

KIC 008520065

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})
008520065-01	OBS	No	0.935638	132.332976	12.9	1.307	7.1	1.5	2.26	5916	0.96	13888.42

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008520065-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE_ZUMA_TRACKER—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_TER_DV—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.

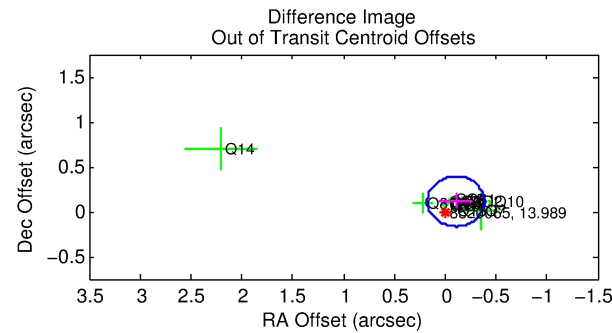
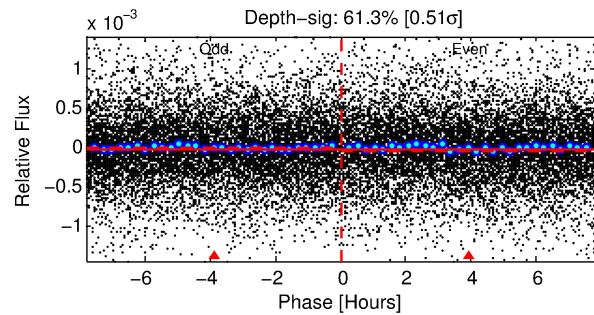
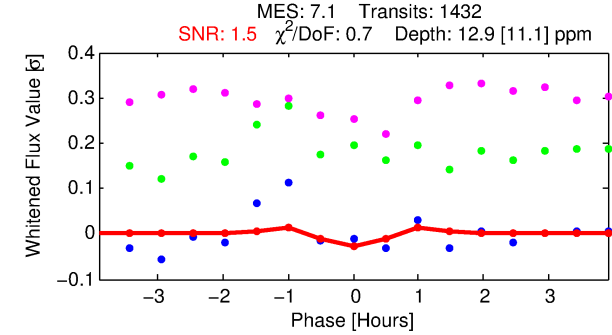
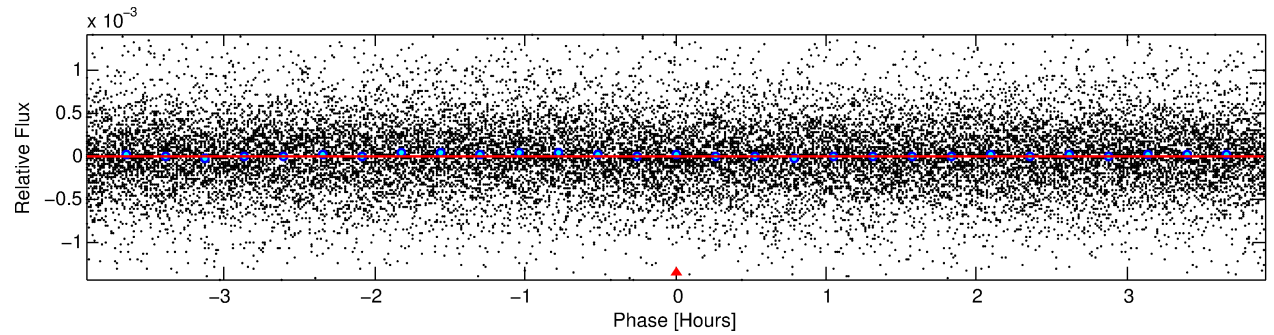
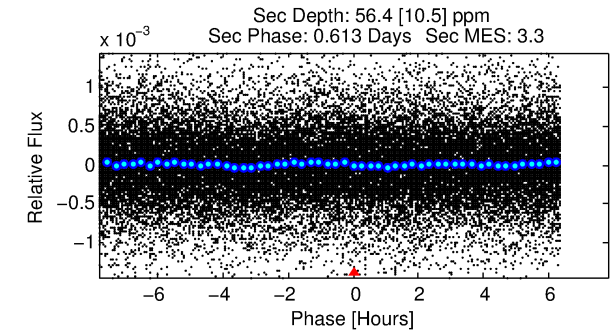
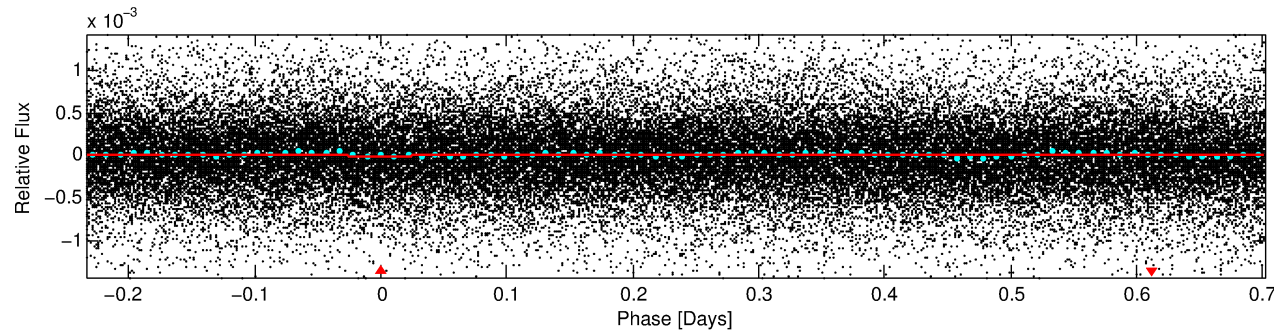
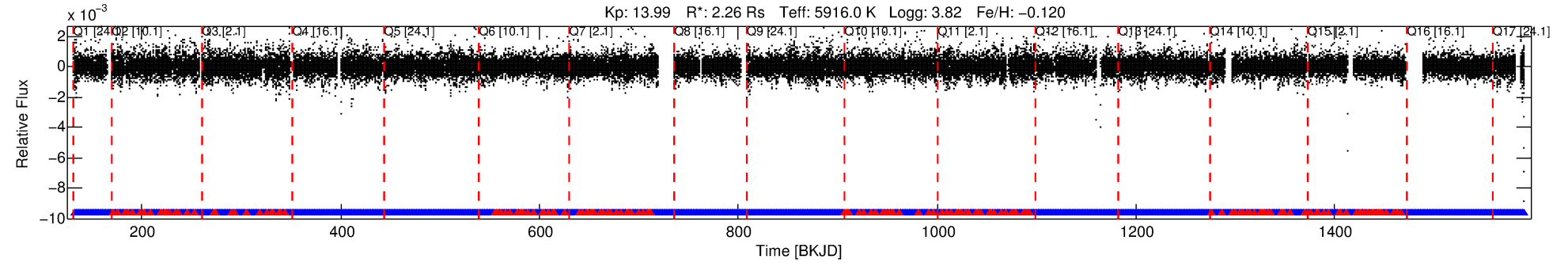
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008520065-01

No Significant Match Found

DV One-Page Summary

KIC: 8520065 Candidate: 1 of 1 Period: 0.936 d



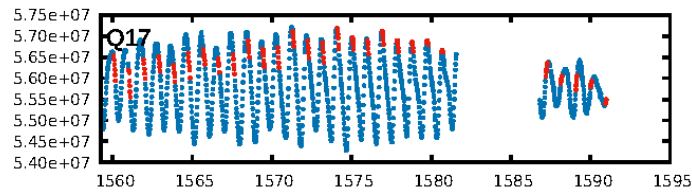
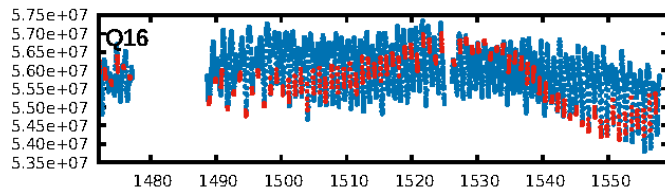
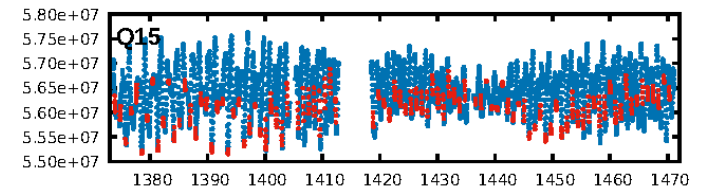
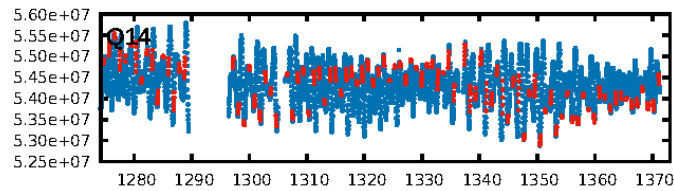
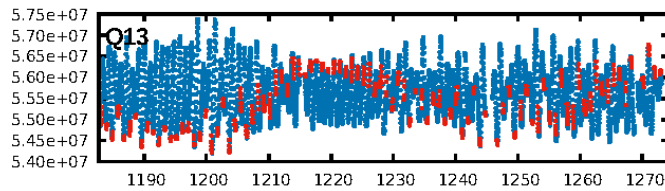
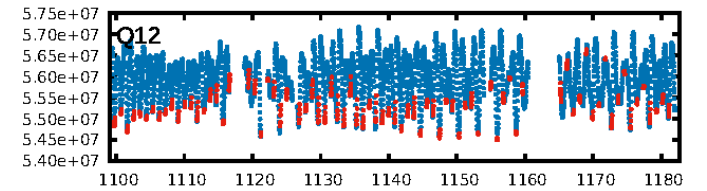
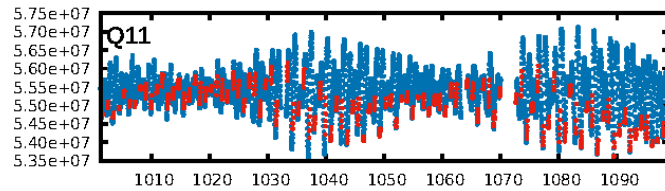
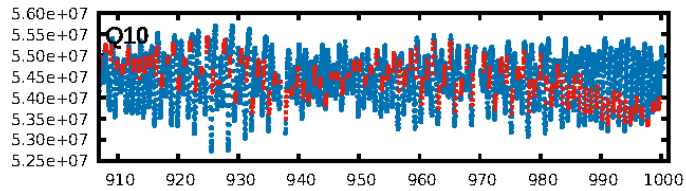
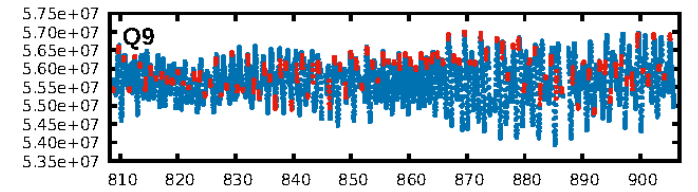
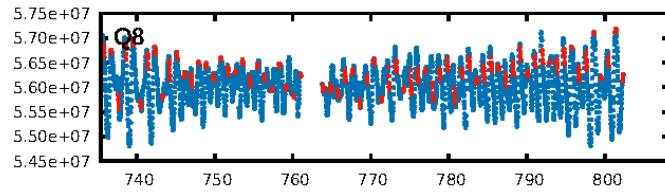
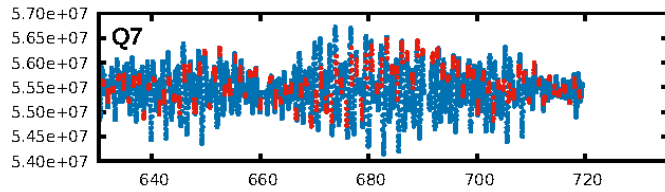
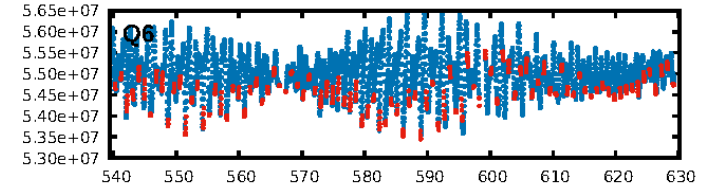
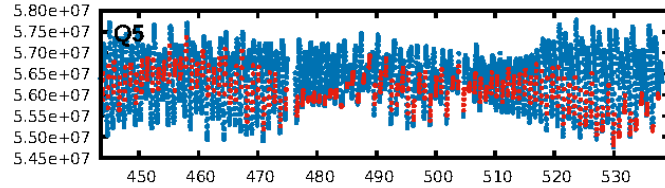
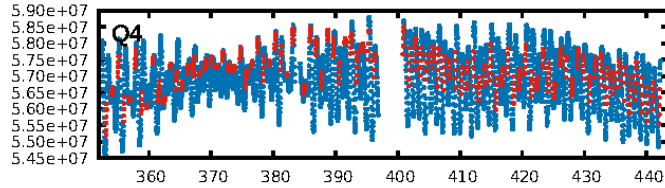
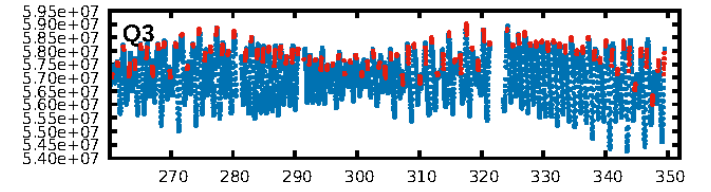
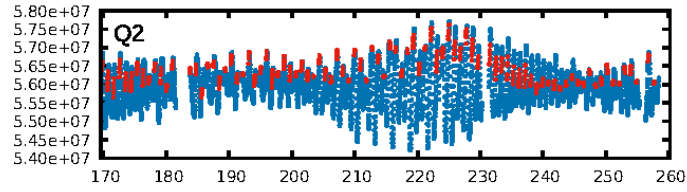
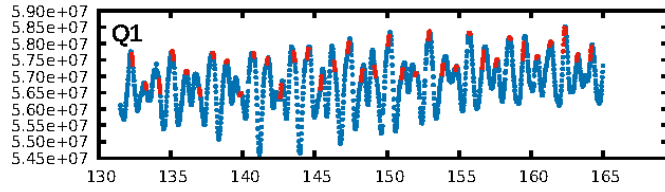
DV Fit Results:

Period = 0.93564 [0.00006] d
Epoch = 132.3330 [0.0087] BKJD
Rp/R* = 0.0039 [0.0033]
a/R* = 2.72 [8.94]
b = 0.89 [0.91]
Seff = 13888.42 [13191.95]
Teff = 2768 [657] K
Rp = 0.96 [0.96] Re
a = 0.0201 [0.0112] AU
Ag = 13.75 [26.94] [0.47σ]
Teffp = 8242 [3552] K [1.52σ]

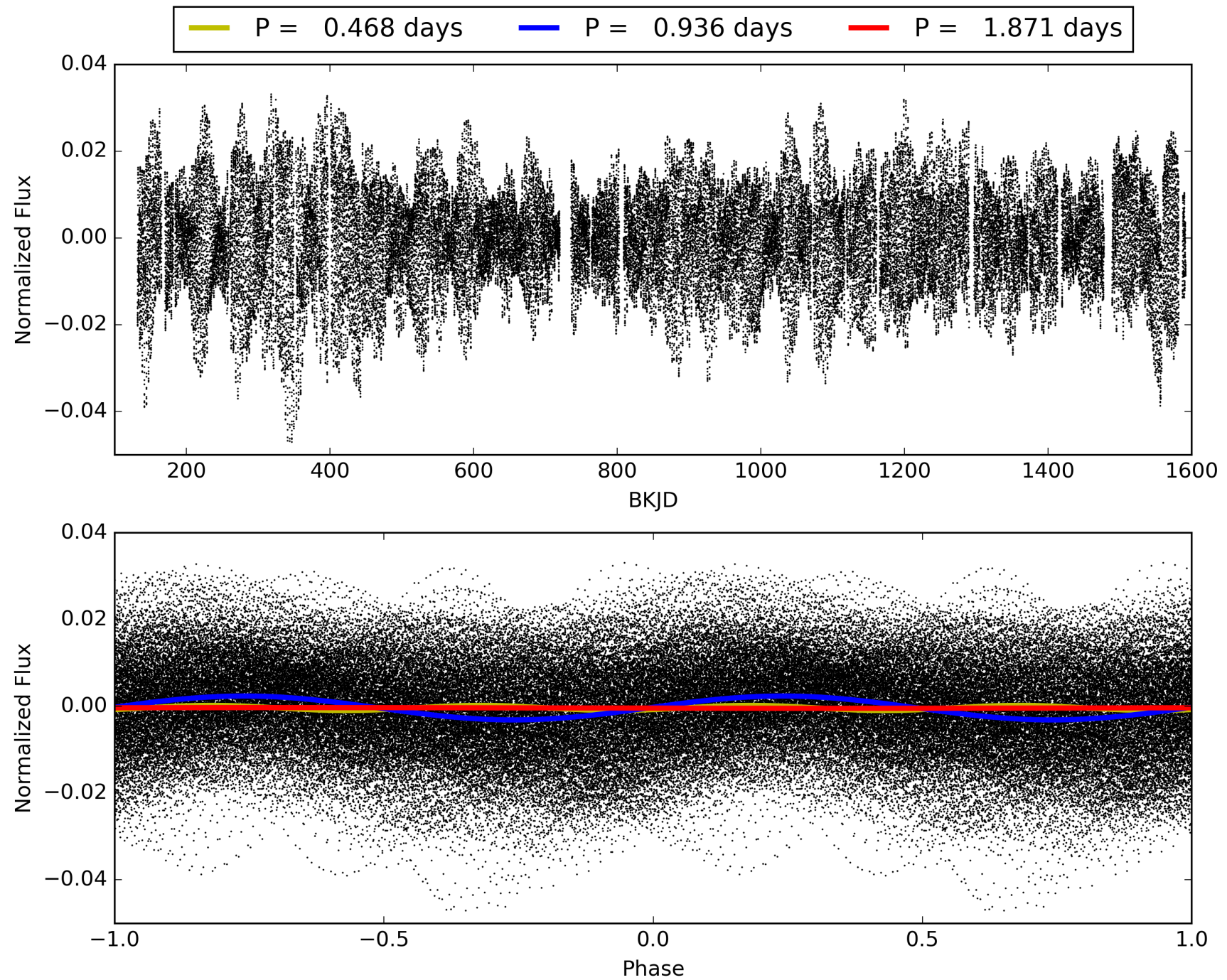
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.51e-13
RollingBand-fgt: 0.87 [1195/1369]
GhostDiagnostic-chr: -1.029
Centroid-sig: N/A
Centroid-so: 10.230 arcsec [2.14σ]
OotOffset-rm: 0.153 arcsec [1.64σ]
KicOffset-rm: 0.106 arcsec [0.80σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.47 [8/17]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 008520065-01, PDC Light Curves

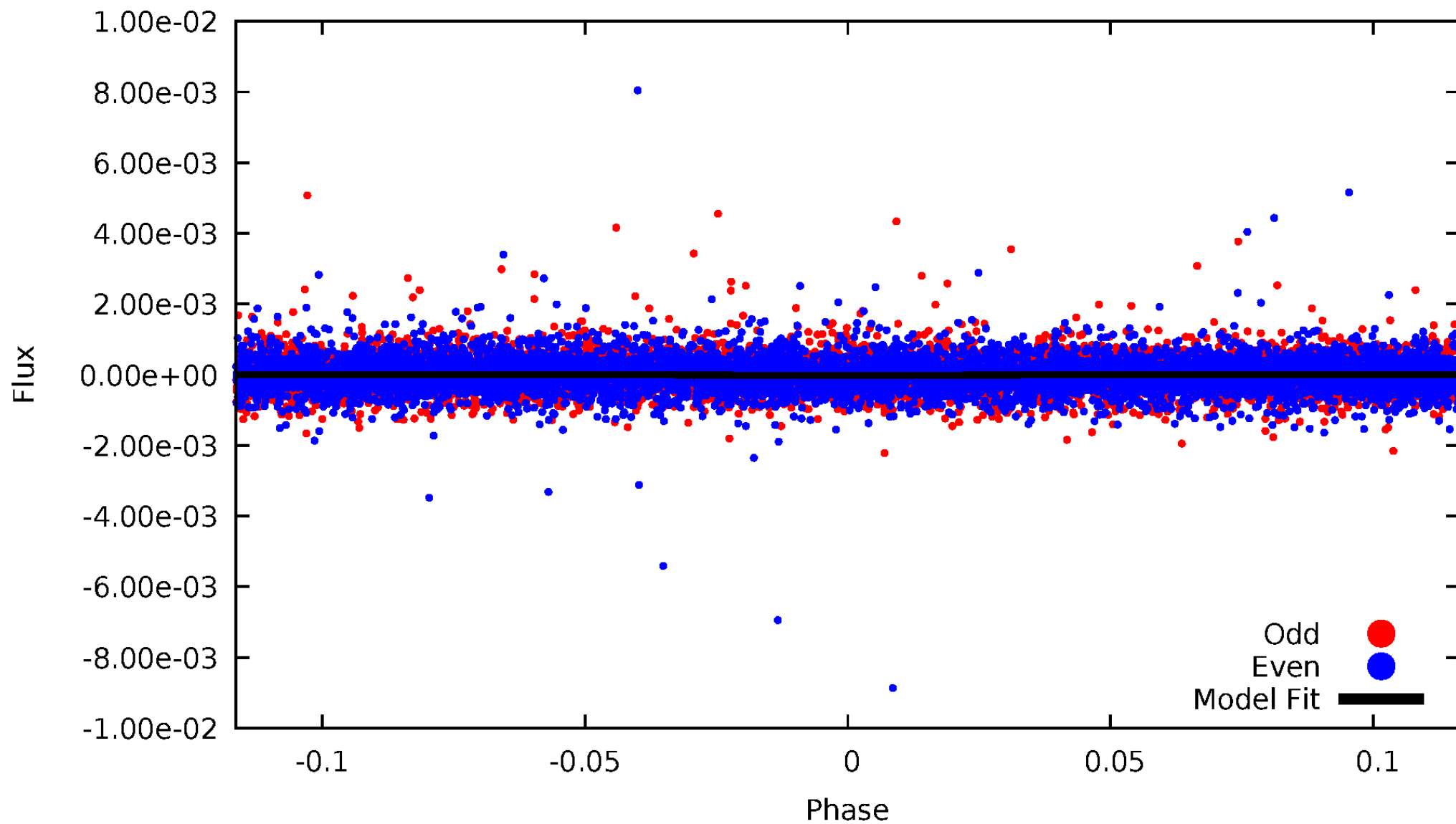


TCE 008520065-01



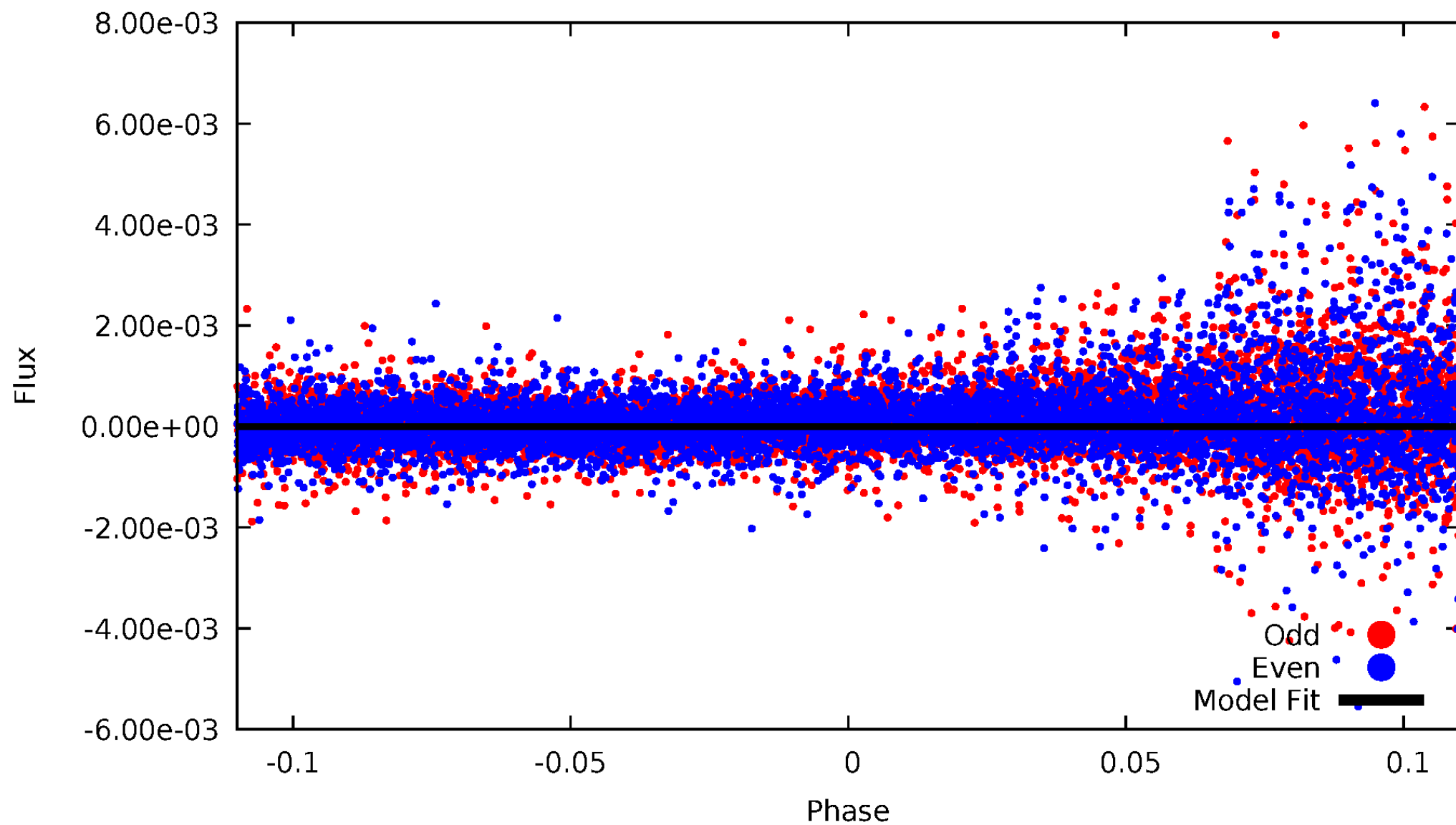
DV Odd/Even

TCE 008520065-01



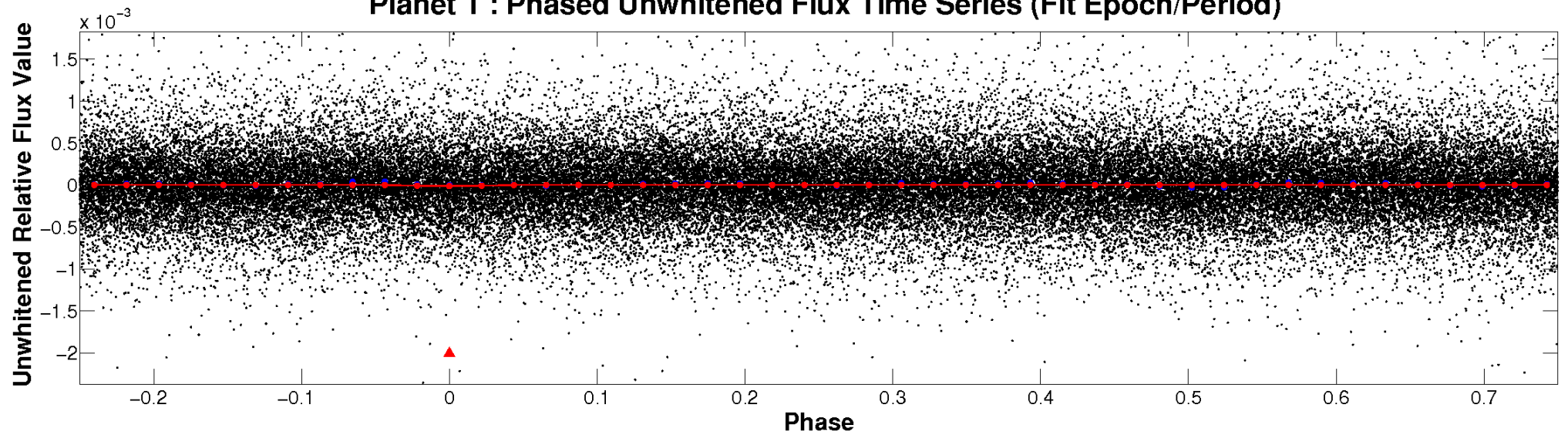
ALT Odd/Even

TCE 008520065-01

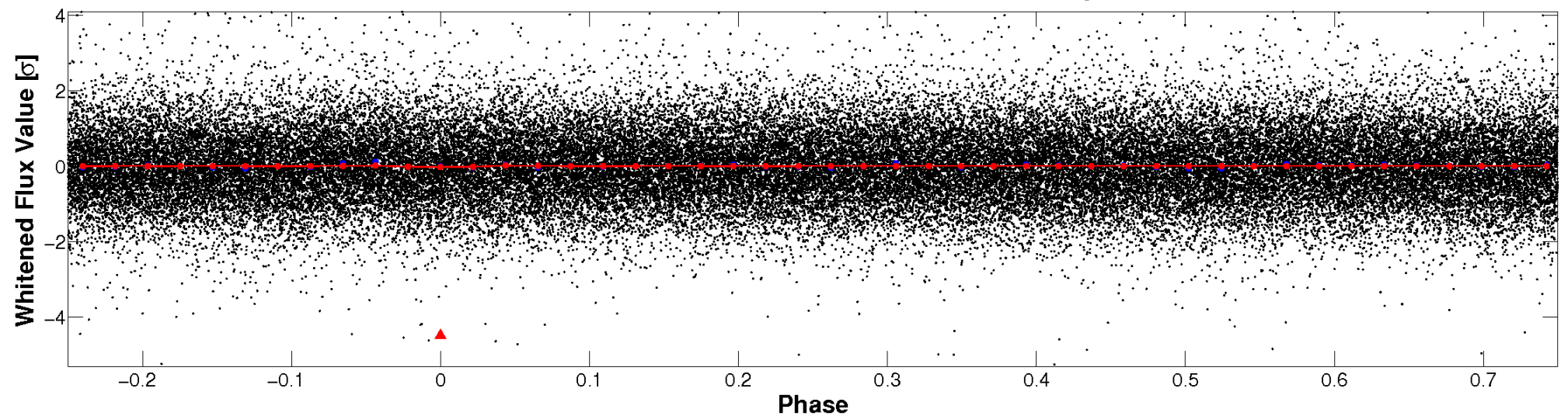


Non-Whitened Vs. Whitened Light Curve

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

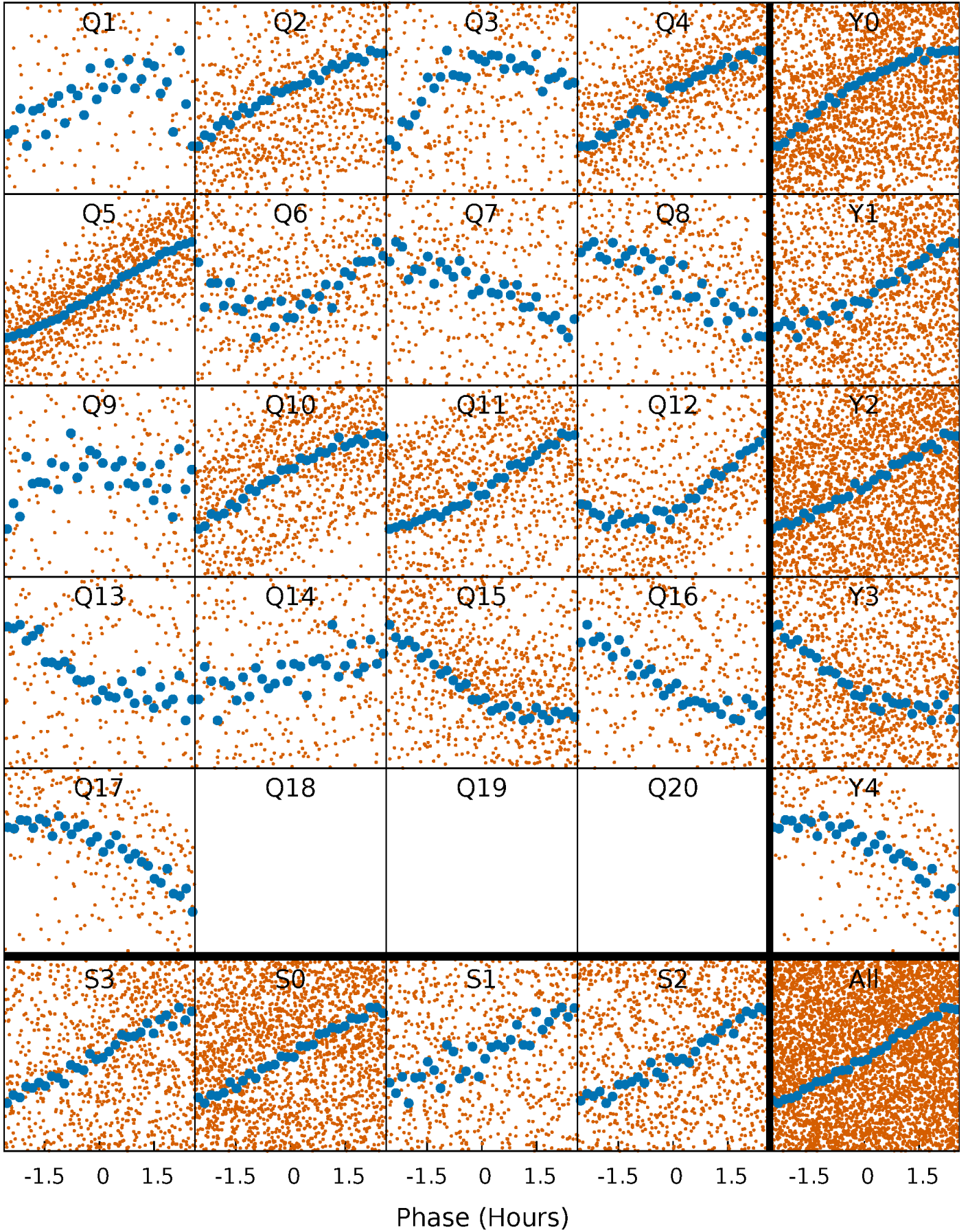


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



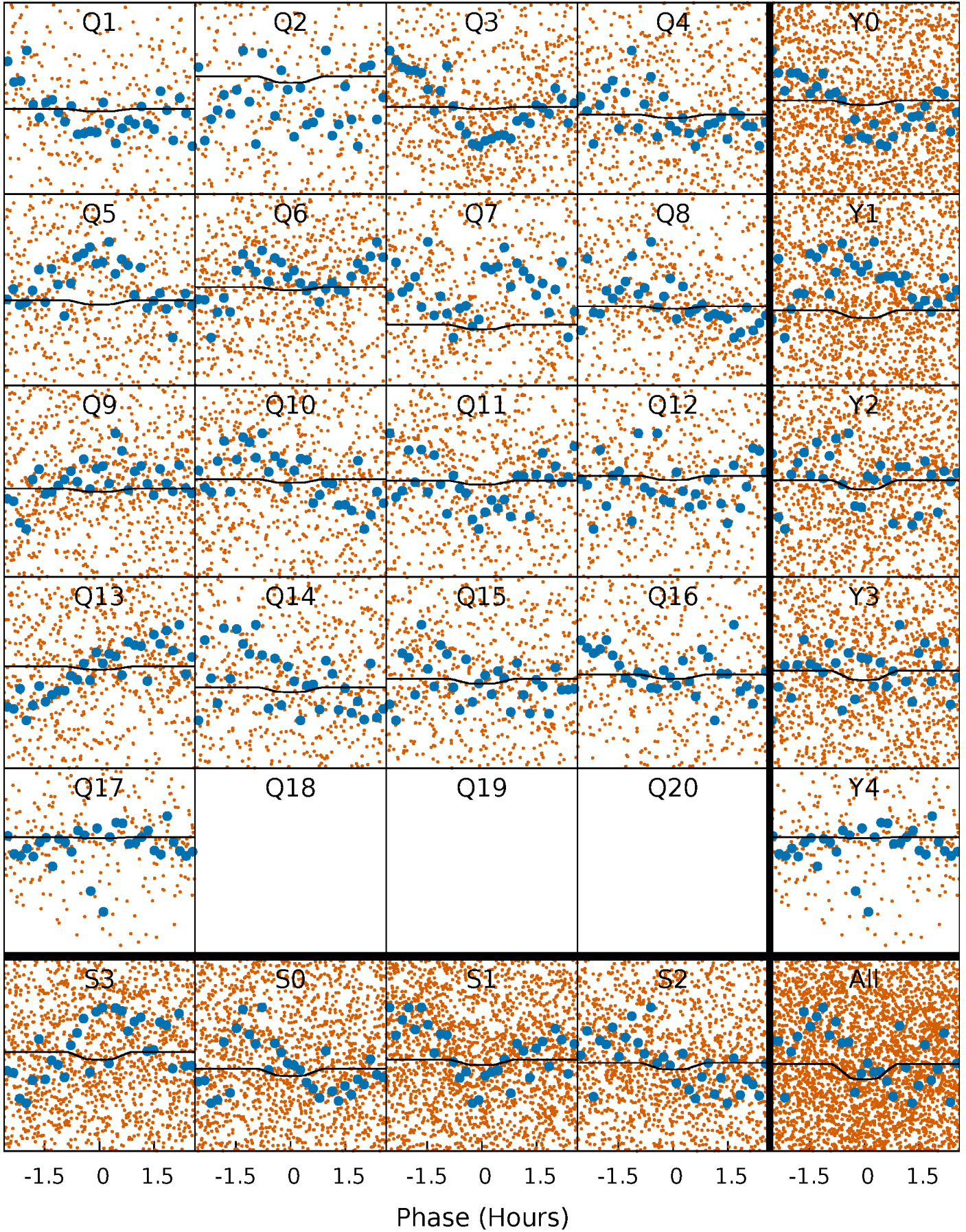
PDC Quarter-Phased Transit Curves

TCE 008520065-01 P= 0.935638 Days $T_0=132.332976$ (BKJD)



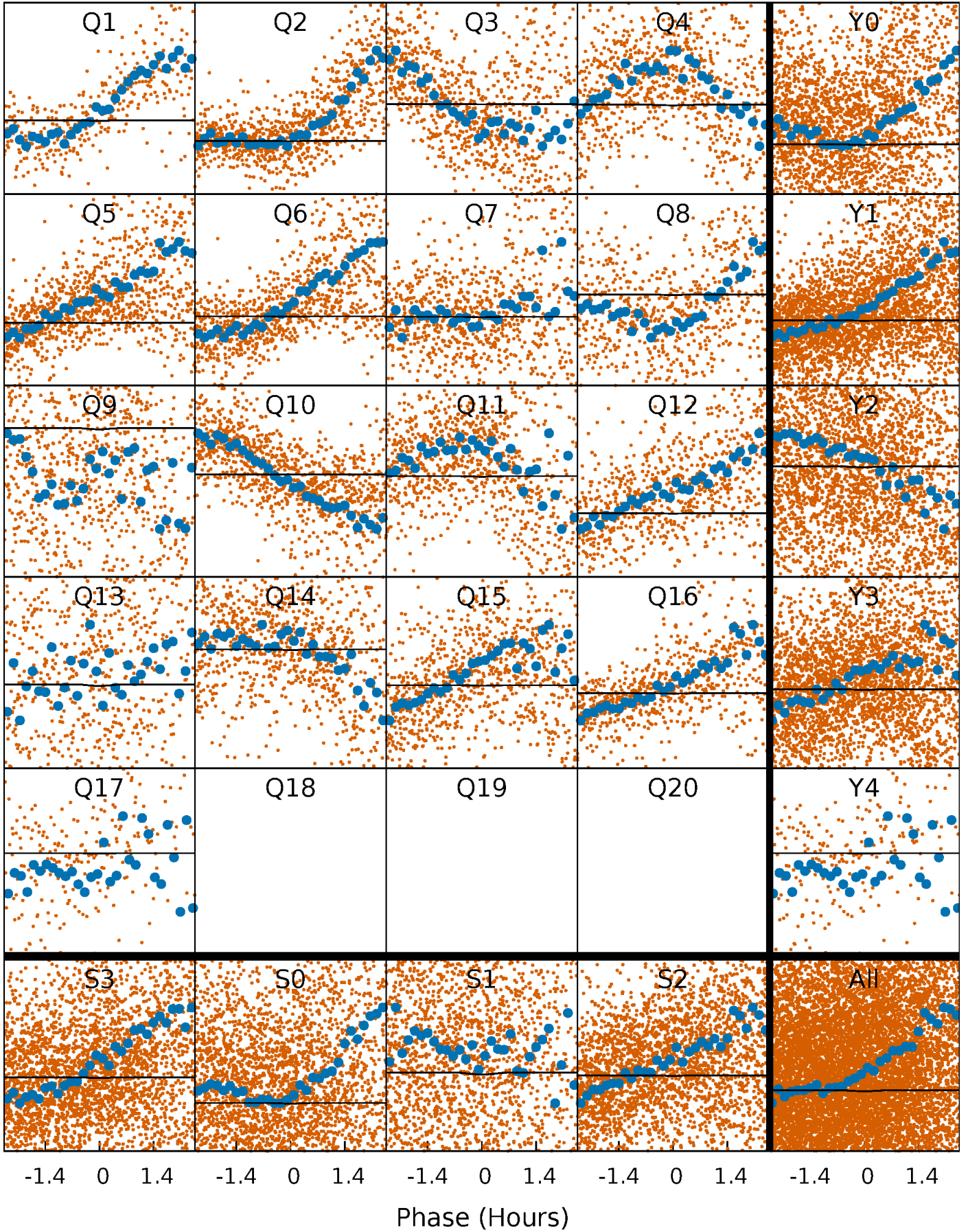
DV Quarter-Phased Transit Curves

TCE 008520065-01 P= 0.935638 Days $T_0=132.332976$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

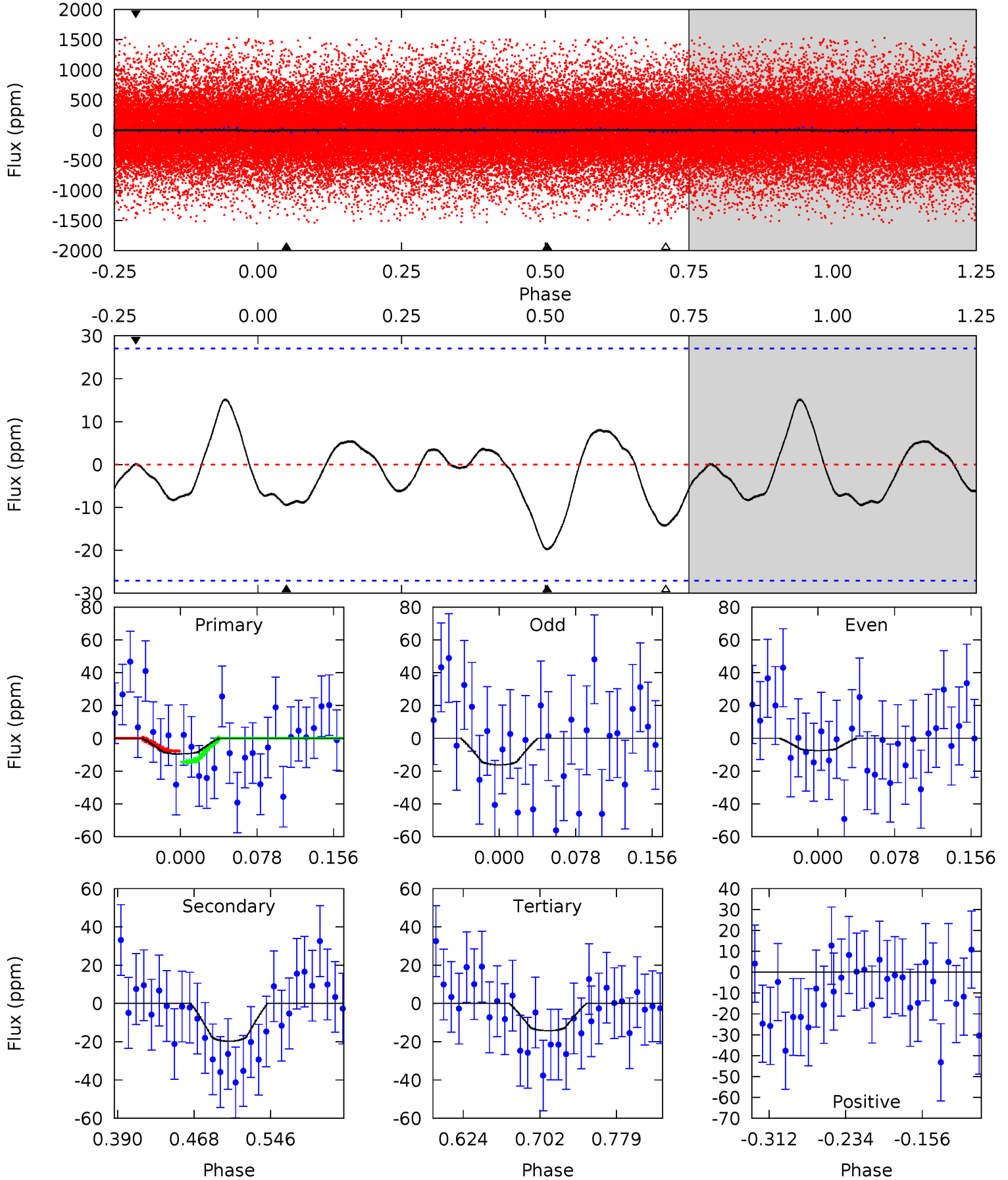
TCE 008520065-01 P= 0.935751 Days $T_0=132.343320$ (BKJD)



DV Model-Shift Uniqueness Test

008520065-01, P = 0.935638 Days, E = 131.397338 Days

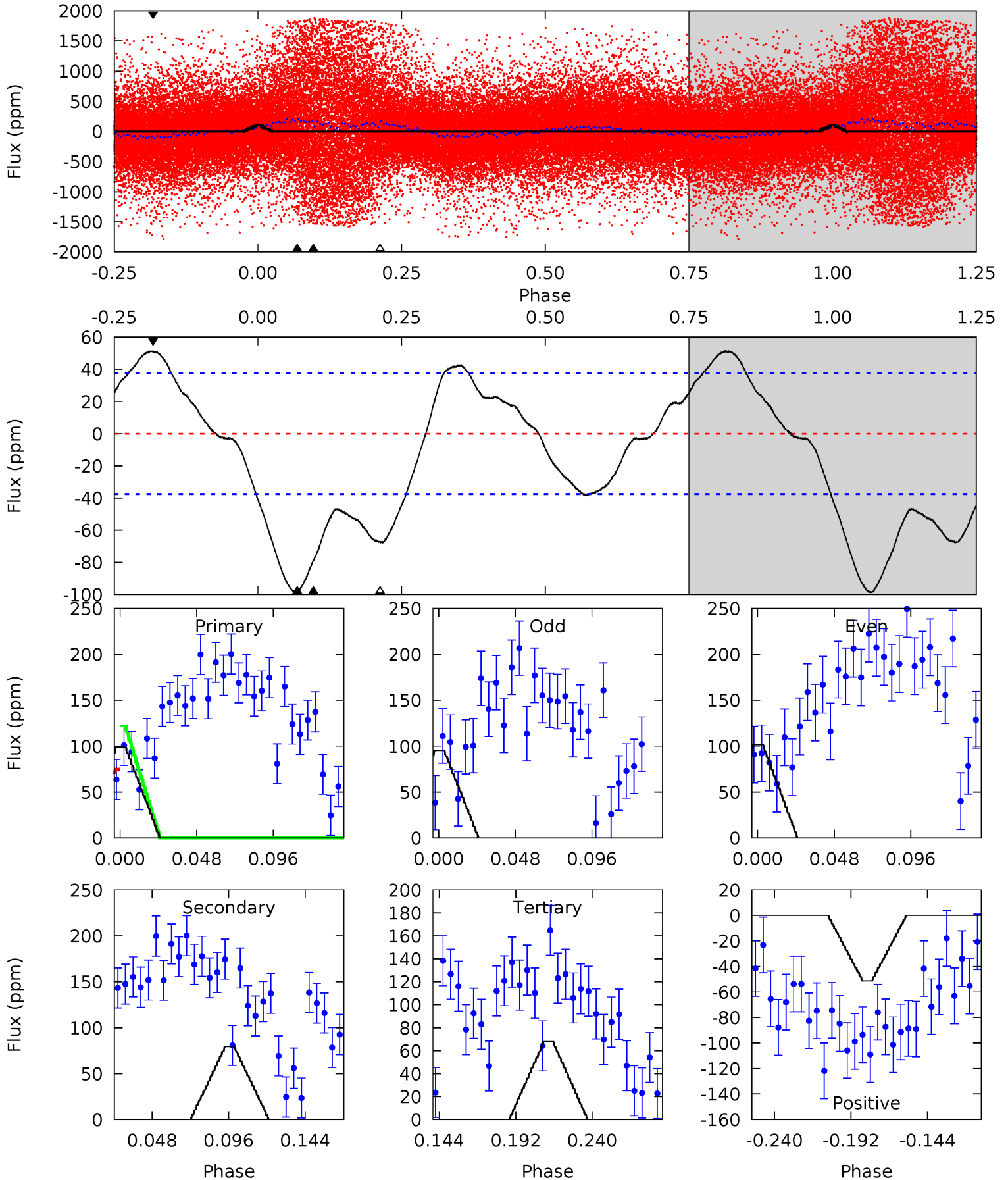
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.61	3.37	2.43	0.02	4.62	1.76	1.09	-0.81	1.60	0.94	3.35	0.75	0.73	0.43	0.58



Alt Model-Shift Uniqueness Test

008520065-01, P = 0.935751 Days, E = 131.407569 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.5	9.98	8.54	6.45	4.72	1.98	4.10	3.92	6.01	1.44	3.53	0.38	1.23	0.34	2.86



Stellar Parameters For KIC 008520065

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5916^{+183}_{-201}	$3.822^{+0.569}_{-0.134}$	$-0.120^{+0.300}_{-0.300}$	$2.263^{+0.506}_{-1.180}$	$1.241^{+0.166}_{-0.309}$	$0.151^{+0.939}_{-0.058}$
	+3%/-3%	+15%/-4%	+250%/-250%	+22%/-52%	+13%/-25%	+623%/-39%
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 008520065-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-20 ± 6	$0.94^{+0.75}_{-0.61}$	3769^{+315}_{-542}	5796^{+4644}_{-1363}	$4.610^{+32.375}_{-3.216}$
Alt.	-79 ± 8	$0.69^{+0.70}_{-0.49}$	3762^{+326}_{-561}	10893^{+27806}_{-3725}	36^{+386}_{-27}

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

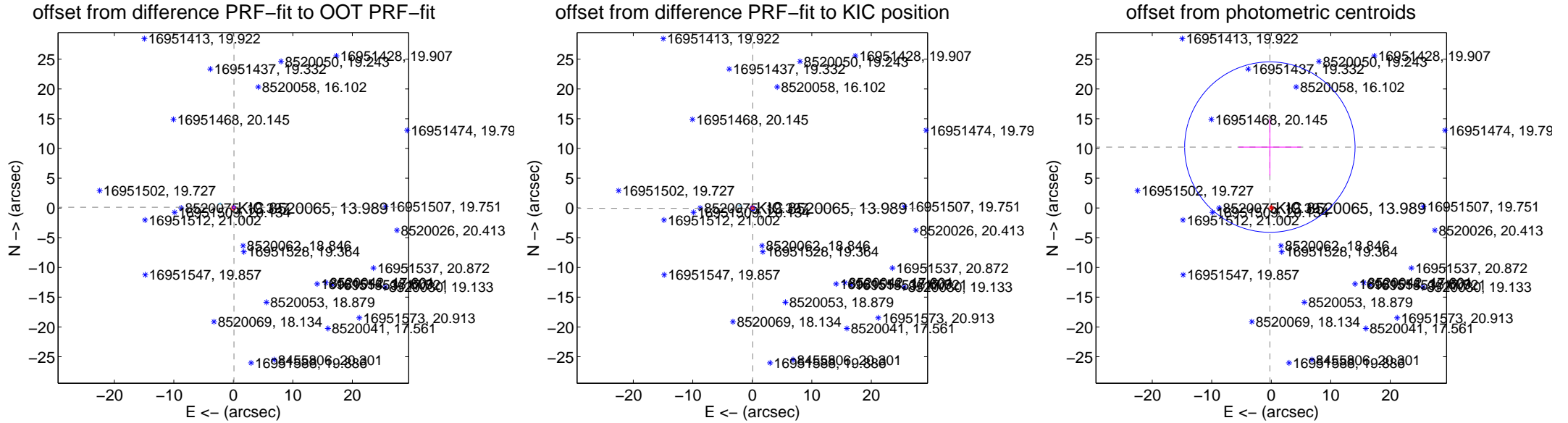
DV Centroid Data

Supplemental centroid analysis for 008520065-01. Kepler magnitude: 13.99. Transit SNR 1.51

There are 8 quarters with good PRF difference image offsets

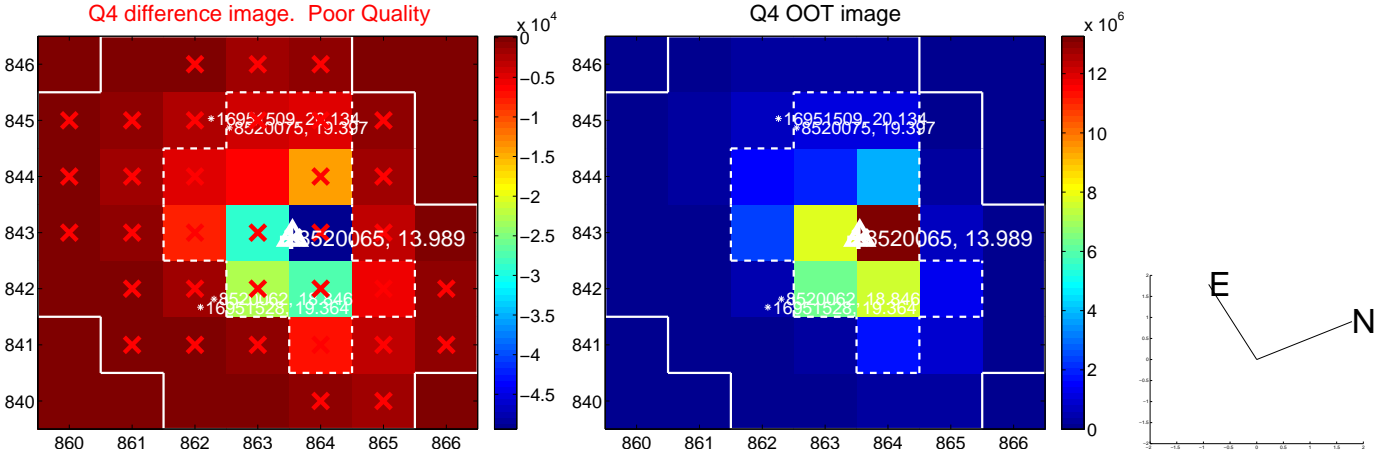
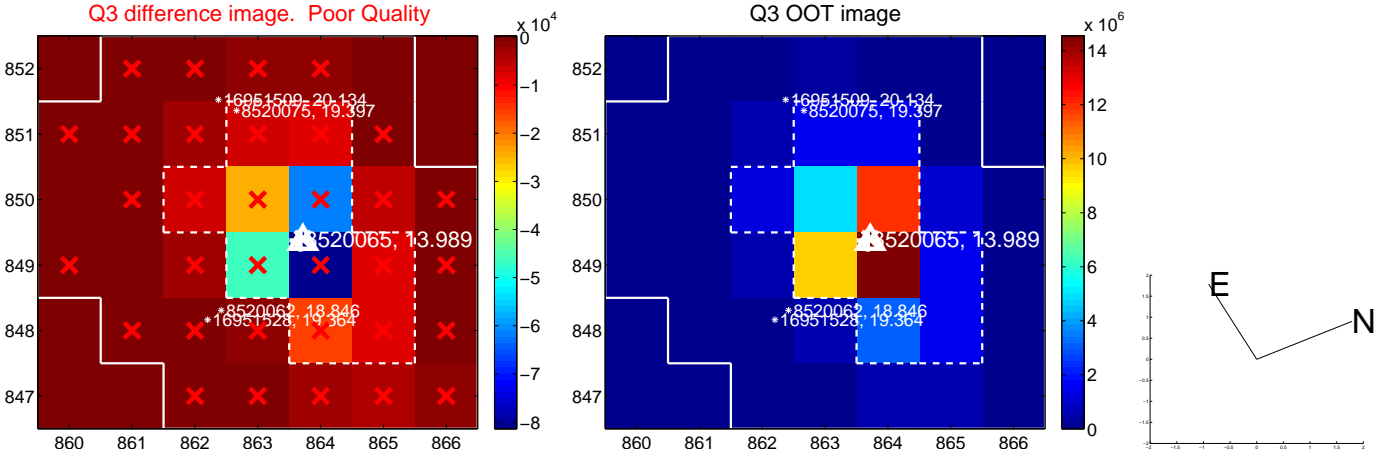
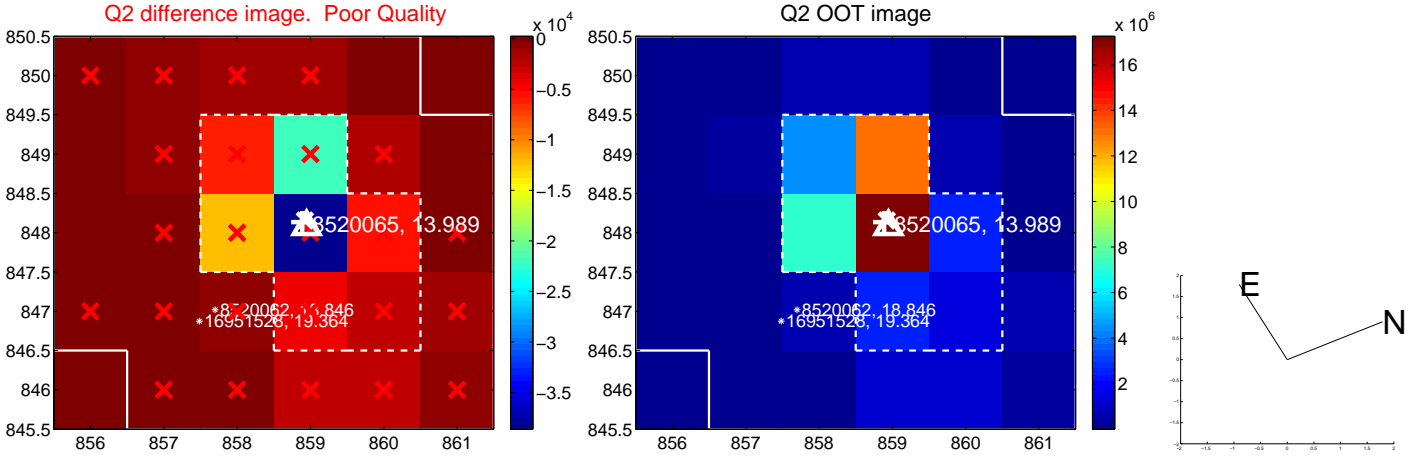
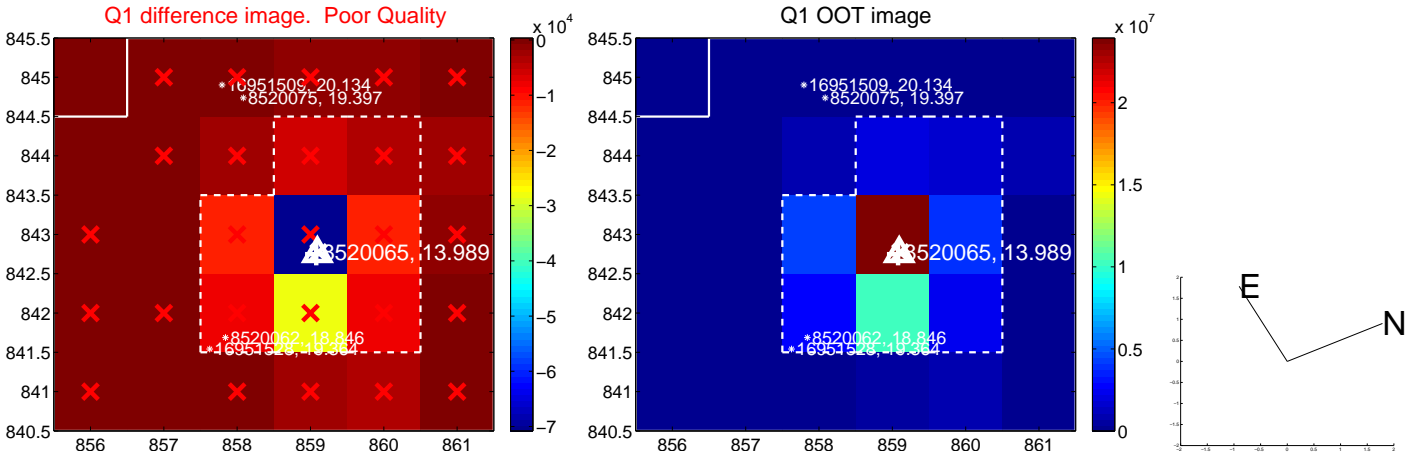
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.153 ± 0.093	1.64	-0.103 ± 0.149	0.113 ± 0.076
PRF-fit source offset from KIC position	0.106 ± 0.133	0.80	-0.087 ± 0.140	-0.060 ± 0.072
photometric centroid source offset	10.23 ± 4.77	2.14	0.23 ± 5.25	10.23 ± 4.77

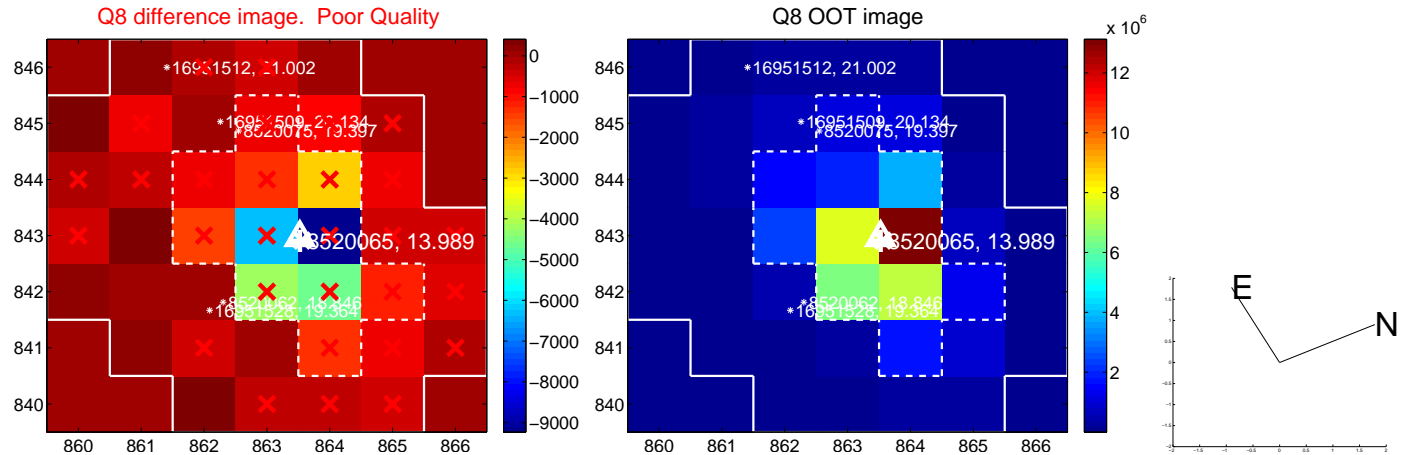
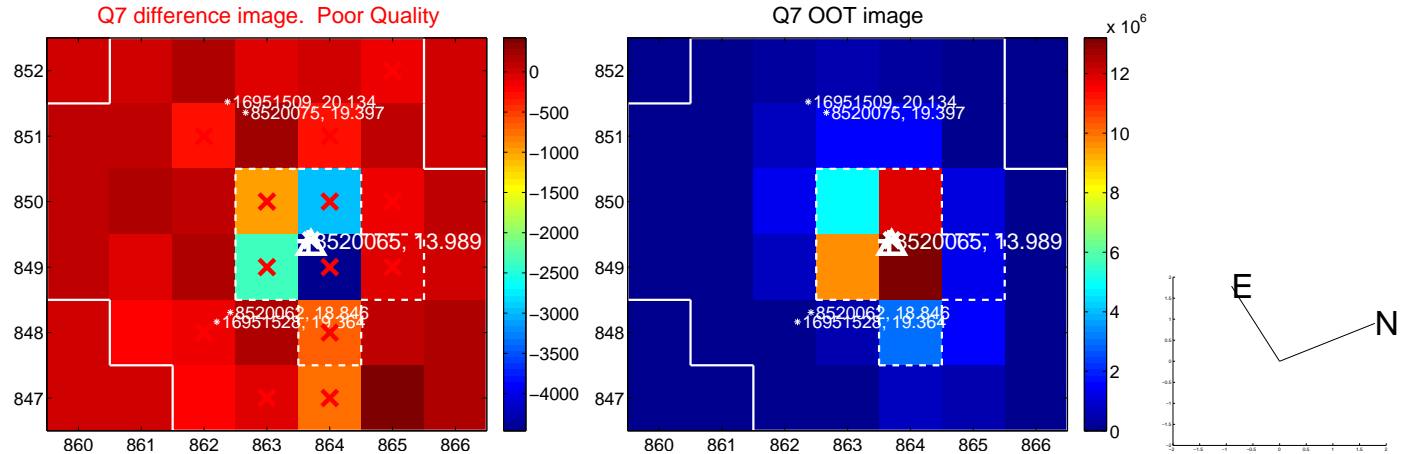
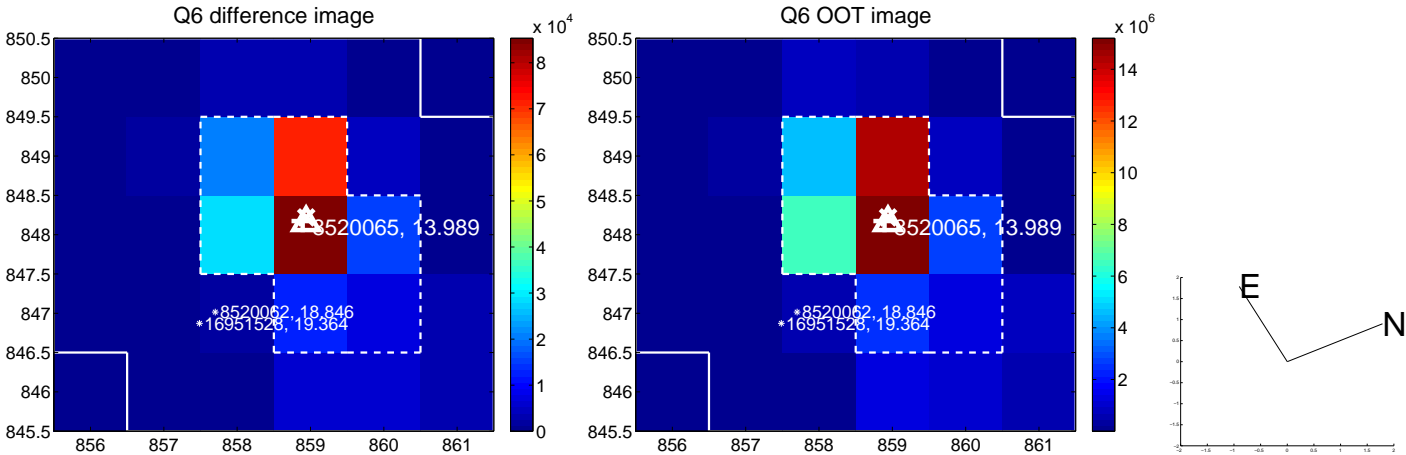
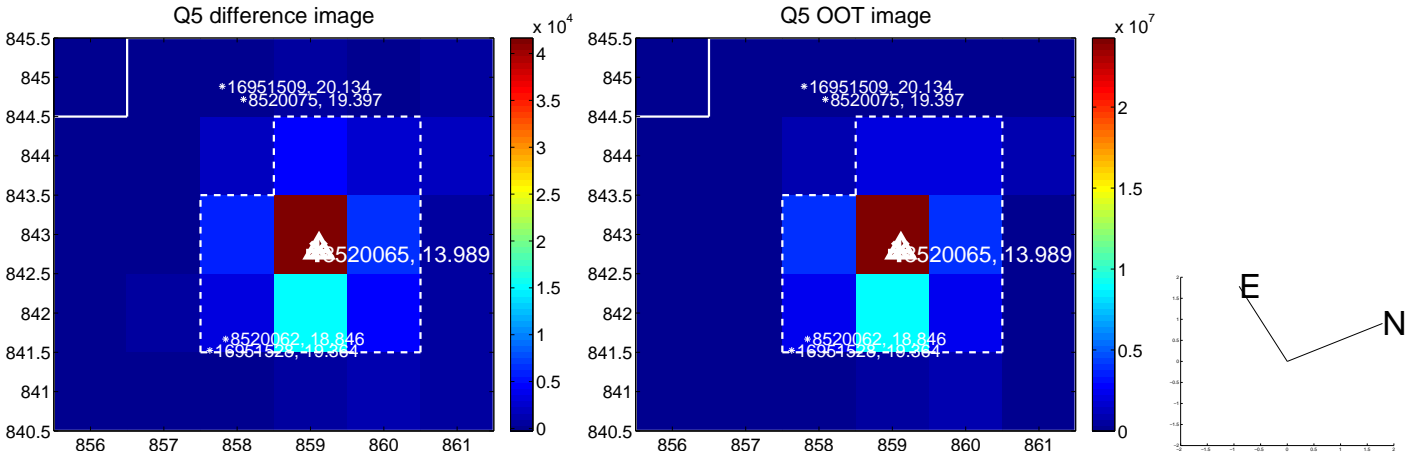


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

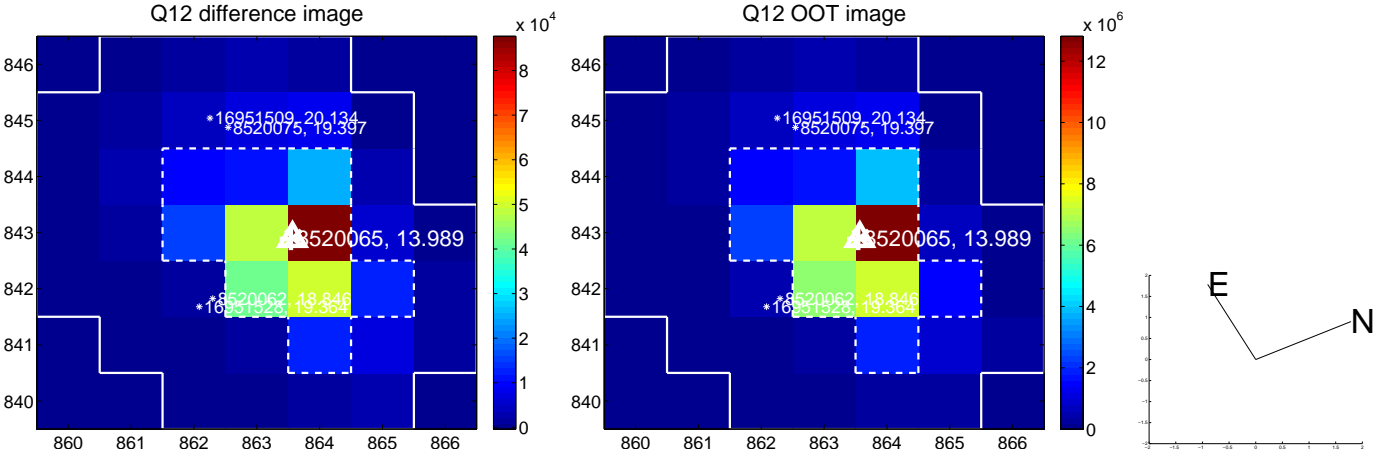
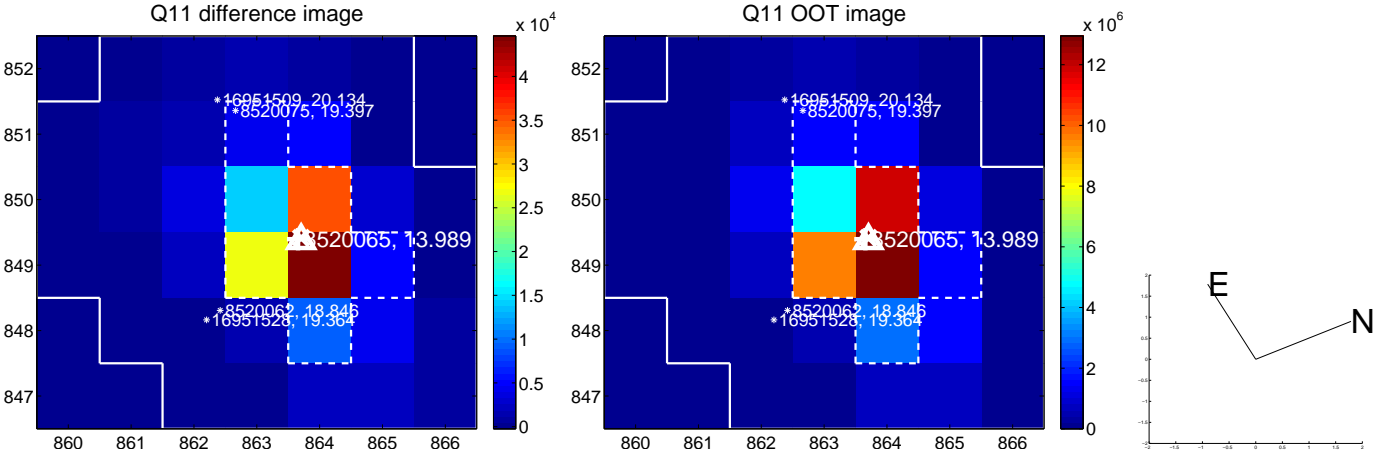
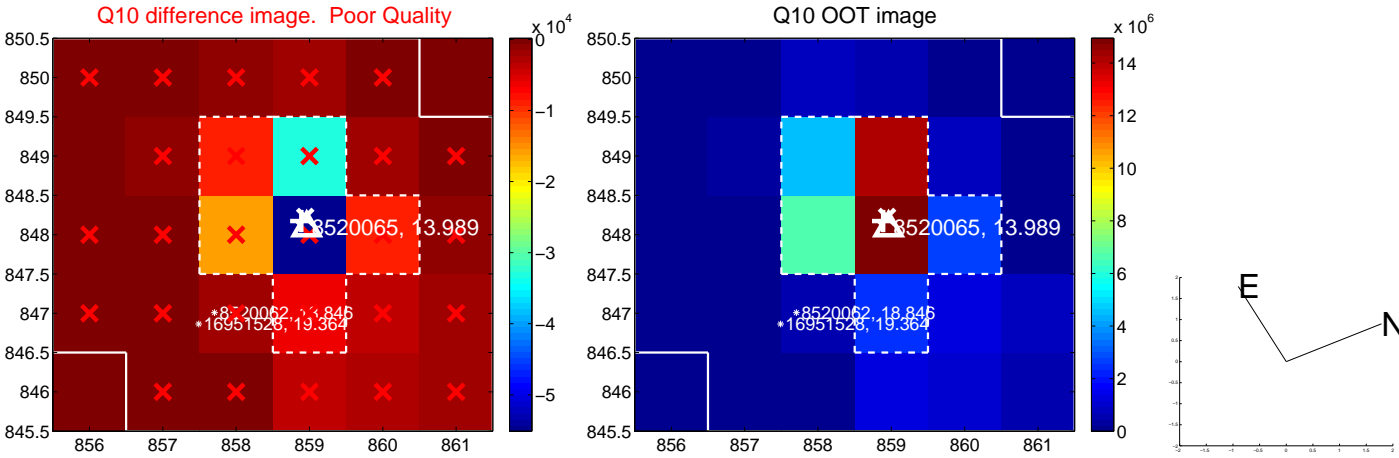
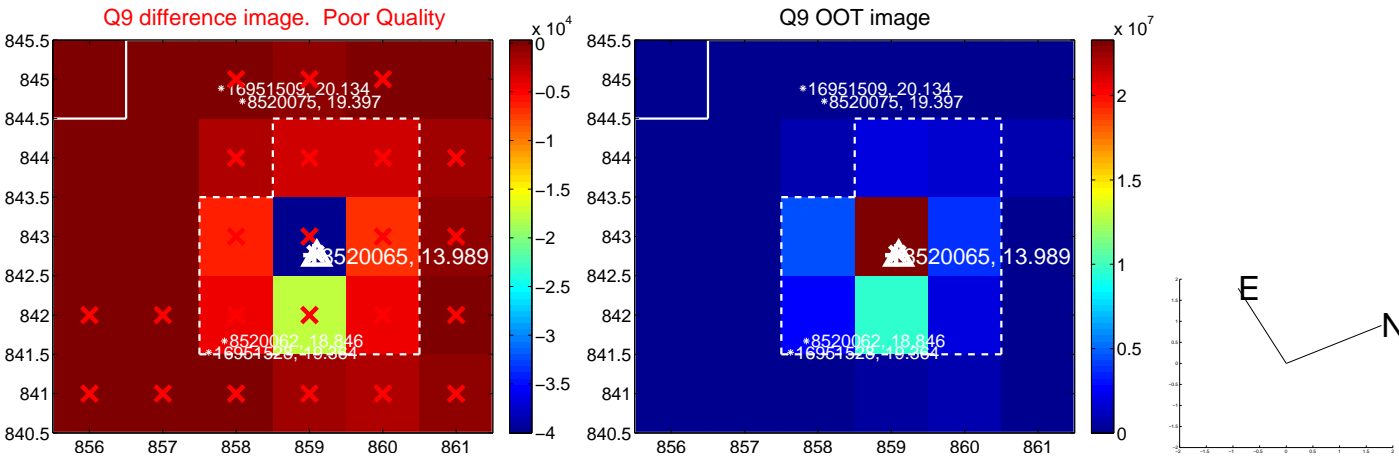
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



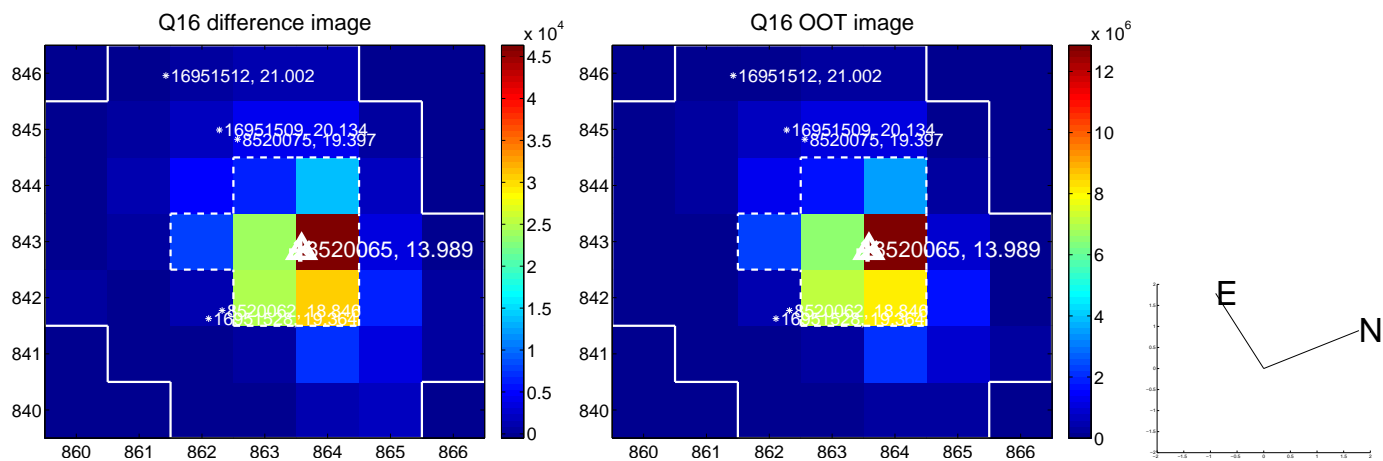
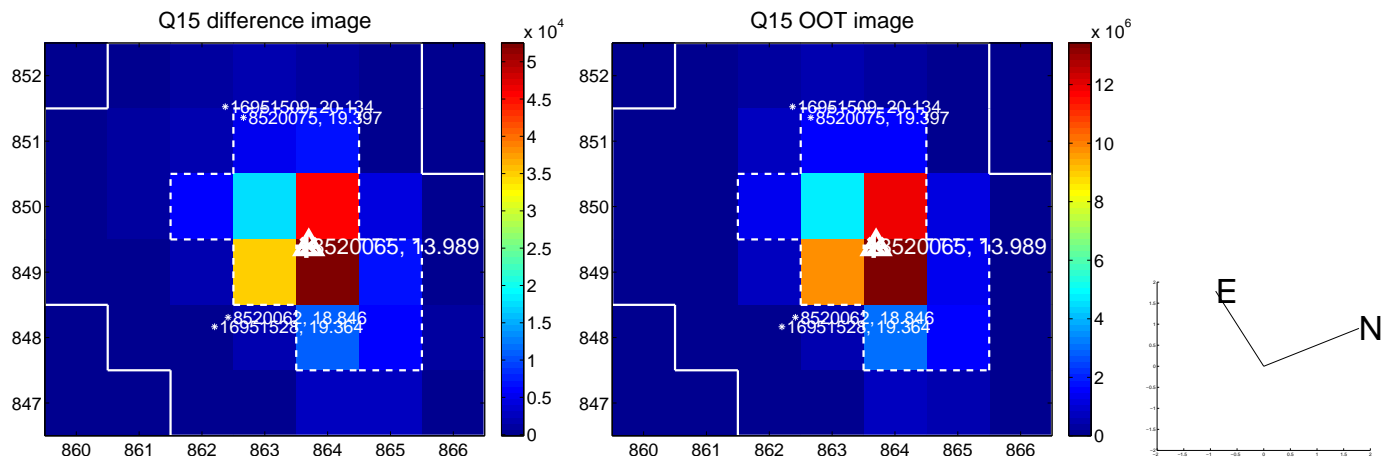
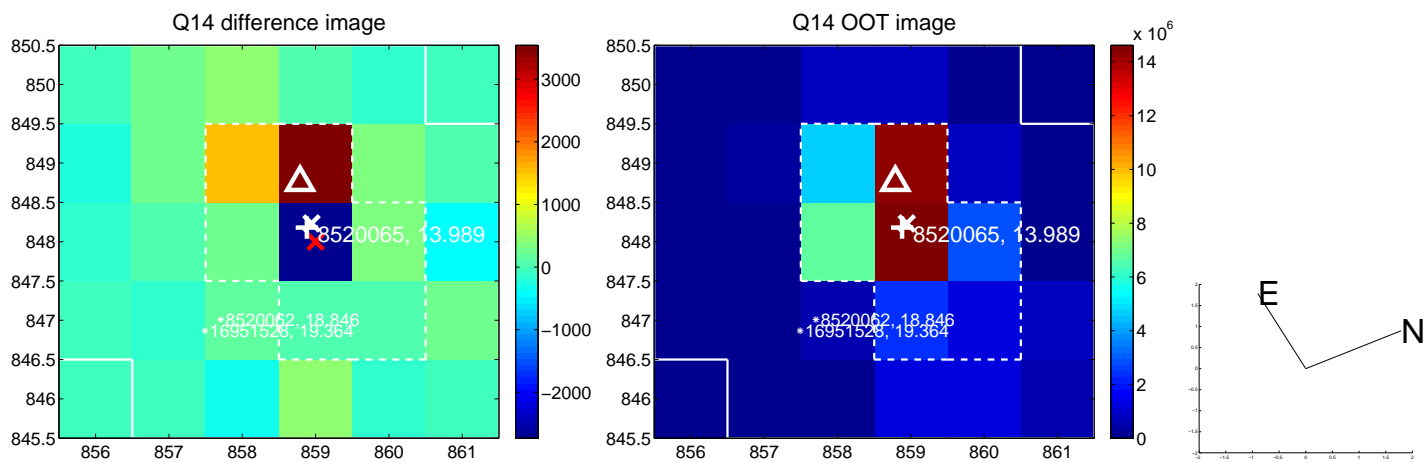
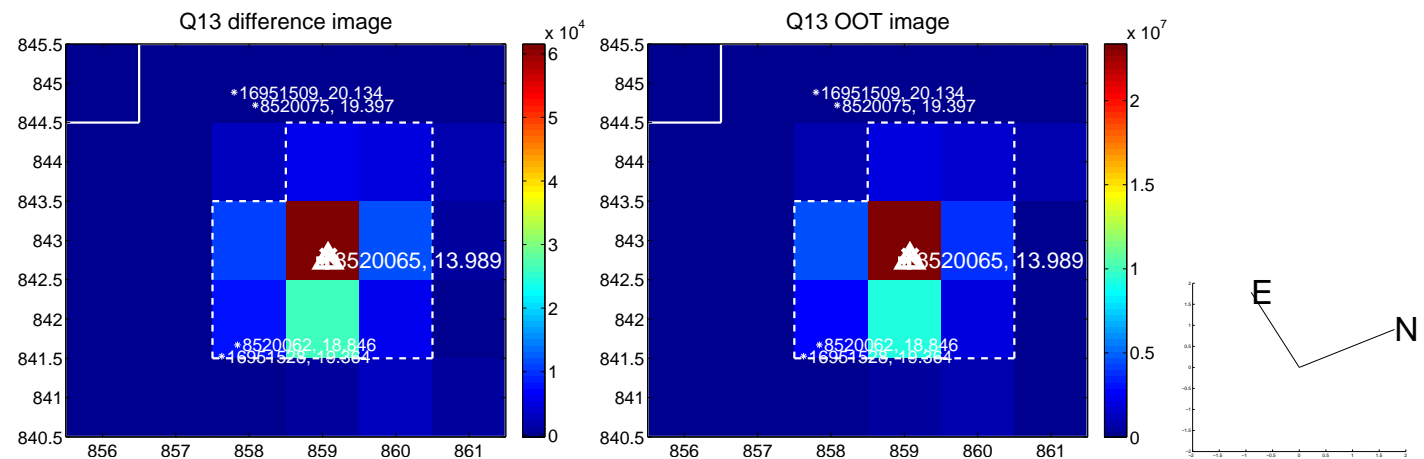
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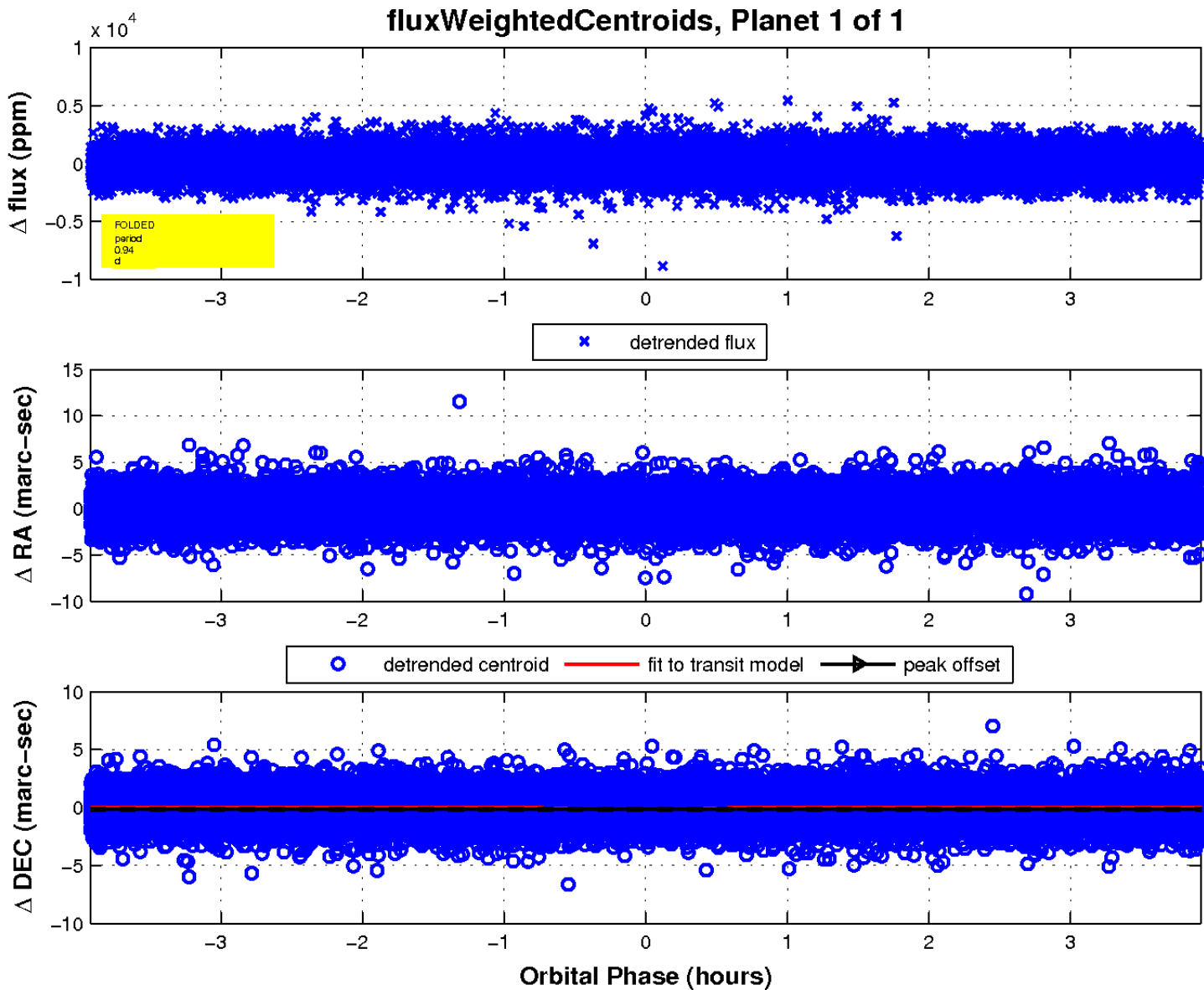
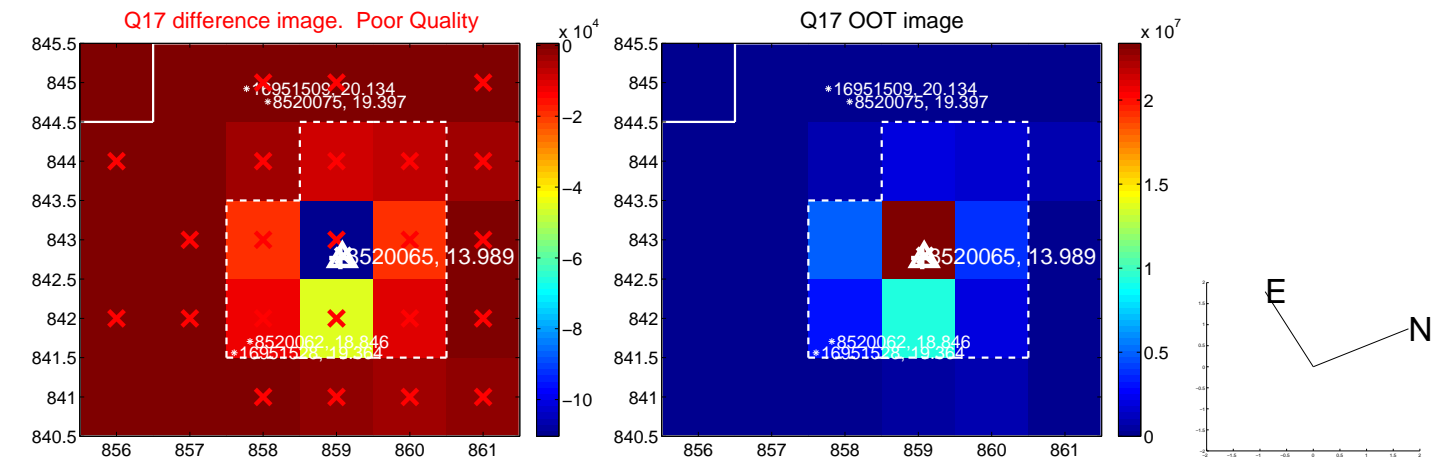
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

