

KIC 005979863

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})
005979863-01	OBS	6018.01	16.621854	133.552598	54840.6	3.929	2090.2	1884.4	0.91	5949	22.30	63.41
005979863-02	OBS	No	16.621852	142.199100	1319.7	4.368	47.5	52.4	0.91	5949	4.07	63.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005979863-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
005979863-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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 005979863-01

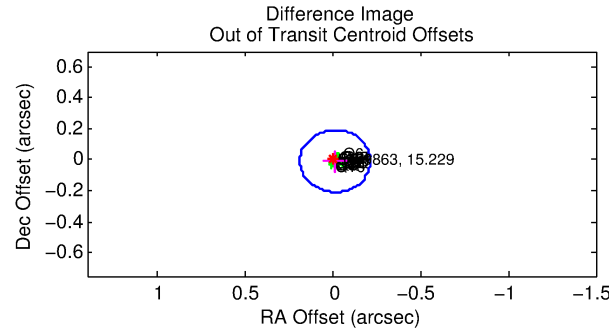
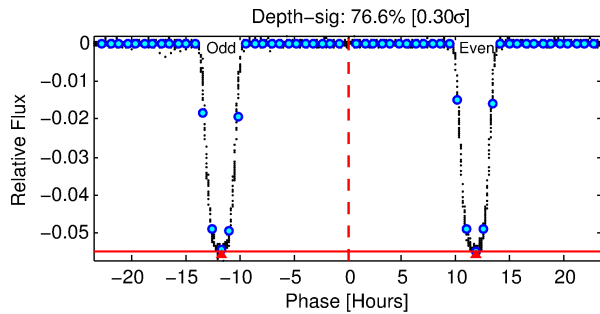
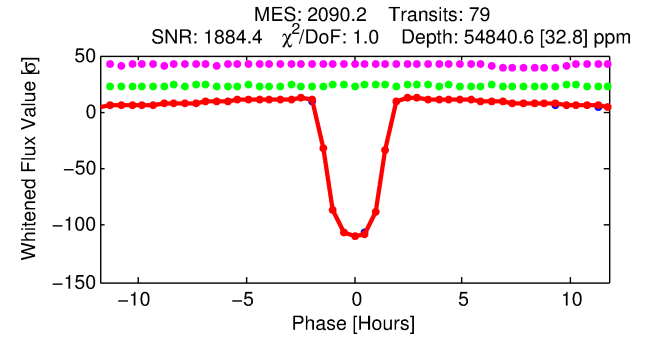
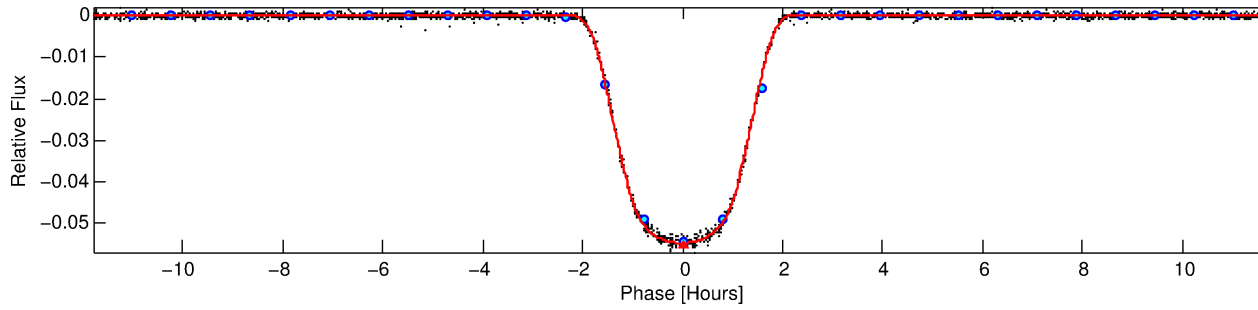
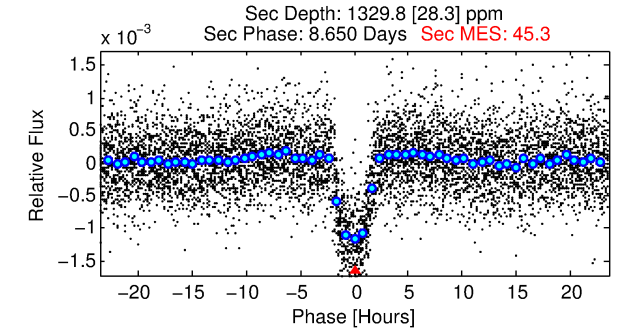
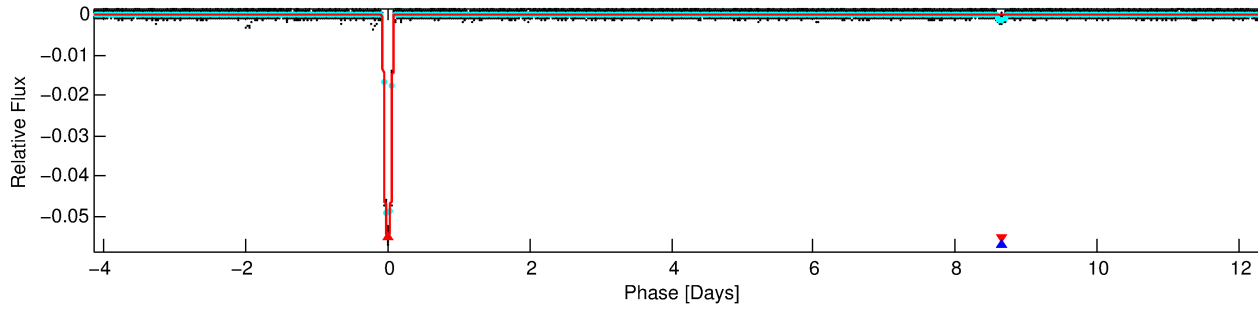
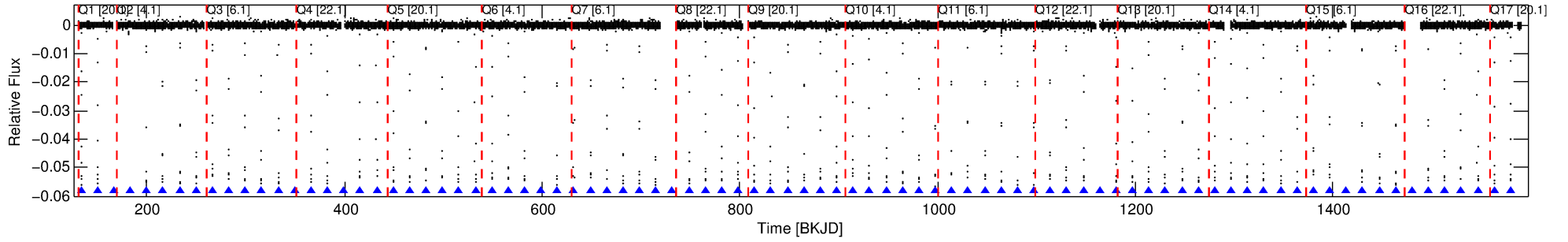
No Significant Match Found

DV One-Page Summary

KIC: 5979863 Candidate: 1 of 2 Period: 16.622 d

KOI: K06018.01 Corr: 0.999

Kp: 15.23 R*: 0.91 Rs Teff: 5949.0 K Logg: 4.45 Fe/H: -0.520



DV Fit Results:

Period = 16.62185 [0.00000] d
Epoch = 133.5526 [0.0000] BKJD
Rp/R* = 0.2253 [0.0001]
a/R* = 34.74 [0.05]
b = 0.59 [0.00]
Seff = 63.41 [21.98]
Teq = 720 [62] K
Rp = 22.30 [5.95] Re
a = 0.1207 [0.0268] AU
Ag = 21.42 [6.89] [2.96σ]
Teffp = 2393 [79] K [16.57σ]

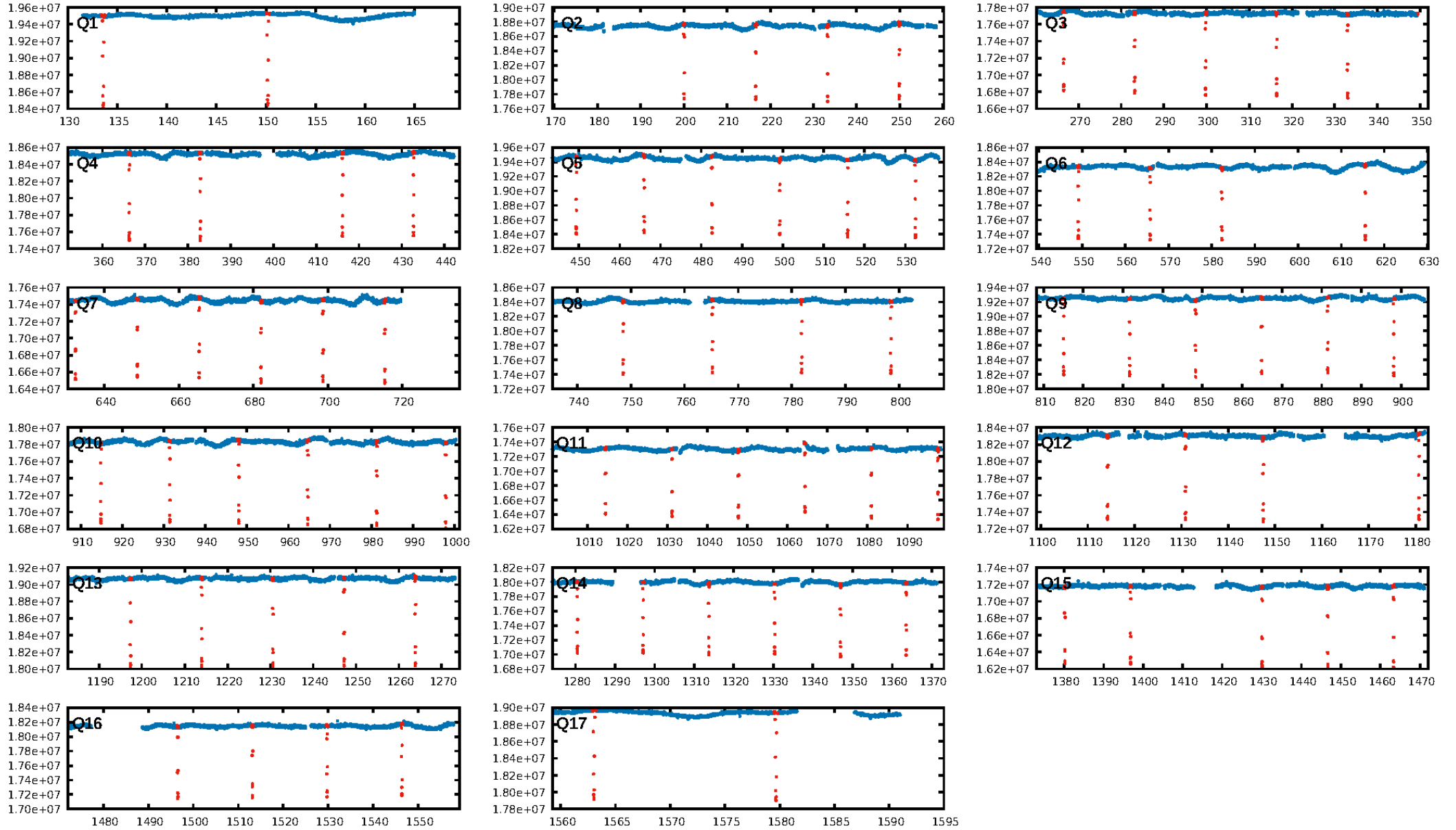
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [75/75]
GhostDiagnostic-chr: 6.262
Centroid-sig: 0.0%
Centroid-so: 0.104 arcsec [15.74σ]
OotOffset-rm: 0.016 arcsec [0.23σ]
KicOffset-rm: 0.126 arcsec [1.83σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
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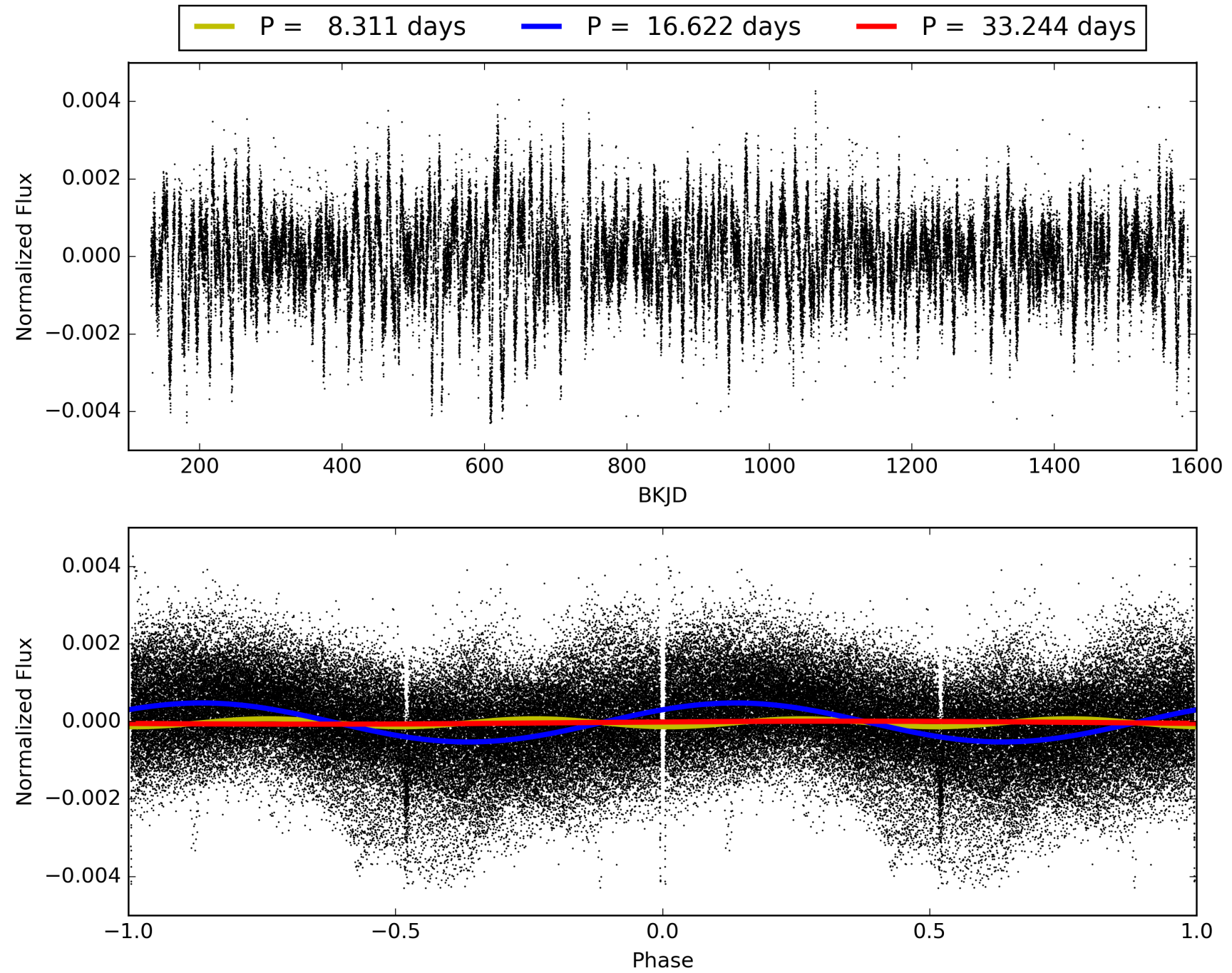
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:37:17 Z

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

TCE 005979863-01, PDC Light Curves

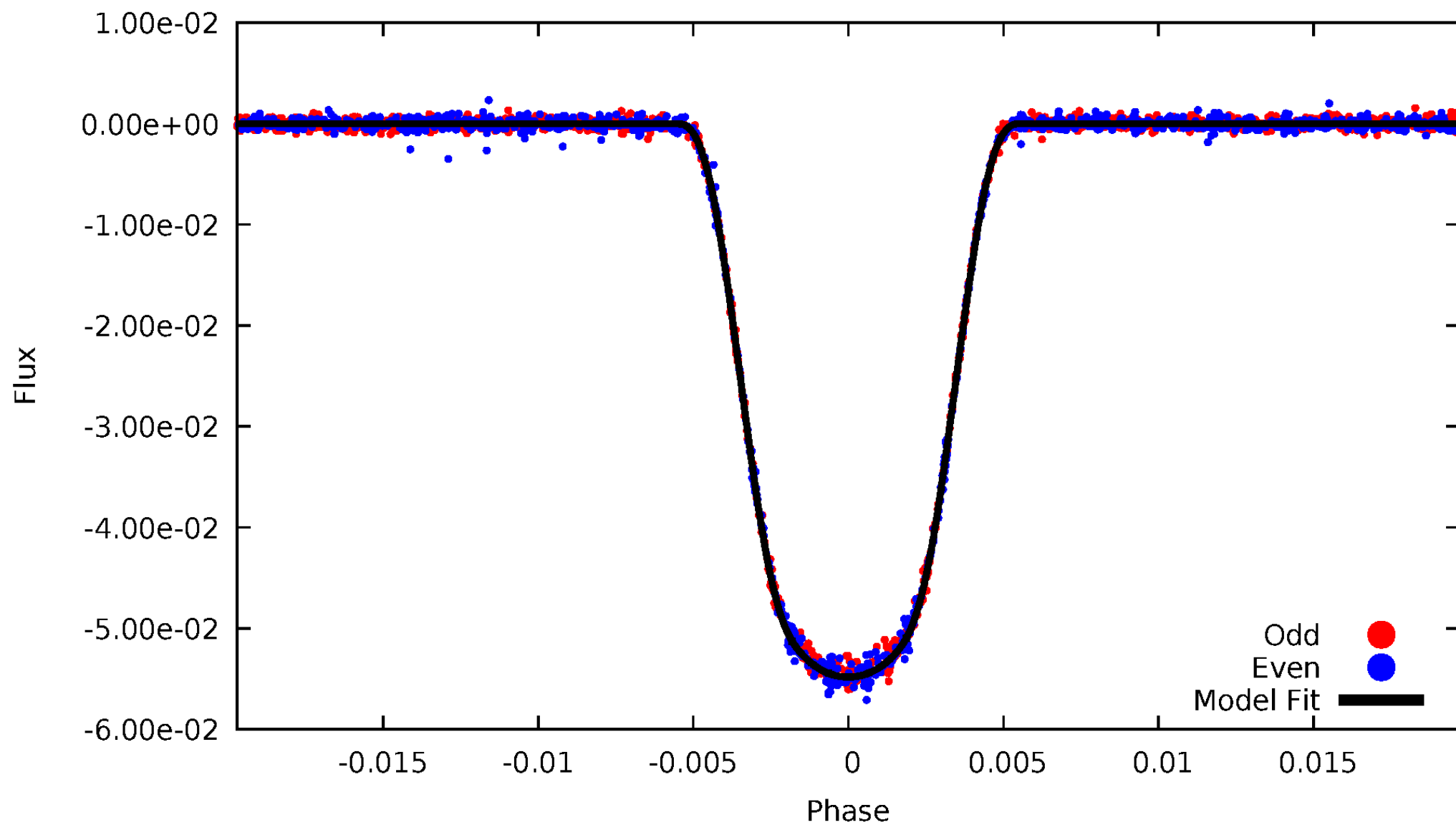


TCE 005979863-01



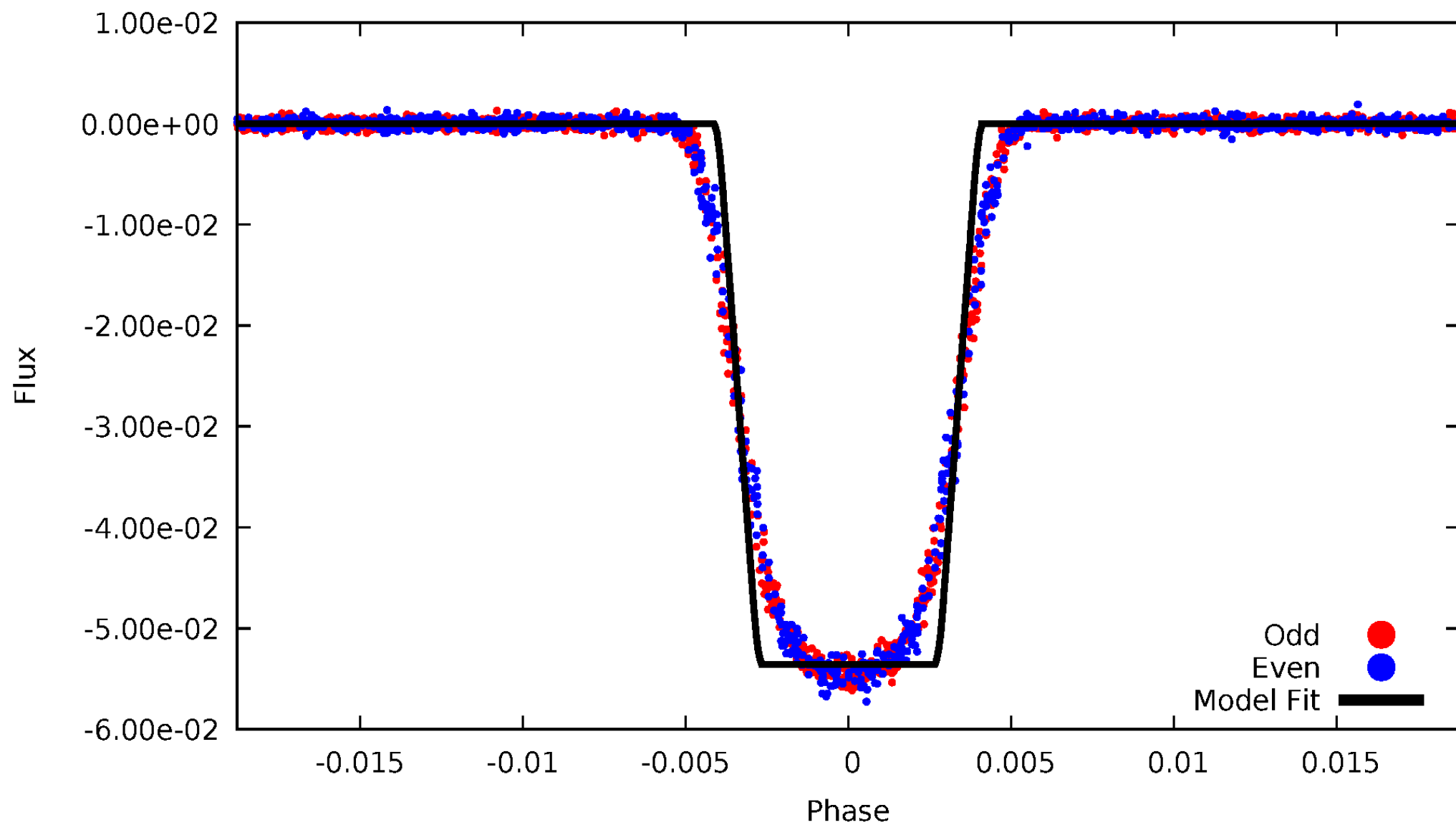
DV Odd/Even

TCE 005979863-01



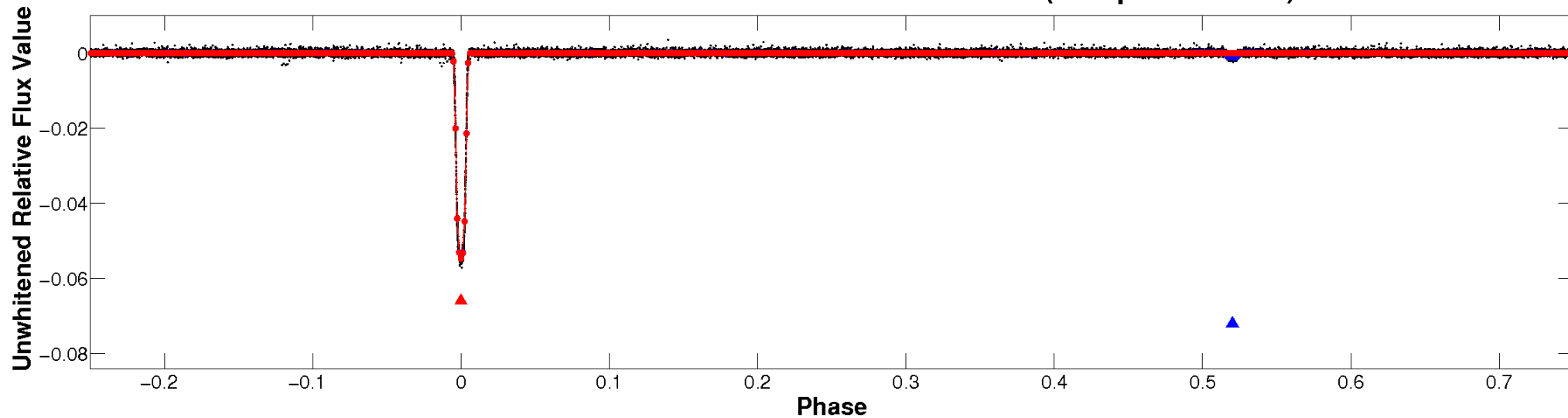
ALT Odd/Even

TCE 005979863-01

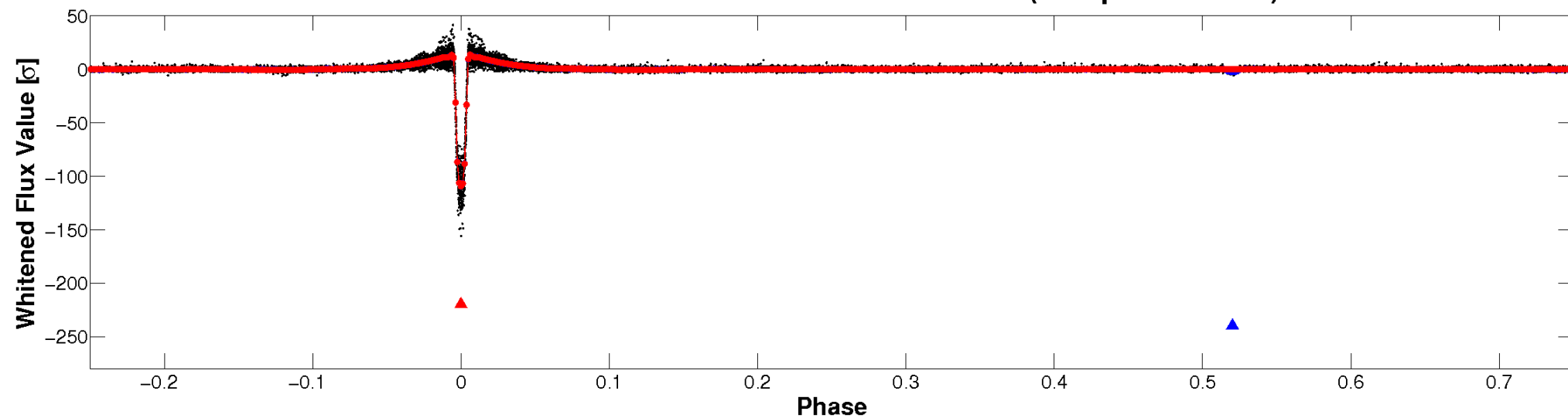


Non-Whitened Vs. Whitened Light Curve

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

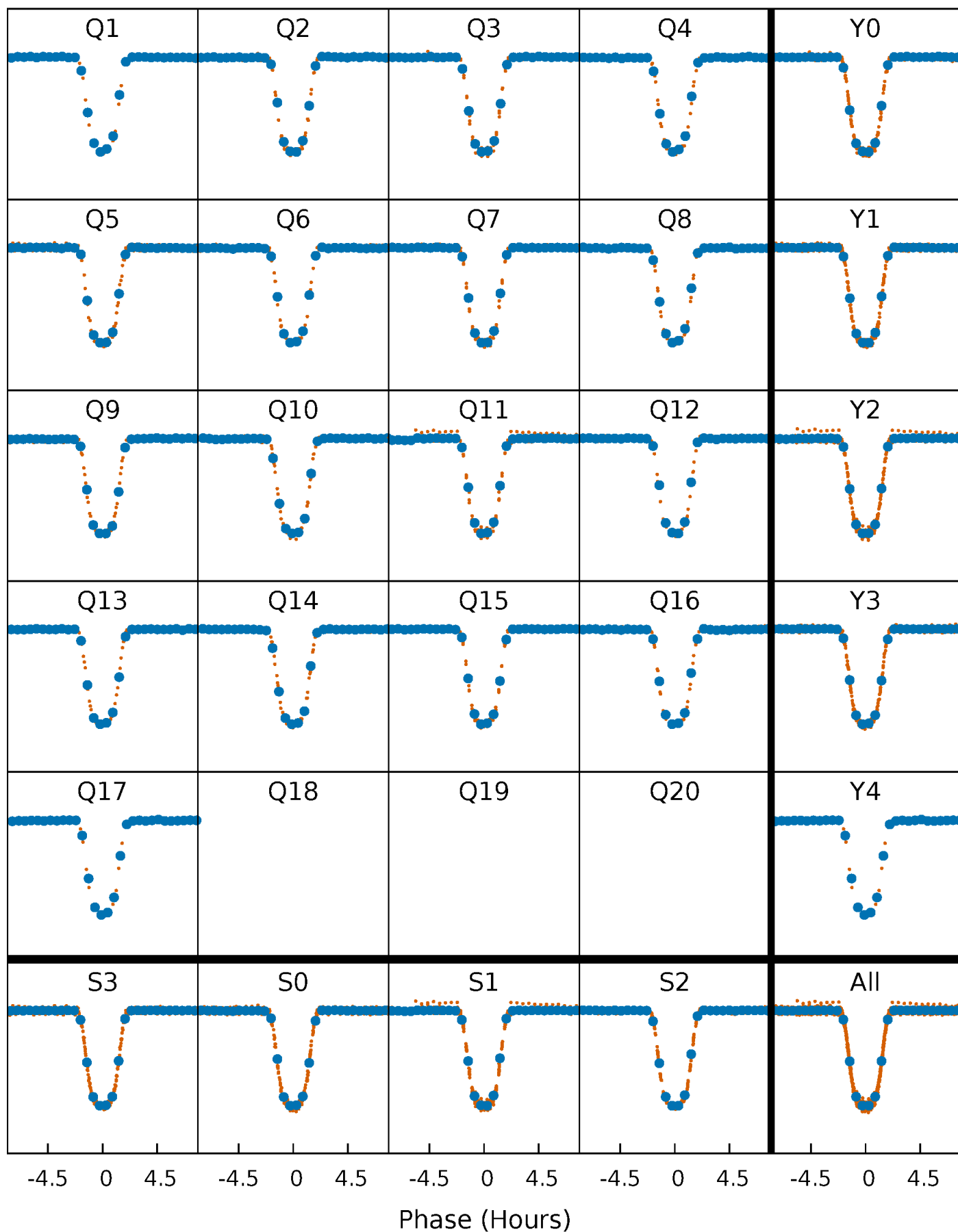


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



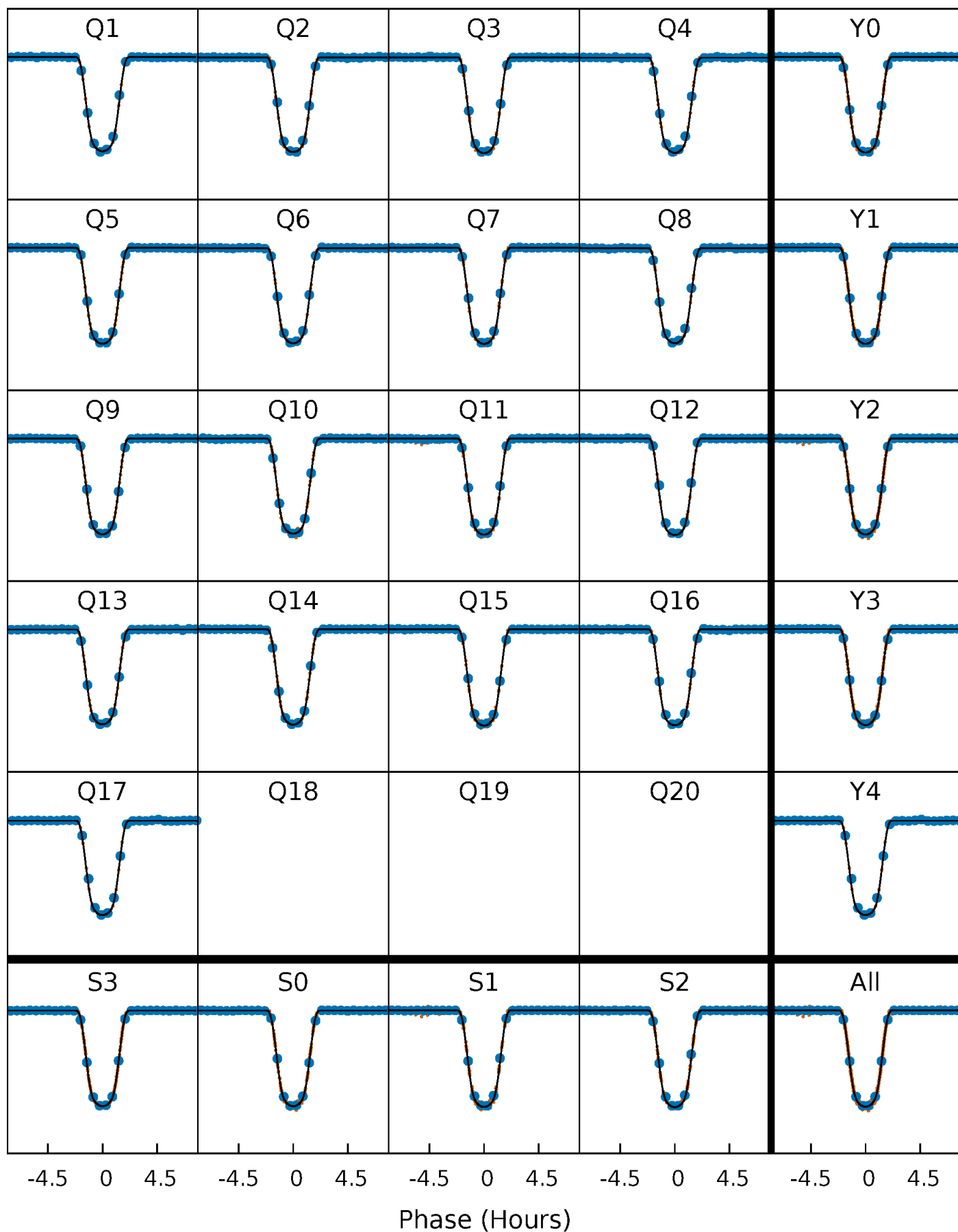
PDC Quarter-Phased Transit Curves

TCE 005979863-01 P= 16.621854 Days $T_0=133.552598$ (BKJD)



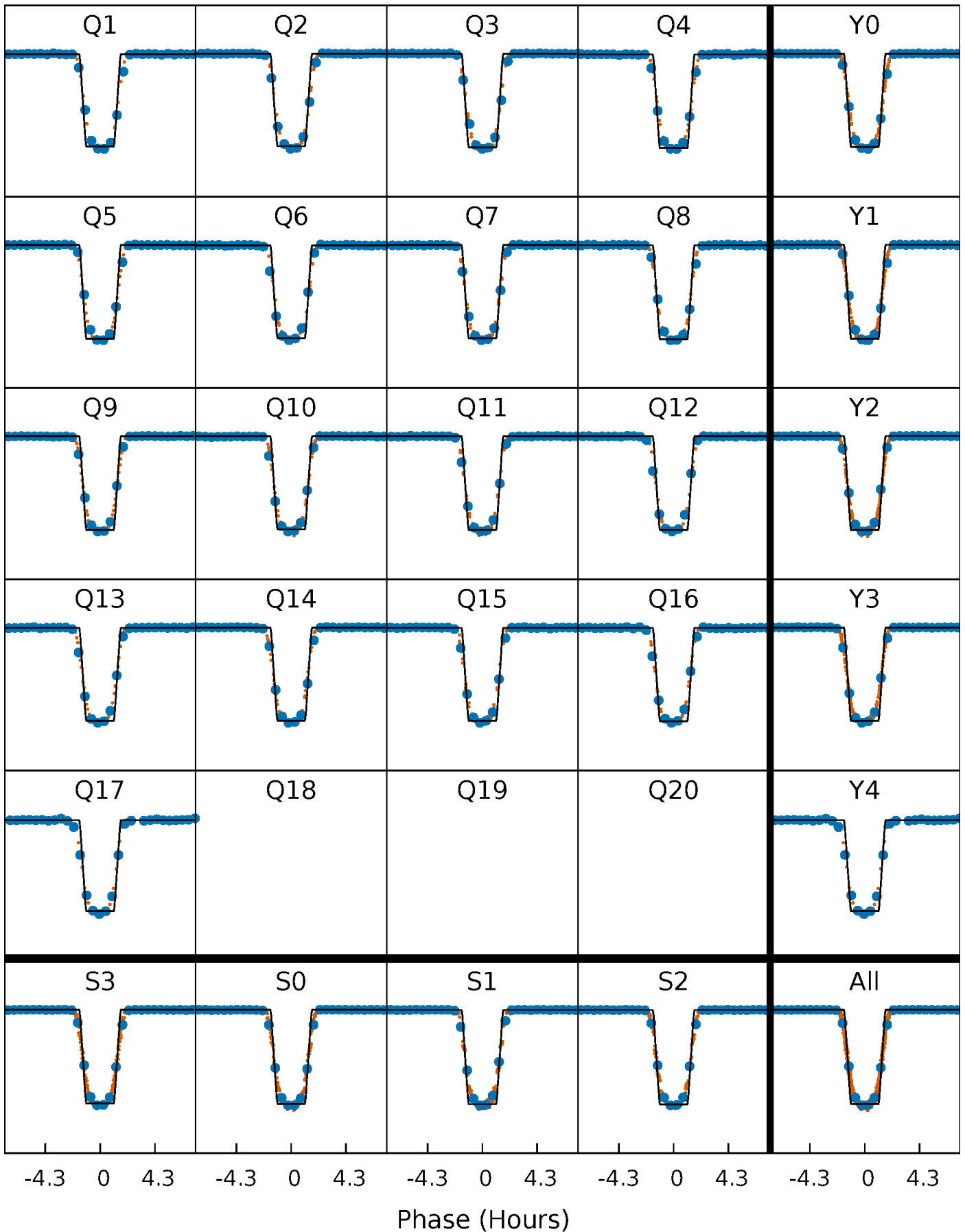
DV Quarter-Phased Transit Curves

TCE 005979863-01 P= 16.621854 Days $T_0=133.552598$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

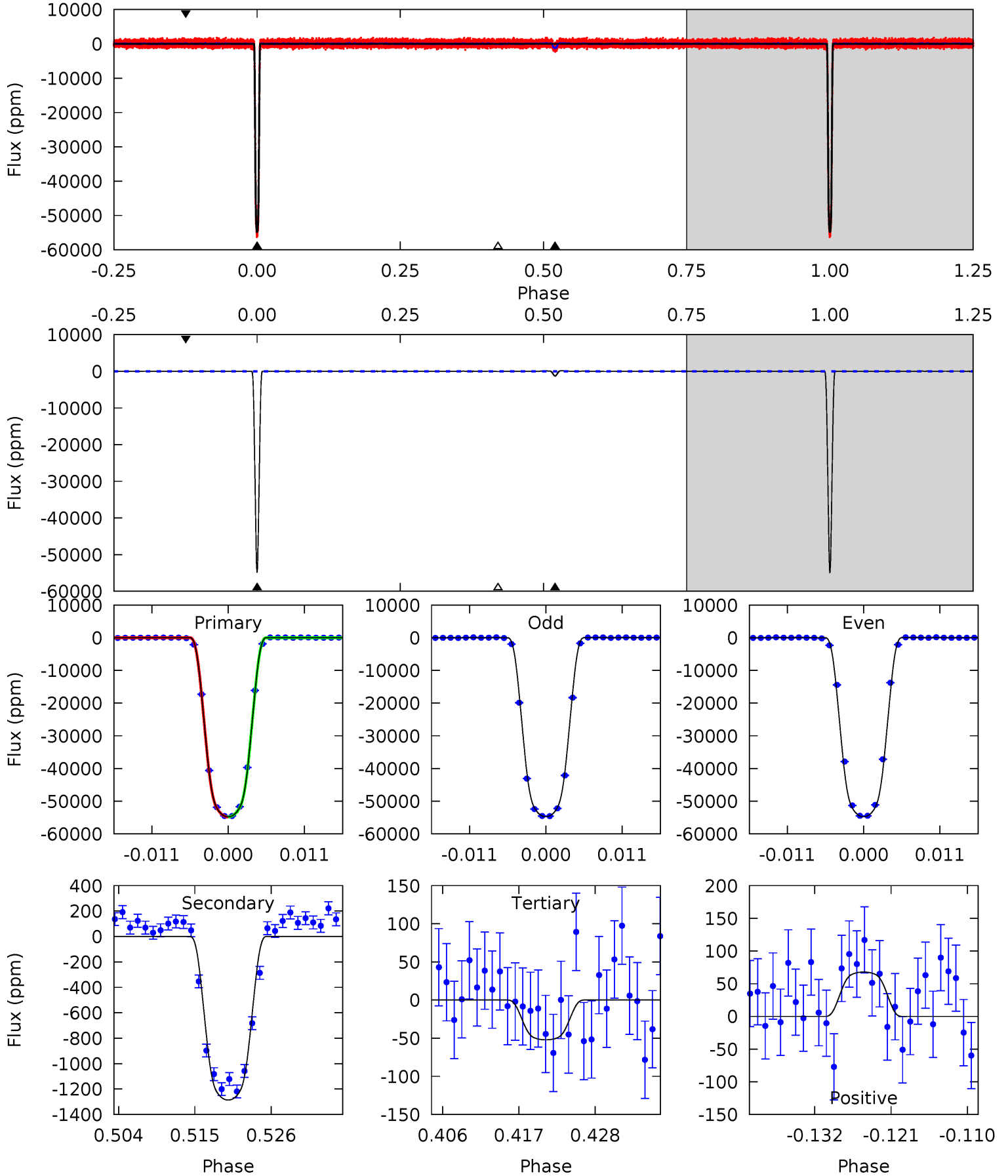
TCE 005979863-01 P= 16.621934 Days $T_0=133.549053$ (BKJD)



DV Model-Shift Uniqueness Test

005979863-01, P = 16.621854 Days, E = 116.930744 Days

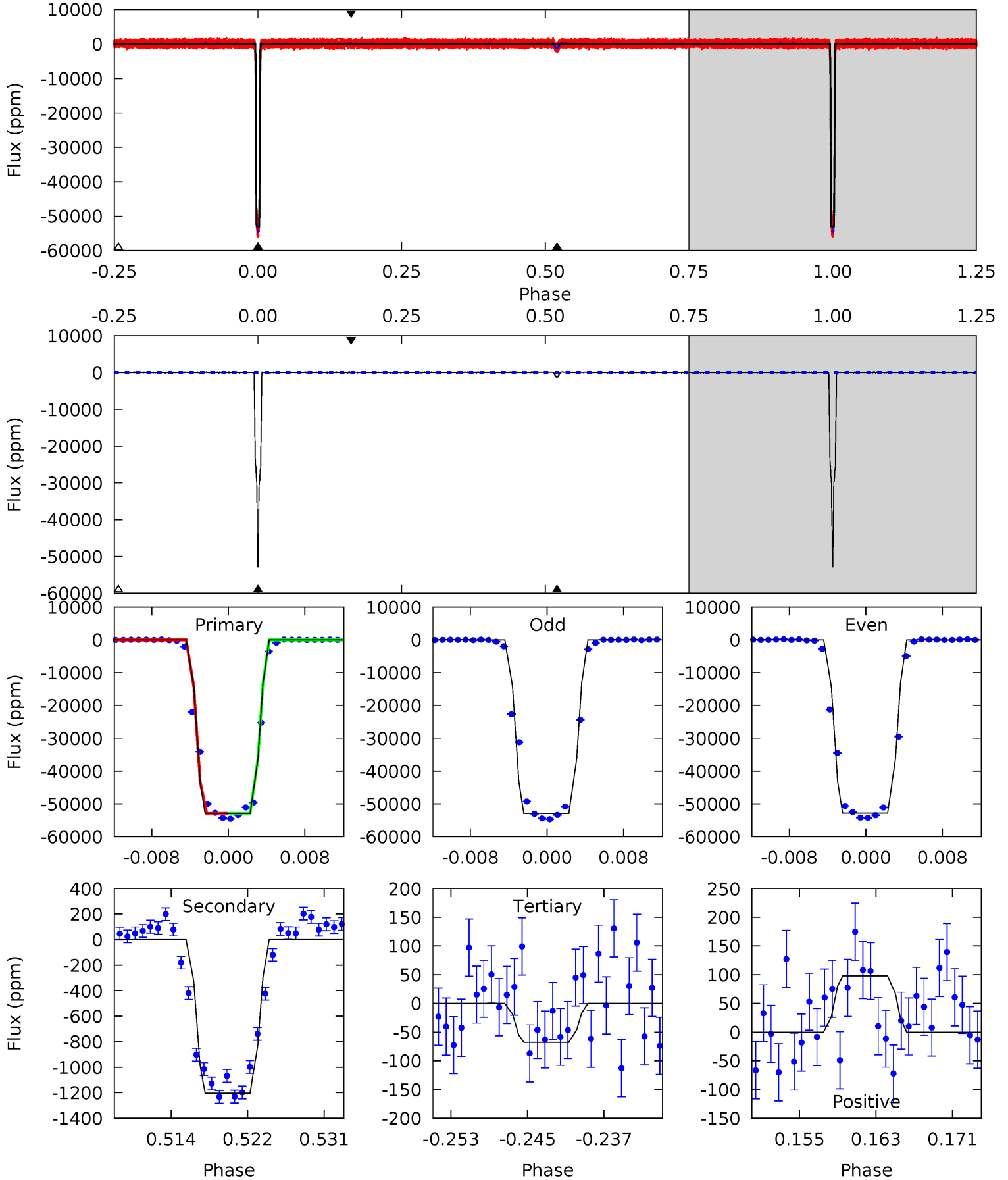
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3401	79.9	3.24	4.21	5.01	2.54	1.78	3398	3397	76.6	75.6	0.13	1.00	0.00	0



Alt Model-Shift Uniqueness Test

005979863-01, P = 16.621934 Days, E = 116.927119 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2197	49.9	2.80	4.06	5.07	2.65	1.19	2194	2193	47.1	45.8	2.41	1.00	0.00	0.69



Stellar Parameters For KIC 005979863

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5949^{+177}_{-195}	$4.451^{+0.101}_{-0.174}$	$-0.520^{+0.300}_{-0.300}$	$0.907^{+0.242}_{-0.130}$	$0.848^{+0.105}_{-0.070}$	$1.600^{+0.714}_{-0.756}$
	+3%/-3%	+2%/-4%	+58%/-58%	+27%/-14%	+12%/-8%	+45%/-47%
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 005979863-01 / KOI 6018.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-1286 ± 16	$22.67^{+3.15}_{-1.97}$	1015^{+70}_{-58}	3030^{+50}_{-64}	20^{+4}_{-5}
Alt.	-1203 ± 24	$23.09^{+3.47}_{-1.95}$	1012^{+73}_{-53}	2973^{+52}_{-56}	18^{+3}_{-4}

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

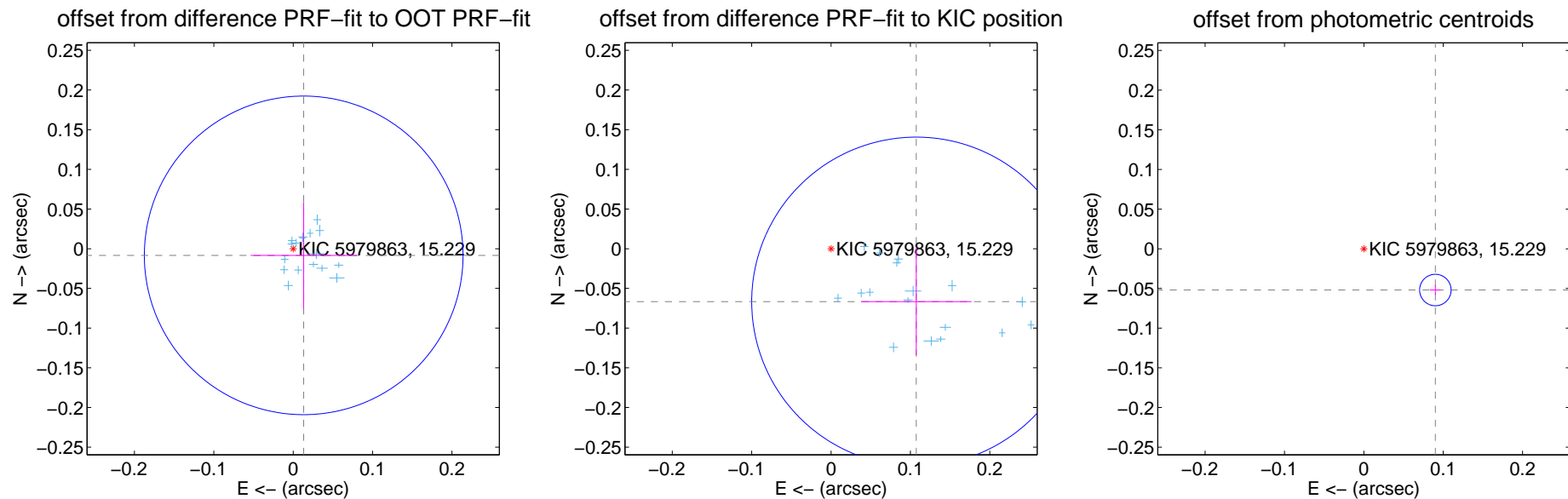
DV Centroid Data

Supplemental centroid analysis for 005979863-01. Kepler magnitude: 15.23. Transit SNR 1884.40

There are 17 quarters with good PRF difference image offsets

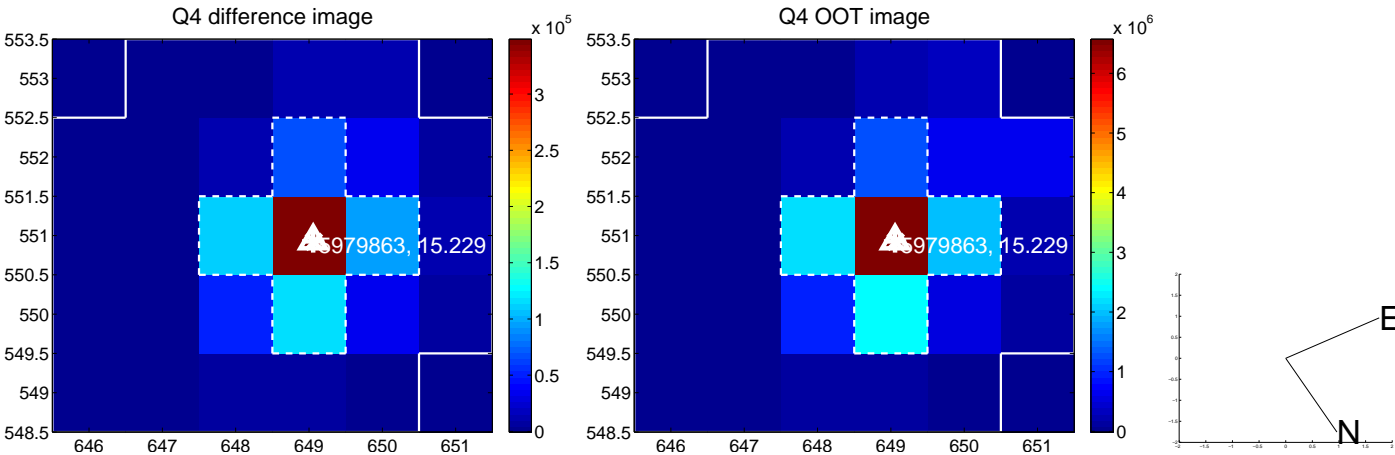
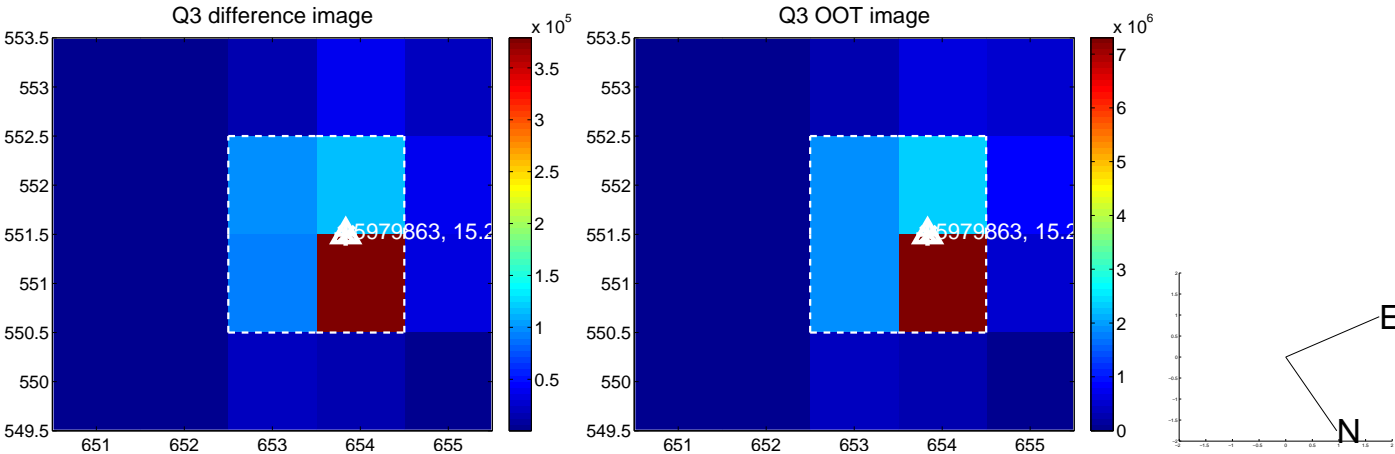
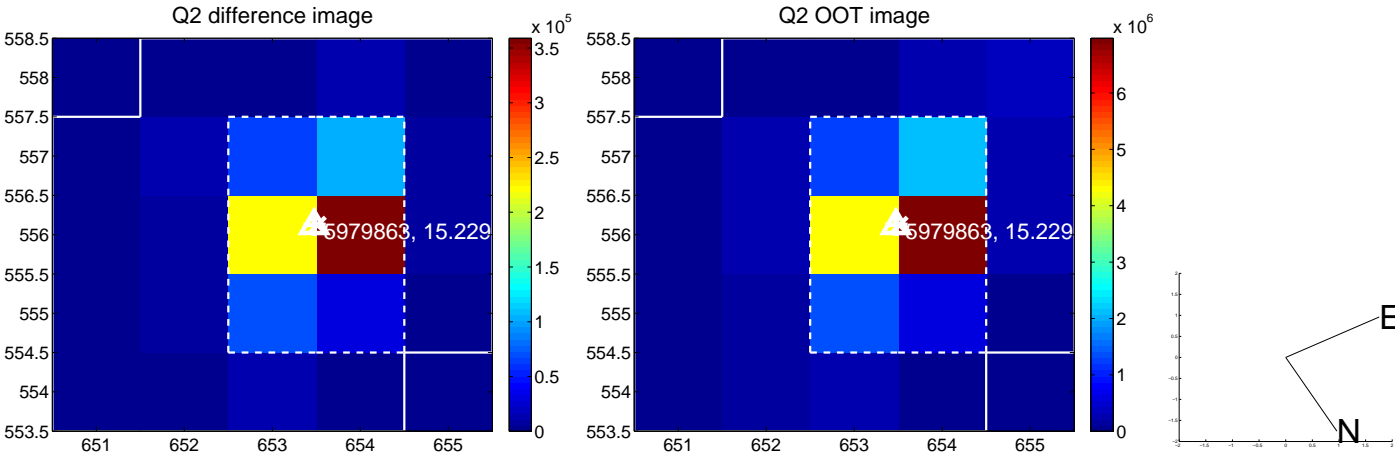
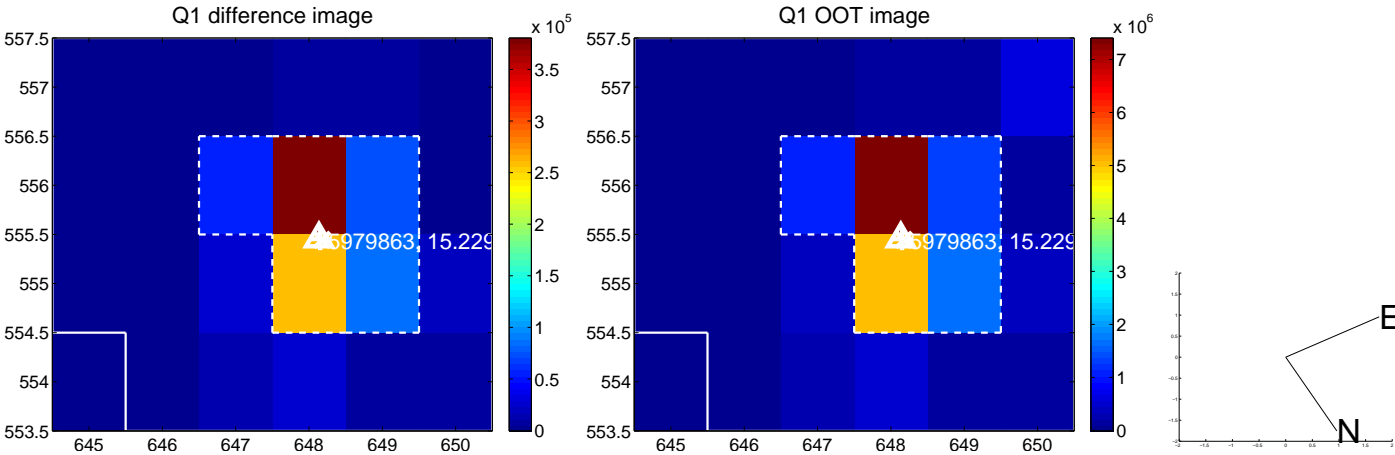
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.016 ± 0.067	0.23	-0.013 ± 0.067	-0.008 ± 0.067
PRF-fit source offset from KIC position	0.126 ± 0.069	1.83	-0.107 ± 0.070	-0.067 ± 0.068
photometric centroid source offset	0.10 ± 0.01	15.74	-0.09 ± 0.01	-0.05 ± 0.01

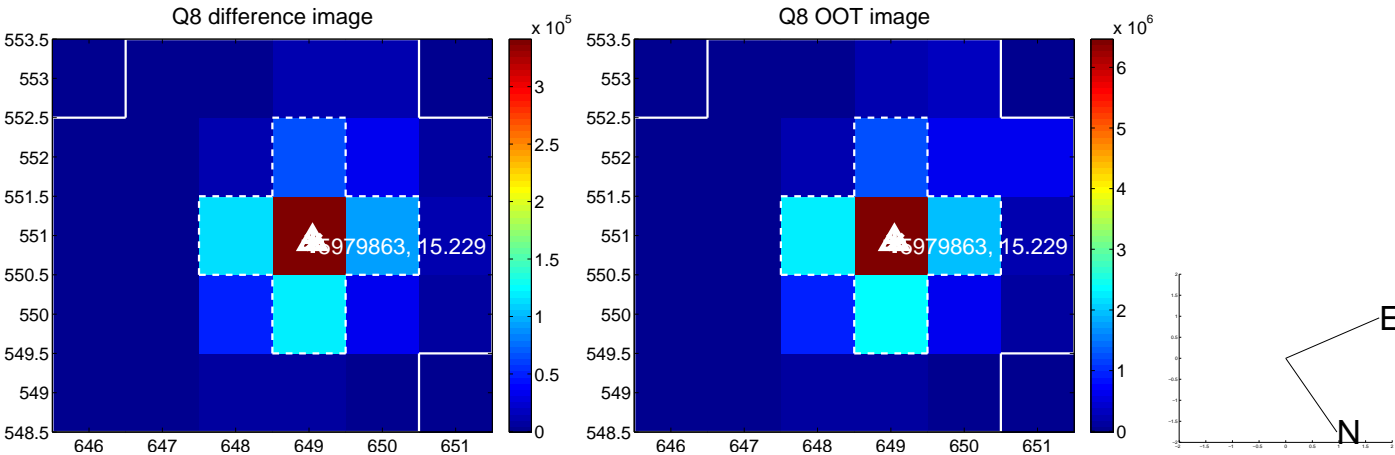
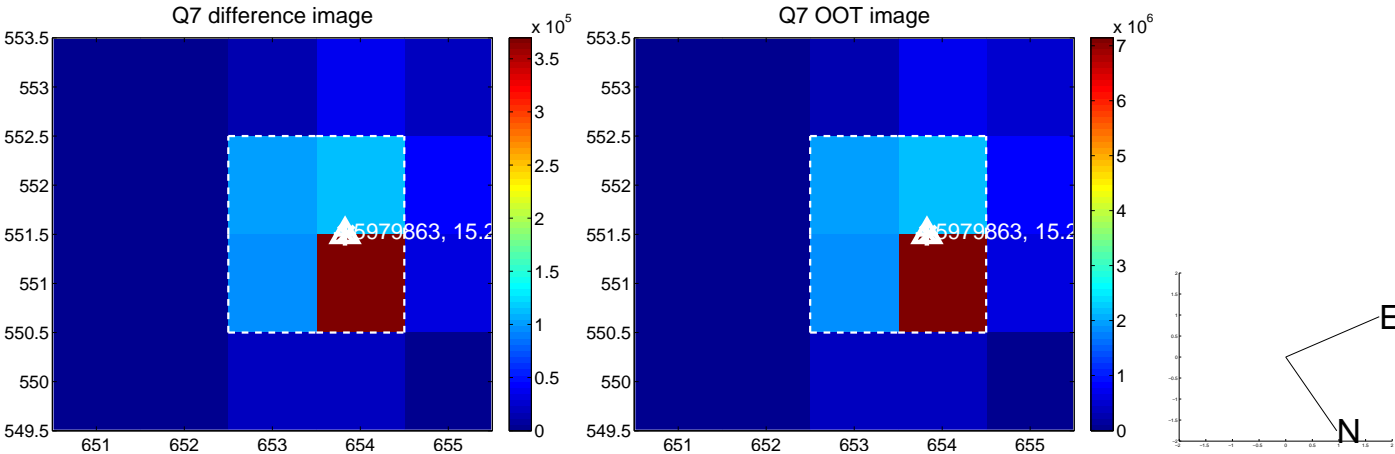
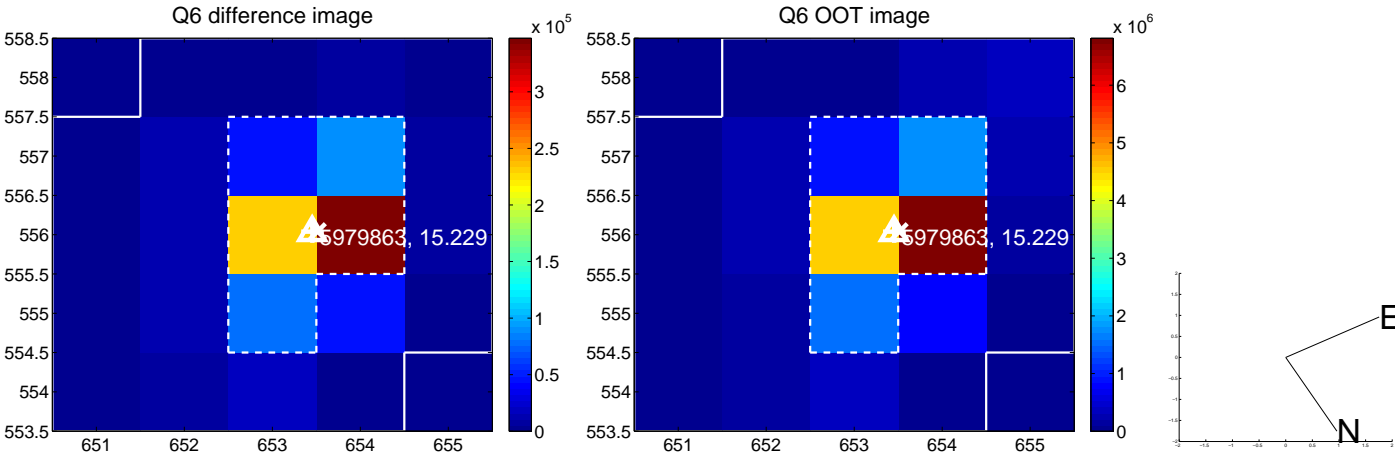
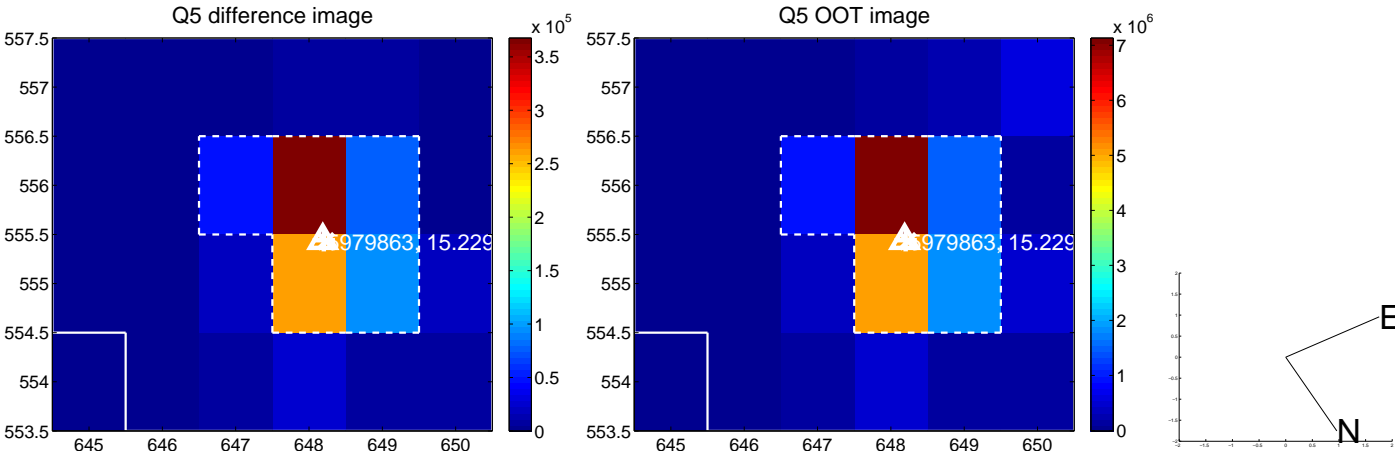


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

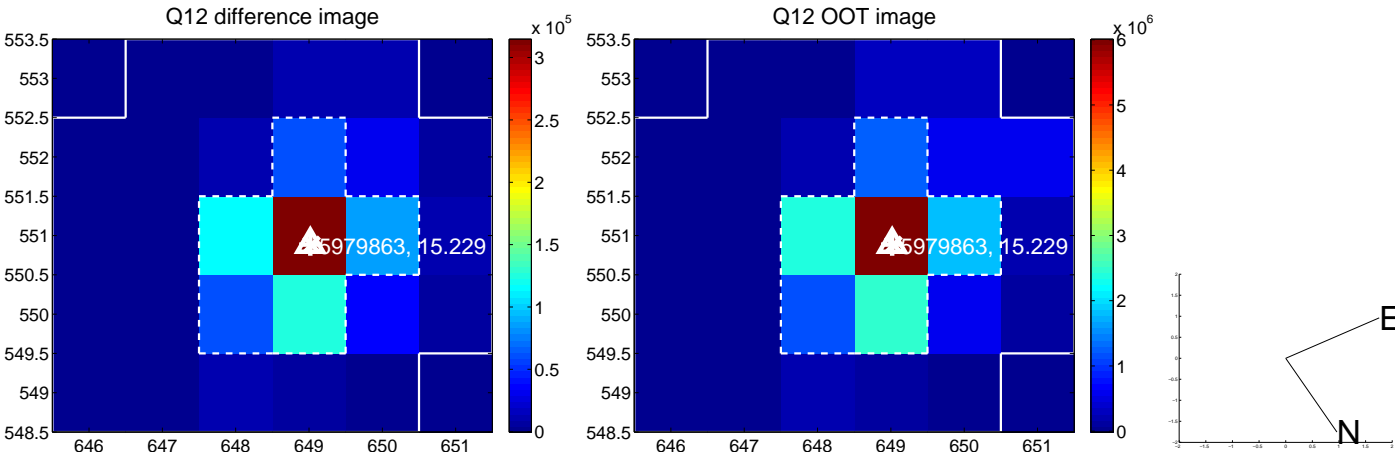
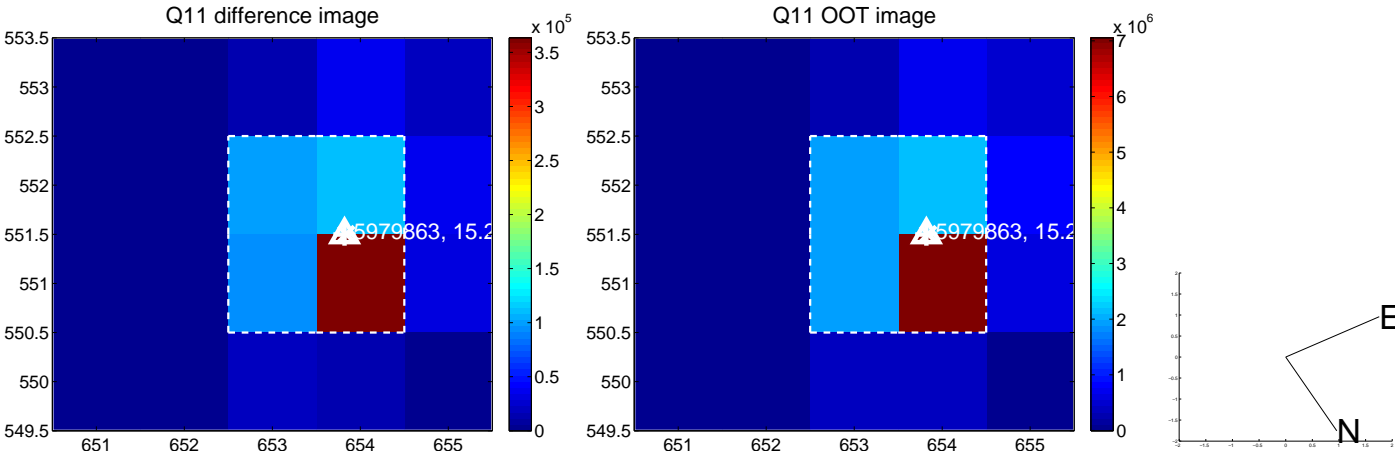
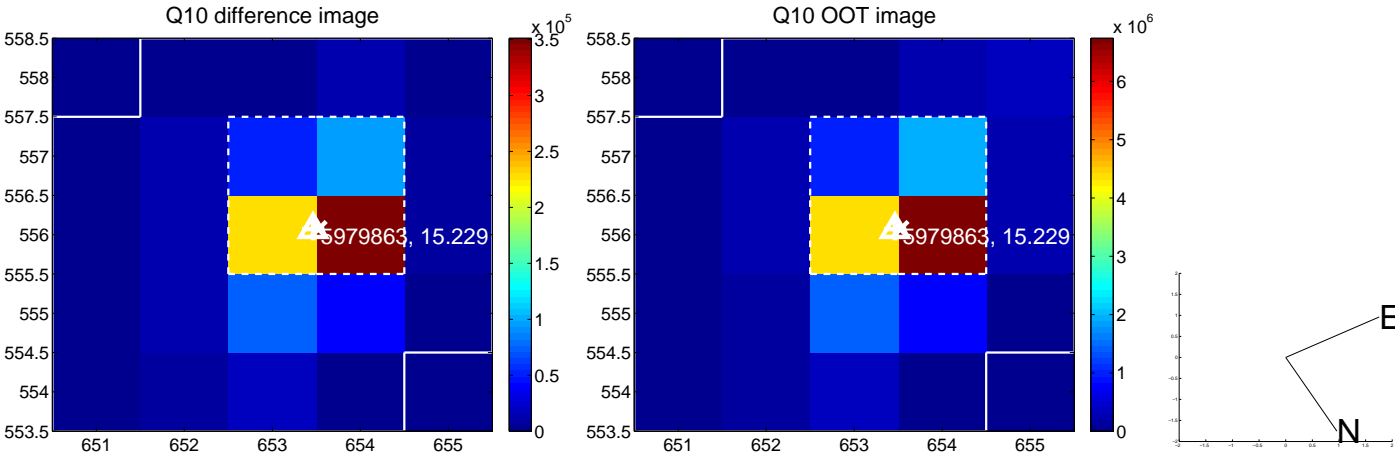
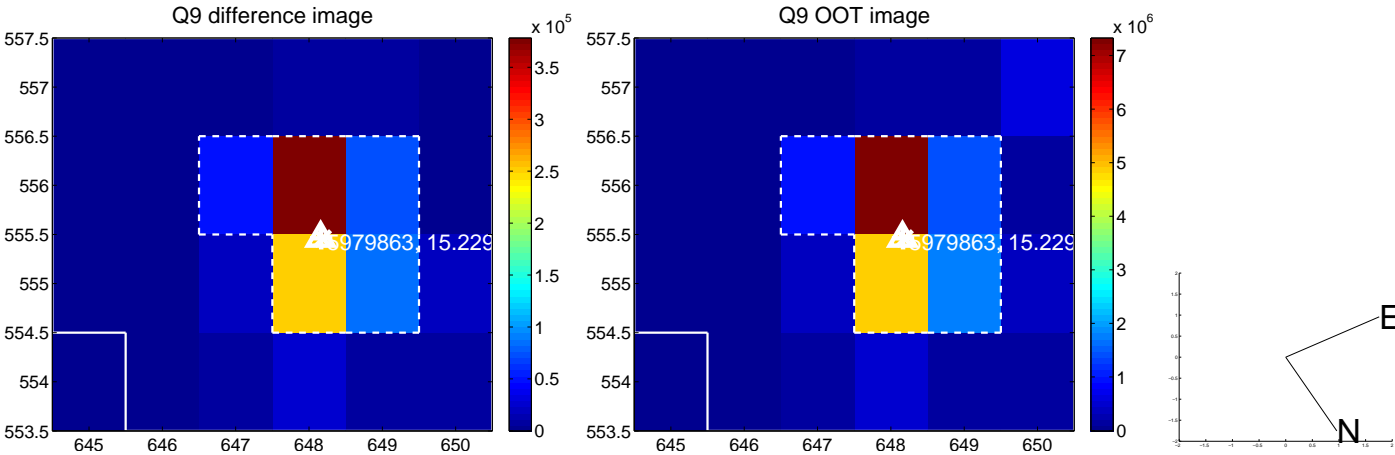
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



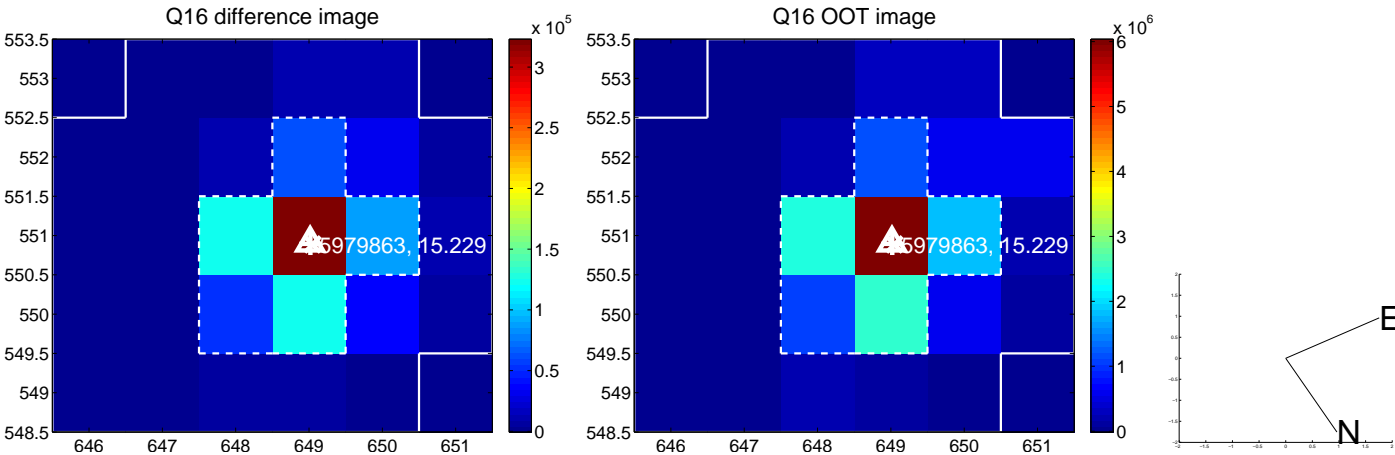
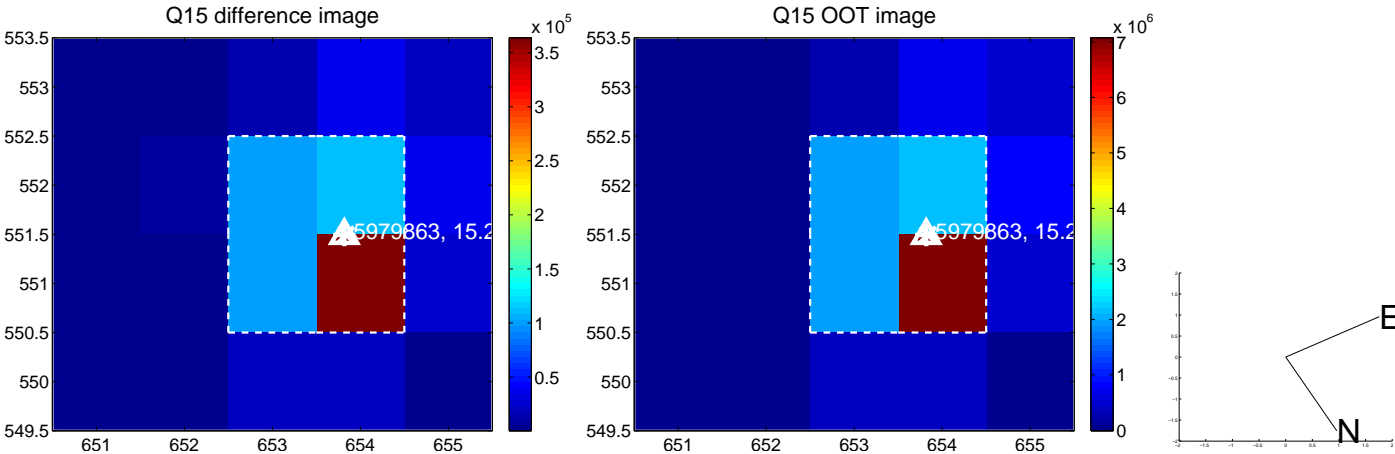
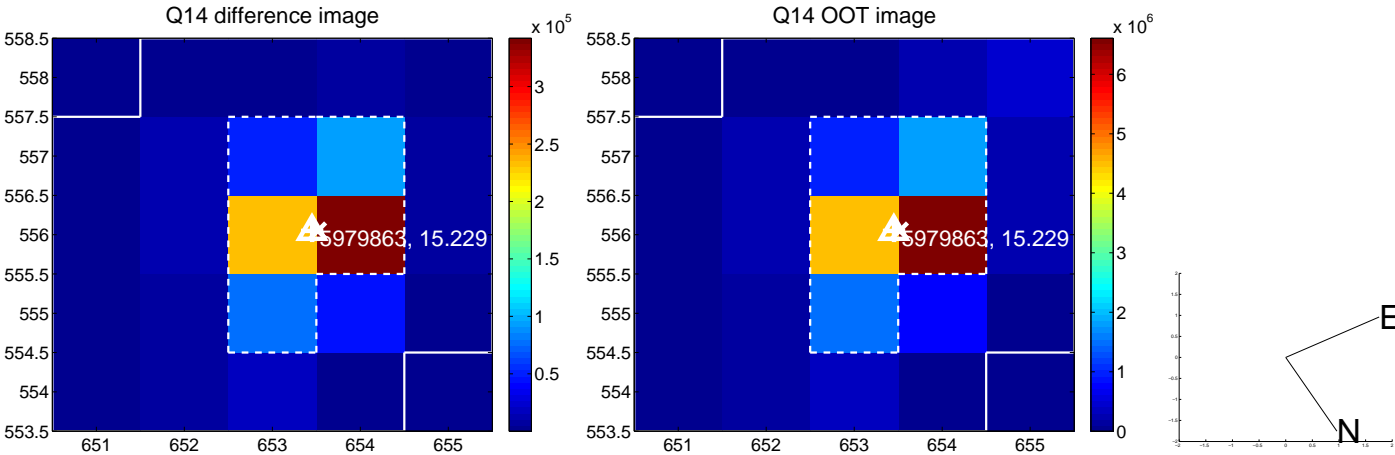
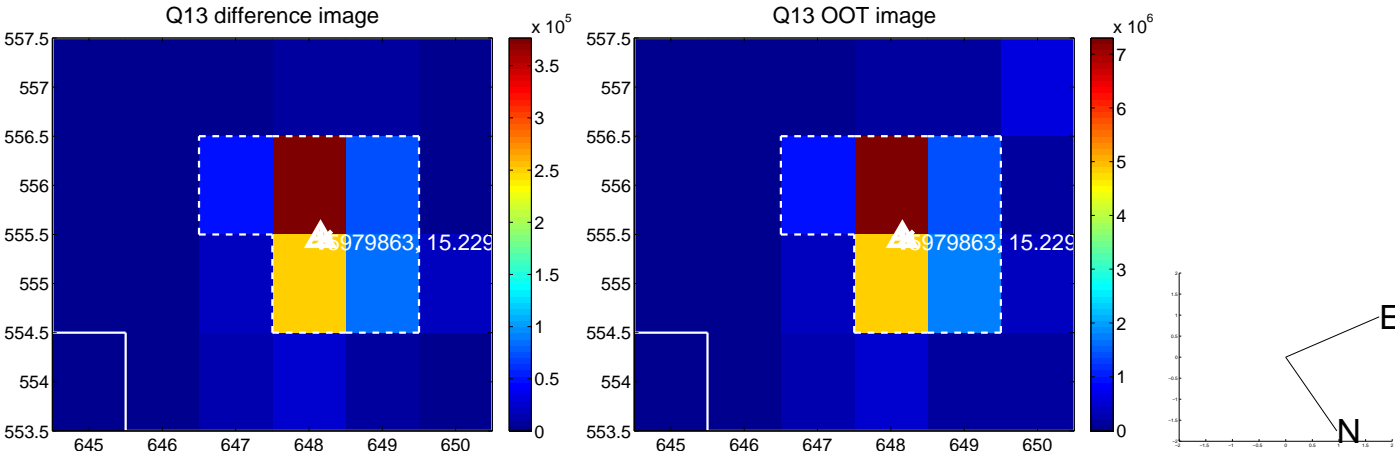
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



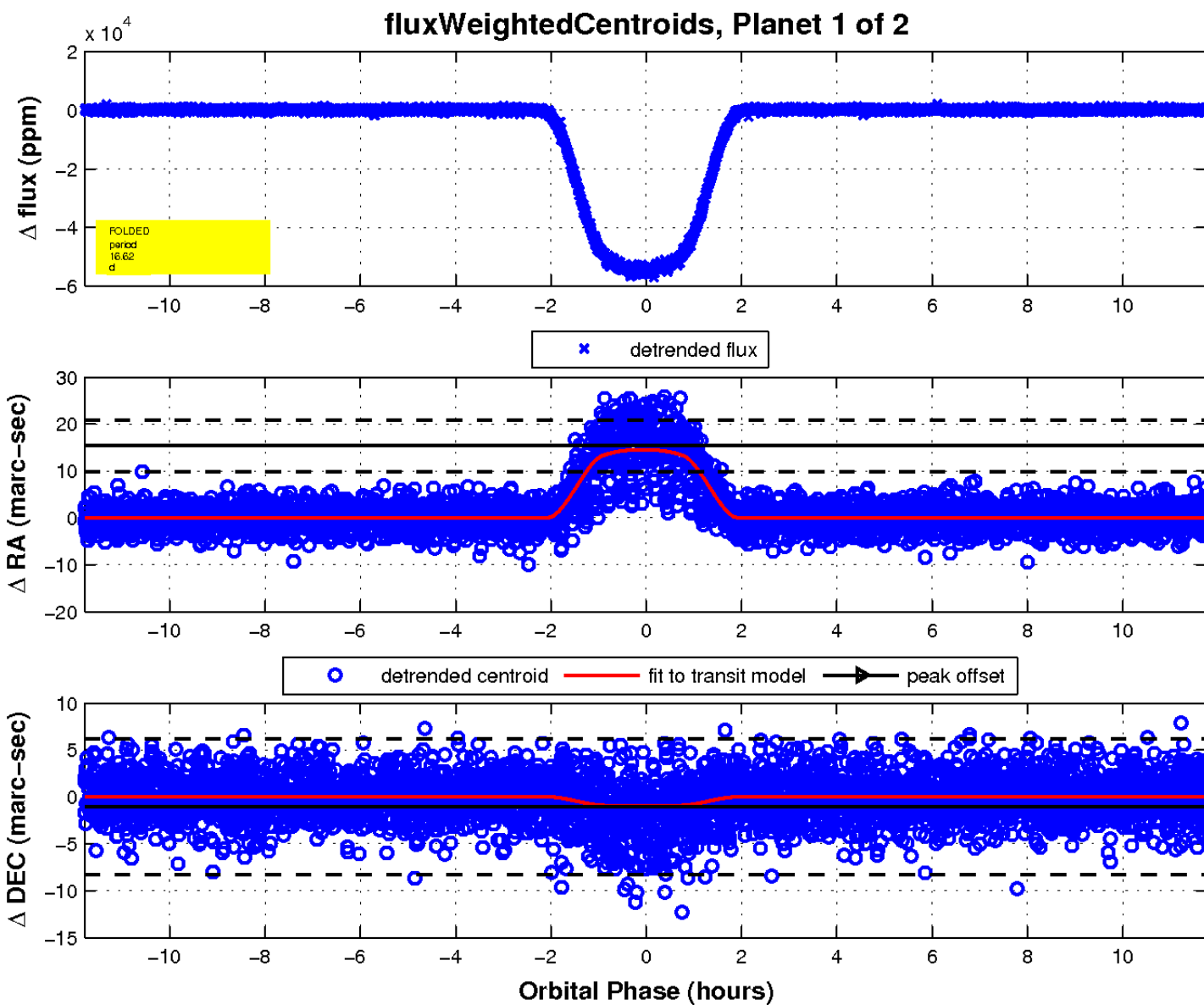
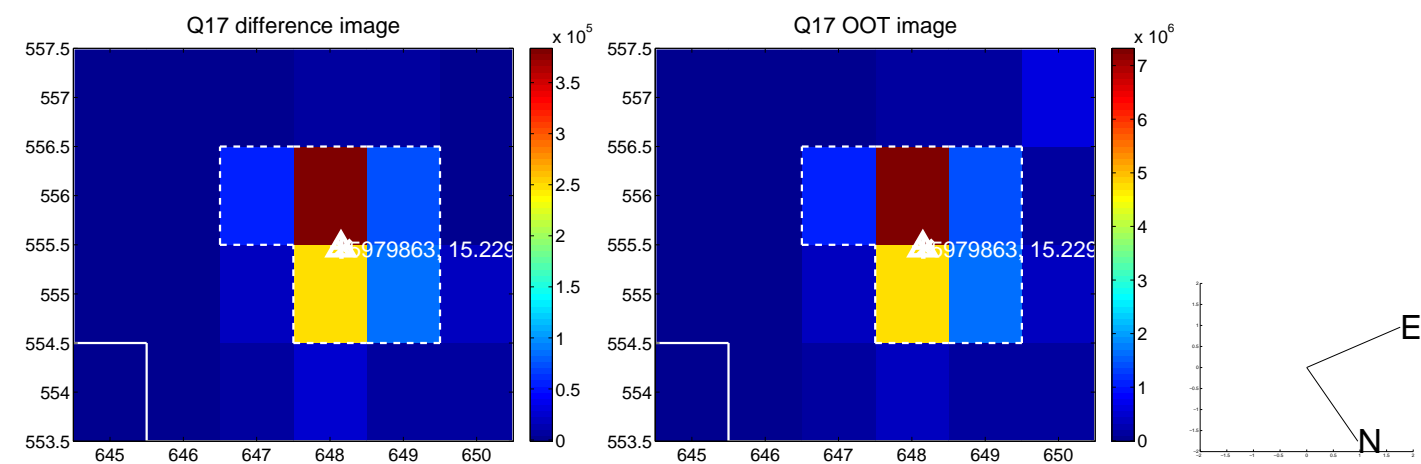
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

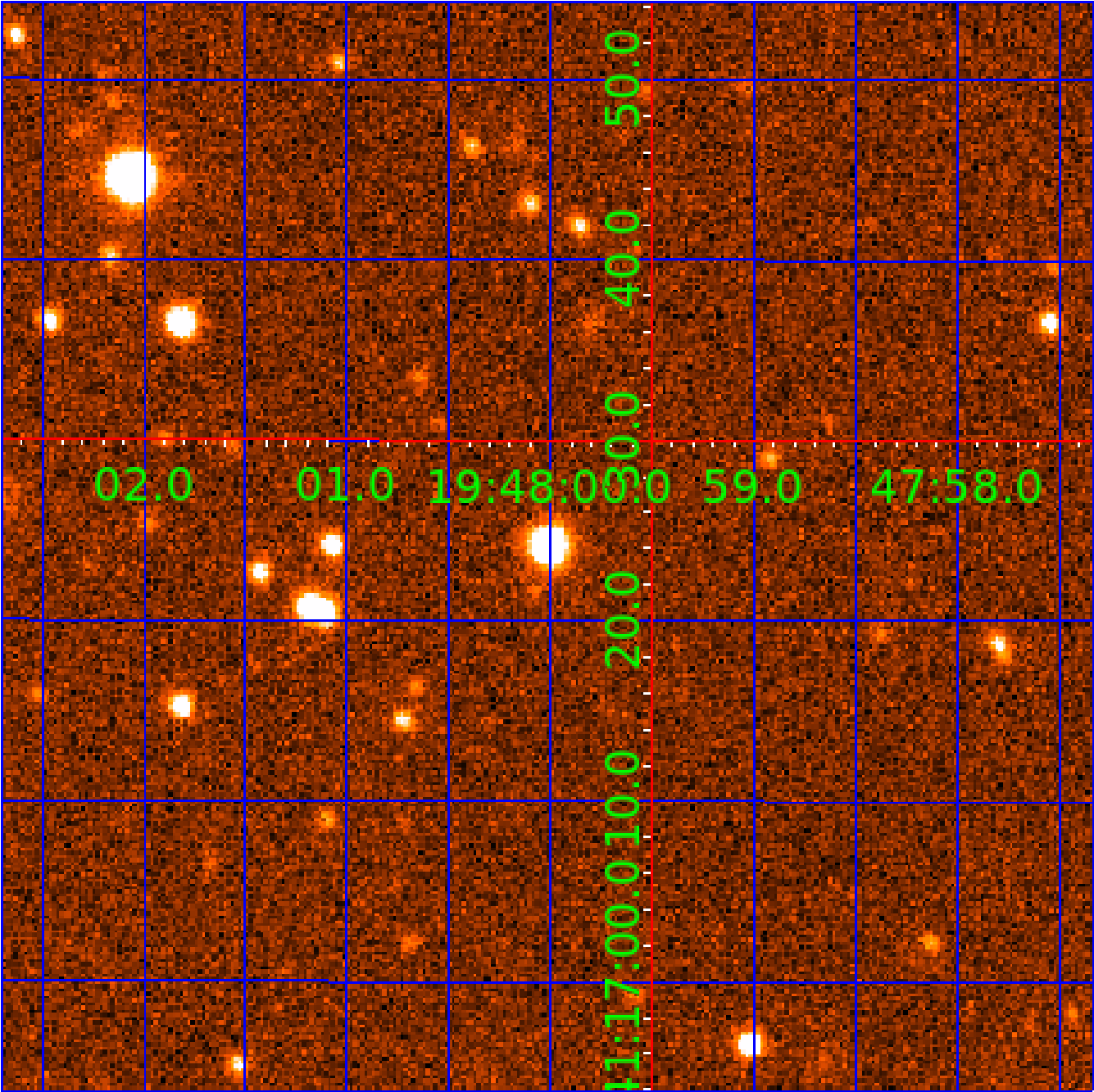


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005979863

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})
005979863-01	OBS	6018.01	16.621854	133.552598	54840.6	3.929	2090.2	1884.4	0.91	5949	22.30	63.41
005979863-02	OBS	No	16.621852	142.199100	1319.7	4.368	47.5	52.4	0.91	5949	4.07	63.41

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005979863-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_DV—MOD_SEC_ALT—HAS_SEC_TCE
005979863-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE

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.

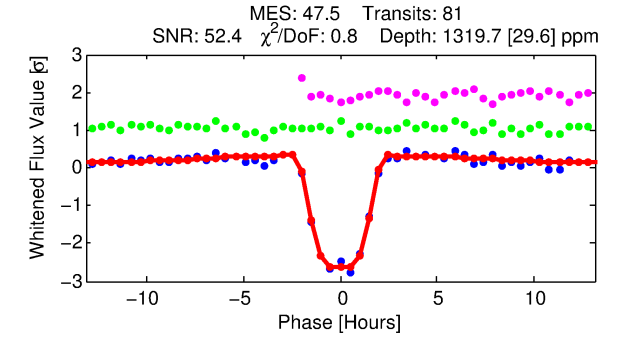
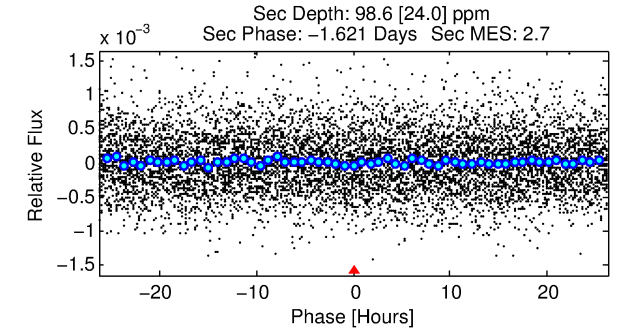
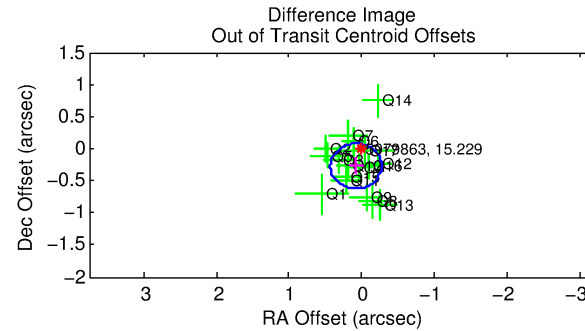
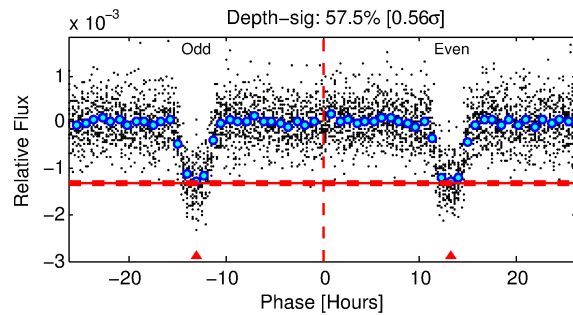
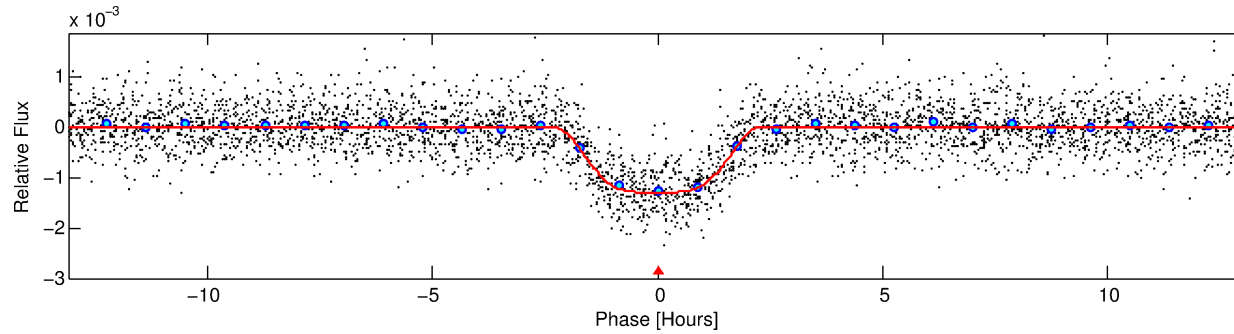
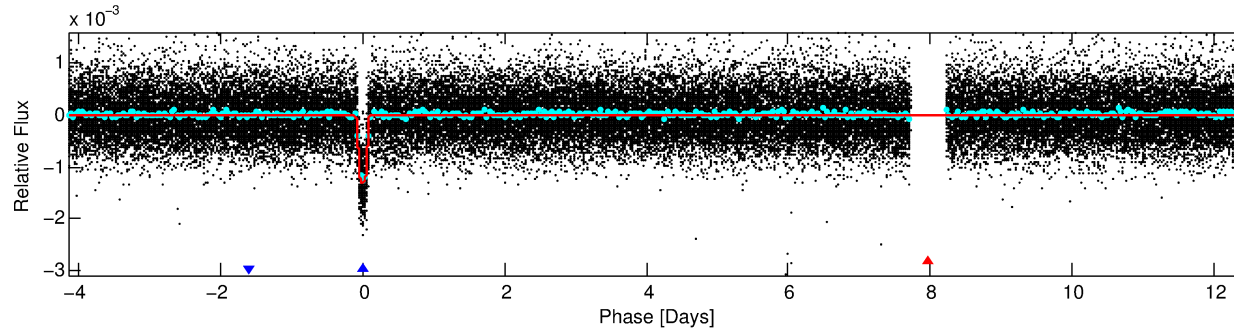
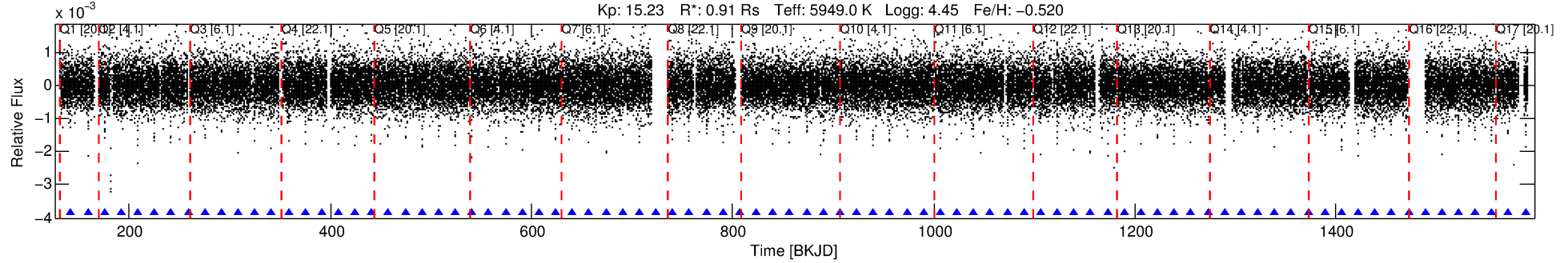
Ephemeris Match Information For 005979863-02

No Significant Match Found

DV One-Page Summary

KIC: 5979863 Candidate: 2 of 2 Period: 16.622 d
KOI: K06018 Corr: No Ephemeris Match

Kp: 15.23 R*: 0.91 Rs Teff: 5949.0 K Logg: 4.45 Fe/H: -0.520



DV Fit Results:

Period = 16.62185 [0.00004] d
Epoch = 142.1991 [0.0018] BKJD
Rp/R* = 0.0411 [0.0007]
a/R* = 12.98 [0.63]
b = 0.94 [0.01]
Seff = 63.41 [21.98]
Teq = 720 [62] K
Rp = 4.07 [1.09] Re
a = 0.1207 [0.0268] AU
Ag = 47.65 [19.26] [2.42σ]
Teffp = 2923 [203] K [10.35σ]

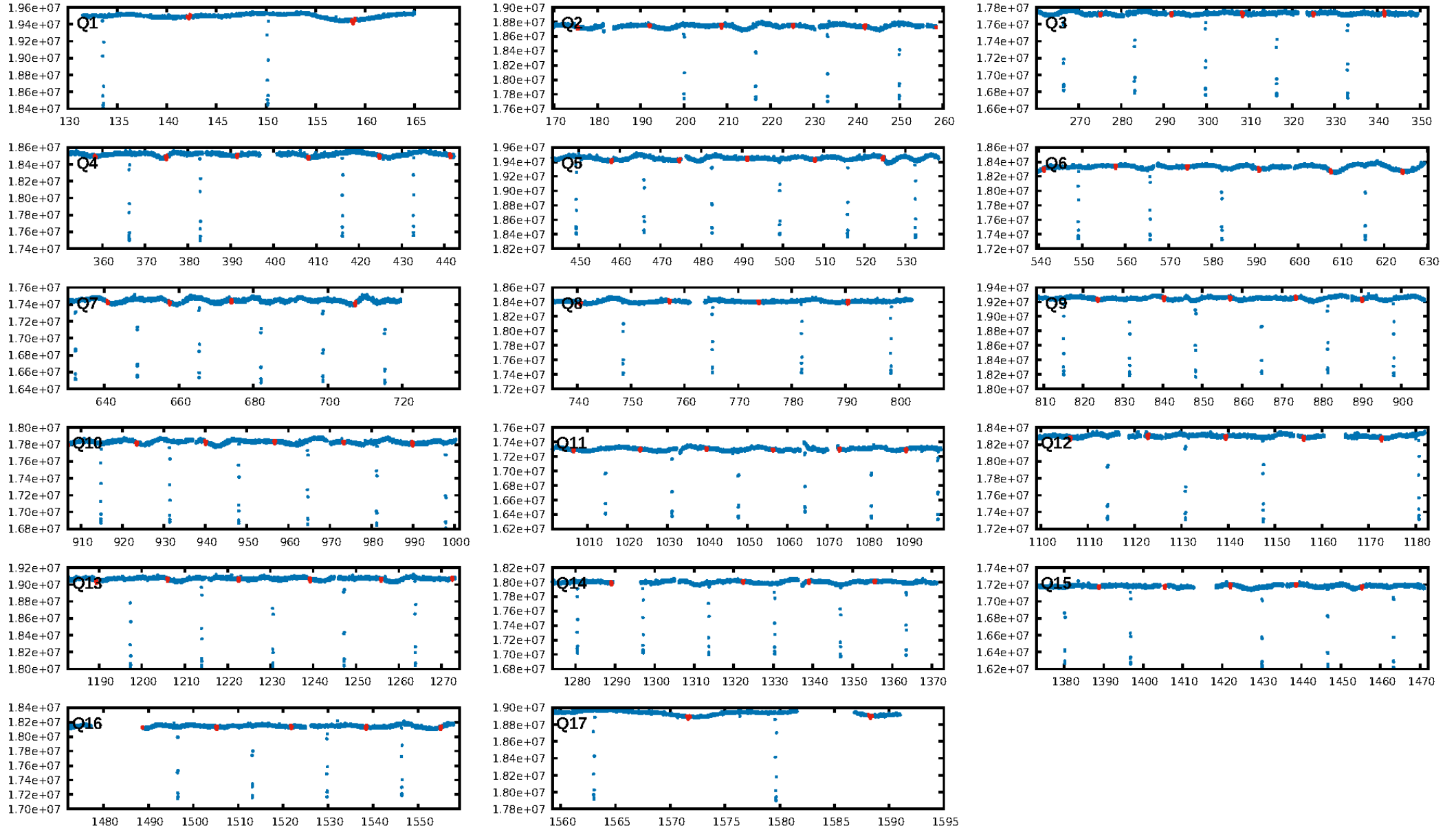
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: 88.9%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 0.00e+00
RollingBand-fgt: 1.00 [77/77]
GhostDiagnostic-chr: 4.579
Centroid-sig: 7.6%
Centroid-so: 0.419 arcsec [1.73σ]
OotOffset-rm: 0.284 arcsec [2.42σ]
KicOffset-rm: 0.329 arcsec [2.87σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
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DiffImageOverlap-fno: 1.00 [17/17]

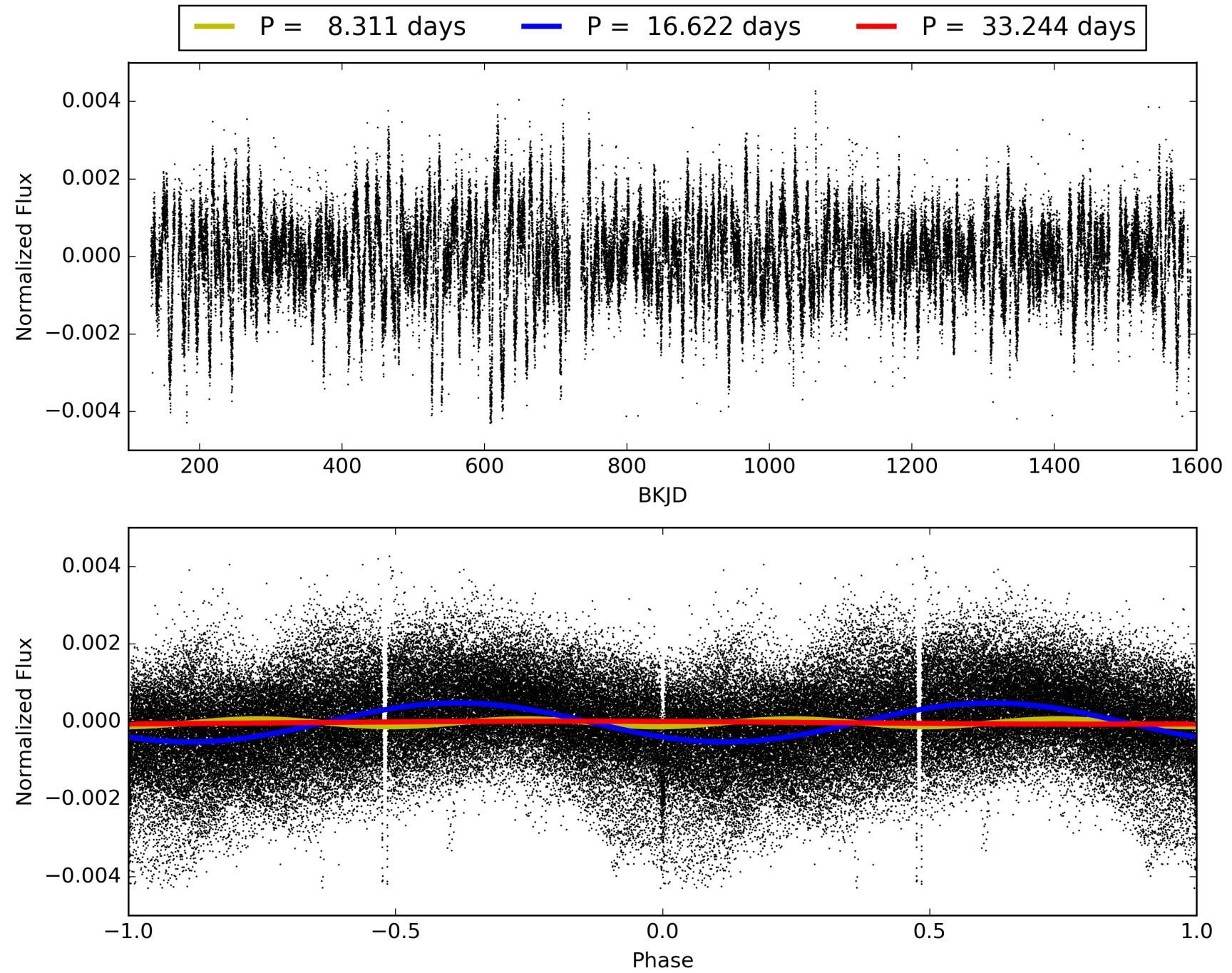
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:37:23 Z

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

TCE 005979863-02, PDC Light Curves

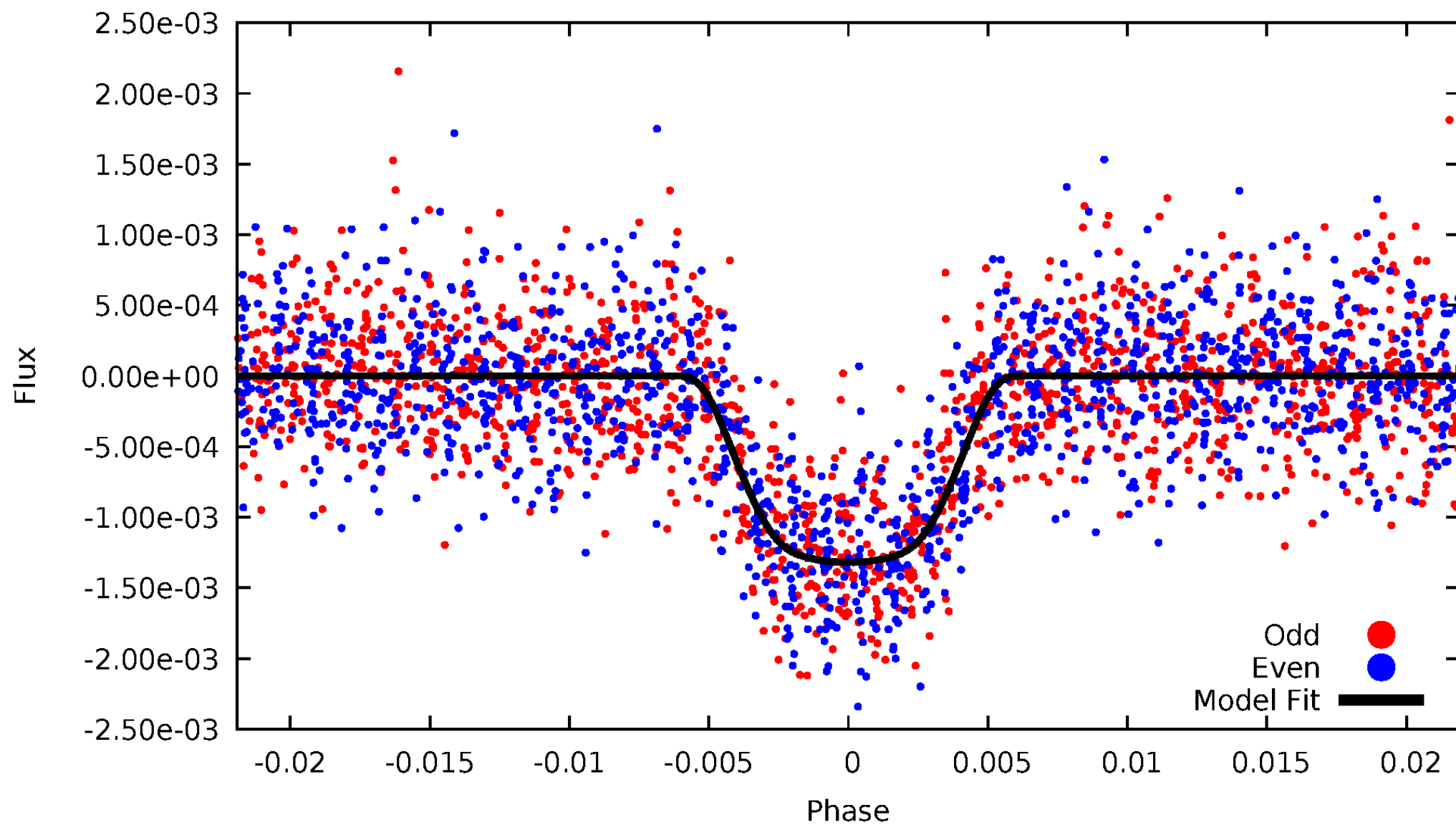


TCE 005979863-02



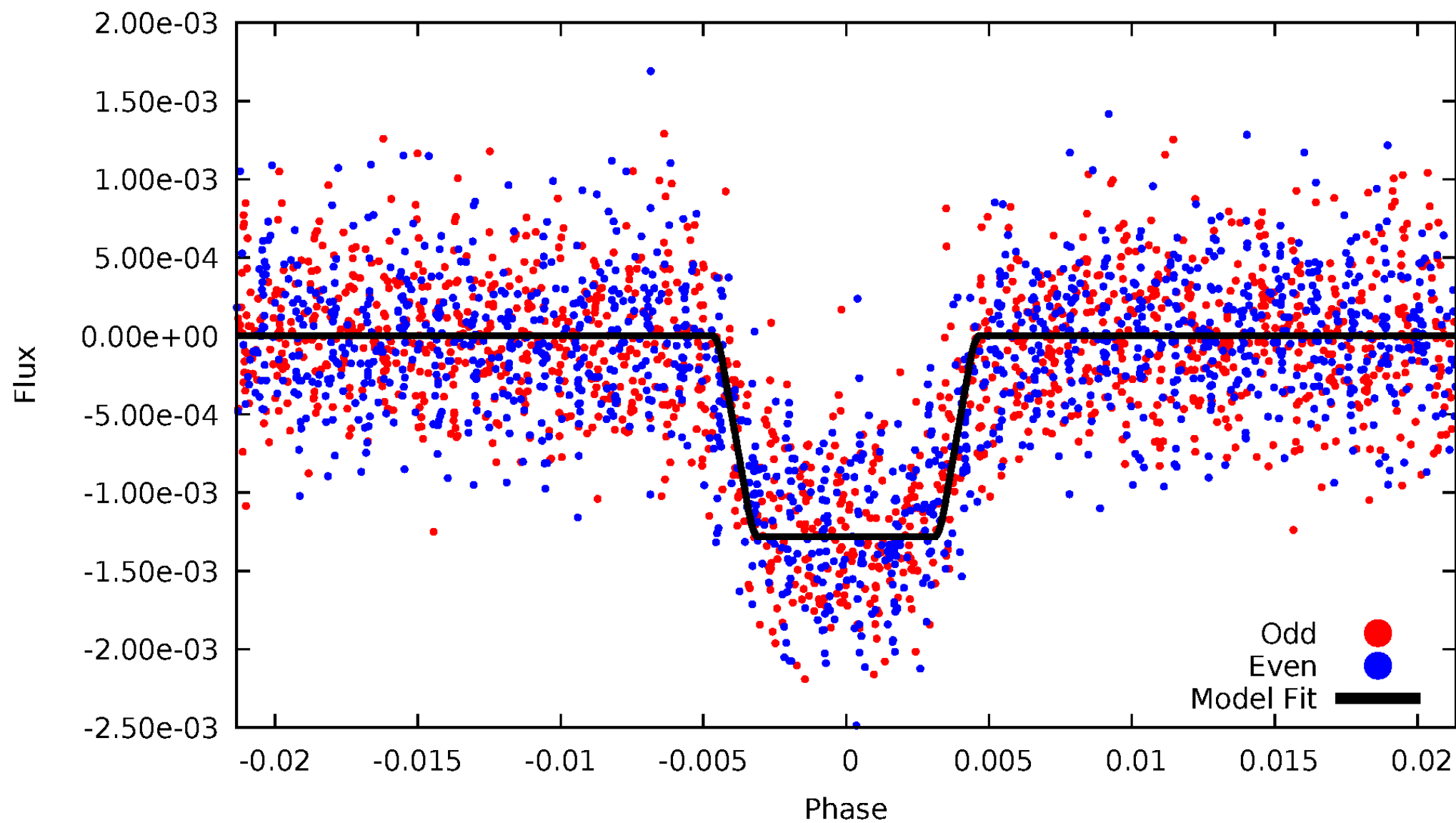
DV Odd/Even

TCE 005979863-02



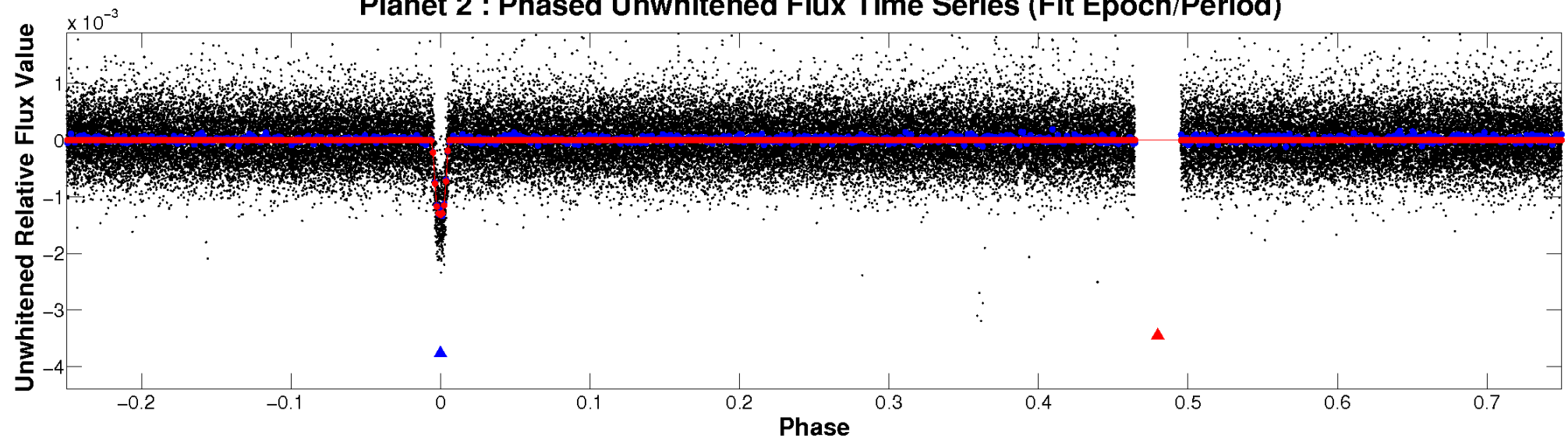
ALT Odd/Even

TCE 005979863-02

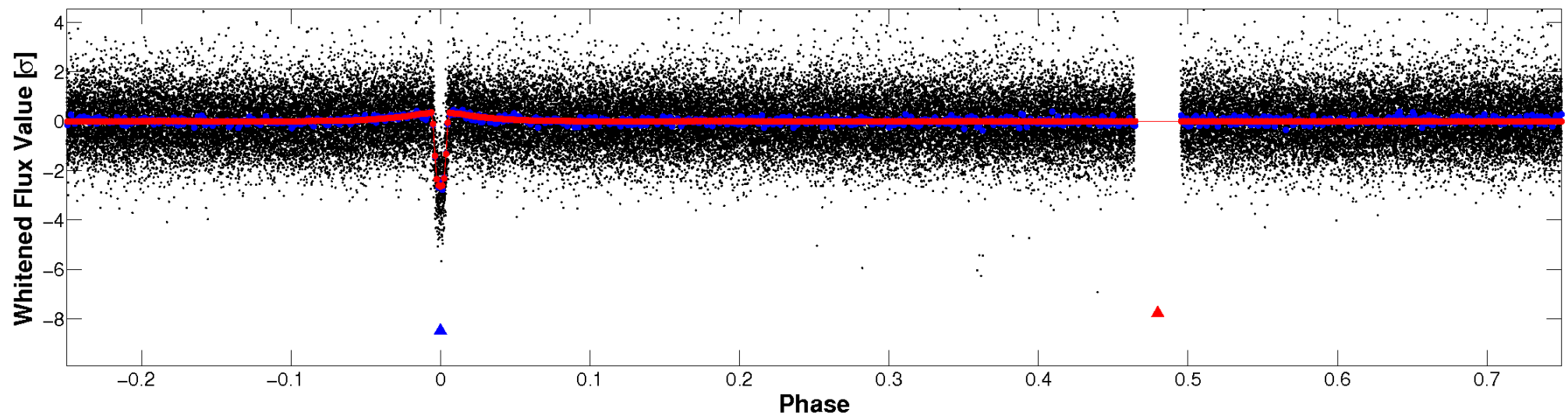


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

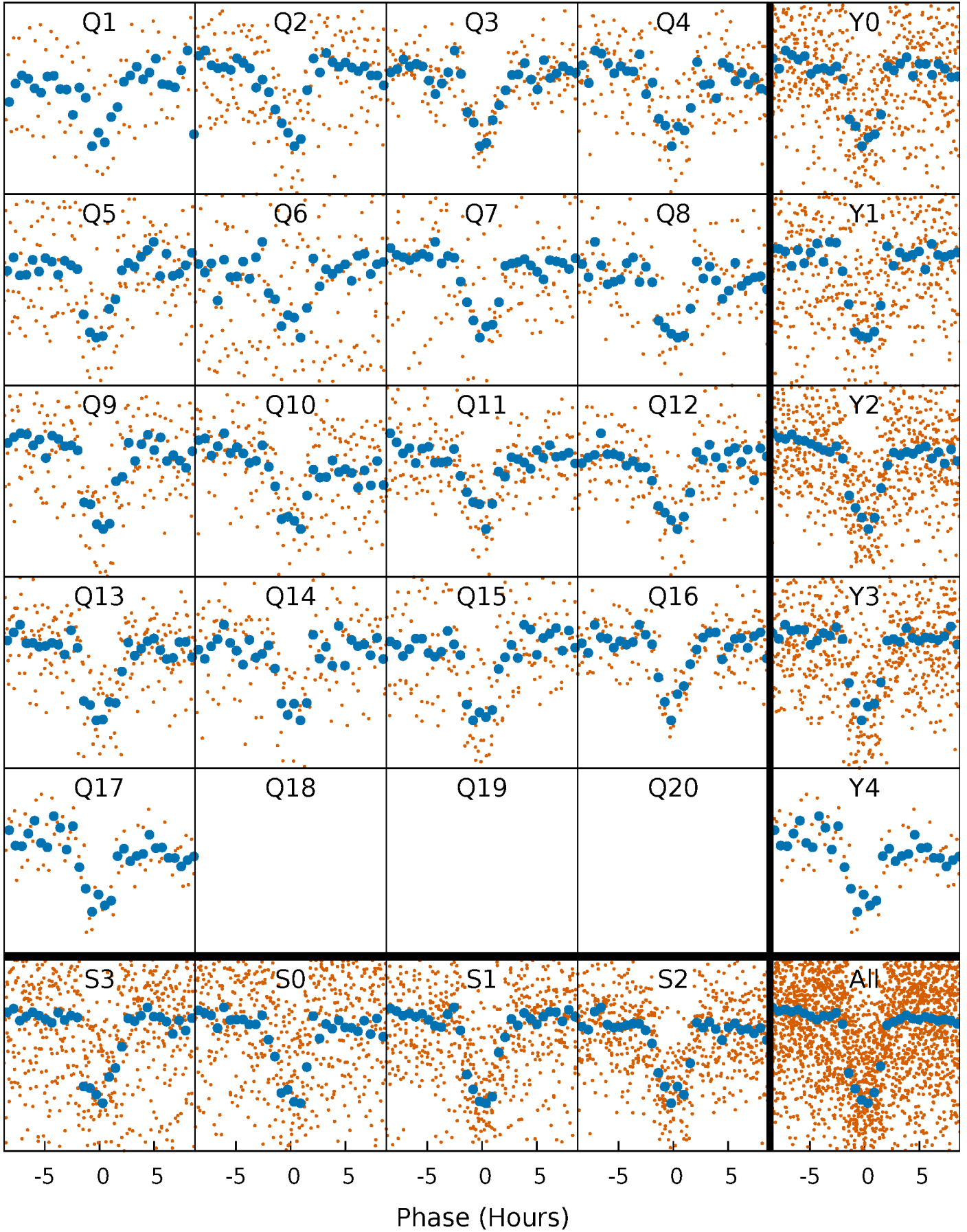


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



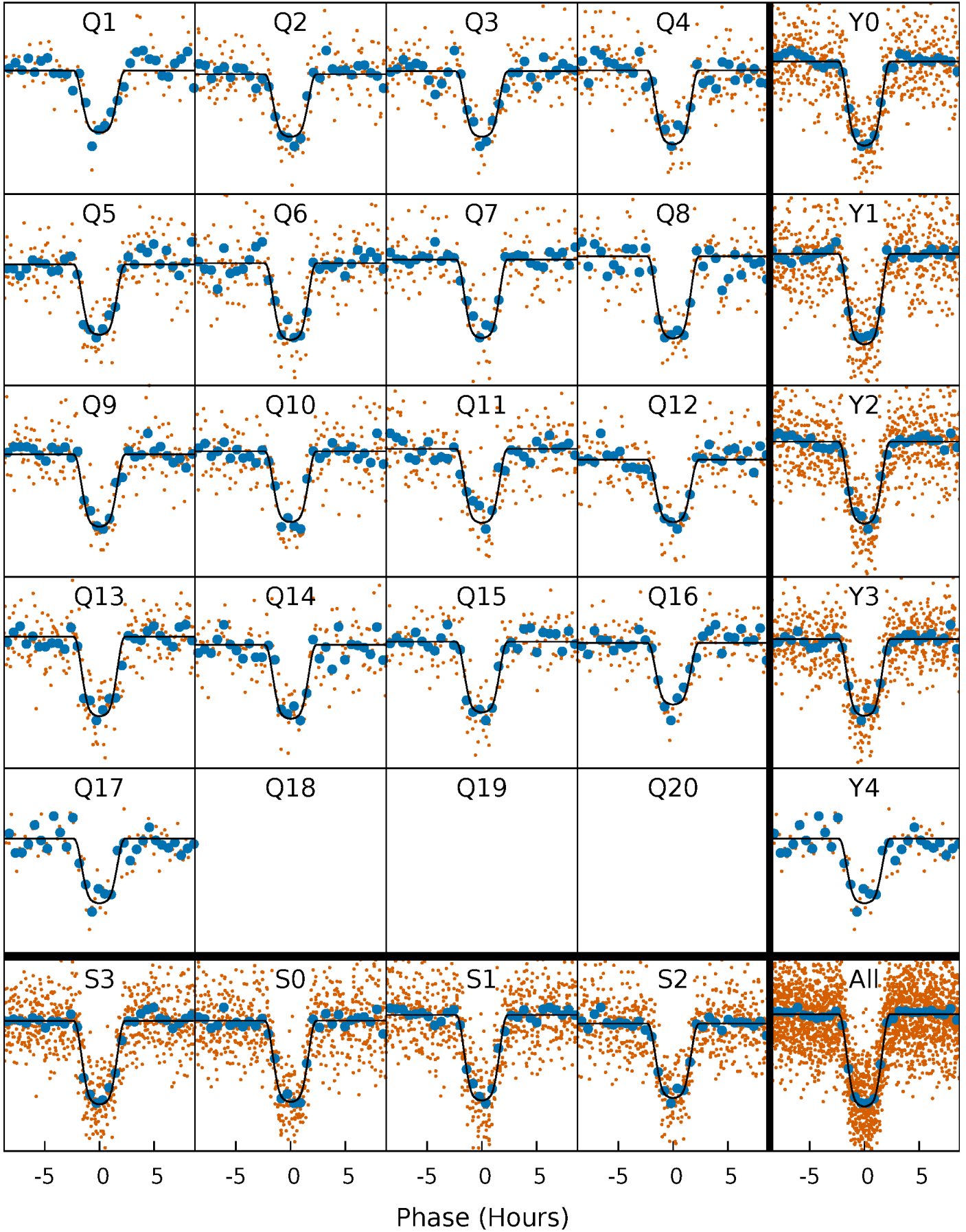
PDC Quarter-Phased Transit Curves

TCE 005979863-02 P= 16.621852 Days $T_0=142.199100$ (BKJD)



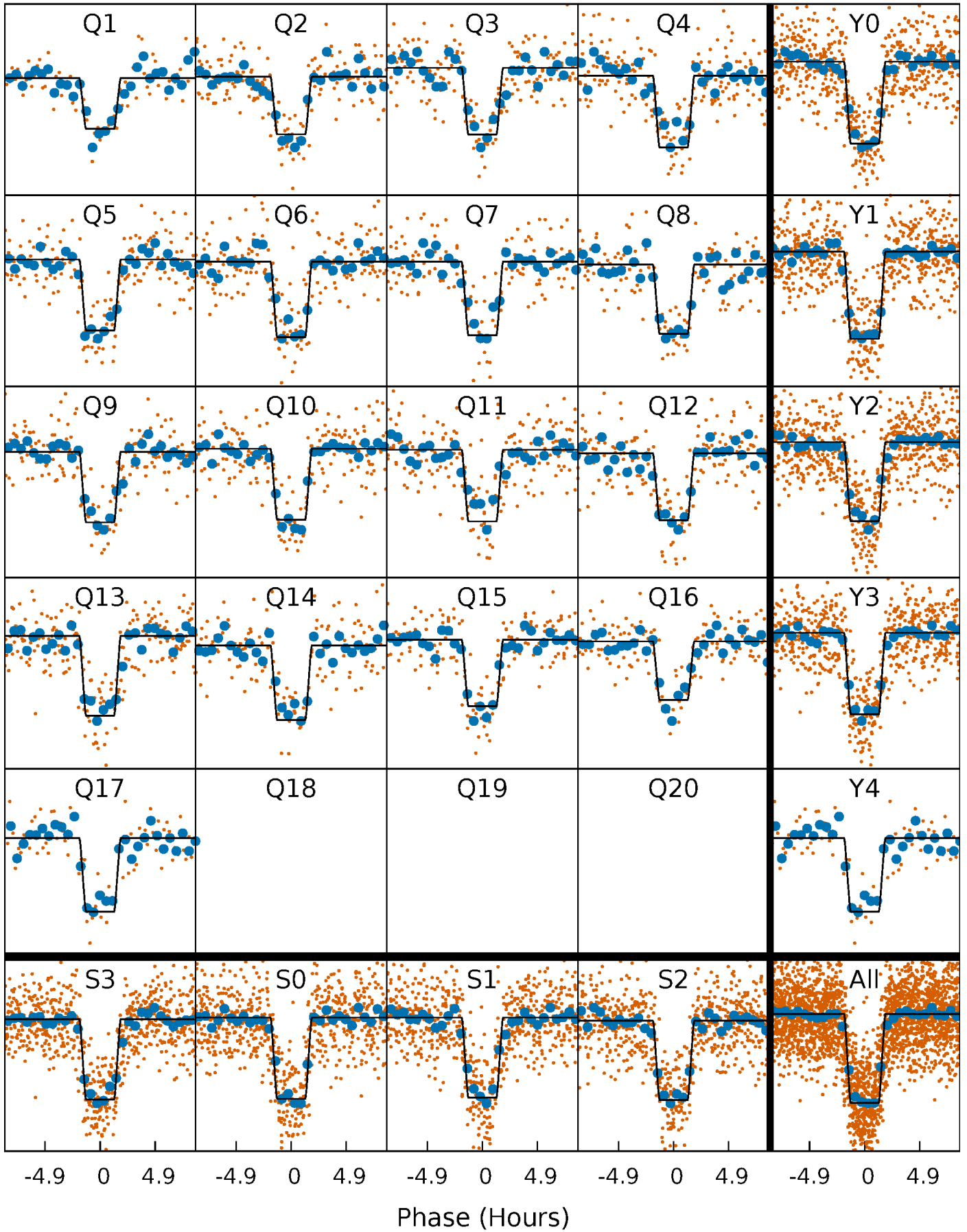
DV Quarter-Phased Transit Curves

TCE 005979863-02 P= 16.621852 Days $T_0=142.199100$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

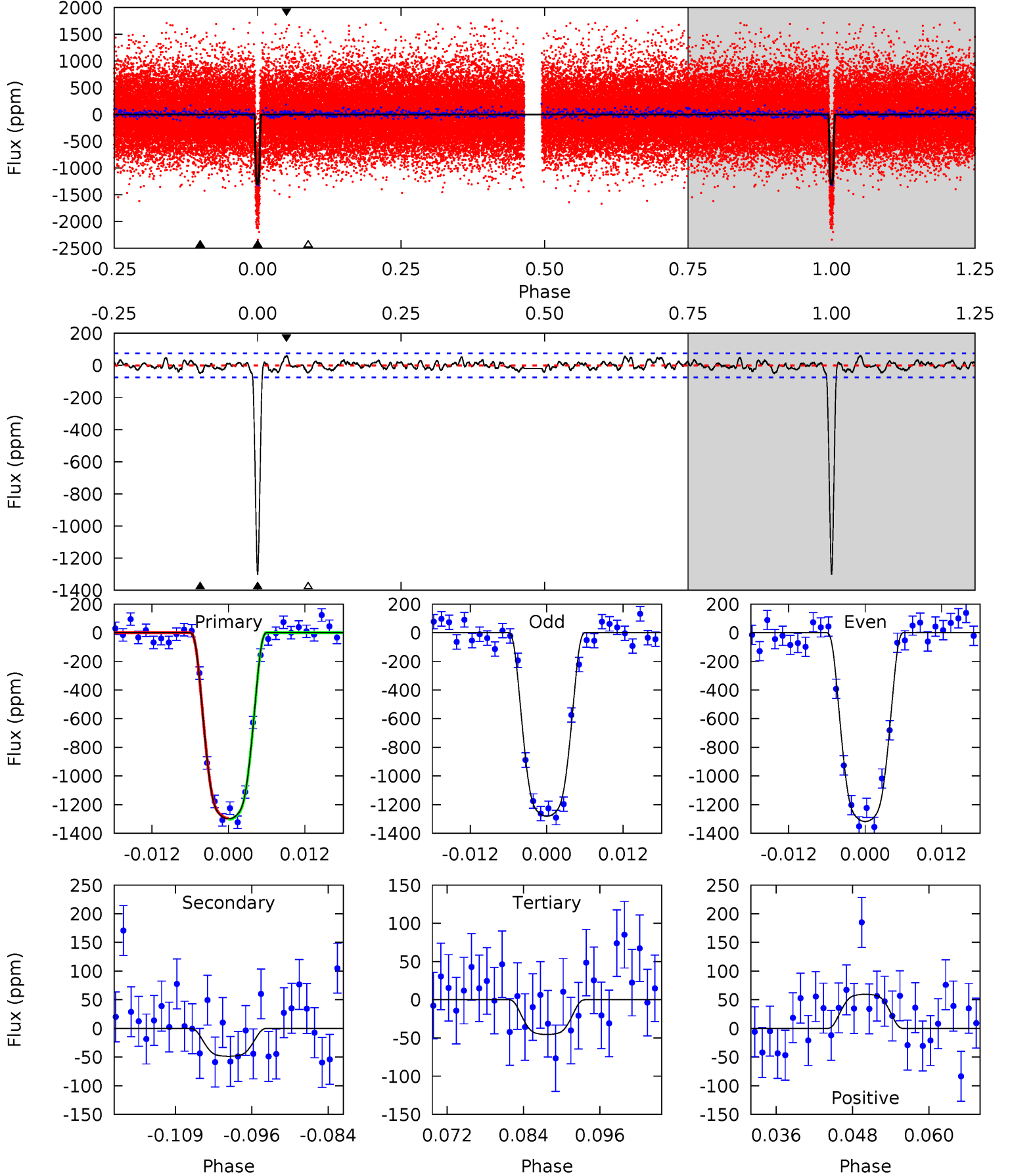
TCE 005979863-02 P= 16.621849 Days $T_0=142.198981$ (BKJD)



DV Model-Shift Uniqueness Test

005979863-02, $P = 16.621852$ Days, $E = 125.577248$ Days

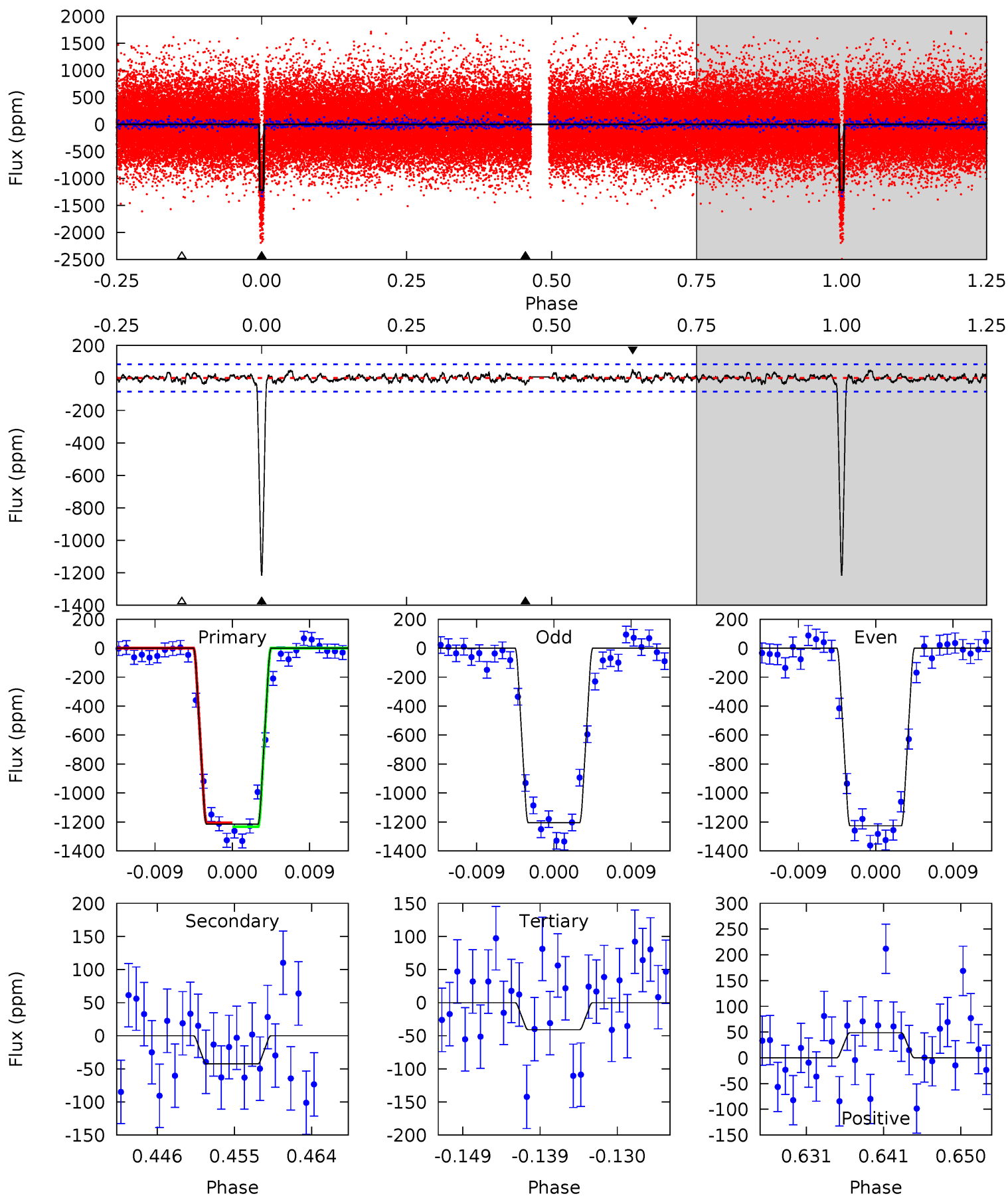
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
86.5	3.24	3.03	3.97	4.99	2.51	1.30	83.4	82.5	0.21	-0.73	1.23	0.97	0.04	0.28



Alt Model-Shift Uniqueness Test

005979863-02, $P = 16.621849$ Days, $E = 125.577132$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
72.8	2.55	2.45	2.92	5.04	2.60	0.90	70.4	69.9	0.09	-0.37	0.64	0.97	0.04	0.79



Stellar Parameters For KIC 005979863

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5949^{+177}_{-195}	$4.451^{+0.101}_{-0.174}$	$-0.520^{+0.300}_{-0.300}$	$0.907^{+0.242}_{-0.130}$	$0.848^{+0.105}_{-0.070}$	$1.600^{+0.714}_{-0.756}$
	+3%/-3%	+2%/-4%	+58%/-58%	+27%/-14%	+12%/-8%	+45%/-47%
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 005979863-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-49 ± 15	$4.12^{+0.60}_{-0.33}$	1008^{+71}_{-54}	3071^{+148}_{-169}	22^{+9}_{-8}
Alt.	-42 ± 17	$3.60^{+0.55}_{-0.28}$	1016^{+71}_{-55}	3142^{+179}_{-240}	25^{+13}_{-11}

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 $A_{obs} \gg 1.0$

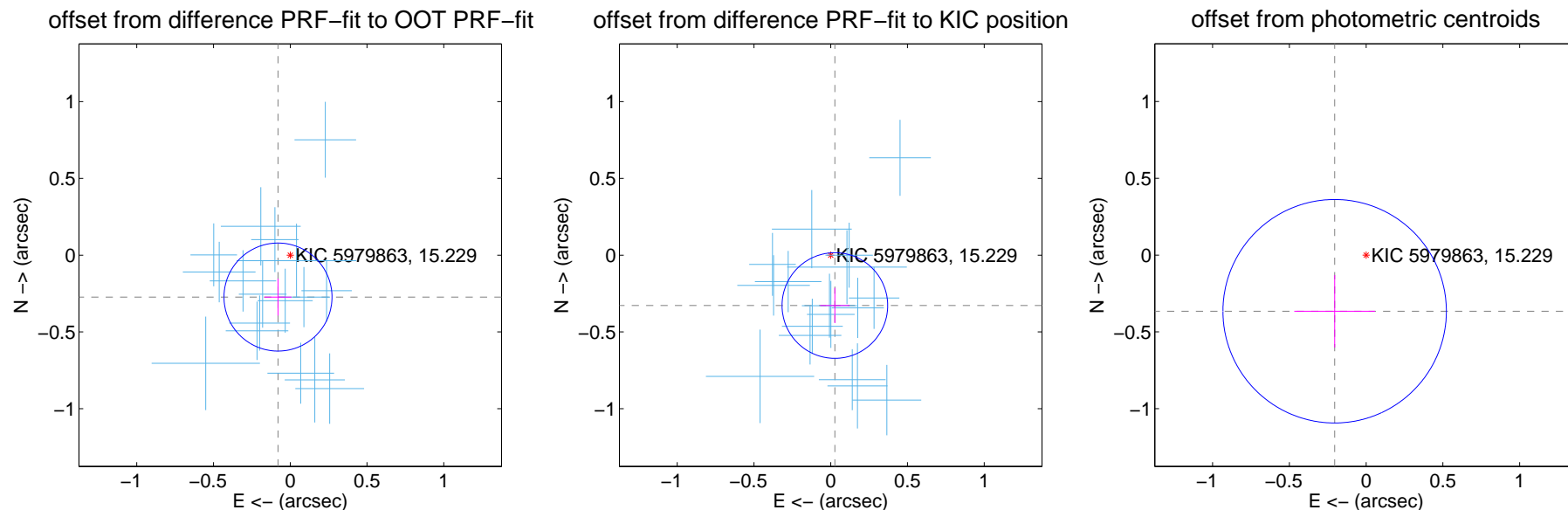
DV Centroid Data

Supplemental centroid analysis for 005979863-02. Kepler magnitude: 15.23. Transit SNR 52.37

There are 17 quarters with good PRF difference image offsets

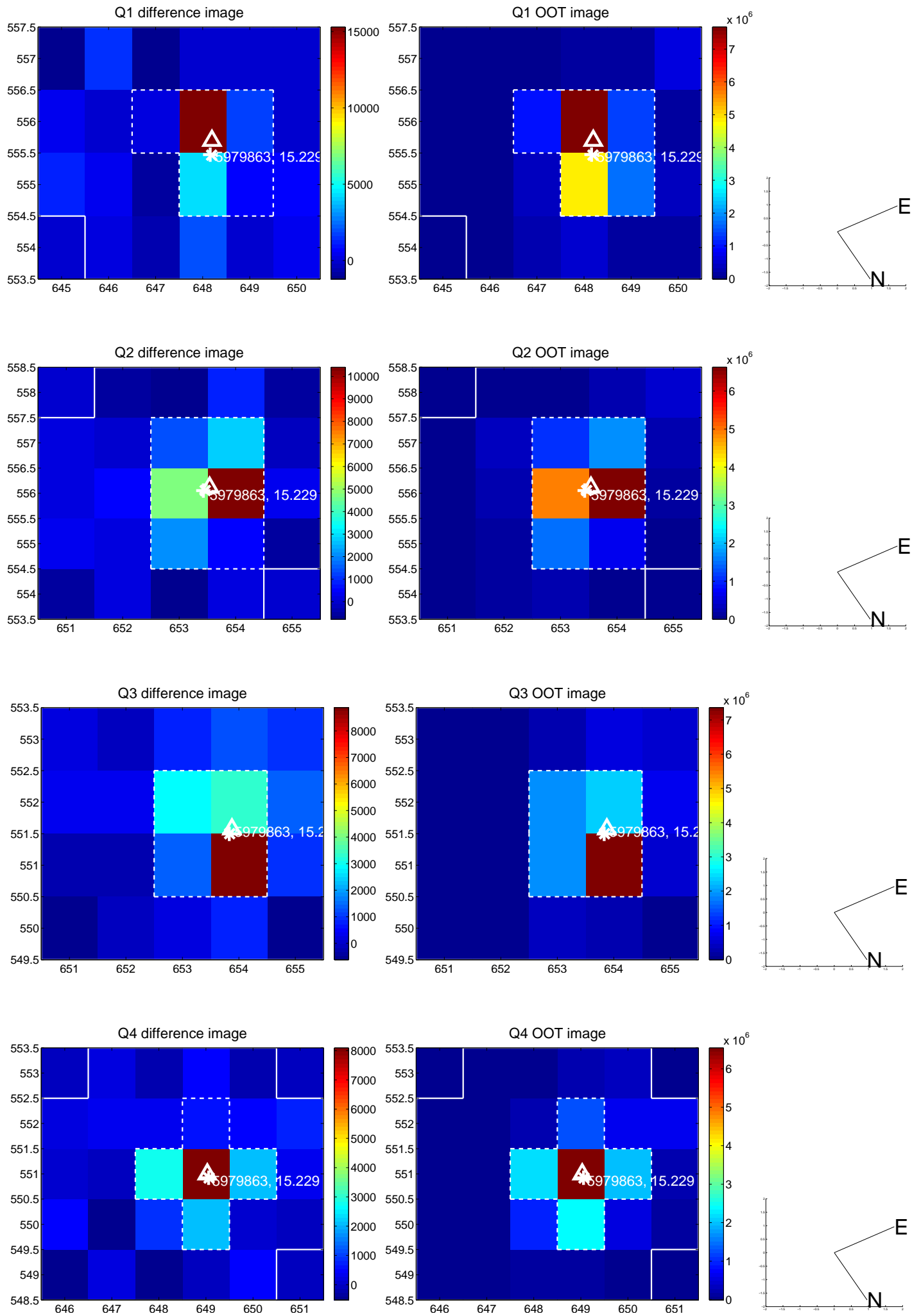
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.284 ± 0.117	2.42	0.080 ± 0.088	-0.273 ± 0.120
PRF-fit source offset from KIC position	0.329 ± 0.115	2.87	-0.027 ± 0.096	-0.328 ± 0.115
photometric centroid source offset	0.42 ± 0.24	1.73	0.21 ± 0.26	-0.37 ± 0.24

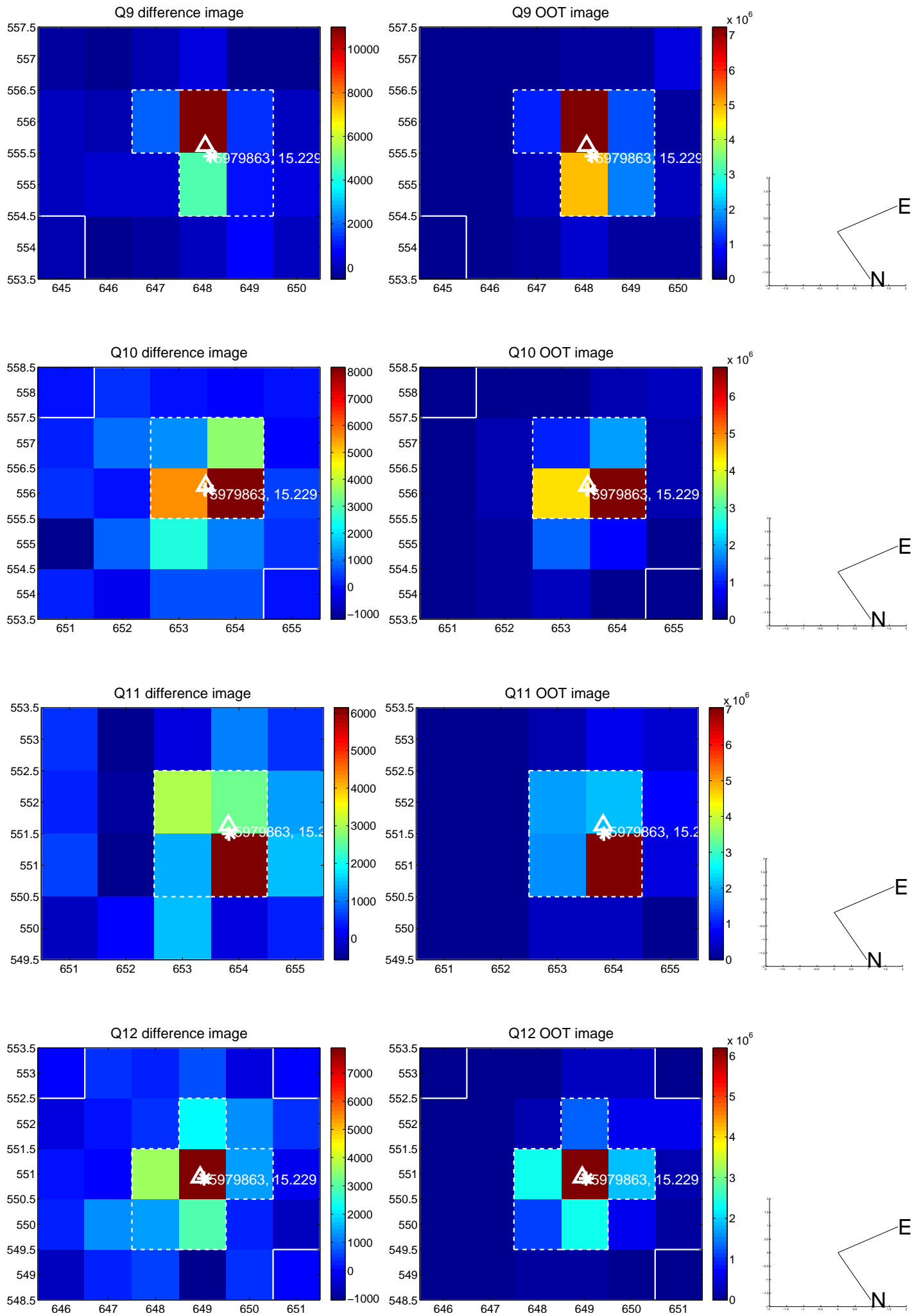


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

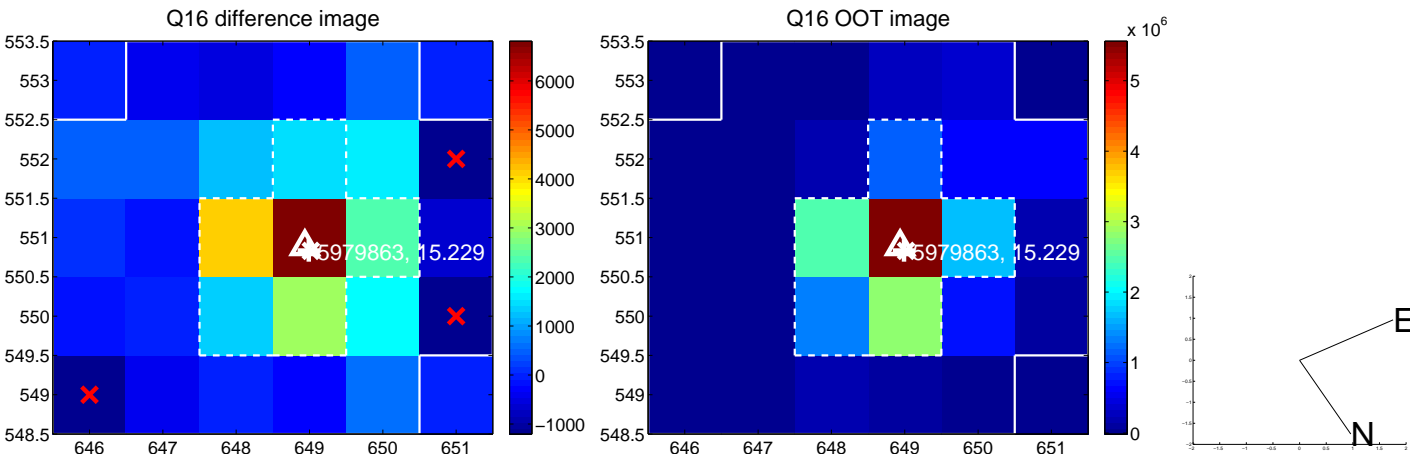
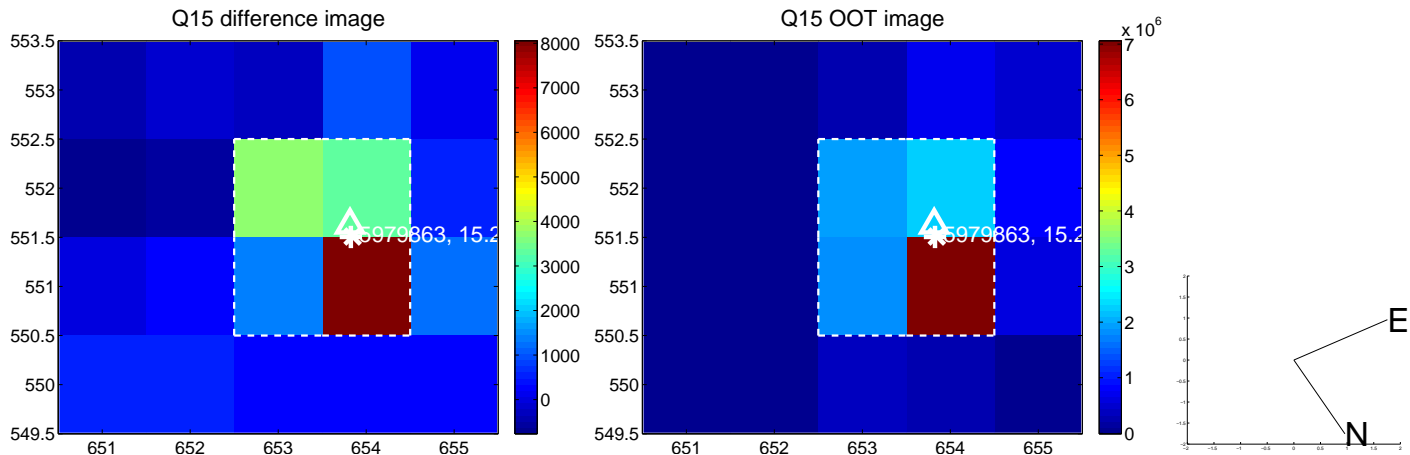
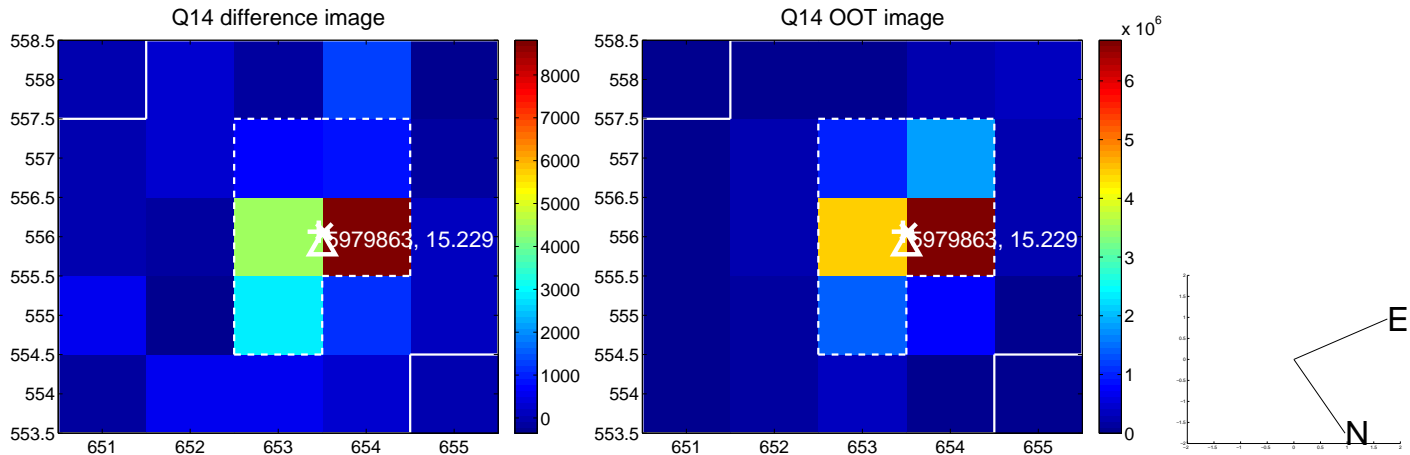
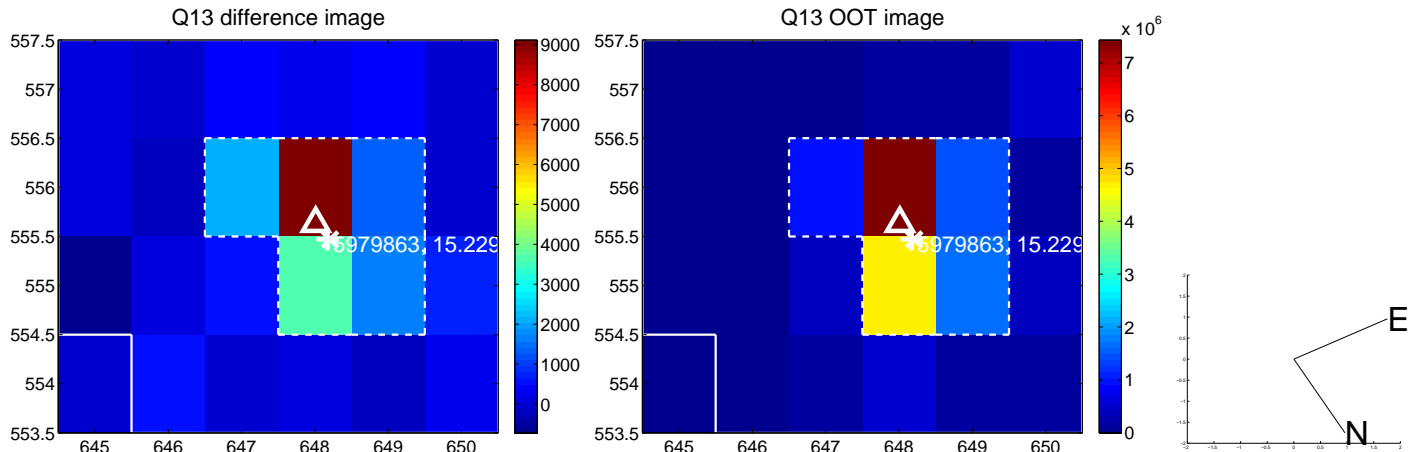
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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.



UKIRT Image

Declination

