

KIC 009299986

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})
009299986-01	OBS	No	2.416683	134.052978	19.5	4.817	8.2	4.6	1.46	6486	0.79	2458.20

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009299986-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—SWEET_NTL—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

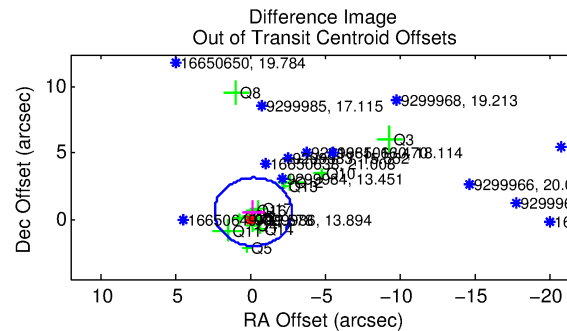
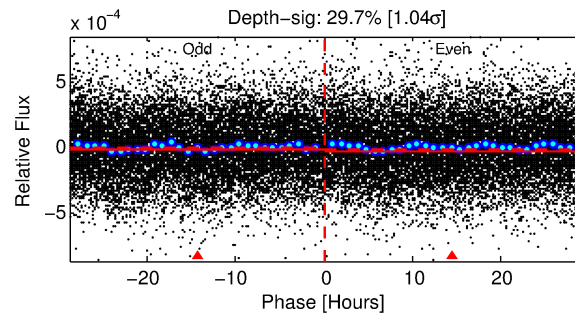
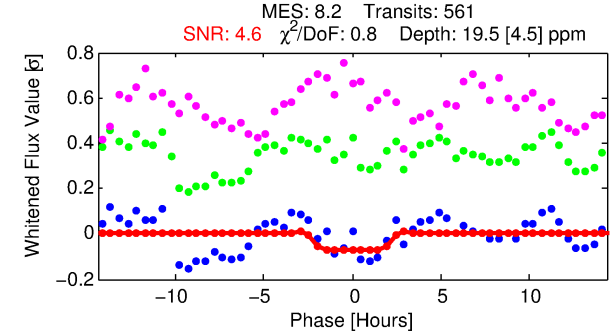
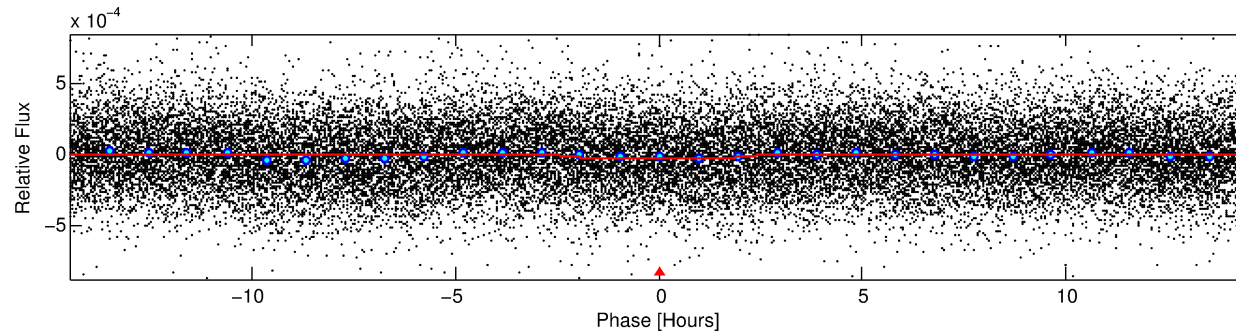
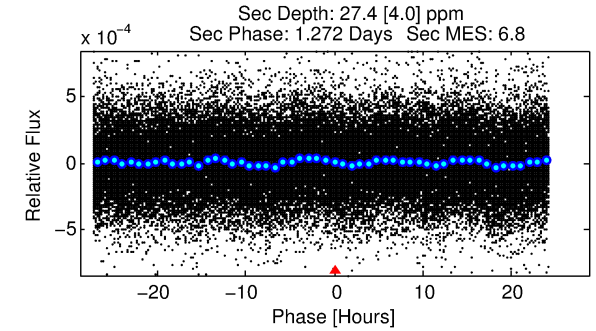
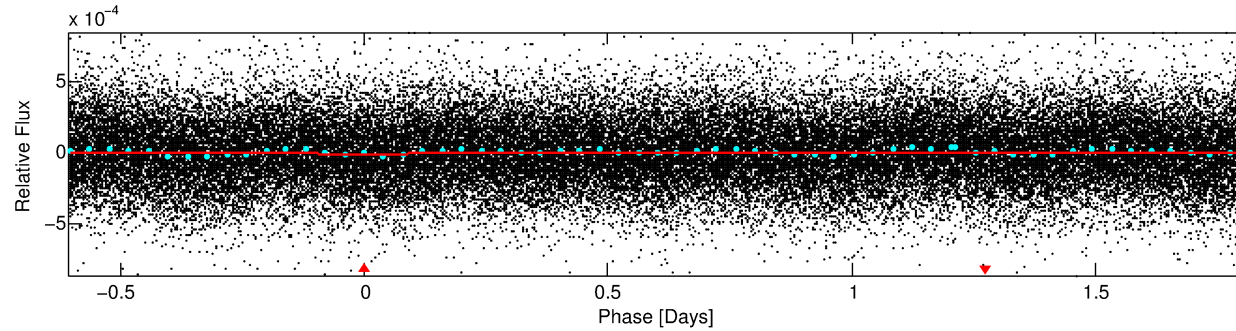
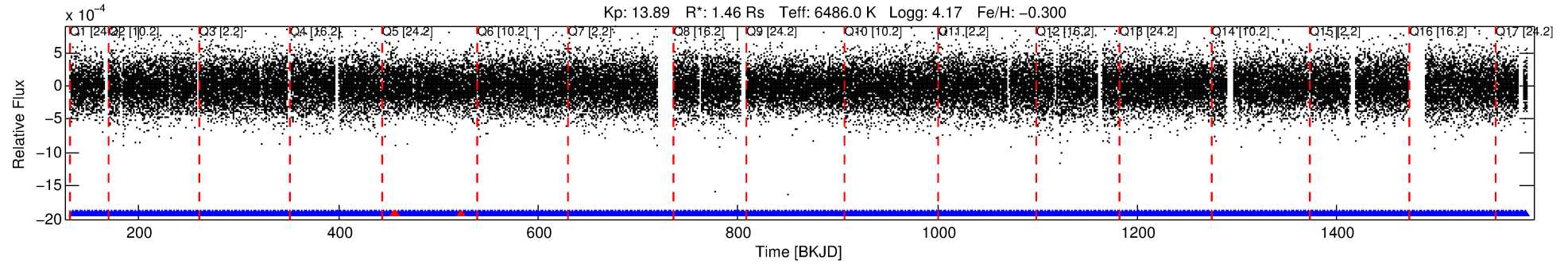
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009299986-01

No Significant Match Found

DV One-Page Summary

KIC: 9299986 Candidate: 1 of 1 Period: 2.417 d



DV Fit Results:

Period = 2.41668 [0.00005] d
Epoch = 134.0530 [0.0112] BKJD
Rp/R* = 0.0050 [0.0028]
a/R* = 1.61 [3.31]
b = 0.95 [0.37]
Seff = 2458.20 [976.13]
Teff = 1795 [178] K
Rp = 0.79 [0.49] Re
a = 0.0370 [0.0093] AU
Ag = 33.08 [39.06] [0.82σ]
Teffp = 6658 [1877] K [2.58σ]

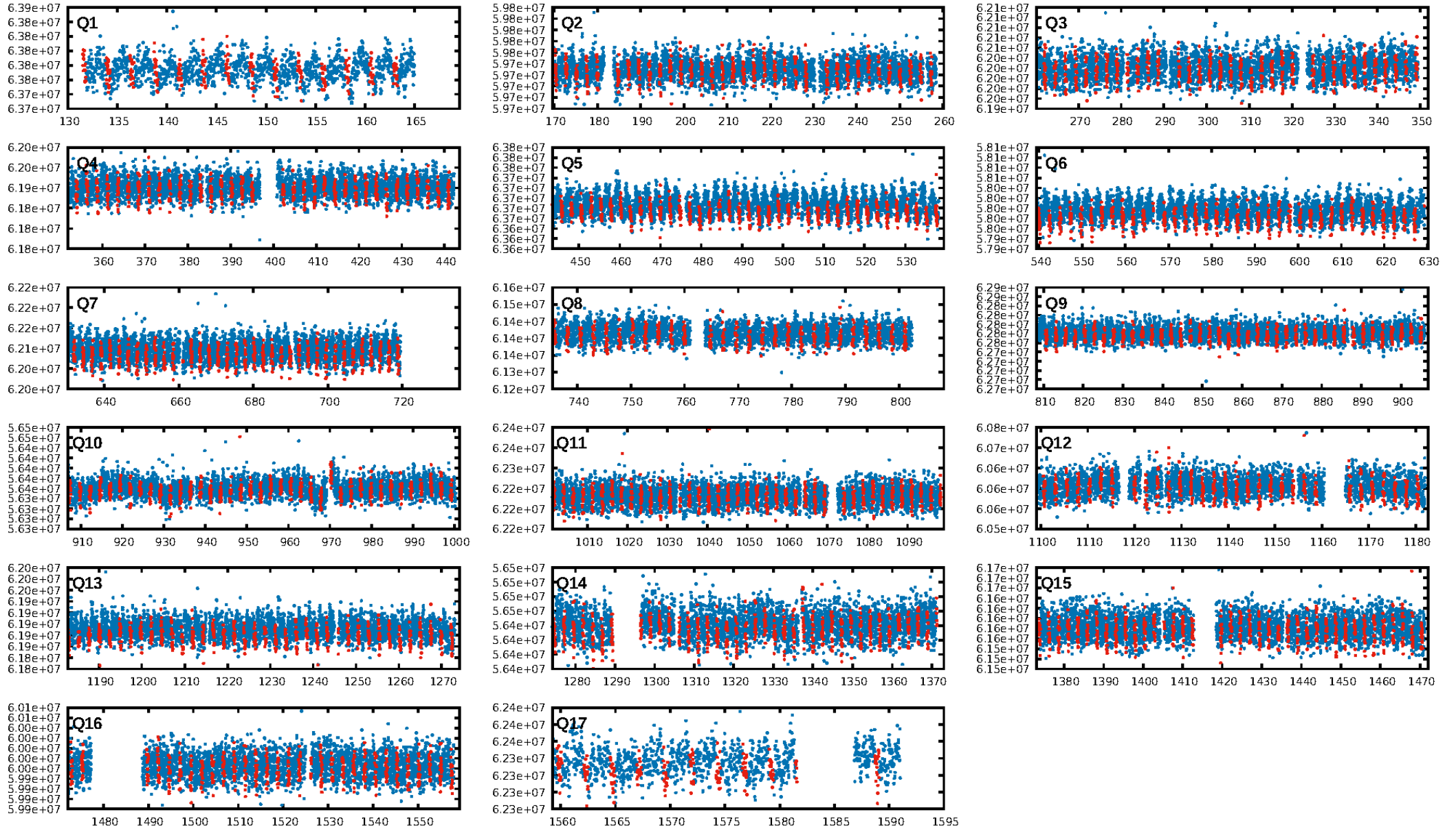
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.59e-15
RollingBand-fgt: 0.99 [533/536]
GhostDiagnostic-chr: 1.248
Centroid-sig: 1.3%
Centroid-so: 3.818 arcsec [1.54σ]
OotOffset-rm: 0.617 arcsec [0.72σ]
KicOffset-rm: 0.686 arcsec [0.82σ]
OotOffset-st: 3/4/4/4 [15]
KicOffset-st: 3/4/4/4 [15]
DiffImageQuality-fgm: 0.60 [9/15]
DiffImageOverlap-fno: 1.00 [17/17]

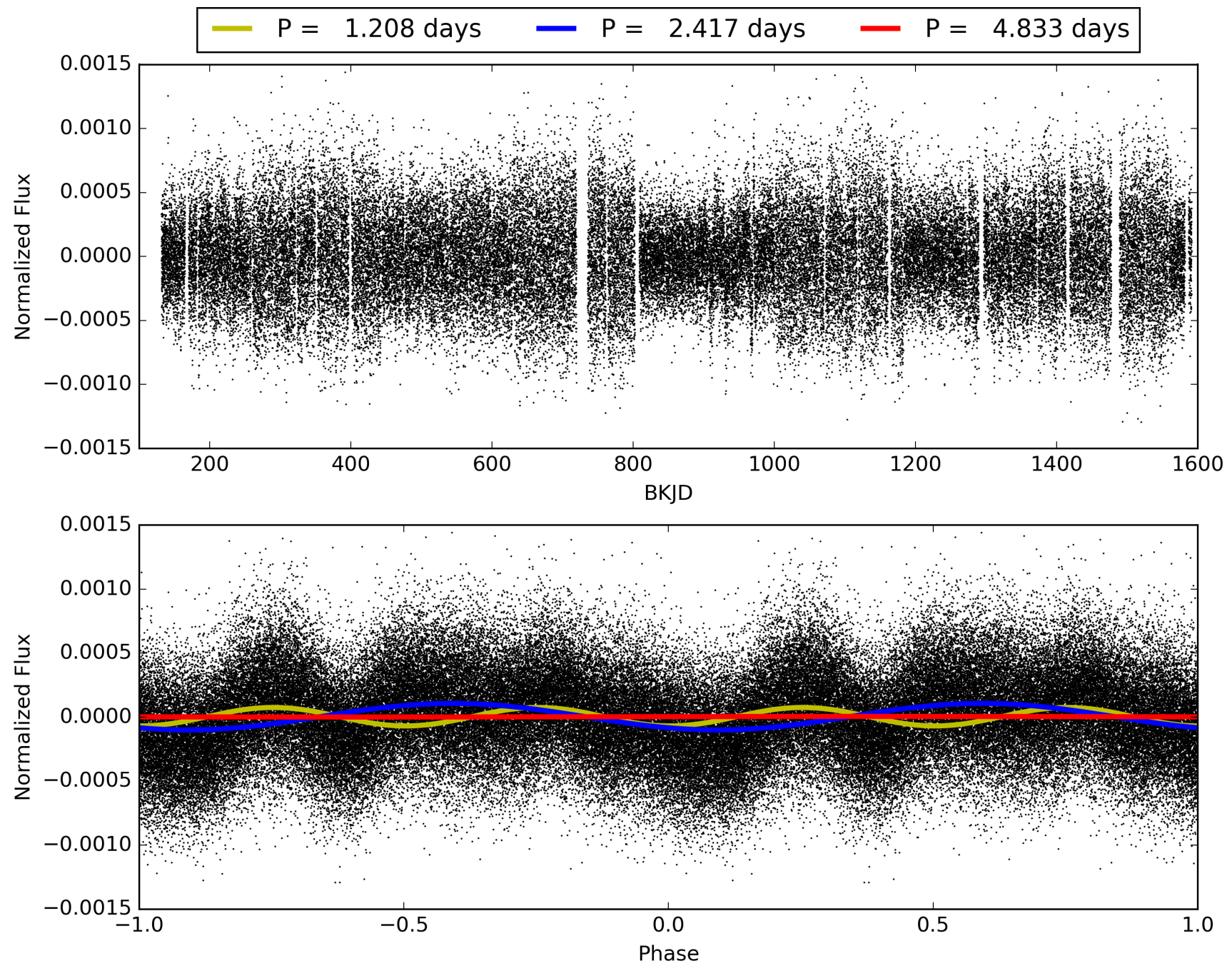
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 19:34:41 Z

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

TCE 009299986-01, PDC Light Curves

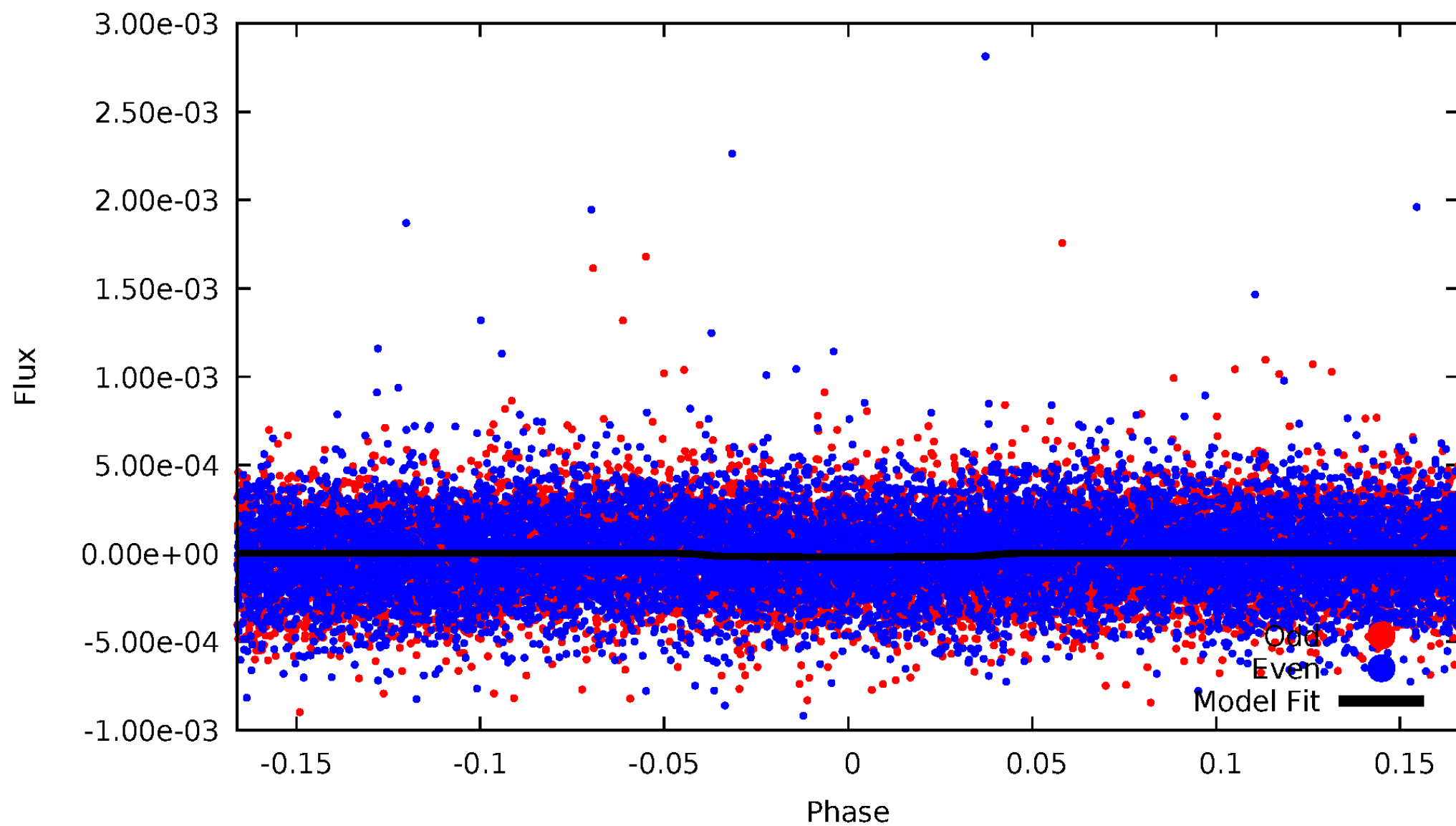


TCE 009299986-01



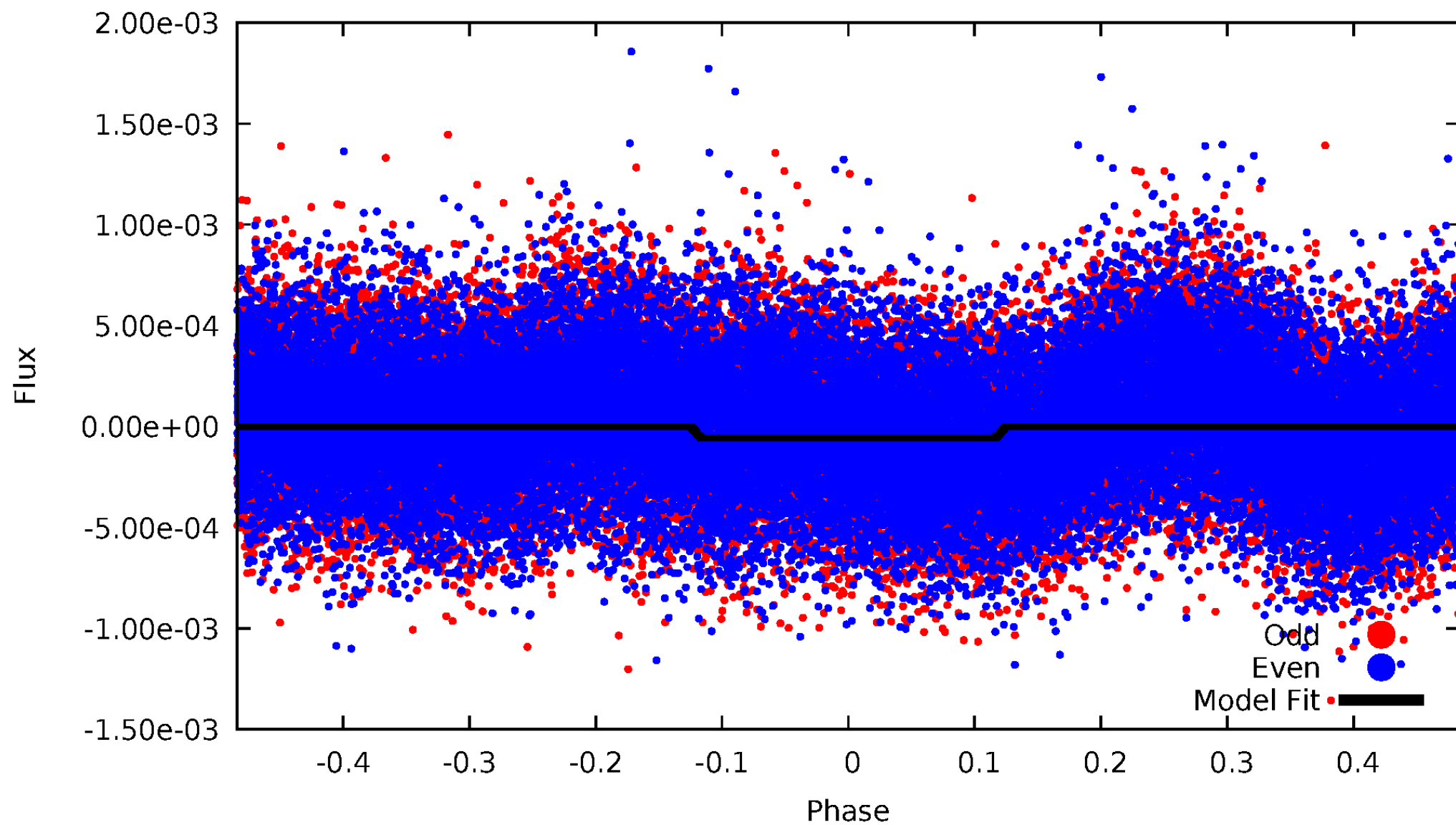
DV Odd/Even

TCE 009299986-01



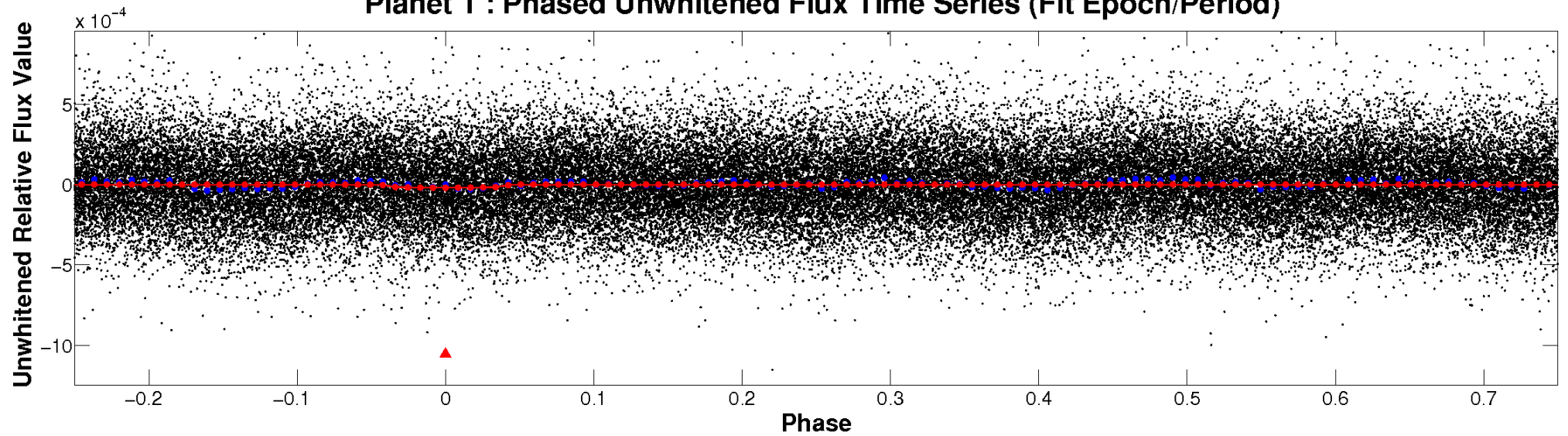
ALT Odd/Even

TCE 009299986-01

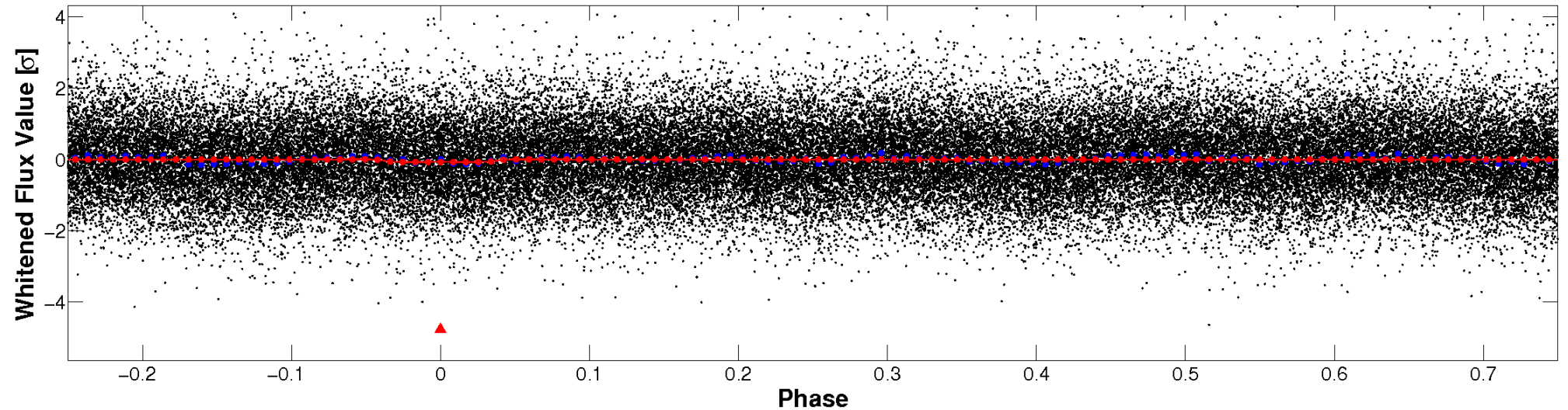


Non-Whitened Vs. Whitened Light Curve

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

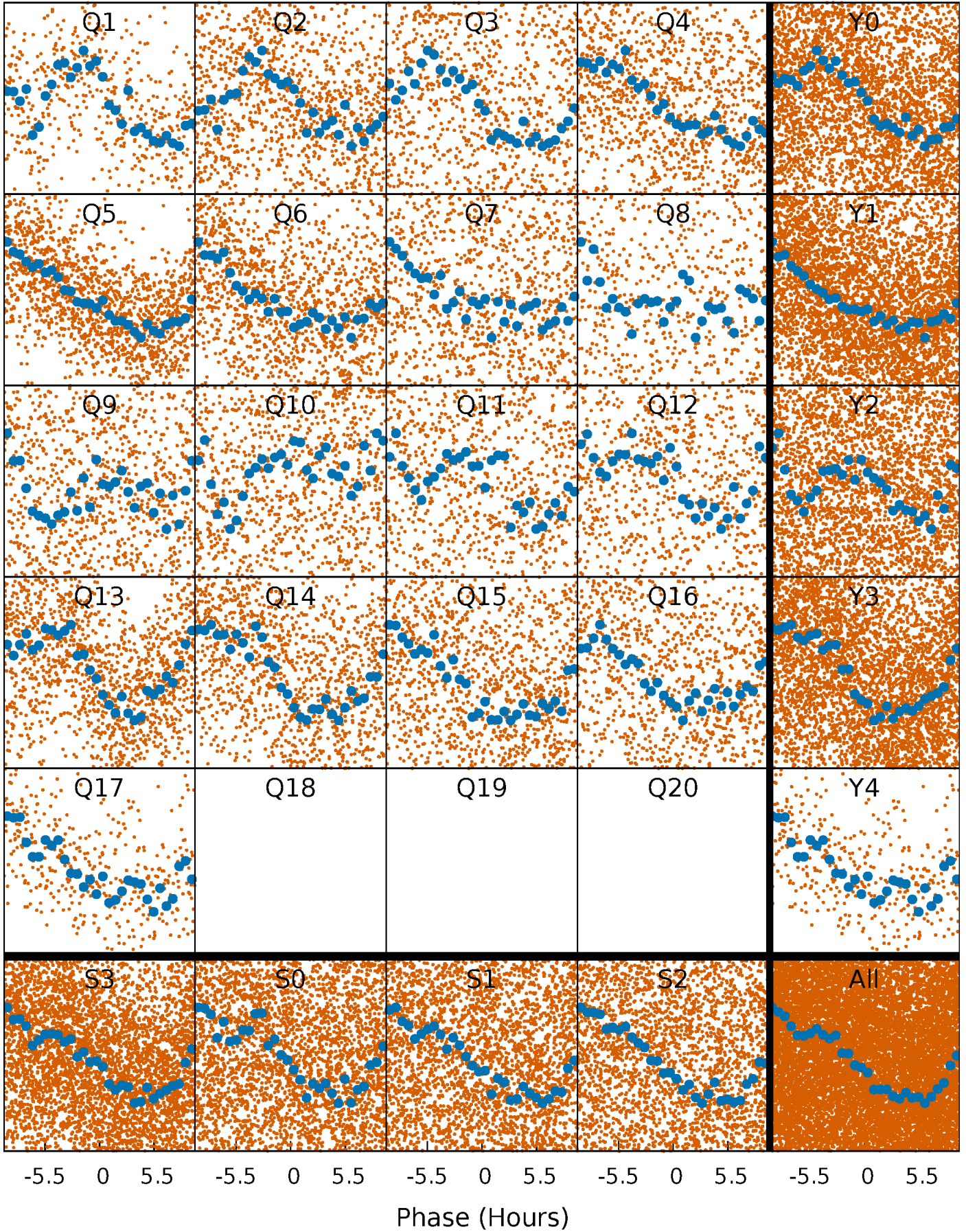


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



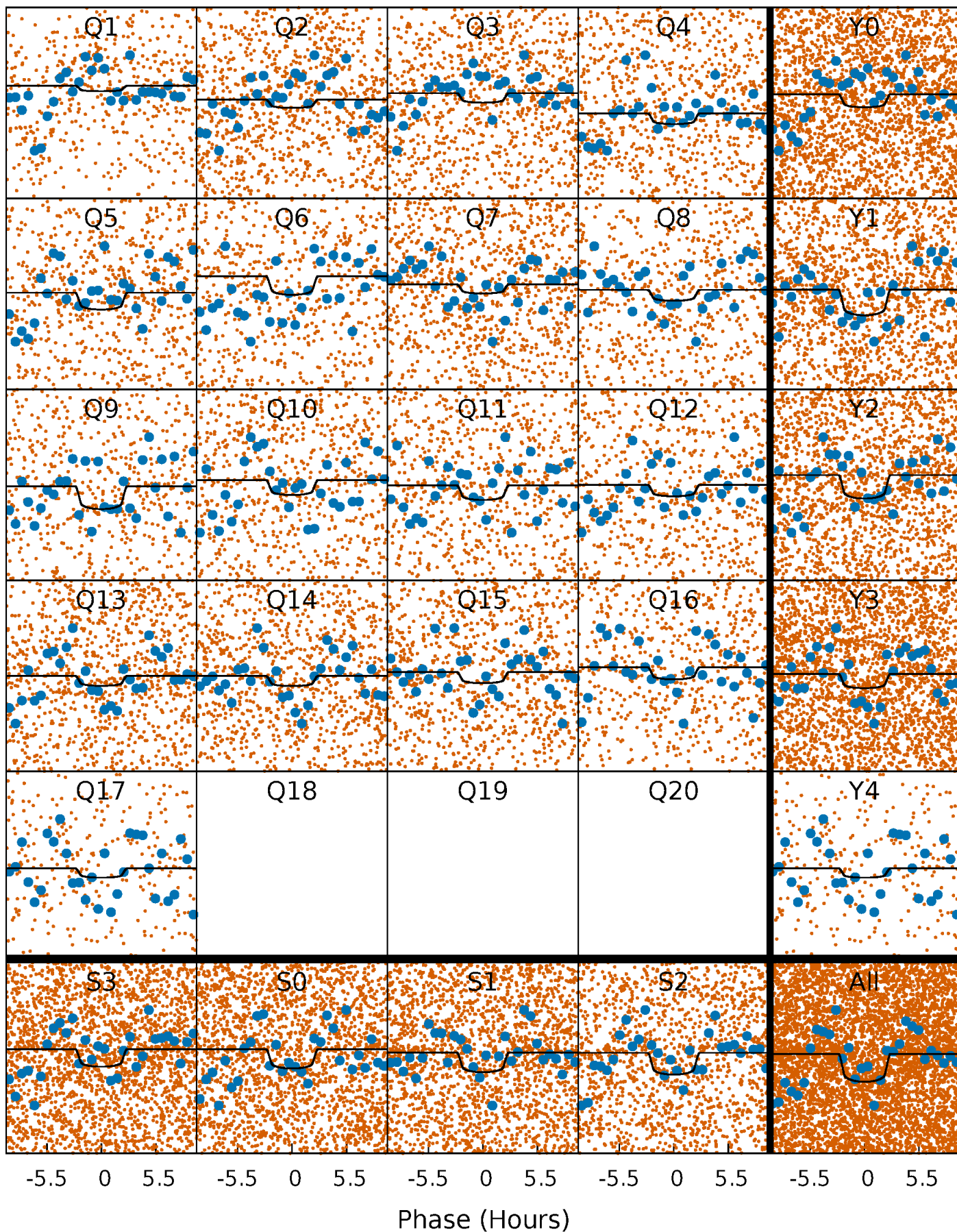
PDC Quarter-Phased Transit Curves

TCE 009299986-01 P= 2.416683 Days $T_0=134.052978$ (BKJD)



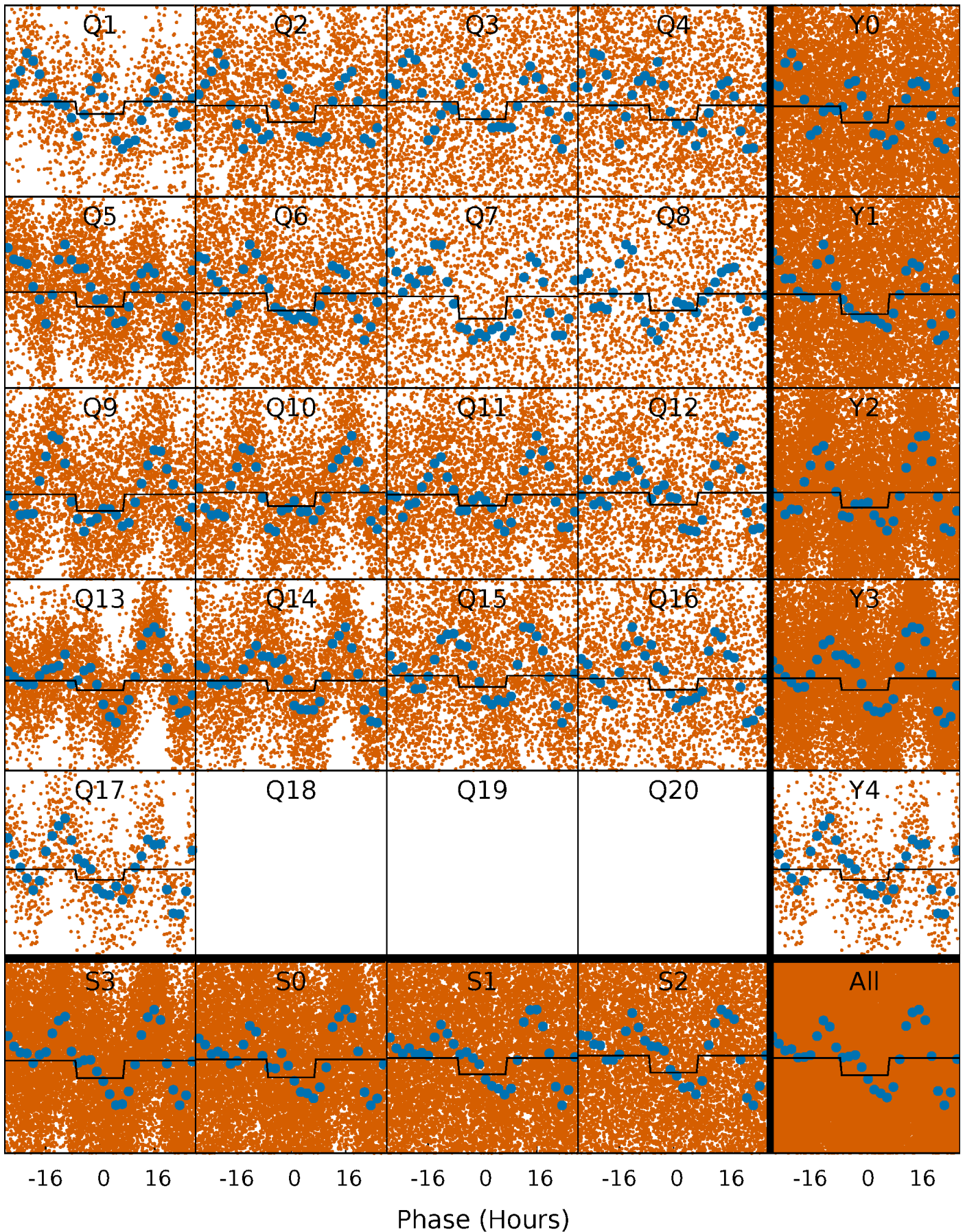
DV Quarter-Phased Transit Curves

TCE 009299986-01 P= 2.416683 Days $T_0=134.052978$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

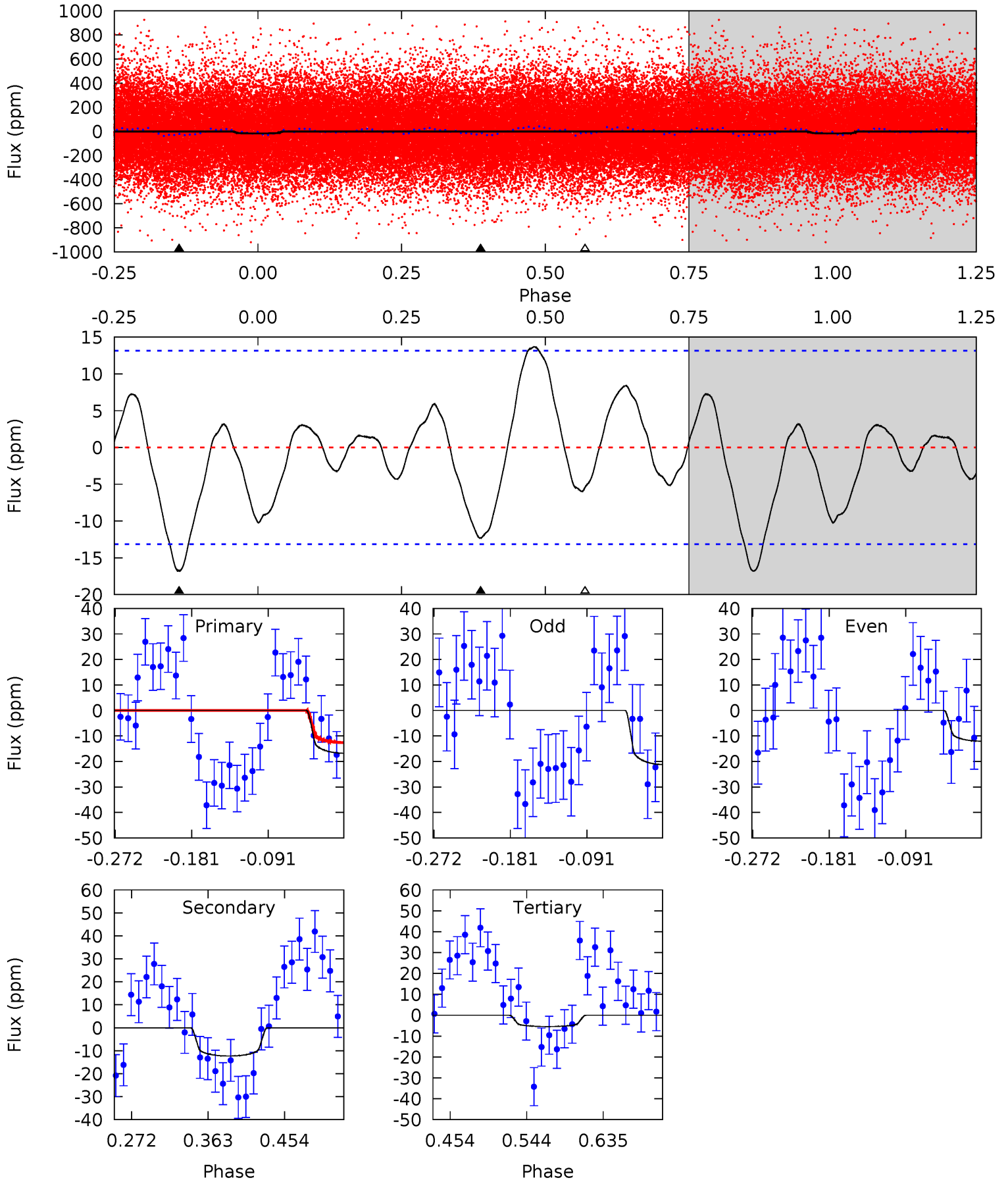
TCE 009299986-01 P= 2.416670 Days $T_0=134.031079$ (BKJD)



DV Model-Shift Uniqueness Test

009299986-01, P = 2.416683 Days, E = 129.219612 Days

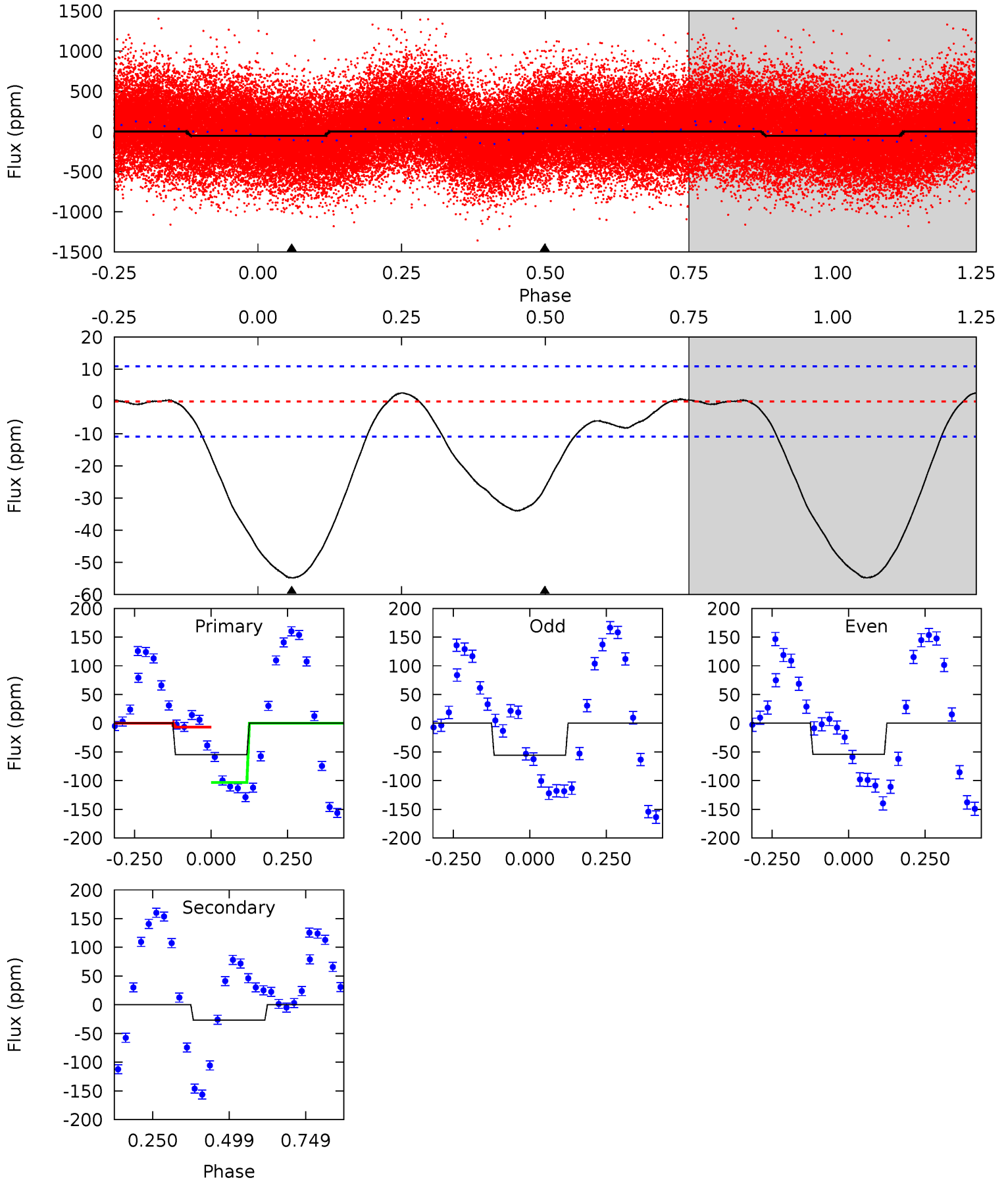
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.85	4.29	1.90	0	4.59	1.69	1.76	3.95	5.85	2.40	4.29	1.59	1.18	0.45	1.38



Alt Model-Shift Uniqueness Test

009299986-01, P = 2.416670 Days, E = 129.197739 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.9	10.8	0	0	4.37	1.15	0.19	21.9	21.9	10.8	10.8	0.27	0.98	0.05	18.6



Stellar Parameters For KIC 009299986

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6486^{+155}_{-214}	$4.174^{+0.209}_{-0.171}$	$-0.300^{+0.250}_{-0.300}$	$1.456^{+0.422}_{-0.384}$	$1.156^{+0.174}_{-0.174}$	$0.527^{+0.603}_{-0.242}$
	+2%/-3%	+5%/-4%	+83%/-100%	+29%/-26%	+15%/-15%	+114%/-46%
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 009299986-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-12 ± 3	$0.81^{+0.45}_{-0.45}$	2487^{+190}_{-174}	5345^{+2915}_{-905}	14^{+57}_{-9}
Alt.	-27 ± 3	$1.16^{+0.51}_{-0.43}$	2495^{+203}_{-187}	5416^{+1390}_{-745}	15^{+24}_{-8}

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 $A_{obs} \gg 1.0$

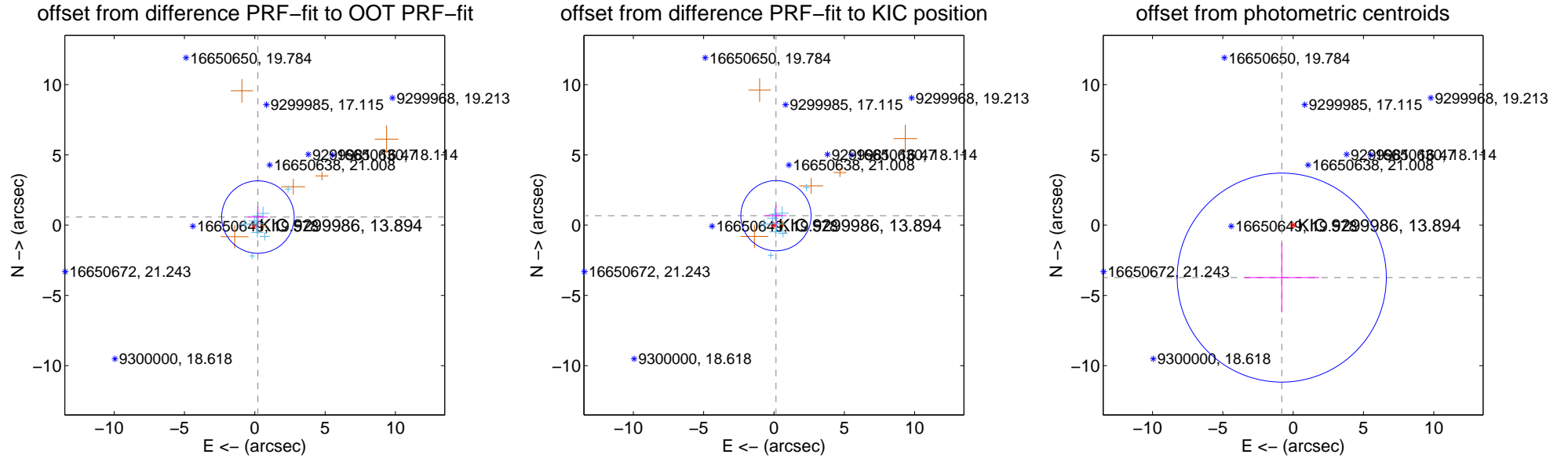
DV Centroid Data

Supplemental centroid analysis for 009299986-01. Kepler magnitude: 13.89. Transit SNR 4.64

There are 9 quarters with good PRF difference image offsets

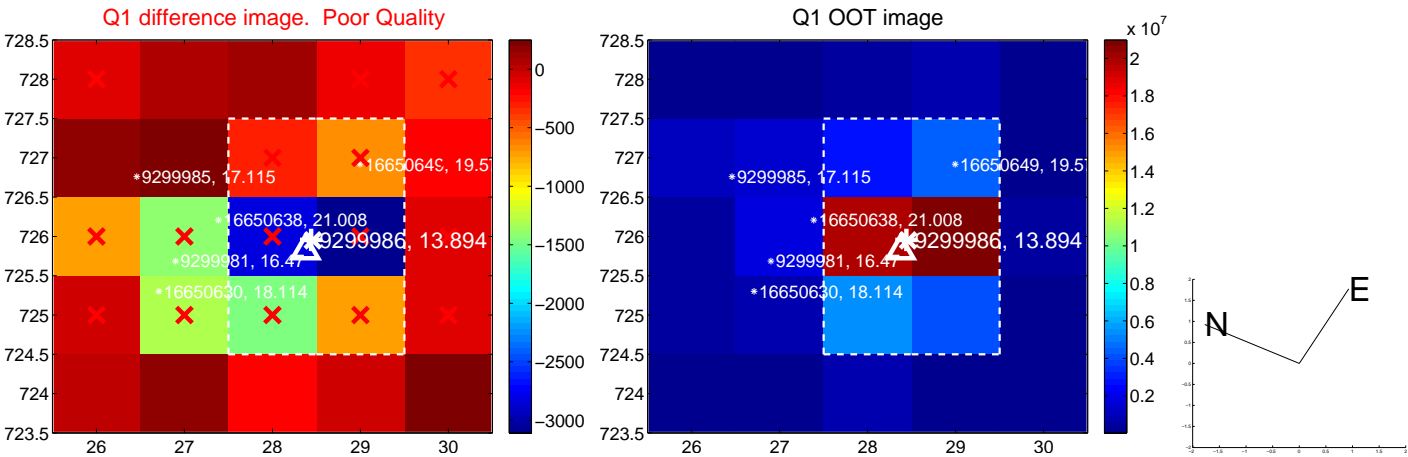
The direct PRF centroid is offset from the target star catalog position by about 0.01 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.617 ± 0.859	0.72	-0.223 ± 0.701	0.576 ± 0.751
PRF-fit source offset from KIC position	0.686 ± 0.833	0.82	-0.142 ± 0.743	0.672 ± 0.769
photometric centroid source offset	3.82 ± 2.48	1.54	0.81 ± 2.65	-3.73 ± 2.47

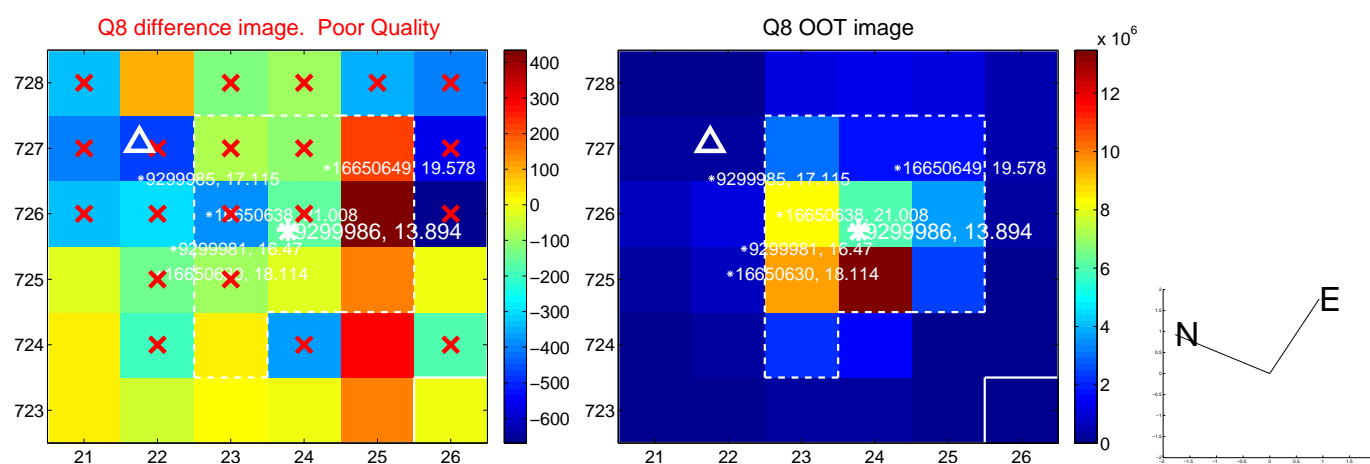
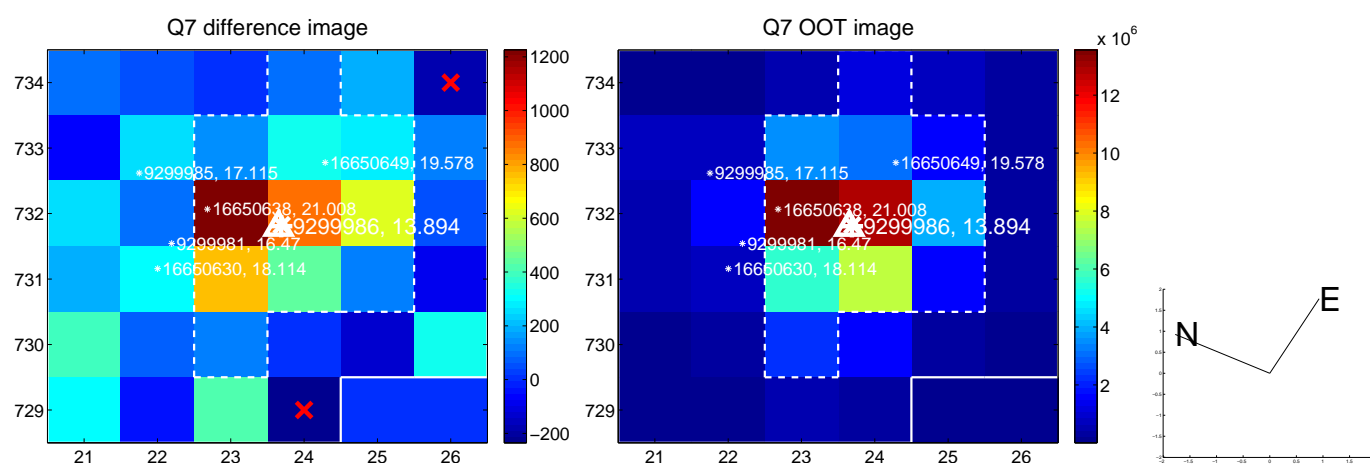
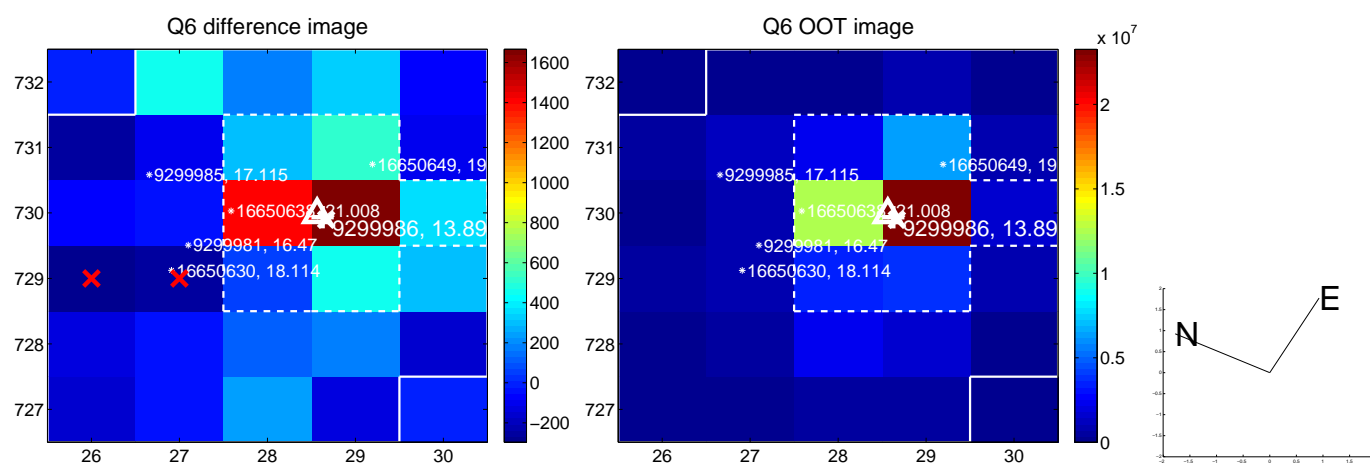
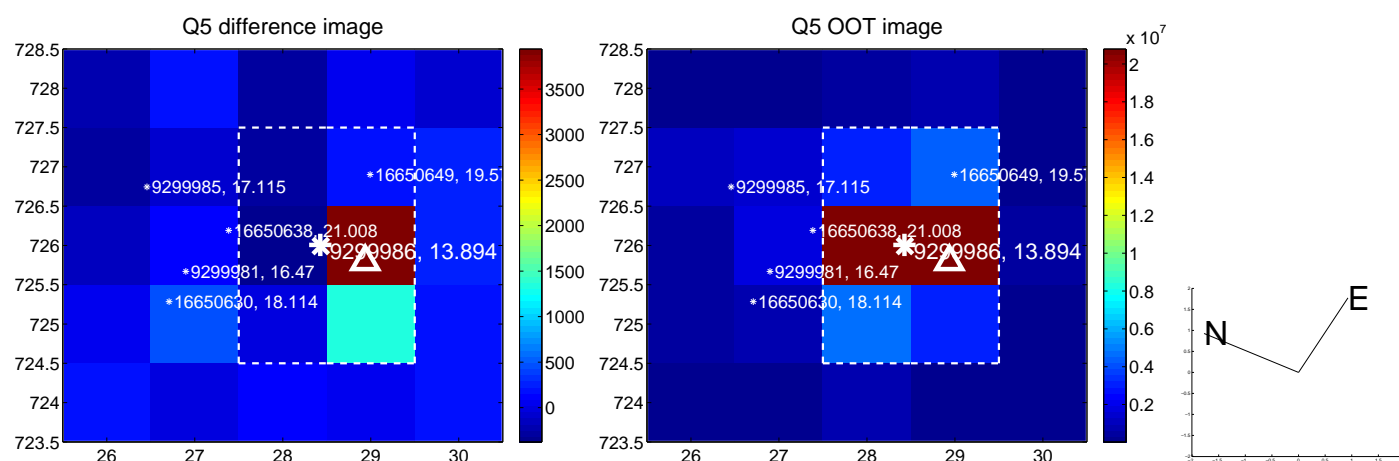


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

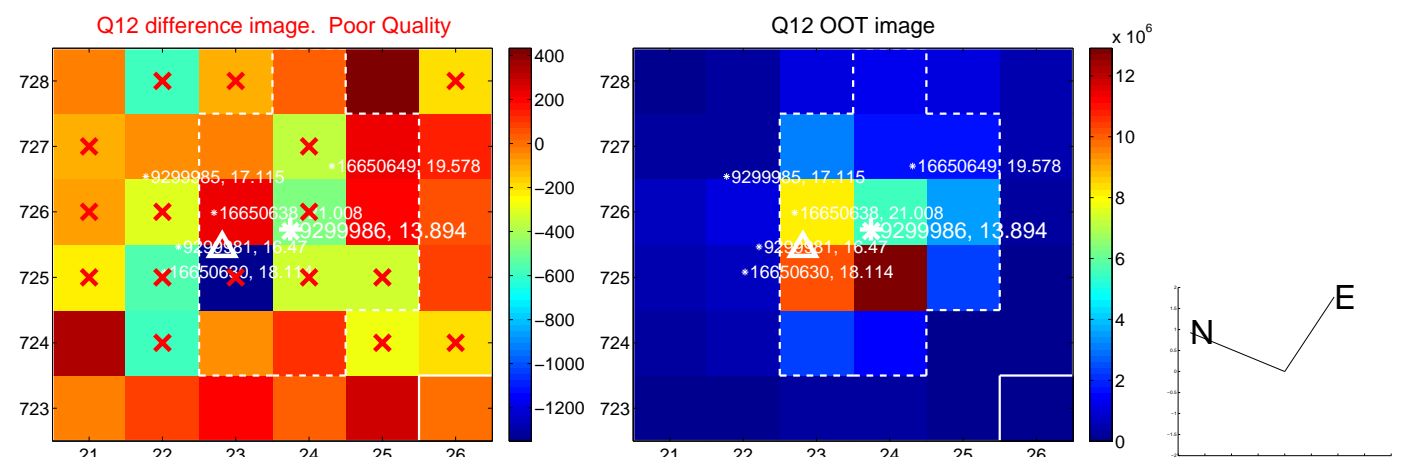
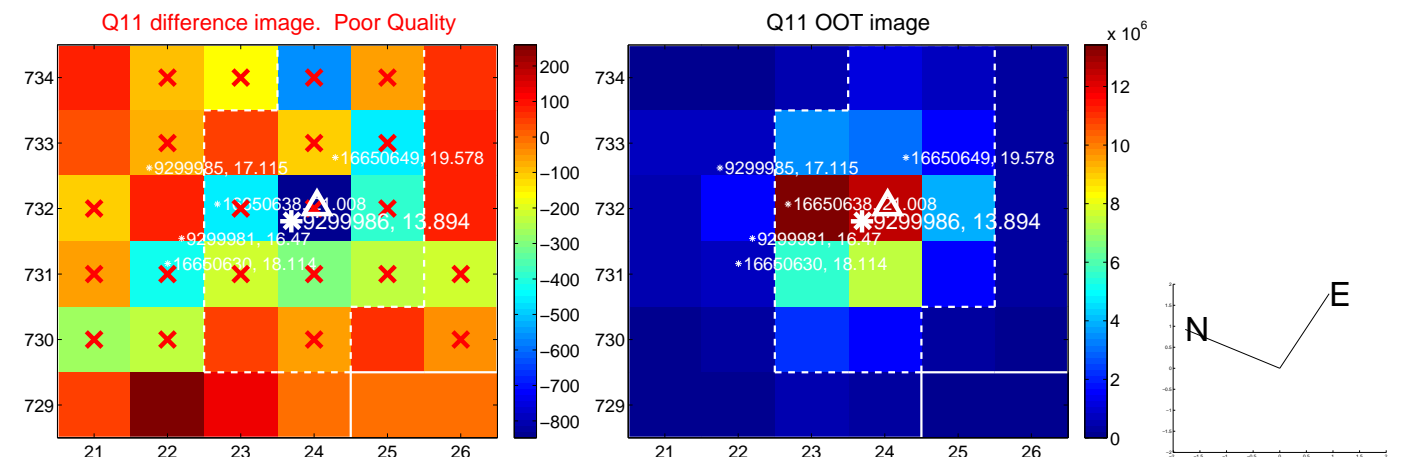
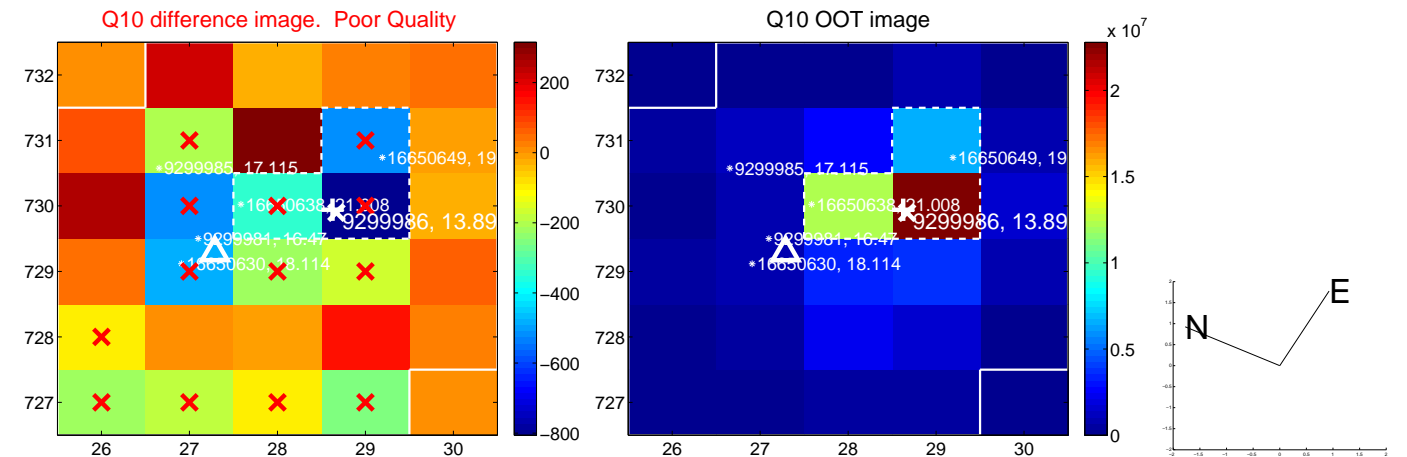
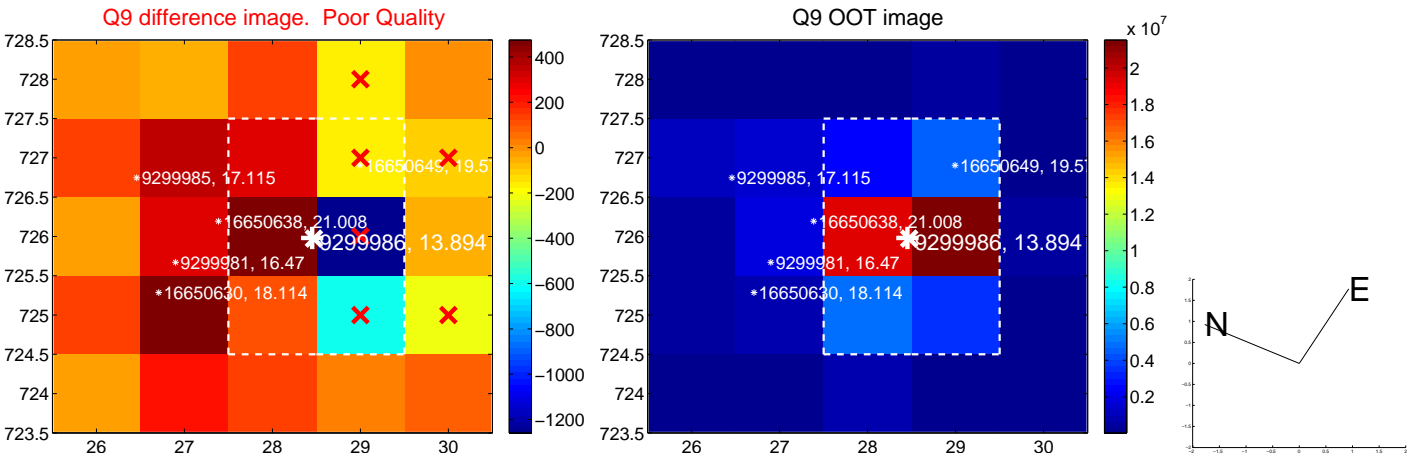
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



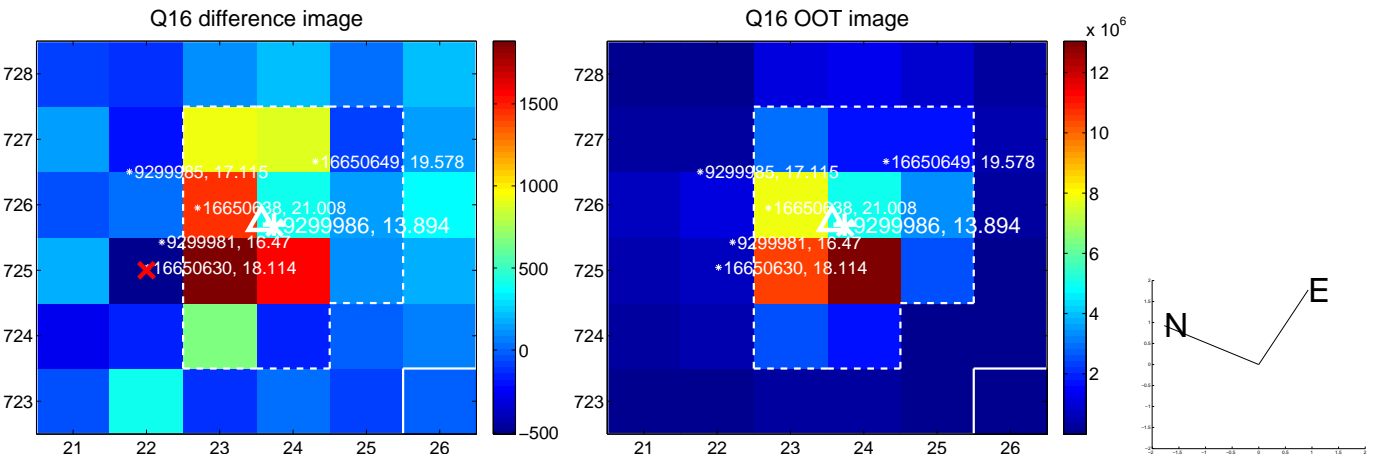
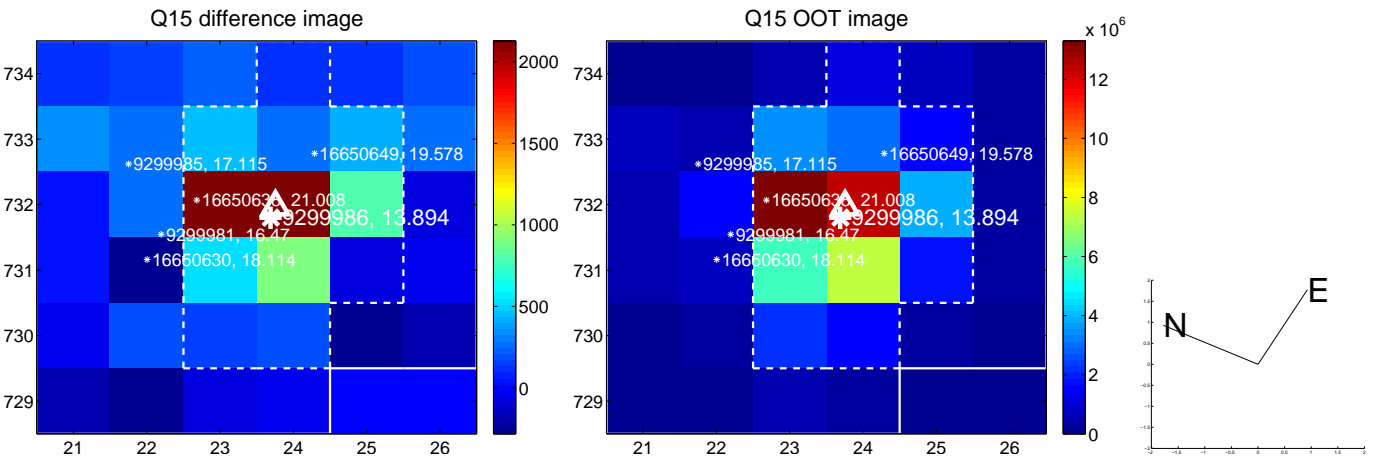
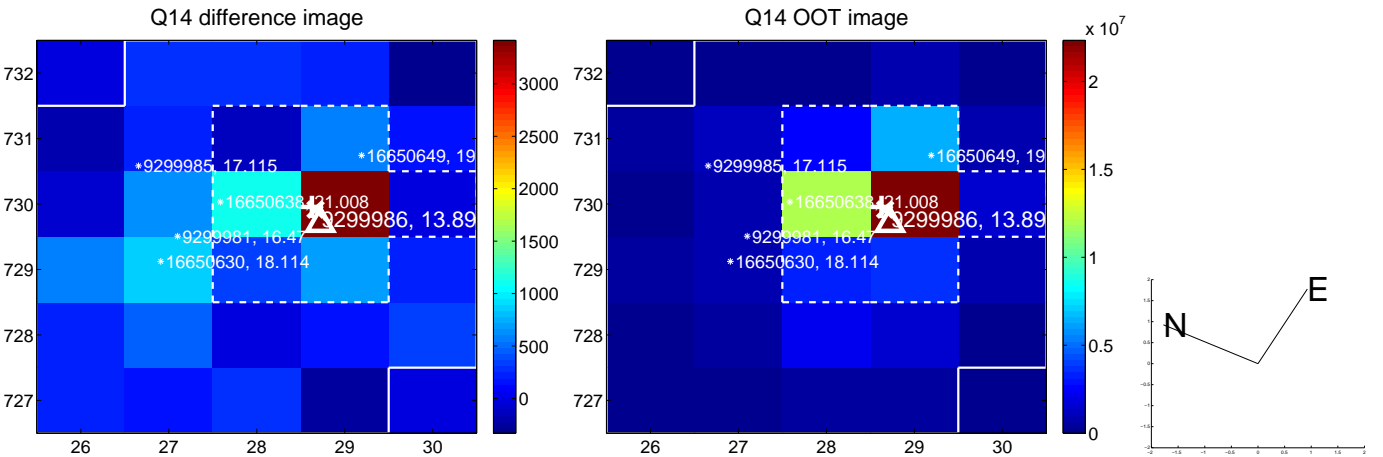
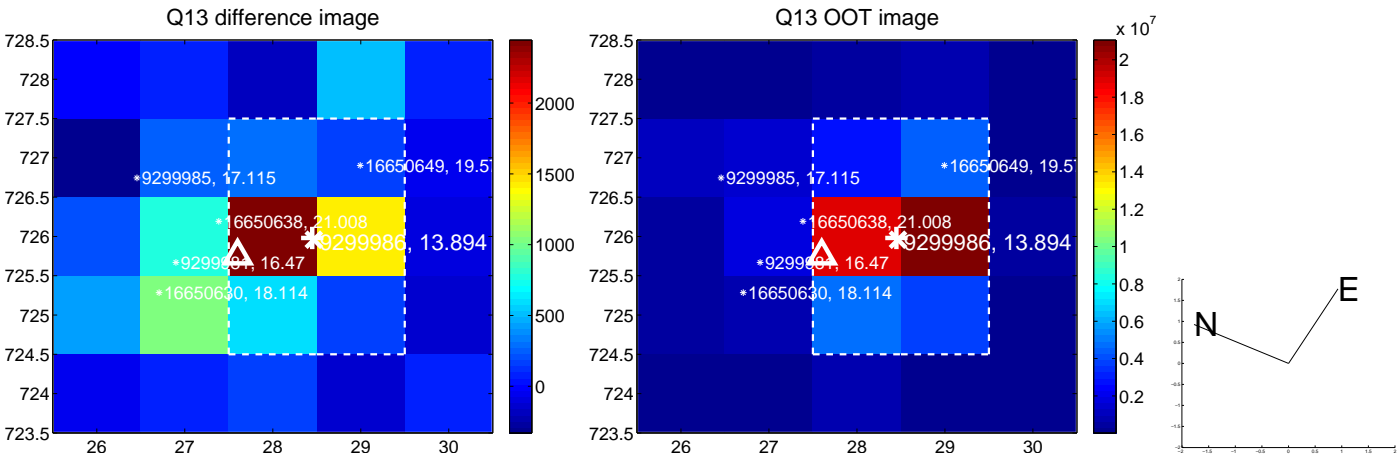
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



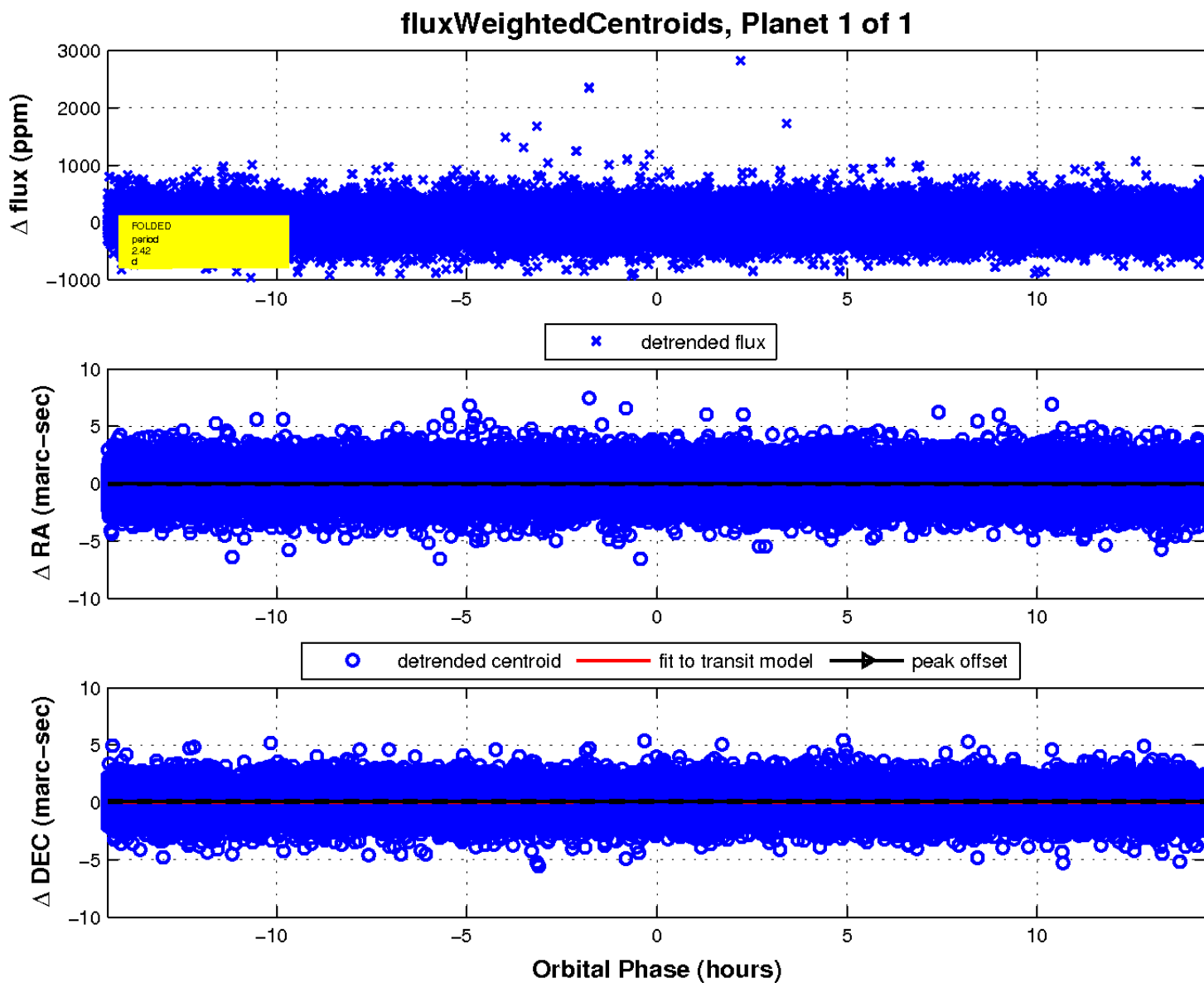
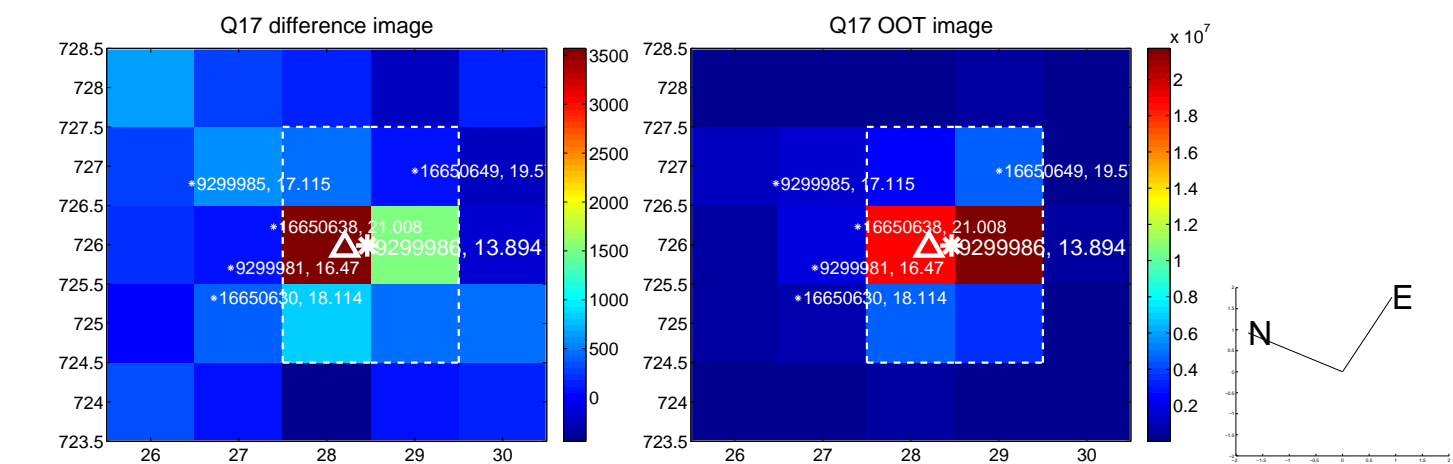
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

