KIC 009153570

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 ($S_\oplus$)
009153570-01	OBS	2625.01	3.813717	132.574273	287.5	2.095	11.0	11.8	0.82	5547	1.66	265.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009153570-01	OBS	PC	0.95	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.

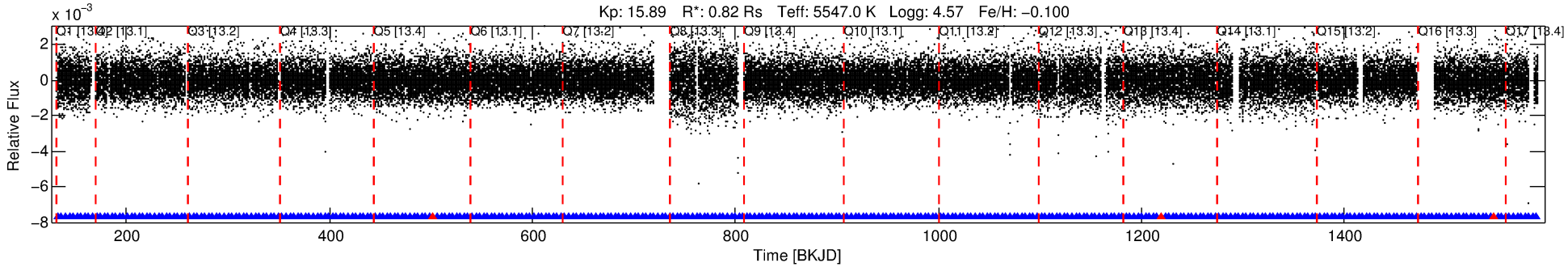
Ephemeris Match Information For 009153570-01

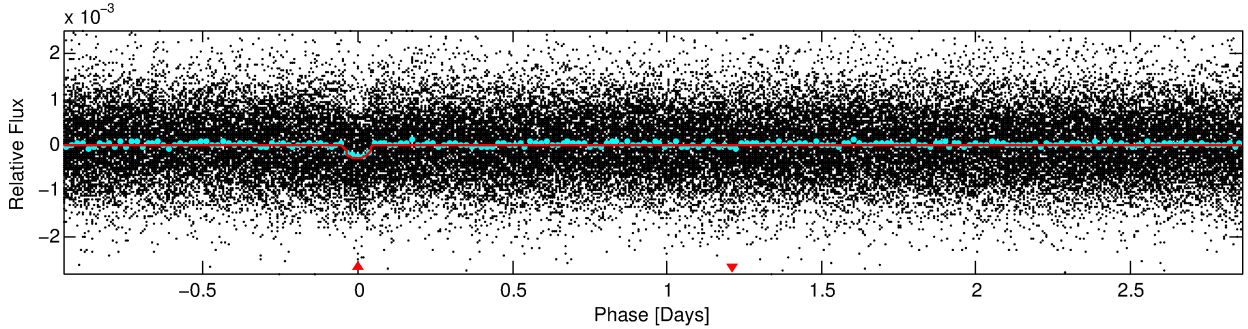
No Significant Match Found

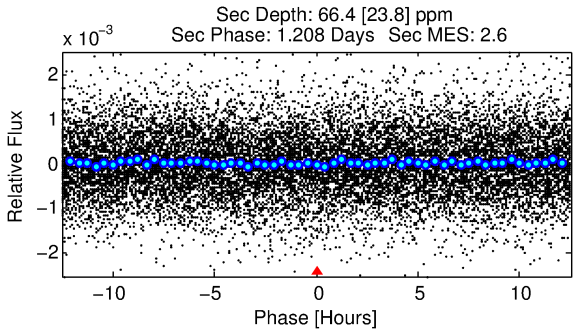
DV One-Page Summary

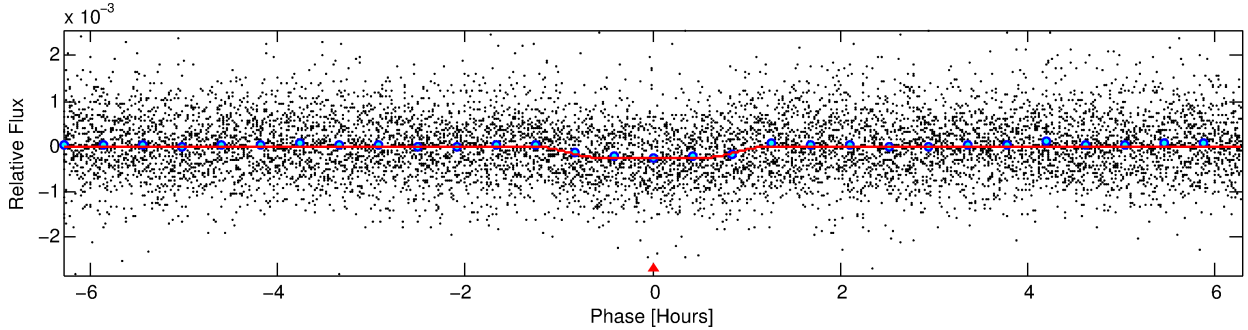
KIC: 9153570 Candidate: 1 of 1 Period: 3.814 d
KOI: K02625.01 Corr: 0.969

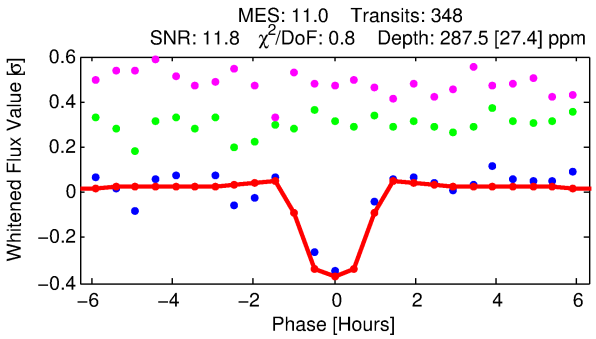
Kp: 15.89 R*: 0.82 Rs Teff: 5547.0 K Logg: 4.57 Fe/H: −0.100

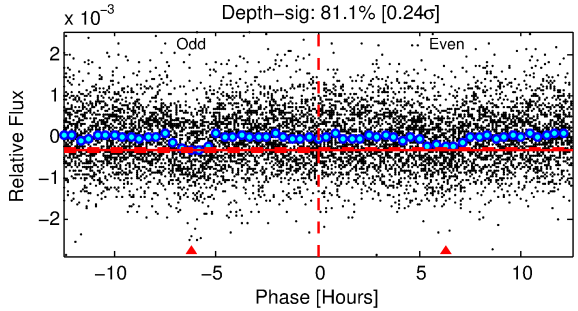


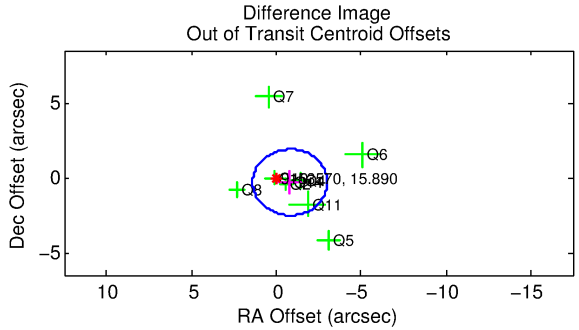












DV Fit Results:

Period = 3.81372 [0.00002] d
Epoch = 132.5743 [0.0028] BKJD
Rp/R* = 0.0186 [0.0094]
a/R* = 6.72 [15.03]
b = 0.90 [0.50]

Seff = 265.38 [80.55]
Teq = 1029 [78] K
Rp = 1.66 [0.93] Re
a = 0.0464 [0.0089] AU

Ag = 28.39 [31.54] [0.87σ]
Teffp = 3673 [994] K [2.65σ]

DV Diagnostic Results:

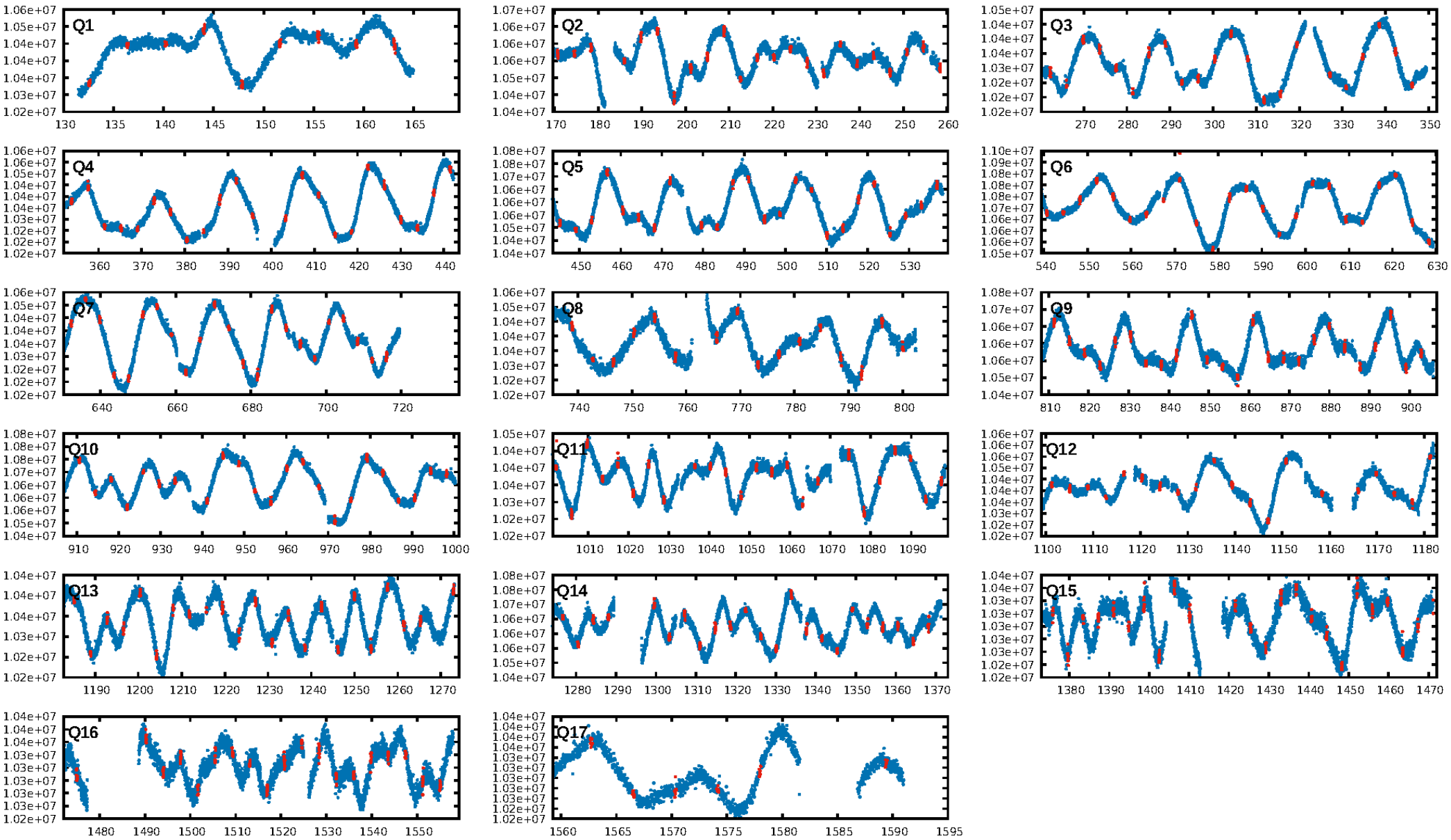
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: N/A
ModelChiSquareGof−sig: N/A
Bootstrap−pfa: 1.87e−27
RollingBand−fgt: 0.99 [330/333]
GhostDiagnostic−chr: 4.771

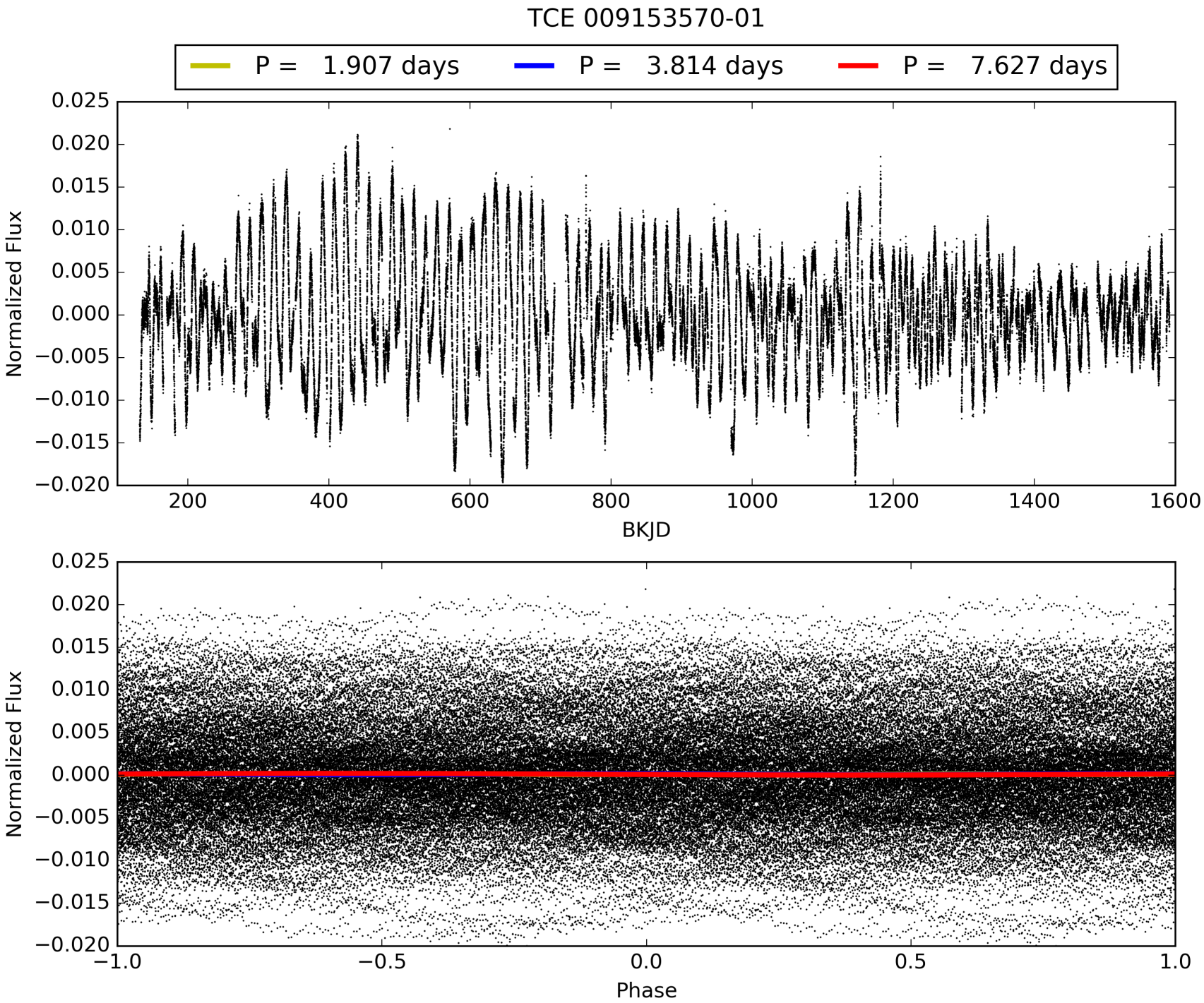
Centroid−sig: 0.0%
Centroid−so: 3.873 arcsec [3.45σ]
OotOffset−rm: 0.868 arcsec [1.18σ]
KicOffset−rm: 0.868 arcsec [1.27σ]
OotOffset−st: 4/2/2/1 [9]
KicOffset−st: 4/2/2/1 [9]
DiffImageQuality−fgm: 0.56 [5/9]
DiffImageOverlap−fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30−Jan−2016 15:37:51 Z

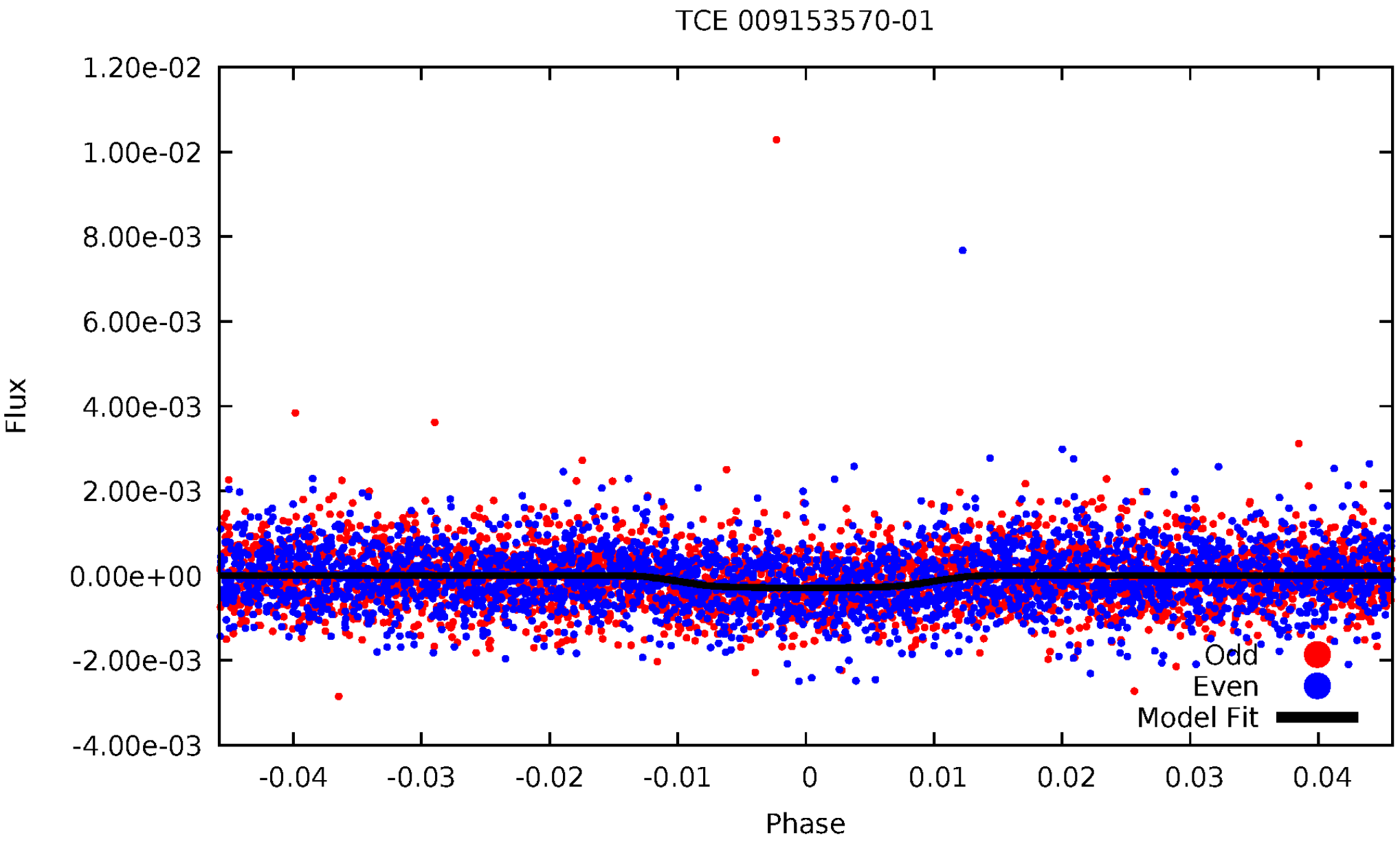
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009153570-01, PDC Light Curves




TCE 009153570-01
P = 1.907 days
P = 3.814 days
P = 7.627 days
Normalized Flux
BKJD
Normalized Flux
Phase

DV Odd/Even


TCE 009153570-01
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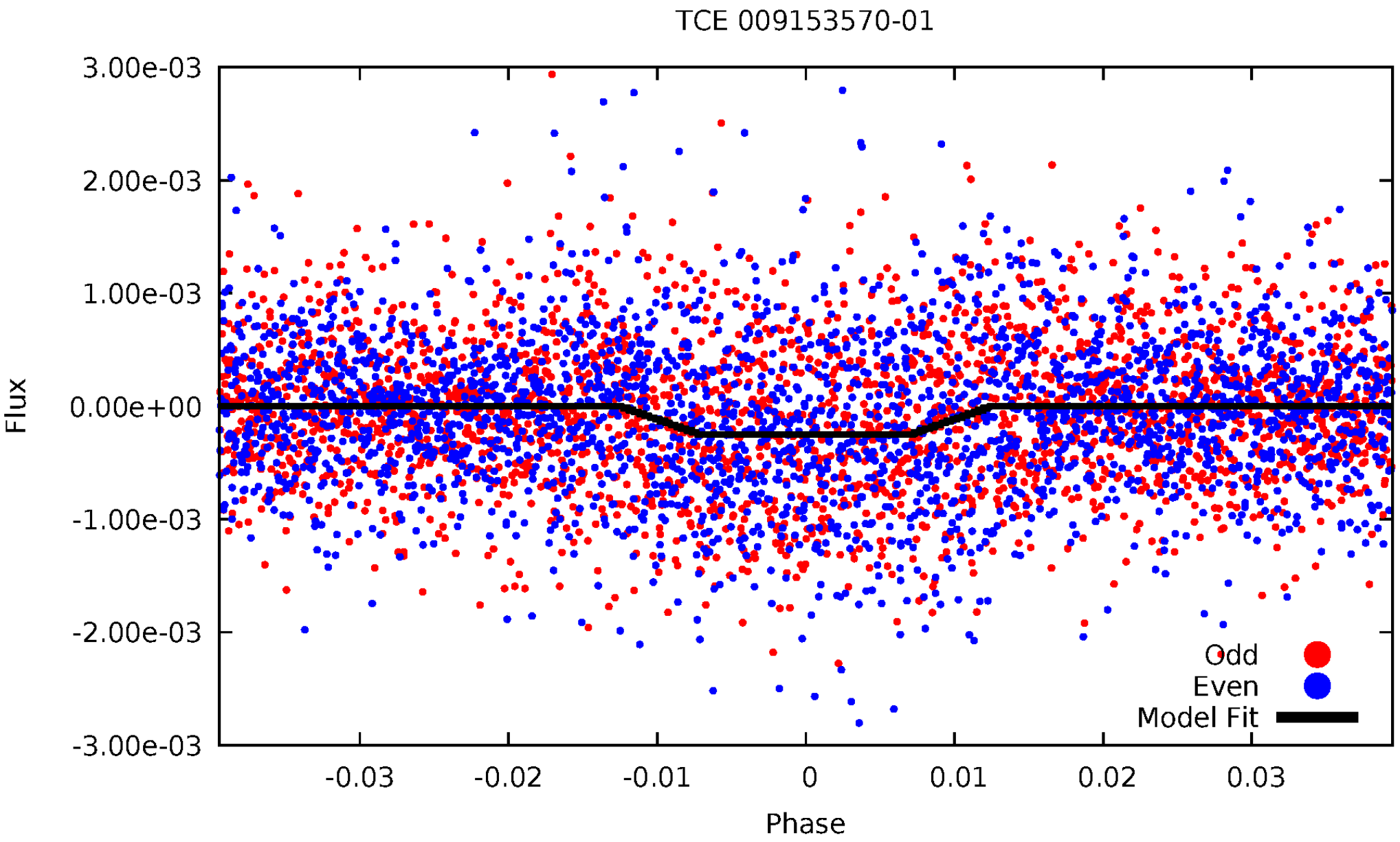
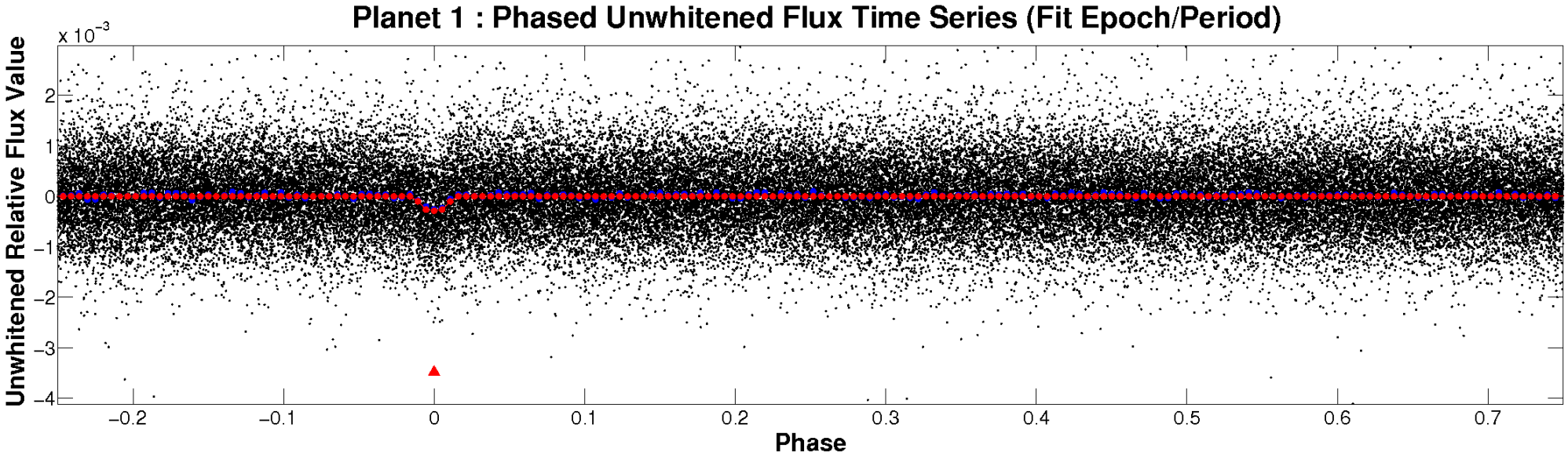
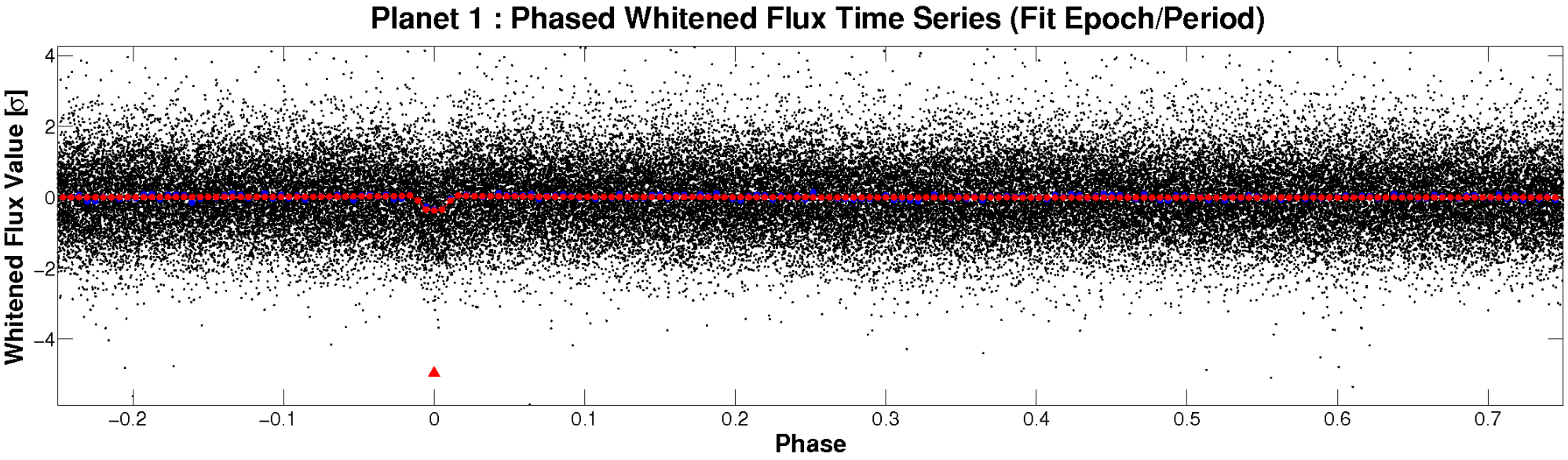
1.00e-02
8.00e-03
6.00e-03
4.00e-03
2.00e-03
0.00e+00
-2.00e-03
-4.00e-03
Flux
-0.04
-0.03
-0.02
-0.01
0
0.01
0.02
0.03
0.04
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009153570-01
3.00e-03
2.00e-03
1.00e-03
0.00e+00
-1.00e-03
-2.00e-03
-3.00e-03
Flux
-0.03
-0.02
-0.01
0
0.01
0.02
0.03
Phase
Odd
Even
Model Fit

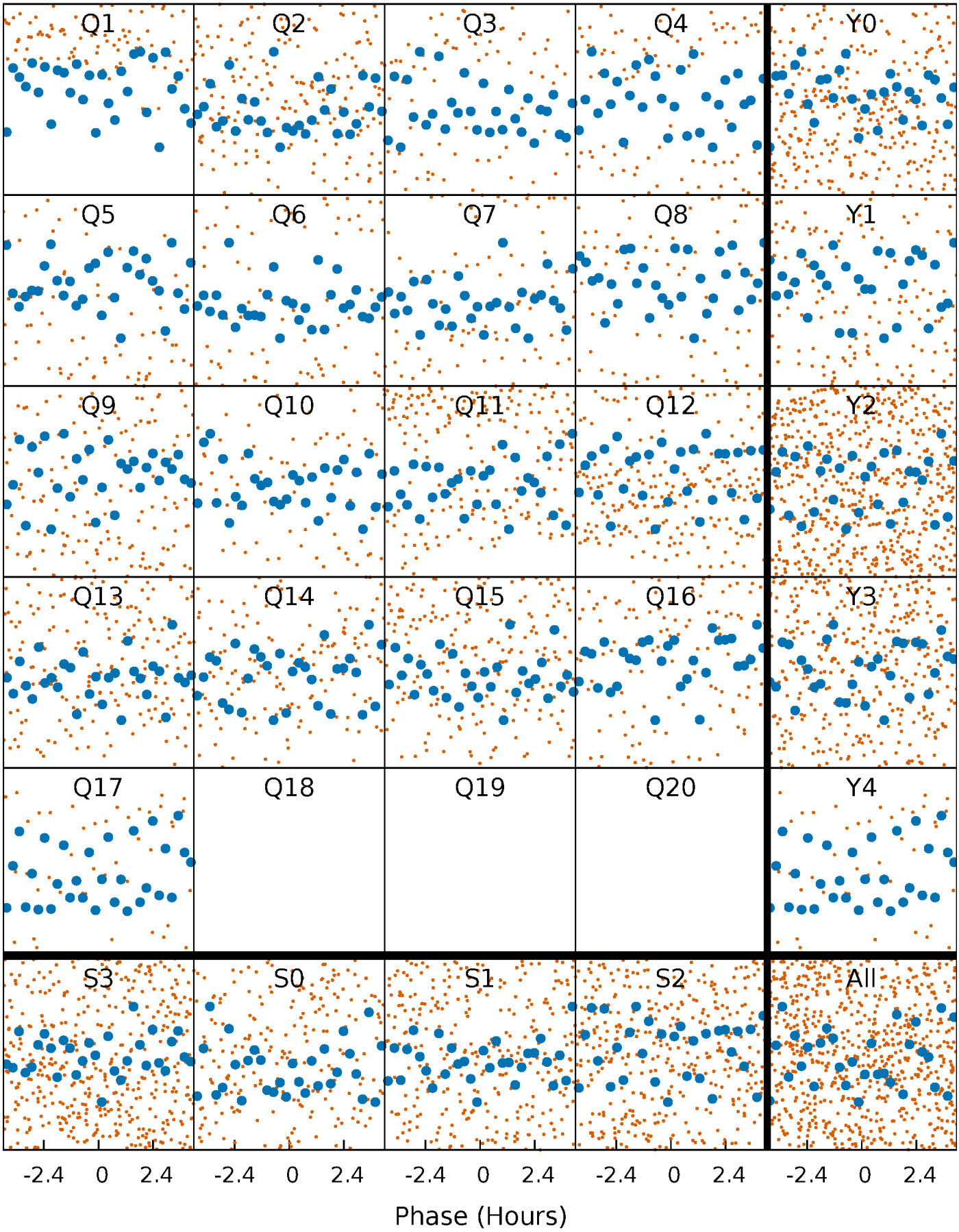
Non-Whitened Vs. Whitened Light Curve





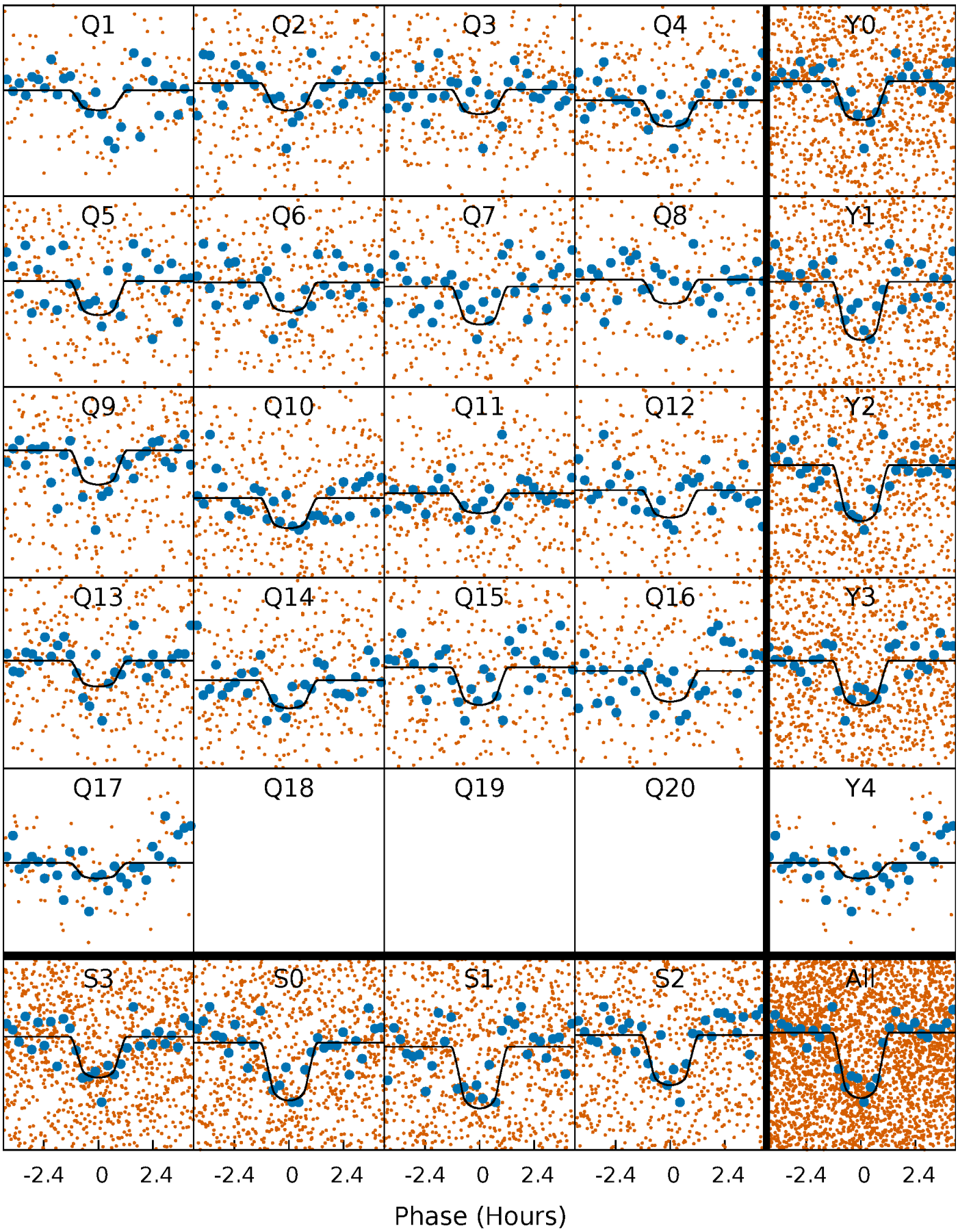
PDC Quarter-Phased Transit Curves

TCE 009153570-01 P= 3.813717 Days T_0=132.574273 (BKJD)



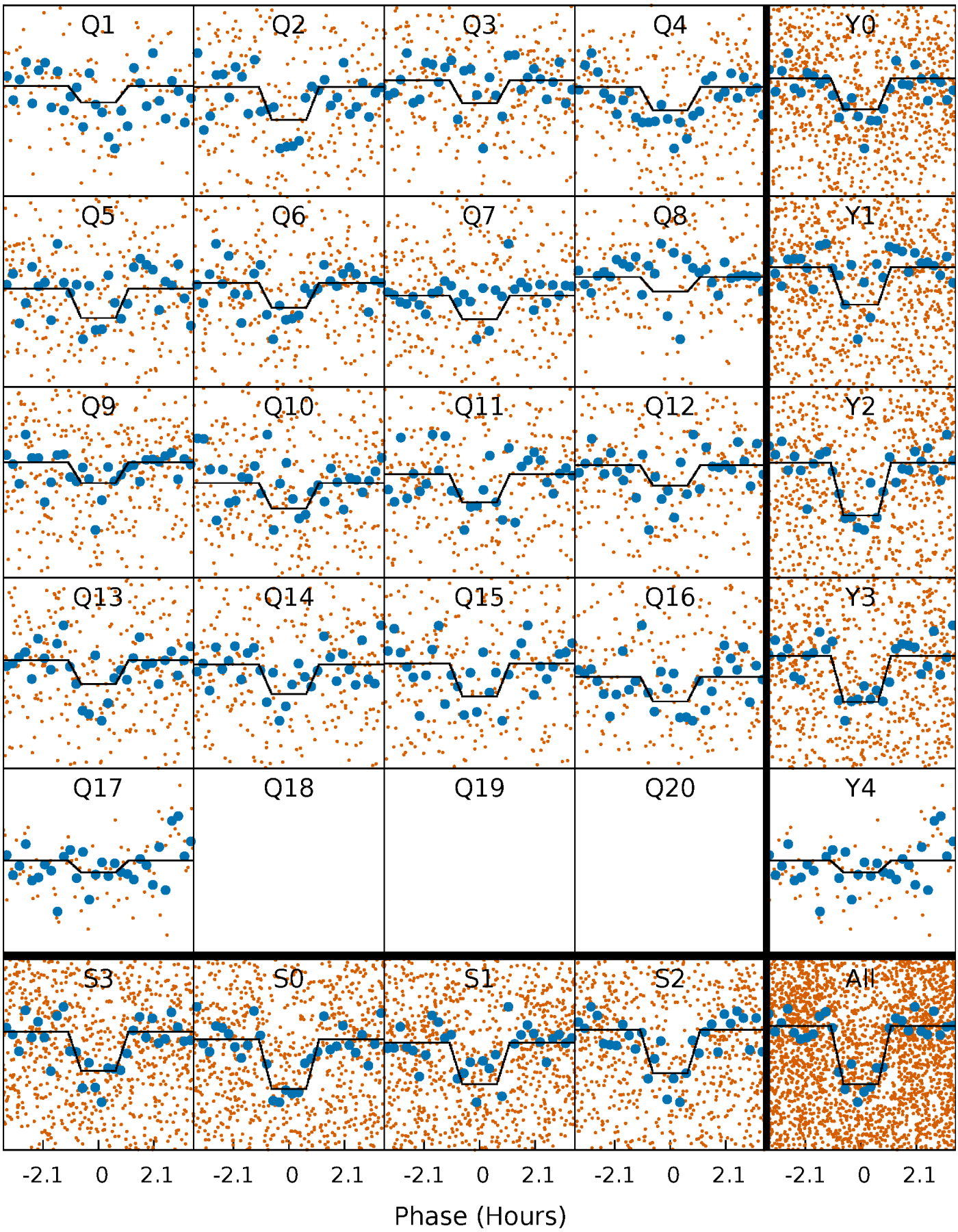
DV Quarter-Phased Transit Curves

TCE 009153570-01 P= 3.813717 Days T_0=132.574273 (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

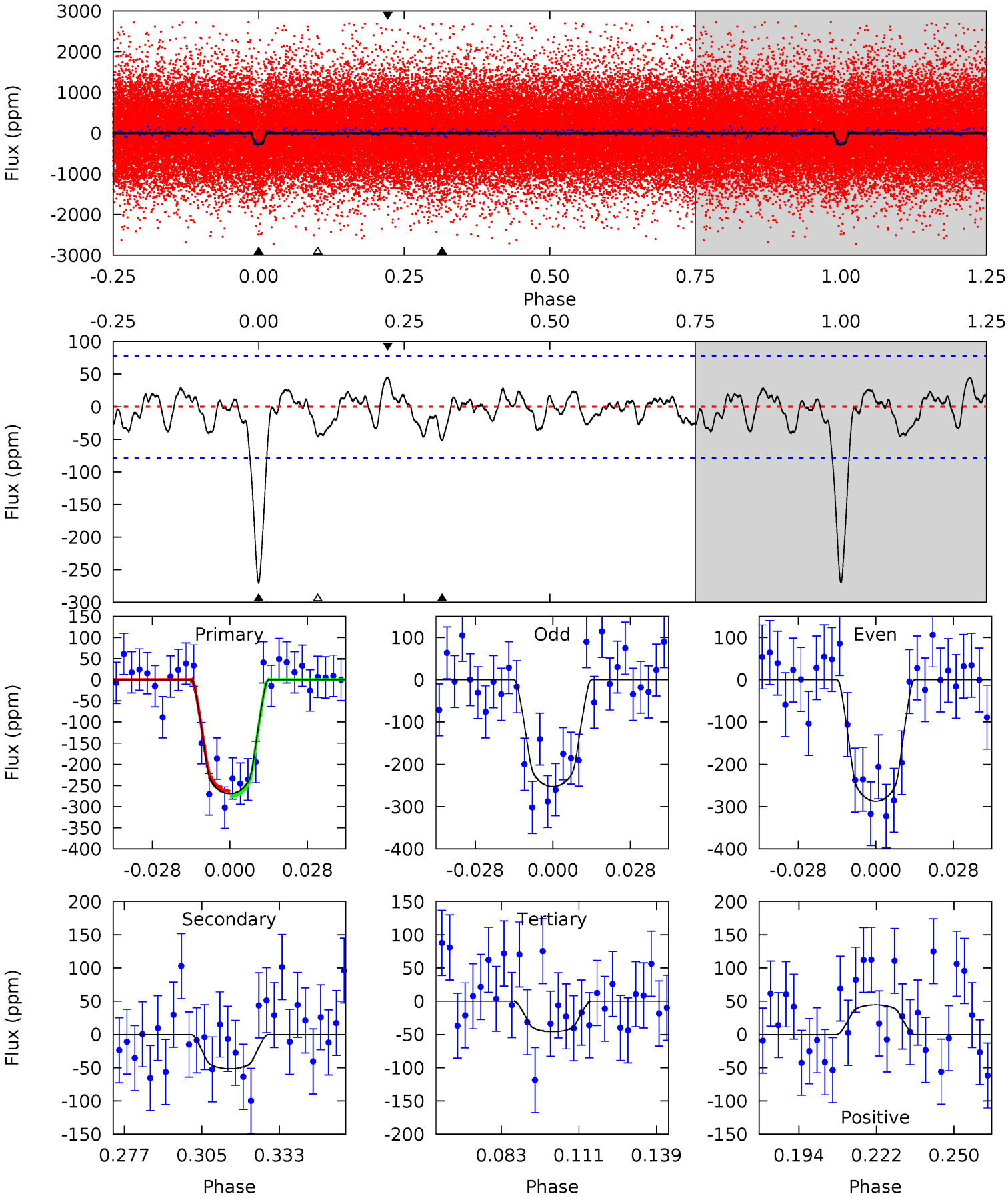
TCE 009153570-01 P= 3.813702 Days T_0=132.577973 (BKJD)



DV Model-Shift Uniqueness Test

009153570-01, P = 3.813717 Days, E = 128.760556 Days

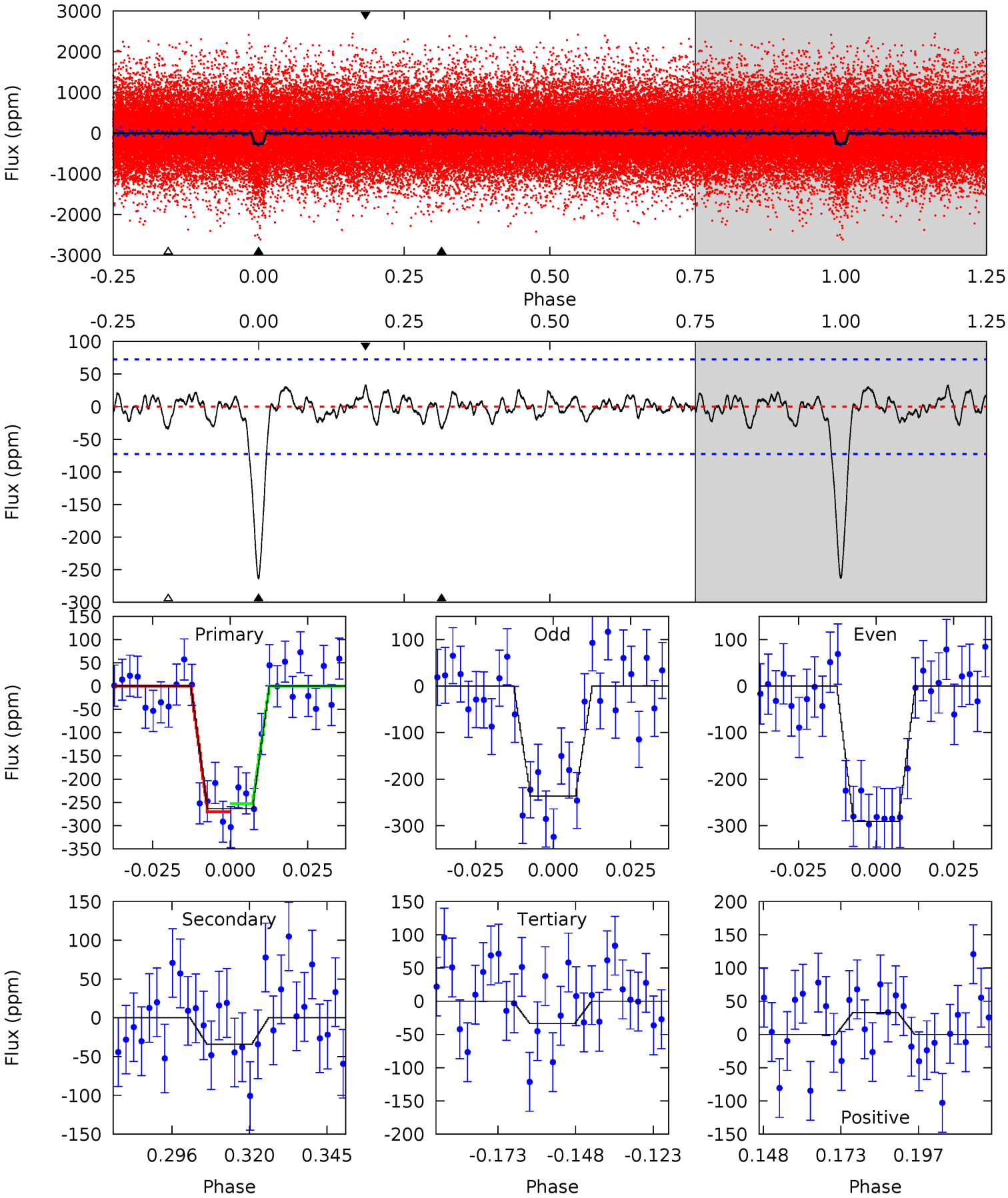
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	3.18	2.83	2.74	4.83	2.20	1.12	13.8	13.9	0.35	0.44	1.07	0.90	0.14	0.38



Alt Model-Shift Uniqueness Test

009153570-01, P = 3.813702 Days, E = 128.764271 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.6	2.27	2.25	2.20	4.85	2.25	0.82	15.3	15.4	0.03	0.07	1.82	0.94	0.11	0.60



Stellar Parameters For KIC 009153570

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	M($M_\odot$)	$p_\star$ (g·cm^{-3})
	5547^{+166}_{-166}	$4.571^{+0.028}_{-0.152}$	$-0.100^{+0.300}_{-0.300}$	$0.820^{+0.188}_{-0.075}$	$0.918^{+0.081}_{-0.102}$	$2.348^{+0.458}_{-0.973}$
	+3%/-3%	+1%/-3%	+300%/-300%	+23%/-9%	+9%/-11%	+20%/-41%
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 009153570-01 / KOI 2625.01

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-52±16	$1.79^{+0.86}_{-0.89}$	1473^{+71}_{-63}	3728^{+1052}_{-482}	18^{+47}_{-10}
Alt.	-34±15	$1.53^{+0.91}_{-0.82}$	1473^{+82}_{-57}	3673^{+1301}_{-582}	15^{+61}_{-10}

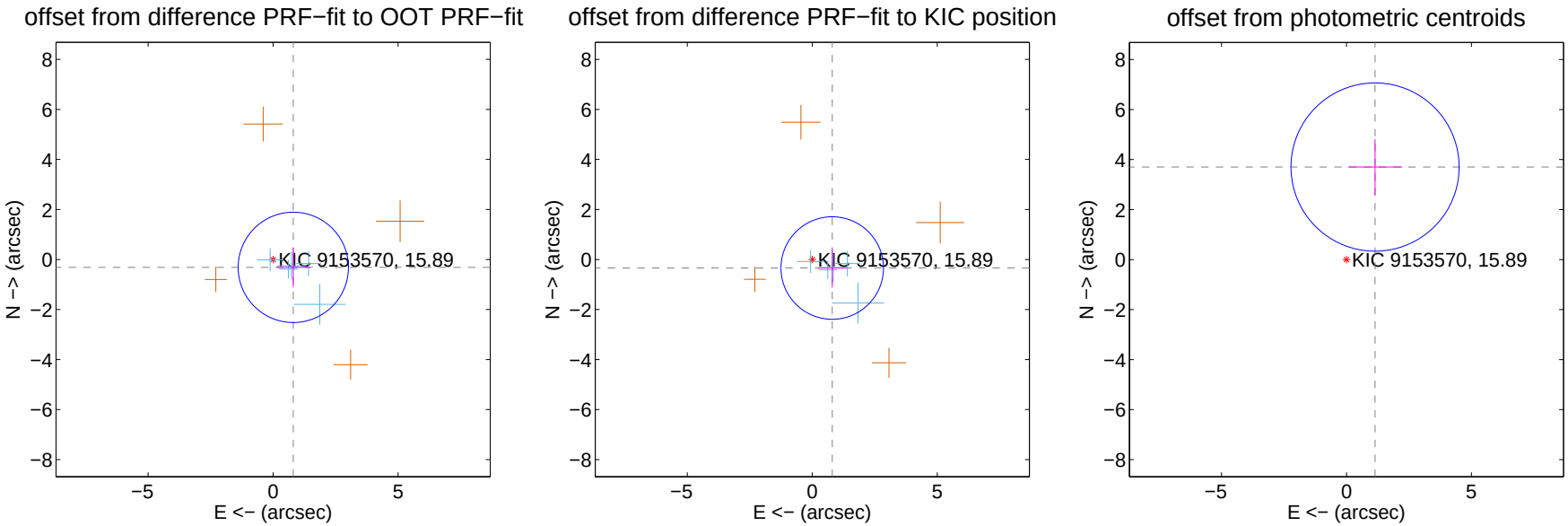
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

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

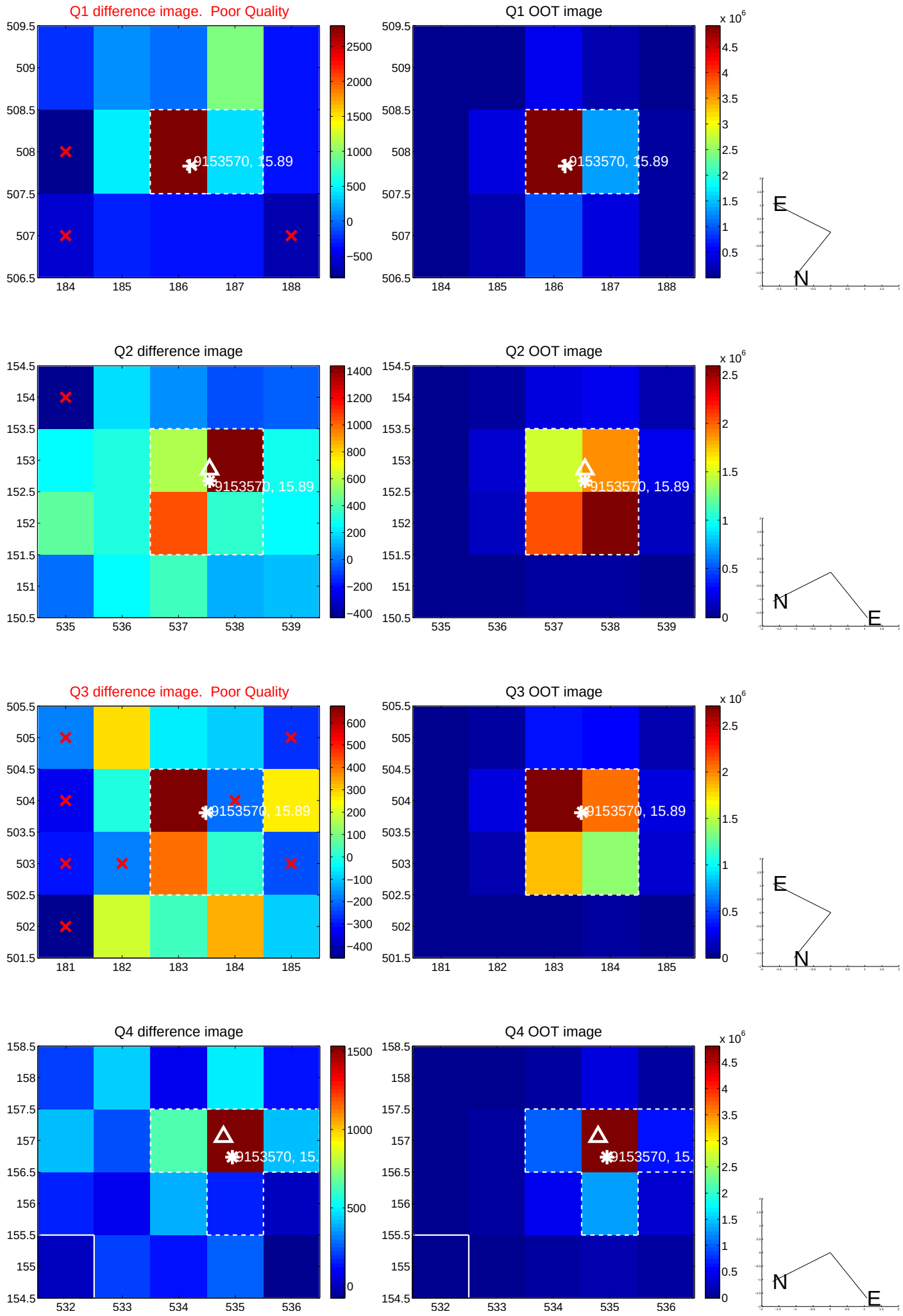
Supplemental centroid analysis for 009153570-01. Kepler magnitude: 15.89. Transit SNR 11.76
There are 5 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.13 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.868 ± 0.735	1.18	-0.808 ± 0.667	-0.315 ± 0.783
PRF-fit source offset from KIC position	0.868 ± 0.683	1.27	-0.799 ± 0.589	-0.341 ± 0.780
photometric centroid source offset	3.87 ± 1.12	3.45	-1.14 ± 1.09	3.70 ± 1.12

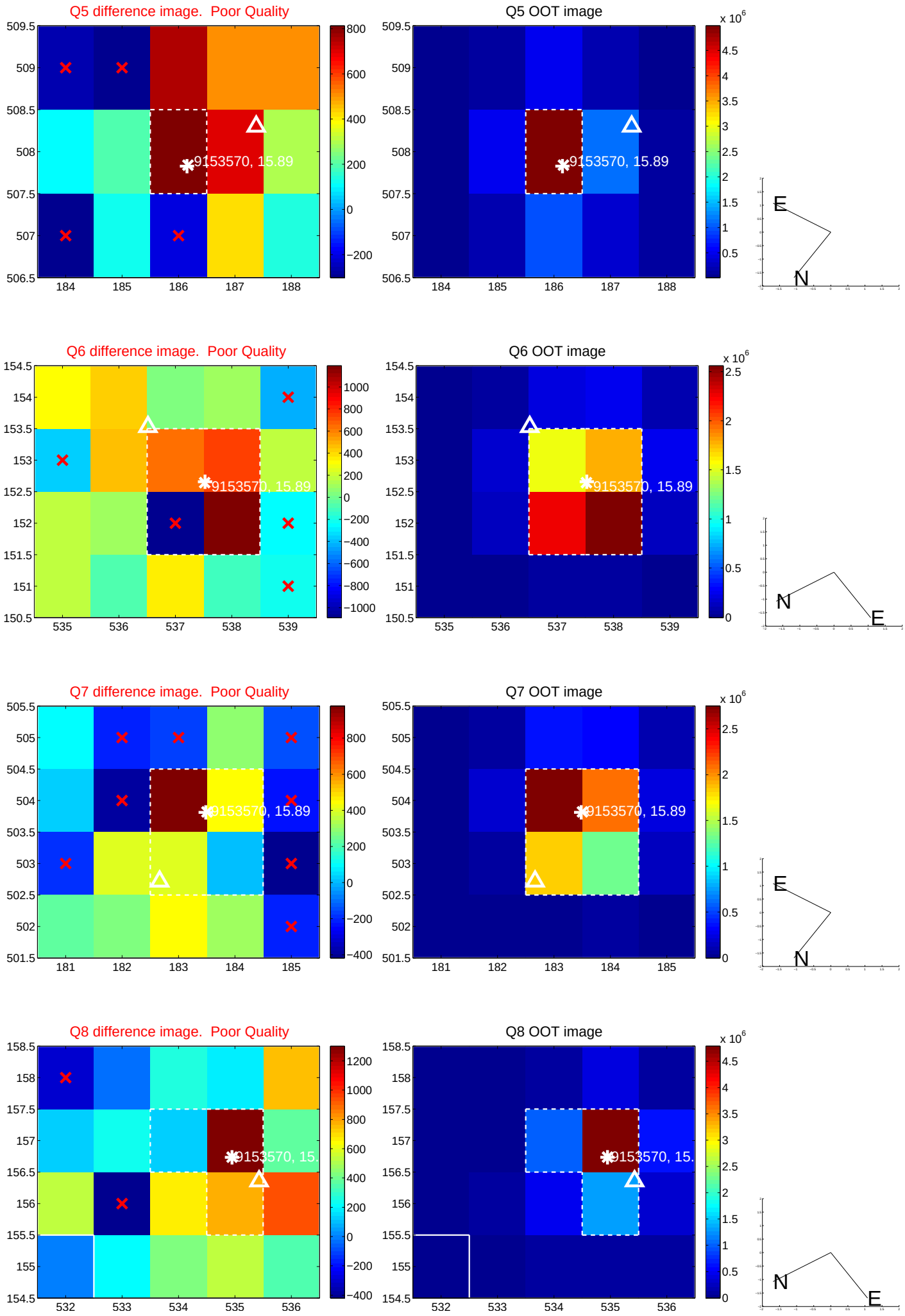


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red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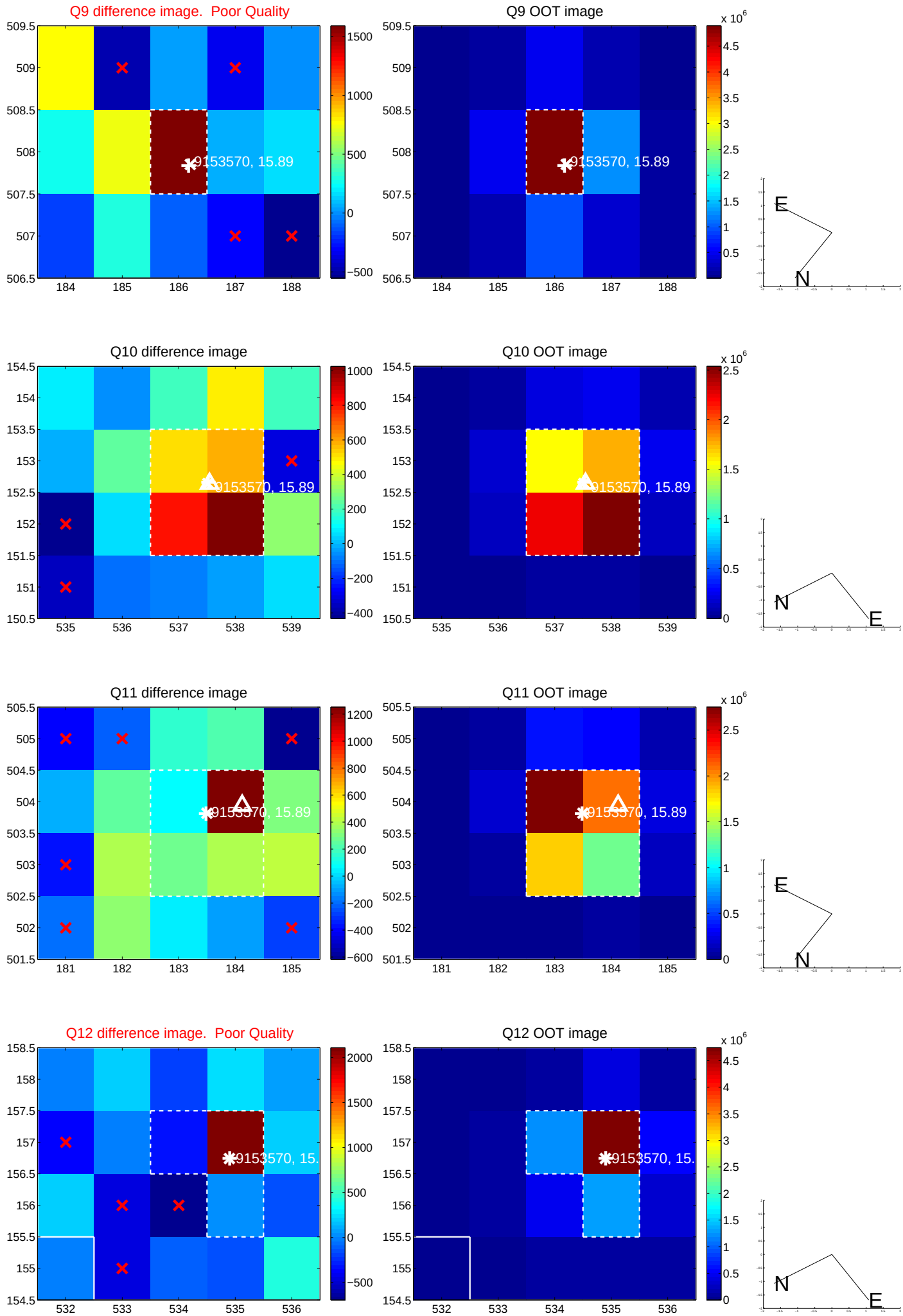
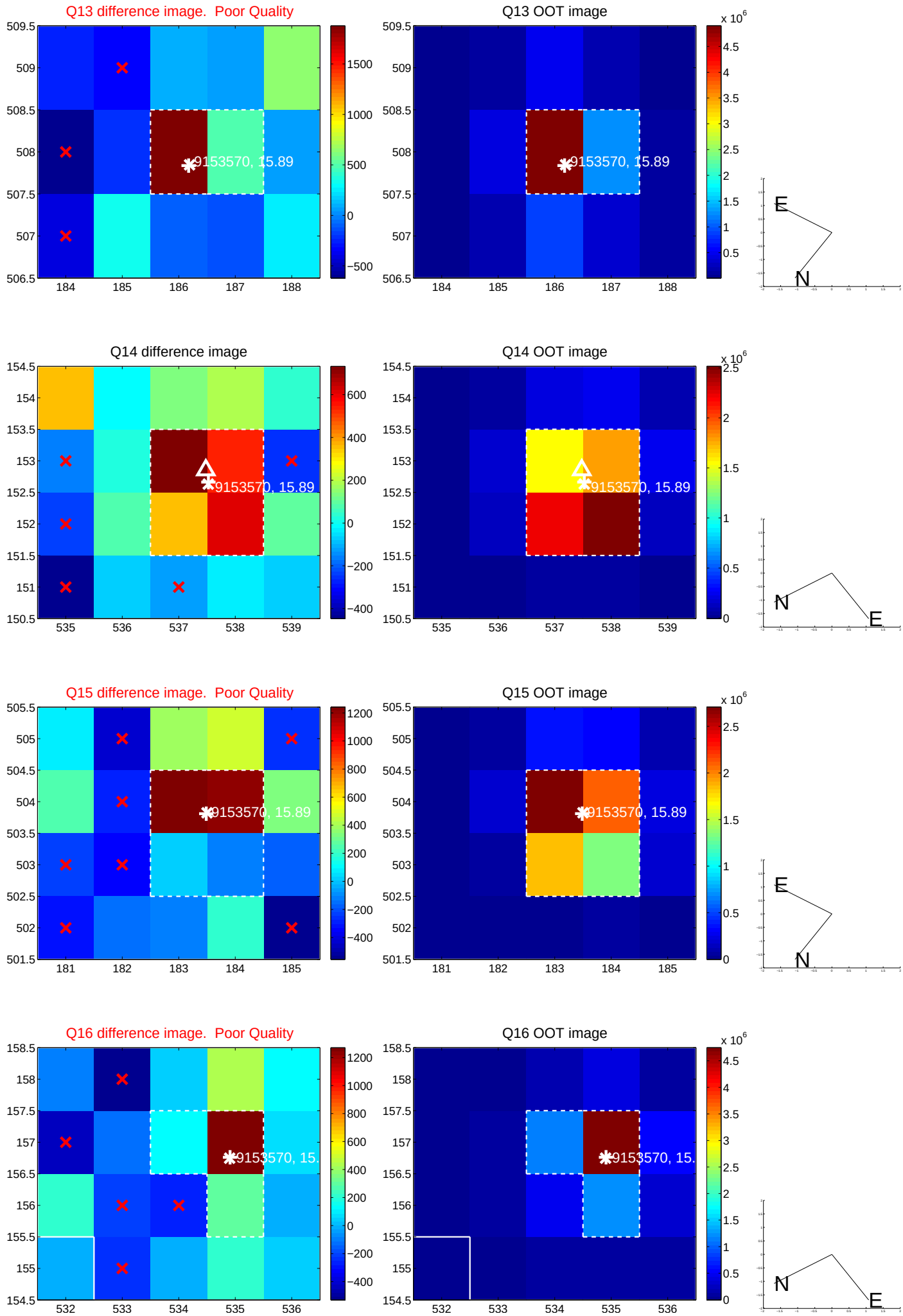
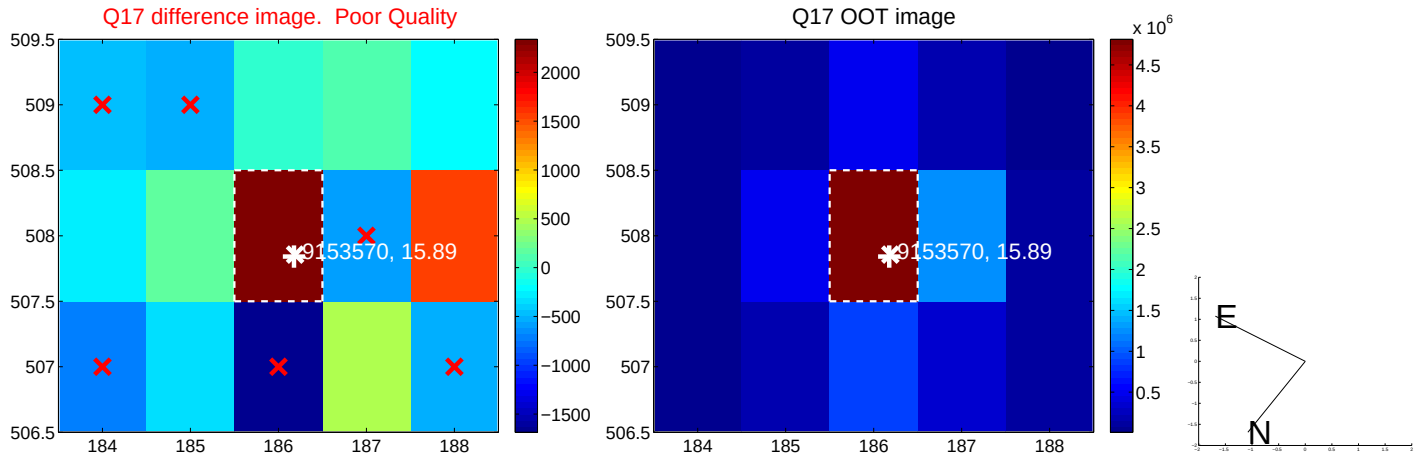
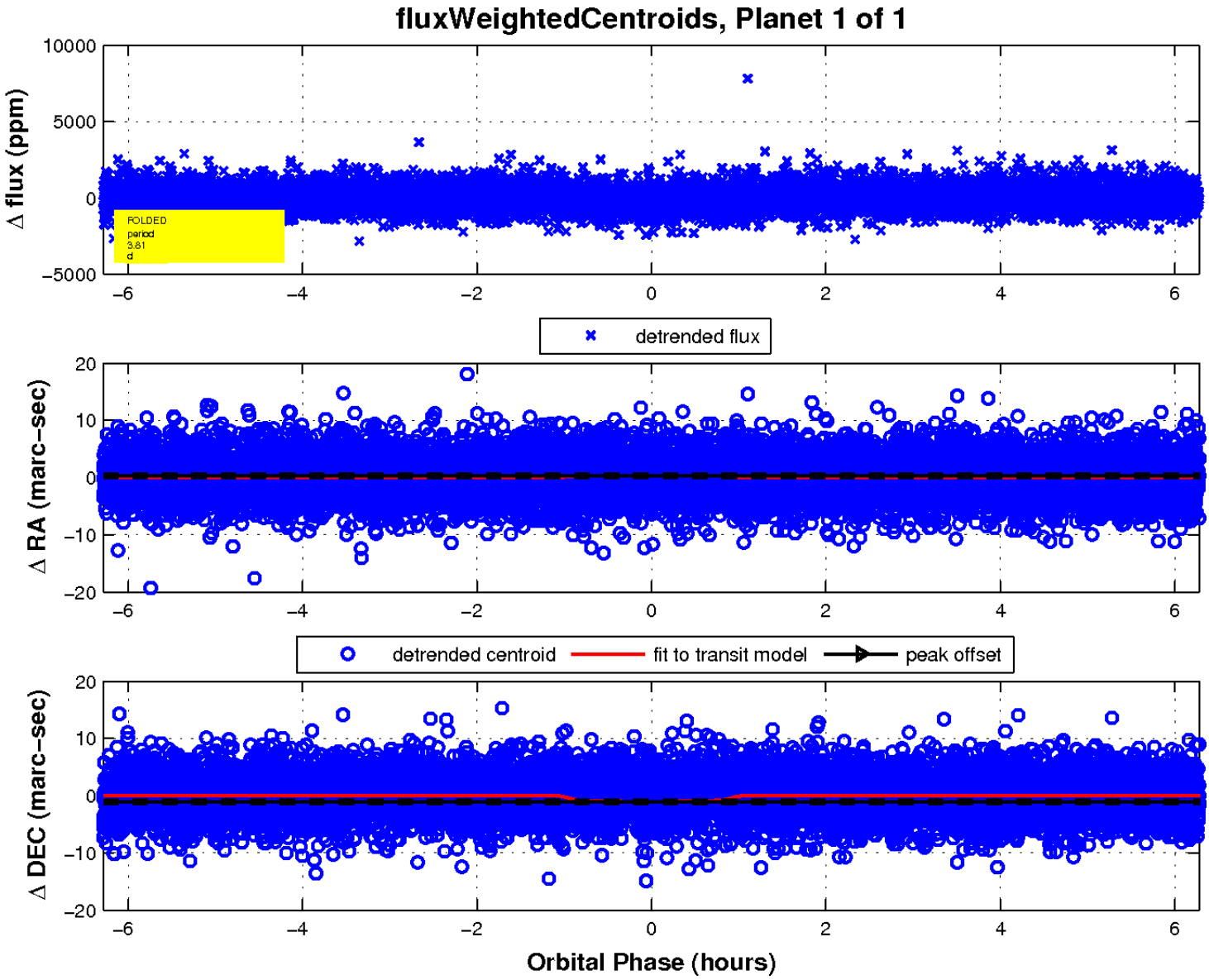


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

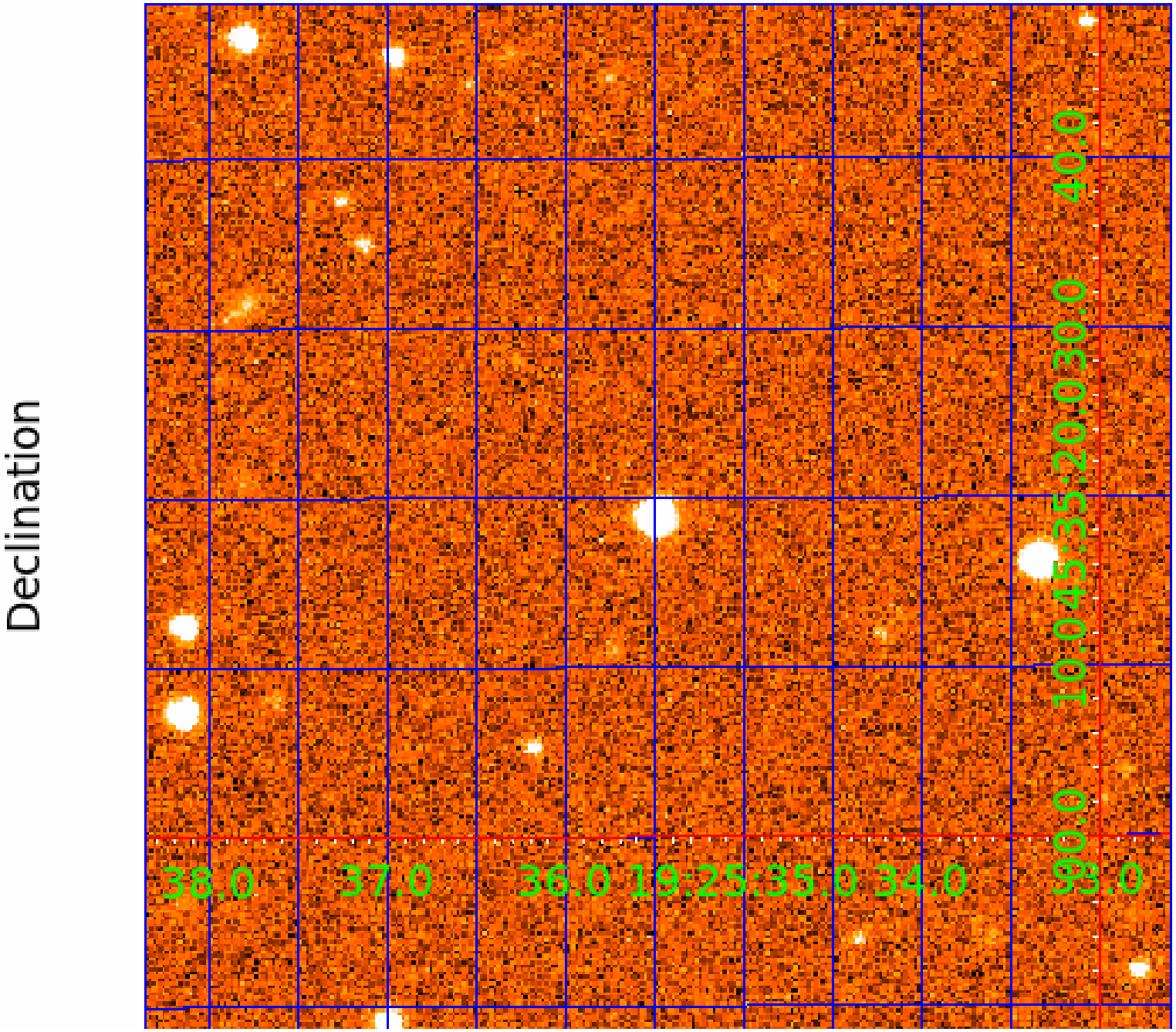


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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