

KIC 010550657

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})
010550657-01	OBS	No	0.885332	131.894962	726.1	10.624	822.1	51.6	2.23	9274	8.30	59015.79

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010550657-01	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.

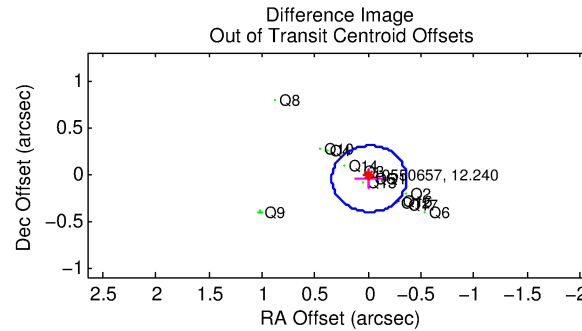
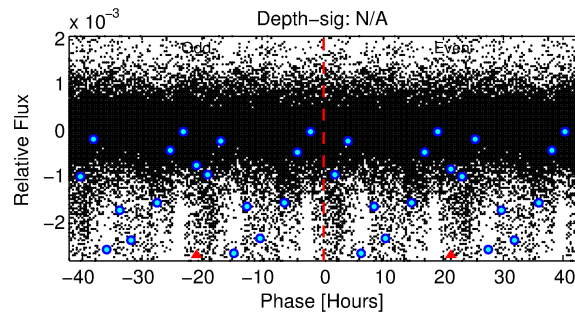
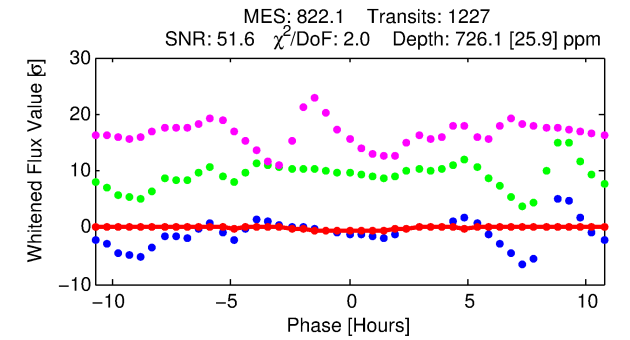
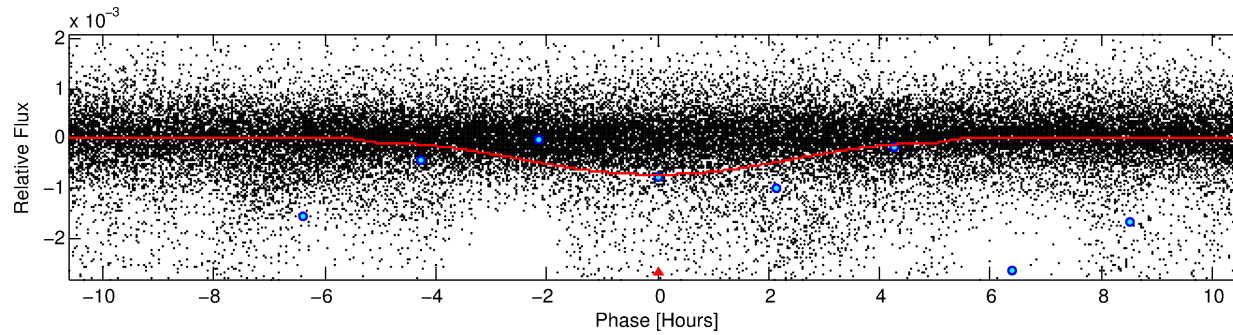
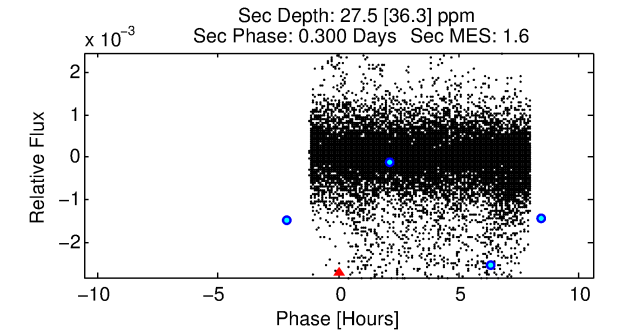
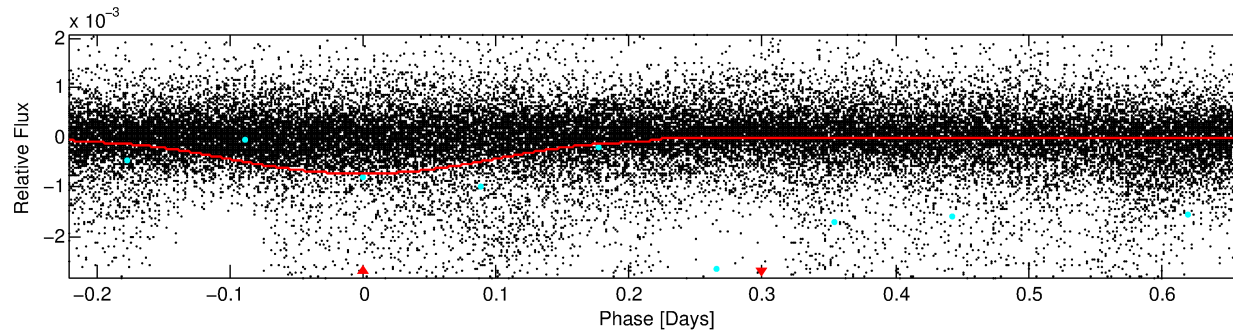
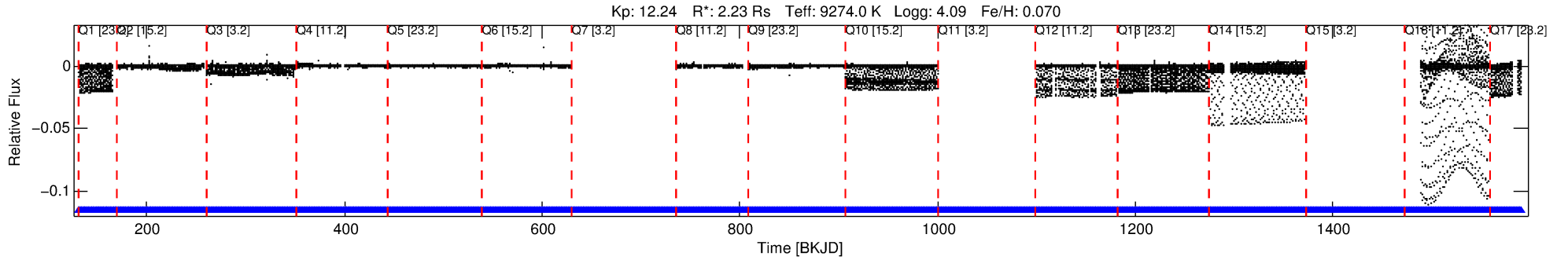
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010550657-01

No Significant Match Found

DV One-Page Summary

KIC: 10550657 Candidate: 1 of 1 Period: 0.885 d



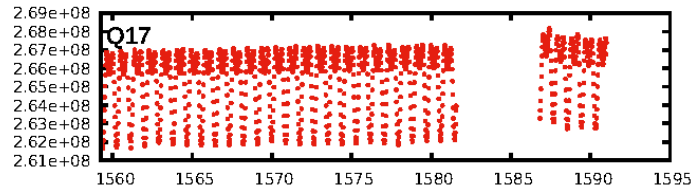
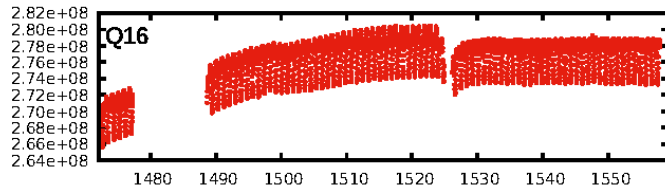
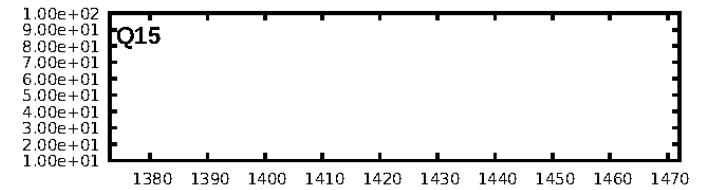
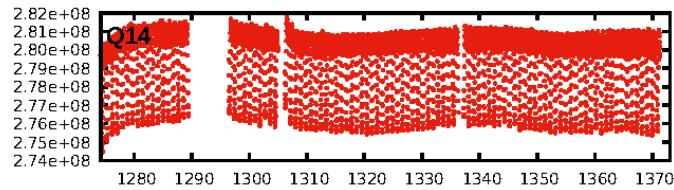
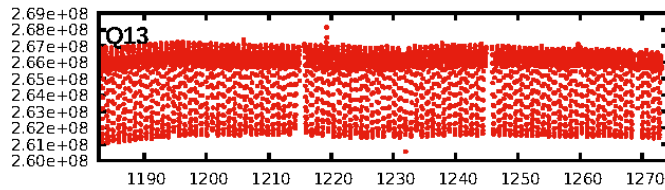
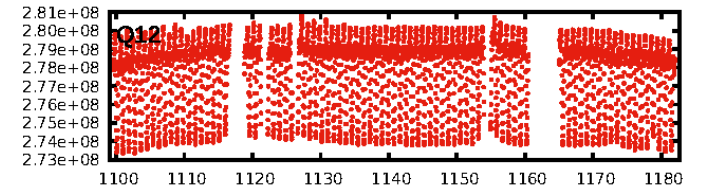
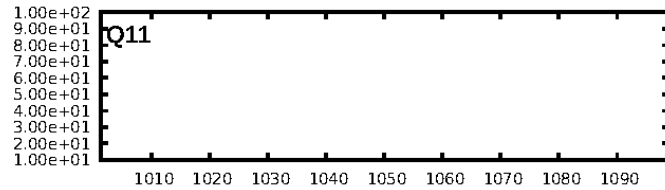
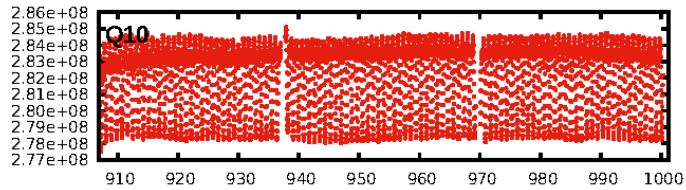
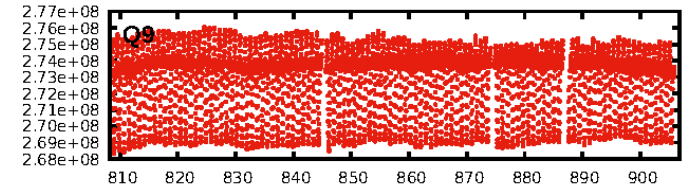
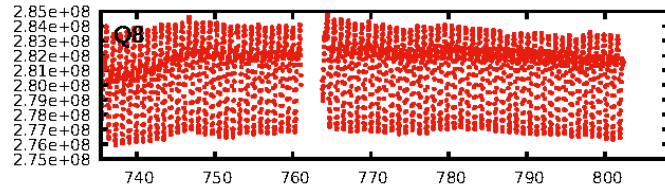
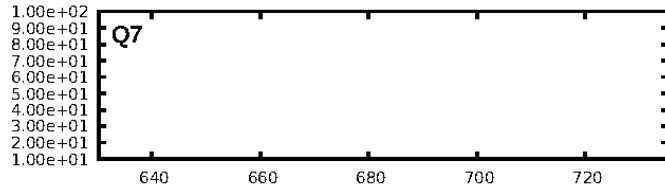
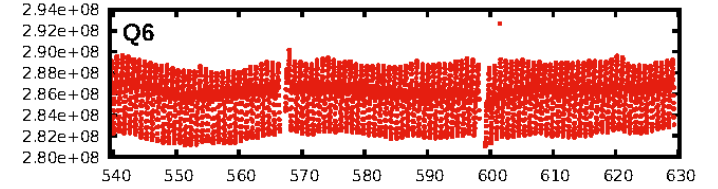
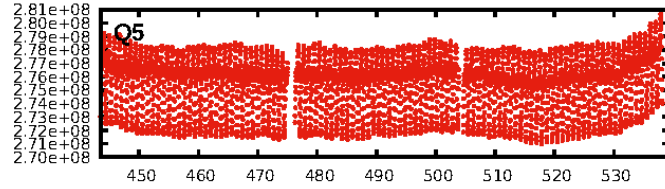
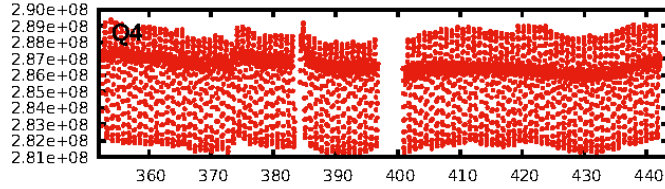
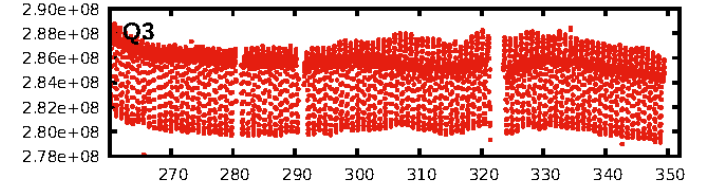
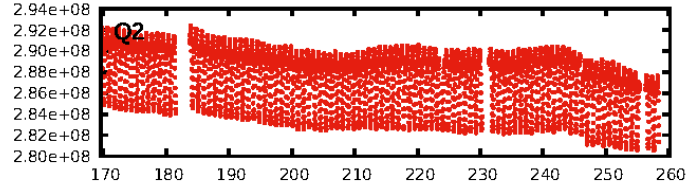
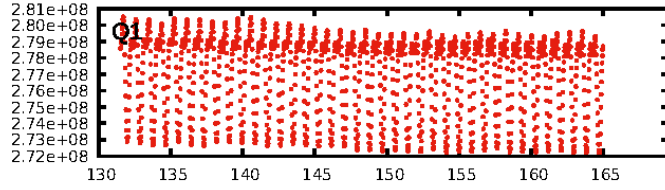
DV Fit Results:

Period = 0.88533 [0.00000] d
Epoch = 131.8950 [0.0012] BKJD
Rp/R* = 0.0342 [0.0022]
a/R* = 1.02 [0.00]
b = 0.98 [0.00]
Seff = 59015.79 [23639.61]
Teff = 3974 [398] K
Rp = 8.30 [2.87] Re
a = 0.0236 [0.0062] AU
Ag = 0.12 [0.17] [-5.25σ]
Teffp = 3634 [1217] K [-0.27σ]

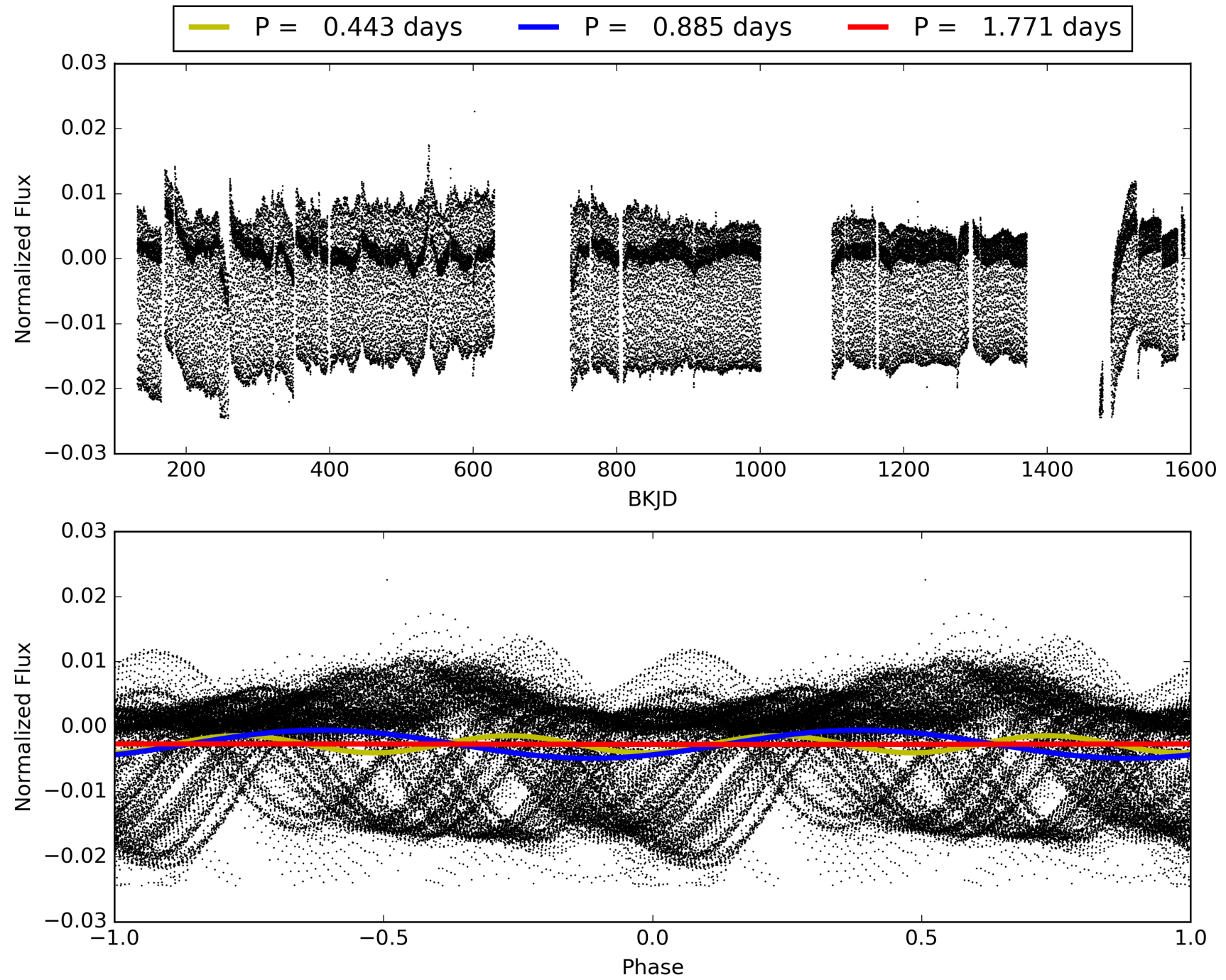
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1158/1158]
GhostDiagnostic-chr: 8.75
Centroid-sig: 14.4%
Centroid-so: 0.356 arcsec [17.03σ]
OotOffset-rm: 0.052 arcsec [0.44σ]
KicOffset-rm: 0.289 arcsec [2.28σ]
OotOffset-st: 4/1/4/5 [14]
KicOffset-st: 4/1/4/5 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 010550657-01, PDC Light Curves

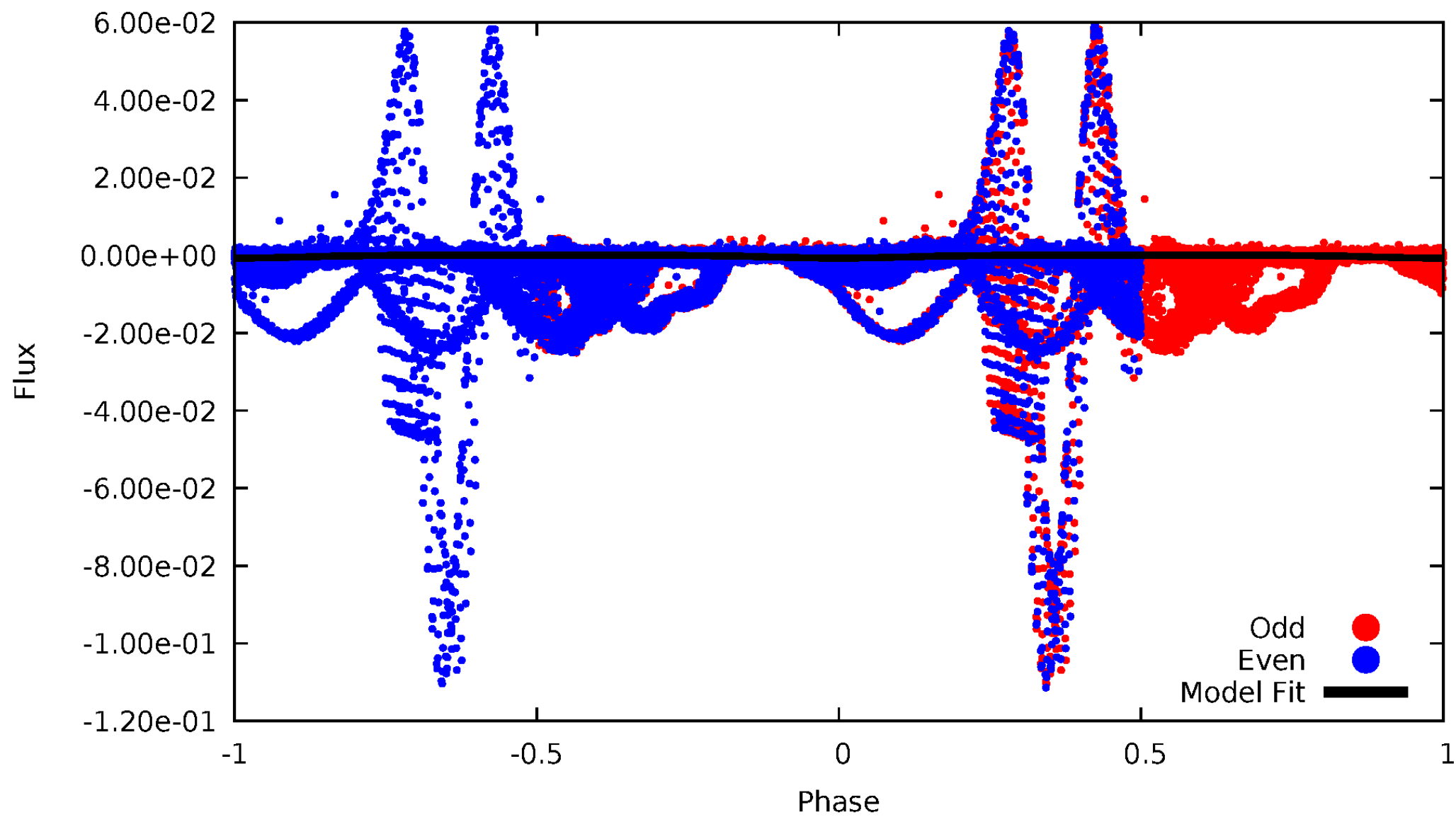


TCE 010550657-01



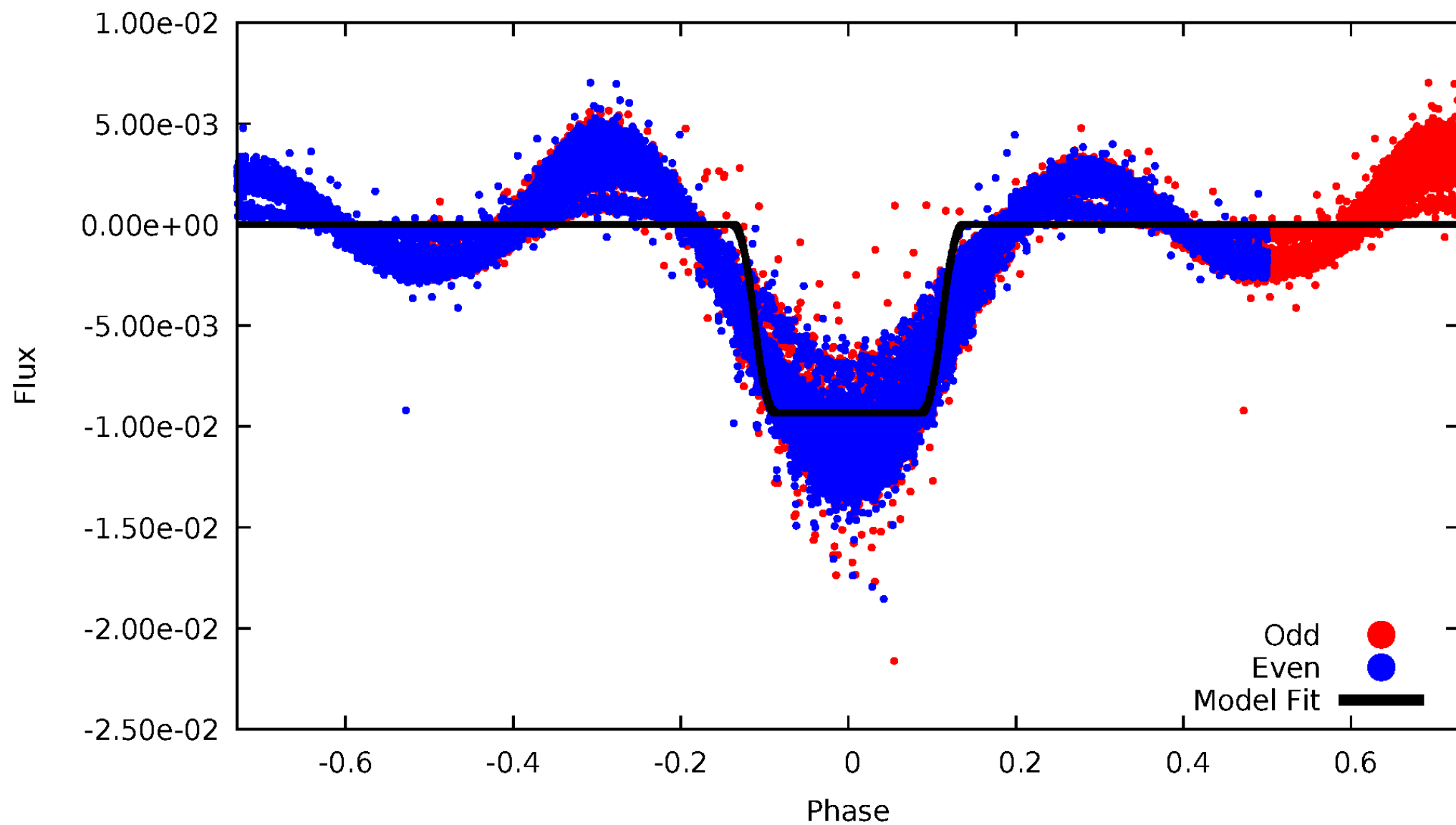
DV Odd/Even

TCE 010550657-01



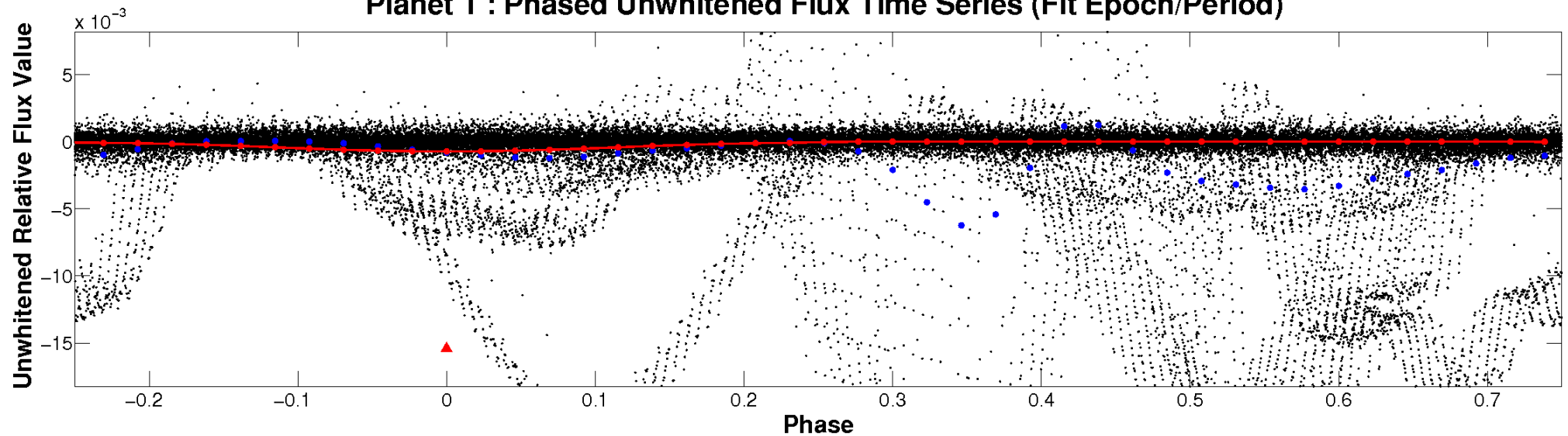
ALT Odd/Even

TCE 010550657-01

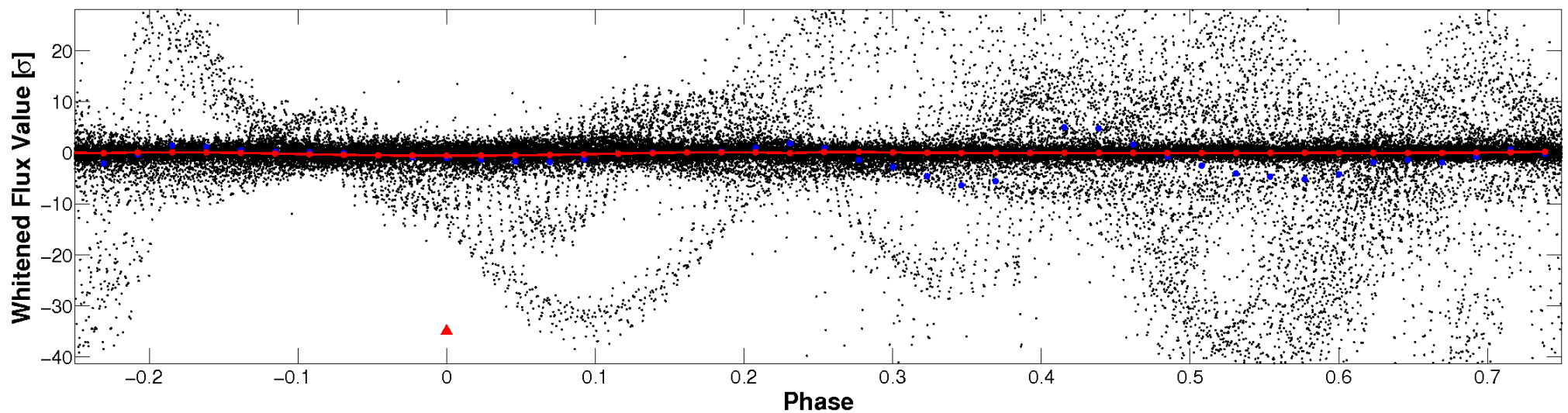


Non-Whitened Vs. Whitened Light Curve

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

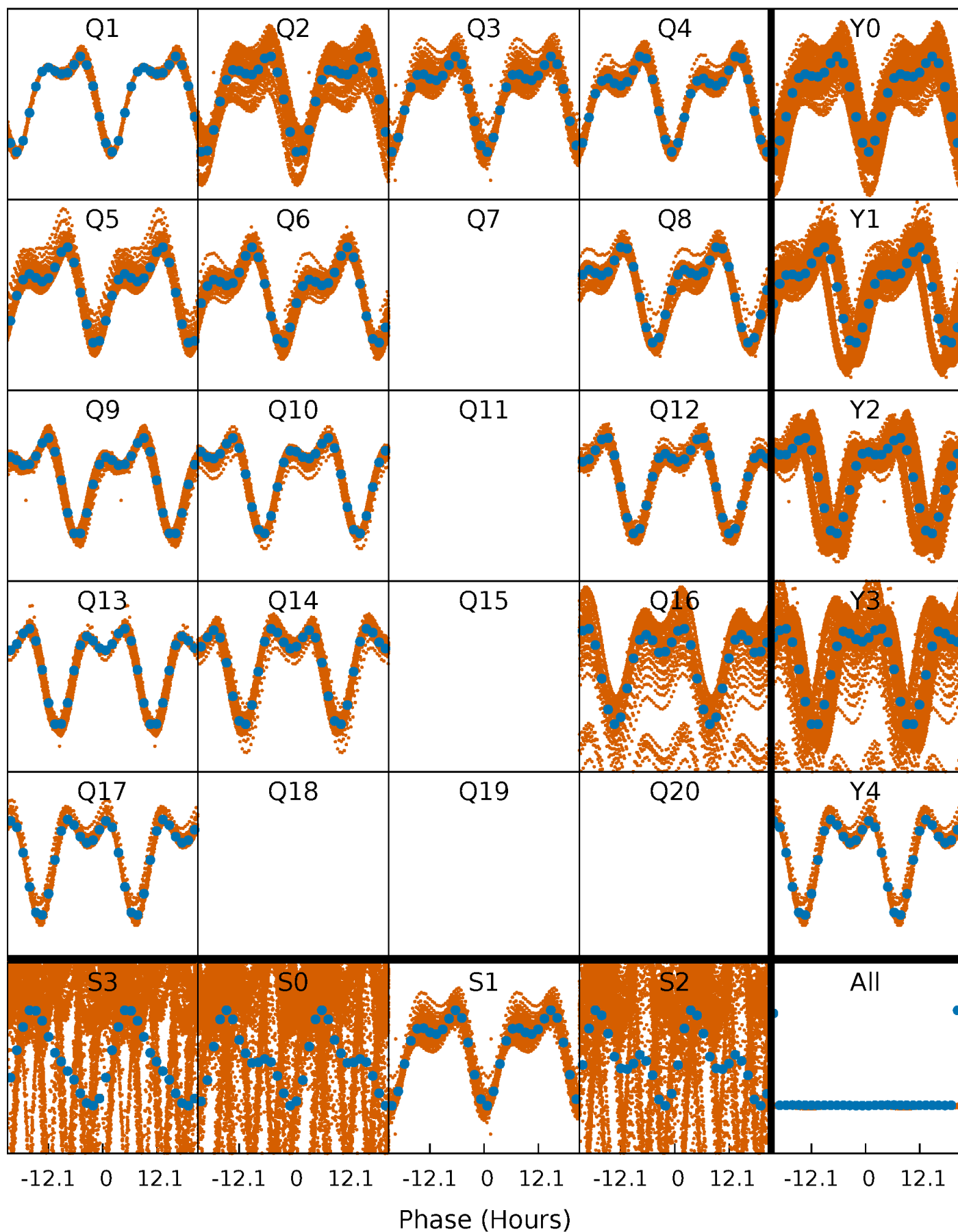


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



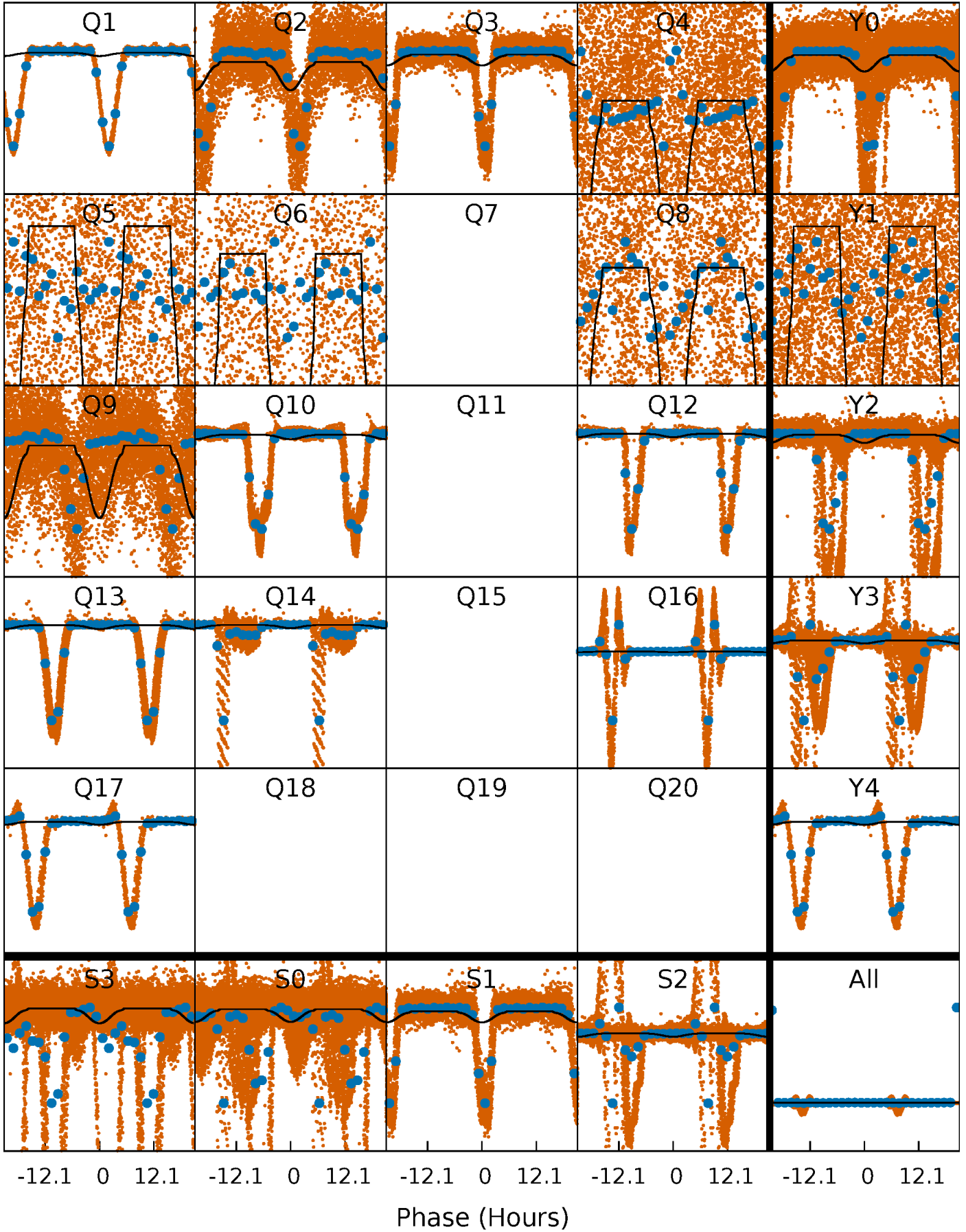
PDC Quarter-Phased Transit Curves

TCE 010550657-01 $P = 0.885332$ Days $T_0 = 131.894962$ (BKJD)



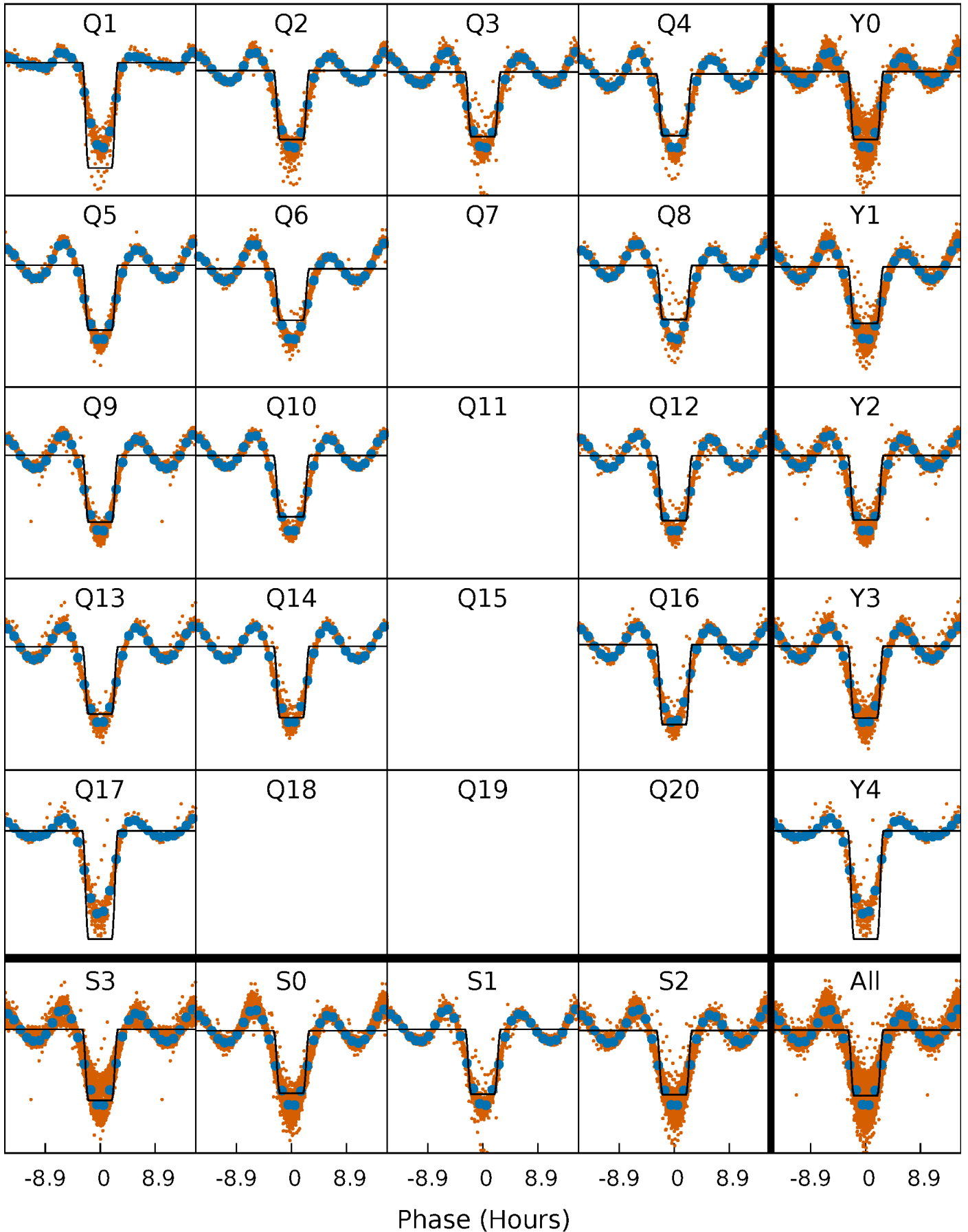
DV Quarter-Phased Transit Curves

TCE 010550657-01 P= 0.885332 Days $T_0=131.894962$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

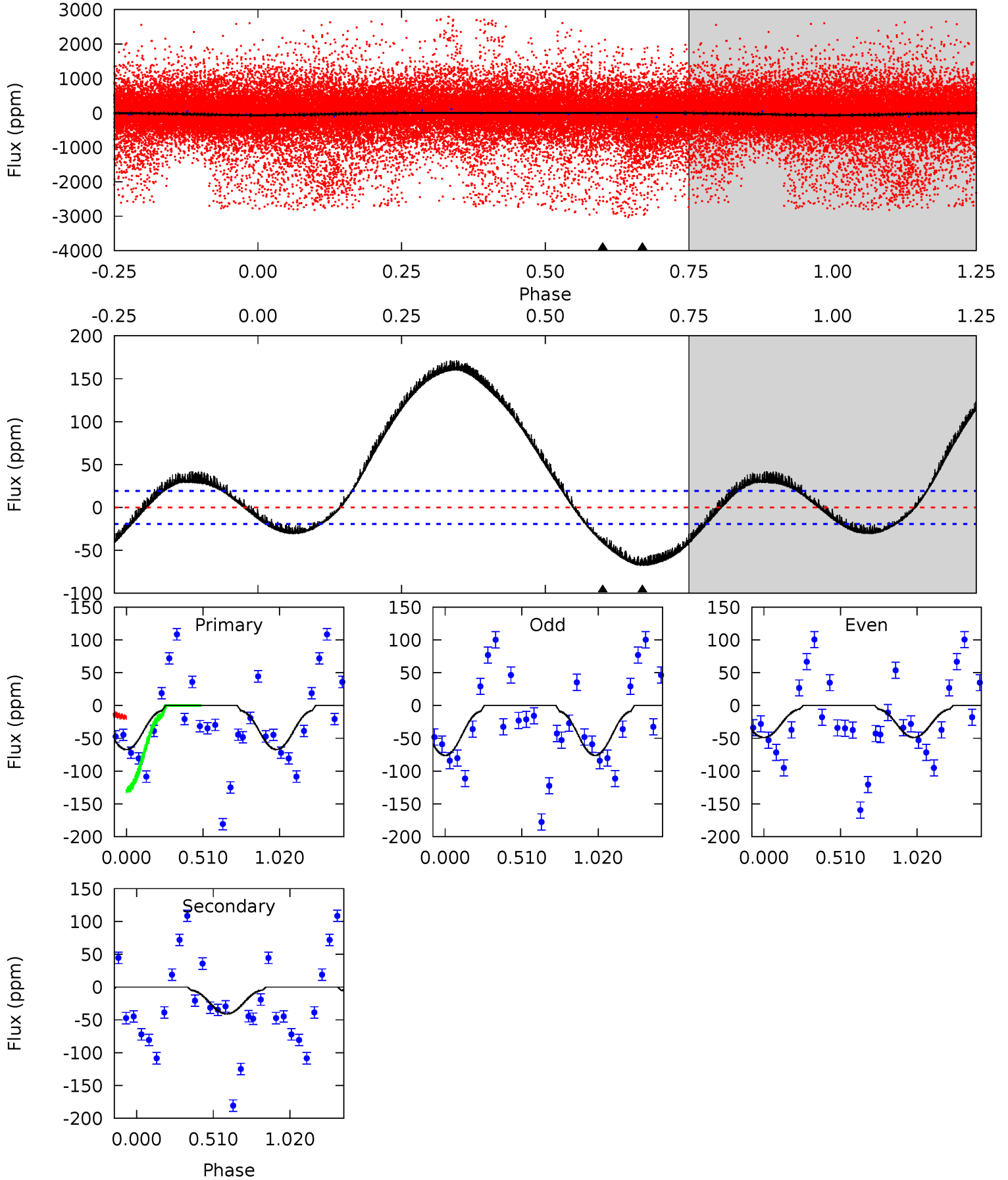
TCE 010550657-01 P= 0.884929 Days $T_0=131.977933$ (BKJD)



DV Model-Shift Uniqueness Test

010550657-01, P = 0.885332 Days, E = 131.009630 Days

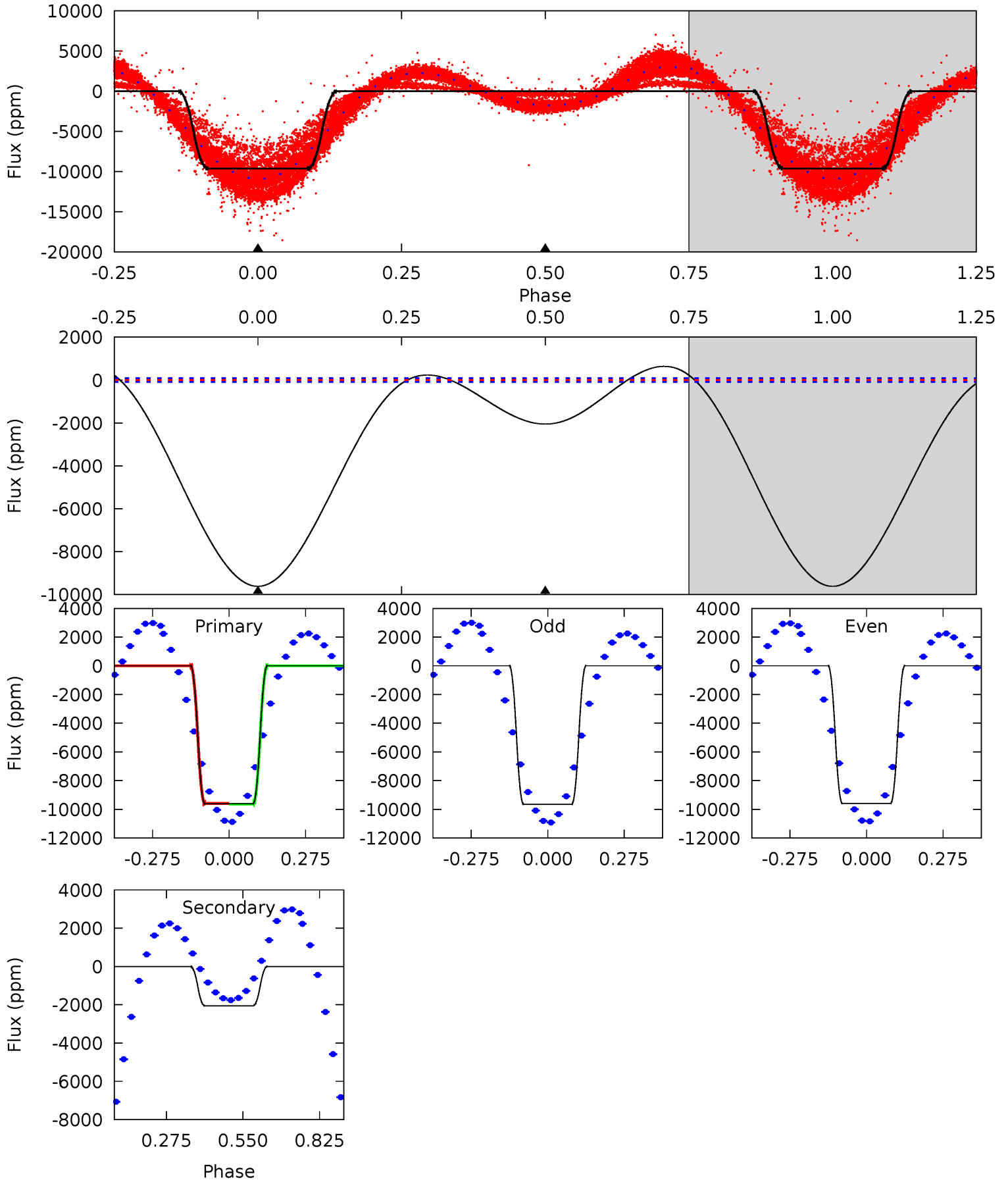
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.7	8.92	0	0	4.21	0.66	4.70	14.7	14.7	8.92	8.92	3.03	6.23	0.72	15.5



Alt Model-Shift Uniqueness Test

010550657-01, P = 0.884929 Days, E = 131.093004 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
479.7	102.4	0	0	4.35	1.09	17.4	479.7	479.7	102.4	102.4	1.57	1.01	0.06	1.29



Stellar Parameters For KIC 010550657

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	9274^{+254}_{-471}	$4.092^{+0.170}_{-0.170}$	$0.070^{+0.150}_{-0.700}$	$2.227^{+0.755}_{-0.617}$	$2.236^{+0.399}_{-0.599}$	$0.285^{+0.300}_{-0.149}$
	+3%/-5%	+4%/-4%	+214%/-1000%	+34%/-28%	+18%/-27%	+105%/-52%
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 010550657-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-41 ± 5	$8.26^{+1.43}_{-1.28}$	5518^{+398}_{-397}	-3761^{+553}_{-406}	$0.180^{+0.064}_{-0.048}$
Alt.	-2052 ± 20	$23.45^{+4.17}_{-3.68}$	5521^{+429}_{-424}	5532^{+207}_{-255}	$1.124^{+0.385}_{-0.269}$

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 $A_{obs} \gg 1.0$

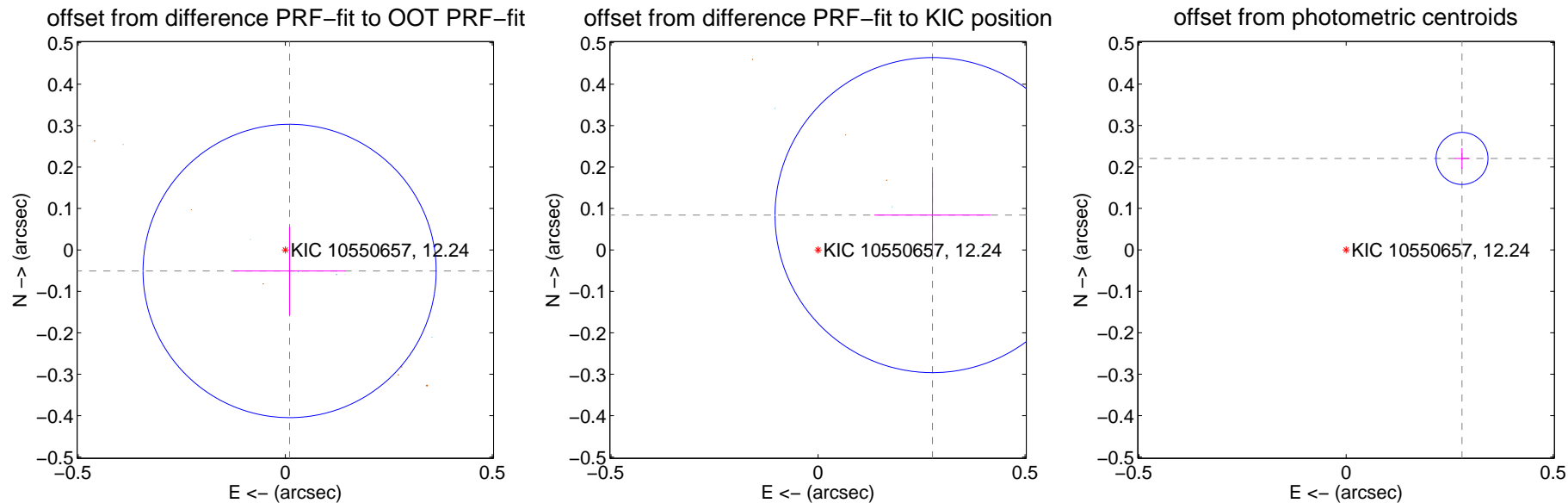
DV Centroid Data

Supplemental centroid analysis for 010550657-01. Kepler magnitude: 12.24. Transit SNR 51.64

There are 7 quarters with good PRF difference image offsets

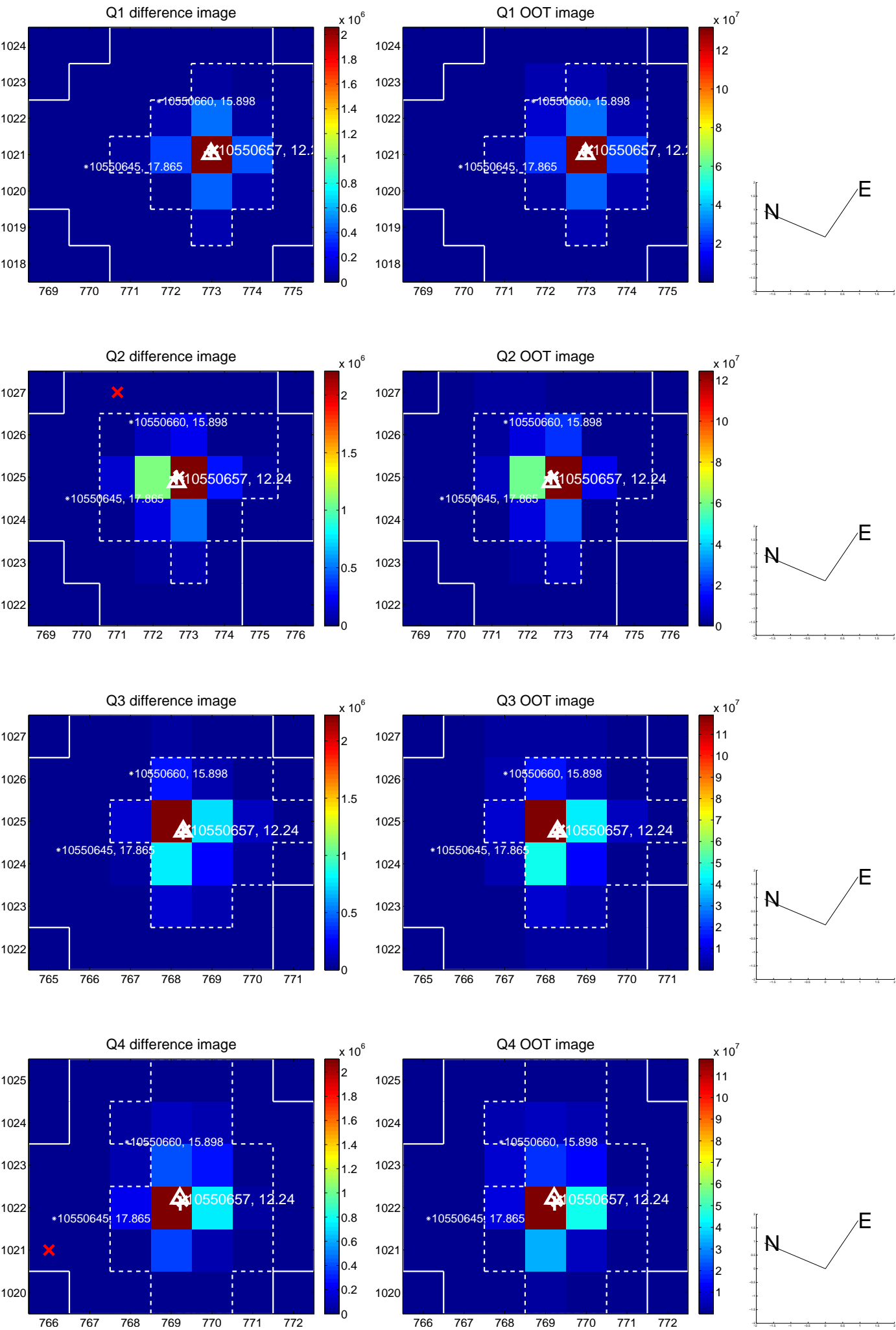
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.052 ± 0.118	0.44	-0.010 ± 0.136	-0.051 ± 0.107
PRF-fit source offset from KIC position	0.289 ± 0.127	2.28	-0.276 ± 0.140	0.084 ± 0.100
photometric centroid source offset	0.36 ± 0.02	17.03	-0.28 ± 0.02	0.22 ± 0.02

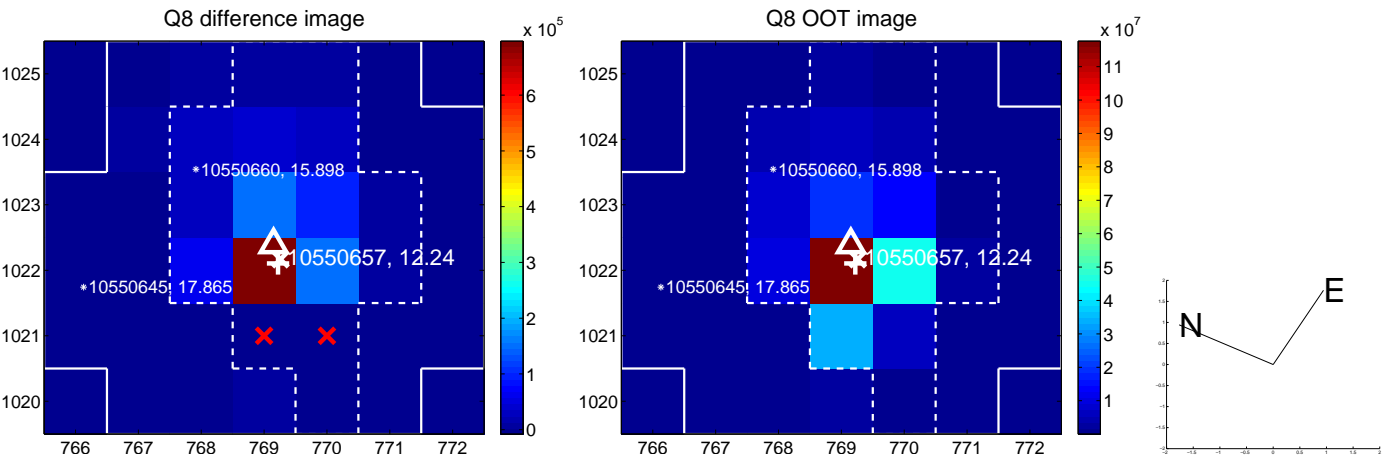
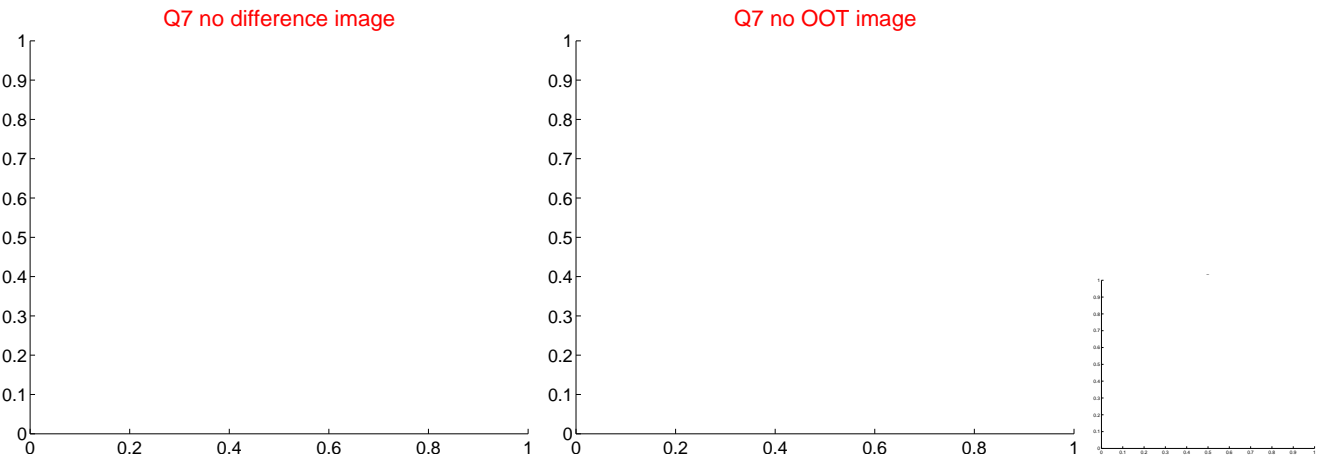
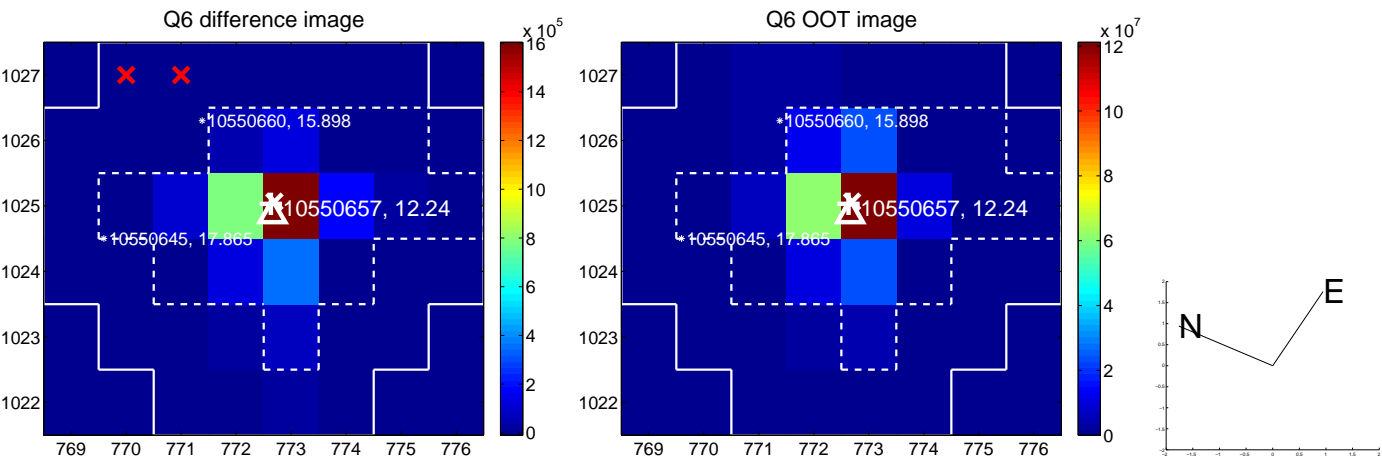
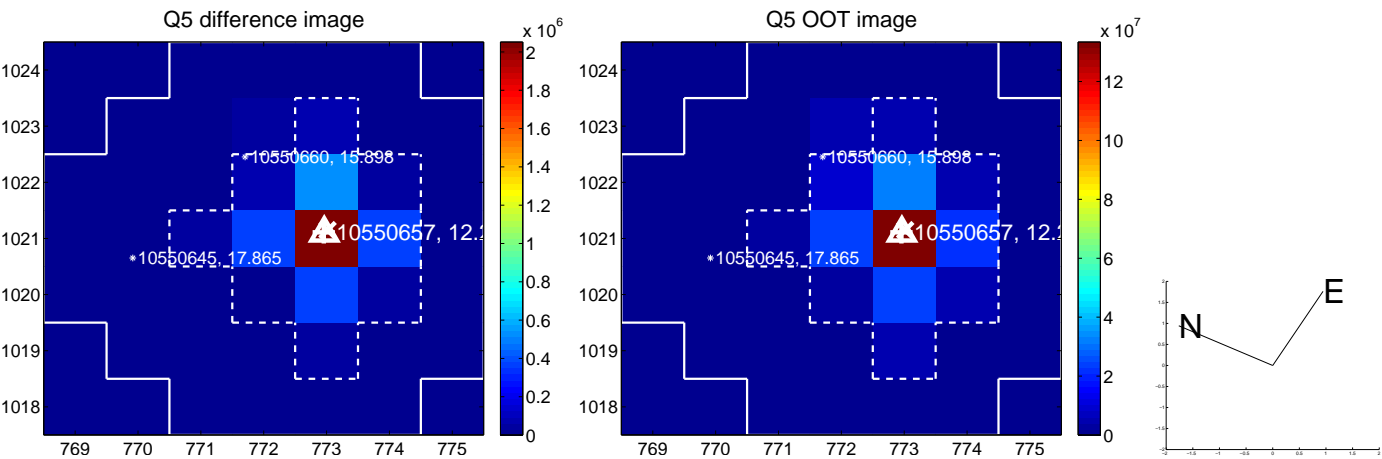


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

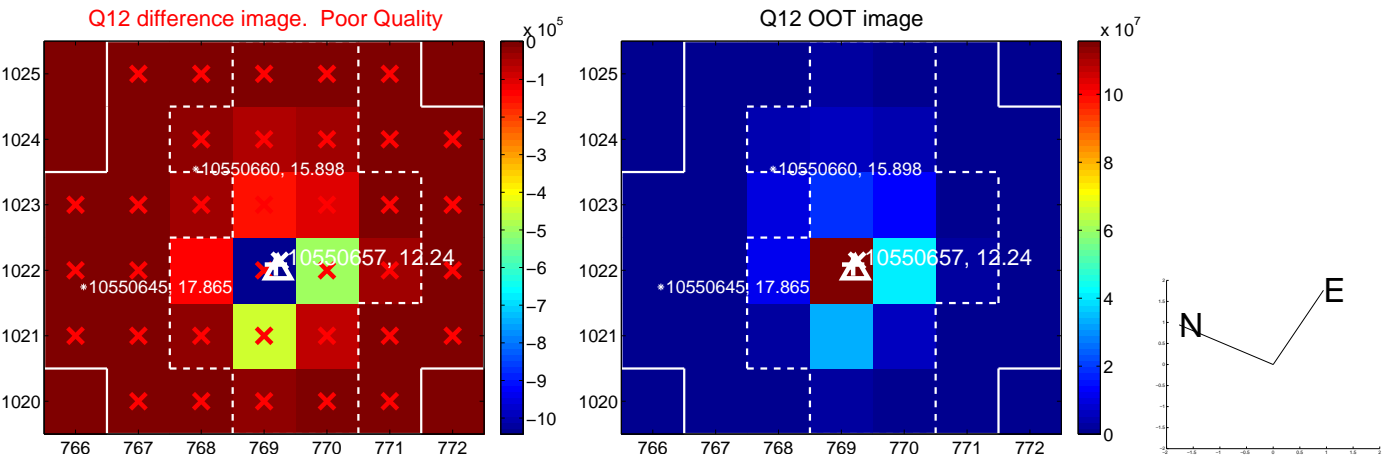
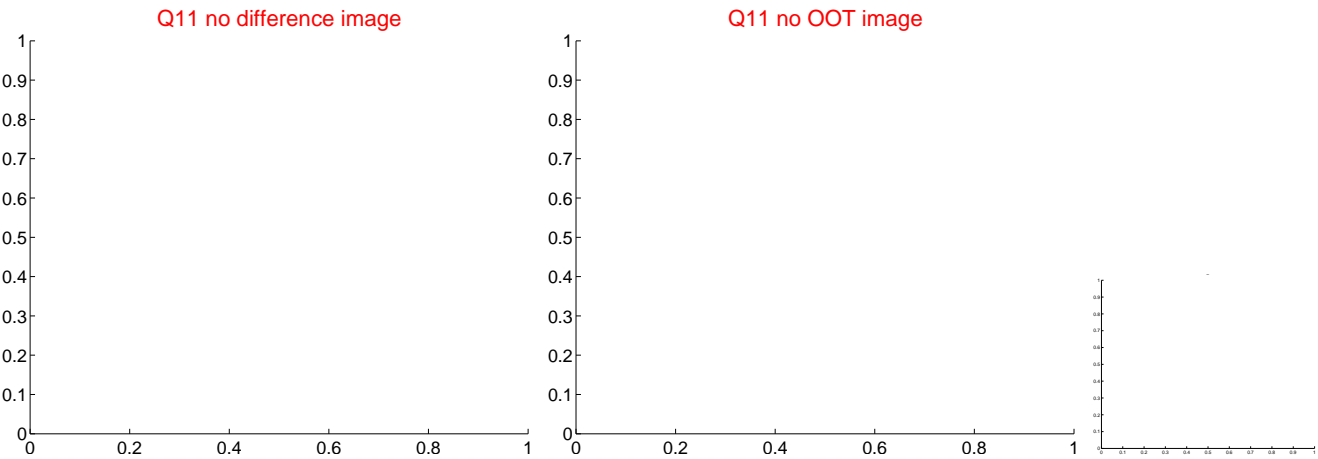
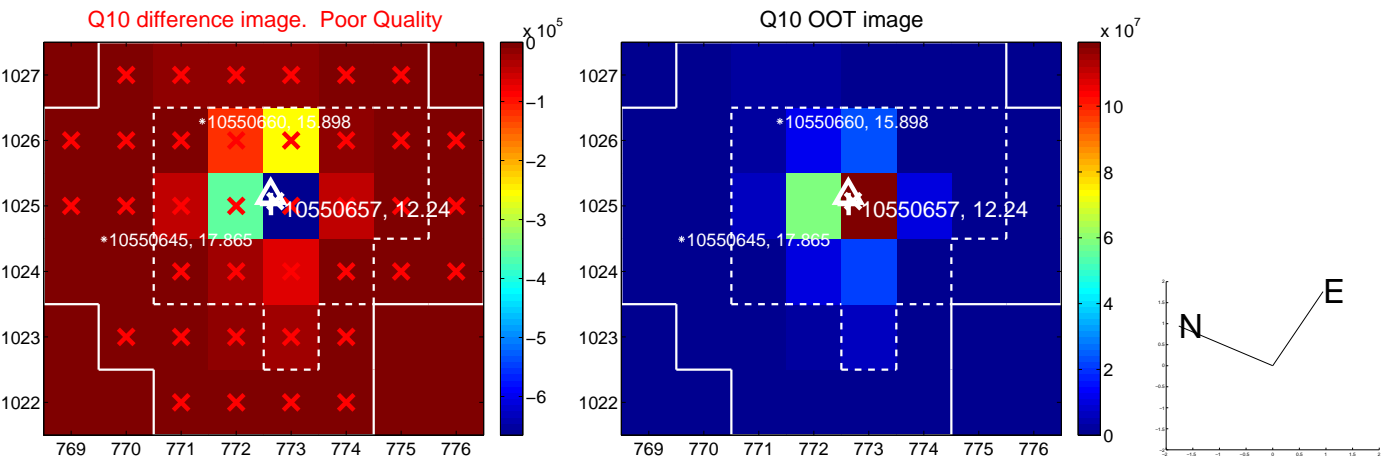
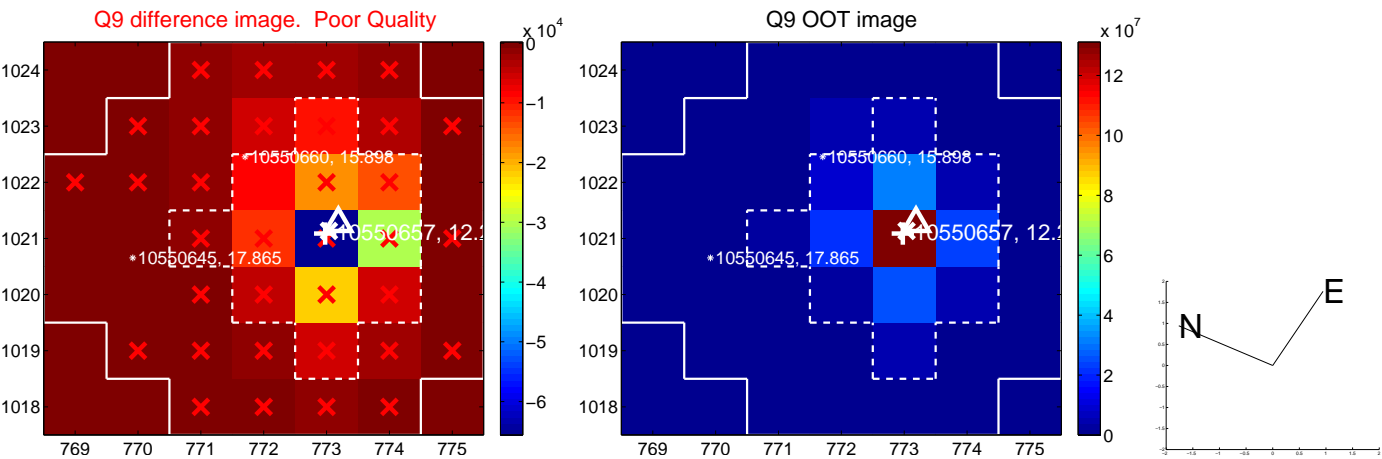
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



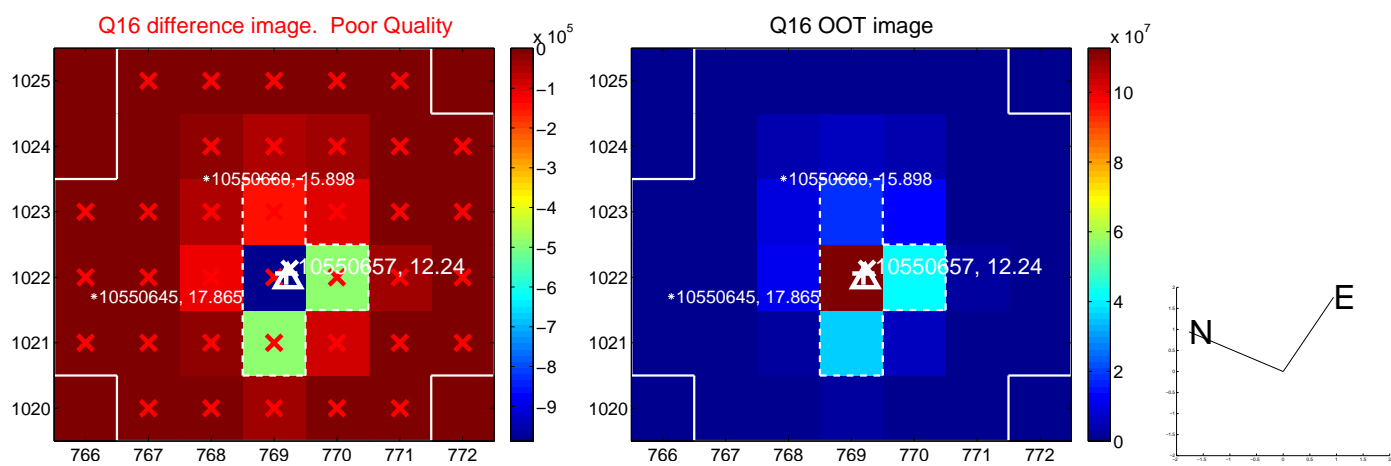
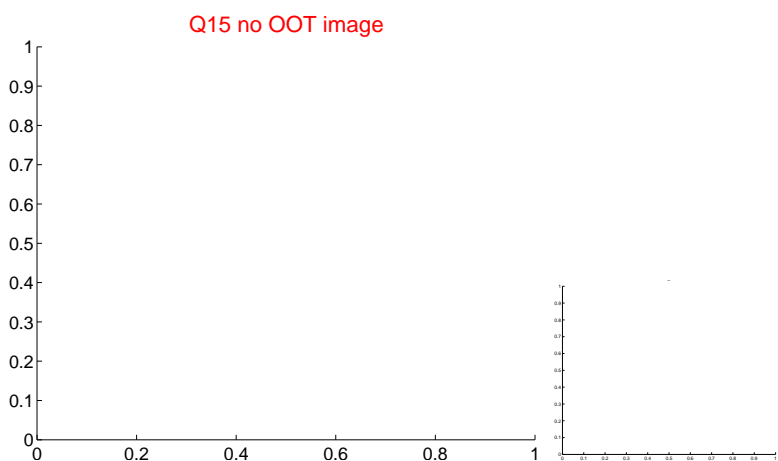
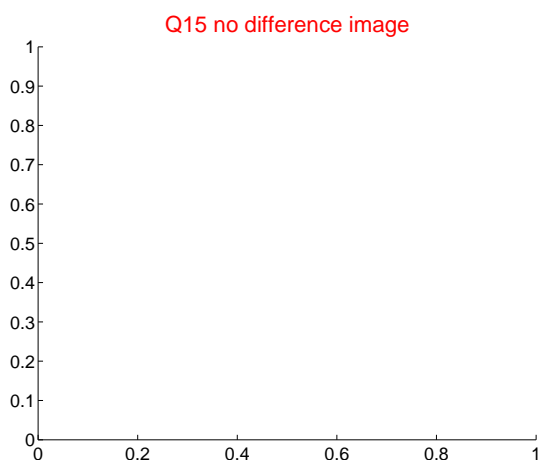
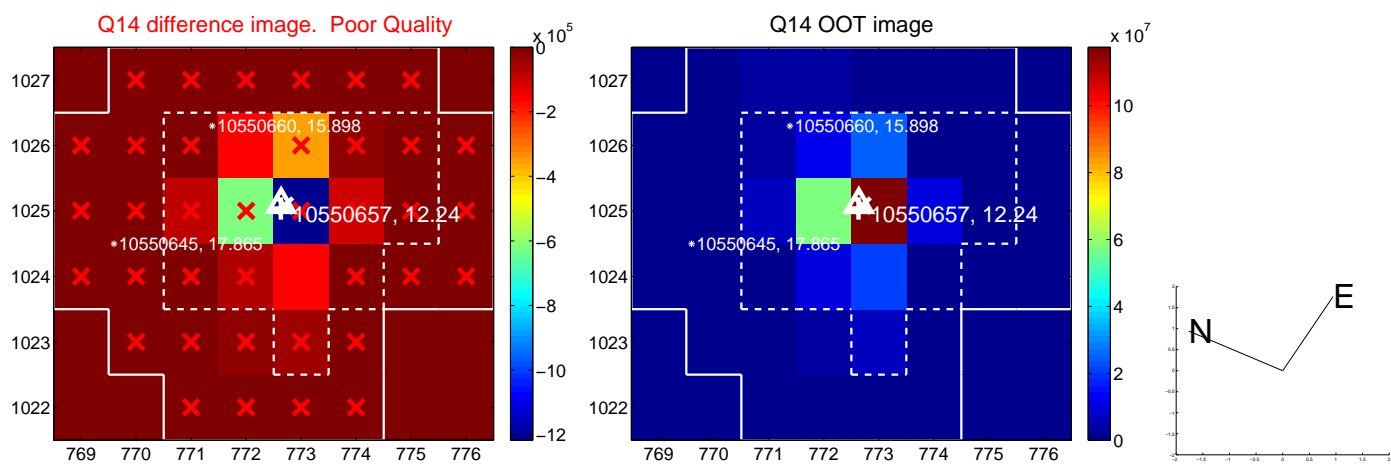
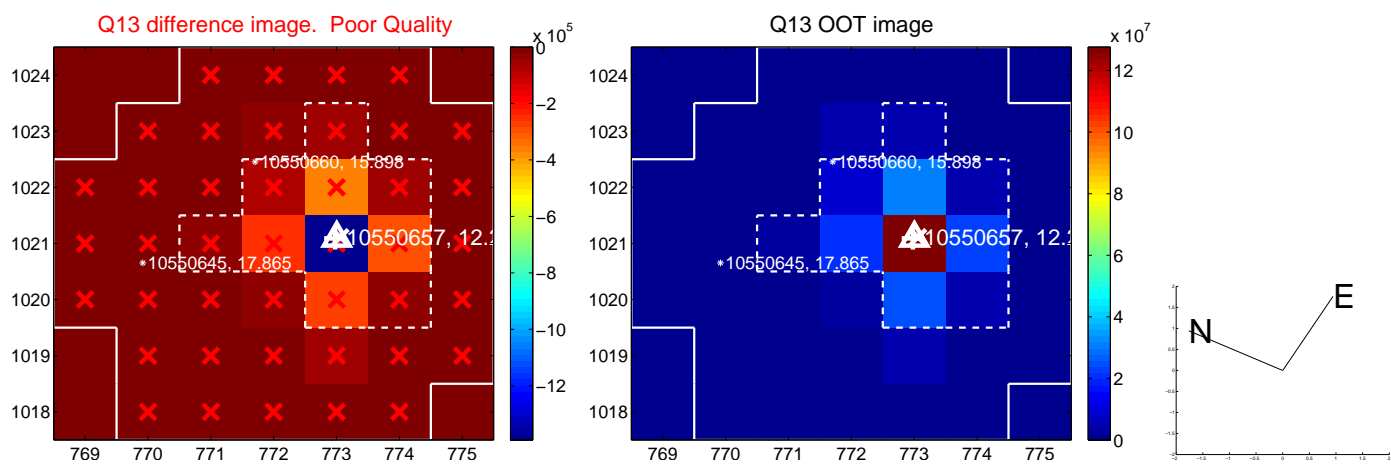
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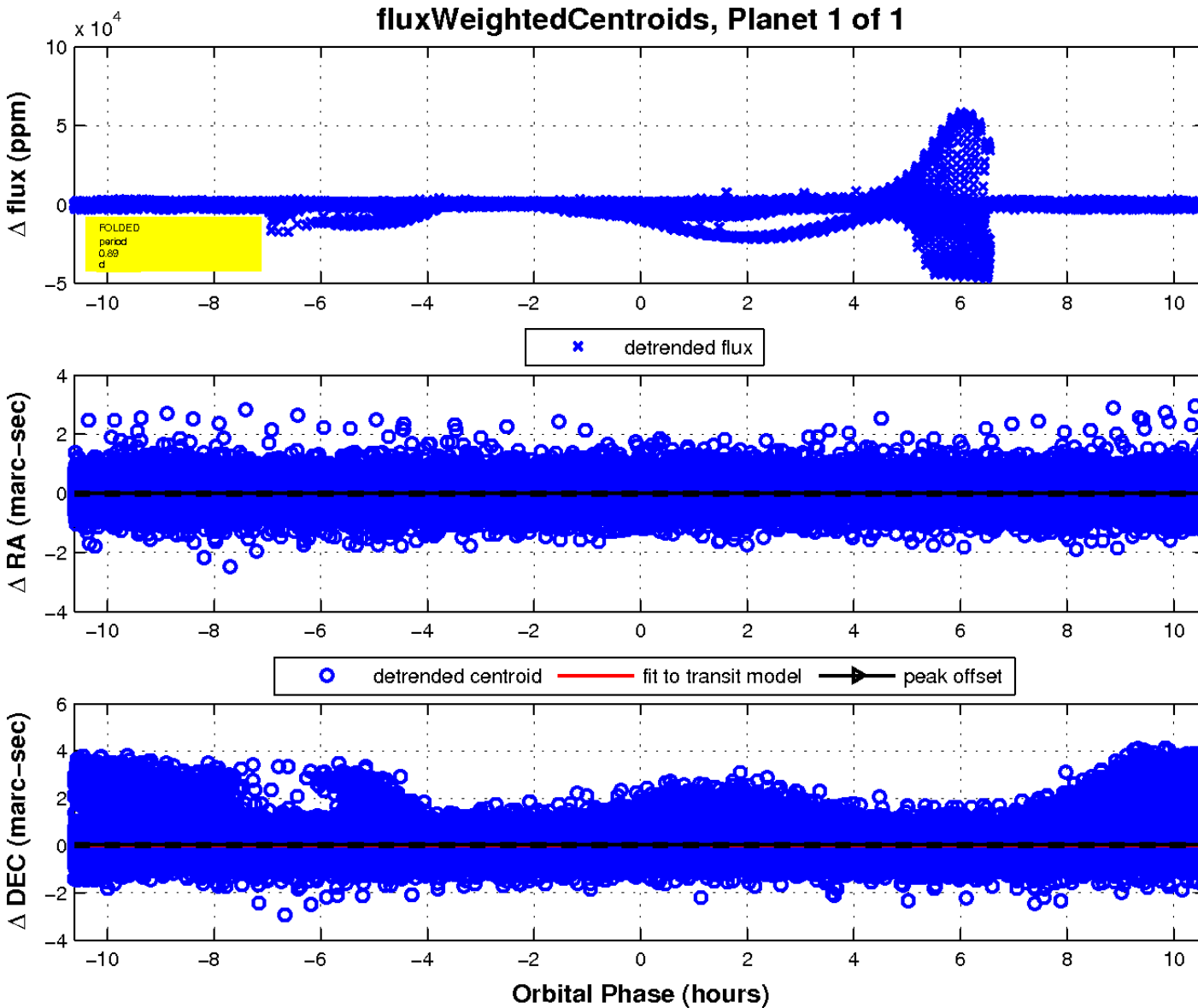
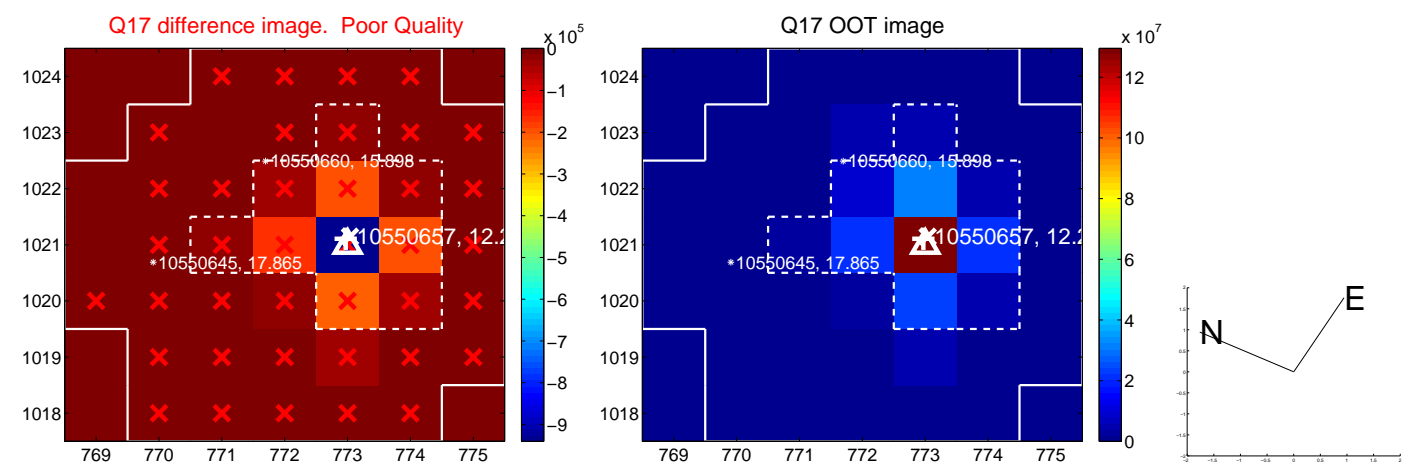
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UKIRT Image

Declination

