

KIC 004168579

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})
004168579-01	OBS	No	4.515264	133.364642	38.1	18.677	8.8	9.6	2.78	7757	1.98	5646.35

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004168579-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT

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

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

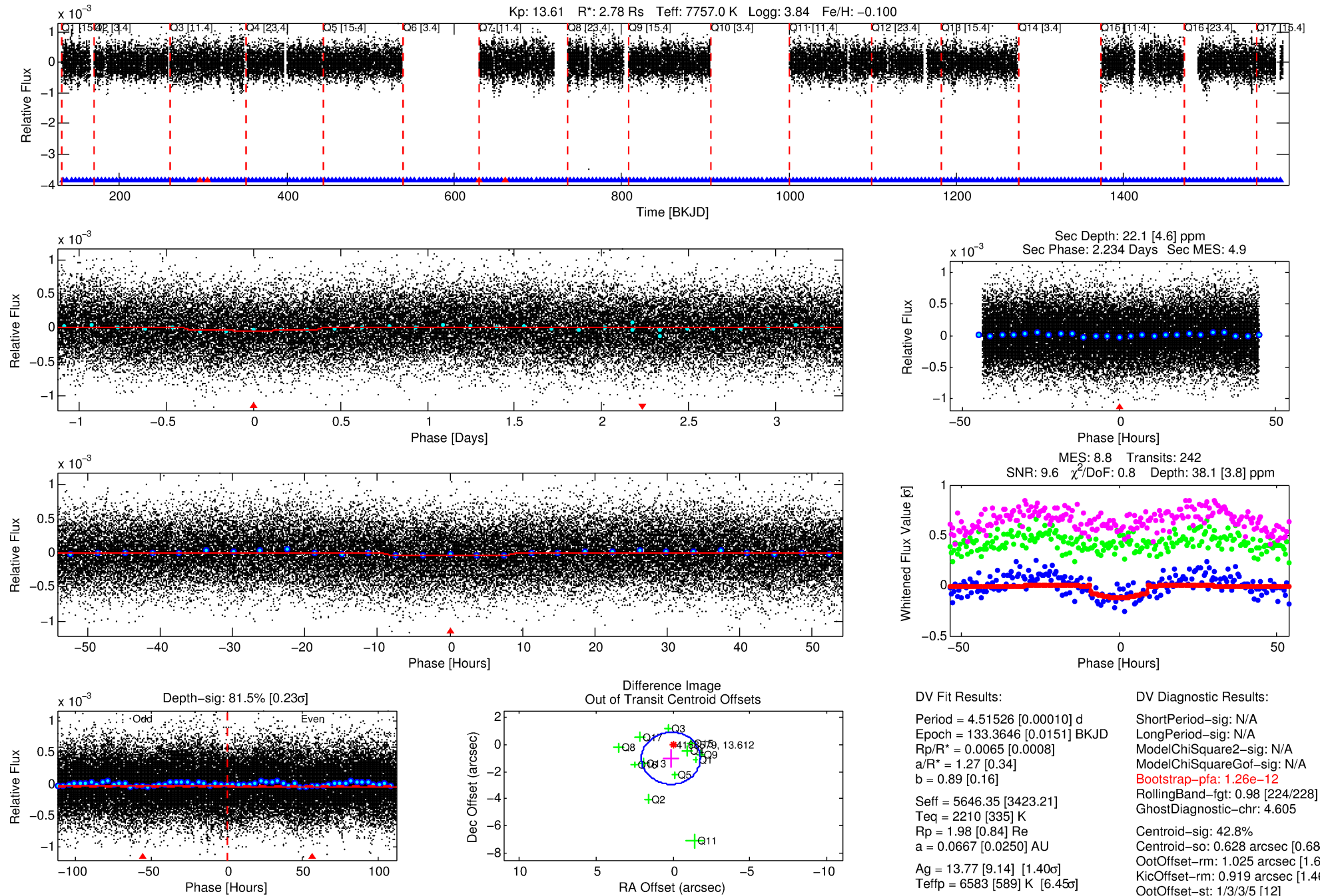
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 004168579-01

No Significant Match Found

DV One-Page Summary

KIC: 4168579 Candidate: 1 of 1 Period: 4.515 d



DV Fit Results:

Period = 4.51526 [0.00010] d
Epoch = 133.3646 [0.0151] BKJD
Rp/R* = 0.0065 [0.0008]
a/R* = 1.27 [0.34]
b = 0.89 [0.16]
Seff = 5646.35 [3423.21]
Teff = 2210 [335] K
Rp = 1.98 [0.84] Re
a = 0.0667 [0.0250] AU
Ag = 13.77 [9.14] [1.40 σ]
Teffp = 6583 [589] K [6.45 σ]

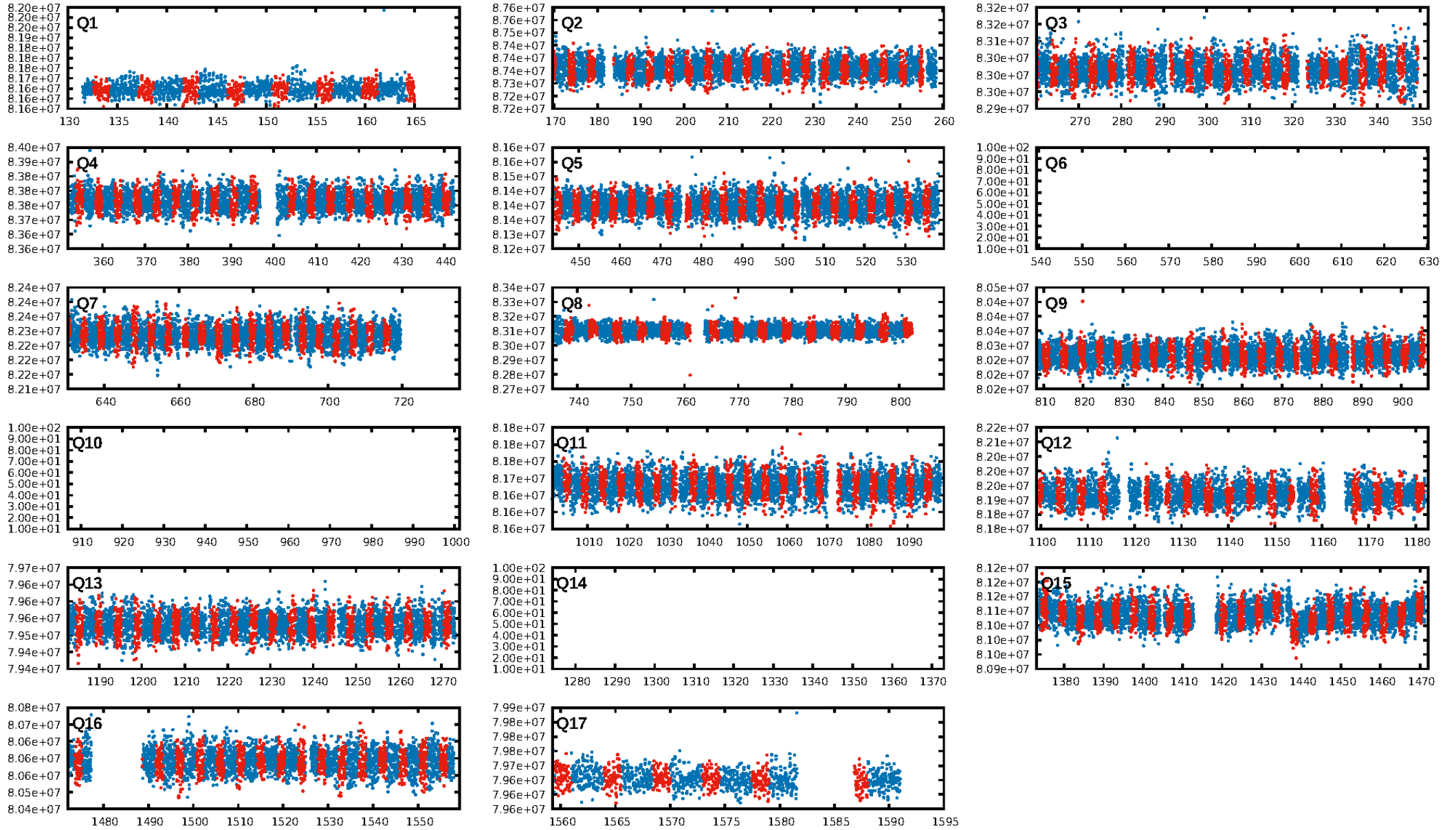
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.26e-12
RollingBand-fgt: 0.98 [224/228]
GhostDiagnostic-chr: 4.605
Centroid-sig: 42.8%
Centroid-so: 0.628 arcsec [0.68 σ]
OotOffset-rm: 1.025 arcsec [1.61 σ]
KicOffset-rm: 0.919 arcsec [1.46 σ]
OotOffset-st: 1/3/3/5 [12]
KicOffset-st: 1/3/3/5 [12]
DiffImageQuality-fgm: 0.75 [9/12]
DiffImageOverlap-fno: 1.00 [14/14]

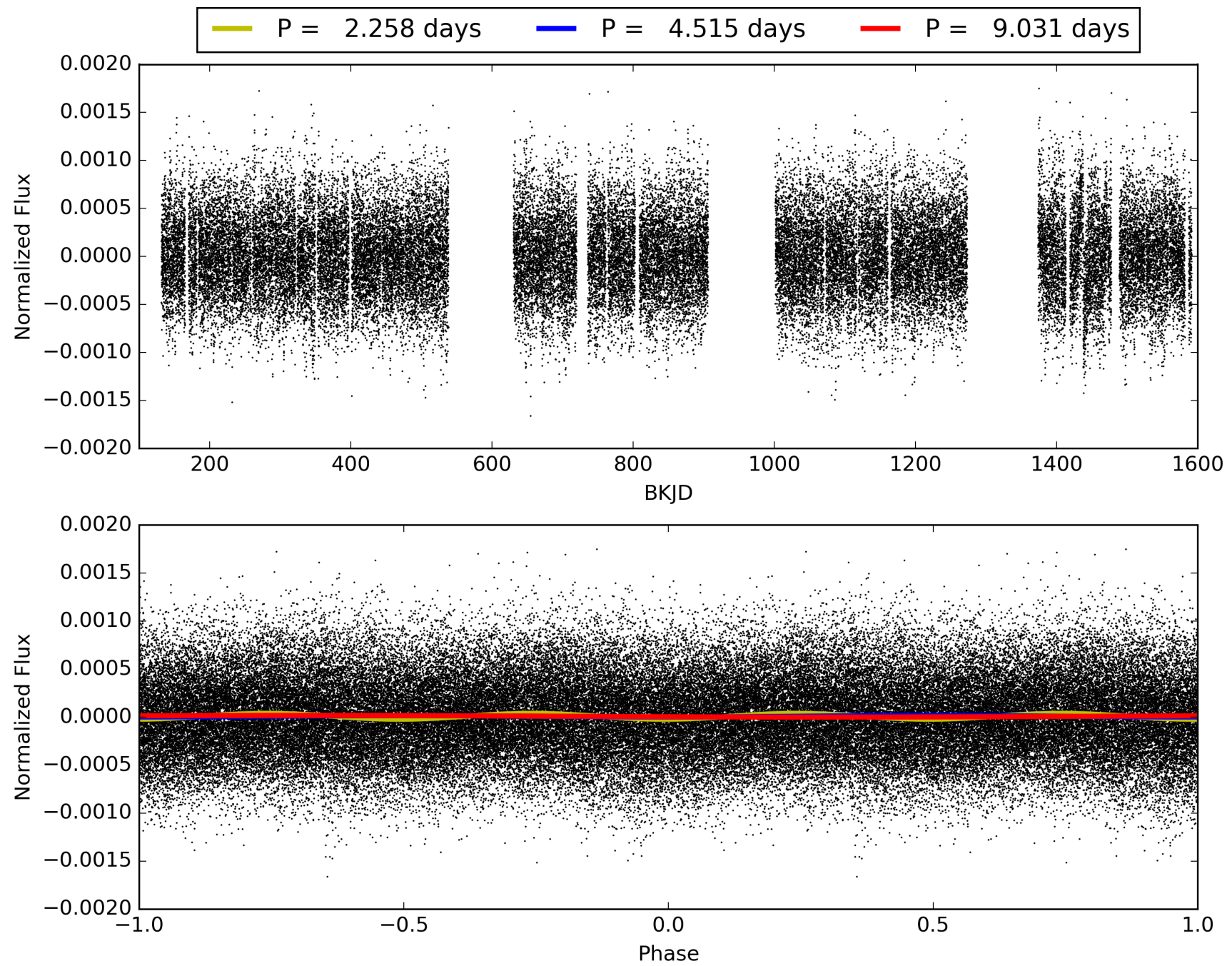
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 12:40:54 Z

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

TCE 004168579-01, PDC Light Curves

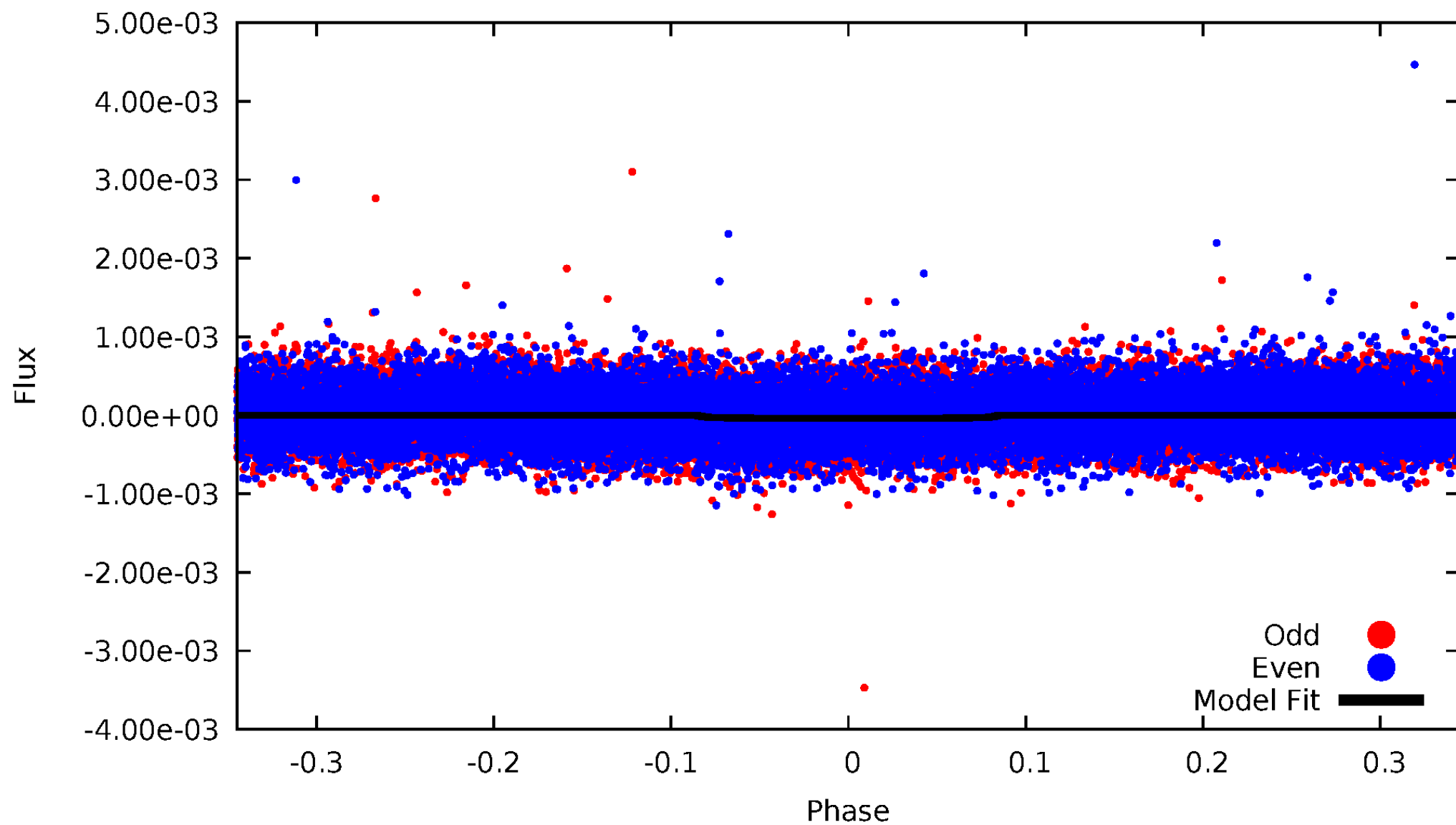


TCE 004168579-01



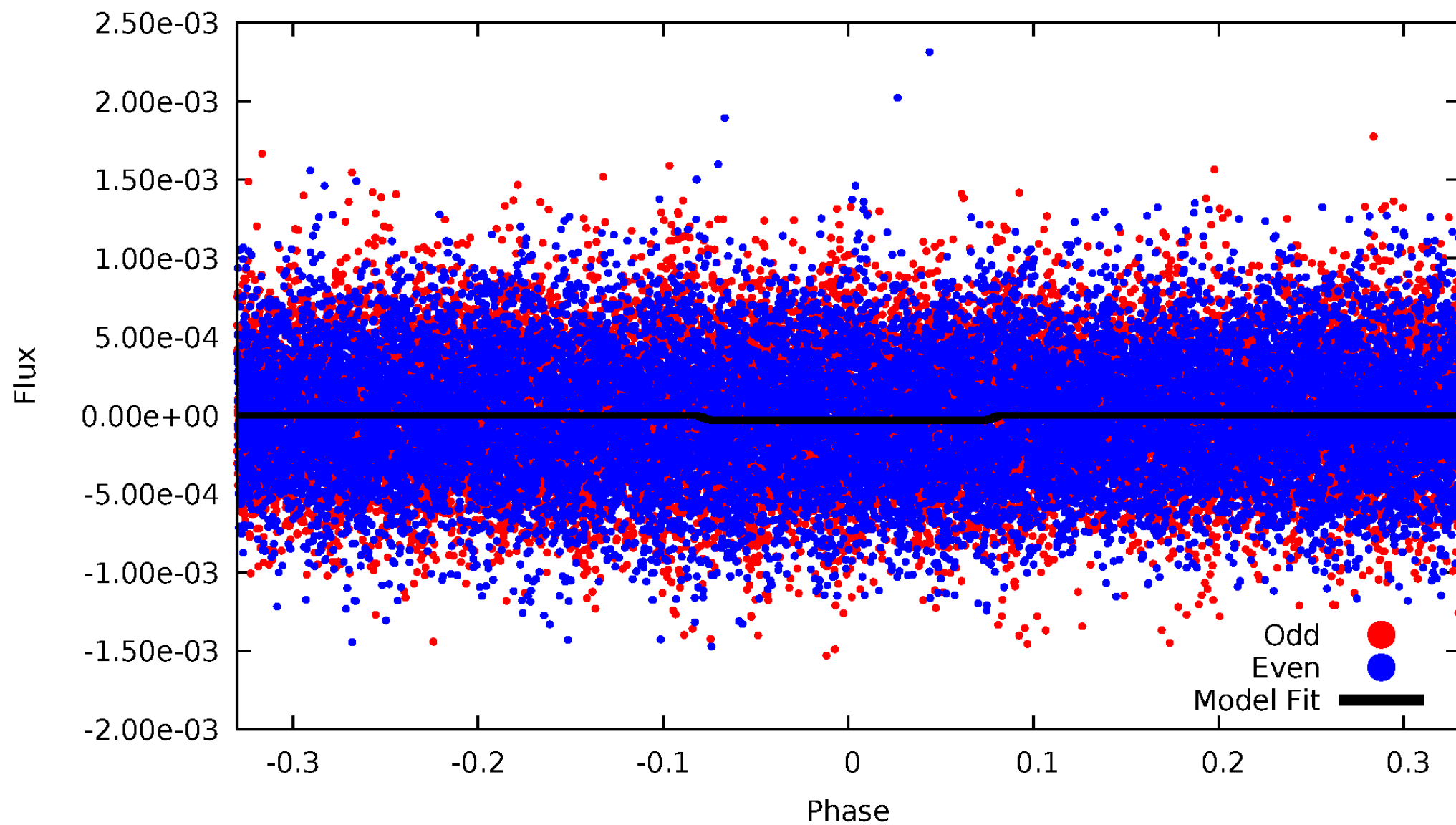
DV Odd/Even

TCE 004168579-01



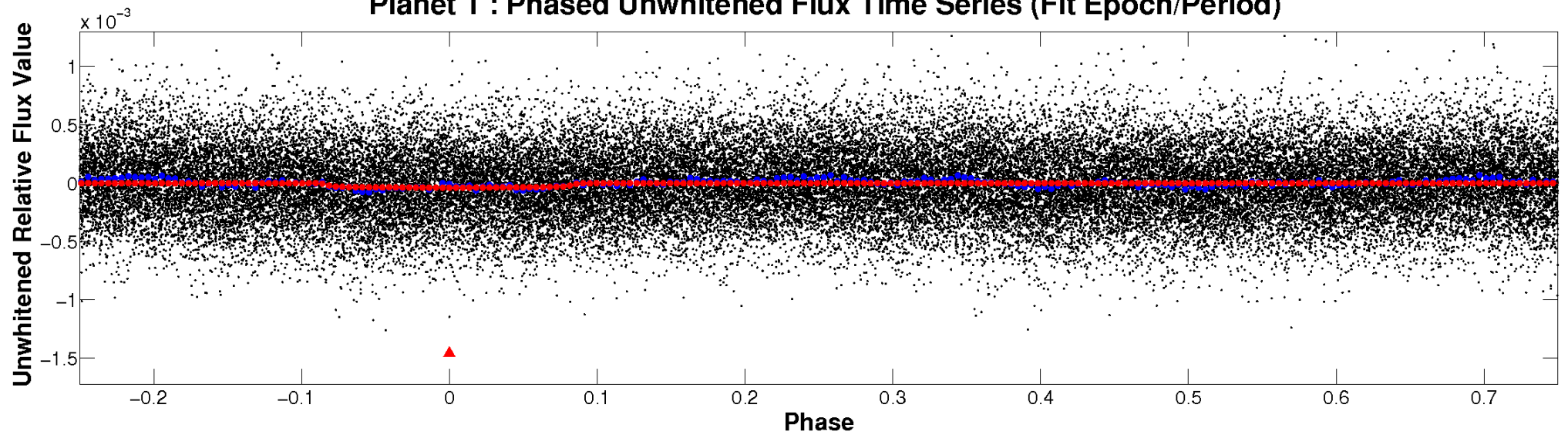
ALT Odd/Even

TCE 004168579-01

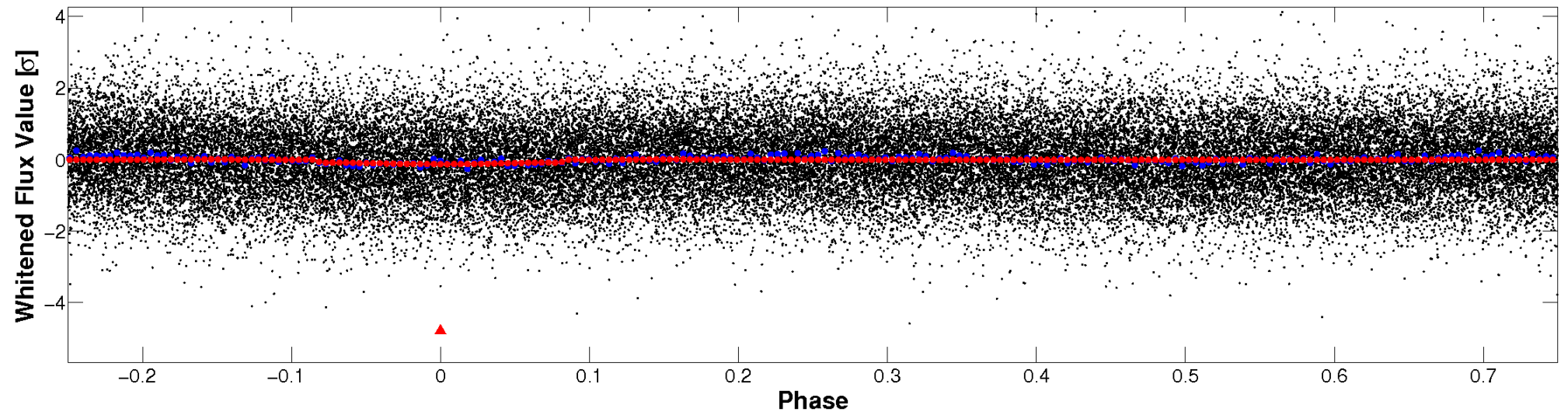


Non-Whitened Vs. Whitened Light Curve

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

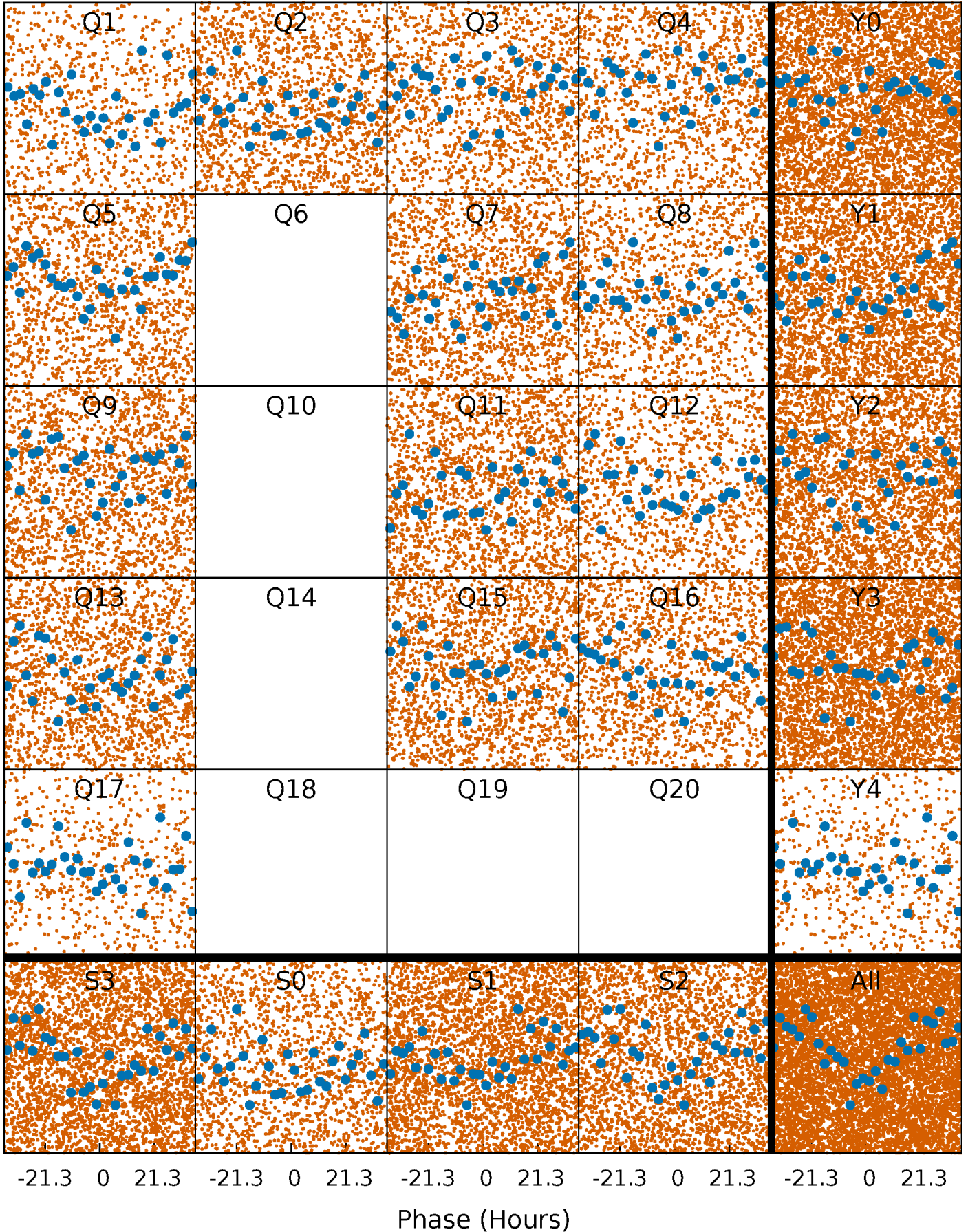


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



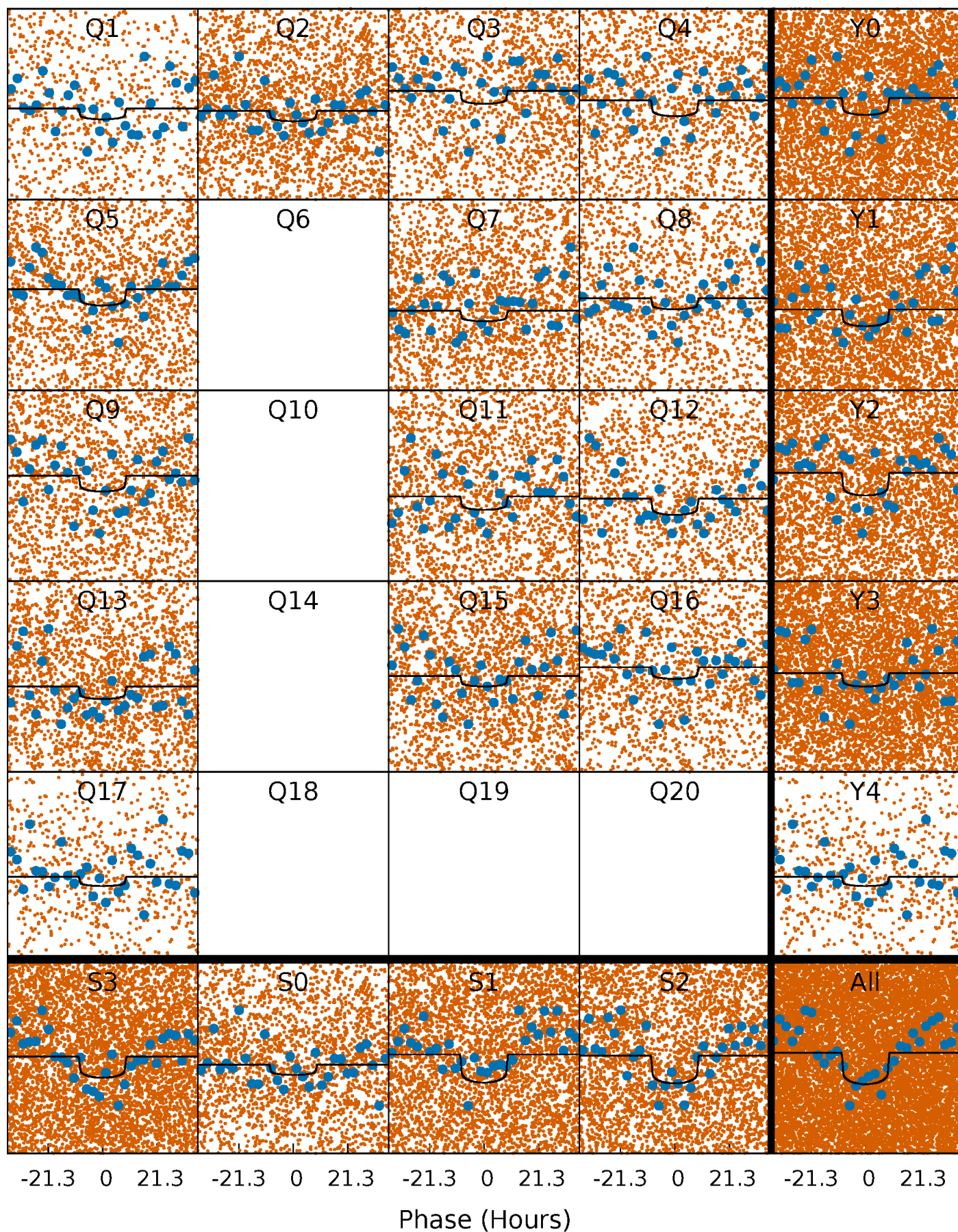
PDC Quarter-Phased Transit Curves

TCE 004168579-01 P= 4.515264 Days $T_0=133.364642$ (BKJD)



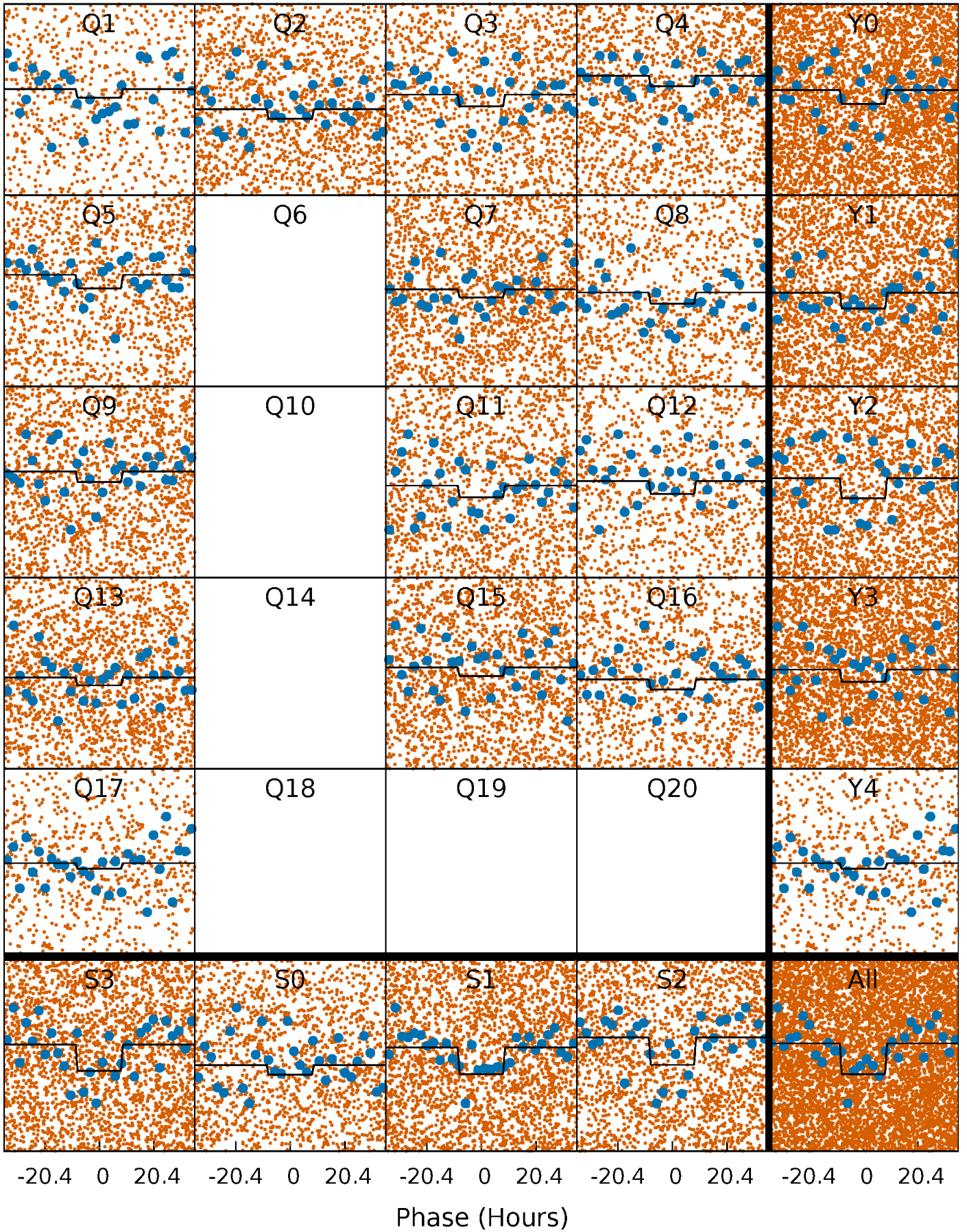
DV Quarter-Phased Transit Curves

TCE 004168579-01 P= 4.515264 Days $T_0=133.364642$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

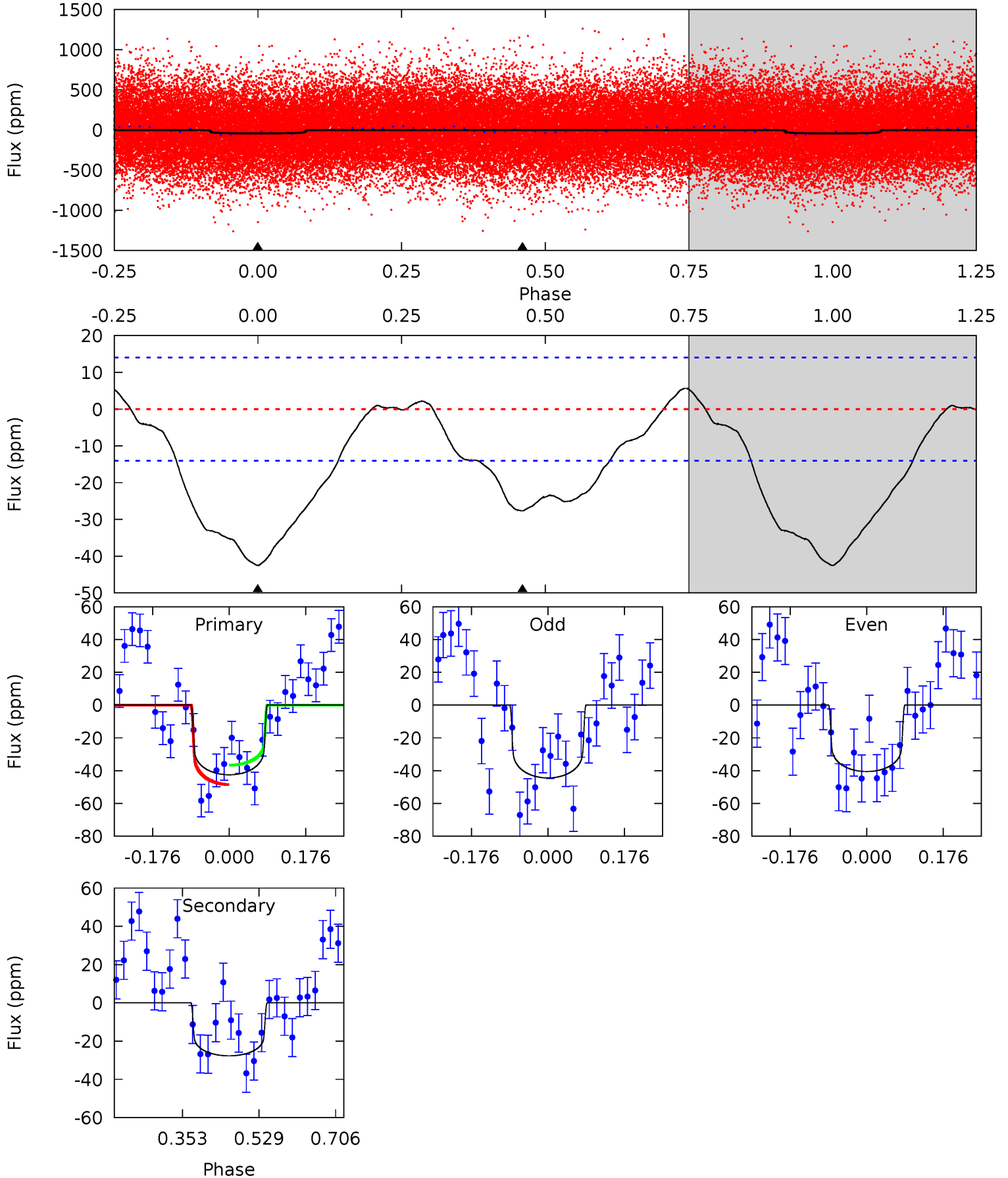
TCE 004168579-01 P= 4.515182 Days $T_0=133.371181$ (BKJD)



DV Model-Shift Uniqueness Test

004168579-01, P = 4.515264 Days, E = 128.849378 Days

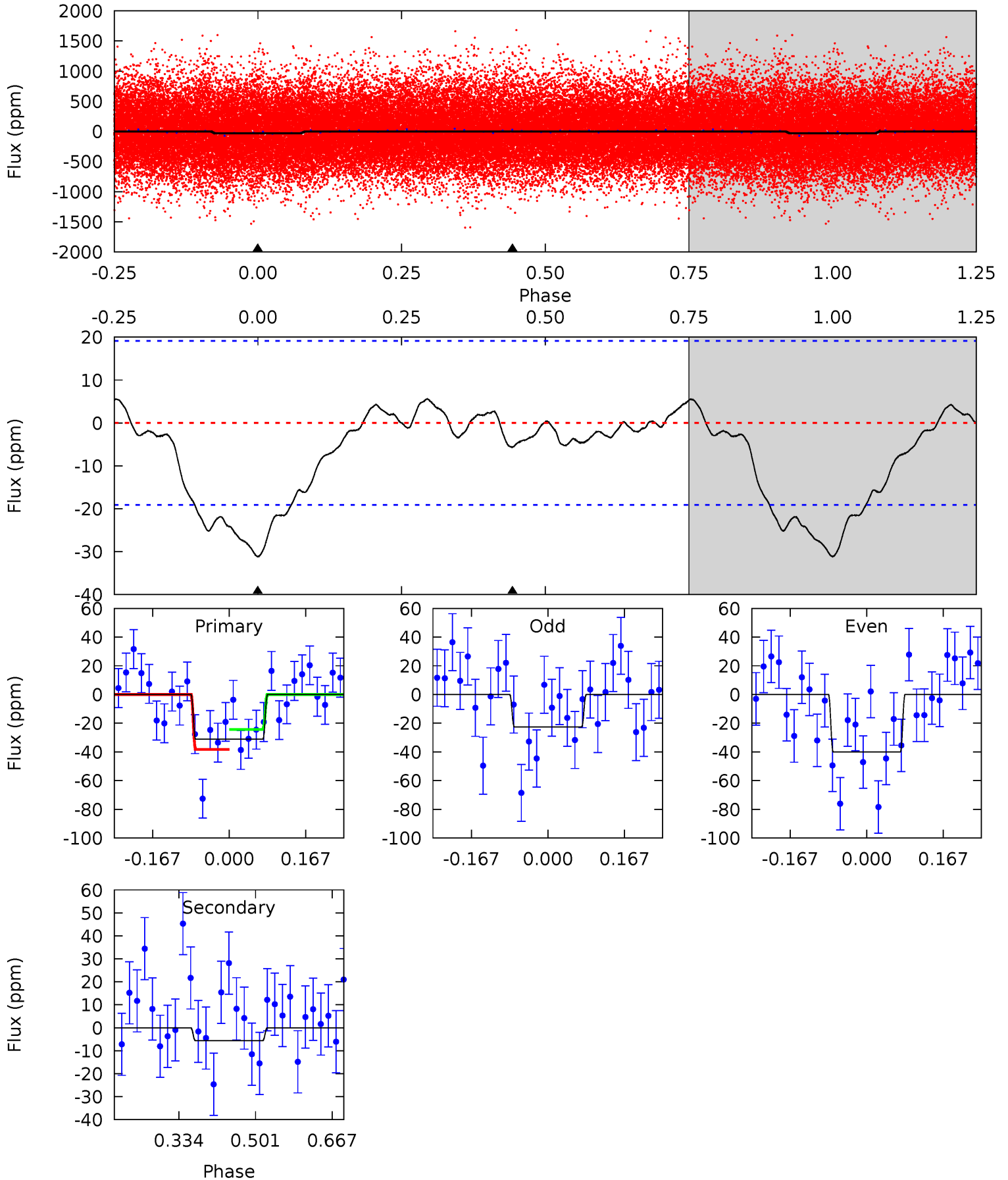
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.5	8.76	0	0	4.44	1.35	1.22	13.5	13.5	8.76	8.76	0.62	0.90	0.12	1.86



Alt Model-Shift Uniqueness Test

004168579-01, P = 4.515182 Days, E = 128.855999 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.25	1.31	0	0	4.46	1.38	0.57	7.25	7.25	1.31	1.31	2.02	0.81	0.15	1.60



Stellar Parameters For KIC 004168579

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7757^{+215}_{-323}	$3.837^{+0.336}_{-0.105}$	$-0.100^{+0.200}_{-0.350}$	$2.783^{+0.378}_{-1.134}$	$1.941^{+0.110}_{-0.467}$	$0.127^{+0.302}_{-0.043}$
	+3%/-4%	+9%/-3%	+200%/-350%	+14%/-41%	+6%/-24%	+238%/-34%
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 004168579-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-28 ± 3	$1.87^{+0.33}_{-0.44}$	3012^{+204}_{-298}	6801^{+577}_{-506}	19^{+11}_{-6}
Alt.	-6 ± 4	$1.61^{+0.33}_{-0.35}$	3023^{+191}_{-284}	4906^{+757}_{-1306}	$4.888^{+5.331}_{-3.736}$

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 $A_{obs} \gg 1.0$

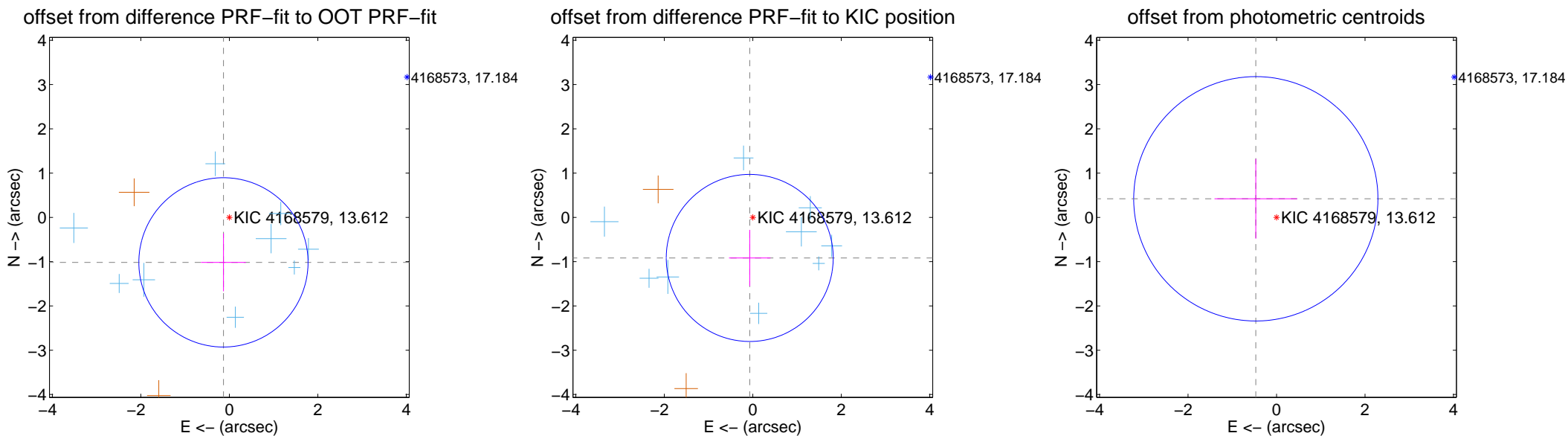
DV Centroid Data

Supplemental centroid analysis for 004168579-01. Kepler magnitude: 13.61. Transit SNR 9.61

There are 9 quarters with good PRF difference image offsets

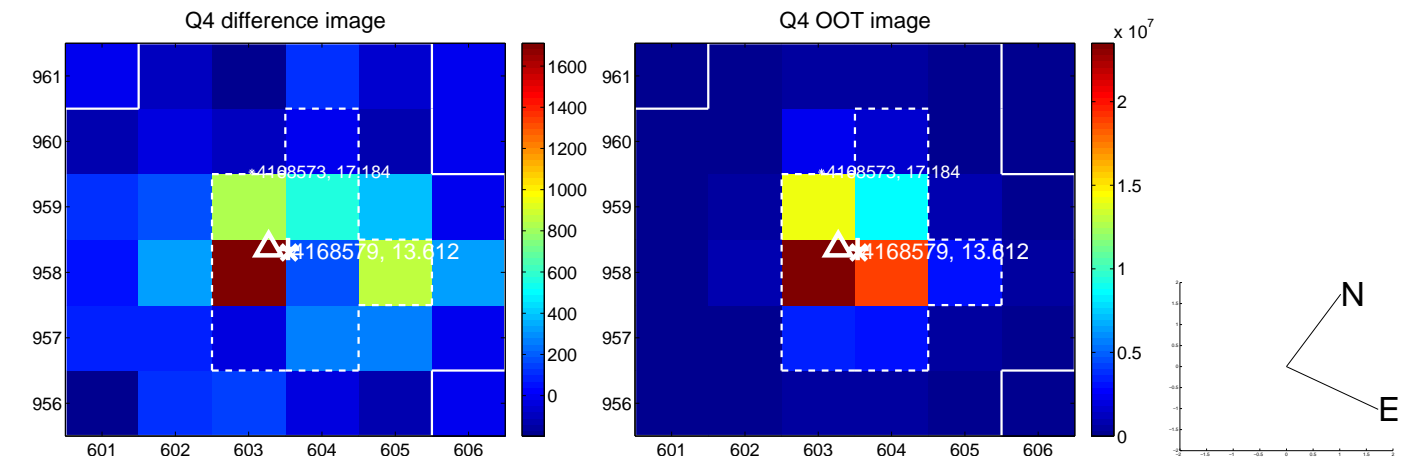
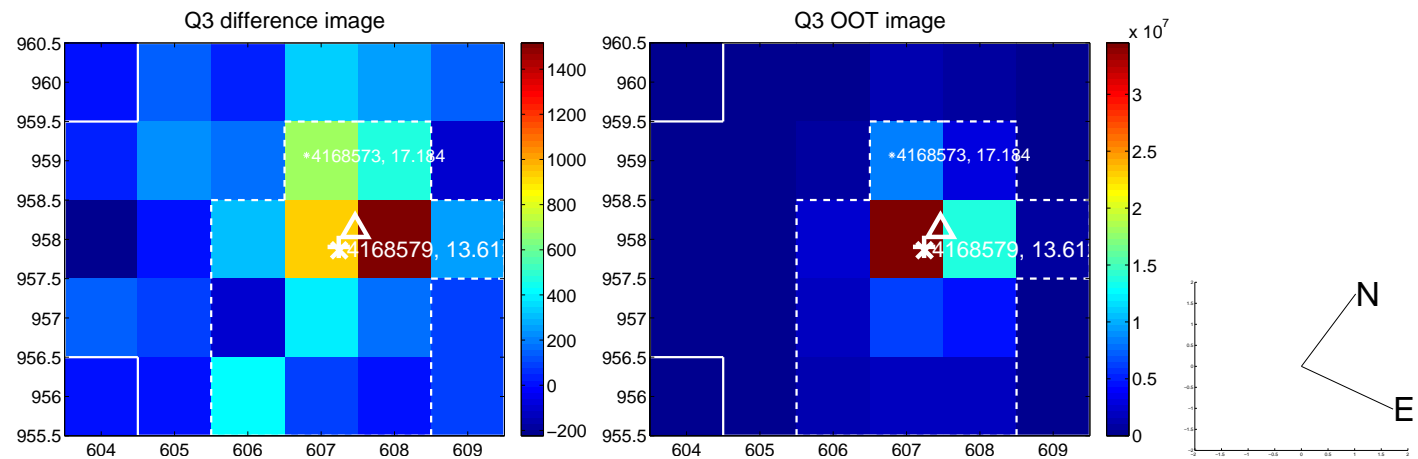
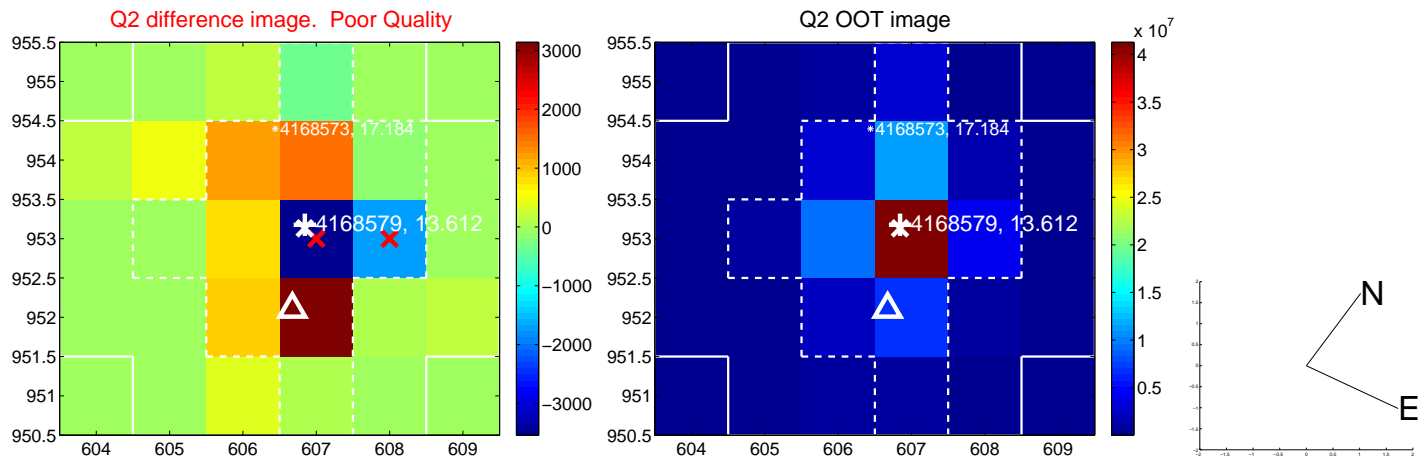
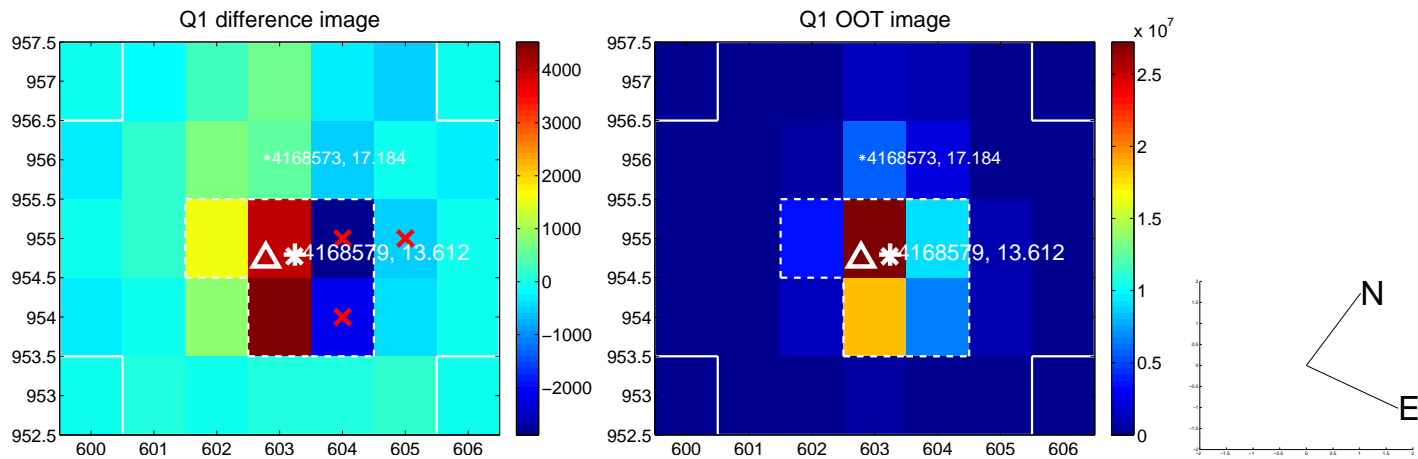
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.025 ± 0.637	1.61	0.133 ± 0.507	-1.016 ± 0.654
PRF-fit source offset from KIC position	0.919 ± 0.629	1.46	0.069 ± 0.468	-0.916 ± 0.634
photometric centroid source offset	0.63 ± 0.92	0.68	0.47 ± 0.93	0.42 ± 0.90

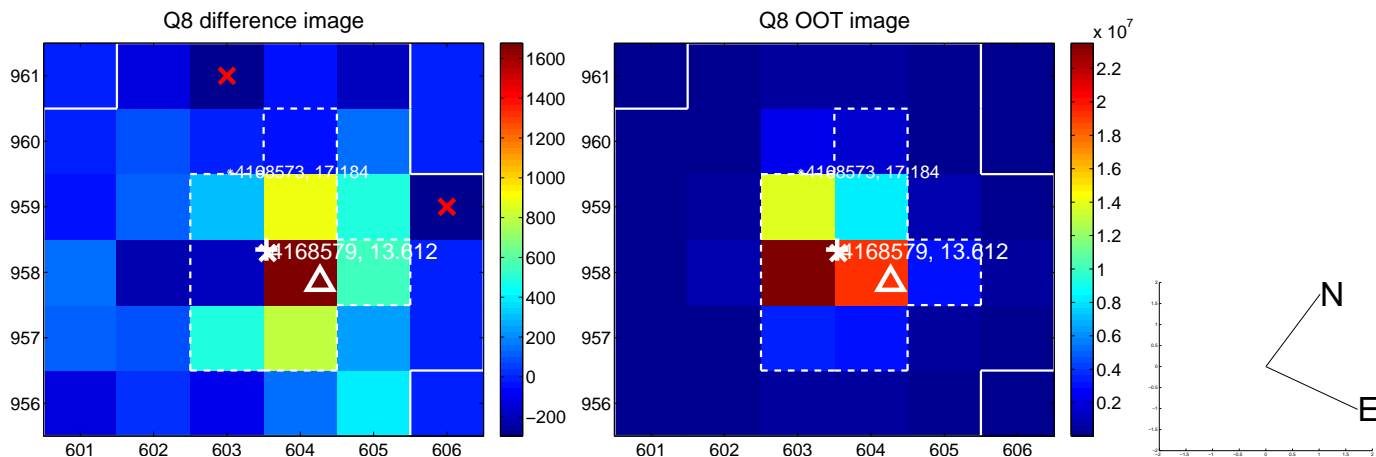
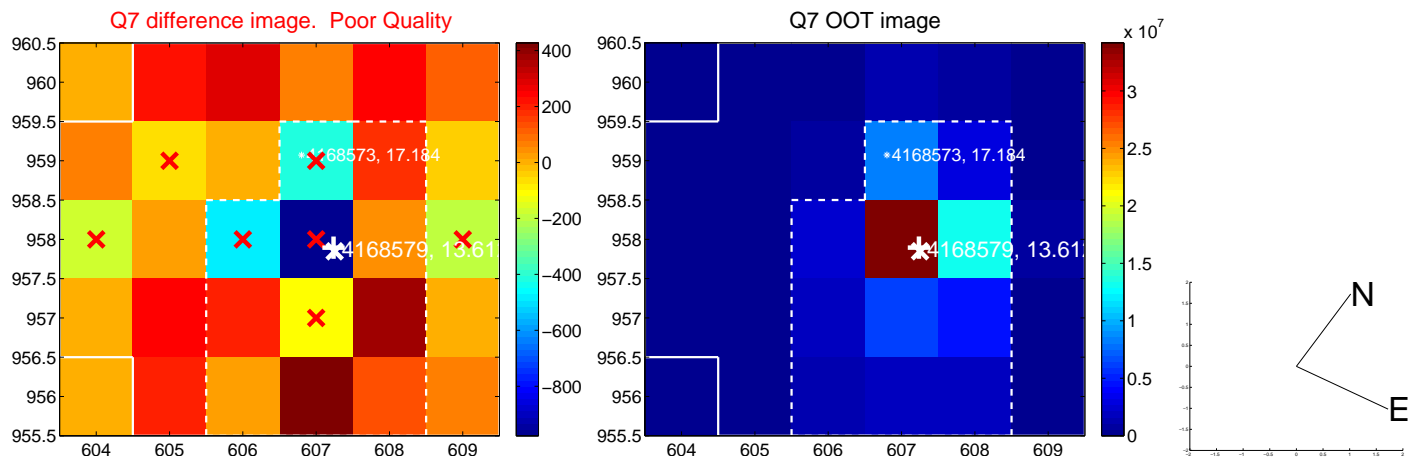
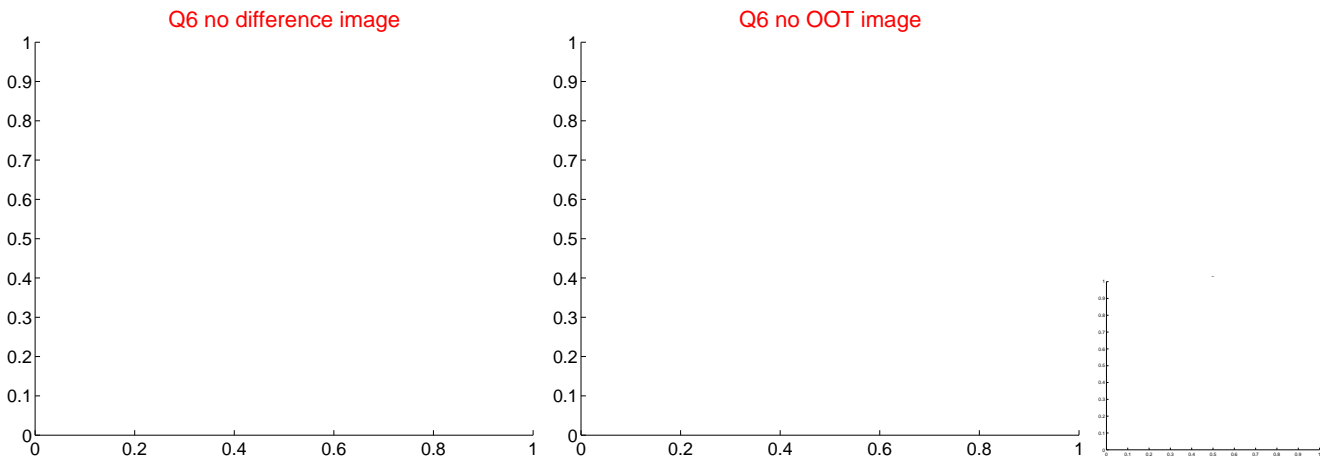
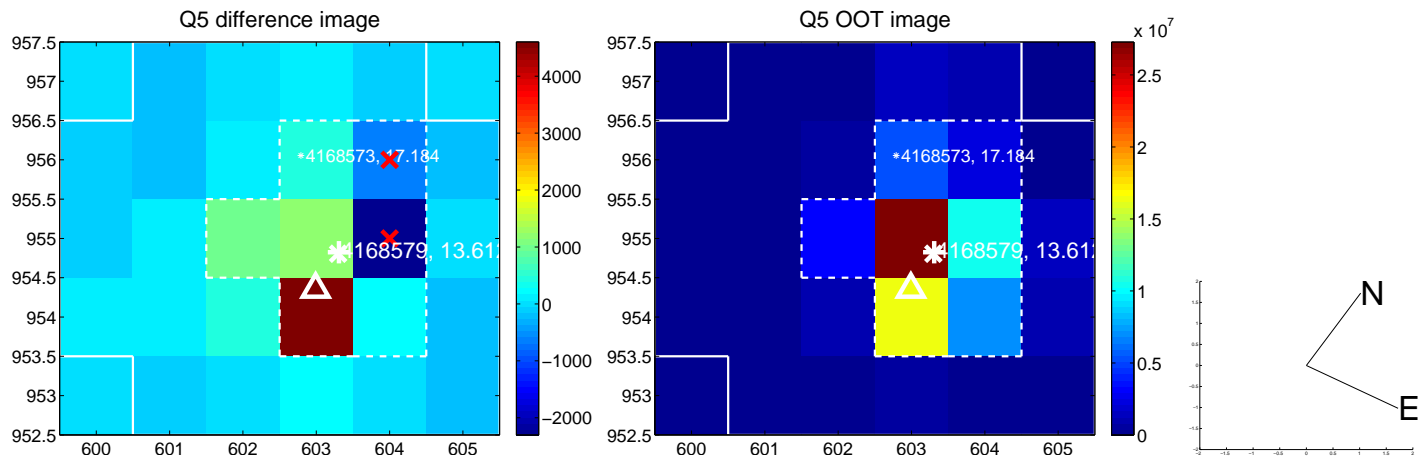


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

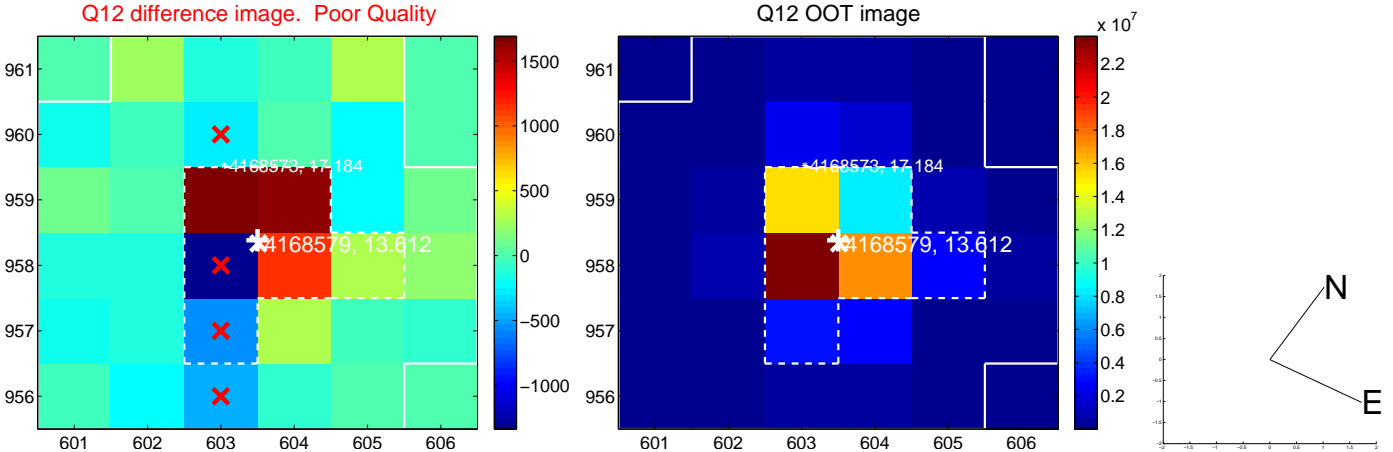
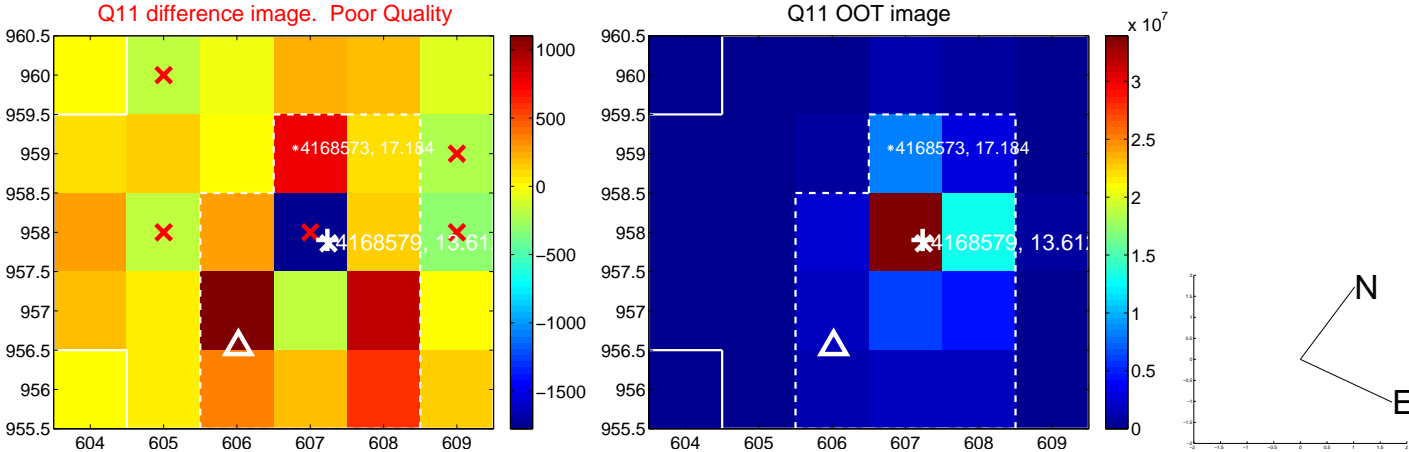
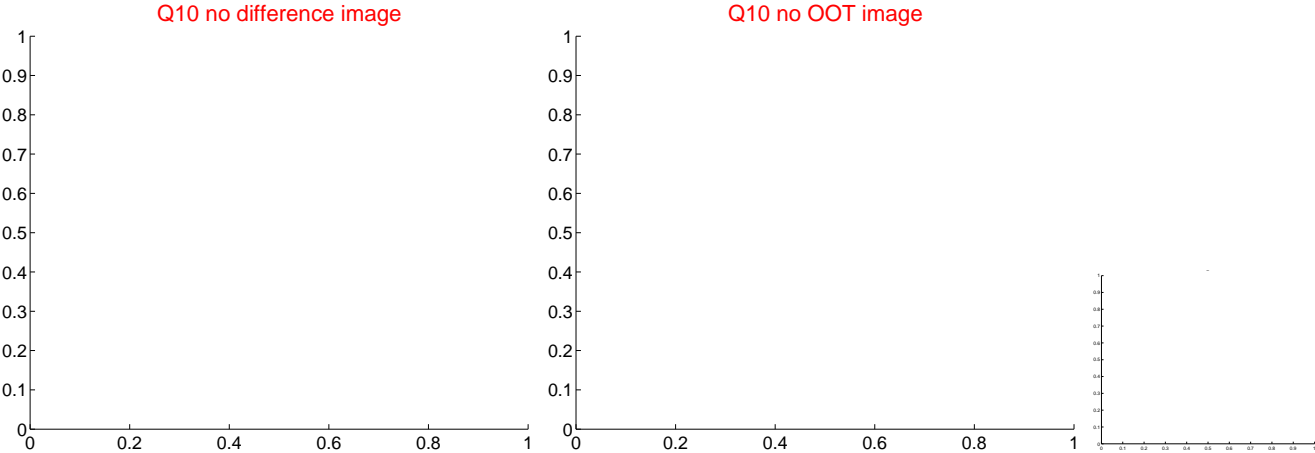
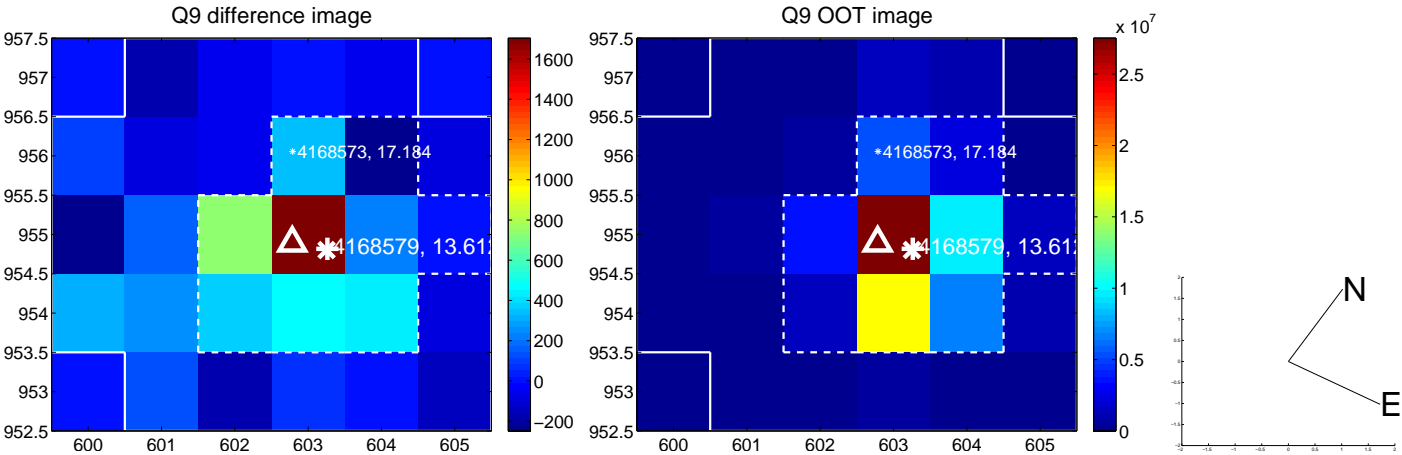
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



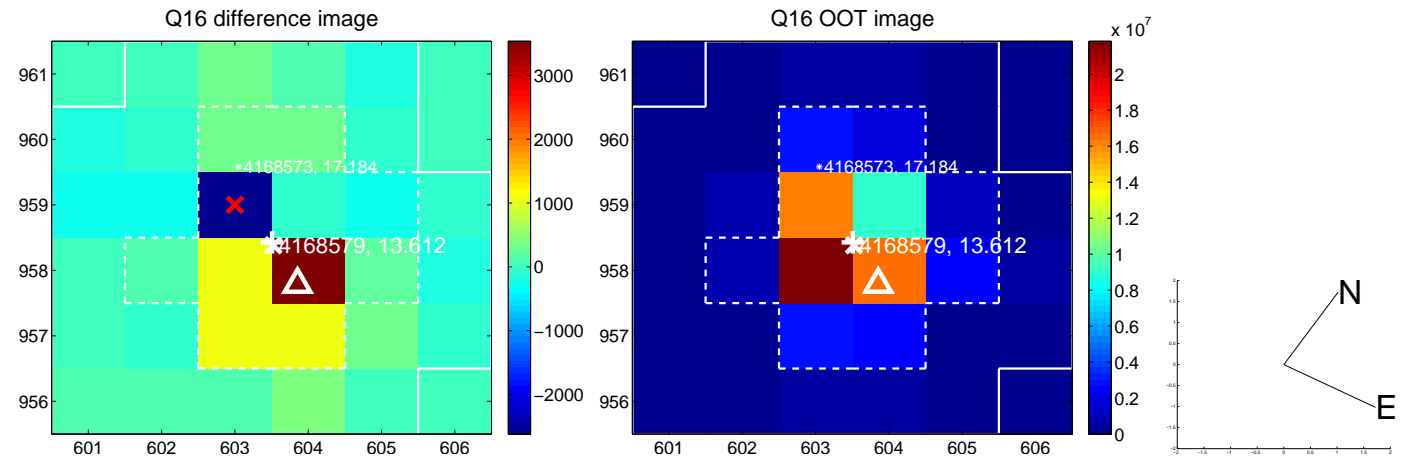
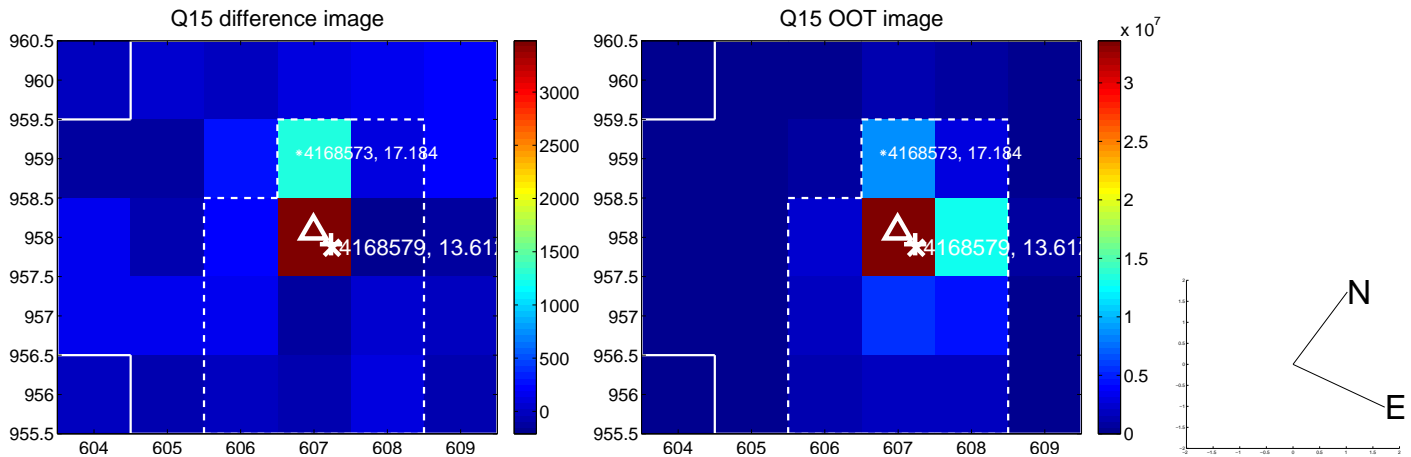
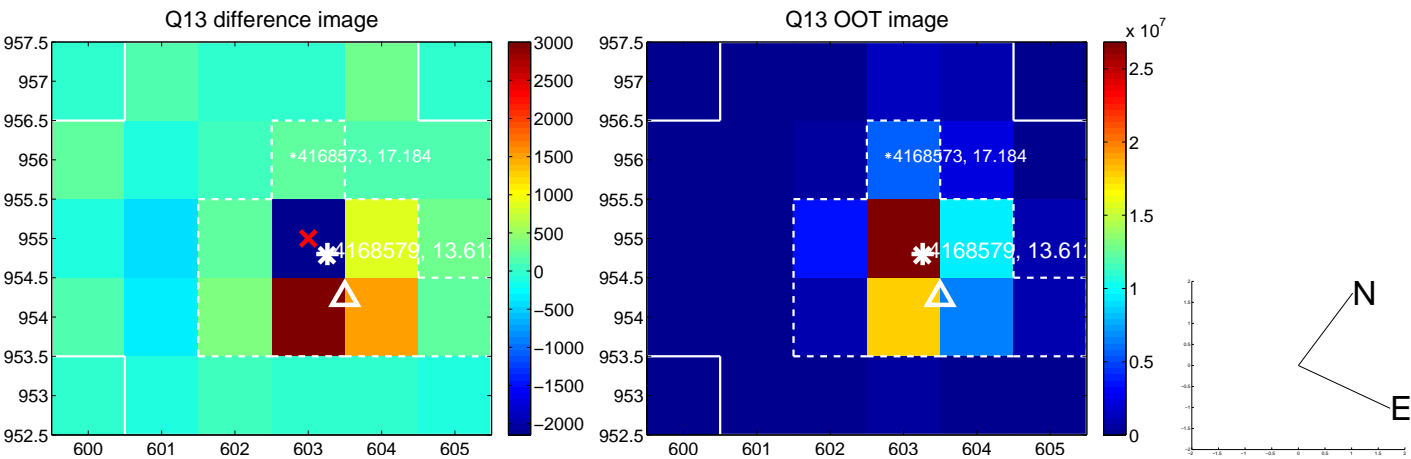
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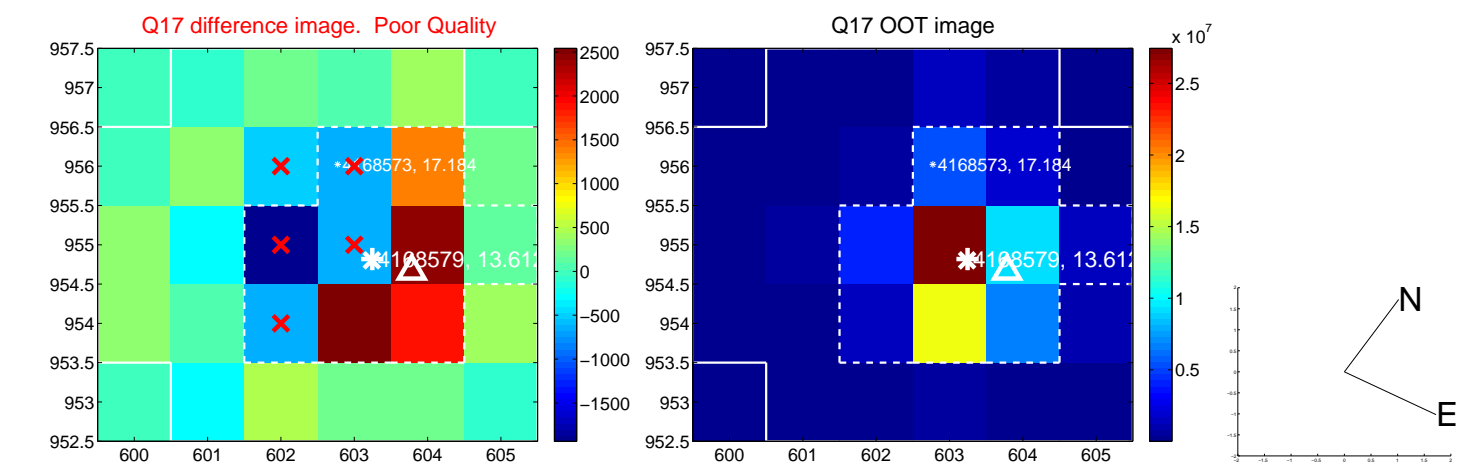
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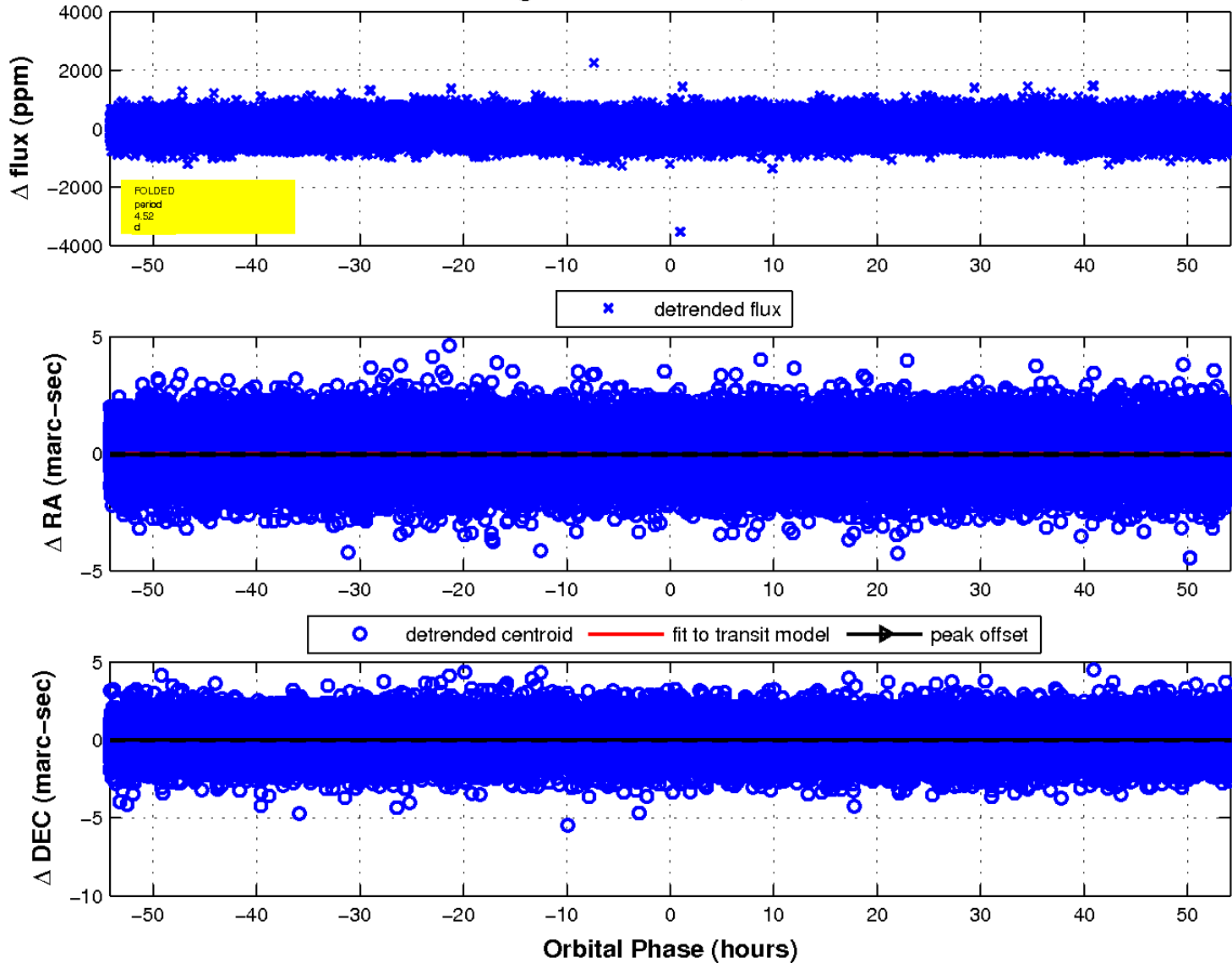
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

