KIC 009006474

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 ($S_\oplus$)
009006474-01	OBS	No	0.666793	131.996076	41.6	1.217	8.5	9.4	0.68	5414	0.52	1928.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009006474-01	OBS	FP	0.00	1	0	0	0	LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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.

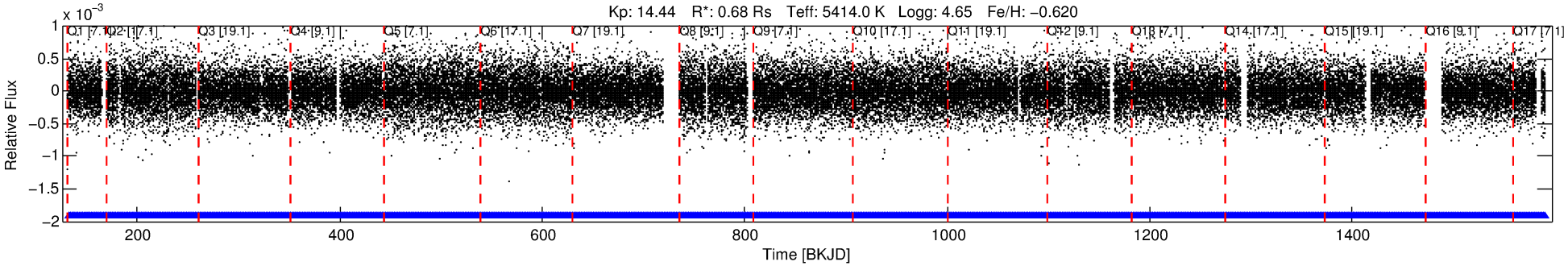
Ephemeris Match Information For 009006474-01

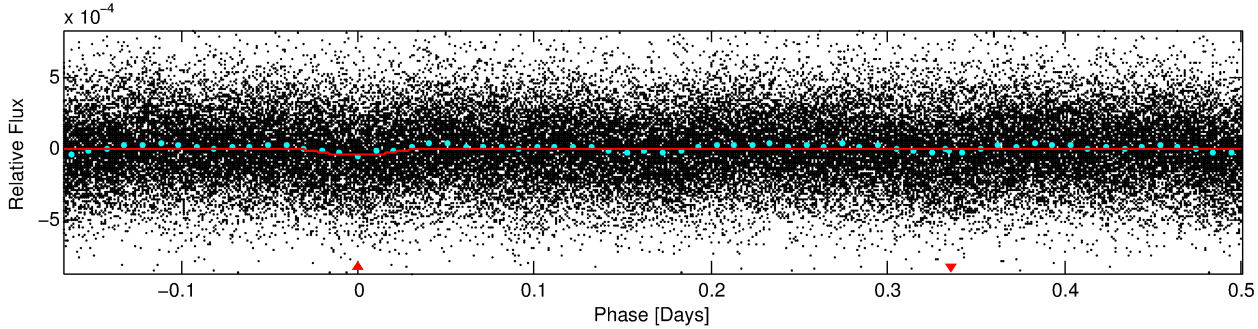
No Significant Match Found

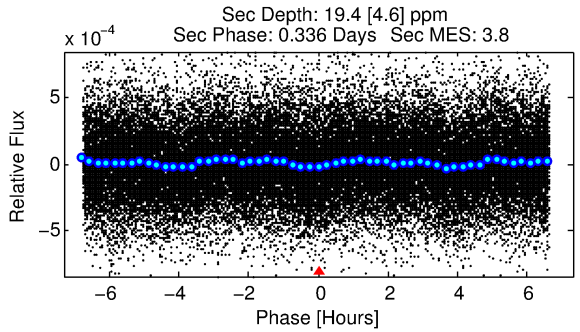
DV One-Page Summary

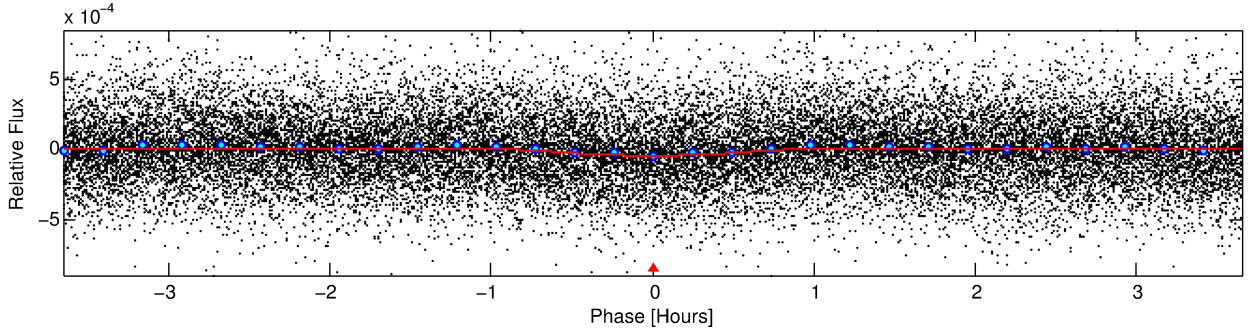
KIC: 9006474 Candidate: 1 of 1 Period: 0.667 d

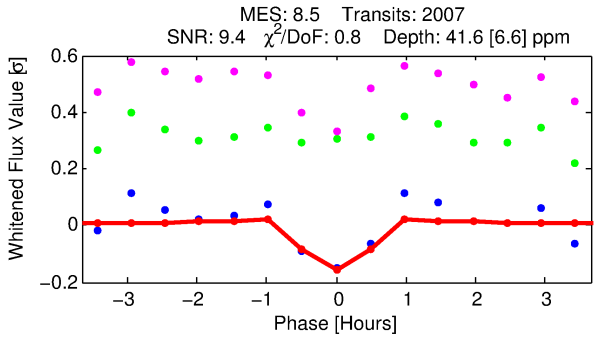
Kp: 14.44 R*: 0.68 Rs Teff: 5414.0 K Logg: 4.65 Fe/H: −0.620

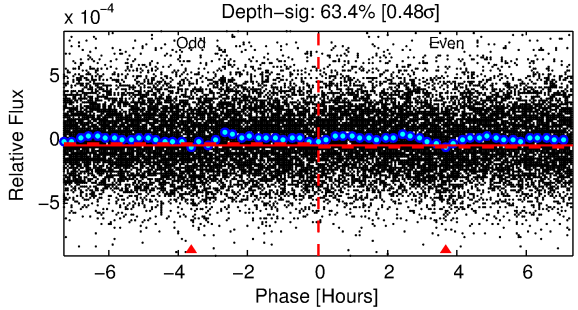


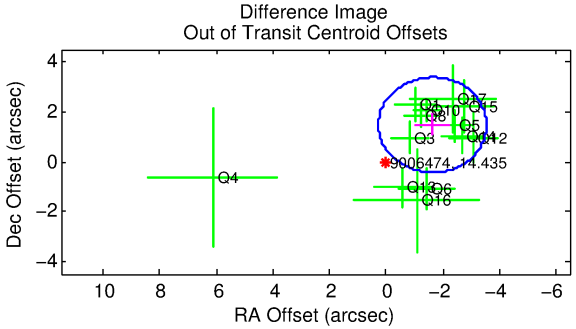












DV Fit Results:

Period = 0.66679 [0.00001] d
Epoch = 131.9961 [0.0019] BKJD
Rp/R* = 0.0071 [0.0026]
a/R* = 2.11 [2.77]
b = 0.90 [0.37]

Seff = 1928.11 [411.30]
Teq = 1690 [90] K
Rp = 0.52 [0.21] Re
a = 0.0135 [0.0016] AU

Ag = 7.16 [5.66] [1.09σ]
Teffp = 4274 [833] K [3.08σ]

DV Diagnostic Results:

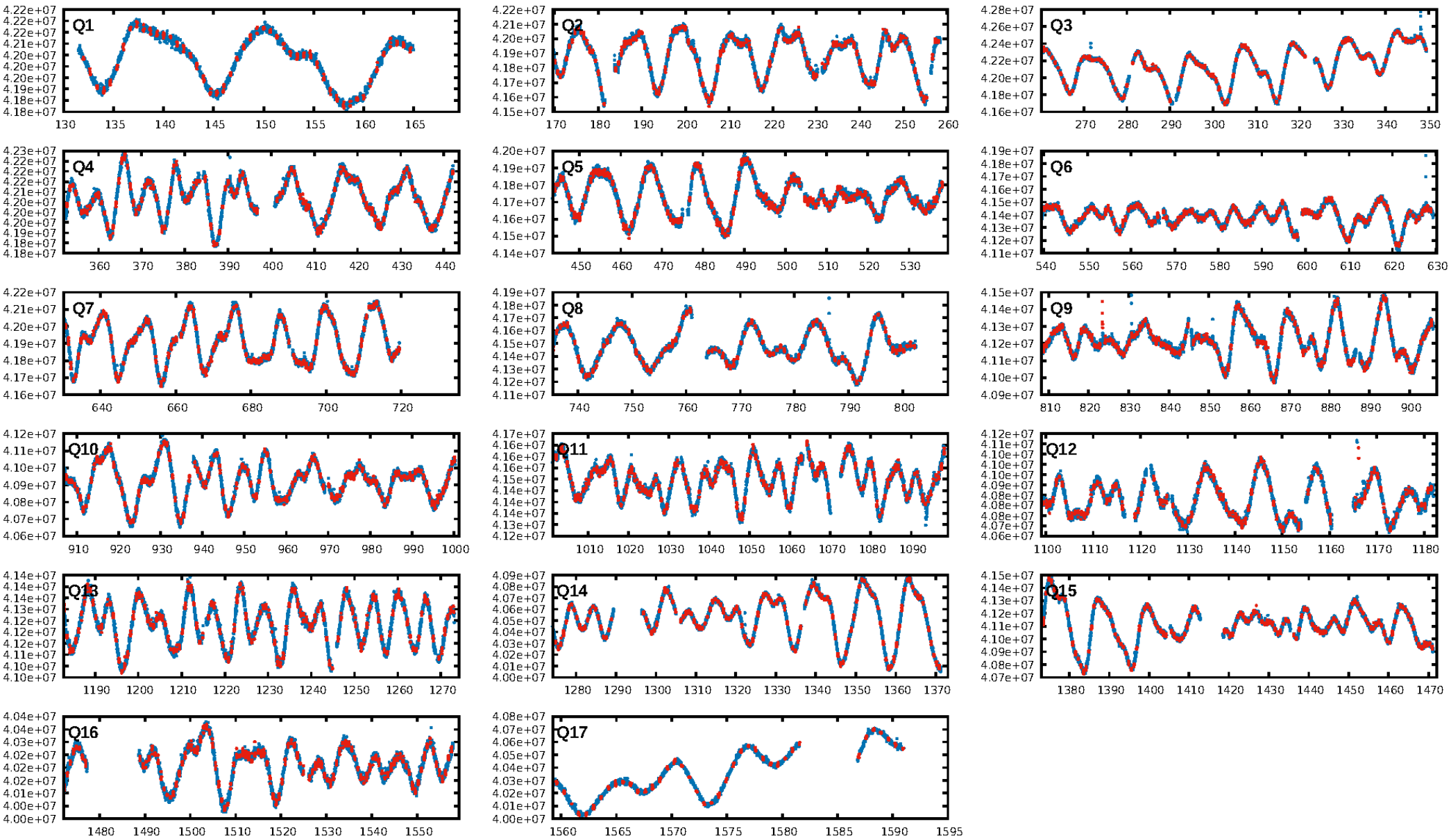
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 1.80e−15
RollingBand−fgt: 1.00 [1916/1916]
GhostDiagnostic−chr: 1.059

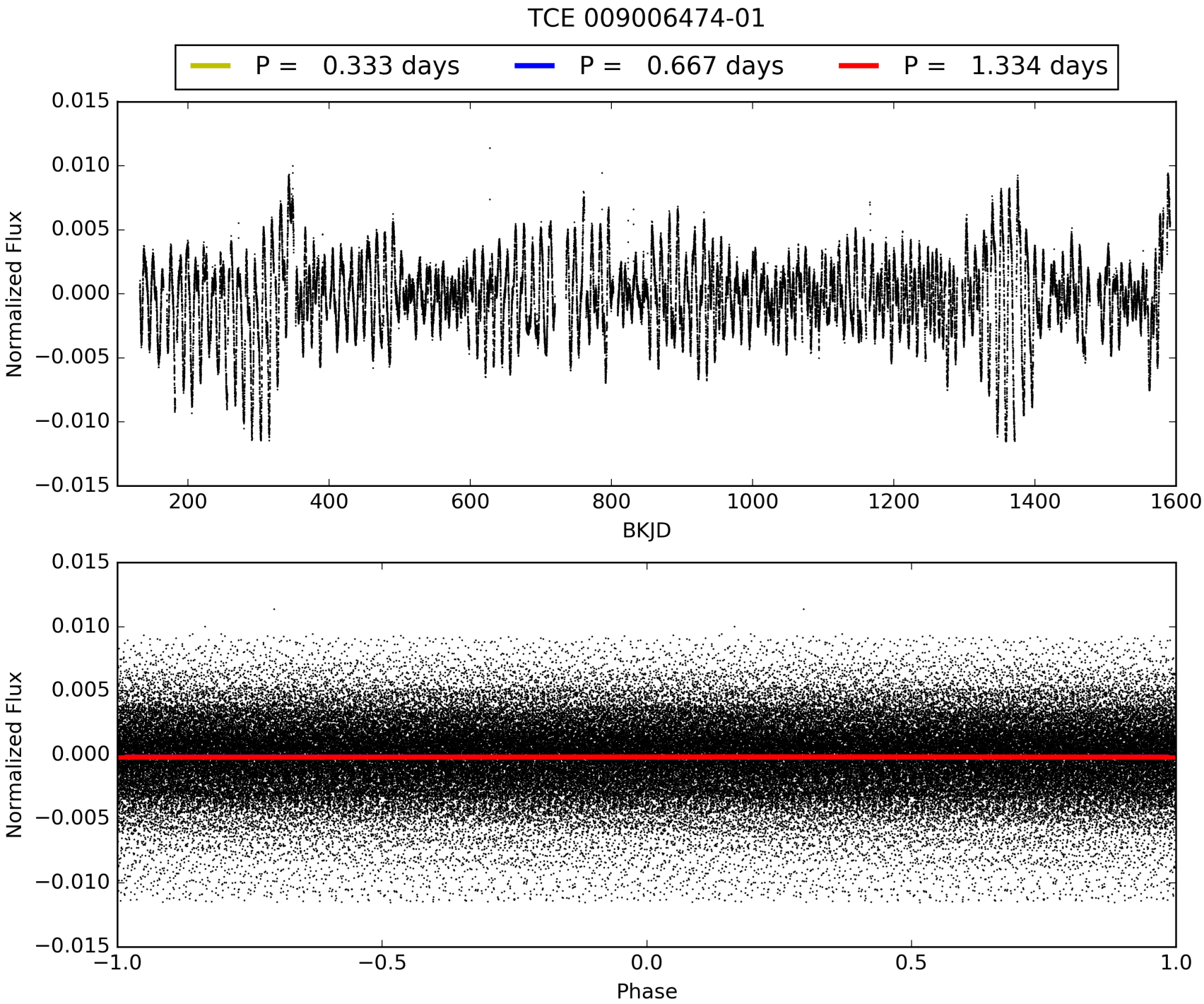
Centroid−sig: 0.0%
Centroid−so: 3.429 arcsec [3.14σ]
OotOffset−rm: 2.201 arcsec [3.46σ]
KicOffset−rm: 2.271 arcsec [3.80σ]
OotOffset−st: 3/2/4/4 [13]
KicOffset−st: 3/2/4/4 [13]
DiffImageQuality−fgm: 0.54 [7/13]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29−Jan−2016 05:04:03 Z

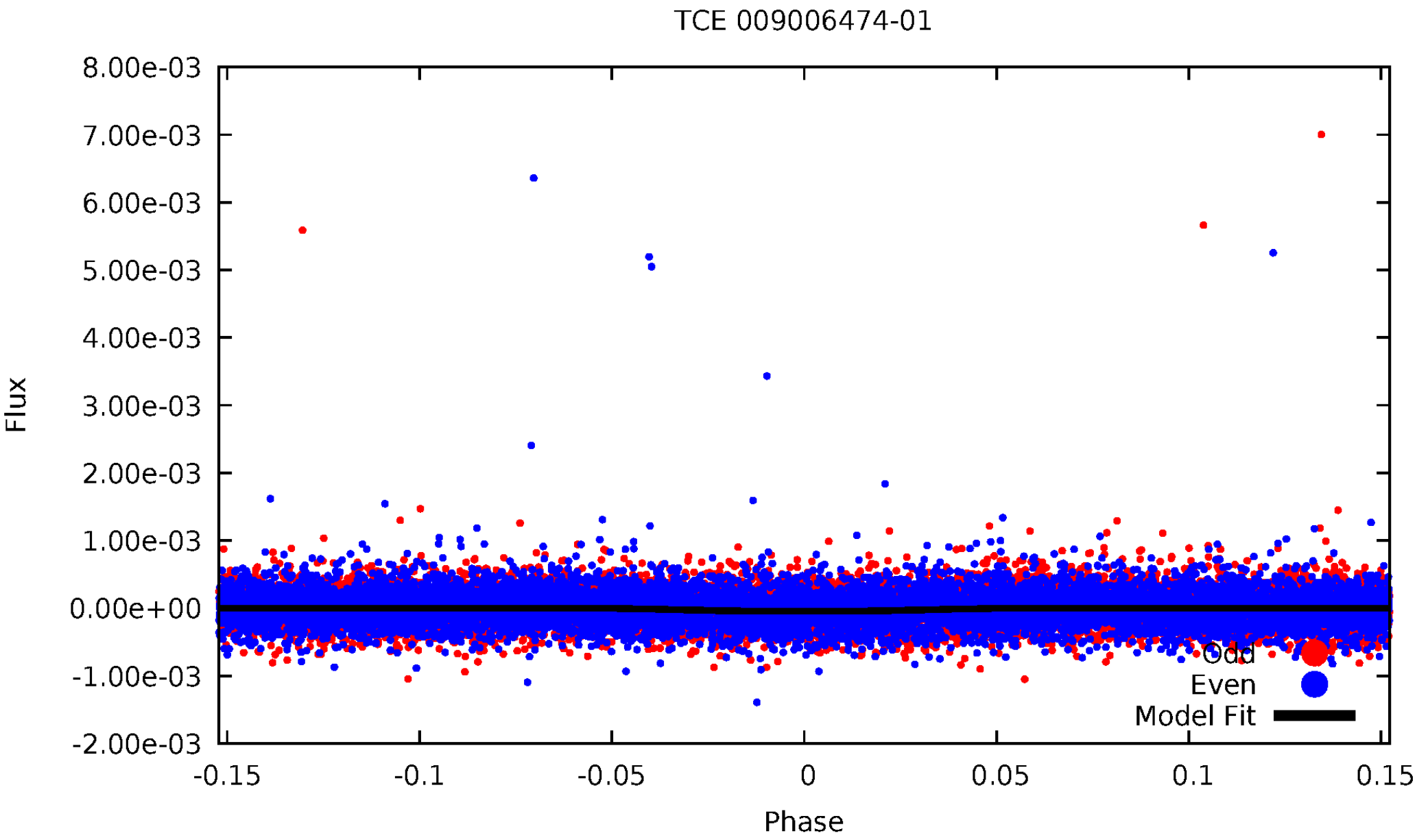
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009006474-01, PDC Light Curves




TCE 009006474-01
P = 0.333 days
P = 0.667 days
P = 1.334 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even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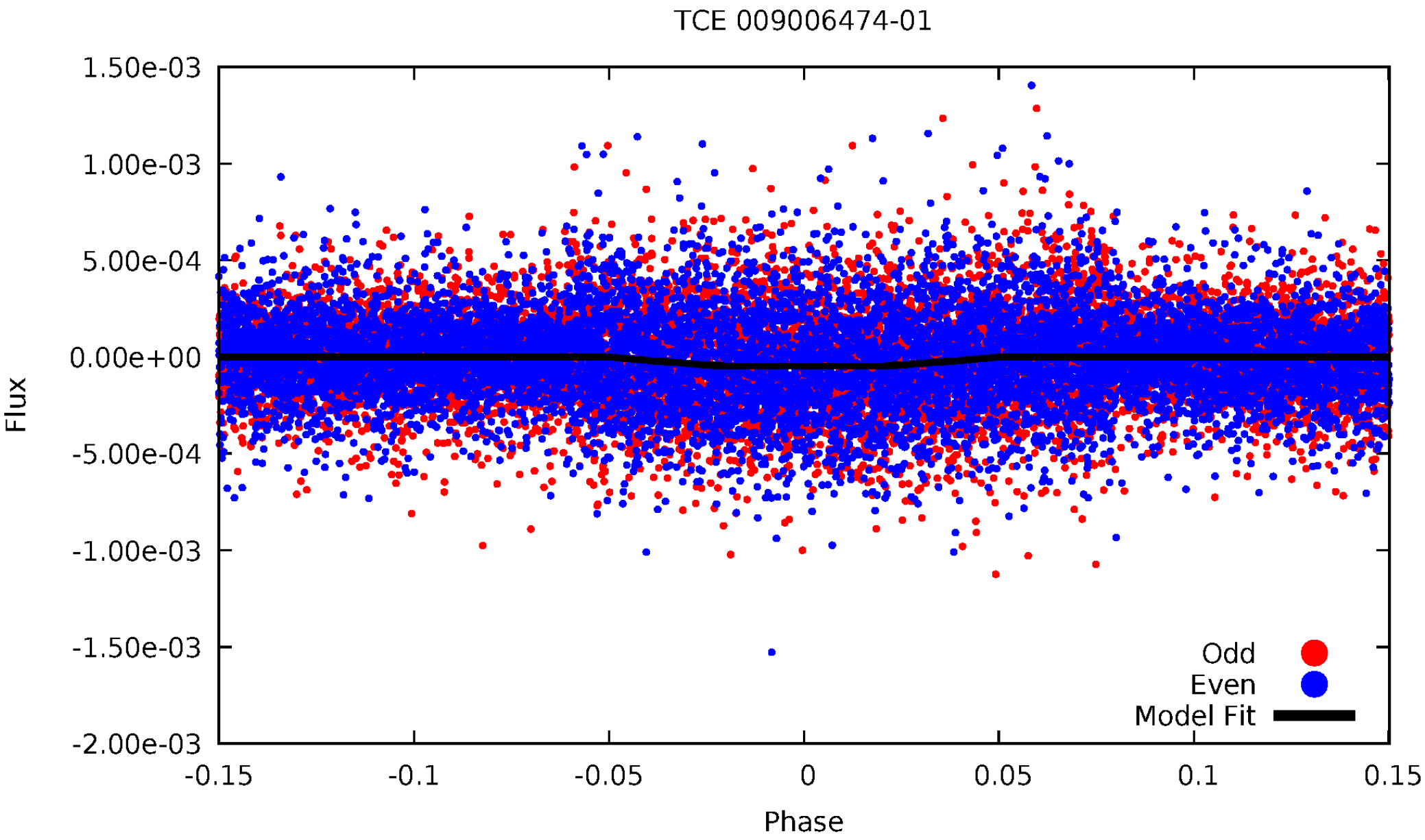
7.00e-03
6.00e-03
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
Flux
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
Phase
Odd
Even
Model Fit

ALT Odd/Even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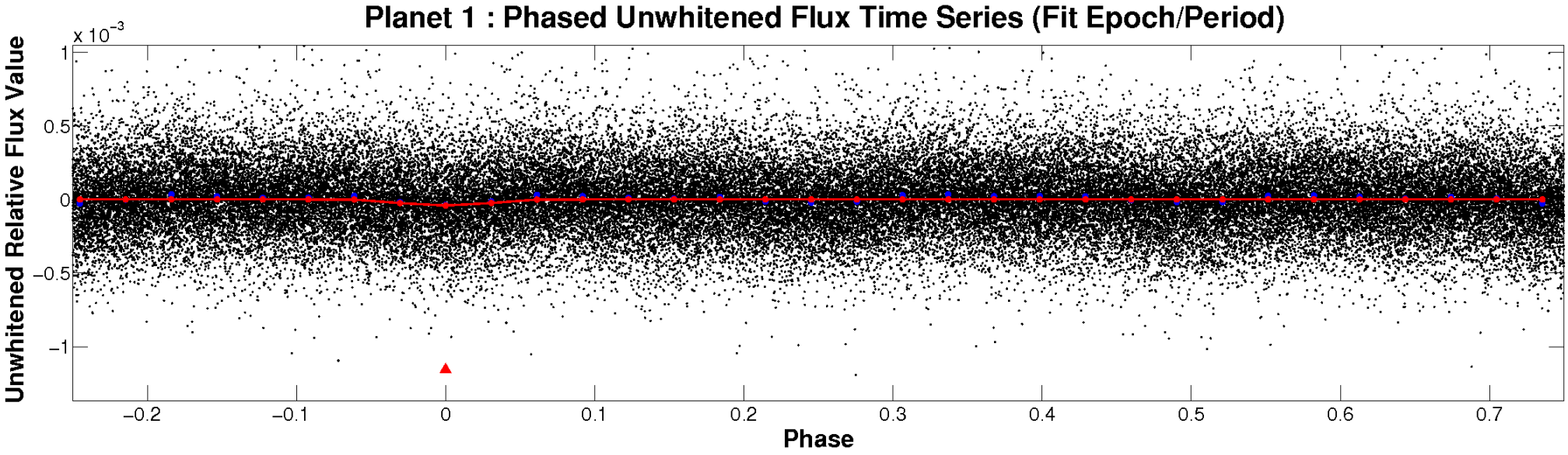
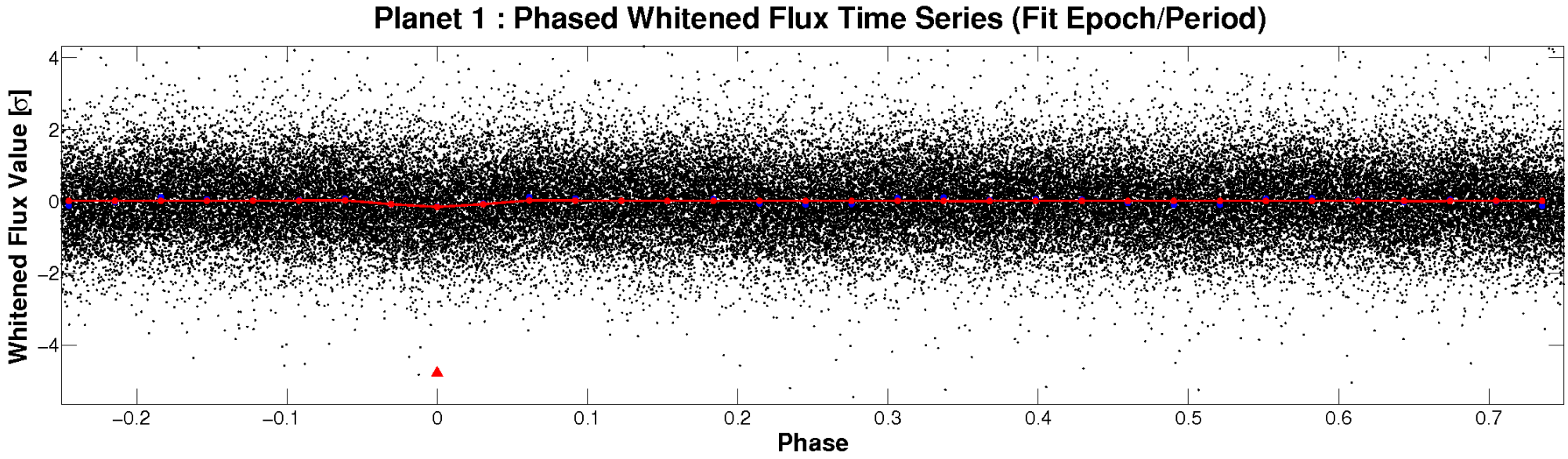
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
-2.00e-03
Flux
-0.15
-0.1
-0.05
0
0.05
0.1
0.15
Phase
Odd
Even
Model Fit

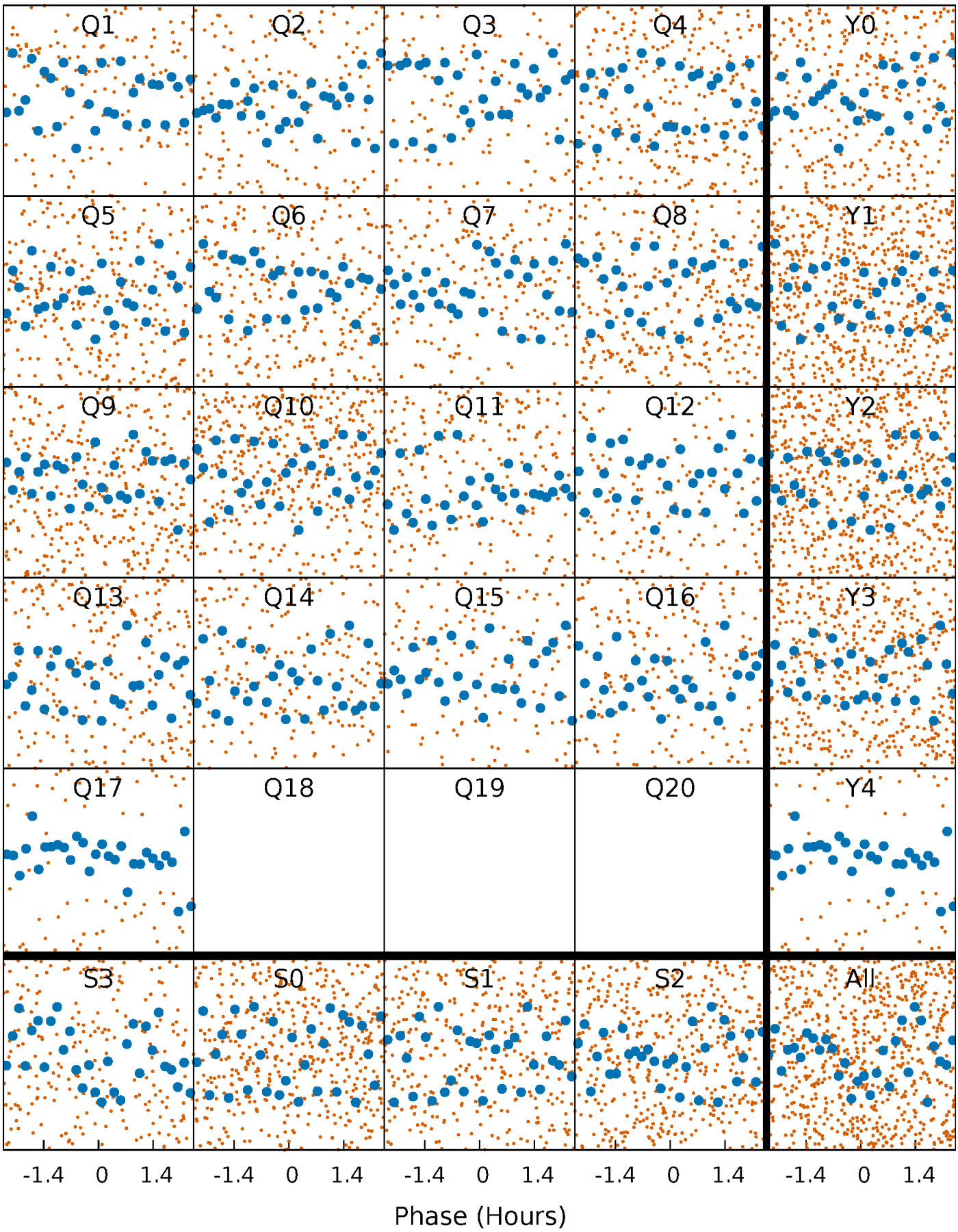
Non-Whitened Vs. Whitened Light Curve





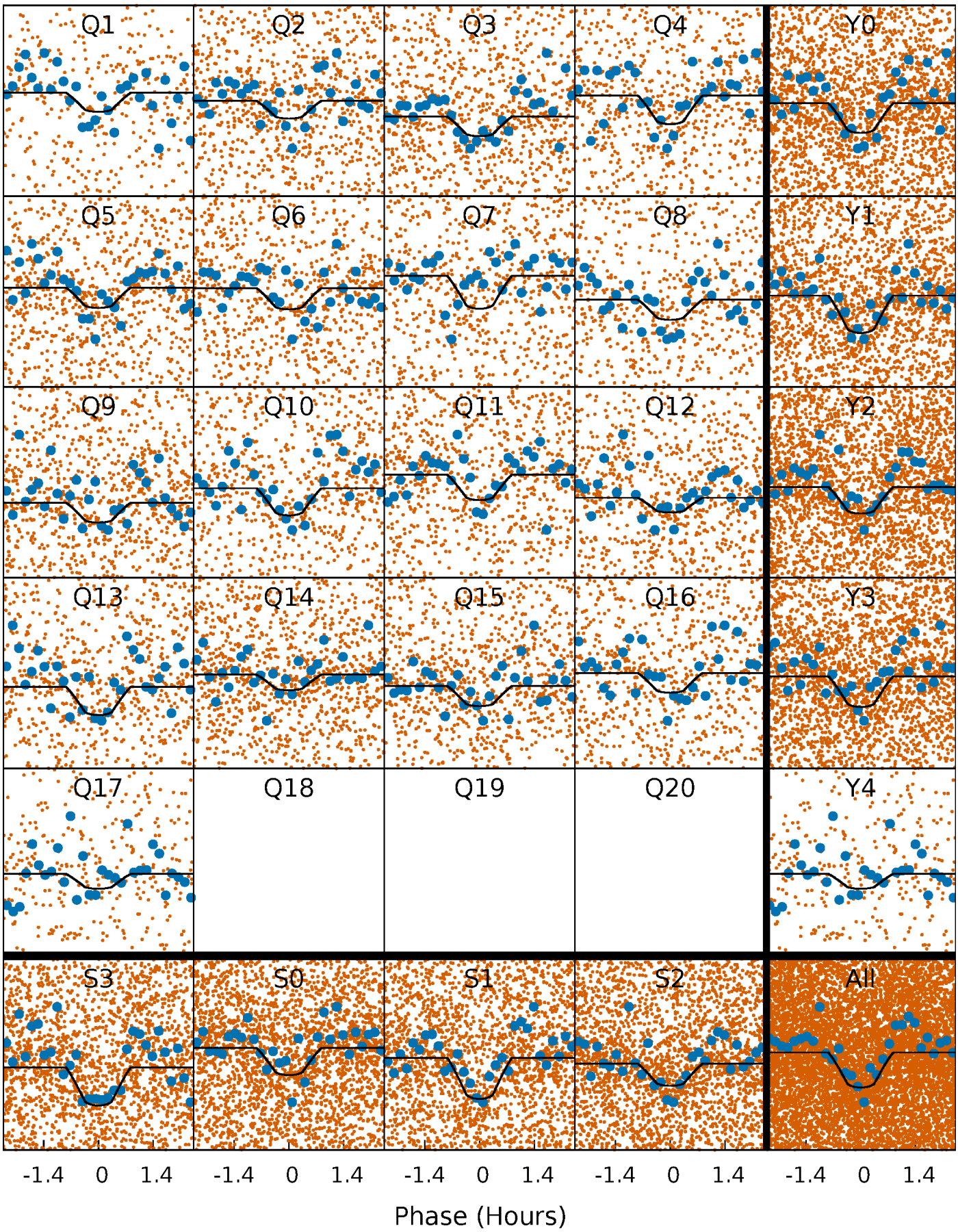
PDC Quarter-Phased Transit Curves

TCE 009006474-01 P= 0.666793 Days T_0=131.996076 (BKJD)



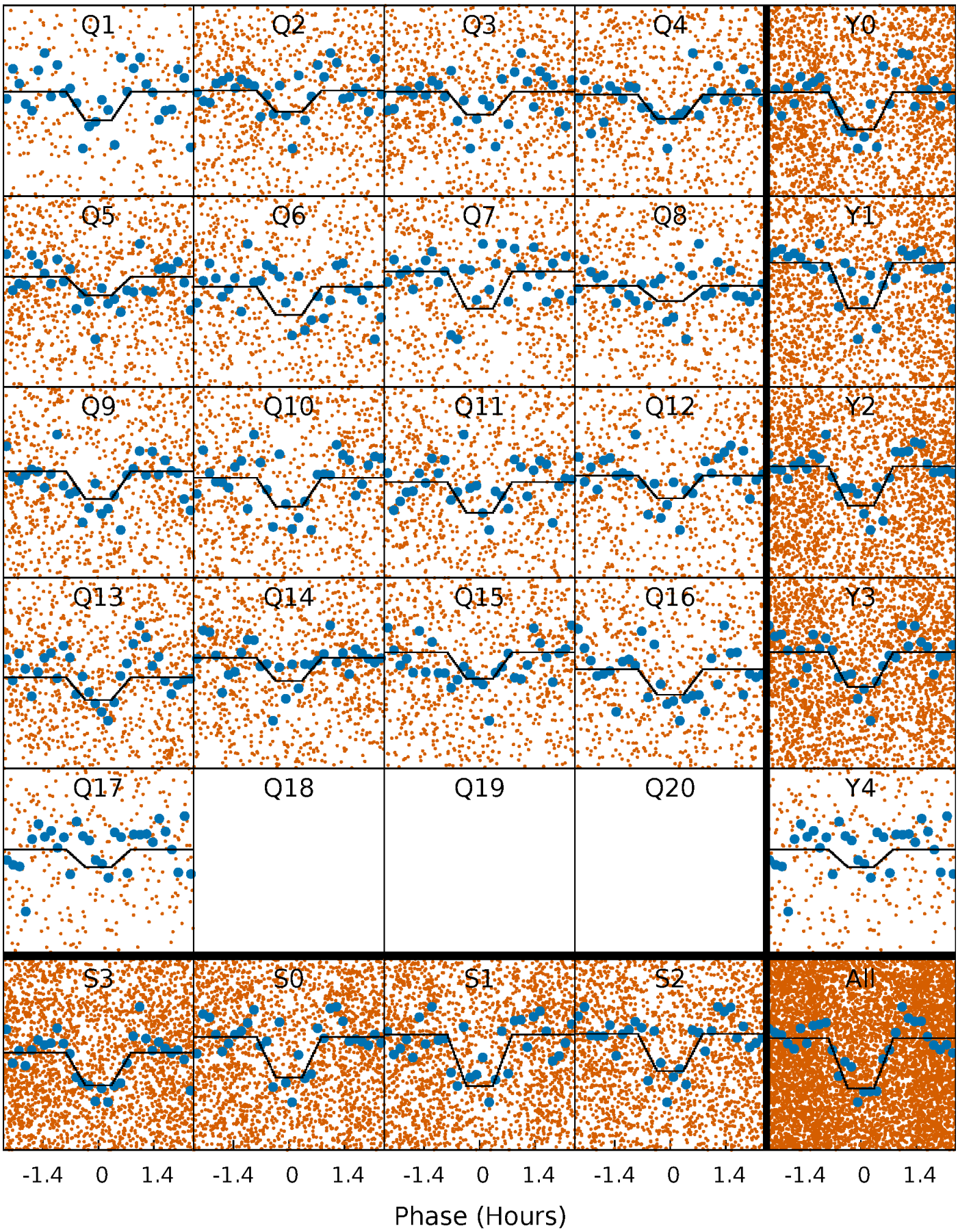
DV Quarter-Phased Transit Curves

TCE 009006474-01 P= 0.666793 Days T_0=131.996076 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

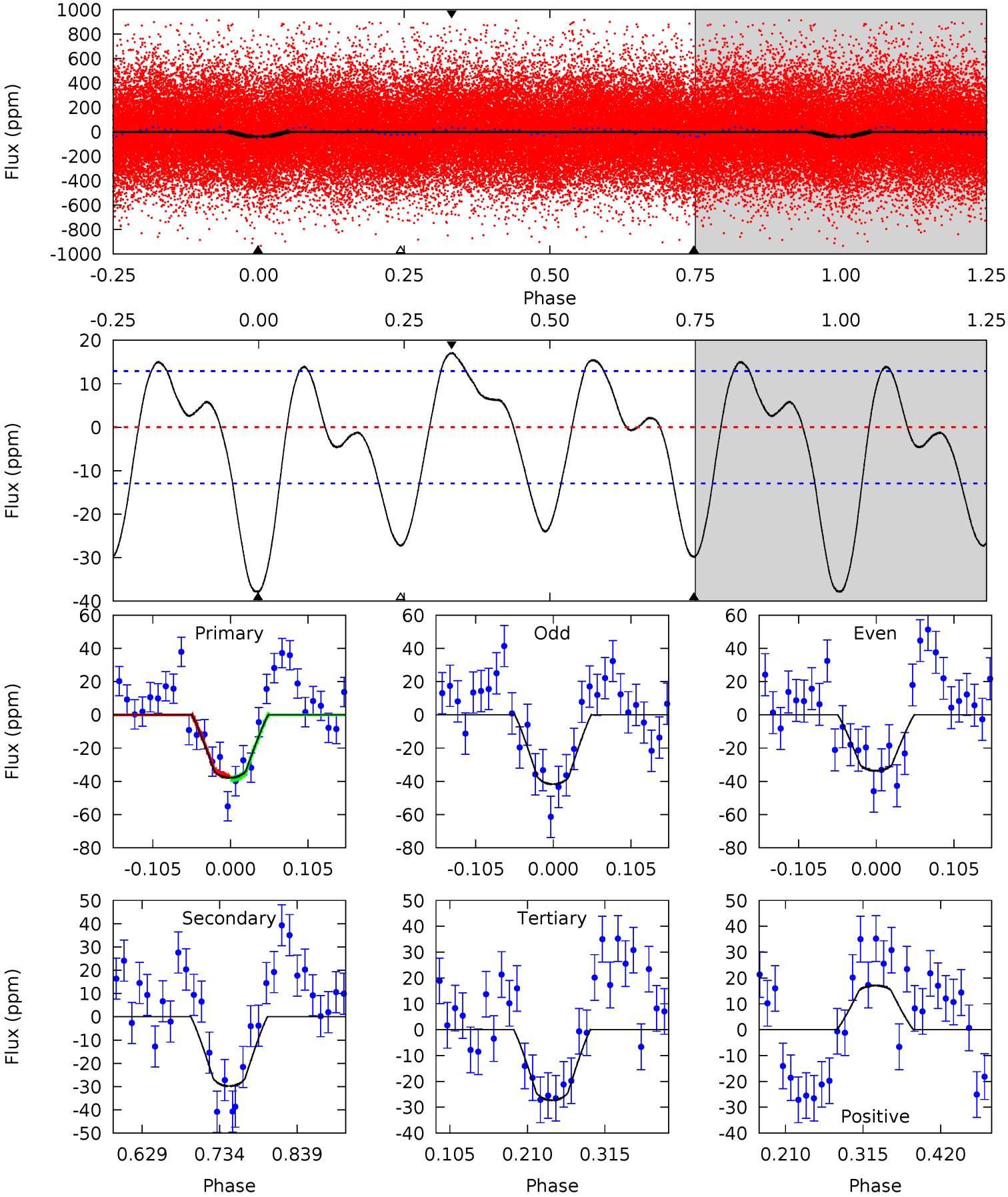
TCE 009006474-01 P= 0.666788 Days T_0=131.996509 (BKJD)



DV Model-Shift Uniqueness Test

009006474-01, P = 0.666793 Days, E = 131.329283 Days

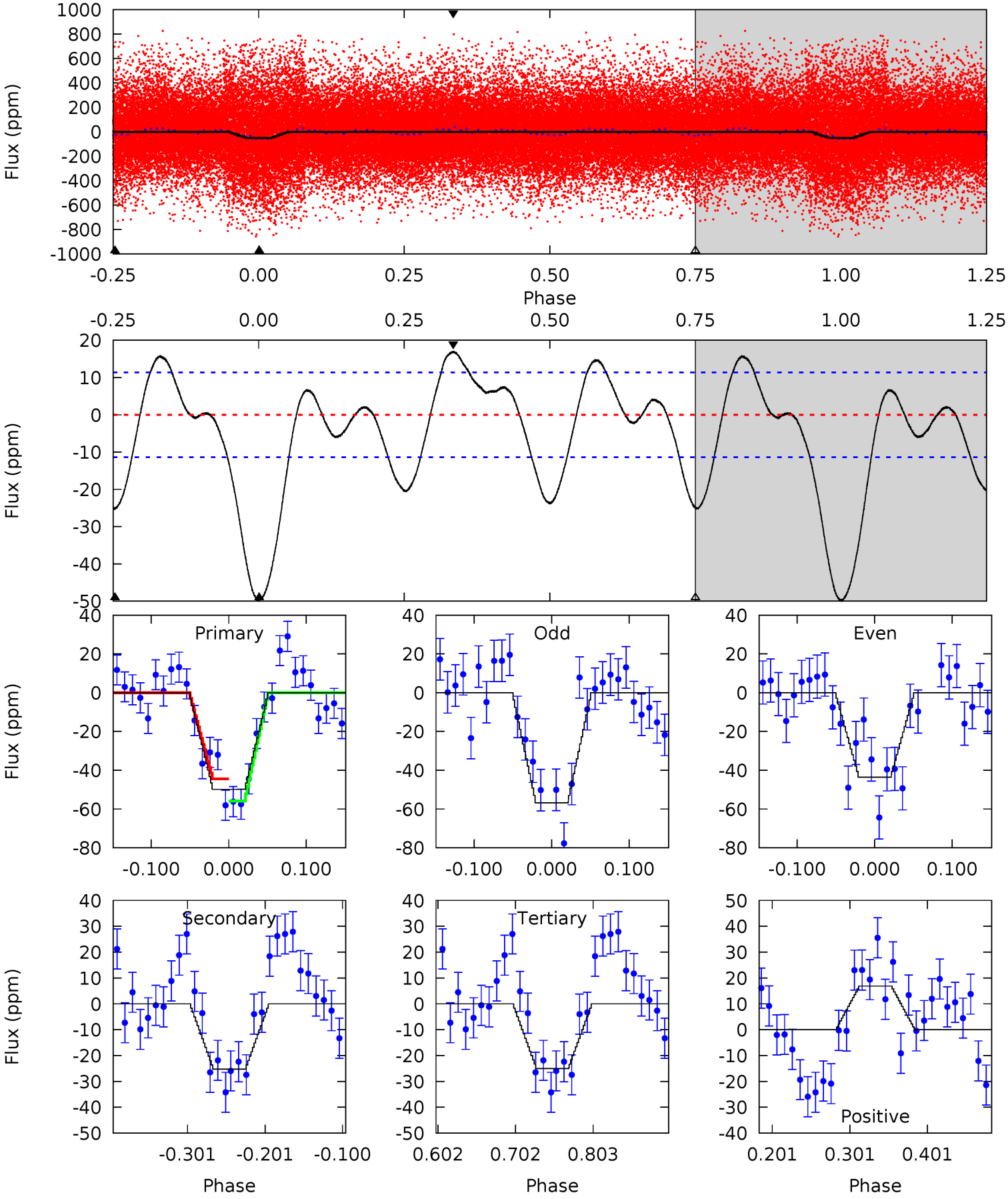
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	10.5	9.62	6.03	4.55	1.62	4.37	3.72	7.31	0.89	4.48	1.42	0.83	0.31	0.31



Alt Model-Shift Uniqueness Test

009006474-01, P = 0.666788 Days, E = 131.329721 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.0	10.2	10.0	6.78	4.56	1.64	4.29	10.00	13.2	0.12	3.37	2.66	0.96	0.25	2.30



Stellar Parameters For KIC 009006474

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5414^{+163}_{-146}	$4.648^{+0.030}_{-0.096}$	$-0.620^{+0.300}_{-0.300}$	$0.678^{+0.098}_{-0.049}$	$0.759^{+0.067}_{-0.074}$	$3.433^{+0.438}_{-1.037}$
	+3%/-3%	+1%/-2%	+48%/-48%	+14%/-7%	+9%/-10%	+13%/-30%
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 009006474-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-30±3	$0.54^{+0.20}_{-0.20}$	2392^{+96}_{-82}	4792^{+1141}_{-581}	10^{+16}_{-5}
Alt.	-25±2	$0.54^{+0.22}_{-0.19}$	2395^{+102}_{-88}	4654^{+972}_{-577}	$8.582^{+12.700}_{-4.154}$

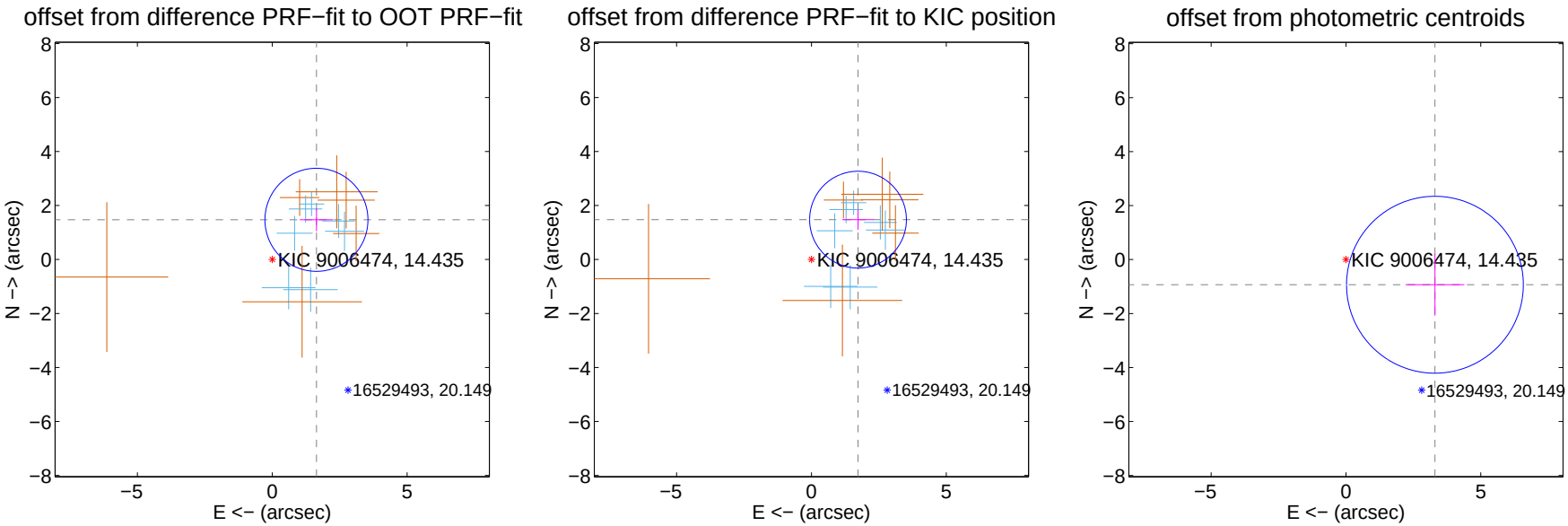
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

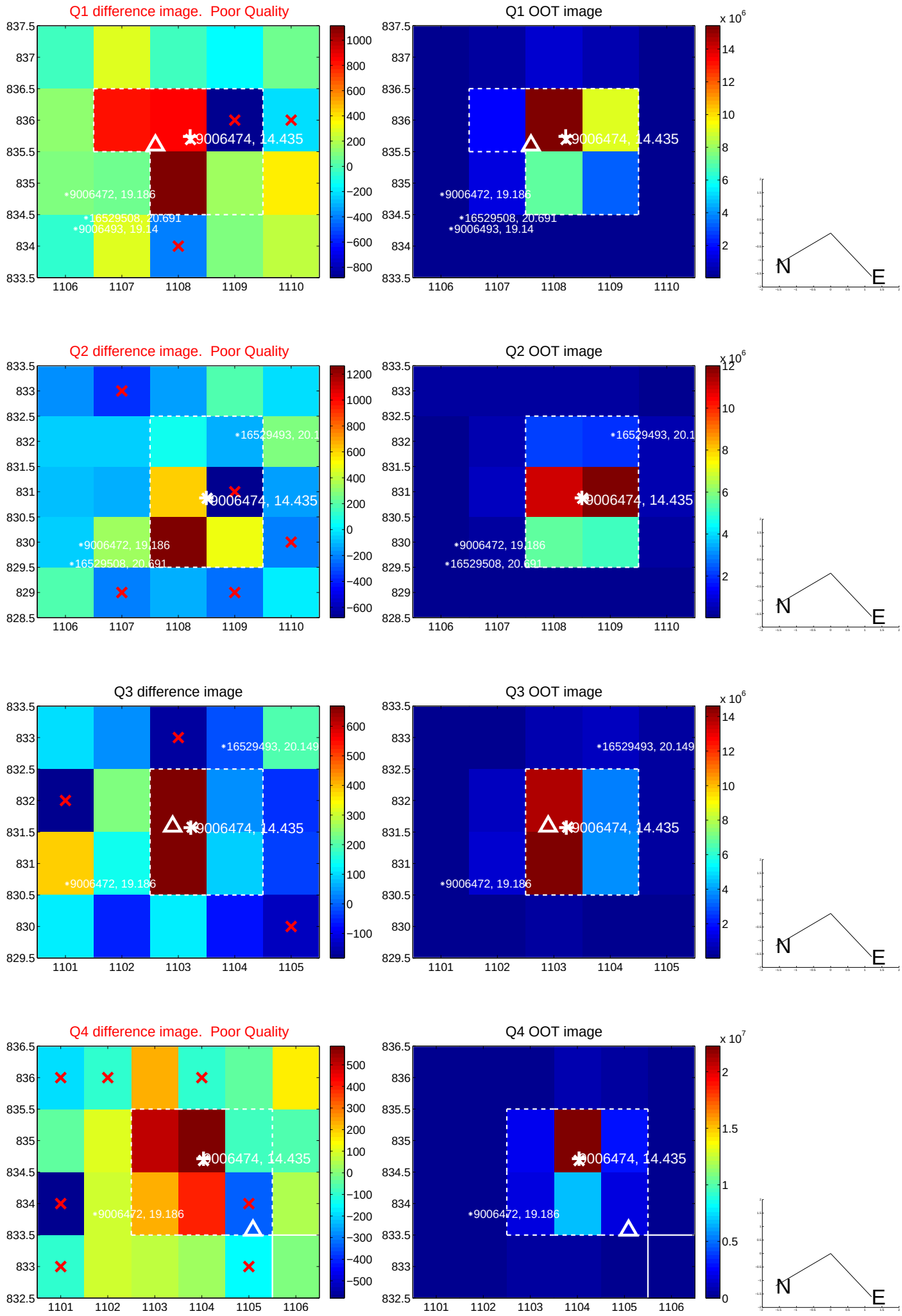
Supplemental centroid analysis for 009006474-01. Kepler magnitude: 14.44. Transit SNR 9.36
There are 7 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.25 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.201 ± 0.636	3.46	-1.638 ± 0.620	1.470 ± 0.419
PRF-fit source offset from KIC position	2.271 ± 0.598	3.80	-1.726 ± 0.582	1.476 ± 0.374
photometric centroid source offset	3.43 ± 1.09	3.14	-3.30 ± 1.09	-0.93 ± 1.14

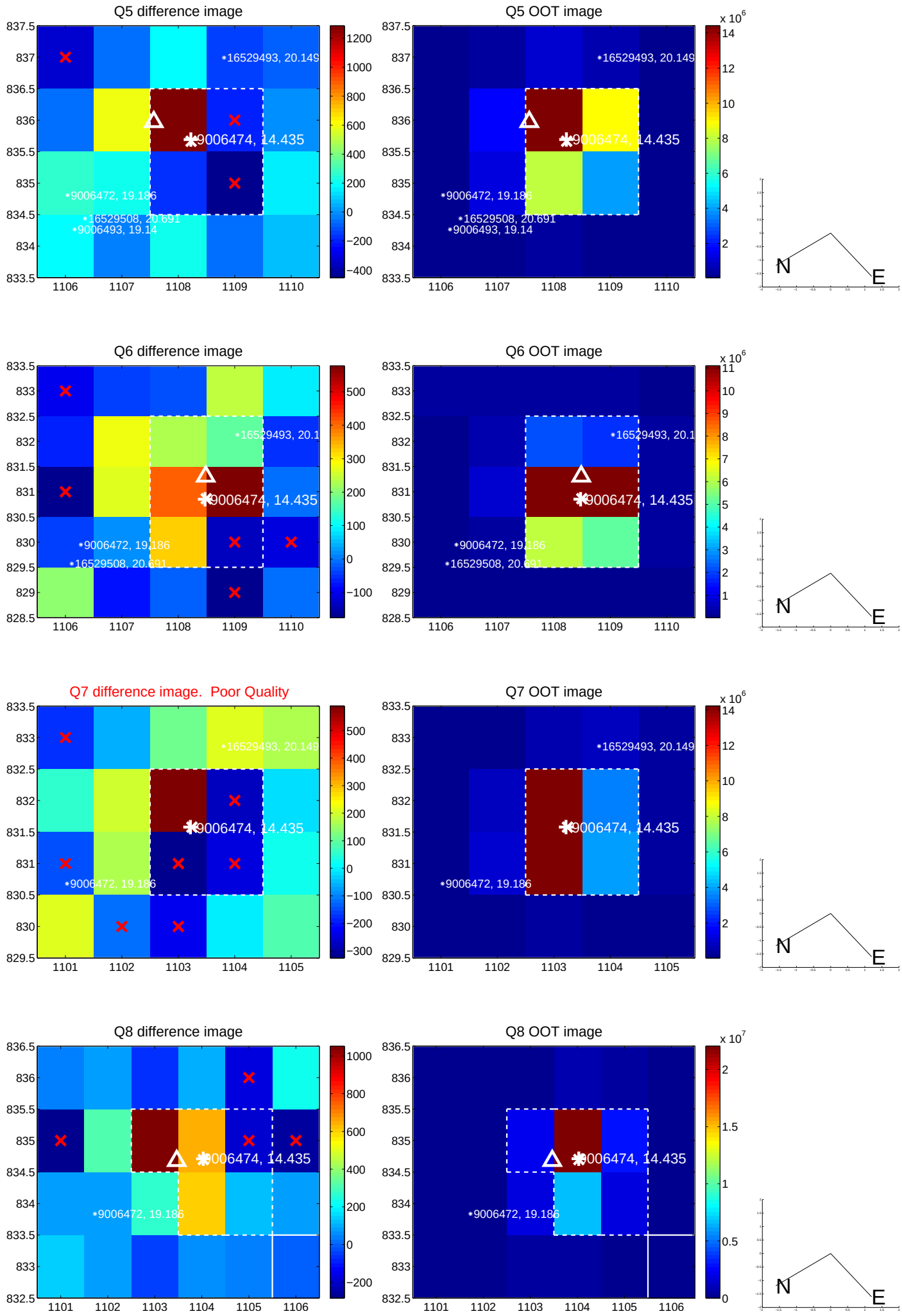


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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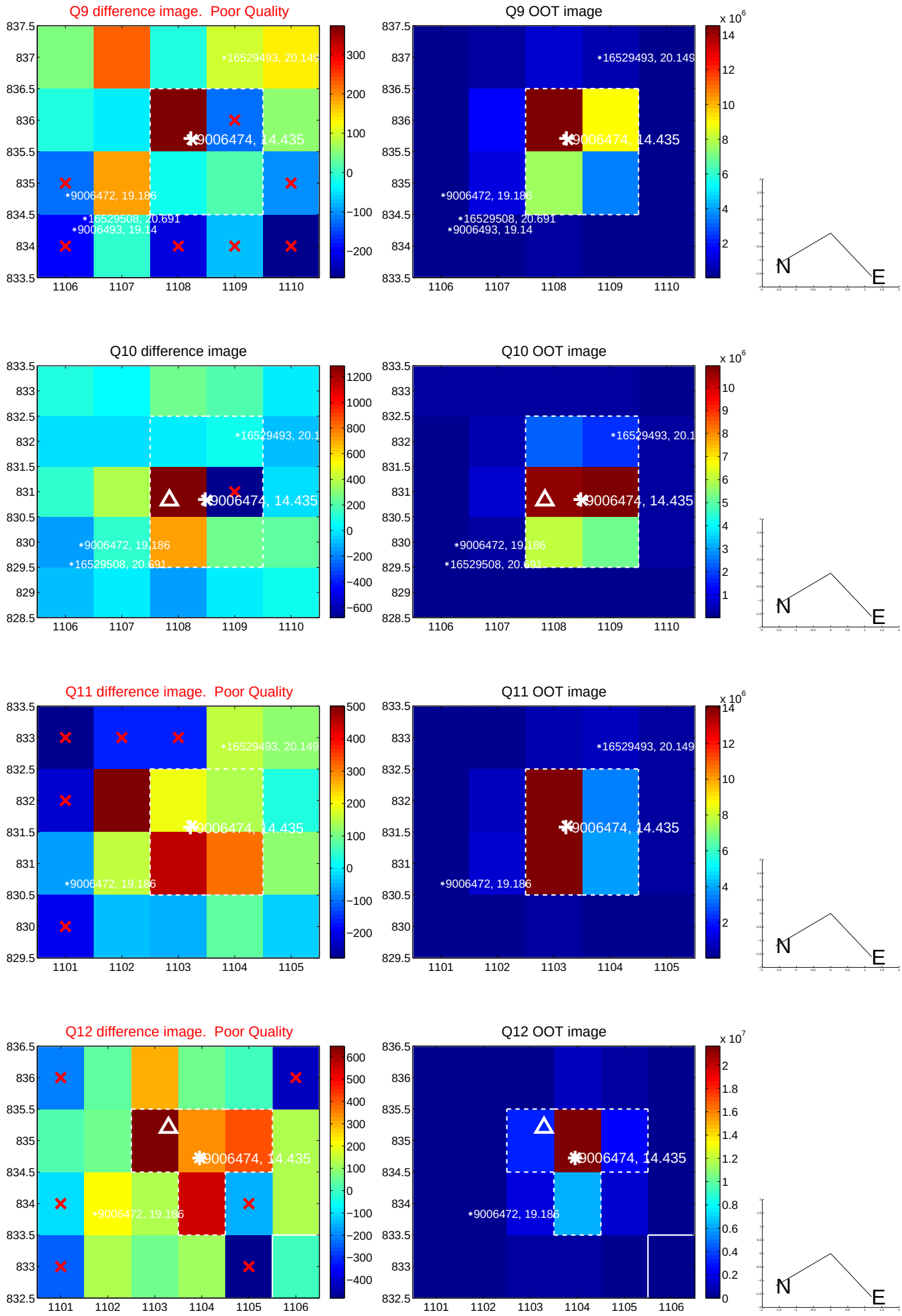
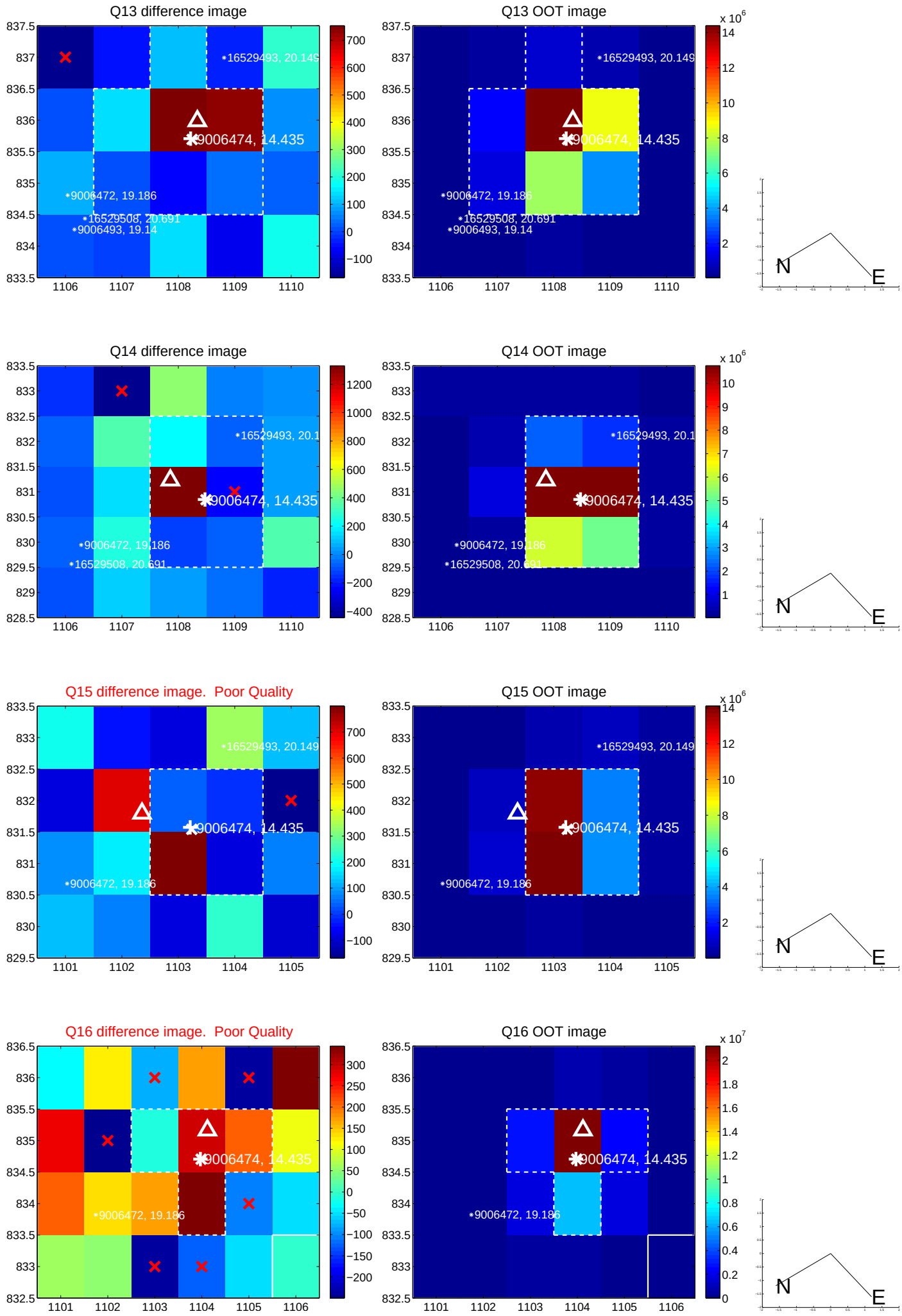
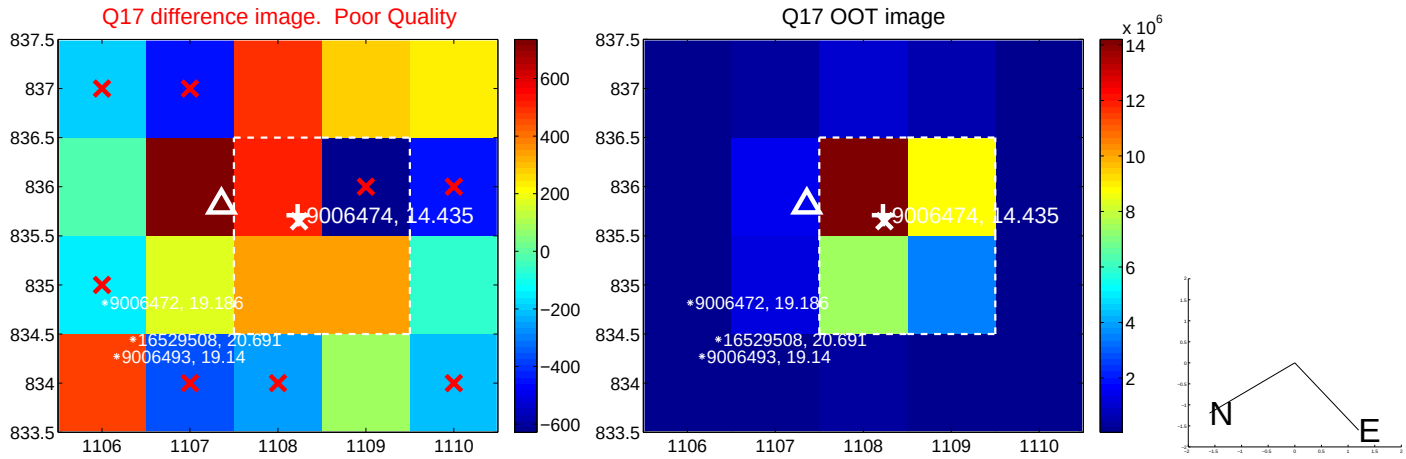
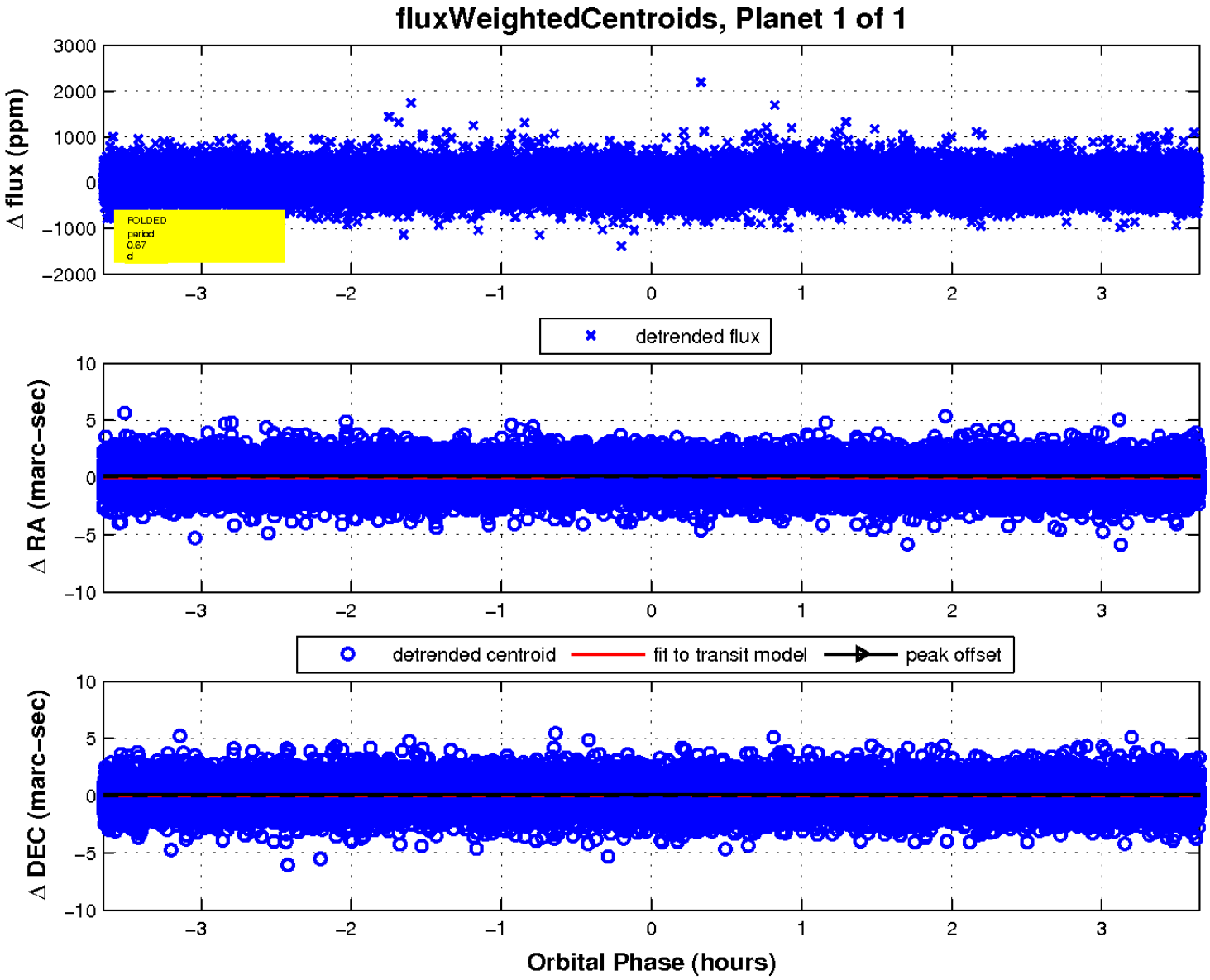


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

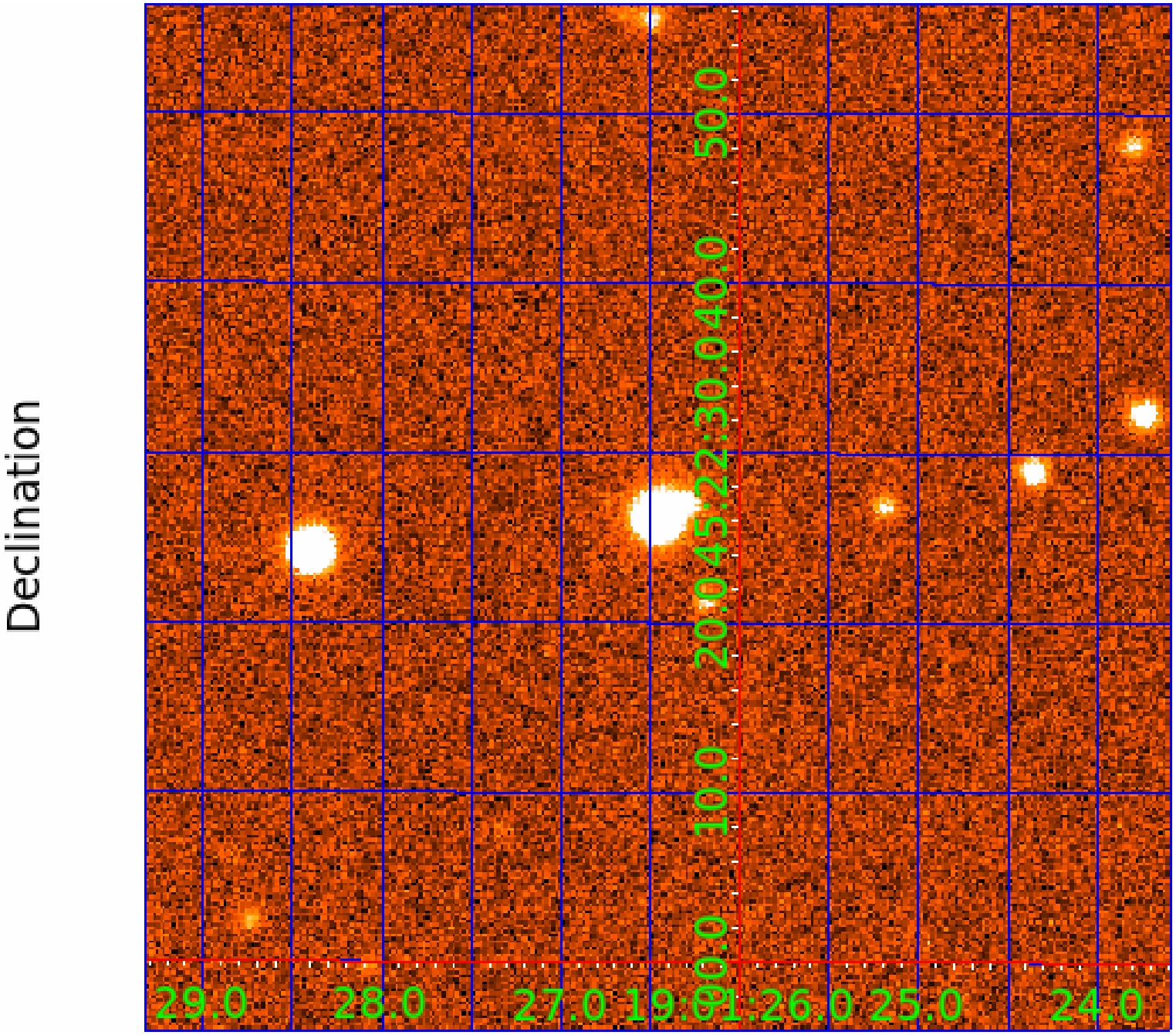


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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