

KIC 010141900

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})
010141900-01	OBS	1082.01	6.503272	135.266777	398.4	2.683	15.9	16.9	0.84	4999	1.97	99.11
010141900-02	OBS	1082.03	1.196537	132.538469	204.0	1.404	13.7	15.6	0.84	4999	1.48	947.13
010141900-03	OBS	1082.02	4.096676	133.098201	254.2	2.407	11.0	12.4	0.84	4999	1.64	183.54
010141900-04	OBS	1082.04	9.655095	137.067348	301.2	2.721	7.7	9.6	0.84	4999	1.77	58.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010141900-01	OBS	PC	1.00	0	0	0	0	CENT_FEW_DIFFS
010141900-02	OBS	PC	0.82	0	0	0	0	NO_COMMENT
010141900-03	OBS	PC	0.69	0	0	0	0	NO_COMMENT
010141900-04	OBS	PC	0.80	0	0	0	0	CENT_FEW_DIFFS

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 010141900-01

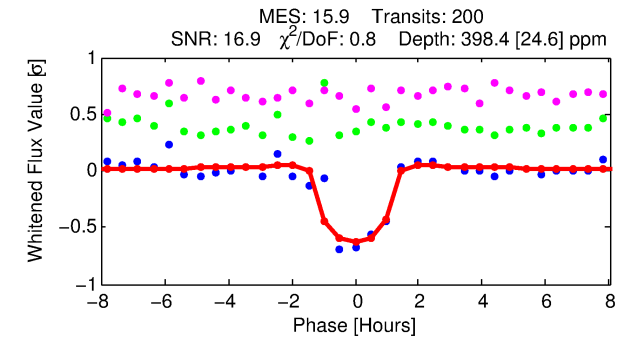
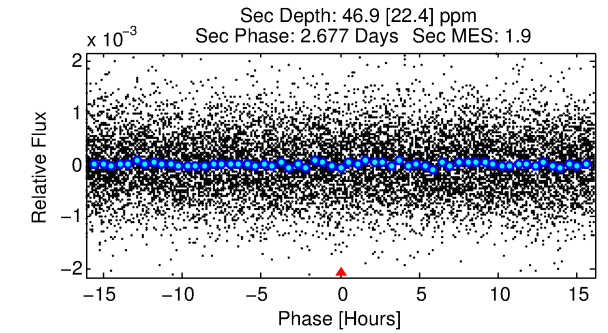
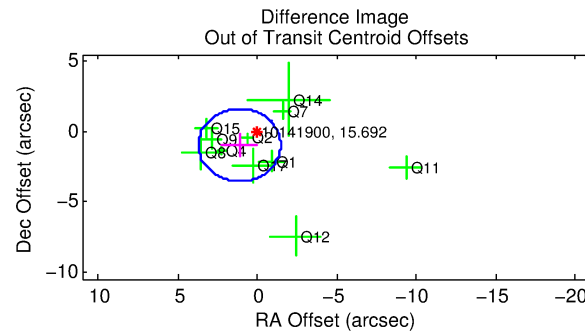
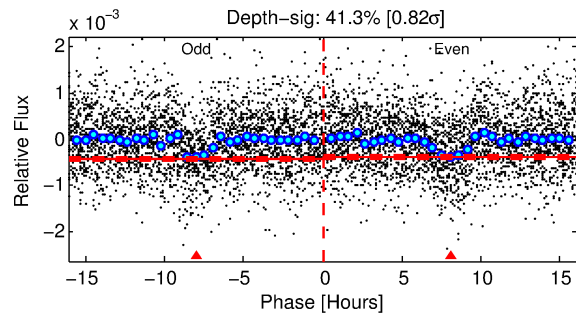
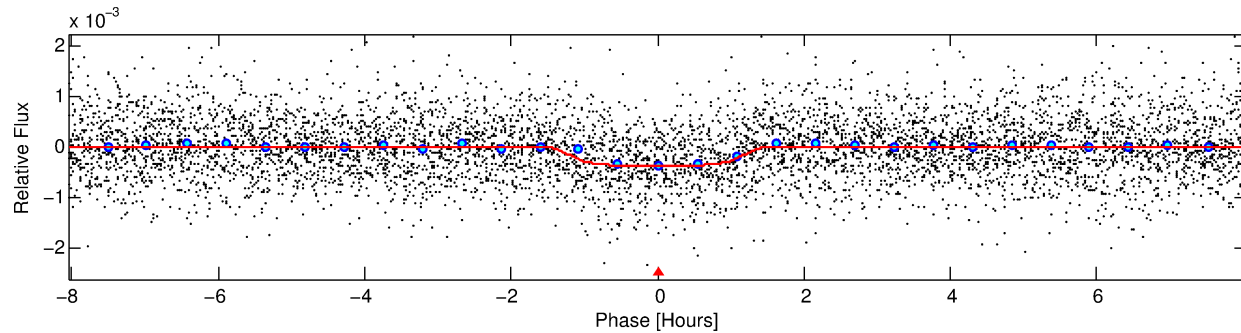
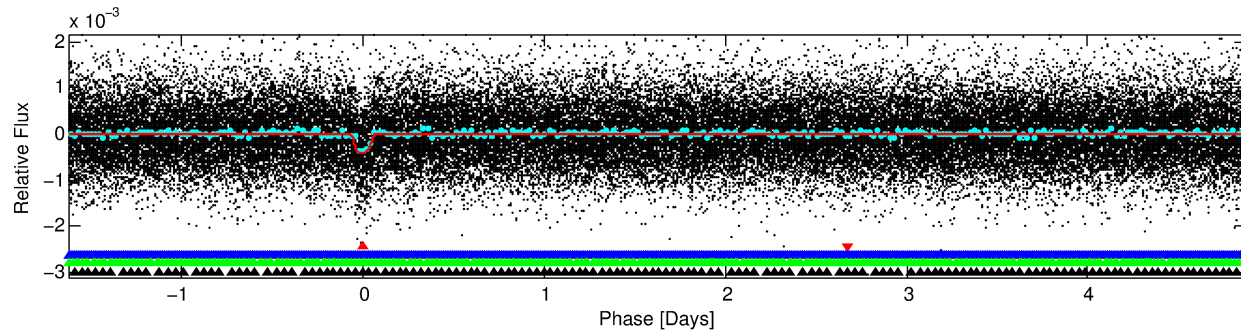
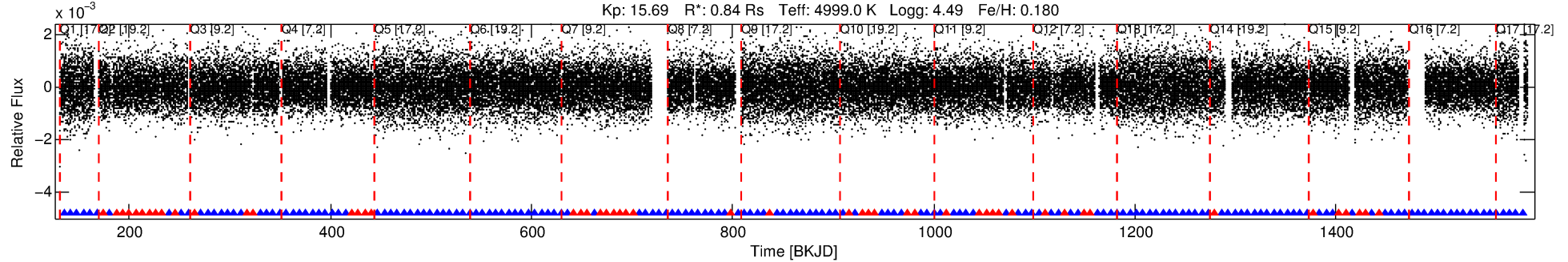
No Significant Match Found

DV One-Page Summary

KIC: 10141900 Candidate: 1 of 4 Period: 6.503 d

KOI: K01082.01 Corr: 0.979

Kp: 15.69 R*: 0.84 Rs Teff: 4999.0 K Logg: 4.49 Fe/H: 0.180



DV Fit Results:

Period = 6.50327 [0.00003] d
Epoch = 135.2668 [0.0031] BKJD
Rp/R* = 0.0214 [0.0113]
a/R* = 10.36 [20.10]
b = 0.86 [0.63]
Seff = 99.11 [13.84]
Teq = 805 [28] K
Rp = 1.97 [1.05] Re
a = 0.0633 [0.0047] AU
Ag = 26.73 [31.16] [0.83σ]
Teffp = 2828 [821] K [2.46σ]

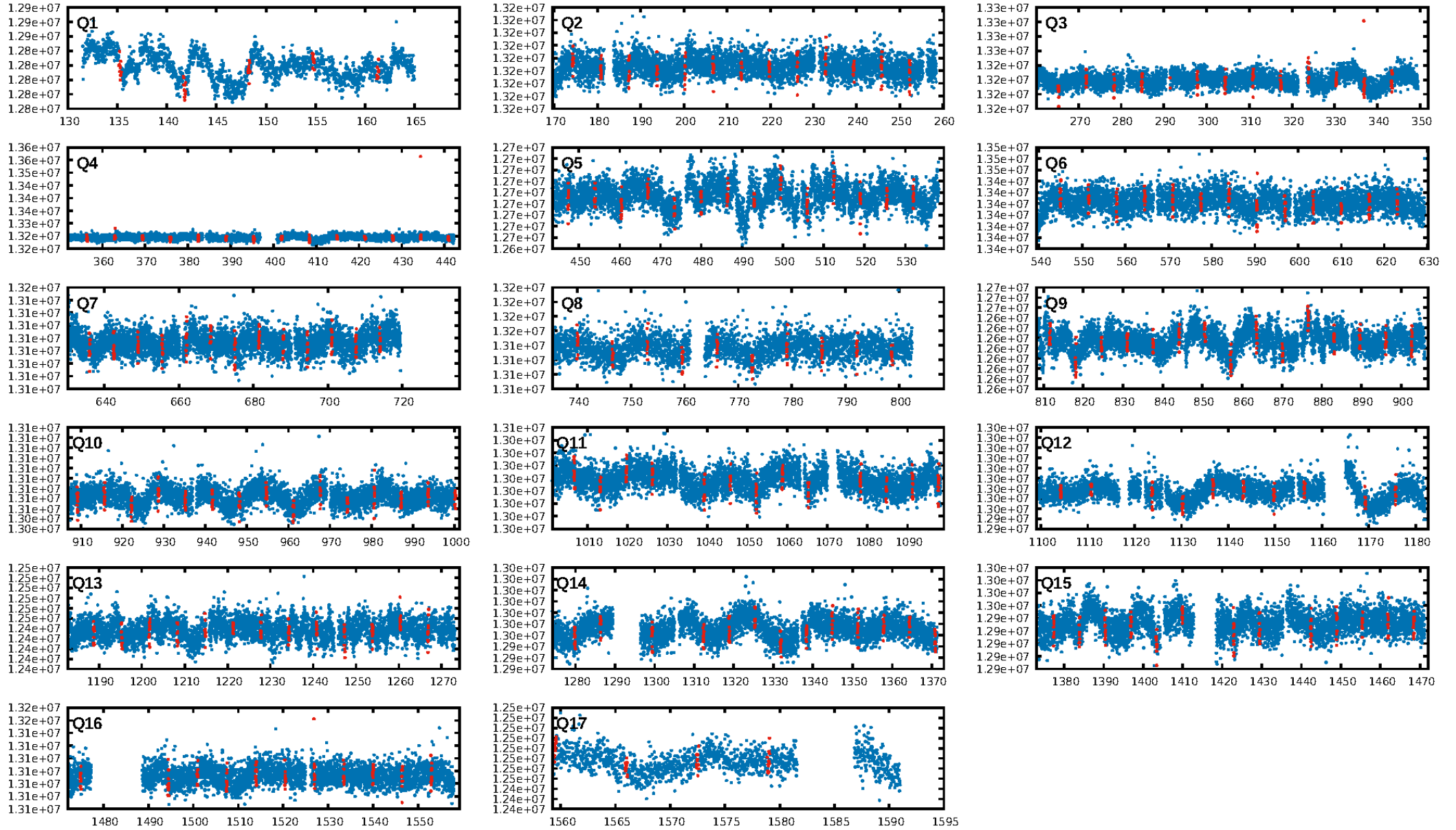
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [16.02σ]
LongPeriod-sig: 100.0% [19.80σ]
ModelChiSquare2-sig: 99.6%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.08e-55
RollingBand-fgt: 0.73 [140/191]
GhostDiagnostic-chr: 2.083
Centroid-sig: 0.9%
Centroid-so: 1.616 arcsec [1.75σ]
OotOffset-rm: 1.458 arcsec [1.69σ]
KicOffset-rm: 1.625 arcsec [1.92σ]
OotOffset-st: 2/3/3/3 [11]
KicOffset-st: 2/3/3/3 [11]
DiffImageQuality-fgm: 0.18 [2/11]
DiffImageOverlap-fno: 1.00 [17/17]

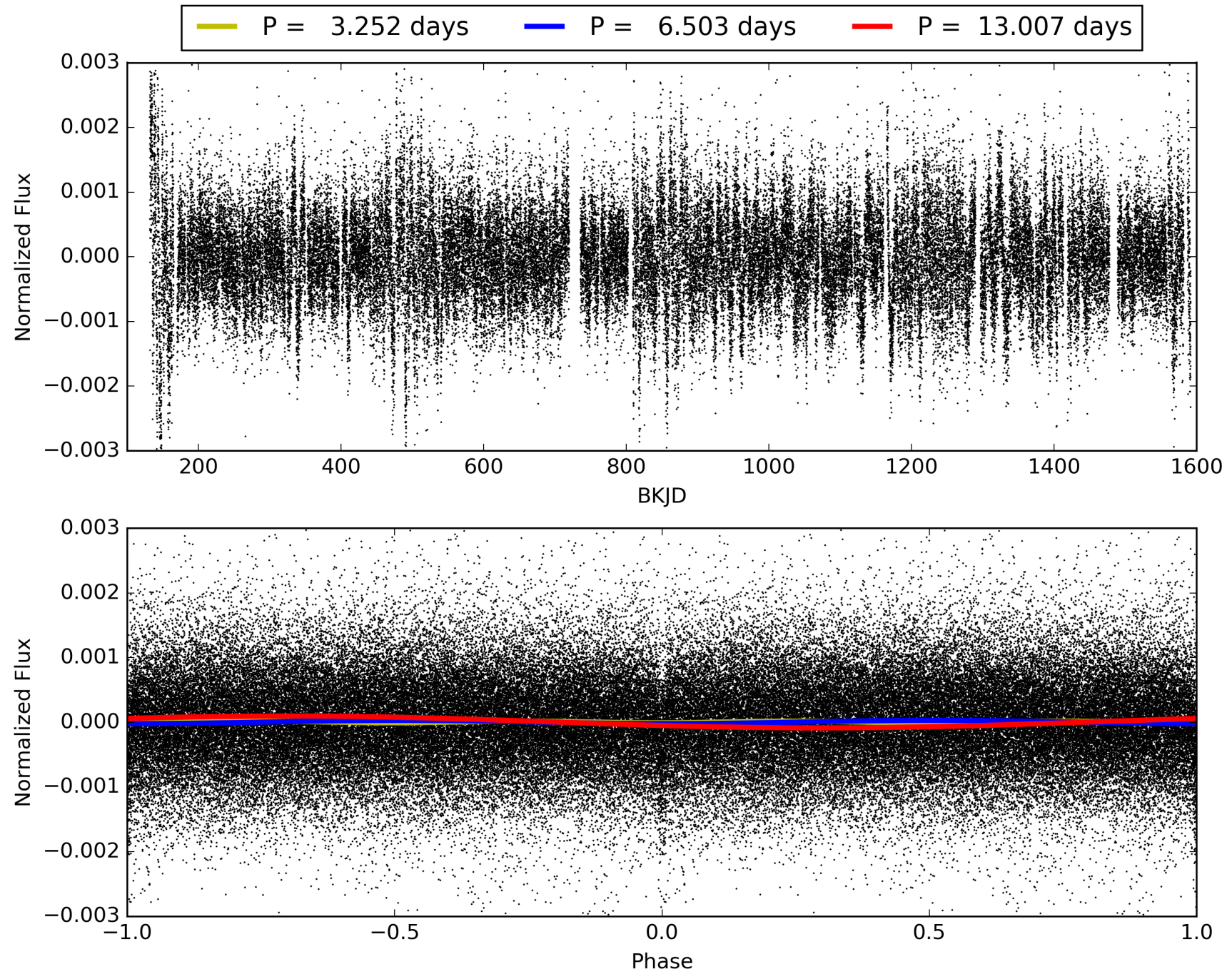
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:09:26 Z

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

TCE 010141900-01, PDC Light Curves

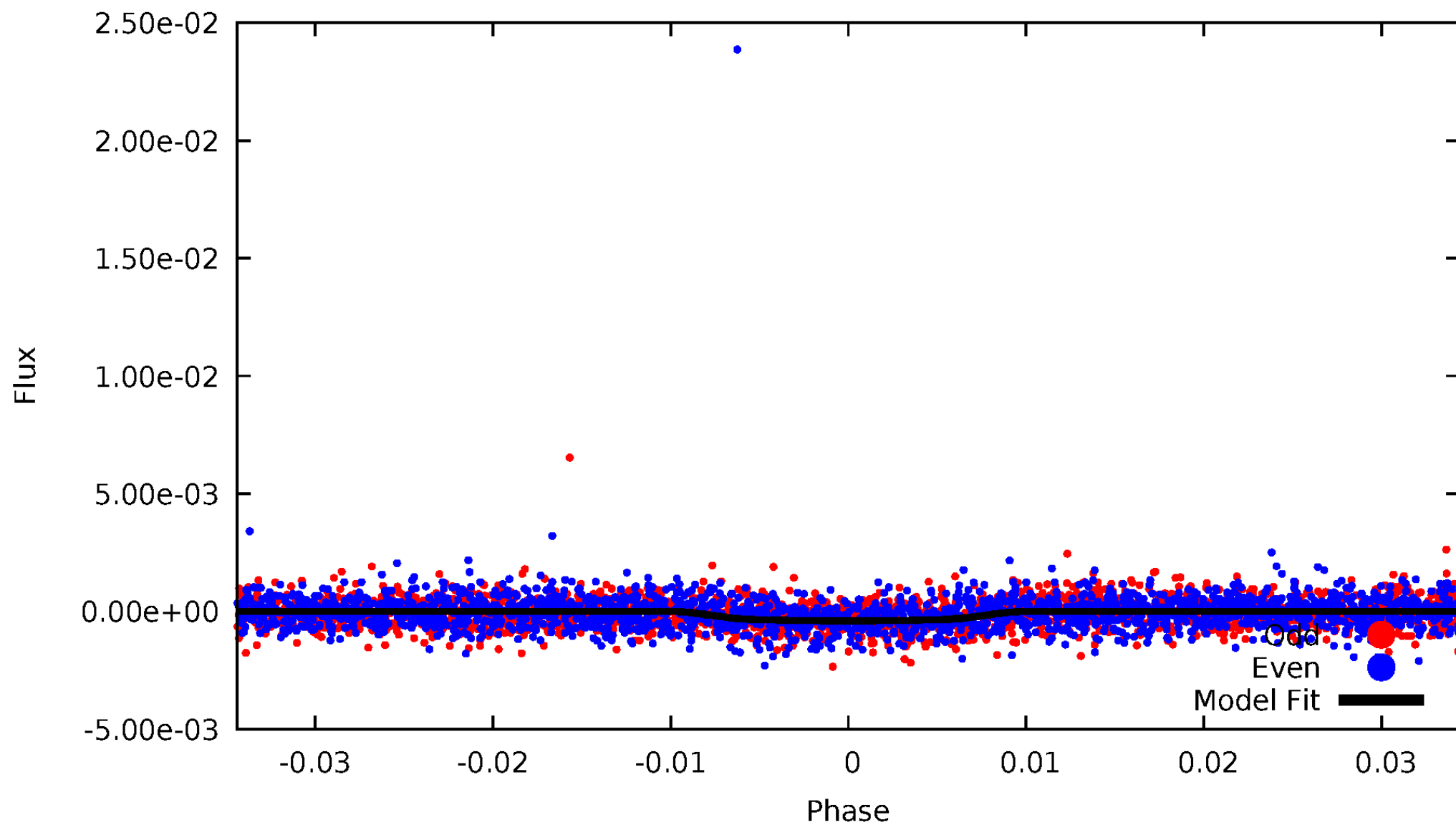


TCE 010141900-01



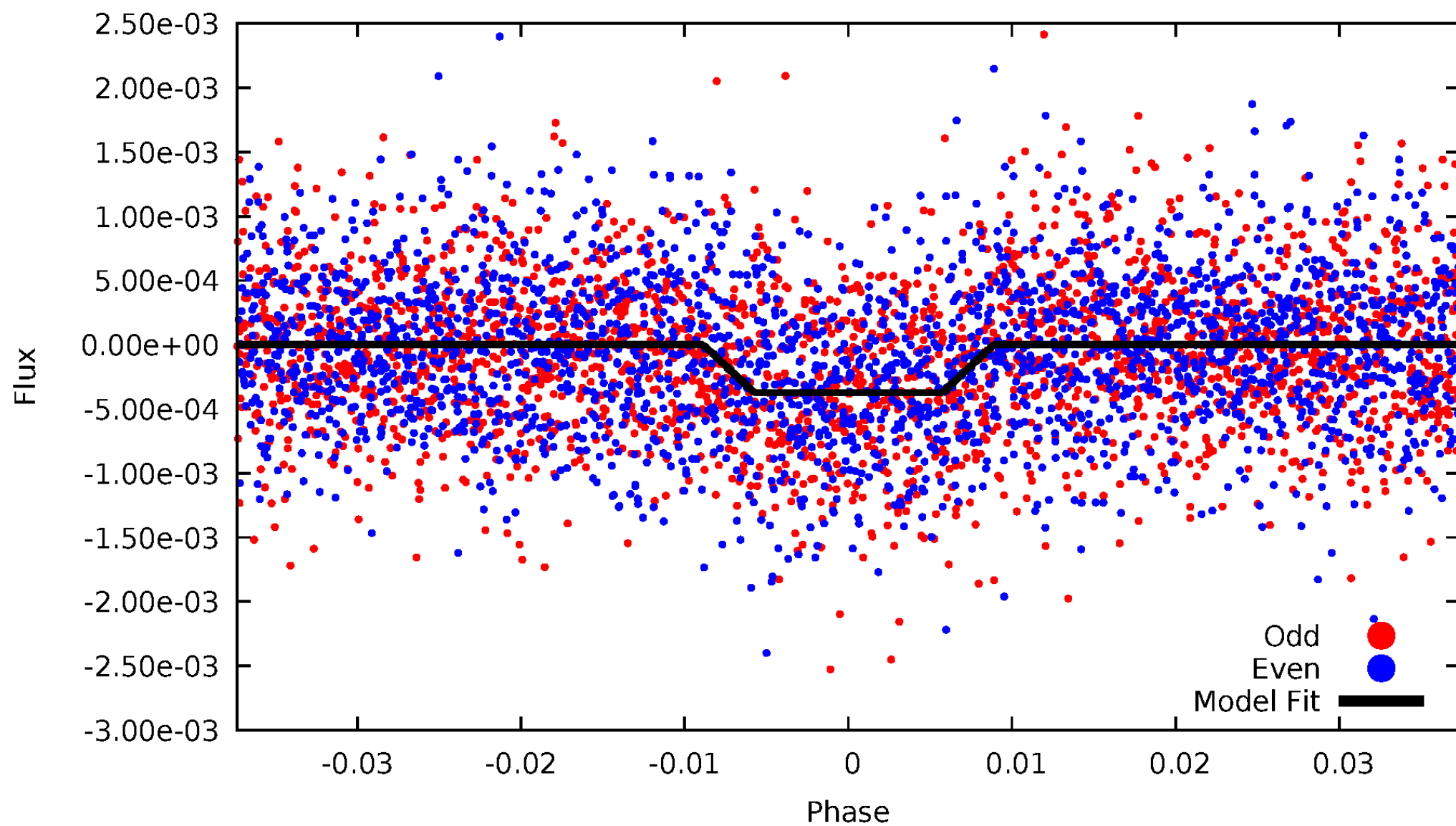
DV Odd/Even

TCE 010141900-01



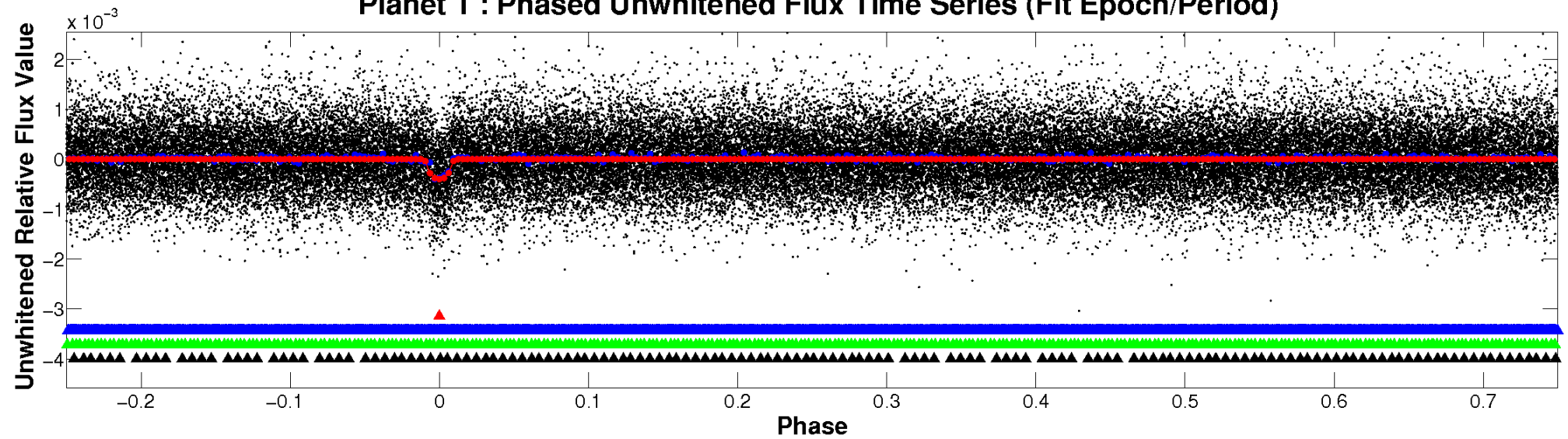
ALT Odd/Even

TCE 010141900-01

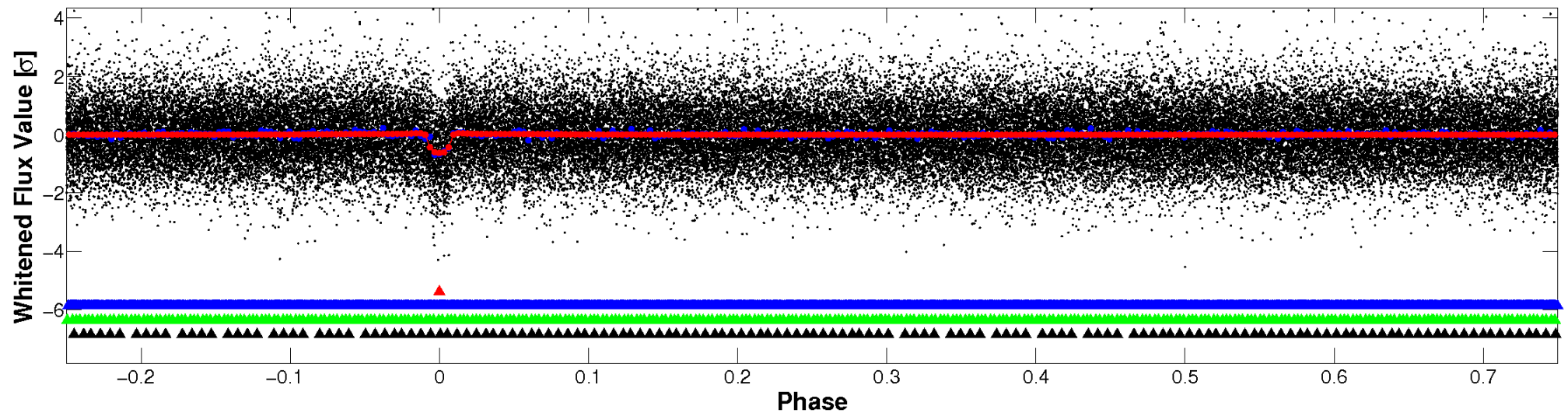


Non-Whitened Vs. Whitened Light Curve

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

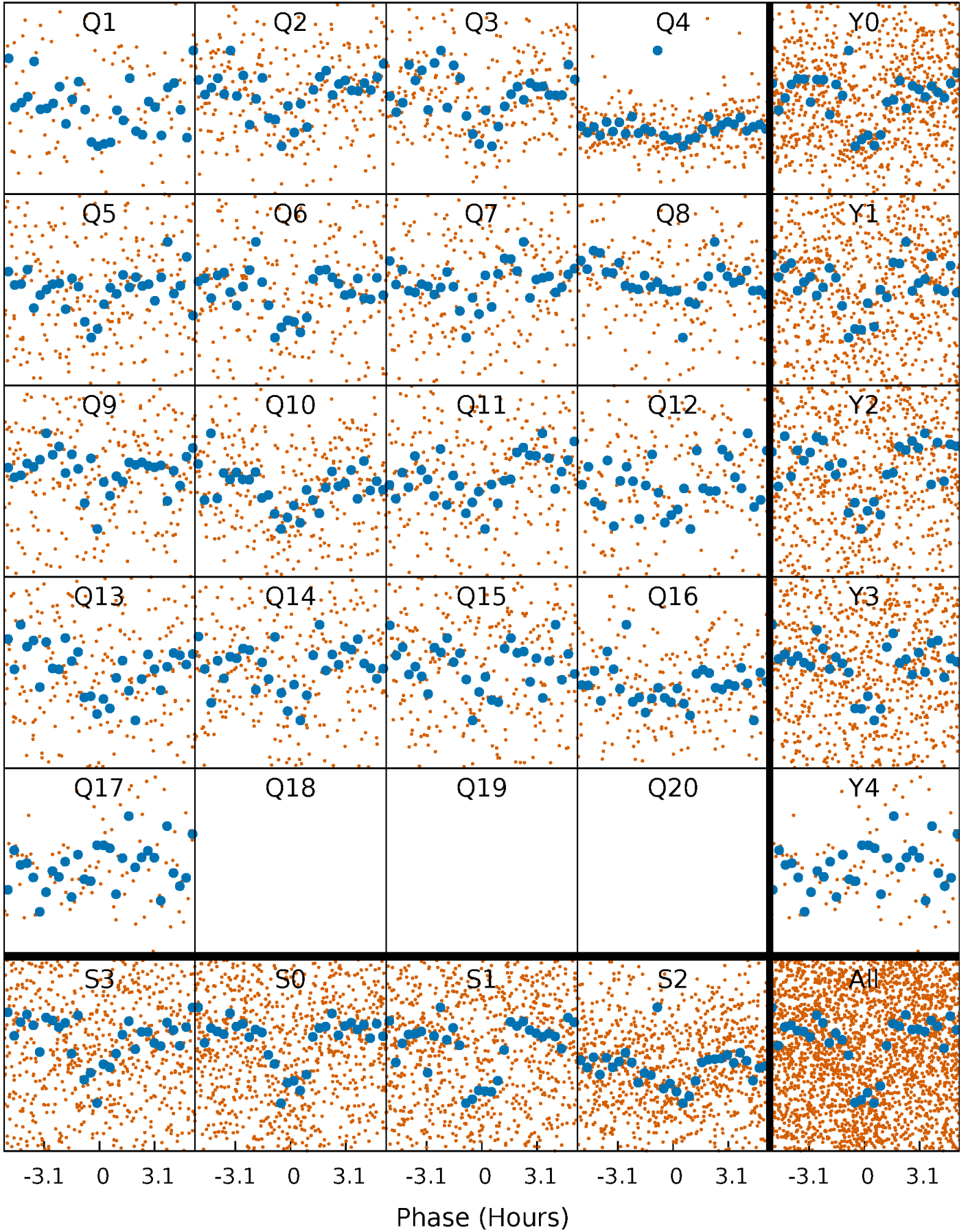


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



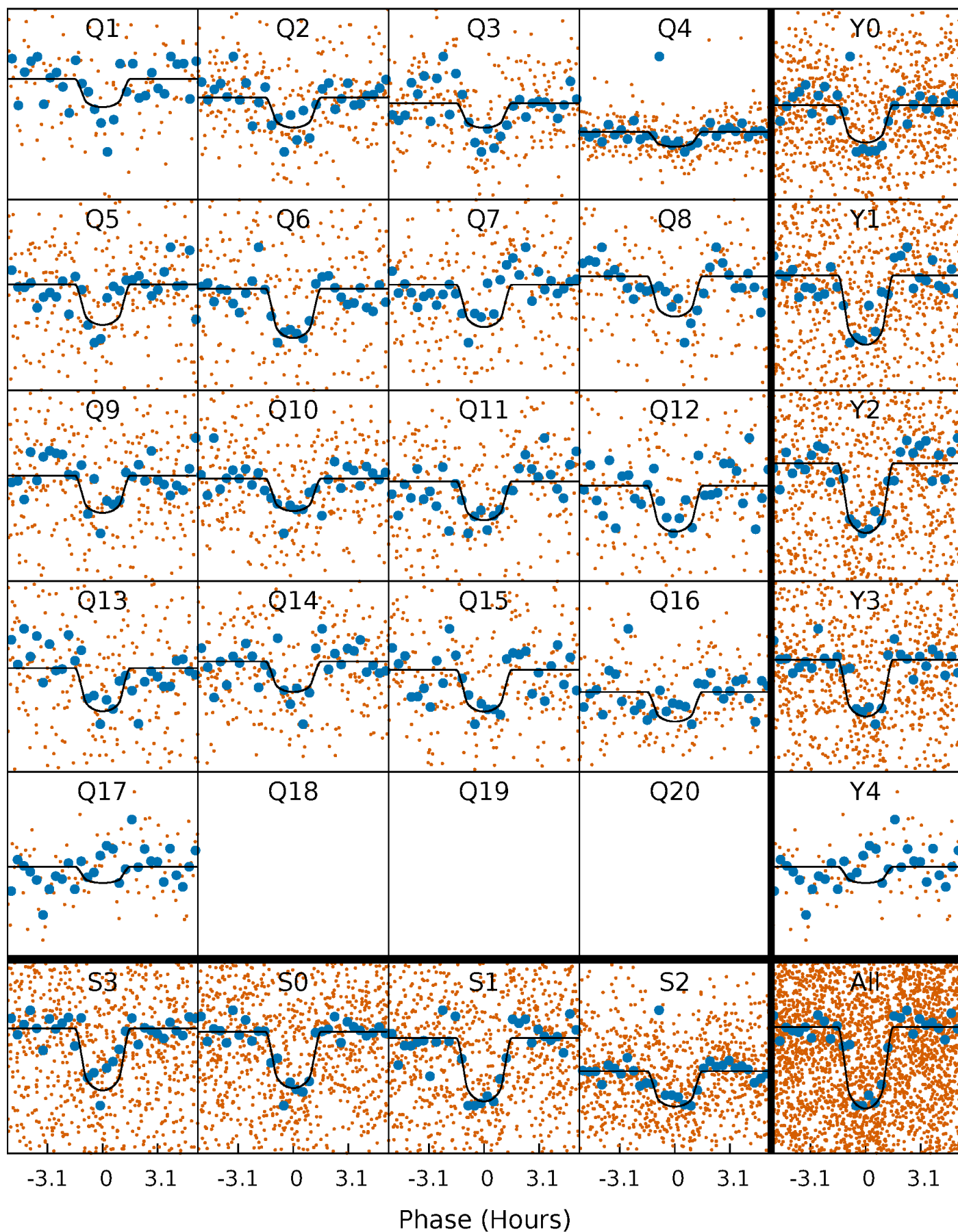
PDC Quarter-Phased Transit Curves

TCE 010141900-01 P= 6.503272 Days $T_0=135.266777$ (BKJD)



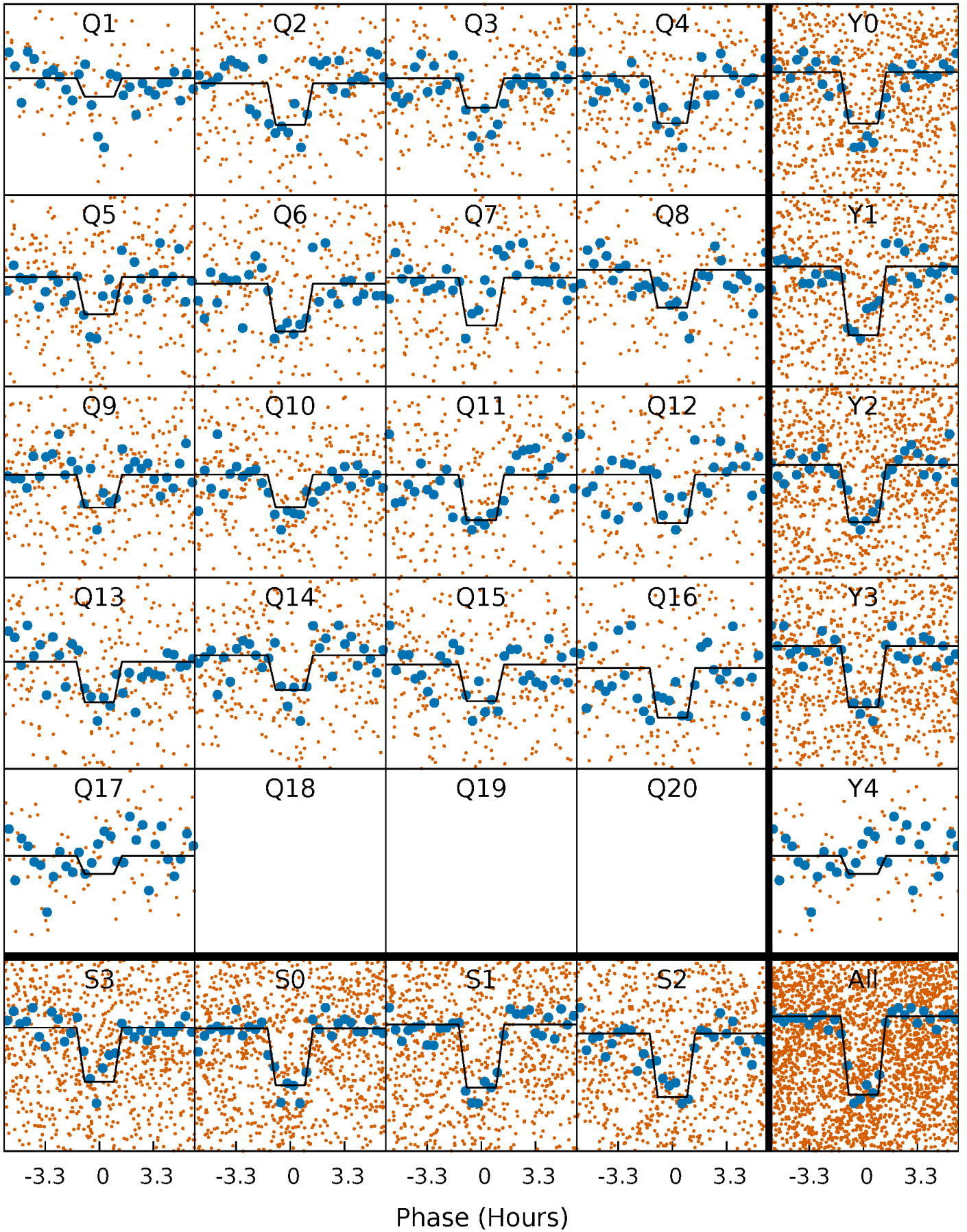
DV Quarter-Phased Transit Curves

TCE 010141900-01 P= 6.503272 Days $T_0=135.266777$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

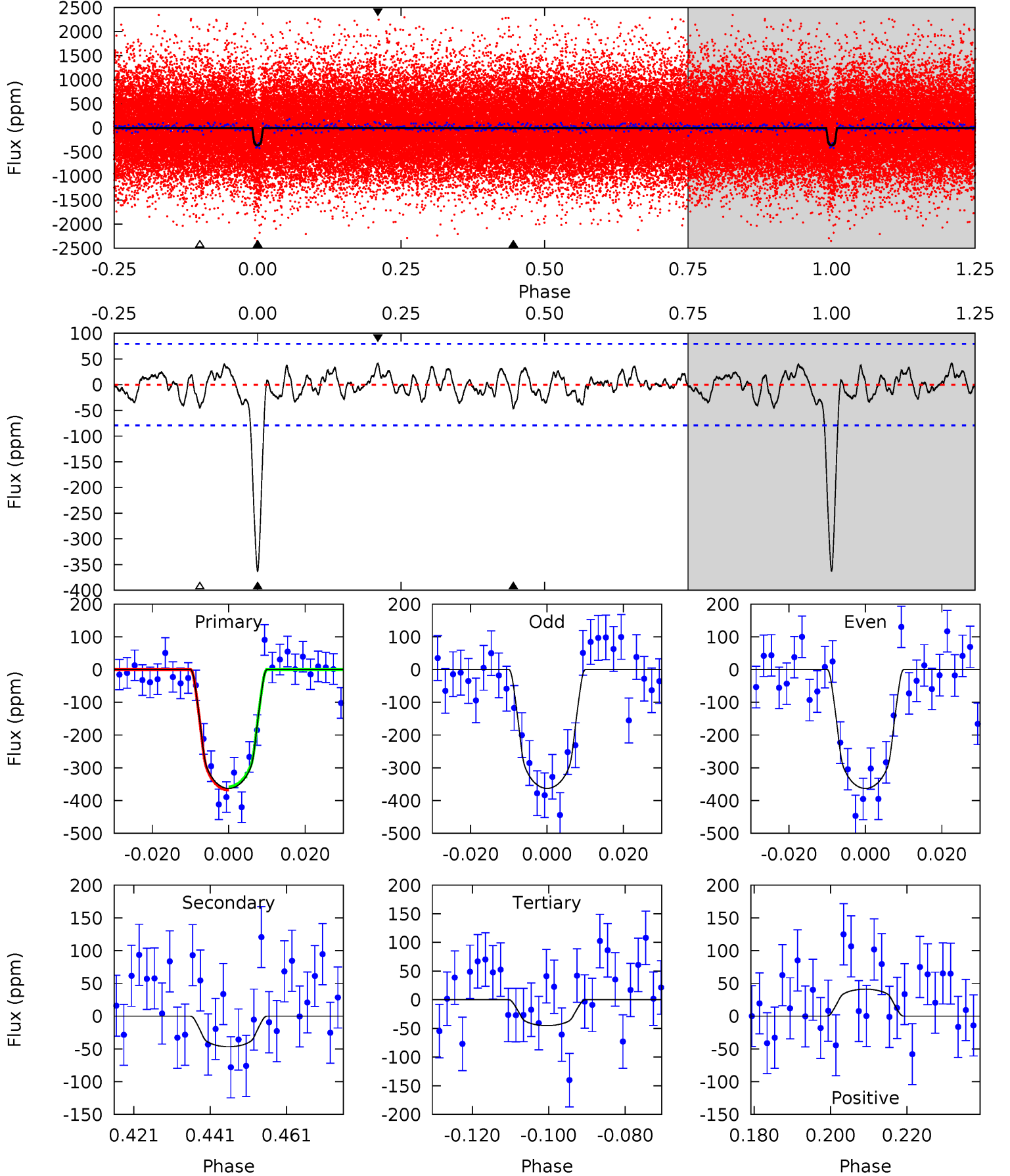
TCE 010141900-01 P= 6.503238 Days $T_0=135.270256$ (BKJD)



DV Model-Shift Uniqueness Test

010141900-01, P = 6.503272 Days, E = 128.763505 Days

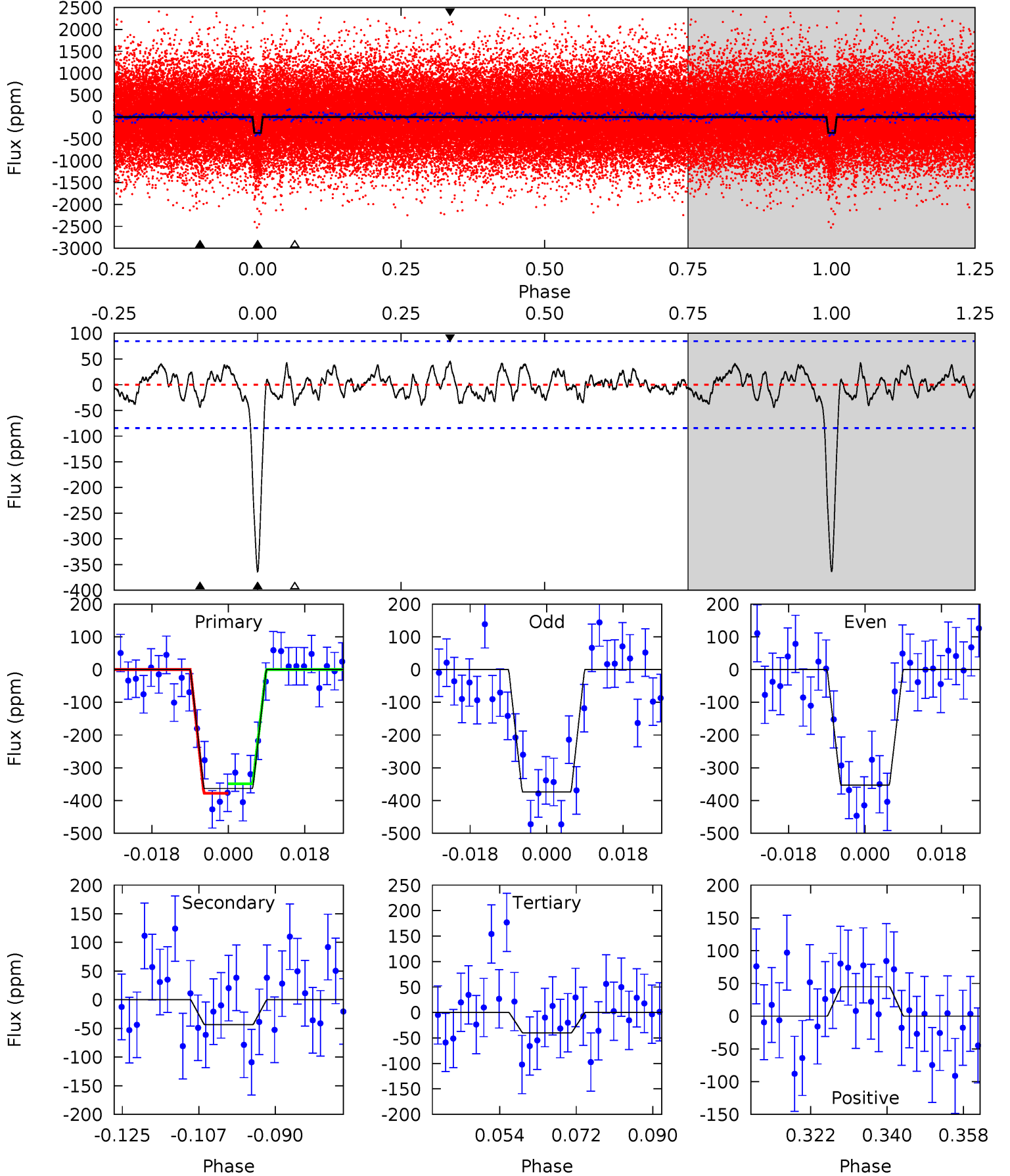
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.4	2.88	2.78	2.54	4.89	2.33	1.12	19.6	19.8	0.10	0.34	0.01	0.91	0.10	0.30



Alt Model-Shift Uniqueness Test

010141900-01, P = 6.503238 Days, E = 128.767018 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.1	2.52	2.34	2.60	4.91	2.37	1.10	18.8	18.5	0.18	-0.09	0.60	0.97	0.11	0.84



Stellar Parameters For KIC 010141900

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4999^{+79}_{-79}	$4.490^{+0.075}_{-0.030}$	$0.180^{+0.150}_{-0.150}$	$0.843^{+0.040}_{-0.060}$	$0.800^{+0.048}_{-0.028}$	$1.883^{+0.508}_{-0.196}$
	+2%/-2%	+2%/-1%	+83%/-83%	+5%/-7%	+6%/-3%	+27%/-10%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 010141900-01 / KOI 1082.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-47 ± 16	$1.91^{+1.04}_{-0.94}$	1119^{+25}_{-28}	3321^{+795}_{-439}	28^{+73}_{-17}
Alt.	-43 ± 17	$1.77^{+1.06}_{-0.94}$	1117^{+26}_{-25}	3353^{+964}_{-489}	30^{+100}_{-20}

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

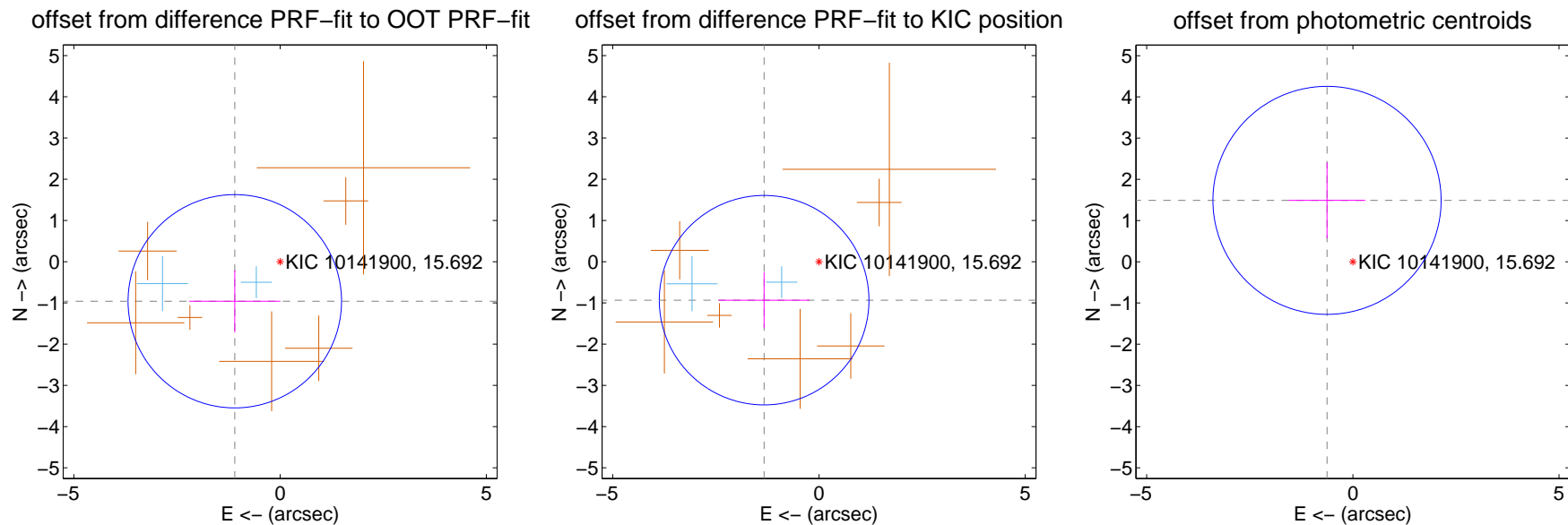
DV Centroid Data

Supplemental centroid analysis for 010141900-01. Kepler magnitude: 15.69. Transit SNR 16.93

There are 2 quarters with good PRF difference image offsets

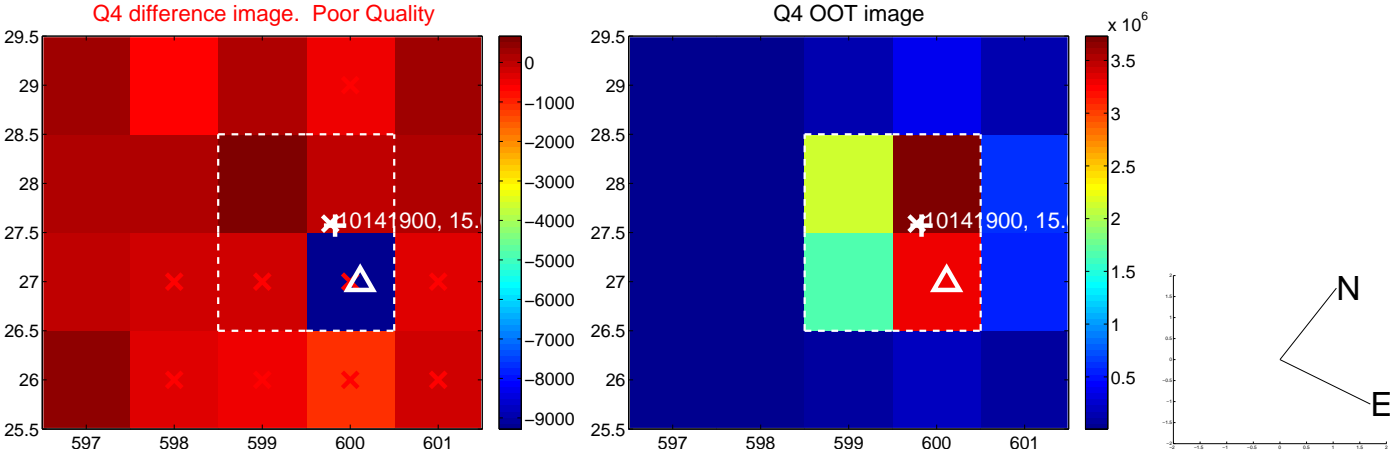
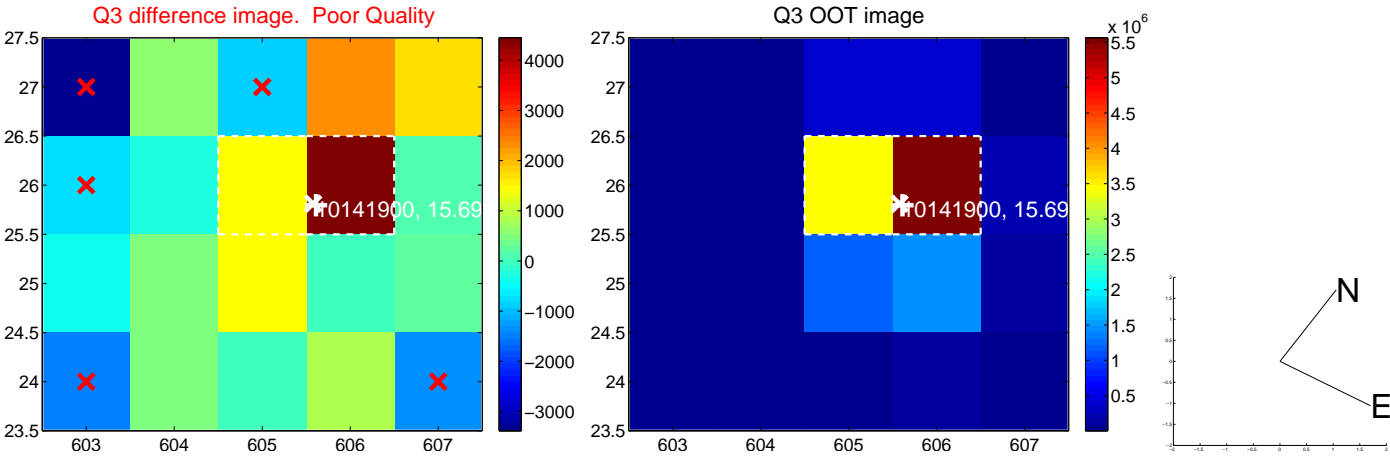
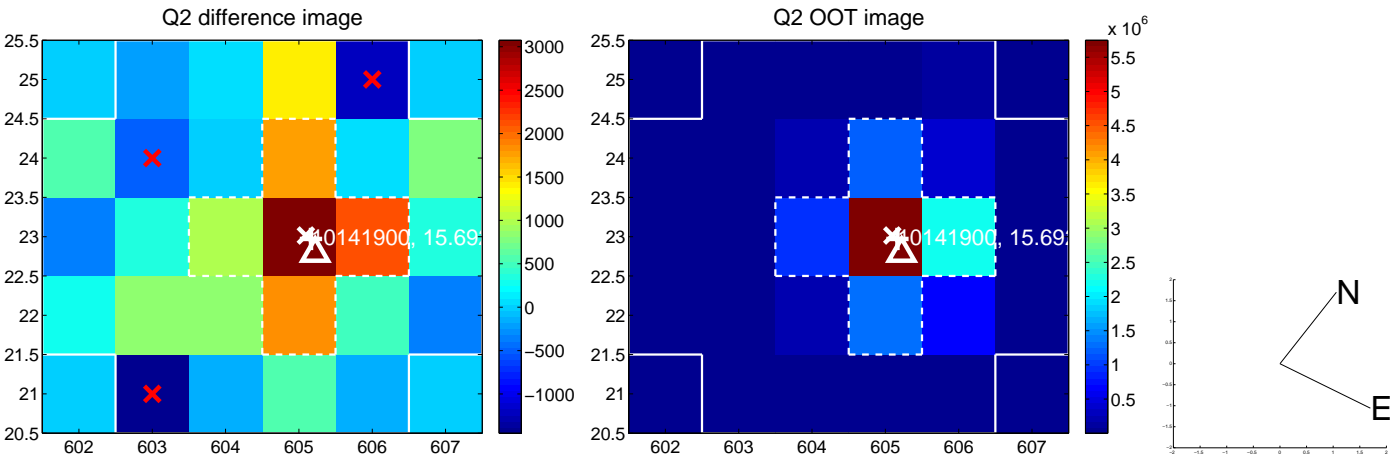
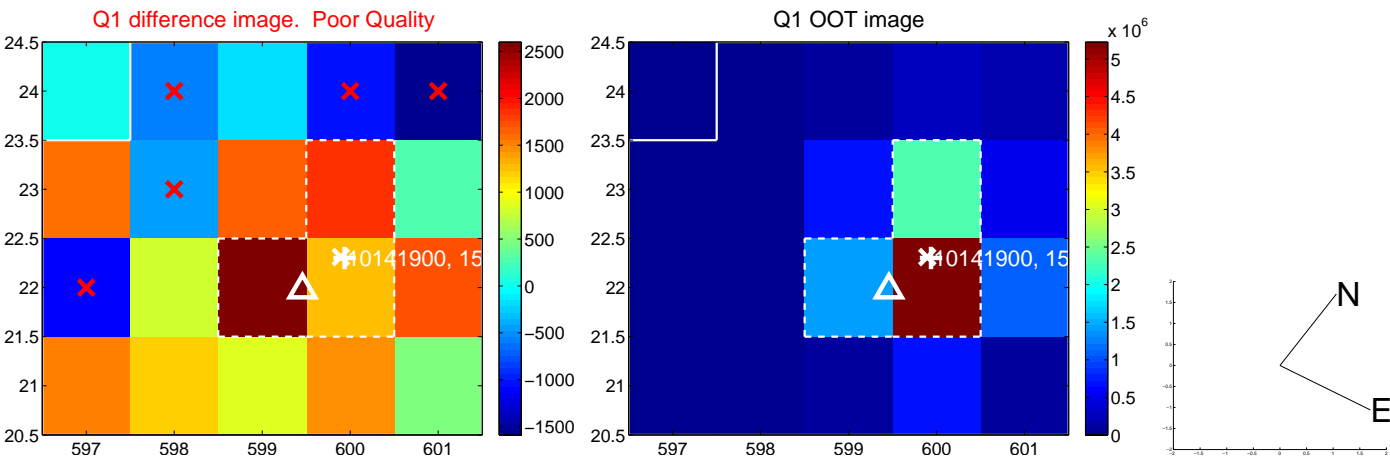
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.458 ± 0.862	1.69	1.098 ± 1.105	-0.960 ± 0.755
PRF-fit source offset from KIC position	1.625 ± 0.847	1.92	1.330 ± 1.101	-0.933 ± 0.679
photometric centroid source offset	1.62 ± 0.92	1.75	0.63 ± 0.93	1.49 ± 0.92

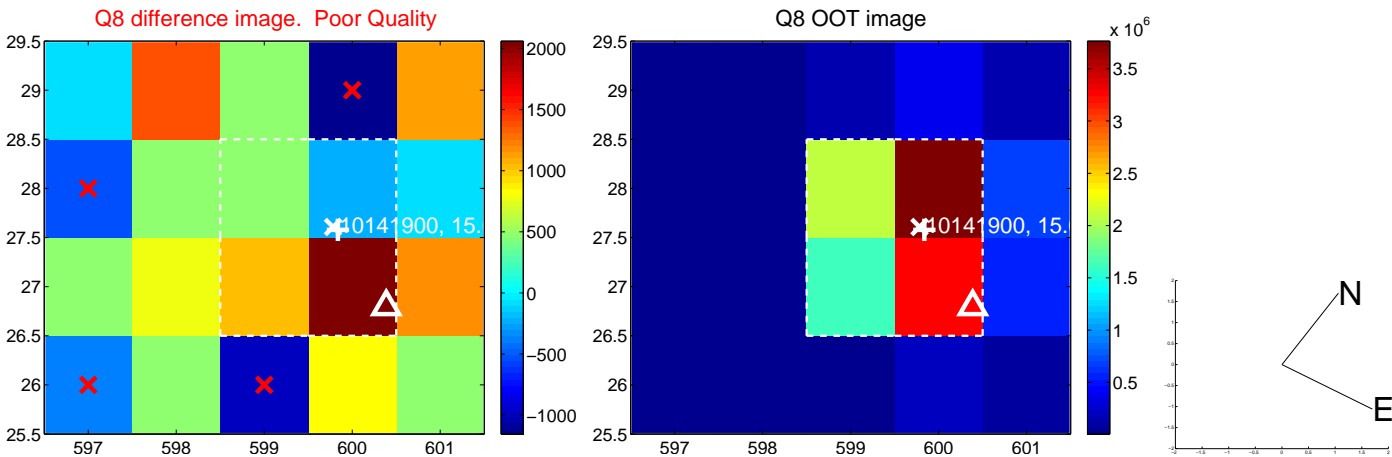
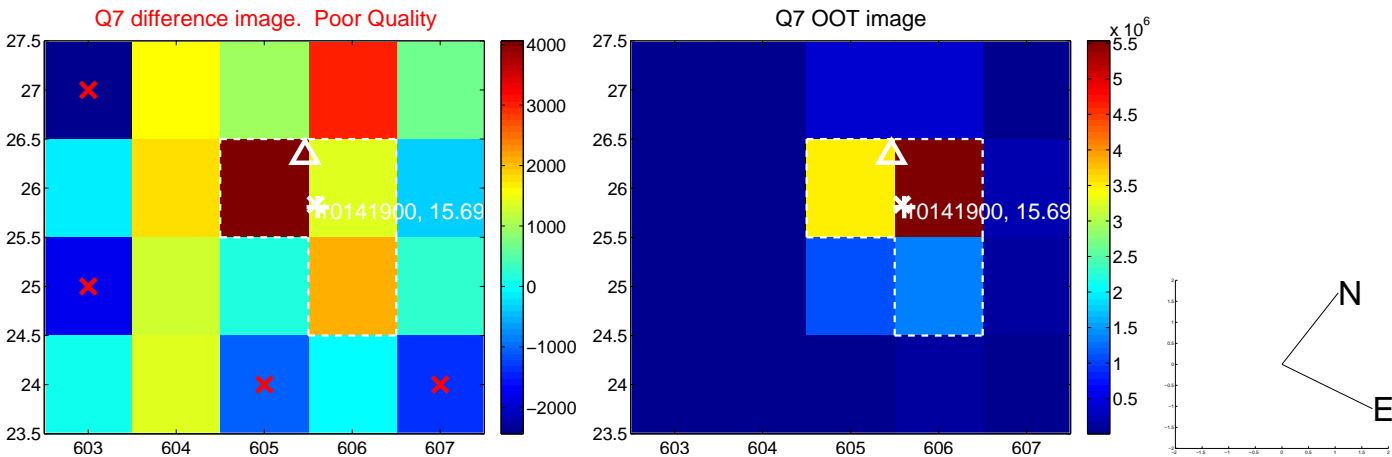
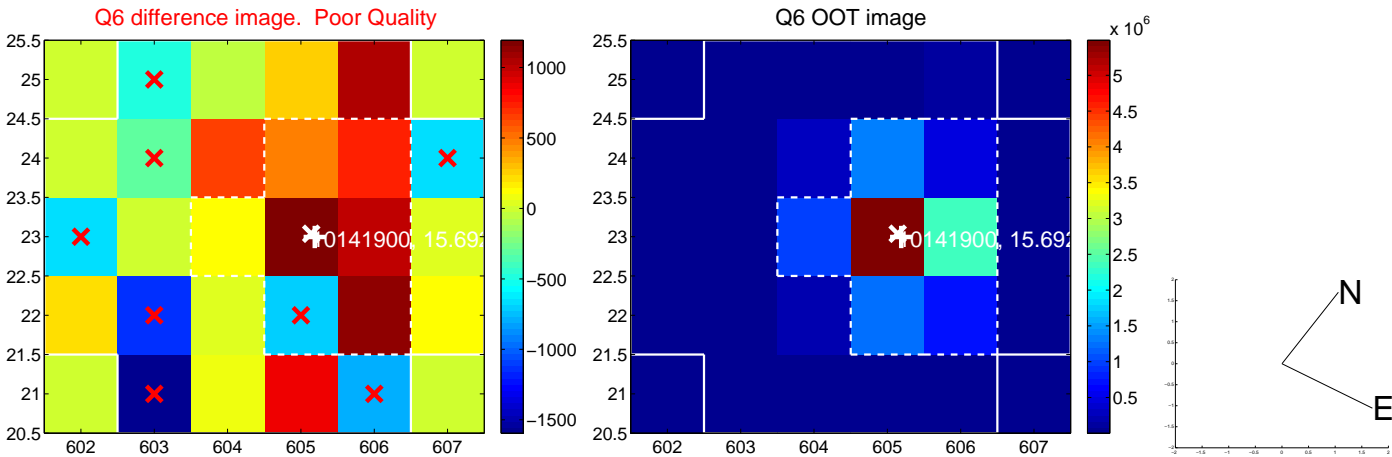
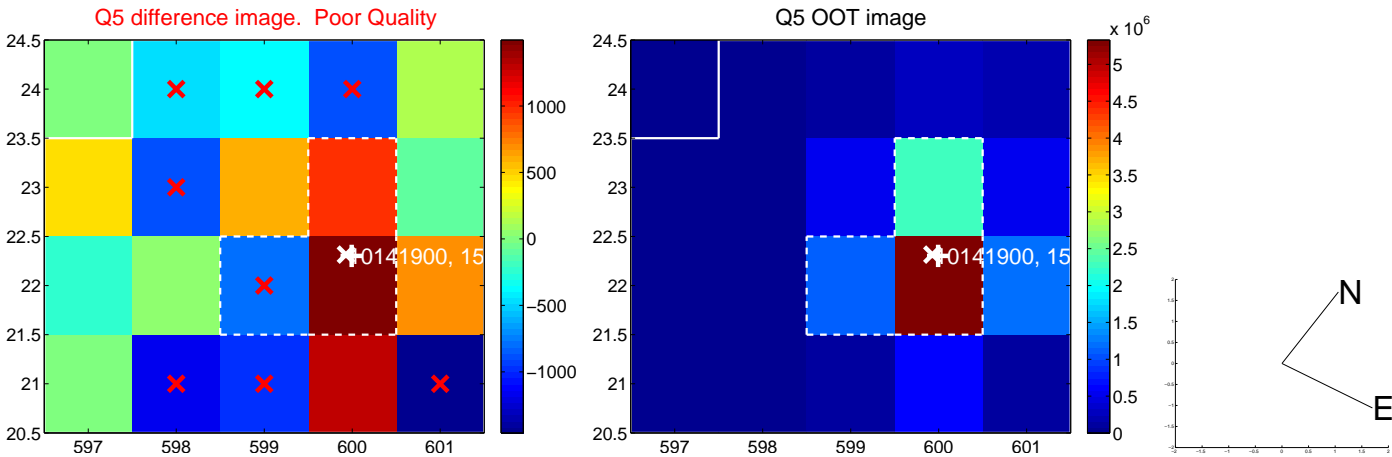


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

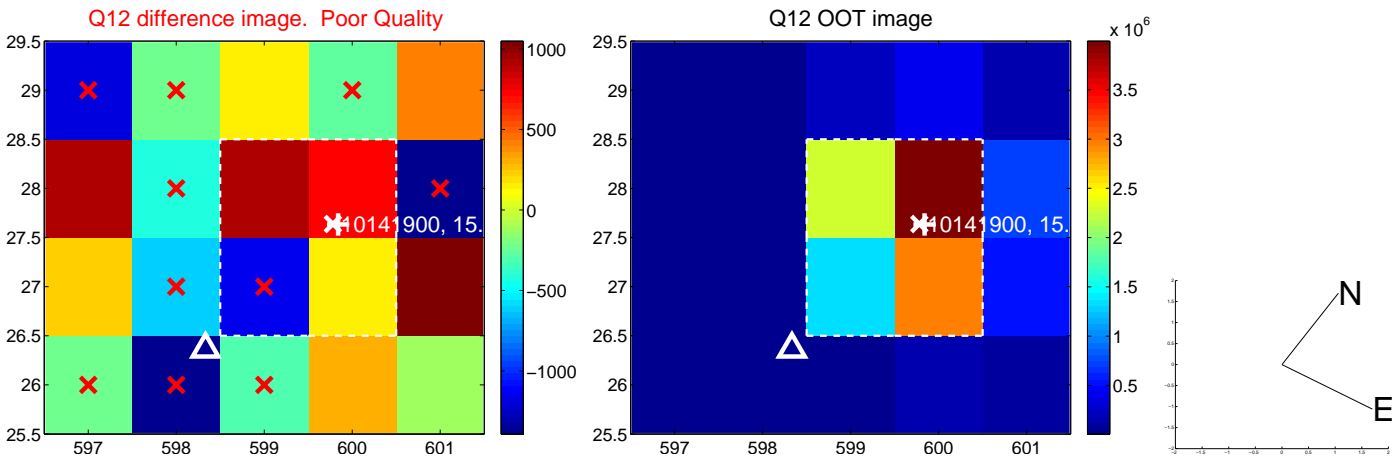
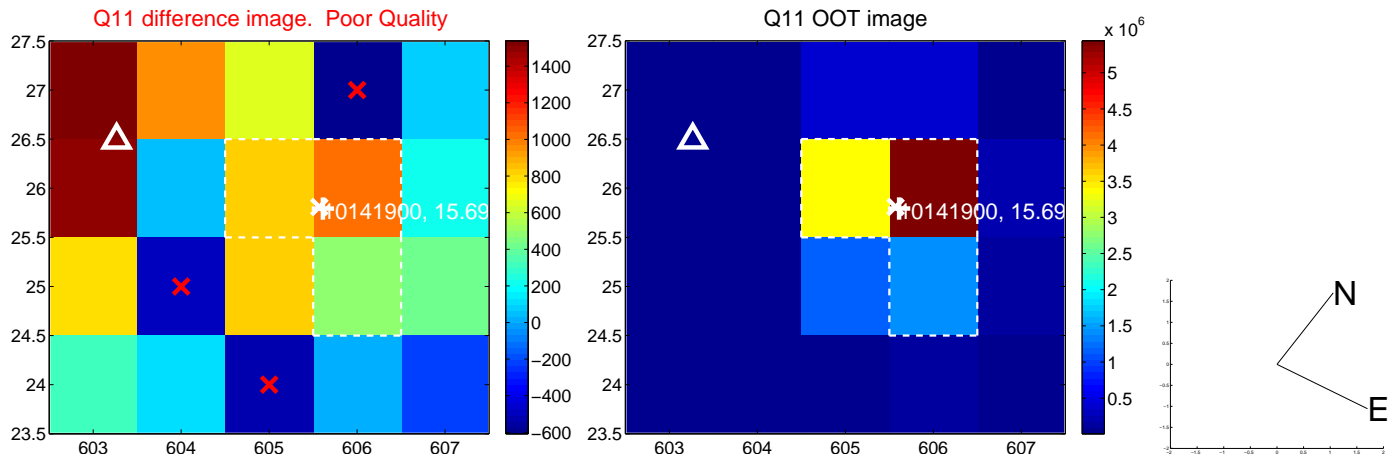
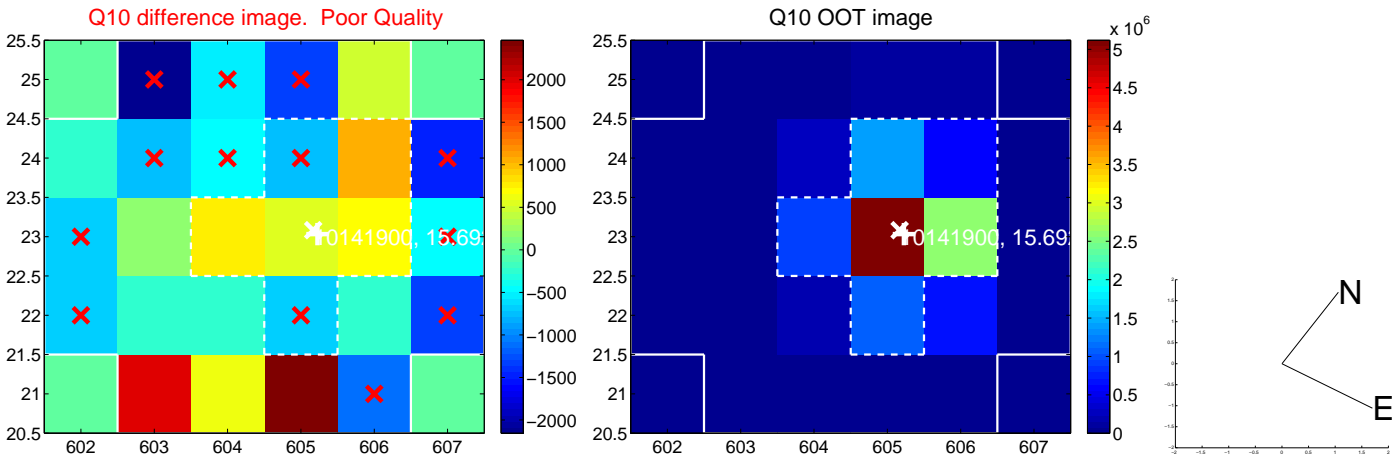
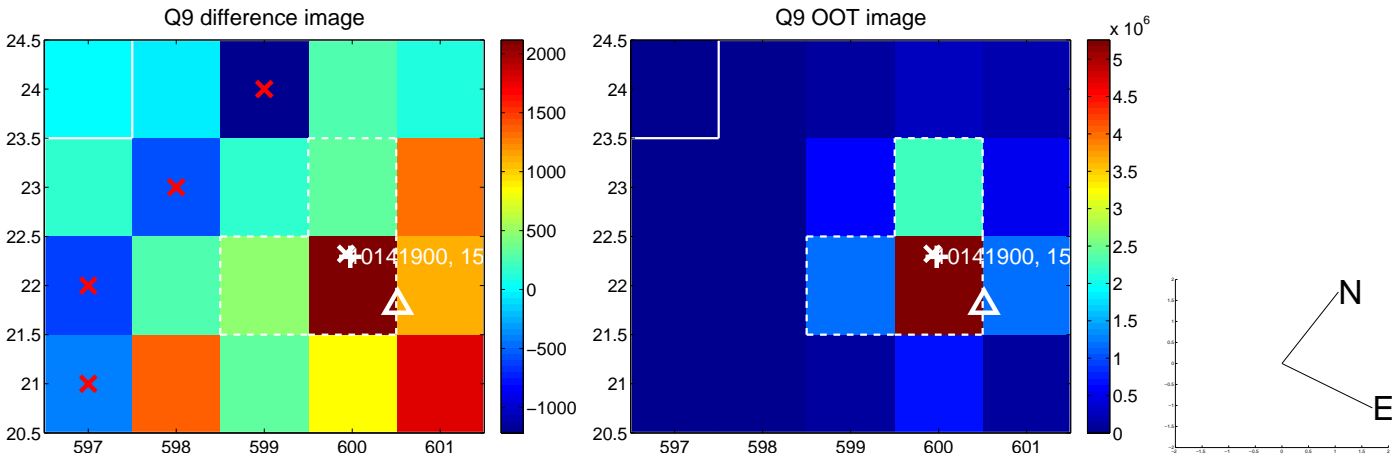
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



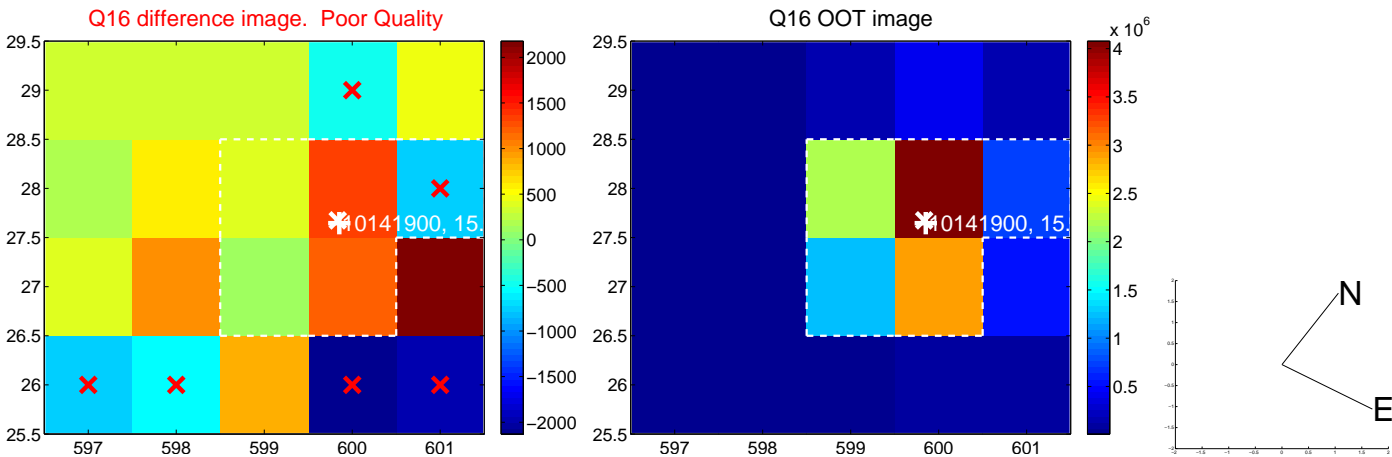
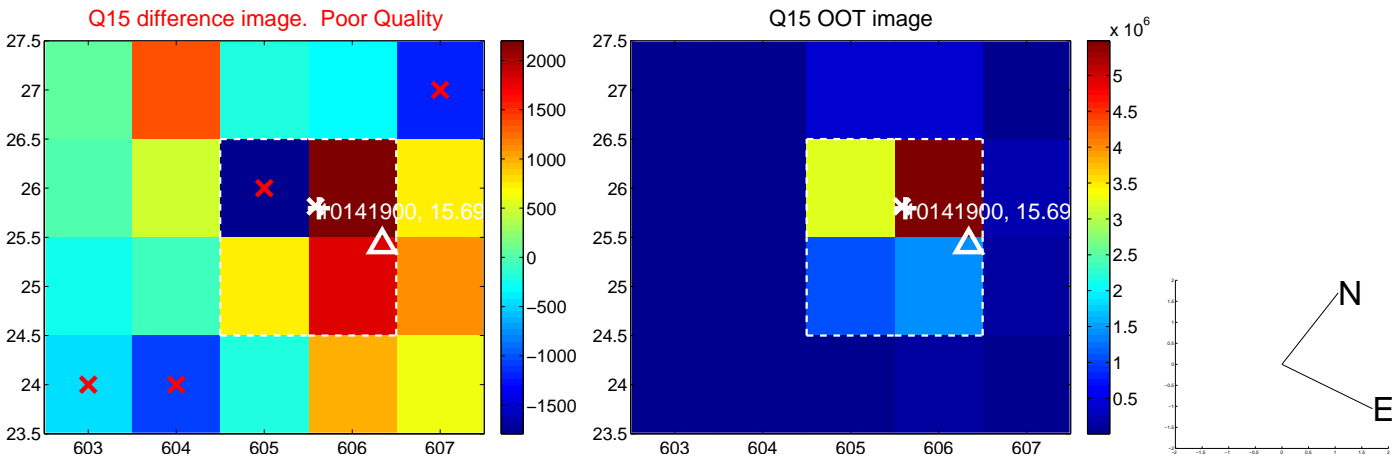
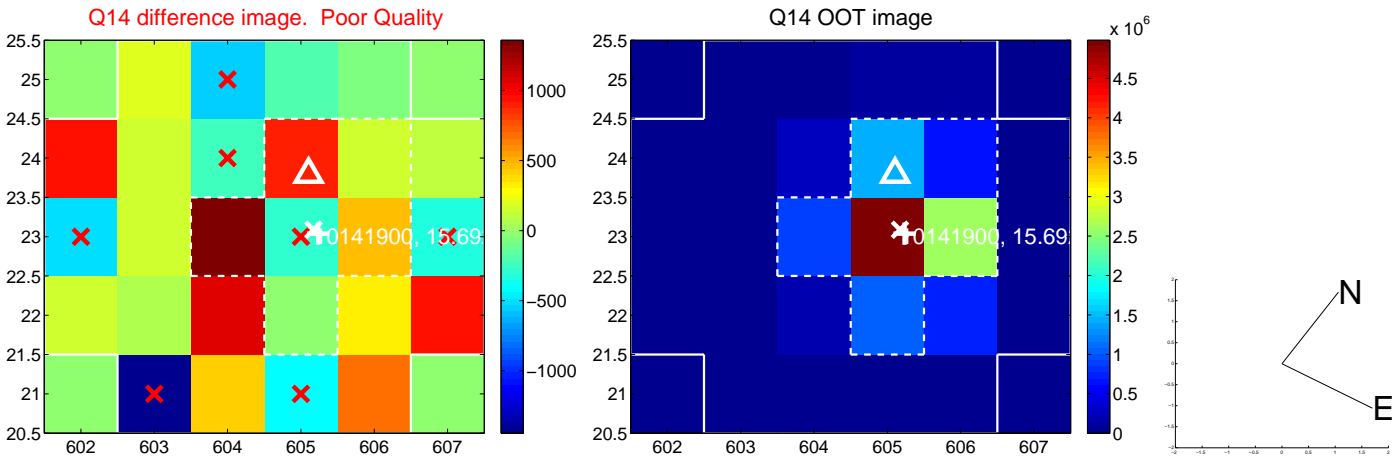
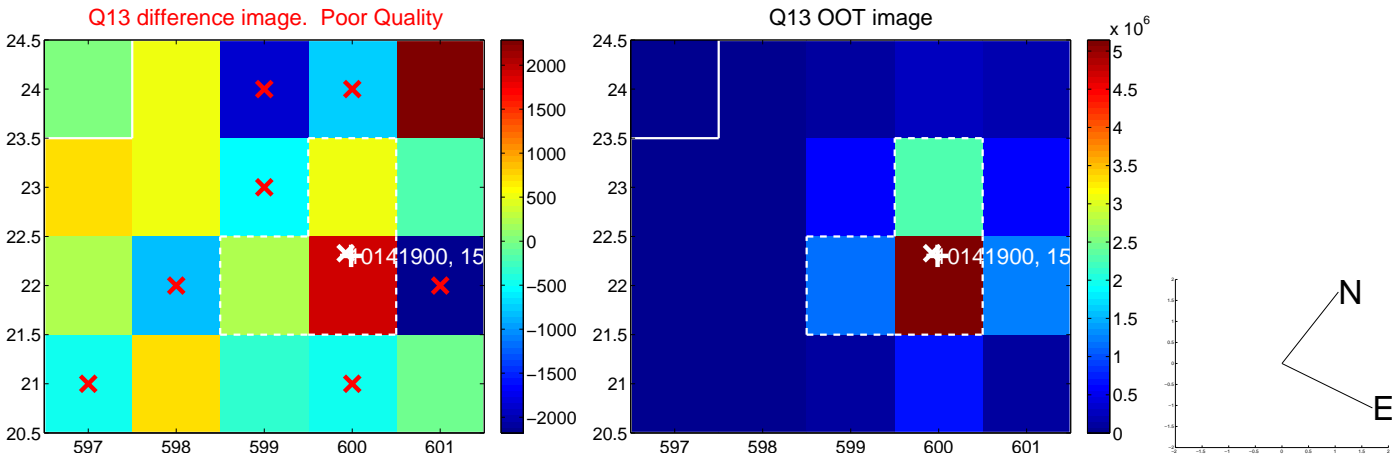
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



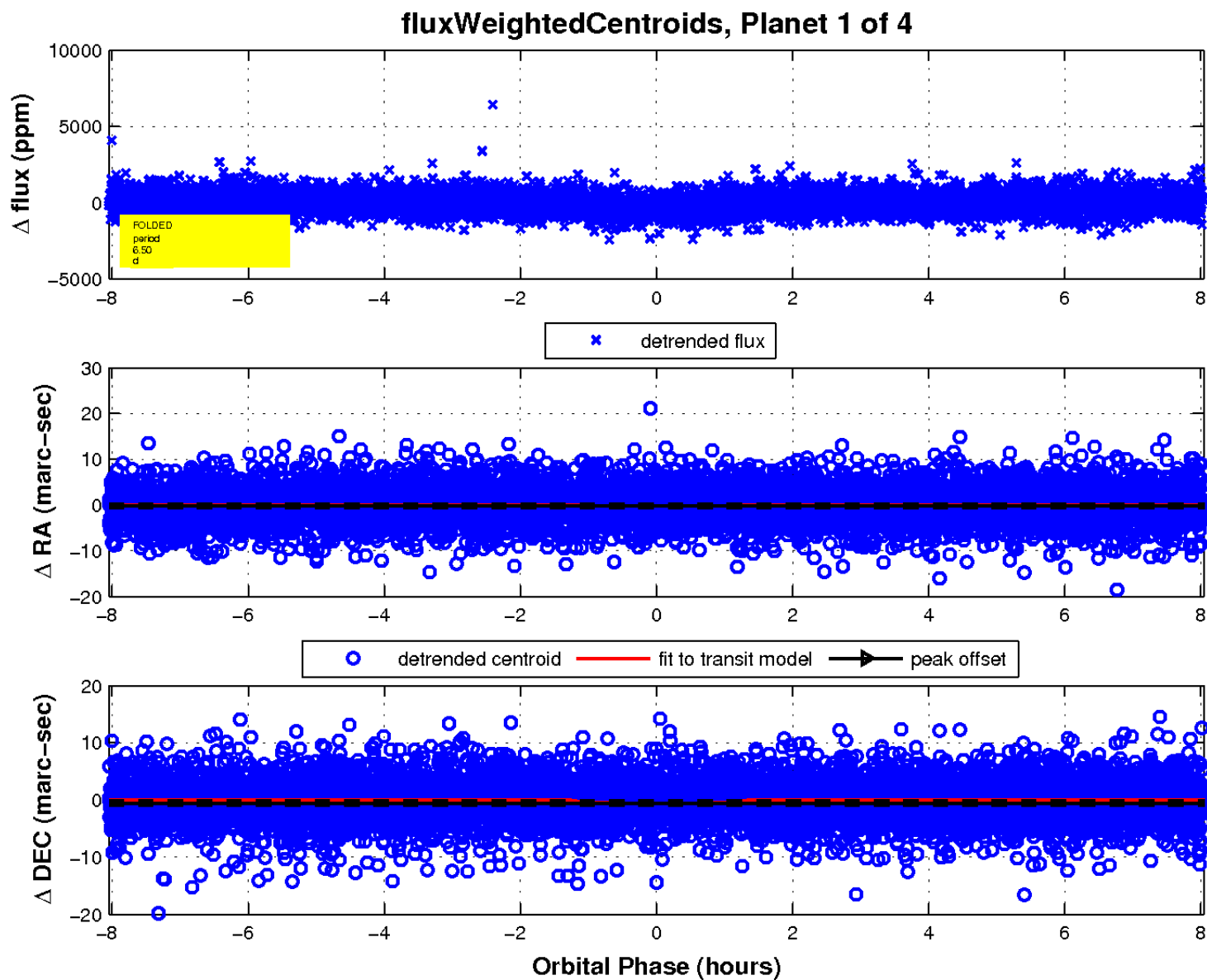
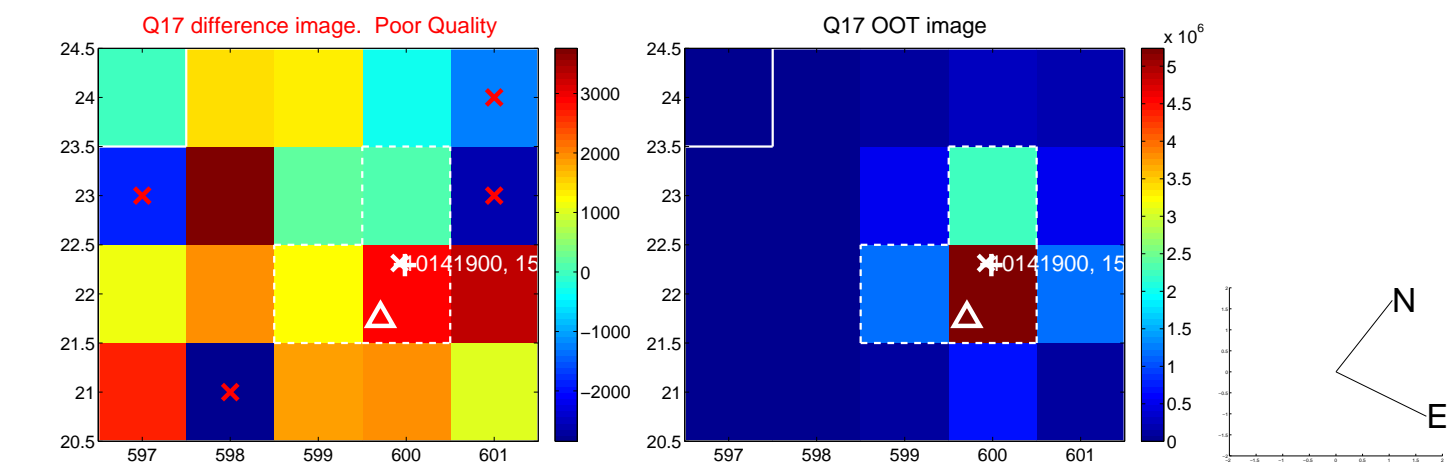
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

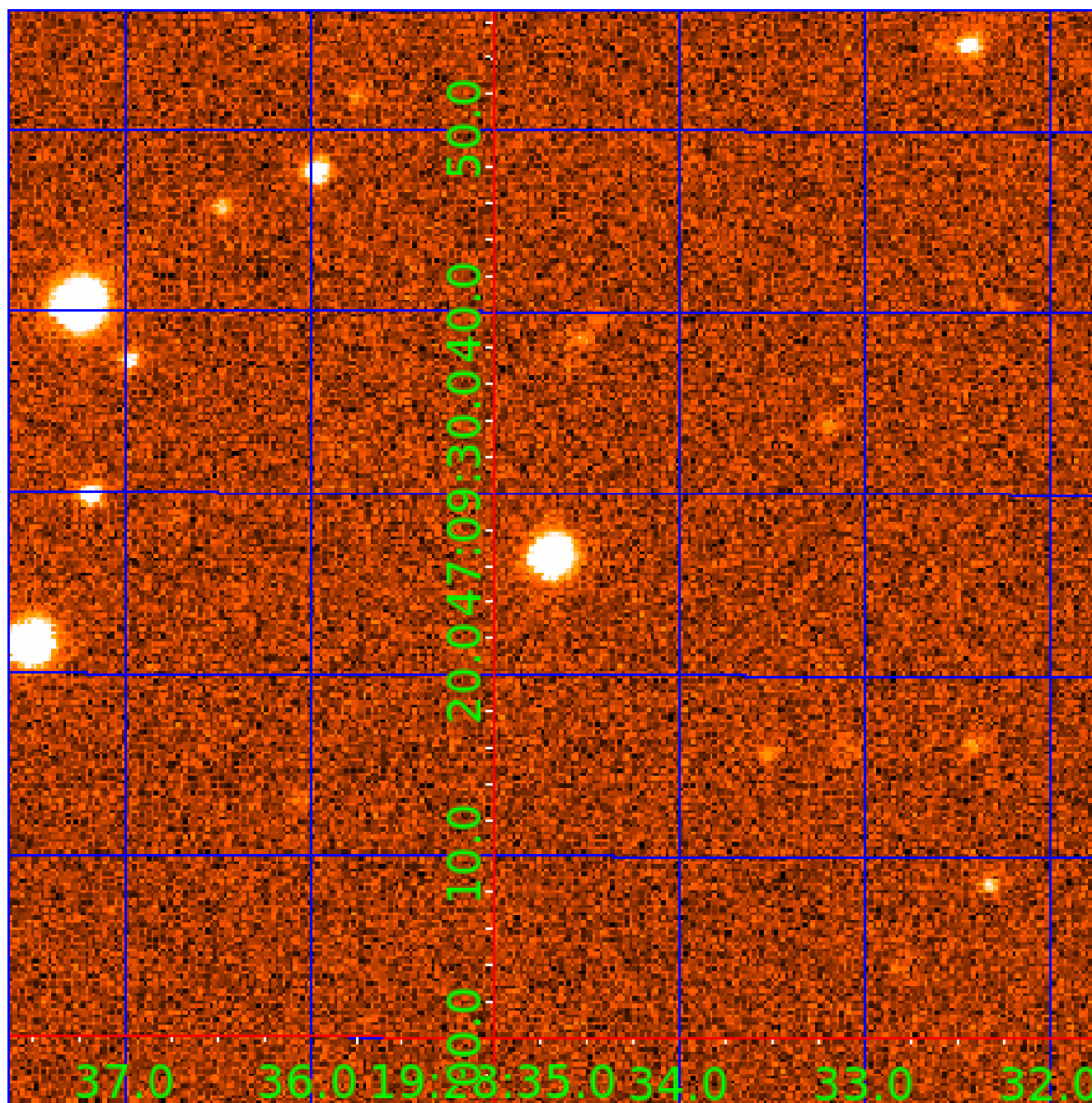


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010141900

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})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
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010141900-02	OBS	PC	0.82	0	0	0	0	NO_COMMENT
010141900-03	OBS	PC	0.69	0	0	0	0	NO_COMMENT
010141900-04	OBS	PC	0.80	0	0	0	0	CENT_FEW_DIFFS

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 010141900-02

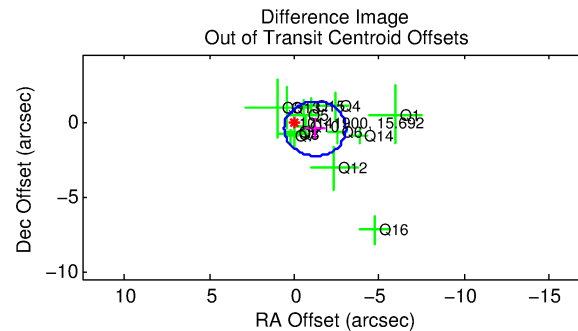
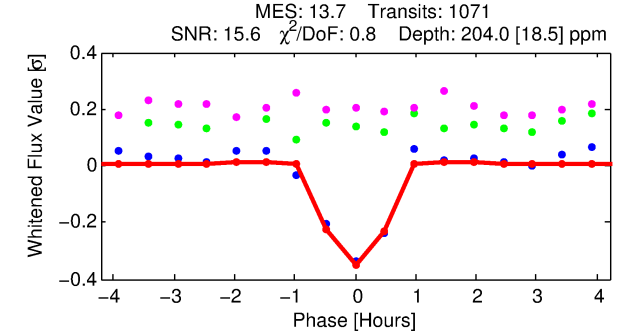
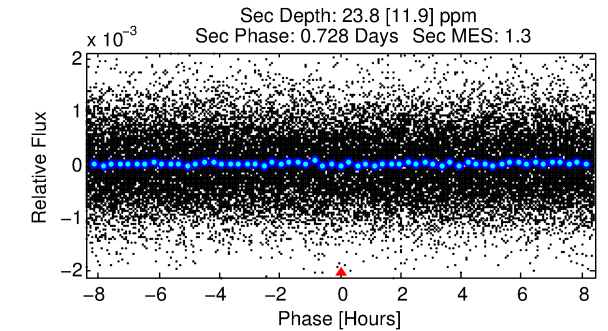
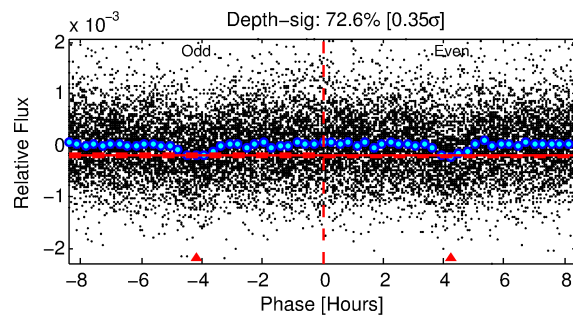
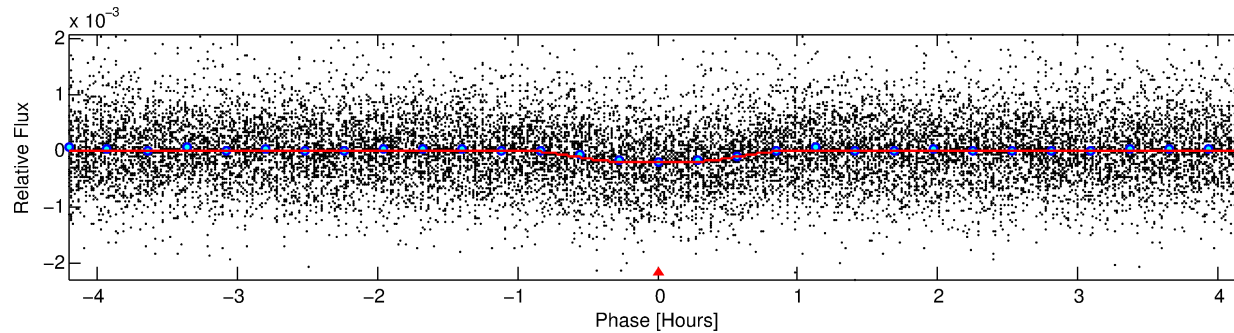
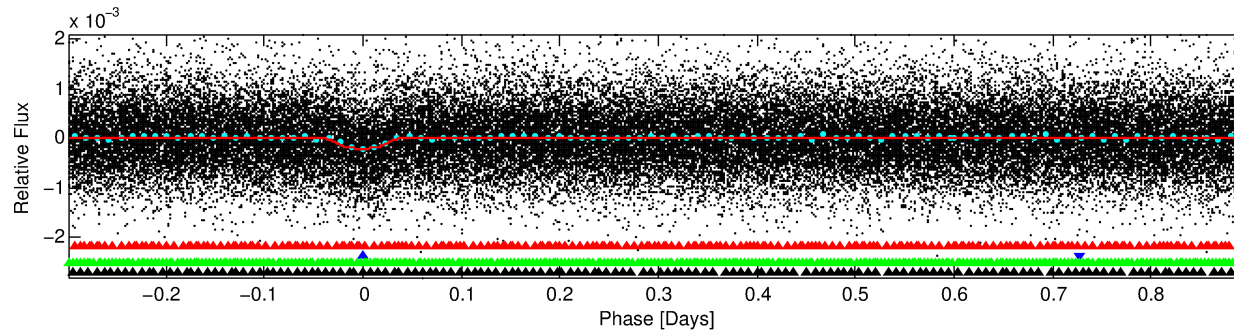
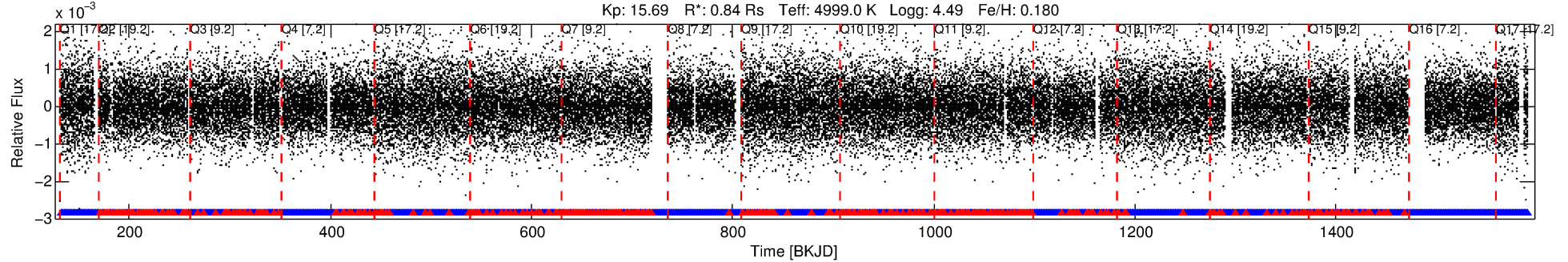
No Significant Match Found

DV One-Page Summary

KIC: 10141900 Candidate: 2 of 4 Period: 1.197 d

KOI: K01082.03 Corr: 0.898

Kp: 15.69 R*: 0.84 Rs Teff: 4999.0 K Logg: 4.49 Fe/H: 0.180



DV Fit Results:

Period = 1.19654 [0.00001] d
Epoch = 132.5385 [0.0014] BKJD
Rp/R* = 0.0161 [0.0120]
a/R* = 3.18 [8.36]
b = 0.90 [0.62]
Seff = 947.13 [132.27]
Teq = 1415 [49] K
Rp = 1.48 [1.11] Re
a = 0.0205 [0.0015] AU
Ag = 2.50 [3.93] [0.38σ]
Teffp = 2751 [1078] K [1.24σ]

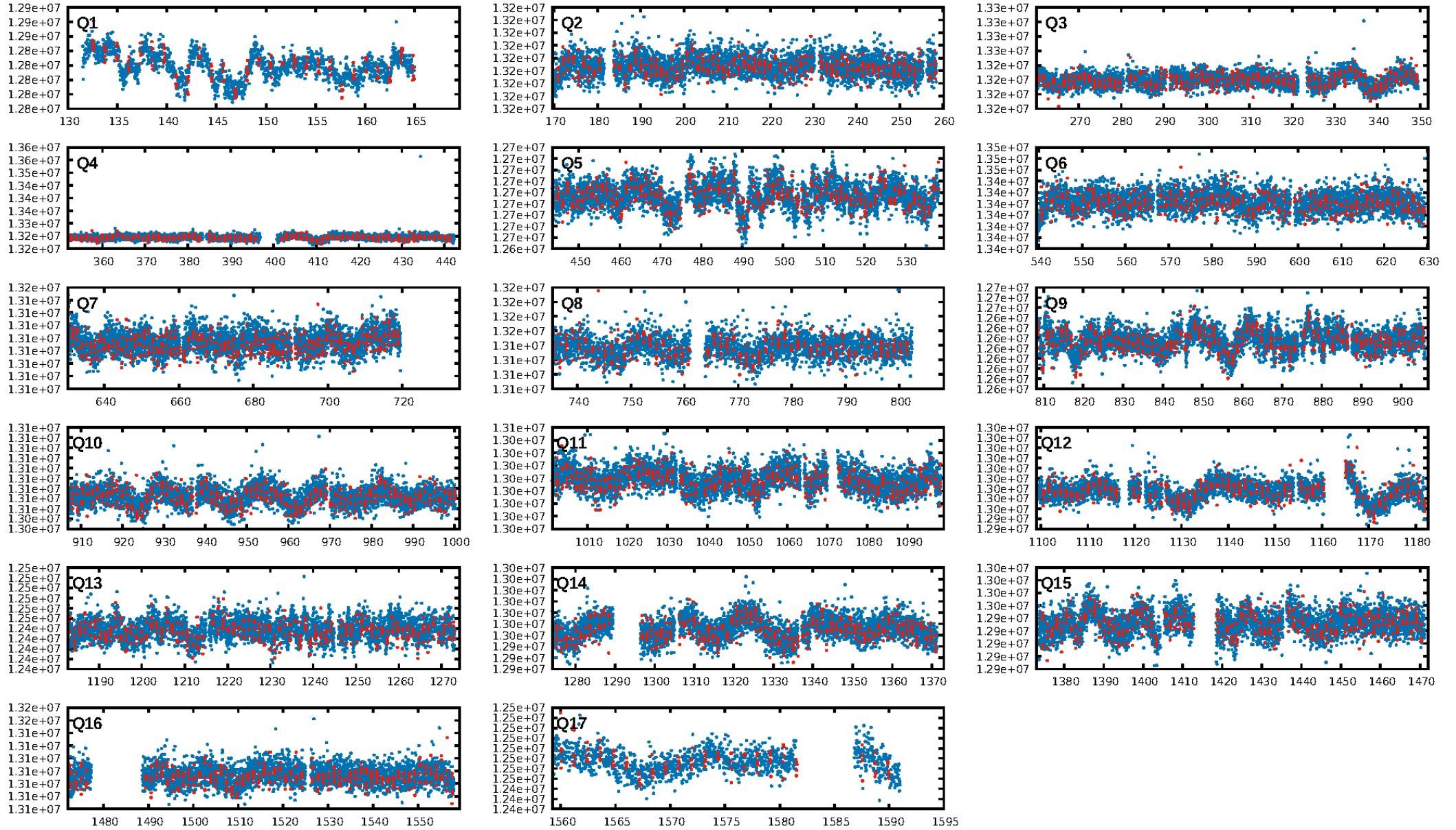
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [24.98σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.42e-42
RollingBand-fgt: 0.67 [686/1023]
GhostDiagnostic-chr: 3.265
Centroid-sig: 88.7%
Centroid-so: 0.345 arcsec [0.33σ]
OotOffset-rm: 1.317 arcsec [2.16σ]
KicOffset-rm: 1.121 arcsec [1.87σ]
OotOffset-st: 4/3/4/3 [14]
KicOffset-st: 4/3/4/3 [14]
DiffImageQuality-fgm: 0.57 [8/14]
DiffImageOverlap-fno: 1.00 [17/17]

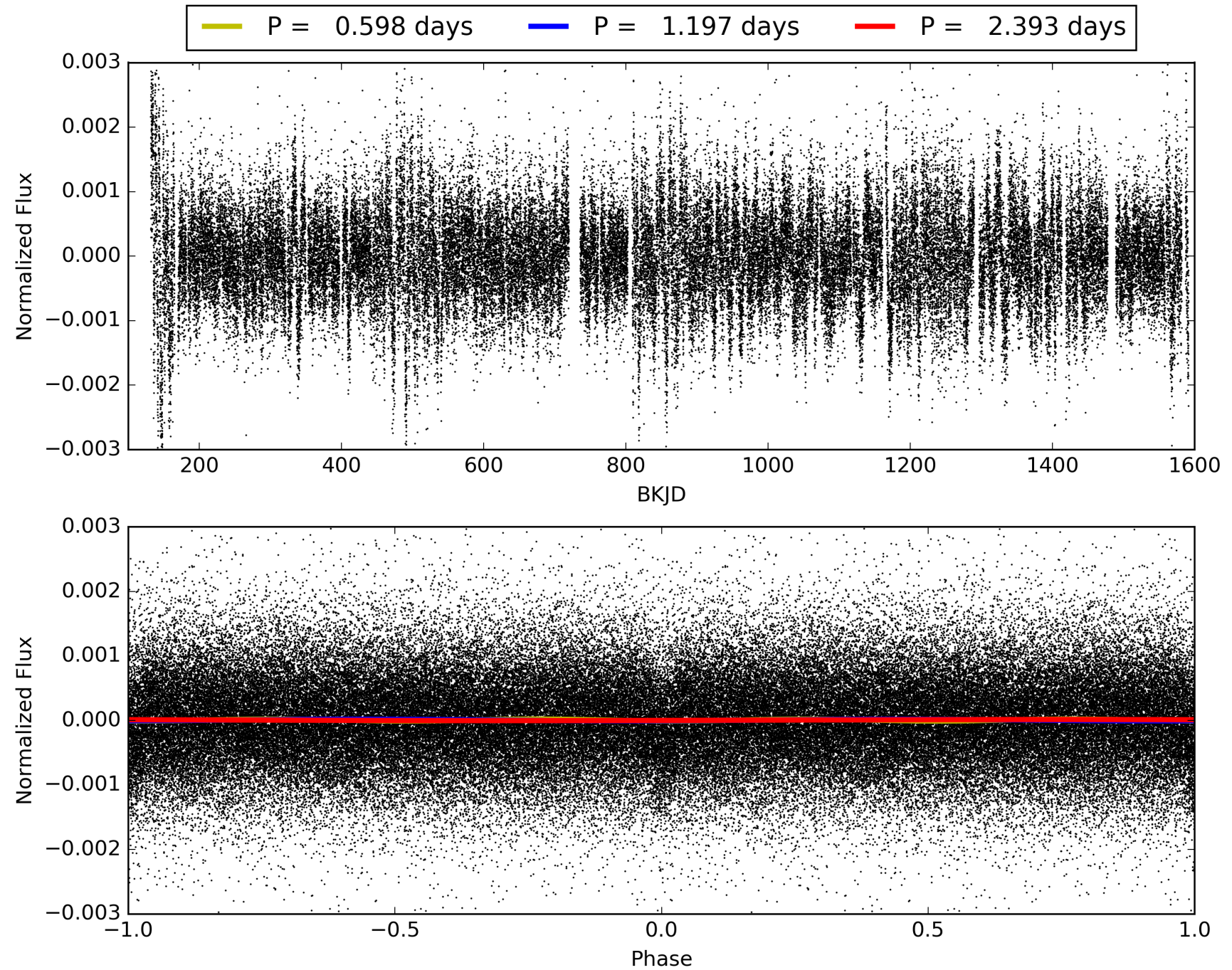
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:09:33 Z

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

TCE 010141900-02, PDC Light Curves

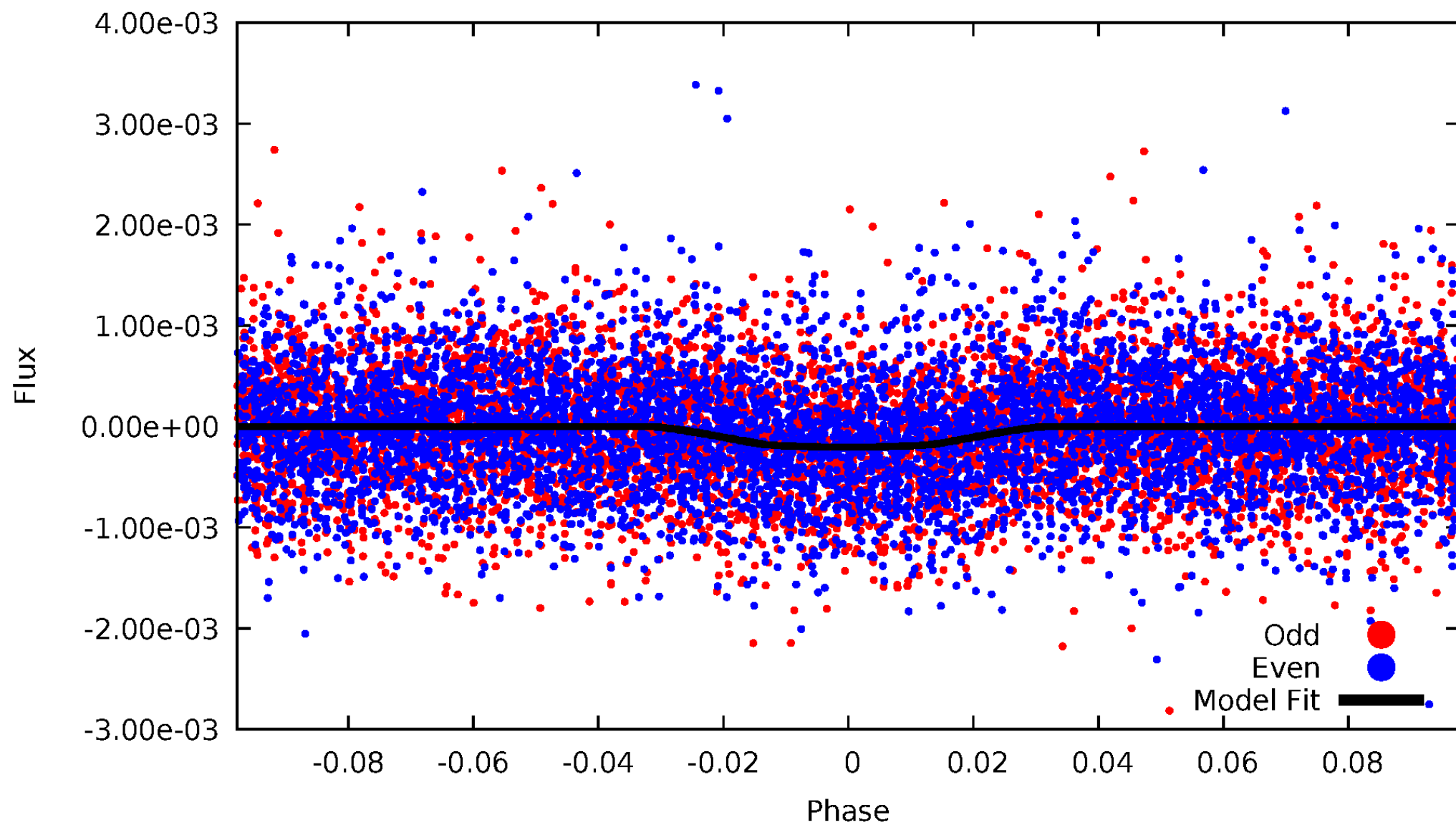


TCE 010141900-02



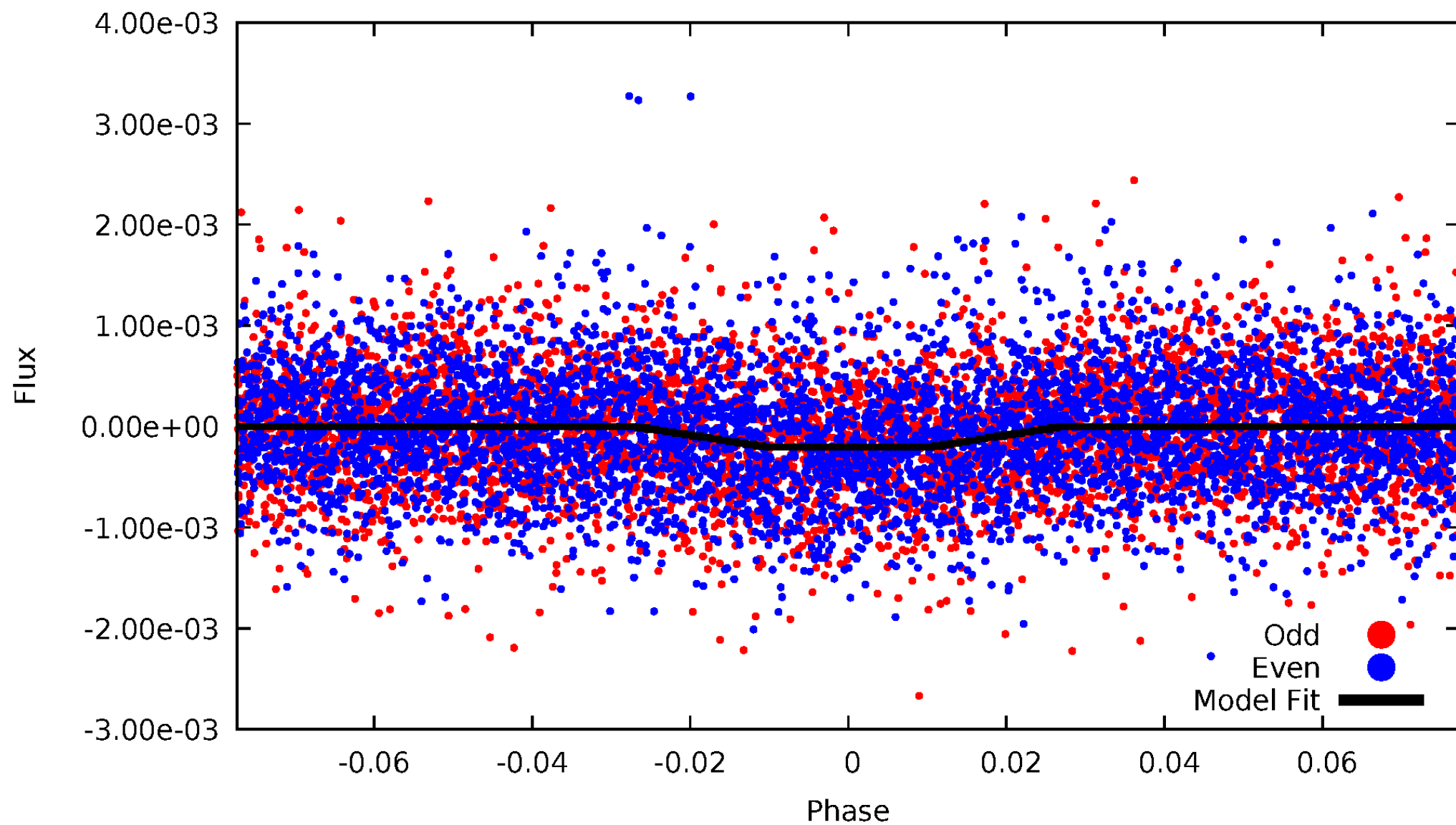
DV Odd/Even

TCE 010141900-02



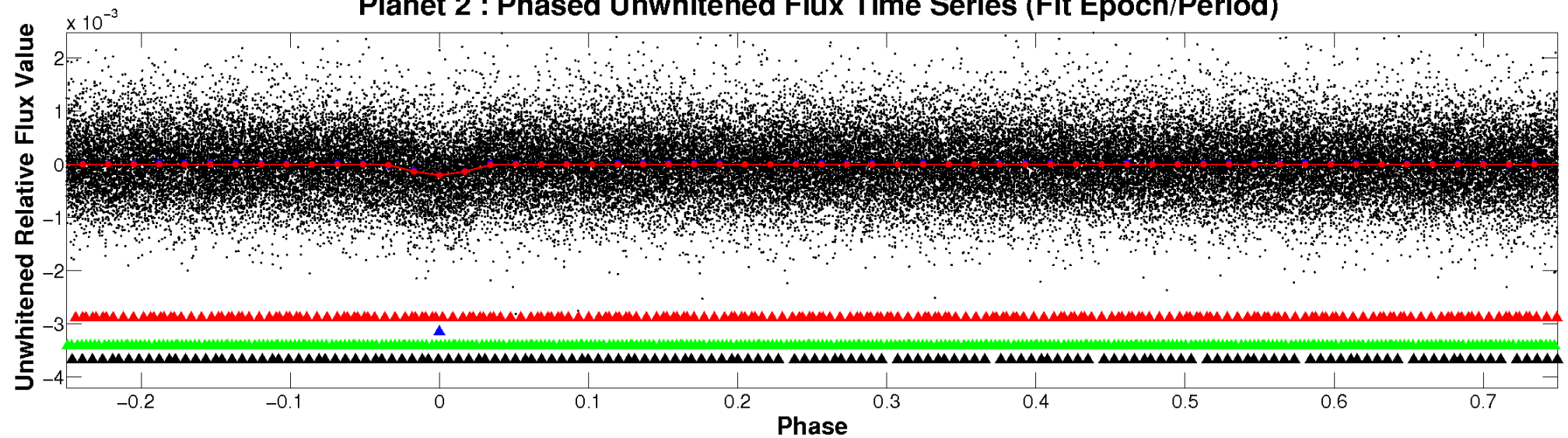
ALT Odd/Even

TCE 010141900-02

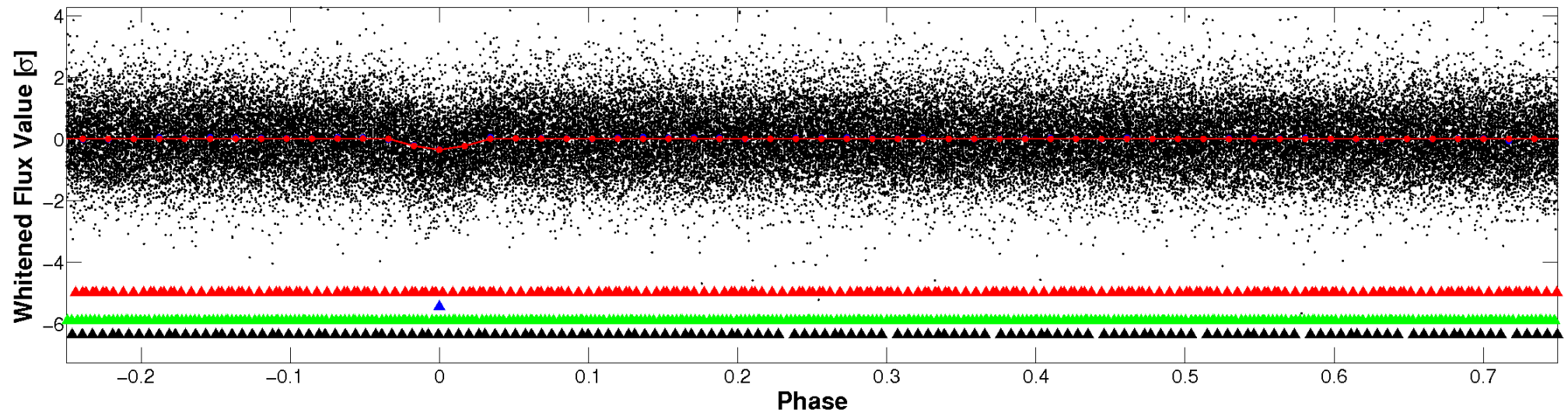


Non-Whitened Vs. Whitened Light Curve

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

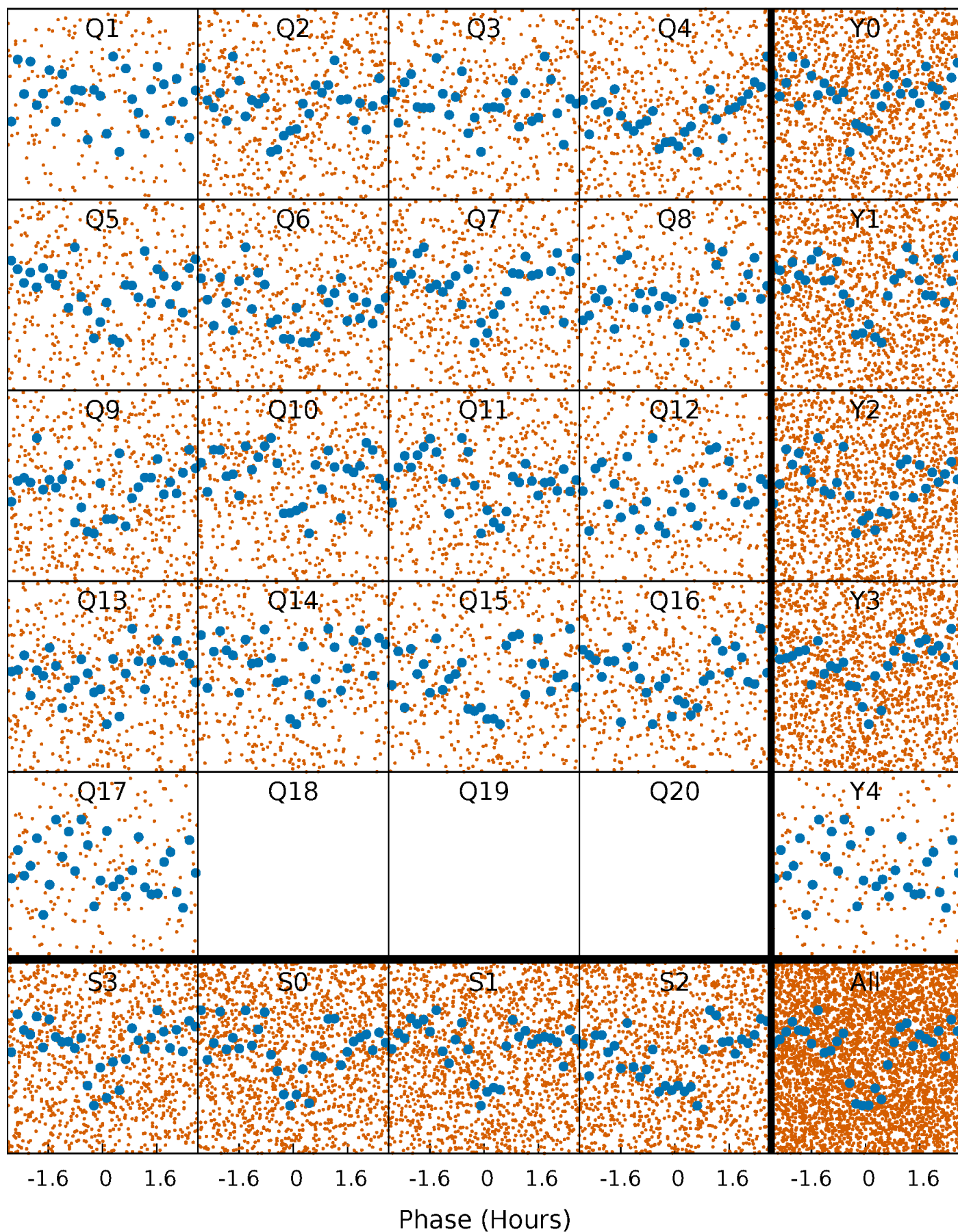


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



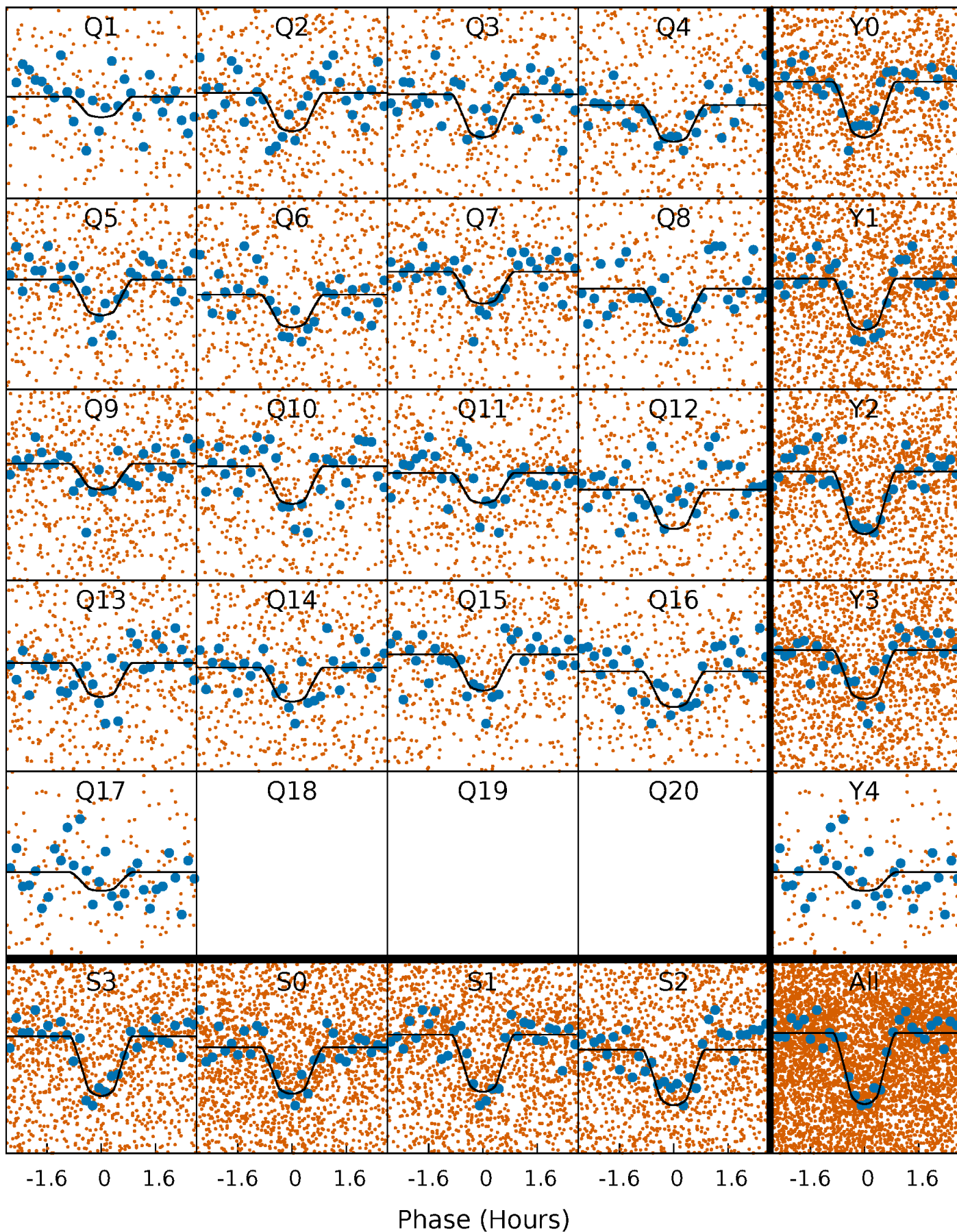
PDC Quarter-Phased Transit Curves

TCE 010141900-02 $P = 1.196537$ Days $T_0 = 132.538469$ (BKJD)



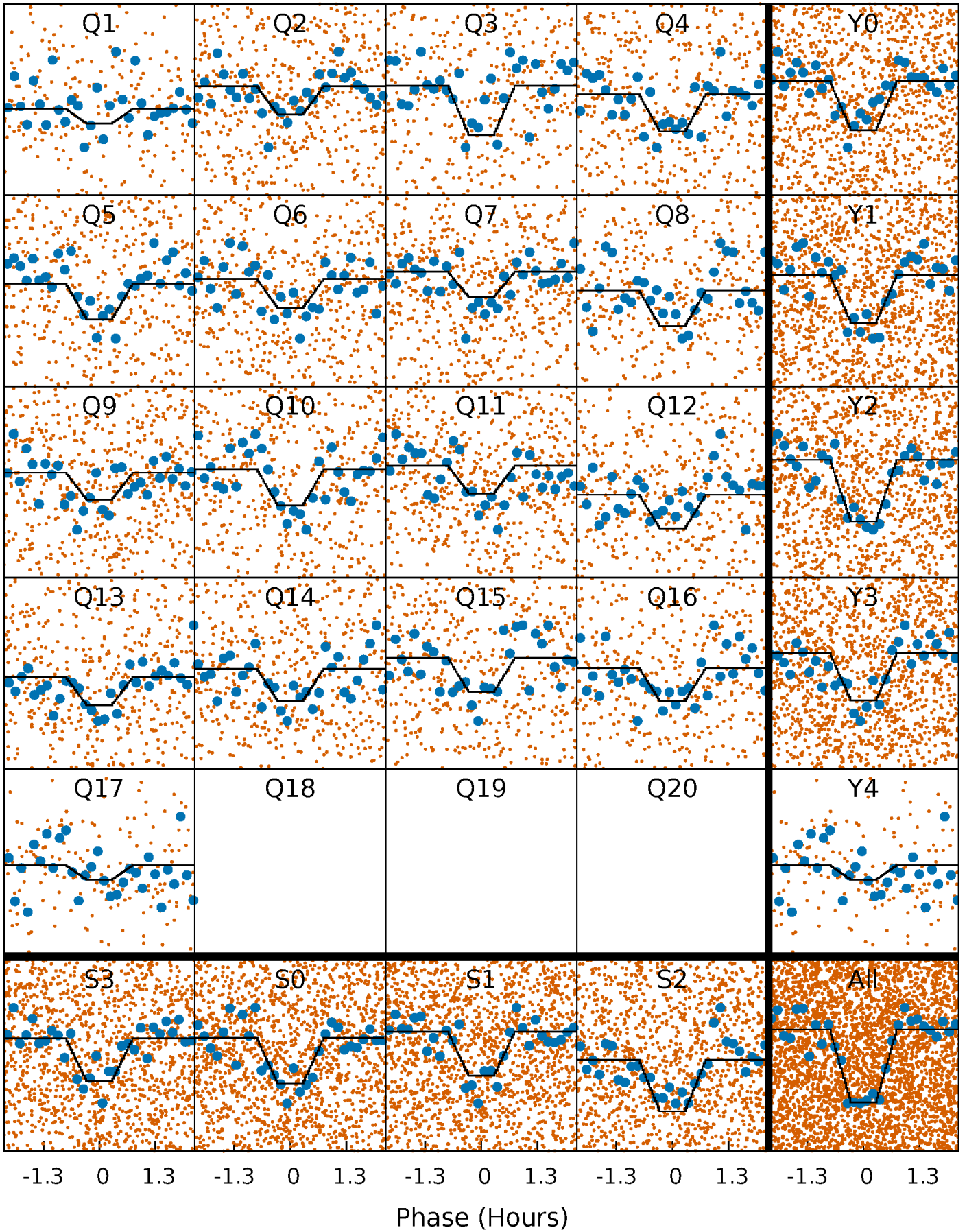
DV Quarter-Phased Transit Curves

TCE 010141900-02 $P = 1.196537$ Days $T_0 = 132.538469$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

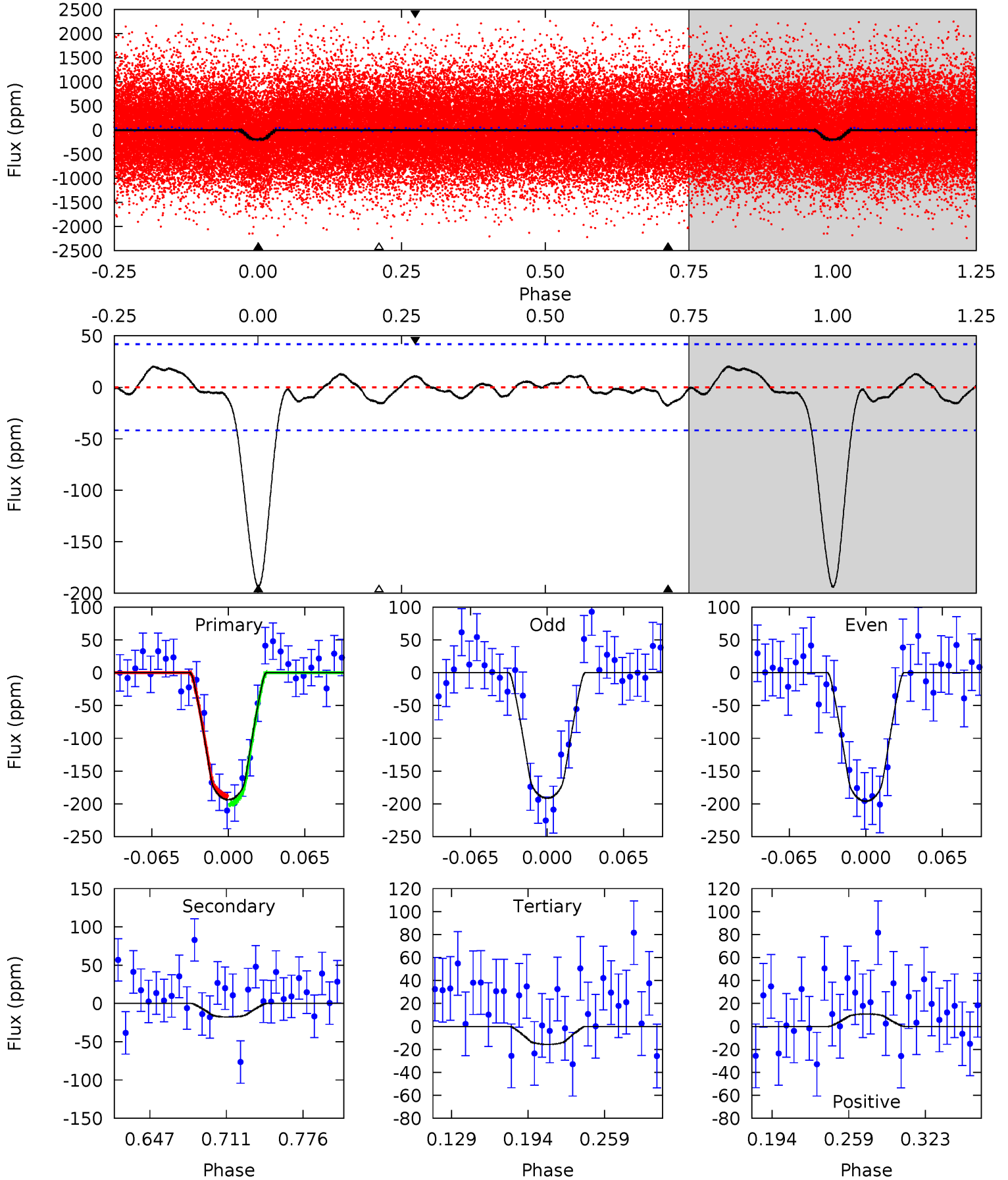
TCE 010141900-02 $P = 1.196546$ Days $T_0 = 132.534456$ (BKJD)



DV Model-Shift Uniqueness Test

010141900-02, P = 1.196537 Days, E = 131.341932 Days

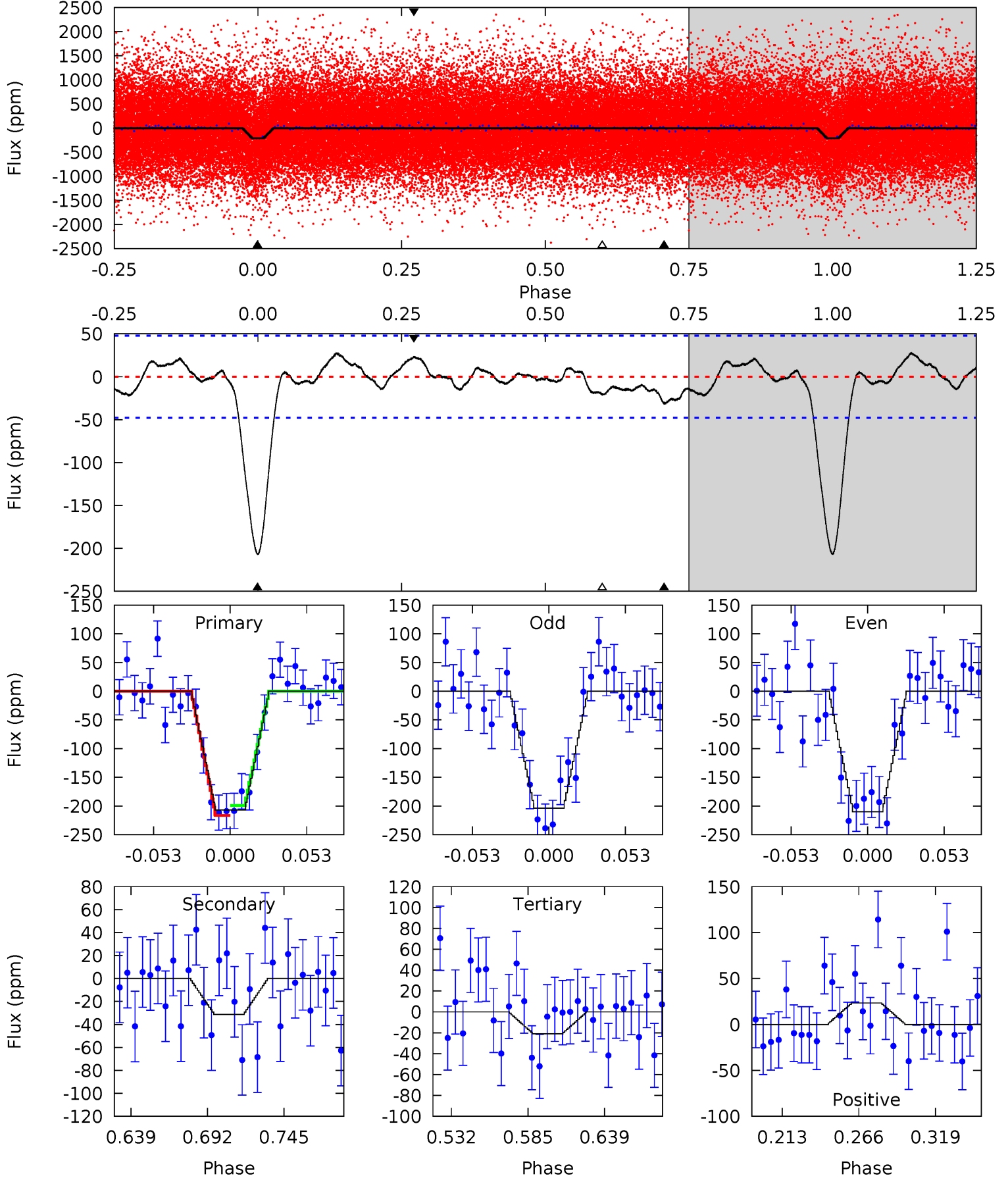
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.5	1.97	1.74	1.20	4.66	1.85	0.93	19.8	20.3	0.23	0.77	0.26	0.92	0.09	0.66



Alt Model-Shift Uniqueness Test

010141900-02, P = 1.196546 Days, E = 131.337910 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.4	3.08	2.06	2.30	4.70	1.93	1.13	18.3	18.1	1.02	0.78	0.31	0.90	0.12	0.85



Stellar Parameters For KIC 010141900

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4999^{+79}_{-79}	$4.490^{+0.075}_{-0.030}$	$0.180^{+0.150}_{-0.150}$	$0.843^{+0.040}_{-0.060}$	$0.800^{+0.048}_{-0.028}$	$1.883^{+0.508}_{-0.196}$
	+2%/-2%	+2%/-1%	+83%/-83%	+5%/-7%	+6%/-3%	+27%/-10%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 010141900-02 / KOI 1082.03

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-18 ± 9	$1.61^{+0.95}_{-0.97}$	1966^{+46}_{-50}	2955^{+1038}_{-683}	$1.599^{+7.590}_{-1.142}$
Alt.	-31 ± 10	$1.50^{+1.03}_{-0.93}$	1964^{+46}_{-49}	3273^{+1446}_{-529}	$2.896^{+18.443}_{-1.872}$

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

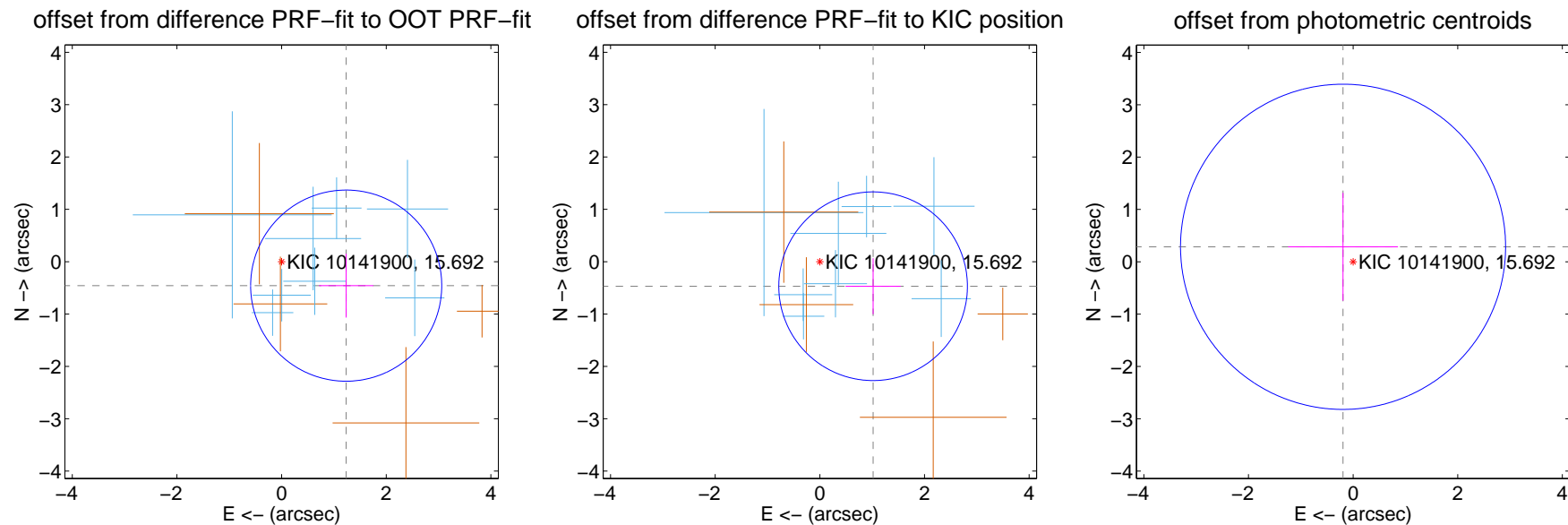
DV Centroid Data

Supplemental centroid analysis for 010141900-02. Kepler magnitude: 15.69. Transit SNR 15.56

There are 8 quarters with good PRF difference image offsets

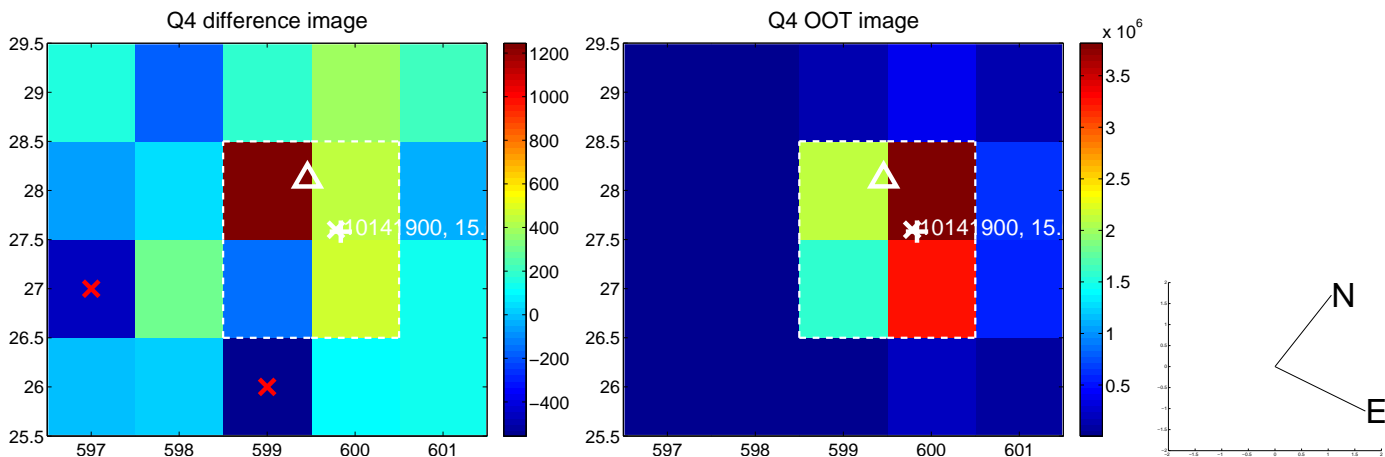
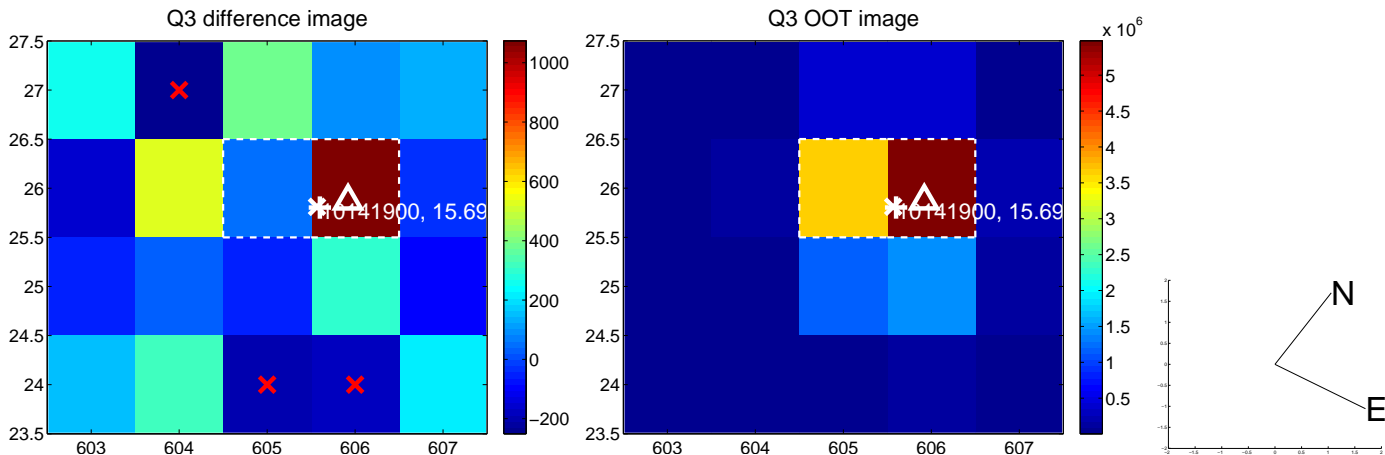
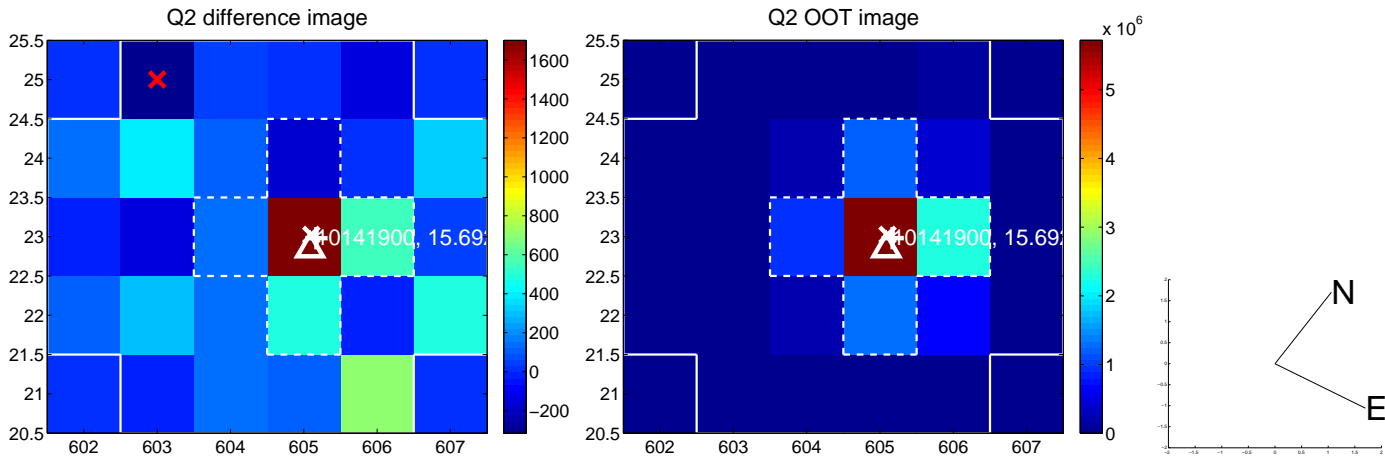
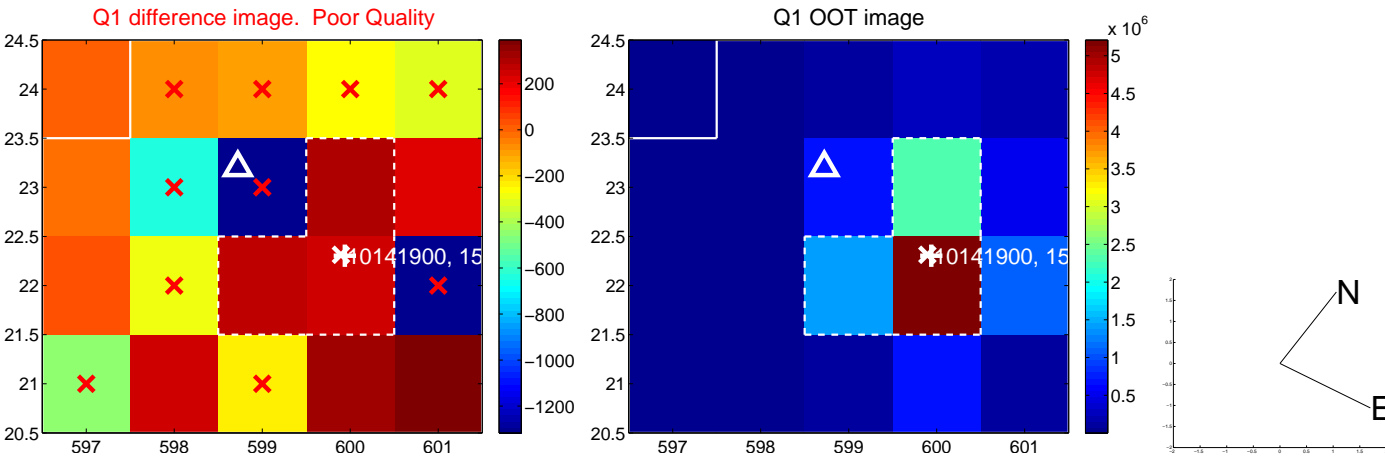
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.317 ± 0.609	2.16	-1.235 ± 0.519	-0.458 ± 0.610
PRF-fit source offset from KIC position	1.121 ± 0.601	1.87	-1.018 ± 0.527	-0.469 ± 0.534
photometric centroid source offset	0.34 ± 1.04	0.33	0.19 ± 1.05	0.29 ± 1.03

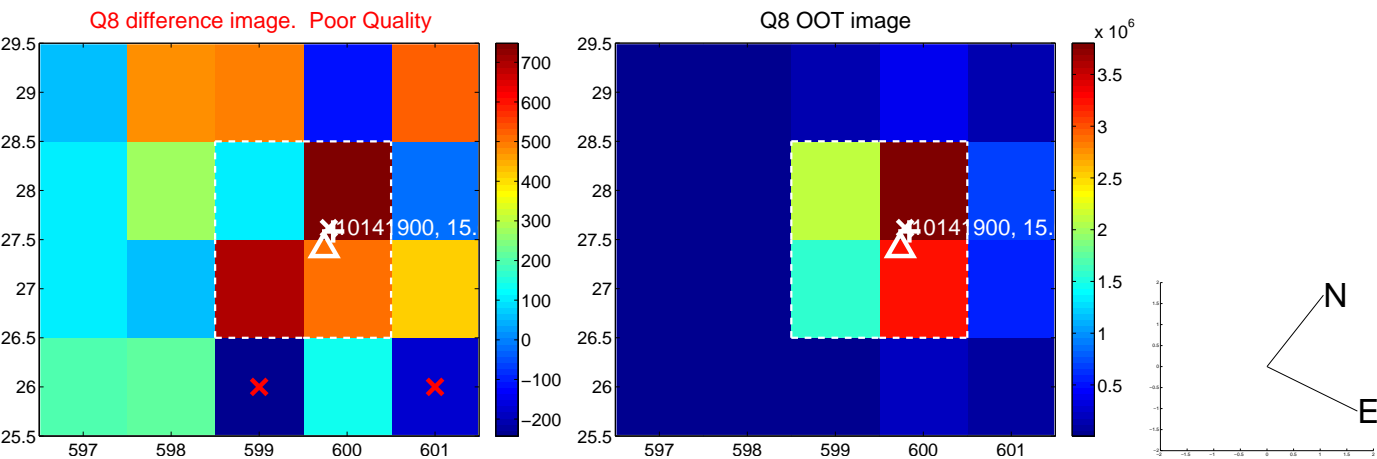
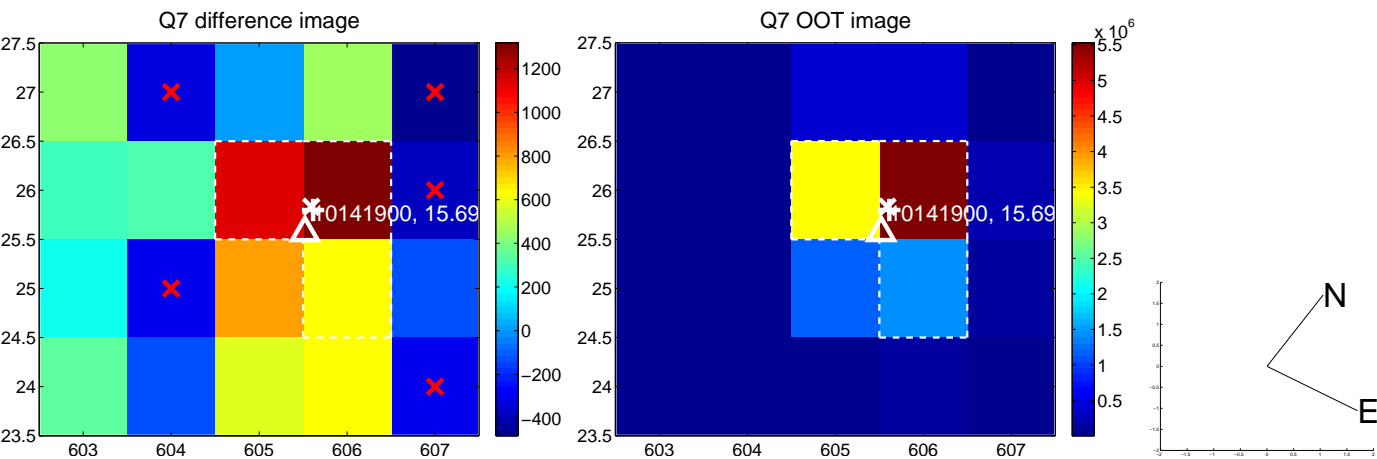
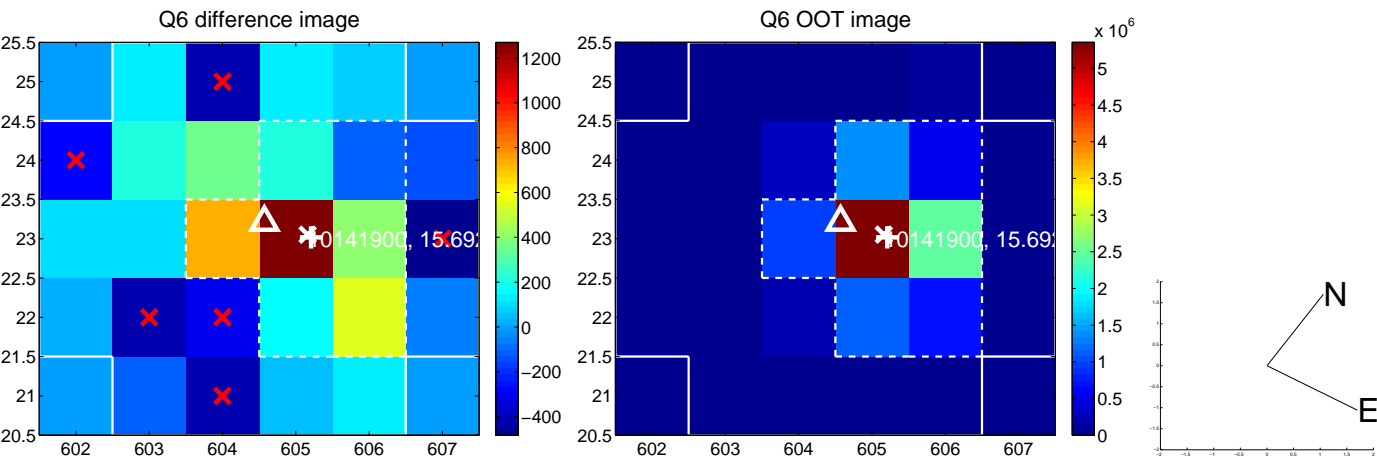
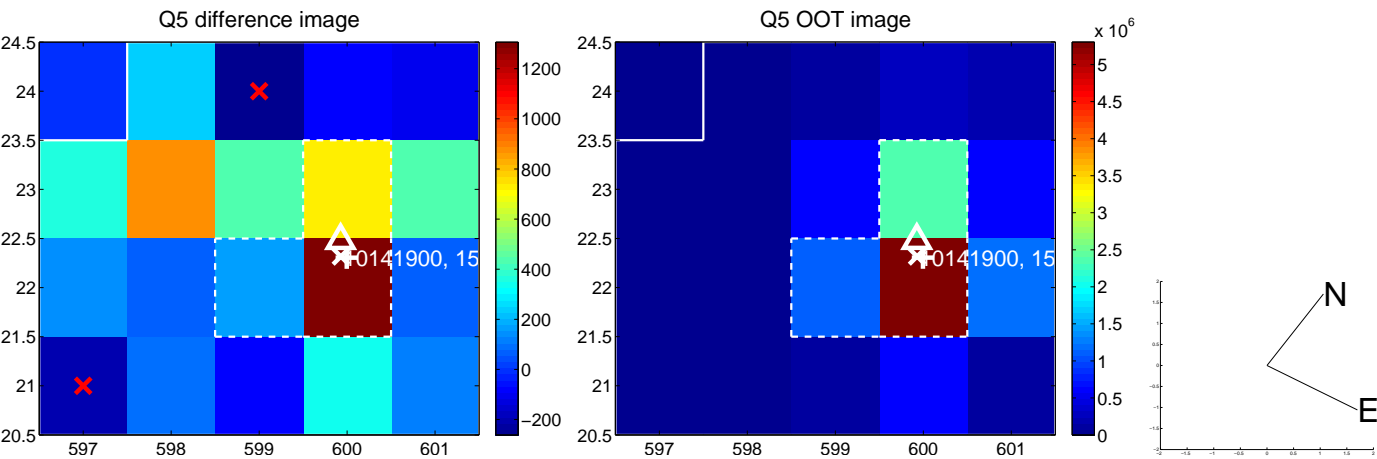


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

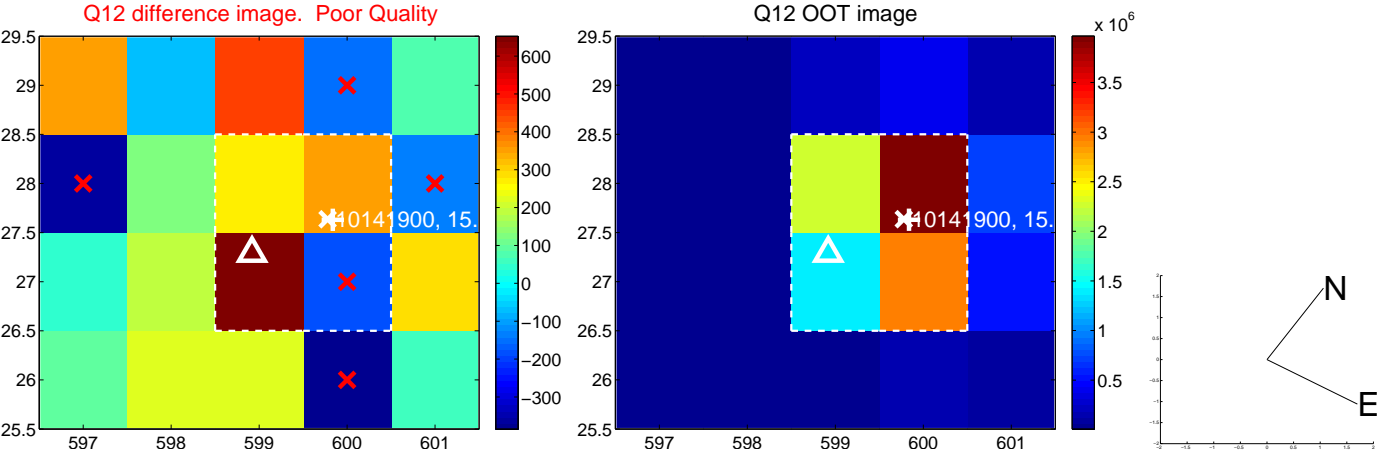
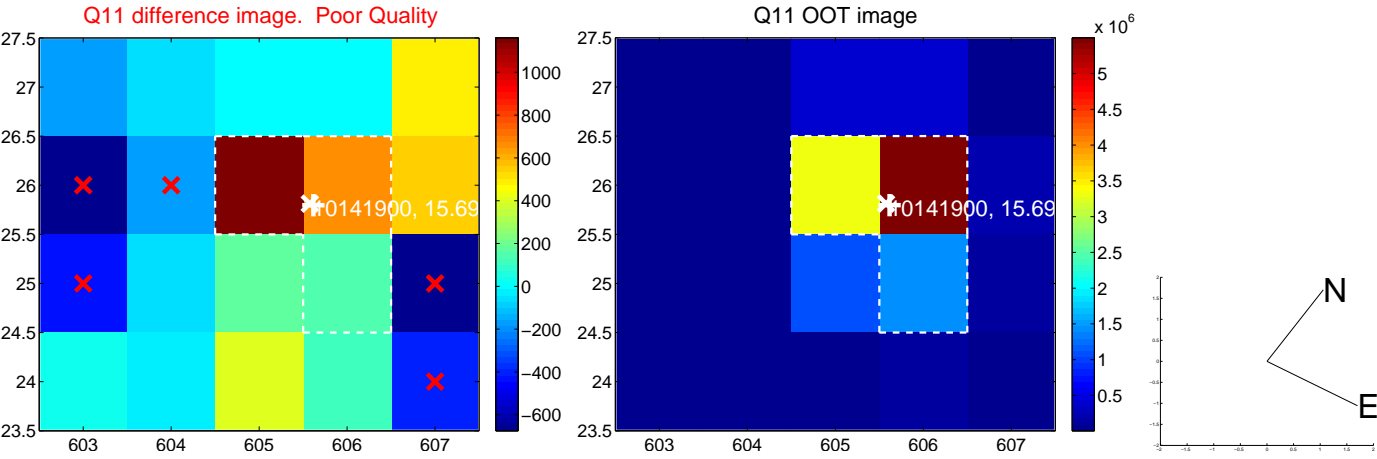
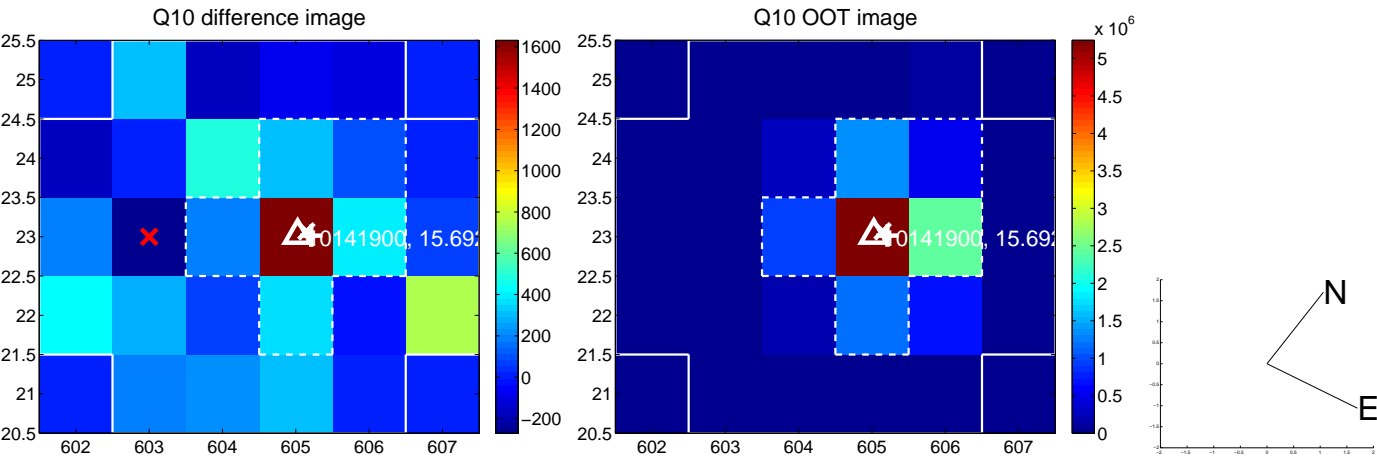
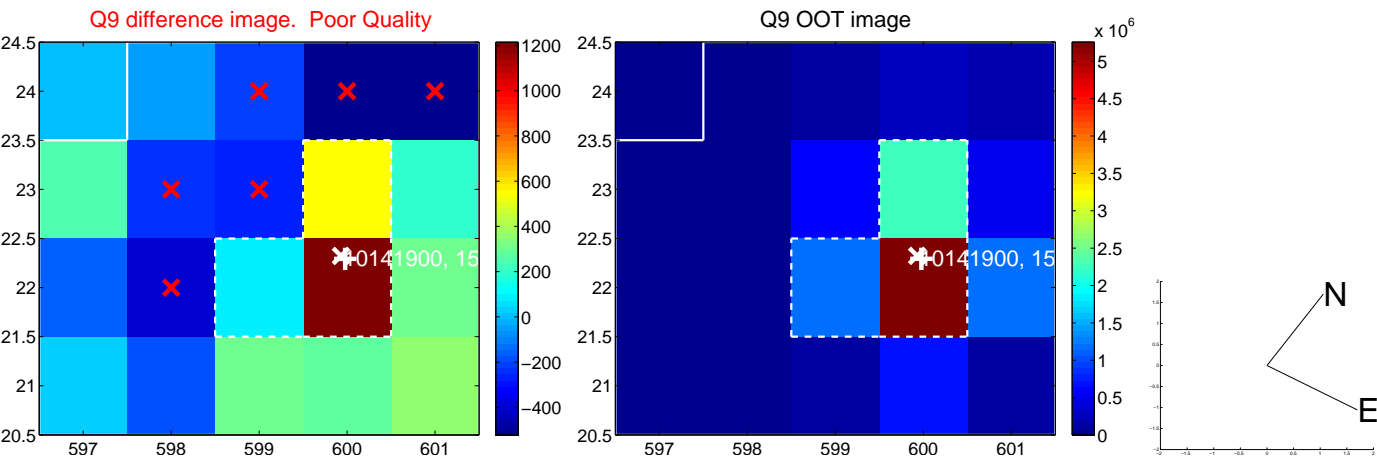
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



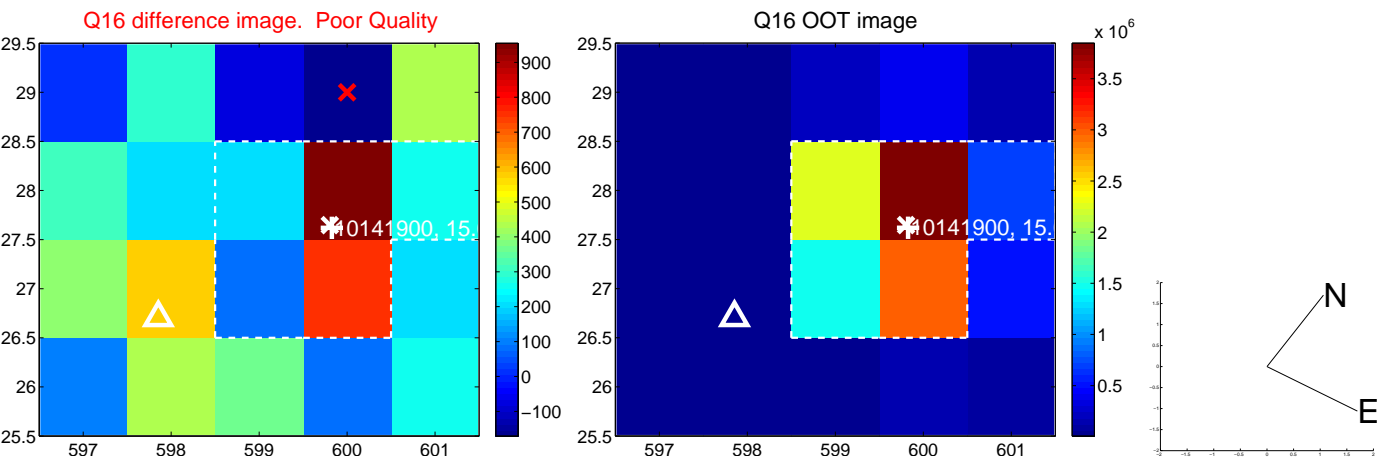
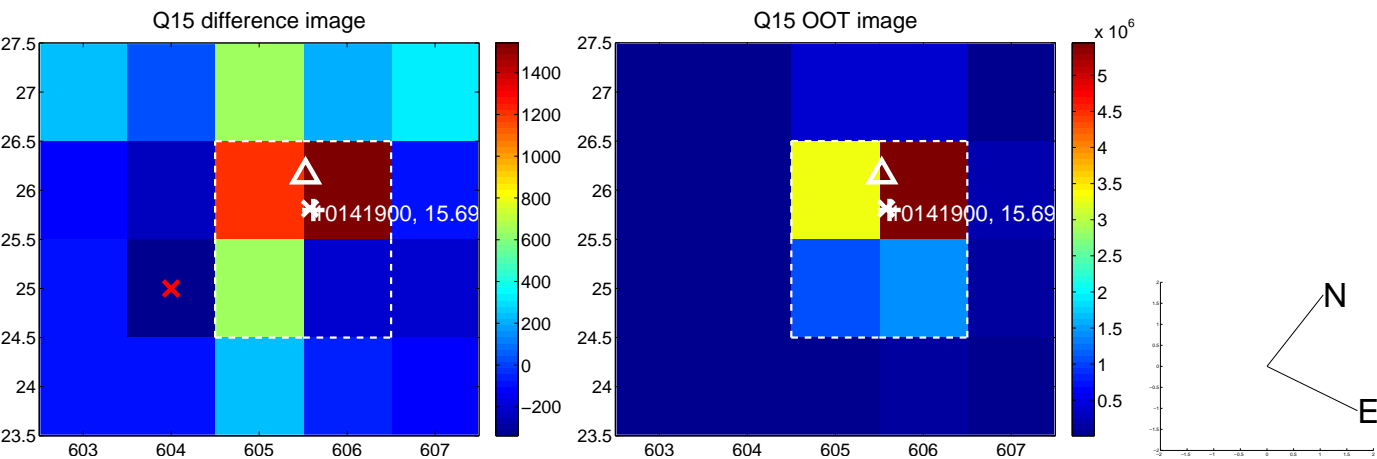
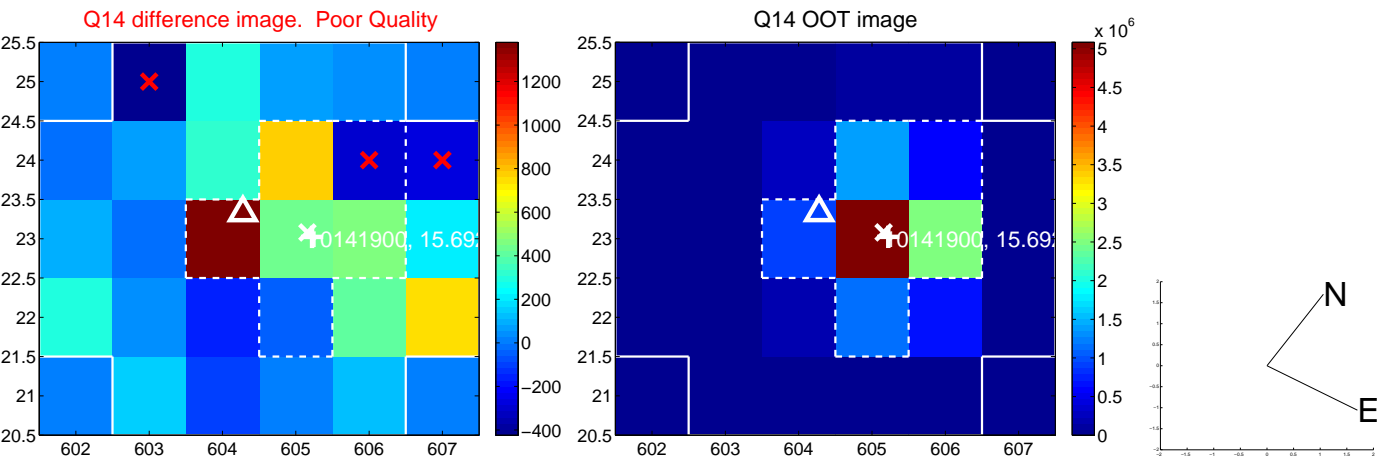
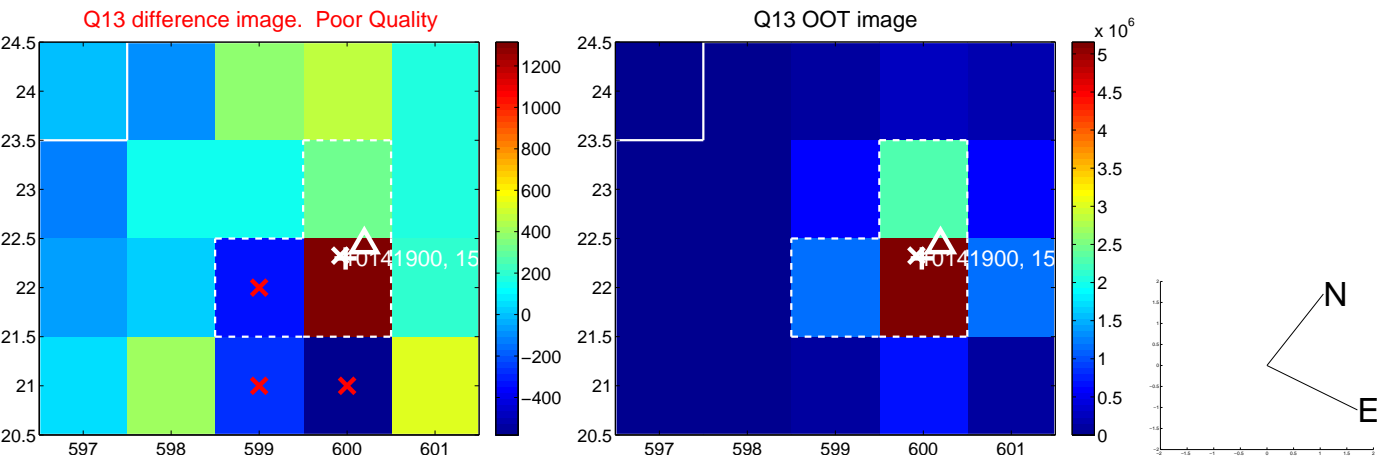
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



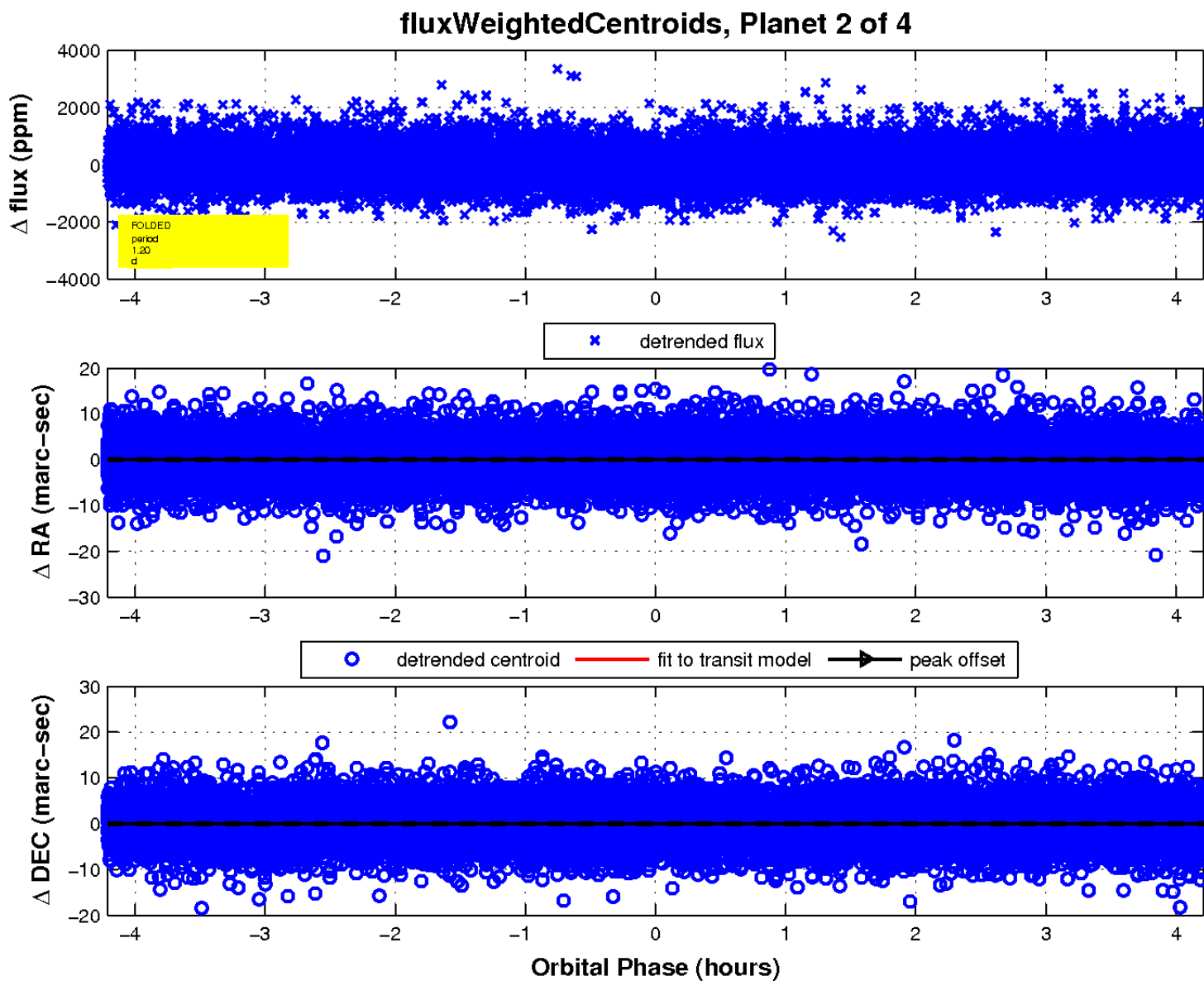
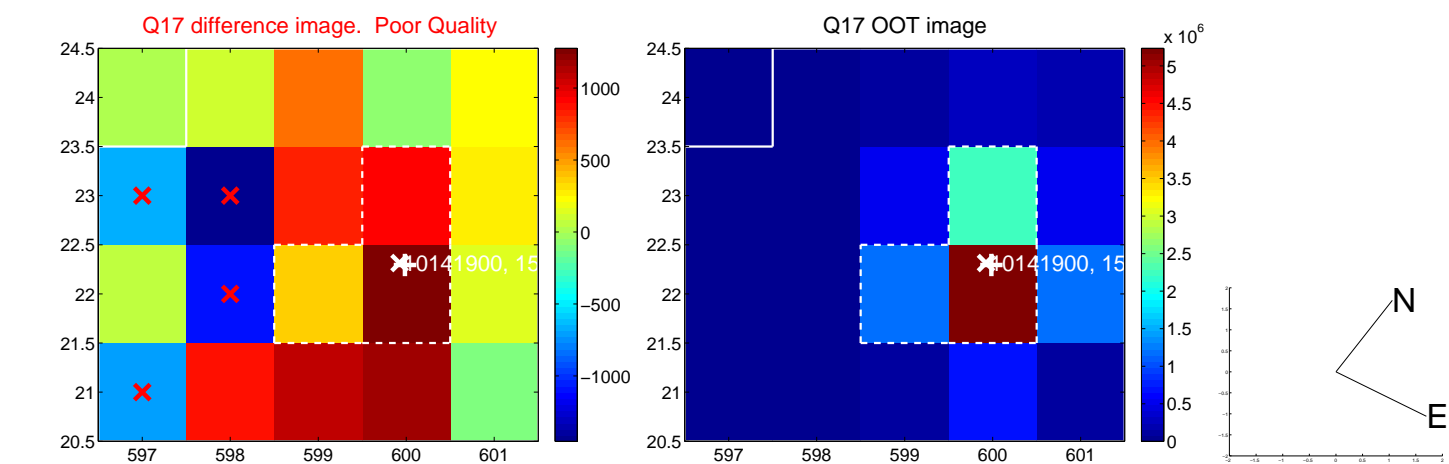
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

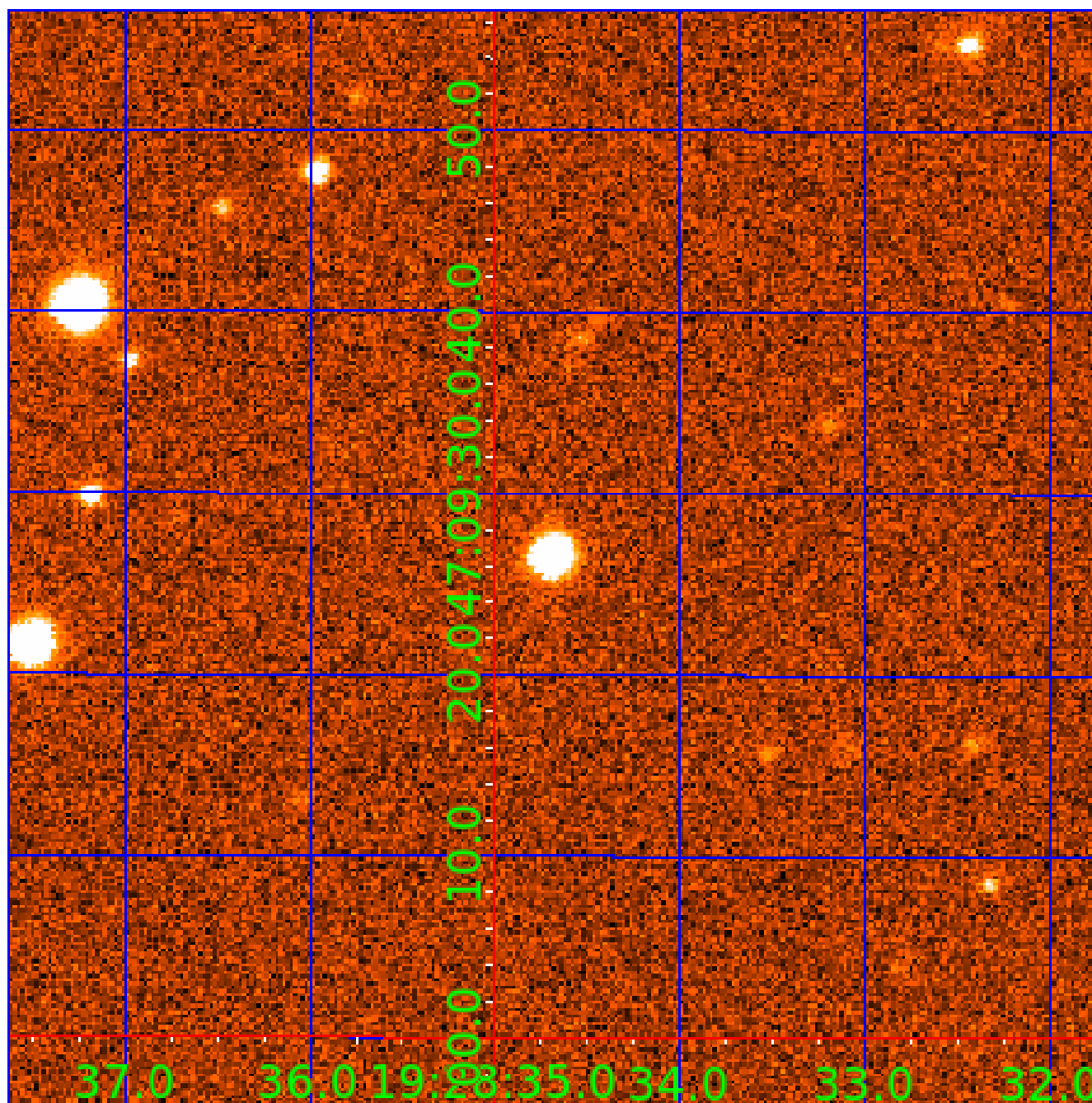


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010141900

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})
010141900-01	OBS	1082.01	6.503272	135.266777	398.4	2.683	15.9	16.9	0.84	4999	1.97	99.11
010141900-02	OBS	1082.03	1.196537	132.538469	204.0	1.404	13.7	15.6	0.84	4999	1.48	947.13
010141900-03	OBS	1082.02	4.096676	133.098201	254.2	2.407	11.0	12.4	0.84	4999	1.64	183.54
010141900-04	OBS	1082.04	9.655095	137.067348	301.2	2.721	7.7	9.6	0.84	4999	1.77	58.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010141900-01	OBS	PC	1.00	0	0	0	0	CENT_FEW_DIFFS
010141900-02	OBS	PC	0.82	0	0	0	0	NO_COMMENT
010141900-03	OBS	PC	0.69	0	0	0	0	NO_COMMENT
010141900-04	OBS	PC	0.80	0	0	0	0	CENT_FEW_DIFFS

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.

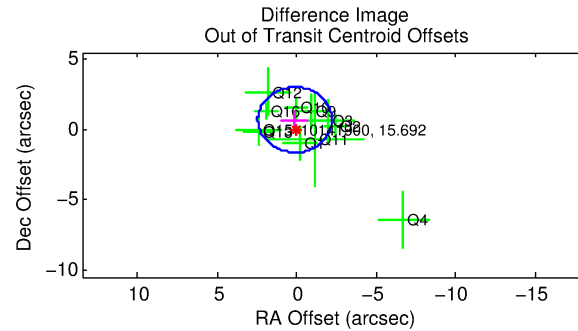
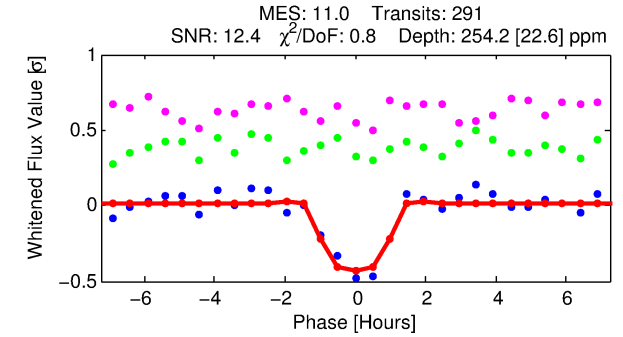
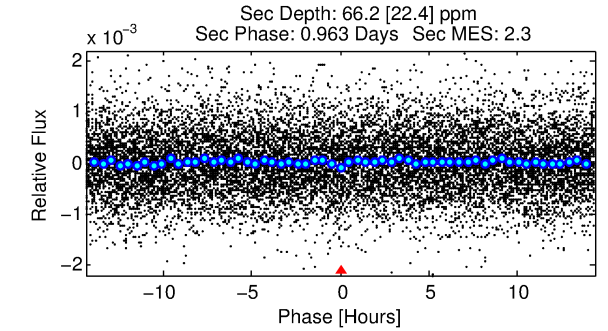
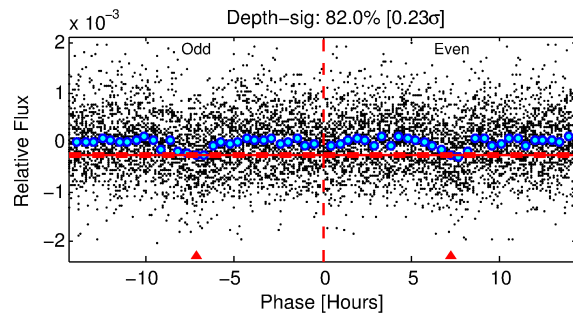
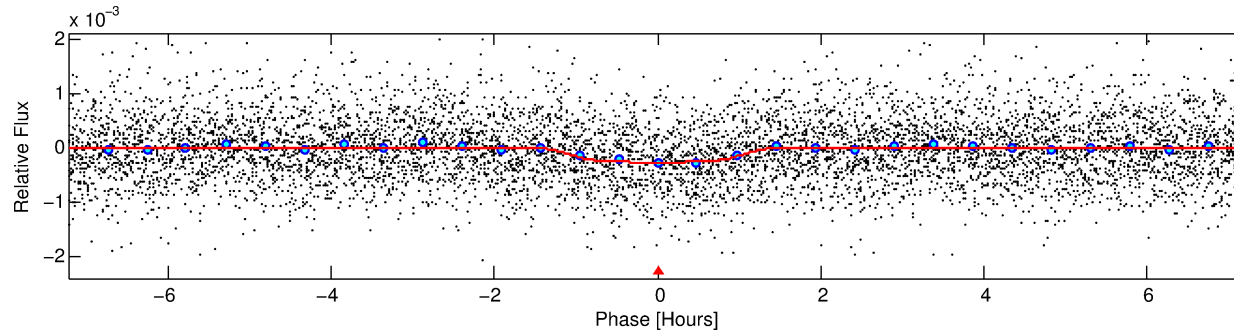
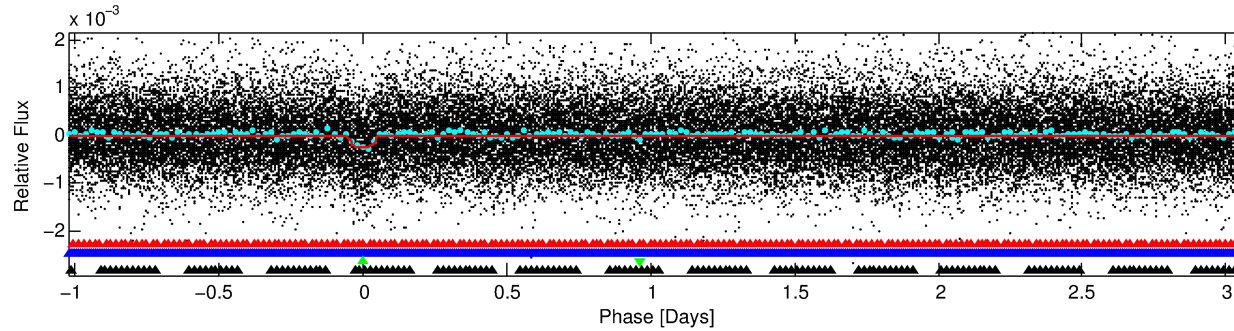
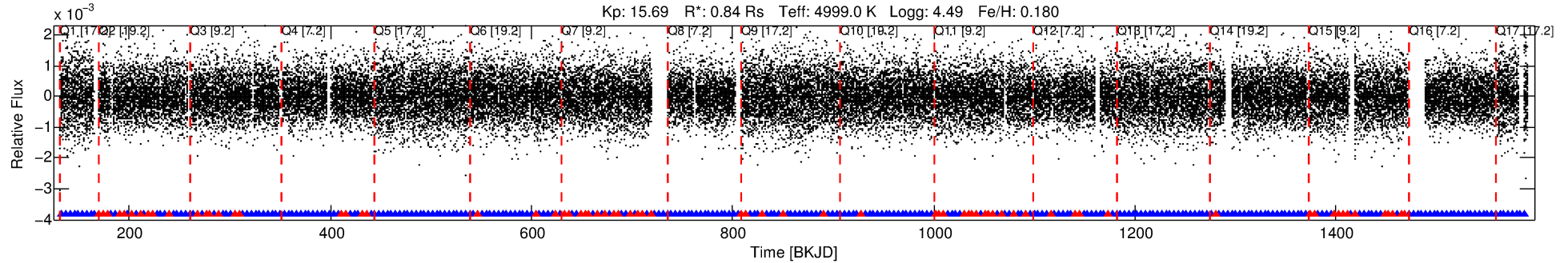
Ephemeris Match Information For 010141900-03

No Significant Match Found

DV One-Page Summary

KIC: 10141900 Candidate: 3 of 4 Period: 4.097 d
KOI: K01082.02 Corr: 0.961

Kp: 15.69 R*: 0.84 Rs Teff: 4999.0 K Logg: 4.49 Fe/H: 0.180



DV Fit Results:

Period = 4.09668 [0.00002] d
Epoch = 133.0982 [0.0035] BKJD
Rp/R* = 0.0178 [0.0111]
a/R* = 6.27 [14.92]
b = 0.90 [0.54]
Seff = 183.54 [25.63]
Teq = 939 [33] K
Rp = 1.64 [1.03] Re
a = 0.0465 [0.0035] AU
Ag = 29.30 [37.92] [0.75σ]
Teffp = 3376 [1089] K [2.24σ]

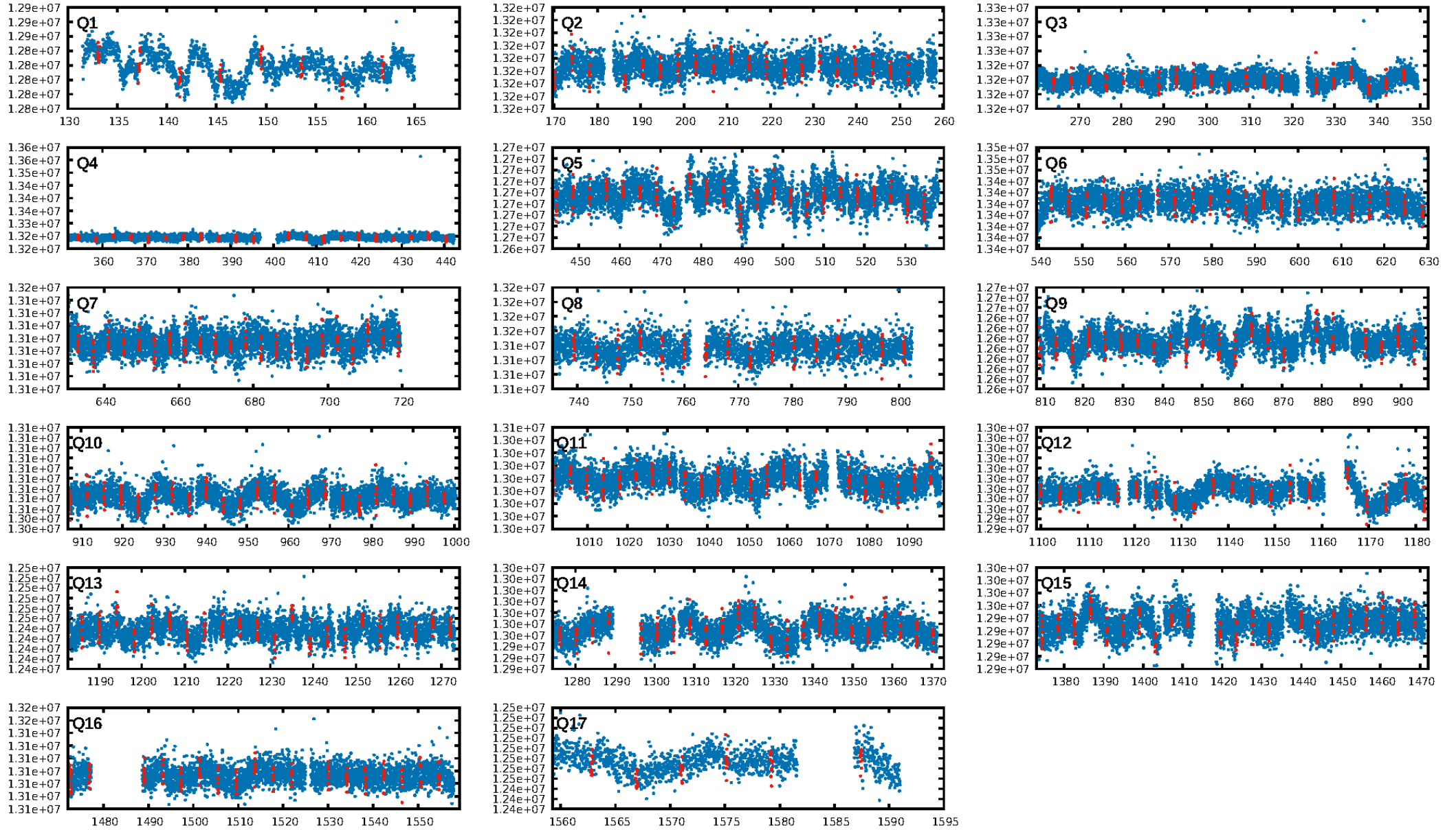
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [24.98σ]
LongPeriod-sig: 100.0% [16.02σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 2.47e-28
RollingBand-fgt: 0.74 [206/278]
GhostDiagnostic-chr: 50.22
Centroid-sig: 1.3%
Centroid-so: 2.224 arcsec [1.86σ]
OotOffset-rm: 0.708 arcsec [0.91σ]
KicOffset-rm: 0.787 arcsec [0.87σ]
OotOffset-st: 2/3/3/3 [11]
KicOffset-st: 2/3/3/3 [11]
DiffImageQuality-fgm: 0.09 [1/11]
DiffImageOverlap-fno: 1.00 [17/17]

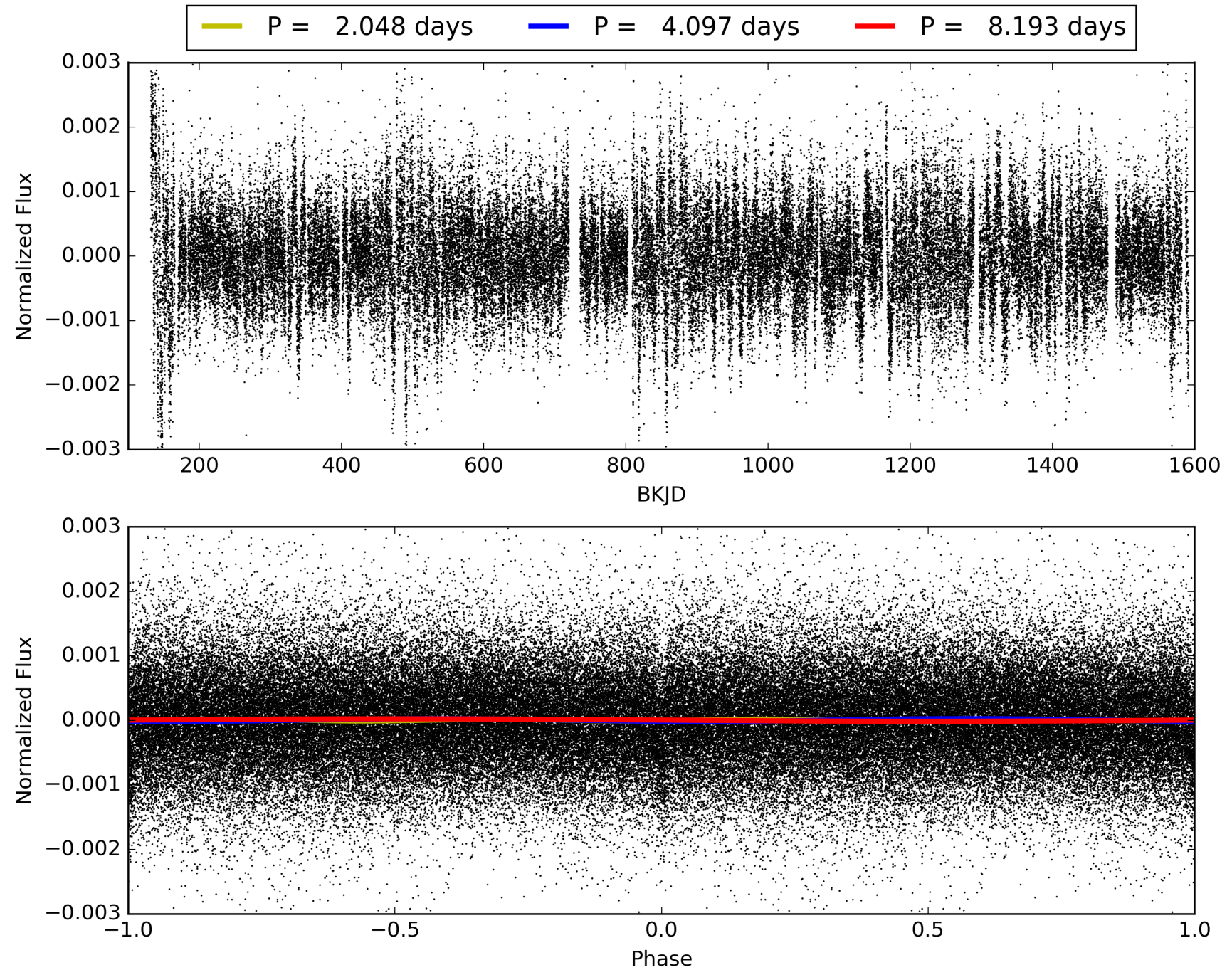
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:09:42 Z

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

TCE 010141900-03, PDC Light Curves

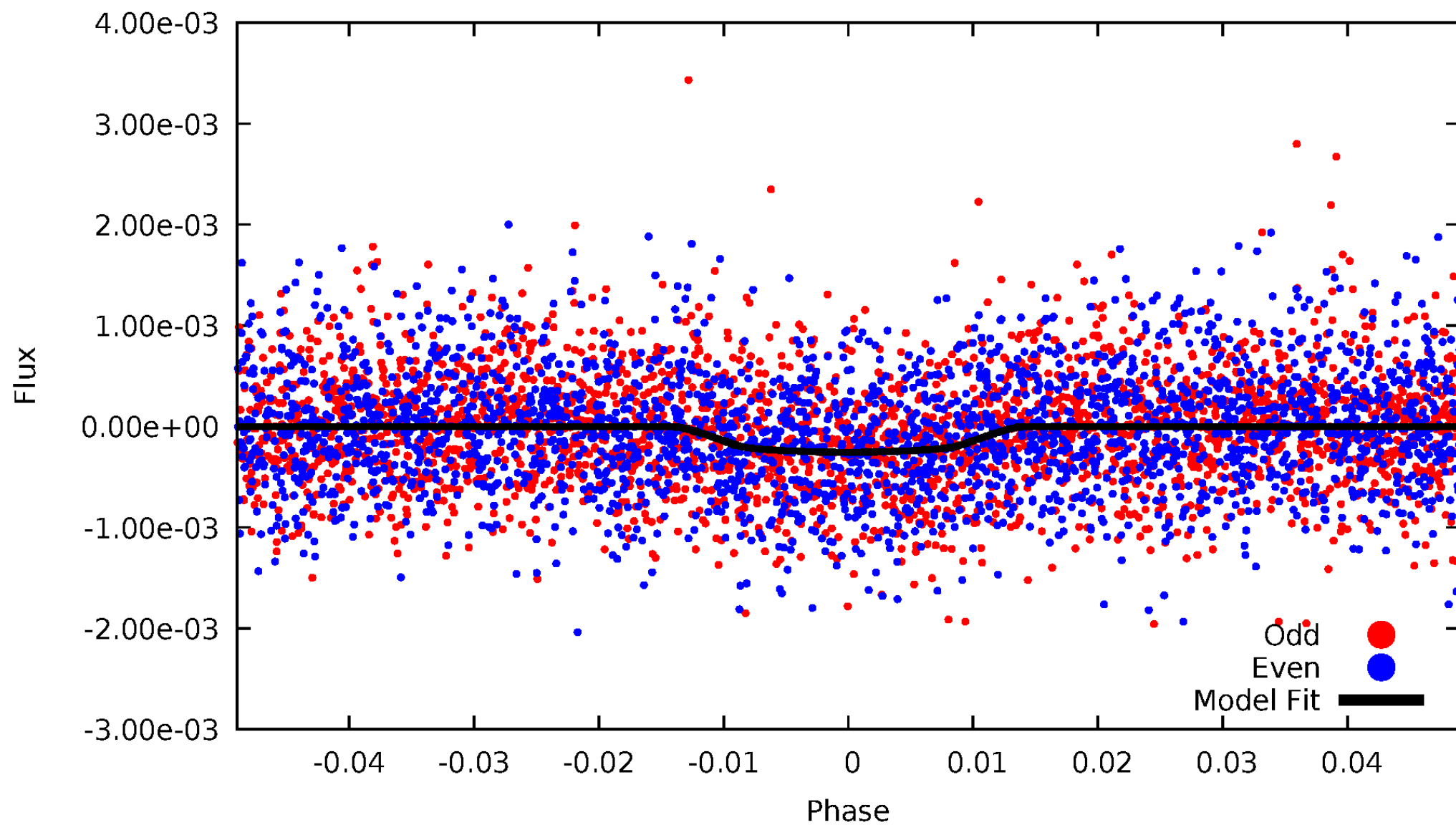


TCE 010141900-03



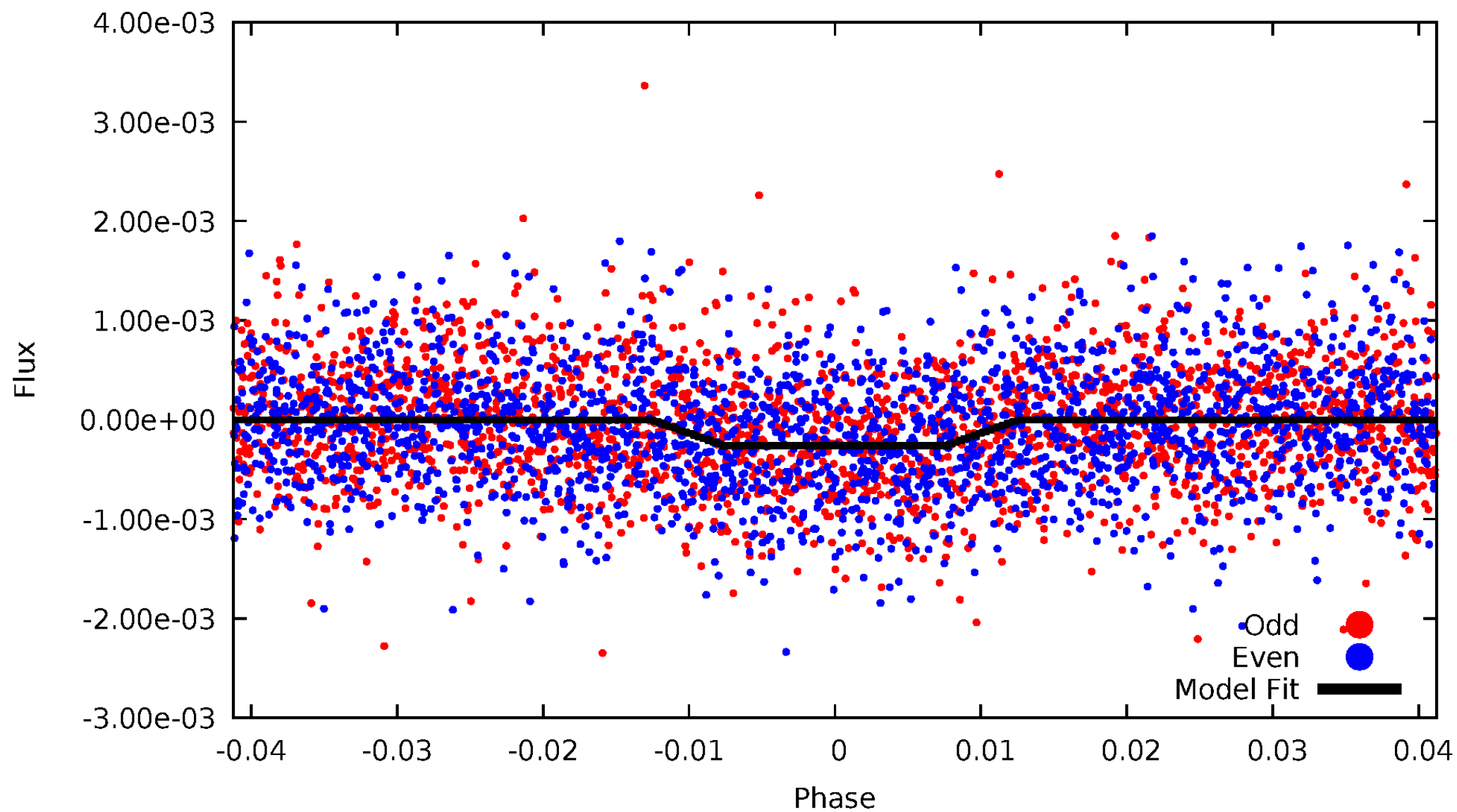
DV Odd/Even

TCE 010141900-03



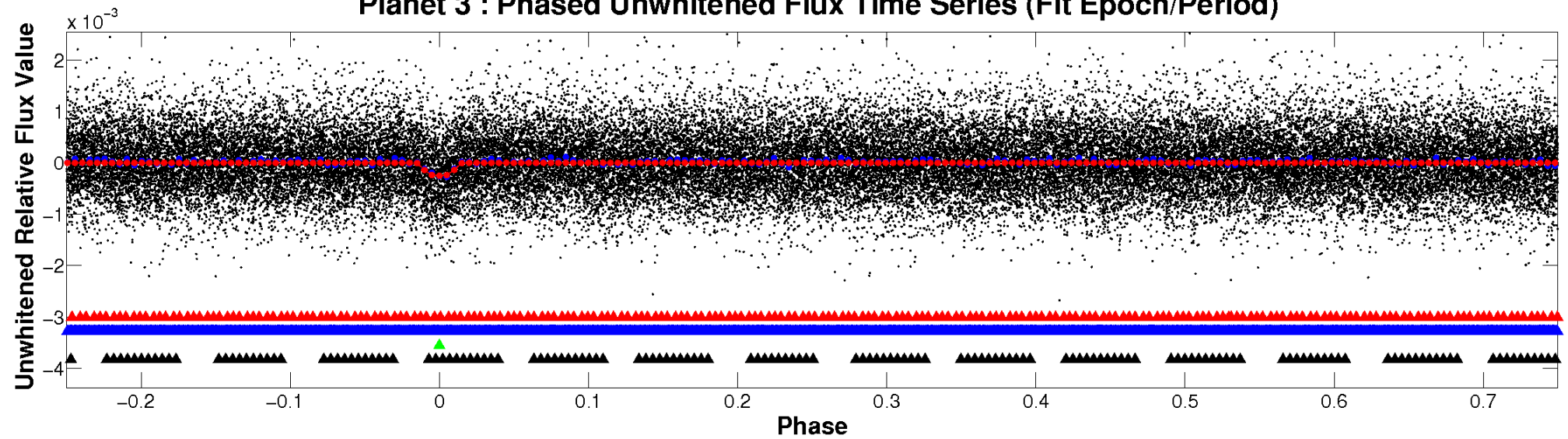
ALT Odd/Even

TCE 010141900-03

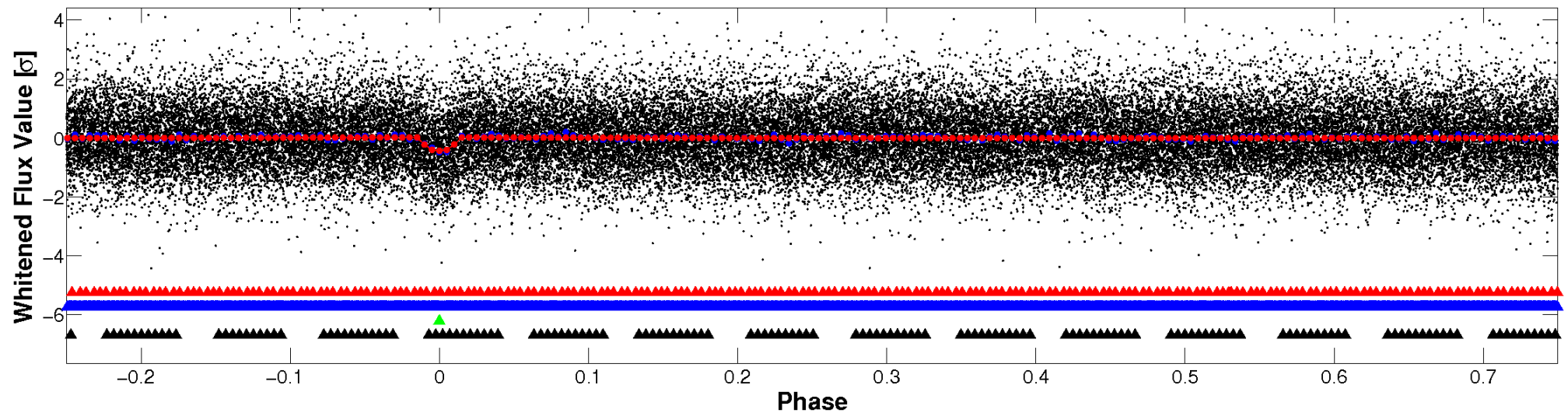


Non-Whitened Vs. Whitened Light Curve

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

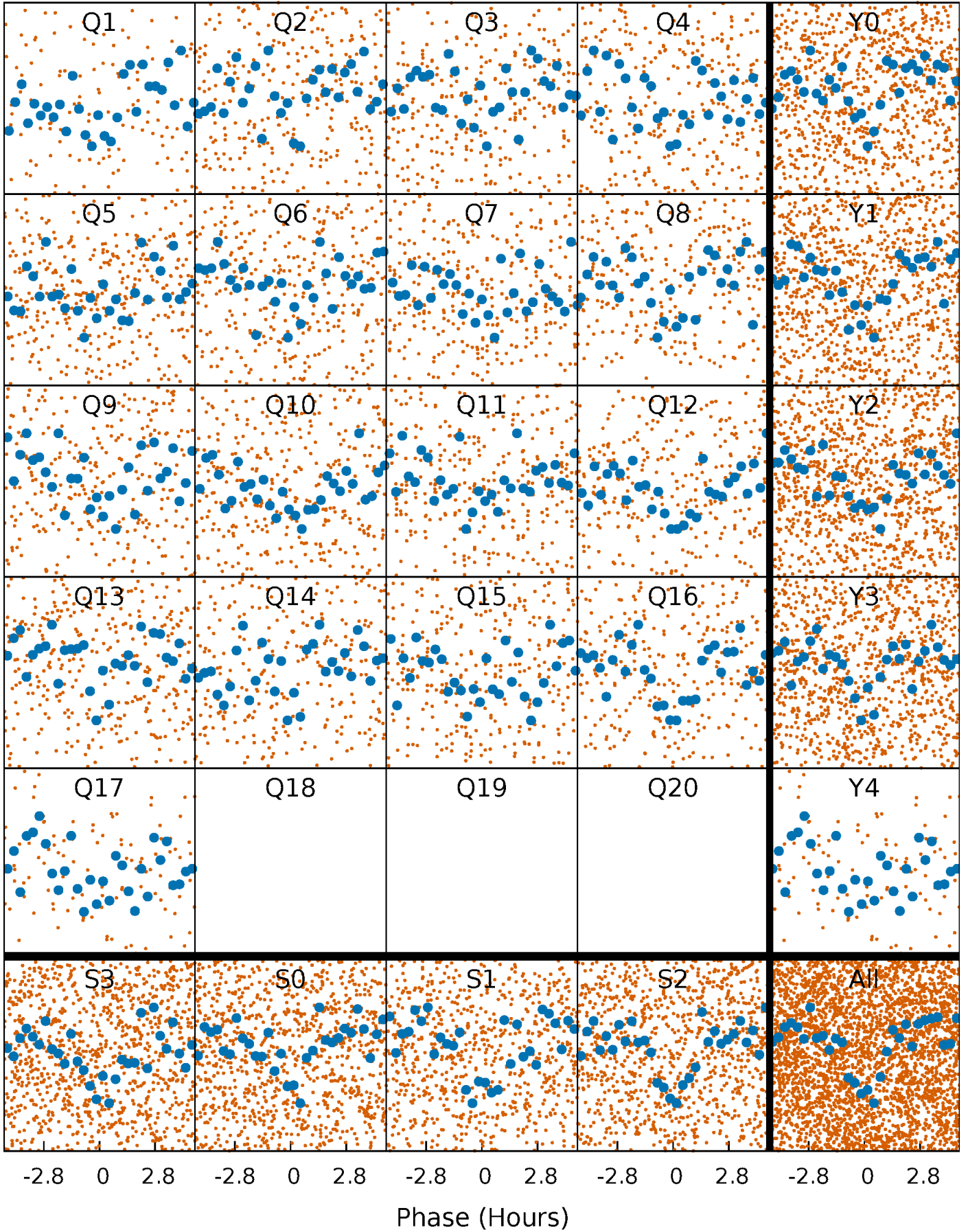


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



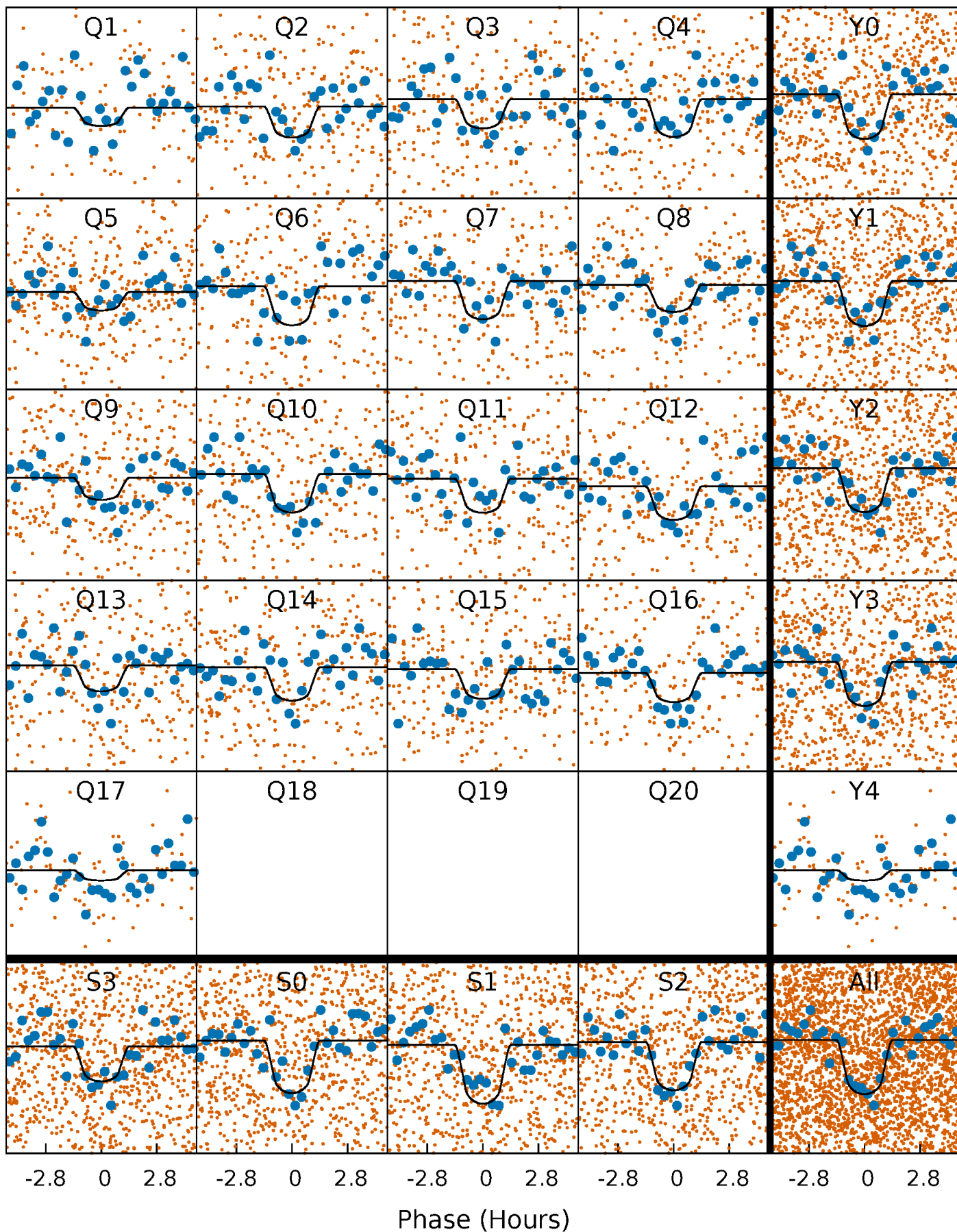
PDC Quarter-Phased Transit Curves

TCE 010141900-03 $P = 4.096676$ Days $T_0 = 133.098201$ (BKJD)



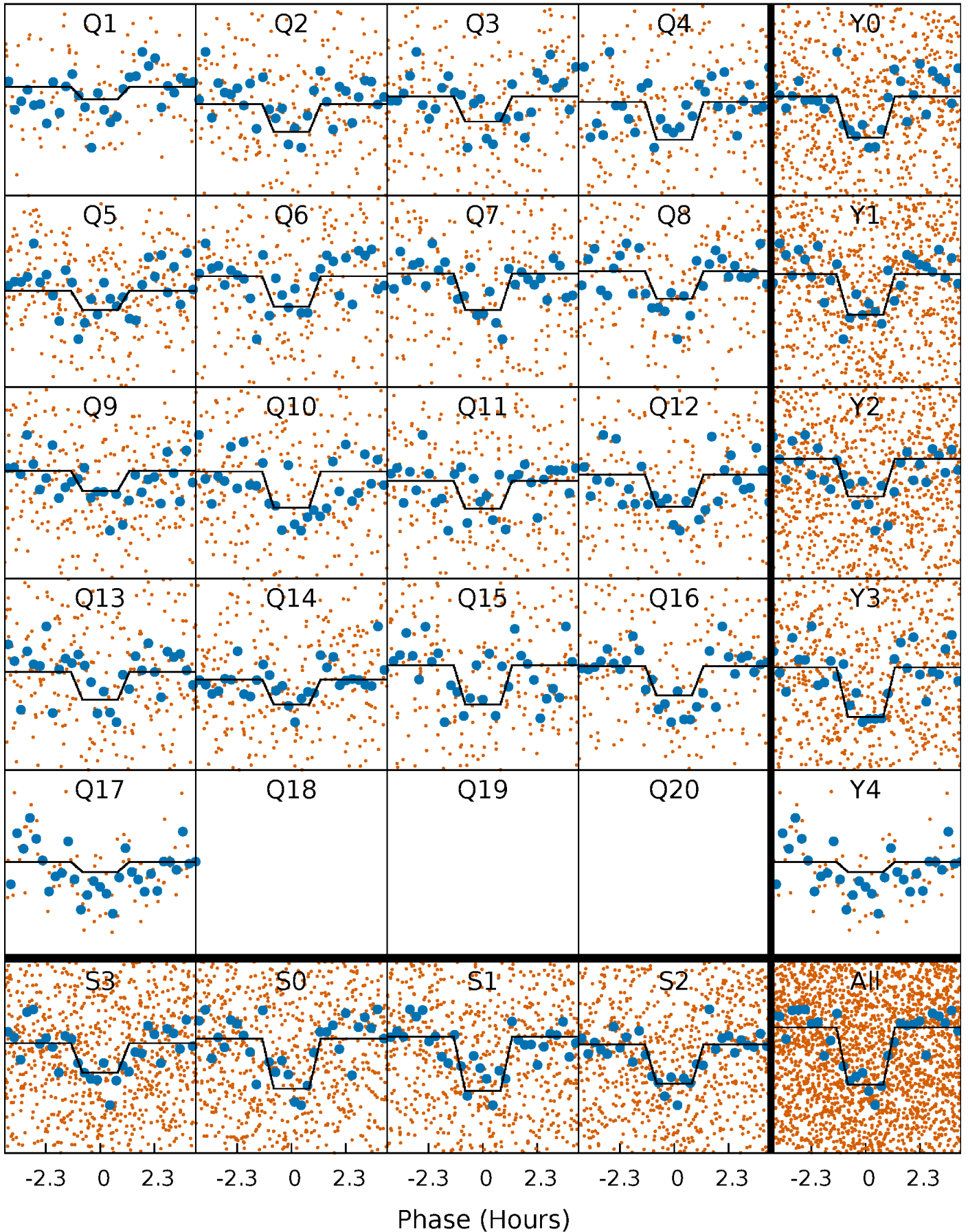
DV Quarter-Phased Transit Curves

TCE 010141900-03 P= 4.096676 Days $T_0=133.098201$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

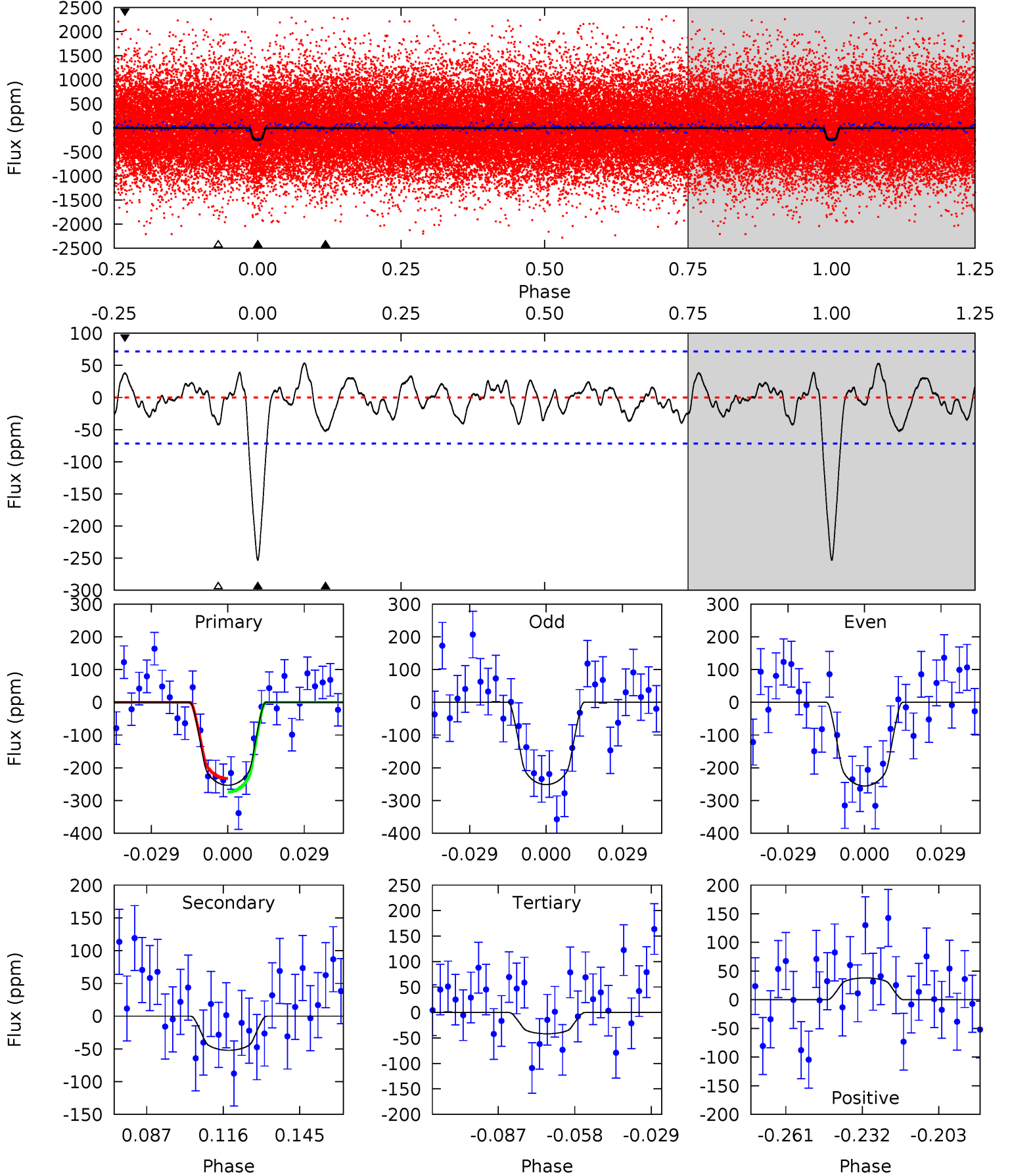
TCE 010141900-03 $P = 4.096656$ Days $T_0 = 133.100109$ (BKJD)



DV Model-Shift Uniqueness Test

010141900-03, P = 4.096676 Days, E = 129.001525 Days

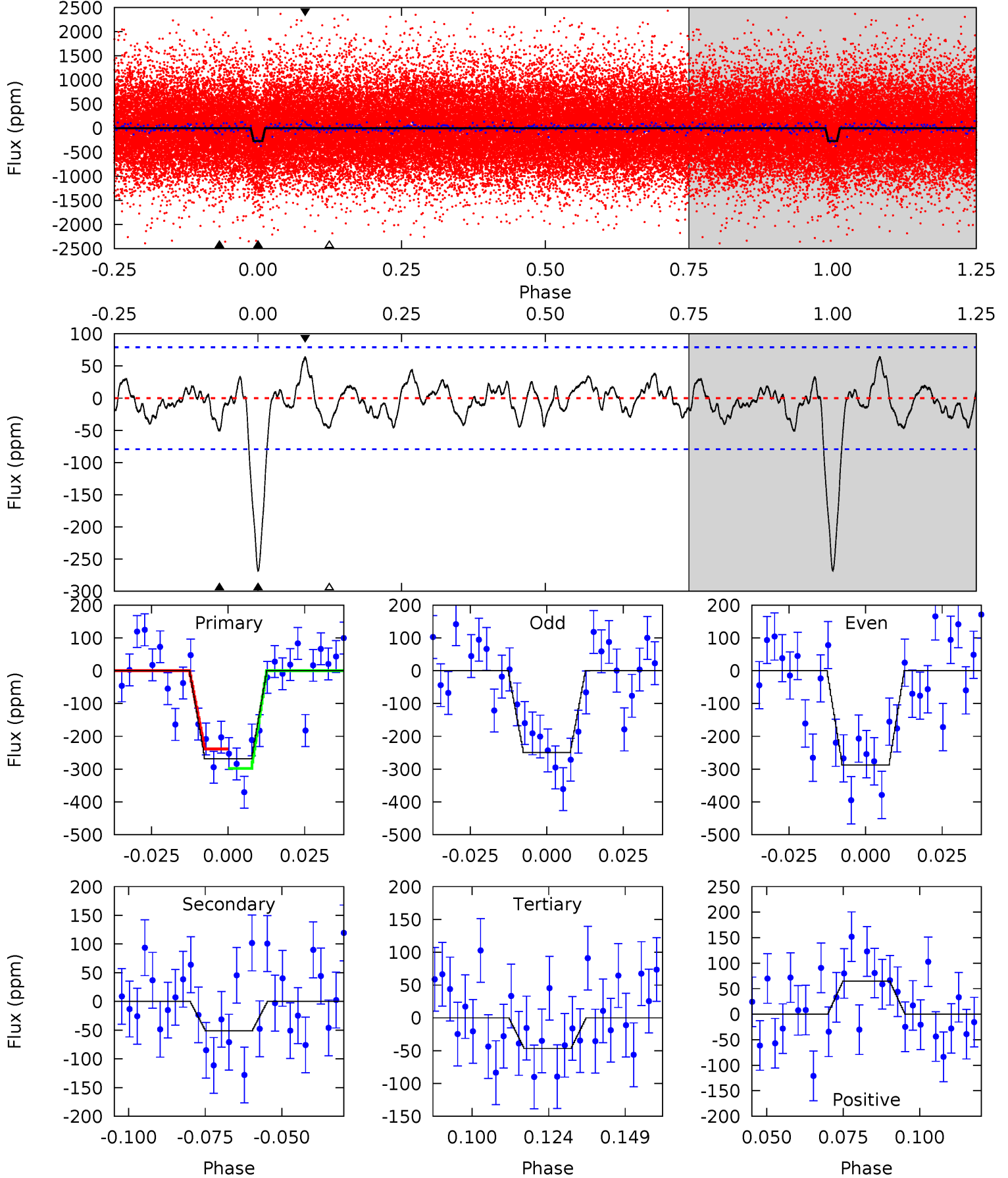
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.0	3.50	2.81	2.56	4.82	2.18	1.28	14.2	14.5	0.69	0.94	0.13	1.04	0.17	1.39



Alt Model-Shift Uniqueness Test

010141900-03, P = 4.096656 Days, E = 129.003453 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	3.12	2.86	3.96	4.85	2.24	1.25	13.6	12.5	0.26	-0.85	1.15	1.07	0.19	1.83



Stellar Parameters For KIC 010141900

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	4999^{+79}_{-79}	$4.490^{+0.075}_{-0.030}$	$0.180^{+0.150}_{-0.150}$	$0.843^{+0.040}_{-0.060}$	$0.800^{+0.048}_{-0.028}$	$1.883^{+0.508}_{-0.196}$
	+2%/-2%	+2%/-1%	+83%/-83%	+5%/-7%	+6%/-3%	+27%/-10%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 010141900-03 / KOI 1082.02

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-52 ± 15	$1.75^{+0.94}_{-0.96}$	1306^{+28}_{-35}	3470^{+1267}_{-453}	20^{+85}_{-12}
Alt.	-51 ± 16	$1.54^{+0.93}_{-0.81}$	1302^{+32}_{-30}	3600^{+1250}_{-515}	25^{+92}_{-16}

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

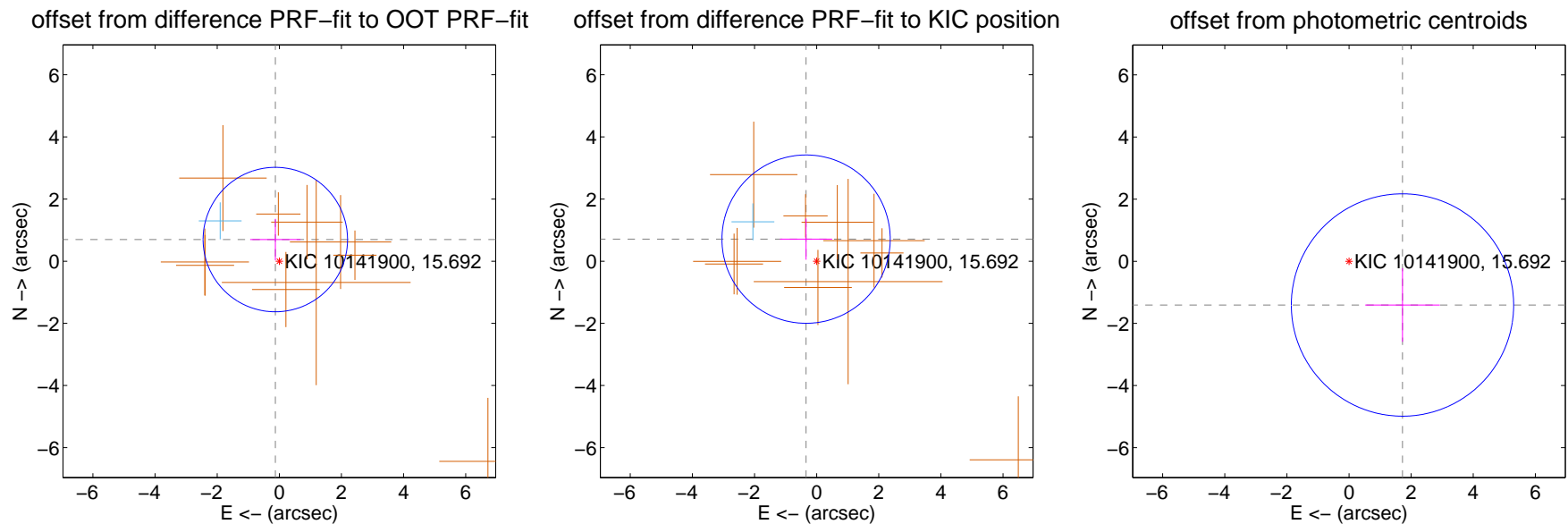
DV Centroid Data

Supplemental centroid analysis for 010141900-03. Kepler magnitude: 15.69. Transit SNR 12.41

There are 1 quarters with good PRF difference image offsets

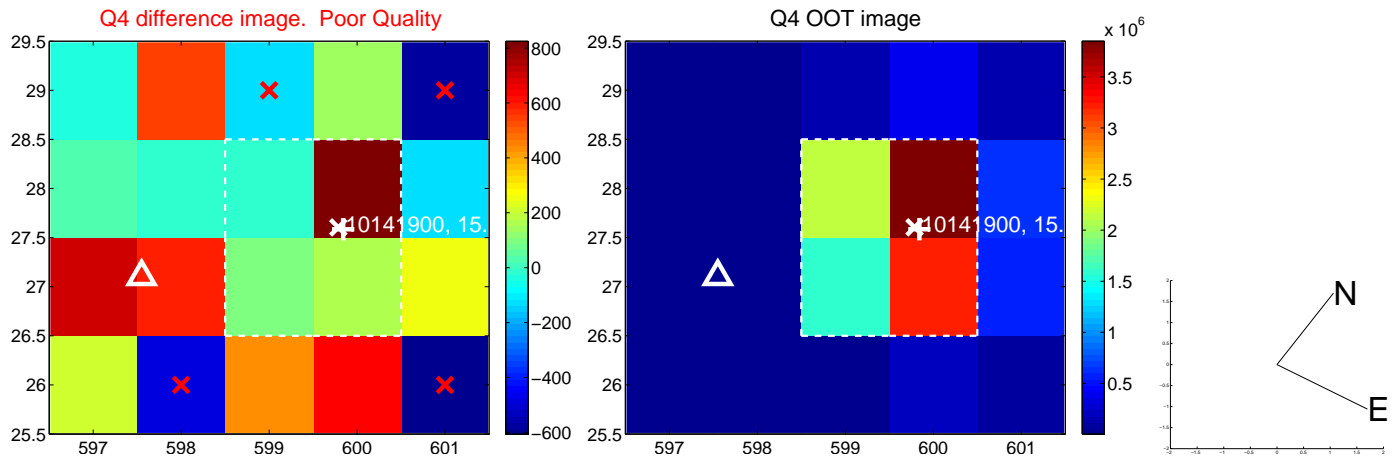
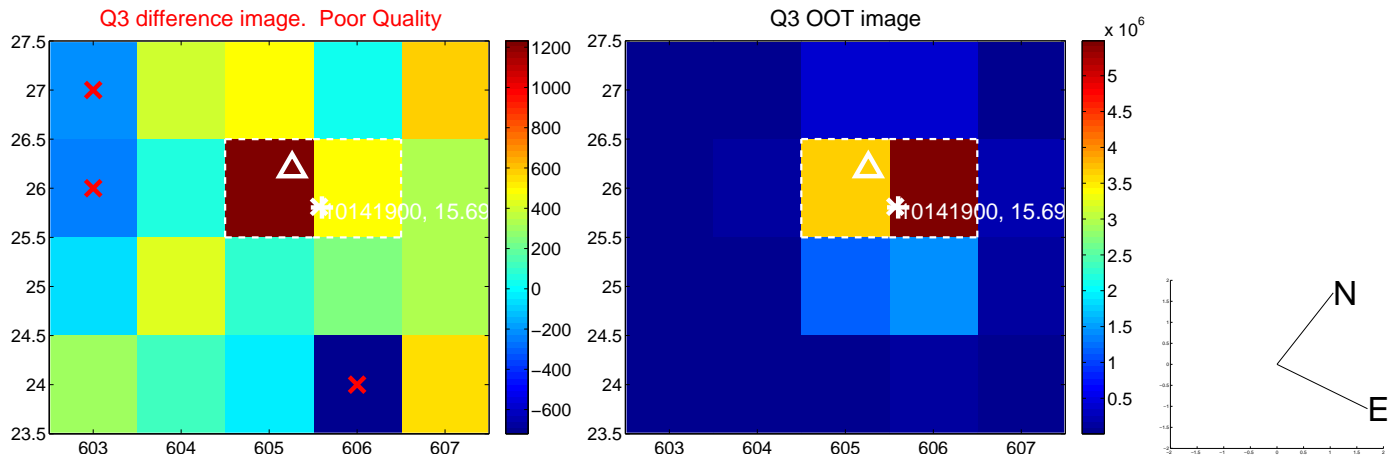
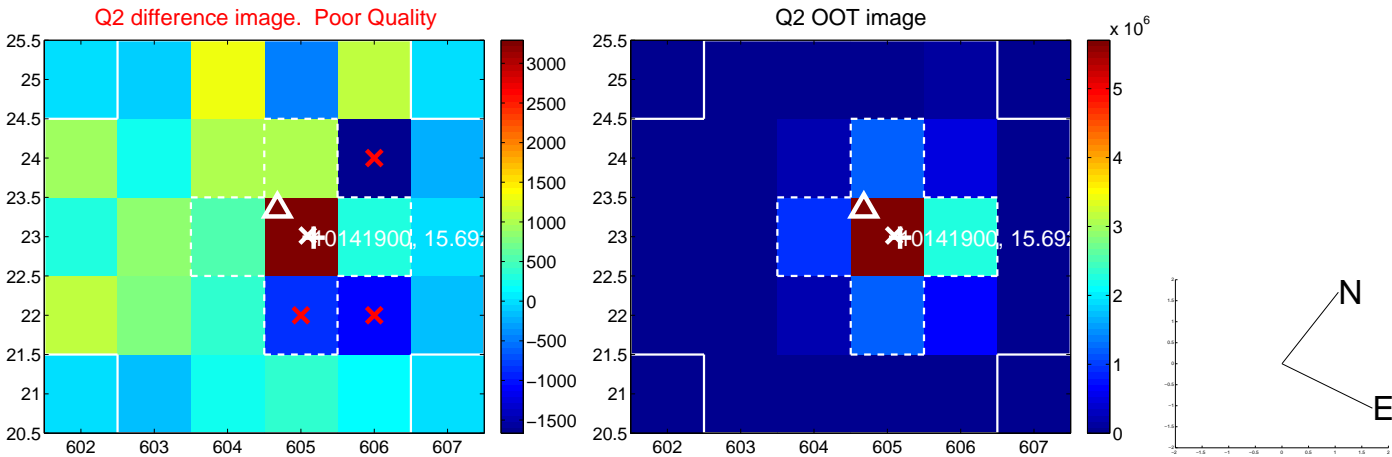
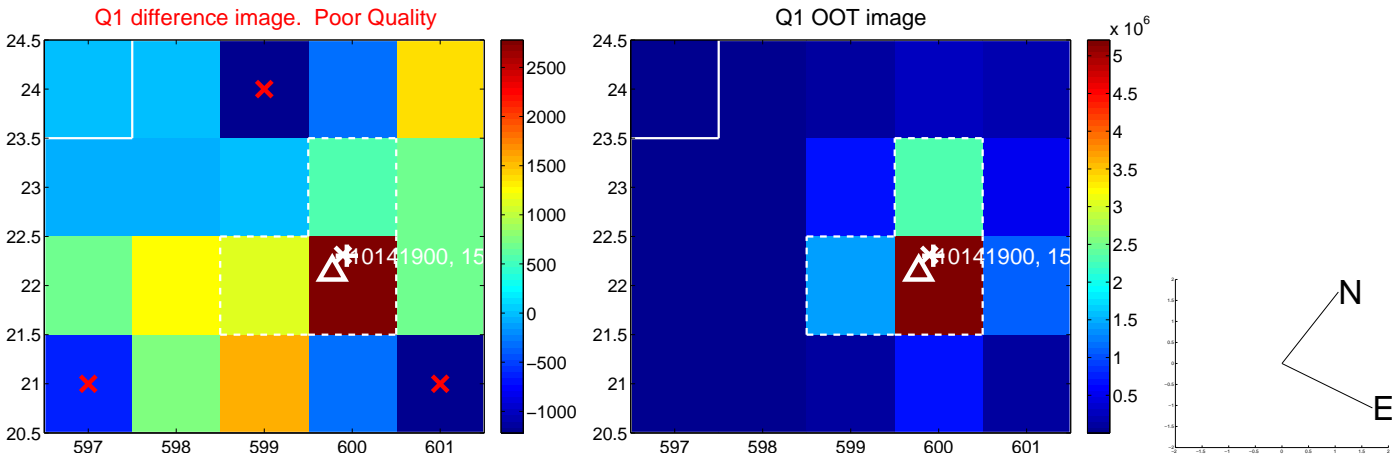
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.708 ± 0.775	0.91	0.128 ± 0.809	0.696 ± 0.667
PRF-fit source offset from KIC position	0.787 ± 0.903	0.87	0.340 ± 0.839	0.710 ± 0.661
photometric centroid source offset	2.22 ± 1.19	1.86	-1.72 ± 1.20	-1.41 ± 1.18

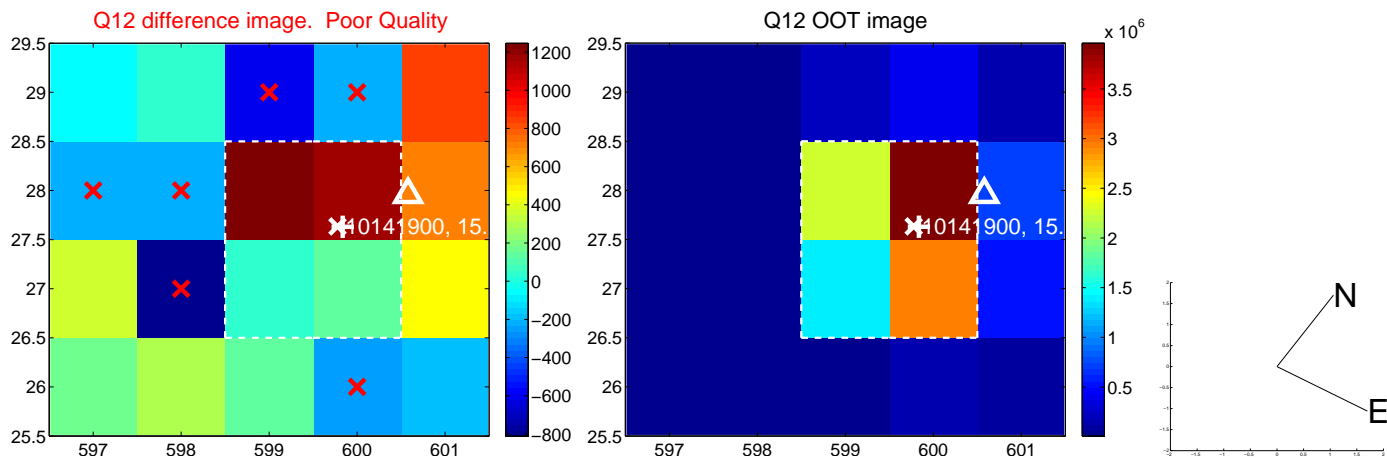
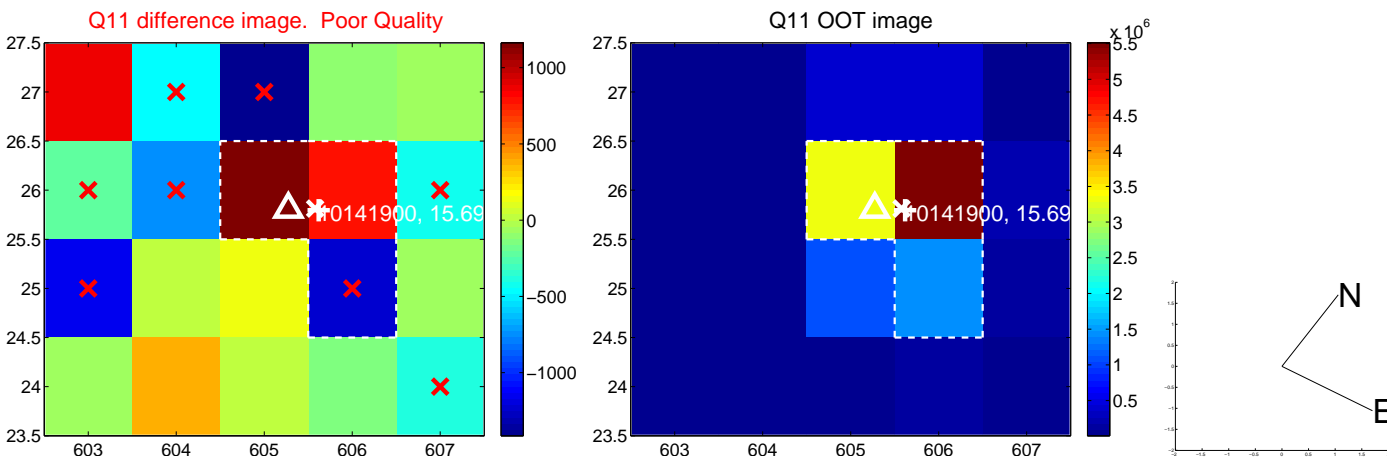
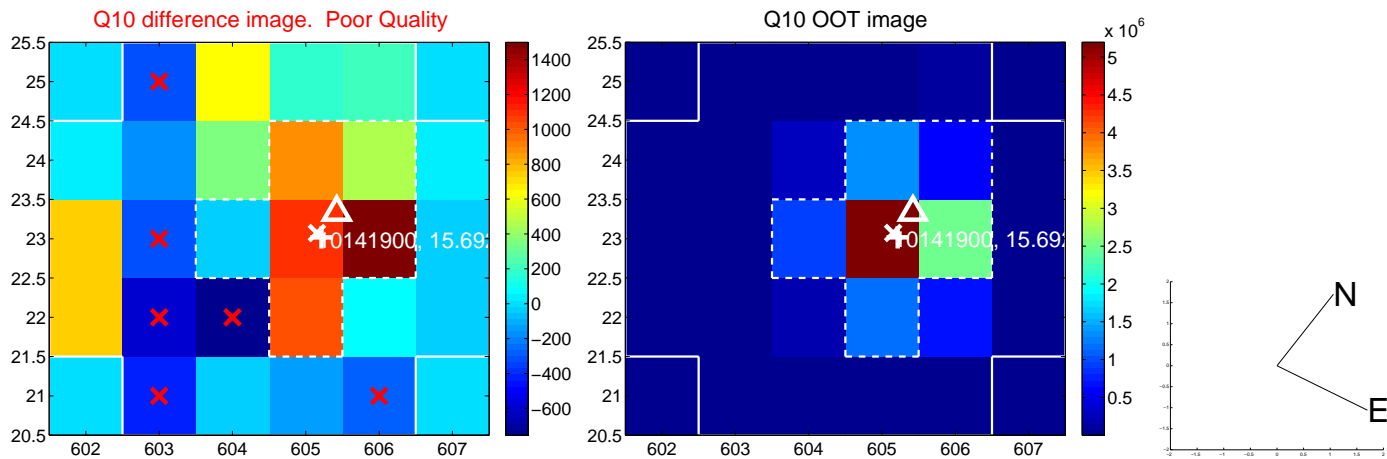
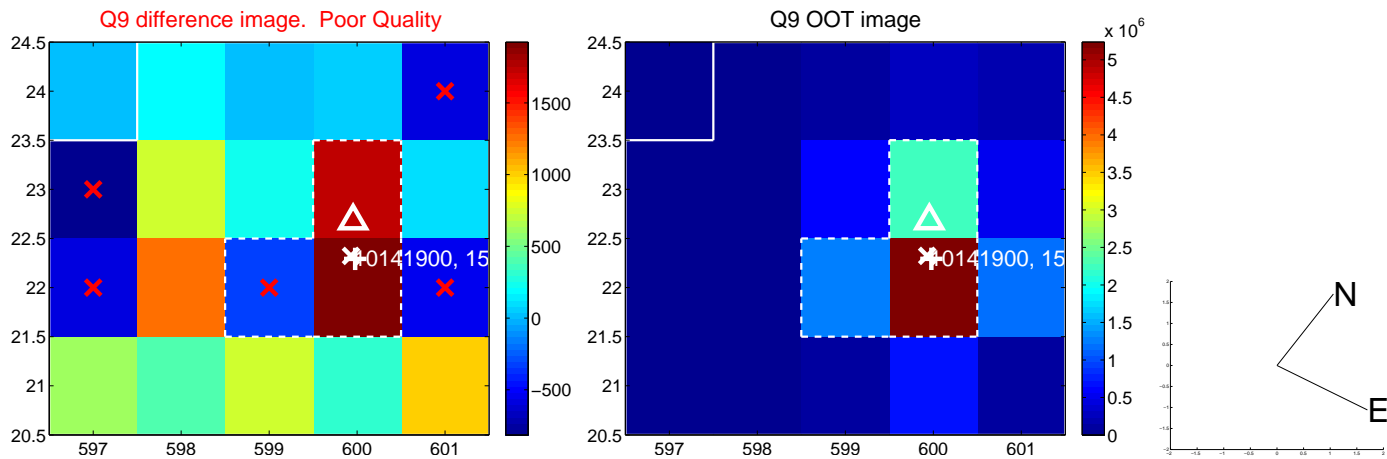


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

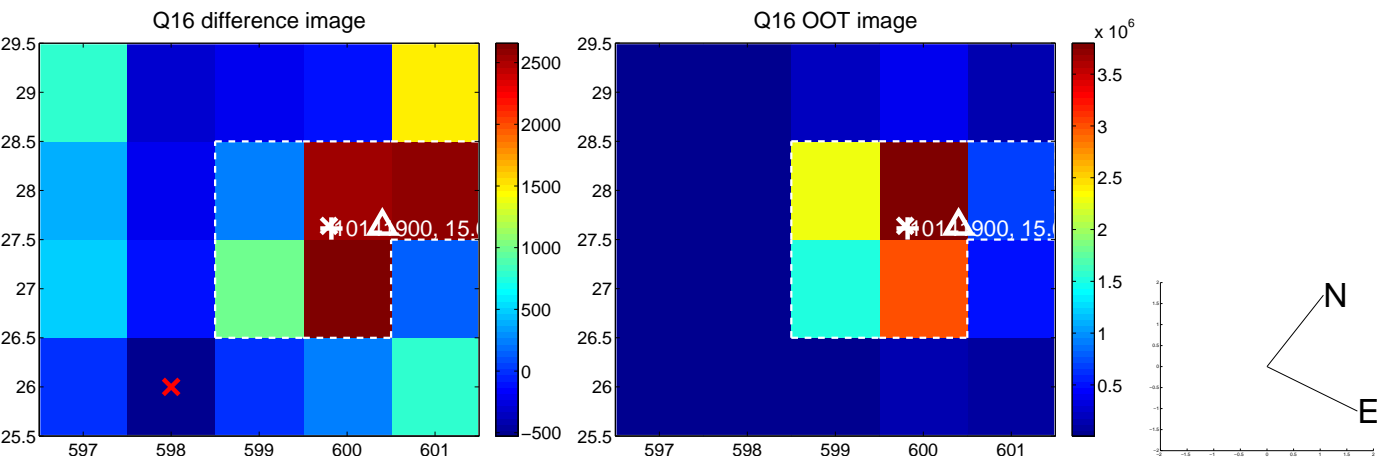
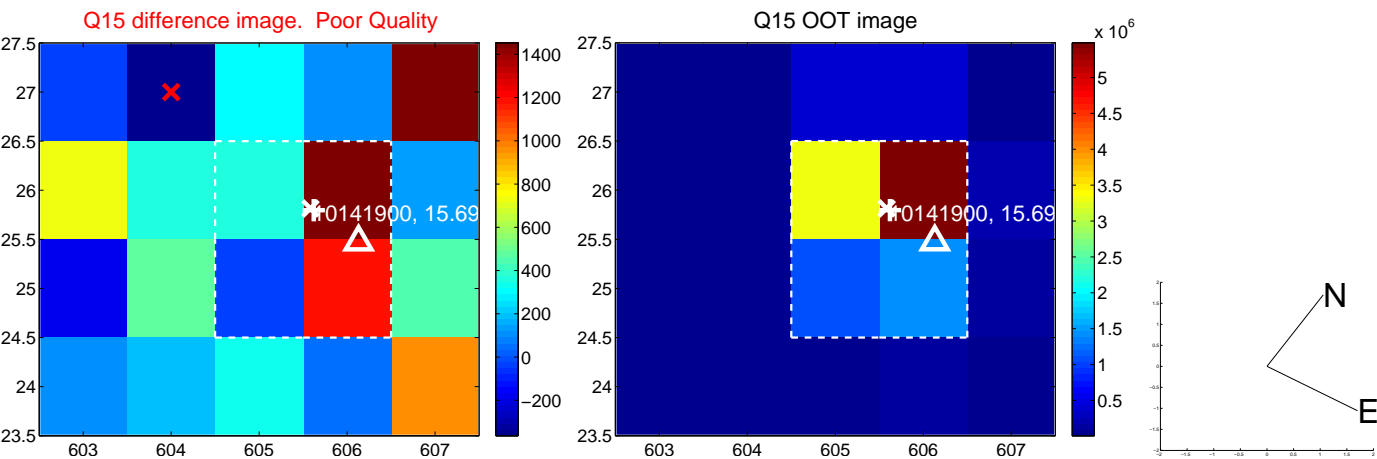
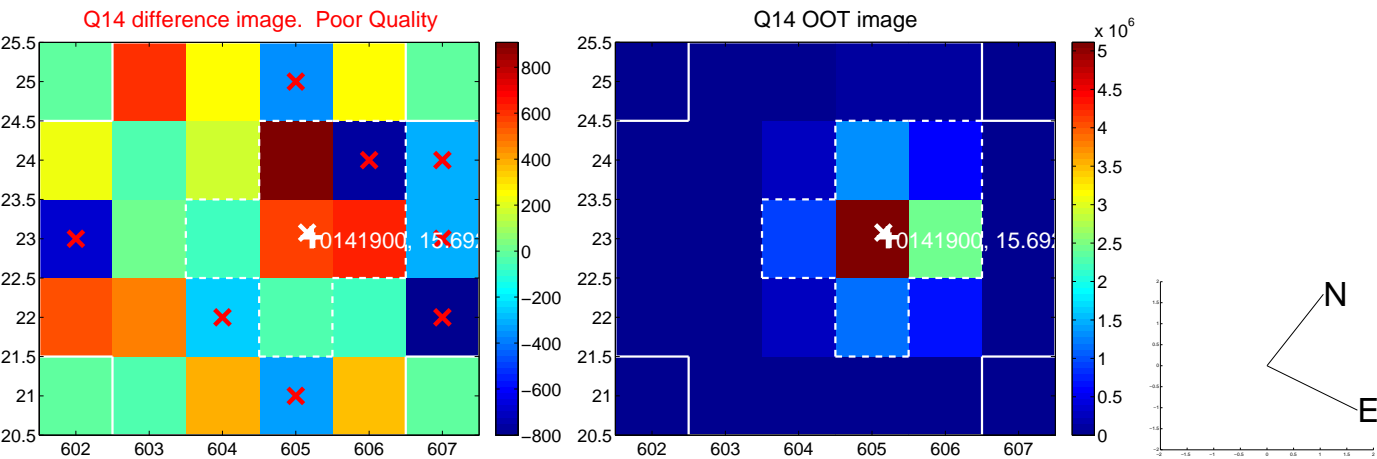
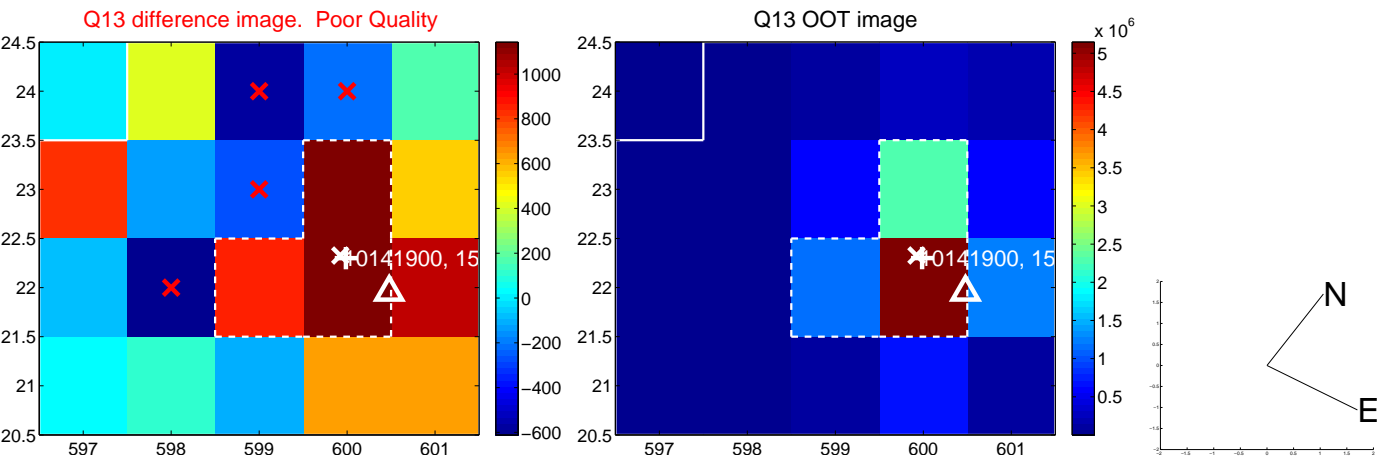
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



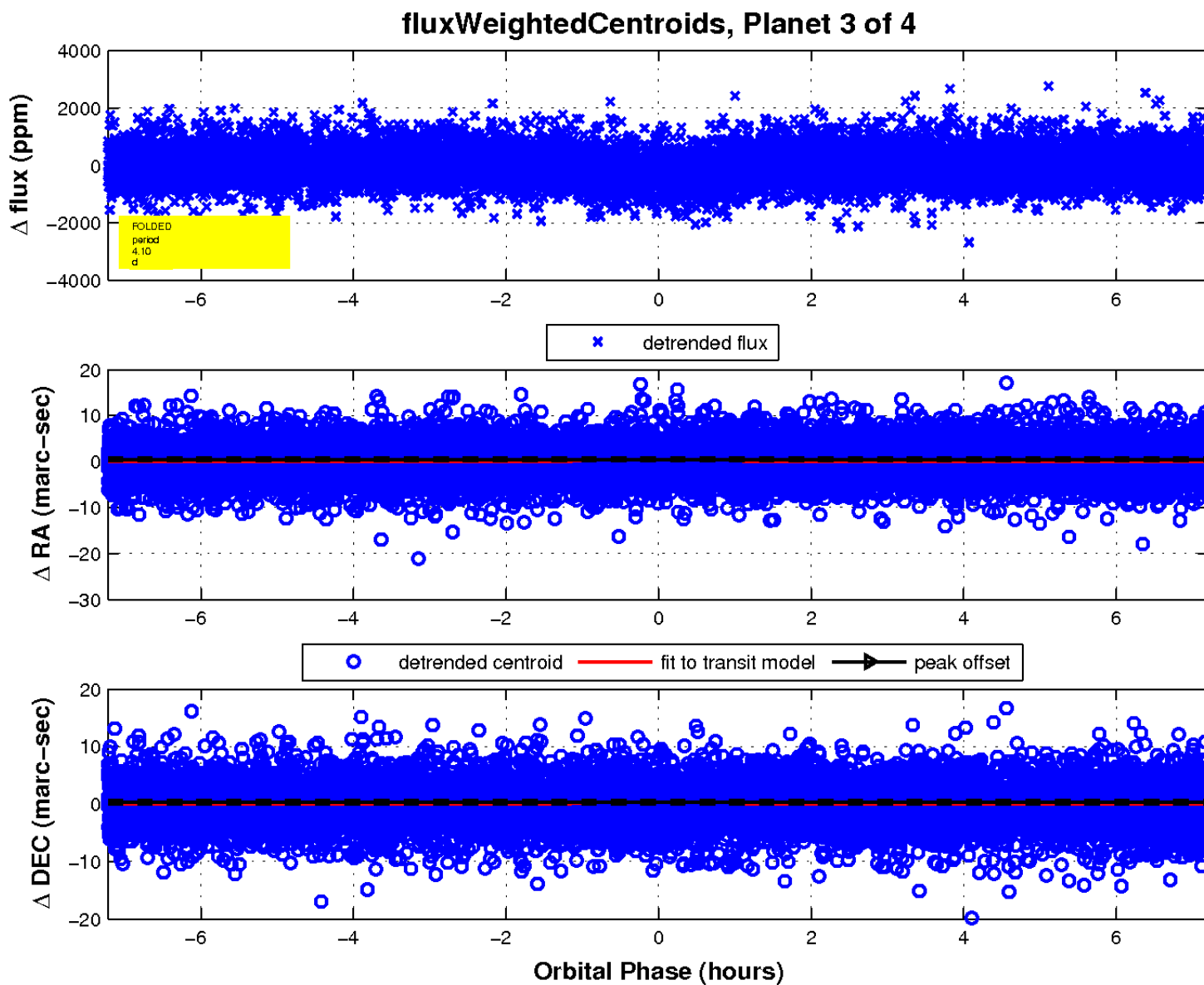
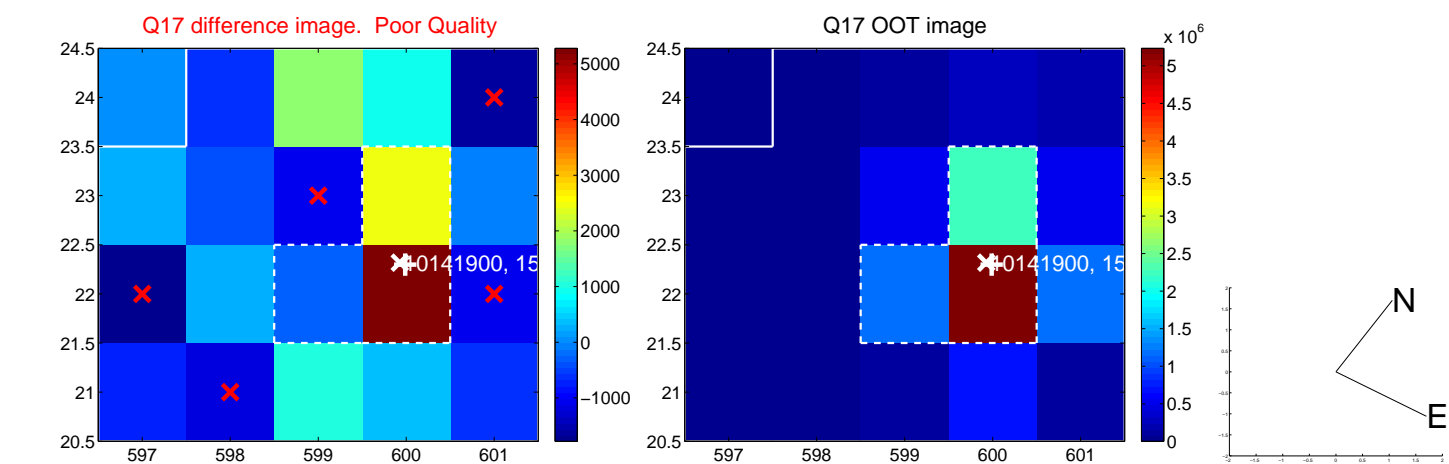
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

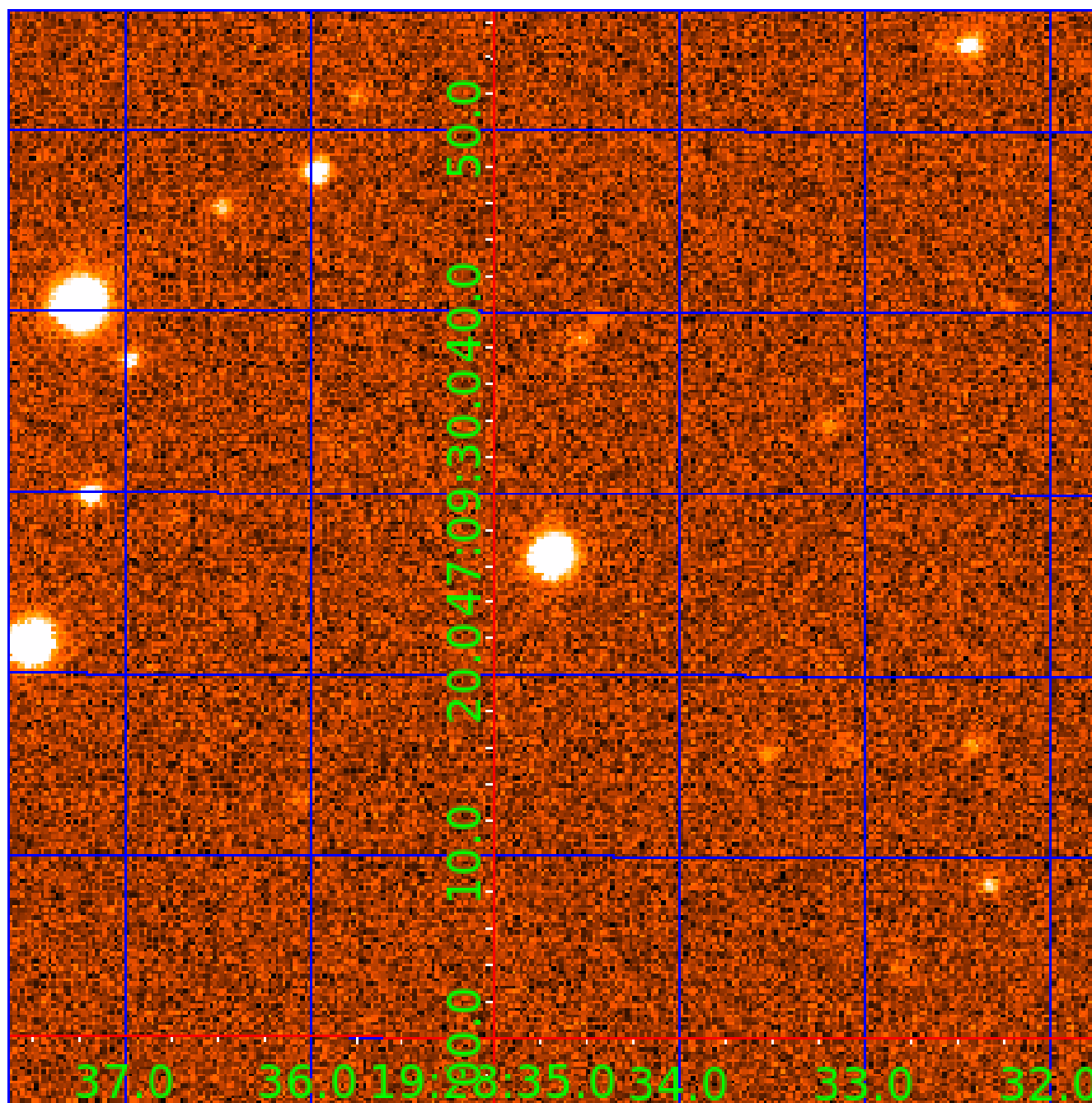


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 010141900

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})
010141900-01	OBS	1082.01	6.503272	135.266777	398.4	2.683	15.9	16.9	0.84	4999	1.97	99.11
010141900-02	OBS	1082.03	1.196537	132.538469	204.0	1.404	13.7	15.6	0.84	4999	1.48	947.13
010141900-03	OBS	1082.02	4.096676	133.098201	254.2	2.407	11.0	12.4	0.84	4999	1.64	183.54
010141900-04	OBS	1082.04	9.655095	137.067348	301.2	2.721	7.7	9.6	0.84	4999	1.77	58.52

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010141900-01	OBS	PC	1.00	0	0	0	0	CENT_FEW_DIFFS
010141900-02	OBS	PC	0.82	0	0	0	0	NO_COMMENT
010141900-03	OBS	PC	0.69	0	0	0	0	NO_COMMENT
010141900-04	OBS	PC	0.80	0	0	0	0	CENT_FEW_DIFFS

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.

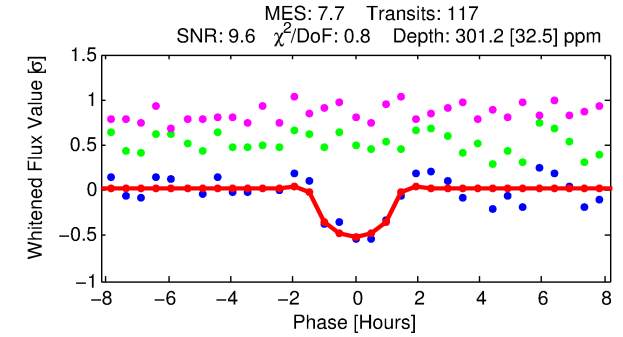
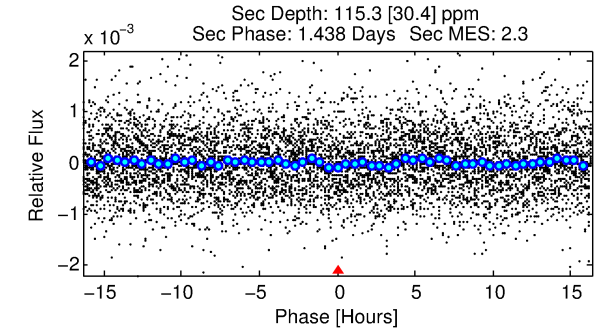
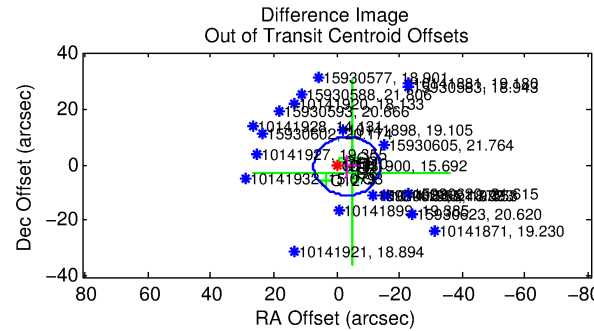
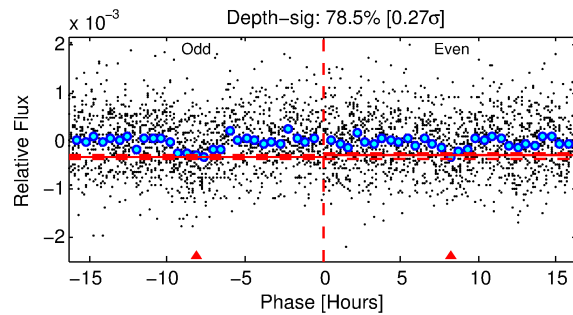
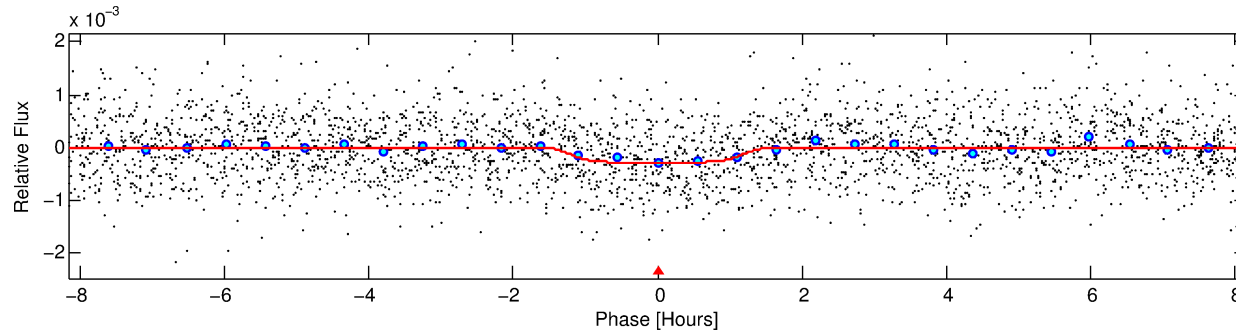
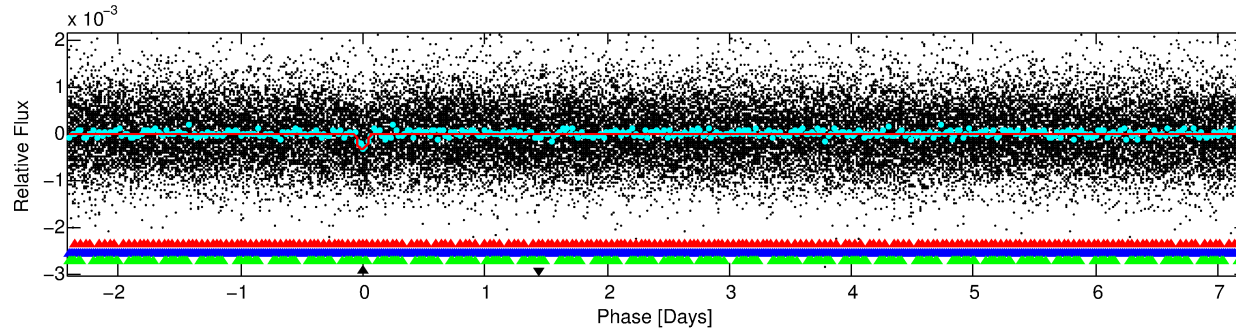
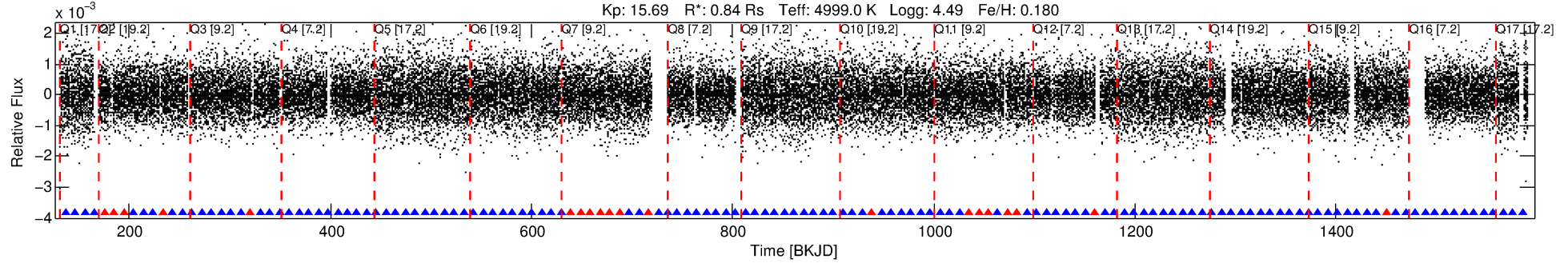
Ephemeris Match Information For 010141900-04

No Significant Match Found

DV One-Page Summary

KIC: 10141900 Candidate: 4 of 4 Period: 9.655 d
KOI: K01082.04 Corr: 0.921

Kp: 15.69 R*: 0.84 Rs Teff: 4999.0 K Logg: 4.49 Fe/H: 0.180



DV Fit Results:

Period = 9.65509 [0.00008] d
Epoch = 137.0673 [0.0064] BKJD
Rp/R* = 0.0193 [0.0154]
a/R* = 13.30 [41.10]
b = 0.89 [0.72]
Seff = 58.52 [8.17]
Teq = 705 [25] K
Rp = 1.77 [1.42] Re
a = 0.0824 [0.0061] AU
Ag = 136.77 [221.48] [0.61σ]
Teffp = 3729 [1506] K [2.01σ]

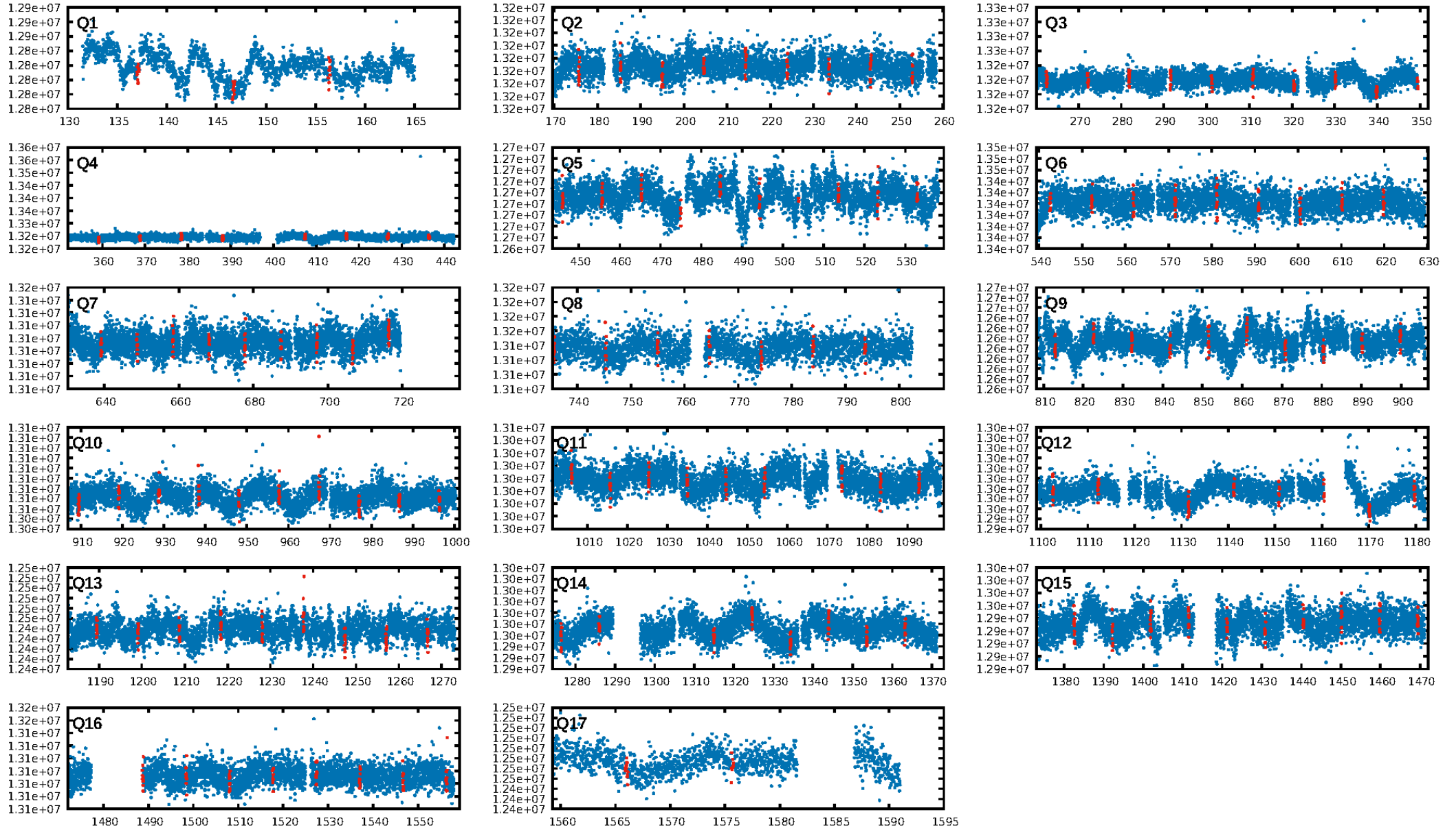
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [19.80σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 99.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 2.31e-14
RollingBand-fgt: 0.82 [93/113]
GhostDiagnostic-chr: -9.264
Centroid-sig: 24.4%
Centroid-so: 1.665 arcsec [1.13σ]
OotOffset-rm: 3.342 arcsec [0.95σ]
KicOffset-rm: 3.124 arcsec [0.89σ]
OotOffset-st: 3/2/1/3 [9]
KicOffset-st: 3/2/1/3 [9]
DiffImageQuality-fgm: 0.11 [1/9]
DiffImageOverlap-fno: 0.82 [14/17]

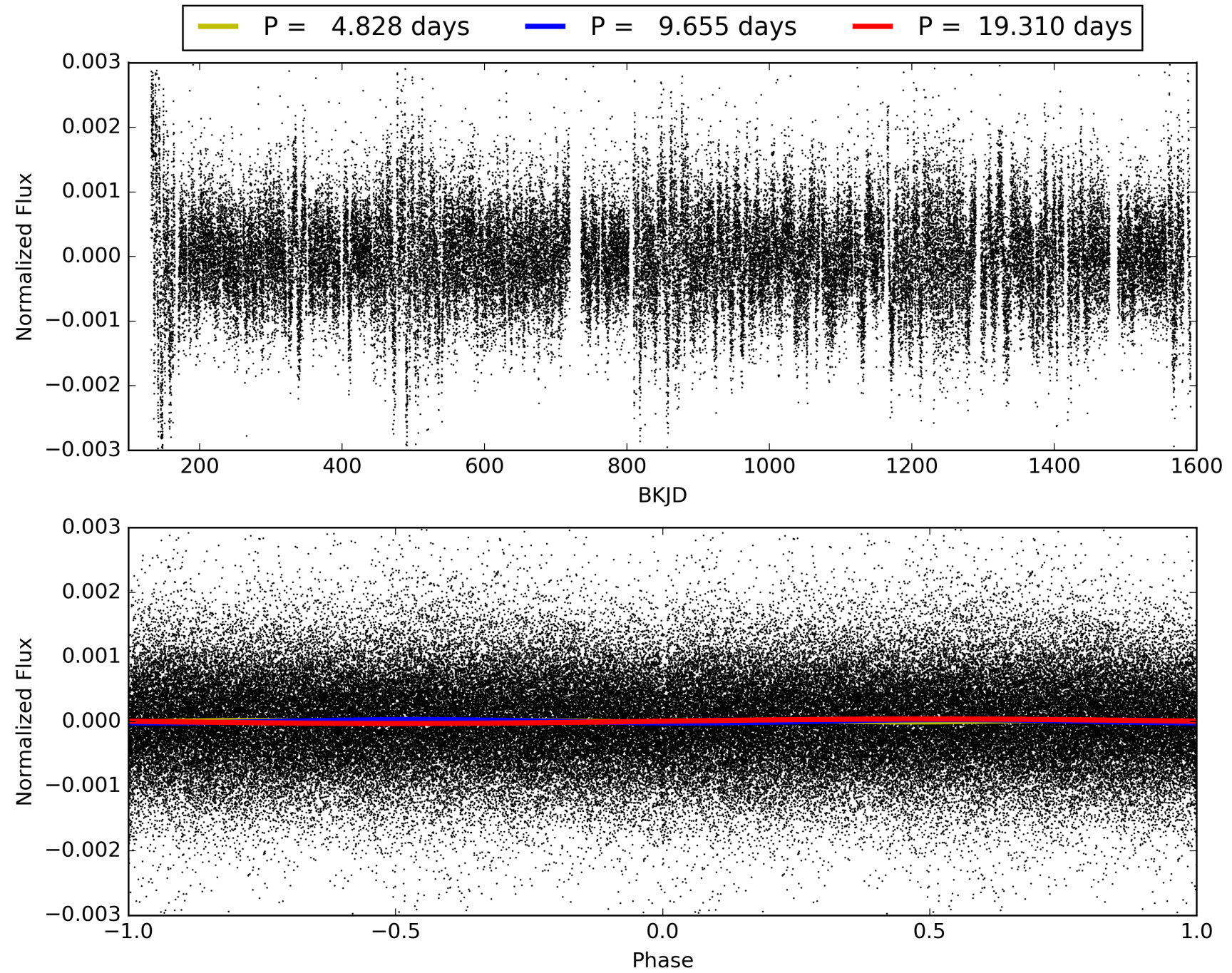
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:09:48 Z

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

TCE 010141900-04, PDC Light Curves

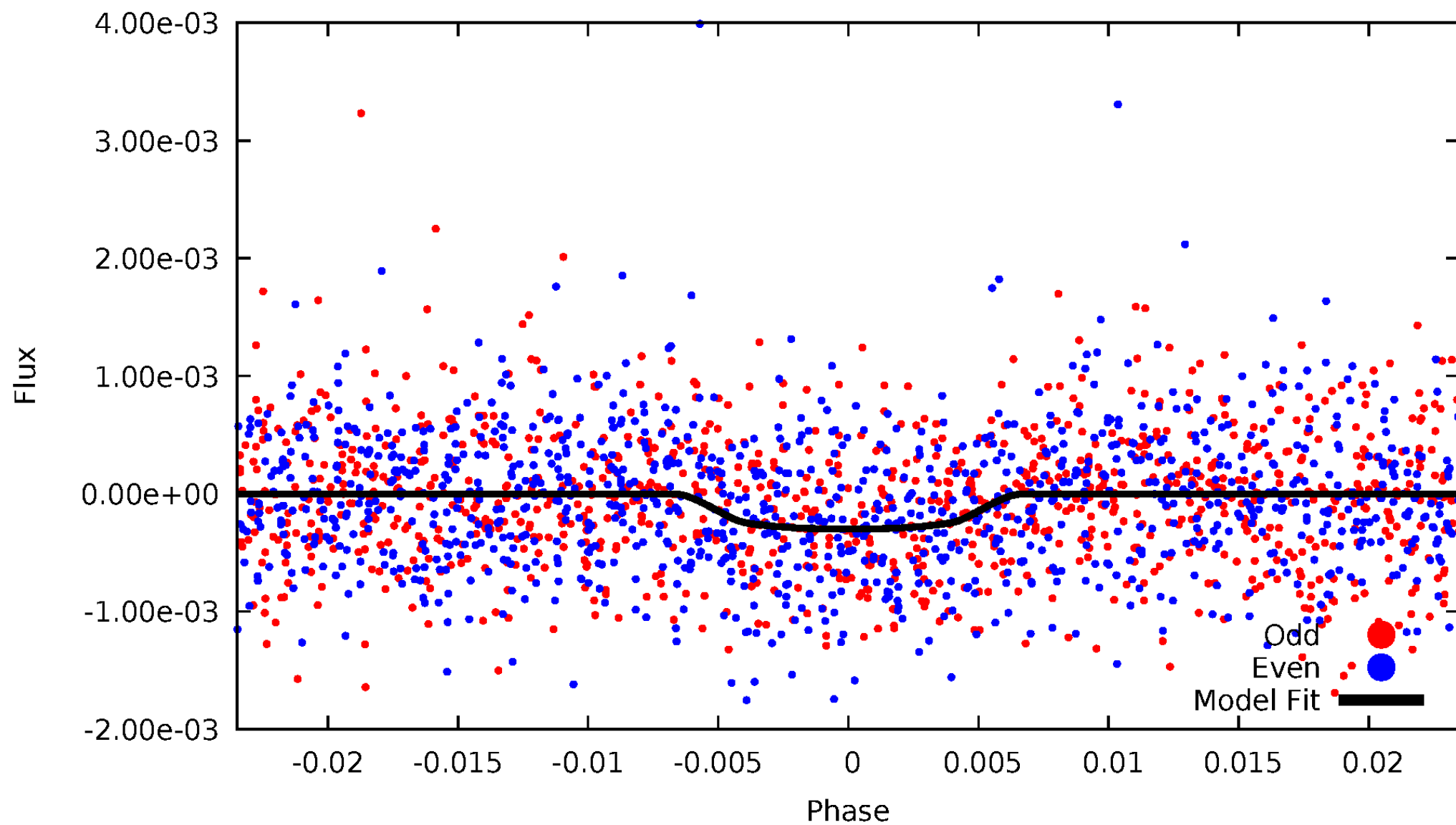


TCE 010141900-04



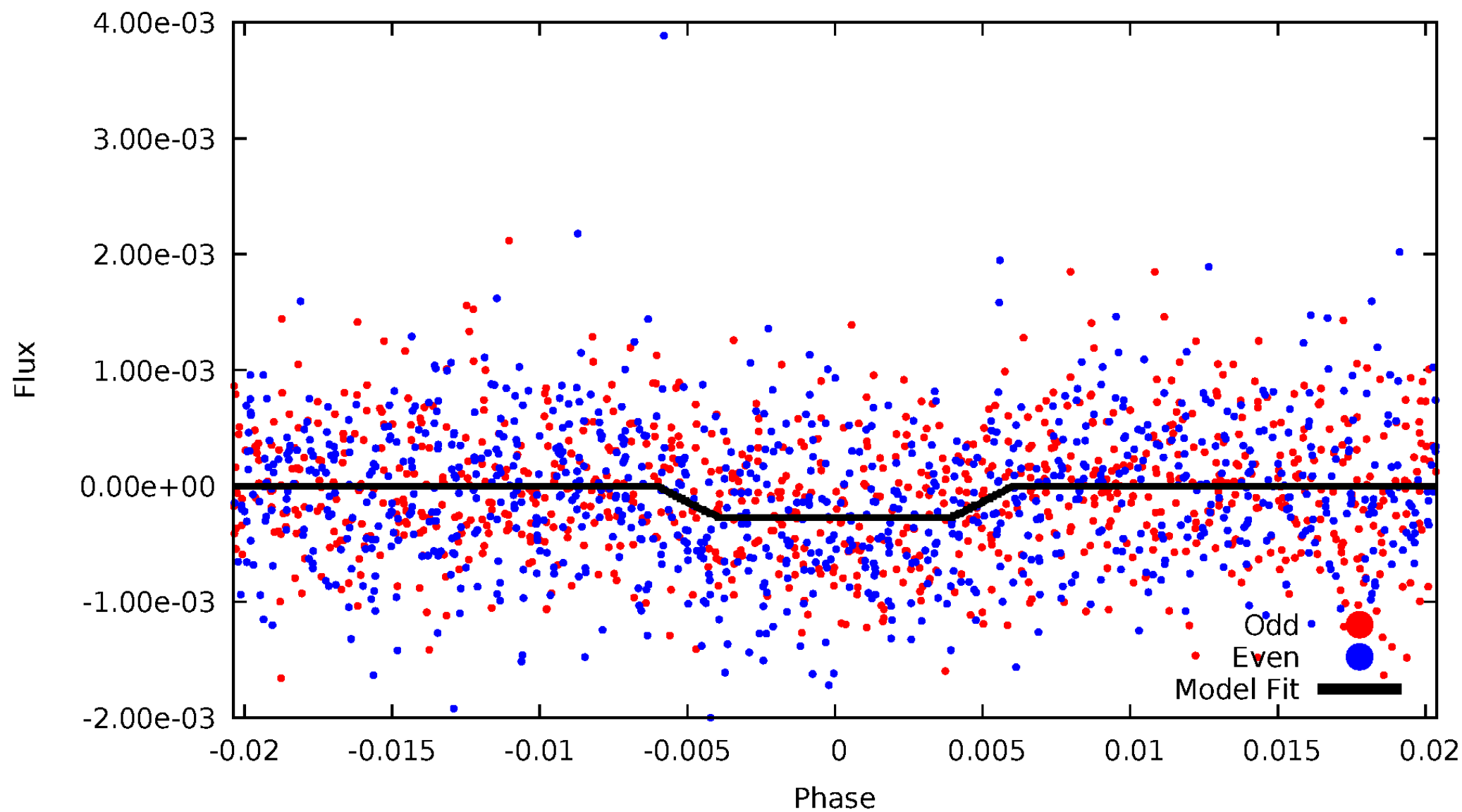
DV Odd/Even

TCE 010141900-04



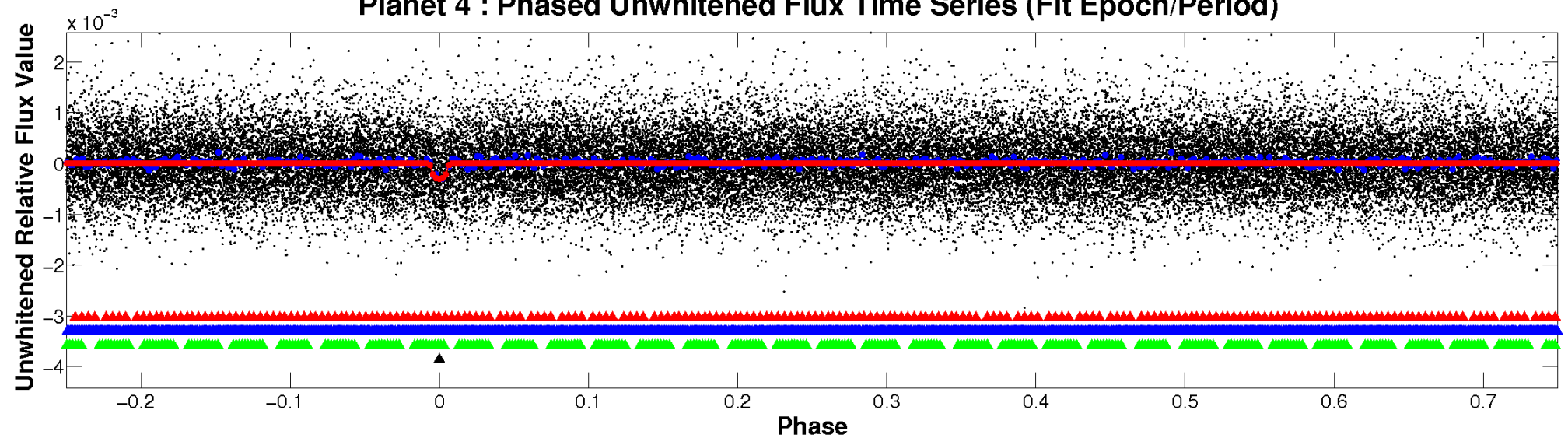
ALT Odd/Even

TCE 010141900-04

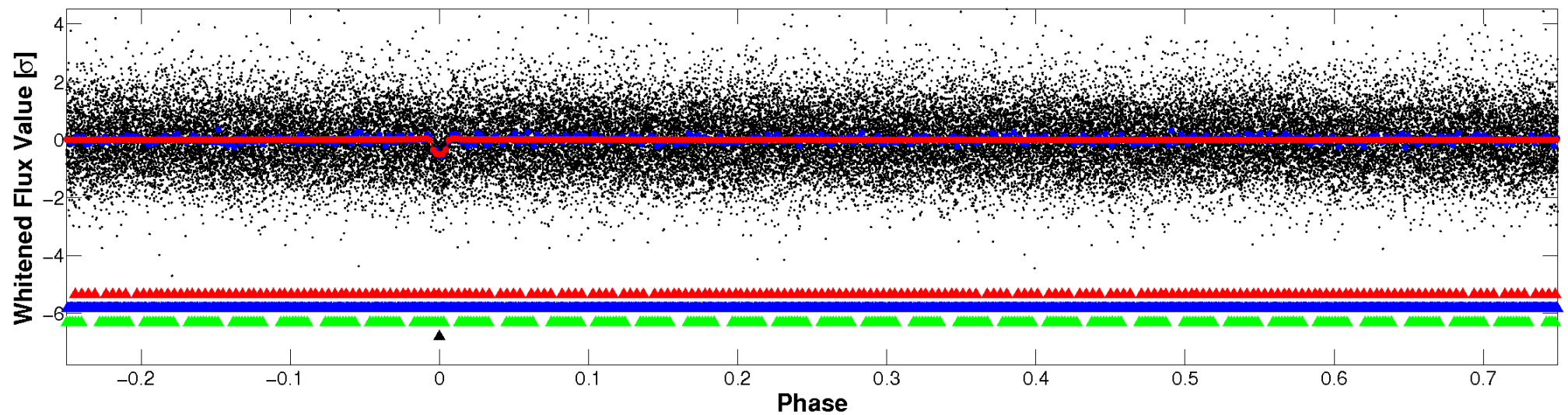


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

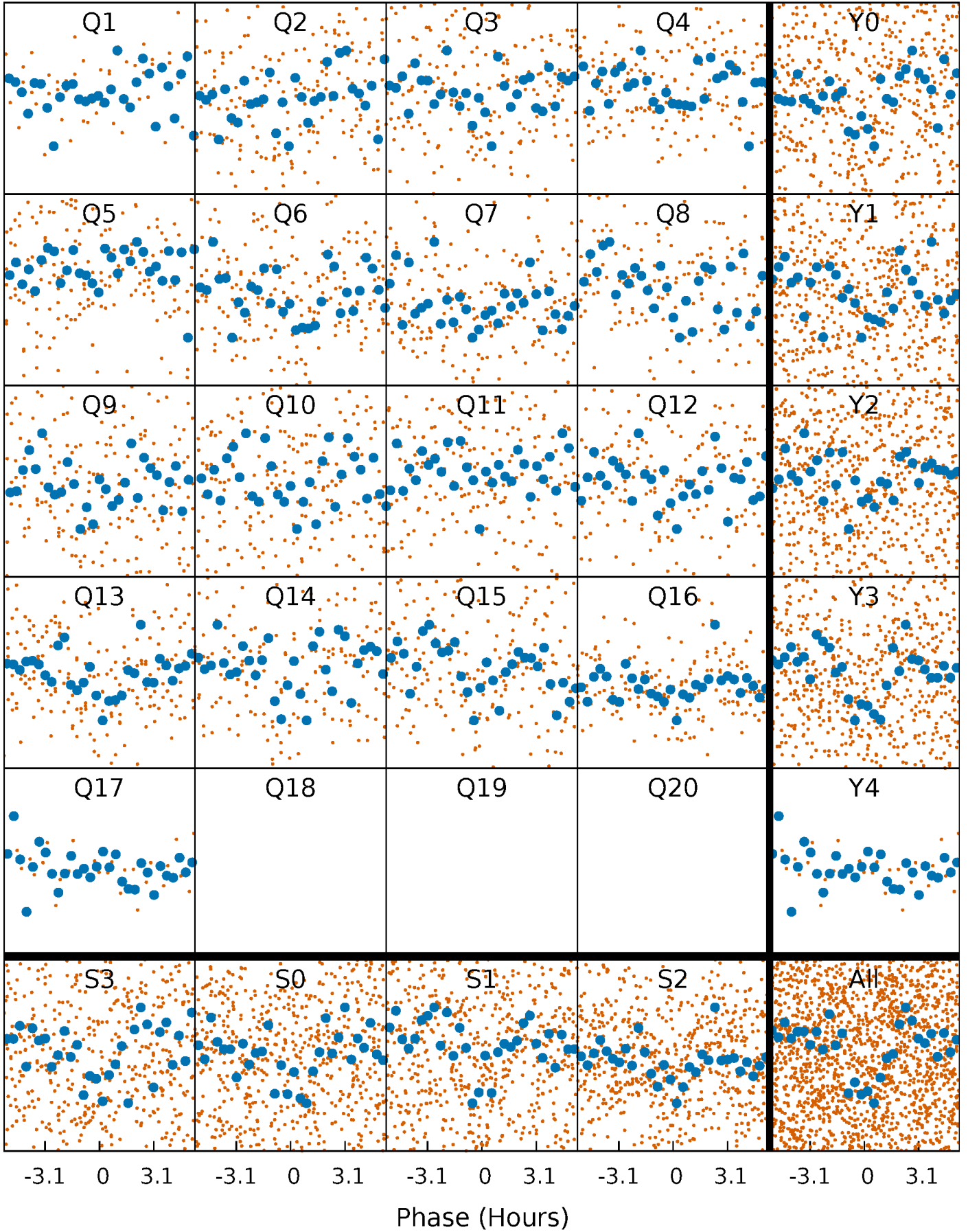


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



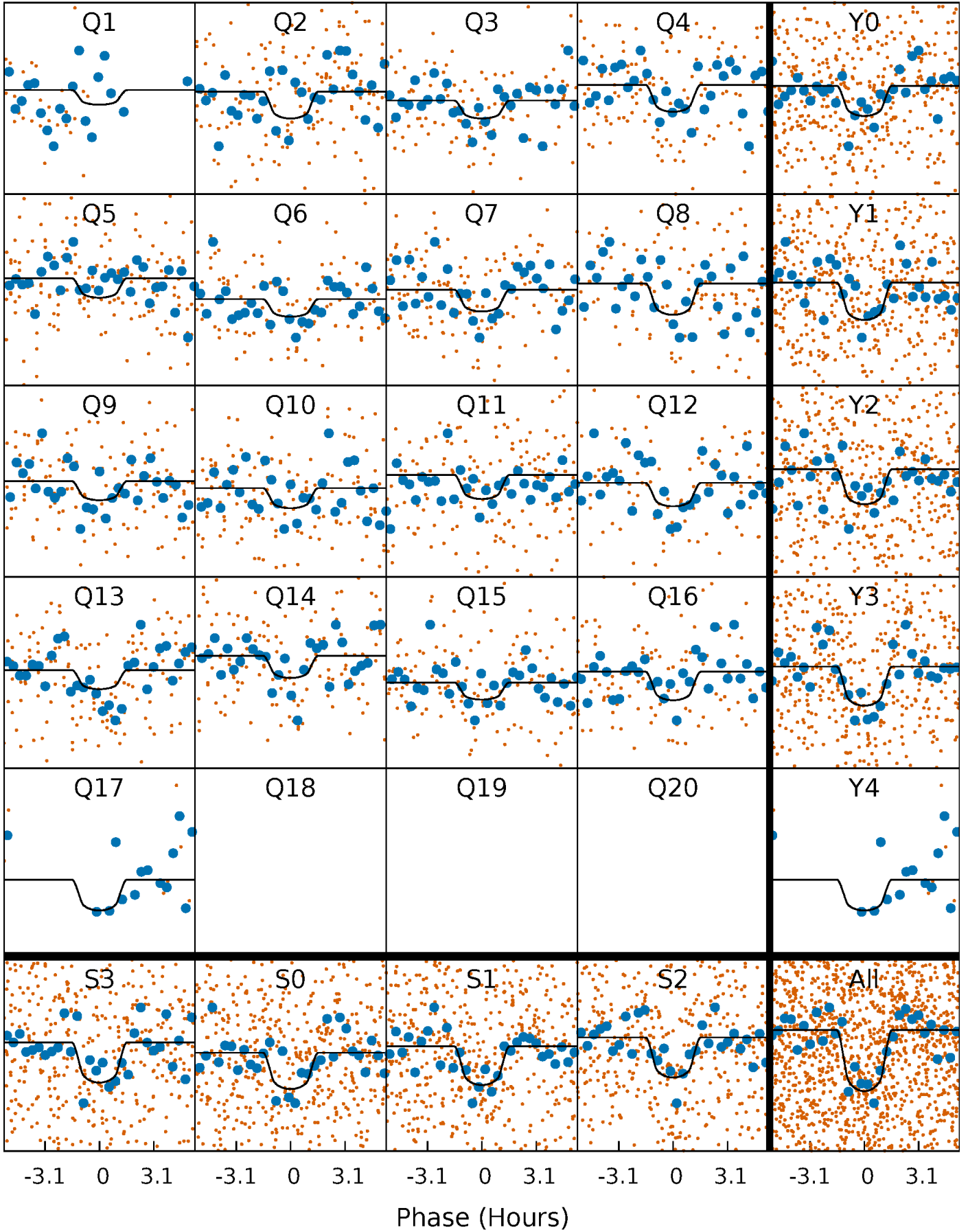
PDC Quarter-Phased Transit Curves

TCE 010141900-04 P= 9.655095 Days $T_0=137.067348$ (BKJD)



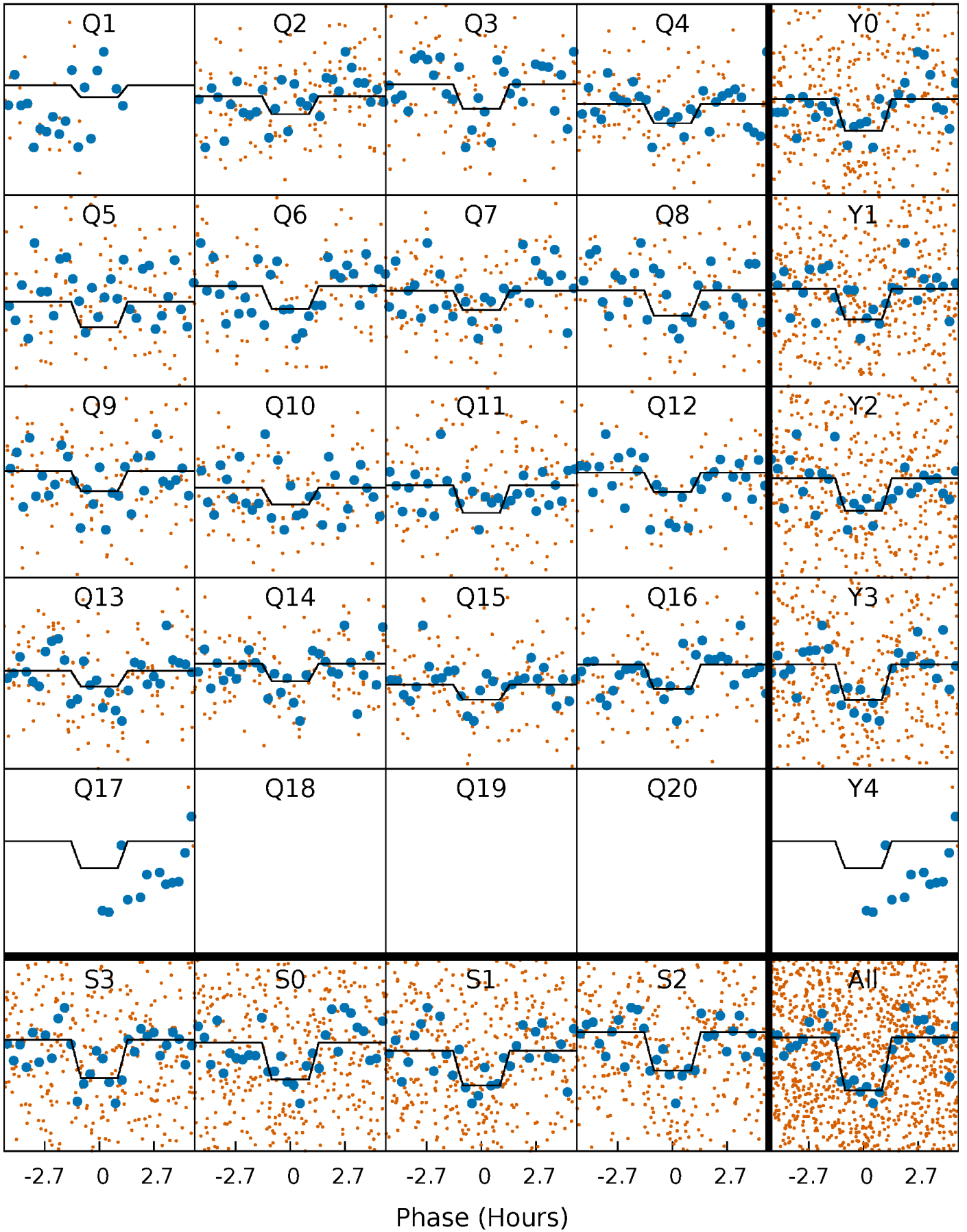
DV Quarter-Phased Transit Curves

TCE 010141900-04 $P = 9.655095$ Days $T_0 = 137.067348$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

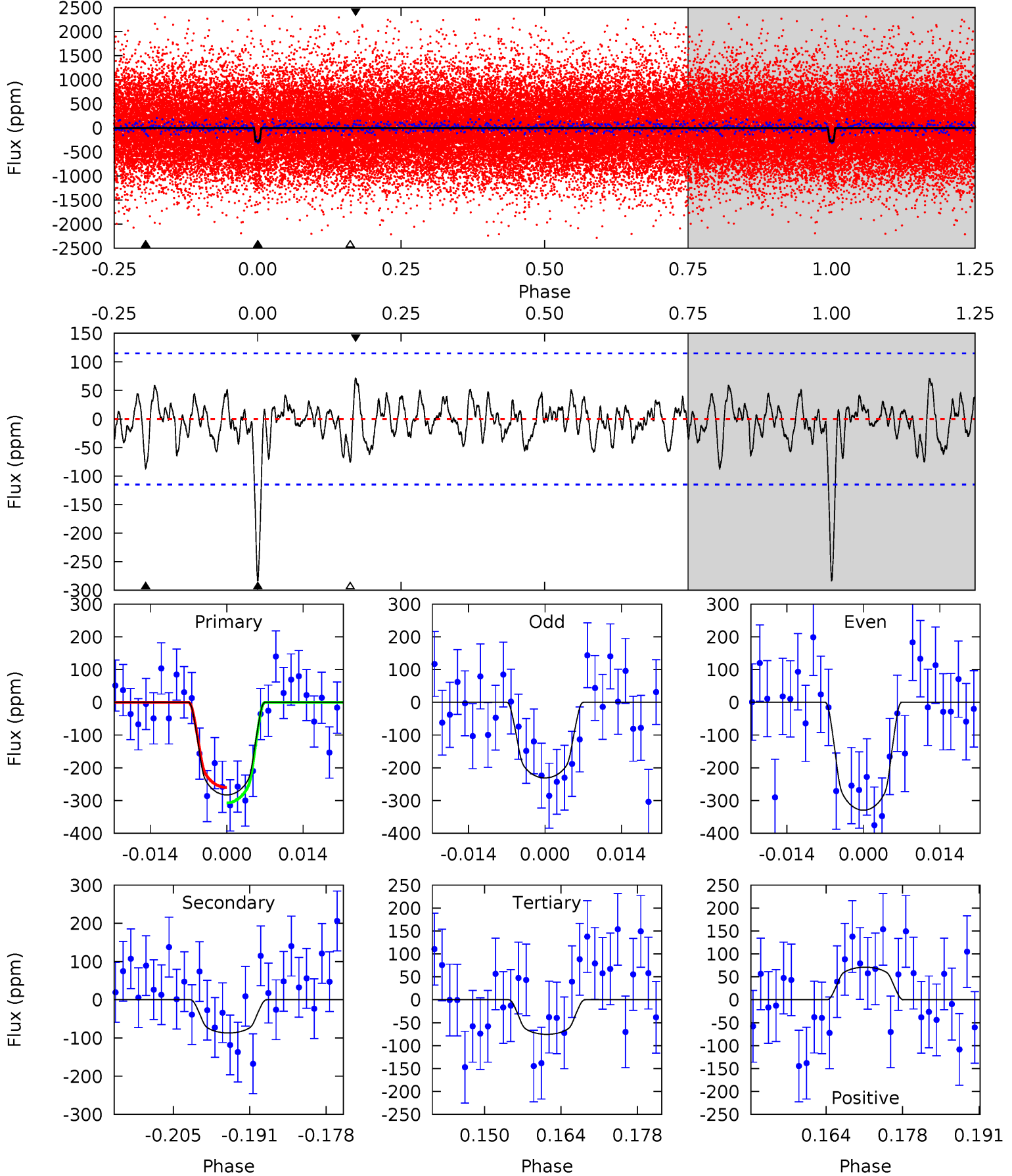
TCE 010141900-04 P= 9.655071 Days $T_0=137.070302$ (BKJD)



DV Model-Shift Uniqueness Test

010141900-04, P = 9.655095 Days, E = 127.412253 Days

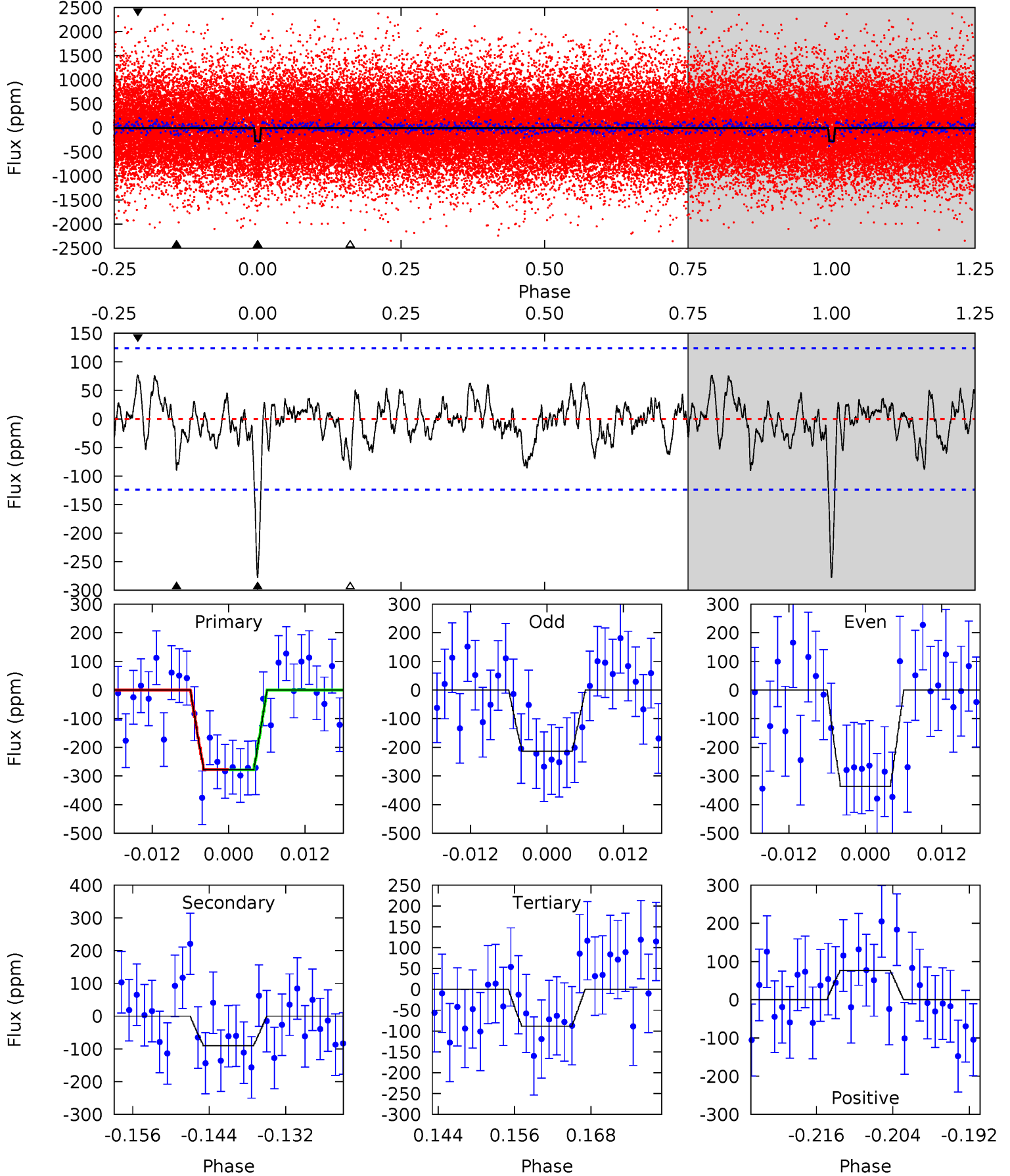
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.2	3.76	3.26	3.07	4.97	2.47	1.13	8.97	9.16	0.50	0.69	2.14	1.12	0.20	1.02



Alt Model-Shift Uniqueness Test

010141900-04, P = 9.655071 Days, E = 127.415231 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.2	3.64	3.57	3.09	4.99	2.51	1.18	7.64	8.11	0.08	0.55	2.47	1.02	0.22	0.03



Stellar Parameters For KIC 010141900

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	4999^{+79}_{-79}	$4.490^{+0.075}_{-0.030}$	$0.180^{+0.150}_{-0.150}$	$0.843^{+0.040}_{-0.060}$	$0.800^{+0.048}_{-0.028}$	$1.883^{+0.508}_{-0.196}$
	+2%/-2%	+2%/-1%	+83%/-83%	+5%/-7%	+6%/-3%	+27%/-10%
Source	SPE90	SPE90	SPE90	DSEP		

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

Secondary Eclipse Parameters for KIC 010141900-04 / KOI 1082.04

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-87 ± 23	$1.97^{+1.47}_{-1.16}$	979^{+23}_{-24}	3647^{+1381}_{-591}	82^{+393}_{-55}
Alt.	-90 ± 25	$1.70^{+1.20}_{-1.06}$	979^{+23}_{-25}	3860^{+1824}_{-651}	115^{+681}_{-78}

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

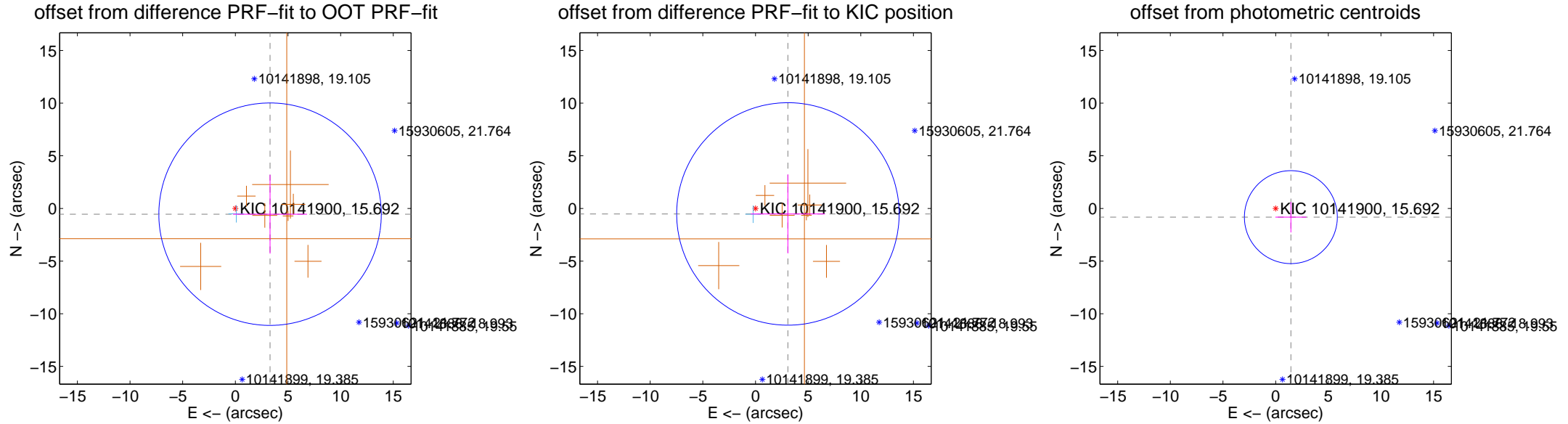
DV Centroid Data

Supplemental centroid analysis for 010141900-04. Kepler magnitude: 15.69. Transit SNR 9.61

There are 1 quarters with good PRF difference image offsets

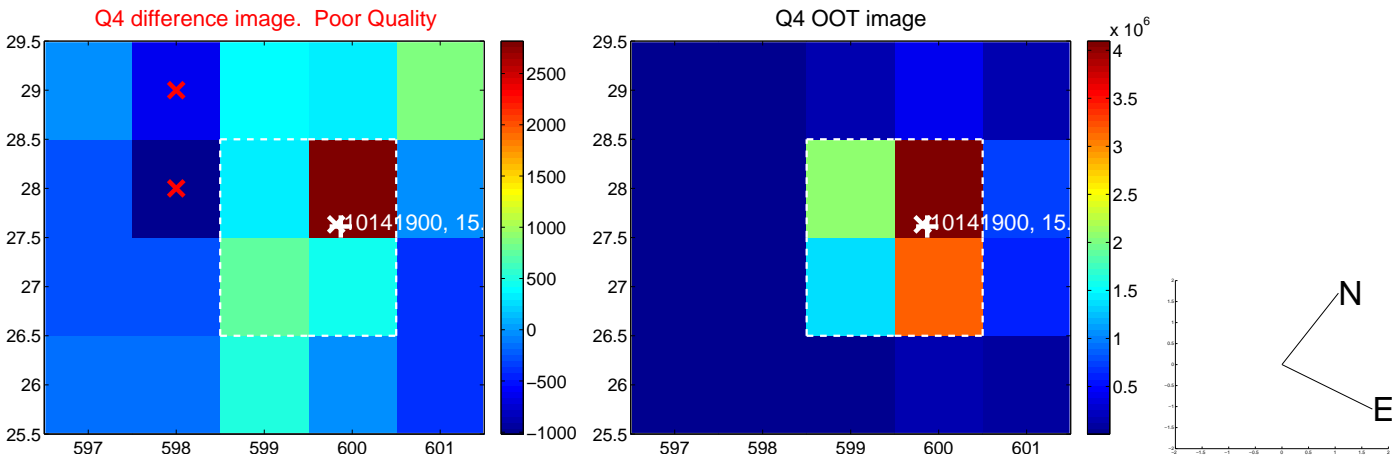
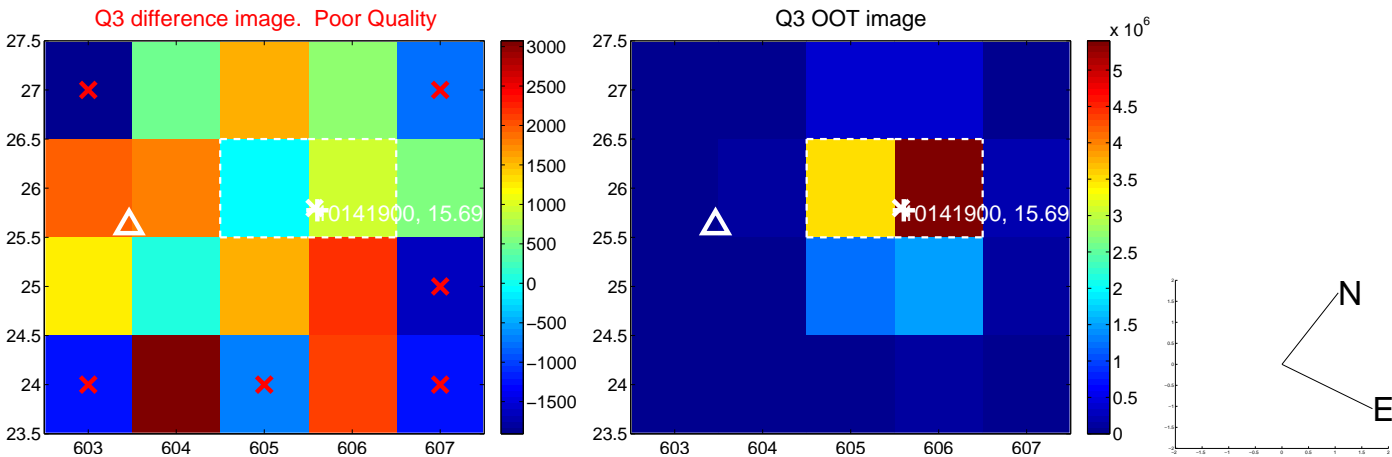
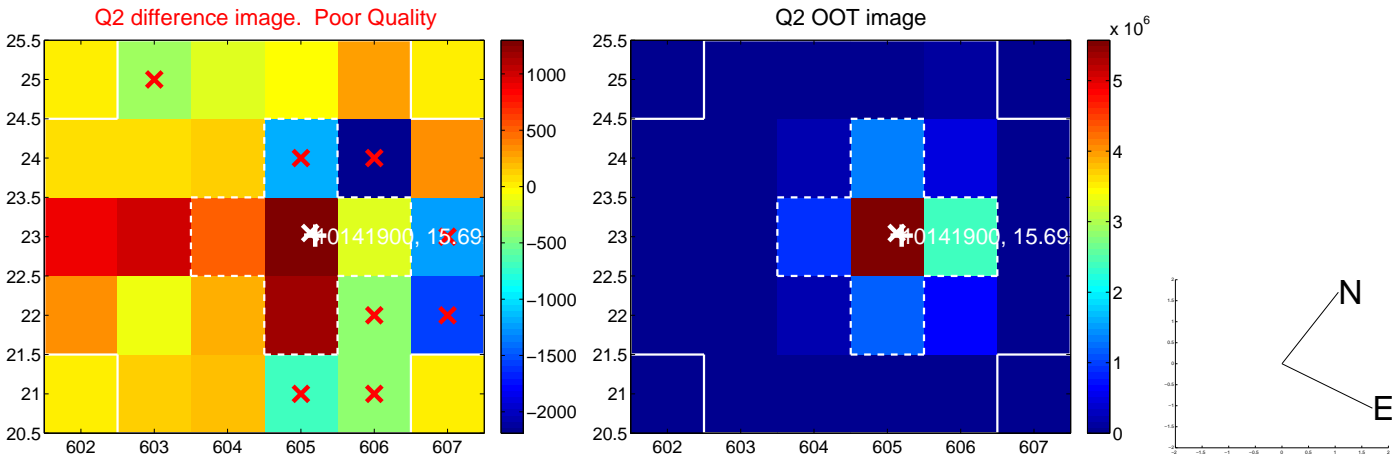
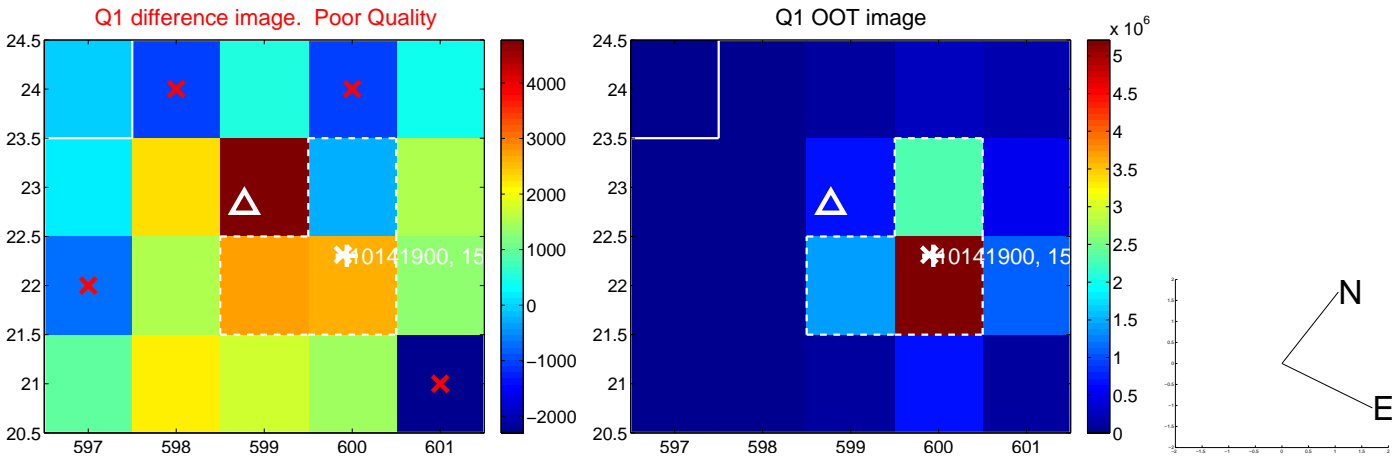
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	3.342 ± 3.521	0.95	-3.298 ± 3.515	-0.545 ± 3.748
PRF-fit source offset from KIC position	3.124 ± 3.521	0.89	-3.080 ± 3.515	-0.522 ± 3.748
photometric centroid source offset	1.66 ± 1.47	1.13	-1.45 ± 1.48	-0.83 ± 1.45

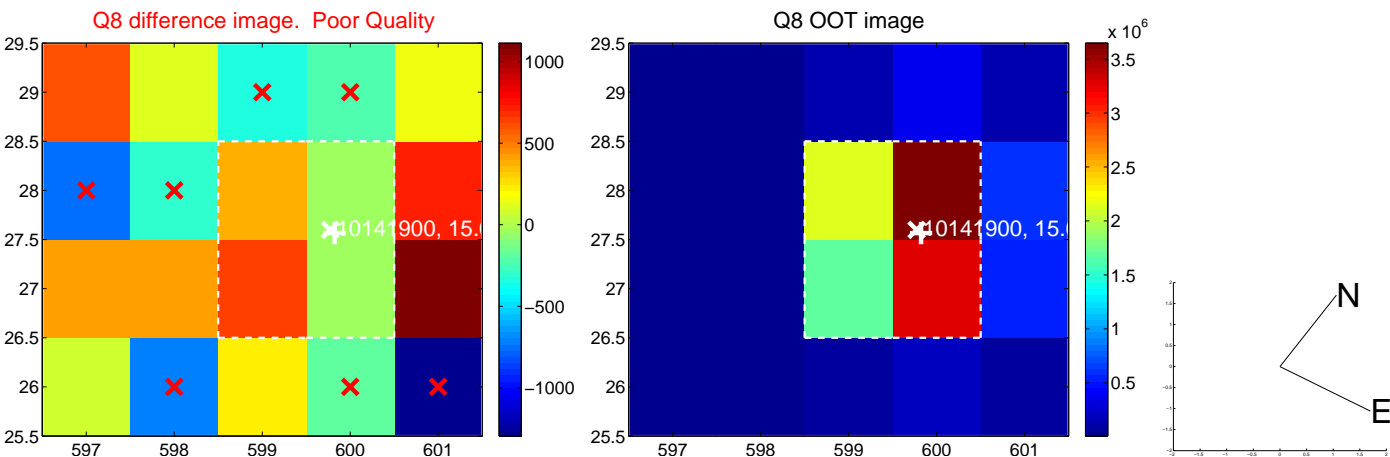
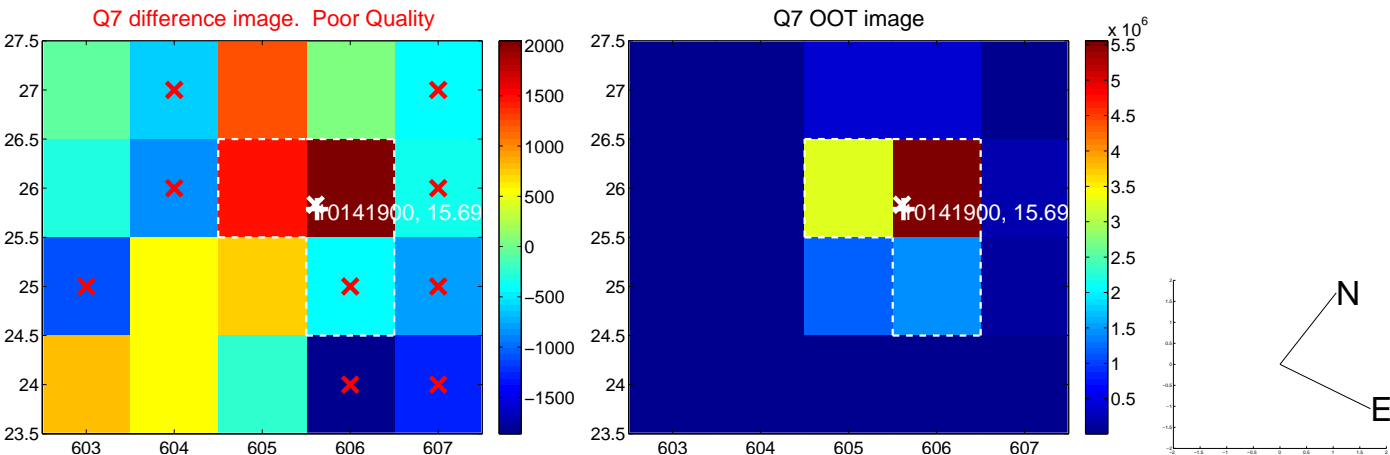
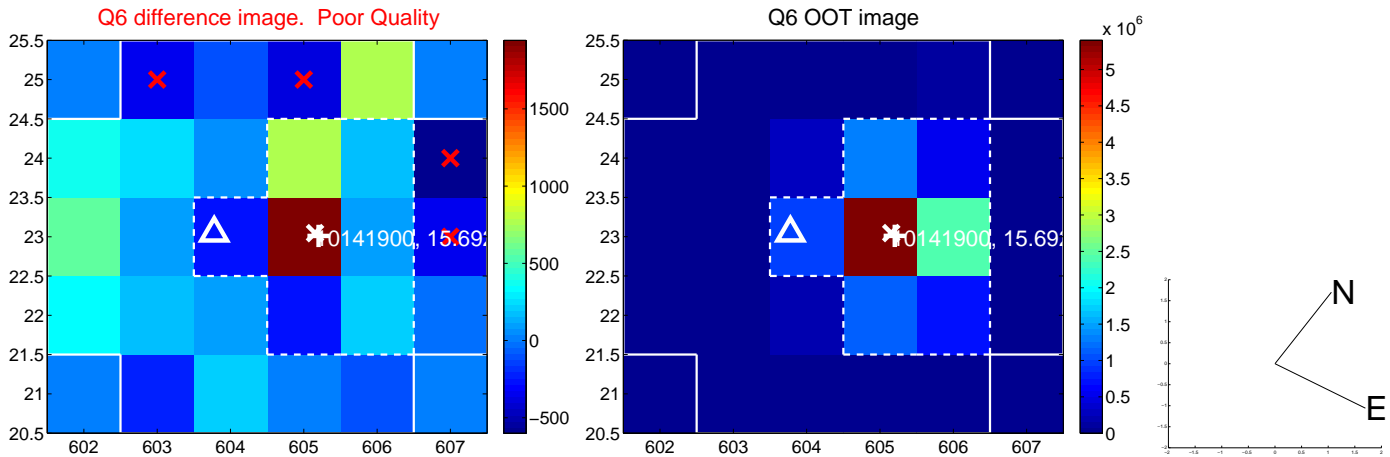
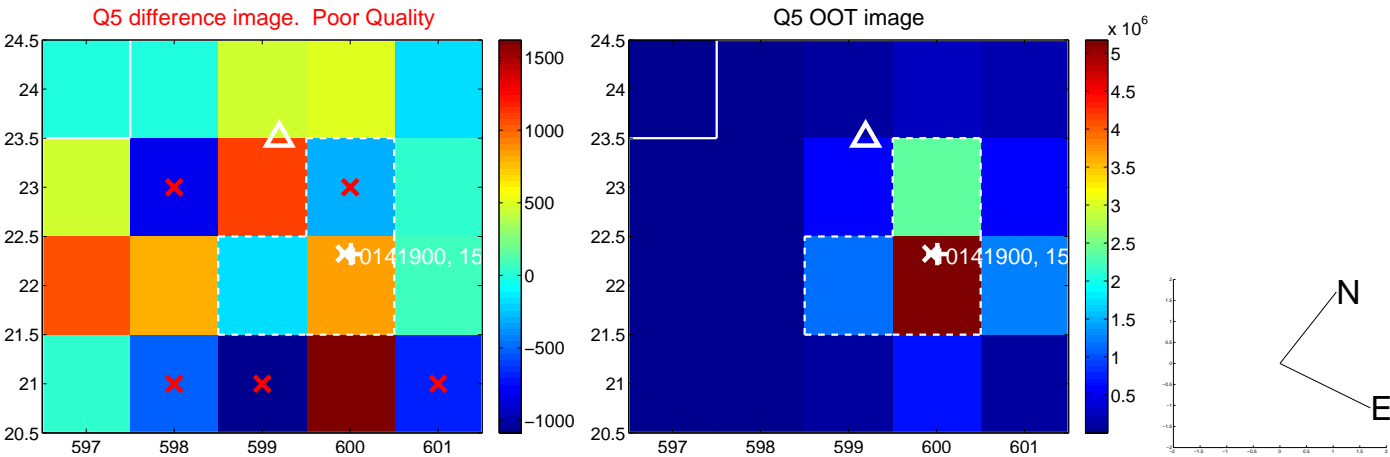


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

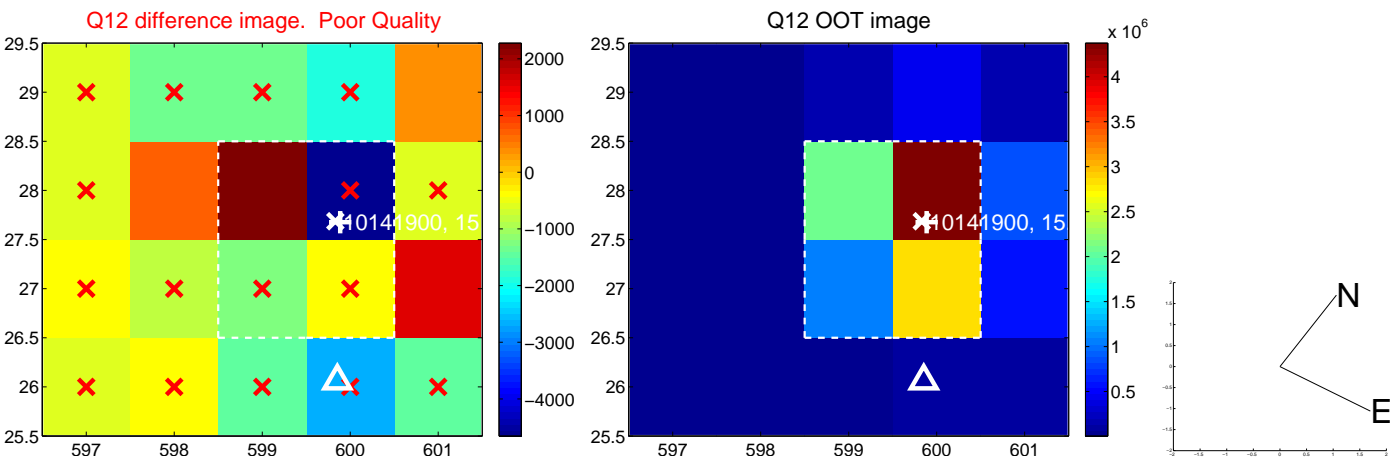
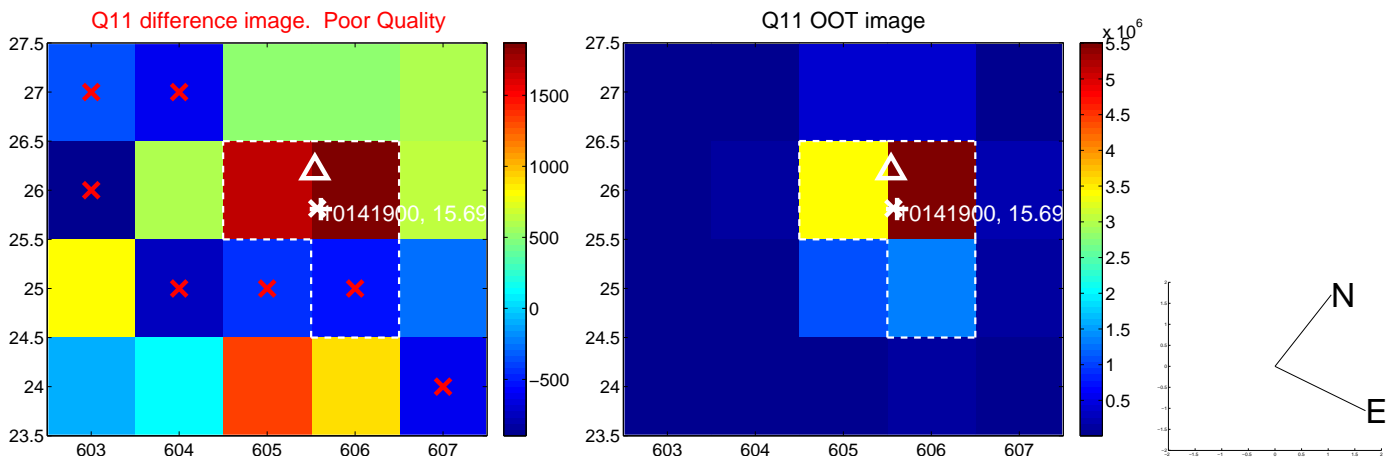
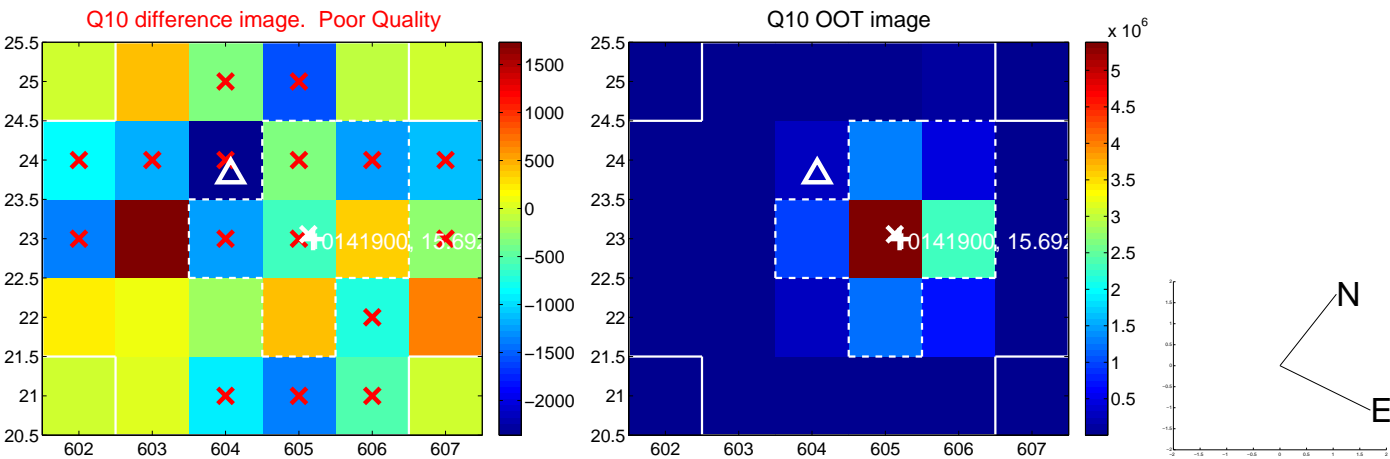
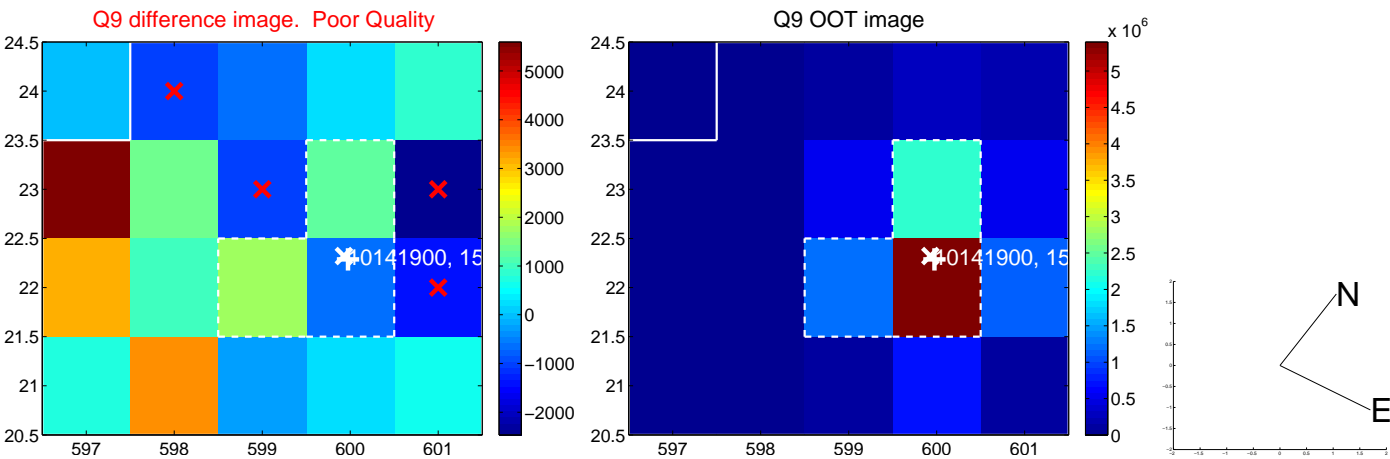
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



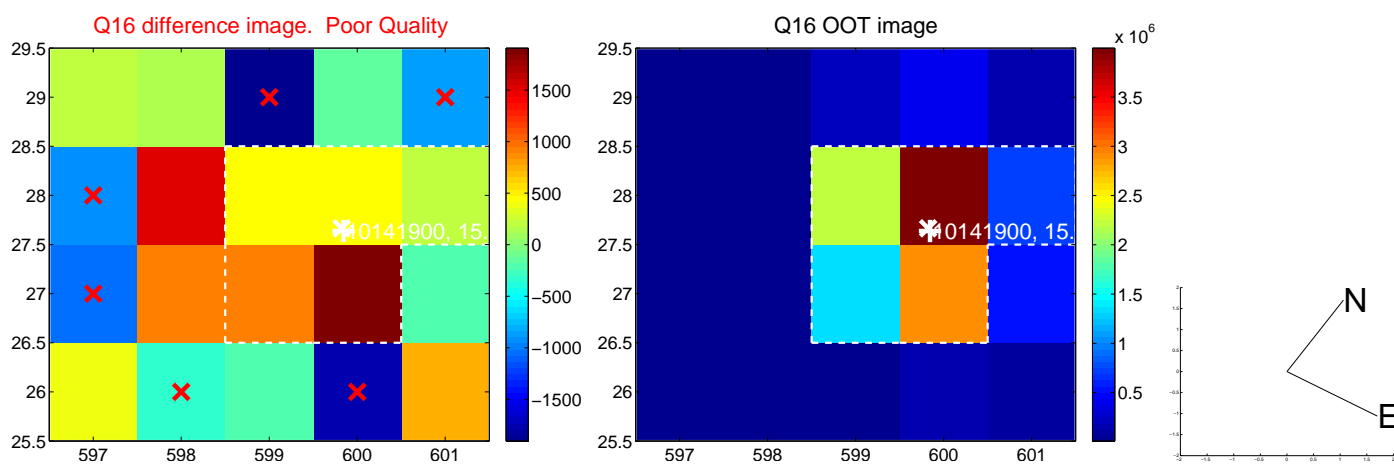
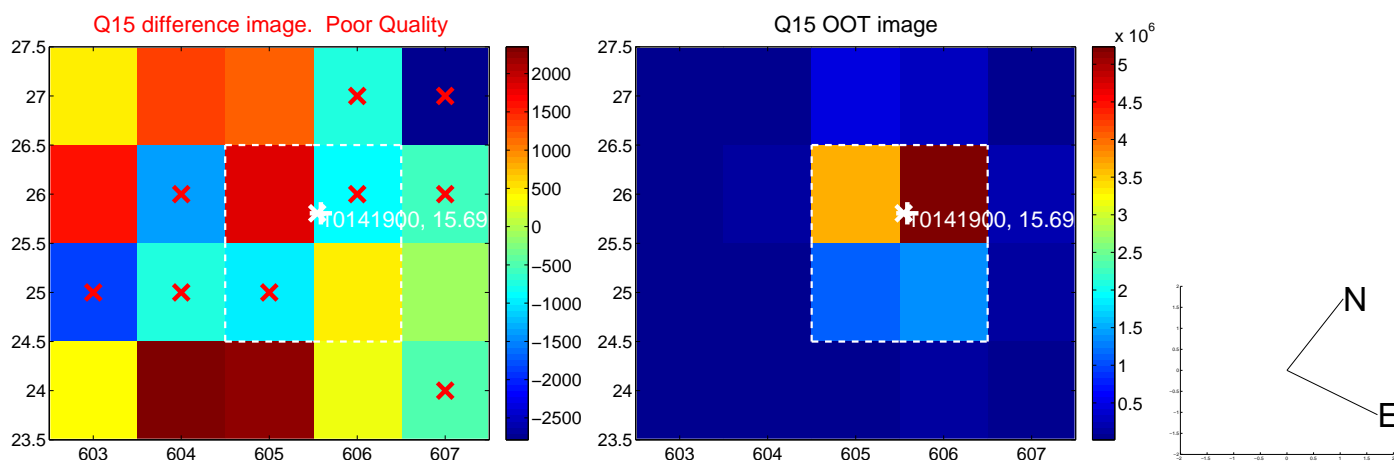
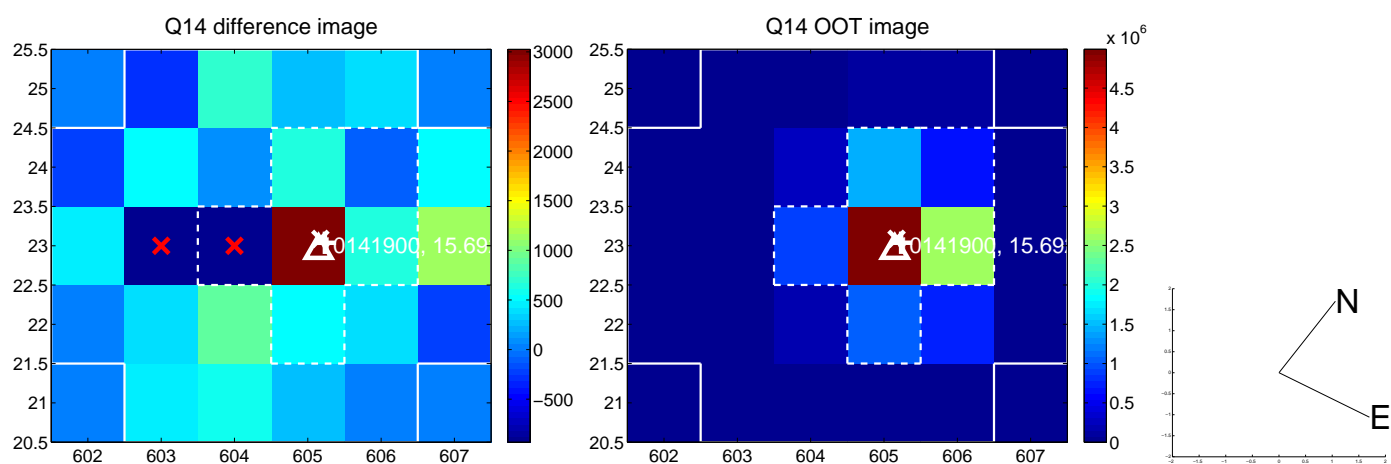
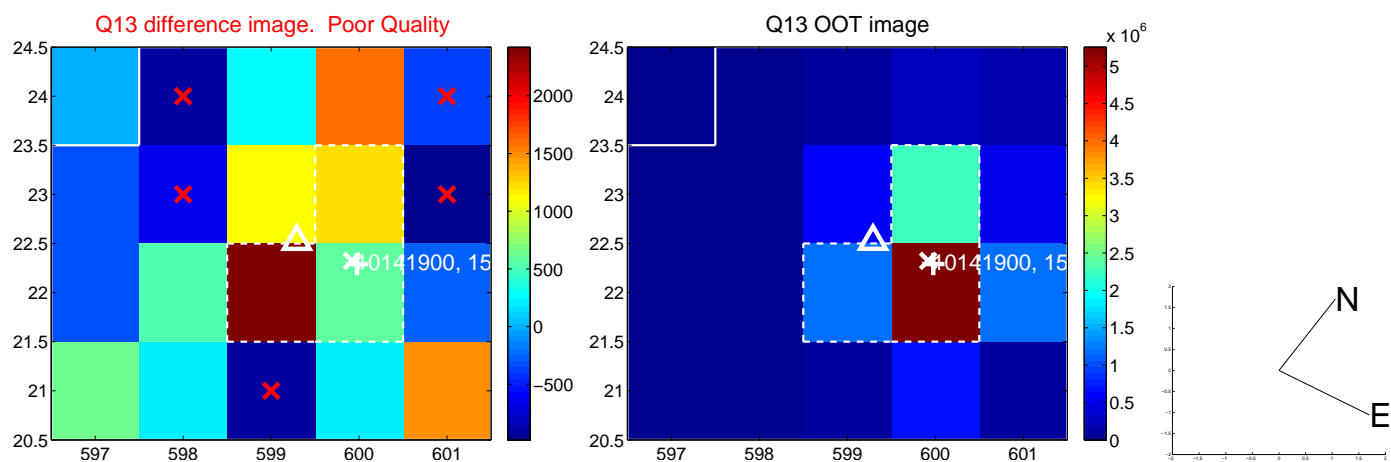
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



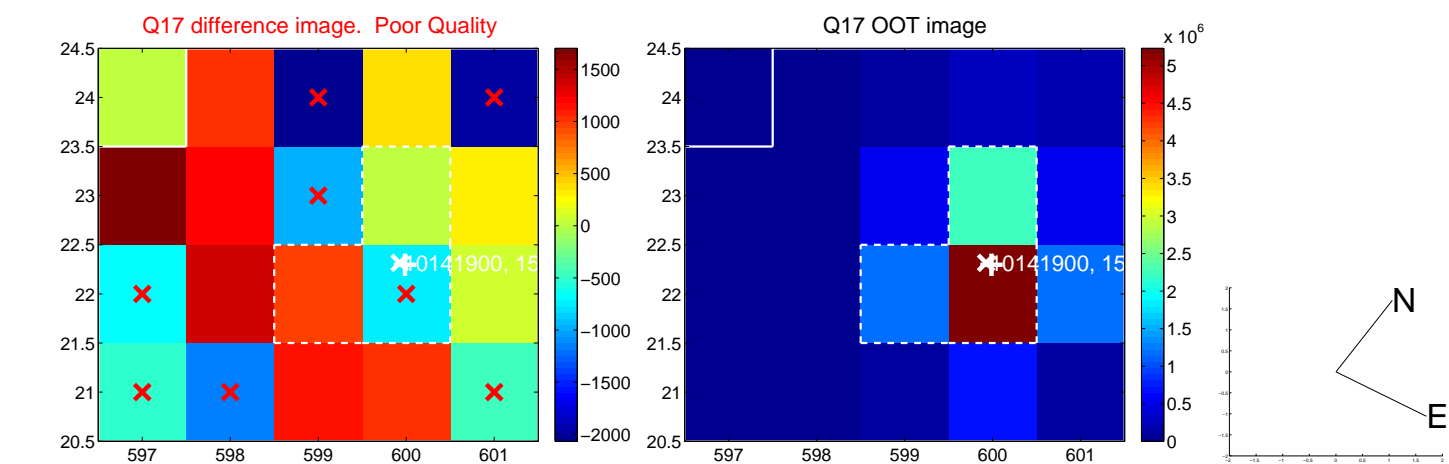
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



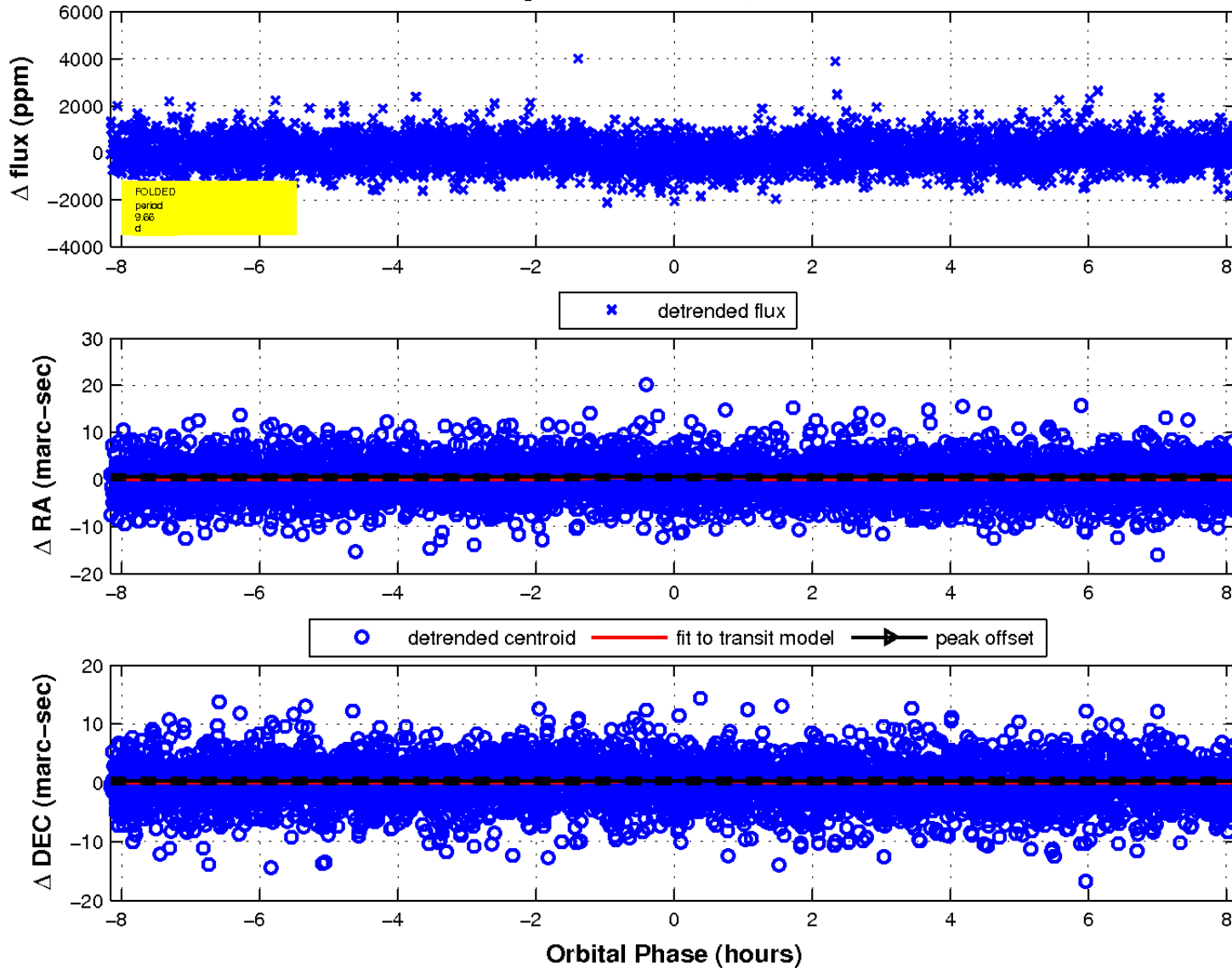
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



fluxWeightedCentroids, Planet 4 of 4



UKIRT Image

Declination

