

KIC 008227086

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})
008227086-01	OBS	6993.01	13.808311	141.624069	216.8	4.084	7.5	9.5	0.76	5515	1.26	44.58

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008227086-01	OBS	PC	0.94	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 008227086-01

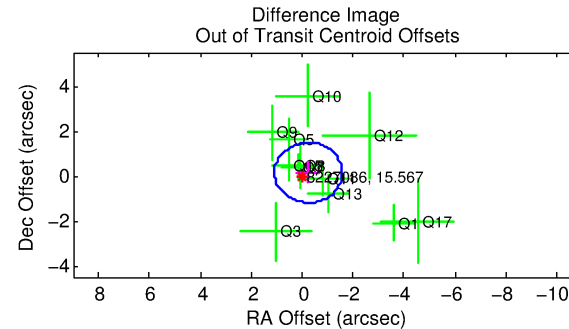
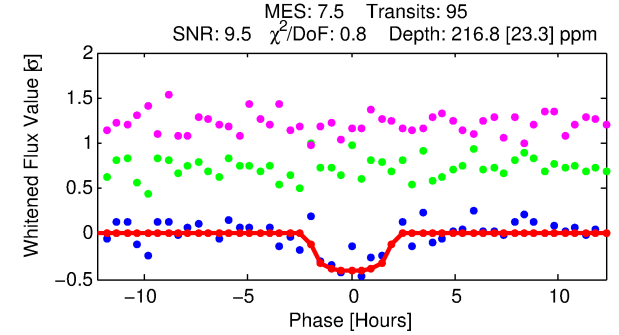
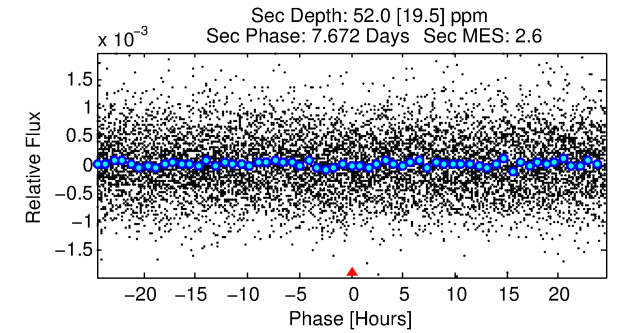
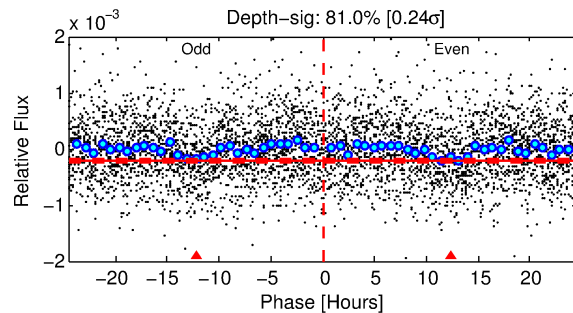
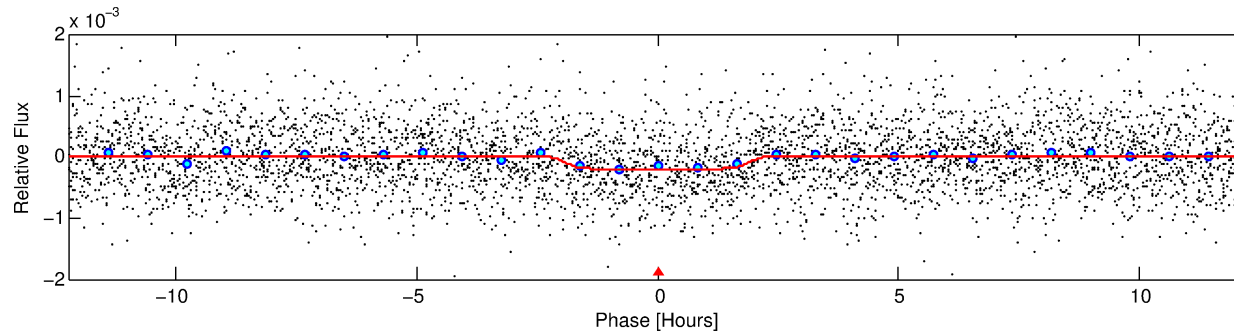
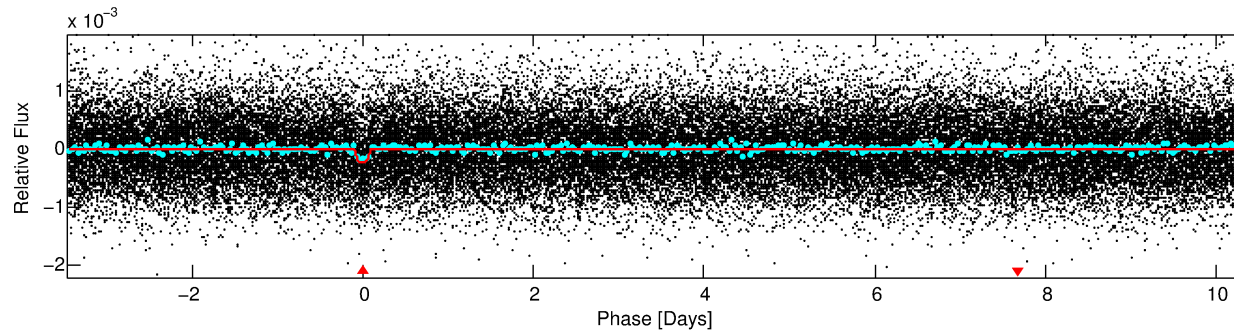
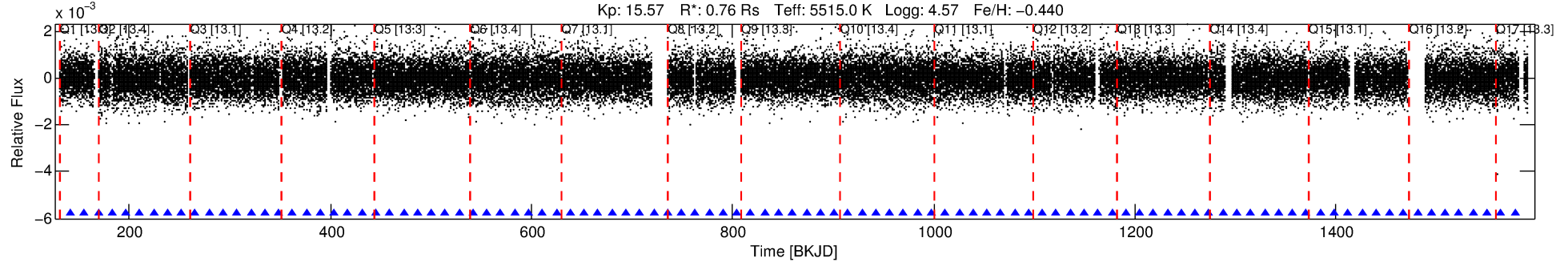
No Significant Match Found

DV One-Page Summary

KIC: 8227086 Candidate: 1 of 1 Period: 13.808 d

KOI: K06993.01 Corr: 0.935

Kp: 15.57 R*: 0.76 Rs Teff: 5515.0 K Logg: 4.57 Fe/H: -0.440



DV Fit Results:

Period = 13.80831 [0.00016] d
Epoch = 141.6241 [0.0094] BKJD
Rp/R* = 0.0152 [0.0130]
a/R* = 15.14 [58.20]
b = 0.83 [1.47]
Seff = 44.58 [10.76]
Teq = 659 [40] K
Rp = 1.26 [1.10] Re
a = 0.1038 [0.0153] AU
Ag = 192.73 [339.43] [0.56σ]
Teffp = 3796 [1663] K [1.89σ]

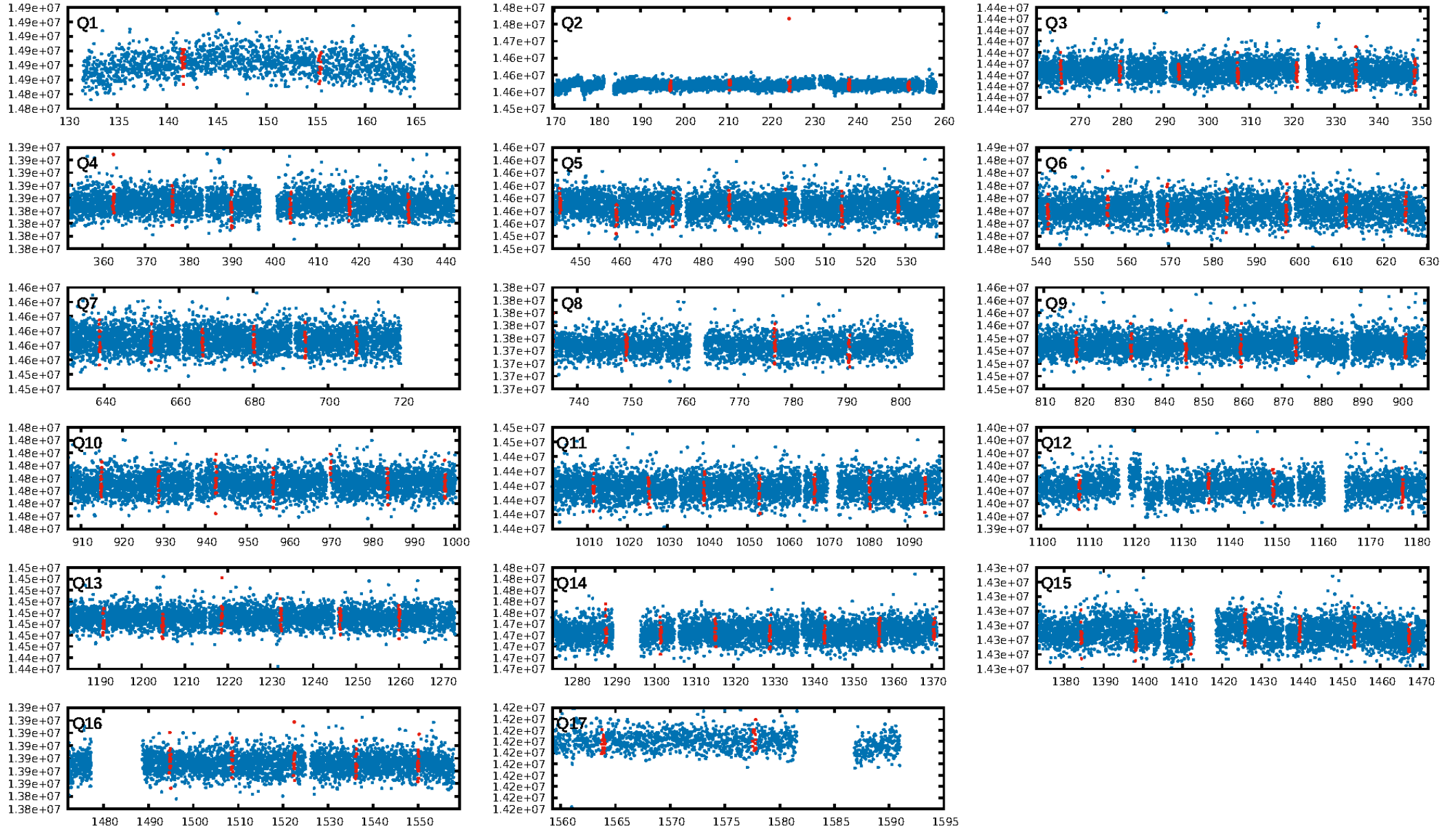
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 100.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 4.85e-14
RollingBand-fgt: 1.00 [91/91]
GhostDiagnostic-chr: 3.699
Centroid-sig: 77.7%
Centroid-so: 0.542 arcsec [0.37σ]
OotOffset-rm: 0.283 arcsec [0.64σ]
KicOffset-rm: 0.476 arcsec [1.07σ]
OotOffset-st: 1/4/2/5 [12]
KicOffset-st: 1/4/2/5 [12]
DiffImageQuality-fgm: 0.25 [3/12]
DiffImageOverlap-fno: 1.00 [17/17]

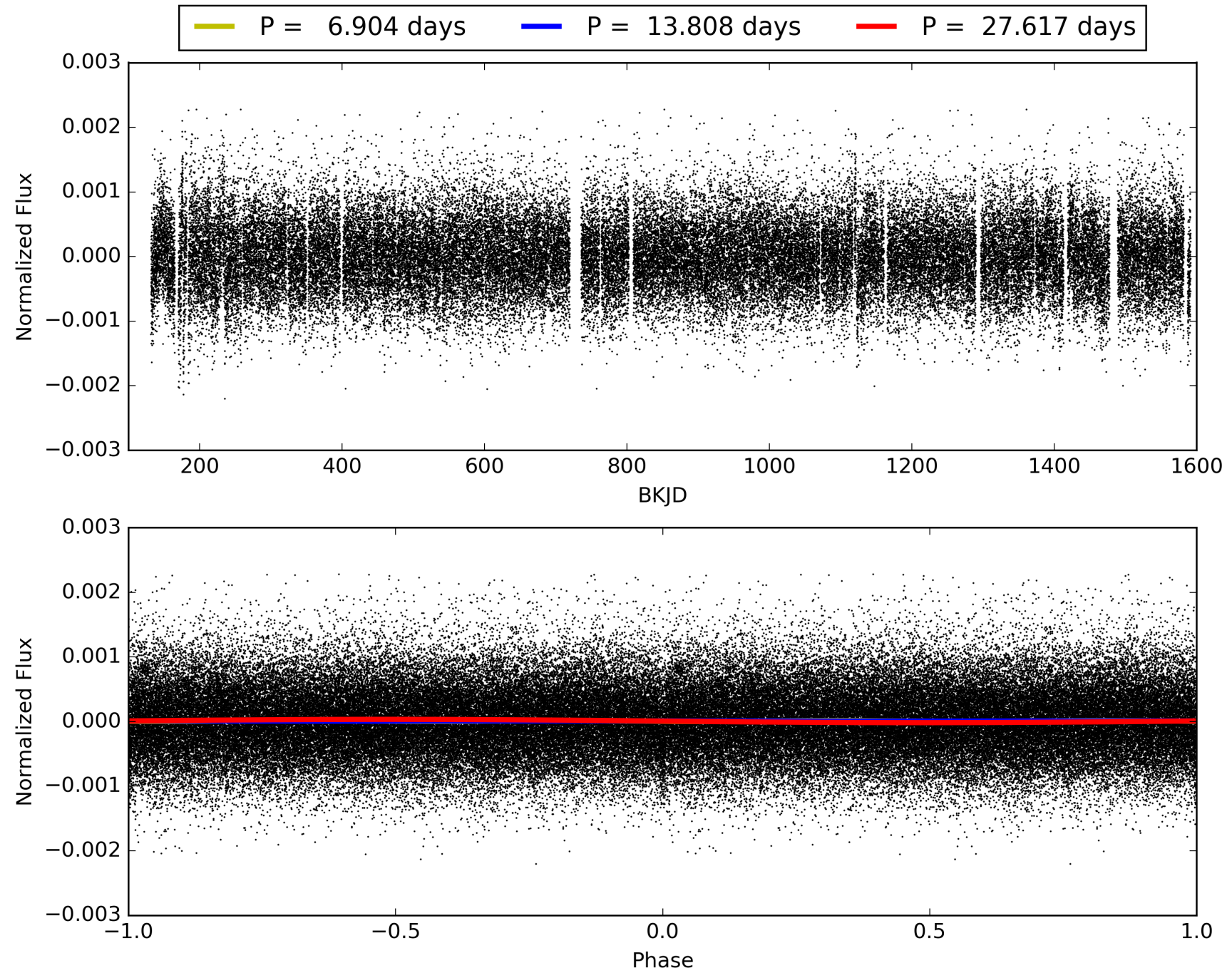
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 15:47:08 Z

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

TCE 008227086-01, PDC Light Curves

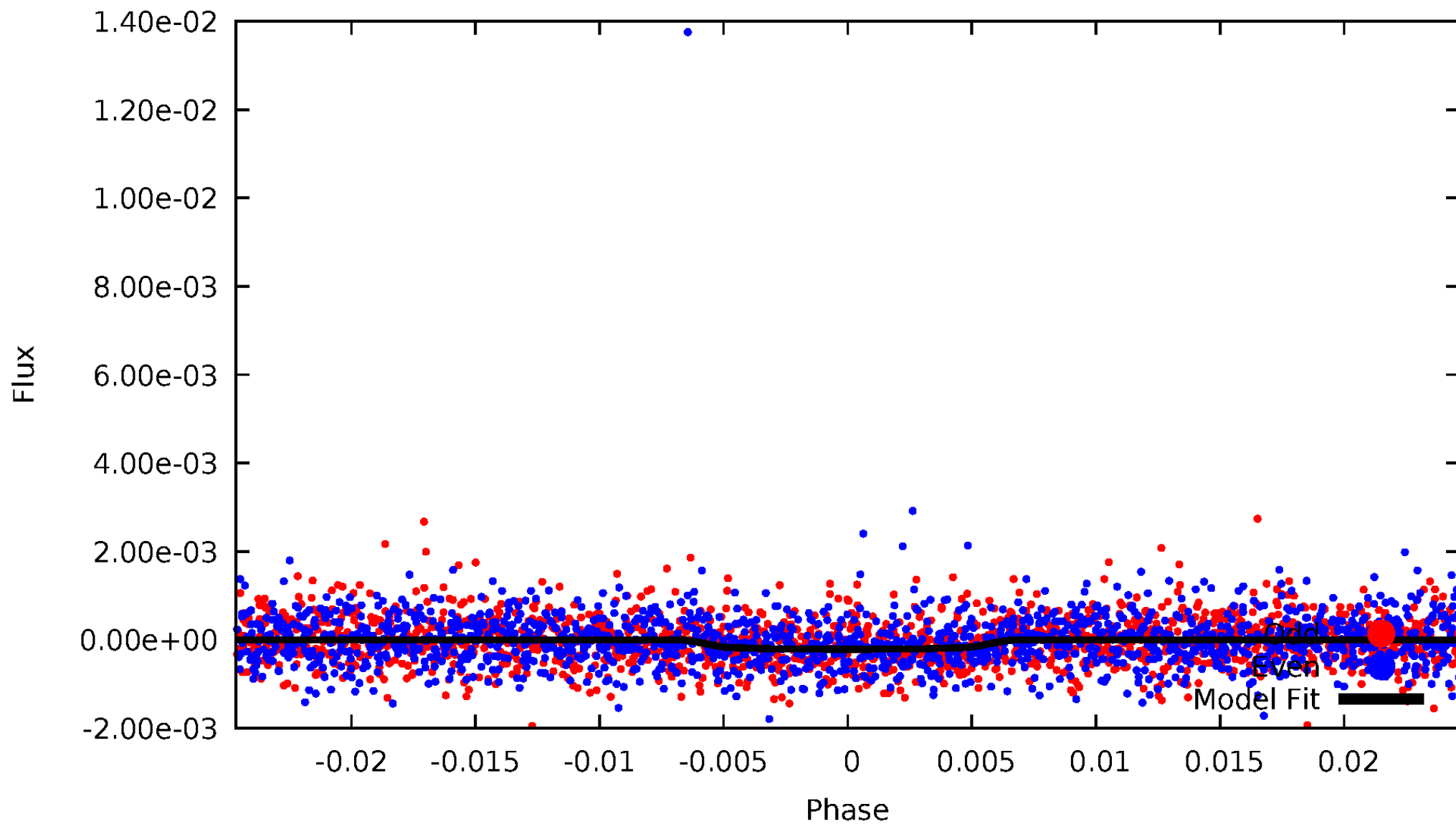


TCE 008227086-01



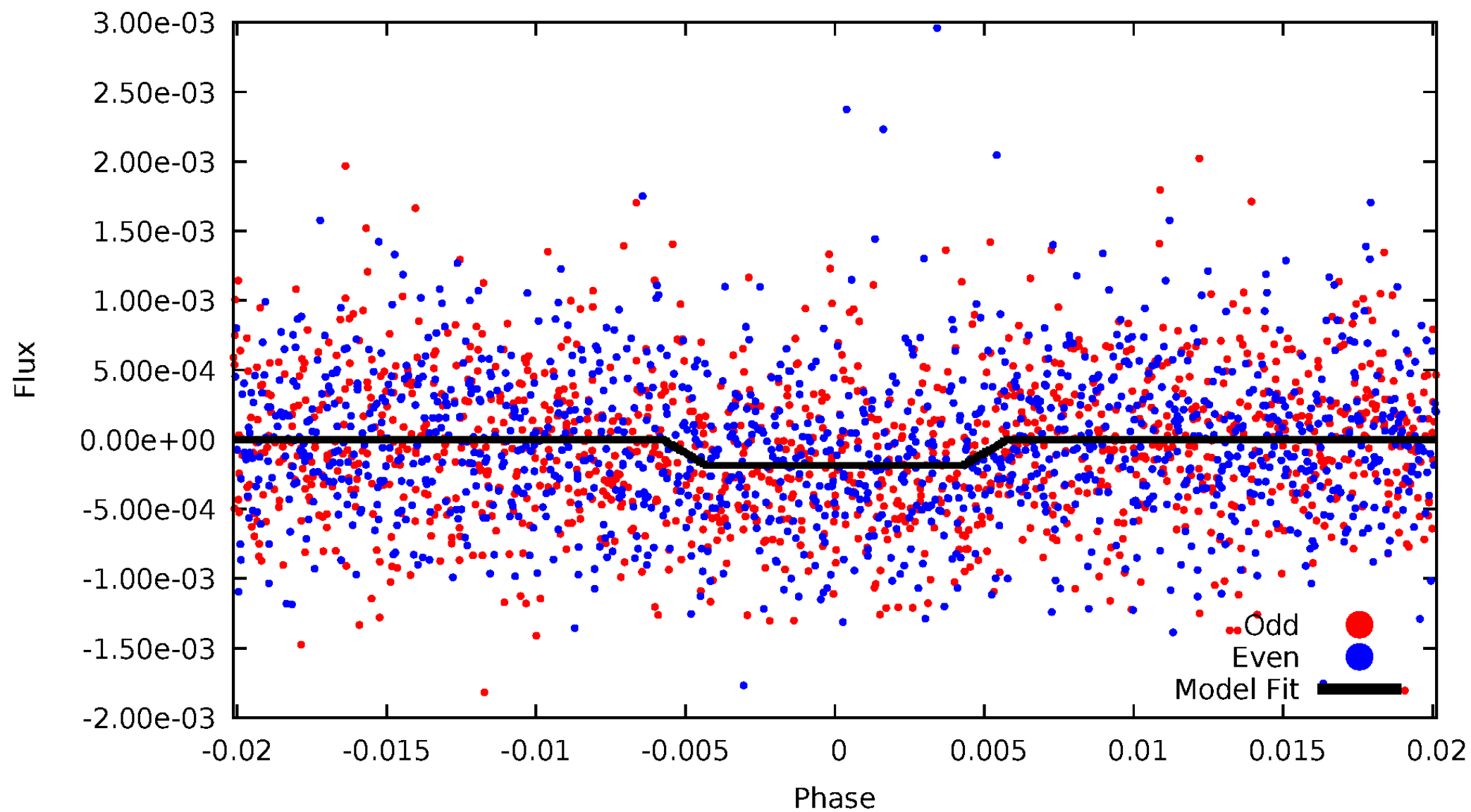
DV Odd/Even

TCE 008227086-01



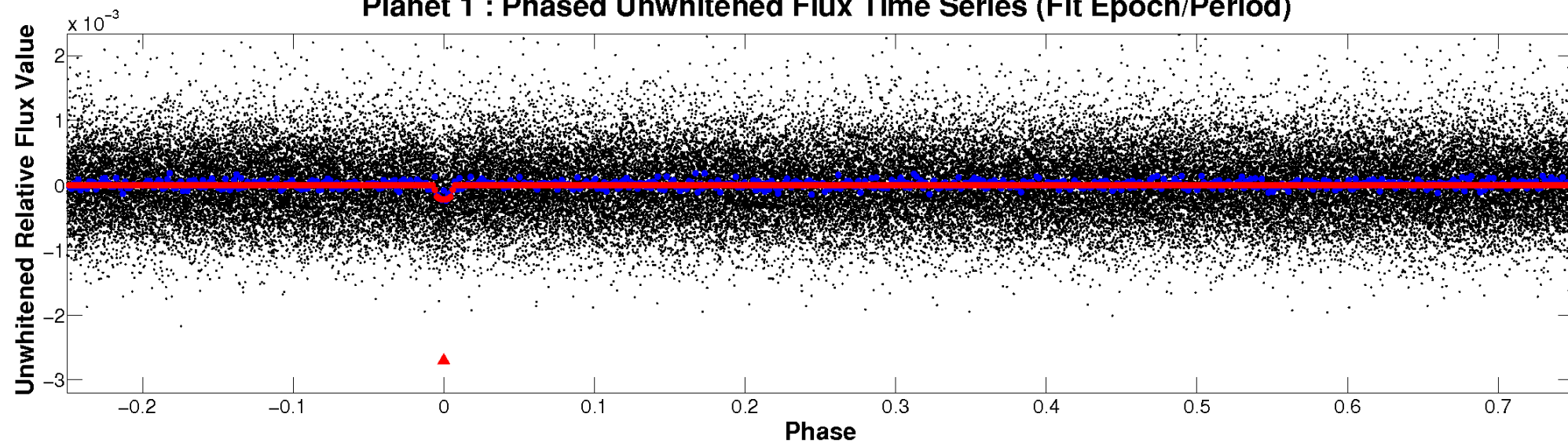
ALT Odd/Even

TCE 008227086-01

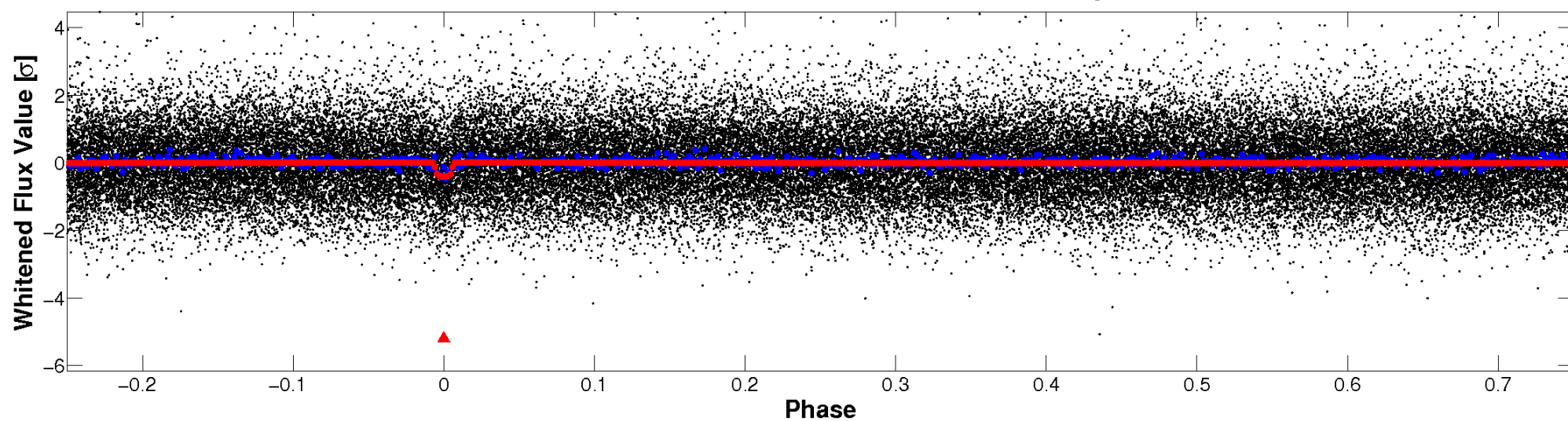


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

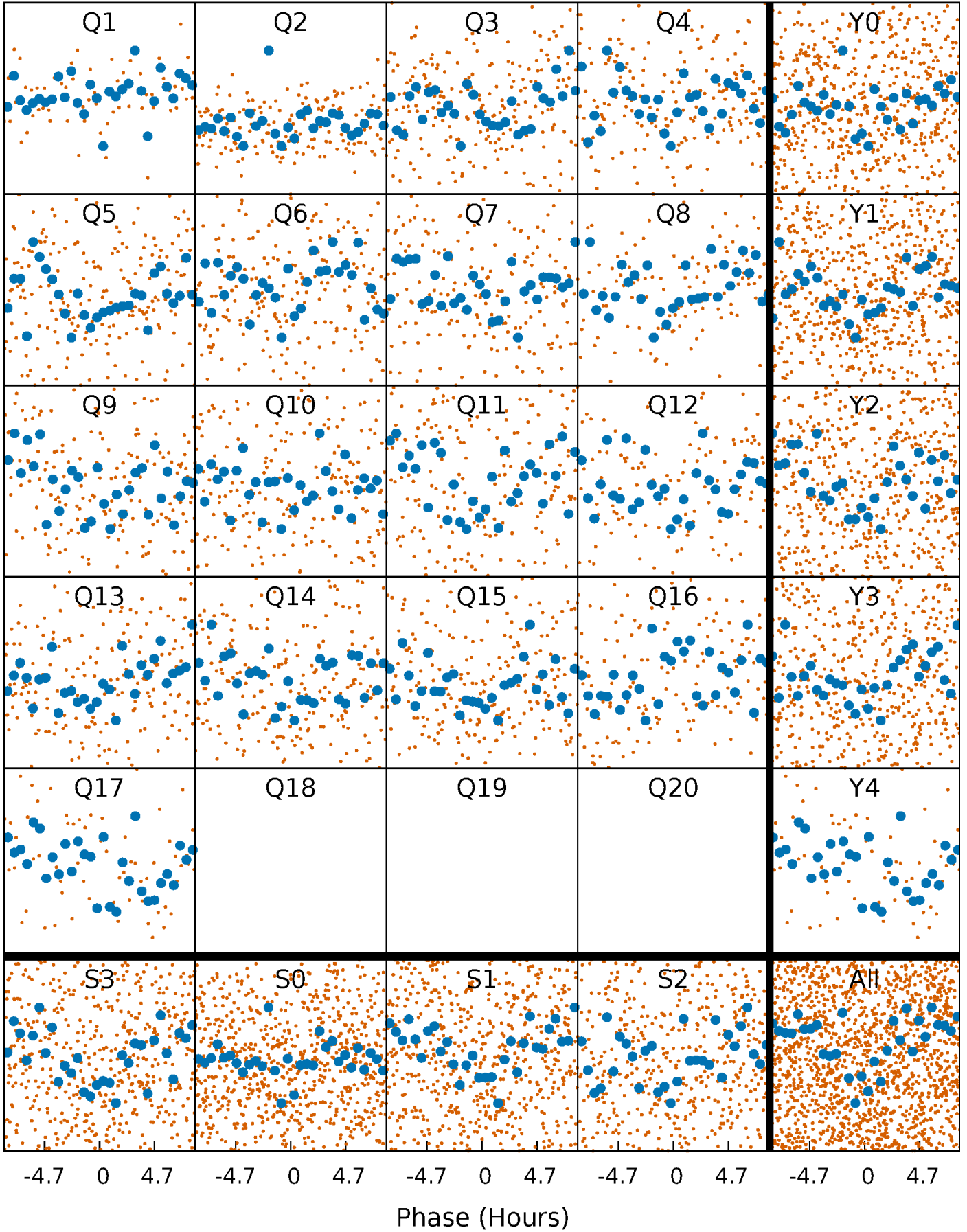


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



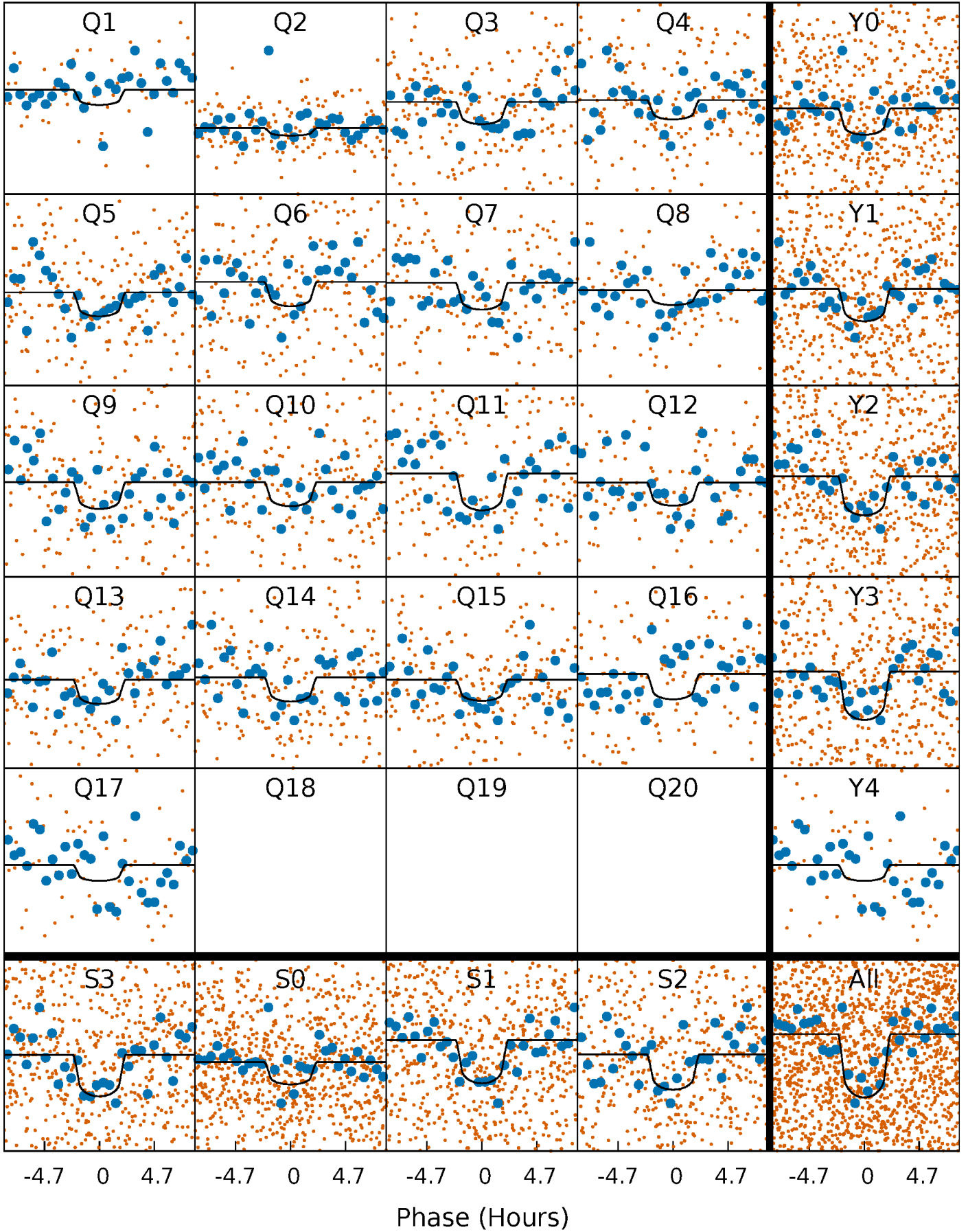
PDC Quarter-Phased Transit Curves

TCE 008227086-01 P= 13.808311 Days $T_0=141.624069$ (BKJD)



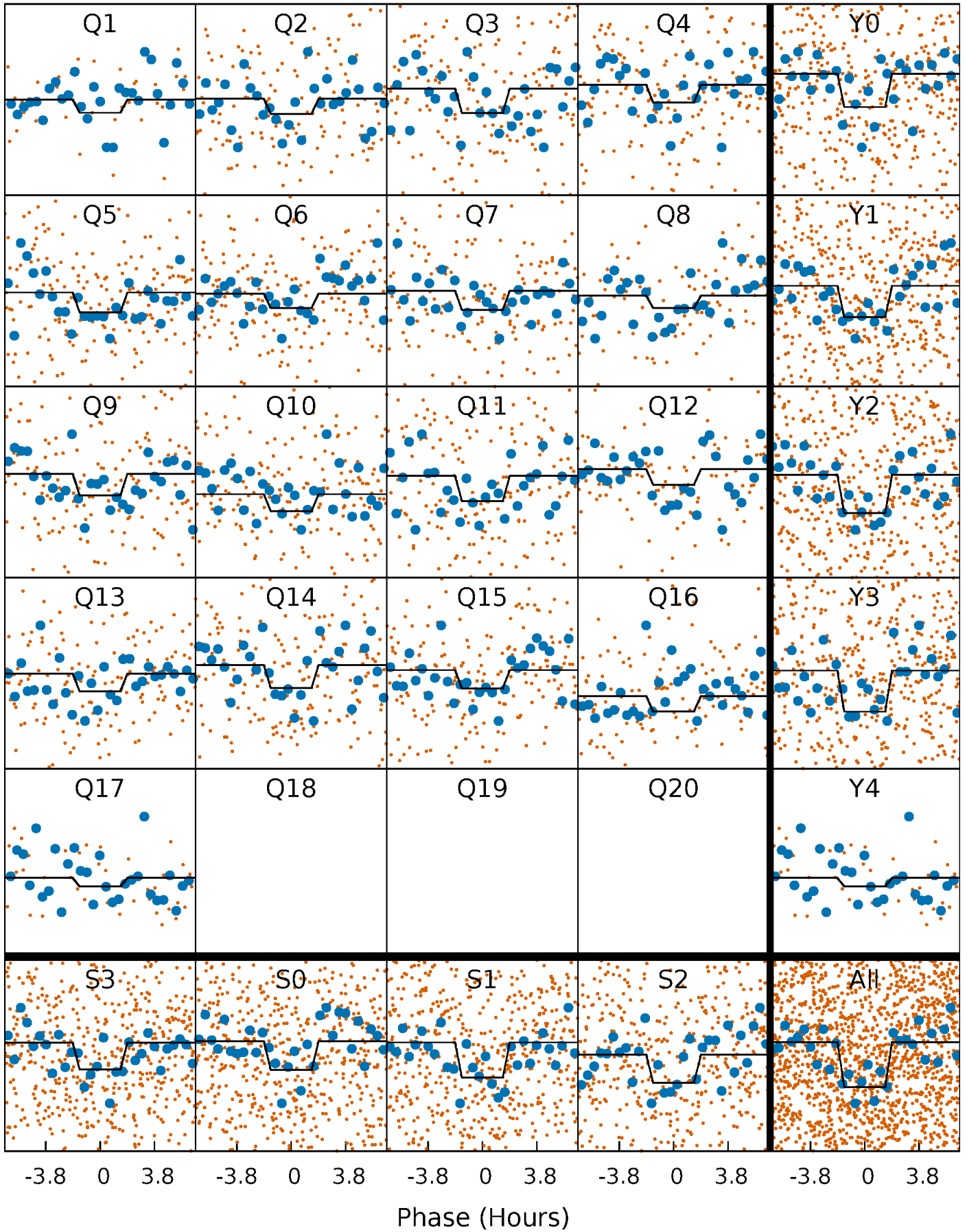
DV Quarter-Phased Transit Curves

TCE 008227086-01 P= 13.808311 Days $T_0=141.624069$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

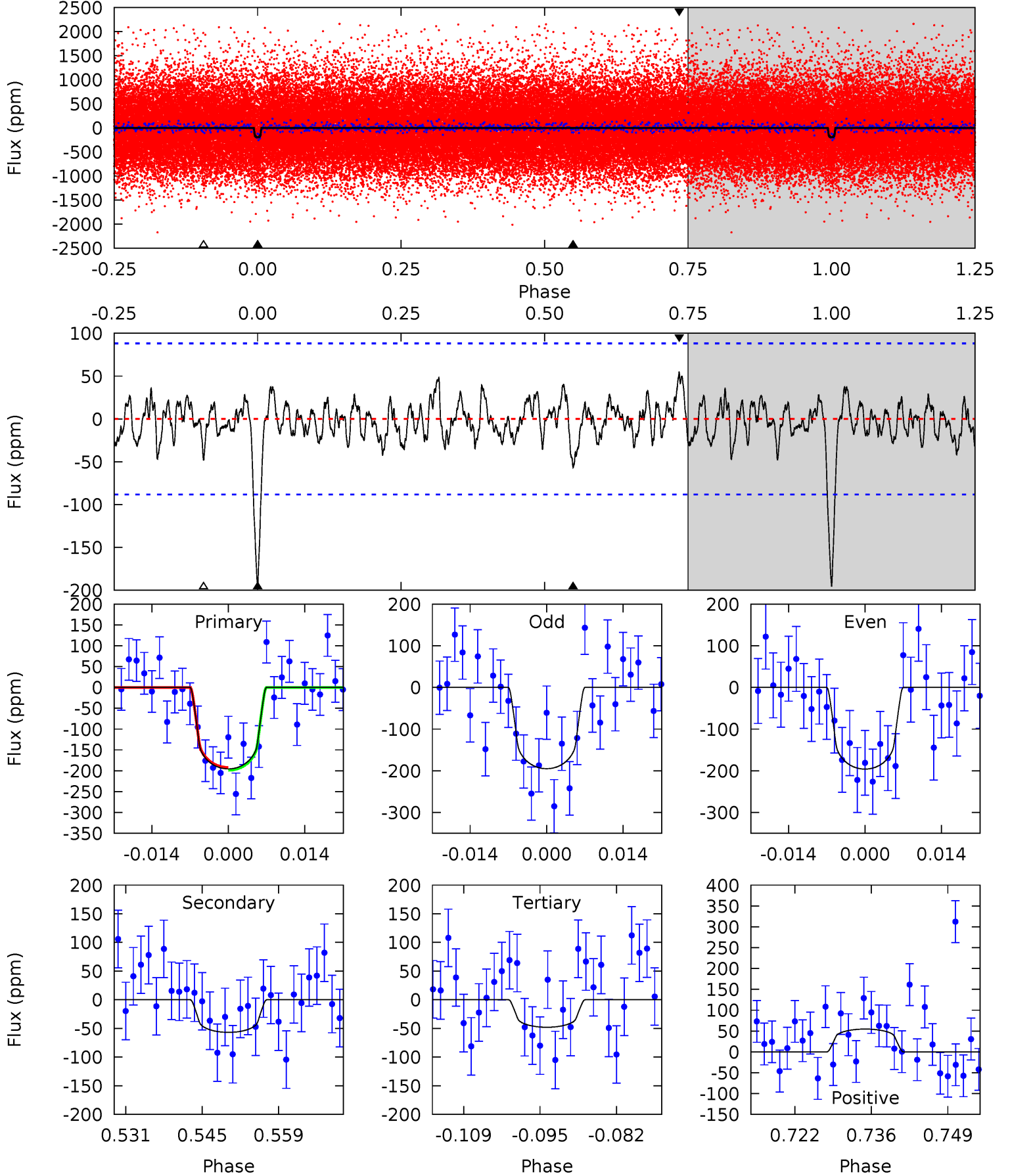
TCE 008227086-01 P= 13.808540 Days $T_0=141.609344$ (BKJD)



DV Model-Shift Uniqueness Test

008227086-01, P = 13.808311 Days, E = 127.815758 Days

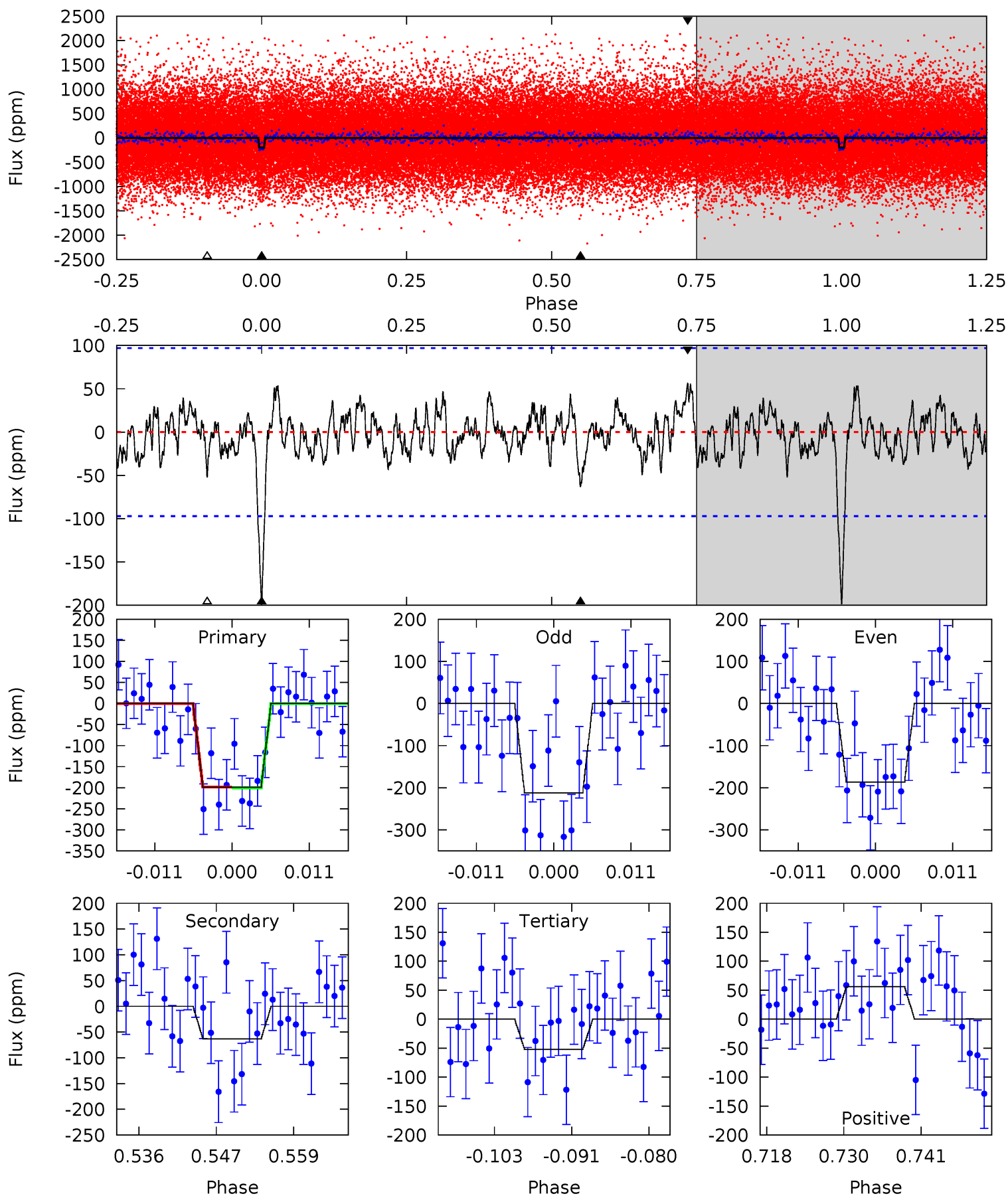
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	3.20	2.70	3.08	4.97	2.47	1.02	8.30	7.93	0.50	0.13	0.03	0.89	0.22	0.17



Alt Model-Shift Uniqueness Test

008227086-01, P = 13.808540 Days, E = 127.800804 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.2	3.27	2.69	2.90	5.00	2.53	1.04	7.54	7.33	0.58	0.37	0.67	0.93	0.22	0.05



Stellar Parameters For KIC 008227086

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5515^{+165}_{-165}	$4.568^{+0.056}_{-0.112}$	$-0.440^{+0.300}_{-0.300}$	$0.761^{+0.137}_{-0.074}$	$0.782^{+0.102}_{-0.063}$	$2.498^{+0.641}_{-0.868}$
	+3%/-3%	+1%/-2%	+68%/-68%	+18%/-10%	+13%/-8%	+26%/-35%
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 008227086-01 / KOI 6993.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-57 ± 18	$1.43^{+1.03}_{-0.87}$	928^{+45}_{-36}	3963^{+1944}_{-641}	156^{+874}_{-103}
Alt.	-63 ± 19	$1.40^{+1.05}_{-0.90}$	930^{+44}_{-40}	4104^{+2186}_{-754}	188^{+1261}_{-132}

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 $A_{obs} \gg 1.0$

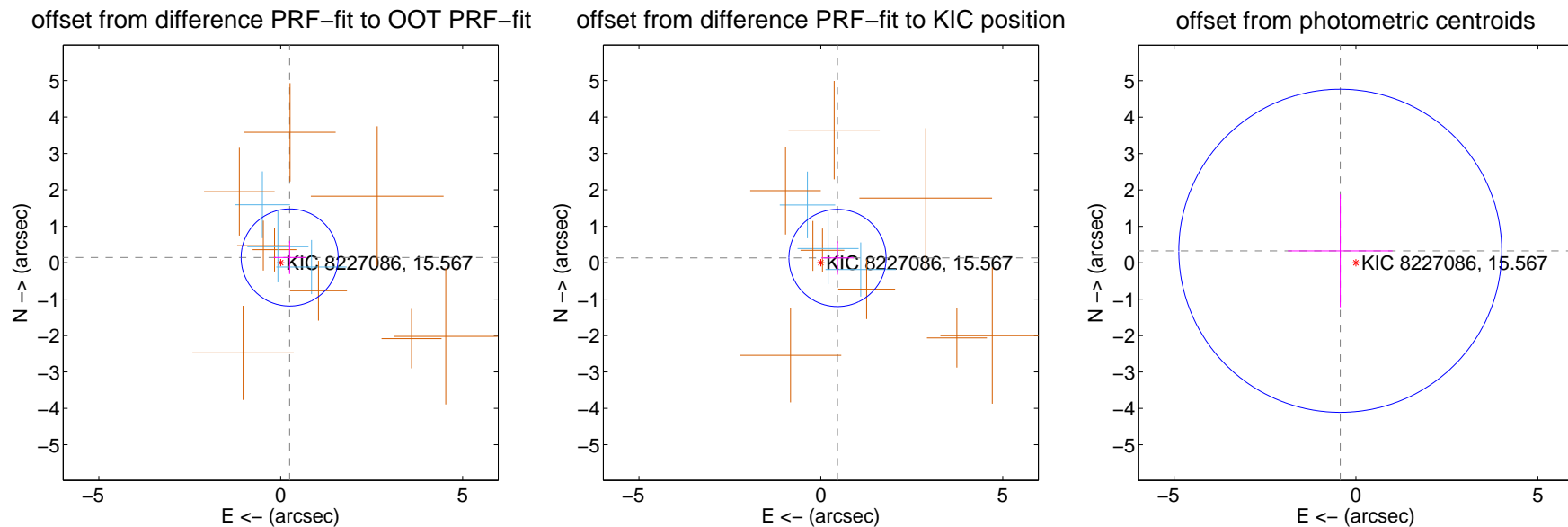
DV Centroid Data

Supplemental centroid analysis for 008227086-01. Kepler magnitude: 15.57. Transit SNR 9.46

There are 3 quarters with good PRF difference image offsets

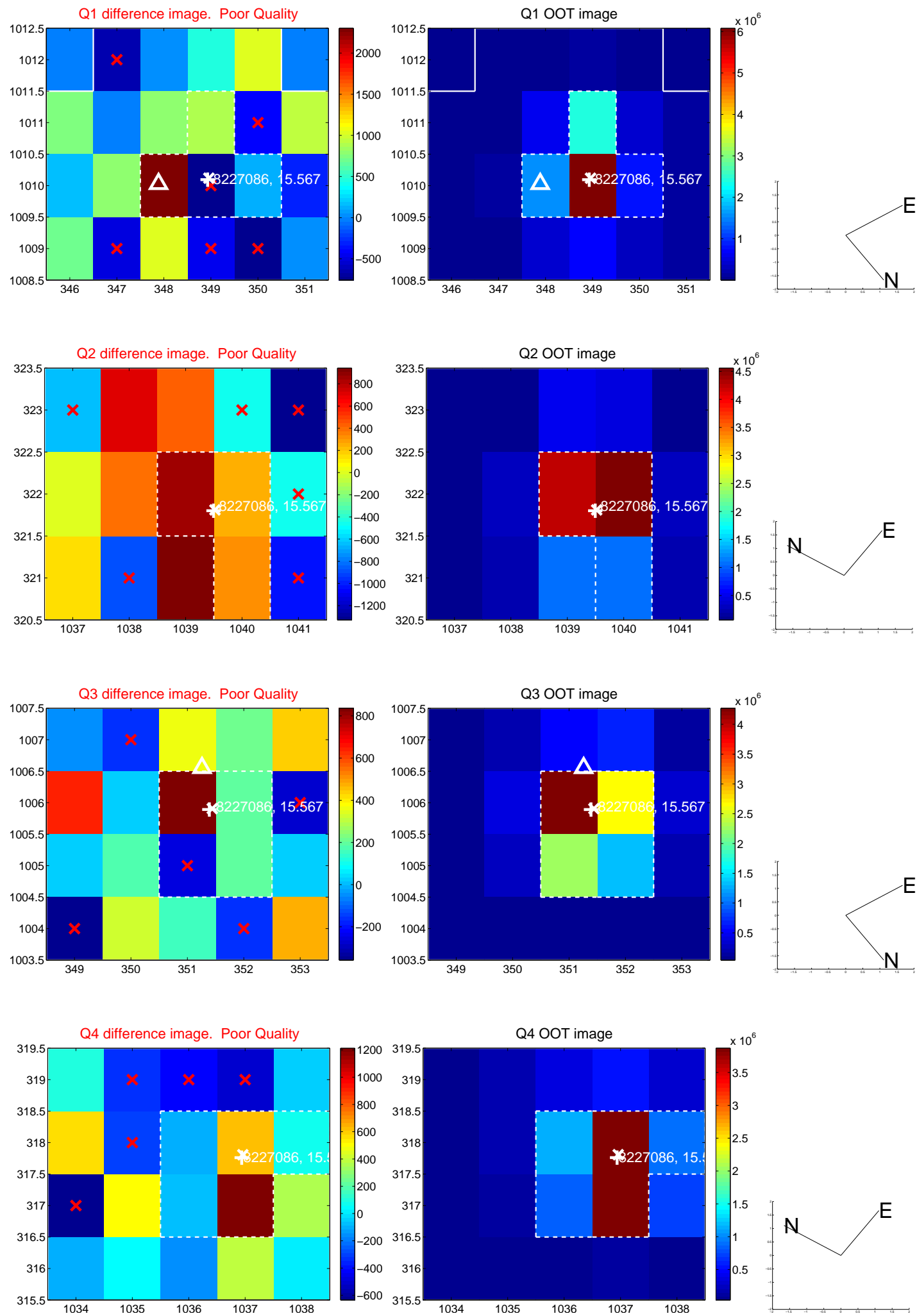
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.283 ± 0.445	0.64	-0.245 ± 0.441	0.143 ± 0.454
PRF-fit source offset from KIC position	0.476 ± 0.445	1.07	-0.457 ± 0.444	0.130 ± 0.459
photometric centroid source offset	0.54 ± 1.48	0.37	0.43 ± 1.44	0.33 ± 1.55

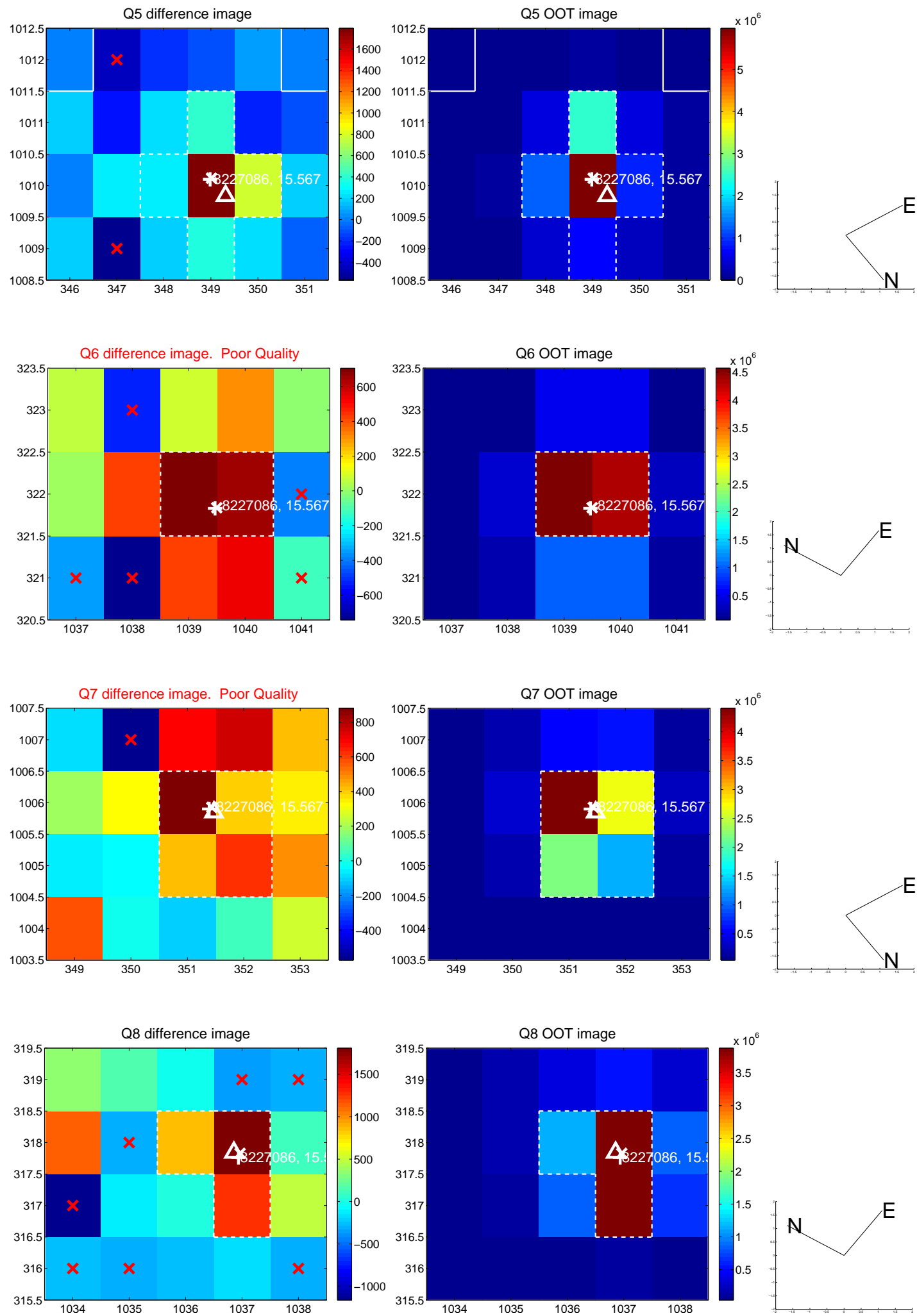


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

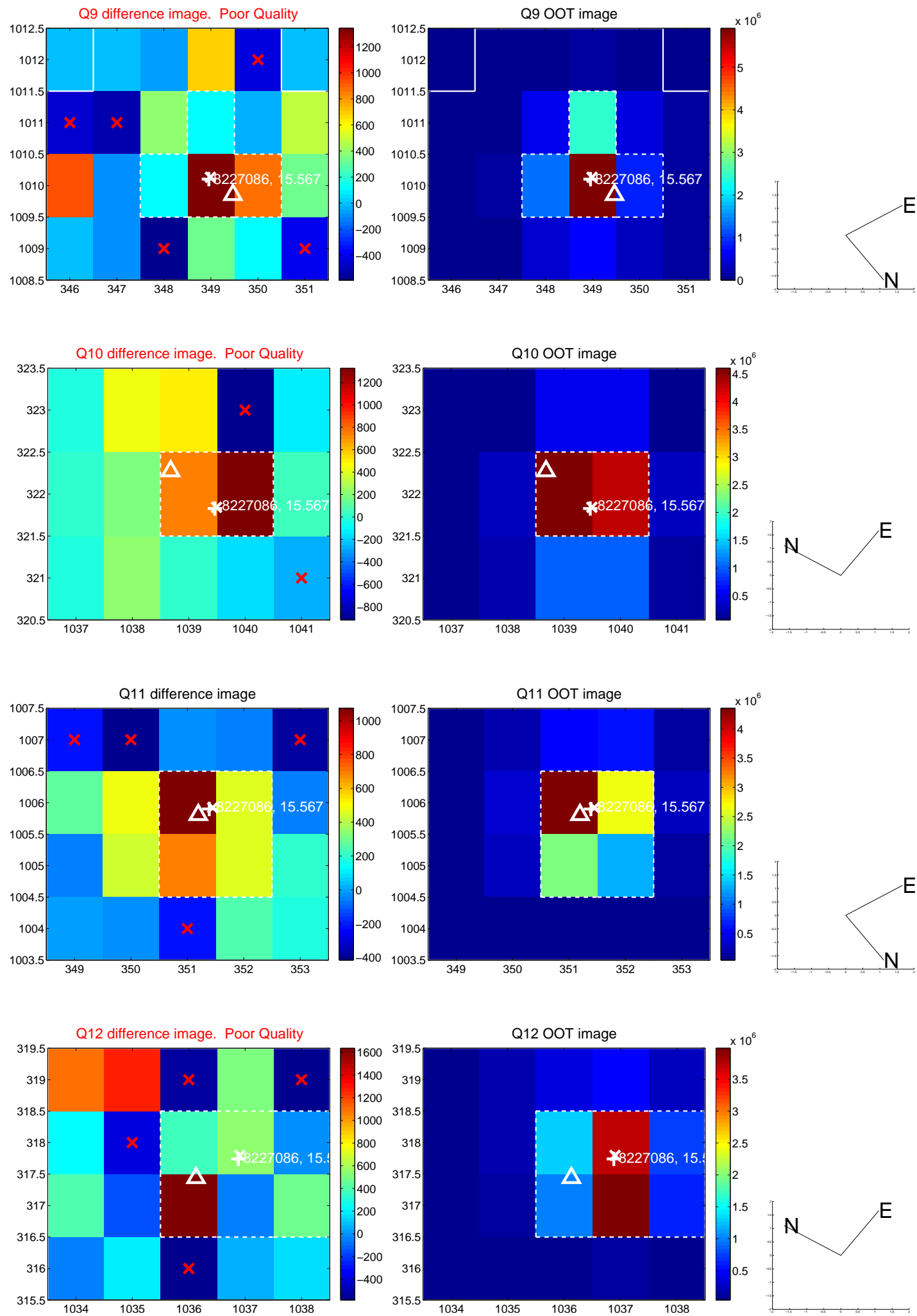
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



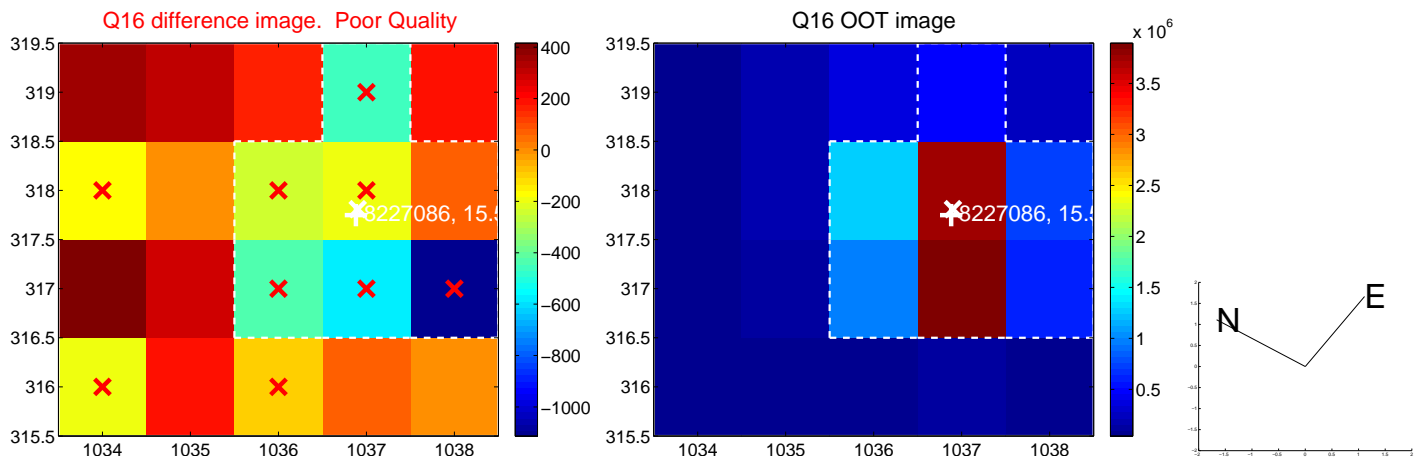
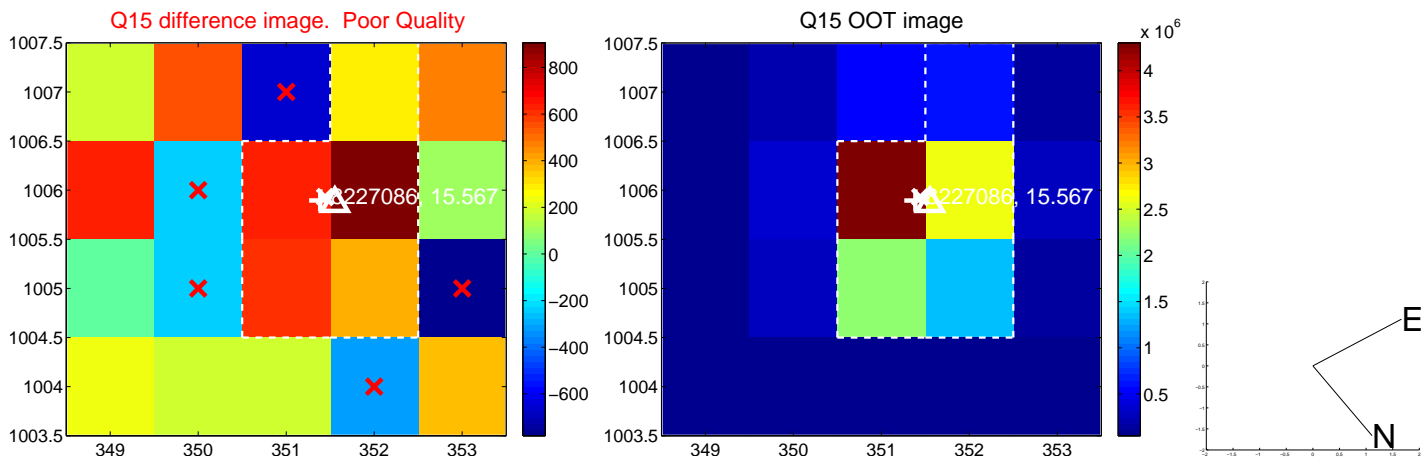
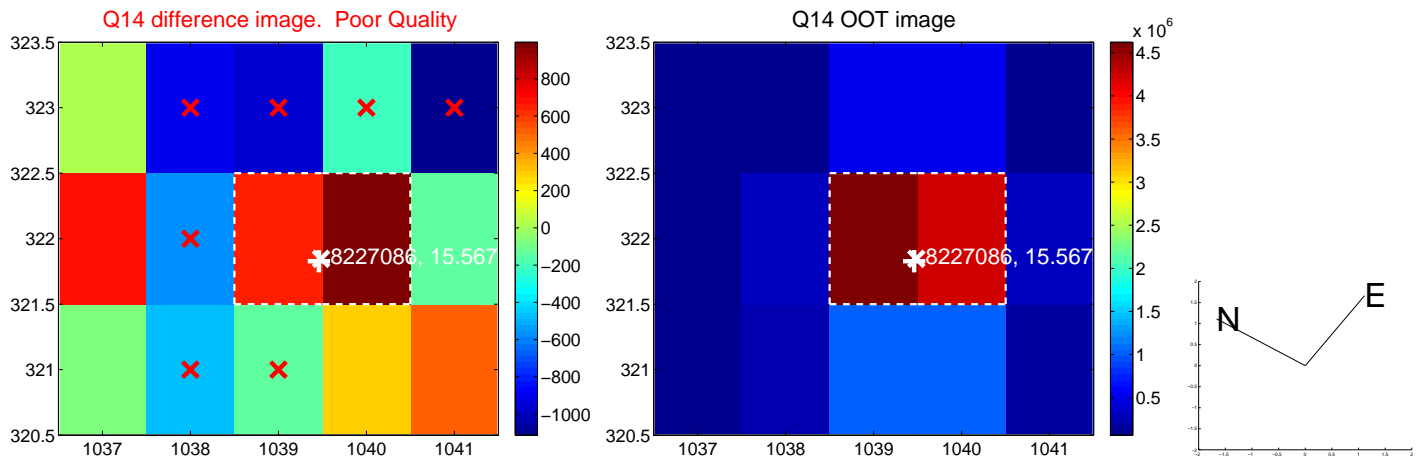
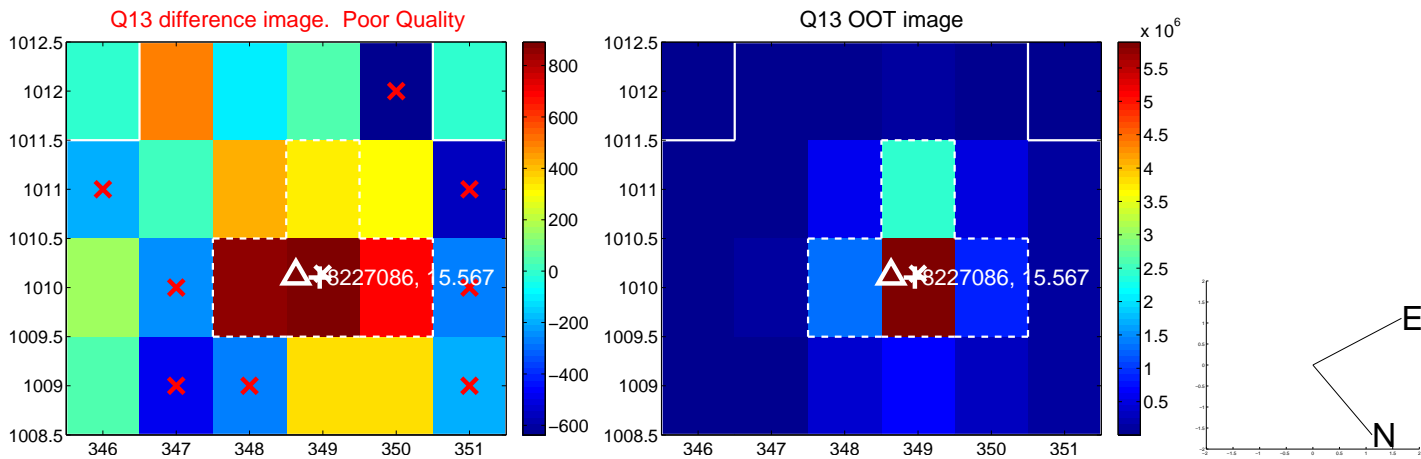
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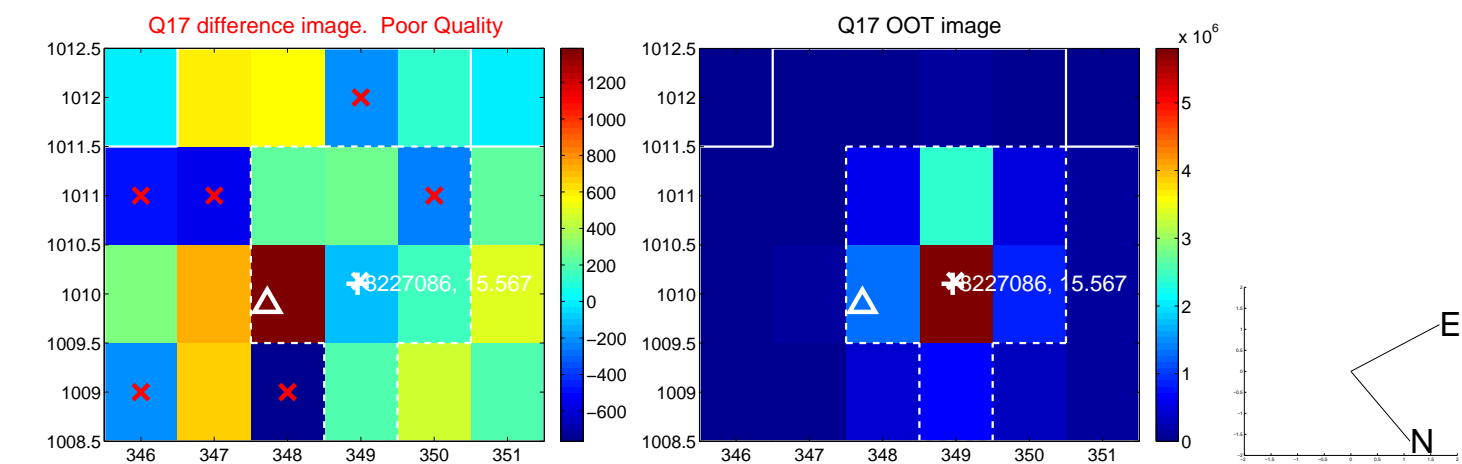
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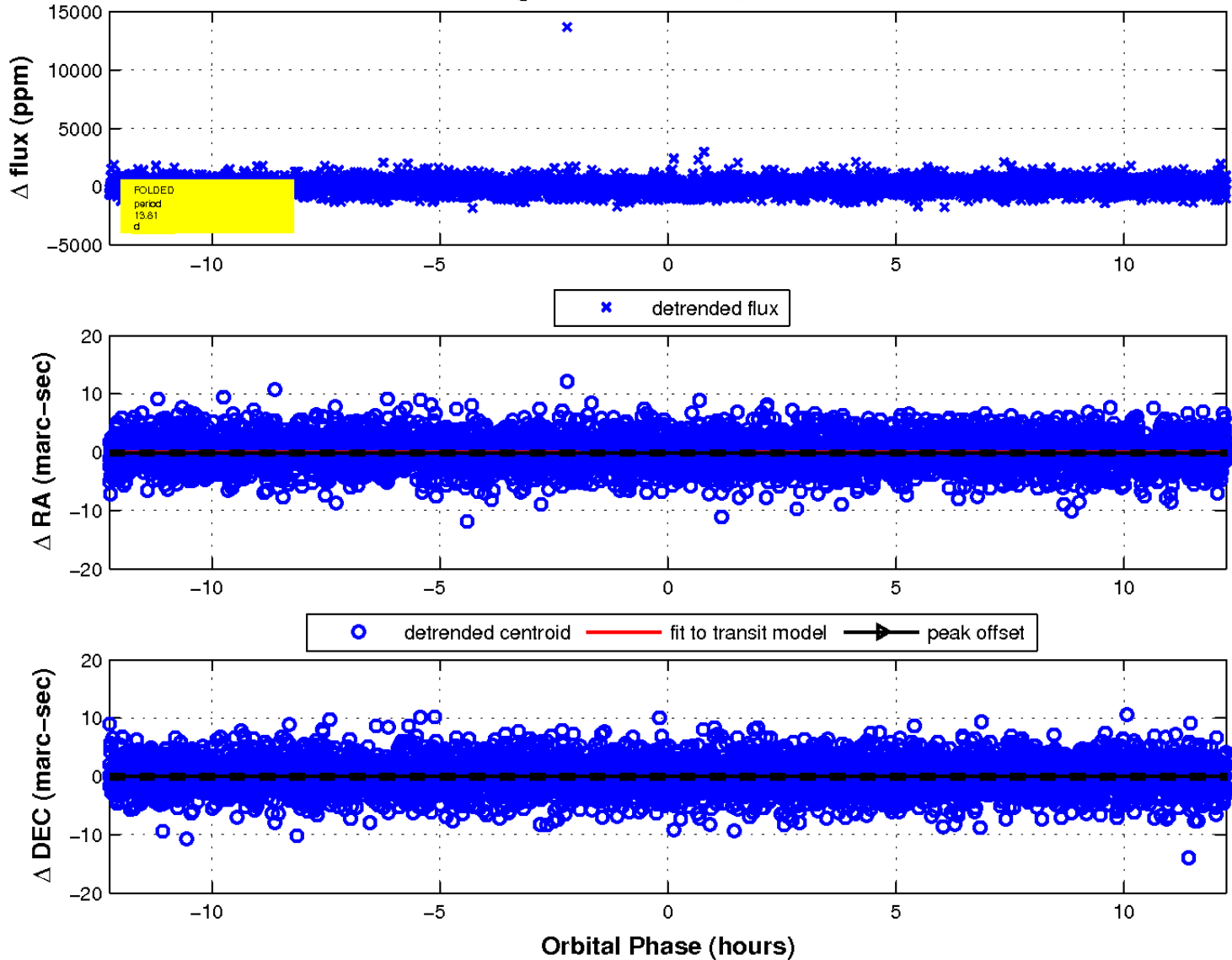
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

