

KIC 007987035

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})
007987035-01	OBS	No	15.091023	140.467460	49.1	29.951	7.4	8.3	1.13	5896	0.89	99.72

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007987035-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_MEAS

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

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

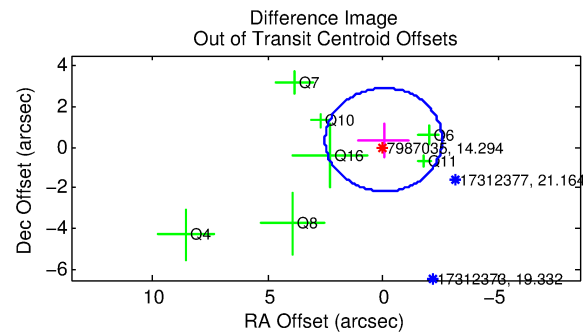
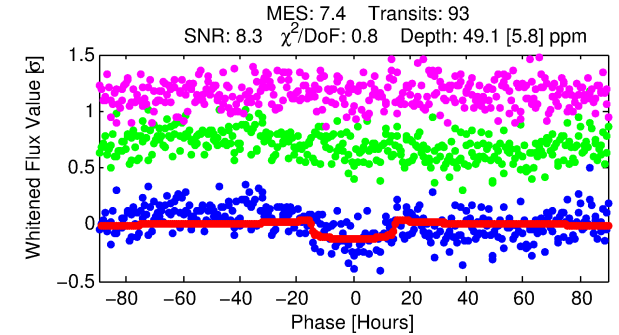
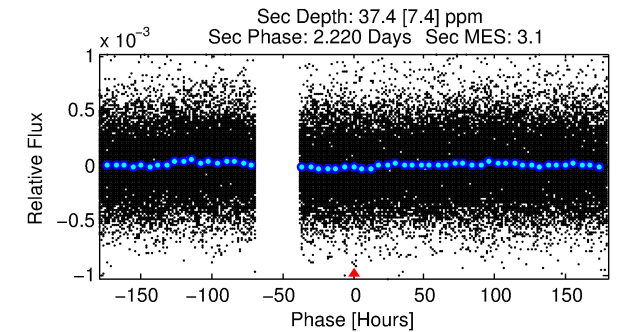
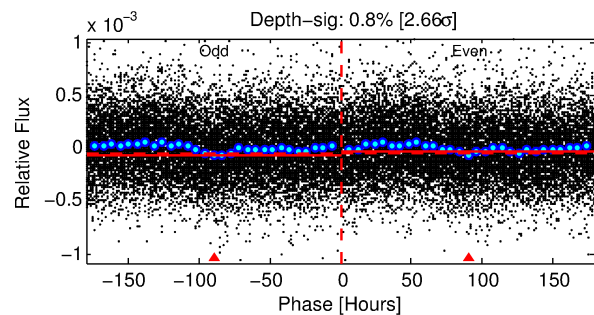
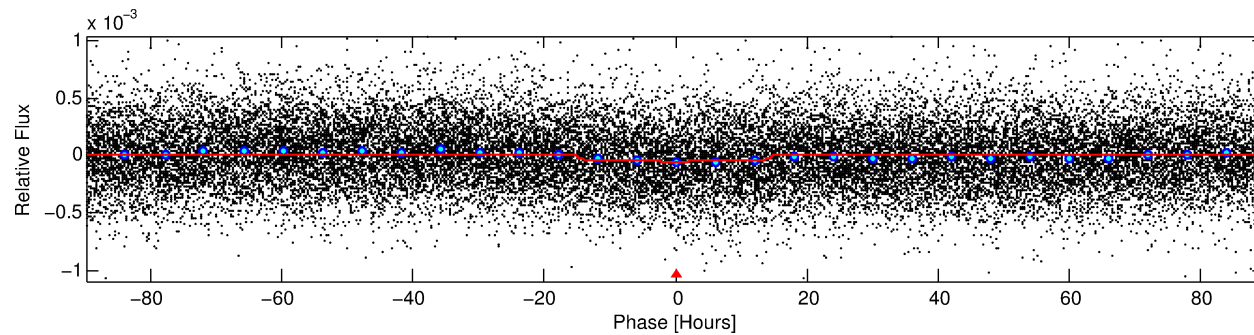
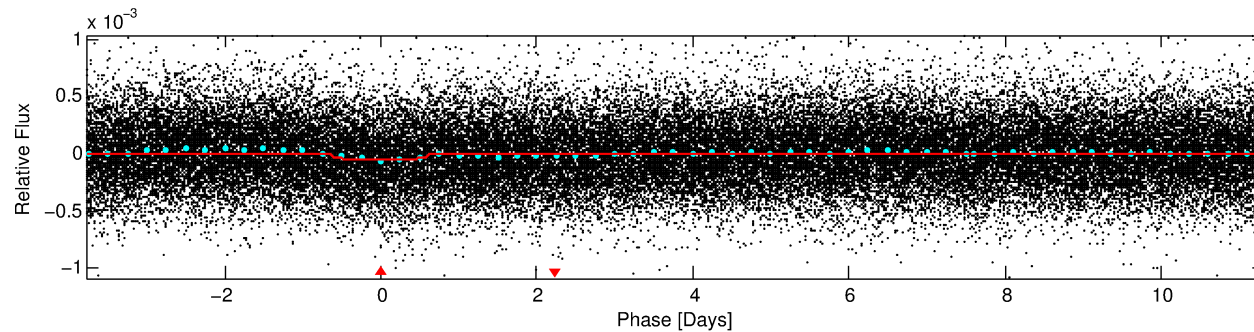
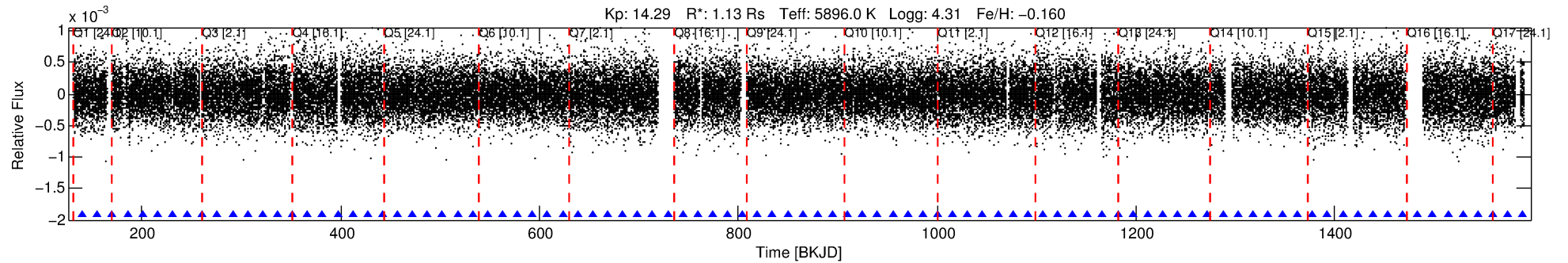
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007987035-01

No Significant Match Found

DV One-Page Summary

KIC: 7987035 Candidate: 1 of 1 Period: 15.091 d



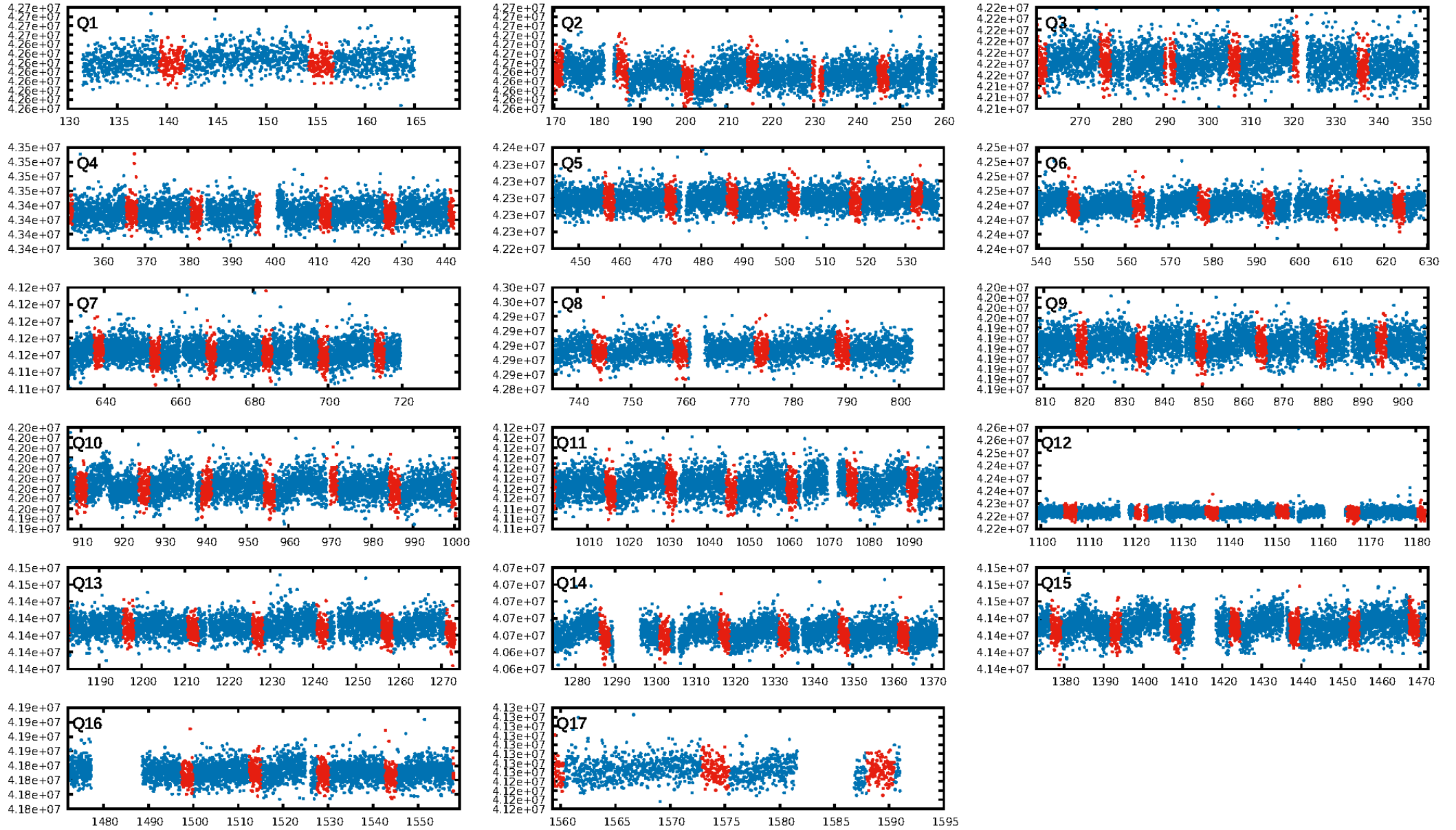
DV Fit Results:

Period = 15.09102 [0.00065] d
Epoch = 140.4675 [0.0351] BKJD
Rp/R* = 0.0072 [0.0013]
a/R* = 2.38 [1.58]
b = 0.83 [0.31]
Seff = 99.72 [34.79]
Teff = 806 [70] K
Rp = 0.89 [0.29] Re
a = 0.1174 [0.0271] AU
Ag = 359.99 [187.15] [1.92σ]
Teffp = 5427 [571] K [8.03σ]

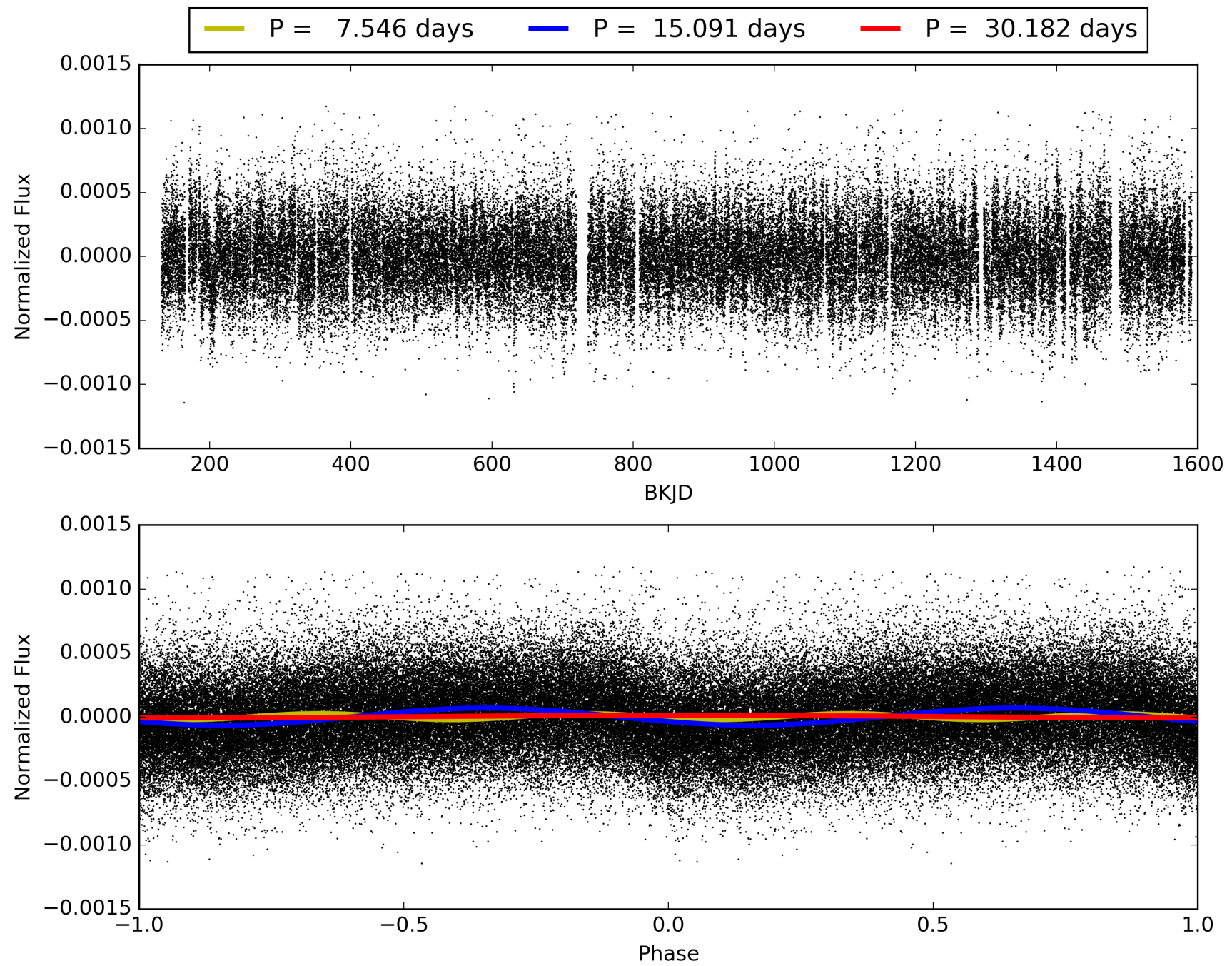
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: N/A
ModelChiSquare2-sig: 95.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.08e-13
RollingBand-fgt: 1.00 [88/88]
GhostDiagnostic-chr: -47.25
Centroid-sig: 47.7%
Centroid-so: 1.650 arcsec [0.98σ]
OotOffset-rm: 0.364 arcsec [0.43σ]
KicOffset-rm: 0.312 arcsec [0.38σ]
OotOffset-st: 2/2/3/0 [7]
KicOffset-st: 2/2/3/0 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 1.00 [17/17]

TCE 007987035-01, PDC Light Curves

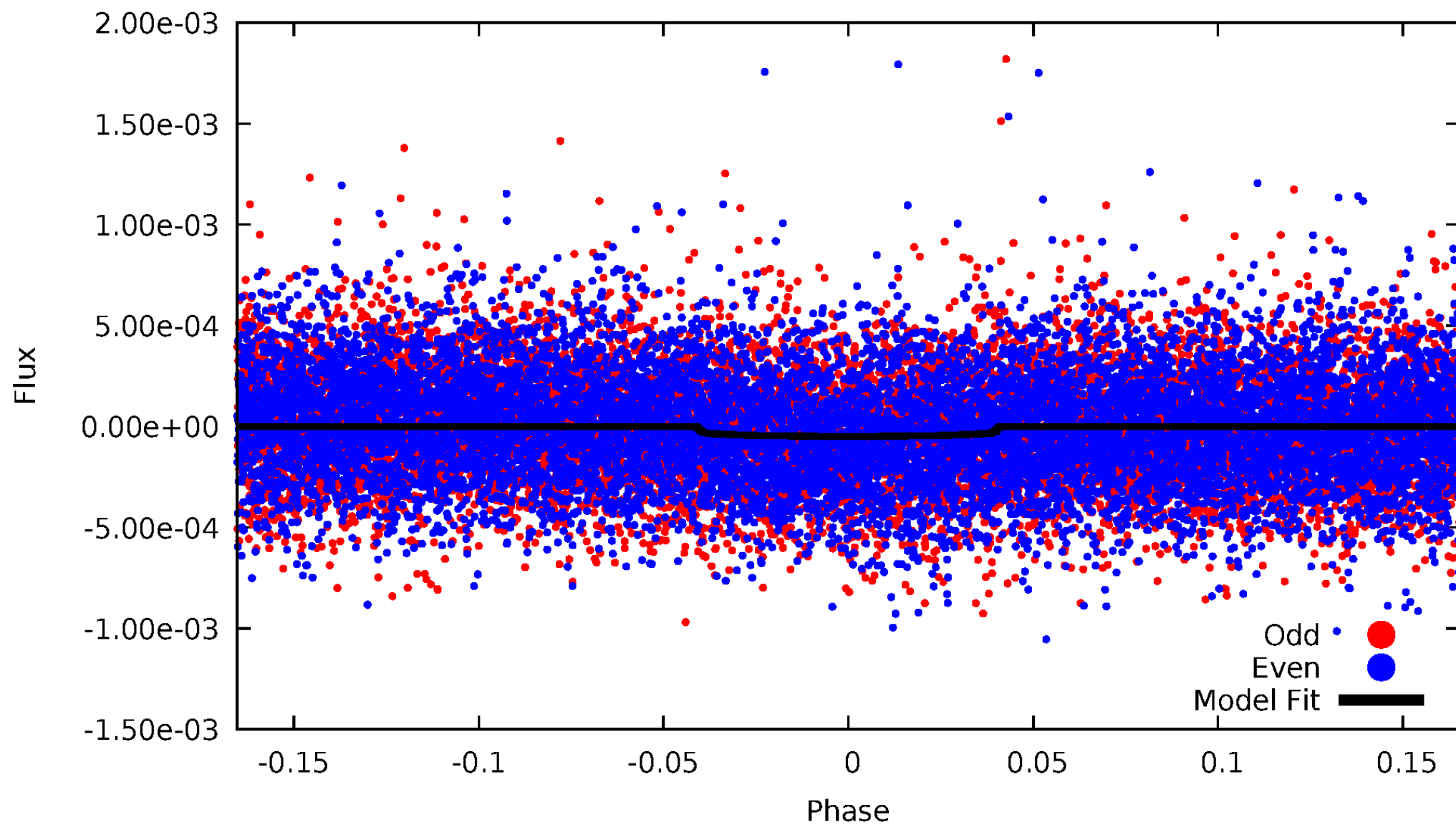


TCE 007987035-01



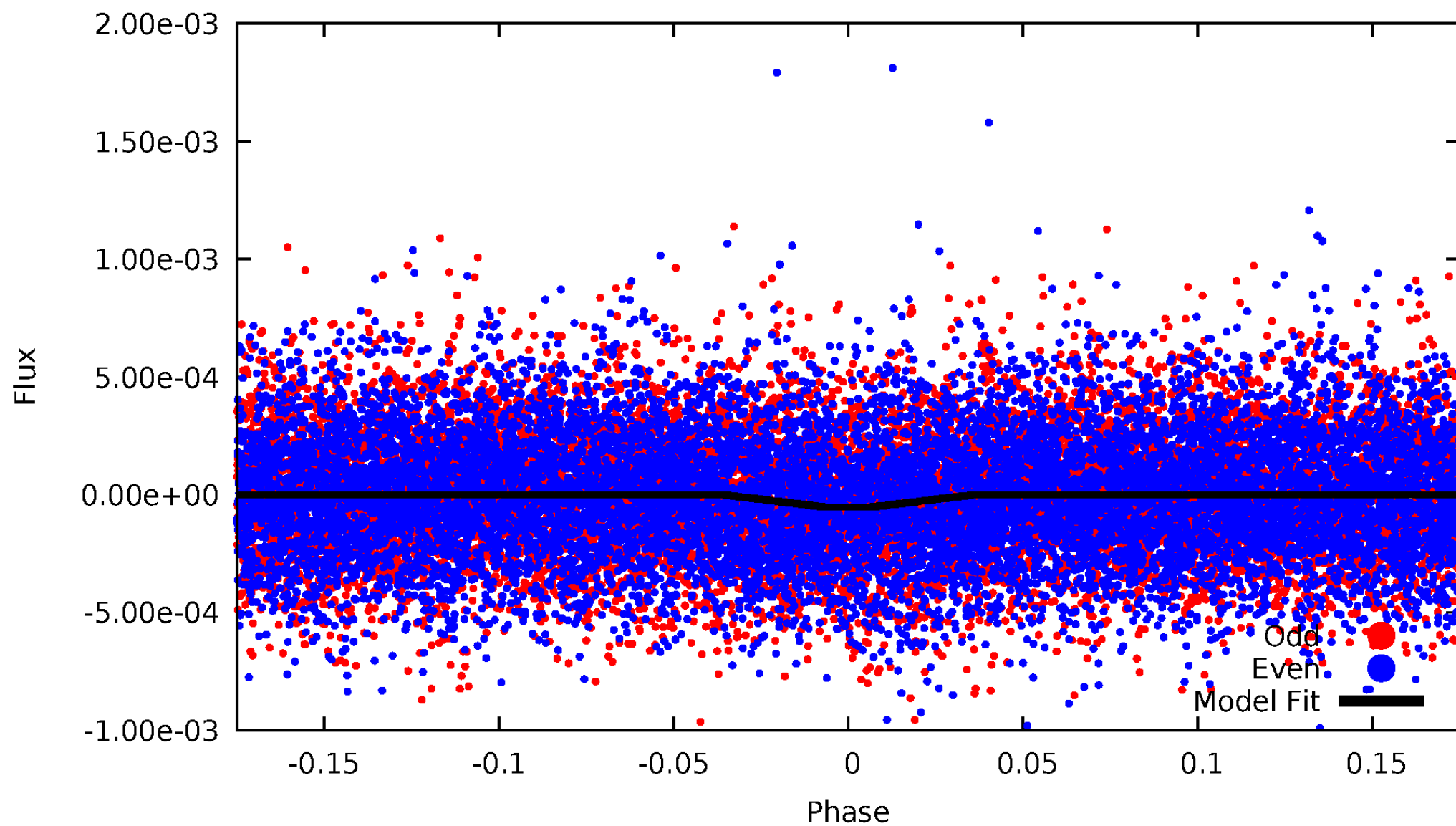
DV Odd/Even

TCE 007987035-01

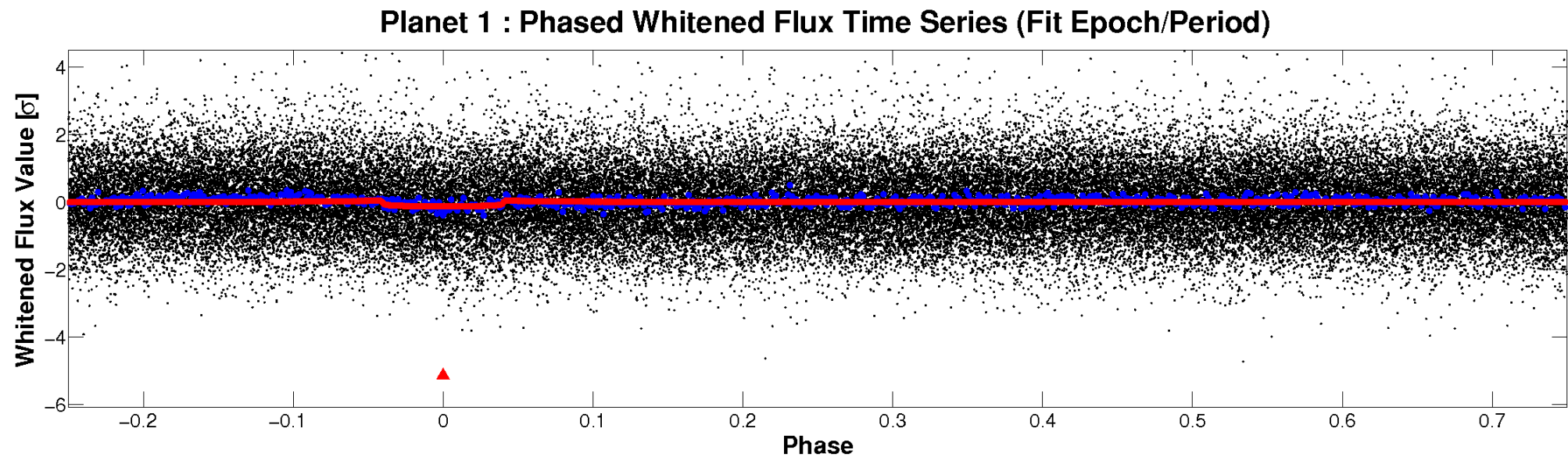
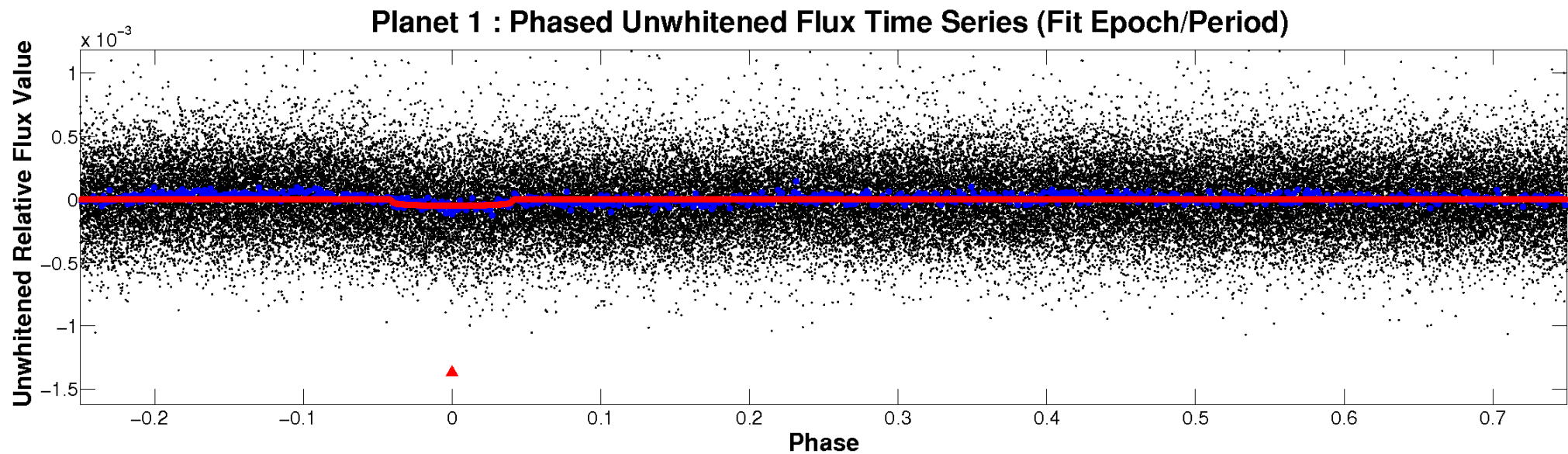


ALT Odd/Even

TCE 007987035-01

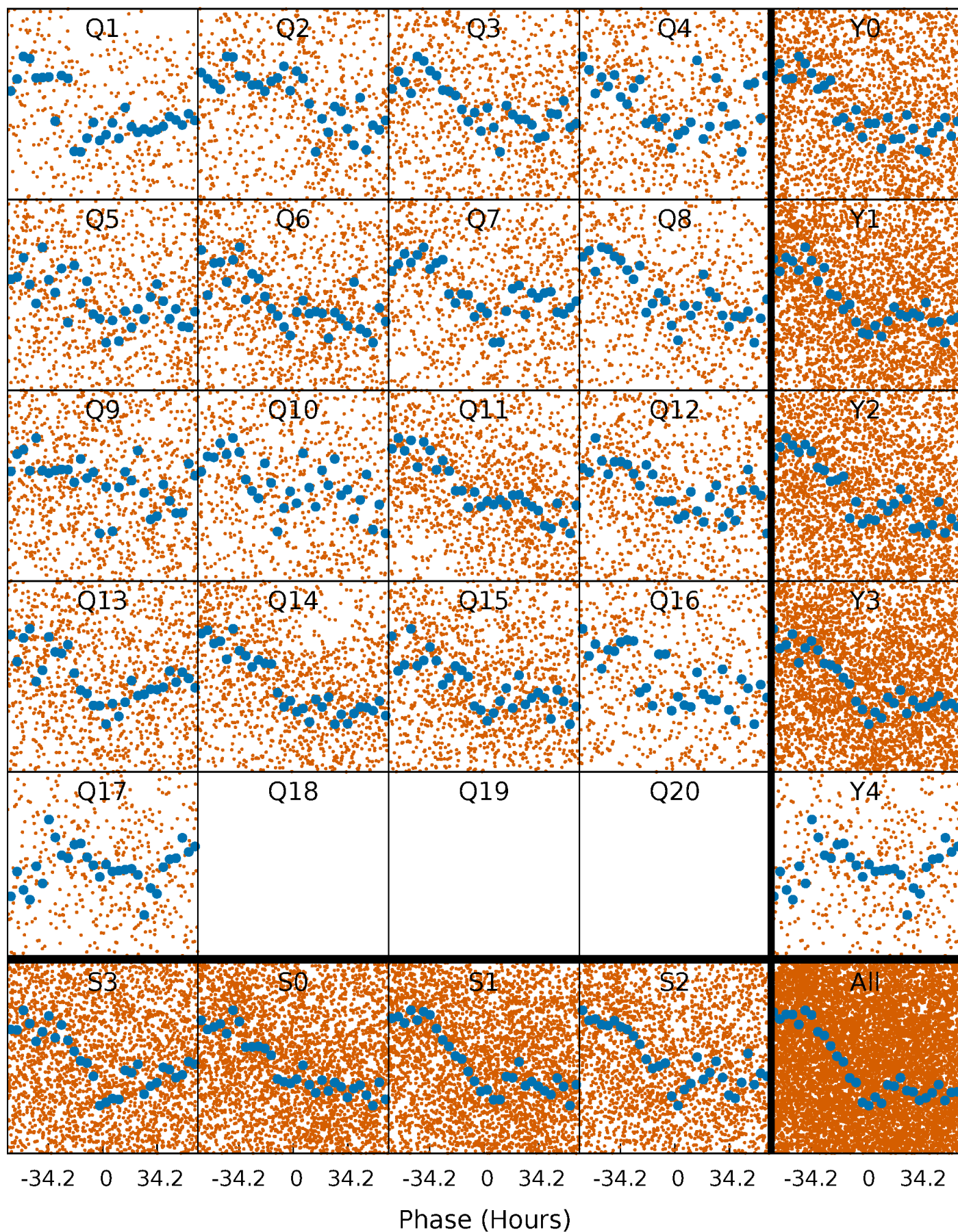


Non-Whitened Vs. Whitened Light Curve



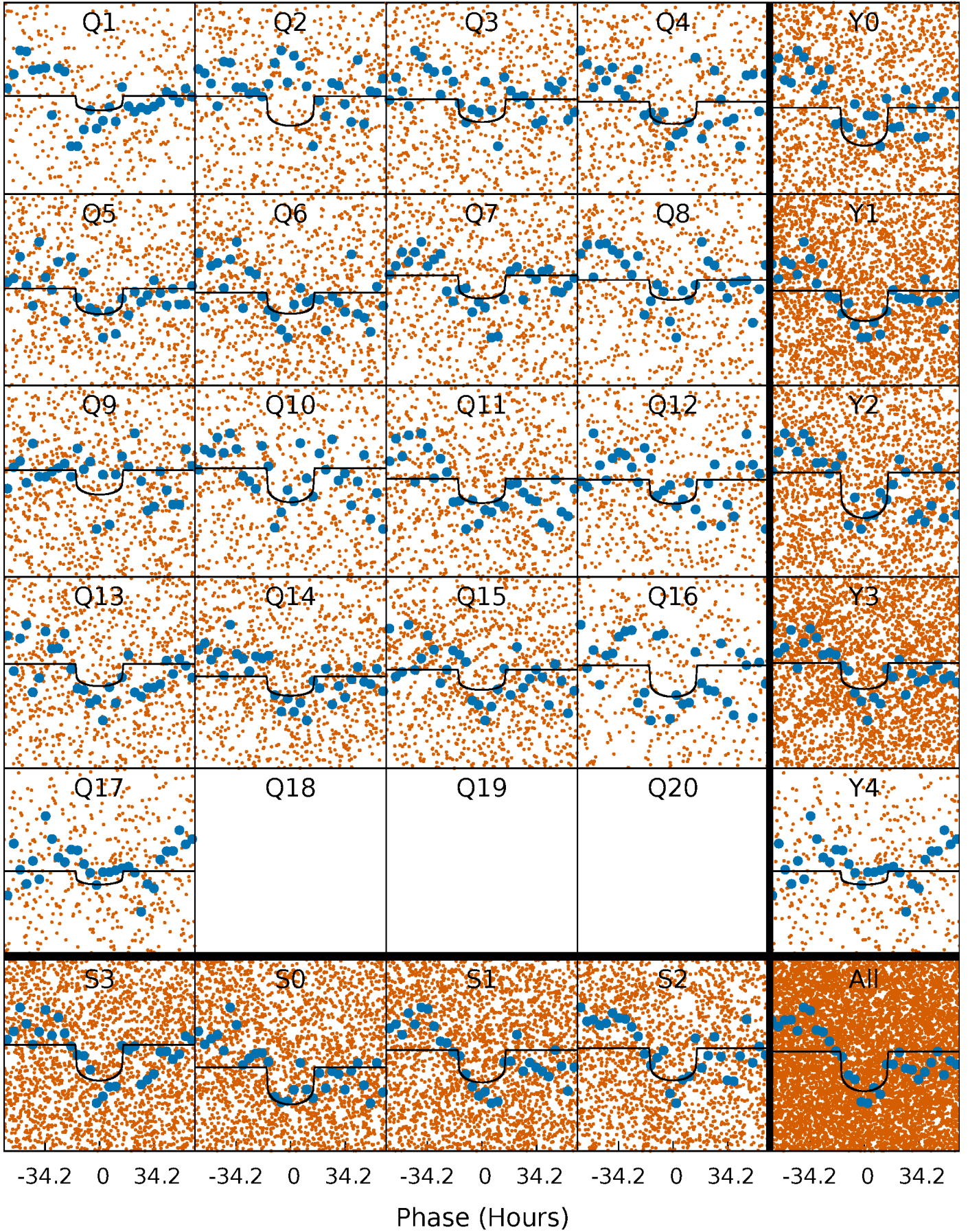
PDC Quarter-Phased Transit Curves

TCE 007987035-01 P= 15.091023 Days $T_0=140.467460$ (BKJD)



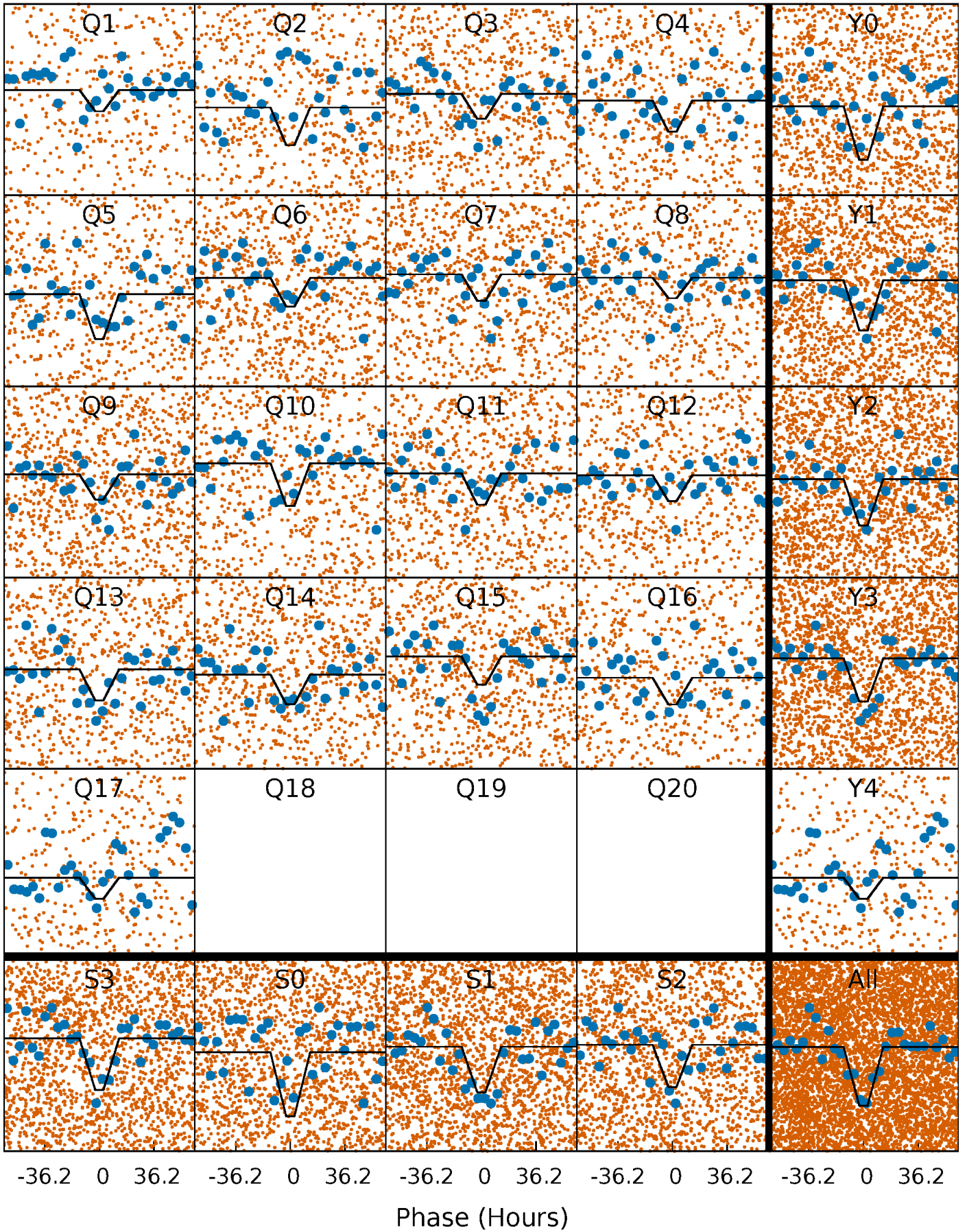
DV Quarter-Phased Transit Curves

TCE 007987035-01 P= 15.091023 Days $T_0=140.467460$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

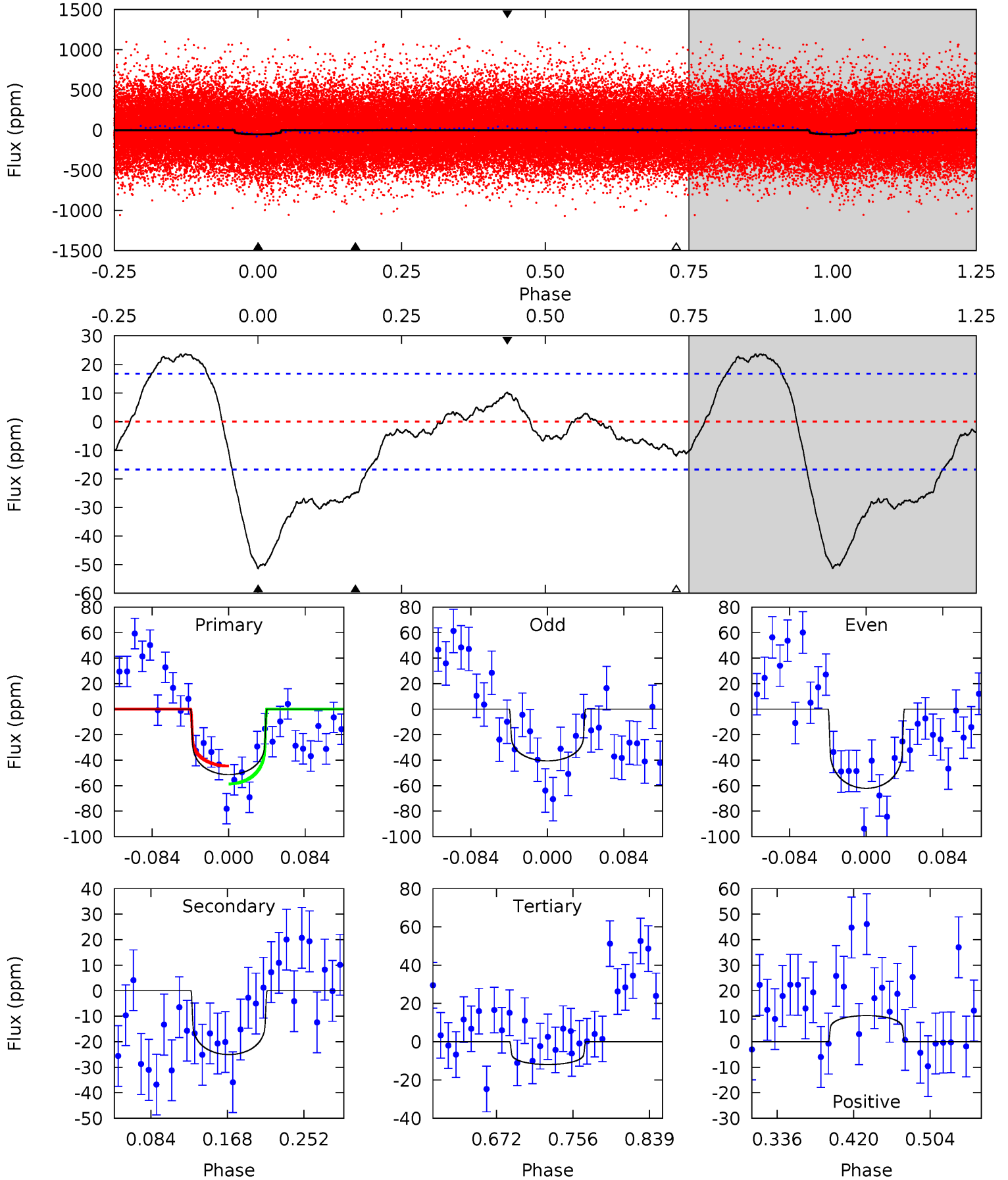
TCE 007987035-01 P= 15.092526 Days $T_0=140.380113$ (BKJD)



DV Model-Shift Uniqueness Test

007987035-01, P = 15.091023 Days, E = 125.376437 Days

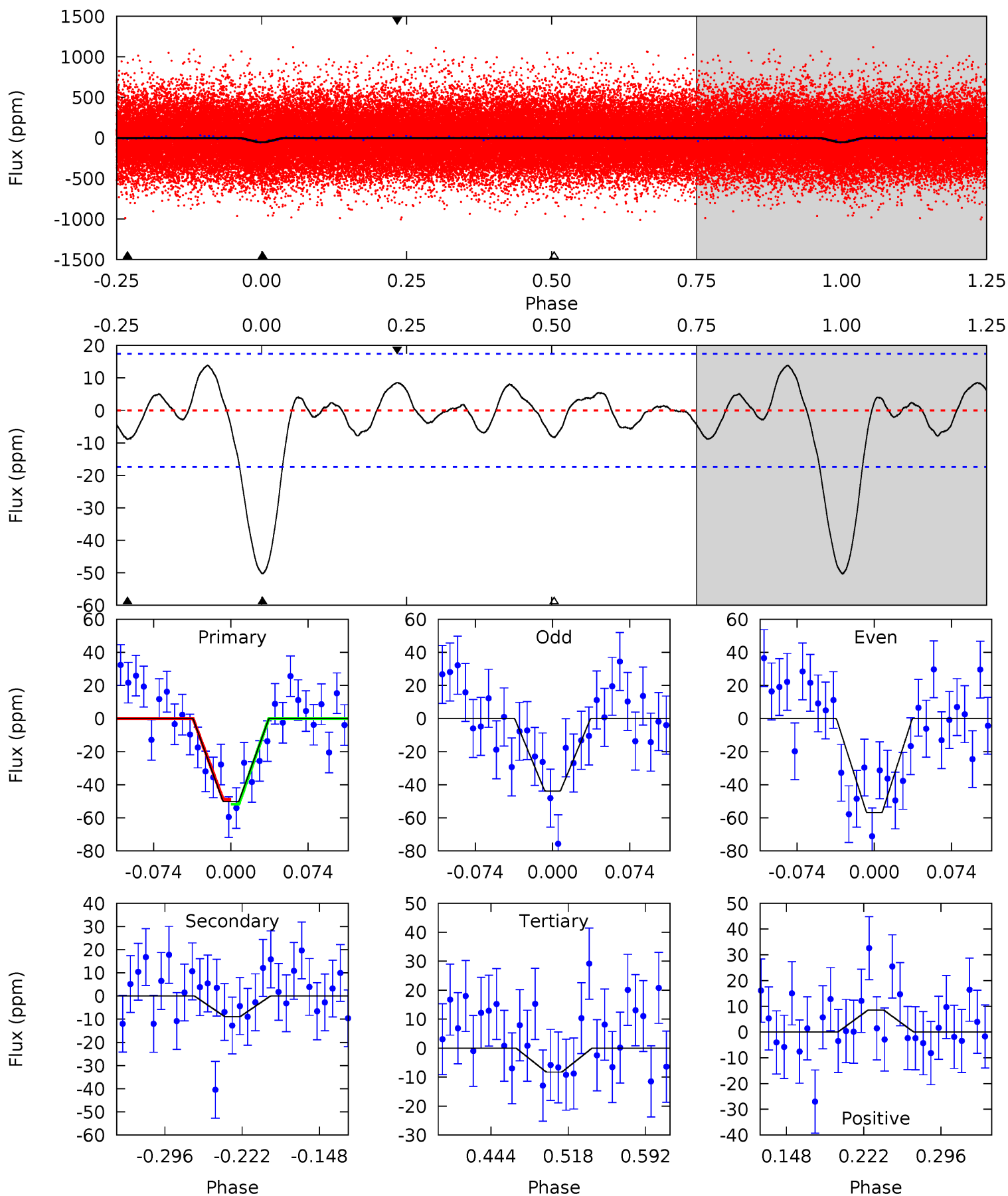
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
14.1	6.88	3.27	2.82	4.60	1.73	2.73	10.8	11.3	3.61	4.06	2.96	0.99	0.32	1.93



Alt Model-Shift Uniqueness Test

007987035-01, P = 15.092526 Days, E = 125.287587 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.3	2.35	2.19	2.27	4.63	1.79	1.26	11.1	11.1	0.16	0.08	1.73	0.73	0.22	0.37



Stellar Parameters For KIC 007987035

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5896^{+159}_{-177}	$4.311^{+0.175}_{-0.175}$	$-0.160^{+0.300}_{-0.300}$	$1.127^{+0.317}_{-0.238}$	$0.947^{+0.132}_{-0.108}$	$0.932^{+0.749}_{-0.452}$
	+3%/-3%	+4%/-4%	+188%/-188%	+28%/-21%	+14%/-11%	+80%/-49%
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 007987035-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-25 ± 4	$0.88^{+0.21}_{-0.18}$	1124^{+92}_{-73}	5007^{+508}_{-342}	247^{+150}_{-90}
Alt.	-9 ± 4	$0.88^{+0.21}_{-0.19}$	1123^{+81}_{-76}	4063^{+423}_{-475}	81^{+67}_{-43}

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

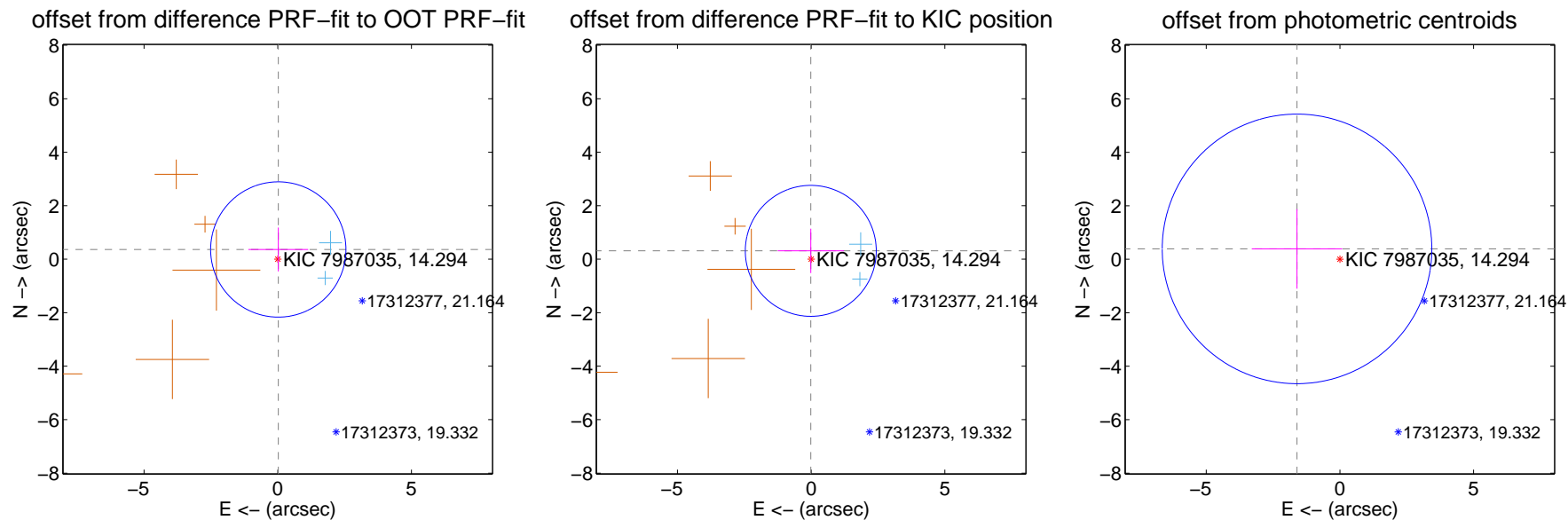
DV Centroid Data

Supplemental centroid analysis for 007987035-01. Kepler magnitude: 14.29. Transit SNR 8.30

There are 2 quarters with good PRF difference image offsets

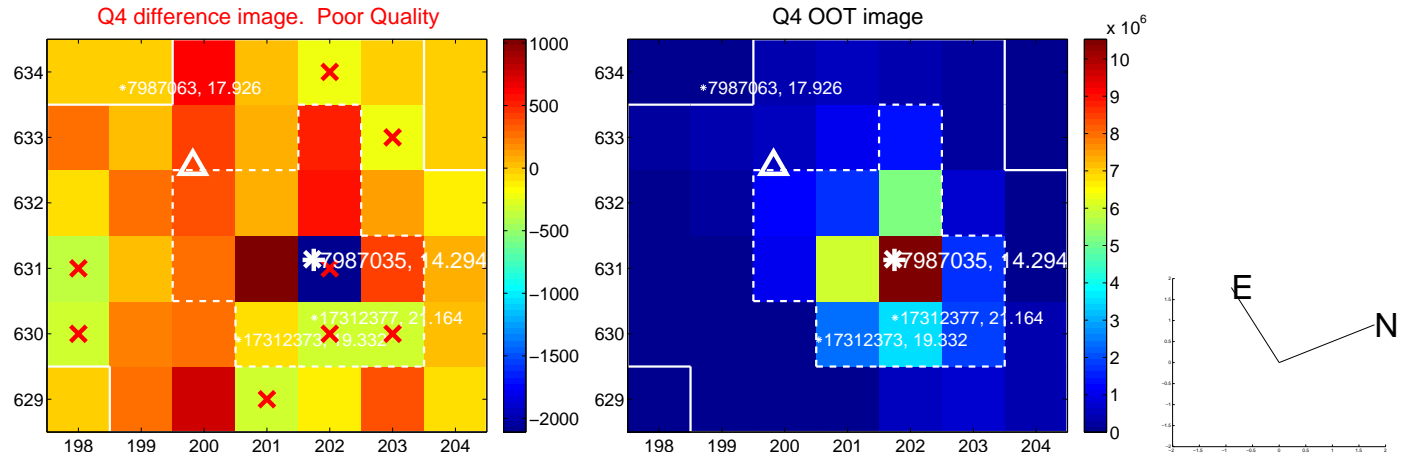
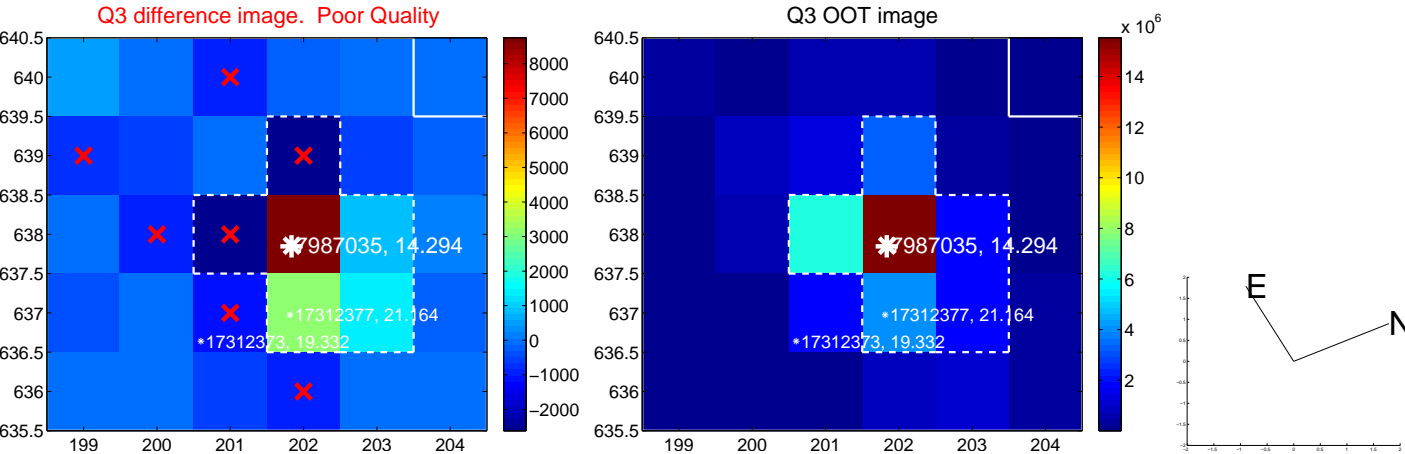
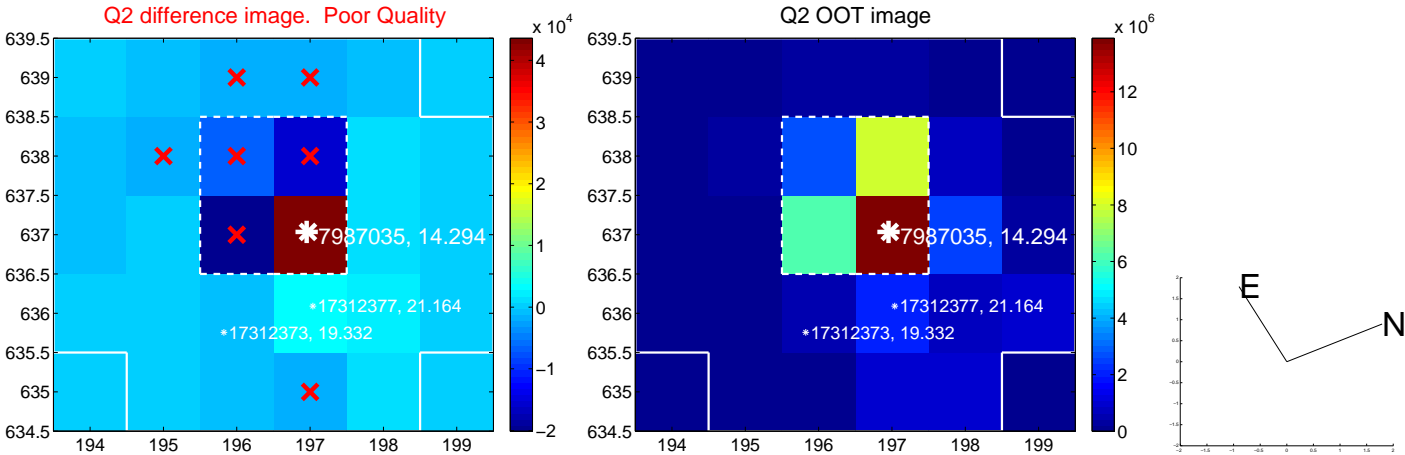
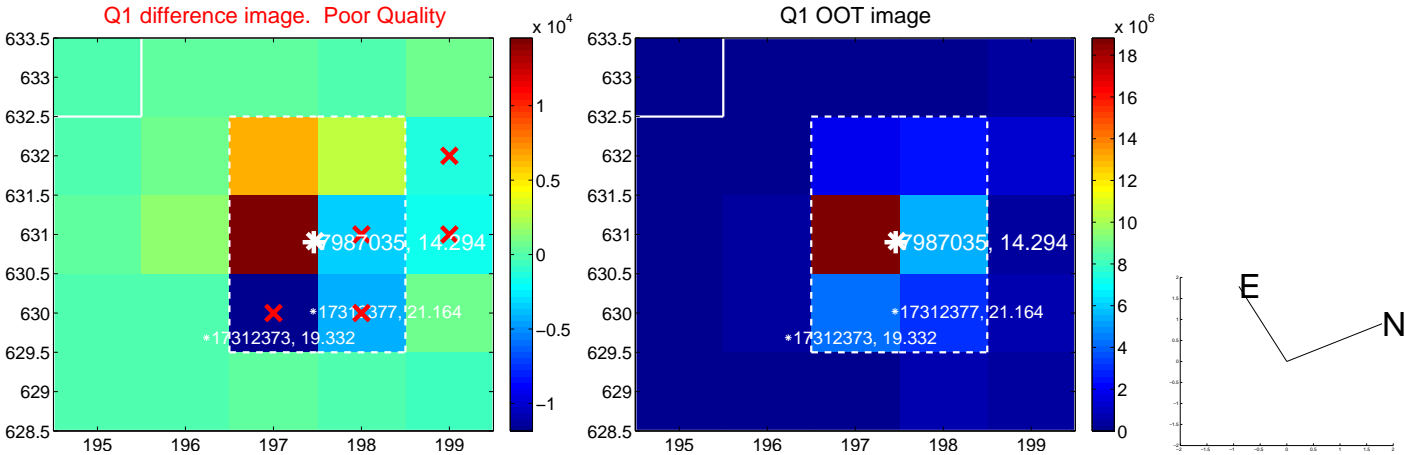
The direct PRF centroid is offset from the target star catalog position by about 0.06 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.364 ± 0.843	0.43	-0.019 ± 1.119	0.364 ± 0.821
PRF-fit source offset from KIC position	0.312 ± 0.816	0.38	0.014 ± 1.240	0.312 ± 0.829
photometric centroid source offset	1.65 ± 1.68	0.98	1.60 ± 1.69	0.39 ± 1.49

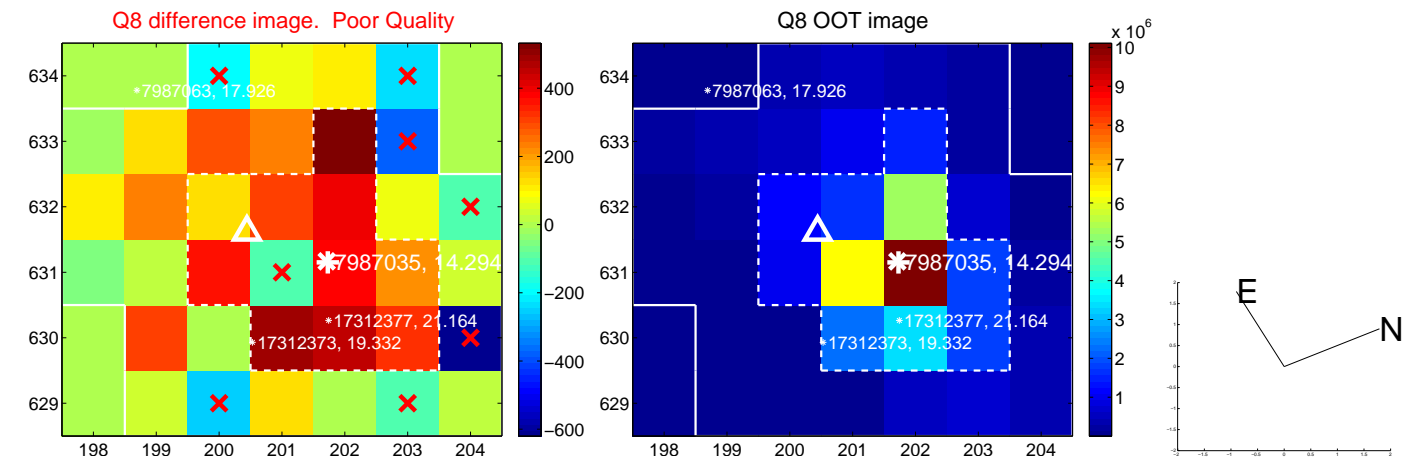
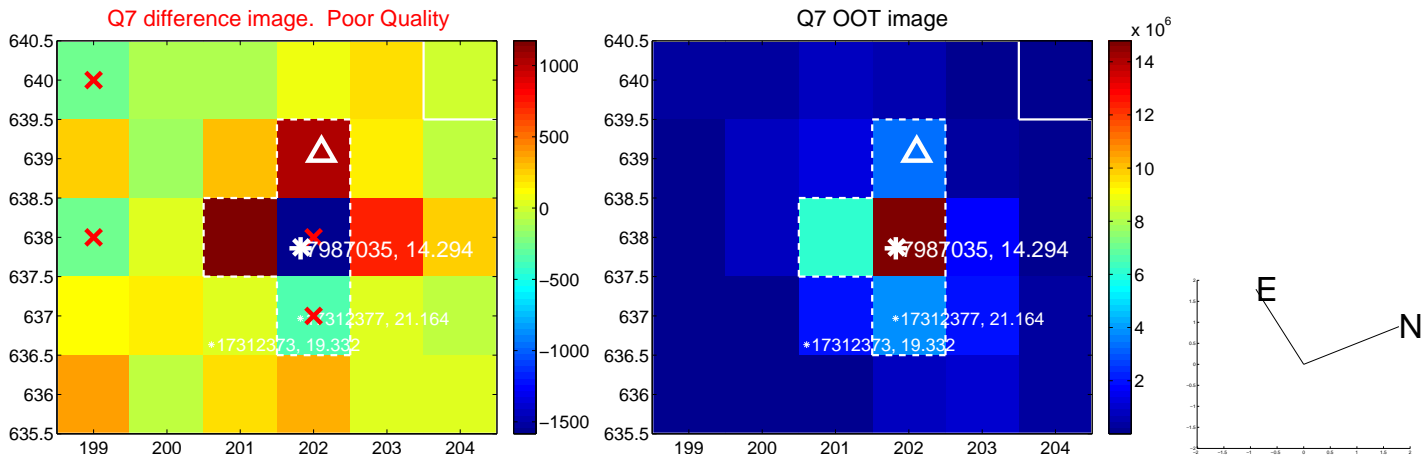
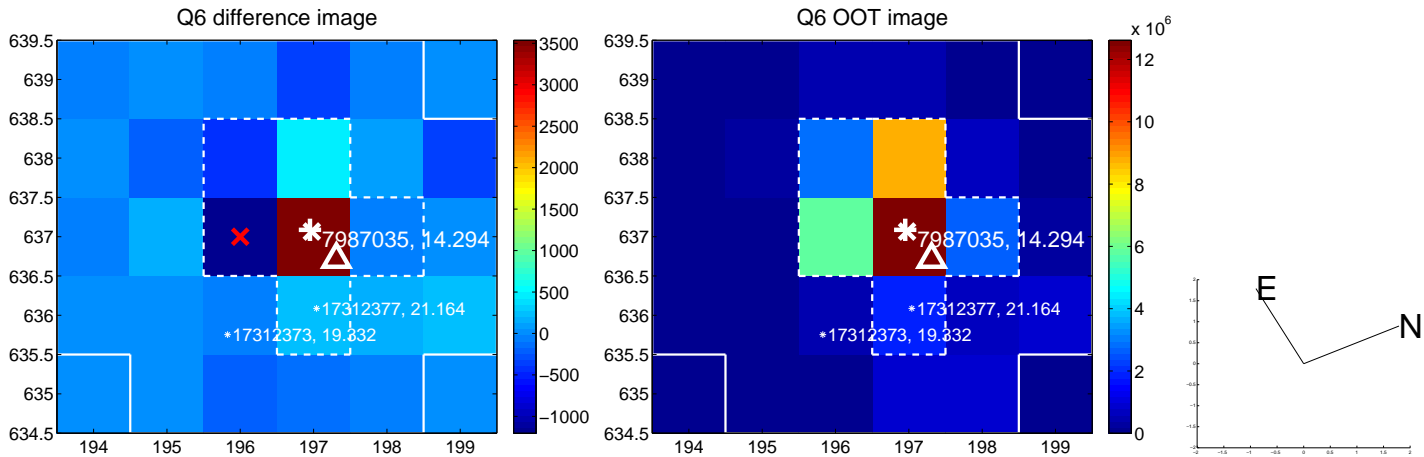
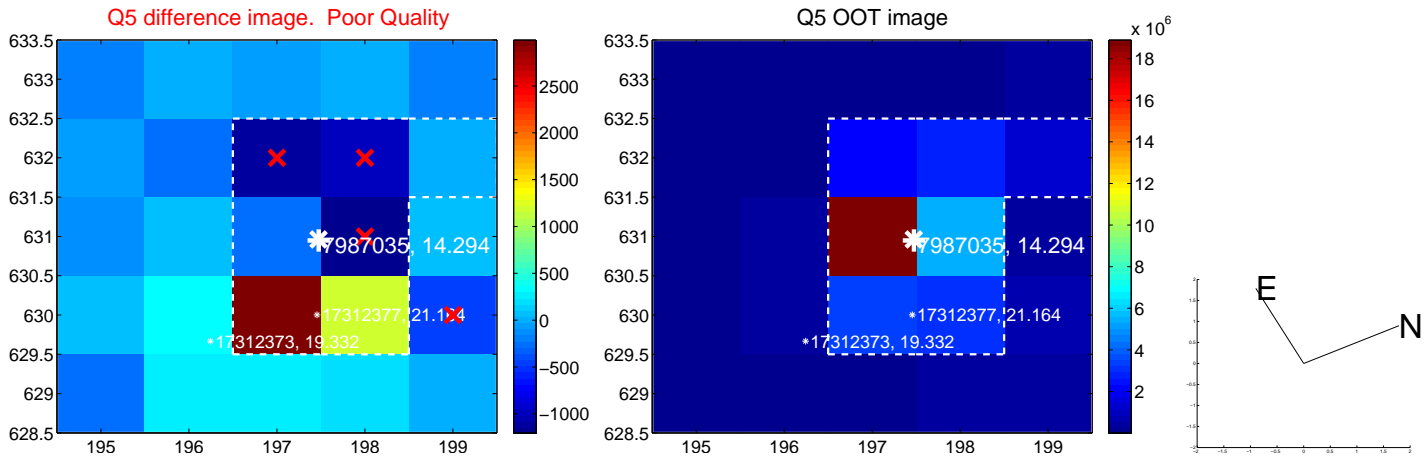


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

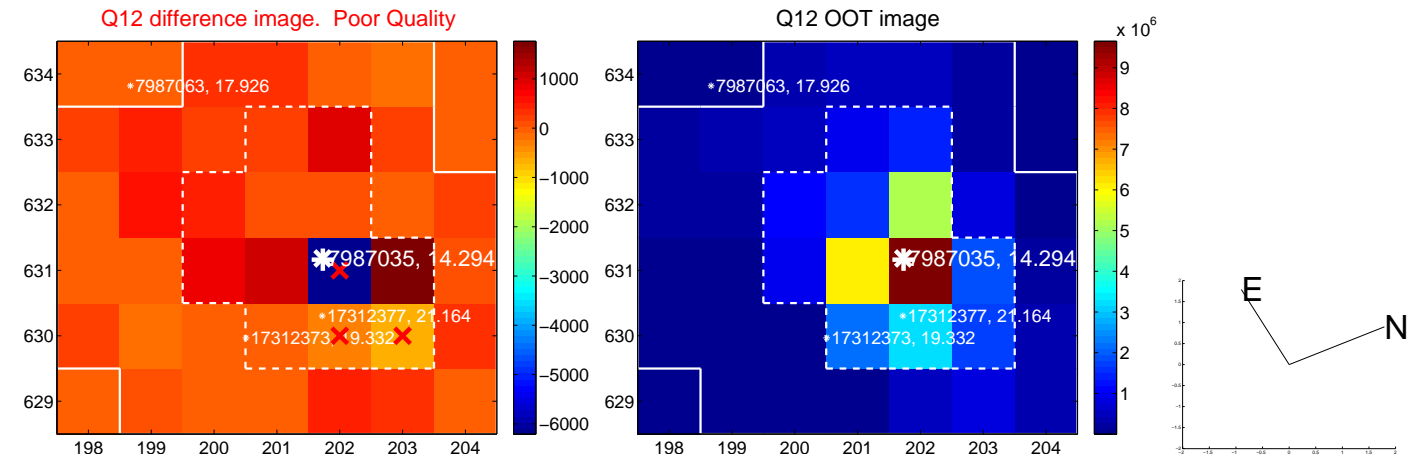
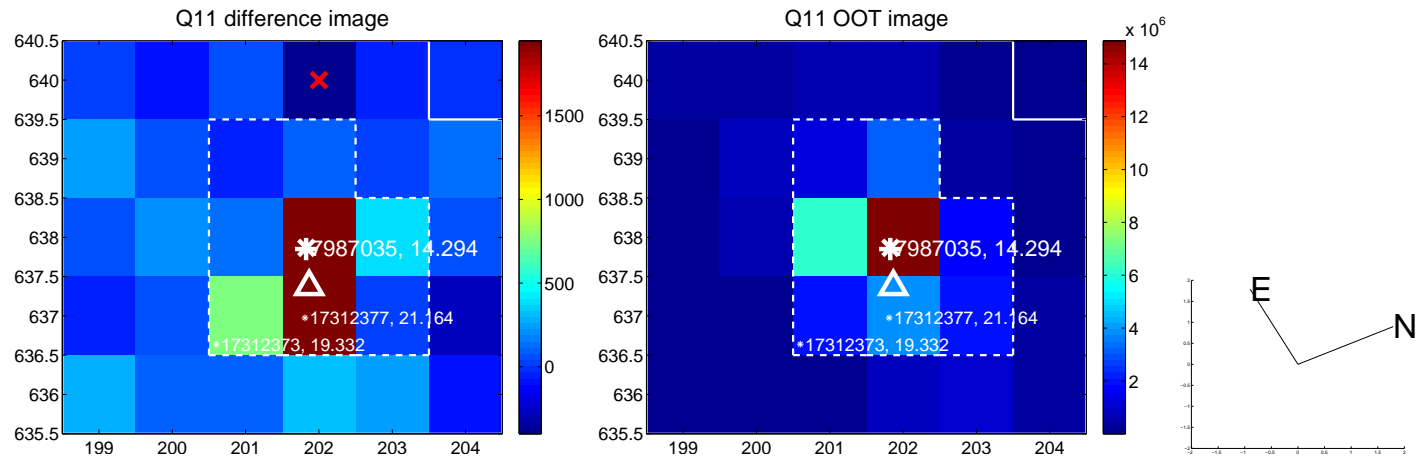
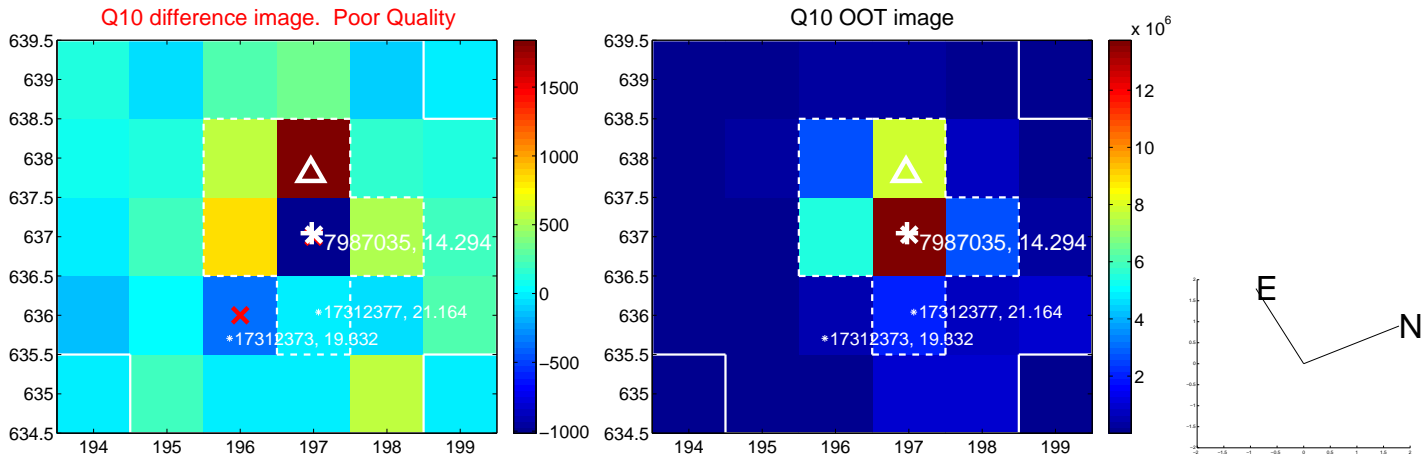
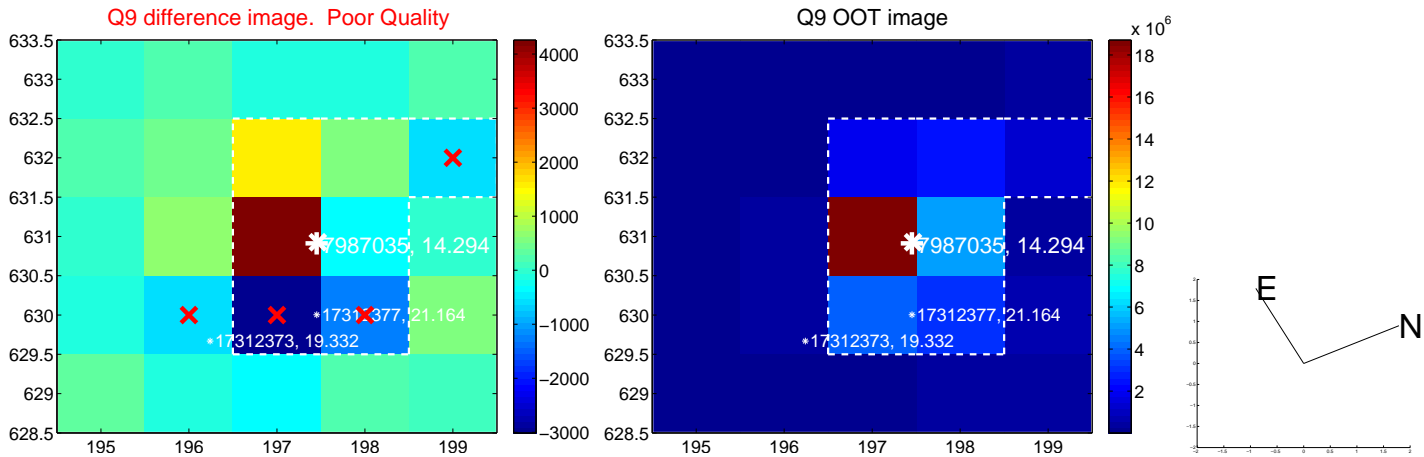
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



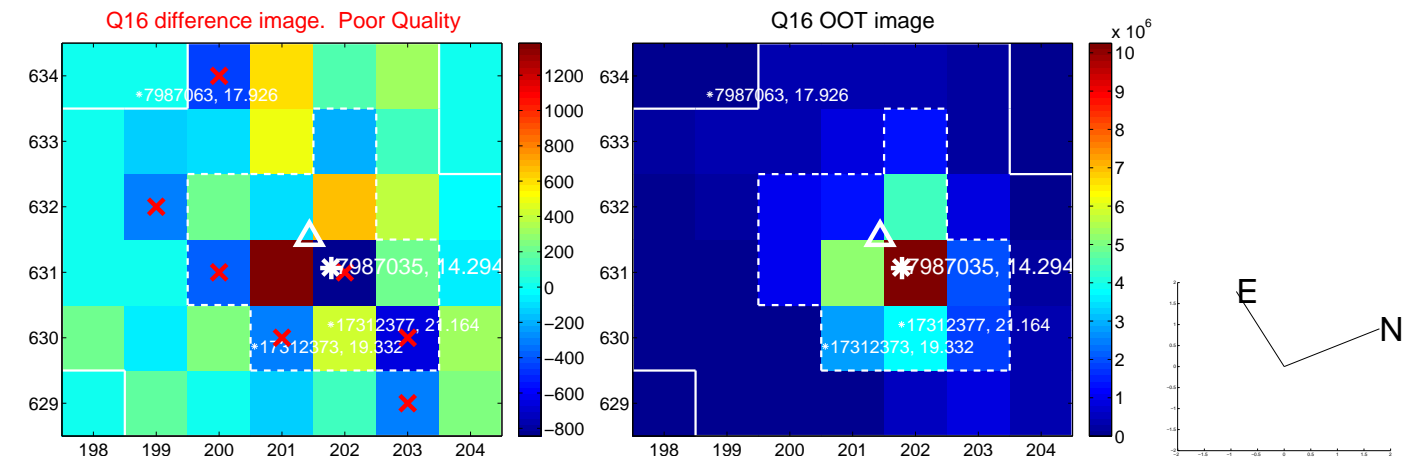
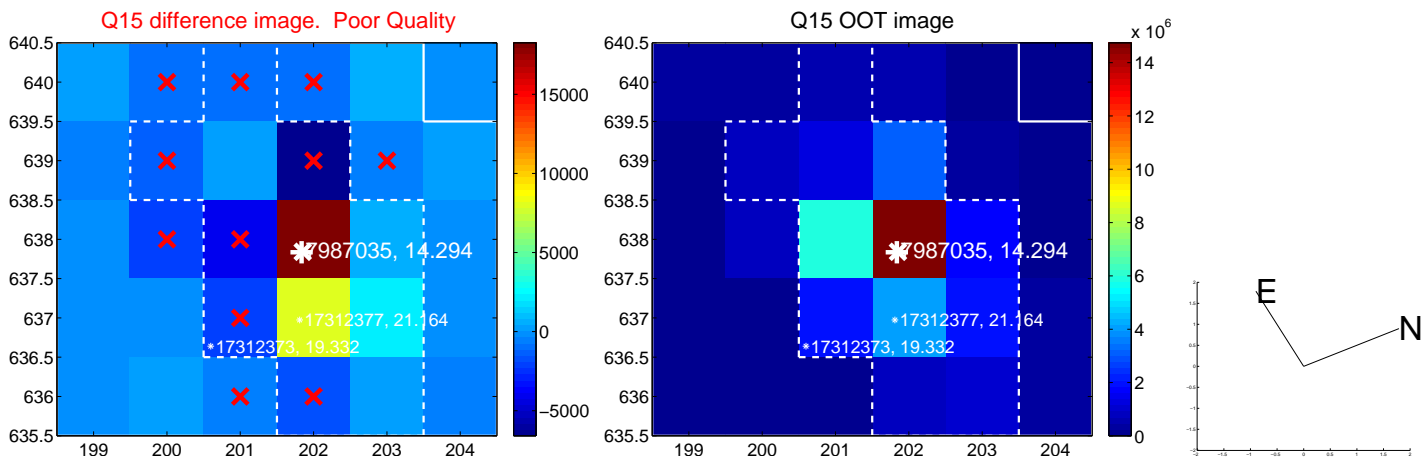
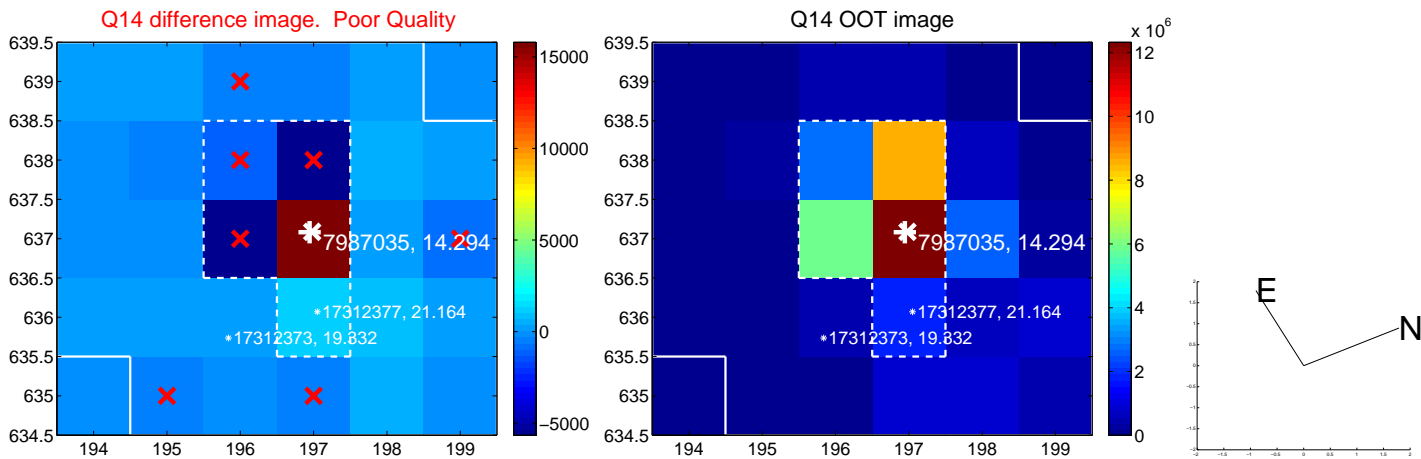
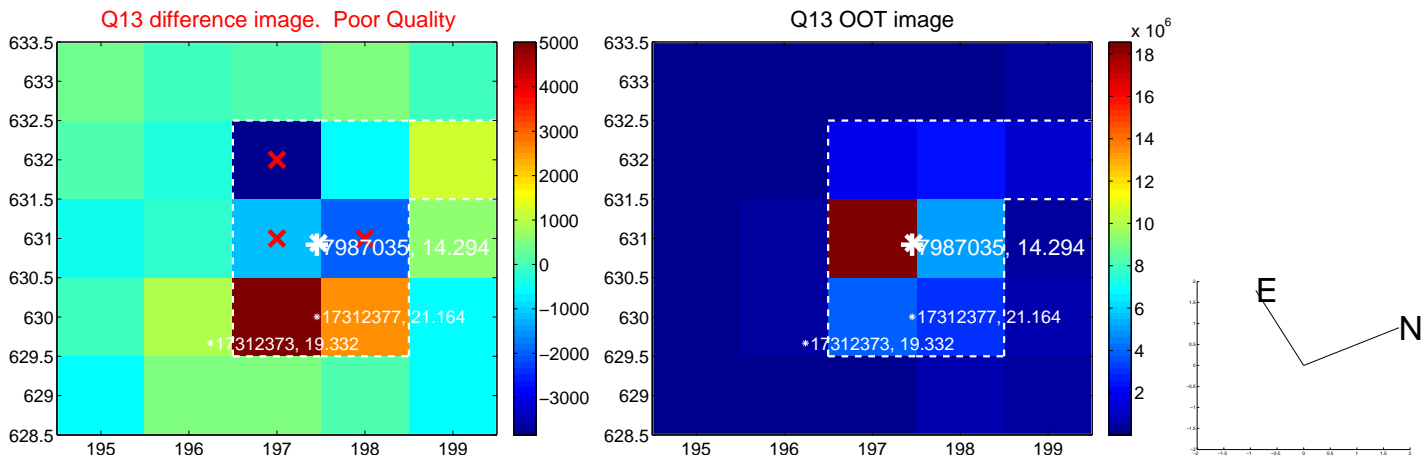
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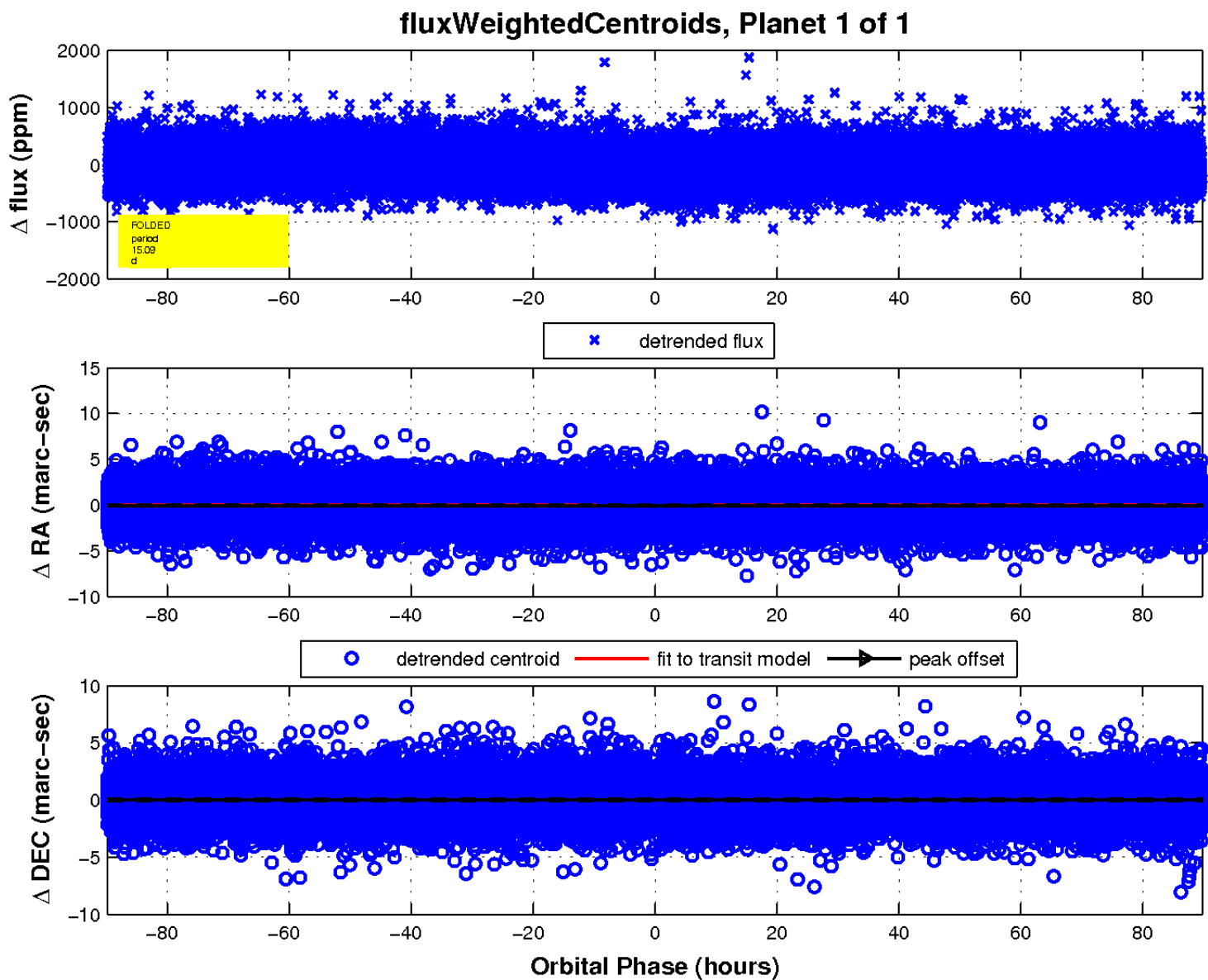
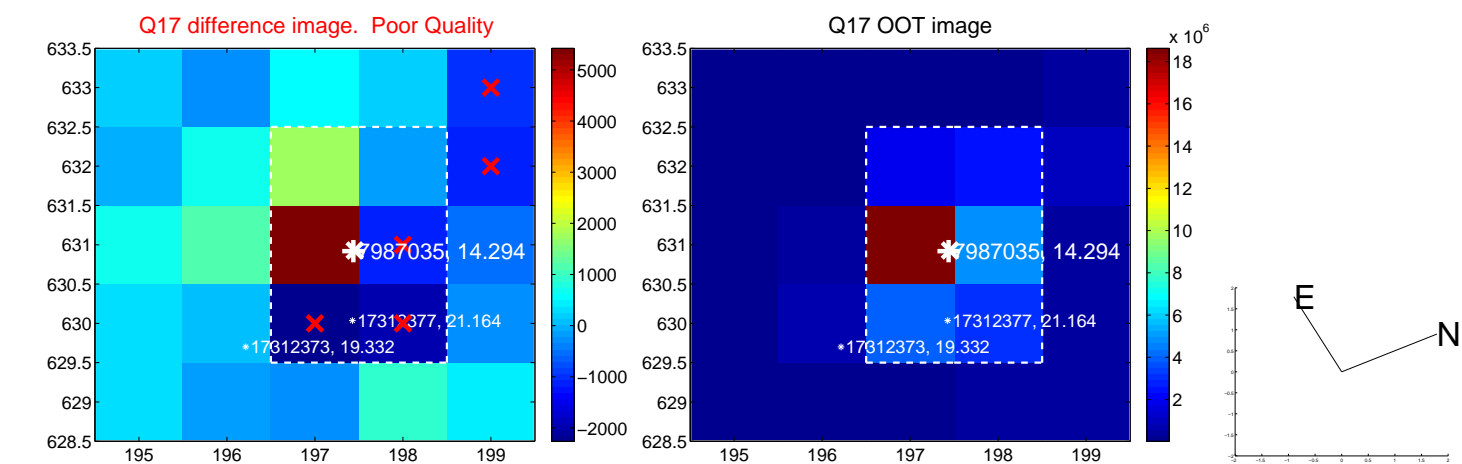
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white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

