

KIC 005859725

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})
005859725-01	OBS	5207.01	18.982738	139.255043	44.6	6.249	7.1	7.2	1.03	5962	0.81	59.24

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005859725-01	OBS	PC	0.97	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.

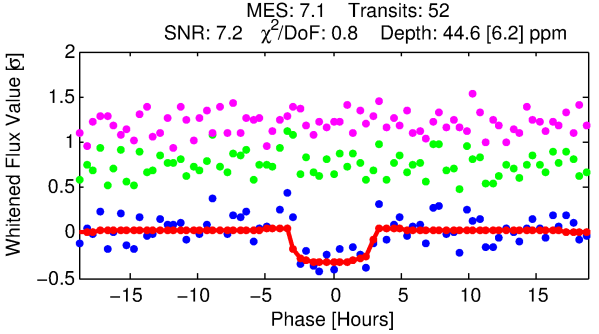
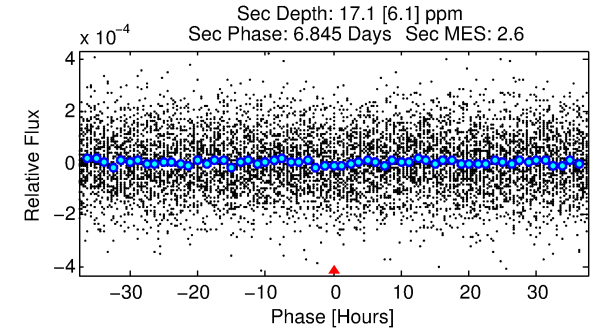
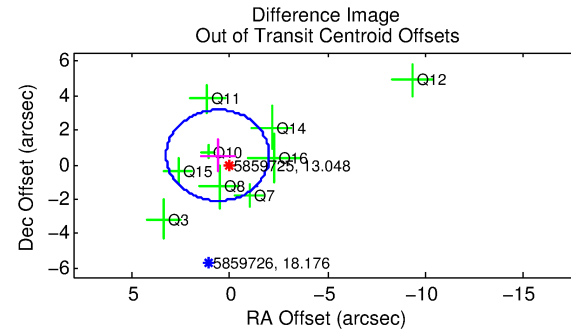
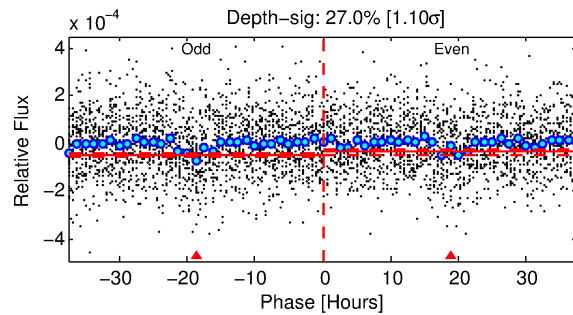
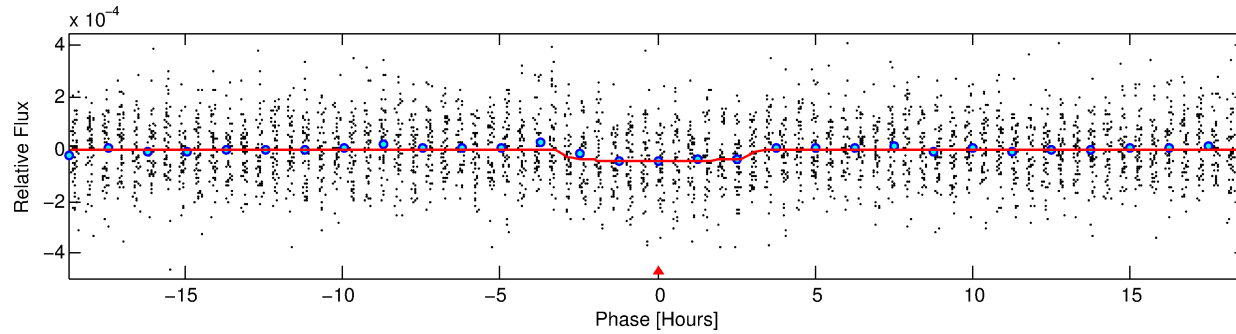
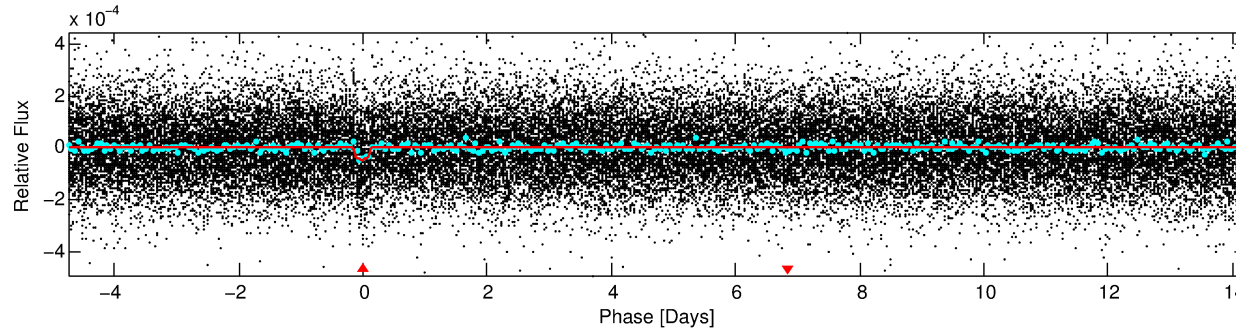
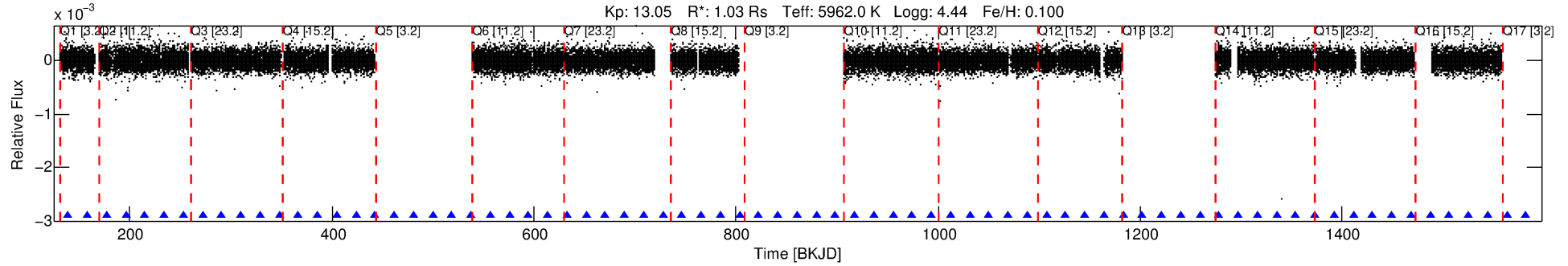
Ephemeris Match Information For 005859725-01

No Significant Match Found

DV One-Page Summary

KIC: 5859725 Candidate: 1 of 1 Period: 18.983 d
KOI: K05207.01 Corr: 0.960

Kp: 13.05 R*: 1.03 Rs Teff: 5962.0 K Logg: 4.44 Fe/H: 0.100



DV Fit Results:

Period = 18.98274 [0.00030] d
Epoch = 139.2550 [0.0125] BKJD
Rp/R* = 0.0071 [0.0043]
a/R* = 11.40 [34.05]
b = 0.88 [0.78]
Seff = 59.24 [13.06]
Teq = 707 [39] K
Rp = 0.80 [0.50] Re
a = 0.1431 [0.0201] AU
Ag = 297.58 [381.67] [0.78σ]
Teffp = 4543 [1438] K [2.67σ]

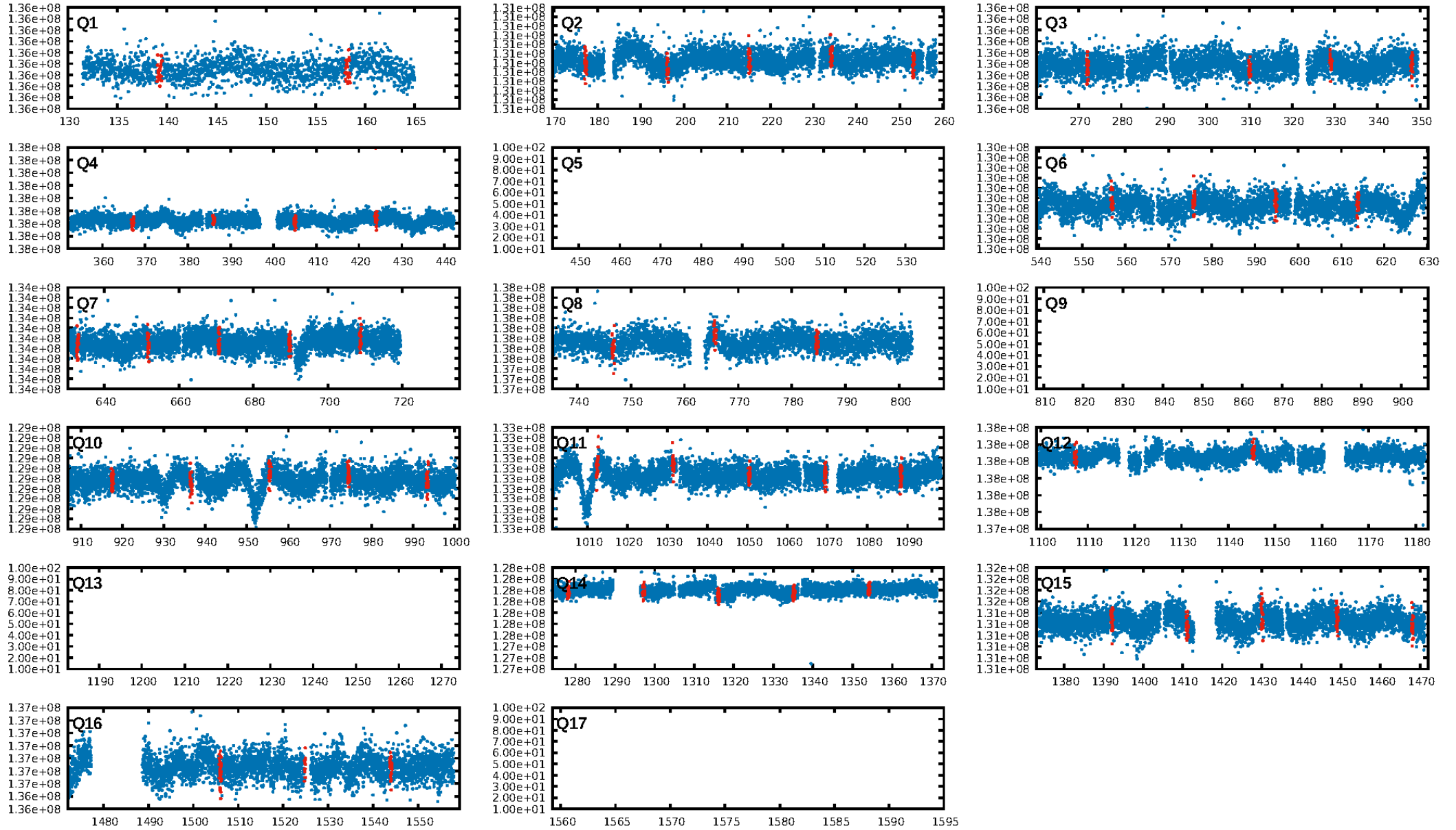
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.4%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.09e-11
RollingBand-fgt: 1.00 [50/50]
GhostDiagnostic-chr: 1.816
Centroid-sig: 0.0%
Centroid-so: 5.637 arcsec [3.25σ]
OotOffset-rm: 0.812 arcsec [0.93σ]
KicOffset-rm: 0.738 arcsec [0.78σ]
OotOffset-st: 2/4/3/0 [9]
KicOffset-st: 2/4/3/0 [9]
DiffImageQuality-fgm: 0.44 [4/9]
DiffImageOverlap-fno: 1.00 [13/13]

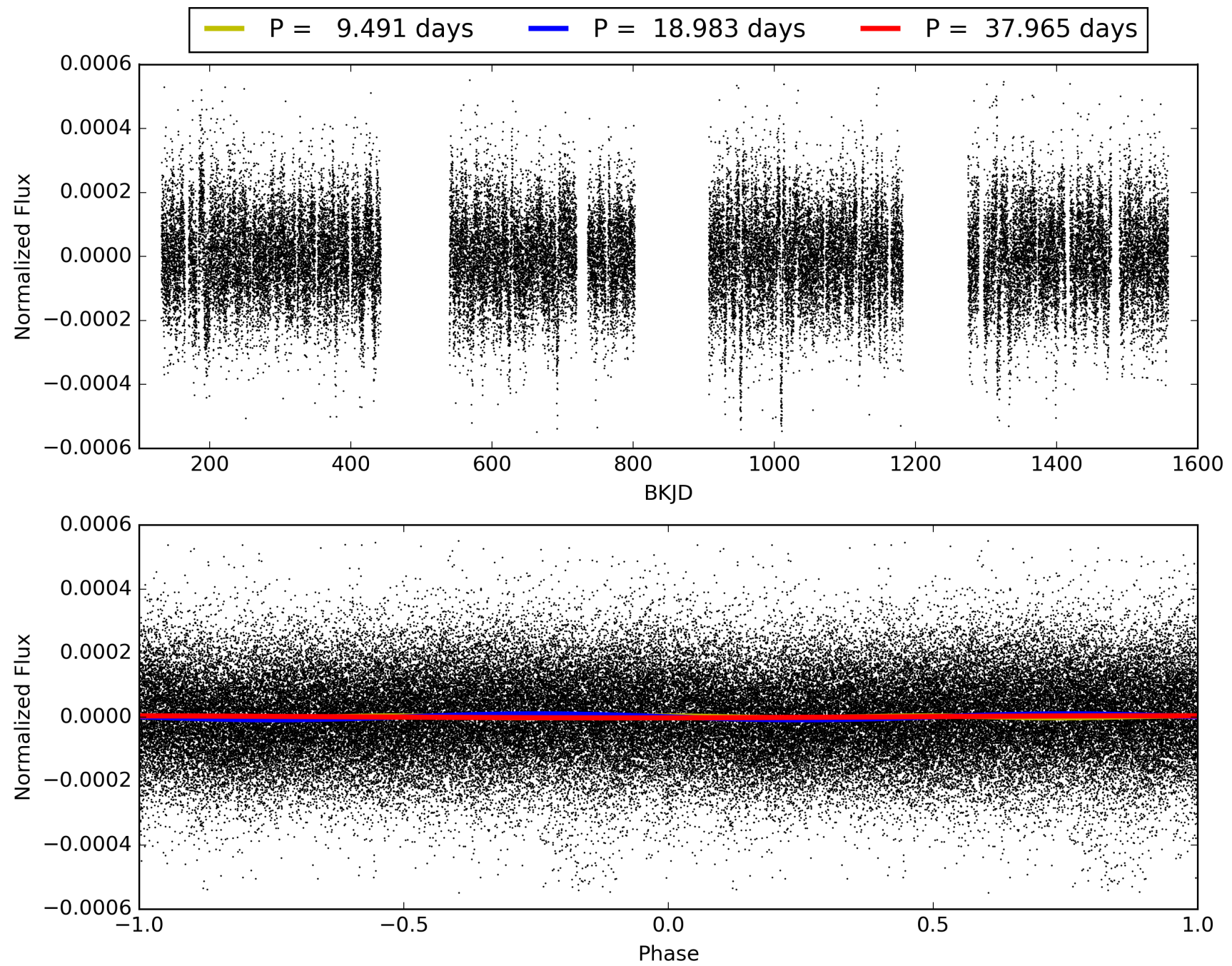
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:40:06 Z

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

TCE 005859725-01, PDC Light Curves

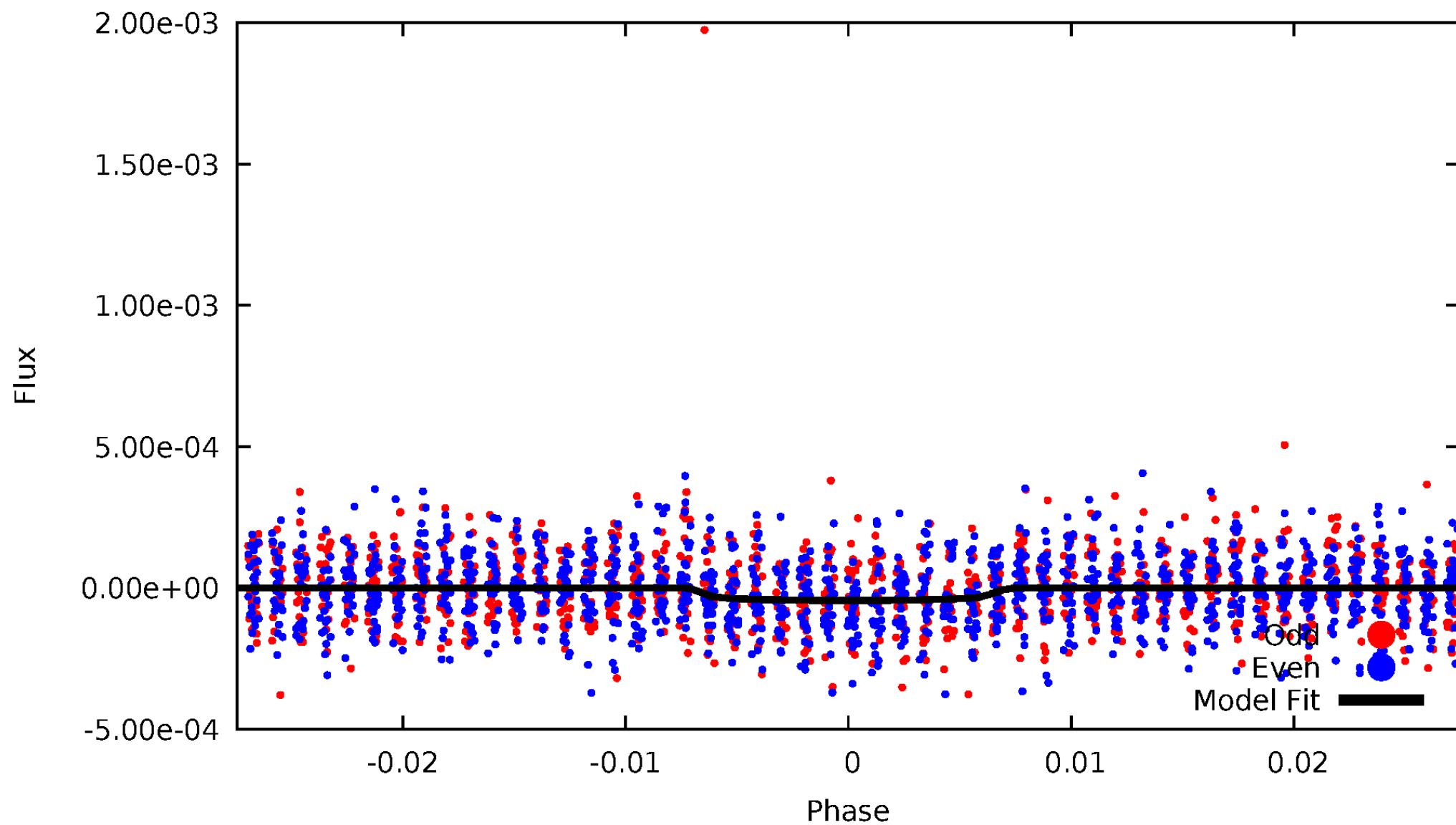


TCE 005859725-01



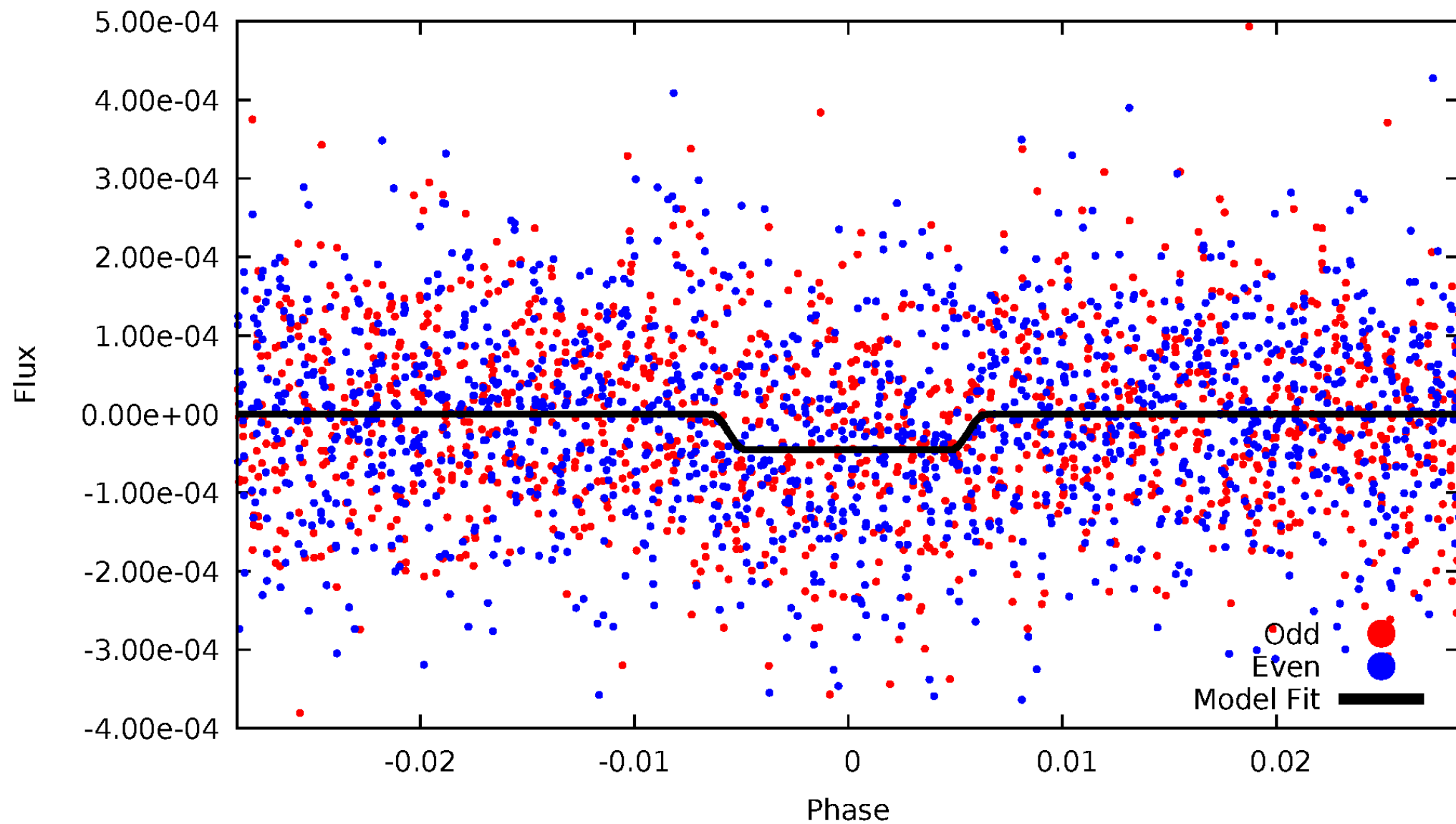
DV Odd/Even

TCE 005859725-01



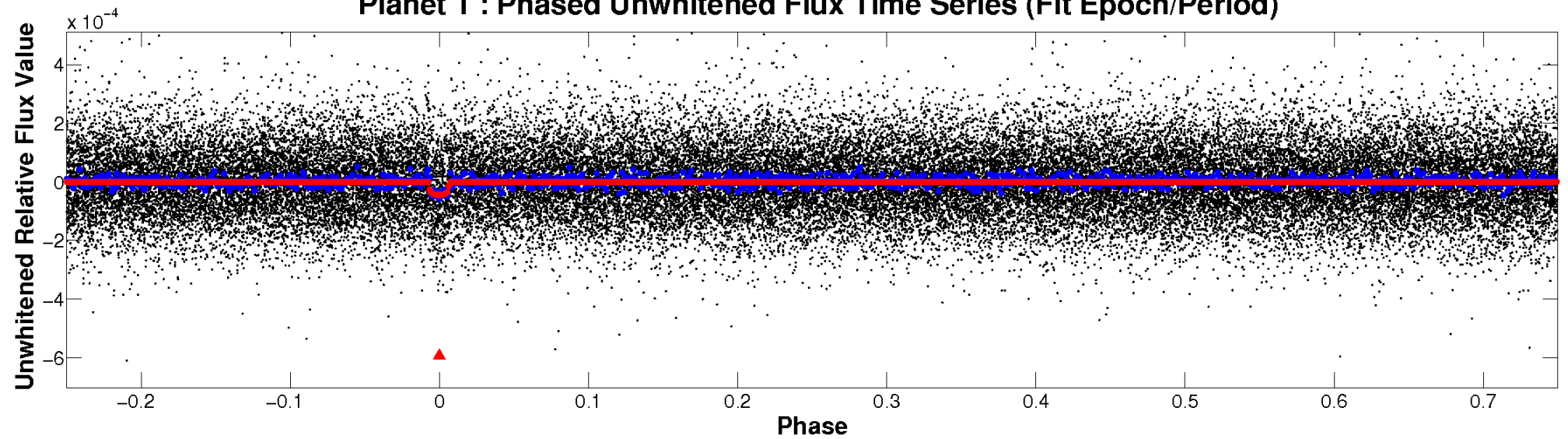
ALT Odd/Even

TCE 005859725-01

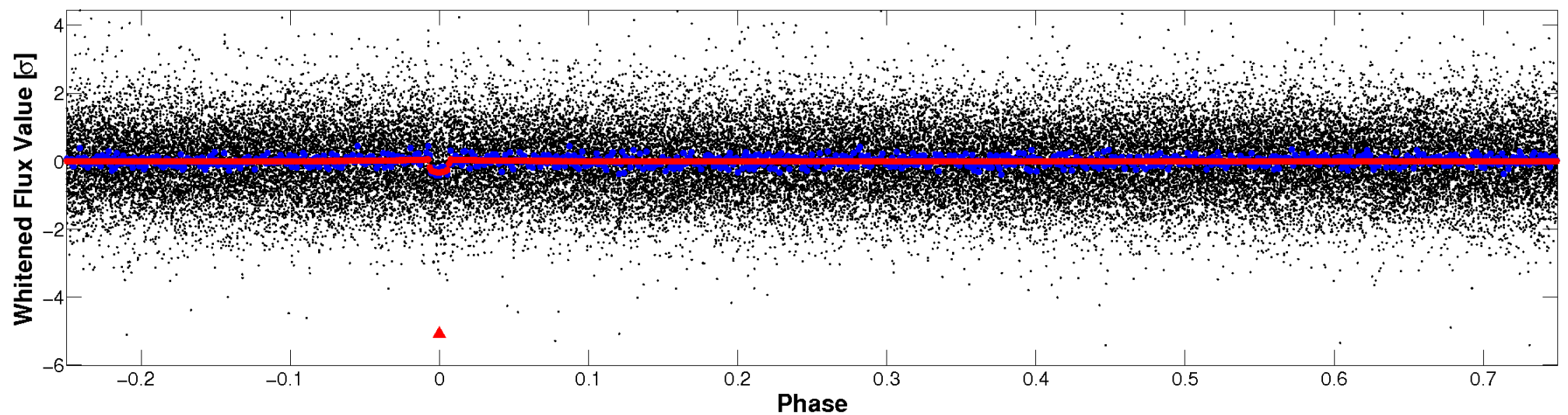


Non-Whitened Vs. Whitened Light Curve

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

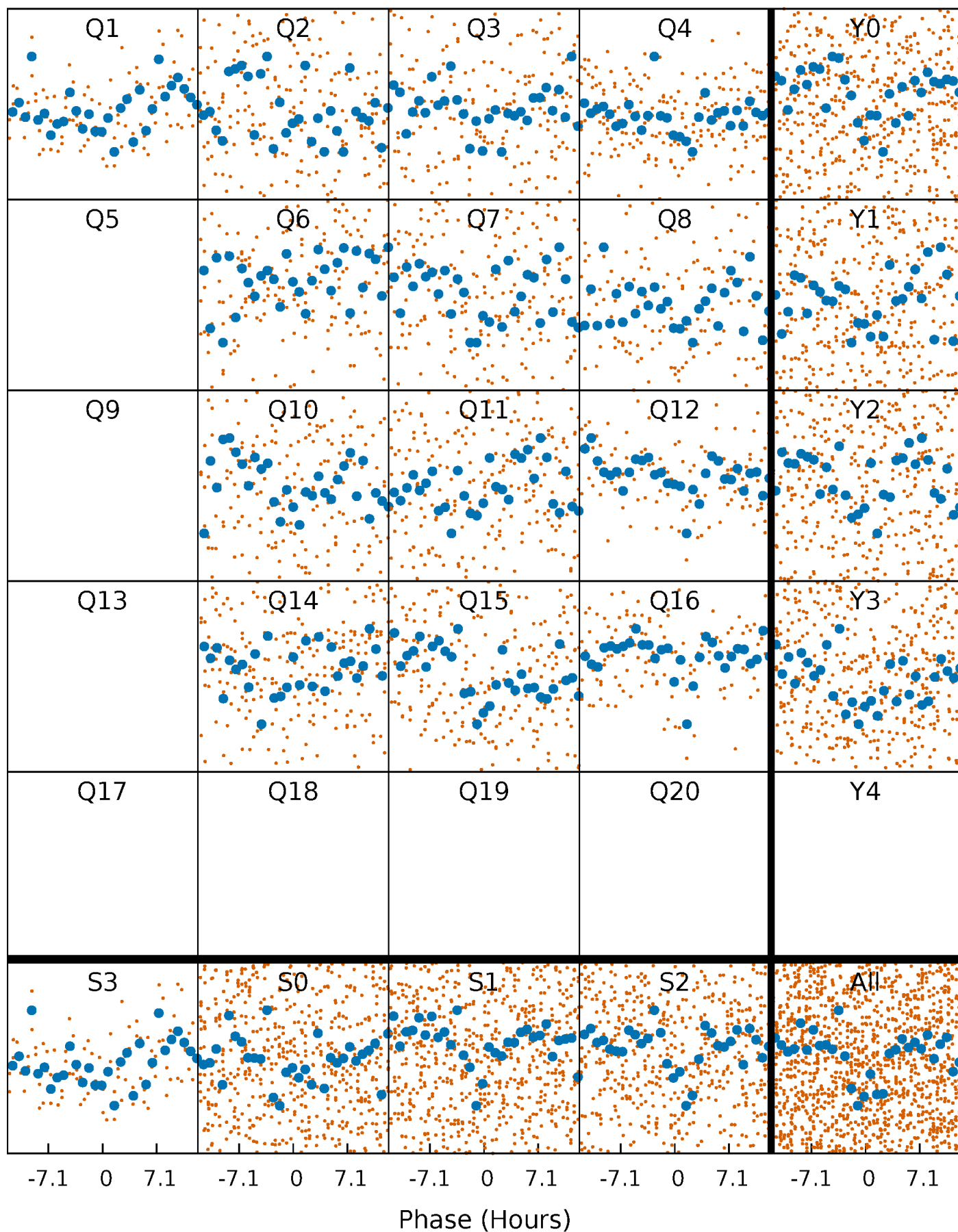


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



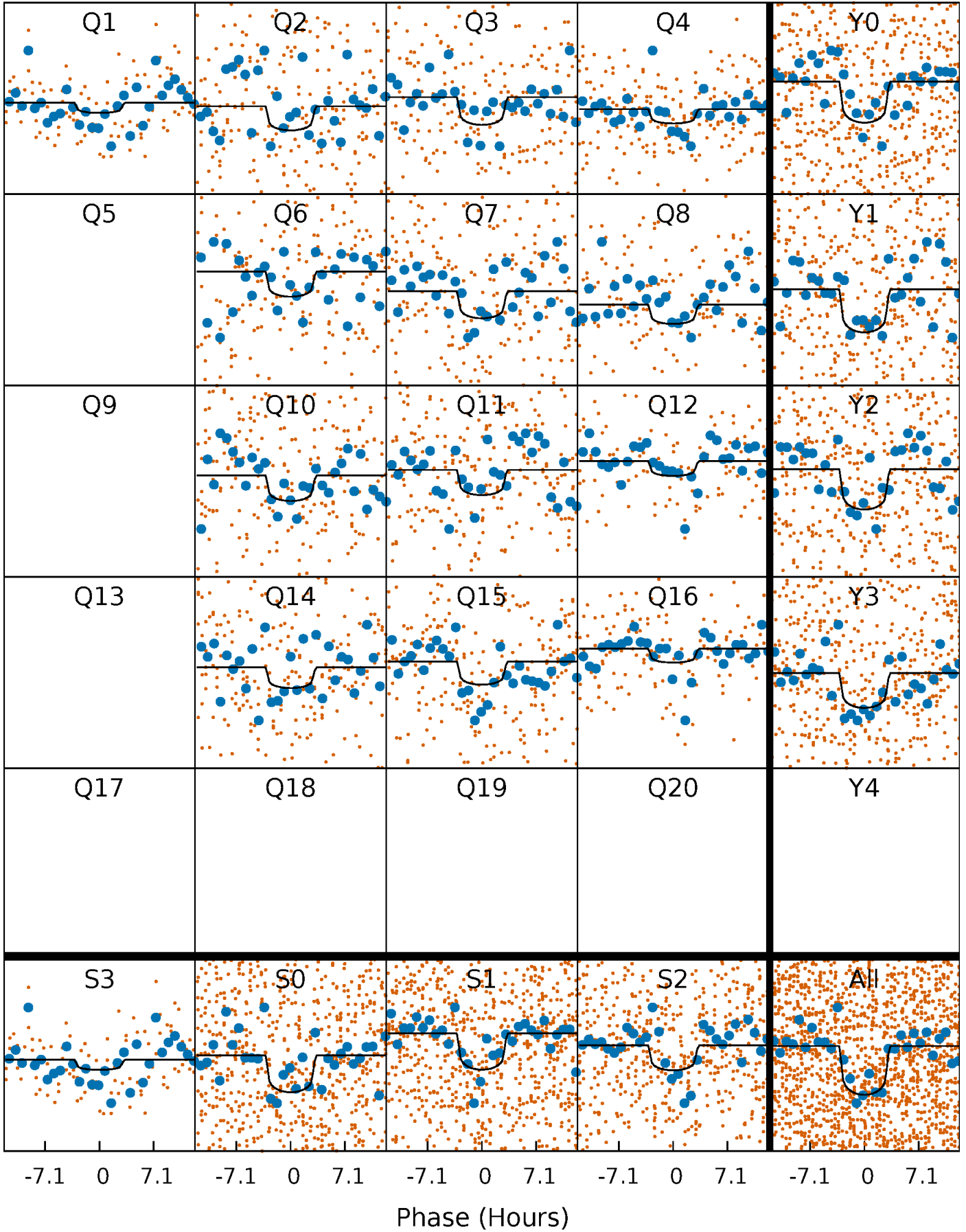
PDC Quarter-Phased Transit Curves

TCE 005859725-01 P= 18.982738 Days $T_0=139.255043$ (BKJD)



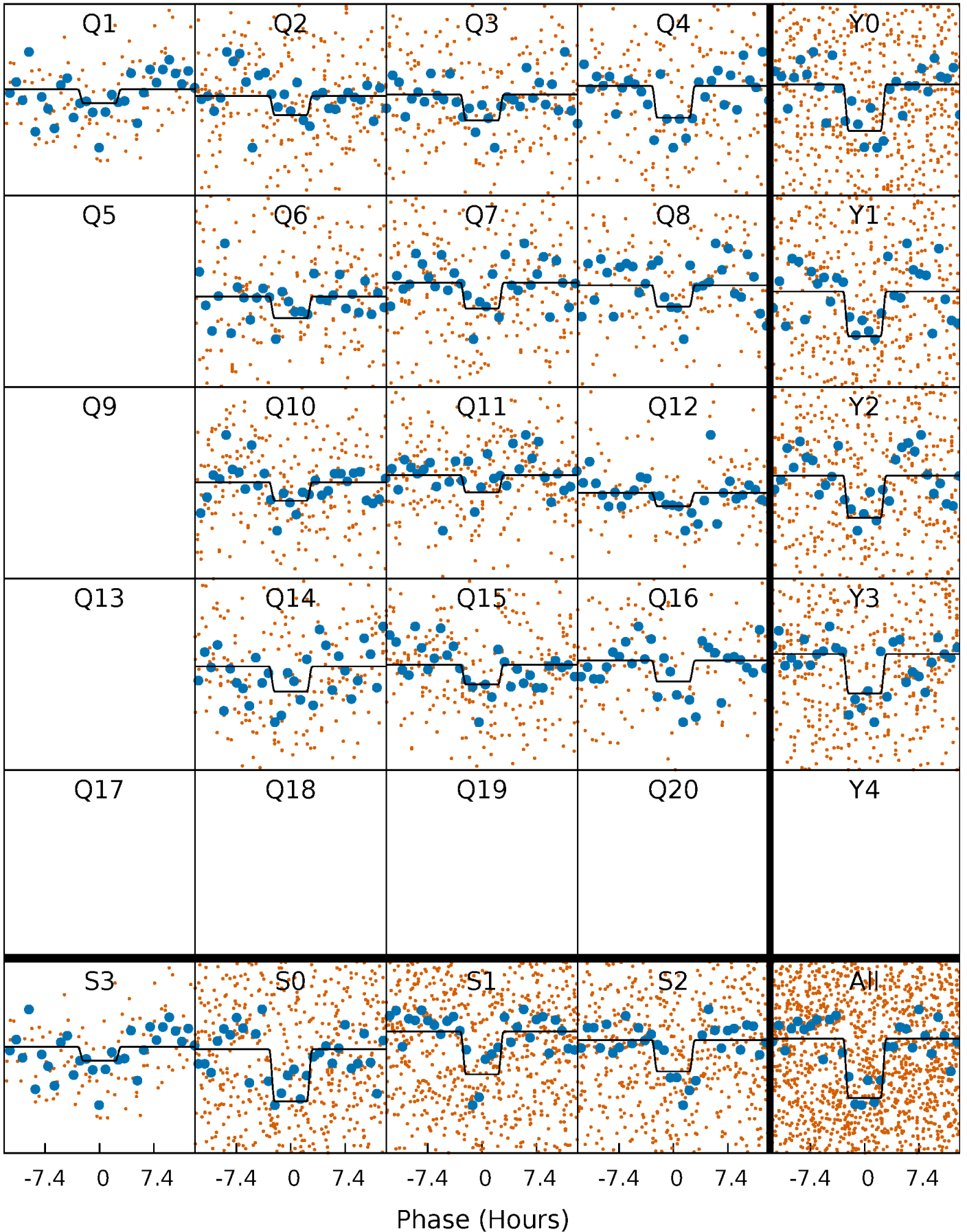
DV Quarter-Phased Transit Curves

TCE 005859725-01 P= 18.982738 Days $T_0=139.255043$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

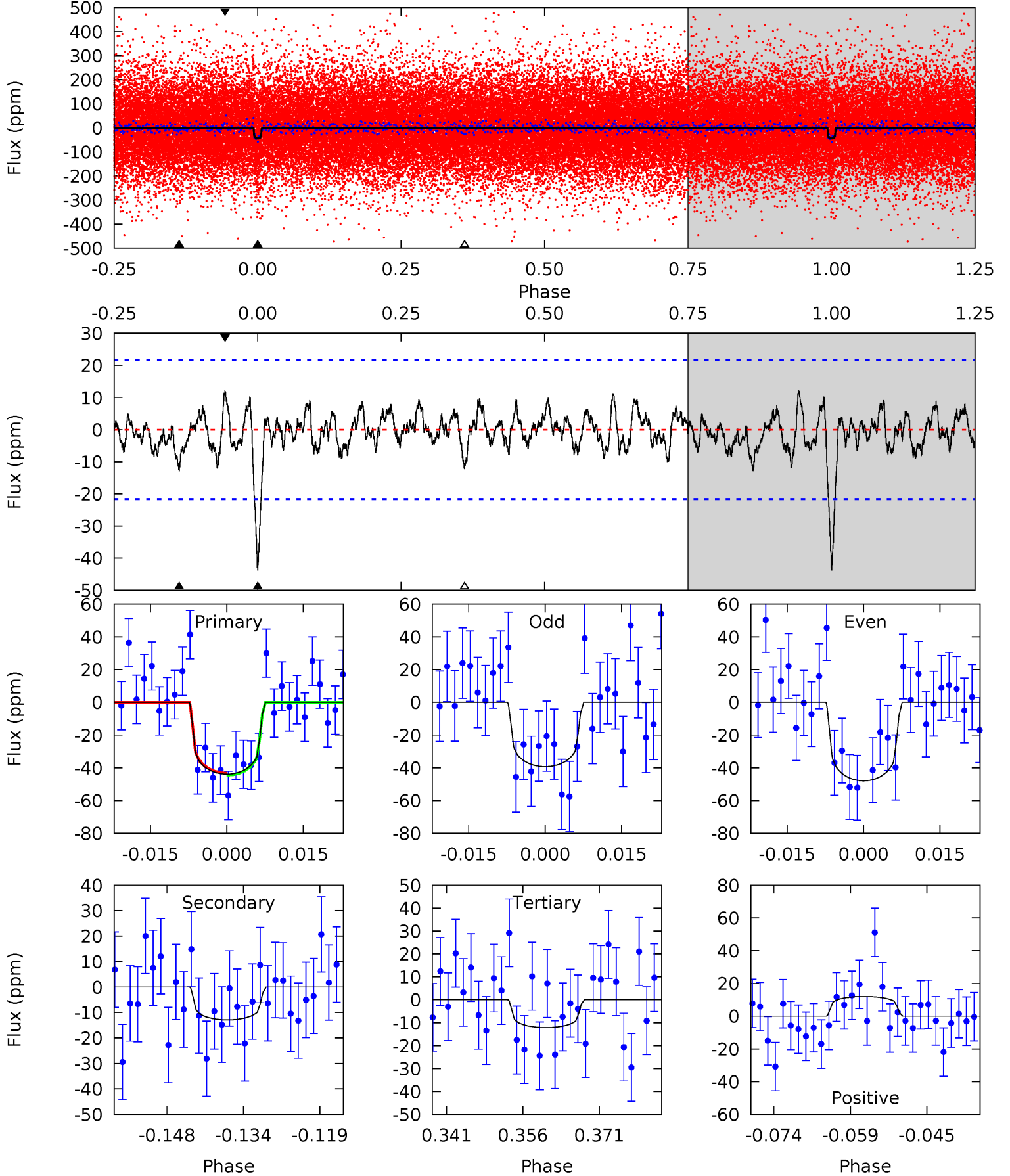
TCE 005859725-01 P= 18.982403 Days $T_0=139.272349$ (BKJD)



DV Model-Shift Uniqueness Test

005859725-01, P = 18.982738 Days, E = 120.272305 Days

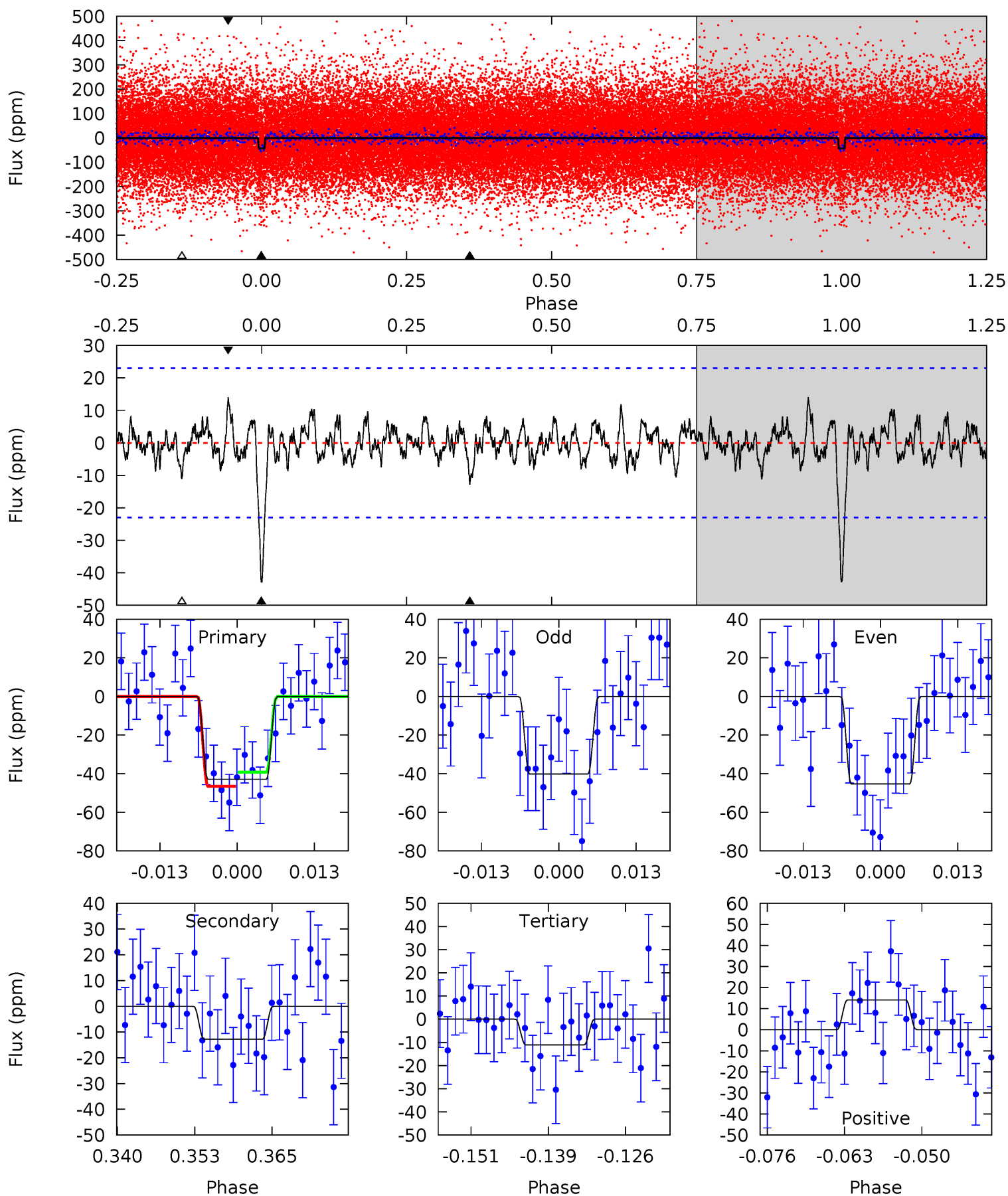
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.0	2.95	2.78	2.74	4.95	2.44	1.00	7.26	7.30	0.17	0.21	1.00	0.92	0.21	0.13



Alt Model-Shift Uniqueness Test

005859725-01, $P = 18.982403$ Days, $E = 120.289946$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.29	2.77	2.40	3.06	4.98	2.50	0.88	6.89	6.23	0.37	-0.29	0.56	1.01	0.25	0.79



Stellar Parameters For KIC 005859725

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5962^{+71}_{-88}	$4.443^{+0.040}_{-0.120}$	$0.100^{+0.150}_{-0.150}$	$1.035^{+0.164}_{-0.066}$	$1.083^{+0.065}_{-0.071}$	$1.377^{+0.210}_{-0.451}$
	+1%/-1%	+1%/-3%	+150%/-150%	+16%/-6%	+6%/-7%	+15%/-33%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 005859725-01 / KOI 5207.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-13 ± 4	$0.86^{+0.52}_{-0.45}$	996^{+38}_{-25}	4331^{+1602}_{-682}	186^{+620}_{-115}
Alt.	-13 ± 5	$0.84^{+0.53}_{-0.46}$	997^{+42}_{-26}	4389^{+1978}_{-777}	195^{+873}_{-129}

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 $A_{obs} \gg 1.0$

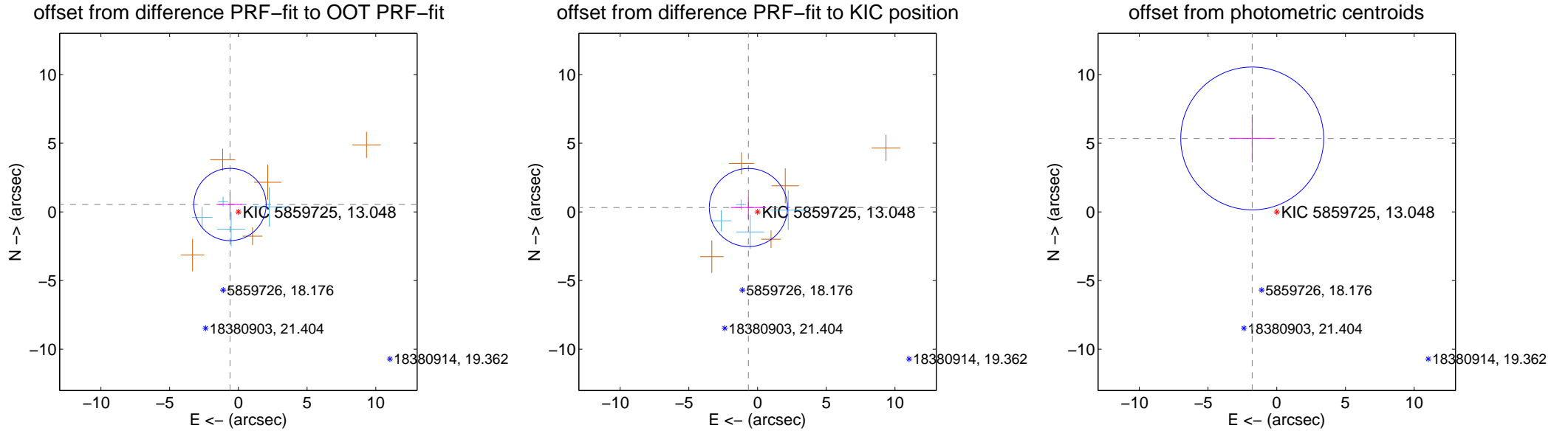
DV Centroid Data

Supplemental centroid analysis for 005859725-01. Kepler magnitude: 13.05. Transit SNR 7.24

There are 4 quarters with good PRF difference image offsets

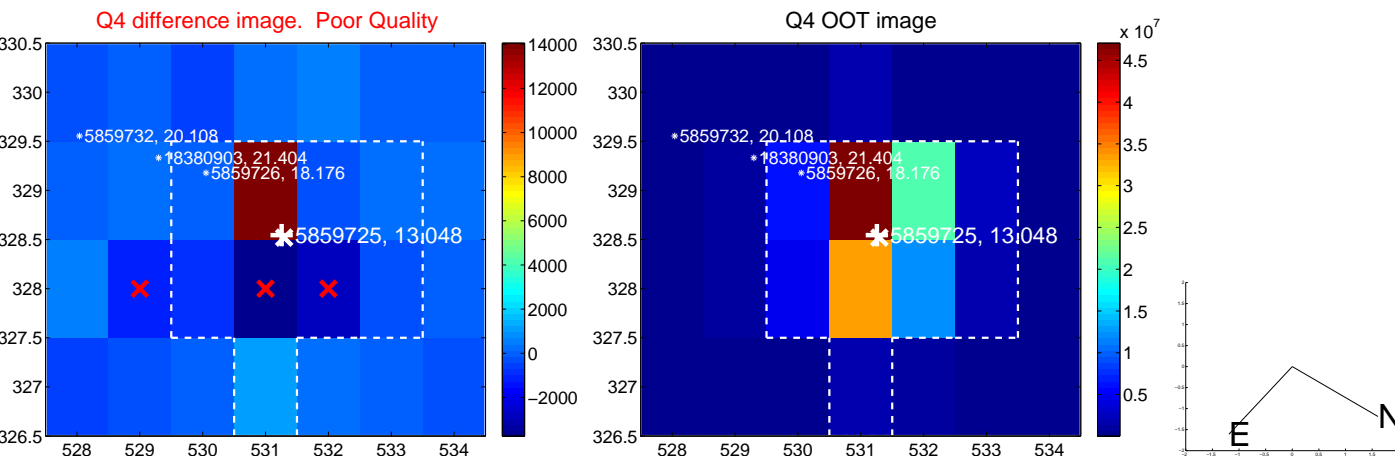
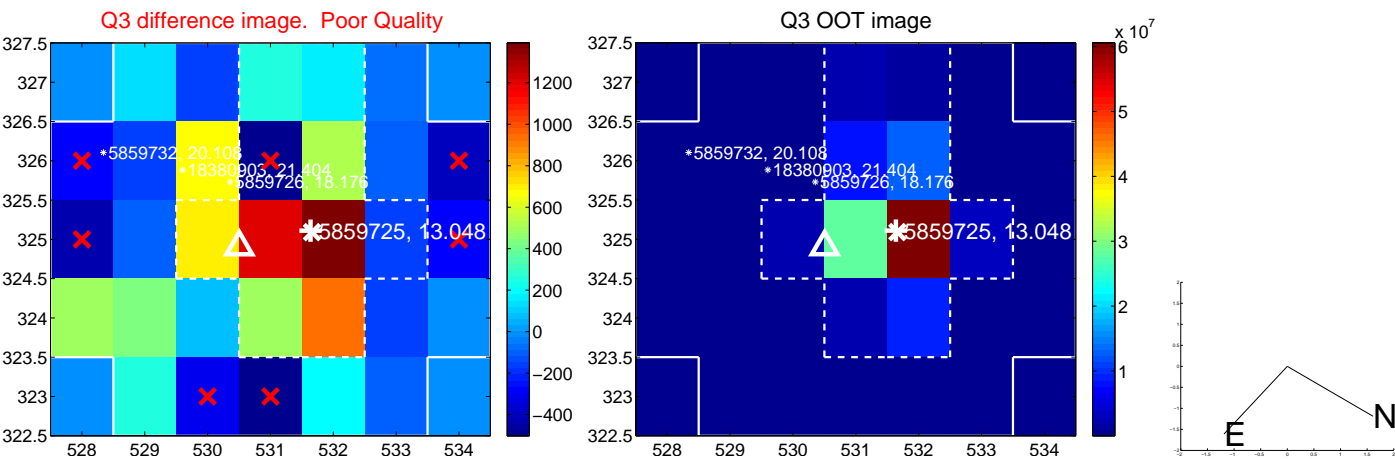
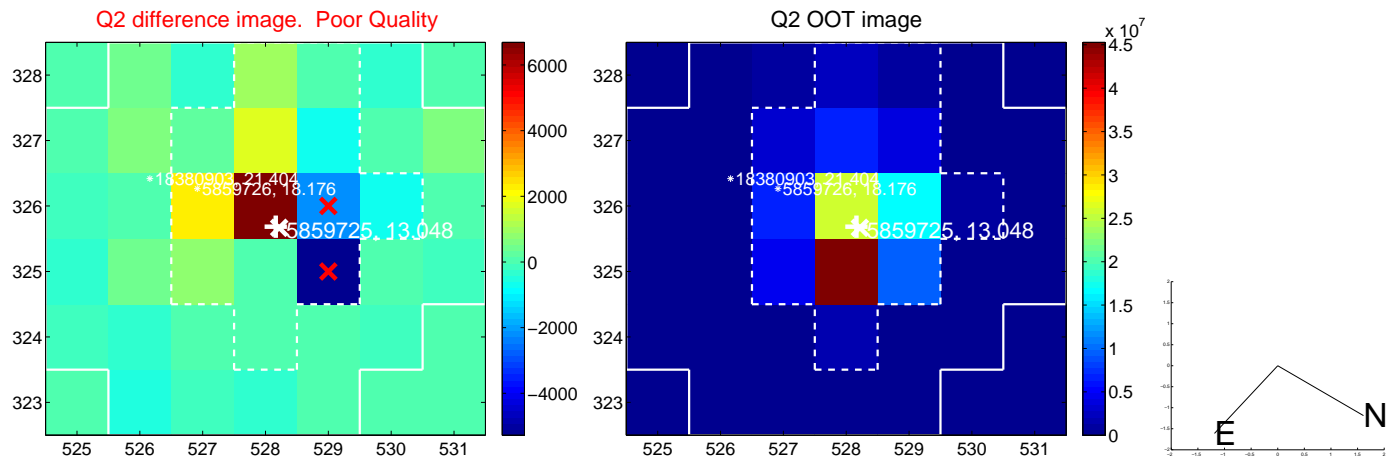
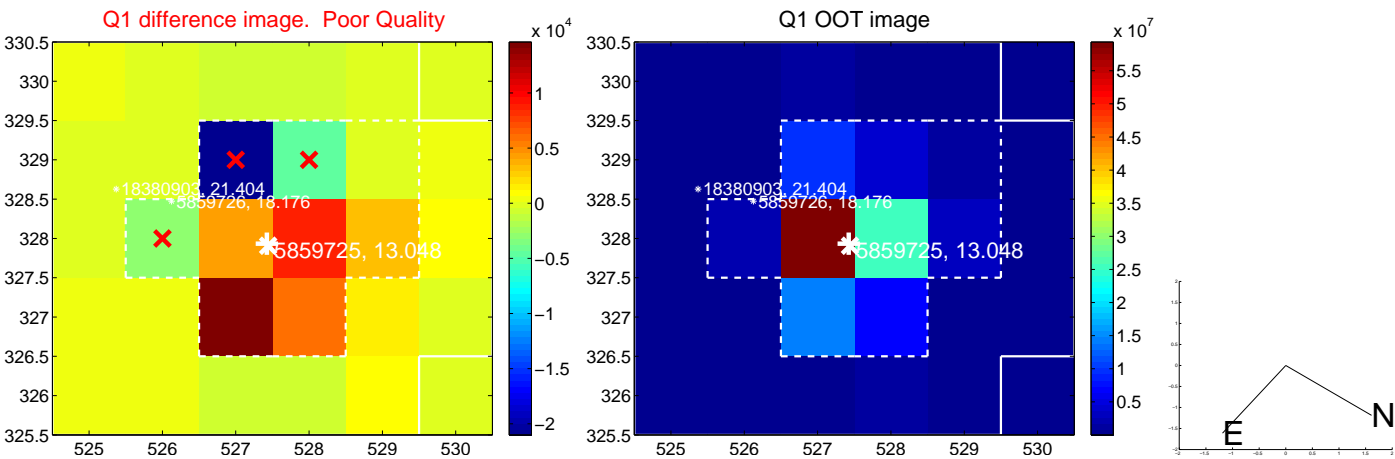
The direct PRF centroid is offset from the target star catalog position by about 0.24 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.812 ± 0.877	0.93	0.609 ± 0.857	0.537 ± 0.902
PRF-fit source offset from KIC position	0.738 ± 0.948	0.78	0.666 ± 1.281	0.317 ± 0.836
photometric centroid source offset	5.64 ± 1.73	3.25	1.79 ± 1.66	5.35 ± 1.74

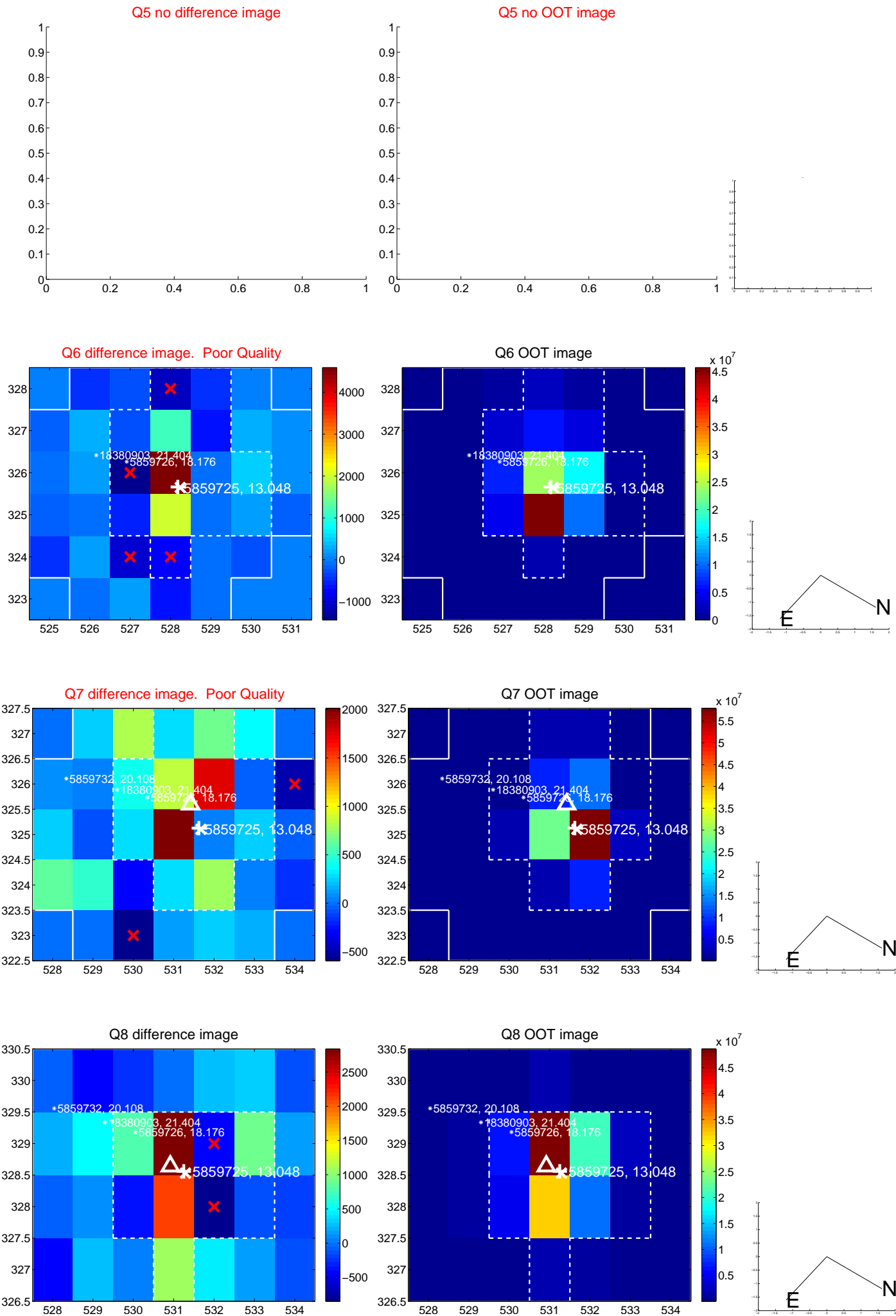


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

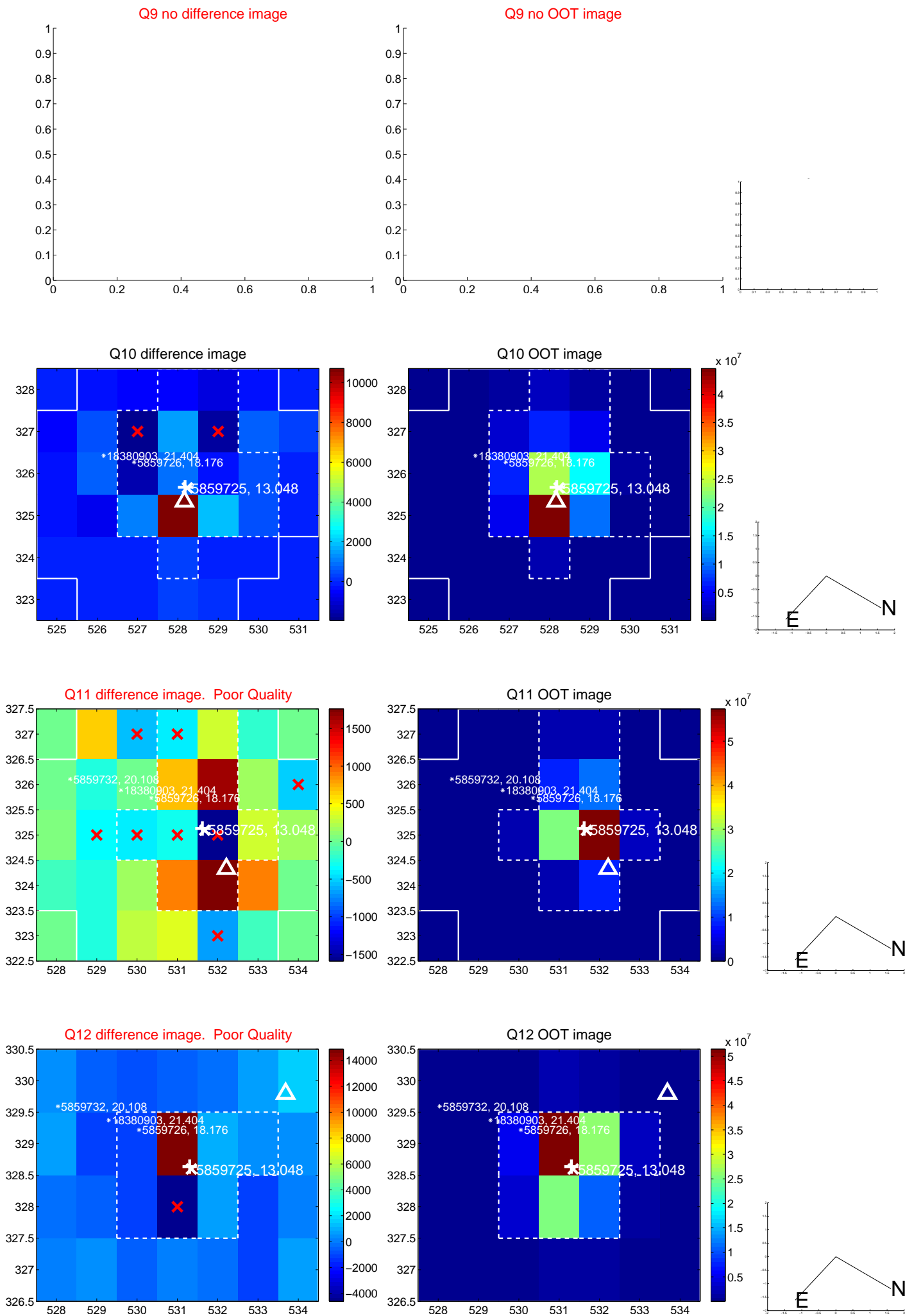
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



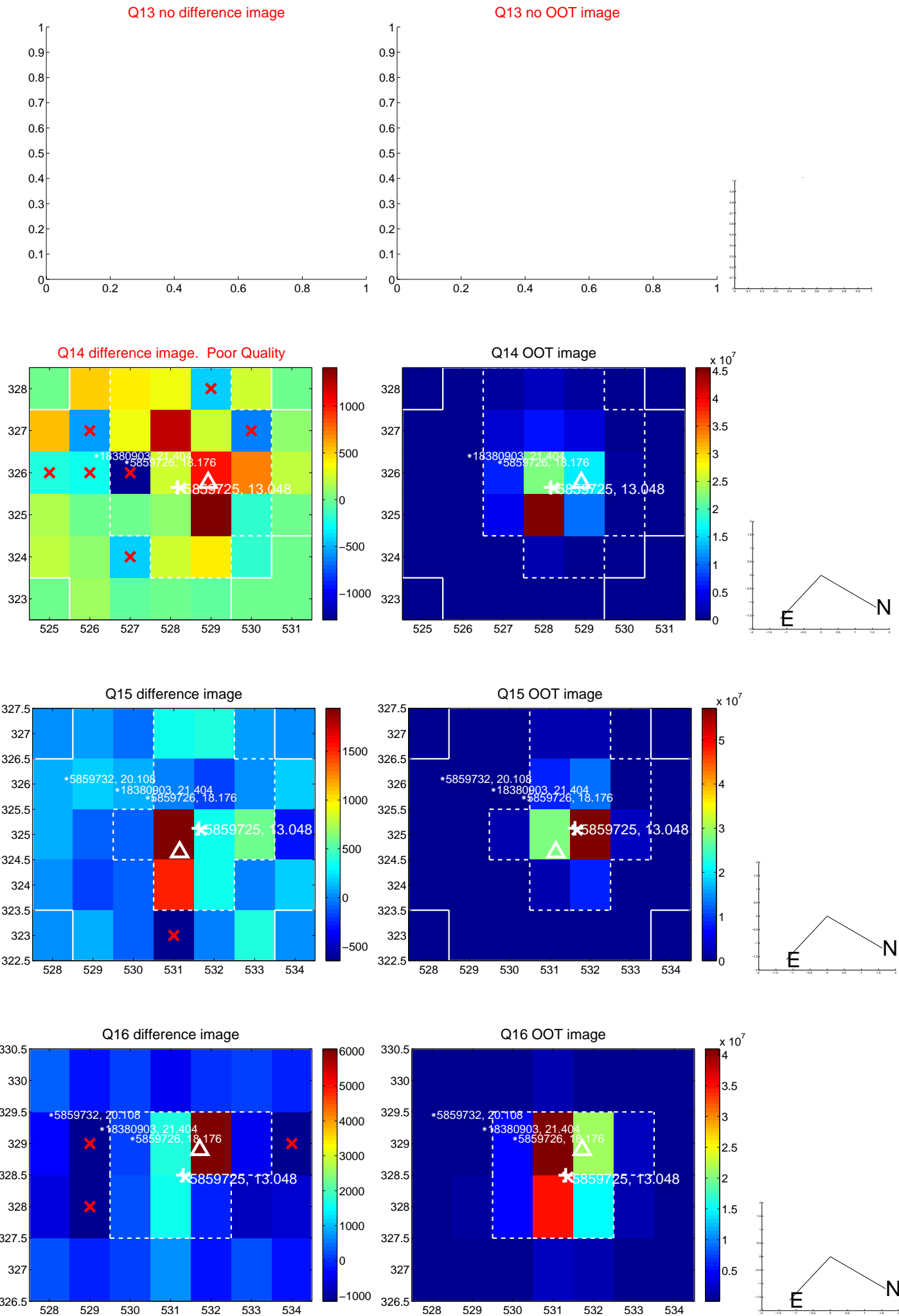
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



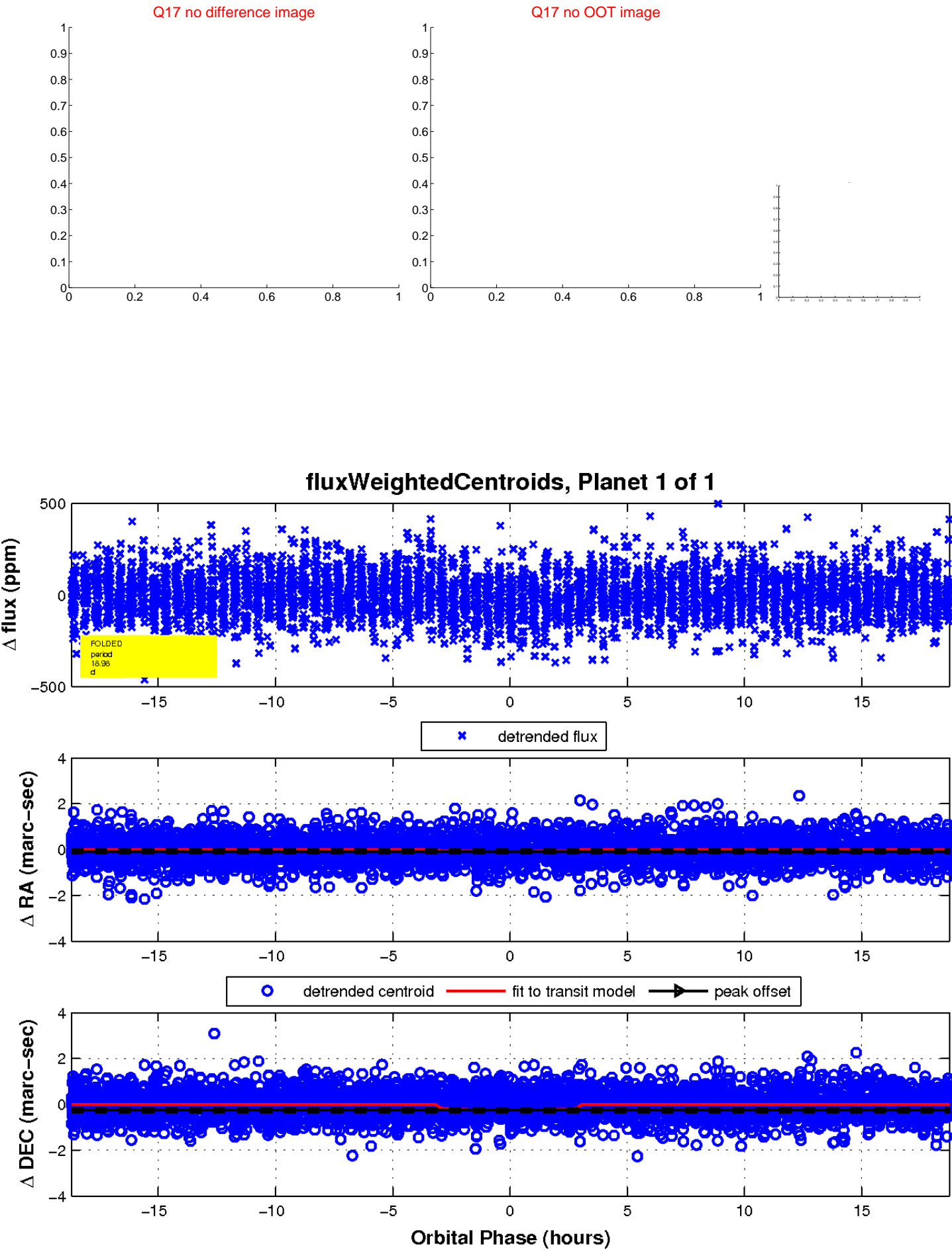
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

