

KIC 012160001

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})
012160001-01	OBS	No	3.007087	131.834709	77.7	13.846	8.5	7.1	0.82	5445	0.71	339.84

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012160001-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

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

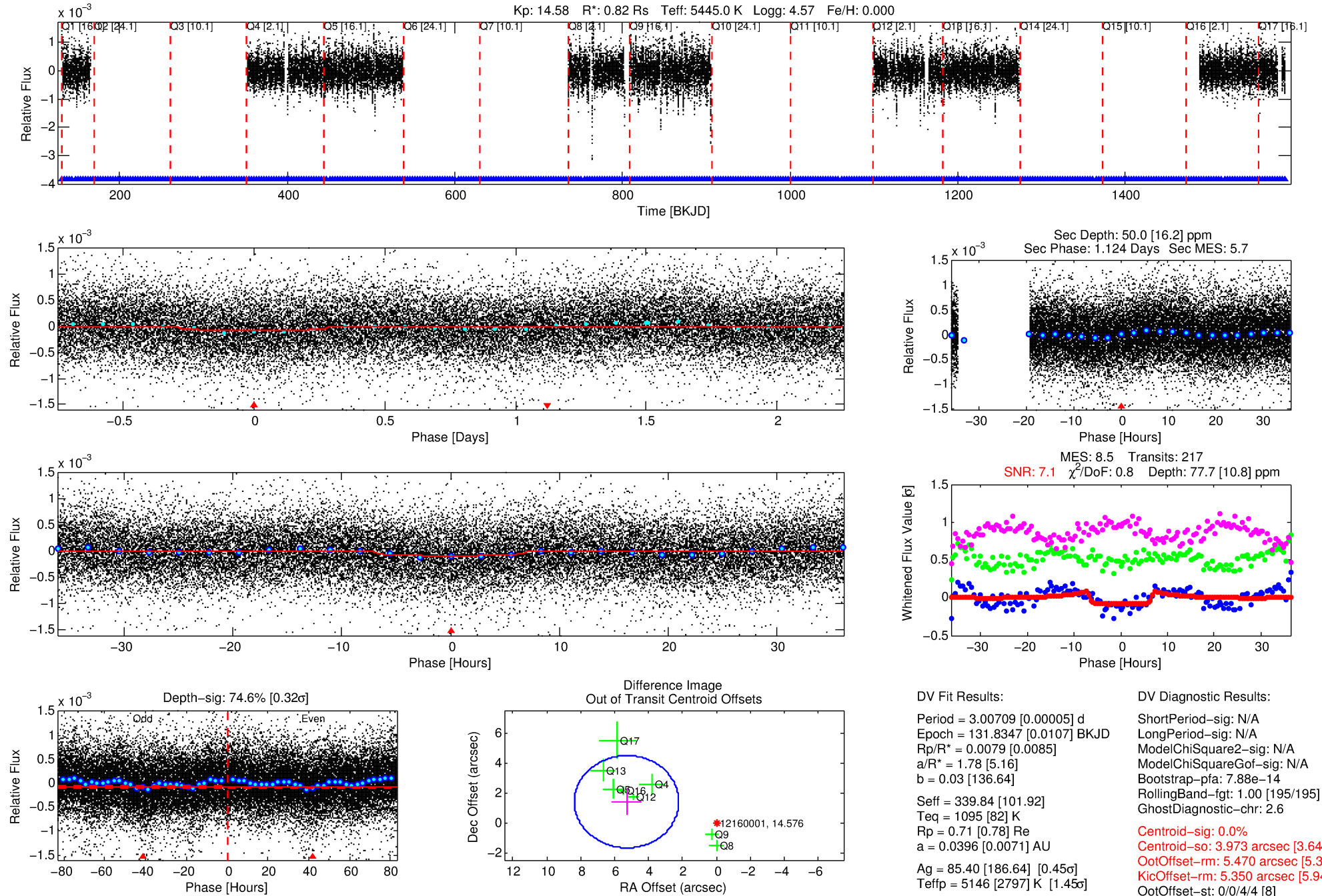
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012160001-01

No Significant Match Found

DV One-Page Summary

KIC: 12160001 Candidate: 1 of 1 Period: 3.007 d



DV Fit Results:

Period = 3.00709 [0.00005] d
Epoch = 131.8347 [0.0107] BKJD
Rp/R* = 0.0079 [0.0085]
a/R* = 1.78 [5.16]
b = 0.03 [136.64]
Seff = 339.84 [101.92]
Teff = 1095 [82] K
Rp = 0.71 [0.78] Re
a = 0.0396 [0.0071] AU
Ag = 85.40 [186.64] [0.45 σ]
Teffp = 5146 [2797] K [1.45 σ]

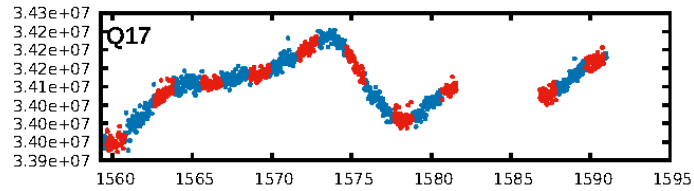
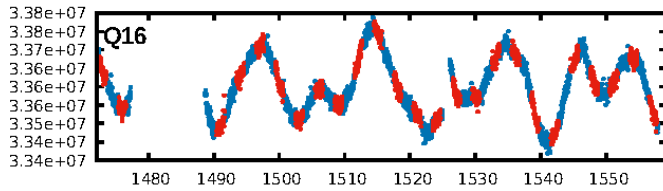
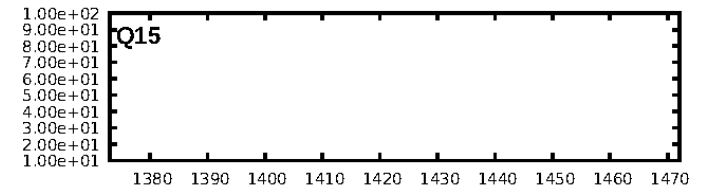
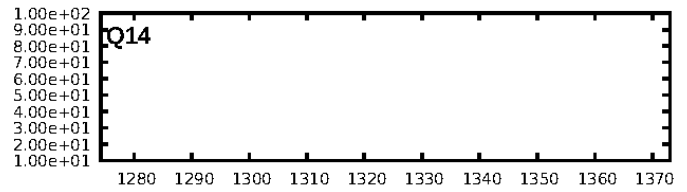
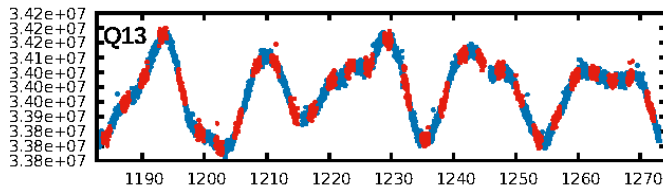
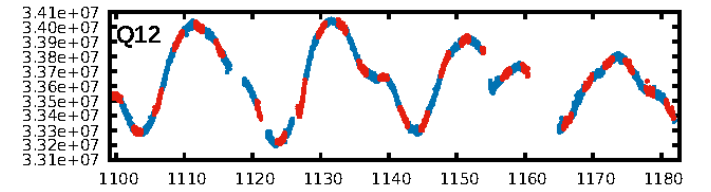
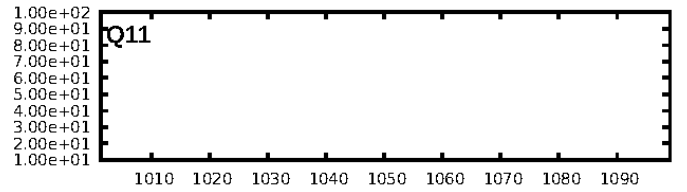
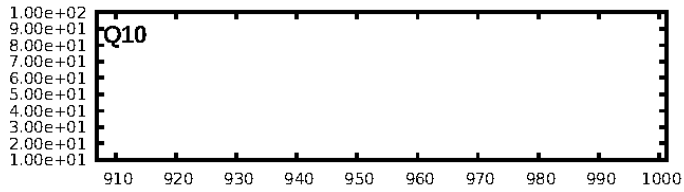
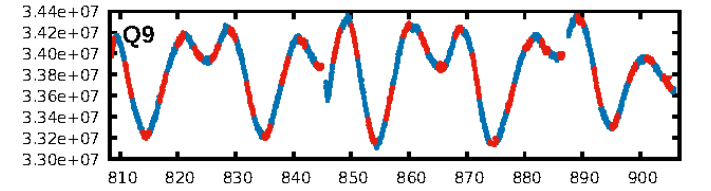
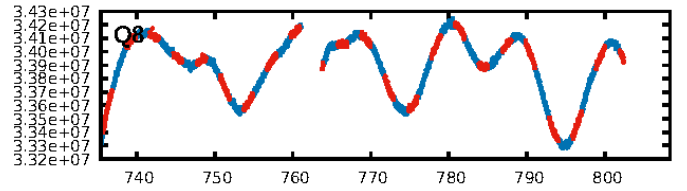
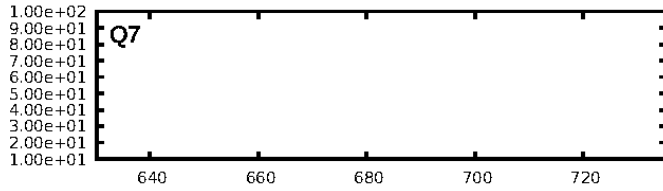
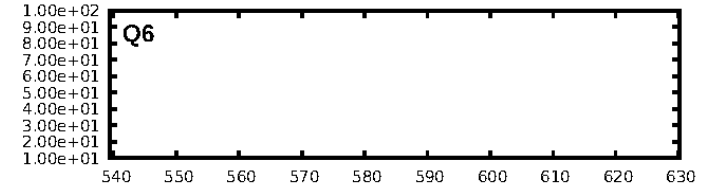
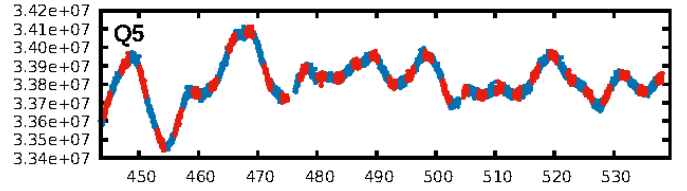
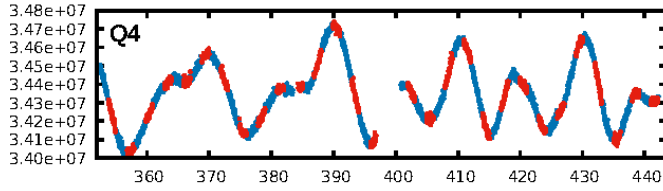
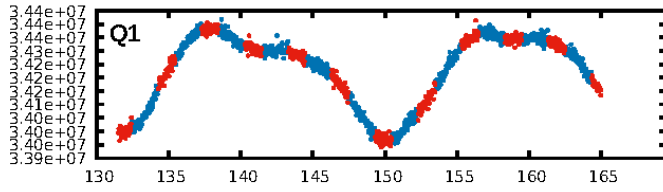
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGoF-sig: N/A
Bootstrap-pfa: 7.88e-14
RollingBand-fgt: 1.00 [195/195]
GhostDiagnostic-chr: 2.6
Centroid-sig: 0.0%
Centroid-so: 3.973 arcsec [3.64 σ]
OotOffset-rm: 5.470 arcsec [5.33 σ]
KicOffset-rm: 5.350 arcsec [5.94 σ]
OotOffset-st: 0/0/4/4 [8]
KicOffset-st: 0/0/4/4 [8]
DiffImageQuality-fgm: 0.25 [2/8]
DiffImageOverlap-fno: 1.00 [9/9]

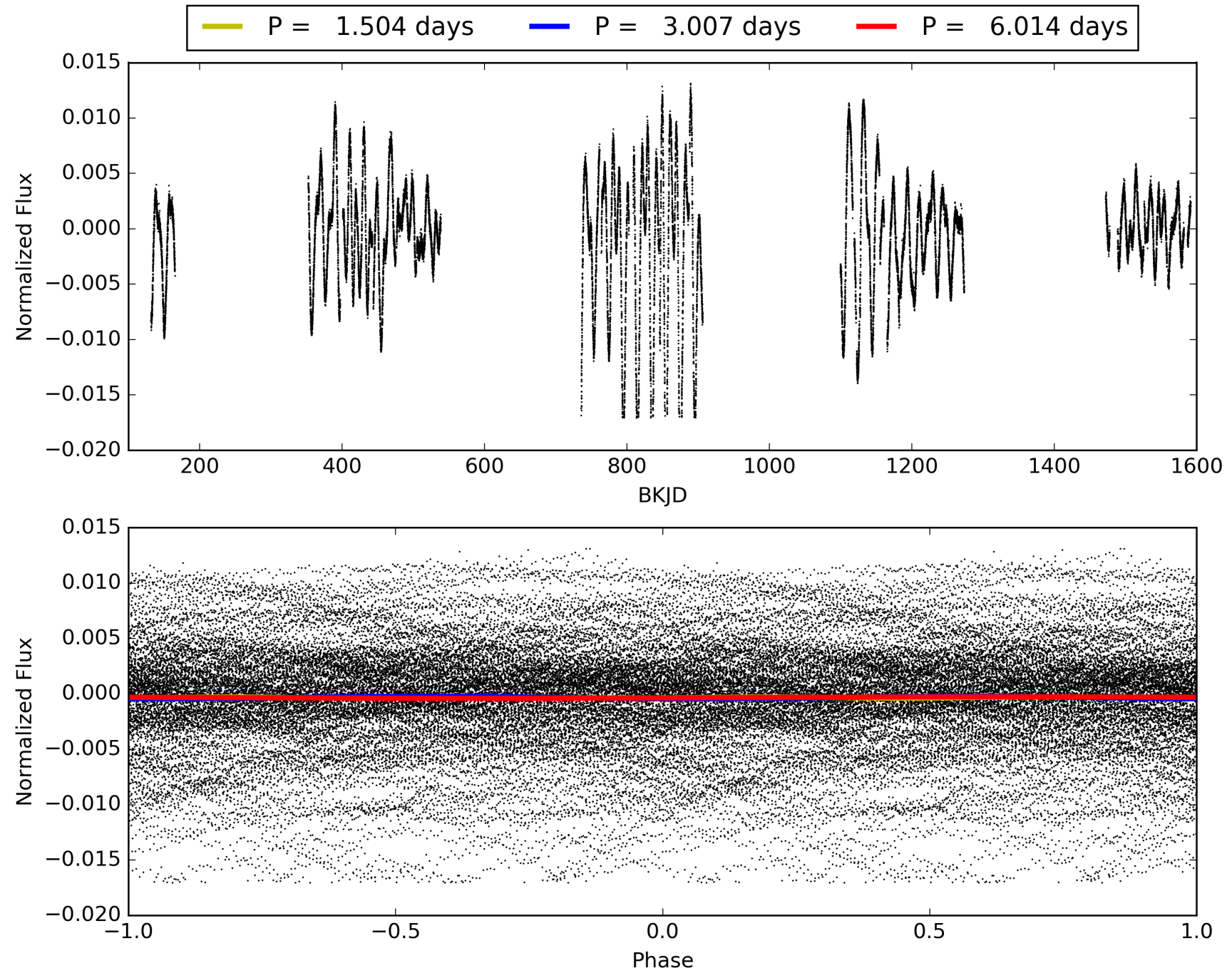
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 22:07:09 Z

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

TCE 012160001-01, PDC Light Curves

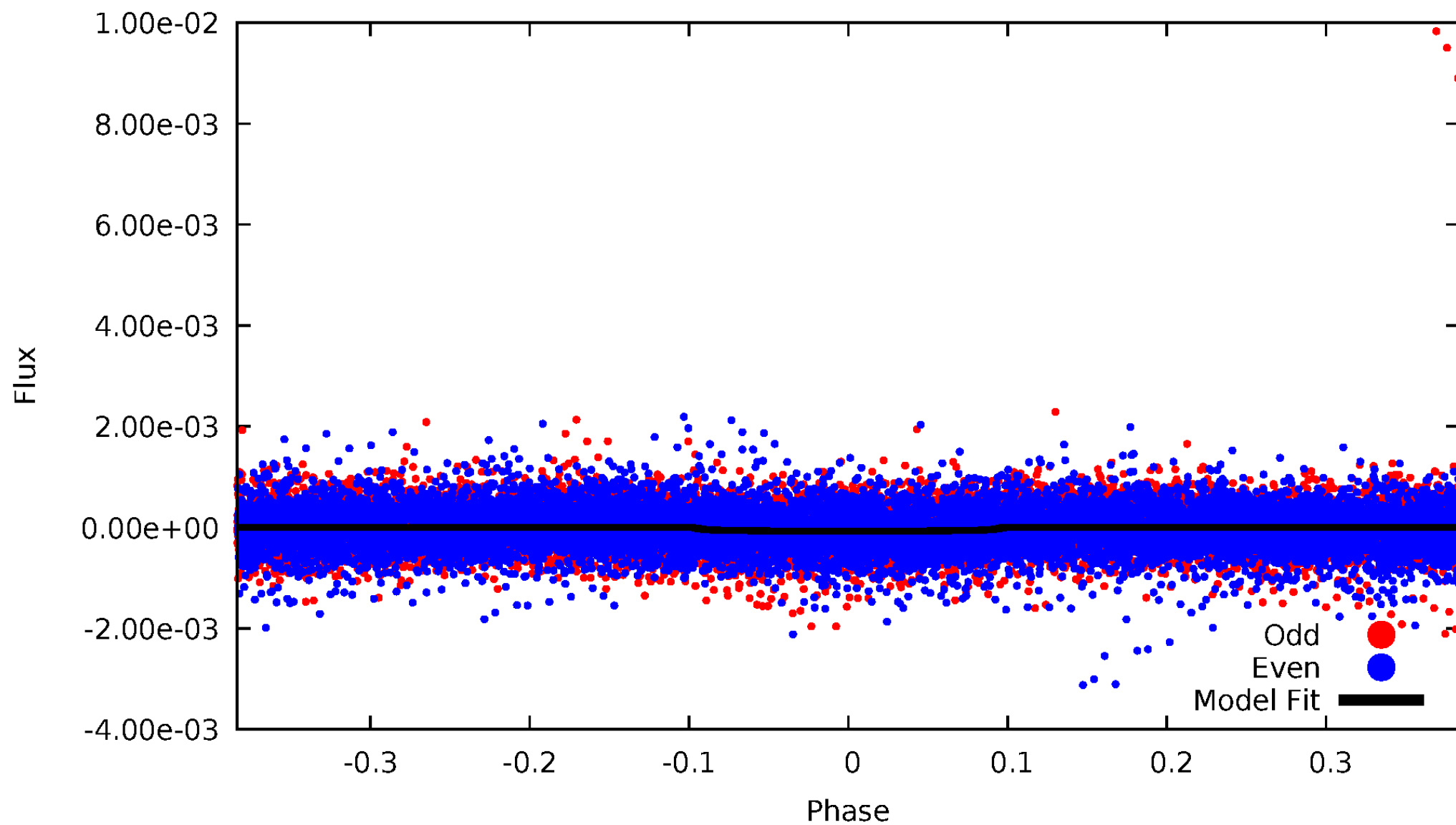


TCE 012160001-01



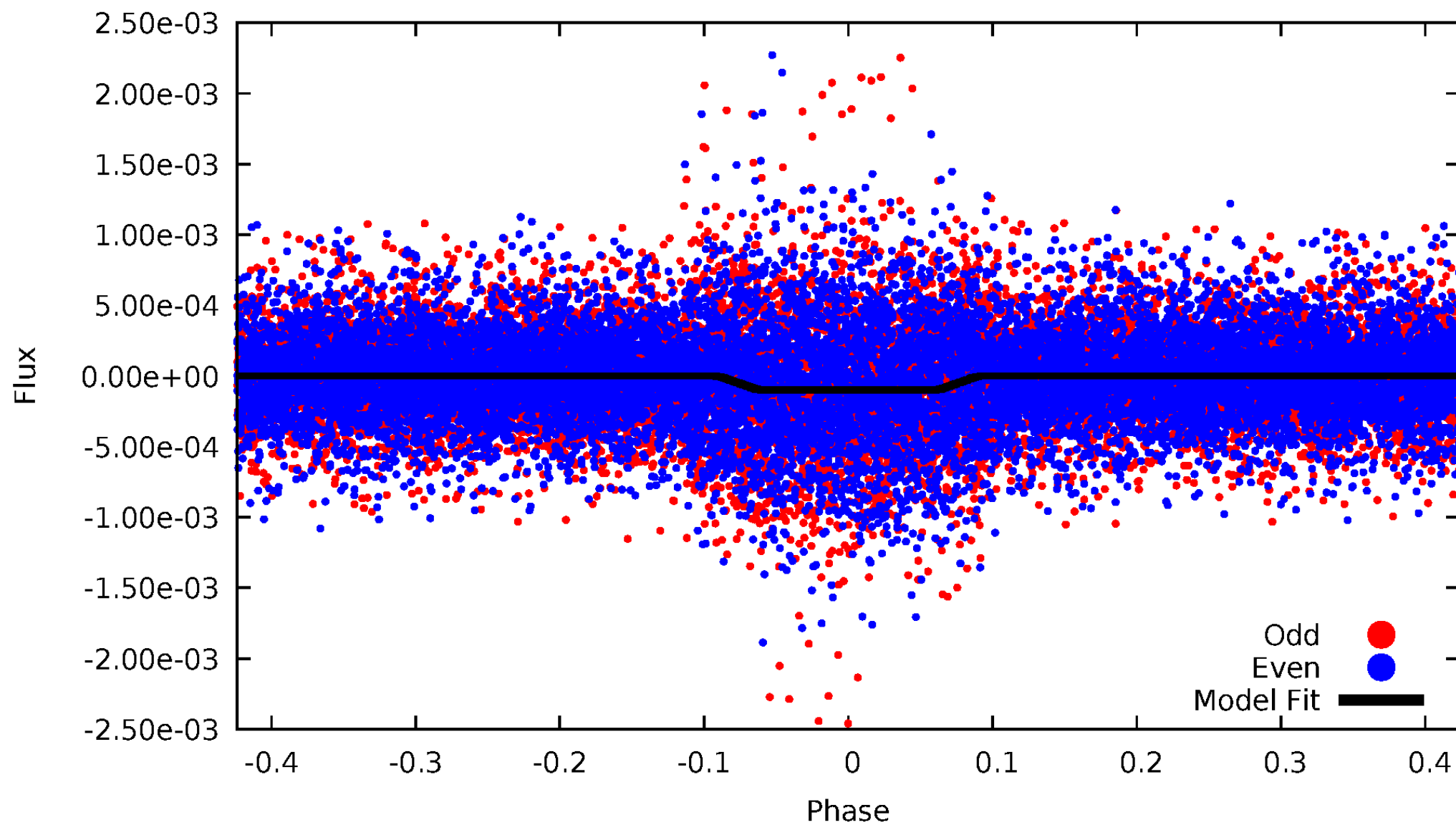
DV Odd/Even

TCE 012160001-01



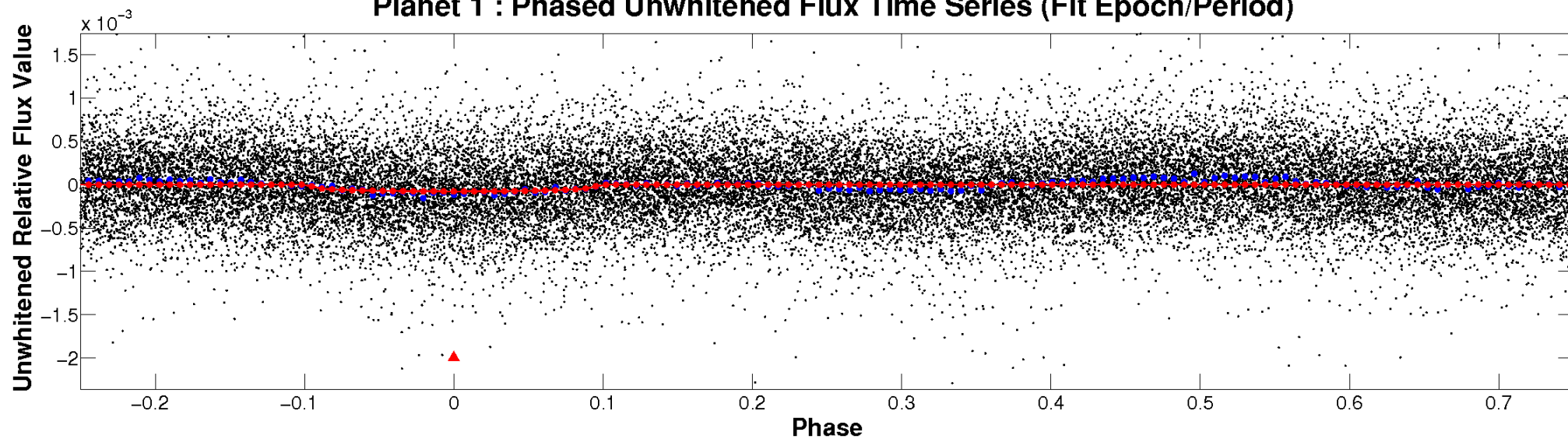
ALT Odd/Even

TCE 012160001-01

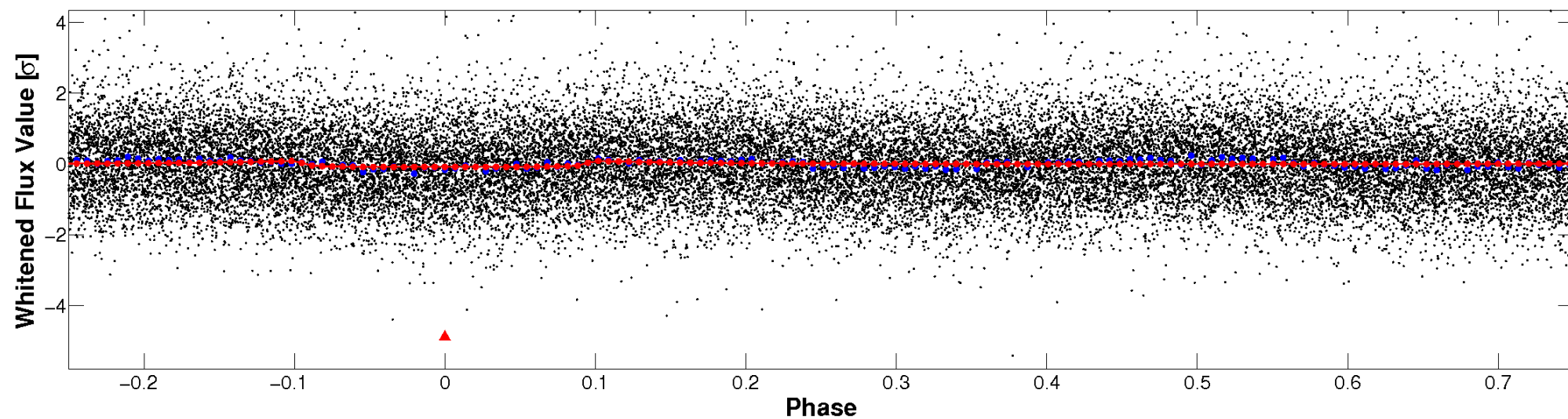


Non-Whitened Vs. Whitened Light Curve

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

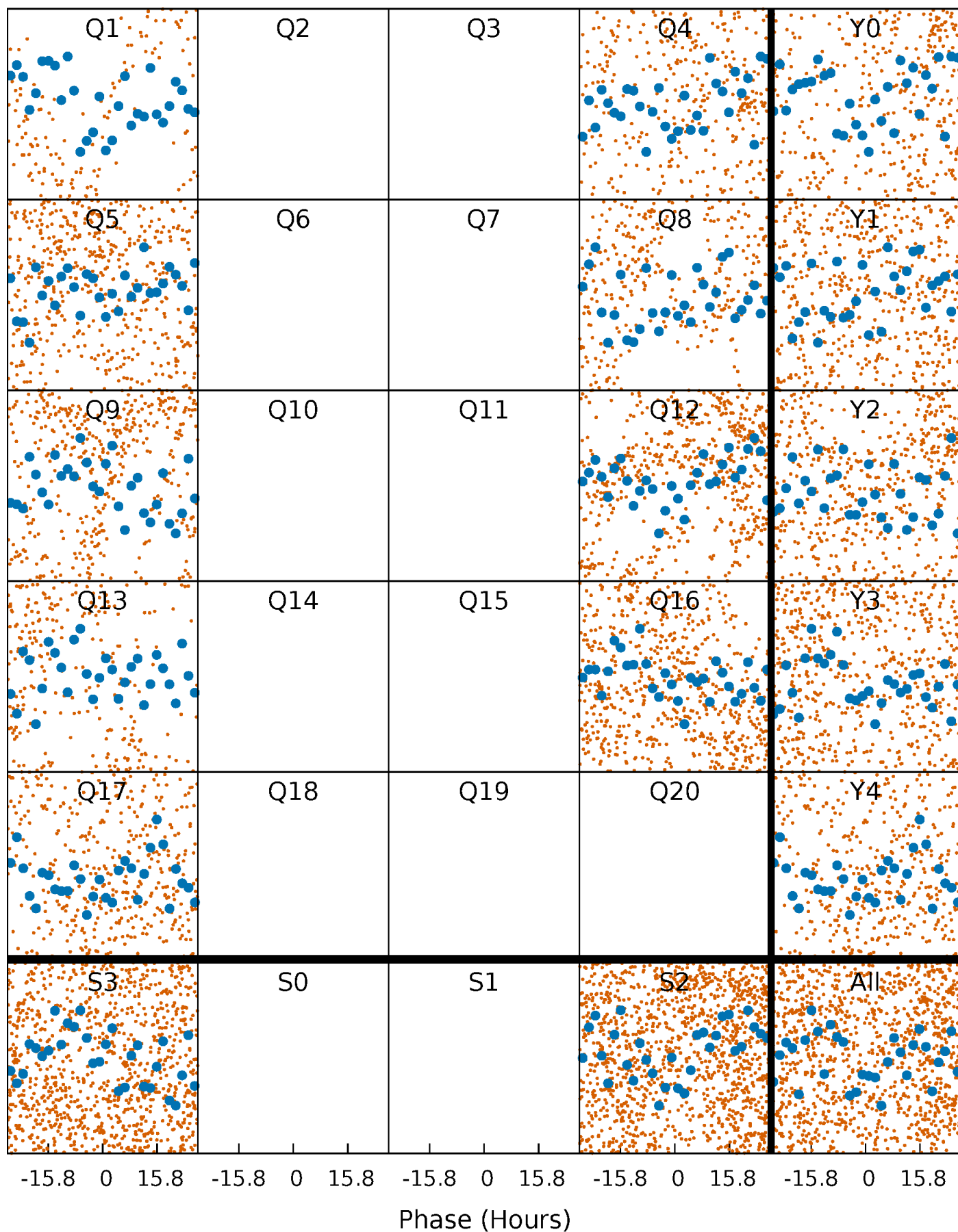


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



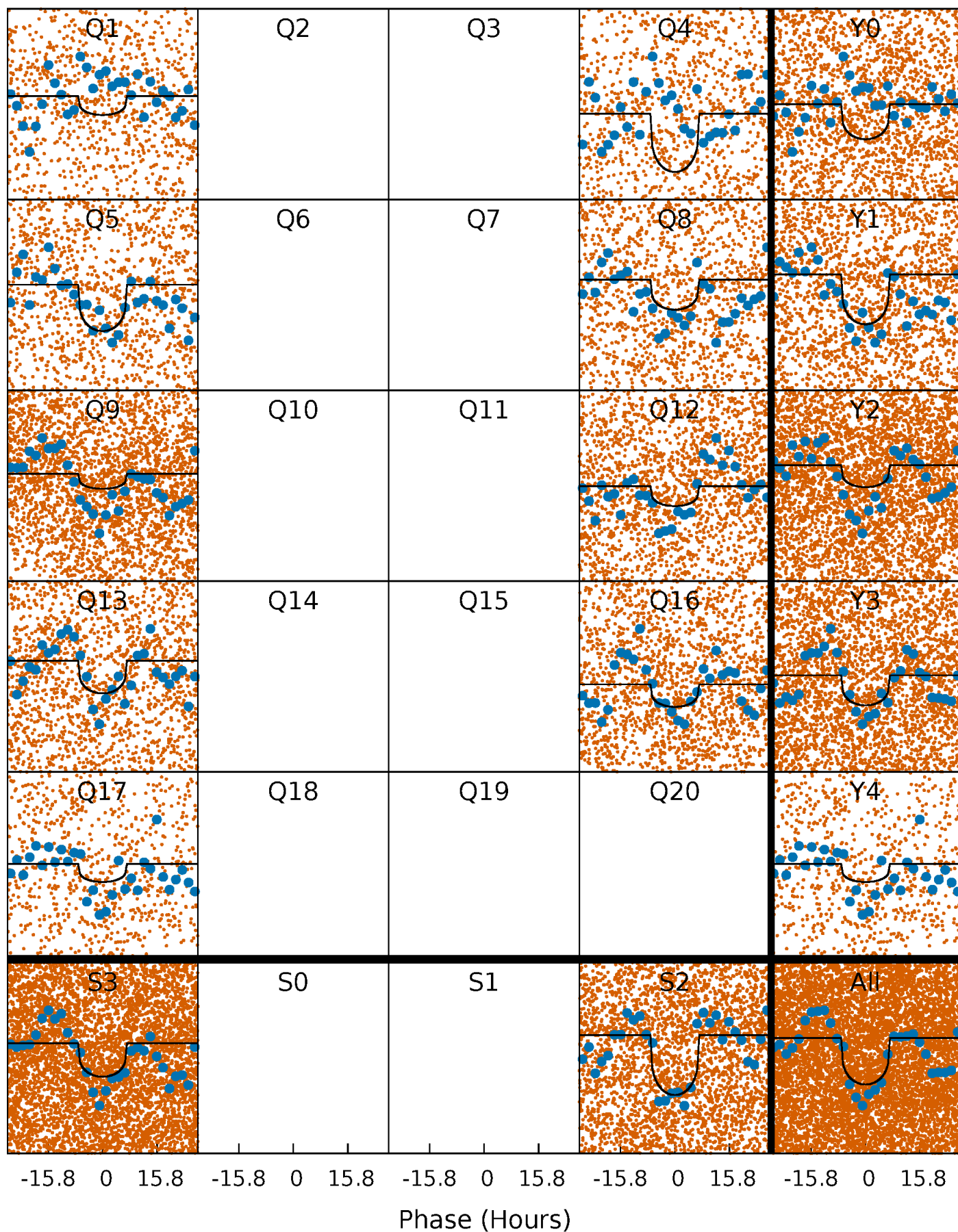
PDC Quarter-Phased Transit Curves

TCE 012160001-01 P= 3.007087 Days $T_0=131.834709$ (BKJD)



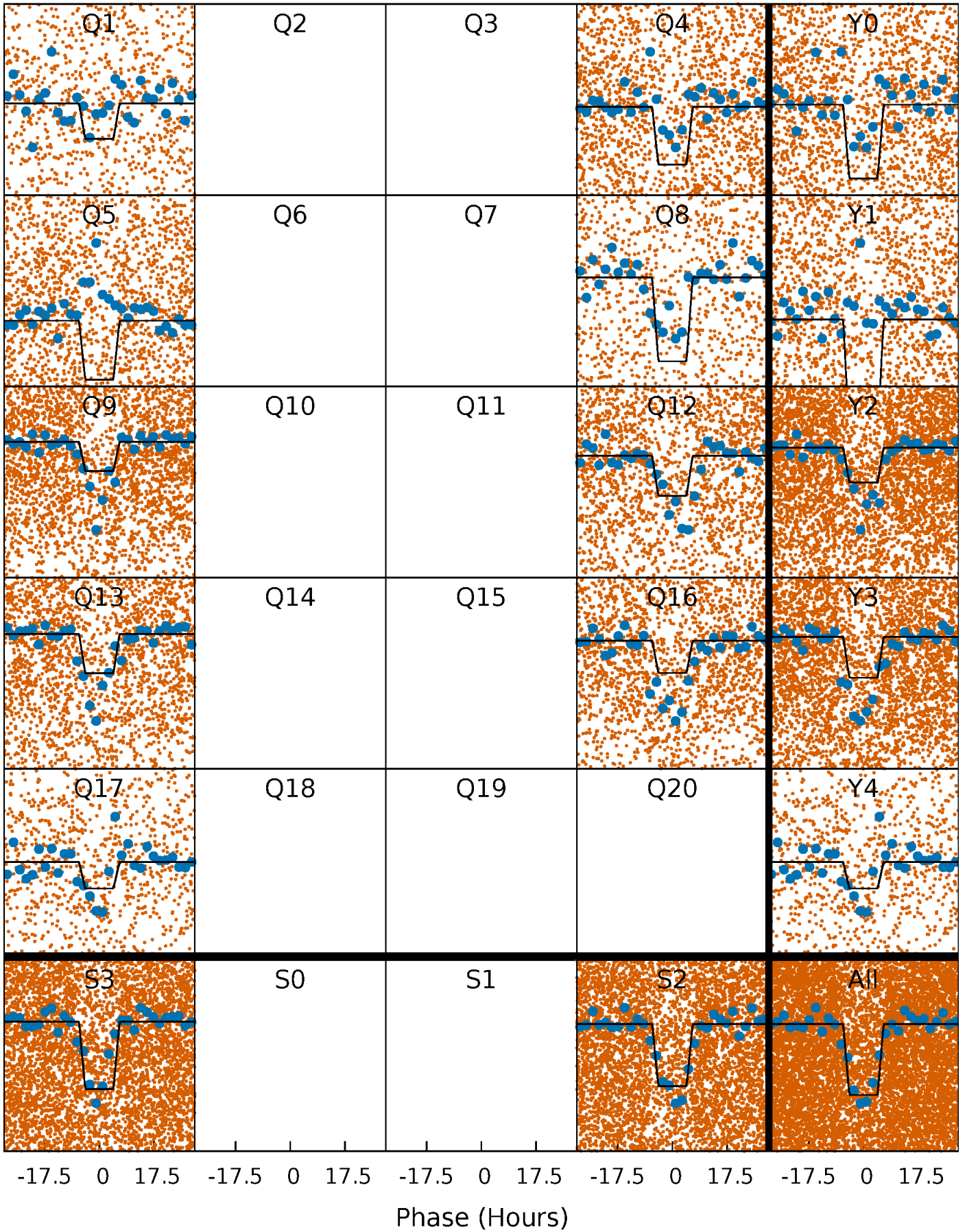
DV Quarter-Phased Transit Curves

TCE 012160001-01 P= 3.007087 Days $T_0=131.834709$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

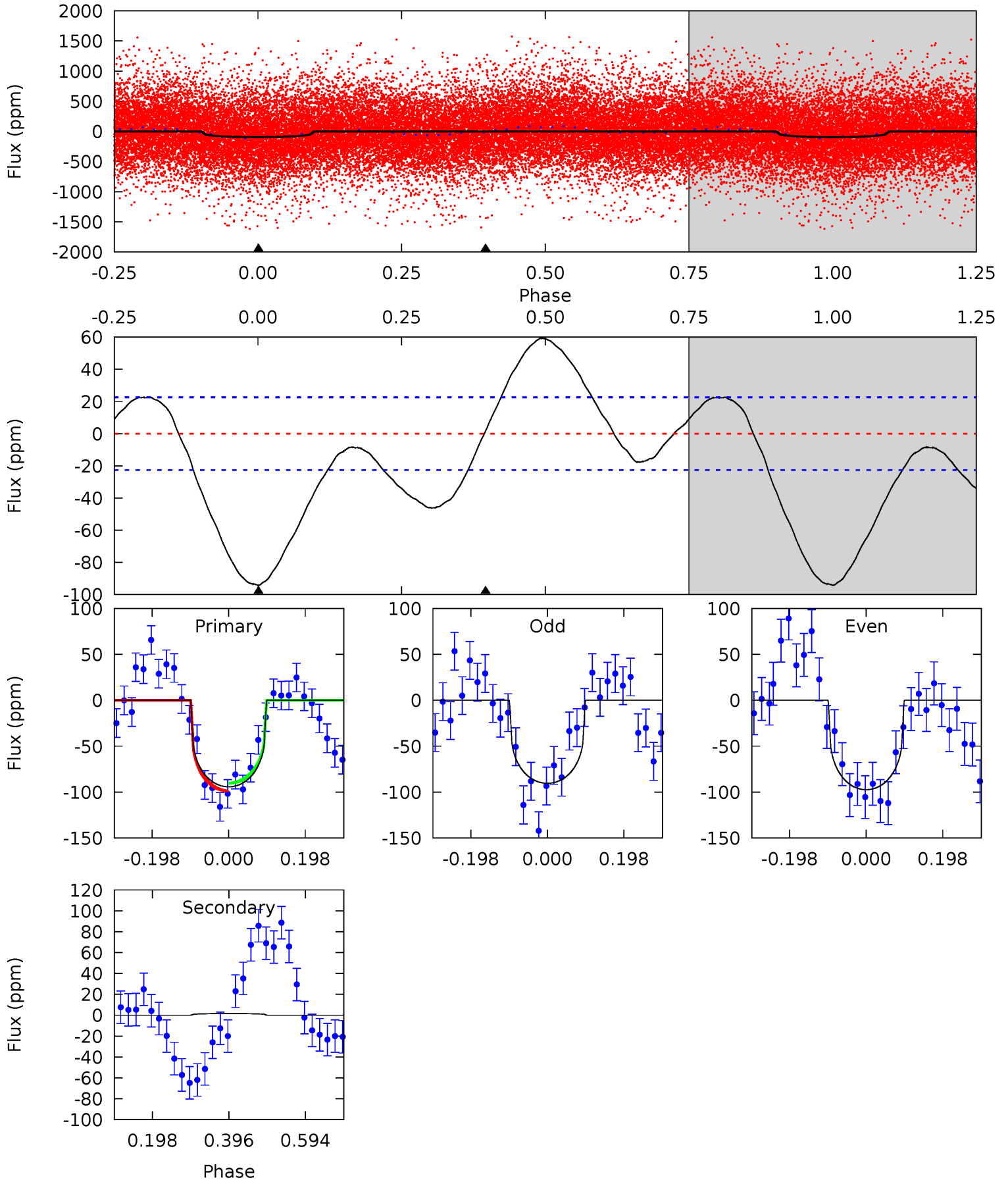
TCE 012160001-01 P= 3.007022 Days $T_0=131.853618$ (BKJD)



DV Model-Shift Uniqueness Test

012160001-01, P = 3.007087 Days, E = 128.827622 Days

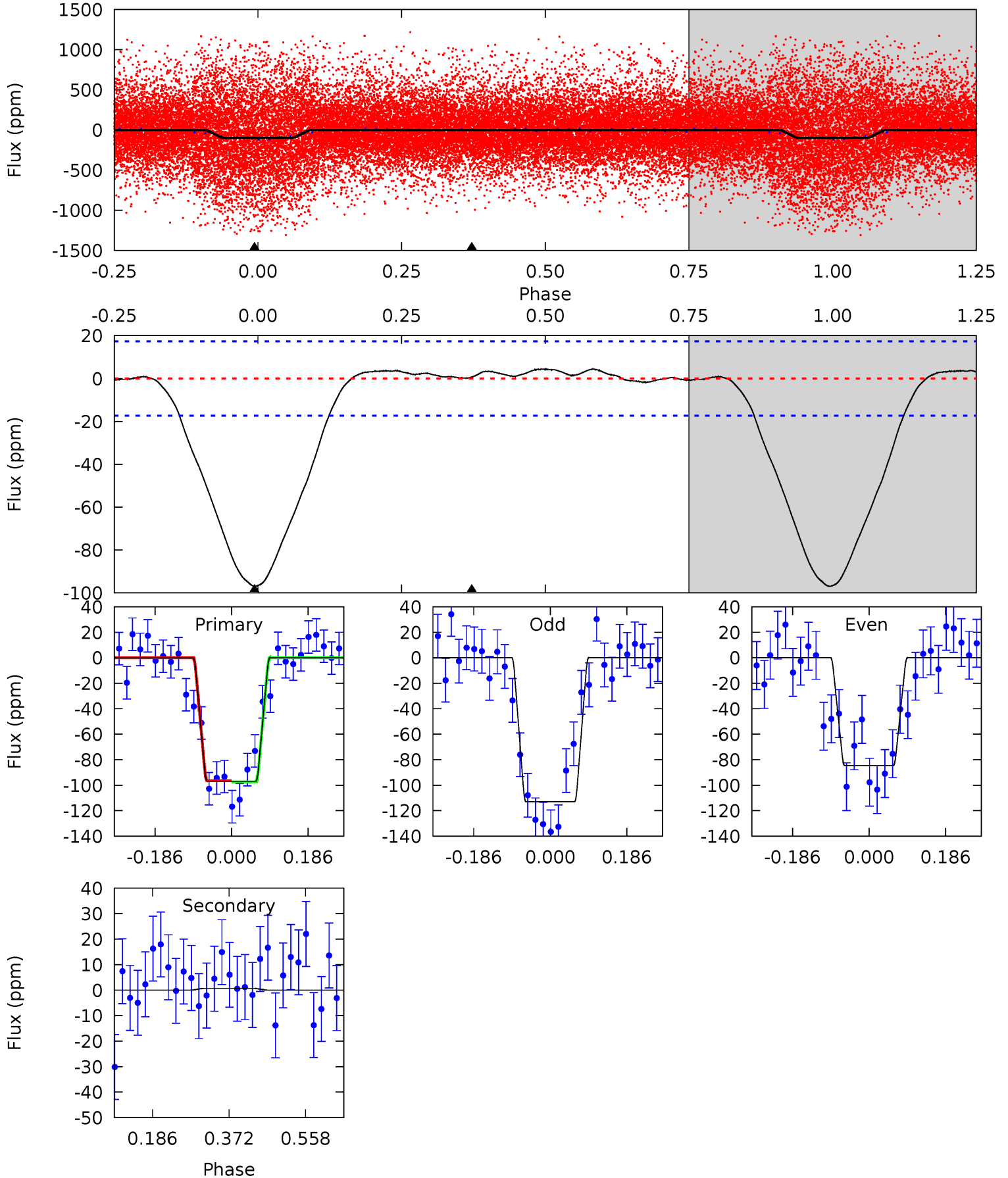
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.4	-0.31	0	0	4.42	1.29	2.56	18.4	18.4	-0.31	-0.31	0.69	1.09	0.39	0.84



Alt Model-Shift Uniqueness Test

012160001-01, P = 3.007022 Days, E = 128.846596 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
24.8	-0.18	0	0	4.43	1.32	0.44	24.8	24.8	-0.18	-0.18	3.62	1.42	0.04	0.11



Stellar Parameters For KIC 012160001

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5445^{+197}_{-180}	$4.569^{+0.036}_{-0.144}$	$0.000^{+0.250}_{-0.300}$	$0.822^{+0.175}_{-0.075}$	$0.918^{+0.073}_{-0.110}$	$2.326^{+0.432}_{-0.927}$
	+4%/-3%	+1%/-3%	+inf%/-inf%	+21%/-9%	+8%/-12%	+19%/-40%
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 012160001-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	2 ± 5	$0.96^{+0.69}_{-0.59}$	1565^{+89}_{-68}	-2704^{+5630}_{-1106}	$-1.185^{+4.319}_{-12.407}$
Alt.	1 ± 4	$1.03^{+0.80}_{-0.62}$	1560^{+92}_{-71}	-2456^{+5375}_{-930}	$-0.334^{+3.479}_{-7.118}$

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

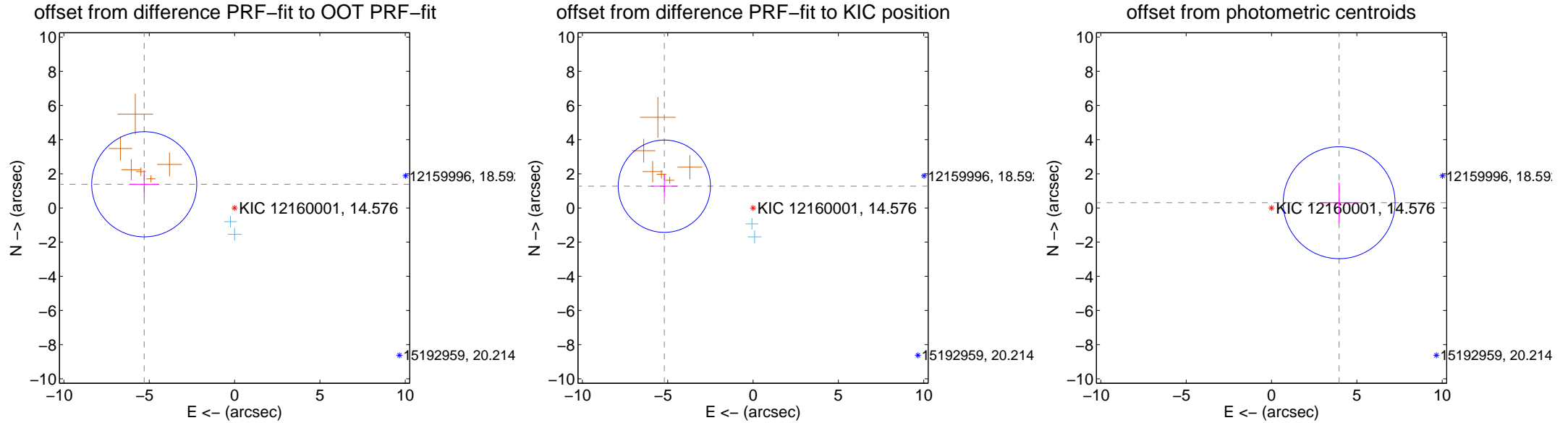
DV Centroid Data

Supplemental centroid analysis for 012160001-01. Kepler magnitude: 14.58. Transit SNR 7.08

There are 2 quarters with good PRF difference image offsets

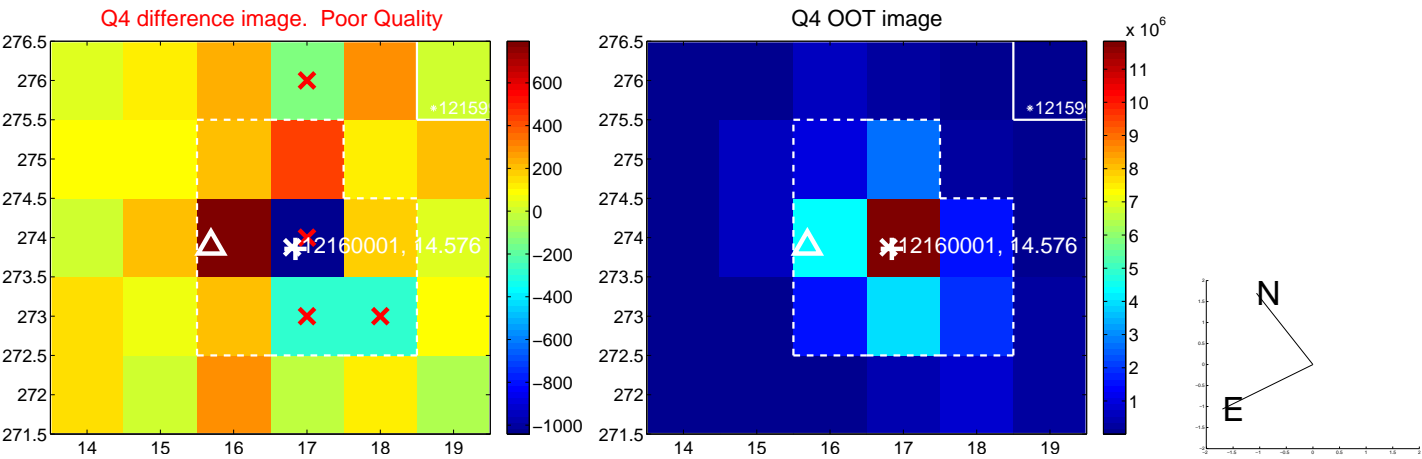
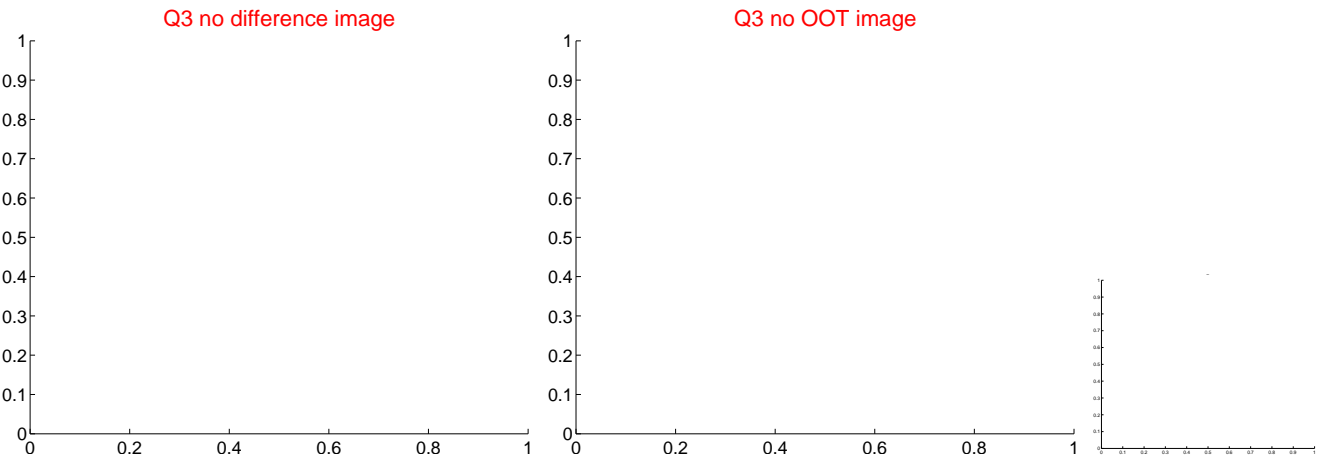
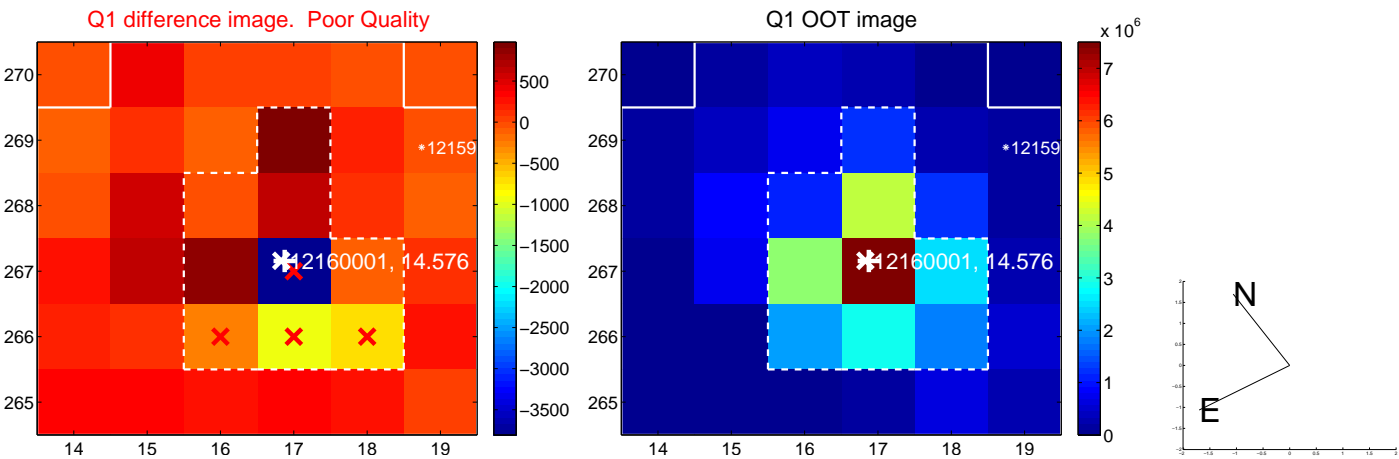
The direct PRF centroid is offset from the target star catalog position by about 0.30 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.470 ± 1.026	5.33	5.292 ± 0.876	1.386 ± 0.815
PRF-fit source offset from KIC position	5.350 ± 0.900	5.94	5.197 ± 0.784	1.272 ± 0.683
photometric centroid source offset	3.97 ± 1.09	3.64	-3.96 ± 1.09	0.31 ± 1.17

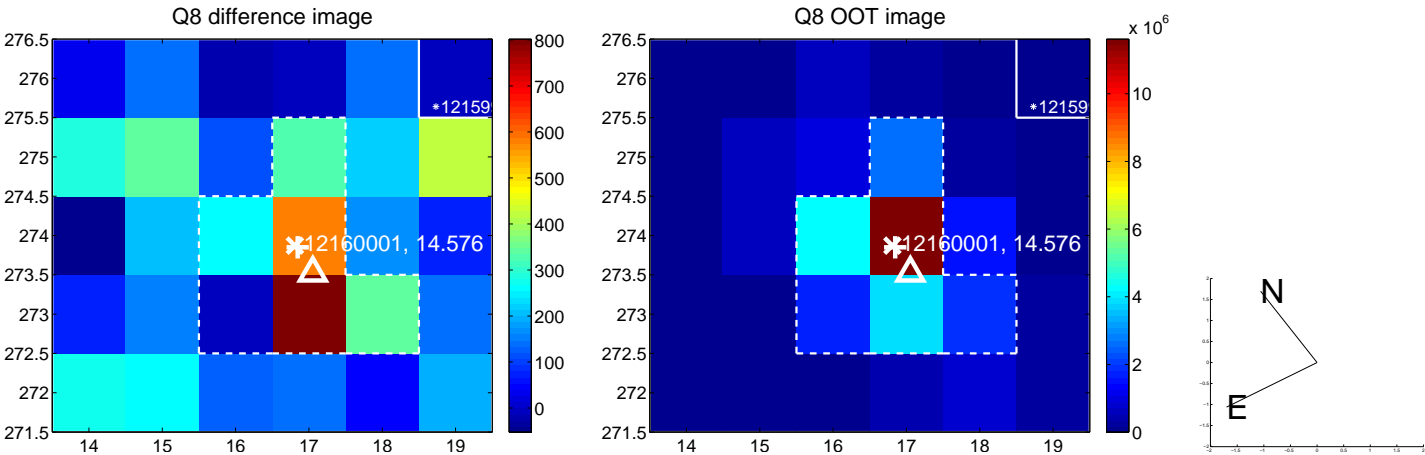
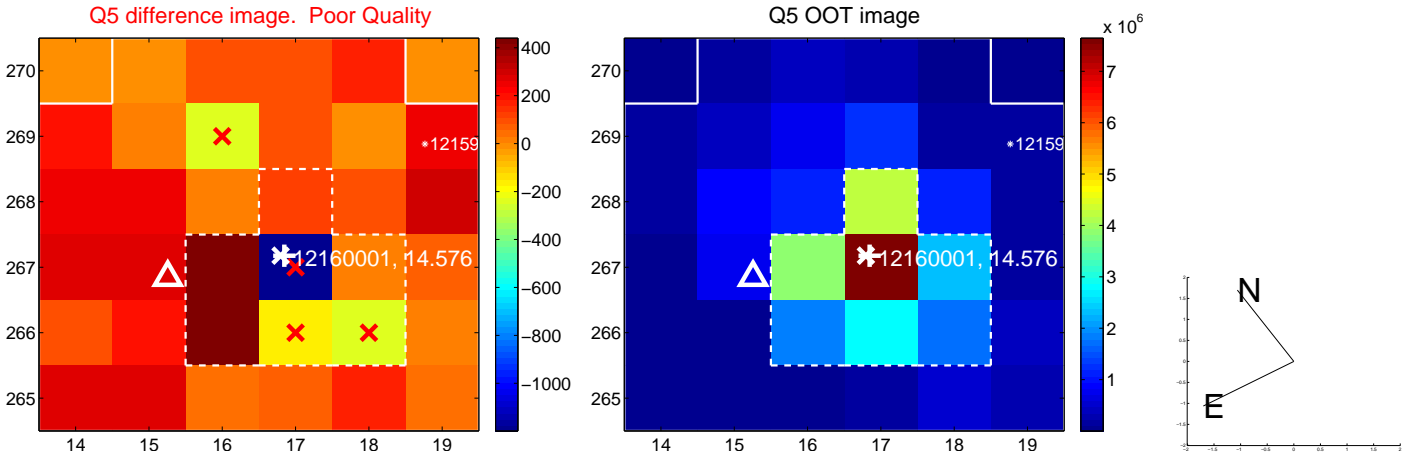


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

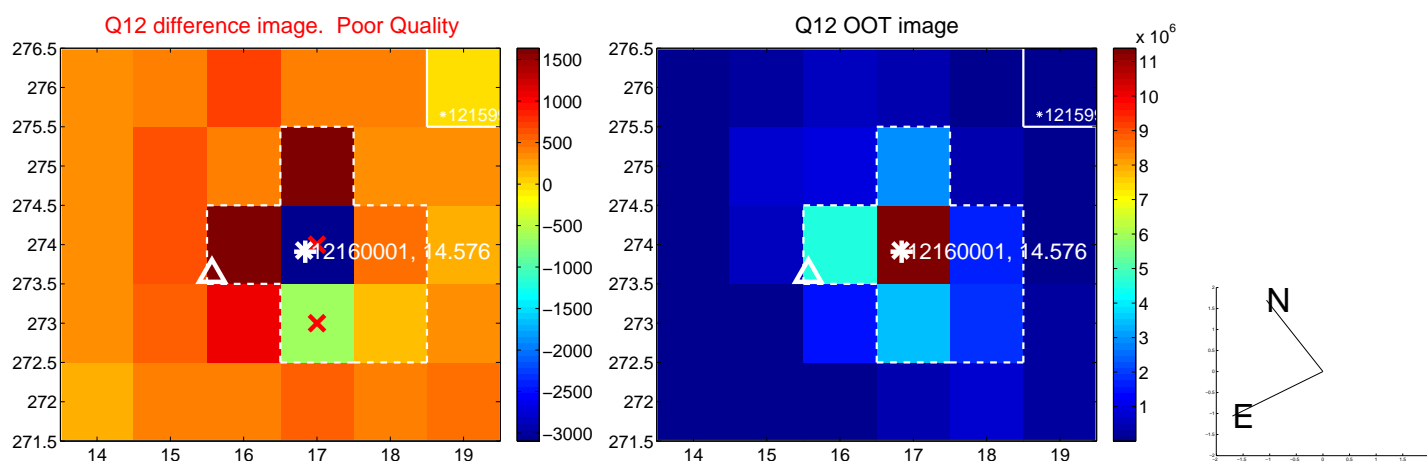
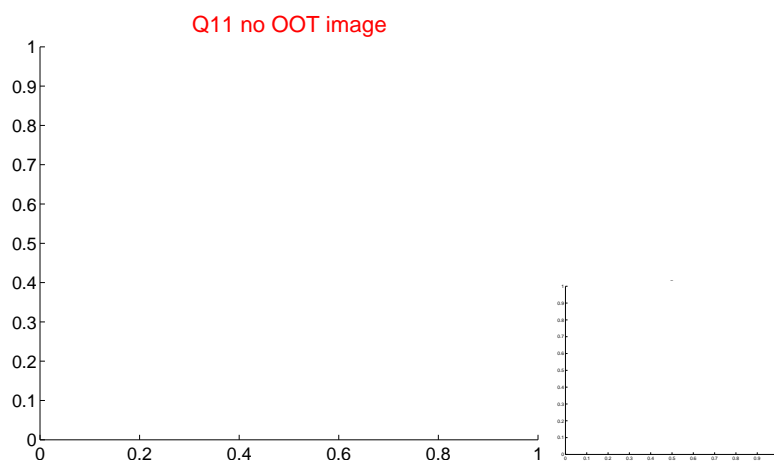
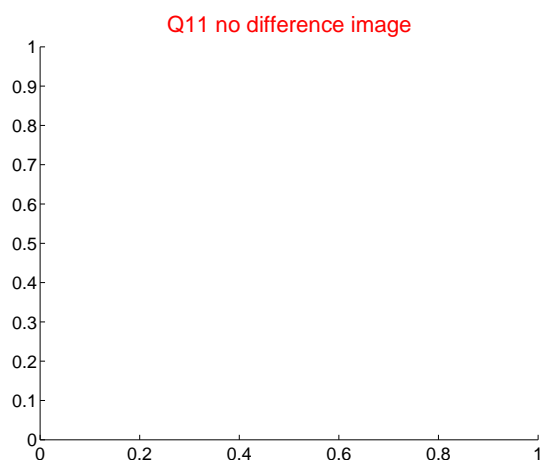
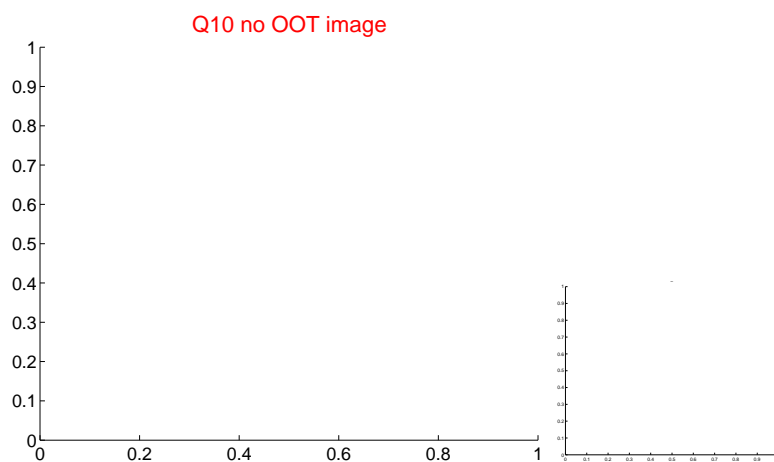
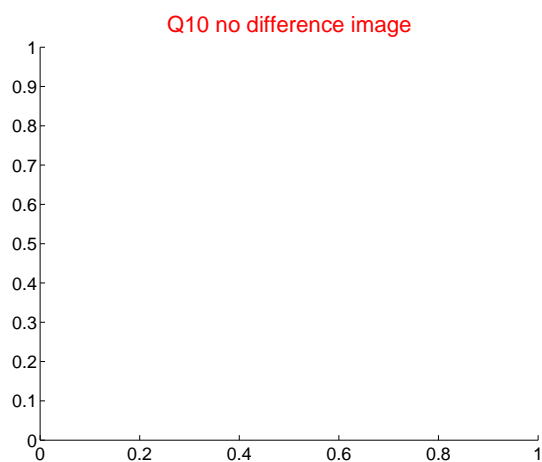
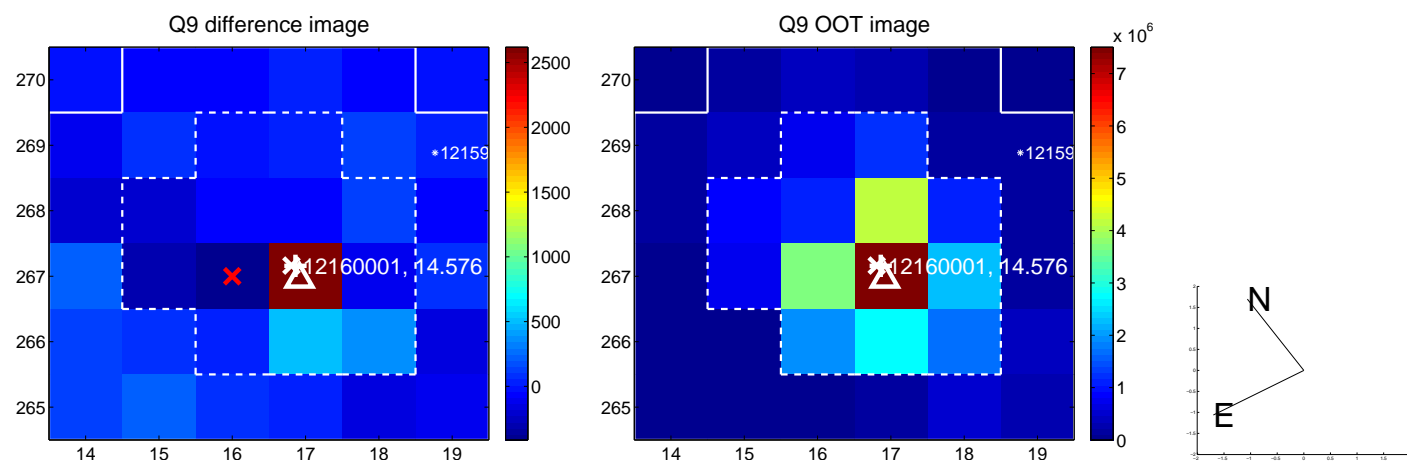
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



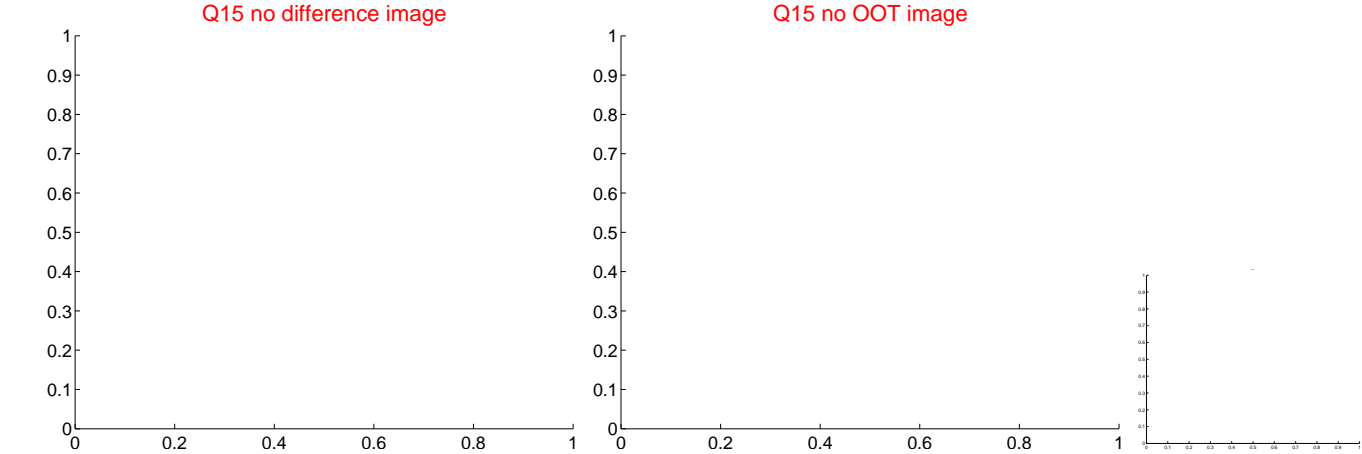
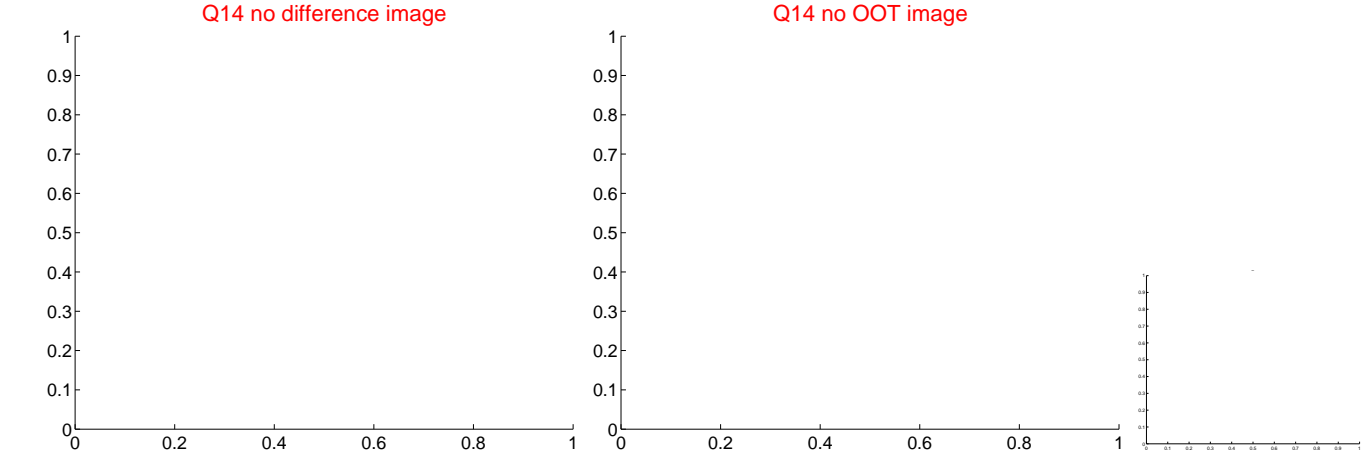
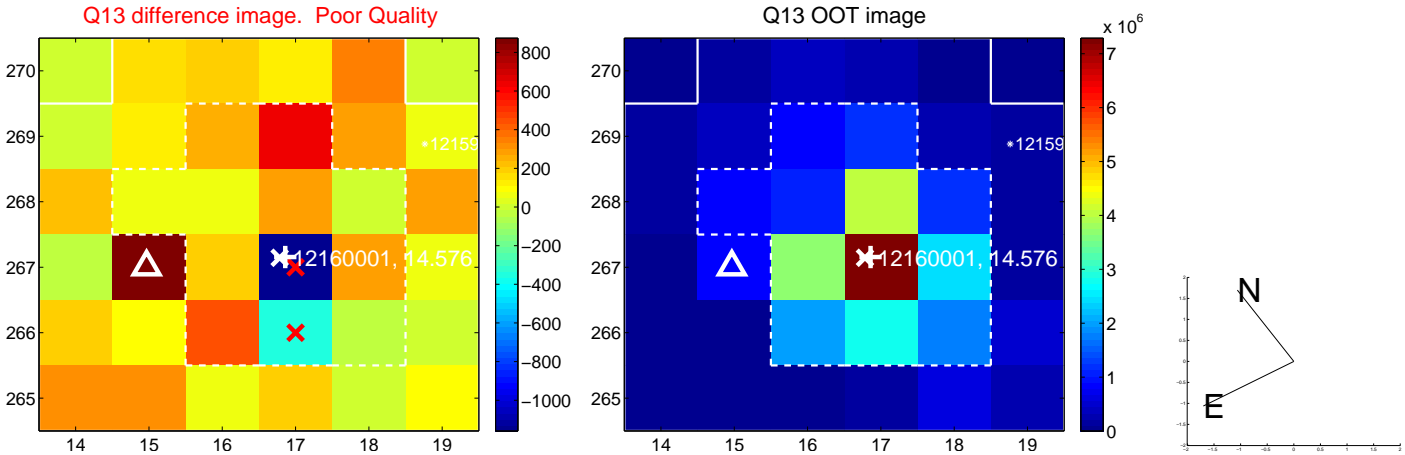
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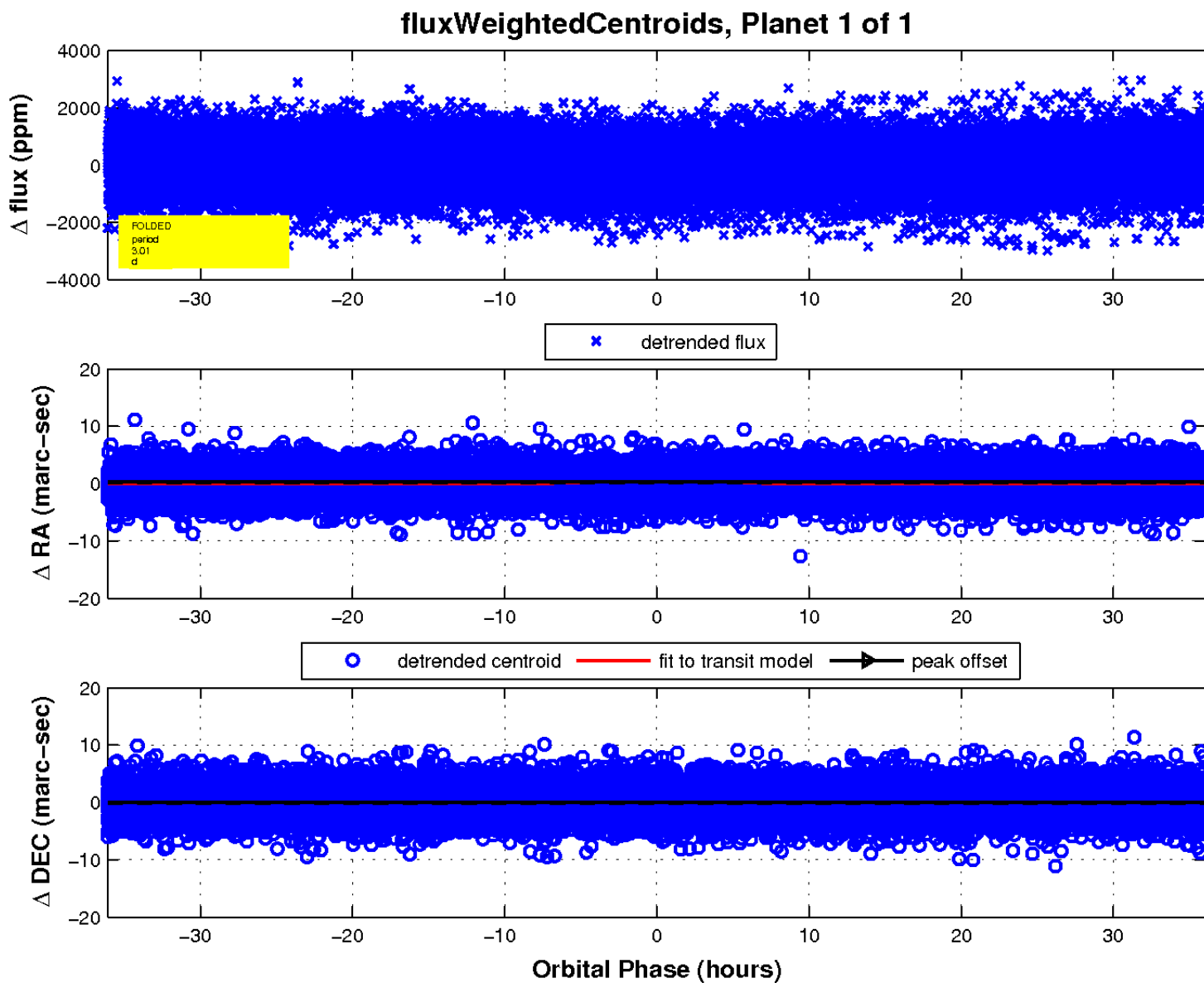
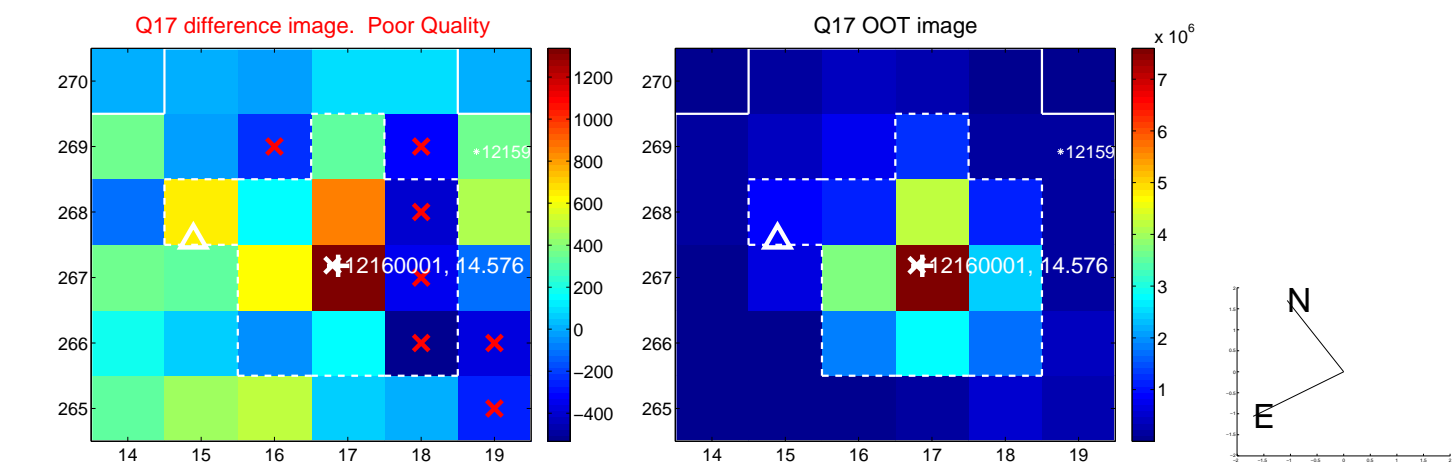
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UKIRT Image

Declination

