

KIC 009838468

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})
009838468-01	OBS	2943.01	54.409529	175.404390	198.4	9.511	14.7	16.3	1.13	5746	1.78	16.38

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009838468-01	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.

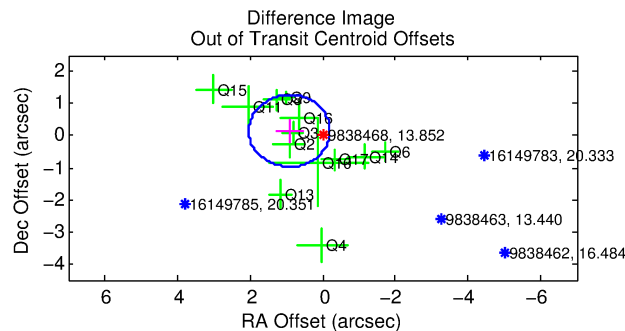
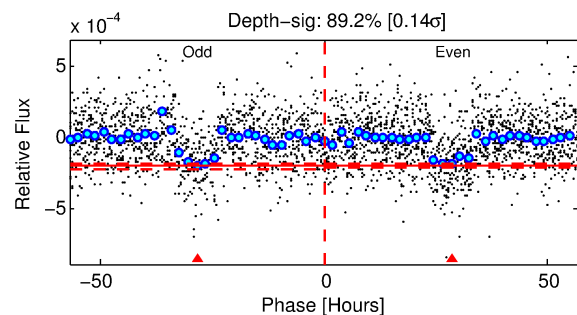
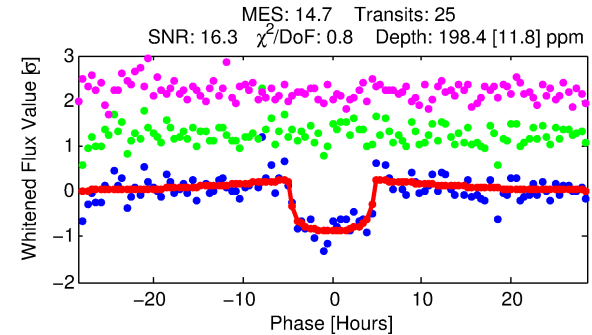
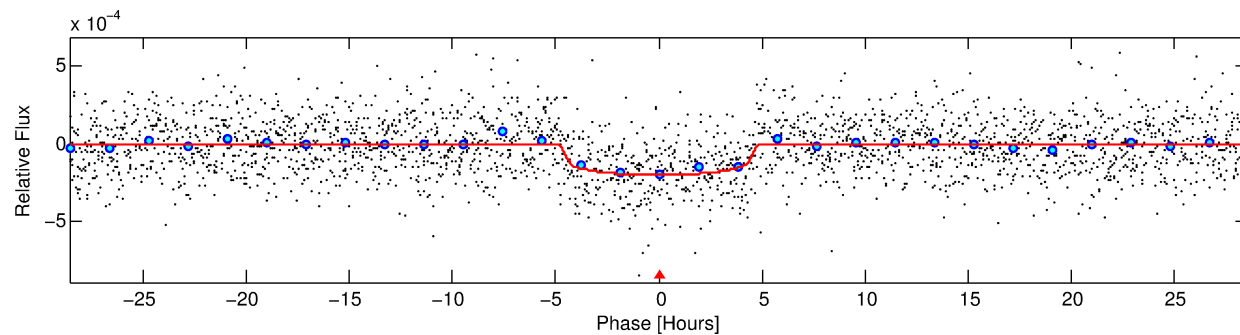
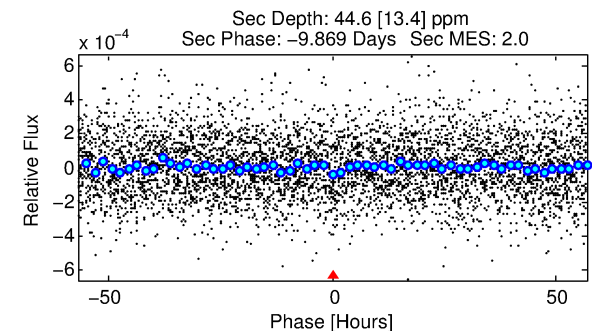
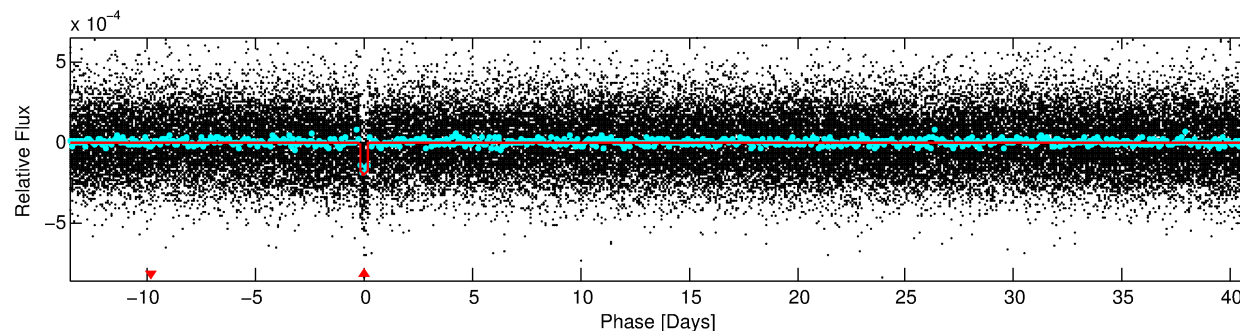
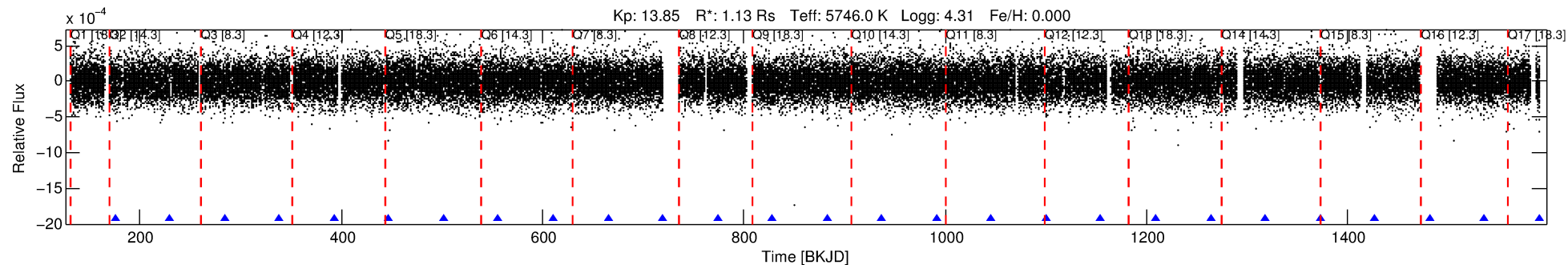
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009838468-01

No Significant Match Found

DV One-Page Summary

KIC: 9838468 Candidate: 1 of 1 Period: 54.410 d
KOI: K02943.01 Corr: 0.985



DV Fit Results:

Period = 54.40953 [0.00052] d
Epoch = 175.4044 [0.0074] BKJD
Rp/R* = 0.0144 [0.0031]
a/R* = 26.77 [25.82]
b = 0.81 [0.42]
Seff = 16.38 [4.05]
Teq = 513 [32] K
Rp = 1.78 [0.47] Re
a = 0.2767 [0.0406] AU
Ag = 593.53 [341.71] [1.73σ]
Teffp = 3915 [521] K [6.52σ]

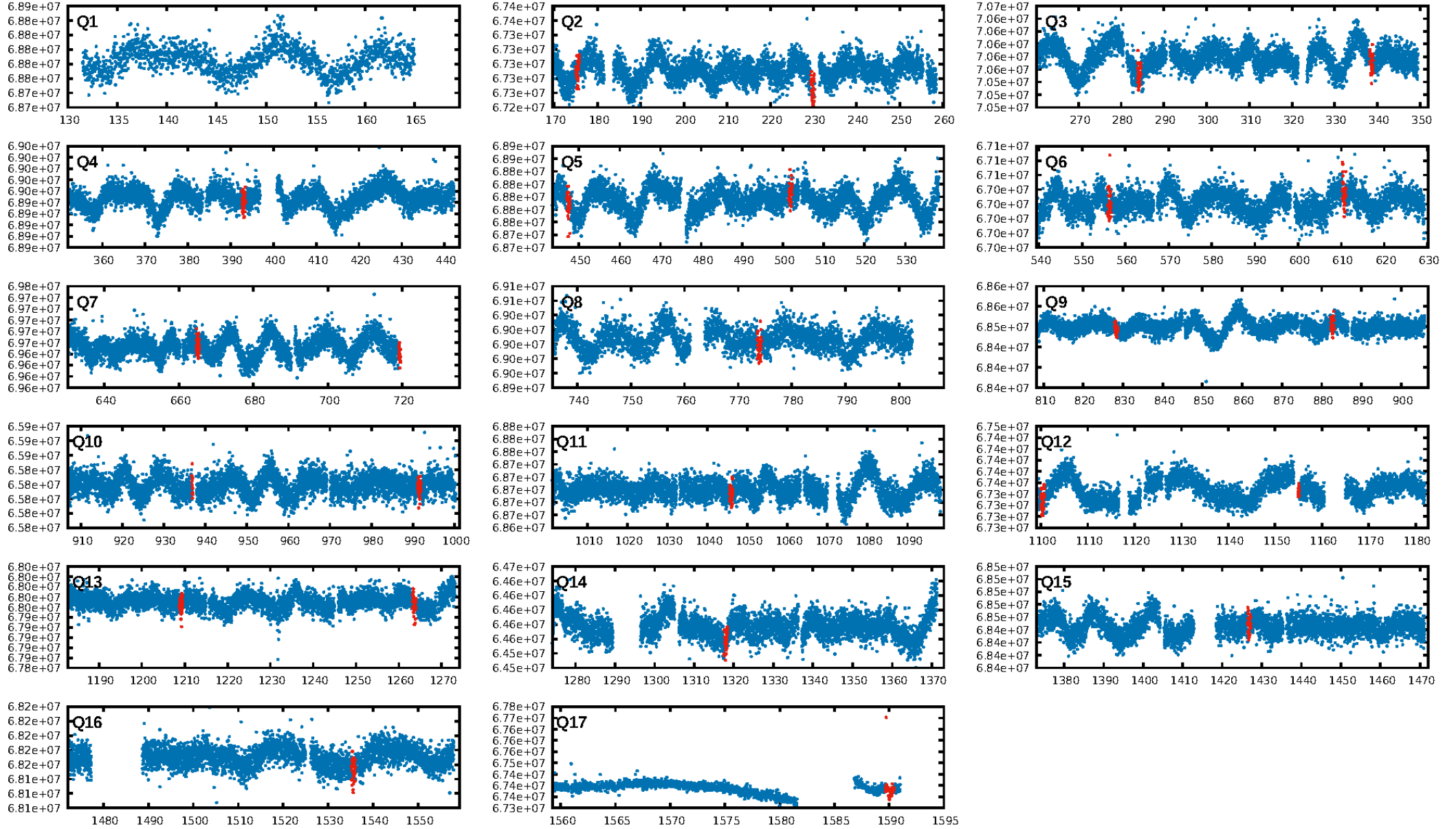
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 69.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 3.46e-49
RollingBand-fgt: 1.00 [24/24]
GhostDiagnostic-chr: 1.952
Centroid-sig: 3.0%
Centroid-so: 0.822 arcsec [1.35σ]
OotOffset-rm: 0.927 arcsec [2.48σ]
KicOffset-rm: 0.848 arcsec [2.44σ]
OotOffset-st: 4/3/3/3 [13]
KicOffset-st: 4/3/3/3 [13]
DiffImageQuality-fgm: 0.69 [9/13]
DiffImageOverlap-fno: 1.00 [15/15]

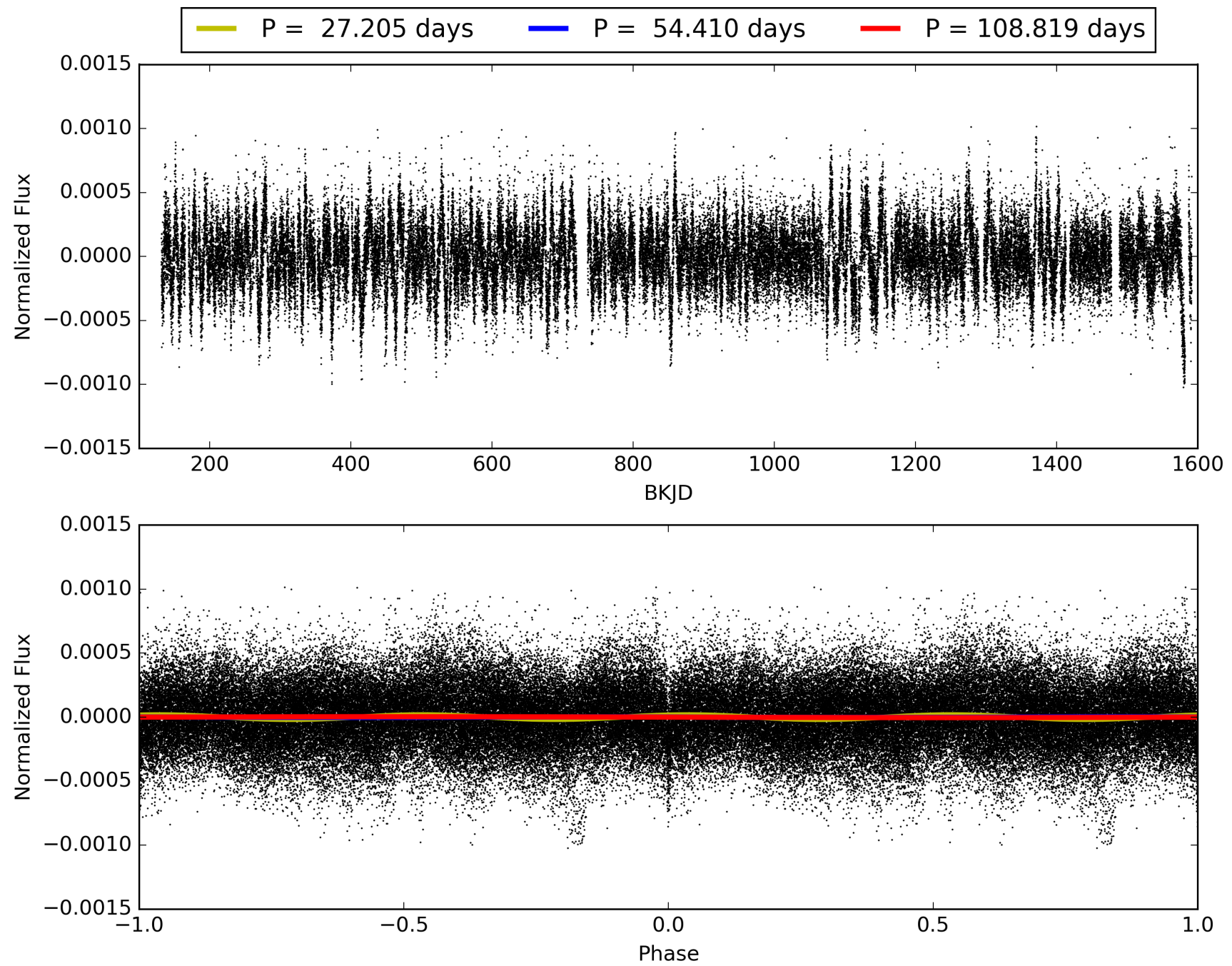
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:13:58 Z

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

TCE 009838468-01, PDC Light Curves

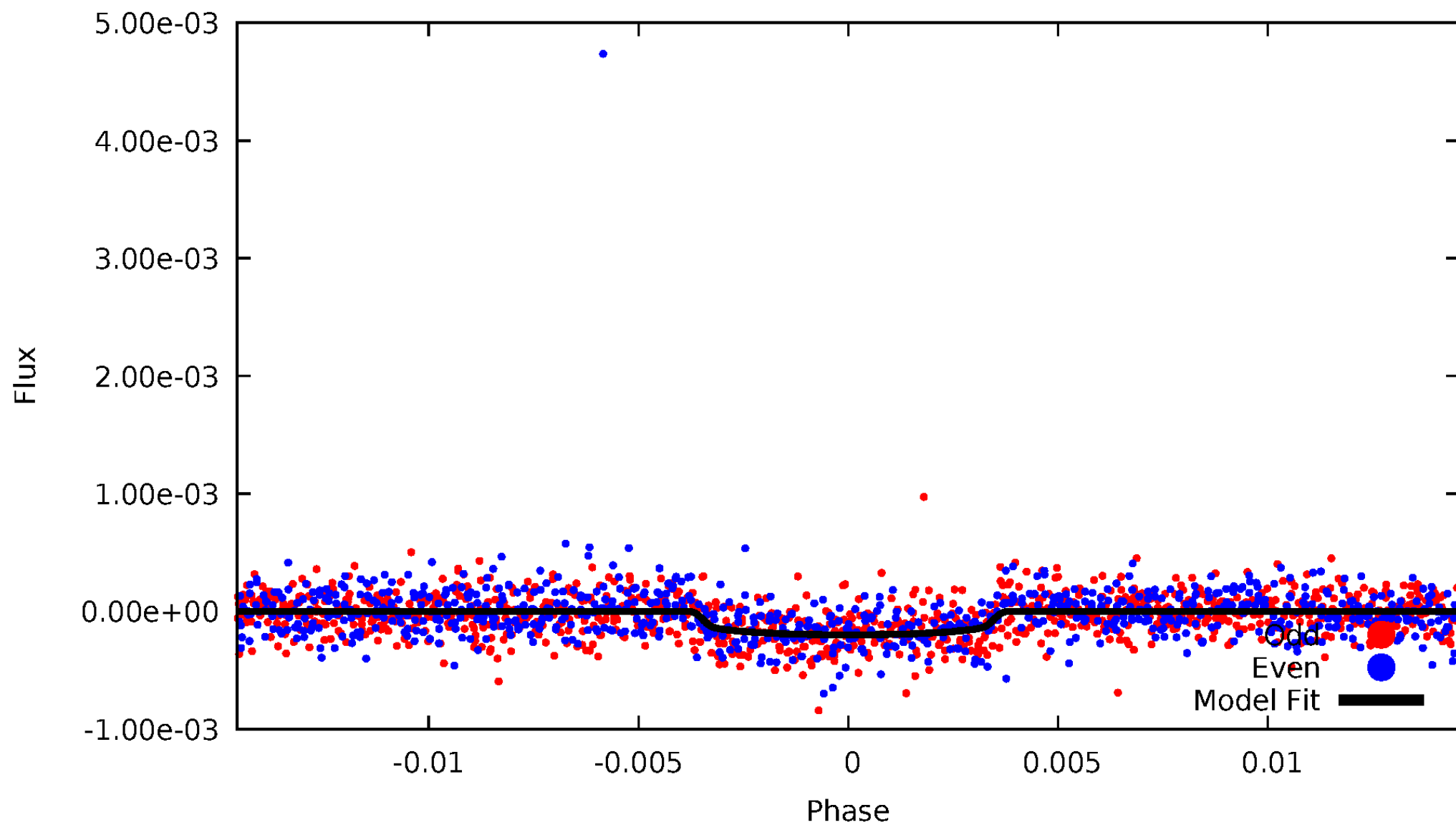


TCE 009838468-01



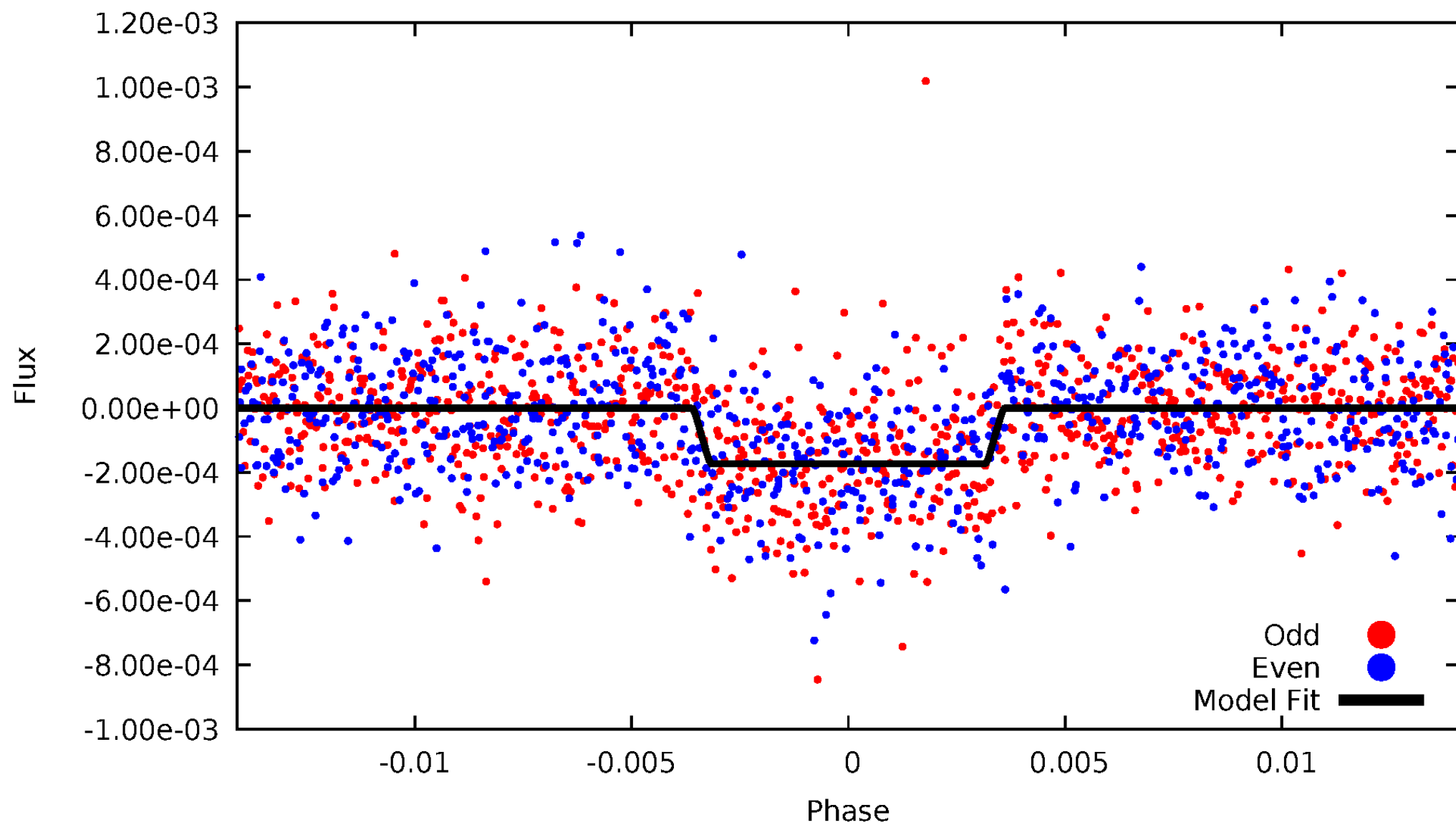
DV Odd/Even

TCE 009838468-01

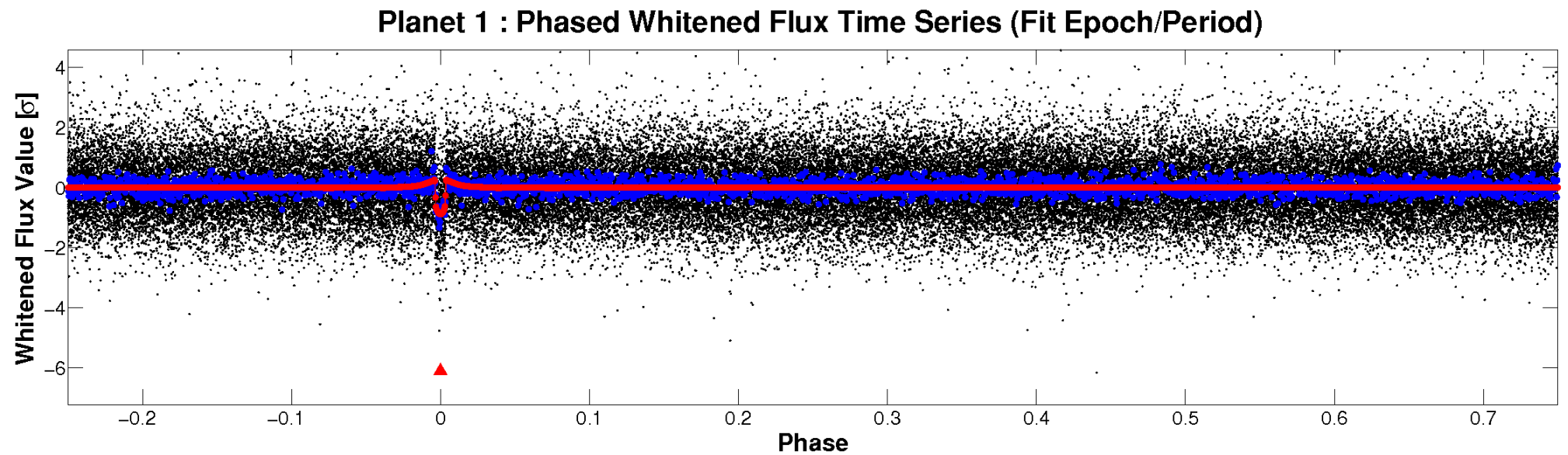
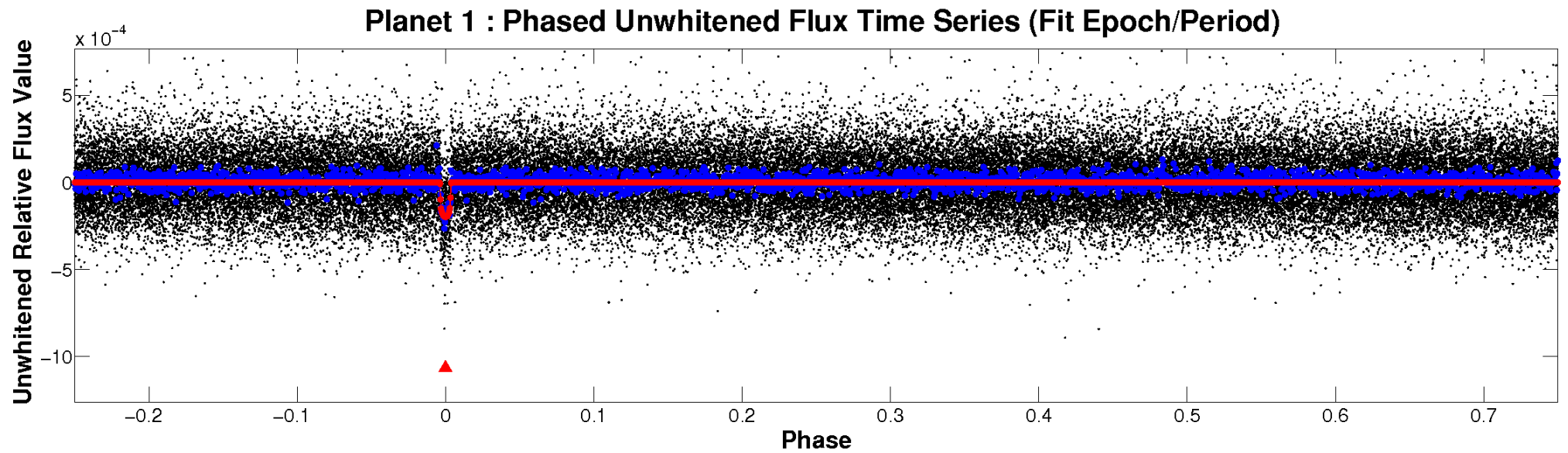


ALT Odd/Even

TCE 009838468-01

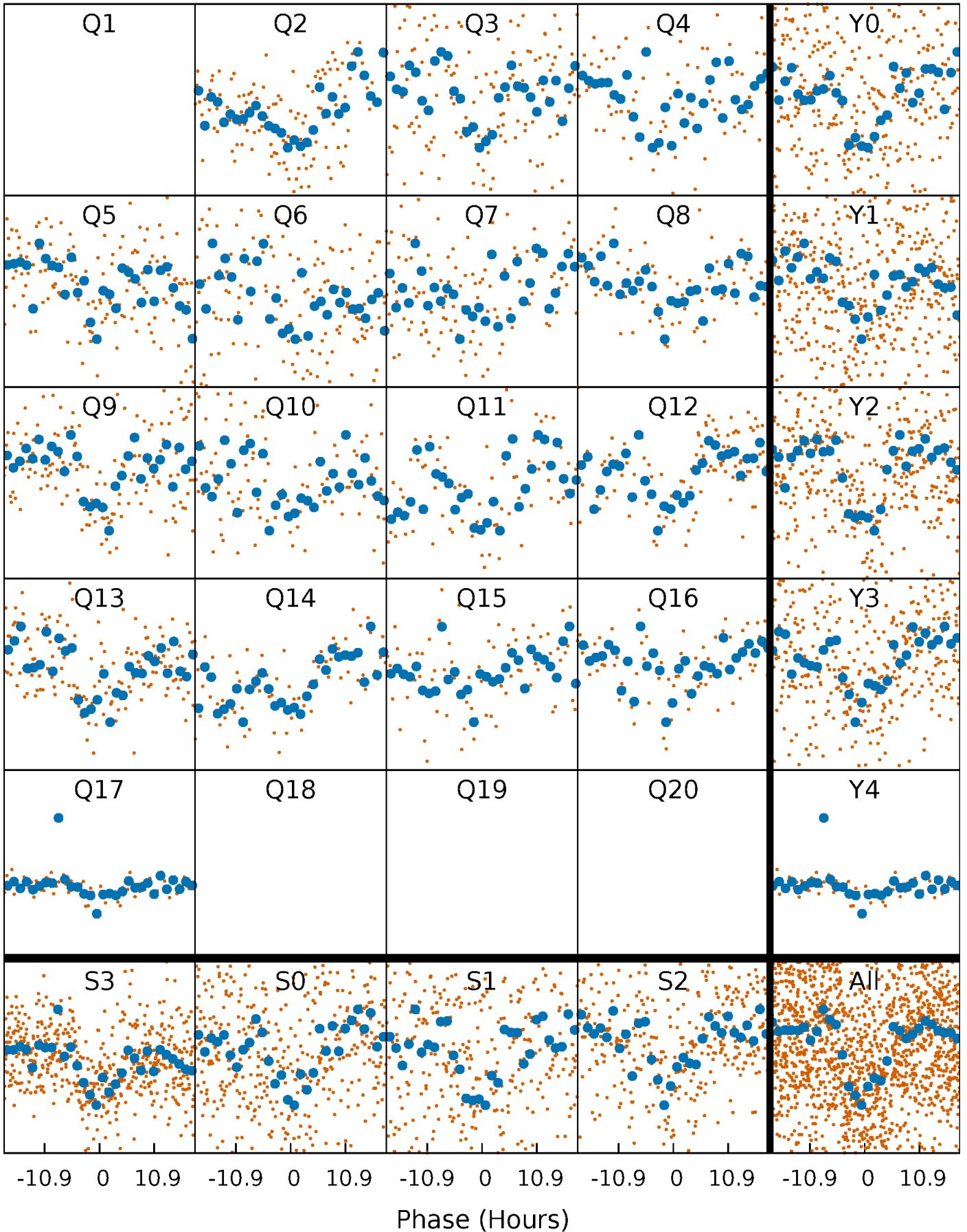


Non-Whitened Vs. Whitened Light Curve



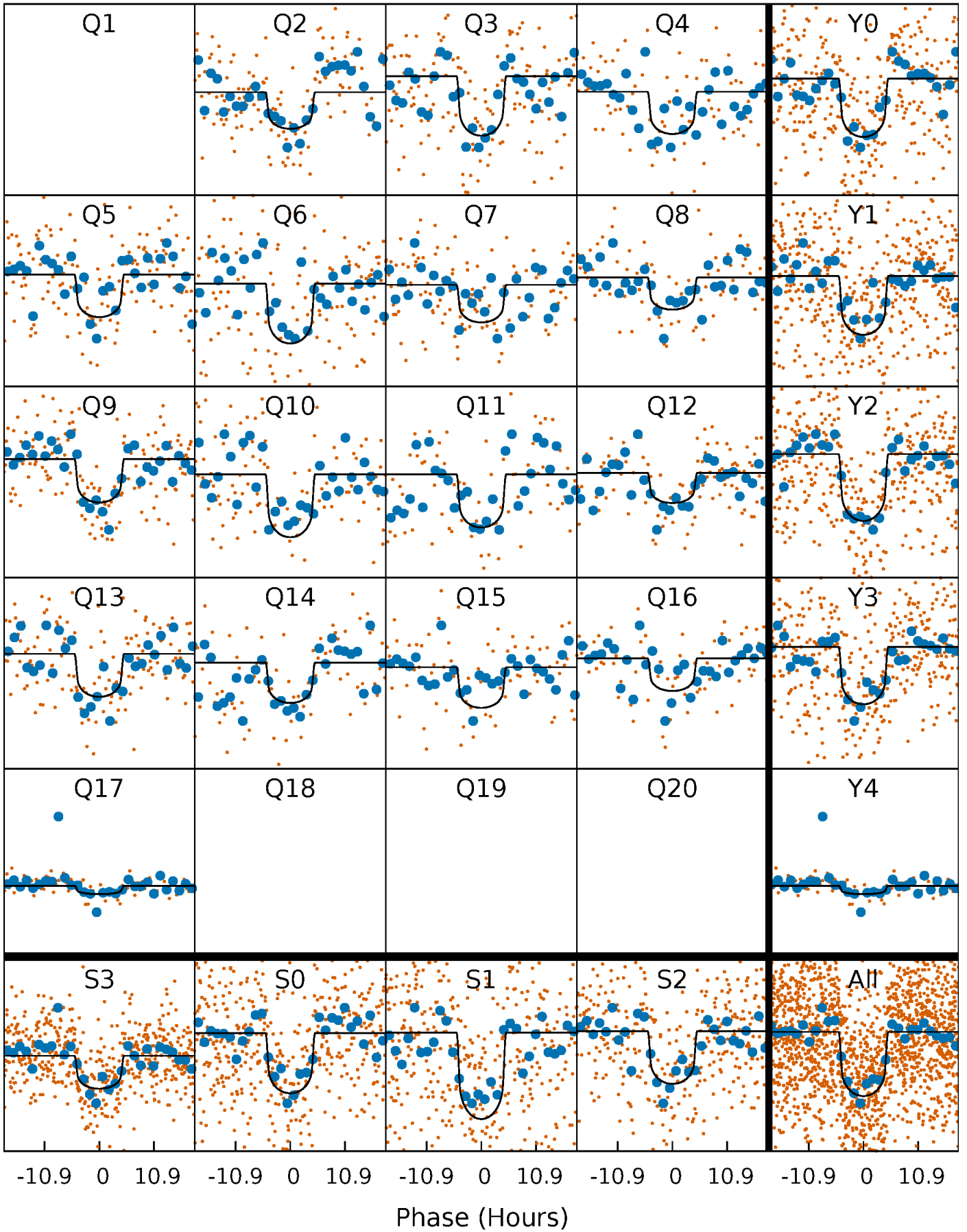
PDC Quarter-Phased Transit Curves

TCE 009838468-01 P= 54.409529 Days $T_0=175.404390$ (BKJD)



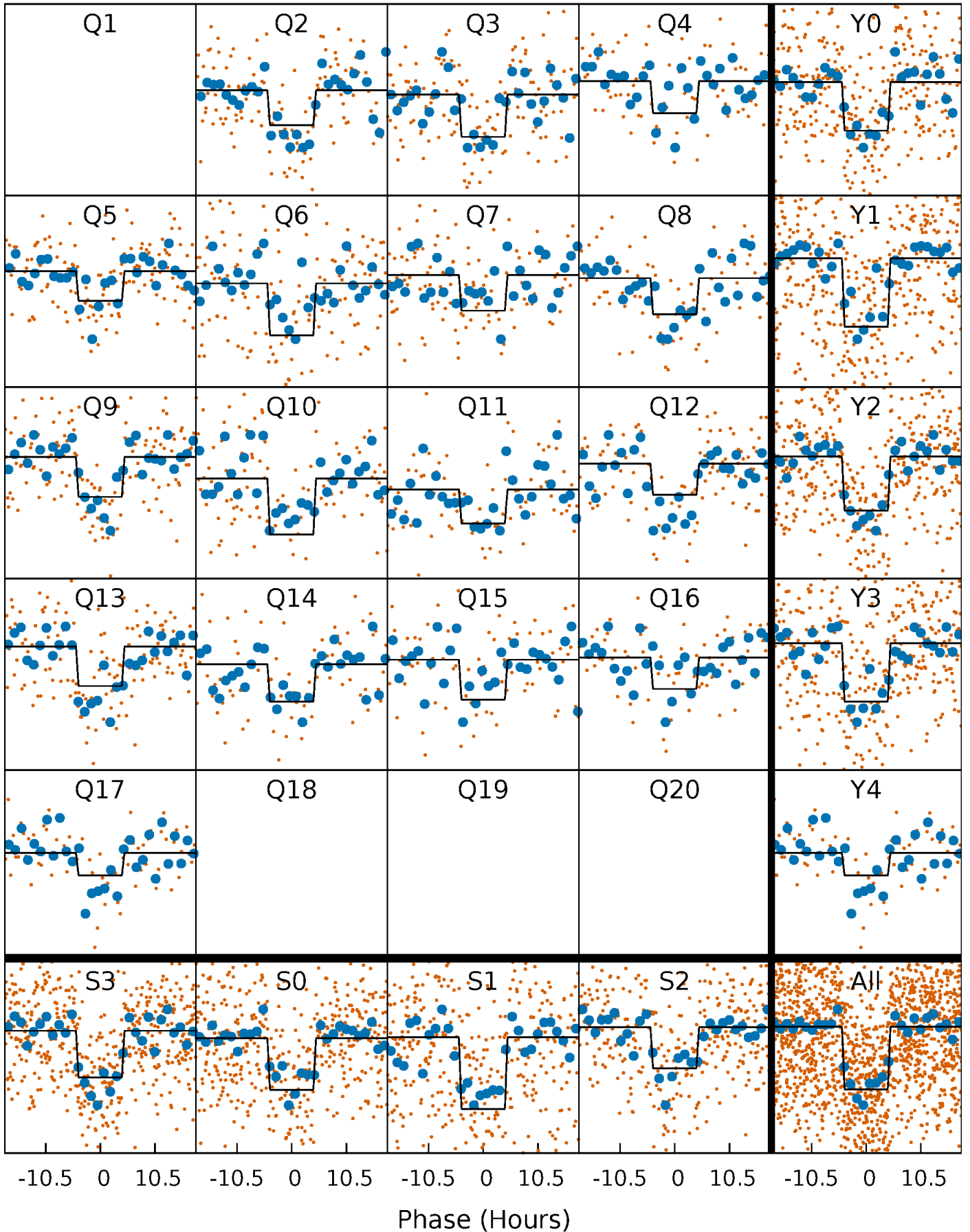
DV Quarter-Phased Transit Curves

TCE 009838468-01 P= 54.409529 Days $T_0=175.404390$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

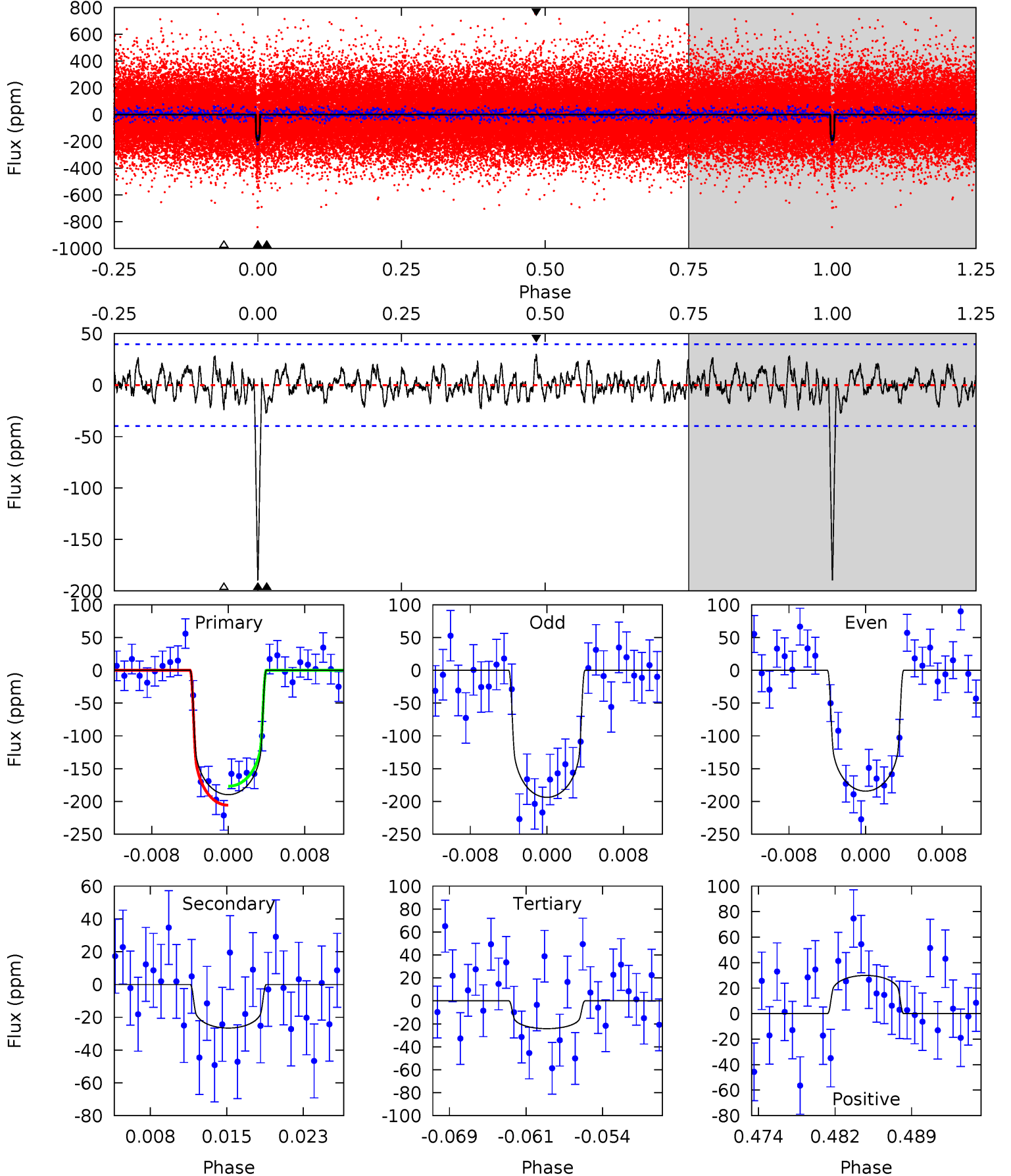
TCE 009838468-01 P= 54.410045 Days $T_0=175.401764$ (BKJD)



DV Model-Shift Uniqueness Test

009838468-01, P = 54.409529 Days, E = 120.994861 Days

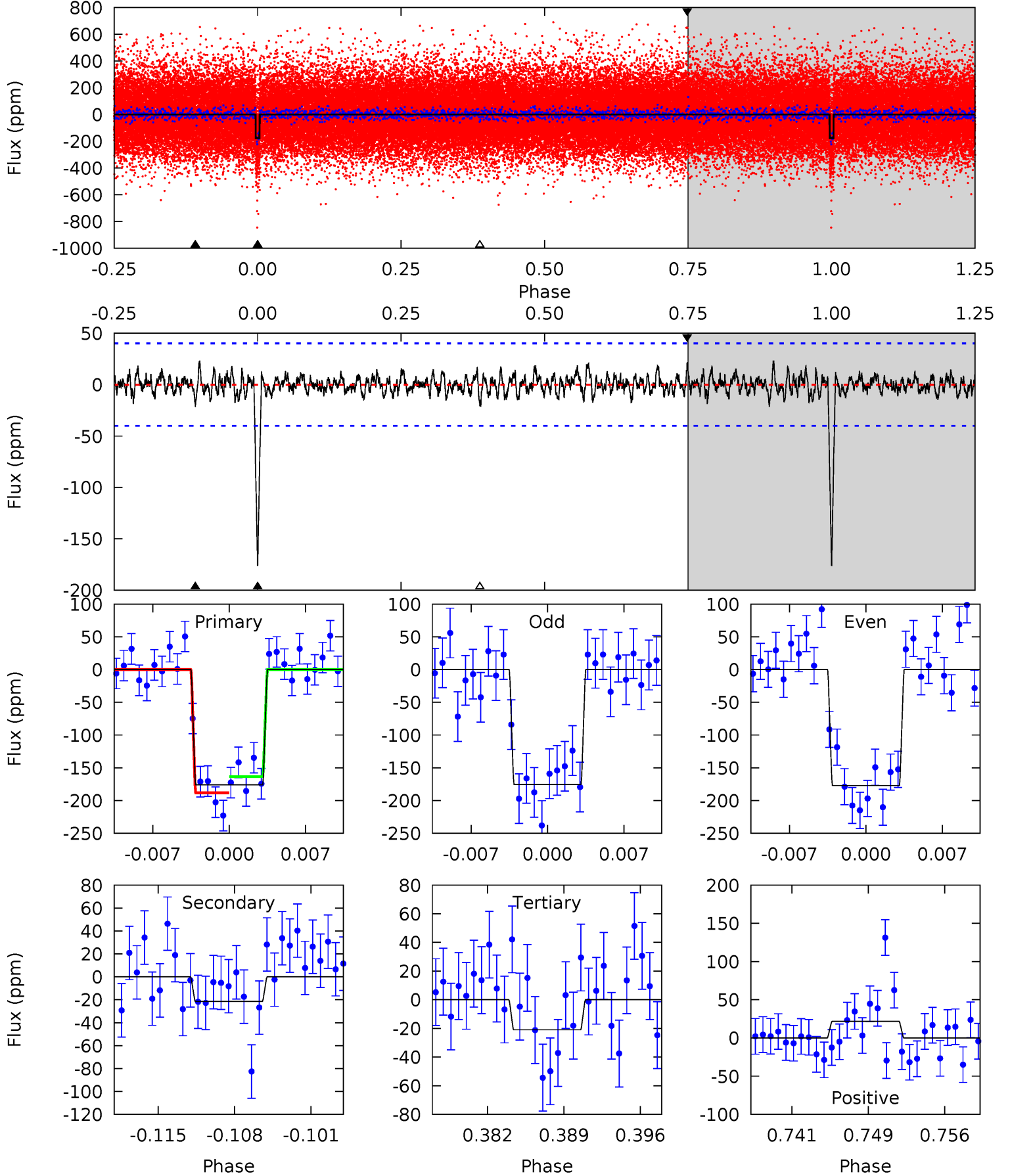
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.2	3.40	3.09	3.83	5.08	2.67	1.22	21.2	20.4	0.30	-0.43	0.60	1.03	0.14	1.85



Alt Model-Shift Uniqueness Test

009838468-01, P = 54.410045 Days, E = 120.991719 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.4	2.73	2.66	2.76	5.09	2.69	0.88	19.7	19.6	0.06	-0.03	0.12	1.04	0.12	1.57



Stellar Parameters For KIC 009838468

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5746^{+115}_{-104}	$4.309^{+0.137}_{-0.112}$	$0.000^{+0.150}_{-0.150}$	$1.133^{+0.174}_{-0.174}$	$0.954^{+0.079}_{-0.057}$	$0.923^{+0.559}_{-0.294}$
	+2%/-2%	+3%/-3%	+inf%/-inf%	+15%/-15%	+8%/-6%	+60%/-32%
Source	SPE57	SPE57	SPE57	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009838468-01 / KOI 2943.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-27 ± 8	$1.74^{+0.42}_{-0.38}$	716^{+33}_{-32}	3837^{+380}_{-344}	368^{+278}_{-160}
Alt.	-21 ± 8	$1.62^{+0.43}_{-0.39}$	718^{+33}_{-34}	3773^{+443}_{-372}	330^{+299}_{-160}

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 $A_{obs} \gg 1.0$

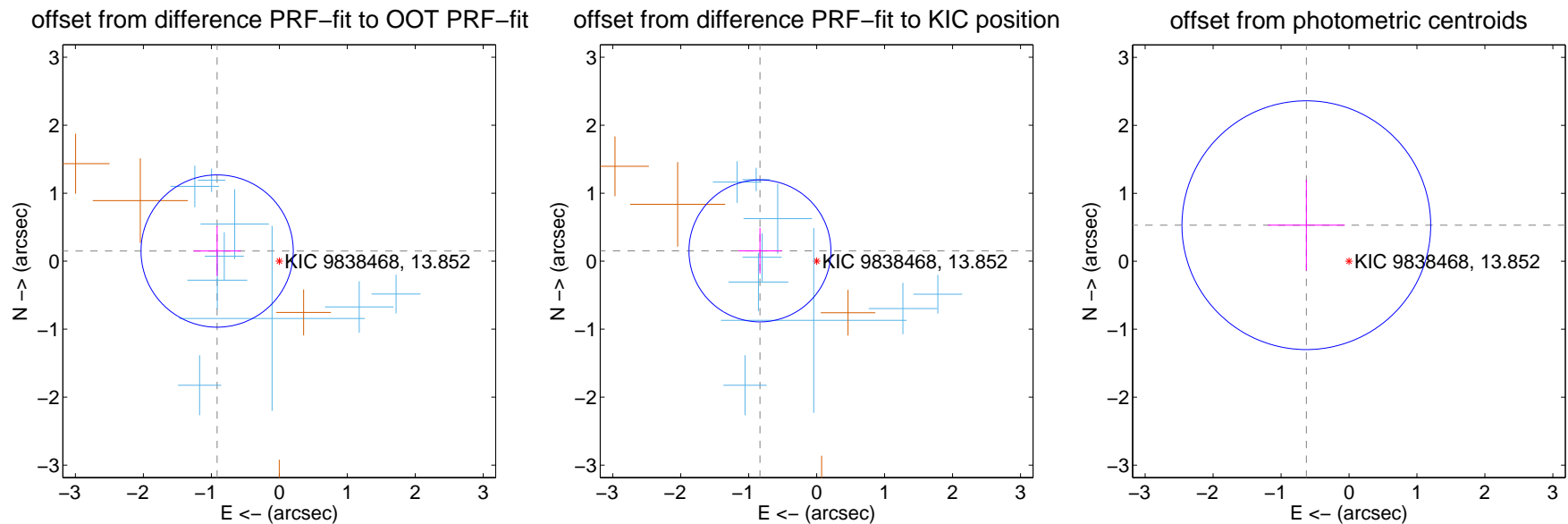
DV Centroid Data

Supplemental centroid analysis for 009838468-01. Kepler magnitude: 13.85. Transit SNR 16.25

There are 9 quarters with good PRF difference image offsets

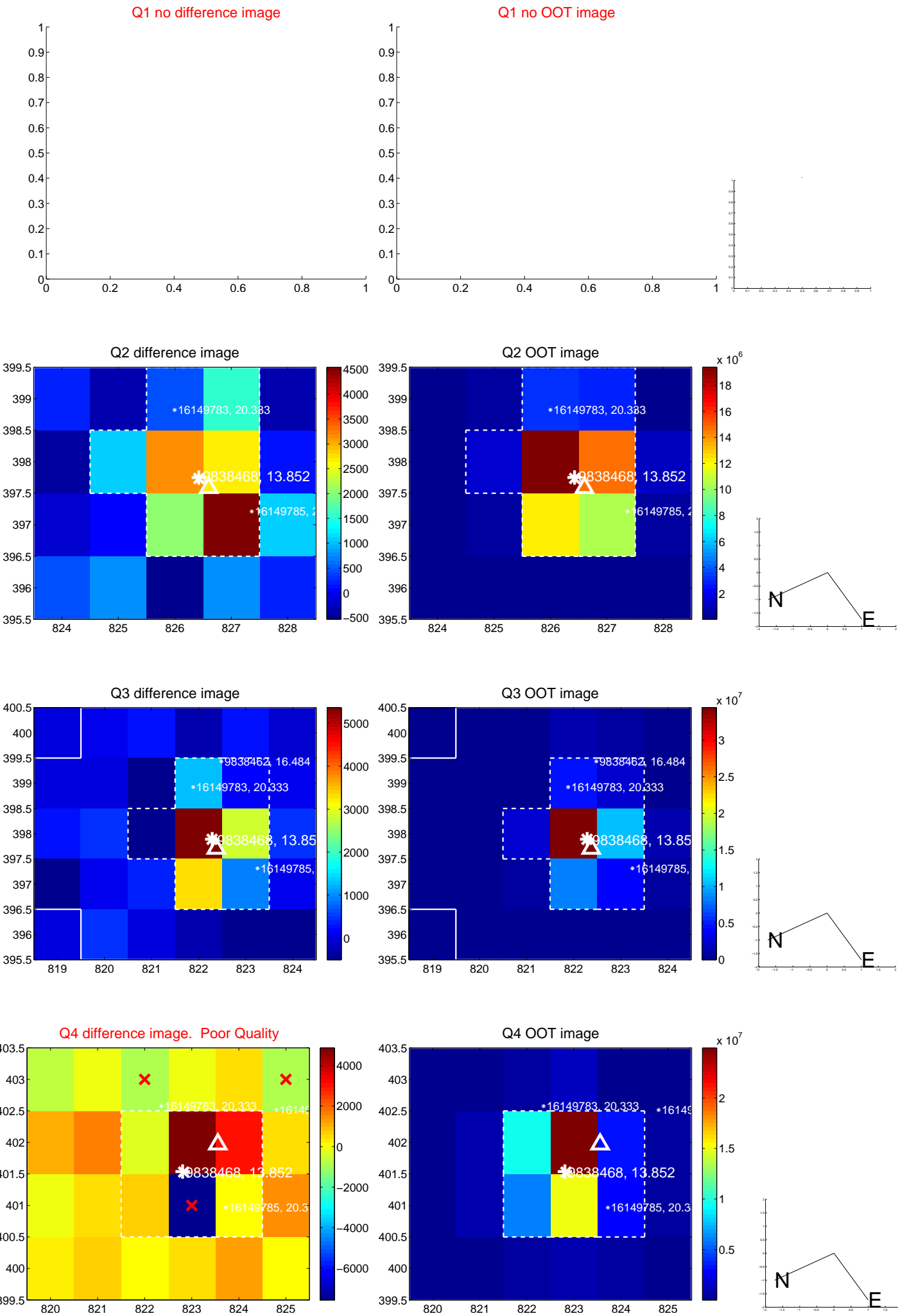
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.927 ± 0.373	2.48	0.915 ± 0.349	0.149 ± 0.367
PRF-fit source offset from KIC position	0.848 ± 0.348	2.44	0.834 ± 0.321	0.152 ± 0.337
photometric centroid source offset	0.82 ± 0.61	1.35	0.63 ± 0.57	0.53 ± 0.67

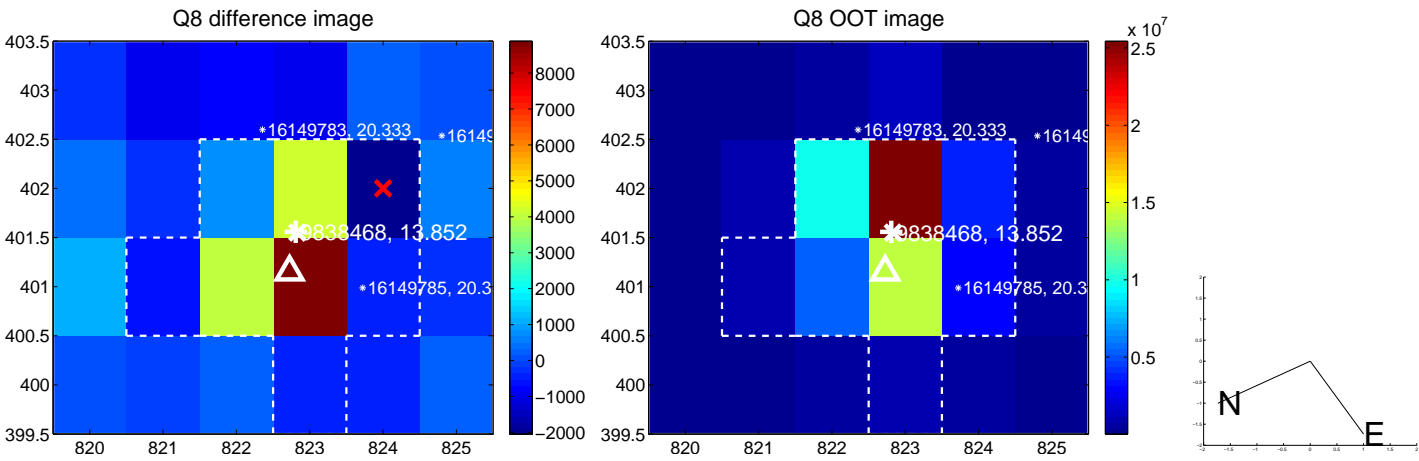
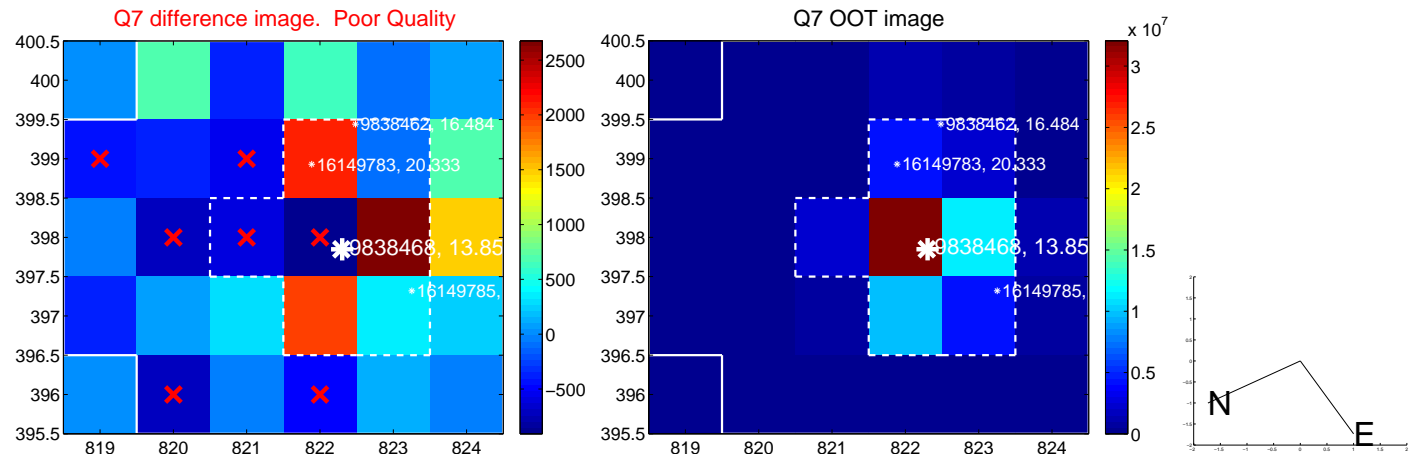
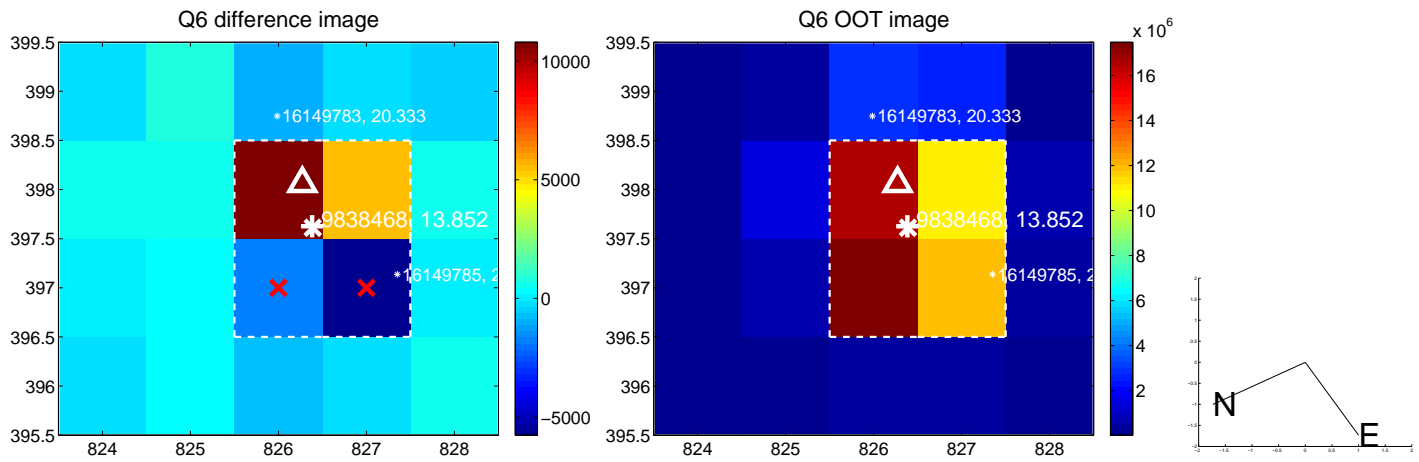
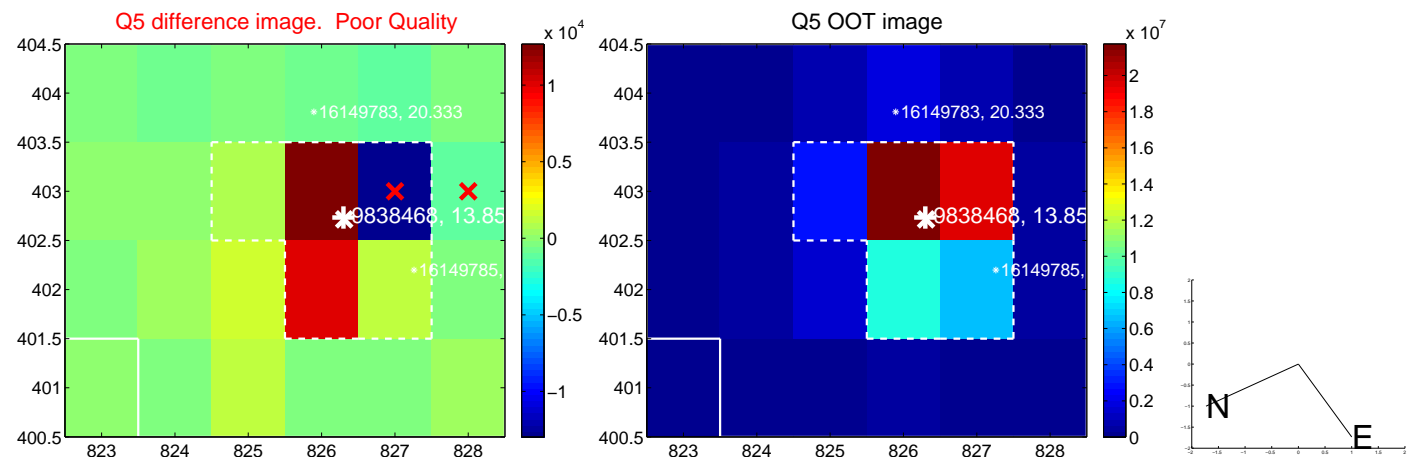


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

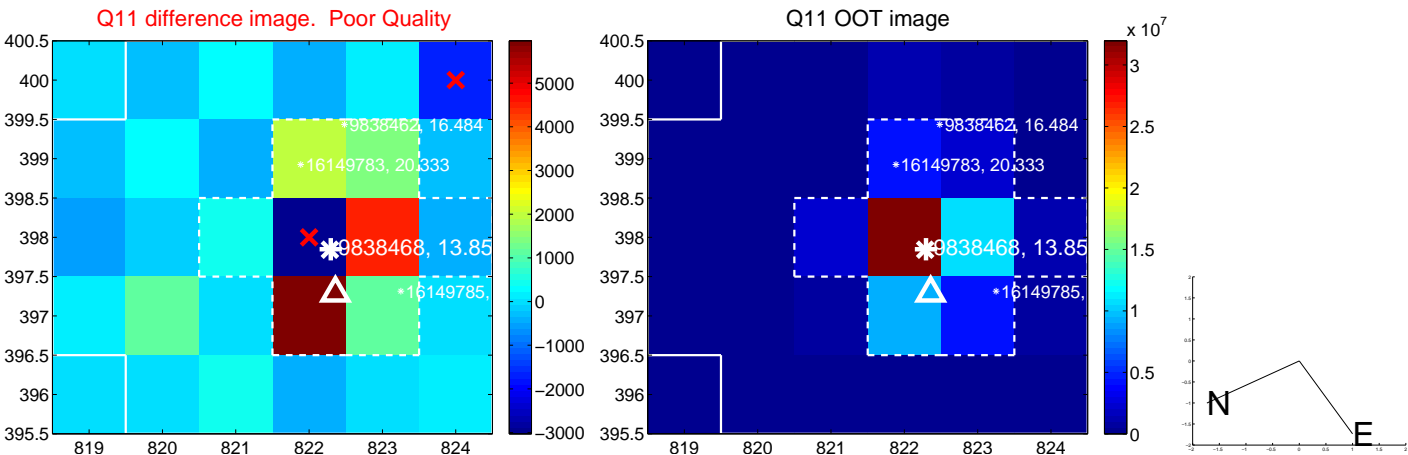
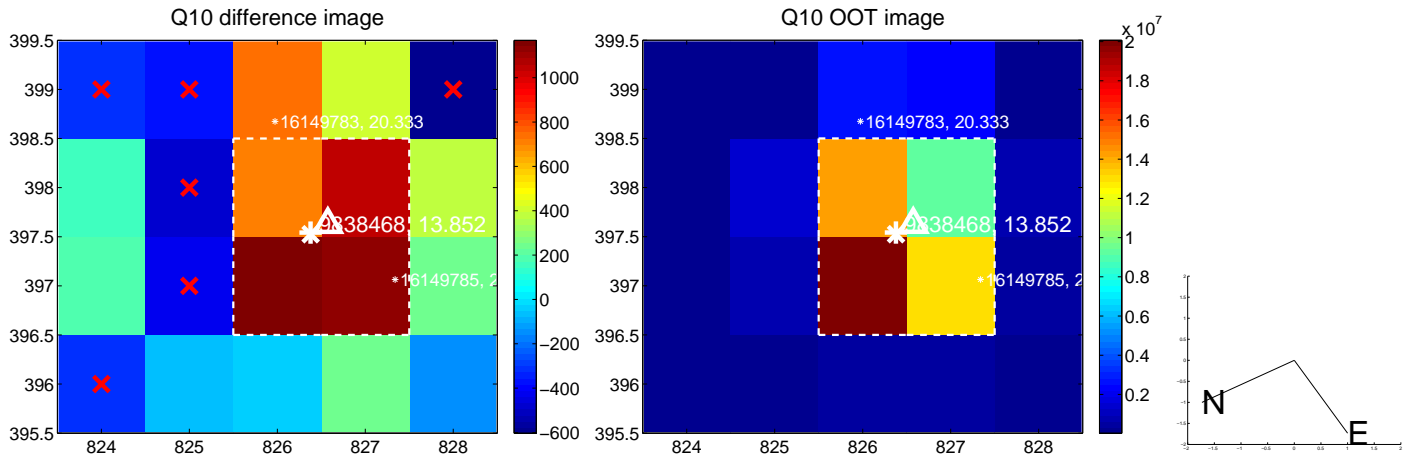
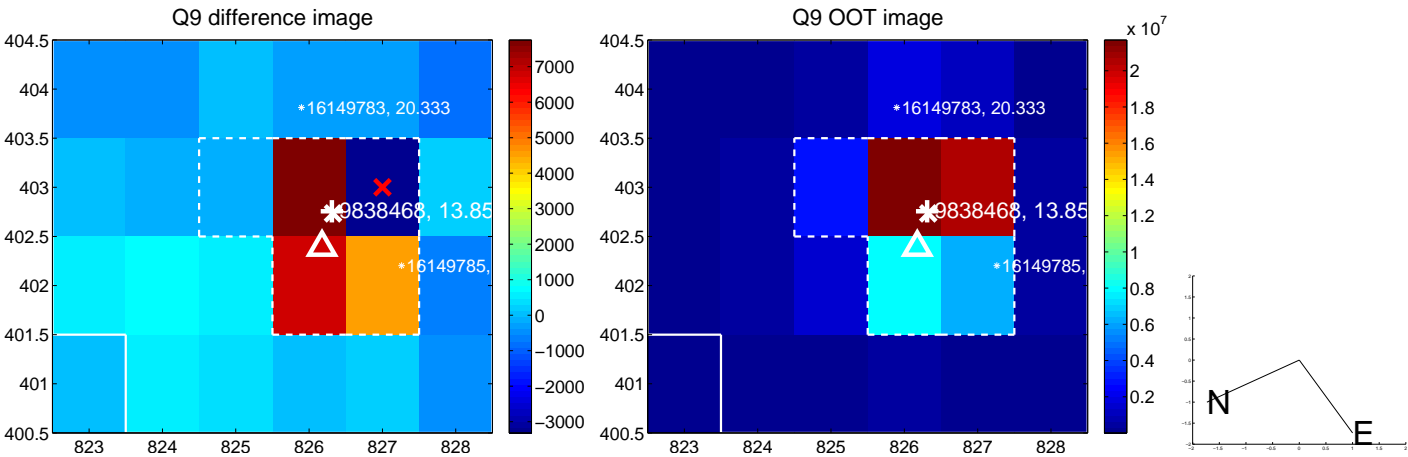
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



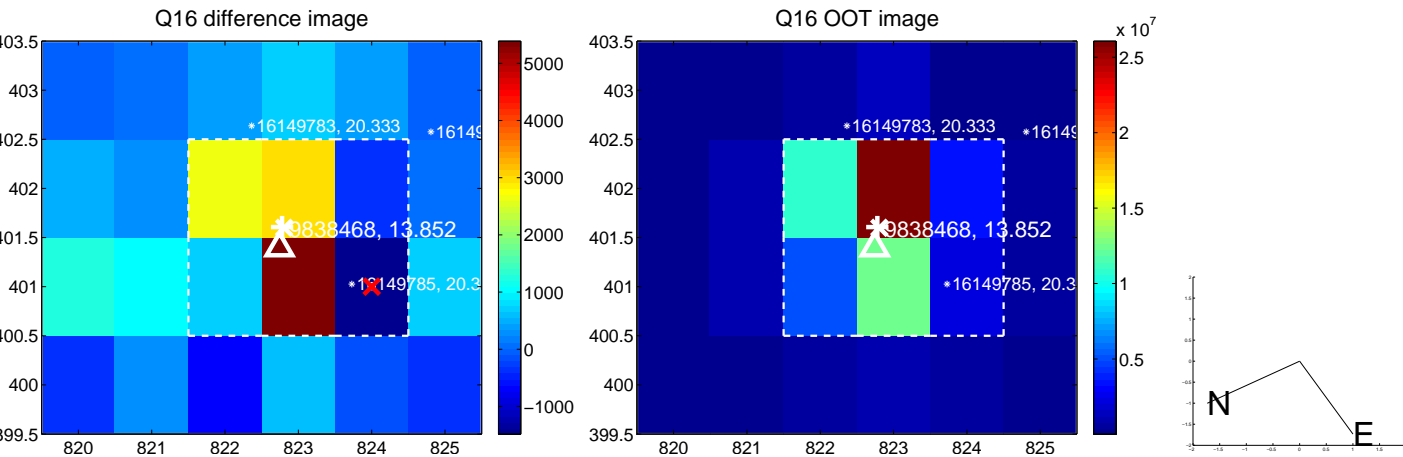
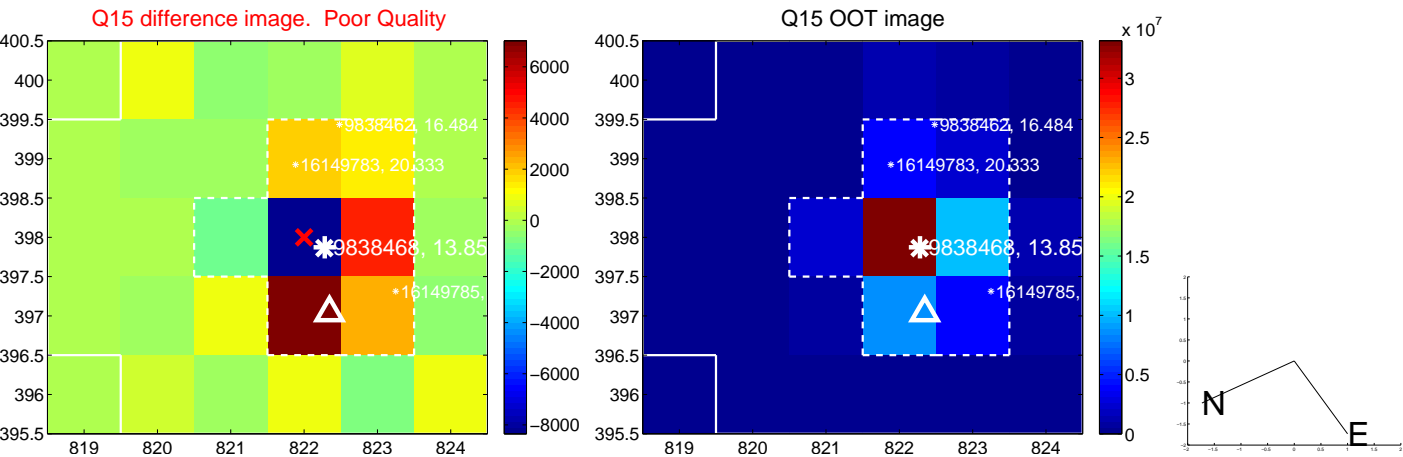
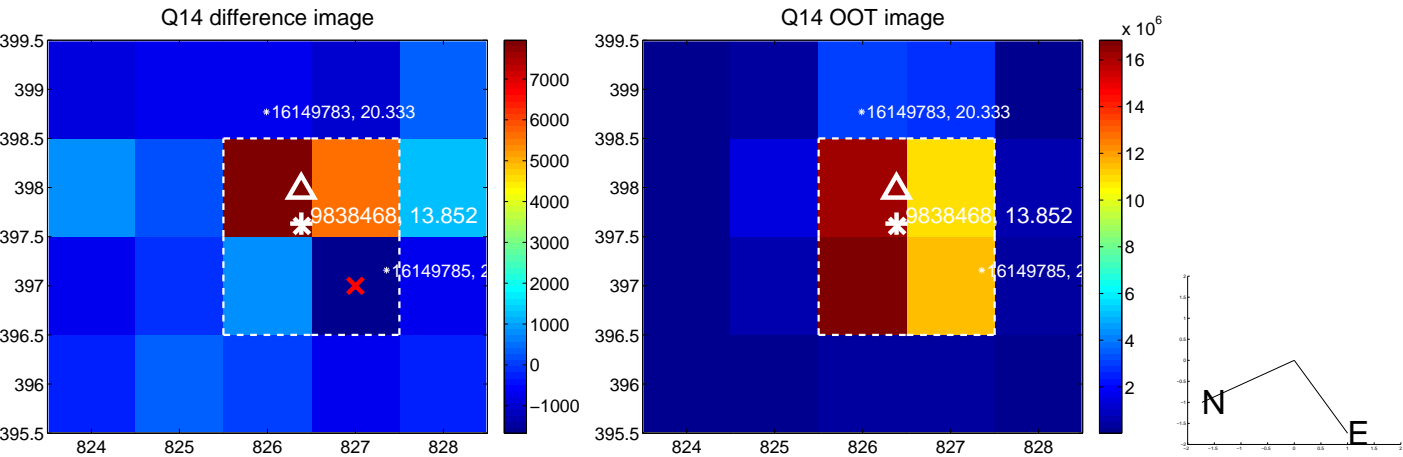
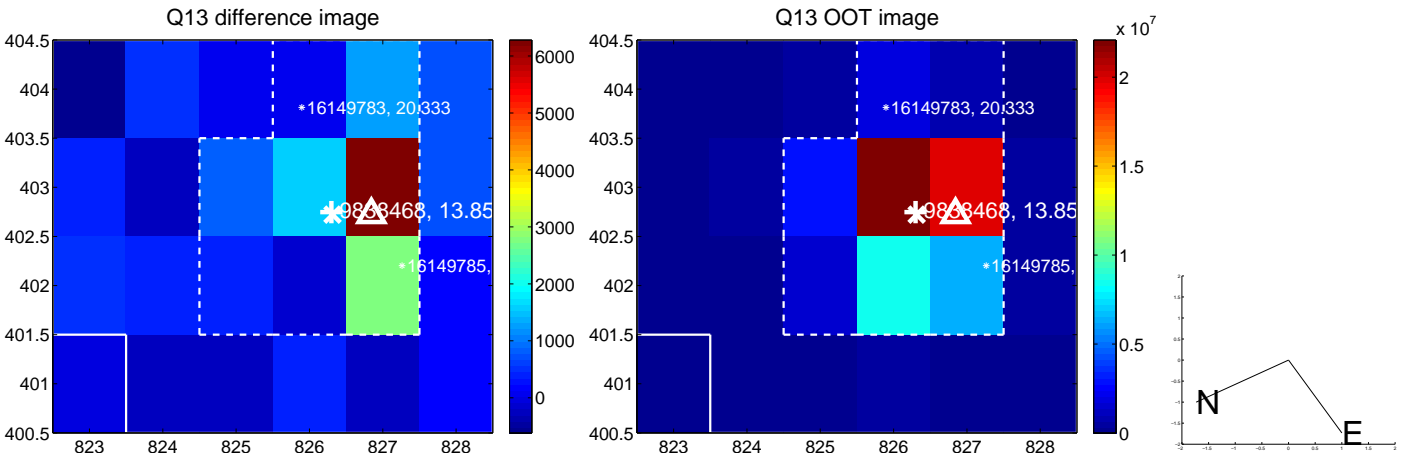
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



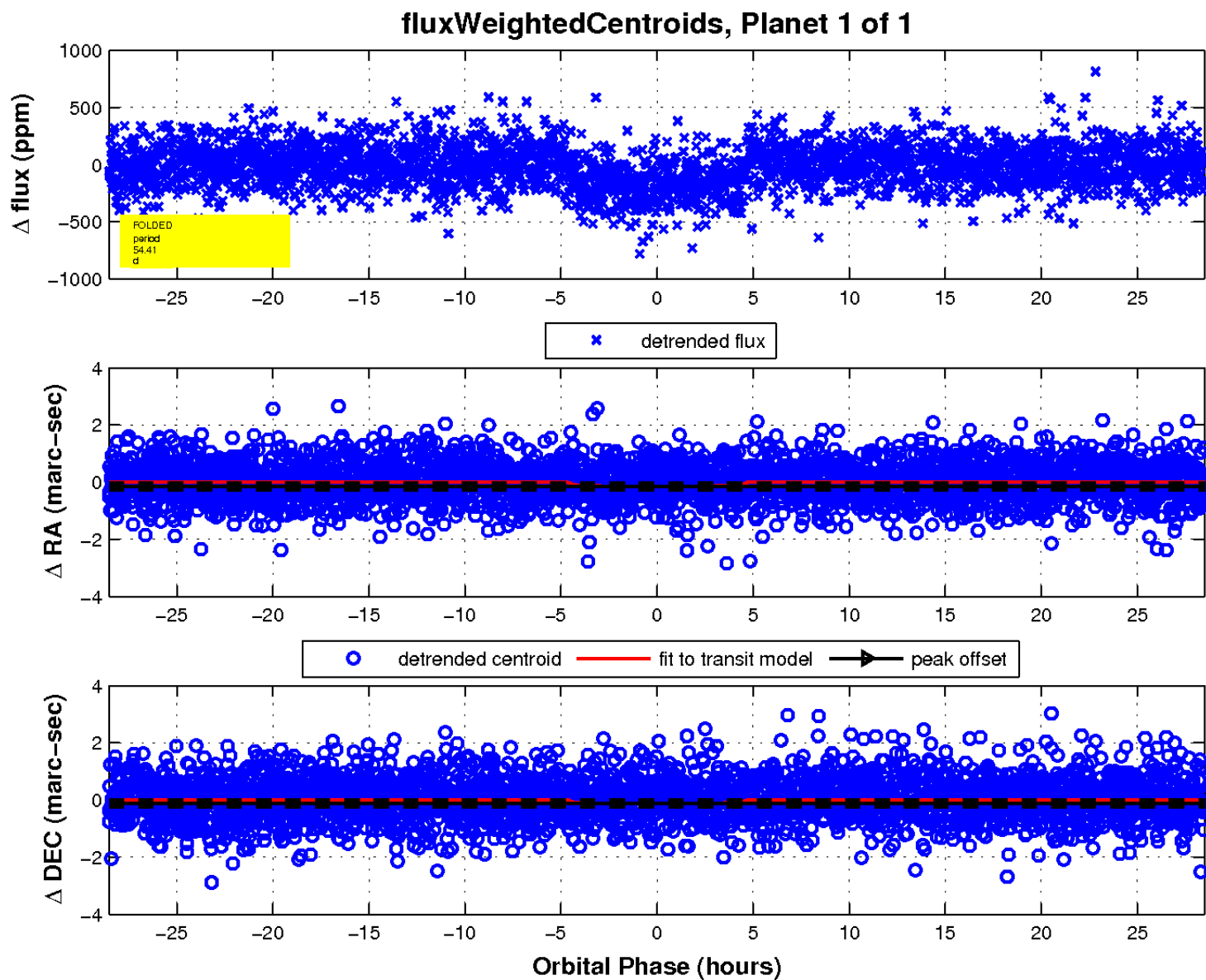
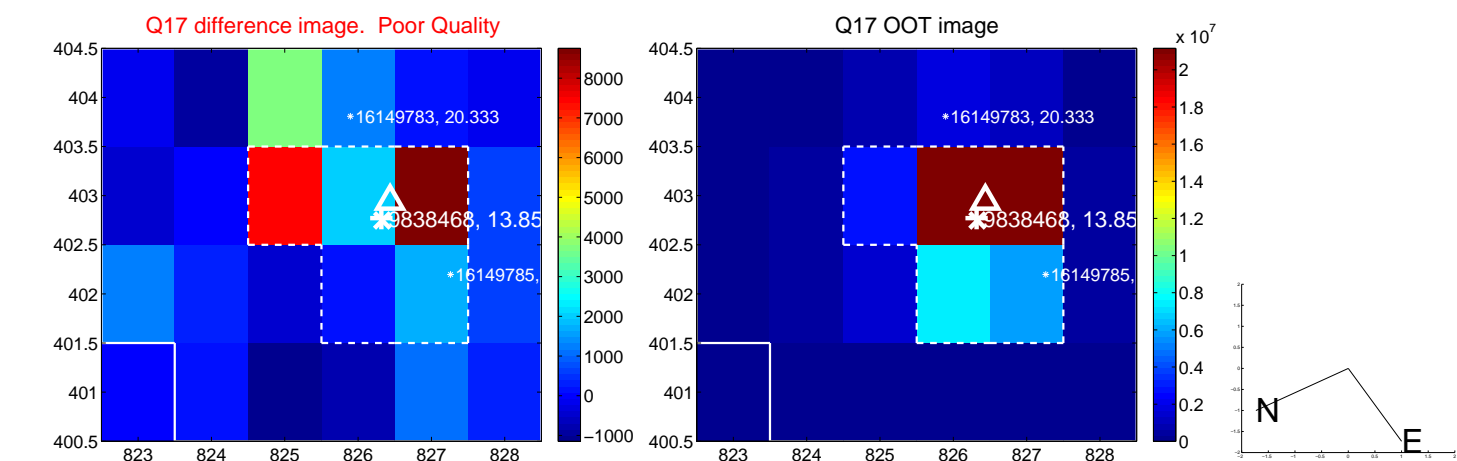
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UKIRT Image

Declination

