

KIC 007954107

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})
007954107-01	OBS	No	0.649906	131.712225	16.4	4.948	11.1	6.0	2.13	6977	0.89	32271.88

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007954107-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_FEW_MEAS

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

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

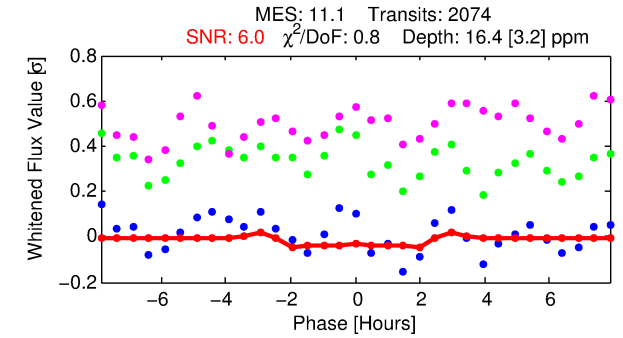
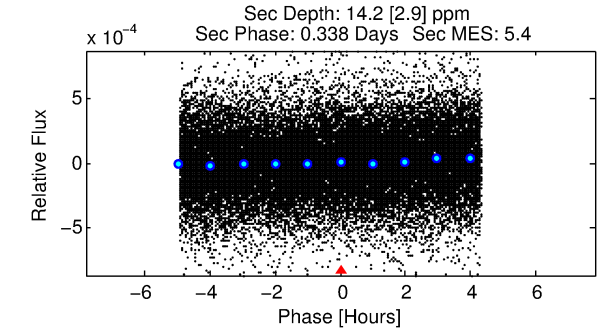
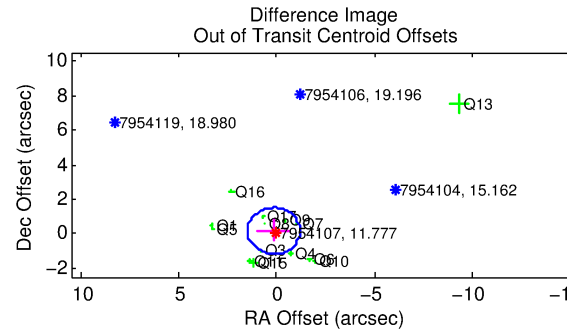
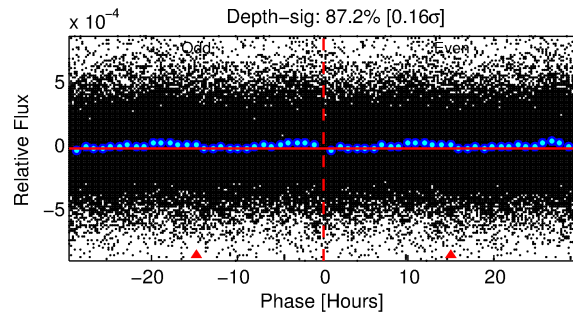
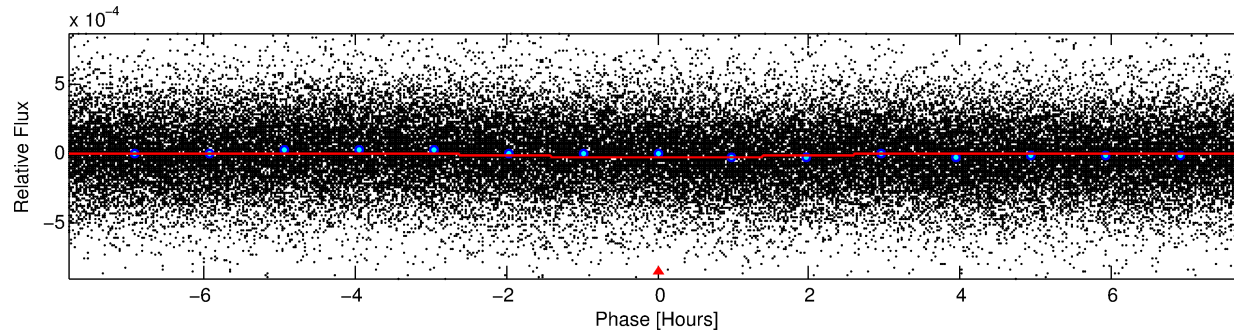
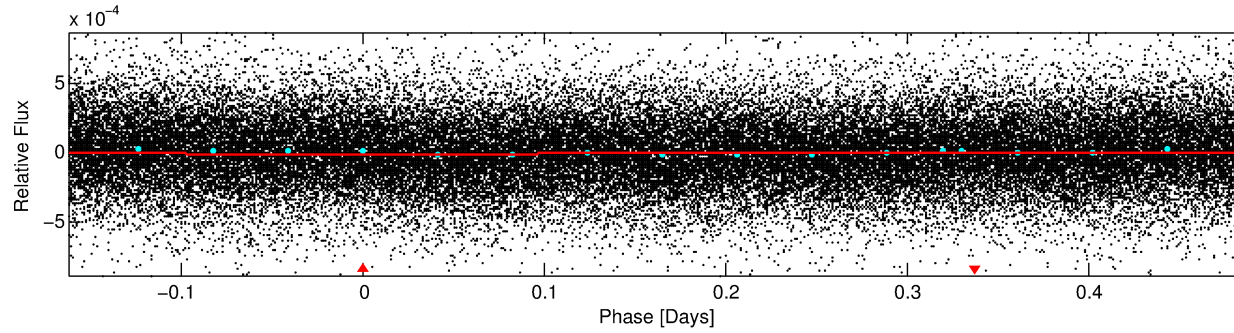
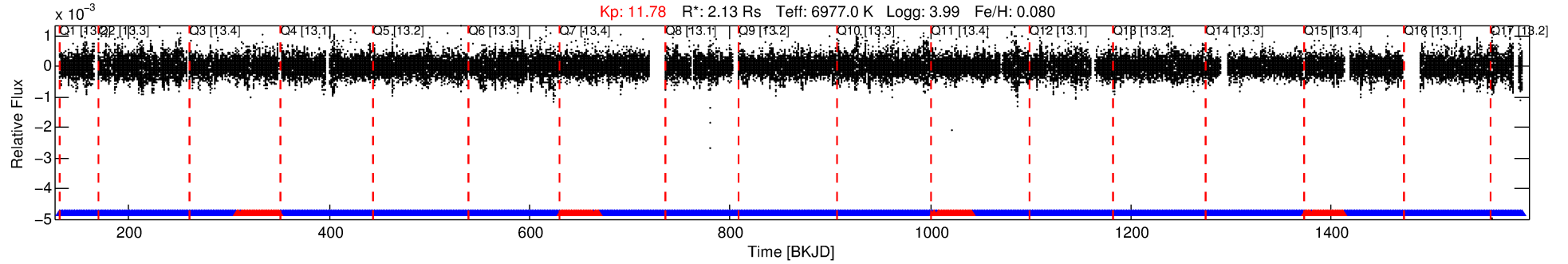
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007954107-01

No Significant Match Found

DV One-Page Summary

KIC: 7954107 Candidate: 1 of 1 Period: 0.650 d



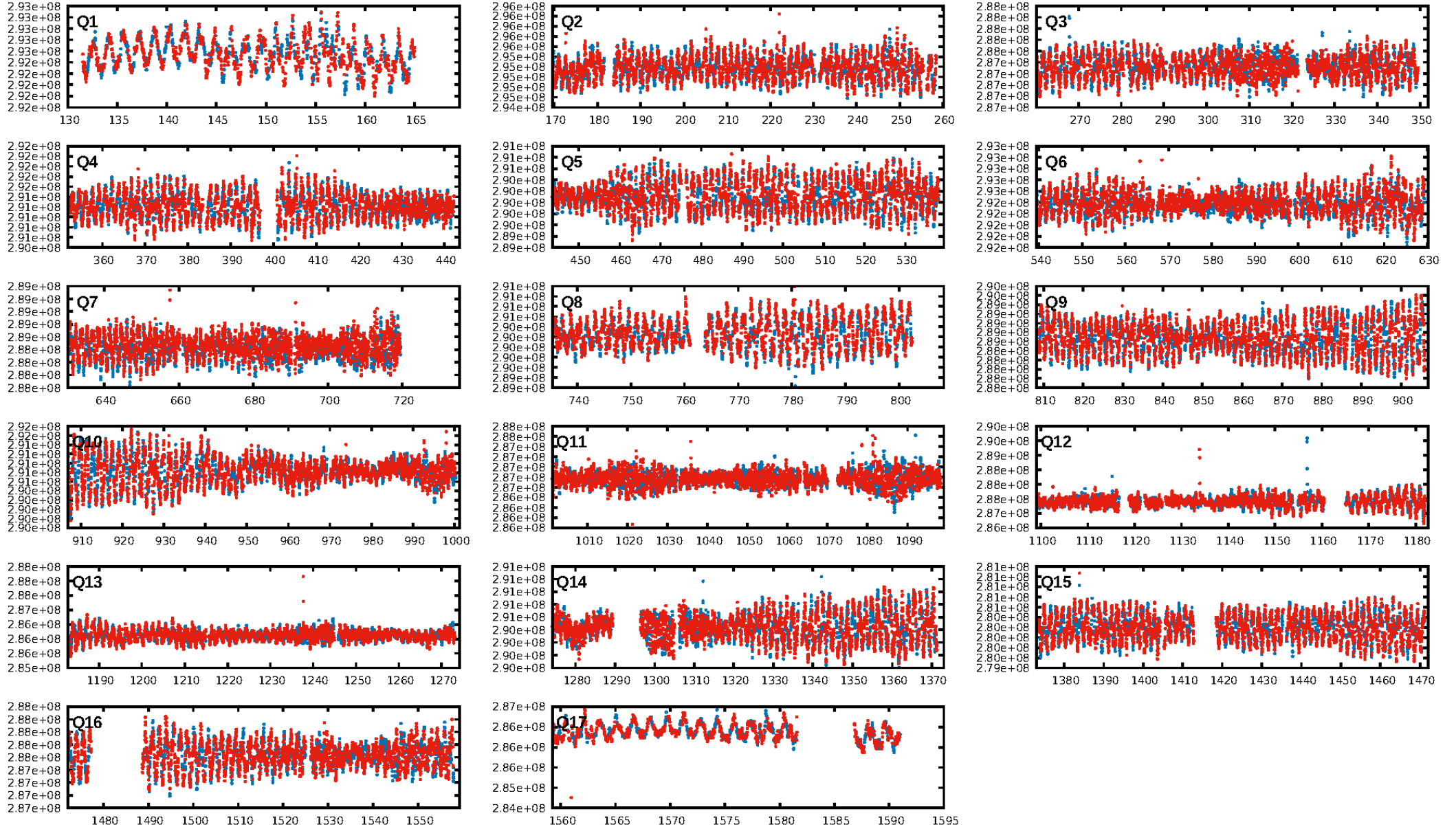
DV Fit Results:

Period = 0.64991 [0.00002] d
Epoch = 131.7122 [0.0035] BKJD
Rp/R* = 0.0038 [0.0020]
a/R* = 1.15 [0.88]
b = 0.49 [4.82]
Seff = 32271.88 [13849.25]
Teq = 3418 [367] K
Rp = 0.89 [0.54] Re
a = 0.0173 [0.0044] AU
Ag = 2.92 [3.36] [0.57 σ]
Teffp = 6910 [1894] K [1.81 σ]

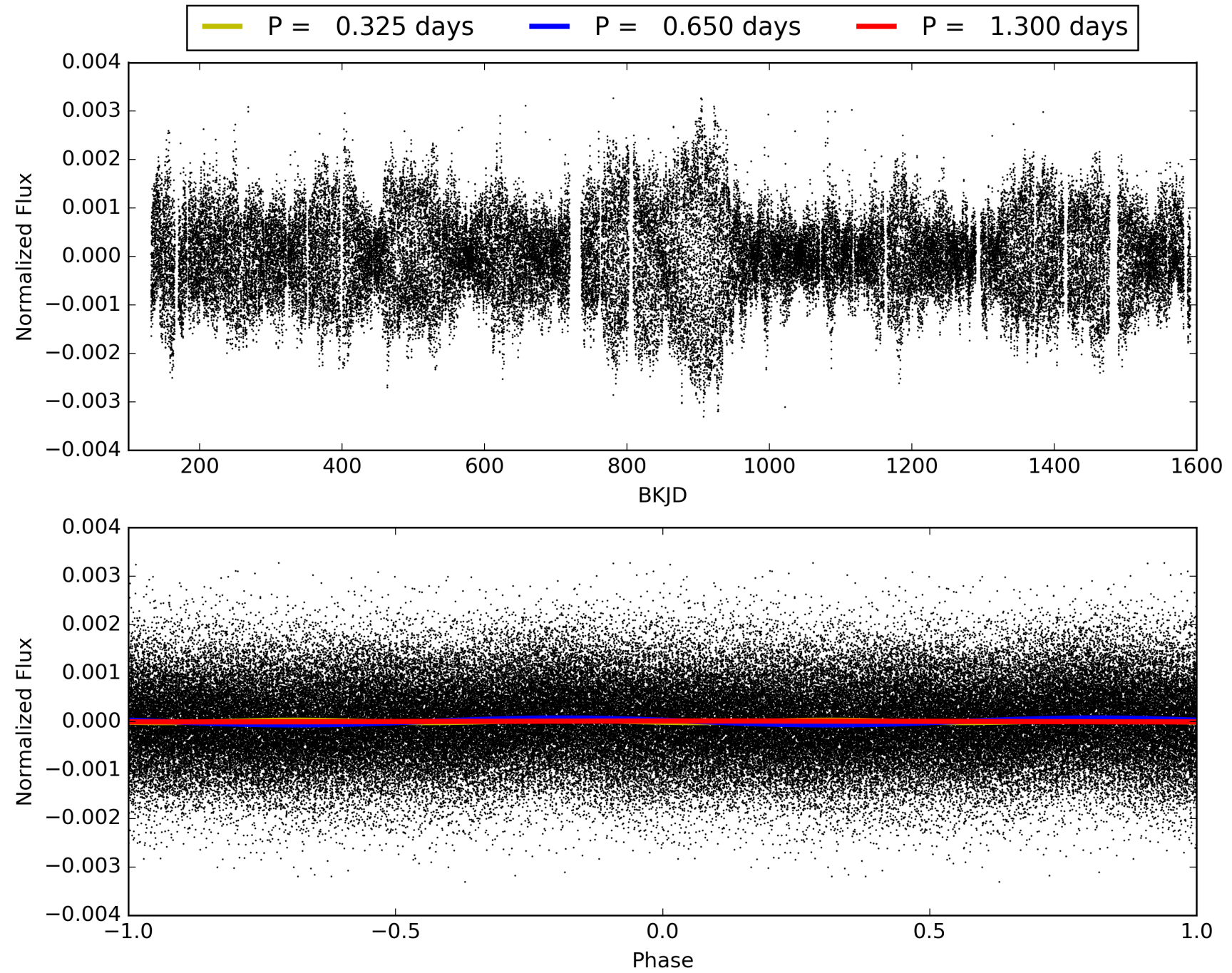
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 1.61e-45
RollingBand-fgt: 0.90 [1780/1980]
GhostDiagnostic-chr: -21.79
Centroid-sig: 0.1%
Centroid-so: 1.574 arcsec [2.19 σ]
OotOffset-rm: 0.223 arcsec [0.50 σ]
KicOffset-rm: 0.258 arcsec [0.48 σ]
OotOffset-st: 2/4/3/5 [14]
KicOffset-st: 2/4/3/5 [14]
DiffImageQuality-fgm: 0.36 [5/14]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007954107-01, PDC Light Curves

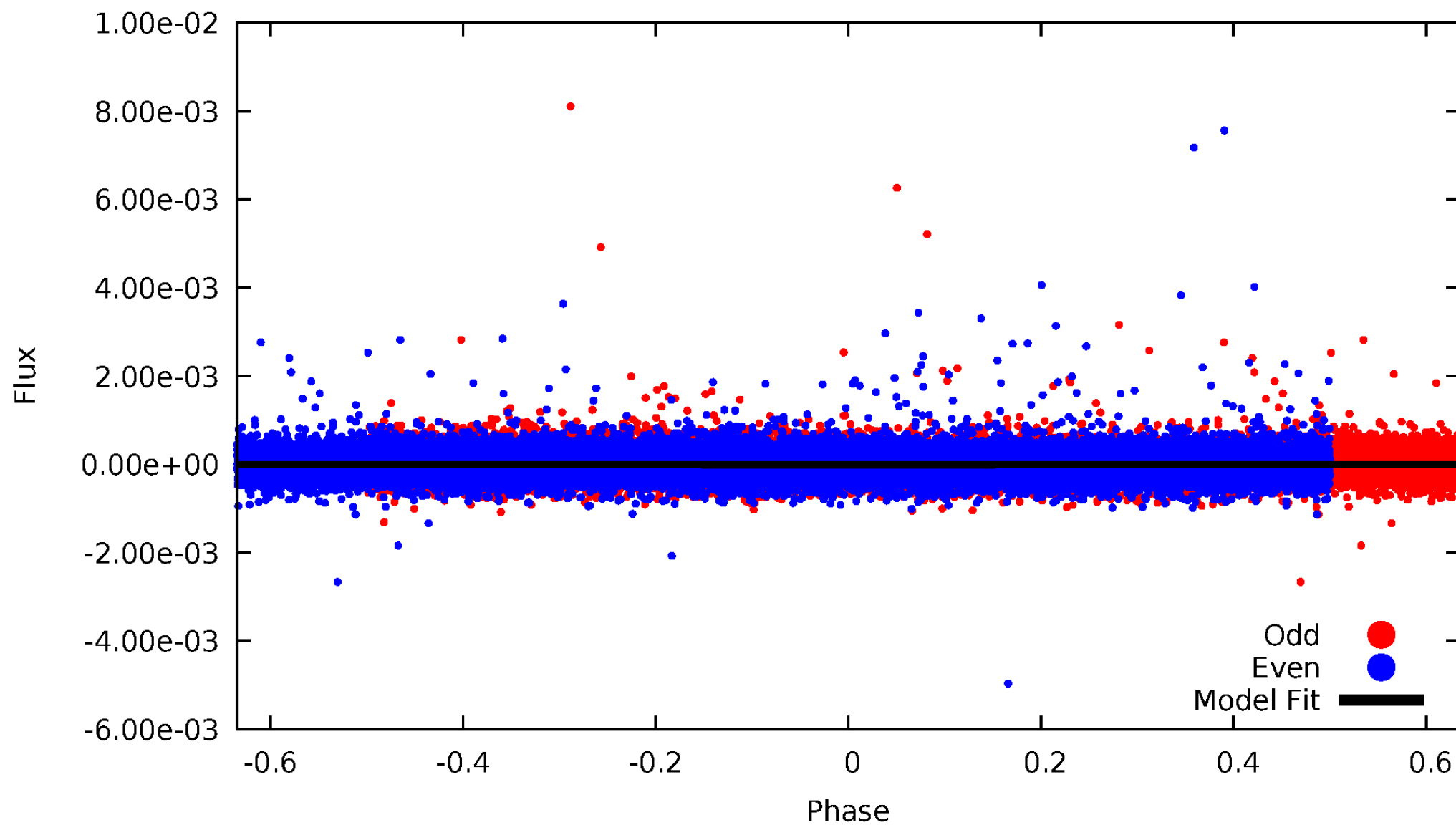


TCE 007954107-01



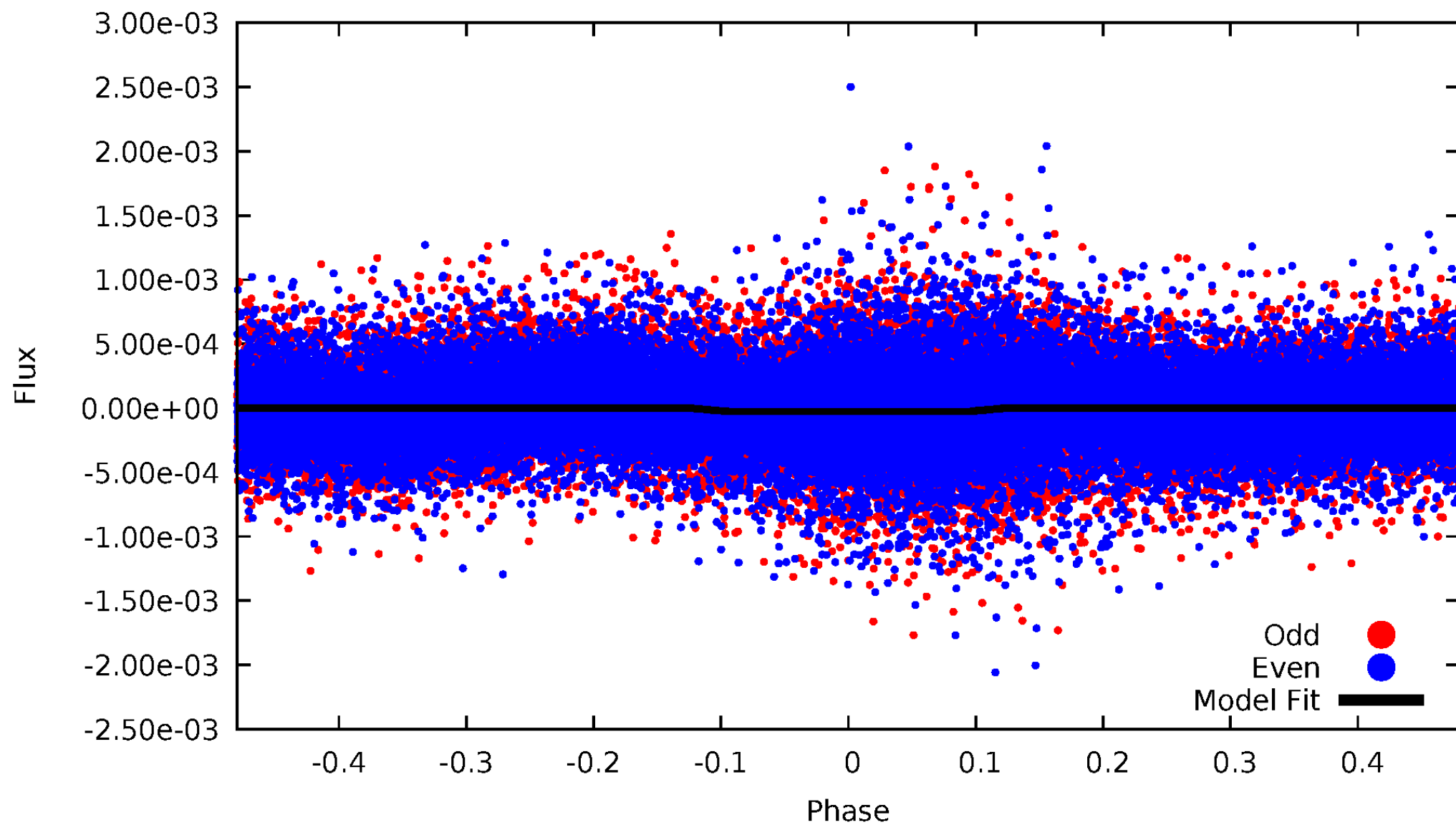
DV Odd/Even

TCE 007954107-01



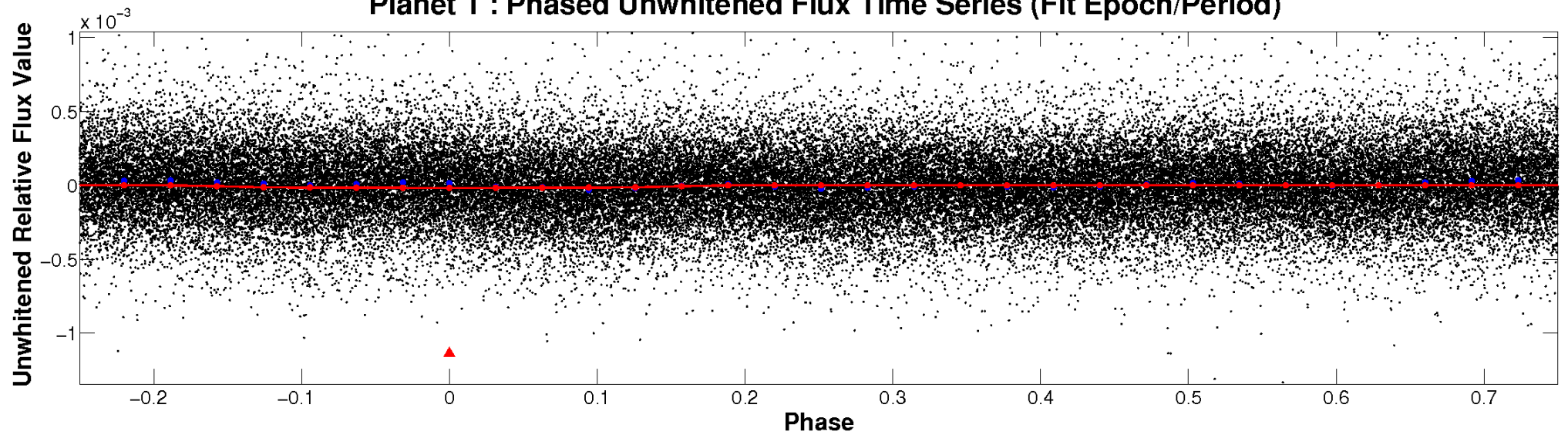
ALT Odd/Even

TCE 007954107-01

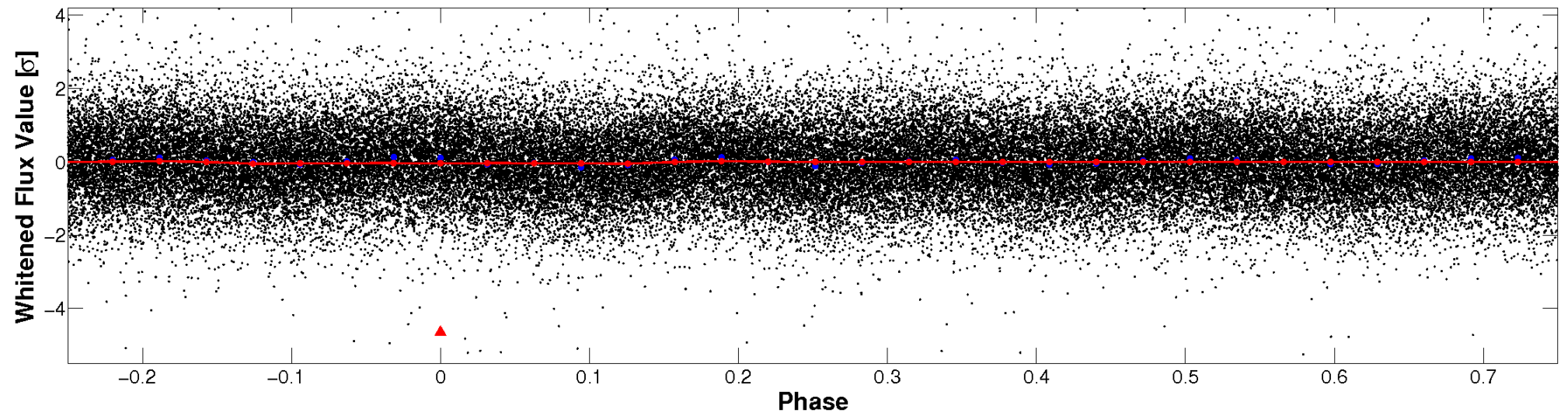


Non-Whitened Vs. Whitened Light Curve

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

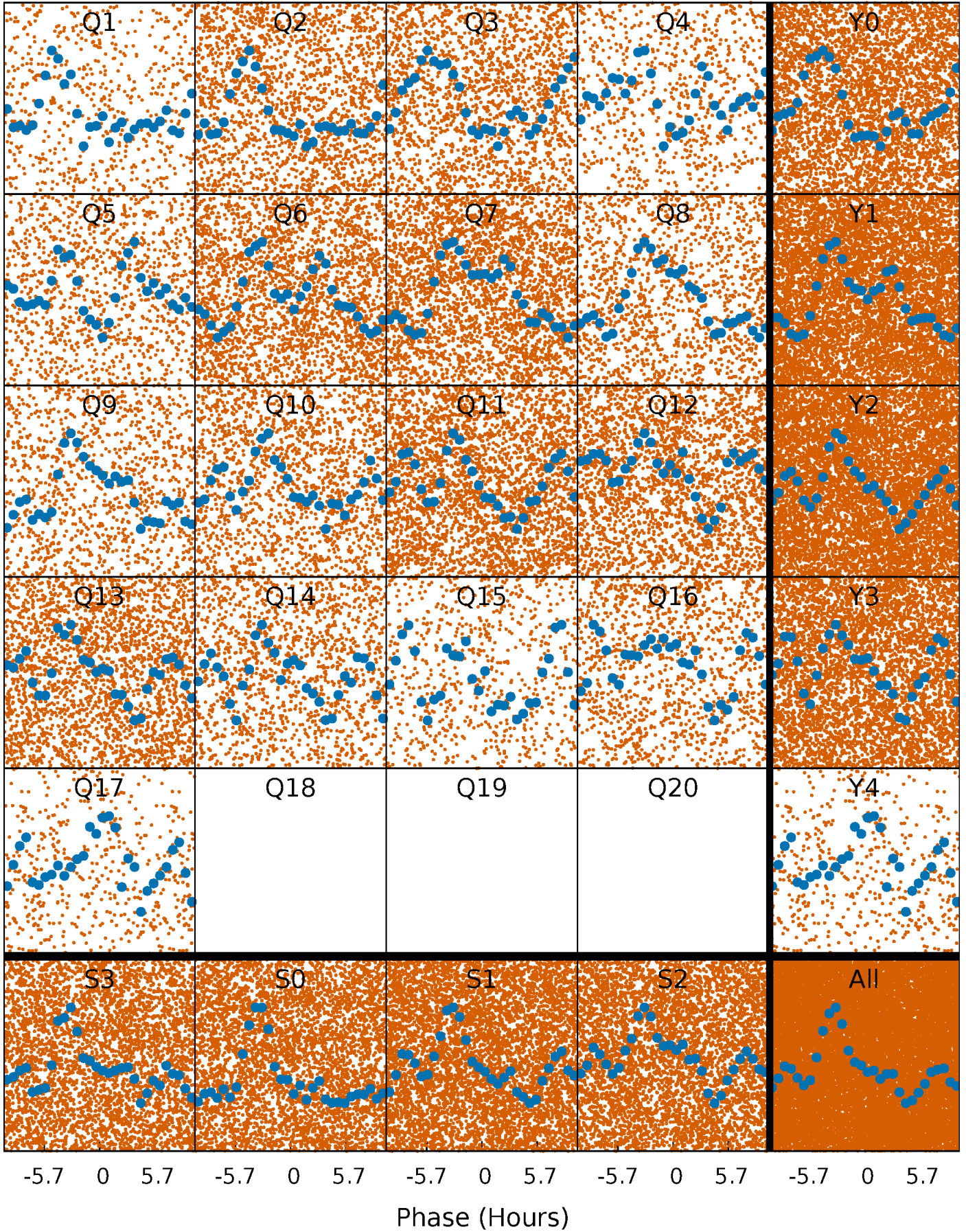


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



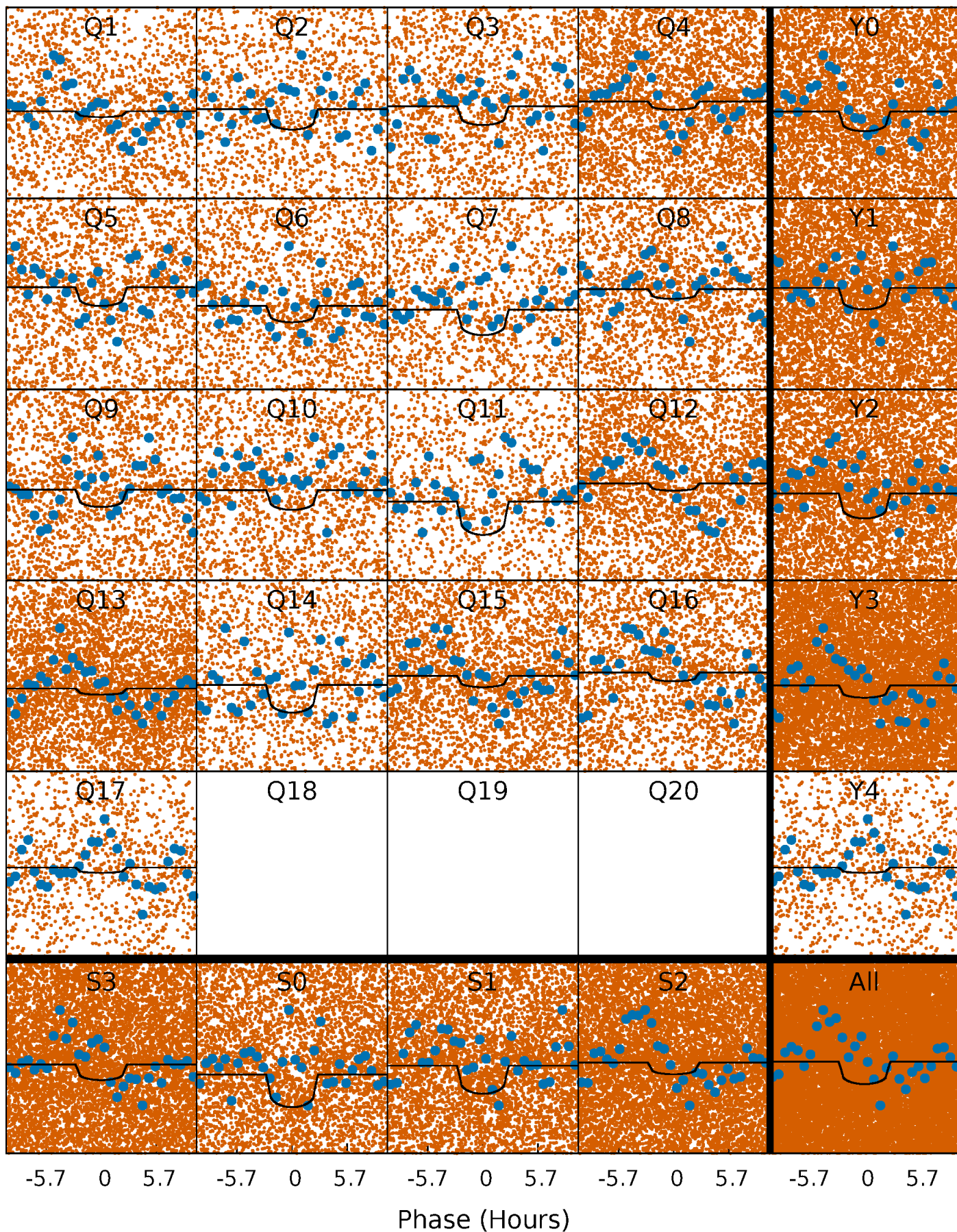
PDC Quarter-Phased Transit Curves

TCE 007954107-01 P= 0.649906 Days $T_0=131.712225$ (BKJD)



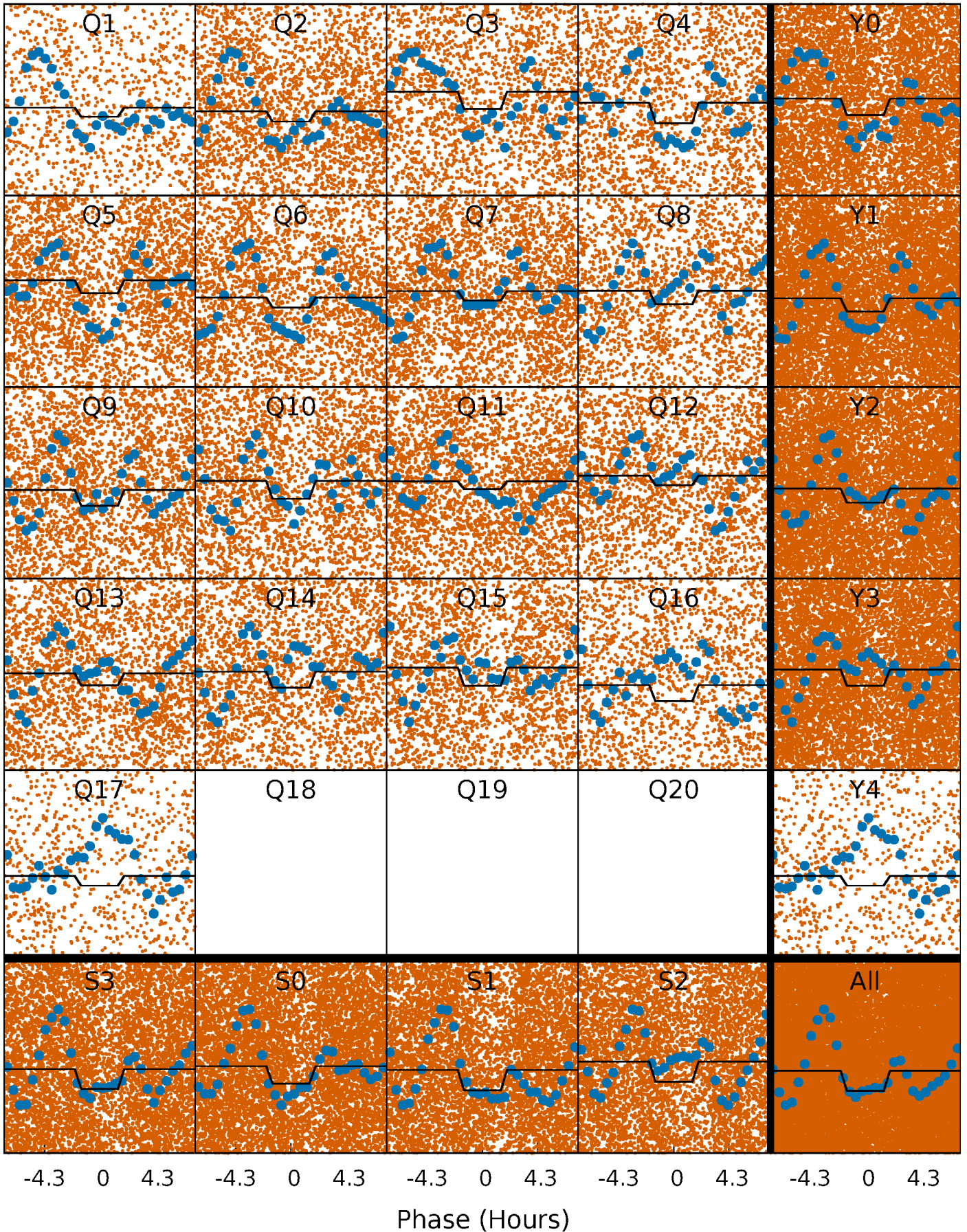
DV Quarter-Phased Transit Curves

TCE 007954107-01 P= 0.649906 Days $T_0=131.712225$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

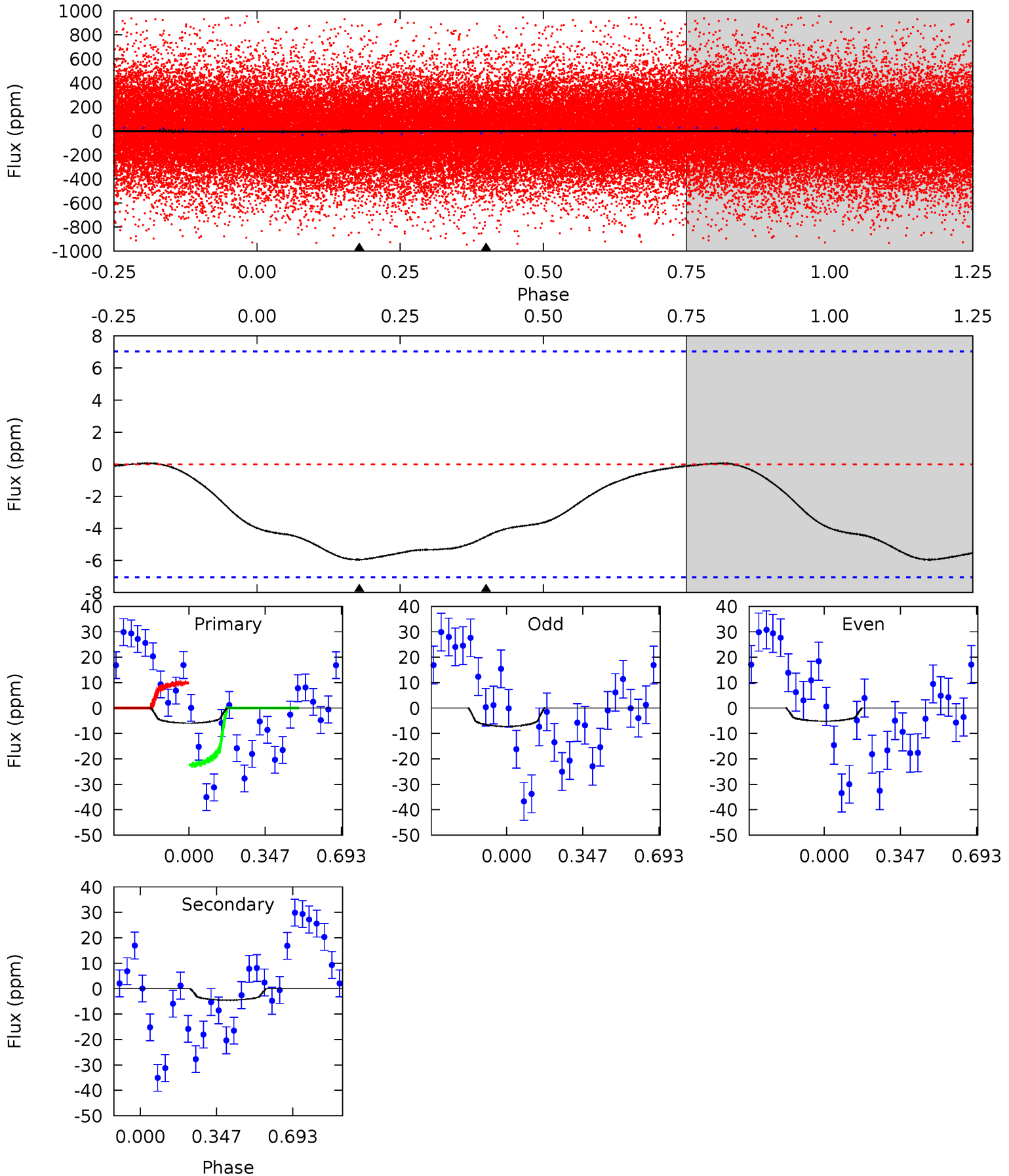
TCE 007954107-01 P= 0.649907 Days $T_0=131.712633$ (BKJD)



DV Model-Shift Uniqueness Test

007954107-01, P = 0.649906 Days, E = 131.062319 Days

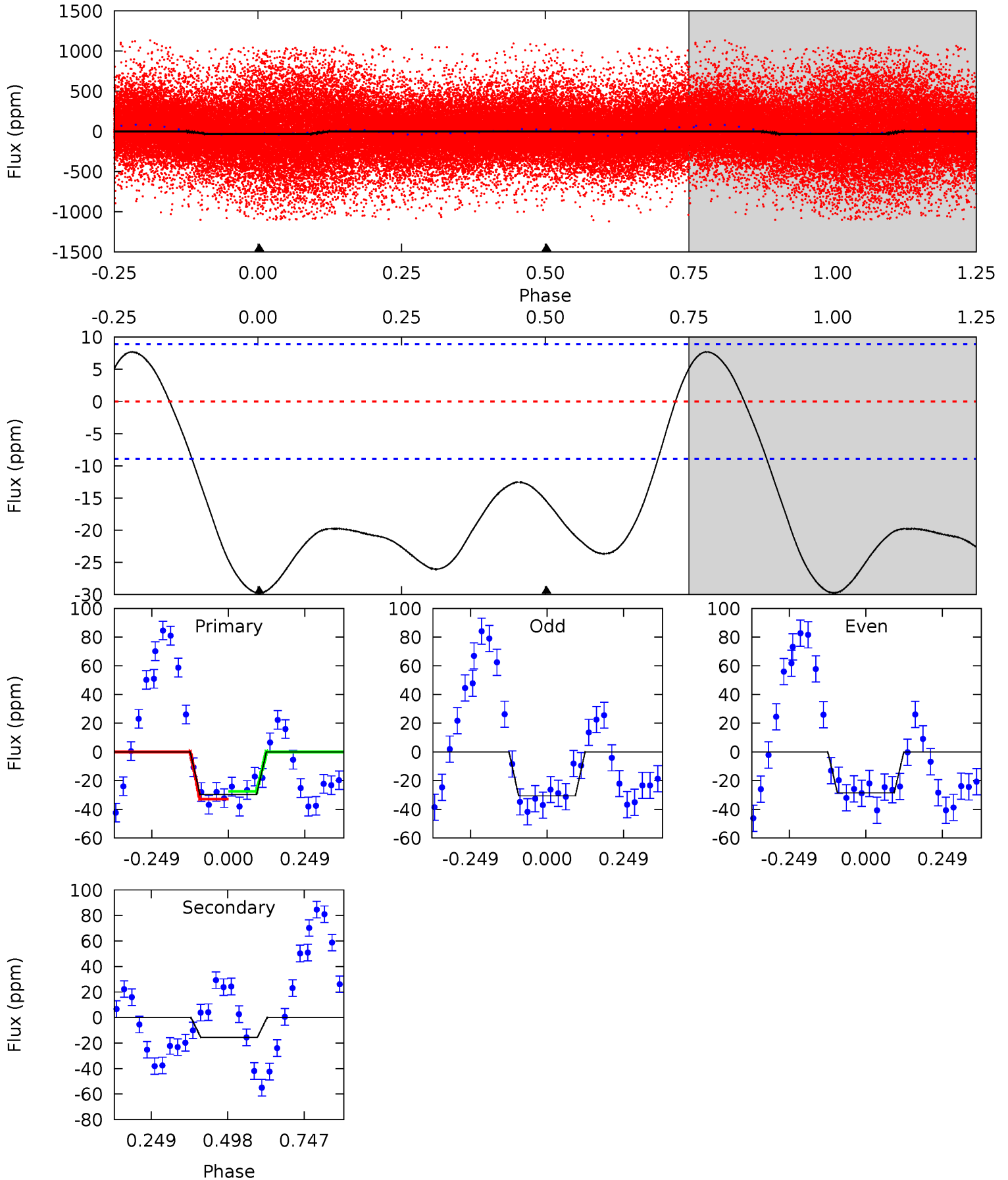
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3.63	2.75	0	0	4.30	0.94	0.04	3.63	3.63	2.75	2.75	0.64	0.13	0.01	3.91



Alt Model-Shift Uniqueness Test

007954107-01, P = 0.649907 Days, E = 131.062726 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.6	7.60	0	0	4.37	1.15	6.86	14.6	14.6	7.60	7.60	0.52	1.00	0.21	1.00



Stellar Parameters For KIC 007954107

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6977^{+194}_{-315}	$3.993^{+0.220}_{-0.180}$	$0.080^{+0.200}_{-0.350}$	$2.131^{+0.619}_{-0.619}$	$1.626^{+0.207}_{-0.311}$	$0.237^{+0.361}_{-0.110}$
	+3%/-5%	+6%/-5%	+250%/-438%	+29%/-29%	+13%/-19%	+152%/-47%
Source	PHO54	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007954107-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 2	$0.88^{+0.54}_{-0.44}$	4763^{+359}_{-437}	4628^{+2444}_{-1762}	$0.824^{+2.851}_{-0.497}$
Alt.	-16 ± 2	$1.24^{+0.55}_{-0.51}$	4762^{+372}_{-386}	5605^{+1985}_{-1028}	$1.624^{+3.256}_{-0.824}$

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

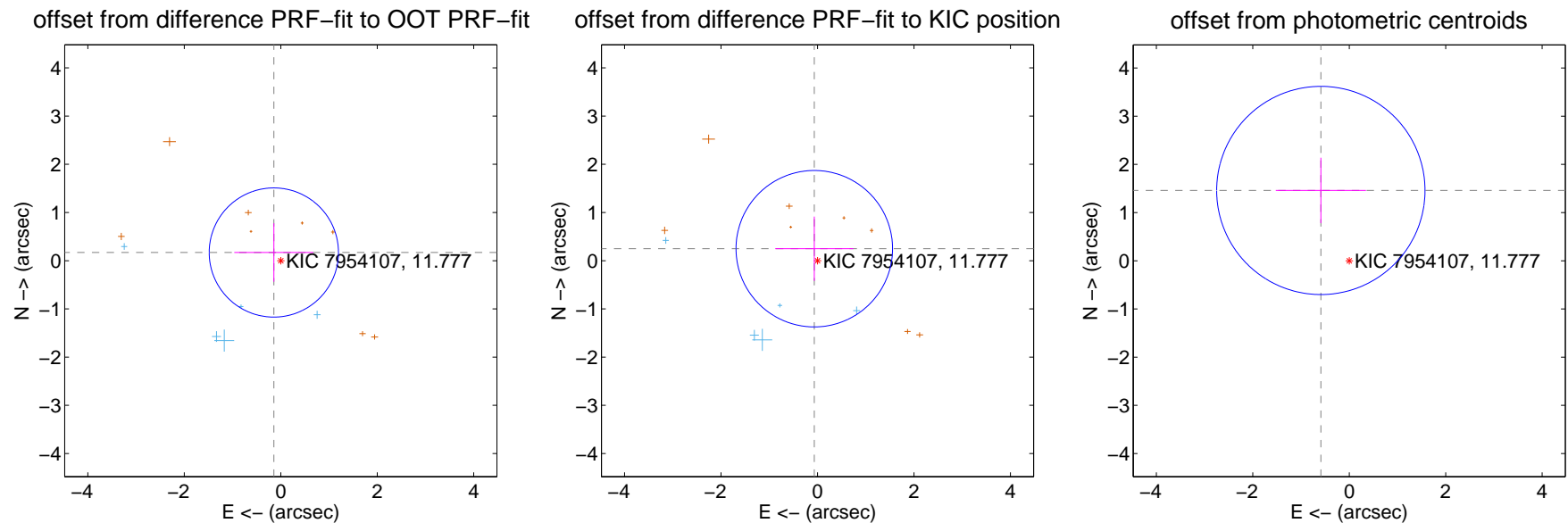
DV Centroid Data

Supplemental centroid analysis for 007954107-01. **Kepler magnitude: 11.78.** Transit SNR 6.05

There are 5 quarters with good PRF difference image offsets

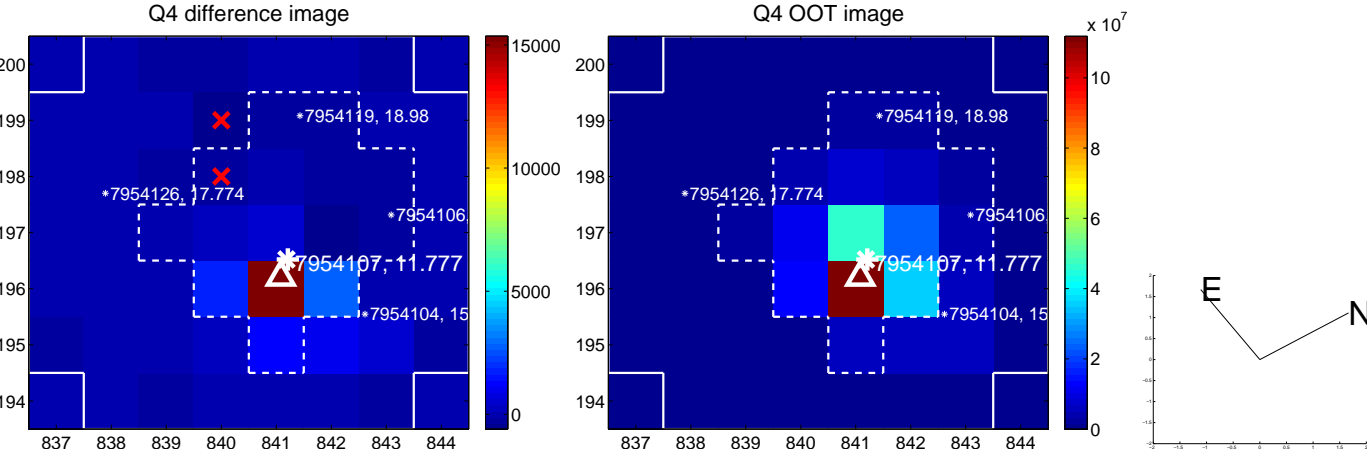
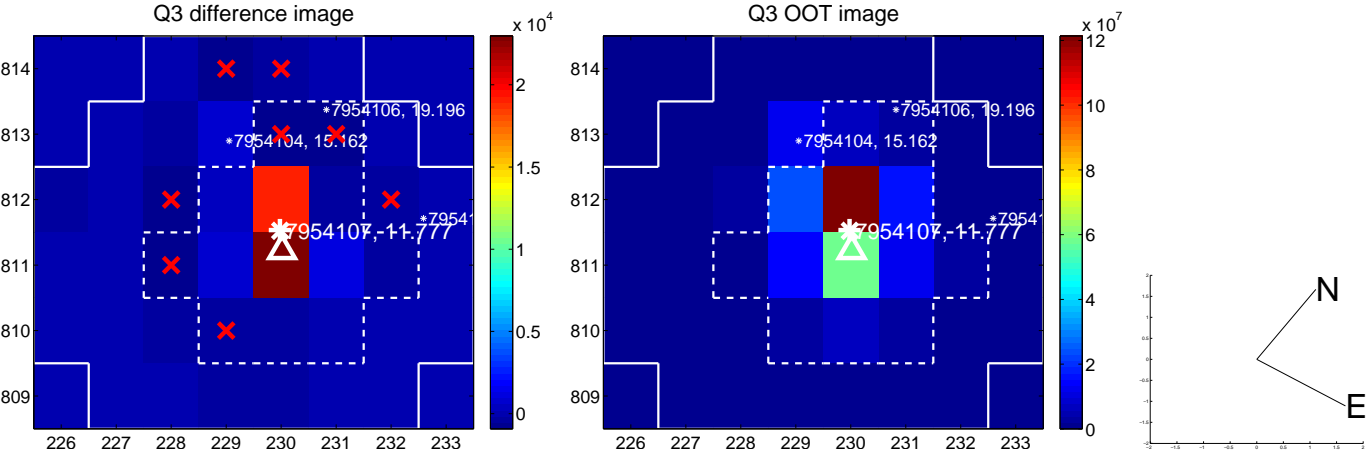
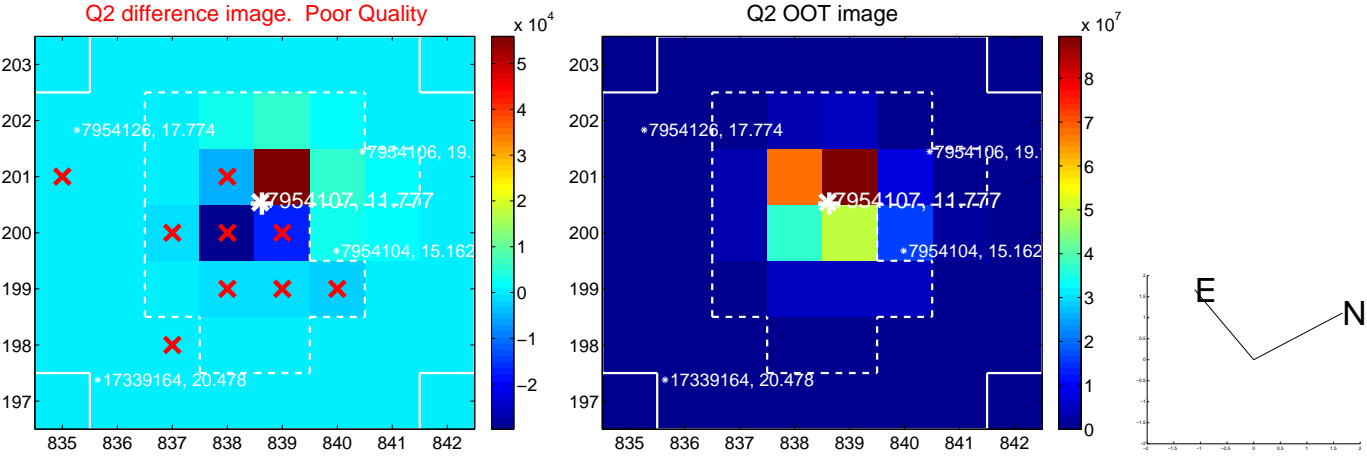
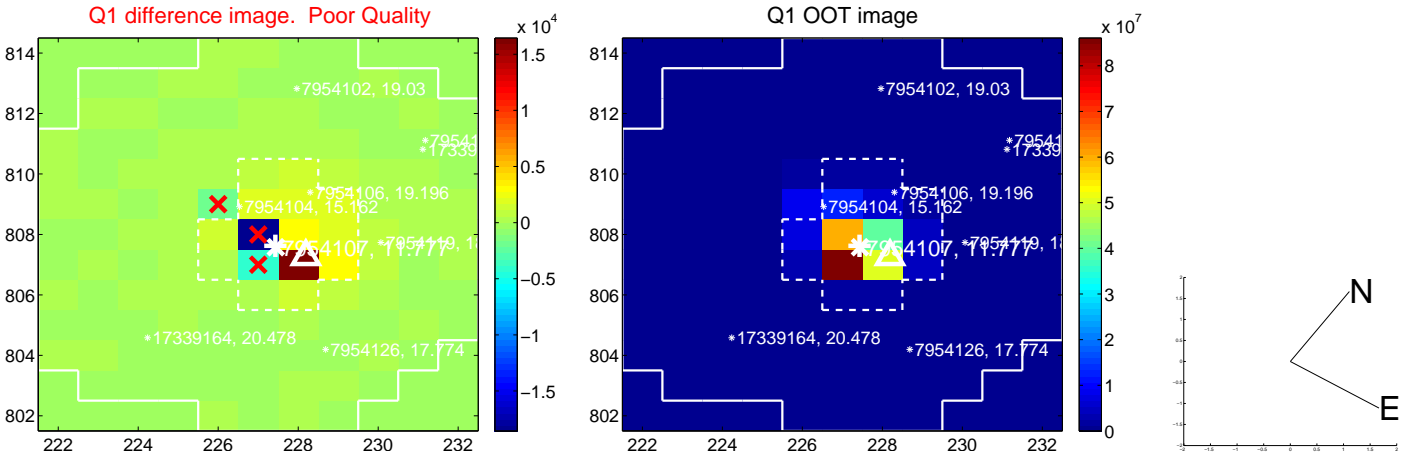
The direct PRF centroid is offset from the target star catalog position by about 0.16 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.223 ± 0.447	0.50	0.144 ± 0.819	0.170 ± 0.606
PRF-fit source offset from KIC position	0.258 ± 0.541	0.48	0.067 ± 0.811	0.249 ± 0.667
photometric centroid source offset	1.57 ± 0.72	2.19	0.59 ± 0.94	1.46 ± 0.68

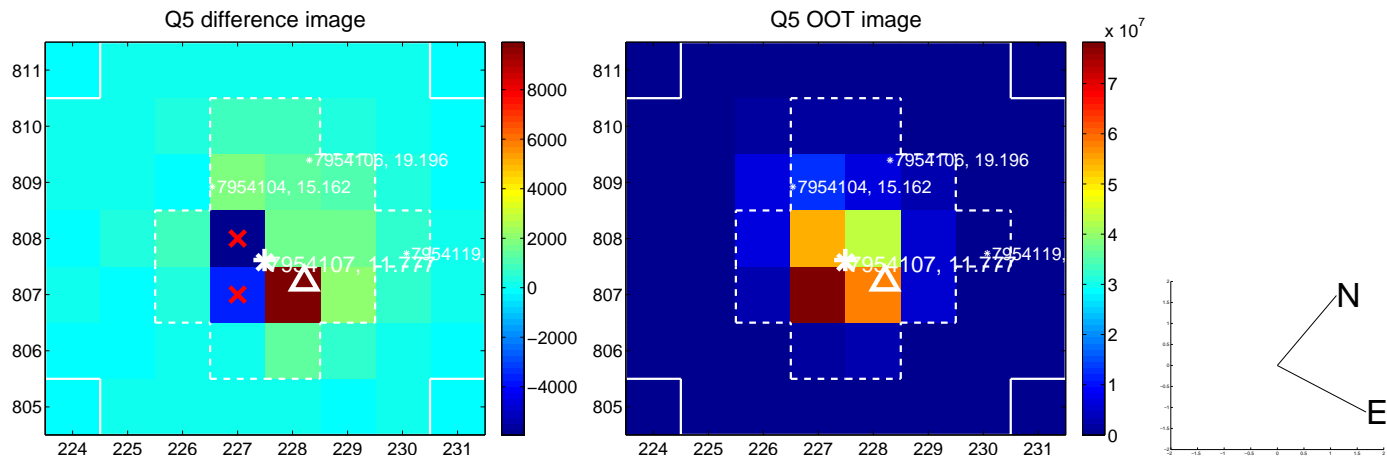


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

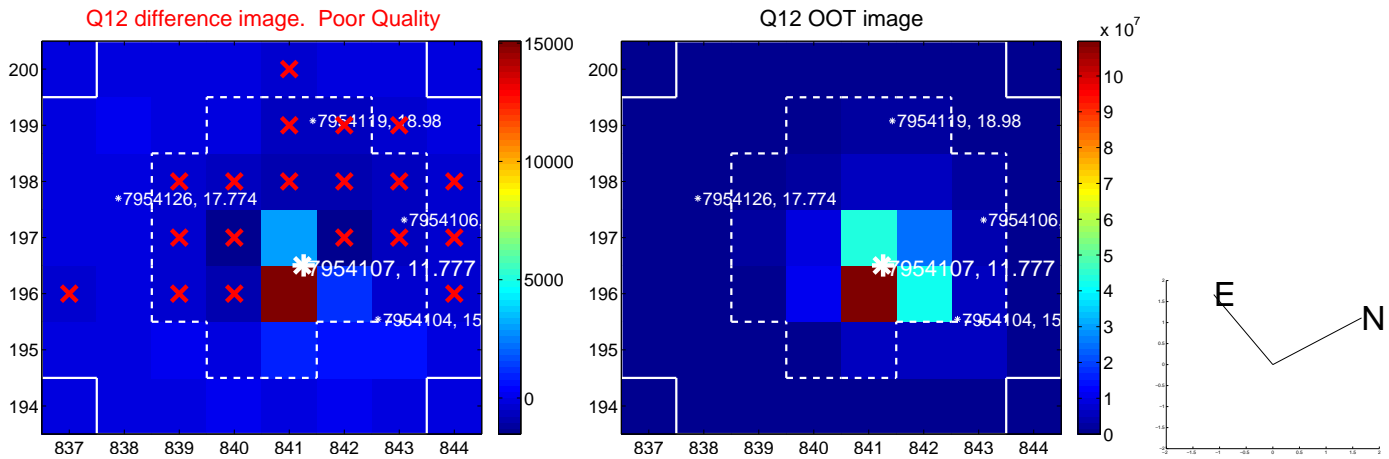
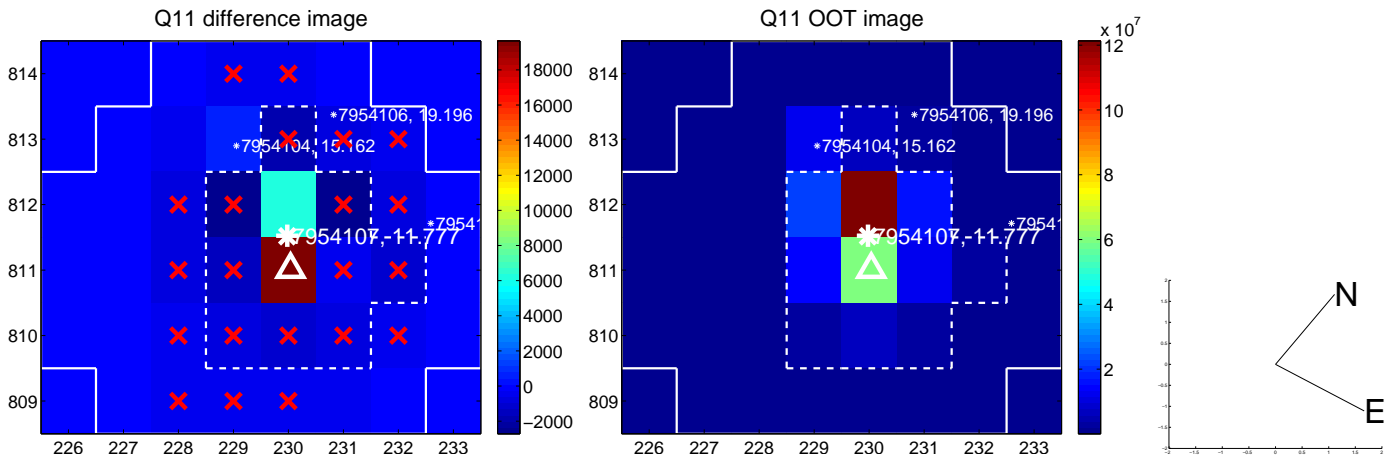
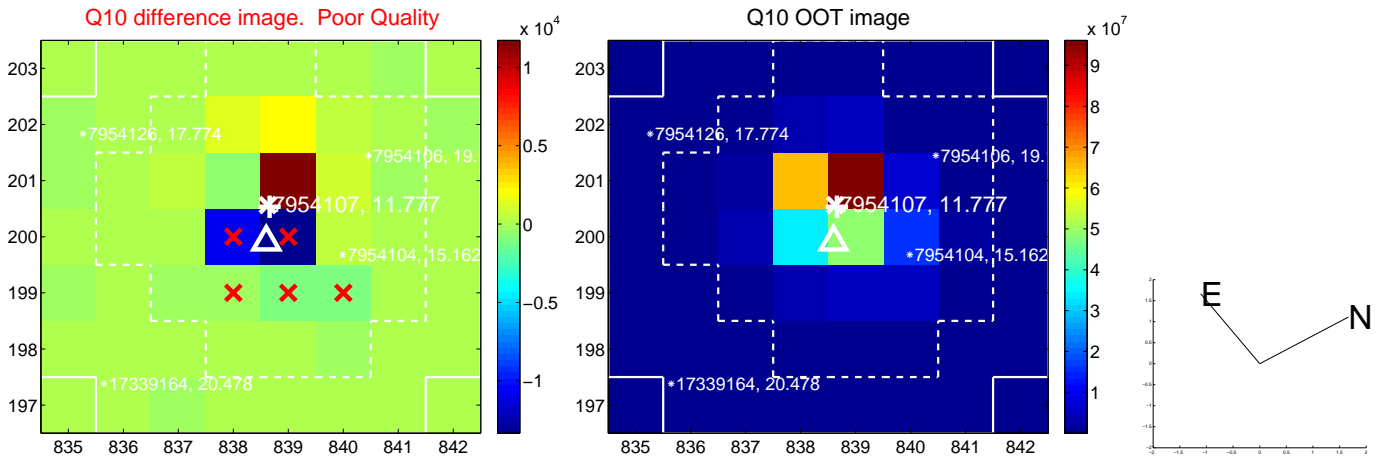
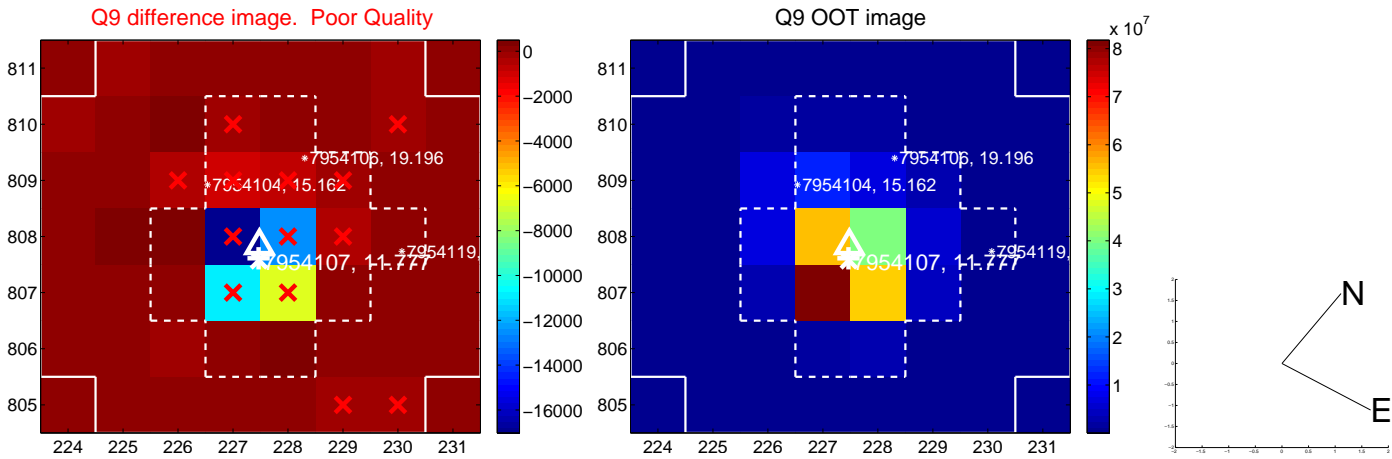
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



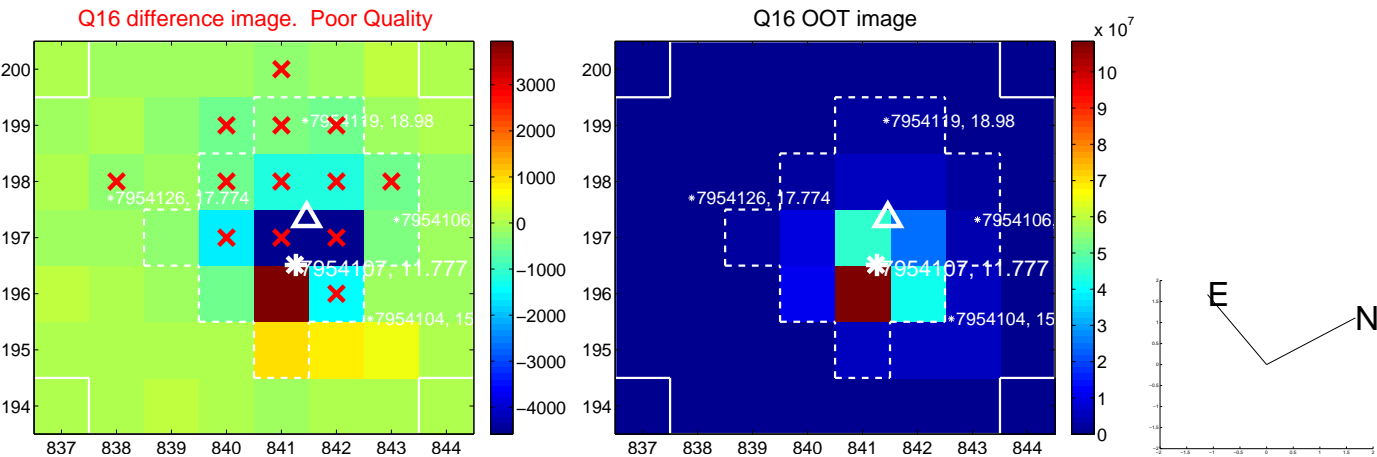
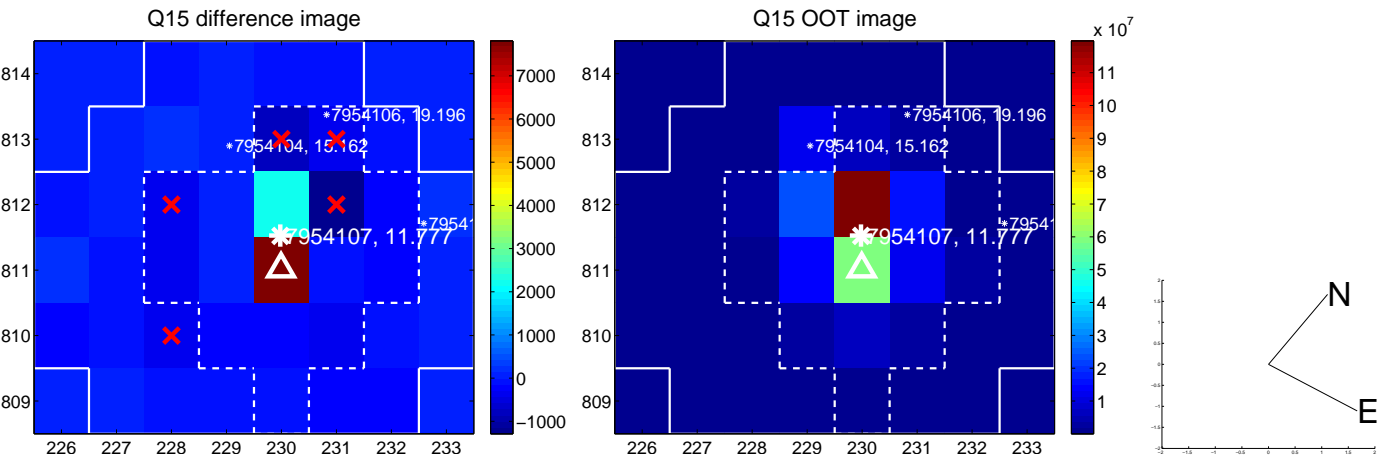
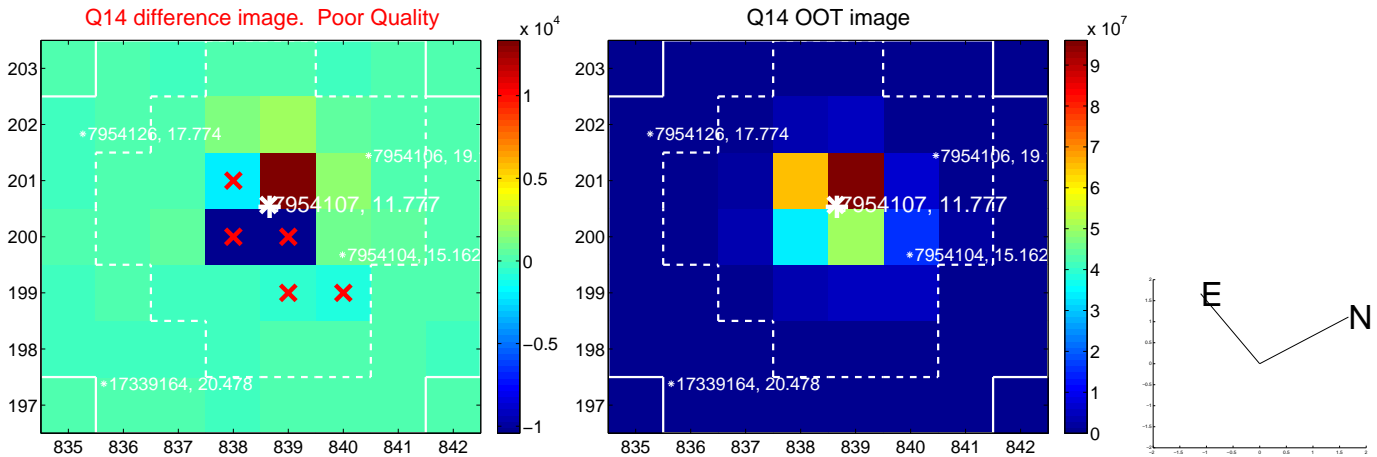
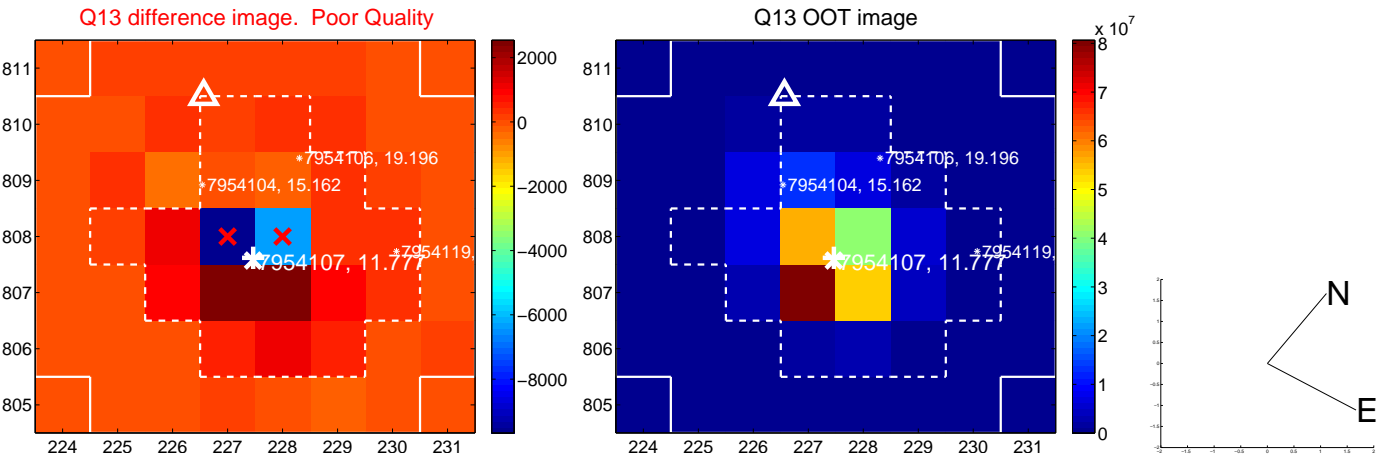
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



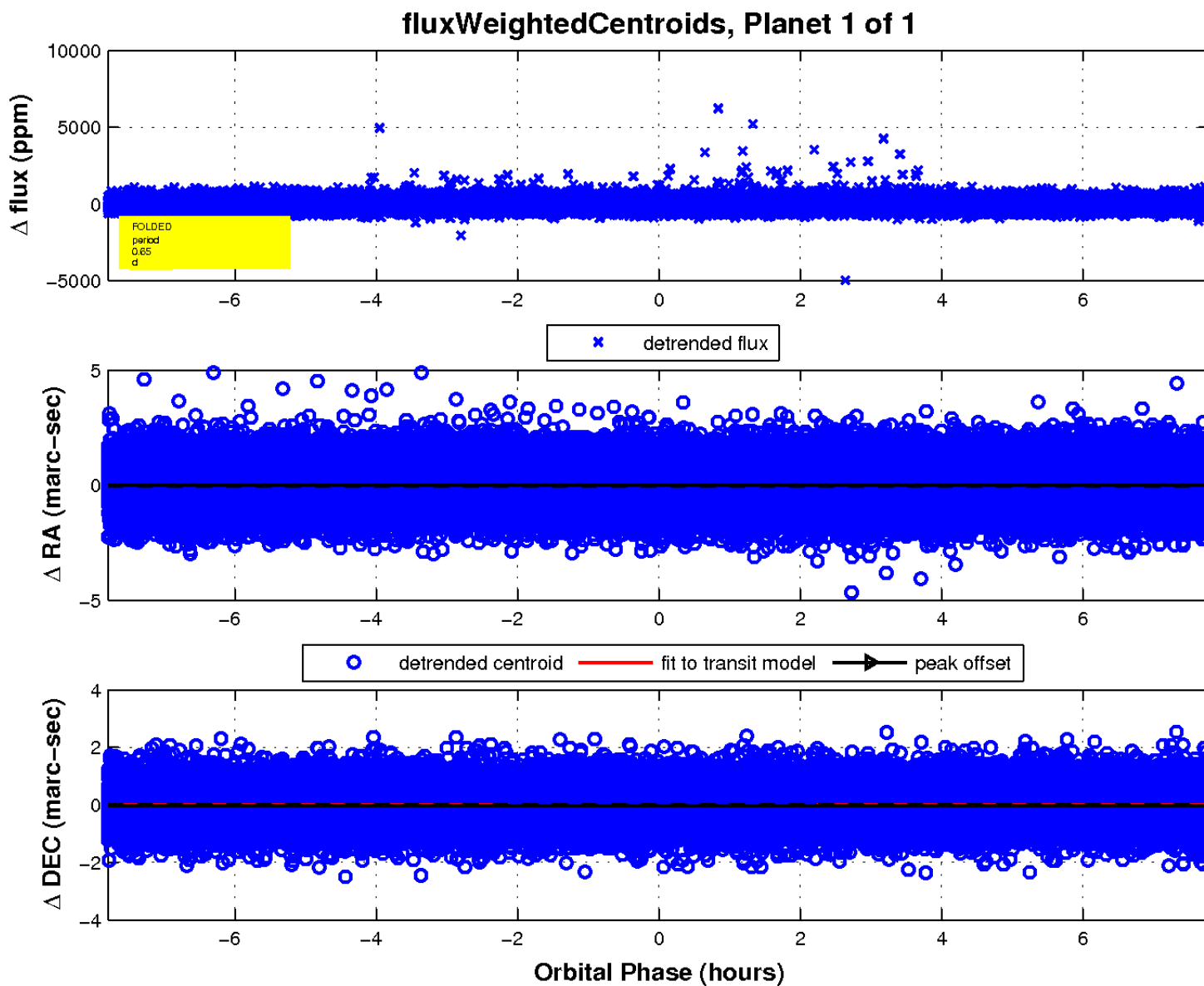
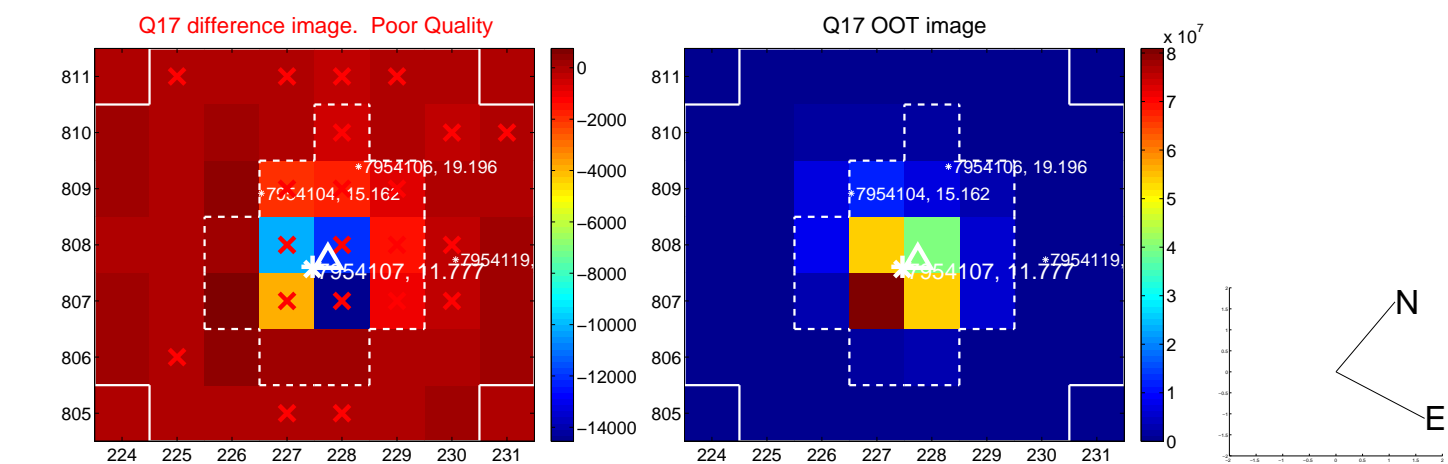
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UKIRT Image

Declination

