

KIC 002860793

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})
002860793-01	OBS	2277.01	2.629805	132.086076	113.9	6.133	20.5	23.0	1.85	6712	3.17	3552.70

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
002860793-01	OBS	FP	0.00	0	0	1	1	CENT_RESOLVED_OFFSET—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 002860793-01

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
002860793-01	2860793	6297.01	2860788	1:1	20.8	-5	2	14.04	13.39	1090.80	Direct-PRF	0	1.60	0.95

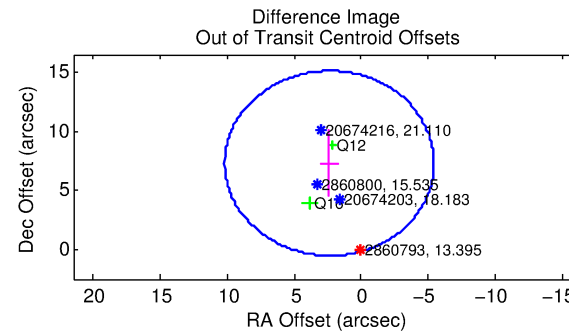
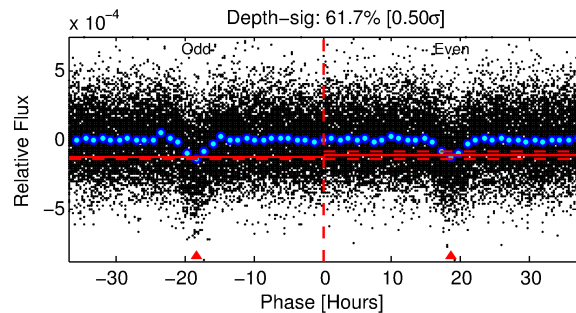
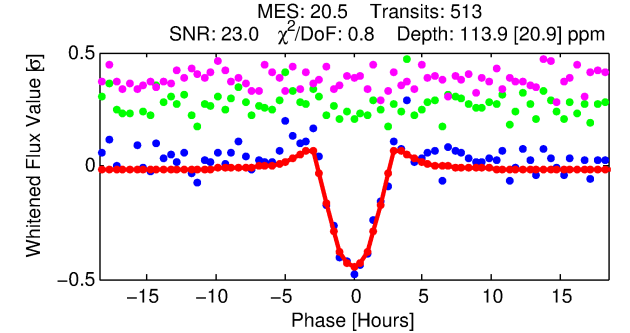
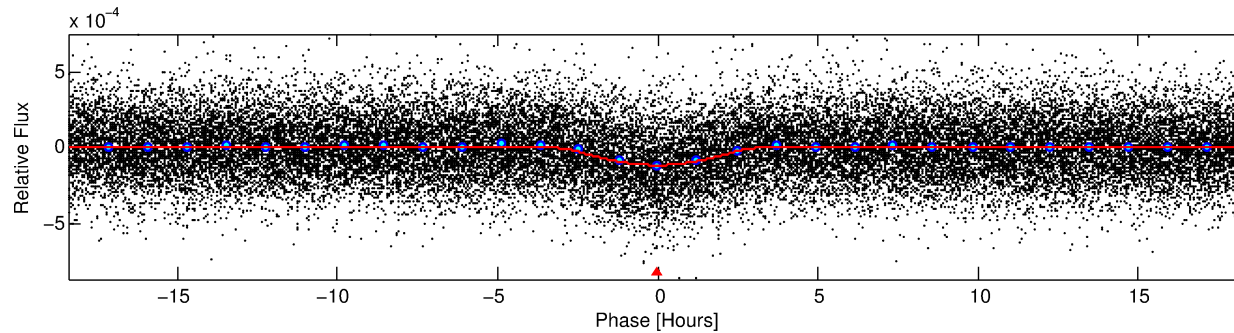
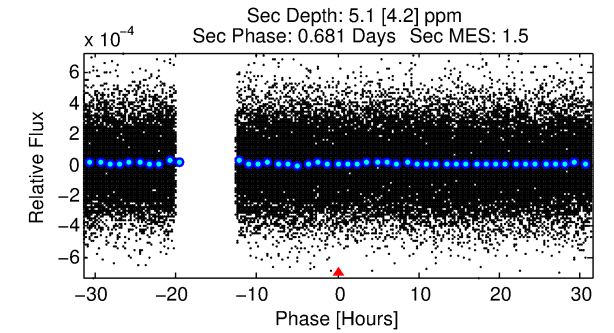
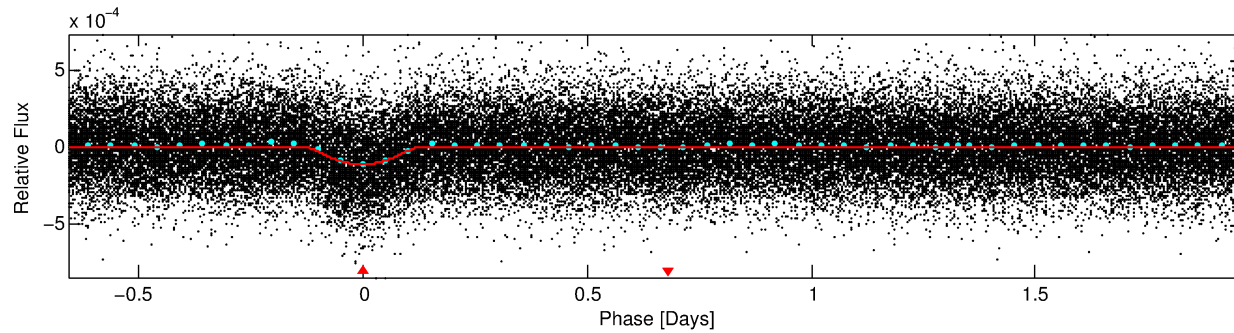
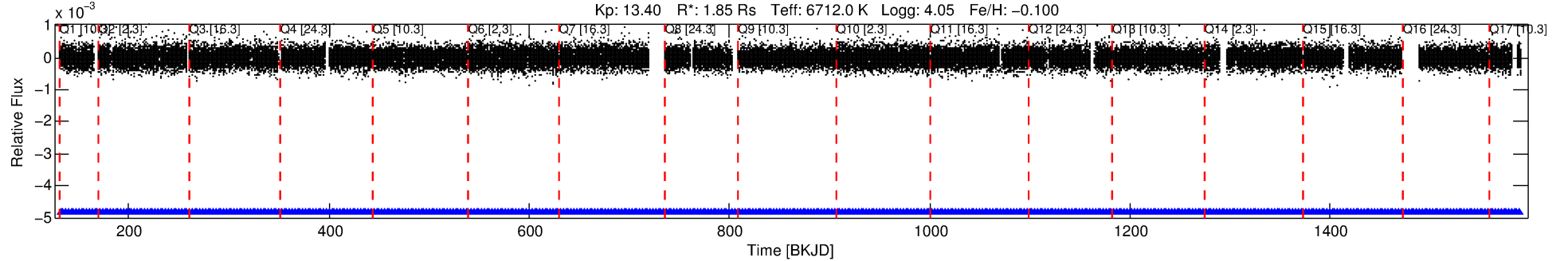
Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match 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: 2860793 Candidate: 1 of 1 Period: 2.630 d

KOI: K02277.01 Corr: 0.967

Kp: 13.40 R*: 1.85 Rs Teff: 6712.0 K Logg: 4.05 Fe/H: -0.100



DV Fit Results:

Period = 2.62980 [0.00002] d
Epoch = 132.0861 [0.0047] BKJD
Rp/R* = 0.0158 [0.0069]
a/R* = 1.22 [0.06]
b = 0.99 [0.01]
Seff = 3552.70 [1142.35]
Teq = 1969 [158] K
Rp = 3.18 [1.57] Re
a = 0.0418 [0.0086] AU
Ag = 0.48 [0.61] [-0.85σ]
Teff = 2540 [768] K [0.73σ]

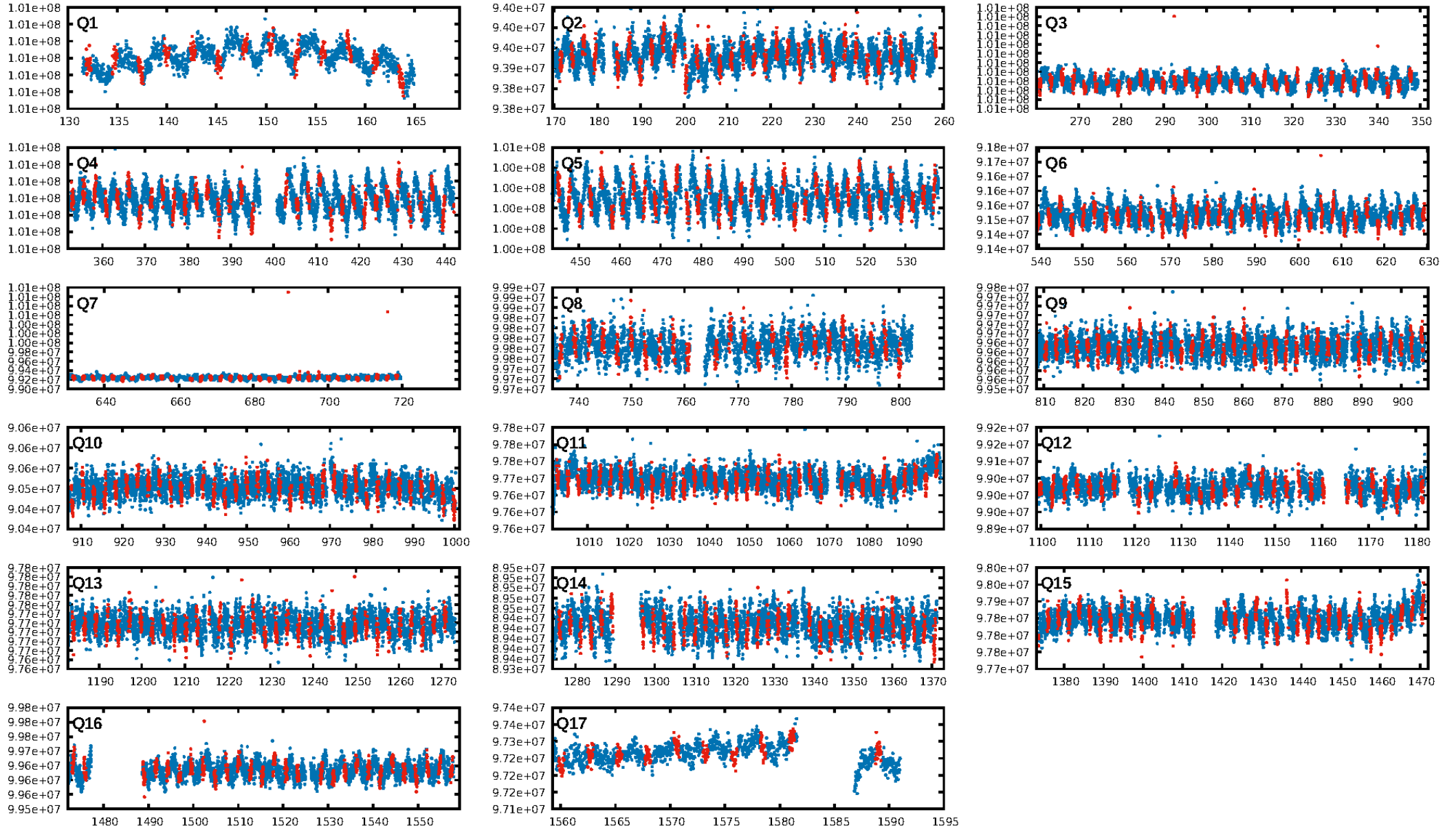
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 9.18e-76
RollingBand-fgt: 1.00 [490/490]
GhostDiagnostic-chr: -0.1246
Centroid-sig: N/A
Centroid-so: 70.425 arcsec [158.36σ]
OotOffset-rm: 7.661 arcsec [2.94σ]
KicOffset-rm: 7.762 arcsec [2.95σ]
OotOffset-st: 0/0/2/0 [2]
KicOffset-st: 0/0/2/0 [2]
DiffImageQuality-fgm: 0.50 [1/2]
DiffImageOverlap-fno: 1.00 [17/17]

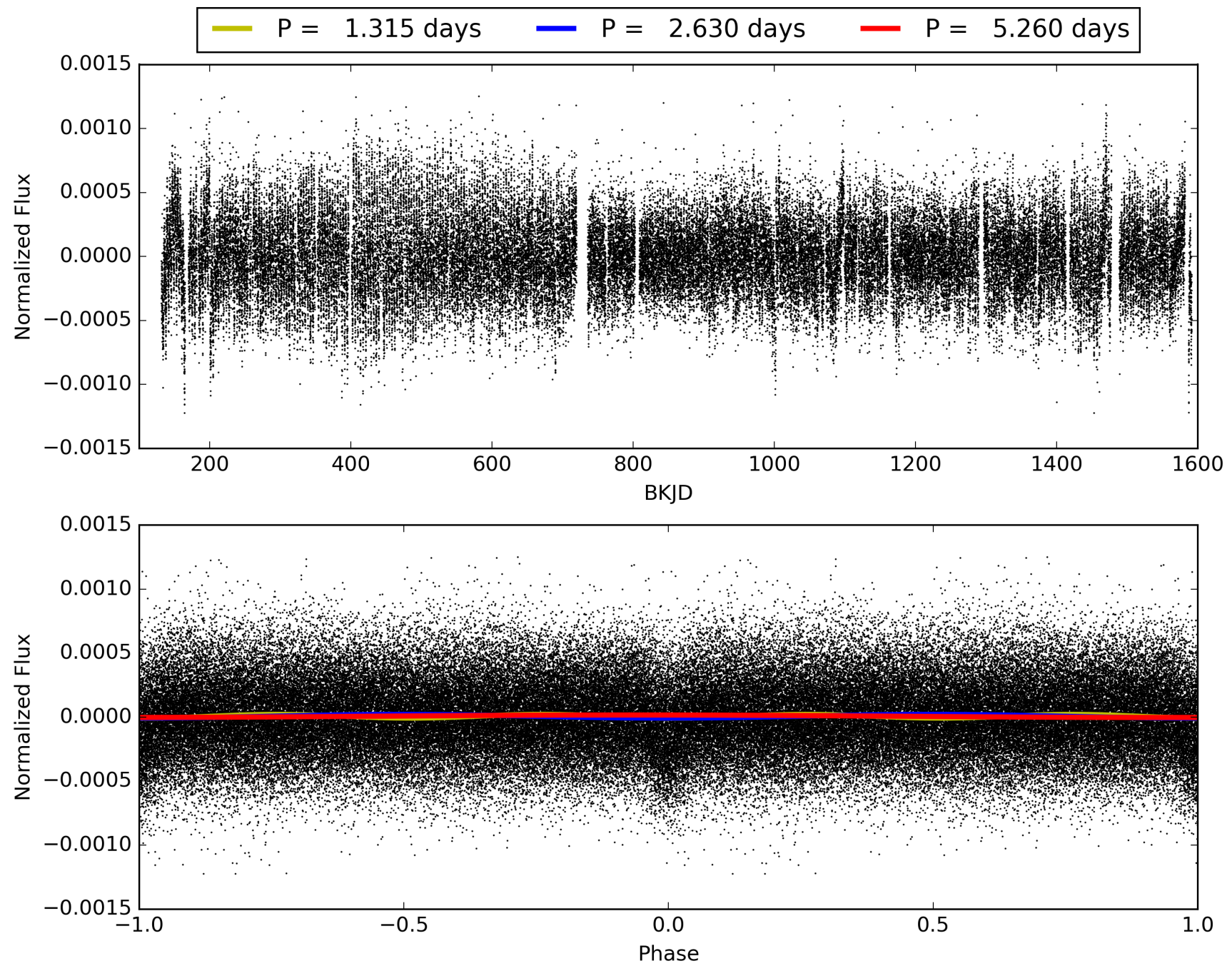
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 04:26:04 Z

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

TCE 002860793-01, PDC Light Curves

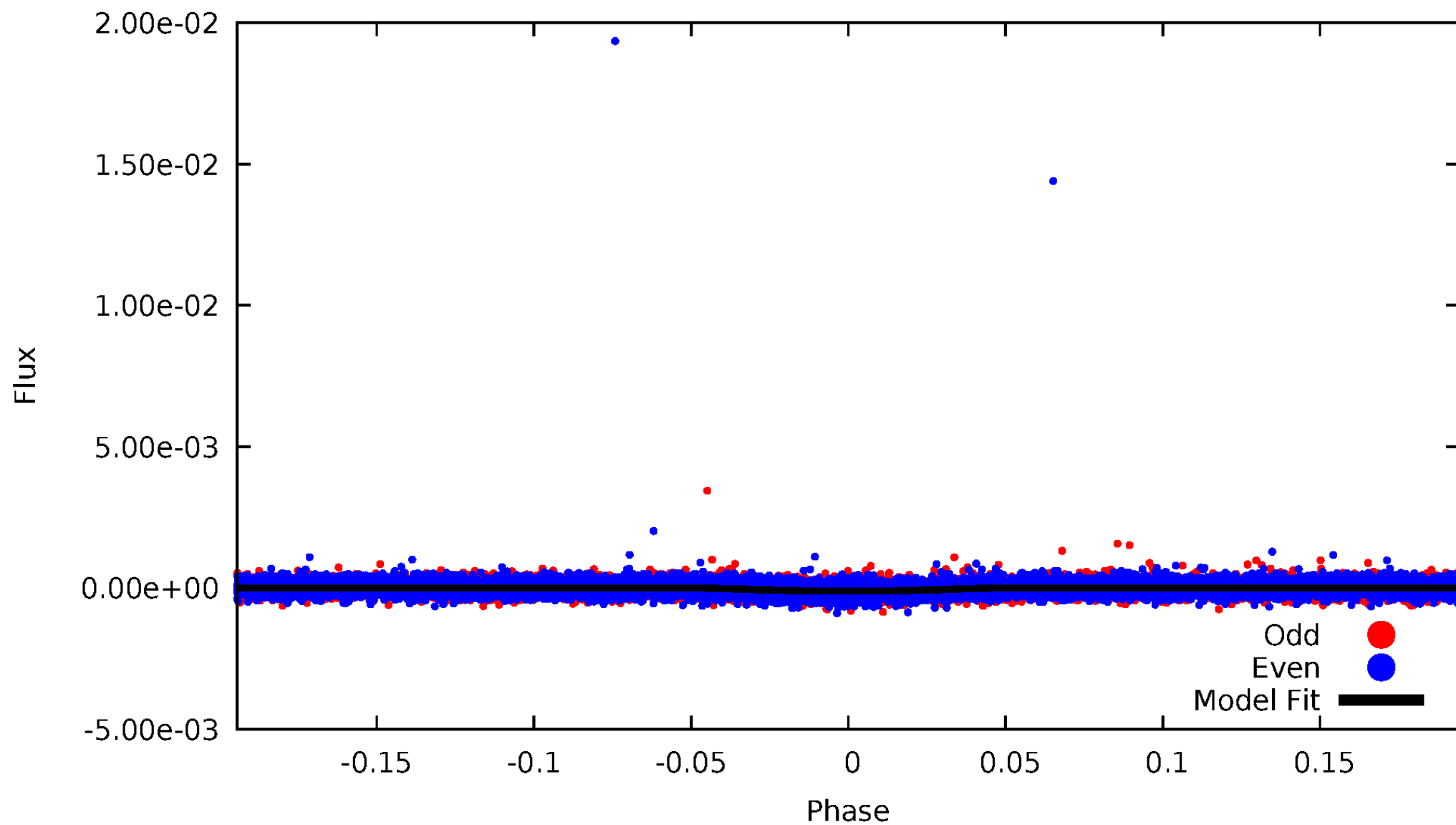


TCE 002860793-01



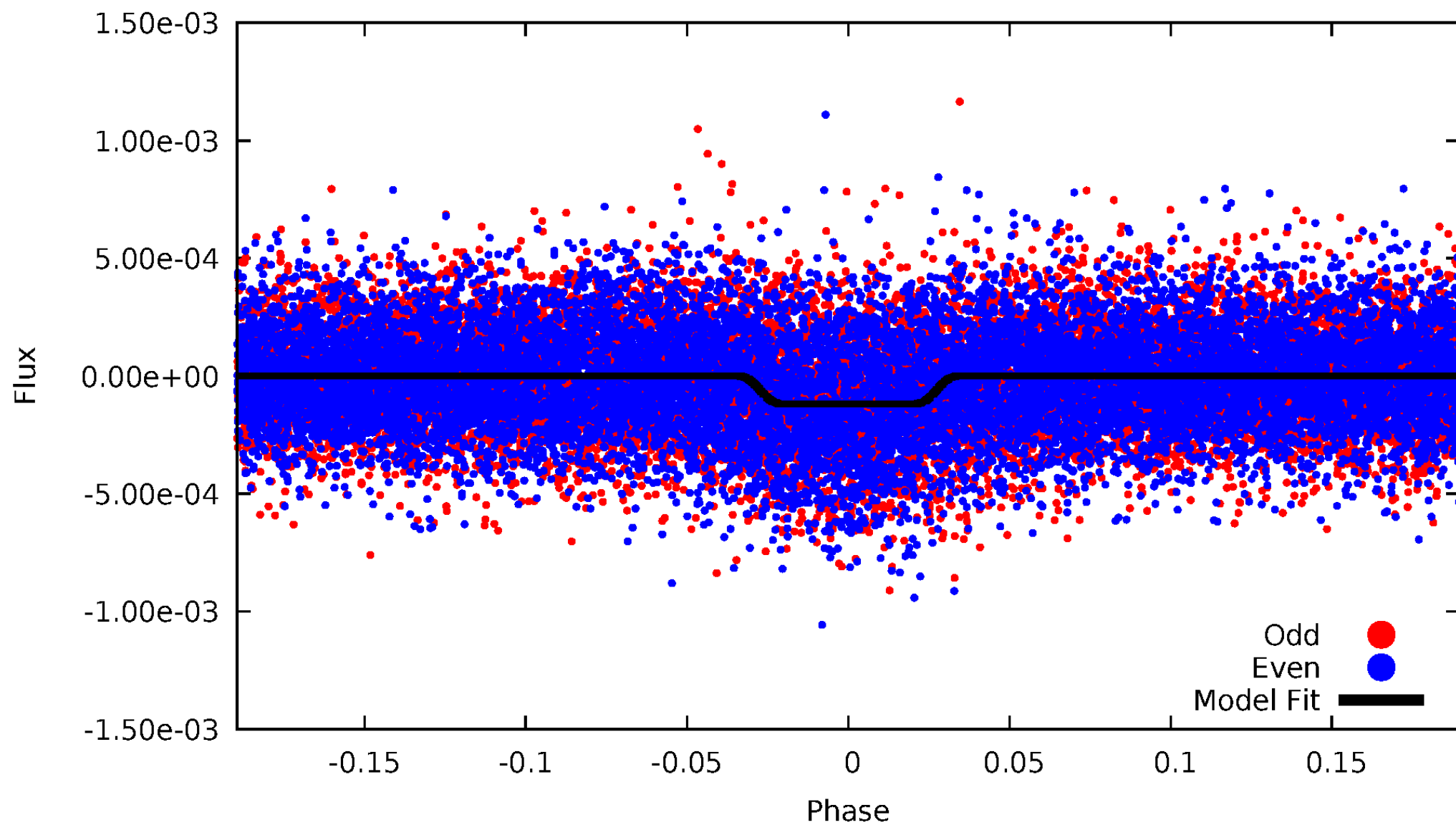
DV Odd/Even

TCE 002860793-01



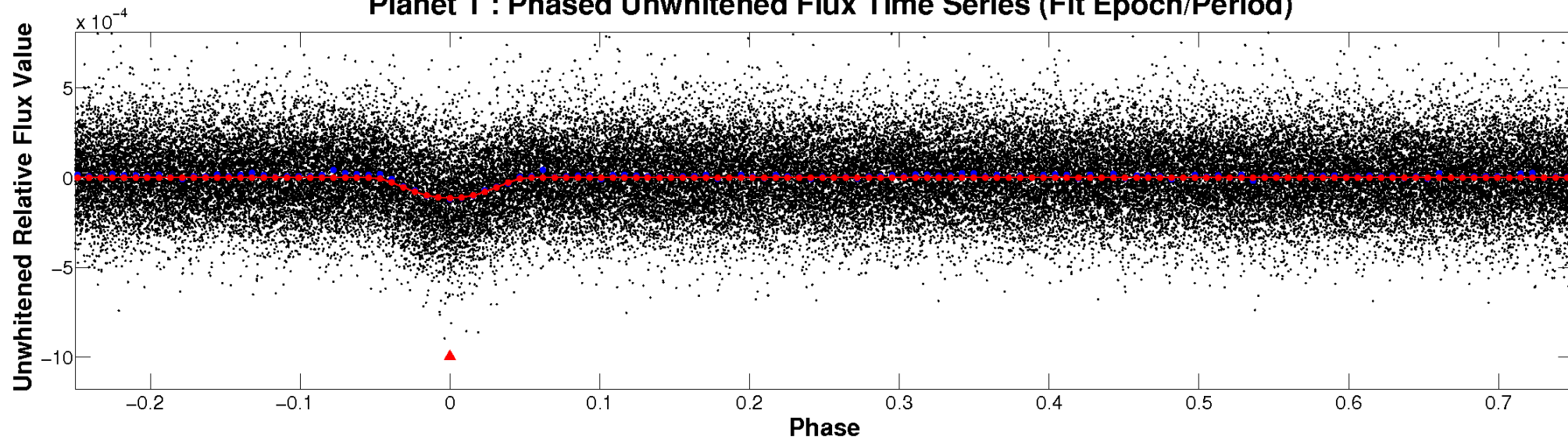
ALT Odd/Even

TCE 002860793-01

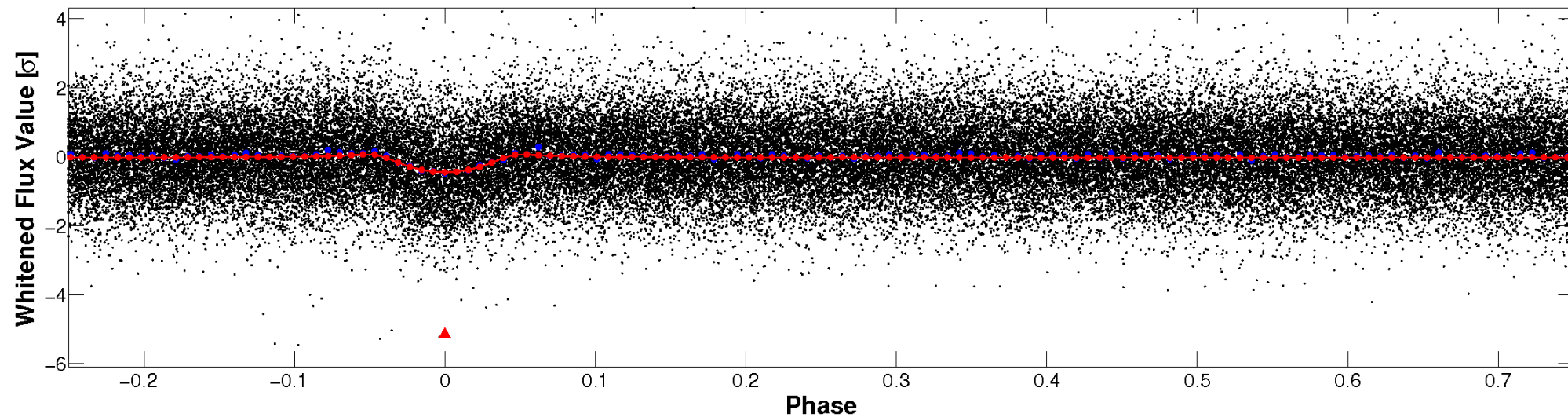


Non-Whitened Vs. Whitened Light Curve

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

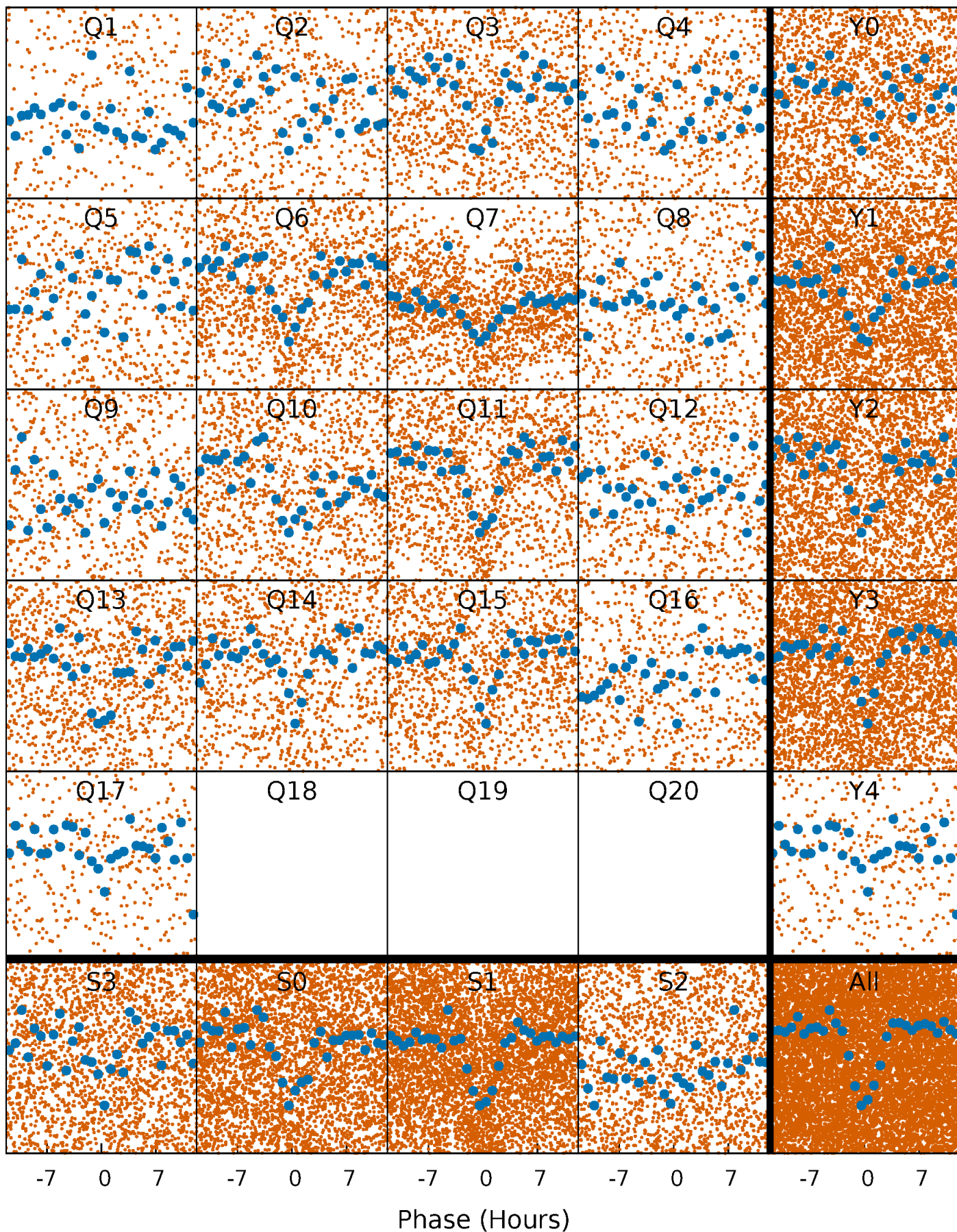


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



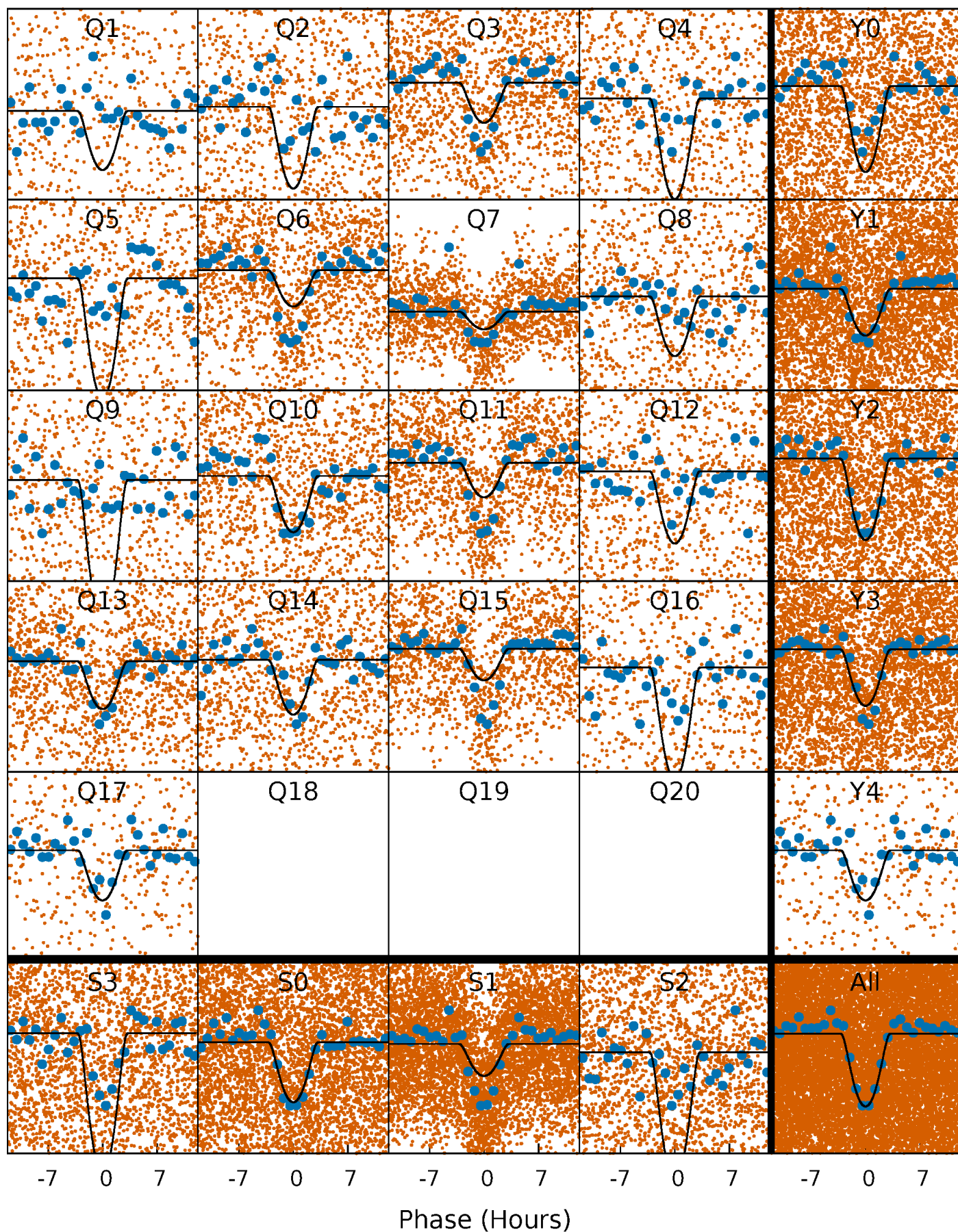
PDC Quarter-Phased Transit Curves

TCE 002860793-01 P= 2.629805 Days $T_0=132.086076$ (BKJD)



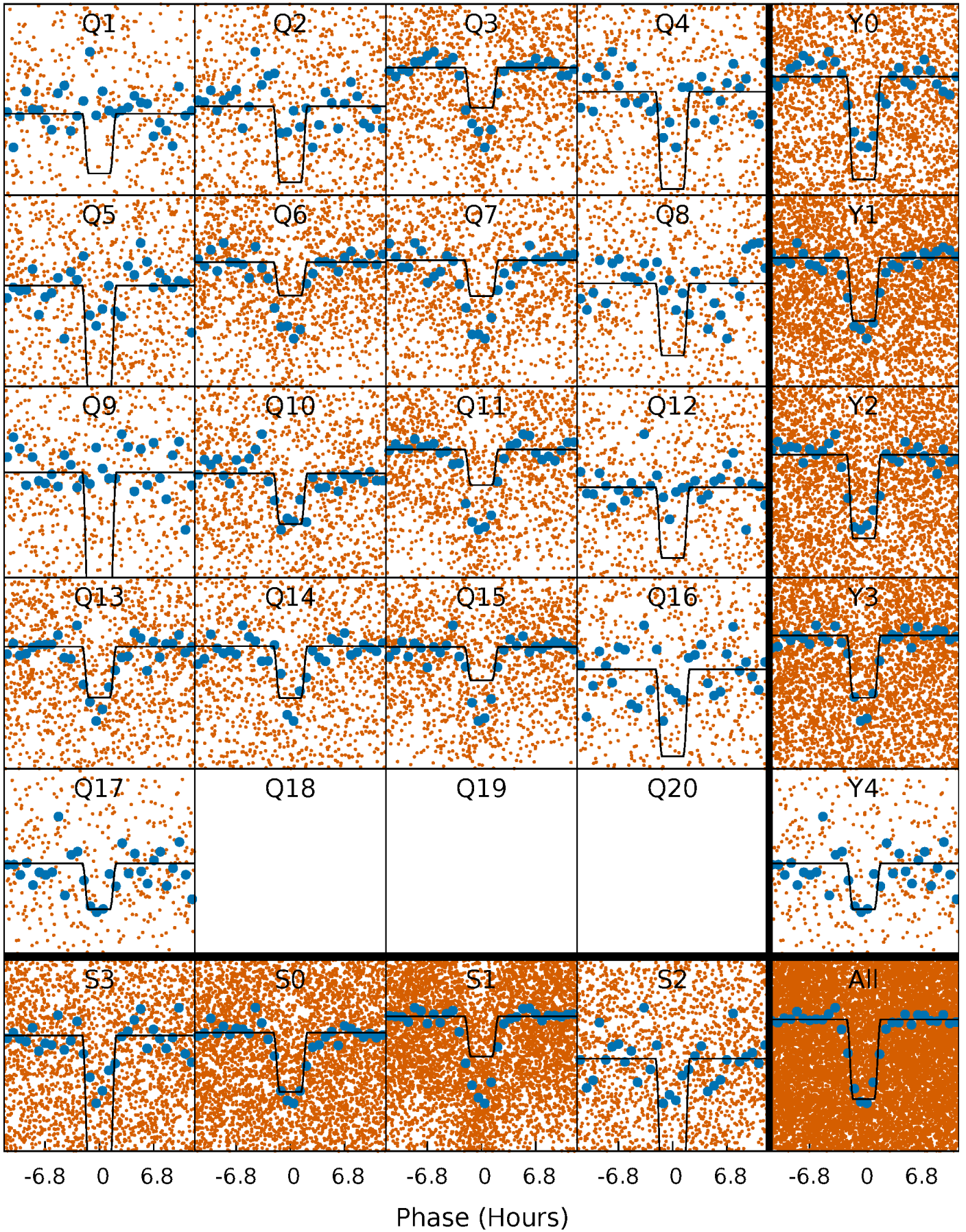
DV Quarter-Phased Transit Curves

TCE 002860793-01 P= 2.629805 Days $T_0=132.086076$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

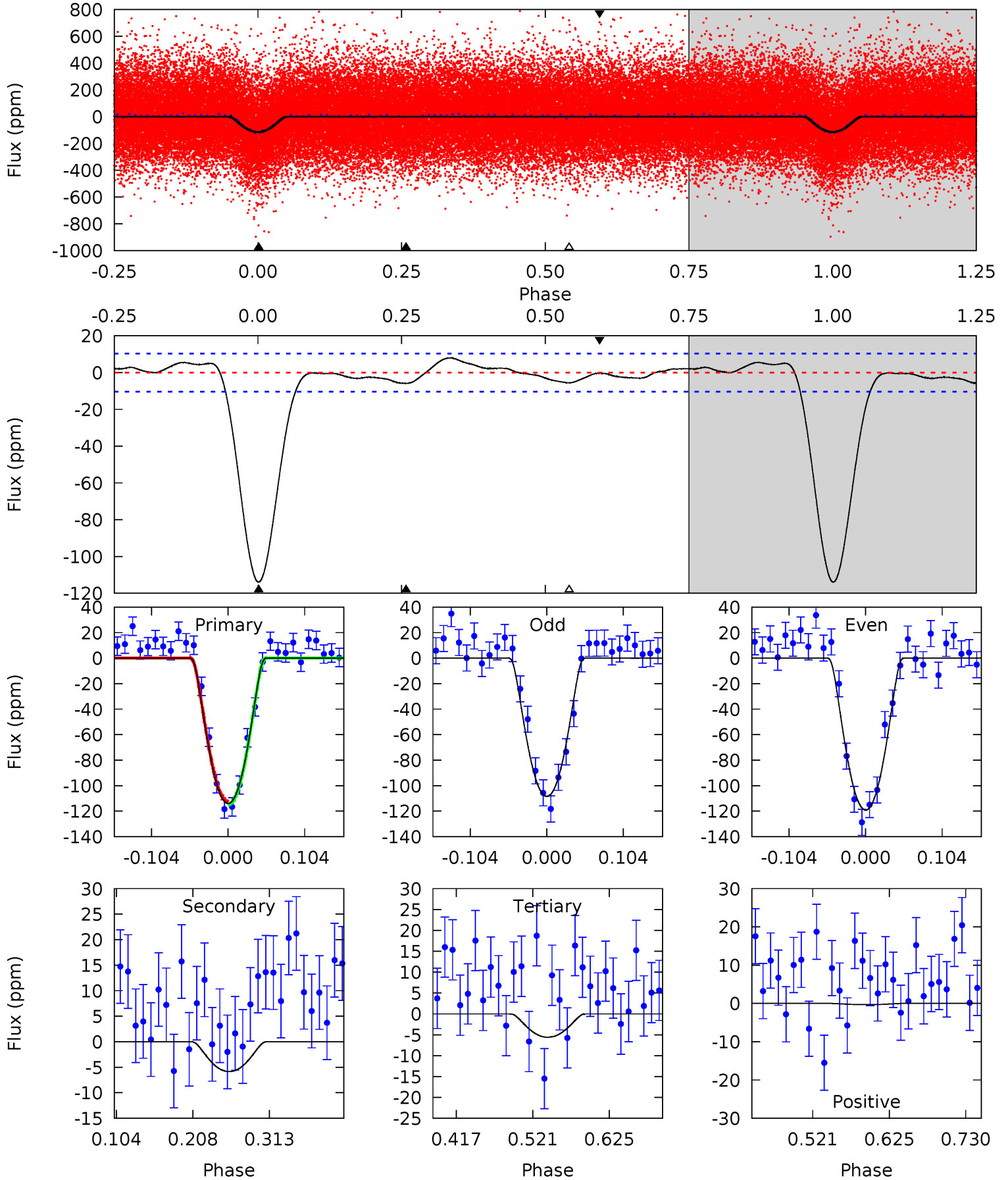
TCE 002860793-01 P= 2.629857 Days $T_0=132.072560$ (BKJD)



DV Model-Shift Uniqueness Test

002860793-01, P = 2.629805 Days, E = 129.456271 Days

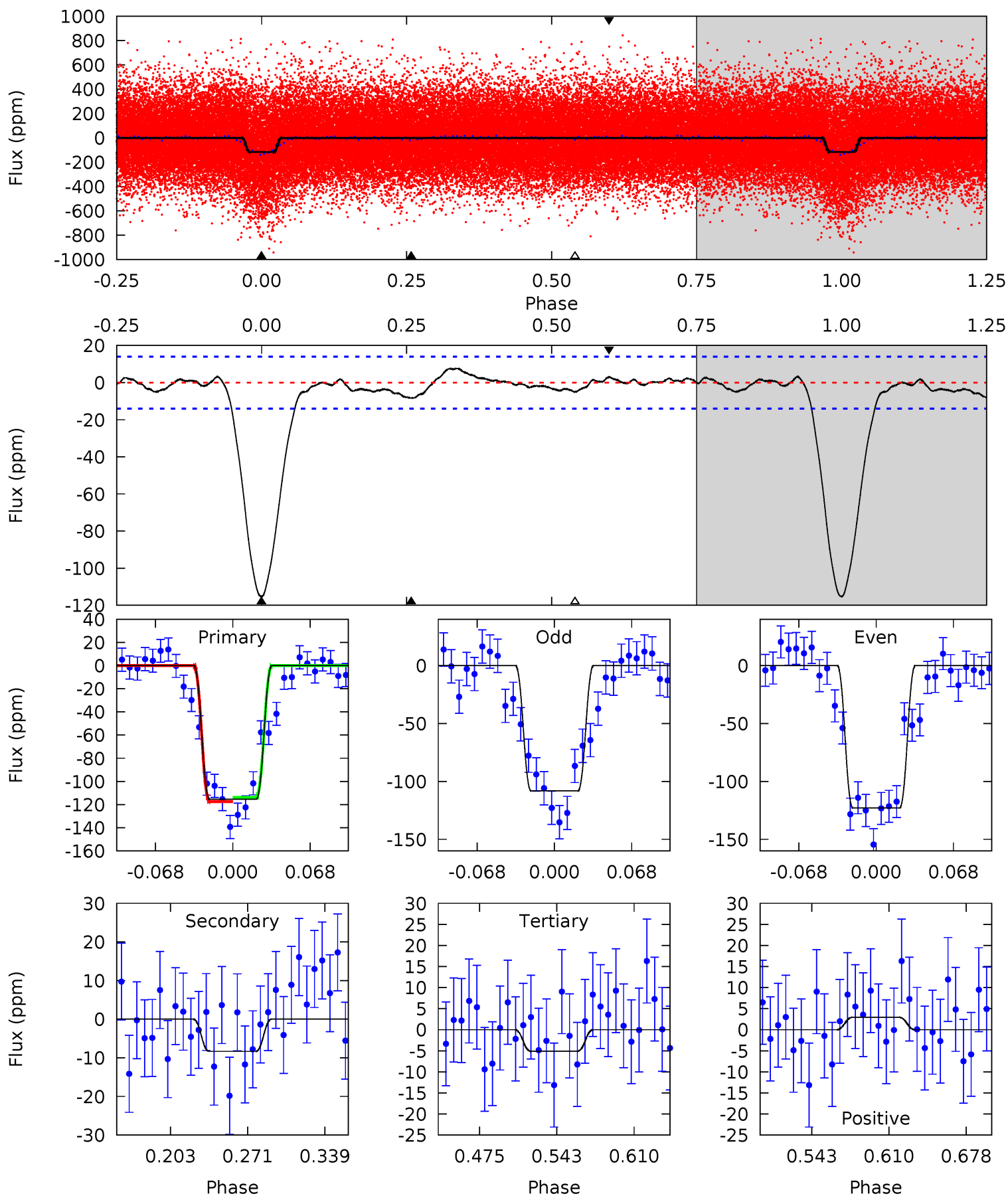
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.2	2.58	2.47	-0.14	4.56	1.62	1.22	47.7	50.3	0.11	2.71	2.35	1.09	0.07	0.53



Alt Model-Shift Uniqueness Test

002860793-01, P = 2.629857 Days, E = 129.442703 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.2	2.76	1.69	0.97	4.65	1.83	0.88	36.5	37.2	1.07	1.79	2.43	1.05	0.06	0.63



Stellar Parameters For KIC 002860793

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6712^{+70}_{-81}	$4.053^{+0.182}_{-0.098}$	$-0.100^{+0.150}_{-0.150}$	$1.846^{+0.280}_{-0.420}$	$1.411^{+0.098}_{-0.135}$	$0.316^{+0.304}_{-0.096}$
	+1%/-1%	+4%/-2%	+150%/-150%	+15%/-23%	+7%/-10%	+96%/-30%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 002860793-01 / KOI 2277.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-6 ± 2	$3.02^{+1.46}_{-1.35}$	2742^{+115}_{-158}	2882^{+899}_{-5312}	$0.590^{+1.379}_{-0.357}$
Alt.	-8 ± 3	$2.18^{+1.43}_{-1.24}$	2745^{+114}_{-166}	3648^{+1507}_{-820}	$1.600^{+7.656}_{-1.070}$

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

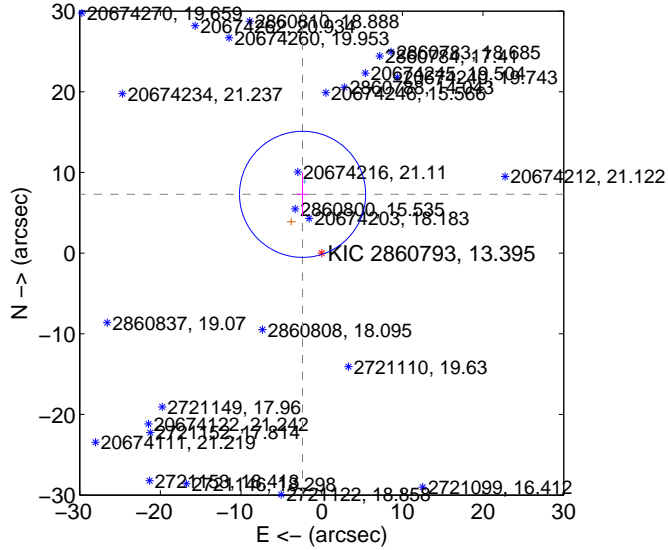
Supplemental centroid analysis for 002860793-01. Kepler magnitude: 13.39. Transit SNR 23.02

There are 1 quarters with good PRF difference image offsets

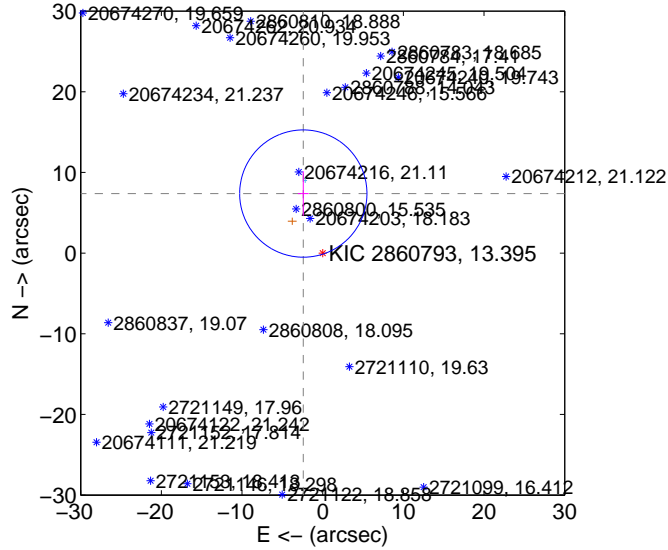
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	7.661 ± 2.605	2.94	2.372 ± 0.686	7.284 ± 2.730
PRF-fit source offset from KIC position	7.762 ± 2.630	2.95	2.404 ± 0.669	7.381 ± 2.757
photometric centroid source offset	70.43 ± 0.44	158.36	-2.56 ± 0.35	70.38 ± 0.44

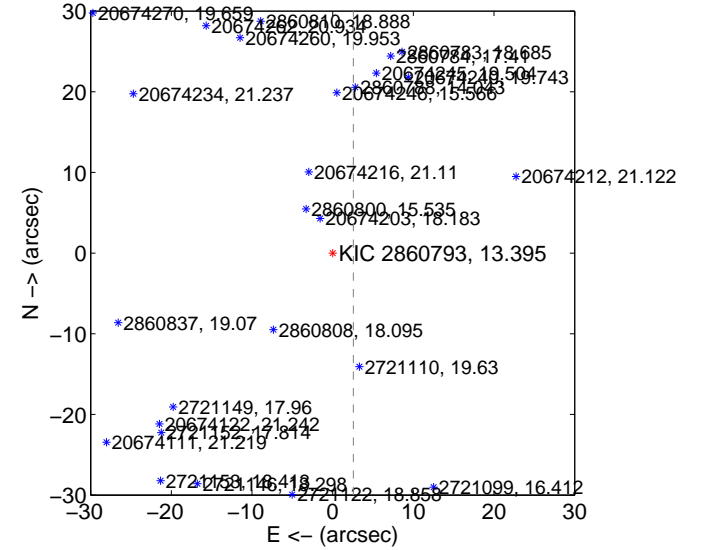
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

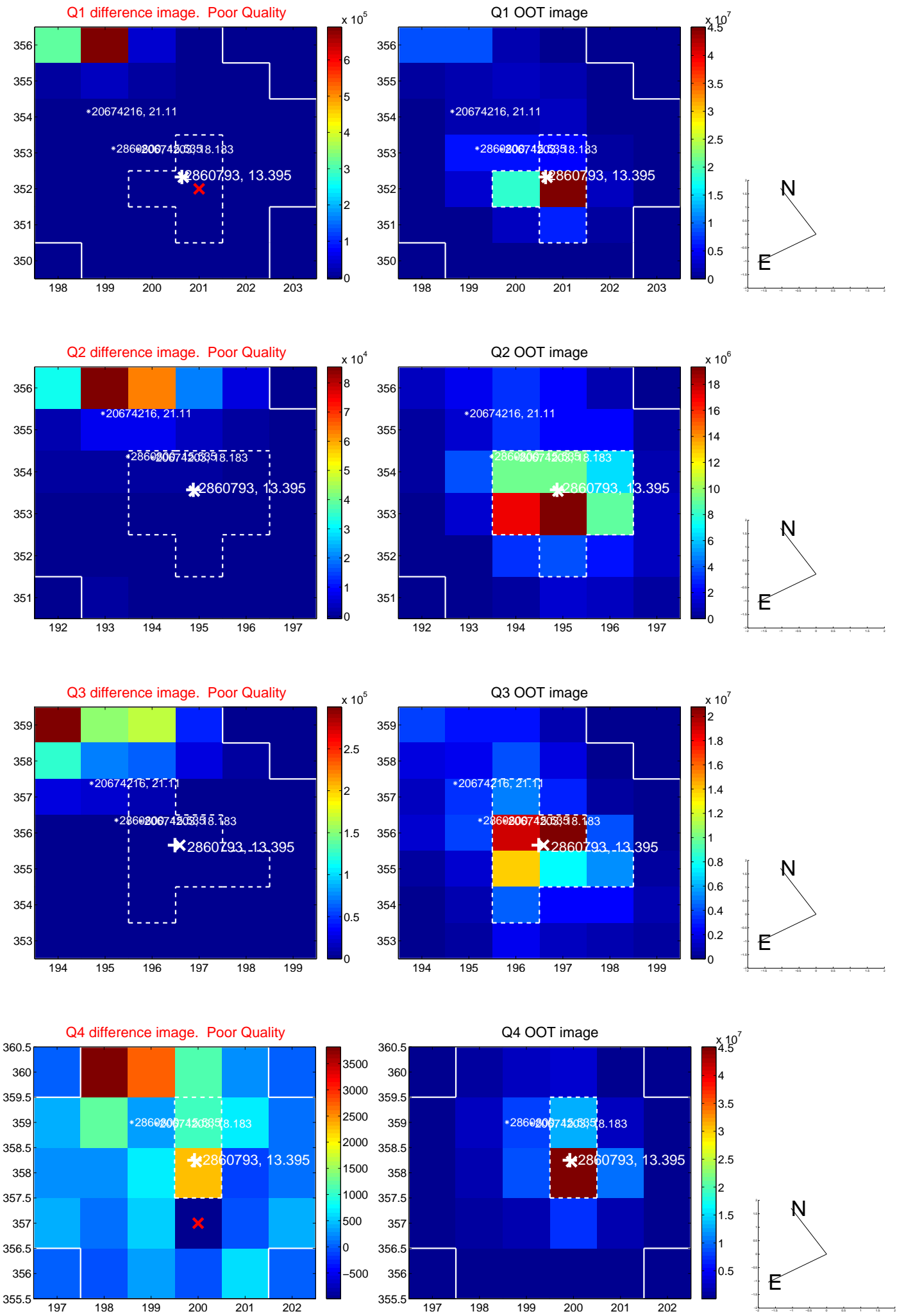


offset from photometric centroids

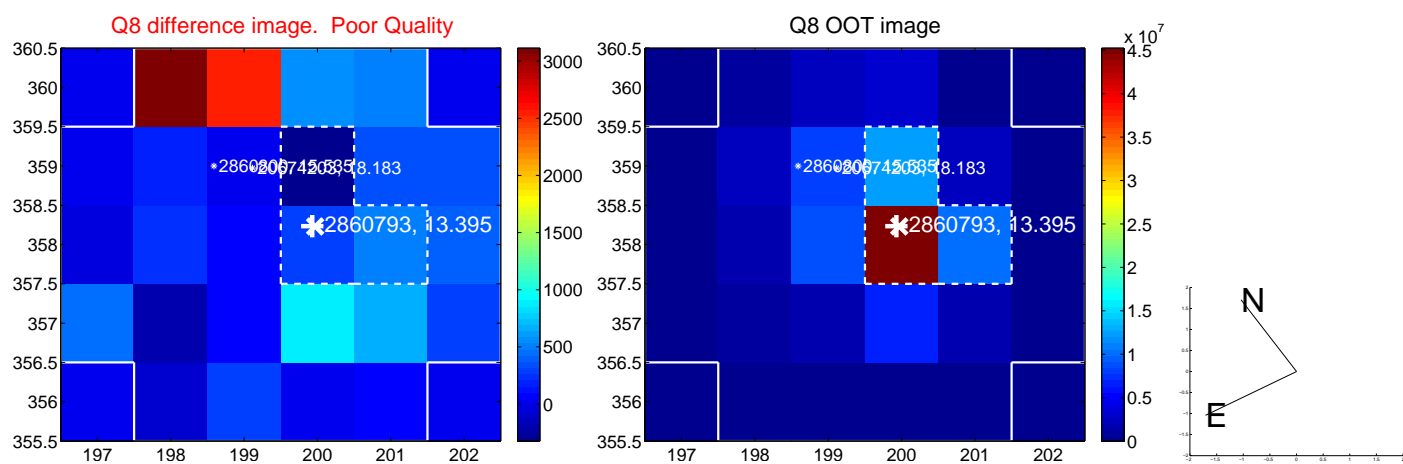
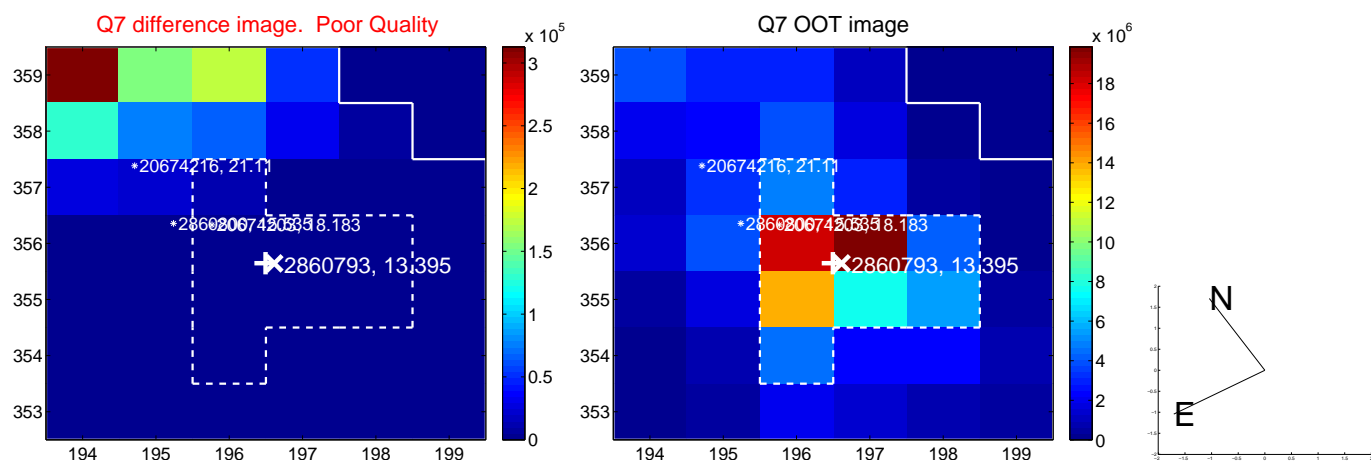
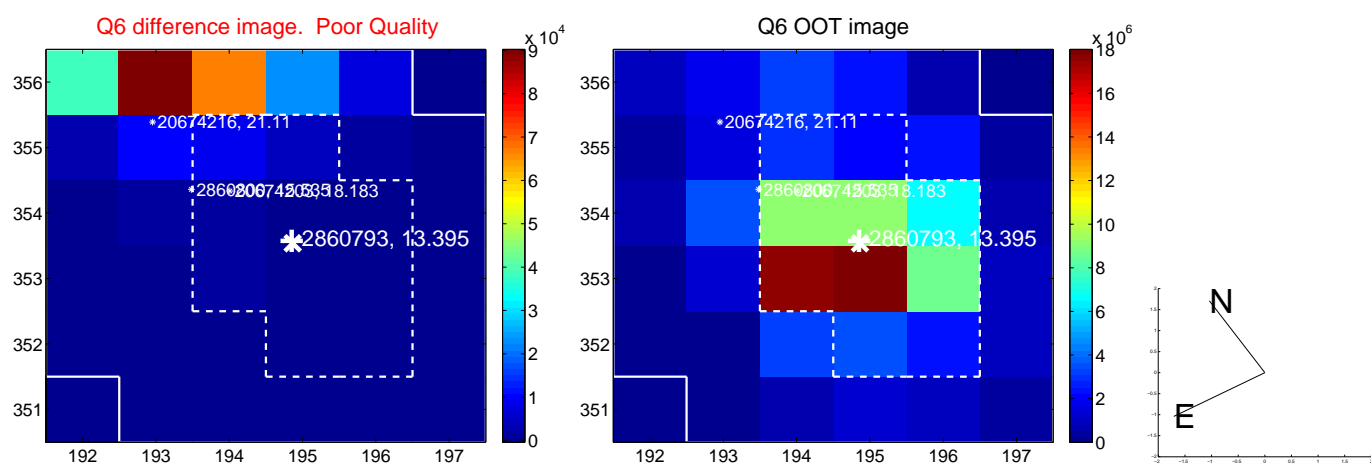
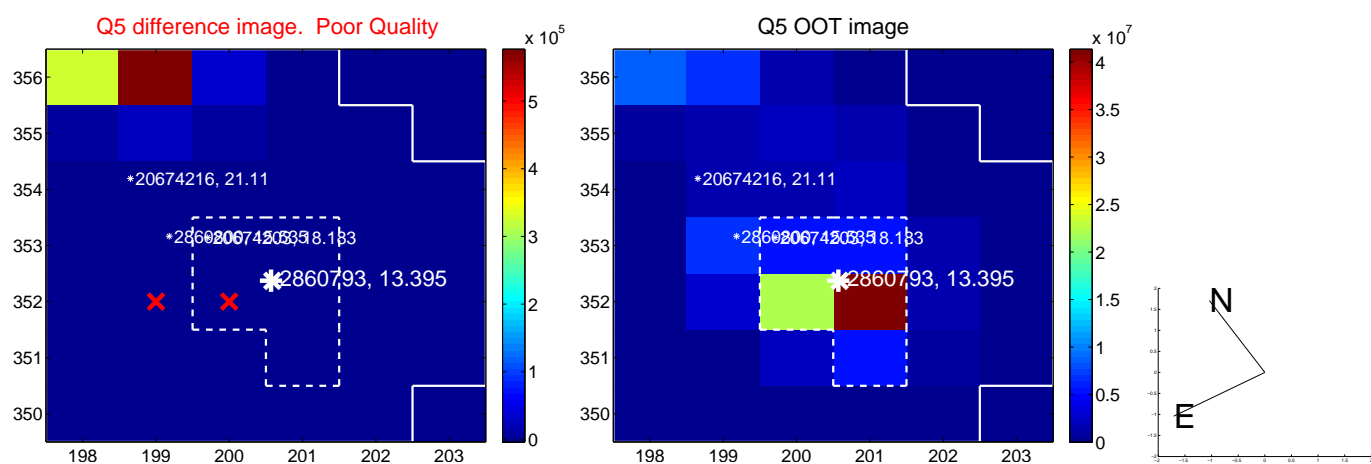


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

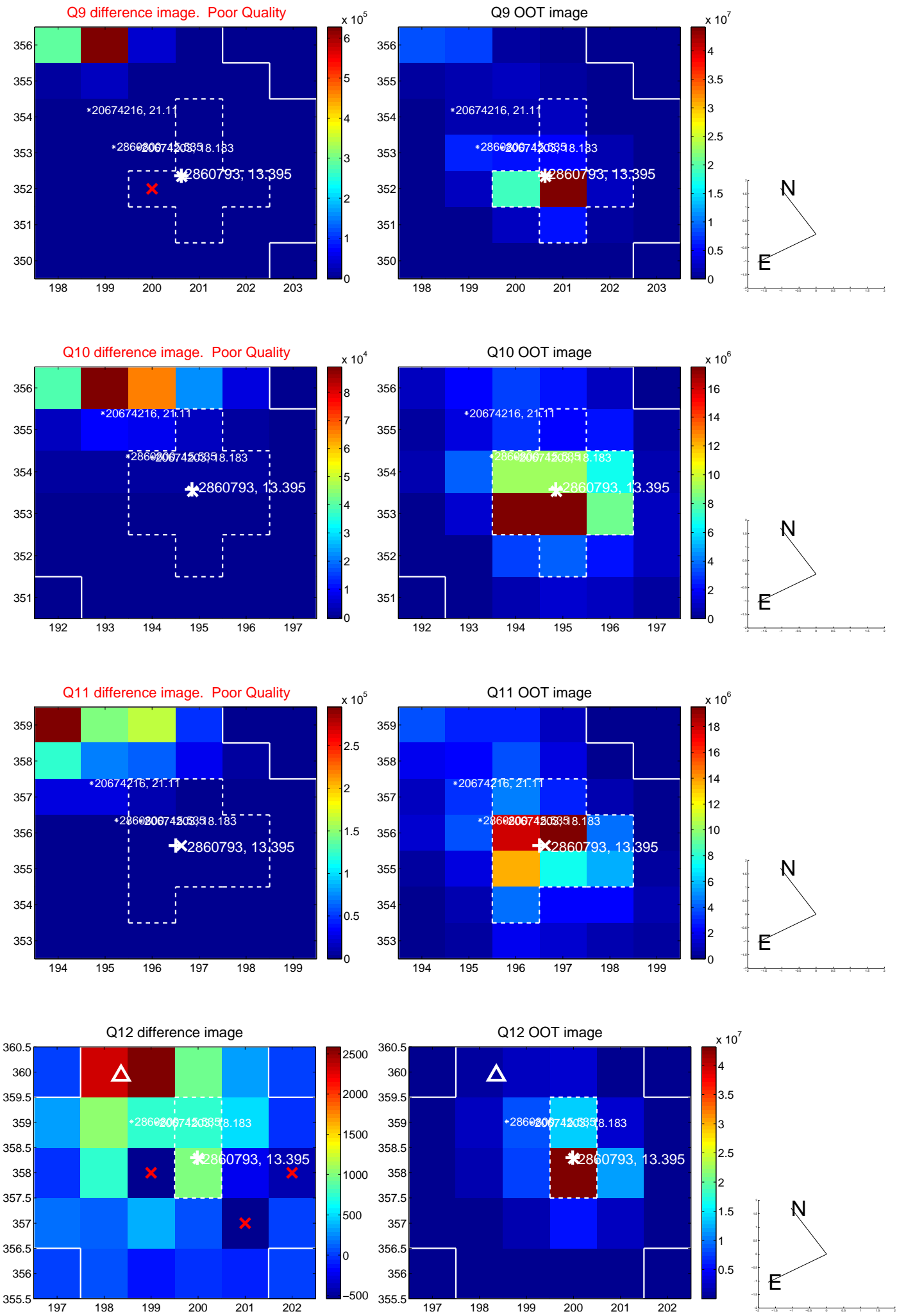
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



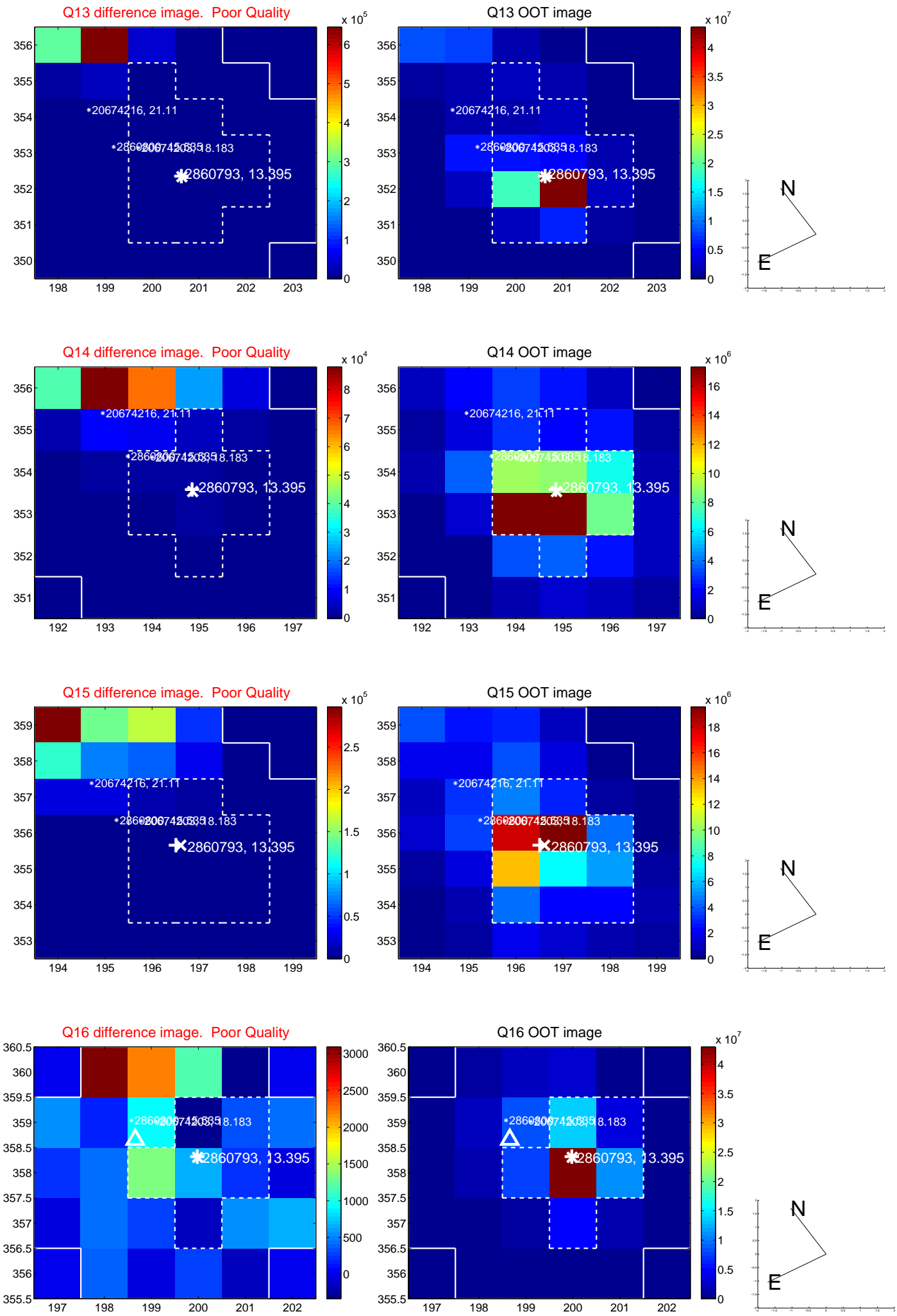
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



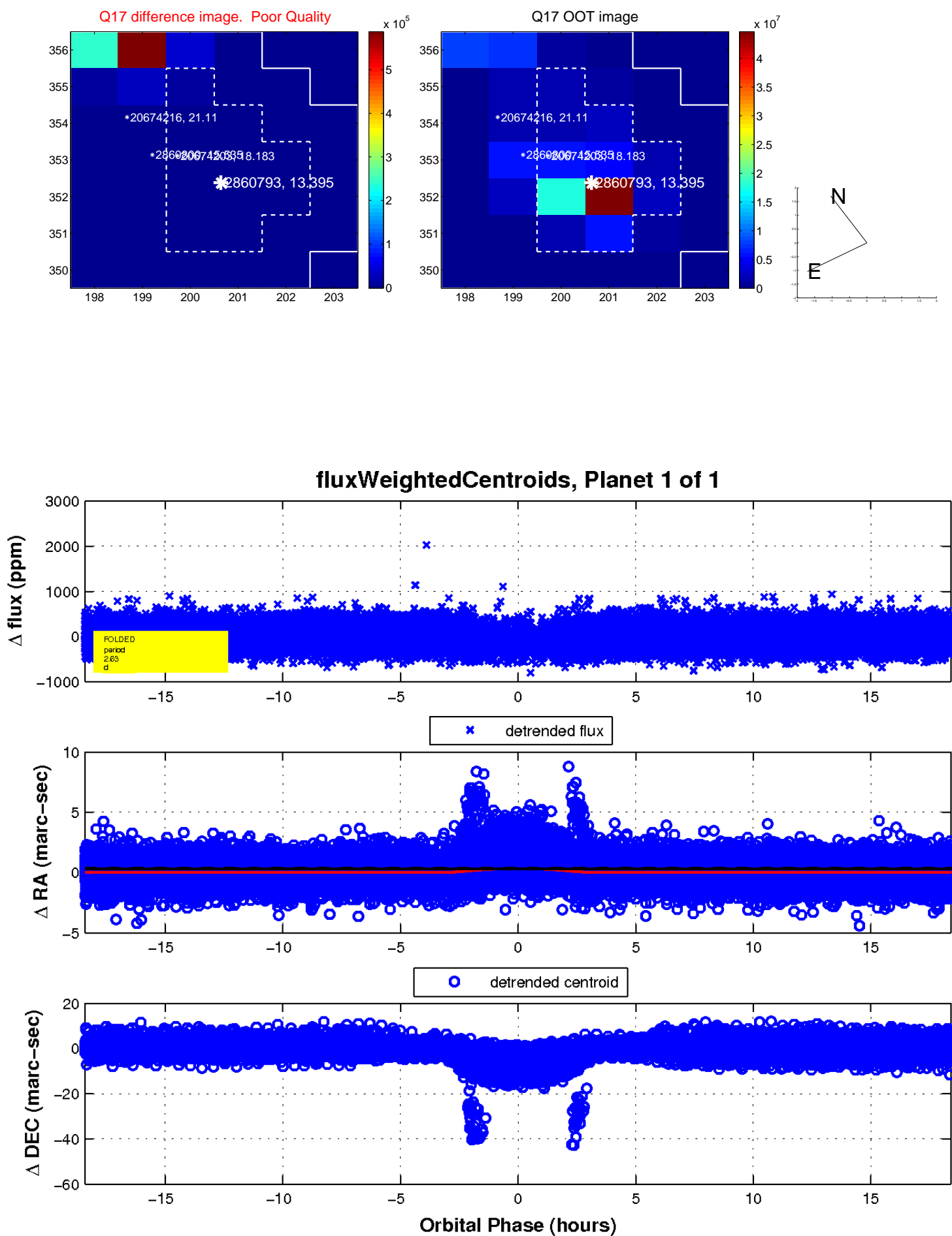
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

