

KIC 009051487

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})
009051487-01	OBS	No	0.942223	132.354610	44.7	9.091	11.4	14.4	1.74	7259	1.18	15899.99

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009051487-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_FEW_DIFFS

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

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

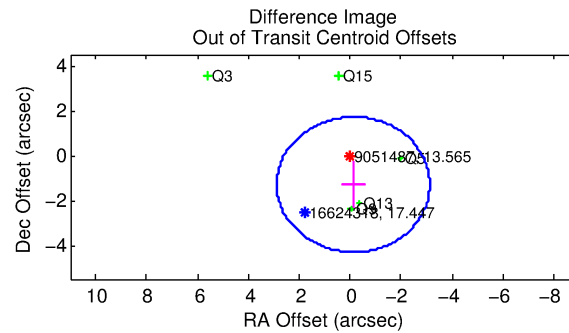
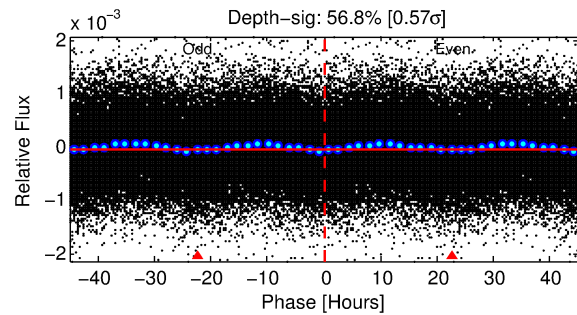
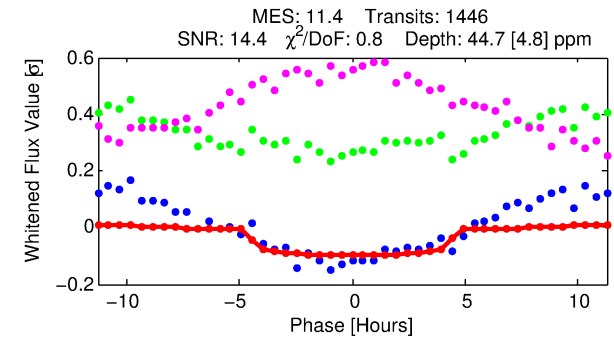
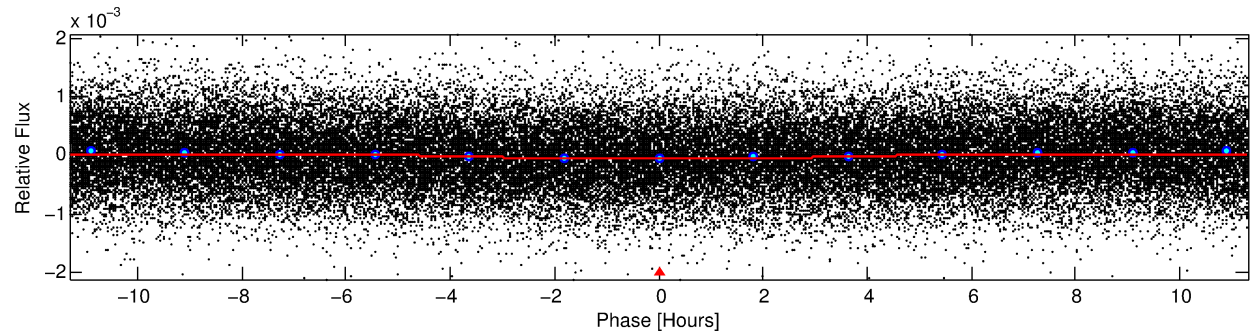
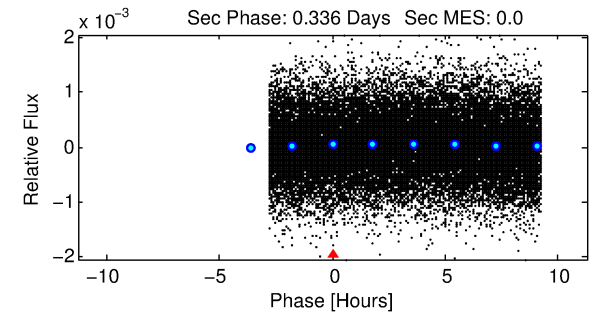
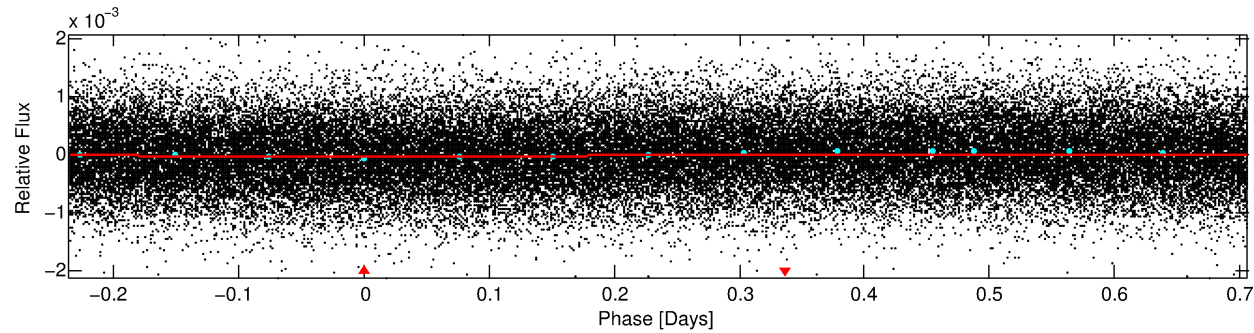
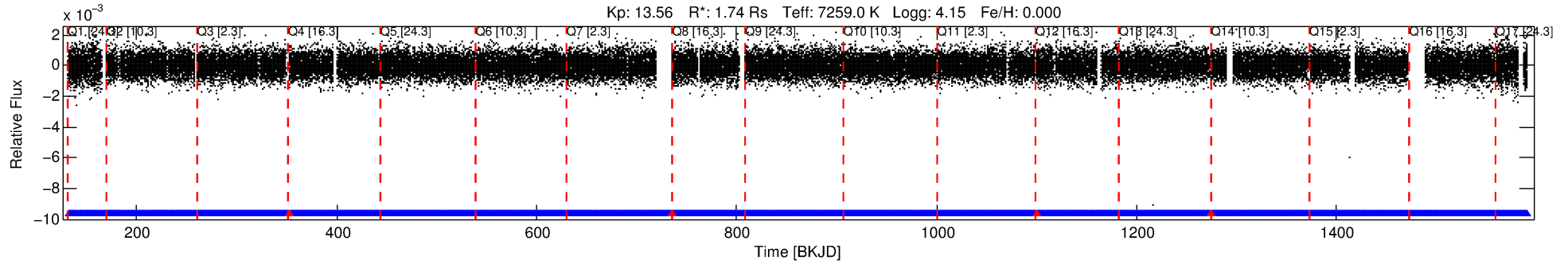
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009051487-01

No Significant Match Found

DV One-Page Summary

KIC: 9051487 Candidate: 1 of 1 Period: 0.942 d



DV Fit Results:

Period = 0.94222 [0.00001] d
Epoch = 132.3546 [0.0072] BKJD
Rp/R* = 0.0062 [0.0056]
a/R* = 1.06 [0.57]
b = 0.04 [131.72]
Seff = 15899.99 [6568.94]
Teff = 2863 [296] K
Rp = 1.18 [1.12] Re
a = 0.0217 [0.0056] AU
Ag = N/A
Teffp = N/A

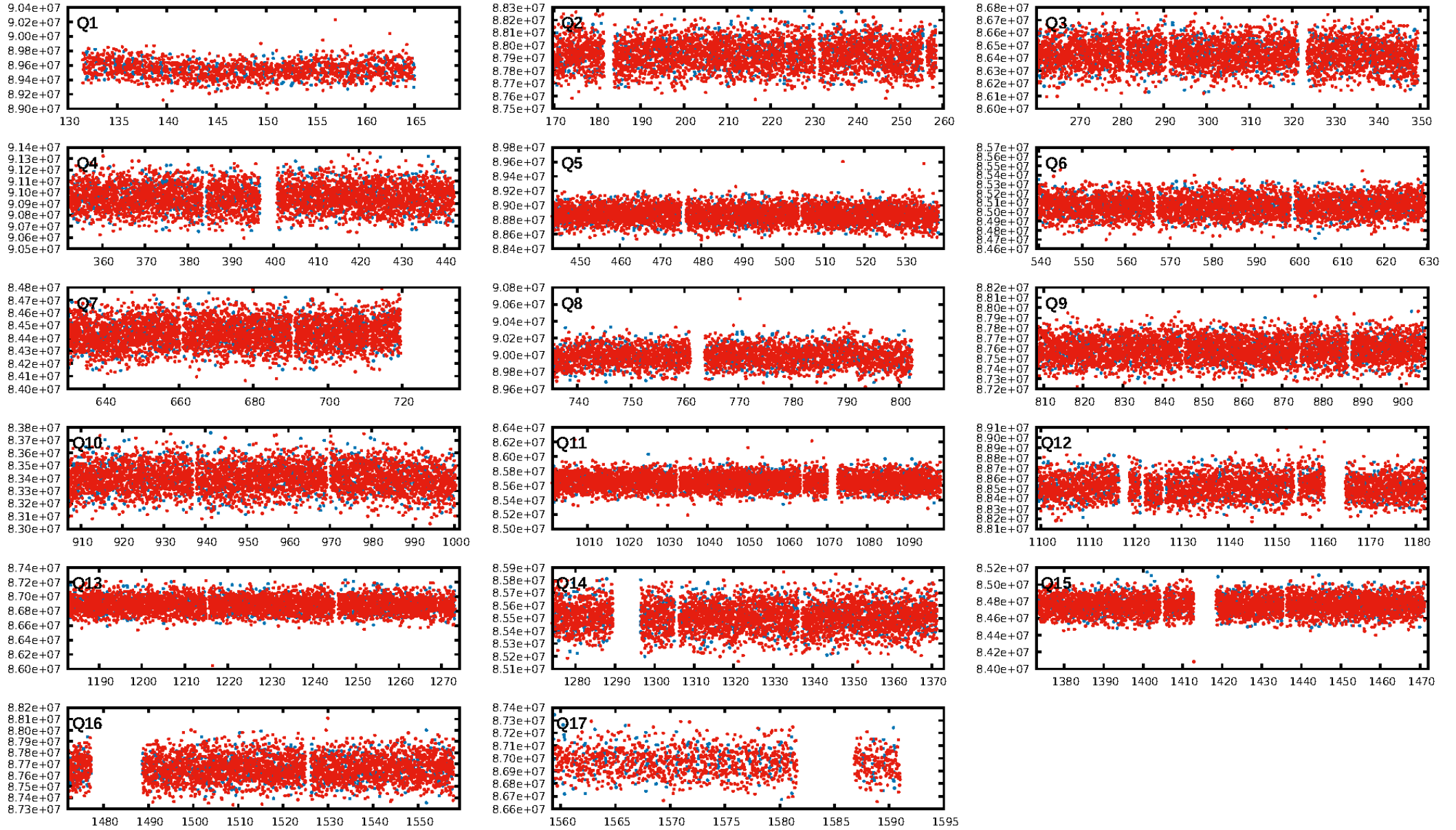
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1377/1381]
GhostDiagnostic-chr: 2.763
Centroid-sig: 45.5%
Centroid-so: 0.258 arcsec [0.39σ]
OotOffset-rm: 1.305 arcsec [1.30σ]
KicOffset-st: 0/2/0/3 [5]
KicOffset-st: 0/2/0/3 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 1.00 [17/17]

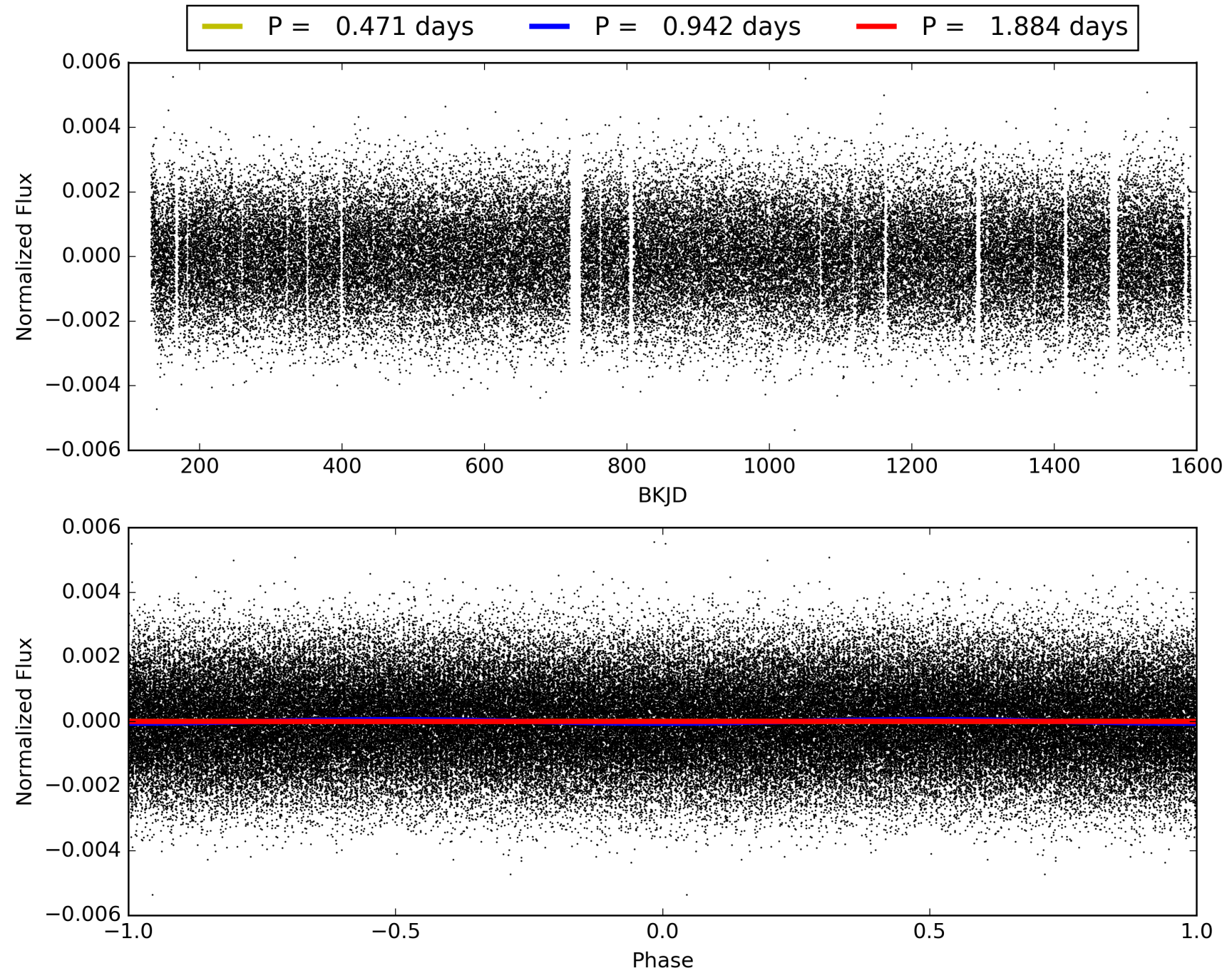
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 05:39:20 Z

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

TCE 009051487-01, PDC Light Curves

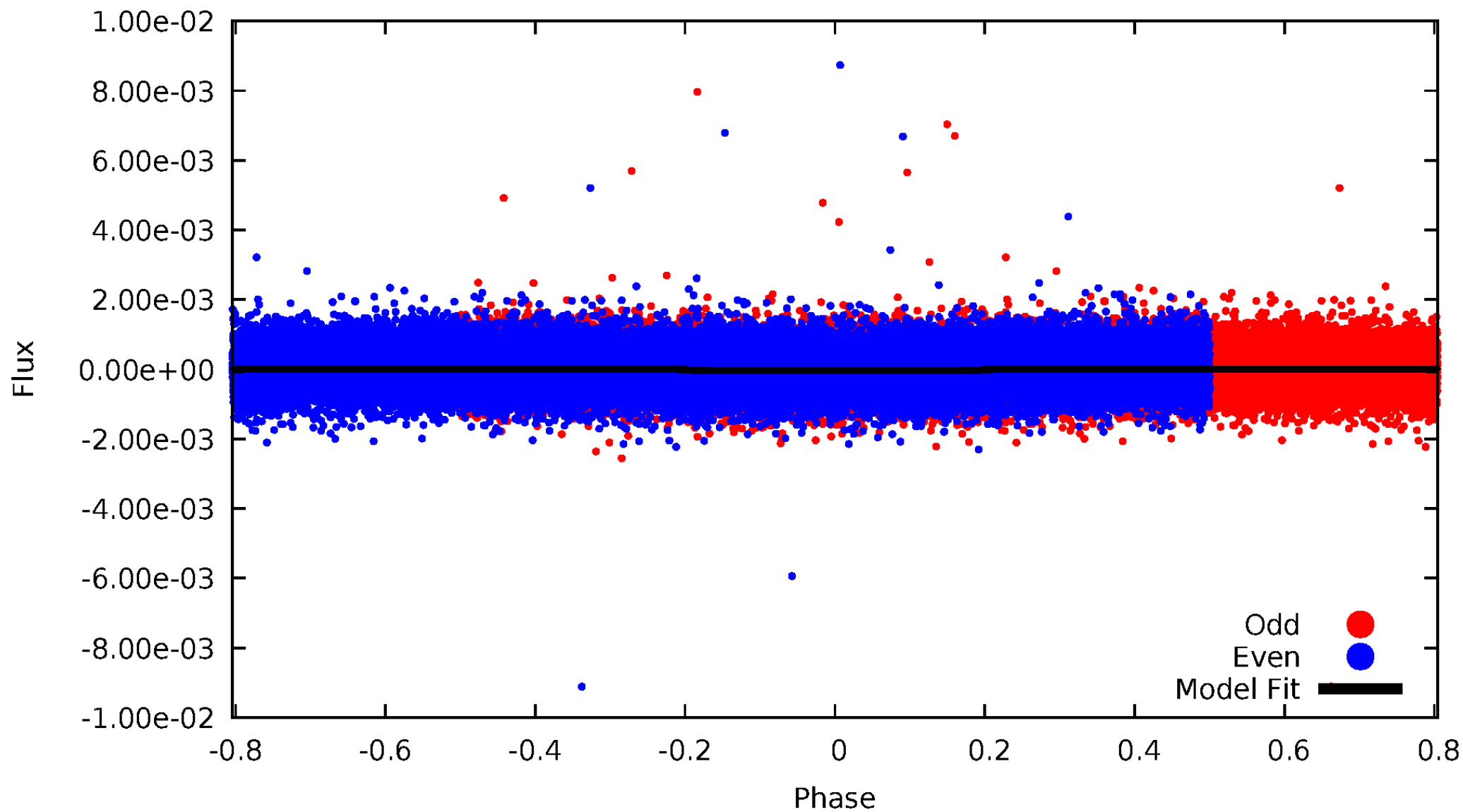


TCE 009051487-01



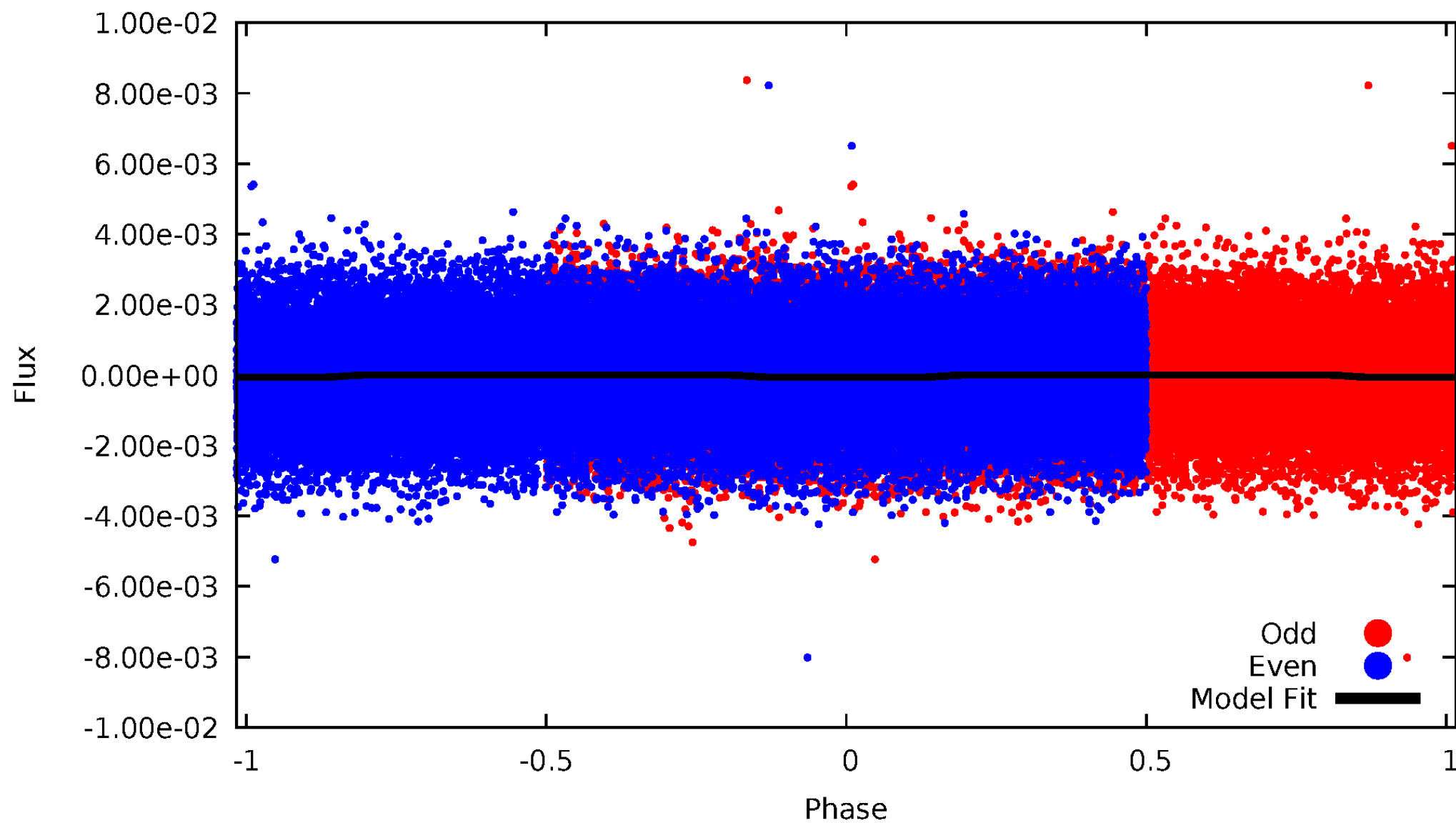
DV Odd/Even

TCE 009051487-01

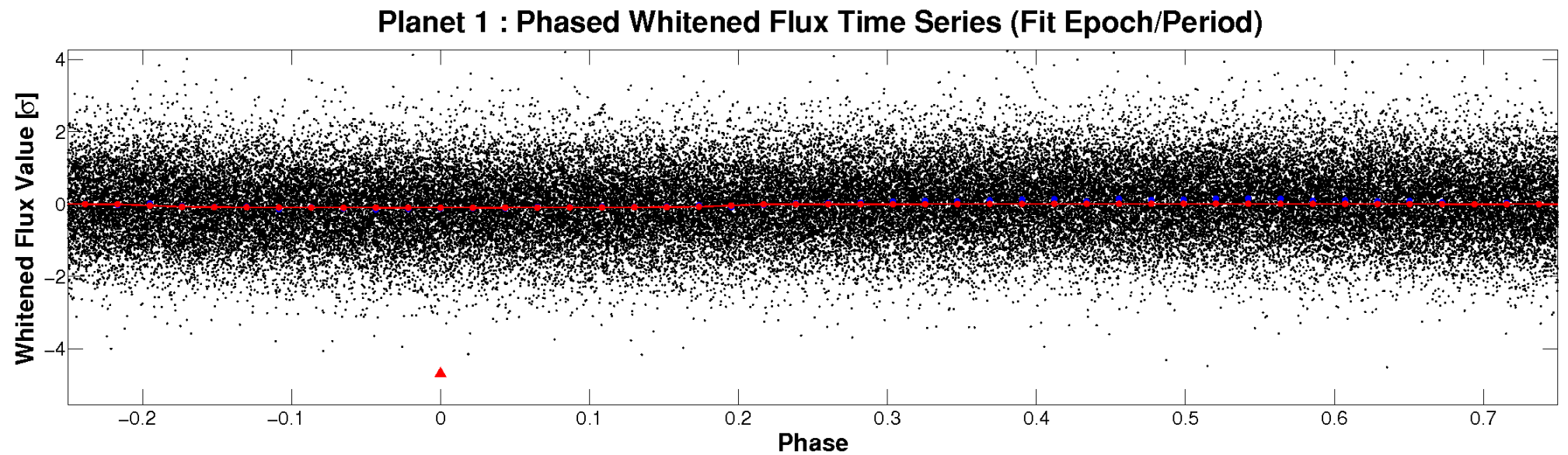
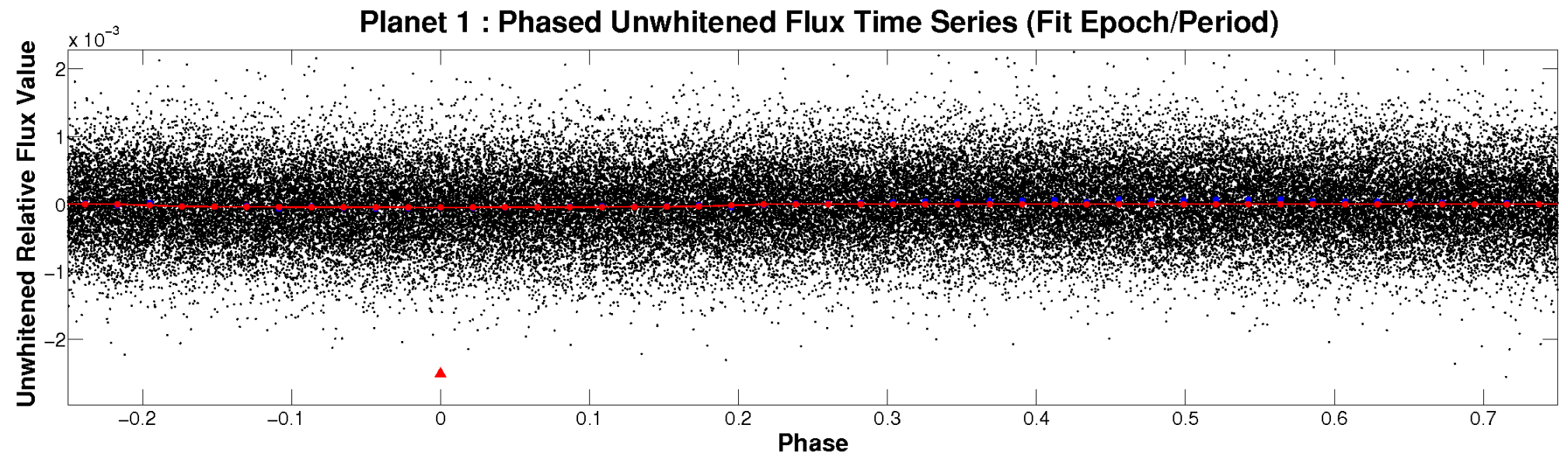


ALT Odd/Even

TCE 009051487-01

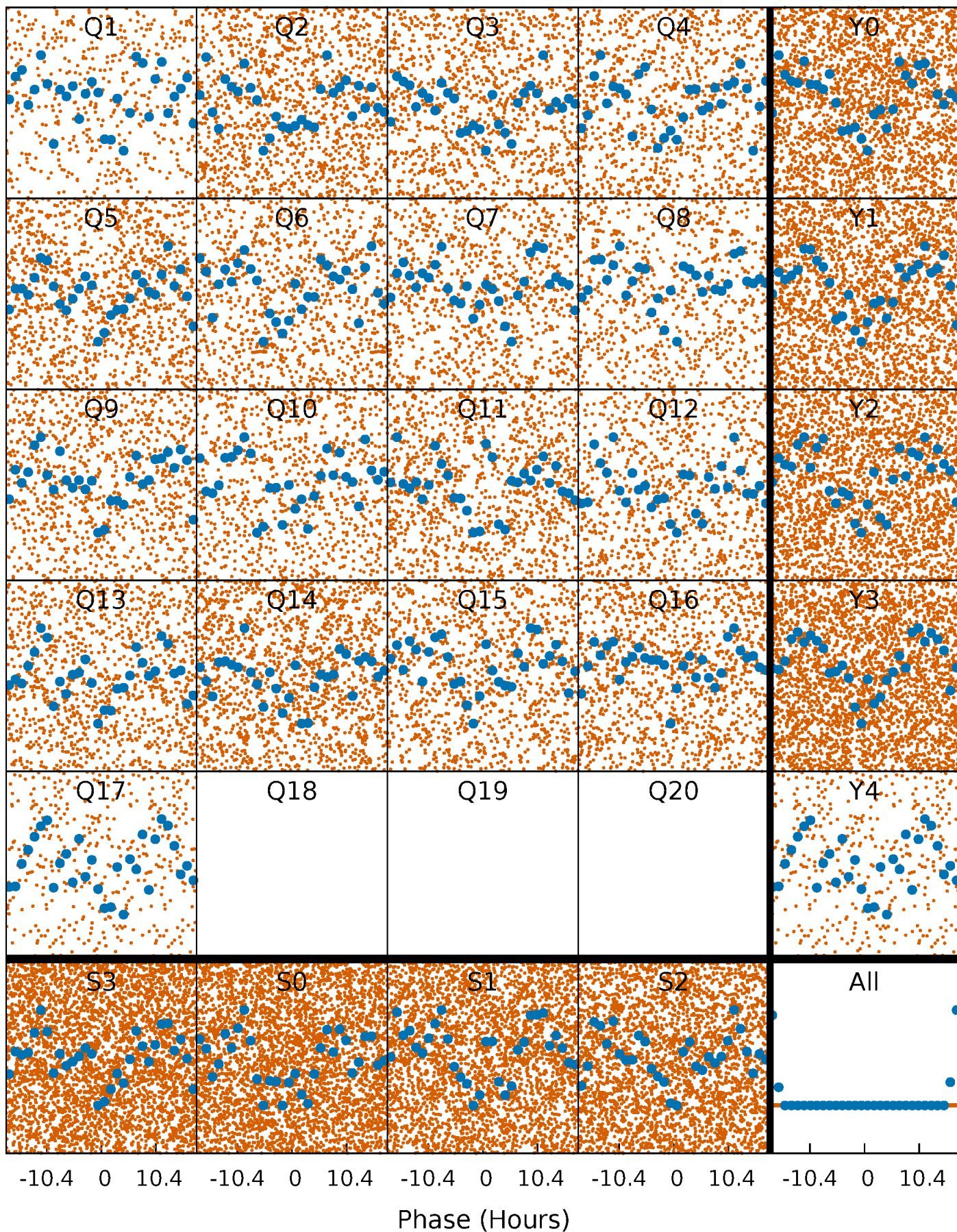


Non-Whitened Vs. Whitened Light Curve



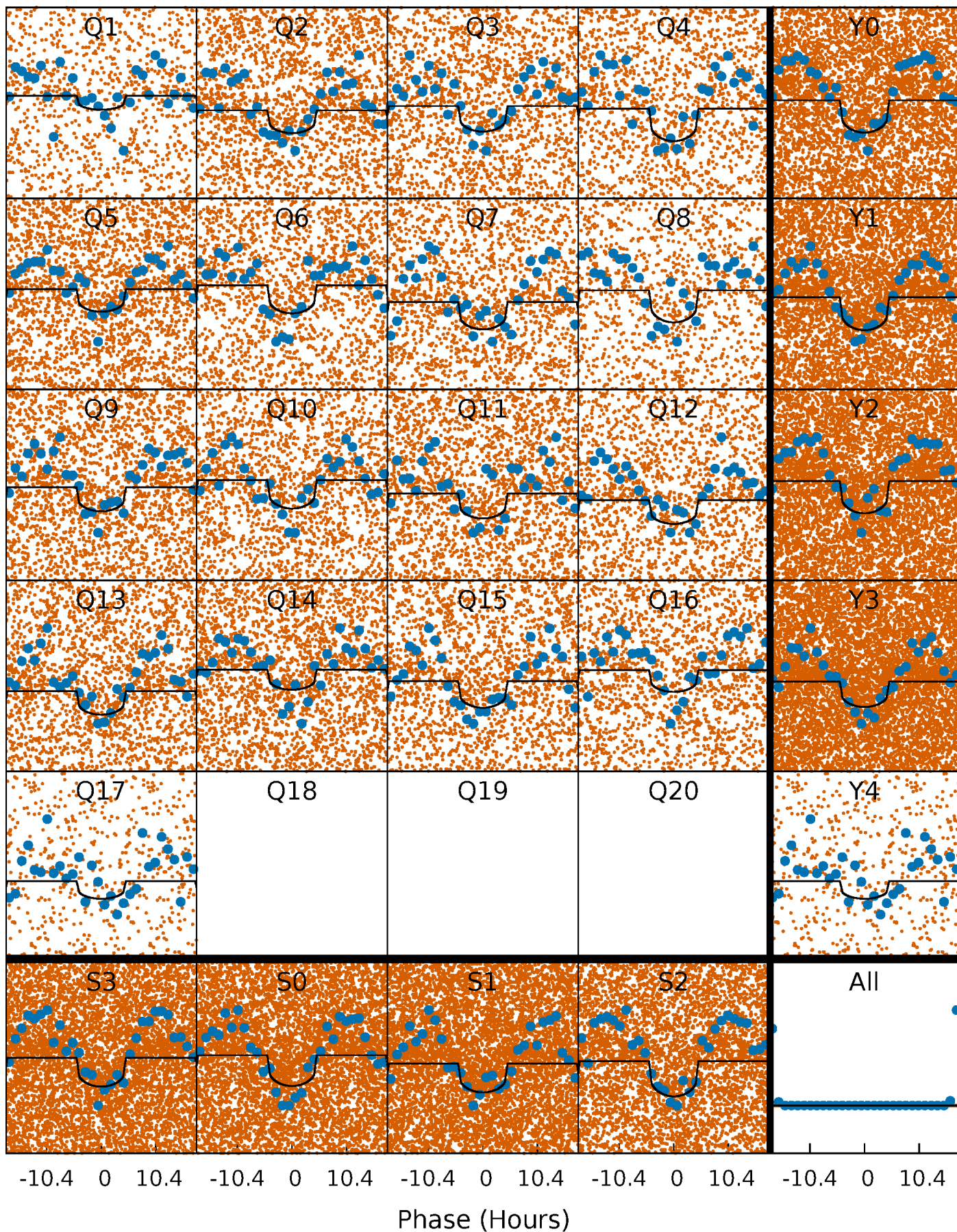
PDC Quarter-Phased Transit Curves

TCE 009051487-01 P= 0.942223 Days $T_0=132.354611$ (BKJD)



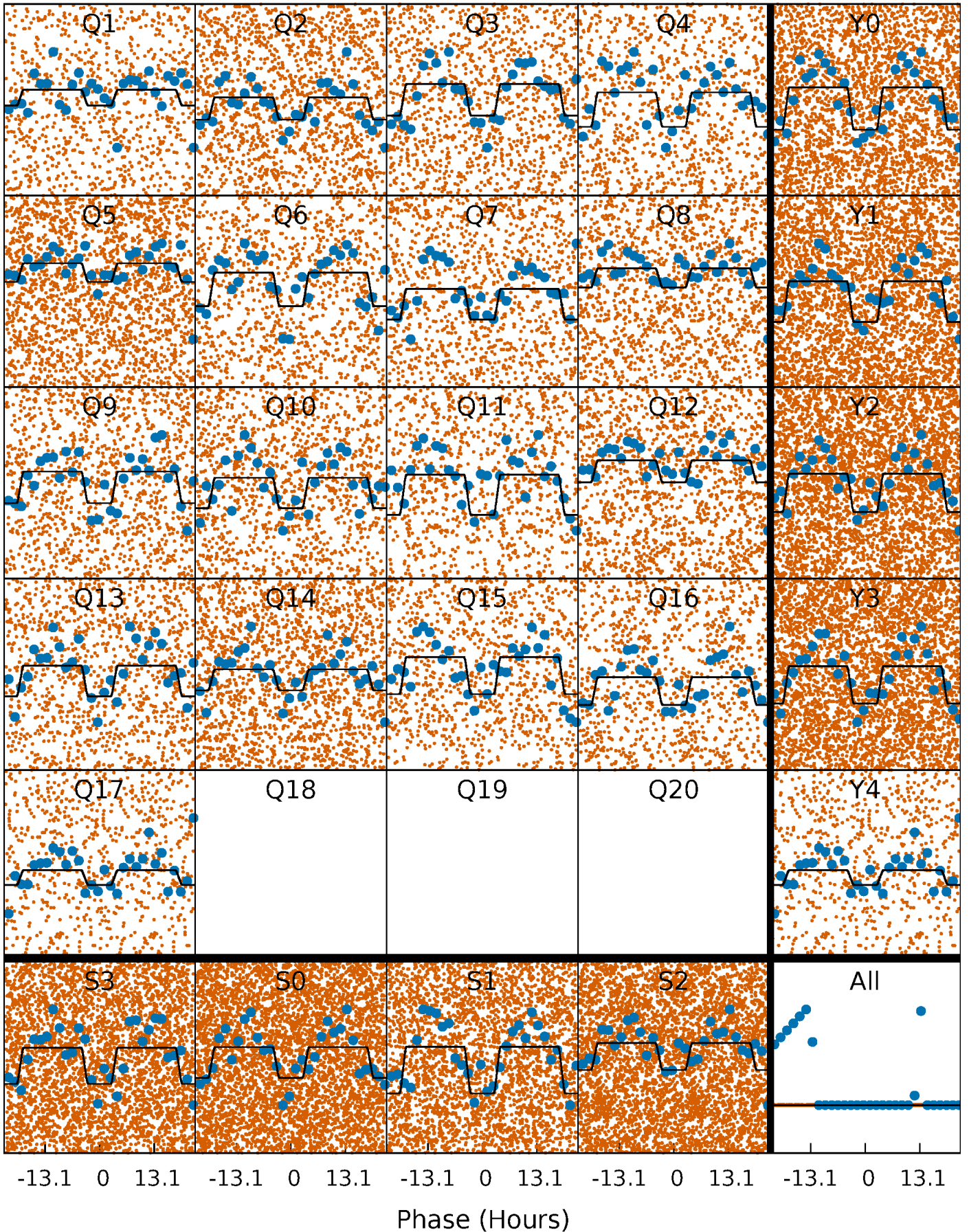
DV Quarter-Phased Transit Curves

TCE 009051487-01 P= 0.942223 Days $T_0=132.354611$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

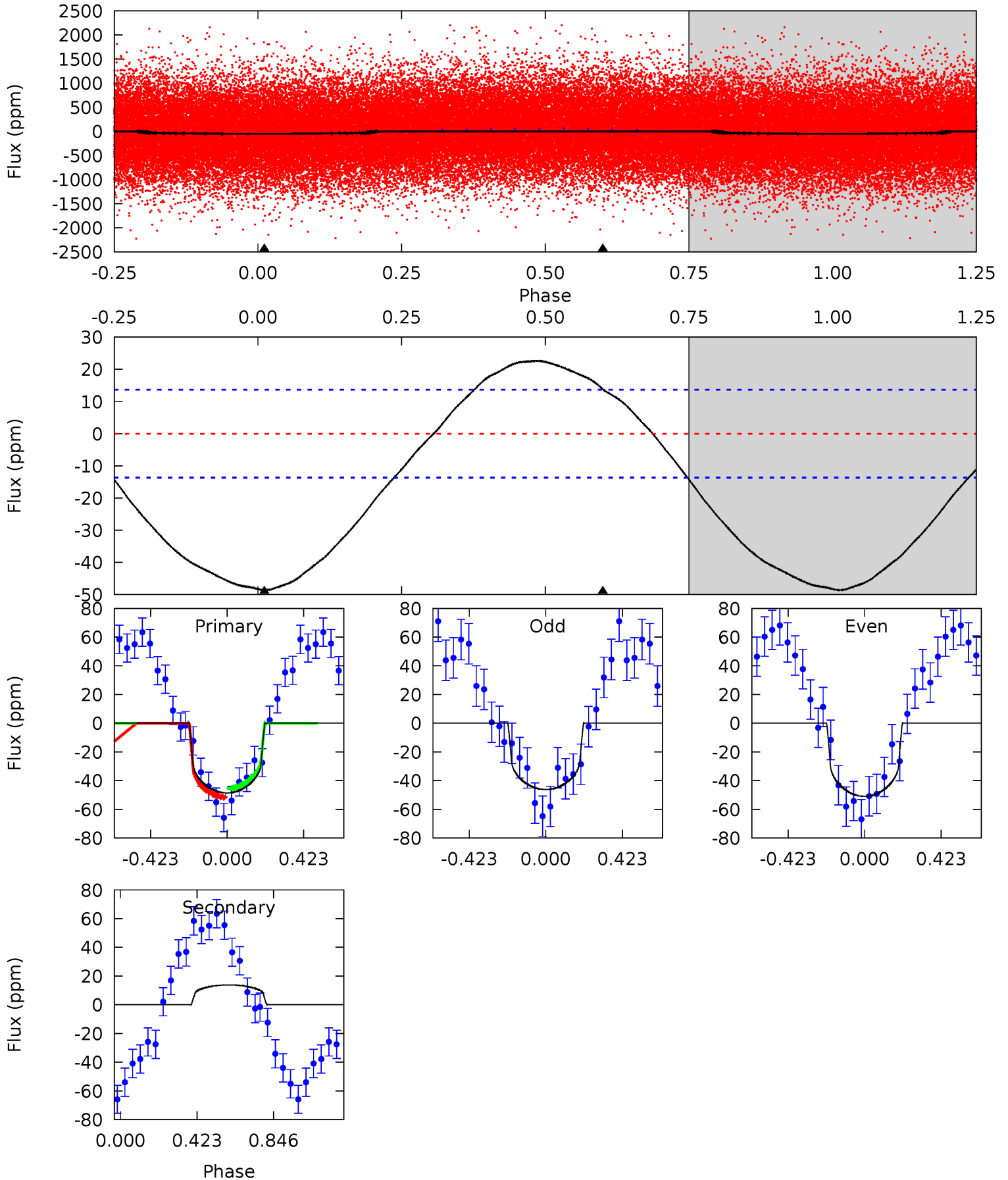
TCE 009051487-01 P= 0.942248 Days $T_0=132.327484$ (BKJD)



DV Model-Shift Uniqueness Test

009051487-01, P = 0.942223 Days, E = 131.412388 Days

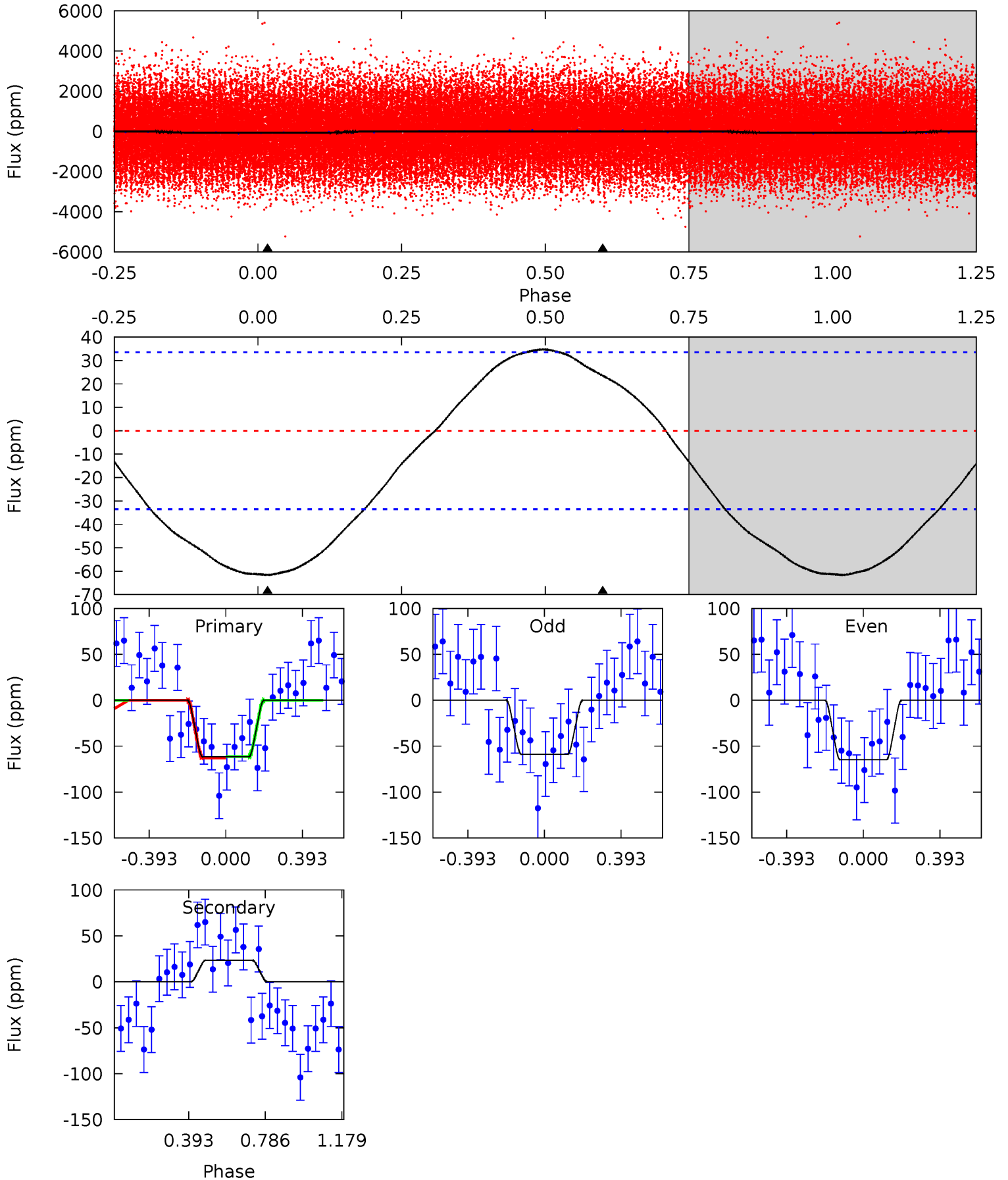
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.1	-4.31	0	0	4.25	0.80	1.83	15.1	15.1	-4.31	-4.31	0.74	0.95	0.32	0.97



Alt Model-Shift Uniqueness Test

009051487-01, P = 0.942248 Days, E = 131.385236 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.84	-3.00	0	0	4.27	0.85	0.98	7.84	7.84	-3.00	-3.00	0.38	1.04	0.36	0.10



Stellar Parameters For KIC 009051487

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7259^{+230}_{-374}	$4.146^{+0.124}_{-0.186}$	$0.000^{+0.200}_{-0.350}$	$1.737^{+0.563}_{-0.347}$	$1.540^{+0.212}_{-0.259}$	$0.414^{+0.268}_{-0.221}$
	+3%/-5%	+3%/-4%	+inf%/-inf%	+32%/-20%	+14%/-17%	+65%/-53%
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 009051487-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	14 ± 3	$1.45^{+0.90}_{-0.89}$	4011^{+309}_{-288}	-5304^{+833}_{-3060}	$-1.642^{+1.041}_{-10.975}$
Alt.	24 ± 8	$1.65^{+1.19}_{-0.96}$	4001^{+329}_{-265}	-5507^{+953}_{-3028}	$-2.151^{+1.469}_{-9.338}$

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

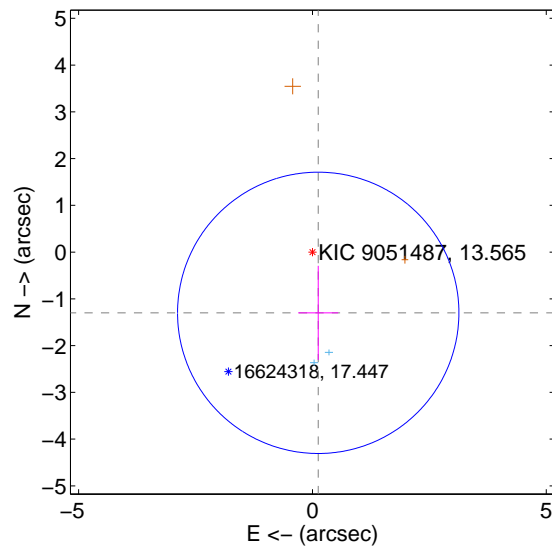
Supplemental centroid analysis for 009051487-01. Kepler magnitude: 13.56. Transit SNR 14.42

There are 2 quarters with good PRF difference image offsets

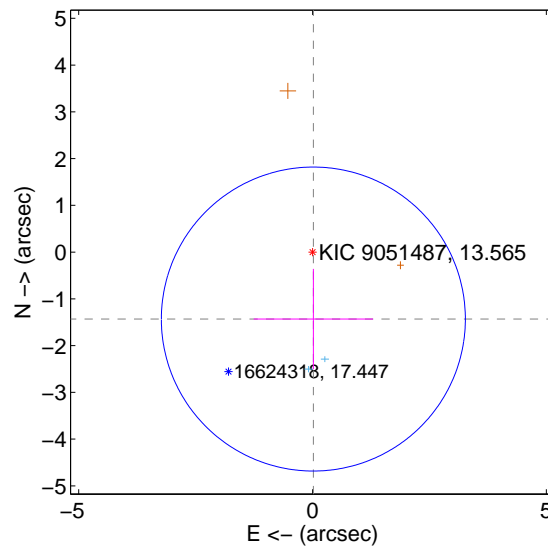
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.305 ± 1.003	1.30	-0.124 ± 0.429	-1.299 ± 1.007
PRF-fit source offset from KIC position	1.432 ± 1.084	1.32	-0.018 ± 1.276	-1.432 ± 1.073
photometric centroid source offset	0.26 ± 0.66	0.39	0.25 ± 0.67	-0.07 ± 0.47

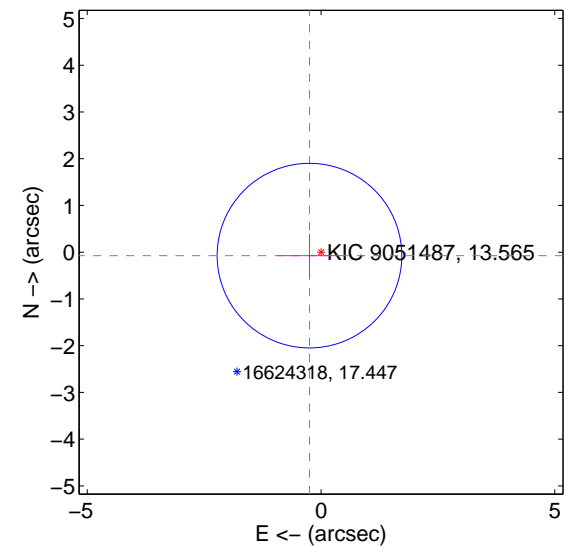
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

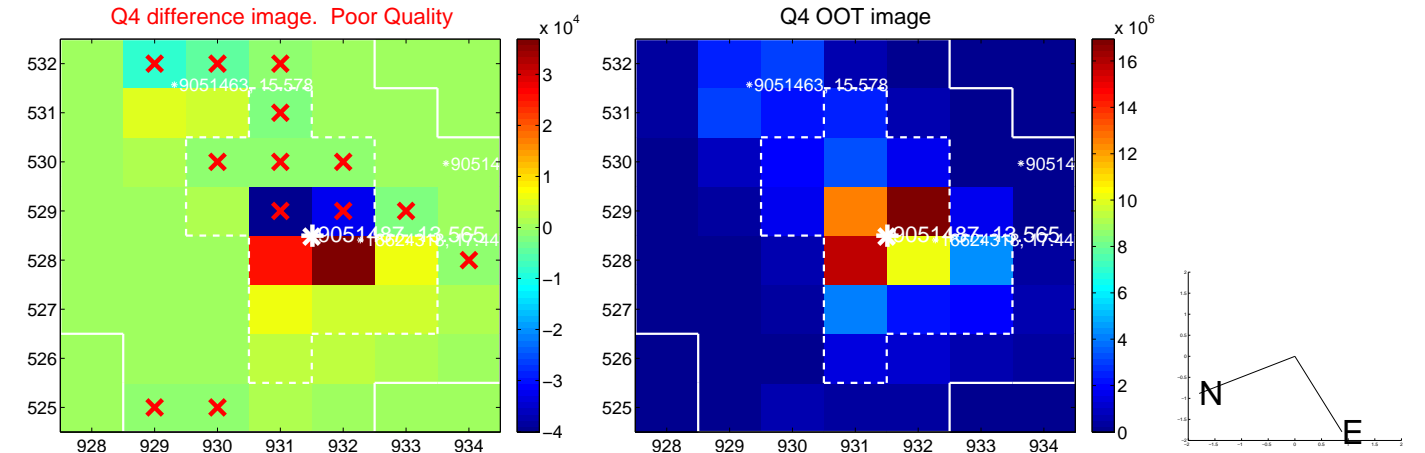
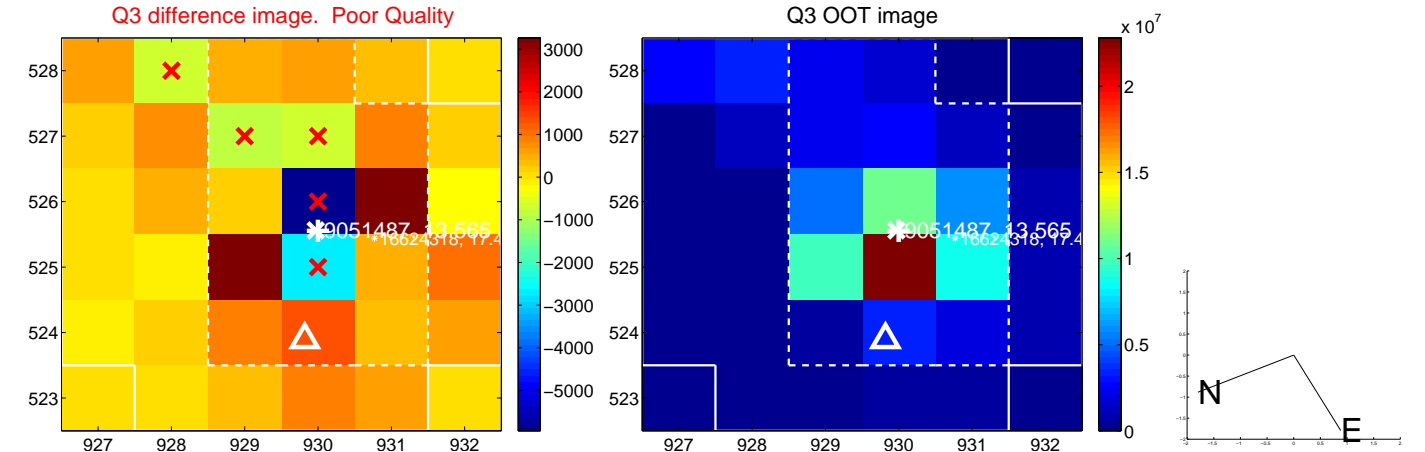
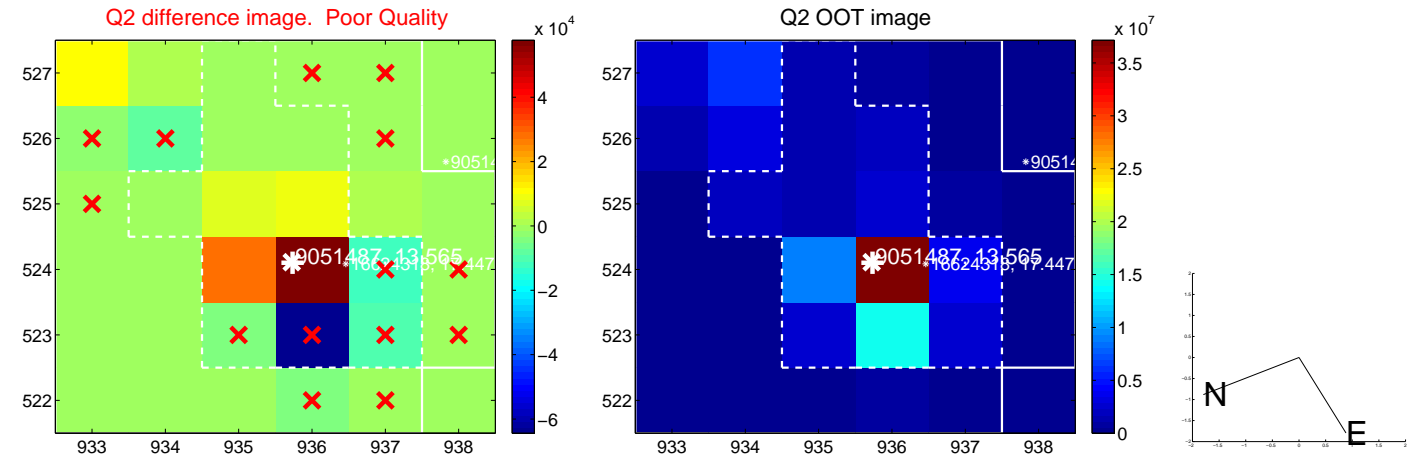
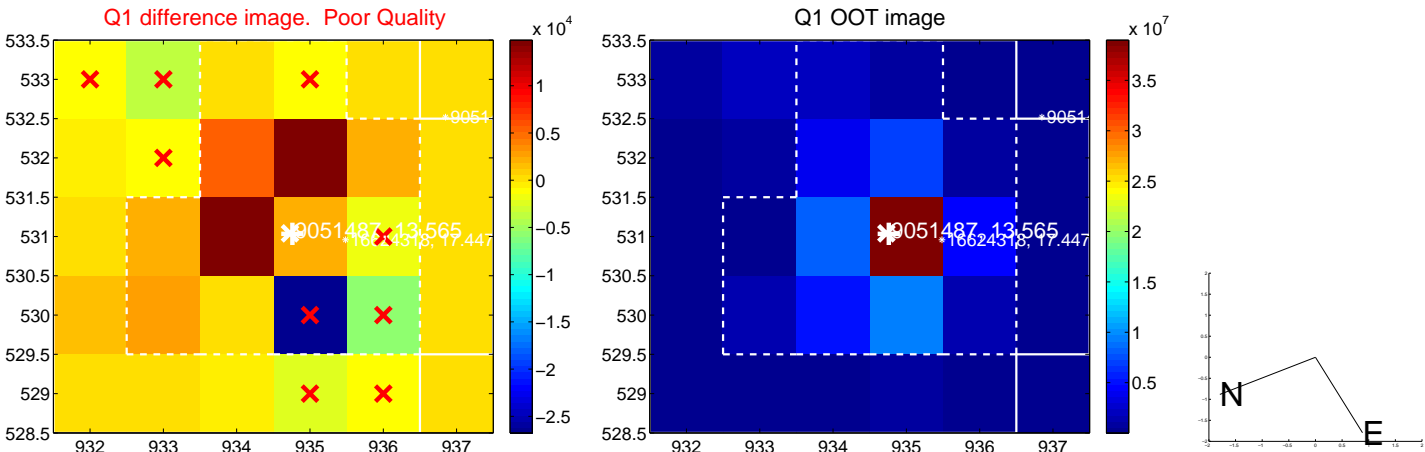


offset from photometric centroids

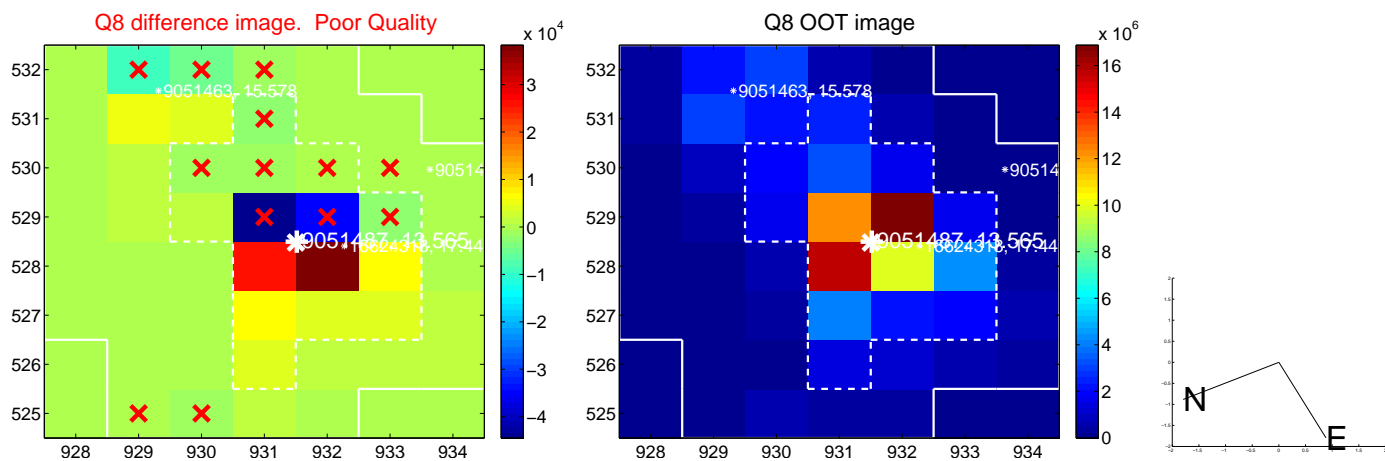
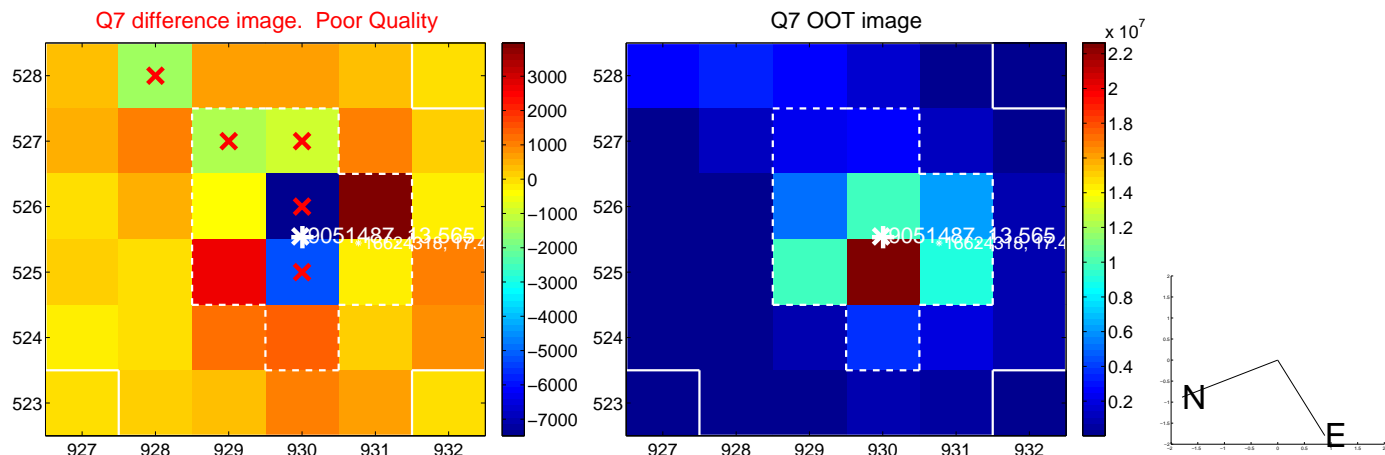
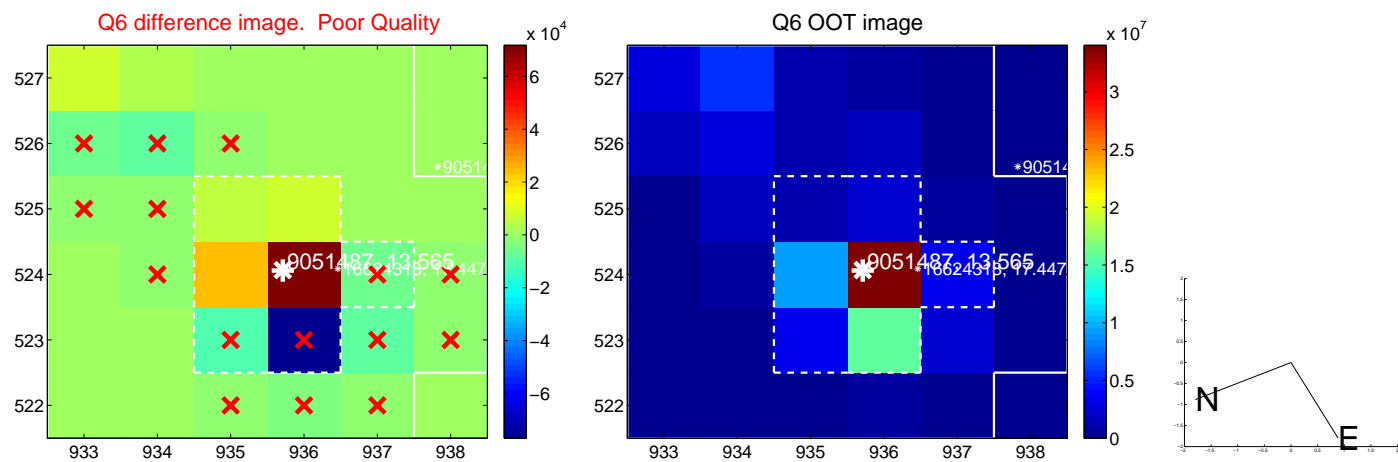
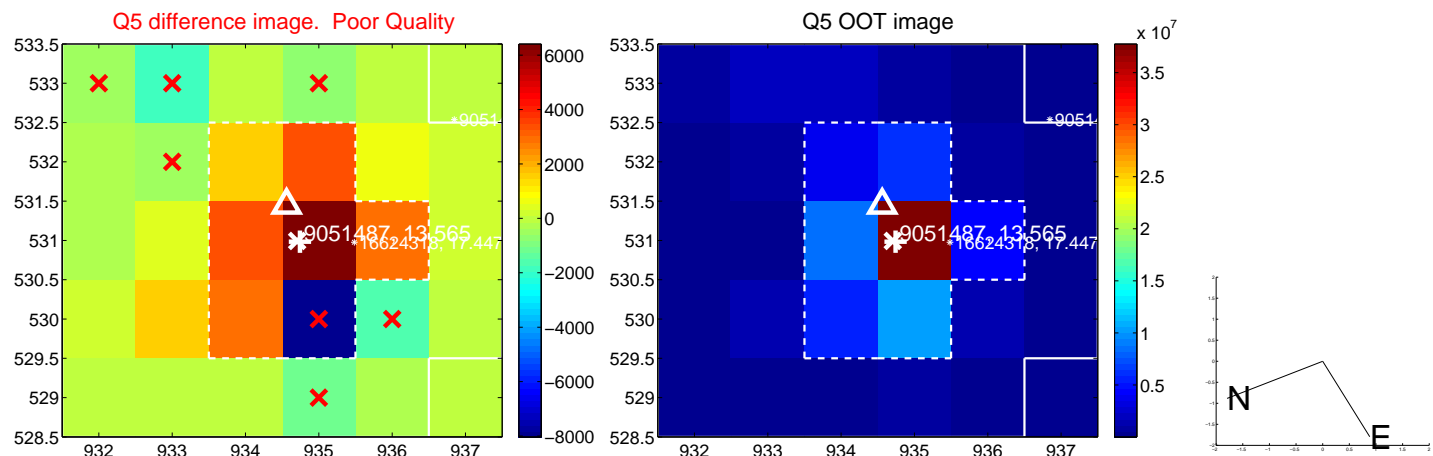


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

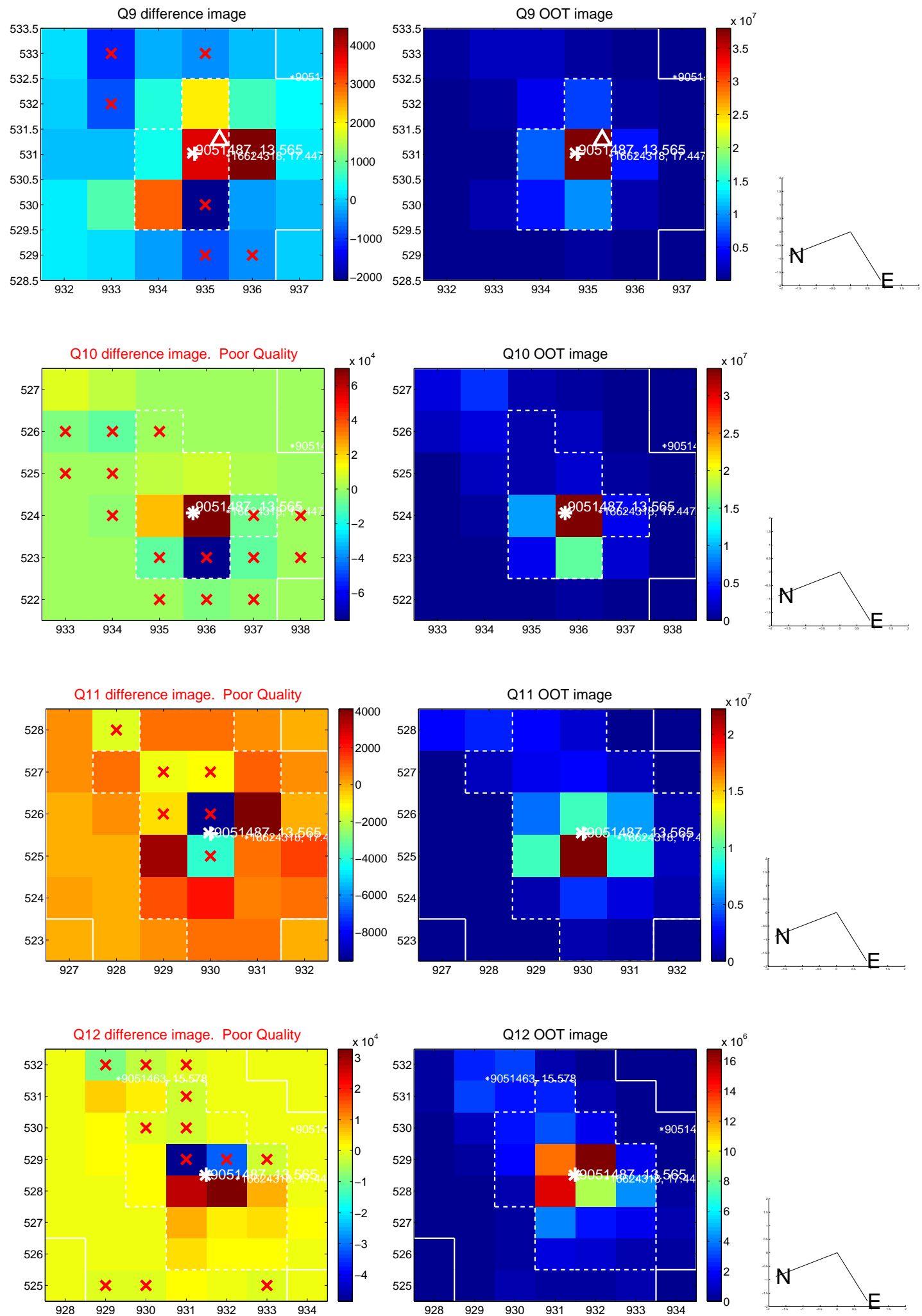
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



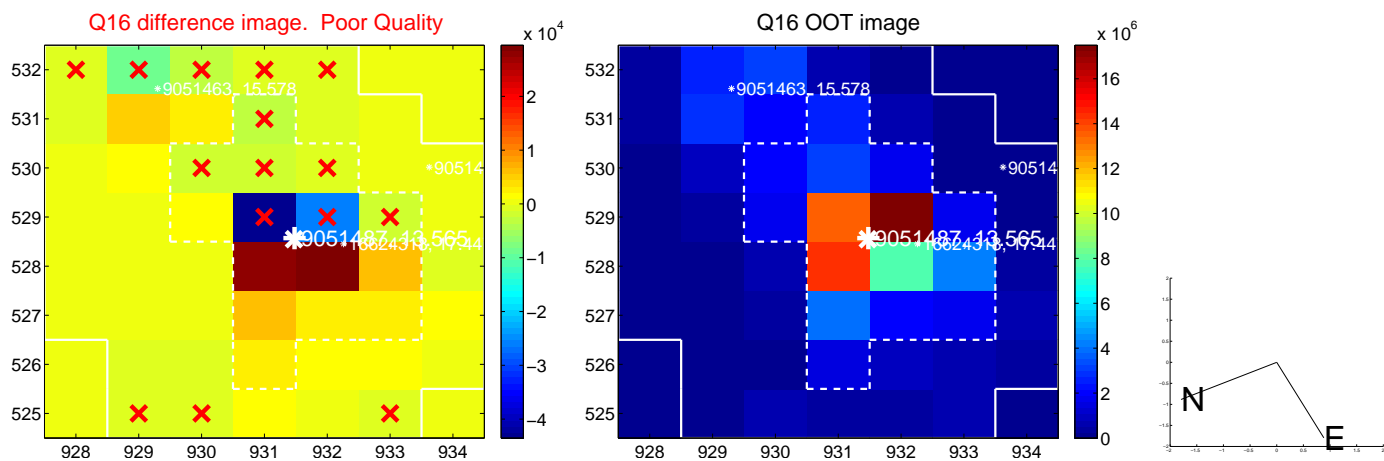
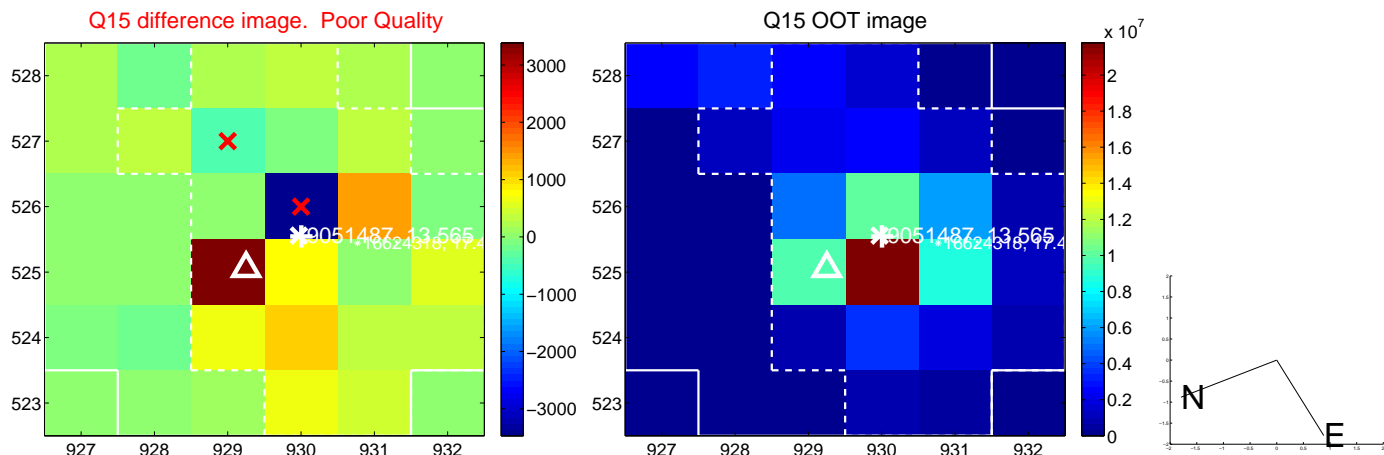
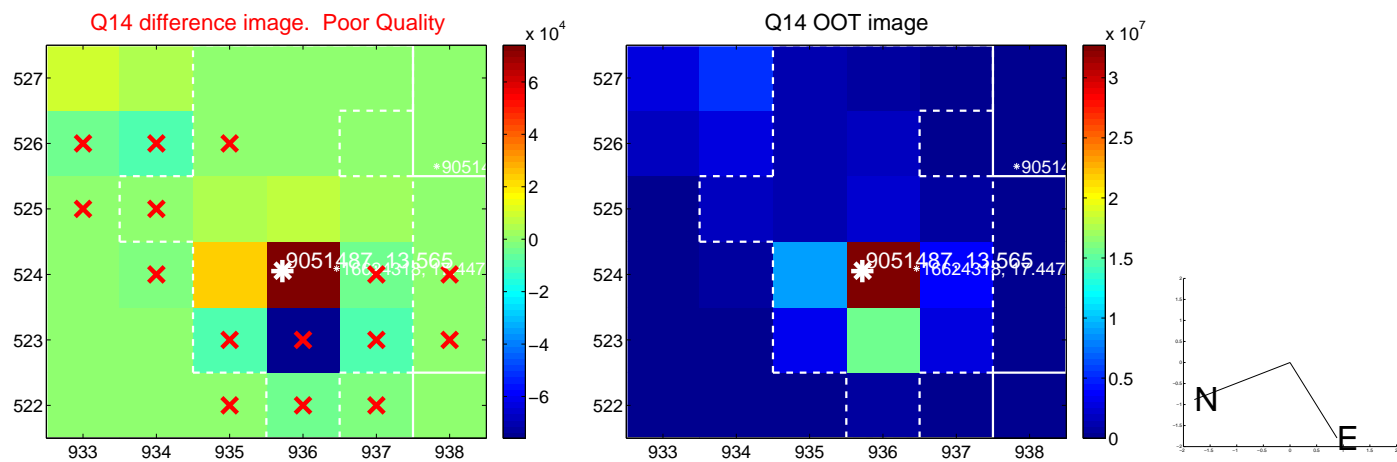
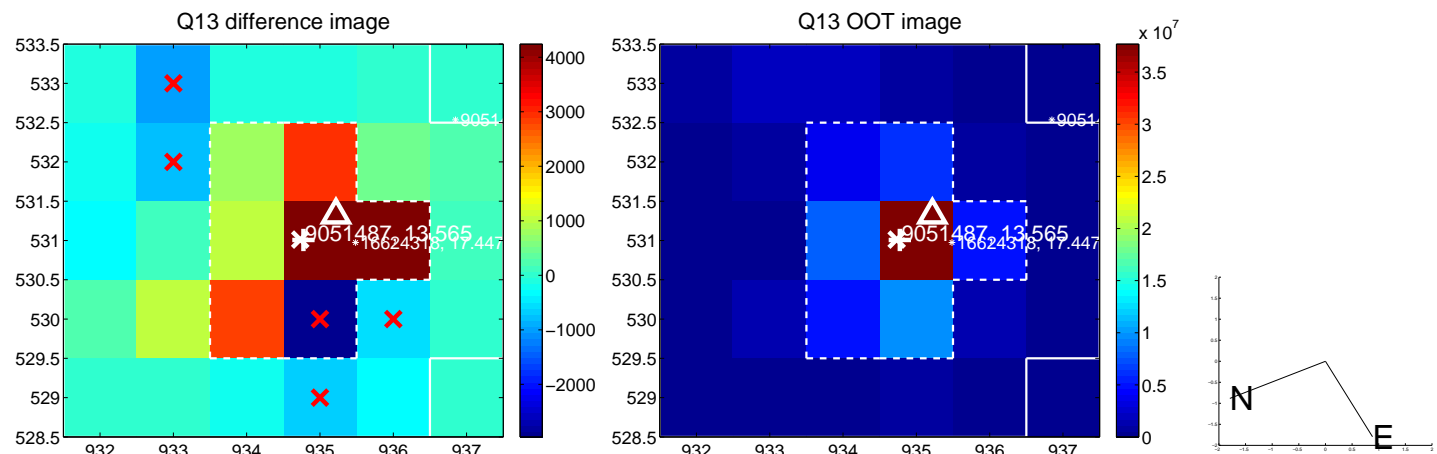
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



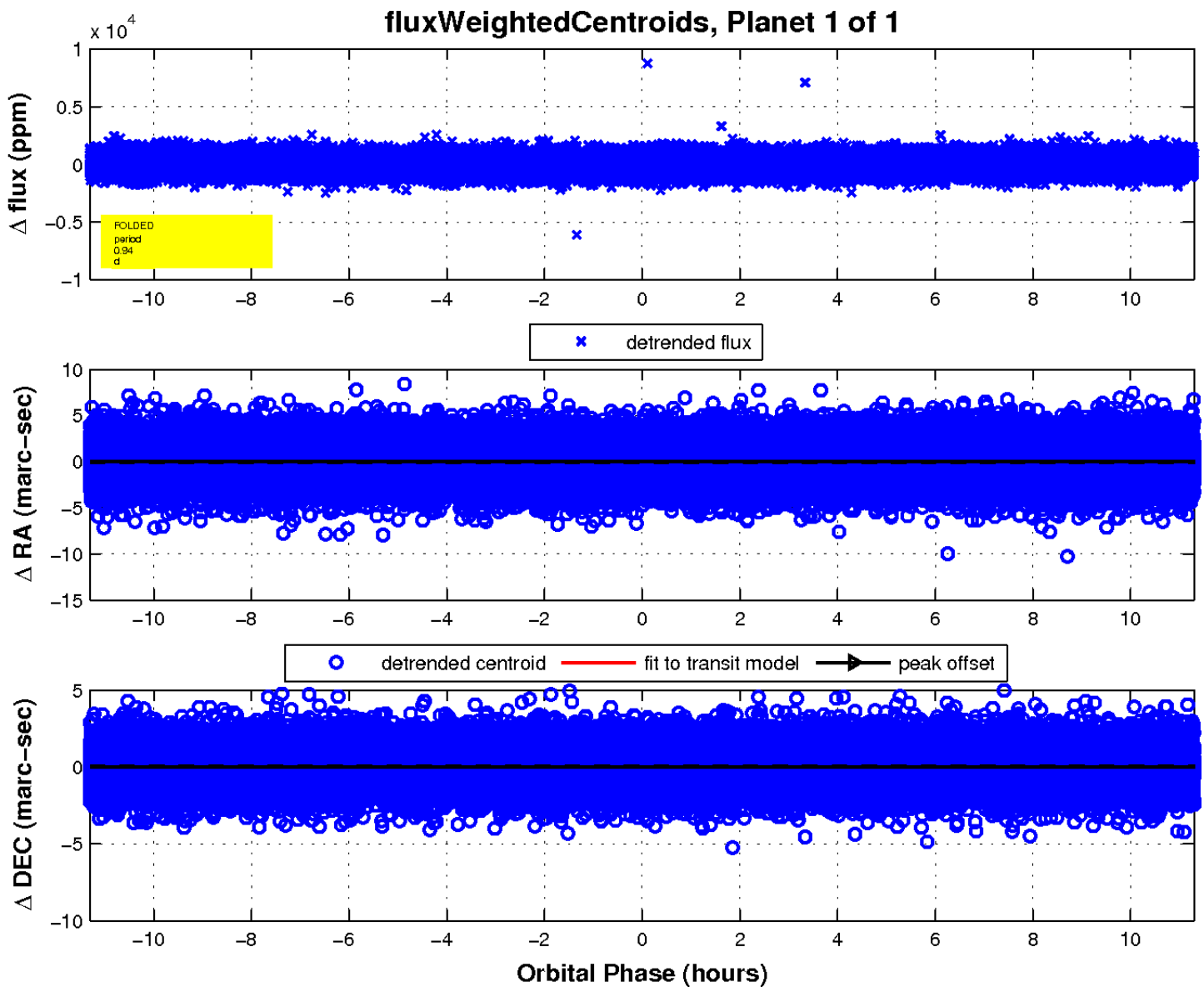
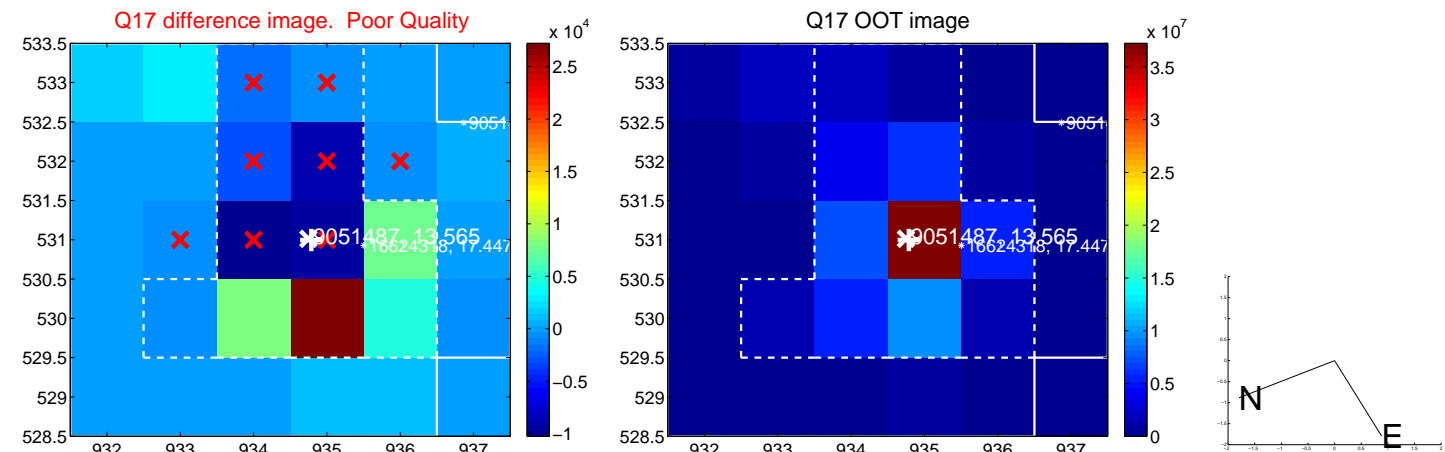
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



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



UKIRT Image

Declination

