

KIC 010421688

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})
010421688-01	OBS	No	1.295432	131.501923	21.2	3.982	7.3	5.4	1.84	5162	1.02	4373.83

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010421688-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_KIC_POS

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

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

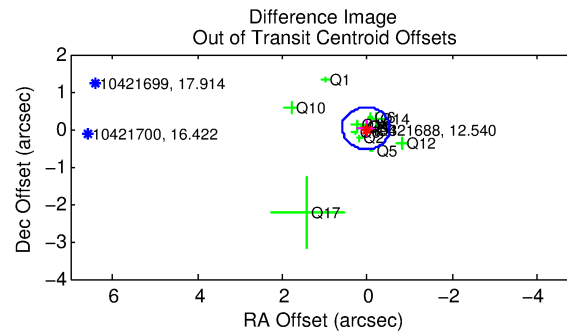
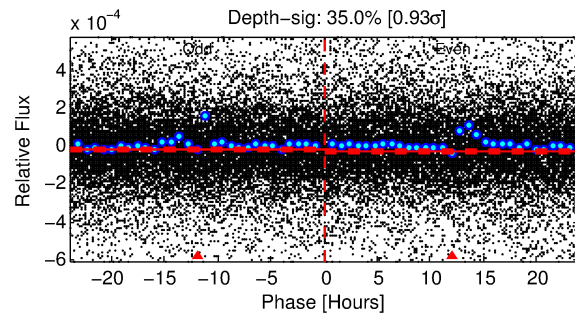
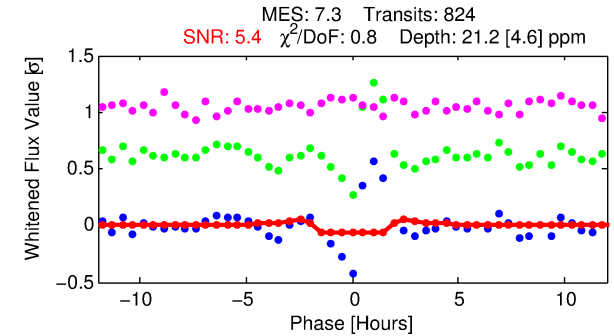
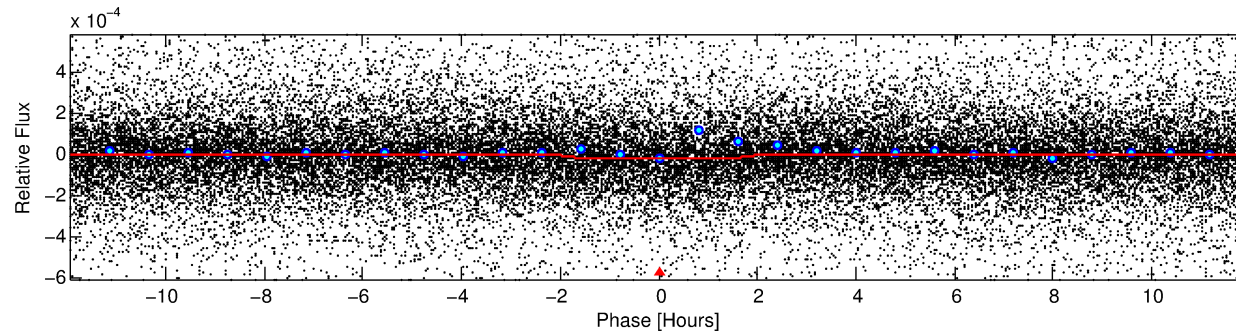
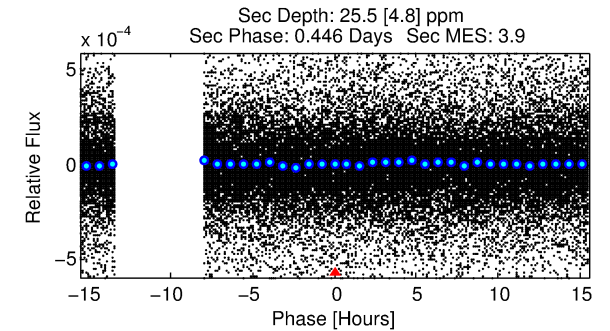
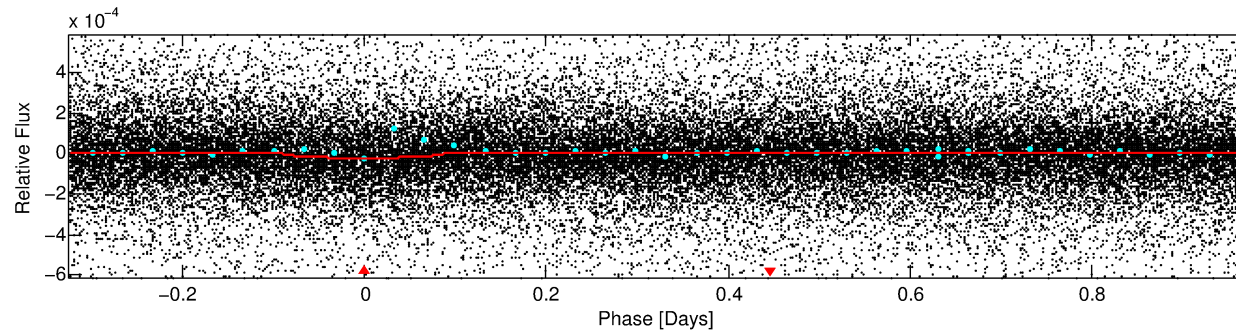
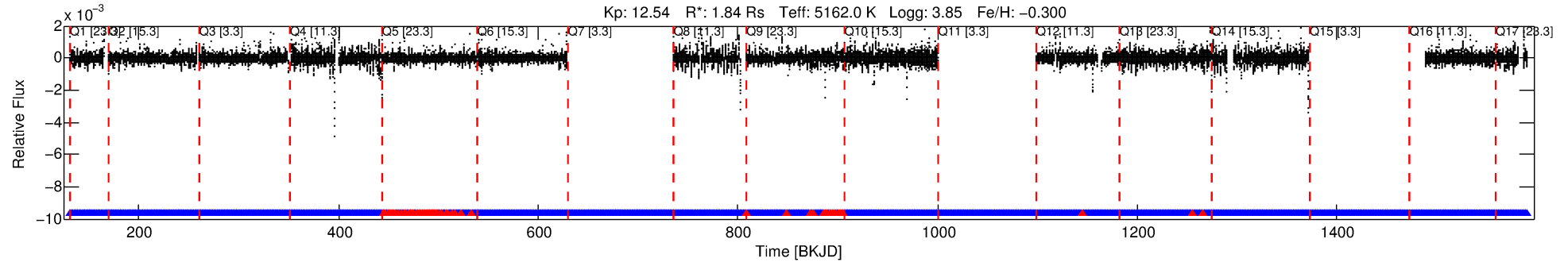
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010421688-01

No Significant Match Found

DV One-Page Summary

KIC: 10421688 Candidate: 1 of 1 Period: 1.295 d



DV Fit Results:

Period = 1.29543 [0.00002] d
Epoch = 131.5019 [0.0045] BKJD
Rp/R* = 0.0051 [0.0025]
a/R* = 1.45 [1.60]
b = 0.90 [0.45]
Seff = 4373.83 [5411.32]
Teq = 2074 [641] K
Rp = 1.02 [0.80] Re
a = 0.0221 [0.0158] AU
Ag = 6.63 [10.49] [0.54σ]
Teffp = 5144 [1289] K [2.13σ]

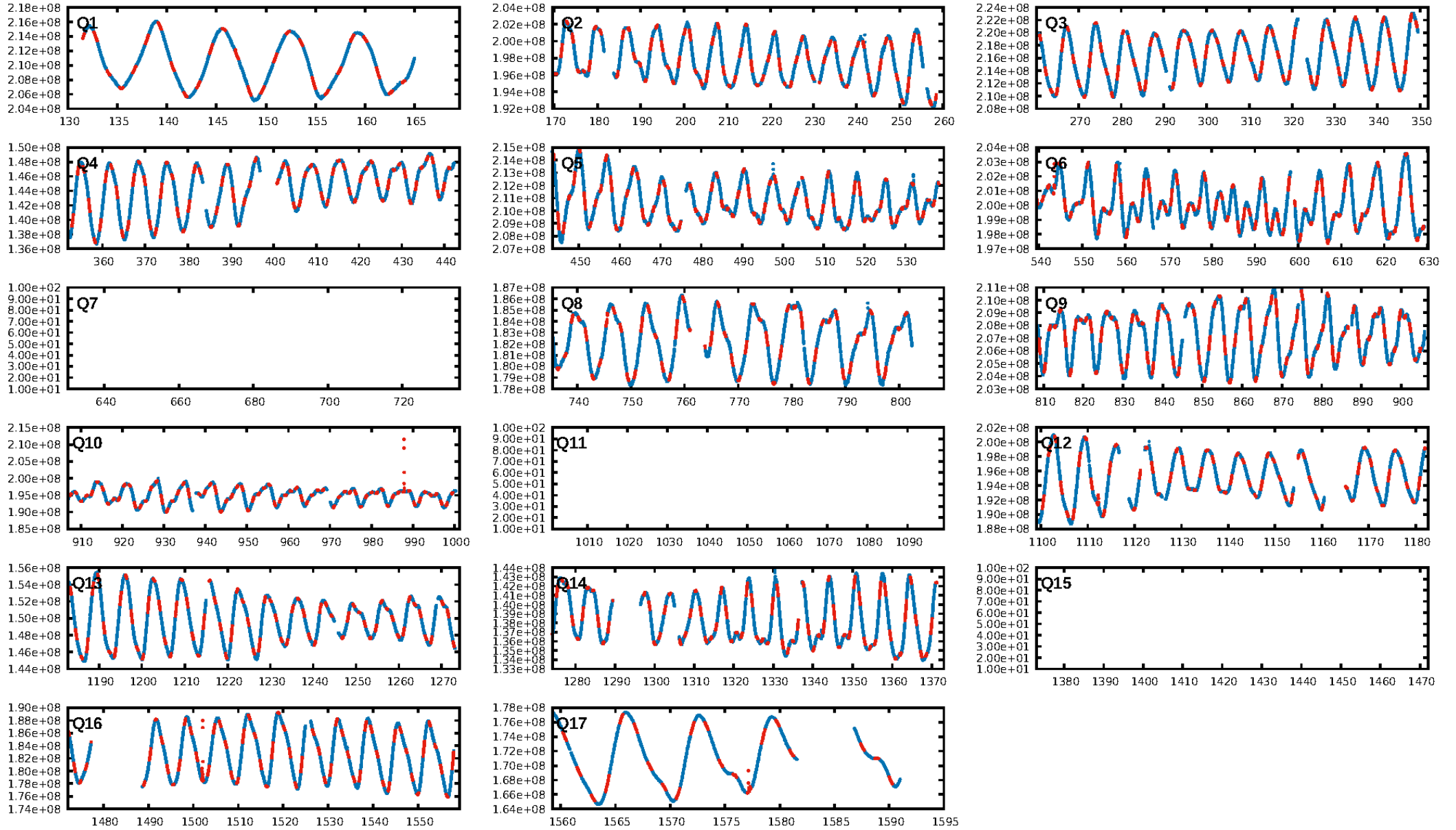
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.48e-11
RollingBand-fgt: 0.92 [714/778]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.040 arcsec [0.21σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-rm: 0.604 arcsec [3.18σ]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.79 [11/14]
DiffImageOverlap-fno: 1.00 [14/14]

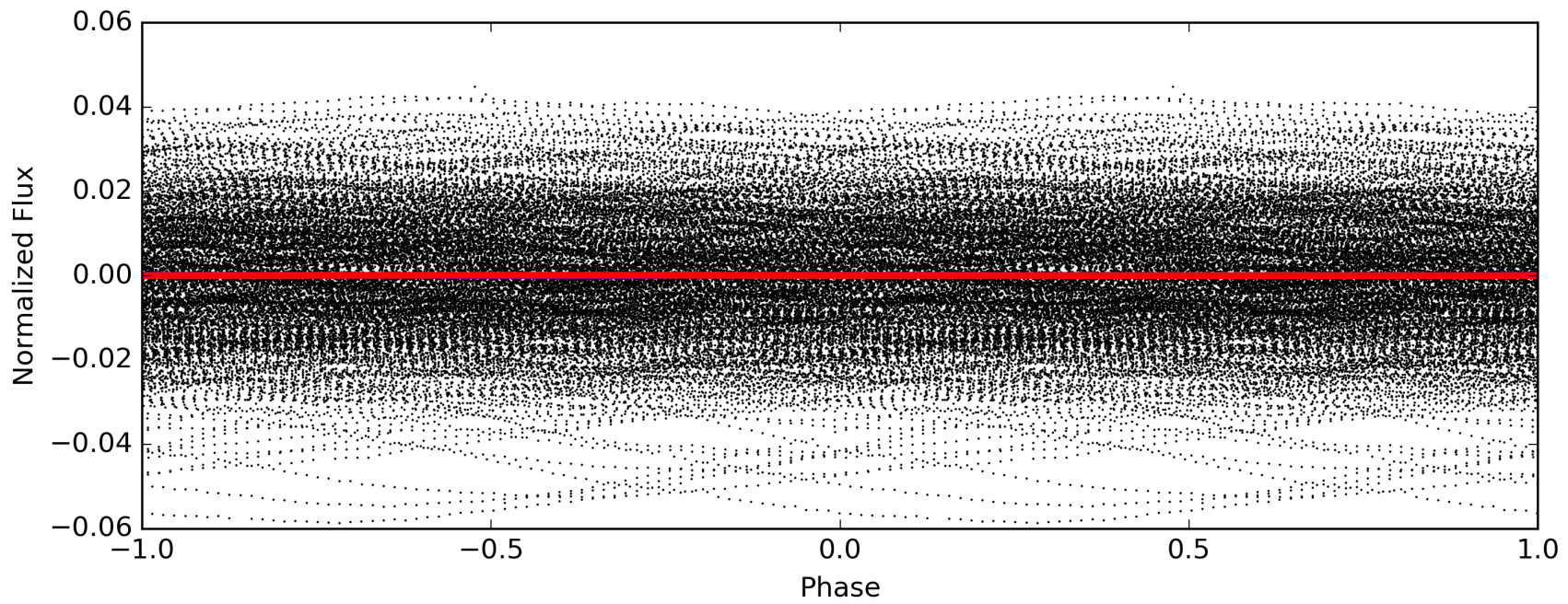
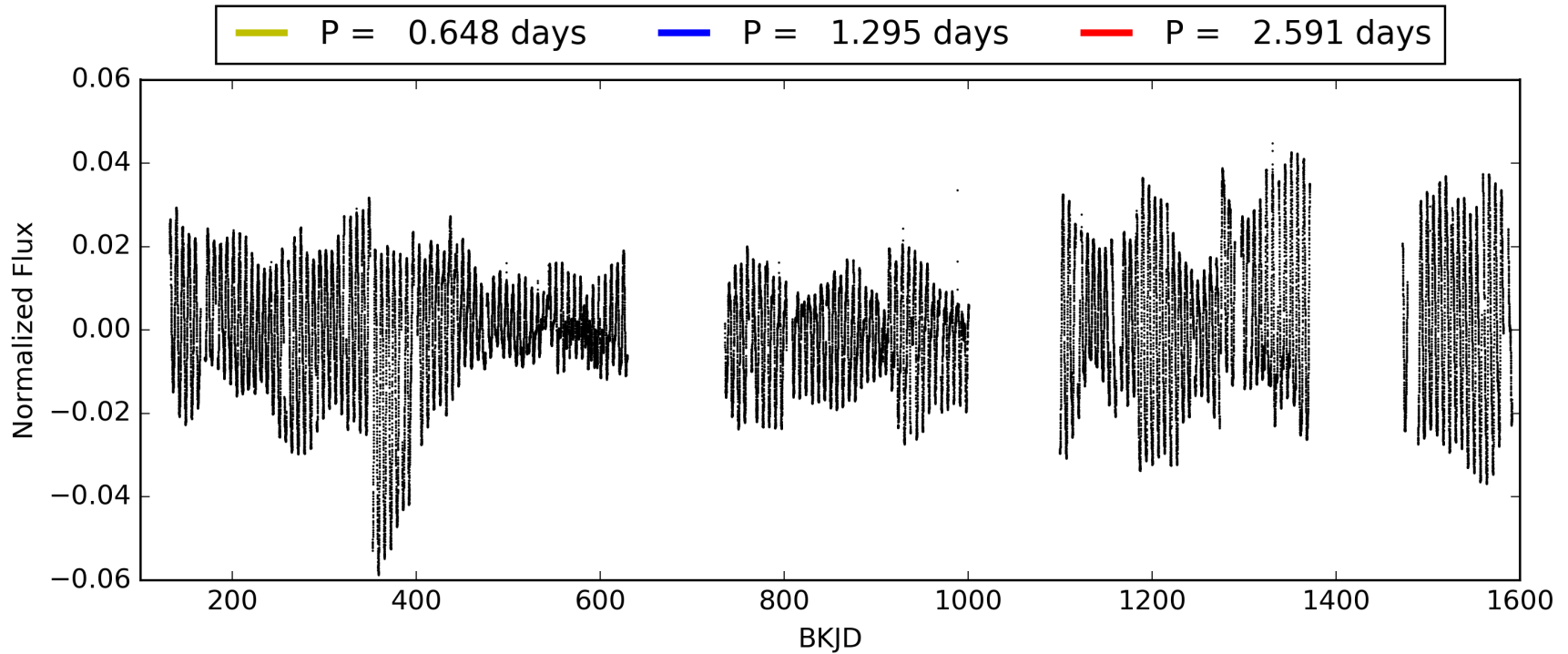
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 10:41:37 Z

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

TCE 010421688-01, PDC Light Curves

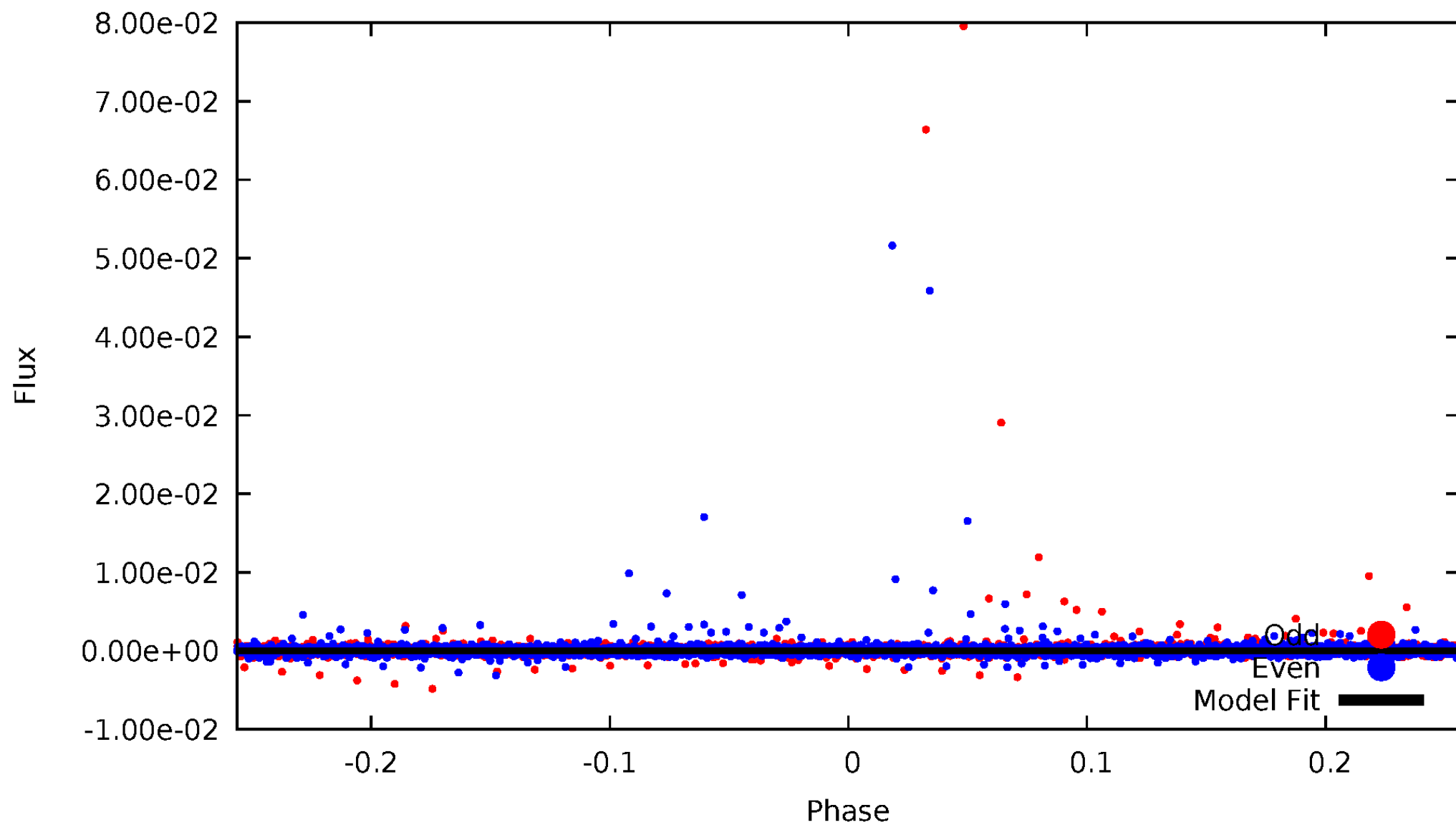


TCE 010421688-01



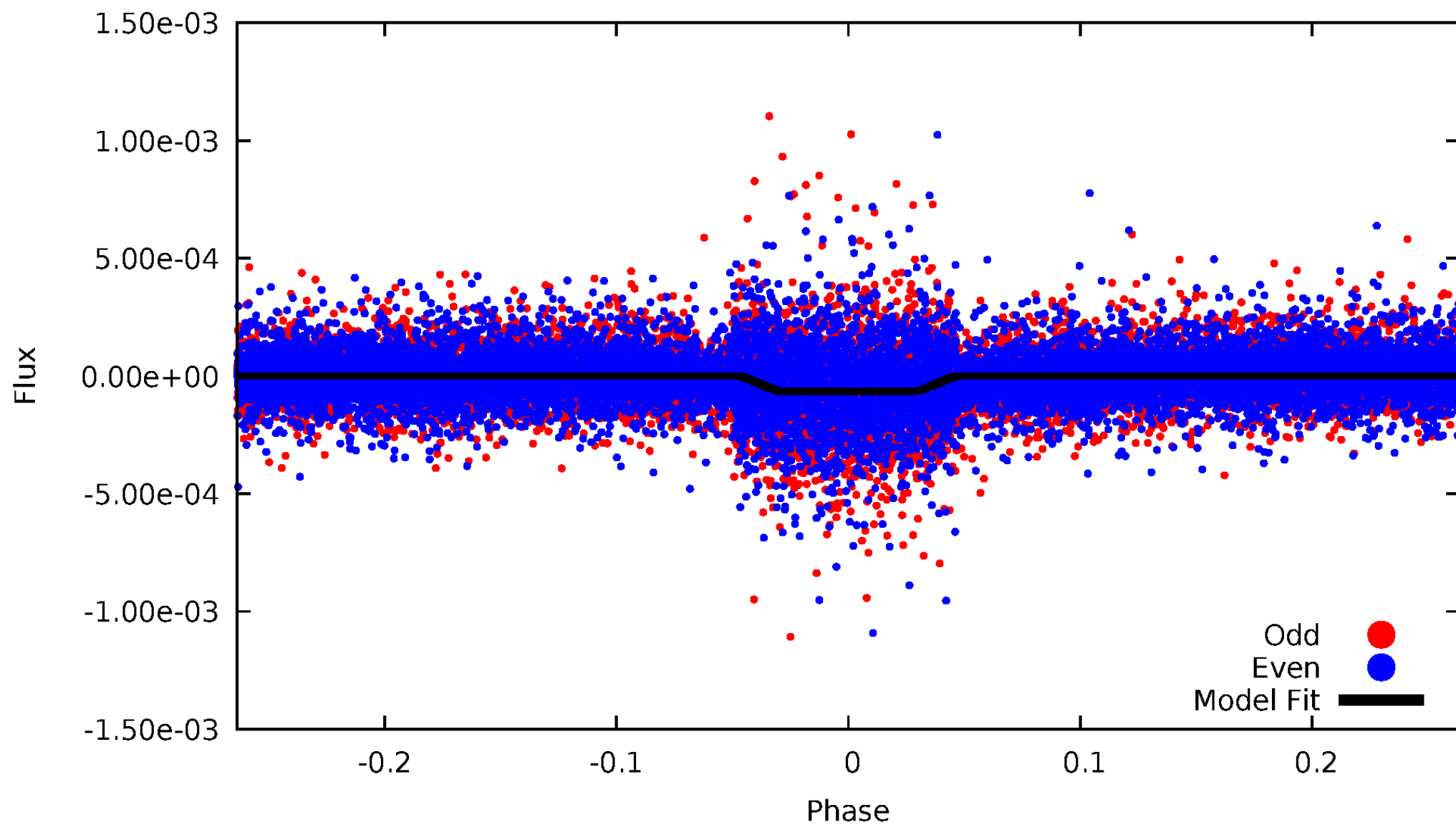
DV Odd/Even

TCE 010421688-01

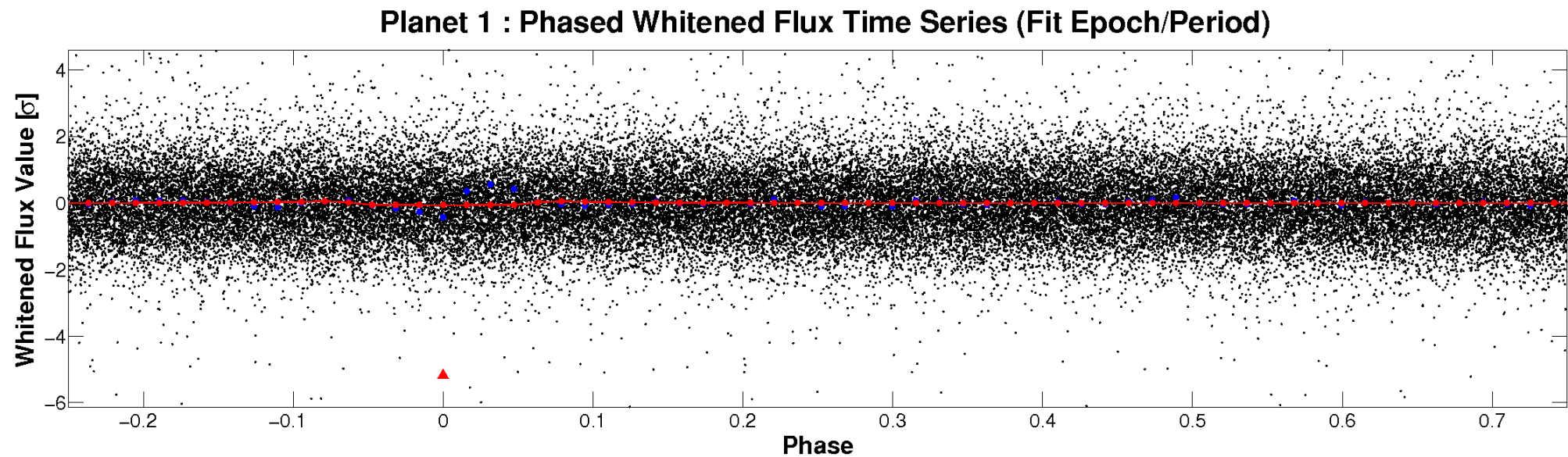
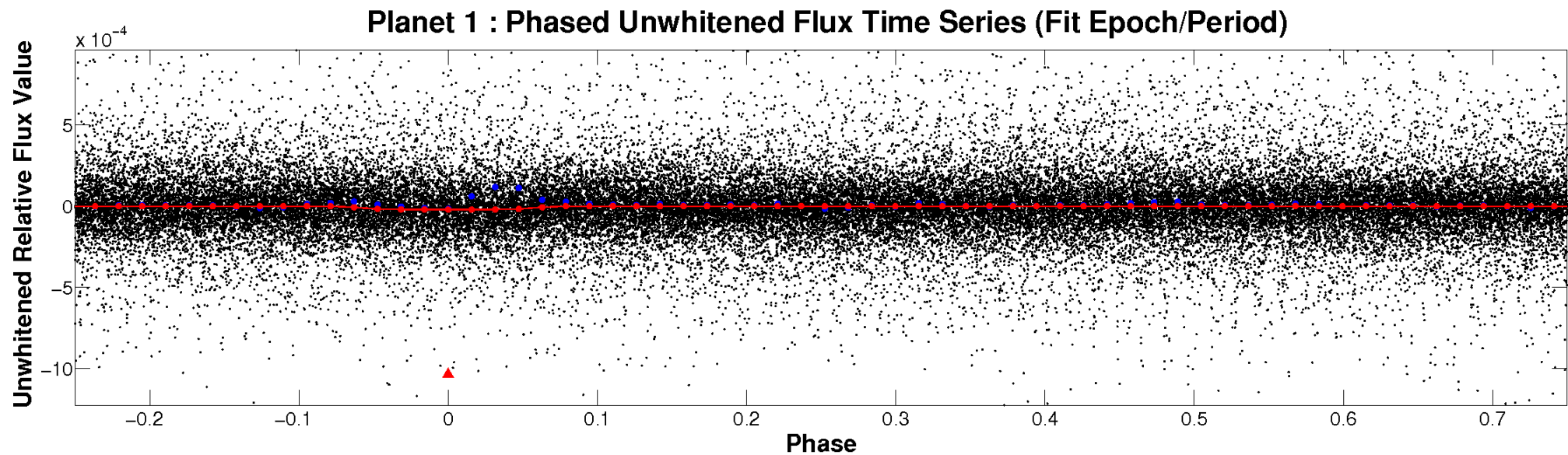


ALT Odd/Even

TCE 010421688-01

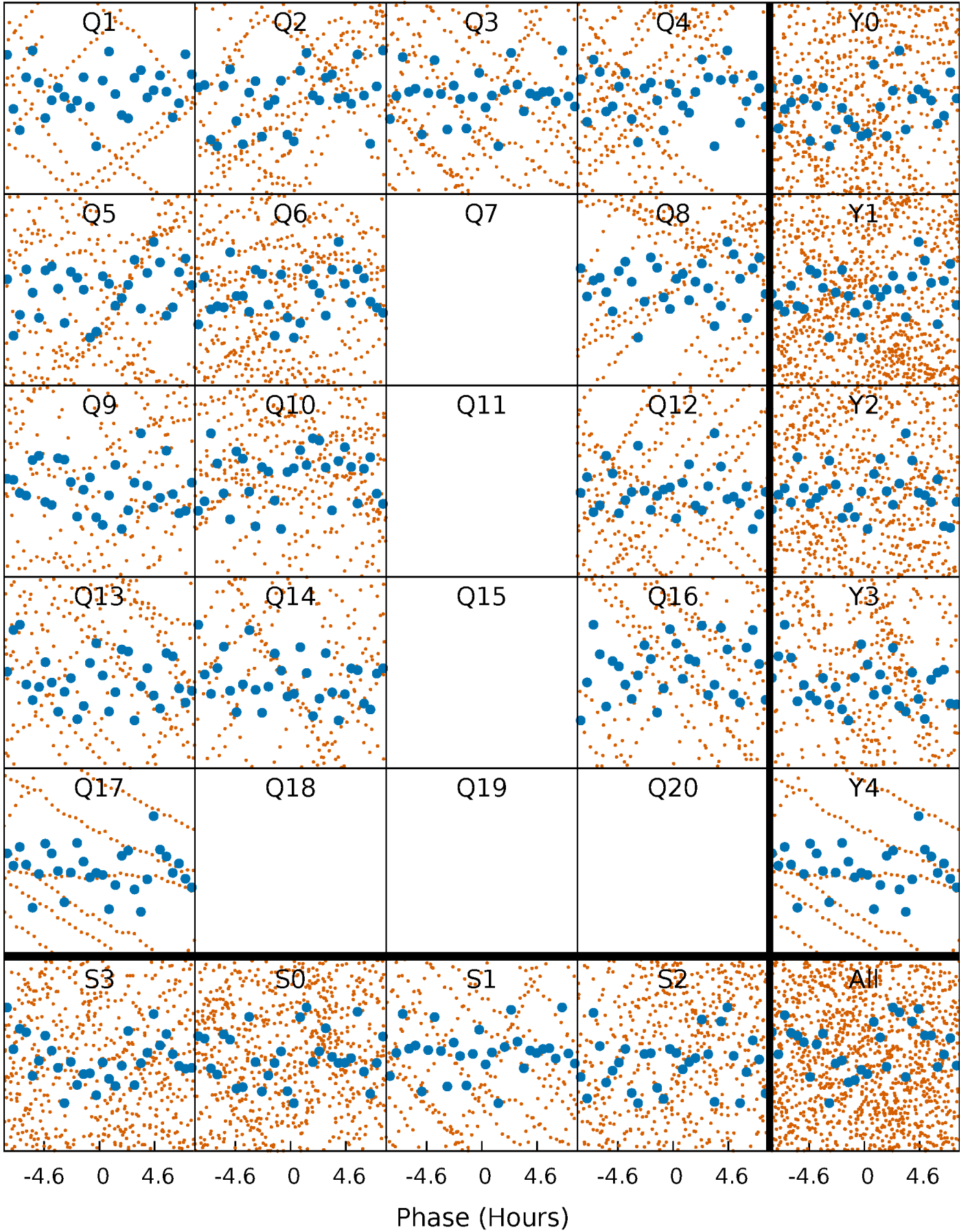


Non-Whitened Vs. Whitened Light Curve



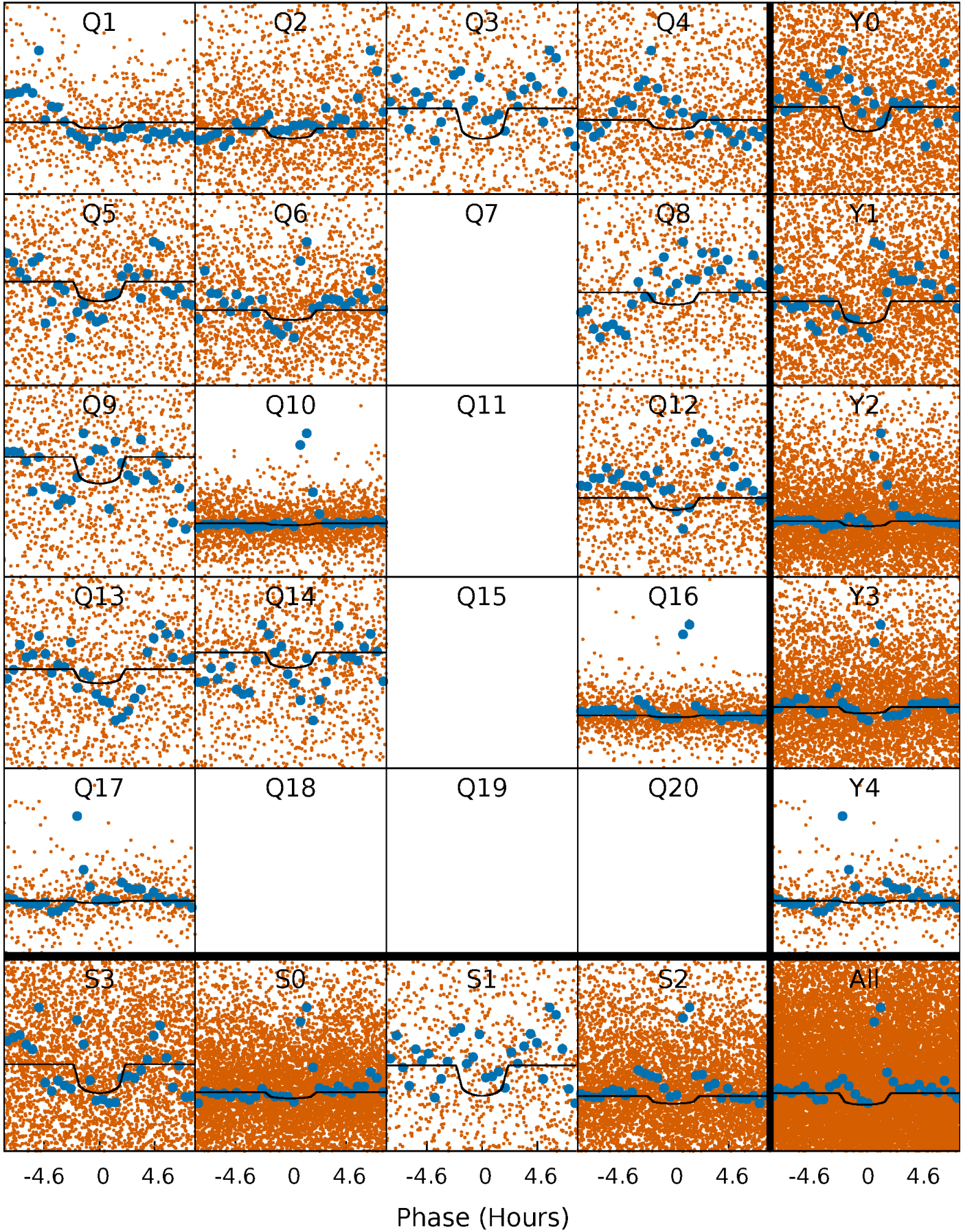
PDC Quarter-Phased Transit Curves

TCE 010421688-01 P= 1.295432 Days $T_0=131.501923$ (BKJD)



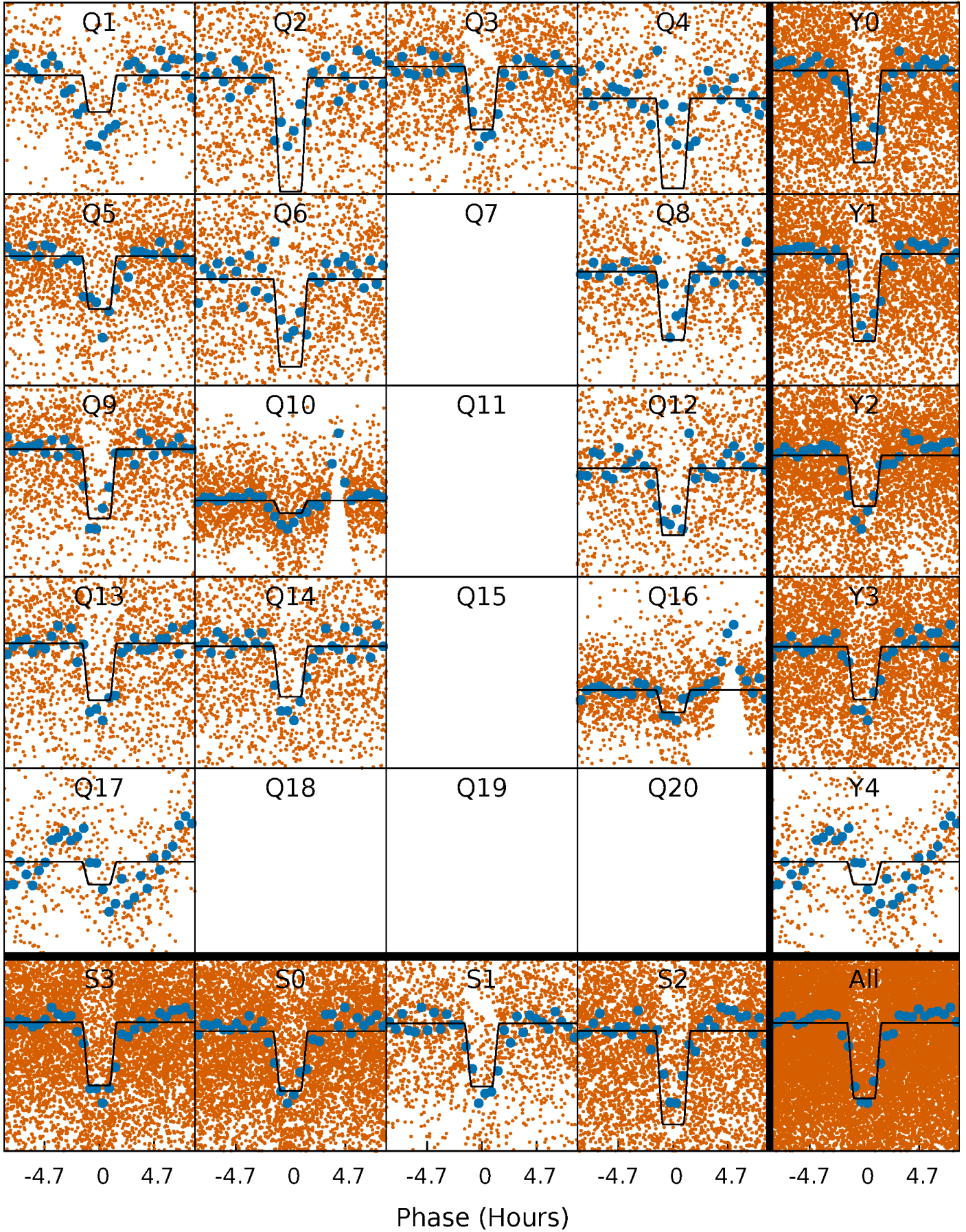
DV Quarter-Phased Transit Curves

TCE 010421688-01 P= 1.295432 Days $T_0=131.501923$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

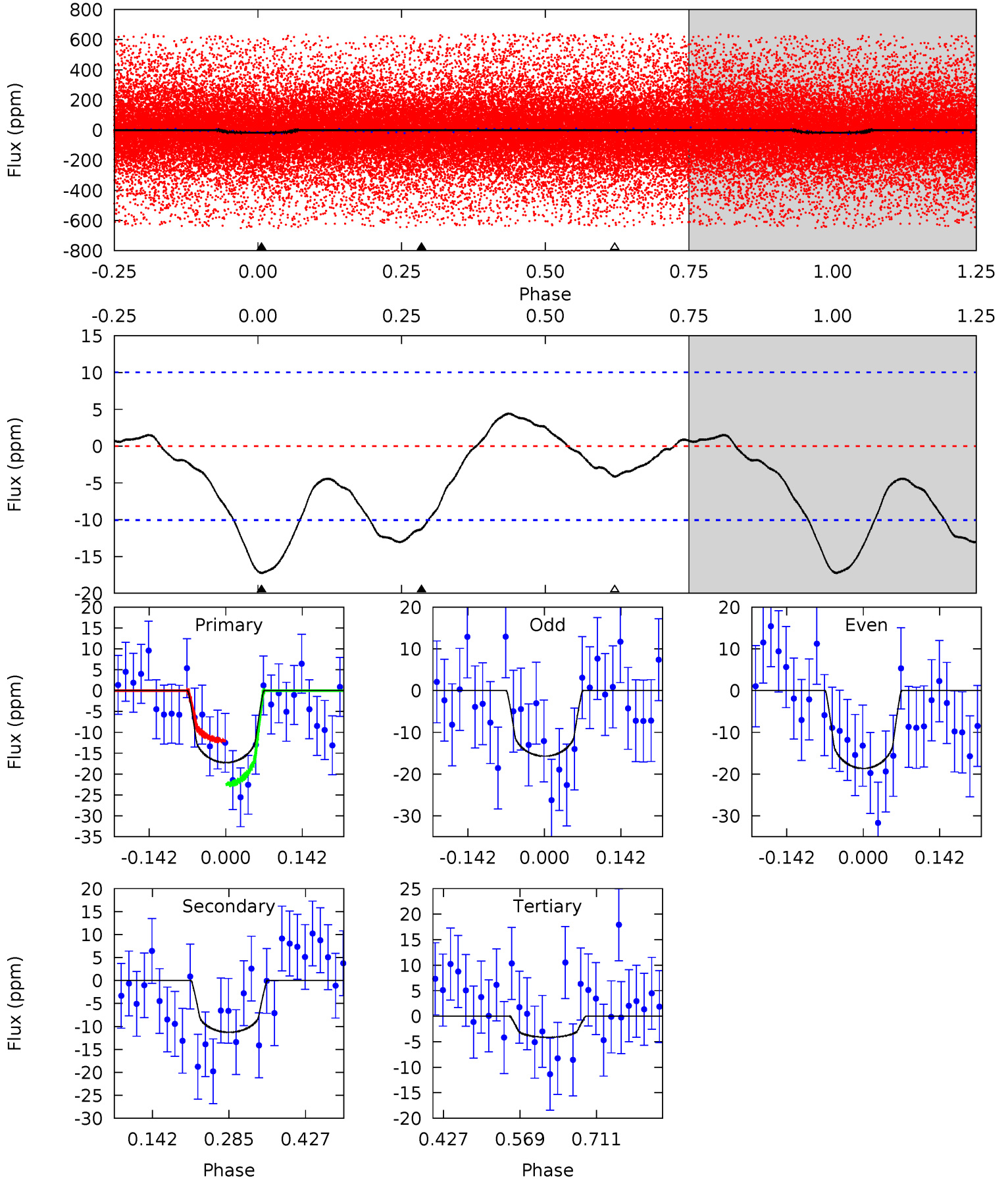
TCE 010421688-01 P= 1.295266 Days $T_0=131.513441$ (BKJD)



DV Model-Shift Uniqueness Test

010421688-01, P = 1.295432 Days, E = 131.501923 Days

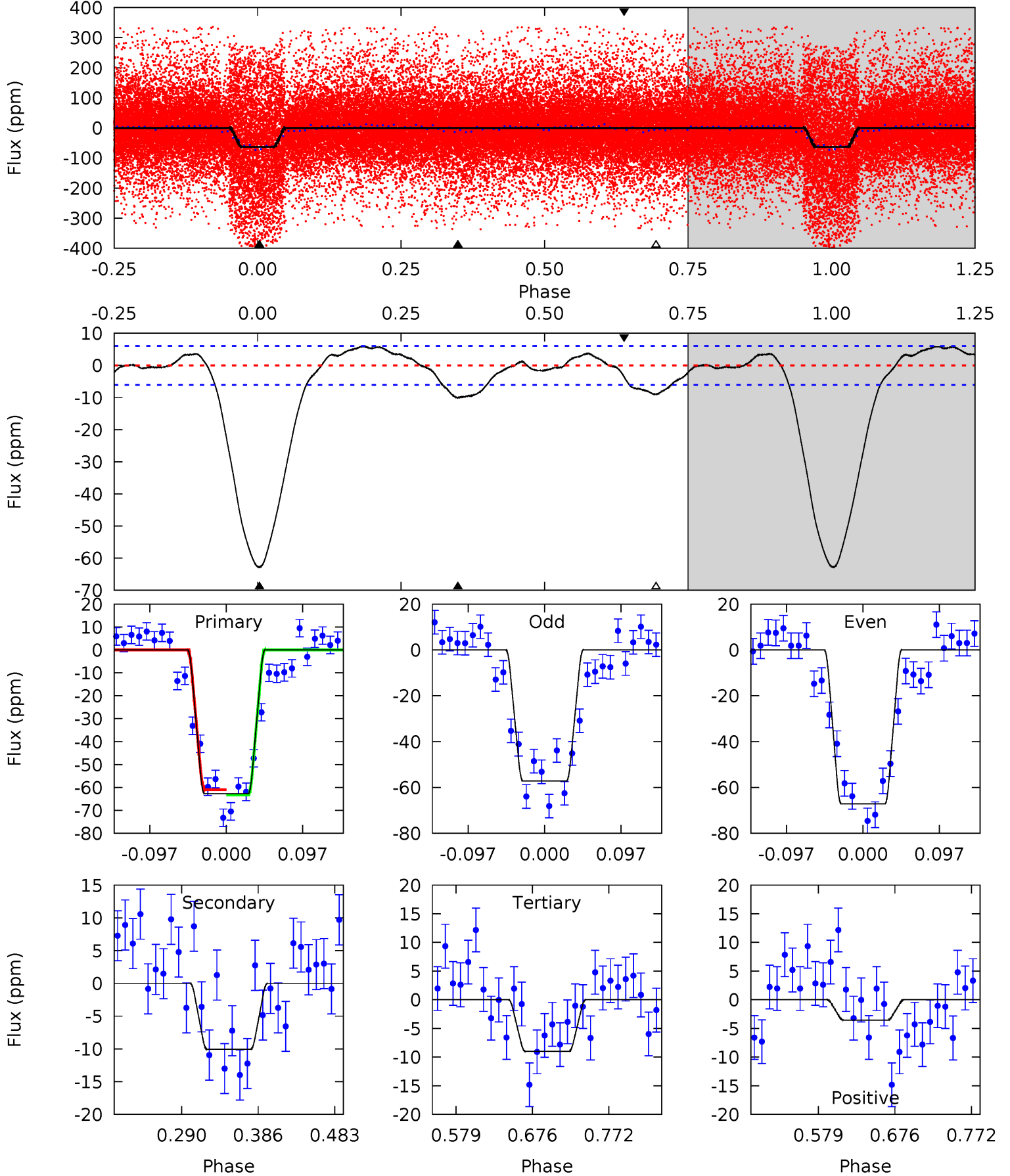
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.71	5.04	1.86	0	4.49	1.47	1.05	5.86	7.71	3.18	5.04	0.67	-3.32	0.20	2.42



Alt Model-Shift Uniqueness Test

010421688-01, P = 1.295266 Days, E = 131.513441 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
47.3	7.58	6.78	-2.69	4.57	1.66	2.90	40.5	50.0	0.80	10.3	3.80	0.97	0.08	0.89



Stellar Parameters For KIC 010421688

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5162^{+153}_{-138}	$3.846^{+0.756}_{-0.324}$	$-0.300^{+0.350}_{-0.250}$	$1.836^{+1.135}_{-1.135}$	$0.862^{+0.186}_{-0.124}$	$0.196^{+2.821}_{-0.135}$
	+3%/-3%	+20%/-8%	+117%/-83%	+62%/-62%	+22%/-14%	+1437%/-69%
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 010421688-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-11 ± 2	$0.96^{+0.63}_{-0.53}$	2837^{+418}_{-509}	4213^{+1379}_{-639}	$3.321^{+13.048}_{-2.147}$
Alt.	-10 ± 1	$1.48^{+0.82}_{-0.63}$	2831^{+432}_{-472}	3437^{+611}_{-471}	$1.245^{+2.629}_{-0.711}$

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 $A_{\text{obs}} \gg 1.0$

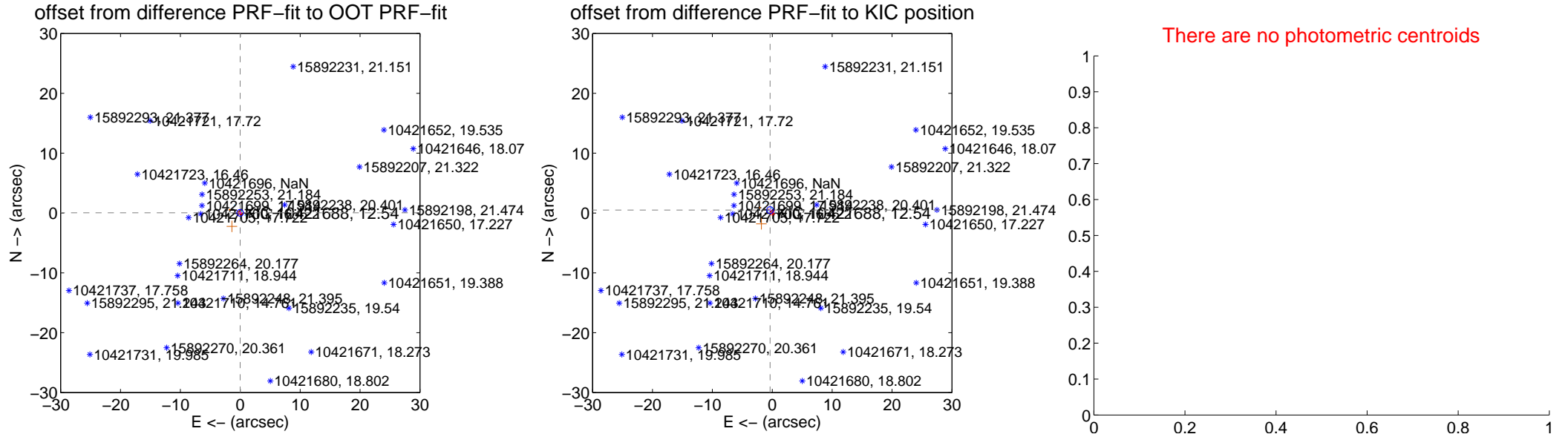
DV Centroid Data

Supplemental centroid analysis for 010421688-01. Kepler magnitude: 12.54. Transit SNR 5.41

There are 11 quarters with good PRF difference image offsets

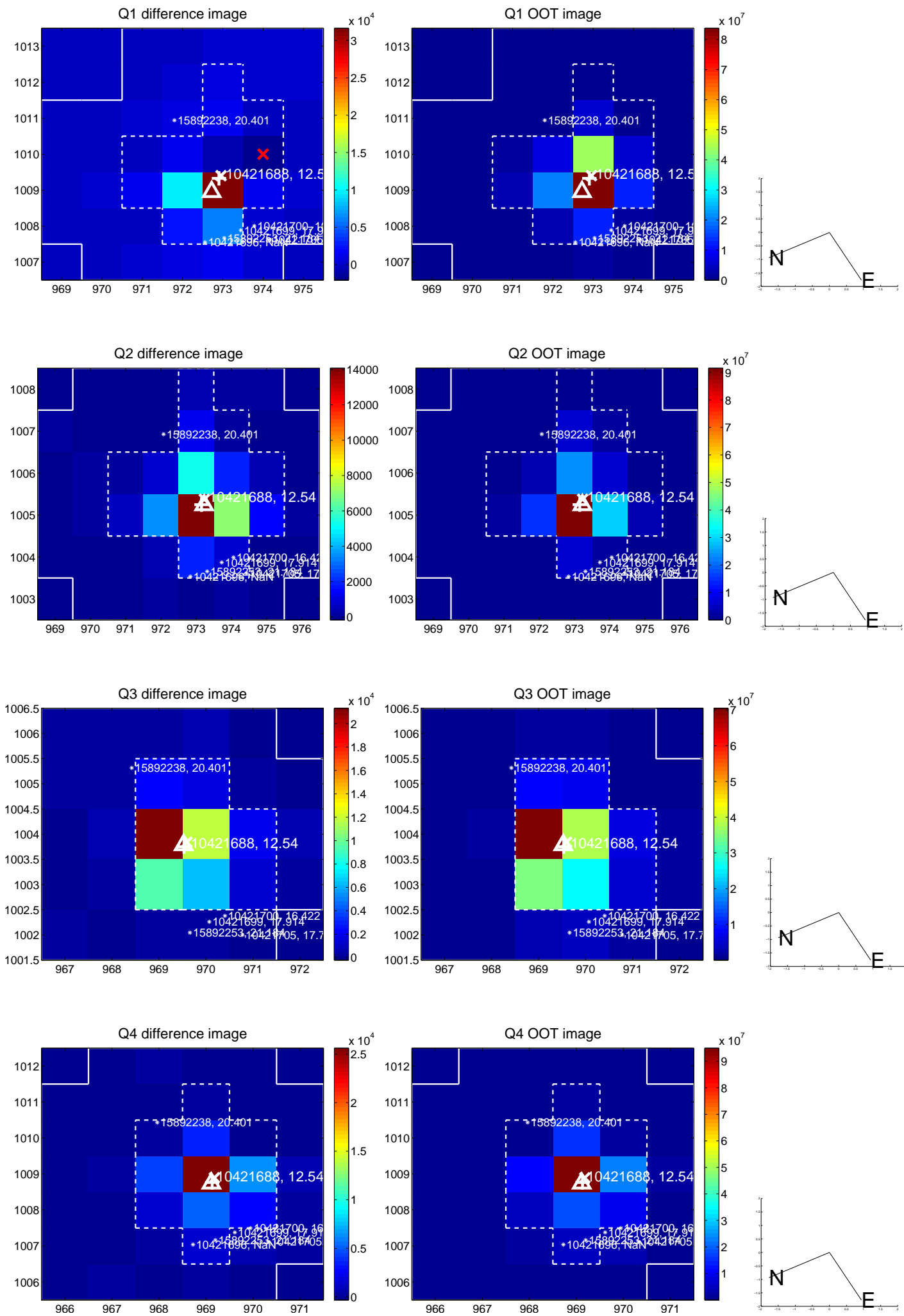
The direct PRF centroid is offset from the target star catalog position by about 0.59 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.040 ± 0.187	0.21	0.026 ± 0.192	0.031 ± 0.194
PRF-fit source offset from KIC position	0.604 ± 0.190	3.18	0.361 ± 0.183	0.484 ± 0.203
photometric centroid source offset	—	—	—	—

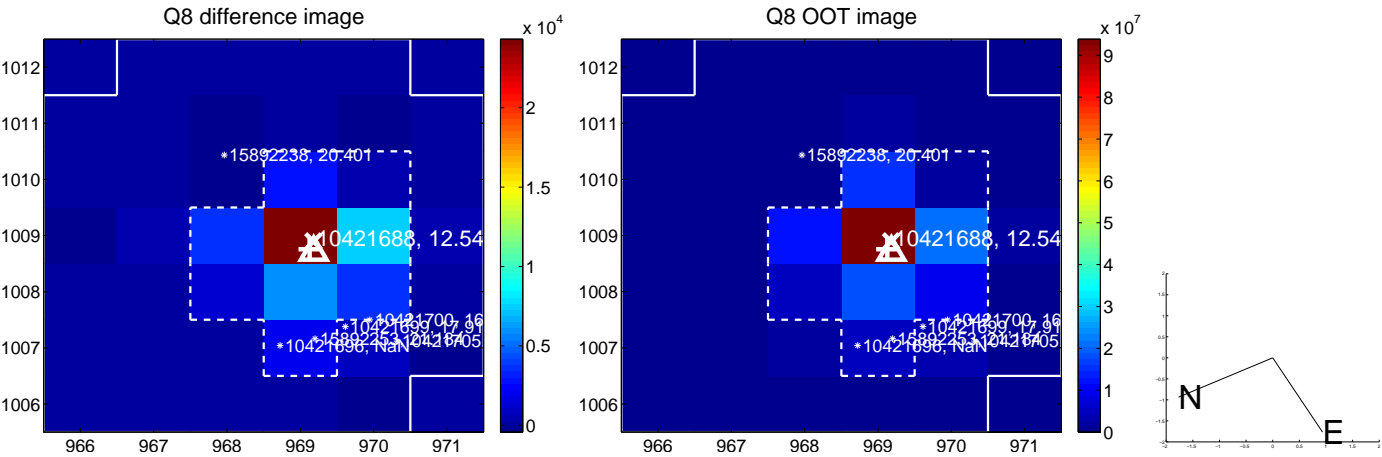
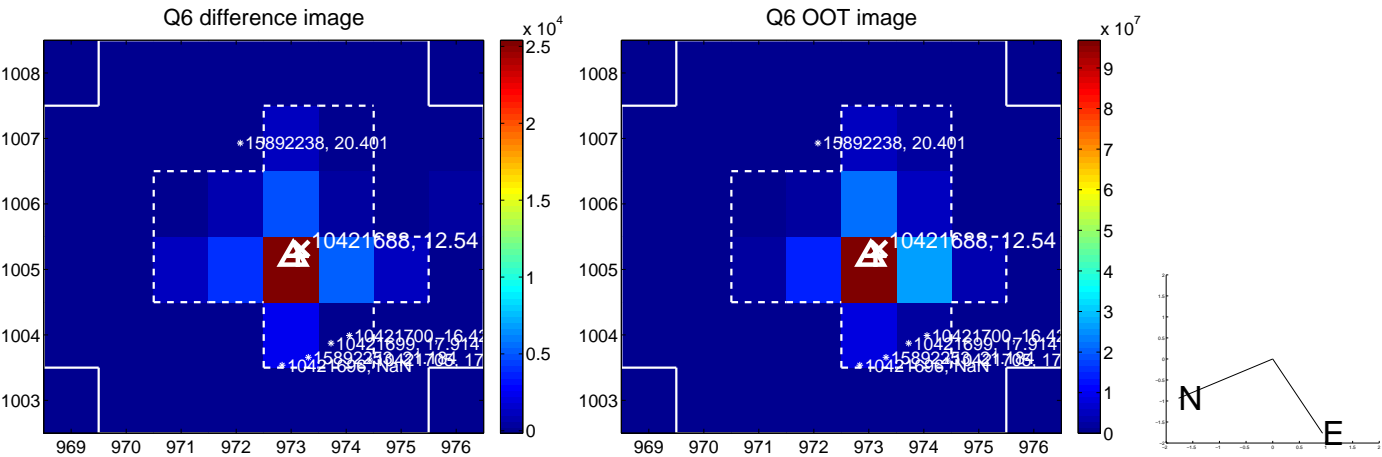
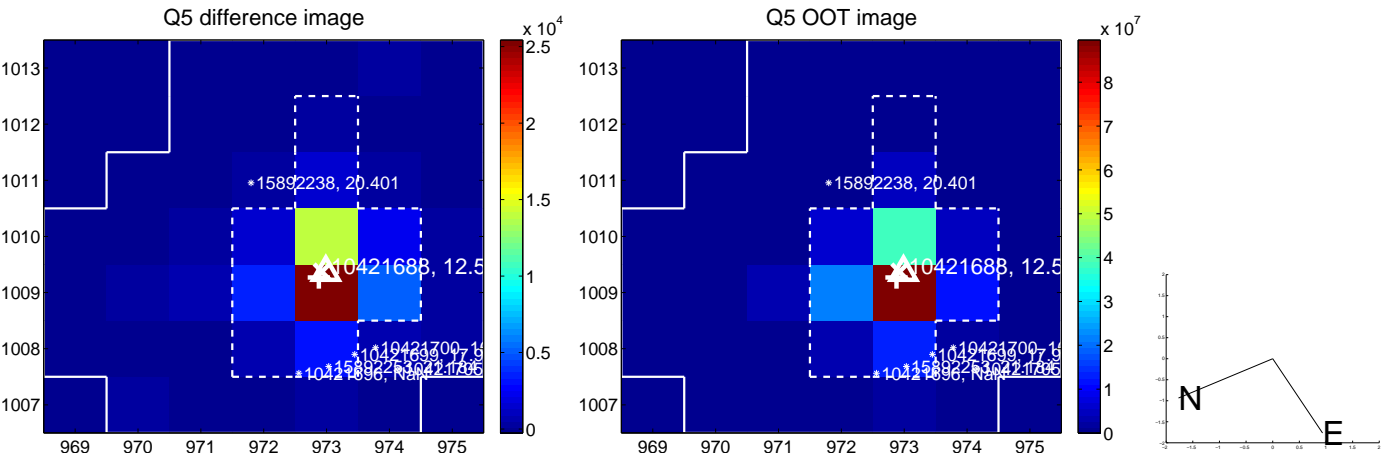


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

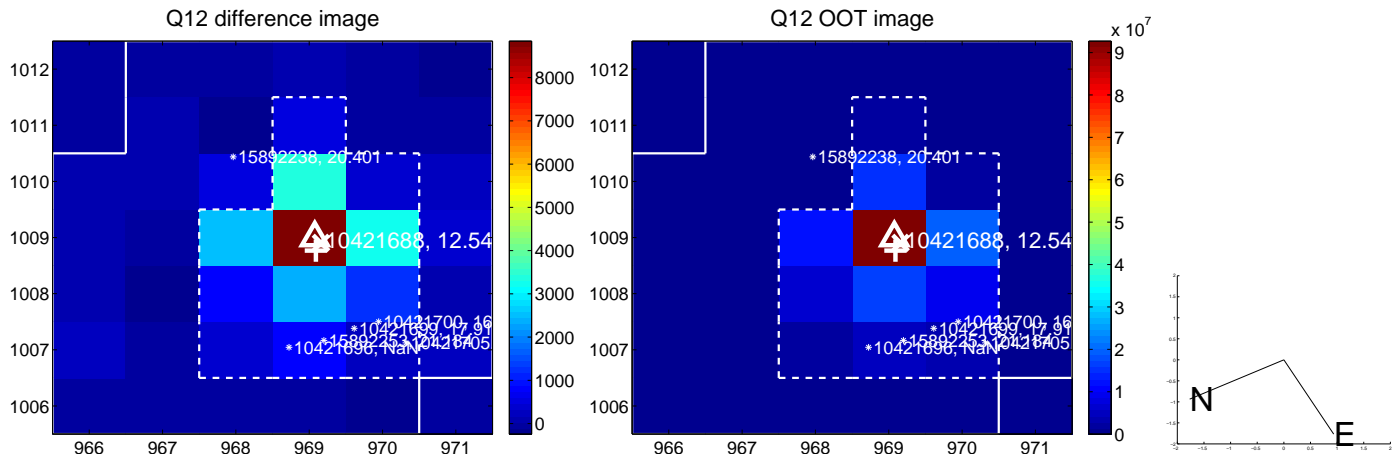
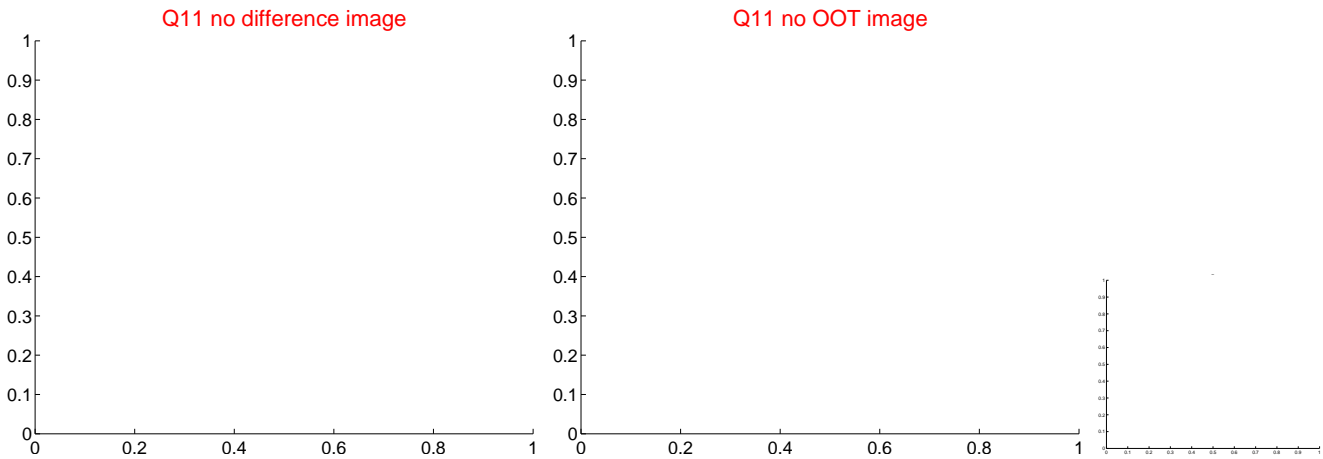
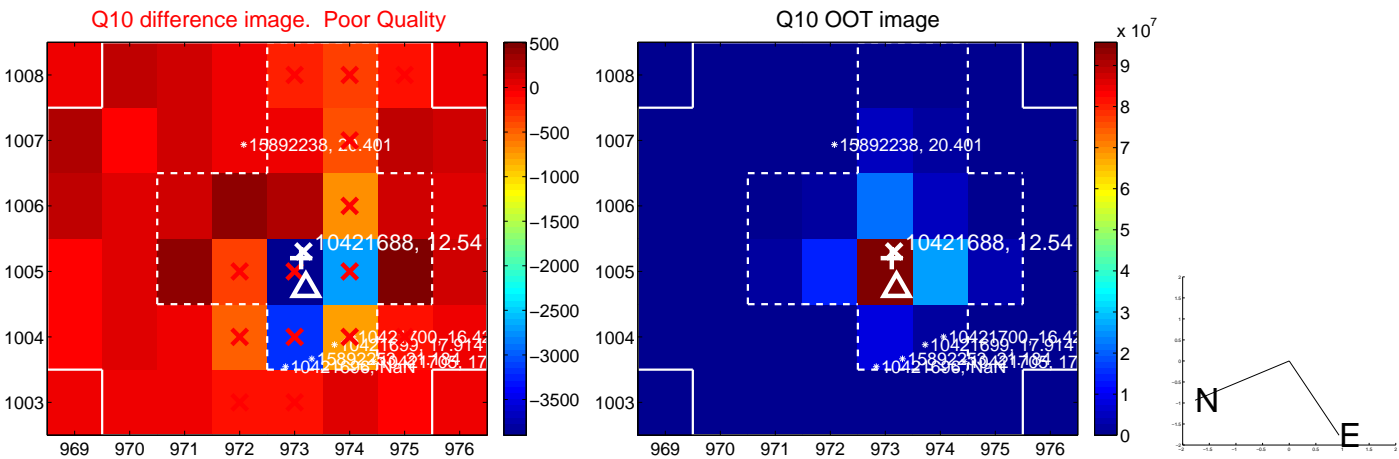
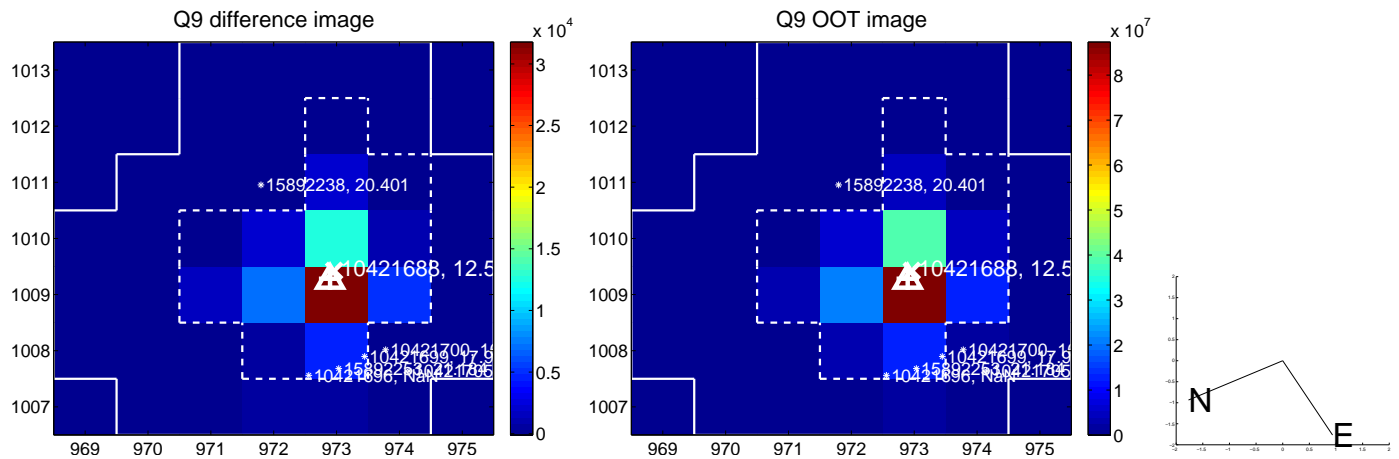
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



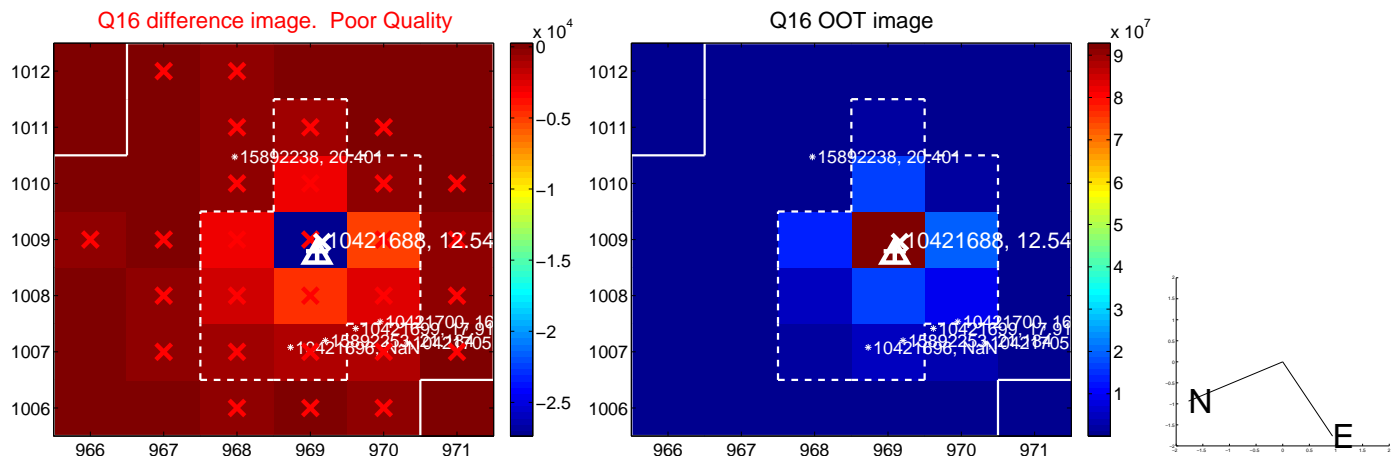
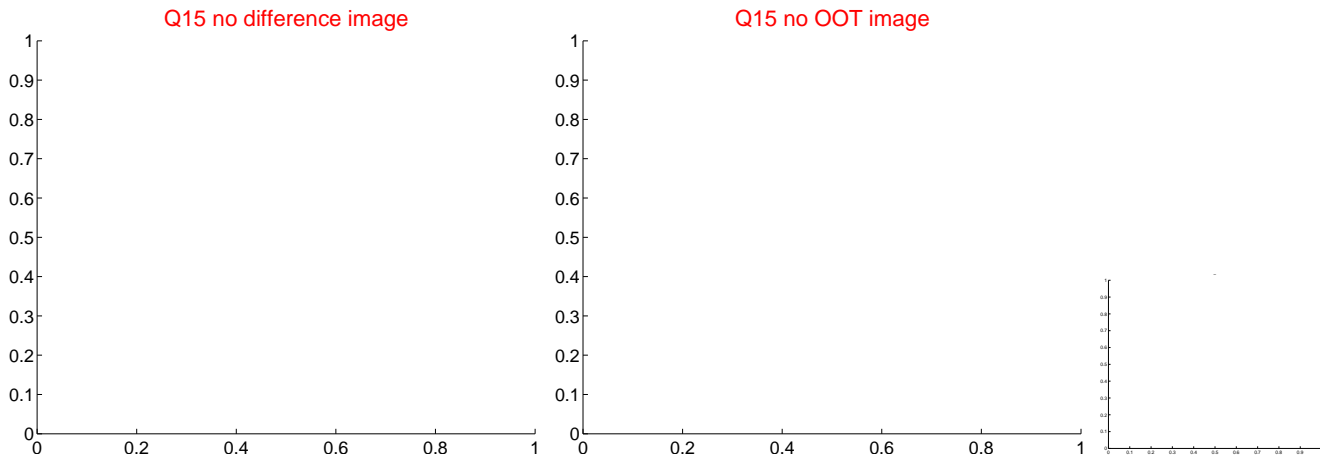
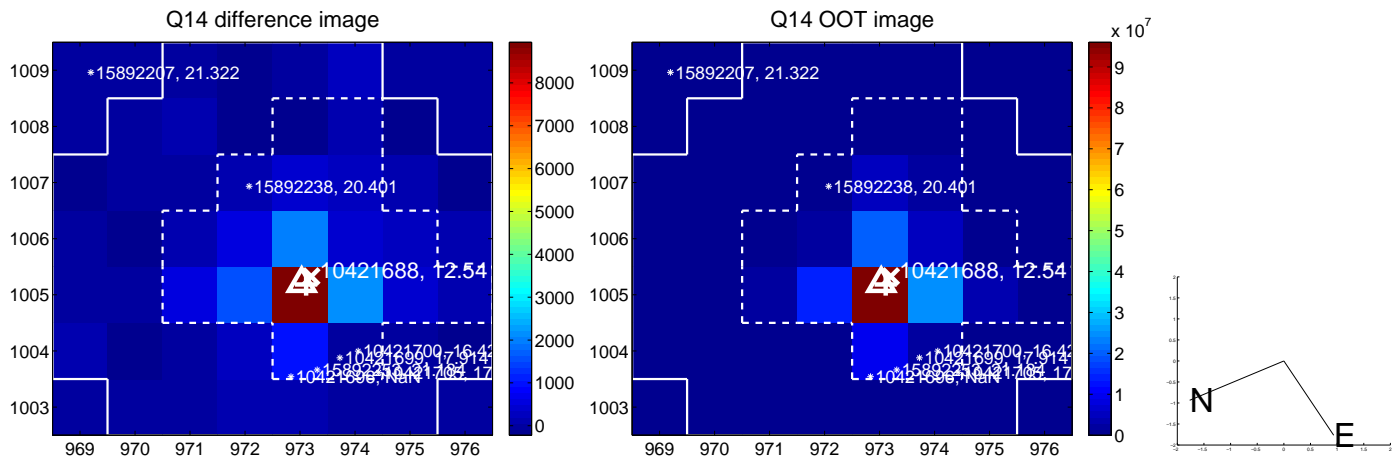
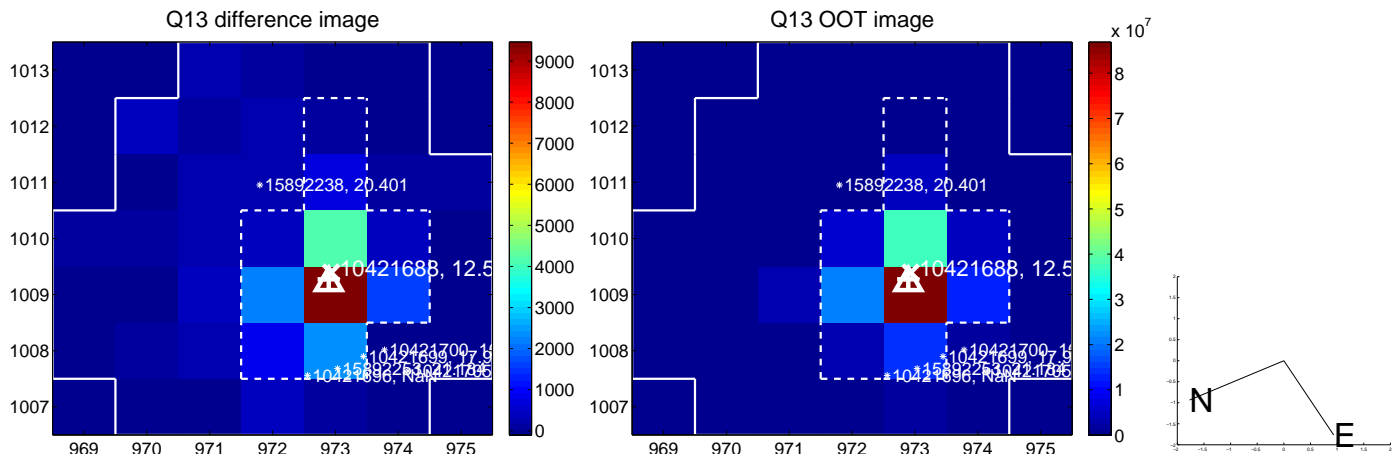
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



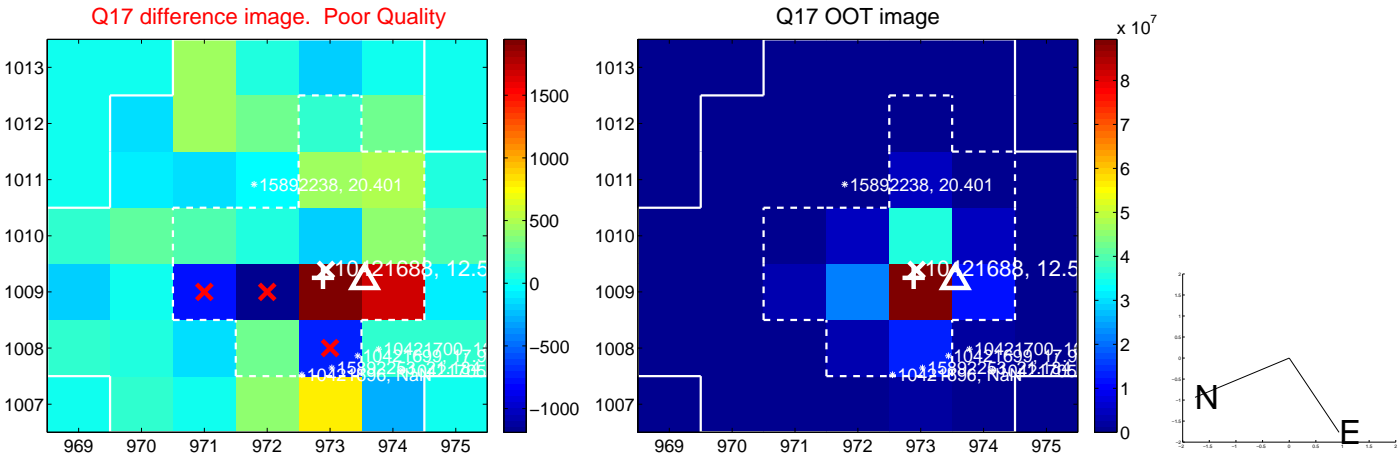
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



folded centroid time series figure for this object.

UKIRT Image

Declination

