

KIC 002570505

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})
002570505-01	OBS	6279.01	1.891255	132.689266	30.6	5.611	12.2	12.5	0.73	4986	0.41	417.80

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002570505-01	OBS	FP	0.00	0	0	1	1	CENT_KIC_POS—HALO_GHOST—EPHEM_MATCH

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.

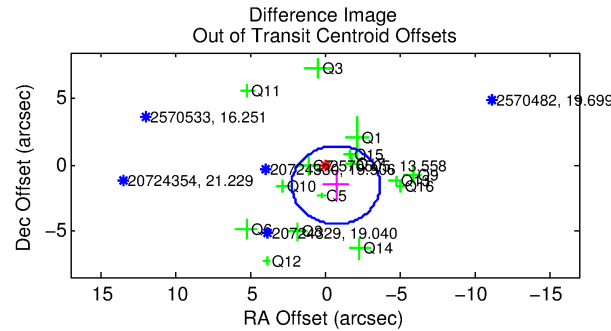
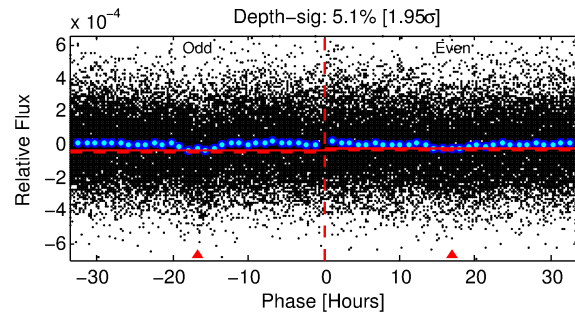
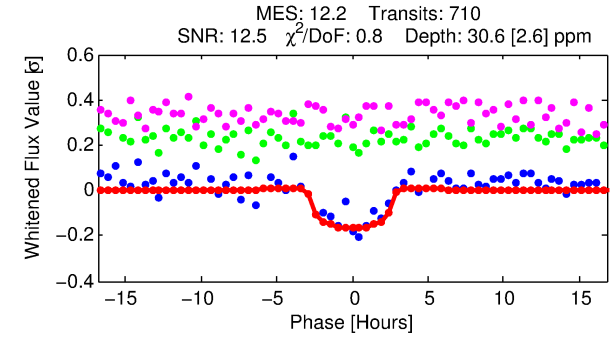
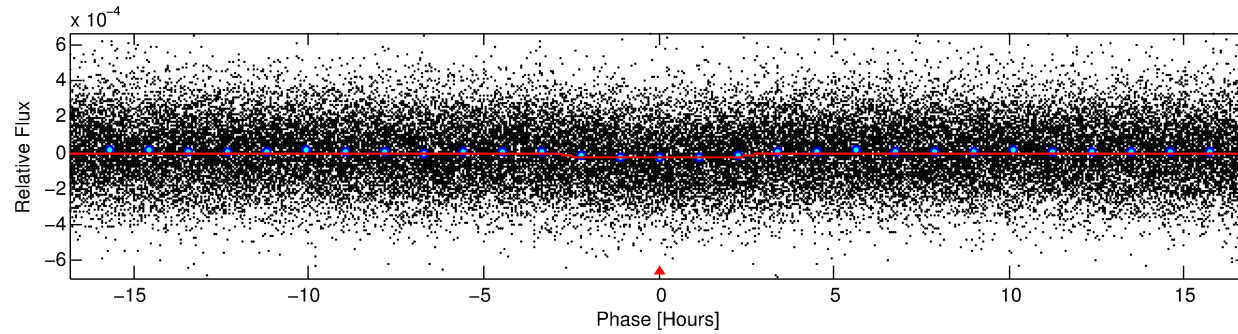
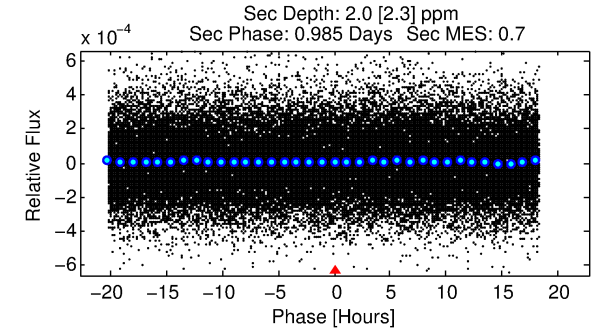
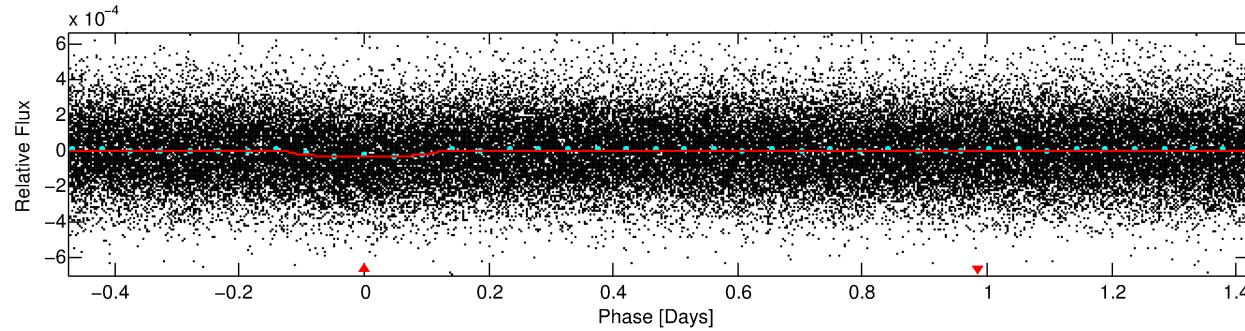
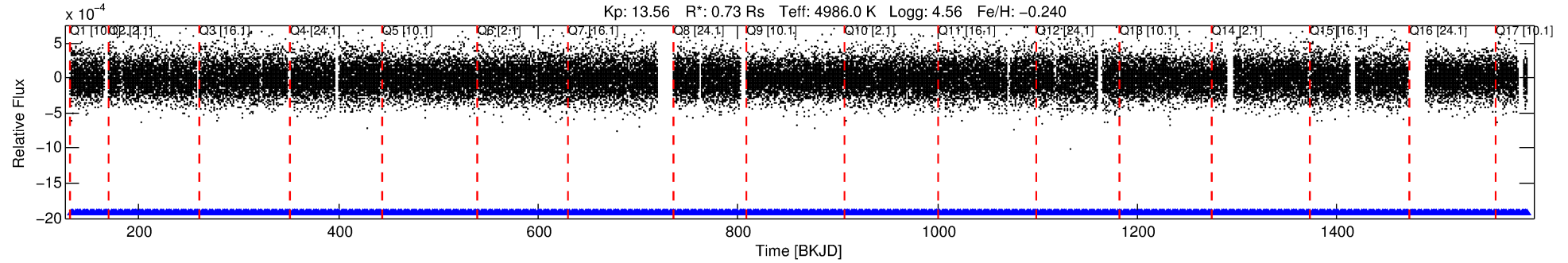
Ephemeris Match Information For 002570505-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
002570505-01	2570505	6286.01	2708156	1:1	174.2	37	-22	10.67	13.56	20675.00	Direct-PRF	0	0.51	0.34

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

KIC: 2570505 Candidate: 1 of 1 Period: 1.891 d
KOI: K06279.01 Corr: 0.972



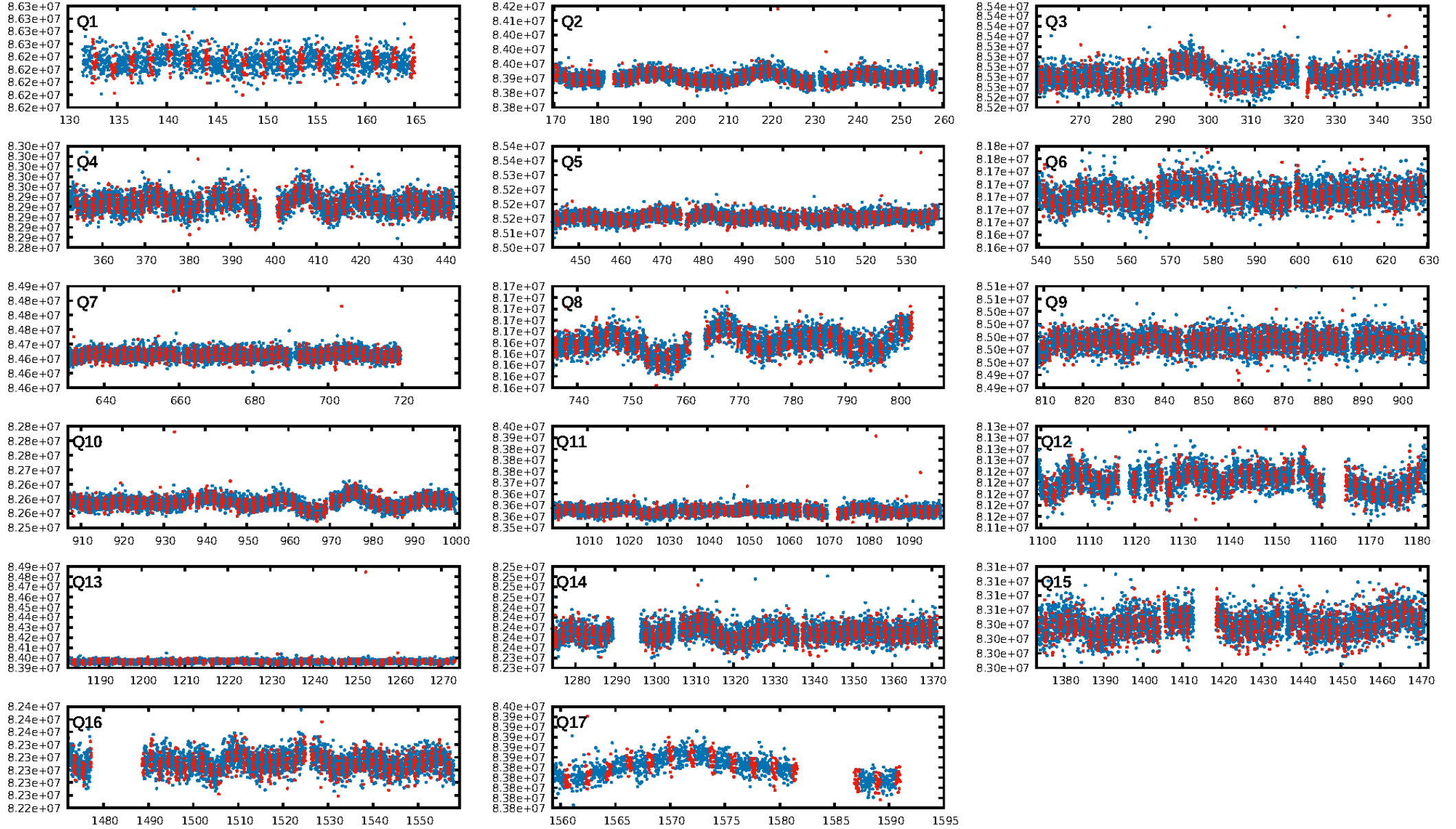
DV Fit Results:

Period = 1.89126 [0.00002] d
Epoch = 132.6893 [0.0058] BKJD
Rp/R* = 0.0052 [0.0025]
a/R* = 2.31 [3.22]
b = 0.53 [2.34]
Seff = 417.80 [71.43]
Teq = 1153 [49] K
Rp = 0.41 [0.21] Re
a = 0.0267 [0.0022] AU
Ag = 4.66 [7.06] [0.52σ]
Teffp = 2619 [992] K [1.48σ]

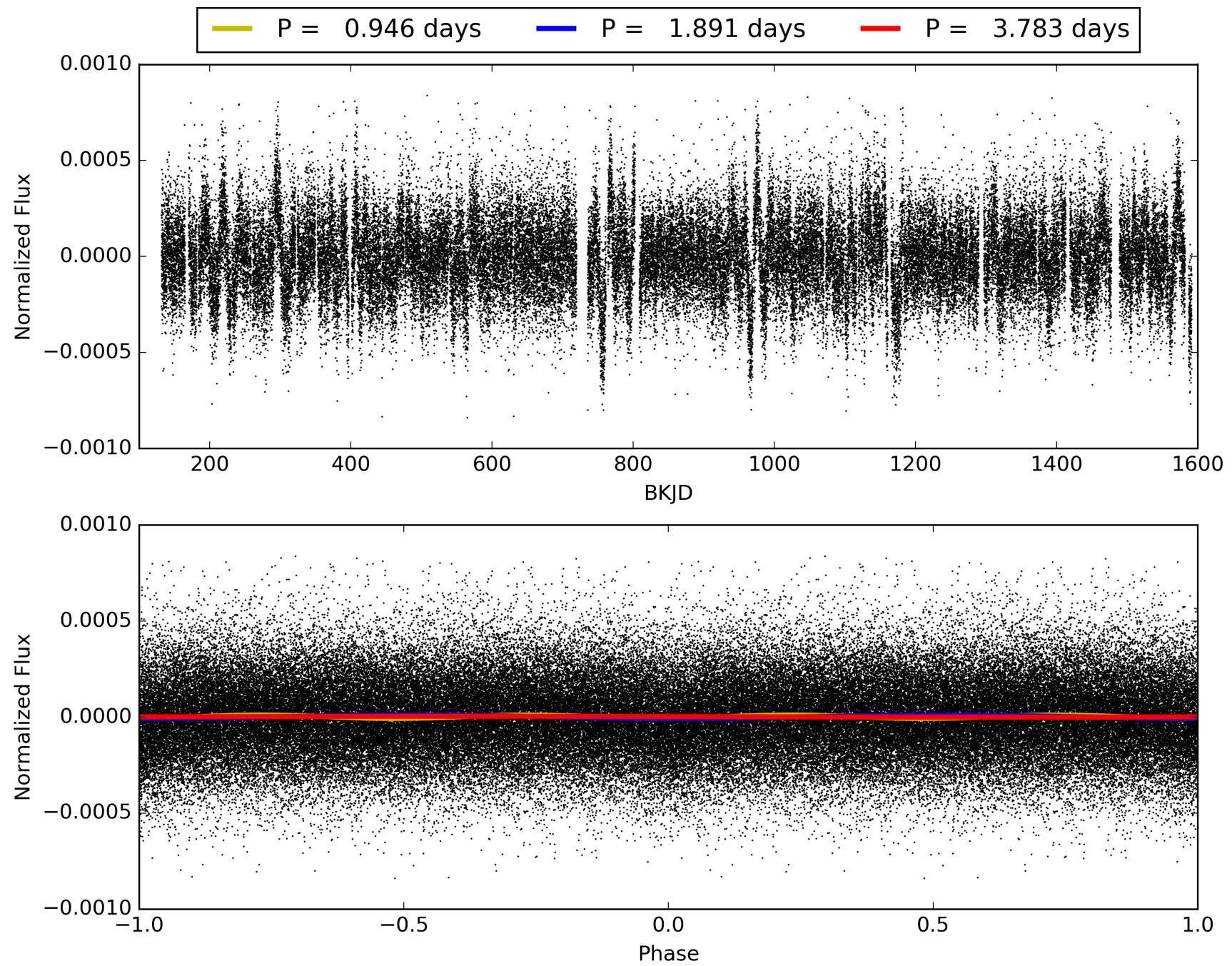
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 5.51e-34
RollingBand-fgt: 1.00 [677/677]
GhostDiagnostic-chr: -0.005486
Centroid-sig: 1.2%
Centroid-so: 1.541 arcsec [1.31σ]
OotOffset-rm: 1.713 arcsec [1.74σ]
KicOffset-rm: 2.066 arcsec [2.13σ]
OotOffset-st: 3/4/3/5 [15]
KicOffset-st: 3/4/3/5 [15]
DiffImageQuality-fgm: 0.07 [1/15]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 002570505-01, PDC Light Curves

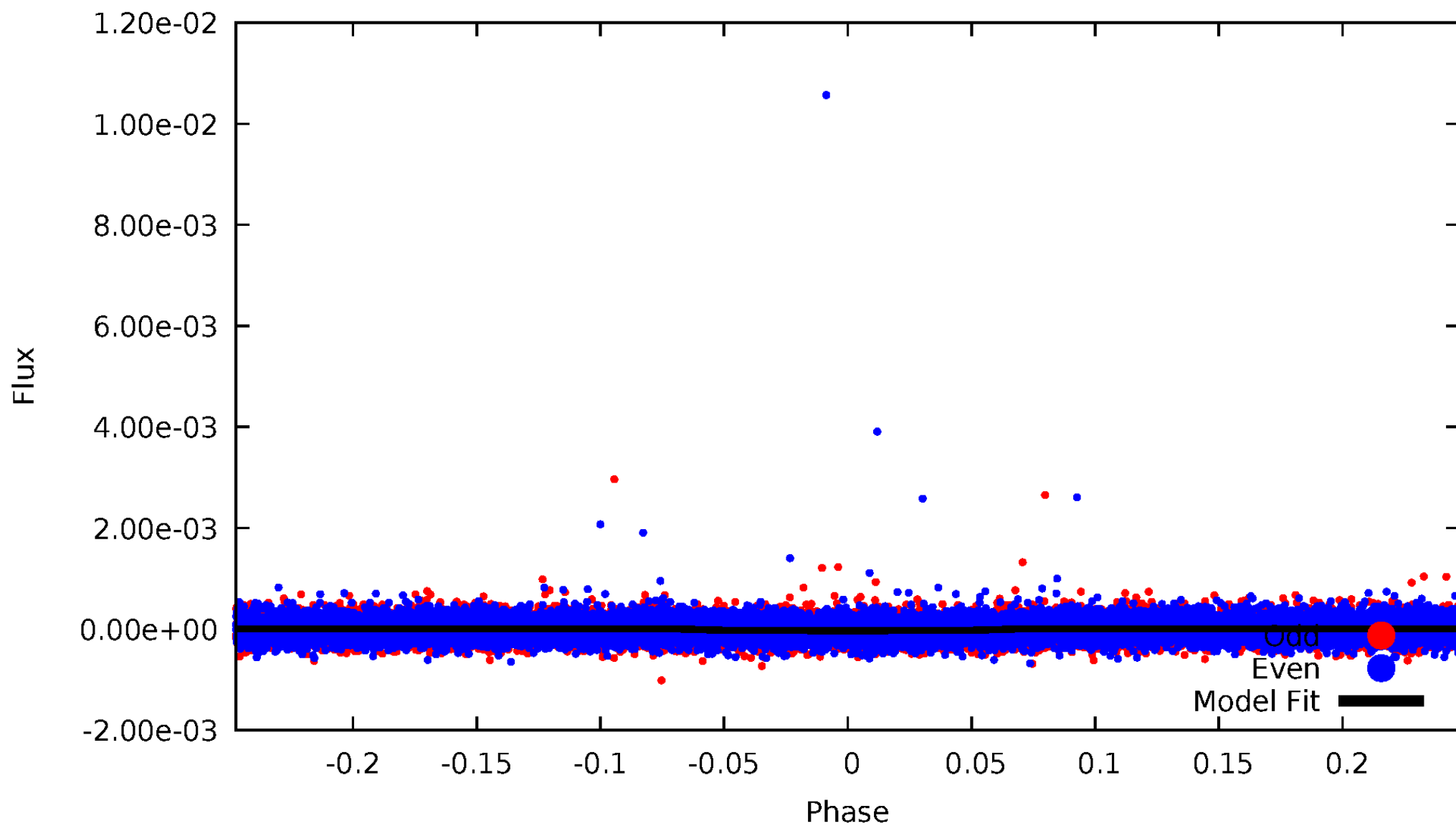


TCE 002570505-01



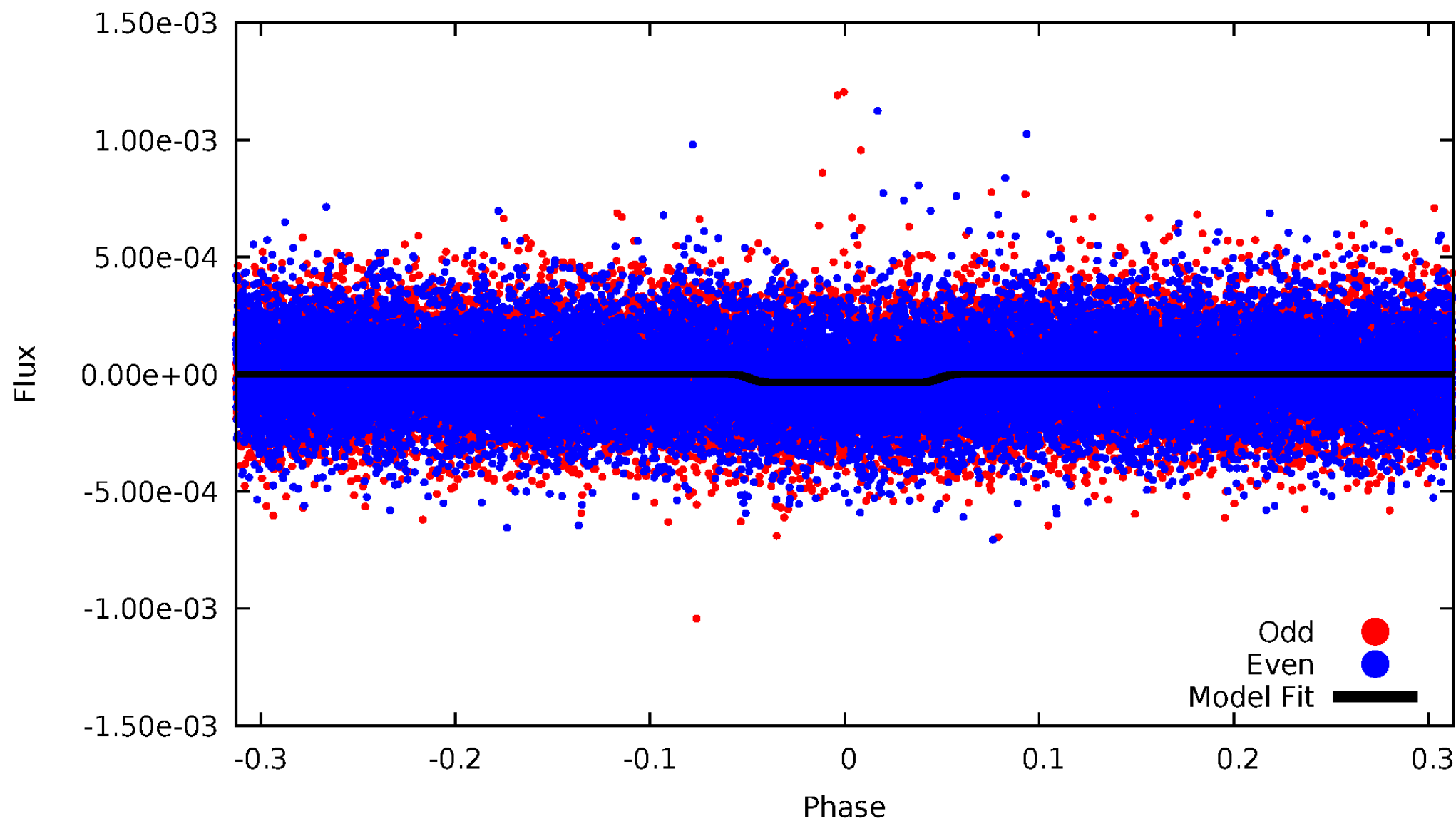
DV Odd/Even

TCE 002570505-01



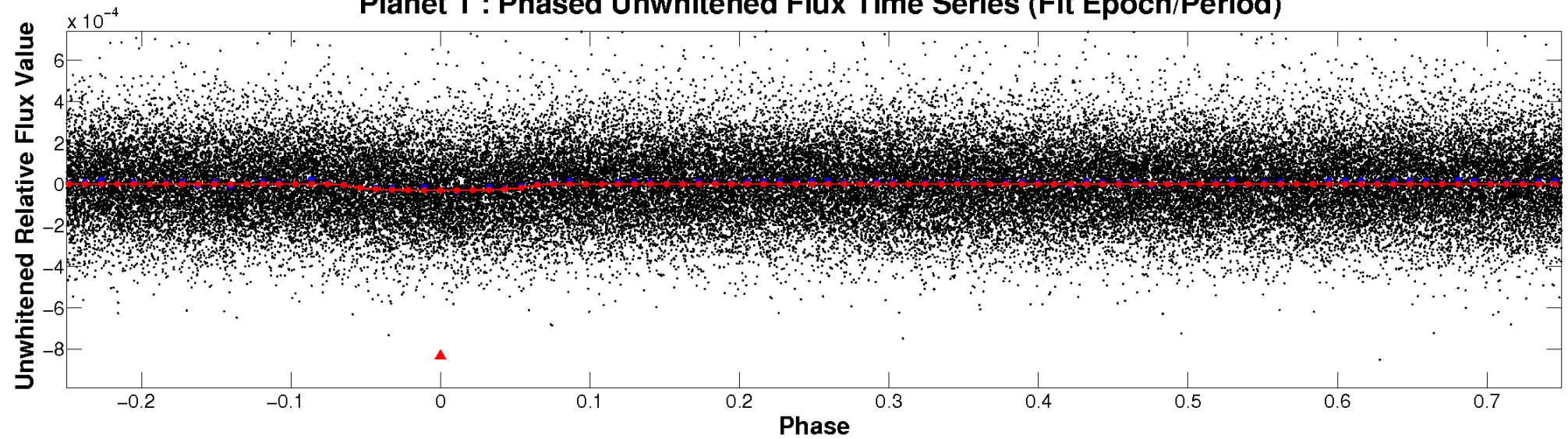
ALT Odd/Even

TCE 002570505-01

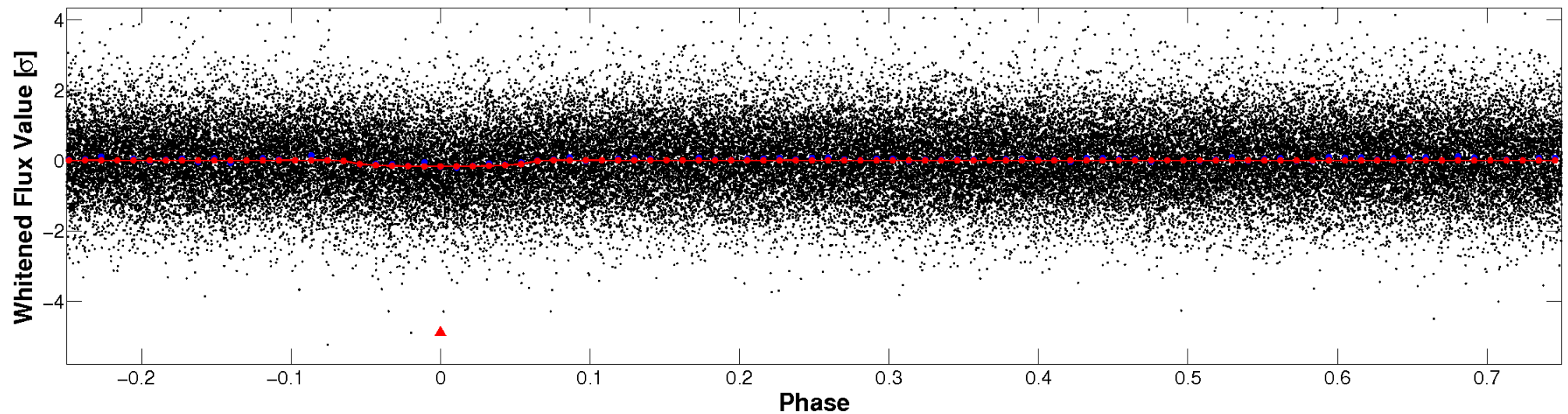


Non-Whitened Vs. Whitened Light Curve

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

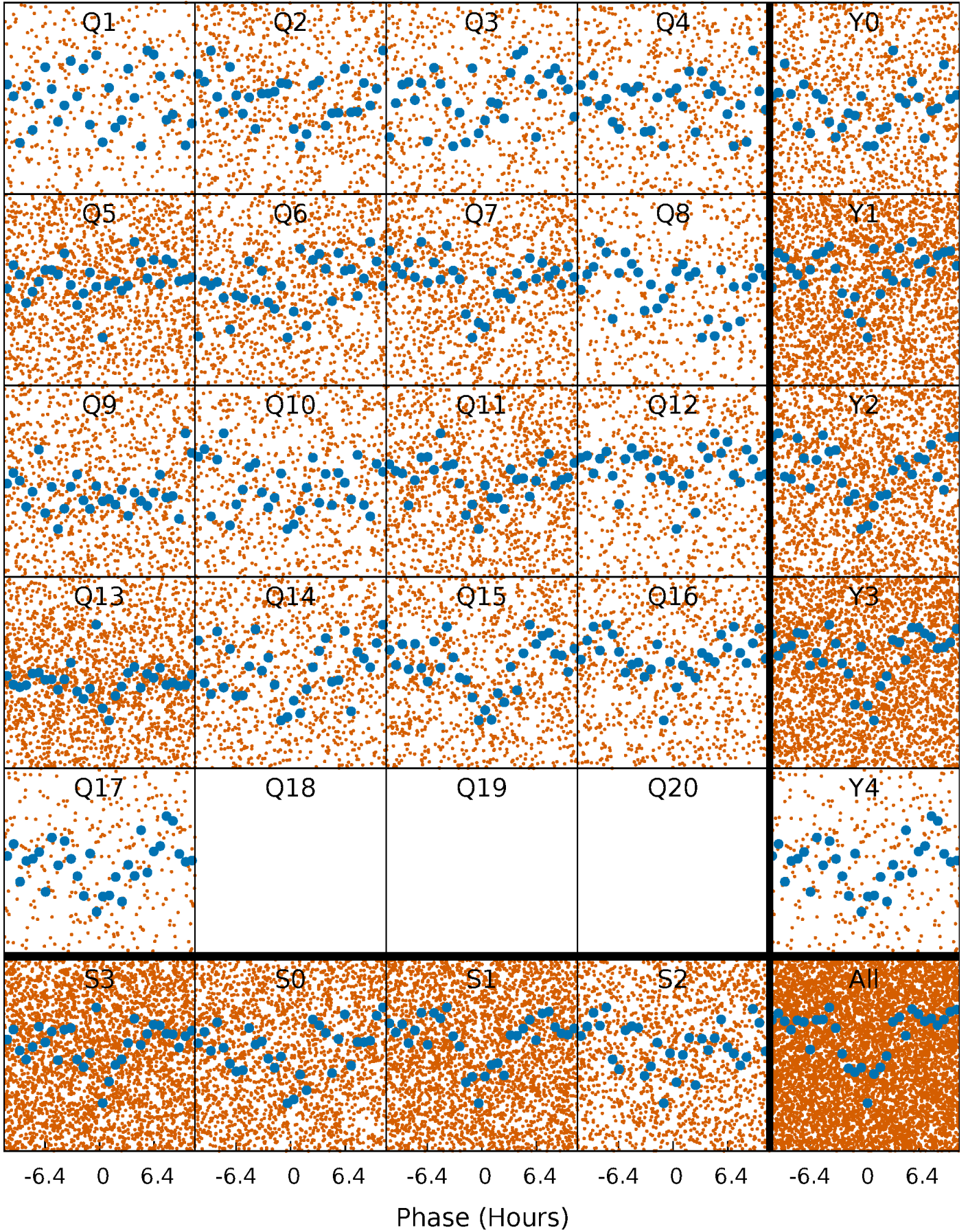


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



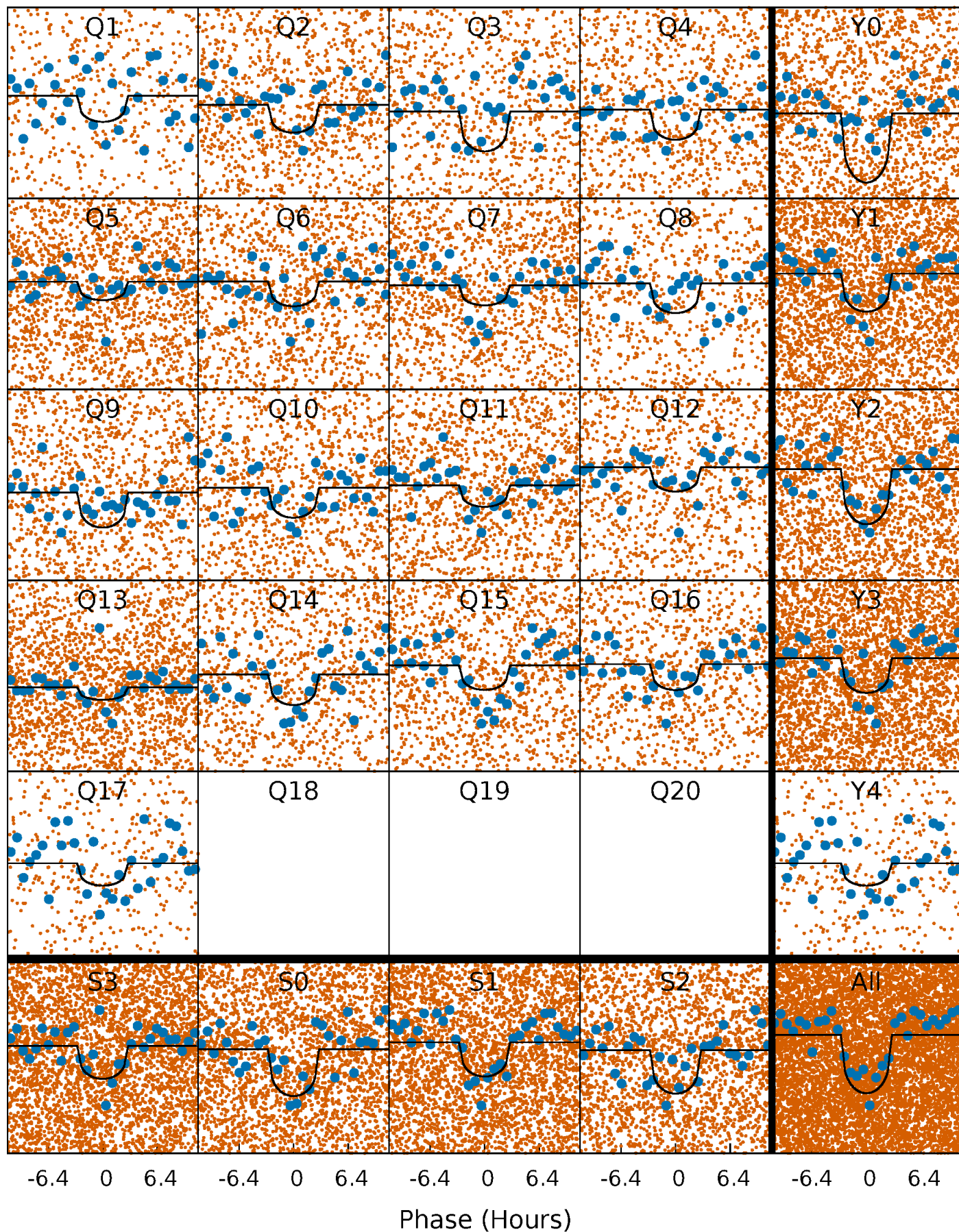
PDC Quarter-Phased Transit Curves

TCE 002570505-01 $P = 1.891255$ Days $T_0 = 132.689267$ (BKJD)



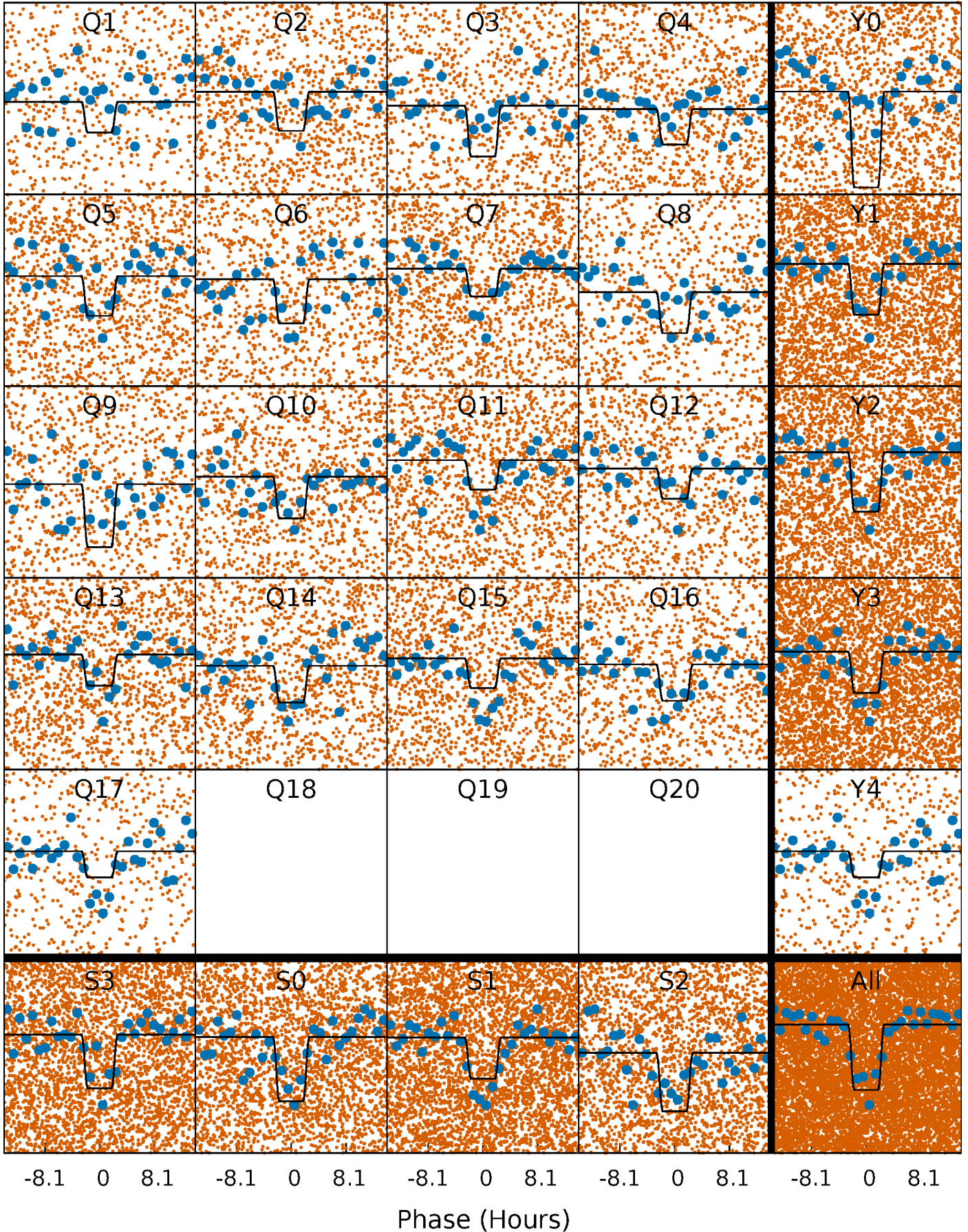
DV Quarter-Phased Transit Curves

TCE 002570505-01 P= 1.891255 Days $T_0=132.689267$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

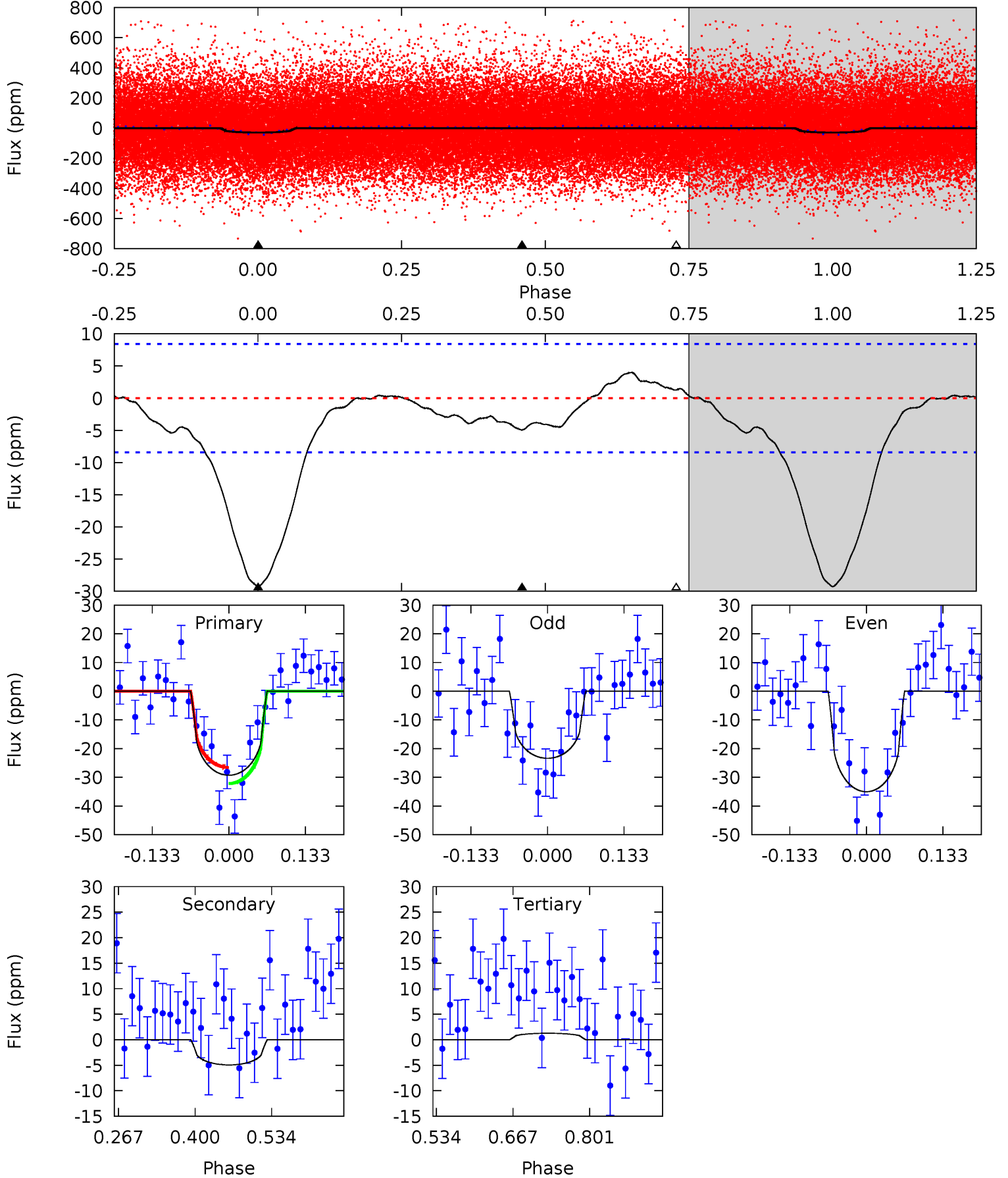
TCE 002570505-01 P= 1.891298 Days $T_0=132.668230$ (BKJD)



DV Model-Shift Uniqueness Test

002570505-01, P = 1.891255 Days, E = 130.798012 Days

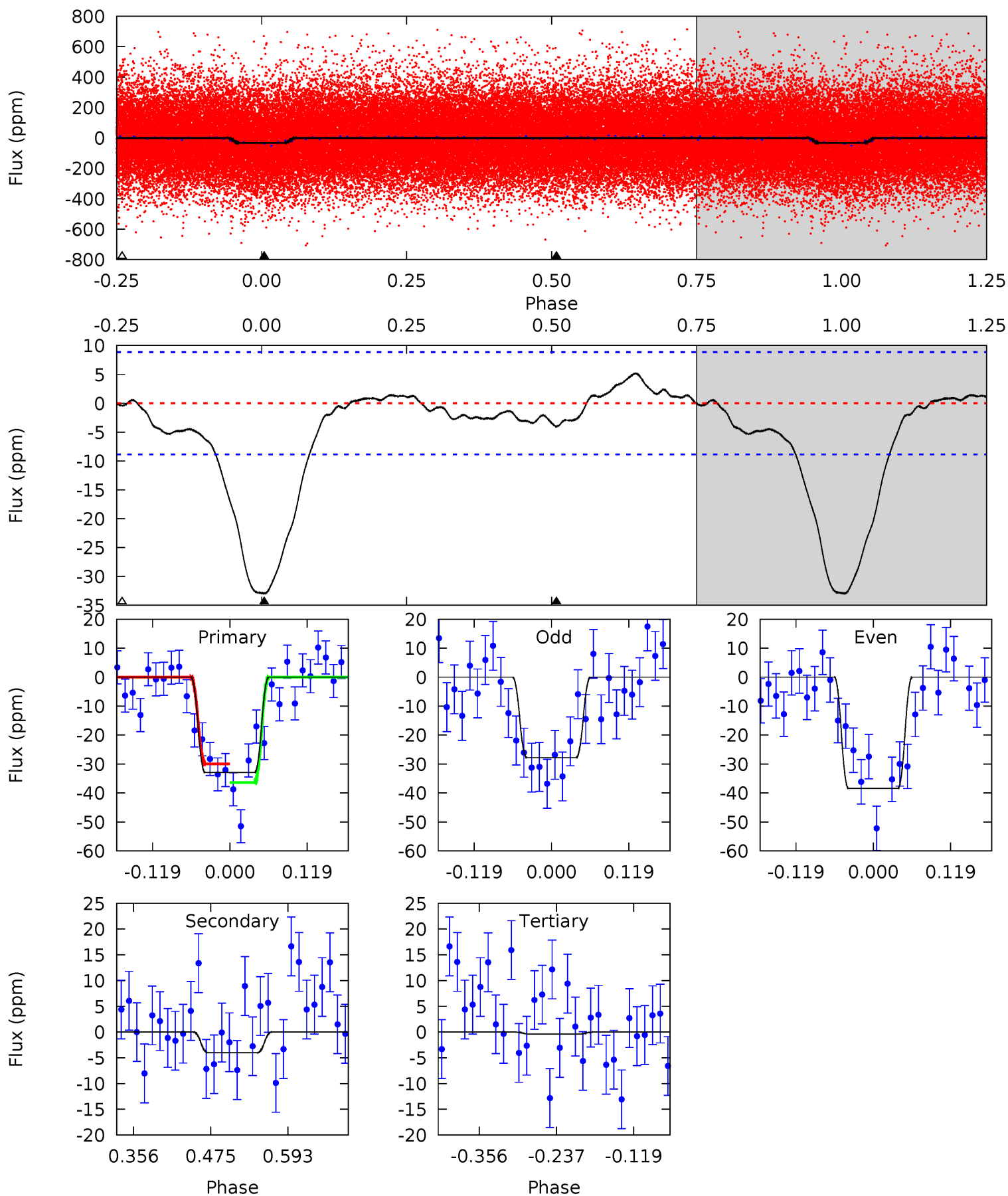
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.7	2.65	-0.68	0	4.50	1.50	1.23	16.4	15.7	3.33	2.65	3.13	0.98	0.12	1.49



Alt Model-Shift Uniqueness Test

002570505-01, P = 1.891298 Days, E = 130.776932 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.8	2.06	0.20	0	4.53	1.56	1.27	16.6	16.8	1.85	2.06	2.71	0.99	0.13	1.64



Stellar Parameters For KIC 002570505

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4986^{+151}_{-136}	$4.558^{+0.066}_{-0.044}$	$-0.240^{+0.300}_{-0.300}$	$0.733^{+0.065}_{-0.072}$	$0.709^{+0.093}_{-0.050}$	$2.537^{+0.769}_{-0.411}$
	+3%/-3%	+1%/-1%	+125%/-125%	+9%/-10%	+13%/-7%	+30%/-16%
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 002570505-01 / KOI 6279.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-5 ± 2	$0.42^{+0.20}_{-0.19}$	1604^{+61}_{-60}	3589^{+966}_{-466}	11^{+29}_{-7}
Alt.	-4 ± 2	$0.48^{+0.20}_{-0.20}$	1602^{+61}_{-58}	3324^{+665}_{-458}	$6.685^{+13.679}_{-4.126}$

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

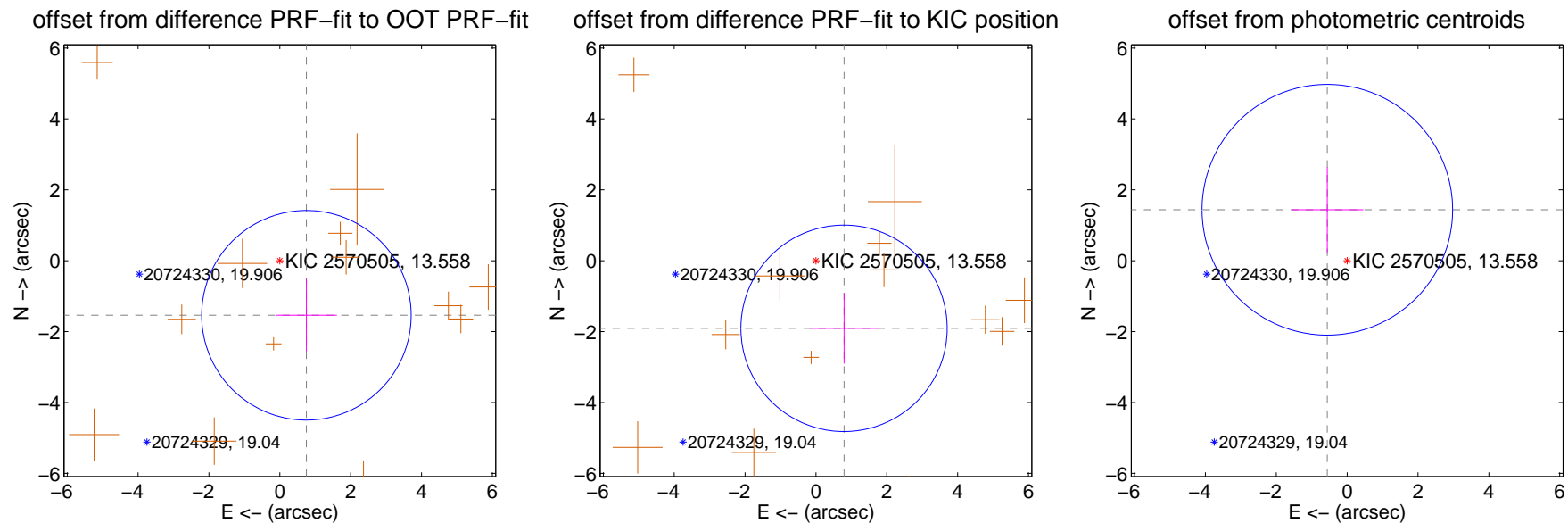
DV Centroid Data

Supplemental centroid analysis for 002570505-01. Kepler magnitude: 13.56. Transit SNR 12.46

There are 1 quarters with good PRF difference image offsets

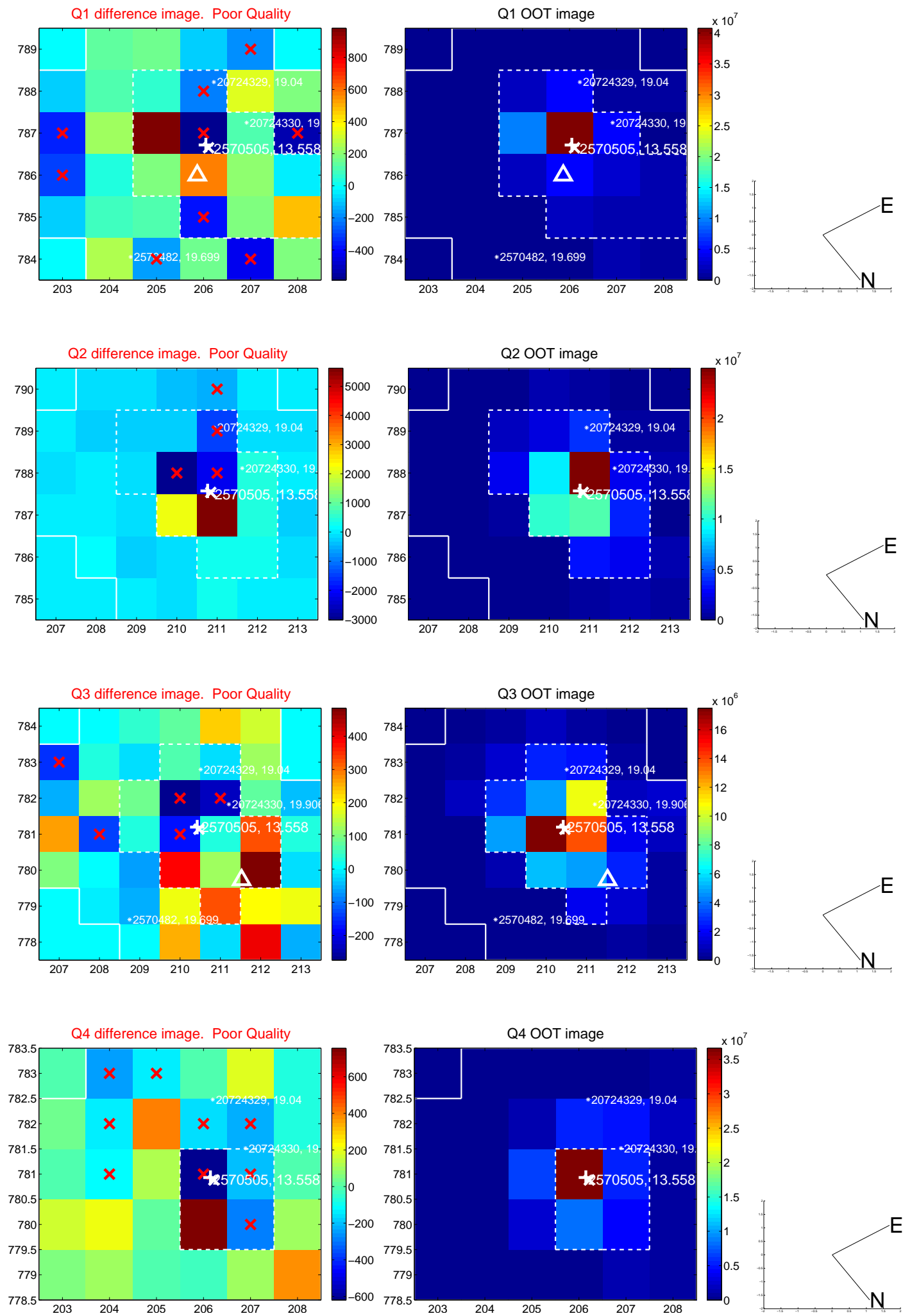
The direct PRF centroid is offset from the target star catalog position by about 0.36 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.713 ± 0.985	1.74	-0.751 ± 0.863	-1.540 ± 1.021
PRF-fit source offset from KIC position	2.066 ± 0.970	2.13	-0.794 ± 0.952	-1.908 ± 0.996
photometric centroid source offset	1.54 ± 1.18	1.31	0.56 ± 1.02	1.44 ± 1.20

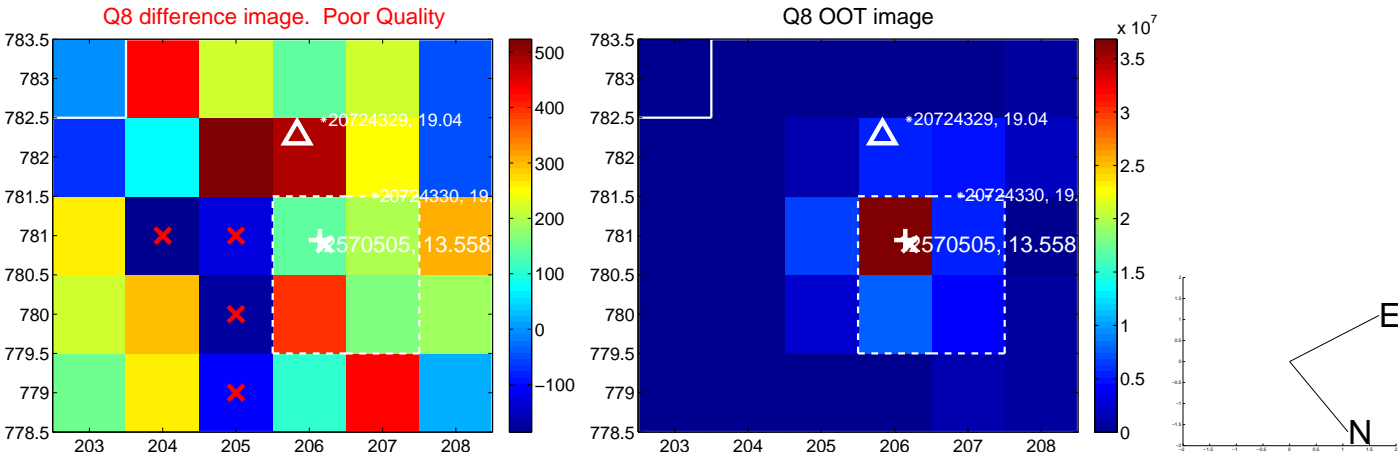
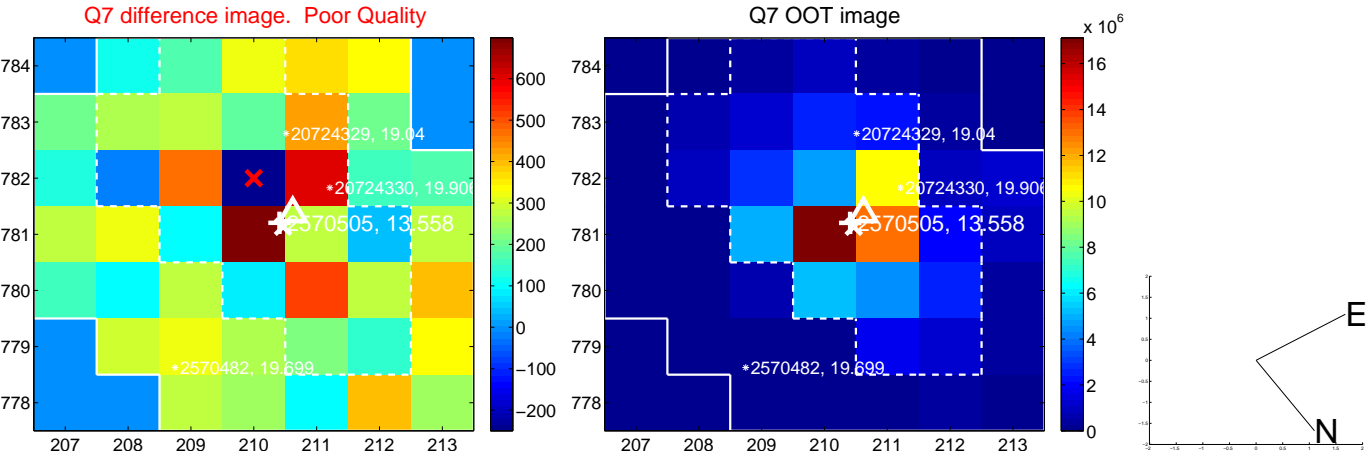
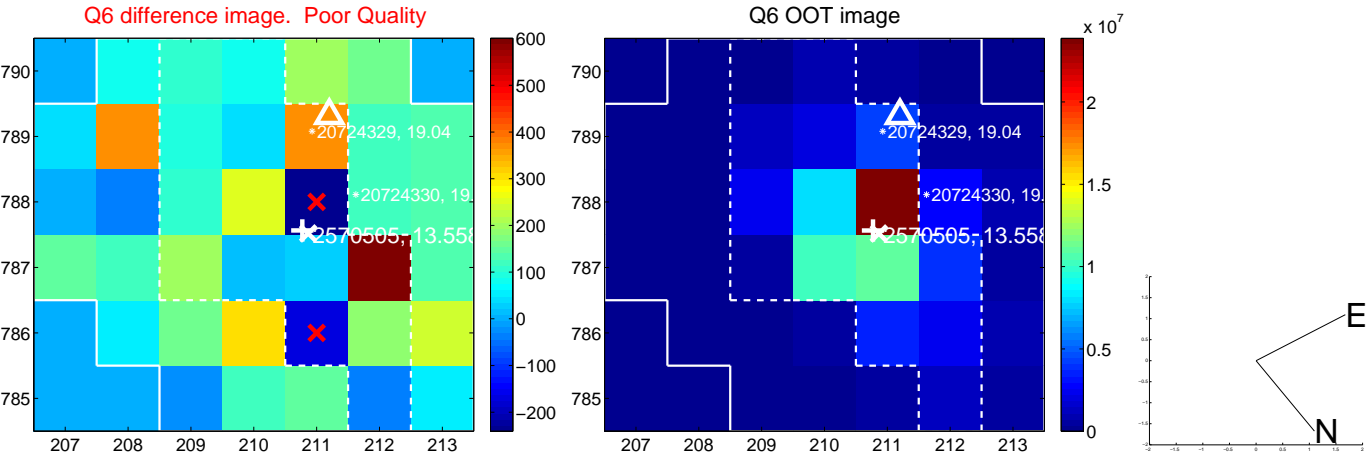
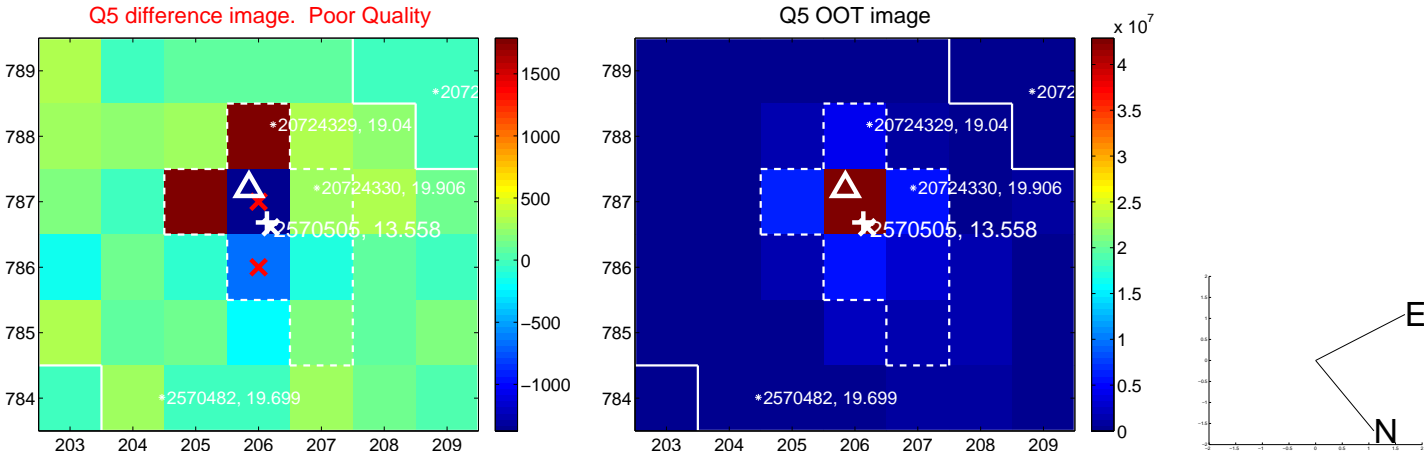


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

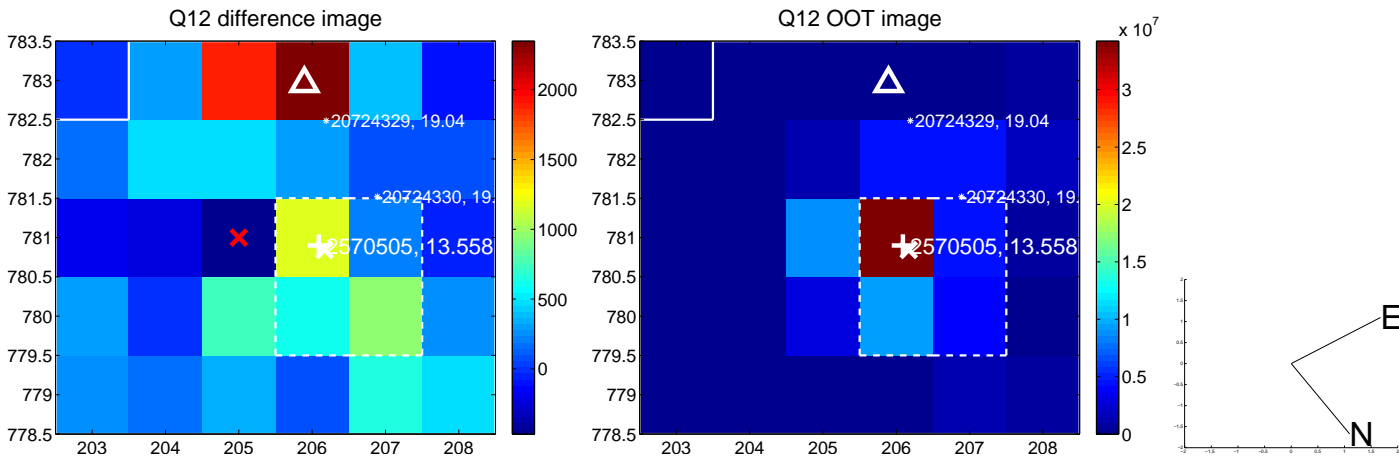
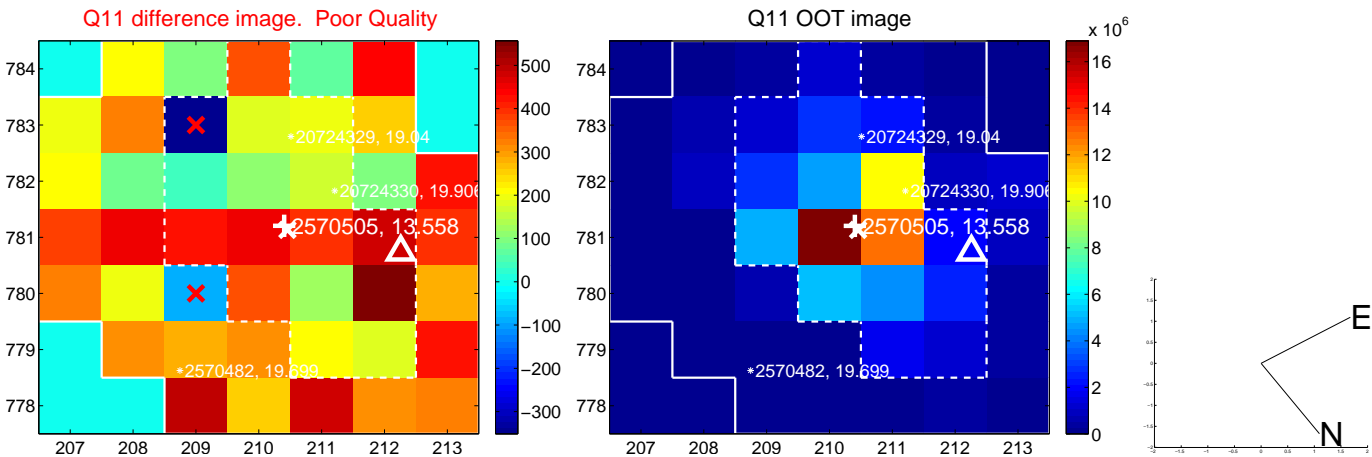
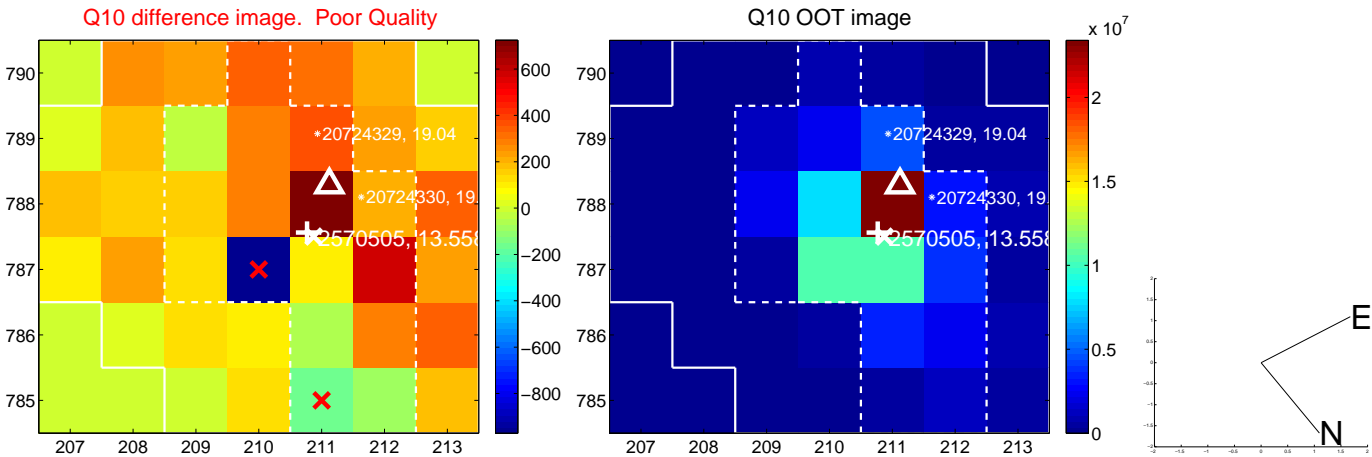
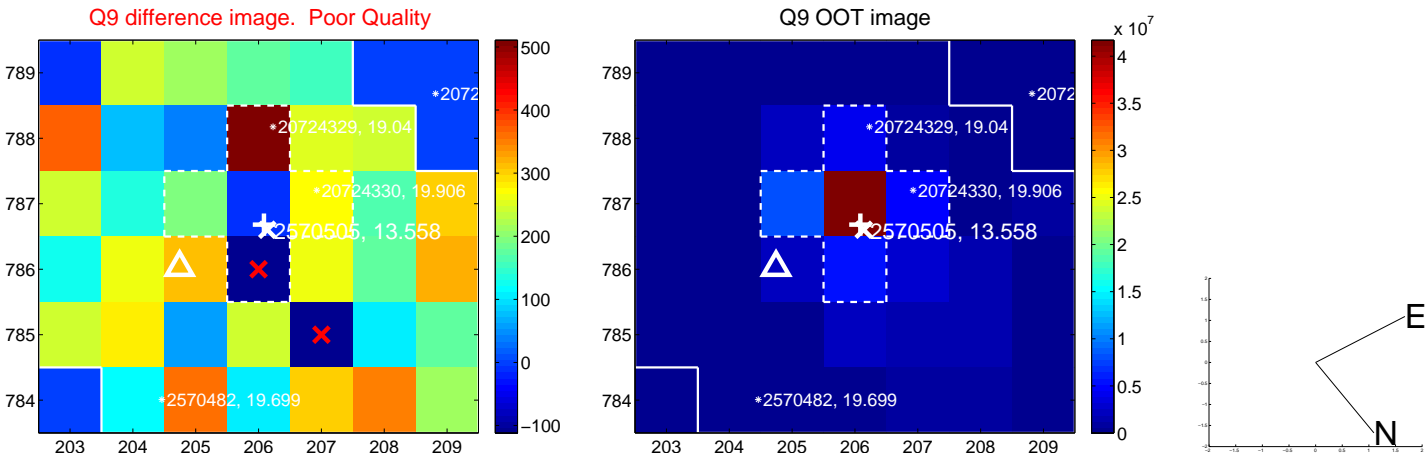
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



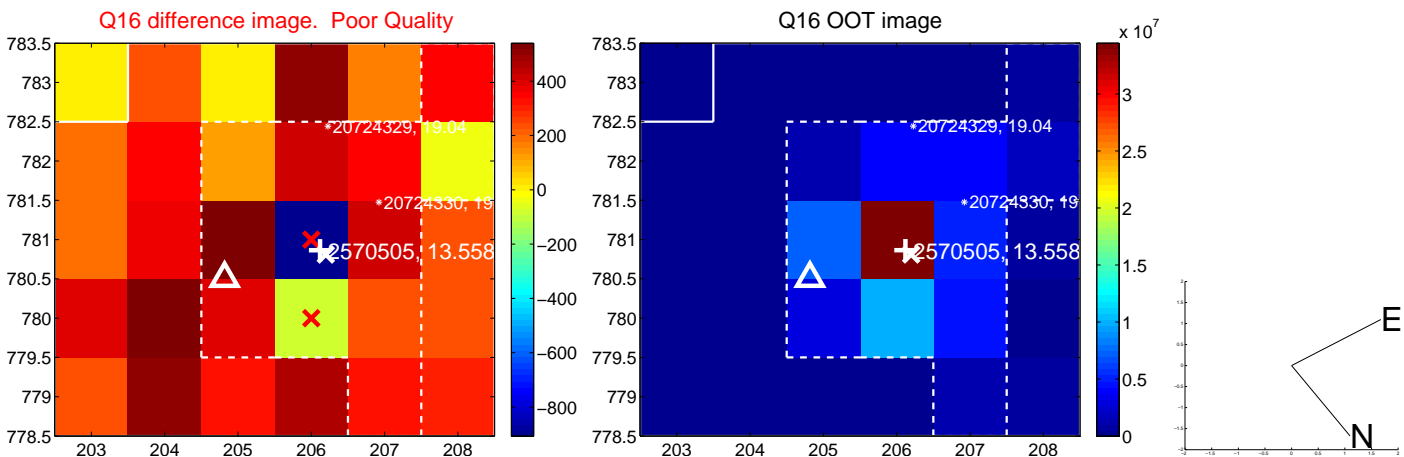
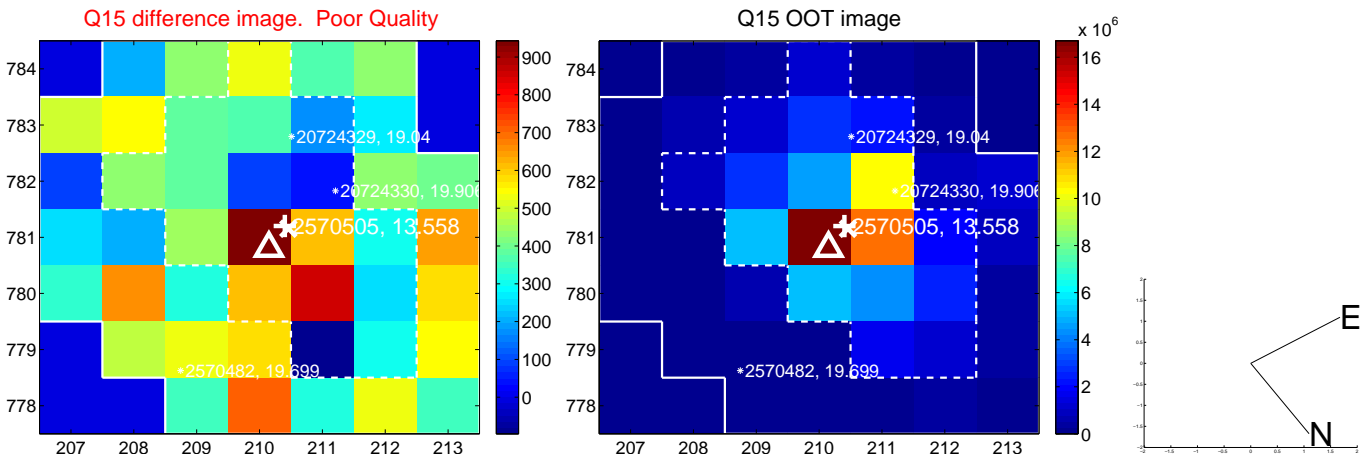
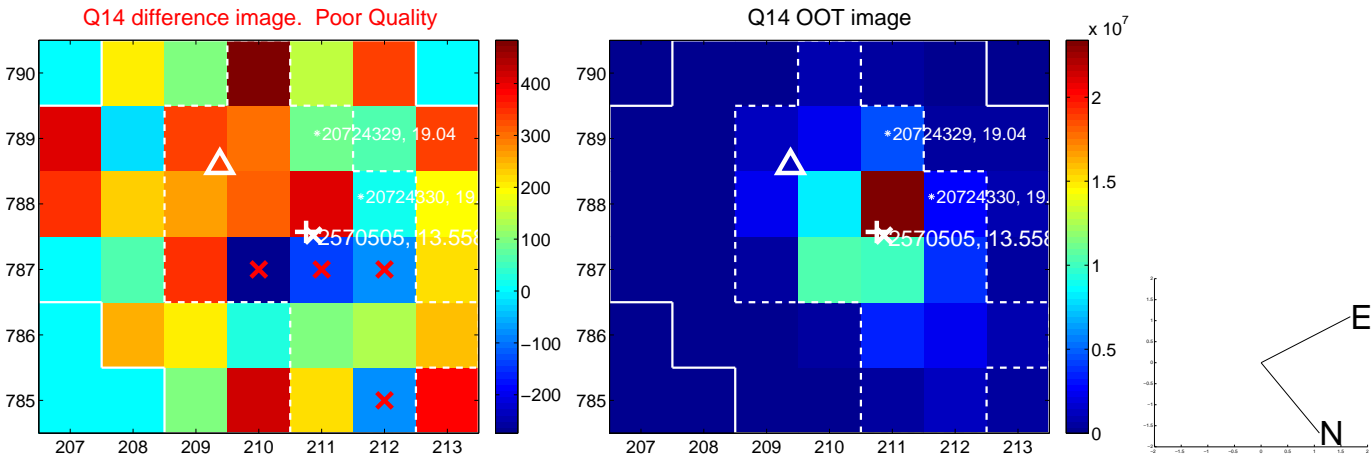
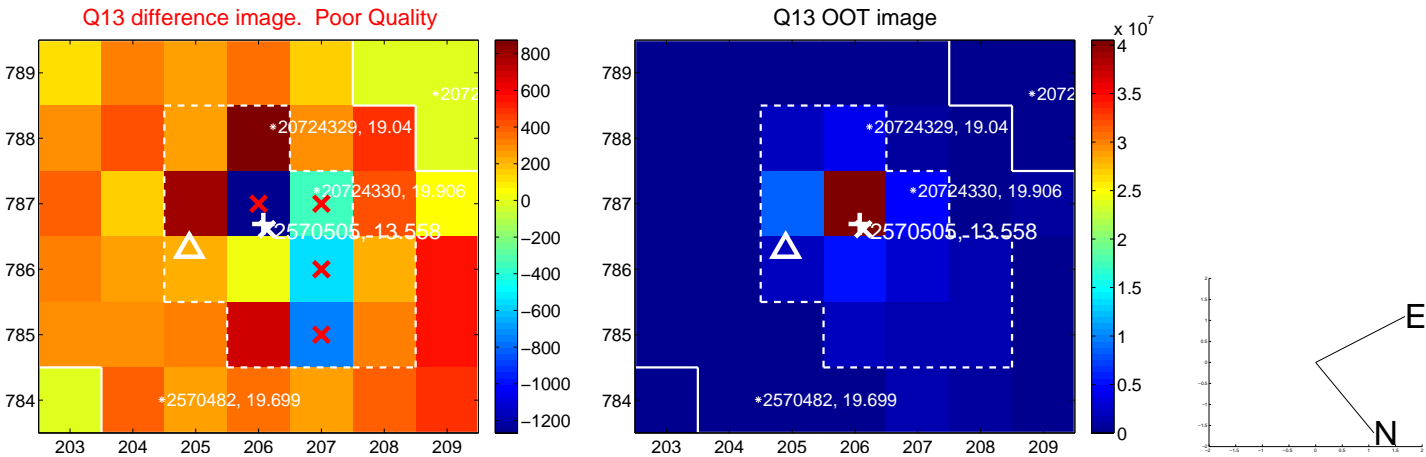
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



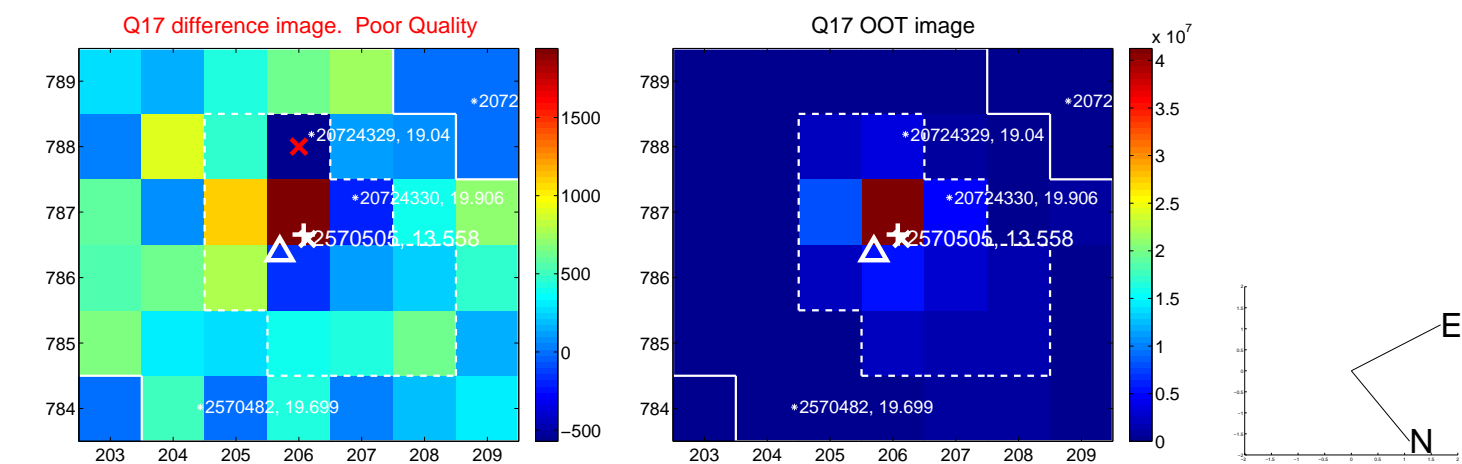
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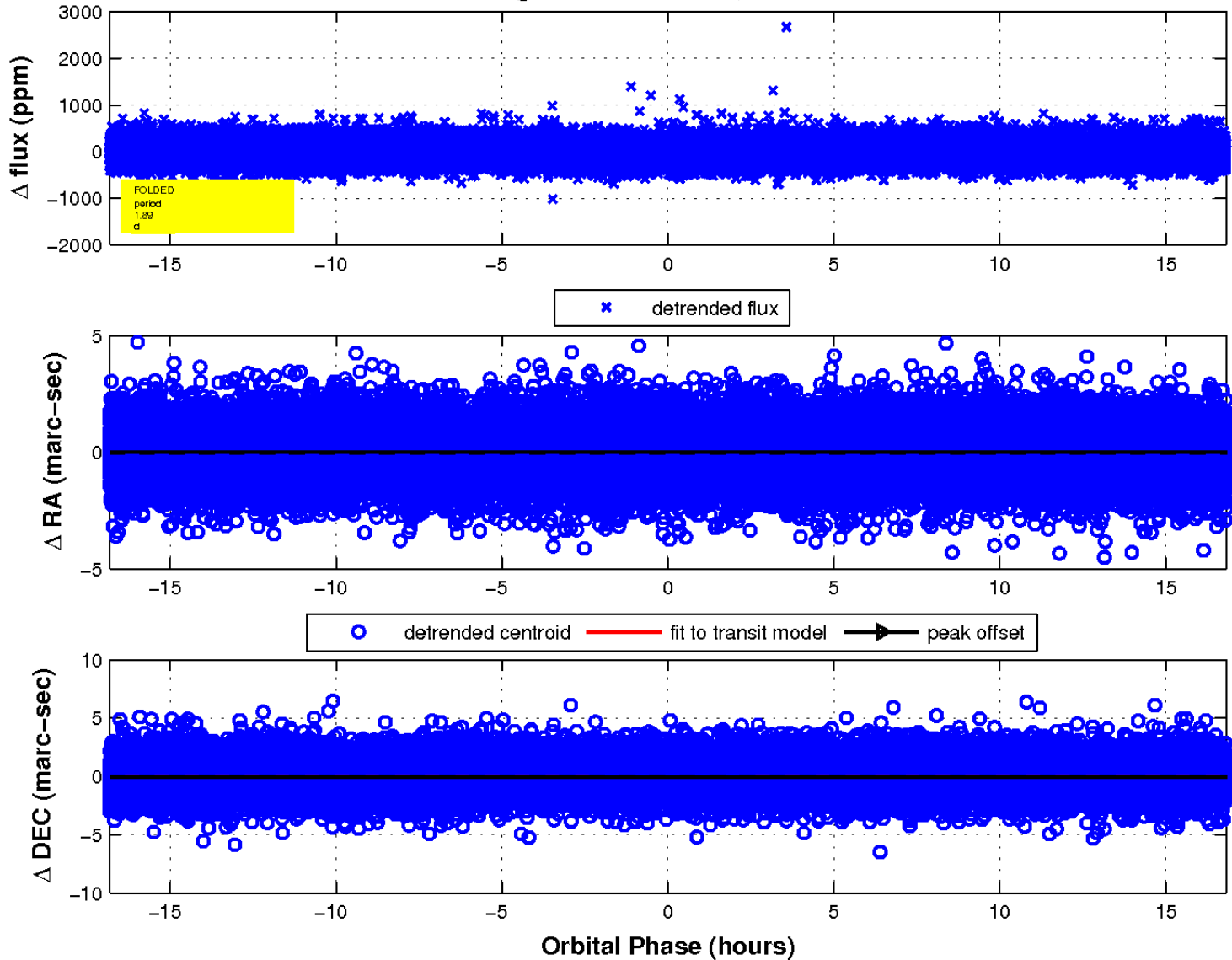
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

