

KIC 004482231

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})
004482231-01	OBS	No	1.240548	132.699895	64.9	9.654	11.1	11.7	2.07	8313	1.69	24458.00

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004482231-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

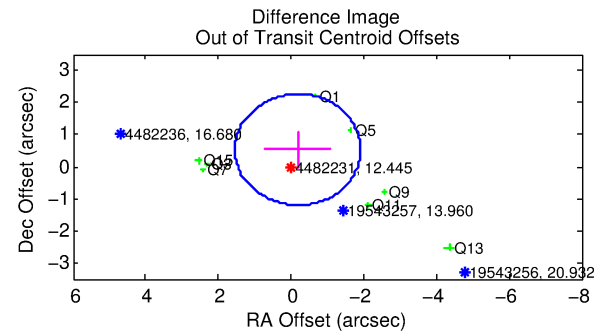
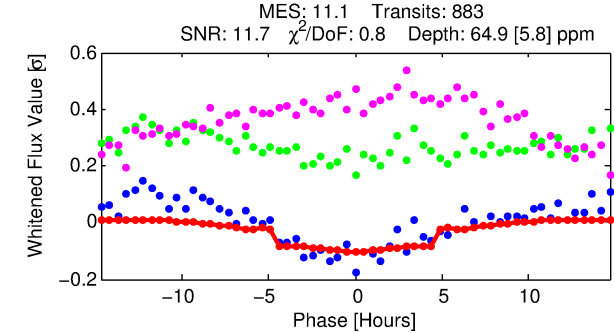
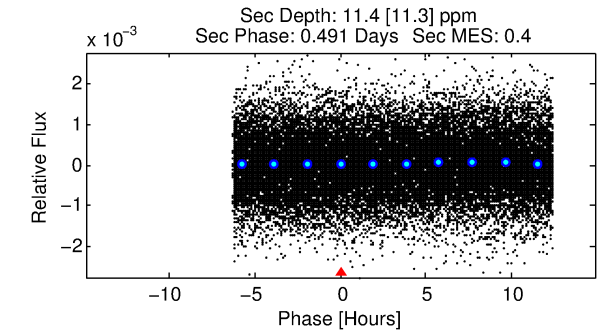
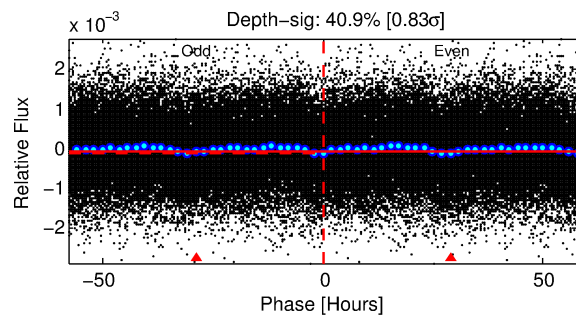
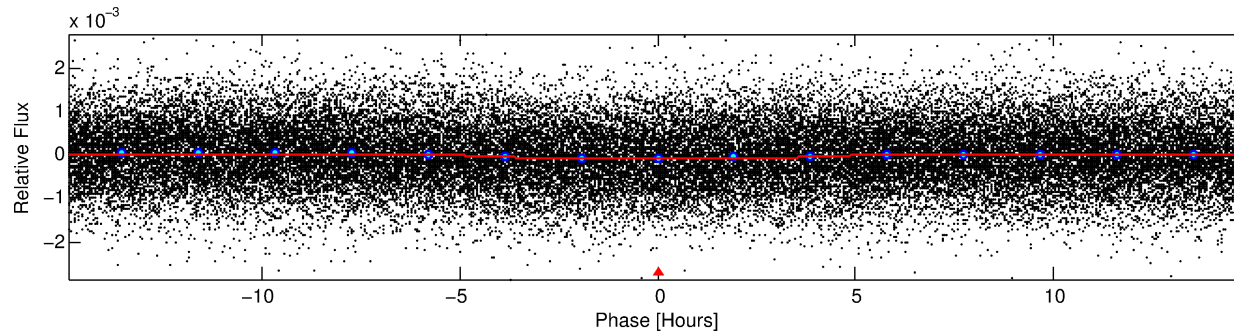
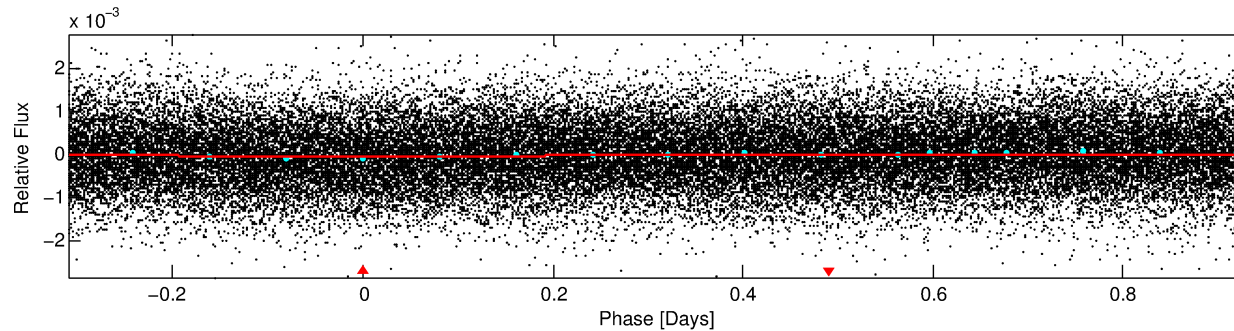
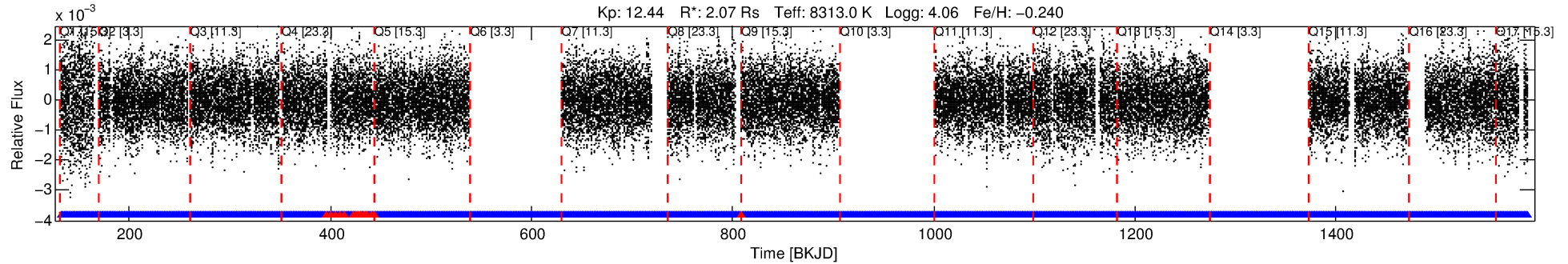
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004482231-01

No Significant Match Found

DV One-Page Summary

KIC: 4482231 Candidate: 1 of 1 Period: 1.241 d



DV Fit Results:

Period = 1.24055 [0.00002] d
Epoch = 132.6999 [0.0065] BKJD
Rp/R* = 0.0075 [0.0086]
a/R* = 1.18 [2.25]
b = 0.09 [72.99]
Seff = 24458.00 [5339.41]
Teq = 3189 [174] K
Rp = 1.69 [1.96] Re
a = 0.0274 [0.0039] AU
Ag = 1.66 [4.17] [0.16 σ]
Teffp = 5594 [3507] K [0.68 σ]

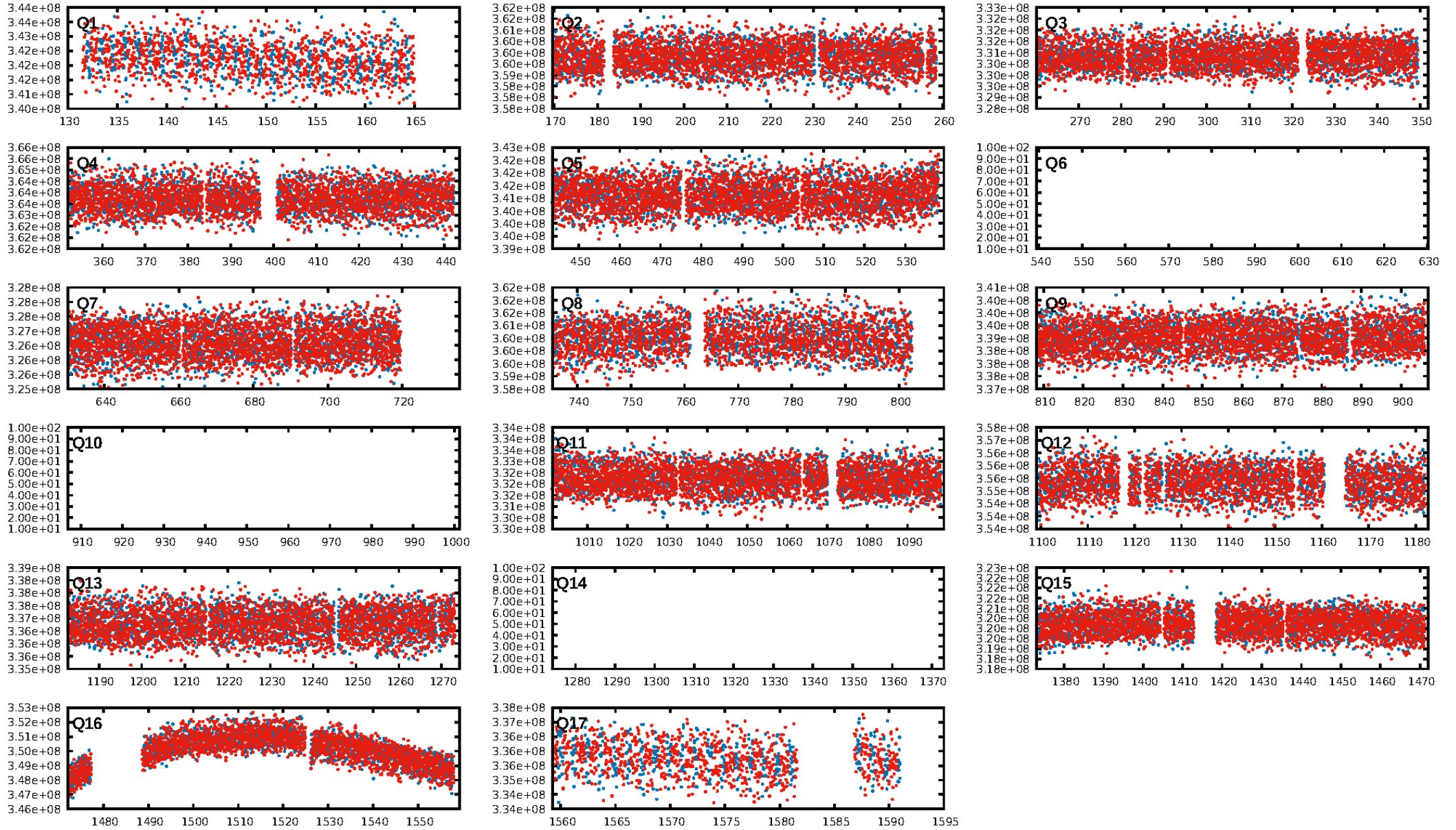
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.86e-25
RollingBand-fgt: 0.98 [815/832]
GhostDiagnostic-chr: 2.434
Centroid-sig: 0.0%
Centroid-so: 1.337 arcsec [4.67 σ]
OotOffset-rm: 0.559 arcsec [0.97 σ]
KicOffset-rm: 0.613 arcsec [0.96 σ]
OotOffset-st: 0/4/0/4 [8]
KicOffset-st: 0/4/0/4 [8]
DiffImageQuality-fgm: 0.62 [5/8]
DiffImageOverlap-fno: 1.00 [14/14]

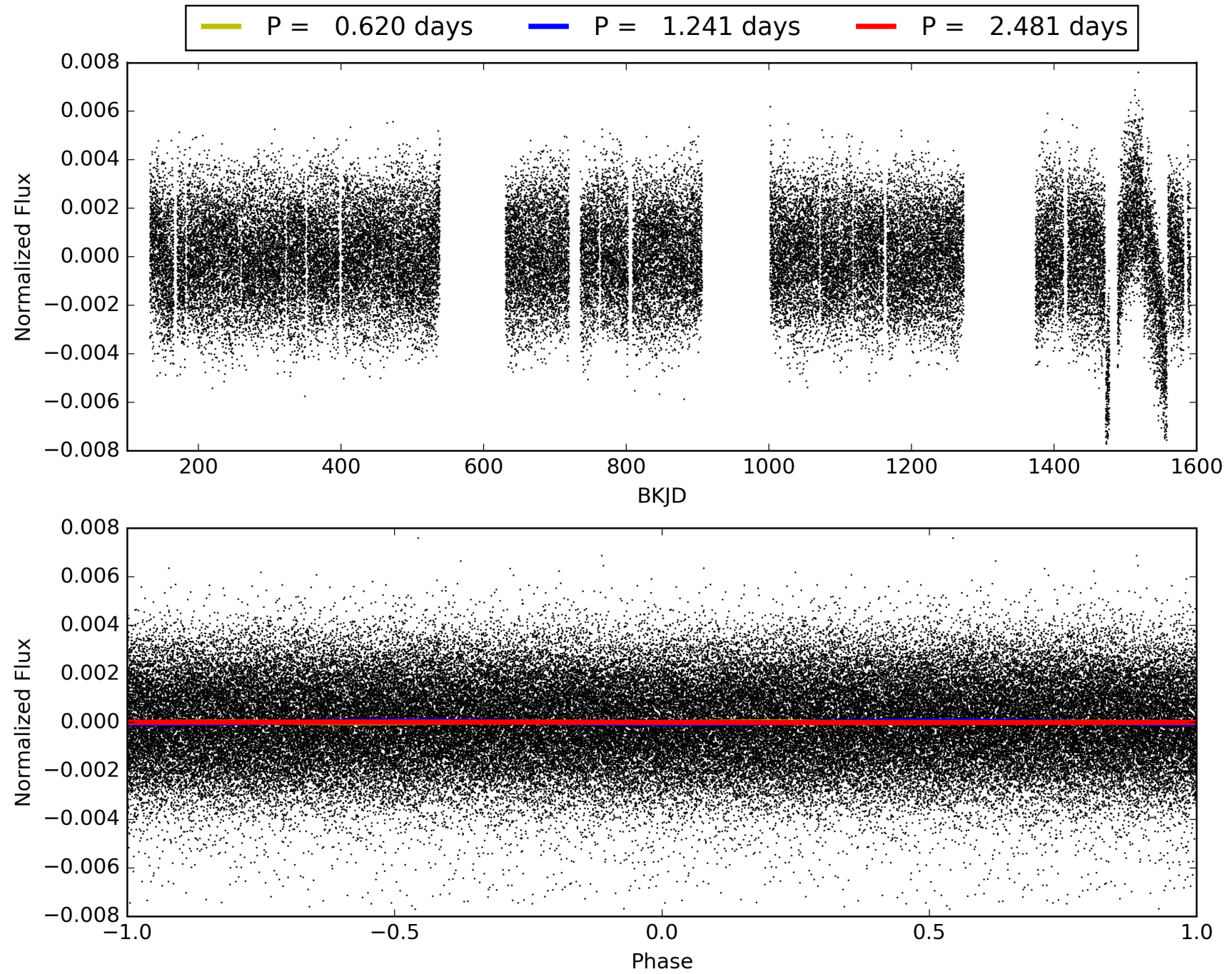
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 22:27:10 Z

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

TCE 004482231-01, PDC Light Curves

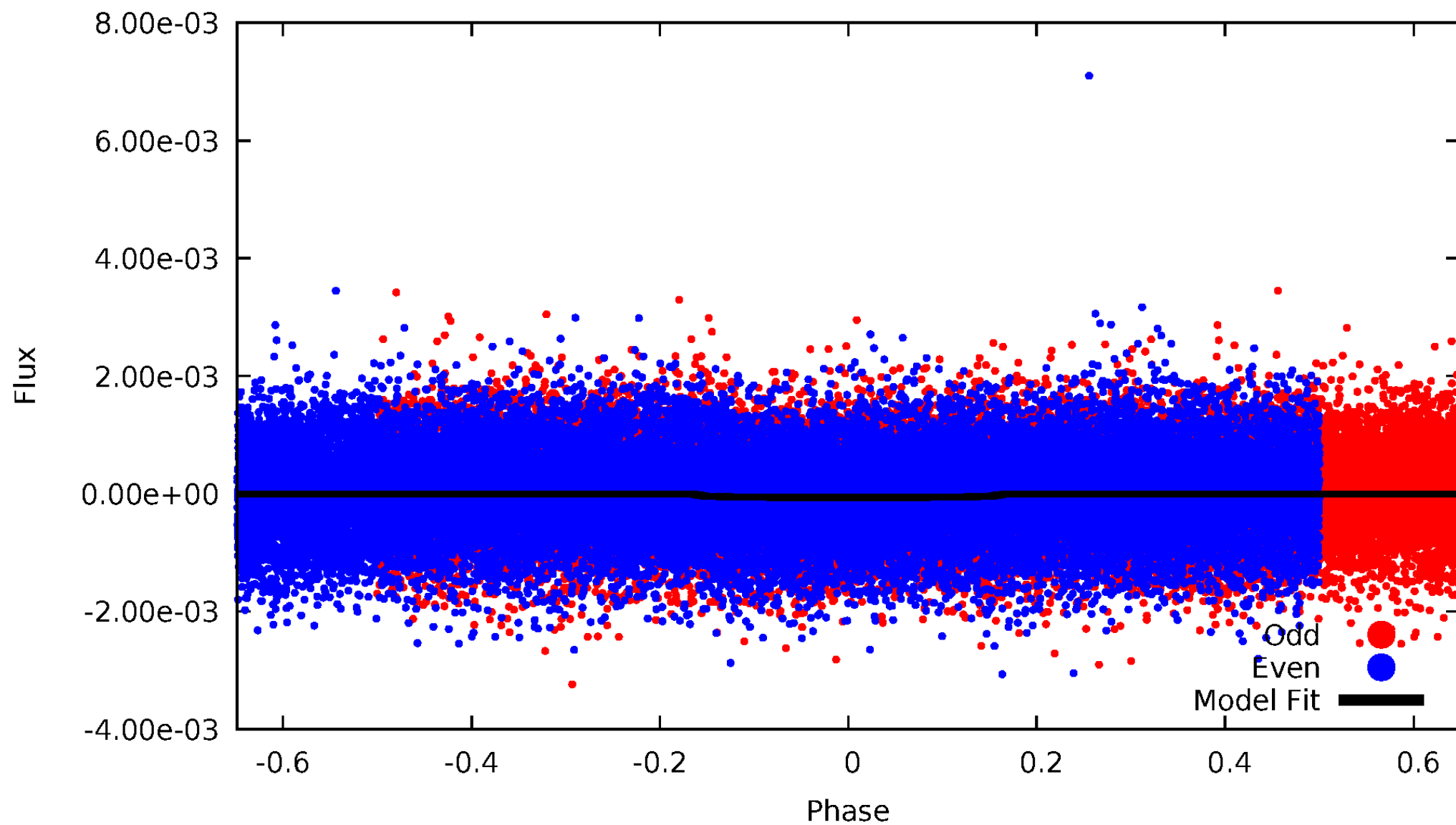


TCE 004482231-01



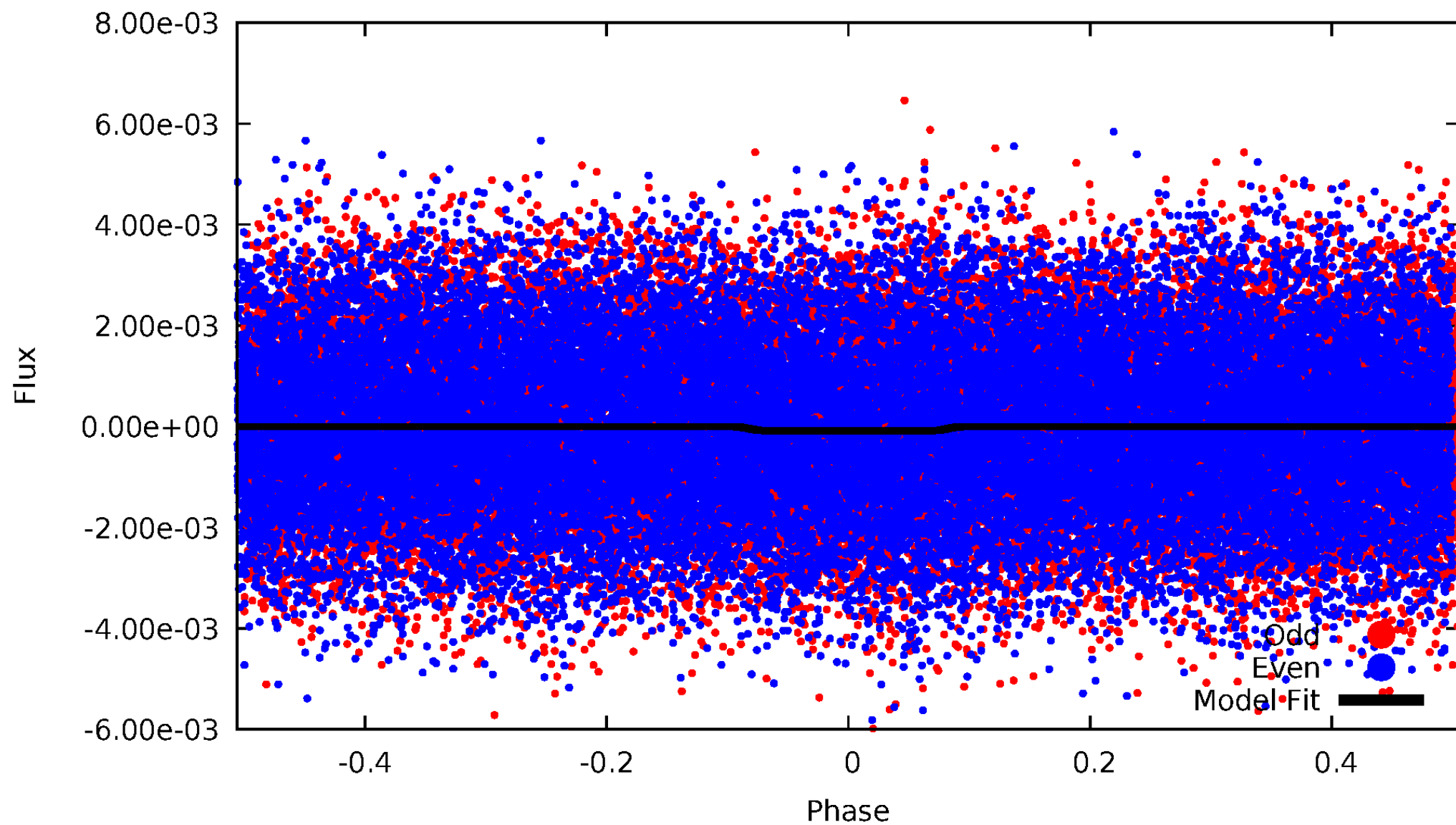
DV Odd/Even

TCE 004482231-01



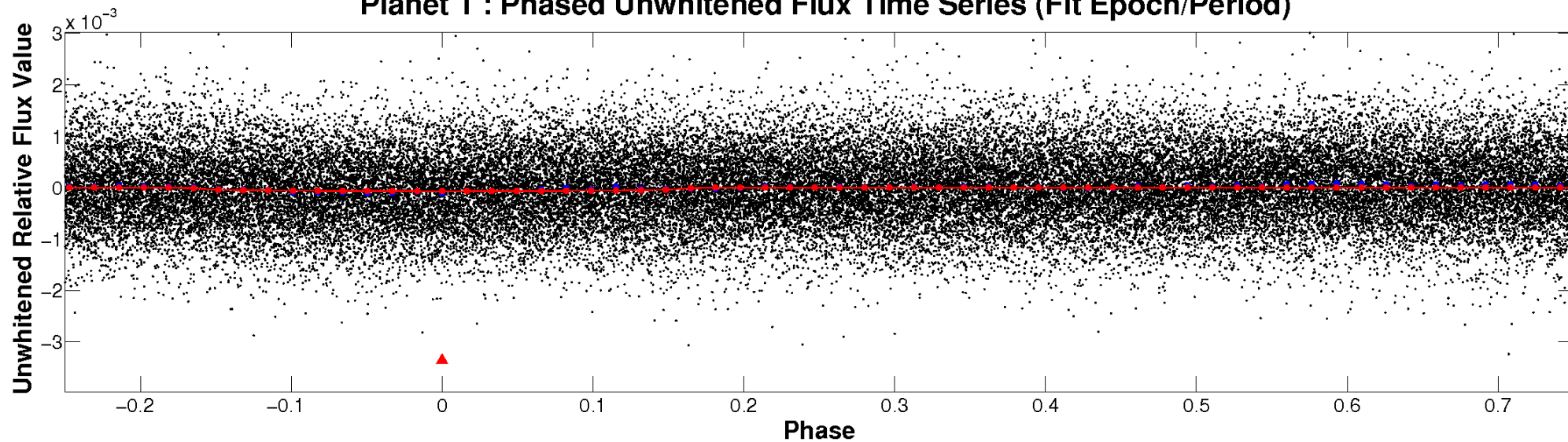
ALT Odd/Even

TCE 004482231-01

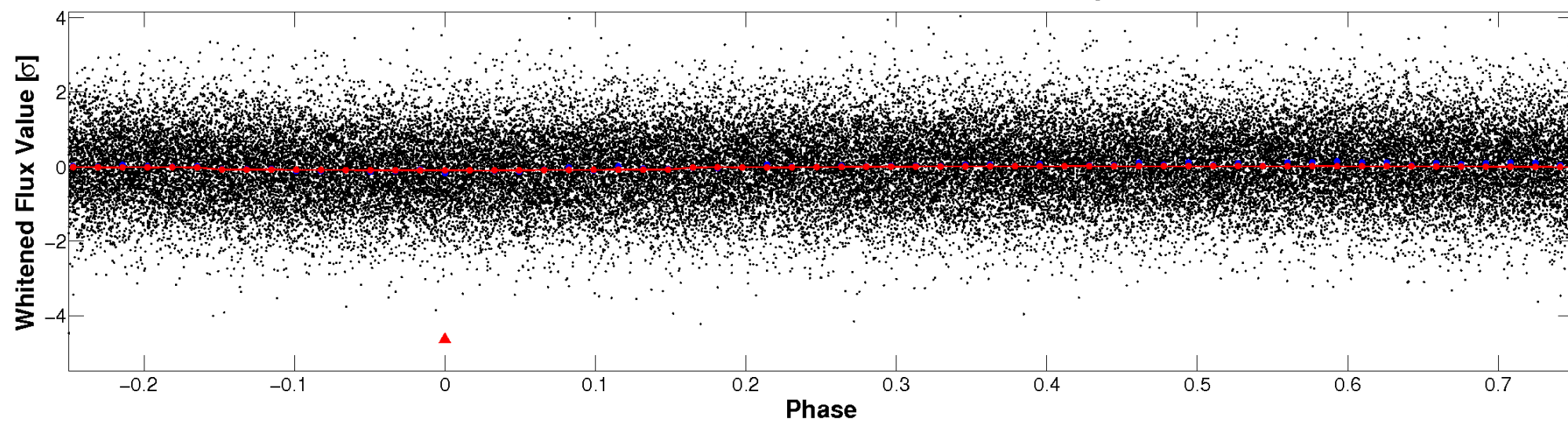


Non-Whitened Vs. Whitened Light Curve

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

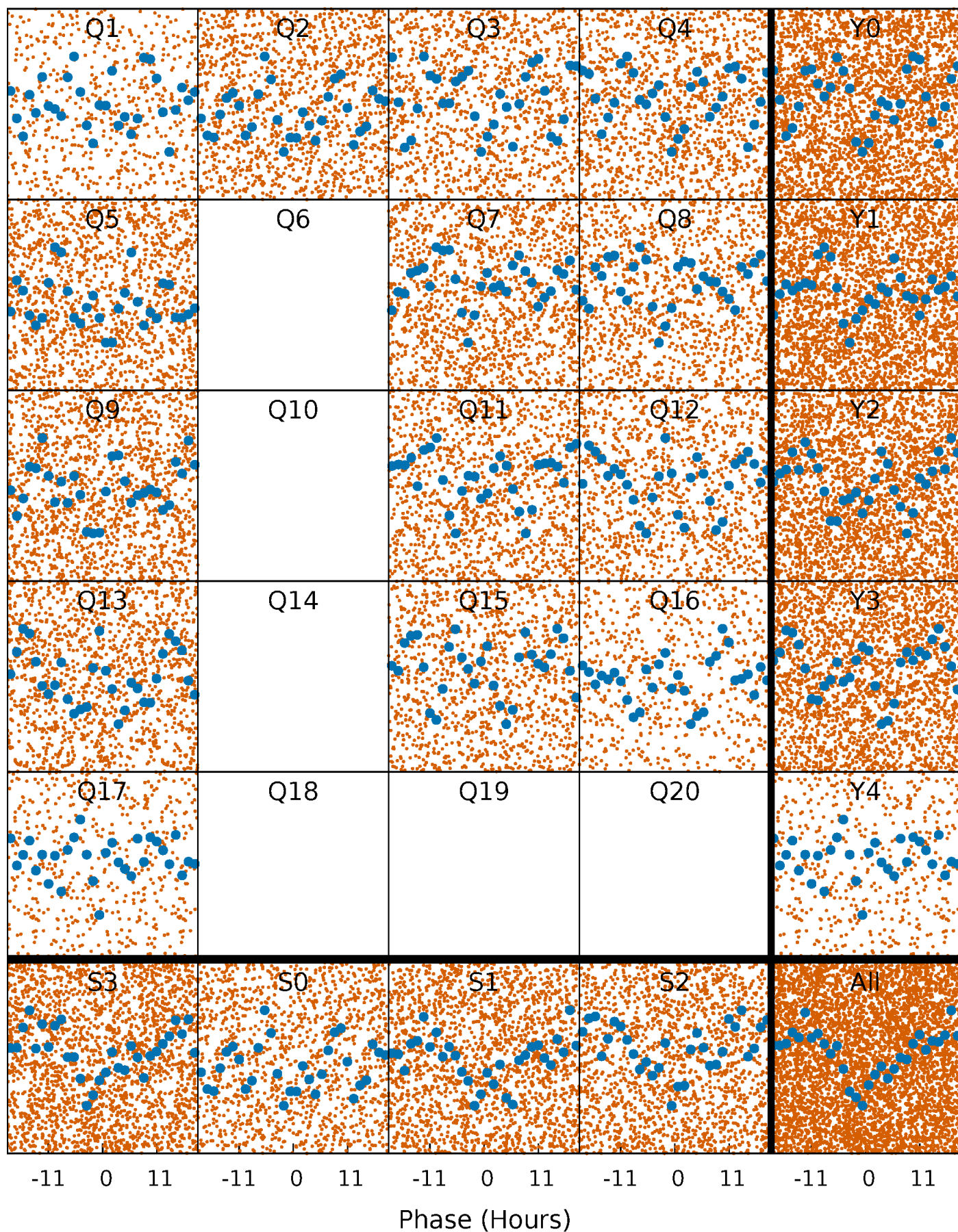


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



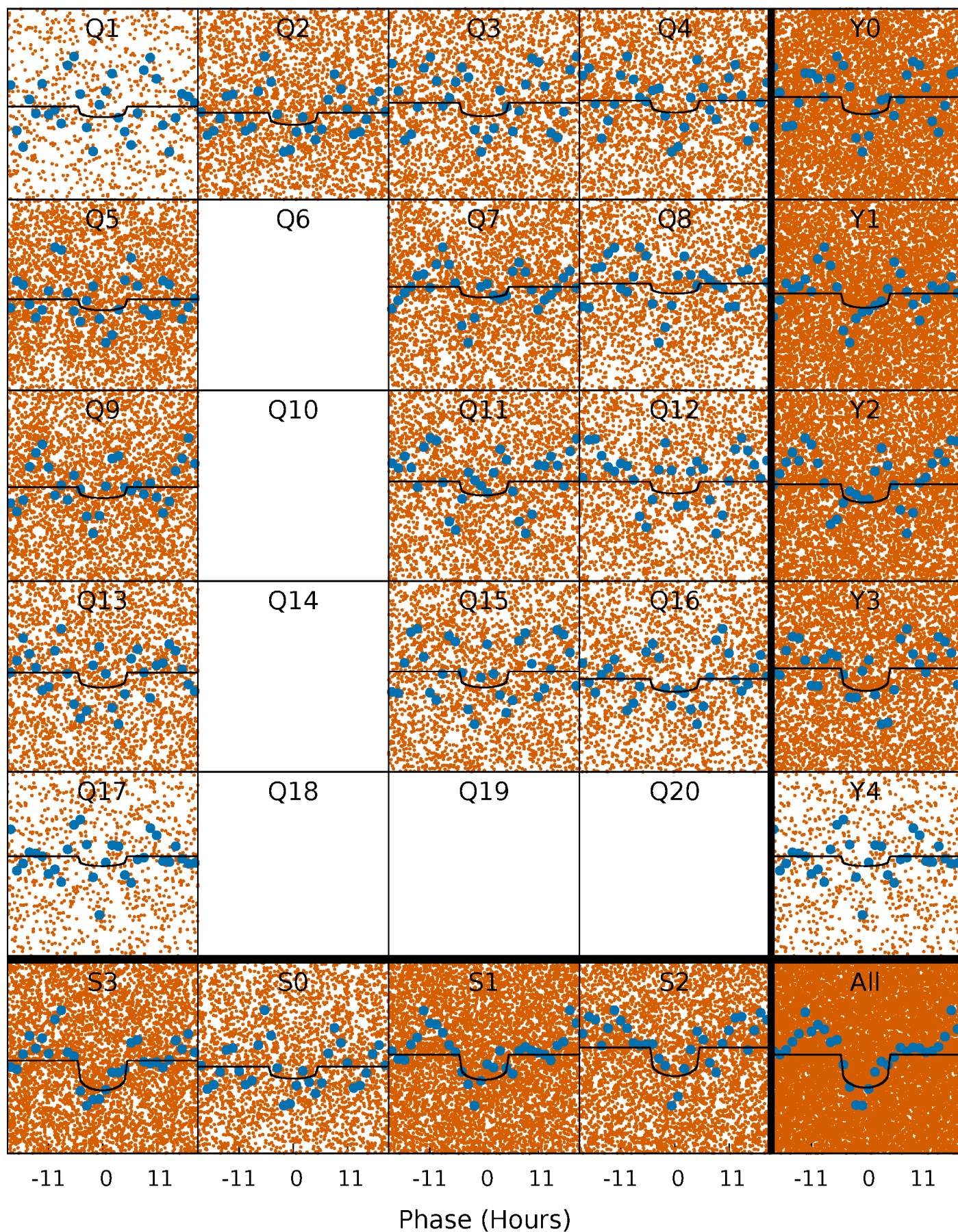
PDC Quarter-Phased Transit Curves

TCE 004482231-01 P= 1.240548 Days $T_0=132.699895$ (BKJD)



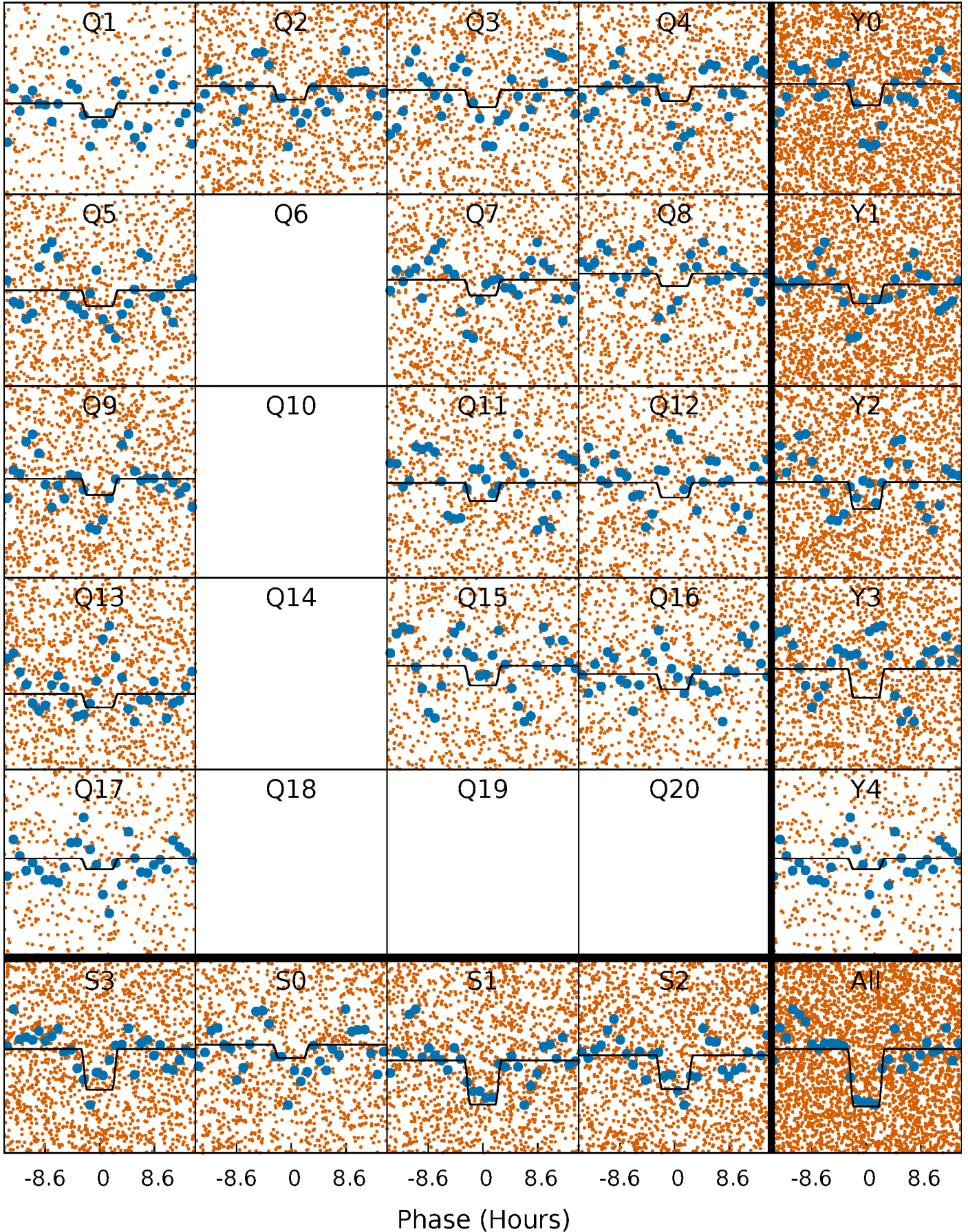
DV Quarter-Phased Transit Curves

TCE 004482231-01 P= 1.240548 Days $T_0=132.699895$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

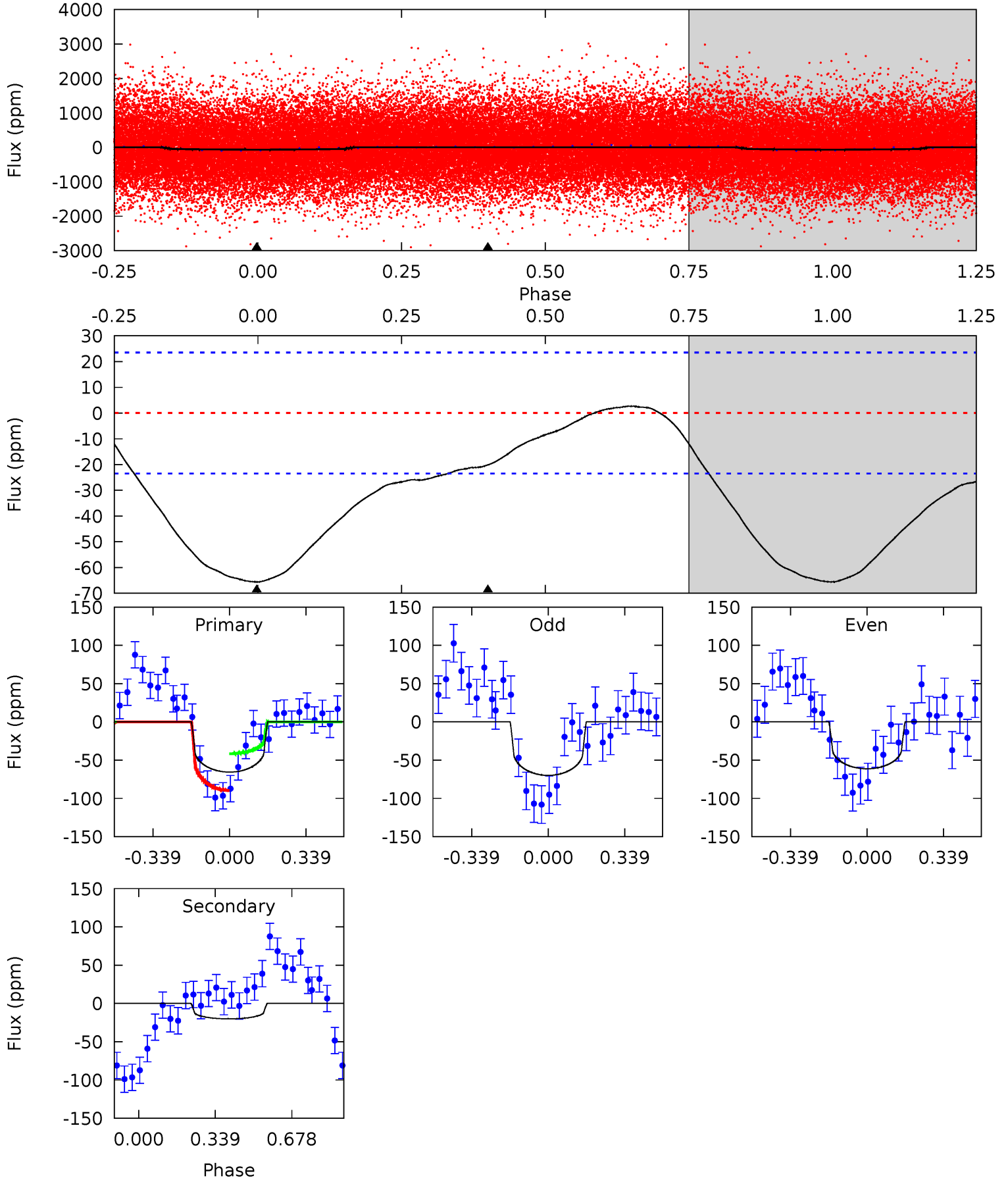
TCE 004482231-01 P= 1.240504 Days $T_0=132.661997$ (BKJD)



DV Model-Shift Uniqueness Test

004482231-01, P = 1.240548 Days, E = 131.459347 Days

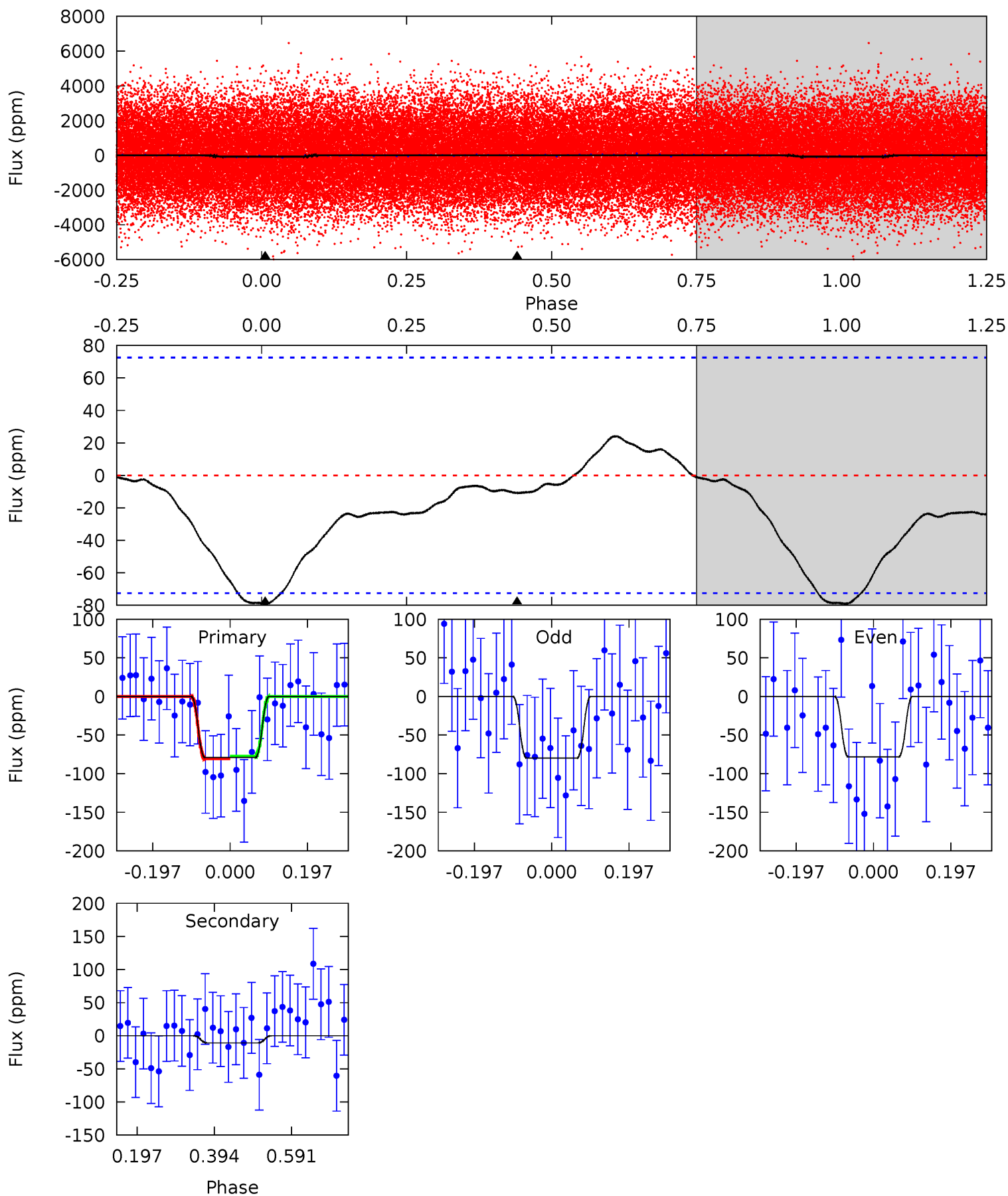
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.0	3.69	0	0	4.30	0.96	0.80	12.0	12.0	3.69	3.69	0.79	0.89	0.04	4.45



Alt Model-Shift Uniqueness Test

004482231-01, P = 1.240504 Days, E = 131.421493 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.82	0.66	0	0	4.42	1.29	0.84	4.82	4.82	0.66	0.66	0.05	0.90	0.23	0.10



Stellar Parameters For KIC 004482231

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	8313^{+74}_{-83}	$4.056^{+0.120}_{-0.080}$	$-0.240^{+0.050}_{-0.150}$	$2.070^{+0.257}_{-0.342}$	$1.778^{+0.064}_{-0.159}$	$0.282^{+0.144}_{-0.081}$
	+1%/-1%	+3%/-2%	+21%/-62%	+12%/-17%	+4%/-9%	+51%/-29%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 004482231-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-20 ± 5	$2.07^{+1.70}_{-1.31}$	4452^{+133}_{-183}	5368^{+4574}_{-1620}	$1.907^{+12.048}_{-1.357}$
Alt.	-11 ± 16	$2.43^{+1.76}_{-1.39}$	4446^{+157}_{-186}	3567^{+2955}_{-8110}	$0.489^{+3.360}_{-0.883}$

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 $A_{obs} \gg 1.0$

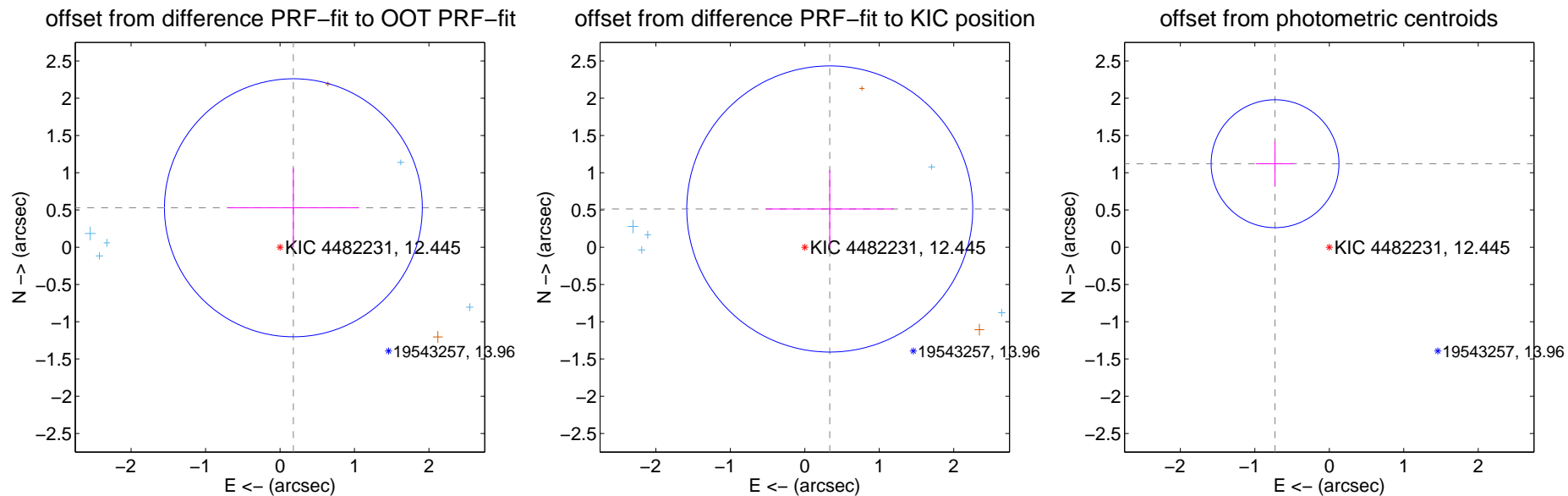
DV Centroid Data

Supplemental centroid analysis for 004482231-01. Kepler magnitude: 12.45. Transit SNR 11.70

There are 5 quarters with good PRF difference image offsets

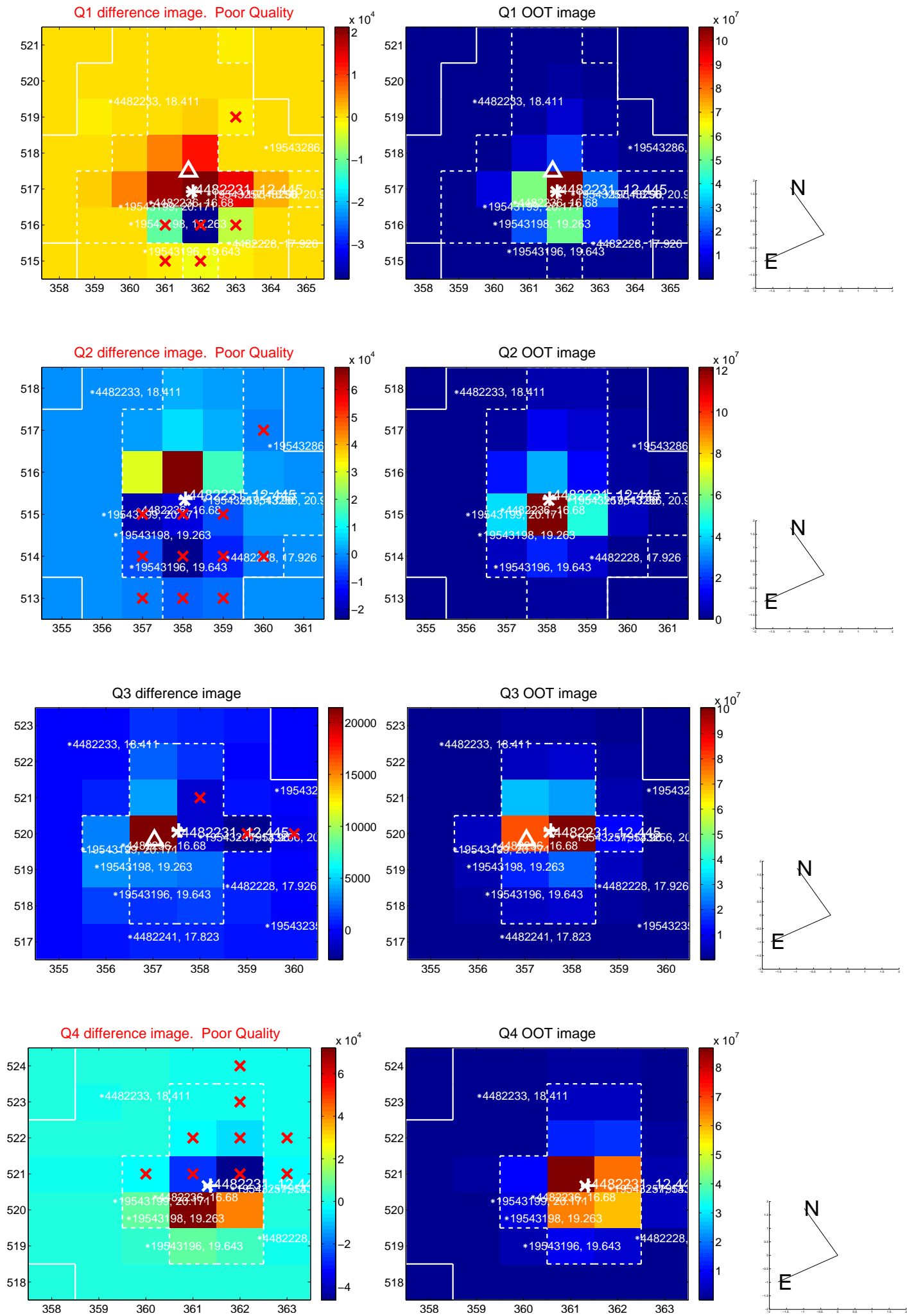
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.559 ± 0.577	0.97	-0.180 ± 0.879	0.530 ± 0.532
PRF-fit source offset from KIC position	0.613 ± 0.640	0.96	-0.335 ± 0.858	0.514 ± 0.520
photometric centroid source offset	1.34 ± 0.29	4.67	0.73 ± 0.26	1.12 ± 0.30

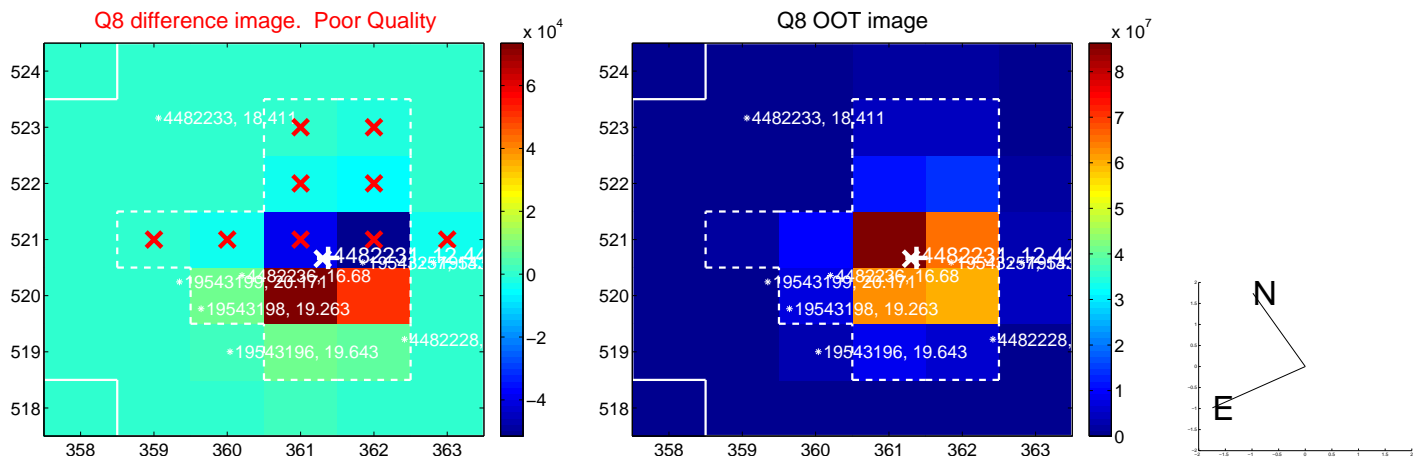
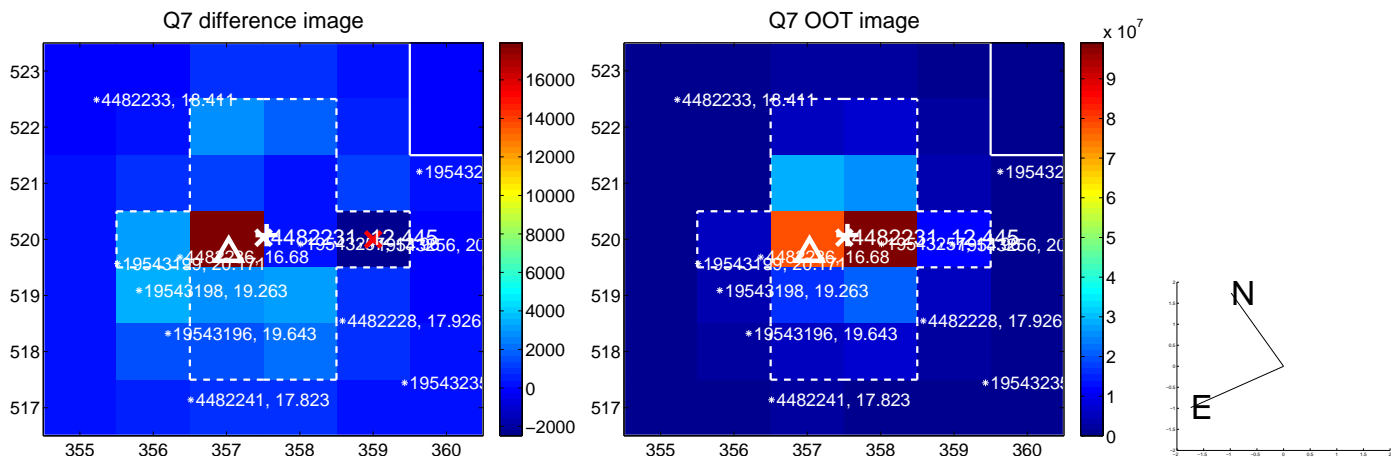
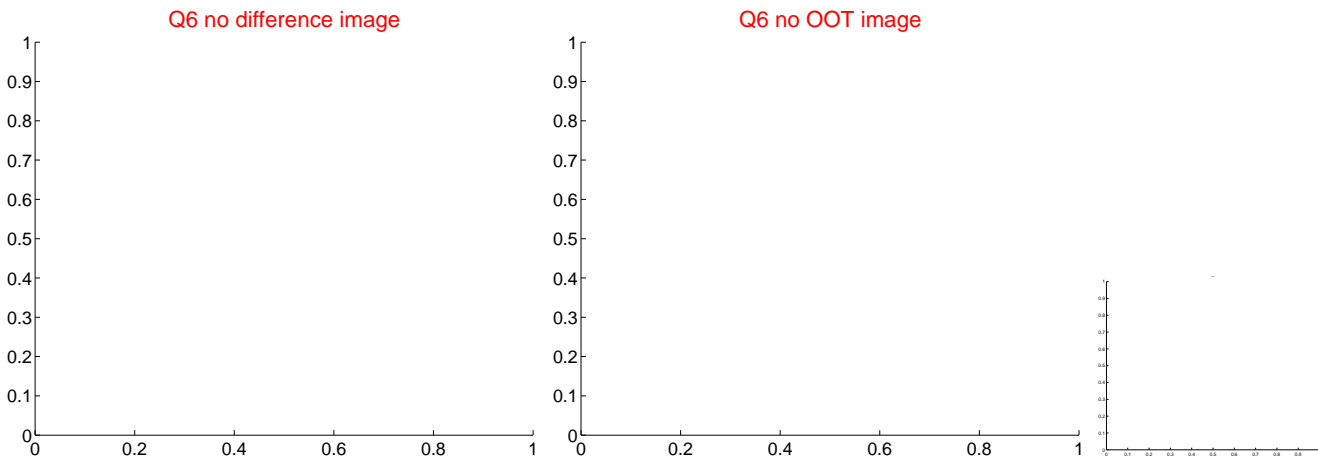
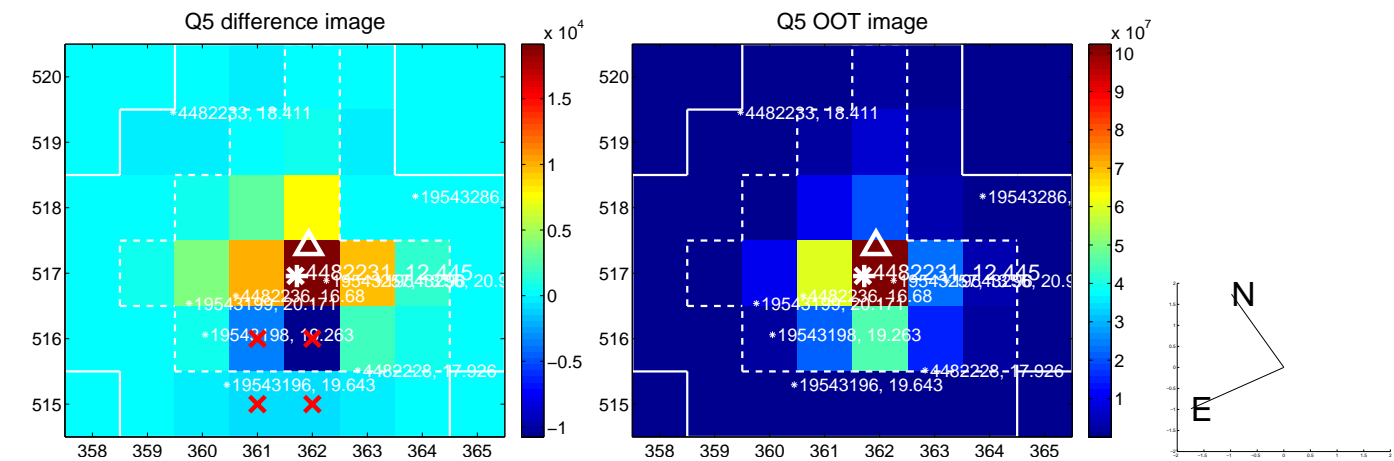


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

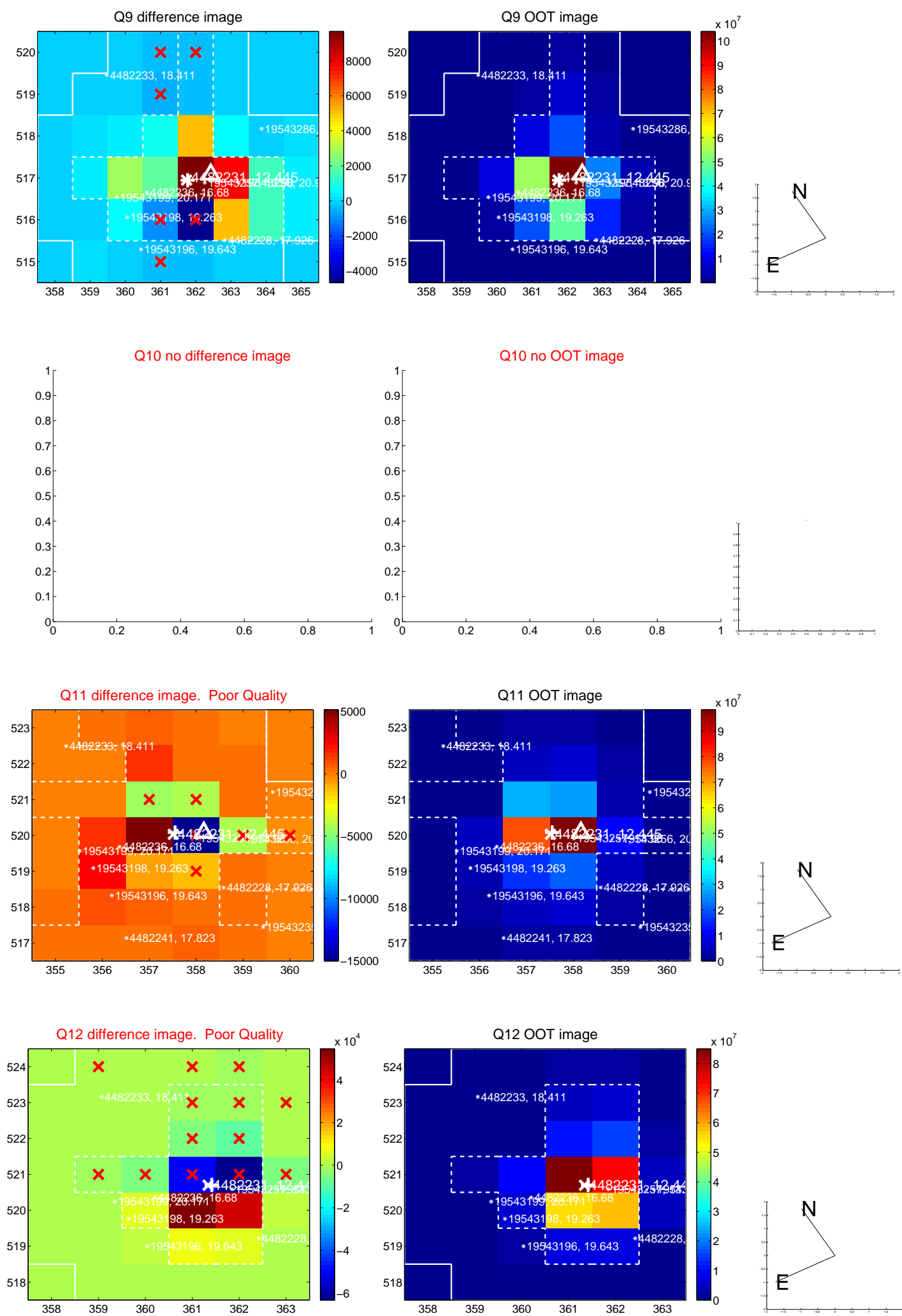
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



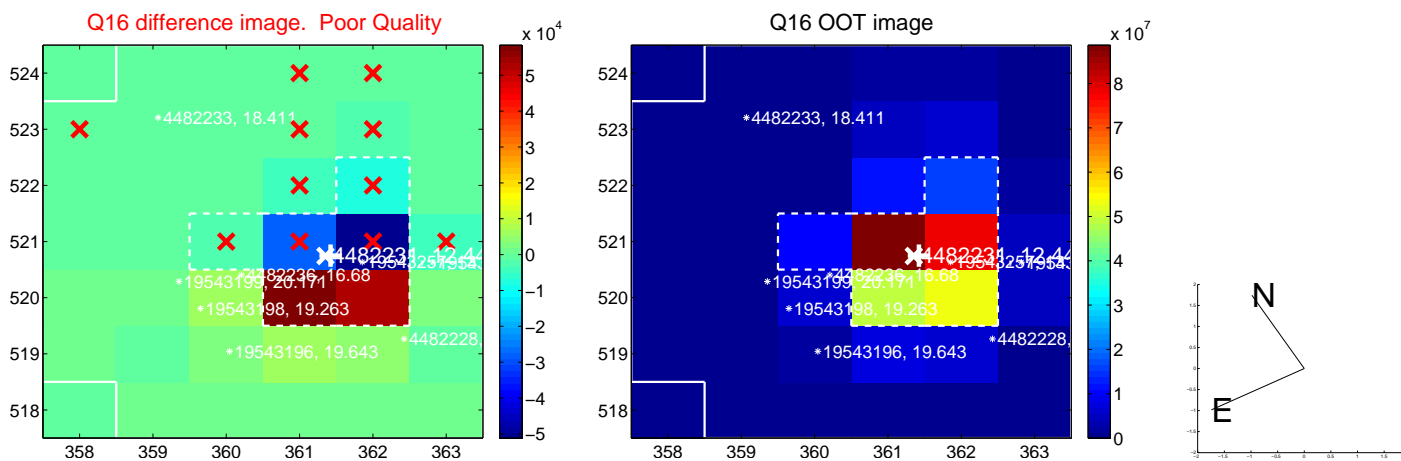
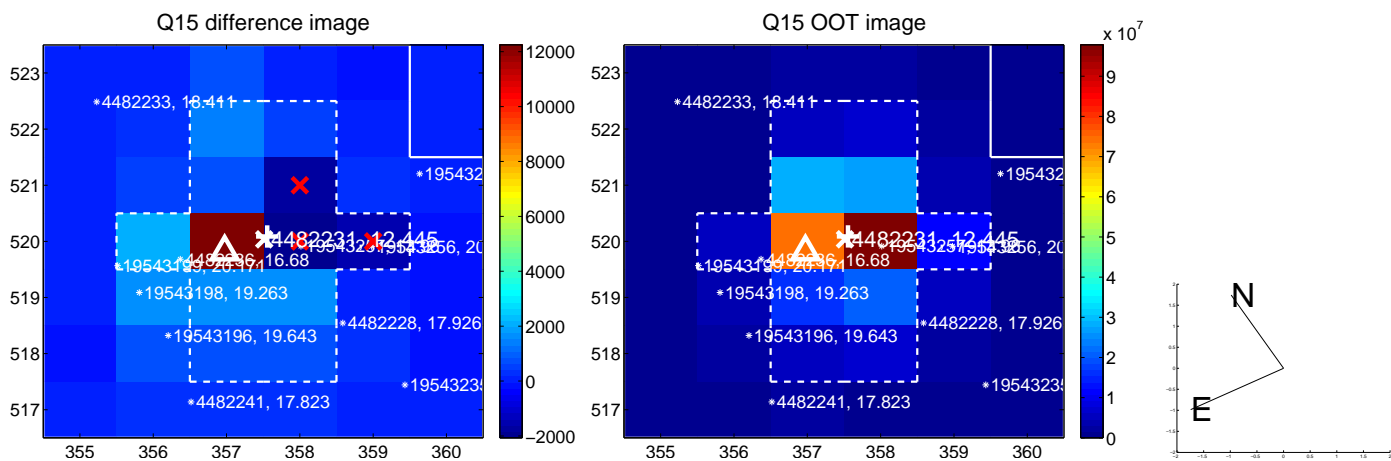
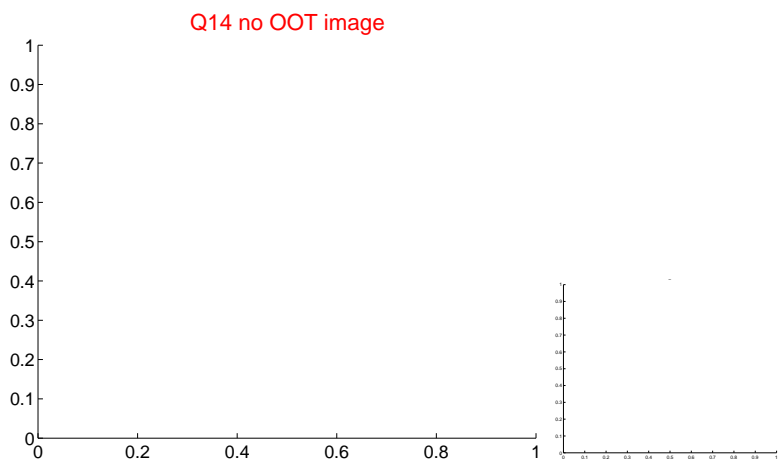
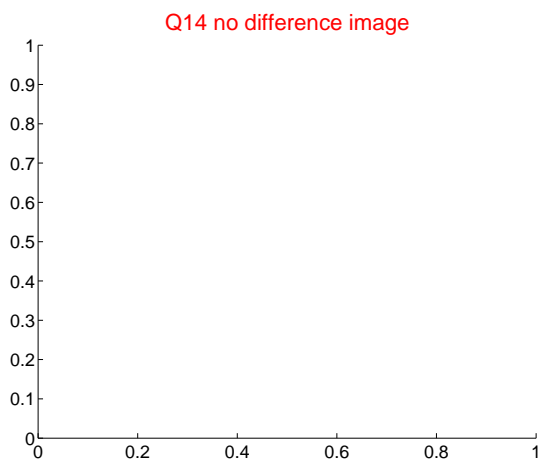
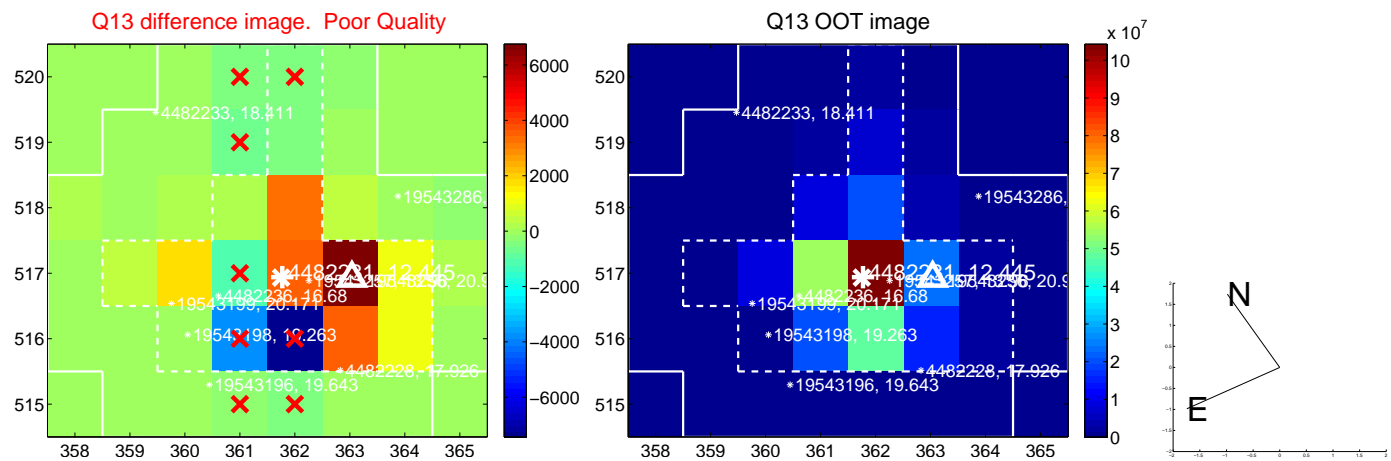
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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UKIRT Image

Declination

