

KIC 009649706

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})
009649706-01	OBS	2049.01	1.569052	133.045876	125.1	2.888	37.9	40.0	1.40	5821	1.85	2765.36

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009649706-01	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.

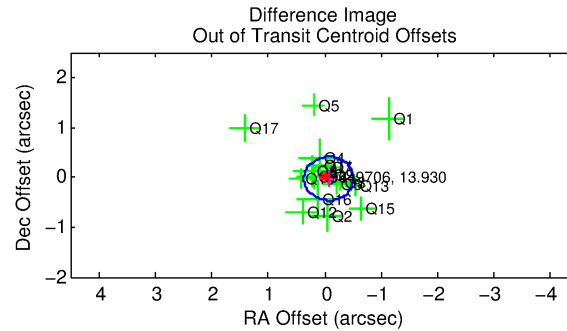
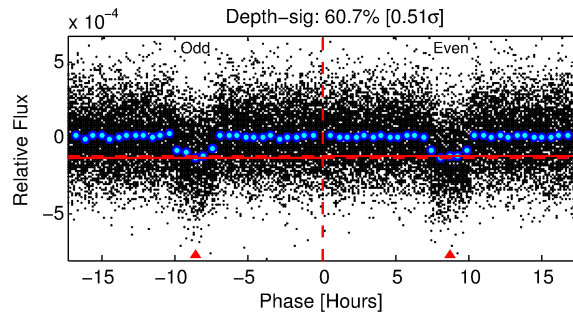
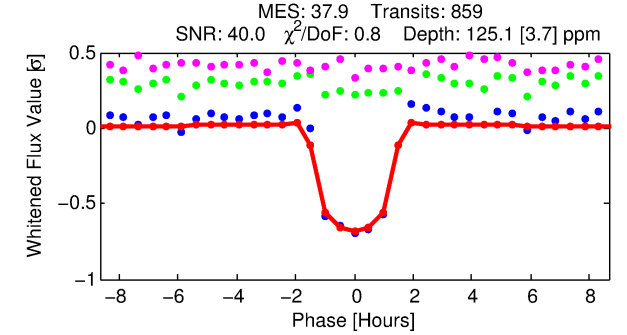
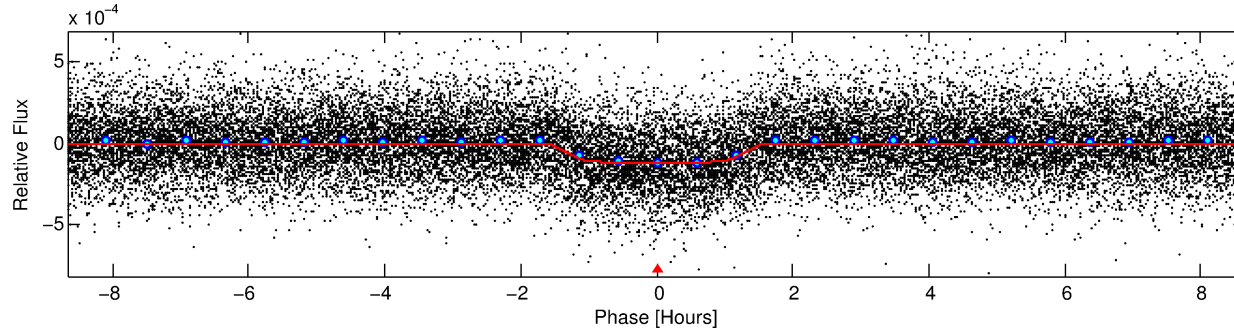
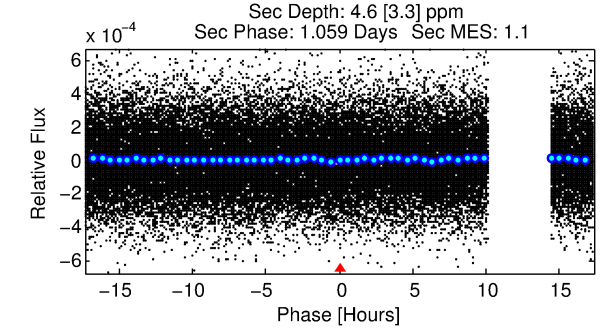
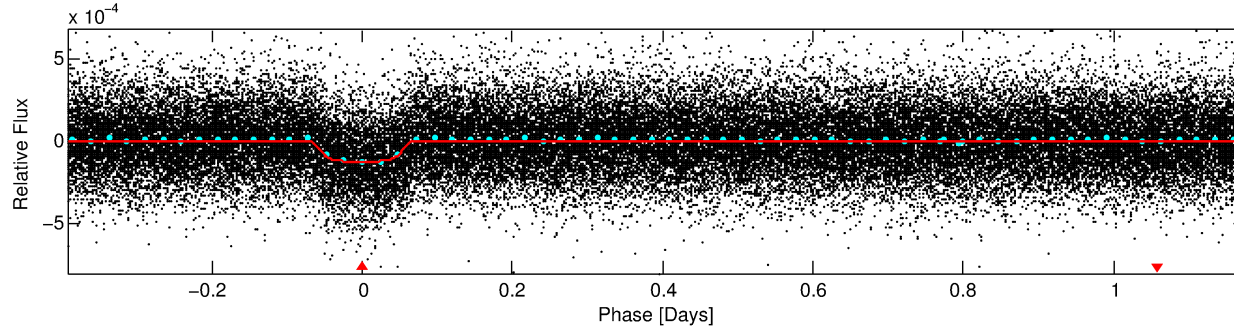
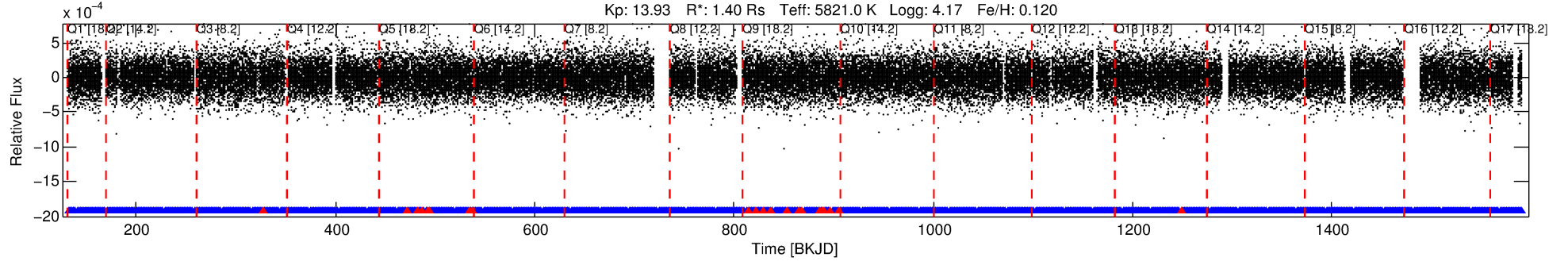
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009649706-01

No Significant Match Found

DV One-Page Summary

KIC: 9649706 Candidate: 1 of 1 Period: 1.569 d
KOI: K02049.01 Corr: 0.968



DV Fit Results:

Period = 1.56905 [0.00000] d
Epoch = 133.0459 [0.0010] BKJD
Rp/R* = 0.0122 [0.0020]
a/R* = 2.15 [1.32]
b = 0.90 [0.17]
Seff = 2765.36 [797.62]
Teq = 1849 [133] K
Rp = 1.85 [0.48] Re
a = 0.0269 [0.0049] AU
Ag = 0.53 [0.44] [-1.06σ]
Teffp = 2441 [481] K [1.19σ]

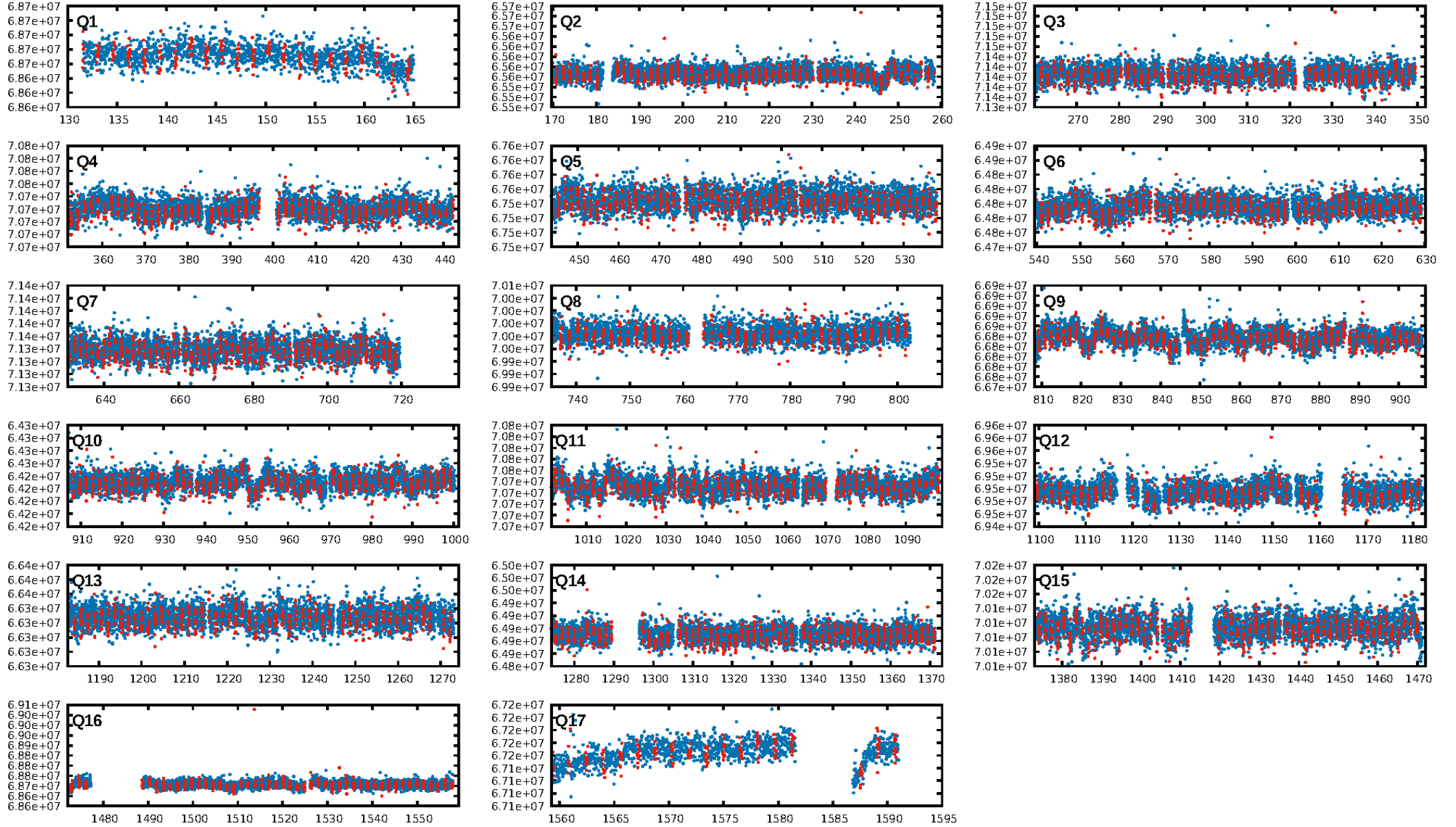
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.16e-291
RollingBand-fgt: 0.97 [798/819]
GhostDiagnostic-chr: 8.98
Centroid-sig: 0.4%
Centroid-so: 0.666 arcsec [1.98σ]
OotOffset-rm: 0.076 arcsec [0.52σ]
KicOffset-rm: 0.147 arcsec [0.89σ]
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]

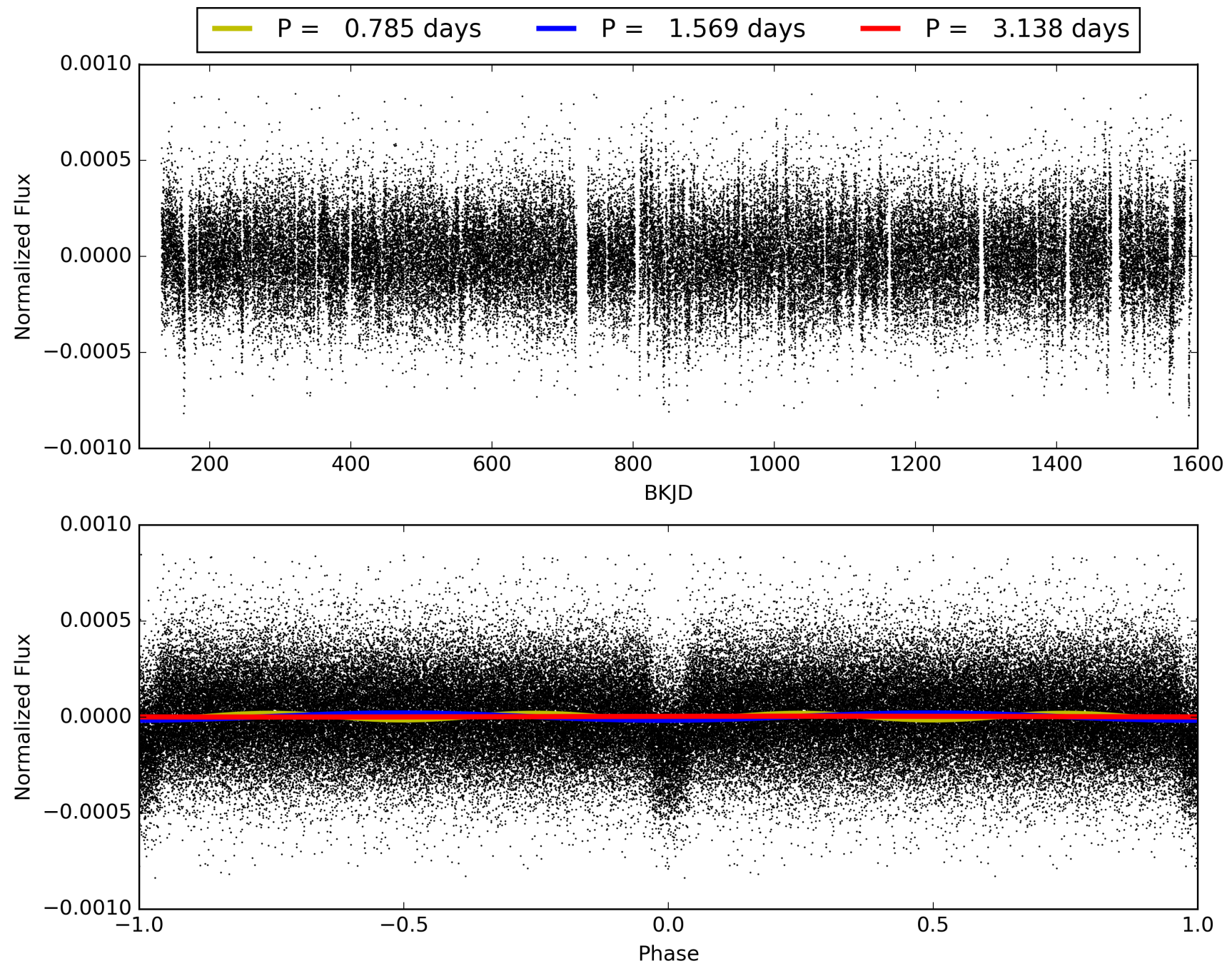
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:47:25 Z

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

TCE 009649706-01, PDC Light Curves

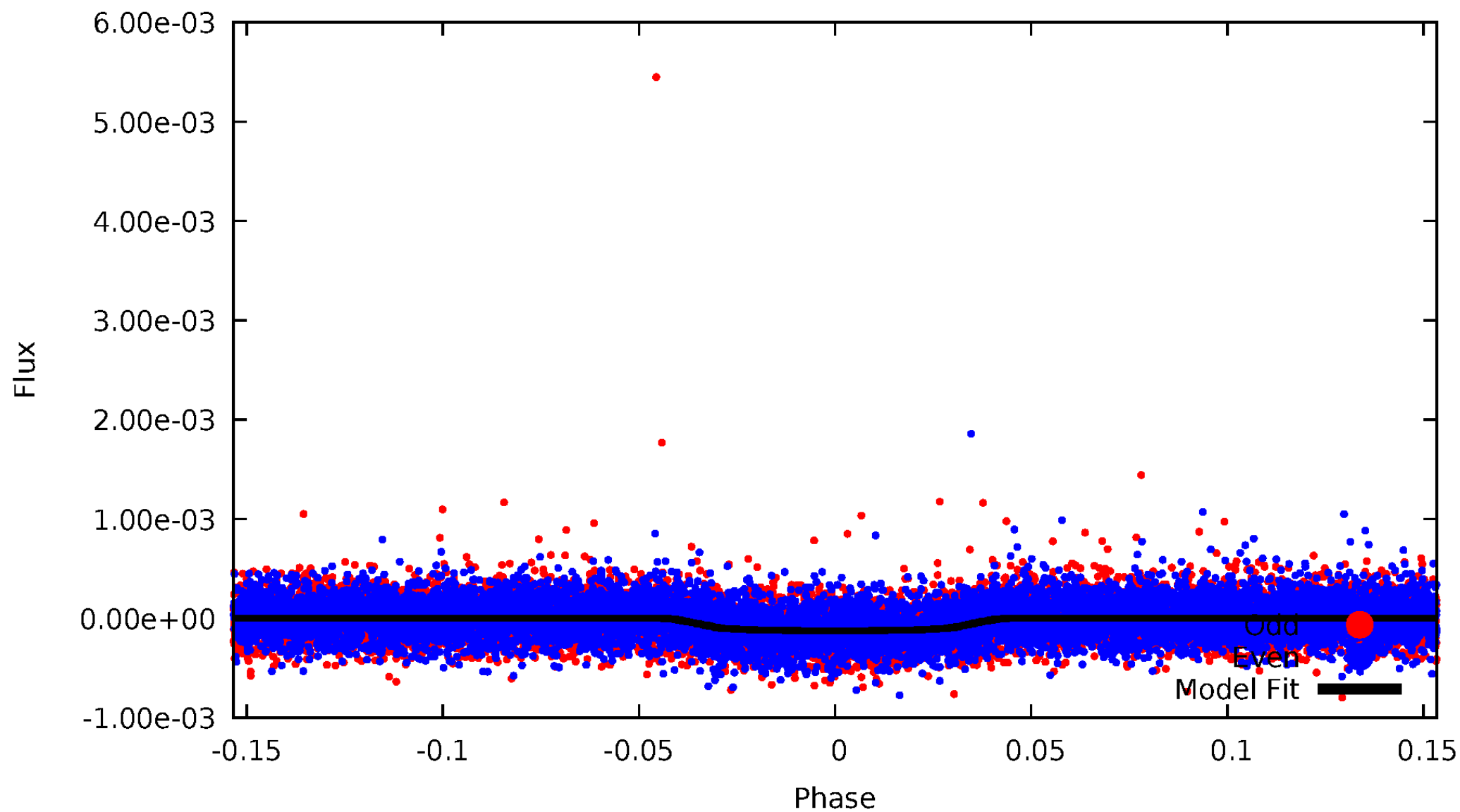


TCE 009649706-01



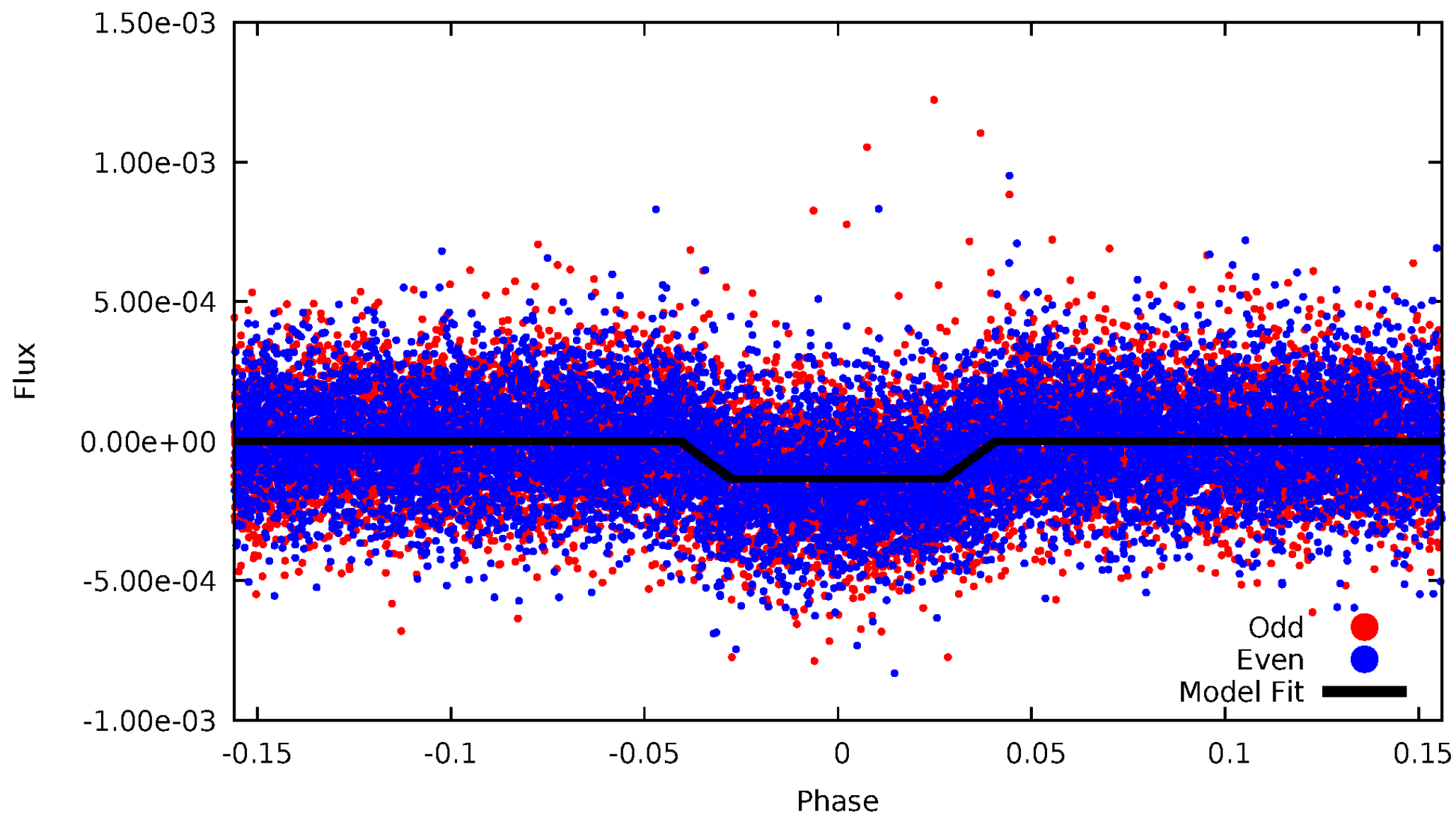
DV Odd/Even

TCE 009649706-01

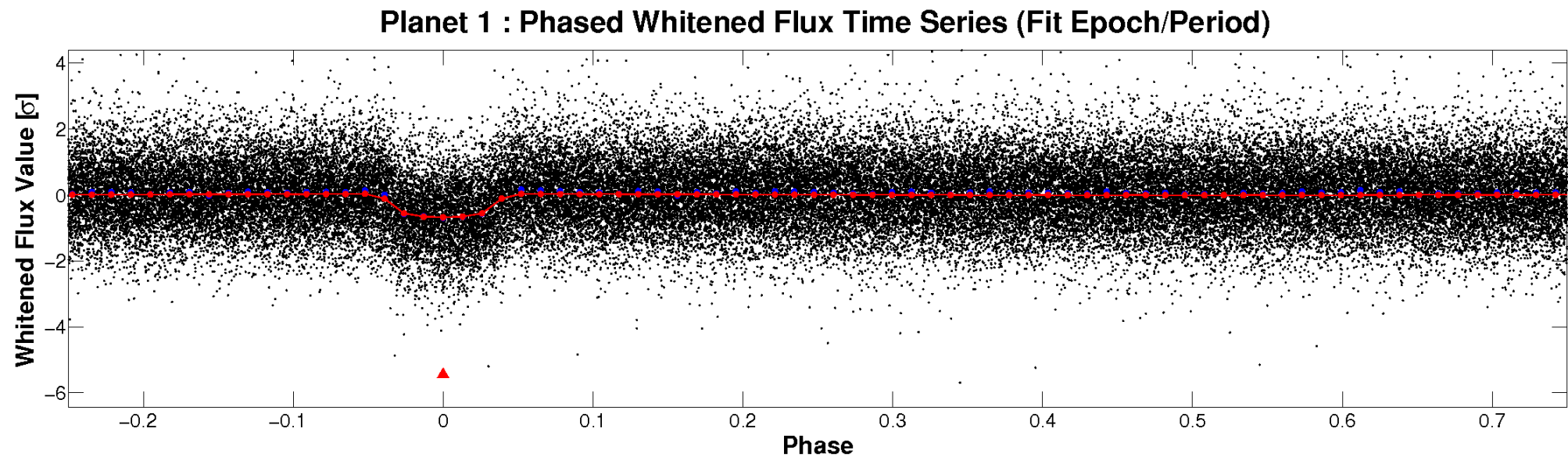
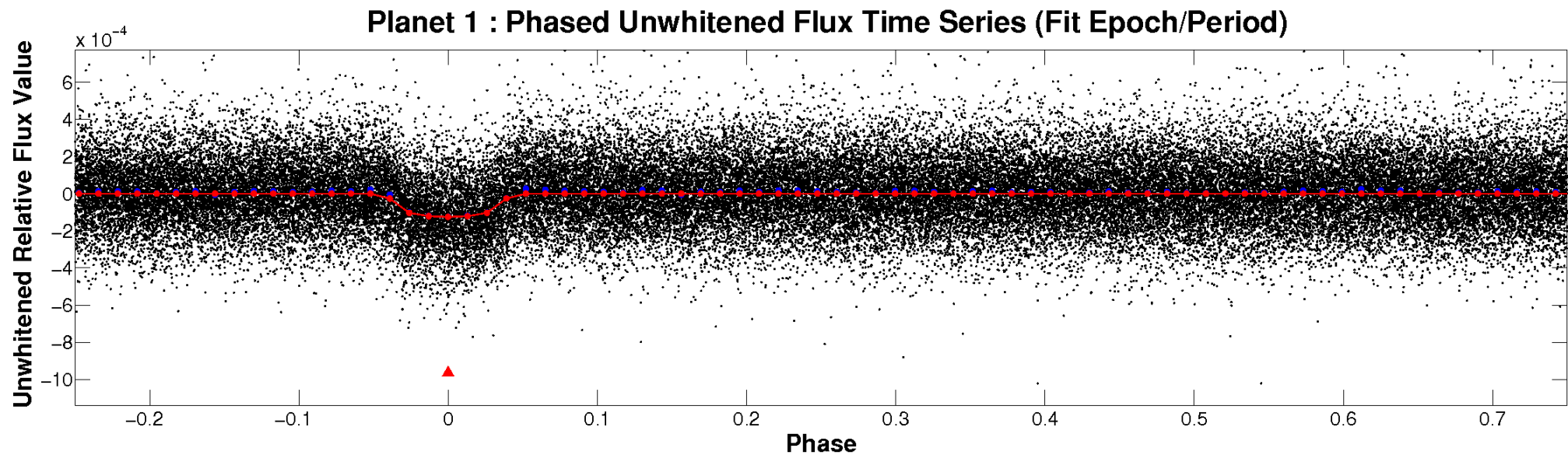


ALT Odd/Even

TCE 009649706-01

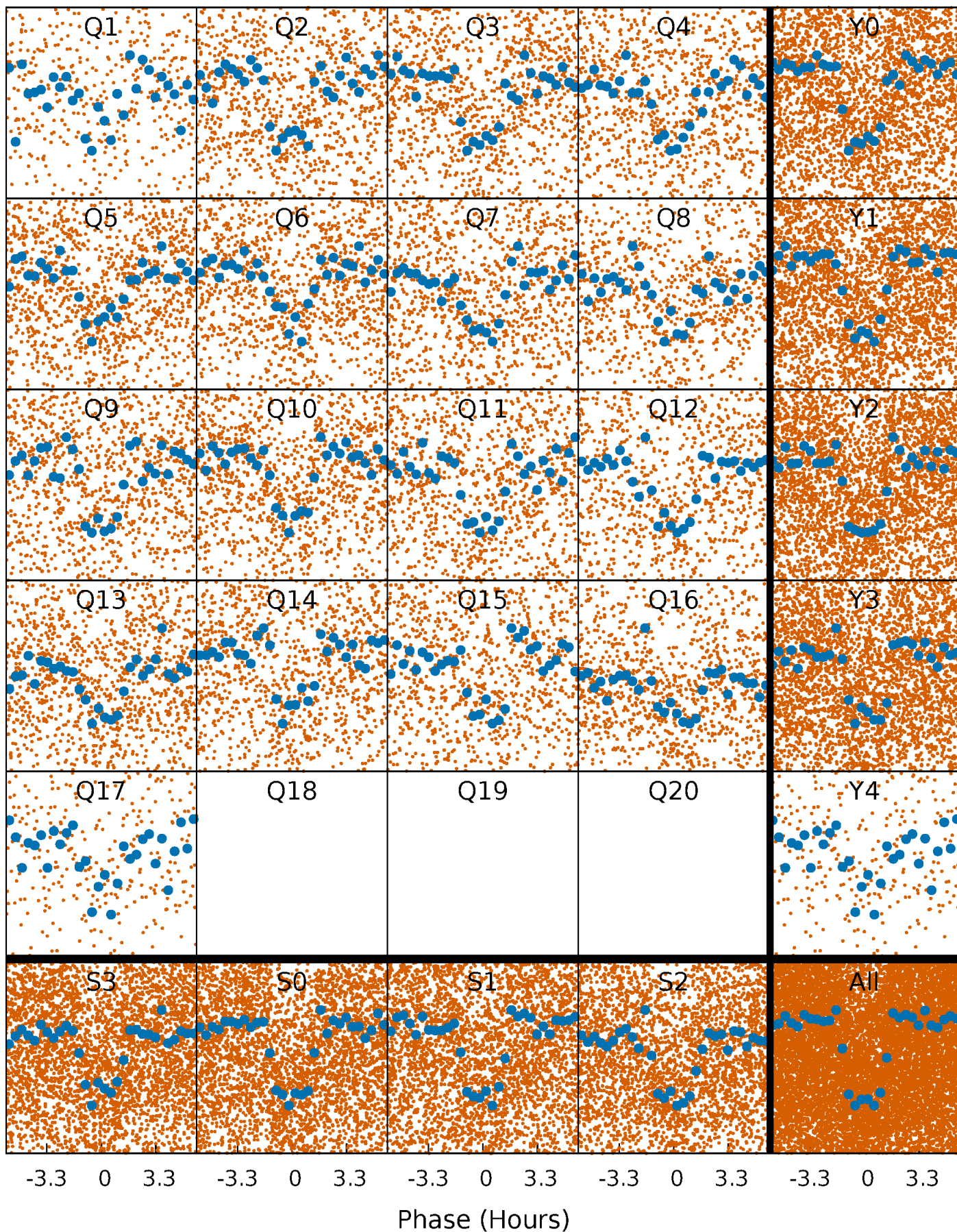


Non-Whitened Vs. Whitened Light Curve



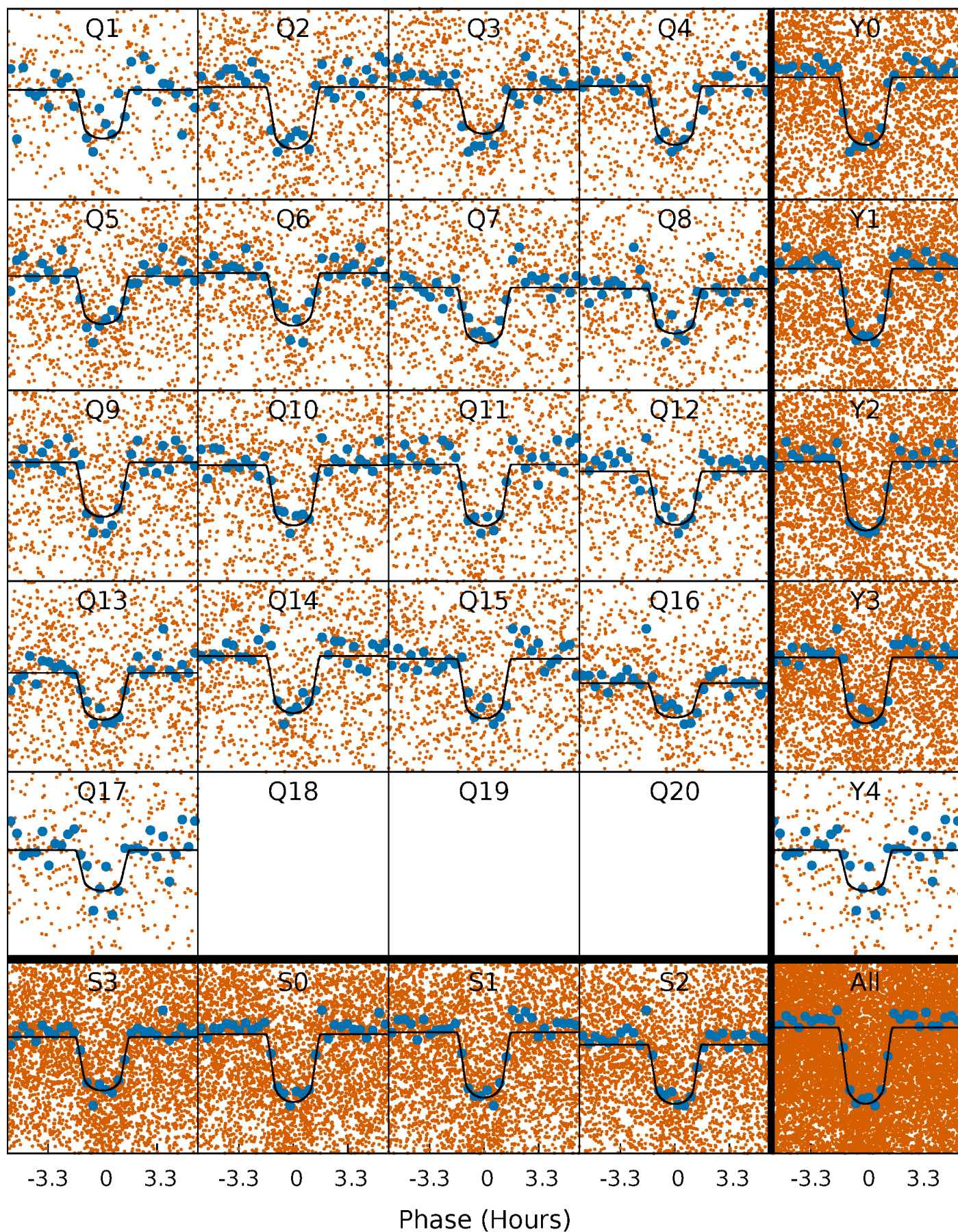
PDC Quarter-Phased Transit Curves

TCE 009649706-01 P= 1.569052 Days $T_0=133.045876$ (BKJD)



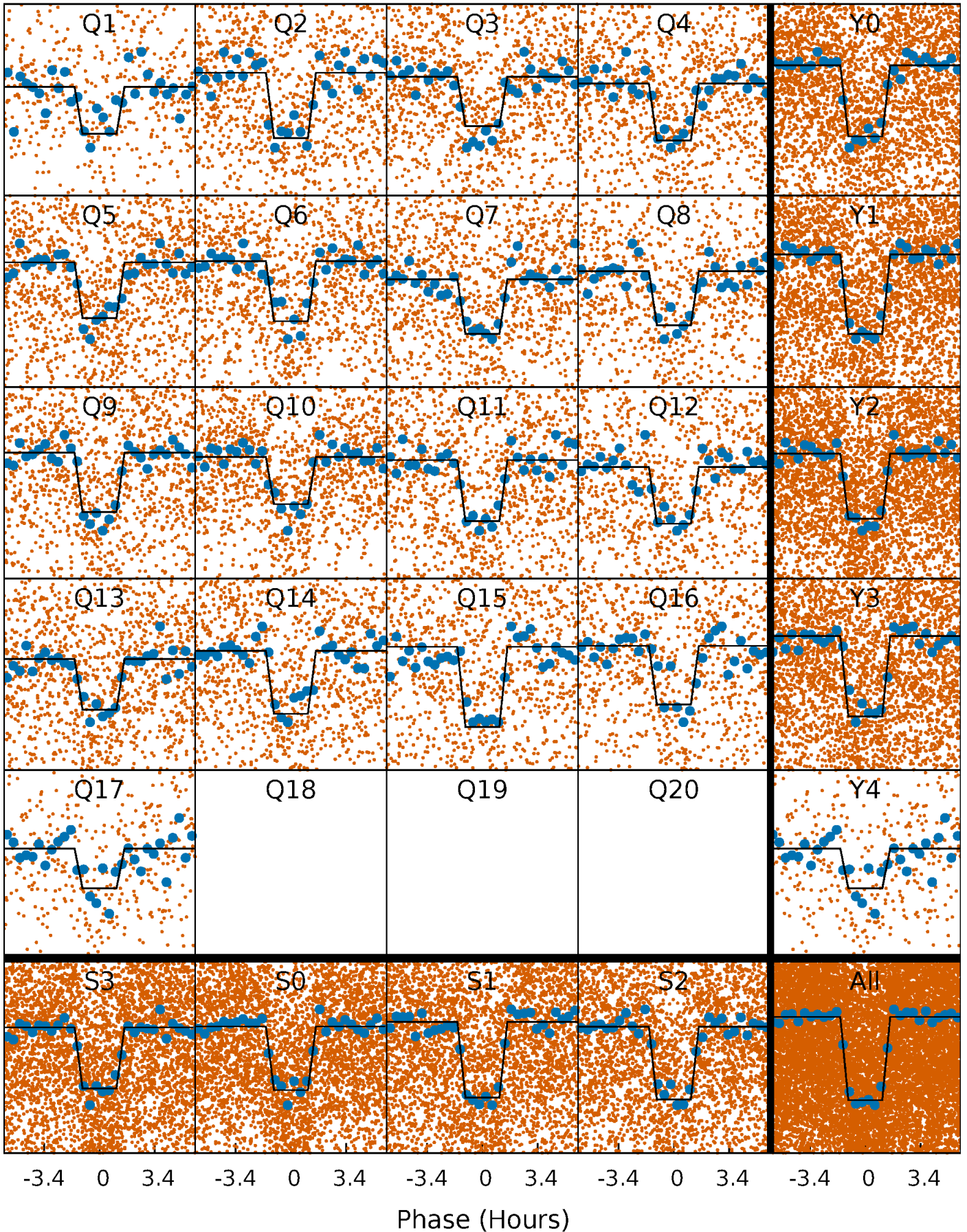
DV Quarter-Phased Transit Curves

TCE 009649706-01 P= 1.569052 Days $T_0=133.045876$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

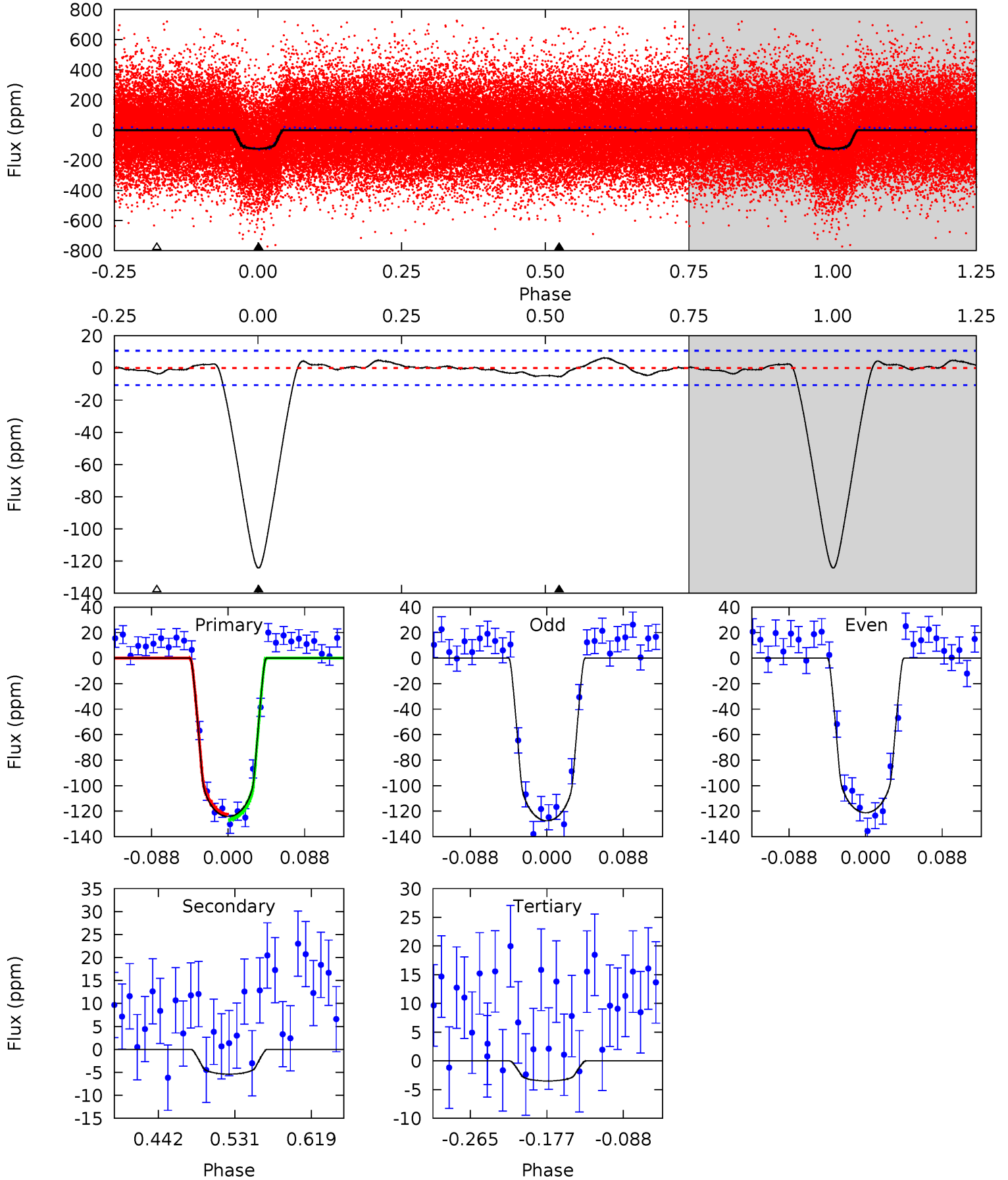
TCE 009649706-01 P= 1.569057 Days $T_0=133.044458$ (BKJD)



DV Model-Shift Uniqueness Test

009649706-01, P = 1.569052 Days, E = 131.476824 Days

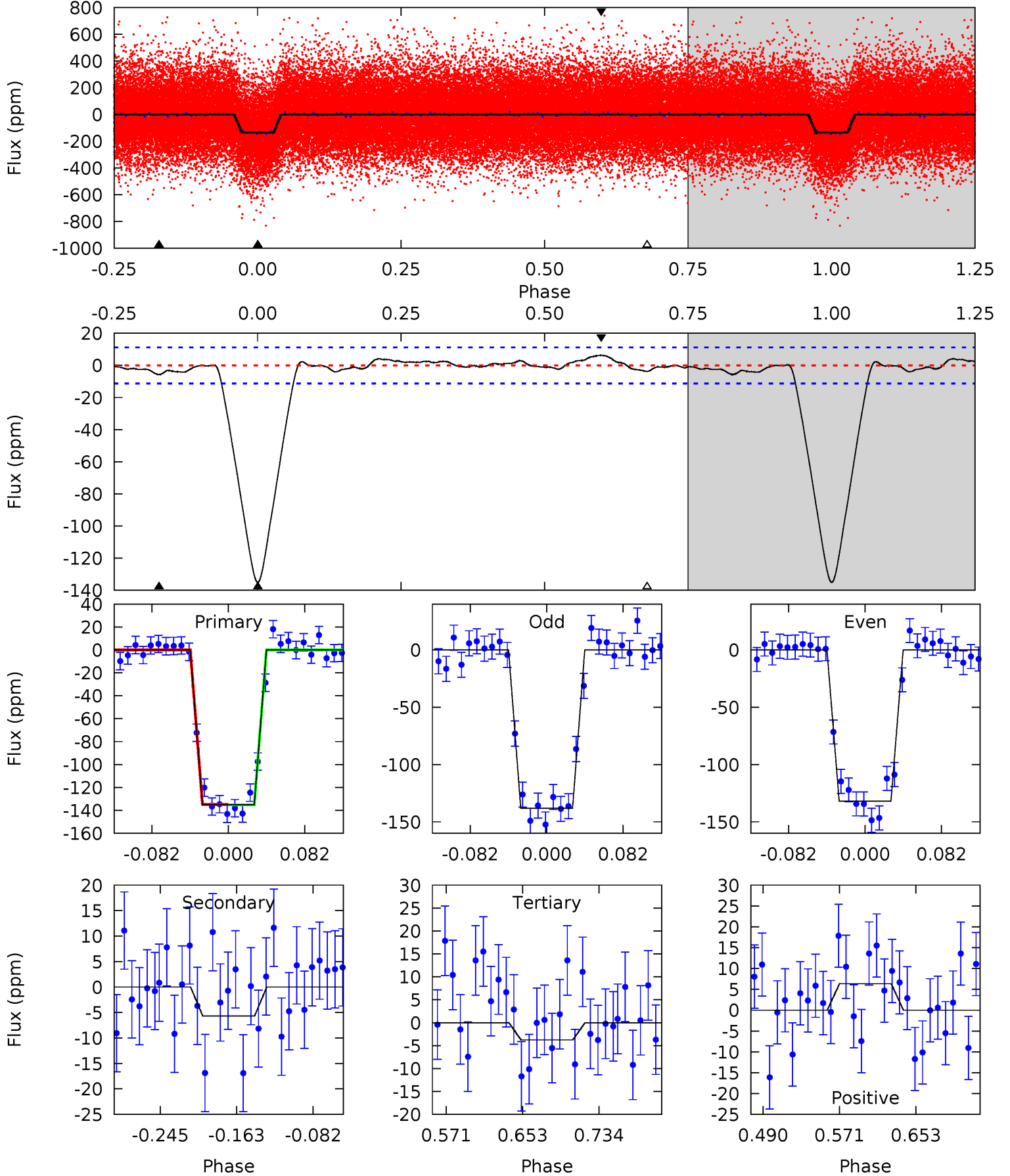
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
53.4	2.31	1.50	0	4.59	1.70	0.85	51.9	53.4	0.81	2.31	1.35	0.98	0.05	0.88



Alt Model-Shift Uniqueness Test

009649706-01, P = 1.569057 Days, E = 131.475401 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.5	2.34	1.54	2.60	4.61	1.74	0.95	53.9	52.9	0.80	-0.26	1.27	0.97	0.04	0.09



Stellar Parameters For KIC 009649706

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5821^{+69}_{-87}	$4.172^{+0.162}_{-0.108}$	$0.120^{+0.150}_{-0.150}$	$1.395^{+0.228}_{-0.279}$	$1.054^{+0.097}_{-0.081}$	$0.547^{+0.461}_{-0.184}$
	+1%/-1%	+4%/-3%	+125%/-125%	+16%/-20%	+9%/-8%	+84%/-34%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 009649706-01 / KOI 2049.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 2	$1.84^{+0.36}_{-0.36}$	2563^{+118}_{-134}	2859^{+358}_{-720}	$0.621^{+0.466}_{-0.293}$
Alt.	-6 ± 2	$1.73^{+0.38}_{-0.32}$	2566^{+124}_{-129}	2979^{+378}_{-574}	$0.739^{+0.566}_{-0.354}$

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 $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

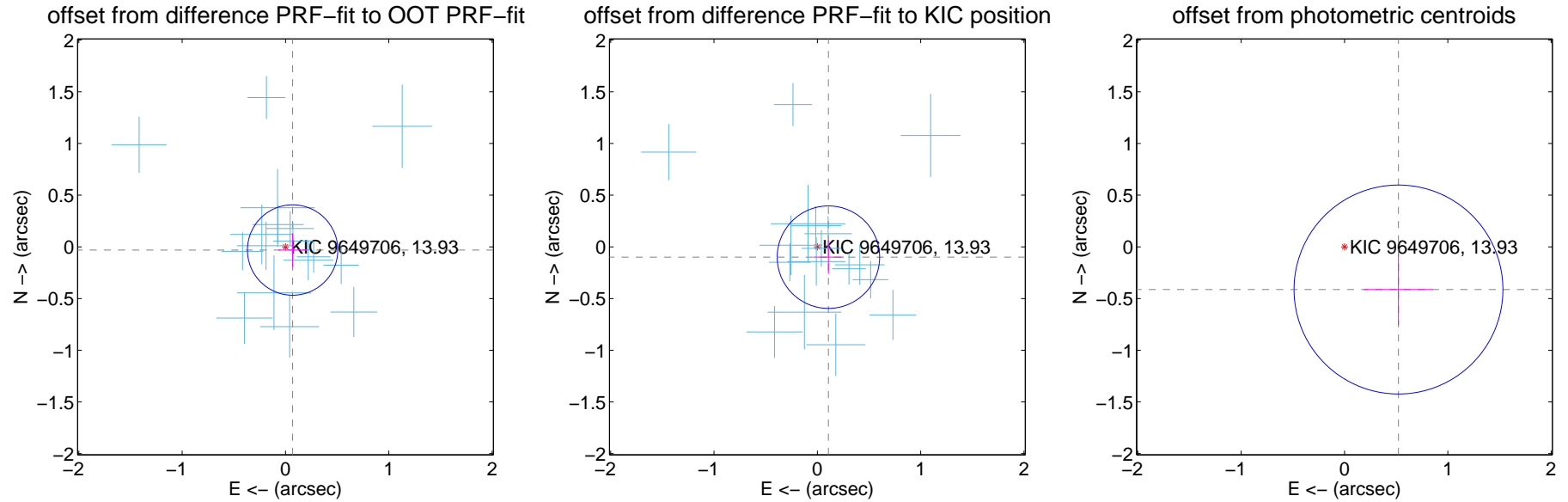
DV Centroid Data

Supplemental centroid analysis for 009649706-01. Kepler magnitude: 13.93. Transit SNR 40.00

There are 17 quarters with good PRF difference image offsets

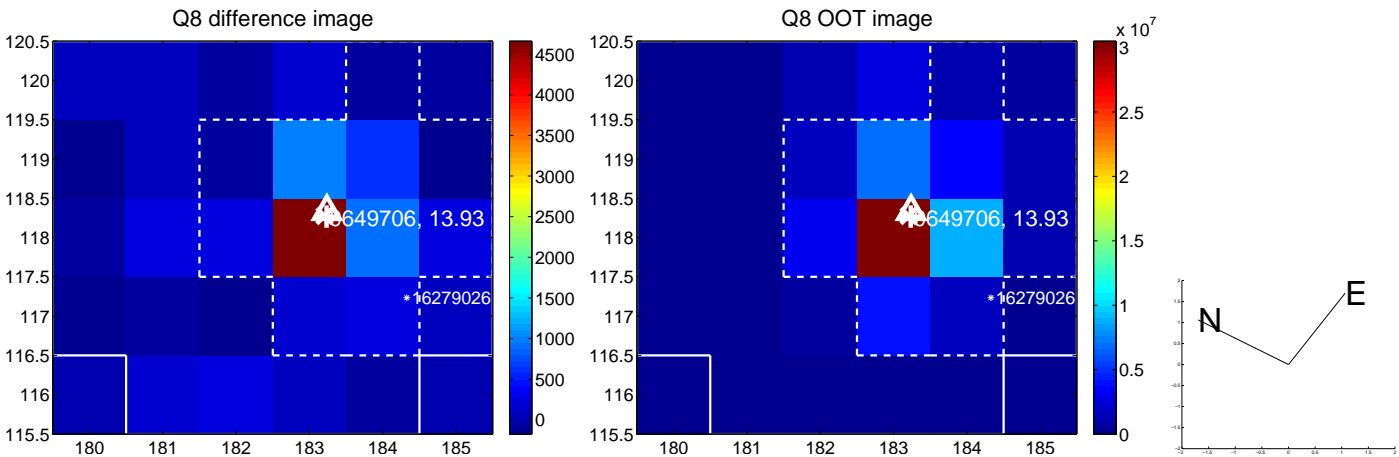
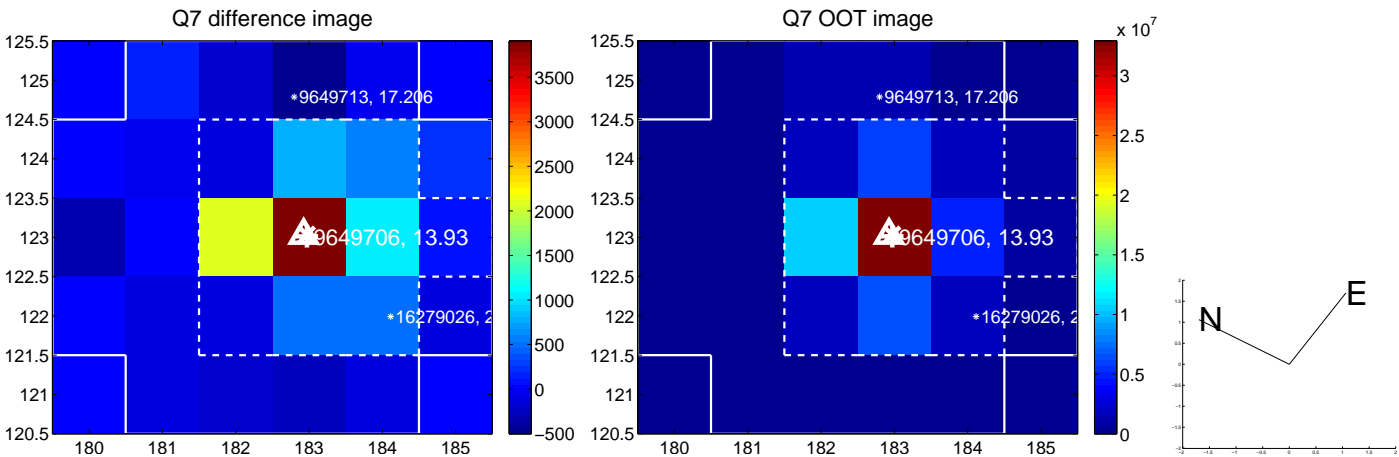
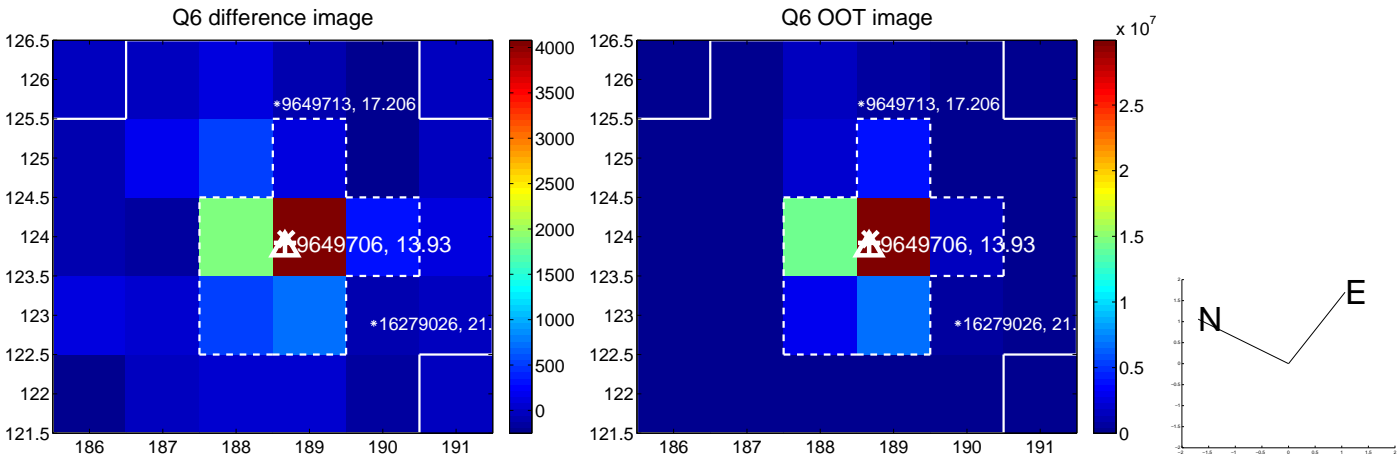
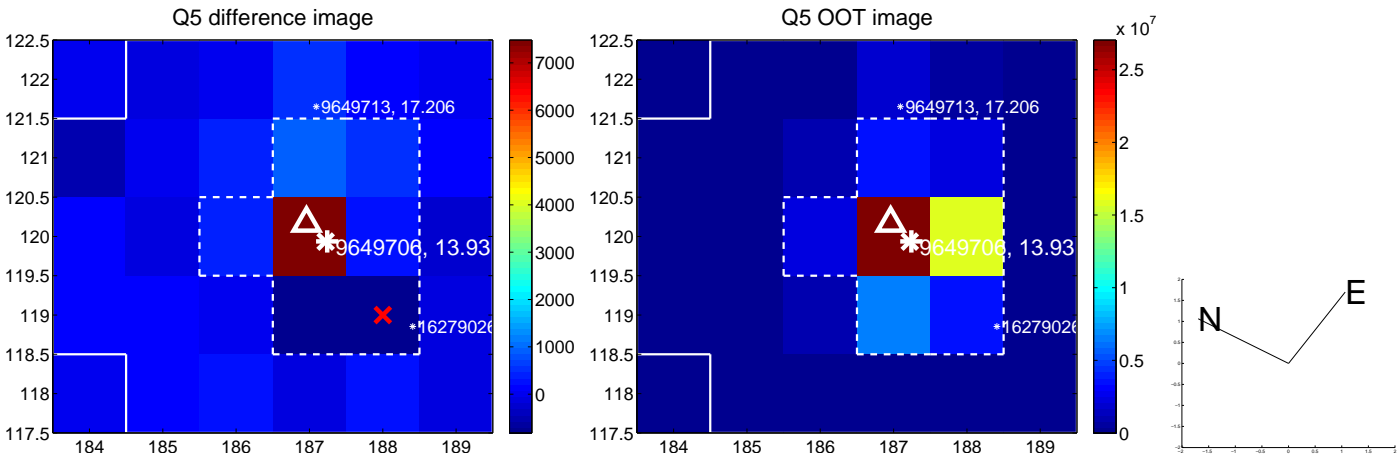
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.076 ± 0.146	0.52	-0.069 ± 0.138	-0.031 ± 0.164
PRF-fit source offset from KIC position	0.147 ± 0.165	0.89	-0.107 ± 0.147	-0.100 ± 0.162
photometric centroid source offset	0.67 ± 0.34	1.98	-0.52 ± 0.33	-0.41 ± 0.34

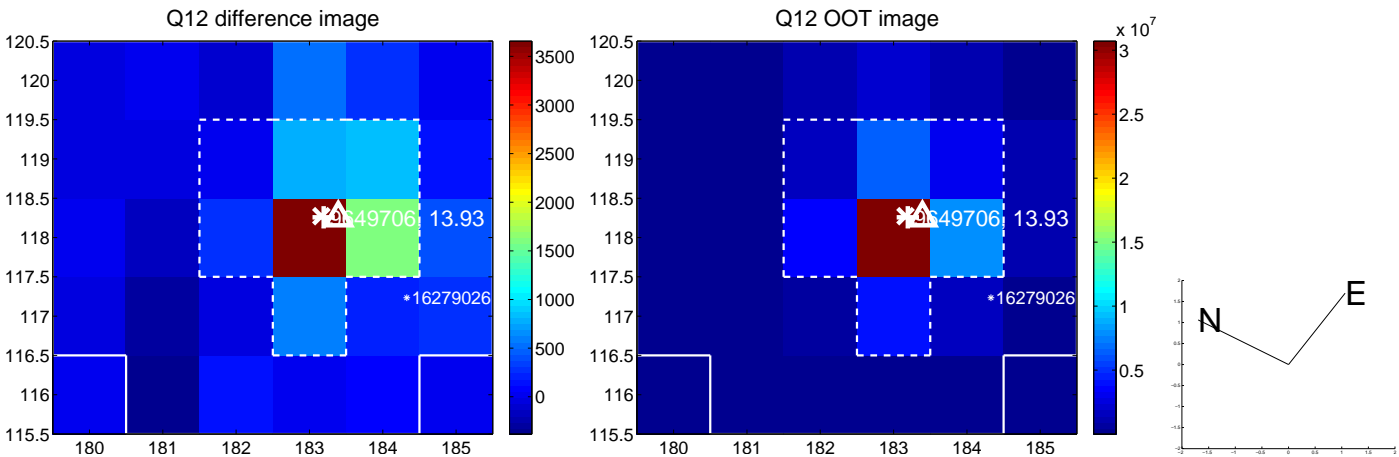
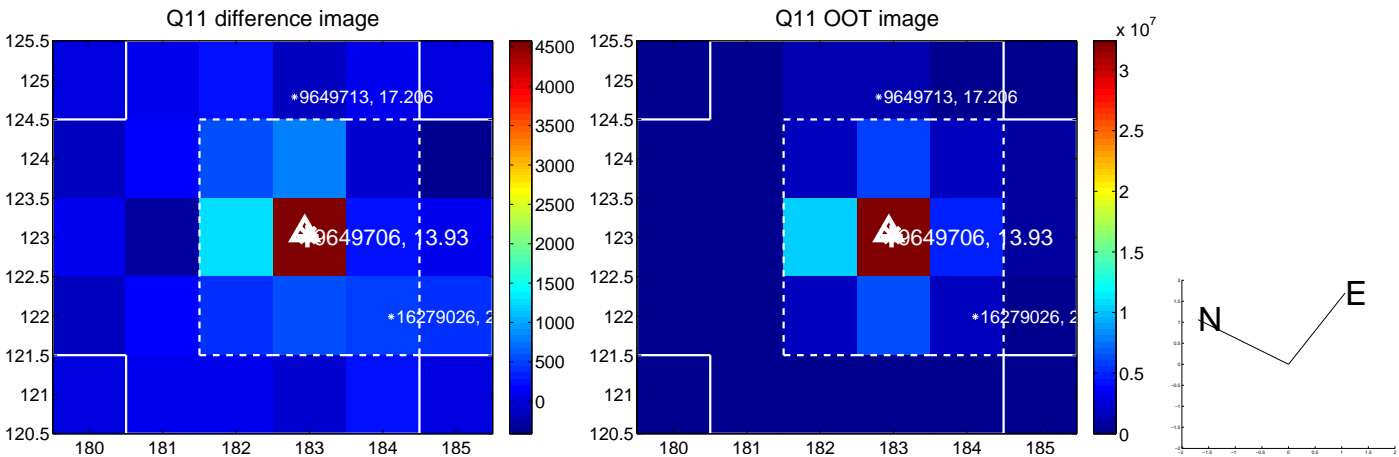
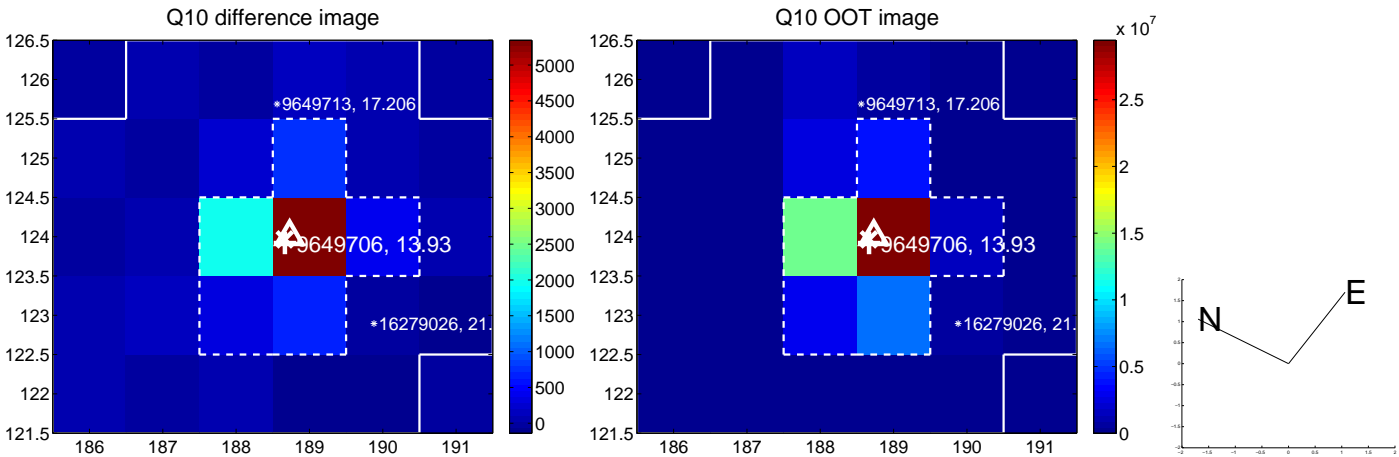
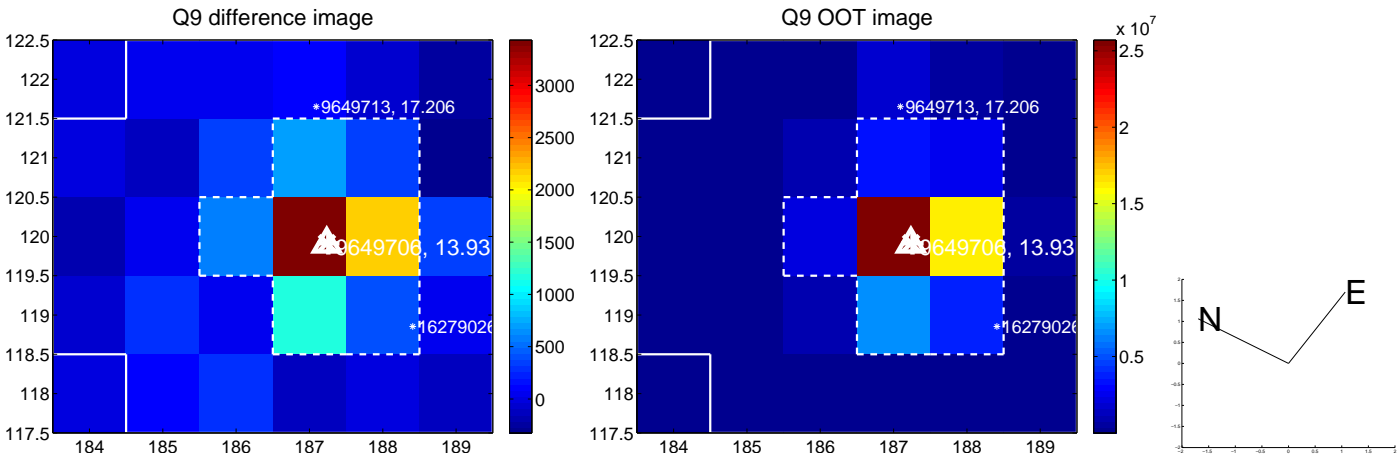


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

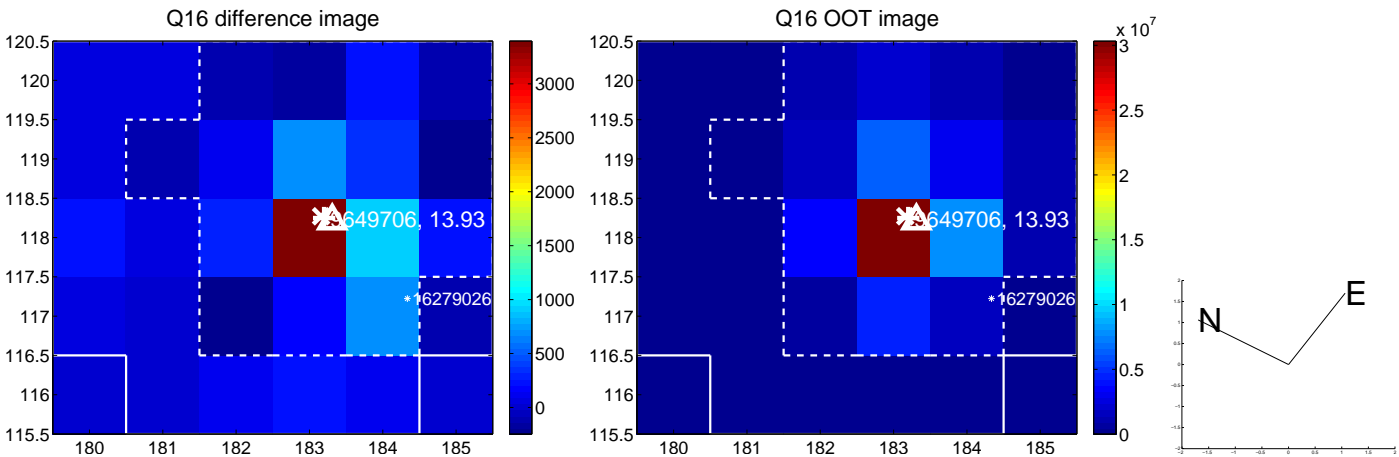
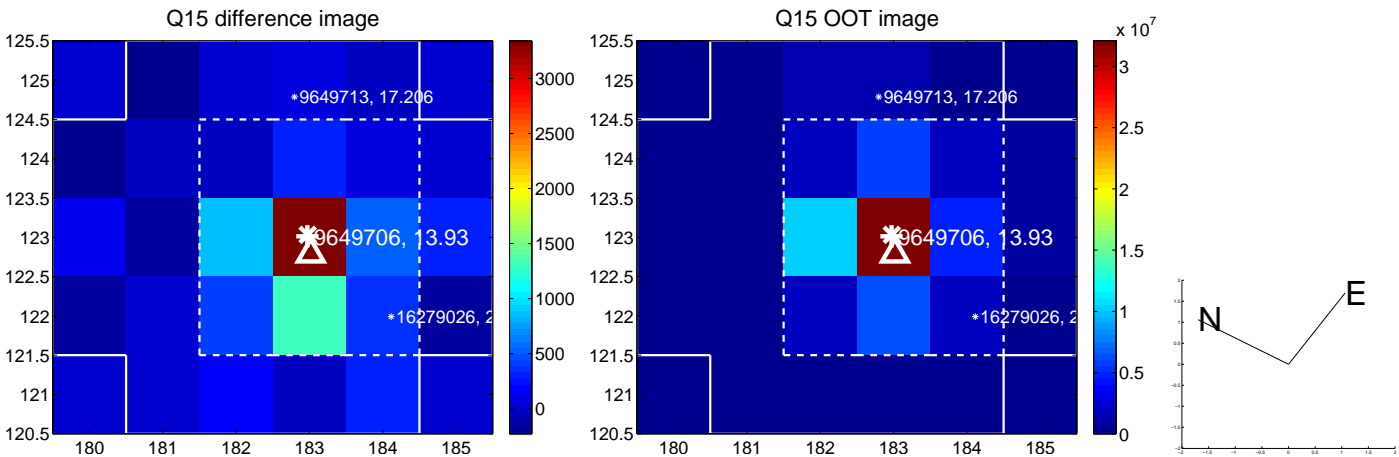
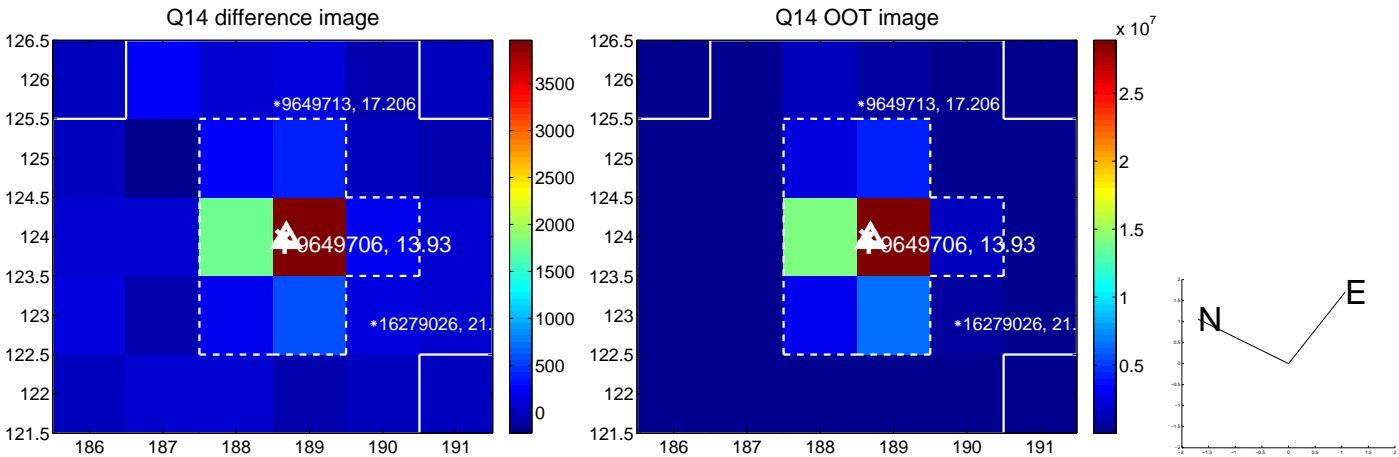
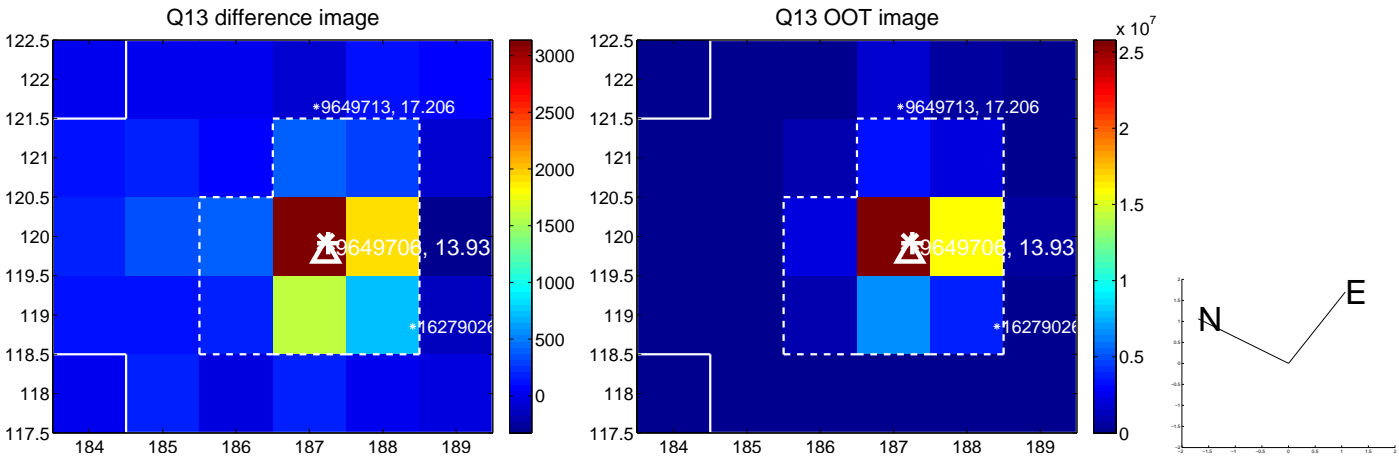
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



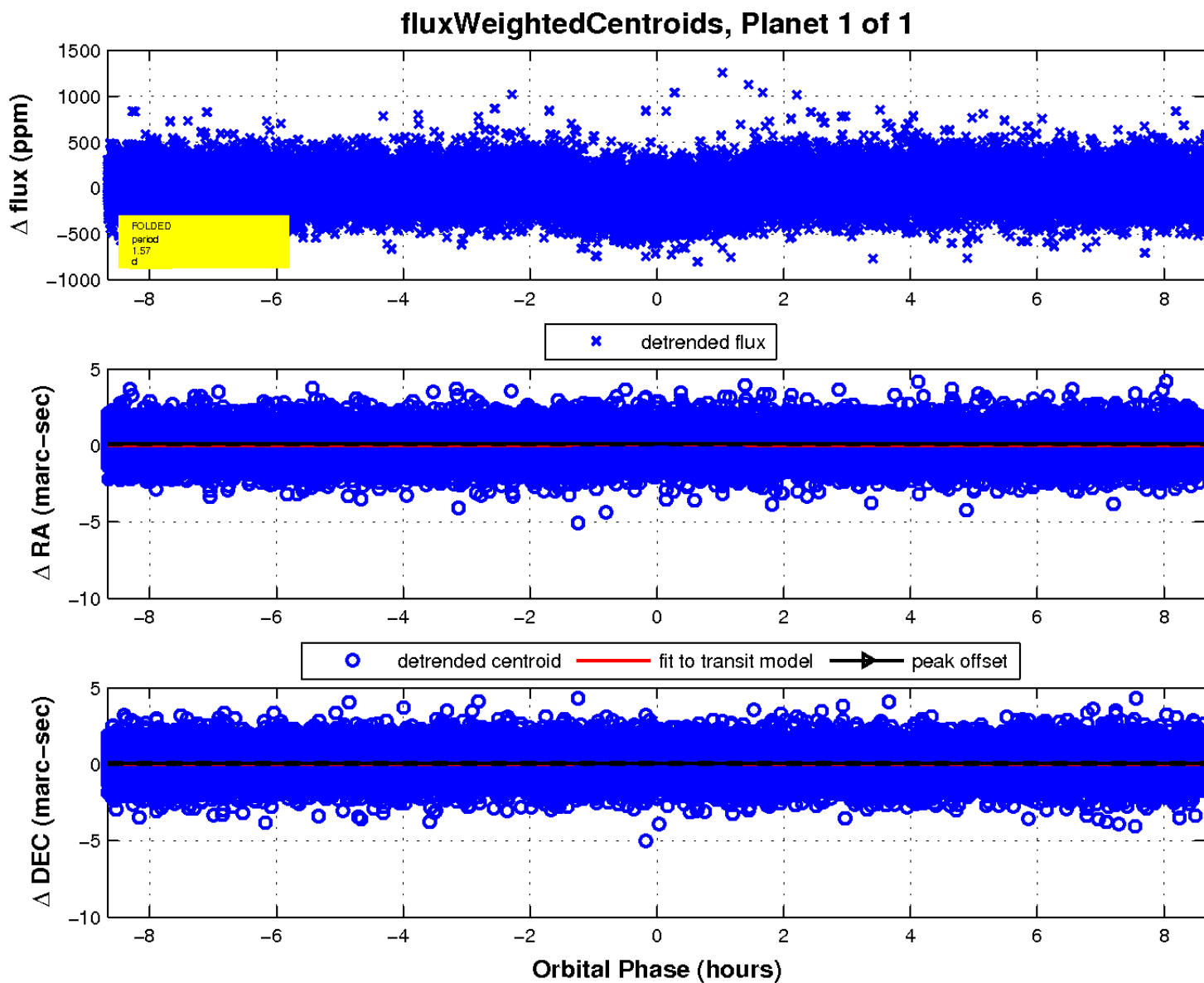
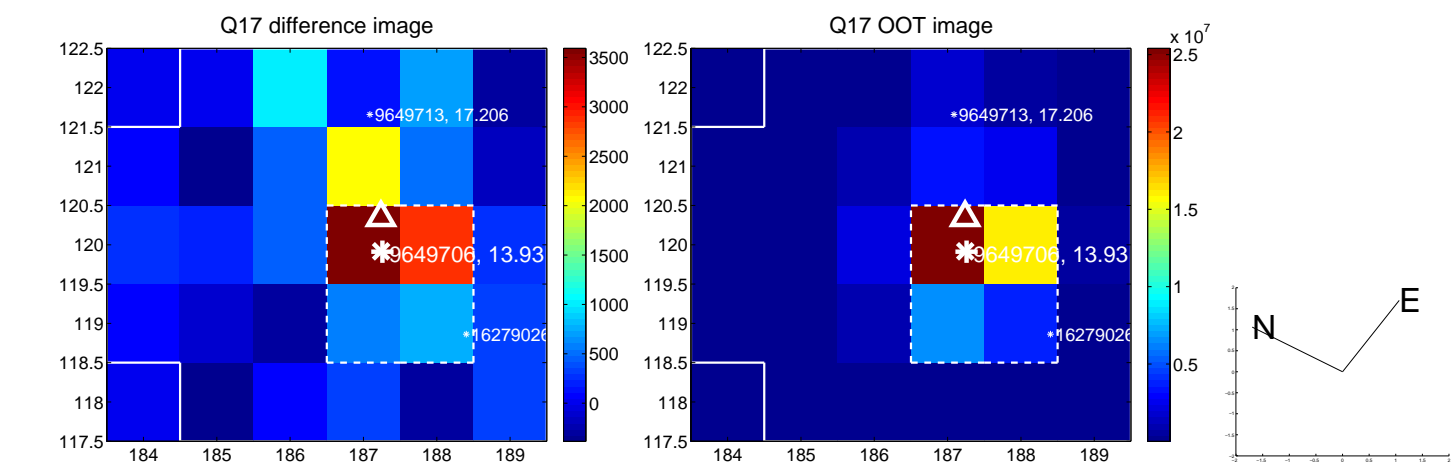
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

