

KIC 007337953

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})
007337953-01	OBS	No	555.630704	465.600587	579.6	17.930	10.2	10.7	0.96	5903	2.60	0.63

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007337953-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

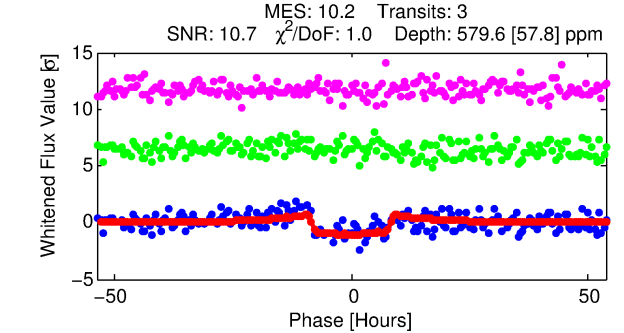
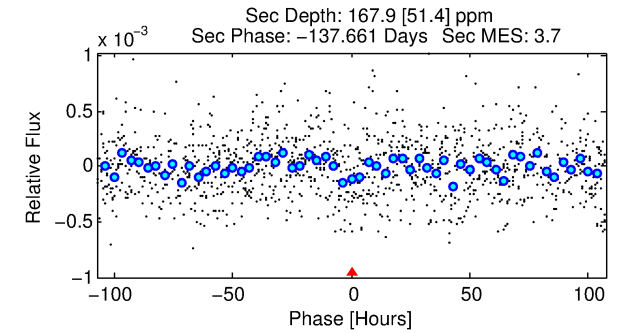
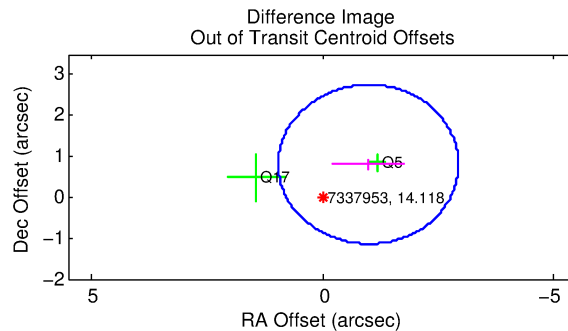
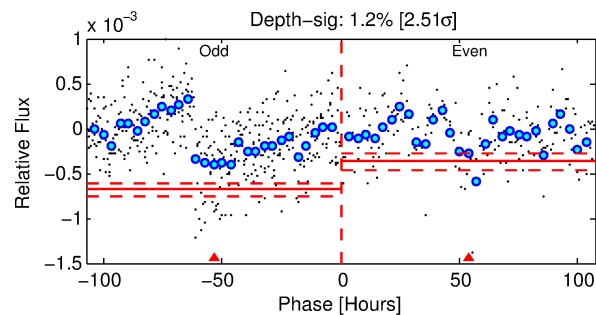
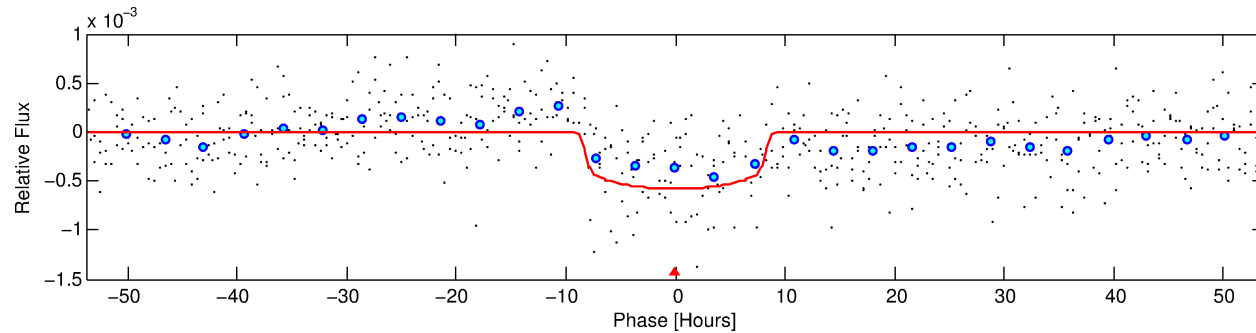
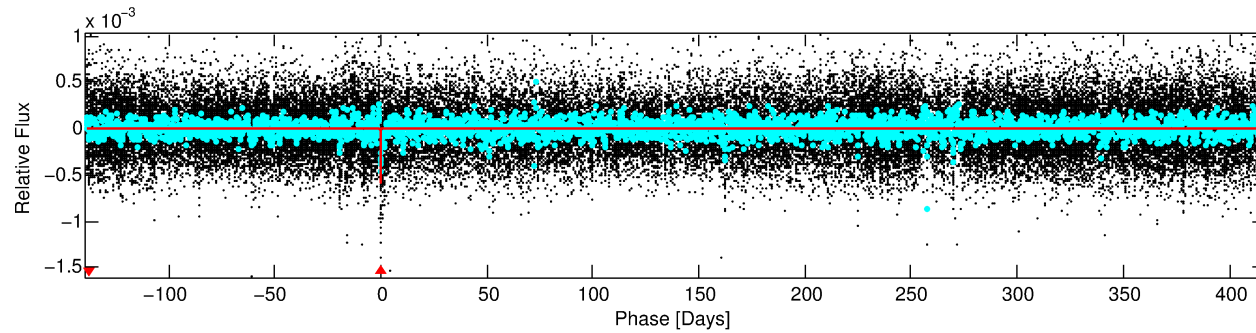
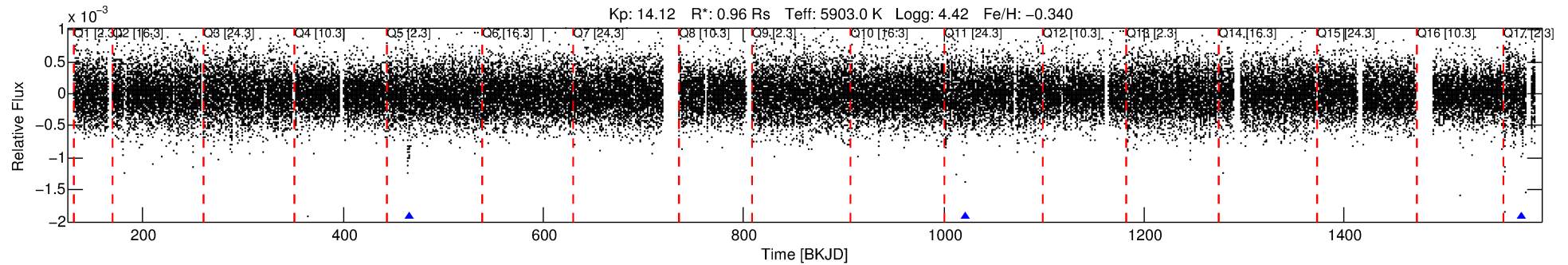
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007337953-01

No Significant Match Found

DV One-Page Summary

KIC: 7337953 Candidate: 1 of 1 Period: 555.631 d



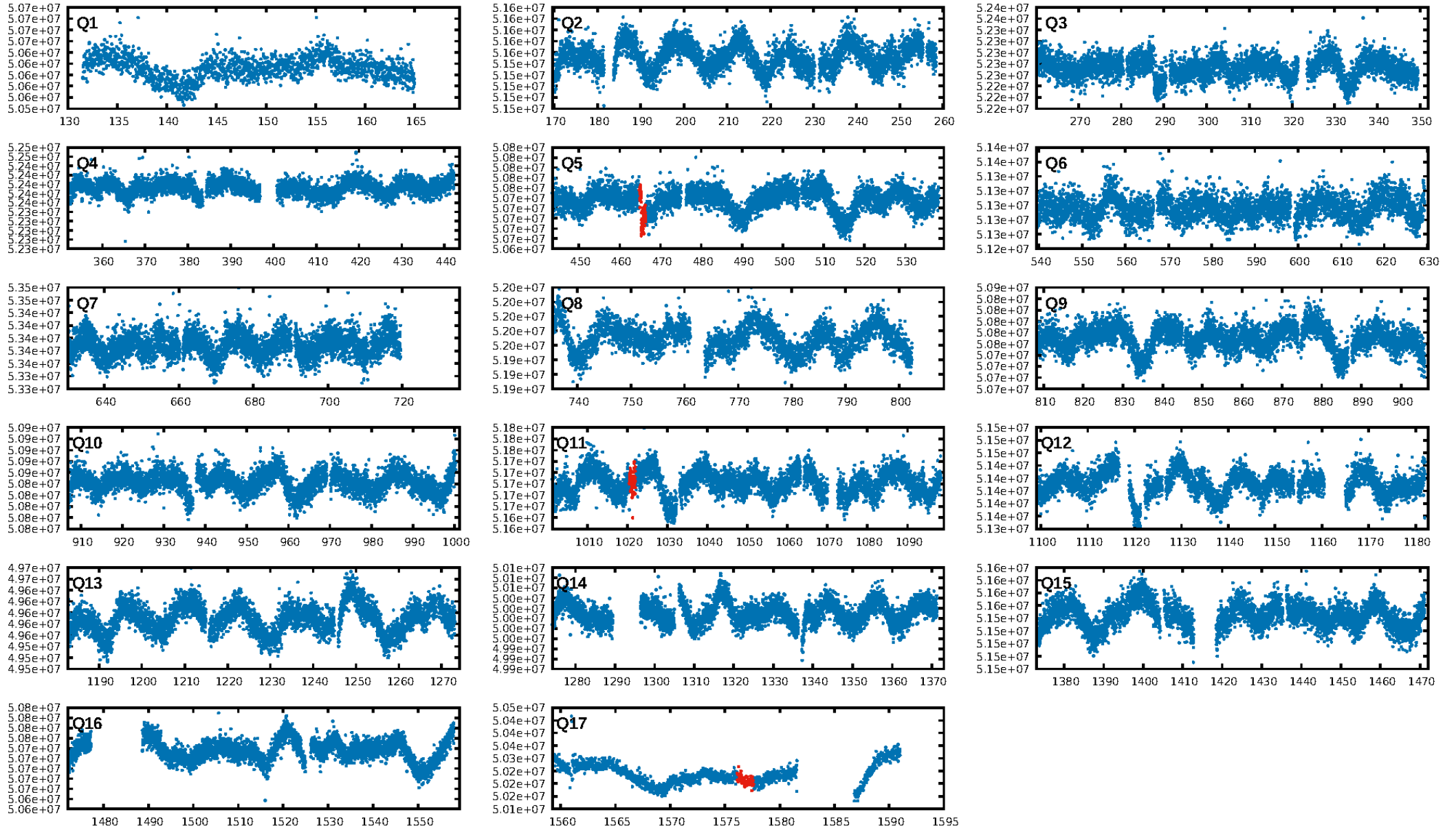
DV Fit Results:

Period = 555.63070 [0.01257] d
Epoch = 465.6006 [0.0158] BKJD
Rp/R* = 0.0247 [0.0027]
a/R* = 144.25 [65.18]
b = 0.82 [0.18]
Seff = 0.63 [0.22]
Teff = 227 [20] K
Rp = 2.60 [0.78] Re
a = 1.2723 [0.2946] AU
Ag = 22099.57 [11080.50] [1.99 σ]
Teffp = 4275 [417] K [9.71 σ]

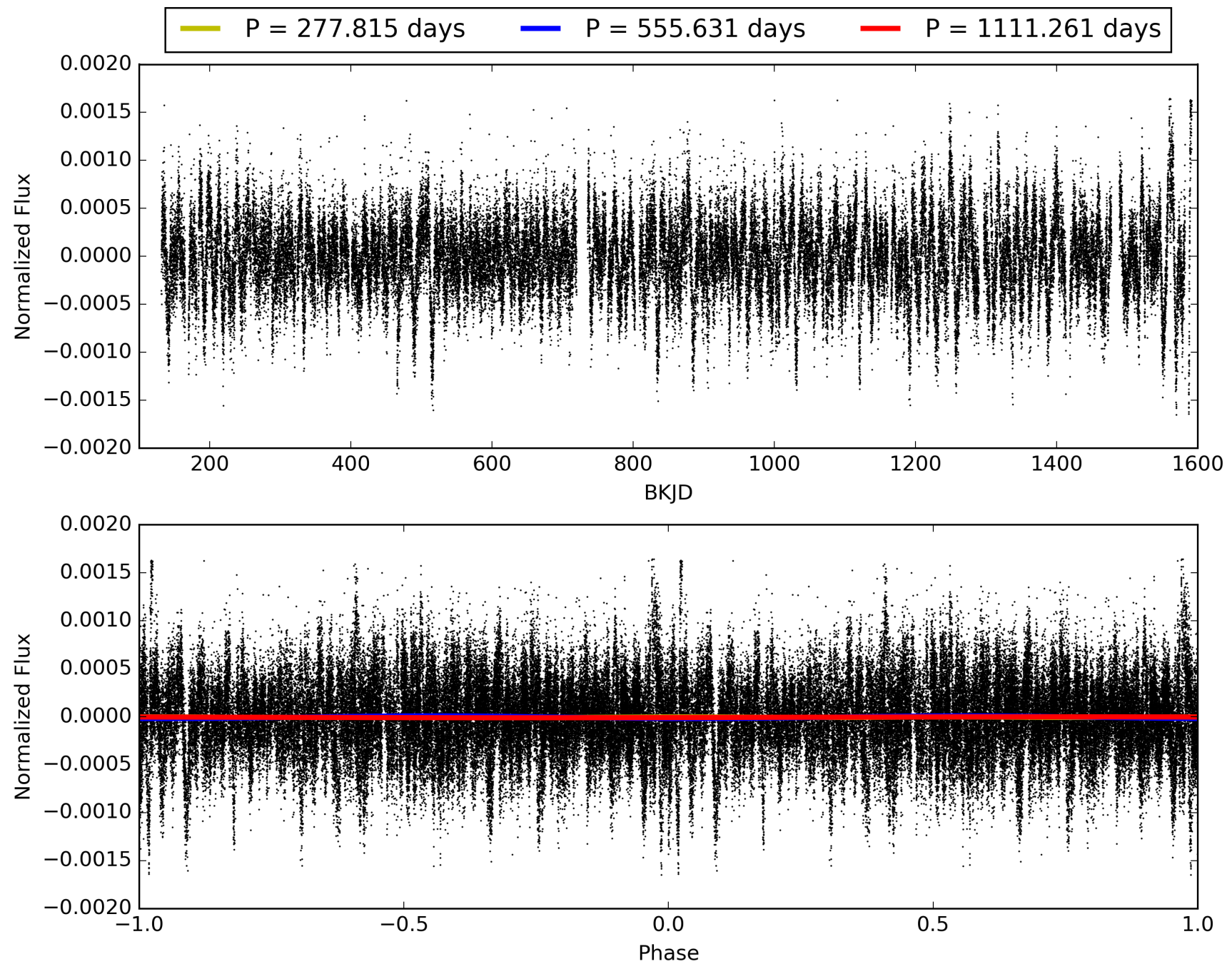
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.3%
ModelChiSquareGof-sig: 98.7%
Bootstrap-pfa: 2.41e-18
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: -0.8673
Centroid-sig: 4.1%
Centroid-so: 0.529 arcsec [0.84 σ]
OotOffset-rm: 1.280 arcsec [1.97 σ]
OotOffset-st: 0/0/0/2 [2]
KicOffset-rm: 0.686 arcsec [0.67 σ]
KicOffset-st: 0/0/0/2 [2]
DiffImageQuality-fgm: 1.00 [2/2]
DiffImageOverlap-fno: 1.00 [2/2]

TCE 007337953-01, PDC Light Curves

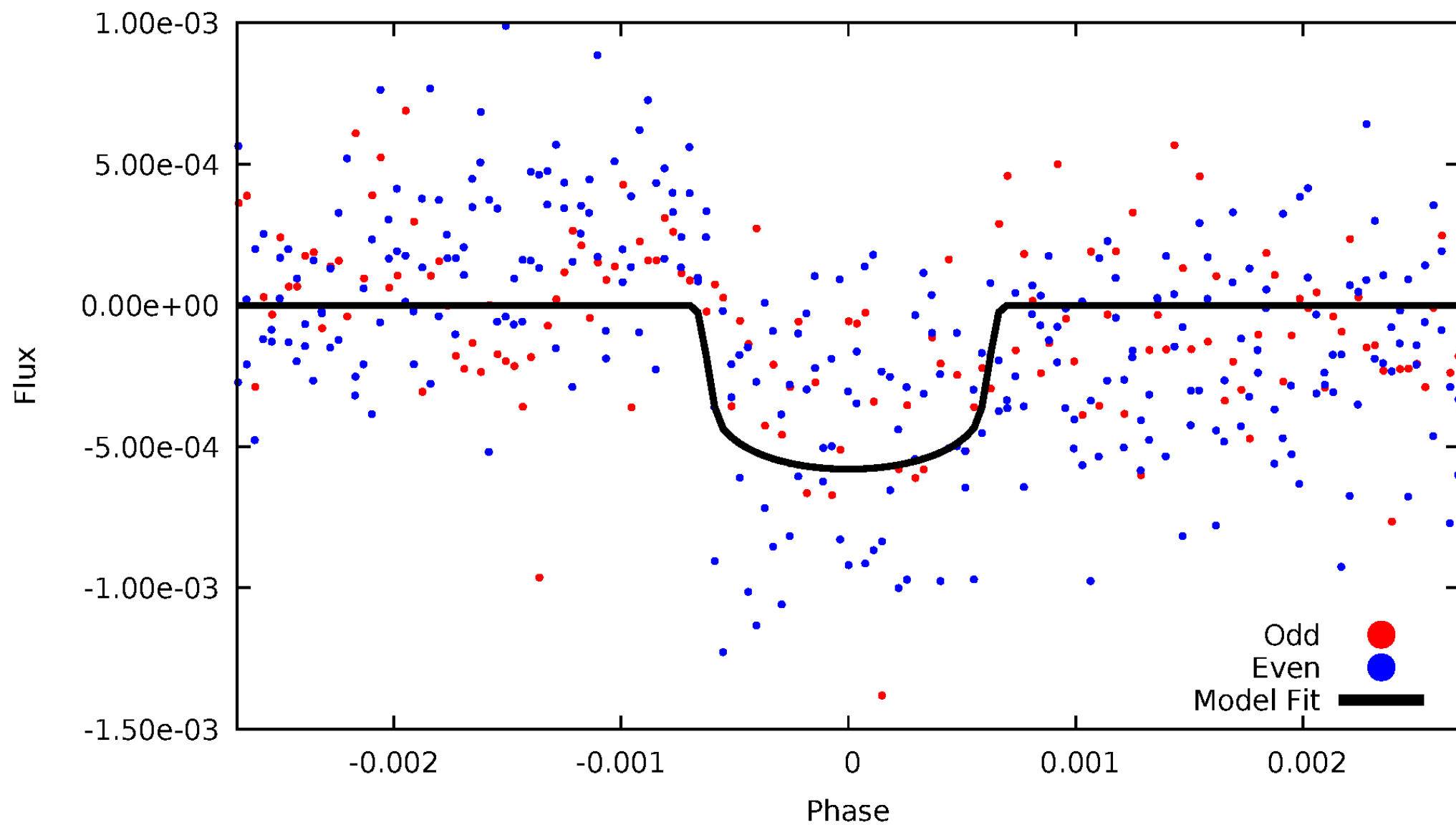


TCE 007337953-01



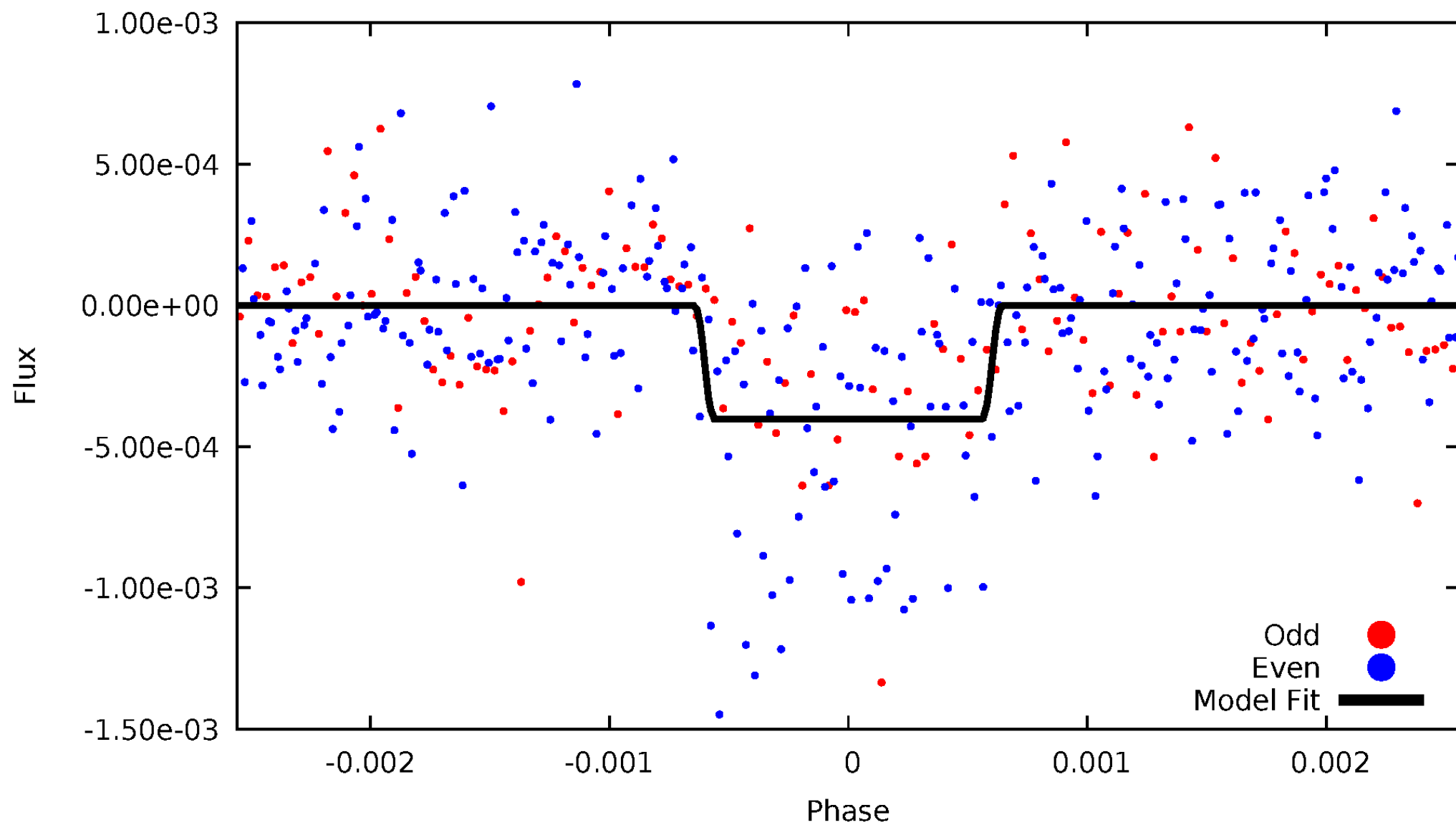
DV Odd/Even

TCE 007337953-01



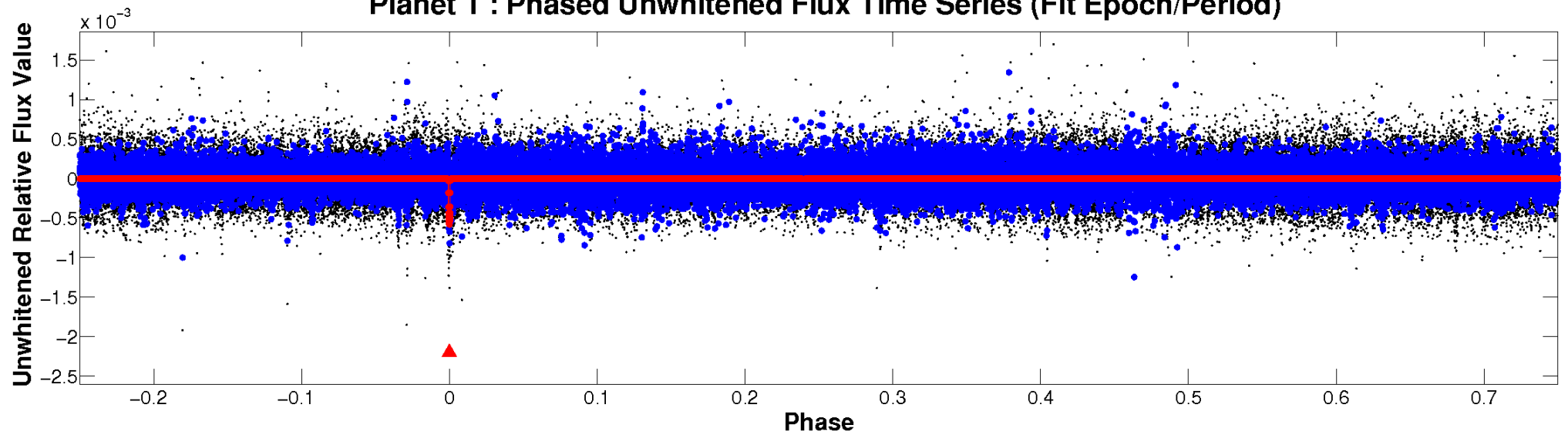
ALT Odd/Even

TCE 007337953-01

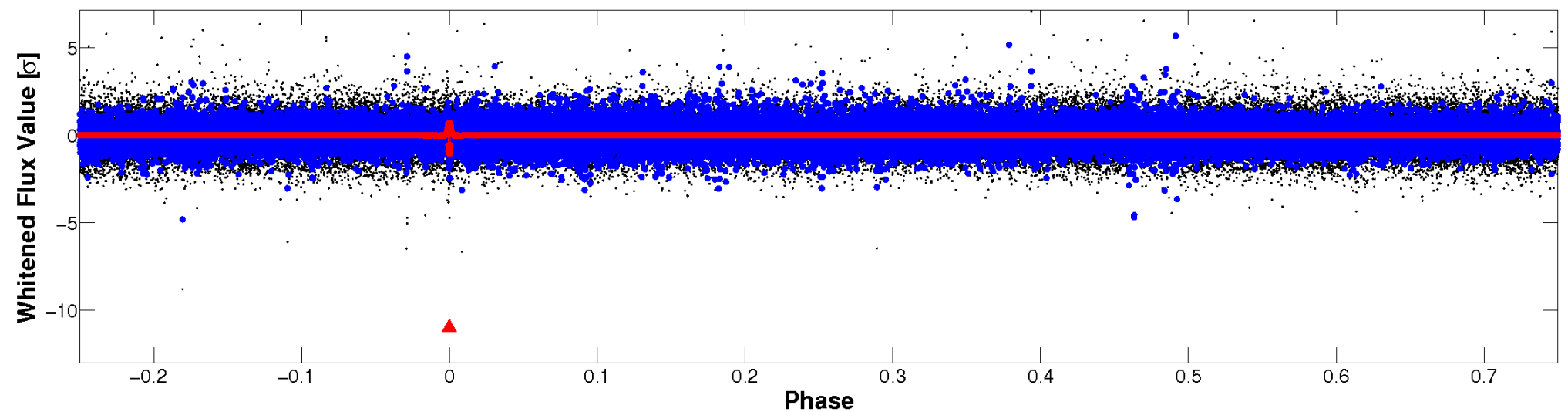


Non-Whitened Vs. Whitened Light Curve

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

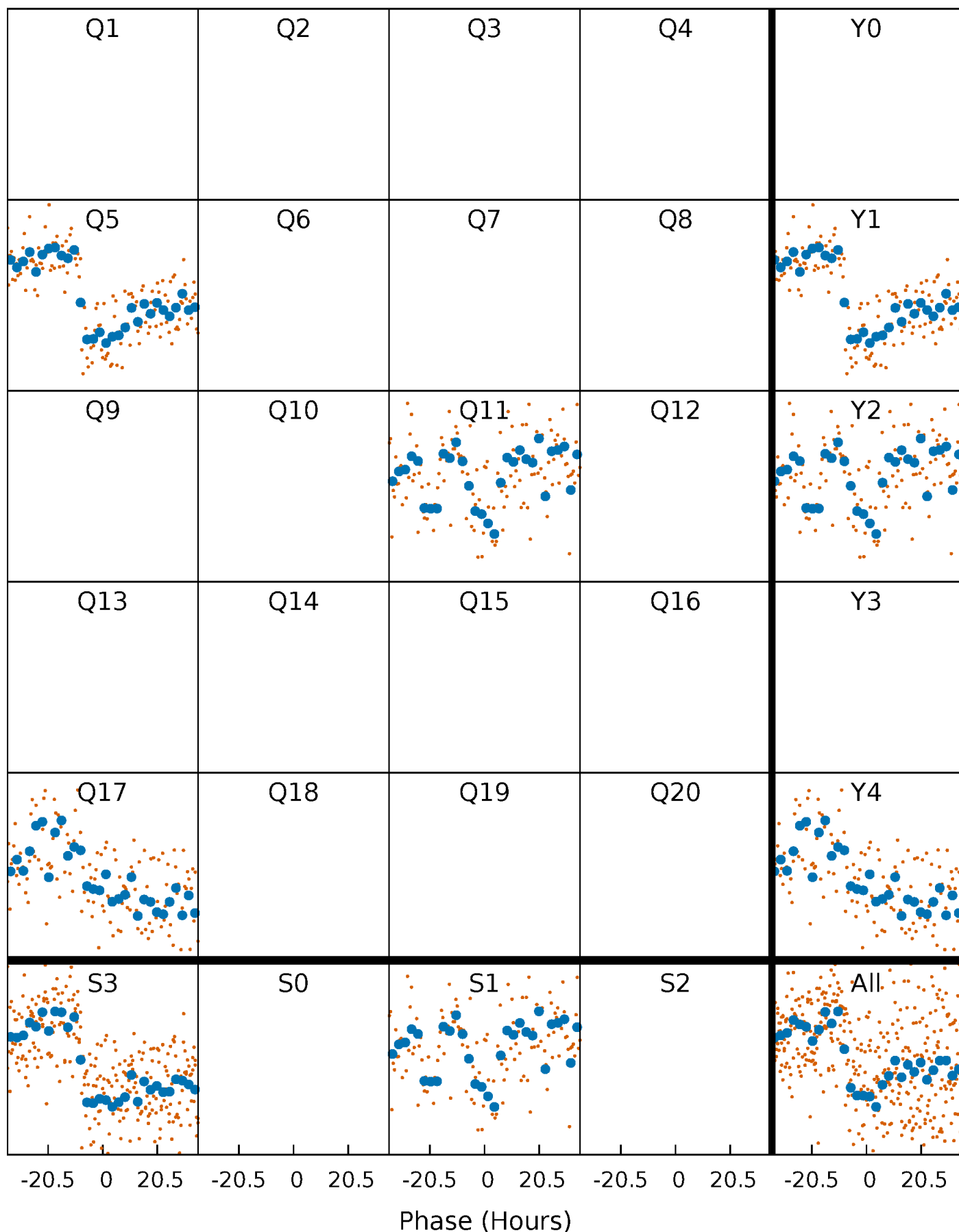


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



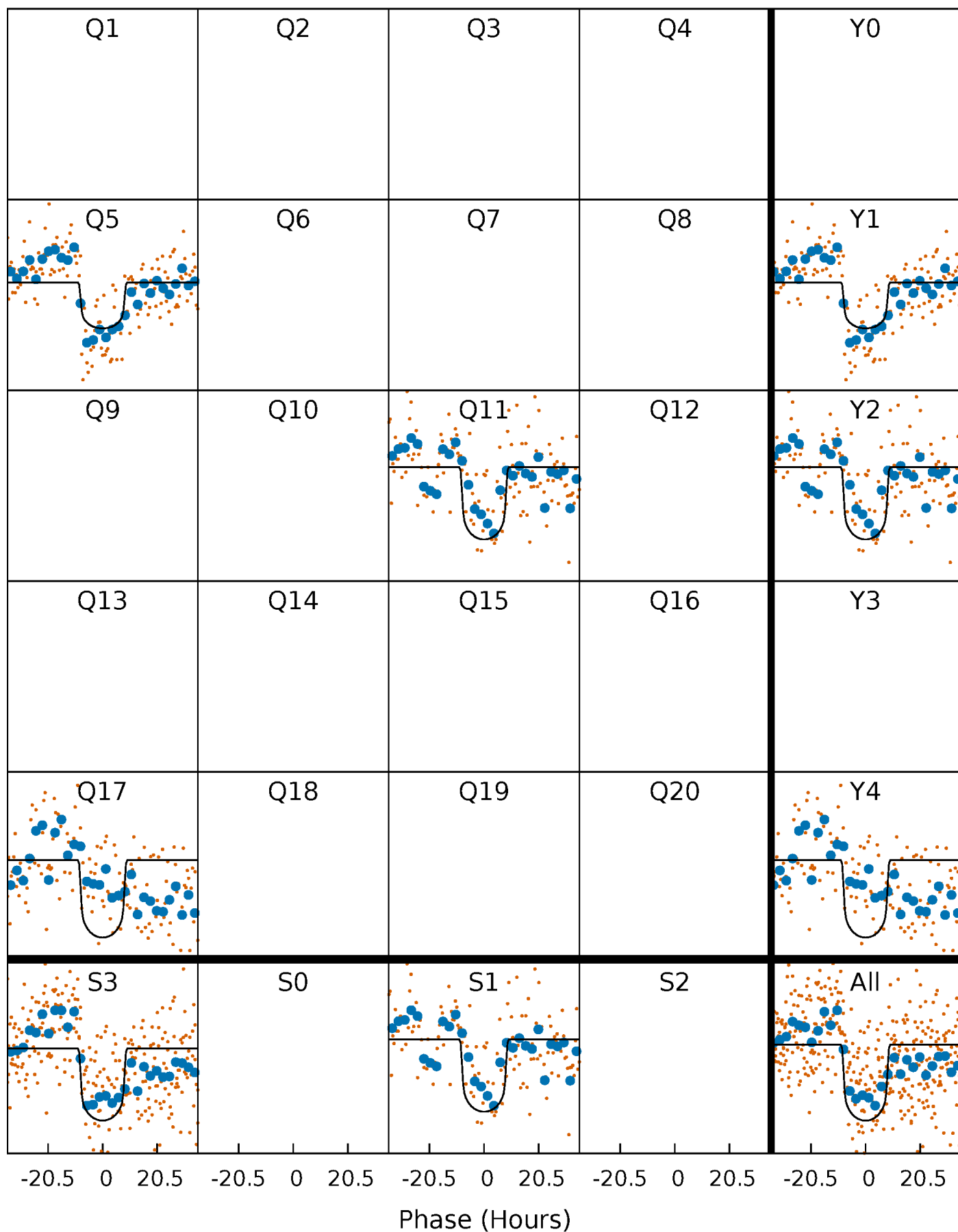
PDC Quarter-Phased Transit Curves

TCE 007337953-01 P=555.630704 Days $T_0=465.600587$ (BKJD)



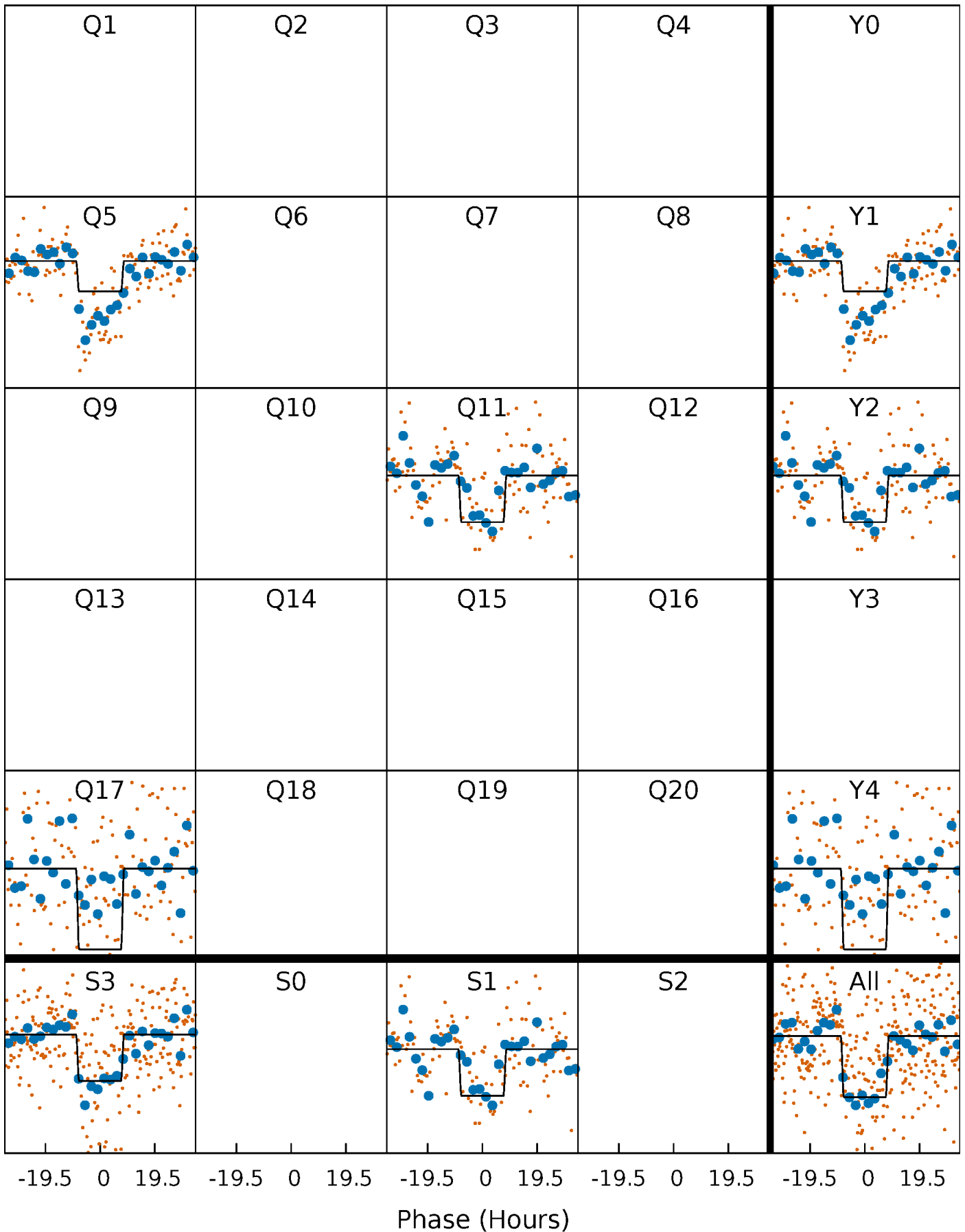
DV Quarter-Phased Transit Curves

TCE 007337953-01 P=555.630704 Days $T_0=465.600587$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

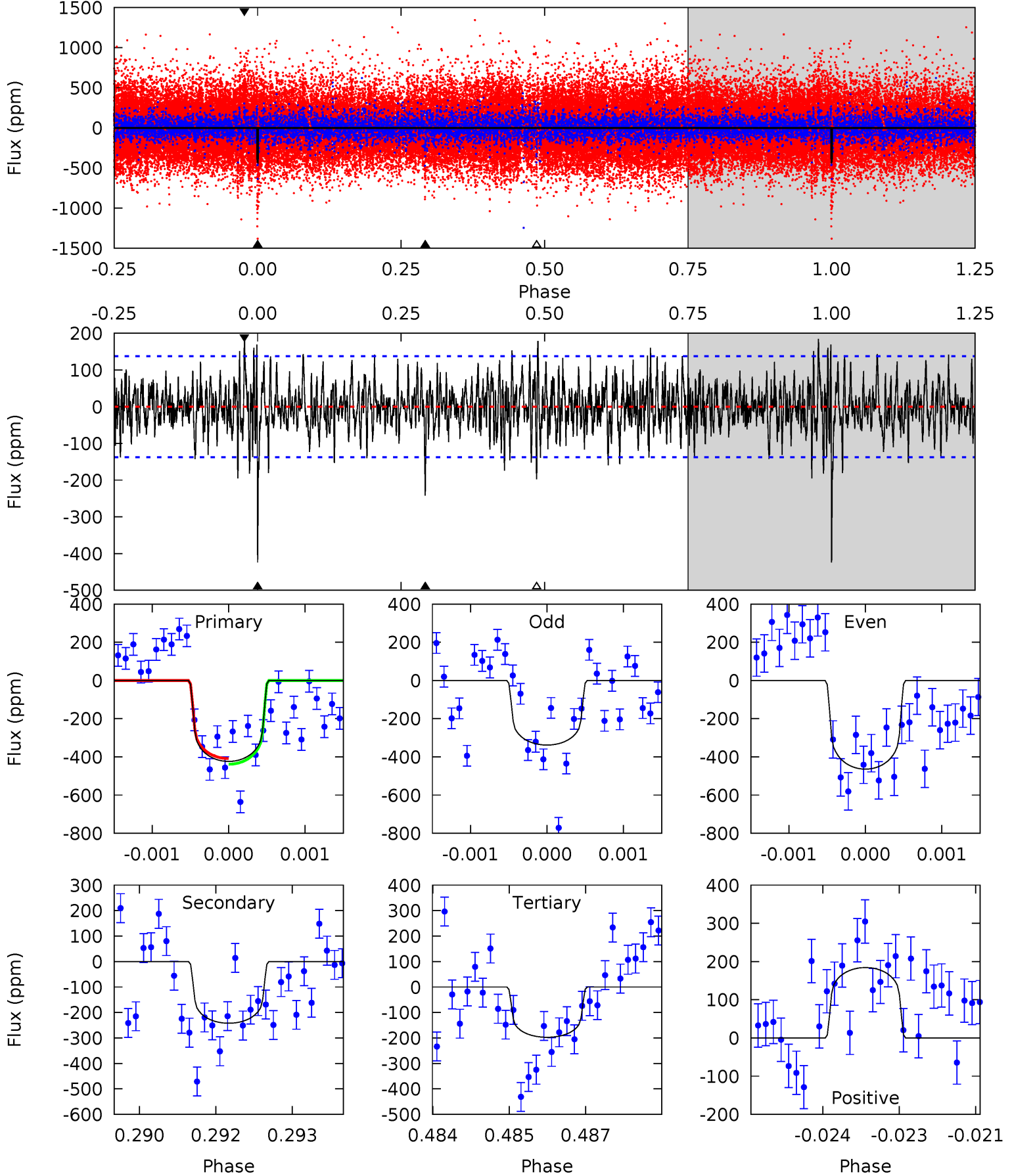
TCE 007337953-01 P=555.642986 Days $T_0=465.593823$ (BKJD)



DV Model-Shift Uniqueness Test

007337953-01, P = 555.630704 Days, E = 465.600587 Days

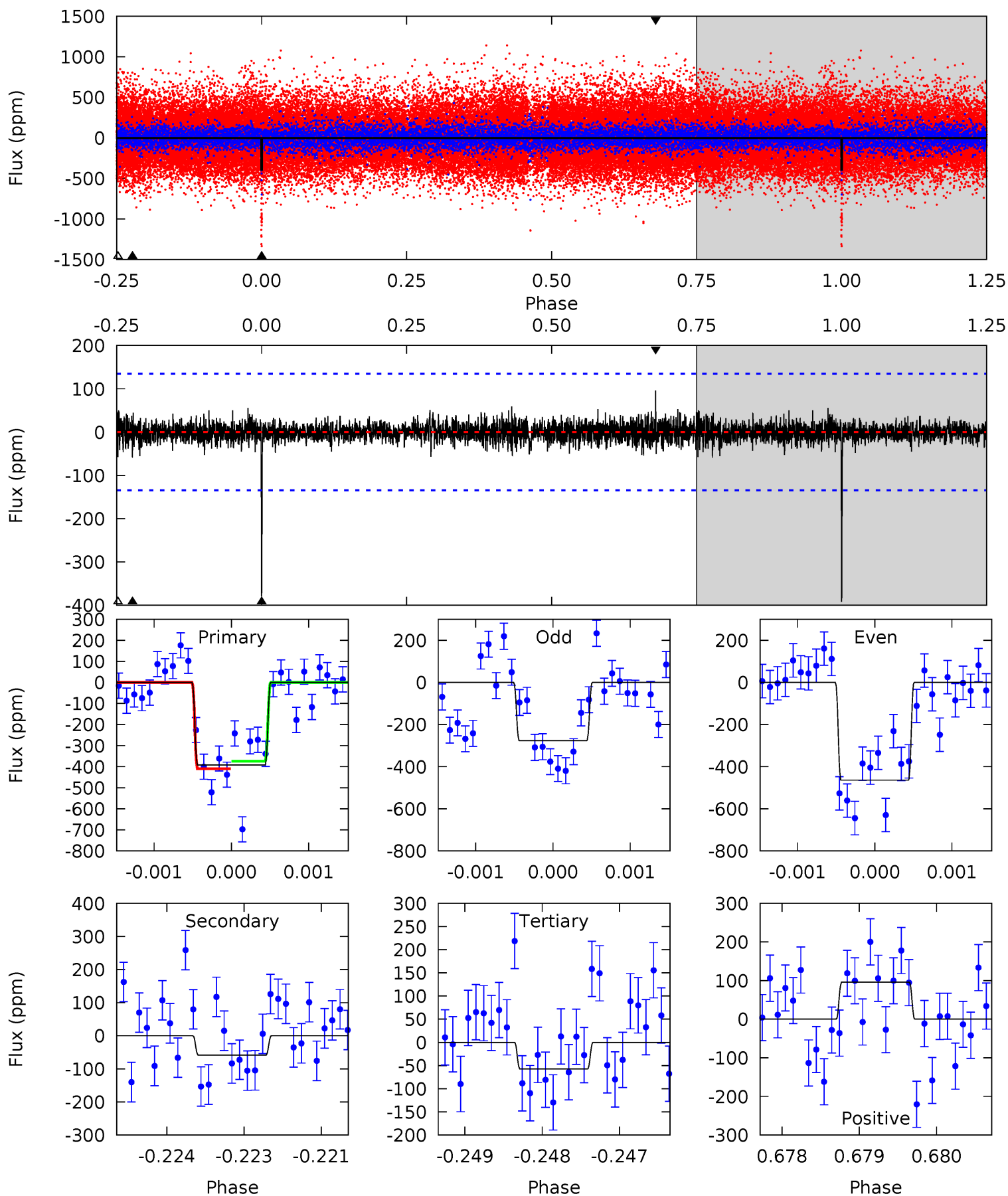
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.6	9.51	7.75	7.24	5.40	3.21	2.13	8.89	9.41	1.76	2.27	2.30	1.26	0.30	0.59



Alt Model-Shift Uniqueness Test

007337953-01, P = 555.642986 Days, E = 465.593823 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15.8	2.36	2.31	3.85	5.41	3.22	0.61	13.5	11.9	0.05	-1.49	3.54	1.47	0.20	0.72



Stellar Parameters For KIC 007337953

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5903^{+158}_{-158}	$4.418^{+0.120}_{-0.180}$	$-0.340^{+0.300}_{-0.300}$	$0.965^{+0.269}_{-0.145}$	$0.889^{+0.119}_{-0.089}$	$1.395^{+0.735}_{-0.648}$
	+3%/-3%	+3%/-4%	+88%/-88%	+28%/-15%	+13%/-10%	+53%/-46%
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 007337953-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-242 ± 25	$2.65^{+0.48}_{-0.37}$	319^{+22}_{-17}	4792^{+307}_{-252}	30969^{+10880}_{-9181}
Alt.	-59 ± 25	$2.14^{+0.40}_{-0.33}$	319^{+22}_{-18}	3967^{+371}_{-422}	10905^{+7437}_{-5220}

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

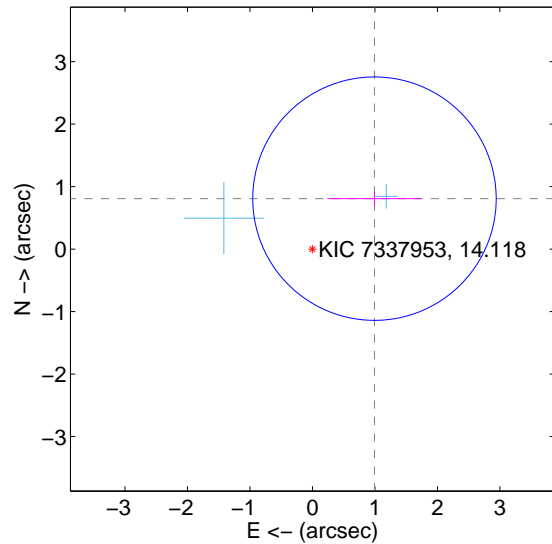
Supplemental centroid analysis for 007337953-01. Kepler magnitude: 14.12. Transit SNR 10.67

There are 2 quarters with good PRF difference image offsets

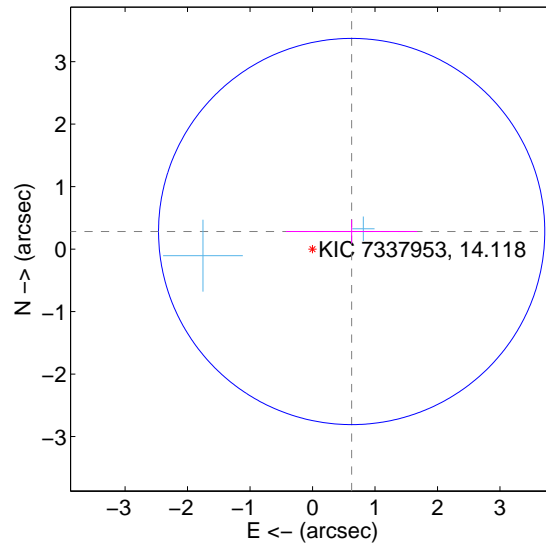
The direct PRF centroid is offset from the target star catalog position by about 0.69 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.280 ± 0.649	1.97	-0.993 ± 0.754	0.807 ± 0.121
PRF-fit source offset from KIC position	0.686 ± 1.030	0.67	-0.626 ± 1.050	0.281 ± 0.188
photometric centroid source offset	0.53 ± 0.63	0.84	-0.46 ± 0.63	-0.25 ± 0.63

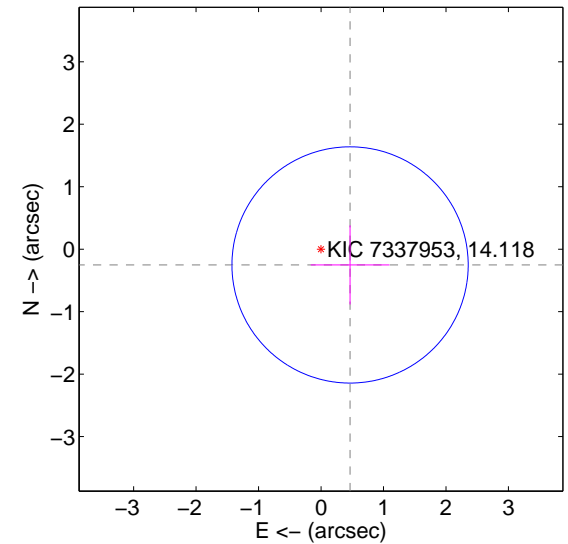
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position



offset from photometric centroids

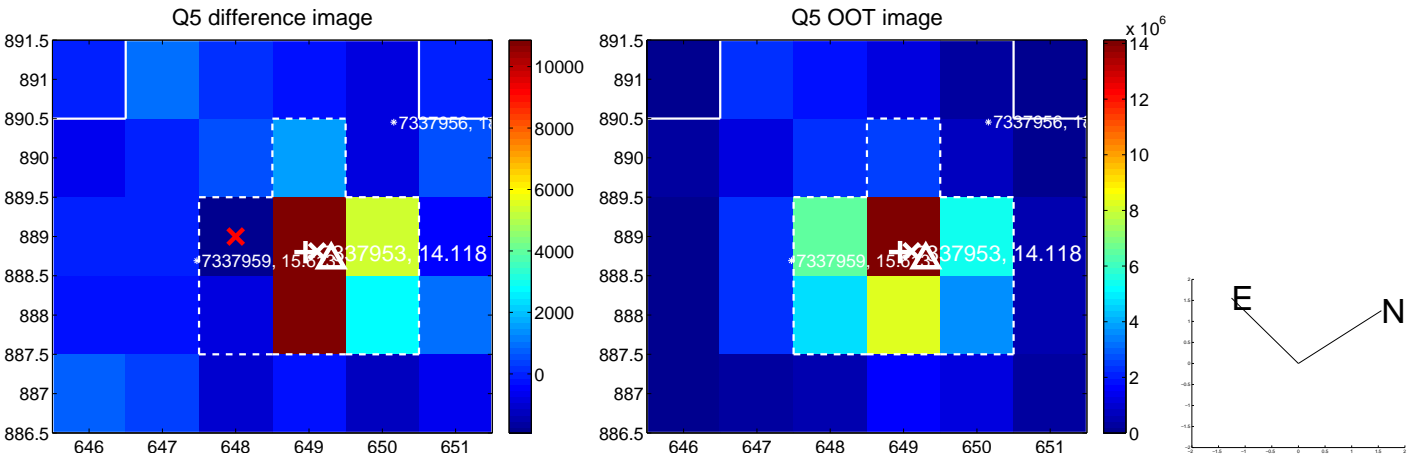


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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



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UKIRT Image

Declination

