.27



Alt Model-Shift Uniqueness Test

011455711-02, P = 449.211383 Days, E = 183.658576 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.8	2.44	2.17	2.47	5.59	3.50	0.51	20.6	20.3	0.28	-0.03	4.16	0.99	0.35	2.86



Stellar Parameters For KIC 011455711

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5907^{+142}_{-160}	$4.547^{+0.036}_{-0.192}$	$-0.260^{+0.300}_{-0.300}$	$0.860^{+0.245}_{-0.065}$	$0.951^{+0.109}_{-0.109}$	$2.103^{+0.413}_{-1.076}$
	+2%/-3%	+1%/-4%	+115%/-115%	+28%/-8%	+11%/-11%	+20%/-51%
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 011455711-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-432 ± 31	$2.20^{+0.82}_{-0.75}$	324^{+23}_{-12}	5678^{+1308}_{-686}	61288^{+79195}_{-28390}
Alt.	-62 ± 25	$2.45^{+0.81}_{-0.78}$	326^{+19}_{-13}	3747^{+552}_{-431}	7167^{+8862}_{-3823}

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 $A_{obs} \gg 1.0$

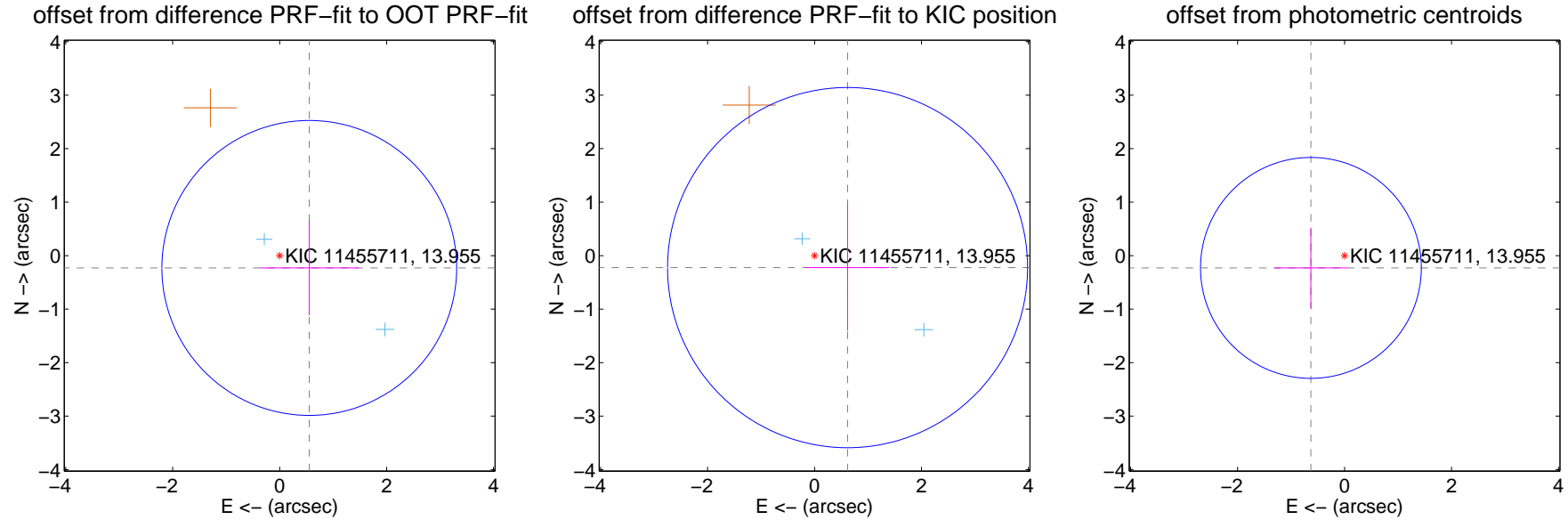
DV Centroid Data

Supplemental centroid analysis for 011455711-02. Kepler magnitude: 13.96. Transit SNR 8.74

There are 2 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.600 ± 0.919	0.65	-0.554 ± 0.924	-0.230 ± 0.889
PRF-fit source offset from KIC position	0.657 ± 1.122	0.59	-0.618 ± 0.785	-0.224 ± 1.177
photometric centroid source offset	0.67 ± 0.69	0.97	0.63 ± 0.68	-0.23 ± 0.75

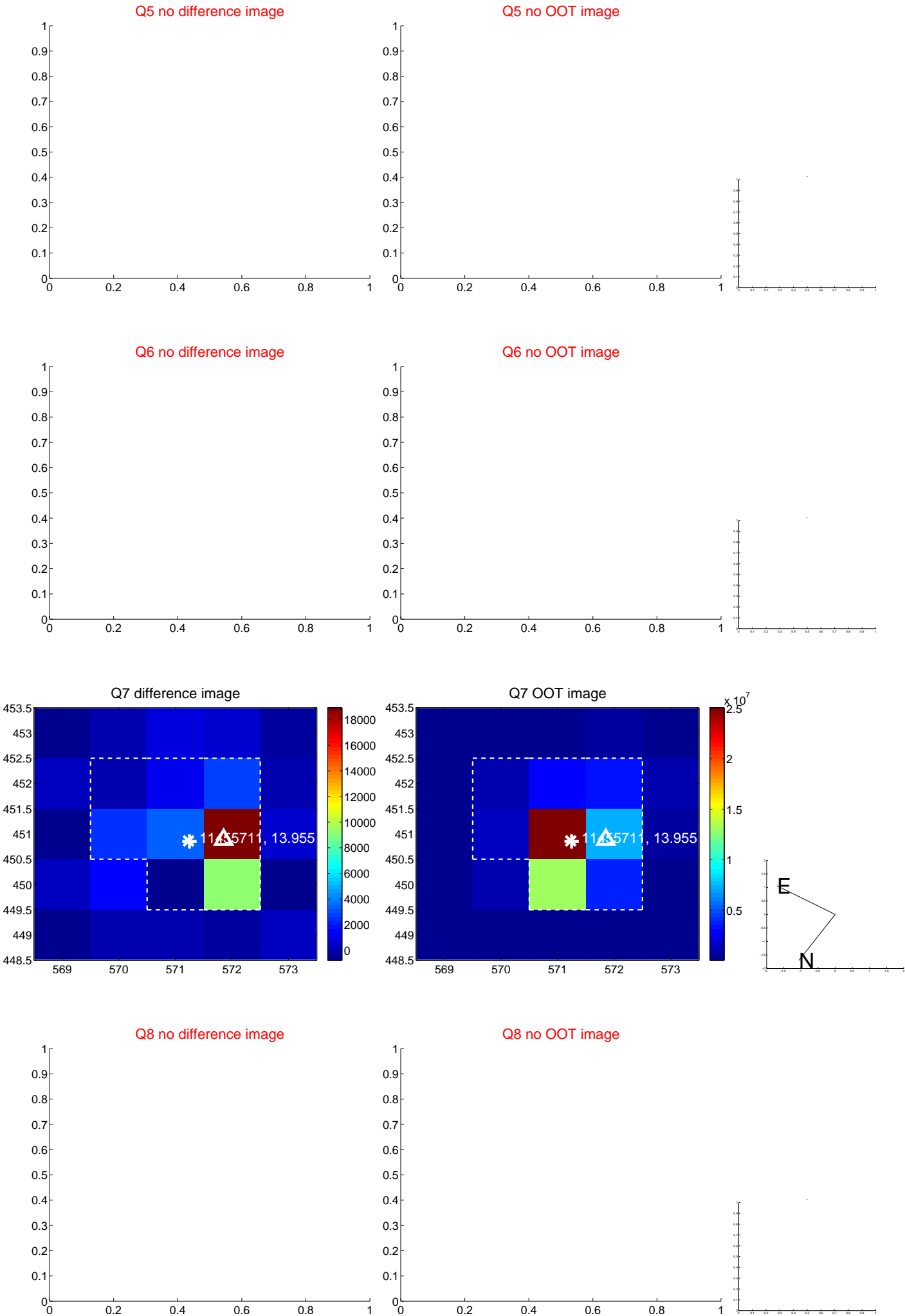


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . 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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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

Q9 no difference image



Q9 no OOT image



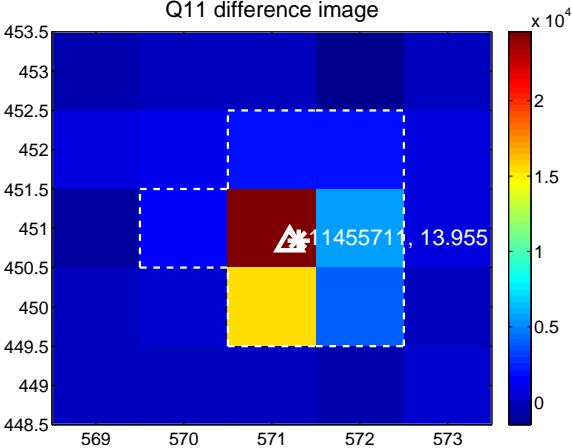
Q10 no difference image



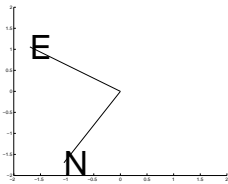
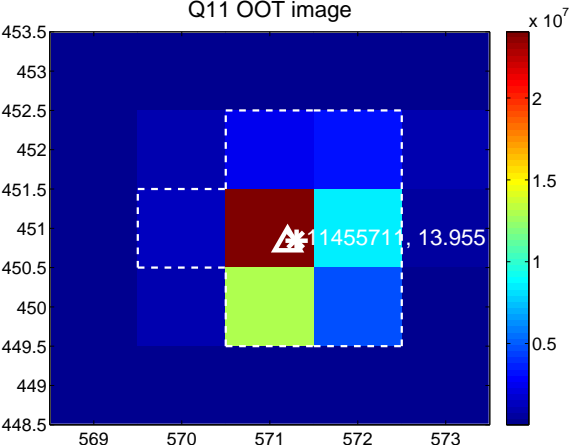
Q10 no OOT image



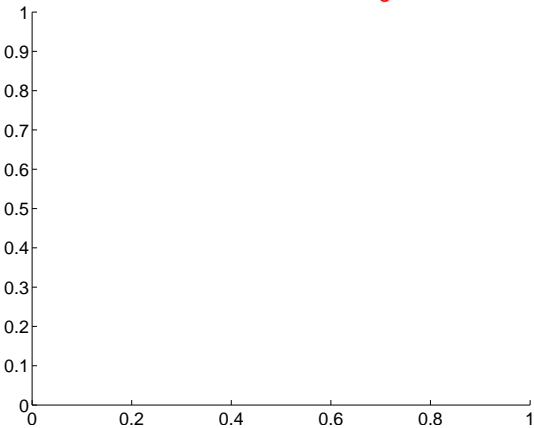
Q11 difference image



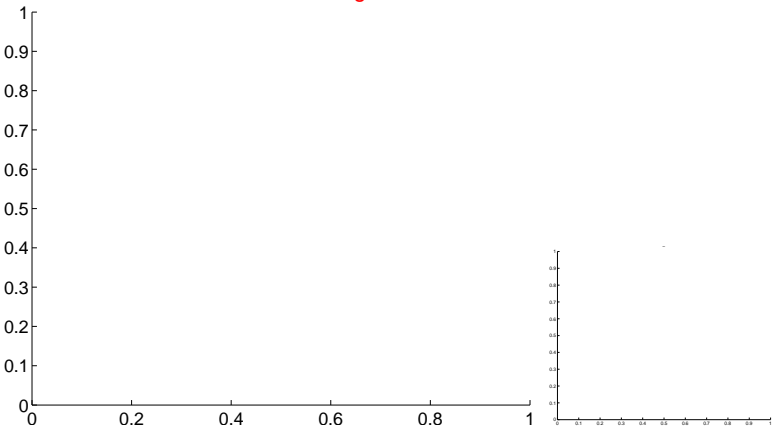
Q11 OOT image



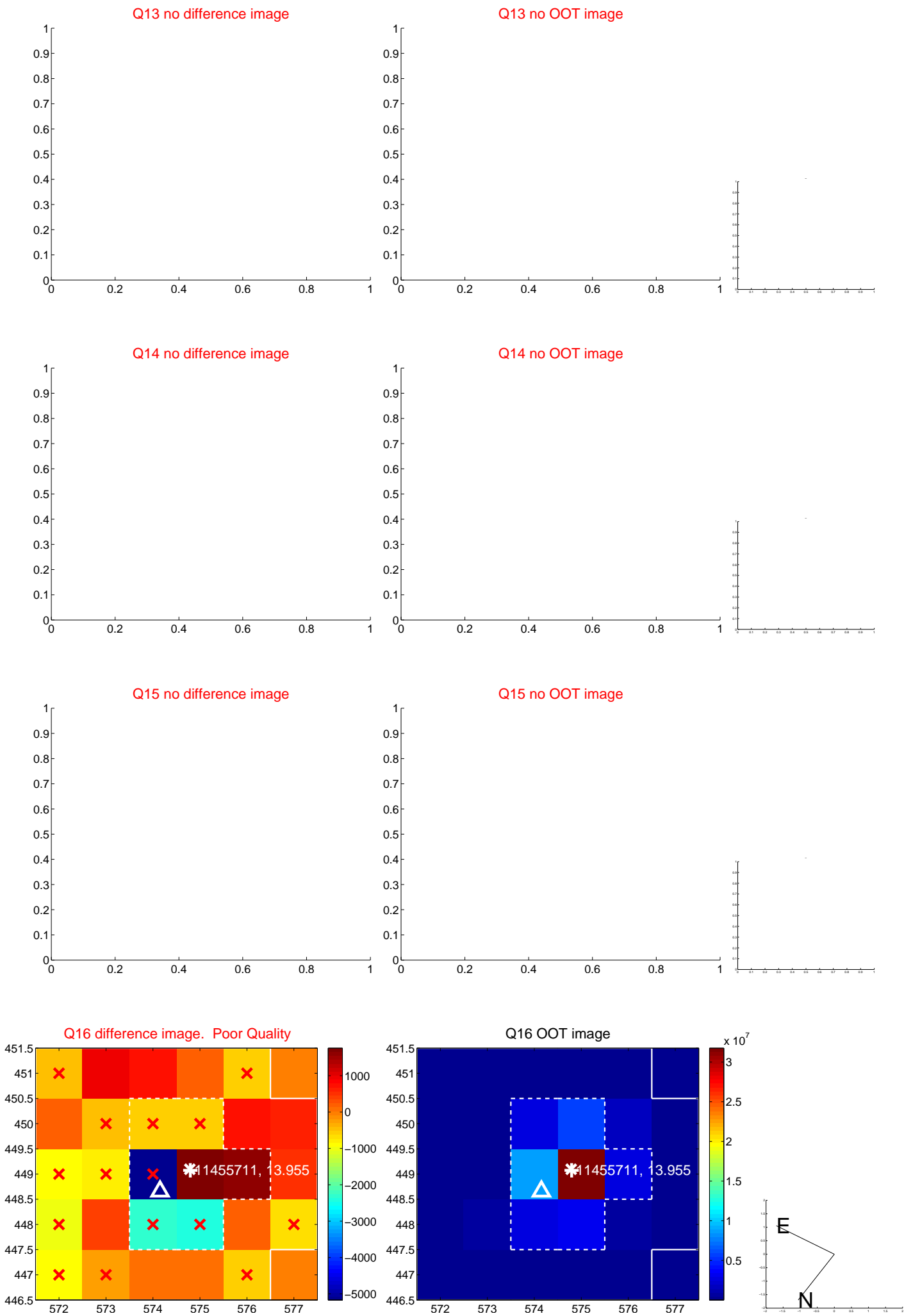
Q12 no difference image



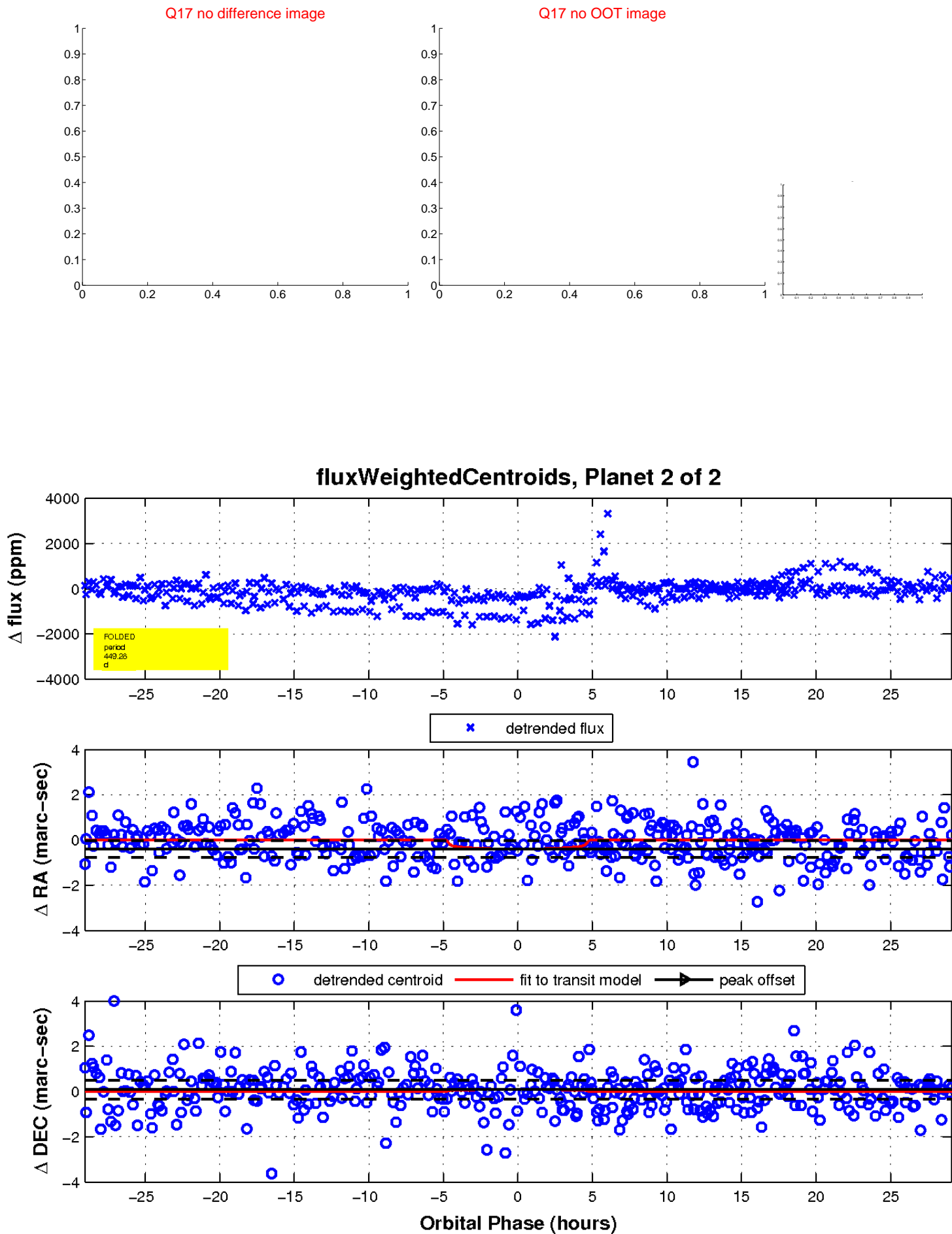
Q12 no OOT image



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



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



UKIRT Image

Declination

