

KIC 009272070

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})
009272070-01	OBS	4126.01	8.105094	135.879195	205.5	4.626	14.5	15.7	0.99	6201	1.62	200.08

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009272070-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

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

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

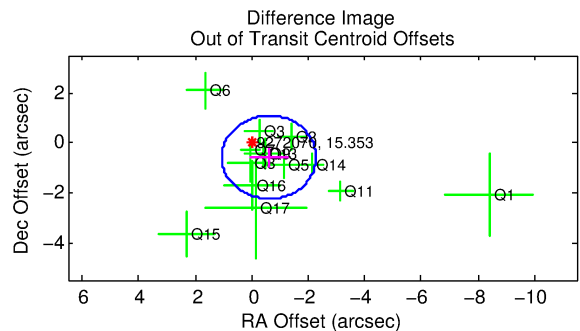
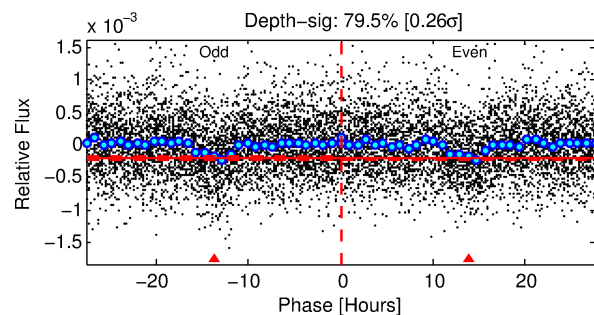
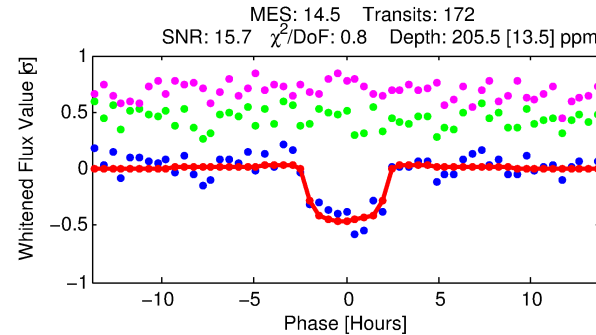
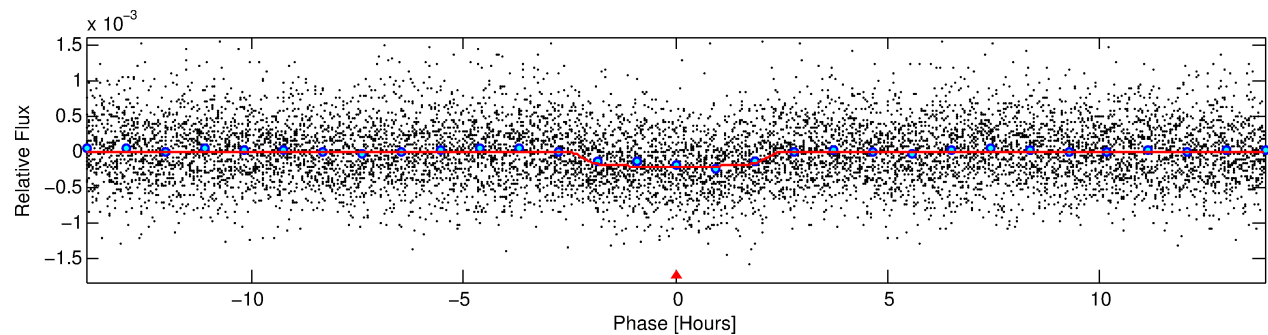
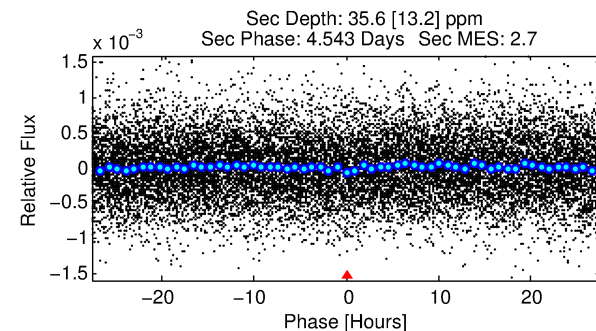
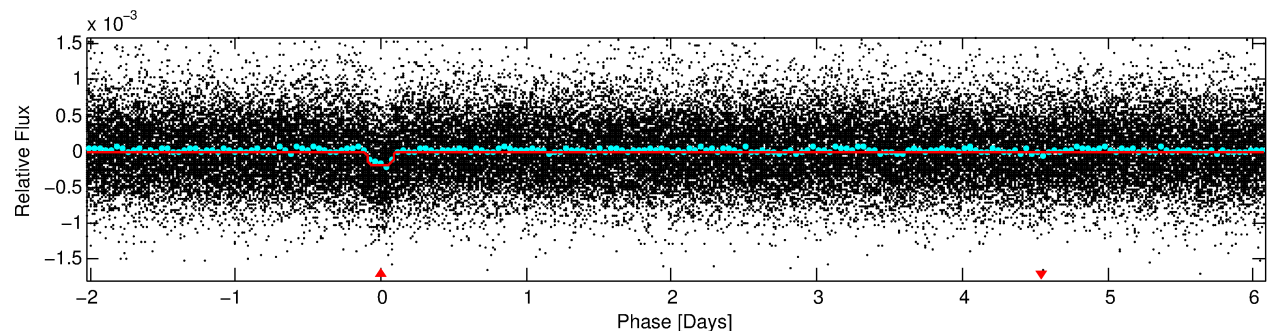
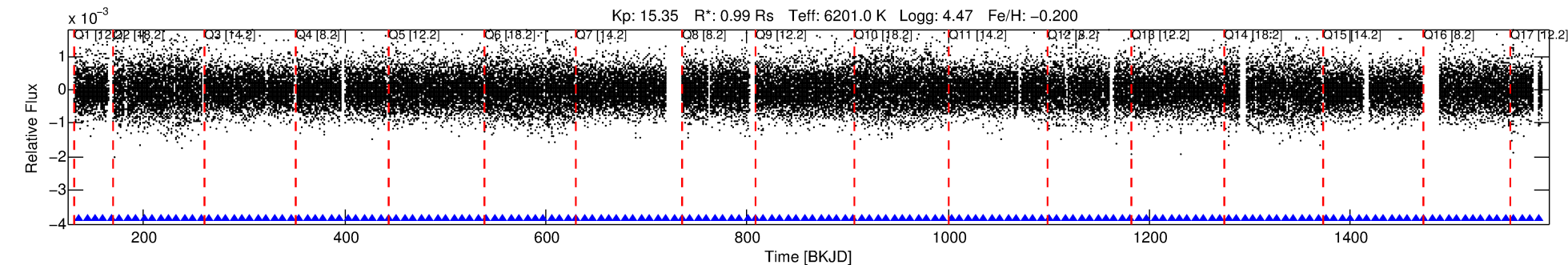
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 009272070-01

No Significant Match Found

DV One-Page Summary

KIC: 9272070 Candidate: 1 of 1 Period: 8.105 d
KOI: K04126.01 Corr: 0.976



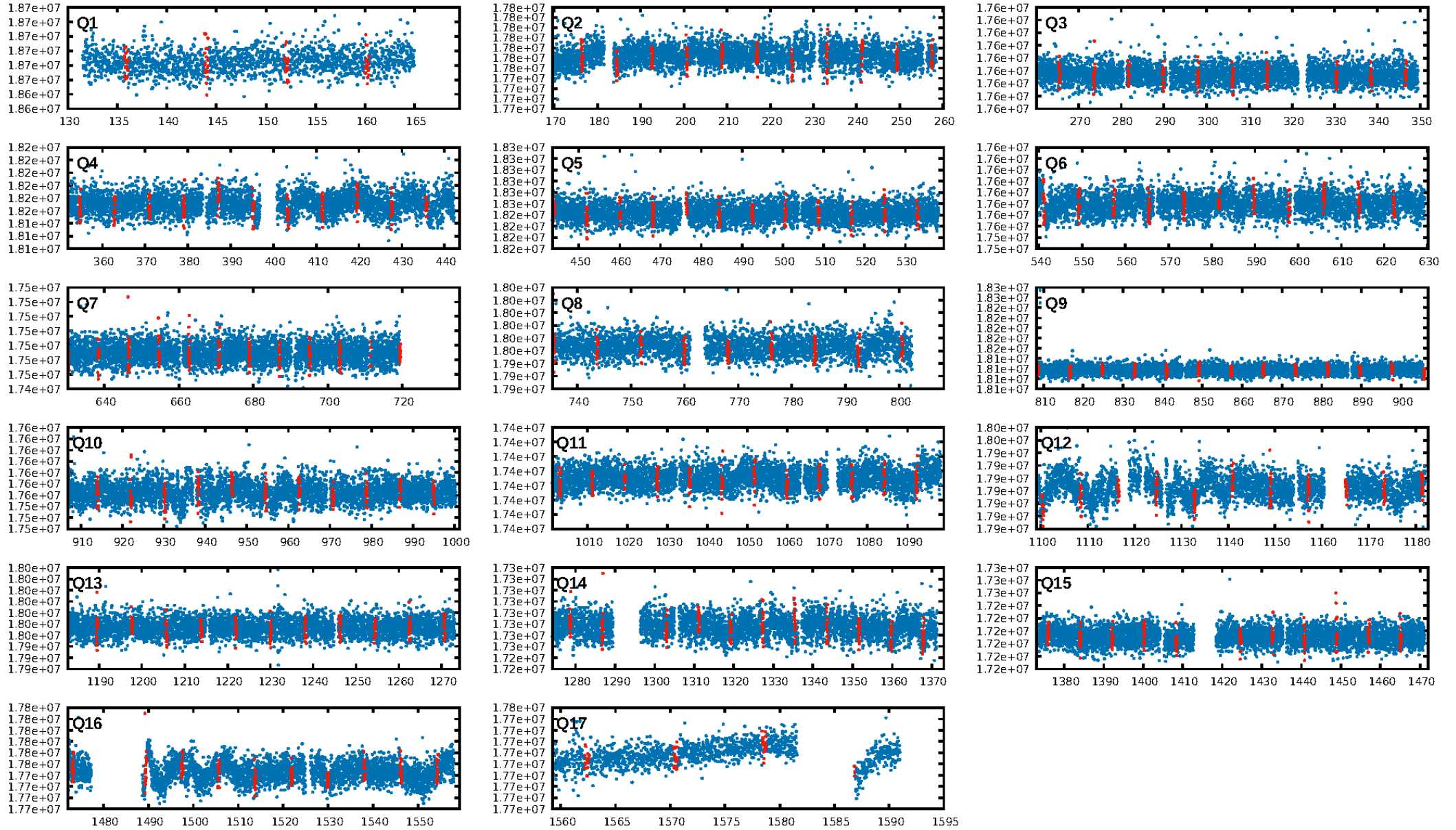
DV Fit Results:

Period = 8.10509 [0.00006] d
Epoch = 135.8792 [0.0054] BKJD
Rp/R* = 0.0150 [0.0046]
a/R* = 7.27 [11.67]
b = 0.86 [0.50]
Seff = 200.08 [83.20]
Teff = 959 [100] K
Rp = 1.62 [0.72] Re
a = 0.0805 [0.0219] AU
Ag = 48.45 [39.88] [1.19σ]
Teffp = 3912 [717] K [4.08σ]

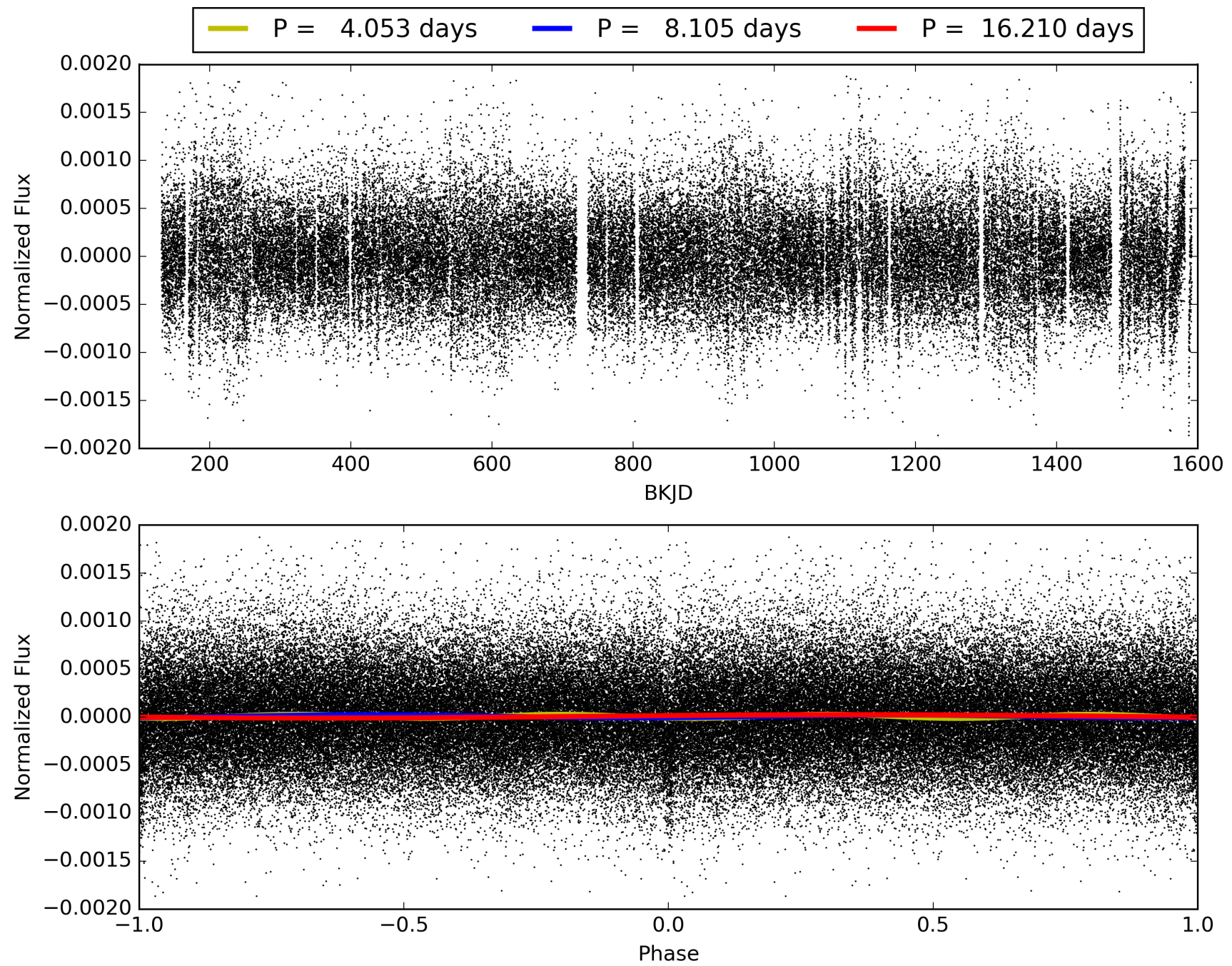
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.38e-46
RollingBand-fgt: 1.00 [165/165]
GhostDiagnostic-chr: 2.186
Centroid-sig: 7.1%
Centroid-so: 1.389 arcsec [1.47σ]
OotOffset-rm: 0.839 arcsec [1.51σ]
KicOffset-rm: 0.805 arcsec [1.31σ]
OotOffset-st: 3/4/2/5 [14]
KicOffset-st: 3/4/2/5 [14]
DiffImageQuality-fgm: 0.64 [9/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 009272070-01, PDC Light Curves

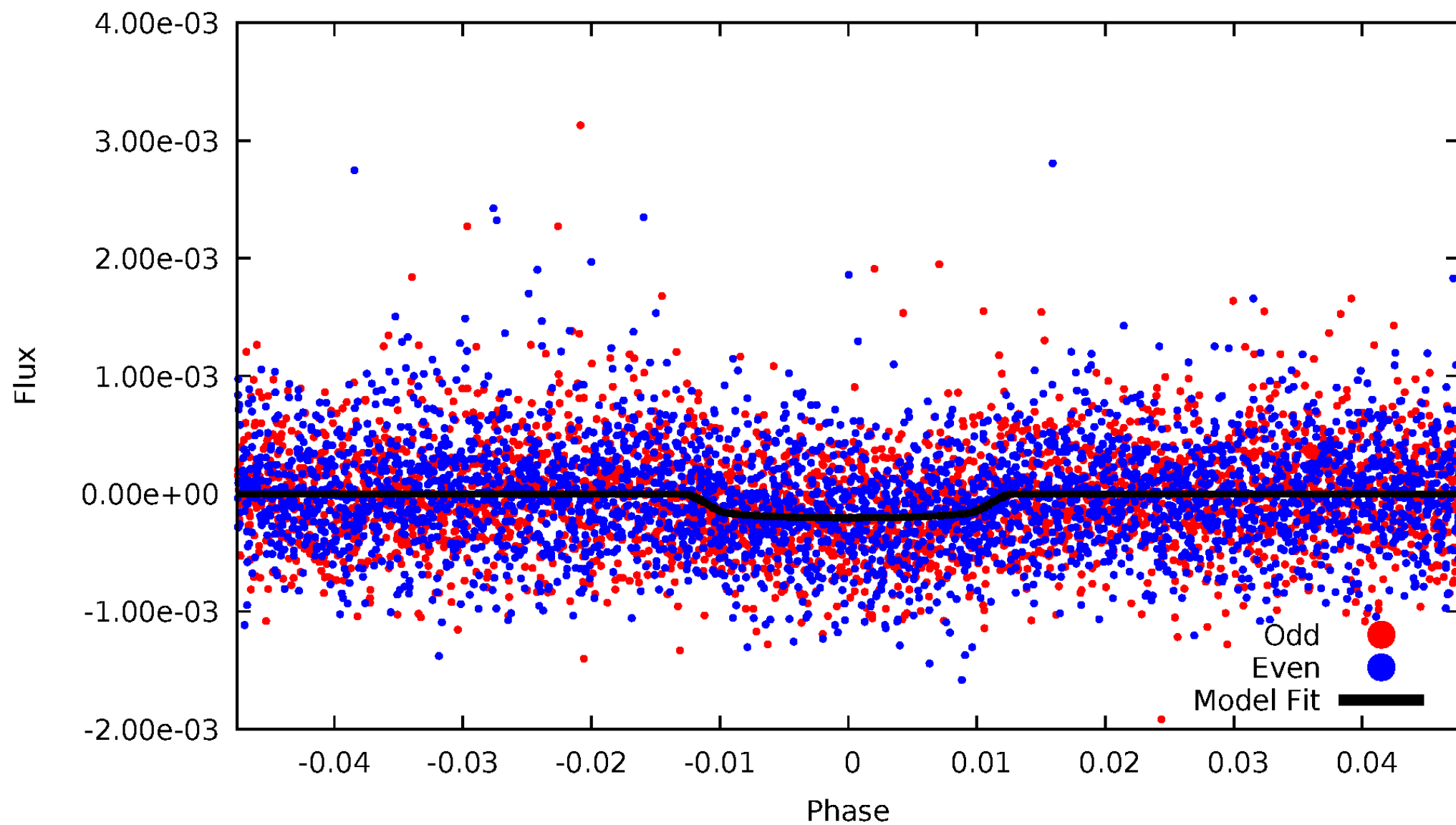


TCE 009272070-01



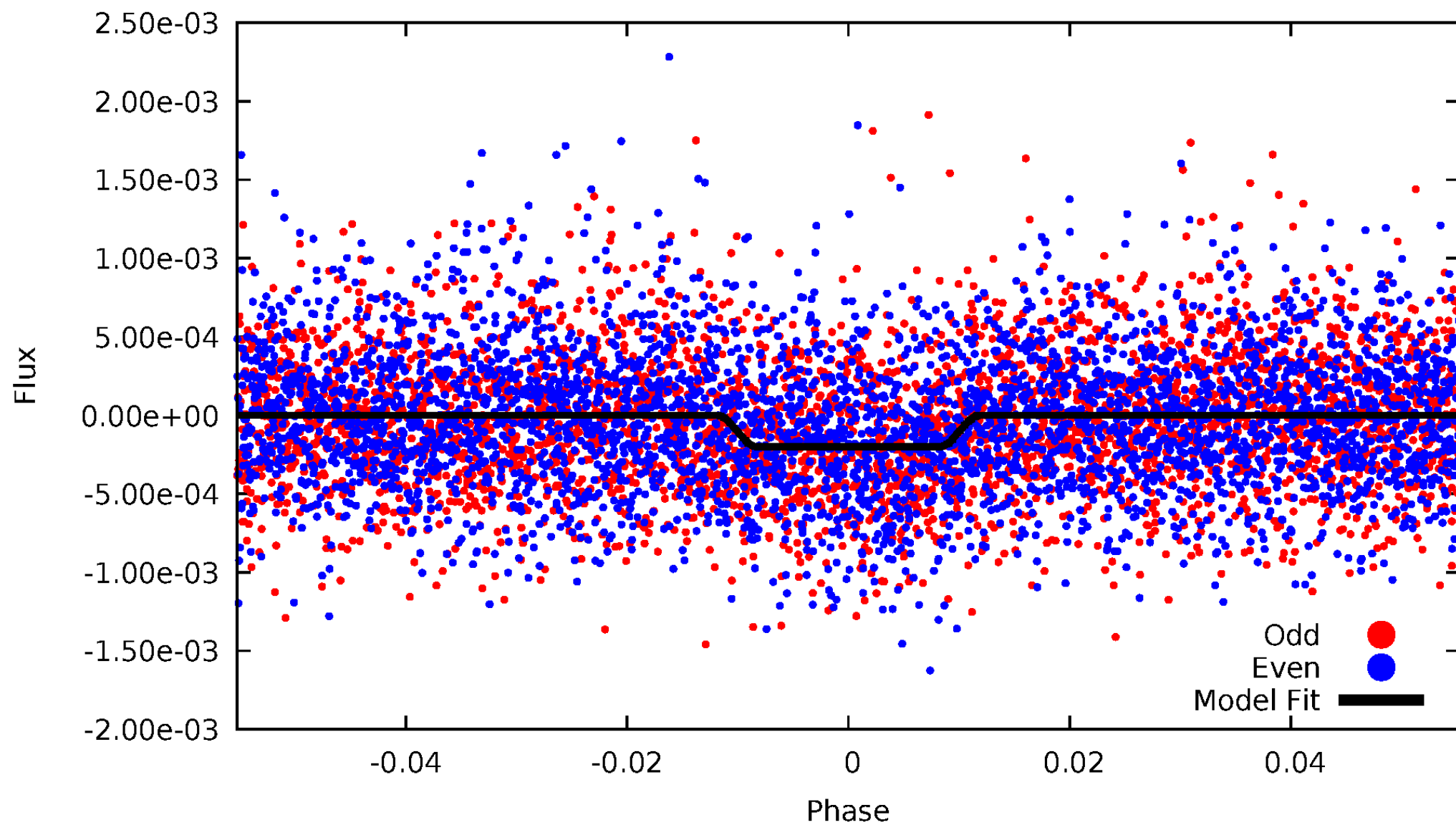
DV Odd/Even

TCE 009272070-01



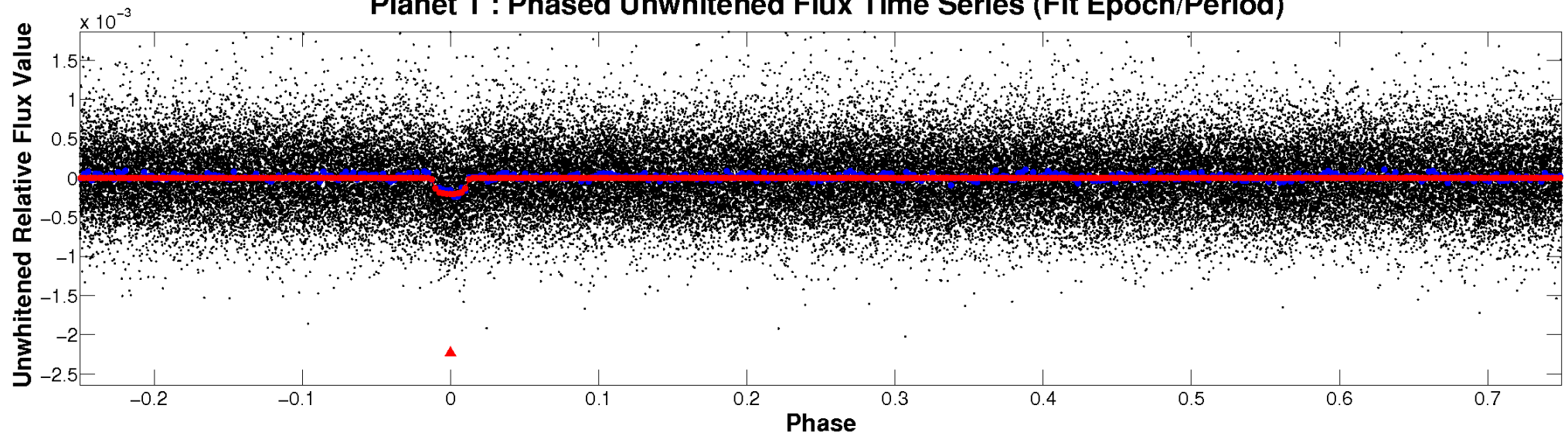
ALT Odd/Even

TCE 009272070-01

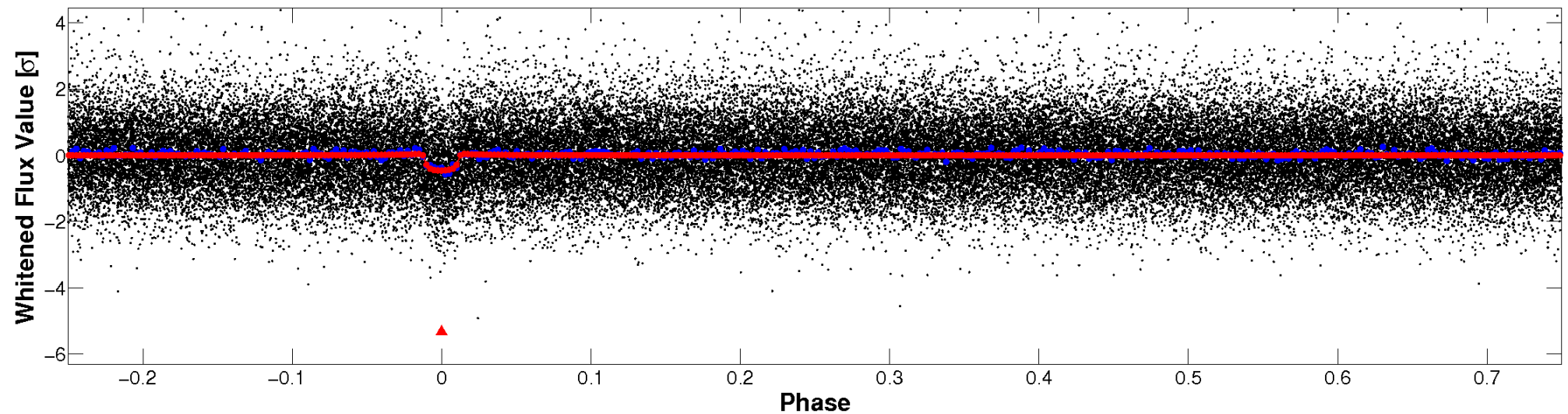


Non-Whitened Vs. Whitened Light Curve

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

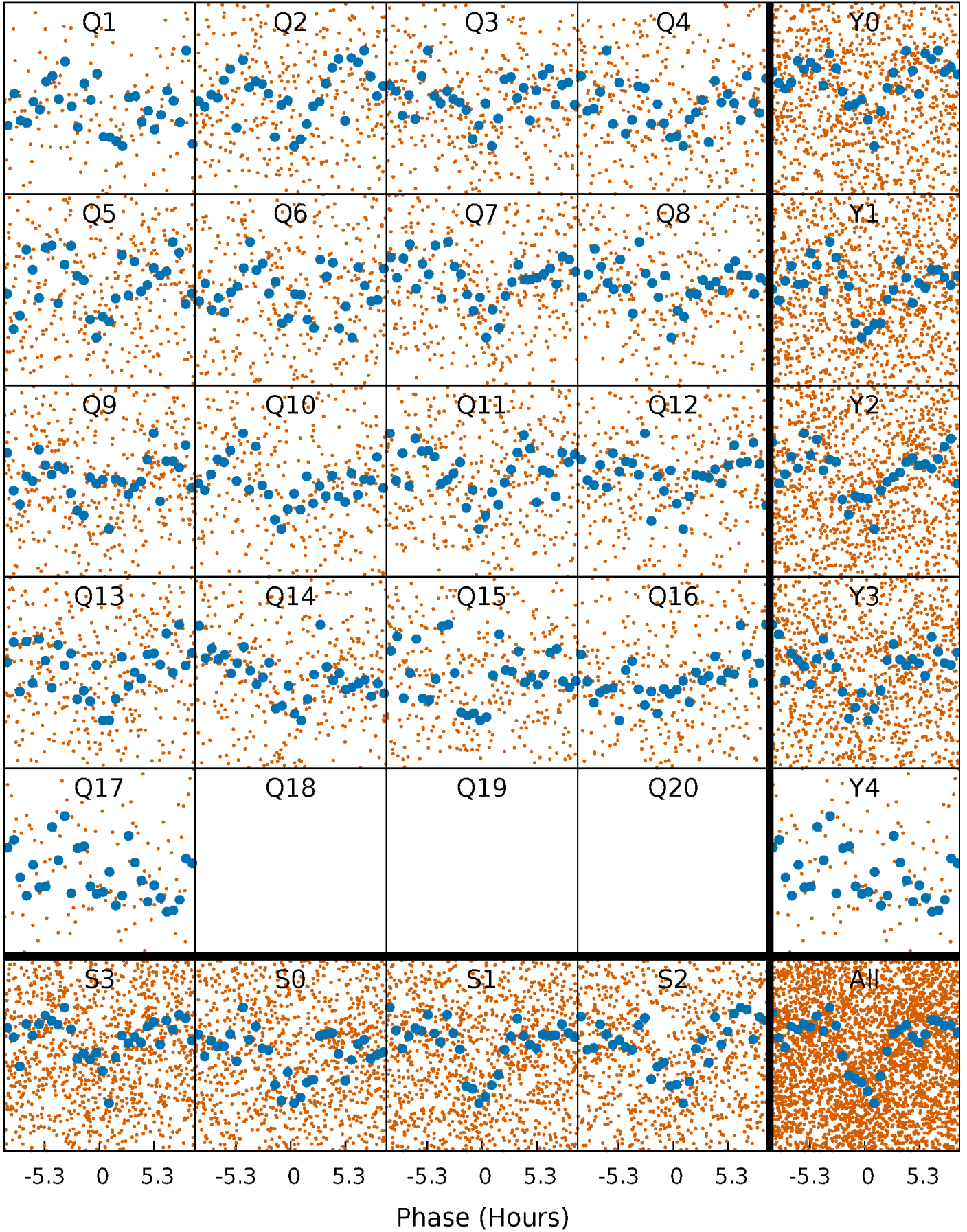


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



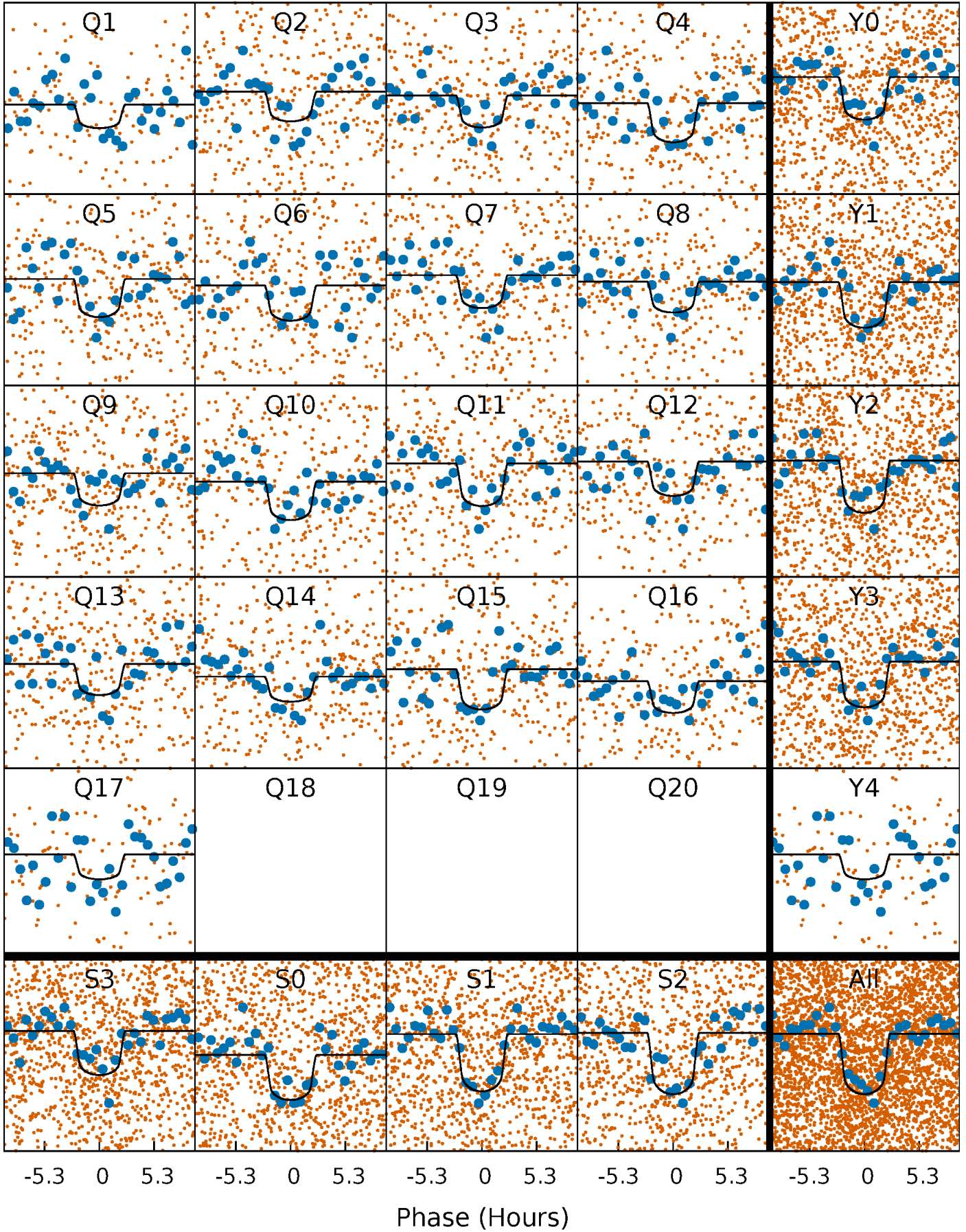
PDC Quarter-Phased Transit Curves

TCE 009272070-01 P= 8.105094 Days $T_0=135.879195$ (BKJD)



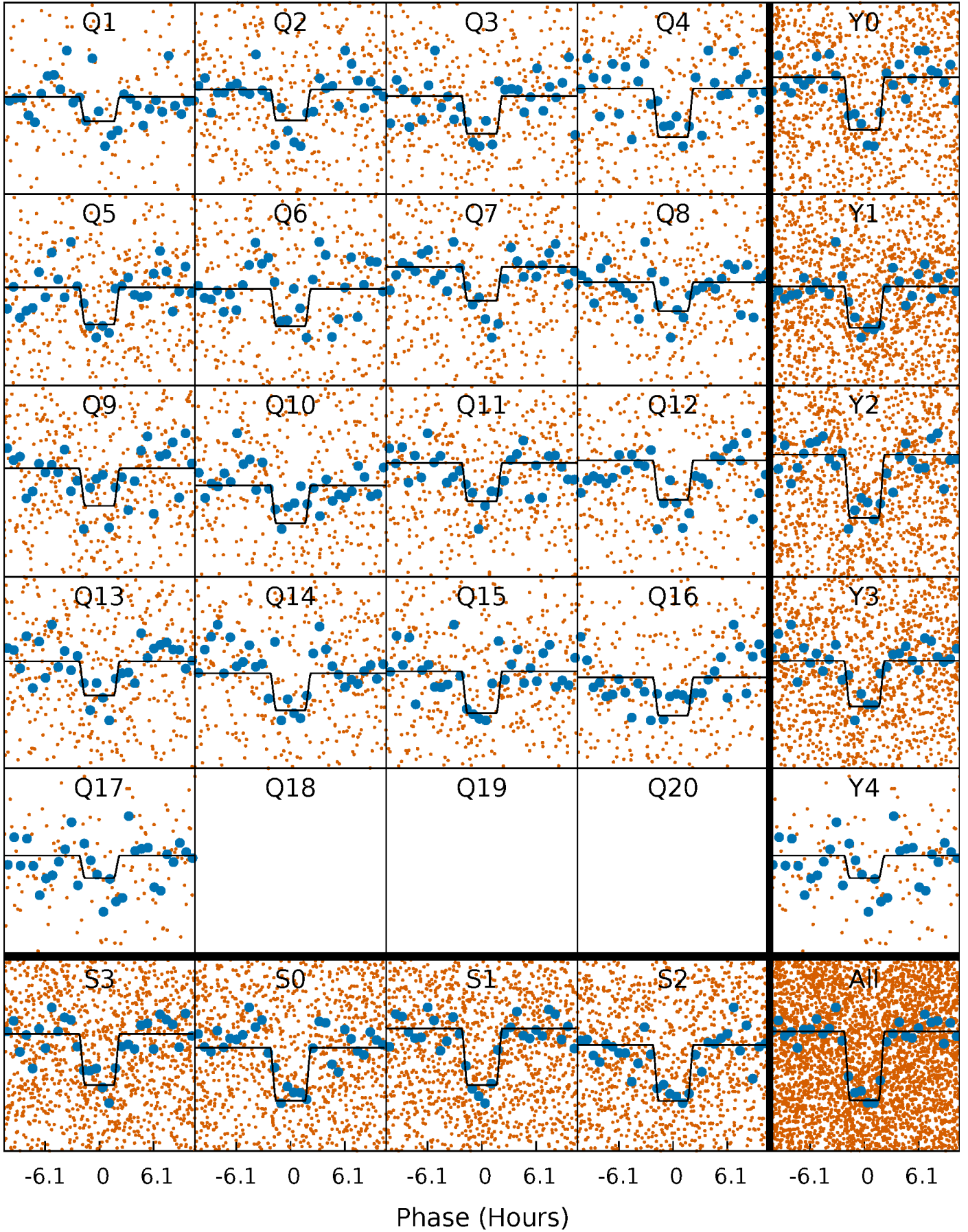
DV Quarter-Phased Transit Curves

TCE 009272070-01 P= 8.105094 Days $T_0=135.879195$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

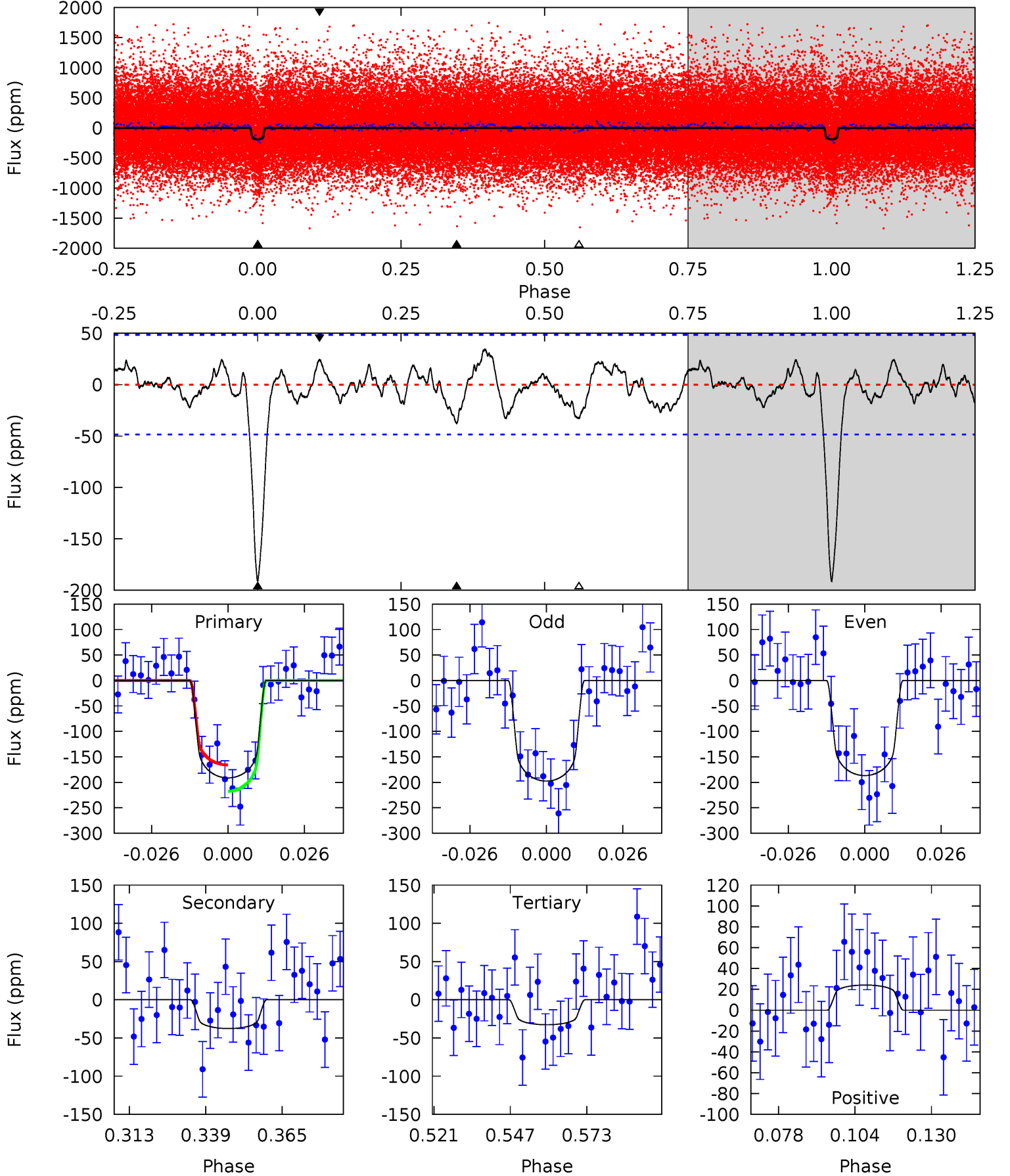
TCE 009272070-01 P= 8.104939 Days $T_0=135.892730$ (BKJD)



DV Model-Shift Uniqueness Test

009272070-01, P = 8.105094 Days, E = 127.774101 Days

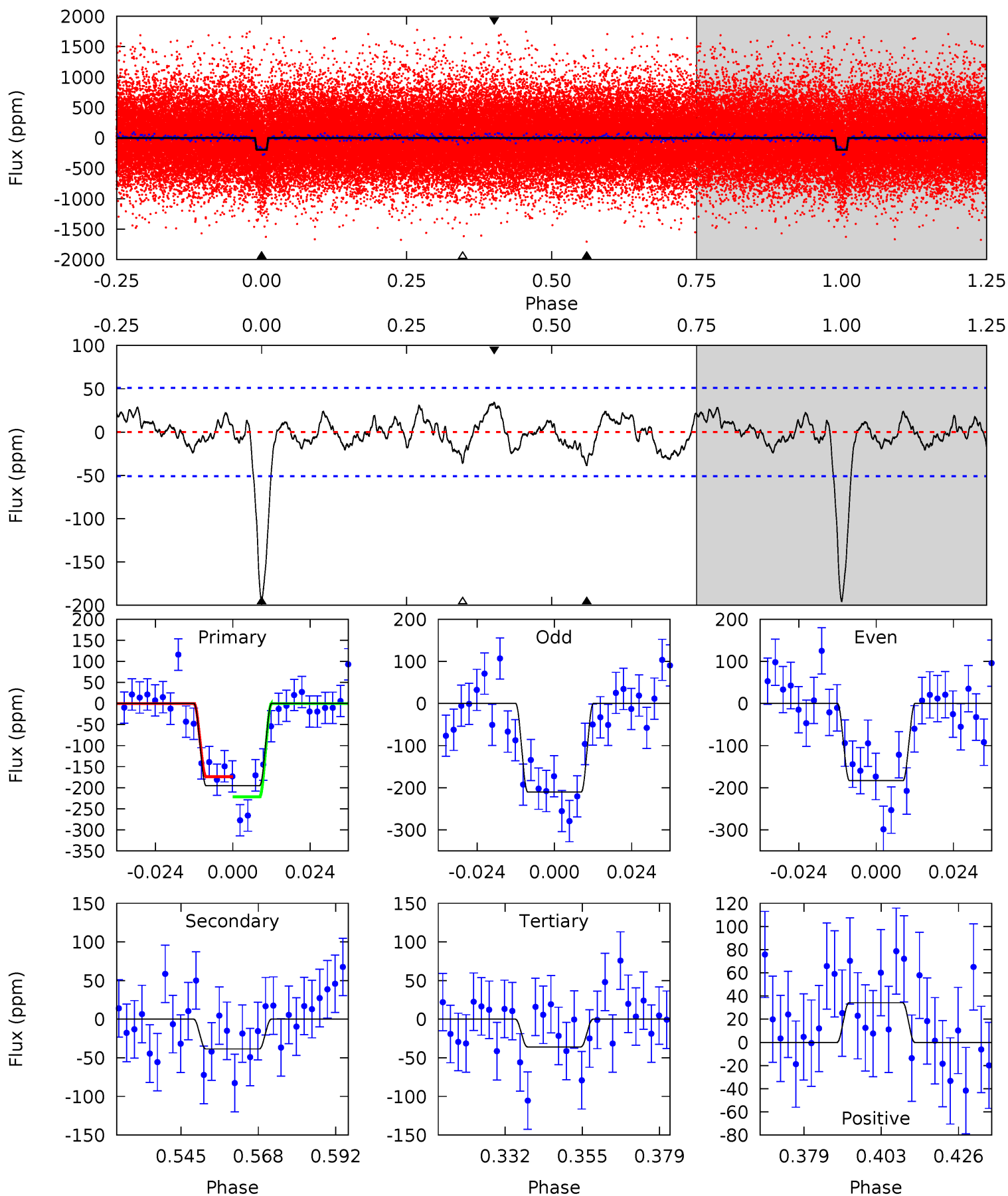
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.1	3.76	3.26	2.41	4.84	2.23	1.35	15.8	16.7	0.50	1.35	0.54	1.02	0.15	2.58



Alt Model-Shift Uniqueness Test

009272070-01, P = 8.104939 Days, E = 127.787791 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.6	3.67	3.41	3.26	4.86	2.26	1.36	15.2	15.3	0.26	0.41	1.28	0.92	0.15	2.28



Stellar Parameters For KIC 009272070

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6201^{+175}_{-197}	$4.472^{+0.054}_{-0.216}$	$-0.200^{+0.300}_{-0.300}$	$0.989^{+0.321}_{-0.107}$	$1.058^{+0.144}_{-0.144}$	$1.538^{+0.352}_{-0.870}$
	+3%/-3%	+1%/-5%	+150%/-150%	+32%/-11%	+14%/-14%	+23%/-57%
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 009272070-01 / KOI 4126.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-38 ± 10	$1.69^{+0.62}_{-0.54}$	1364^{+104}_{-63}	4205^{+665}_{-469}	45^{+51}_{-22}
Alt.	-39 ± 10	$1.60^{+0.58}_{-0.55}$	1370^{+92}_{-71}	4315^{+764}_{-494}	50^{+68}_{-24}

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

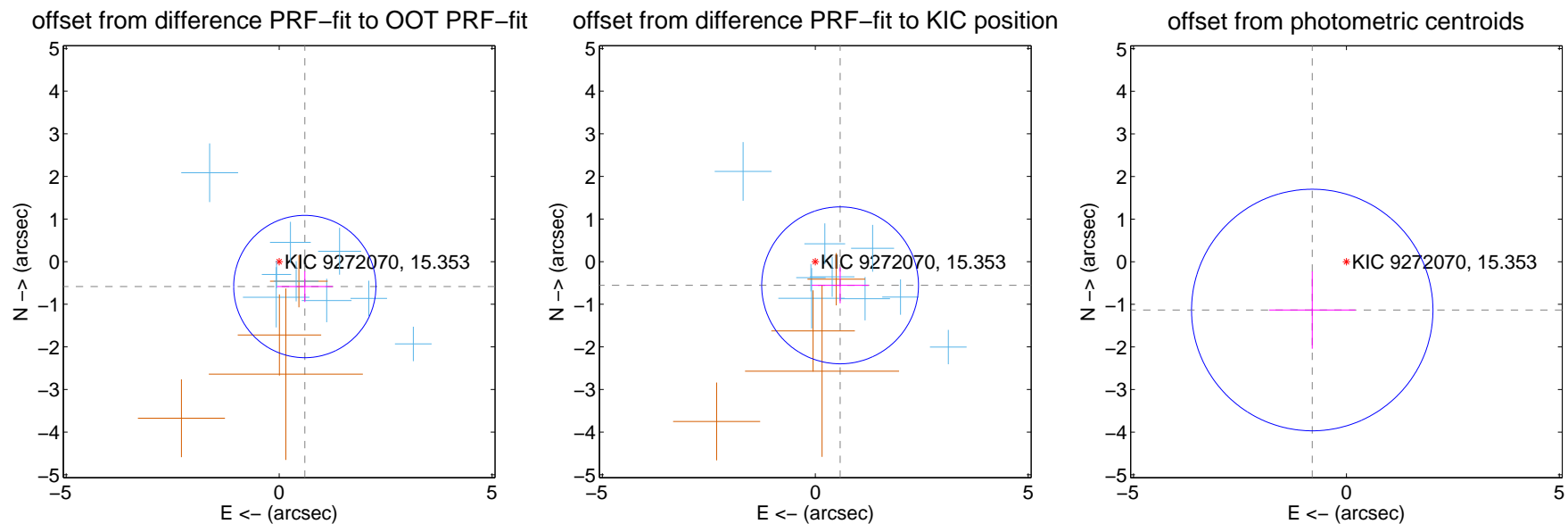
DV Centroid Data

Supplemental centroid analysis for 009272070-01. Kepler magnitude: 15.35. Transit SNR 15.70

There are 9 quarters with good PRF difference image offsets

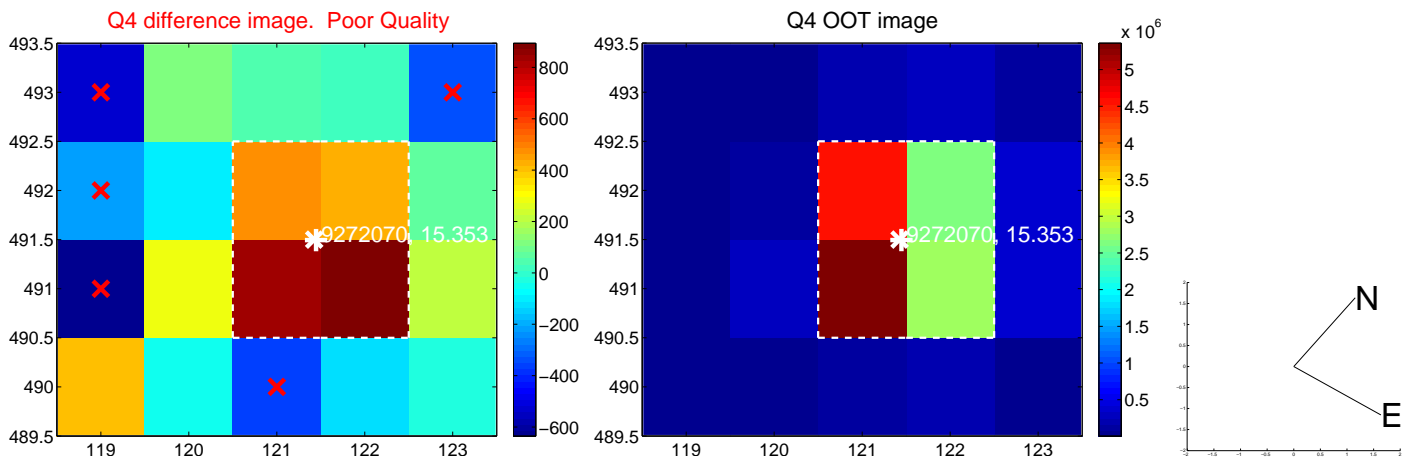
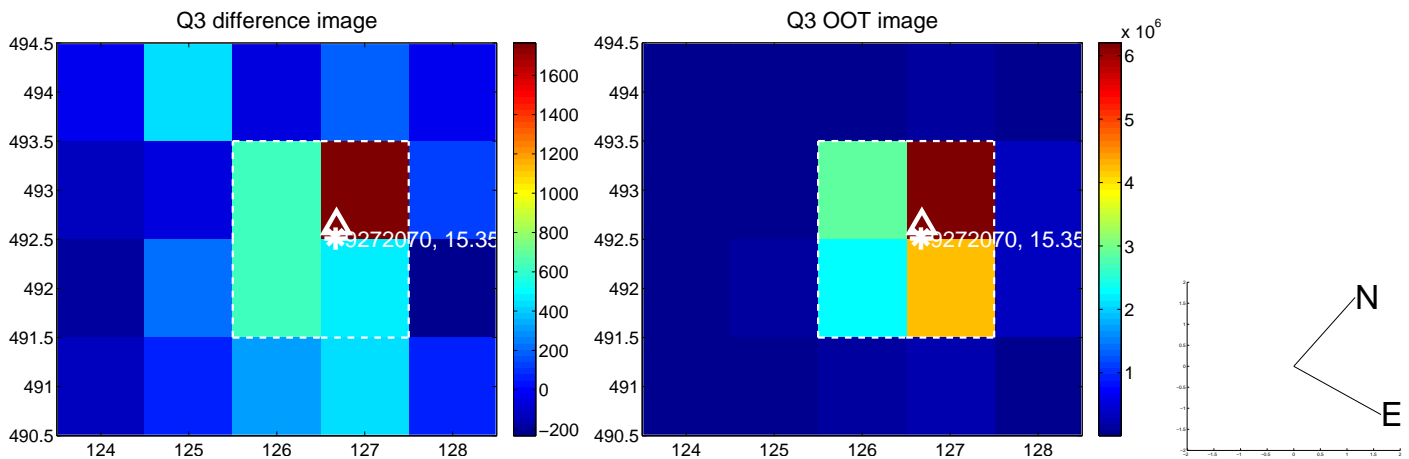
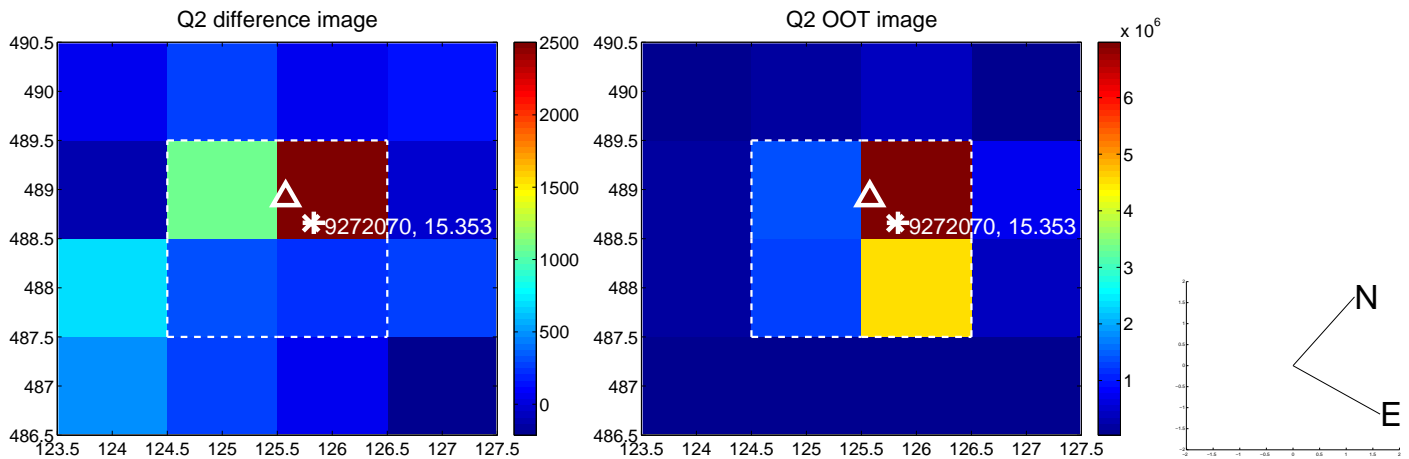
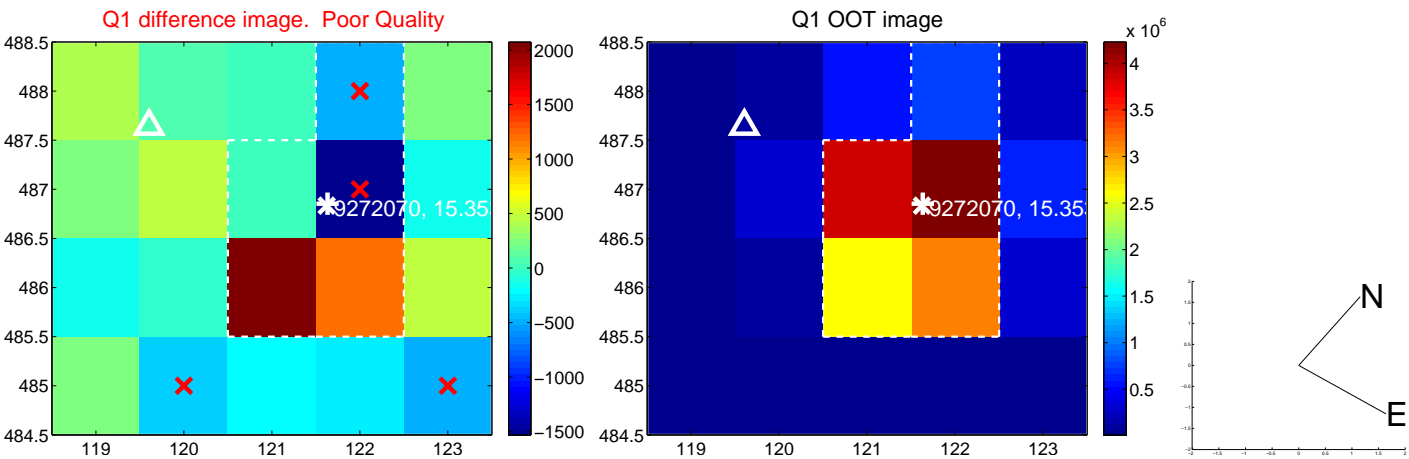
The direct PRF centroid is offset from the target star catalog position by about 0.07 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.839 ± 0.556	1.51	-0.602 ± 0.655	-0.584 ± 0.362
PRF-fit source offset from KIC position	0.805 ± 0.613	1.31	-0.583 ± 0.670	-0.556 ± 0.420
photometric centroid source offset	1.39 ± 0.94	1.47	0.80 ± 1.01	-1.13 ± 0.91

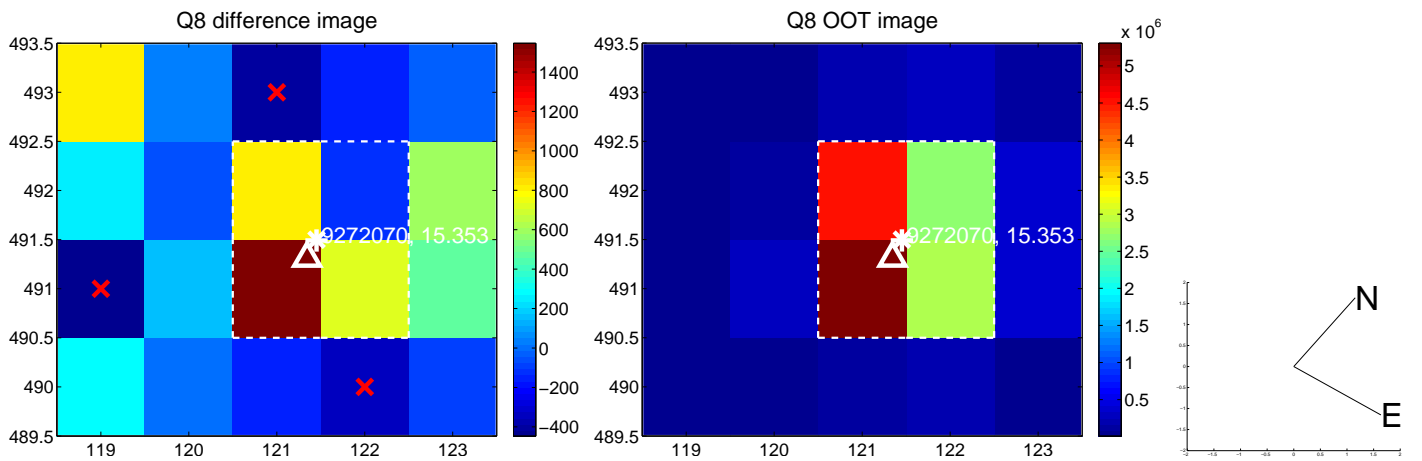
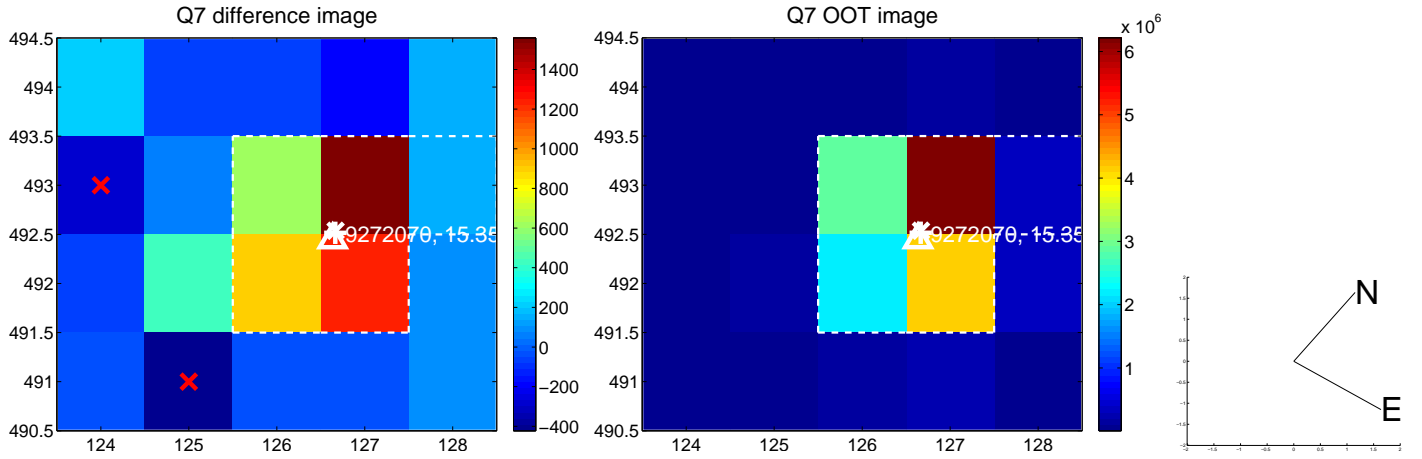
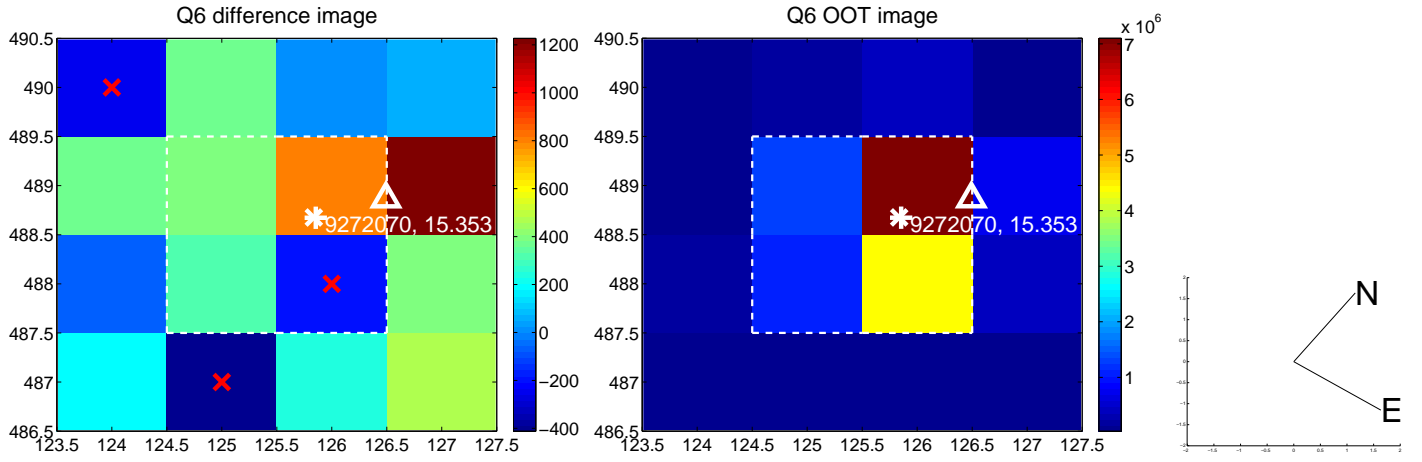
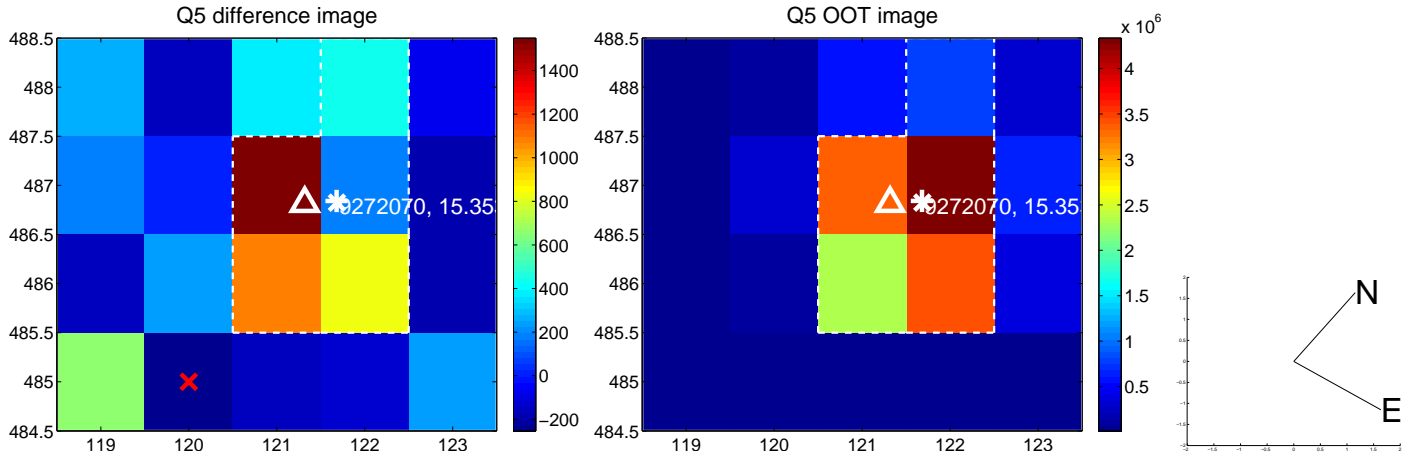


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

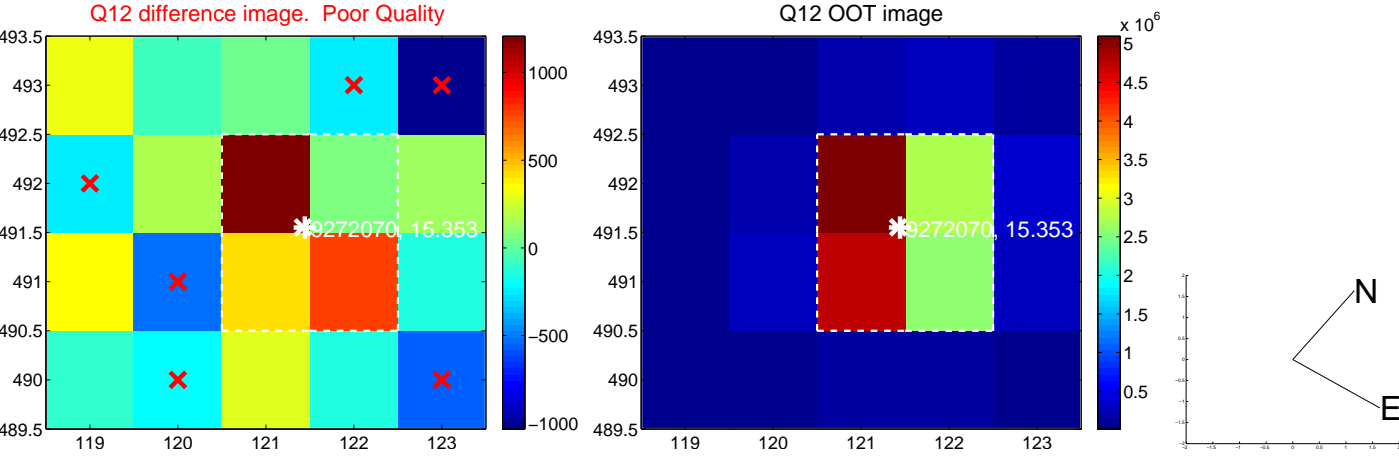
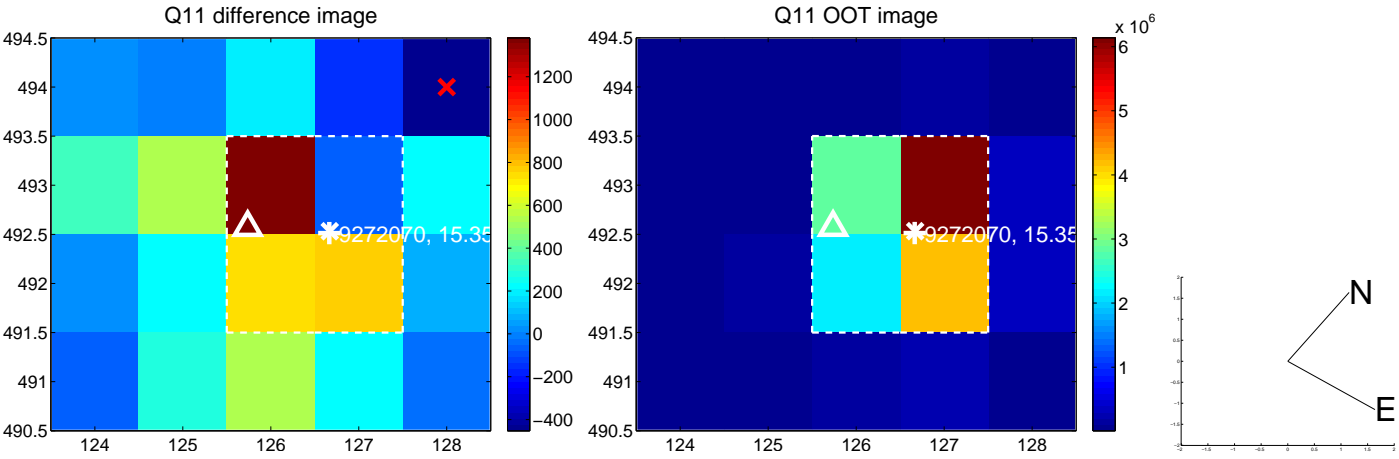
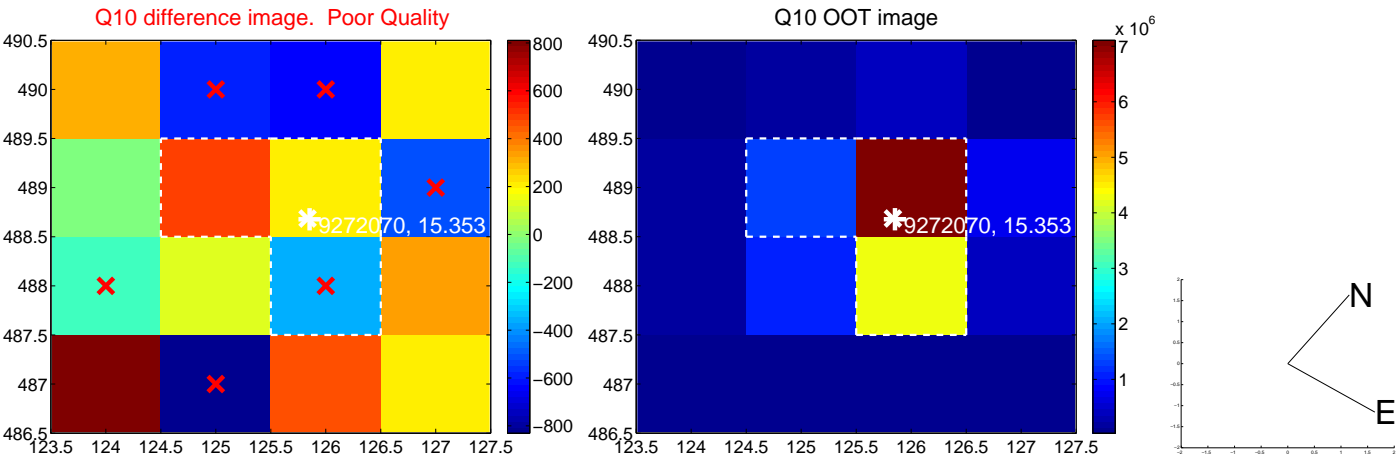
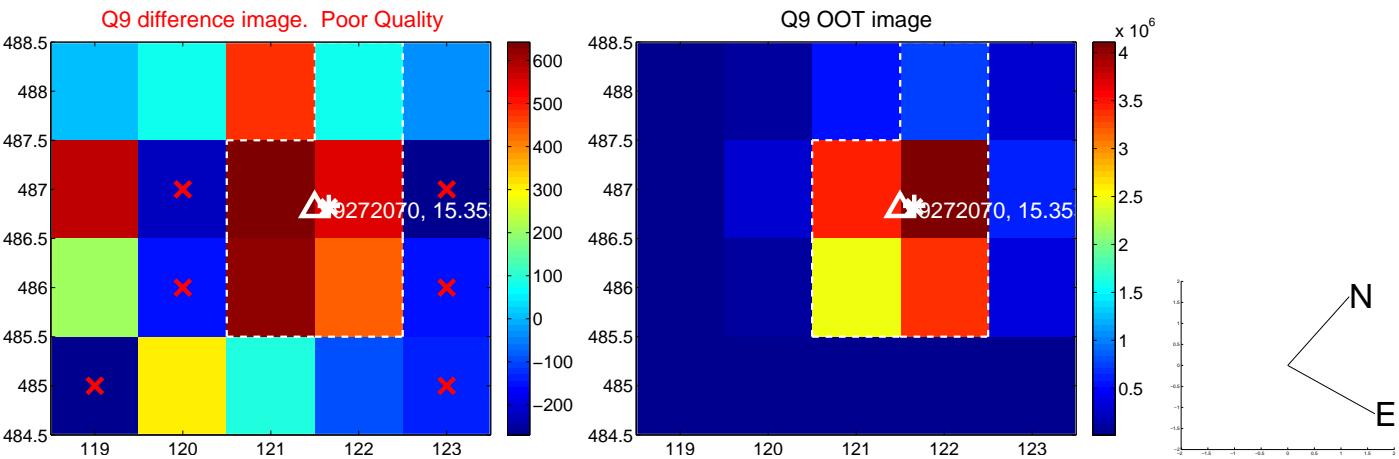
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



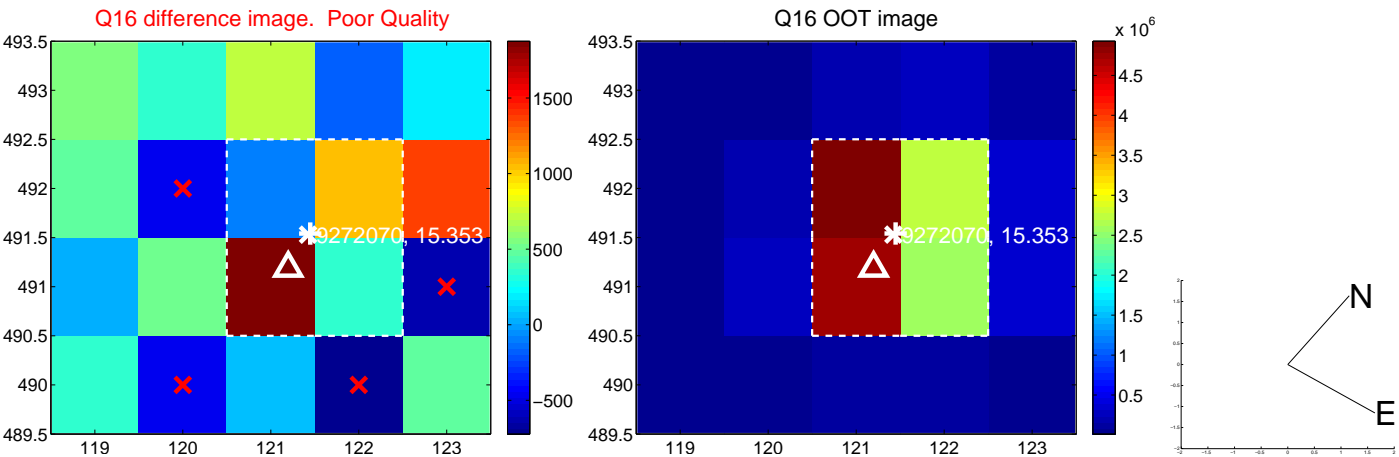
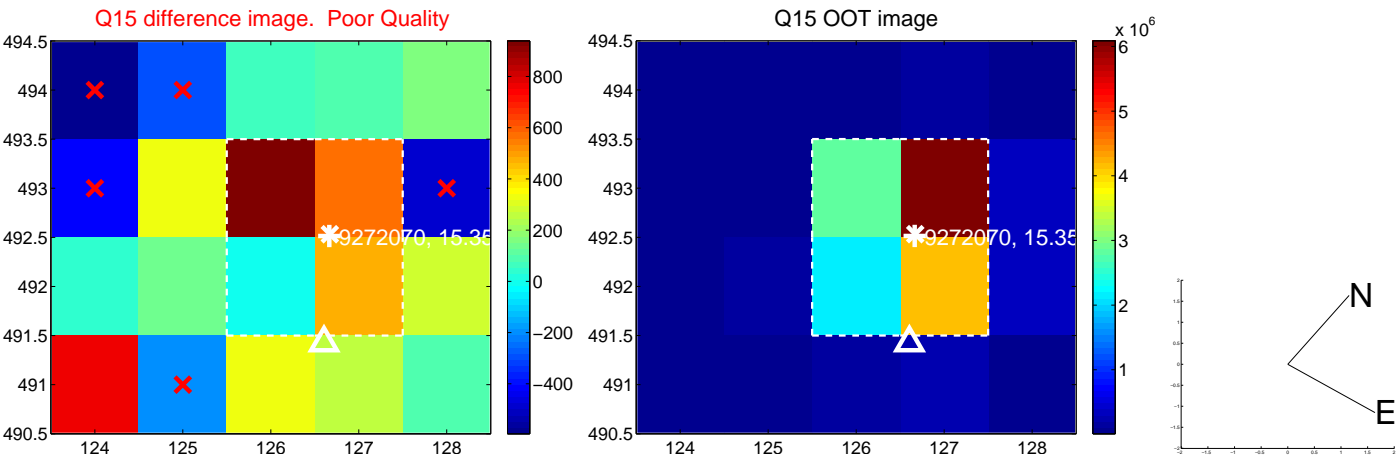
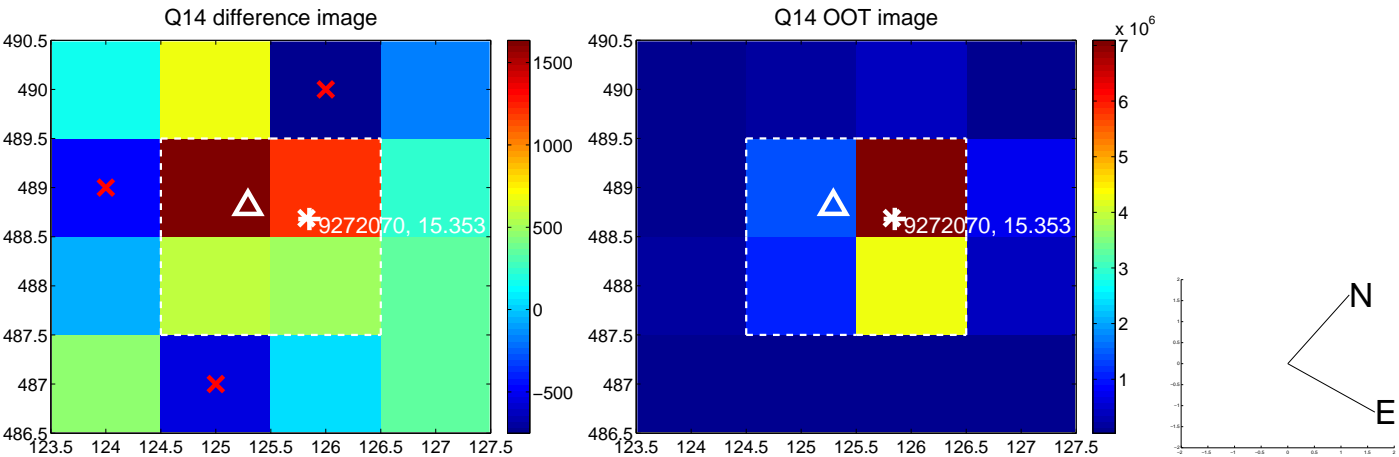
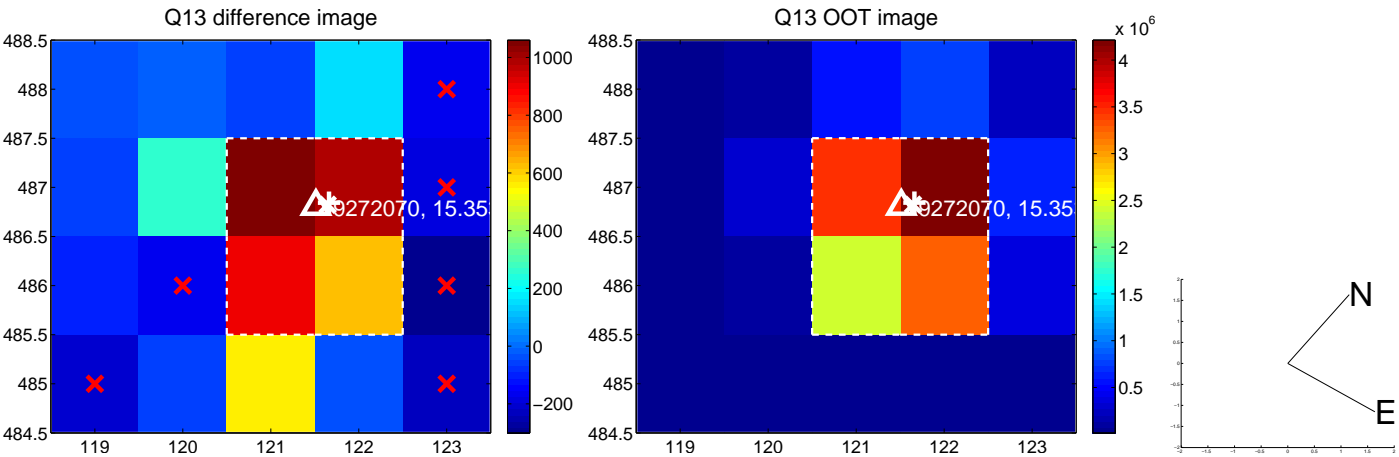
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



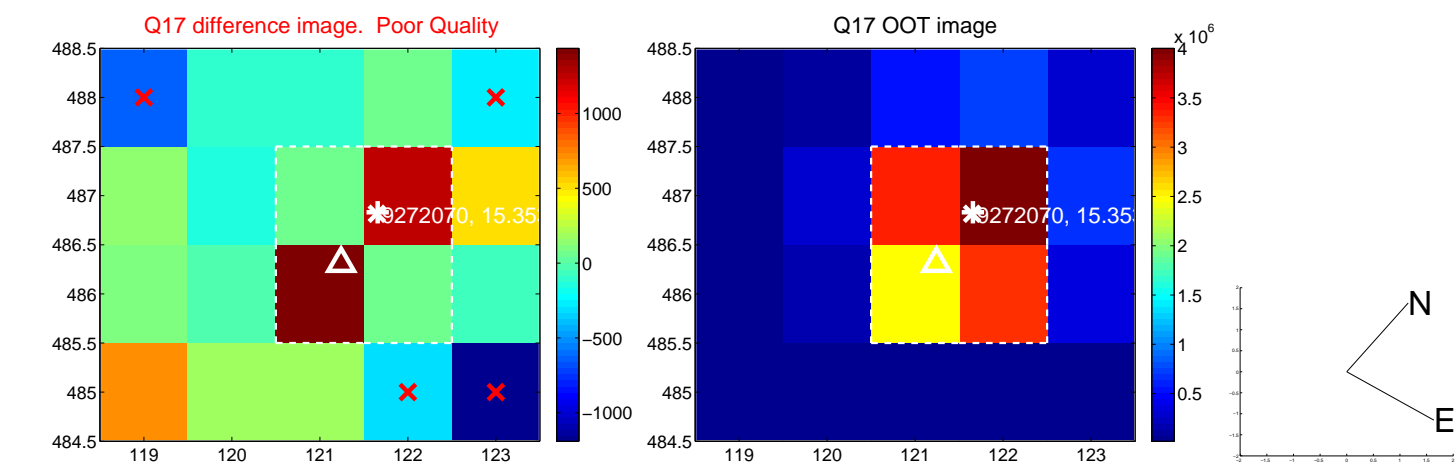
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



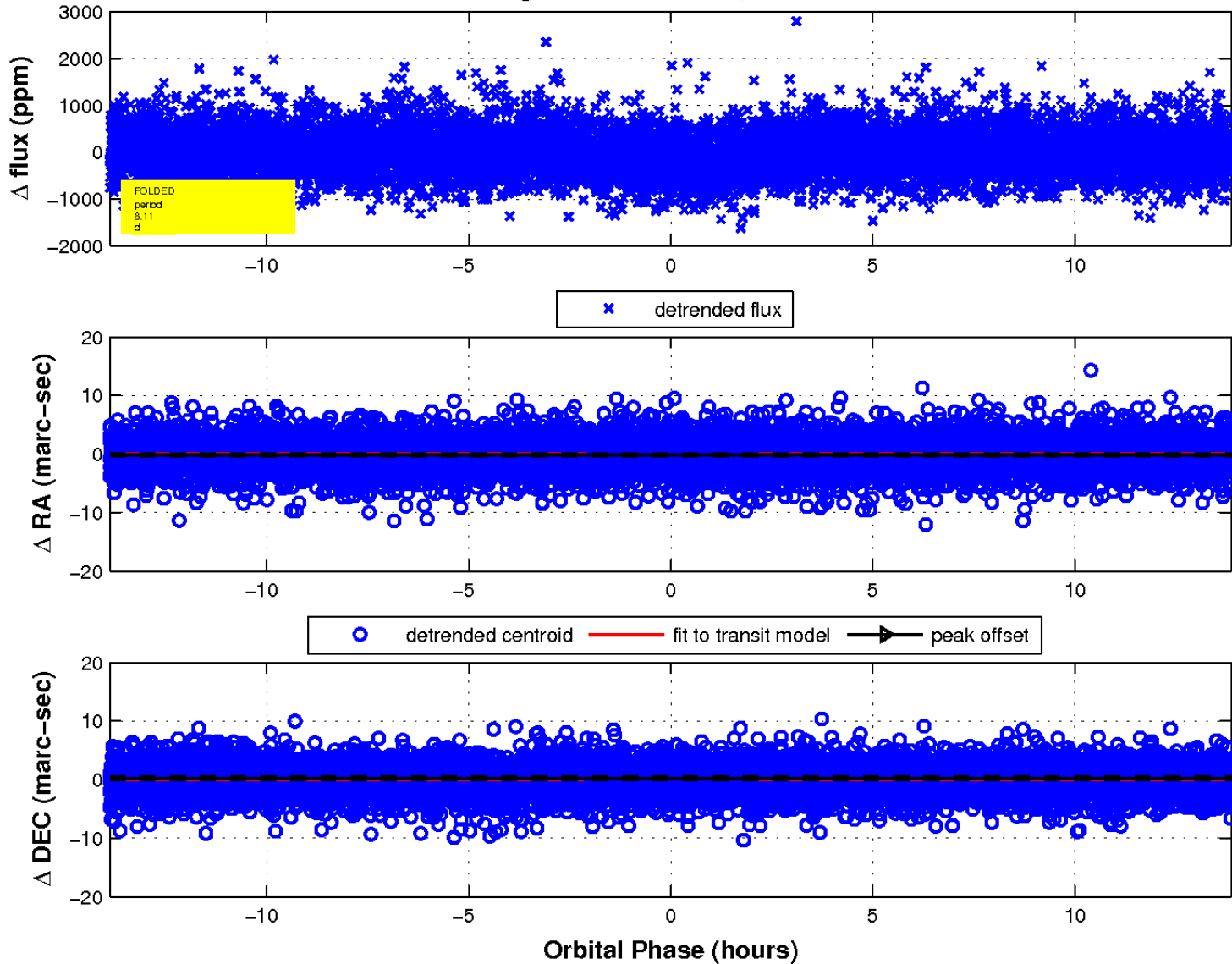
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

