

KIC 005521555

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})
005521555-01	OBS	No	575.916458	409.597214	252.7	4.464	7.2	7.1	0.91	5790	1.58	0.46

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005521555-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL_SKYE—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS

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

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

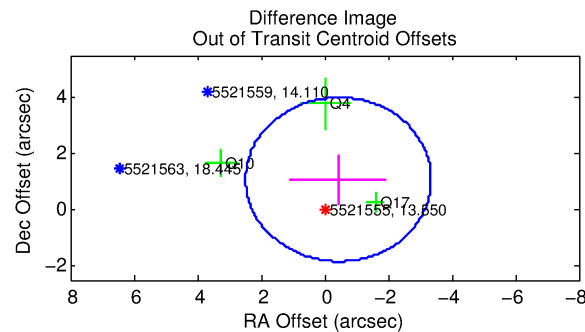
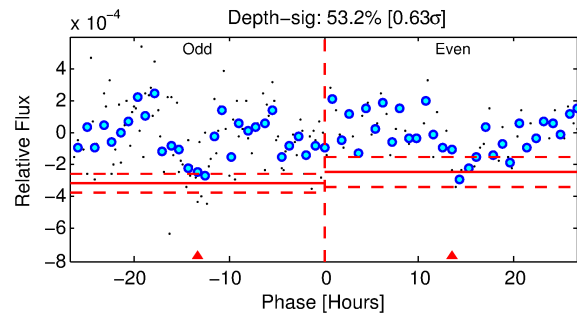
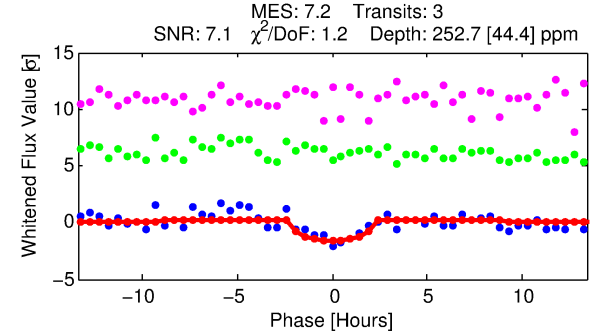
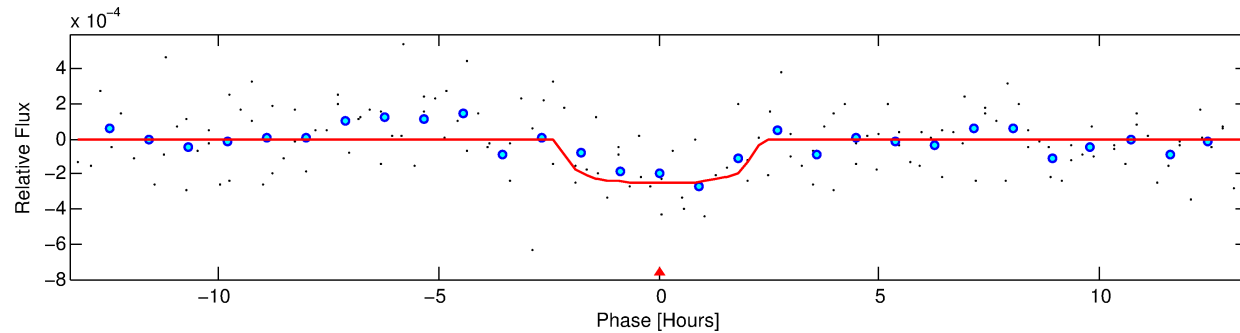
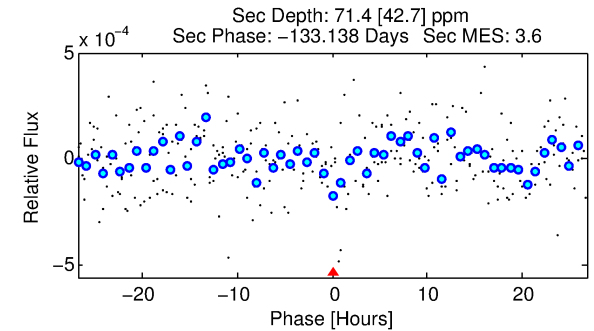
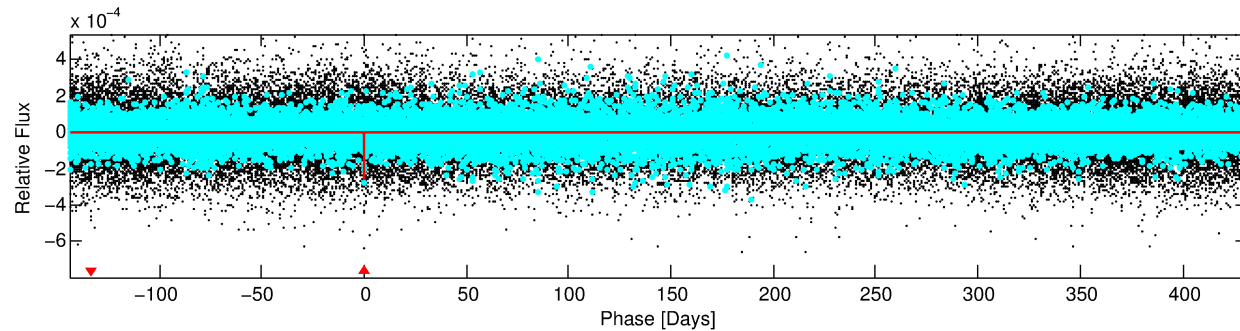
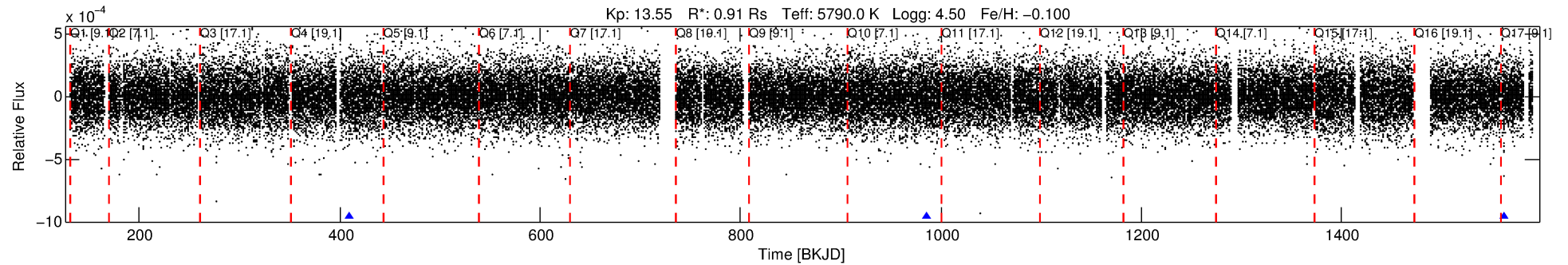
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005521555-01

No Significant Match Found

DV One-Page Summary

KIC: 5521555 Candidate: 1 of 1 Period: 575.916 d



DV Fit Results:

Period = 575.91646 [0.00999] d
Epoch = 409.5972 [0.0132] BKJD
Rp/R* = 0.0159 [0.0208]
a/R* = 654.72 [3883.97]
b = 0.77 [3.20]
Seff = 0.46 [0.18]
Teq = 210 [20] K
Rp = 1.58 [2.11] Re
a = 1.3366 [0.3377] AU
Ag = 28181.31 [76232.91] [0.37 σ]
Teffp = 4215 [2827] K [1.42 σ]

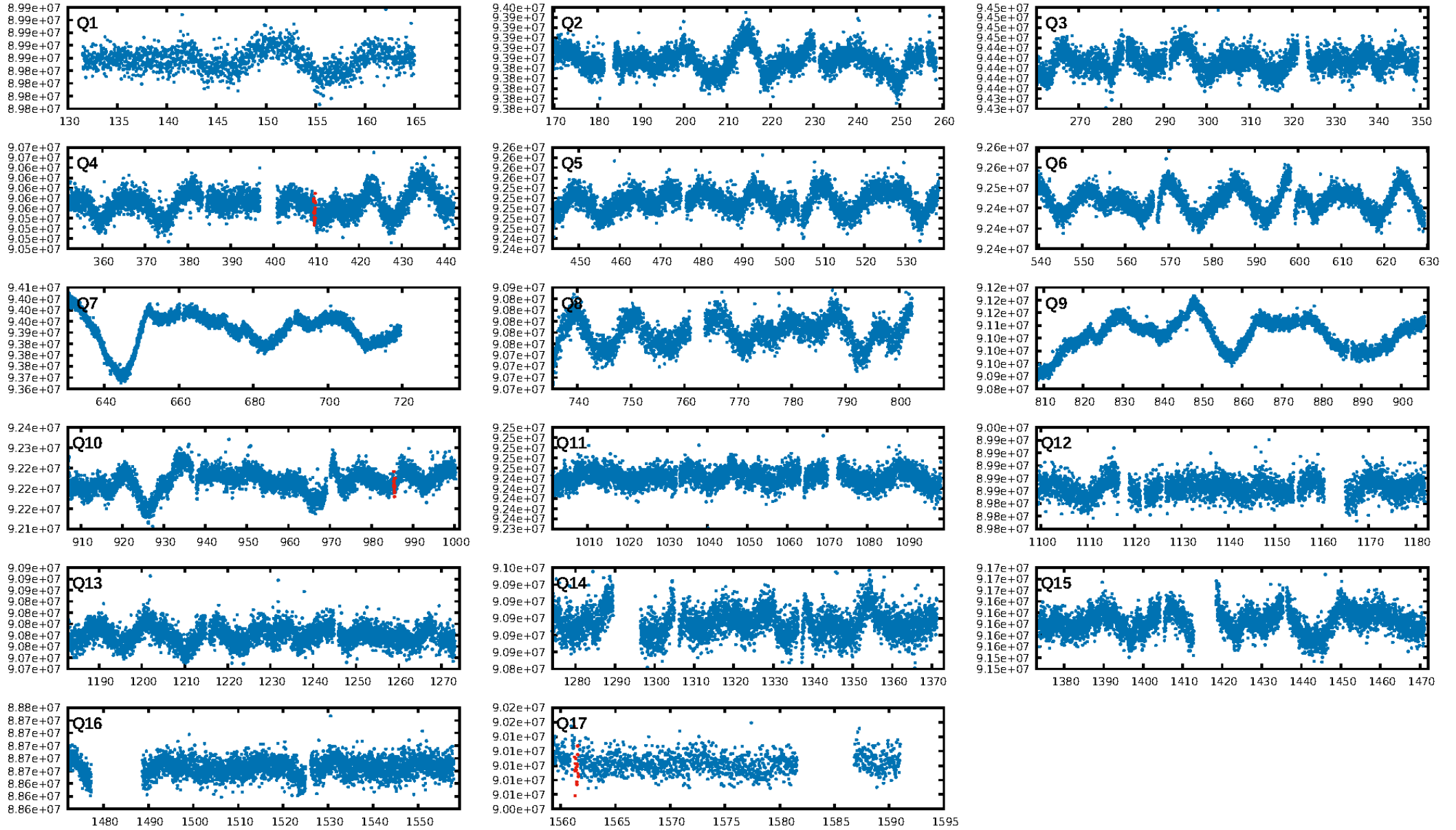
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 56.3%
ModelChiSquareGof-sig: 90.8%
Bootstrap-pfa: 1.31e-13
RollingBand-fgt: 1.00 [2/2]
GhostDiagnostic-chr: 7.019
Centroid-sig: 59.2%
Centroid-so: 0.954 arcsec [0.68 σ]
OotOffset-rm: 1.162 arcsec [1.19 σ]
KicOffset-rm: 1.064 arcsec [1.10 σ]
OotOffset-st: 1/0/1/1 [3]
KicOffset-st: 1/0/1/1 [3]
DiffImageQuality-fgm: 0.67 [2/3]
DiffImageOverlap-fno: 1.00 [3/3]

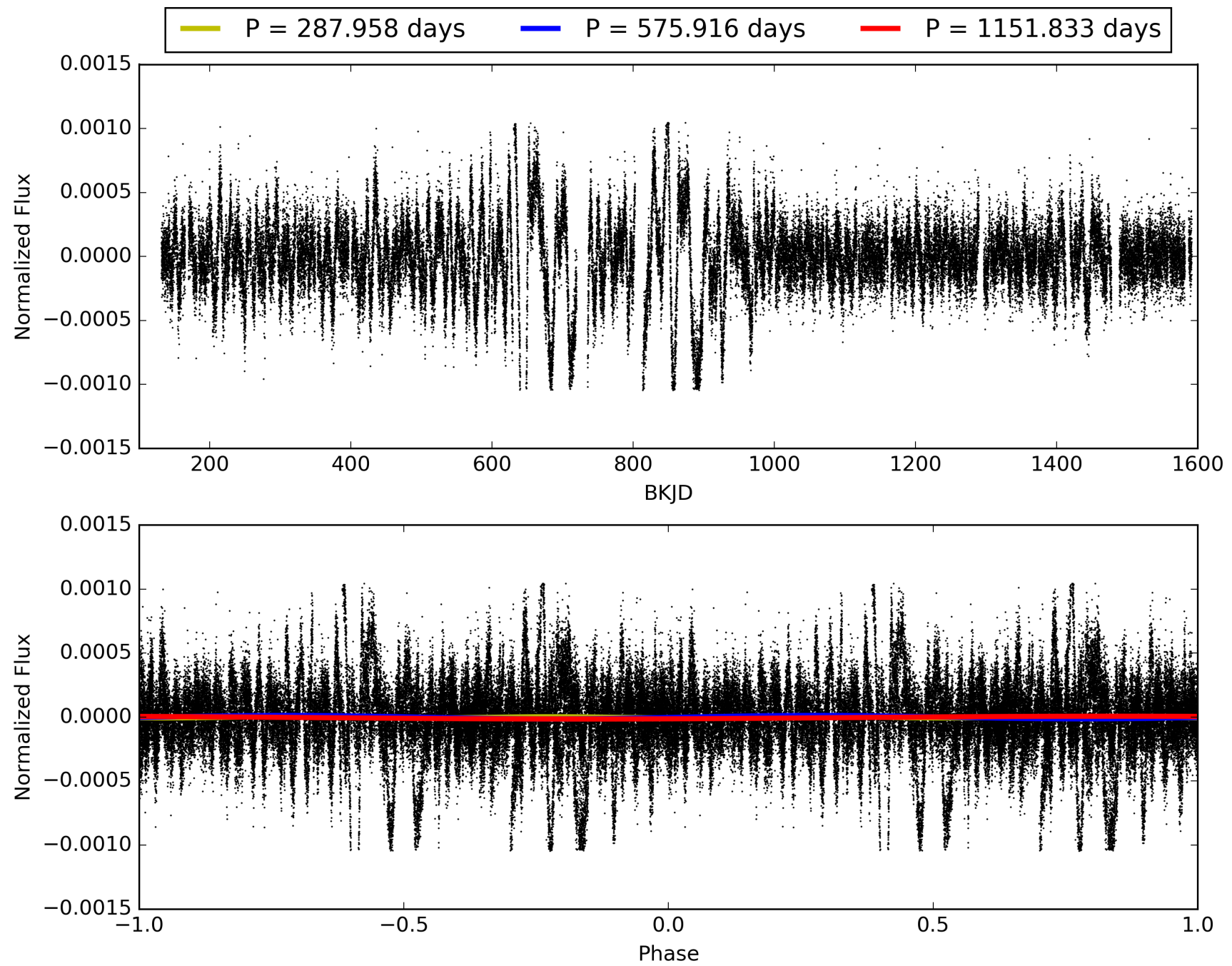
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:34:57 Z

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

TCE 005521555-01, PDC Light Curves

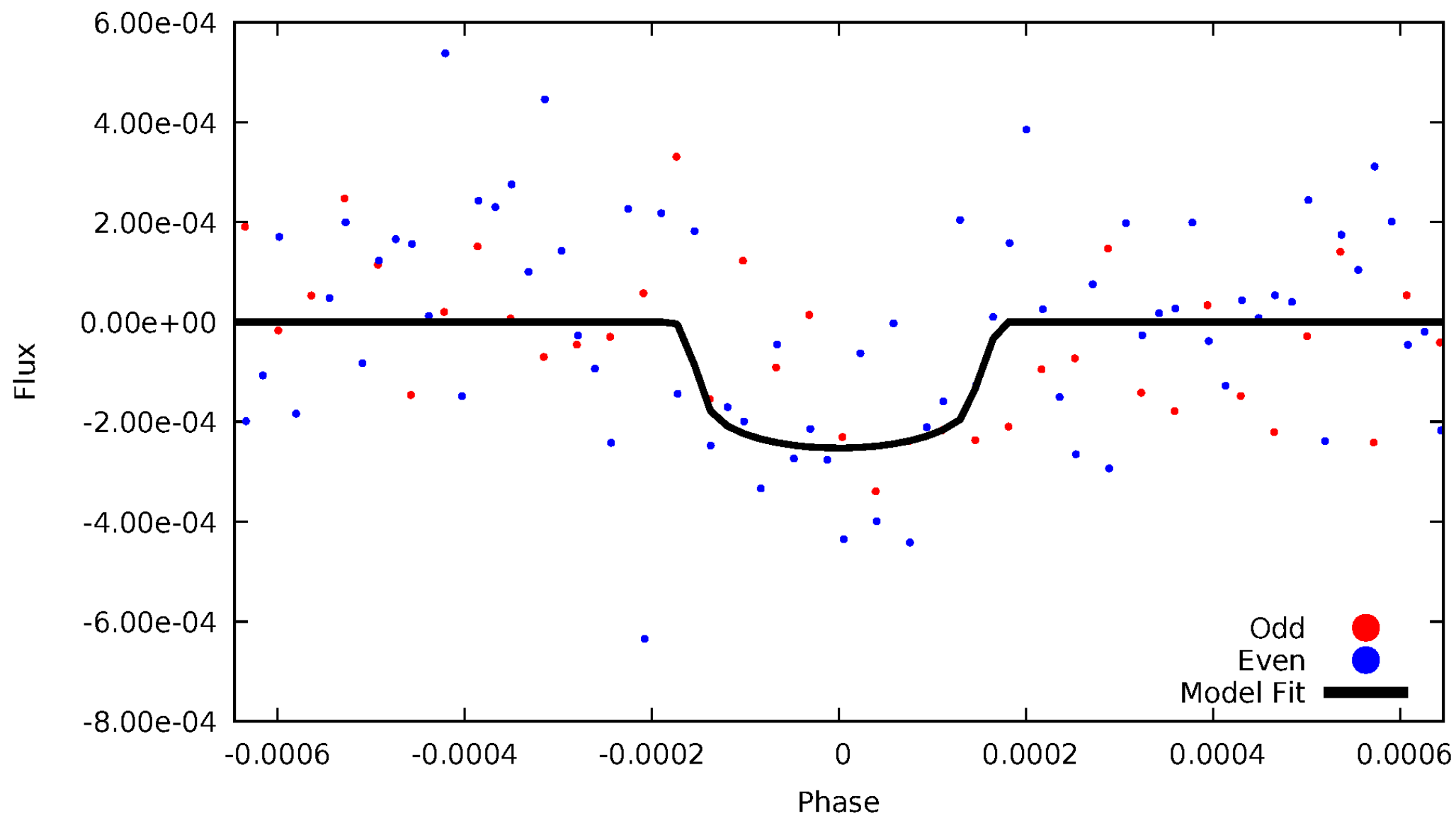


TCE 005521555-01



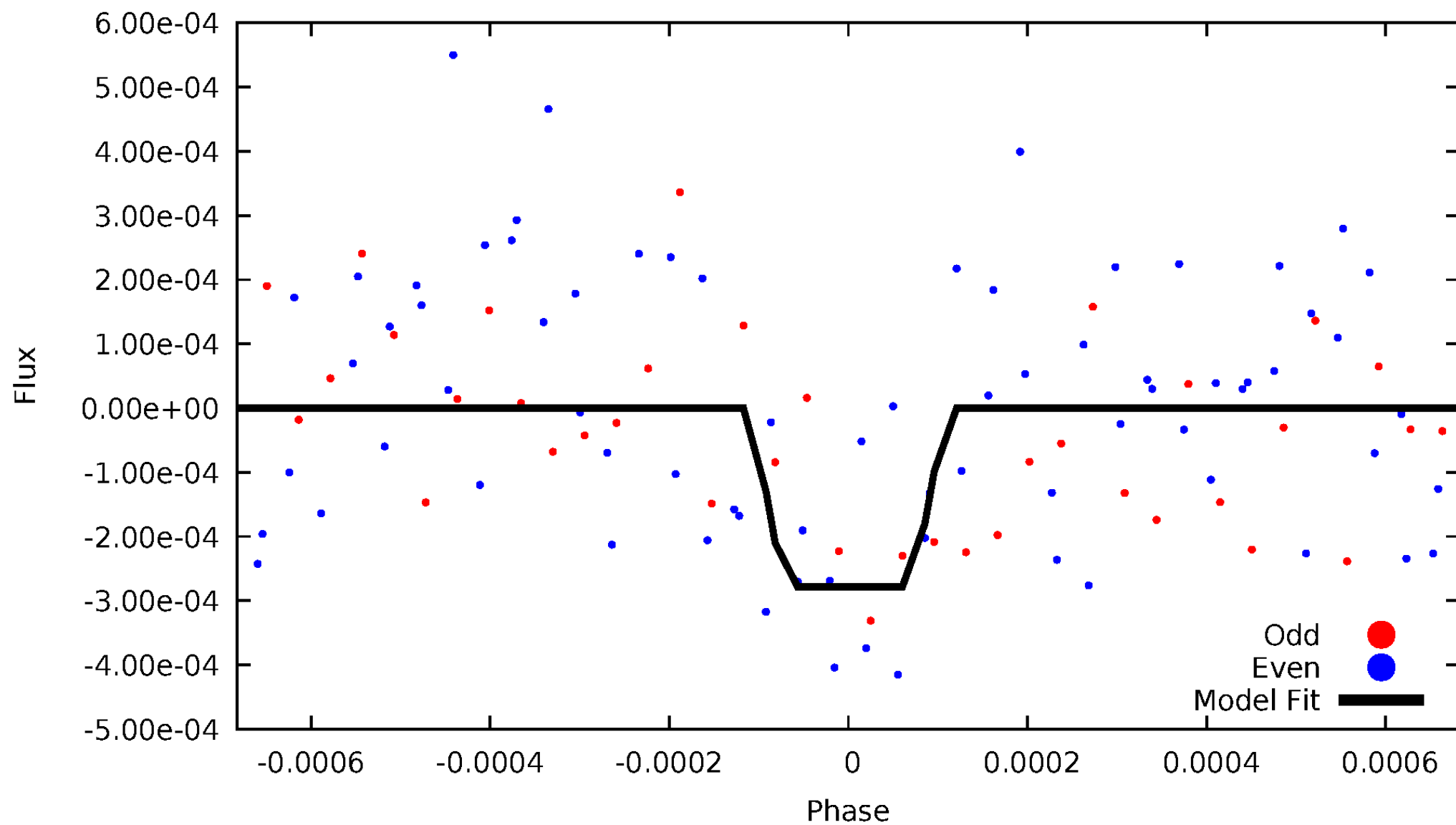
DV Odd/Even

TCE 005521555-01

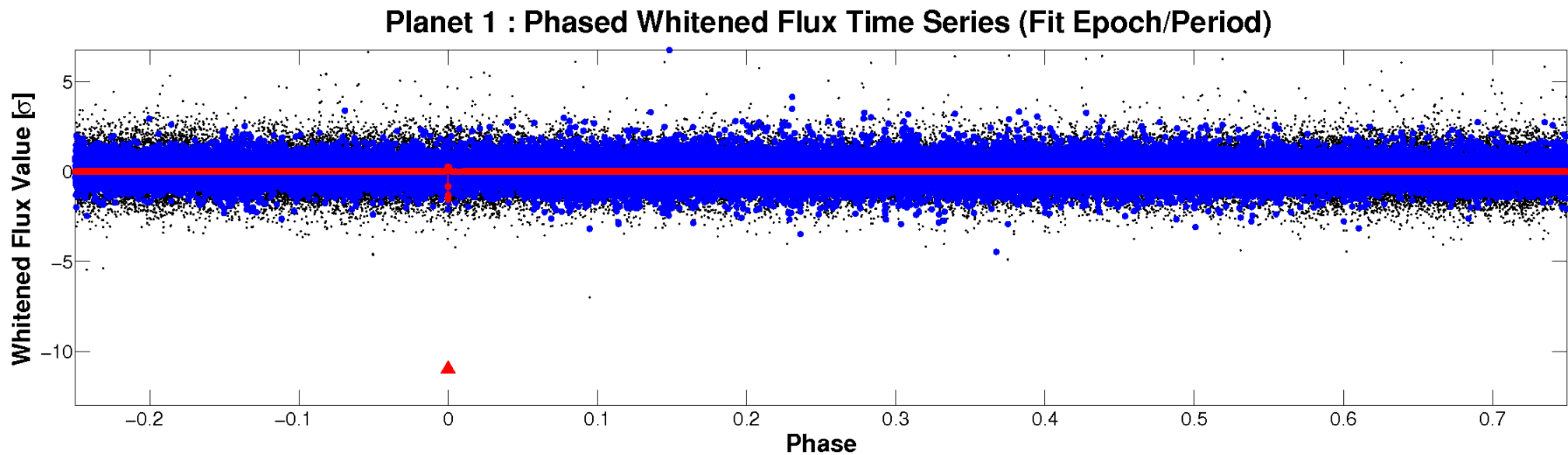
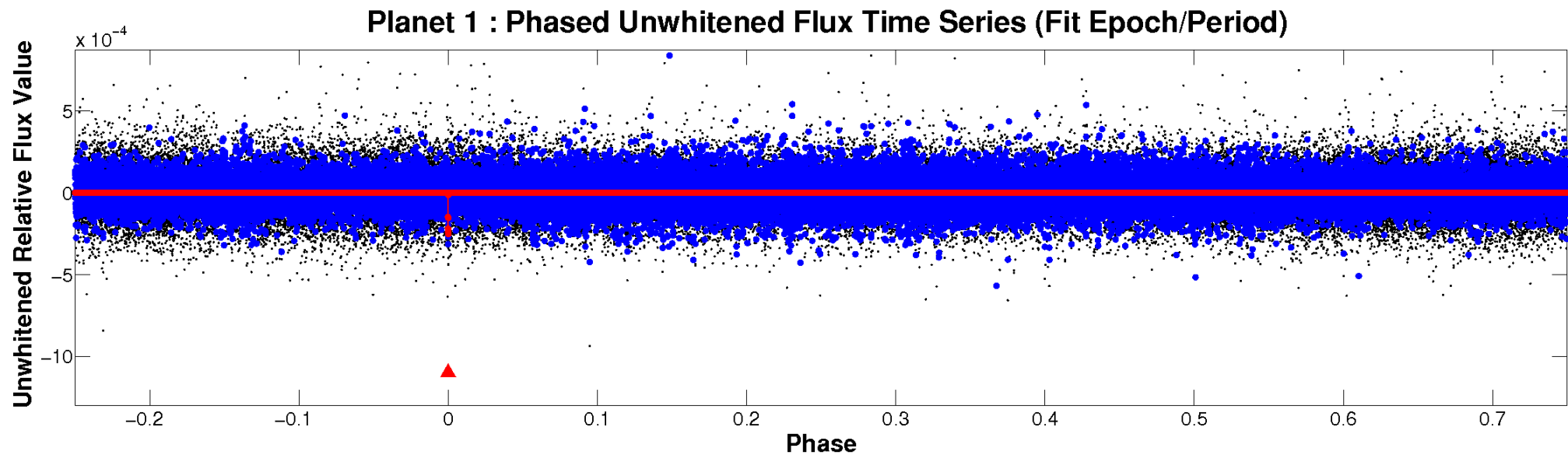


ALT Odd/Even

TCE 005521555-01



Non-Whitened Vs. Whitened Light Curve



PDC Quarter-Phased Transit Curves

TCE 005521555-01 P=575.916458 Days $T_0=409.597214$ (BKJD)



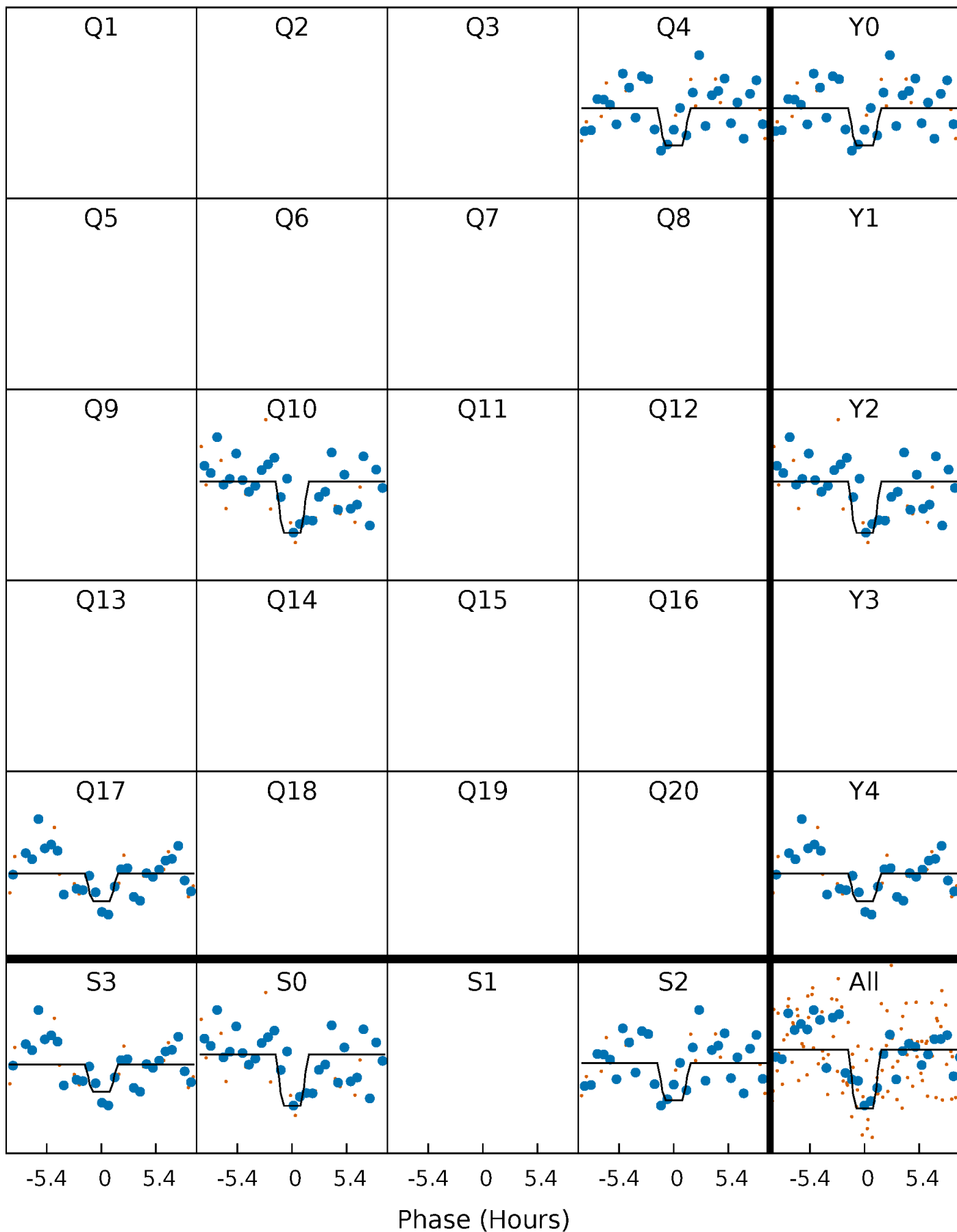
DV Quarter-Phased Transit Curves

TCE 005521555-01 P=575.916458 Days $T_0=409.597214$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

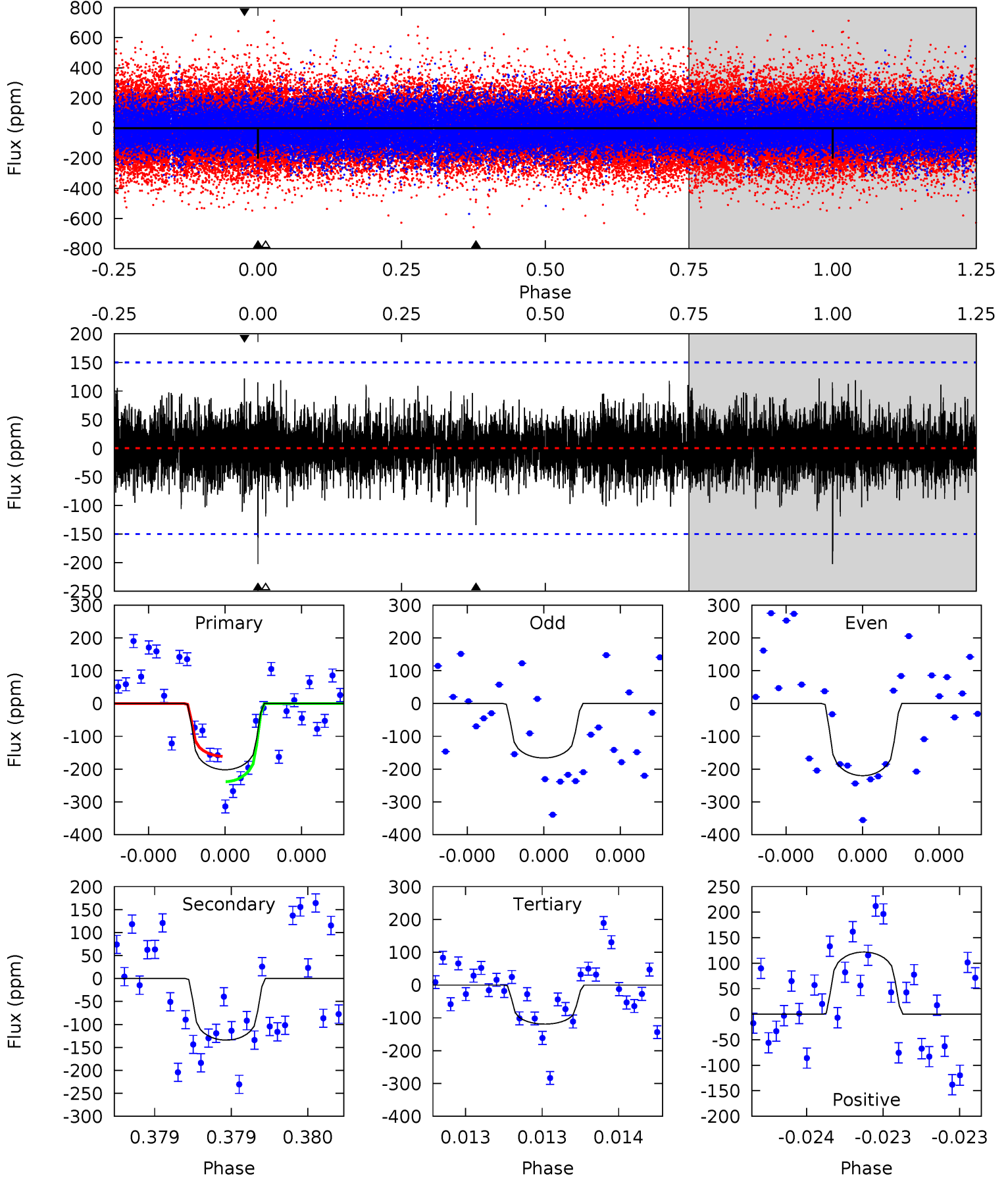
TCE 005521555-01 P=575.919889 Days $T_0=409.602161$ (BKJD)



DV Model-Shift Uniqueness Test

005521555-01, P = 575.916458 Days, E = 409.597214 Days

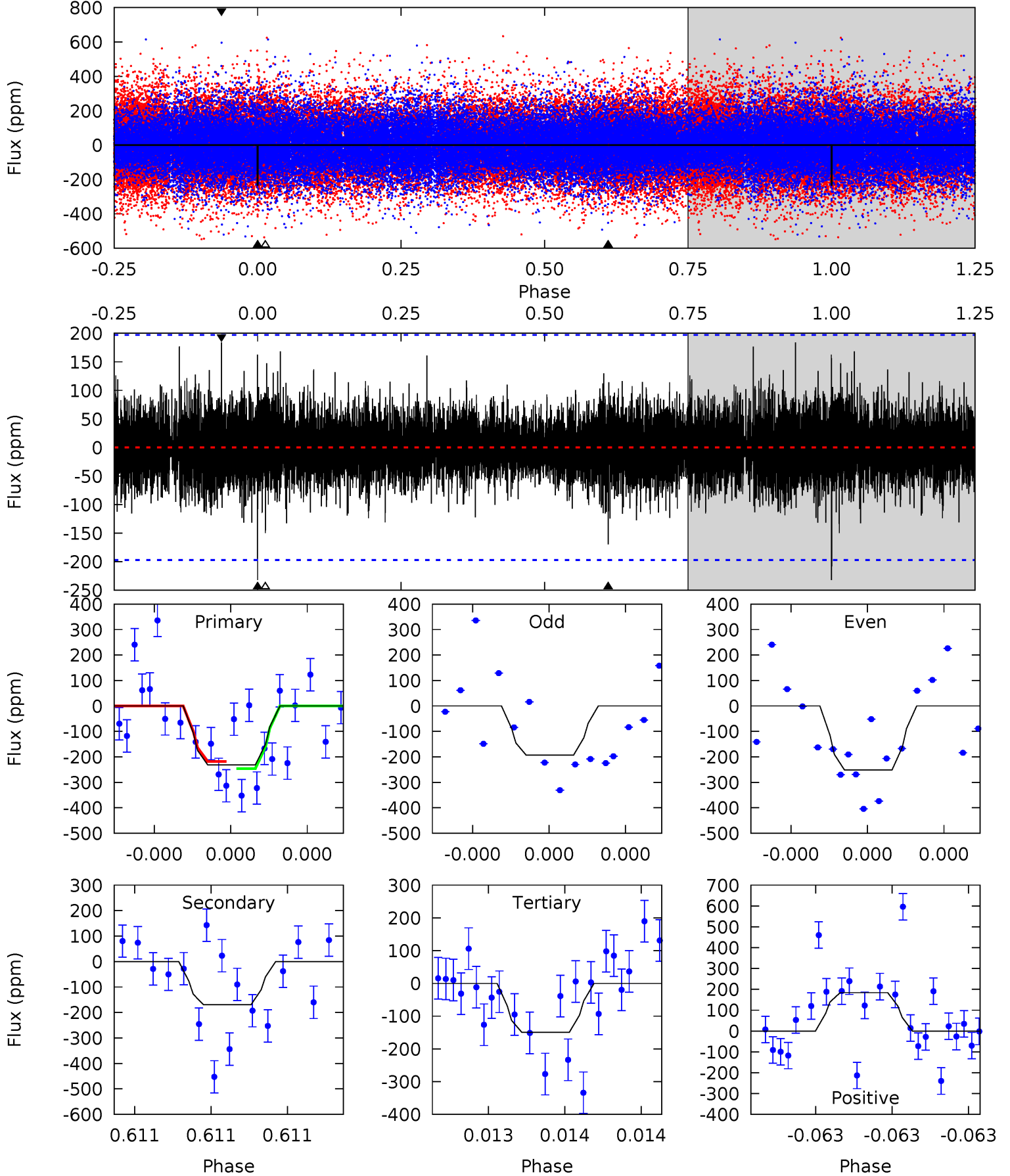
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.59	5.04	4.47	4.57	5.63	3.57	1.17	3.12	3.01	0.57	0.46	0.96	1.22	0.38	1.45



Alt Model-Shift Uniqueness Test

005521555-01, P = 575.919889 Days, E = 409.602161 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.75	4.94	4.35	5.36	5.74	3.73	1.07	2.40	1.39	0.59	-0.42	0.80	1.20	0.44	0.40



Stellar Parameters For KIC 005521555

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5790^{+138}_{-156}	$4.505^{+0.050}_{-0.200}$	$-0.100^{+0.300}_{-0.300}$	$0.907^{+0.273}_{-0.091}$	$0.959^{+0.114}_{-0.103}$	$1.810^{+0.475}_{-0.906}$
	+2%/-3%	+1%/-4%	+300%/-300%	+30%/-10%	+12%/-11%	+26%/-50%
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 005521555-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-134 ± 27	$2.33^{+1.82}_{-1.45}$	301^{+20}_{-14}	4376^{+2381}_{-789}	$23525^{+138070}_{-16053}$
Alt.	-170 ± 34	$2.33^{+2.12}_{-1.55}$	300^{+22}_{-13}	4549^{+3182}_{-889}	$29294^{+235845}_{-20786}$

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 $A_{obs} \gg 1.0$

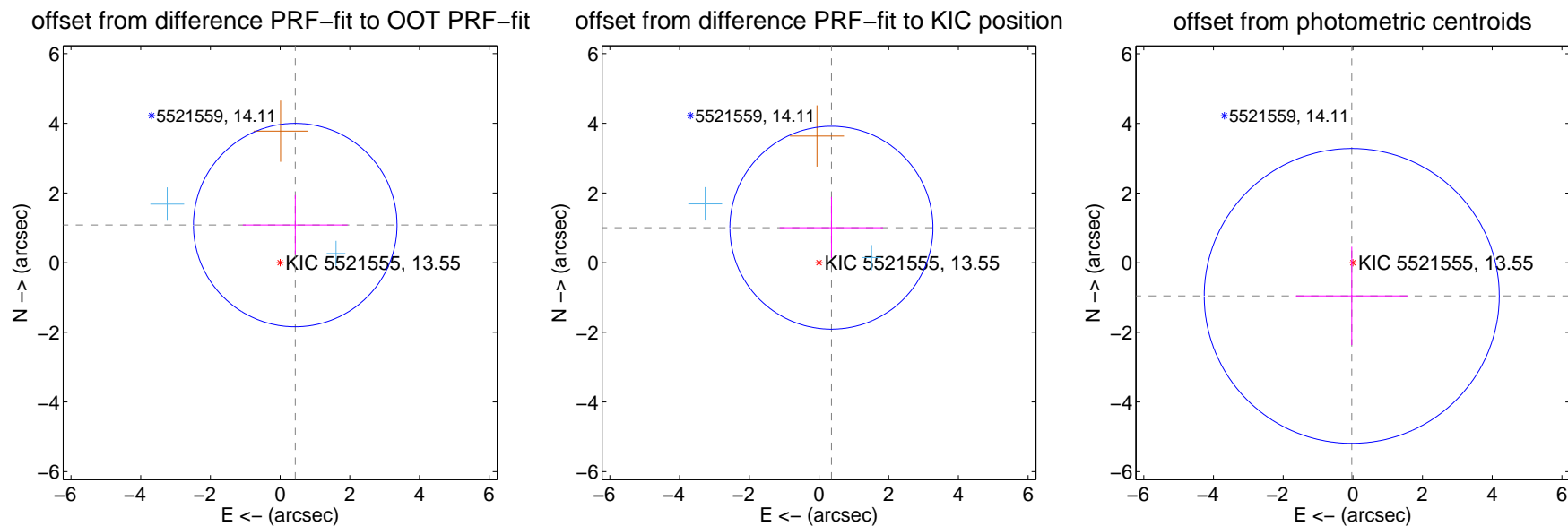
DV Centroid Data

Supplemental centroid analysis for 005521555-01. Kepler magnitude: 13.55. Transit SNR 7.15

There are 2 quarters with good PRF difference image offsets

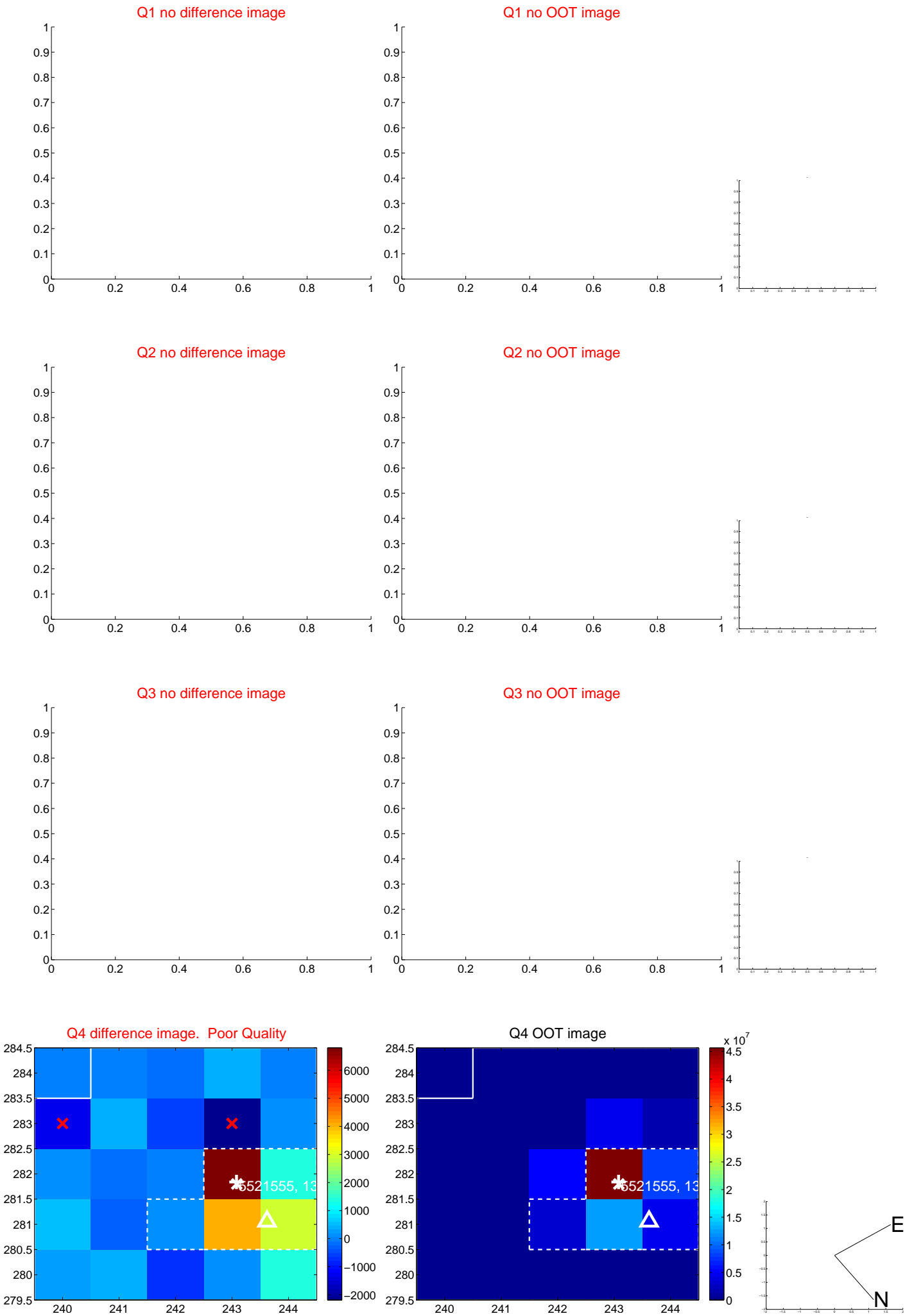
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.162 ± 0.973	1.19	-0.434 ± 1.503	1.078 ± 0.857
PRF-fit source offset from KIC position	1.064 ± 0.971	1.10	-0.357 ± 1.483	1.003 ± 0.885
photometric centroid source offset	0.95 ± 1.41	0.68	0.03 ± 1.61	-0.95 ± 1.41



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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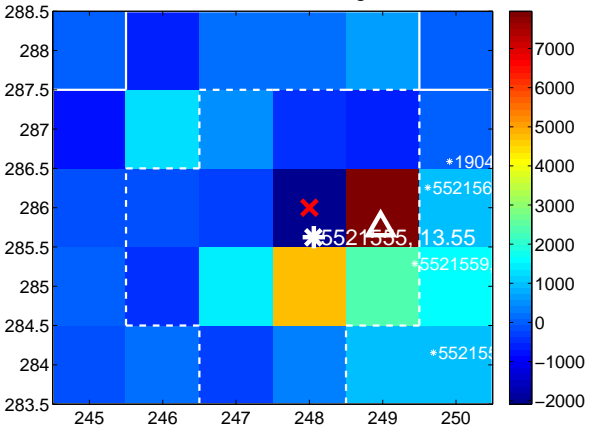
Q9 no difference image



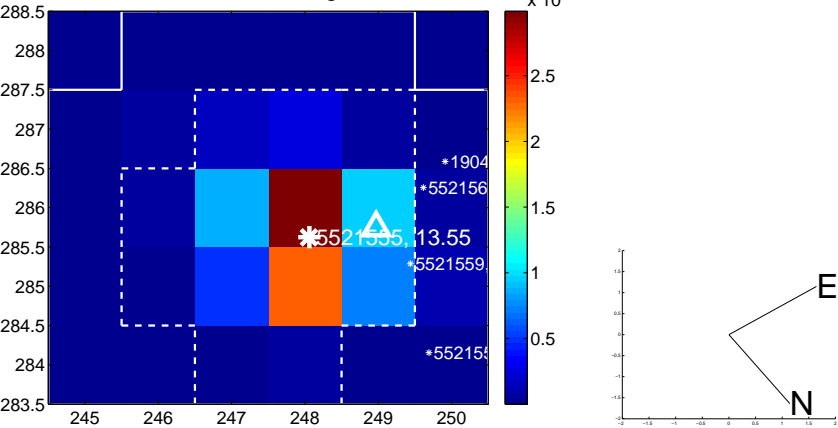
Q9 no OOT image



Q10 difference image



Q10 OOT image



Q11 no difference image



Q11 no OOT image



Q12 no difference image



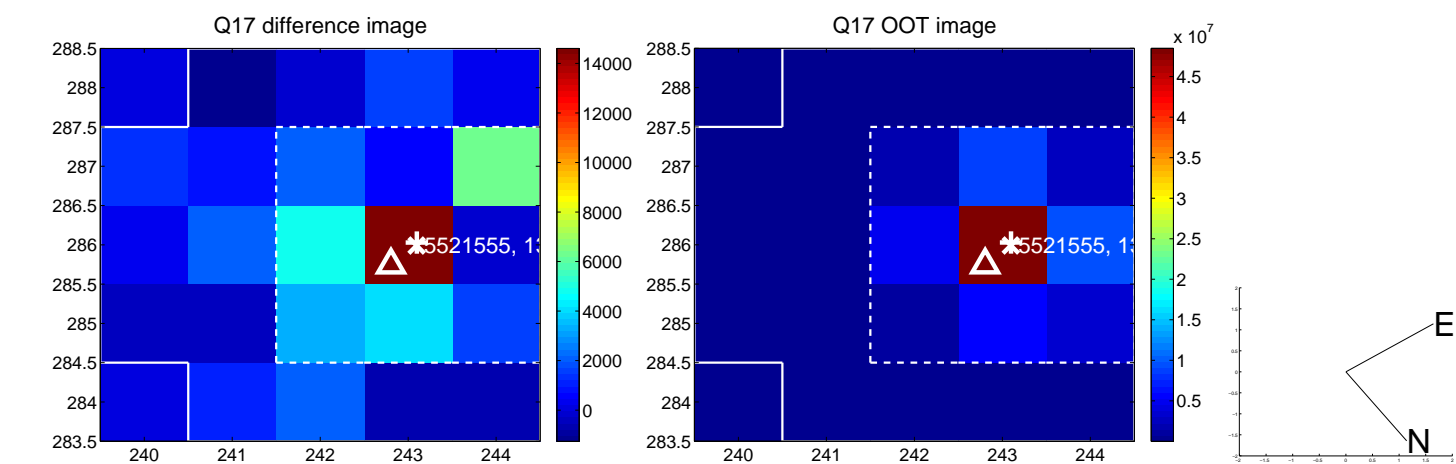
Q12 no OOT image



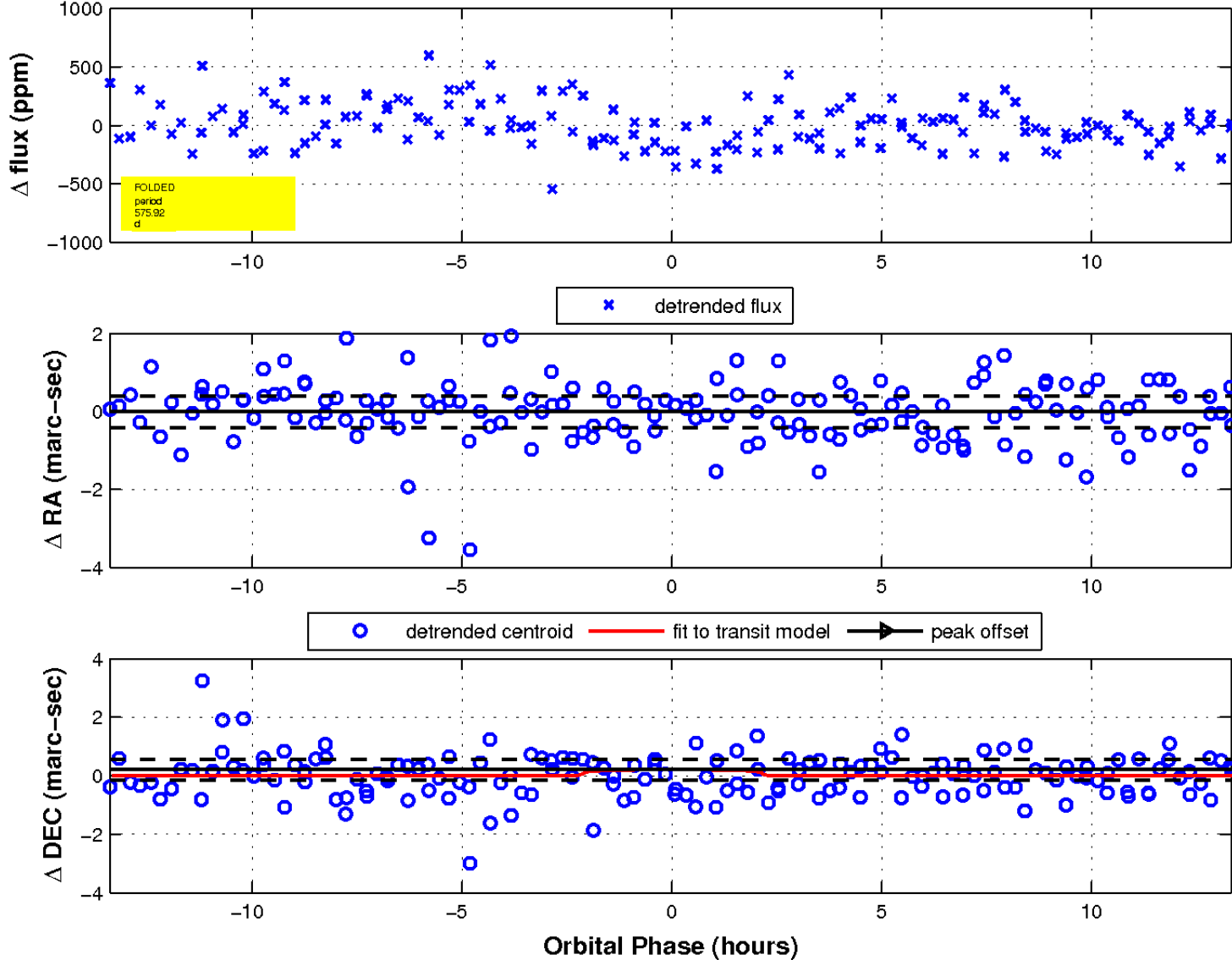
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

