

KIC 008689031

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})
008689031-01	OBS	0920.01	21.804579	146.885247	1131.0	3.430	43.7	48.0	0.71	5481	2.66	20.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008689031-01	OBS	PC	1.00	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.

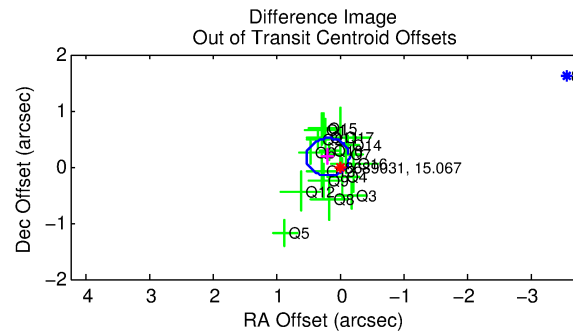
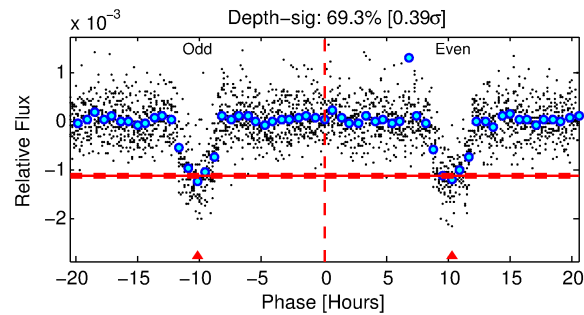
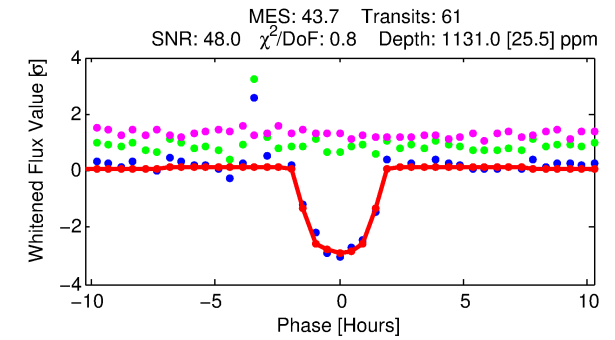
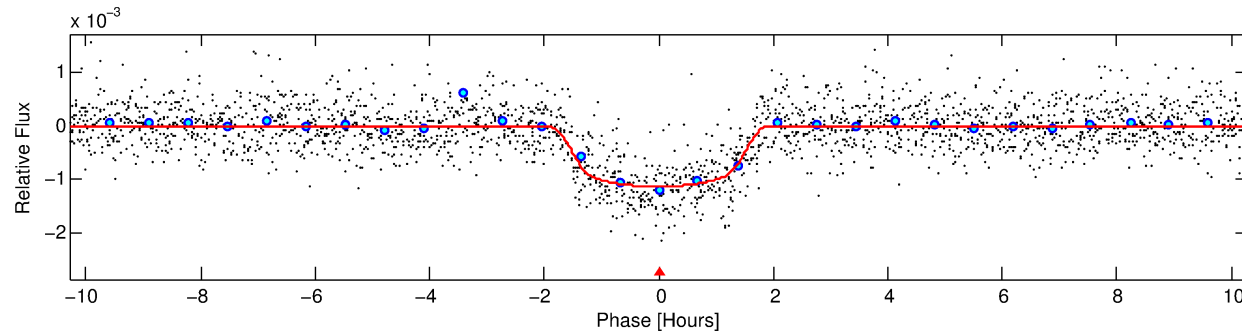
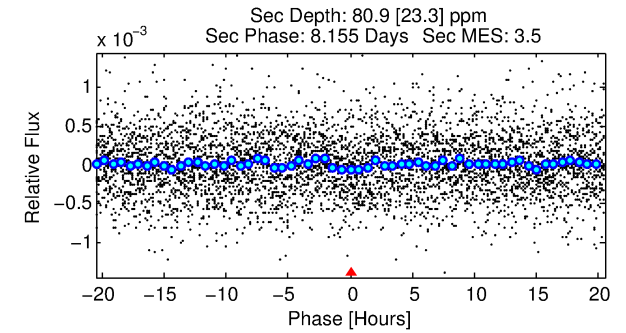
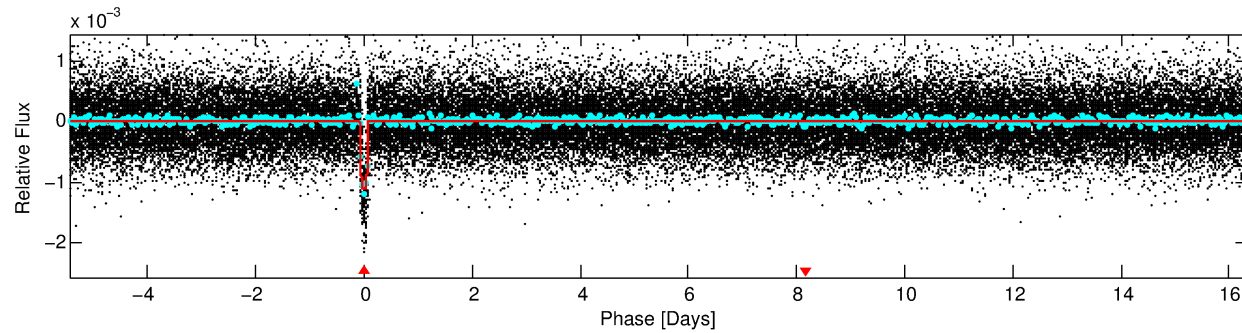
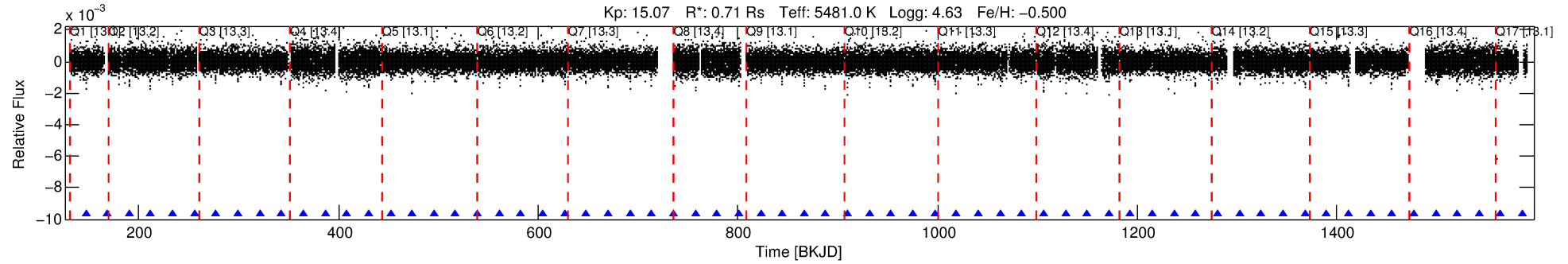
Ephemeris Match Information For 008689031-01

No Significant Match Found

DV One-Page Summary

KIC: 8689031 Candidate: 1 of 1 Period: 21.805 d

KOI: K00920.01 Corr: 0.988



DV Fit Results:

Period = 21.80458 [0.00005] d
Epoch = 146.8852 [0.0018] BKJD
Rp/R* = 0.0344 [0.0037]
a/R* = 31.32 [14.49]
b = 0.81 [0.20]
Seff = 20.53 [4.94]
Teq = 543 [33] K
Rp = 2.66 [0.56] Re
a = 0.1405 [0.0207] AU
Ag = 124.39 [51.67] [2.39σ]
Teffp = 2802 [265] K [8.47σ]

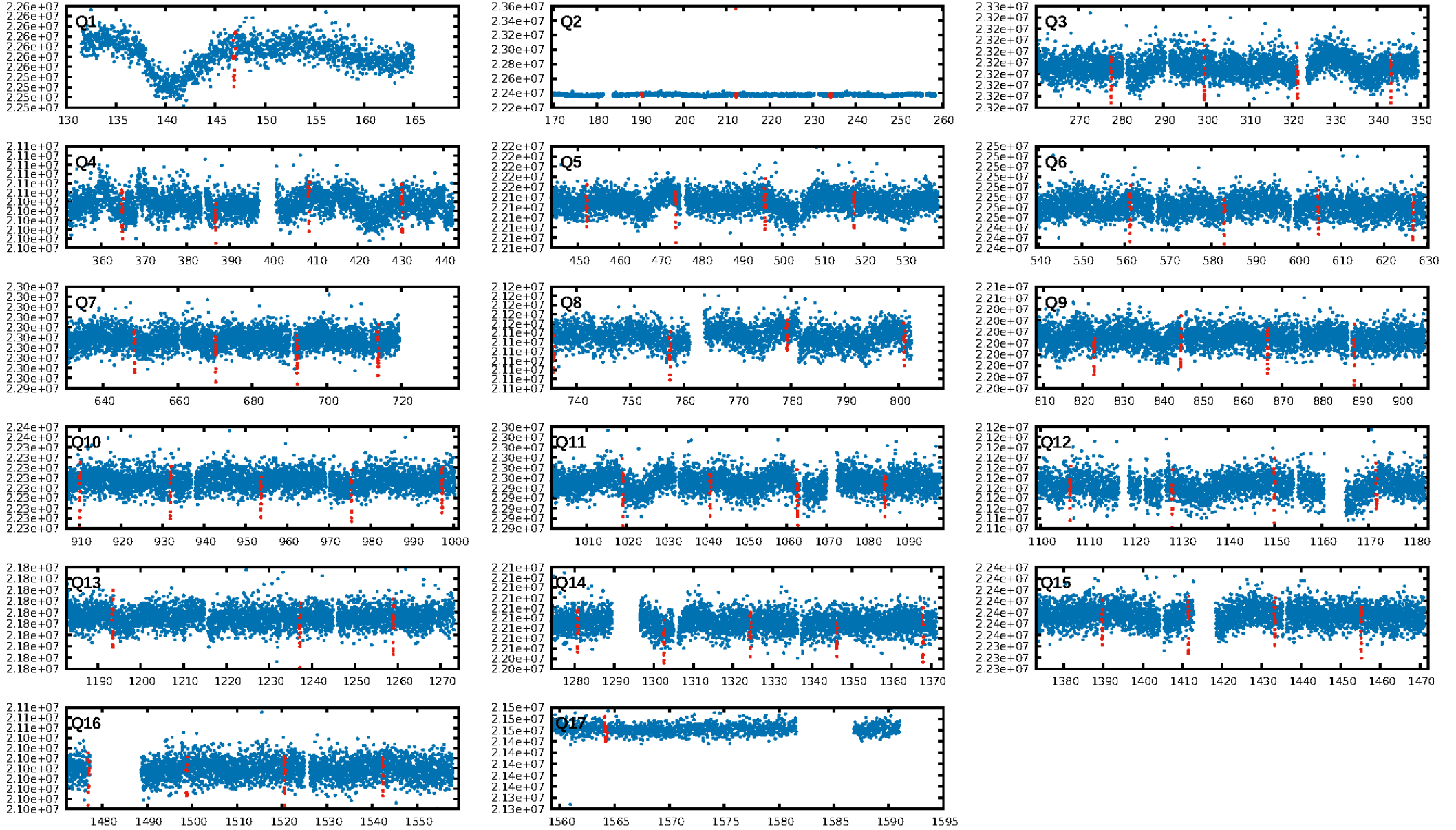
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [59/59]
GhostDiagnostic-chr: 5.757
Centroid-sig: 2.8%
Centroid-so: 0.438 arcsec [1.59σ]
OotOffset-rm: 0.264 arcsec [2.36σ]
KicOffset-rm: 0.252 arcsec [1.69σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 1.00 [17/17]

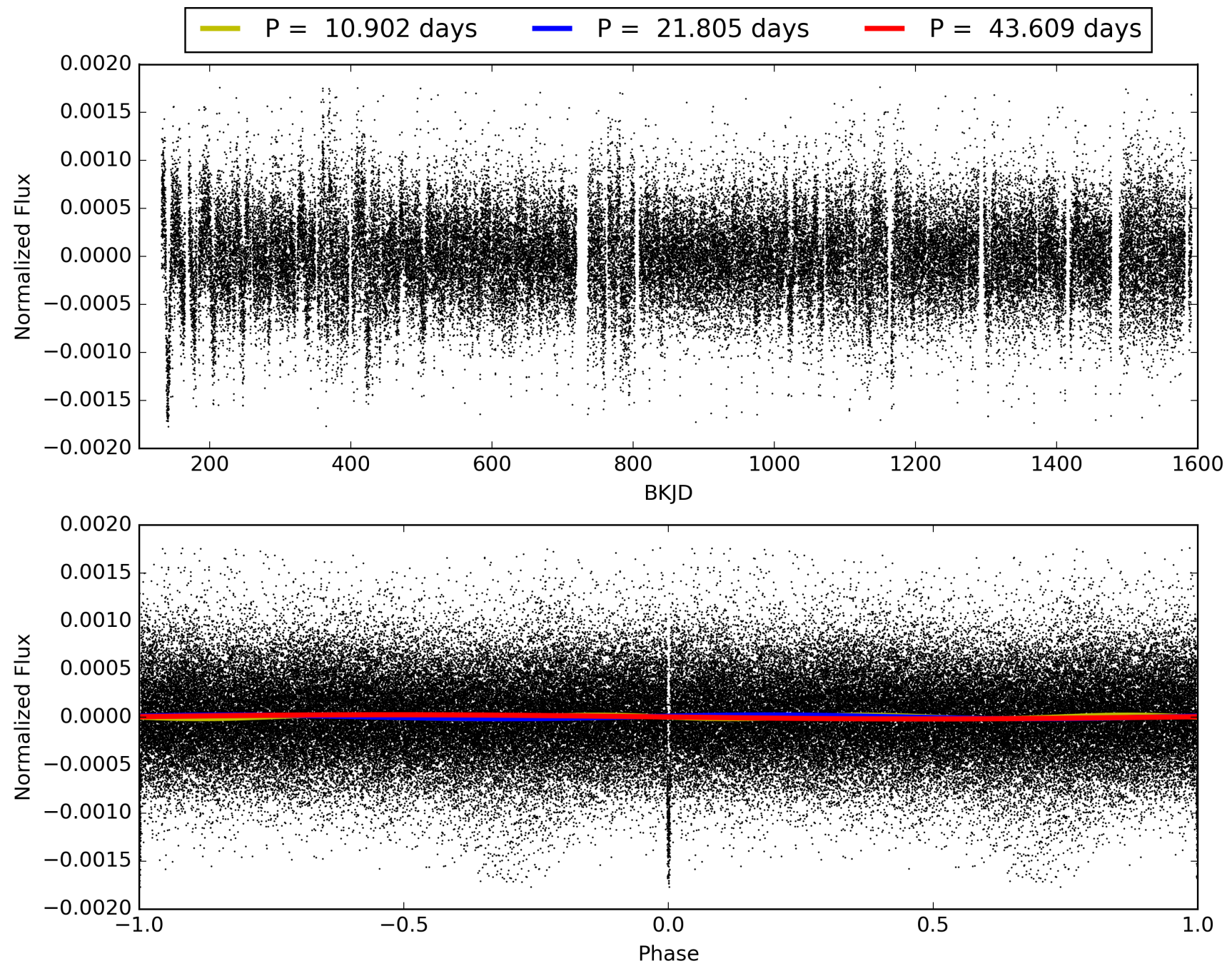
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 09:46:16 Z

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

TCE 008689031-01, PDC Light Curves

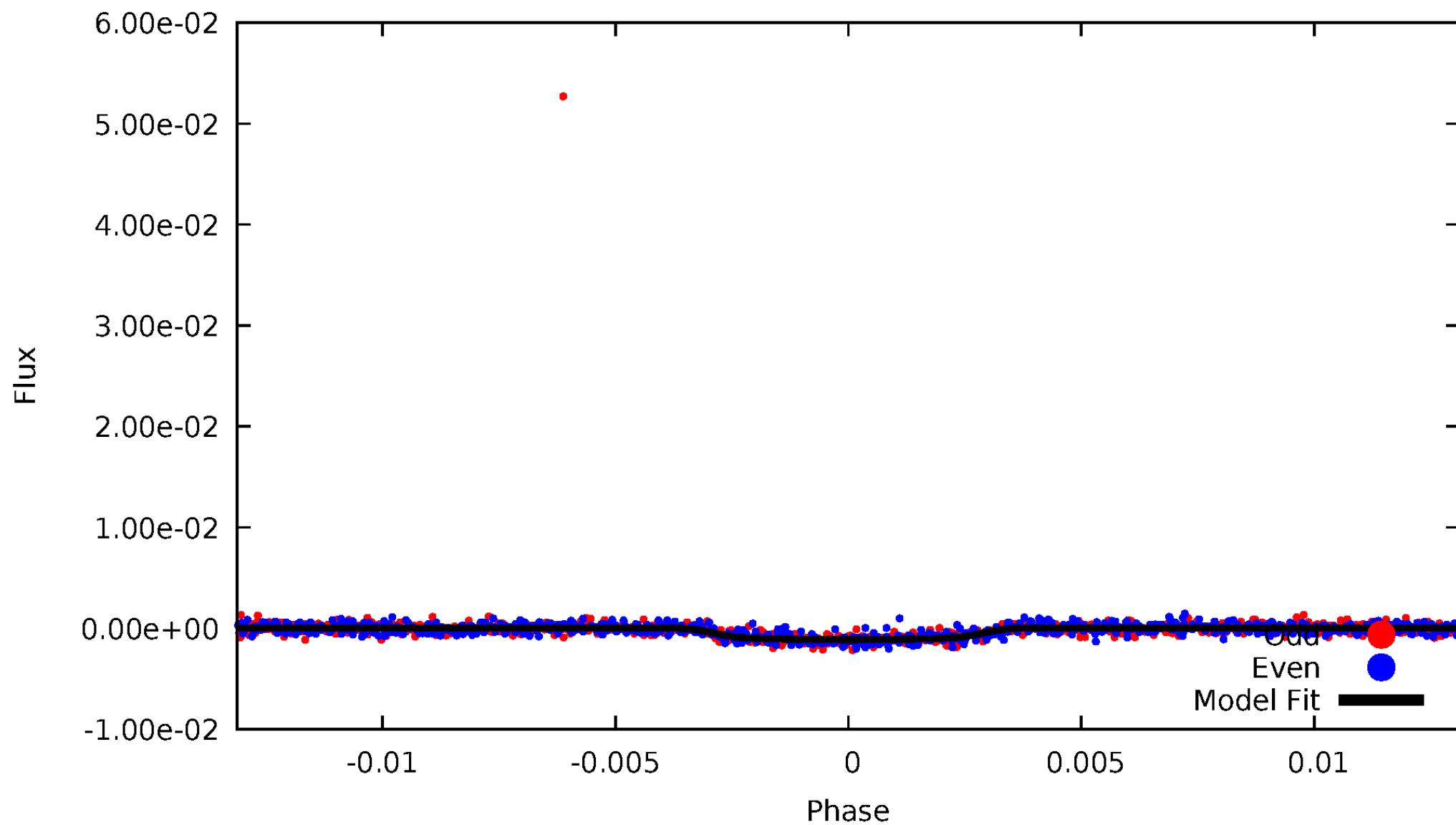


TCE 008689031-01



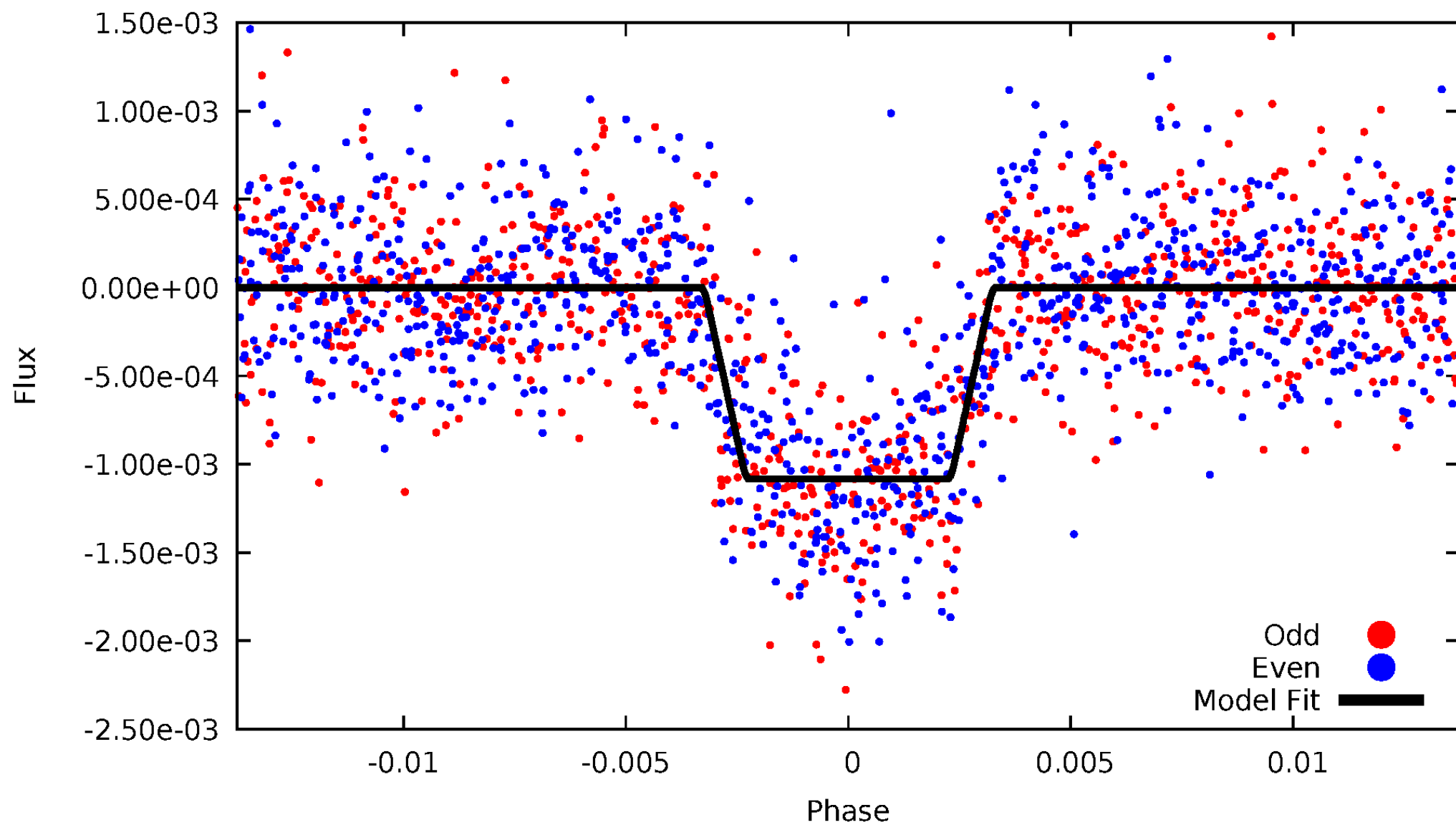
DV Odd/Even

TCE 008689031-01

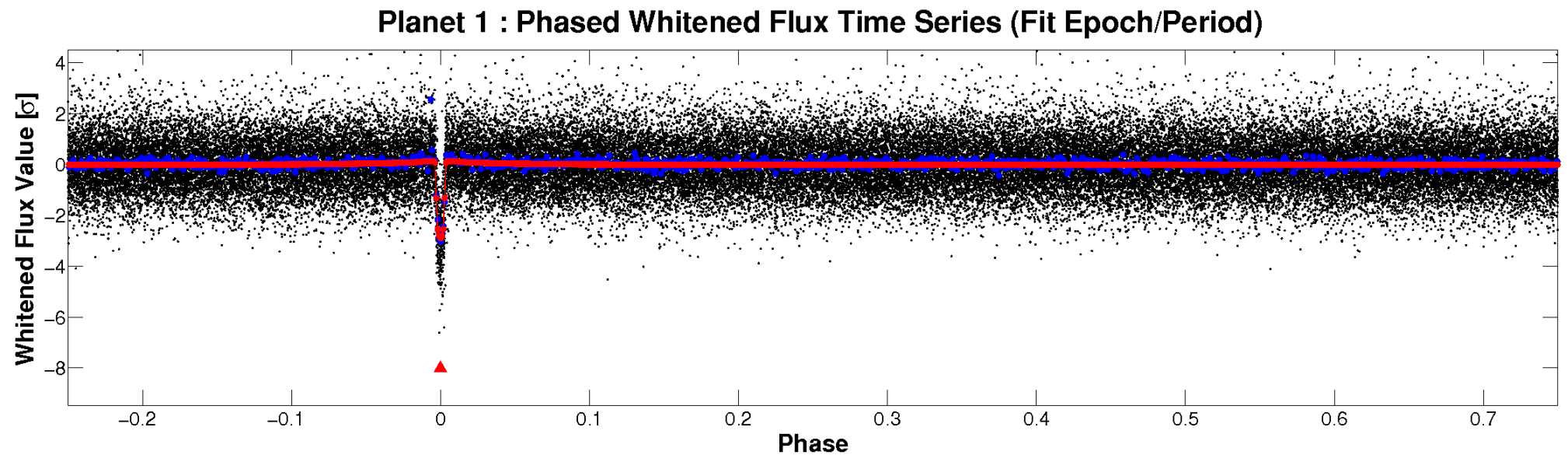
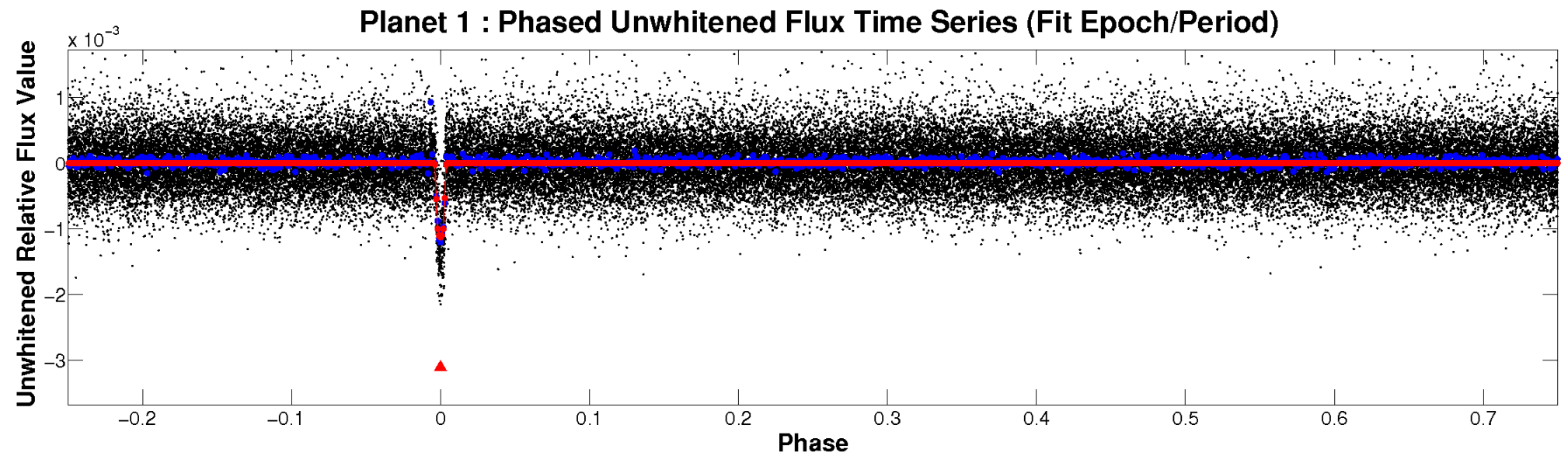


ALT Odd/Even

TCE 008689031-01

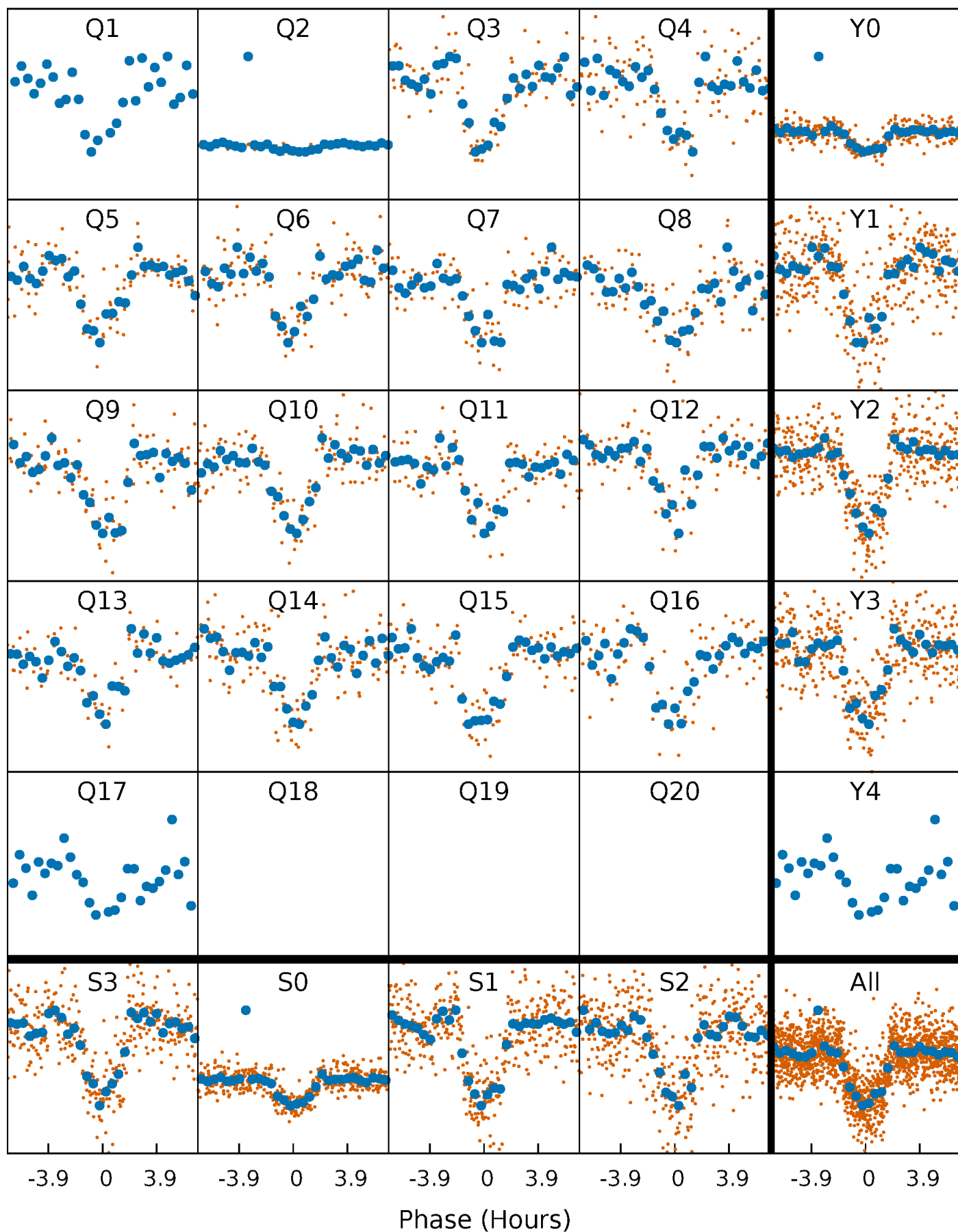


Non-Whitened Vs. Whitened Light Curve



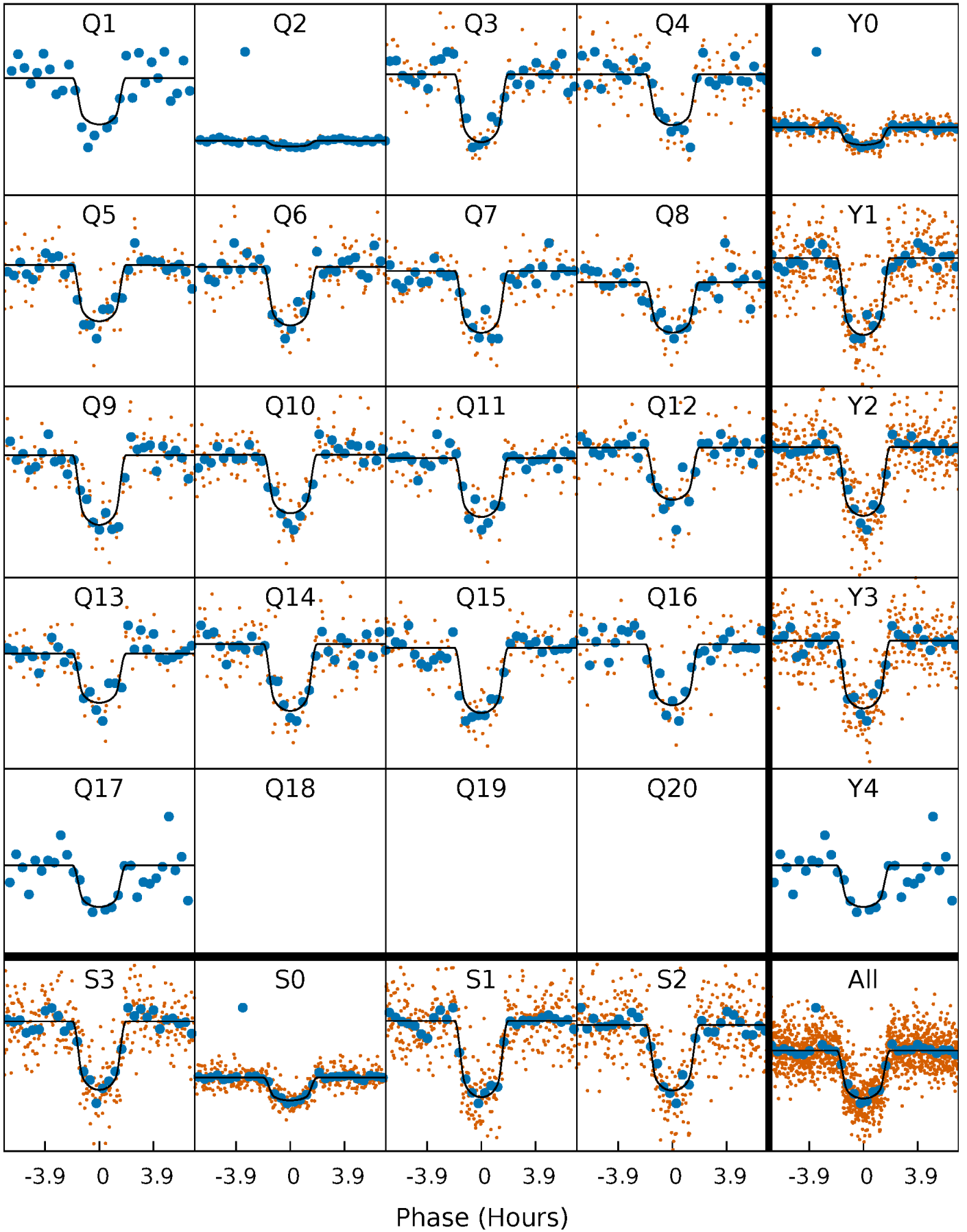
PDC Quarter-Phased Transit Curves

TCE 008689031-01 P= 21.804579 Days $T_0=146.885246$ (BKJD)



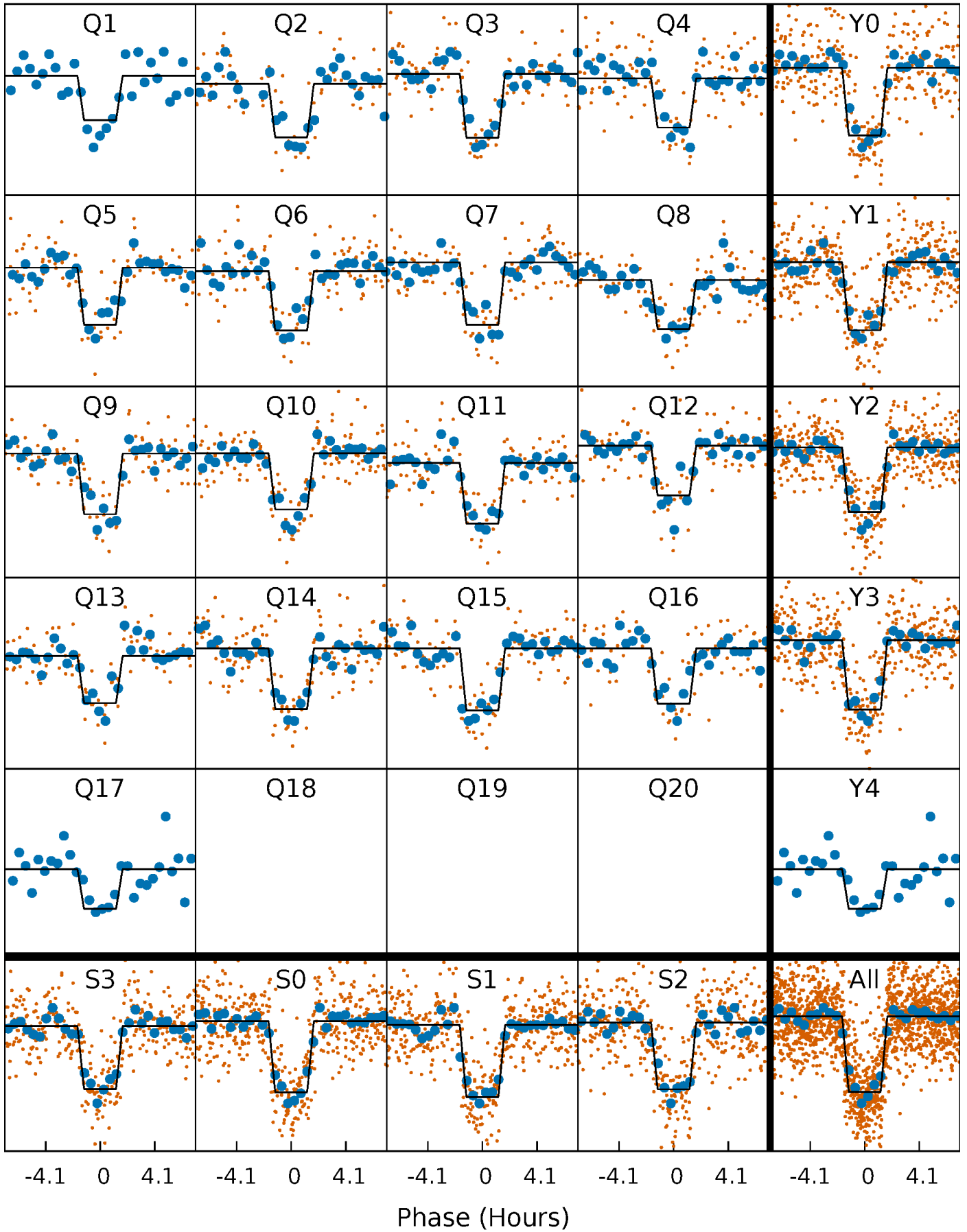
DV Quarter-Phased Transit Curves

TCE 008689031-01 P= 21.804579 Days $T_0=146.885246$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

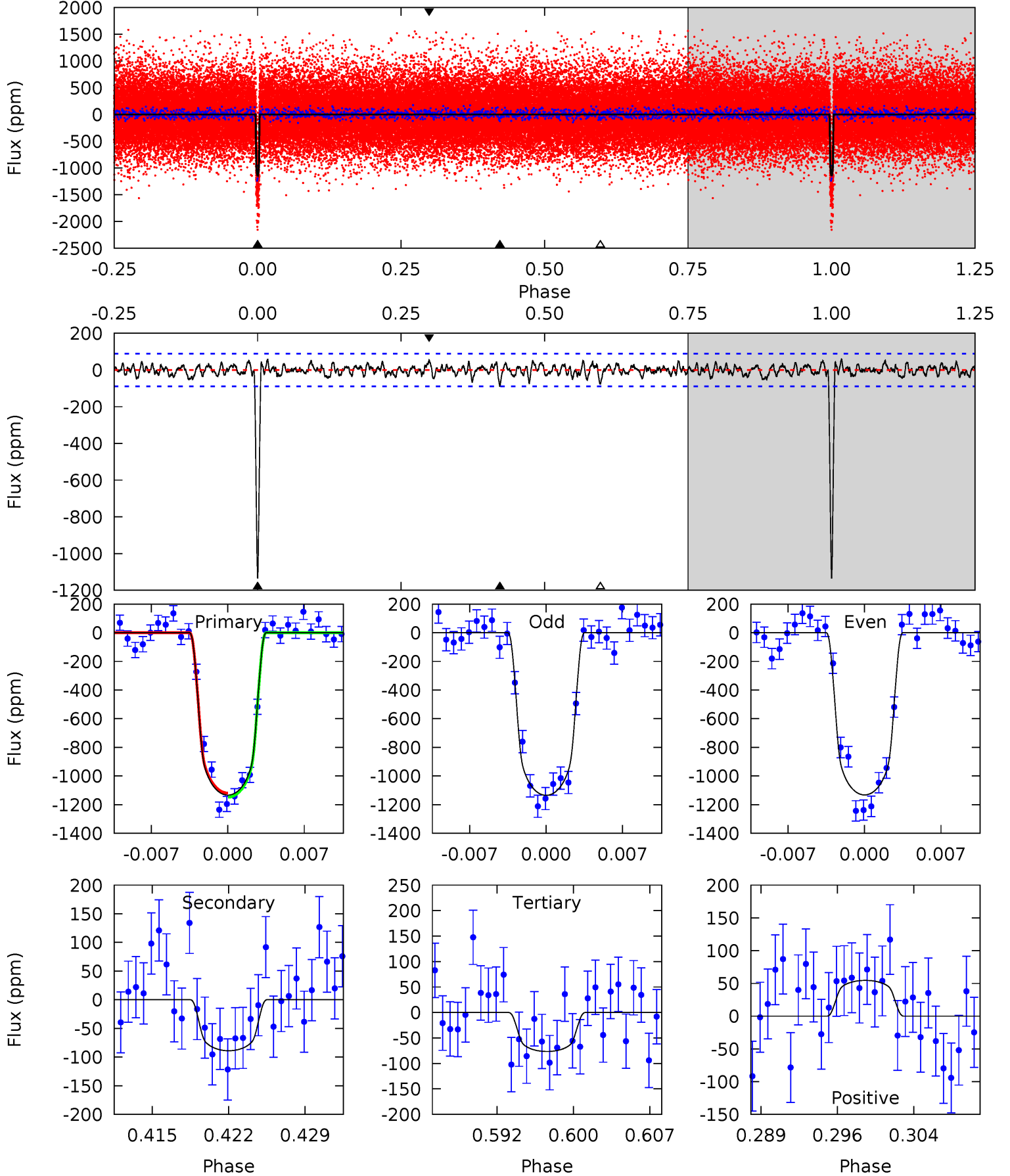
TCE 008689031-01 P= 21.804711 Days $T_0=146.882342$ (BKJD)



DV Model-Shift Uniqueness Test

008689031-01, $P = 21.804579$ Days, $E = 125.080667$ Days

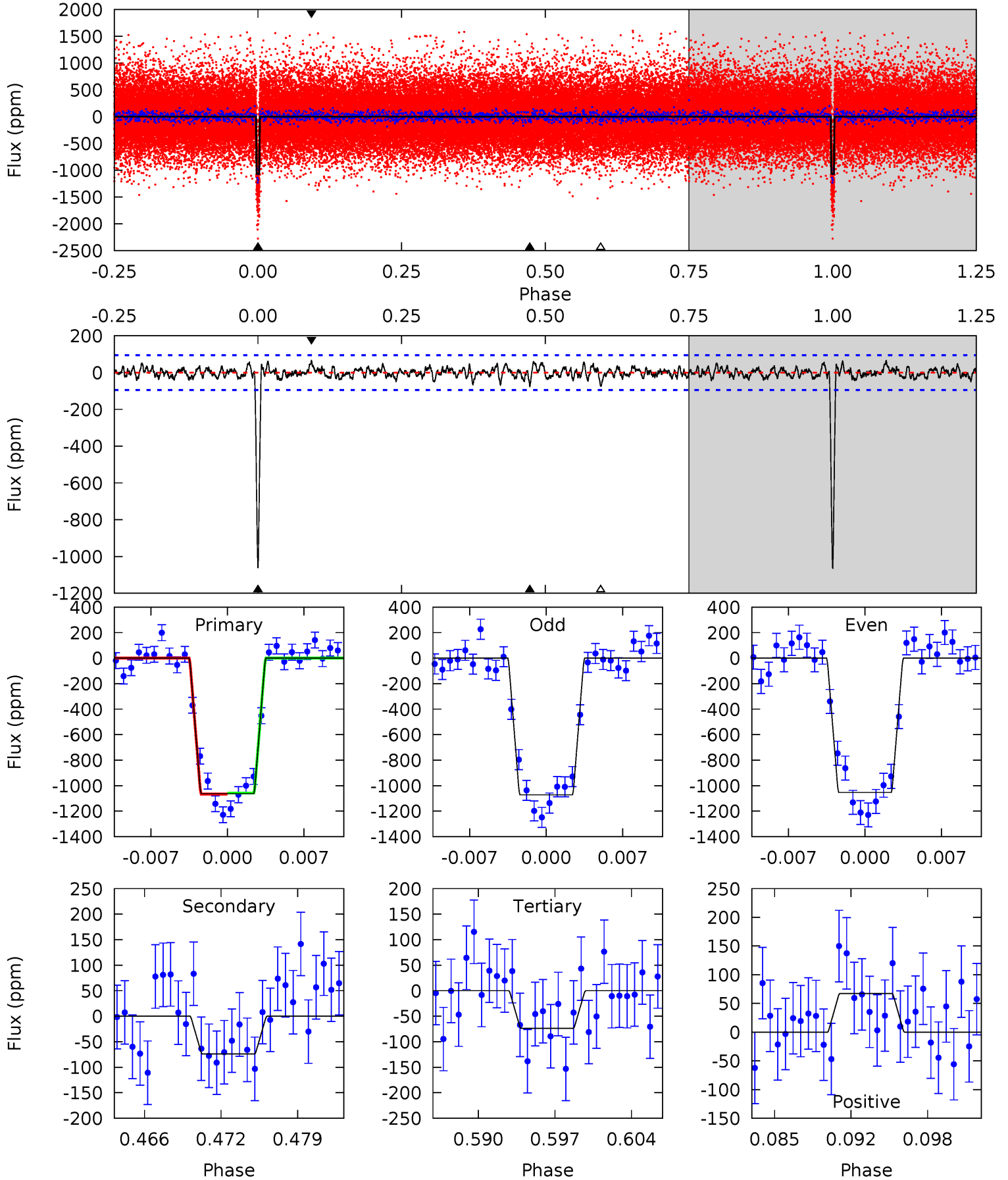
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
64.8	5.08	4.37	3.12	5.08	2.68	1.25	60.4	61.7	0.71	1.96	0.08	1.02	0.05	0.82



Alt Model-Shift Uniqueness Test

008689031-01, P = 21.804711 Days, E = 125.077631 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
57.2	3.98	3.96	3.62	5.11	2.72	1.15	53.2	53.6	0.02	0.36	0.50	1.00	0.06	0.21



Stellar Parameters For KIC 008689031

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5481^{+163}_{-146}	$4.629^{+0.028}_{-0.112}$	$-0.500^{+0.300}_{-0.300}$	$0.708^{+0.127}_{-0.051}$	$0.806^{+0.073}_{-0.090}$	$3.197^{+0.392}_{-1.127}$
	+3%/-3%	+1%/-2%	+60%/-60%	+18%/-7%	+9%/-11%	+12%/-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 008689031-01 / KOI 0920.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-89 ± 17	$2.79^{+0.37}_{-0.36}$	771^{+35}_{-26}	3378^{+163}_{-168}	124^{+49}_{-34}
Alt.	-74 ± 19	$2.64^{+0.37}_{-0.34}$	771^{+31}_{-27}	3315^{+193}_{-169}	114^{+43}_{-36}

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 $A_{obs} \gg 1.0$

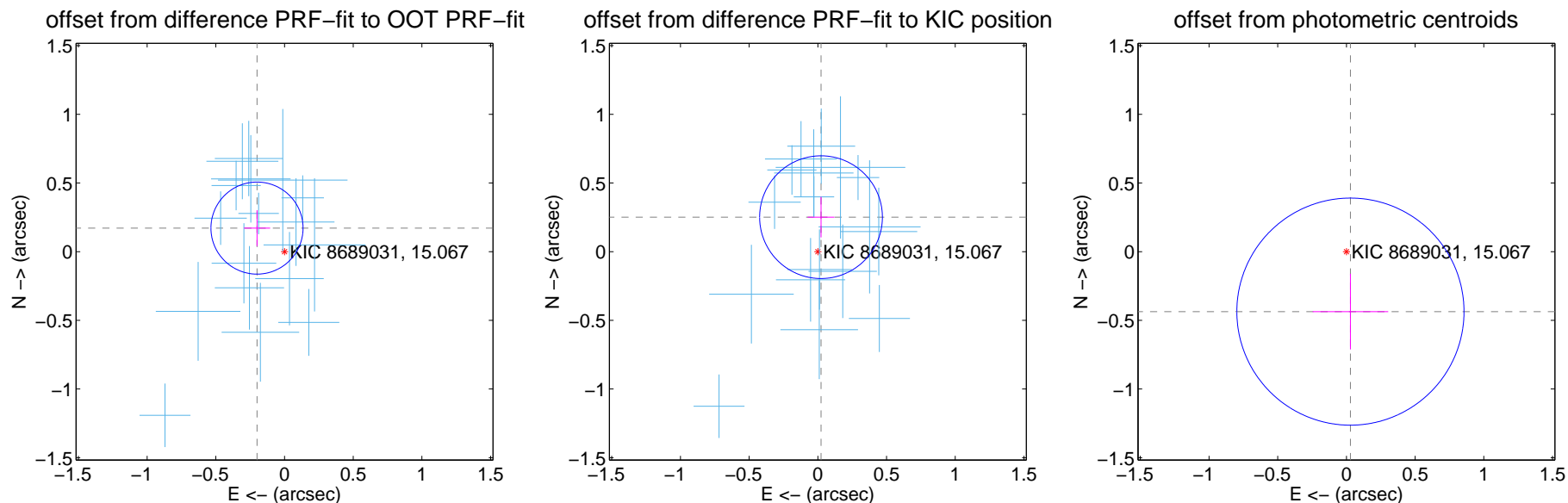
DV Centroid Data

Supplemental centroid analysis for 008689031-01. Kepler magnitude: 15.07. Transit SNR 47.96

There are 17 quarters with good PRF difference image offsets

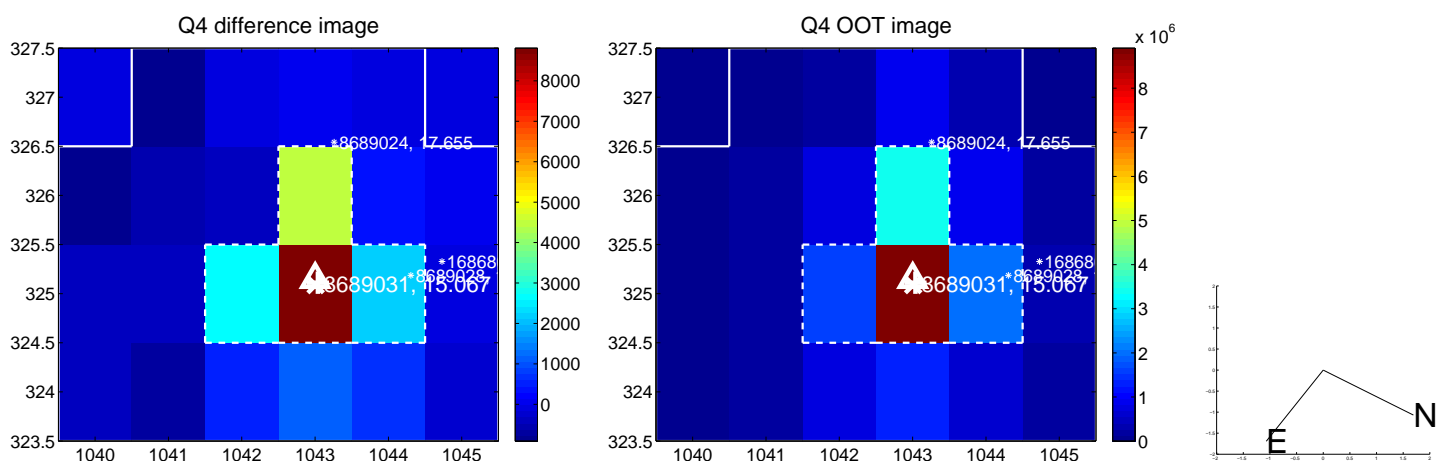
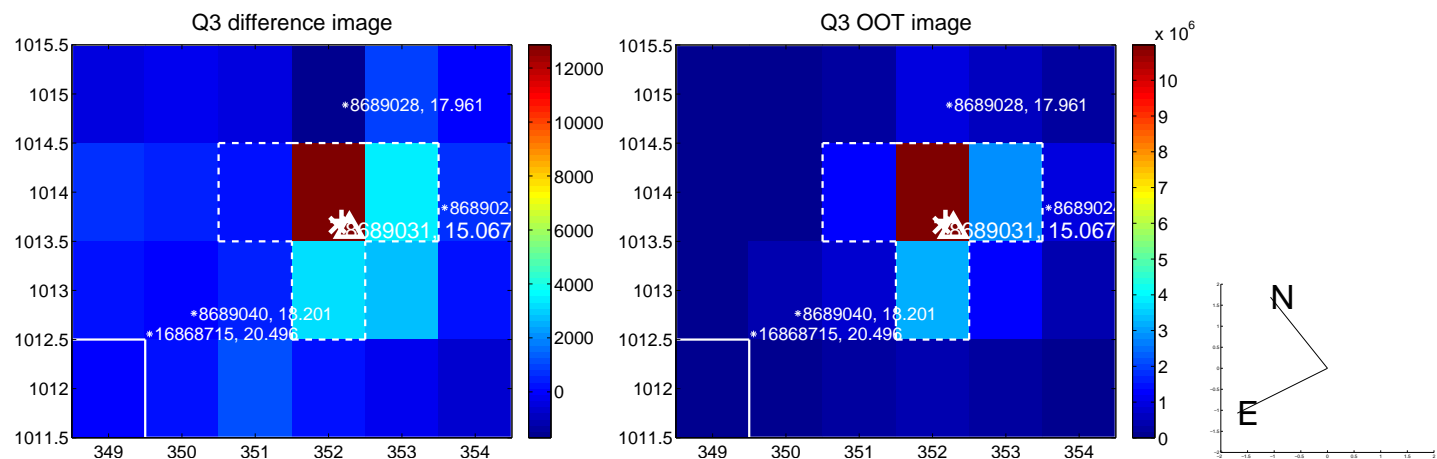
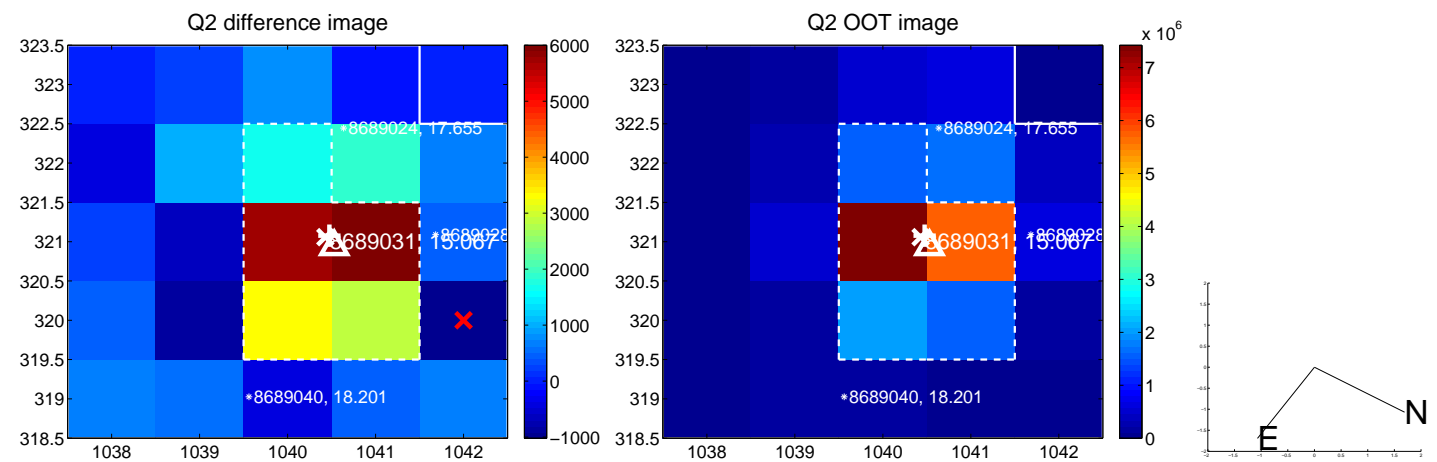
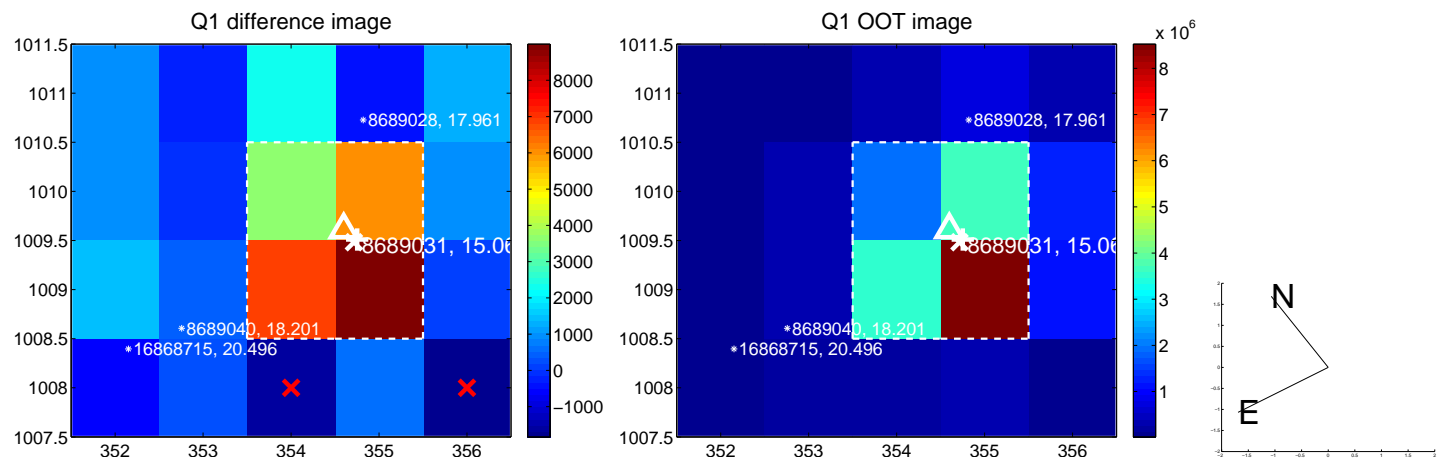
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.264 ± 0.112	2.36	0.200 ± 0.095	0.172 ± 0.131
PRF-fit source offset from KIC position	0.252 ± 0.149	1.69	-0.023 ± 0.097	0.251 ± 0.148
photometric centroid source offset	0.44 ± 0.28	1.59	-0.03 ± 0.27	-0.44 ± 0.28

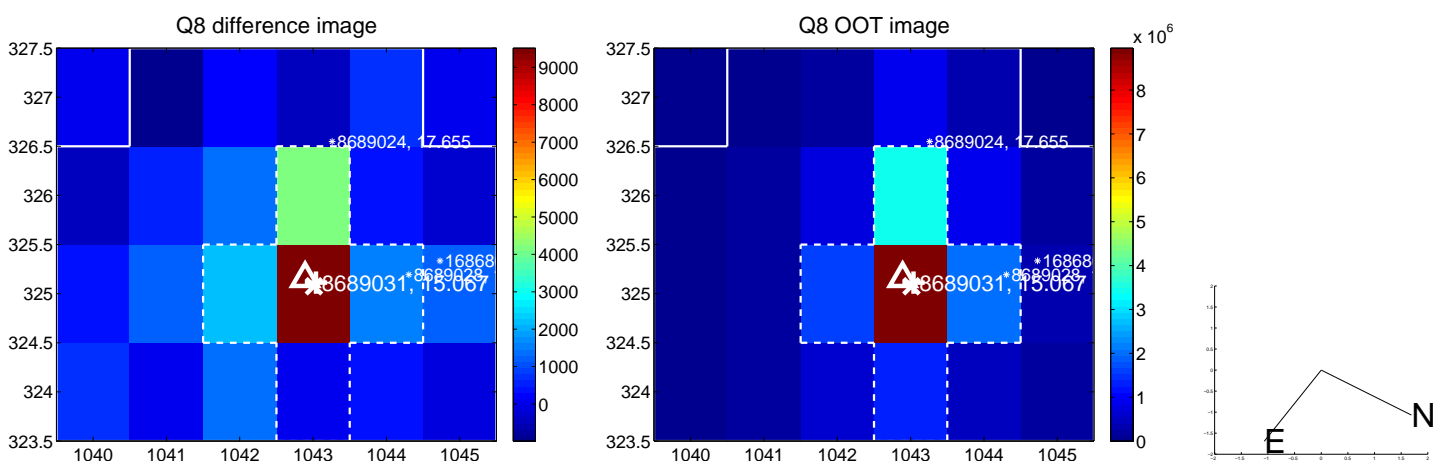
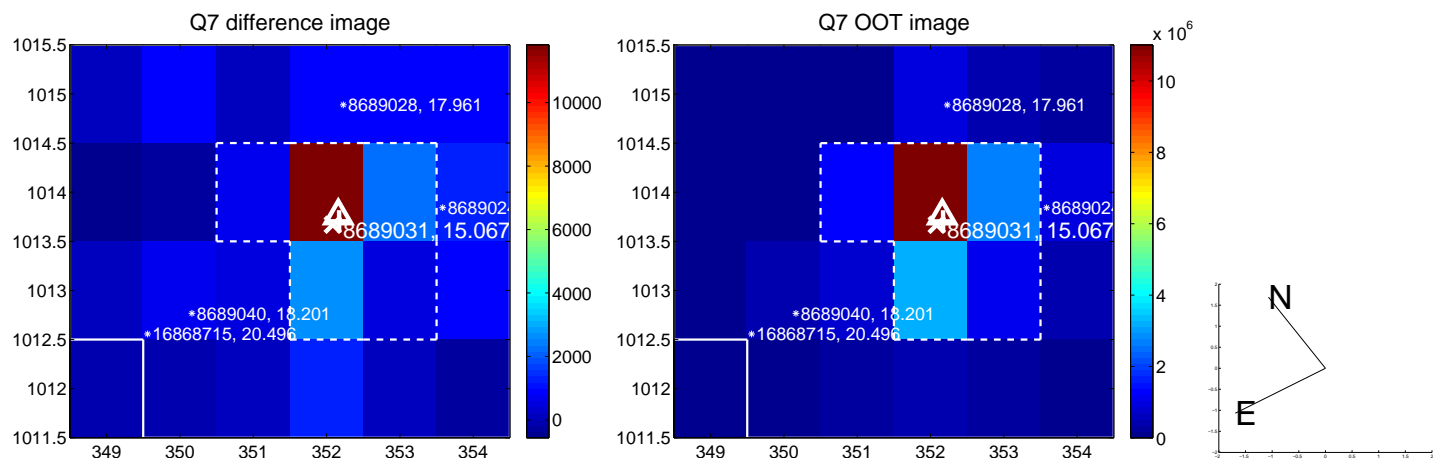
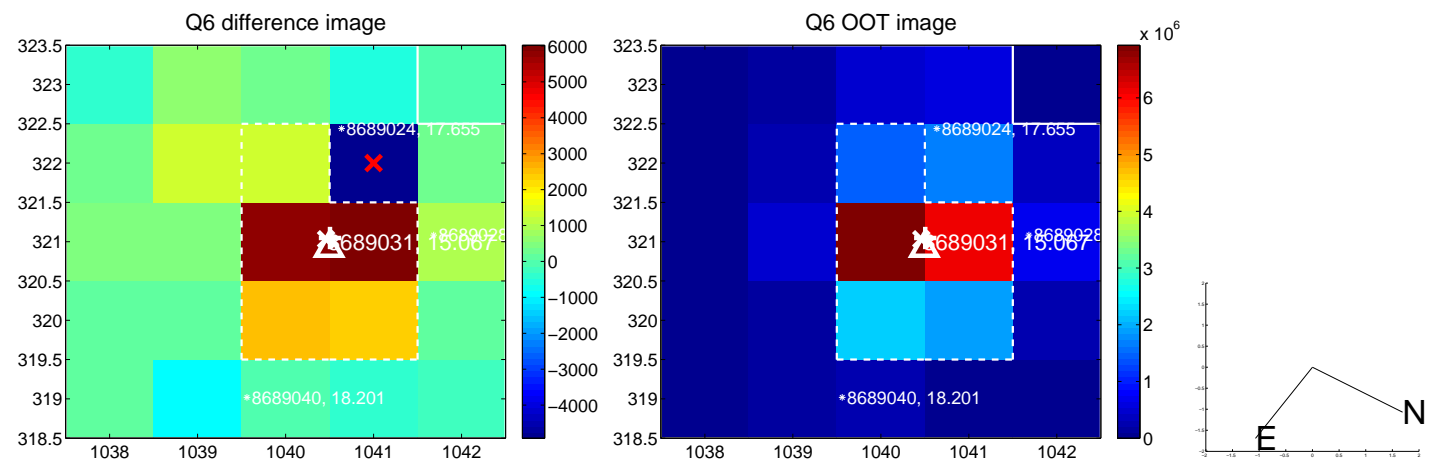
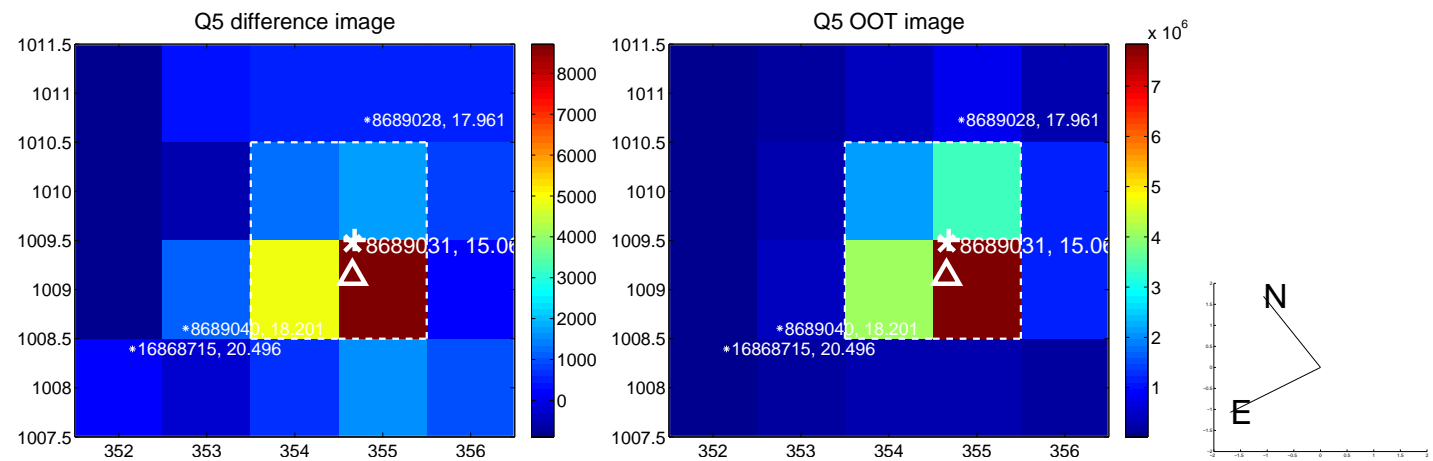


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

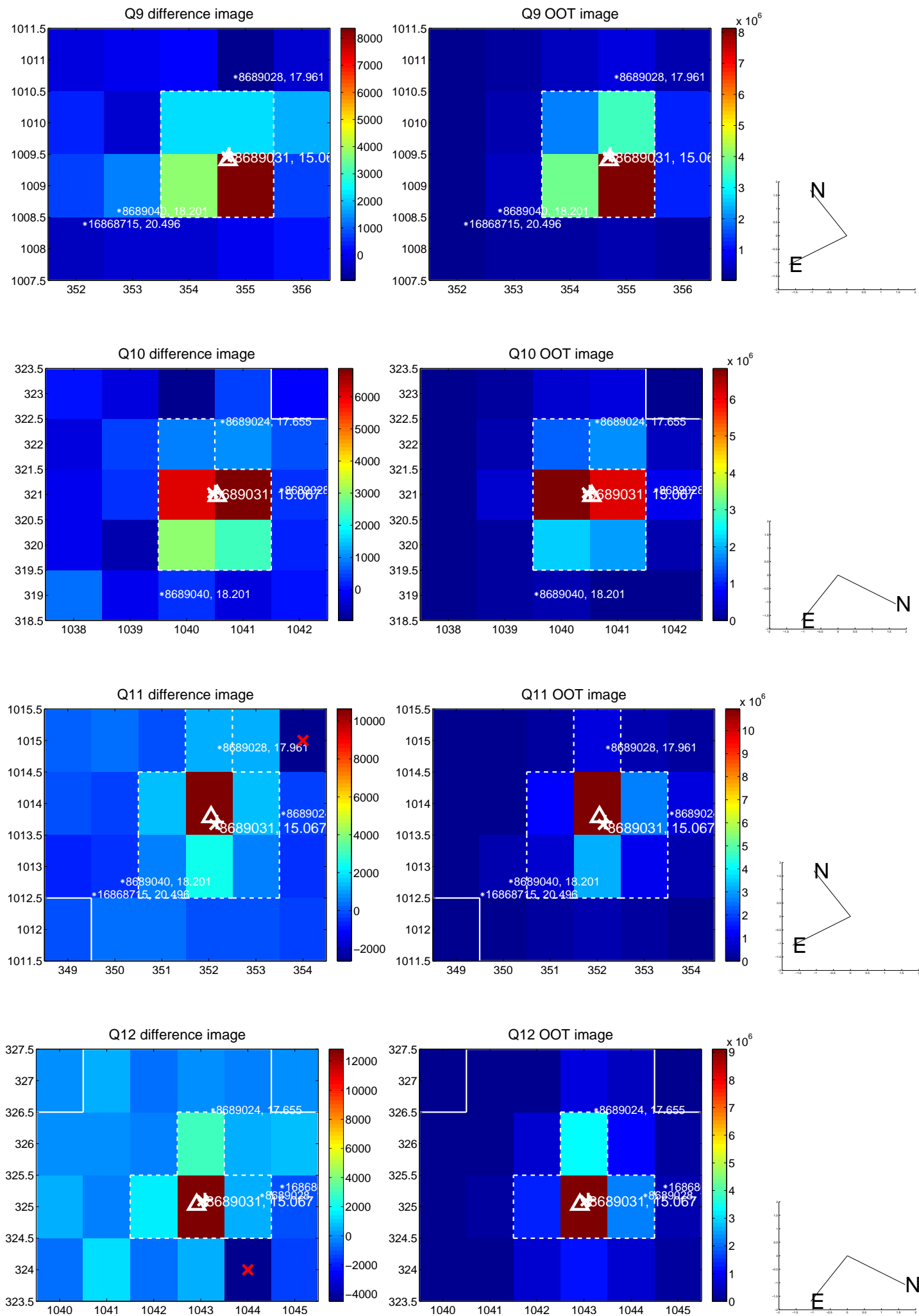
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



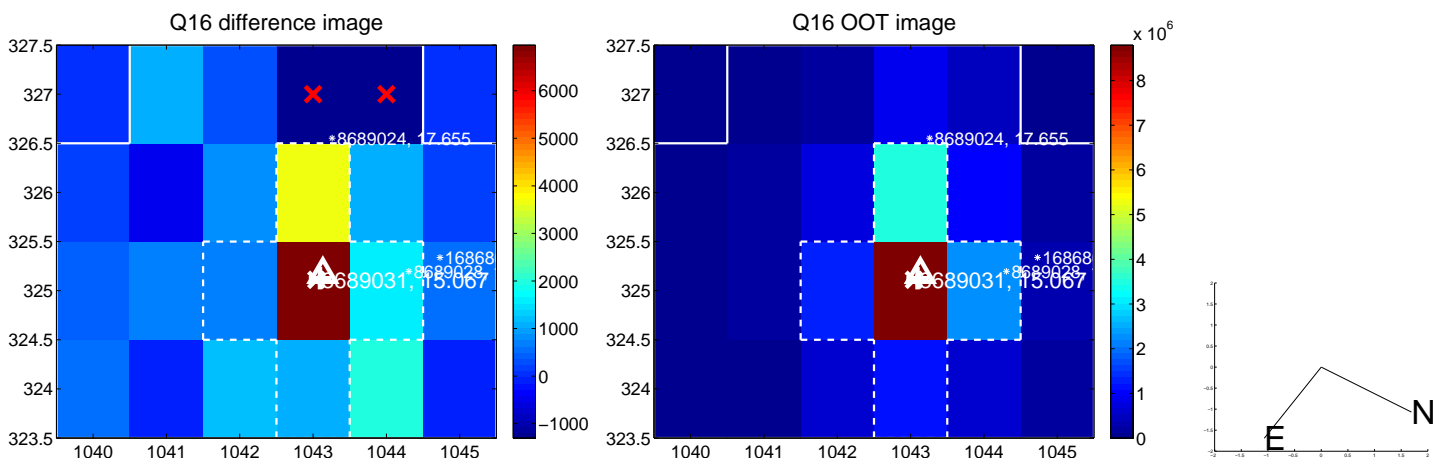
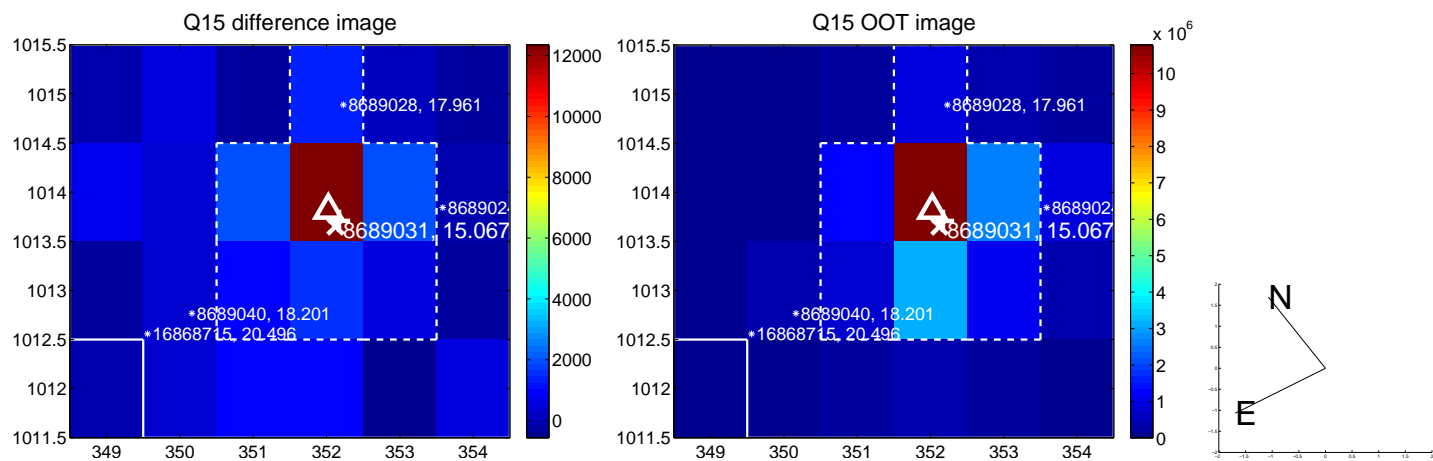
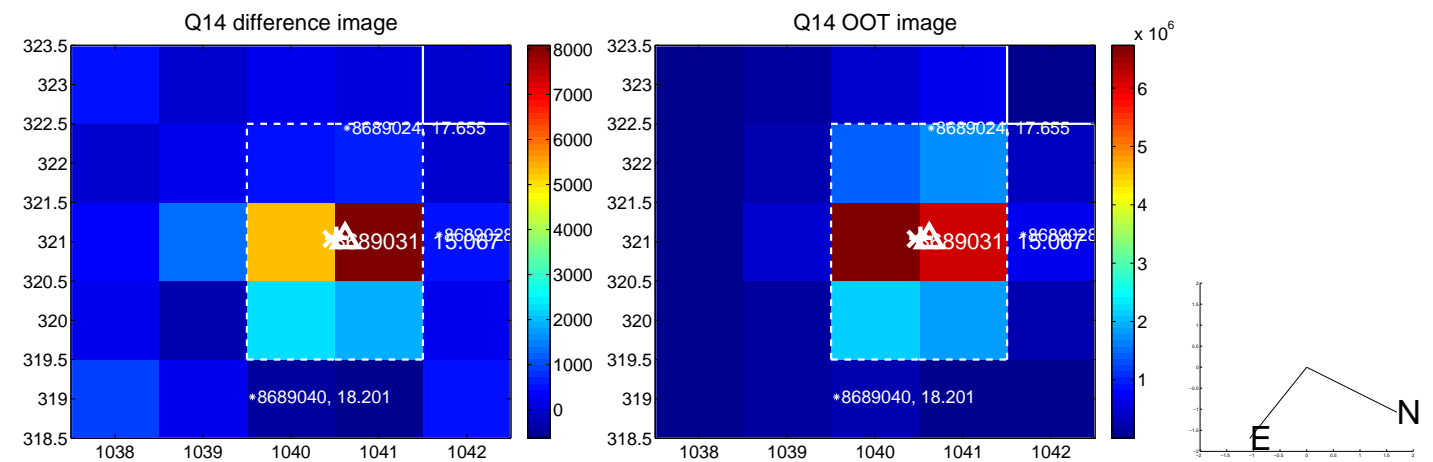
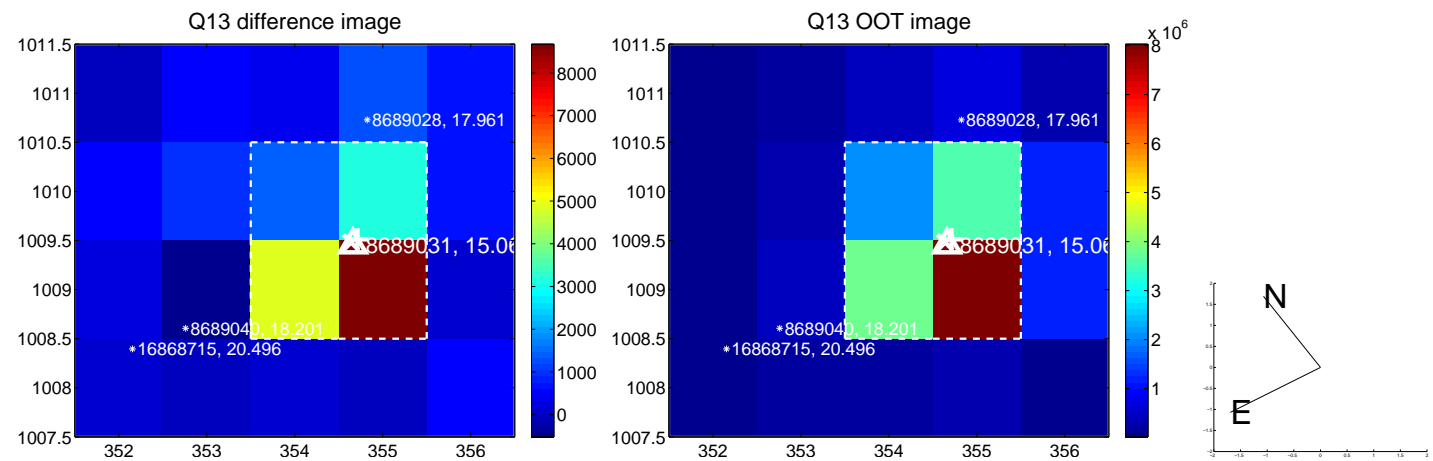
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



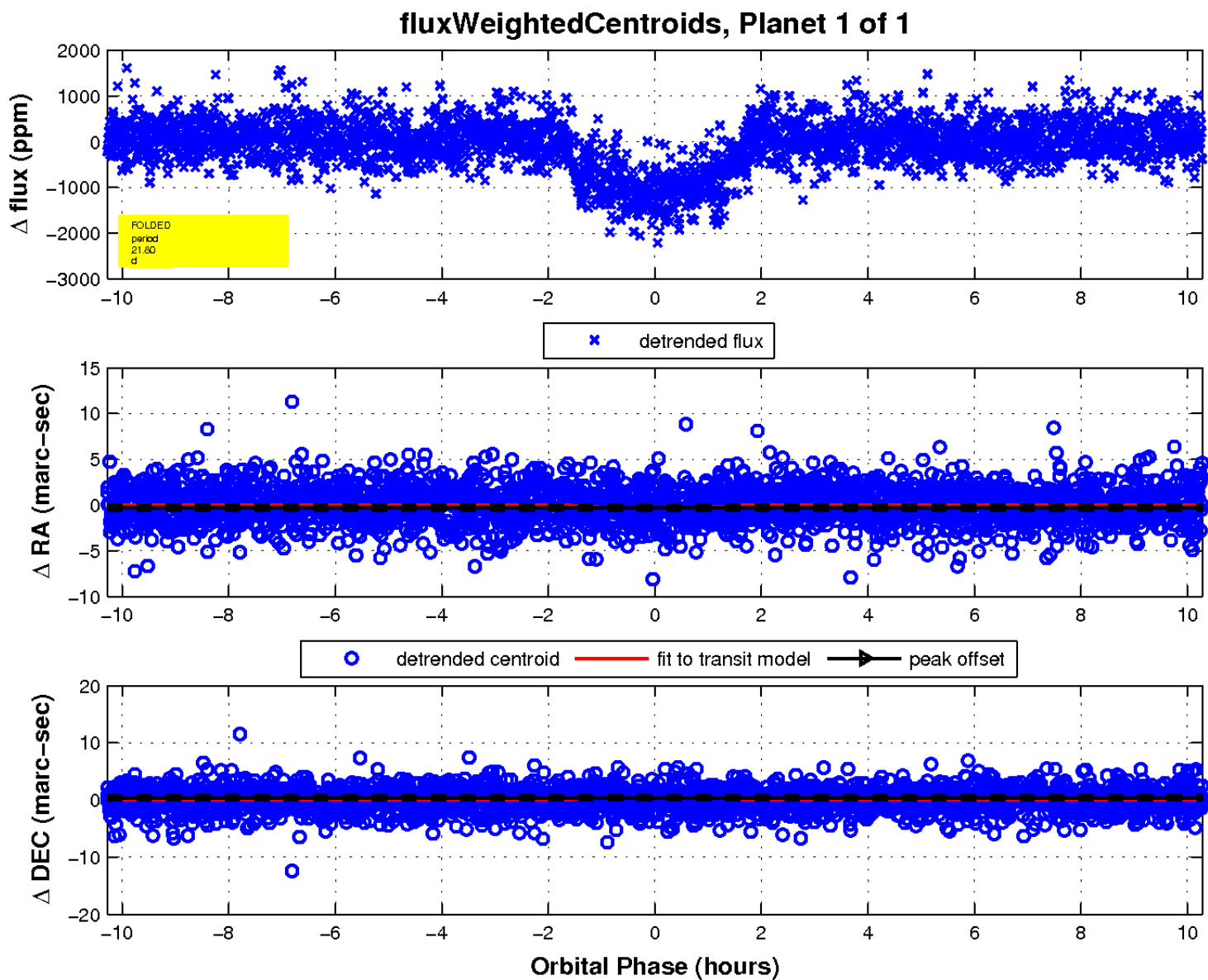
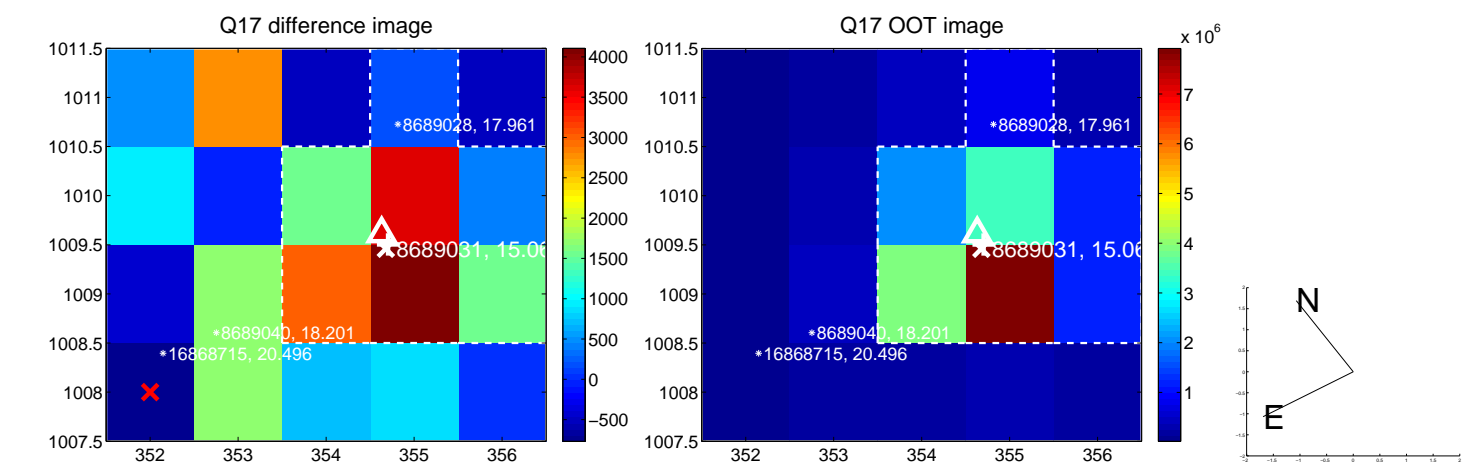
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

