KIC 006543645

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 ($S_\oplus$)
006543645-01	OBS	4679.01	1.195455	132.331633	21.0	3.487	11.1	9.9	1.46	6088	0.80	5076.66

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006543645-01	OBS	FP	0.00	0	0	1	1	CENT_UNRESOLVED_OFFSET—HALO_GHOST—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 006543645-01

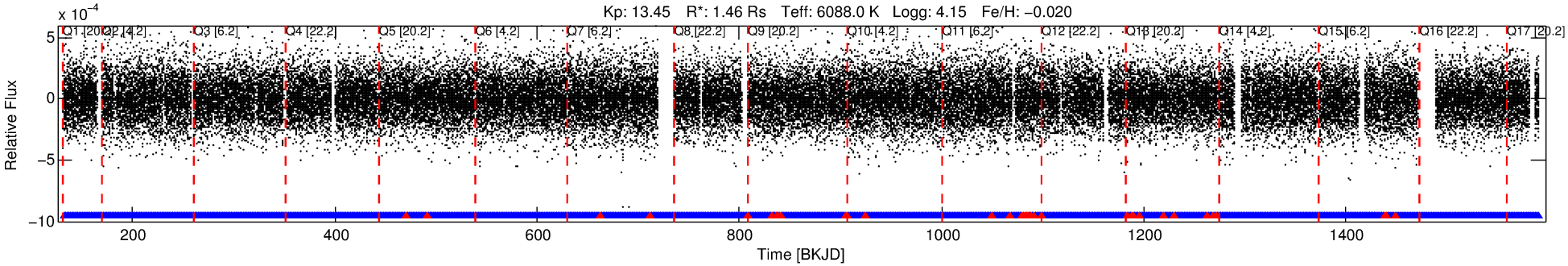
TCE (1)	KIC	Parent (2)	Parent KIC	P_1:P_2	Dist (″)	ΔRow	ΔCol	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
006543645-01	6543645	6728.01	6543682	1:1	45.0	7	9	13.91	13.45	25887.00	Direct-PRF	0	4.47	1.95

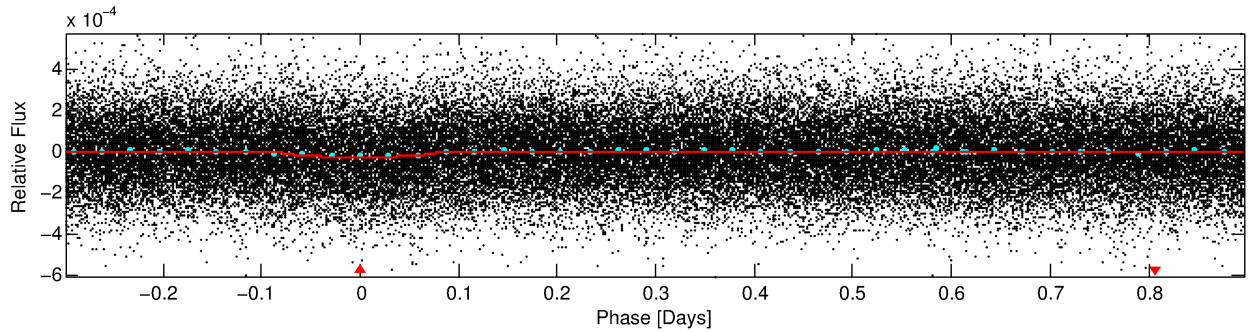
Notes: P_1:P_2 is the period ratio. Dist is the distance in arcseconds. ΔRow and ΔCol are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth dividied by the child's. σ_P and σ_T are the significance of the match 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.

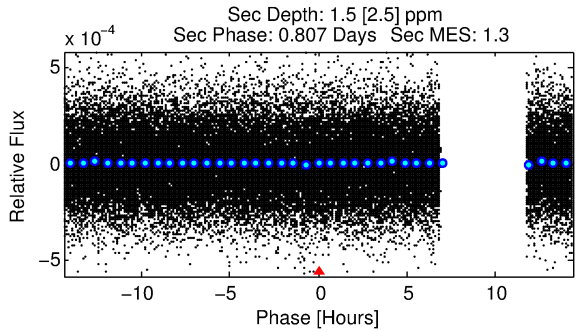
DV One-Page Summary

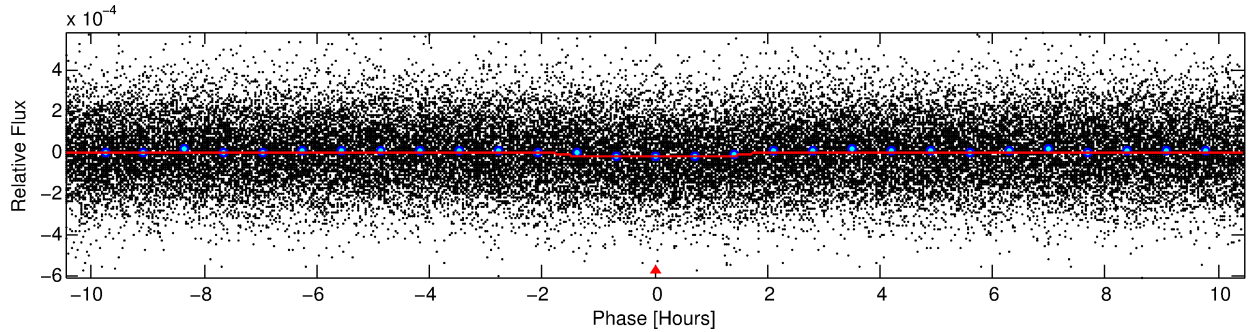
KIC: 6543645 Candidate: 1 of 1 Period: 1.195 d
KOI: K04679.01 Corr: 0.812

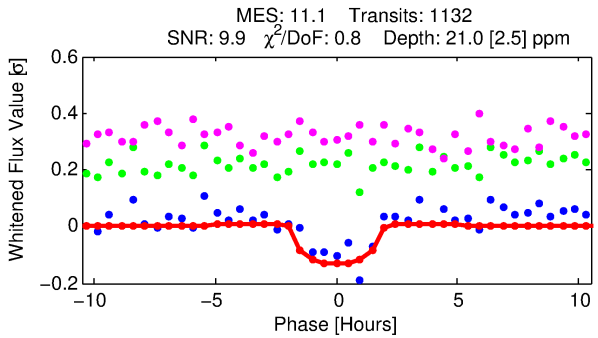
Kp: 13.45 R*: 1.46 Rs Teff: 6088.0 K Logg: 4.15 Fe/H: −0.020

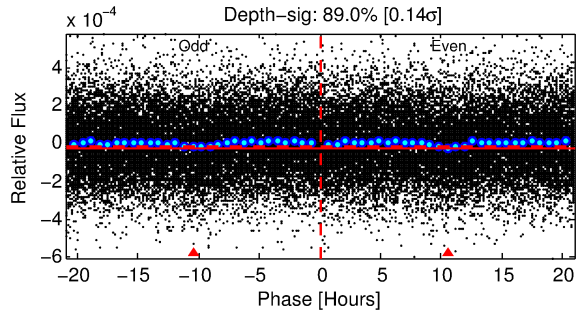


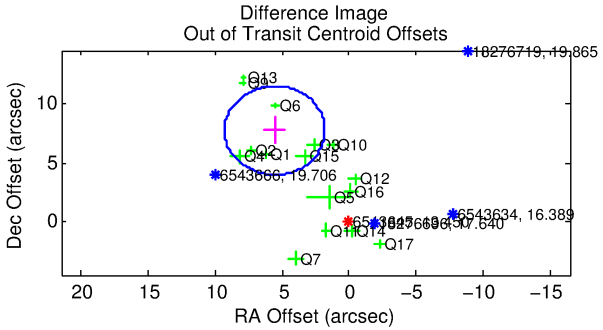












DV Fit Results:

Period = 1.19545 [0.00001] d
Epoch = 132.3316 [0.0044] BKJD
Rp/R* = 0.0050 [0.0025]
a/R* = 1.43 [1.94]
b = 0.92 [0.46]

Seff = 5076.66 [2292.30]
Teq = 2152 [243] K
Rp = 0.80 [0.46] Re
a = 0.0228 [0.0062] AU

Ag = 0.68 [1.32] [−0.24σ]
Teffp = 3026 [1430] K [0.60σ]

DV Diagnostic Results:

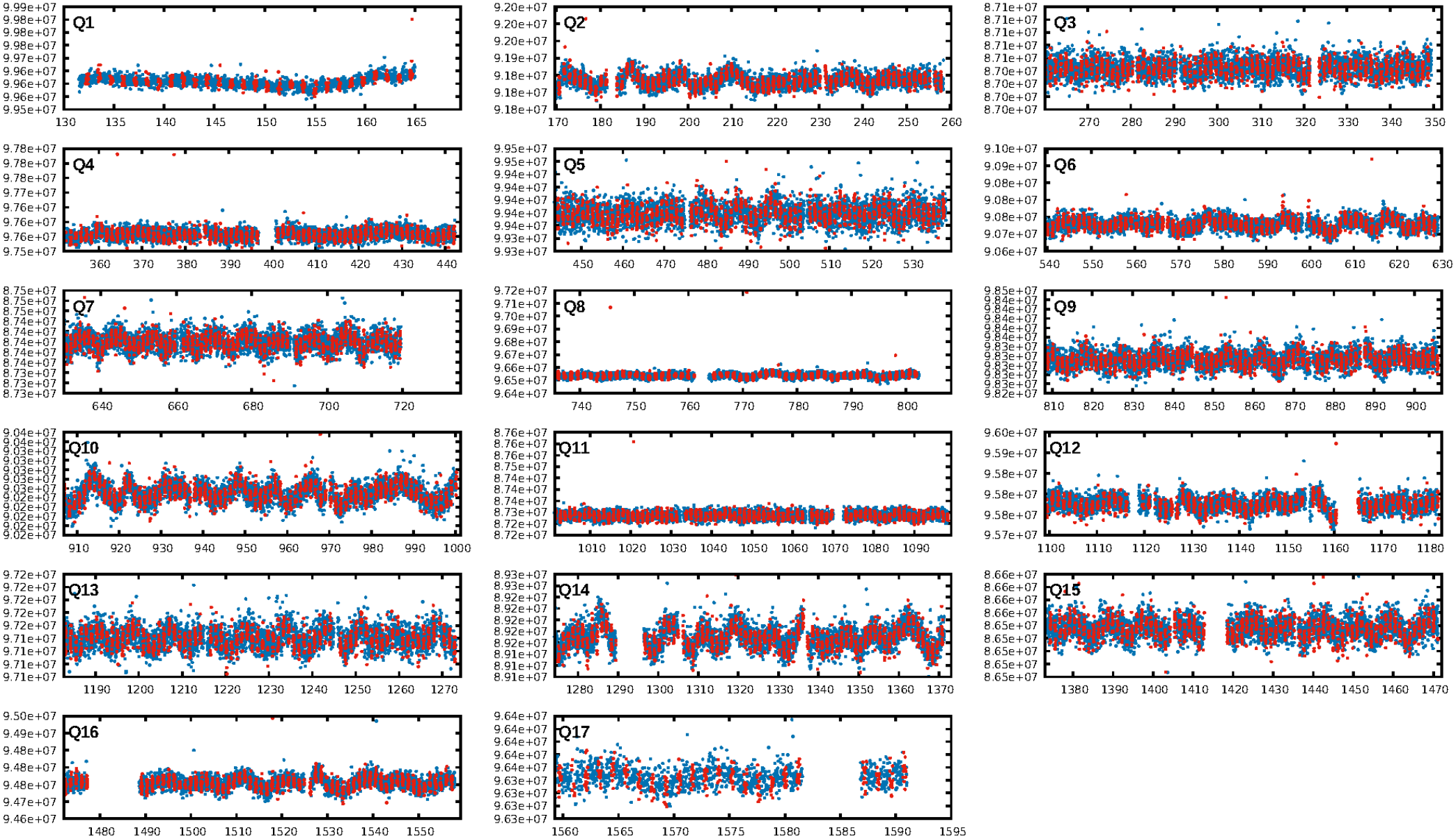
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 8.02e−30
RollingBand−fgt: 0.97 [1046/1081]
GhostDiagnostic−chr: 0.2013

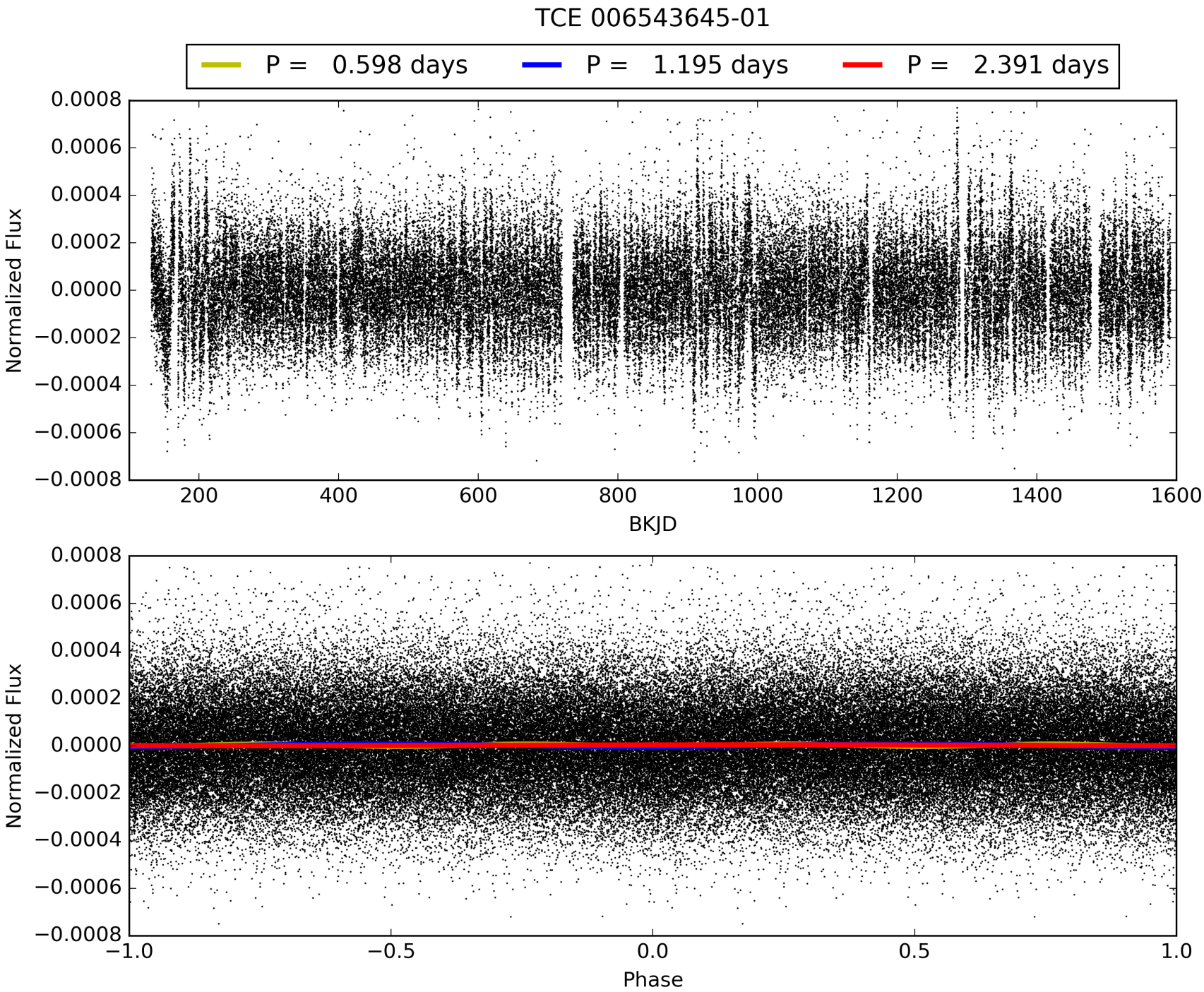
Centroid−sig: 0.0%
Centroid−so: 4.501 arcsec [2.93σ]
OotOffset−rm: 9.519 arcsec [7.61σ]
KicOffset−rm: 9.366 arcsec [6.96σ]
OotOffset−st: 4/4/3/5 [16]
KicOffset−st: 4/4/3/5 [16]
DiffImageQuality−fgm: 0.19 [3/16]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 29−Jan−2016 23:48:21 Z

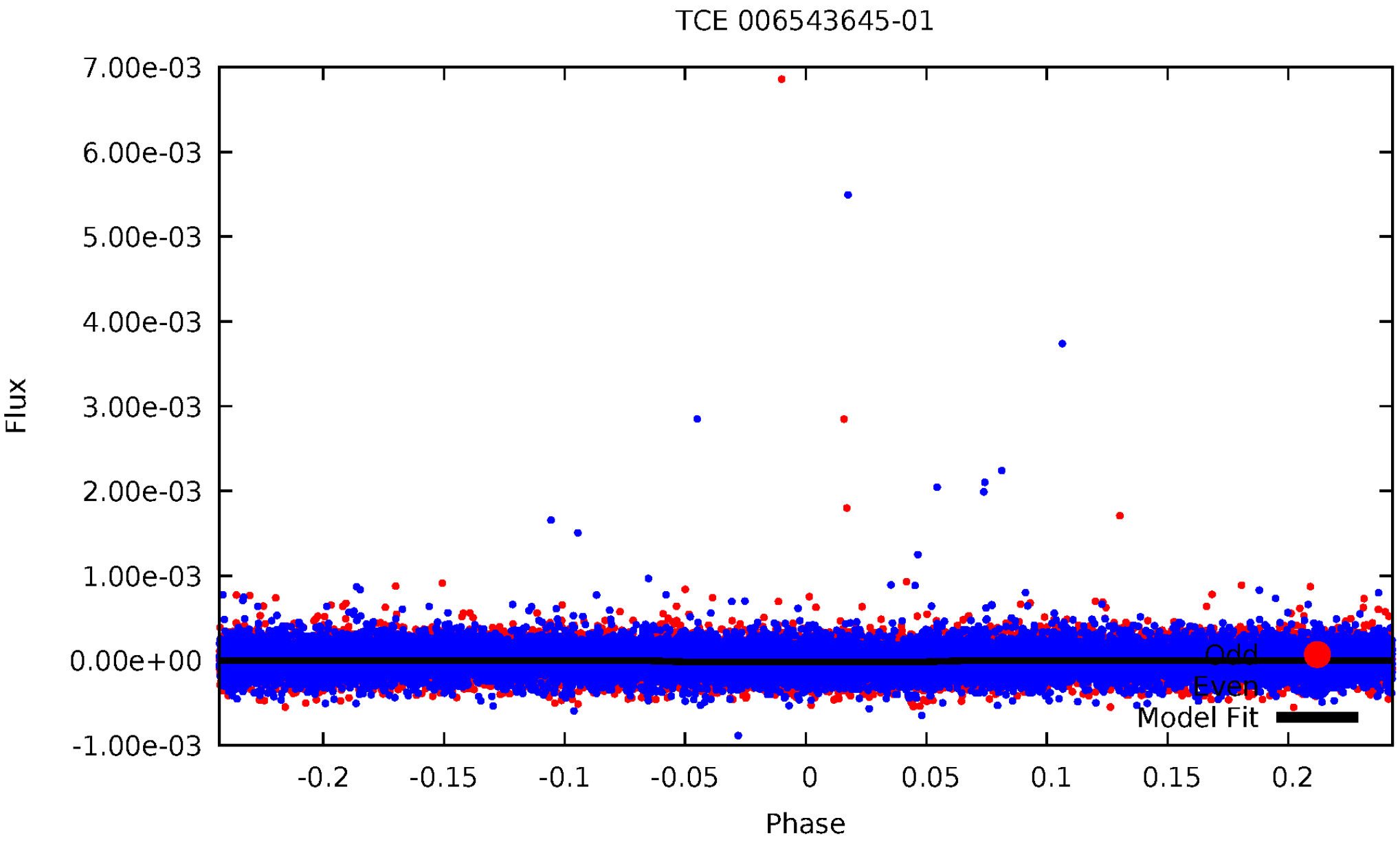
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006543645-01, PDC Light Curves

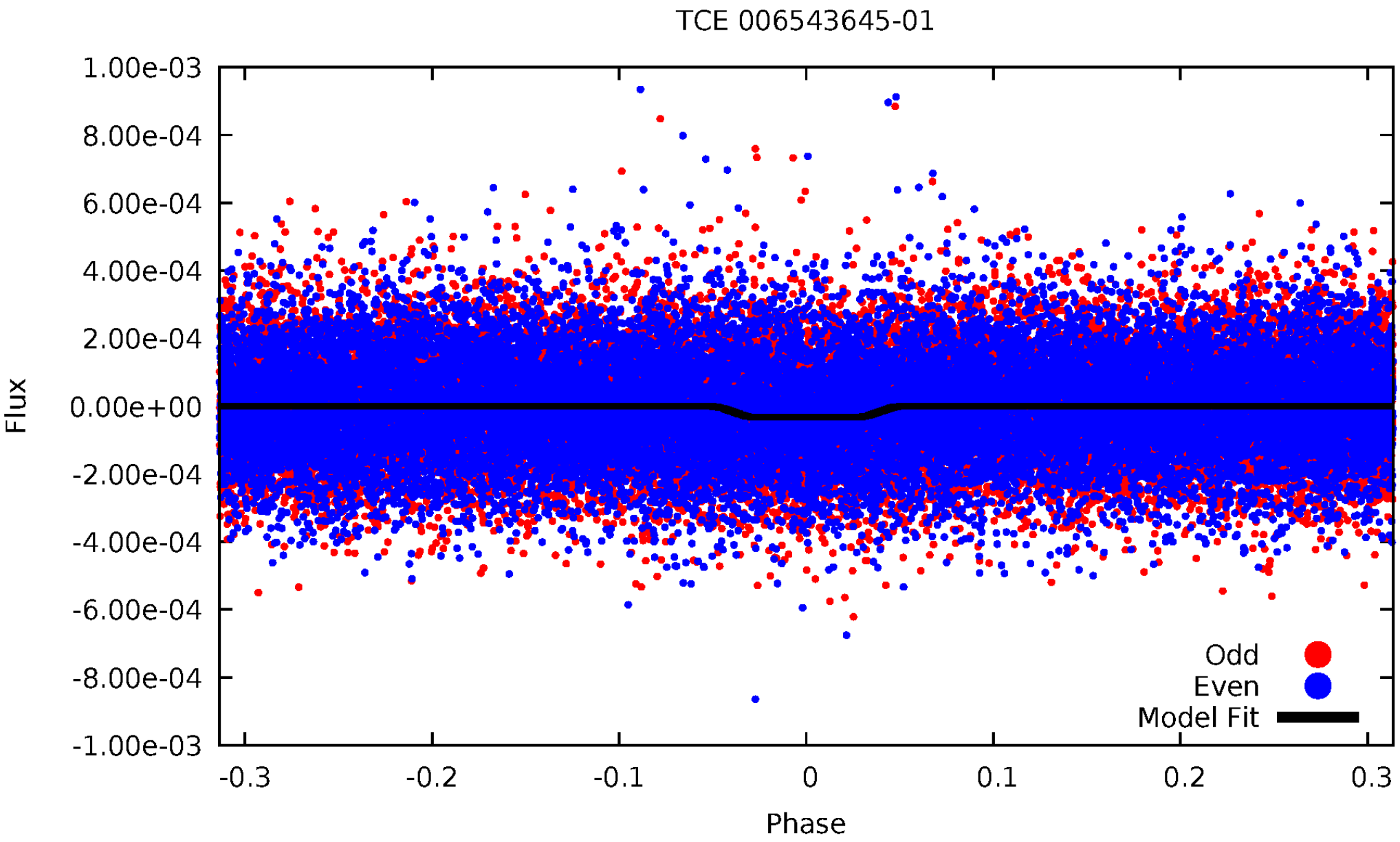



TCE 006543645-01
P = 0.598 days
P = 1.195 days
P = 2.391 days
Normalized Flux
BKJD
Normalized Flux
Phase

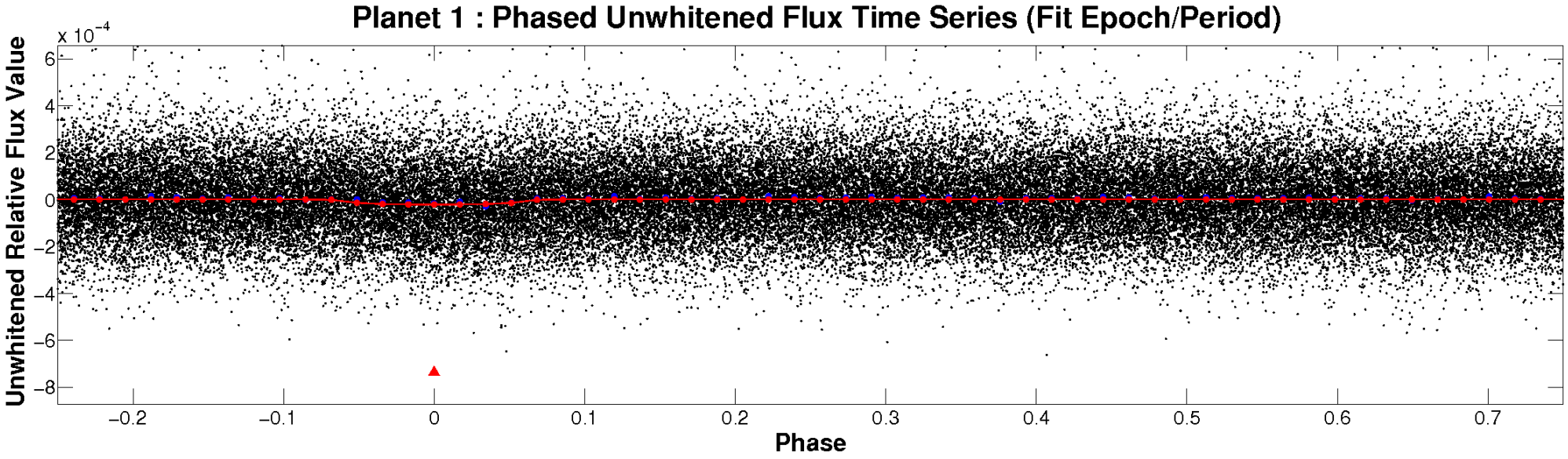
DV Odd/Even

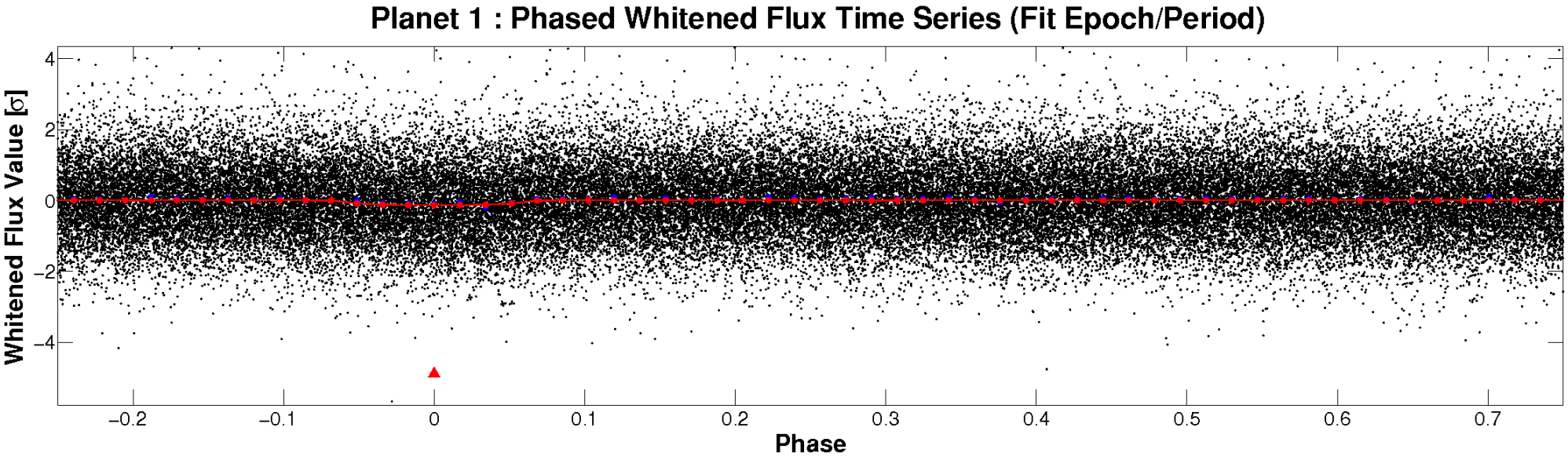

TCE 006543645-01
7.00e-03
6.00e-03
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
Flux
-0.2
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
0.2
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006543645-01
1.00e-03
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
Phase
Odd
Even
Model Fit

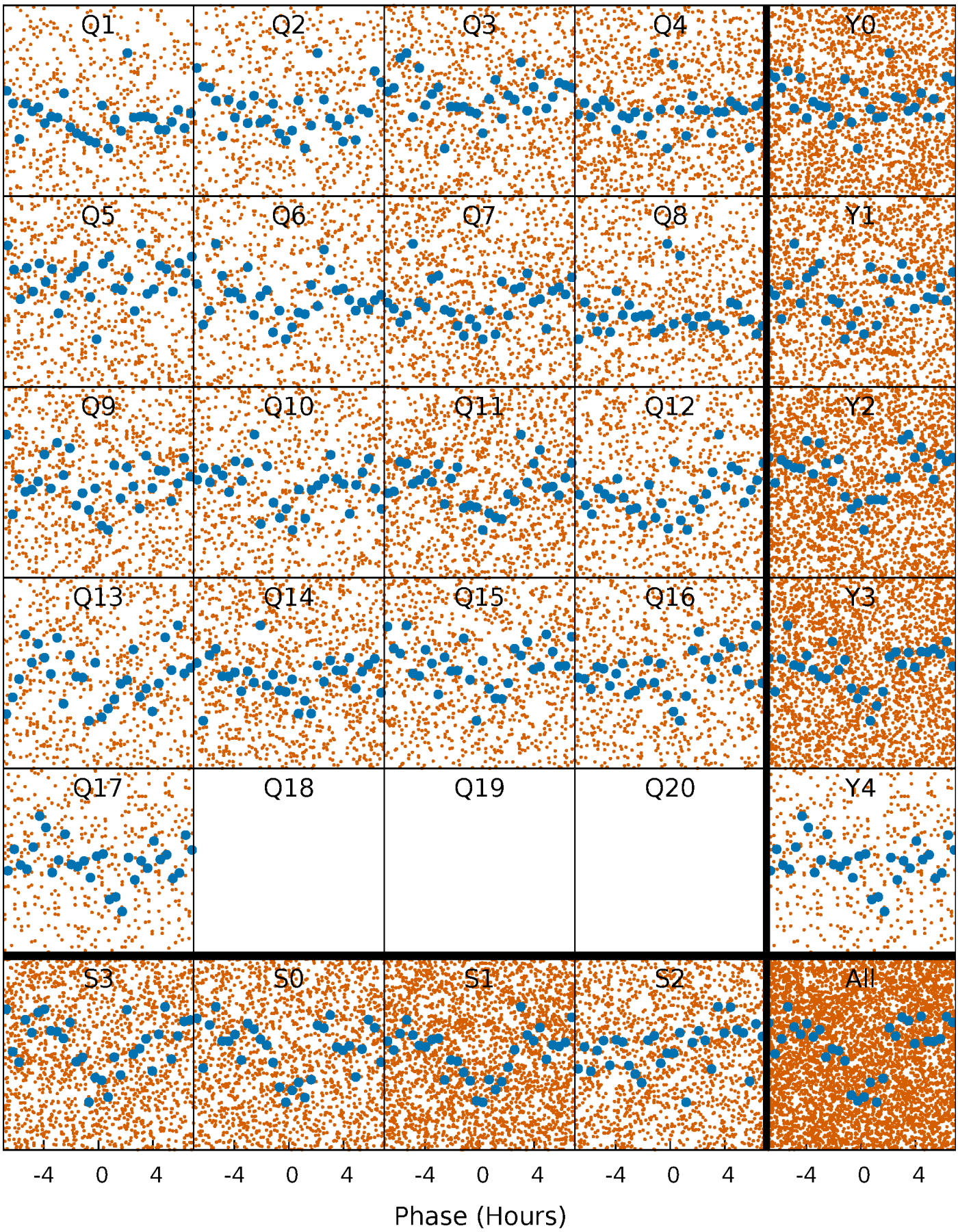
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 006543645-01 P= 1.195455 Days T_0=132.331633 (BKJD)



DV Quarter-Phased Transit Curves

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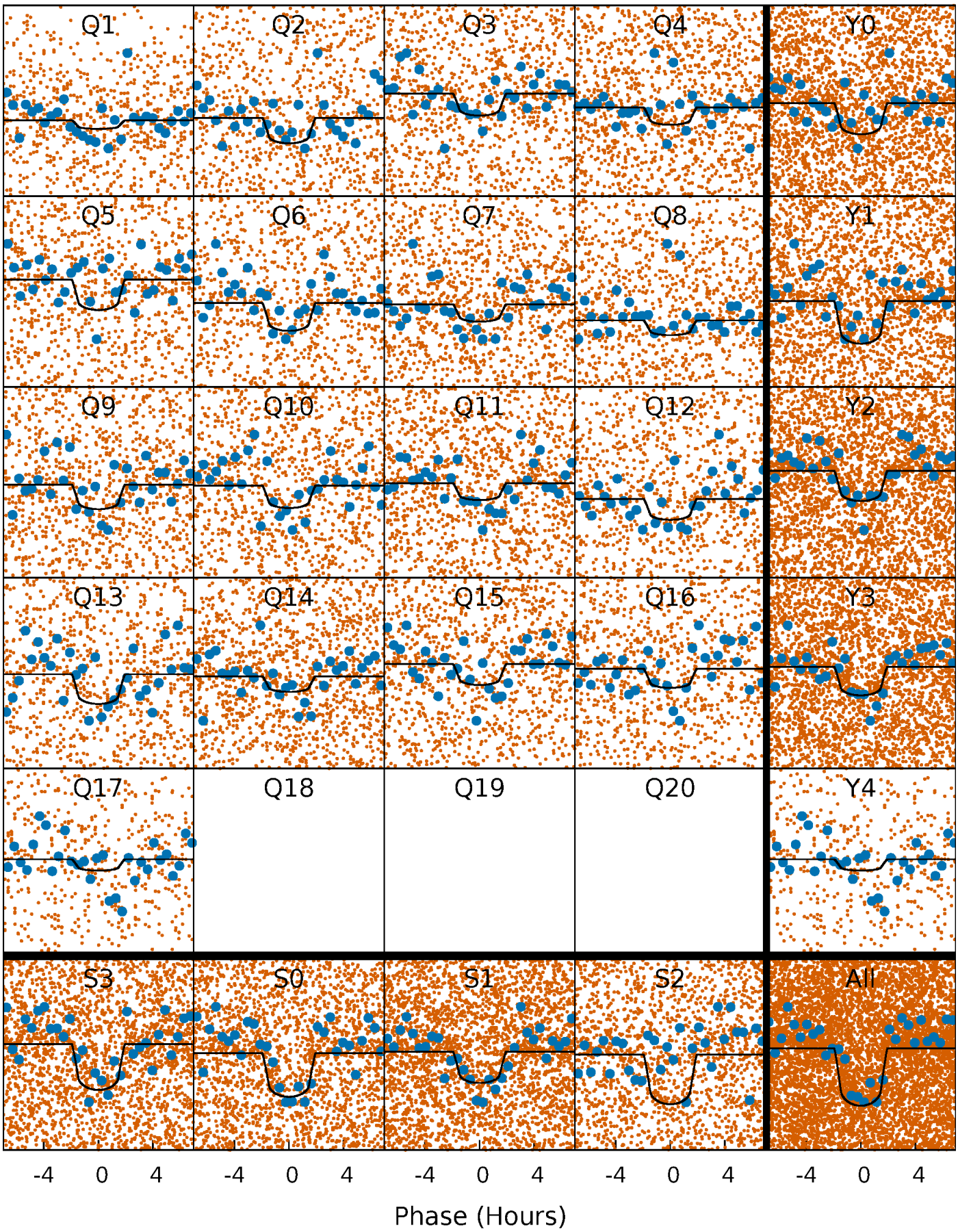
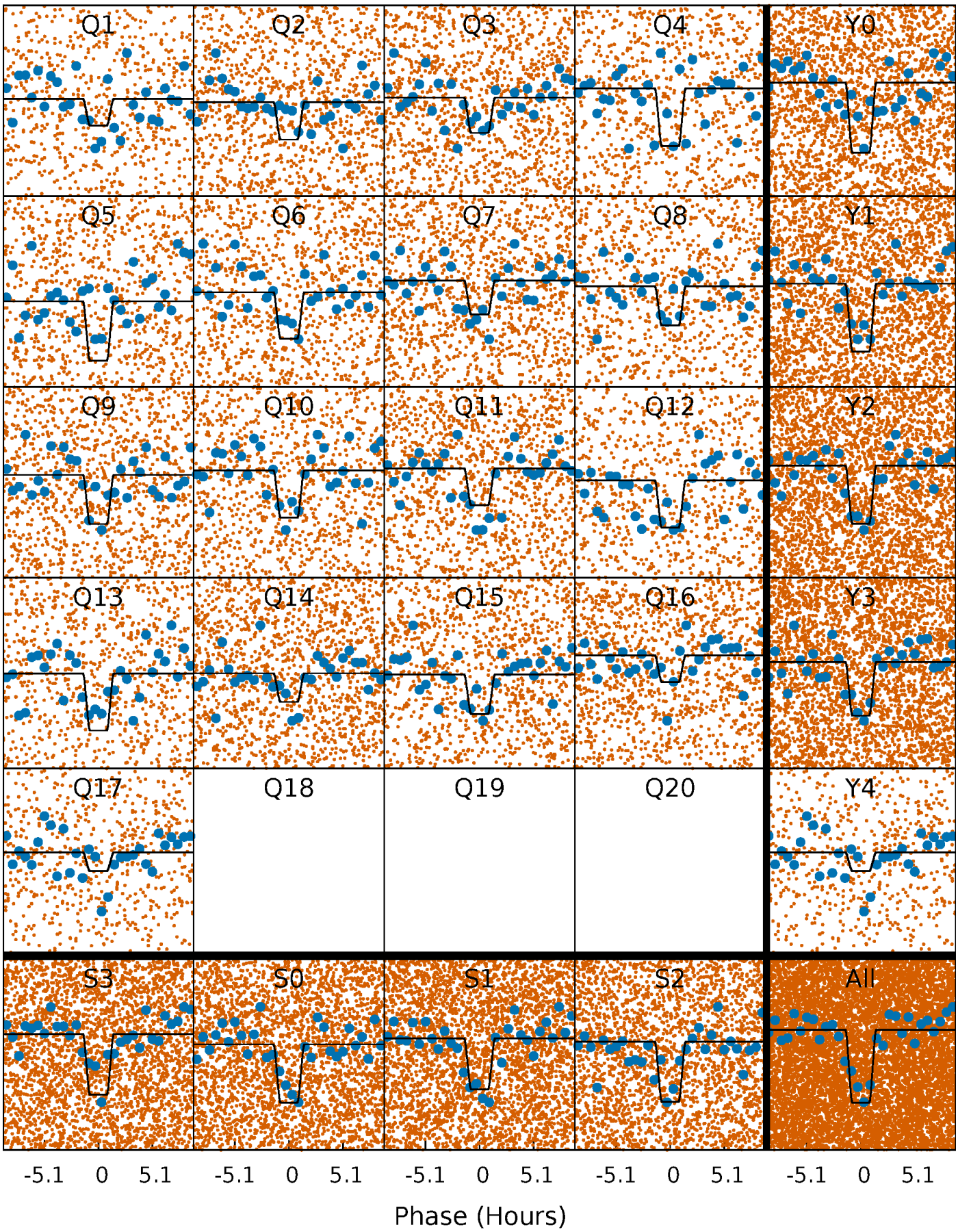


Alt. Detrend Quarter-Phased Transit Curves

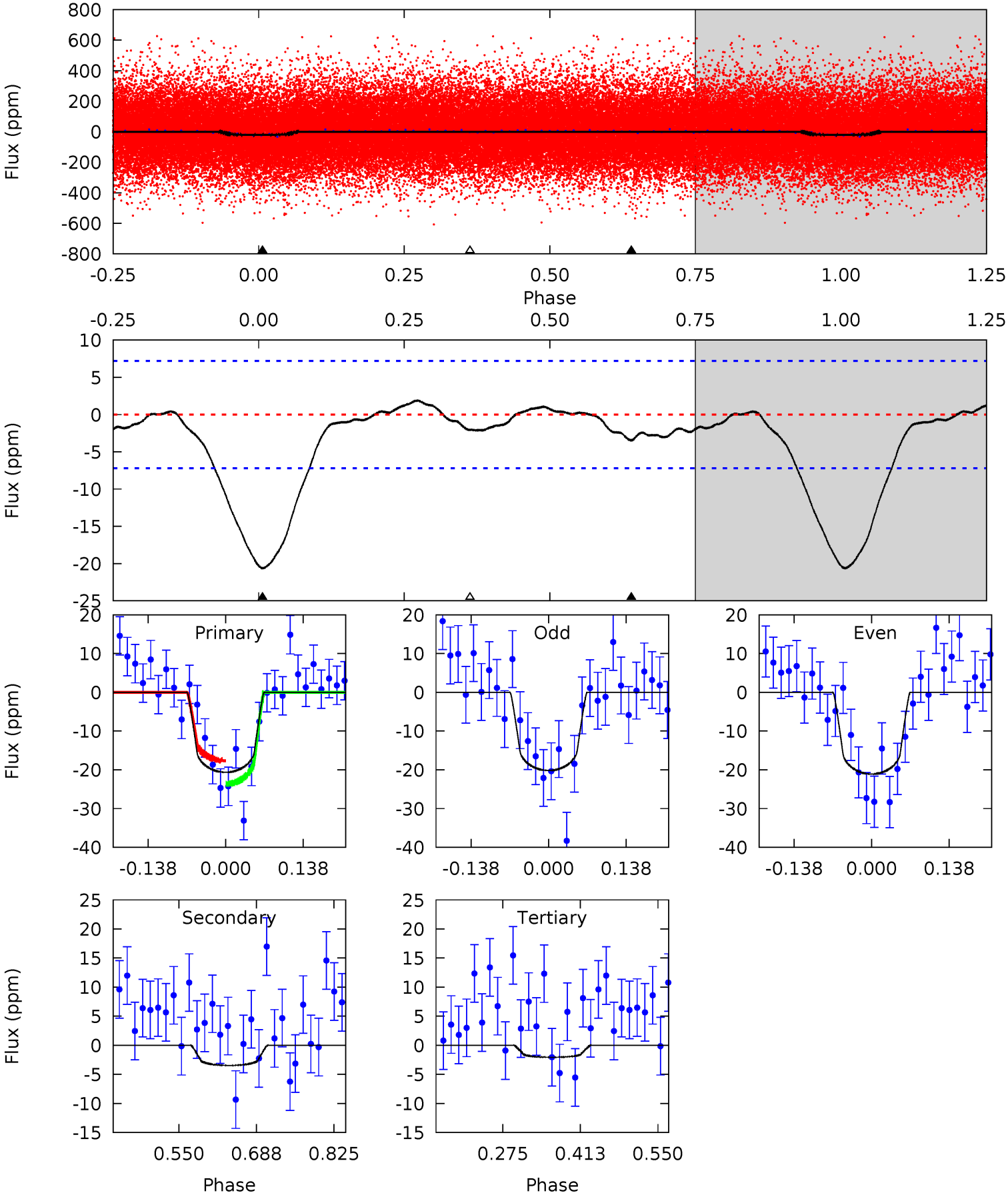
TCE 006543645-01 P= 1.195509 Days T_0=132.305419 (BKJD)



DV Model-Shift Uniqueness Test

006543645-01, P = 1.195455 Days, E = 131.136178 Days

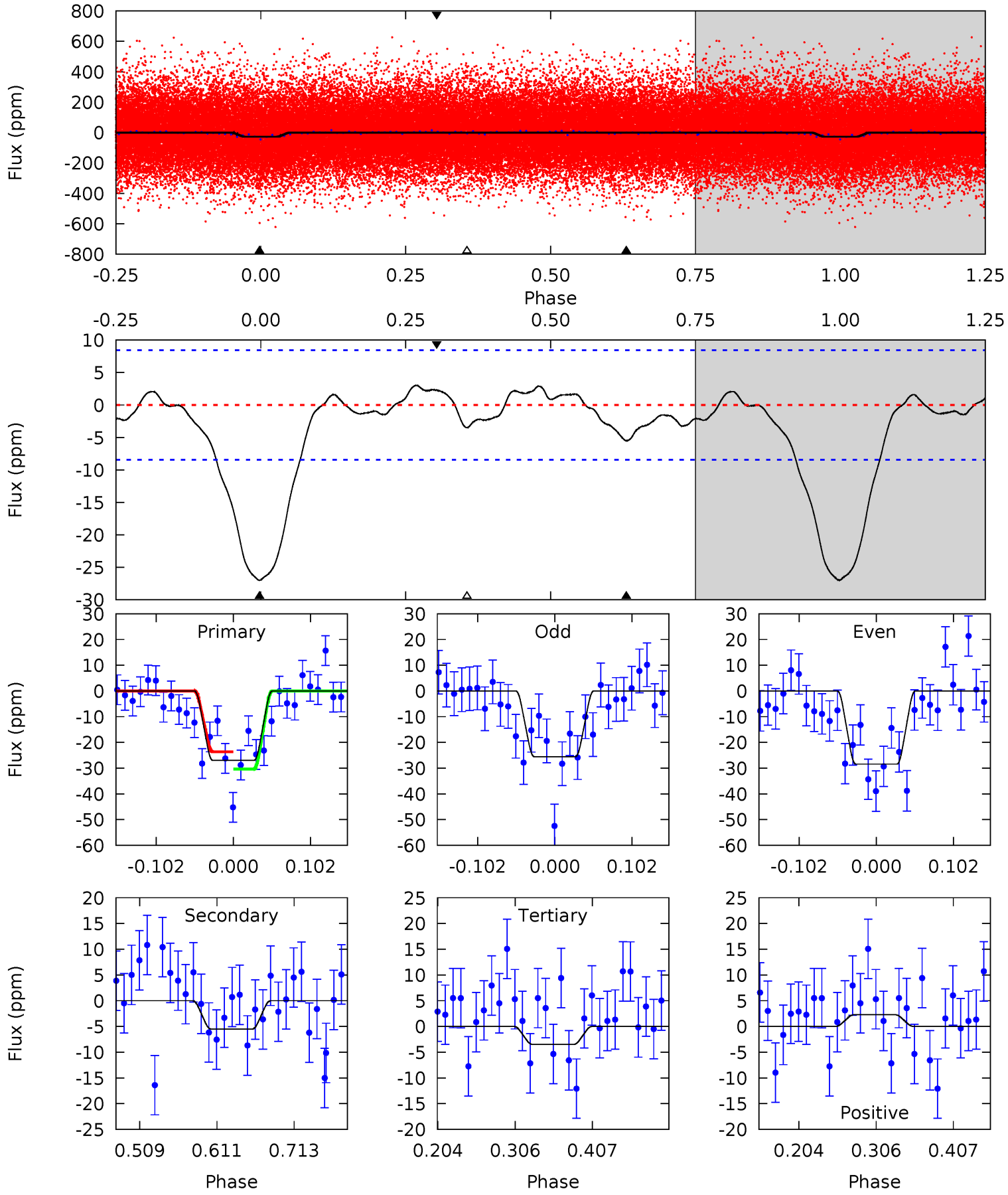
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.9	2.17	1.29	0	4.50	1.48	0.67	11.6	12.9	0.87	2.17	0.28	0.82	0.08	1.86



Alt Model-Shift Uniqueness Test

006543645-01, P = 1.195509 Days, E = 131.109910 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	2.98	1.89	1.23	4.56	1.64	0.96	12.7	13.4	1.09	1.75	0.77	0.99	0.10	1.80



Stellar Parameters For KIC 006543645

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6088^{+184}_{-202}	$4.150^{+0.252}_{-0.168}$	$-0.020^{+0.250}_{-0.300}$	$1.463^{+0.420}_{-0.420}$	$1.103^{+0.162}_{-0.162}$	$0.496^{+0.751}_{-0.227}$
	+3%/-3%	+6%/-4%	+1250%/-1500%	+29%/-29%	+15%/-15%	+151%/-46%
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 006543645-01 / KOI 4679.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-3±2	$0.77^{+0.40}_{-0.37}$	2975^{+248}_{-241}	3894^{+1232}_{-837}	$1.704^{+4.249}_{-1.125}$
Alt.	-6±2	$0.91^{+0.43}_{-0.38}$	2984^{+258}_{-246}	3953^{+1106}_{-673}	$1.814^{+3.998}_{-1.074}$

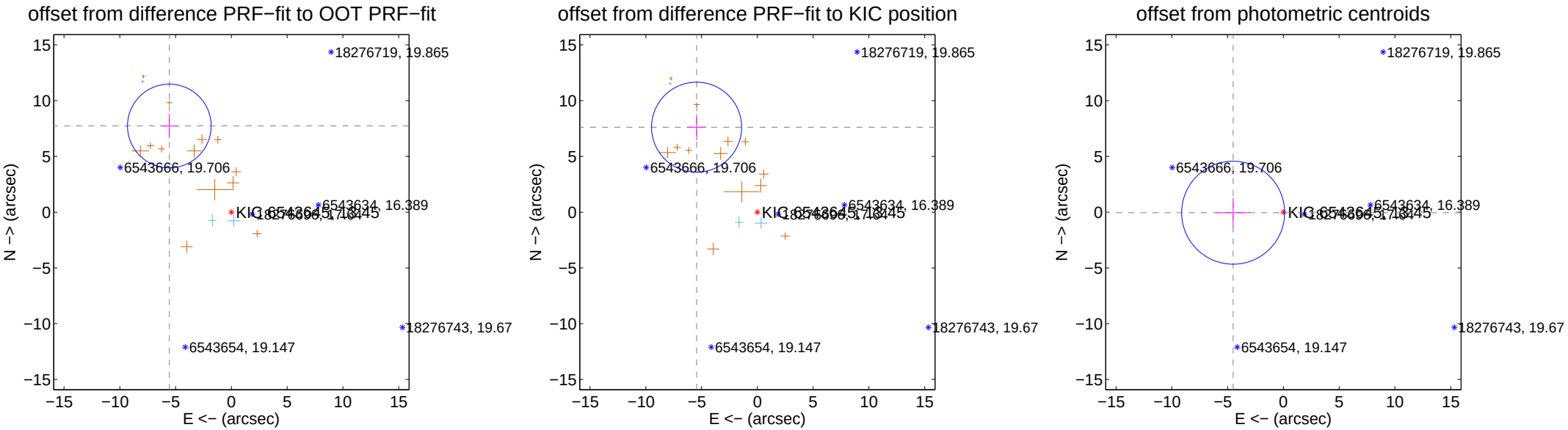
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

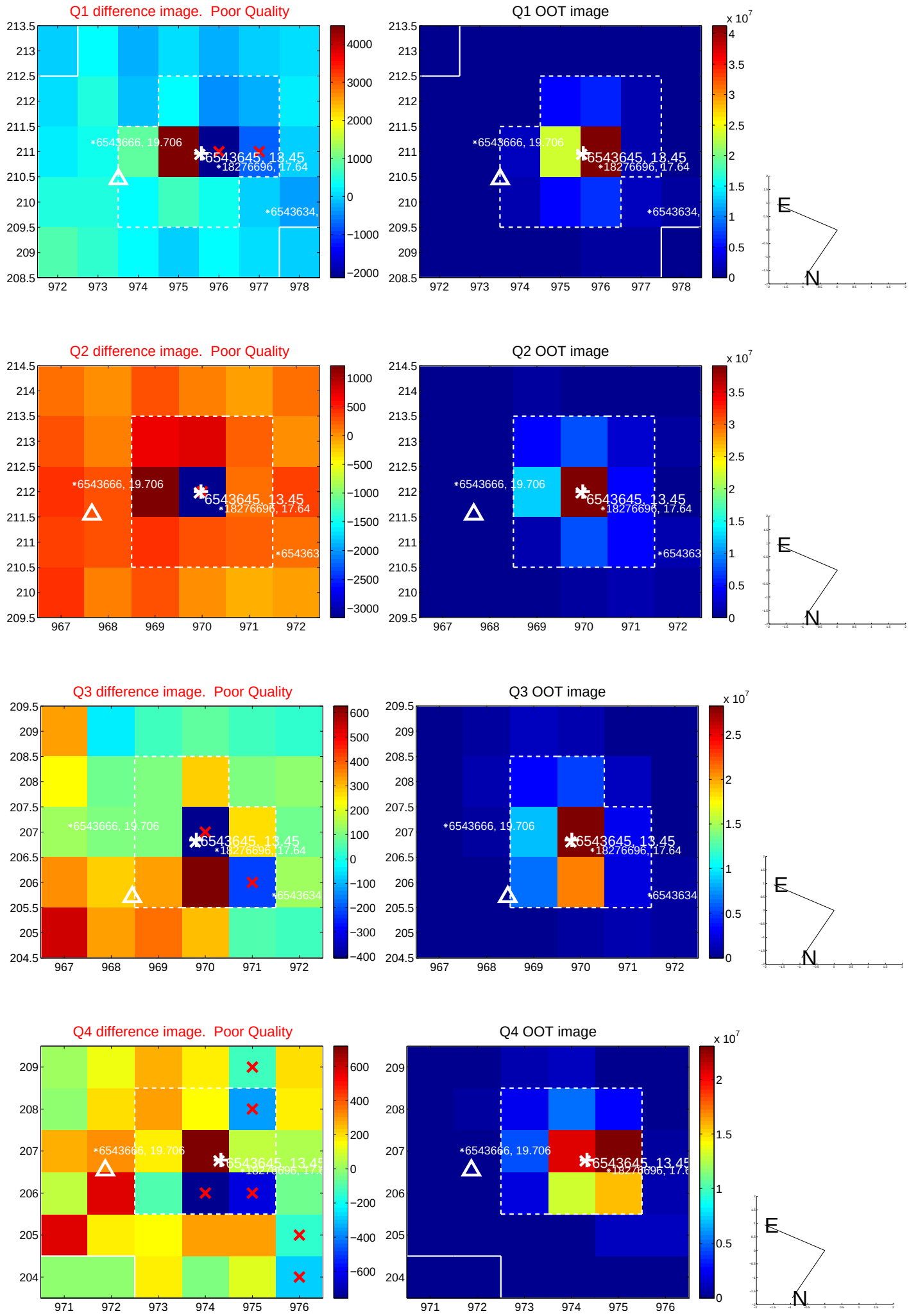
Supplemental centroid analysis for 006543645-01. Kepler magnitude: 13.45. Transit SNR 9.90
There are 3 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.29 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	9.519 ± 1.250	7.61	5.560 ± 0.804	7.727 ± 1.093
PRF-fit source offset from KIC position	9.366 ± 1.346	6.96	5.448 ± 0.865	7.618 ± 1.162
photometric centroid source offset	4.50 ± 1.54	2.93	4.50 ± 1.54	-0.05 ± 1.32

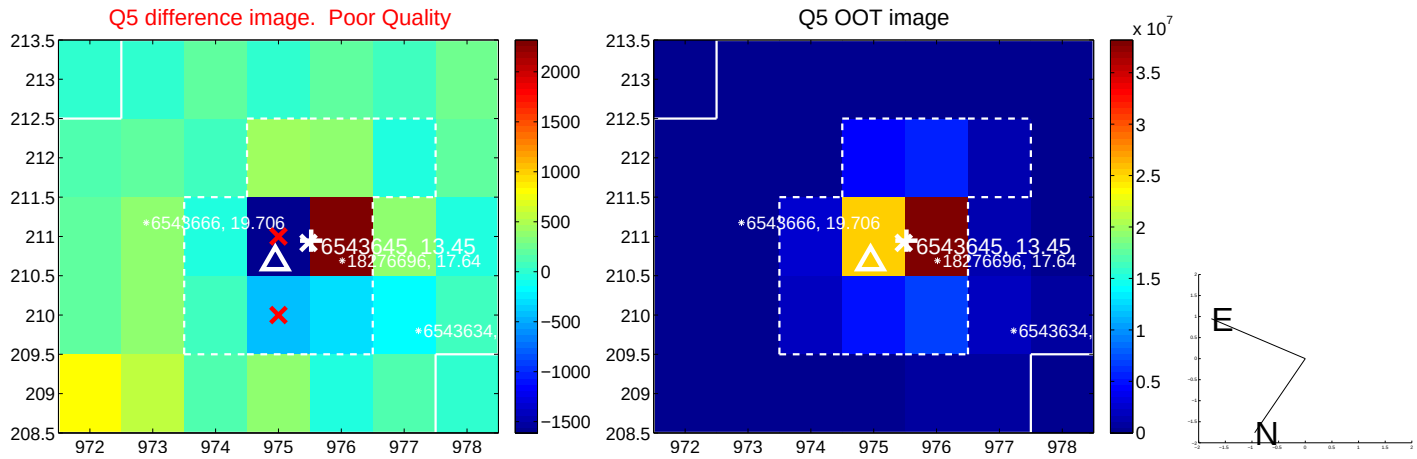


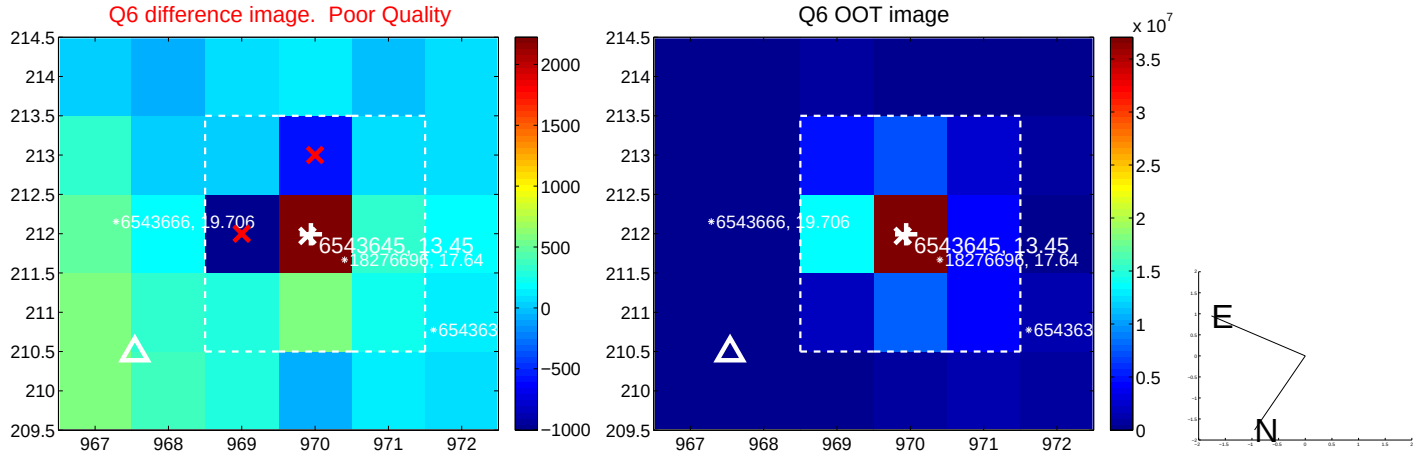
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

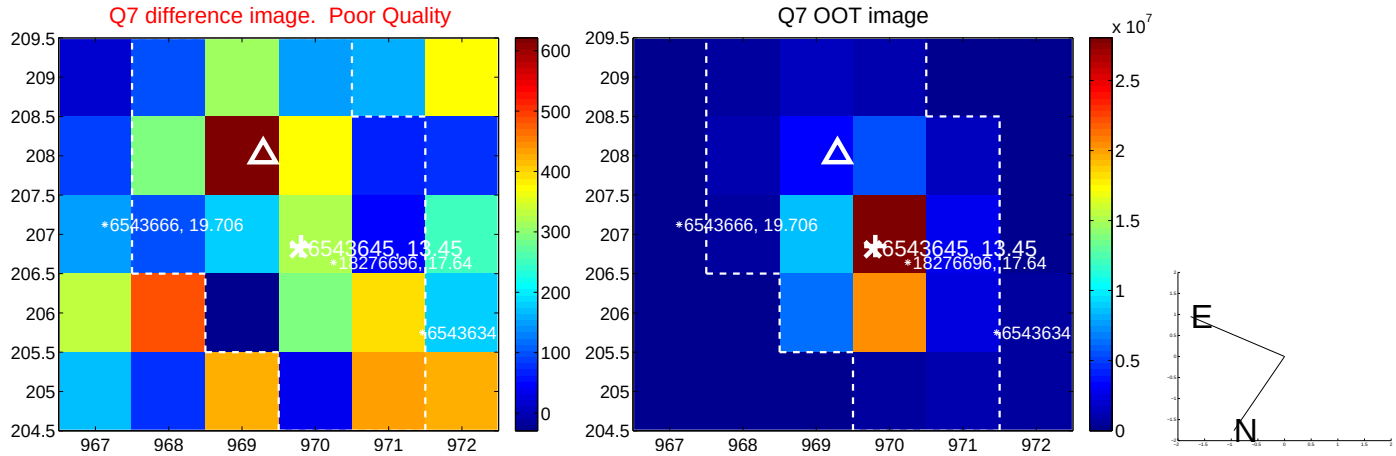
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

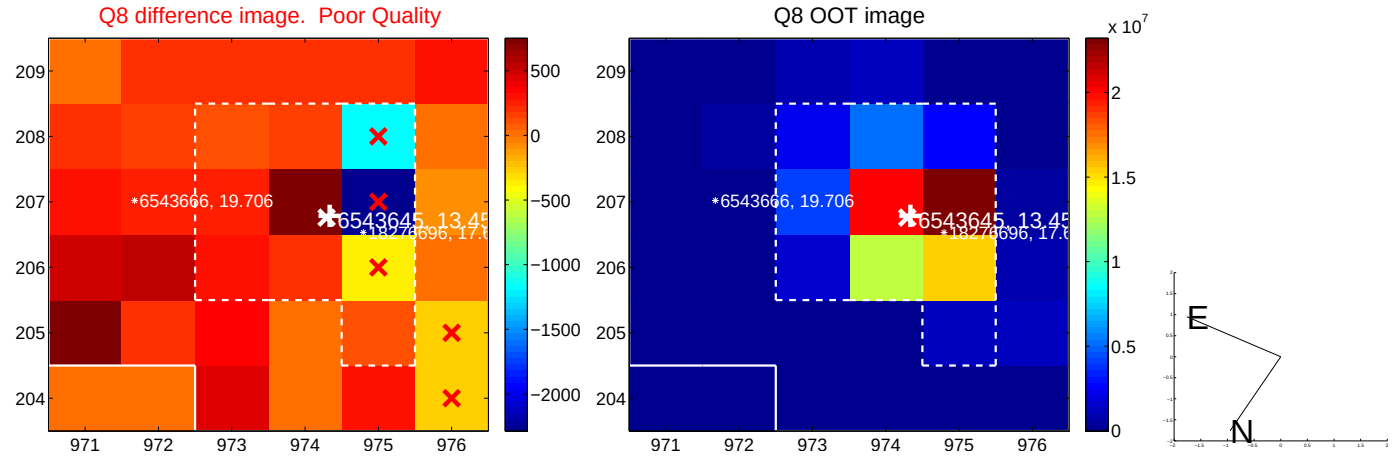


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

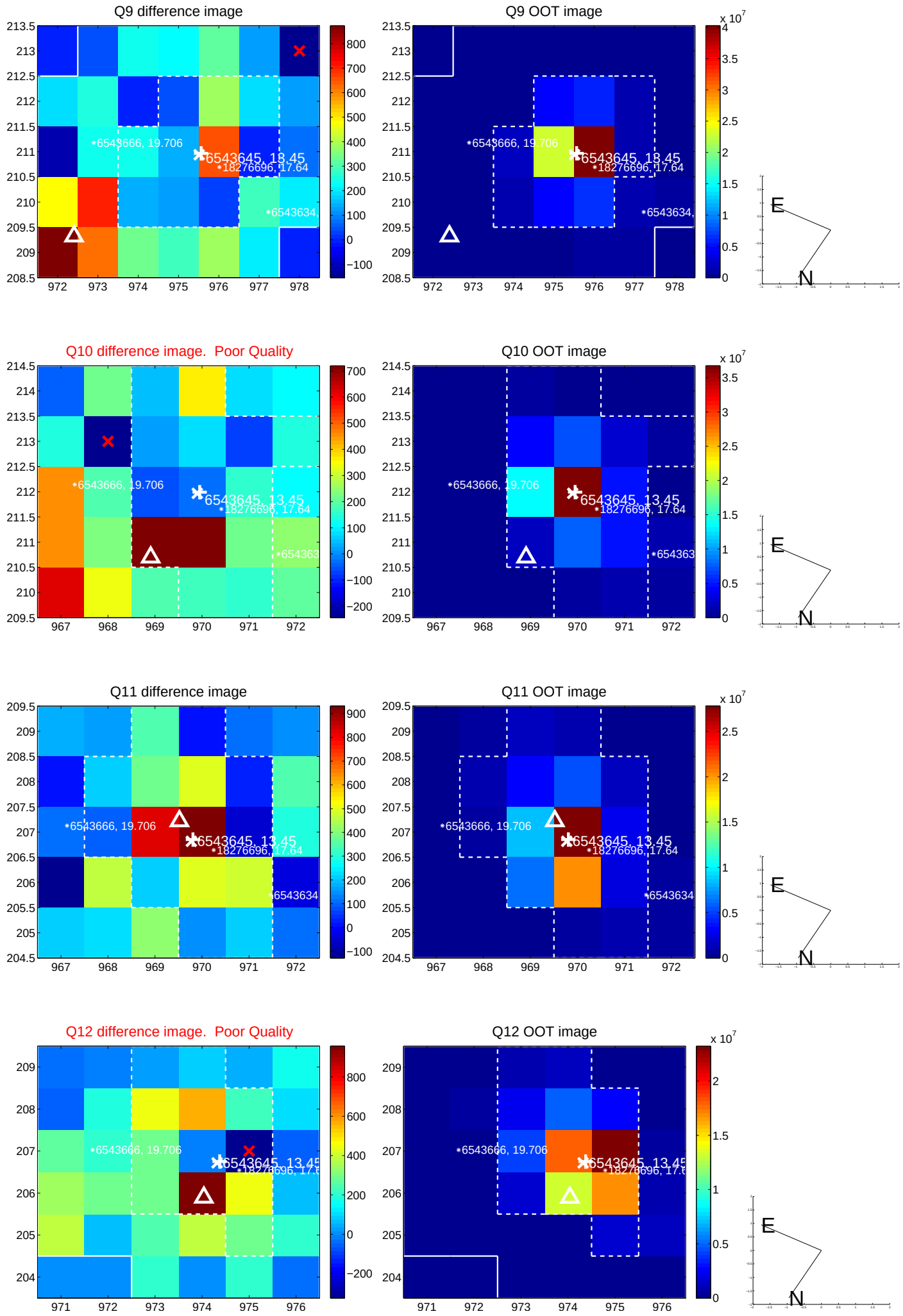




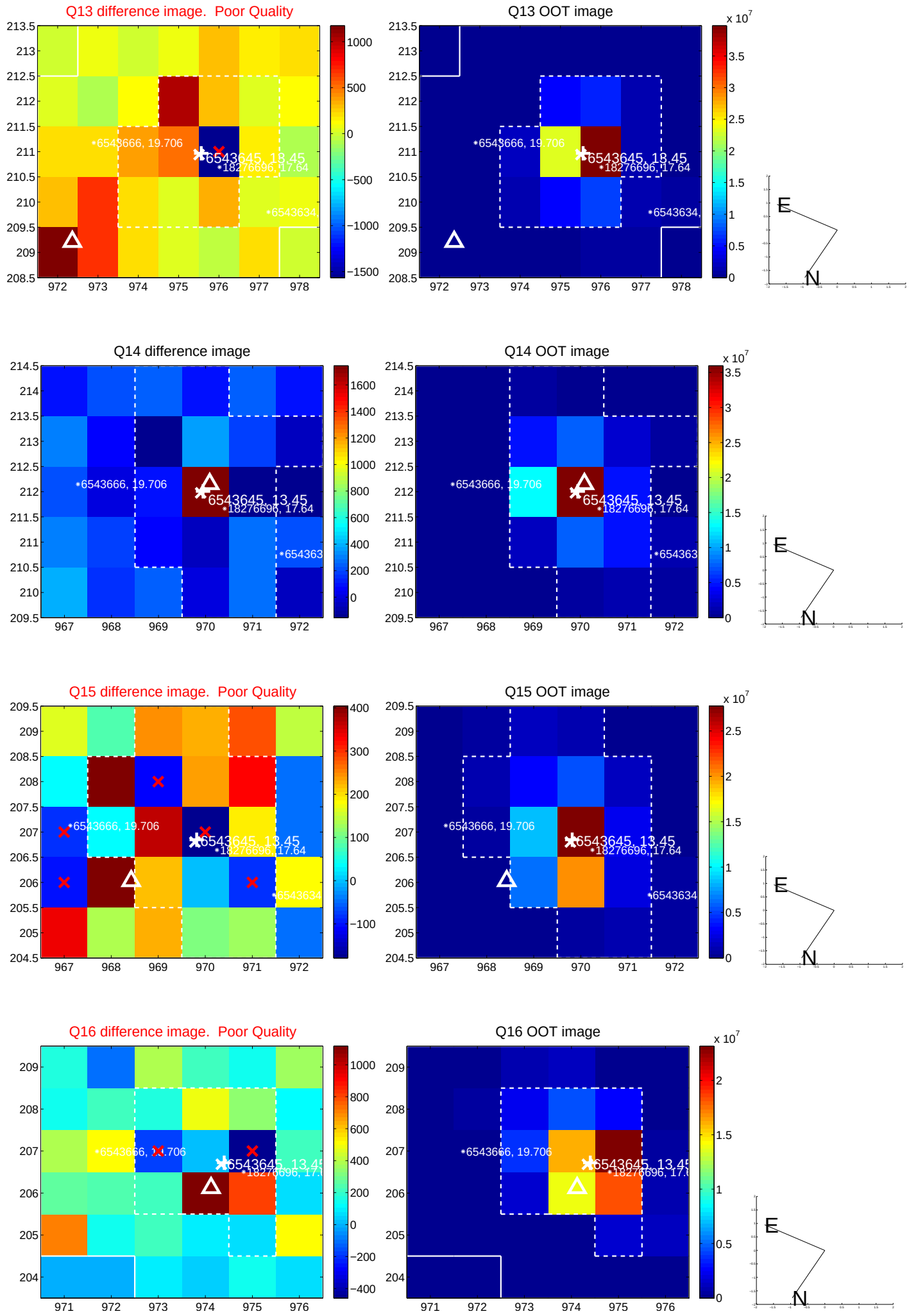




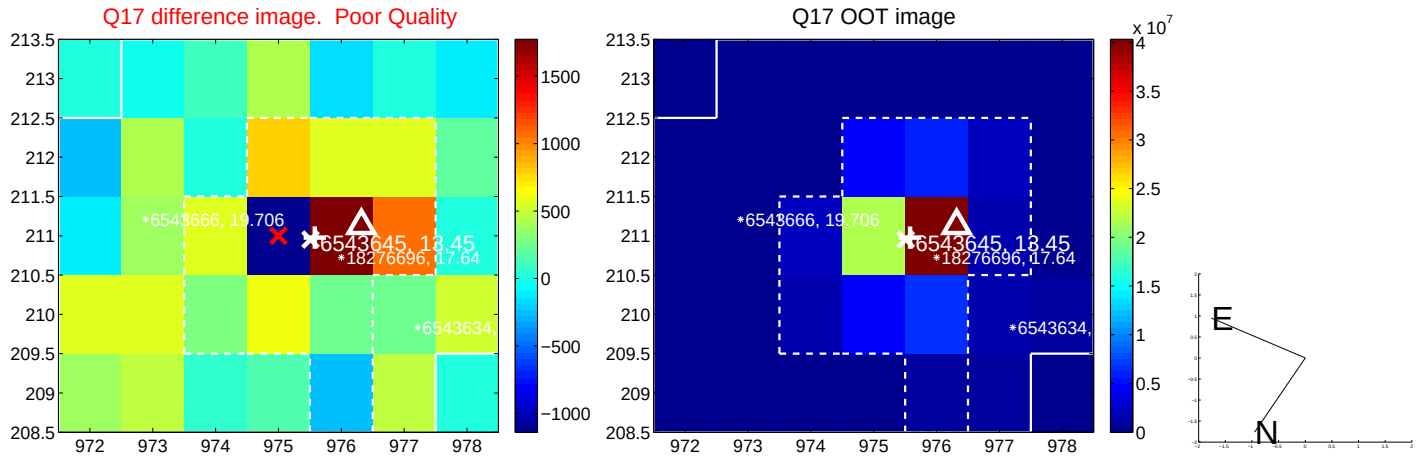
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

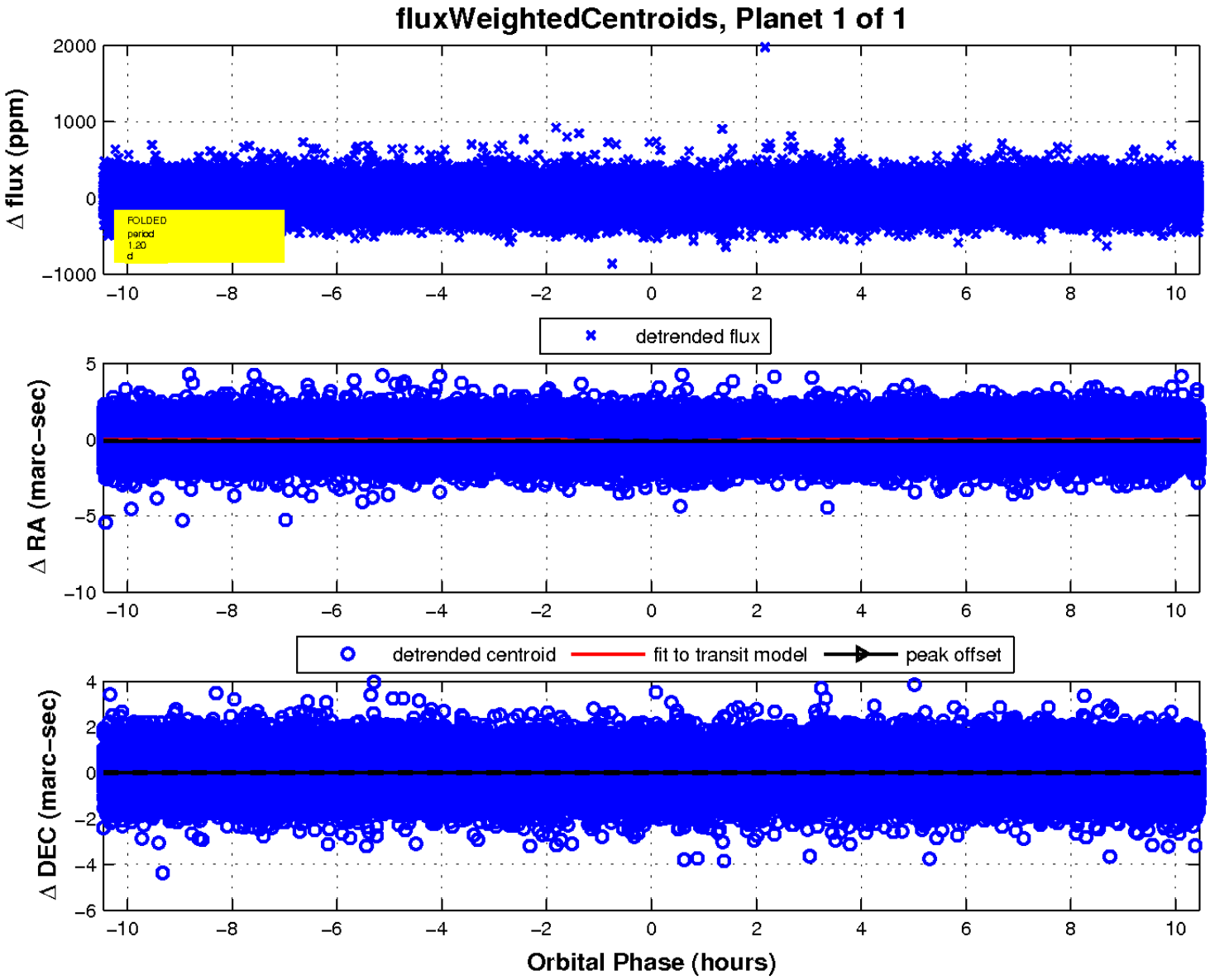


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

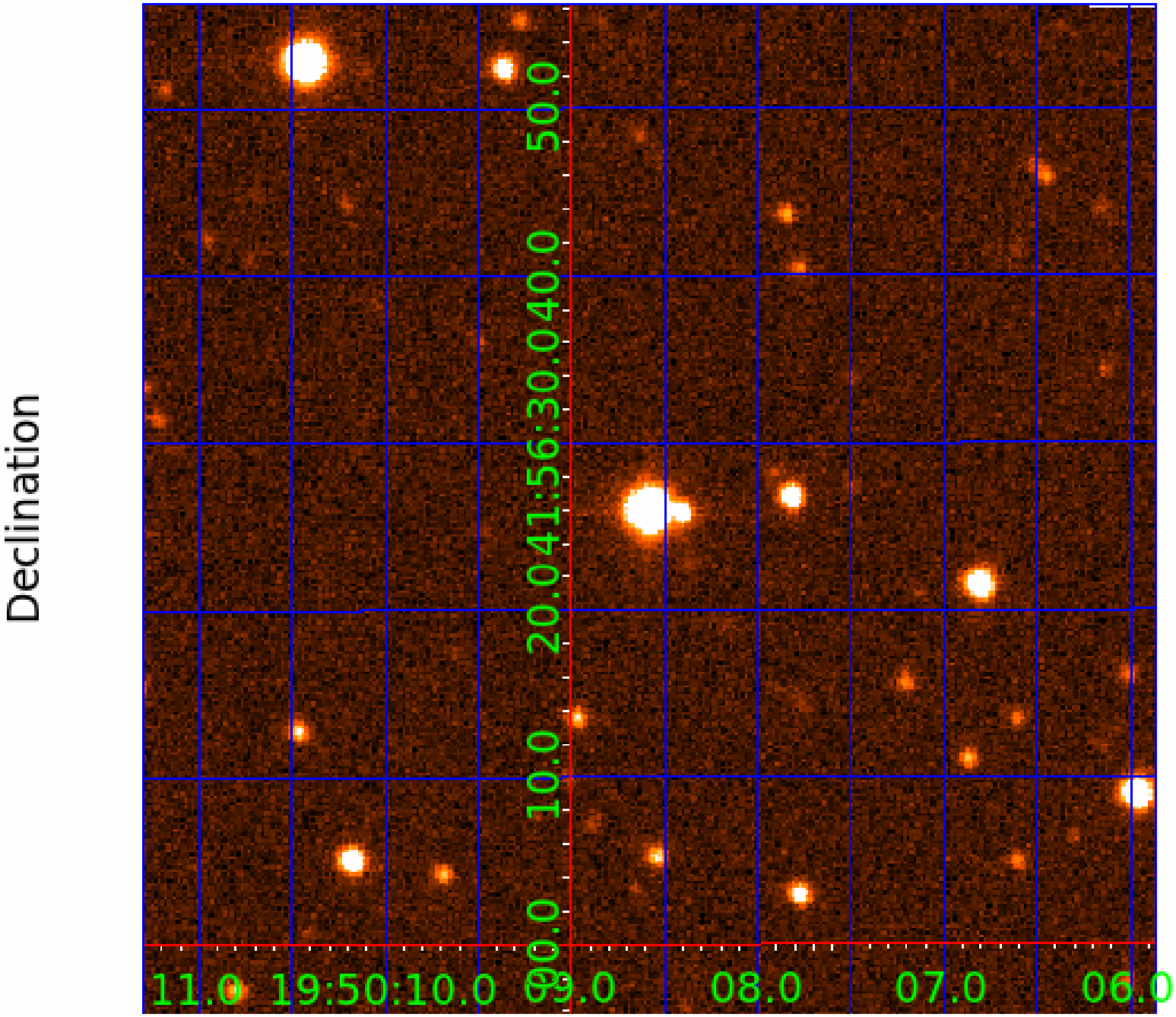


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image


Declination
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08.0
07.0
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20.0
41:56:30.0
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50.0