

KIC 009641031

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})
009641031-01	OBS	7211.01	2.178139	132.026619	396434.3	2.500	23205.6	-1.0	1.18	6126	20.28	1643.46
009641031-02	OBS	No	2.178165	133.109937	172734.7	3.871	15779.0	10888.9	1.18	6126	65.92	1643.44
009641031-03	OBS	No	6.534581	132.161462	3279.5	9.000	2600.6	-1.0	1.18	6126	6.74	379.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009641031-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_SATURATED
009641031-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED
009641031-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—RESIDUAL_TCE—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.

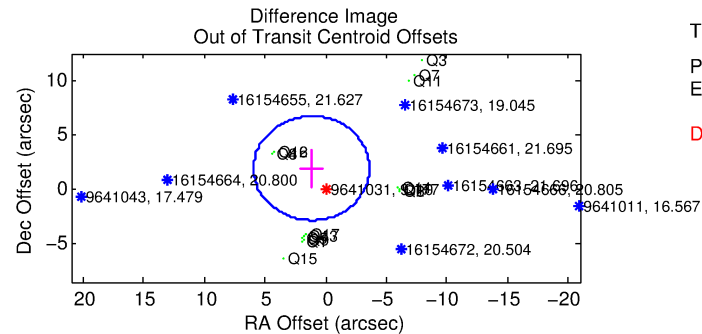
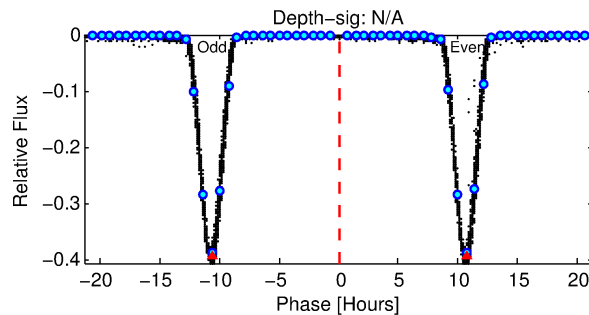
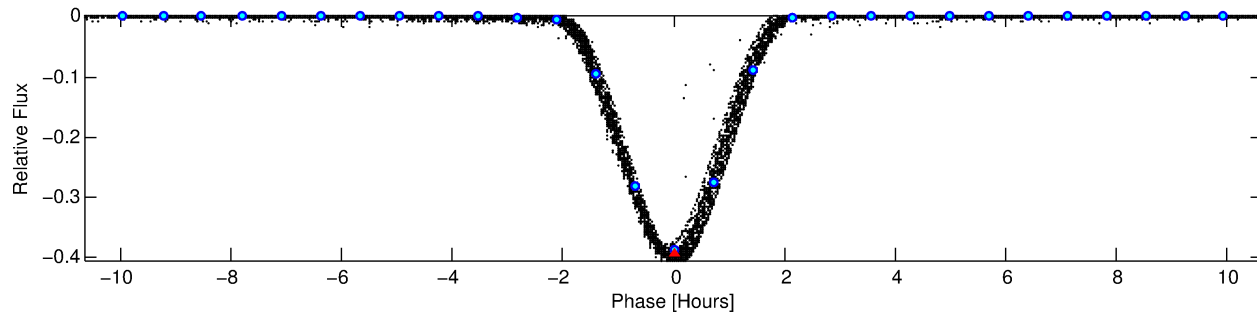
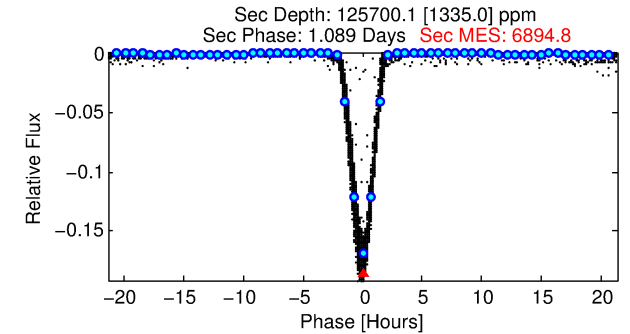
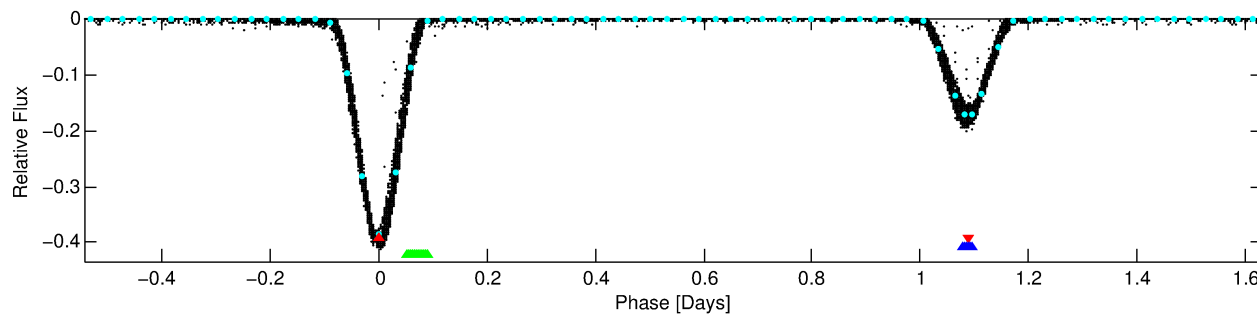
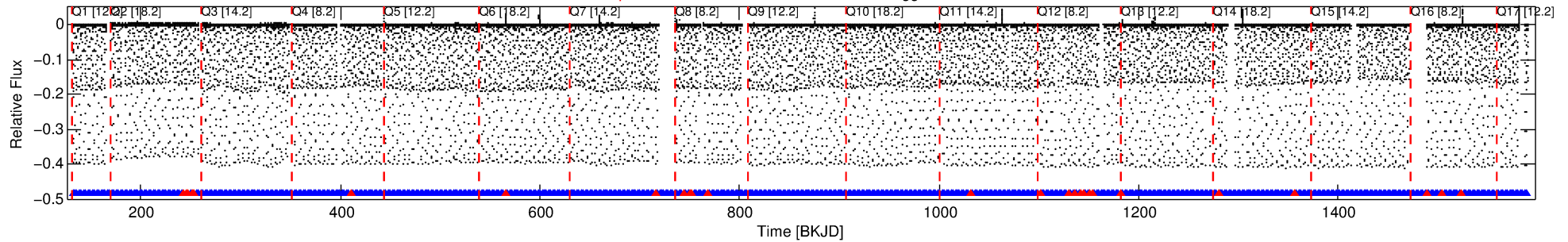
Ephemeris Match Information For 009641031-01

No Significant Match Found

DV One-Page Summary

KIC: 9641031 Candidate: 1 of 3 Period: 2.178 d
KOI: K07211 Corr: No Ephemeris Match

Kp: 9.18 R*: 1.18 Rs Teff: 6126.0 K Logg: 4.29 Fe/H: -0.300



TPS TCE Results:

Period = 2.17814 d
Epoch = 132.0266 BKJD

DV fit results are unavailable

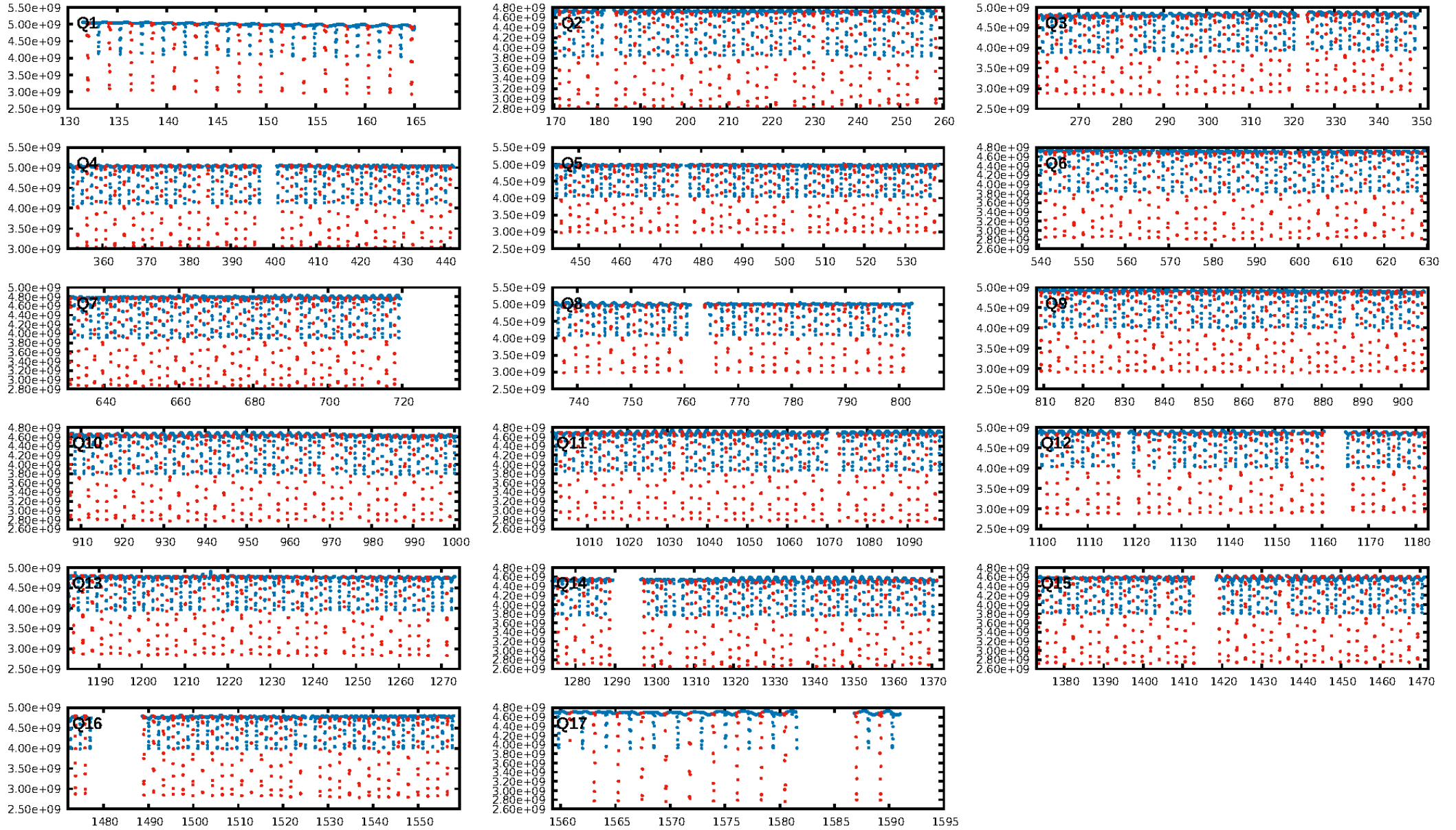
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.0% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [563/589]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 1.428 arcsec [4595.86σ]
OotOffset-rm: 2.272 arcsec [1.43σ]
KicOffset-rm: 2.010 arcsec [1.31σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

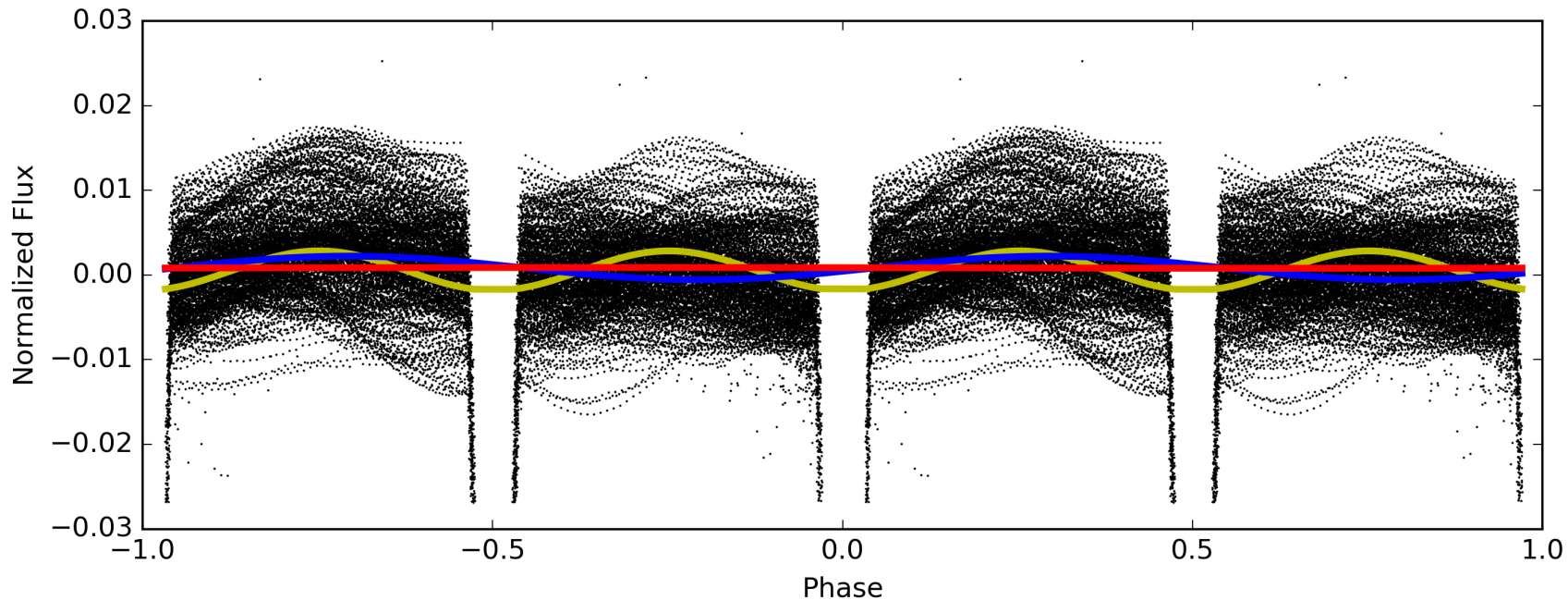
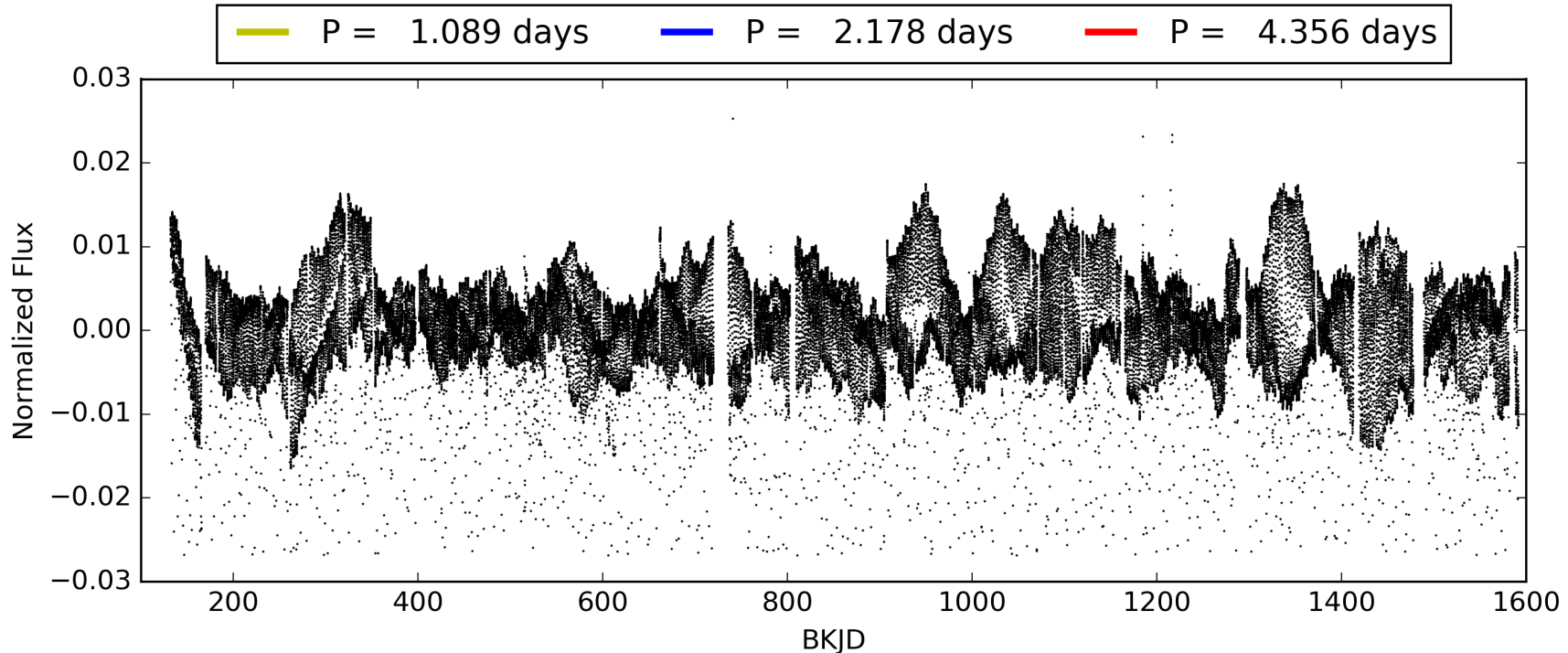
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:16:39 Z

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

TCE 009641031-01, PDC Light Curves

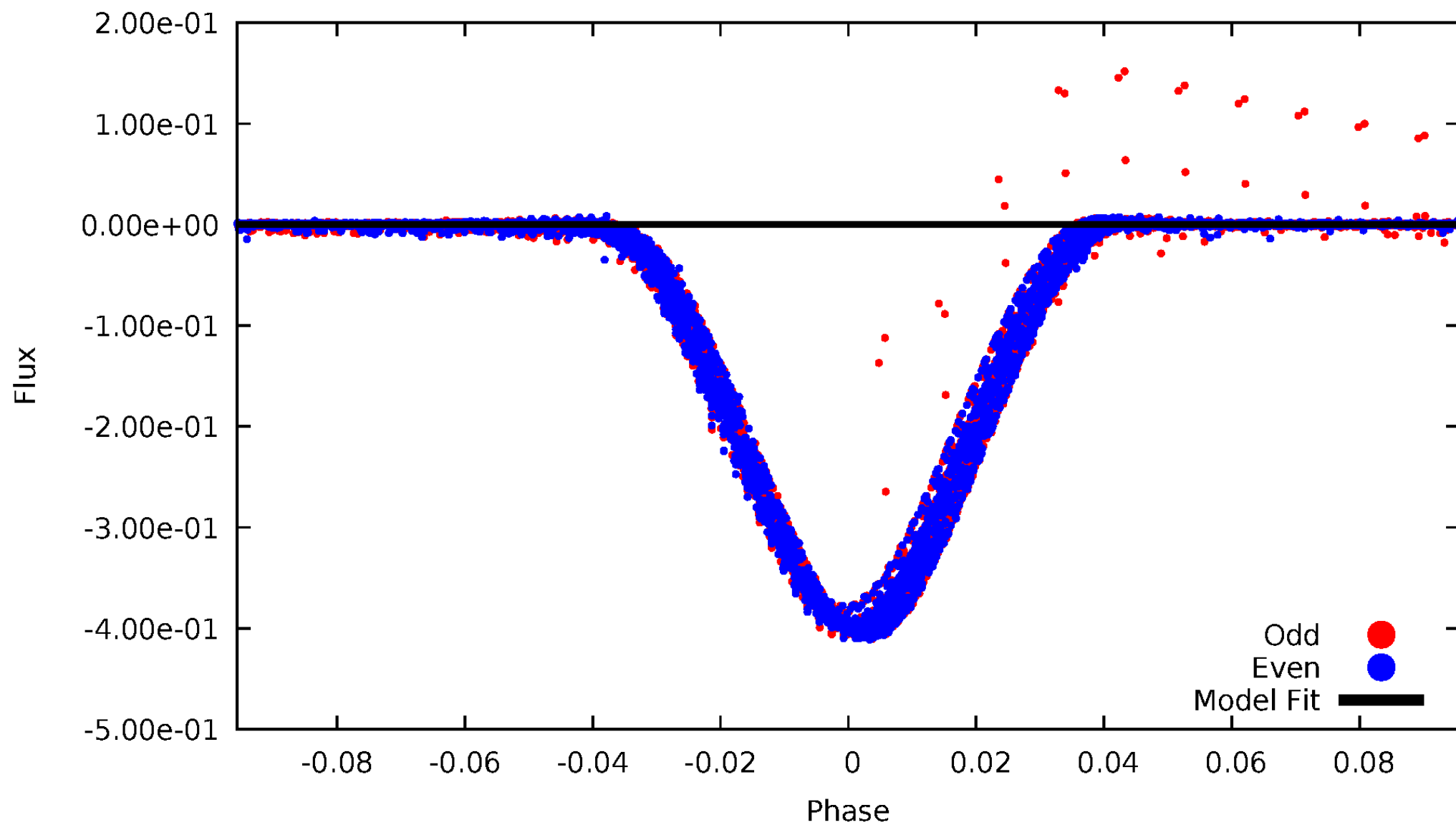


TCE 009641031-01



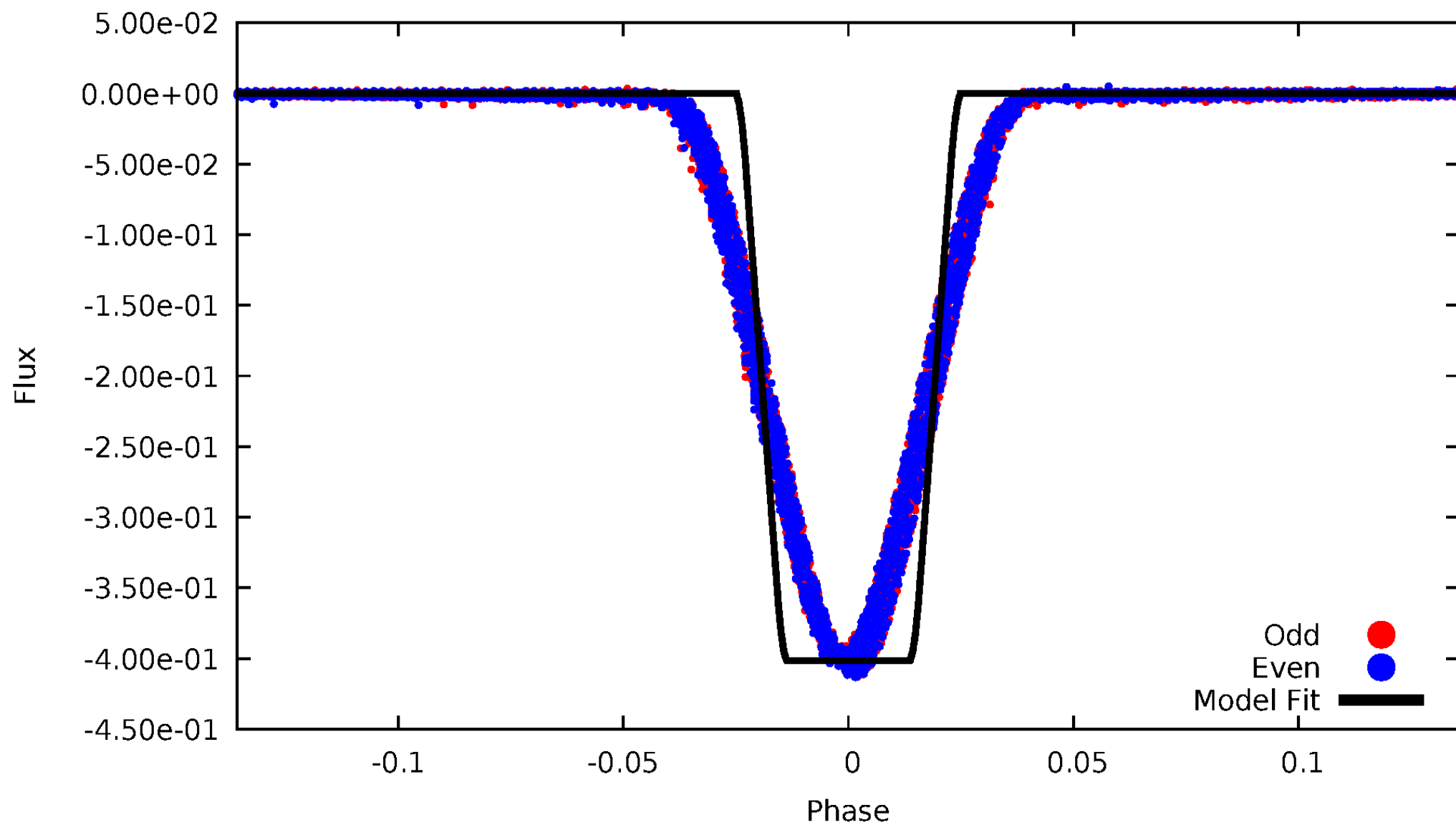
DV Odd/Even

TCE 009641031-01



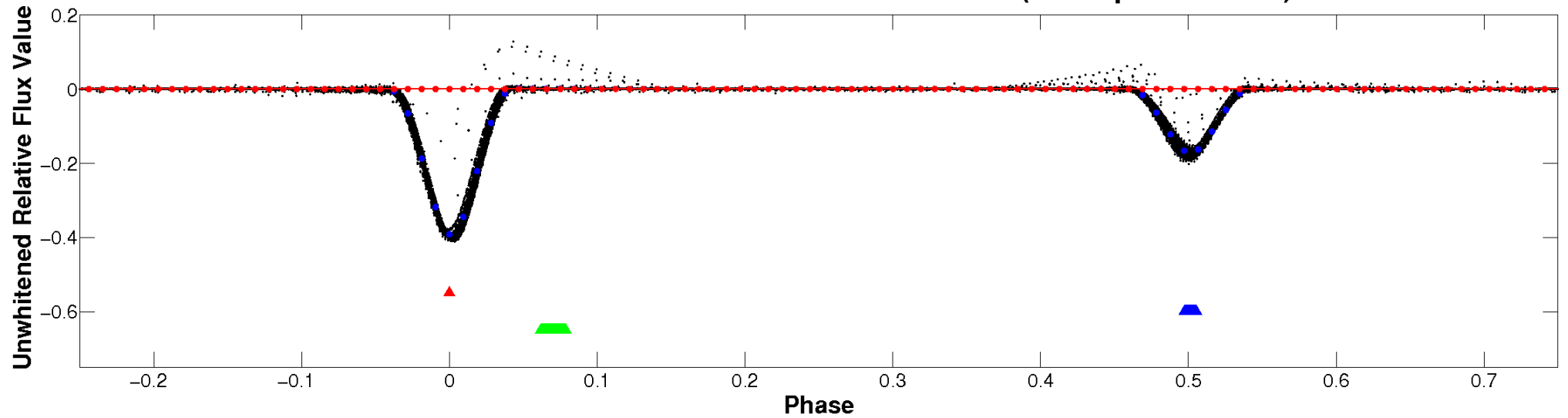
ALT Odd/Even

TCE 009641031-01

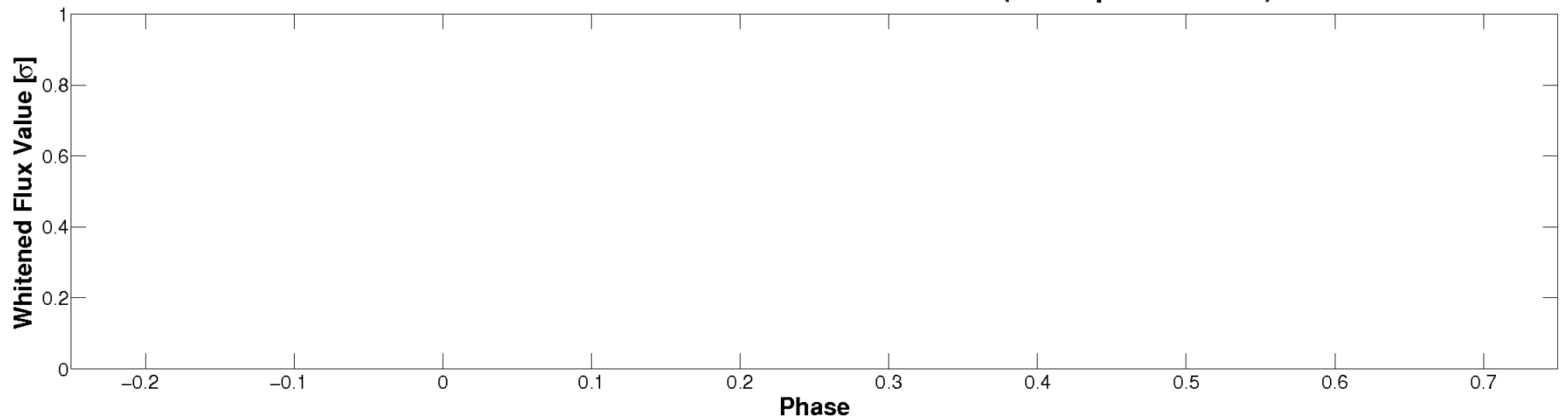


Non-Whitened Vs. Whitened Light Curve

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

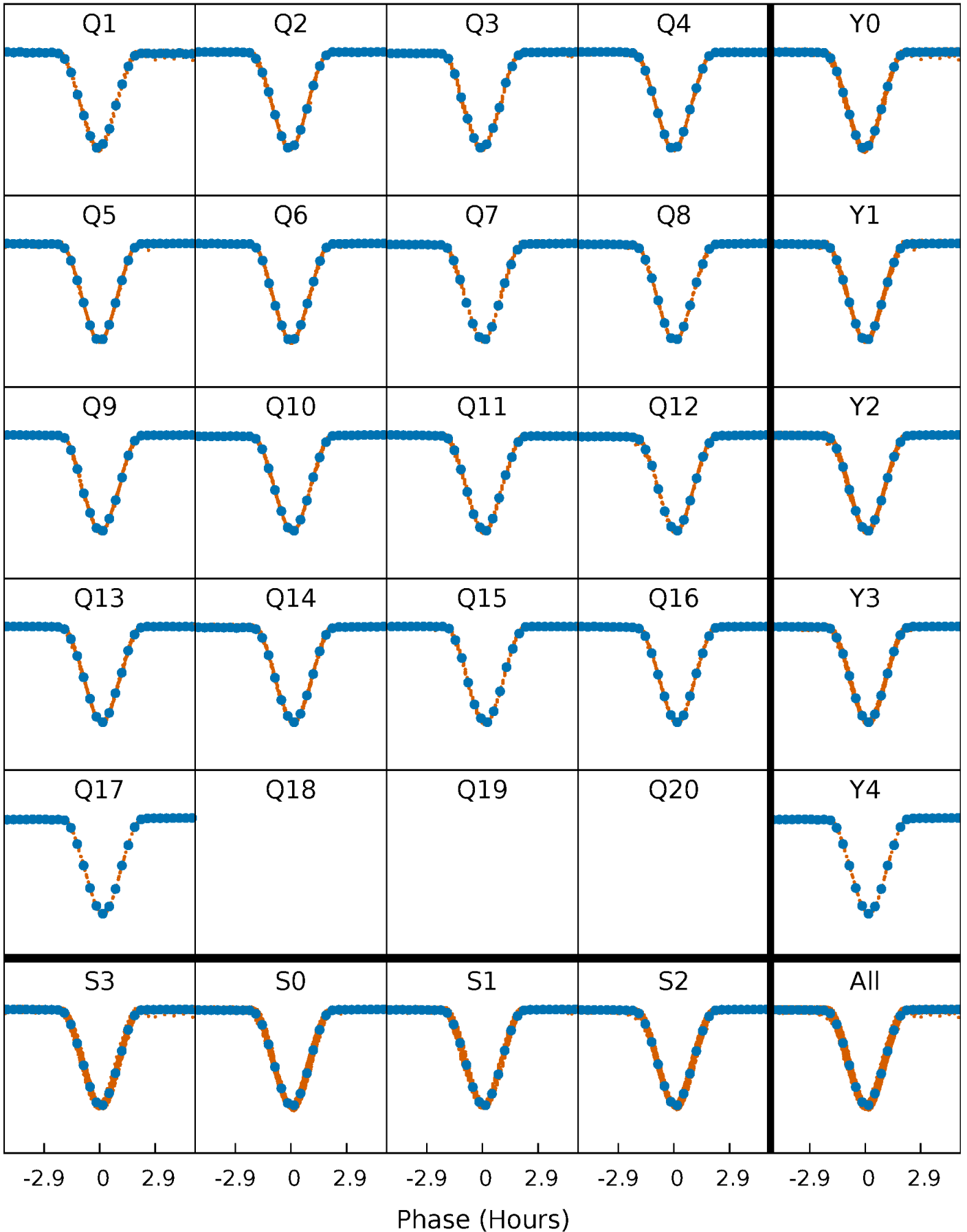


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



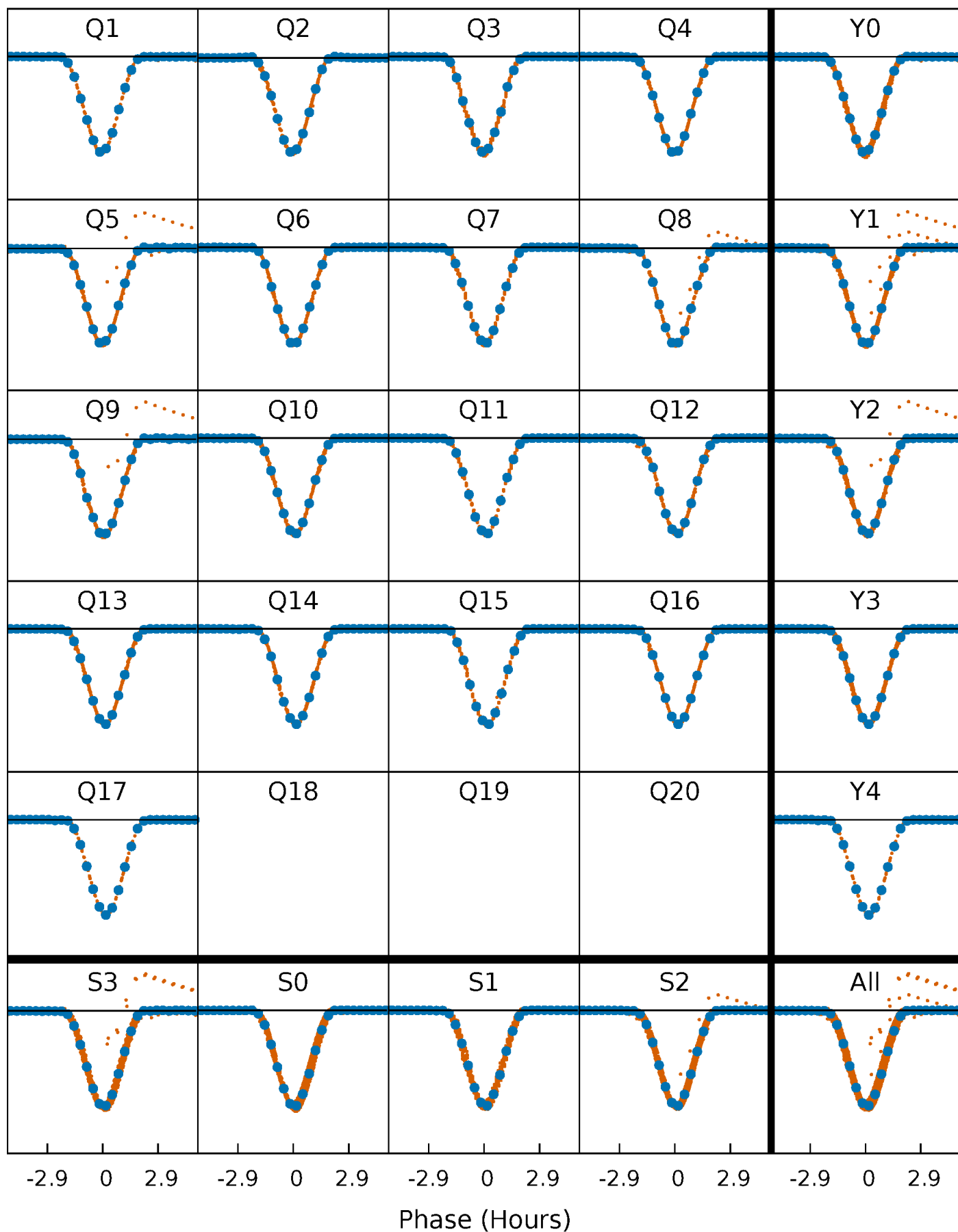
PDC Quarter-Phased Transit Curves

TCE 009641031-01 P= 2.178139 Days $T_0=132.026619$ (BKJD)



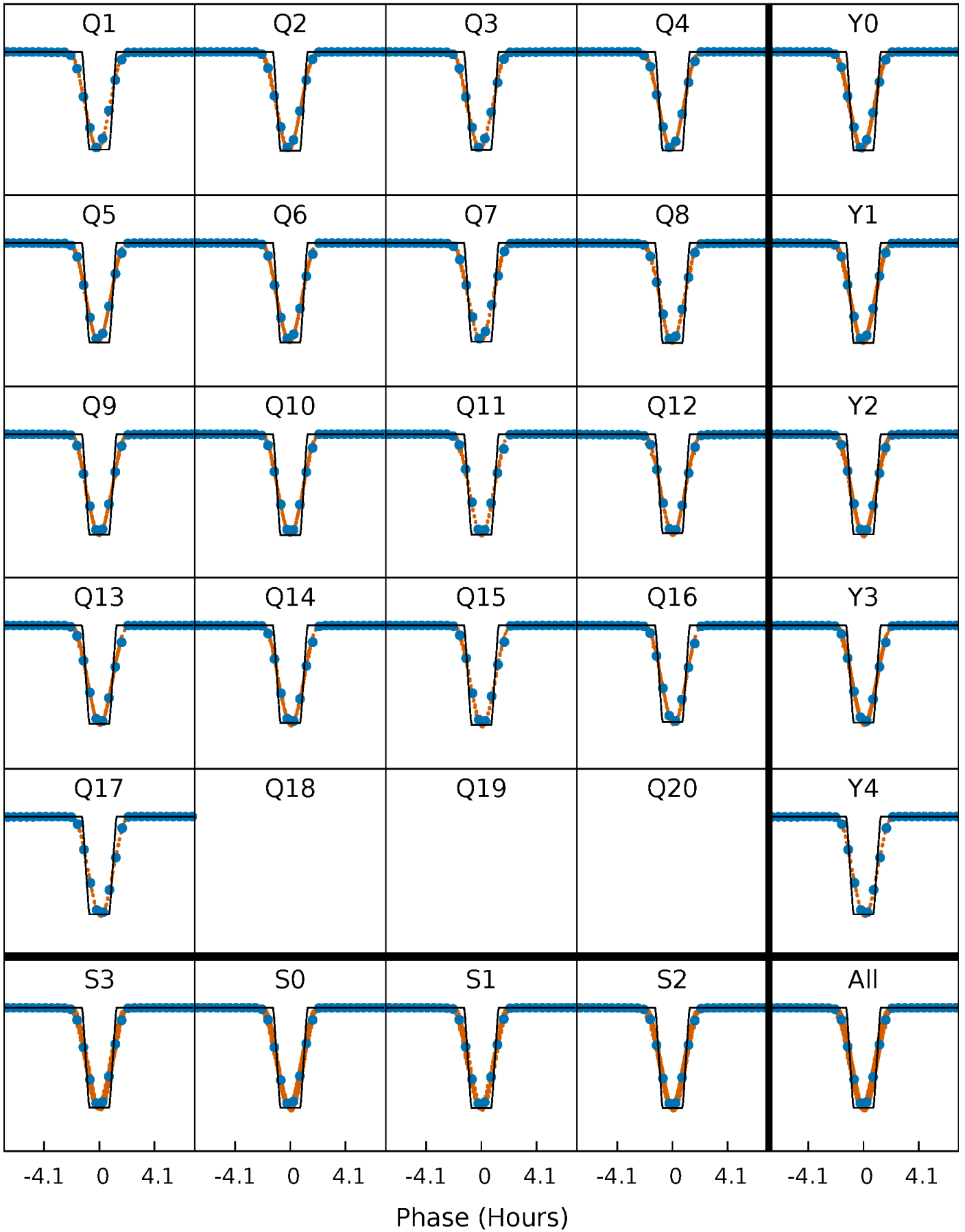
DV Quarter-Phased Transit Curves

TCE 009641031-01 P= 2.178139 Days $T_0=132.026619$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

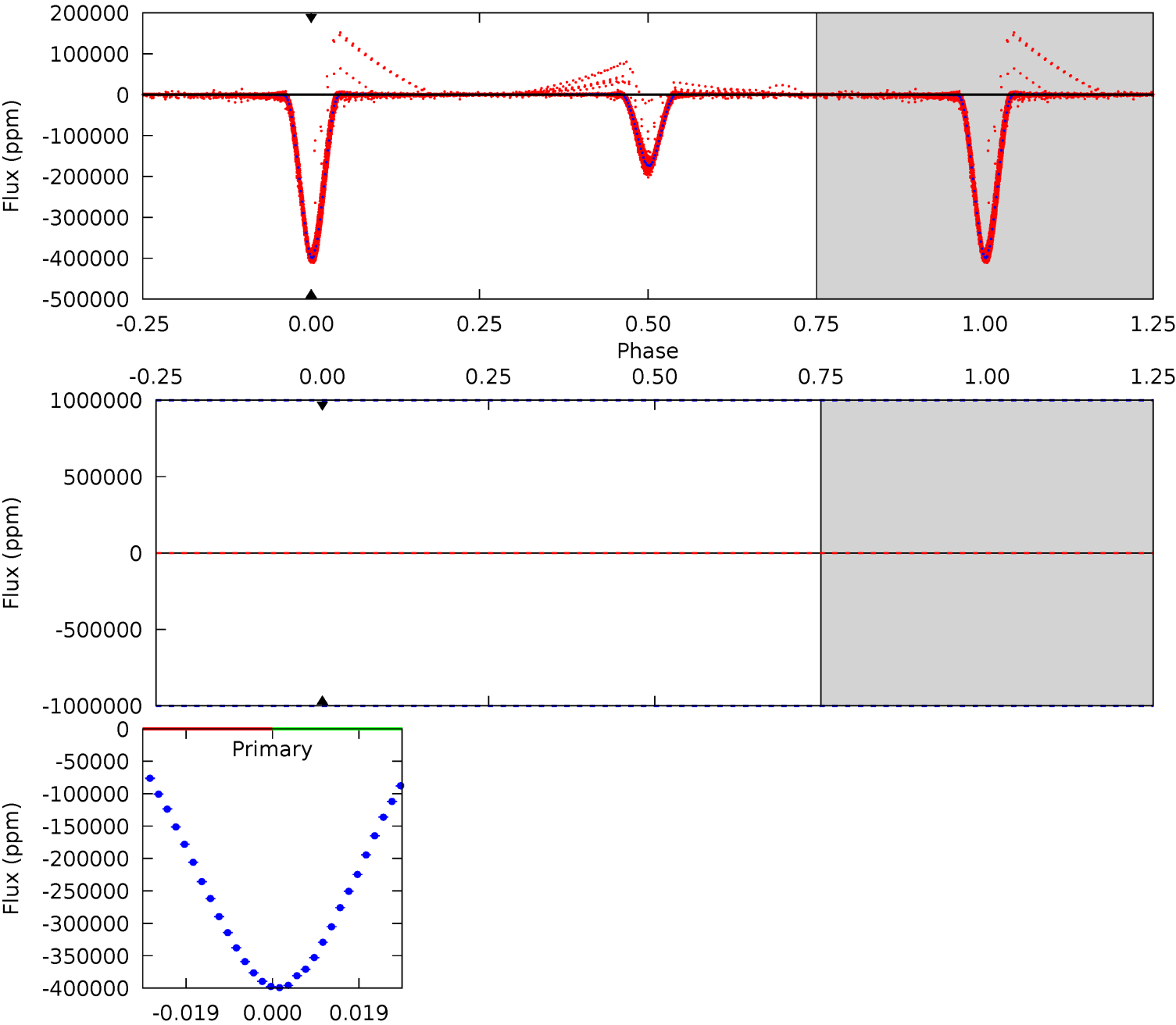
TCE 009641031-01 P= 2.178139 Days $T_0=132.029804$ (BKJD)



DV Model-Shift Uniqueness Test

009641031-01, P = 2.178139 Days, E = 129.848480 Days

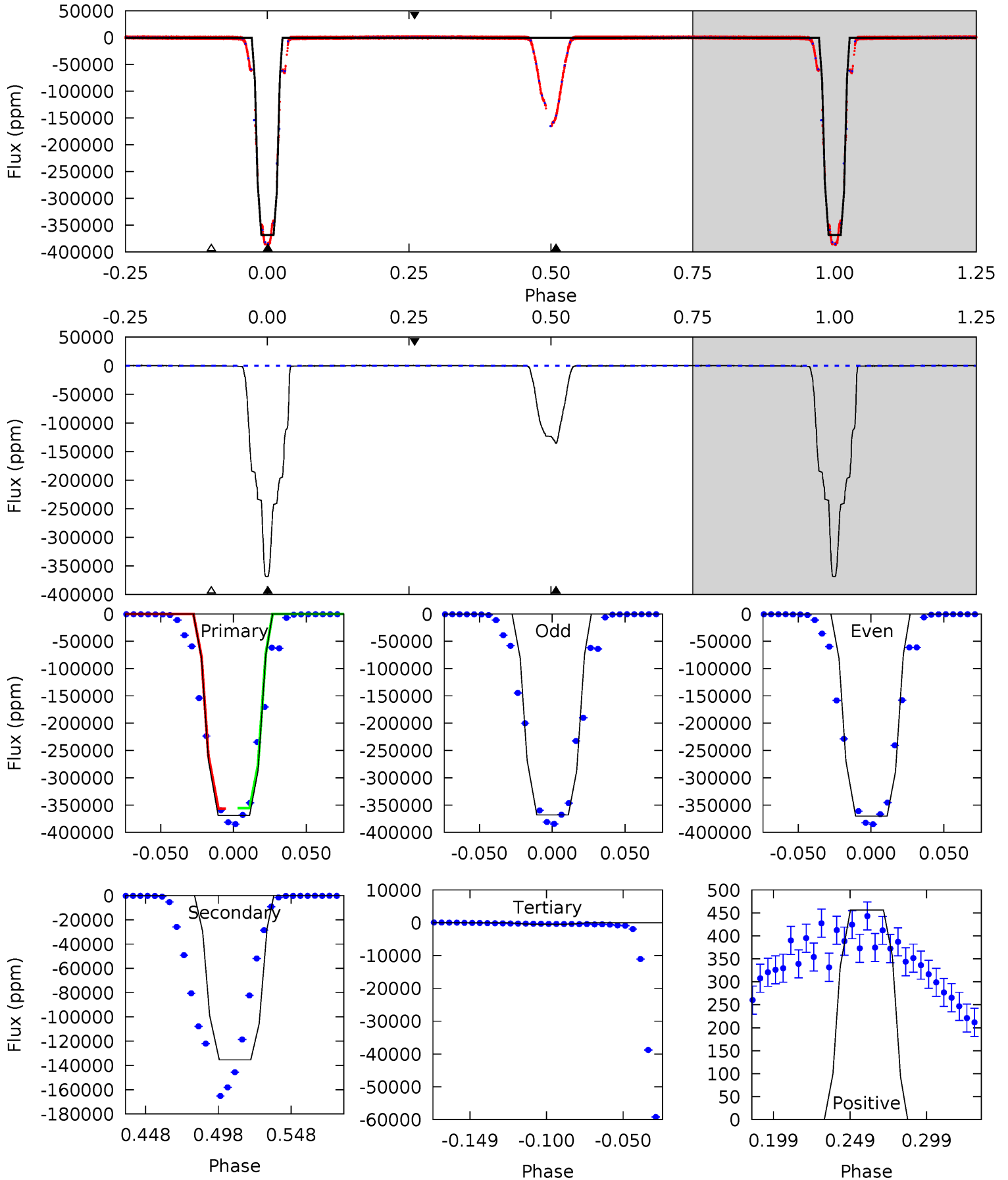
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009641031-01, P = 2.178139 Days, E = 129.851665 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7205	2647	8.89	8.91	4.71	1.96	5.48	7196	7196	2638	2638	20.4	1.00	0.00	0



Stellar Parameters For KIC 009641031

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6126^{+165}_{-183}	$4.285^{+0.180}_{-0.180}$	$-0.300^{+0.300}_{-0.300}$	$1.176^{+0.330}_{-0.240}$	$0.972^{+0.151}_{-0.110}$	$0.841^{+0.787}_{-0.408}$
	+3%/-3%	+4%/-4%	+100%/-100%	+28%/-20%	+16%/-11%	+94%/-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 009641031-01 / KOI 7211.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$21.68^{+13.30}_{-11.77}$	2279^{+162}_{-155}	3748^{+6872}_{-13517}	$3.405^{+209.350}_{-161.928}$
Alt.	-135401 ± 51	$82.65^{+19.51}_{-16.35}$	2271^{+175}_{-158}	4879^{+384}_{-307}	13^{+7}_{-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 $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

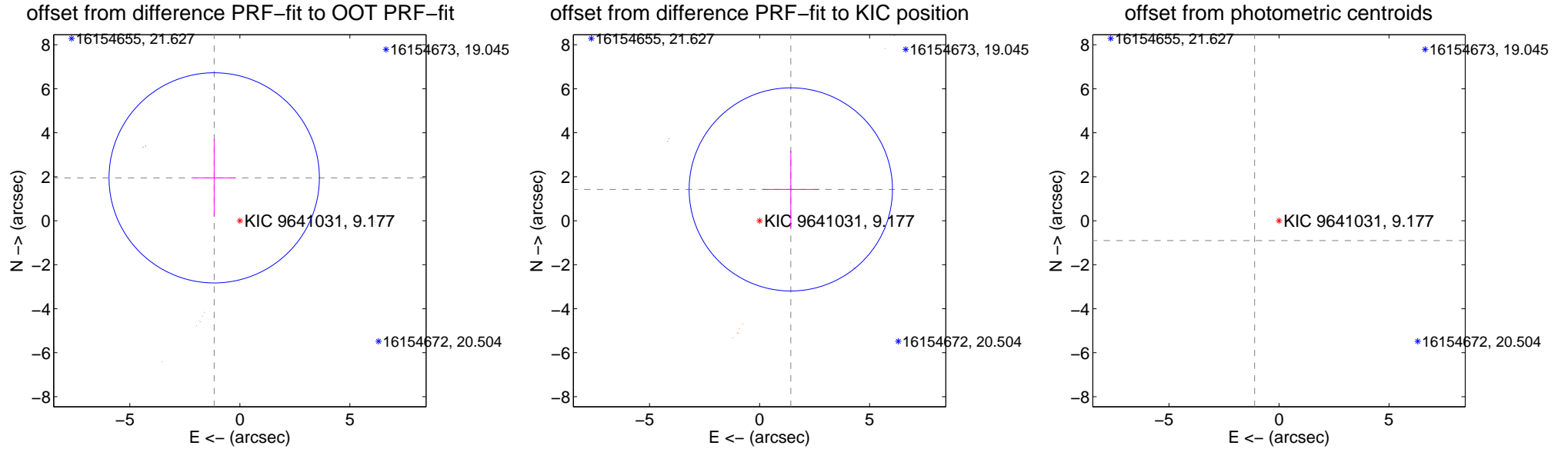
DV Centroid Data

Supplemental centroid analysis for 009641031-01. **Kepler magnitude: 9.18.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

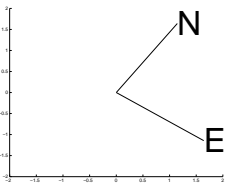
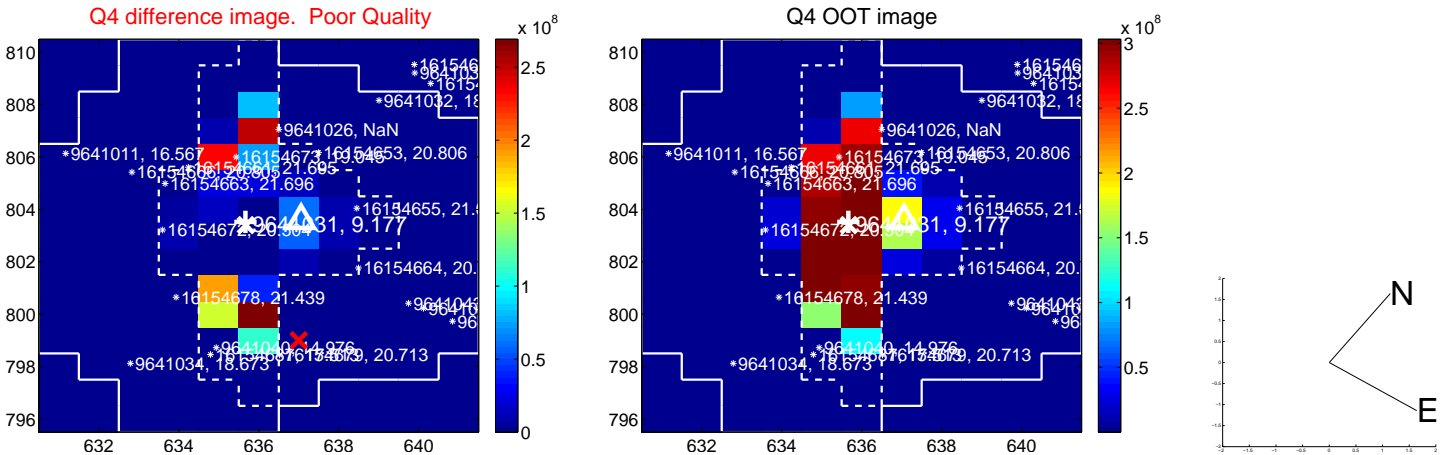
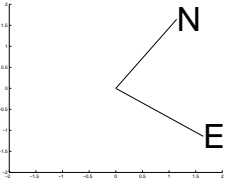
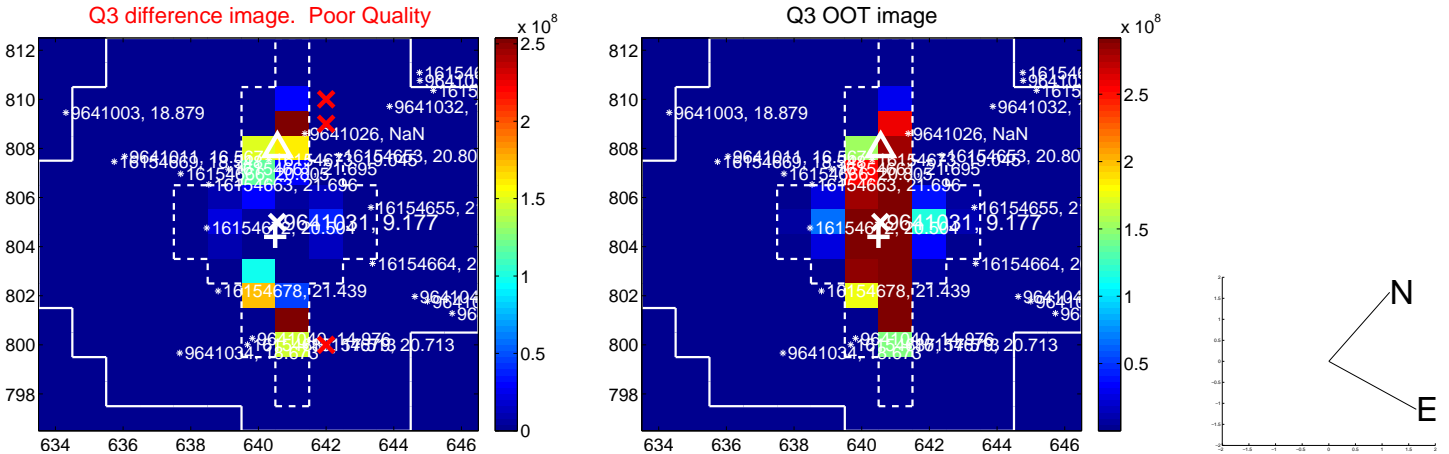
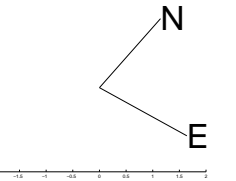
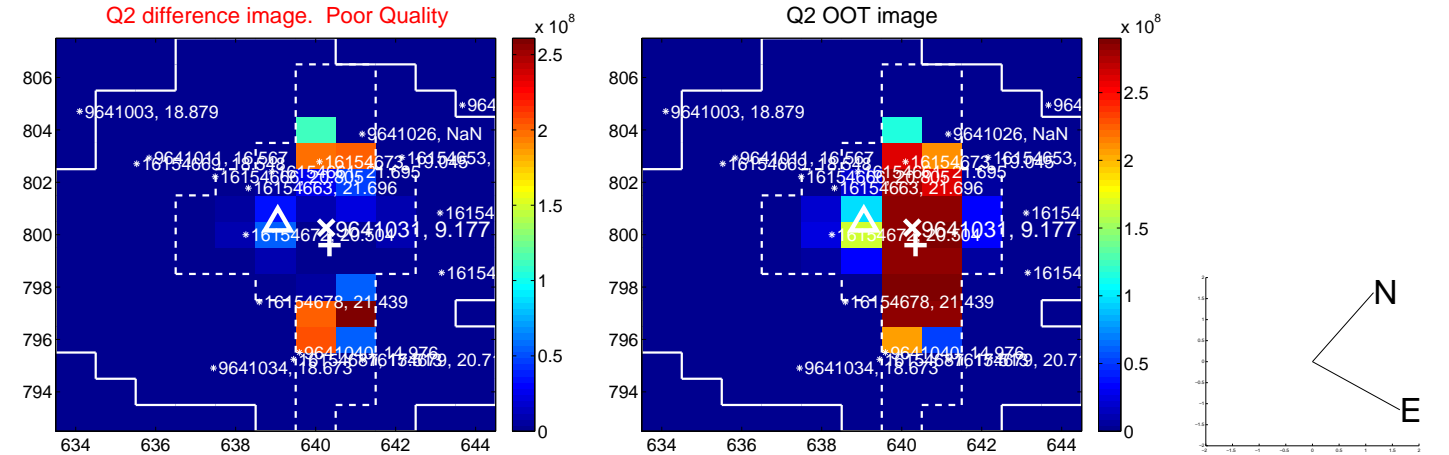
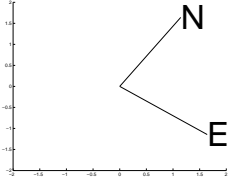
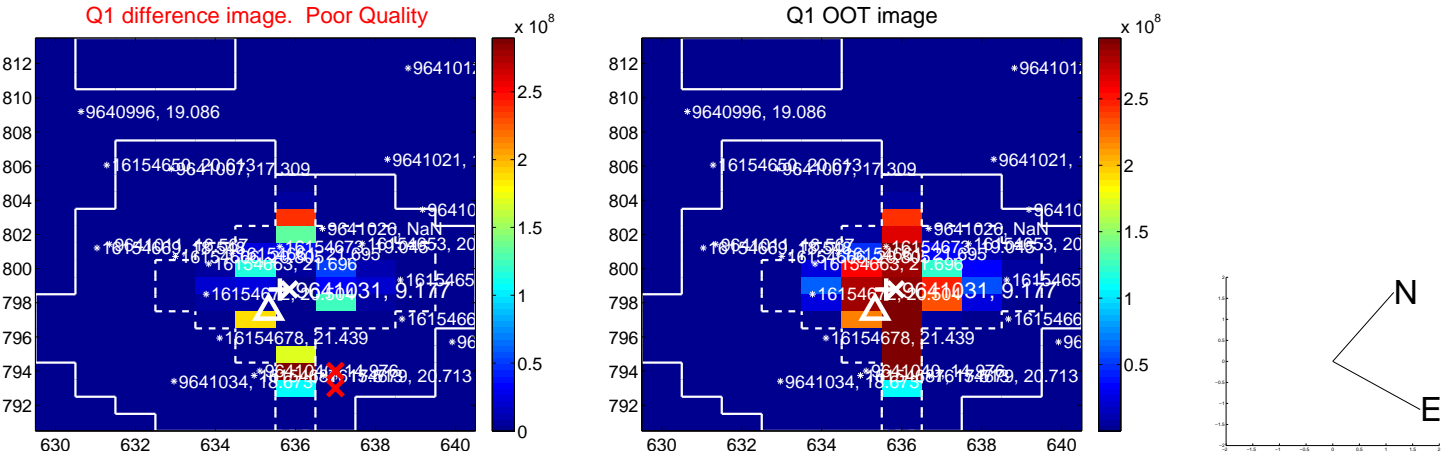
The direct PRF centroid is offset from the target star catalog position by about 0.99 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.272 ± 1.593	1.43	1.166 ± 0.971	1.950 ± 1.762
PRF-fit source offset from KIC position	2.010 ± 1.539	1.31	-1.419 ± 1.285	1.424 ± 1.756
photometric centroid source offset	1.43 ± 0.00	4595.86	1.11 ± 0.00	-0.90 ± 0.00

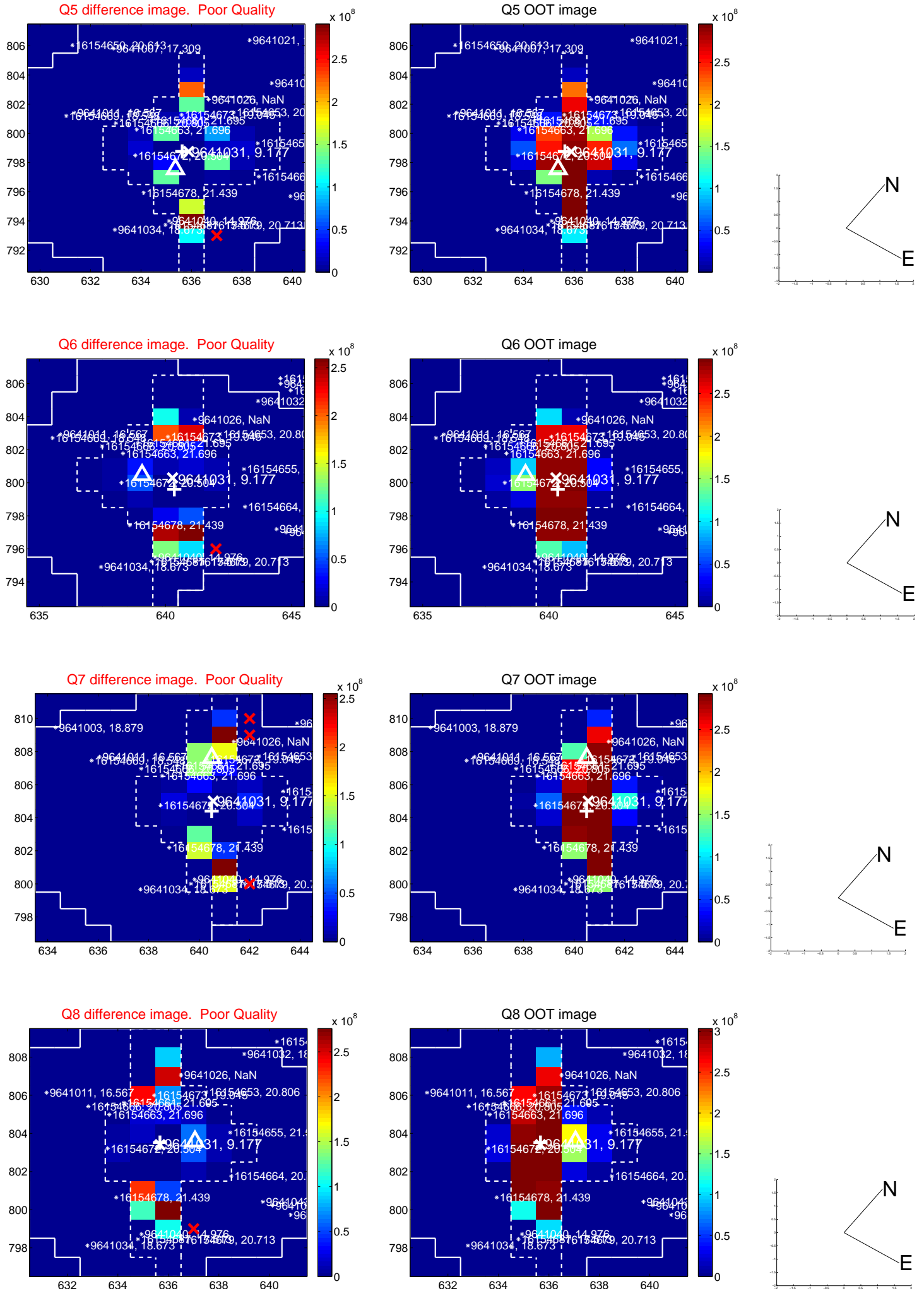


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

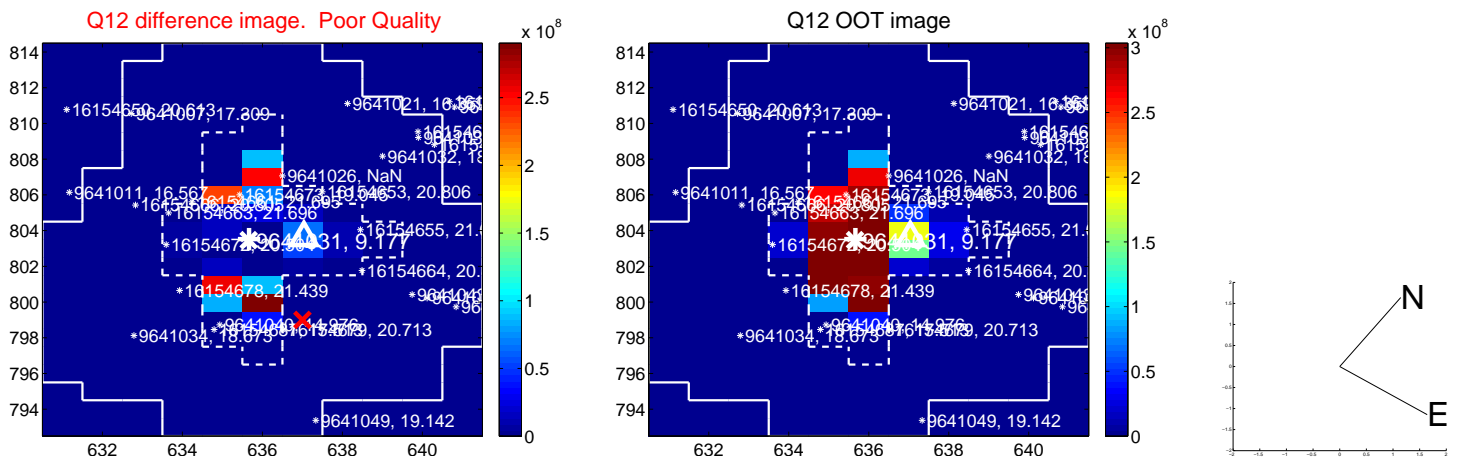
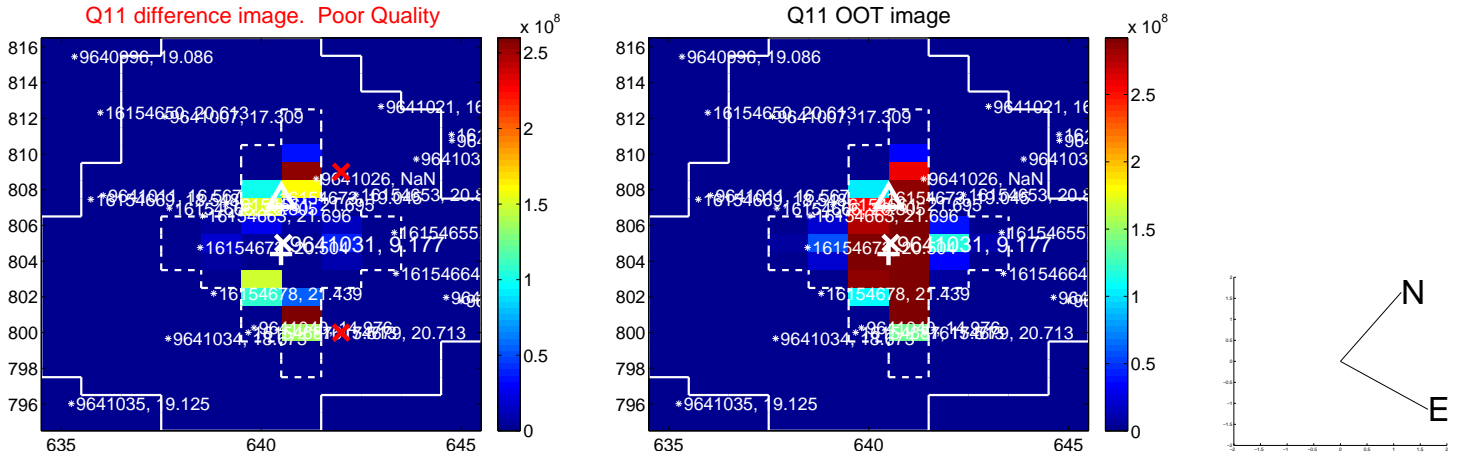
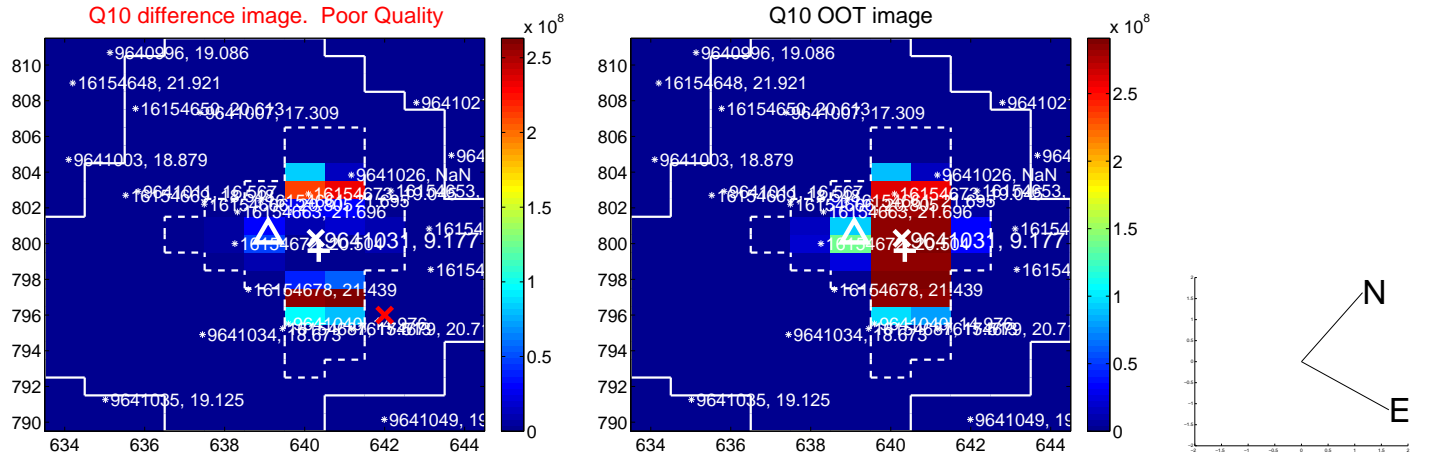
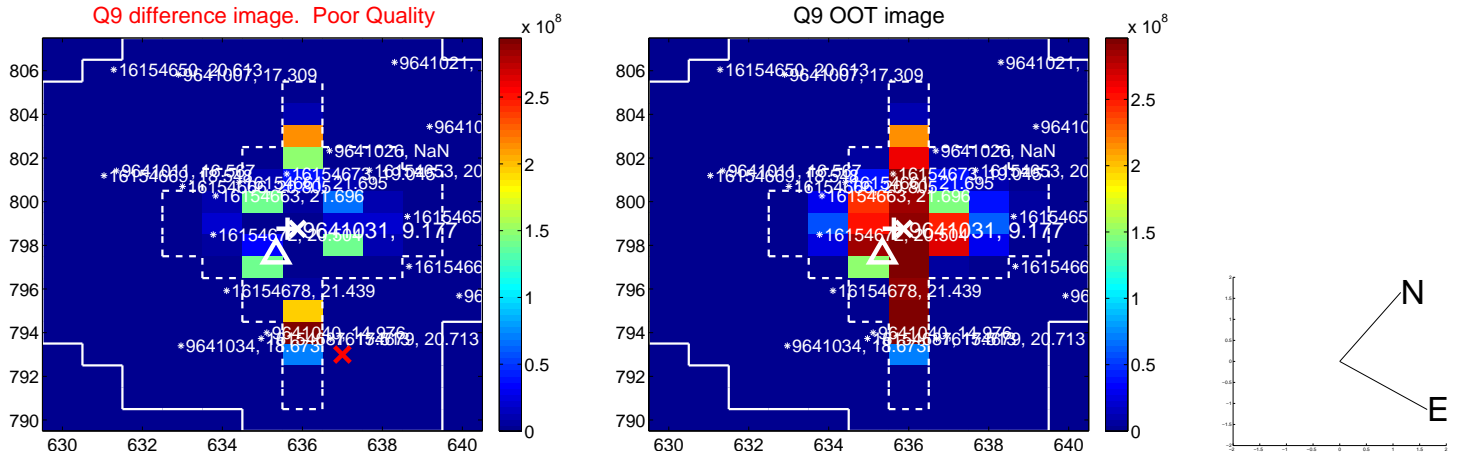
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



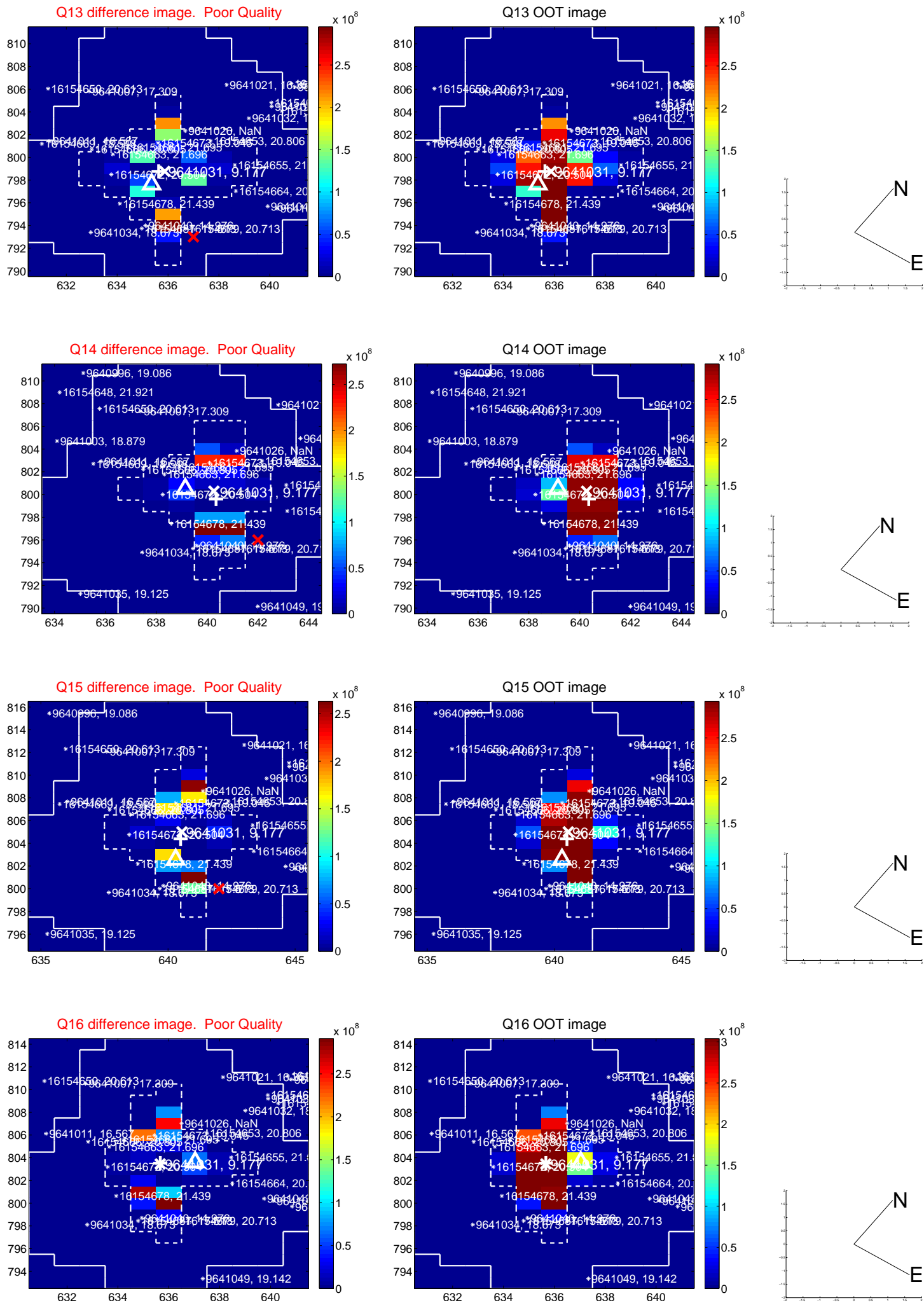
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



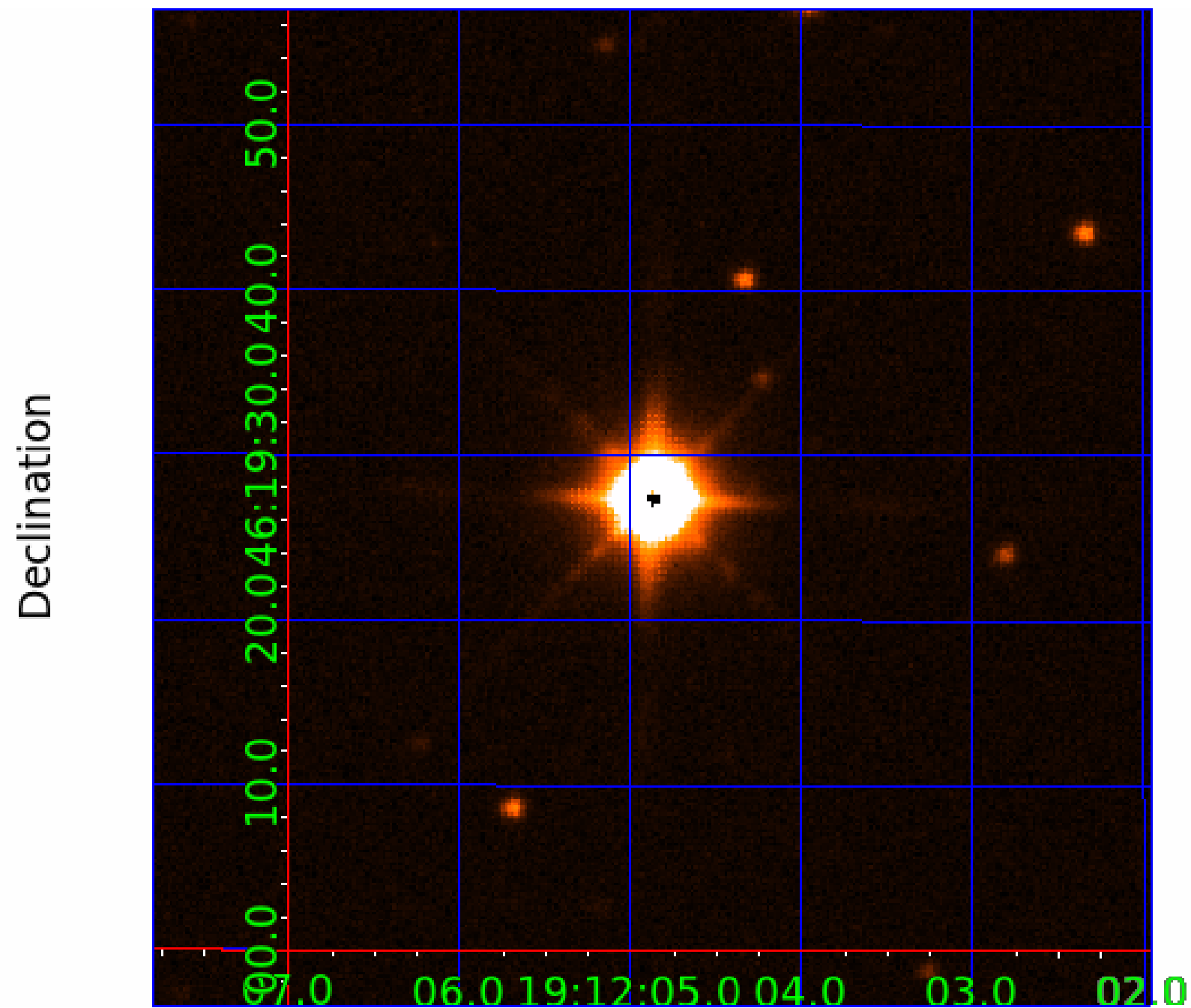
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 009641031

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})
009641031-01	OBS	7211.01	2.178139	132.026619	396434.3	2.500	23205.6	-1.0	1.18	6126	20.28	1643.46
009641031-02	OBS	No	2.178165	133.109937	172734.7	3.871	15779.0	10888.9	1.18	6126	65.92	1643.44
009641031-03	OBS	No	6.534581	132.161462	3279.5	9.000	2600.6	-1.0	1.18	6126	6.74	379.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009641031-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_SATURATED
009641031-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED
009641031-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—RESIDUAL_TCE—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.

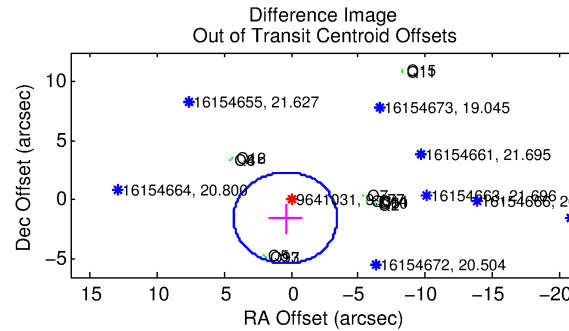
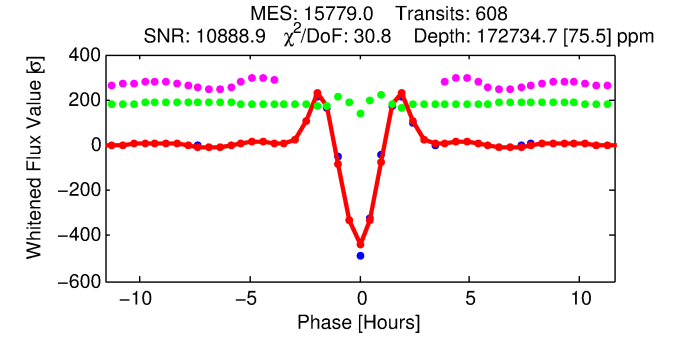
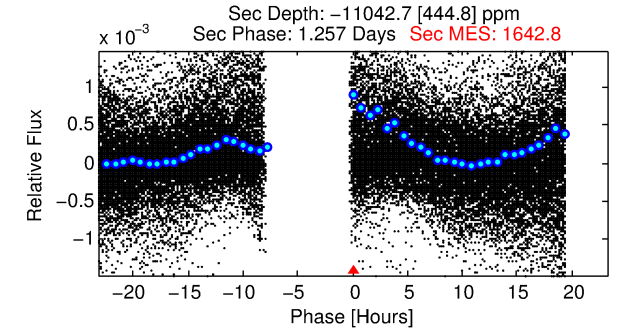
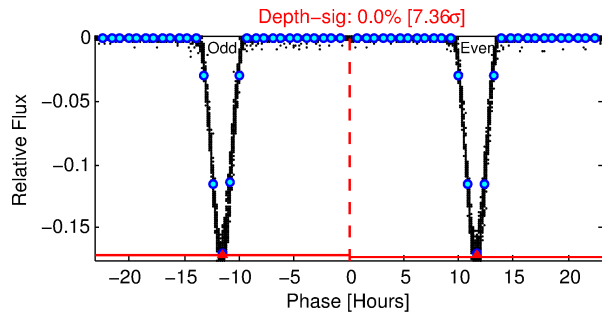
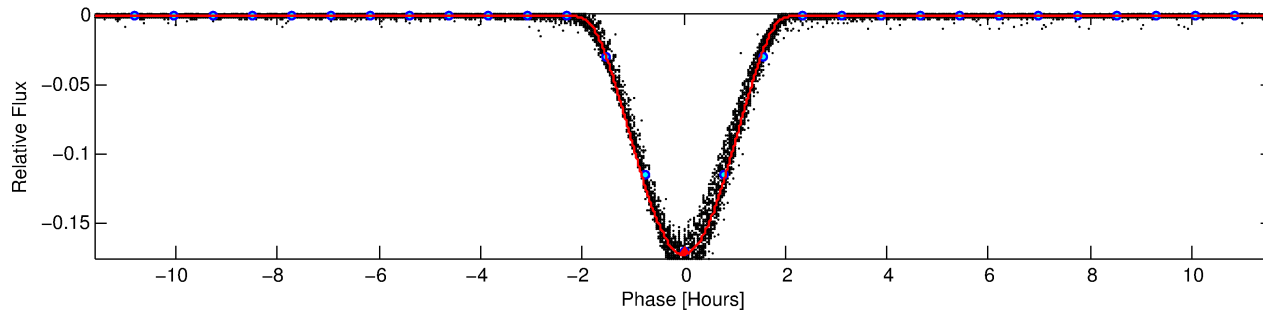
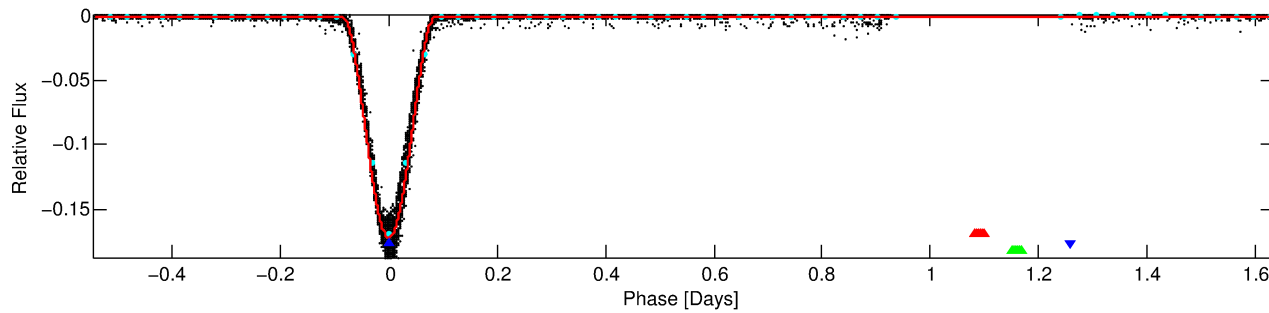
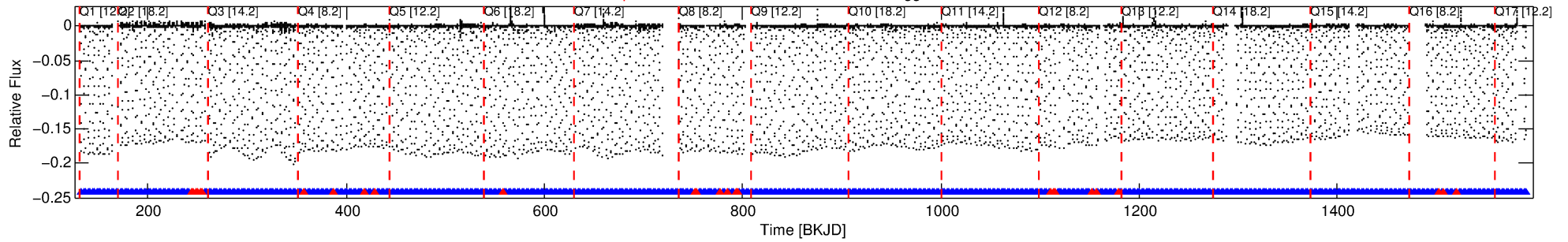
Ephemeris Match Information For 009641031-02

No Significant Match Found

DV One-Page Summary

KIC: 9641031 Candidate: 2 of 3 Period: 2.178 d
KOI: K07211 Corr: No Ephemeris Match

Kp: 9.18 R*: 1.18 Rs Teff: 6126.0 K Logg: 4.29 Fe/H: -0.300



DV Fit Results:

Period = 2.17817 [0.00000] d
Epoch = 133.1099 [0.0000] BKJD
Rp/R* = 0.5137 [0.0104]
a/R* = 5.59 [0.01]
b = 0.81 [0.02]
Seff = 1643.44 [582.49]
Teff = 1624 [144] K
a = 0.0326 [0.0076] AU
Ag = N/A
Teffp = N/A

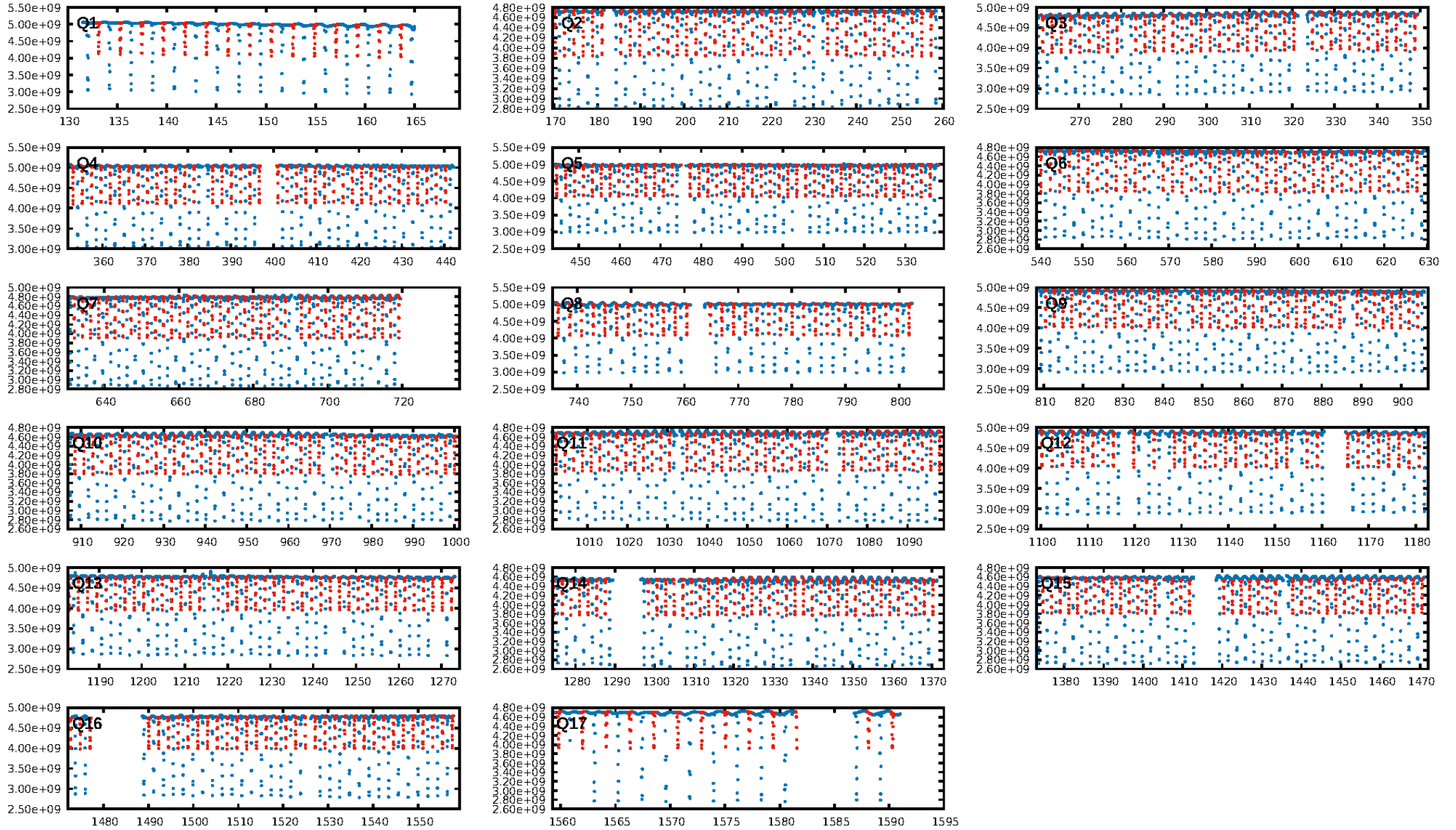
DV Diagnostic Results:

ShortPeriod-sig: 0.0% [0.00σ]
LongPeriod-sig: 100.0% [10.67σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fig: 0.96 [554/580]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: 1.359 arcsec [1539.27σ]
OotOffset-rm: 1.578 arcsec [1.22σ]
KicOffset-rm: 3.436 arcsec [3.19σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 1.00 [17/17]

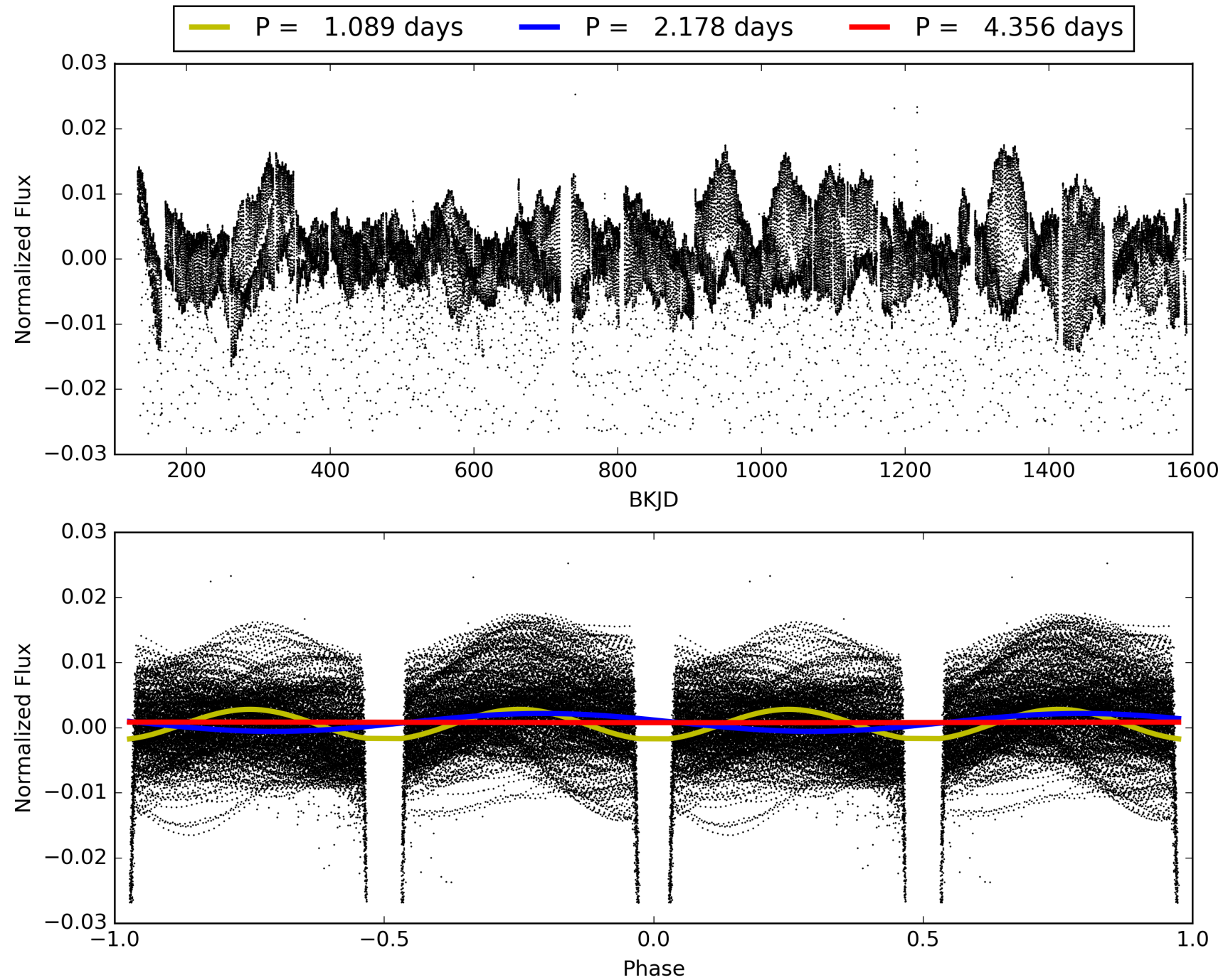
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009641031-02, PDC Light Curves

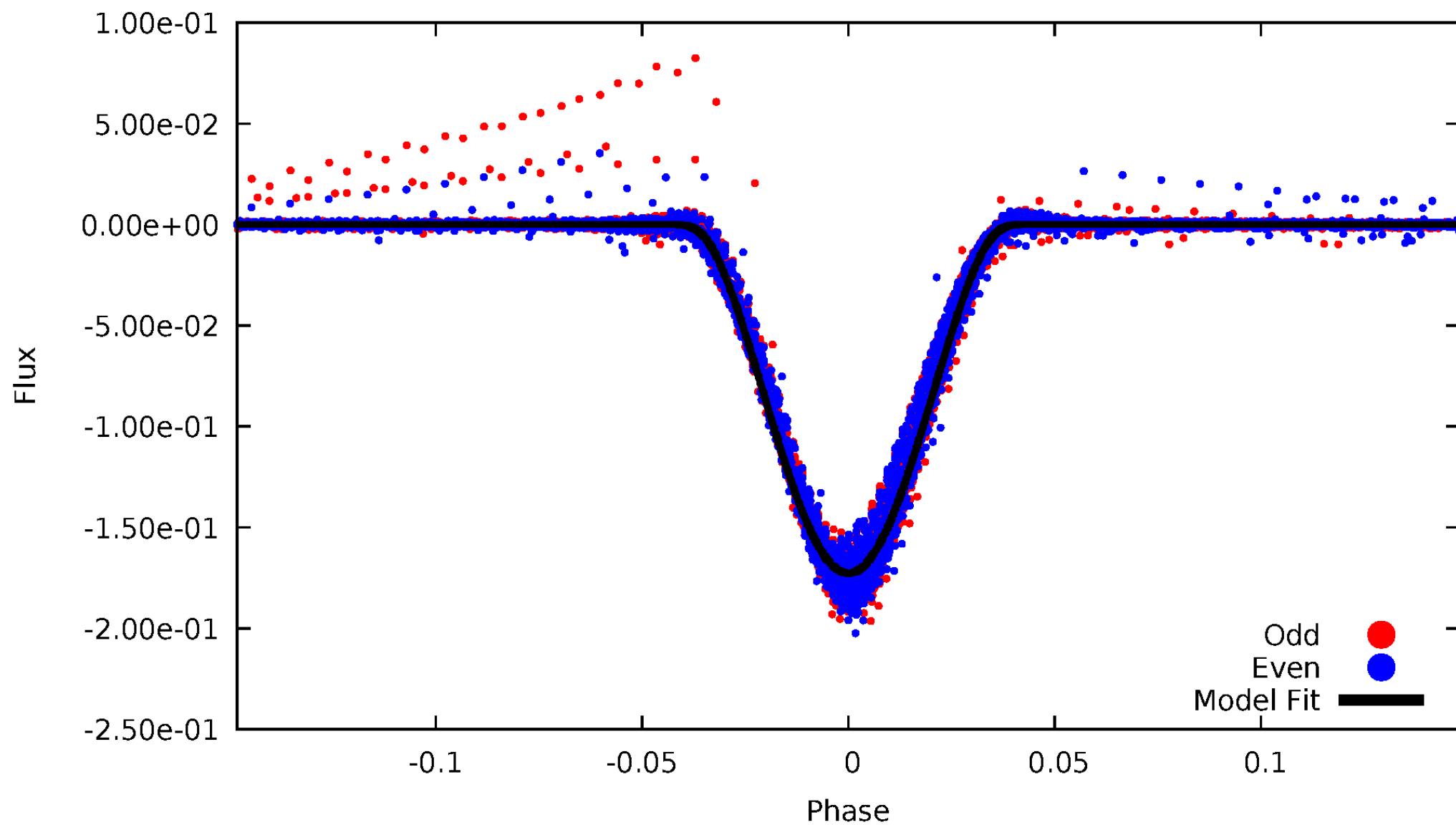


TCE 009641031-02



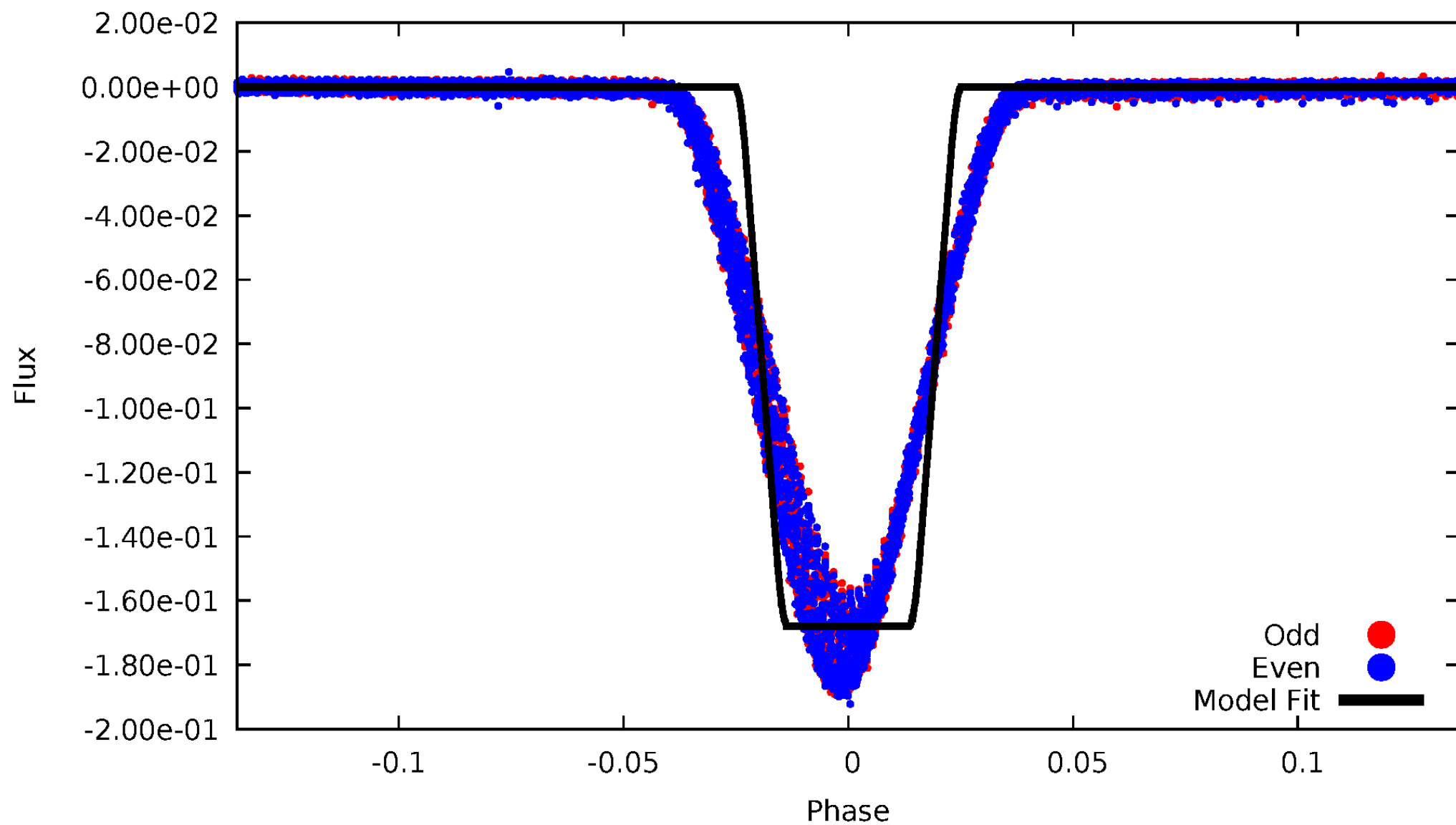
DV Odd/Even

TCE 009641031-02



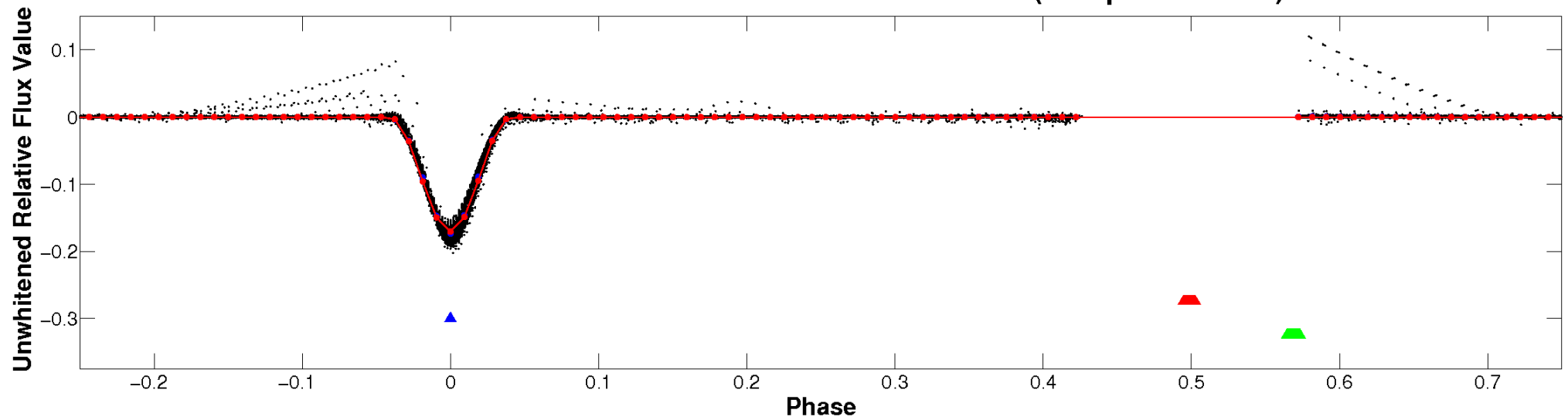
ALT Odd/Even

TCE 009641031-02

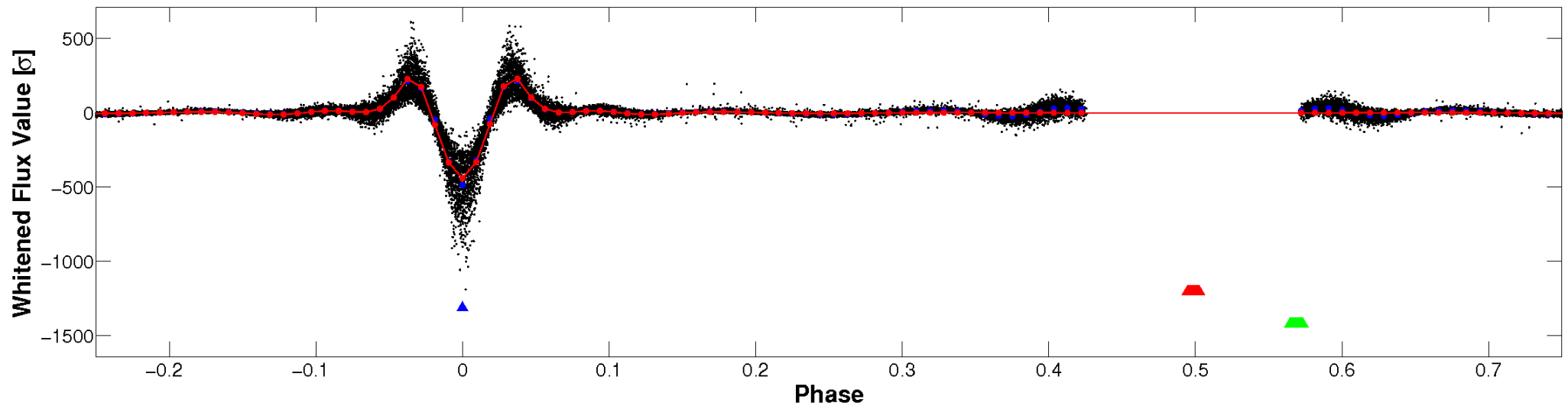


Non-Whitened Vs. Whitened Light Curve

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

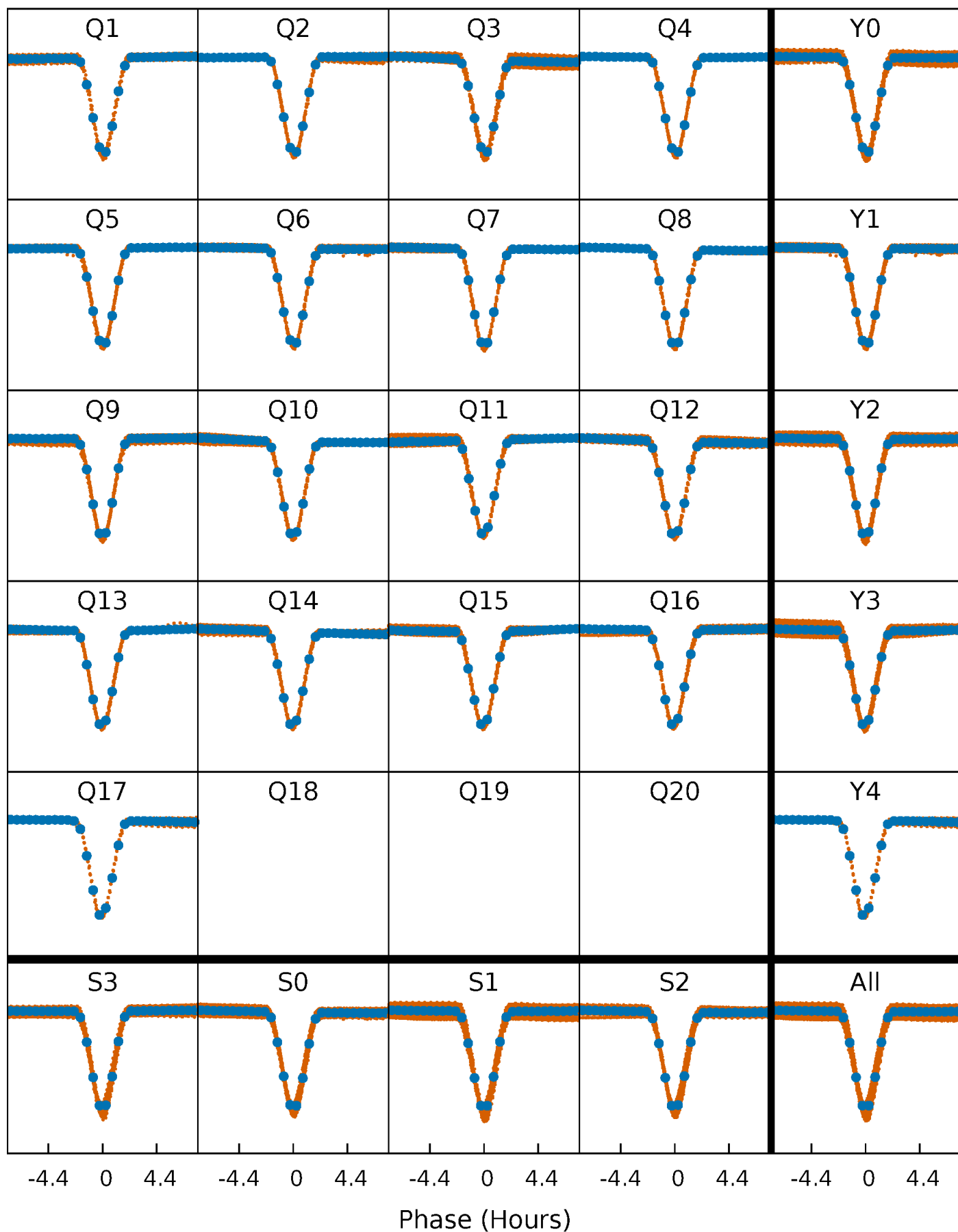


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



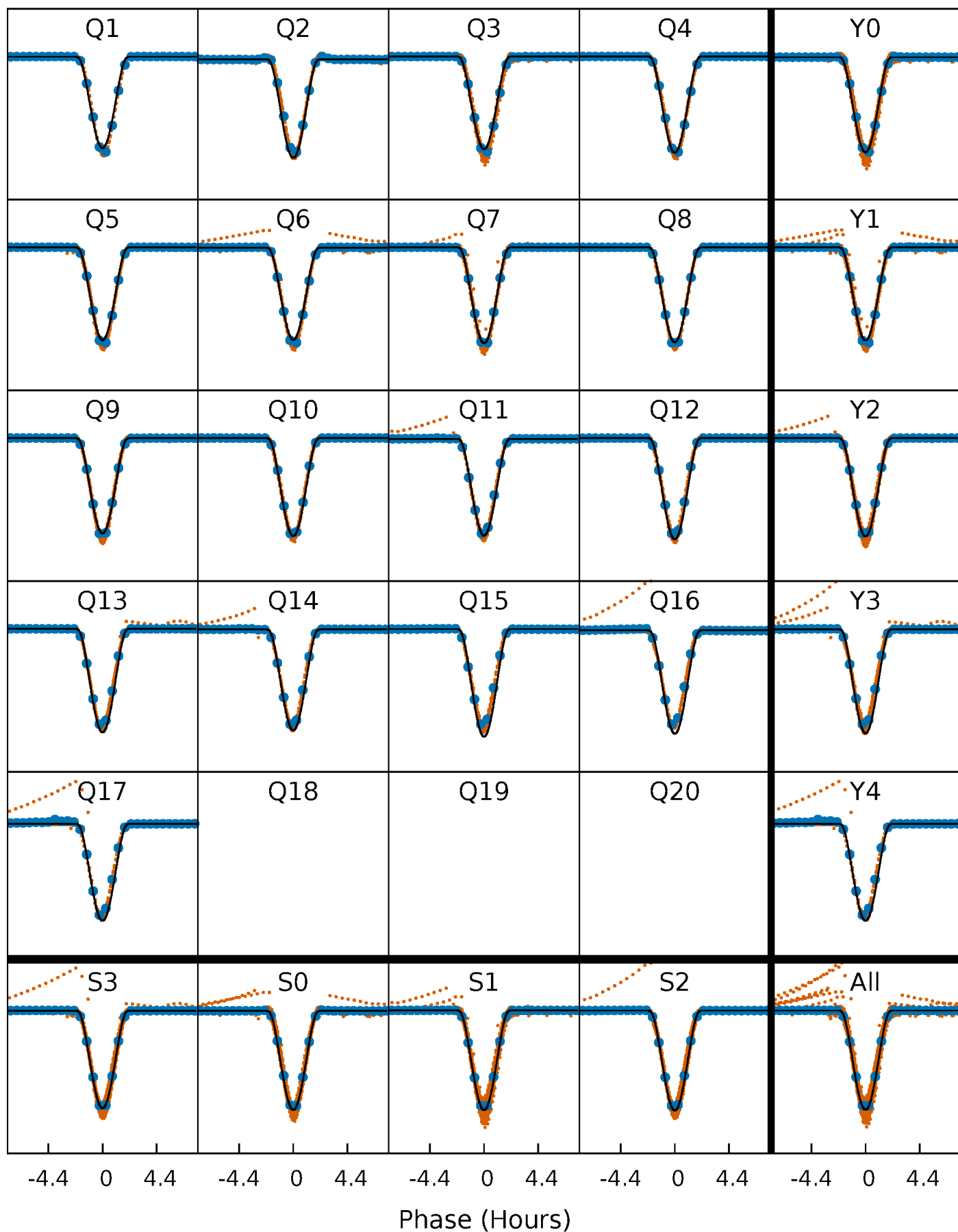
PDC Quarter-Phased Transit Curves

TCE 009641031-02 P= 2.178165 Days $T_0=133.109937$ (BKJD)



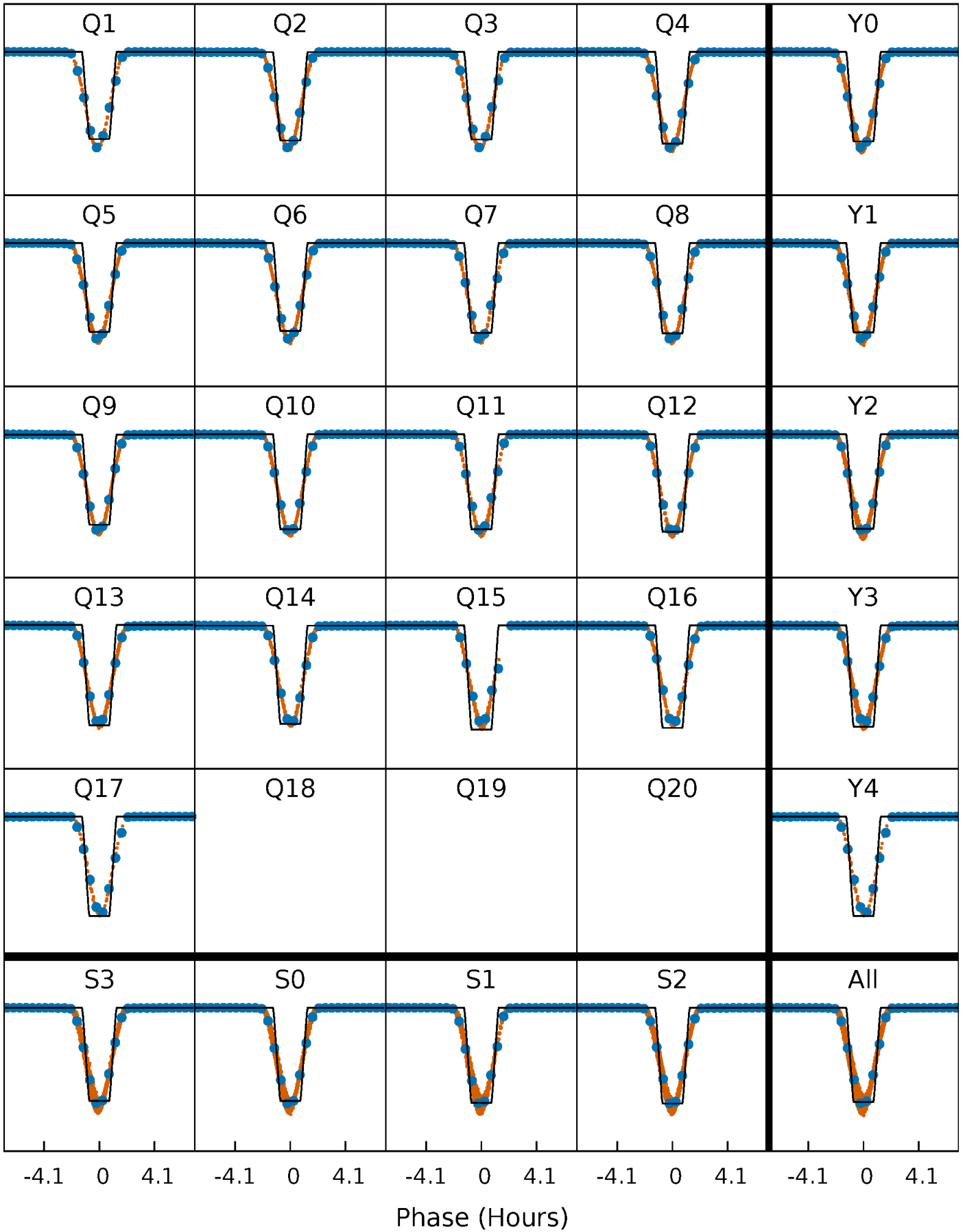
DV Quarter-Phased Transit Curves

TCE 009641031-02 P= 2.178165 Days $T_0=133.109937$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

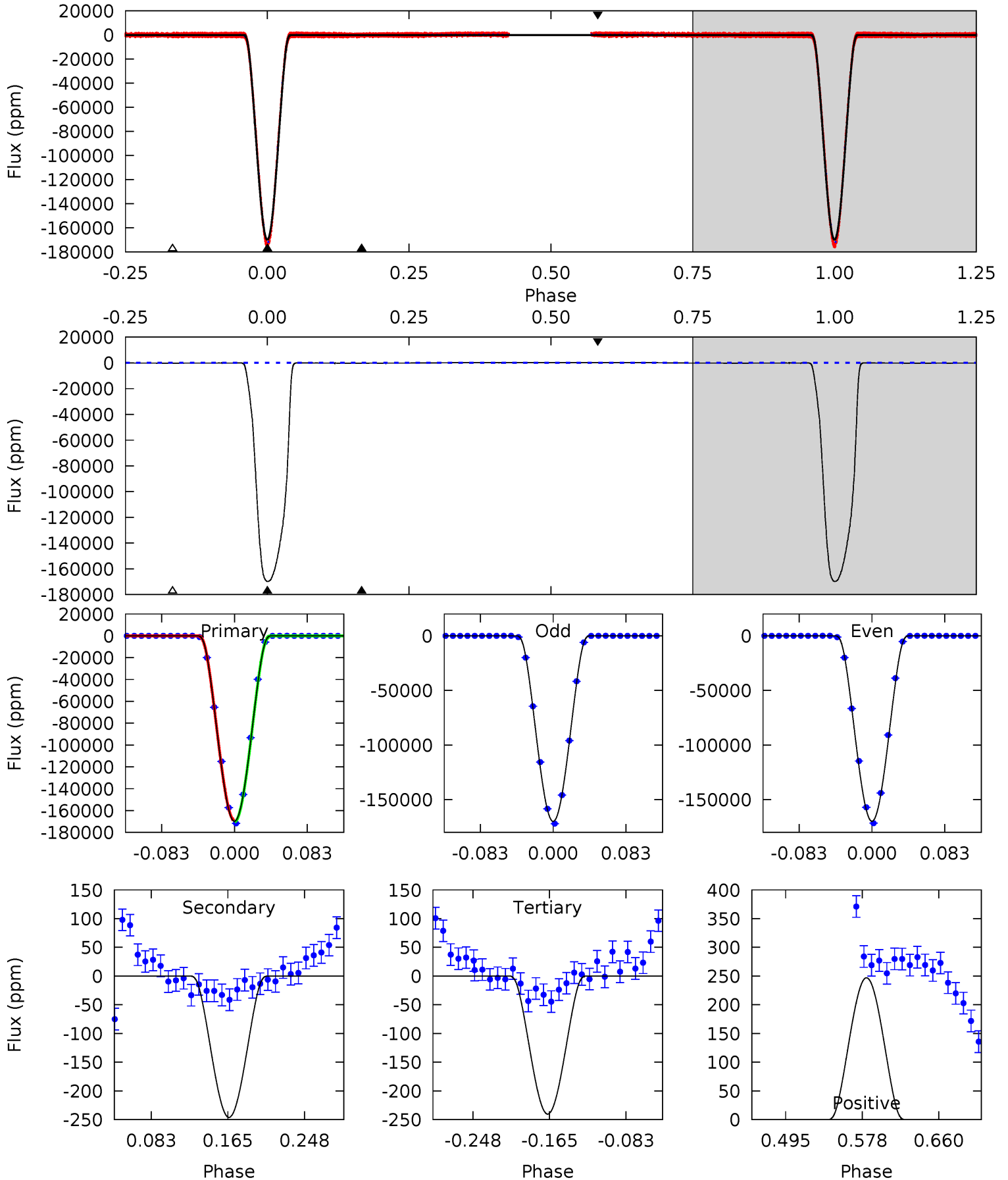
TCE 009641031-02 P= 2.178142 Days $T_0=133.118941$ (BKJD)



DV Model-Shift Uniqueness Test

009641031-02, P = 2.178165 Days, E = 130.931772 Days

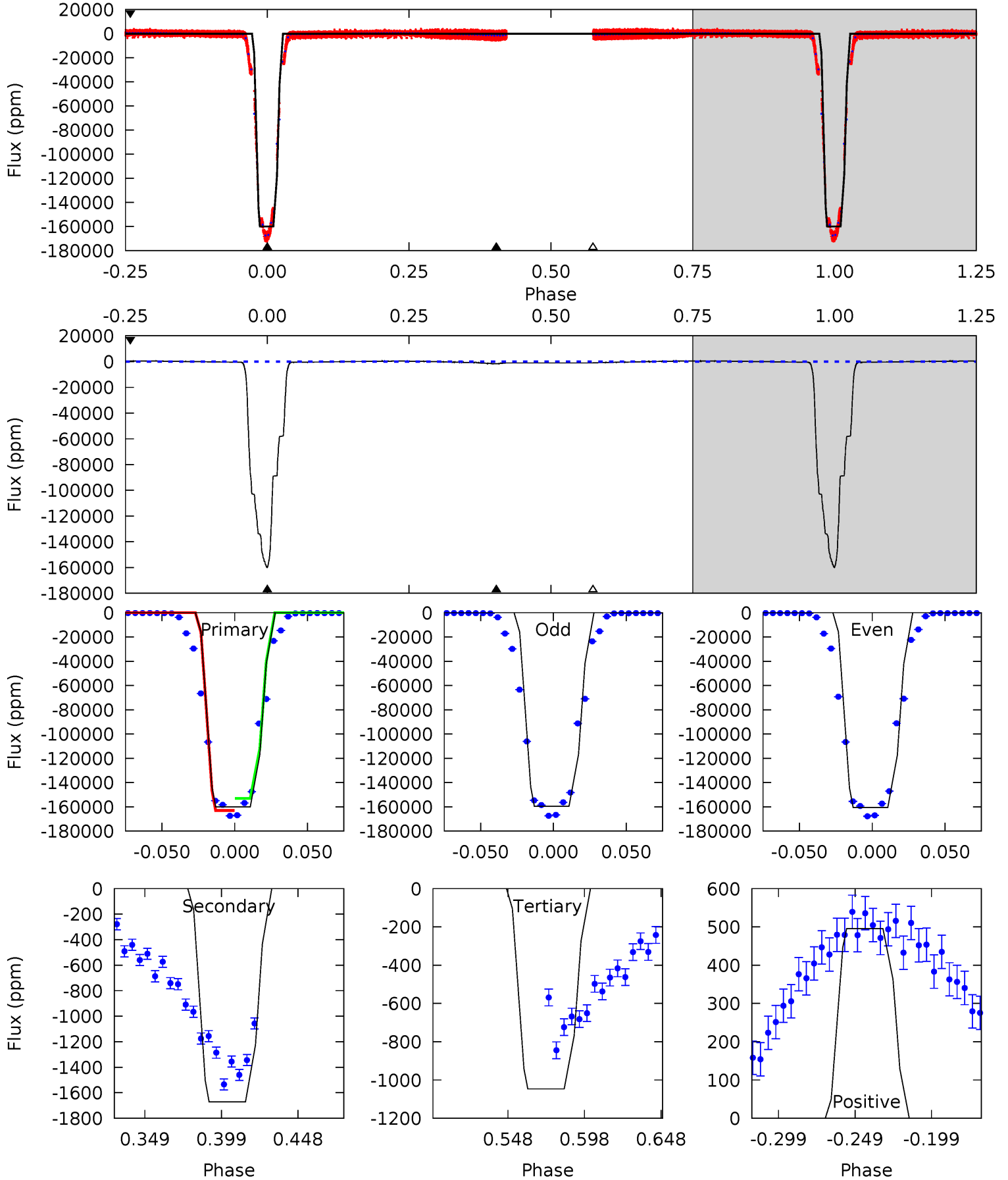
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12753	18.5	18.1	18.6	4.60	1.74	13.7	12735	12735	0.43	-0.07	4.66	0.99	0.00	0



Alt Model-Shift Uniqueness Test

009641031-02, P = 2.178142 Days, E = 130.940799 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
3653	38.2	23.9	11.3	4.71	1.96	8.15	3629	3642	14.3	26.9	11.1	0.99	0.00	0



Stellar Parameters For KIC 009641031

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6126^{+165}_{-183}	$4.285^{+0.180}_{-0.180}$	$-0.300^{+0.300}_{-0.300}$	$1.176^{+0.330}_{-0.240}$	$0.972^{+0.151}_{-0.110}$	$0.841^{+0.787}_{-0.408}$
	+3%/-3%	+4%/-4%	+100%/-100%	+28%/-20%	+16%/-11%	+94%/-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 009641031-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-246 ± 13	$66.48^{+10.13}_{-8.44}$	2270^{+169}_{-151}	-2618^{+94}_{-112}	$0.033^{+0.009}_{-0.008}$
Alt.	-1672 ± 44	$52.88^{+8.20}_{-6.58}$	2268^{+169}_{-155}	2165^{+218}_{-4310}	$0.352^{+0.102}_{-0.088}$

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 $A_{obs} \gg 1.0$

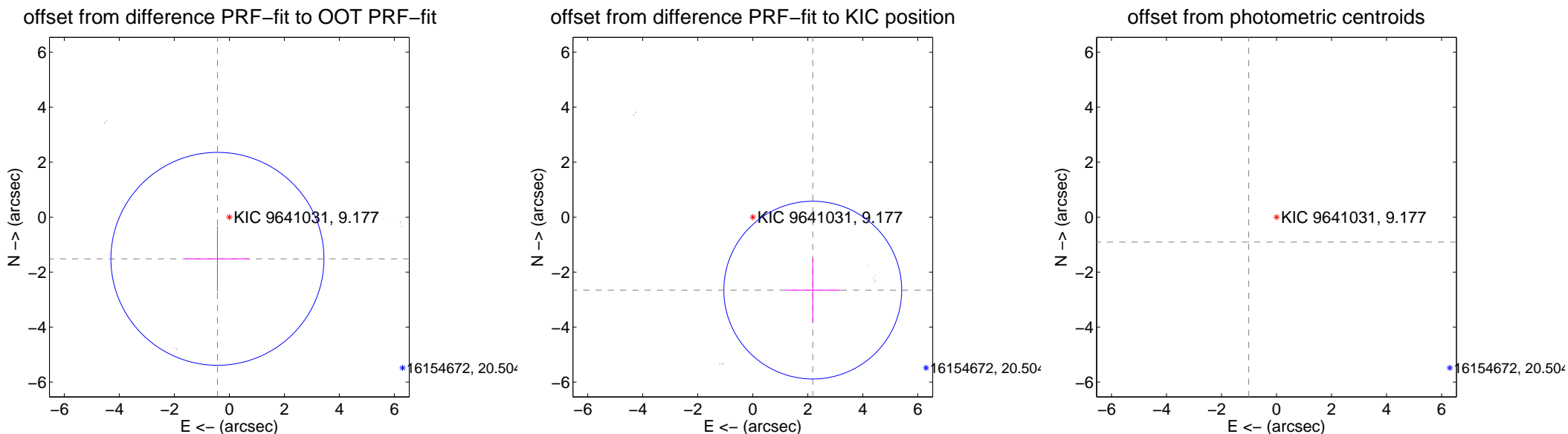
DV Centroid Data

Supplemental centroid analysis for 009641031-02. **Kepler magnitude: 9.18.** Transit SNR 10888.93

There are 0 quarters with good PRF difference image offsets

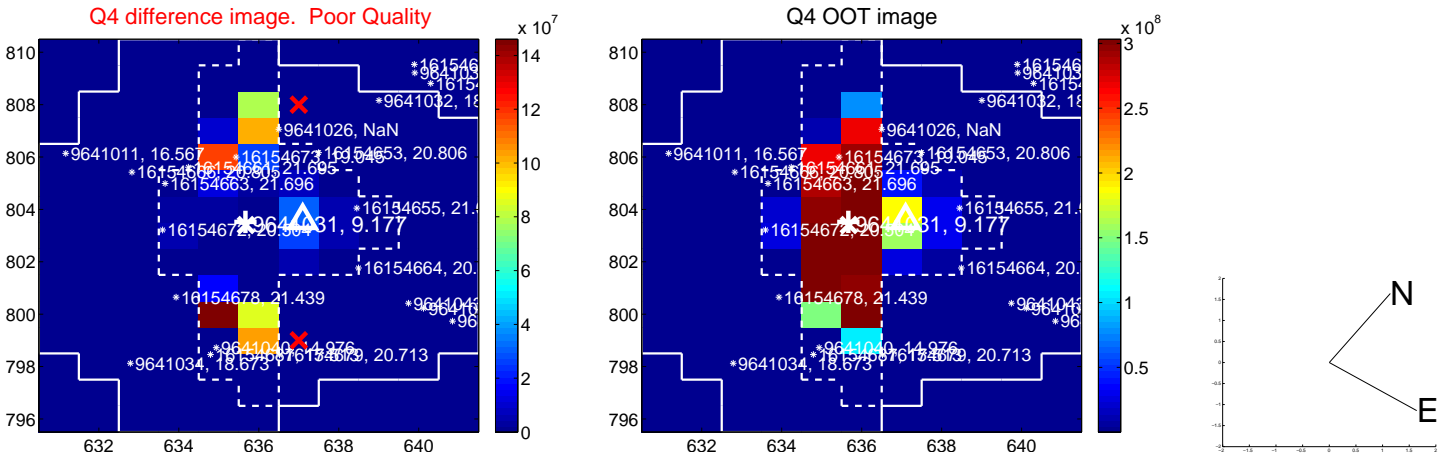
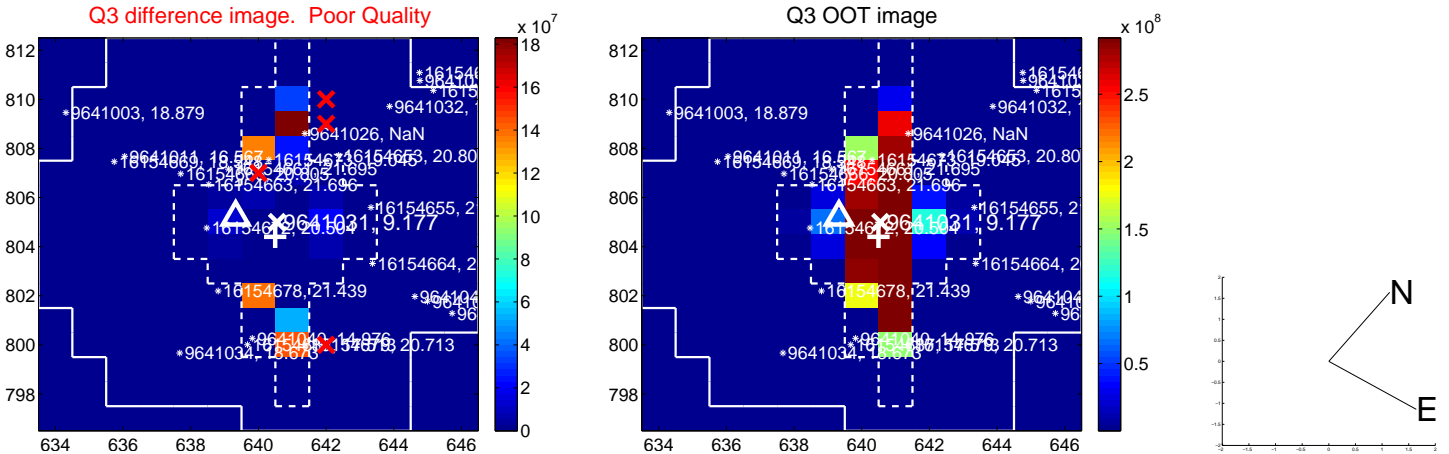
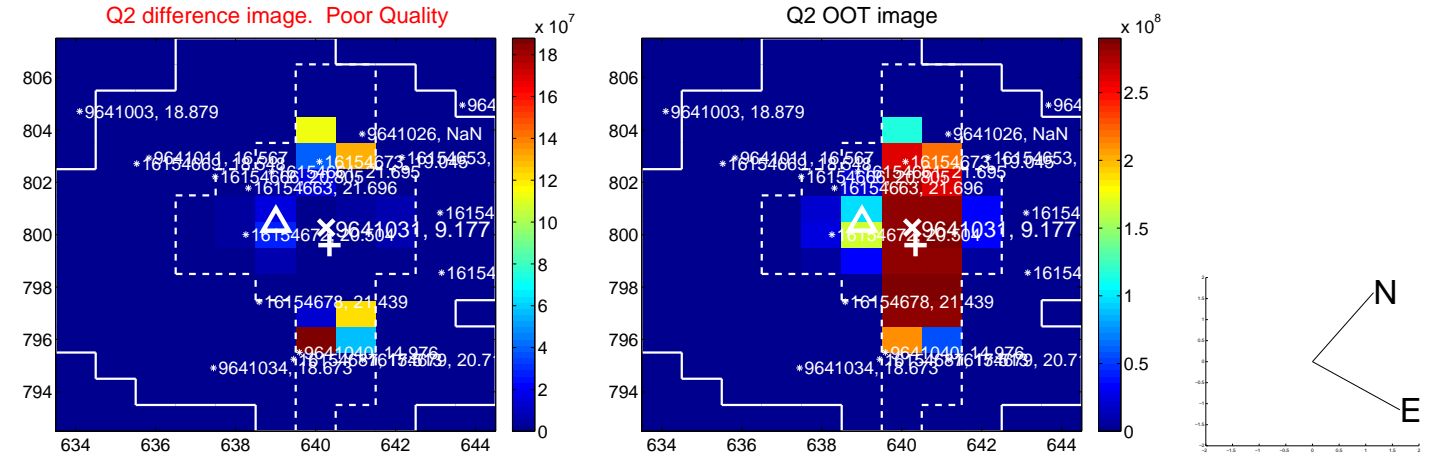
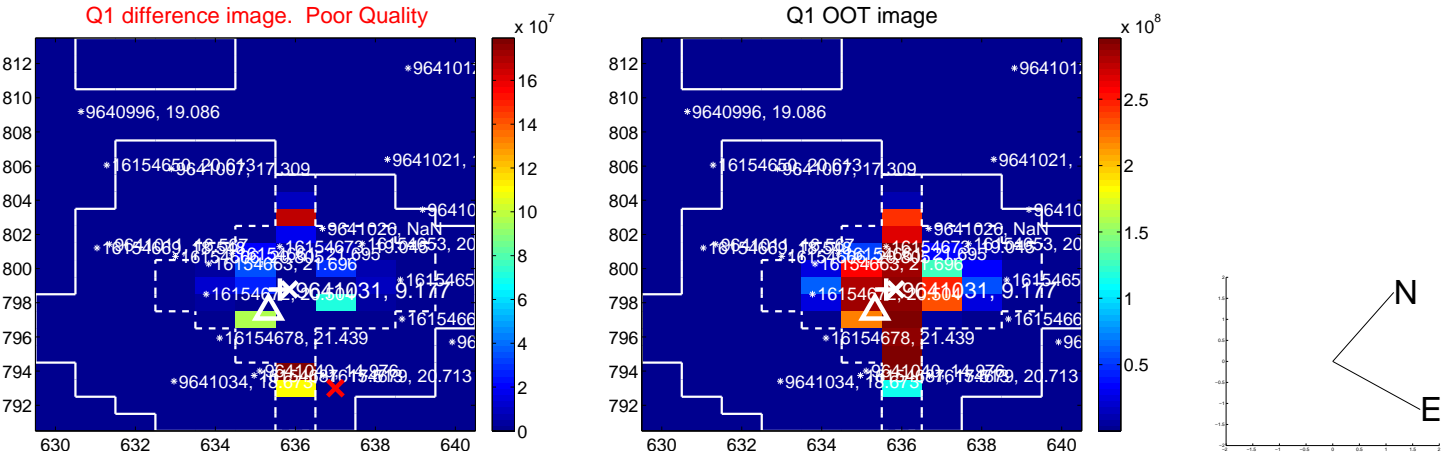
The direct PRF centroid is offset from the target star catalog position by about 0.99 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.578 ± 1.291	1.22	0.432 ± 1.182	-1.517 ± 1.191
PRF-fit source offset from KIC position	3.436 ± 1.078	3.19	-2.181 ± 1.010	-2.655 ± 1.174
photometric centroid source offset	1.36 ± 0.00	1539.27	1.01 ± 0.00	-0.91 ± 0.00

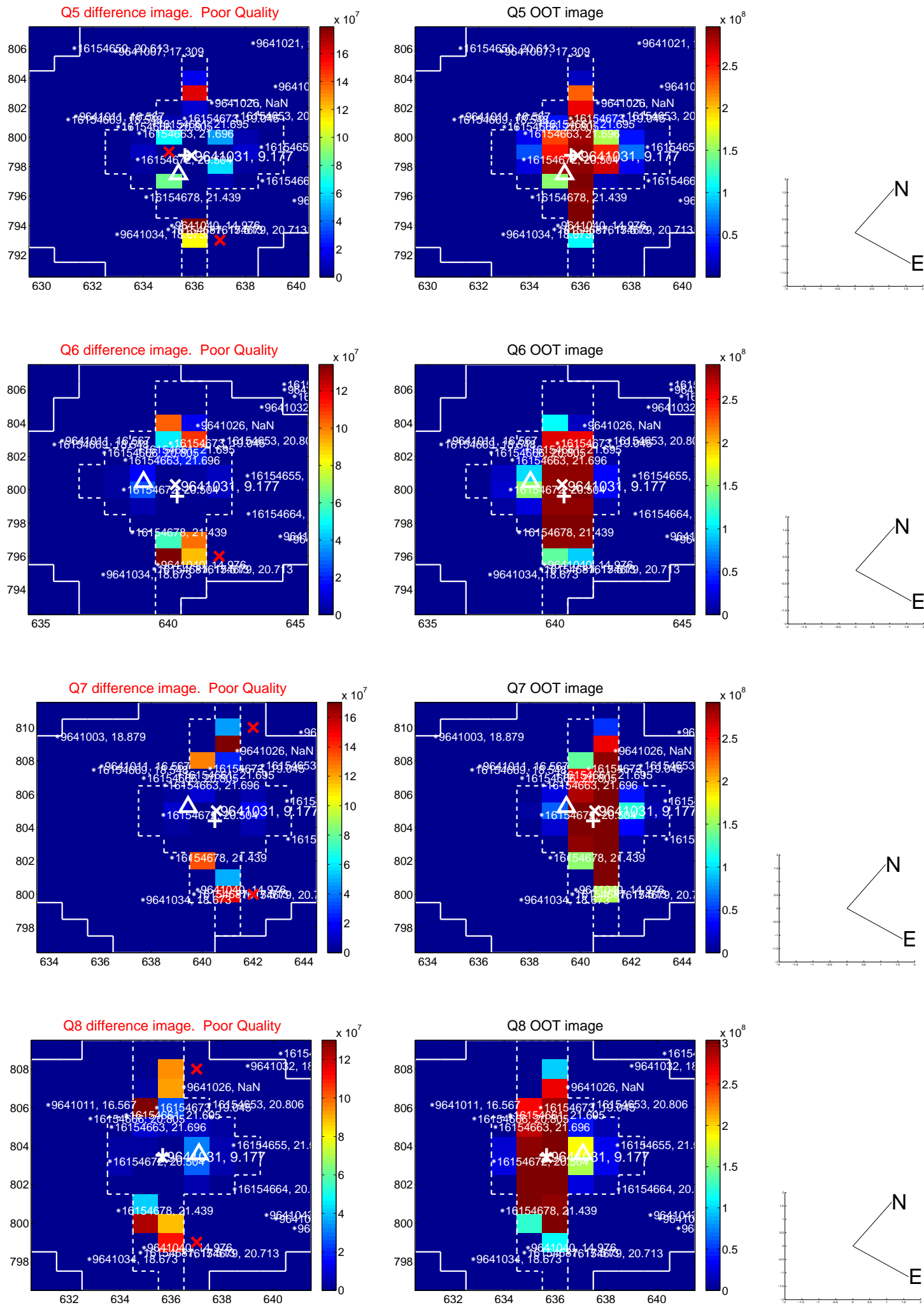


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

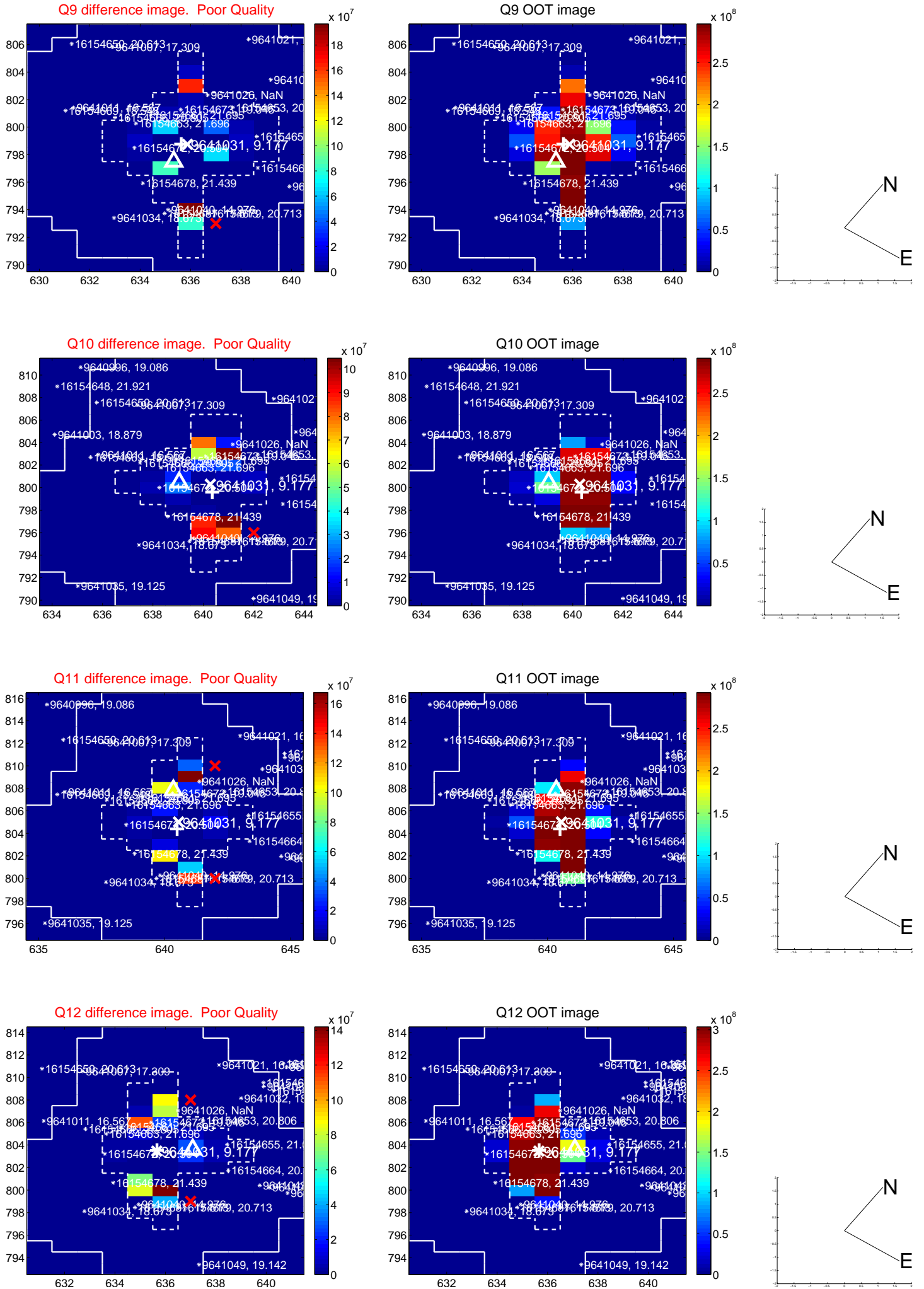
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



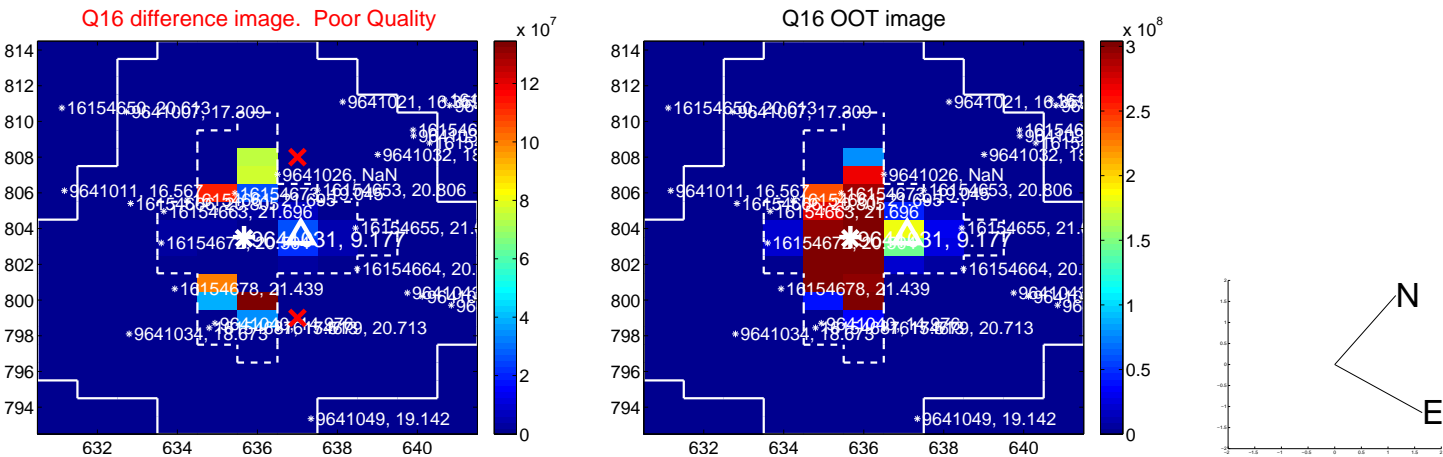
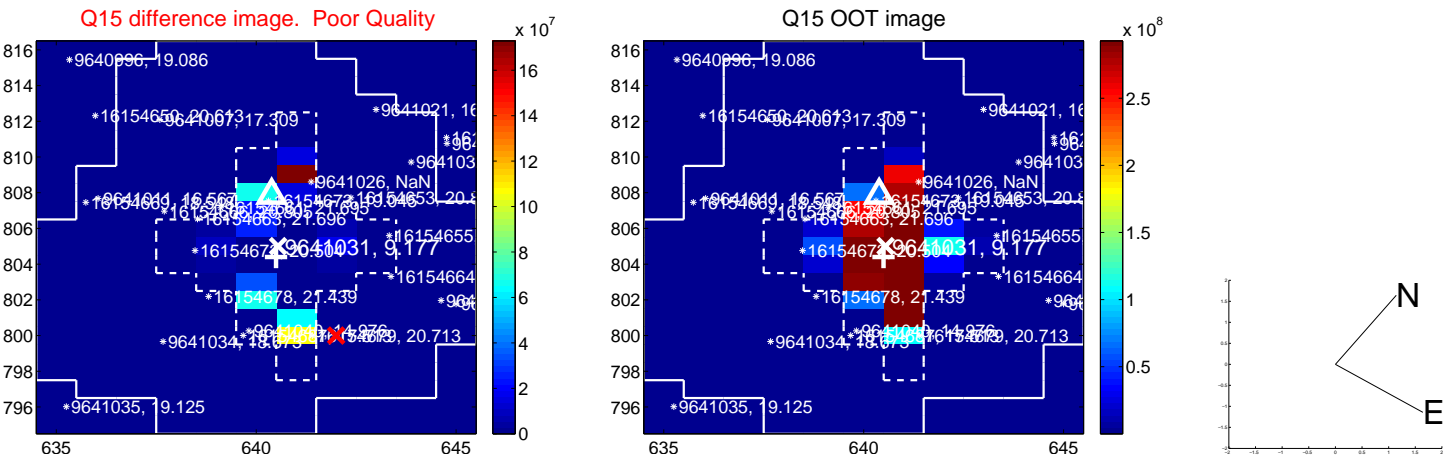
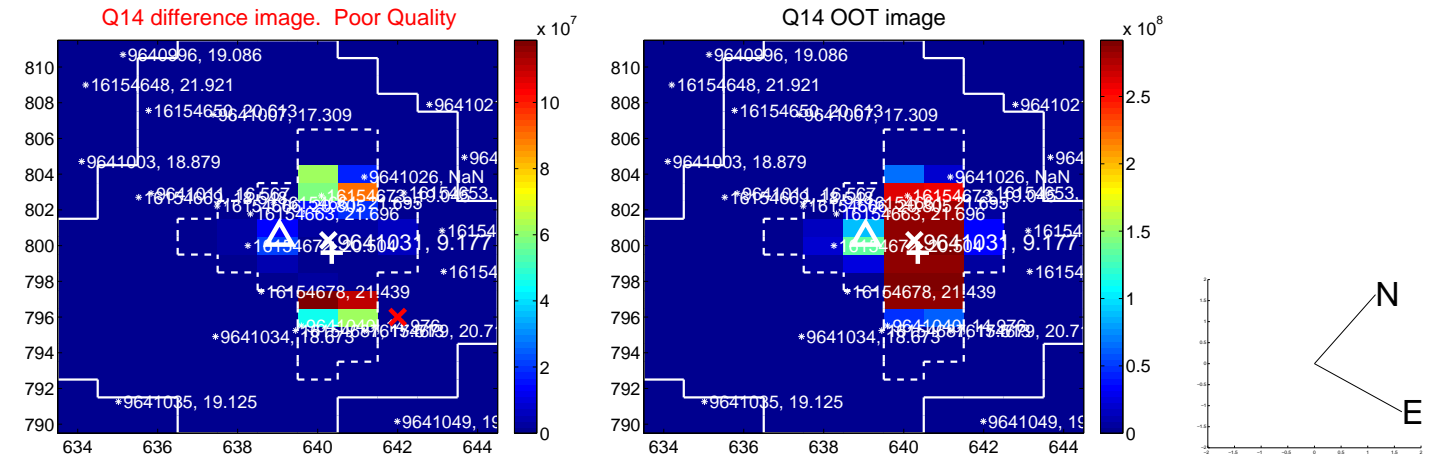
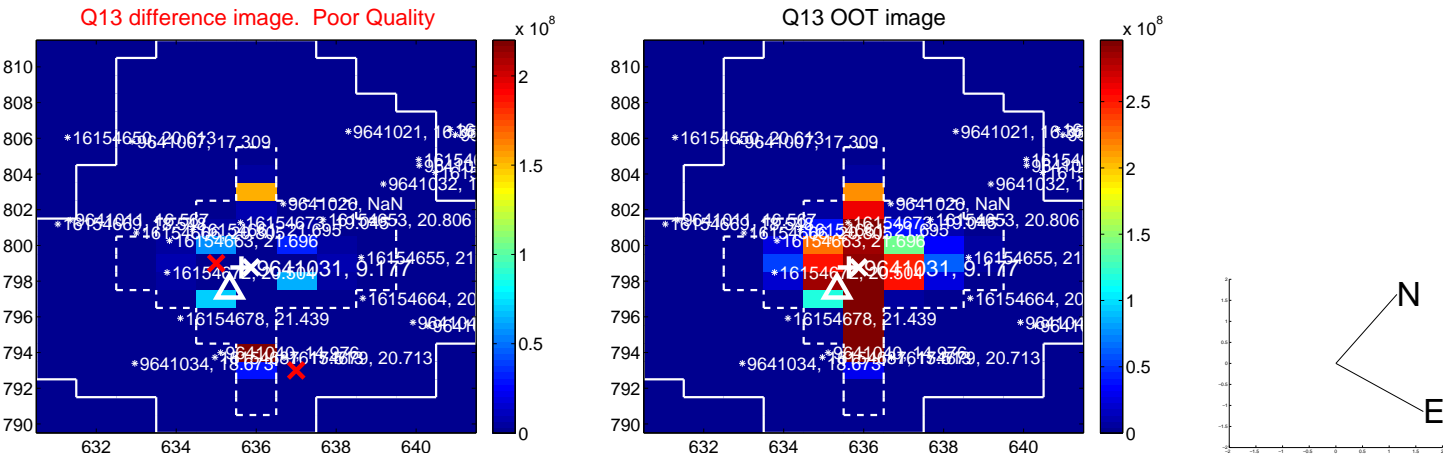
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



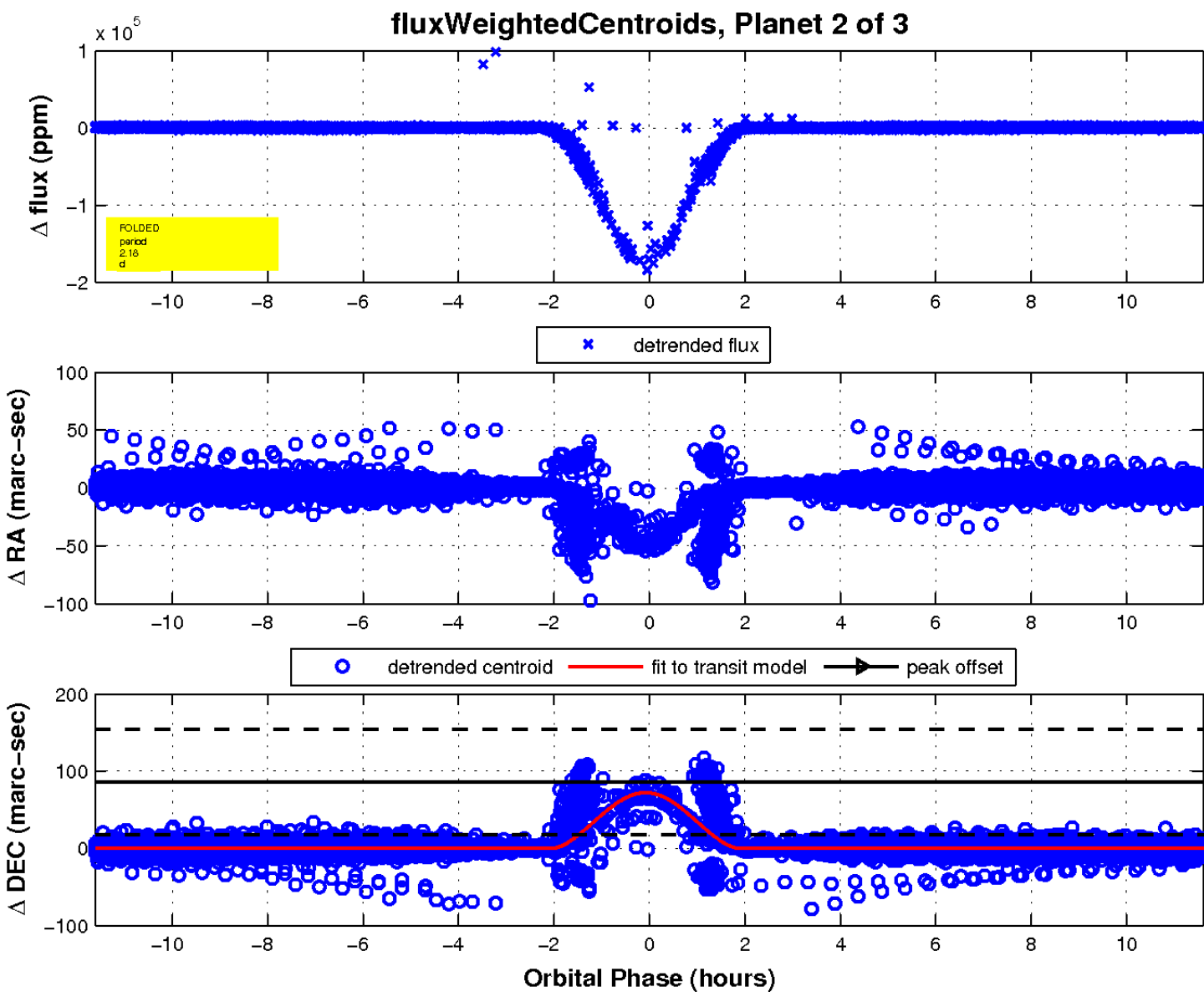
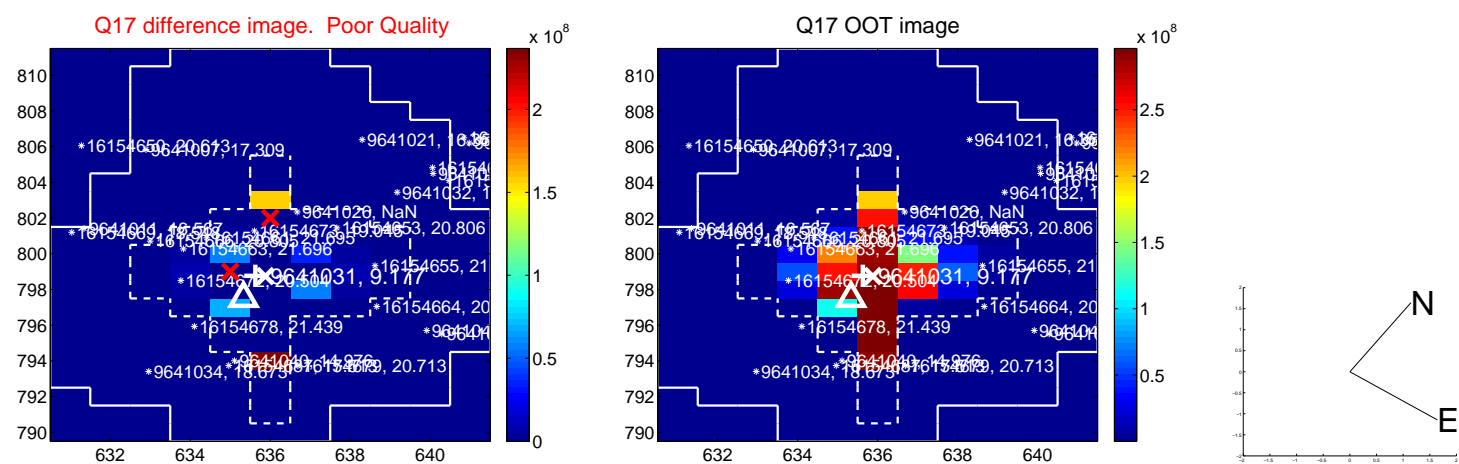
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



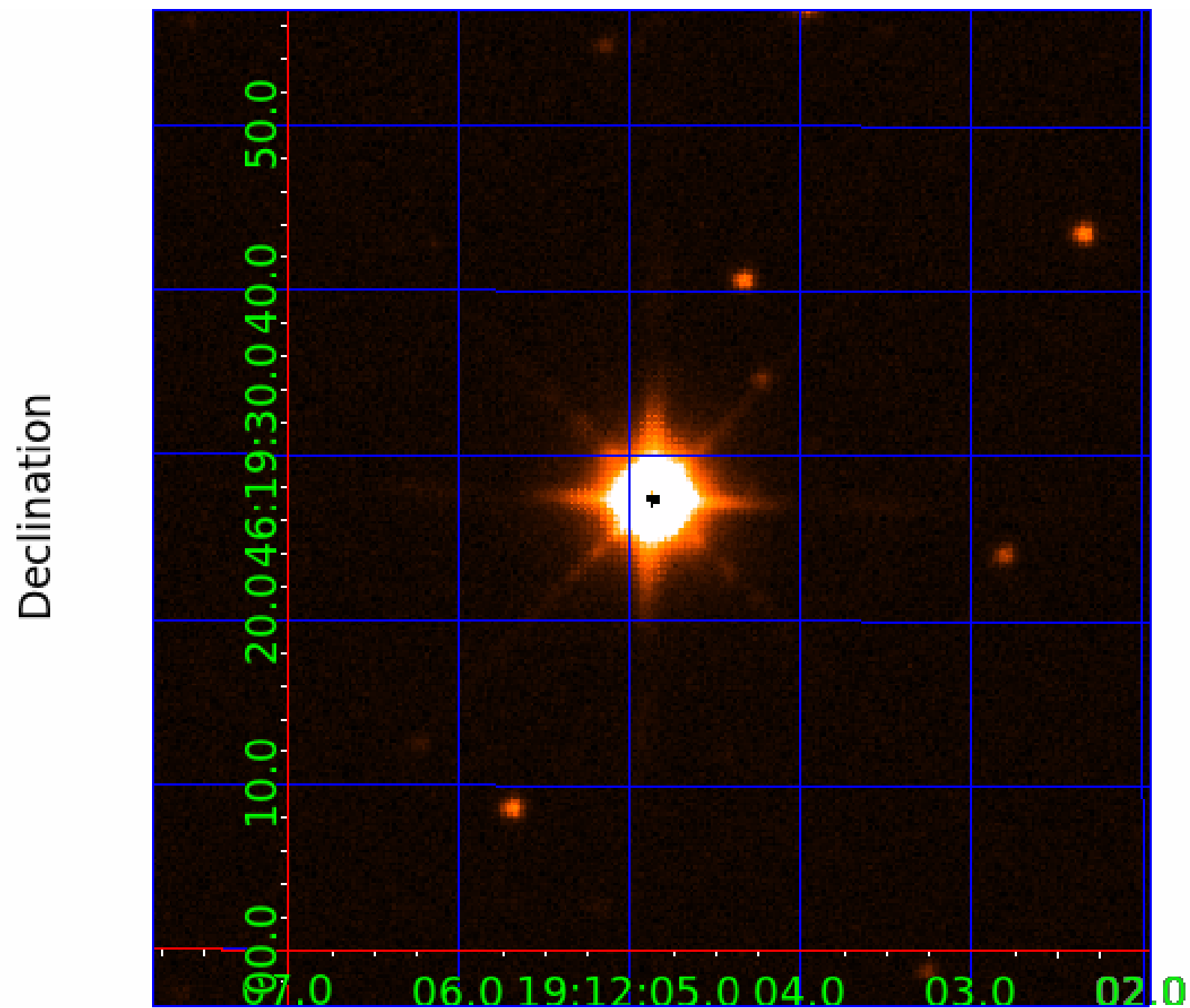
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image



KIC 009641031

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})
009641031-01	OBS	7211.01	2.178139	132.026619	396434.3	2.500	23205.6	-1.0	1.18	6126	20.28	1643.46
009641031-02	OBS	No	2.178165	133.109937	172734.7	3.871	15779.0	10888.9	1.18	6126	65.92	1643.44
009641031-03	OBS	No	6.534581	132.161462	3279.5	9.000	2600.6	-1.0	1.18	6126	6.74	379.82

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009641031-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—MOD_ODDEVEN_ALT—HAS_SEC_TCE—CENT_SATURATED
009641031-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_SATURATED
009641031-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—RESIDUAL_TCE—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.

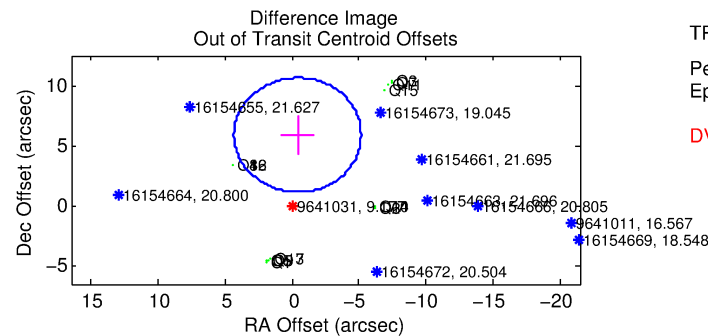
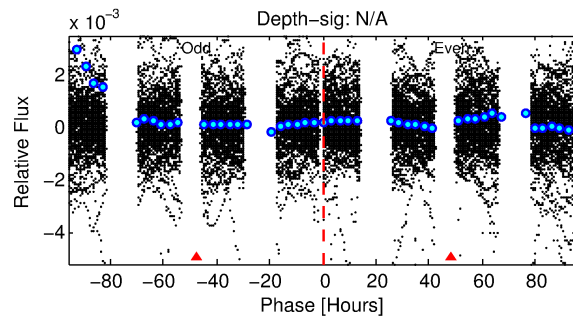
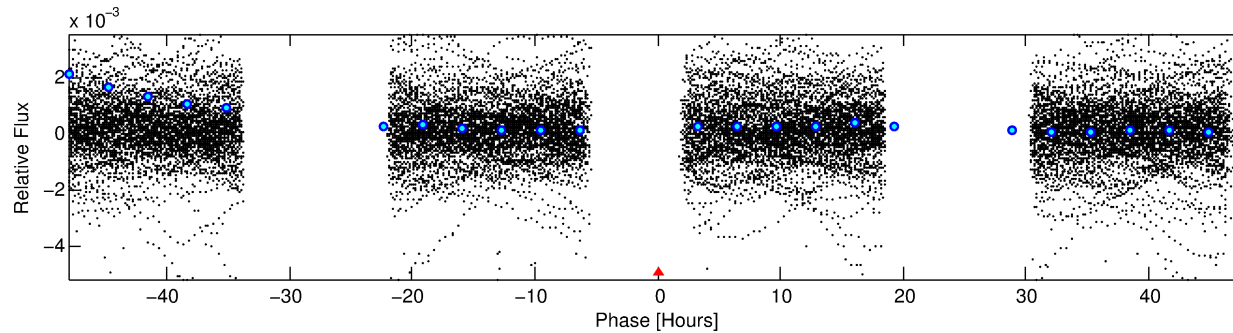
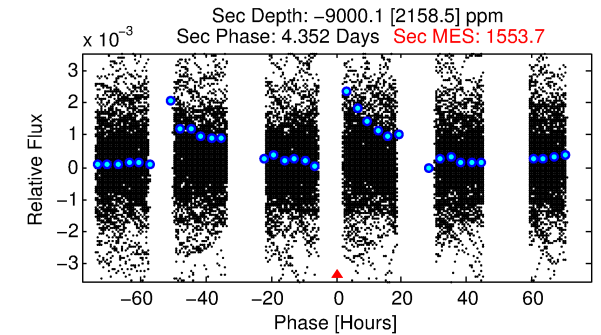
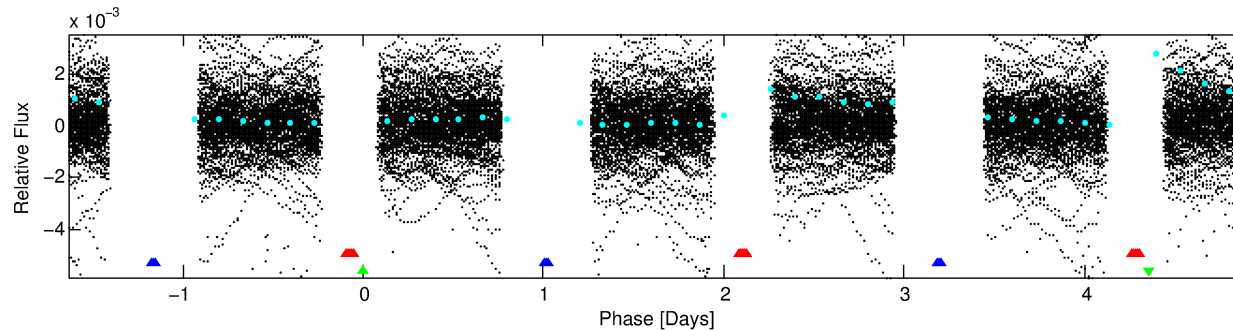
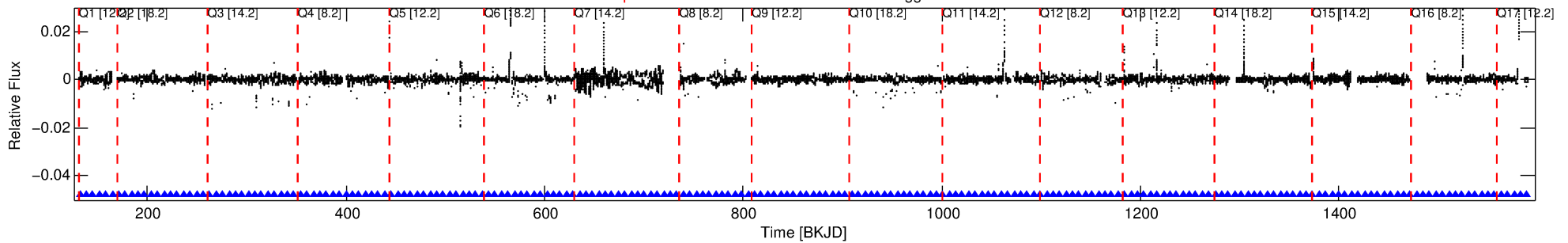
Ephemeris Match Information For 009641031-03

No Significant Match Found

DV One-Page Summary

KIC: 9641031 Candidate: 3 of 3 Period: 6.535 d
KOI: K07211 Corr: No Ephemeris Match

Kp: 9.18 R*: 1.18 Rs Teff: 6126.0 K Logg: 4.29 Fe/H: -0.300



TPS TCE Results:

Period = 6.53458 d
Epoch = 132.1615 BKJD

DV fit results are unavailable

DV Diagnostic Results:

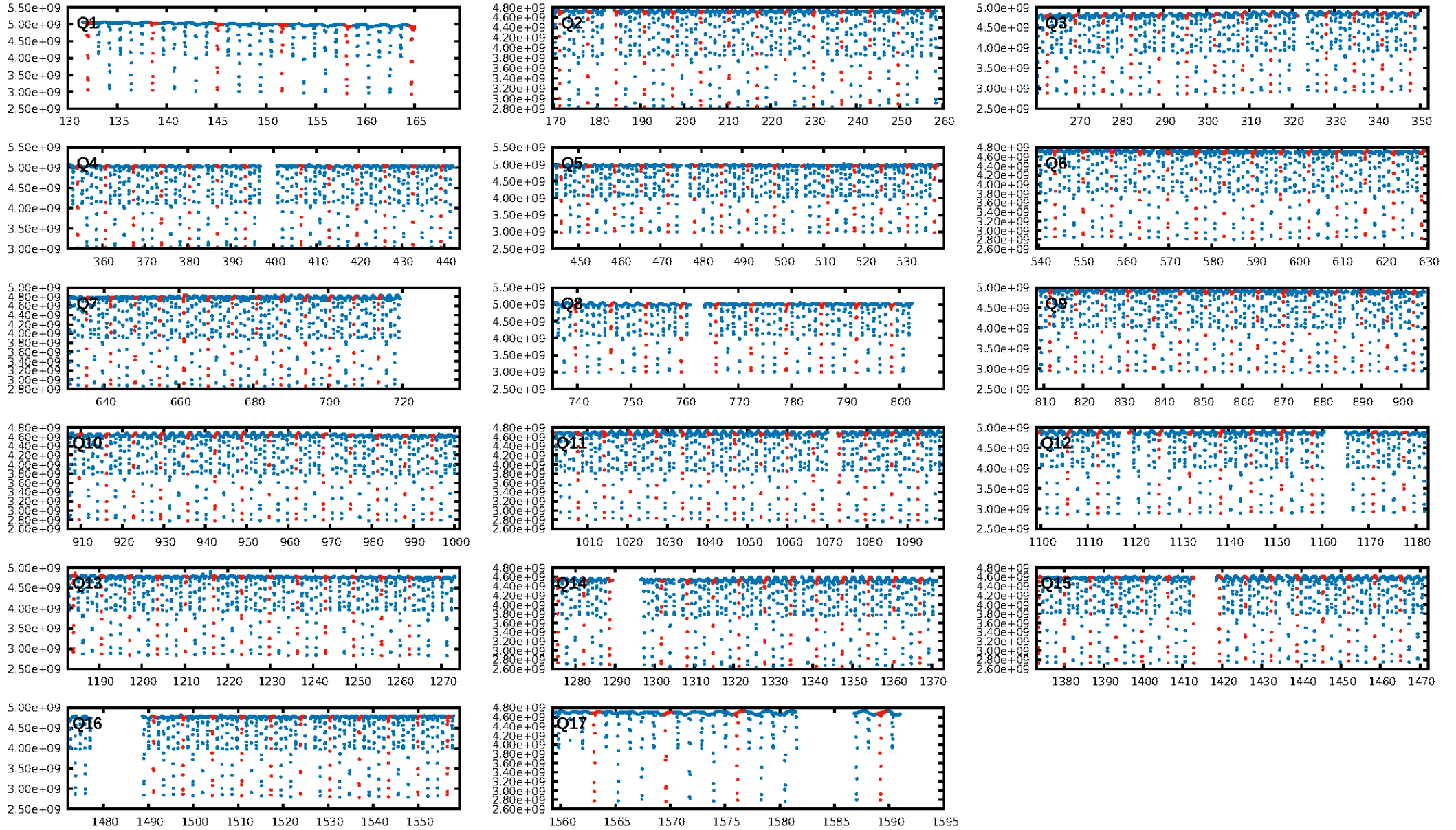
ShortPeriod-sig: 100.0% [10.67σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [202/202]
GhostDiagnostic-chr: N/A

Centroid-sig: N/A
Centroid-so: 0.454 arcsec [2.80σ]
OotOffset-rm: 5.905 arcsec [3.73σ]
KicOffset-rm: 5.982 arcsec [4.60σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.00 [0/17]
DiffImageOverlap-fno: 0.00 [0/17]

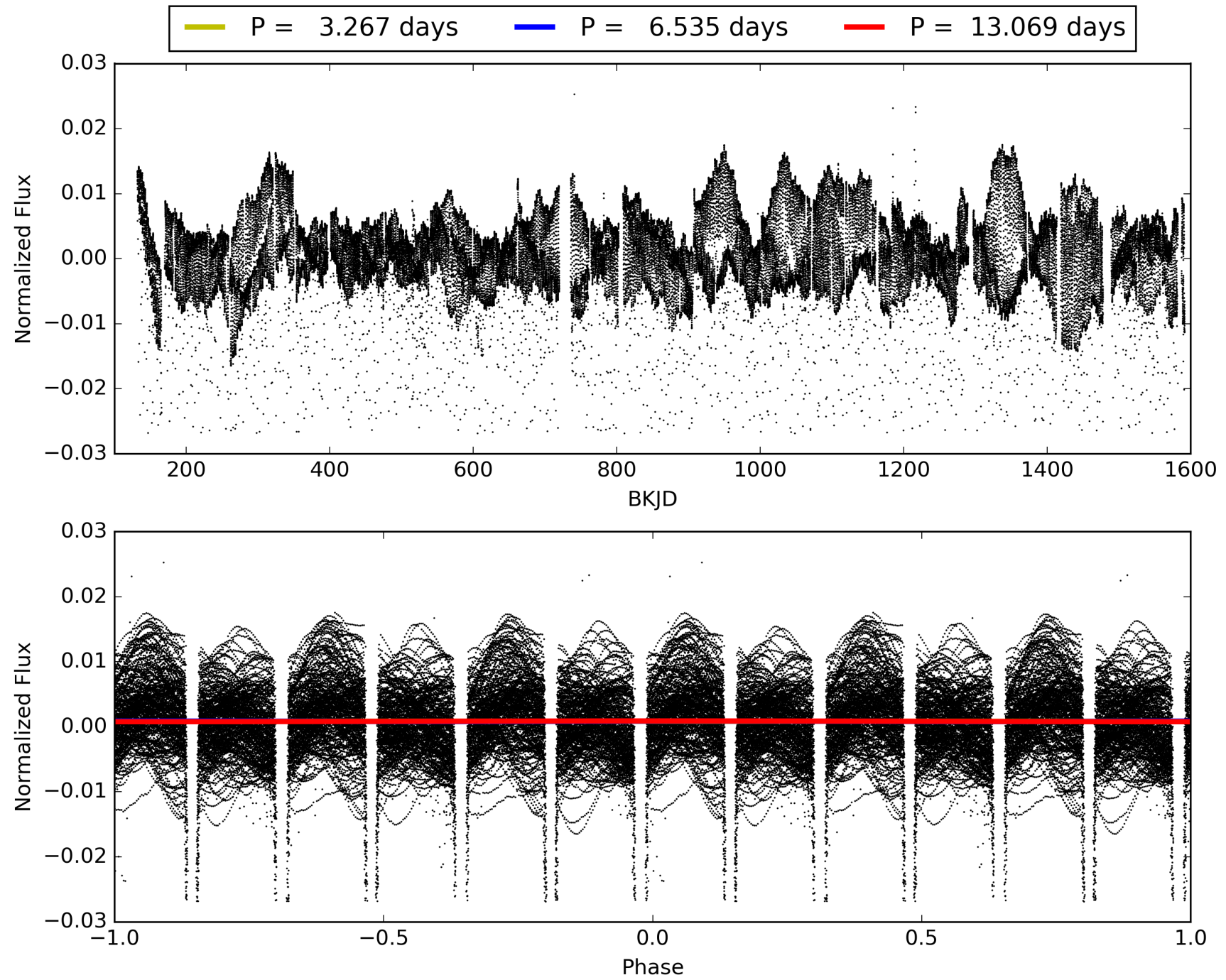
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 07:16:51 Z

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

TCE 009641031-03, PDC Light Curves

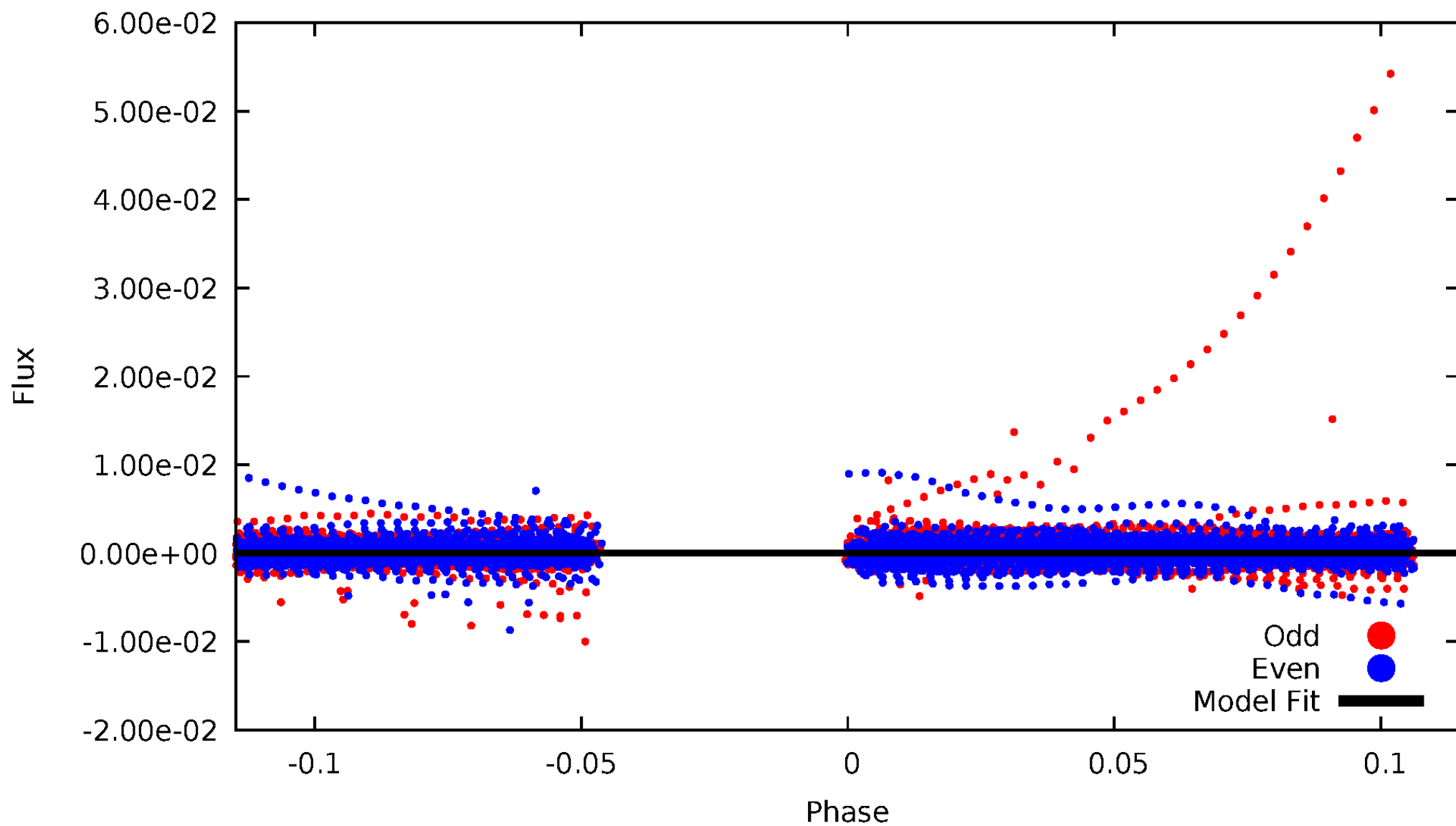


TCE 009641031-03



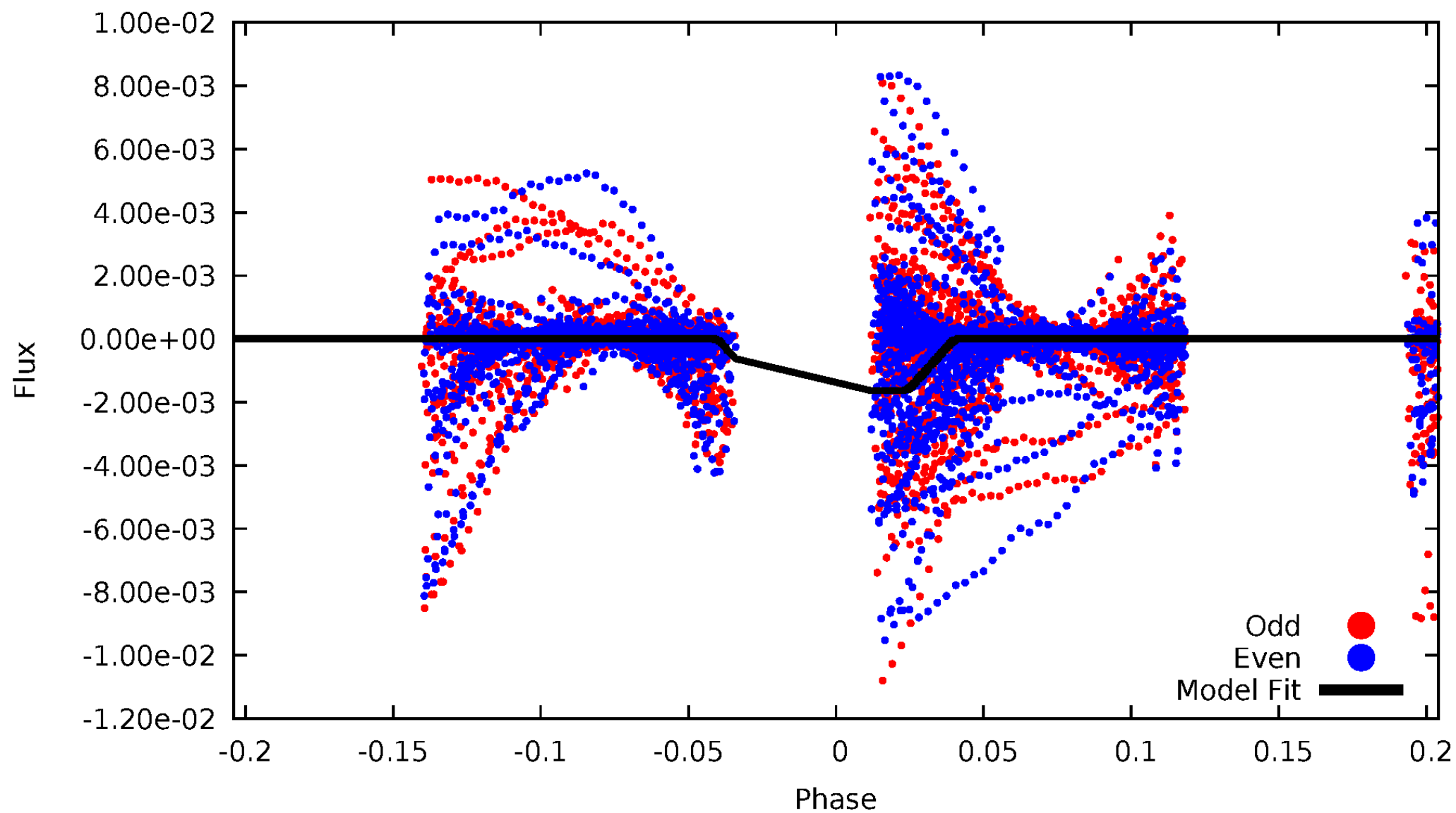
DV Odd/Even

TCE 009641031-03



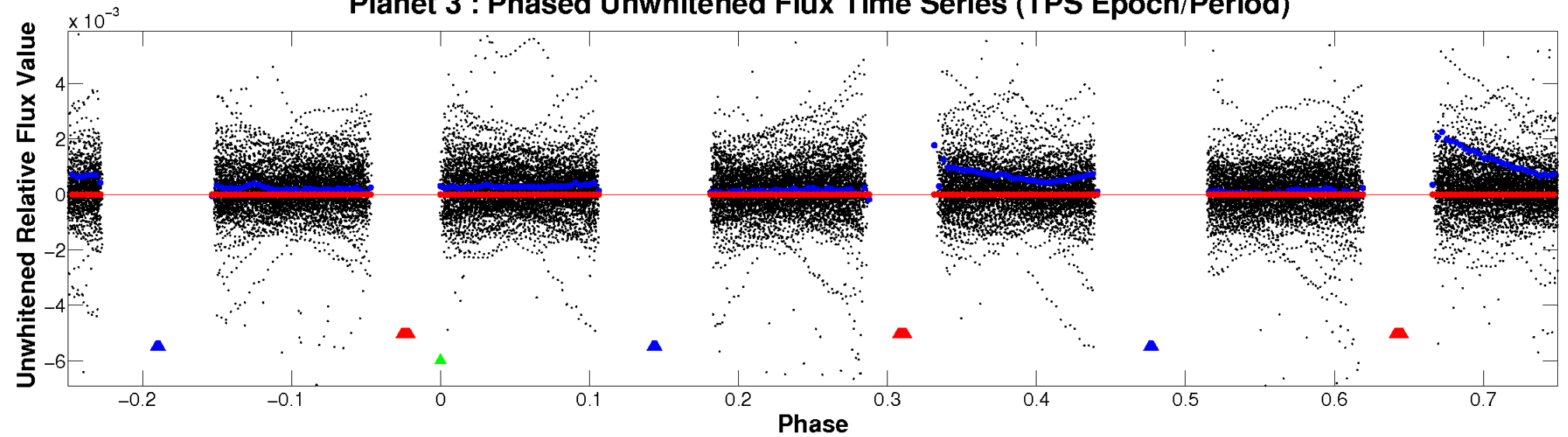
ALT Odd/Even

TCE 009641031-03

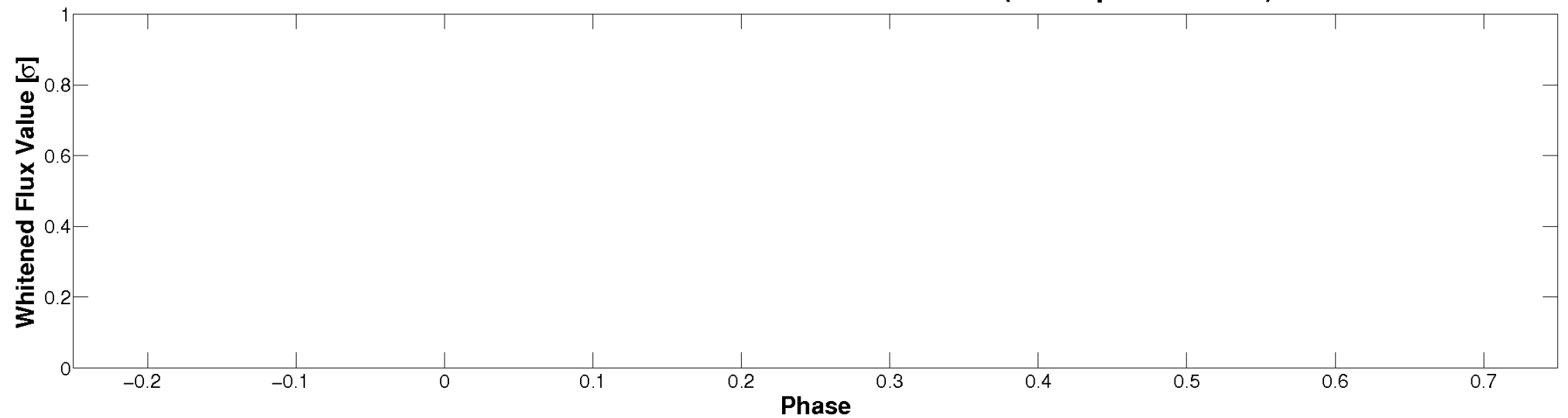


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

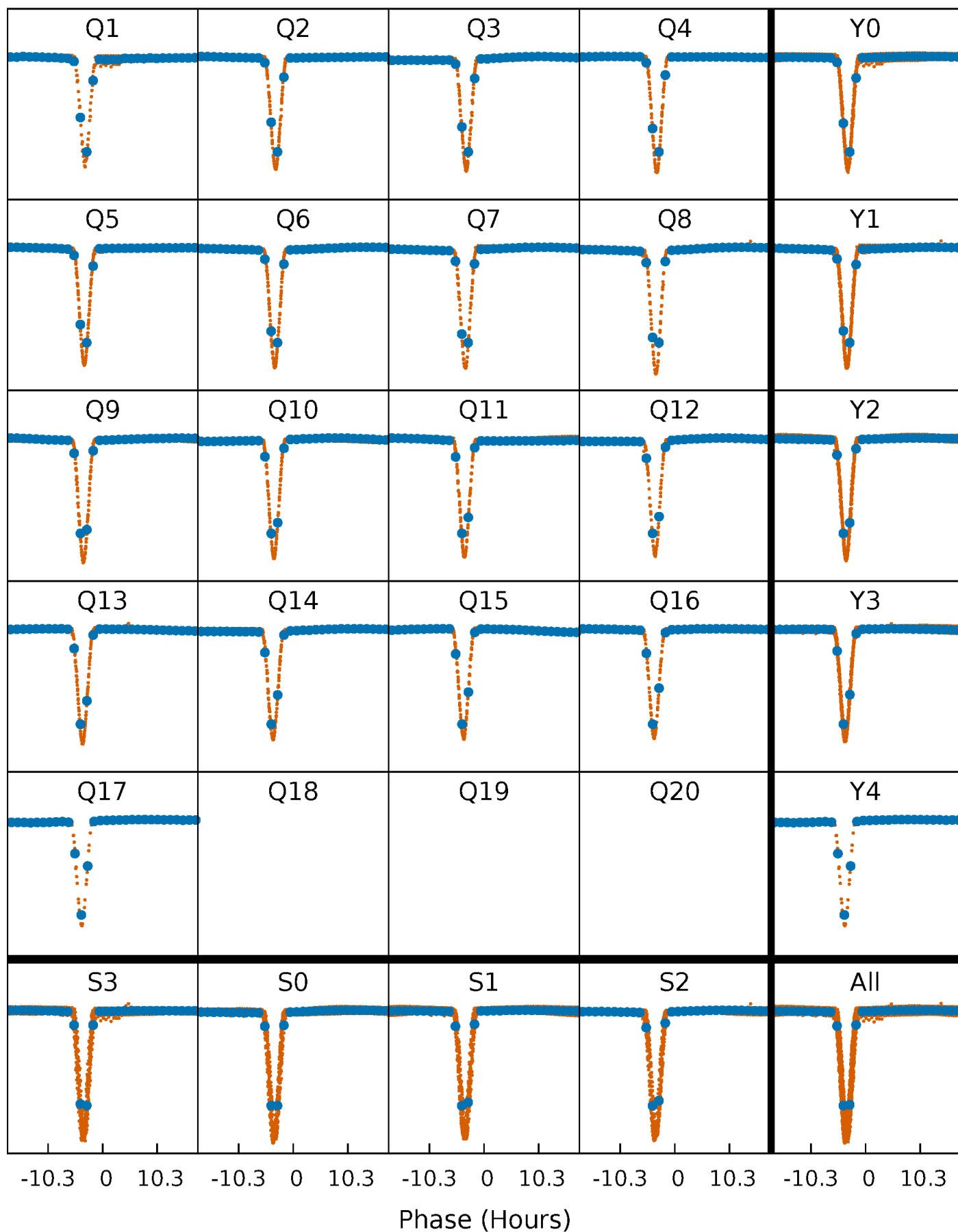


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



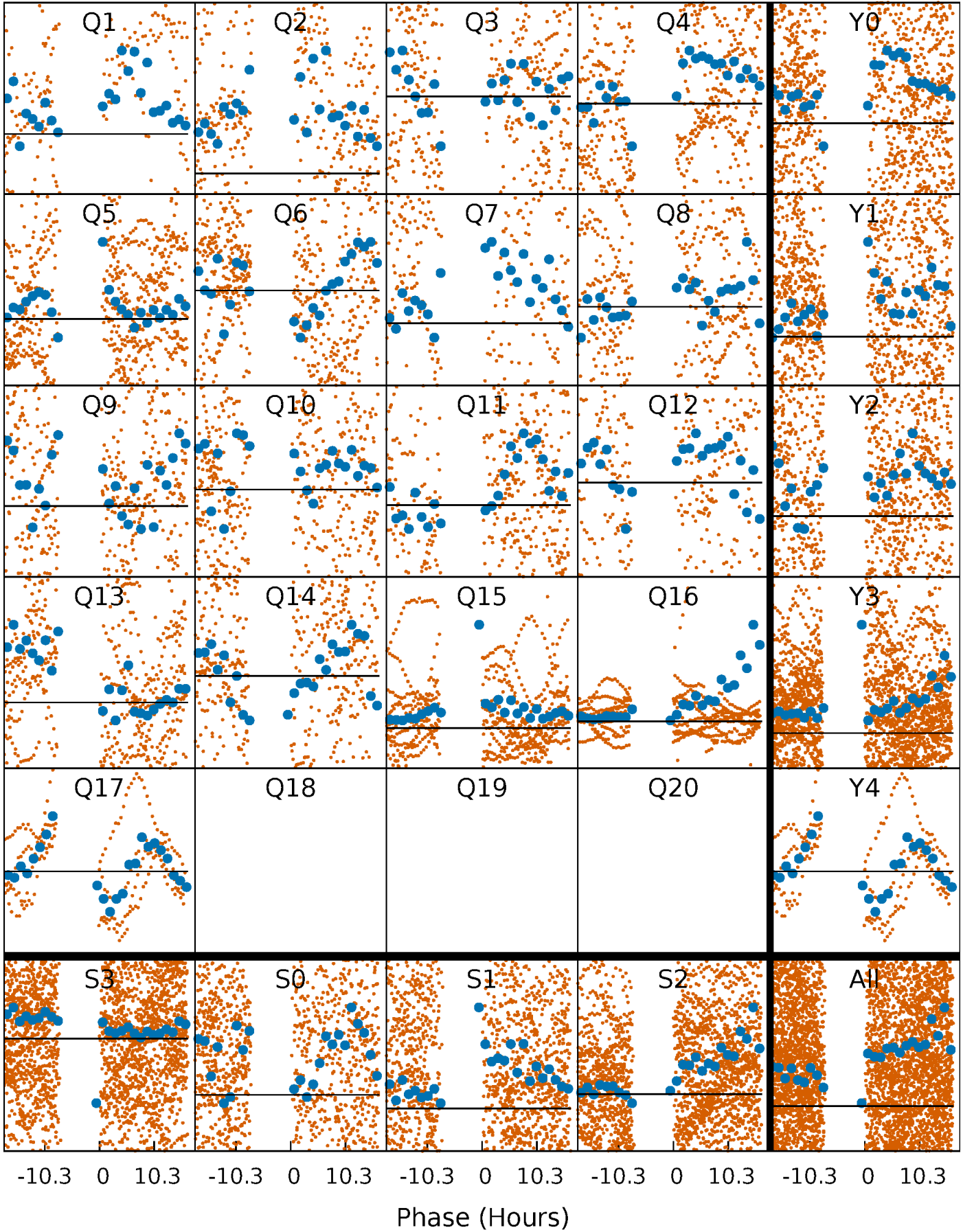
PDC Quarter-Phased Transit Curves

TCE 009641031-03 $P = 6.534581$ Days $T_0 = 132.161462$ (BKJD)



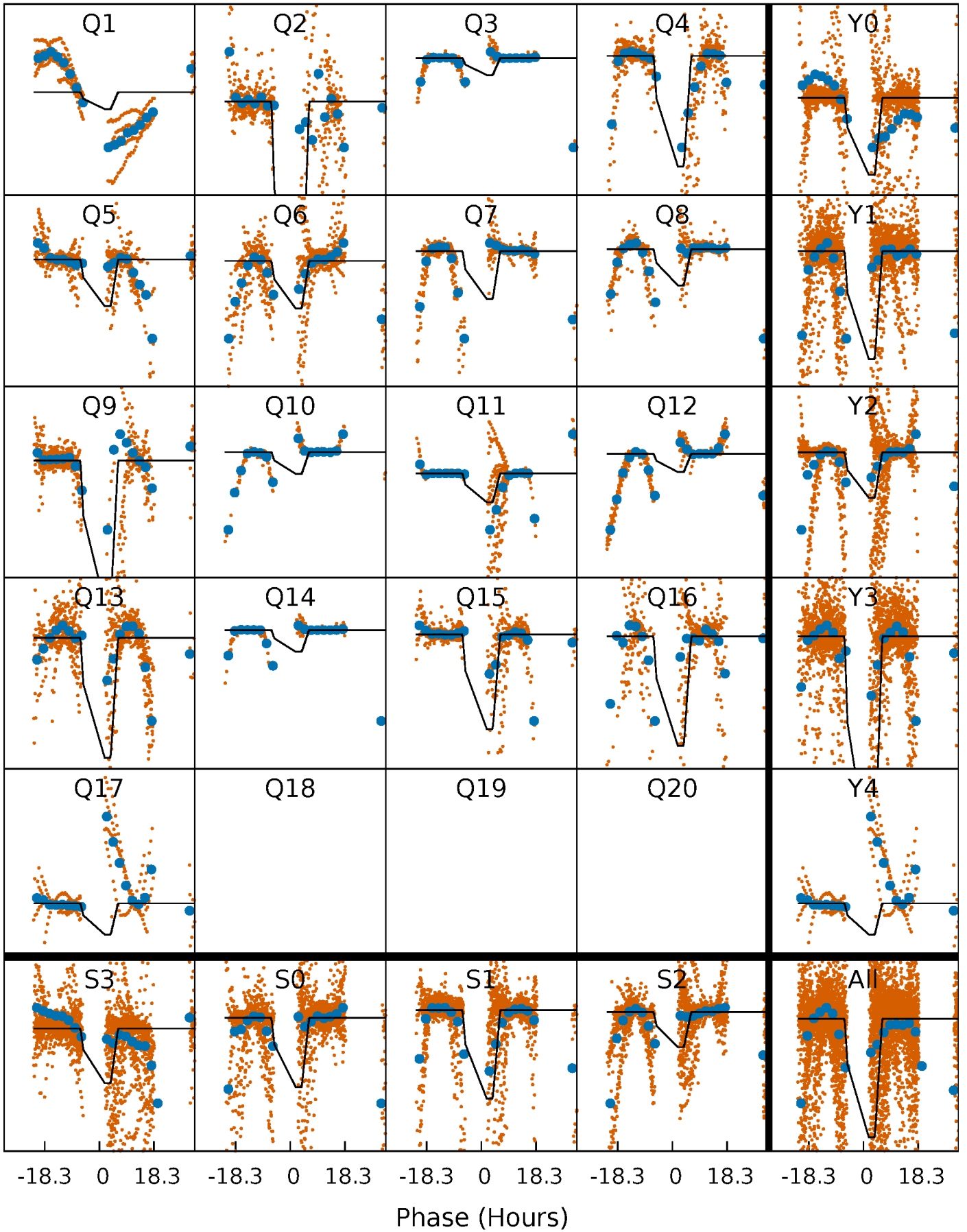
DV Quarter-Phased Transit Curves

TCE 009641031-03 P= 6.534581 Days $T_0=132.161462$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

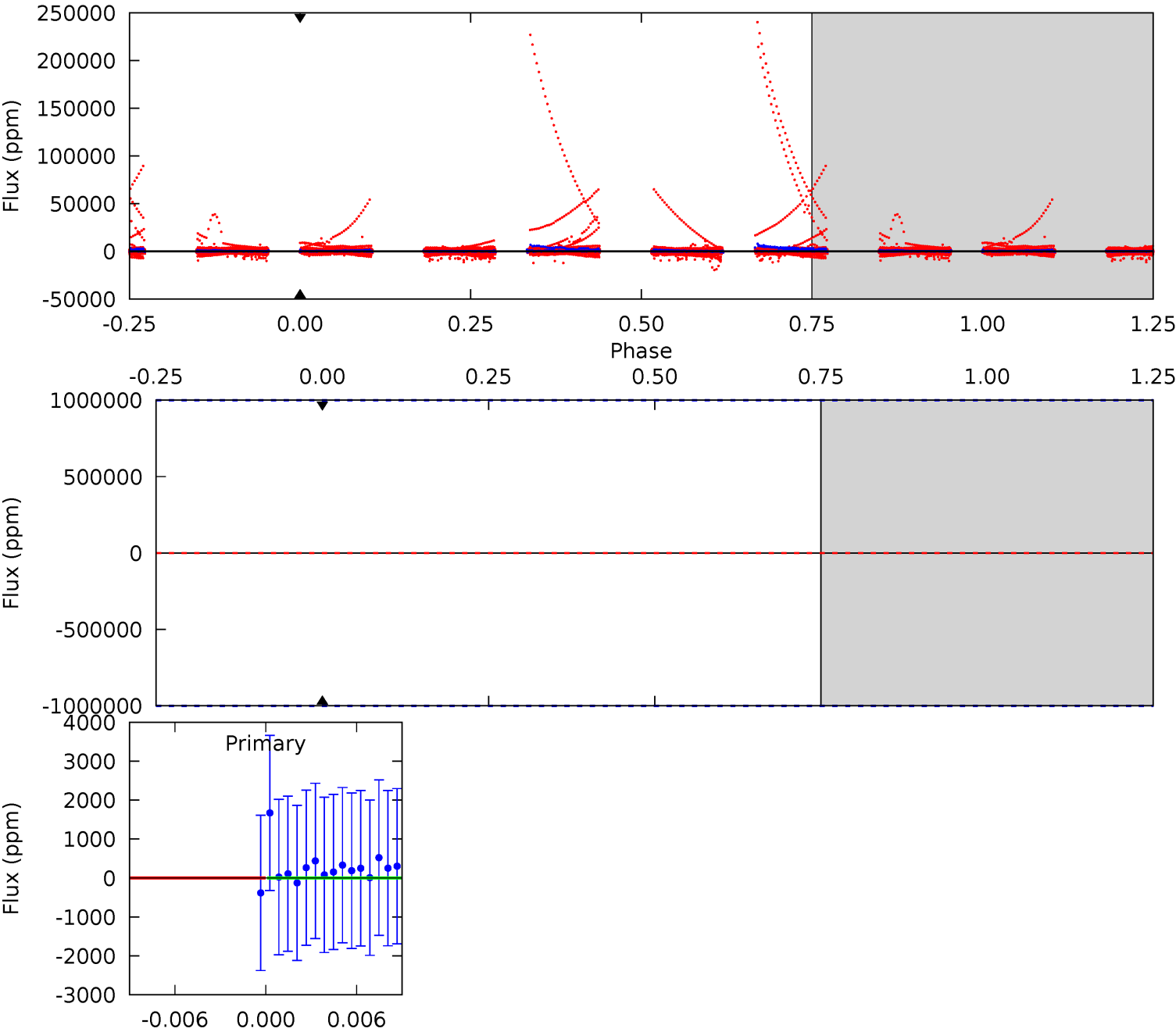
TCE 009641031-03 $P = 6.534581$ Days $T_0 = 132.082196$ (BKJD)



DV Model-Shift Uniqueness Test

009641031-03, P = 6.534581 Days, E = 125.626881 Days

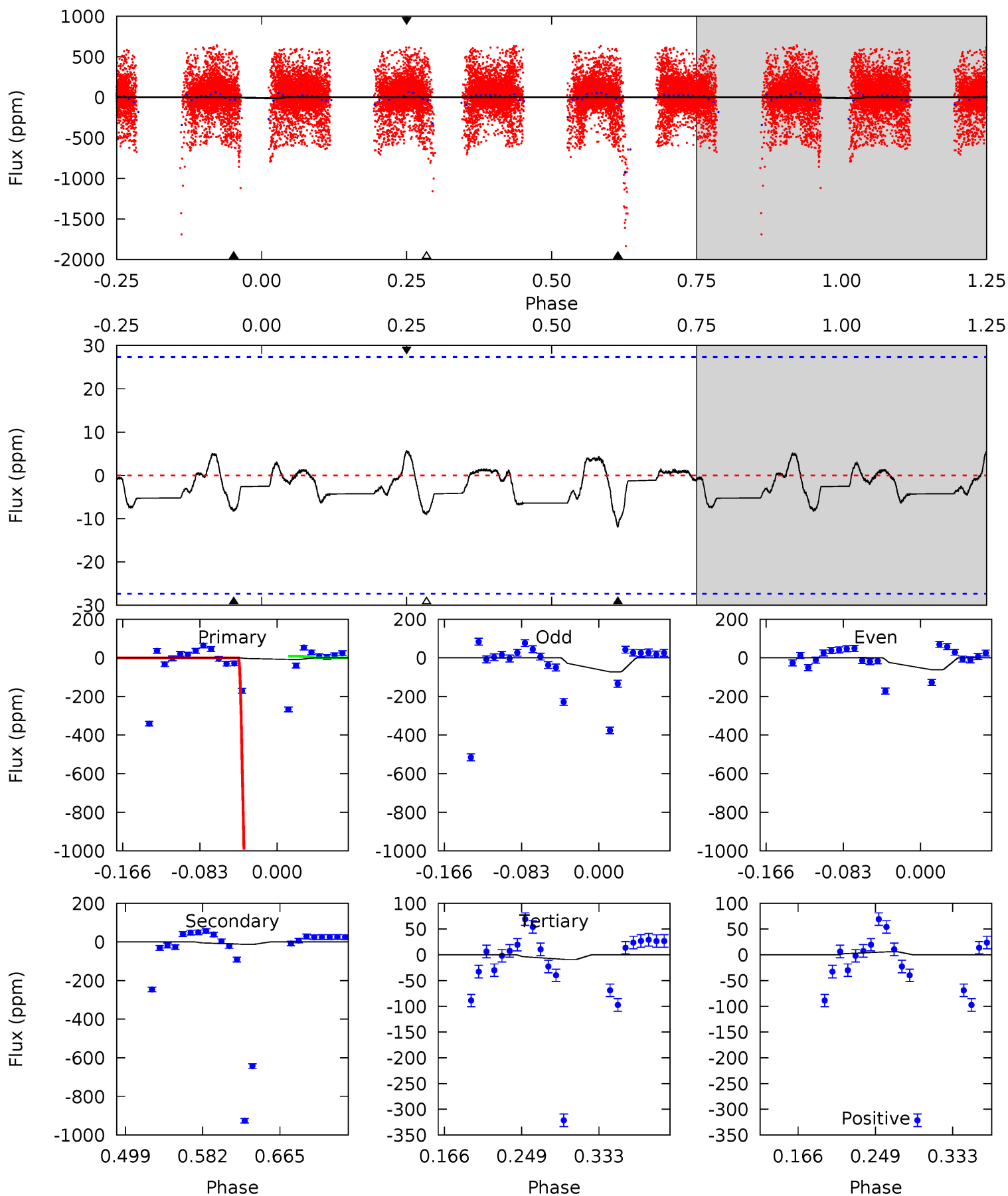
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

009641031-03, P = 6.534581 Days, E = 125.547615 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1.38	2.01	1.51	0.97	4.60	1.73	0.46	-0.13	0.41	0.50	1.05	0.87	9.69	0.32	0



Stellar Parameters For KIC 009641031

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6126^{+165}_{-183}	$4.285^{+0.180}_{-0.180}$	$-0.300^{+0.300}_{-0.300}$	$1.176^{+0.330}_{-0.240}$	$0.972^{+0.151}_{-0.110}$	$0.841^{+0.787}_{-0.408}$
	+3%/-3%	+4%/-4%	+100%/-100%	+28%/-20%	+16%/-11%	+94%/-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 009641031-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$11.95^{+11.10}_{-7.98}$	1574^{+109}_{-112}	-2931^{+21322}_{-15805}	$-3.031^{+2859.804}_{-2895.001}$
Alt.	-12 ± 6	$10.78^{+10.61}_{-6.93}$	1575^{+111}_{-107}	-1907^{+4659}_{-298}	$0.227^{+1.781}_{-0.181}$

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

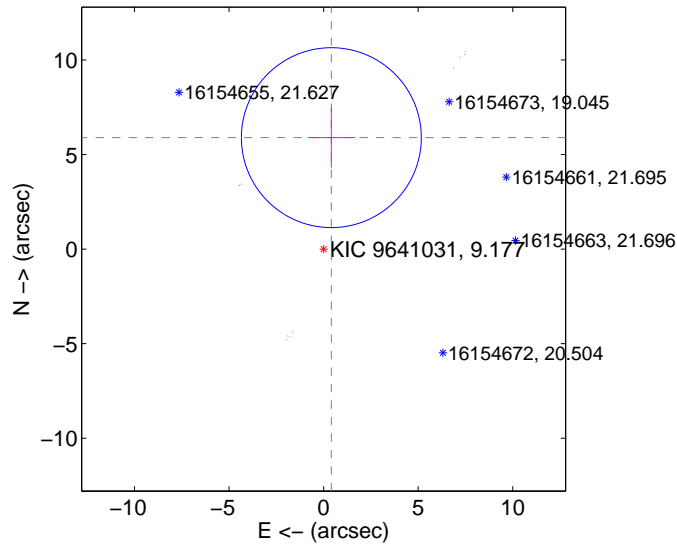
Supplemental centroid analysis for 009641031-03. **Kepler magnitude: 9.18.** Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

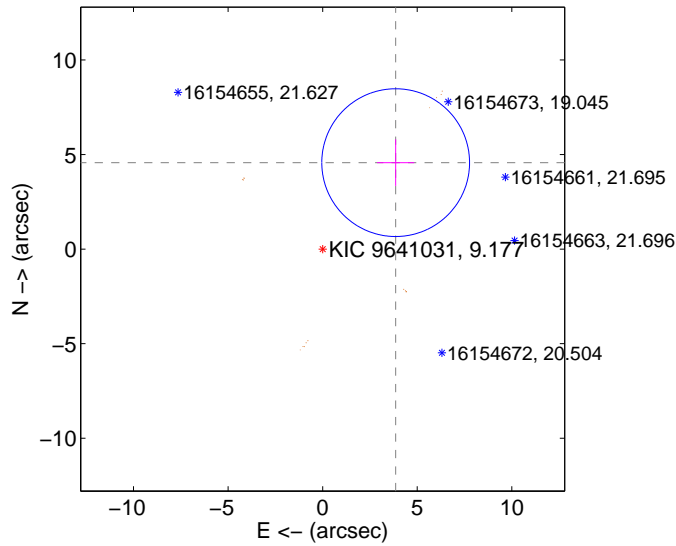
The direct PRF centroid is offset from the target star catalog position by about 0.99 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	5.905 ± 1.585	3.73	-0.409 ± 1.238	5.891 ± 1.586
PRF-fit source offset from KIC position	5.982 ± 1.302	4.60	-3.859 ± 0.980	4.570 ± 1.231
photometric centroid source offset	0.45 ± 0.16	2.80	0.37 ± 0.14	-0.27 ± 0.20

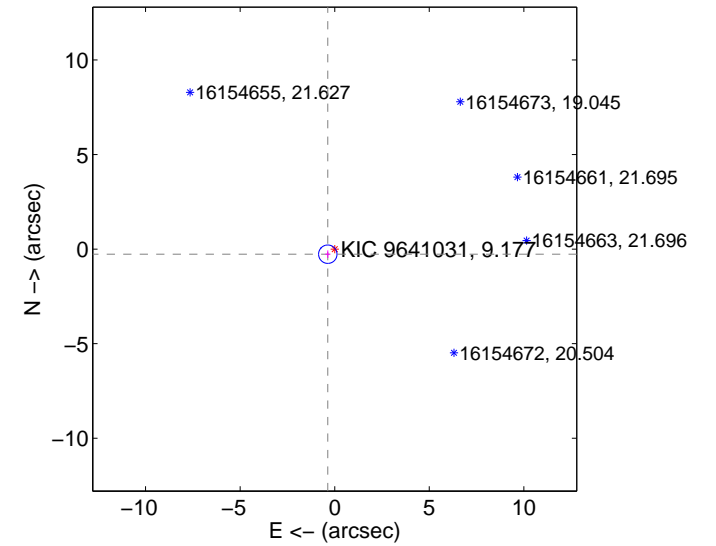
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

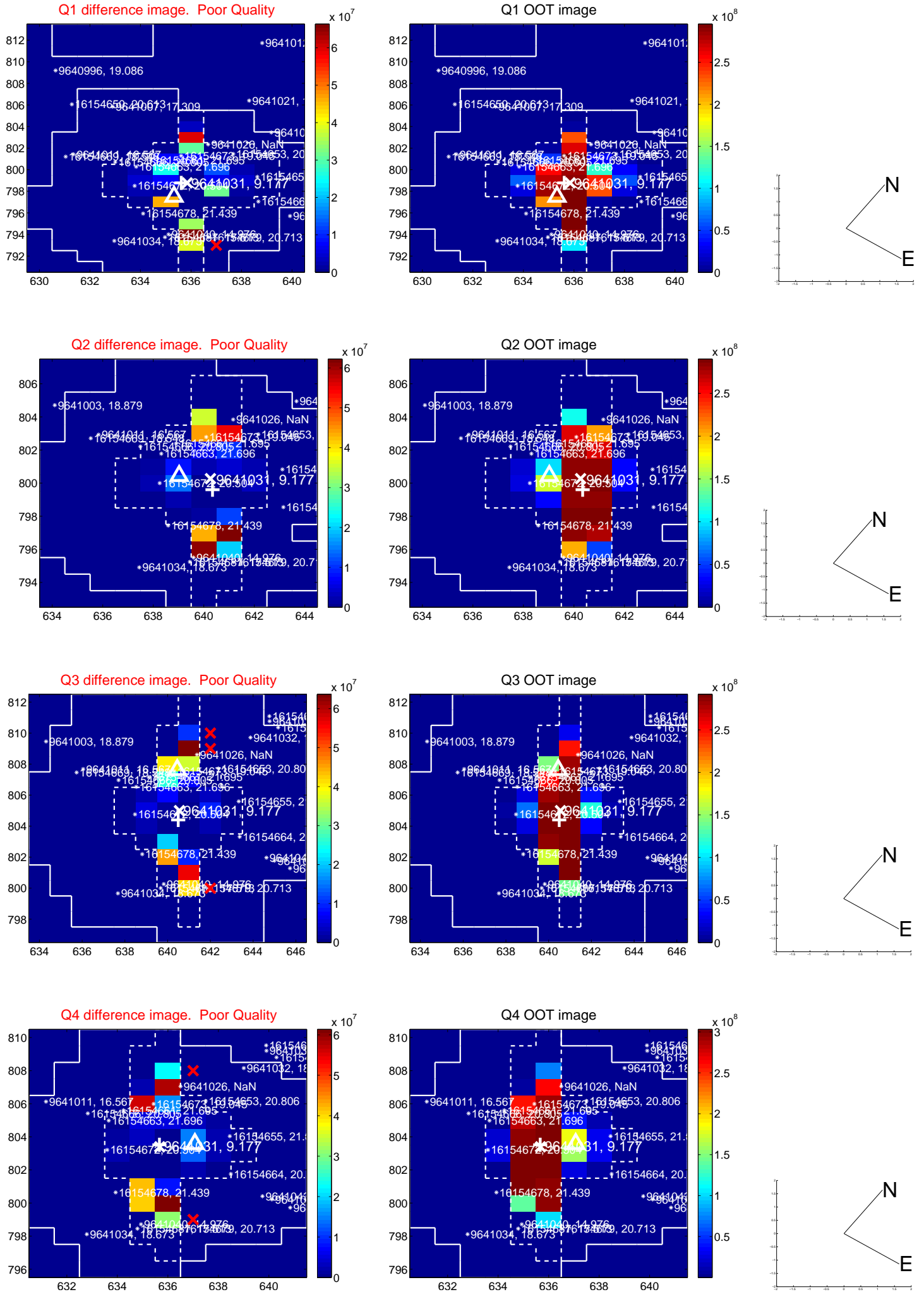


offset from photometric centroids

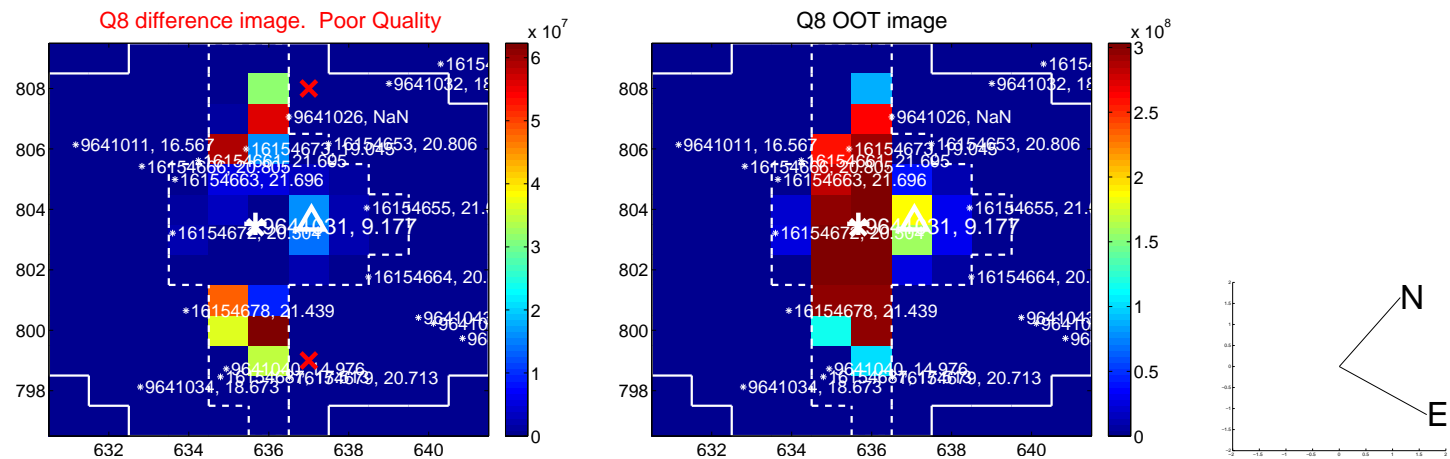
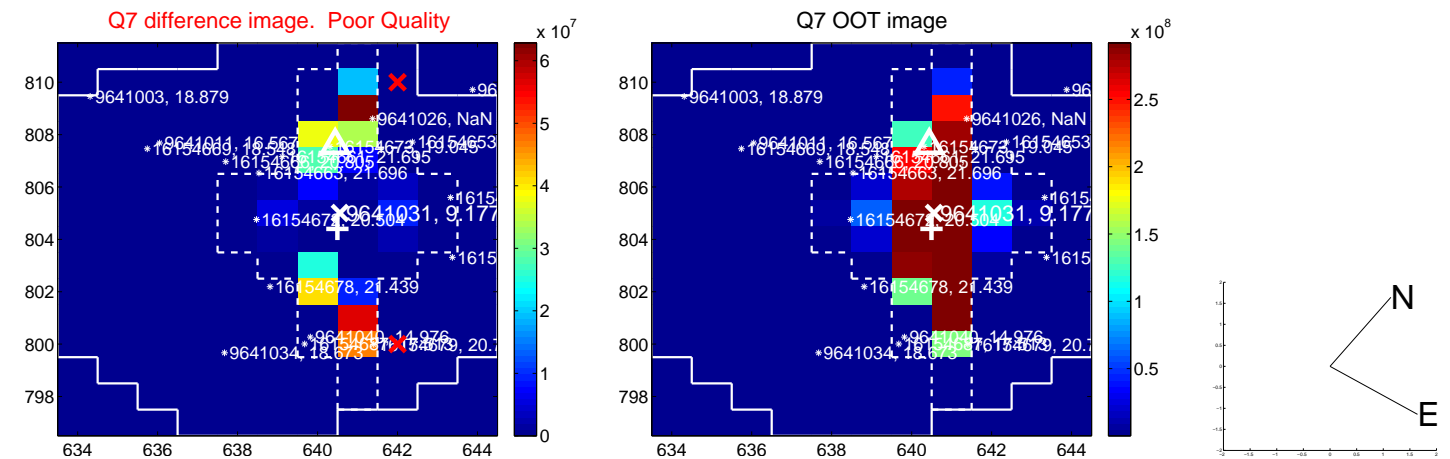
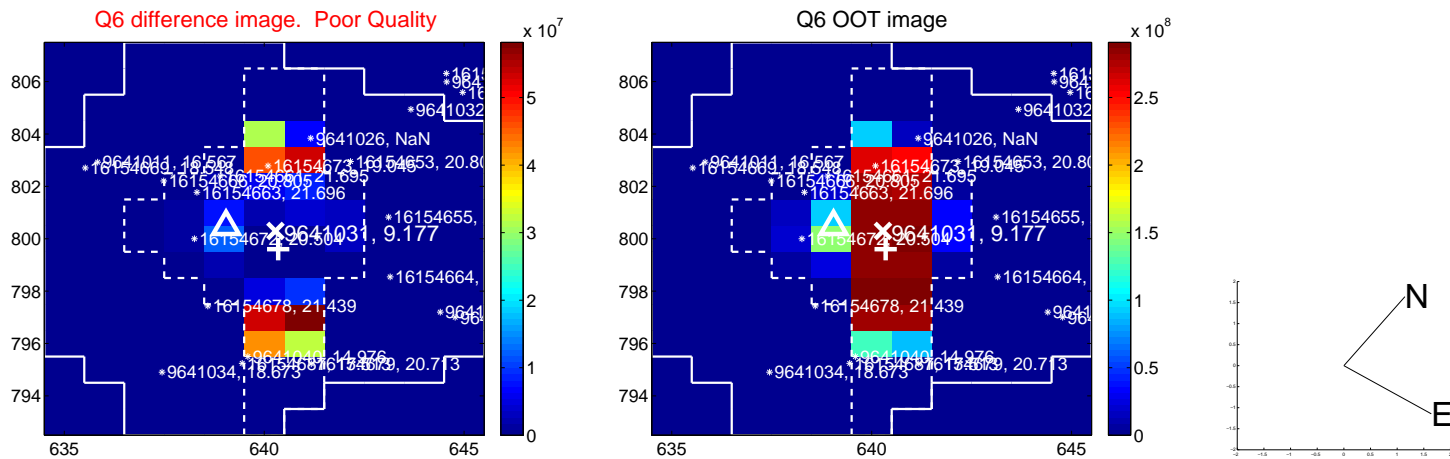
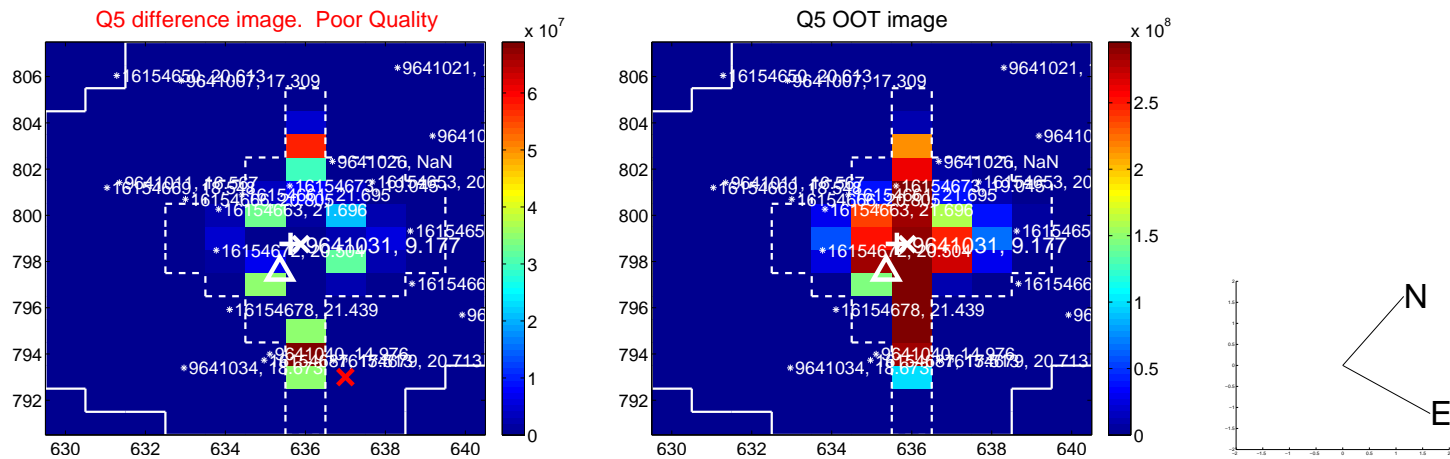


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

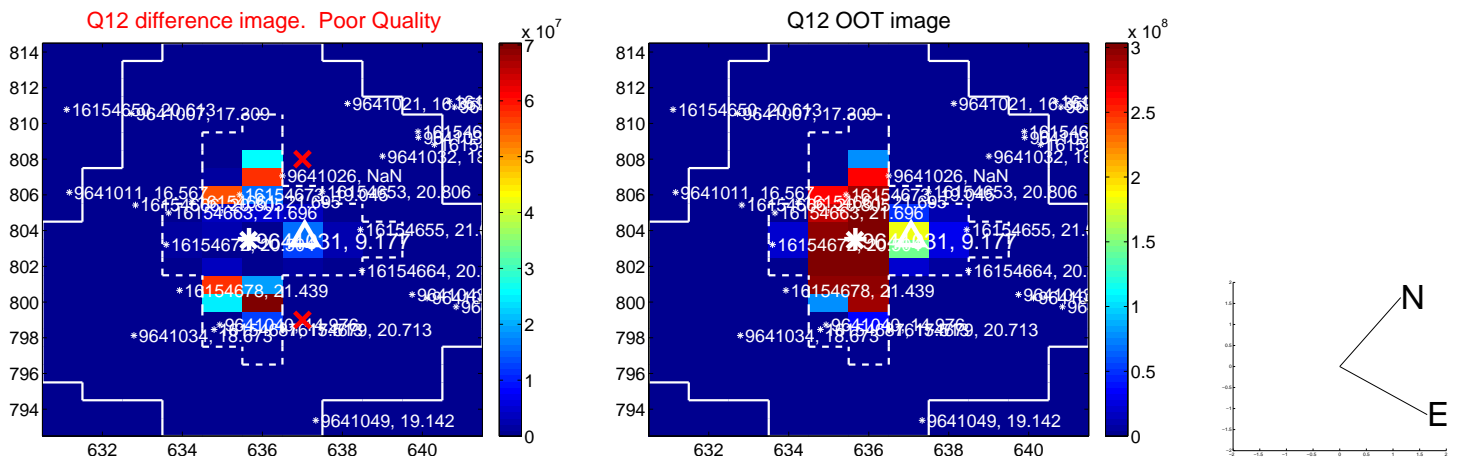
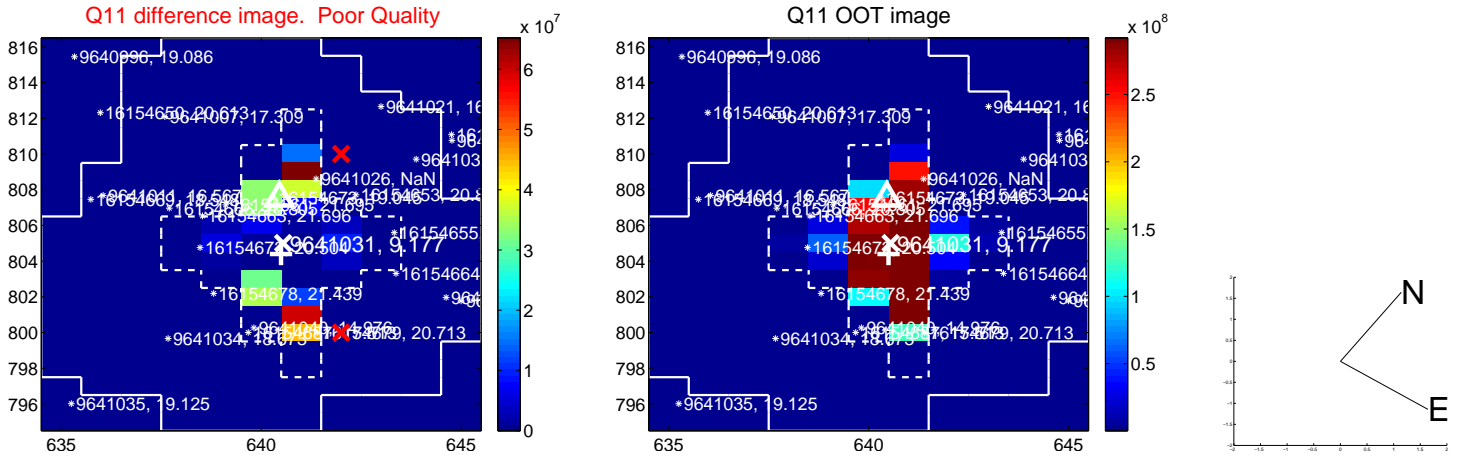
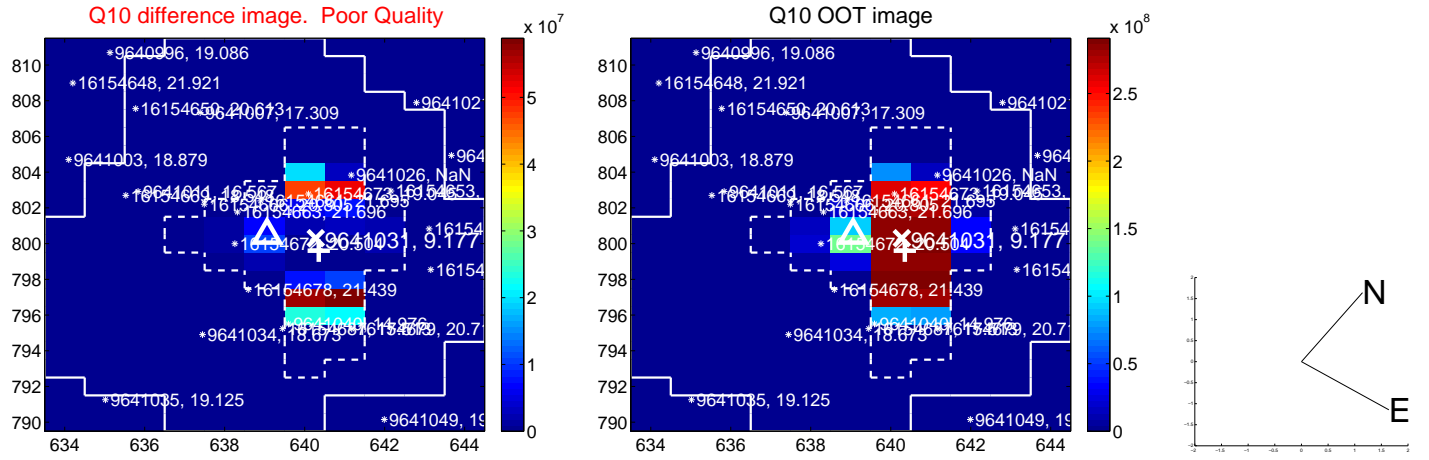
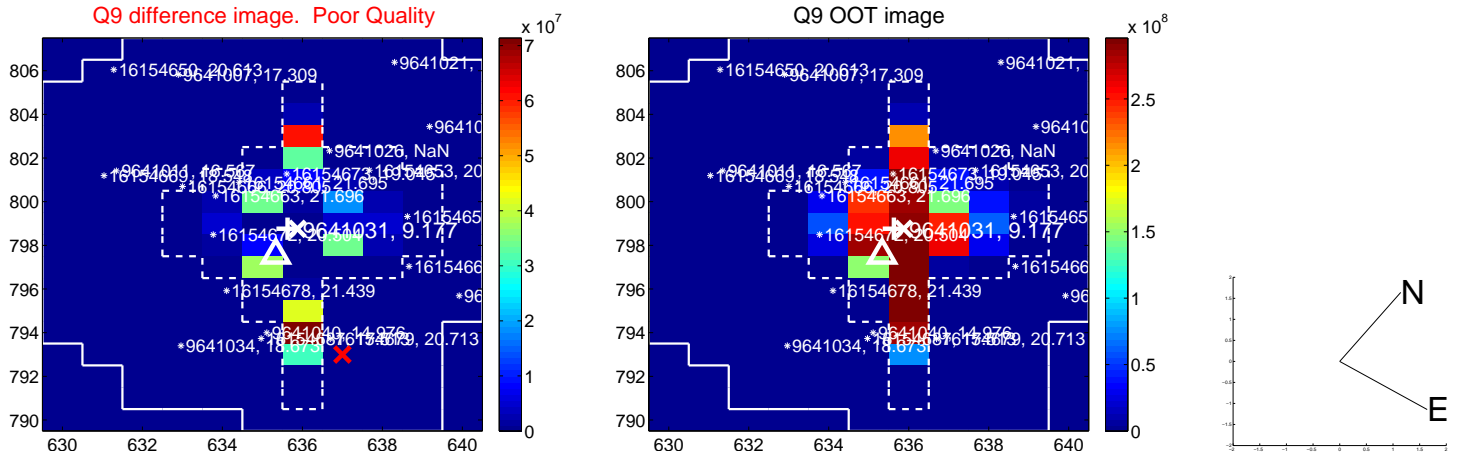
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



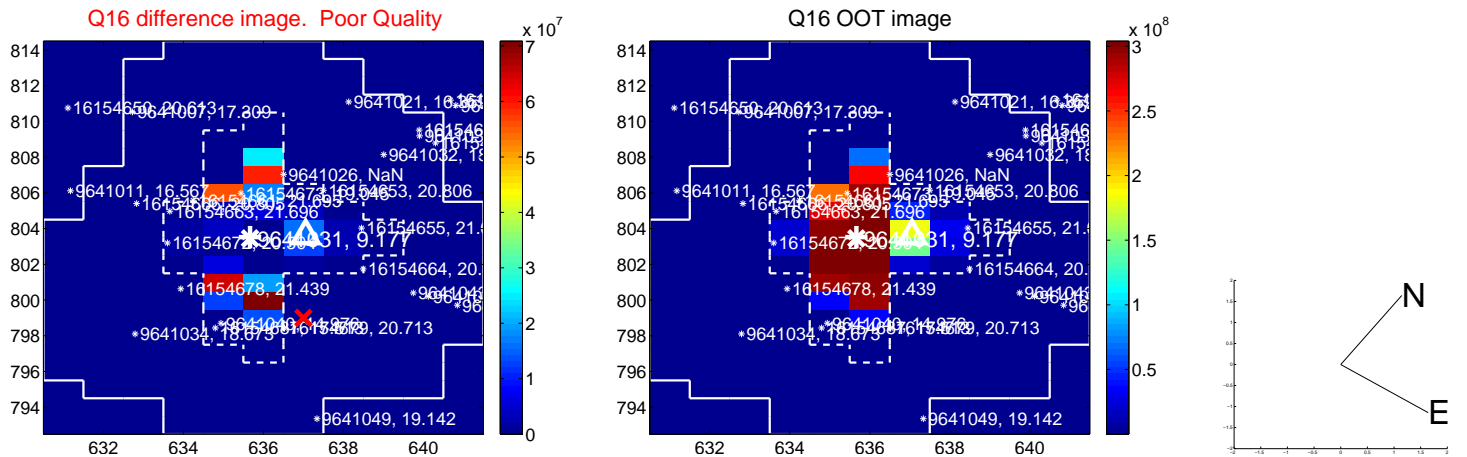
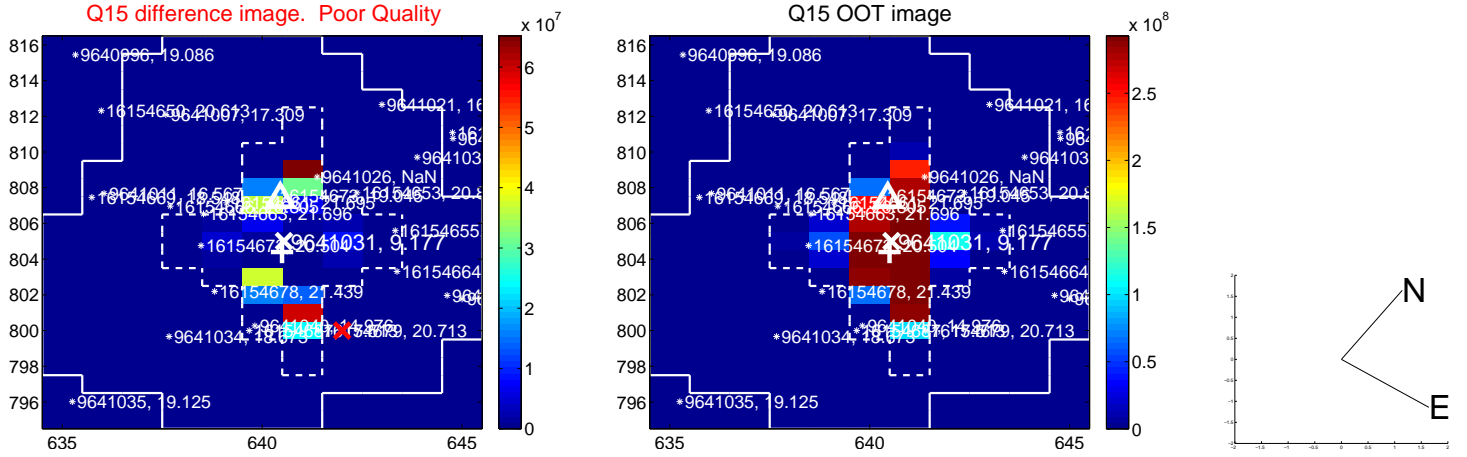
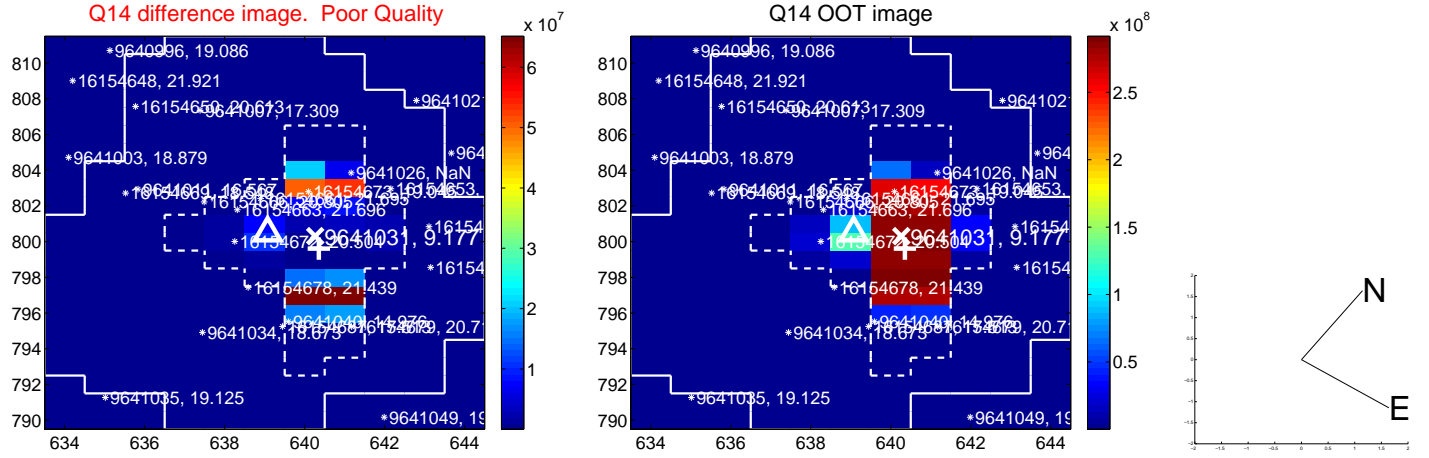
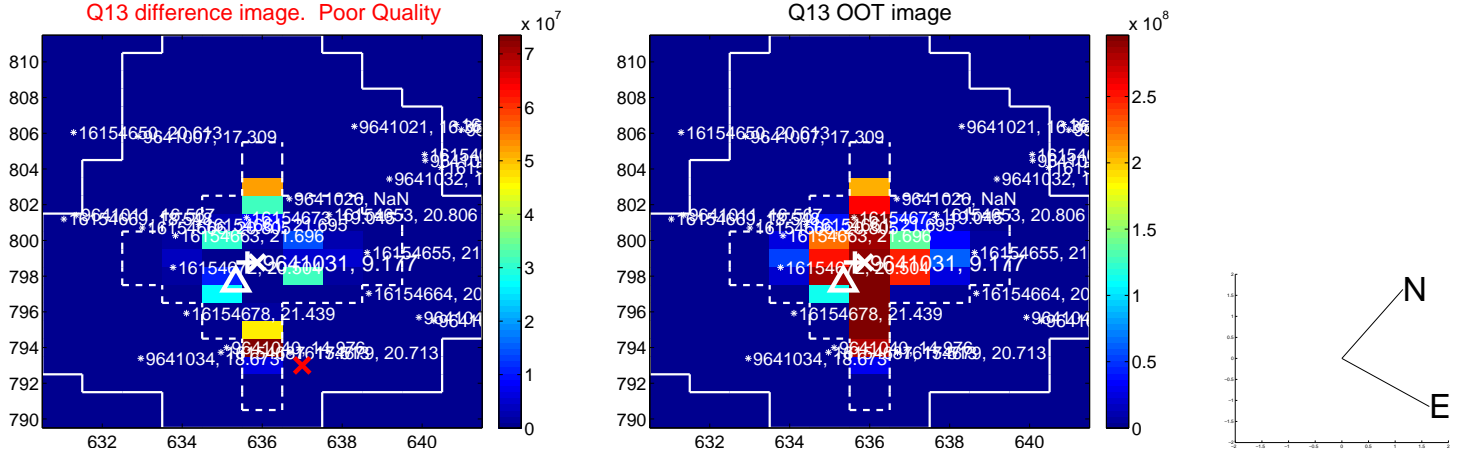
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



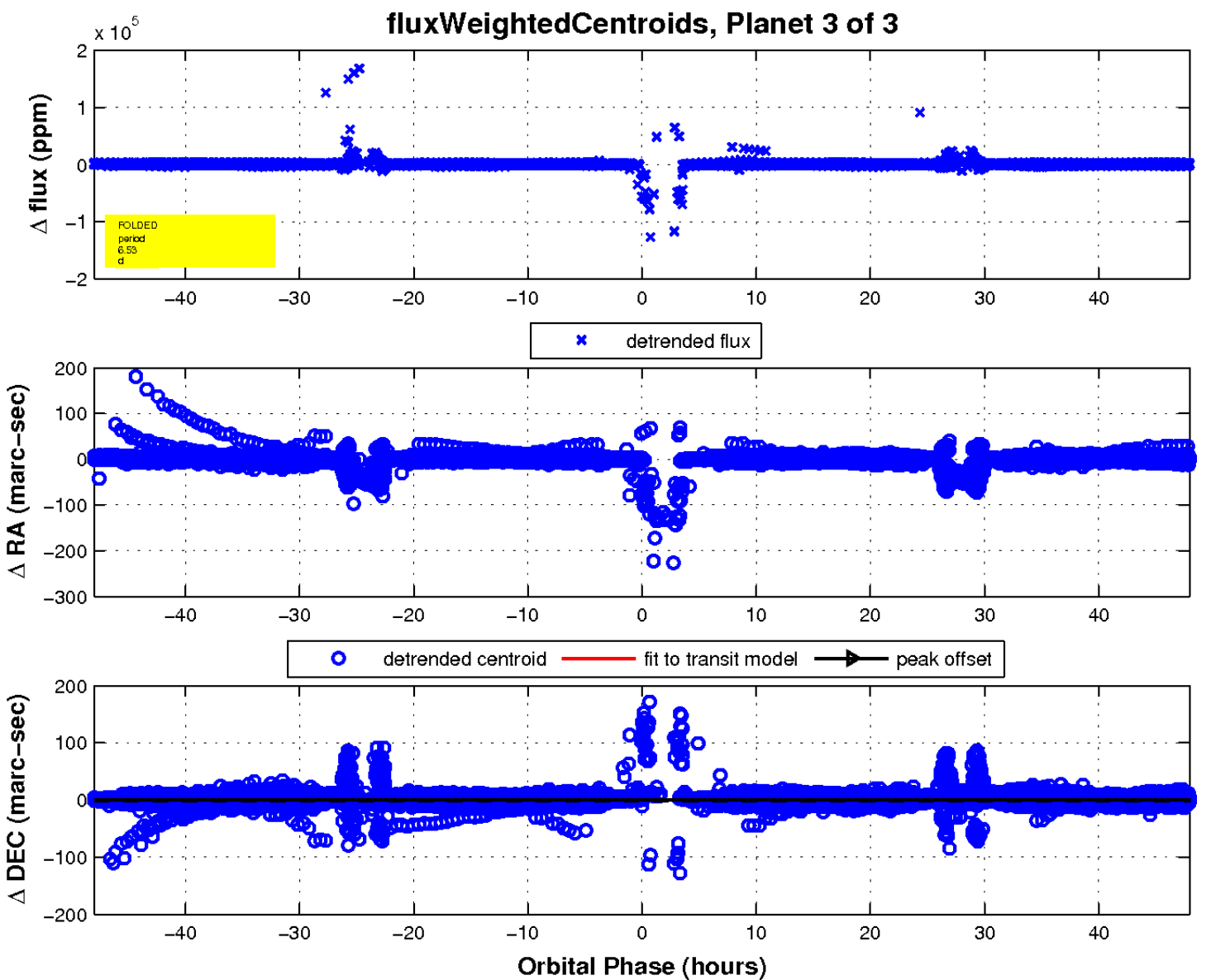
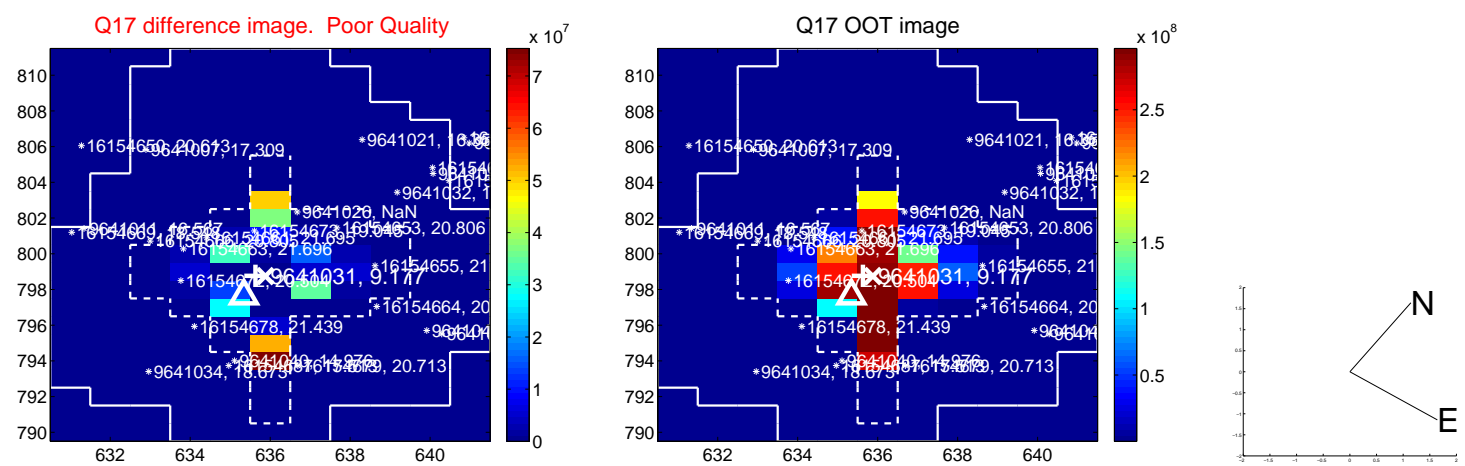
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

