

KIC 010128825

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})
010128825-01	OBS	7986.01	1.739845	133.001471	39.6	2.814	8.6	8.0	1.03	6119	0.75	1584.07

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010128825-01	OBS	PC	0.50	0	0	0	0	NO_COMMENT

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

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

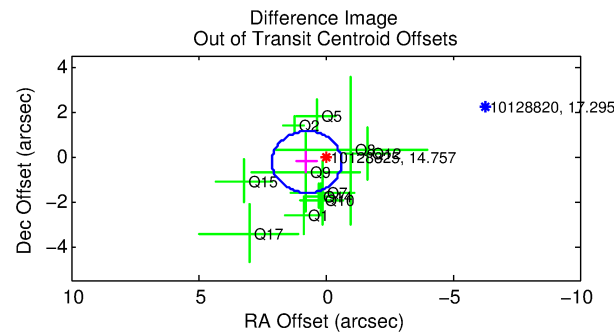
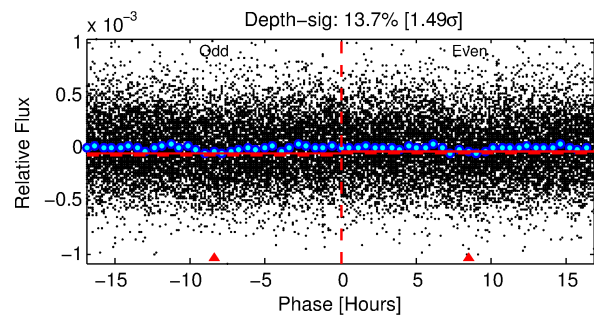
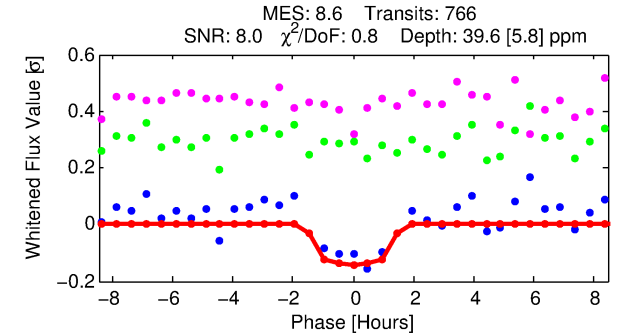
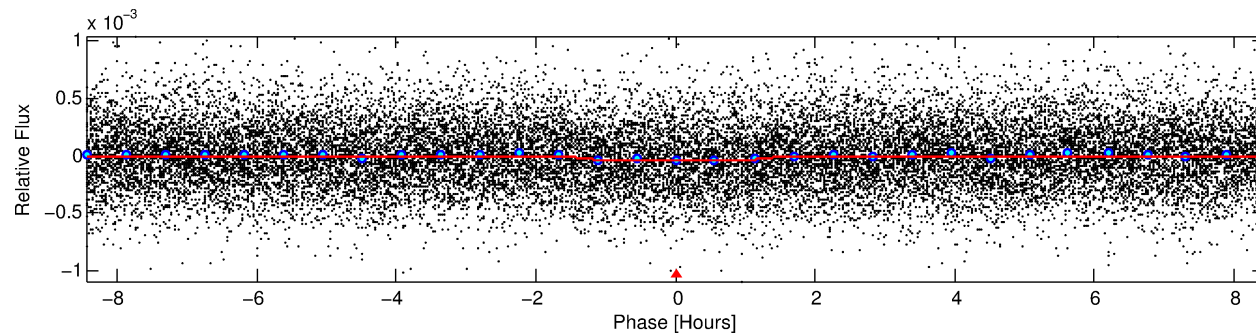
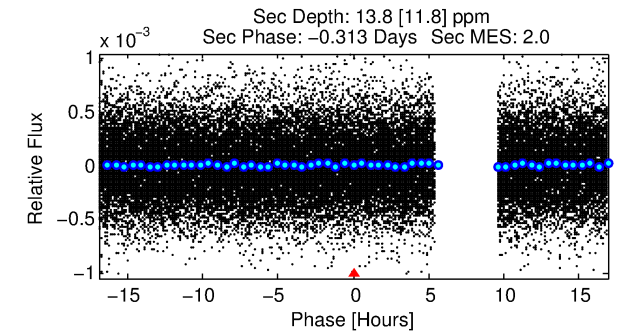
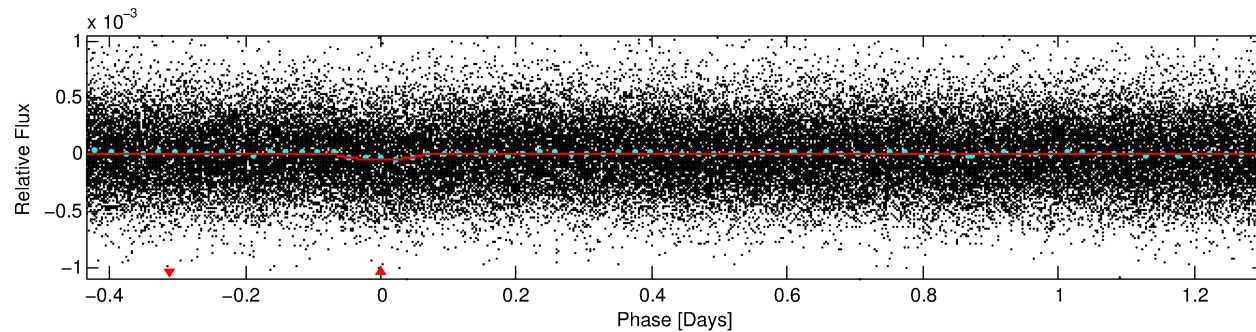
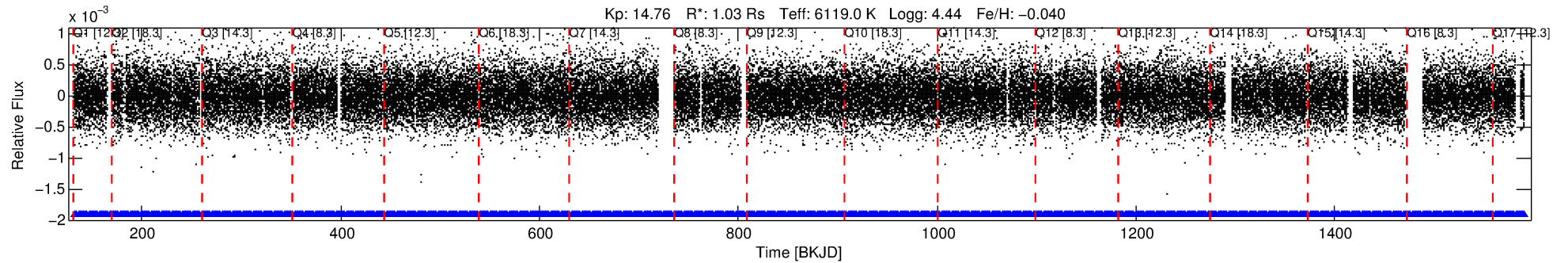
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 010128825-01

No Significant Match Found

DV One-Page Summary

KIC: 10128825 Candidate: 1 of 1 Period: 1.740 d



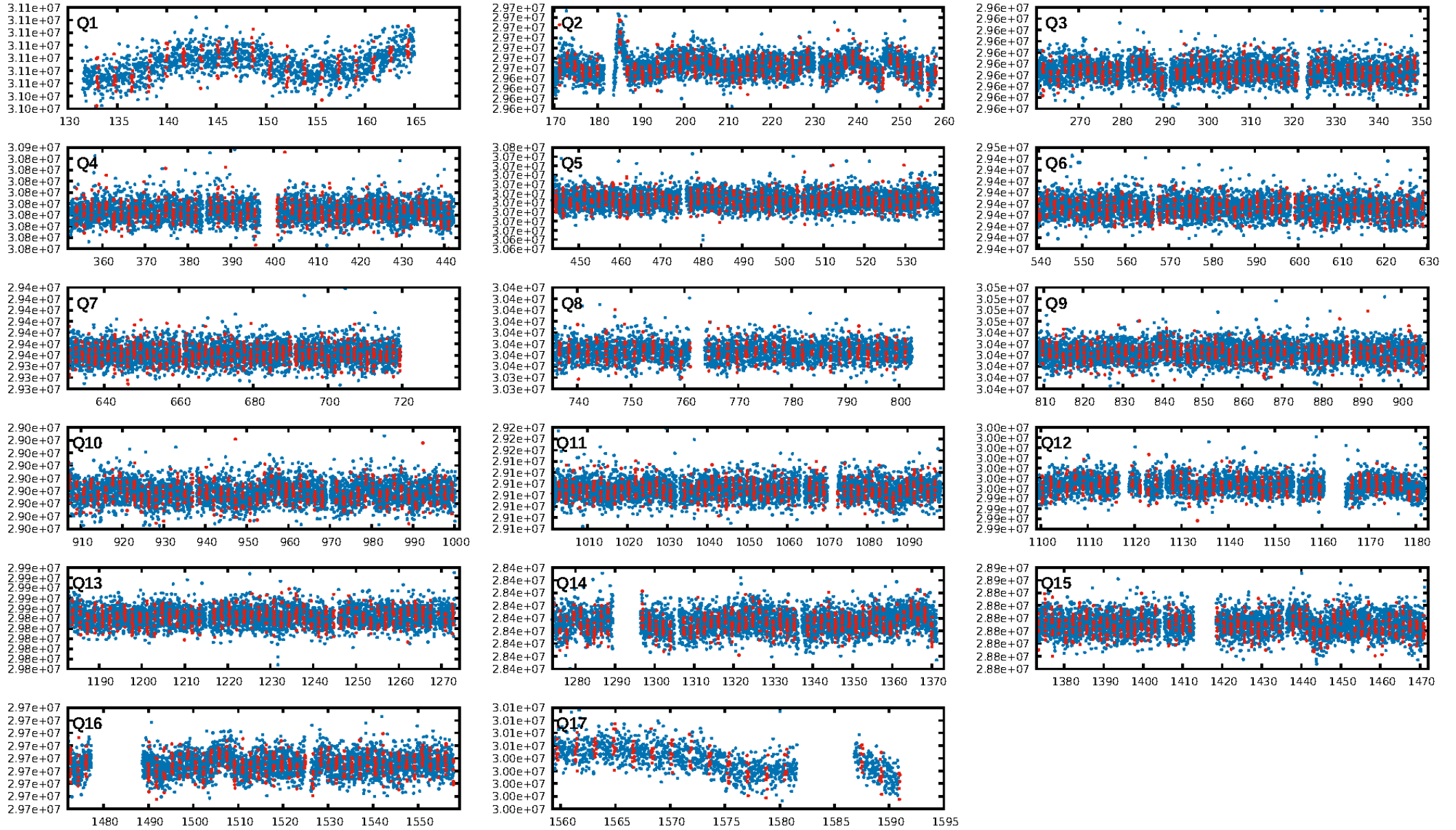
DV Fit Results:

Period = 1.73985 [0.00002] d
Epoch = 133.0015 [0.0052] BKJD
Rp/R* = 0.0067 [0.0036]
a/R* = 2.46 [5.76]
b = 0.88 [0.71]
Seff = 1584.07 [685.99]
Teff = 1609 [174] K
Rp = 0.75 [0.48] Re
a = 0.0290 [0.0081] AU
Ag = 11.22 [16.13] [0.63σ]
Teffp = 4552 [1578] K [1.85σ]

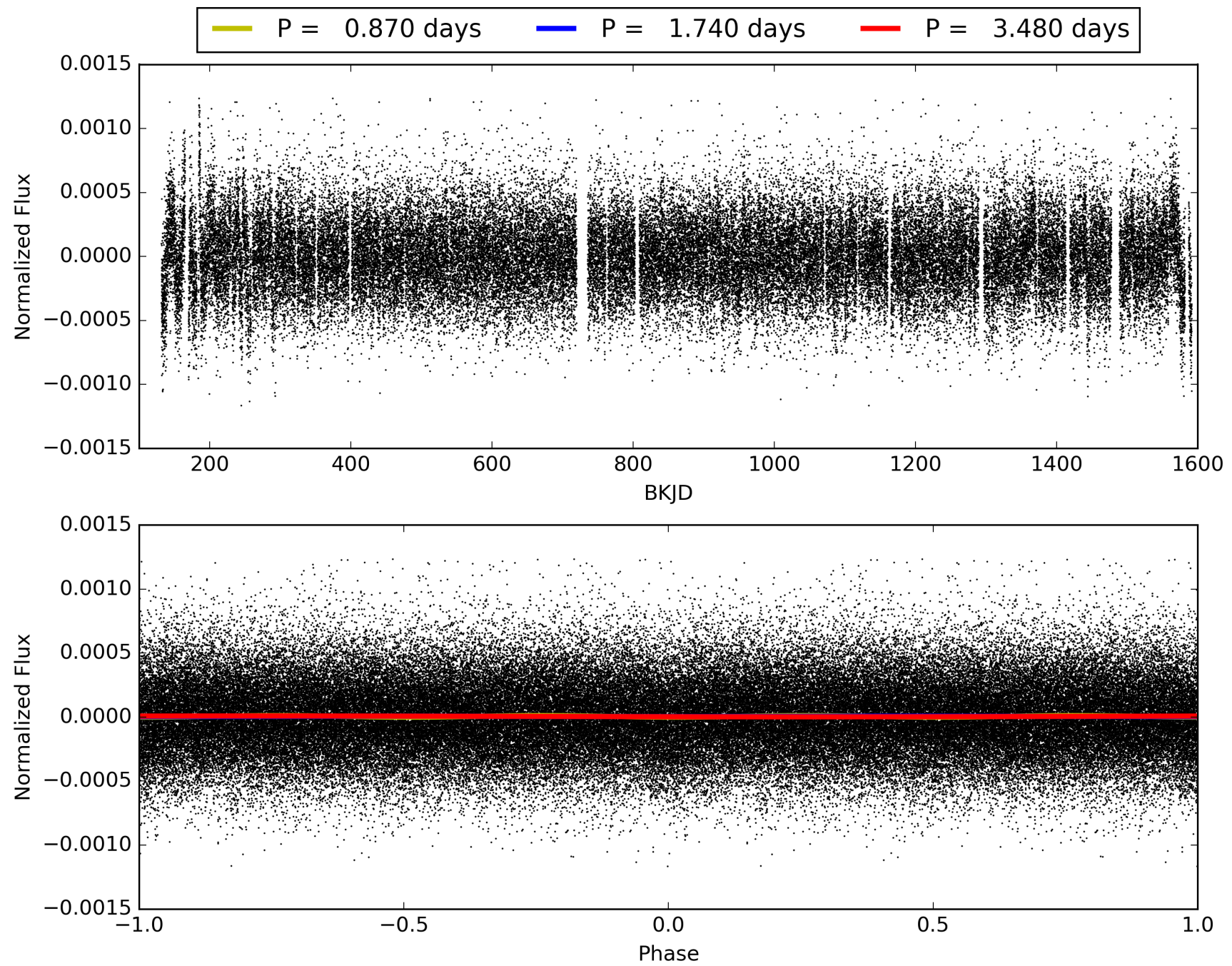
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 8.24e-18
RollingBand-fgt: 1.00 [731/731]
GhostDiagnostic-chr: 23.9
Centroid-sig: 8.9%
Centroid-so: 1.986 arcsec [1.28σ]
OotOffset-rm: 0.780 arcsec [1.70σ]
KicOffset-rm: 0.529 arcsec [1.14σ]
OotOffset-st: 3/2/2/4 [11]
KicOffset-st: 3/2/2/4 [11]
DiffImageQuality-fgm: 0.36 [4/11]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 010128825-01, PDC Light Curves

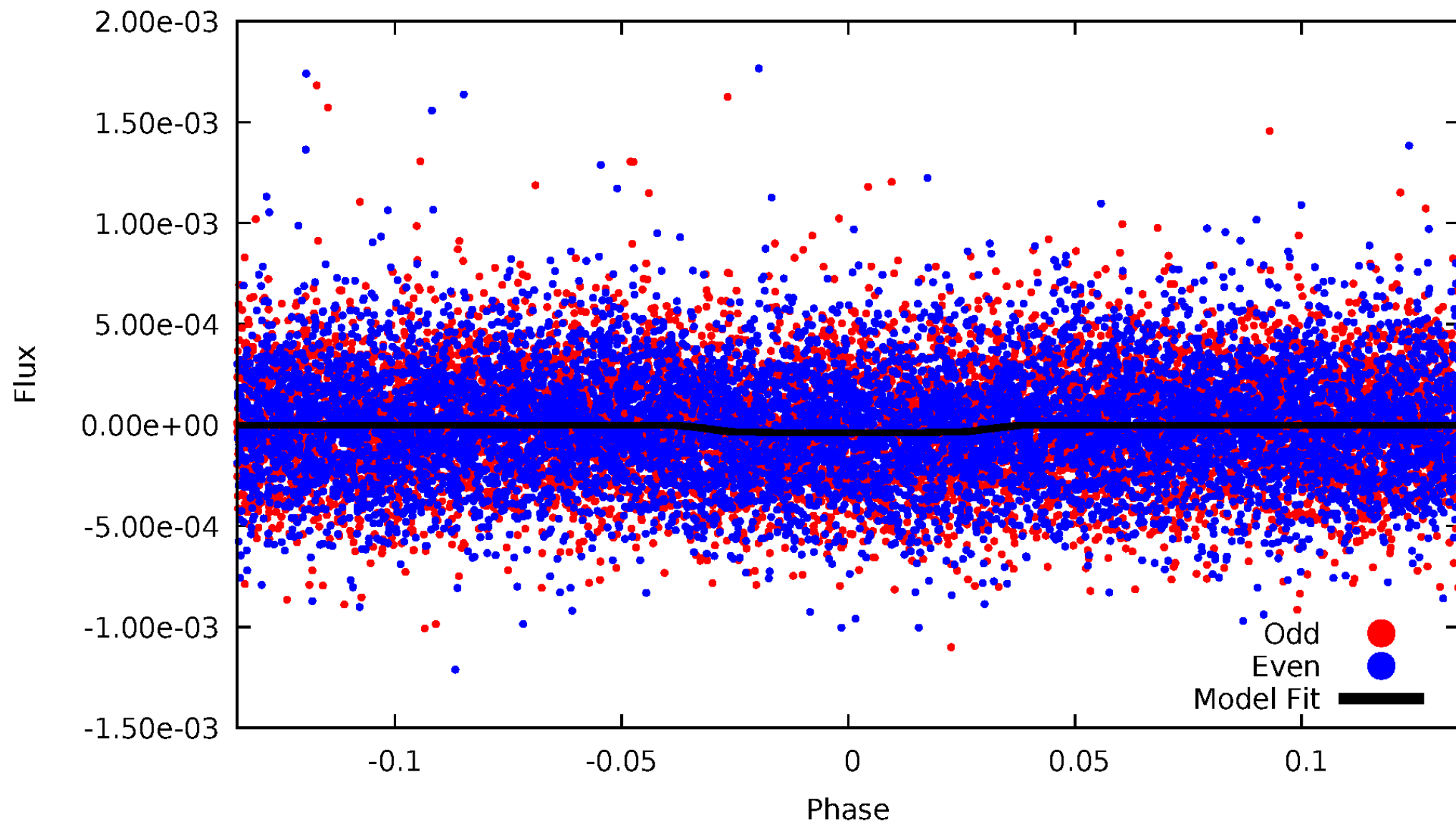


TCE 010128825-01



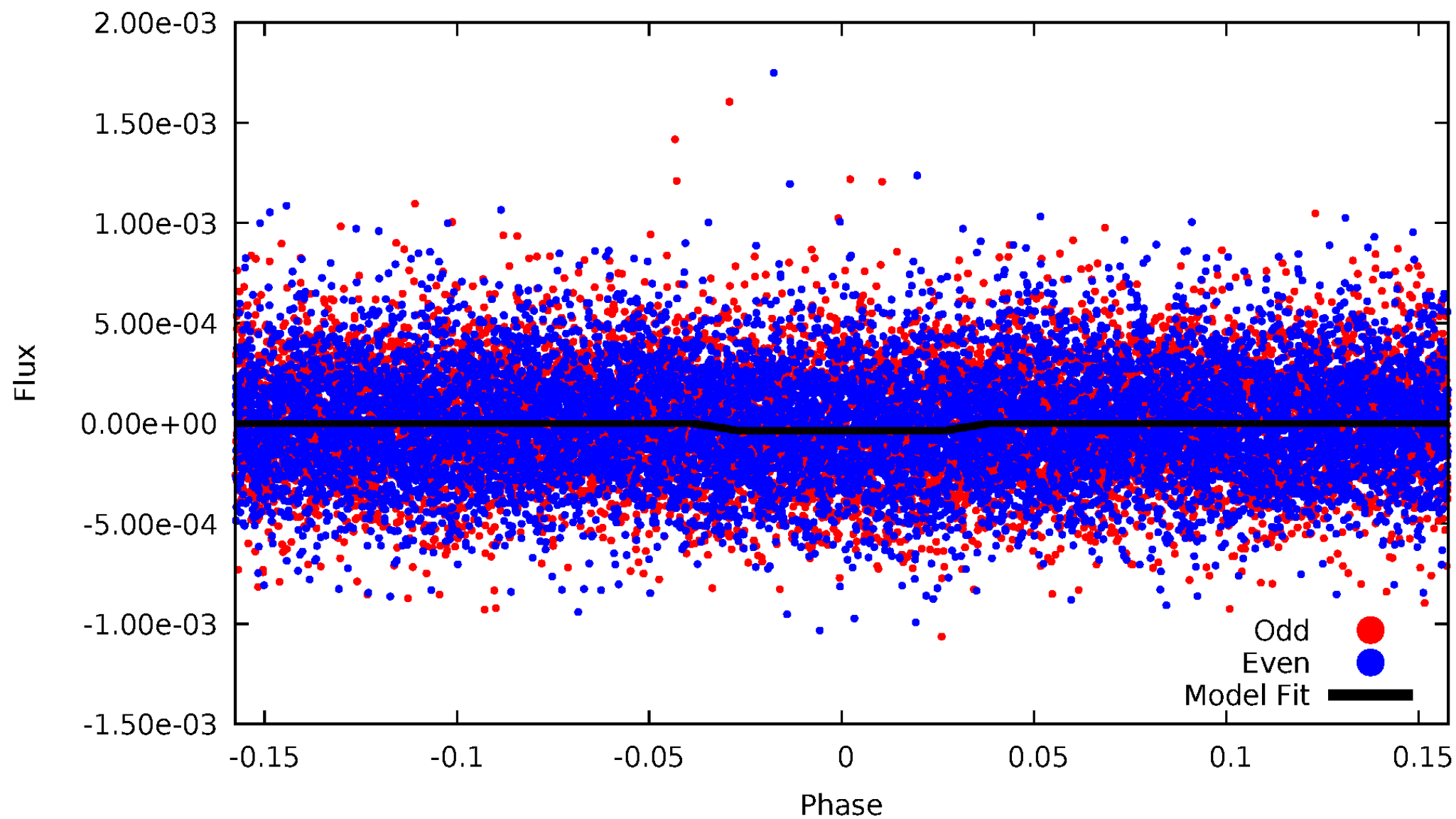
DV Odd/Even

TCE 010128825-01



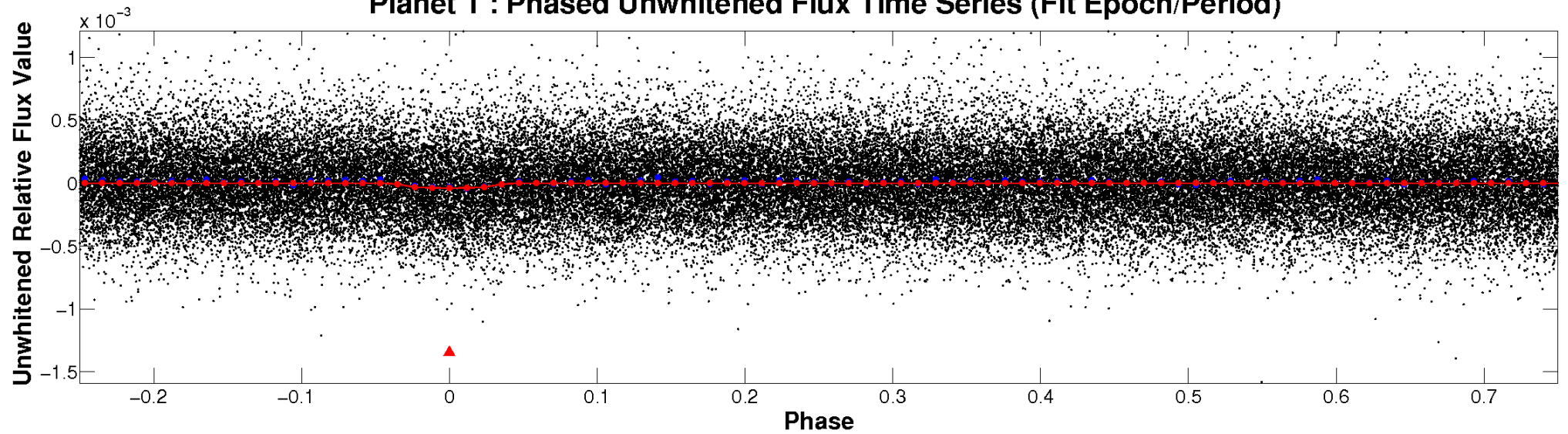
ALT Odd/Even

TCE 010128825-01

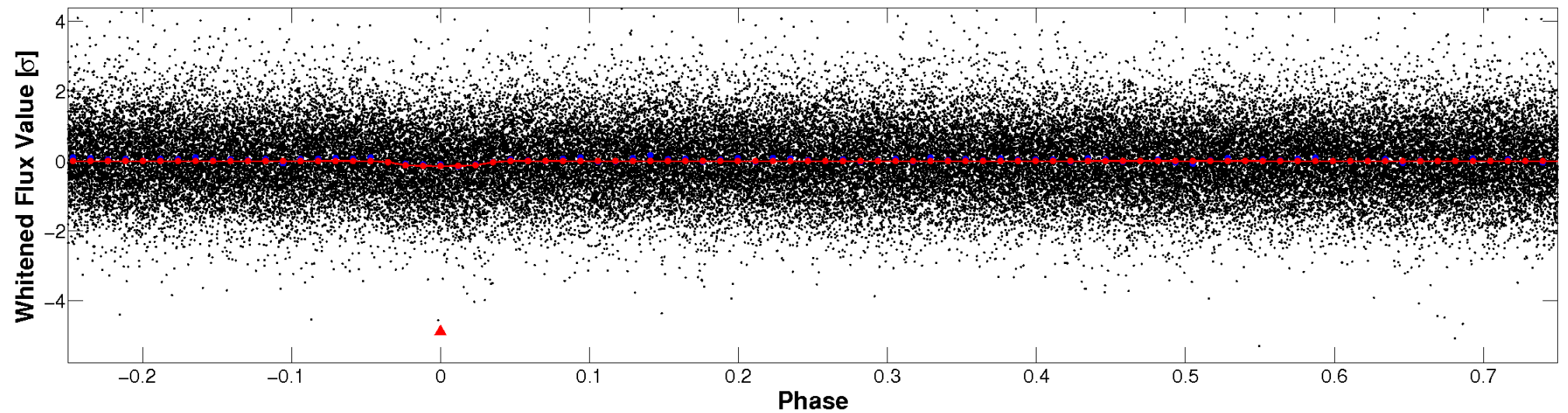


Non-Whitened Vs. Whitened Light Curve

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

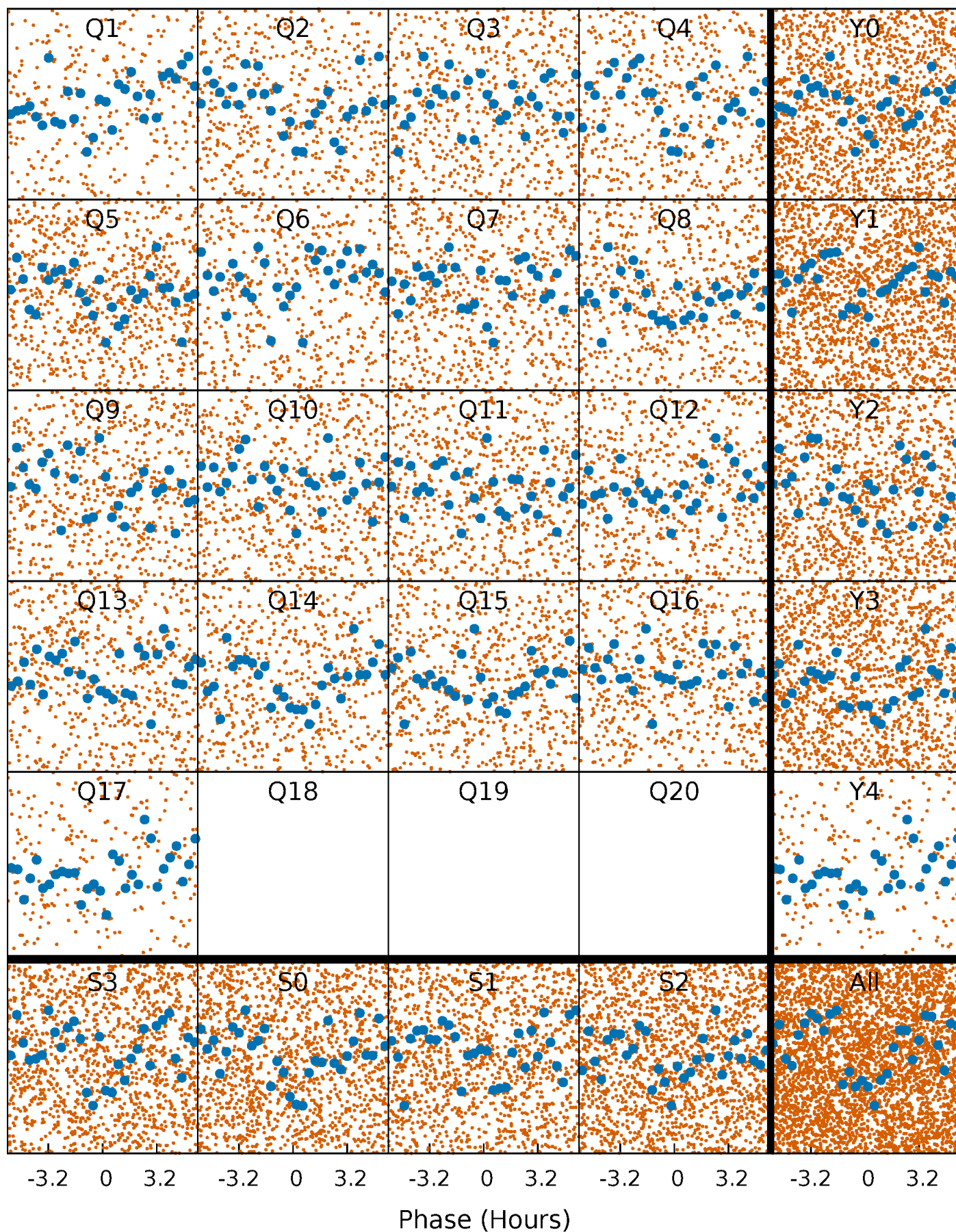


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



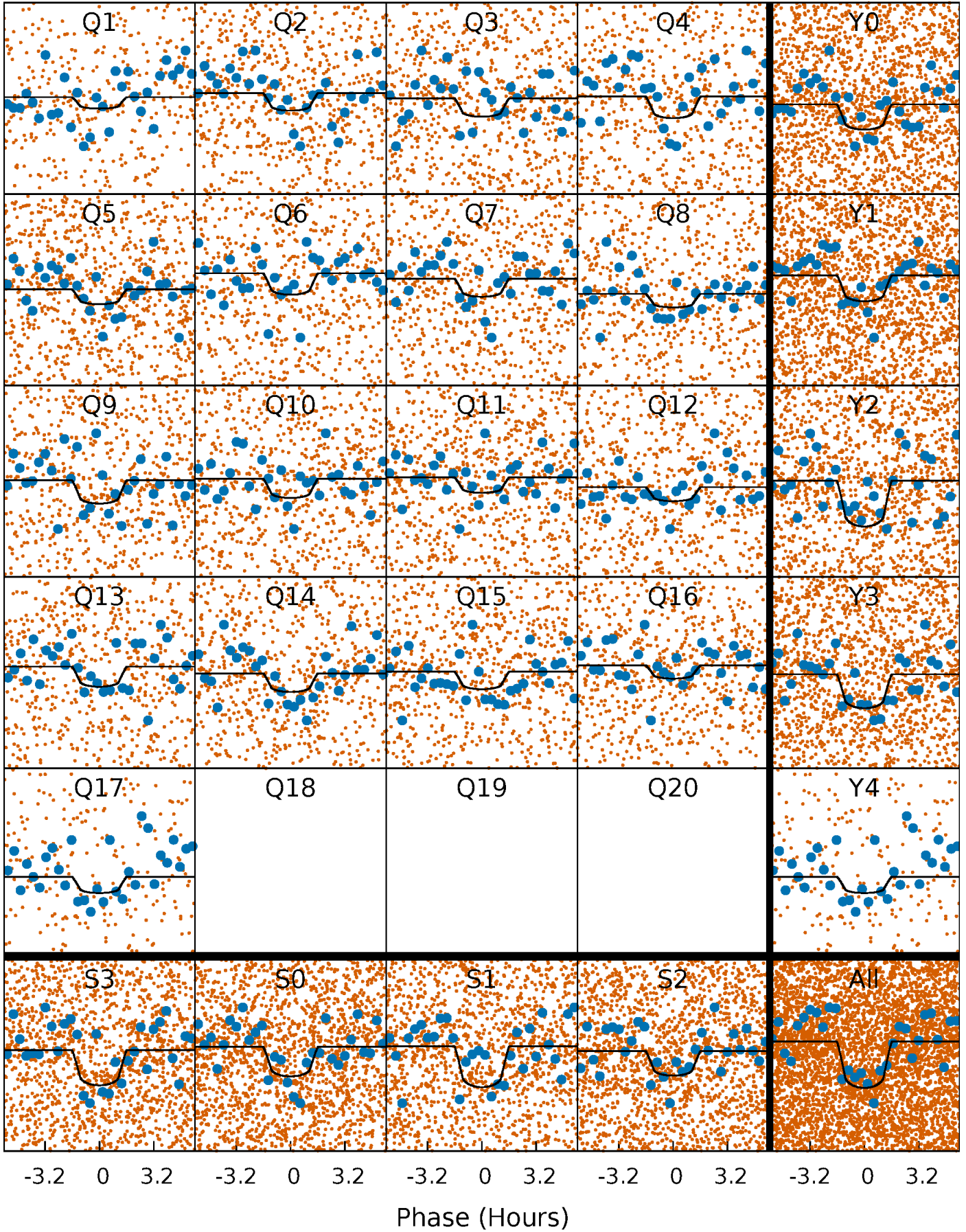
PDC Quarter-Phased Transit Curves

TCE 010128825-01 P= 1.739845 Days $T_0=133.001471$ (BKJD)



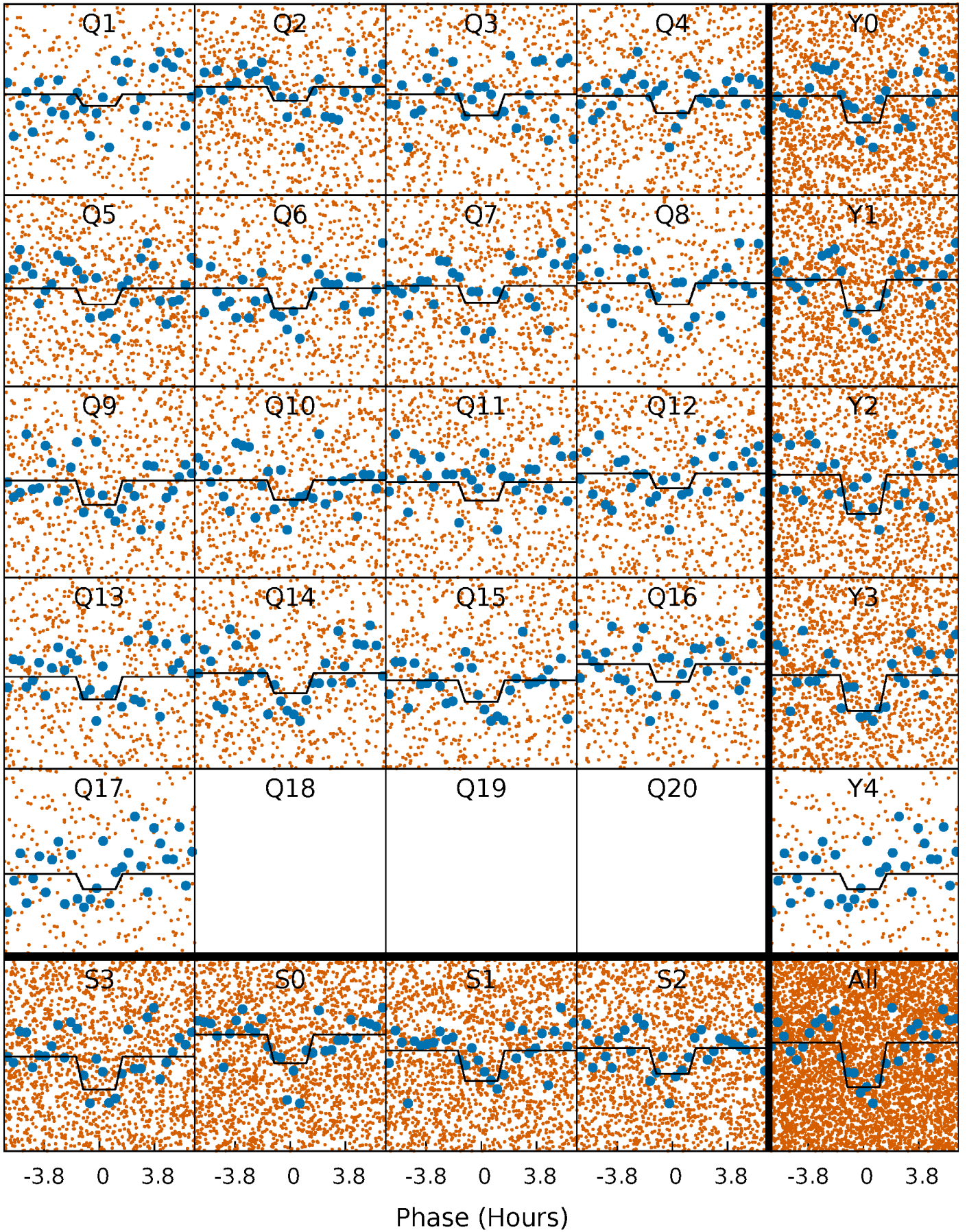
DV Quarter-Phased Transit Curves

TCE 010128825-01 P= 1.739845 Days $T_0=133.001471$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

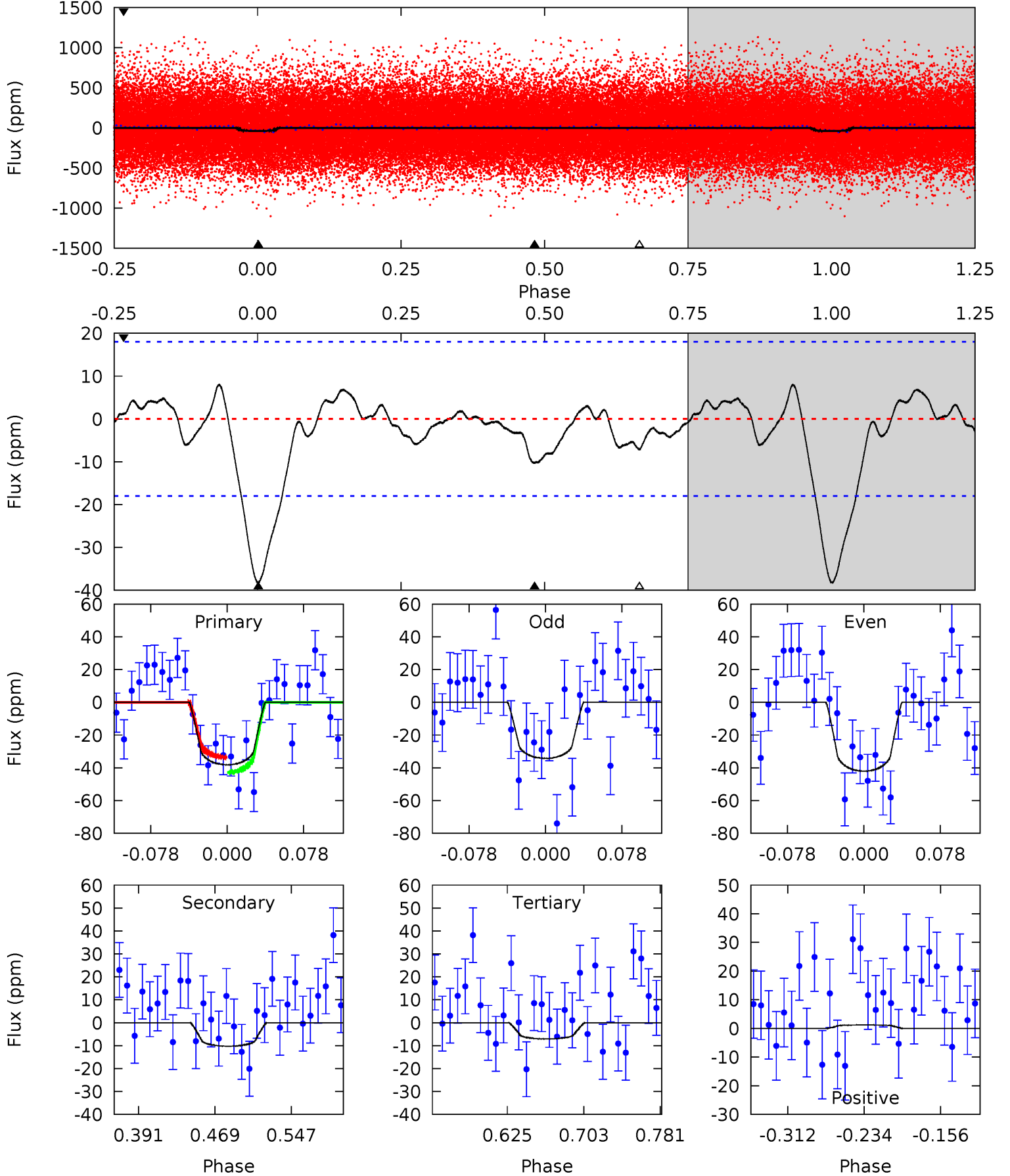
TCE 010128825-01 P= 1.739871 Days $T_0=132.993868$ (BKJD)



DV Model-Shift Uniqueness Test

010128825-01, P = 1.739845 Days, E = 131.261626 Days

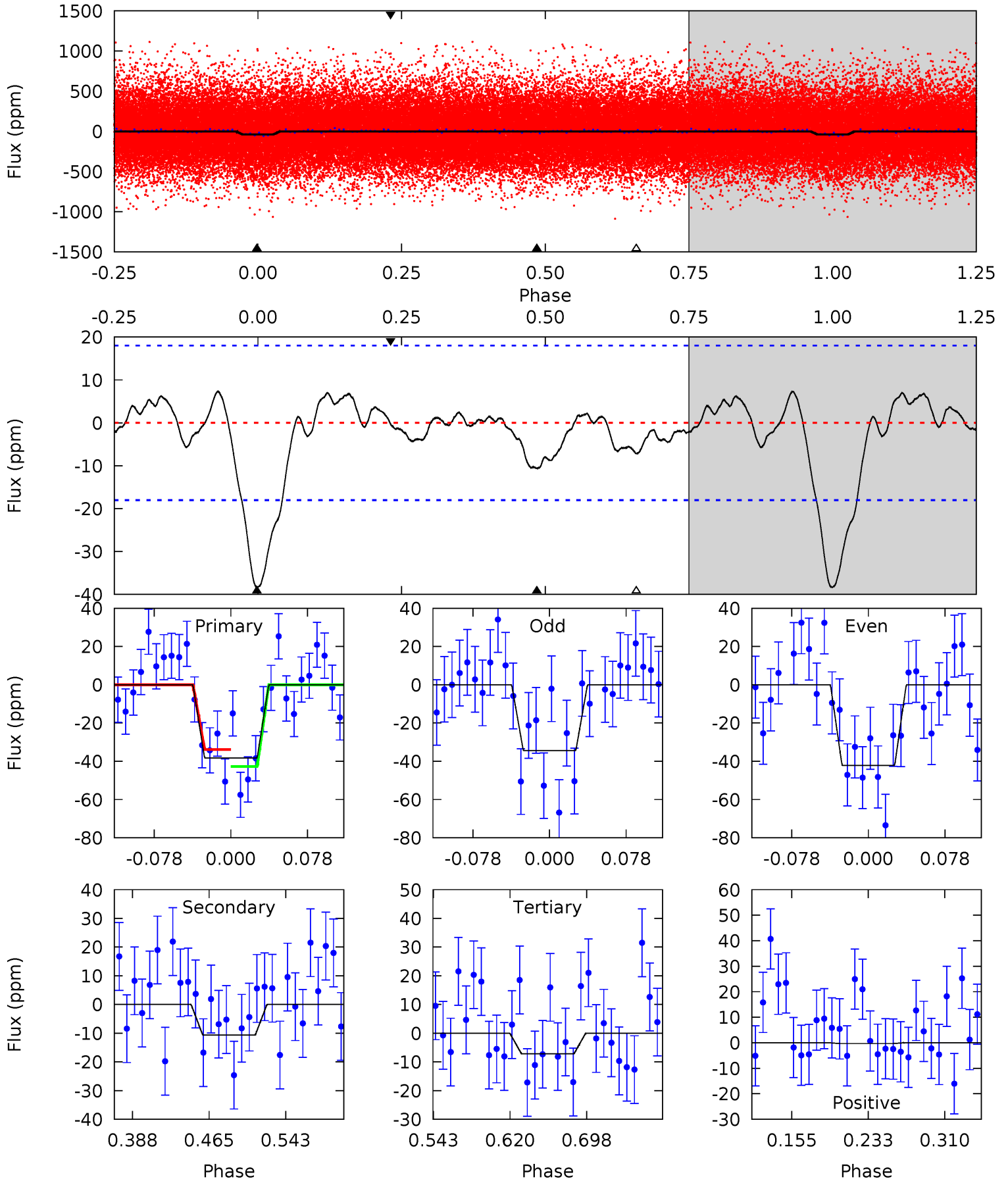
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.79	2.63	1.82	0.31	4.62	1.76	0.88	7.97	9.48	0.81	2.32	1.00	0.89	0.17	1.19



Alt Model-Shift Uniqueness Test

010128825-01, P = 1.739871 Days, E = 131.253997 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.82	2.72	1.84	-0.07	4.62	1.77	0.89	7.98	9.90	0.88	2.80	1.01	0.93	0.16	1.13



Stellar Parameters For KIC 010128825

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6119^{+165}_{-220}	$4.444^{+0.056}_{-0.224}$	$-0.040^{+0.250}_{-0.300}$	$1.031^{+0.341}_{-0.114}$	$1.075^{+0.151}_{-0.135}$	$1.380^{+0.404}_{-0.739}$
	+3%/-4%	+1%/-5%	+625%/-750%	+33%/-11%	+14%/-13%	+29%/-54%
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 010128825-01 / KOI 7986.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-10 ± 4	$0.83^{+0.43}_{-0.42}$	2296^{+166}_{-121}	4303^{+1429}_{-741}	$6.540^{+20.973}_{-4.132}$
Alt.	-11 ± 4	$0.75^{+0.45}_{-0.38}$	2295^{+170}_{-121}	4456^{+1779}_{-759}	$8.317^{+27.849}_{-5.378}$

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

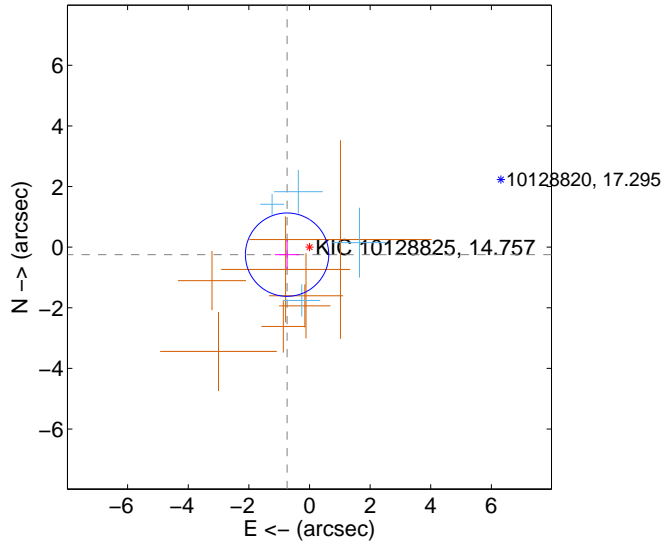
Supplemental centroid analysis for 010128825-01. Kepler magnitude: 14.76. Transit SNR 8.03

There are 4 quarters with good PRF difference image offsets

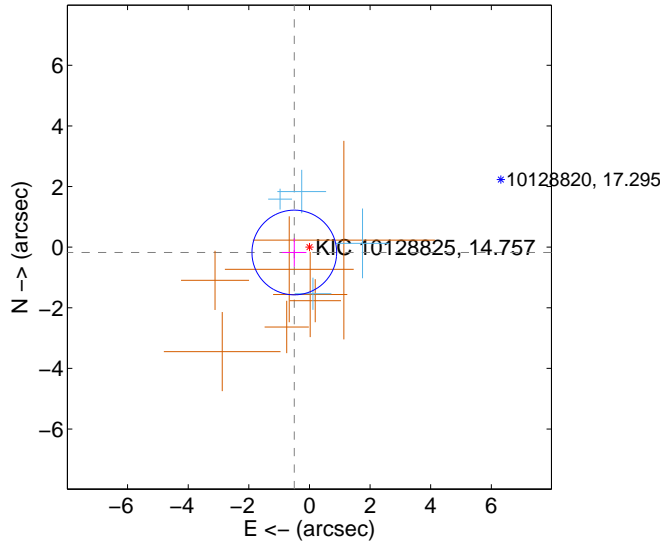
The direct PRF centroid is offset from the target star catalog position by about 0.12 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.780 ± 0.458	1.70	0.740 ± 0.404	-0.247 ± 0.486
PRF-fit source offset from KIC position	0.529 ± 0.466	1.14	0.499 ± 0.398	-0.176 ± 0.470
photometric centroid source offset	1.99 ± 1.56	1.28	0.05 ± 1.57	1.98 ± 1.56

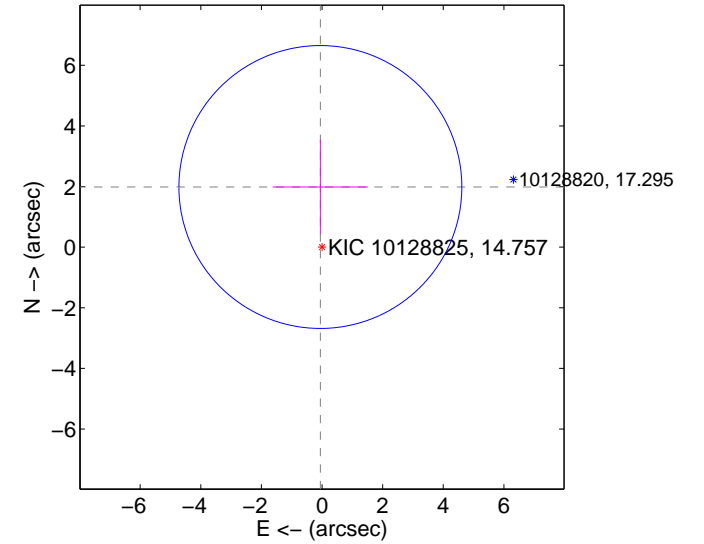
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

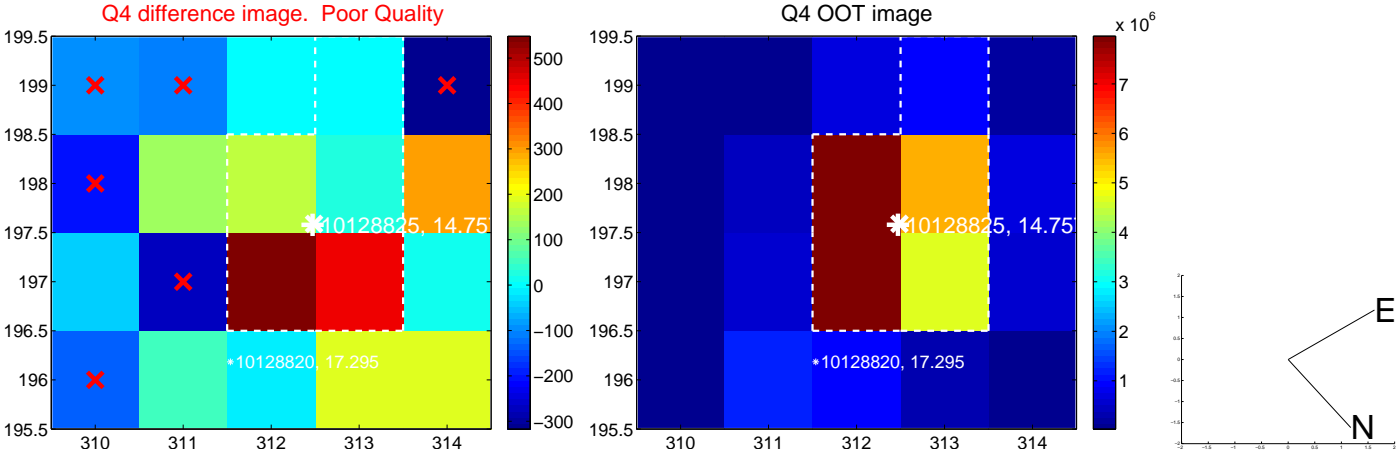
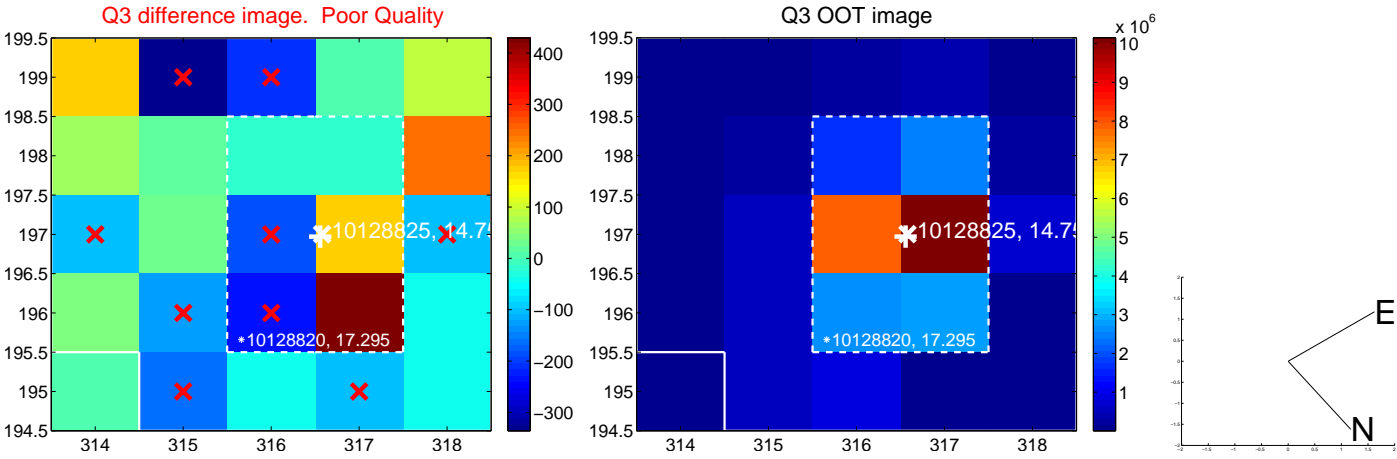
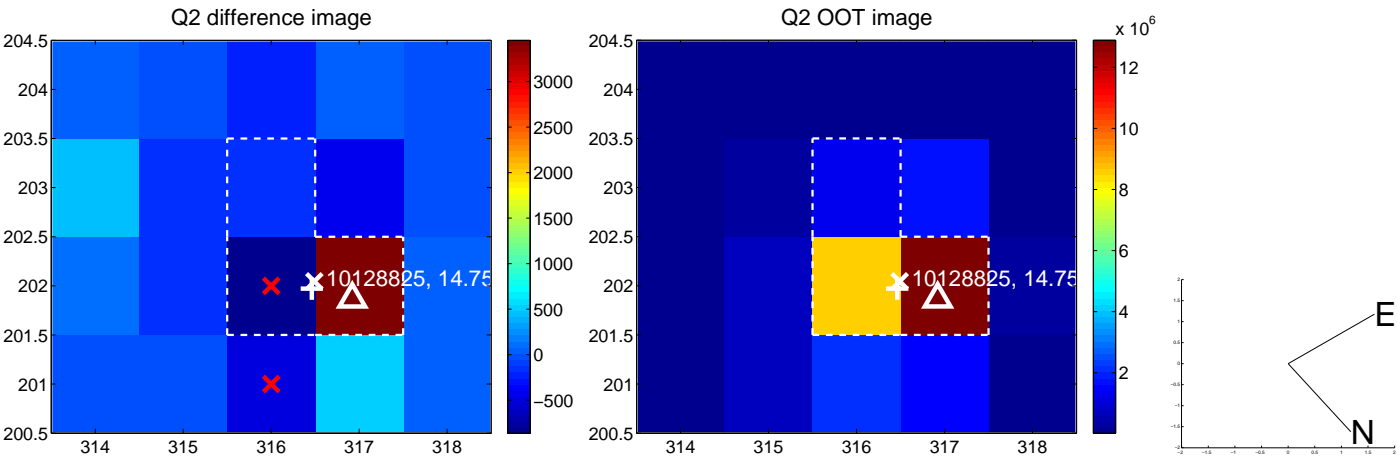
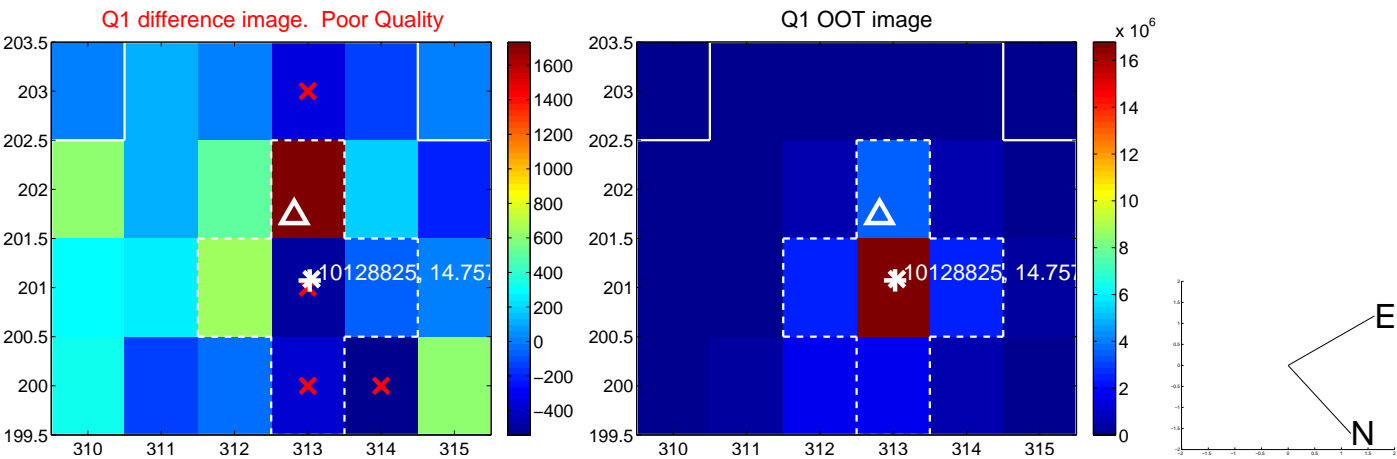


offset from photometric centroids

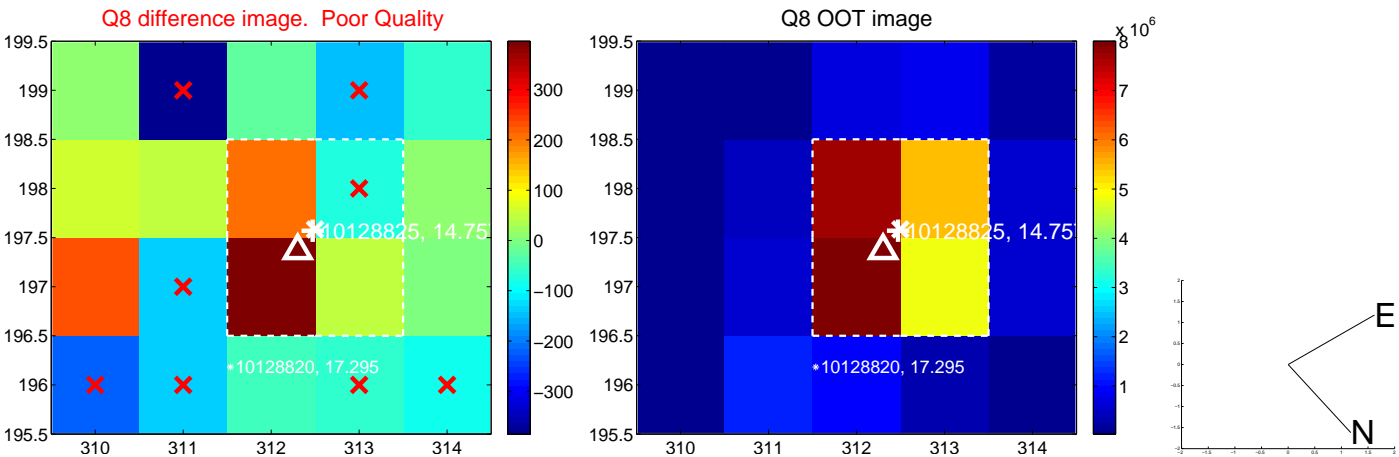
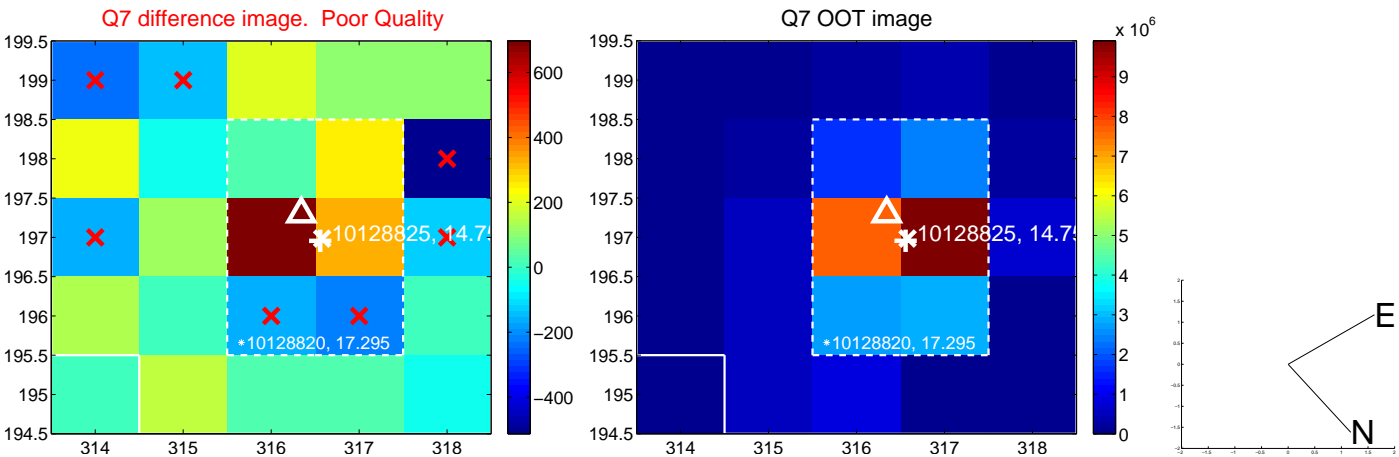
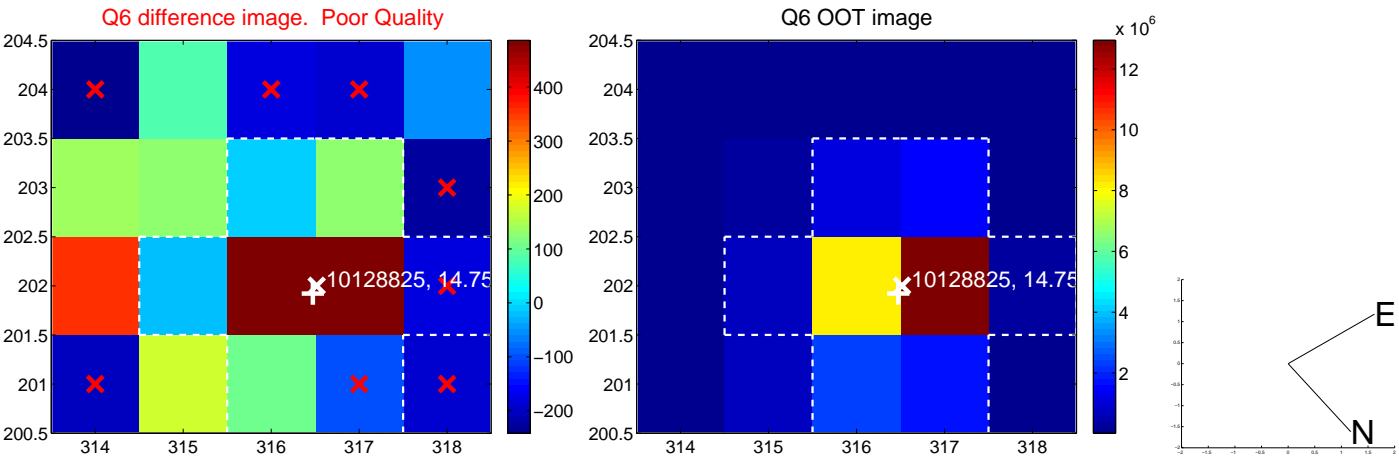
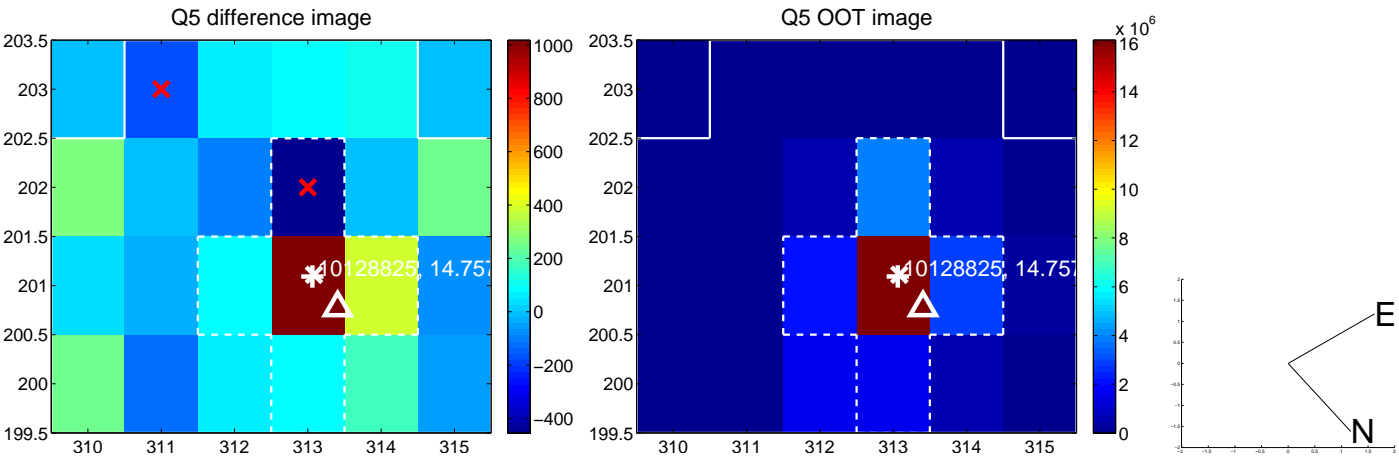


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

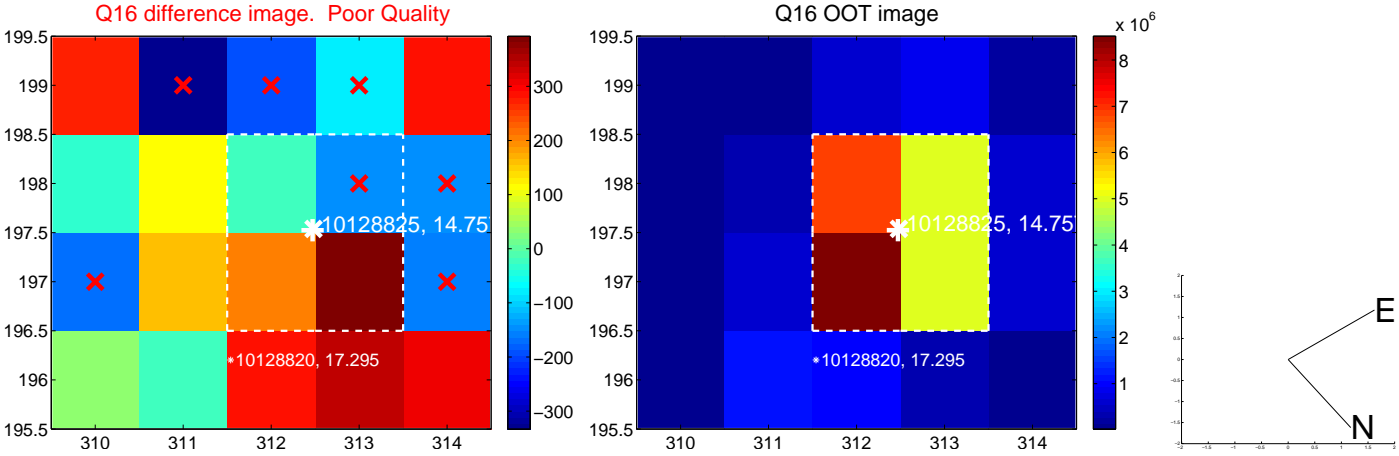
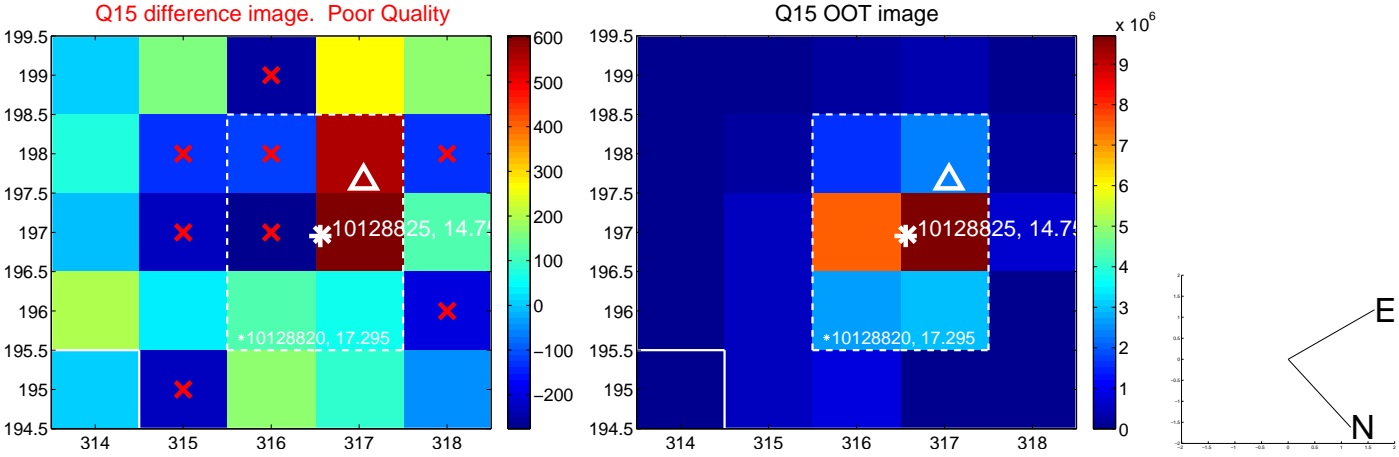
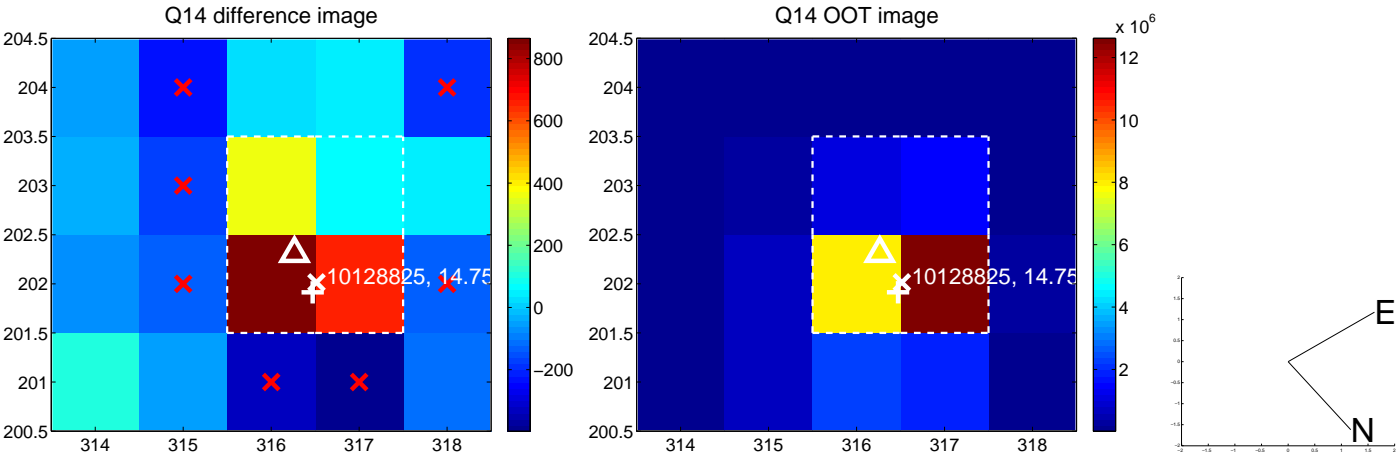
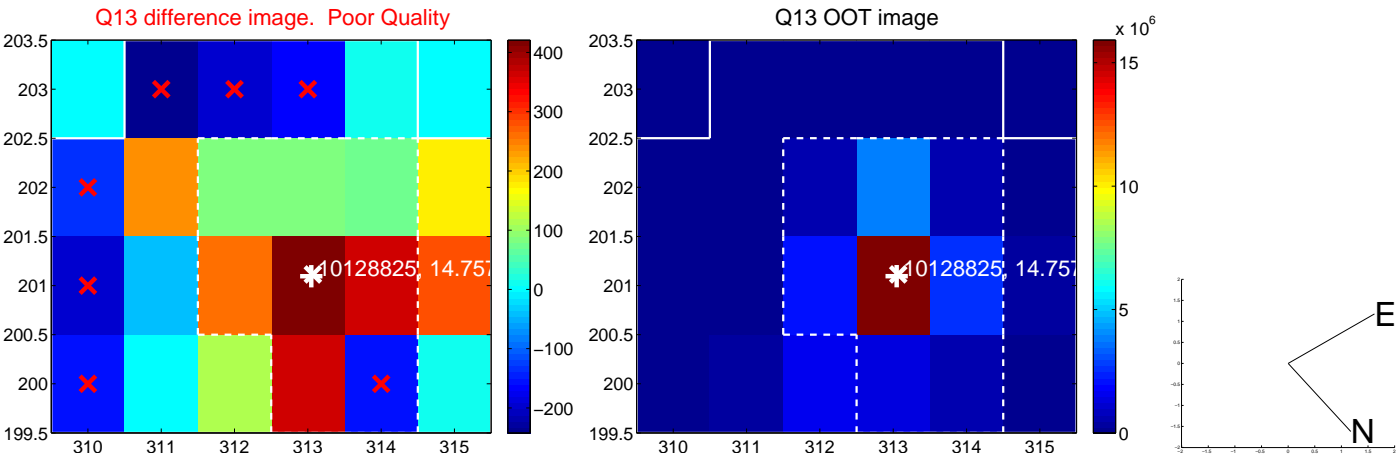
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



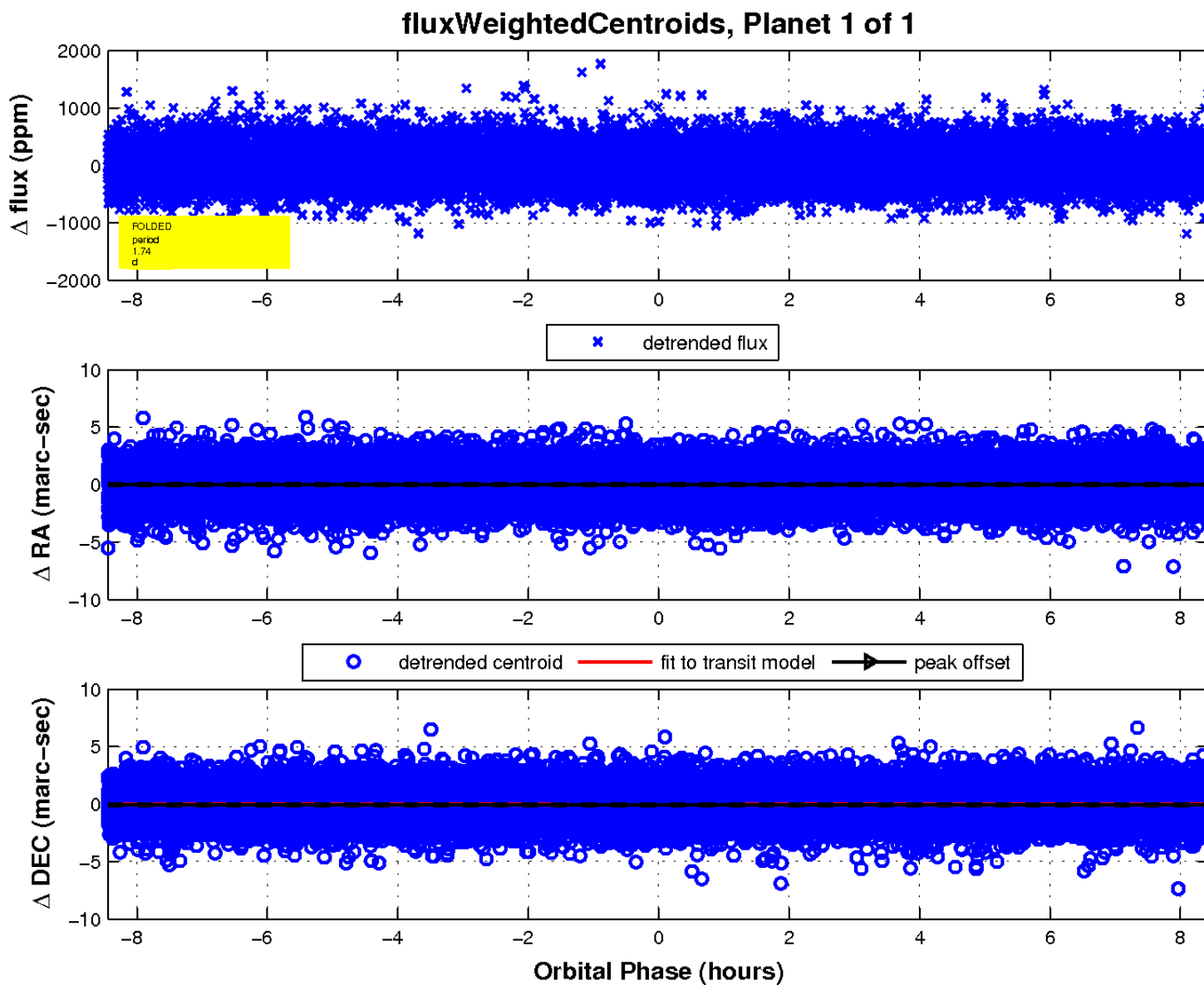
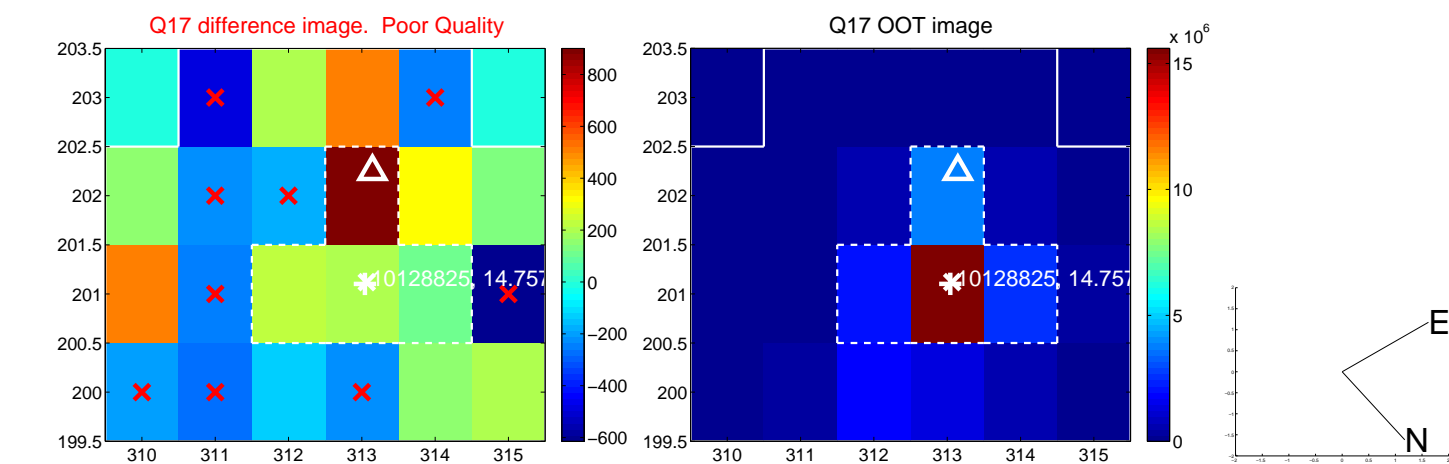
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

