KIC 006520519

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 ($S_\oplus$)
006520519-01	OBS	4749.01	1.976473	132.961244	86.6	1.603	8.2	7.6	0.92	5792	1.02	895.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006520519-01	OBS	PC	0.82	0	0	0	0	NO_COMMENT

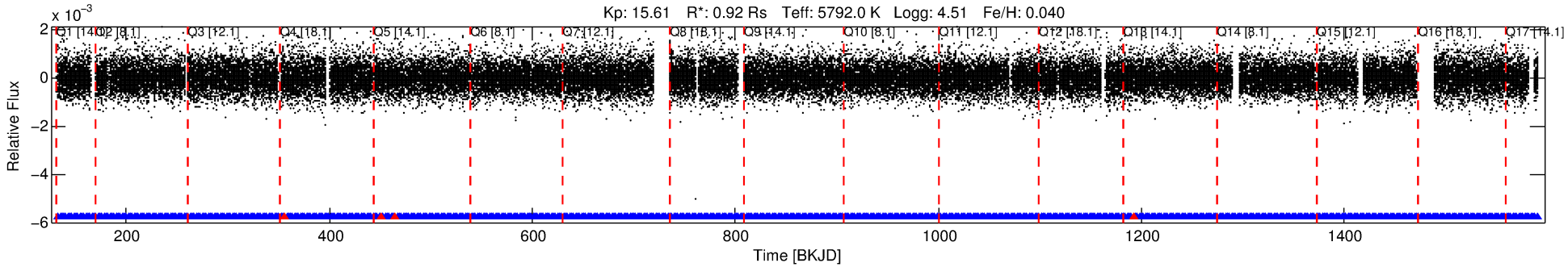
Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

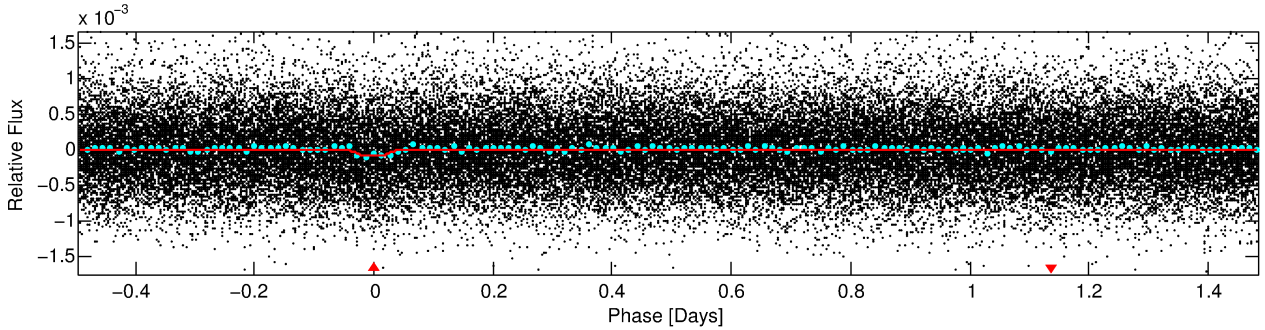
Ephemeris Match Information For 006520519-01

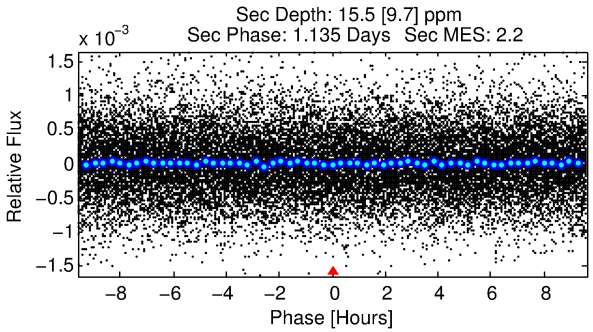
No Significant Match Found

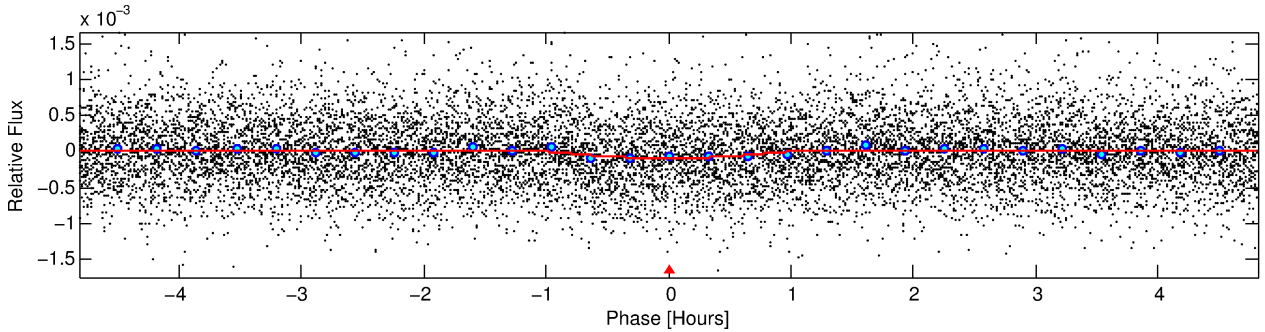
DV One-Page Summary

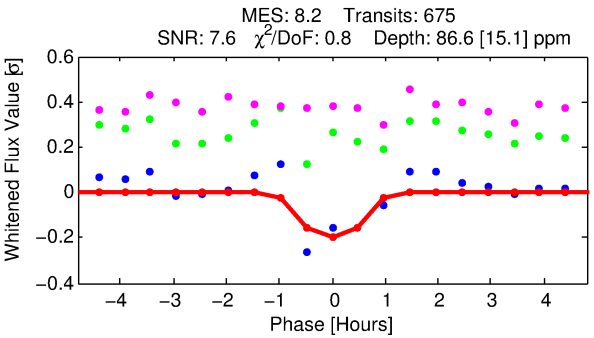
KIC: 6520519 Candidate: 1 of 1 Period: 1.976 d
KOI: K04749.01 Corr: 0.915

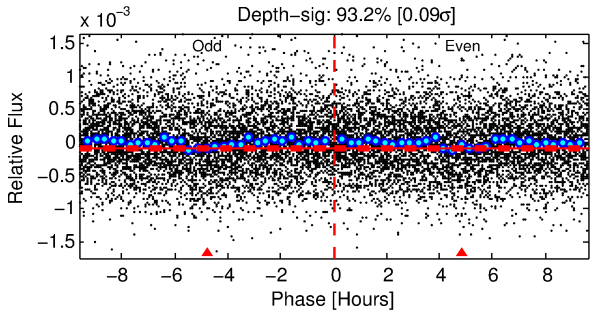


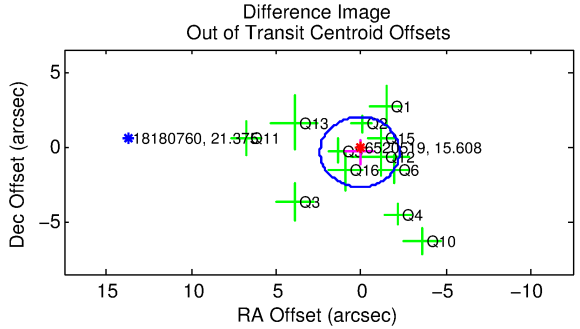












DV Fit Results:

Period = 1.97647 [0.00002] d
Epoch = 132.9612 [0.0036] BKJD
Rp/R* = 0.0101 [0.0098]
a/R* = 4.51 [19.91]
b = 0.89 [1.06]

Seff = 895.00 [354.27]
Teq = 1395 [138] K
Rp = 1.02 [1.04] Re
a = 0.0310 [0.0080] AU

Ag = 7.86 [16.30] [0.42σ]
Teffp = 3610 [1847] K [1.20σ]

DV Diagnostic Results:

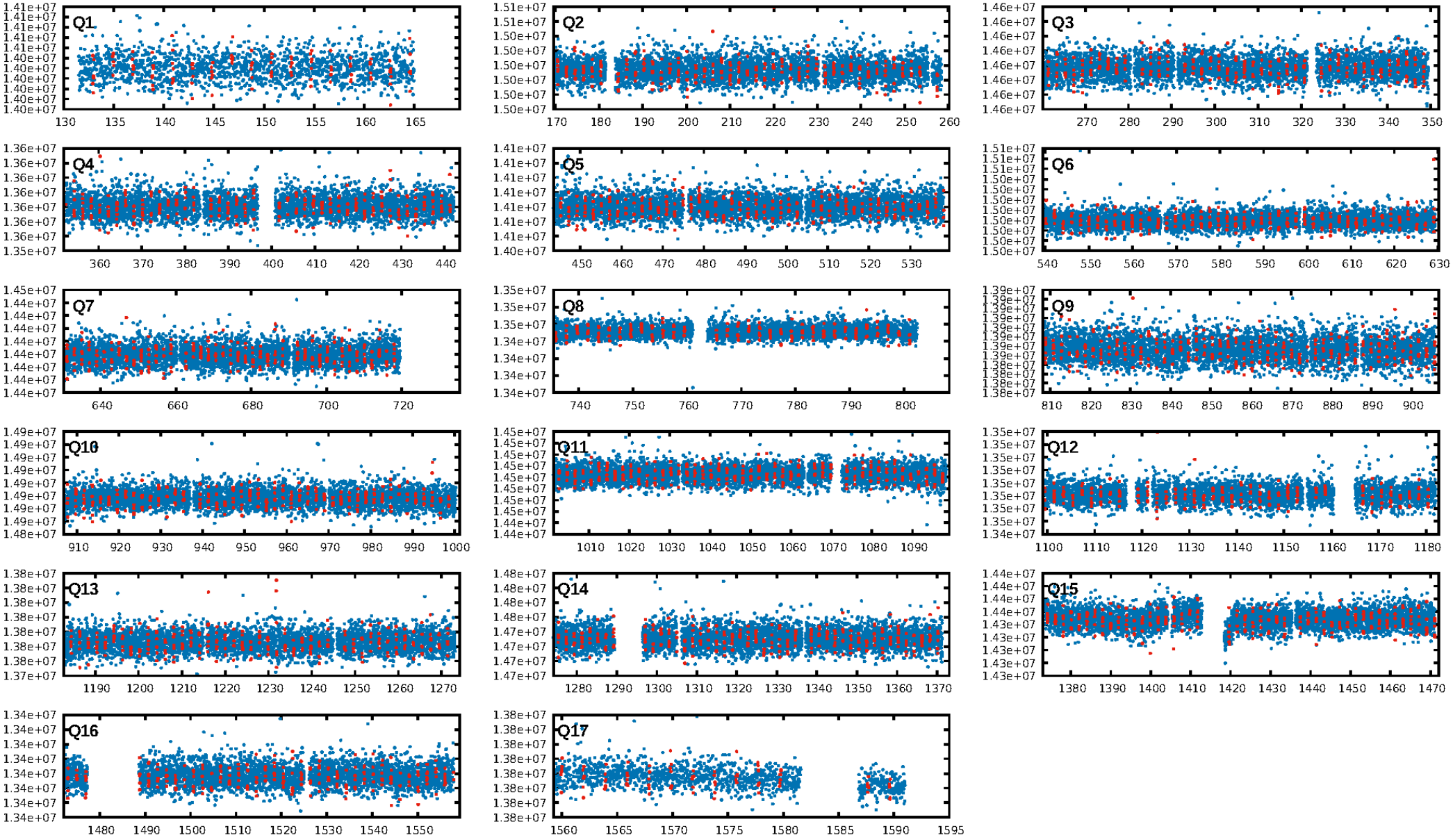
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 3.24e−16
RollingBand−fgt: 0.99 [641/645]
GhostDiagnostic−chr: 1.599

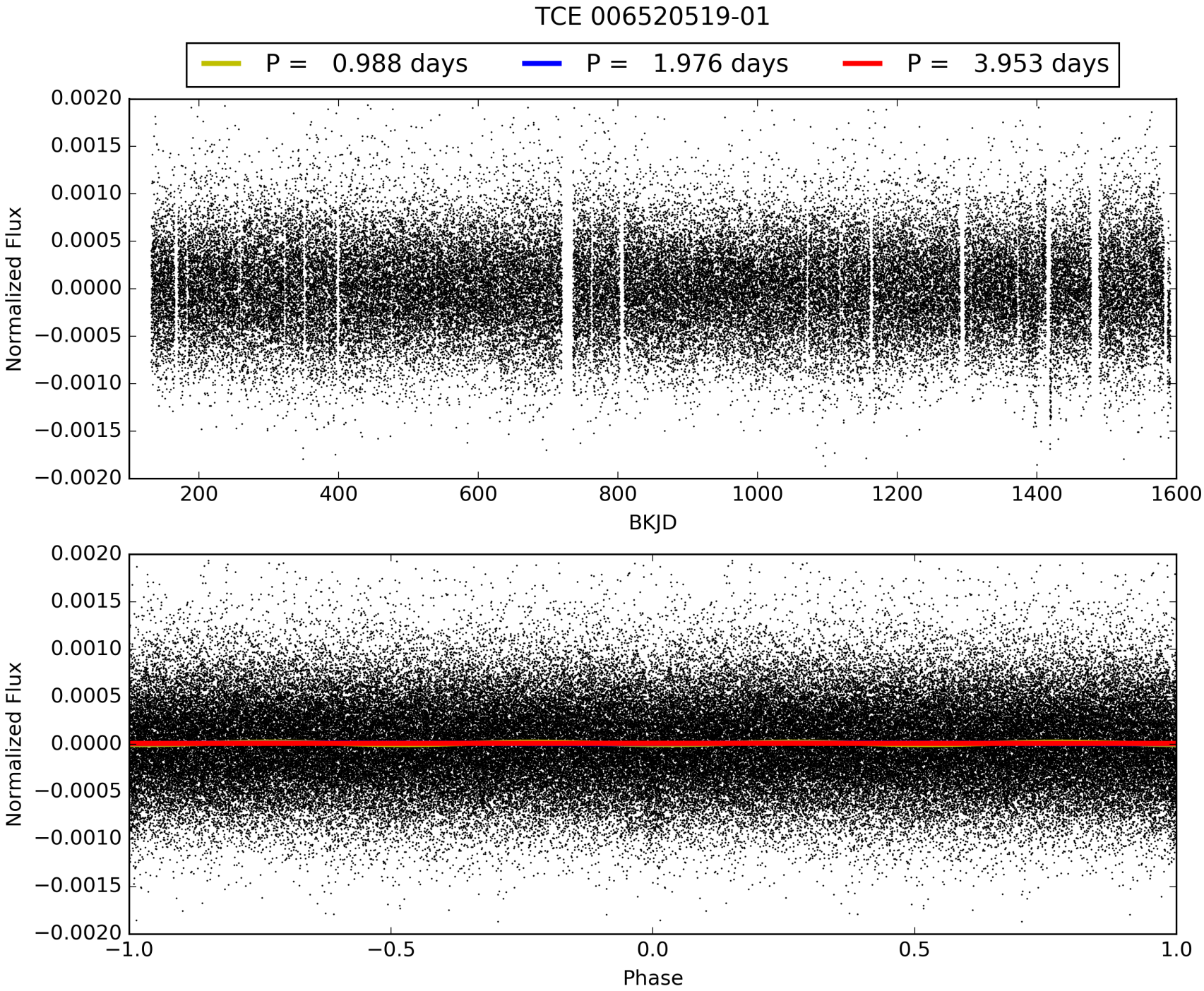
Centroid−sig: 0.1%
Centroid−so: 4.231 arcsec [2.24σ]
OotOffset−rm: 0.369 arcsec [0.47σ]
KicOffset−rm: 0.357 arcsec [0.49σ]
OotOffset−st: 3/3/3/3 [12]
KicOffset−st: 3/3/3/3 [12]
DiffImageQuality−fgm: 0.33 [4/12]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 29−Jan−2016 05:48:01 Z

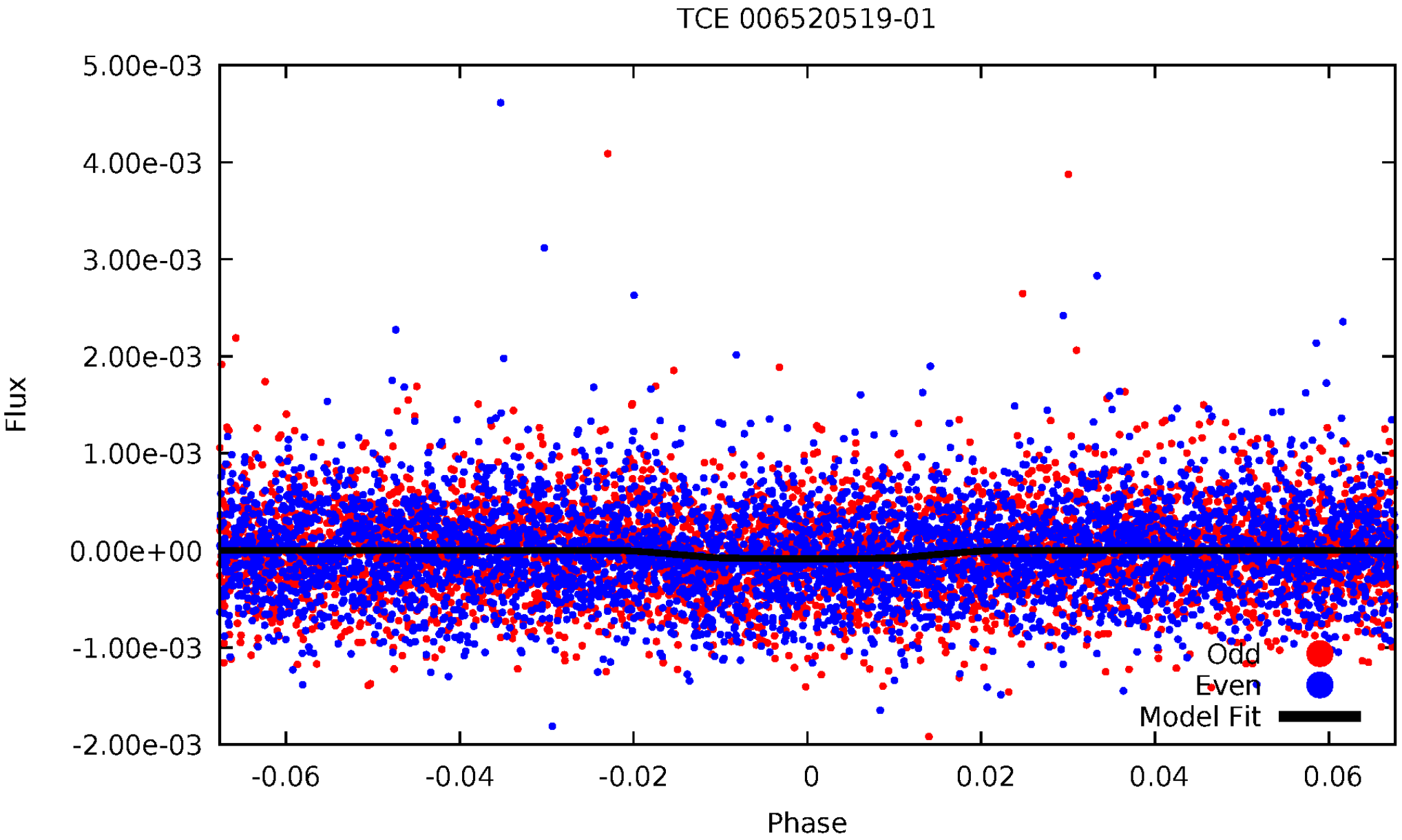
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

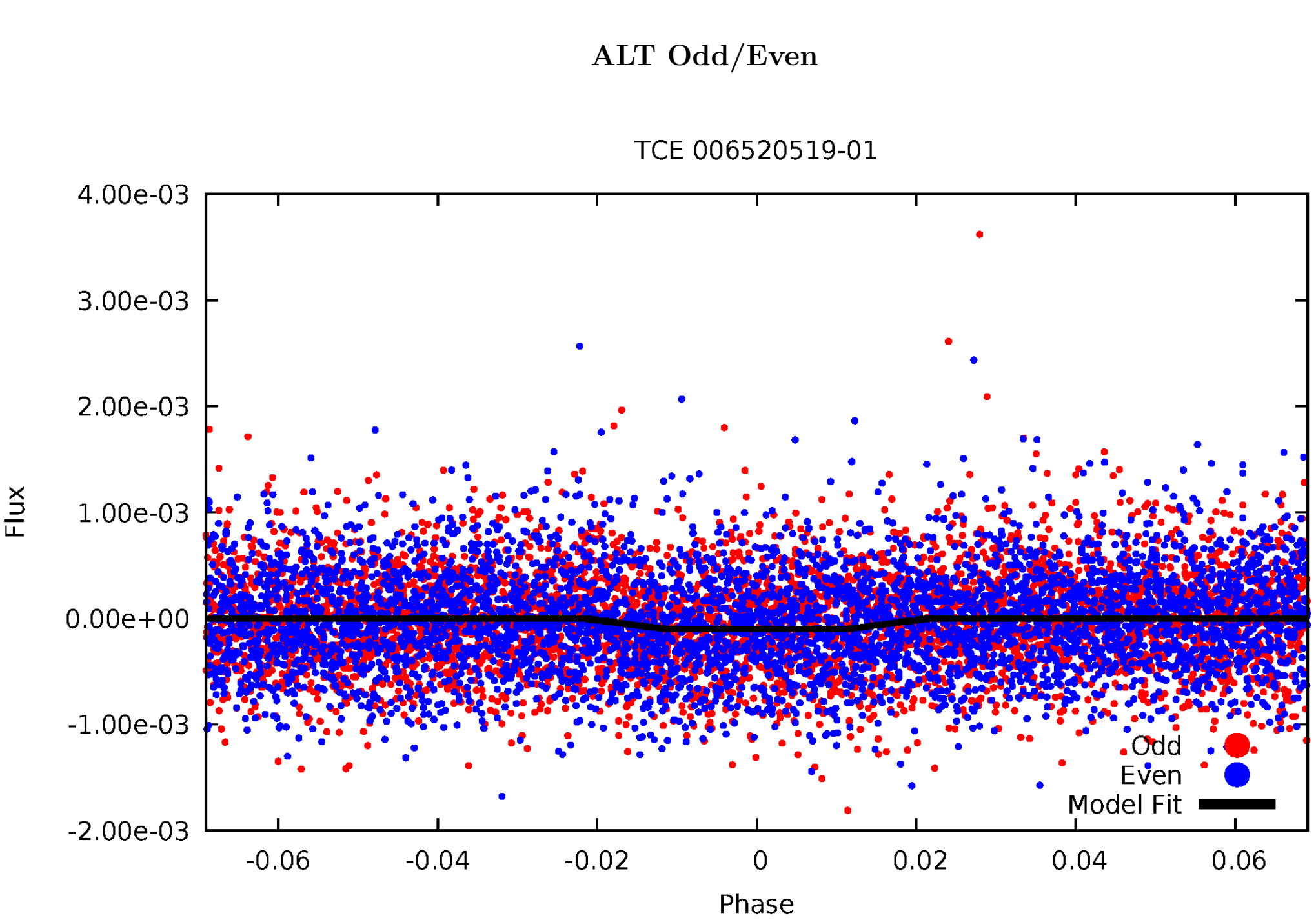
TCE 006520519-01, PDC Light Curves



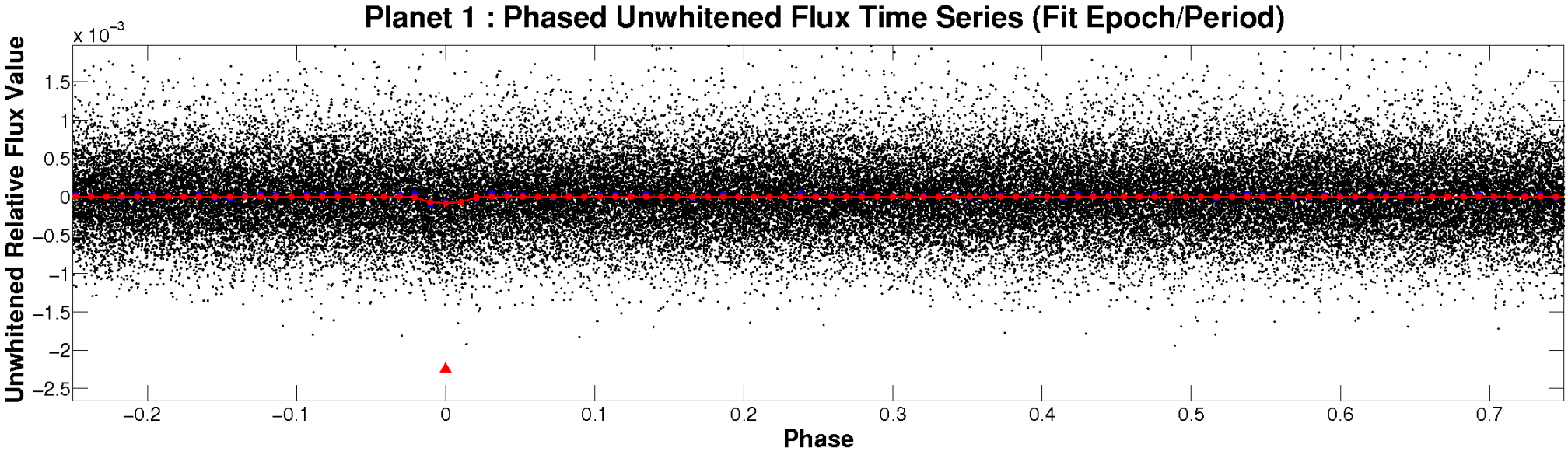

TCE 006520519-01
P = 0.988 days
P = 1.976 days
P = 3.953 days
Normalized Flux
BKJD
Normalized Flux
Phase

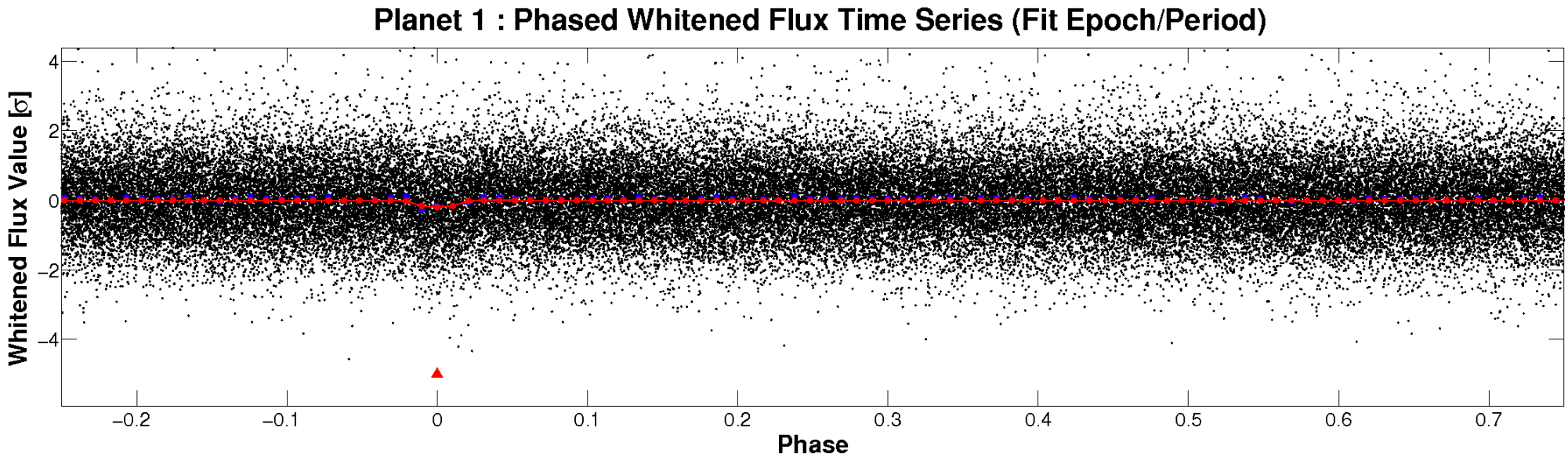
DV Odd/Even


TCE 006520519-01
5.00e-03
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
Flux
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 006520519-01
4.00e-03
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
Flux
-0.06
-0.04
-0.02
0
0.02
0.04
0.06
Phase
Odd
Even
Model Fit

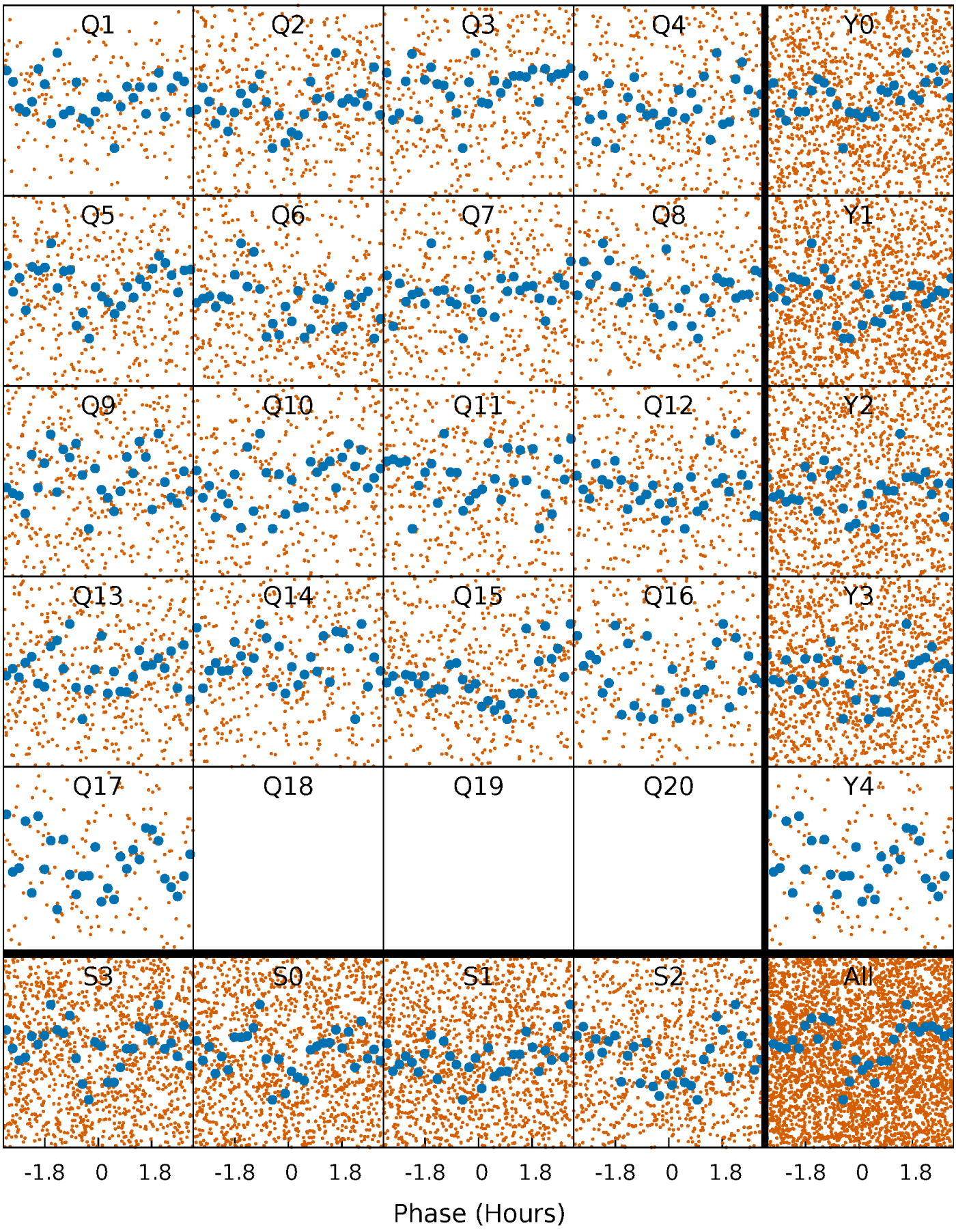
Non-Whitened Vs. Whitened Light Curve





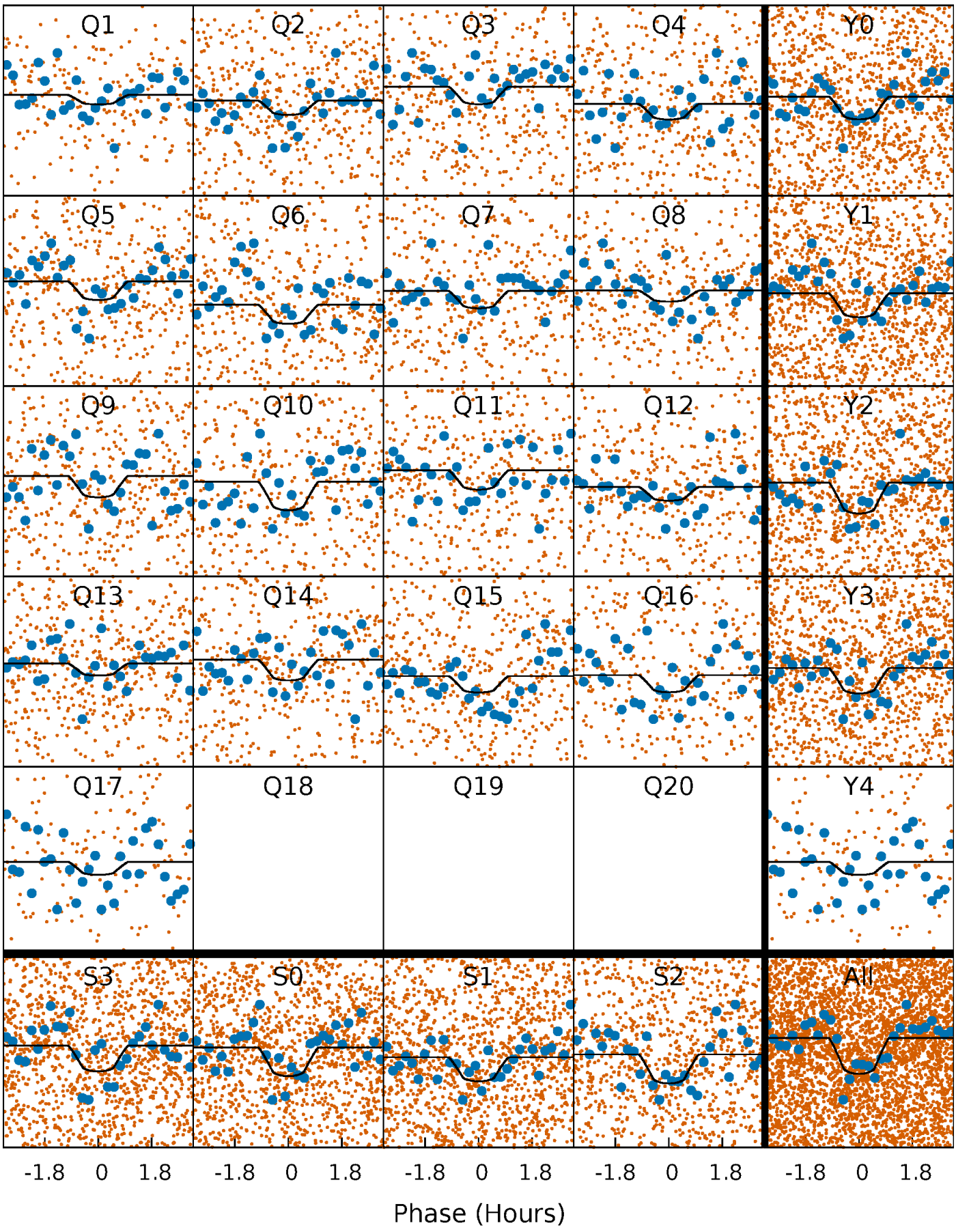
PDC Quarter-Phased Transit Curves

TCE 006520519-01 P= 1.976473 Days T_0=132.961244 (BKJD)



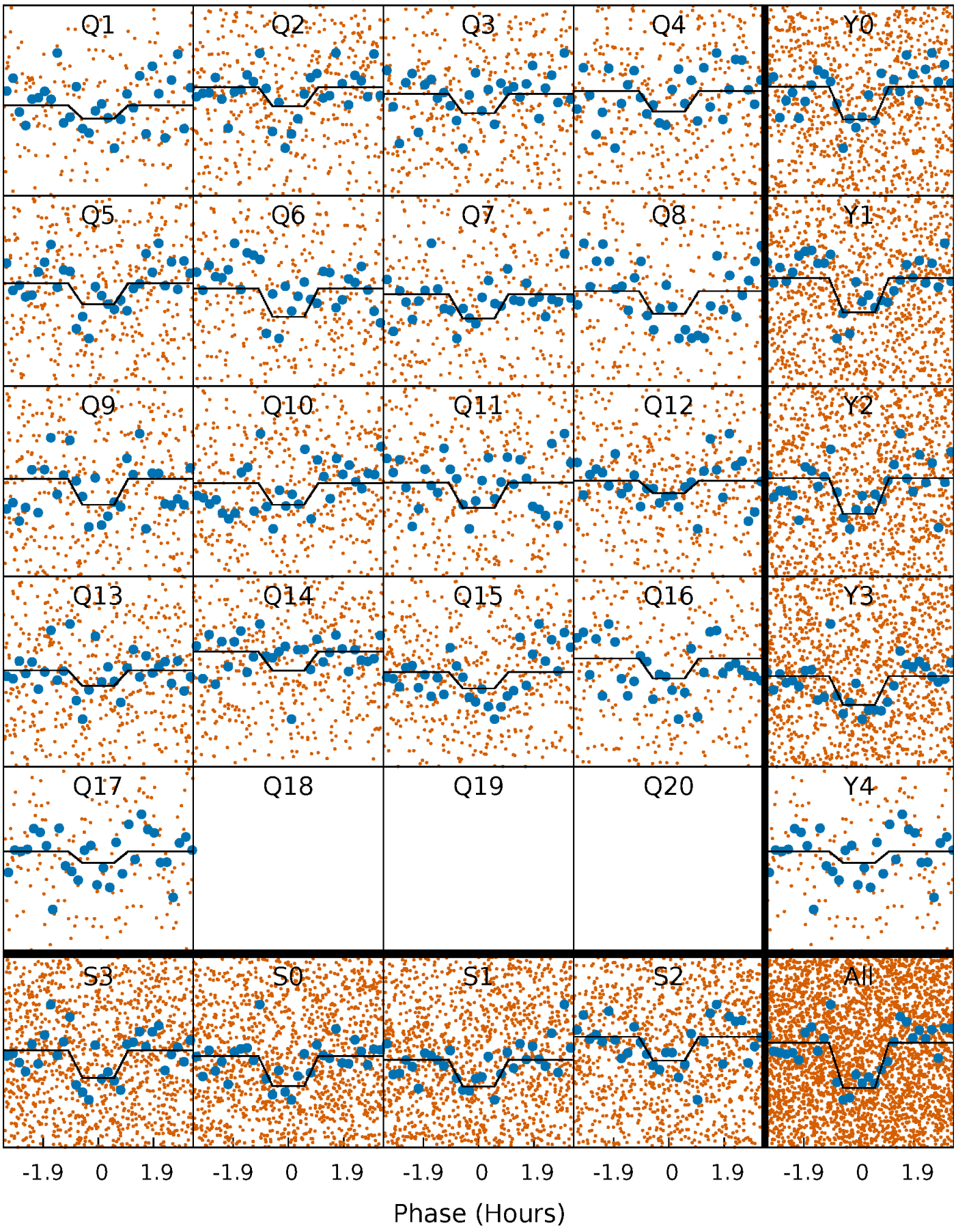
DV Quarter-Phased Transit Curves

TCE 006520519-01 P= 1.976473 Days T_0=132.961244 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

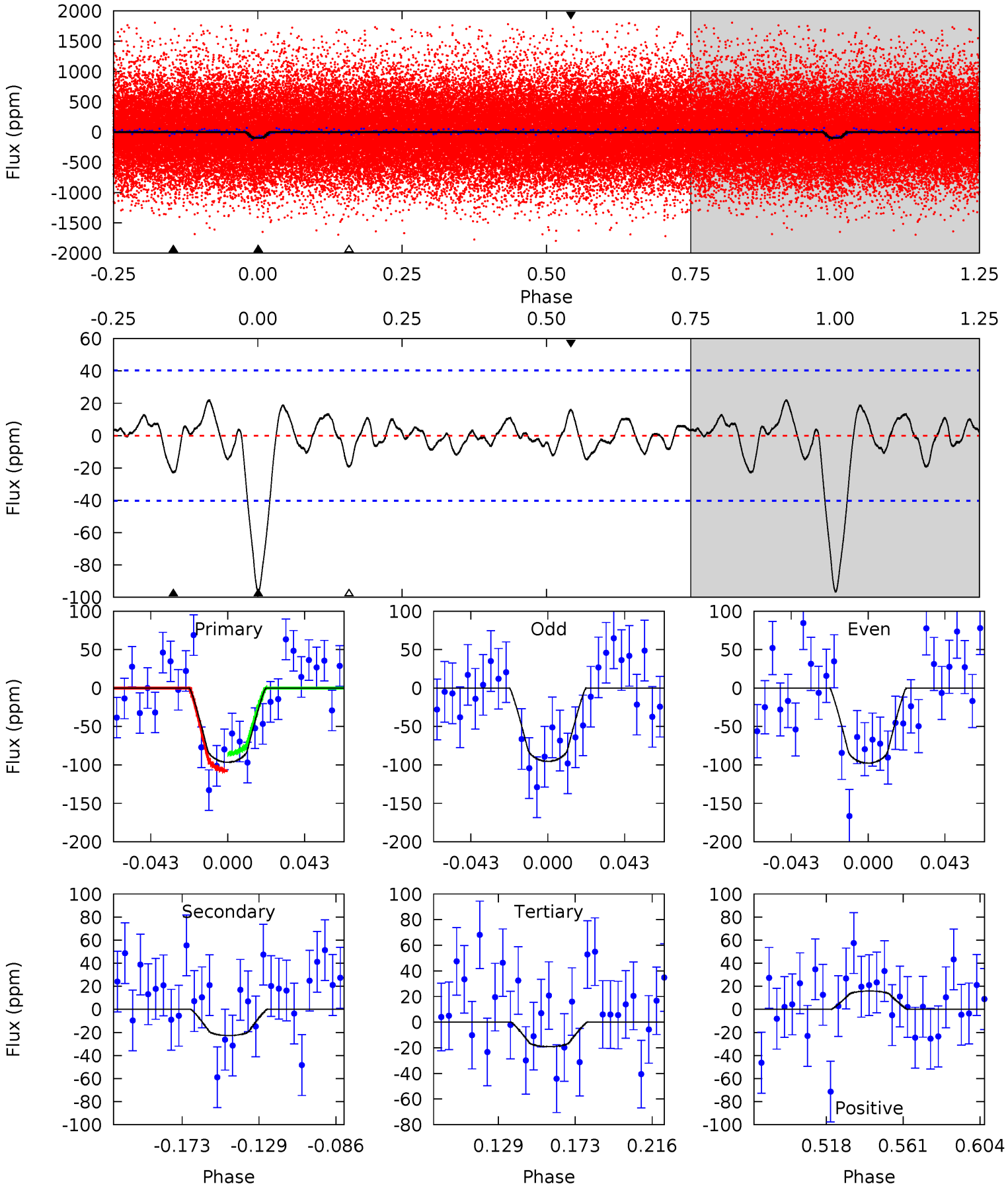
TCE 006520519-01 P= 1.976480 Days T_0=132.961892 (BKJD)



DV Model-Shift Uniqueness Test

006520519-01, P = 1.976473 Days, E = 130.984771 Days

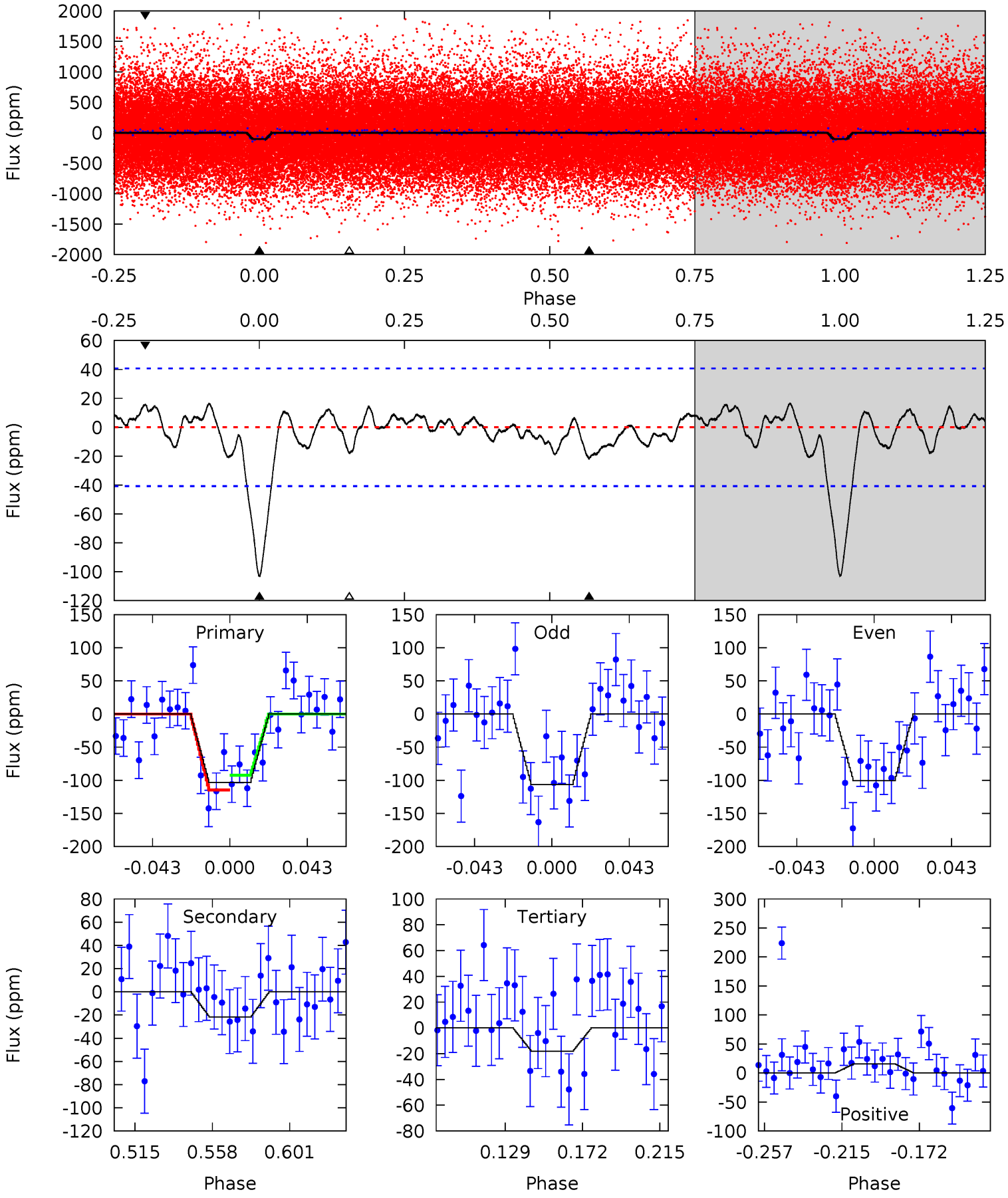
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	2.67	2.25	1.87	4.74	2.02	0.90	9.09	9.48	0.42	0.80	0.14	0.97	0.19	1.31



Alt Model-Shift Uniqueness Test

006520519-01, P = 1.976480 Days, E = 130.985412 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	2.53	2.11	1.82	4.74	2.02	0.95	9.89	10.2	0.42	0.71	0.34	0.95	0.14	1.29



Stellar Parameters For KIC 006520519

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	5792^{+161}_{-202}	$4.514^{+0.050}_{-0.200}$	$0.040^{+0.250}_{-0.300}$	$0.923^{+0.287}_{-0.096}$	$1.015^{+0.114}_{-0.125}$	$1.815^{+0.384}_{-0.980}$
	+3%/-3%	+1%/-4%	+625%/-750%	+31%/-10%	+11%/-12%	+21%/-54%
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 006520519-01 / KOI 4749.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-23±9	$1.25^{+0.95}_{-0.75}$	1990^{+144}_{-96}	3955^{+1886}_{-810}	$7.067^{+44.018}_{-5.042}$
Alt.	-22±9	$1.29^{+0.93}_{-0.84}$	1994^{+133}_{-101}	3884^{+2002}_{-765}	$6.598^{+45.664}_{-4.675}$

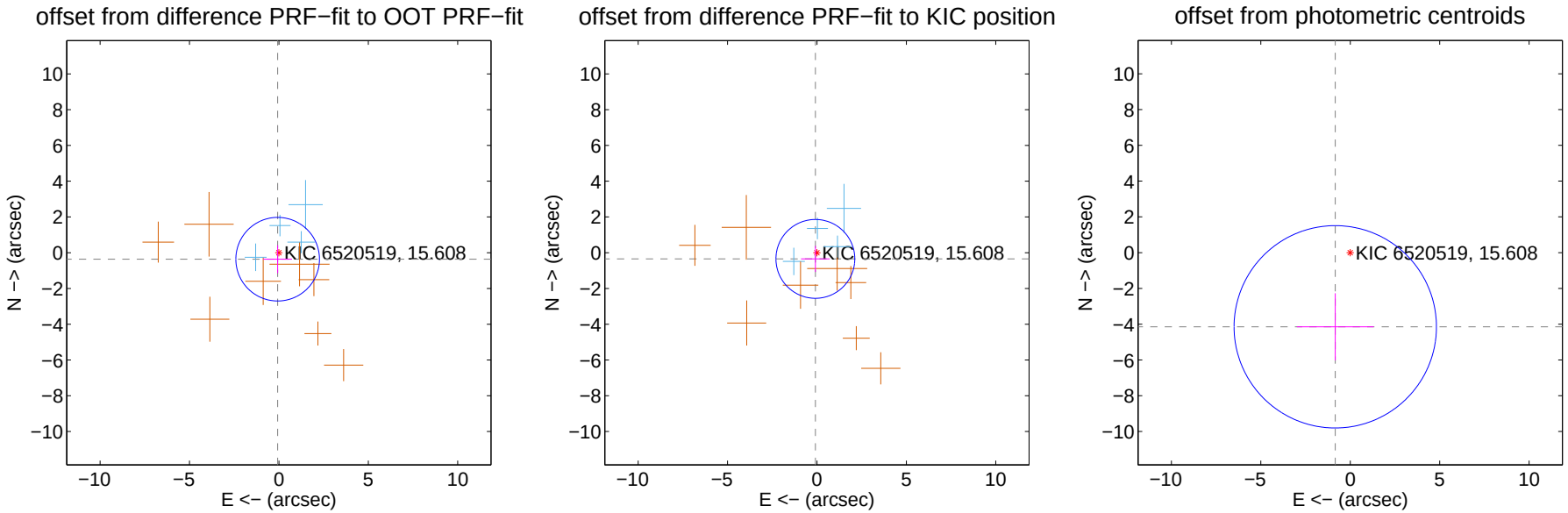
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

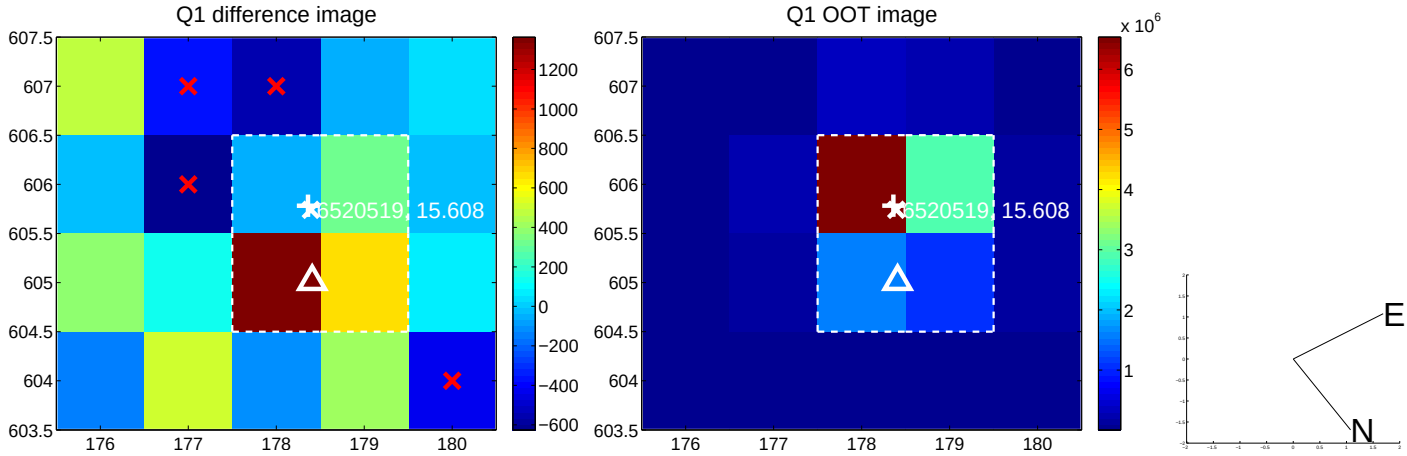
Supplemental centroid analysis for 006520519-01. Kepler magnitude: 15.61. Transit SNR 7.56
There are 4 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

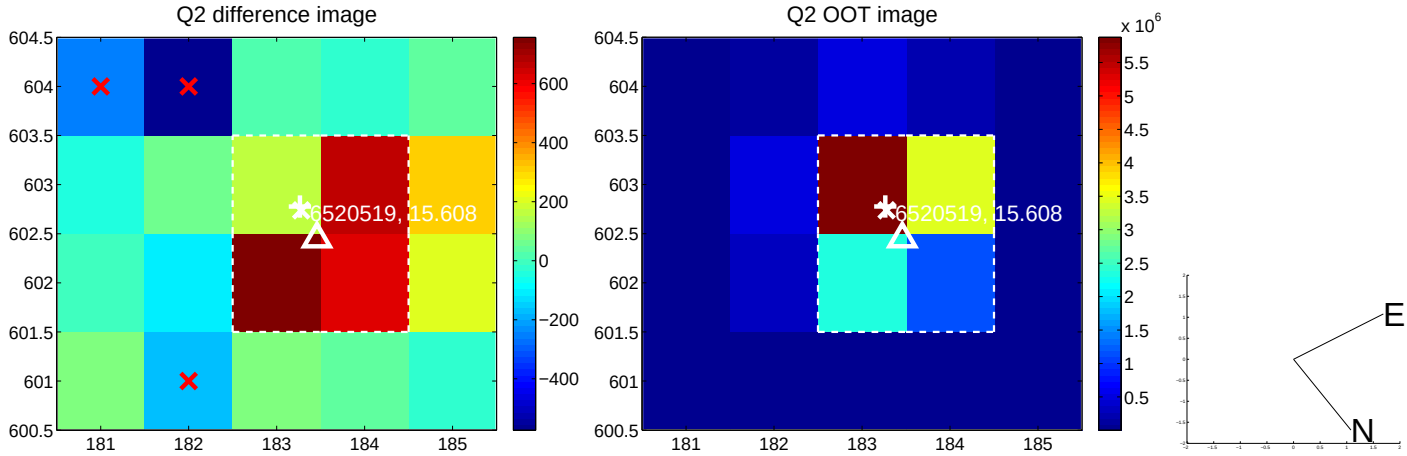
	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.369 ± 0.779	0.47	0.069 ± 0.801	-0.362 ± 0.778
PRF-fit source offset from KIC position	0.357 ± 0.735	0.49	0.089 ± 0.802	-0.346 ± 0.730
photometric centroid source offset	4.23 ± 1.89	2.24	0.84 ± 2.14	-4.15 ± 1.87

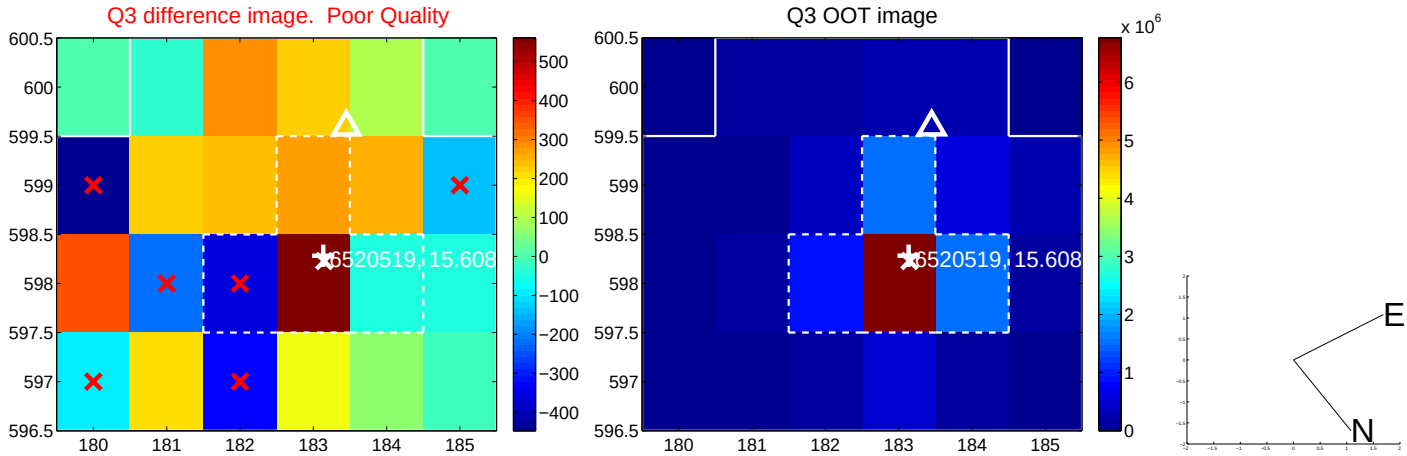


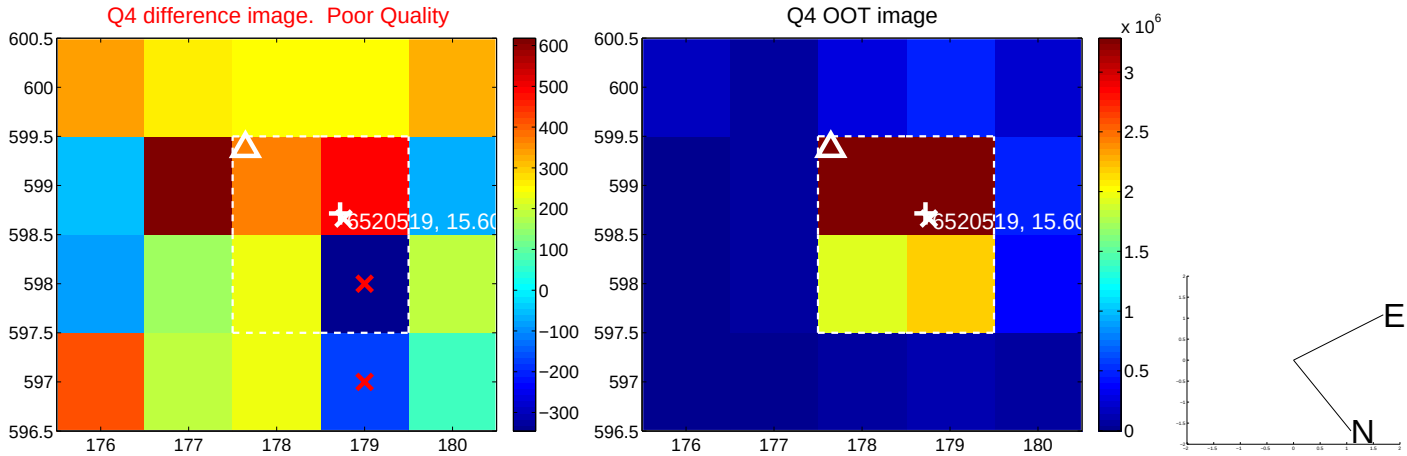
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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









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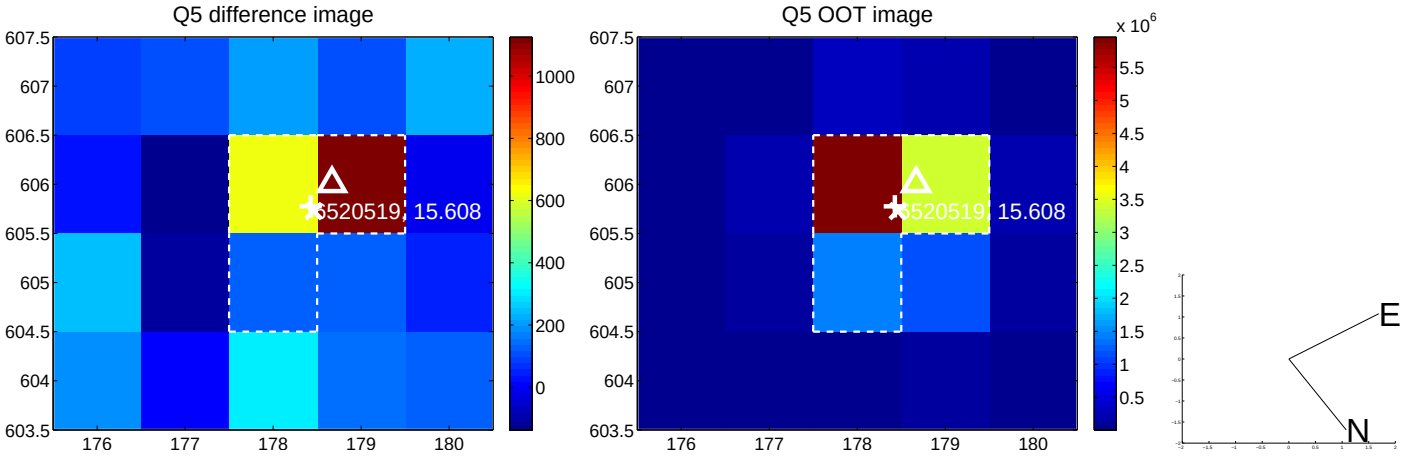

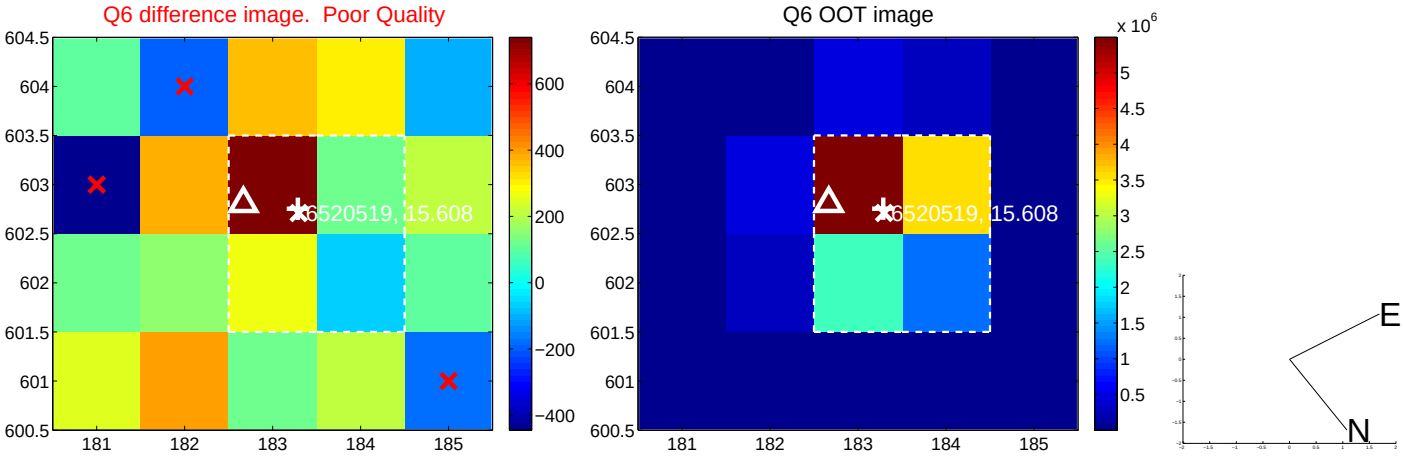

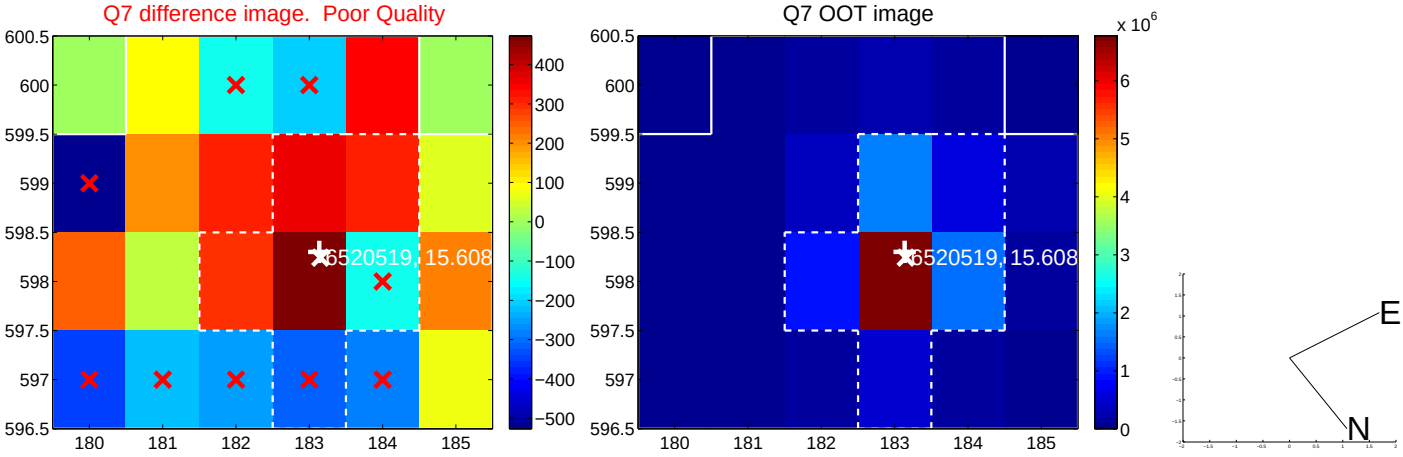

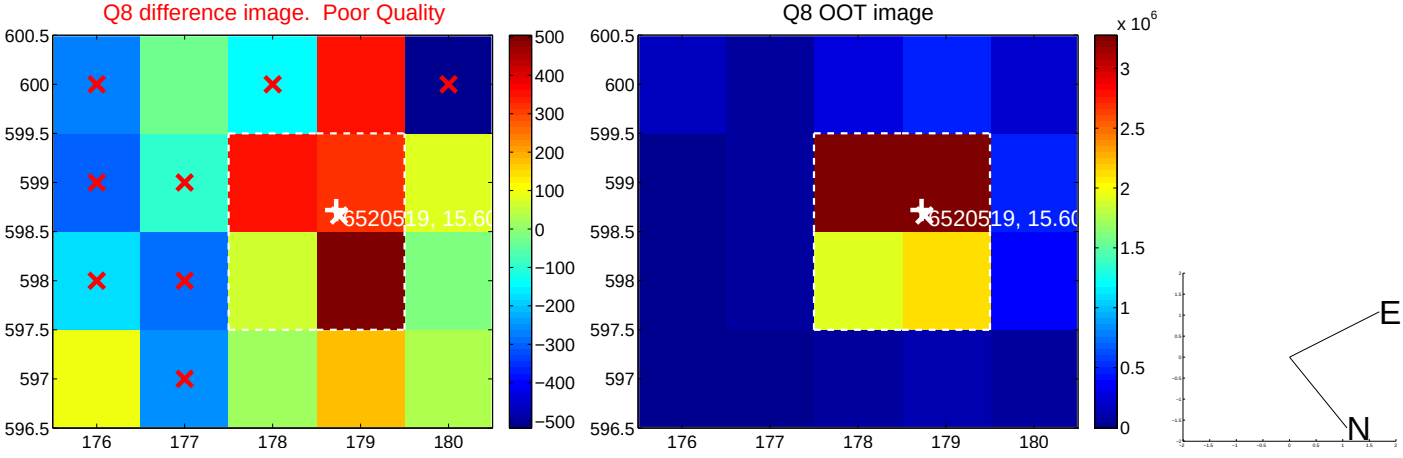

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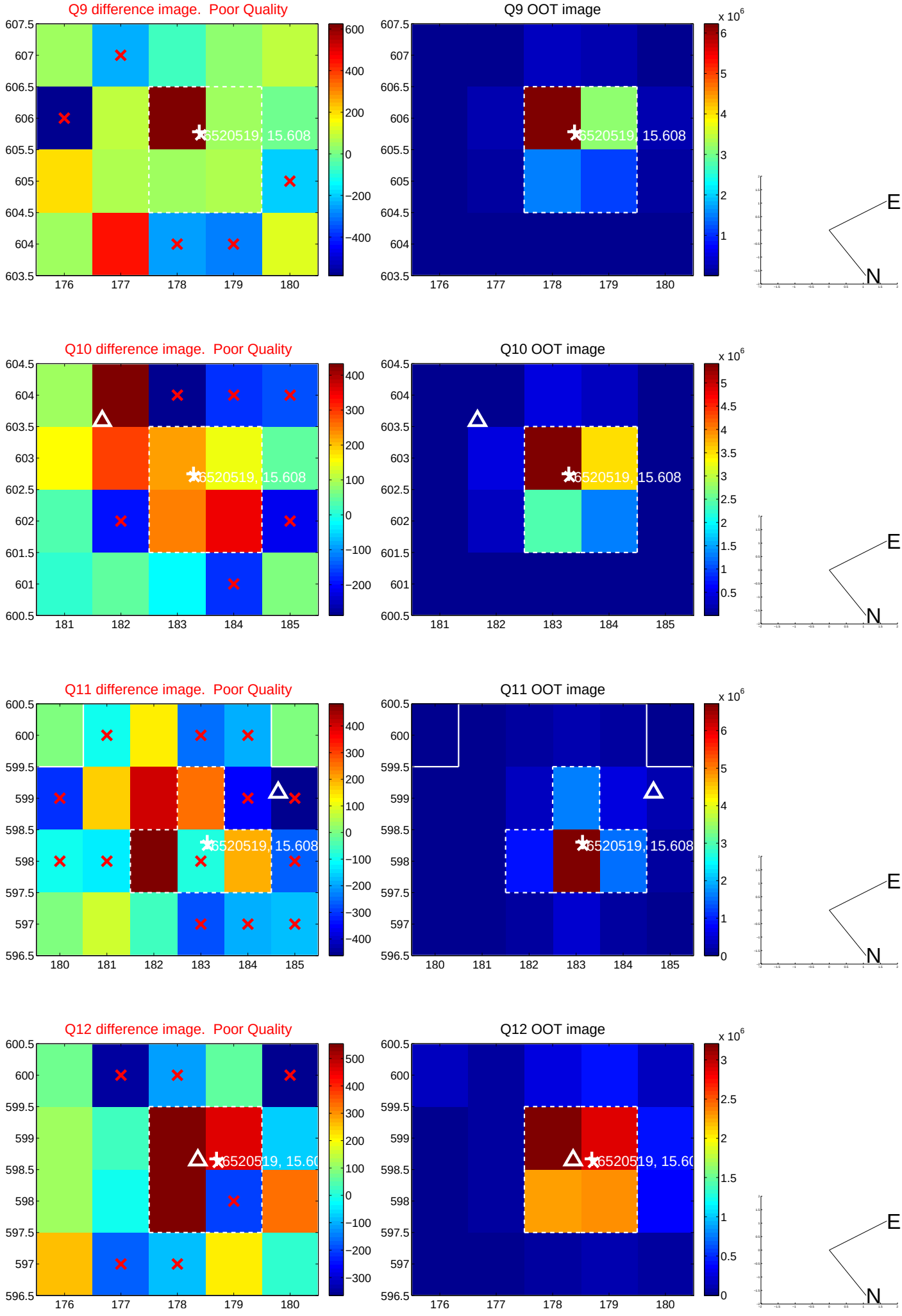
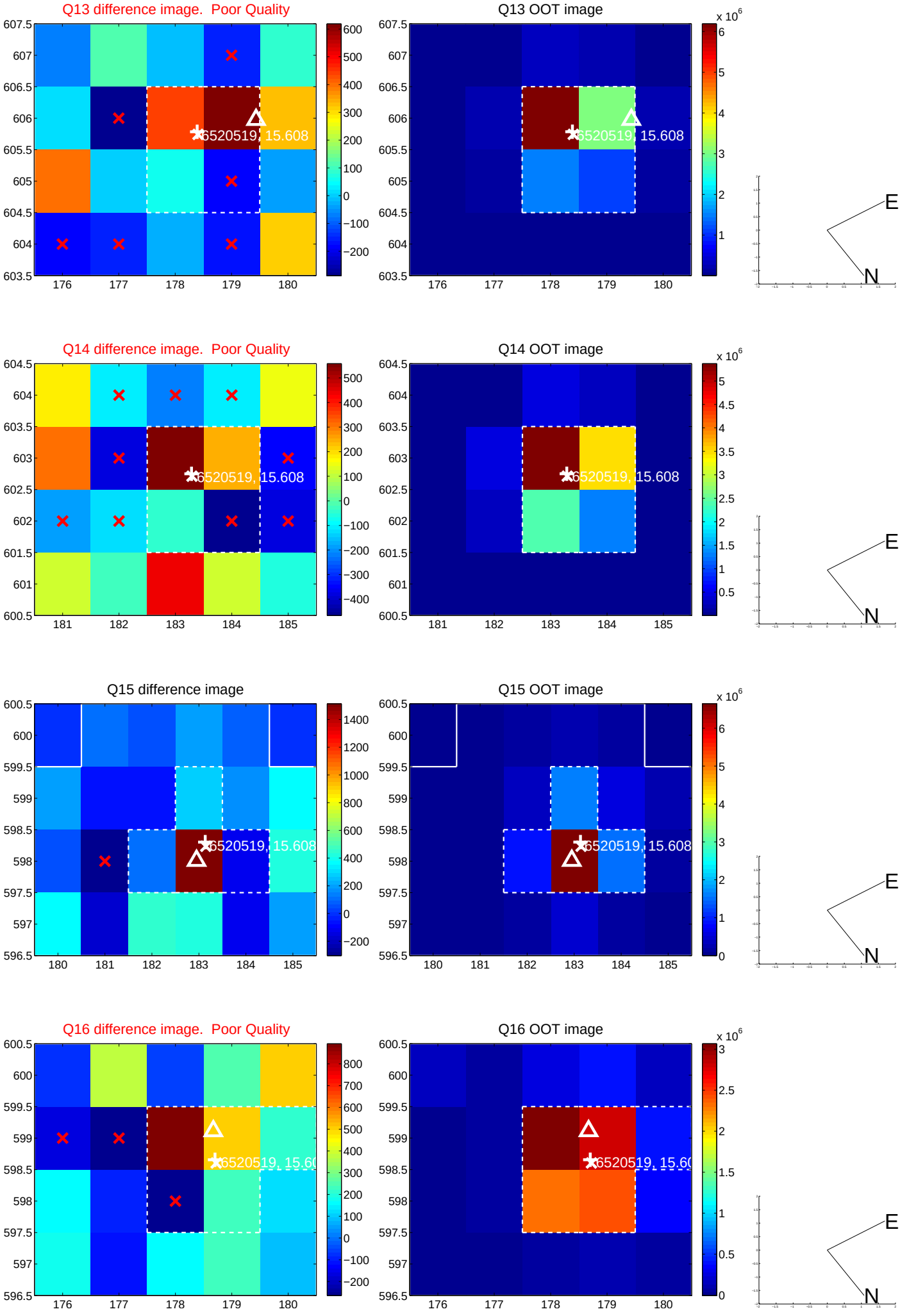
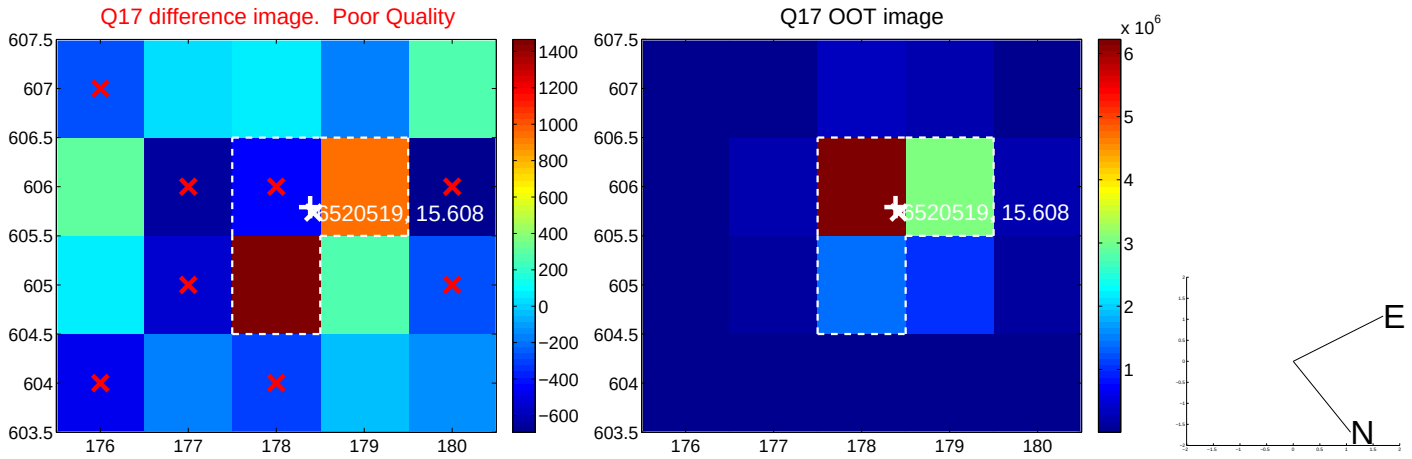
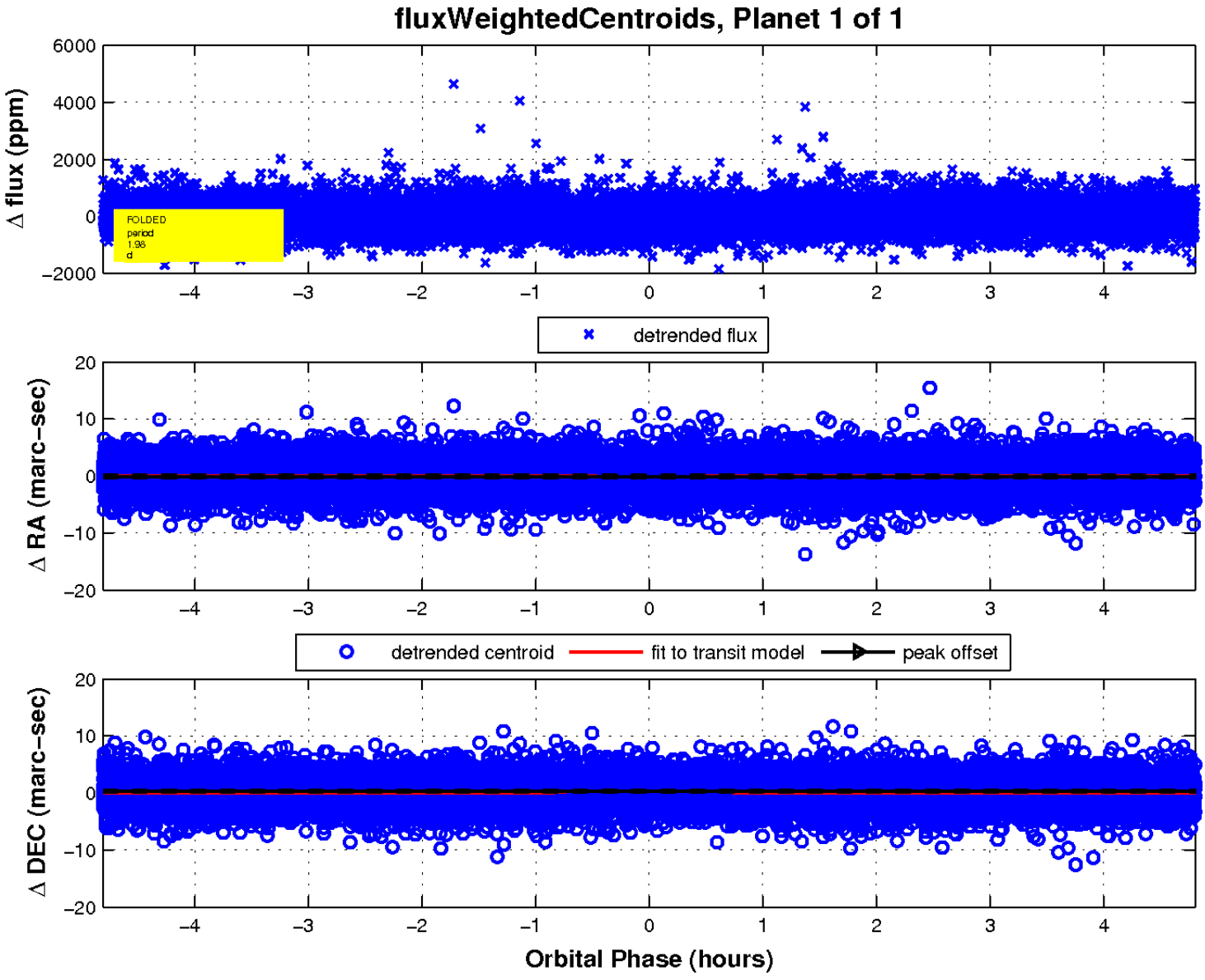


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



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





UKIRT Image