KIC 009282762

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 ($S_\oplus$)
009282762-01	OBS	4113.01	1.332634	132.044284	95.9	2.472	11.6	10.7	1.03	6099	1.18	2185.97

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009282762-01	OBS	FP	0.00	0	0	0	1	CENT_FEW_DIFFS—EPHEM_MATCH

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 009282762-01

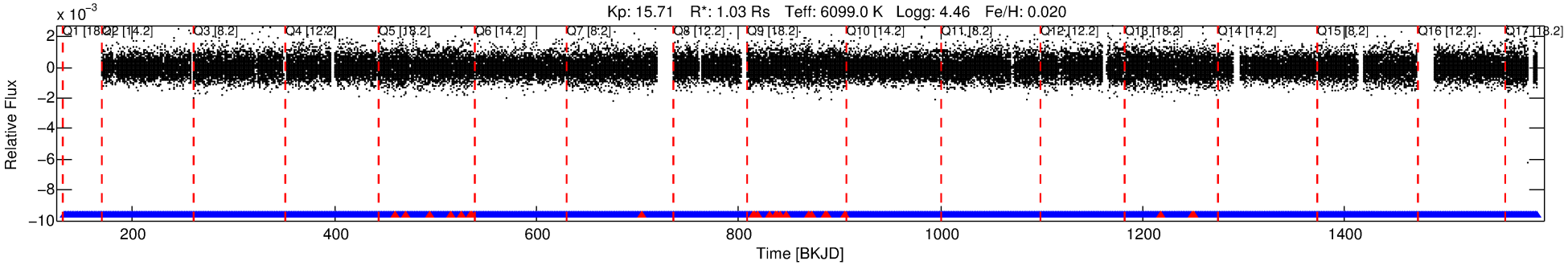
TCE (1)	KIC	Parent (2)	Parent KIC	P_1:P_2	Dist (″)	ΔRow	ΔCol	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
009282762-01	9282762	BR-Cyg-pri	9899416	1:1	7602.3	-2	7	10.03	15.71	6967.40	Cross-Talk	0	4.36	0.36

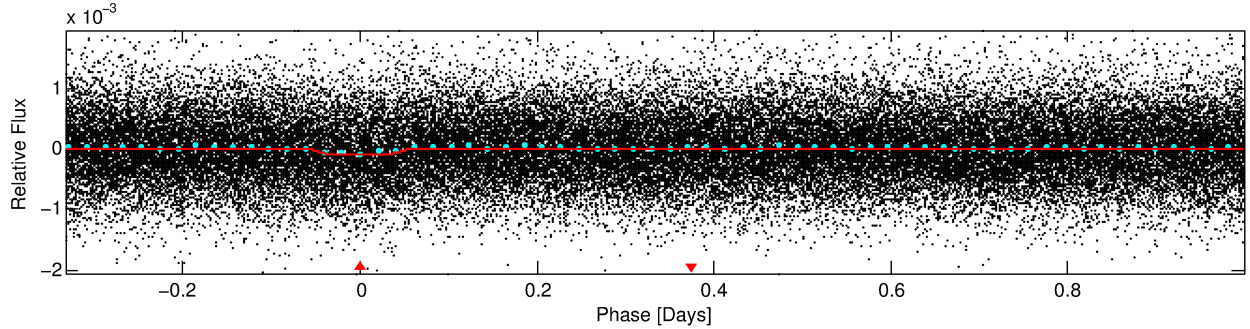
Notes: P_1:P_2 is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth dividied by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should recieve extra scrutiny, especially if the period ratio is very large.

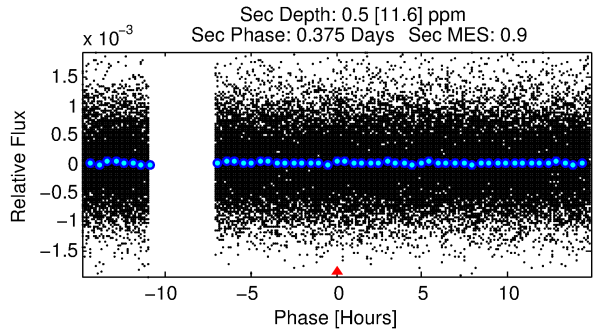
DV One-Page Summary

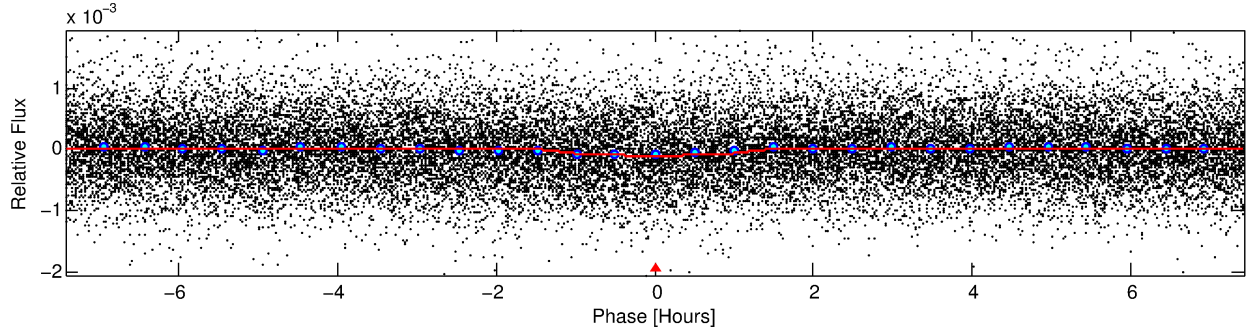
KIC: 9282762 Candidate: 1 of 1 Period: 1.333 d
KOI: K04113 Corr: No Ephemeris Match

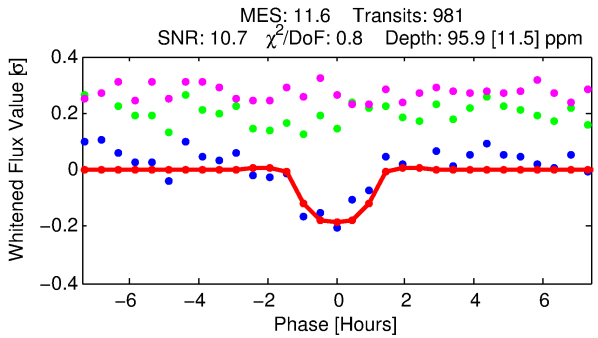
Kp: 15.71 R*: 1.03 Rs Teff: 6099.0 K Logg: 4.46 Fe/H: 0.020

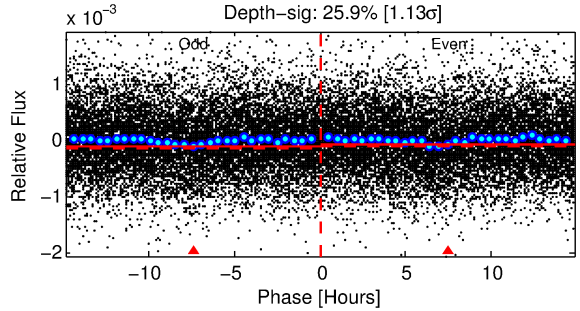


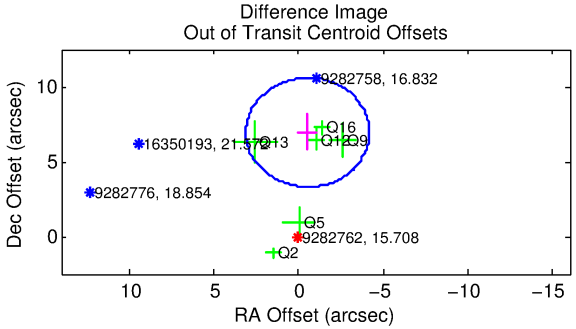












DV Fit Results:

Period = 1.33263 [0.00001] d
Epoch = 132.0443 [0.0034] BKJD
Rp/R* = 0.0106 [0.0066]
a/R* = 2.14 [5.44]
b = 0.90 [0.73]

Seff = 2185.96 [885.94]
Teq = 1744 [177] K
Rp = 1.18 [0.83] Re
a = 0.0245 [0.0064] AU

Ag = 0.11 [2.73] [−0.33σ]
Teffp = 1566 [9367] K [−0.02σ]

DV Diagnostic Results:

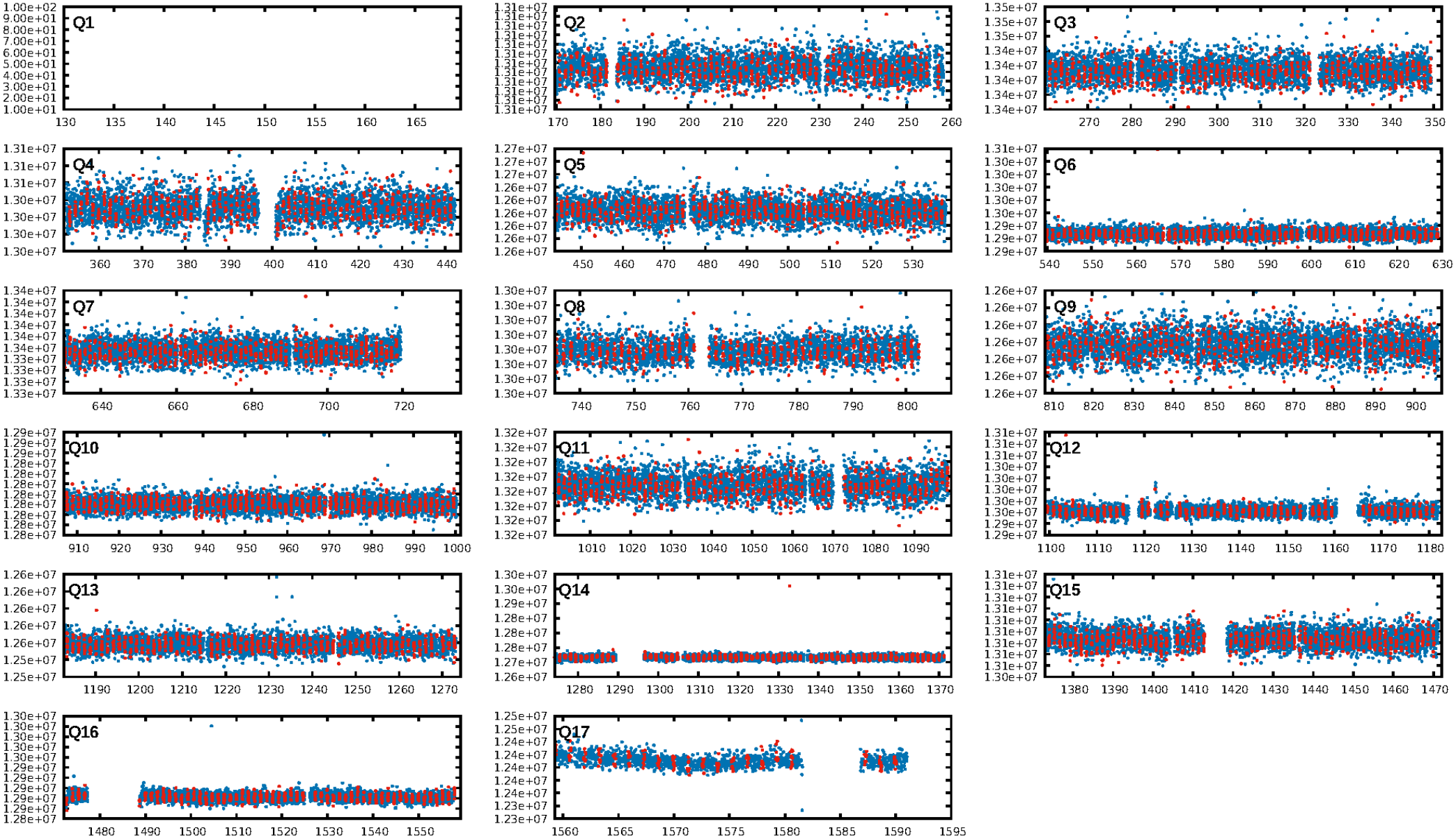
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 1.14e−32
RollingBand−fgt: 0.98 [937/961]
GhostDiagnostic−chr: −2.693

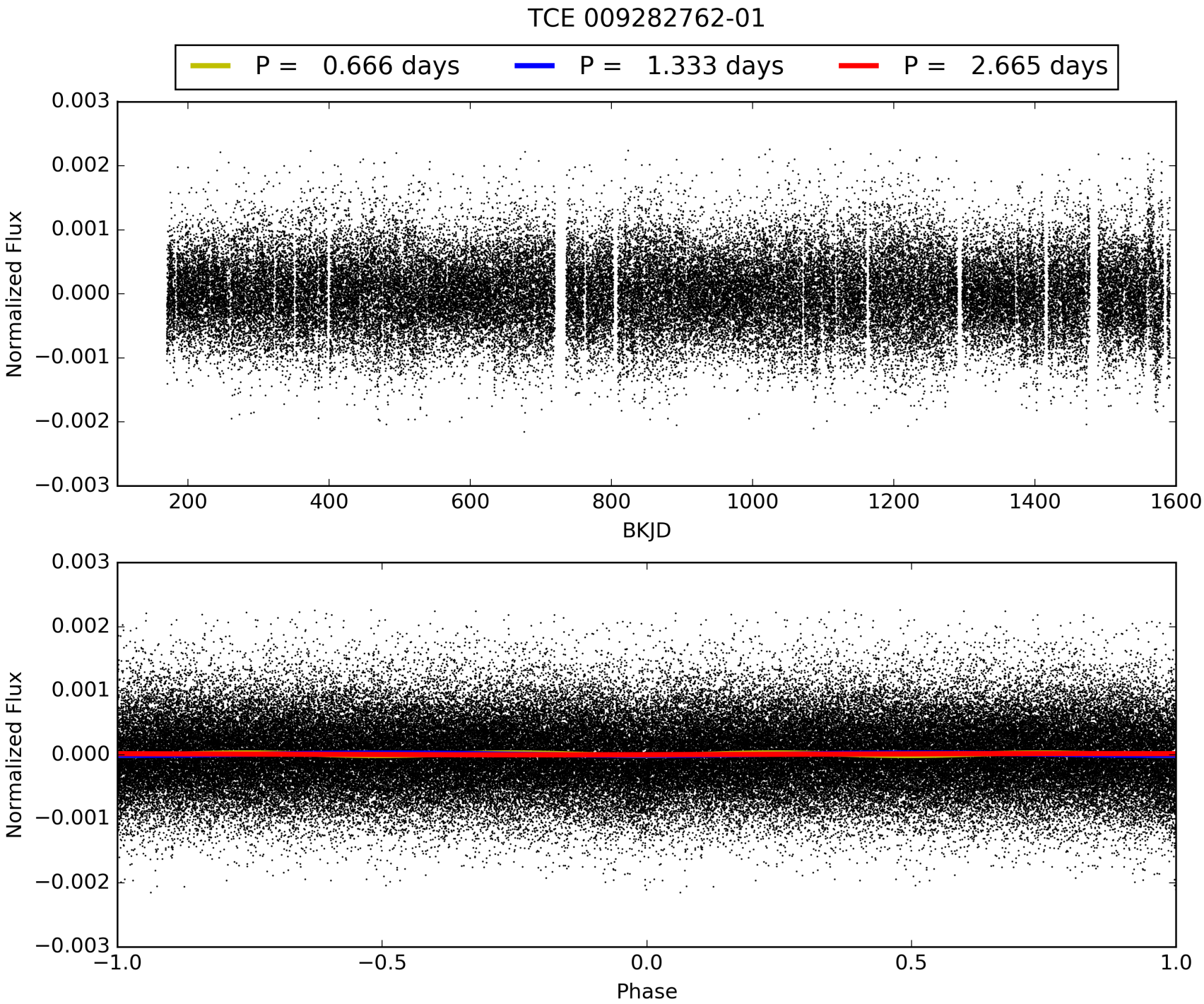
Centroid−sig: 0.0%
Centroid−so: 4.206 arcsec [3.29σ]
OotOffset−rm: 6.971 arcsec [5.74σ]
KicOffset−rm: 7.120 arcsec [4.50σ]
OotOffset−st: 1/0/2/3 [6]
KicOffset−st: 1/0/2/3 [6]
DiffImageQuality−fgm: 0.00 [0/6]
DiffImageOverlap−fno: 1.00 [16/16]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 30−Jan−2016 16:12:48 Z

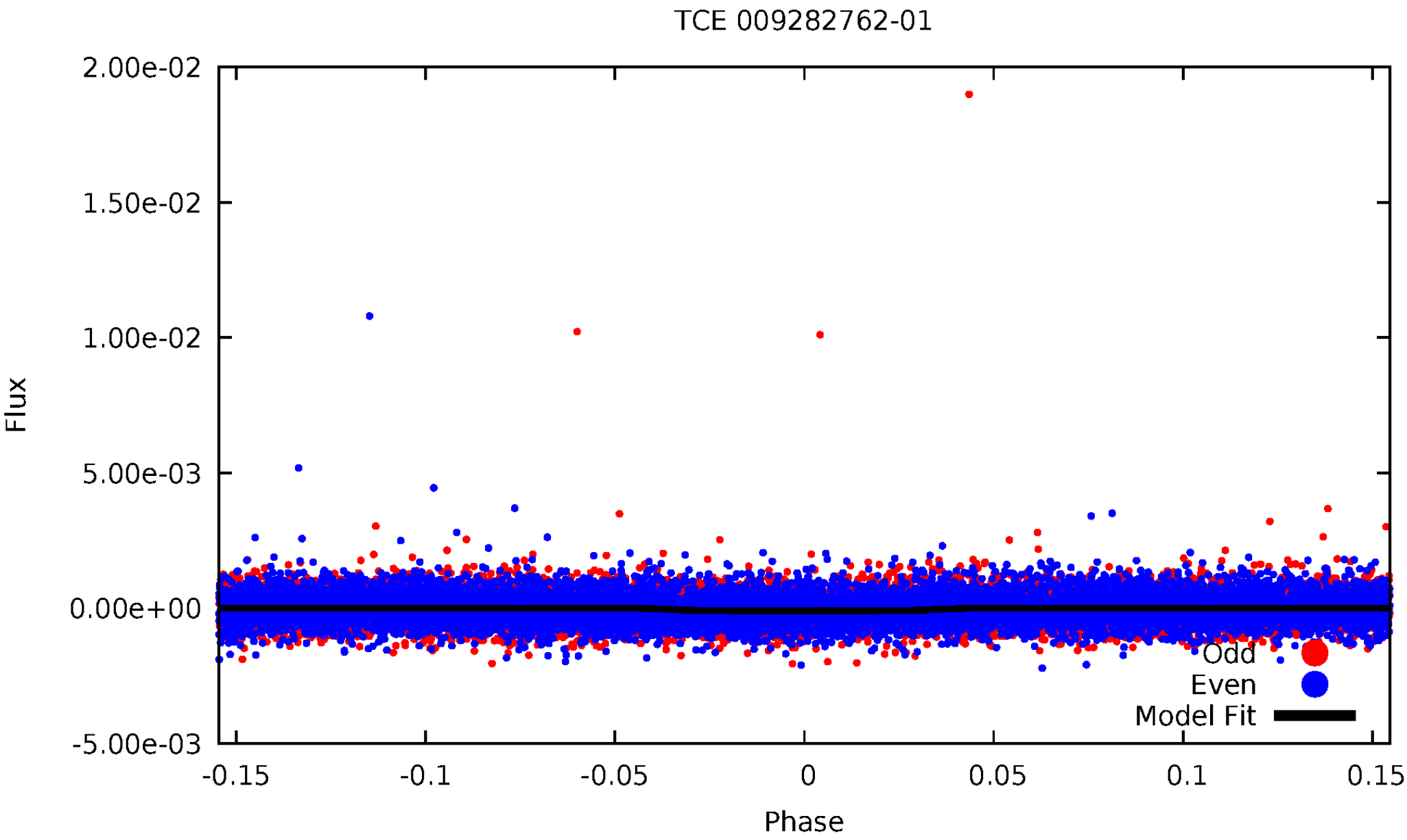
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009282762-01, PDC Light Curves

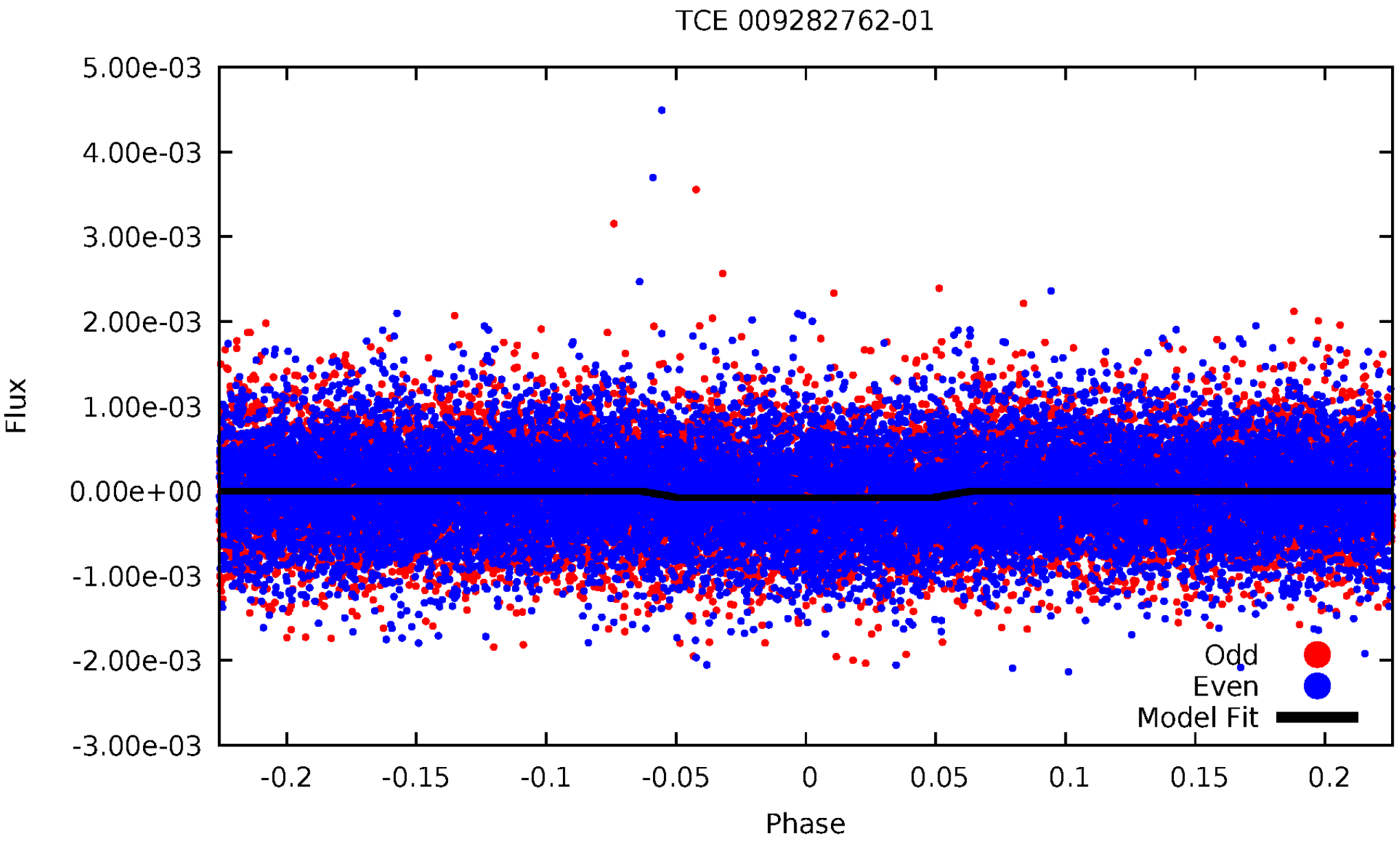



TCE 009282762-01
P = 0.666 days
P = 1.333 days
P = 2.665 days
Normalized Flux
BKJD
Phase

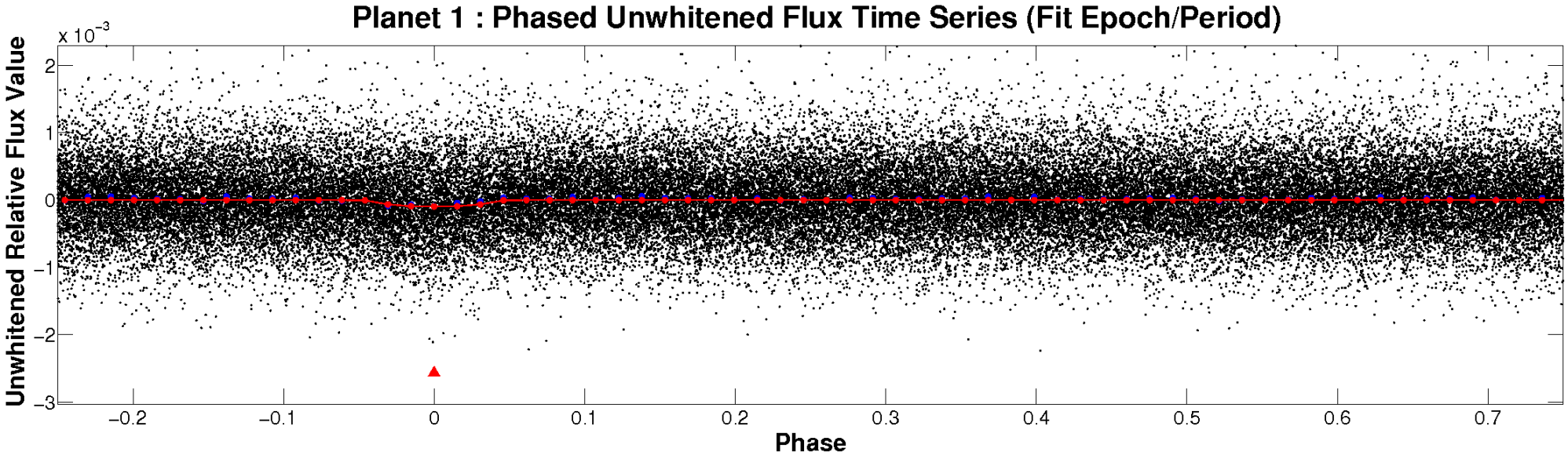
DV Odd/Even

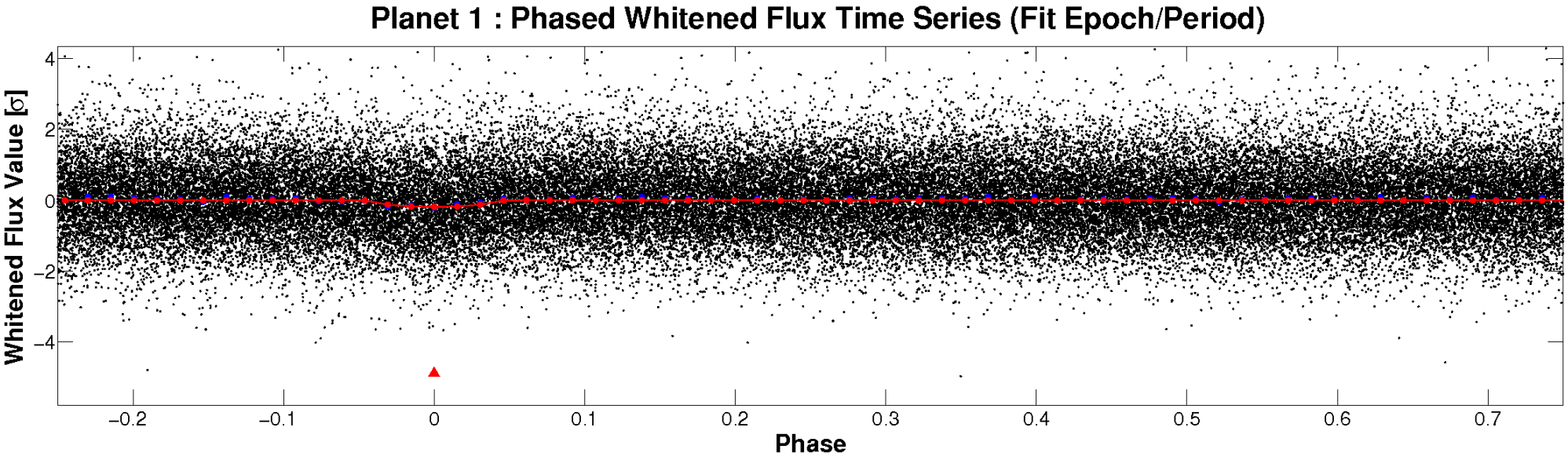

TCE 009282762-01
2.00e-02
1.50e-02
1.00e-02
5.00e-03
0.00e+00
-5.00e-03
Flux
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009282762-01
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
Flux
-0.2
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
0.2
Phase
Odd
Even
Model Fit

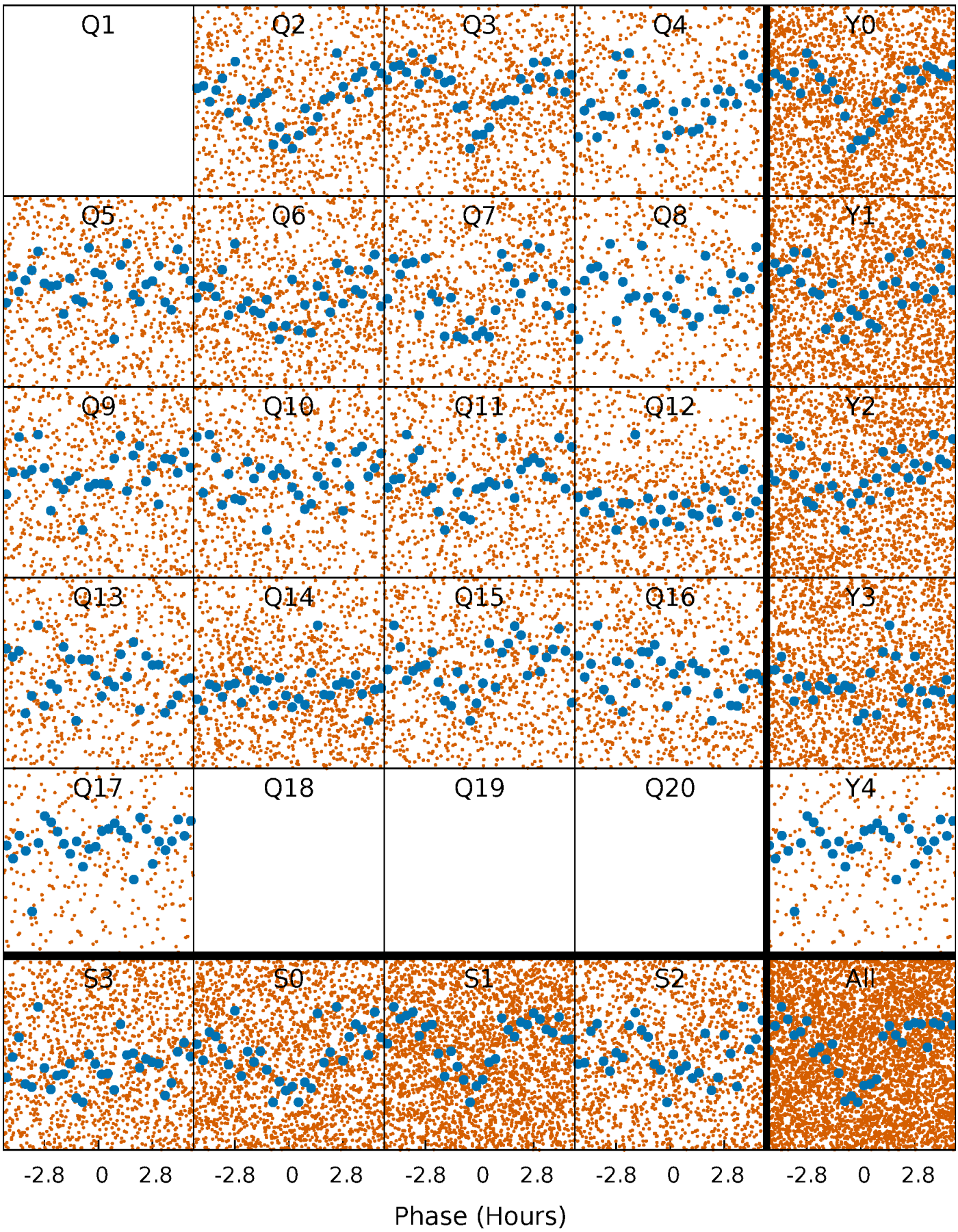
Non-Whitened Vs. Whitened Light Curve





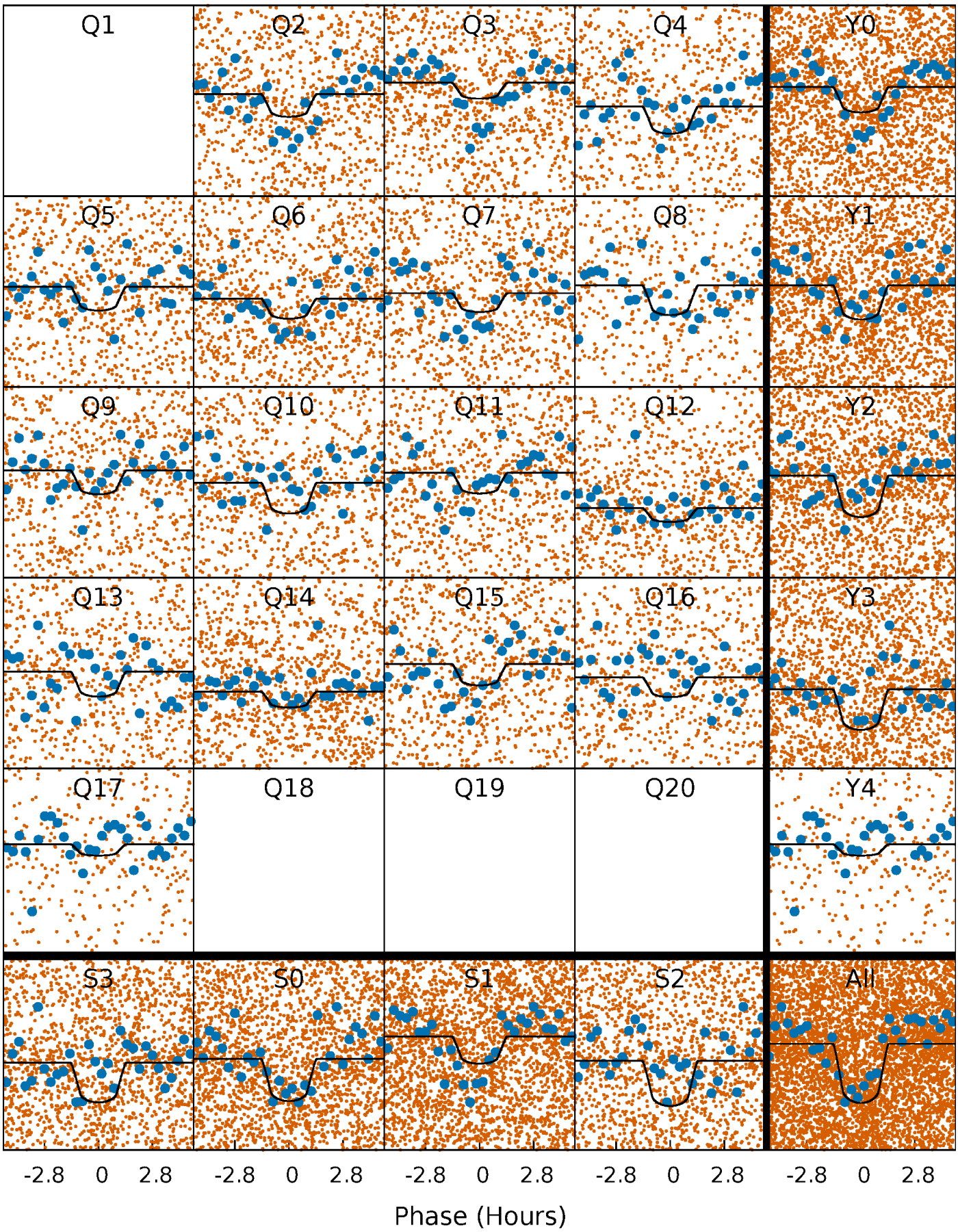
PDC Quarter-Phased Transit Curves

TCE 009282762-01 P= 1.332634 Days T_0=132.044284 (BKJD)



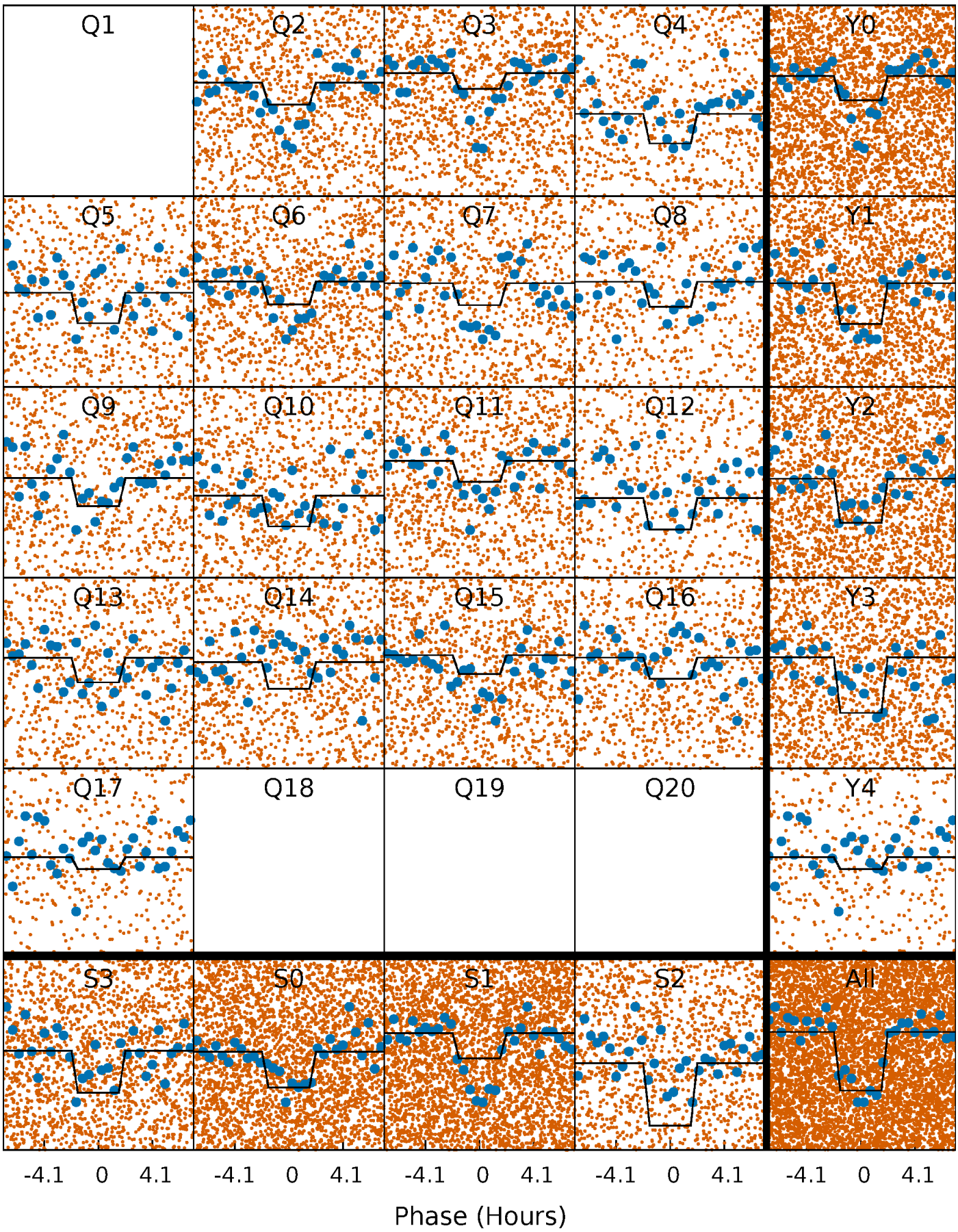
DV Quarter-Phased Transit Curves

TCE 009282762-01 P= 1.332634 Days T_0=132.044284 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

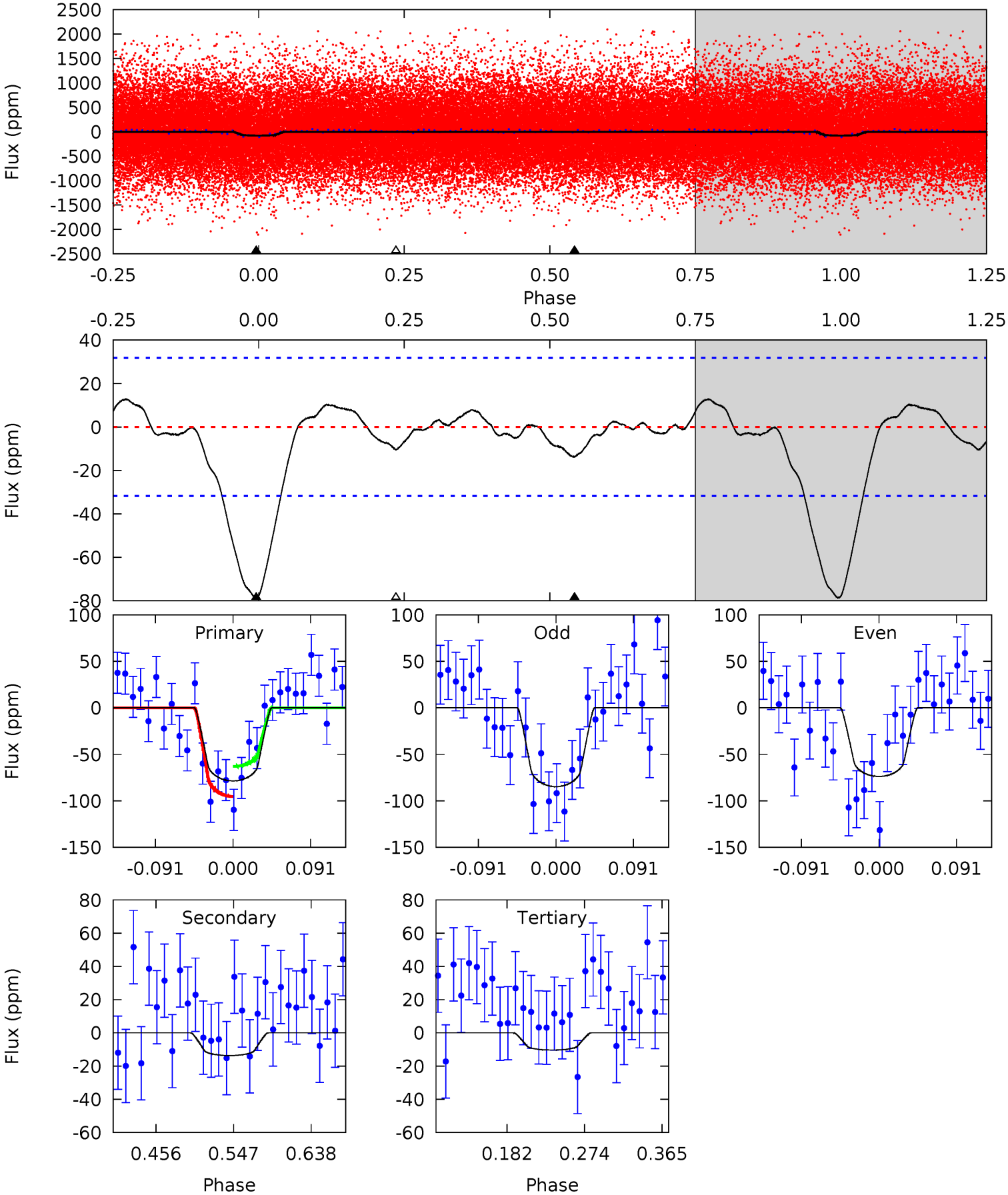
TCE 009282762-01 P= 1.332553 Days T_0=132.054938 (BKJD)



DV Model-Shift Uniqueness Test

009282762-01, P = 1.332634 Days, E = 132.044284 Days

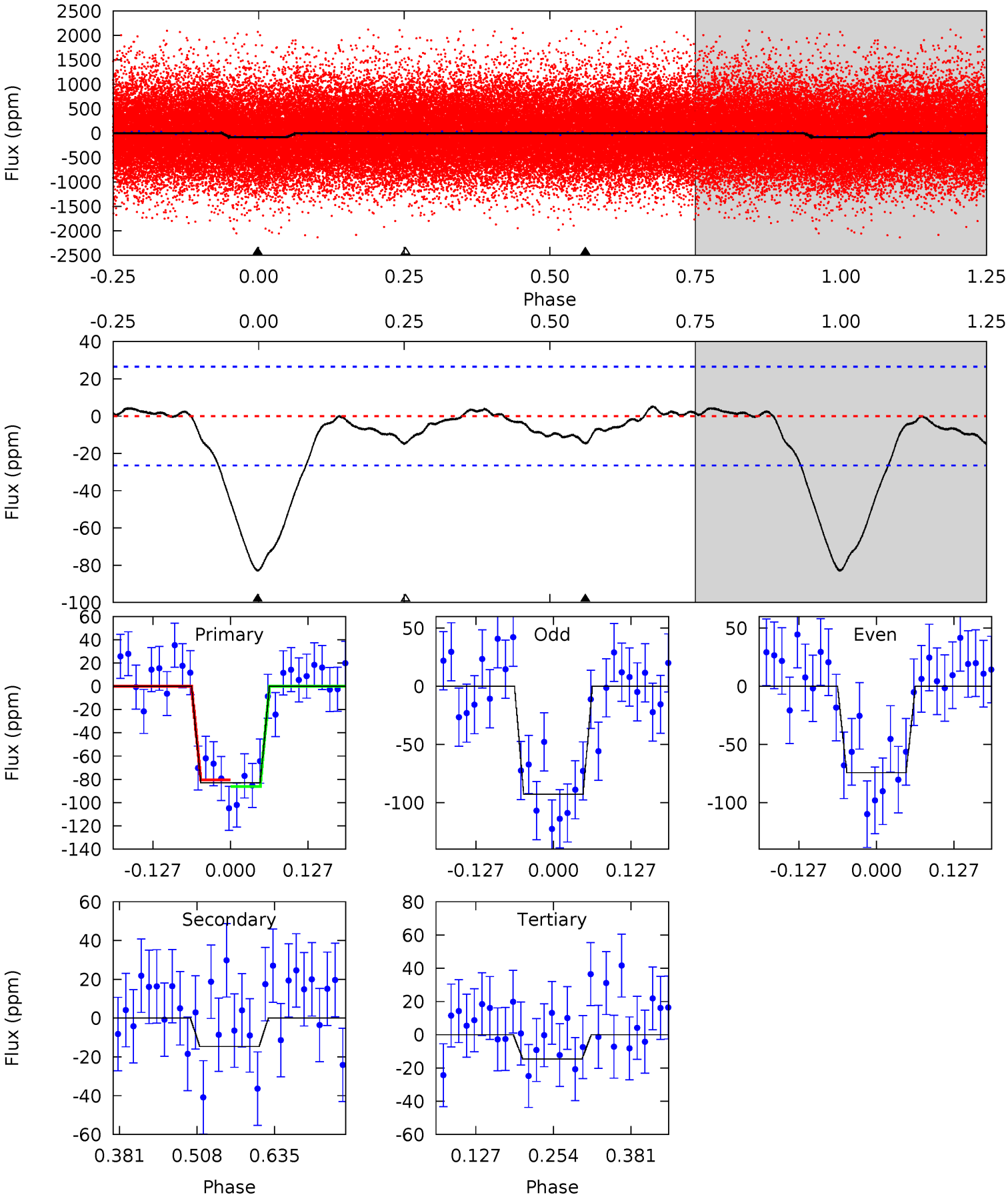
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	1.97	1.50	0	4.58	1.69	0.79	9.85	11.3	0.48	1.97	0.79	0.89	0.14	2.34



Alt Model-Shift Uniqueness Test

009282762-01, P = 1.332553 Days, E = 132.054938 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	2.50	2.48	0	4.51	1.53	0.84	11.7	14.1	0.02	2.50	1.58	0.95	0.06	0.48



Stellar Parameters For KIC 009282762

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6099^{+171}_{-236}	$4.456^{+0.054}_{-0.202}$	$0.020^{+0.250}_{-0.350}$	$1.028^{+0.324}_{-0.130}$	$1.098^{+0.135}_{-0.151}$	$1.422^{+0.399}_{-0.744}$
	+3%/-4%	+1%/-5%	+1250%/-1750%	+32%/-13%	+12%/-14%	+28%/-52%
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 009282762-01 / KOI 4113.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-14±7	$1.35^{+0.75}_{-0.74}$	2487^{+181}_{-135}	3694^{+1481}_{-734}	$2.385^{+9.361}_{-1.633}$
Alt.	-15±6	$1.20^{+0.75}_{-0.64}$	2491^{+187}_{-128}	3922^{+1462}_{-741}	$3.112^{+12.235}_{-2.063}$

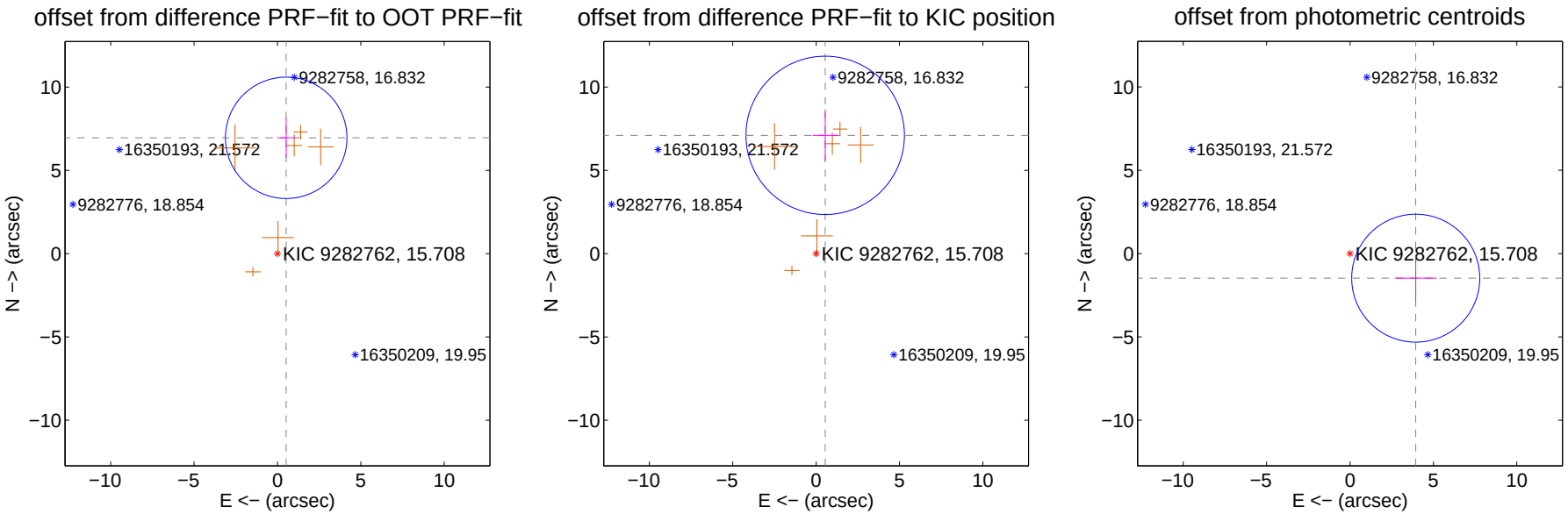
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

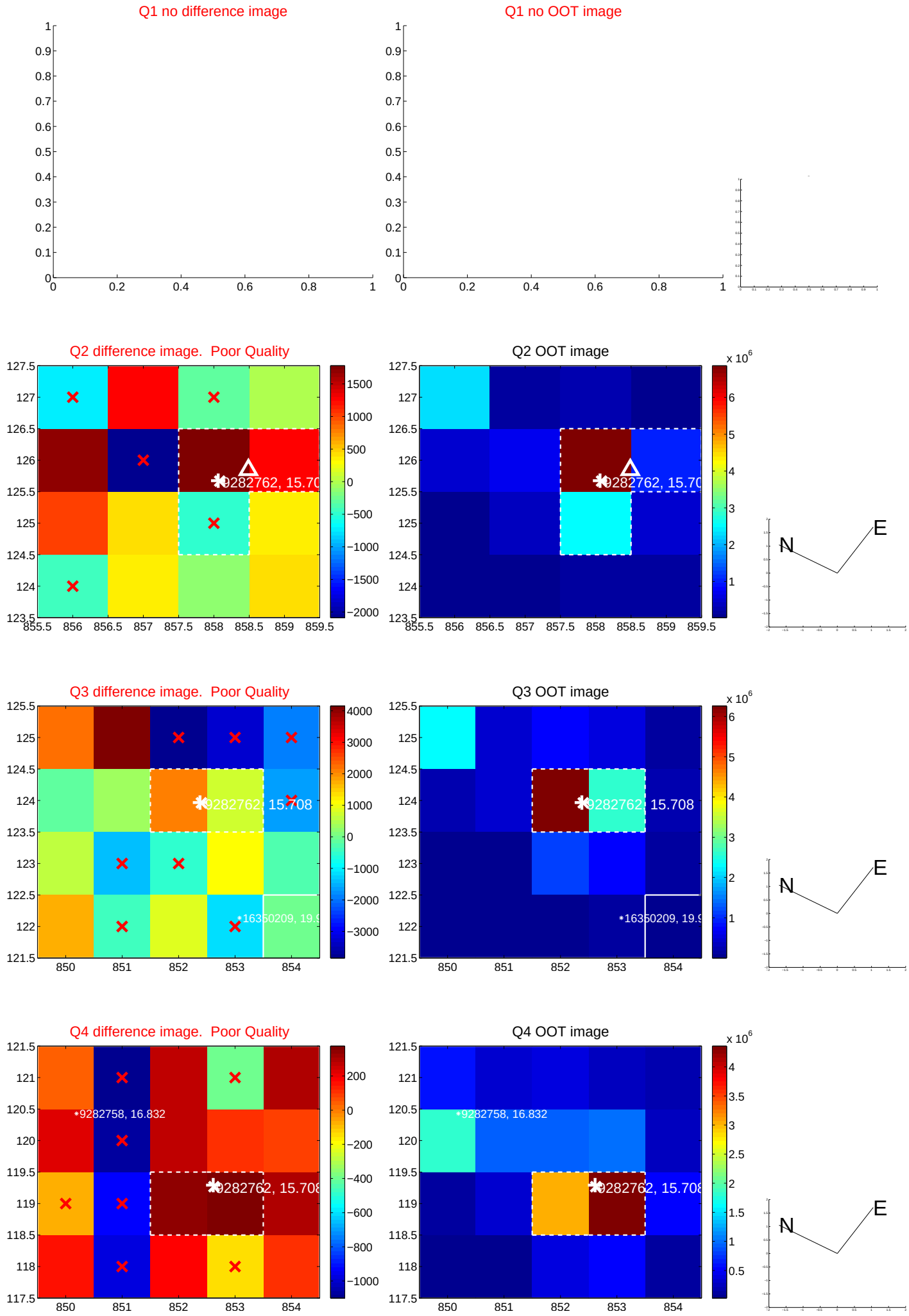
Supplemental centroid analysis for 009282762-01. Kepler magnitude: 15.71. Transit SNR 10.69
There are 0 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	6.971 ± 1.214	5.74	-0.523 ± 0.538	6.952 ± 1.201
PRF-fit source offset from KIC position	7.120 ± 1.584	4.50	-0.544 ± 0.755	7.100 ± 1.547
photometric centroid source offset	4.21 ± 1.28	3.29	-3.94 ± 1.26	-1.48 ± 1.41

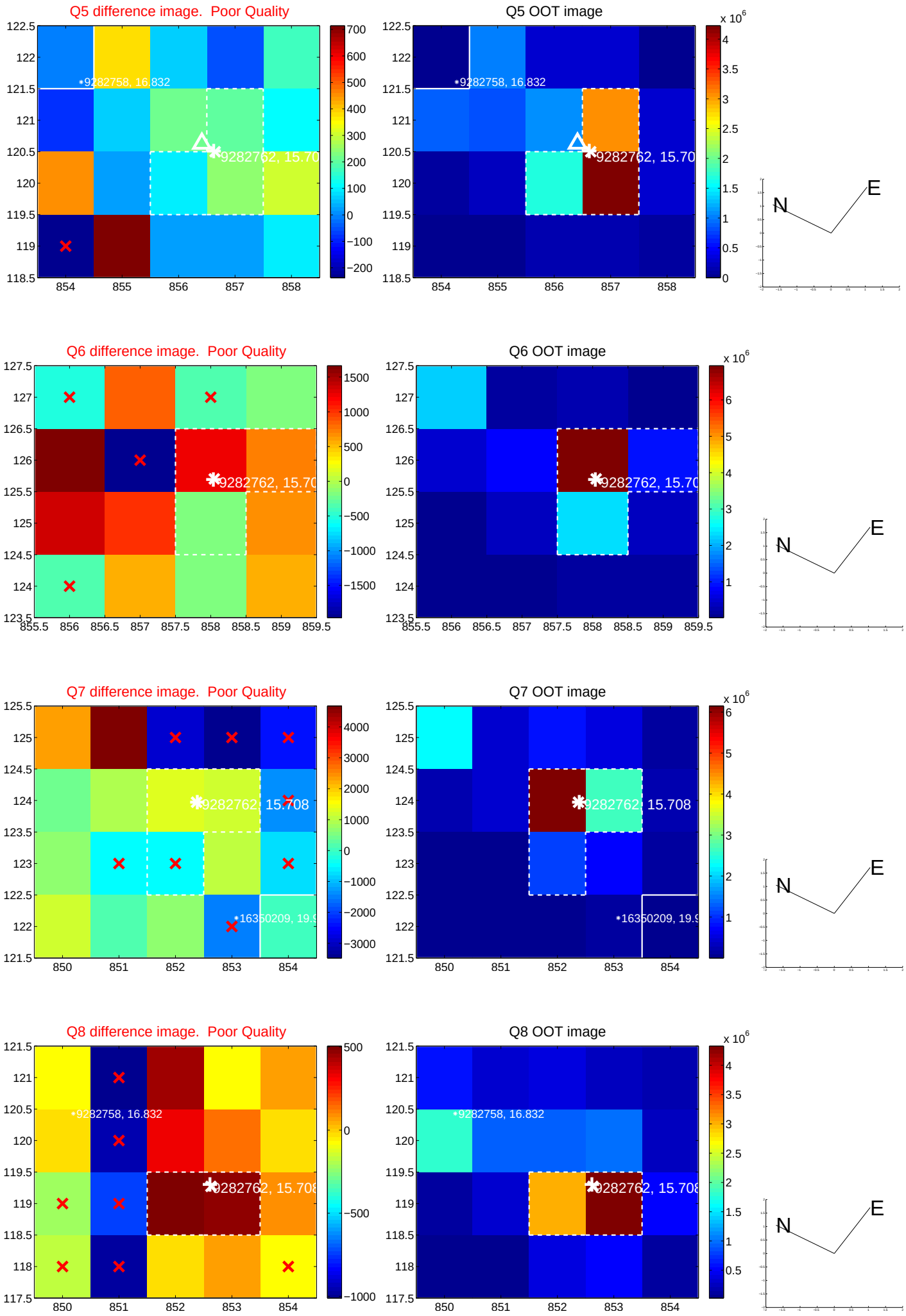


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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



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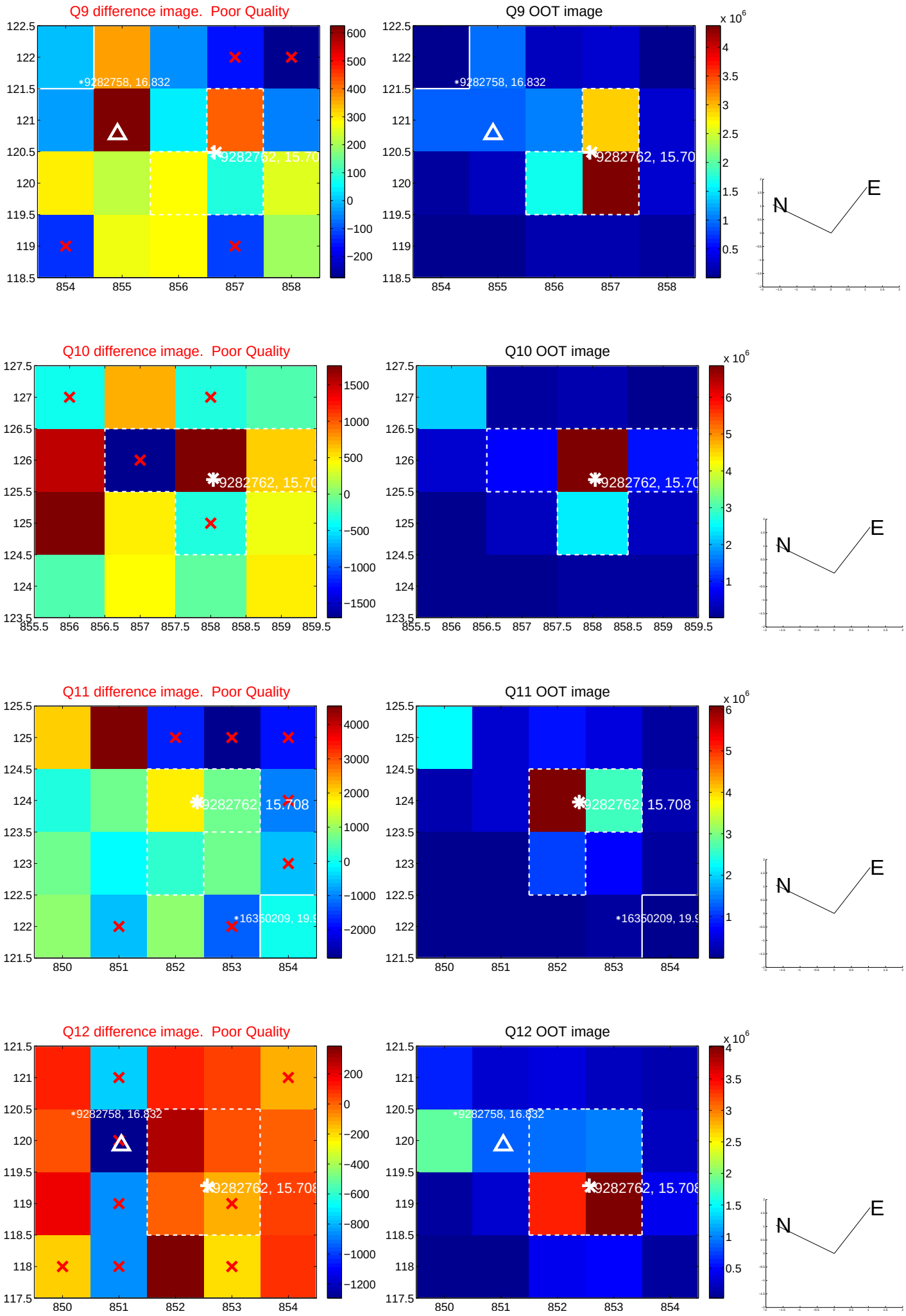
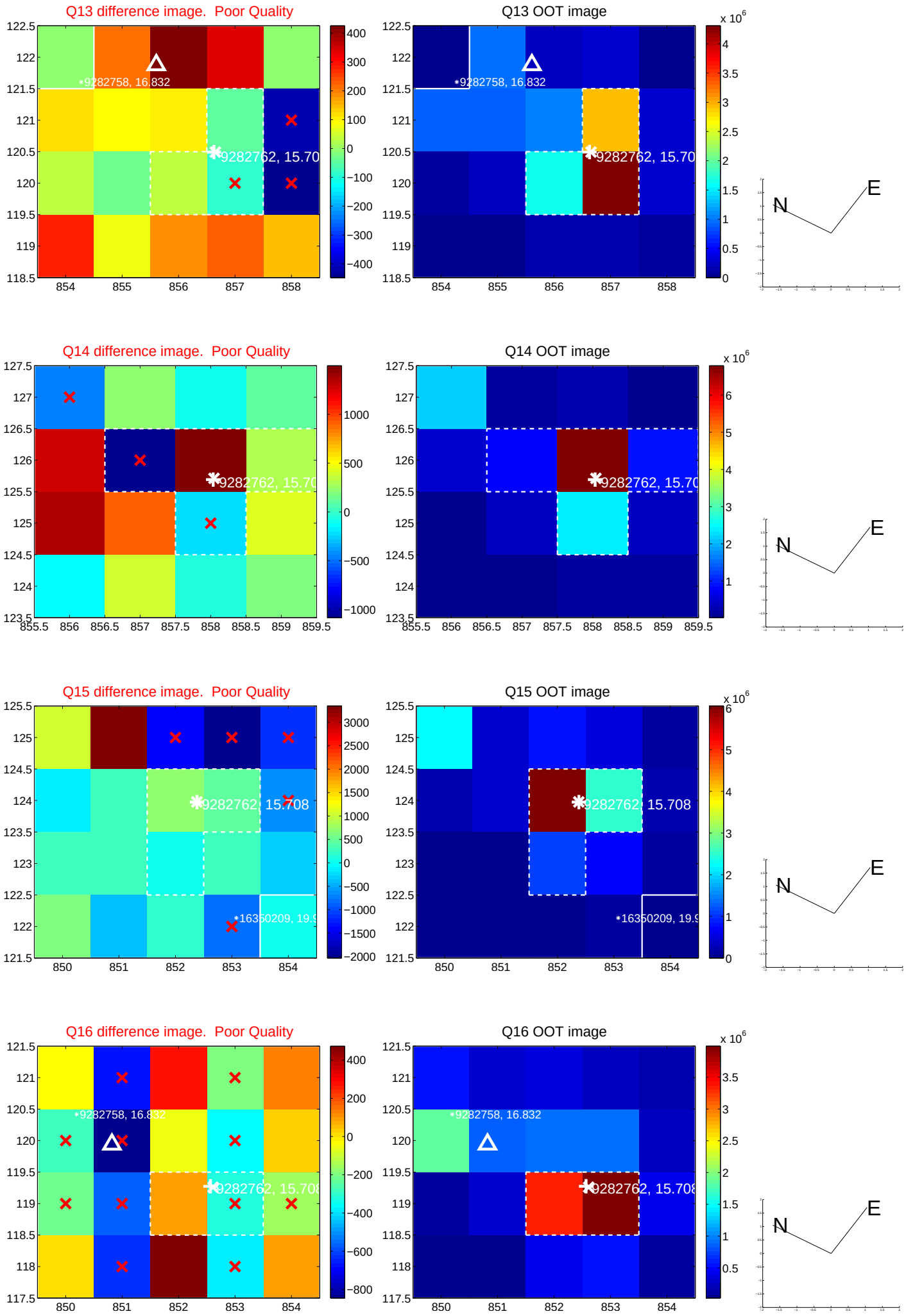
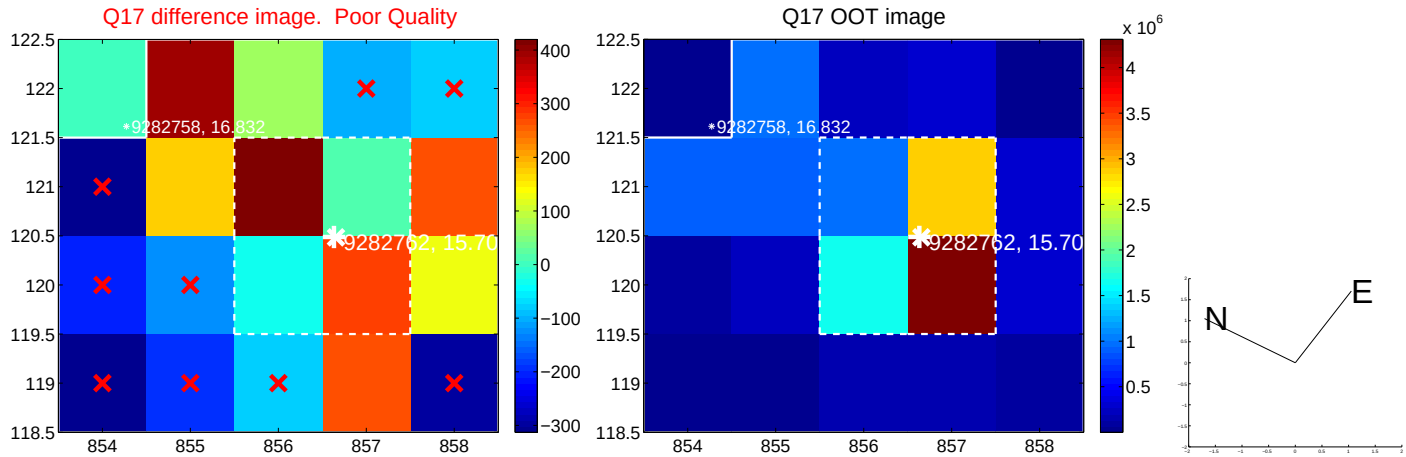
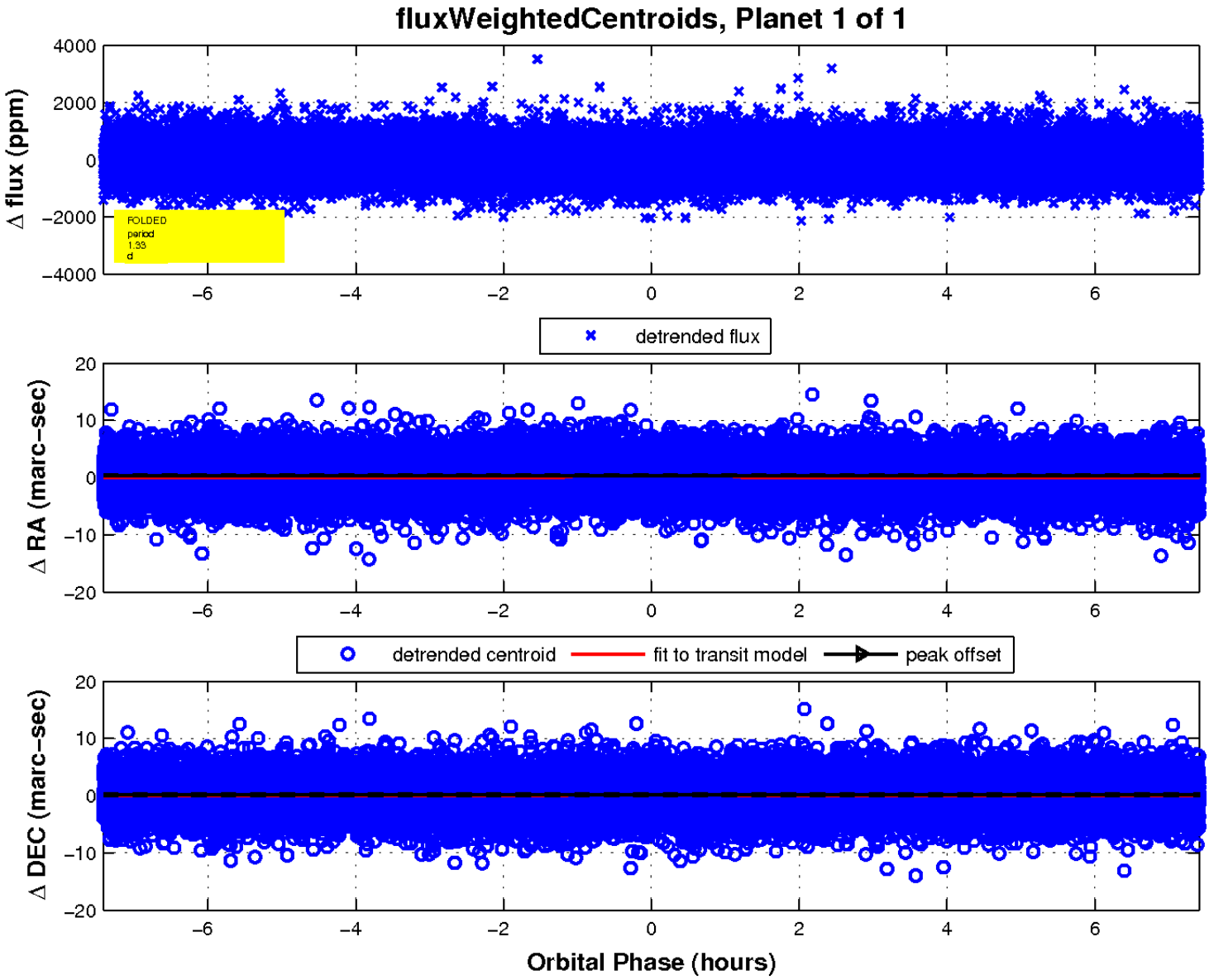


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

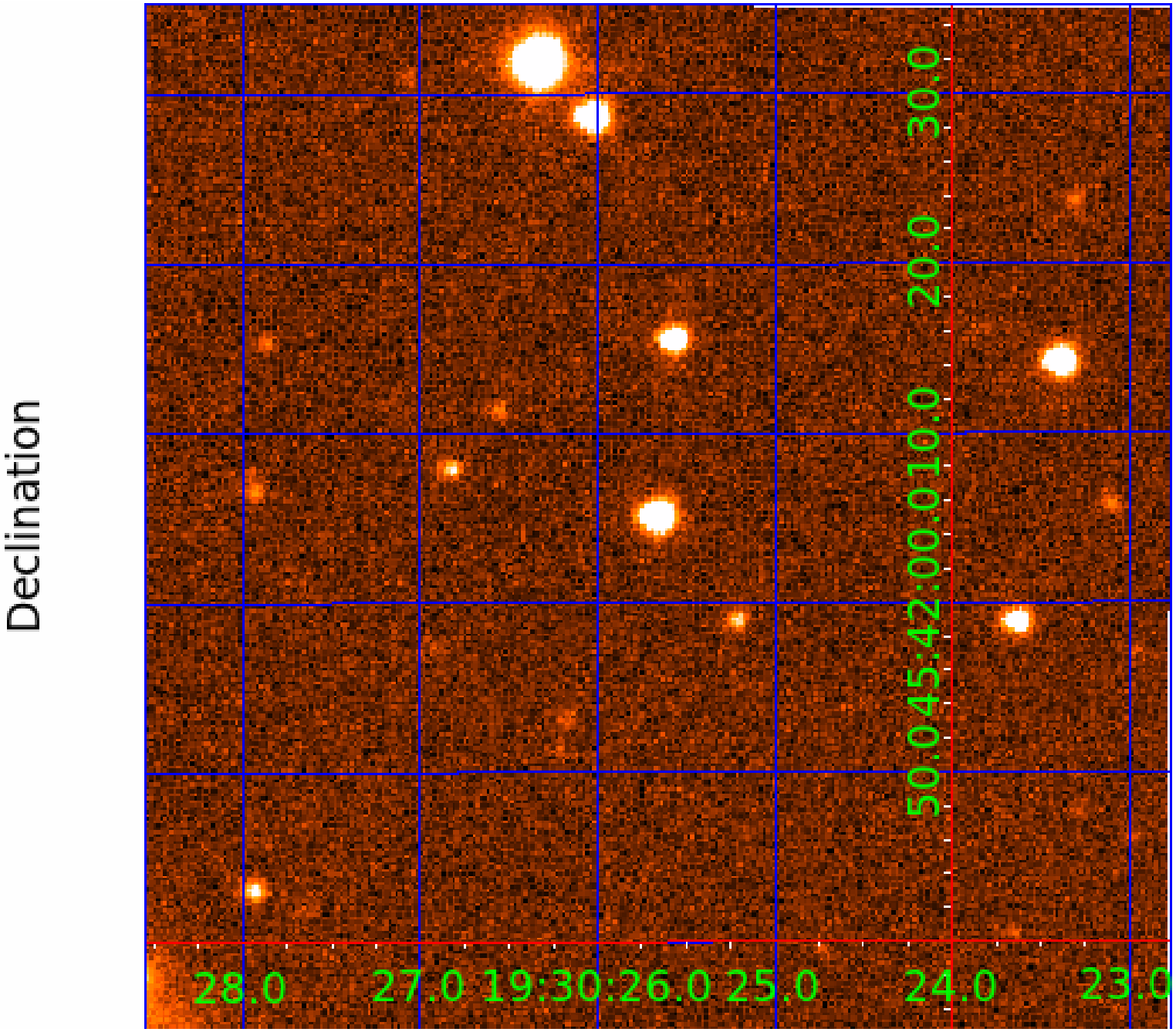


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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