

KIC 003942280

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})
003942280-01	OBS	No	0.603966	131.827738	12.6	0.995	7.7	4.3	2.21	9051	0.91	89521.11

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003942280-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

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

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

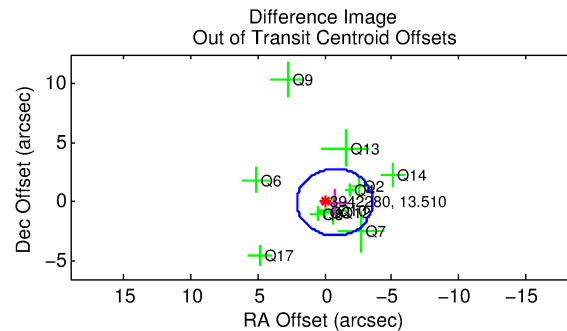
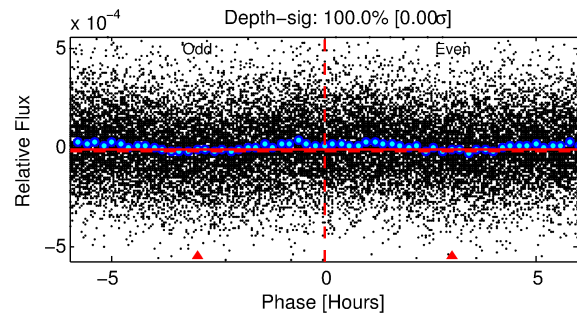
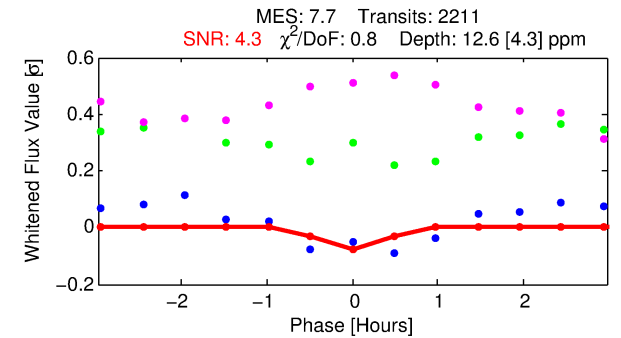
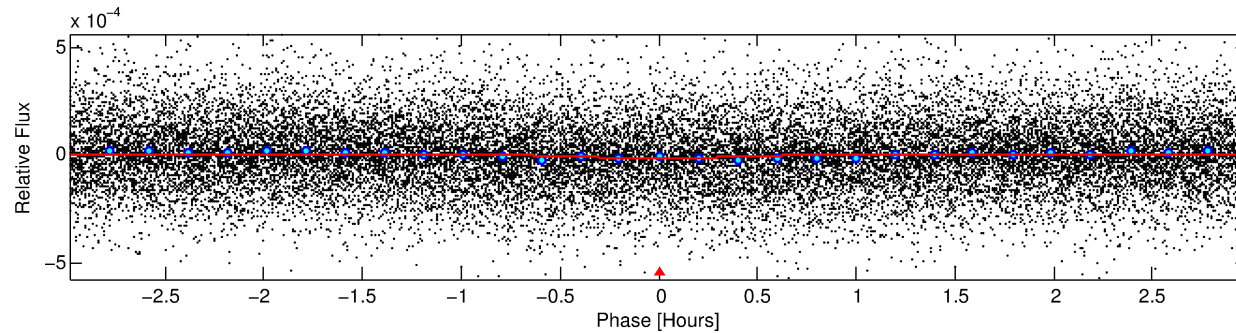
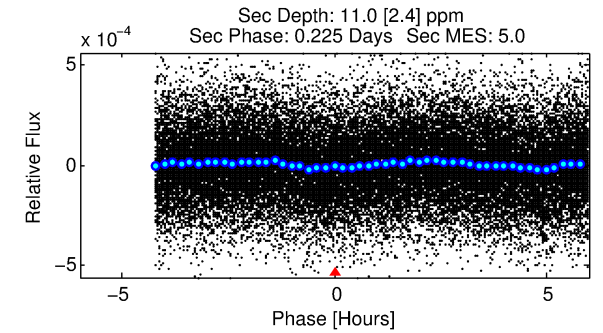
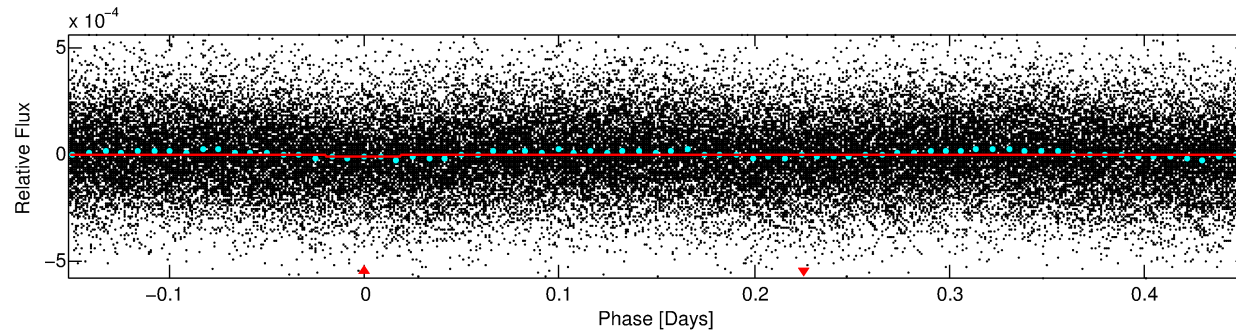
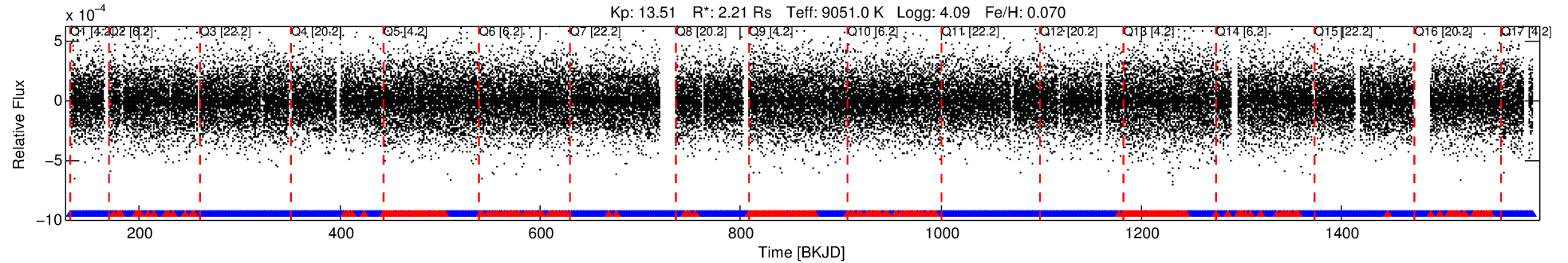
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 003942280-01

No Significant Match Found

DV One-Page Summary

KIC: 3942280 Candidate: 1 of 1 Period: 0.604 d



DV Fit Results:

Period = 0.60397 [0.00003] d
Epoch = 131.8277 [0.0040] BKJD
Rp/R* = 0.0038 [0.0011]
a/R* = 2.26 [3.29]
b = 0.90 [0.38]
Seff = 89521.11 [36081.27]
Teq = 4411 [444] K
Rp = 0.91 [0.40] Re
a = 0.0181 [0.0046] AU
Ag = 2.42 [1.75] [0.81σ]
Teffp = 8501 [1421] K [2.75σ]

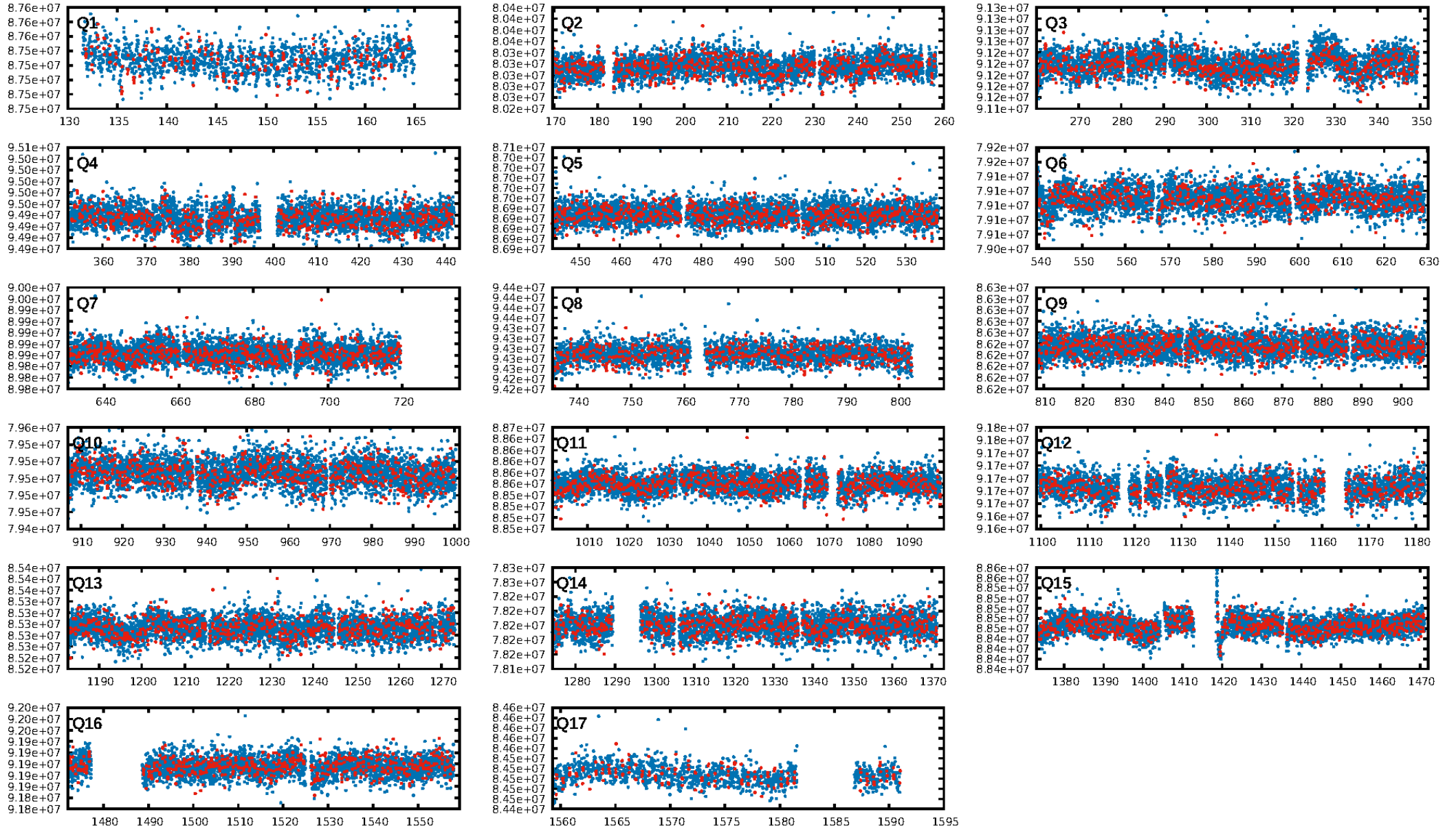
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.74e-14
RollingBand-fgt: 0.80 [1700/2112]
GhostDiagnostic-chr: 23.08
Centroid-sig: 5.2%
Centroid-so: 4.303 arcsec [1.29σ]
OotOffset-rm: 0.748 arcsec [0.79σ]
KicOffset-rm: 0.702 arcsec [0.83σ]
OotOffset-st: 4/2/3/3 [12]
KicOffset-st: 4/2/3/3 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 1.00 [17/17]

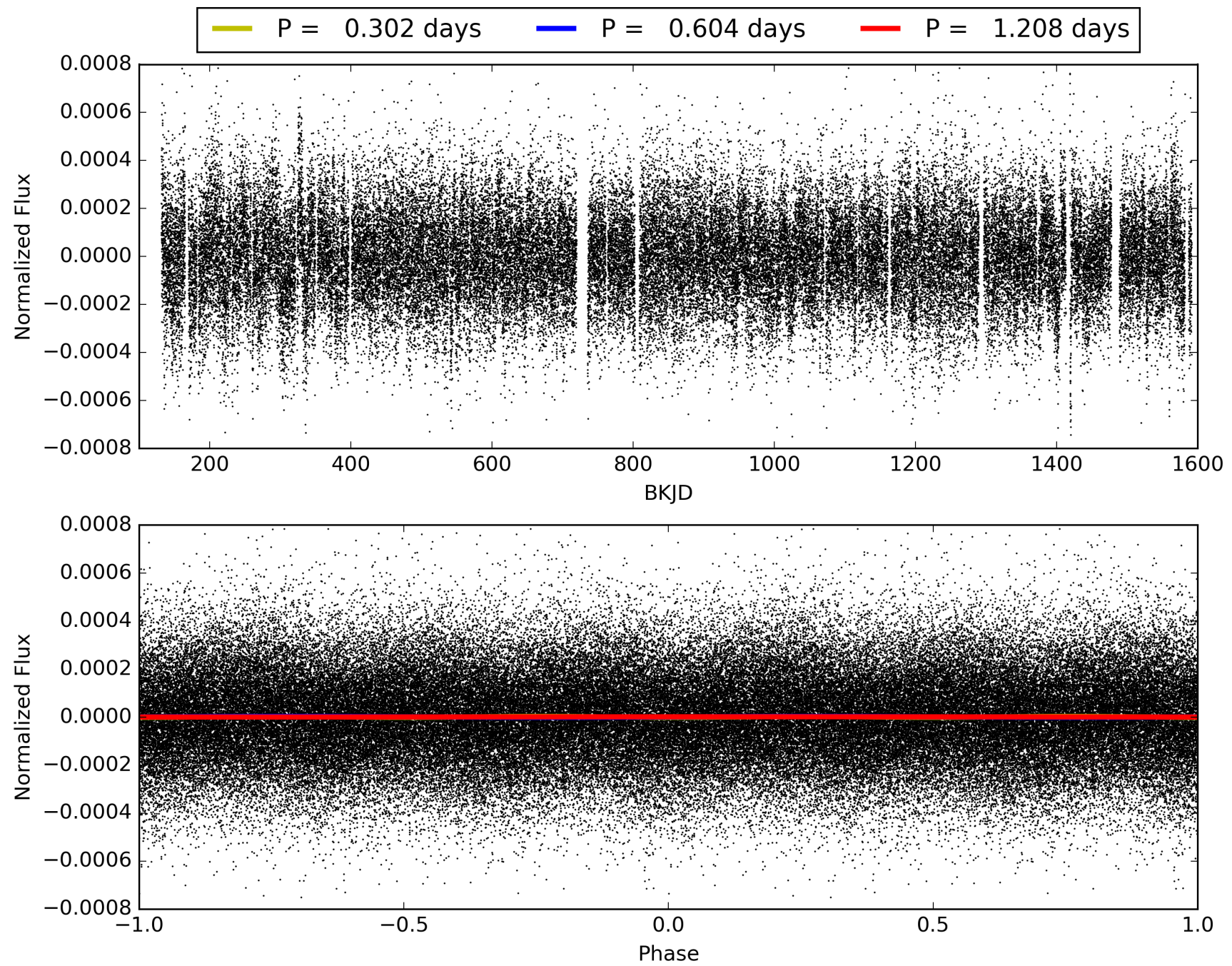
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:29:06 Z

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

TCE 003942280-01, PDC Light Curves

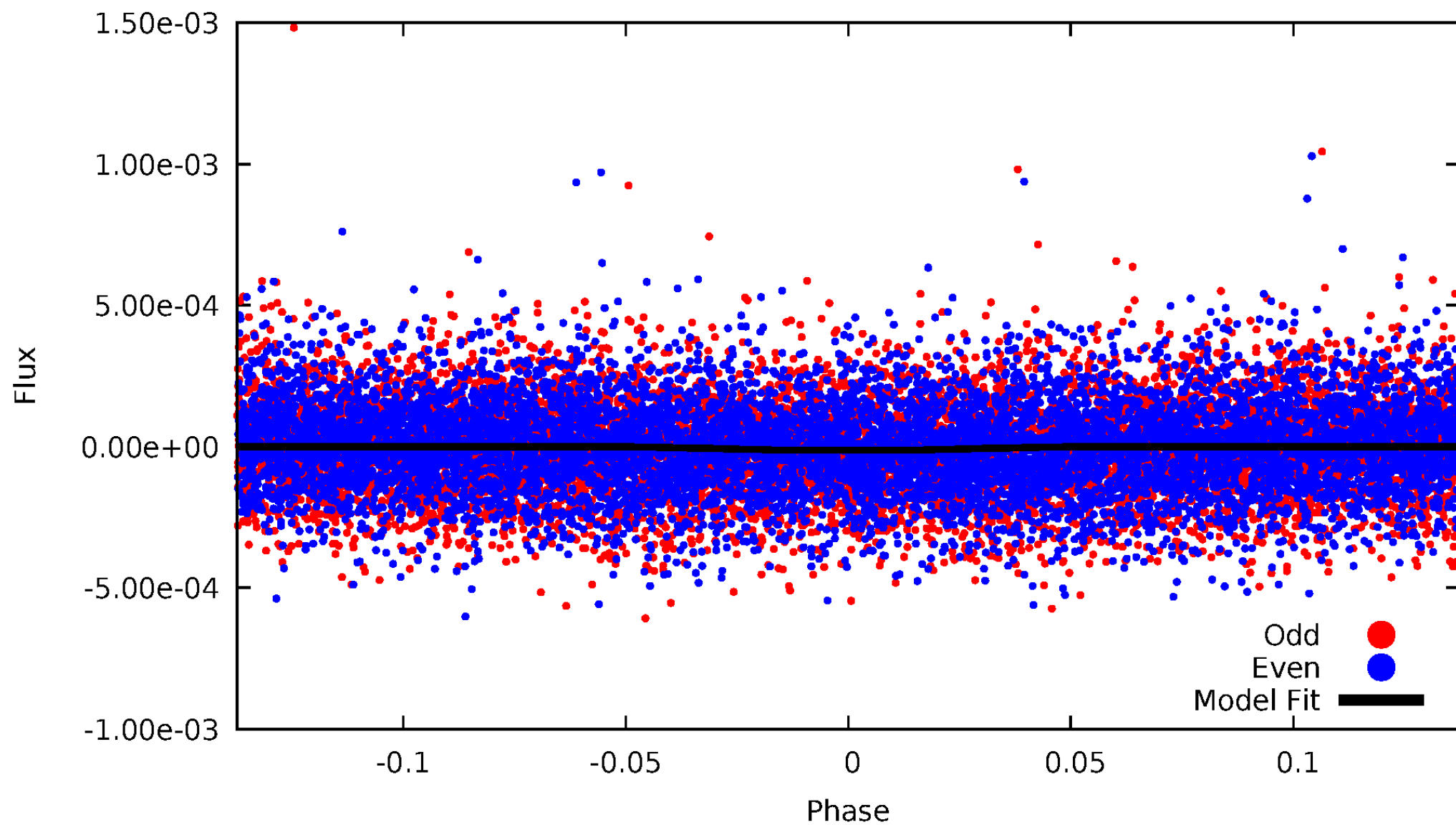


TCE 003942280-01



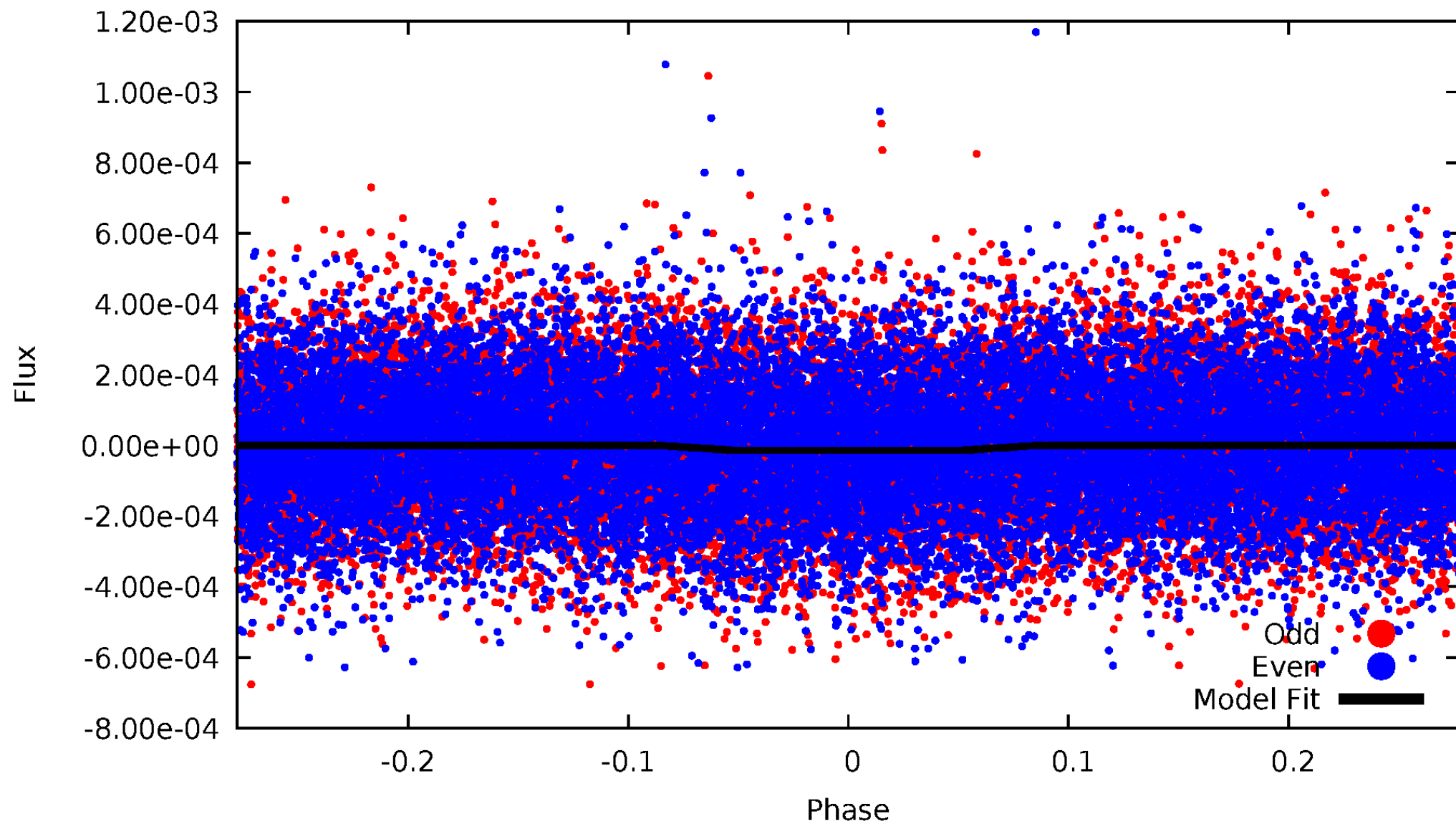
DV Odd/Even

TCE 003942280-01



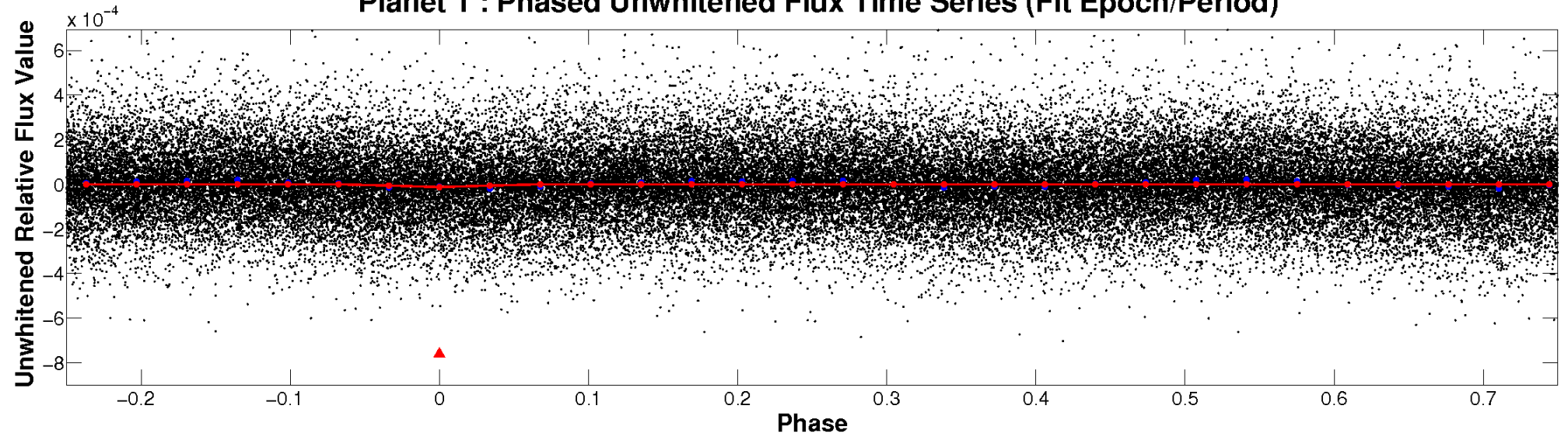
ALT Odd/Even

TCE 003942280-01

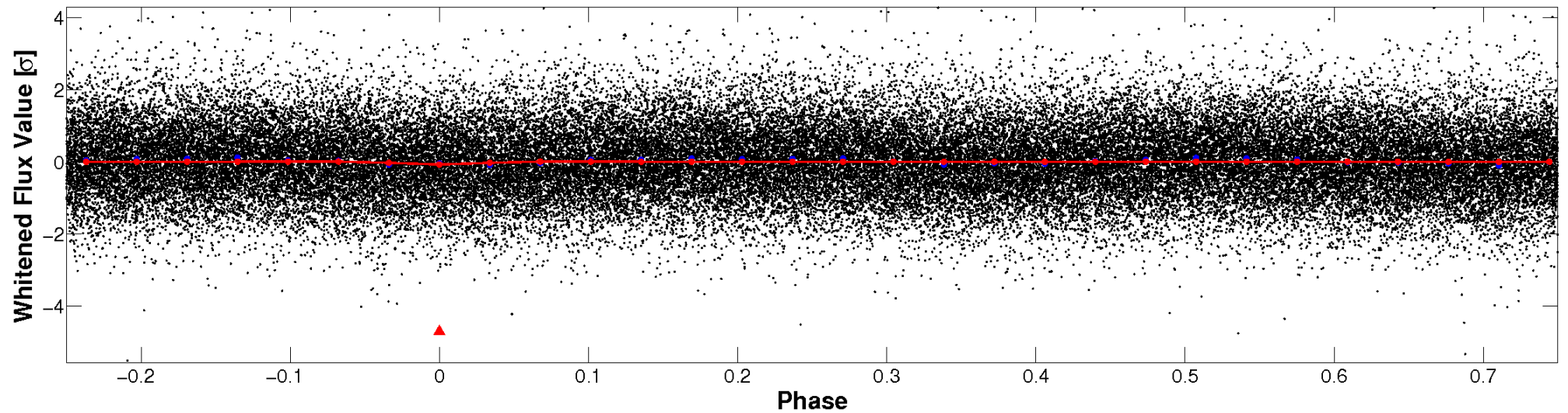


Non-Whitened Vs. Whitened Light Curve

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

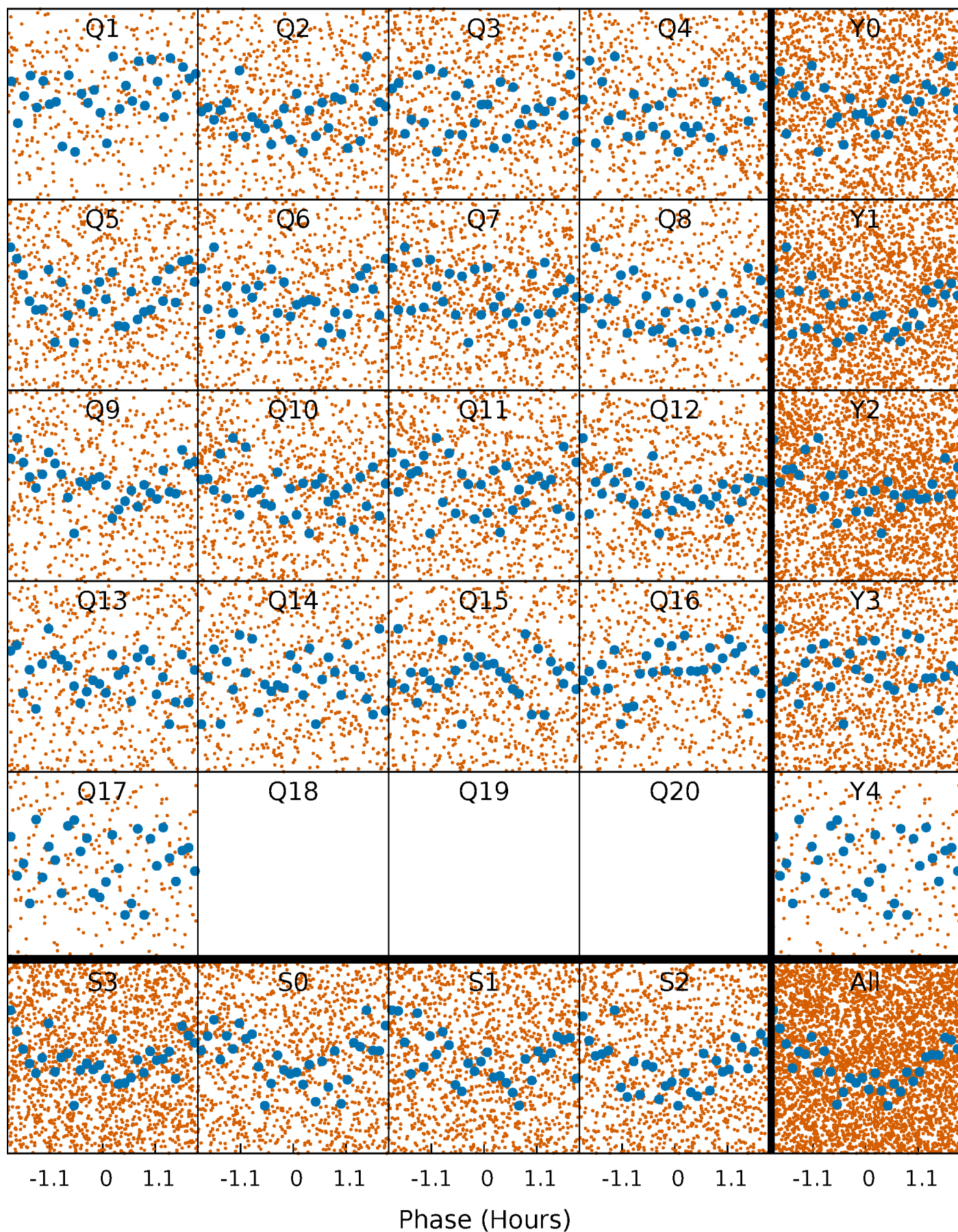


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



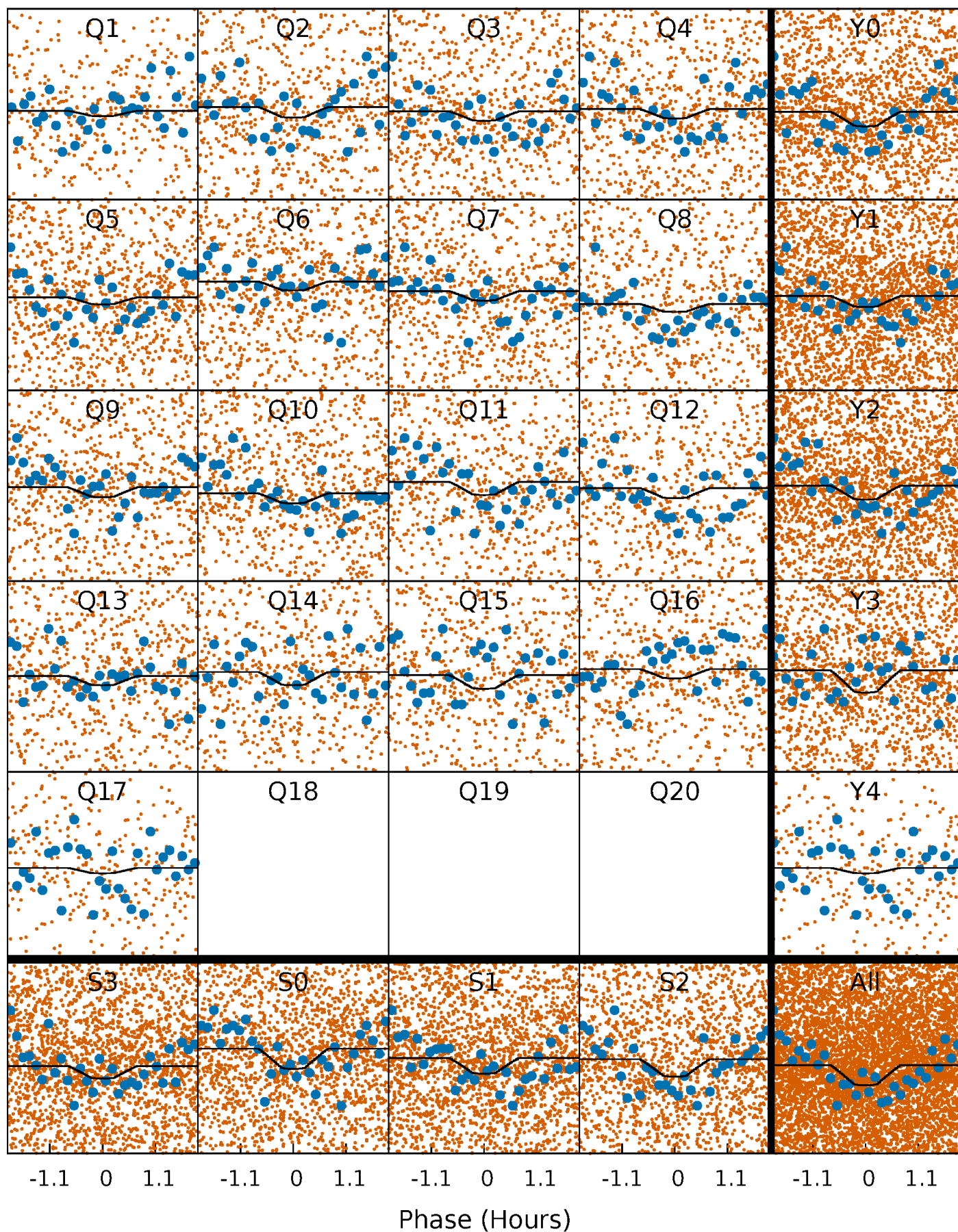
PDC Quarter-Phased Transit Curves

TCE 003942280-01 P= 0.603966 Days $T_0=131.827738$ (BKJD)



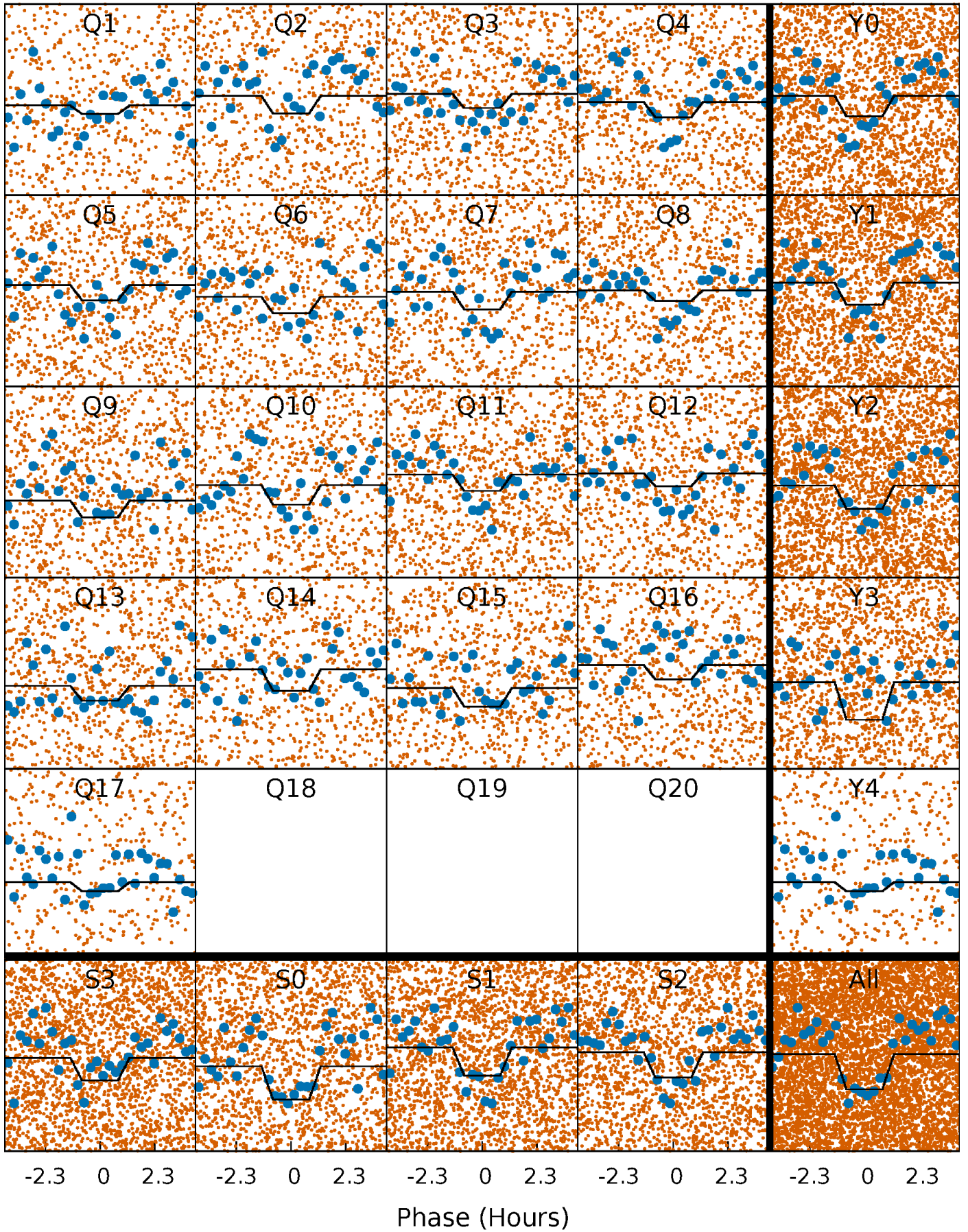
DV Quarter-Phased Transit Curves

TCE 003942280-01 P= 0.603966 Days $T_0=131.827738$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

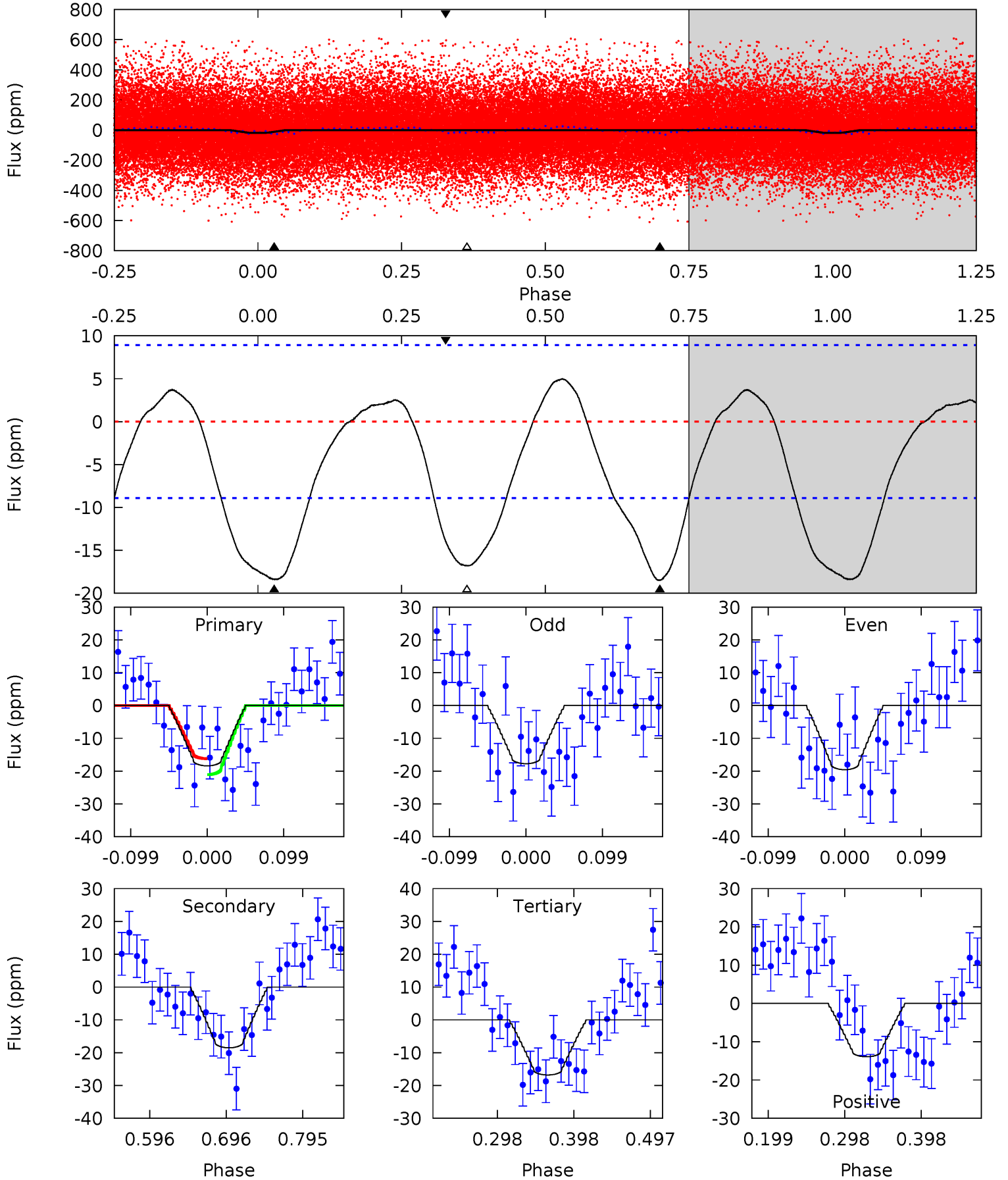
TCE 003942280-01 P= 0.603975 Days $T_0=131.827798$ (BKJD)



DV Model-Shift Uniqueness Test

003942280-01, P = 0.603966 Days, E = 131.223772 Days

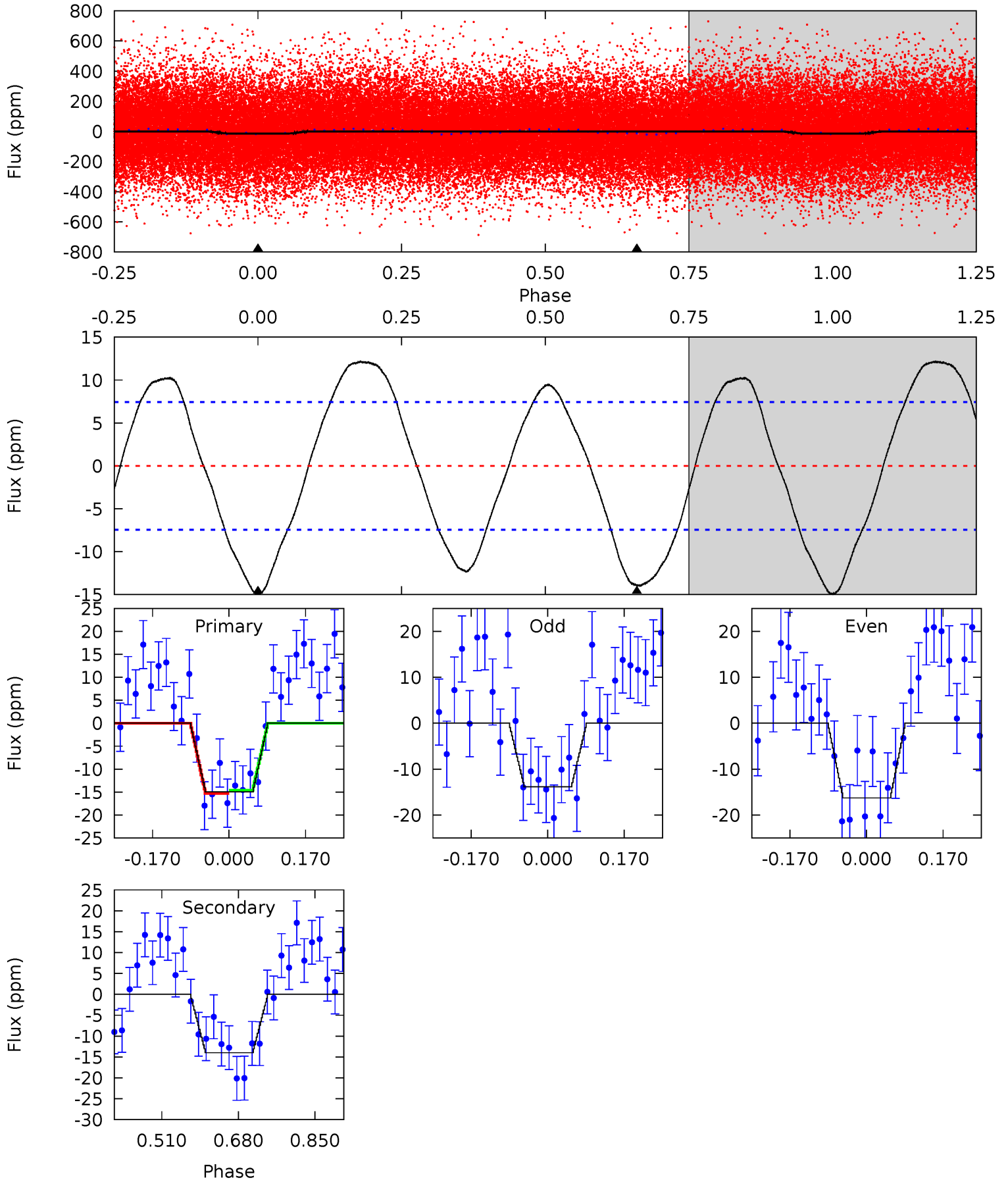
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.43	9.49	8.61	-7.13	4.57	1.65	3.39	0.82	16.6	0.88	16.6	0.47	1.00	0.21	1.25



Alt Model-Shift Uniqueness Test

003942280-01, P = 0.603975 Days, E = 131.223823 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.96	8.37	0	0	4.45	1.37	4.93	8.96	8.96	8.37	8.37	0.72	1.02	0.45	0.21



Stellar Parameters For KIC 003942280

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9051^{+251}_{-466}	$4.086^{+0.144}_{-0.176}$	$0.070^{+0.150}_{-0.650}$	$2.210^{+0.719}_{-0.588}$	$2.170^{+0.372}_{-0.605}$	$0.283^{+0.268}_{-0.139}$
	+3%/-5%	+4%/-4%	+214%/-929%	+33%/-27%	+17%/-28%	+95%/-49%
Source	KIC0	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 003942280-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-19 ± 2	$0.91^{+0.35}_{-0.29}$	6176^{+457}_{-436}	9588^{+3361}_{-1769}	$3.932^{+4.356}_{-1.832}$
Alt.	-14 ± 2	$0.90^{+0.32}_{-0.28}$	6170^{+489}_{-439}	8668^{+3047}_{-1628}	$2.996^{+3.385}_{-1.349}$

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

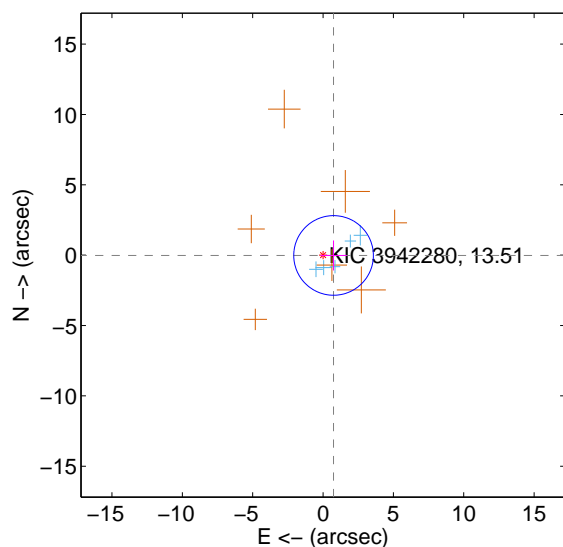
Supplemental centroid analysis for 003942280-01. Kepler magnitude: 13.51. Transit SNR 4.32

There are 5 quarters with good PRF difference image offsets

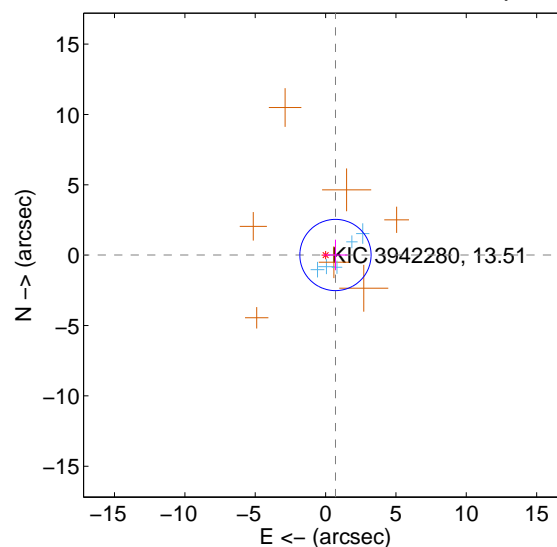
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.748 ± 0.943	0.79	-0.748 ± 0.940	-0.019 ± 1.066
PRF-fit source offset from KIC position	0.702 ± 0.844	0.83	-0.702 ± 0.846	0.013 ± 1.086
photometric centroid source offset	4.30 ± 3.34	1.29	-1.57 ± 3.02	-4.01 ± 3.39

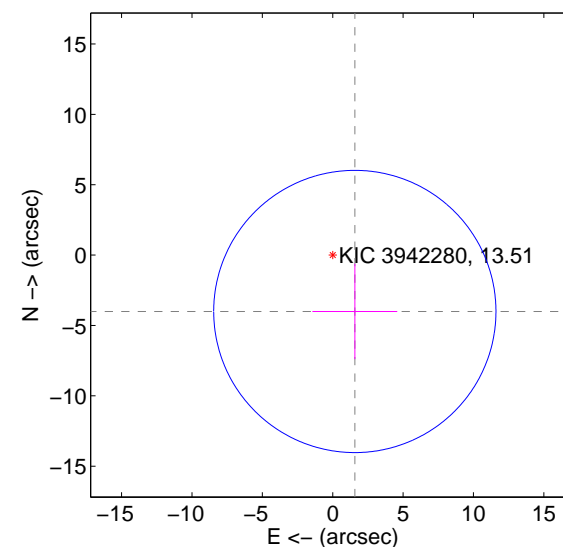
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

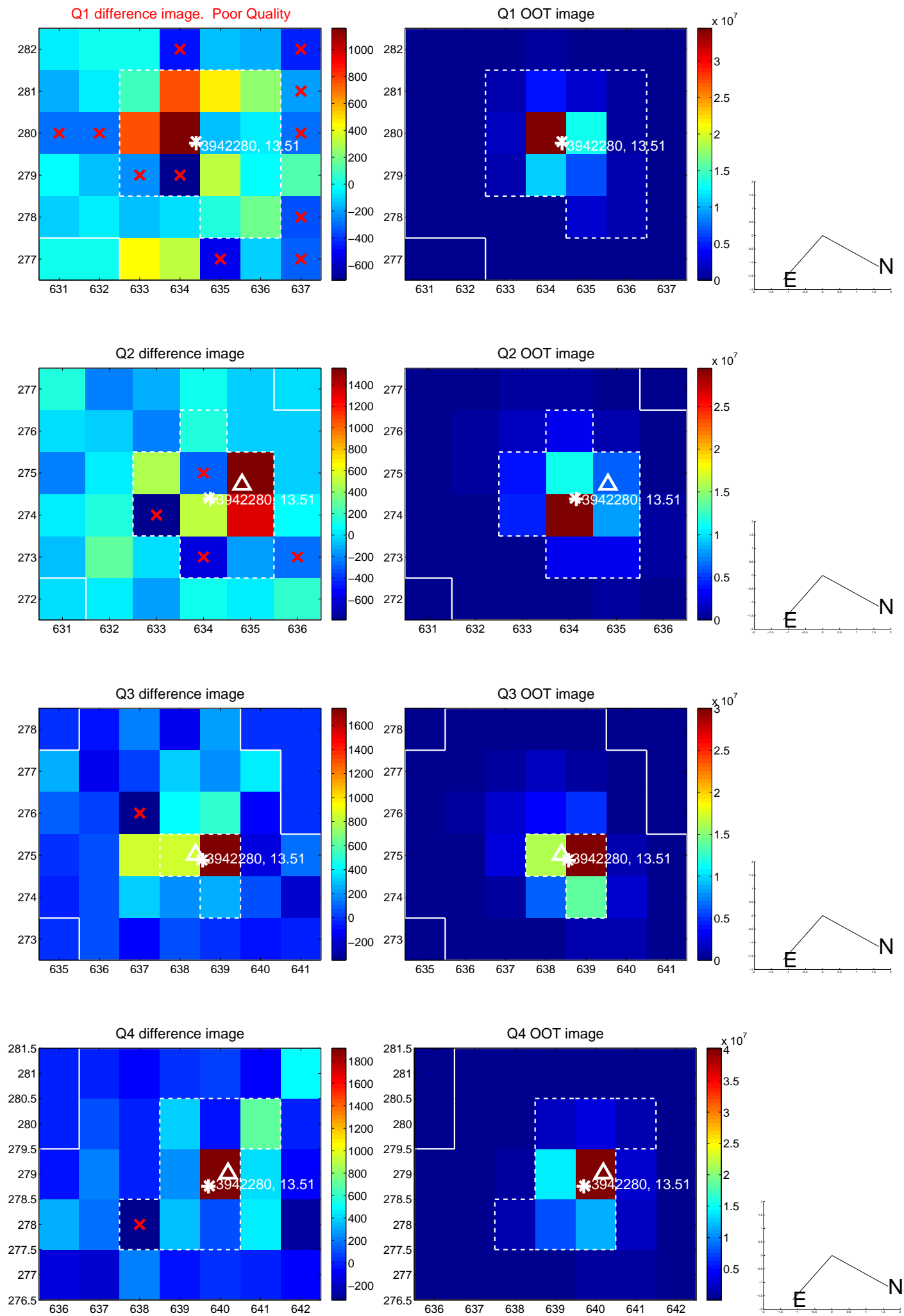


offset from photometric centroids

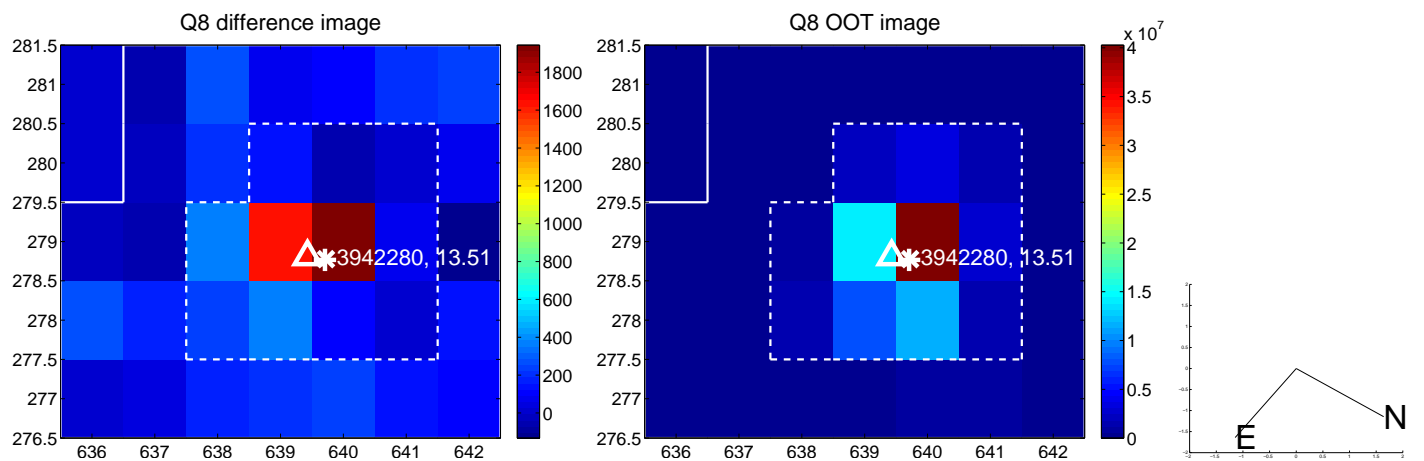
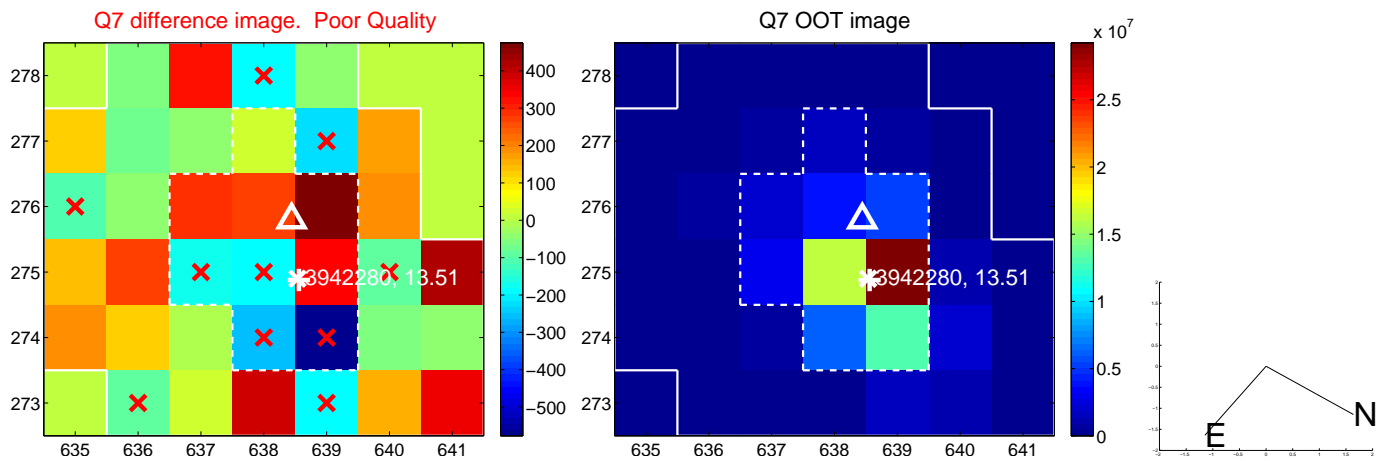
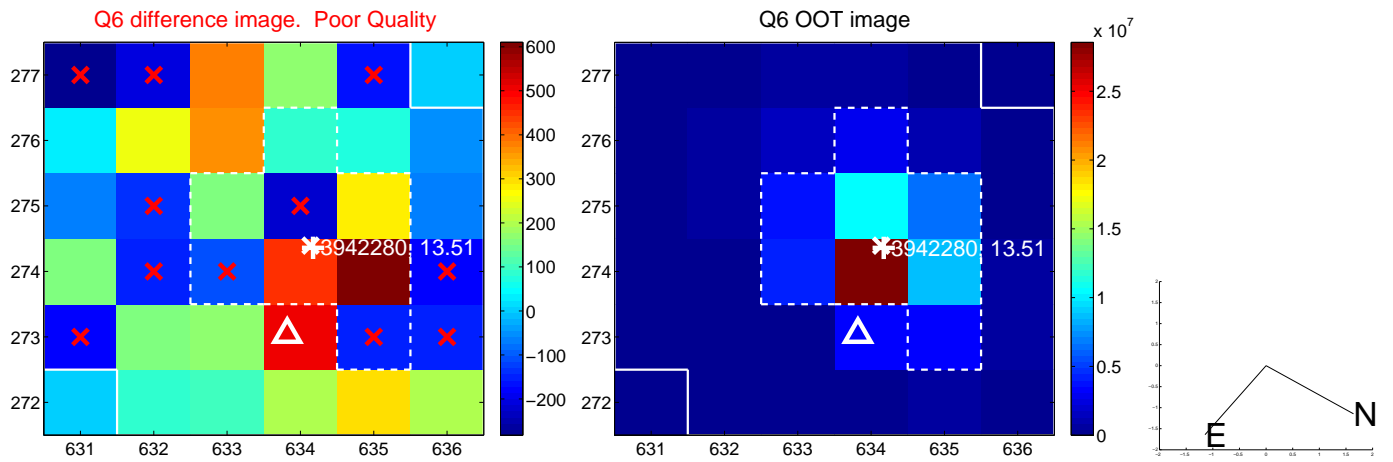
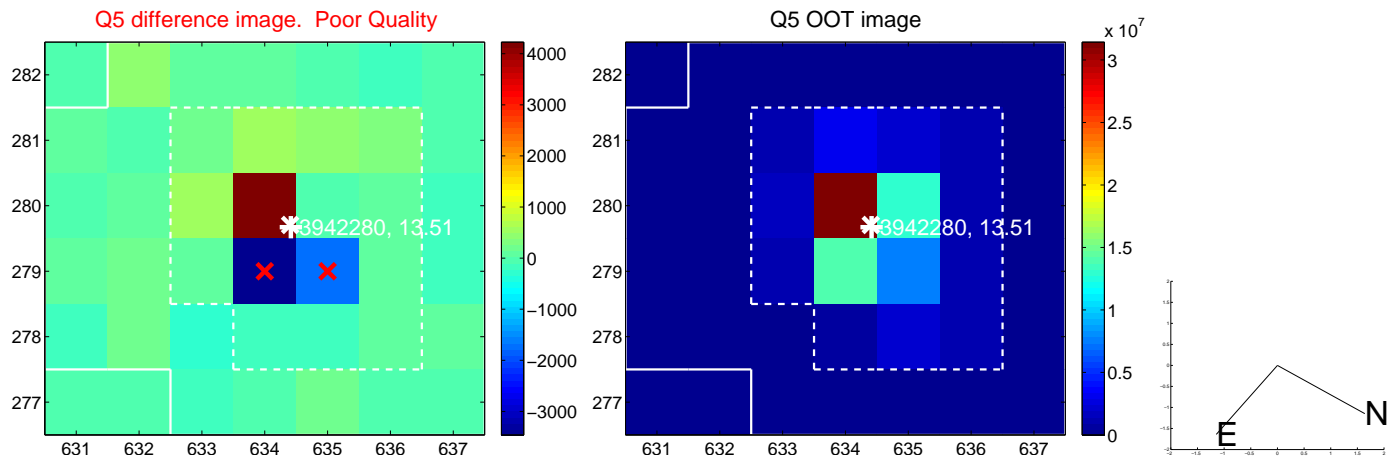


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

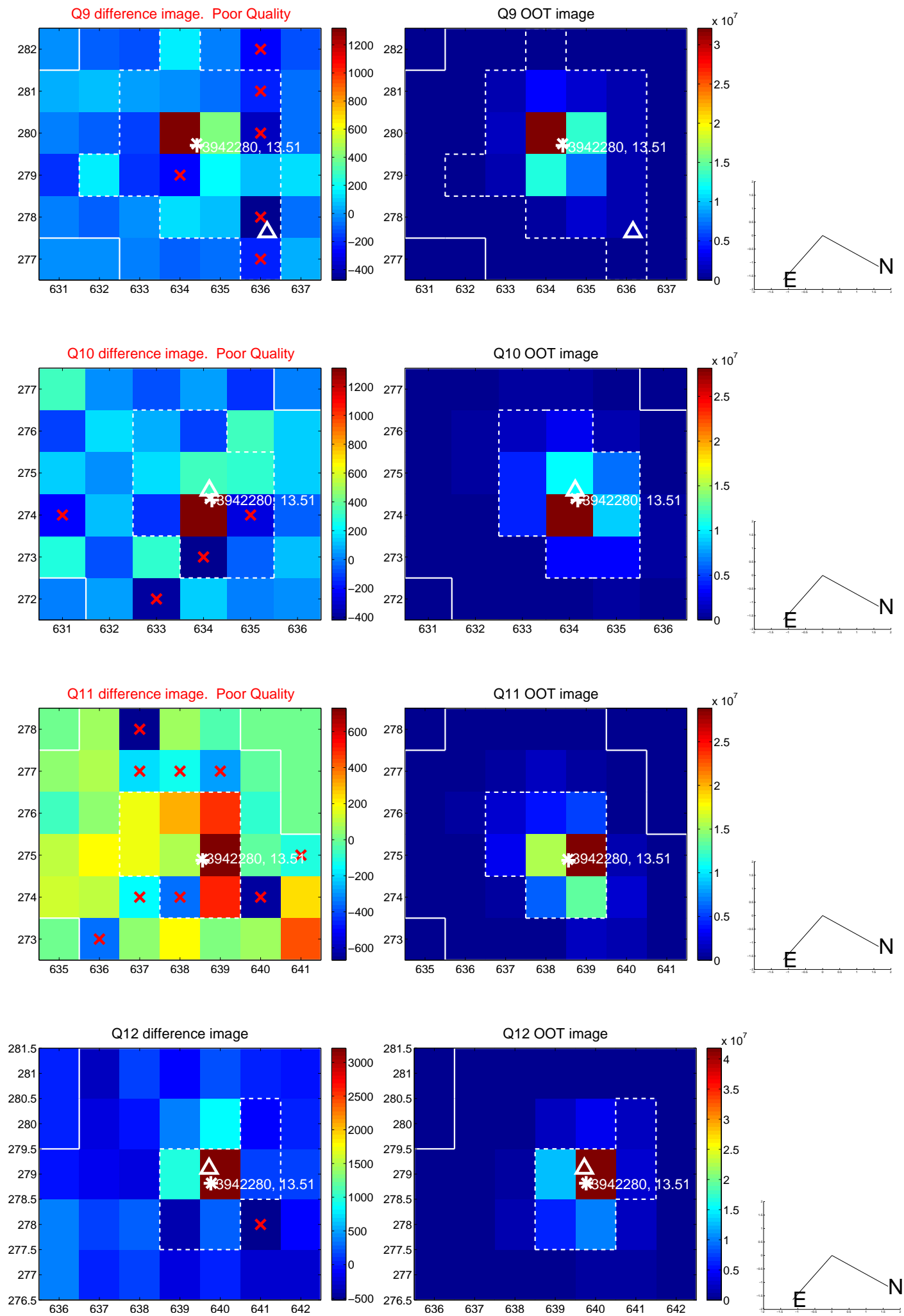
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



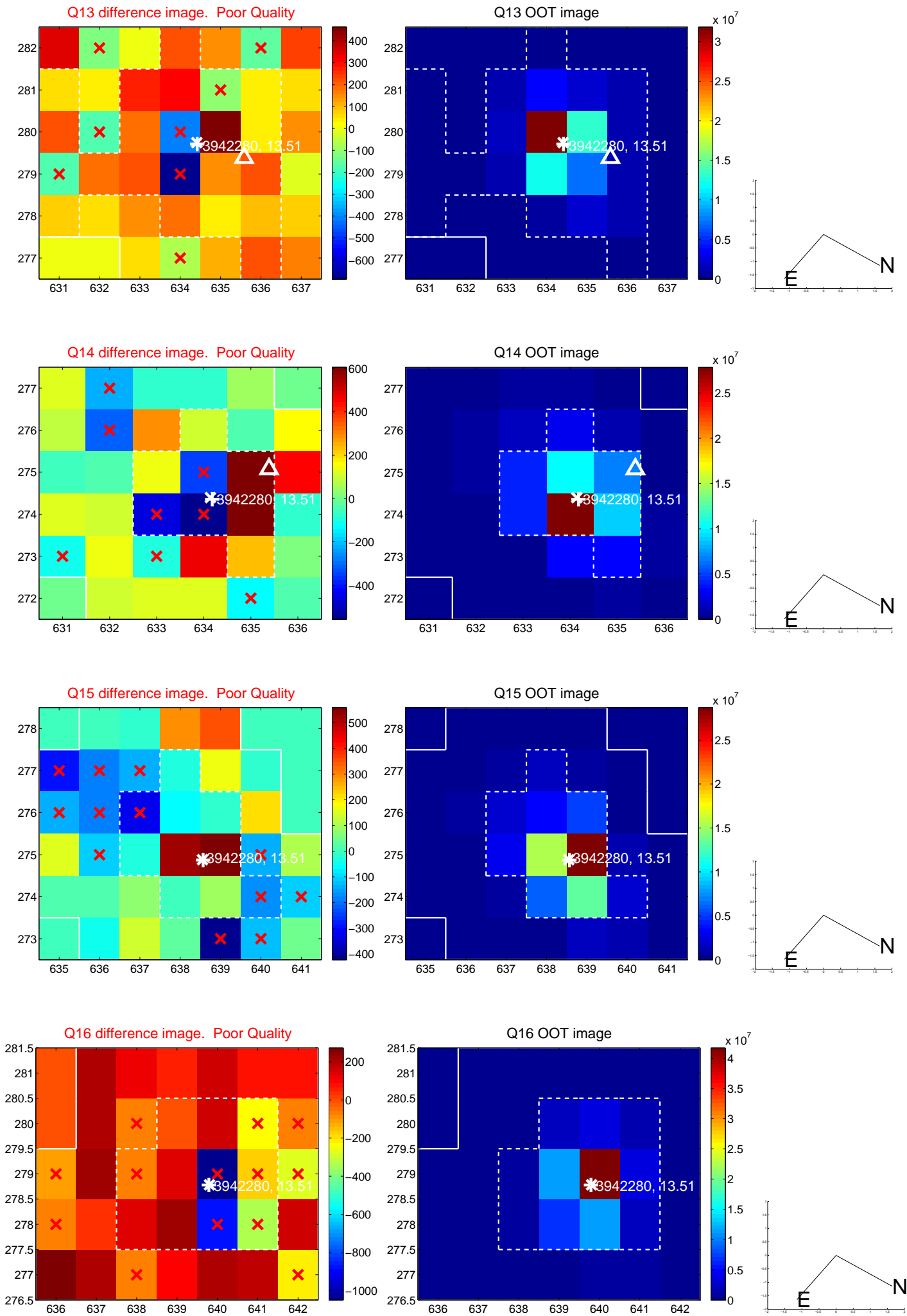
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



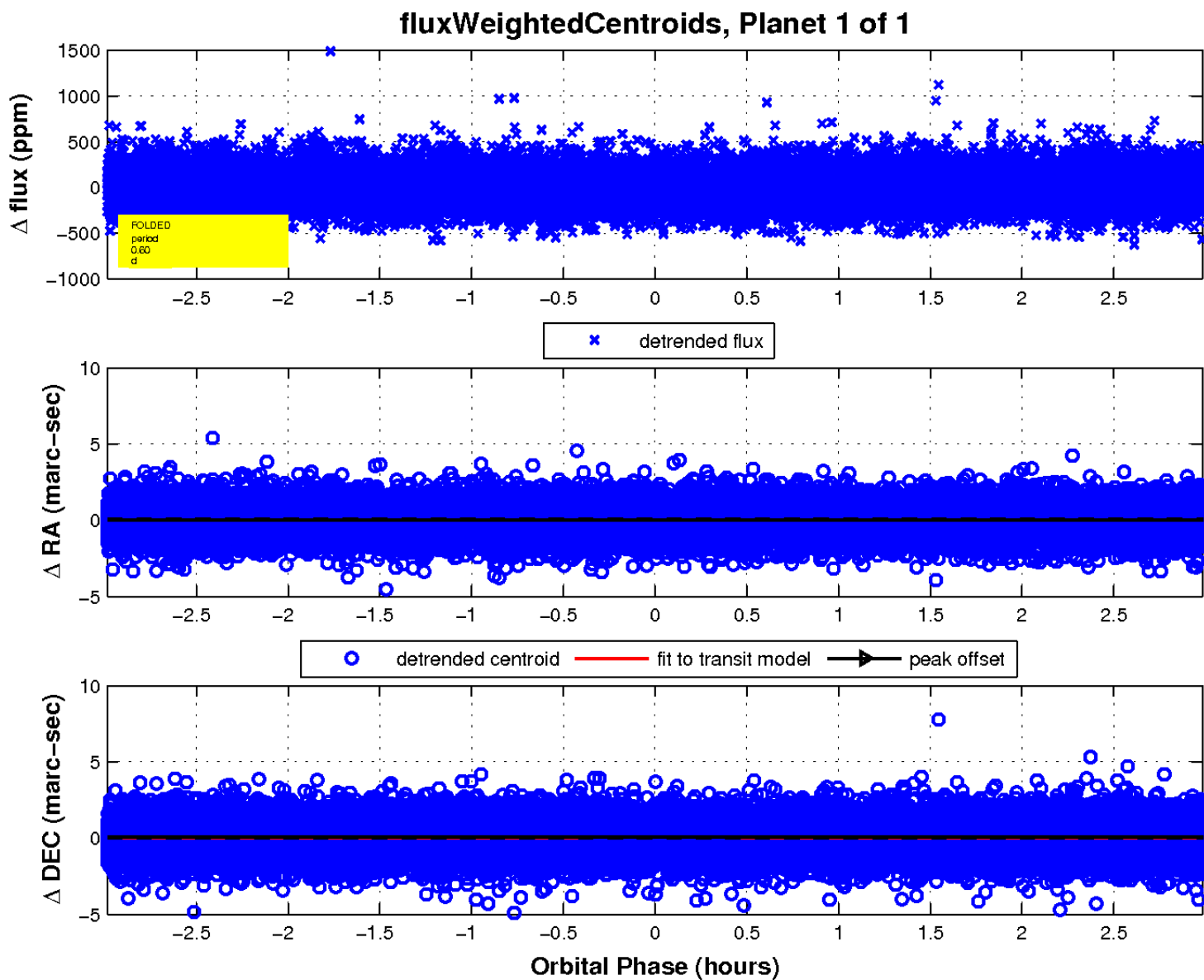
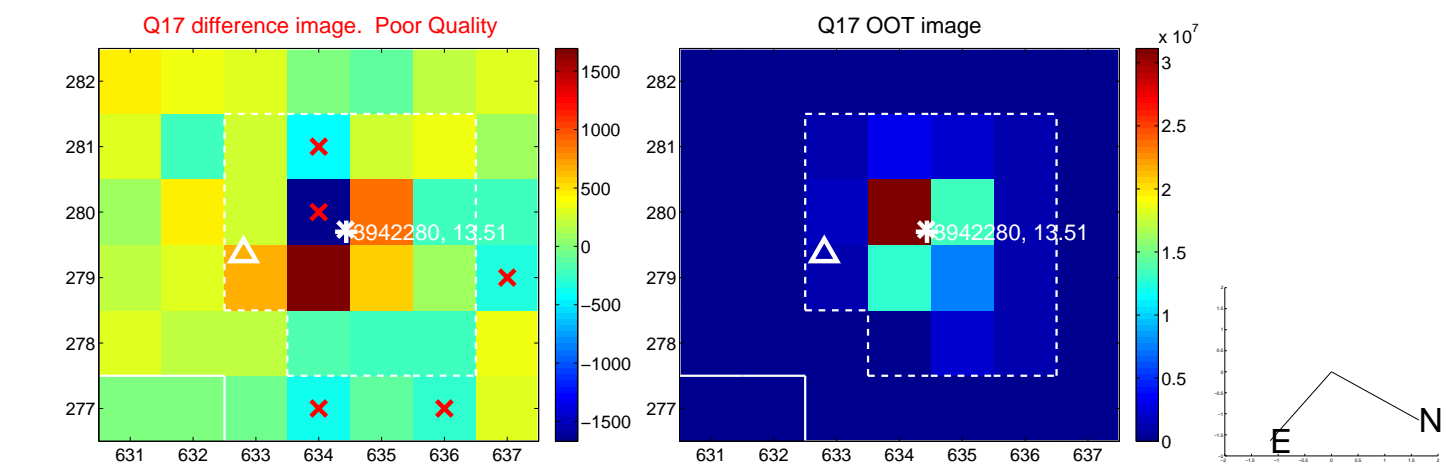
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

