

KIC 007451886

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})
007451886-01	OBS	No	487.551247	254.447326	47.2	4.176	14.7	2.9	67.91	3801	46.86	415.33

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007451886-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_CHASES_MARSHALL—LPP_DV—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—INCONSISTENT_TRANS—CENT_SATURATED

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

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

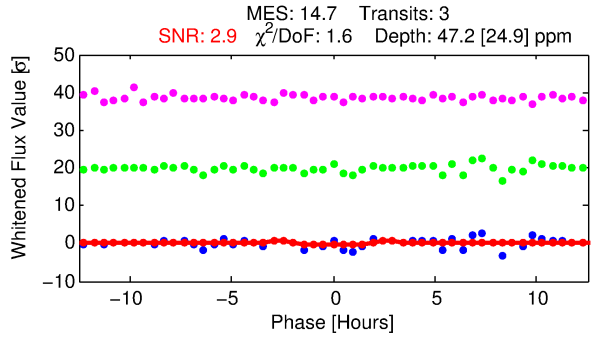
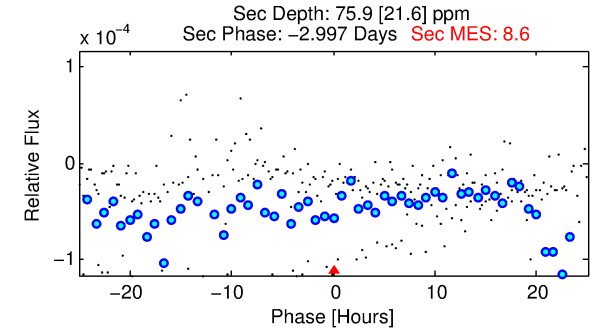
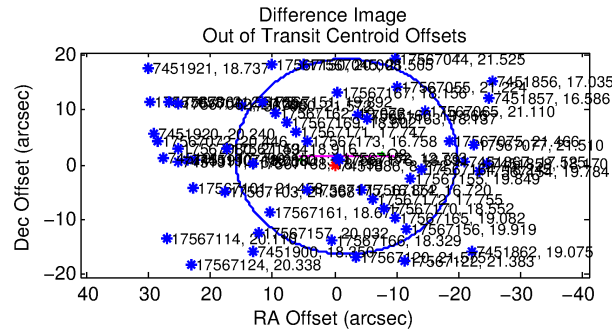
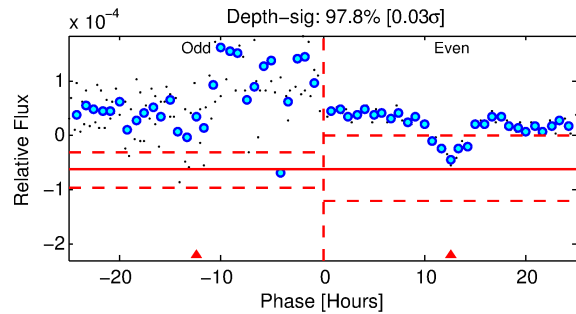
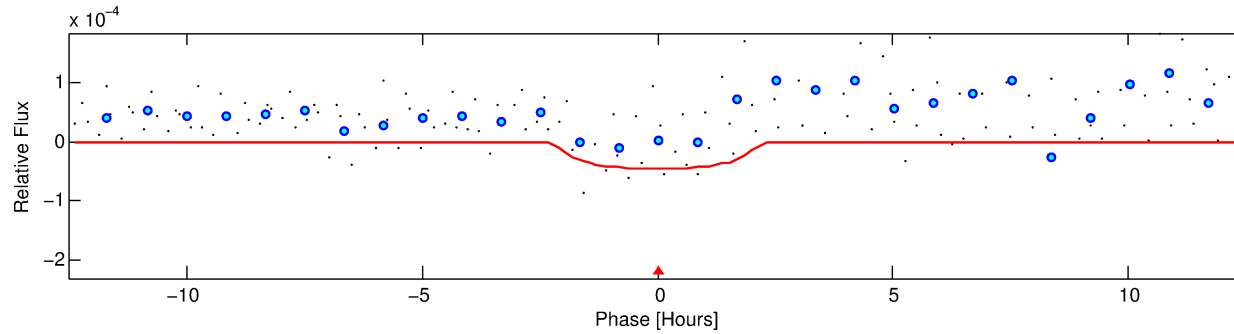
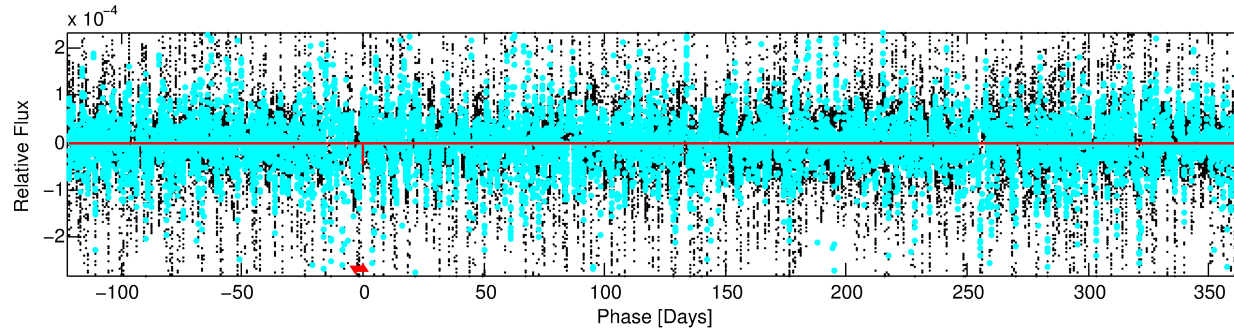
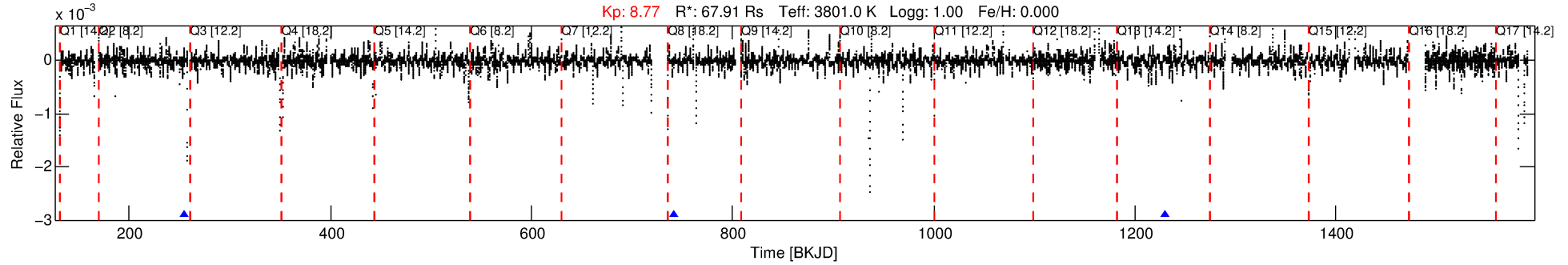
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007451886-01

No Significant Match Found

DV One-Page Summary

KIC: 7451886 Candidate: 1 of 1 Period: 487.551 d



DV Fit Results:

Period = 487.55125 [0.01920] d
Epoch = 254.4473 [0.0231] BKJD
Rp/R* = 0.0063 [0.0072]
a/R* = 747.71 [1958.90]
b = 0.56 [3.40]
Seff = 415.33 [210.21]
Teq = 1151 [146] K
Rp = 46.86 [56.00] Re
a = 1.4409 [0.4646] AU
Ag = 39.48 [92.94] [0.41 σ]
Teffp = 4461 [2568] K [1.29 σ]

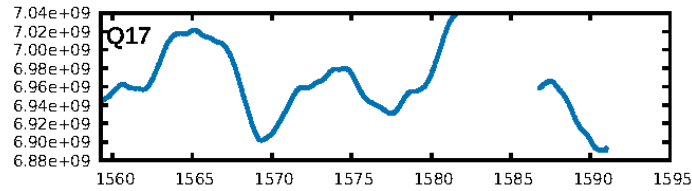
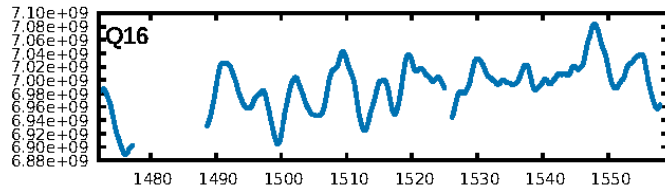
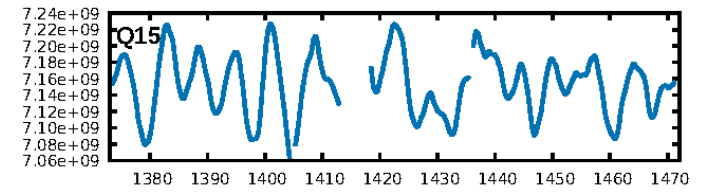
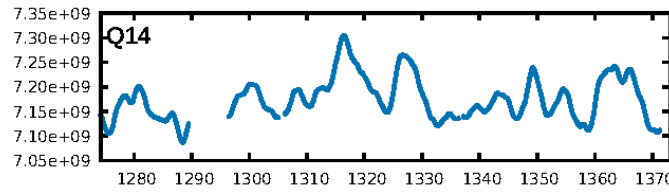
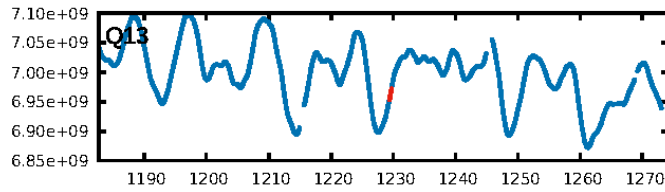
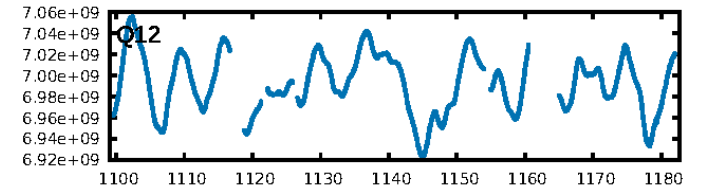
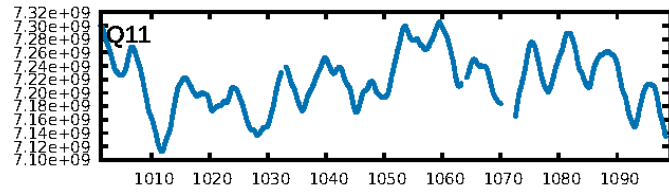
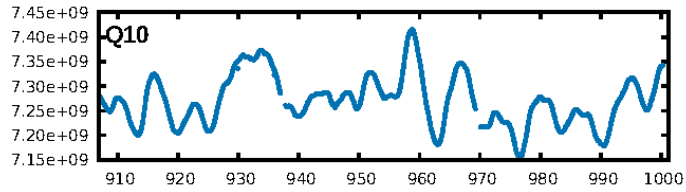
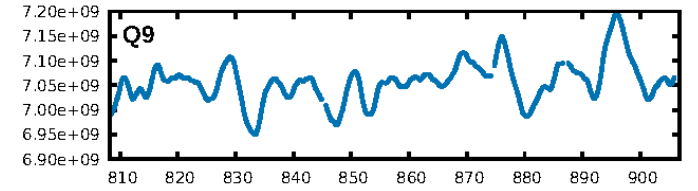
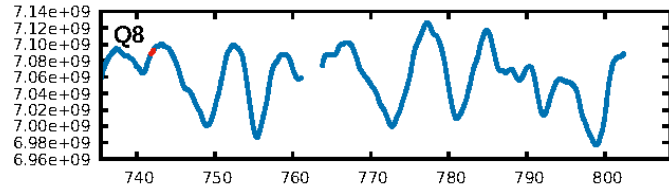
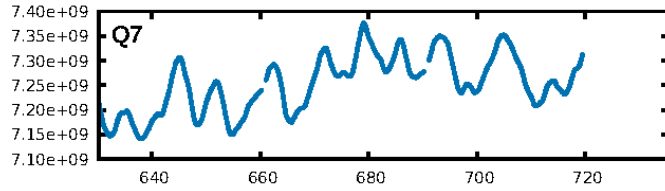
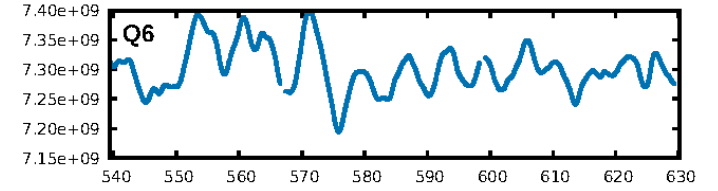
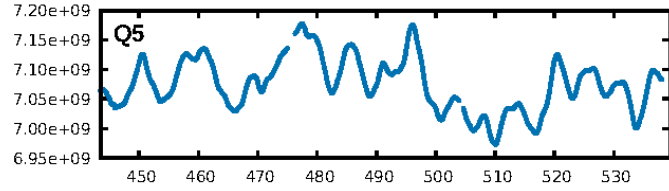
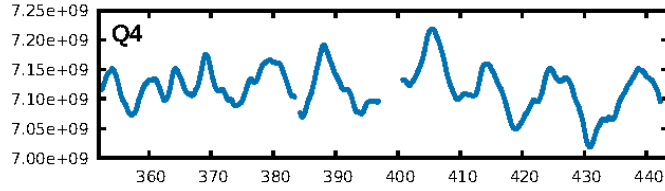
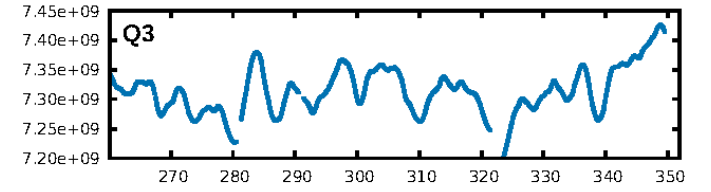
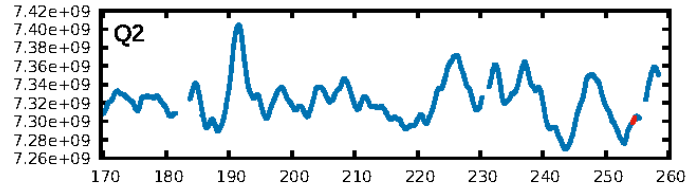
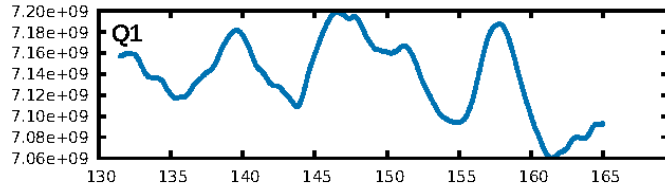
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.0%
ModelChiSquareGof-sig: 25.9%
Bootstrap-pfa: 1.19e-06
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: N/A
Centroid-sig: 65.6%
Centroid-so: 15.614 arcsec [0.48 σ]
OotOffset-rm: 2.386 arcsec [0.40 σ]
KicOffset-rm: 1.058 arcsec [0.22 σ]
OotOffset-st: 0/0/1/1 [2]
KicOffset-st: 0/0/1/1 [2]
DiffImageQuality-fgm: 0.00 [0/2]
DiffImageOverlap-fno: 1.00 [3/3]

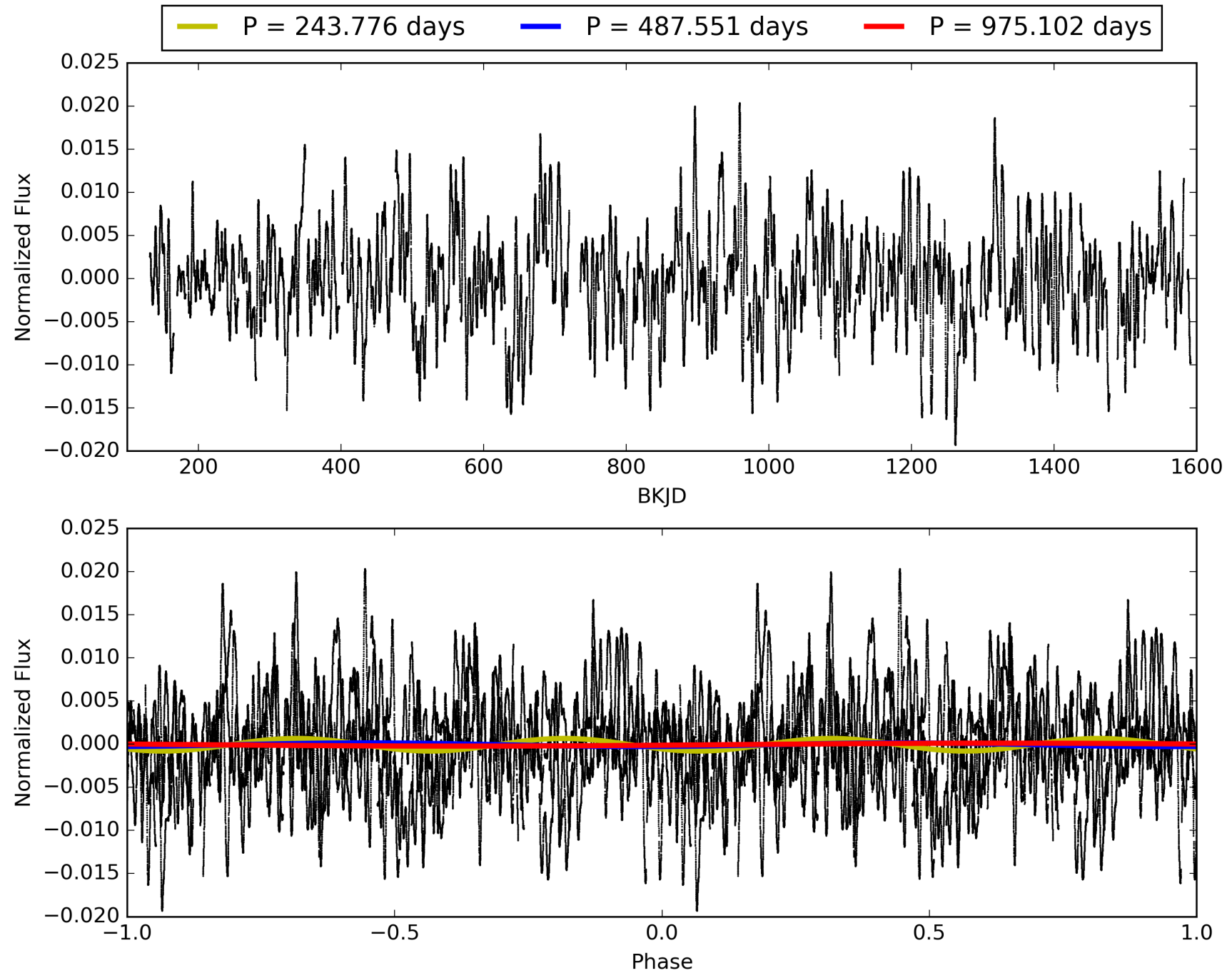
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 14:40:01 Z

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

TCE 007451886-01, PDC Light Curves

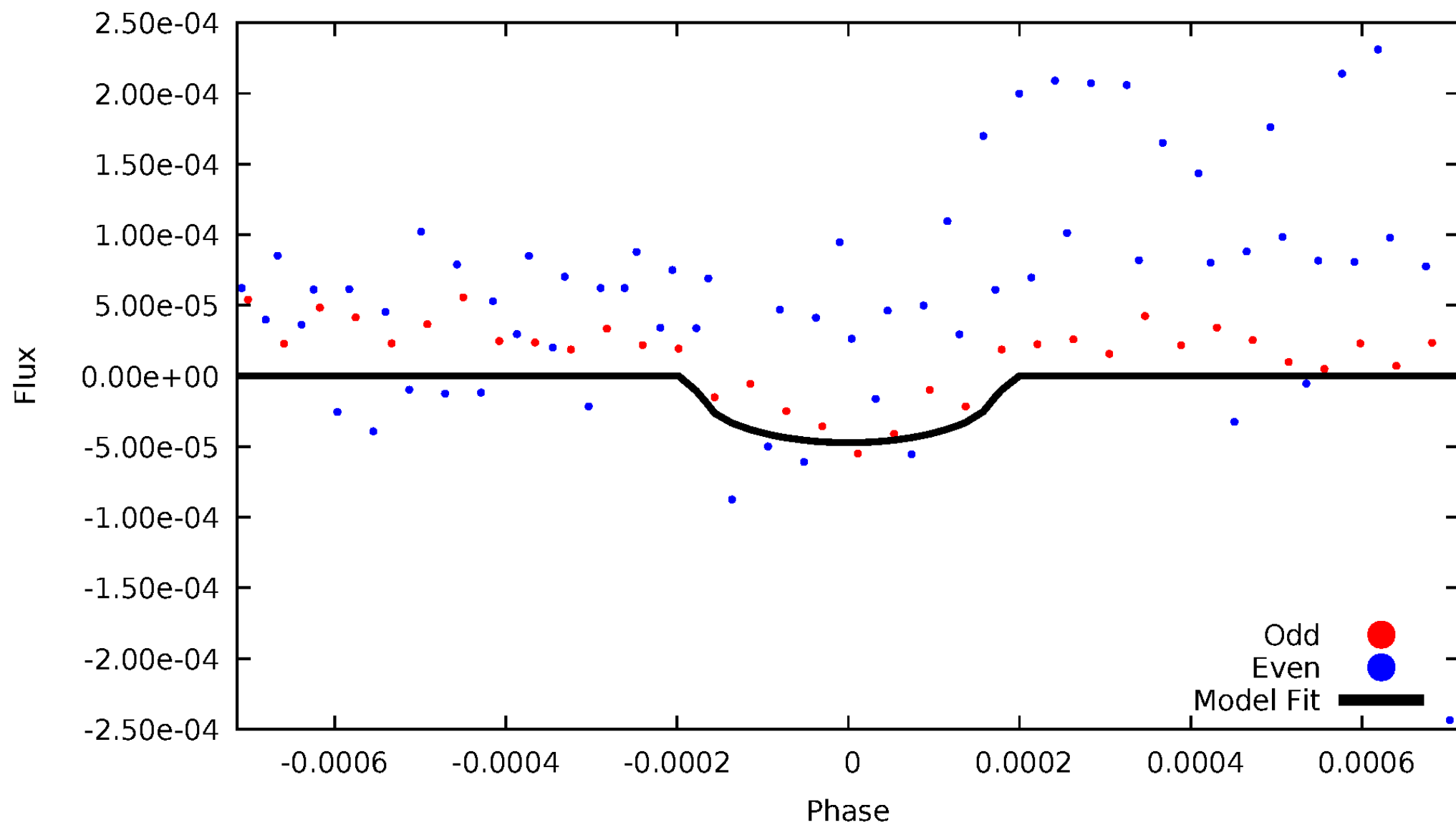


TCE 007451886-01



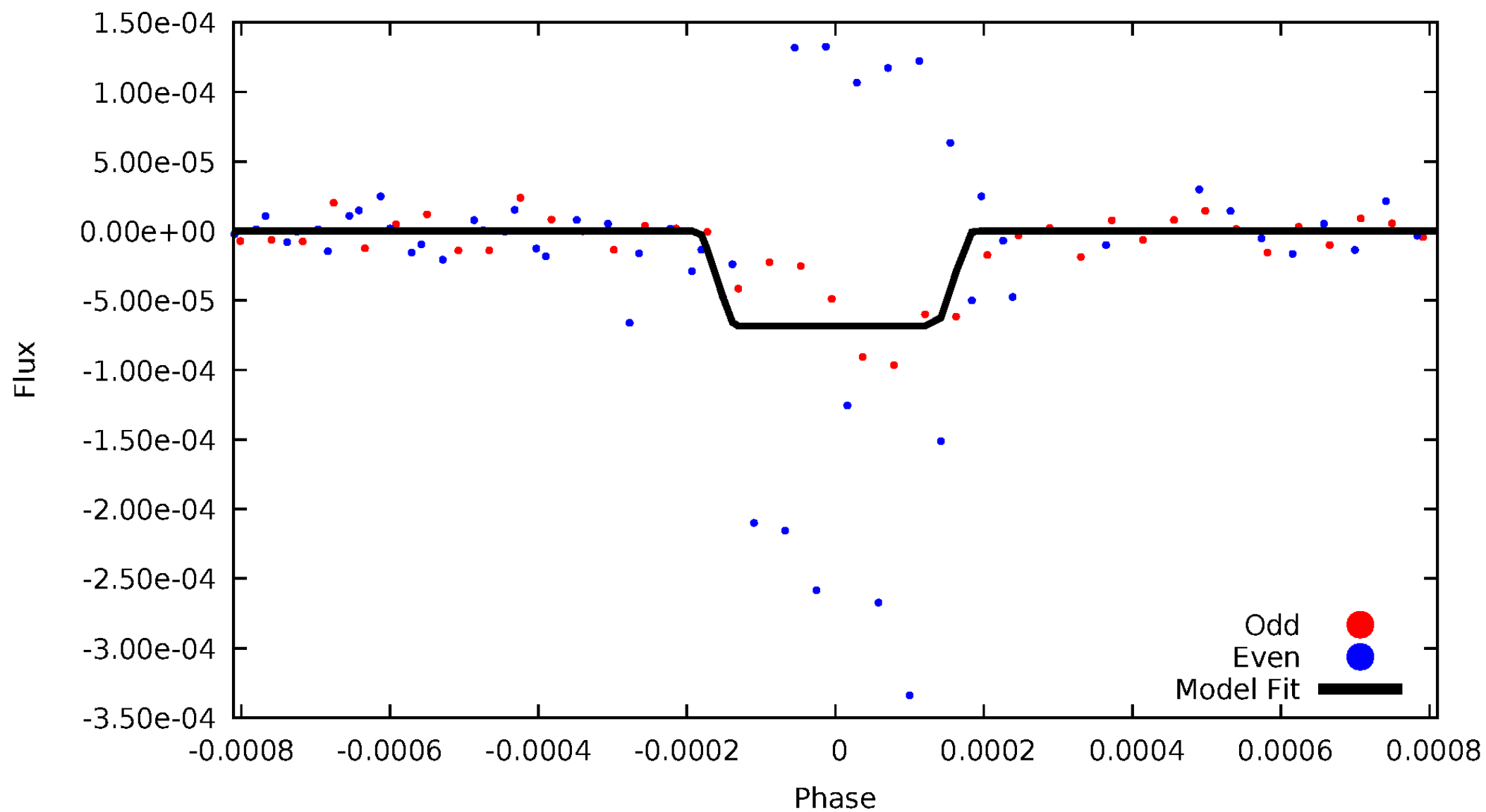
DV Odd/Even

TCE 007451886-01

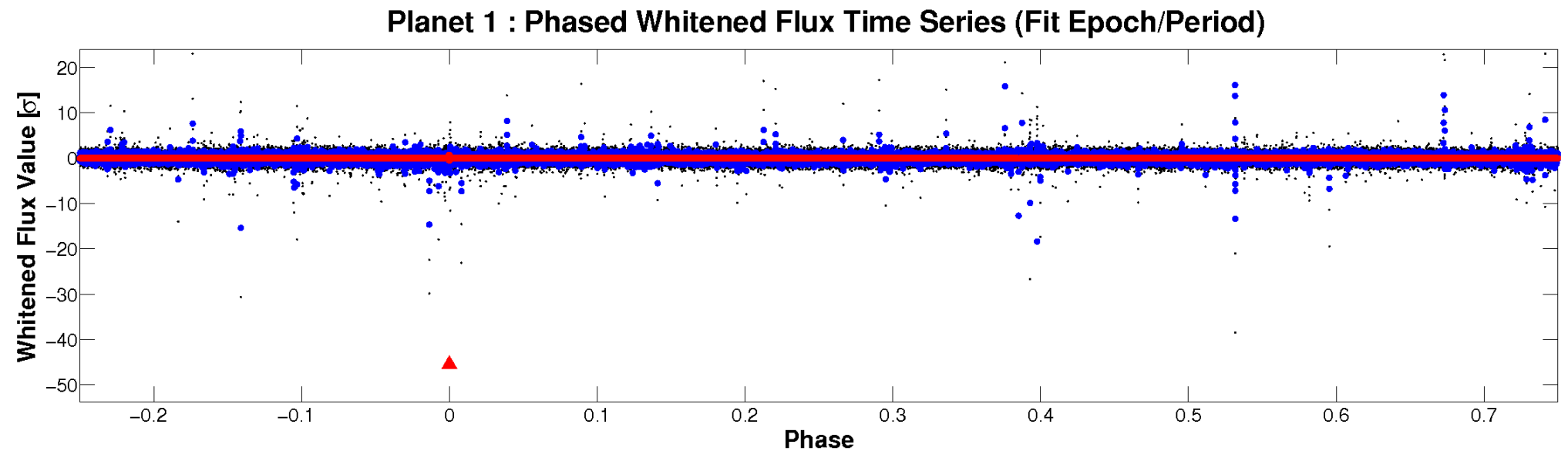
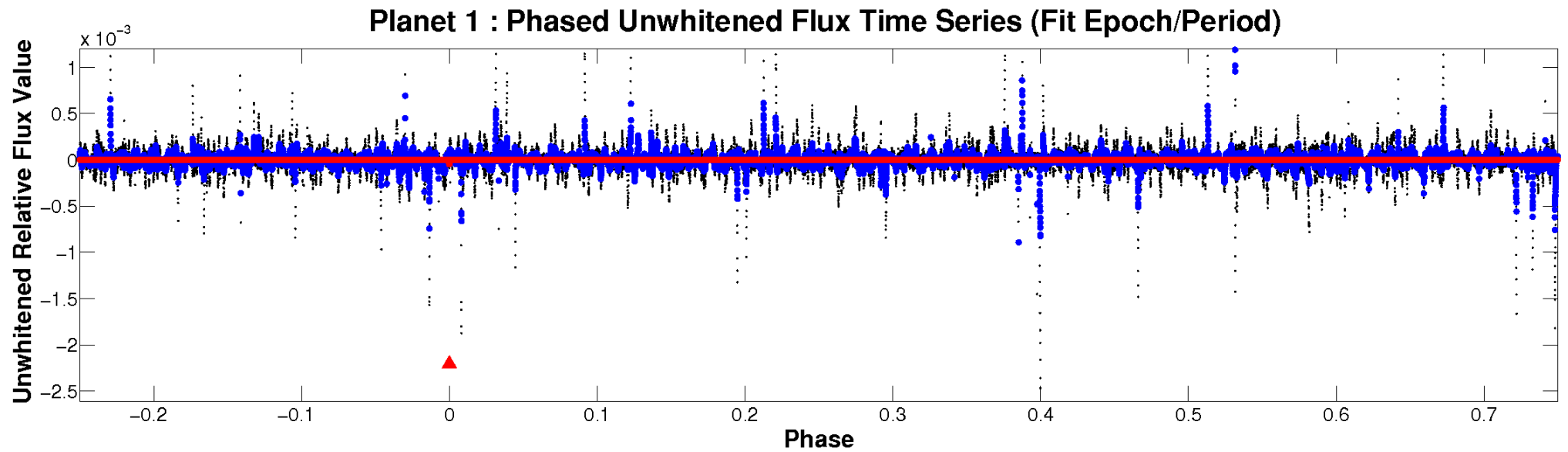


ALT Odd/Even

TCE 007451886-01

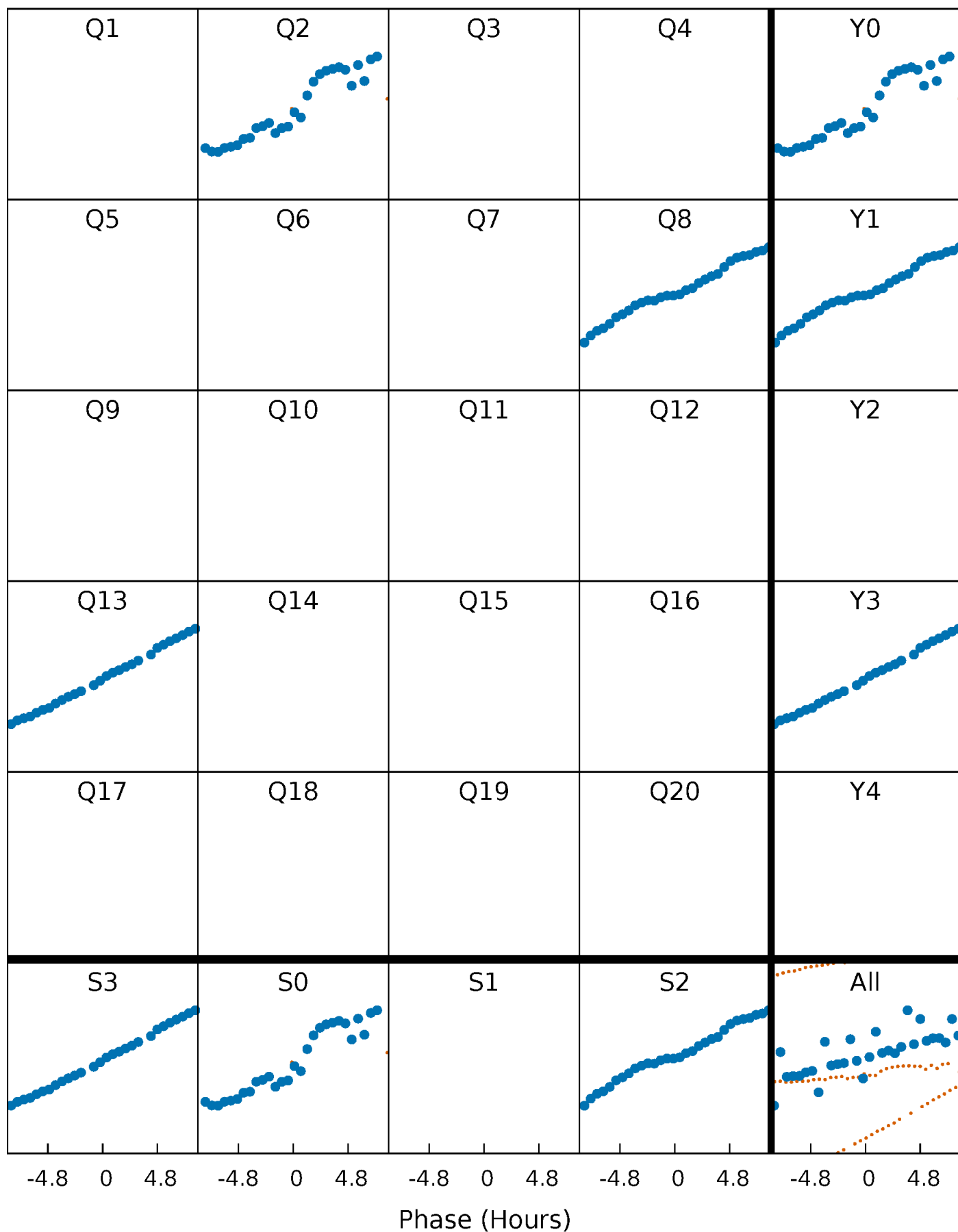


Non-Whitened Vs. Whitened Light Curve



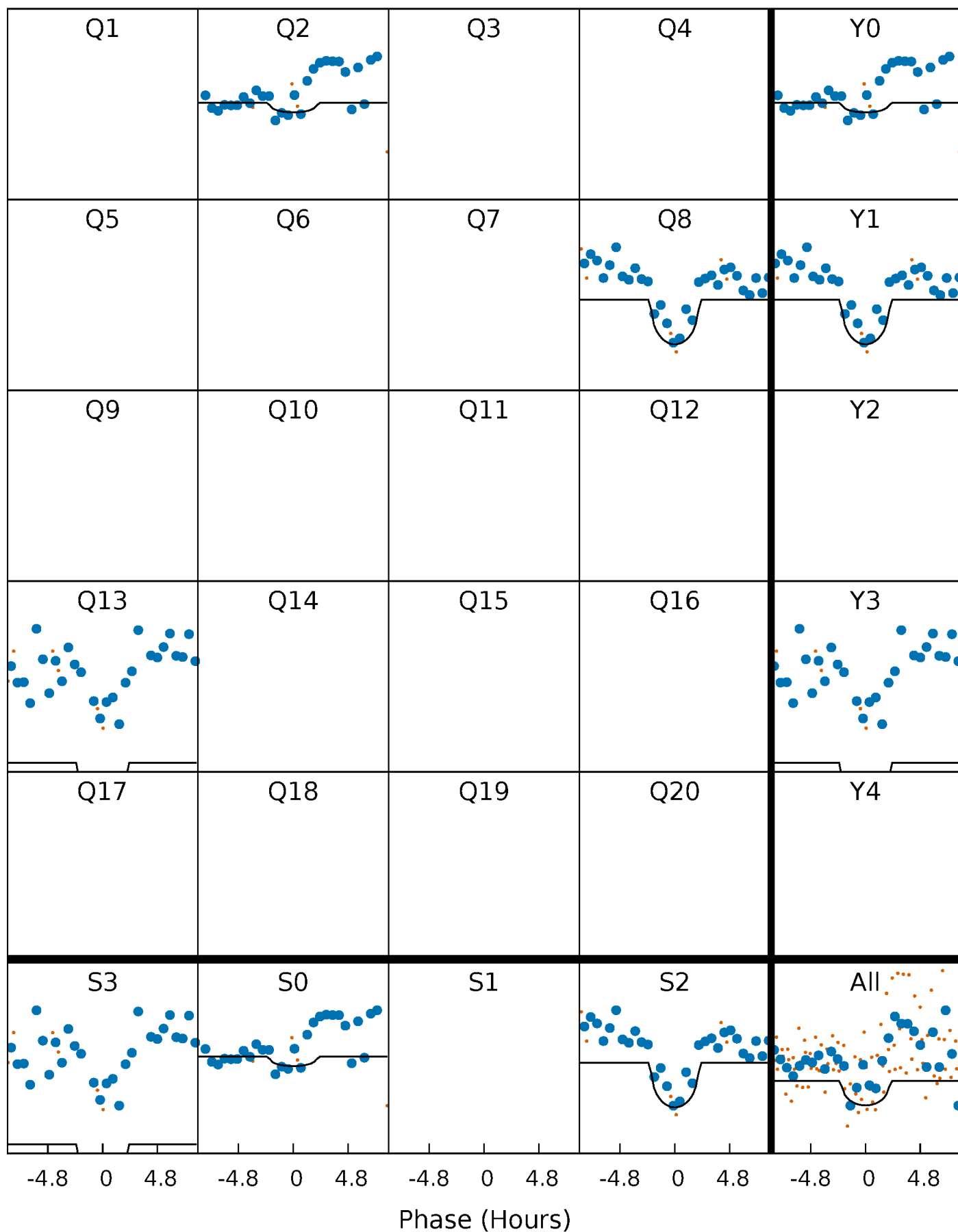
PDC Quarter-Phased Transit Curves

TCE 007451886-01 P=487.551247 Days $T_0=254.447327$ (BKJD)



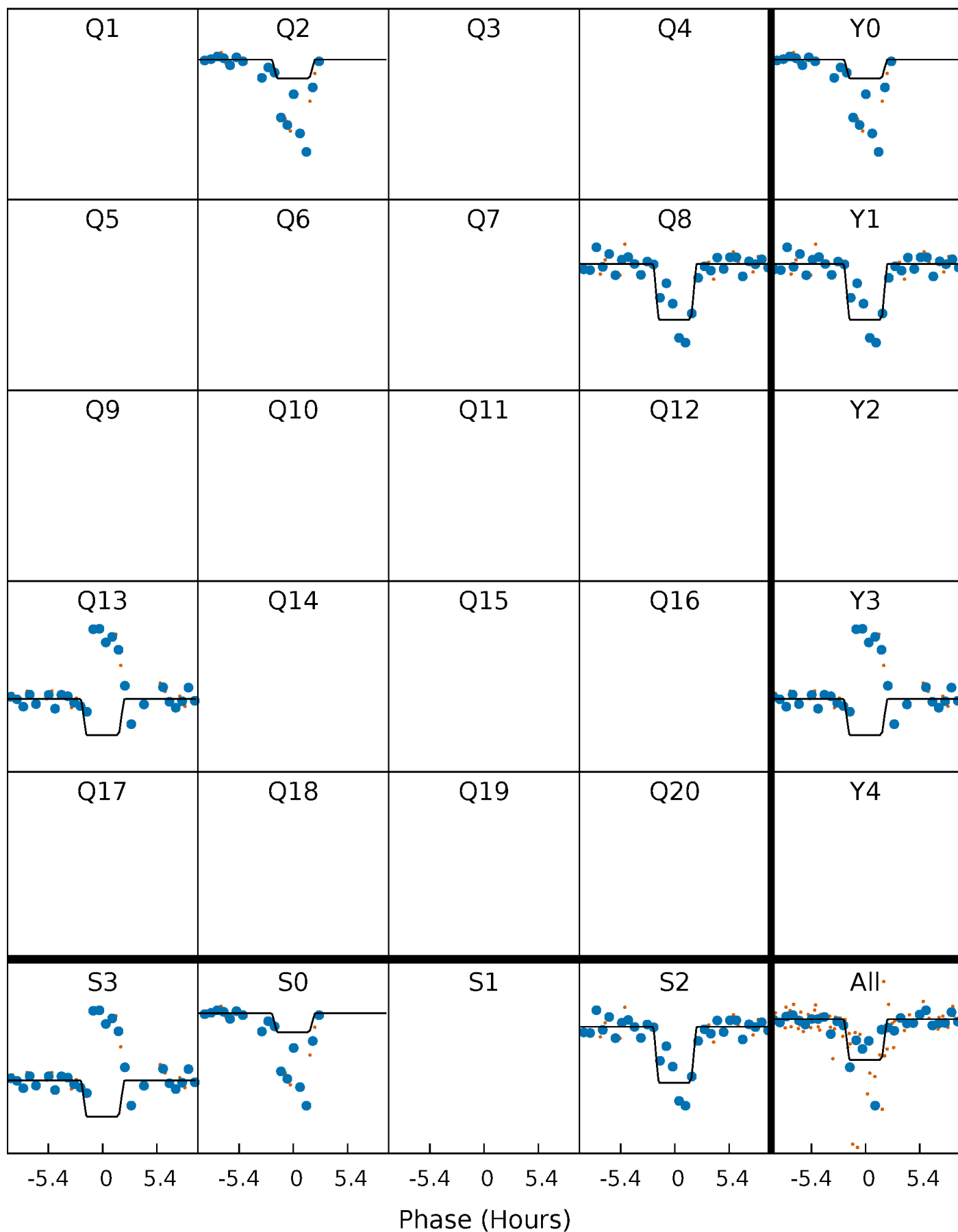
DV Quarter-Phased Transit Curves

TCE 007451886-01 P=487.551247 Days $T_0=254.447327$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

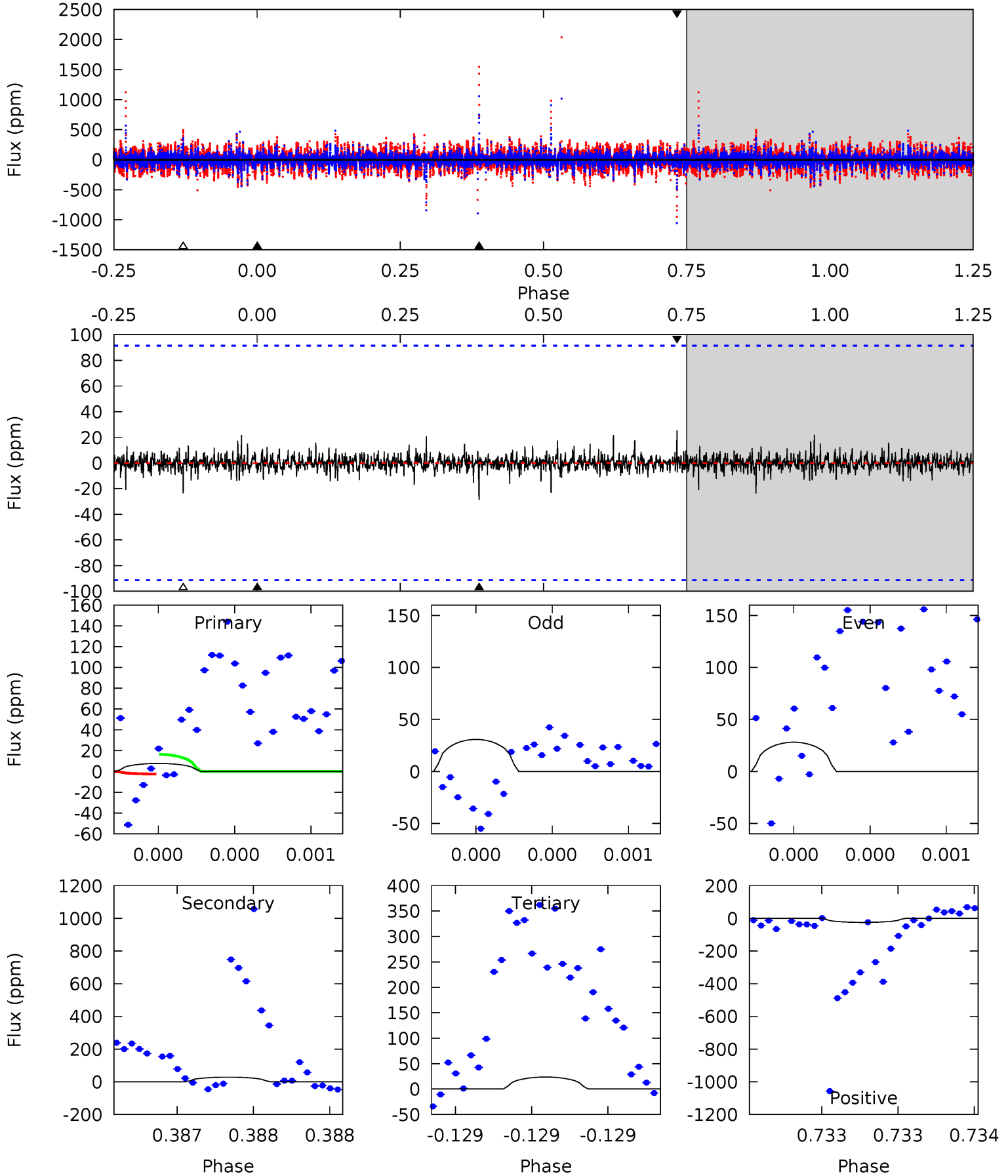
TCE 007451886-01 P=487.551553 Days $T_0=254.434545$ (BKJD)



DV Model-Shift Uniqueness Test

007451886-01, P = 487.551247 Days, E = 254.447327 Days

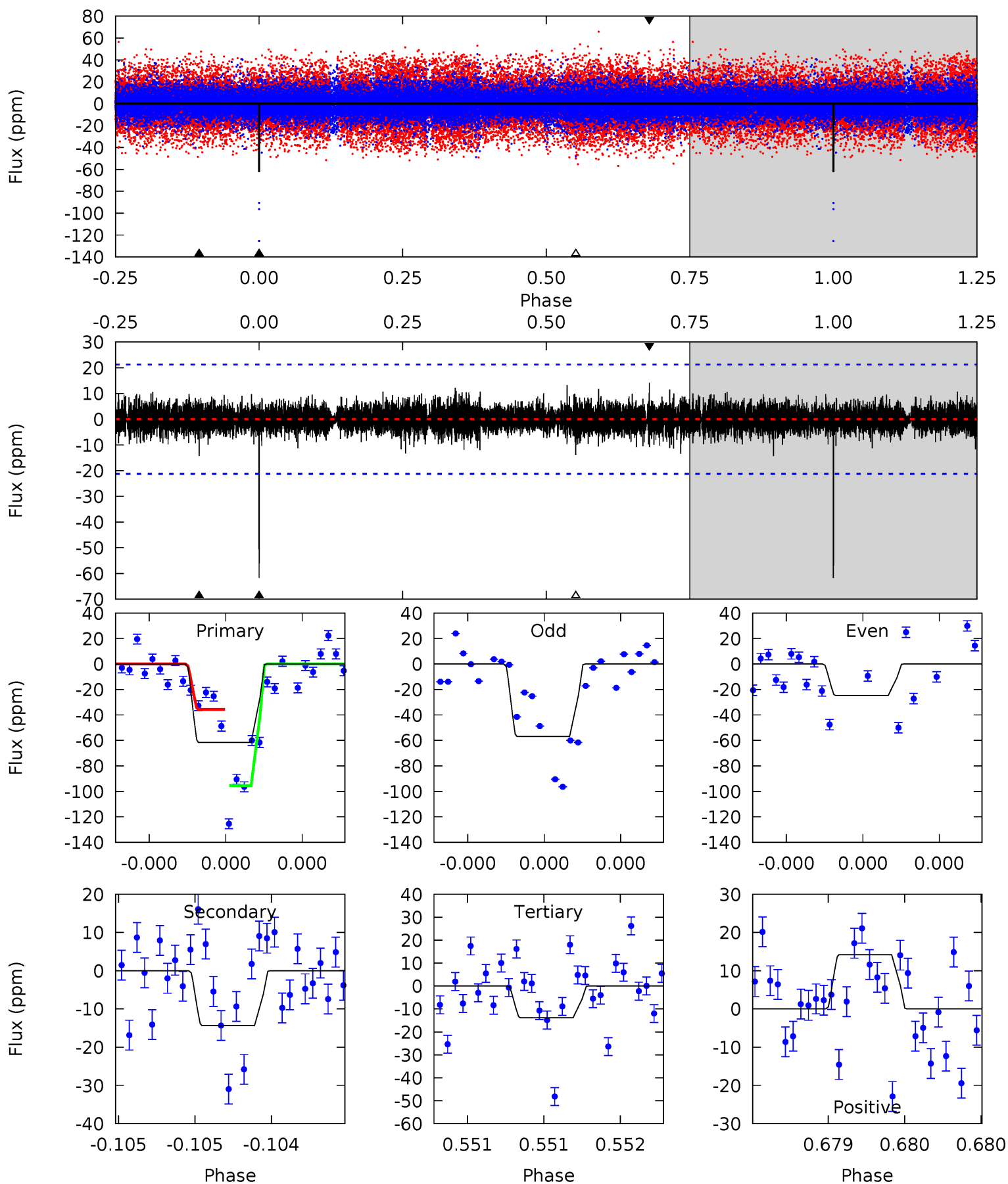
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.48	1.76	1.46	1.55	5.63	3.57	0.23	-0.98	-1.08	0.30	0.20	0.06	1.13	0.47	0.43



Alt Model-Shift Uniqueness Test

007451886-01, P = 487.551553 Days, E = 254.434545 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.3	3.80	3.67	3.76	5.63	3.56	0.71	12.7	12.6	0.12	0.04	5.17	1.02	0.19	7.84



Stellar Parameters For KIC 007451886

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	3801^{+83}_{-76}	$0.999^{+0.286}_{-0.176}$	$0.000^{+0.250}_{-0.250}$	$67.905^{+12.030}_{-24.060}$	$1.678^{+0.105}_{-0.561}$	$0.000^{+0.000}_{-0.000}$
	+2%/-2%	+29%/-18%	+inf%/-inf%	+18%/-35%	+6%/-33%	+181%/-43%
Source	SPE14	PHO54	PHO54	DSEP		

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

Secondary Eclipse Parameters for KIC 007451886-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-29±16	$59.08^{+49.17}_{-38.38}$	1618^{+101}_{-157}	3195^{+1479}_{-602}	$7.749^{+56.214}_{-6.020}$
Alt.	-14±4	$64.74^{+53.29}_{-39.04}$	1613^{+115}_{-143}	2839^{+1082}_{-464}	$3.532^{+22.329}_{-2.483}$

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

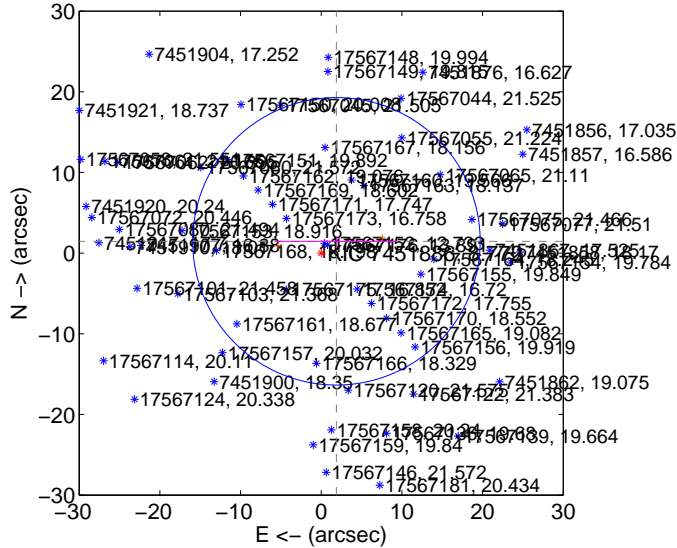
Supplemental centroid analysis for 007451886-01. **Kepler magnitude: 8.77.** Transit SNR 2.94

There are 0 quarters with good PRF difference image offsets

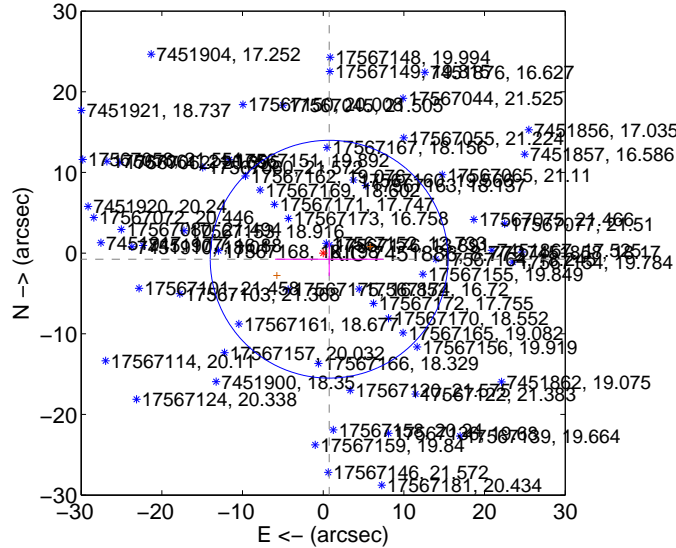
The OOT PRF centroid is offset from the target star catalog position by about 3.70 arcsec so the offset from difference PRF-fit to OOT-fit may be invalid.

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.386 ± 5.939	0.40	-1.887 ± 7.497	1.460 ± 0.578
PRF-fit source offset from KIC position	1.058 ± 4.913	0.22	-0.739 ± 6.704	-0.757 ± 2.080
photometric centroid source offset	15.61 ± 32.22	0.48	6.98 ± 19.39	13.96 ± 34.69

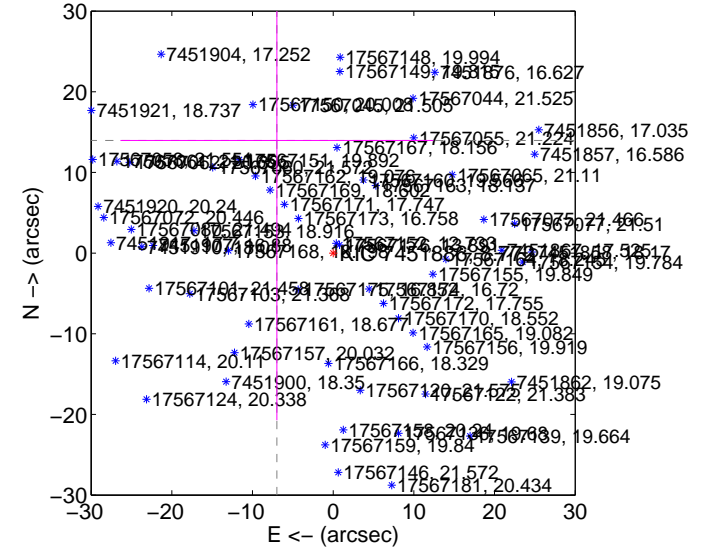
offset from difference PRF-fit to OOT PRF-fit



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 ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

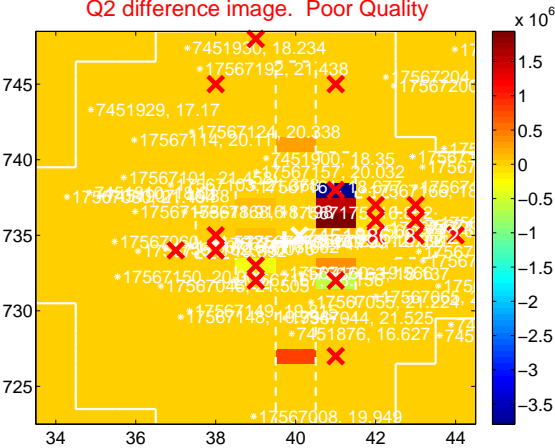
Q1 no difference image



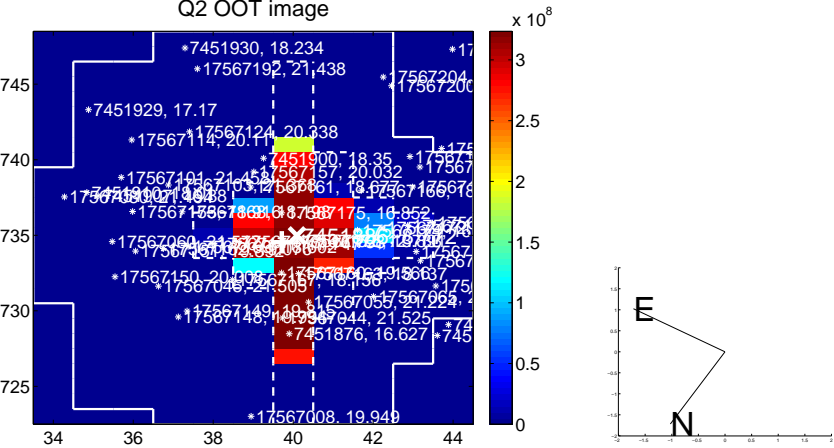
Q1 no OOT image



Q2 difference image. Poor Quality



Q2 OOT image



Q3 no difference image



Q3 no OOT image



Q4 no difference image



Q4 no OOT image



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

Q5 no difference image



Q5 no OOT image



Q6 no difference image



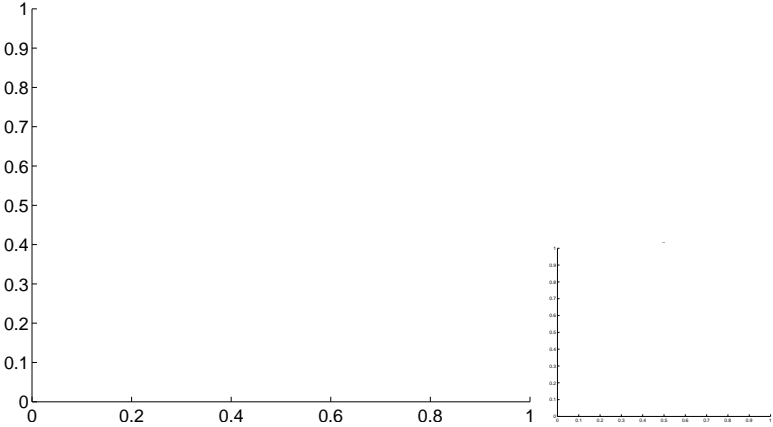
Q6 no OOT image



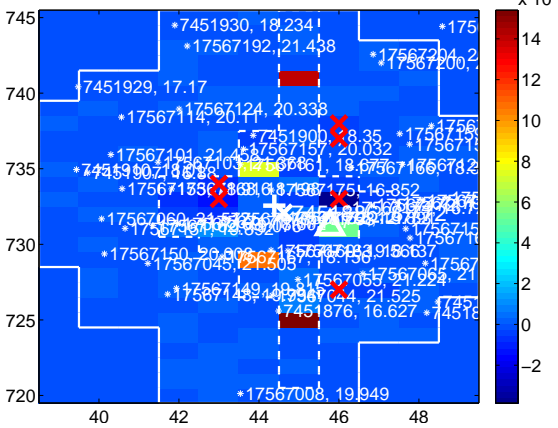
Q7 no difference image



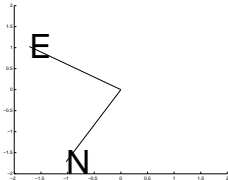
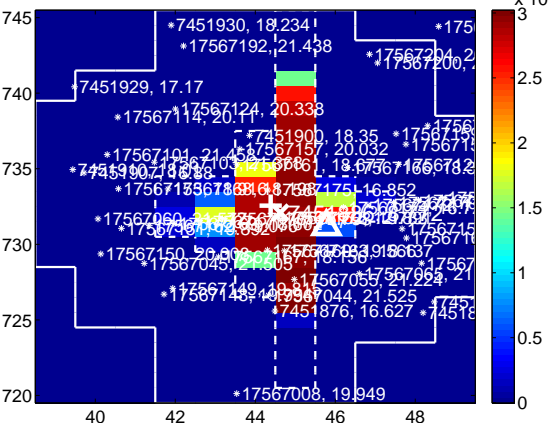
Q7 no OOT image



Q8 difference image. Poor Quality



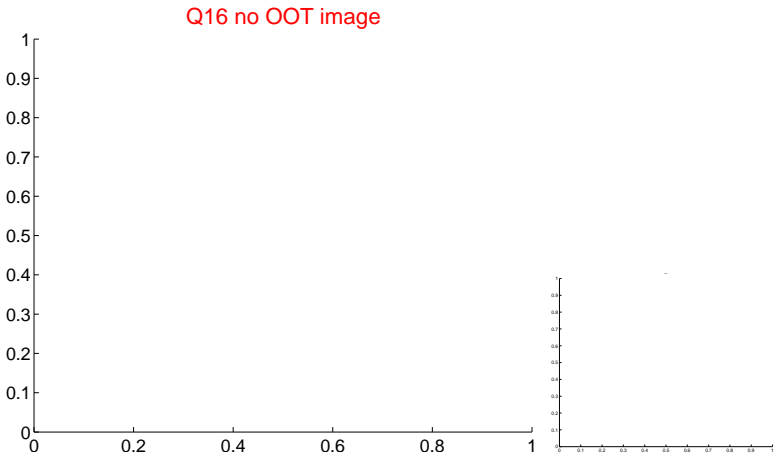
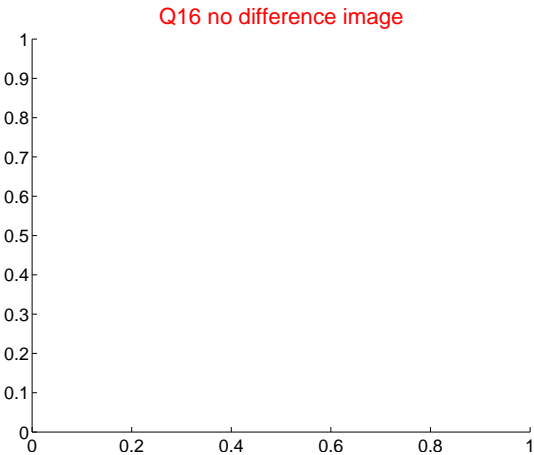
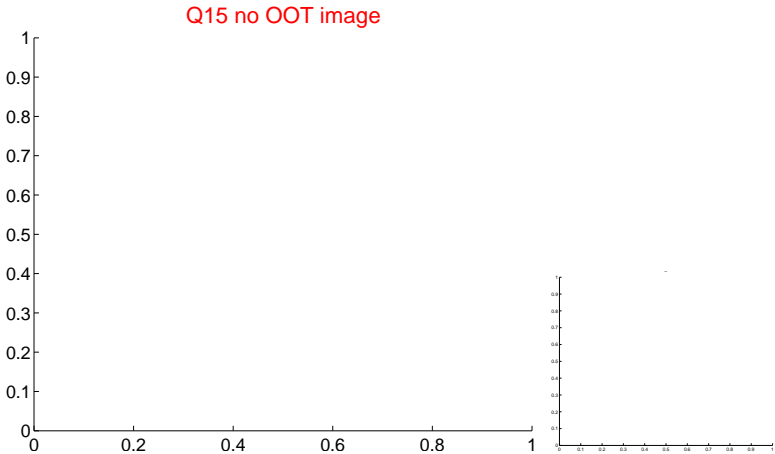
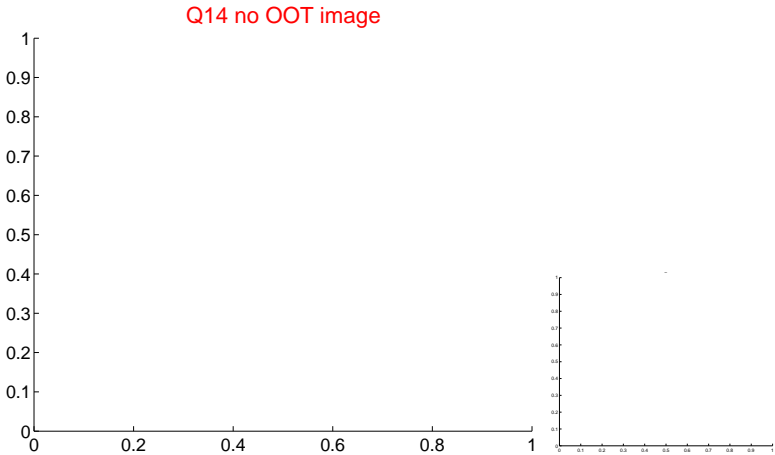
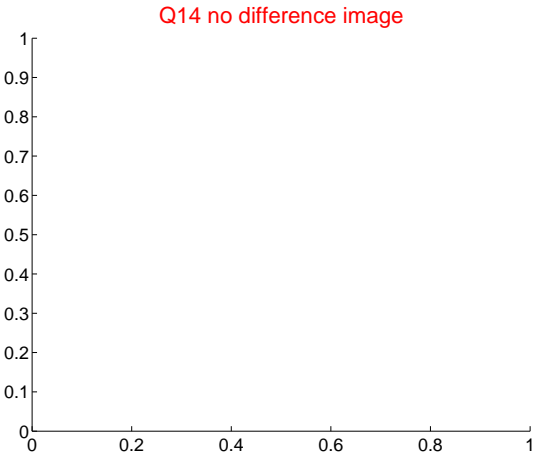
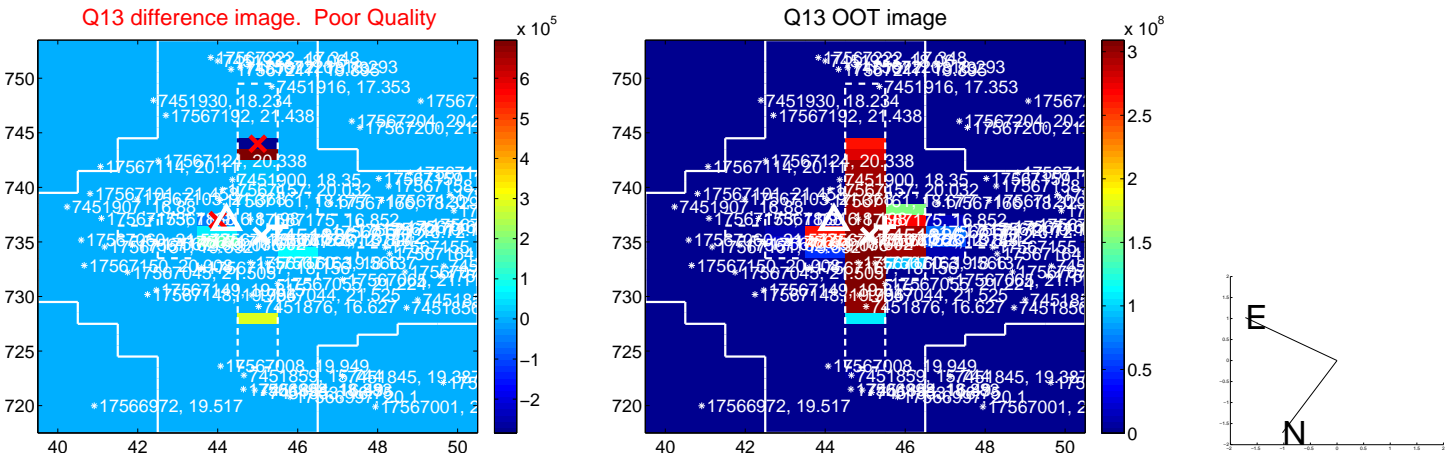
Q8 OOT image



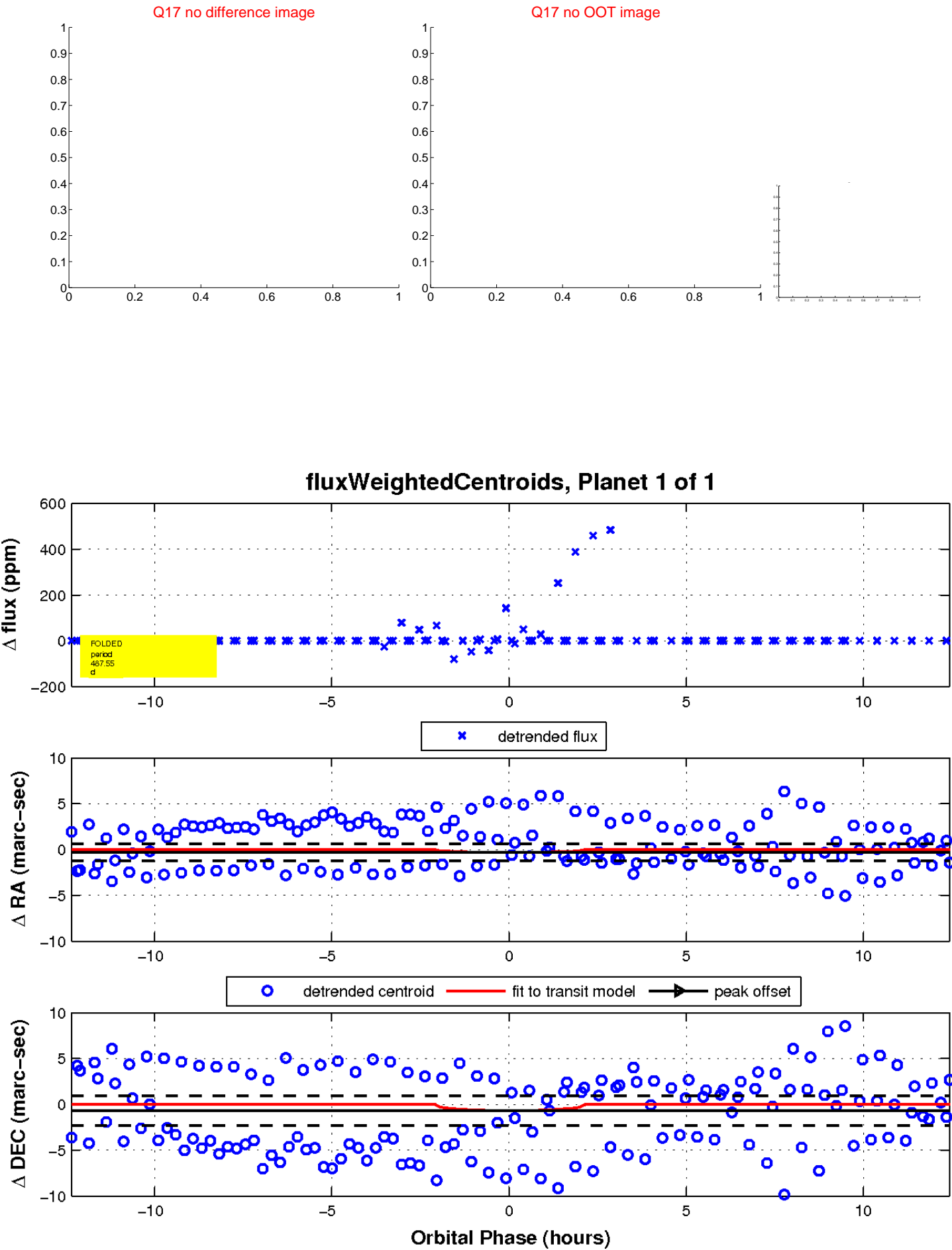
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



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



UKIRT Image

