KIC 008977910

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 ($S_\oplus$)
008977910-01	OBS	No	285.317338	300.814009	1102.9	10.234	10.5	6.2	0.23	3293	0.79	0.02

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008977910-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—CENT_KIC_POS—CENT_UNCERTAIN

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.

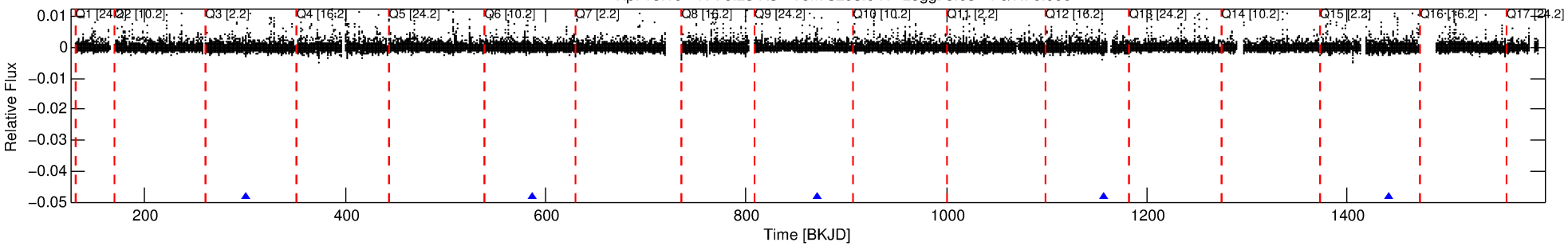
Ephemeris Match Information For 008977910-01

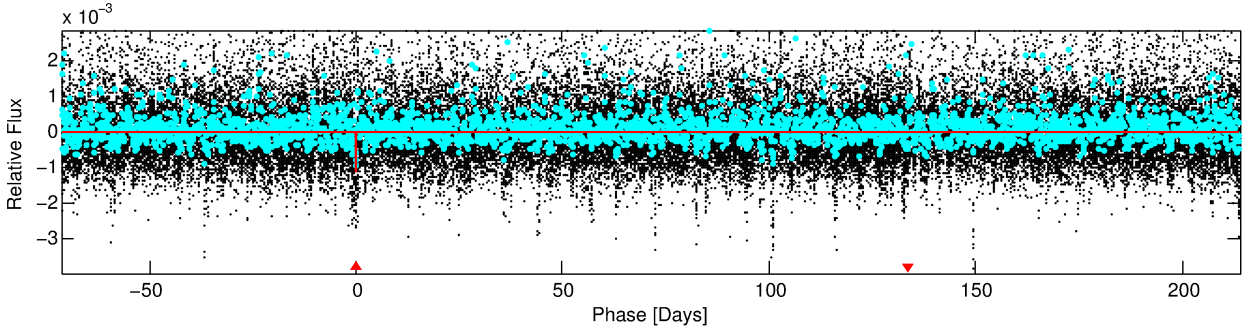
No Significant Match Found

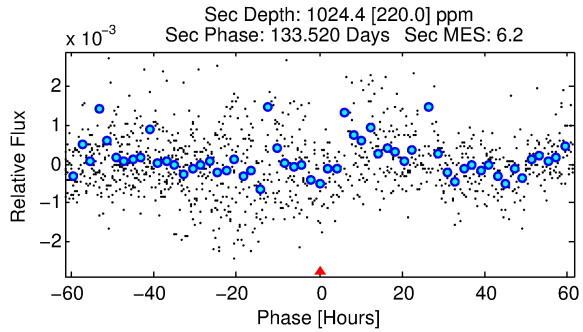
DV One-Page Summary

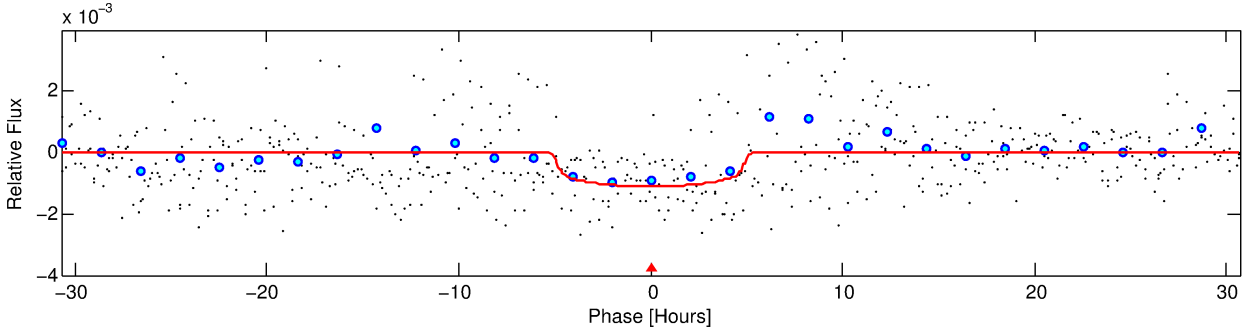
KIC: 8977910 Candidate: 1 of 1 Period: 285.317 d

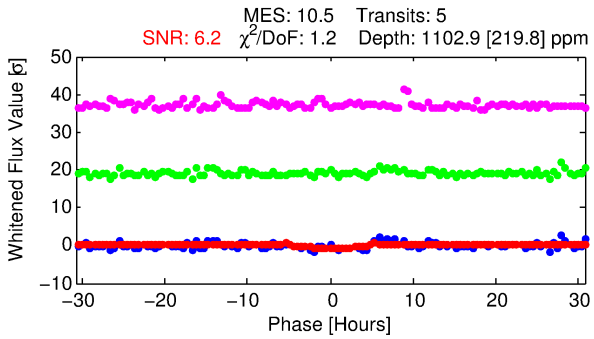
Kp: 15.10 R*: 0.23 Rs Teff: 3293.0 K Logg: 5.03 Fe/H: 0.000

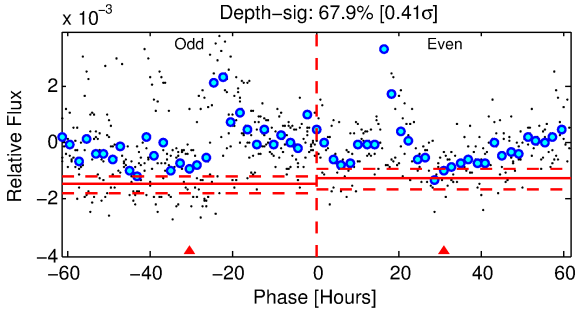


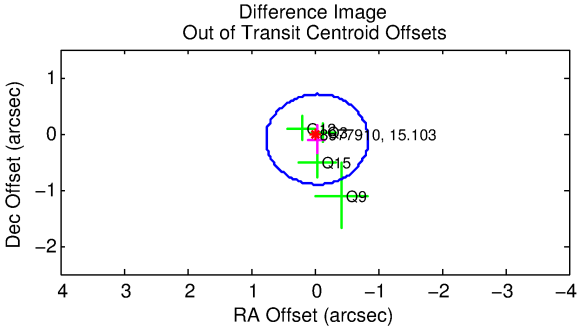












DV Fit Results:

Period = 285.31734 [0.00620] d
Epoch = 300.8140 [0.0164] BKJD
Rp/R* = 0.0307 [0.0172]
a/R* = 200.65 [467.59]
b = 0.42 [4.61]

Seff = 0.02 [0.00]
Teq = 99 [3] K
Rp = 0.79 [0.46] Re
a = 0.5081 [0.0547] AU

Ag = 235200.81 [270033.98] [0.87σ]
Teffp = 3364 [961] K [3.40σ]

DV Diagnostic Results:

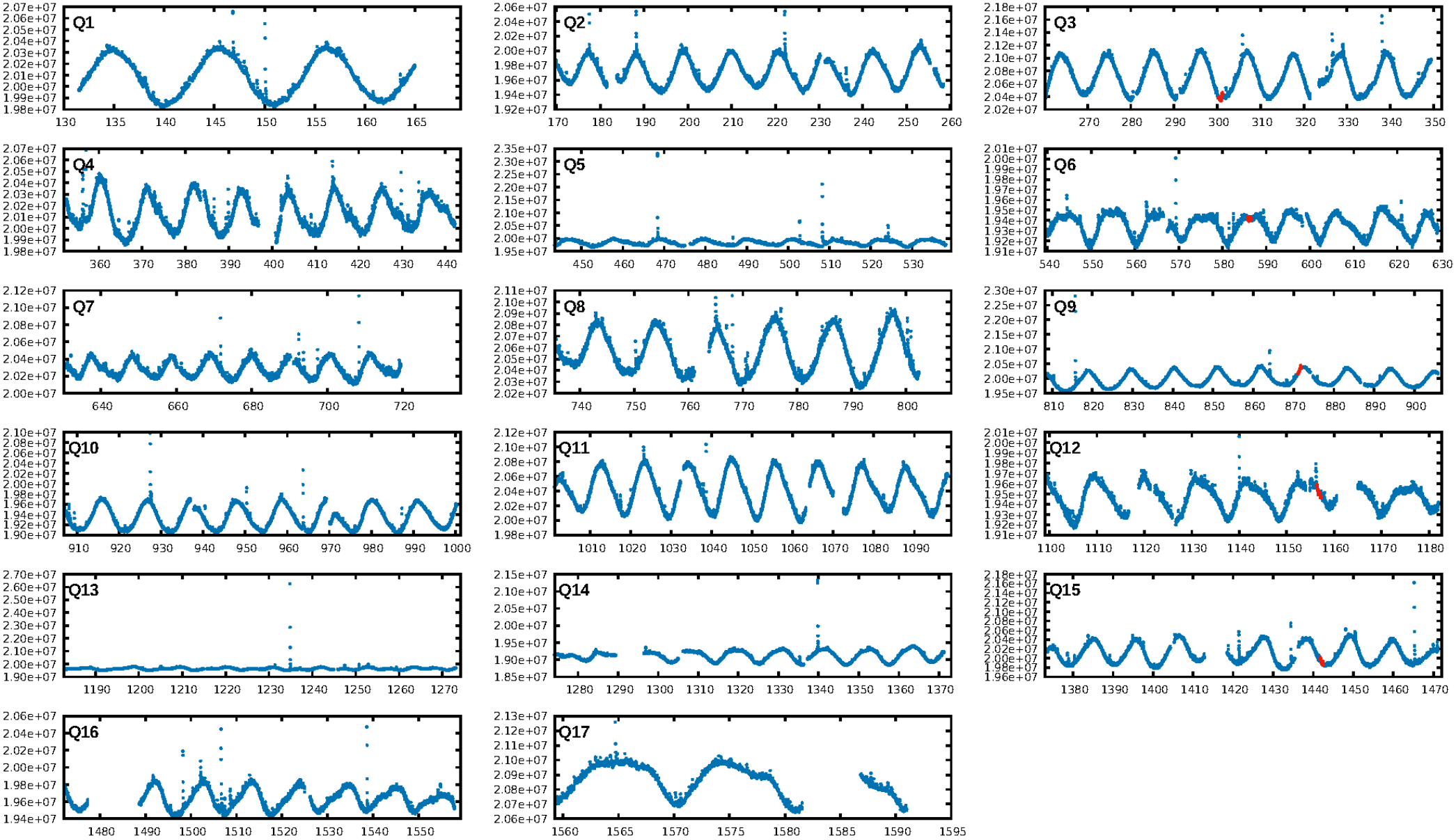
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 9.1%
ModelChiSquareGof−sig: 98.0%
Bootstrap−pfa: 8.88e−10
RollingBand−fgt: 1.00 [5/5]
GhostDiagnostic−chr: 0.4227

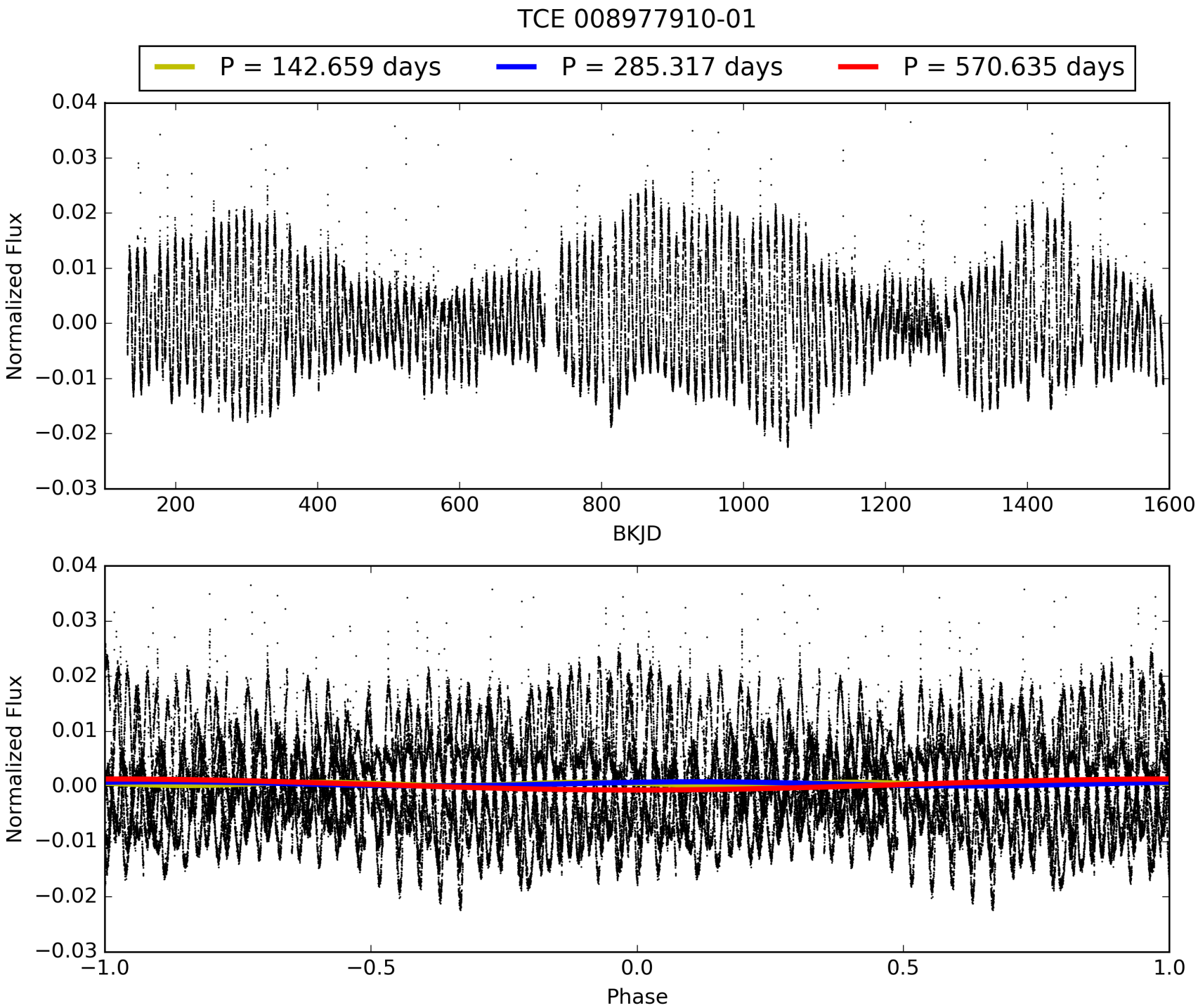
Centroid−sig: 54.0%
Centroid−so: 0.207 arcsec [0.24σ]
OotOffset−rm: 0.110 arcsec [0.41σ]
KicOffset−rm: 0.669 arcsec [3.49σ]
OotOffset−st: 0/2/1/1 [4]
KicOffset−st: 0/2/1/1 [4]
DiffImageQuality−fgm: 0.75 [3/4]
DiffImageOverlap−fno: 1.00 [5/5]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31−Jan−2016 17:47:27 Z

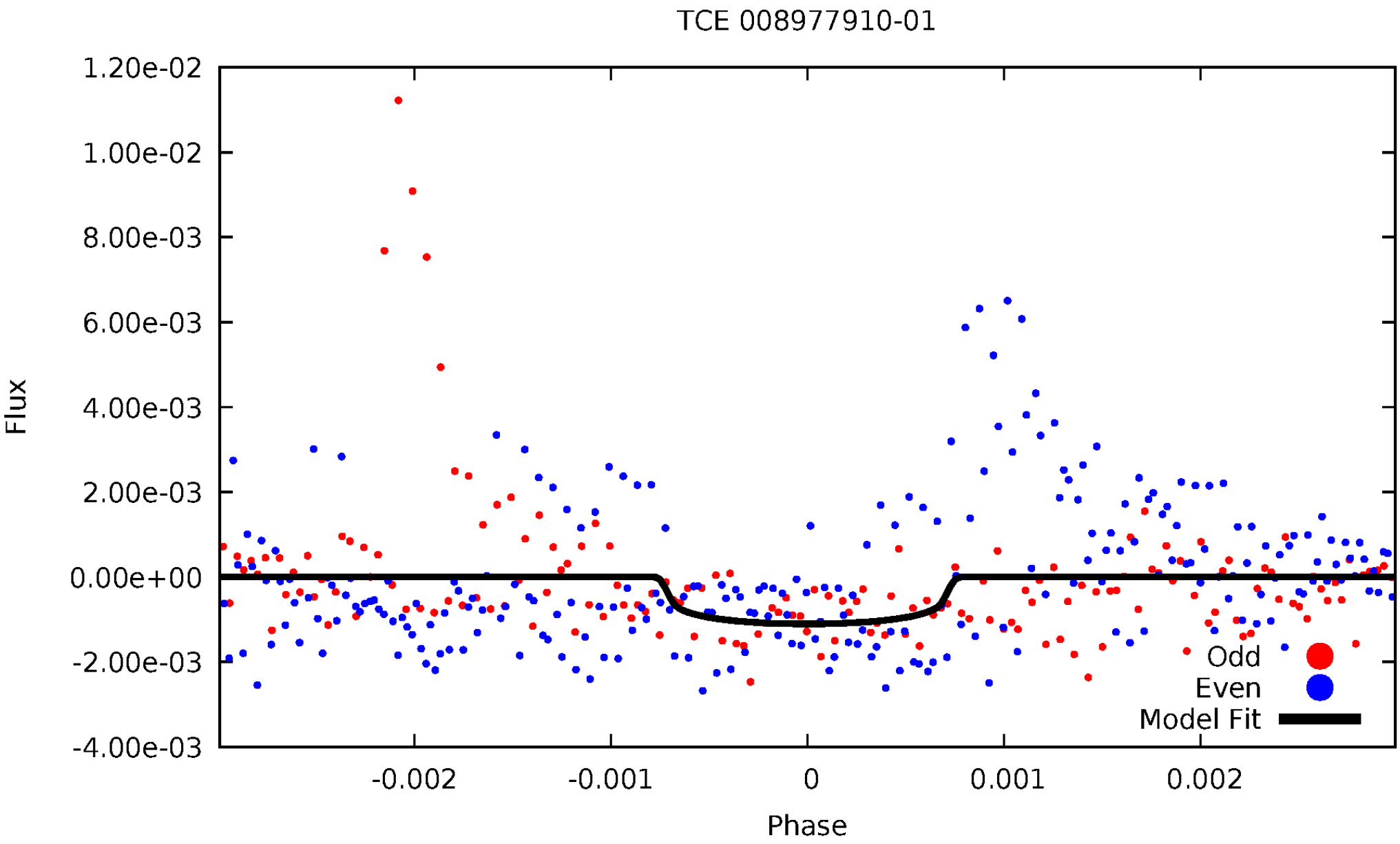
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008977910-01, PDC Light Curves




TCE 008977910-01
P = 142.659 days
P = 285.317 days
P = 570.635 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even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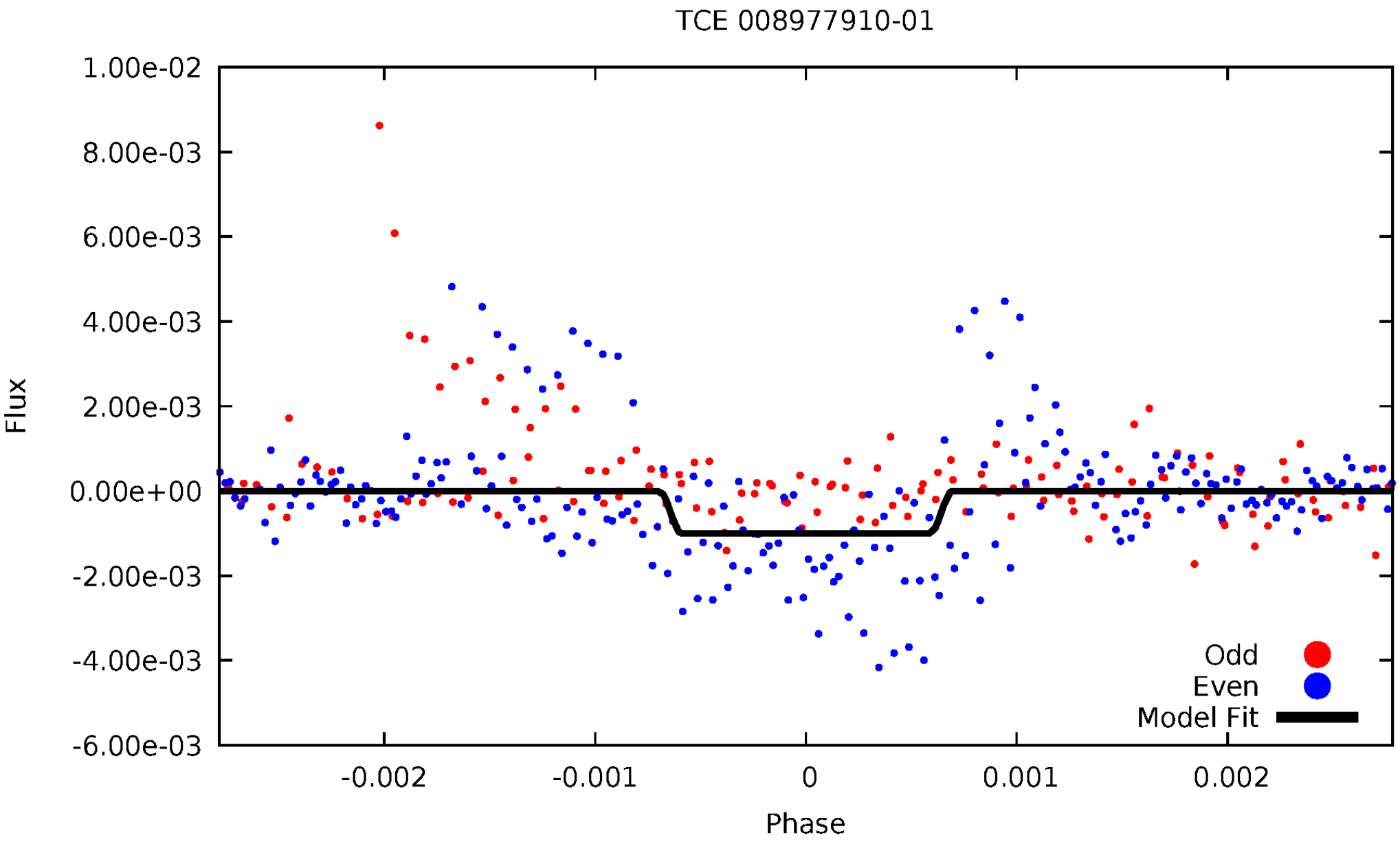
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
Flux
-0.002
-0.001
0
0.001
0.002
Phase
Odd
Even
Model Fit

ALT Odd/Even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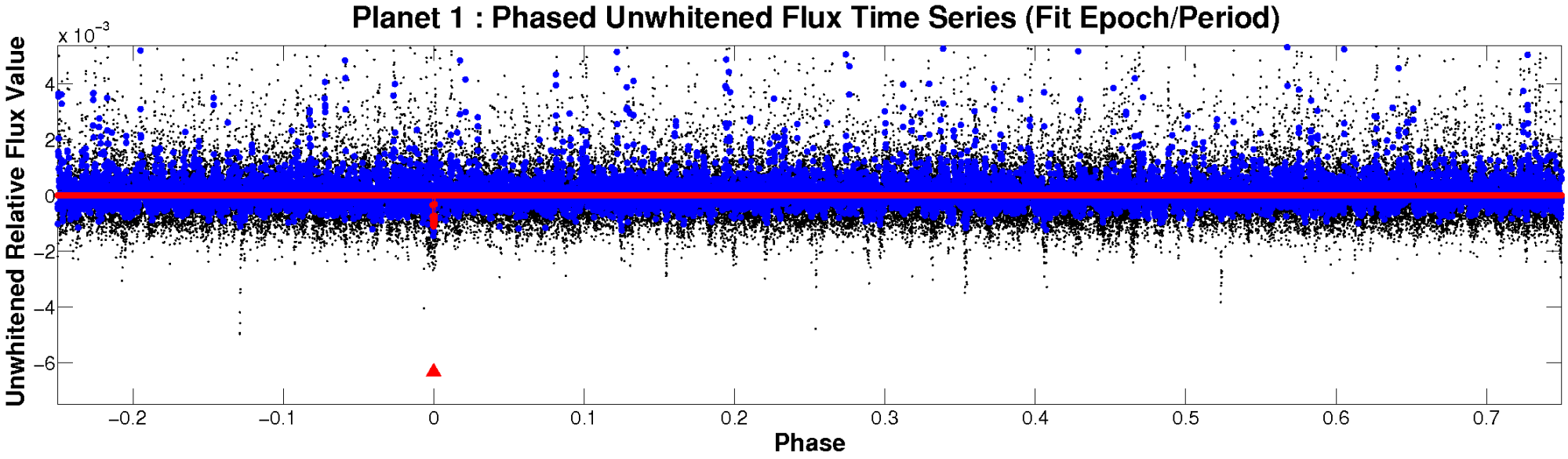
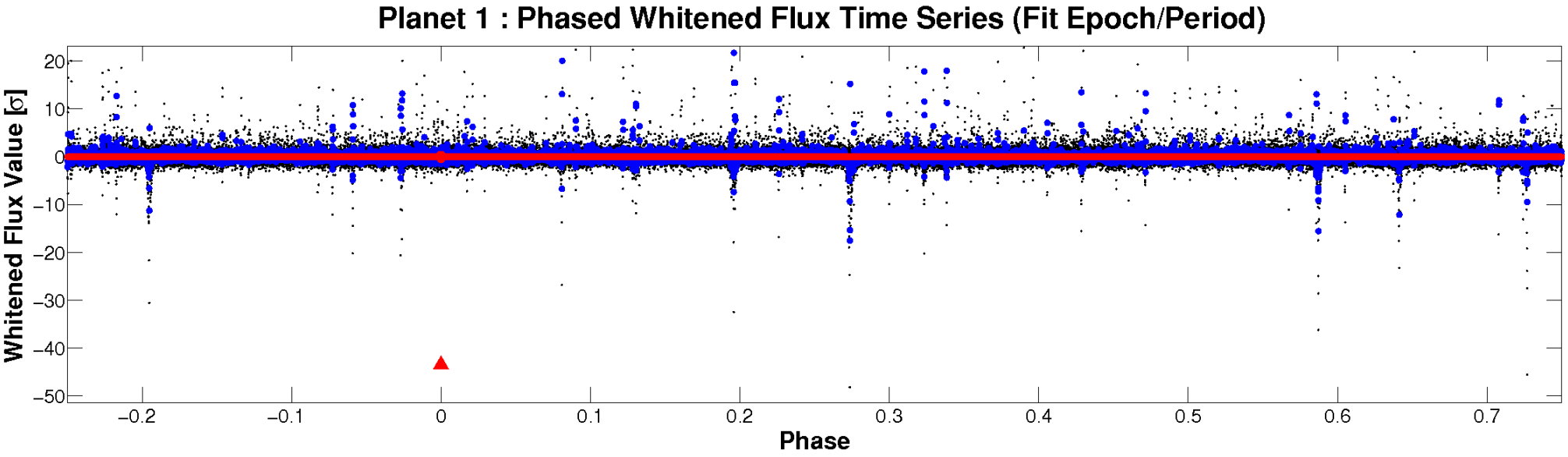
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
Flux
-0.002
-0.001
0
0.001
0.002
Phase
Odd
Even
Model Fit

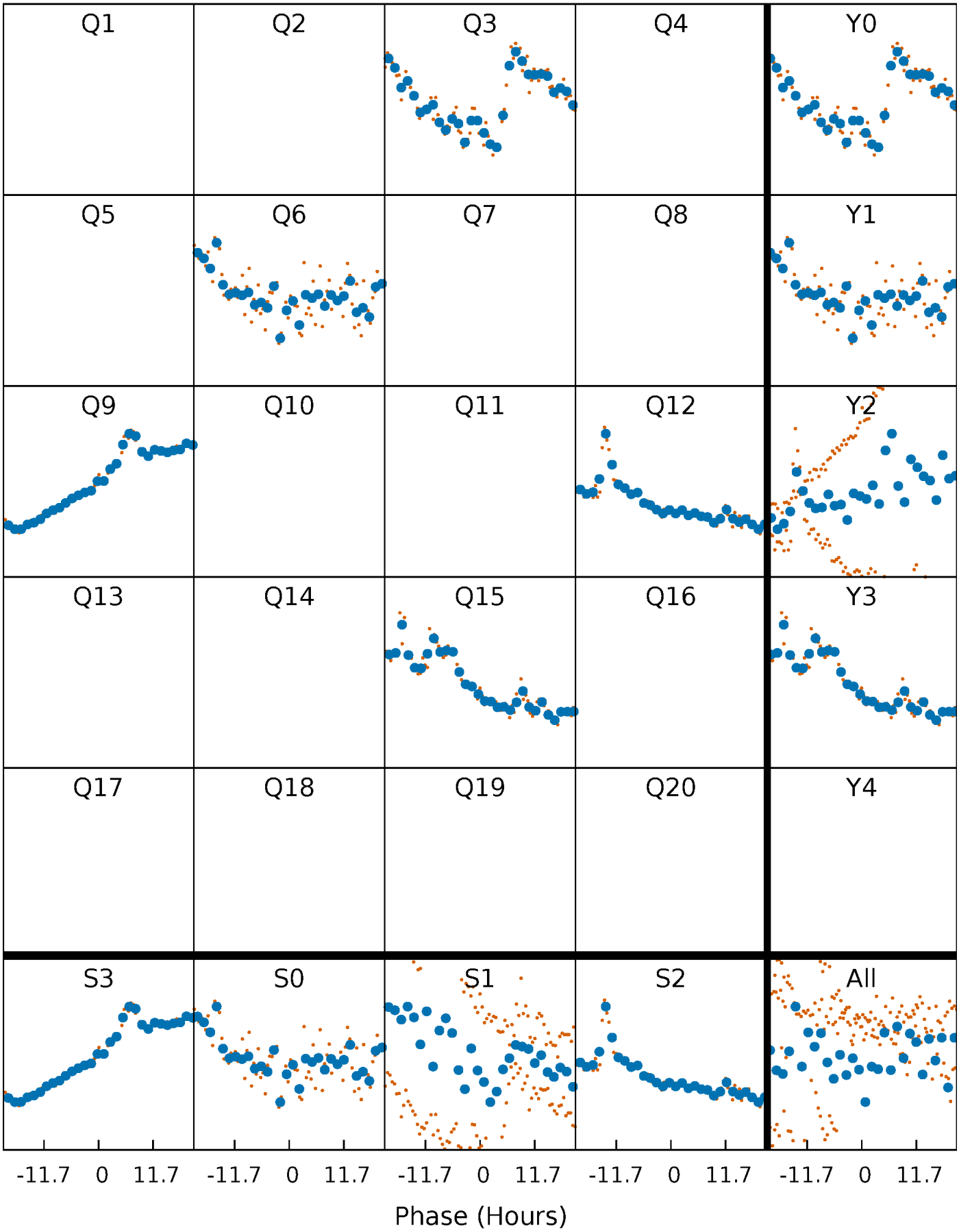
Non-Whitened Vs. Whitened Light Curve





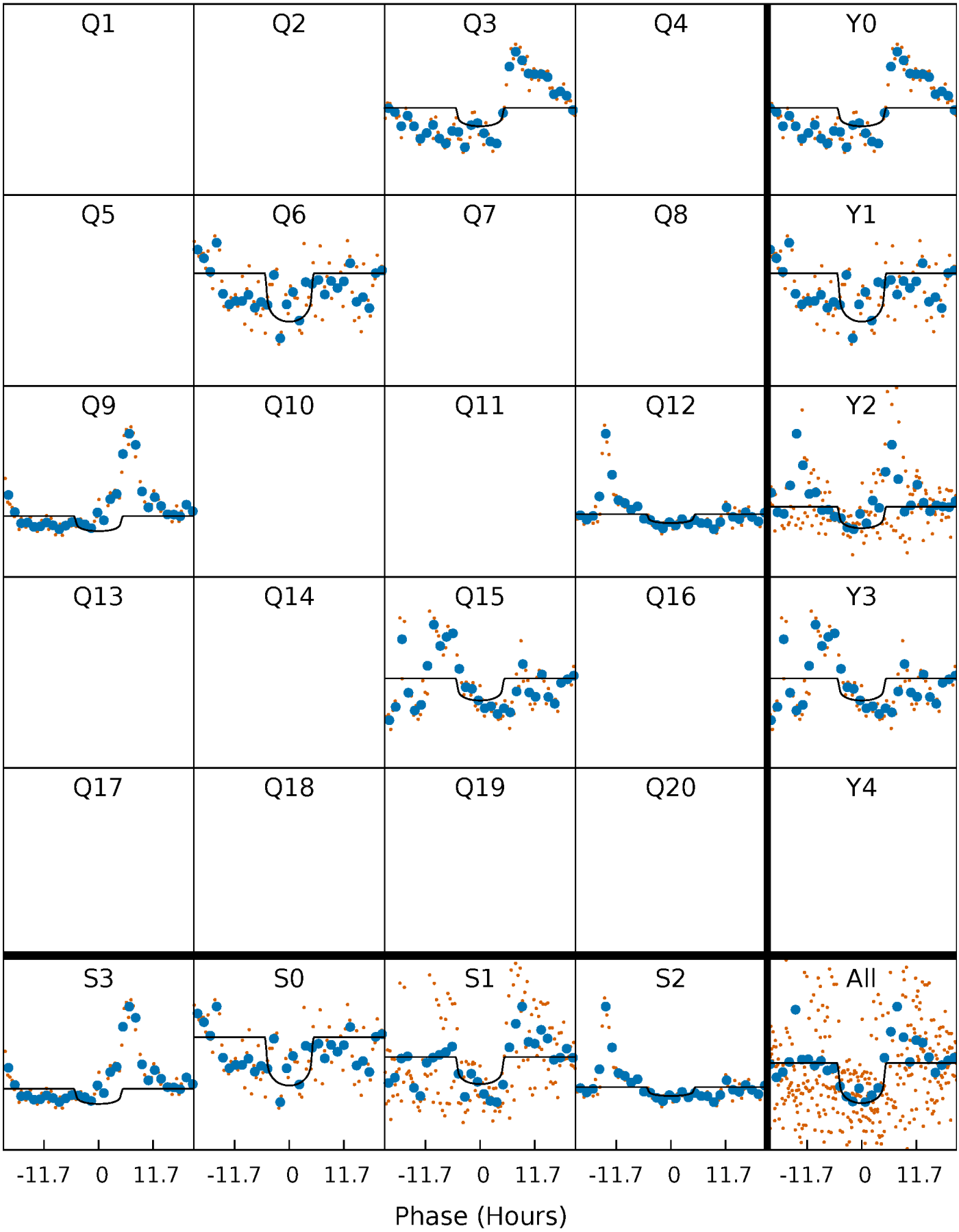
PDC Quarter-Phased Transit Curves

TCE 008977910-01 P=285.317338 Days T_0=300.814009 (BKJD)



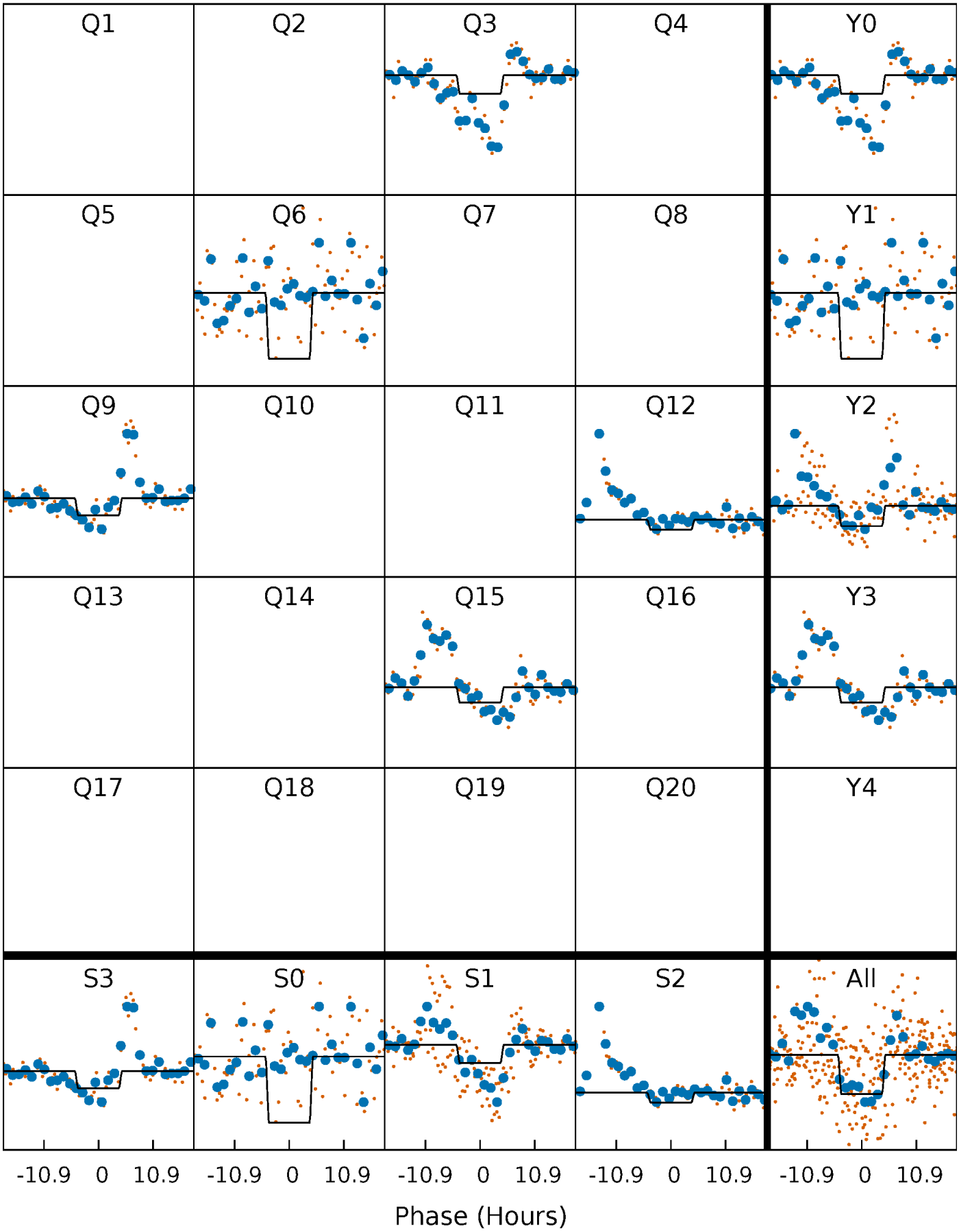
DV Quarter-Phased Transit Curves

TCE 008977910-01 P=285.317338 Days T_0=300.814009 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

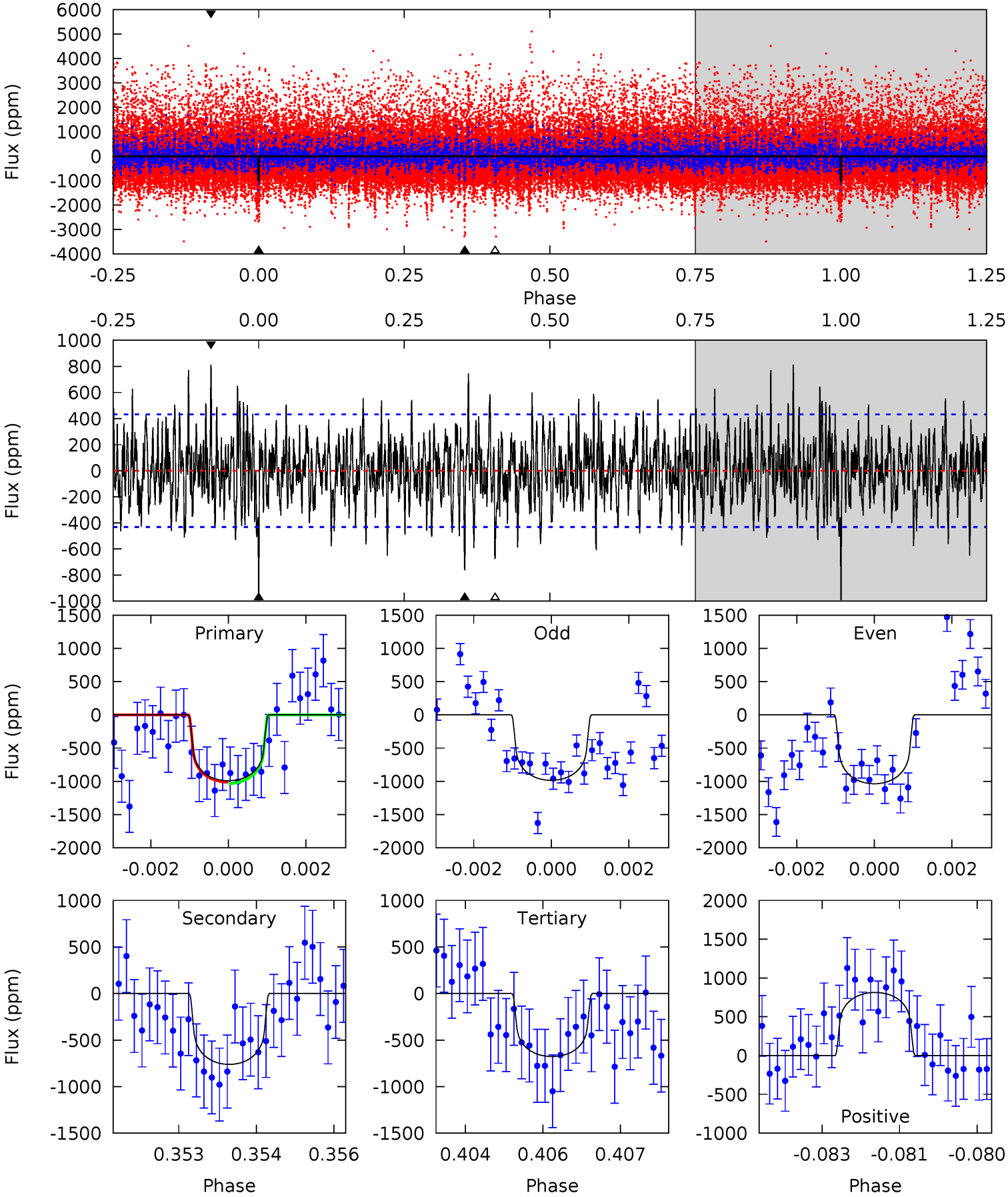
TCE 008977910-01 P=285.320609 Days T_0=300.828699 (BKJD)



DV Model-Shift Uniqueness Test

008977910-01, P = 285.317338 Days, E = 15.496671 Days

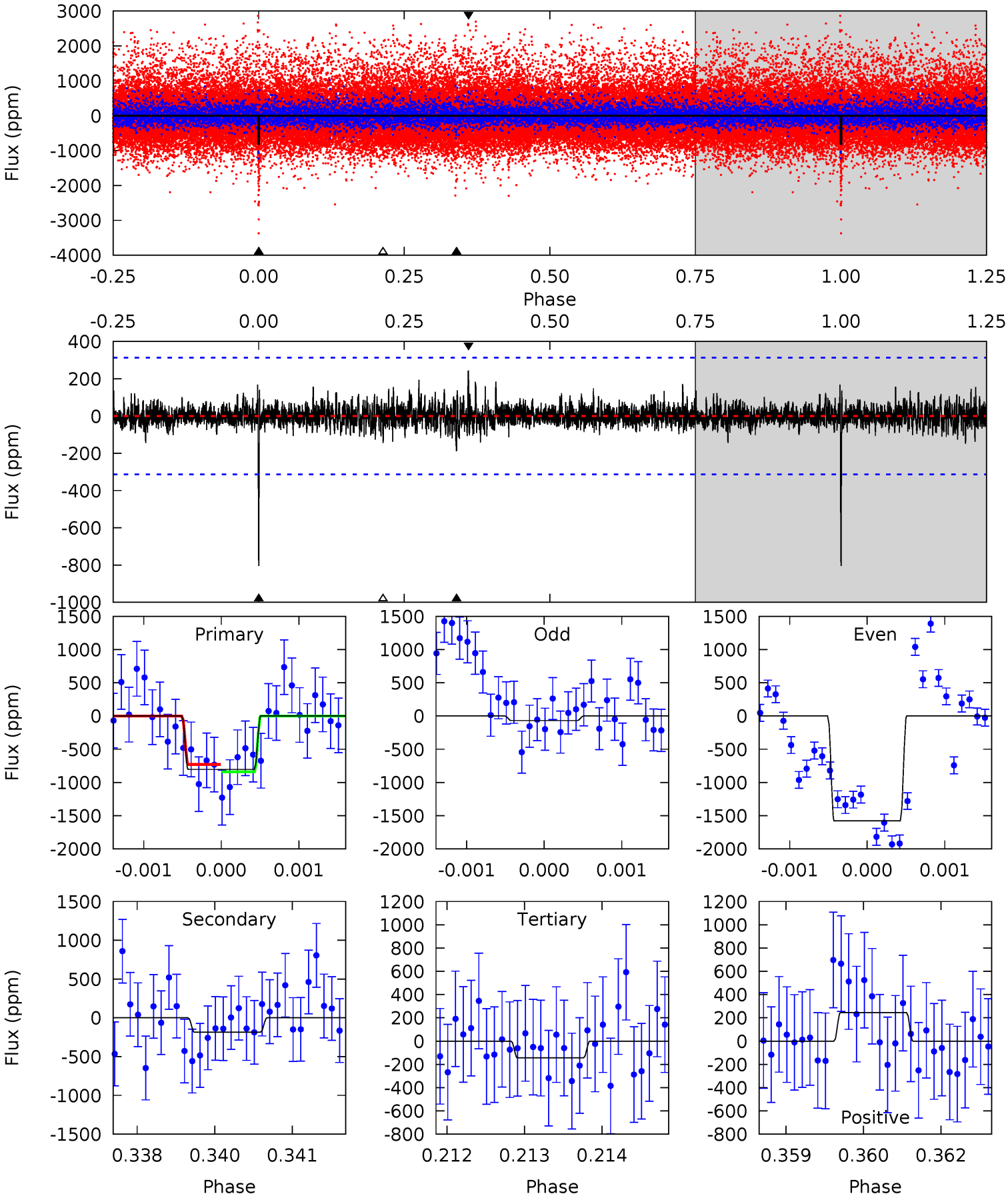
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	9.49	8.44	10.1	5.38	3.17	2.62	3.92	2.22	1.05	-0.65	0.29	0.81	0.45	0.13



Alt Model-Shift Uniqueness Test

008977910-01, P = 285.320609 Days, E = 15.508090 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.9	3.19	2.48	4.22	5.39	3.20	0.70	11.4	9.65	0.70	-1.03	12.4	0.97	0.23	0.97



Stellar Parameters For KIC 008977910

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	3293^{+44}_{-39}	$5.028^{+0.044}_{-0.044}$	$0.000^{+0.100}_{-0.100}$	$0.235^{+0.036}_{-0.026}$	$0.214^{+0.043}_{-0.029}$	$23.320^{+6.031}_{-4.790}$
	+1%/-1%	+1%/-1%	+inf%/-inf%	+15%/-11%	+20%/-14%	+26%/-21%
Source	PHO2	PHO2	PHO2	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008977910-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-762±80	$0.81^{+0.42}_{-0.44}$	138^{+3}_{-3}	3181^{+918}_{-359}	$163780^{+615955}_{-91696}$
Alt.	-185±58	$0.82^{+0.47}_{-0.39}$	138^{+3}_{-3}	2600^{+493}_{-282}	$38138^{+100843}_{-23422}$

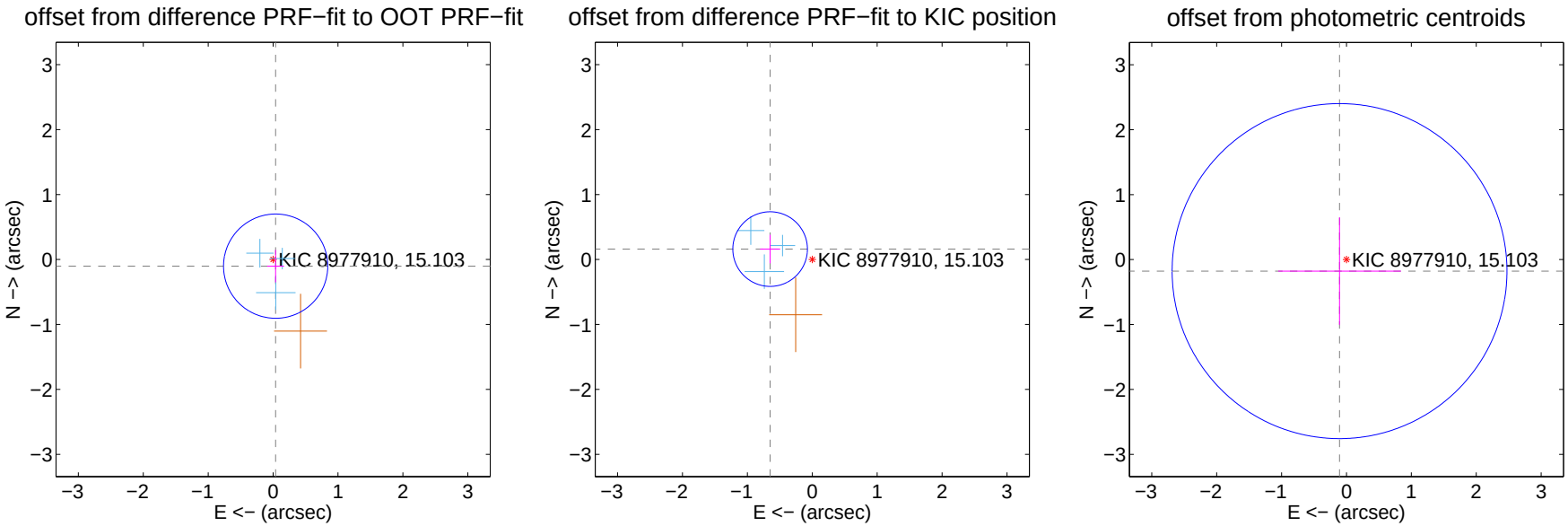
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

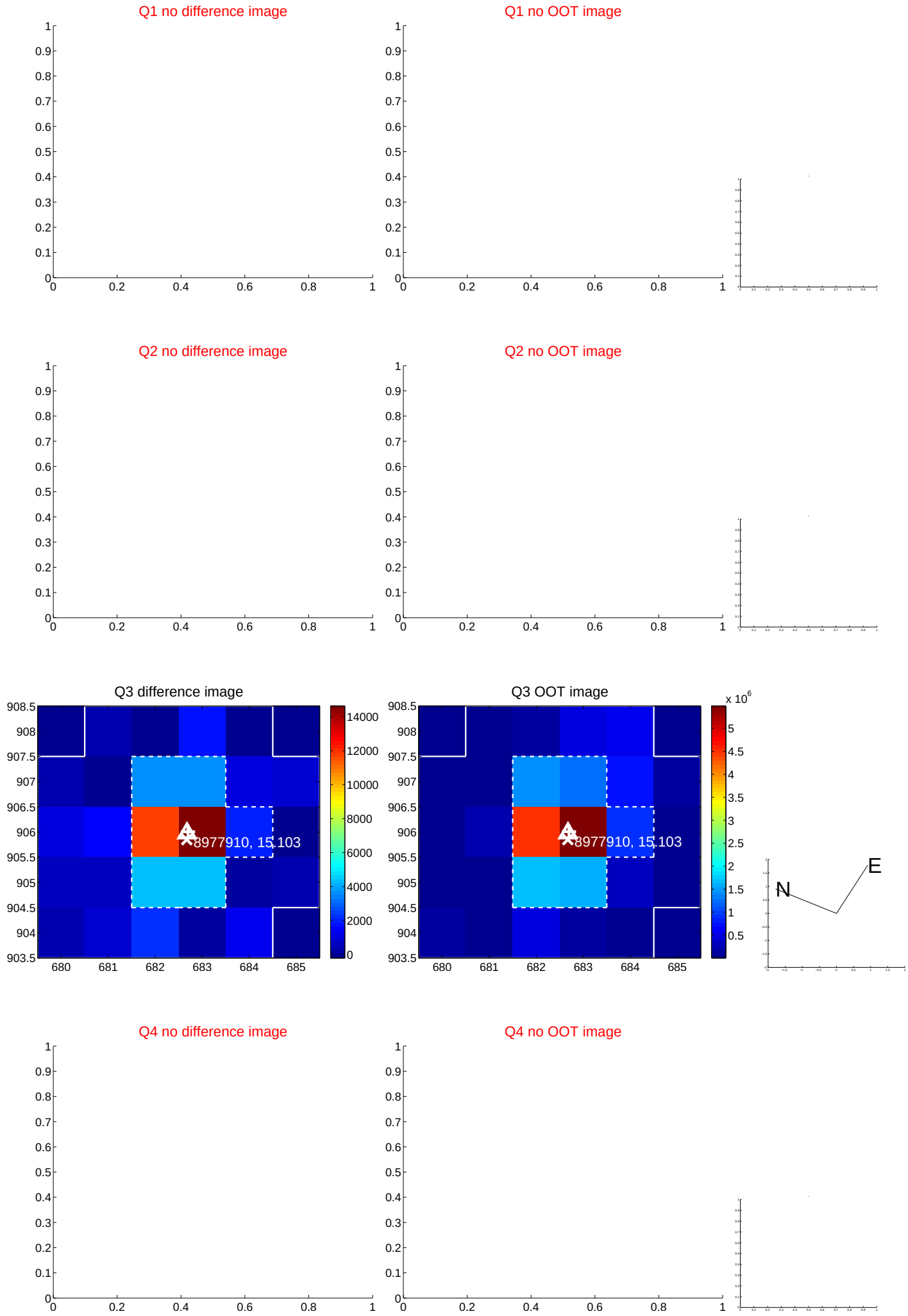
Supplemental centroid analysis for 008977910-01. Kepler magnitude: 15.10. Transit SNR 6.17
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.85 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.110 ± 0.268	0.41	-0.039 ± 0.130	-0.102 ± 0.249
PRF-fit source offset from KIC position	0.669 ± 0.192	3.49	0.649 ± 0.154	0.160 ± 0.220
photometric centroid source offset	0.21 ± 0.86	0.24	0.11 ± 0.95	-0.18 ± 0.83

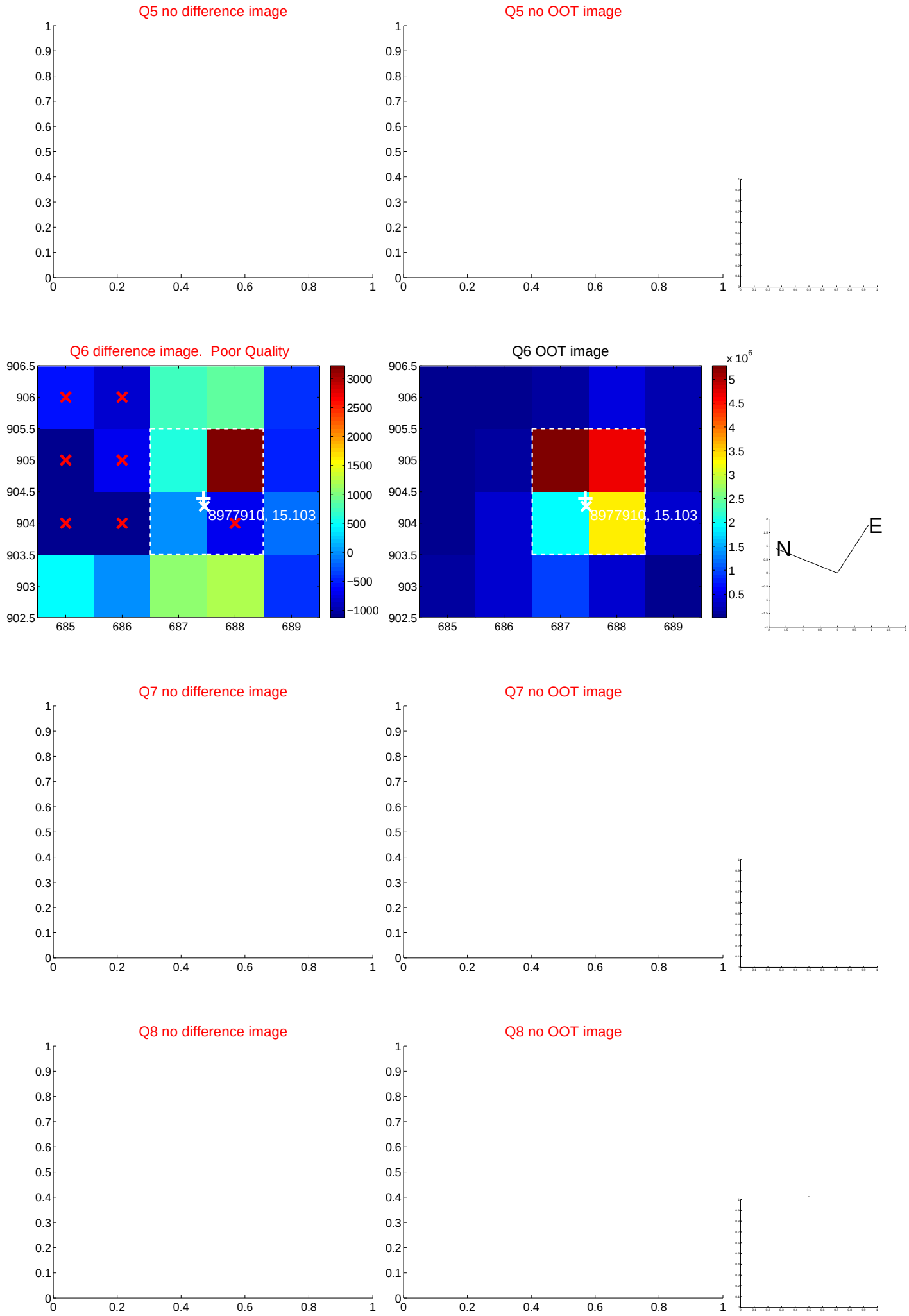


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

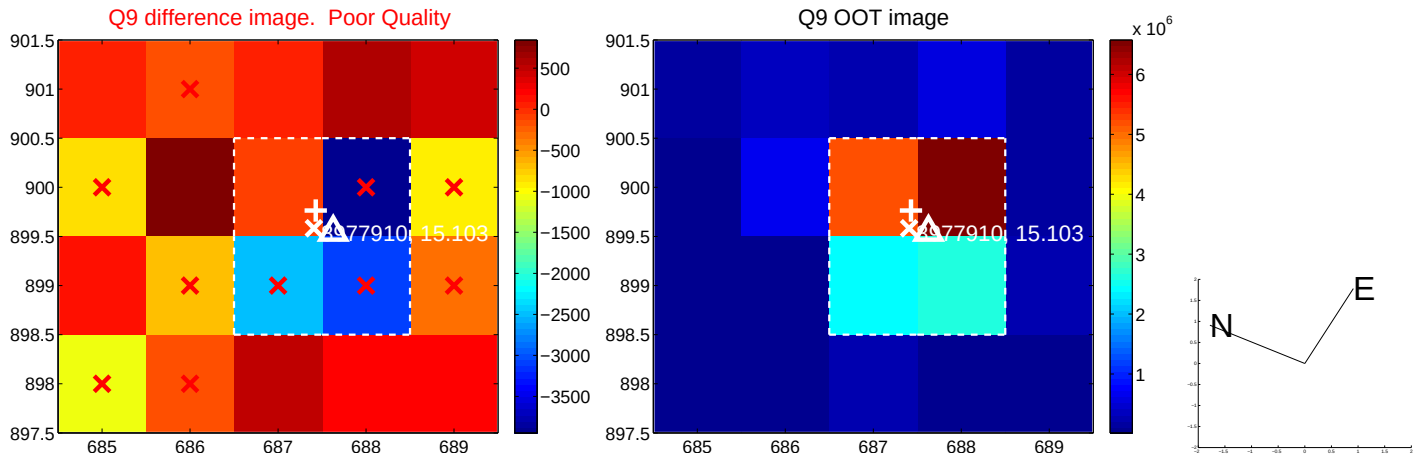
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

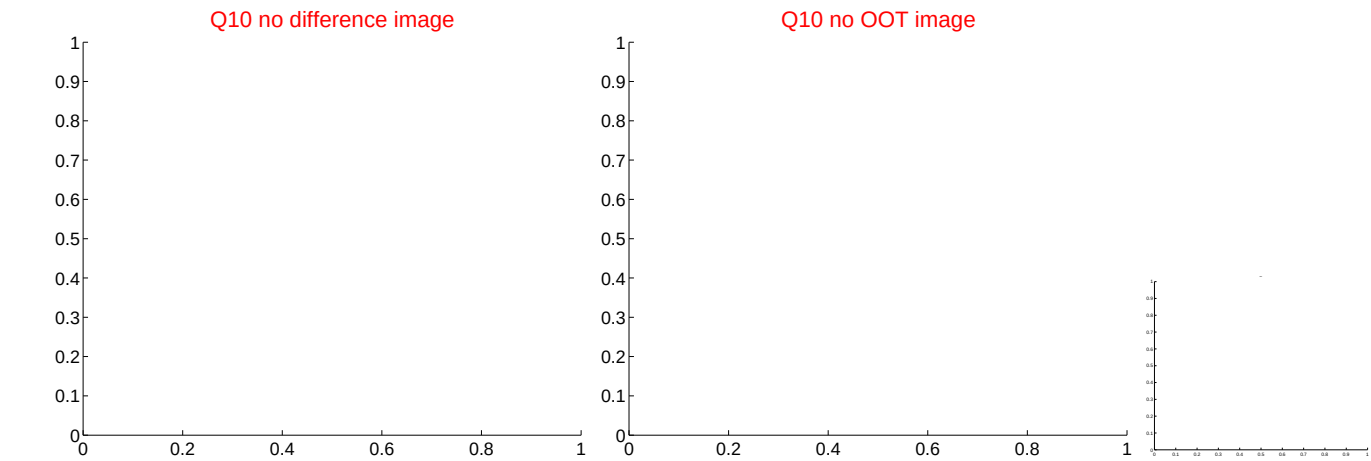


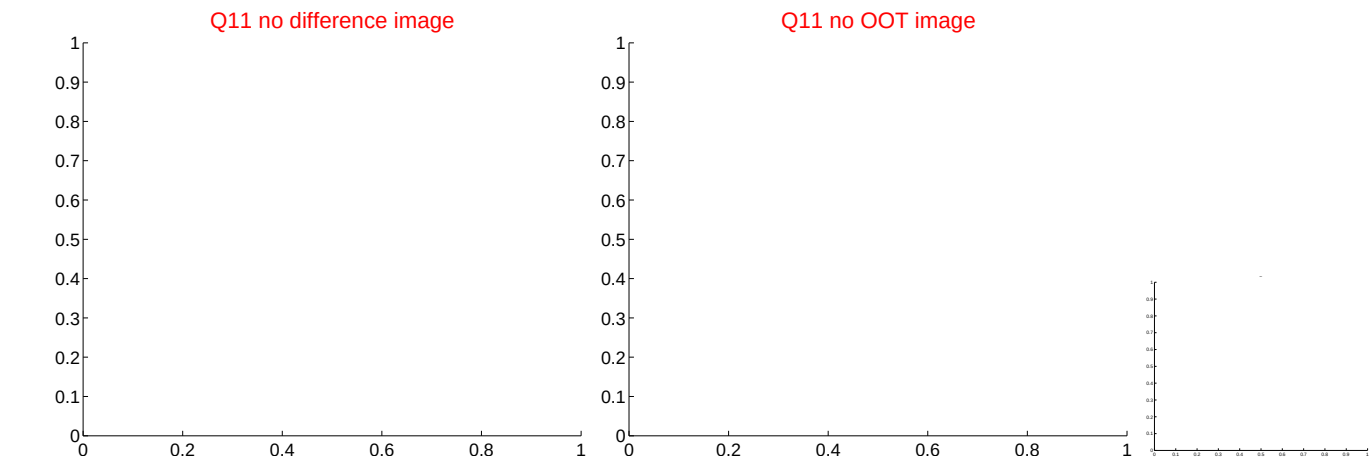
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

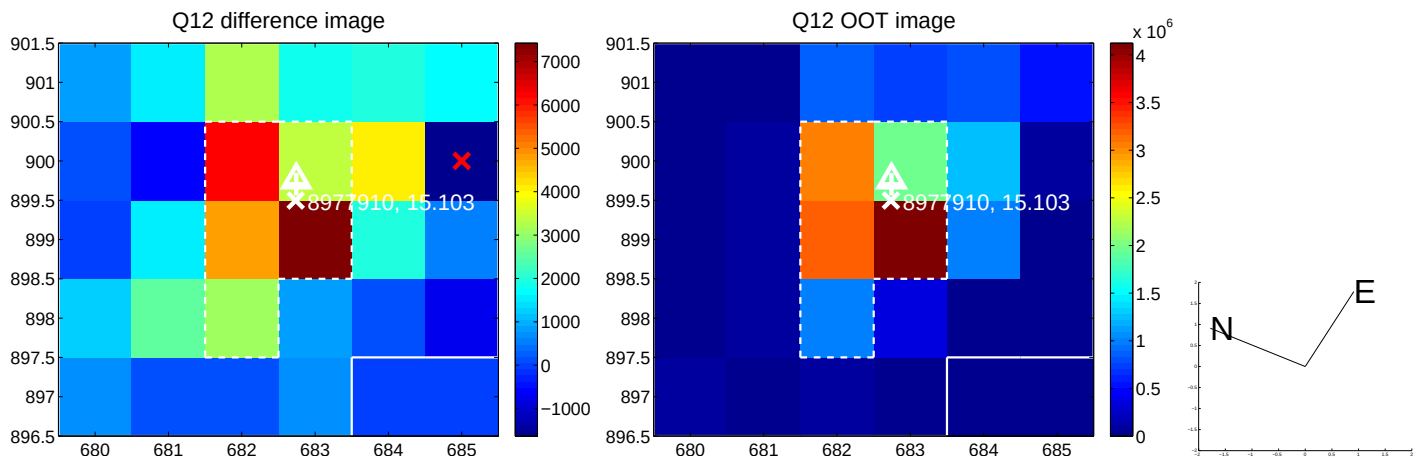


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

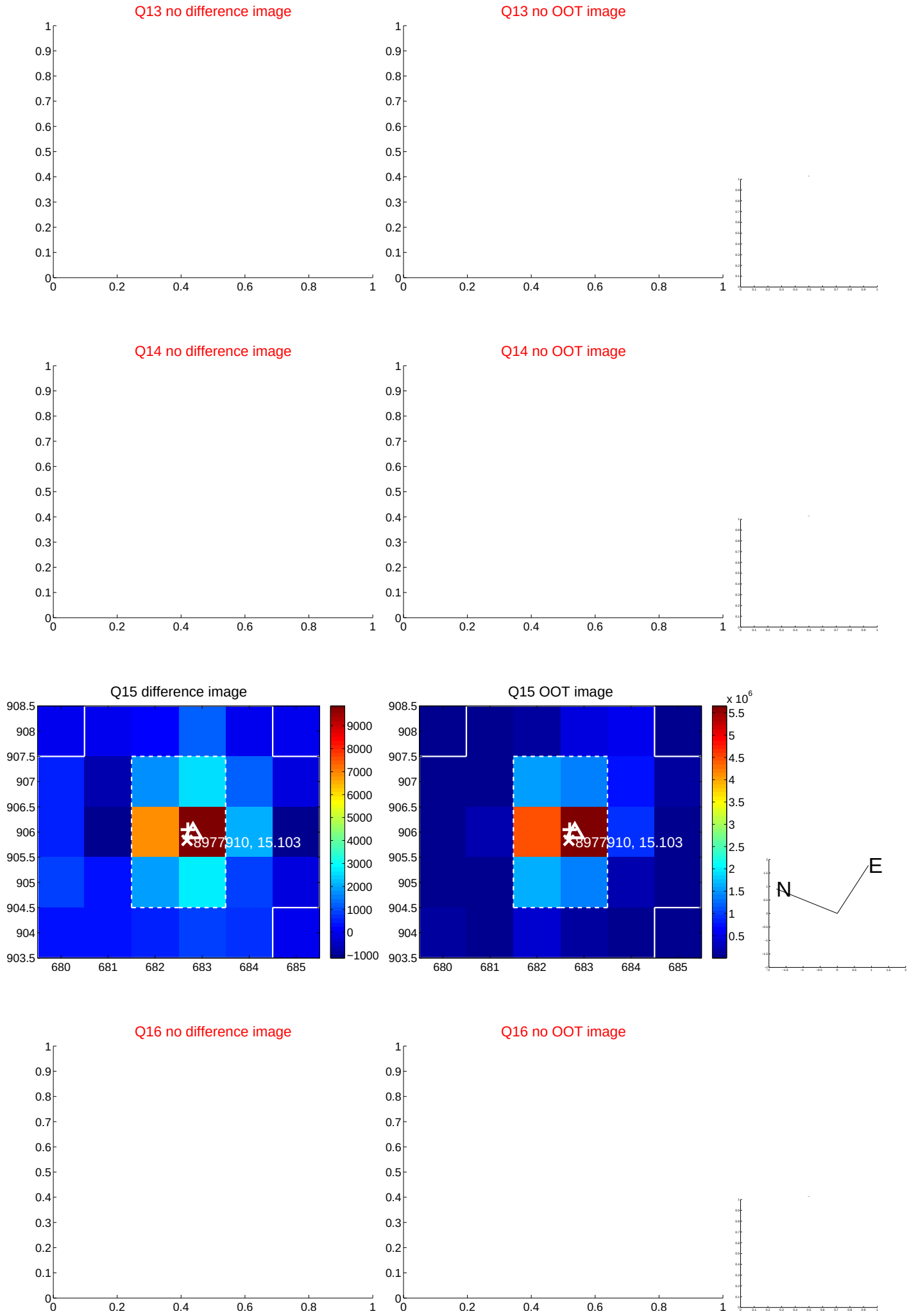




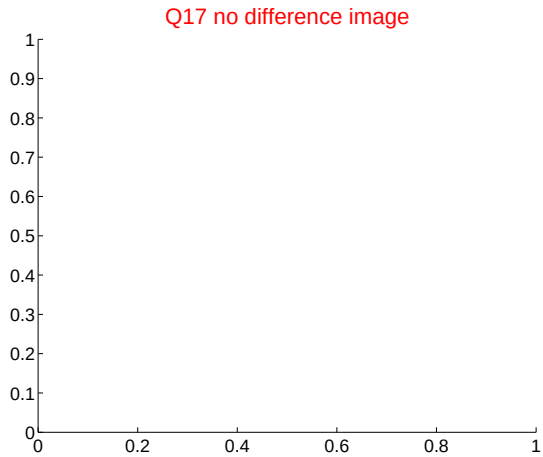


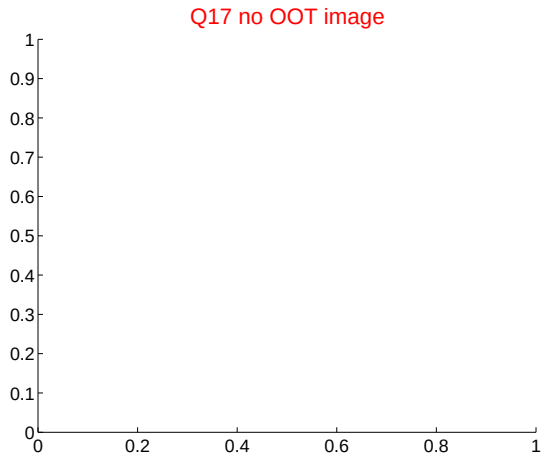


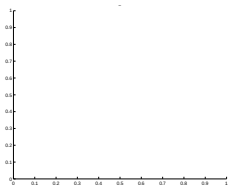
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

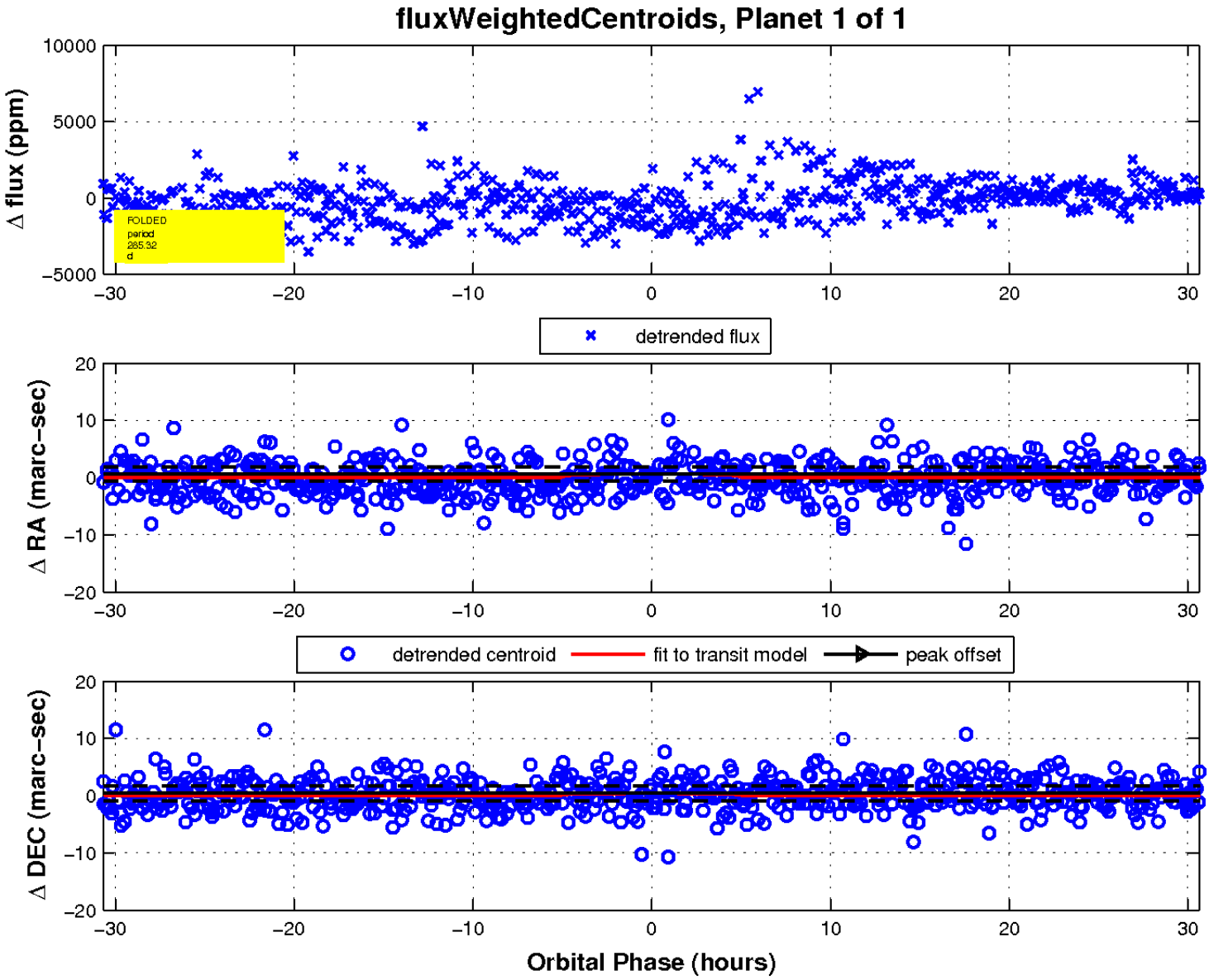


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

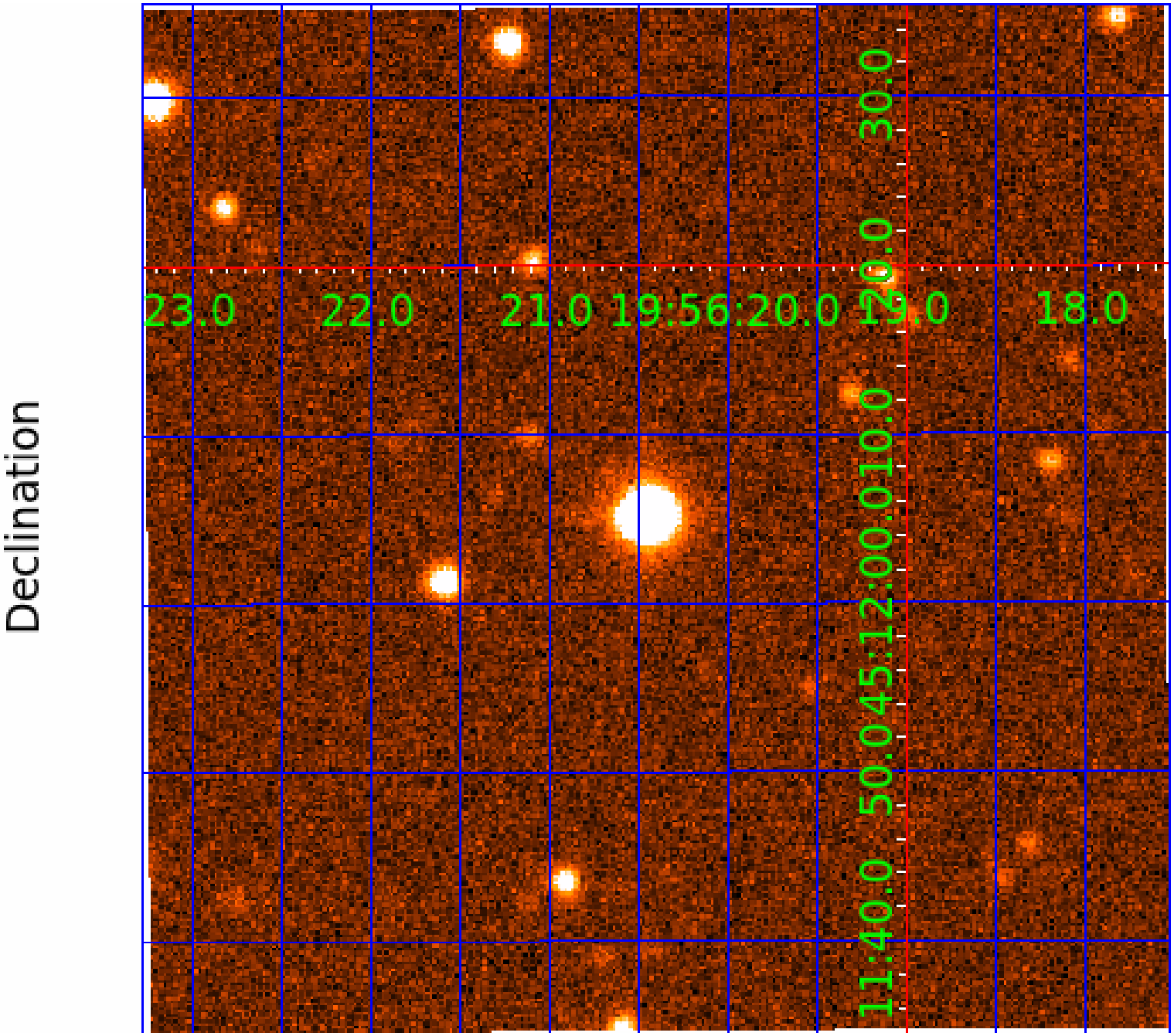








UKIRT Image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