

KIC 012102905

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})
012102905-01	OBS	No	0.574371	131.933509	286.1	6.291	12.6	9.3	0.56	4674	1.15	1087.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
012102905-01	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.

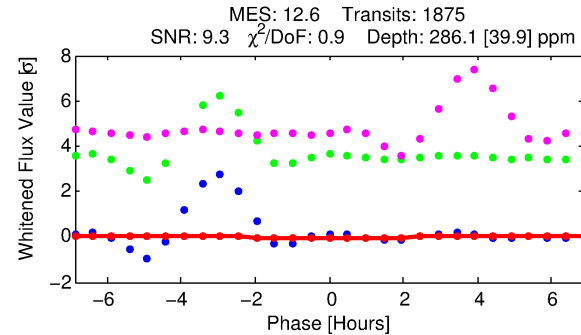
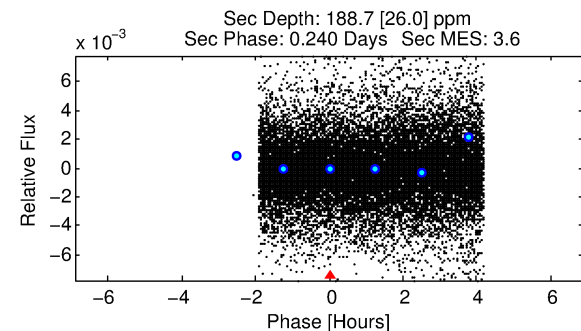
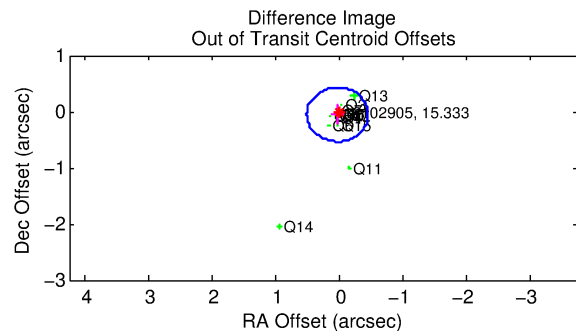
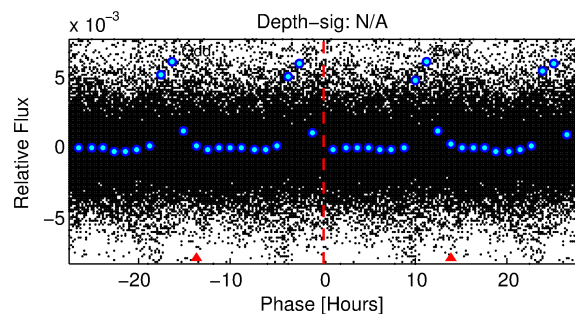
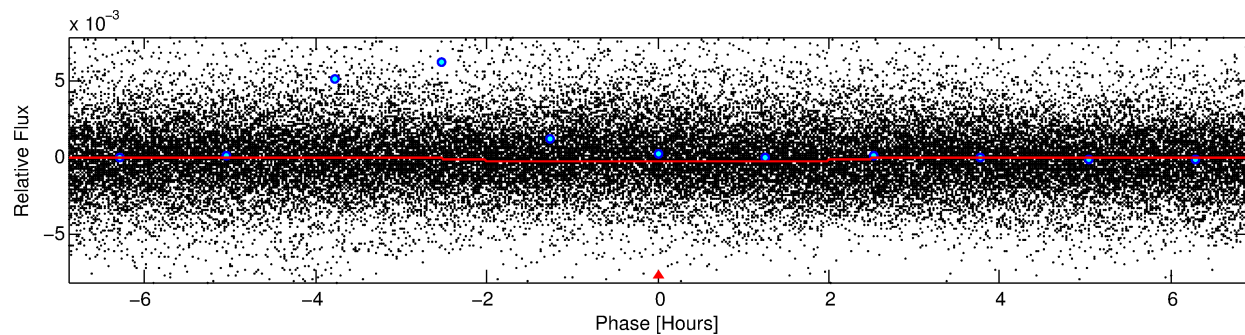
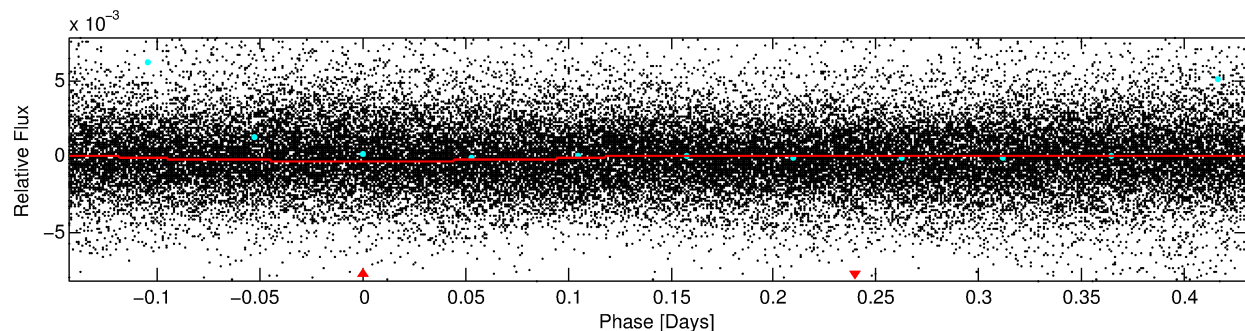
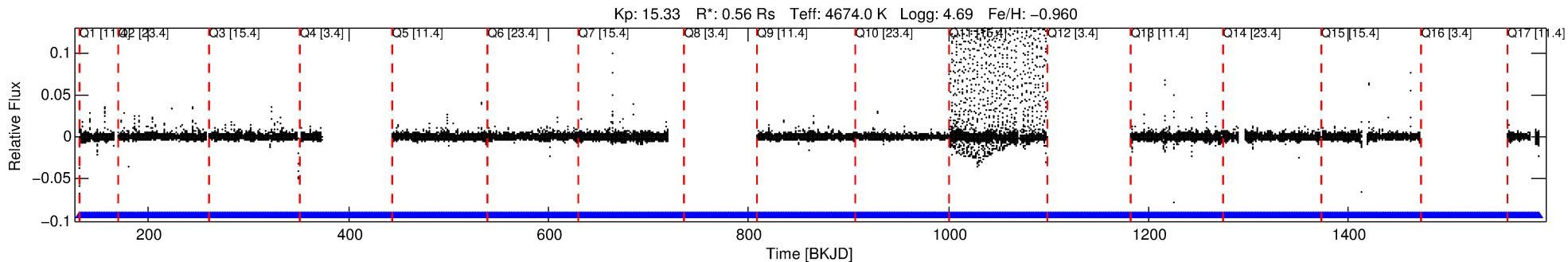
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 012102905-01

No Significant Match Found

DV One-Page Summary

KIC: 12102905 Candidate: 1 of 1 Period: 0.574 d



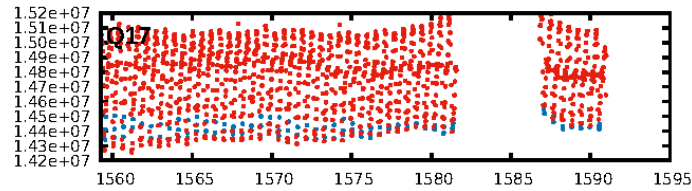
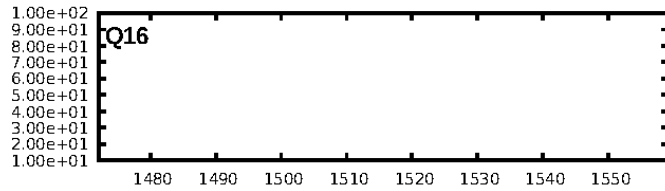
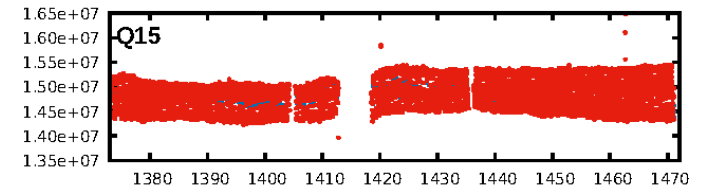
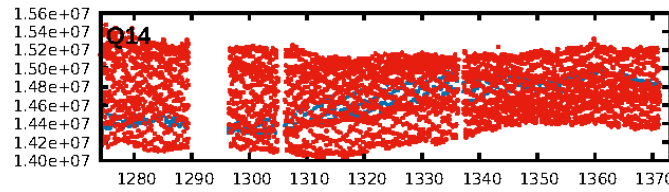
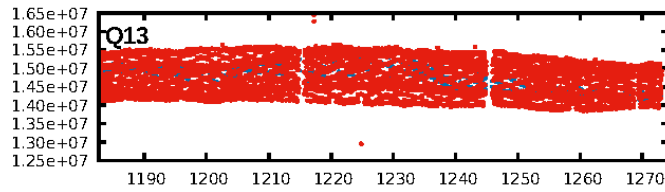
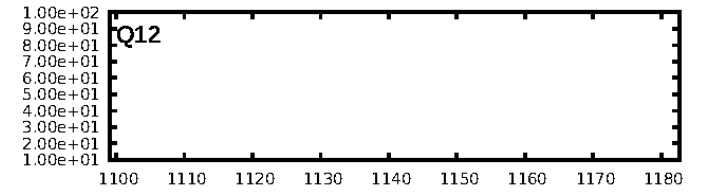
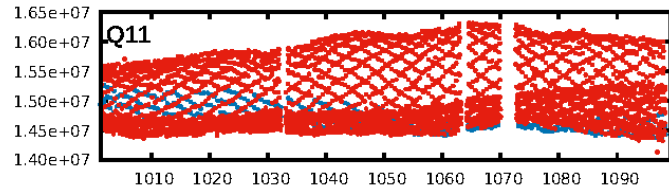
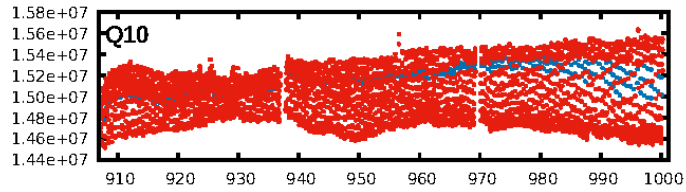
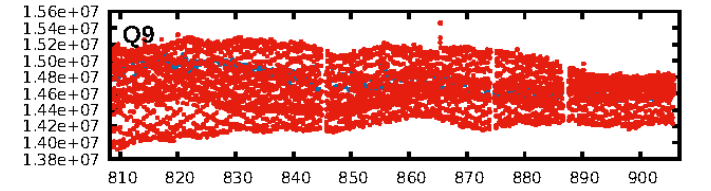
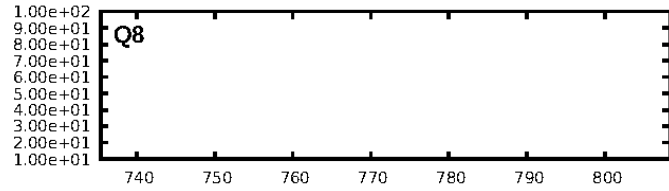
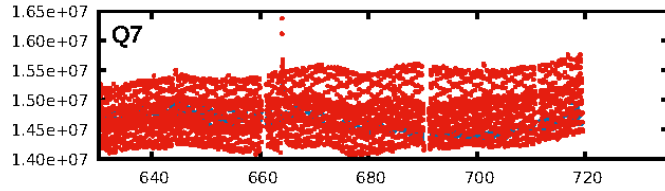
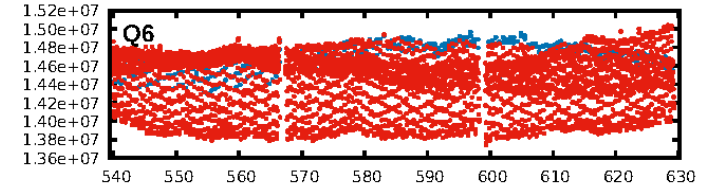
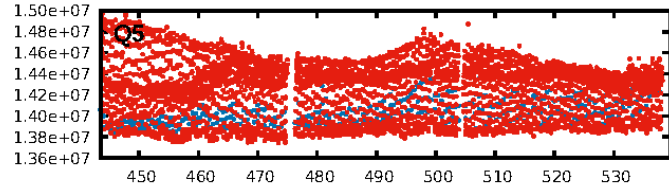
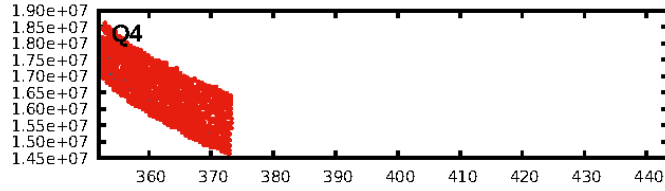
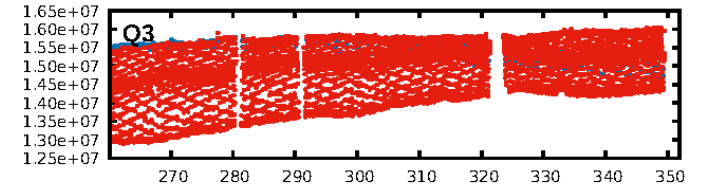
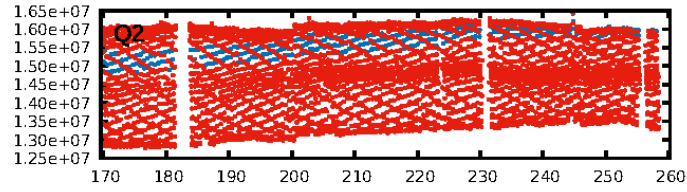
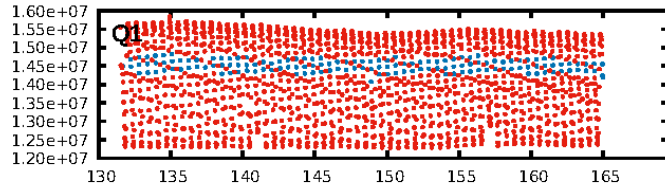
DV Fit Results:

Period = 0.57437 [0.00001] d
Epoch = 131.9335 [0.0034] BKJD
Rp/R* = 0.0188 [0.0015]
a/R* = 1.02 [0.01]
b = 0.90 [0.03]
Seff = 1087.80 [175.80]
Teff = 1464 [59] K
Rp = 1.15 [0.13] Re
a = 0.0111 [0.0007] AU
Ag = 9.71 [2.23] [3.90σ]
Teffp = 3997 [247] K [9.98σ]

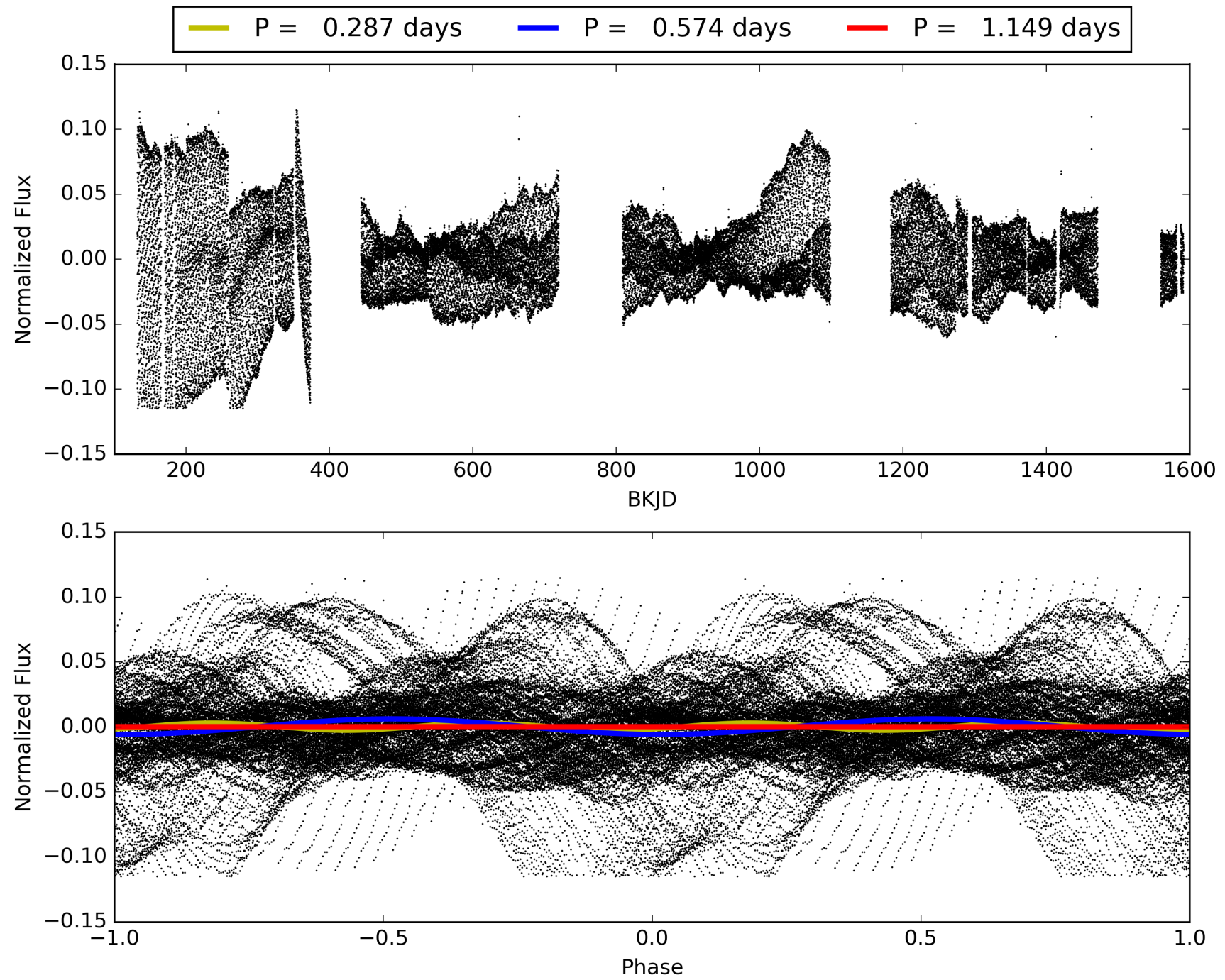
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [1732/1732]
GhostDiagnostic-chr: 1.32
Centroid-sig: 52.6%
Centroid-so: 0.514 arcsec [1.90σ]
OotOffset-rm: 0.063 arcsec [0.39σ]
KicOffset-rm: 0.222 arcsec [1.26σ]
OotOffset-st: 4/4/1/5 [14]
KicOffset-st: 4/4/1/5 [14]
DiffImageQuality-fgm: 0.50 [7/14]
DiffImageOverlap-fno: 1.00 [14/14]

TCE 012102905-01, PDC Light Curves

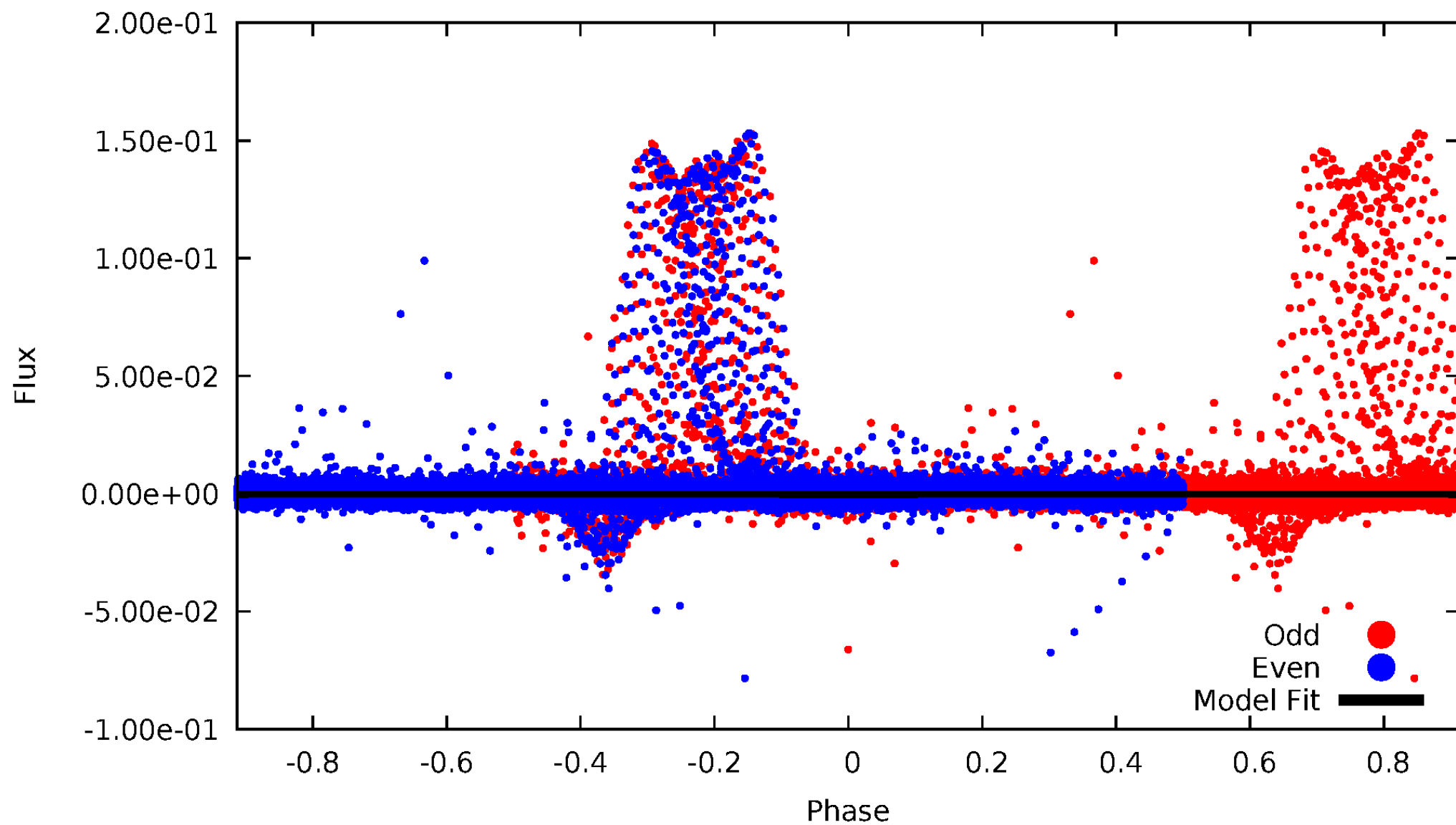


TCE 012102905-01



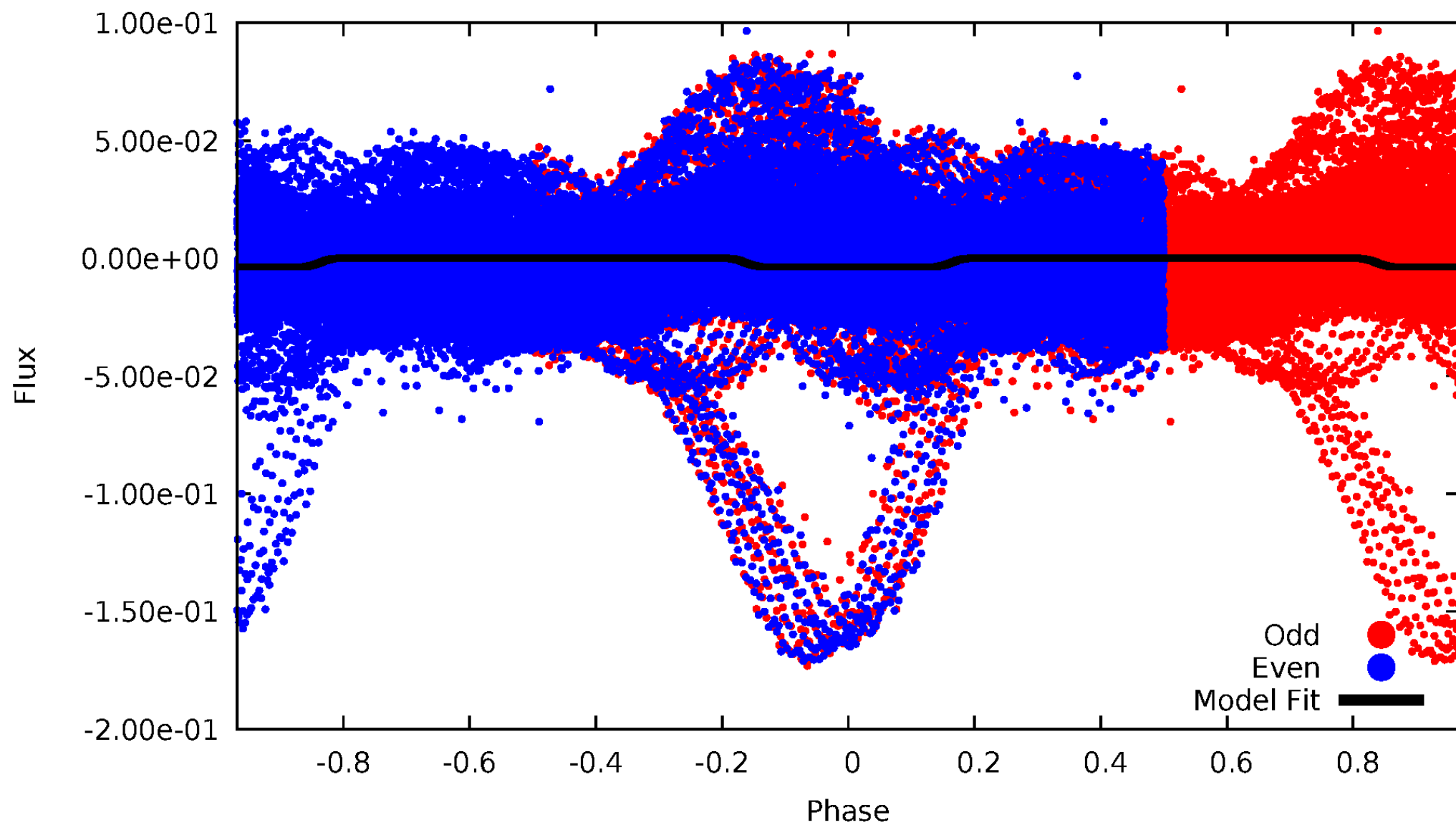
DV Odd/Even

TCE 012102905-01



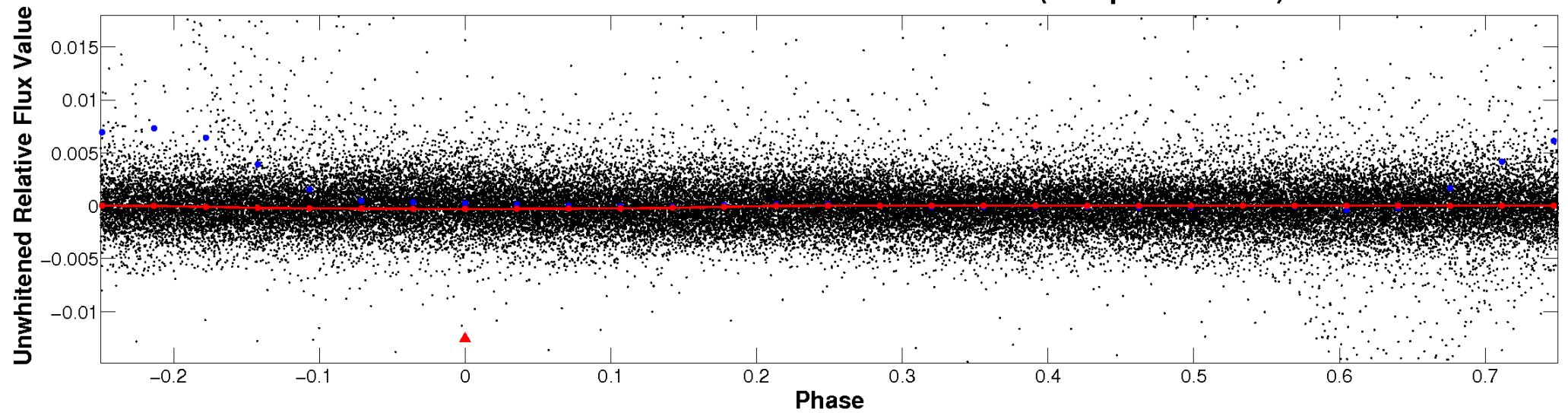
ALT Odd/Even

TCE 012102905-01

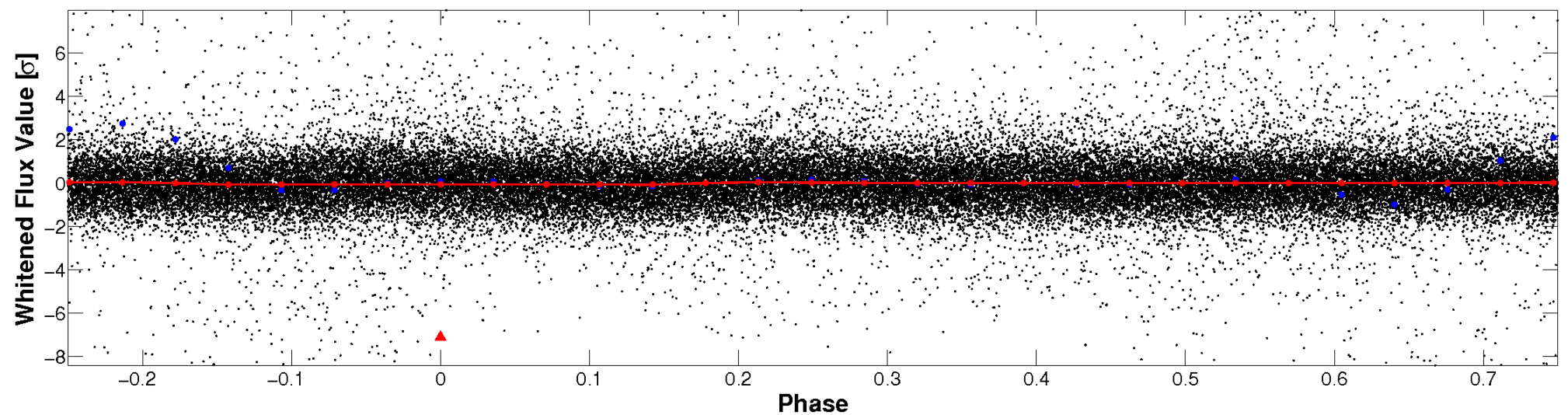


Non-Whitened Vs. Whitened Light Curve

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

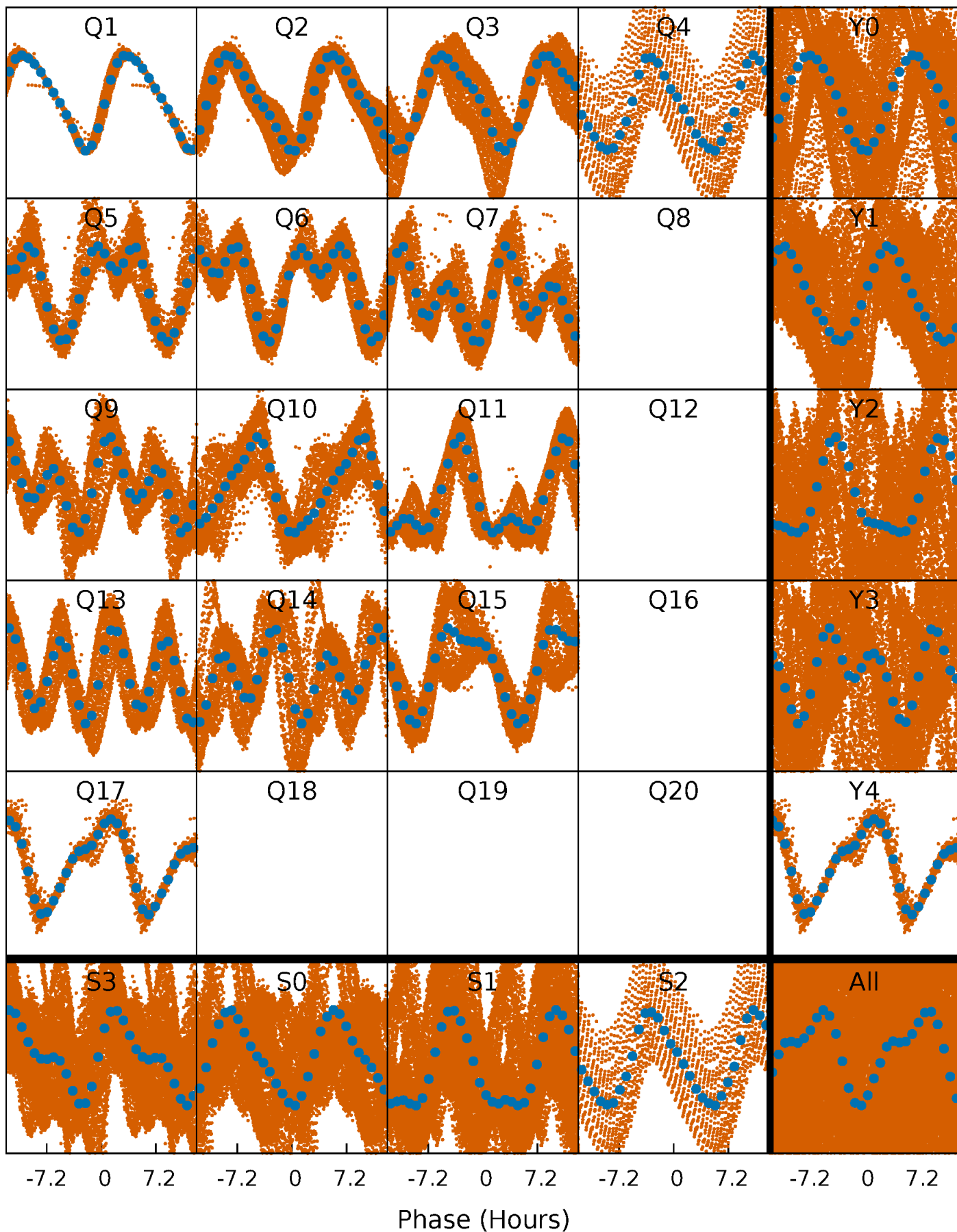


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



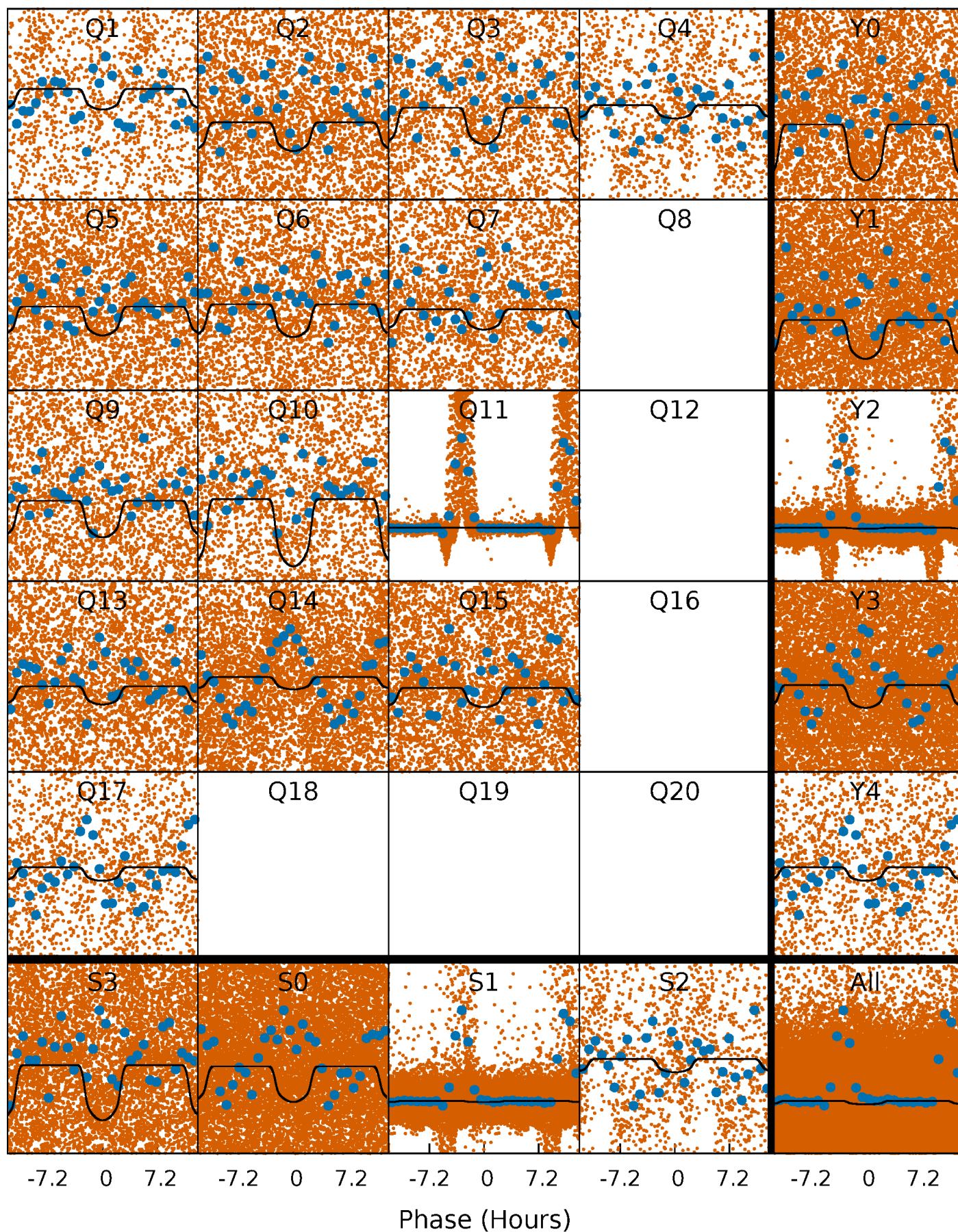
PDC Quarter-Phased Transit Curves

TCE 012102905-01 P= 0.574371 Days $T_0=131.933509$ (BKJD)



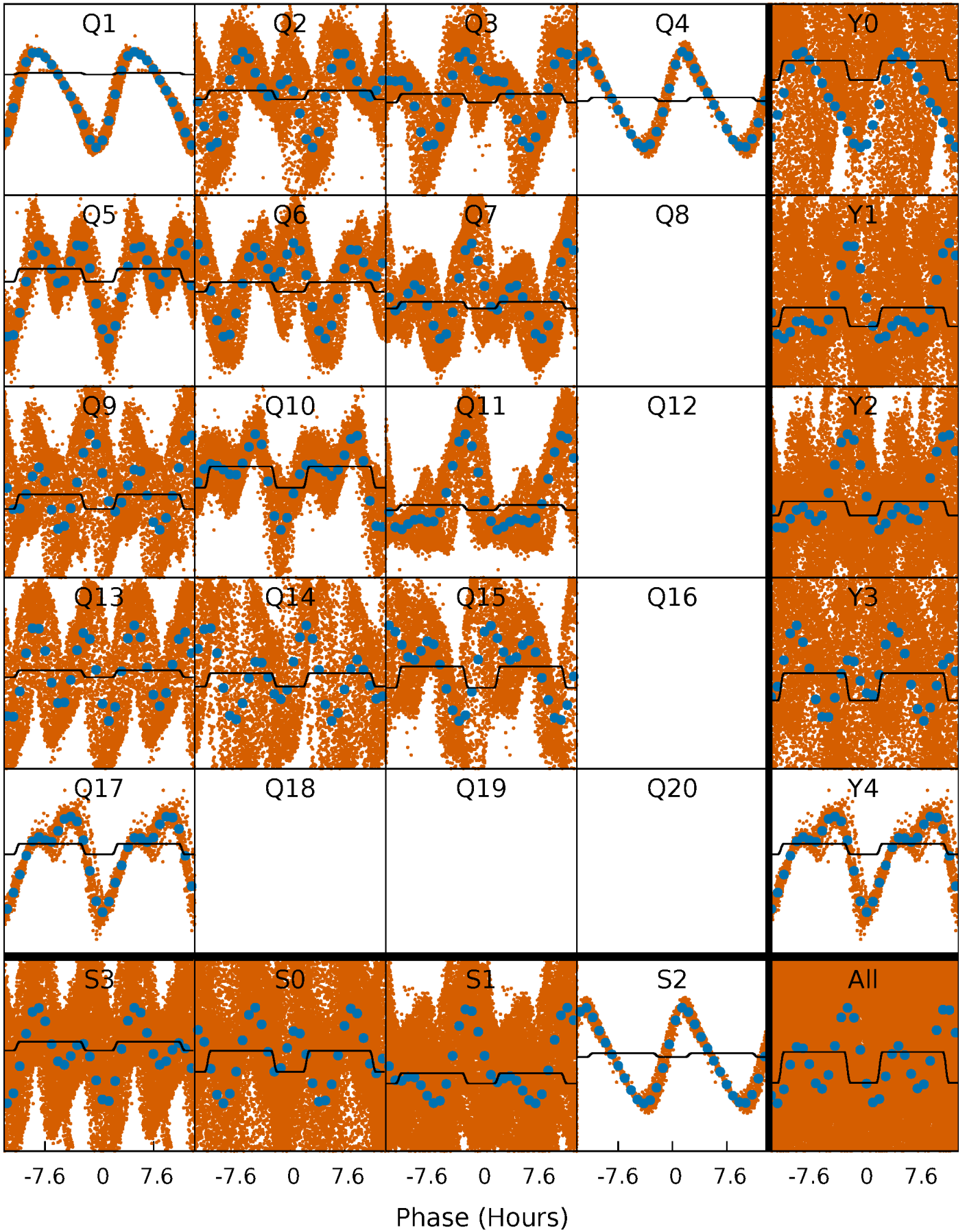
DV Quarter-Phased Transit Curves

TCE 012102905-01 P= 0.574371 Days $T_0=131.933509$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

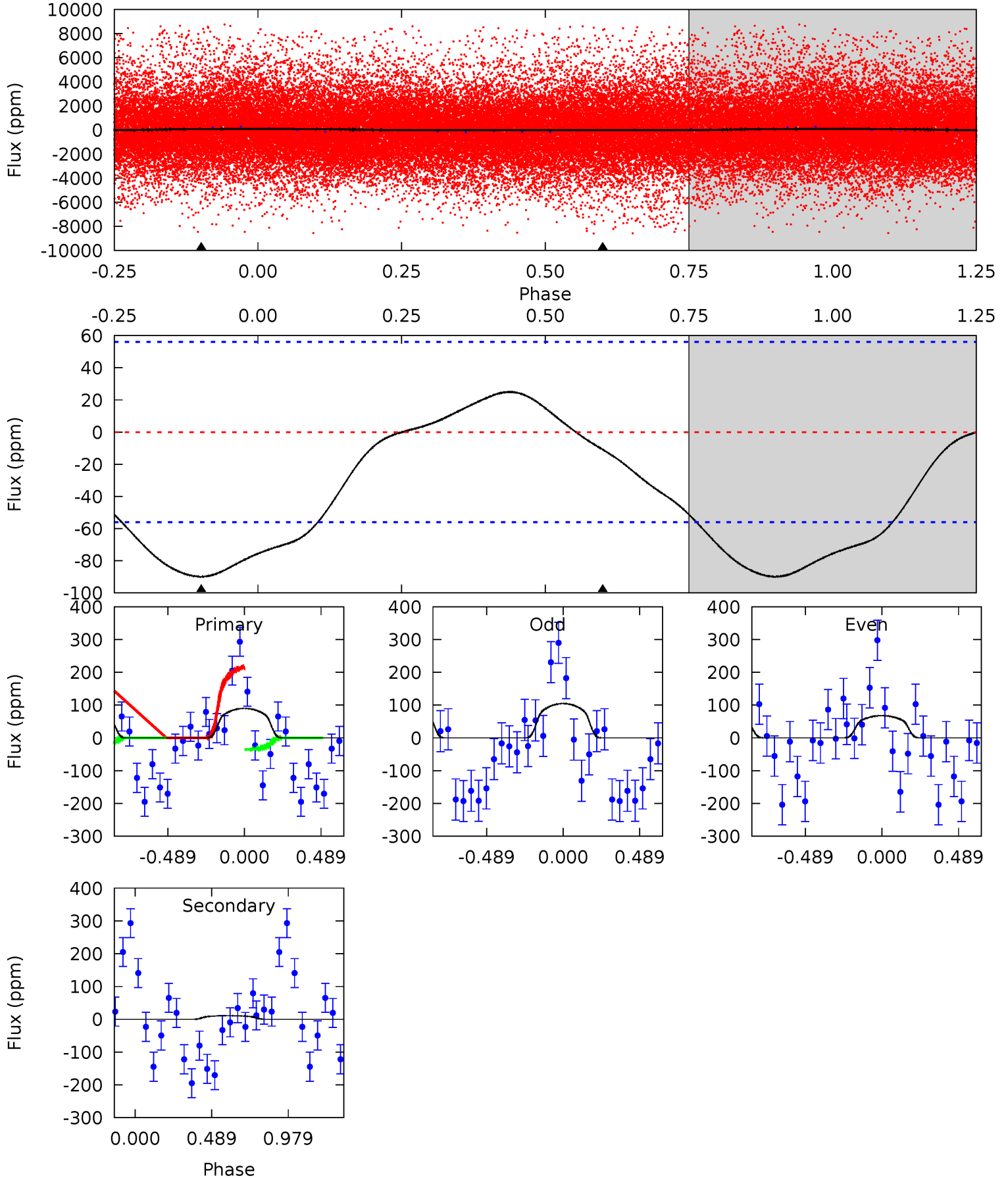
TCE 012102905-01 P= 0.574027 Days $T_0=131.878172$ (BKJD)



DV Model-Shift Uniqueness Test

012102905-01, P = 0.574371 Days, E = 131.359138 Days

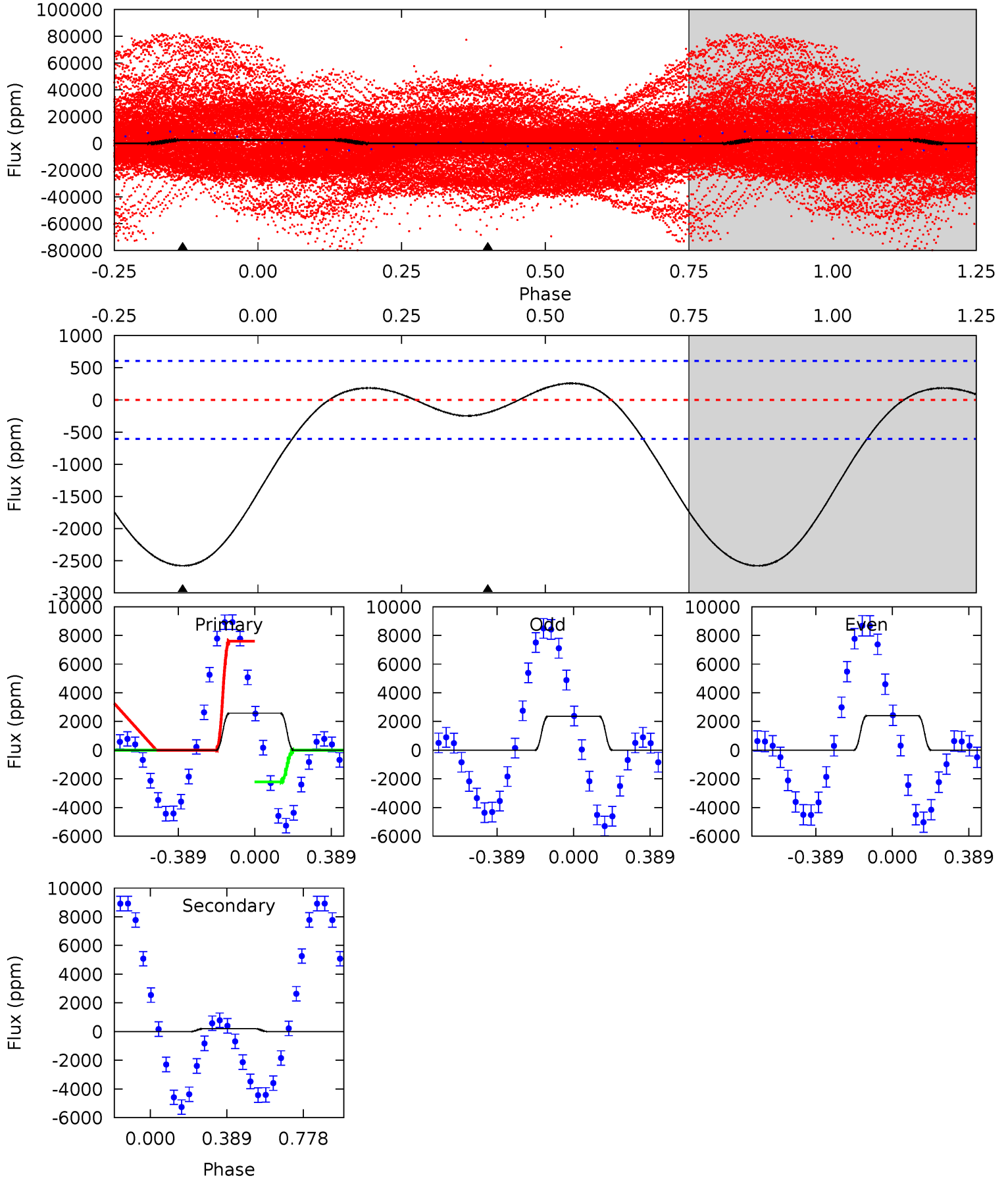
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.77	0.82	0	0	4.22	0.69	0.29	6.77	6.77	0.82	0.82	1.40	7.30	0.22	6.26



Alt Model-Shift Uniqueness Test

012102905-01, P = 0.574027 Days, E = 131.304145 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
18.2	1.39	0	0	4.27	0.86	1.00	18.2	18.2	1.39	1.39	0.15	3.08	0.09	19.5



Stellar Parameters For KIC 012102905

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	4674^{+153}_{-153}	$4.686^{+0.052}_{-0.032}$	$-0.960^{+0.300}_{-0.300}$	$0.562^{+0.039}_{-0.043}$	$0.559^{+0.047}_{-0.027}$	$4.435^{+0.941}_{-0.533}$
	+3%/-3%	+1%/-1%	+31%/-31%	+7%/-8%	+8%/-5%	+21%/-12%
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 012102905-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-11 ± 13	$1.15^{+0.10}_{-0.10}$	2043^{+74}_{-72}	2495^{+414}_{-5087}	$0.621^{+0.700}_{-0.722}$
Alt.	-196 ± 142	$3.72^{+0.17}_{-0.17}$	2037^{+77}_{-75}	2734^{+275}_{-4865}	$0.975^{+0.666}_{-0.758}$

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

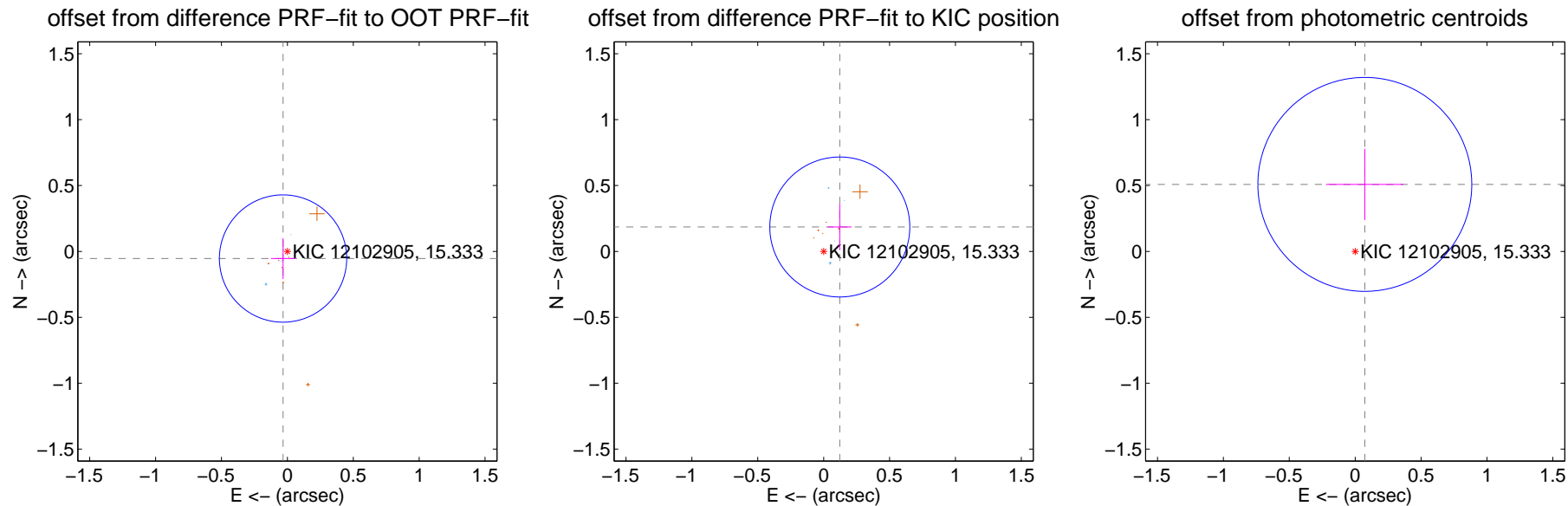
DV Centroid Data

Supplemental centroid analysis for 012102905-01. Kepler magnitude: 15.33. Transit SNR 9.27

There are 7 quarters with good PRF difference image offsets

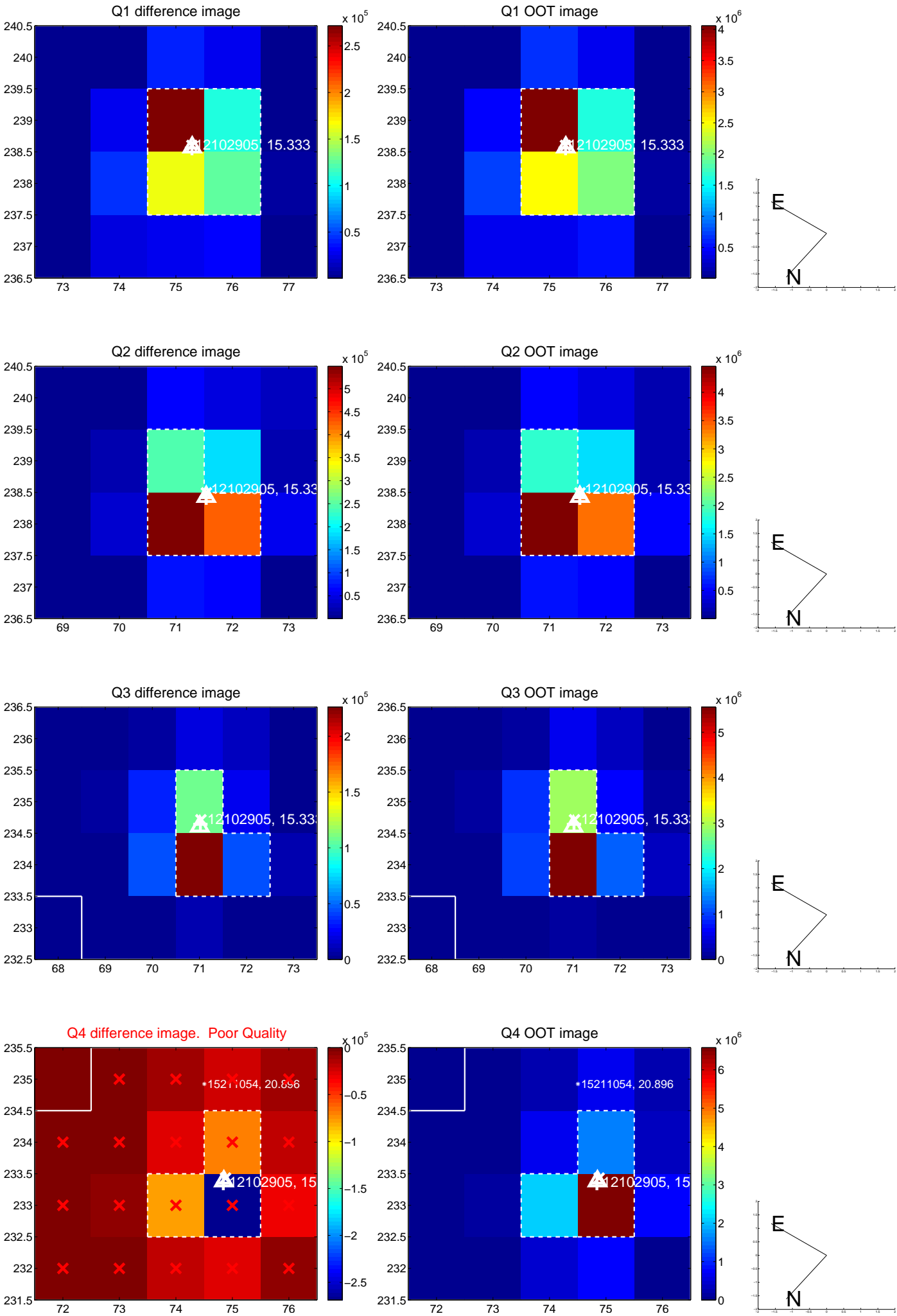
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.063 ± 0.161	0.39	0.033 ± 0.092	-0.054 ± 0.155
PRF-fit source offset from KIC position	0.222 ± 0.177	1.26	-0.123 ± 0.090	0.185 ± 0.176
photometric centroid source offset	0.51 ± 0.27	1.90	-0.07 ± 0.29	0.51 ± 0.27

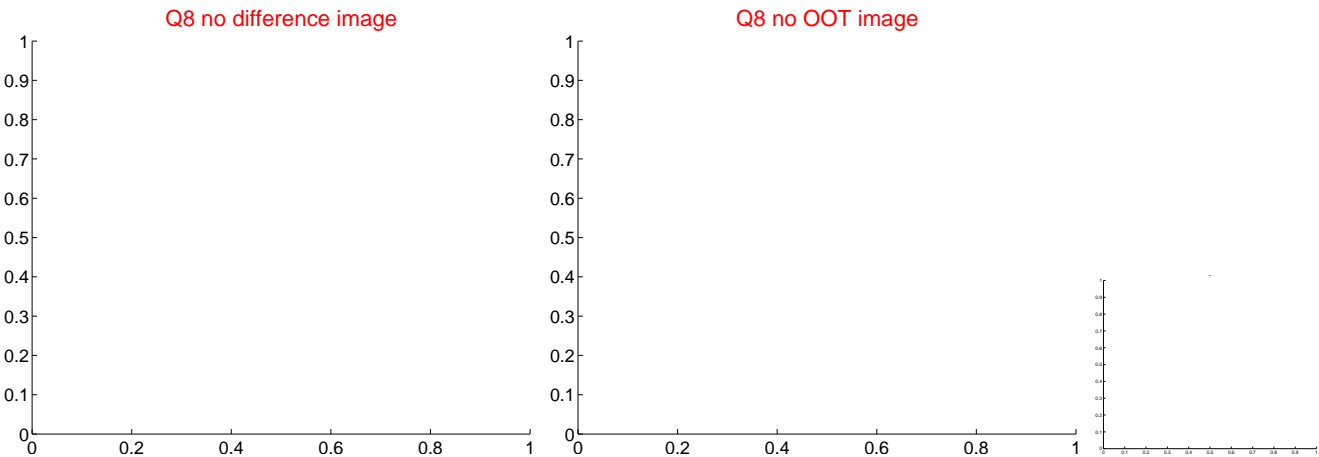
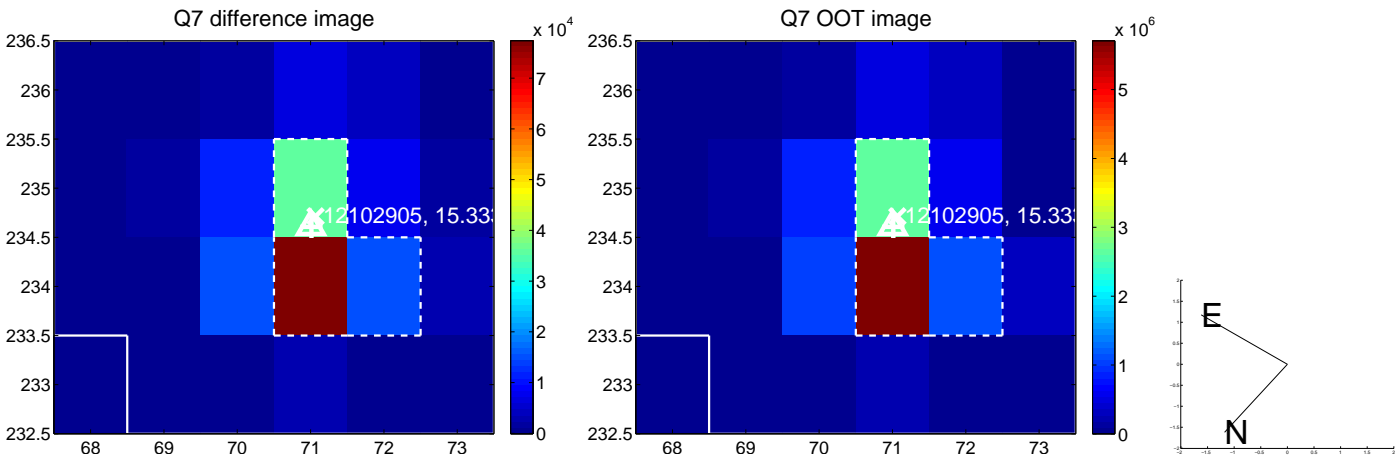
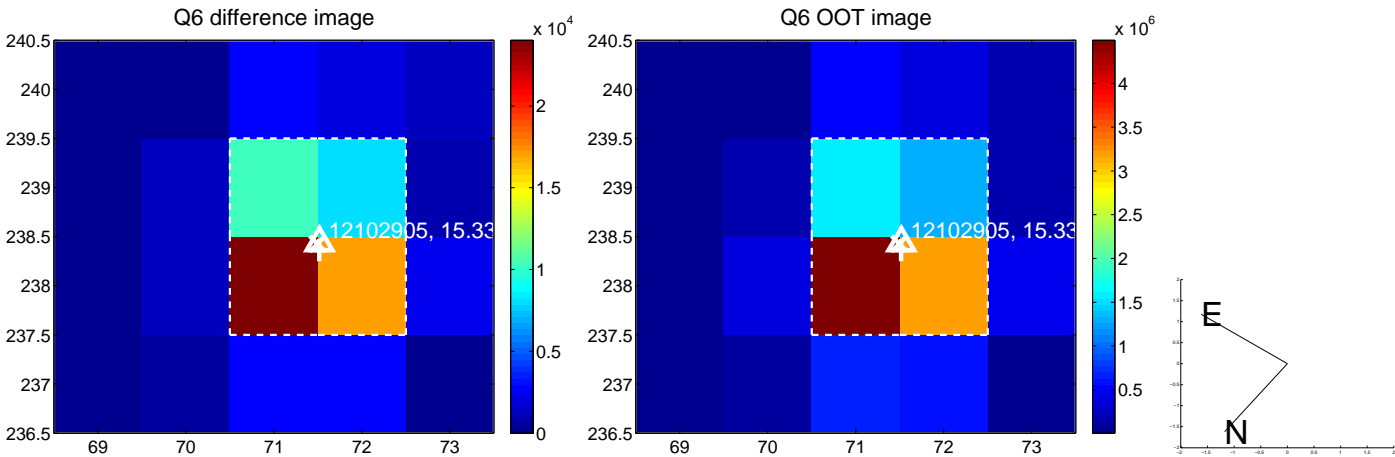
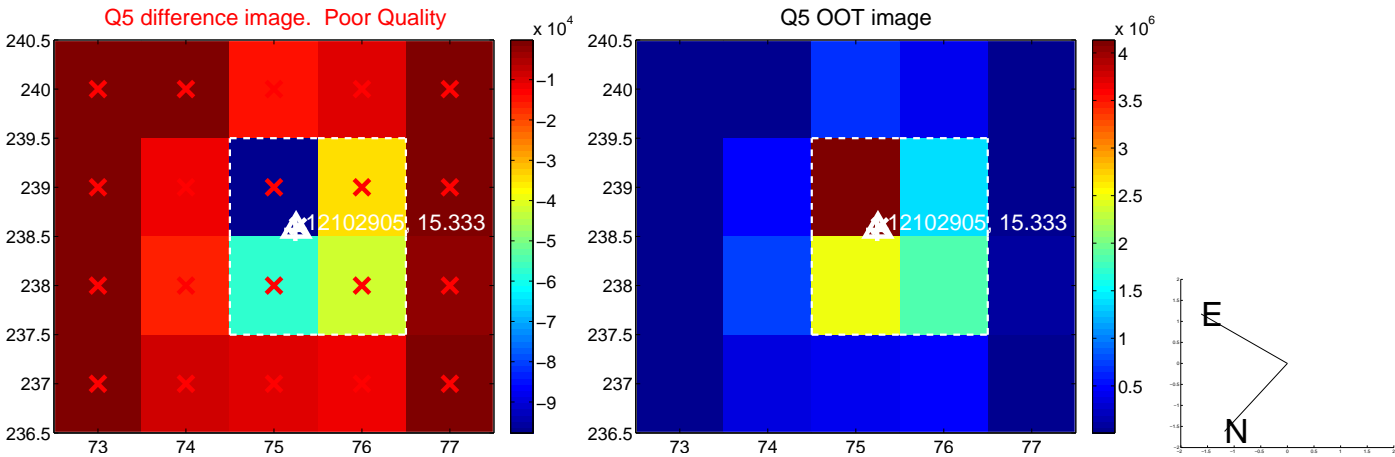


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

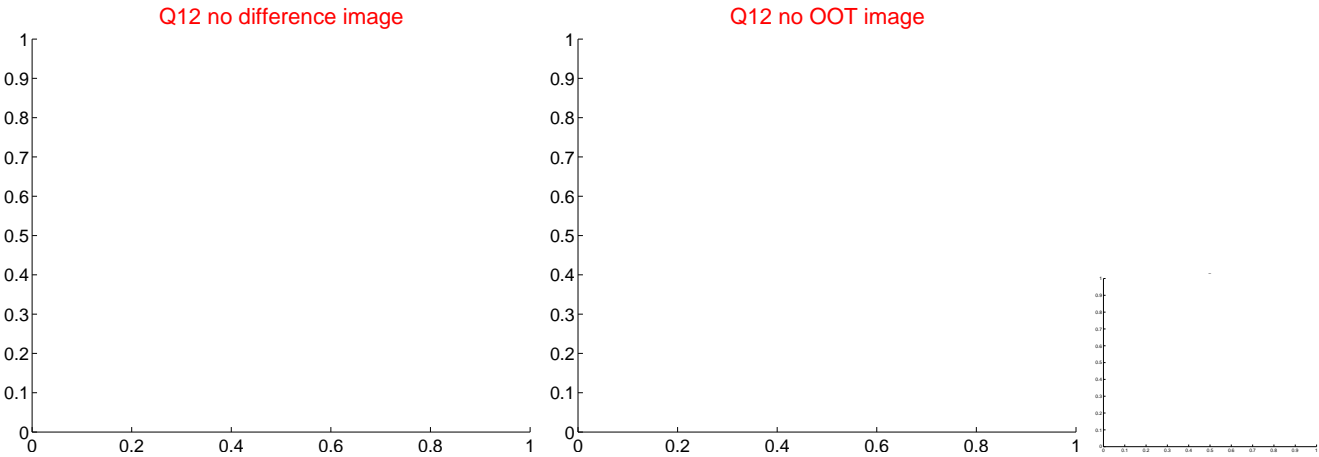
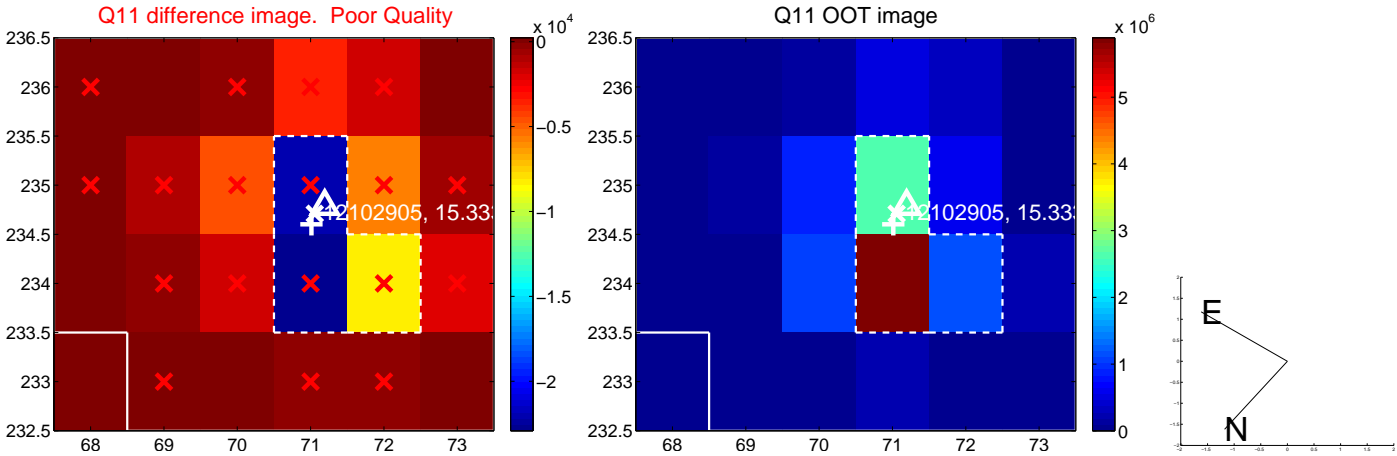
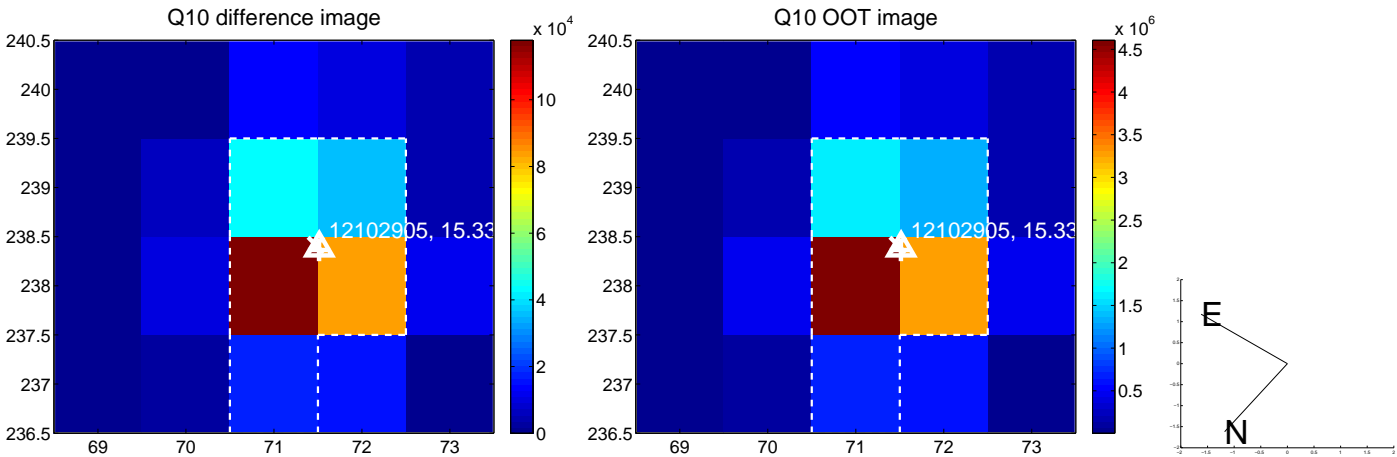
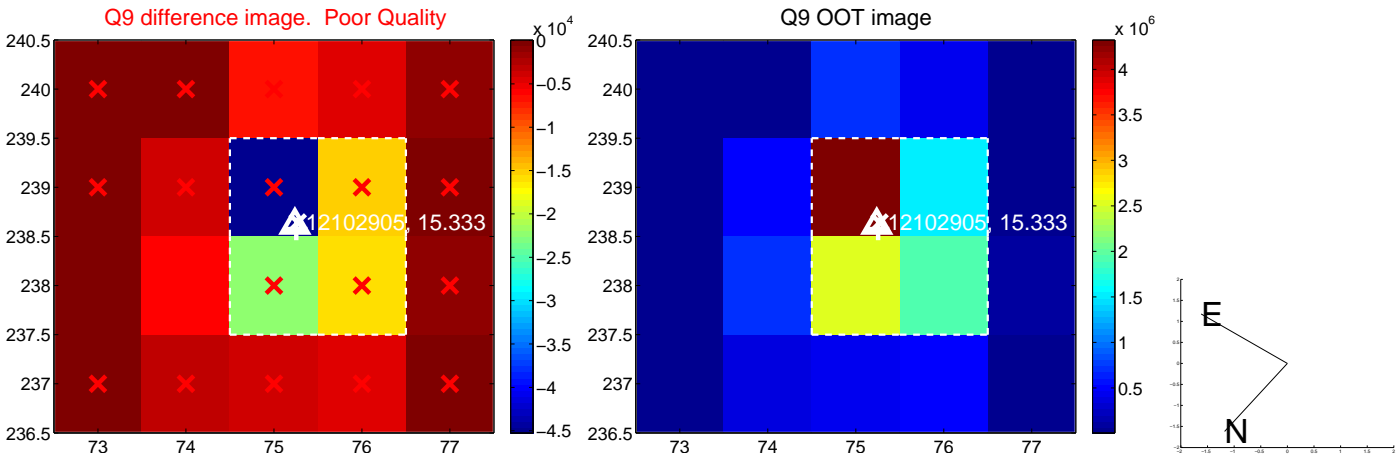
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



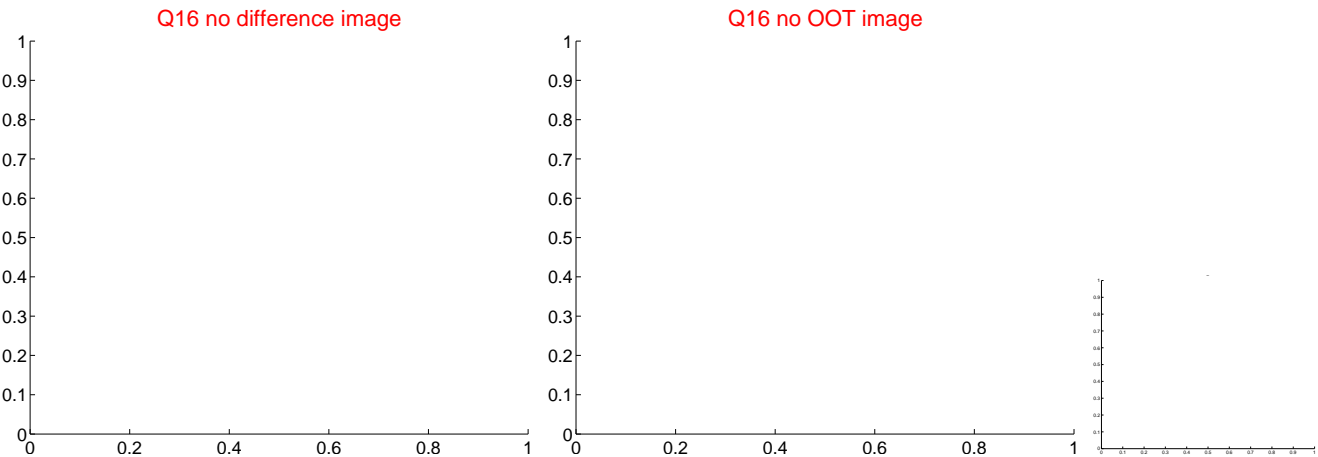
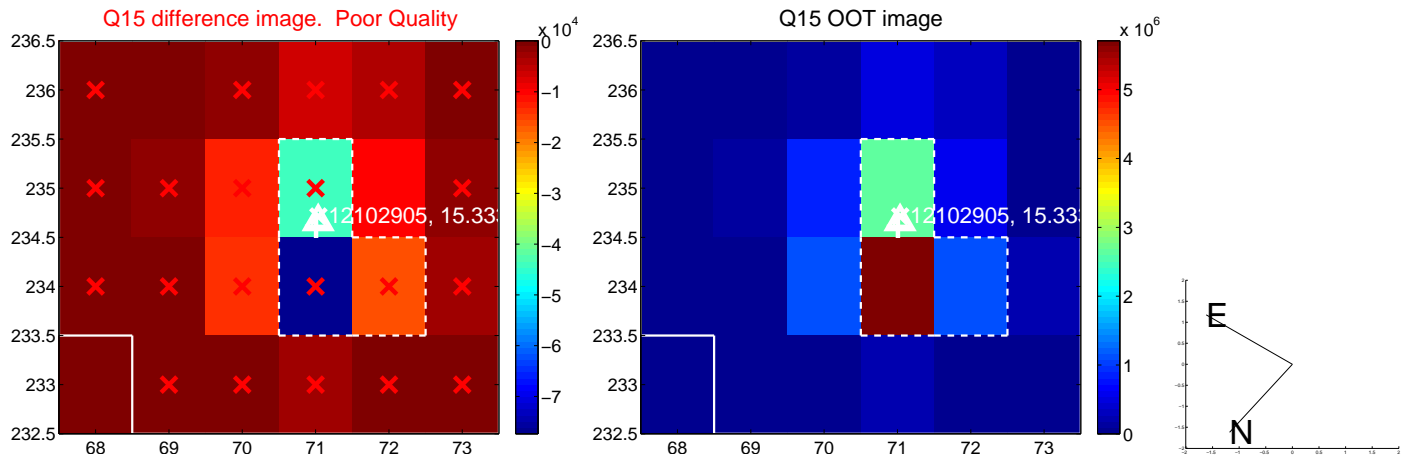
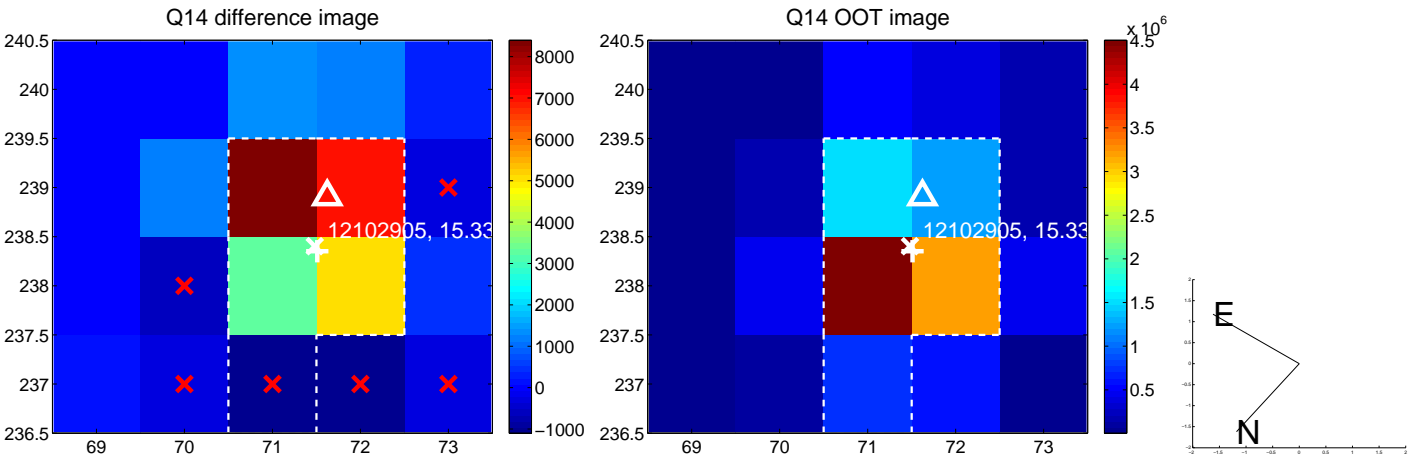
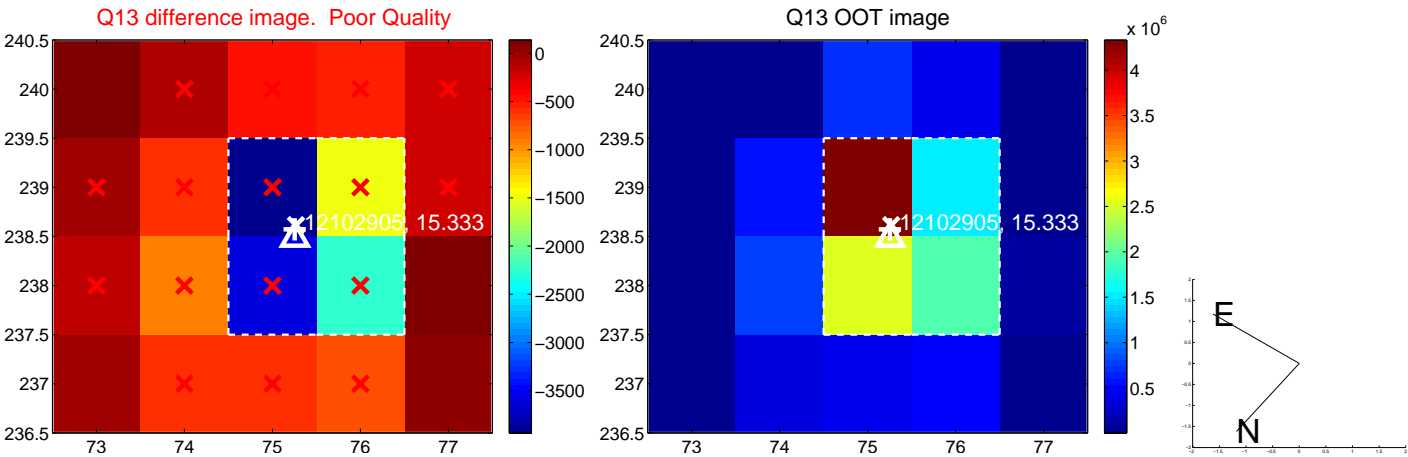
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



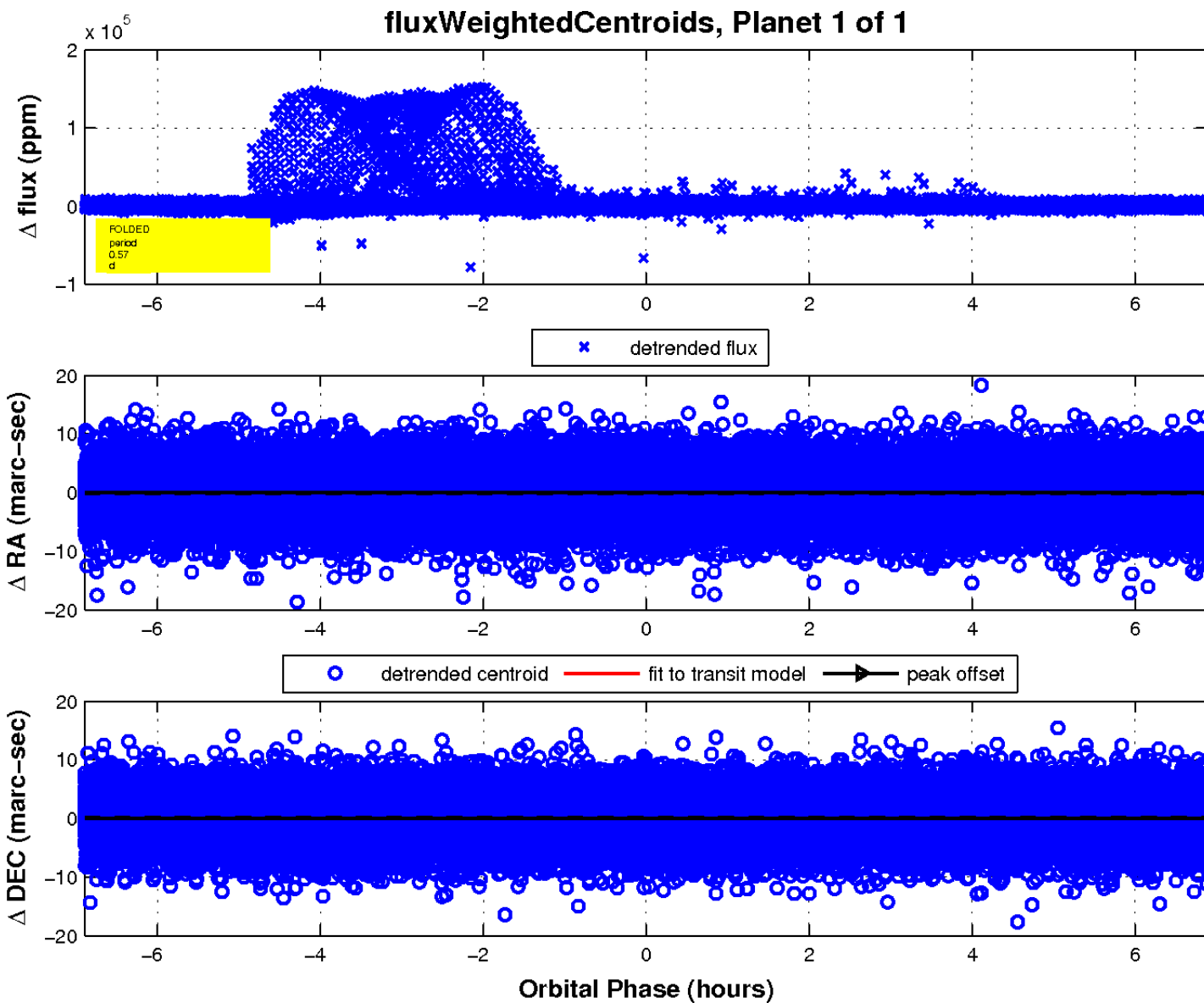
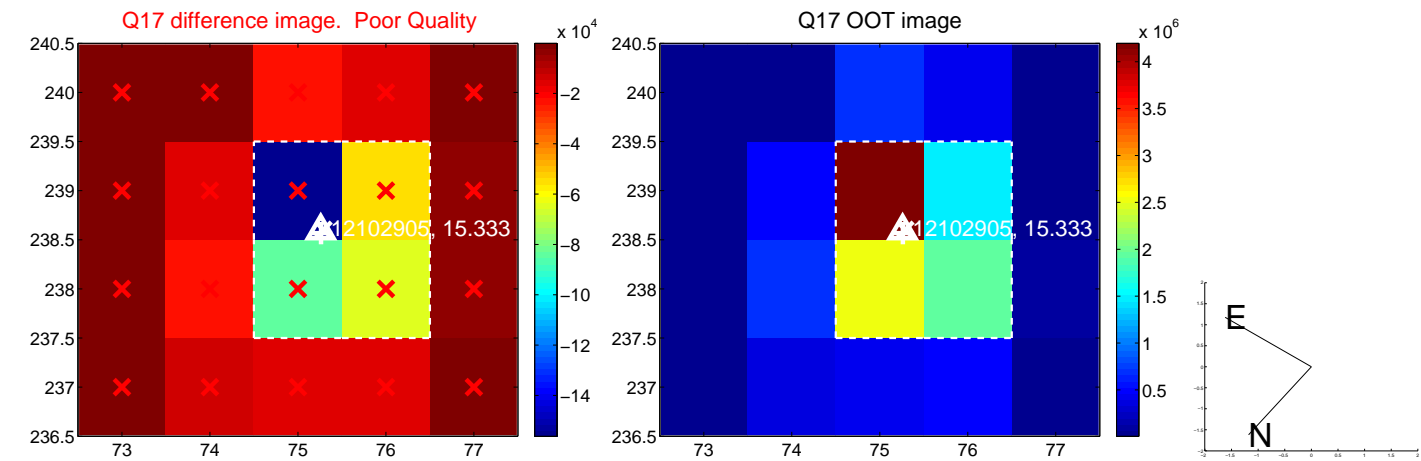
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UKIRT Image

Declination

