KIC 006451605

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 ($S_\oplus$)
006451605-01	OBS	No	0.590292	132.057846	54.8	7.083	14.5	19.2	1.55	7206	1.52	24156.28

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006451605-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_FEW_MEAS

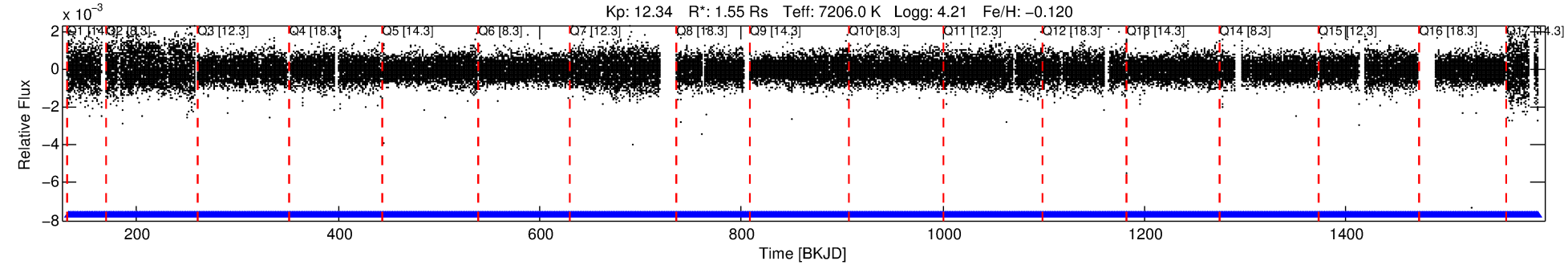
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

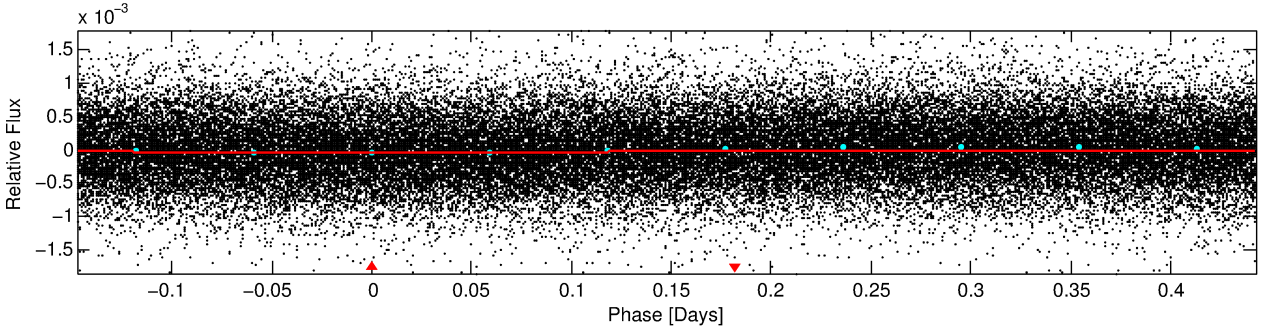
Ephemeris Match Information For 006451605-01

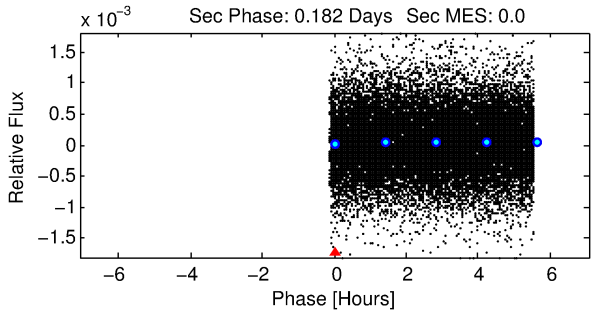
No Significant Match Found

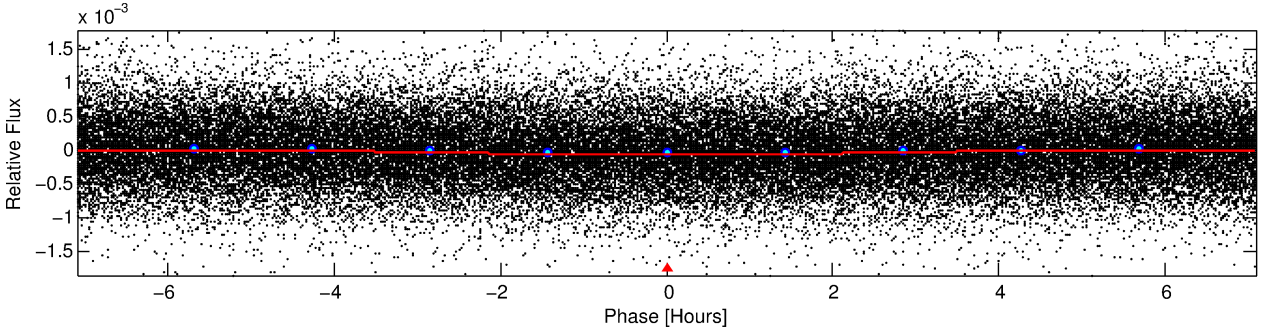
DV One-Page Summary

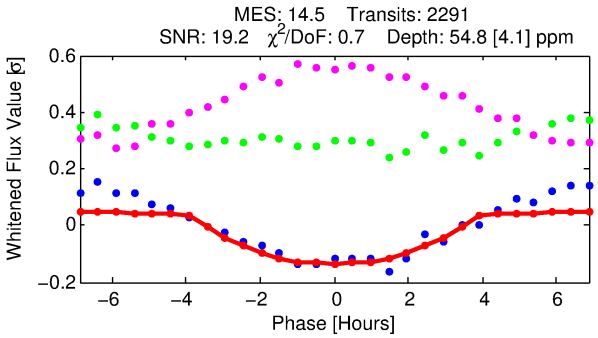
KIC: 6451605 Candidate: 1 of 1 Period: 0.590 d

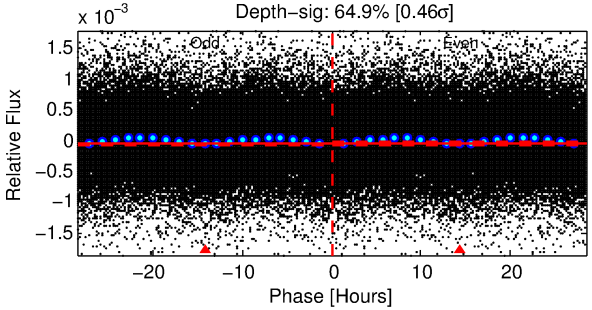


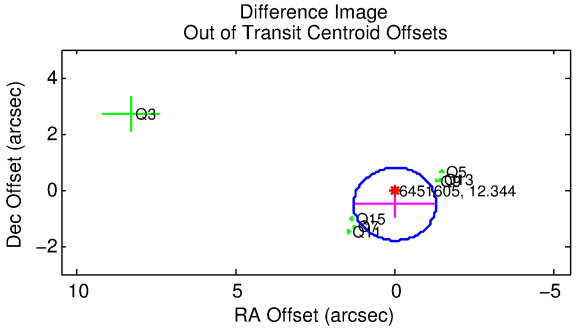












DV Fit Results:

Period = 0.59029 [0.00001] d
Epoch = 132.0578 [0.0043] BKJD
Rp/R* = 0.0090 [0.0005]
a/R* = 1.00 [0.00]
b = 0.98 [0.01]

Seff = 24156.28 [9637.06]
Teq = 3179 [317] K
Rp = 1.52 [0.50] Re
a = 0.0155 [0.0041] AU

Ag = N/A
Teffp = N/A

DV Diagnostic Results:

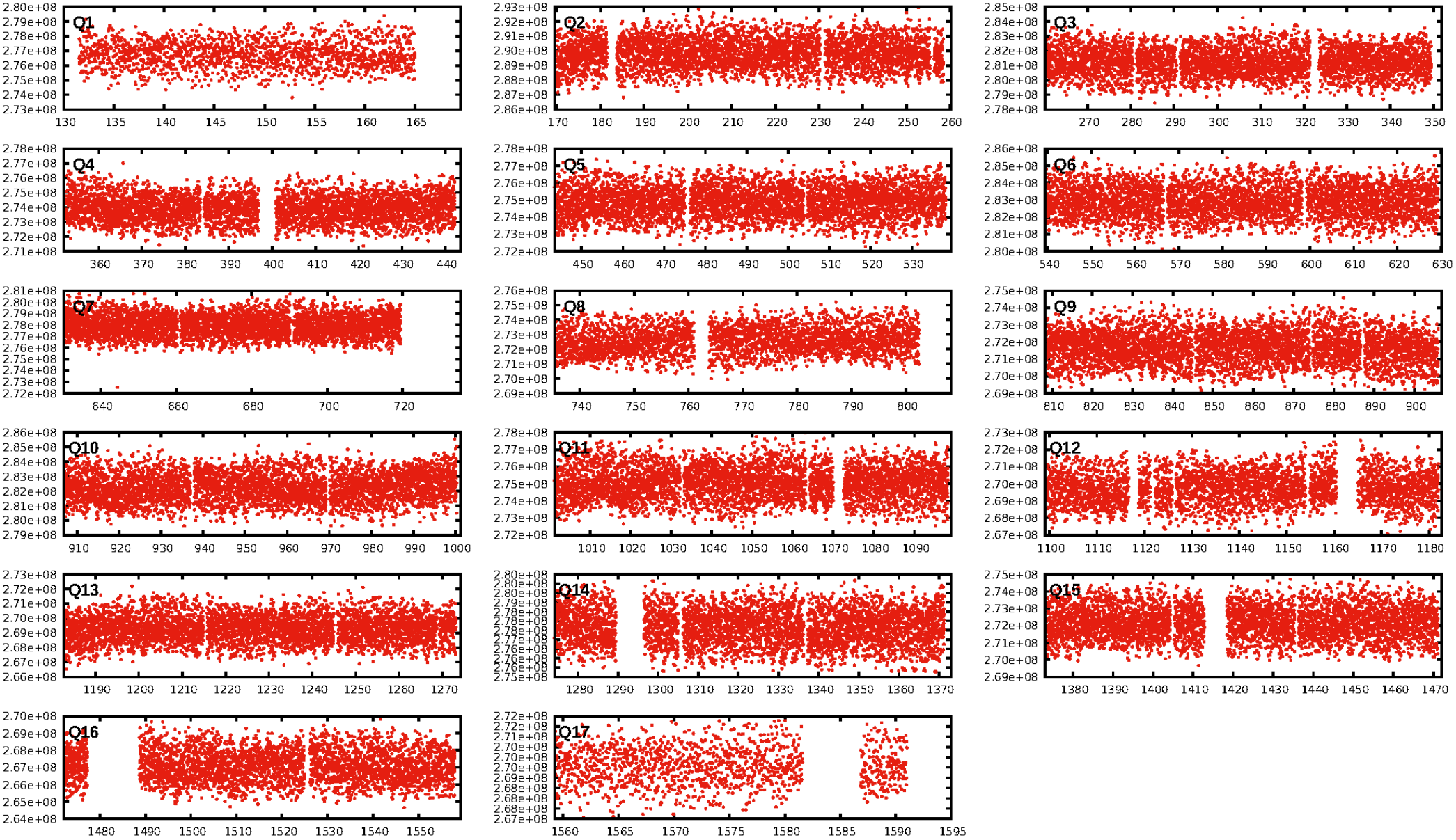
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: N/A
RollingBand−fgt: 1.00 [2188/2188]
GhostDiagnostic−chr: 3.772

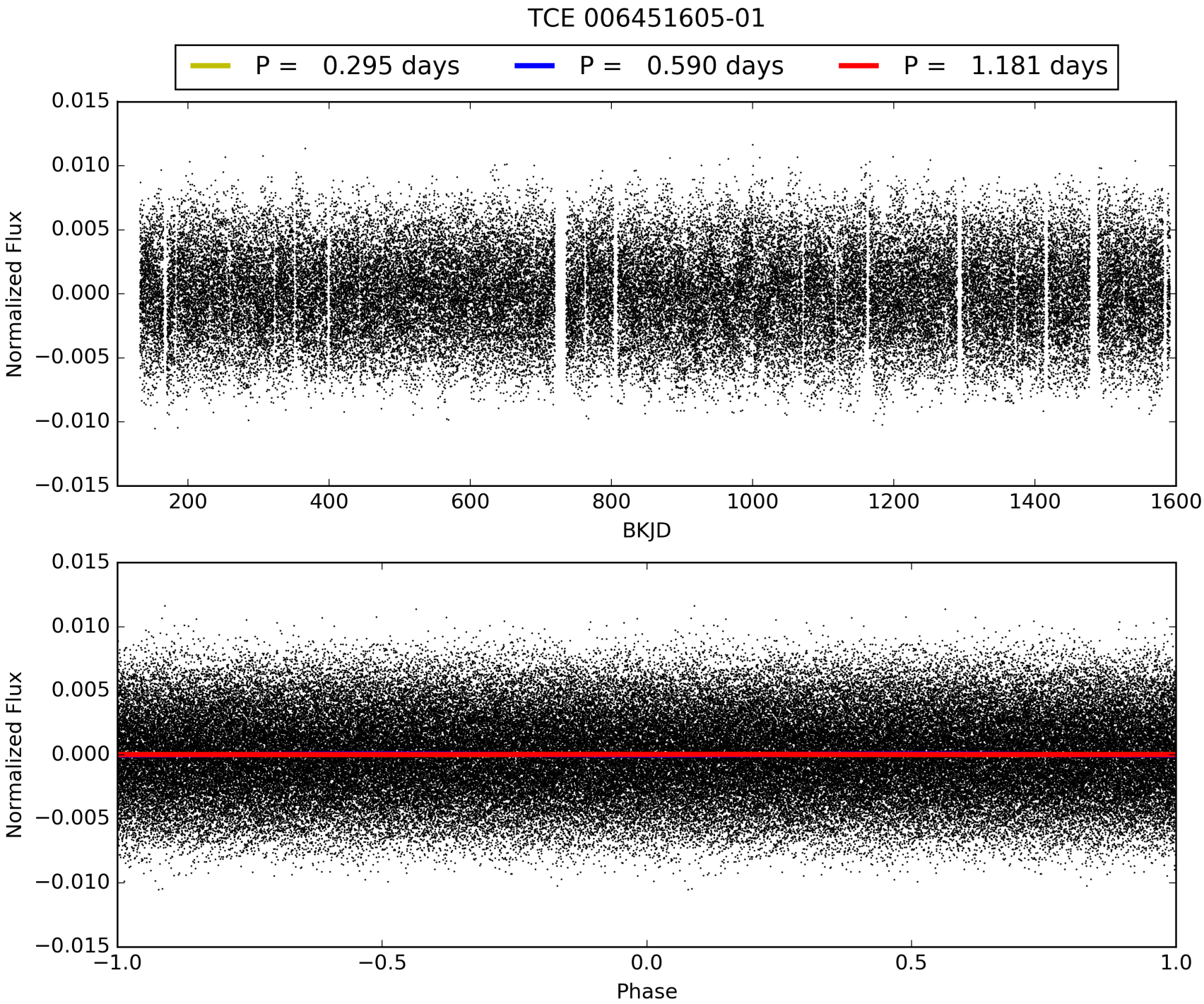
Centroid−sig: 0.0%
Centroid−so: 0.065 arcsec [0.39σ]
OotOffset−rm: 0.515 arcsec [1.20σ]
KicOffset−rm: 0.491 arcsec [0.86σ]
OotOffset−st: 0/4/0/3 [7]
KicOffset−st: 0/4/0/3 [7]
DiffImageQuality−fgm: 0.86 [6/7]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 21:17:44 Z

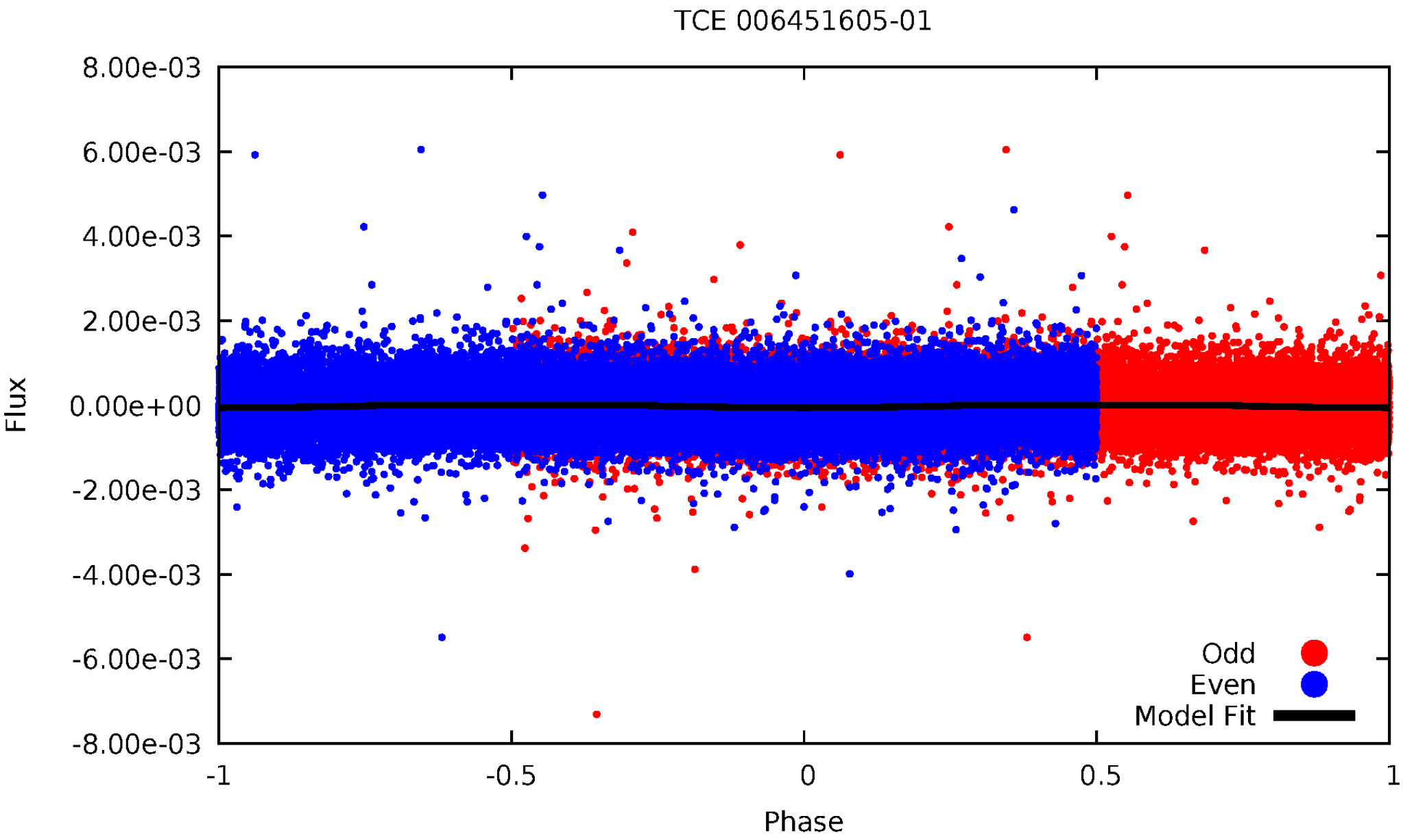
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 006451605-01, PDC Light Curves

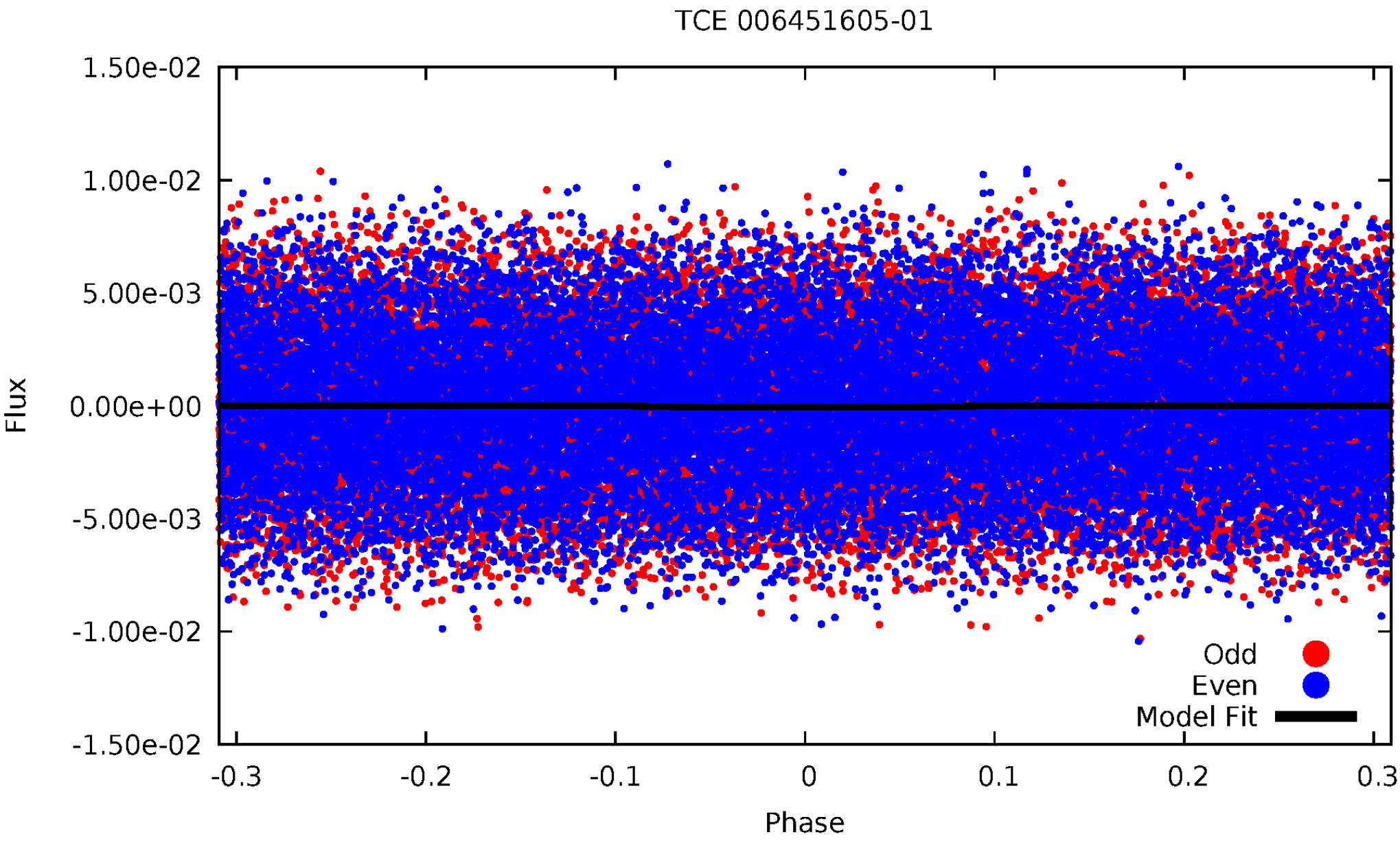



TCE 006451605-01
P = 0.295 days
P = 0.590 days
P = 1.181 days
Normalized Flux
BKJD
Normalized Flux
Phase

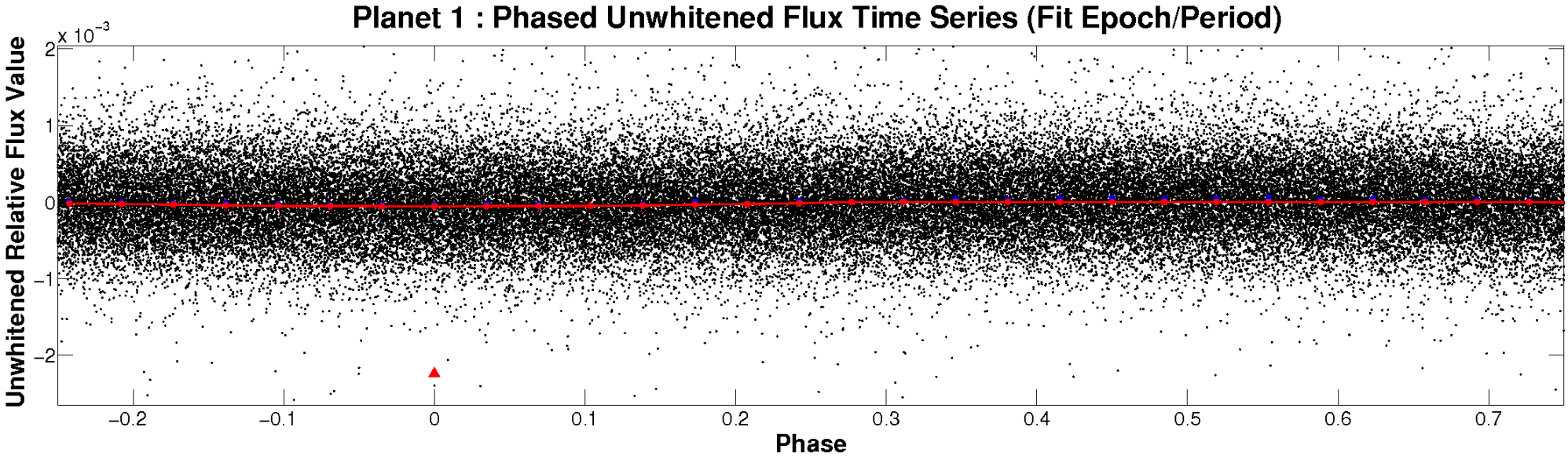
DV Odd/Even

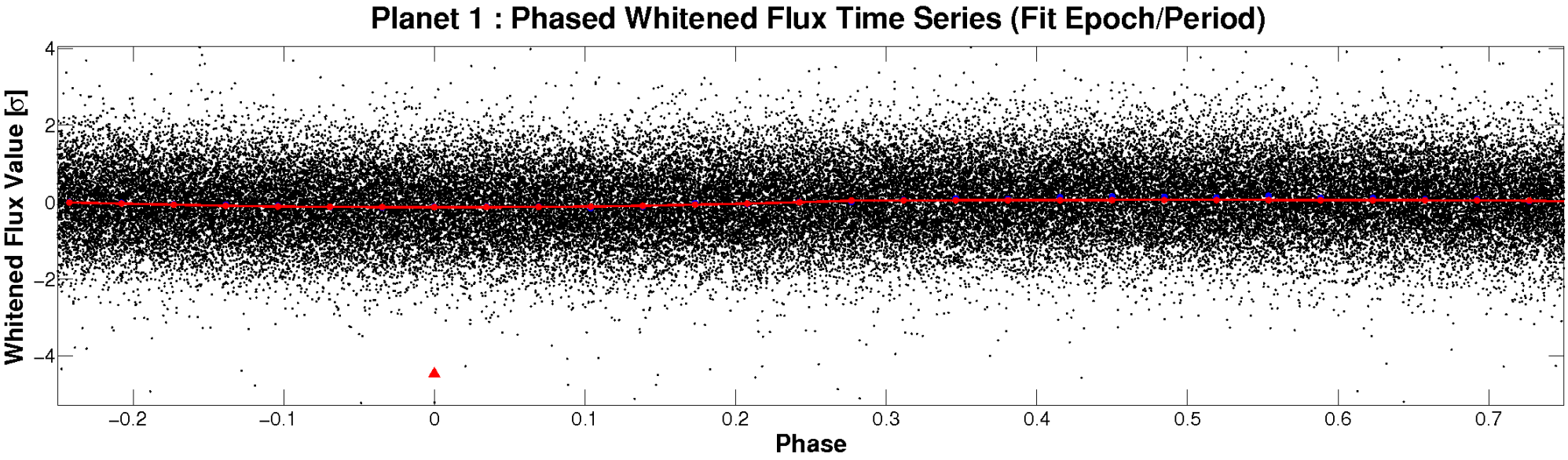

TCE 006451605-01
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
-6.00e-03
-8.00e-03
Flux
-1
-0.5
0
0.5
1
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 006451605-01
1.50e-02
1.00e-02
5.00e-03
0.00e+00
-5.00e-03
-1.00e-02
-1.50e-02
Flux
-0.3
-0.2
-0.1
0
0.1
0.2
0.3
Phase
Odd
Even
Model Fit

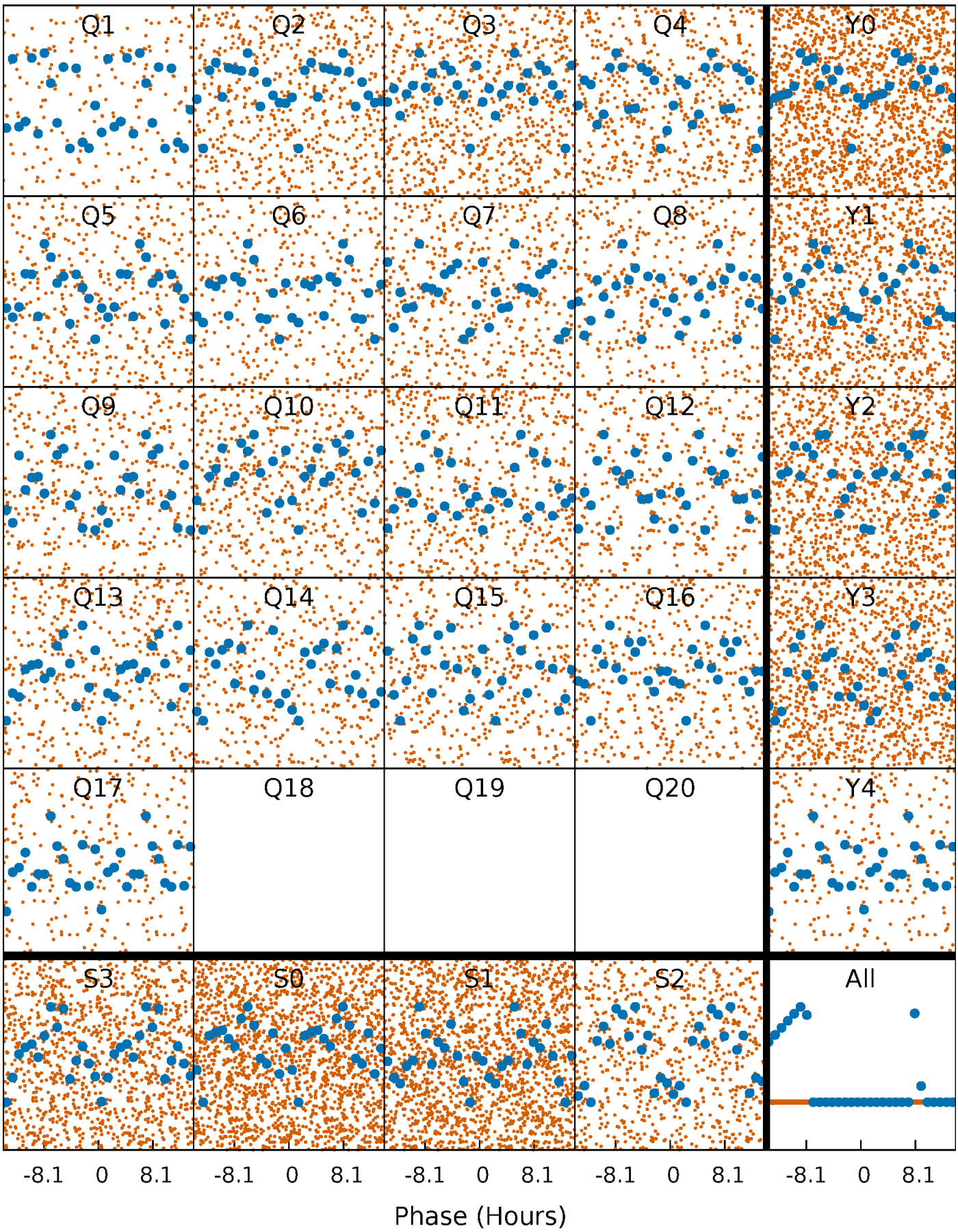
Non-Whitened Vs. Whitened Light Curve





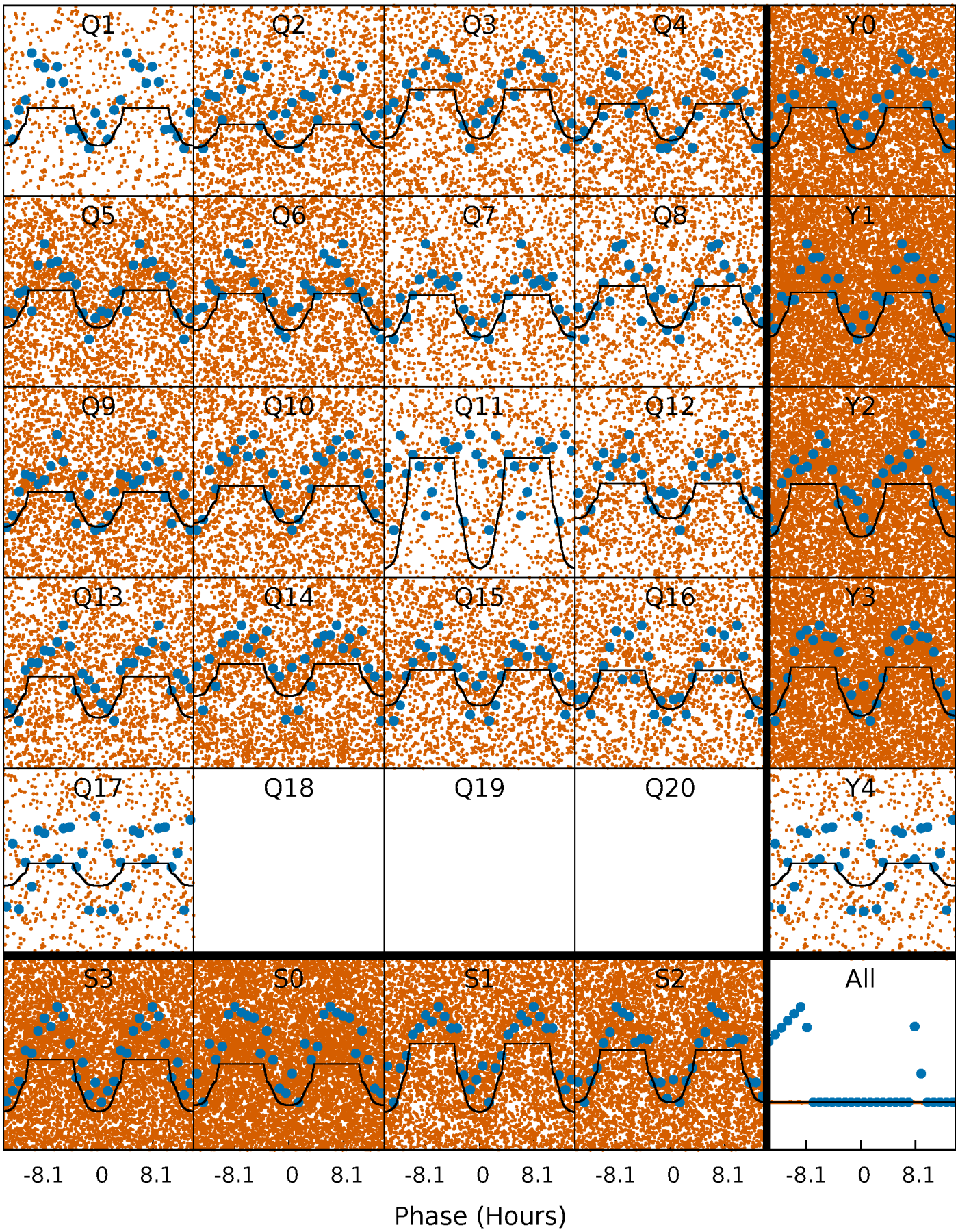
PDC Quarter-Phased Transit Curves

TCE 006451605-01 P= 0.590292 Days T_0=132.057846 (BKJD)



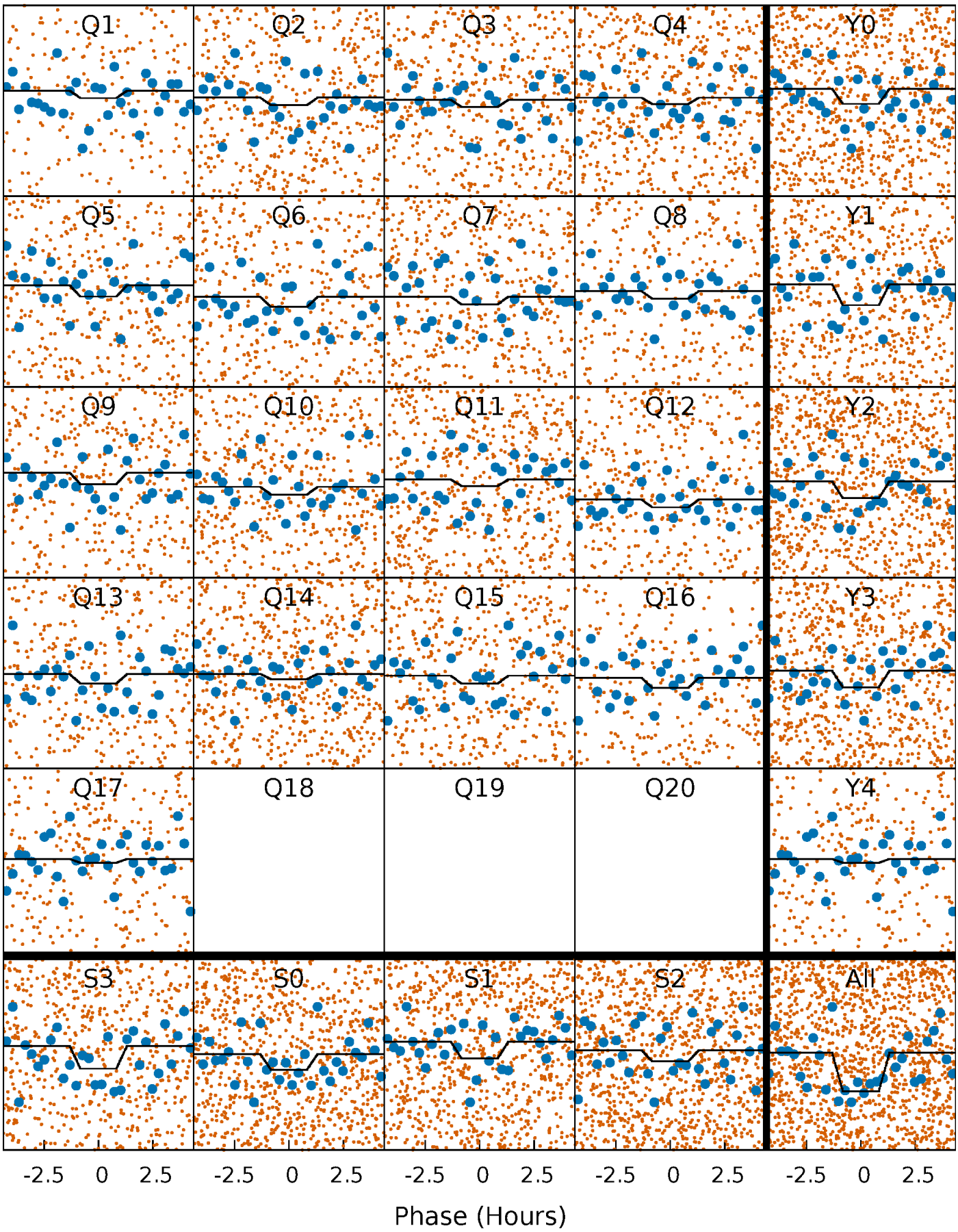
DV Quarter-Phased Transit Curves

TCE 006451605-01 P= 0.590292 Days T_0=132.057846 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

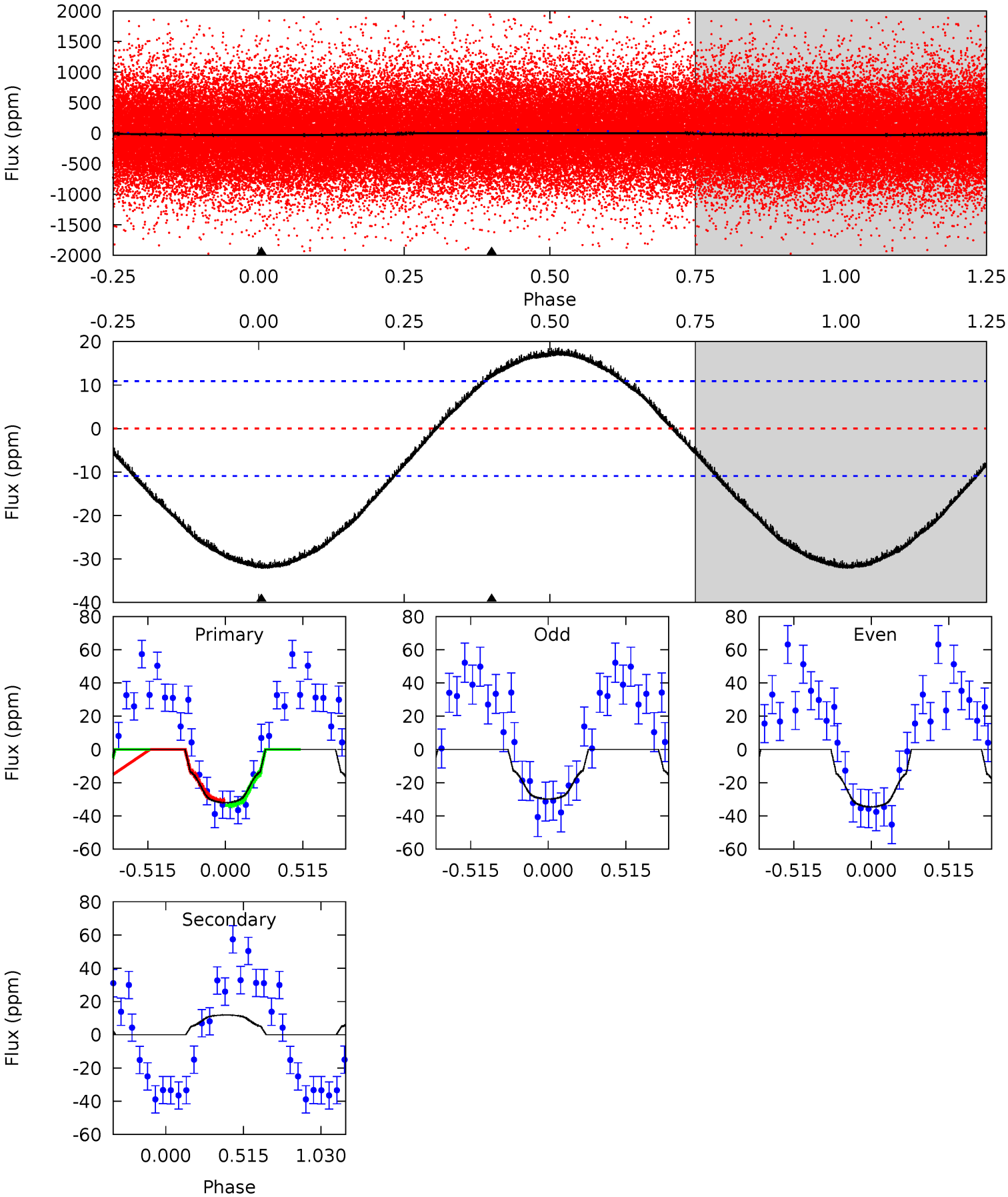
TCE 006451605-01 P= 0.590354 Days T_0=131.997818 (BKJD)



DV Model-Shift Uniqueness Test

006451605-01, P = 0.590292 Days, E = 131.467554 Days

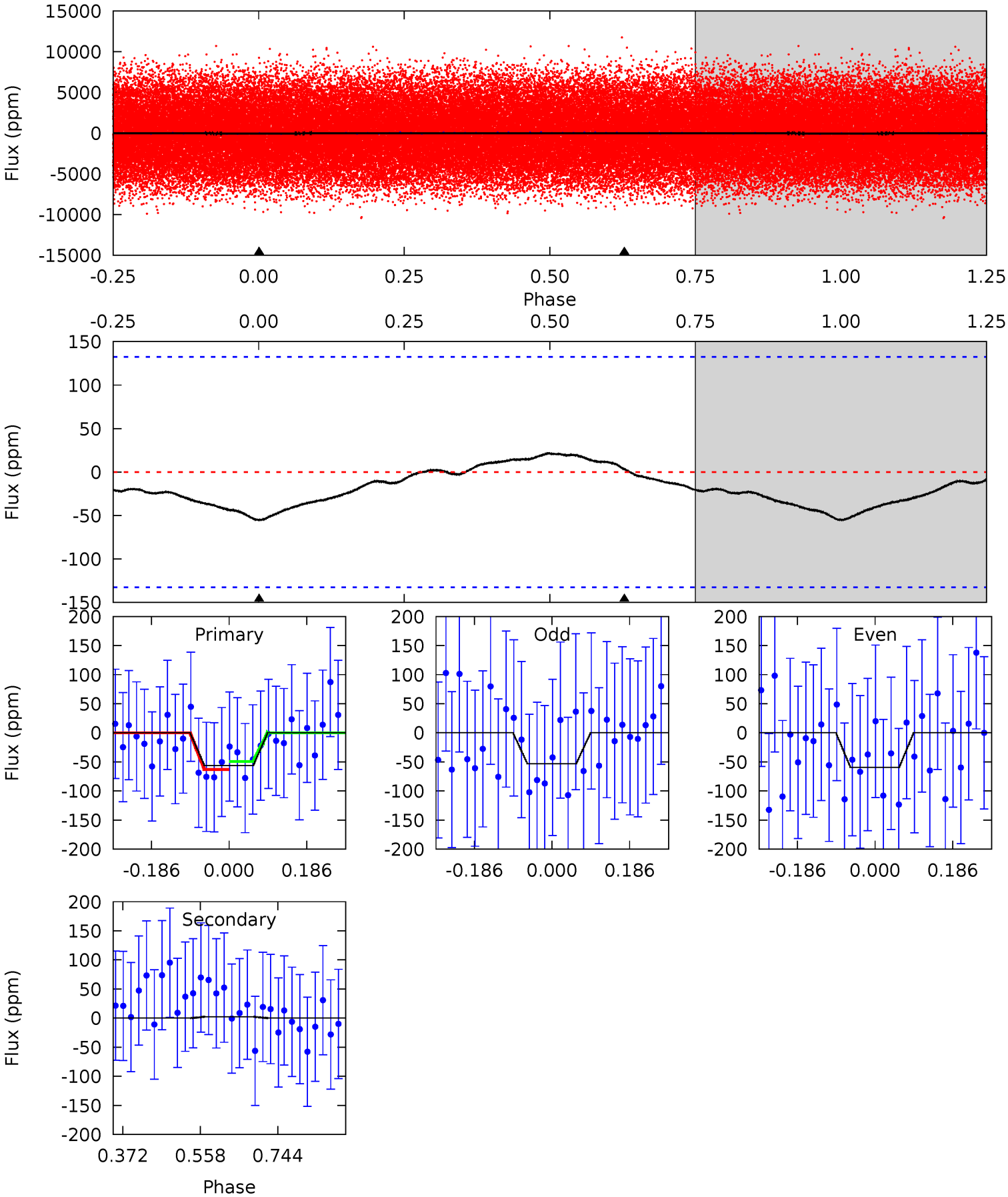
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	-4.58	0	0	4.21	0.65	1.68	12.4	12.4	-4.58	-4.58	0.90	1.01	0.37	0.57



Alt Model-Shift Uniqueness Test

006451605-01, P = 0.590354 Days, E = 131.407464 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.88	-0.08	0	0	4.43	1.32	0.29	1.88	1.88	-0.08	-0.08	0.10	1.00	0.29	0.23



Stellar Parameters For KIC 006451605

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	7206^{+200}_{-275}	$4.212^{+0.105}_{-0.195}$	$-0.120^{+0.250}_{-0.400}$	$1.553^{+0.501}_{-0.270}$	$1.437^{+0.218}_{-0.218}$	$0.541^{+0.266}_{-0.282}$
	+3%/-4%	+2%/-5%	+208%/-333%	+32%/-17%	+15%/-15%	+49%/-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 006451605-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	12±3	$1.53^{+0.26}_{-0.17}$	4478^{+332}_{-272}	-4947^{+217}_{-235}	$-0.651^{+0.224}_{-0.221}$
Alt.	2±30	$1.29^{+0.22}_{-0.15}$	4454^{+360}_{-260}	-4352^{+10022}_{-1893}	$-0.162^{+2.183}_{-2.287}$

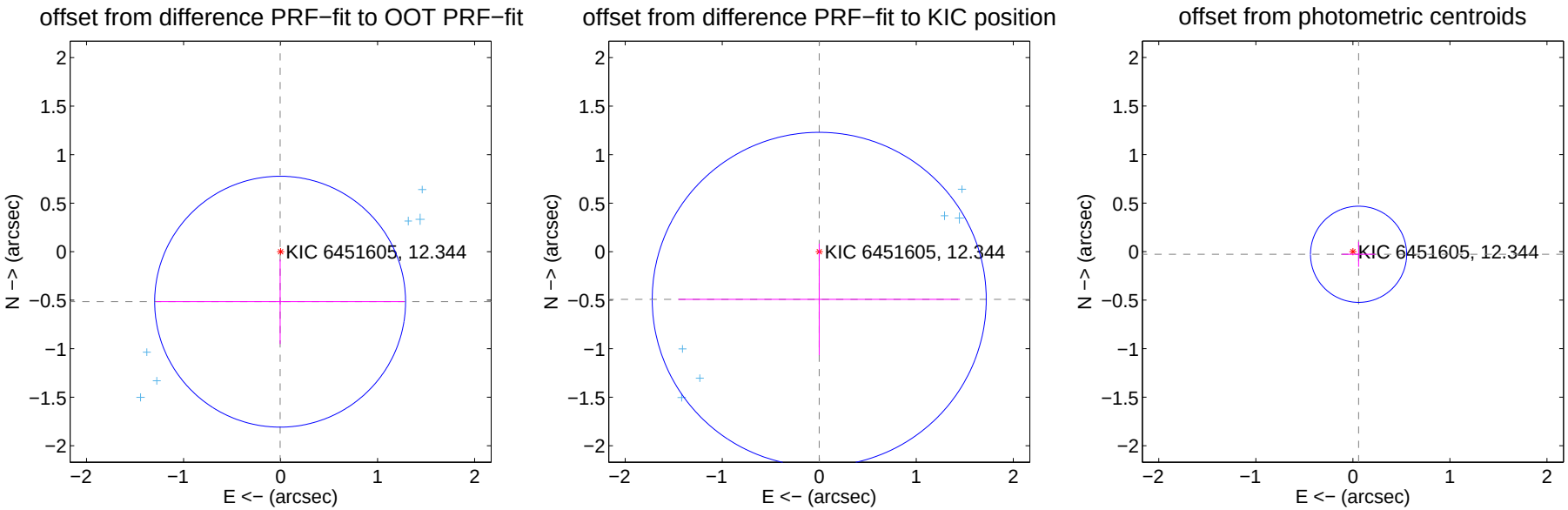
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

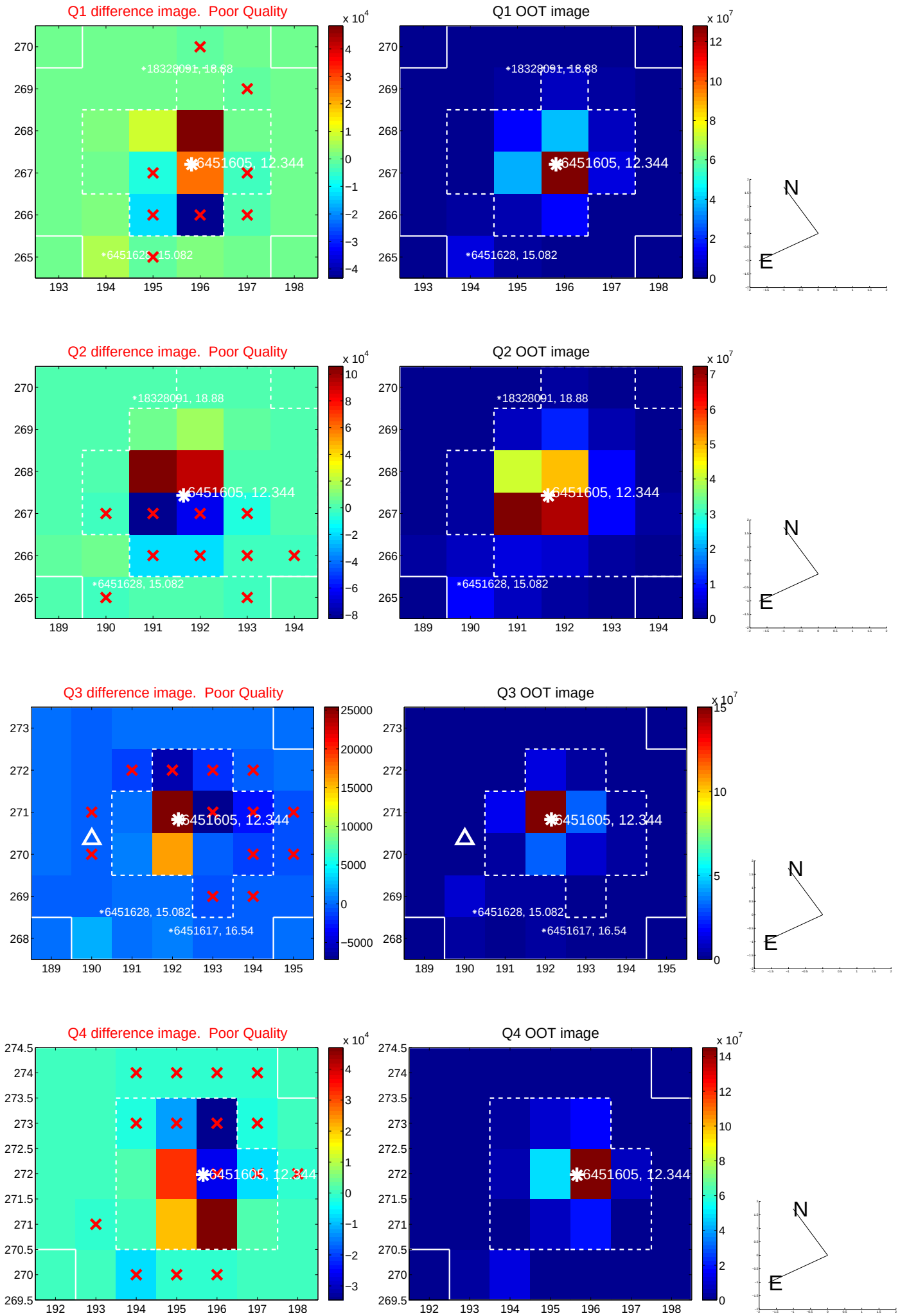
Supplemental centroid analysis for 006451605-01. Kepler magnitude: 12.34. Transit SNR 19.18
There are 6 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.515 ± 0.431	1.20	0.005 ± 1.278	-0.515 ± 0.436
PRF-fit source offset from KIC position	0.491 ± 0.574	0.86	0.000 ± 1.451	-0.491 ± 0.574
photometric centroid source offset	0.06 ± 0.17	0.39	-0.06 ± 0.17	-0.03 ± 0.13

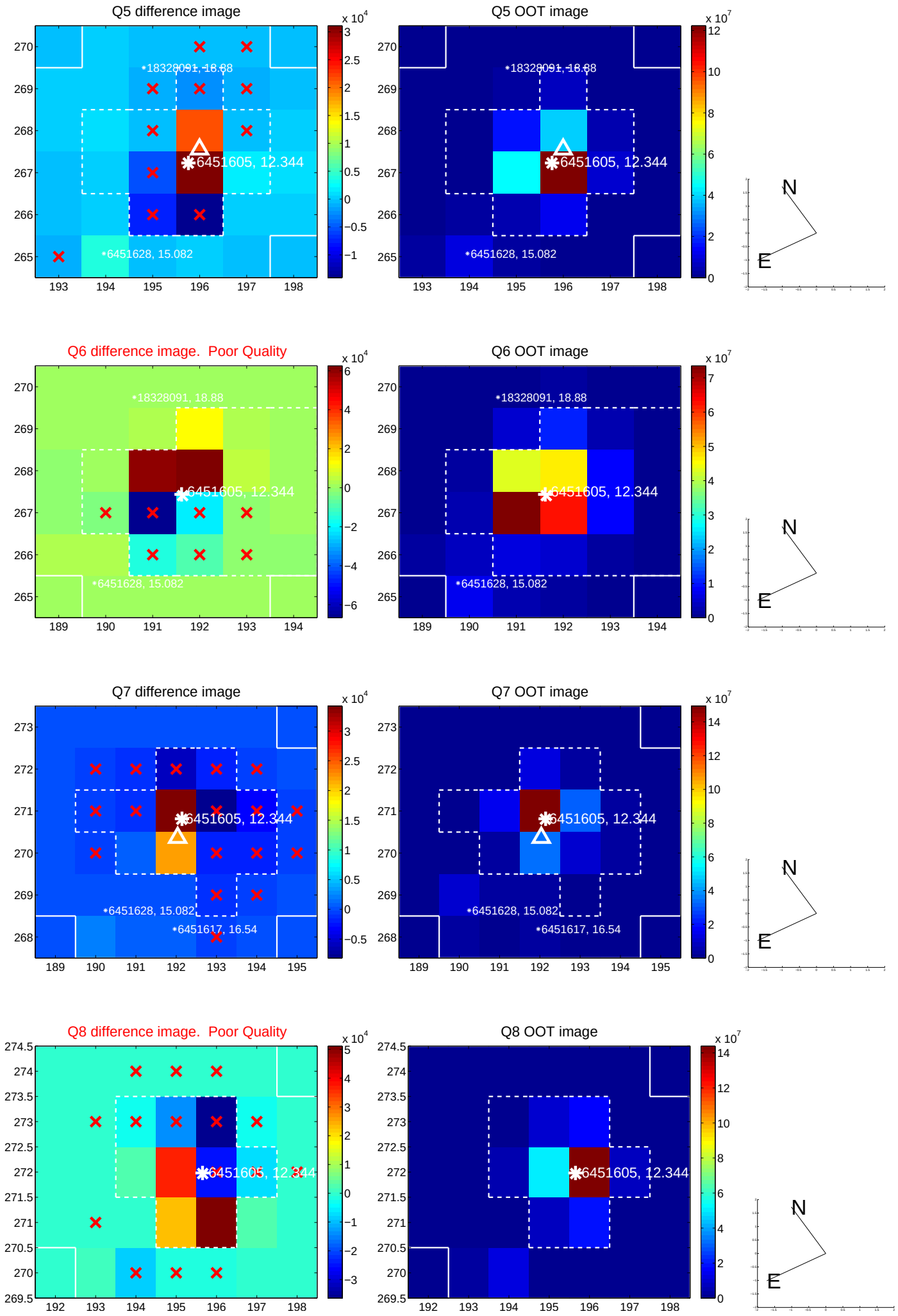


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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

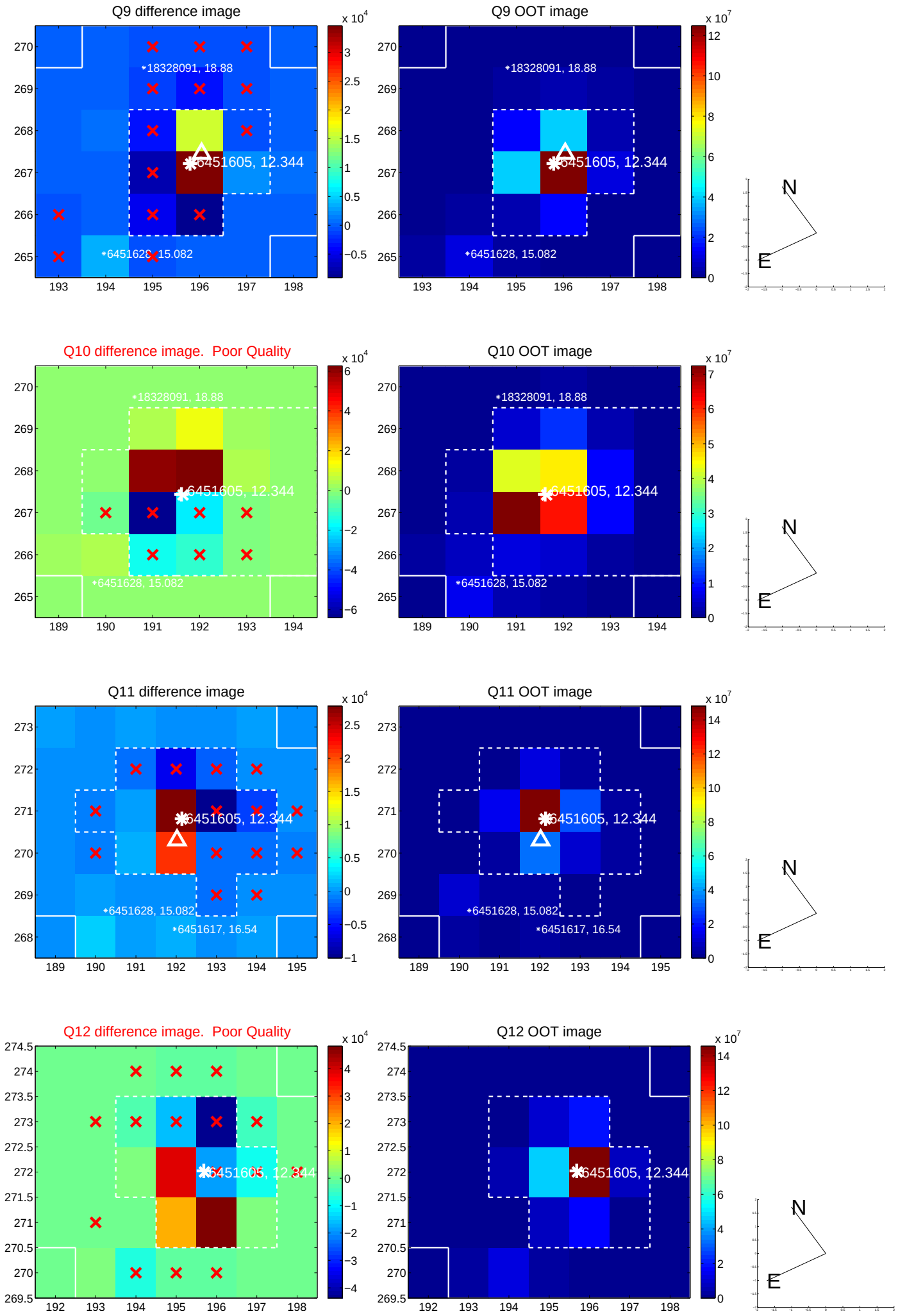
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



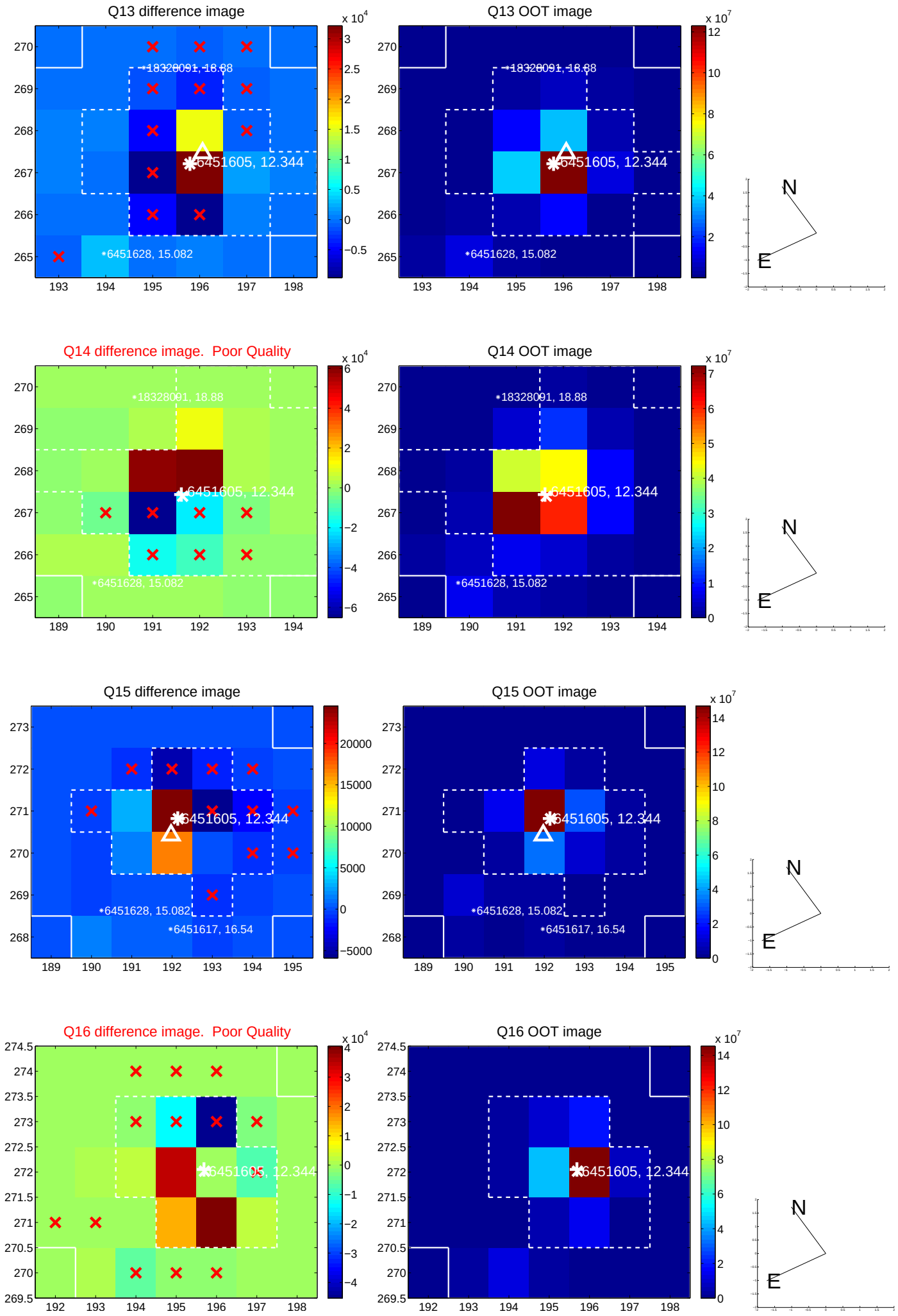
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



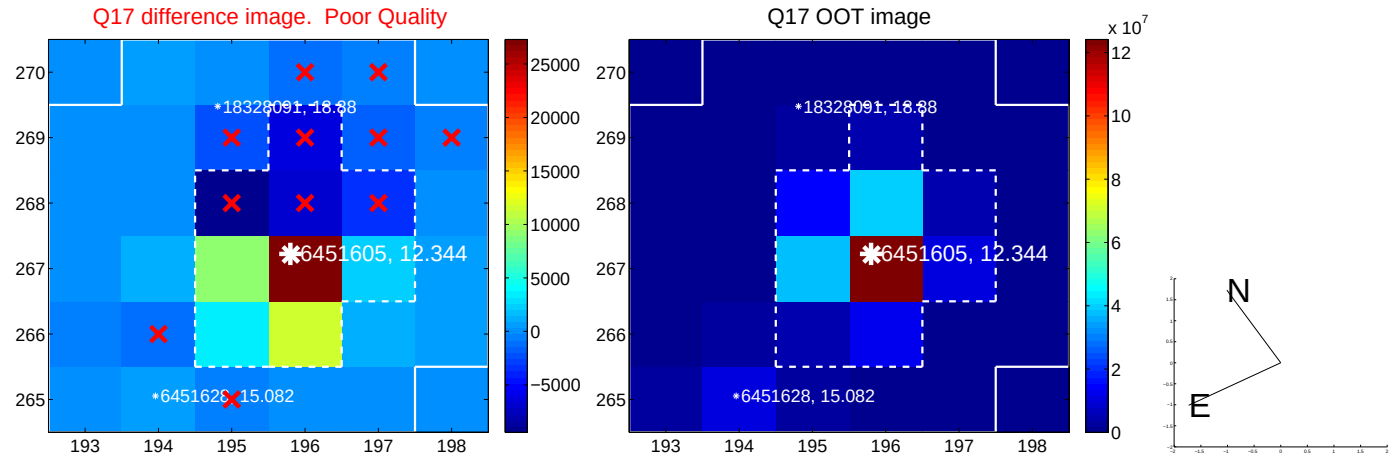
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

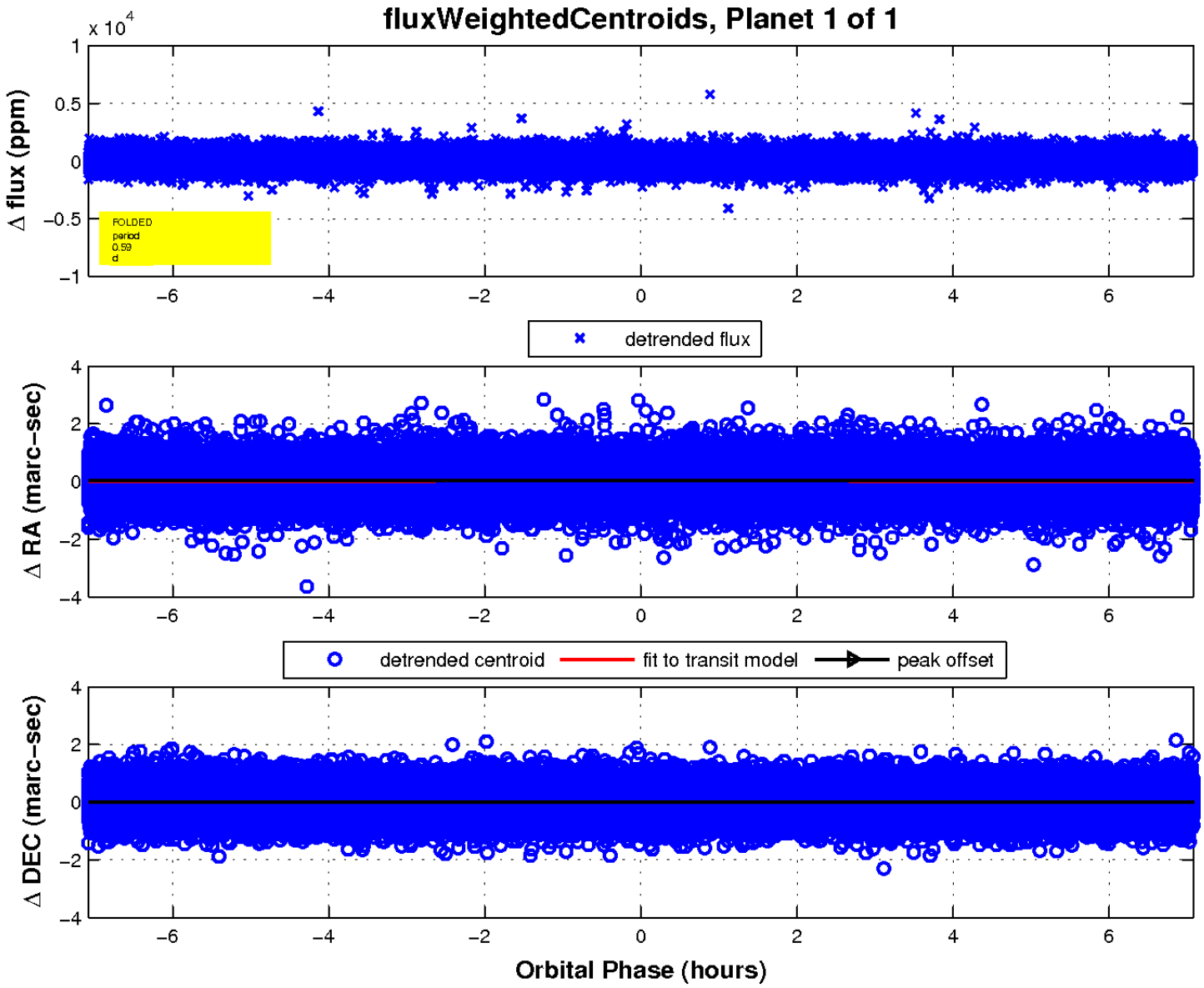


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

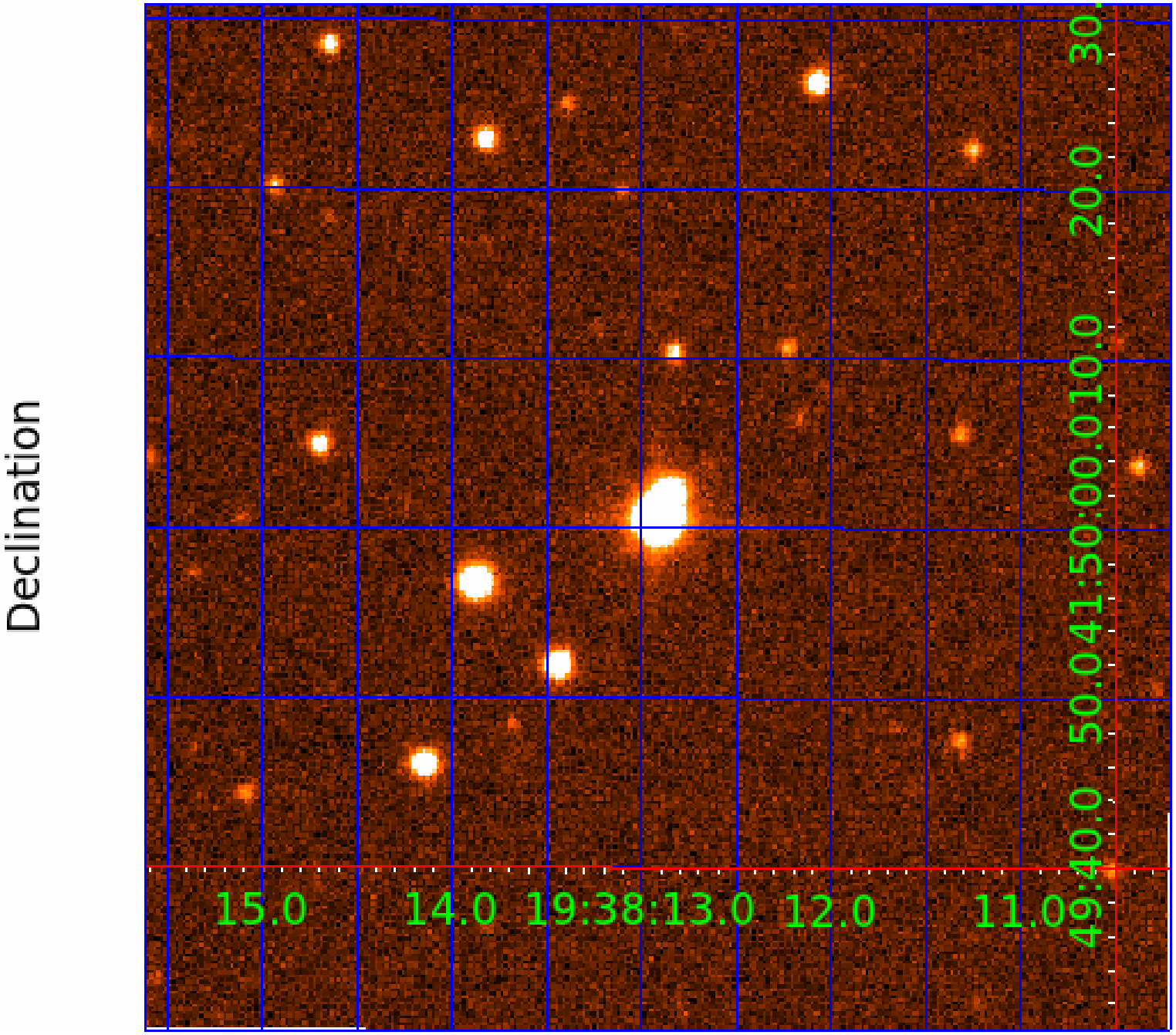


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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