

KIC 008078502

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})
008078502-01	OBS	3383.01	37.886627	133.025476	688.5	5.647	14.6	15.5	0.82	5513	2.45	12.48

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008078502-01	OBS	PC	0.92	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 008078502-01

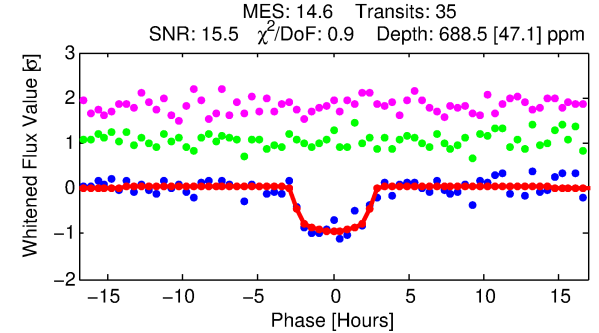
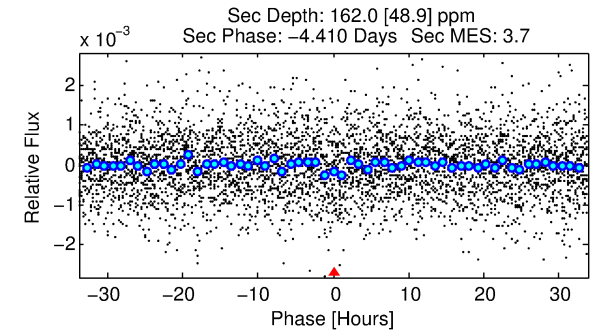
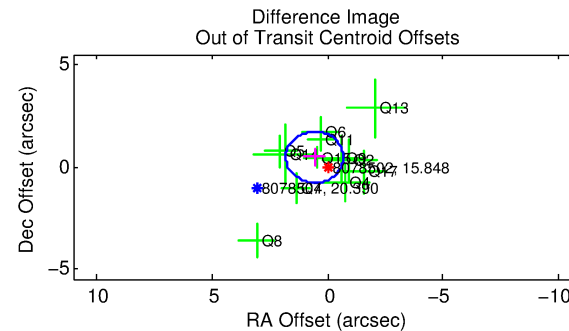
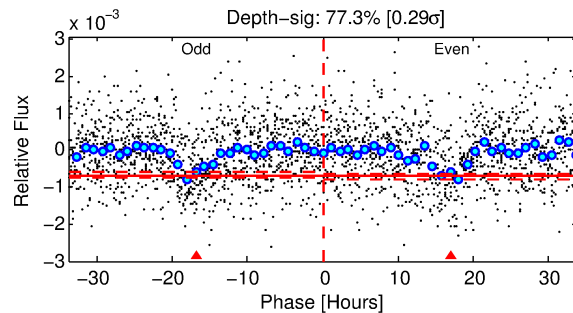
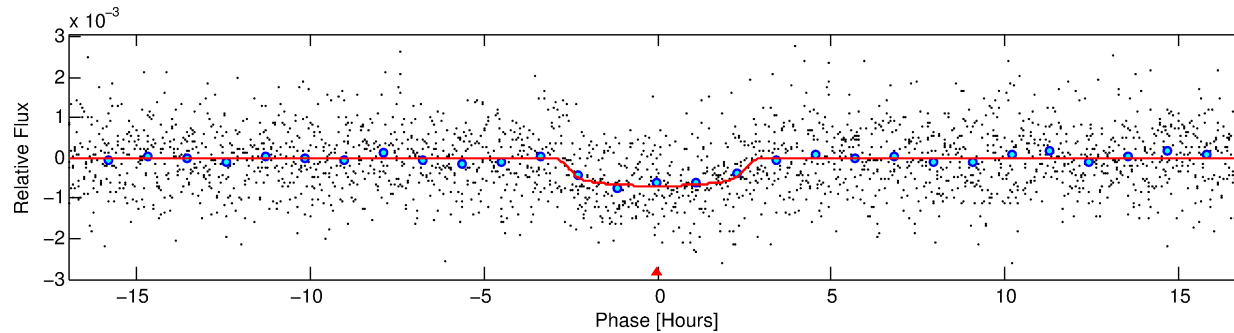
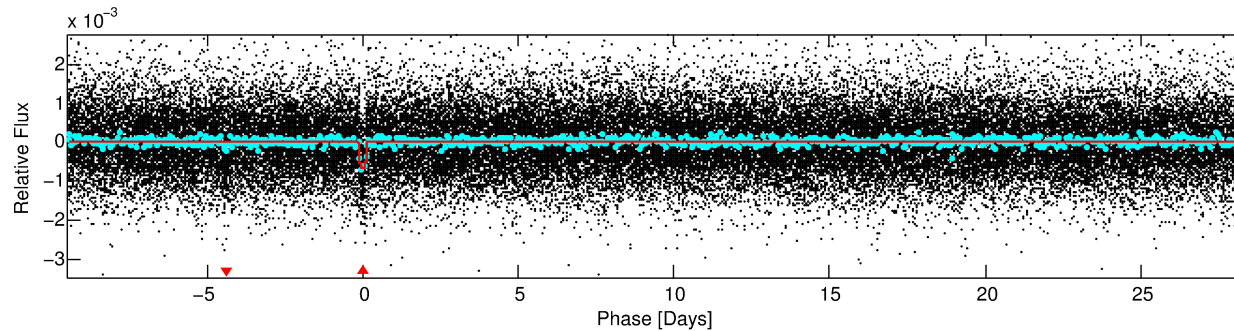
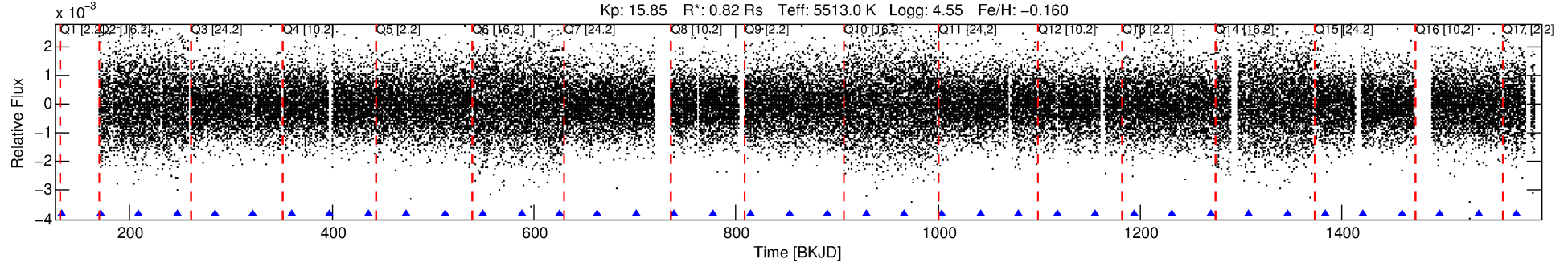
No Significant Match Found

DV One-Page Summary

KIC: 8078502 Candidate: 1 of 1 Period: 37.887 d

KOI: K03383.01 Corr: 0.956

Kp: 15.85 R*: 0.82 Rs Teff: 5513.0 K Logg: 4.55 Fe/H: -0.160



DV Fit Results:

Period = 37.88663 [0.00039] d
Epoch = 133.0255 [0.0090] BKJD
Rp/R* = 0.0274 [0.0063]
a/R* = 30.20 [29.20]
b = 0.84 [0.34]
Seff = 12.48 [3.66]
Teq = 479 [35] K
Rp = 2.45 [0.79] Re
a = 0.2106 [0.0396] AU
Ag = 660.70 [403.85] [1.63σ]
Teffp = 3757 [529] K [6.19σ]

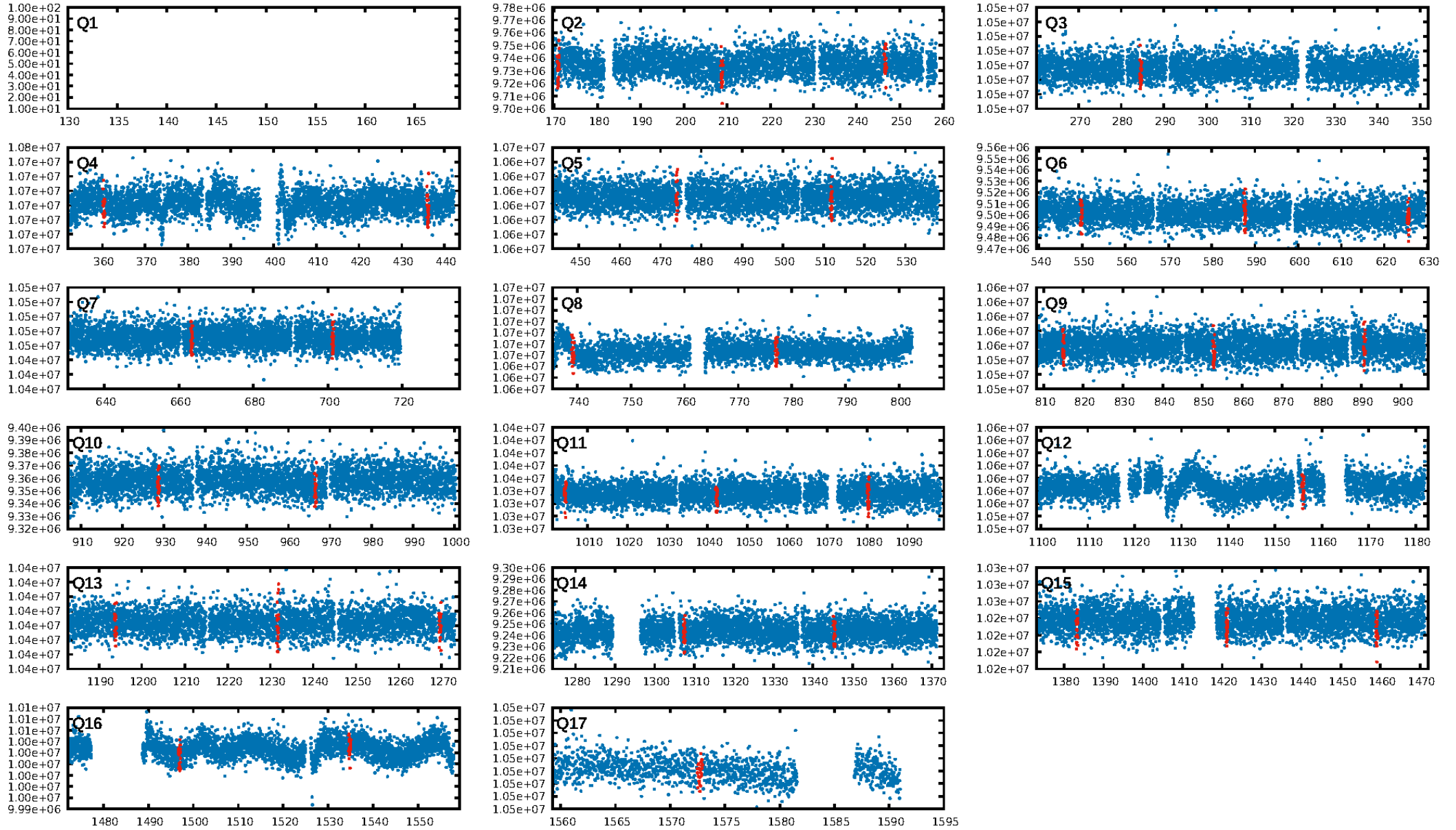
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 5.89e-48
RollingBand-fgt: 1.00 [34/34]
GhostDiagnostic-chr: -9.806
Centroid-sig: 15.0%
Centroid-so: 1.262 arcsec [1.14σ]
OotOffset-rm: 0.731 arcsec [1.76σ]
KicOffset-rm: 0.888 arcsec [2.13σ]
OotOffset-st: 3/3/2/4 [12]
KicOffset-st: 3/3/2/4 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 1.00 [15/15]

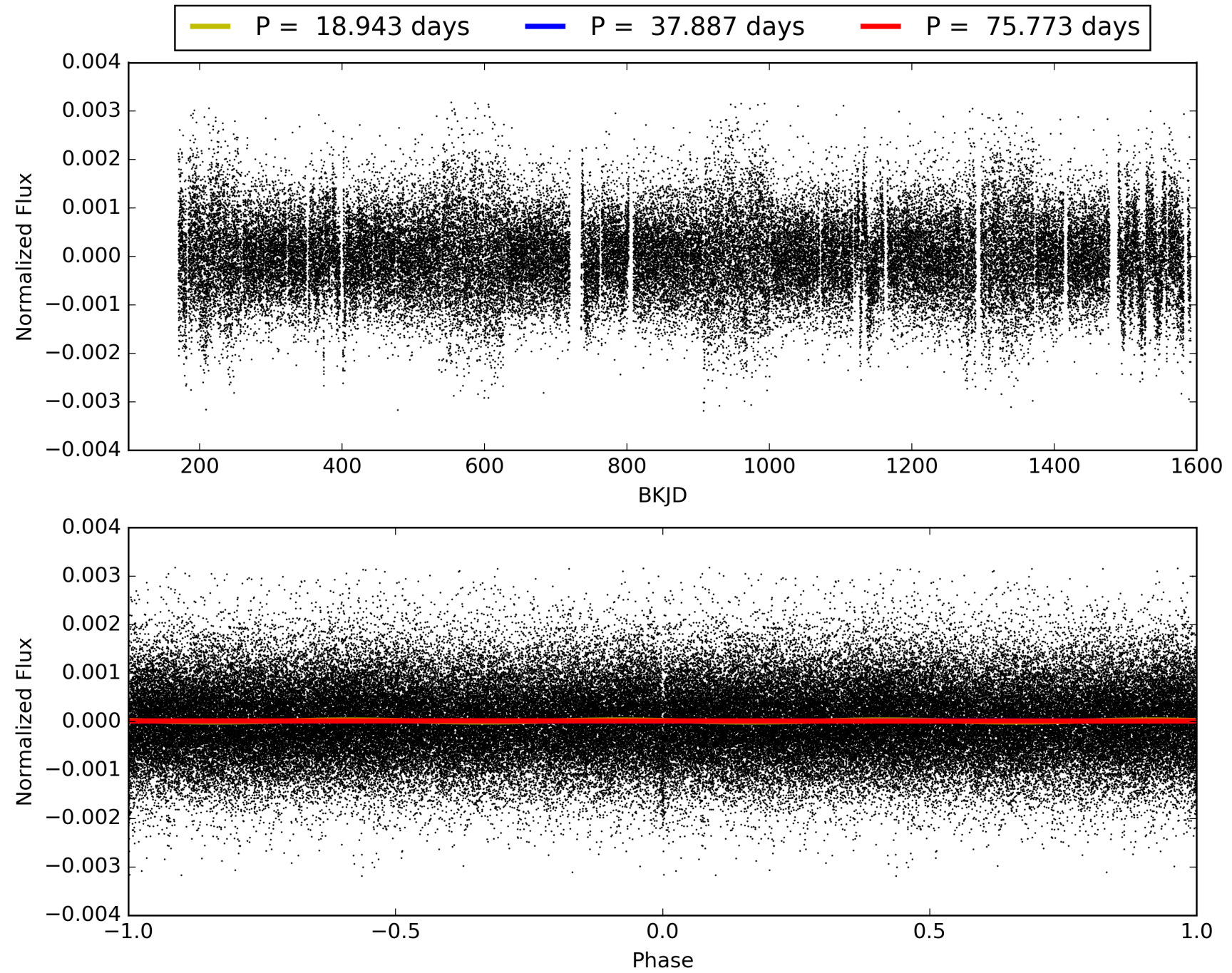
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:56:45 Z

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

TCE 008078502-01, PDC Light Curves

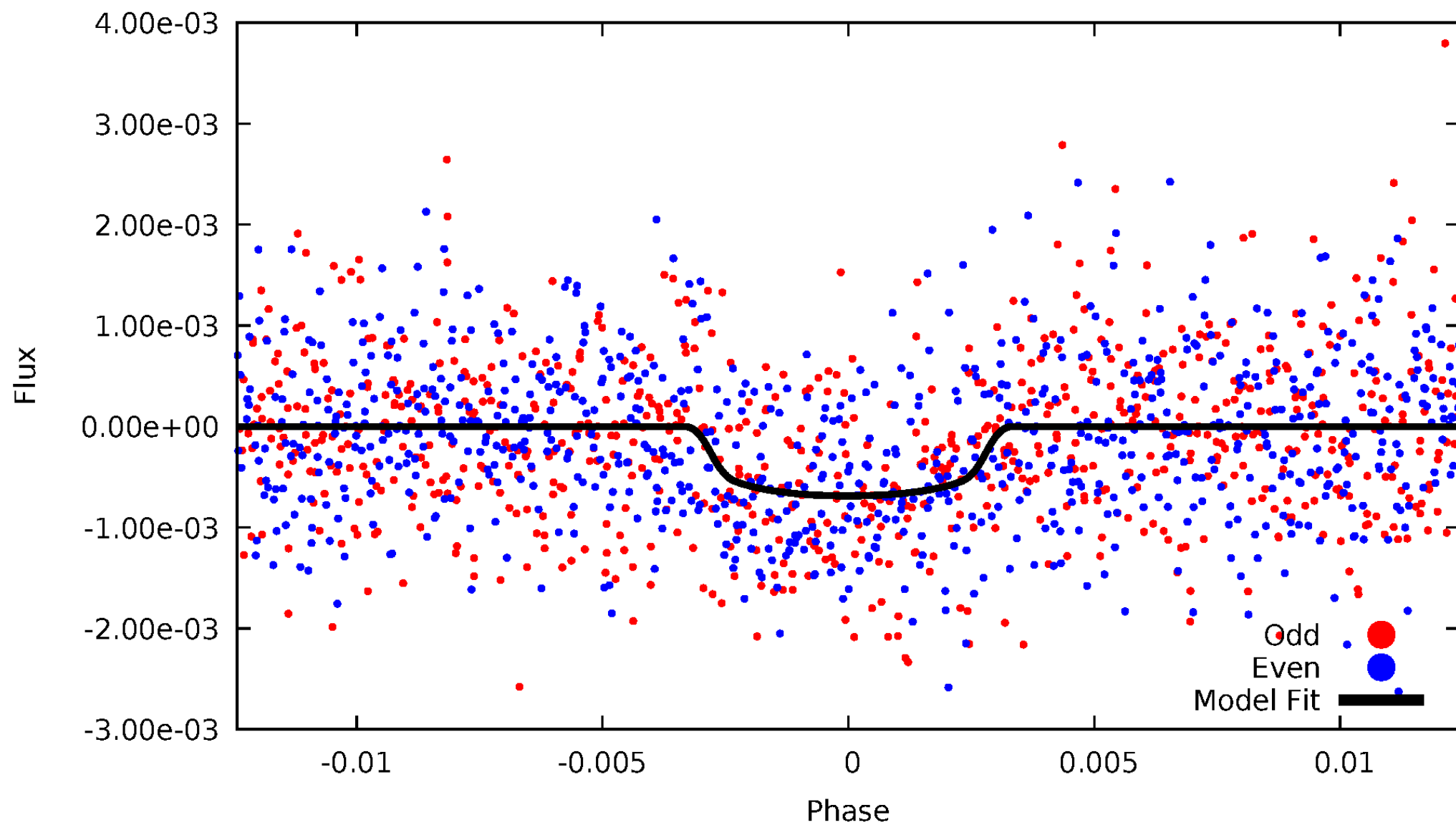


TCE 008078502-01



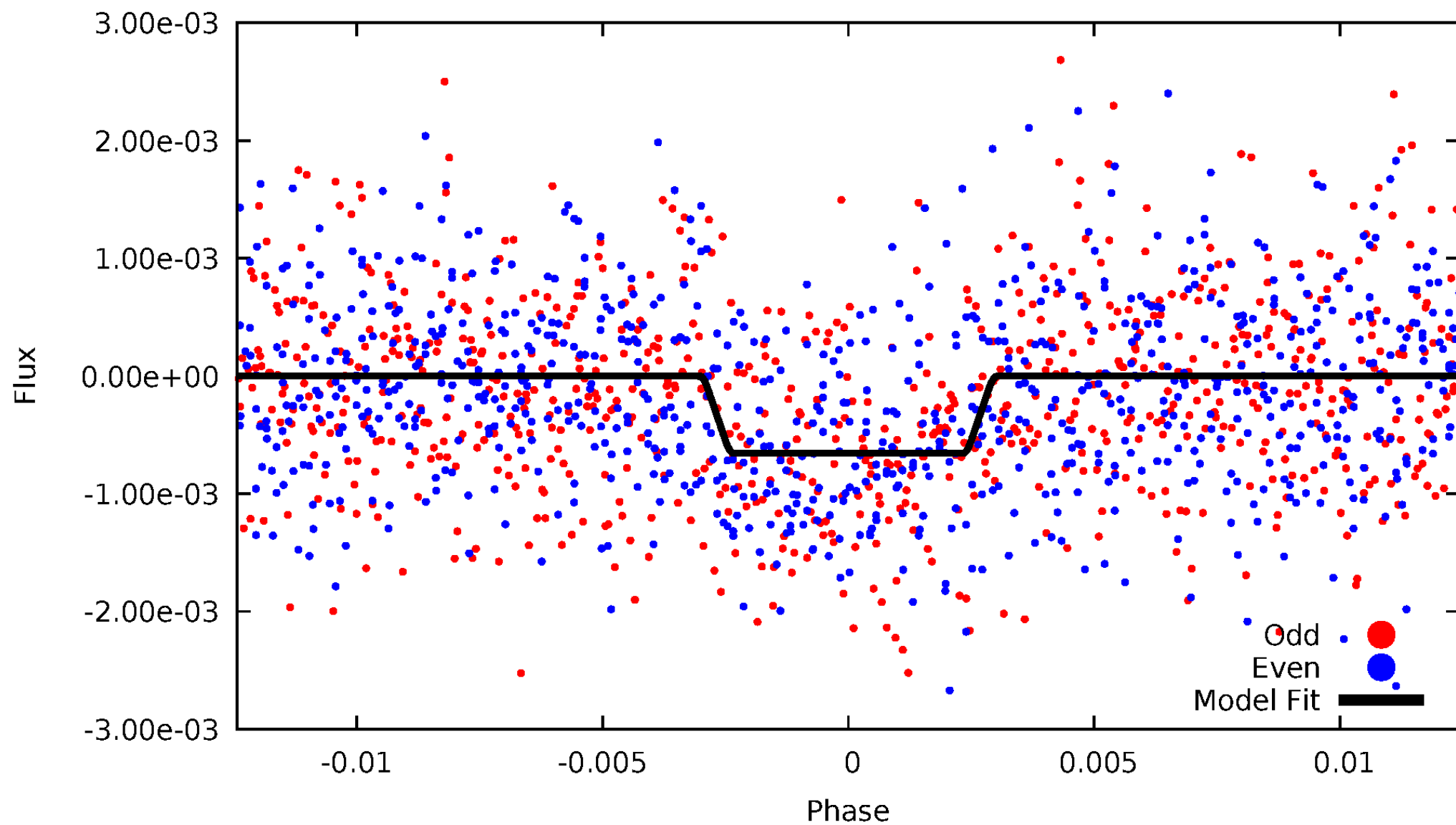
DV Odd/Even

TCE 008078502-01



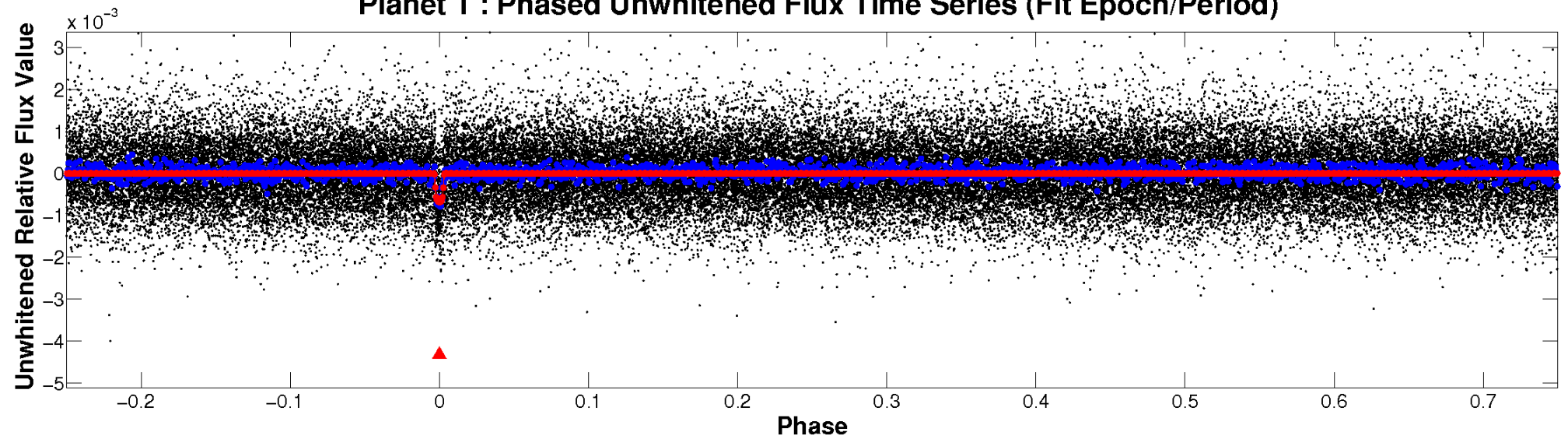
ALT Odd/Even

TCE 008078502-01

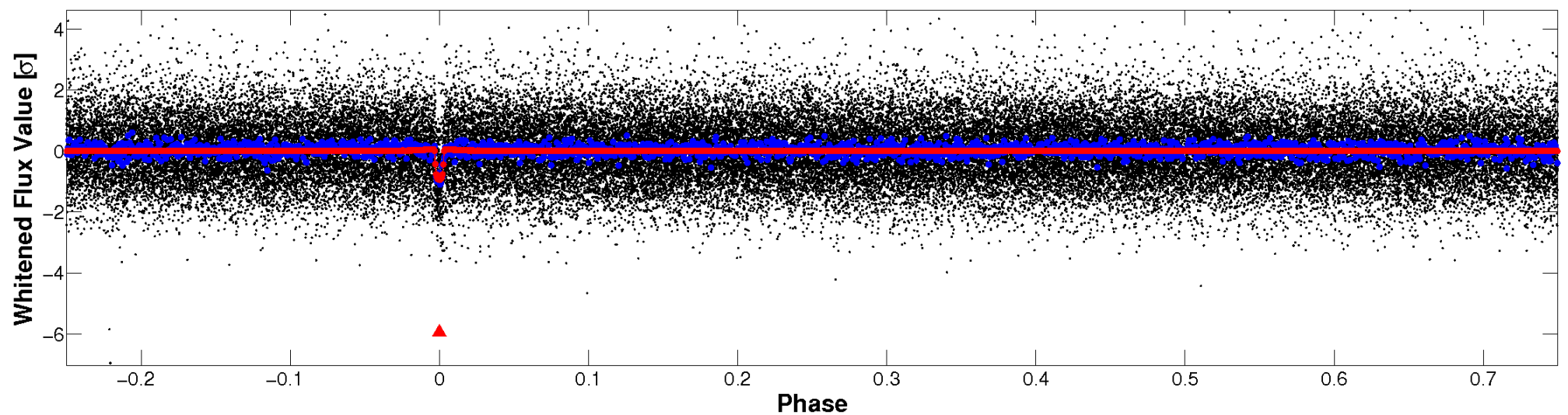


Non-Whitened Vs. Whitened Light Curve

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

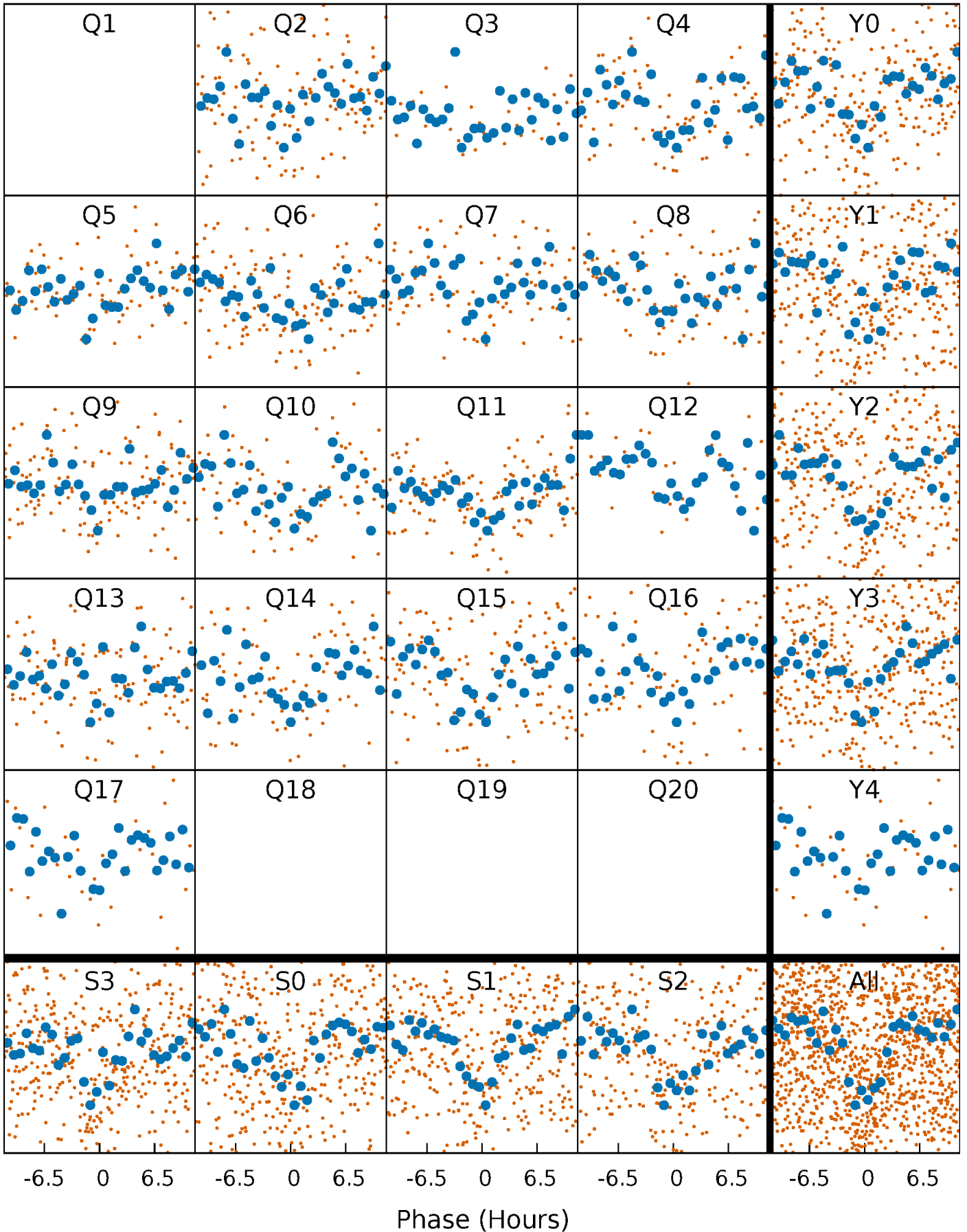


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



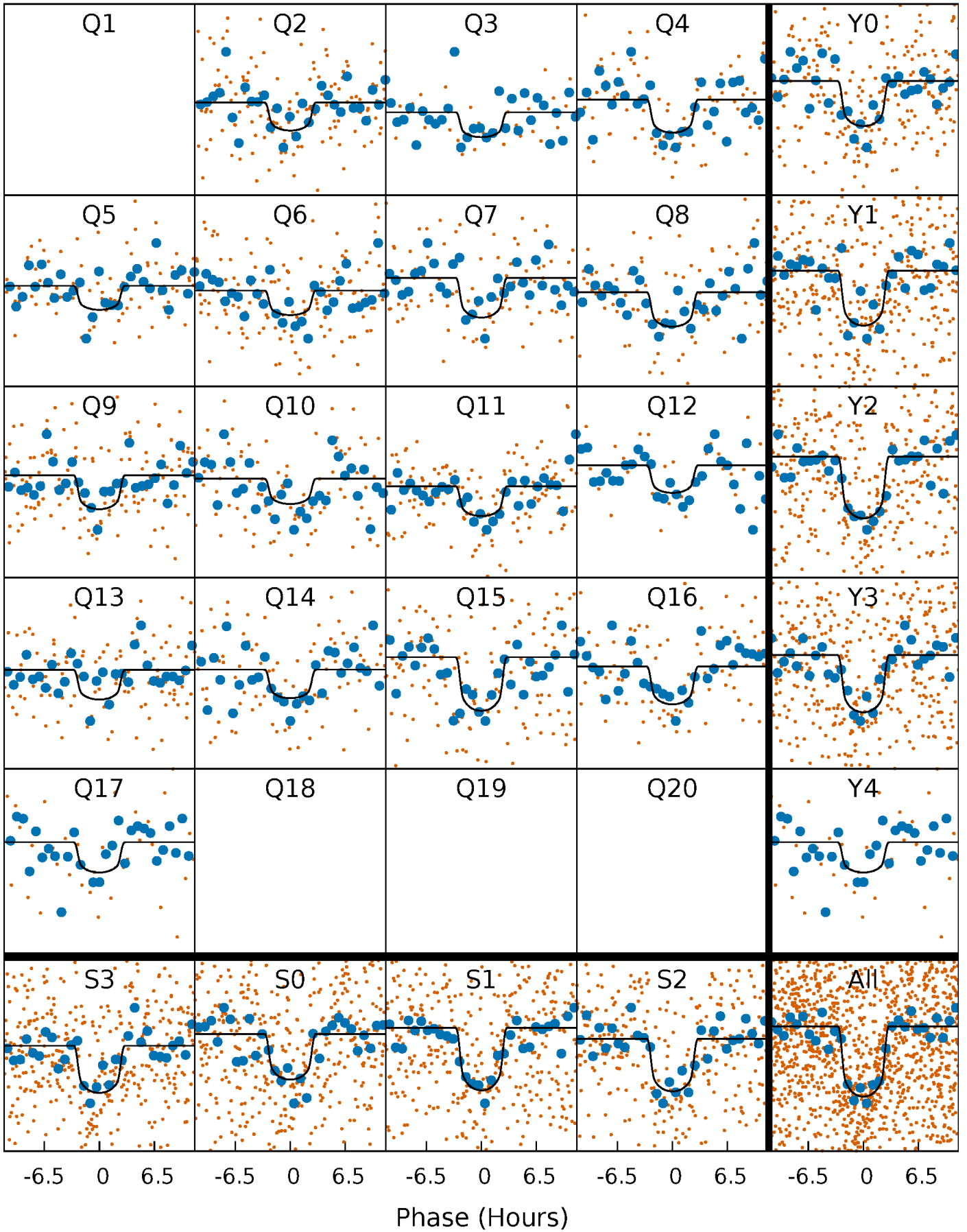
PDC Quarter-Phased Transit Curves

TCE 008078502-01 P= 37.886627 Days $T_0=133.025476$ (BKJD)



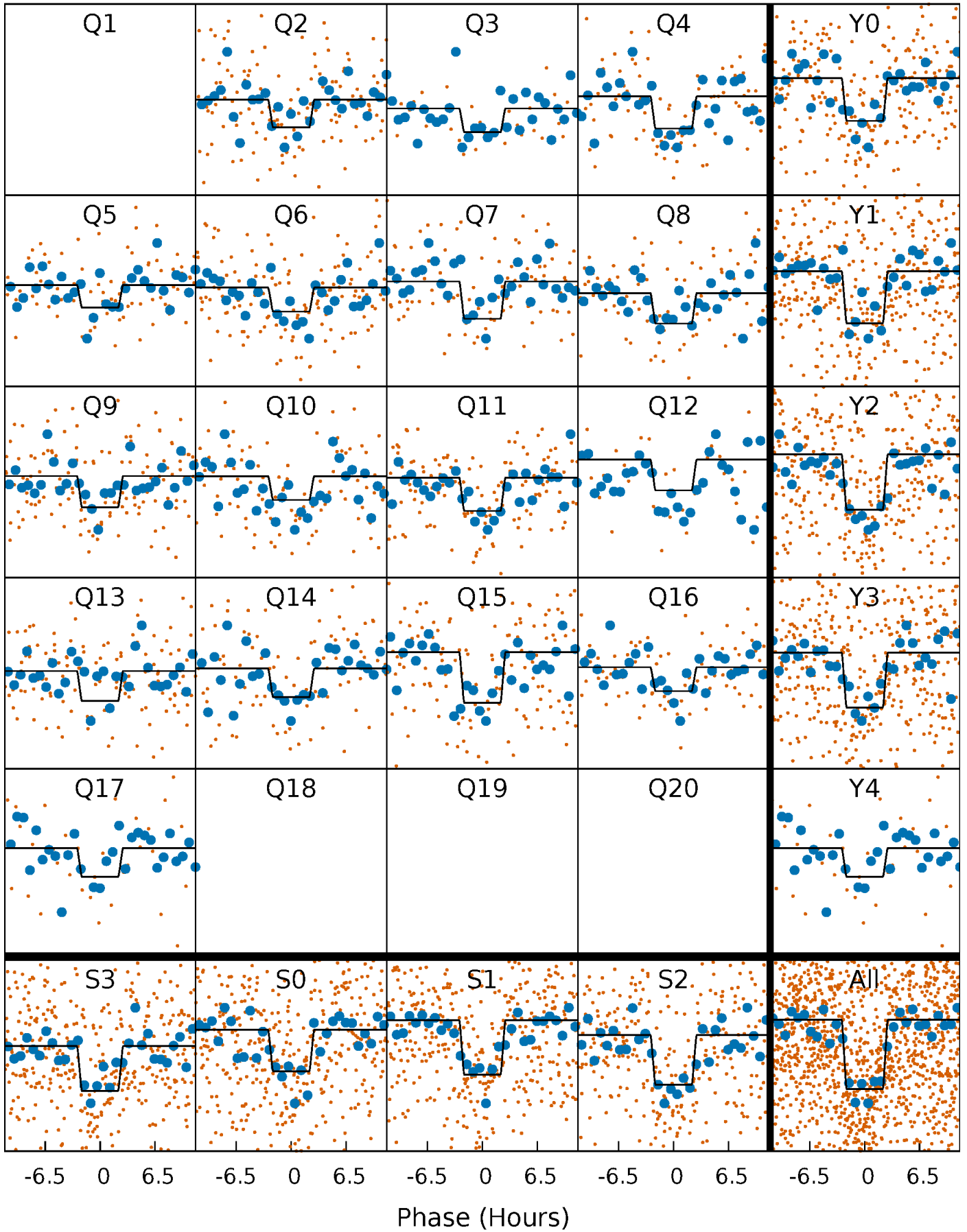
DV Quarter-Phased Transit Curves

TCE 008078502-01 P= 37.886627 Days $T_0=133.025476$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

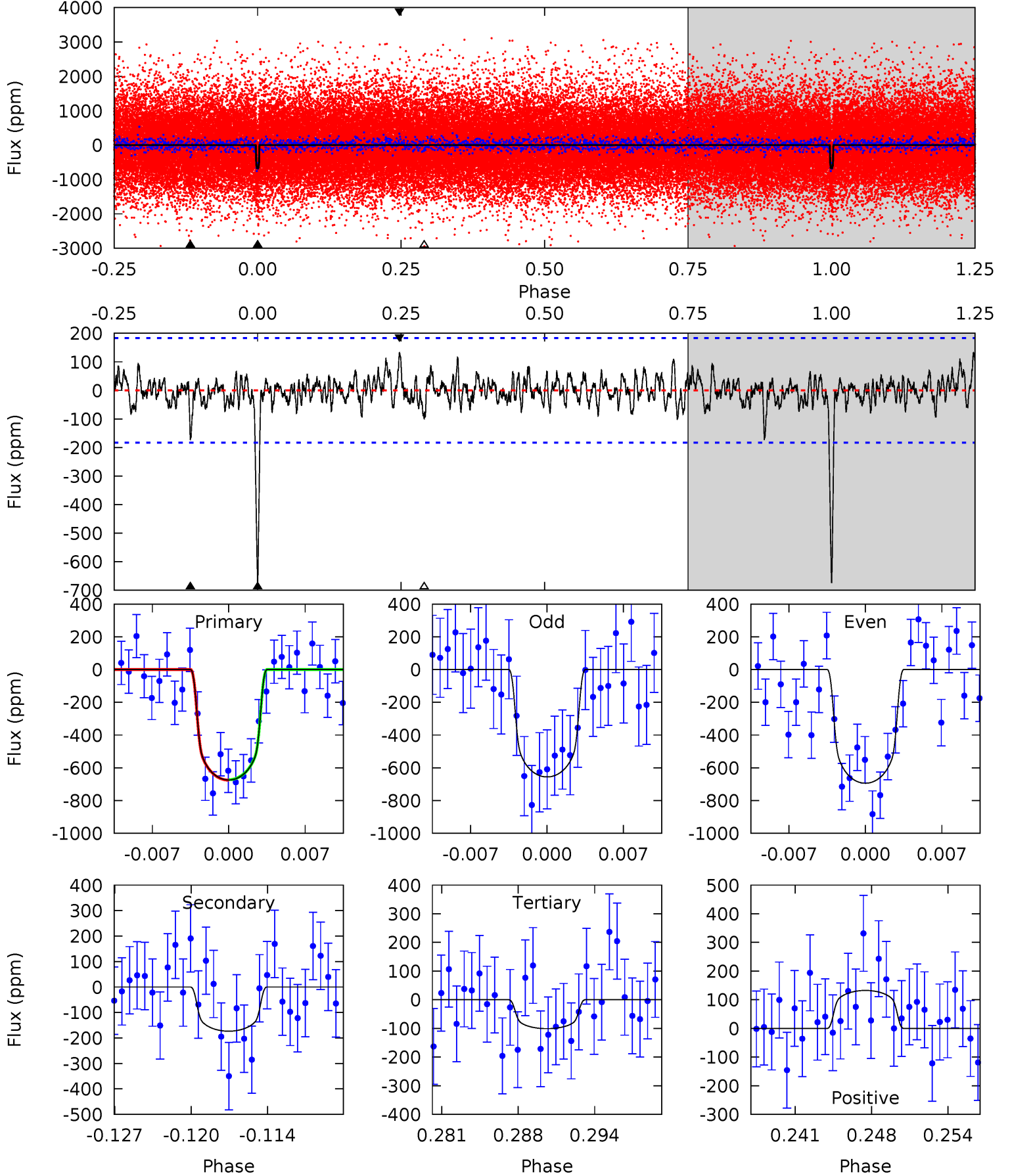
TCE 008078502-01 P= 37.886716 Days $T_0=133.024203$ (BKJD)



DV Model-Shift Uniqueness Test

008078502-01, P = 37.886627 Days, E = 133.025476 Days

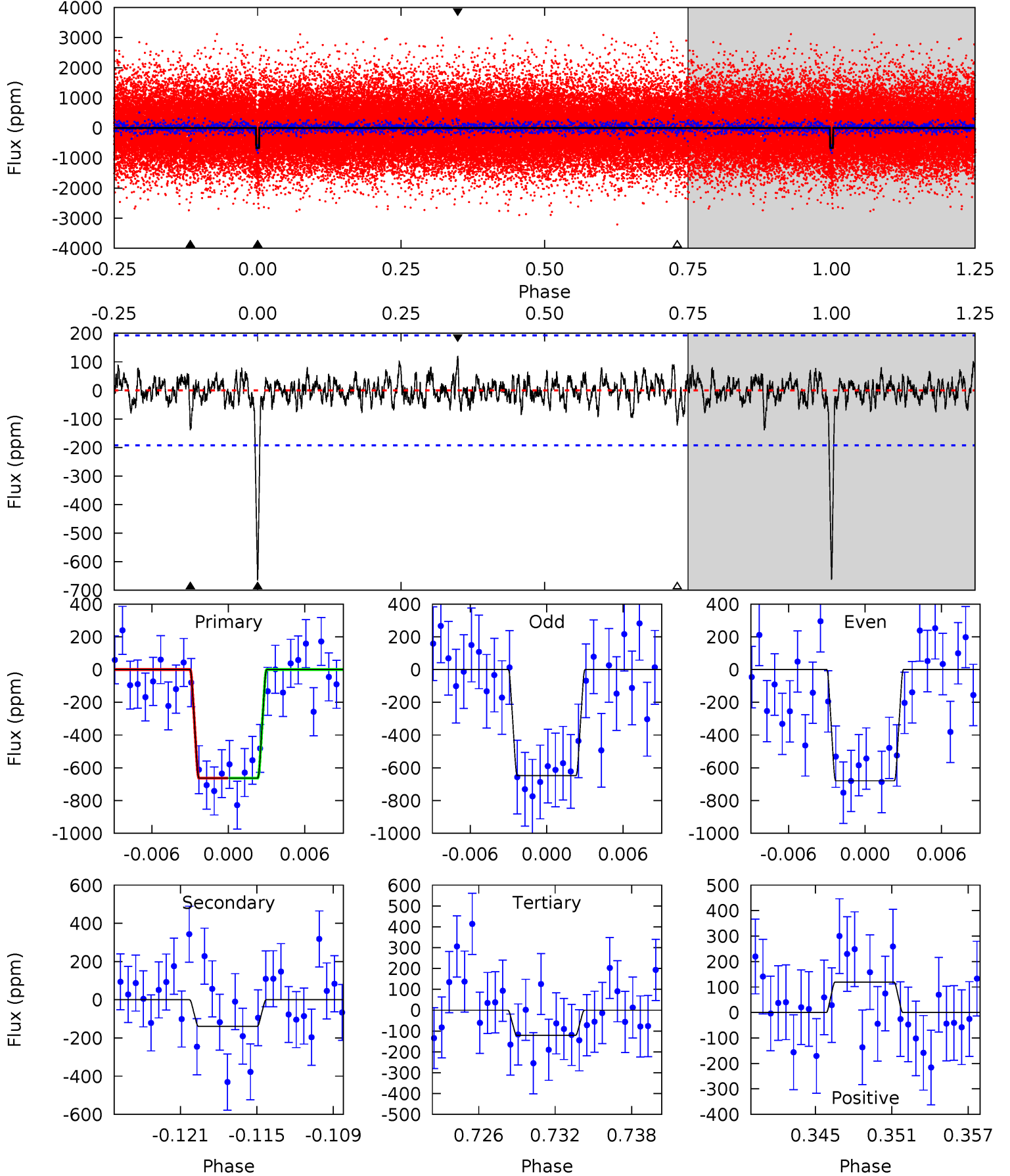
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.8	4.83	2.81	3.69	5.10	2.71	1.04	16.0	15.1	2.02	1.14	0.53	0.95	0.16	0.04



Alt Model-Shift Uniqueness Test

008078502-01, $P = 37.886716$ Days, $E = 133.024203$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.7	3.70	3.21	3.18	5.12	2.75	0.90	14.4	14.5	0.49	0.52	0.42	0.99	0.15	0.01



Stellar Parameters For KIC 008078502

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5513^{+166}_{-166}	$4.551^{+0.048}_{-0.143}$	$-0.160^{+0.300}_{-0.300}$	$0.818^{+0.187}_{-0.080}$	$0.868^{+0.092}_{-0.092}$	$2.233^{+0.545}_{-0.888}$
	+3%/-3%	+1%/-3%	+188%/-188%	+23%/-10%	+11%/-11%	+24%/-40%
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 008078502-01 / KOI 3383.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-173 ± 36	$2.56^{+0.60}_{-0.61}$	680^{+36}_{-29}	4078^{+442}_{-320}	641^{+483}_{-241}
Alt.	-139 ± 38	$2.35^{+0.64}_{-0.56}$	681^{+36}_{-31}	4030^{+495}_{-360}	598^{+497}_{-257}

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 $A_{obs} \gg 1.0$

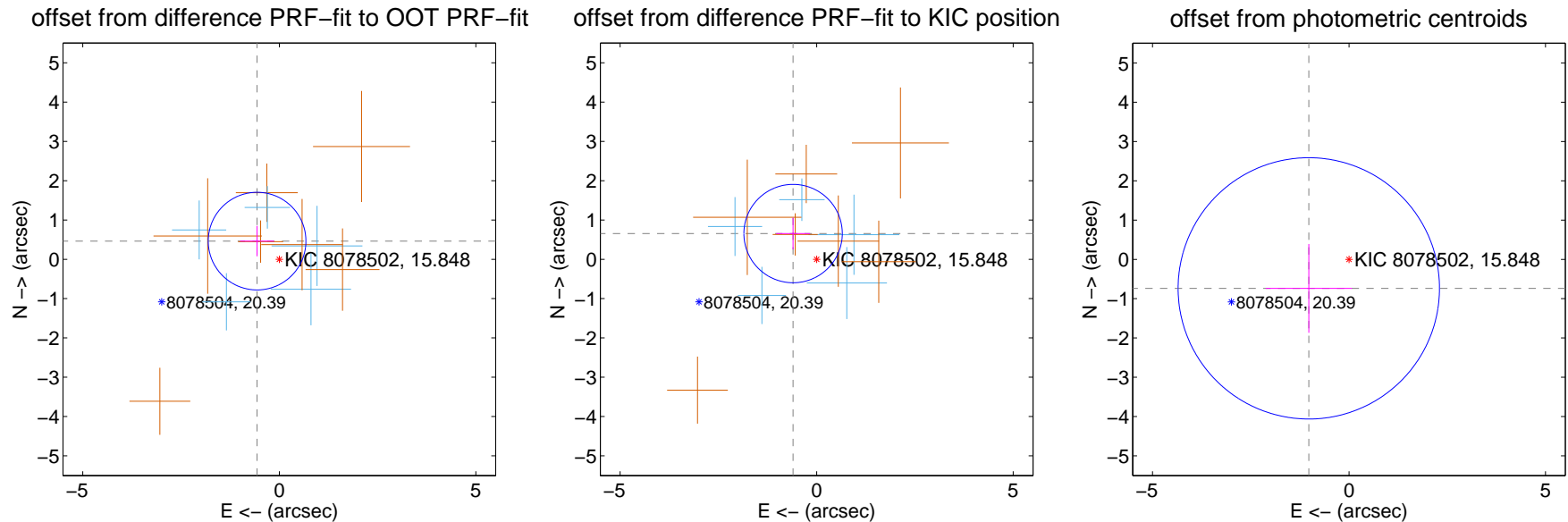
DV Centroid Data

Supplemental centroid analysis for 008078502-01. Kepler magnitude: 15.85. Transit SNR 15.46

There are 5 quarters with good PRF difference image offsets

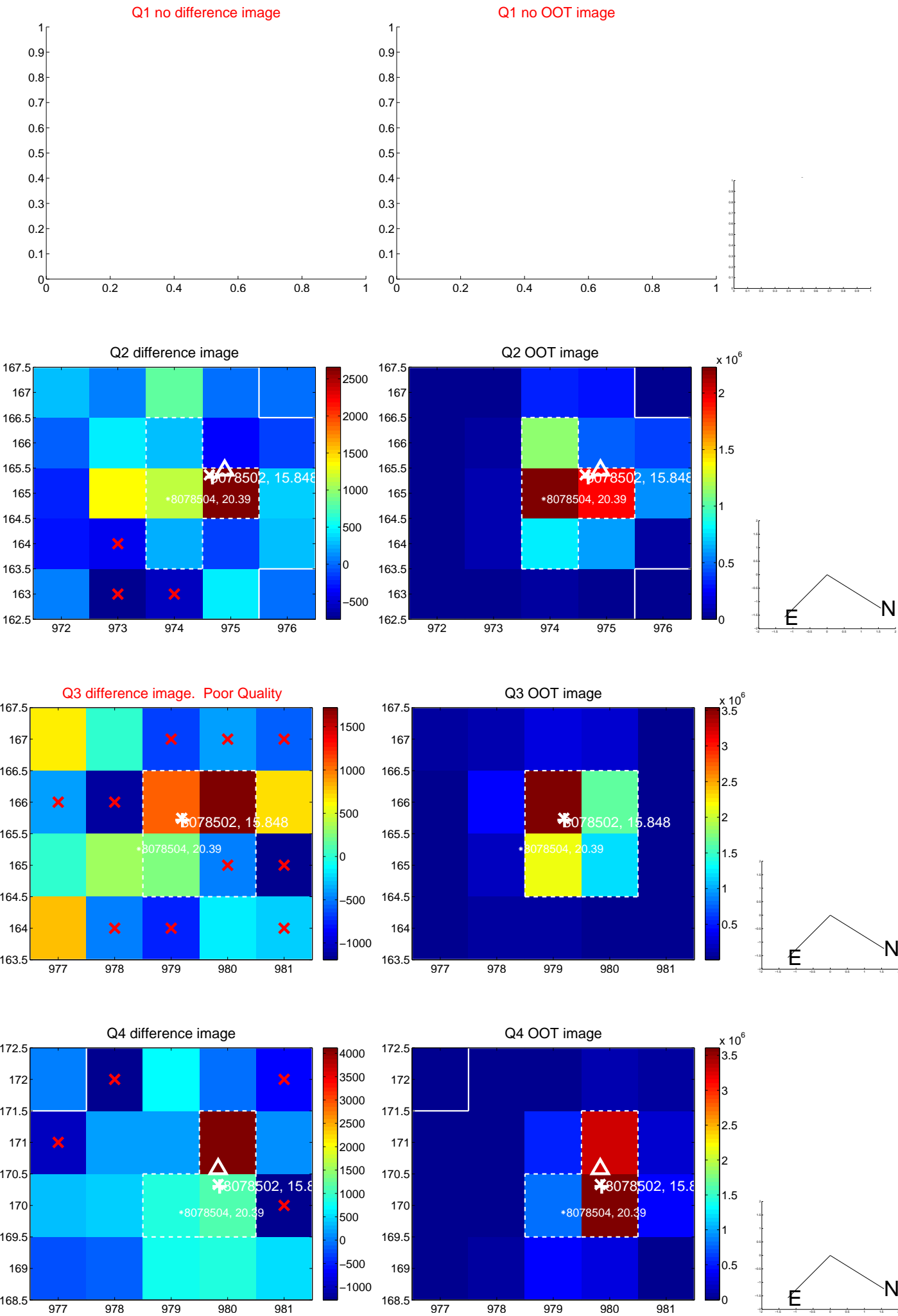
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.731 ± 0.414	1.76	0.566 ± 0.432	0.463 ± 0.386
PRF-fit source offset from KIC position	0.888 ± 0.417	2.13	0.600 ± 0.432	0.655 ± 0.404
photometric centroid source offset	1.26 ± 1.11	1.14	1.02 ± 1.10	-0.74 ± 1.13

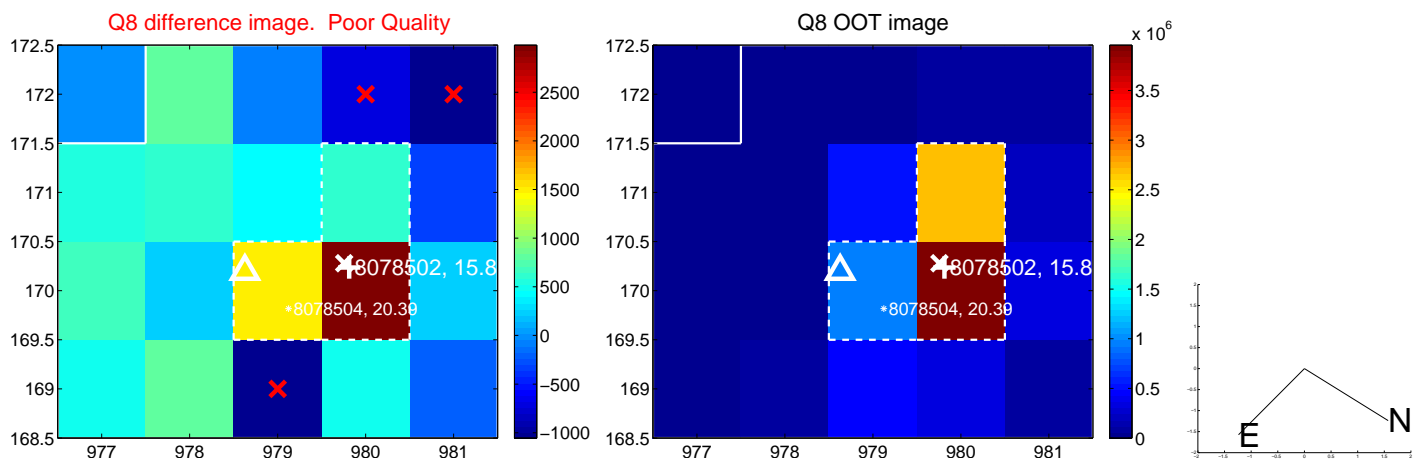
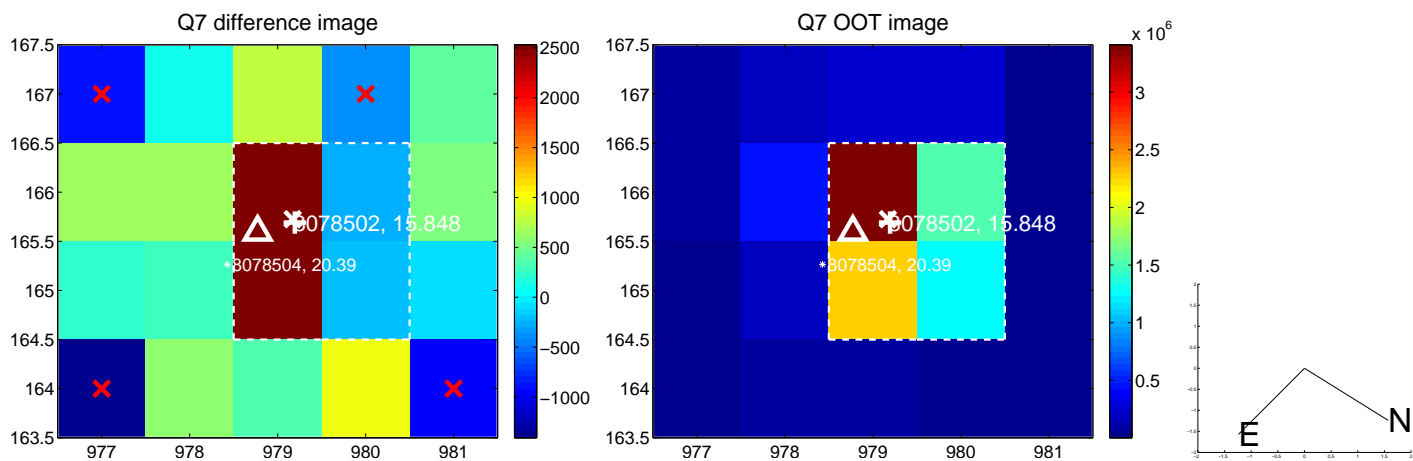
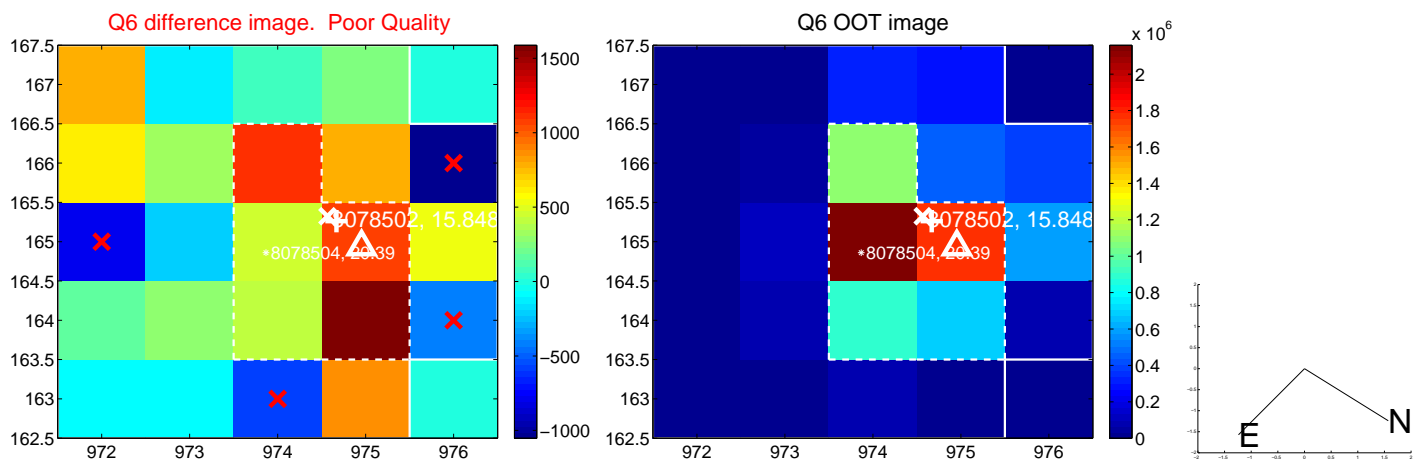
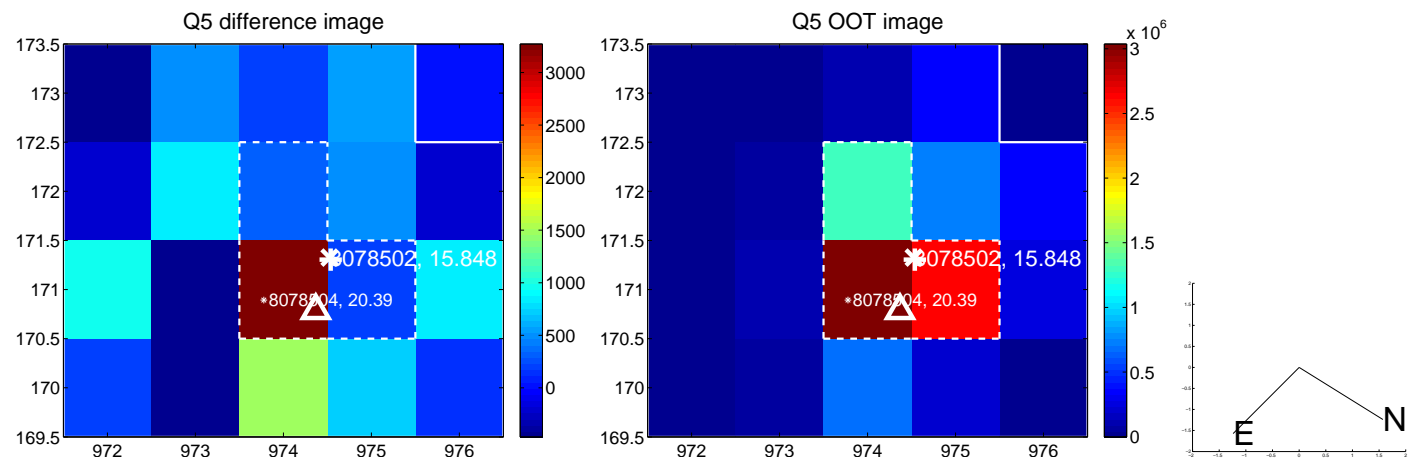


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

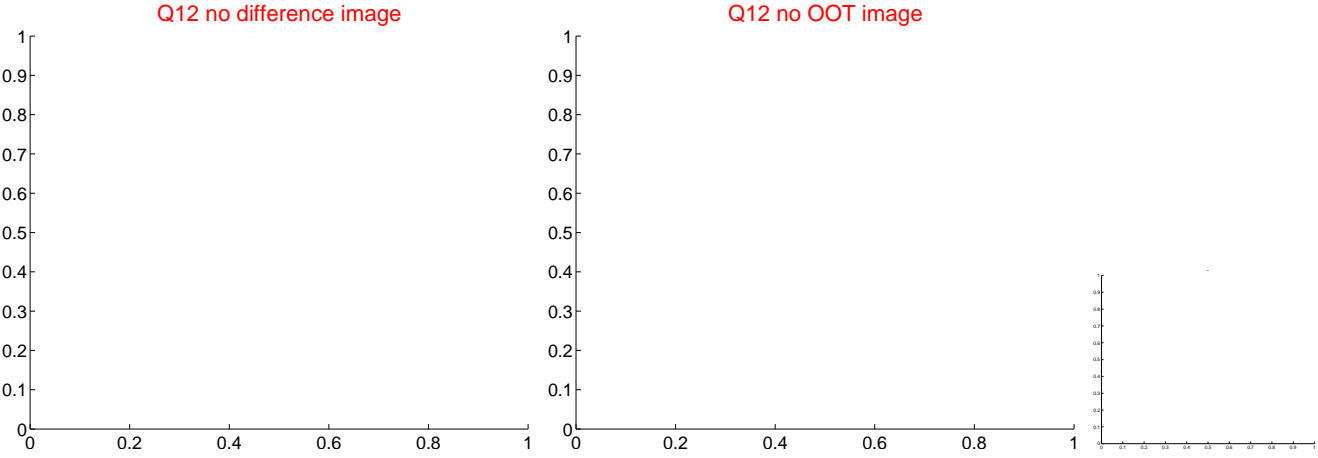
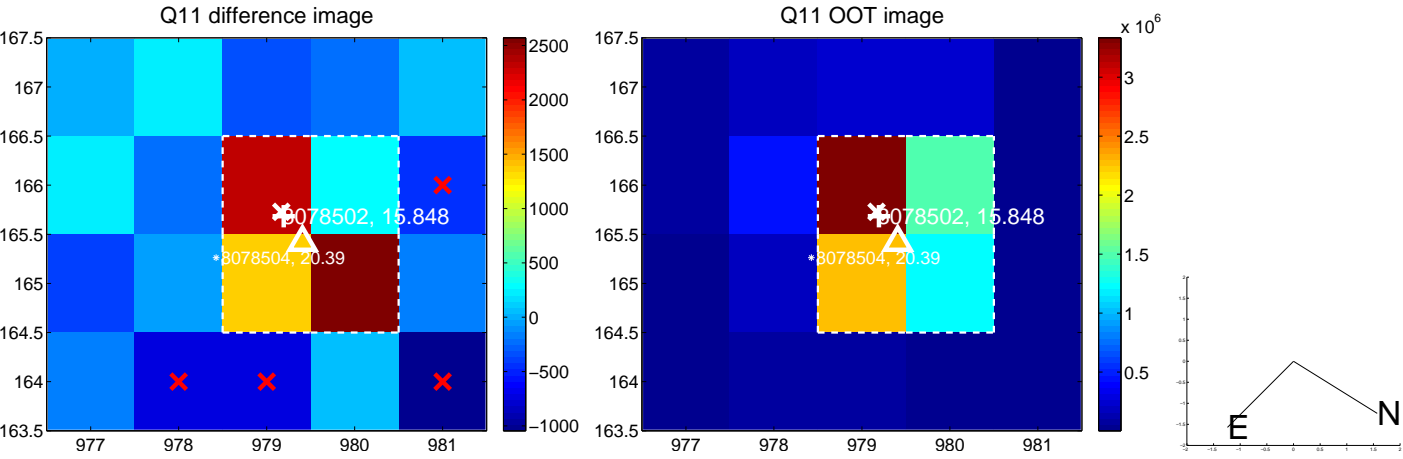
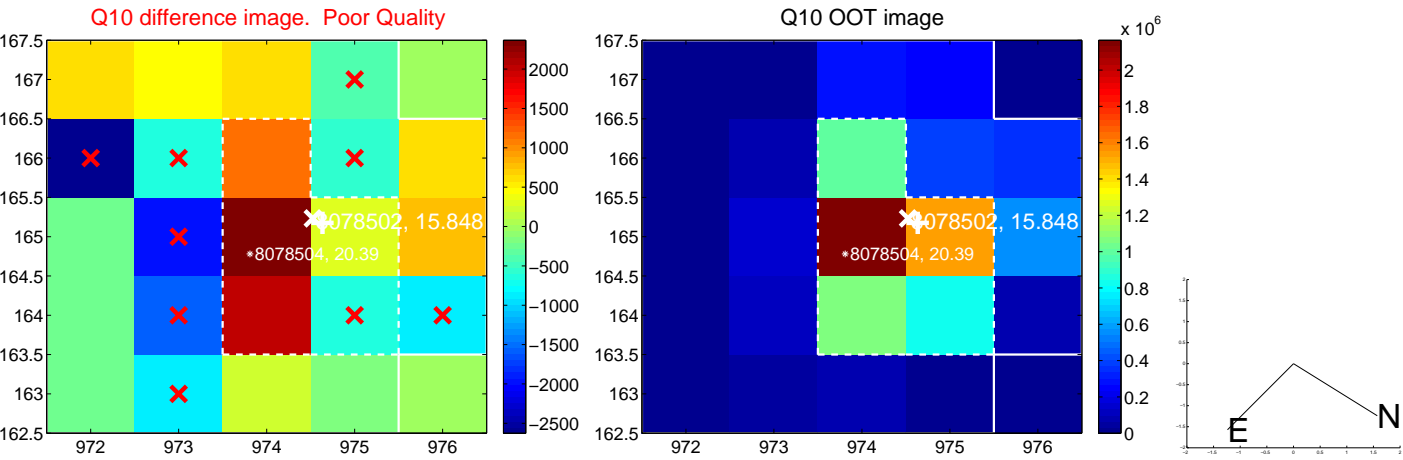
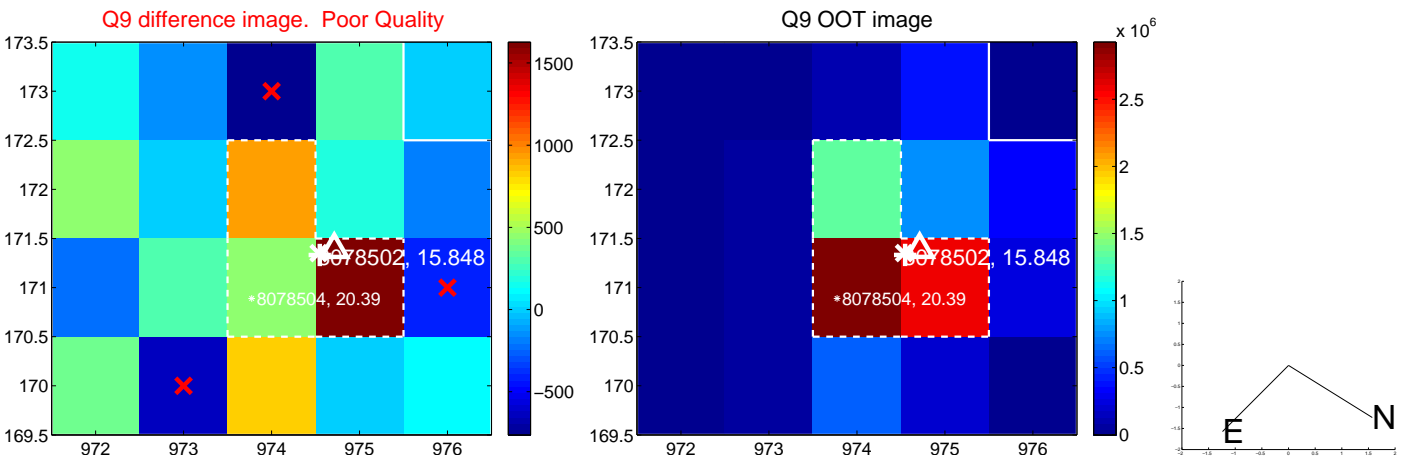
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



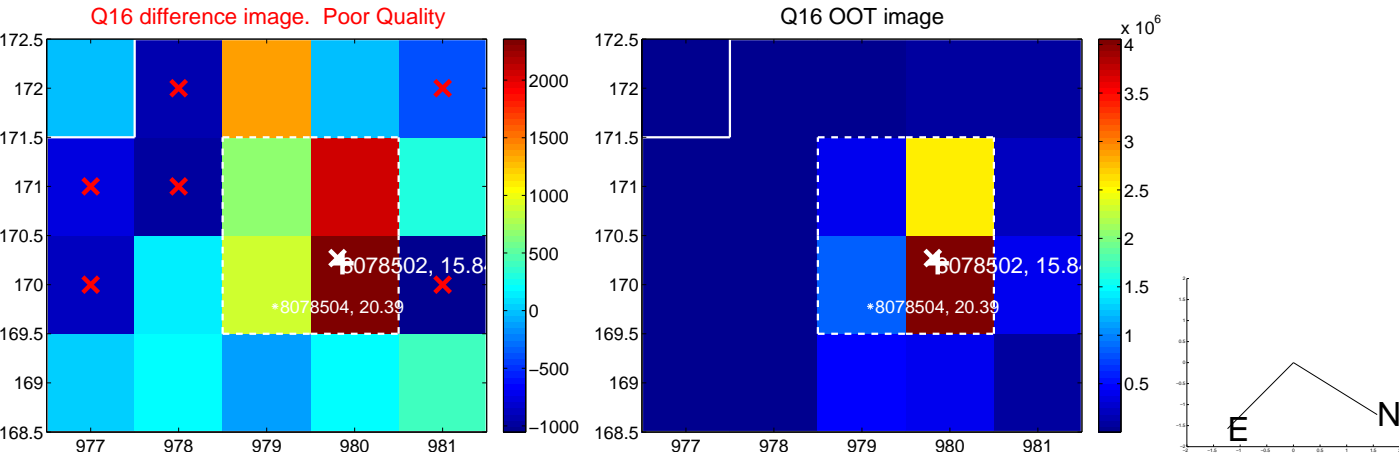
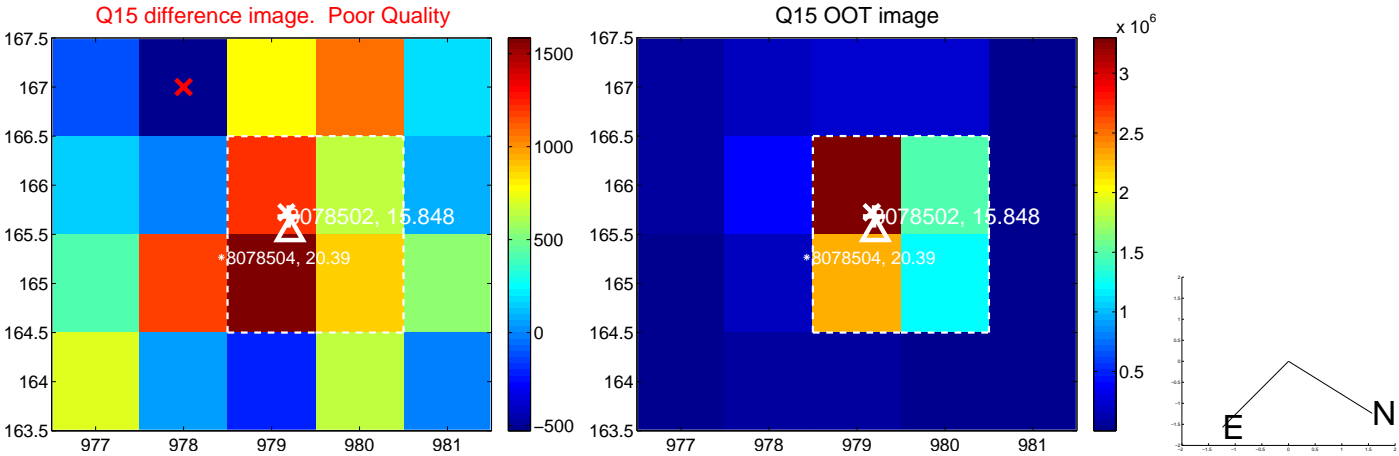
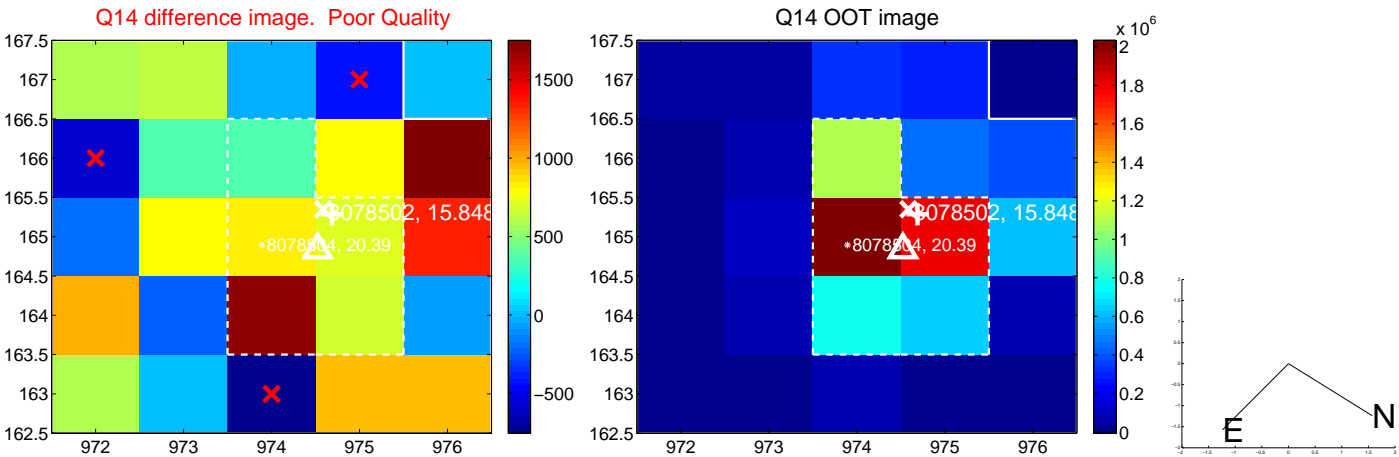
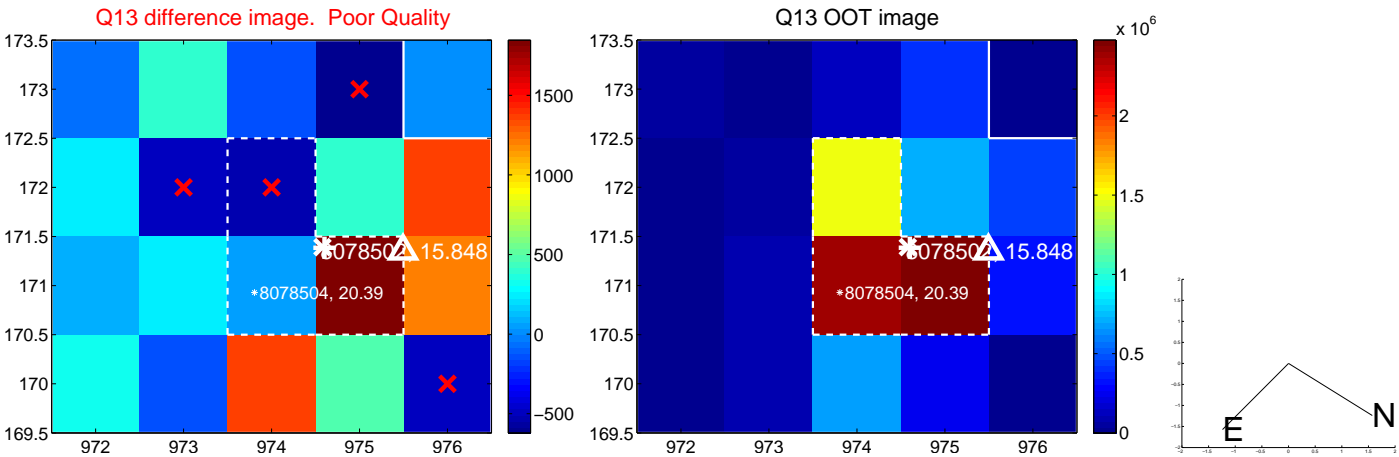
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

