

KIC 006029130

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})
006029130-01	OBS	6647.01	12.591516	134.746307	302989.9	3.500	12060.7	-1.0	0.76	5293	40.25	40.30
006029130-02	OBS	No	6.295840	134.828042	249044.4	3.500	10148.4	-1.0	0.76	5293	33.47	101.54
006029130-03	OBS	No	4.197196	132.498616	10130.7	15.000	594.0	-1.0	0.76	5293	7.45	174.36
006029130-04	OBS	No	226.066901	191.991464	948.4	8.840	10.5	8.1	0.76	5293	4.63	0.86
006029130-05	OBS	No	164.956980	190.942003	1030.8	6.000	10.3	-1.0	0.76	5293	2.38	1.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006029130-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
006029130-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
006029130-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
006029130-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006029130-05	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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 006029130-01

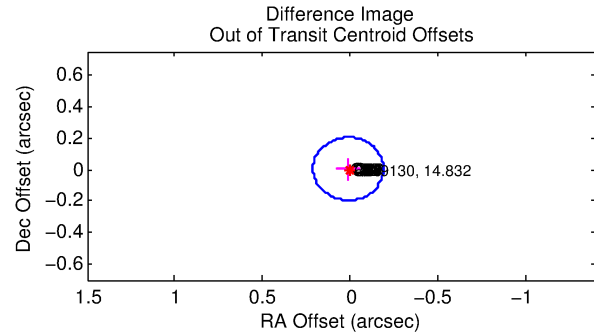
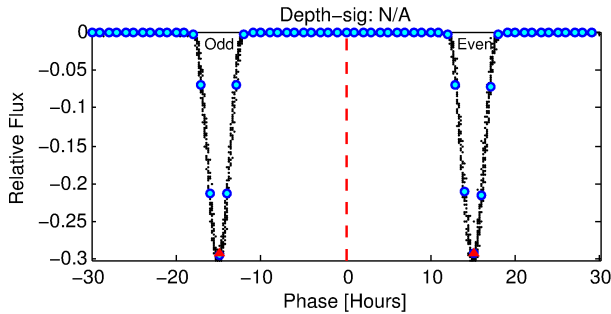
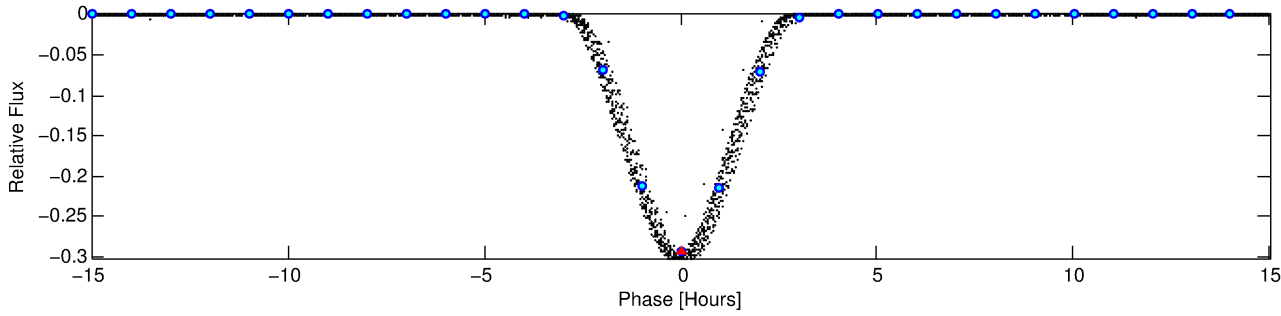
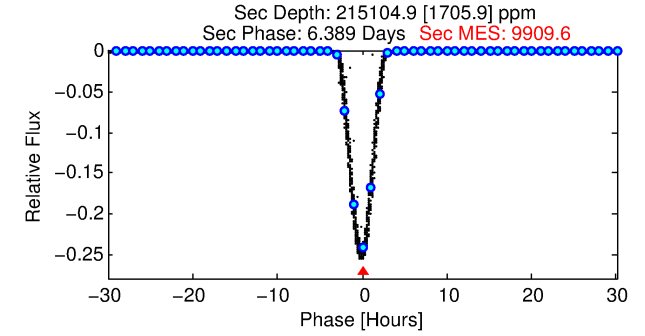
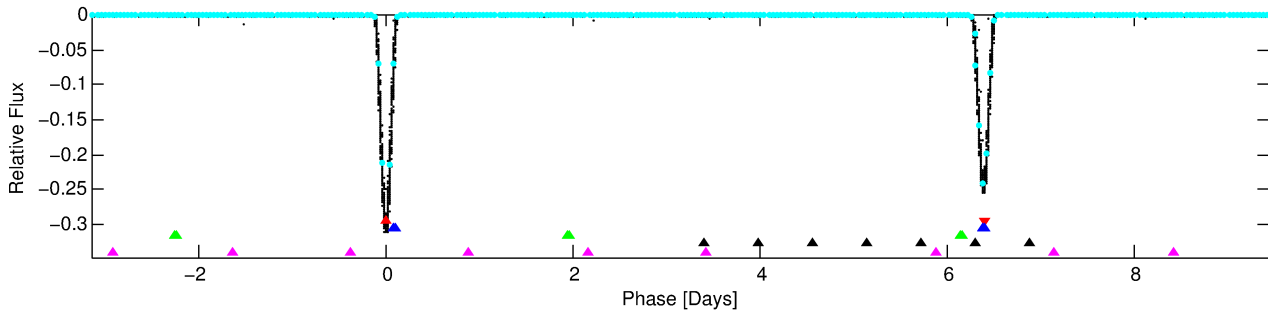
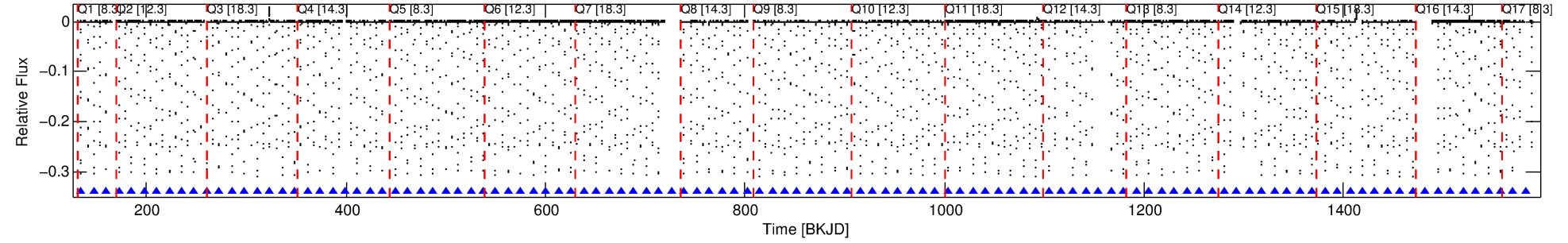
No Significant Match Found

DV One-Page Summary

KIC: 6029130 Candidate: 1 of 5 Period: 12.592 d

KOI: K06647.01 Corr: 0.795

Kp: 14.83 R*: 0.76 Rs Teff: 5293.0 K Logg: 4.60 Fe/H: -0.180



TPS TCE Results:

Period = 12.59152 d
Epoch = 134.7463 BKJD

DV fit results are unavailable

DV Diagnostic Results:

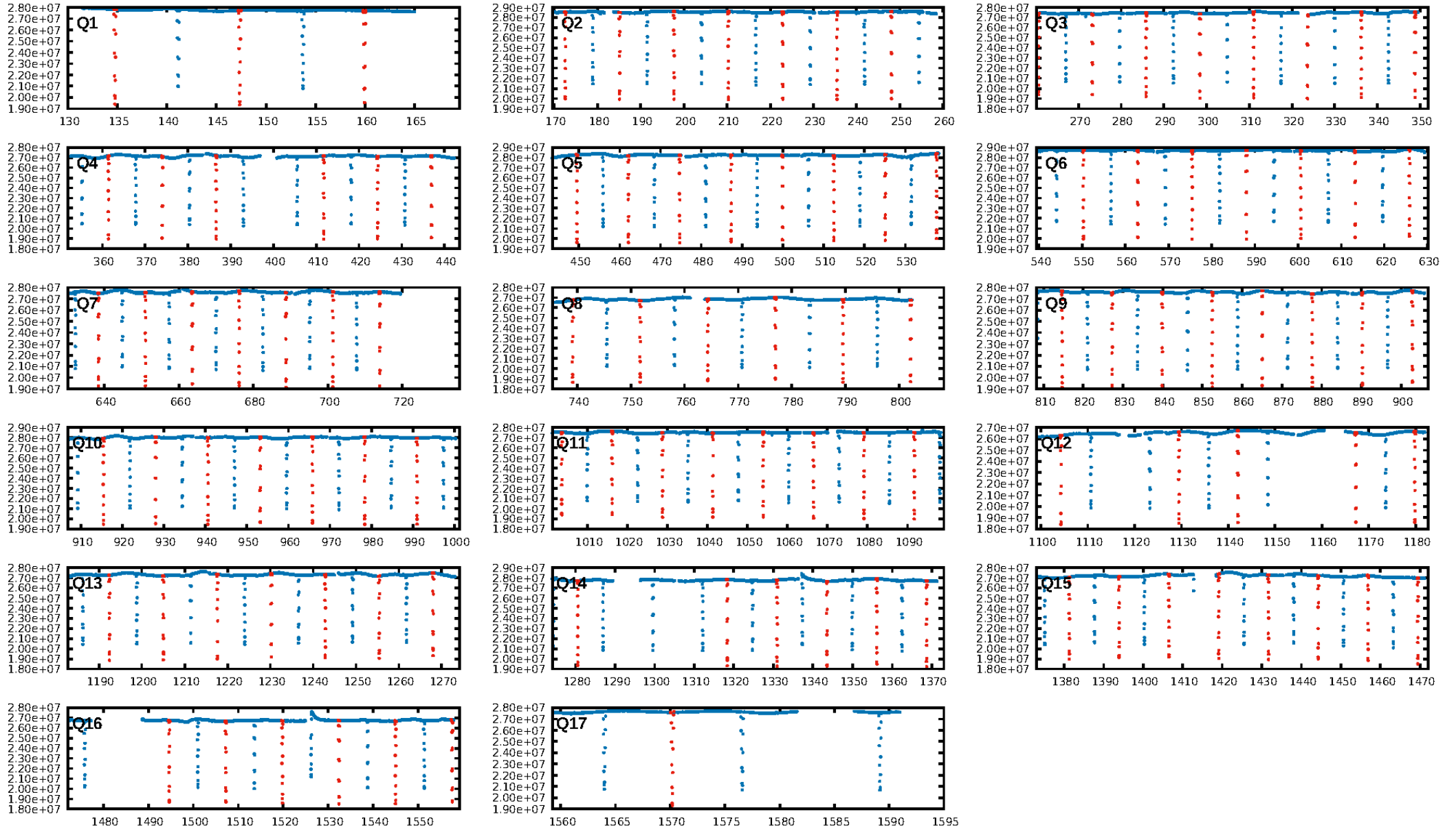
ShortPeriod-sig: 100.0% [30.53σ]
LongPeriod-sig: 100.0% [526.44σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [104/104]
GhostDiagnostic-chr: 3.116

Centroid-sig: 0.0%
Centroid-so: 0.060 arcsec [93.64σ]
OotOffset-rm: 0.014 arcsec [0.21σ]
KicOffset-rm: 0.103 arcsec [1.47σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

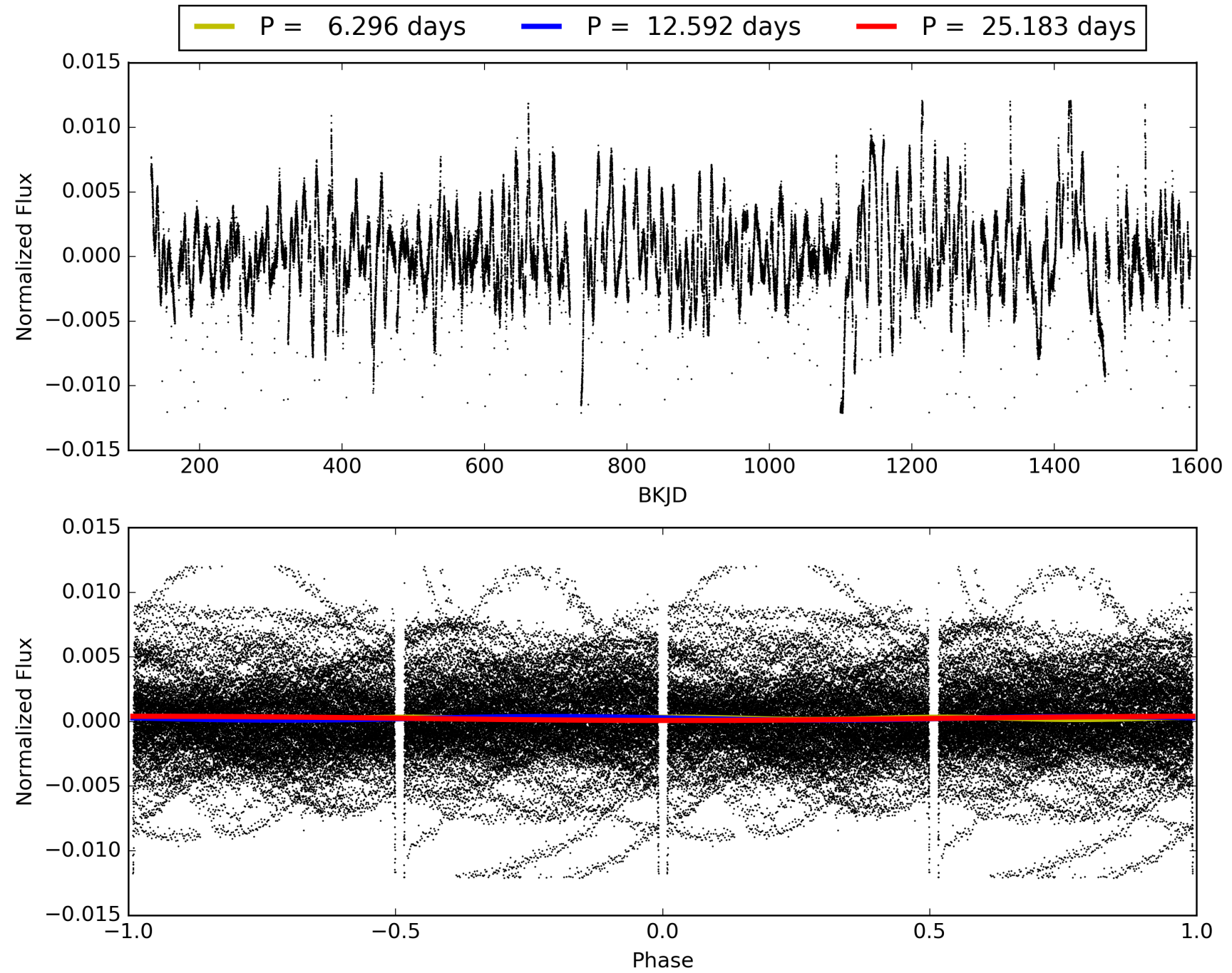
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:46:07 Z

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

TCE 006029130-01, PDC Light Curves

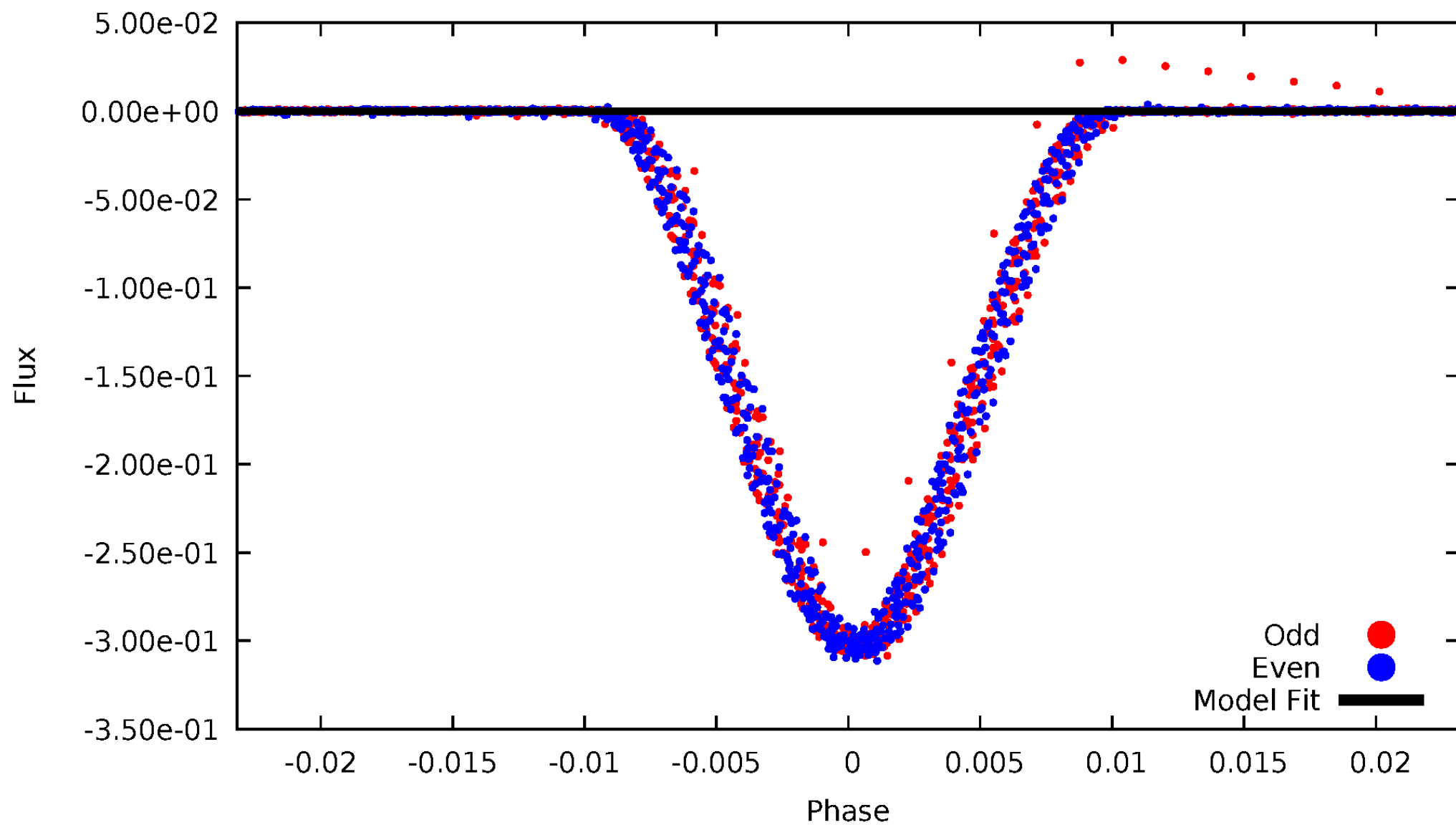


TCE 006029130-01



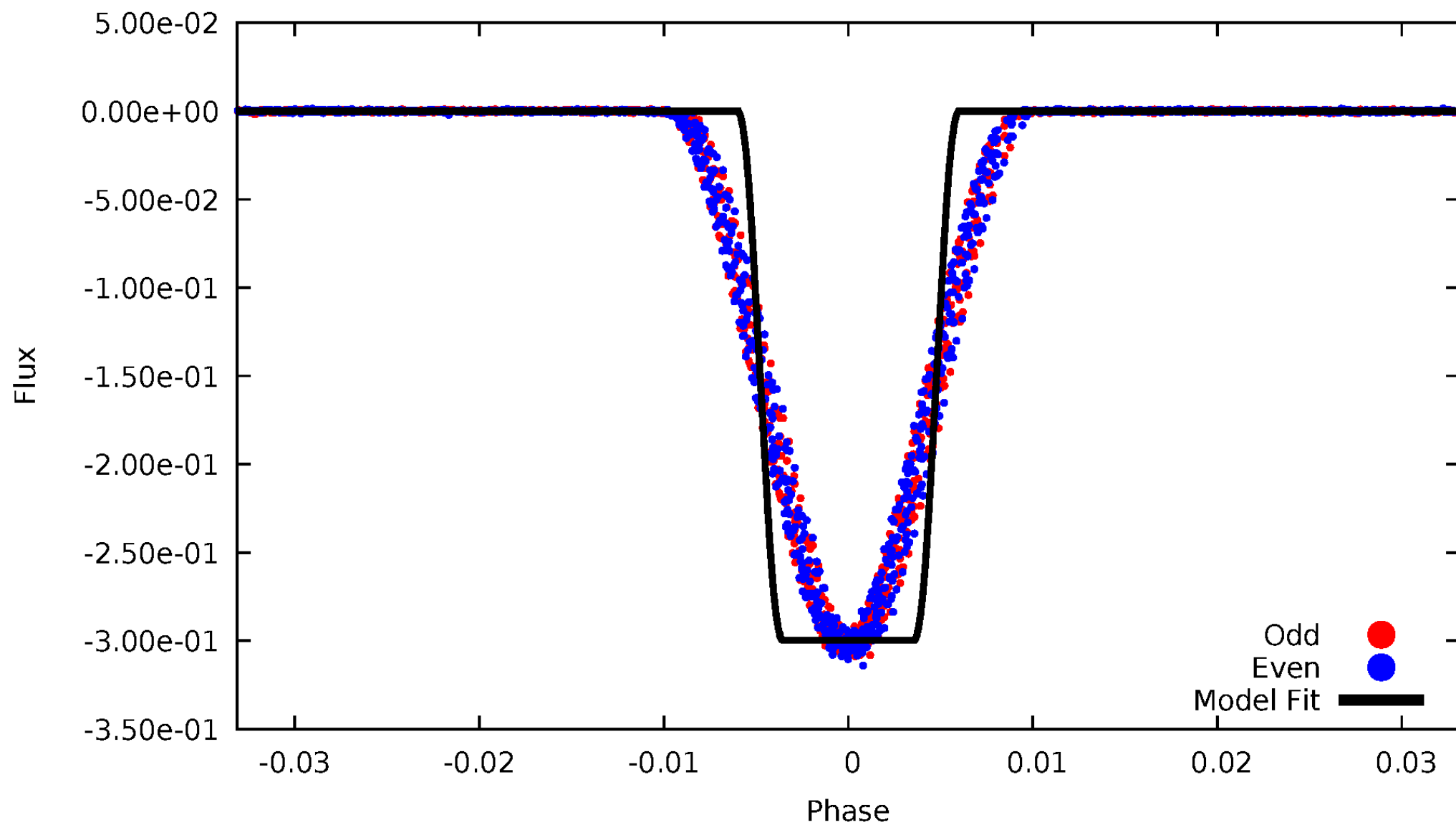
DV Odd/Even

TCE 006029130-01



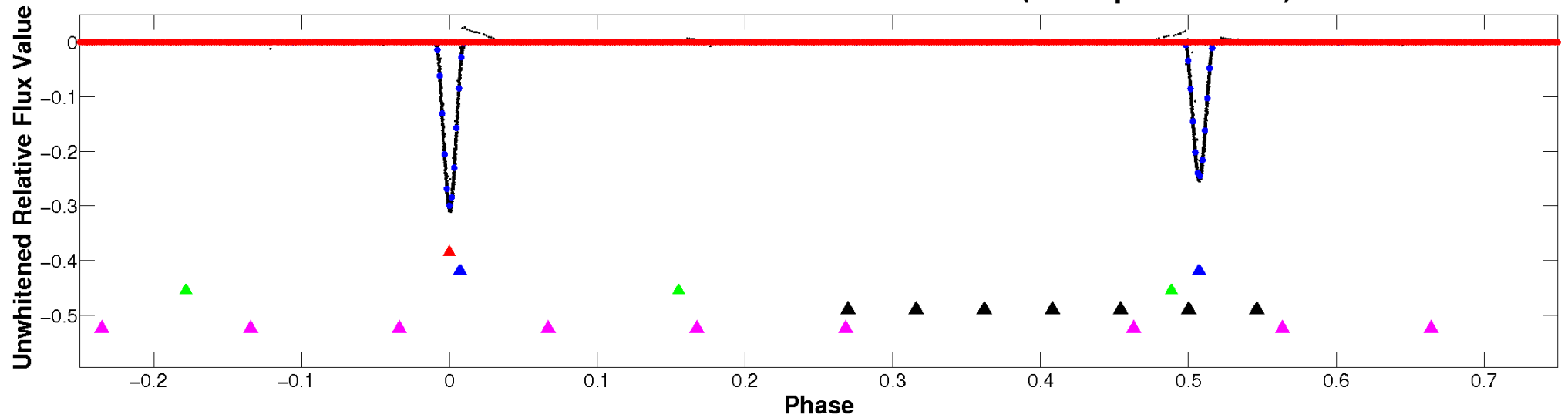
ALT Odd/Even

TCE 006029130-01



Non-Whitened Vs. Whitened Light Curve

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

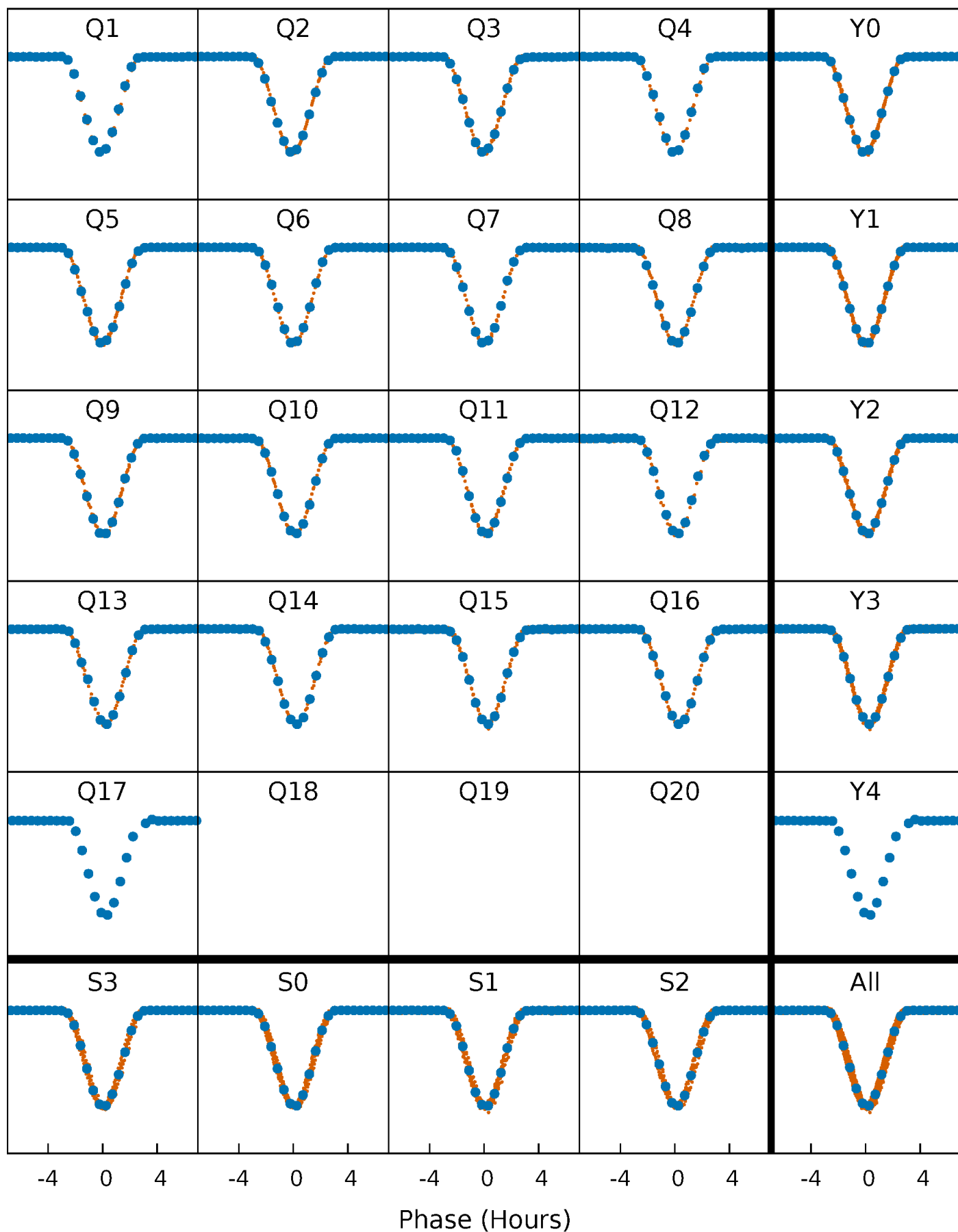


Planet 1 : Phased Whitened Flux Time Series (TPS Epoch/Period)



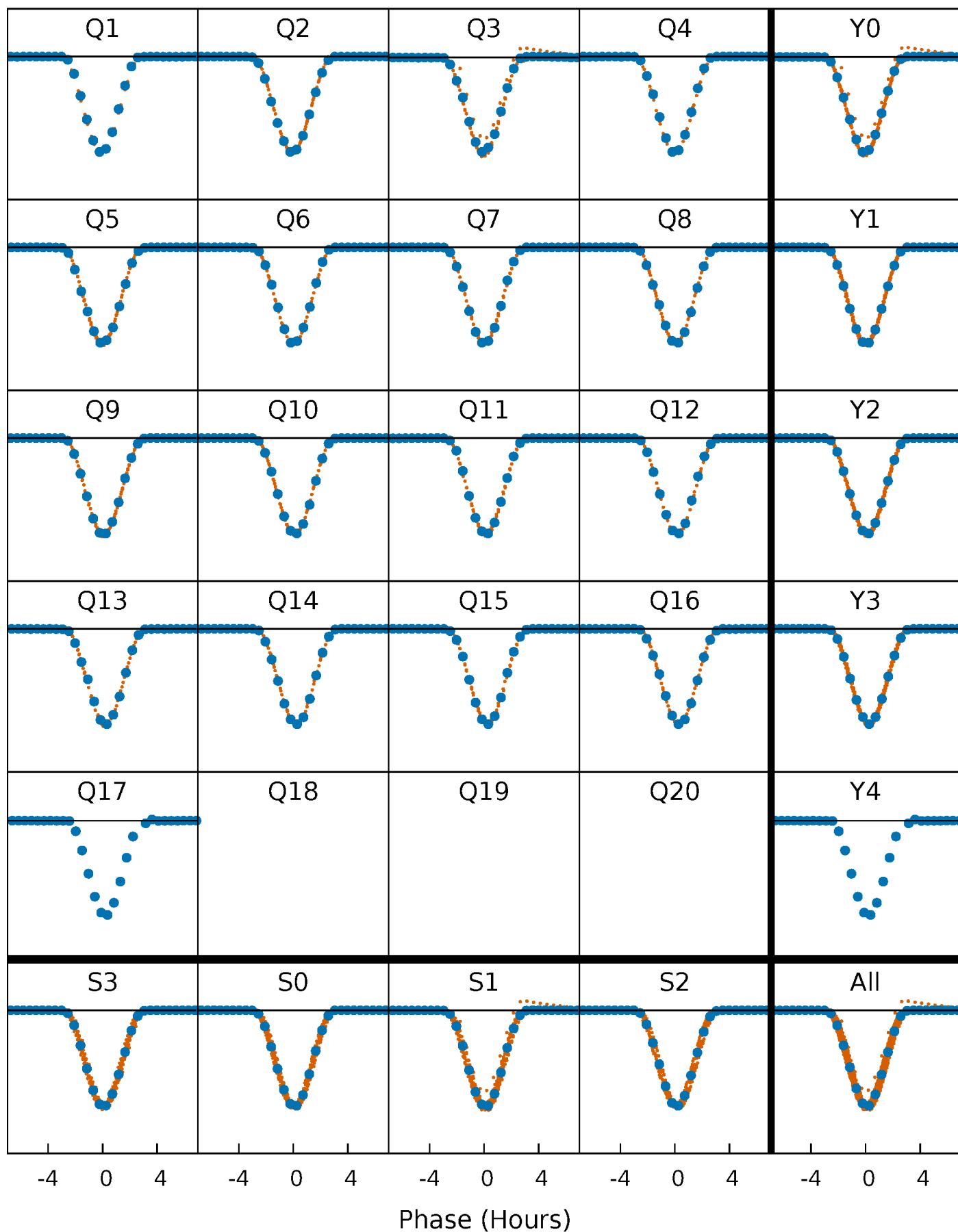
PDC Quarter-Phased Transit Curves

TCE 006029130-01 P= 12.591516 Days $T_0=134.746308$ (BKJD)



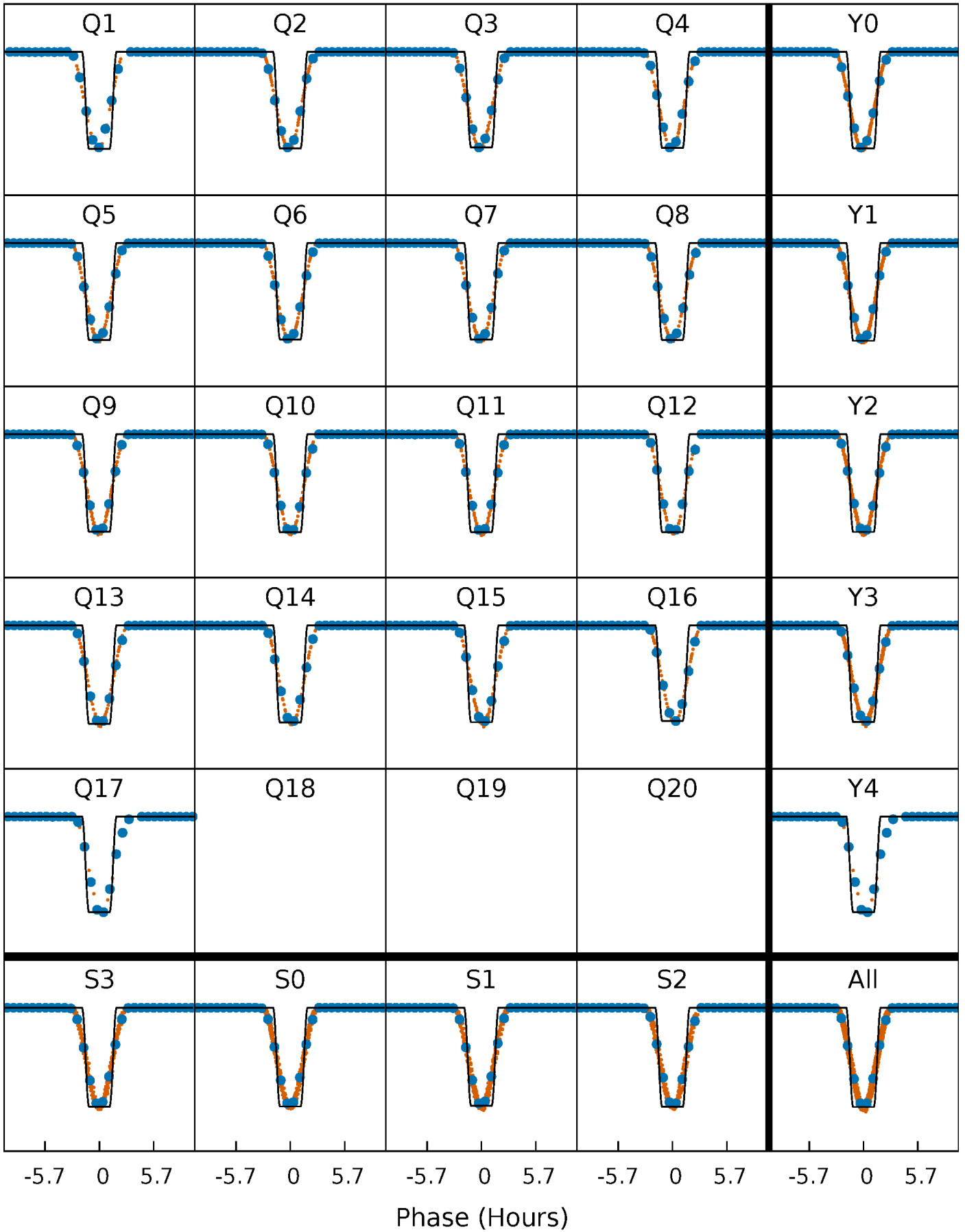
DV Quarter-Phased Transit Curves

TCE 006029130-01 P= 12.591516 Days $T_0=134.746308$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

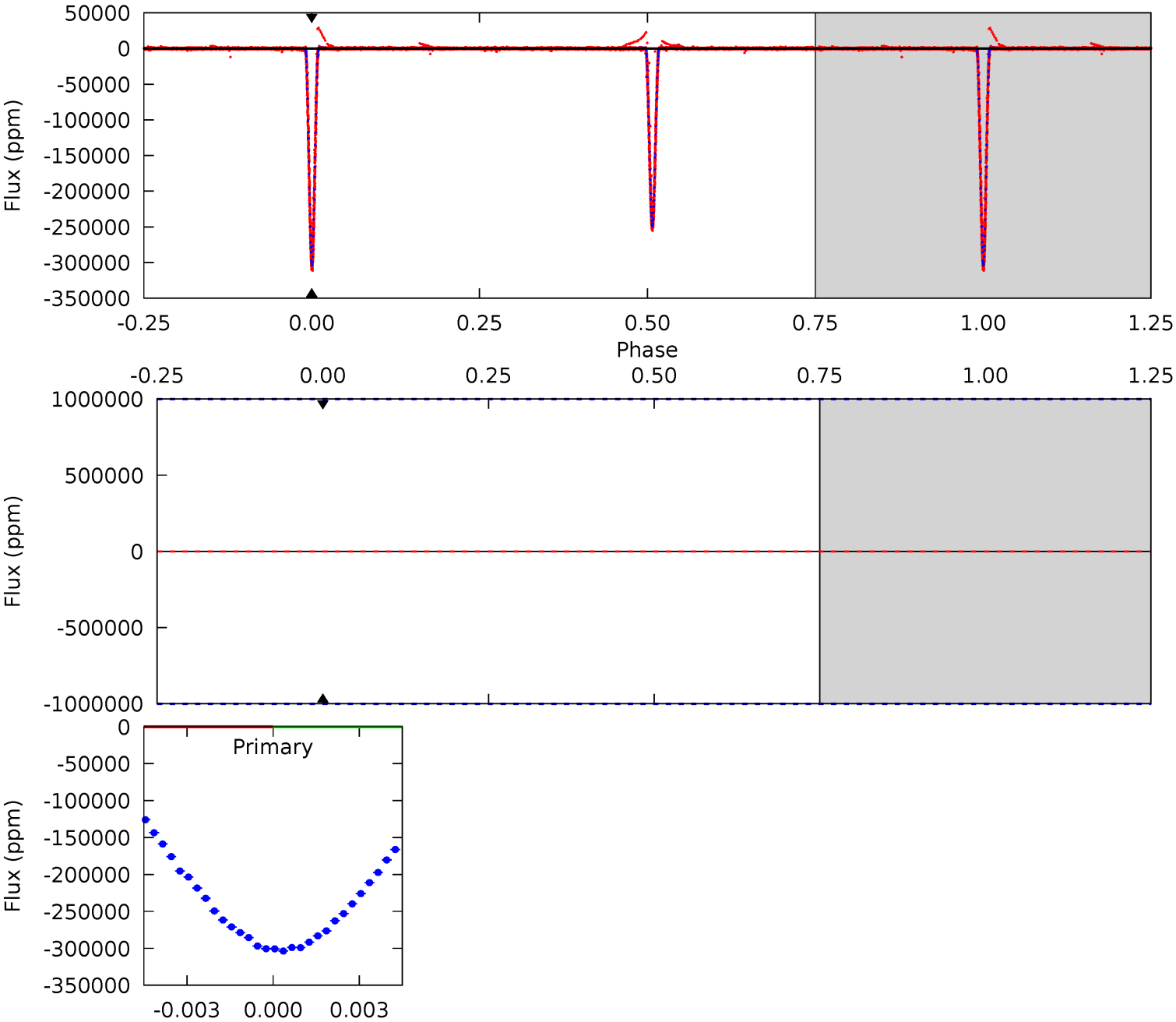
TCE 006029130-01 P= 12.591516 Days $T_0=134.749931$ (BKJD)



DV Model-Shift Uniqueness Test

006029130-01, P = 12.591516 Days, E = 122.154792 Days

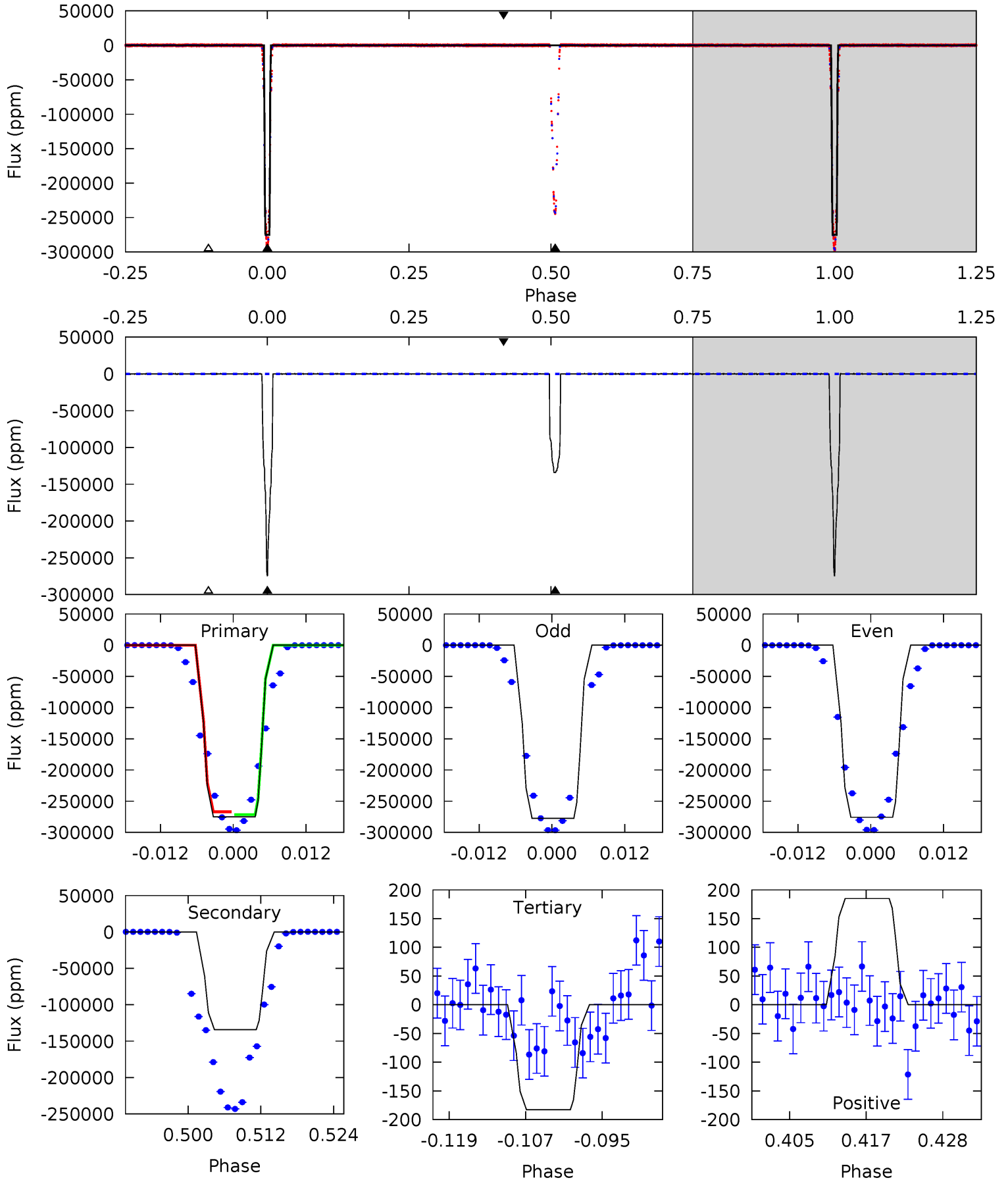
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006029130-01, P = 12.591516 Days, E = 122.158415 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5725	2792	3.80	3.85	4.99	2.52	1.21	5721	5721	2788	2788	17.2	1.00	0.00	0



Stellar Parameters For KIC 006029130

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5293^{+159}_{-143}	$4.604^{+0.032}_{-0.097}$	$-0.180^{+0.300}_{-0.300}$	$0.756^{+0.122}_{-0.057}$	$0.846^{+0.070}_{-0.104}$	$2.765^{+0.481}_{-0.915}$
	+3%/-3%	+1%/-2%	+167%/-167%	+16%/-8%	+8%/-12%	+17%/-33%
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 006029130-01 / KOI 6647.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$40.83^{+9.70}_{-8.52}$	910^{+38}_{-33}	-2343^{+6978}_{-2046}	$-3.364^{+404.021}_{-305.705}$
Alt.	-134122 ± 48	$46.39^{+9.27}_{-8.43}$	908^{+38}_{-31}	4606^{+376}_{-306}	389^{+183}_{-115}

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

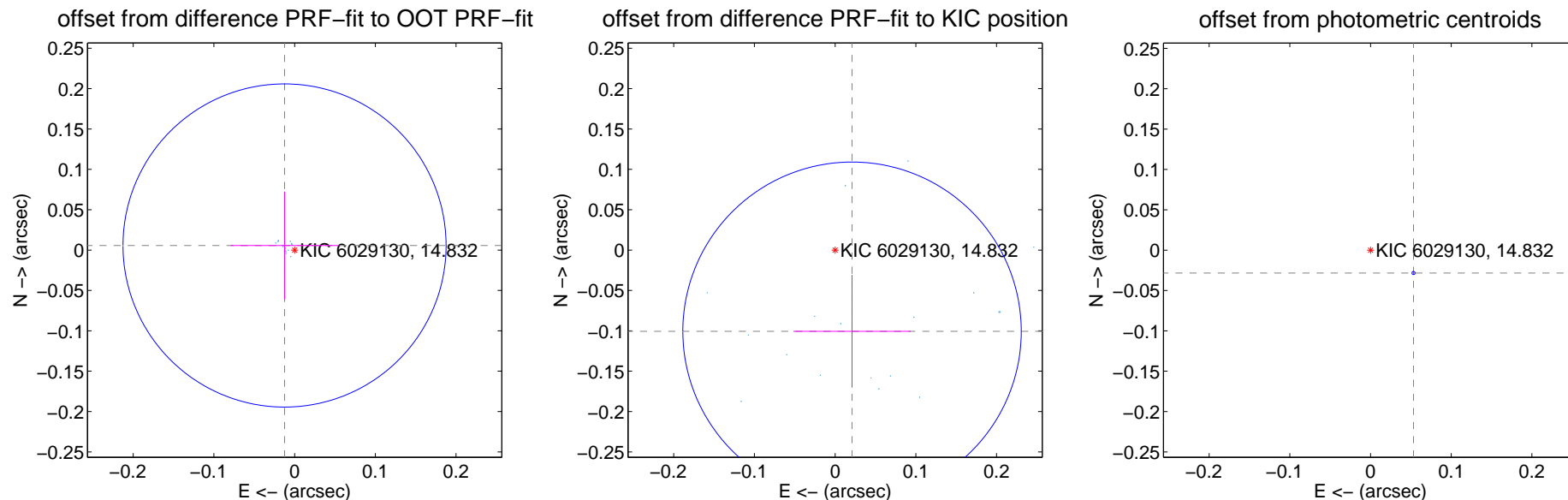
DV Centroid Data

Supplemental centroid analysis for 006029130-01. Kepler magnitude: 14.83. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

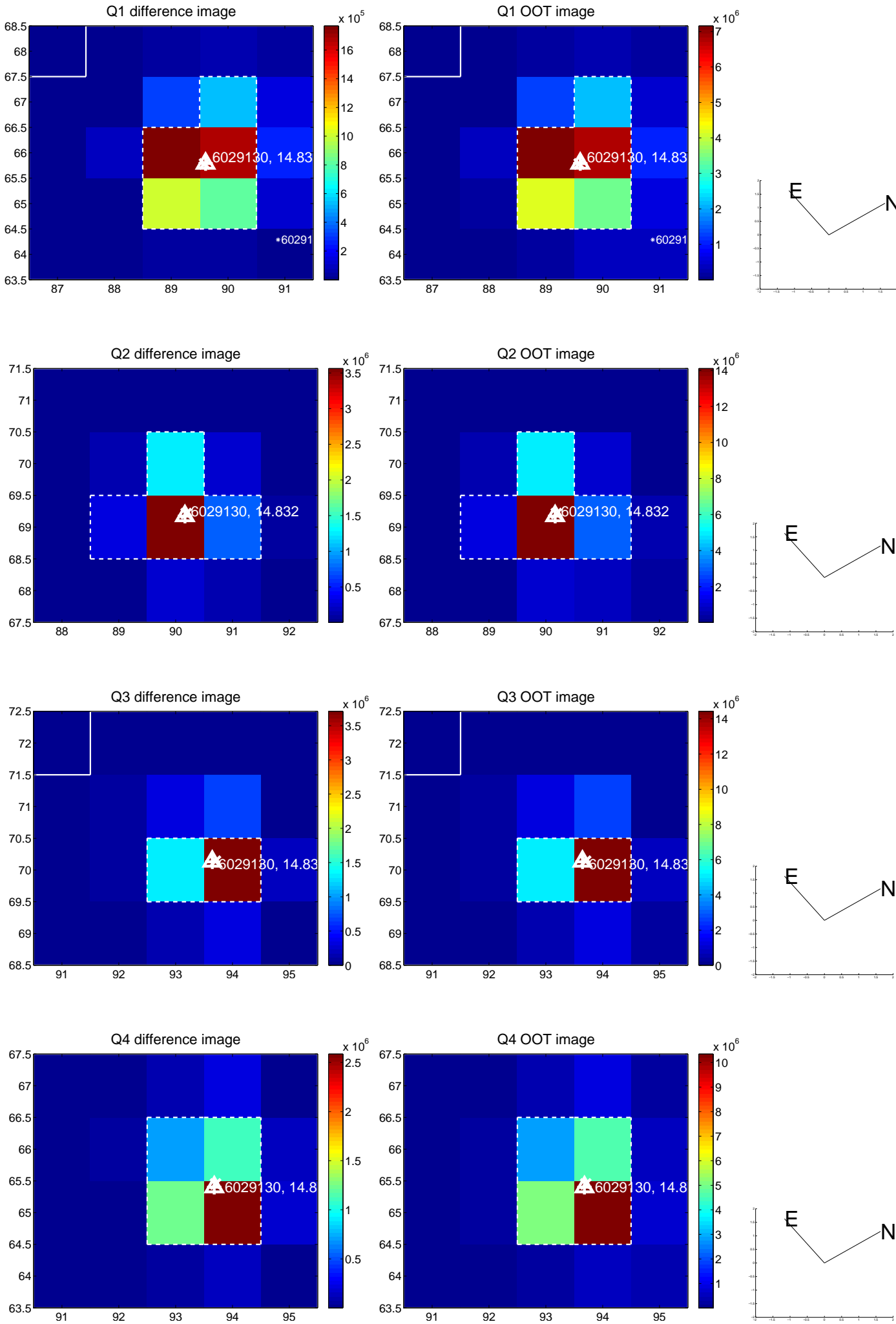
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.014 ± 0.067	0.21	0.012 ± 0.067	0.006 ± 0.067
PRF-fit source offset from KIC position	0.103 ± 0.070	1.47	-0.021 ± 0.073	-0.101 ± 0.070
photometric centroid source offset	0.06 ± 0.00	93.64	-0.05 ± 0.00	-0.03 ± 0.00

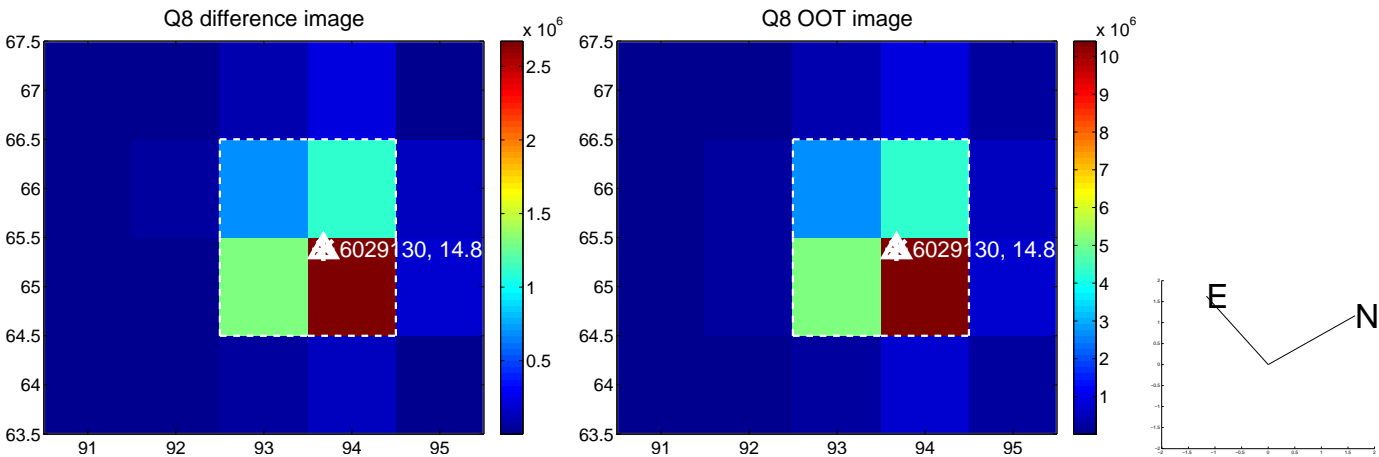
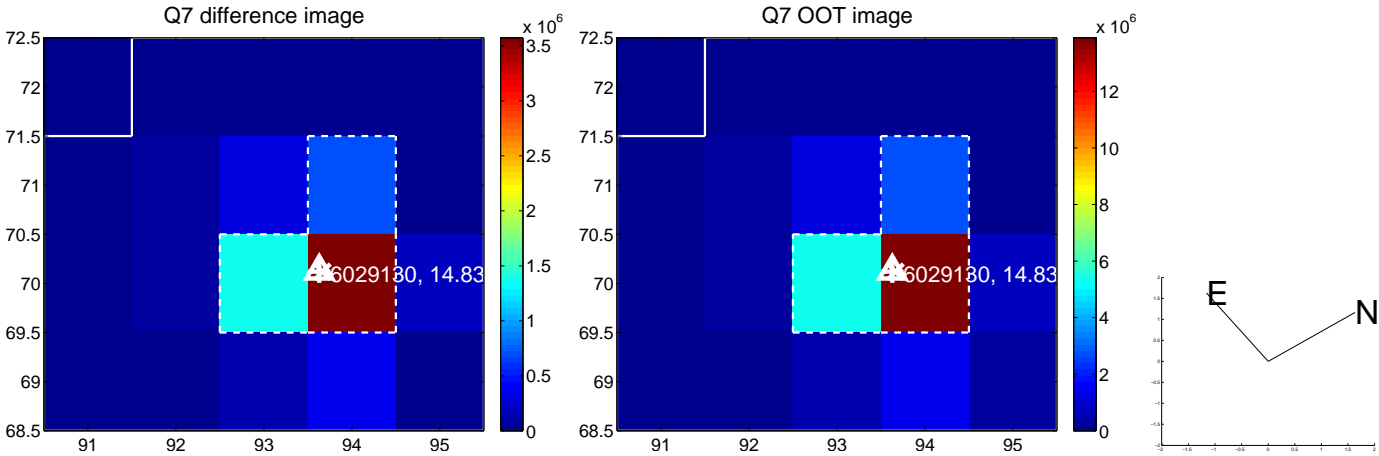
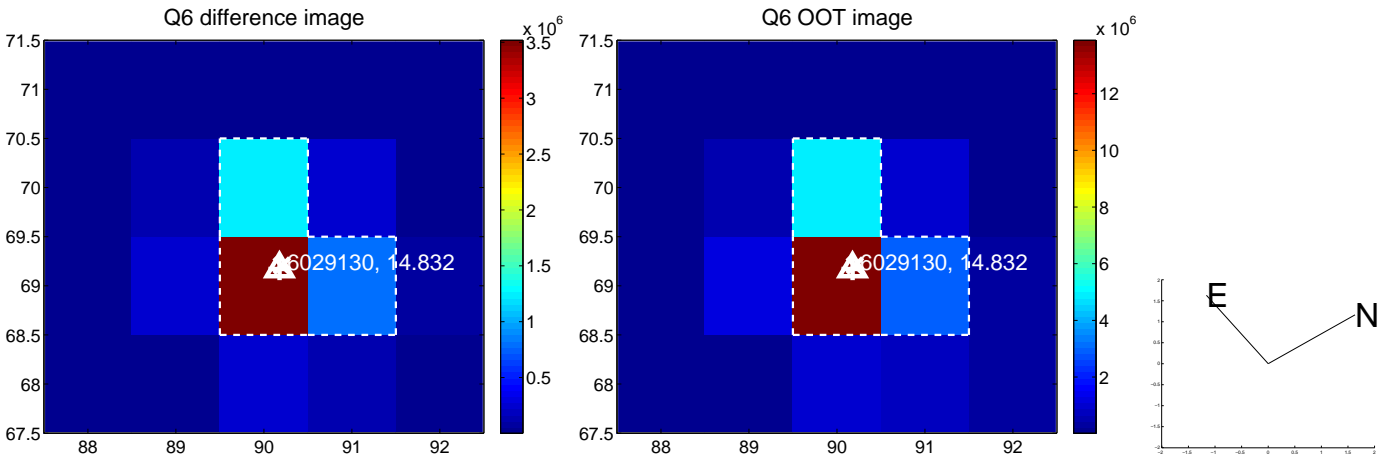
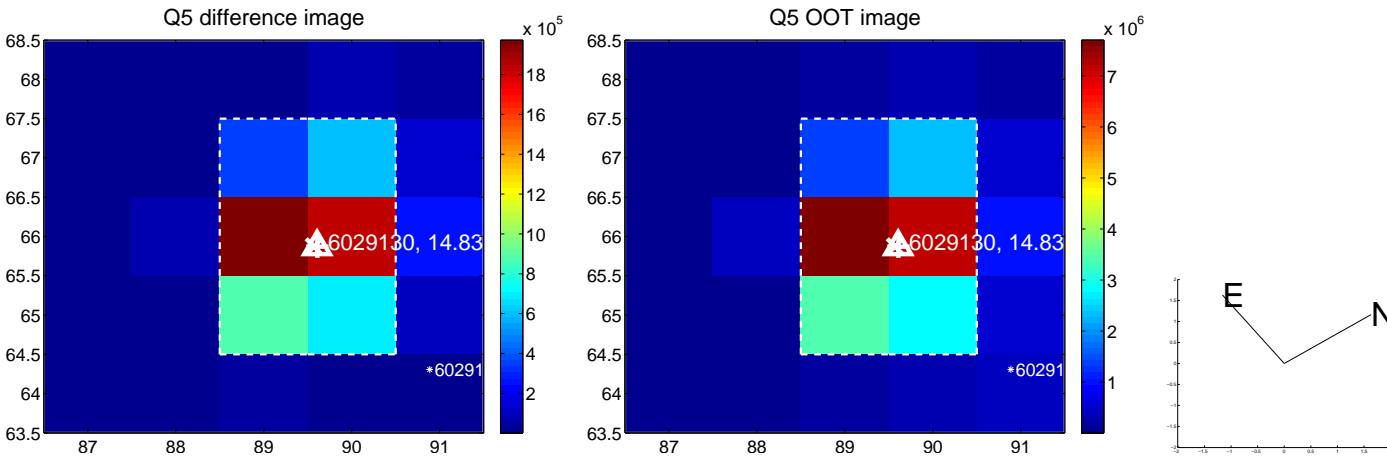


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

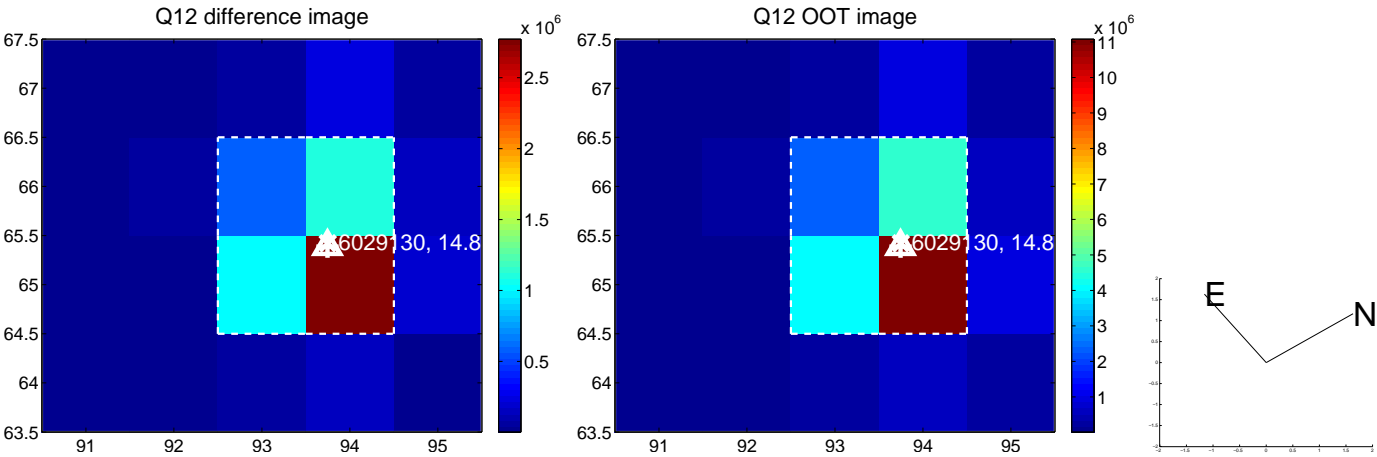
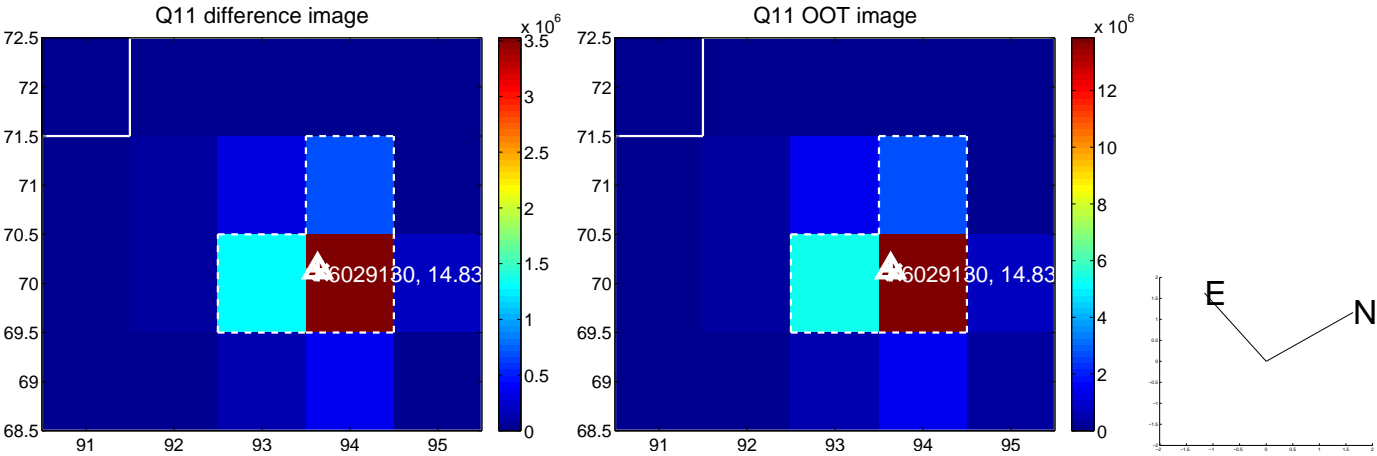
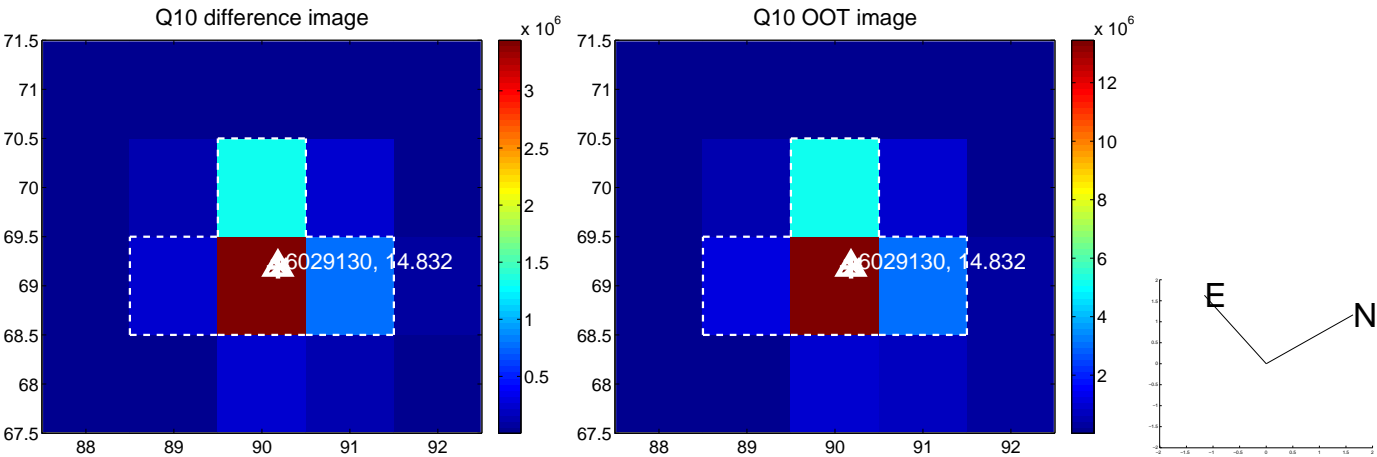
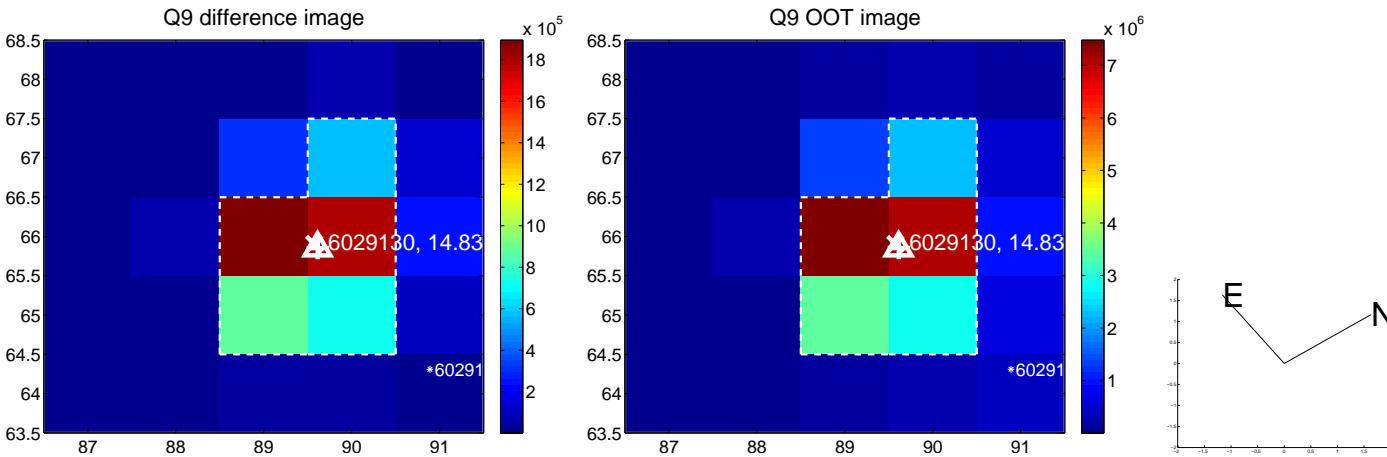
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



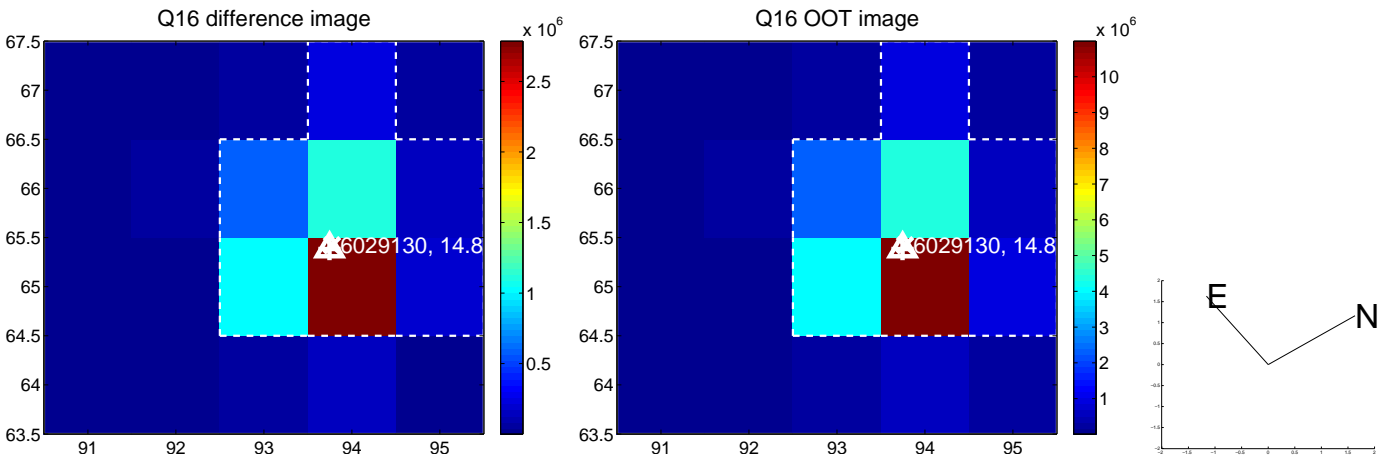
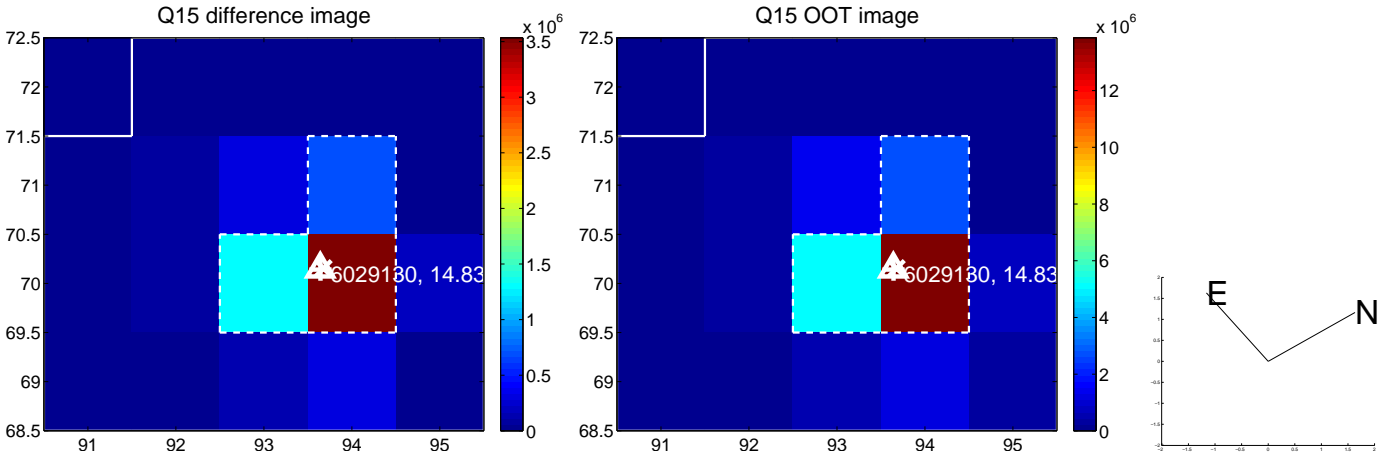
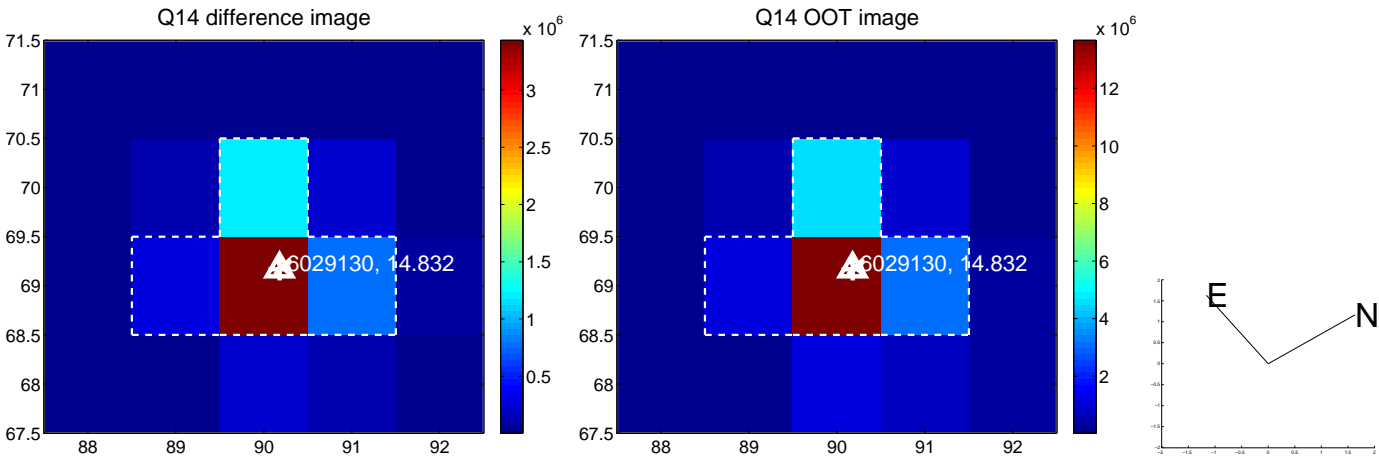
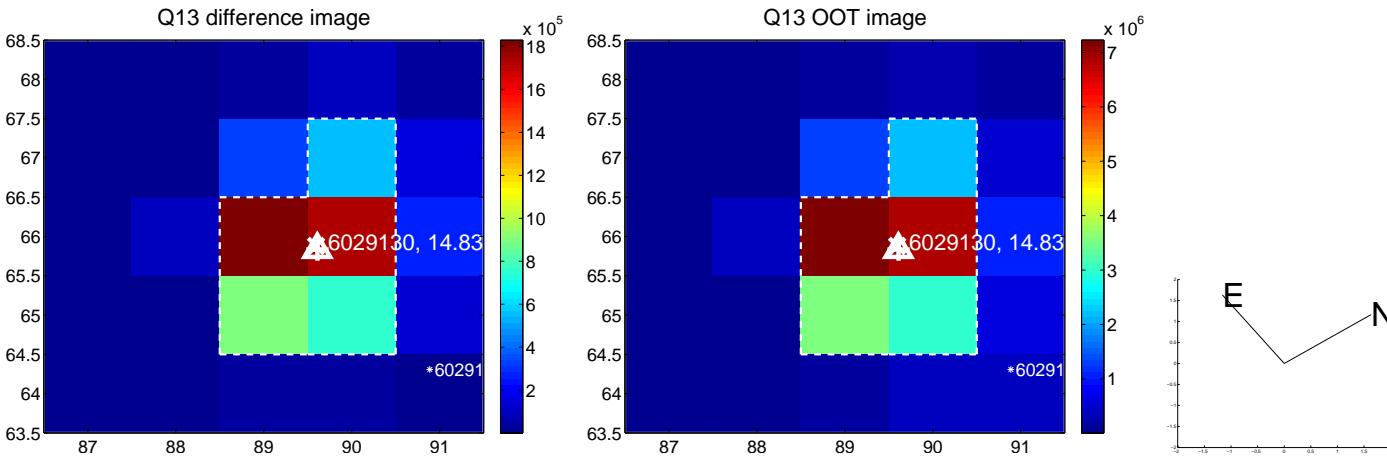
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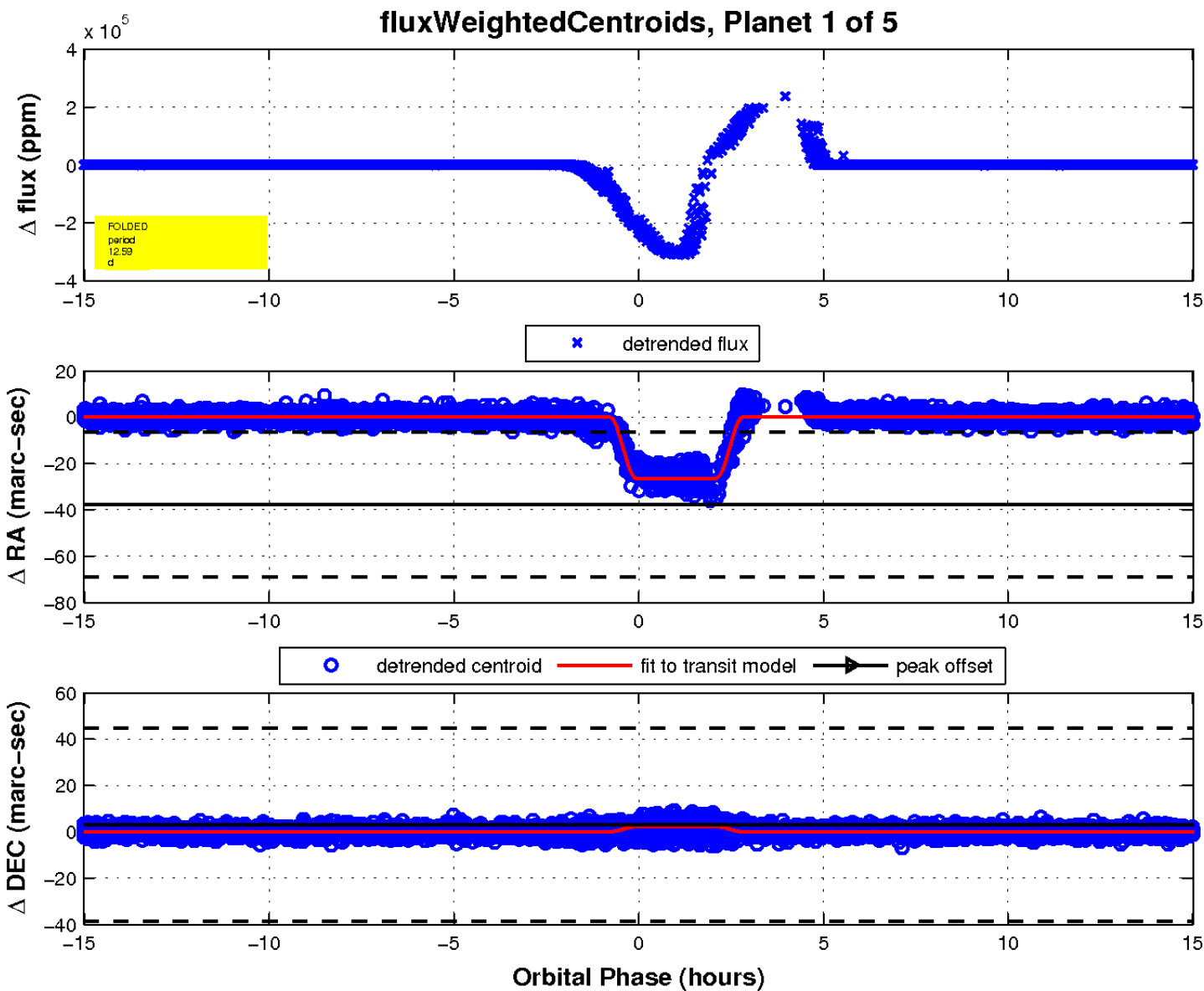
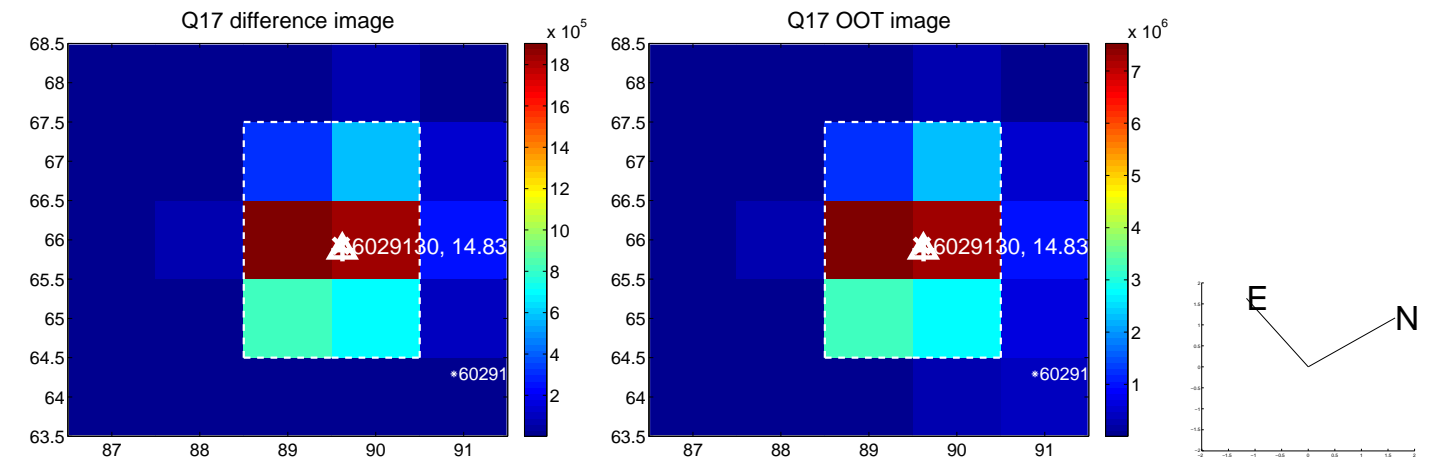
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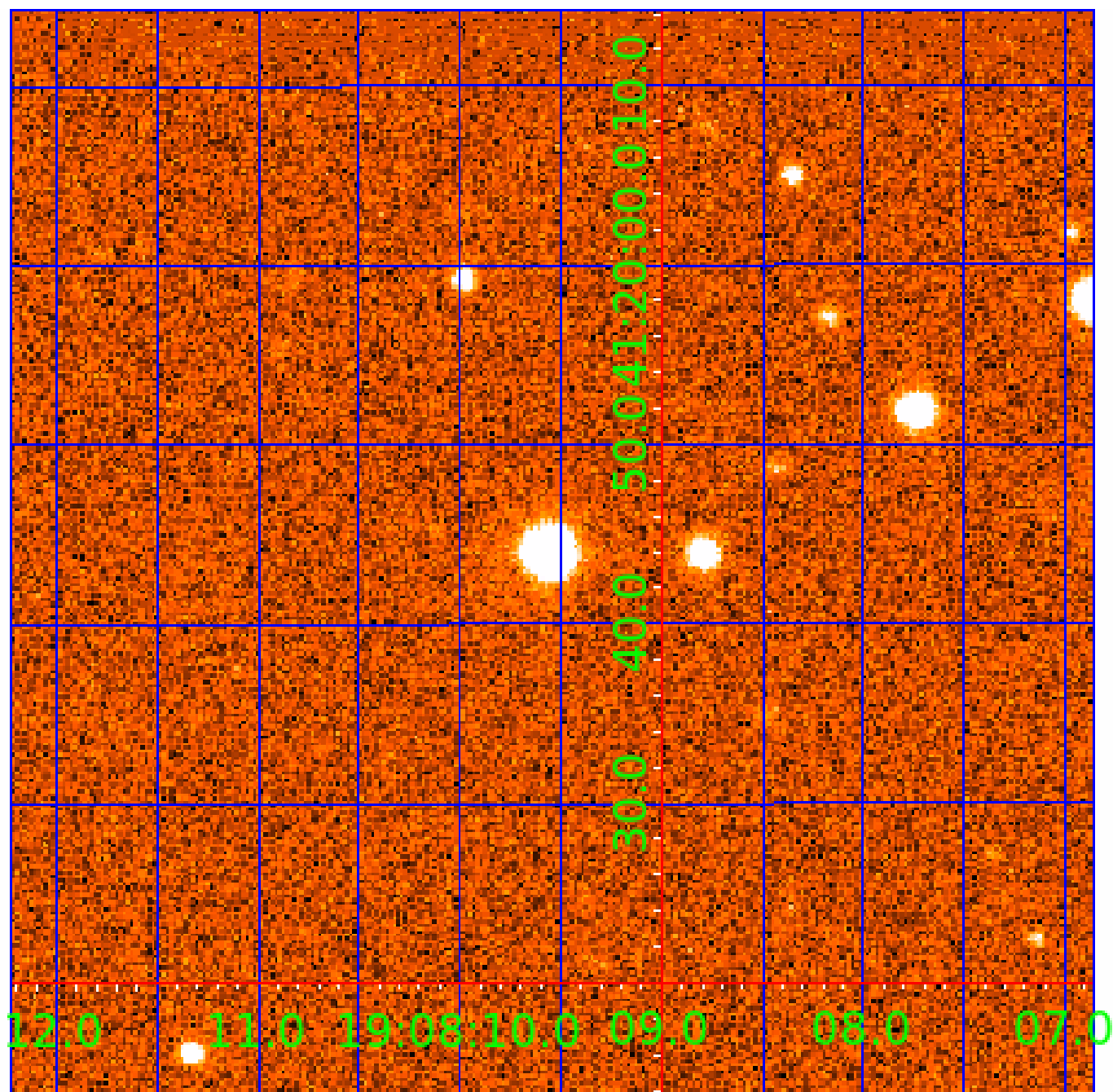


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006029130

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})
006029130-01	OBS	6647.01	12.591516	134.746307	302989.9	3.500	12060.7	-1.0	0.76	5293	40.25	40.30
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006029130-03	OBS	No	4.197196	132.498616	10130.7	15.000	594.0	-1.0	0.76	5293	7.45	174.36
006029130-04	OBS	No	226.066901	191.991464	948.4	8.840	10.5	8.1	0.76	5293	4.63	0.86
006029130-05	OBS	No	164.956980	190.942003	1030.8	6.000	10.3	-1.0	0.76	5293	2.38	1.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006029130-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
006029130-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
006029130-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
006029130-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
006029130-05	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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.

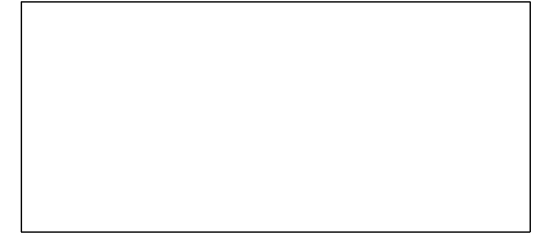
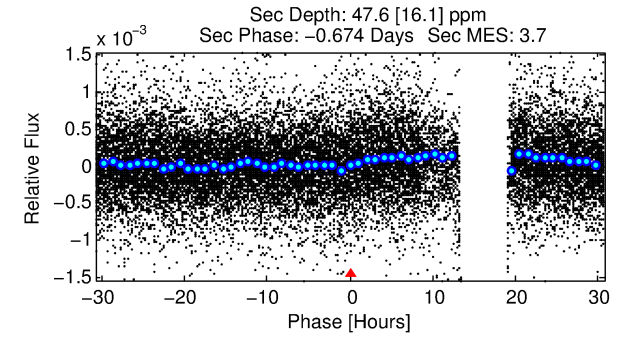
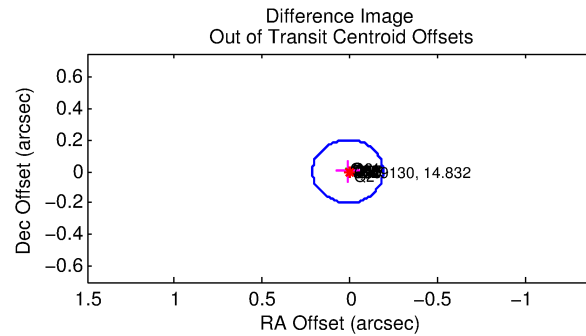
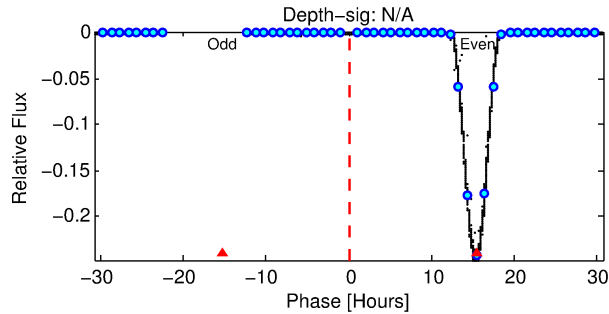
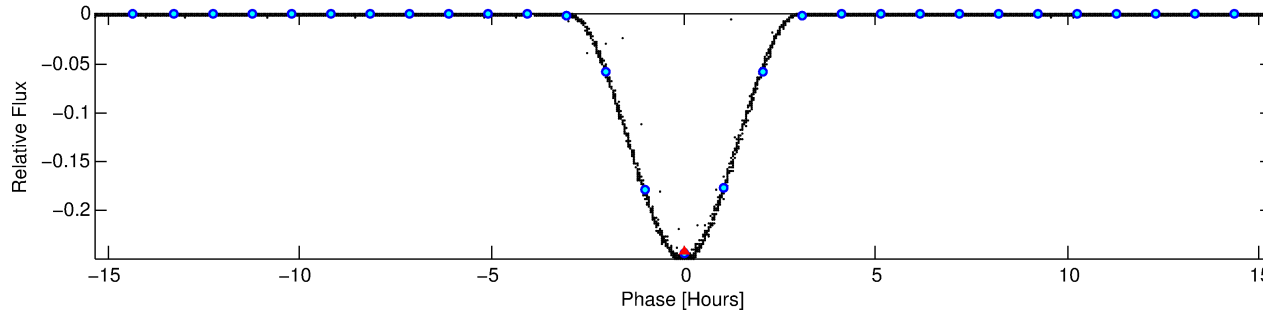
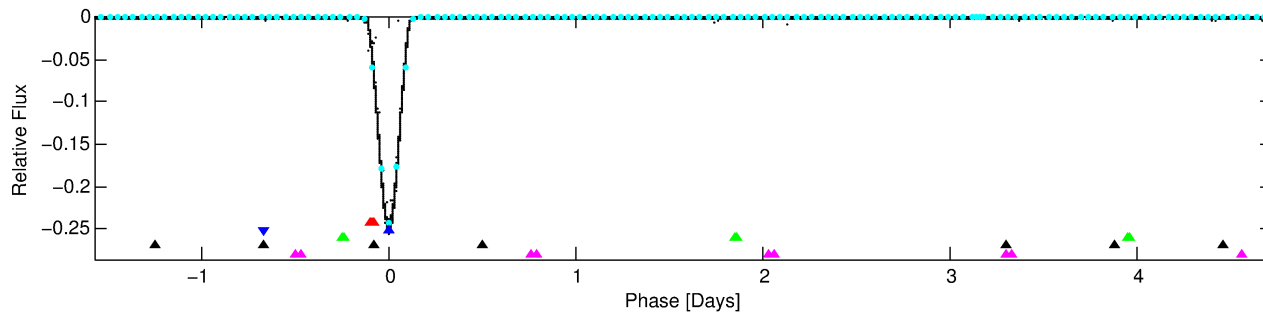
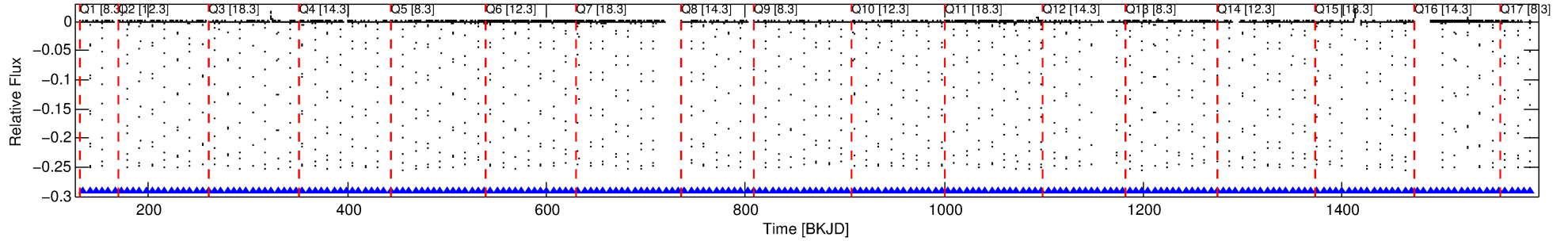
Ephemeris Match Information For 006029130-02

No Significant Match Found

DV One-Page Summary

KIC: 6029130 Candidate: 2 of 5 Period: 6.296 d
KOI: K06647 Corr: No Ephemeris Match

Kp: 14.83 R*: 0.76 Rs Teff: 5293.0 K Logg: 4.60 Fe/H: -0.180



TPS TCE Results:

Period = 6.29584 d
Epoch = 134.8280 BKJD

DV fit results are unavailable

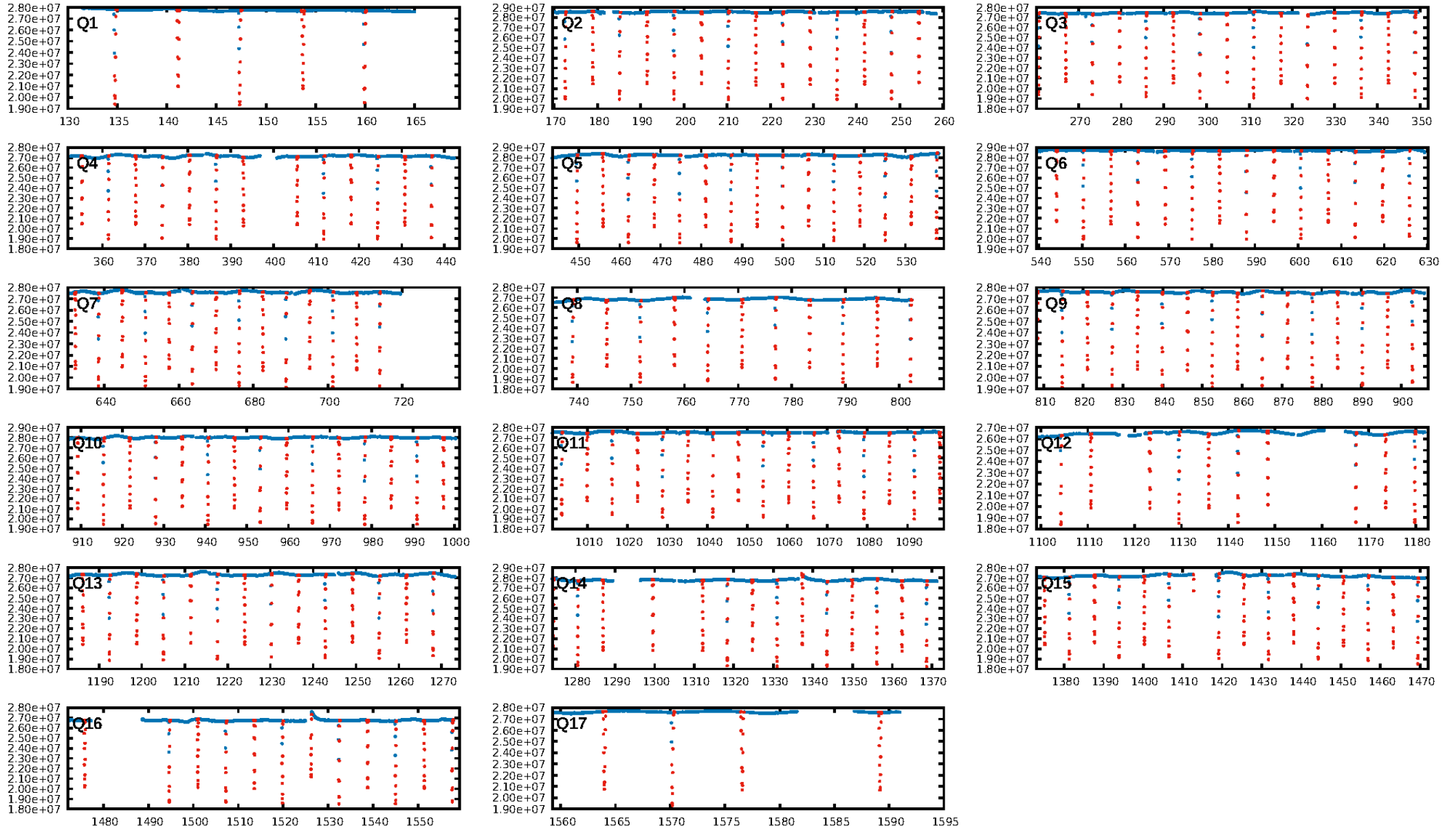
DV Diagnostic Results:

ShortPeriod-sig: 99.9% [3.27 σ]
LongPeriod-sig: 100.0% [30.53 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [104/104]
GhostDiagnostic-chr: 1.431
Centroid-sig: 0.0%
Centroid-so: 0.080 arcsec [139.43 σ]
OotOffset-rm: 0.013 arcsec [0.19 σ]
KicOffset-rm: 0.115 arcsec [1.64 σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 1.00 [17/17]
DiffImageOverlap-fno: 0.00 [0/17]

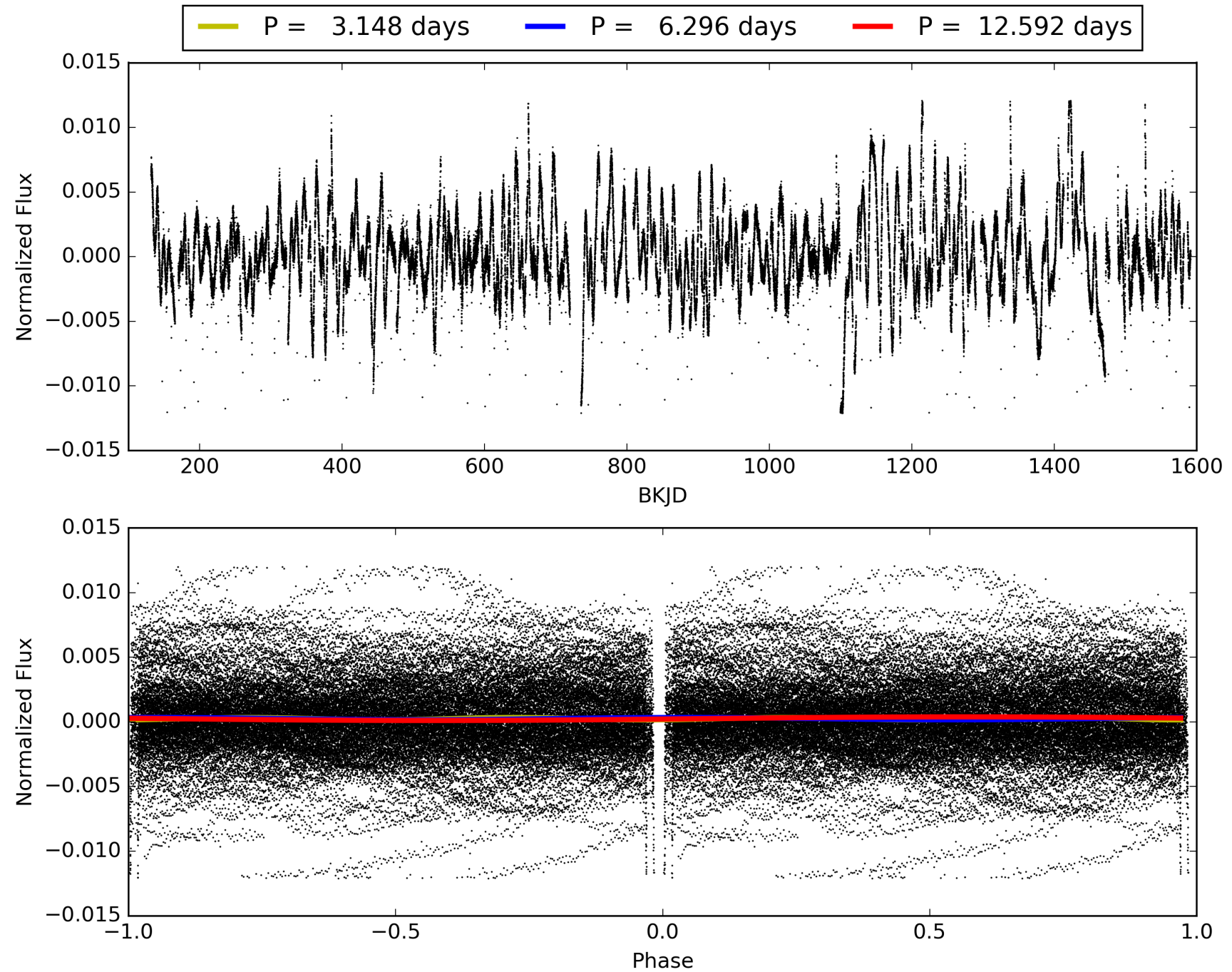
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:46:11 Z

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

TCE 006029130-02, PDC Light Curves

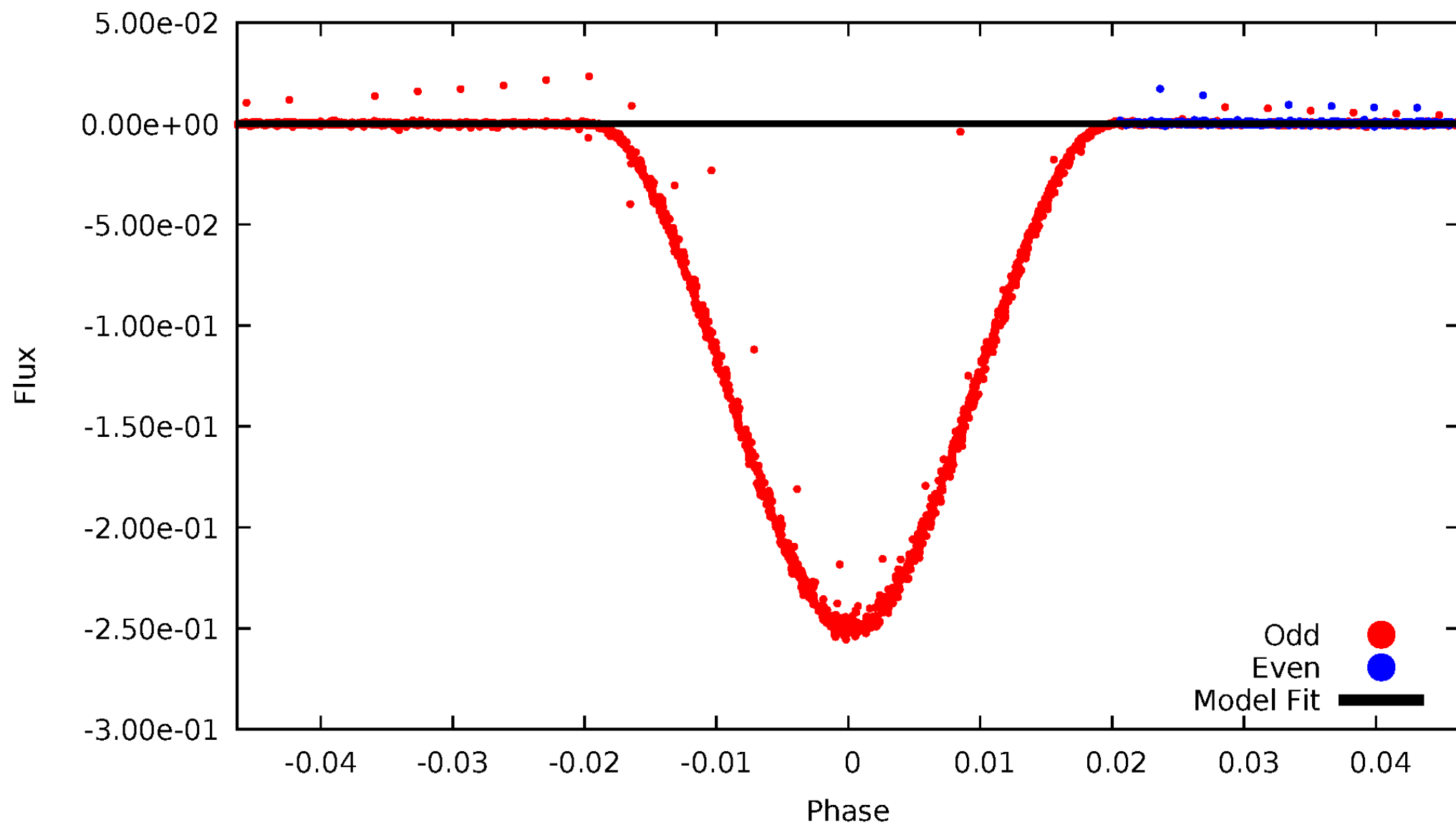


TCE 006029130-02



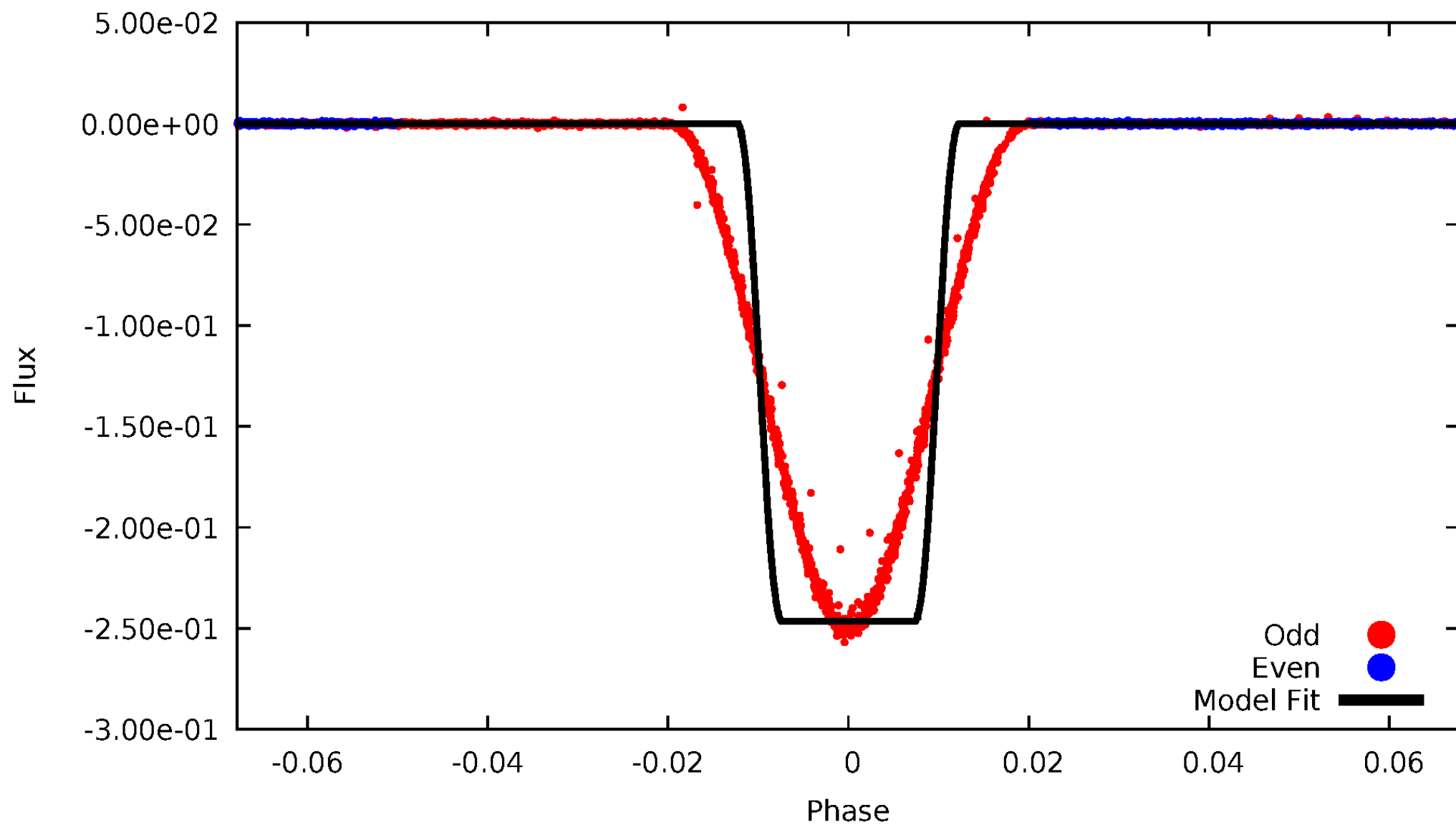
DV Odd/Even

TCE 006029130-02



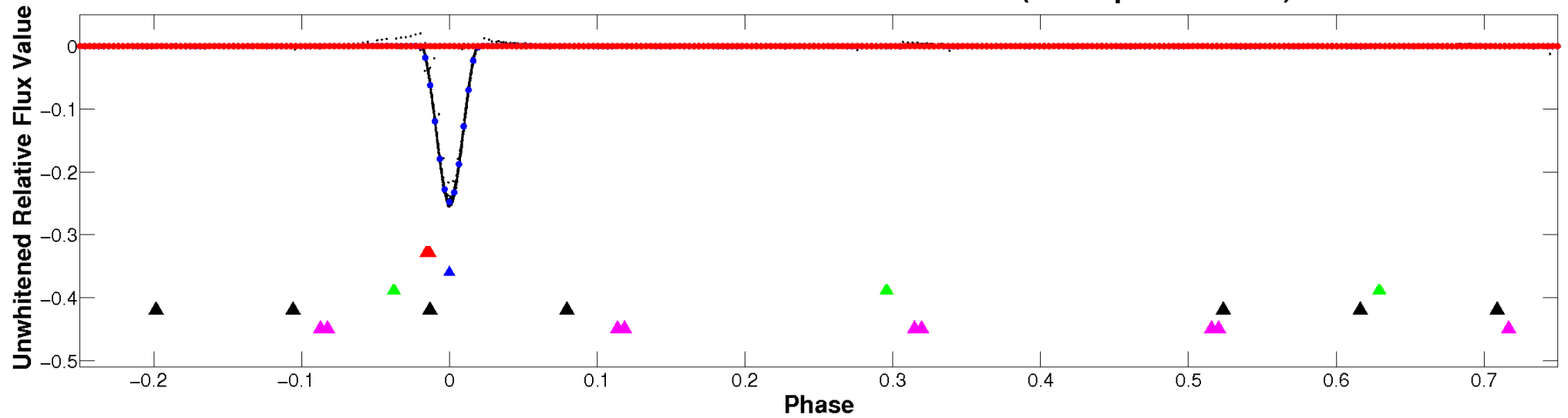
ALT Odd/Even

TCE 006029130-02

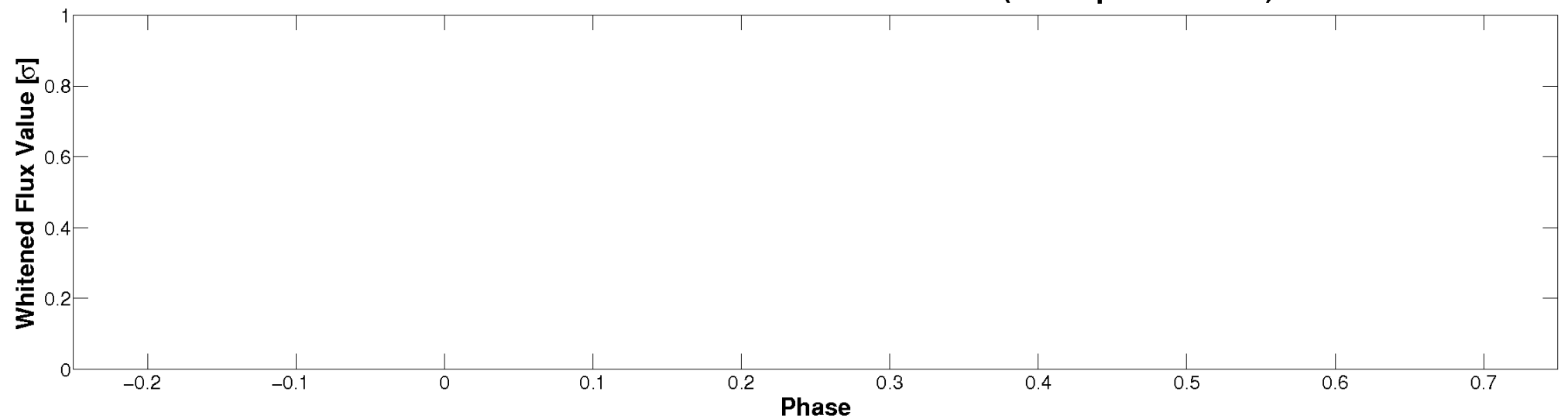


Non-Whitened Vs. Whitened Light Curve

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

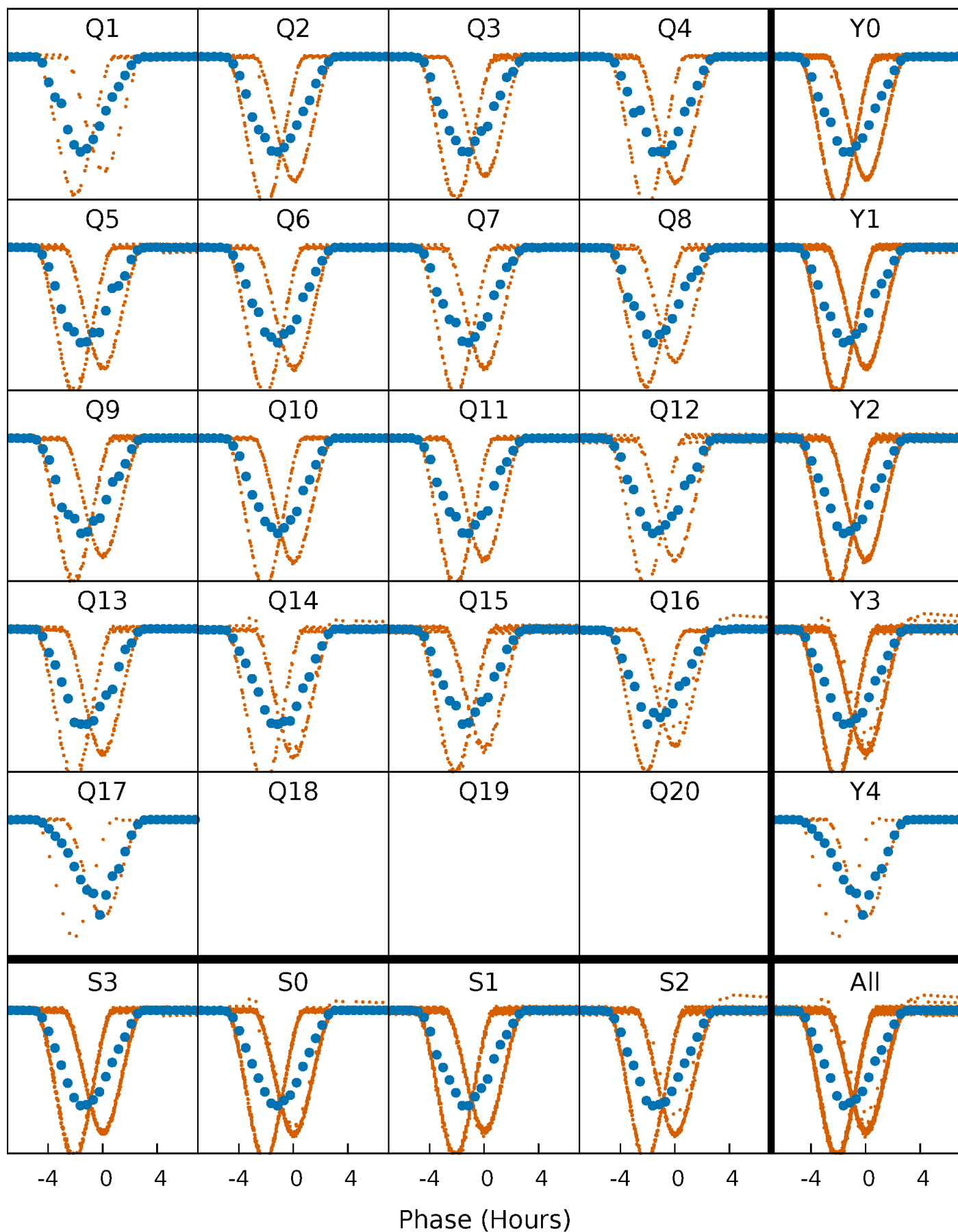


Planet 2 : Phased Whitened Flux Time Series (TPS Epoch/Period)



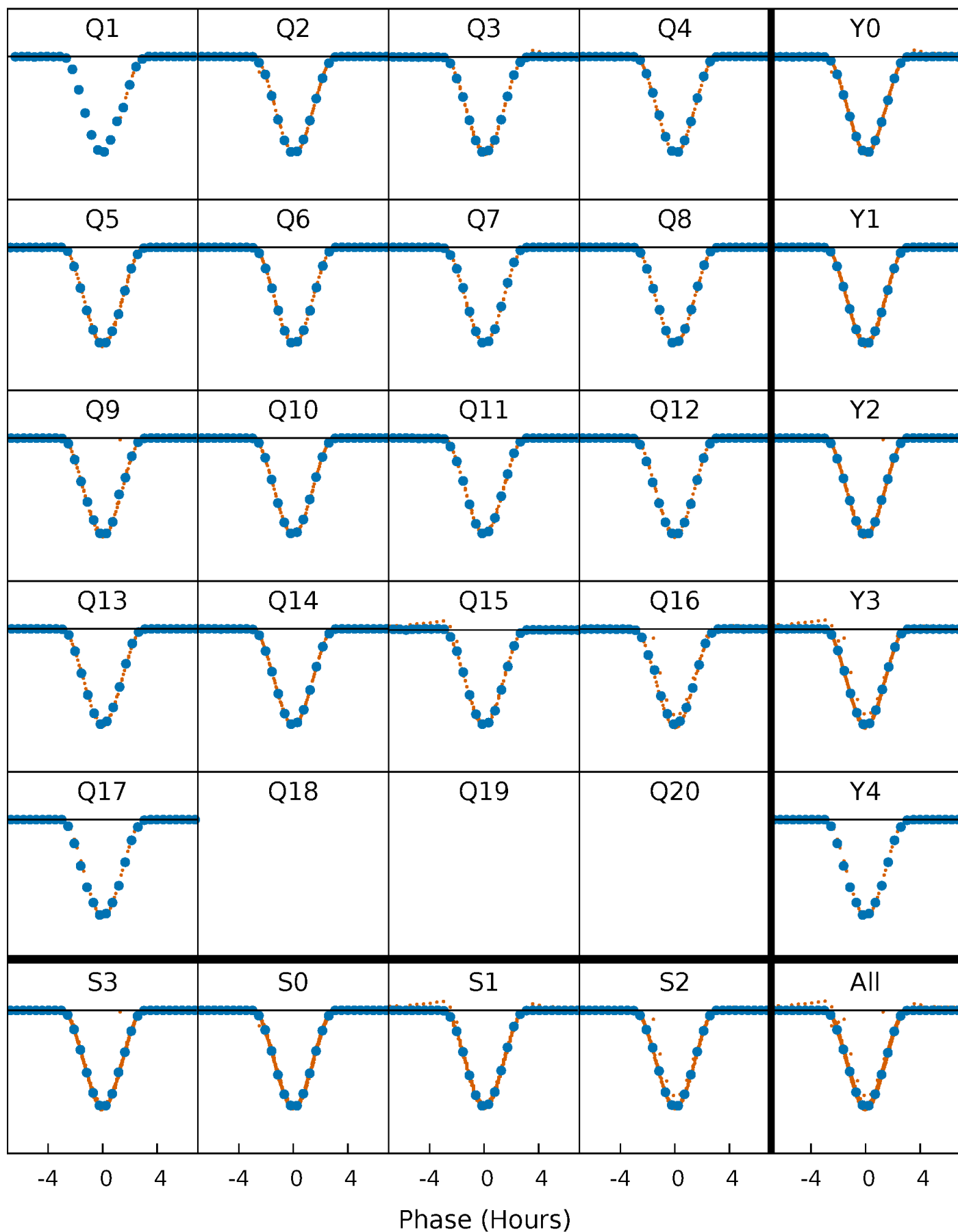
PDC Quarter-Phased Transit Curves

TCE 006029130-02 P= 6.295840 Days $T_0=134.828042$ (BKJD)



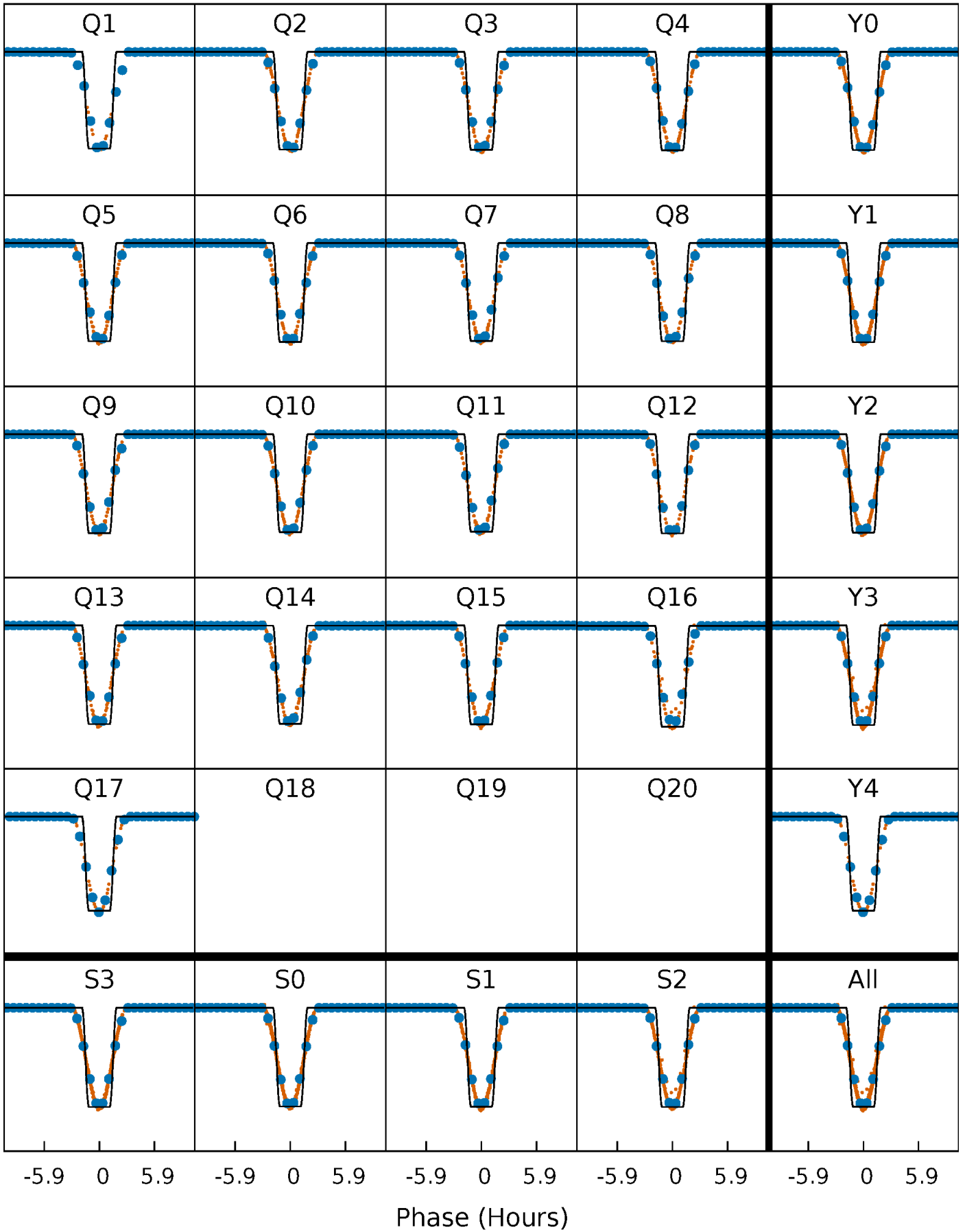
DV Quarter-Phased Transit Curves

TCE 006029130-02 P= 6.295840 Days $T_0=134.828042$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

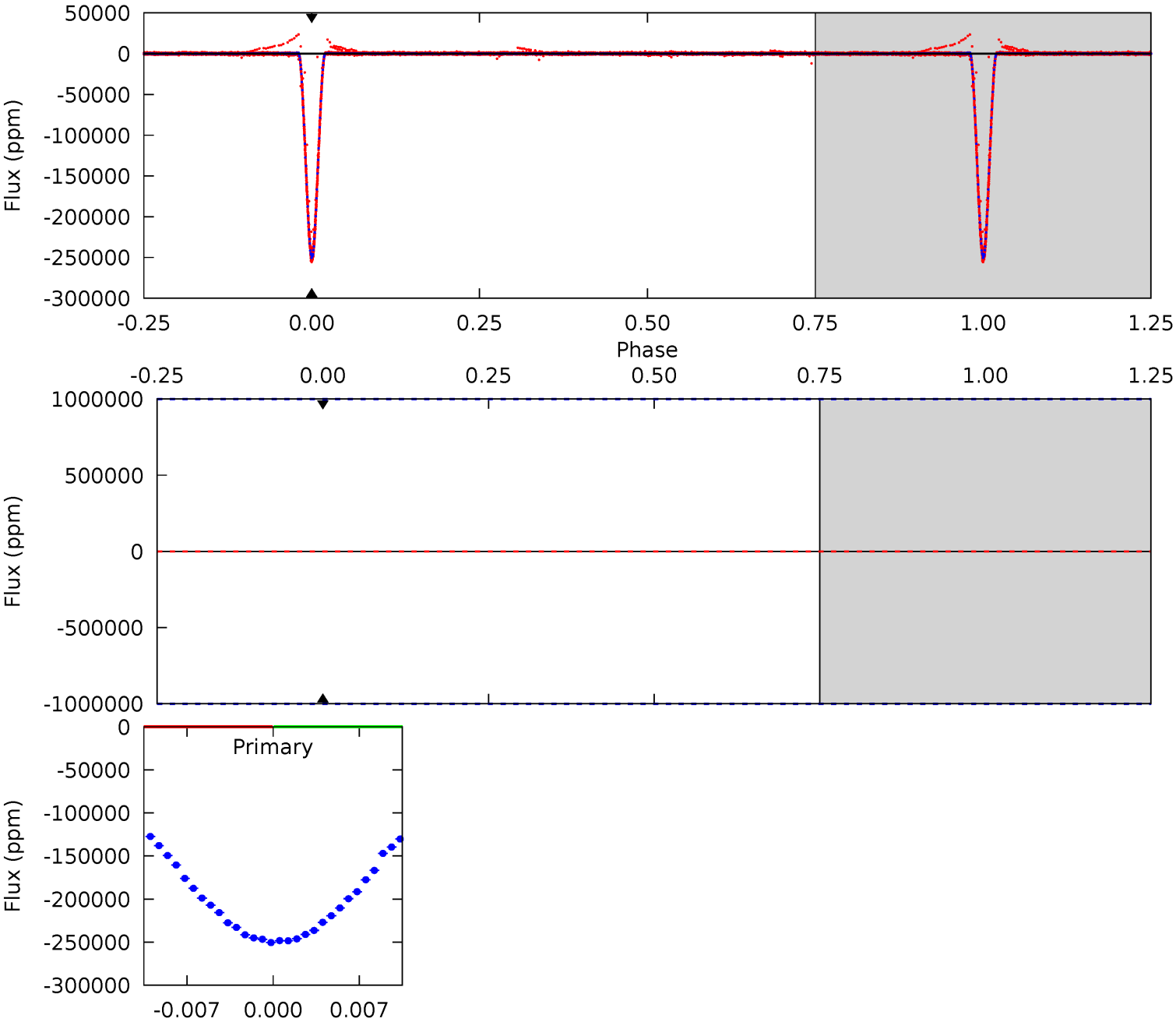
TCE 006029130-02 P= 6.295840 Days $T_0=134.829486$ (BKJD)



DV Model-Shift Uniqueness Test

006029130-02, P = 6.295840 Days, E = 128.532202 Days

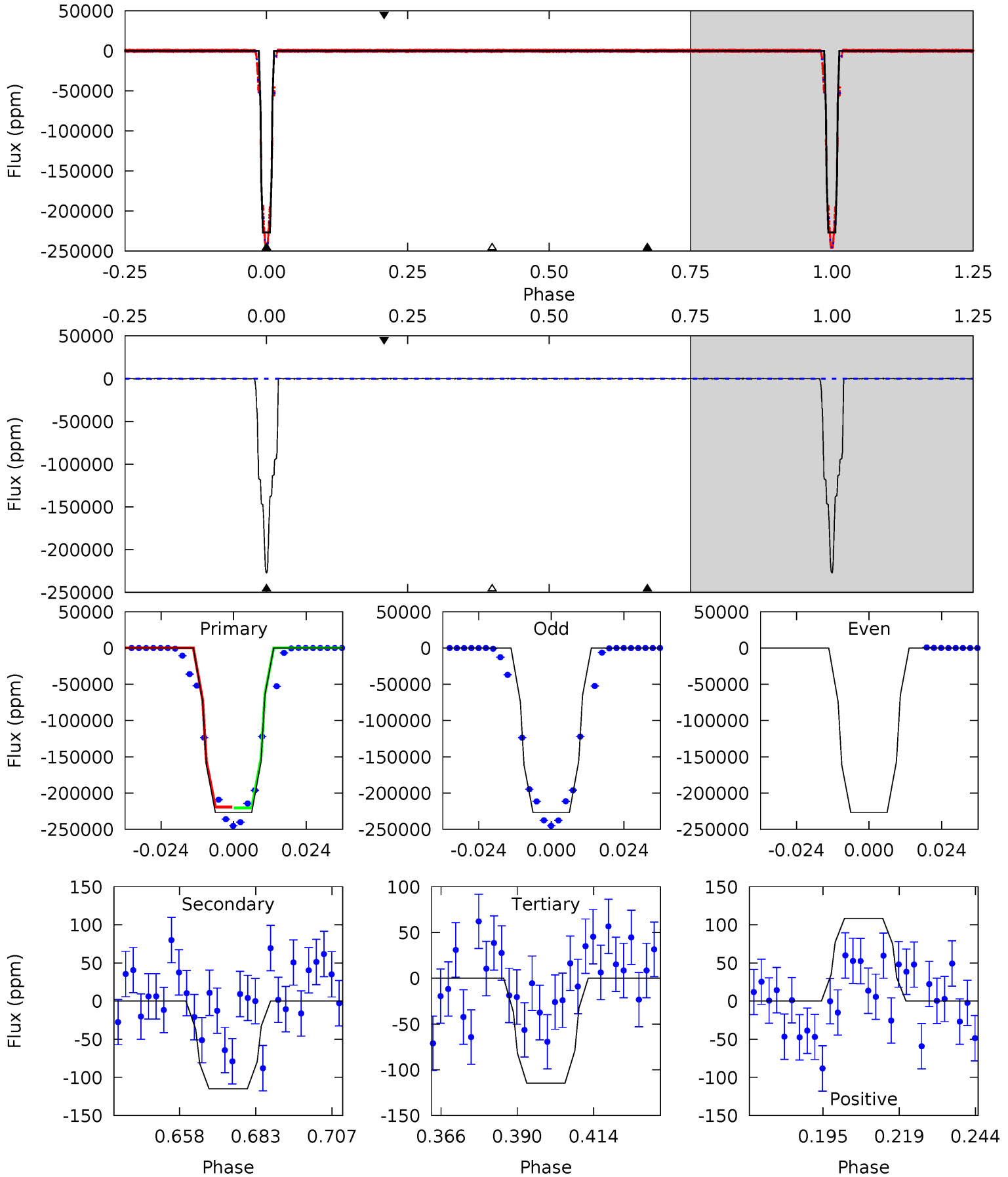
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006029130-02, P = 6.295840 Days, E = 128.533646 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7530	3.82	3.80	3.60	4.85	2.25	1.14	7527	7527	0.01	0.22	0	1.00	0.00	0



Stellar Parameters For KIC 006029130

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5293^{+159}_{-143}	$4.604^{+0.032}_{-0.097}$	$-0.180^{+0.300}_{-0.300}$	$0.756^{+0.122}_{-0.057}$	$0.846^{+0.070}_{-0.104}$	$2.765^{+0.481}_{-0.915}$
	+3%/-3%	+1%/-2%	+167%/-167%	+16%/-8%	+8%/-12%	+17%/-33%
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 006029130-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$34.26^{+8.40}_{-7.96}$	1143^{+53}_{-37}	-1946^{+6897}_{-2762}	$0.014^{+223.589}_{-170.070}$
Alt.	-115 ± 30	$41.85^{+9.53}_{-8.08}$	1148^{+46}_{-42}	-1830^{+146}_{-66}	$0.135^{+0.096}_{-0.052}$

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

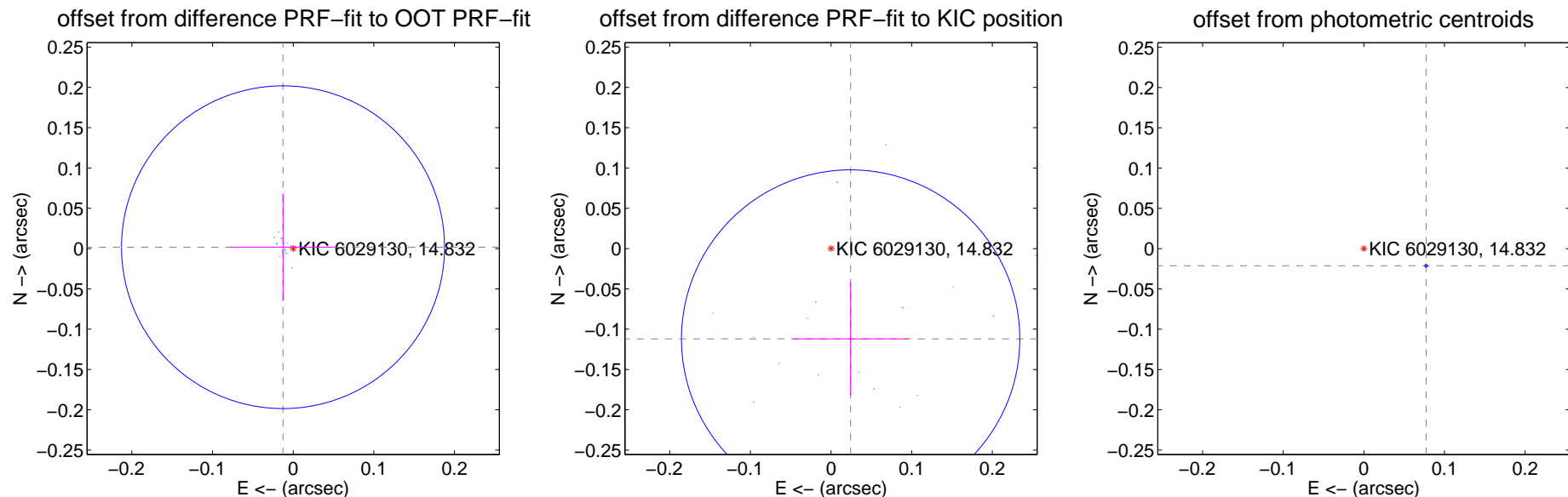
DV Centroid Data

Supplemental centroid analysis for 006029130-02. Kepler magnitude: 14.83. Transit SNR -1.00

There are 17 quarters with good PRF difference image offsets

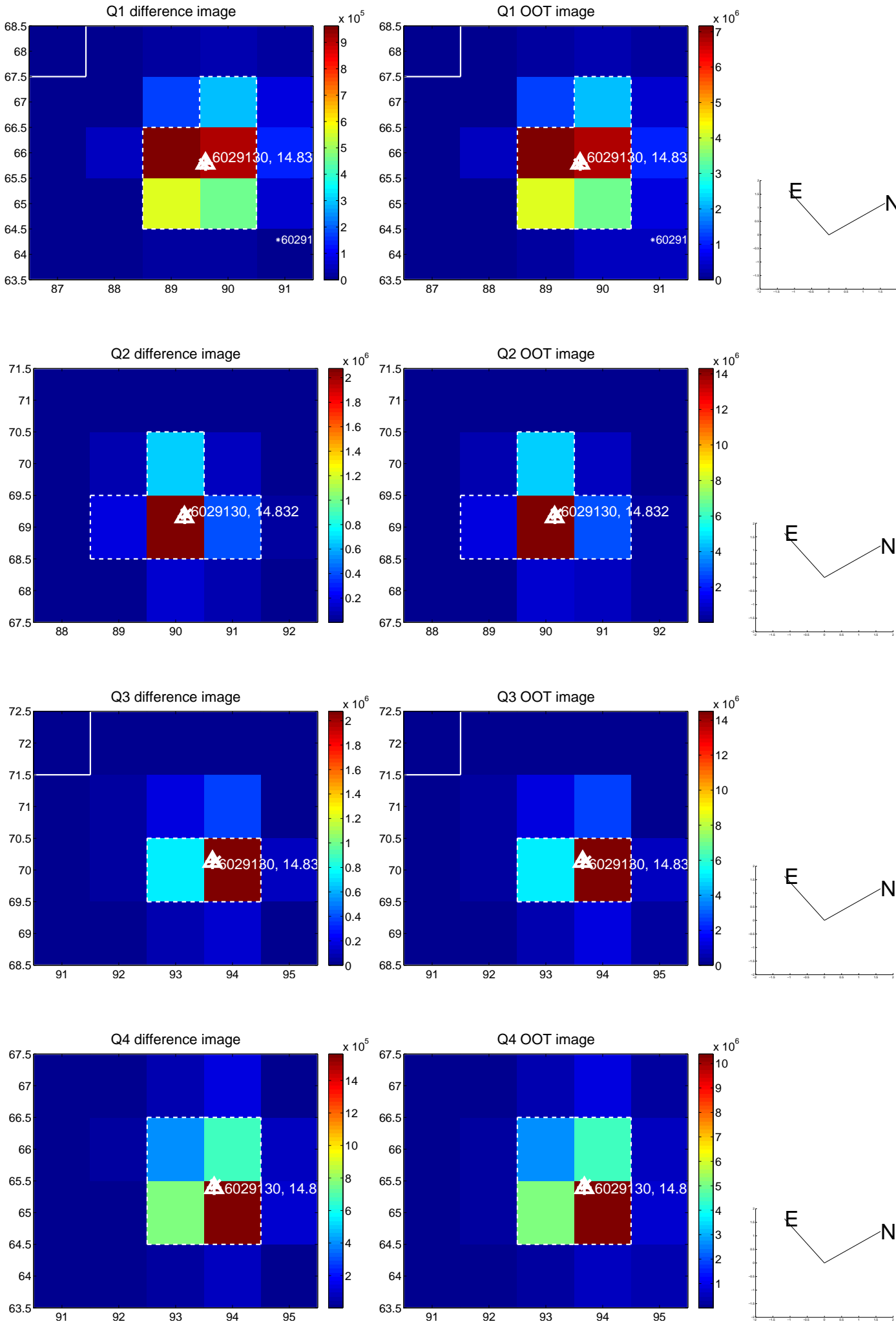
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.013 ± 0.067	0.19	0.013 ± 0.067	0.002 ± 0.067
PRF-fit source offset from KIC position	0.115 ± 0.070	1.64	-0.024 ± 0.071	-0.112 ± 0.070
photometric centroid source offset	0.08 ± 0.00	139.43	-0.08 ± 0.00	-0.02 ± 0.00

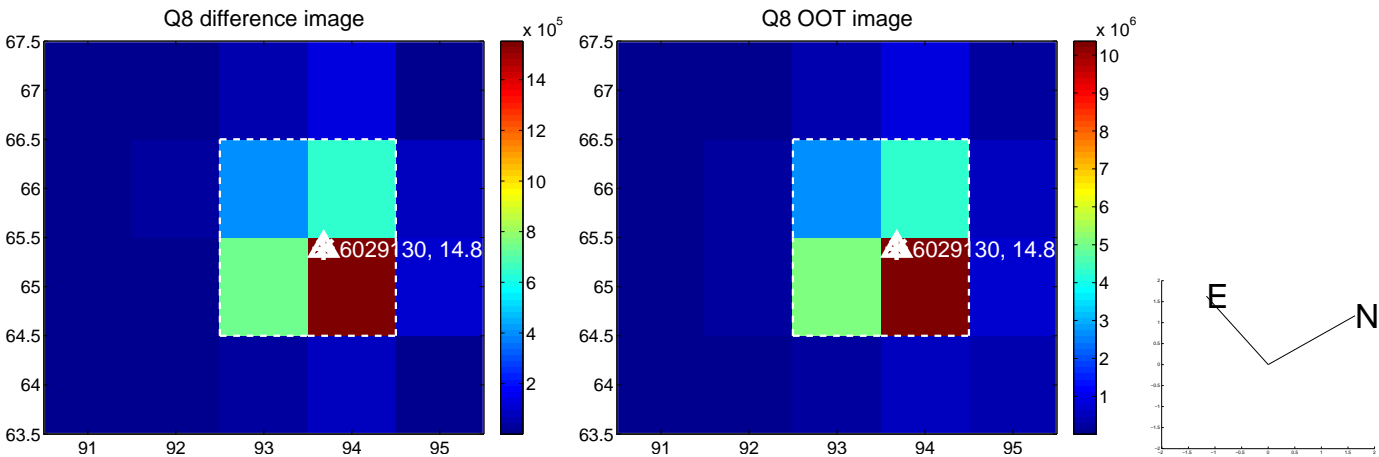
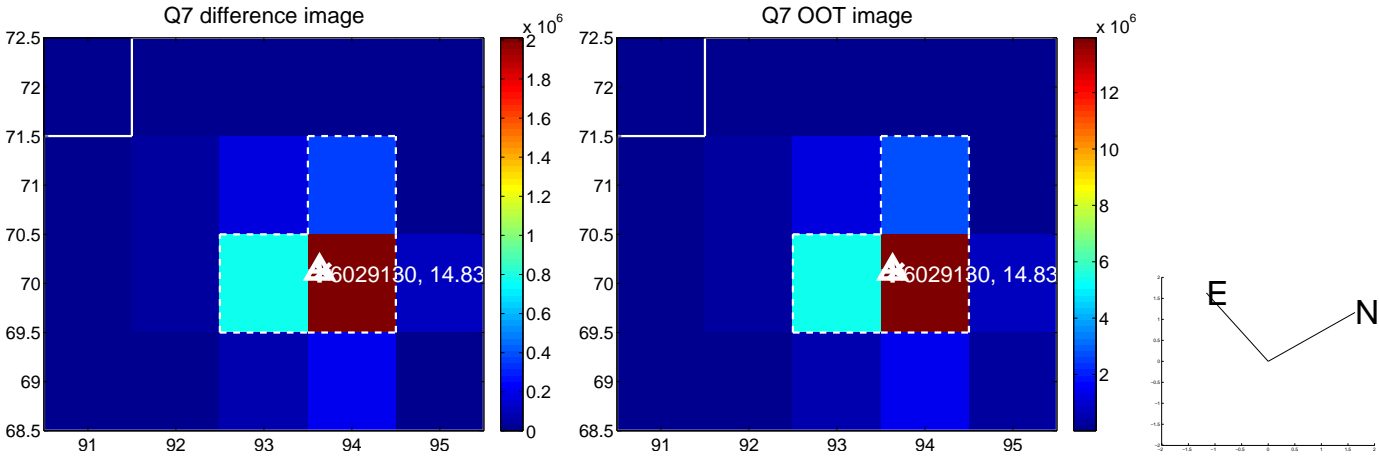
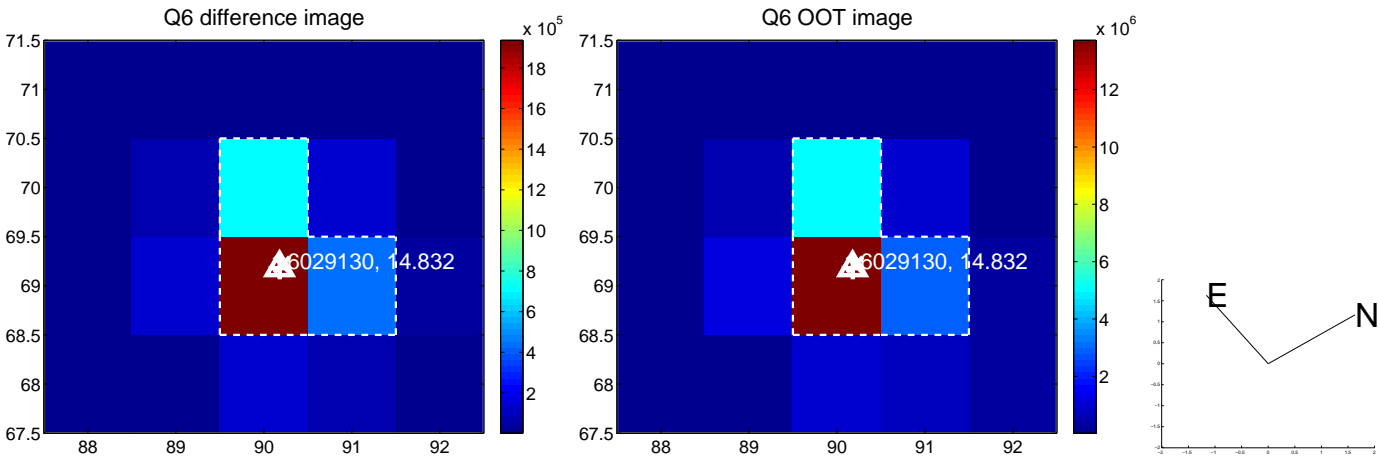
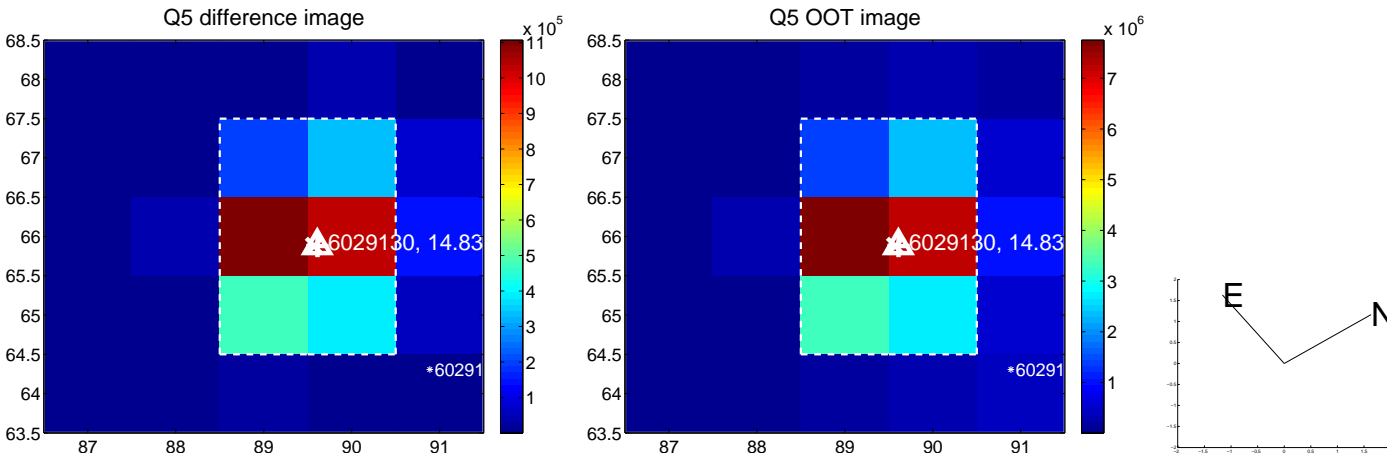


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

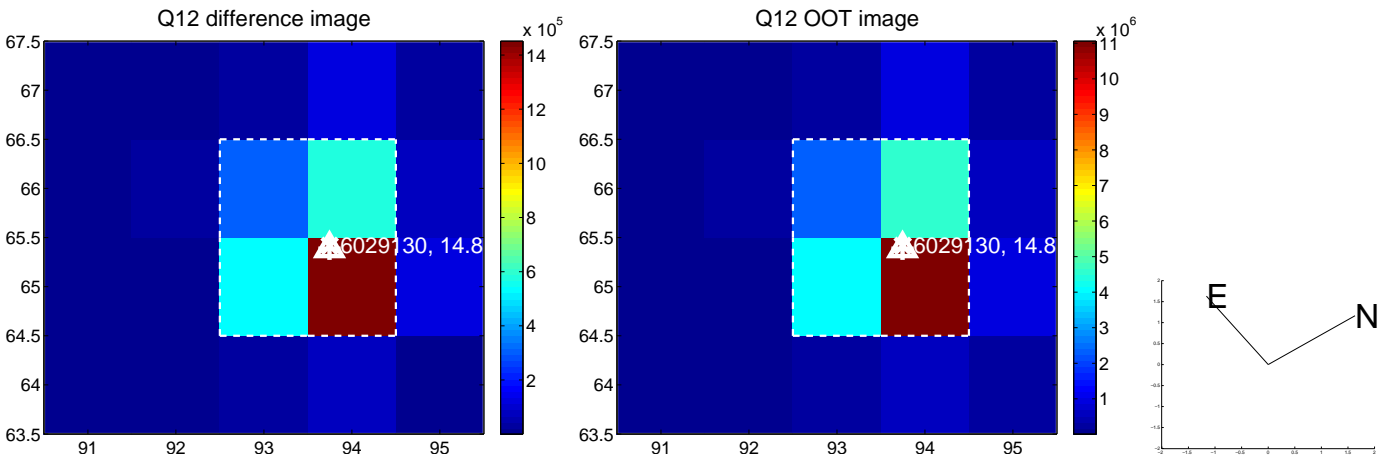
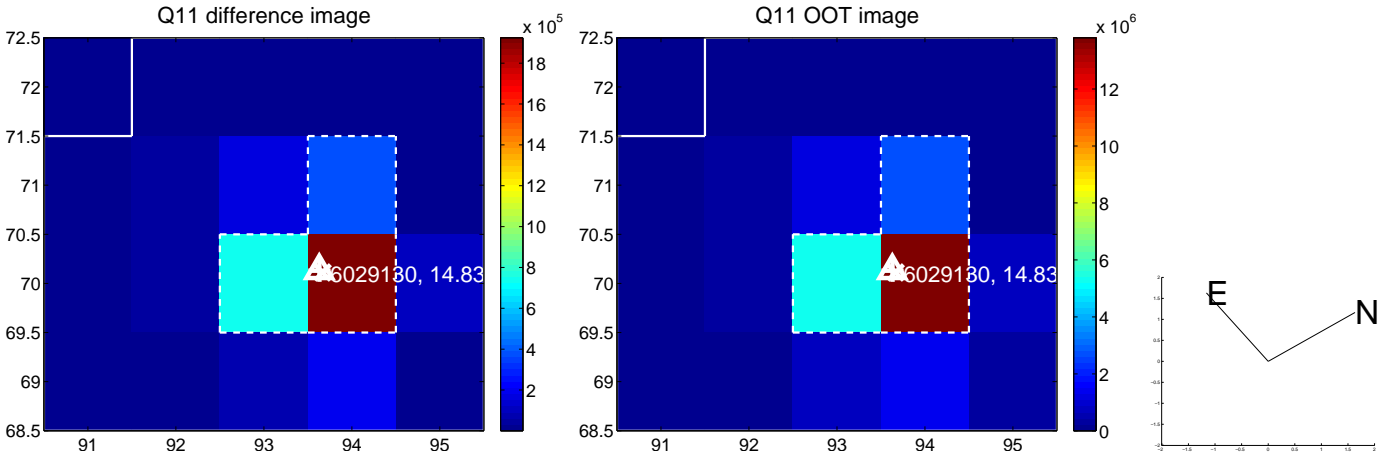
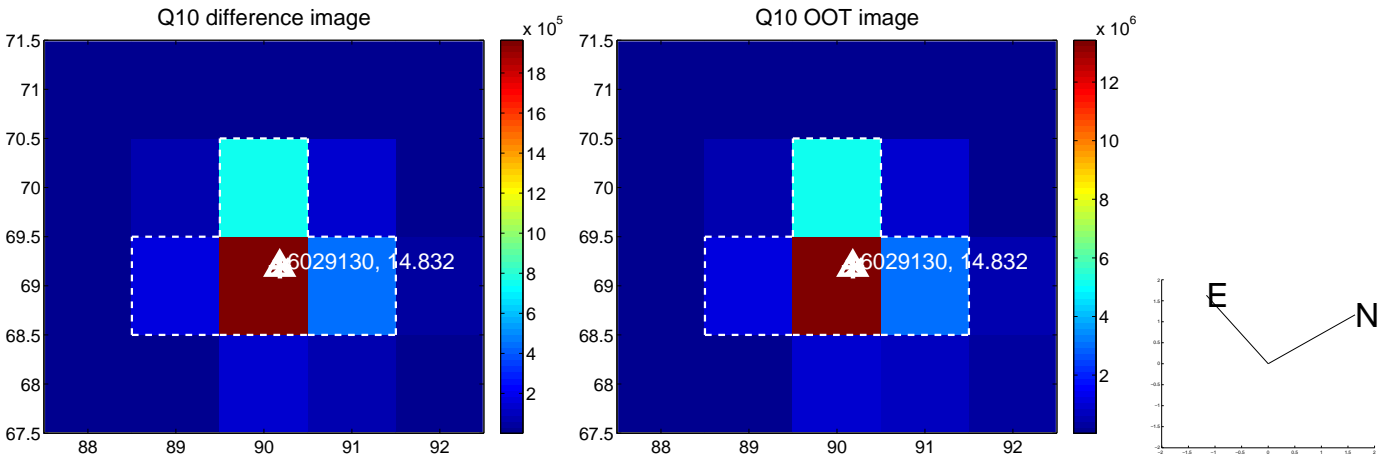
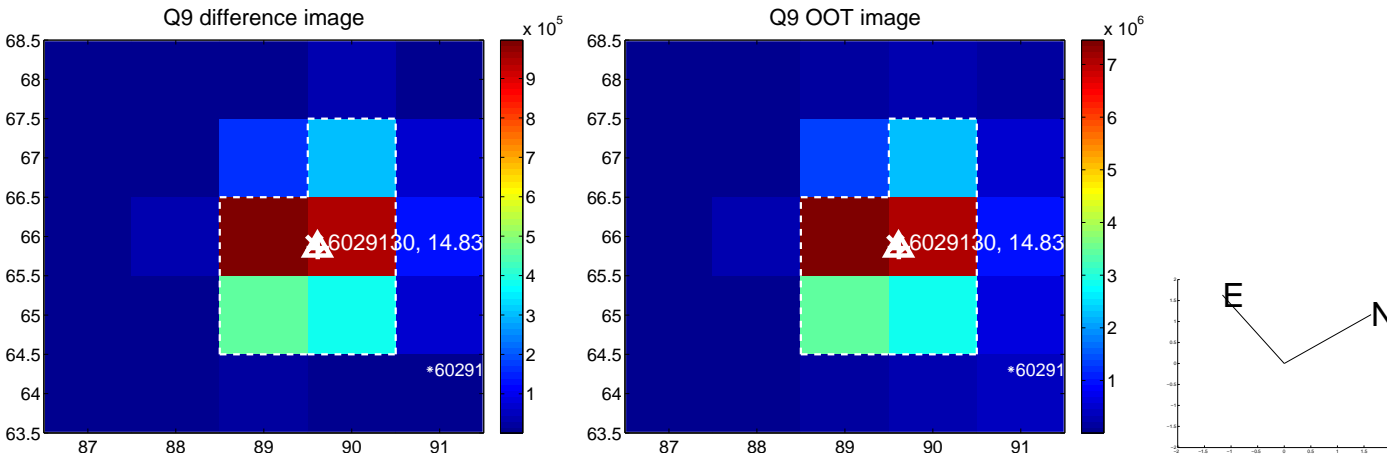
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



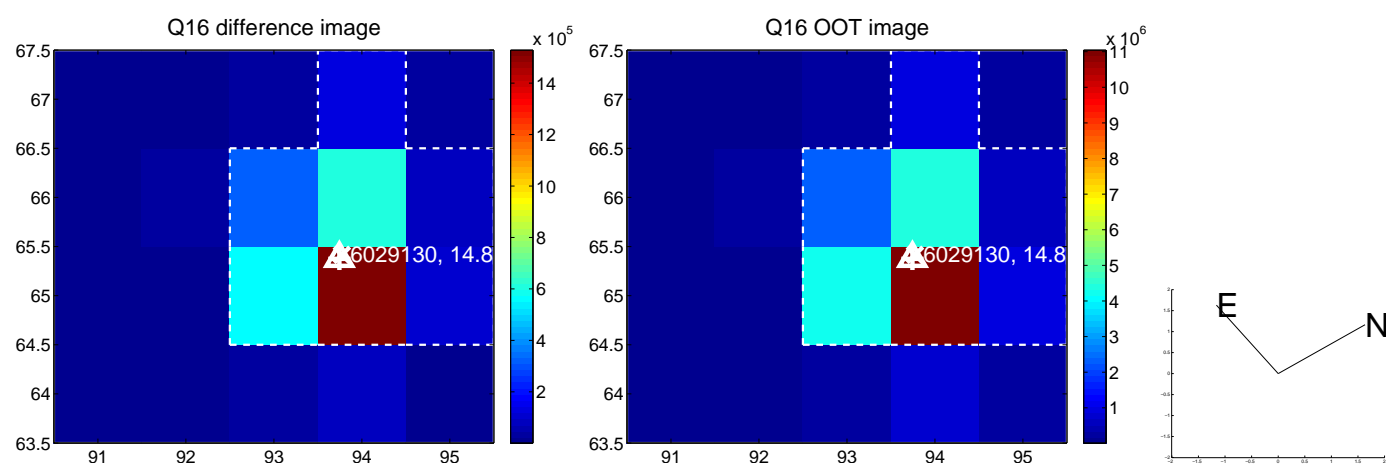
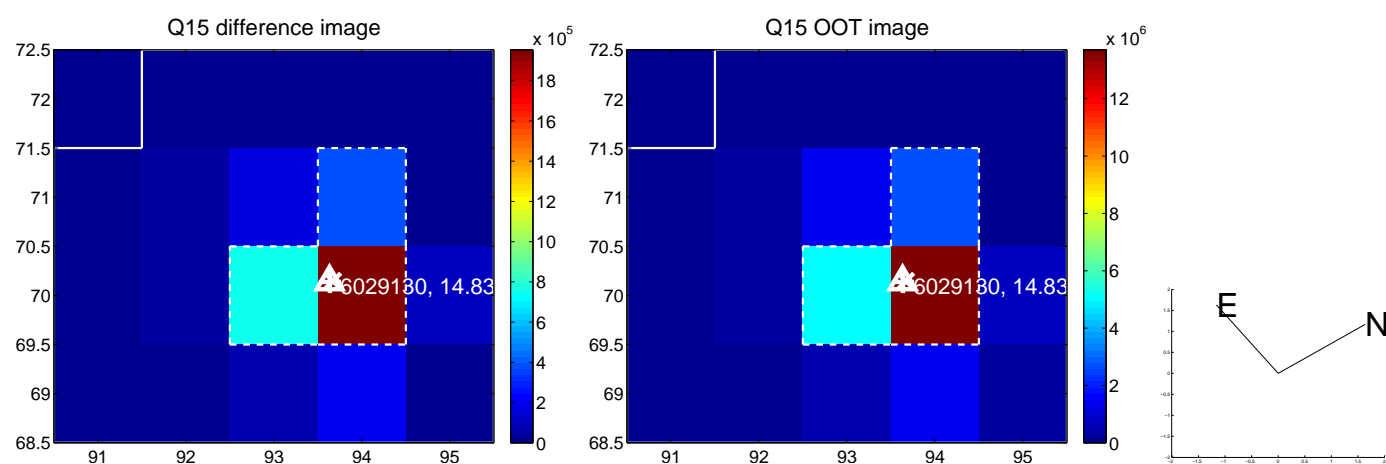
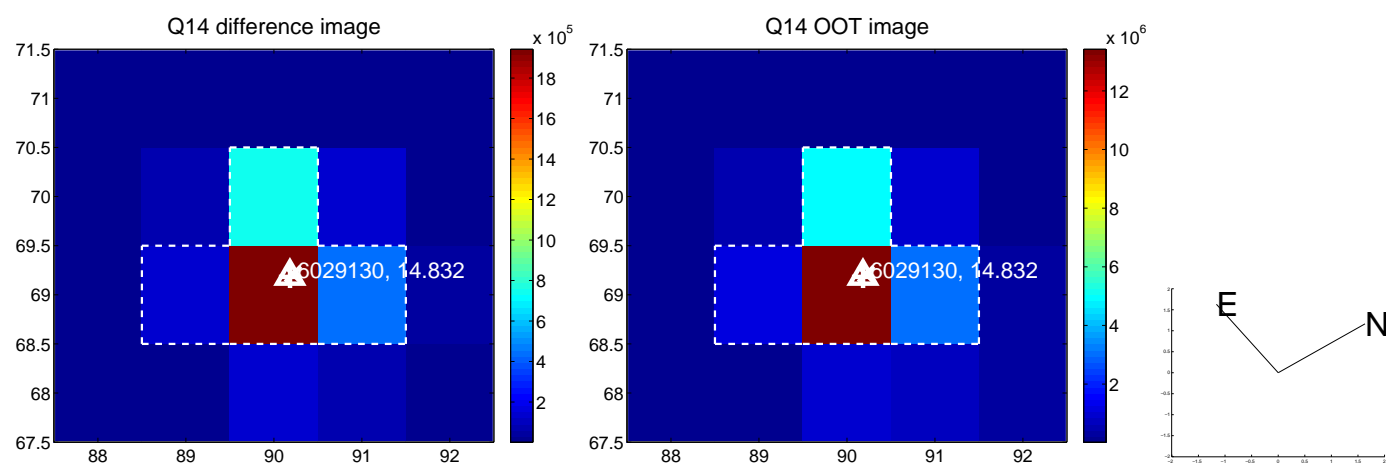
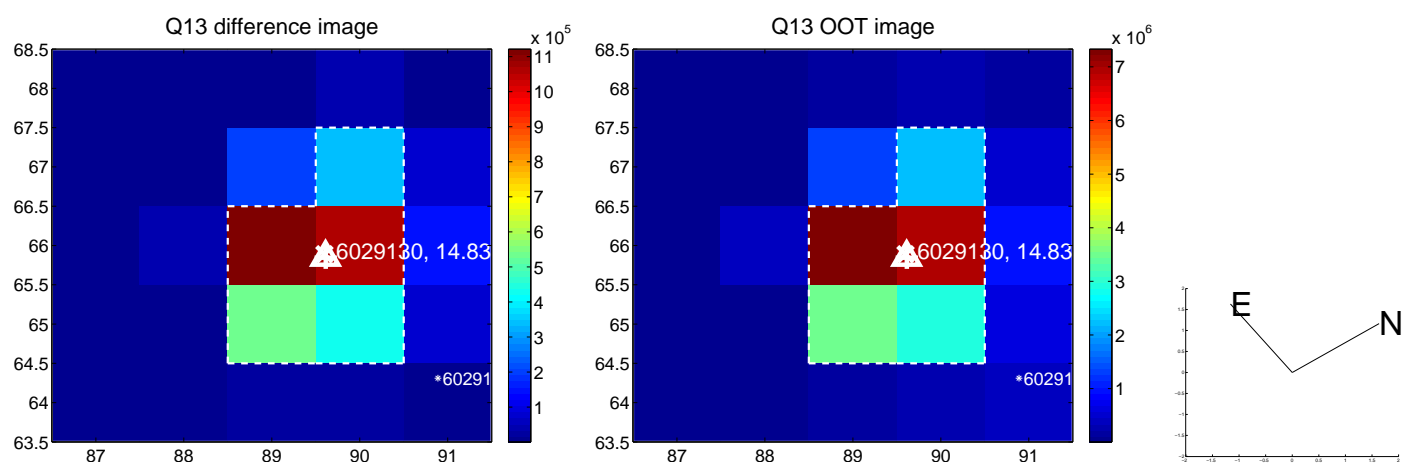
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



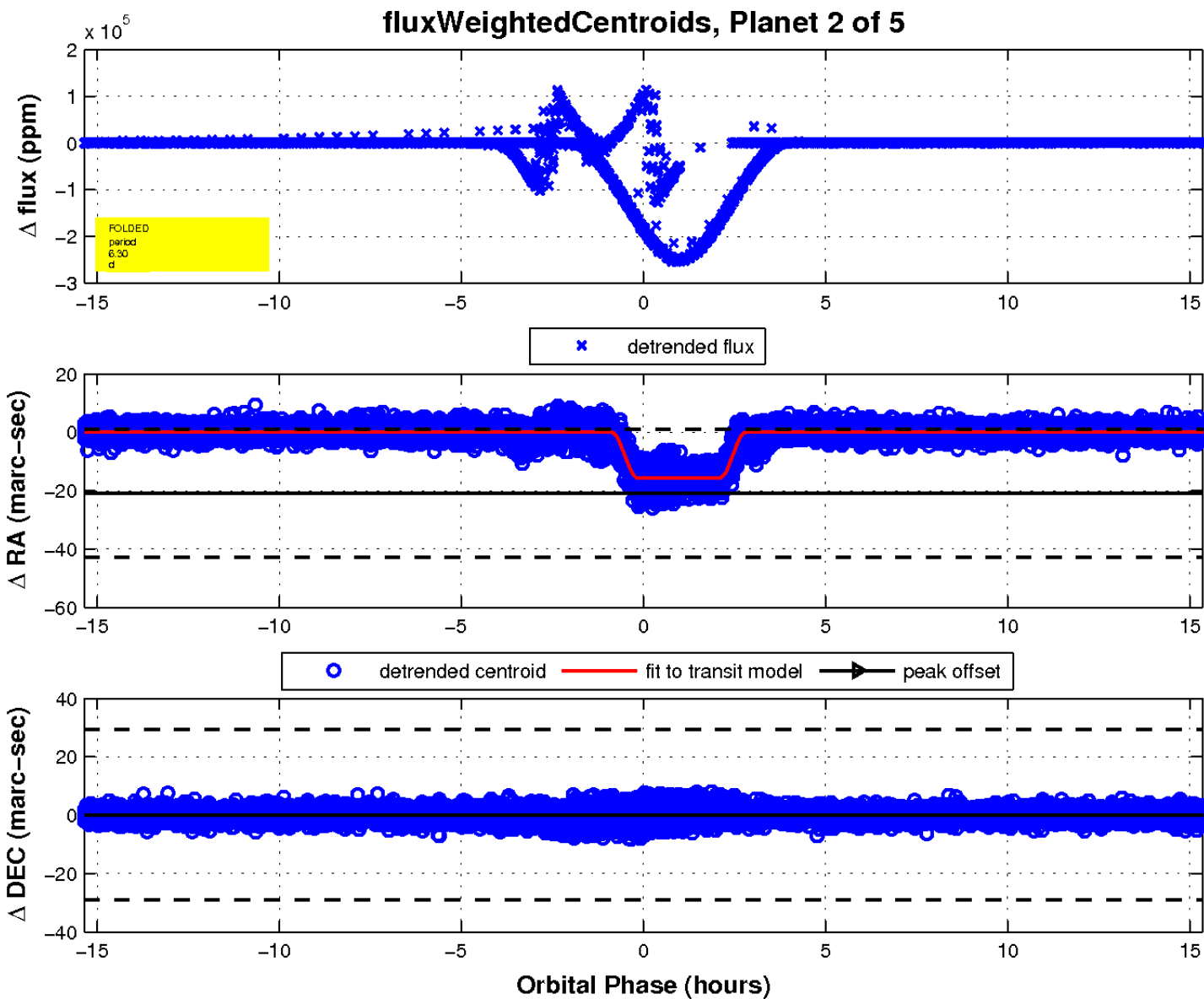
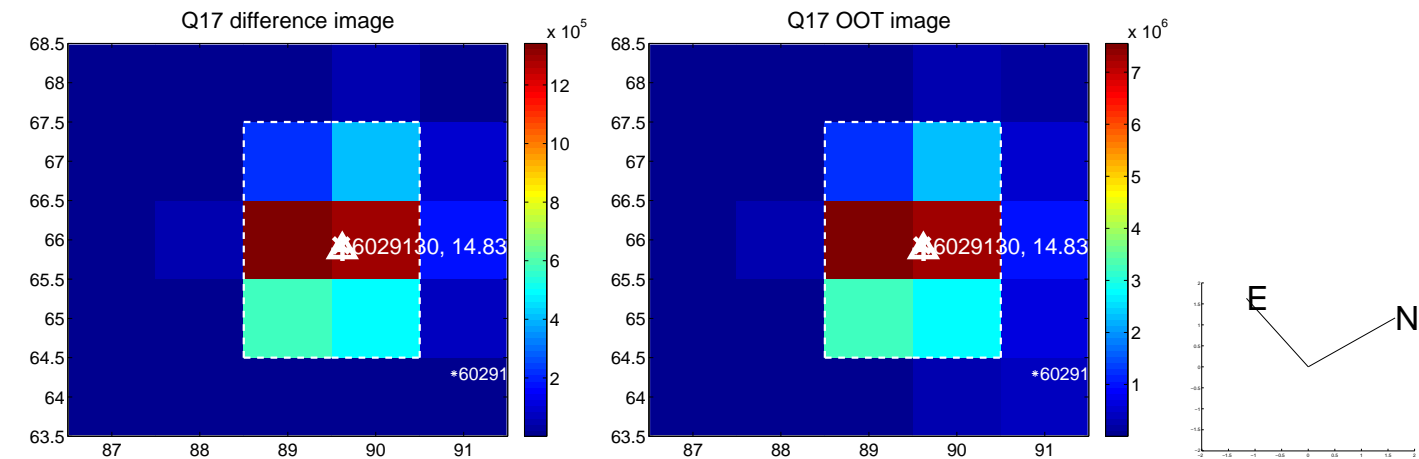
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

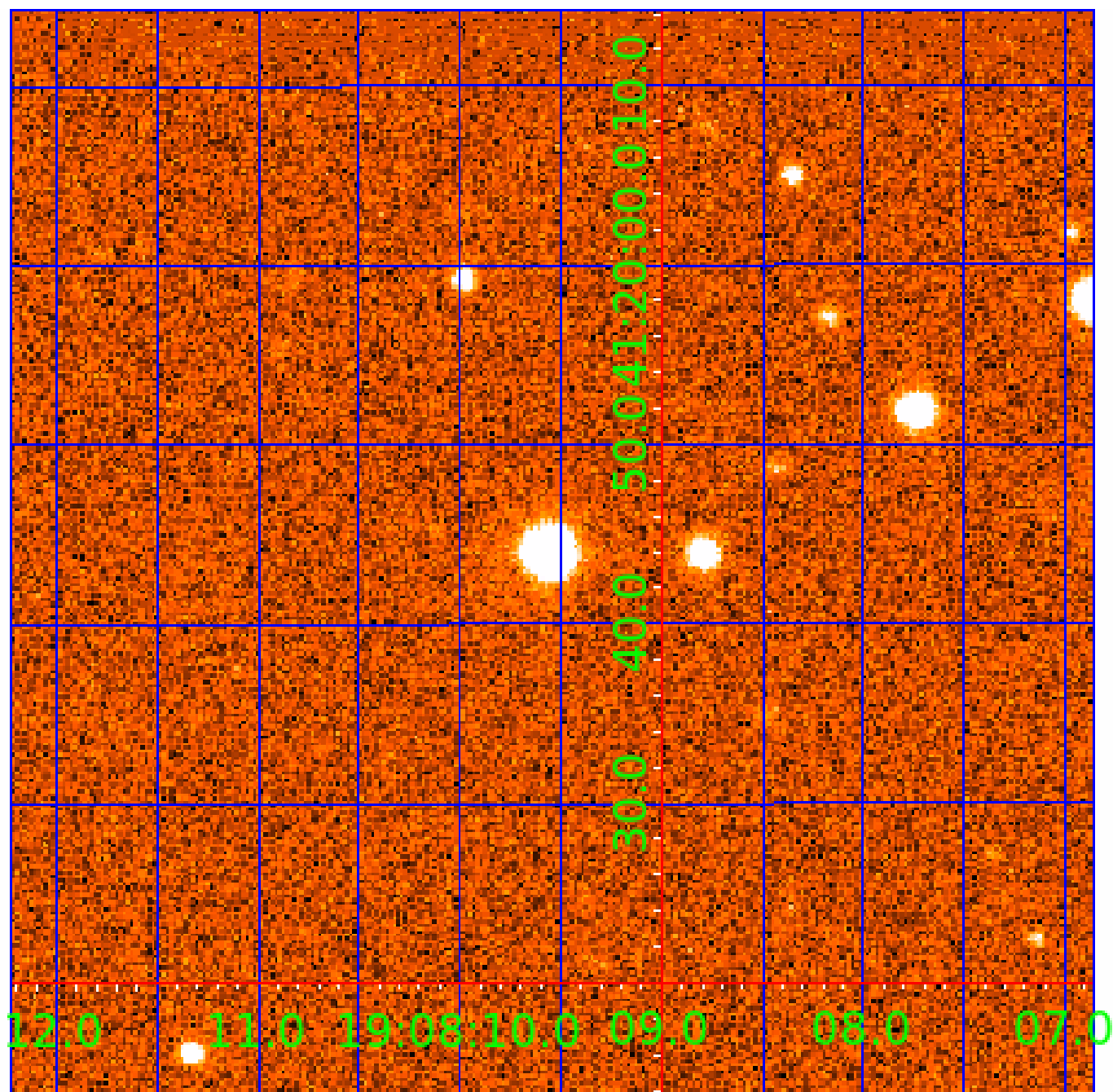


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006029130

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})
006029130-01	OBS	6647.01	12.591516	134.746307	302989.9	3.500	12060.7	-1.0	0.76	5293	40.25	40.30
006029130-02	OBS	No	6.295840	134.828042	249044.4	3.500	10148.4	-1.0	0.76	5293	33.47	101.54
006029130-03	OBS	No	4.197196	132.498616	10130.7	15.000	594.0	-1.0	0.76	5293	7.45	174.36
006029130-04	OBS	No	226.066901	191.991464	948.4	8.840	10.5	8.1	0.76	5293	4.63	0.86
006029130-05	OBS	No	164.956980	190.942003	1030.8	6.000	10.3	-1.0	0.76	5293	2.38	1.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006029130-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
006029130-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
006029130-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
006029130-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
006029130-05	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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 006029130-03

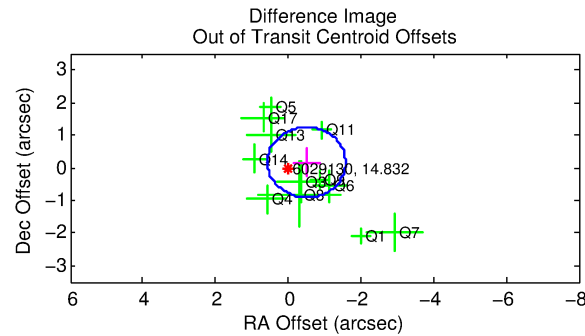
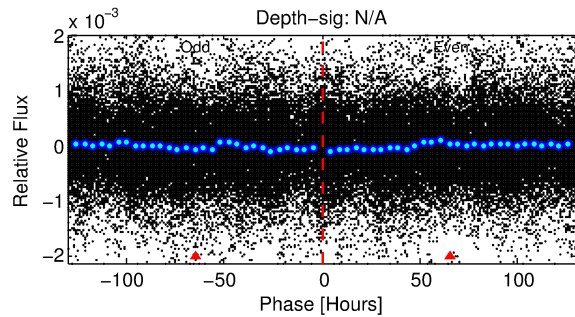
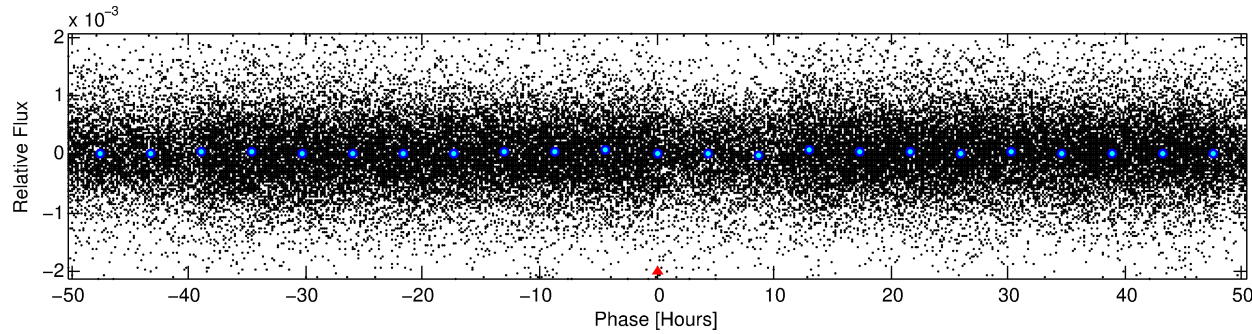
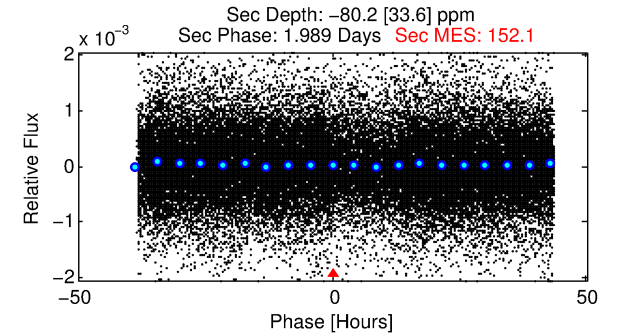
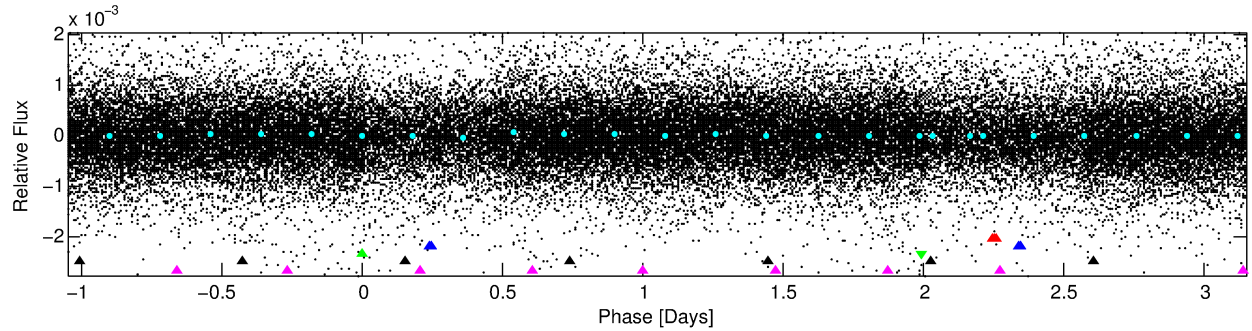
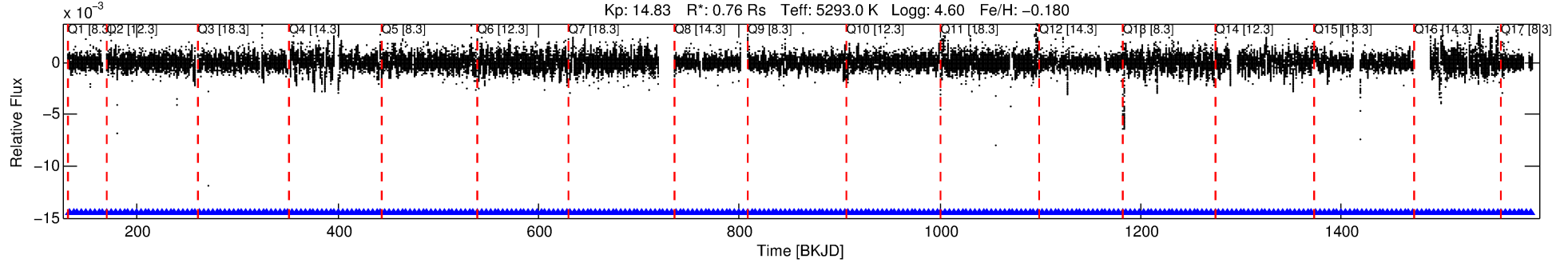
No Significant Match Found

DV One-Page Summary

KIC: 6029130 Candidate: 3 of 5 Period: 4.197 d

KOI: K06647 Corr: No Ephemeris Match

Kp: 14.83 R*: 0.76 Rs Teff: 5293.0 K Logg: 4.60 Fe/H: -0.180



TPS TCE Results:

Period = 4.19720 d
Epoch = 132.4986 BKJD

DV fit results are unavailable

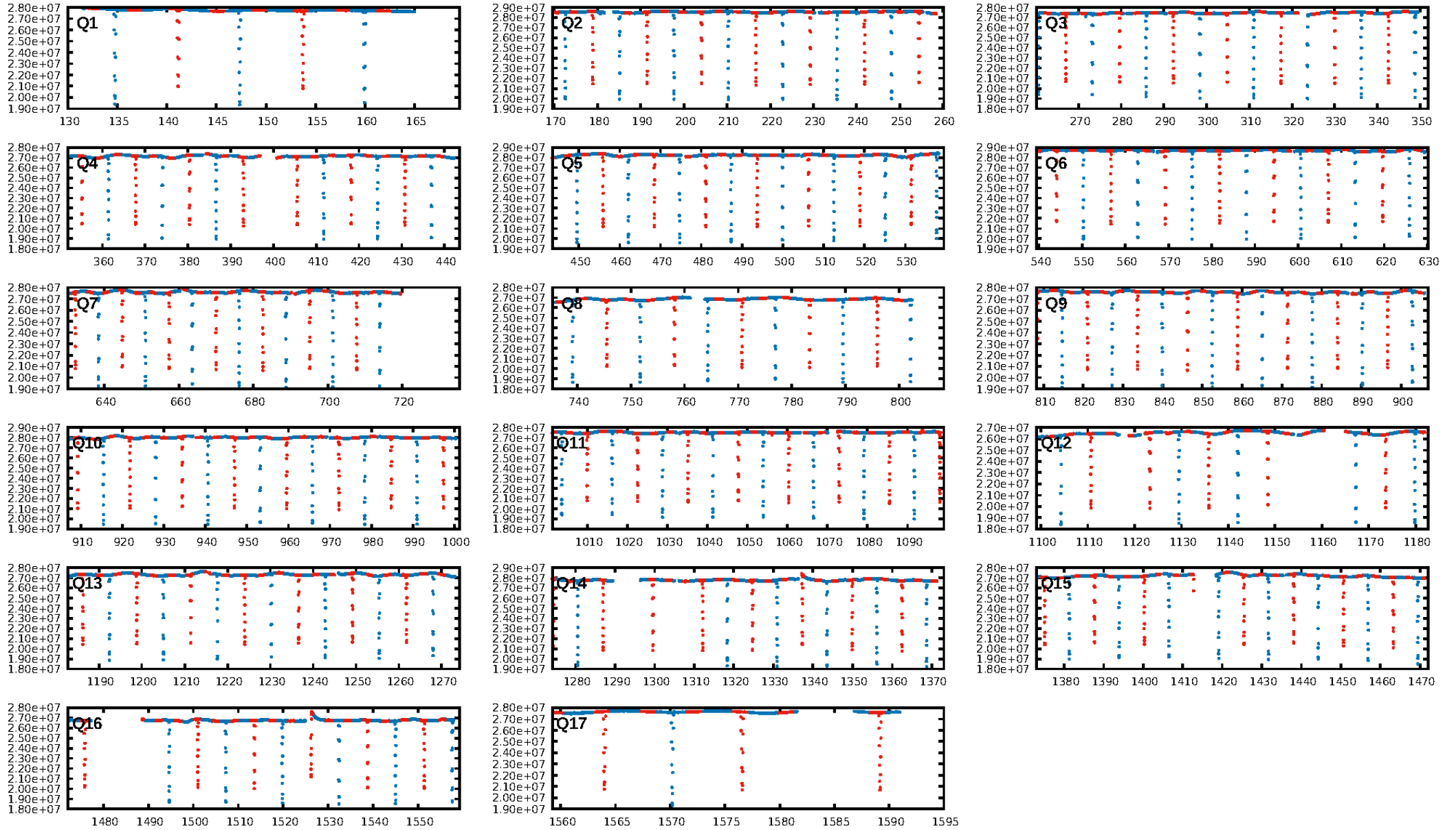
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 99.9% [3.27 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [311/311]
GhostDiagnostic-chr: 0.9673
Centroid-sig: 26.7%
Centroid-so: 1.243 arcsec [1.16 σ]
OotOffset-rm: 0.525 arcsec [1.46 σ]
KicOffset-rm: 0.570 arcsec [1.66 σ]
OotOffset-st: 2/3/2/5 [12]
KicOffset-st: 2/3/2/5 [12]
DiffImageQuality-fgm: 0.33 [4/12]
DiffImageOverlap-fno: 1.00 [17/17]

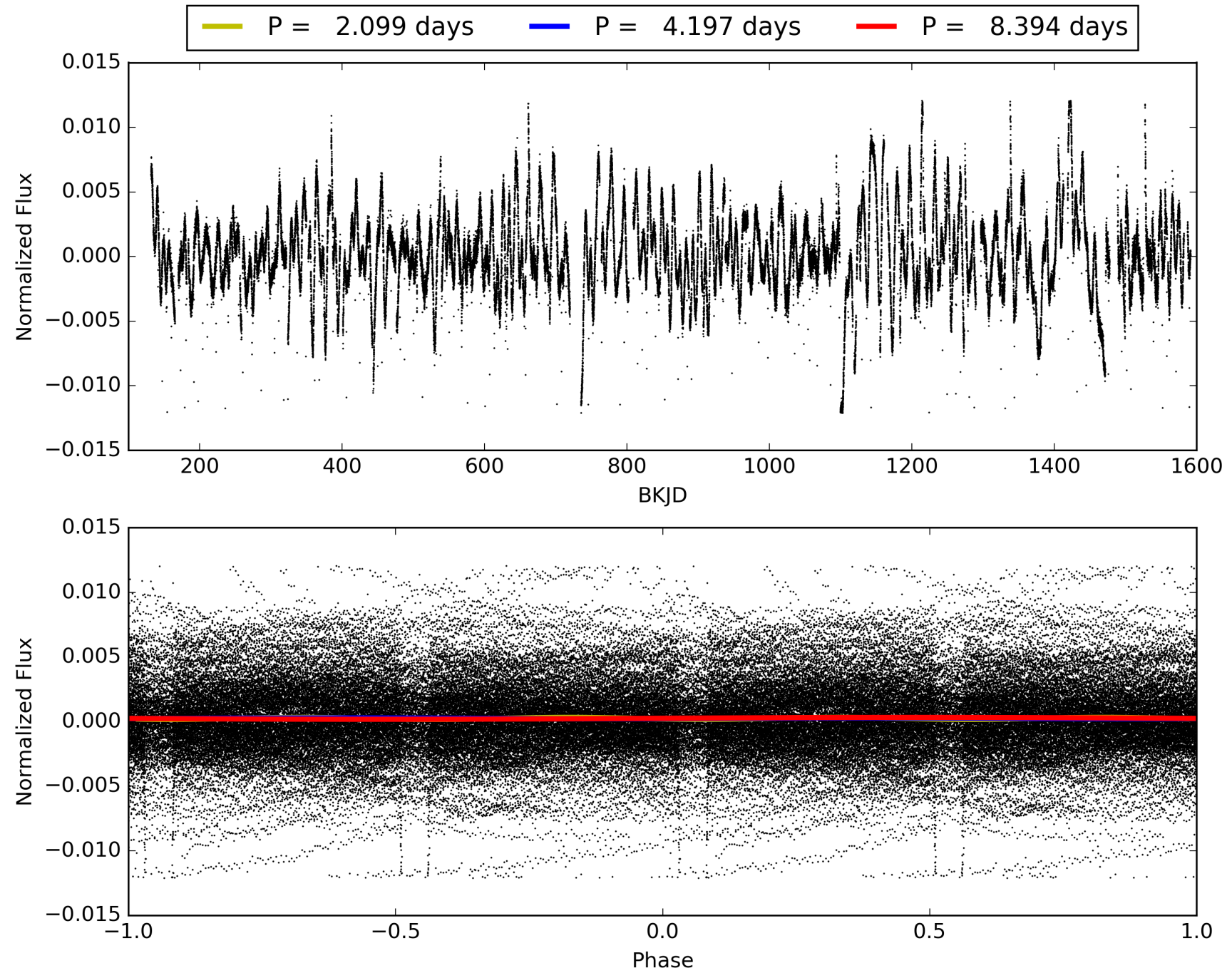
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:46:17 Z

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

TCE 006029130-03, PDC Light Curves

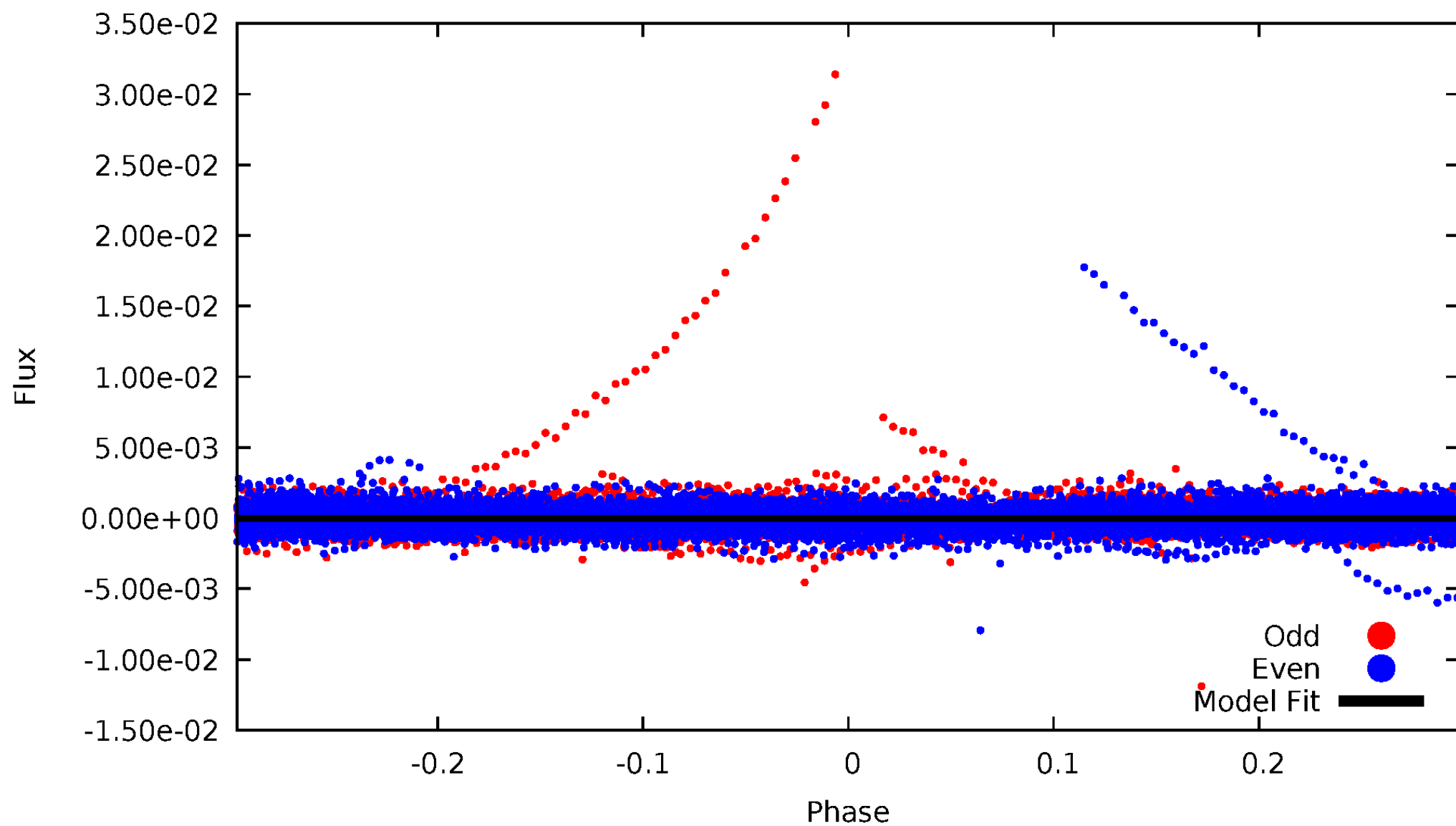


TCE 006029130-03



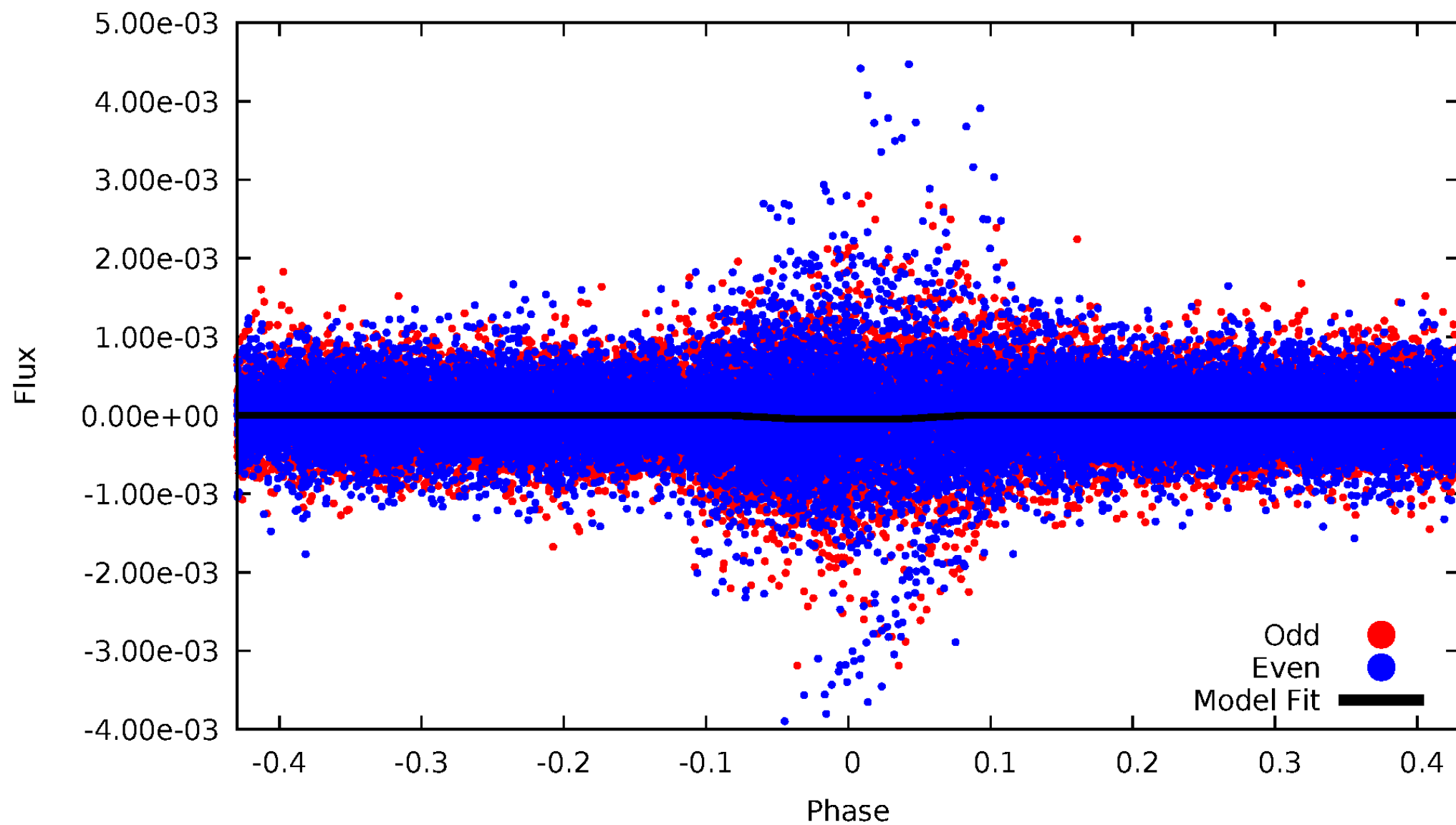
DV Odd/Even

TCE 006029130-03



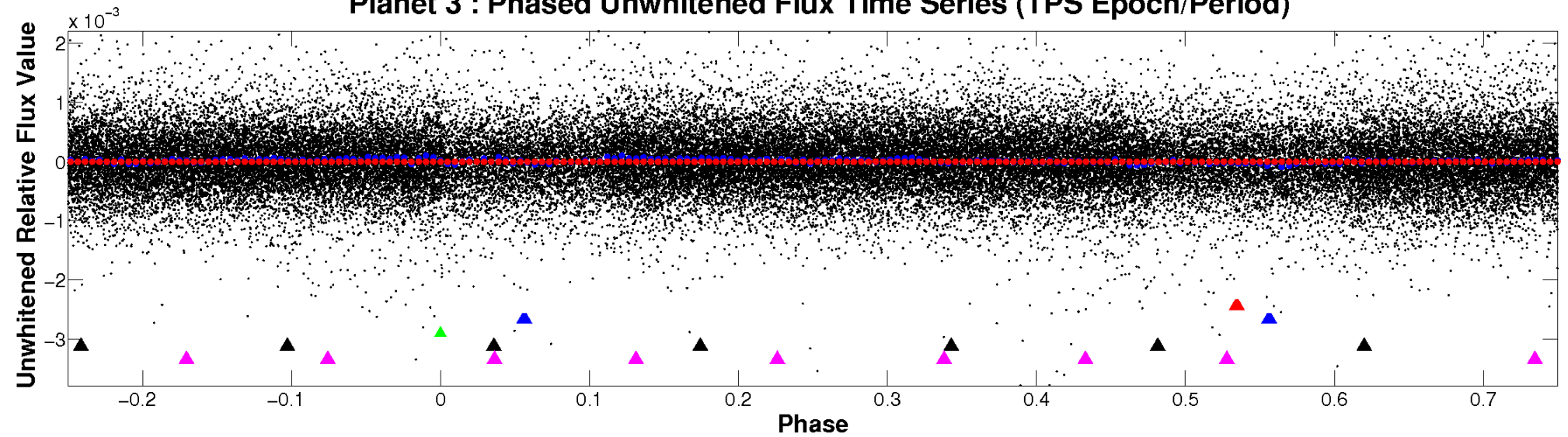
ALT Odd/Even

TCE 006029130-03



Non-Whitened Vs. Whitened Light Curve

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

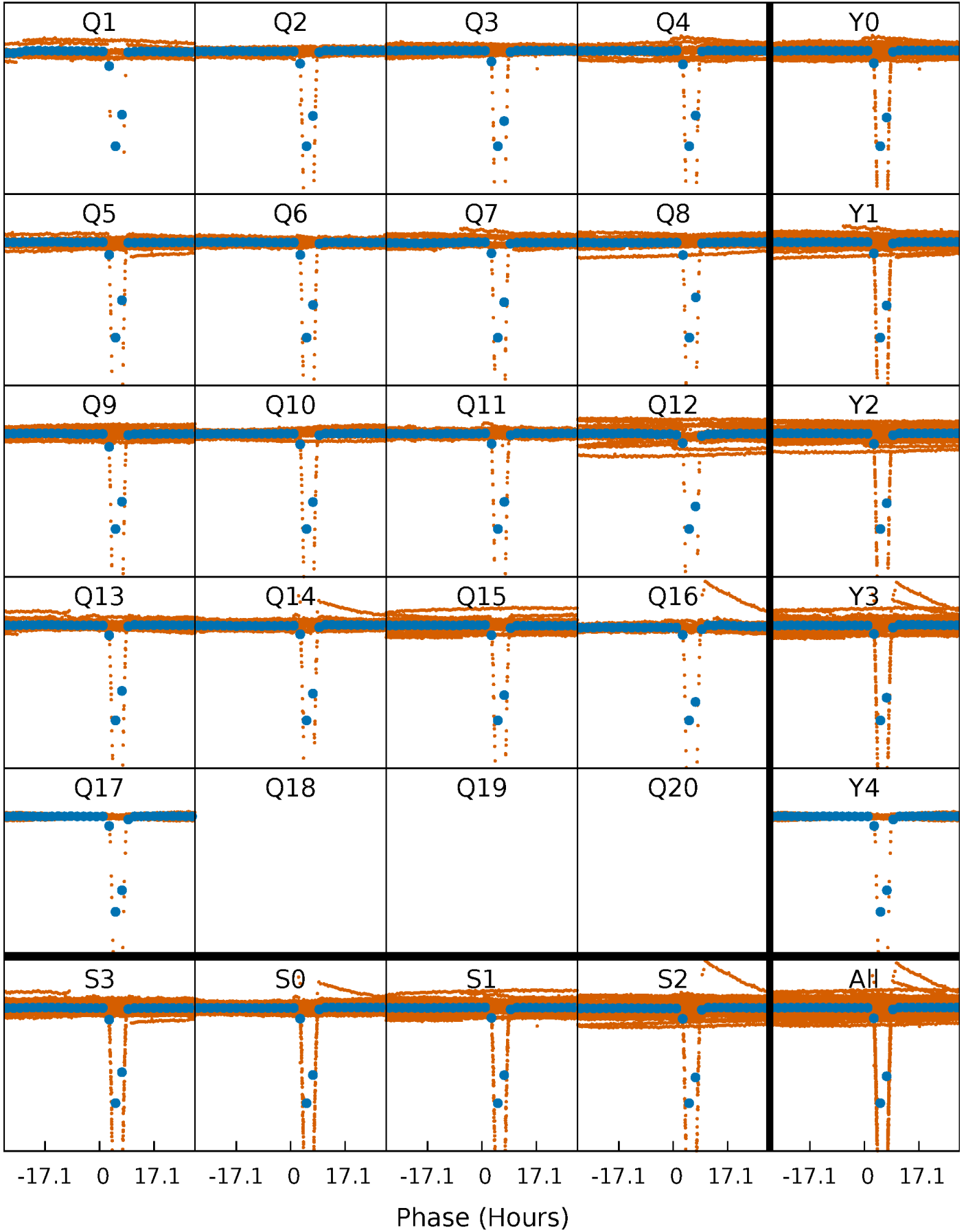


Planet 3 : Phased Whitened Flux Time Series (TPS Epoch/Period)



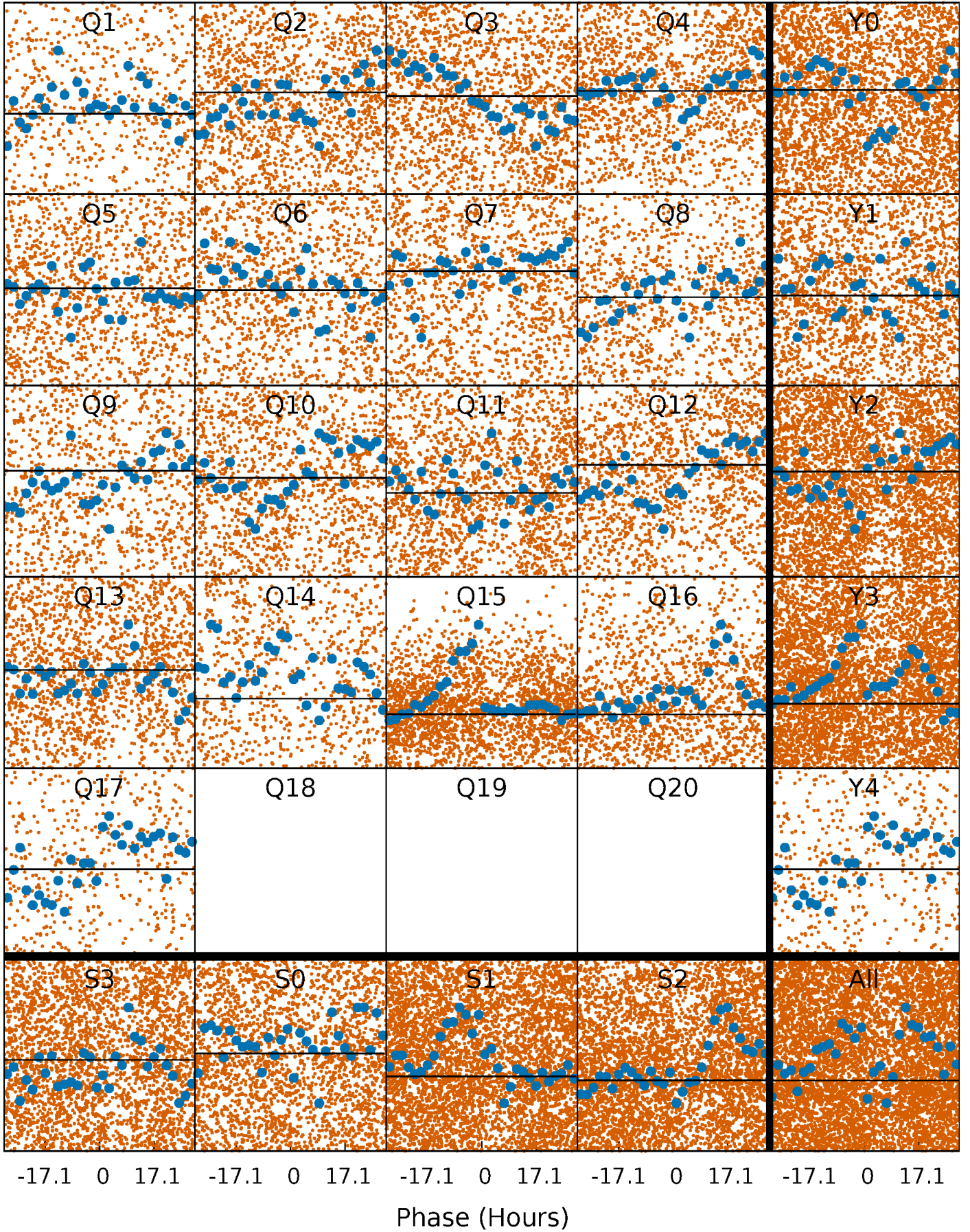
PDC Quarter-Phased Transit Curves

TCE 006029130-03 P= 4.197196 Days $T_0=132.498616$ (BKJD)



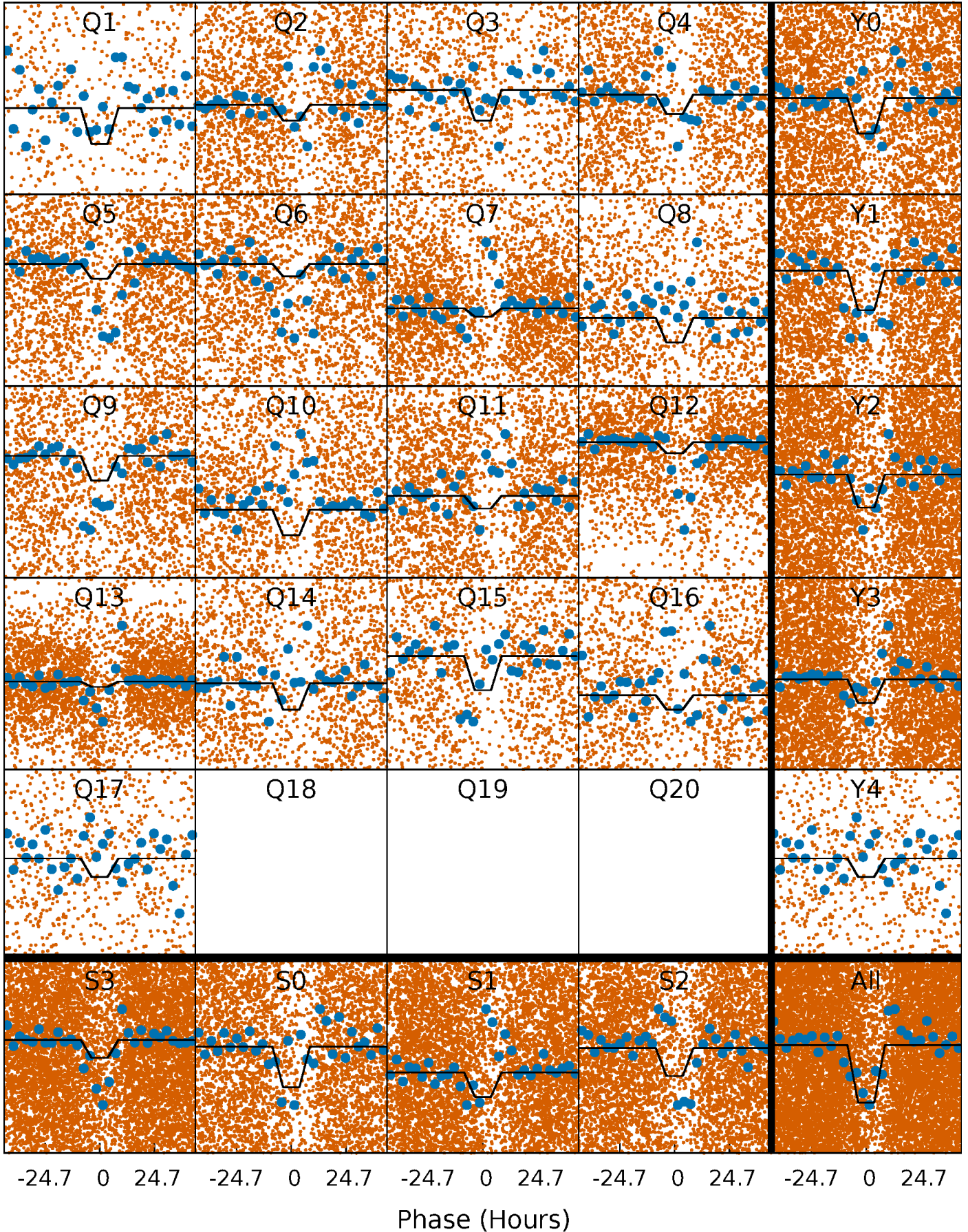
DV Quarter-Phased Transit Curves

TCE 006029130-03 P= 4.197196 Days $T_0=132.498616$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

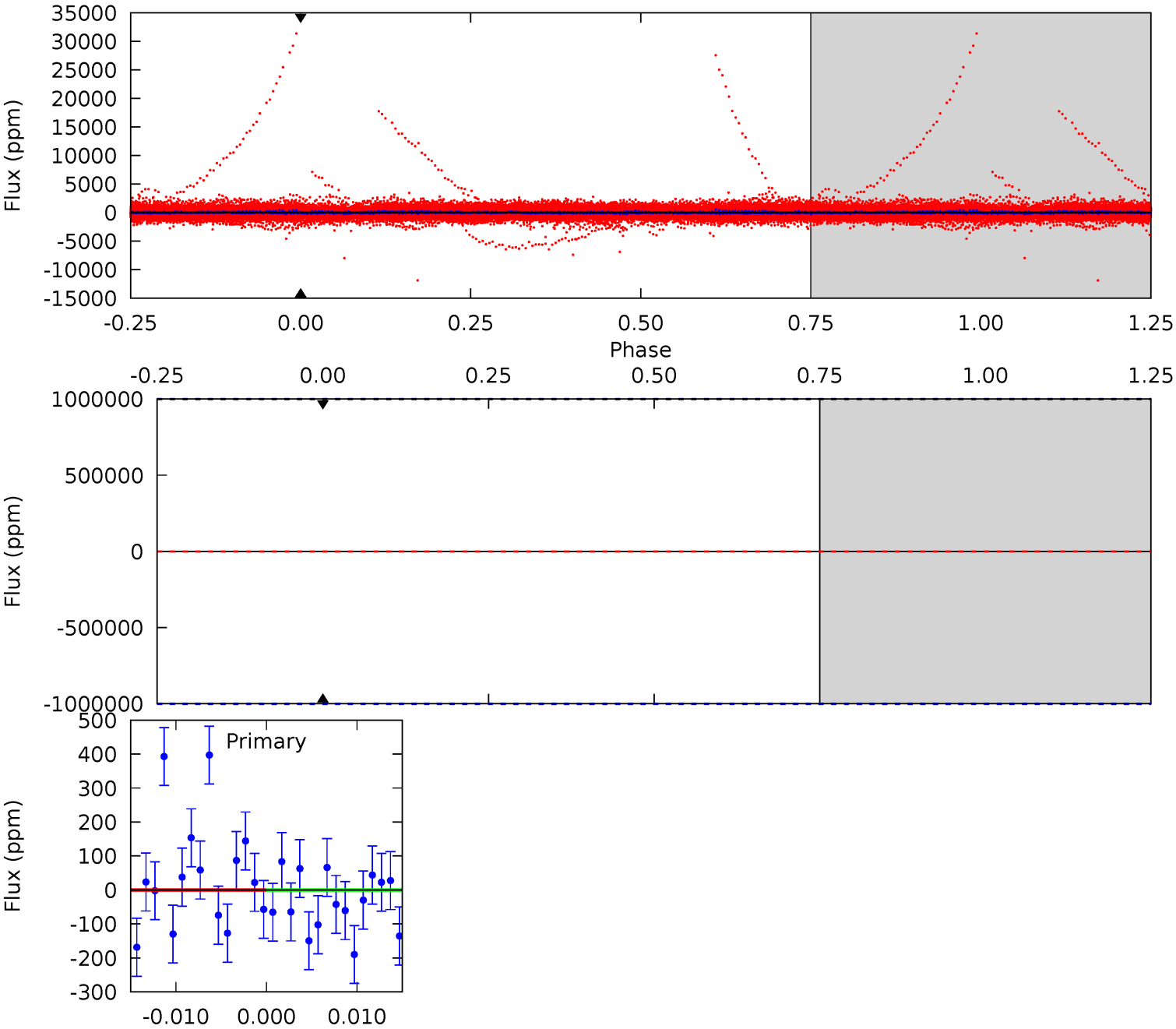
TCE 006029130-03 P= 4.197196 Days $T_0=132.493348$ (BKJD)



DV Model-Shift Uniqueness Test

006029130-03, P = 4.197196 Days, E = 128.301420 Days

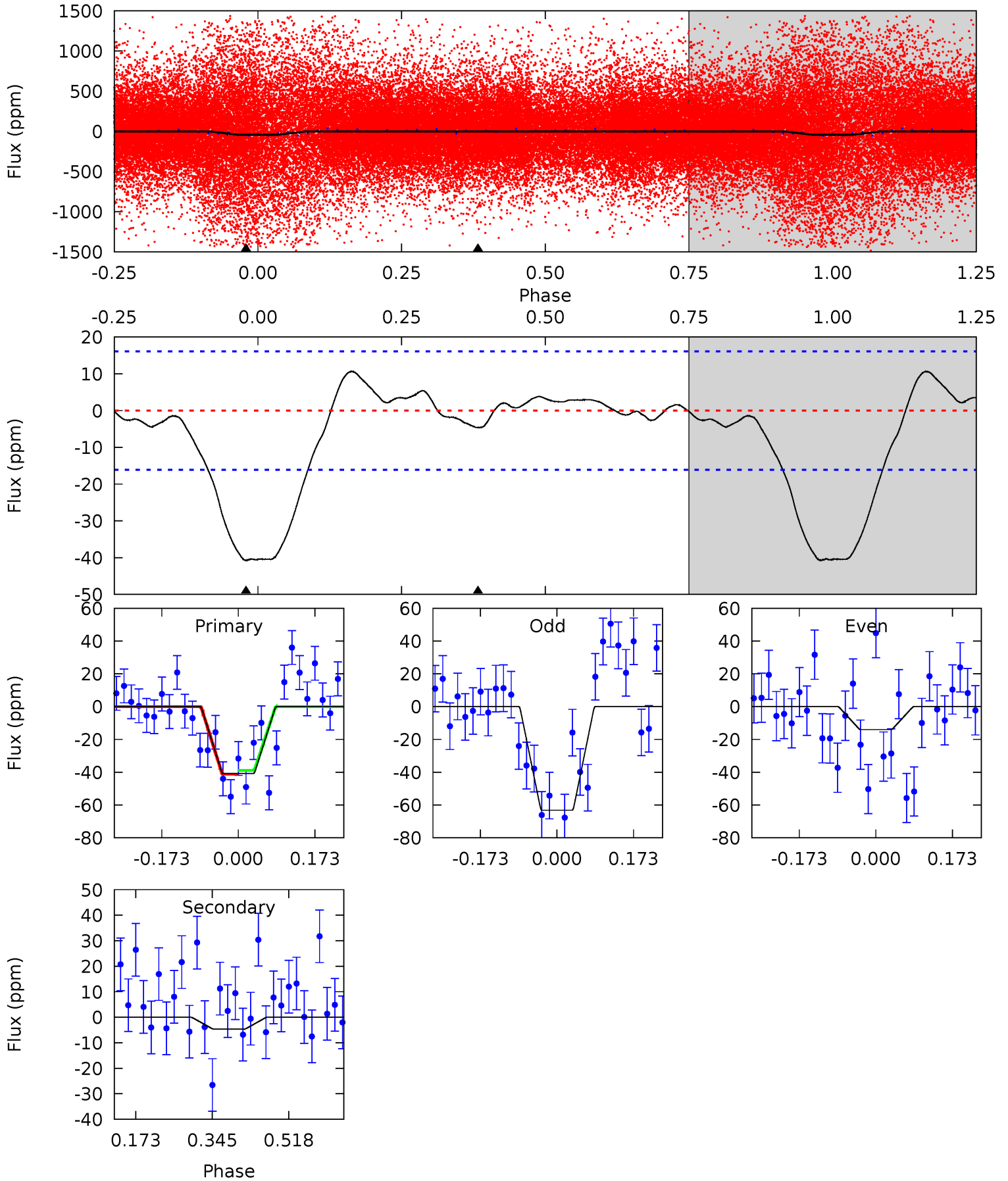
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006029130-03, P = 4.197196 Days, E = 128.296152 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.3	1.28	0	0	4.45	1.36	1.07	11.3	11.3	1.28	1.28	6.85	2.21	0.21	0.32



Stellar Parameters For KIC 006029130

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5293^{+159}_{-143}	$4.604^{+0.032}_{-0.097}$	$-0.180^{+0.300}_{-0.300}$	$0.756^{+0.122}_{-0.057}$	$0.846^{+0.070}_{-0.104}$	$2.765^{+0.481}_{-0.915}$
	+3%/-3%	+1%/-2%	+167%/-167%	+16%/-8%	+8%/-12%	+17%/-33%
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 006029130-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$10.09^{+7.30}_{-6.45}$	1314^{+59}_{-51}	-3184^{+15082}_{-6546}	$-11.362^{+2579.779}_{-1572.070}$
Alt.	-5 ± 4	$6.05^{+6.17}_{-4.46}$	1314^{+54}_{-49}	-1938^{+4387}_{-118}	$0.129^{+1.557}_{-0.112}$

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

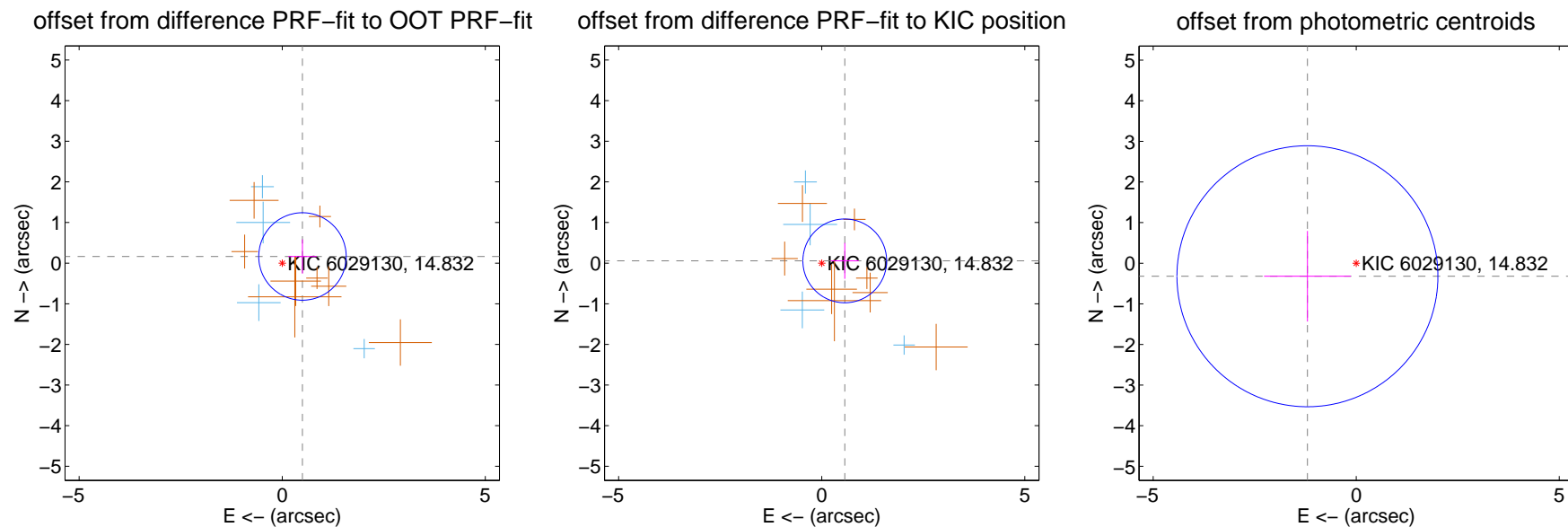
DV Centroid Data

Supplemental centroid analysis for 006029130-03. Kepler magnitude: 14.83. Transit SNR -1.00

There are 4 quarters with good PRF difference image offsets

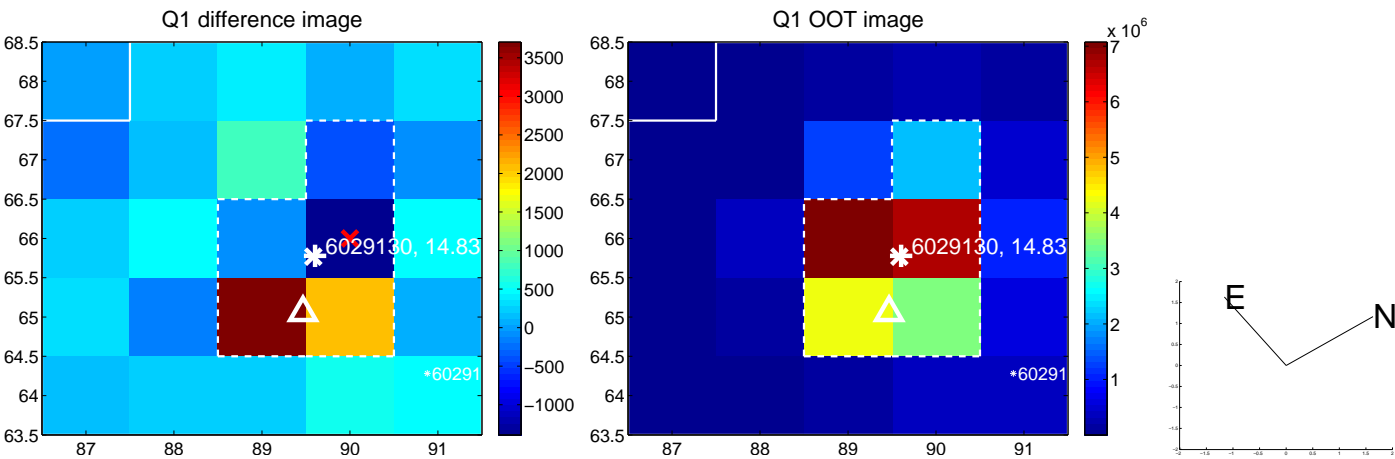
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.525 ± 0.359	1.46	-0.498 ± 0.351	0.164 ± 0.422
PRF-fit source offset from KIC position	0.570 ± 0.344	1.66	-0.567 ± 0.343	0.056 ± 0.441
photometric centroid source offset	1.24 ± 1.07	1.16	1.20 ± 1.07	-0.32 ± 1.12

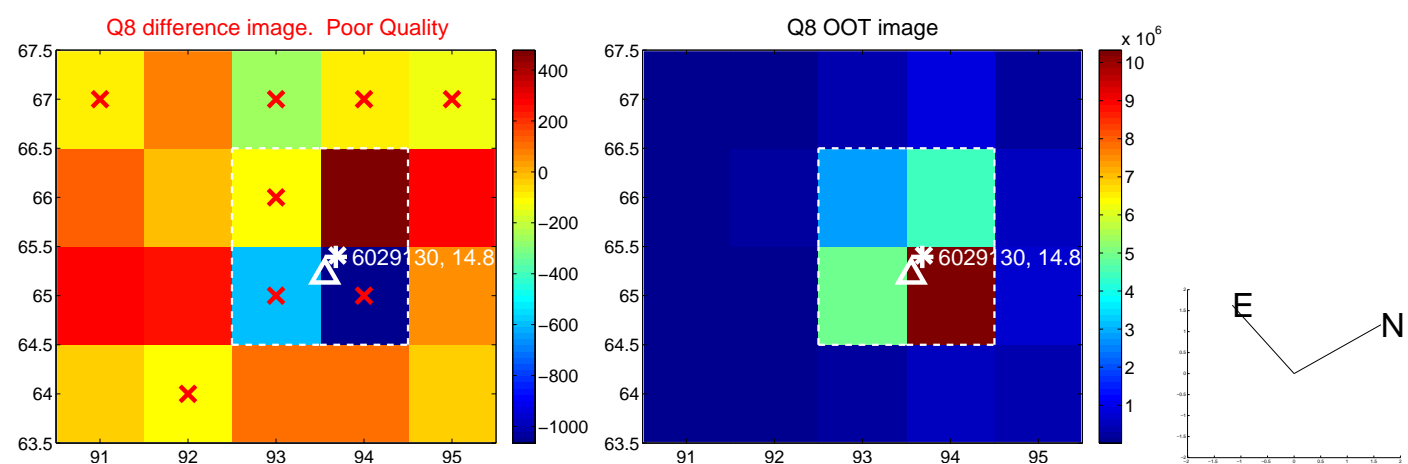
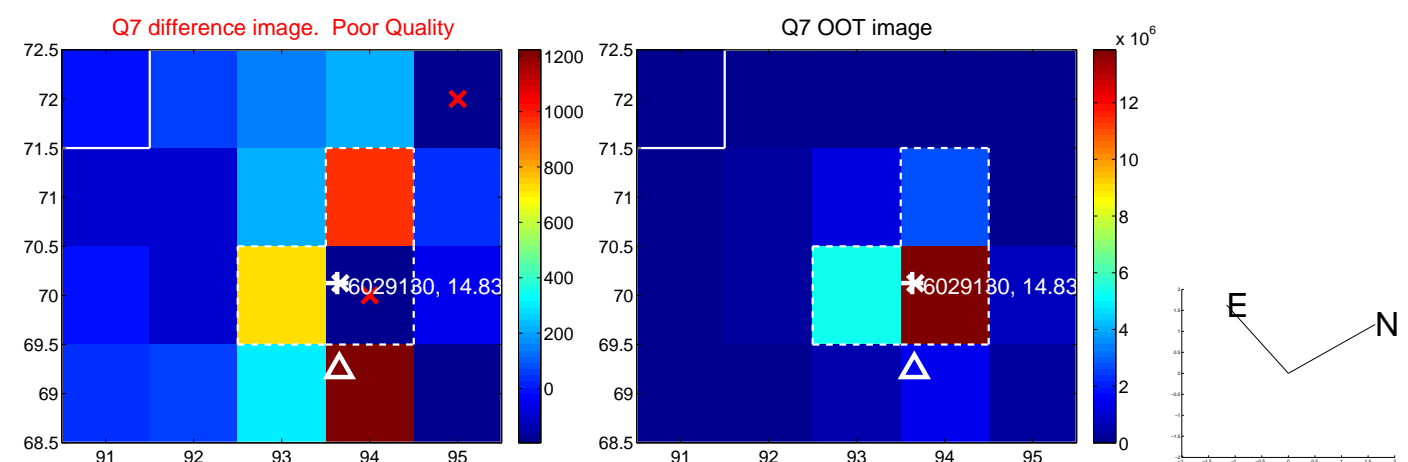
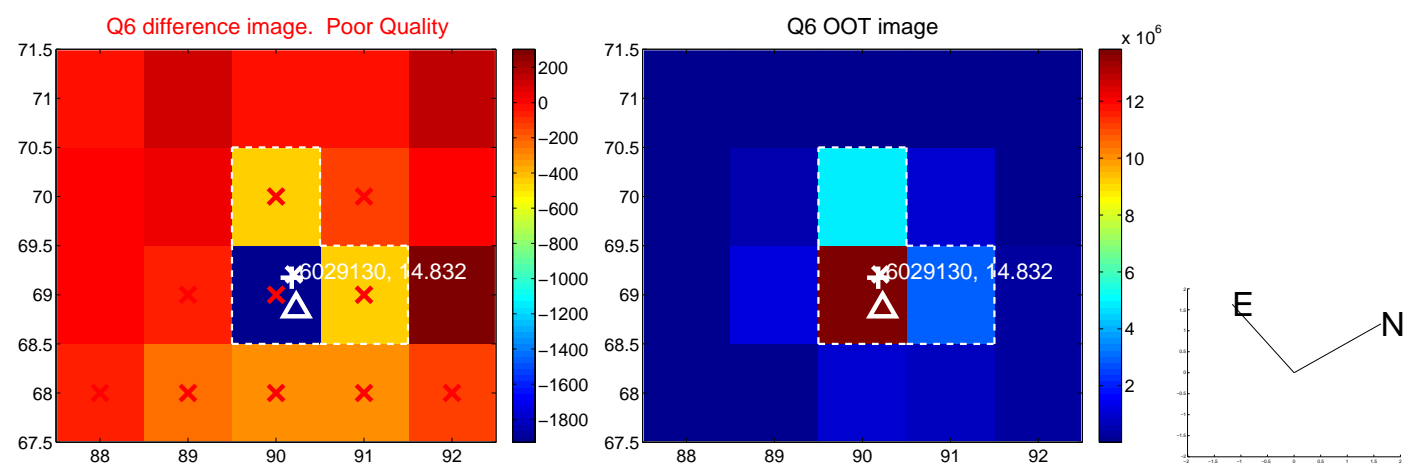
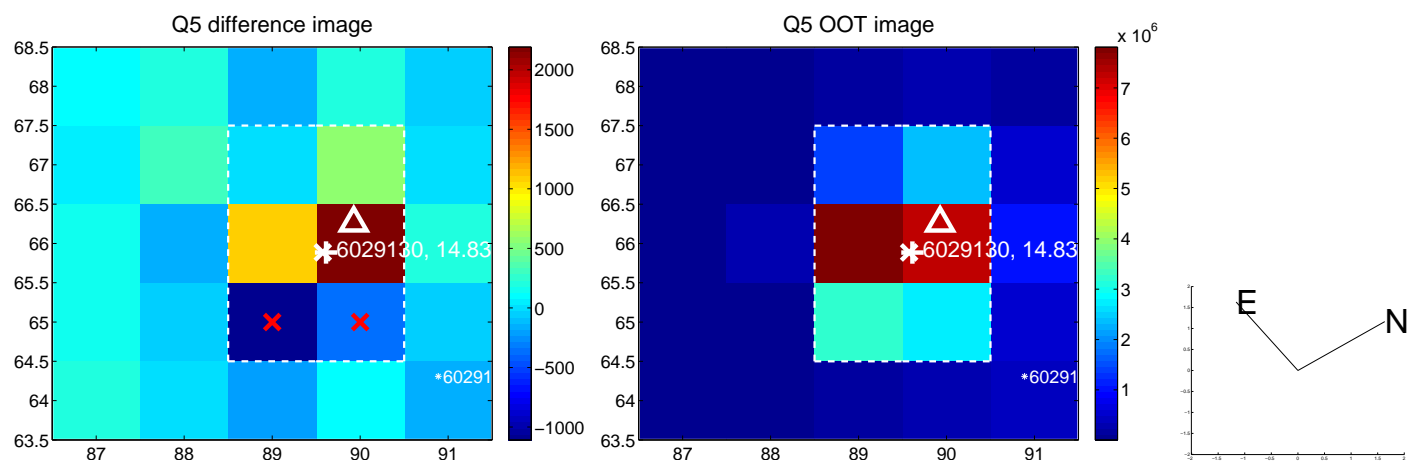


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

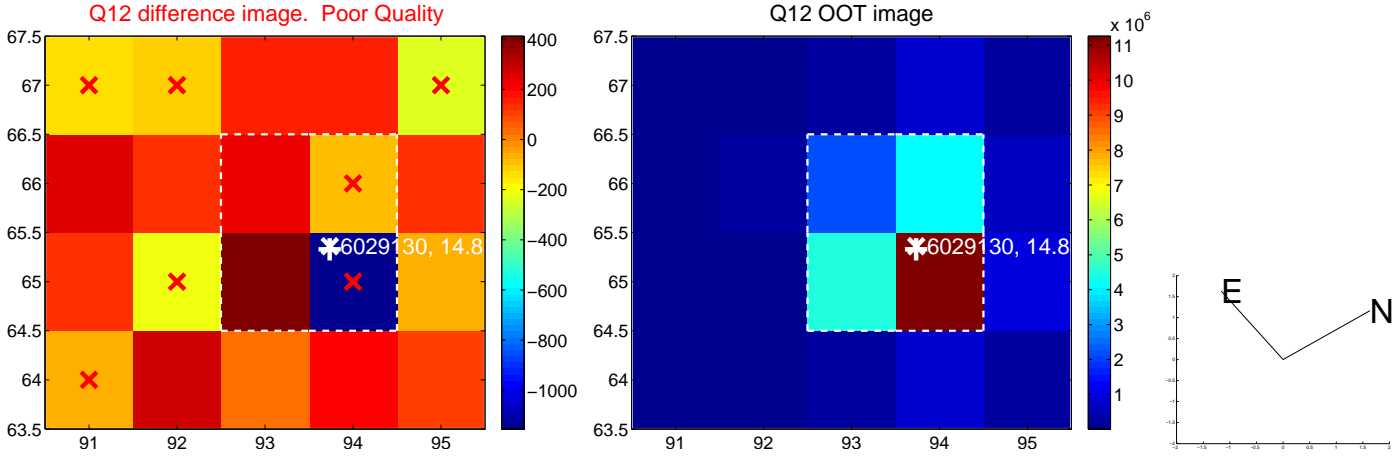
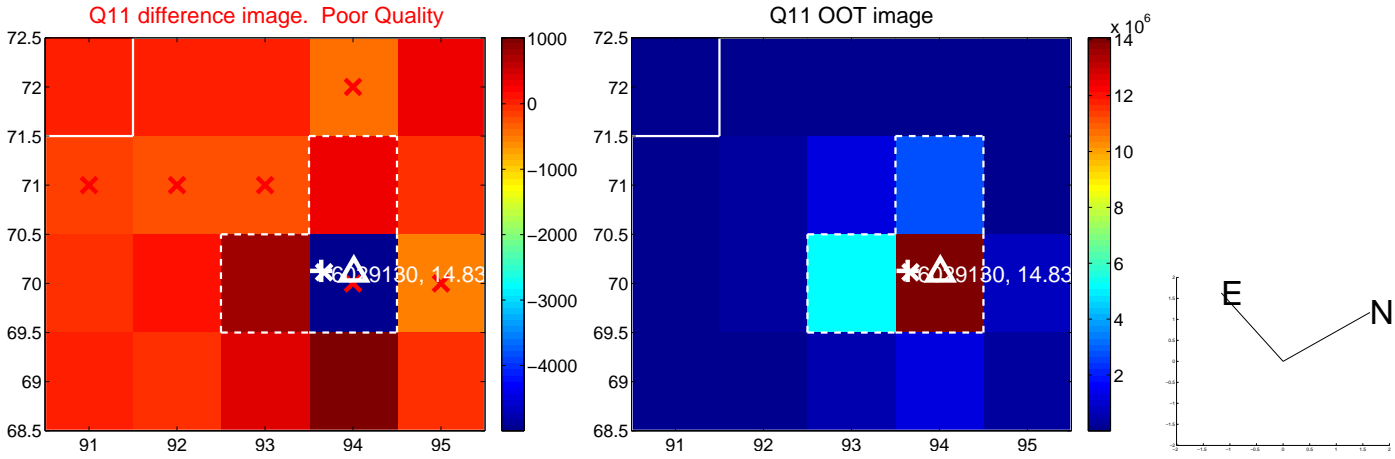
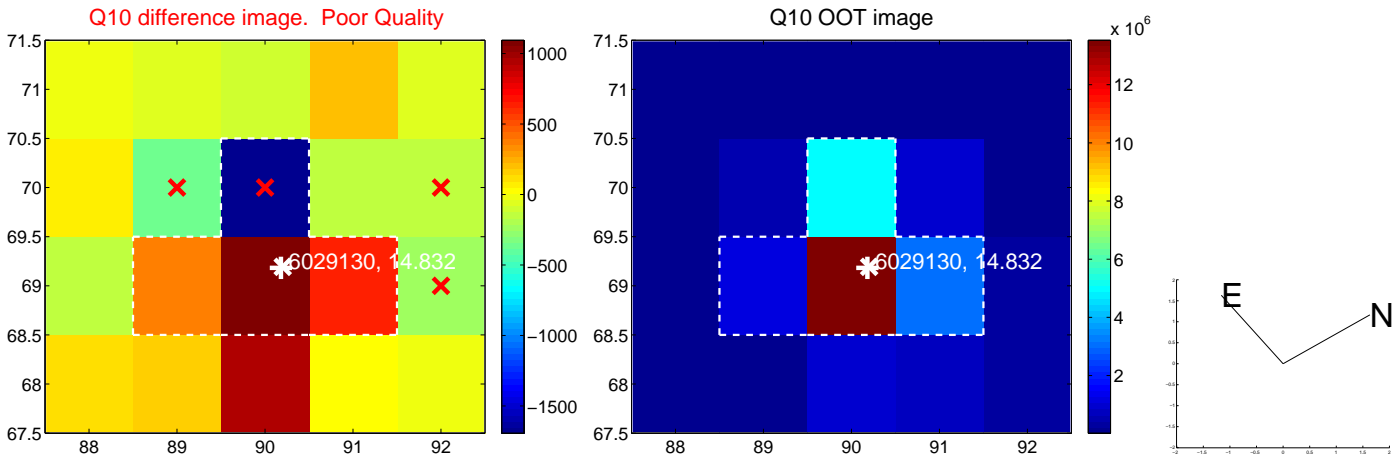
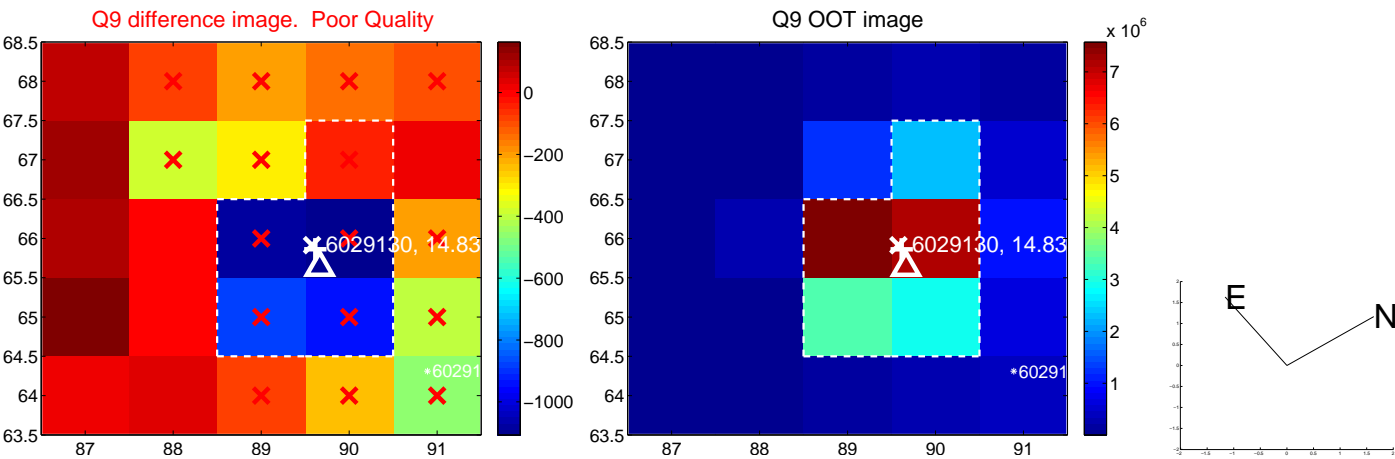
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



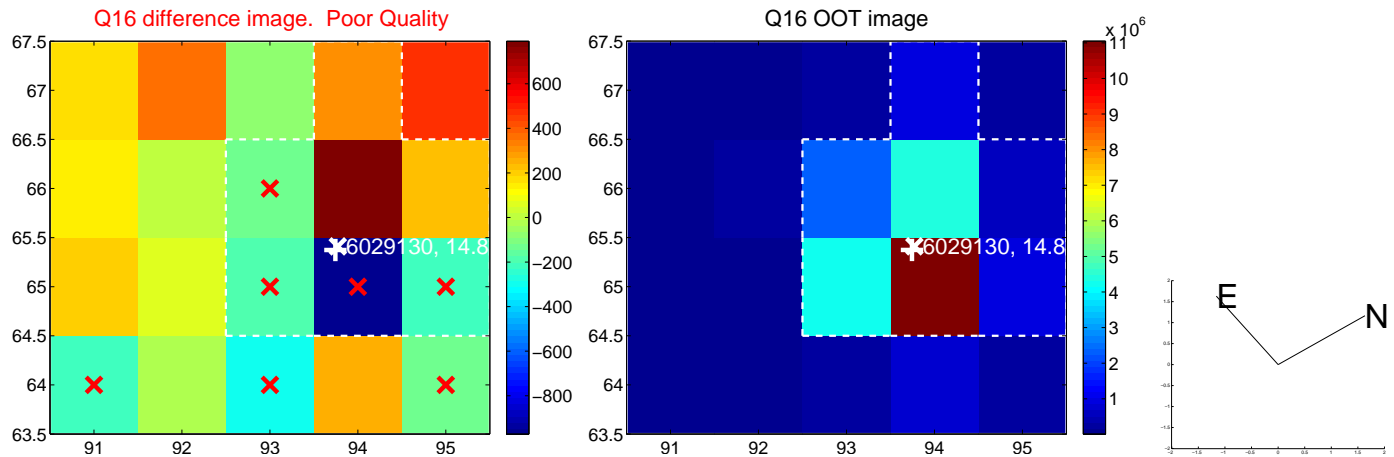
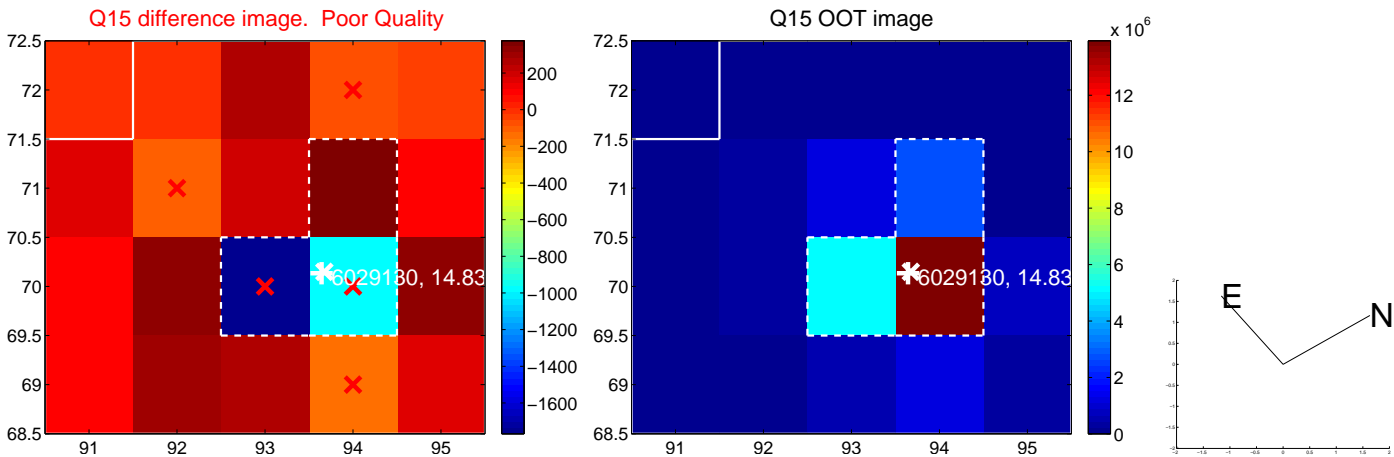
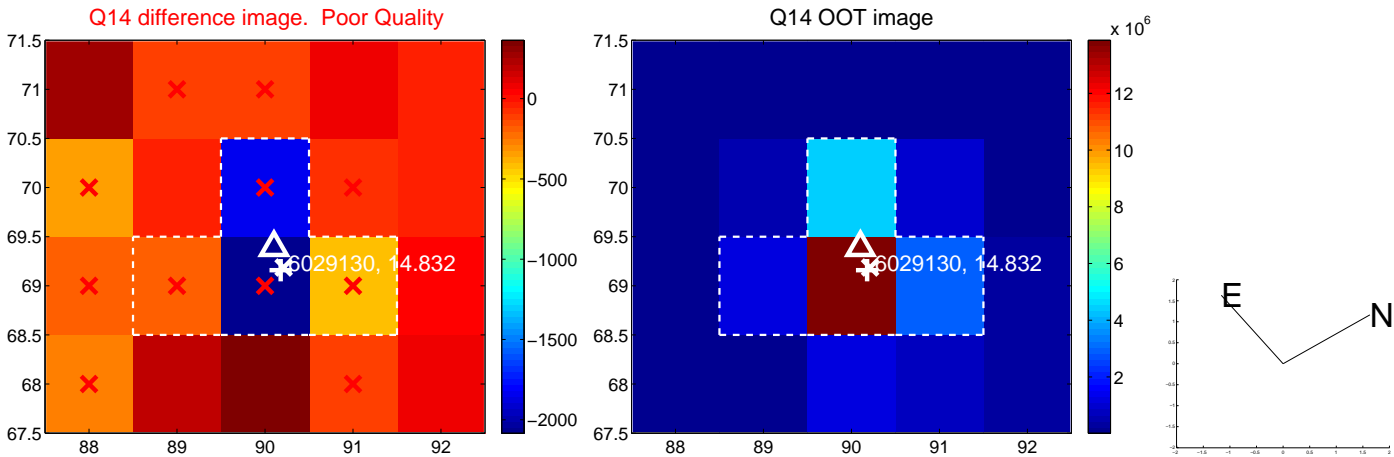
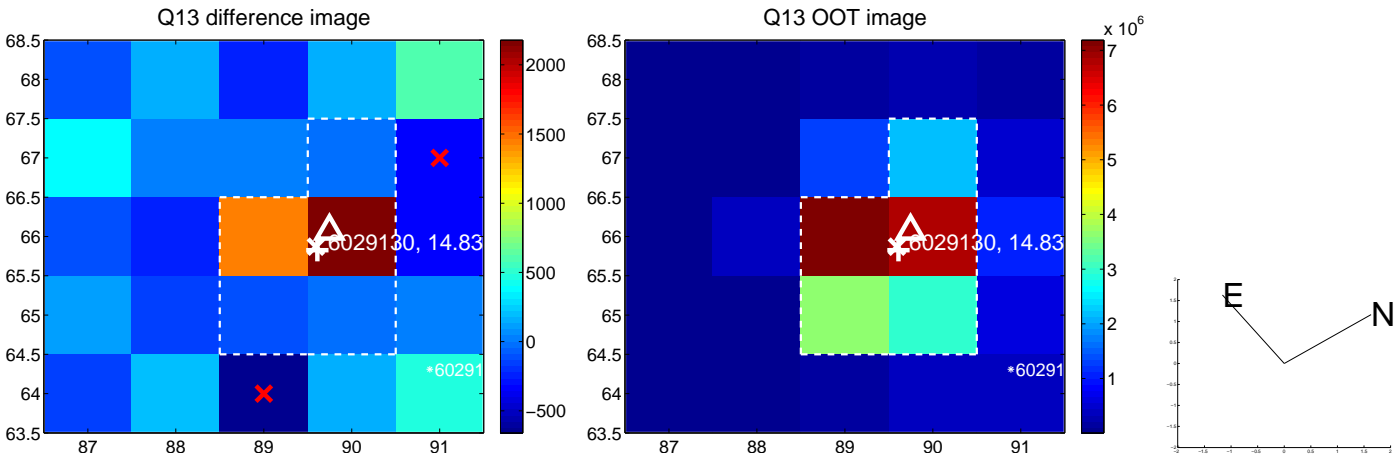
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



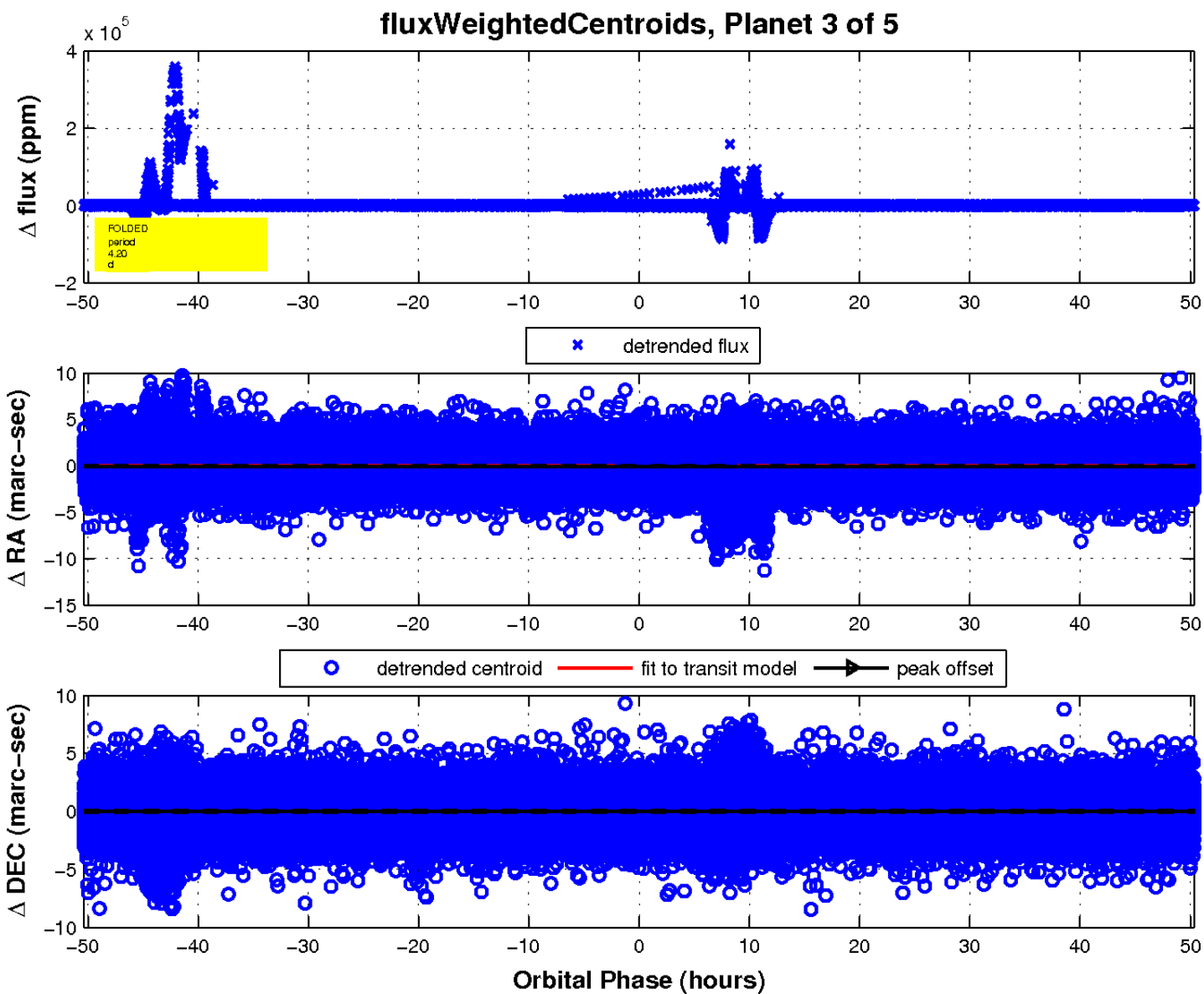
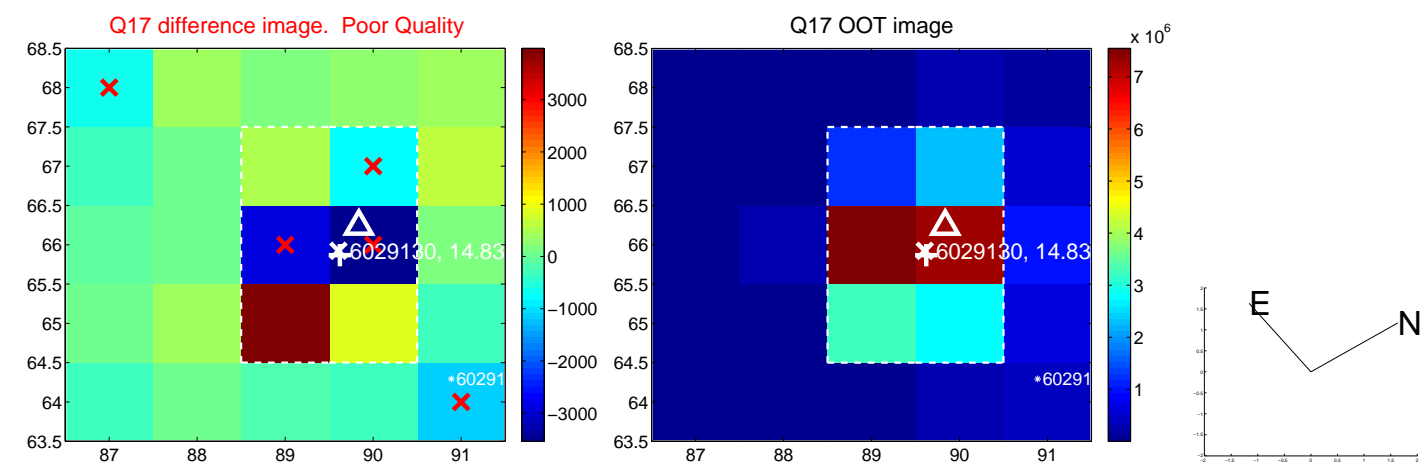
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

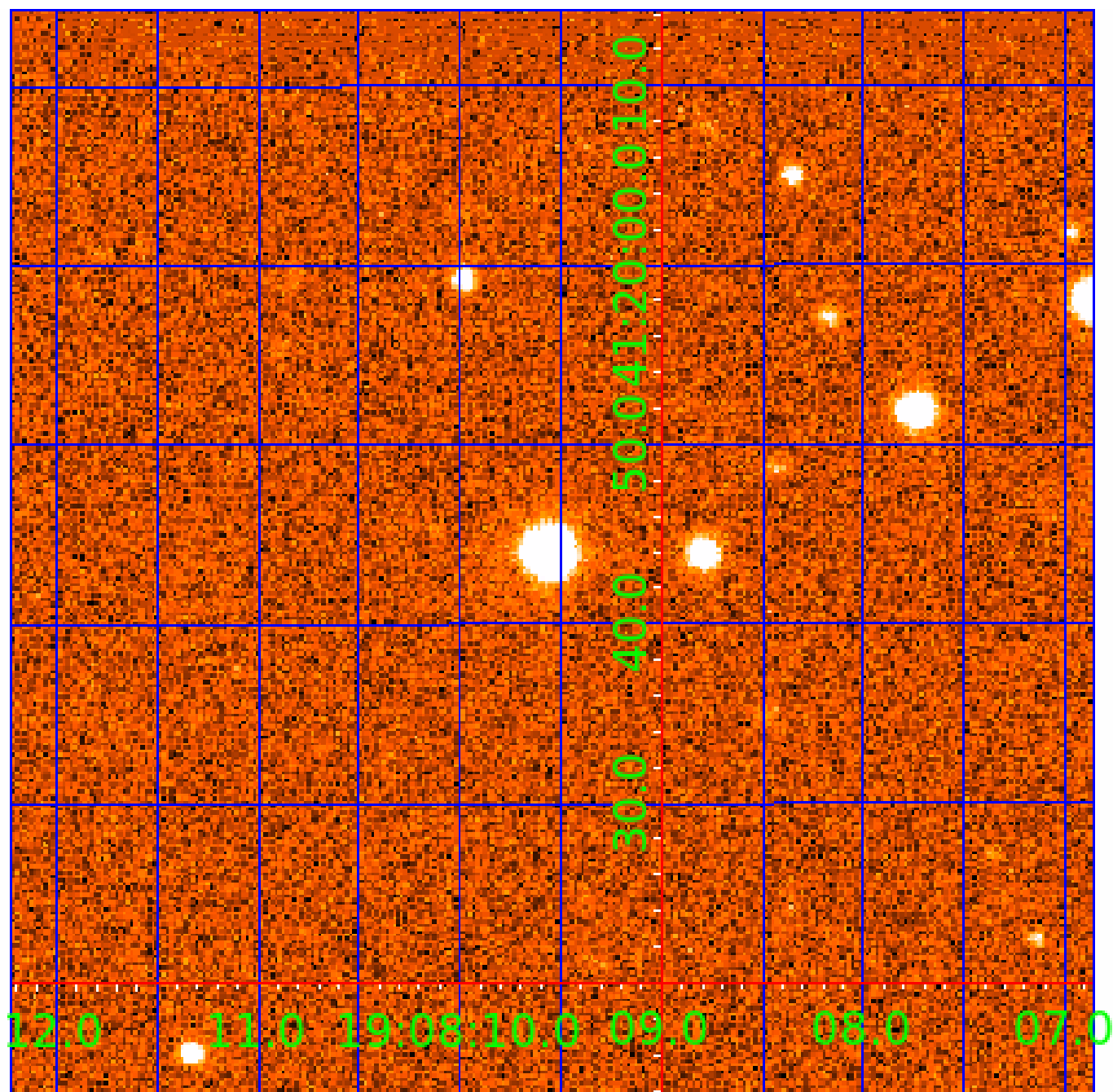


white \times : KIC target position; $+$: OOT centroid; Δ : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006029130

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})
006029130-01	OBS	6647.01	12.591516	134.746307	302989.9	3.500	12060.7	-1.0	0.76	5293	40.25	40.30
006029130-02	OBS	No	6.295840	134.828042	249044.4	3.500	10148.4	-1.0	0.76	5293	33.47	101.54
006029130-03	OBS	No	4.197196	132.498616	10130.7	15.000	594.0	-1.0	0.76	5293	7.45	174.36
006029130-04	OBS	No	226.066901	191.991464	948.4	8.840	10.5	8.1	0.76	5293	4.63	0.86
006029130-05	OBS	No	164.956980	190.942003	1030.8	6.000	10.3	-1.0	0.76	5293	2.38	1.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006029130-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
006029130-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
006029130-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
006029130-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
006029130-05	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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.

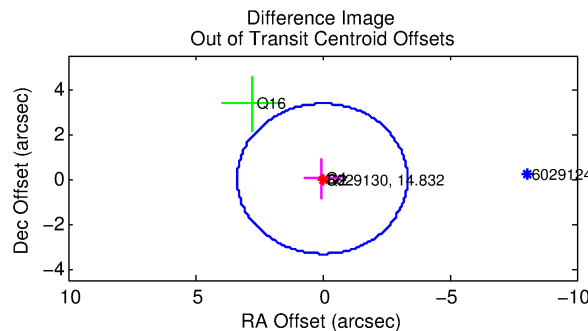
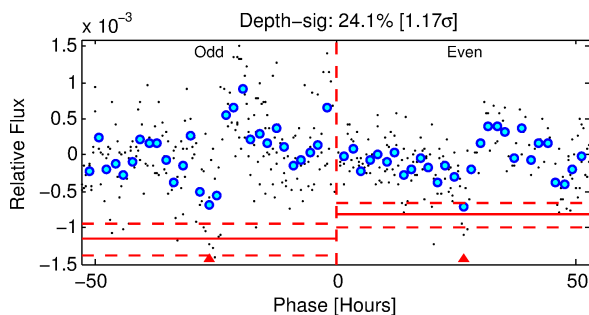
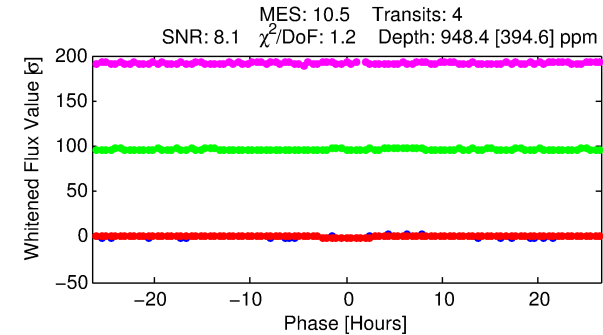
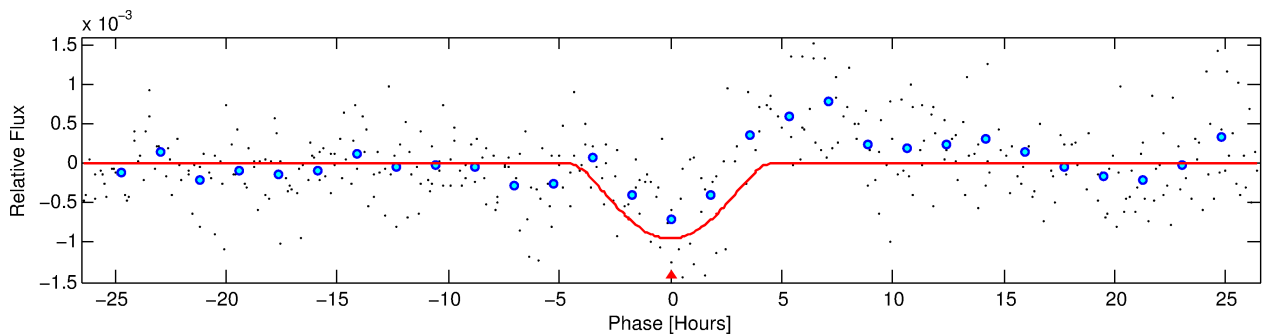
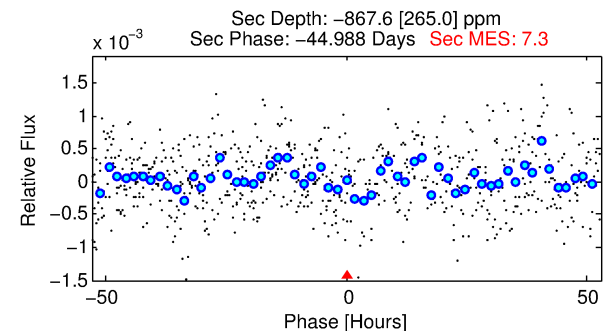
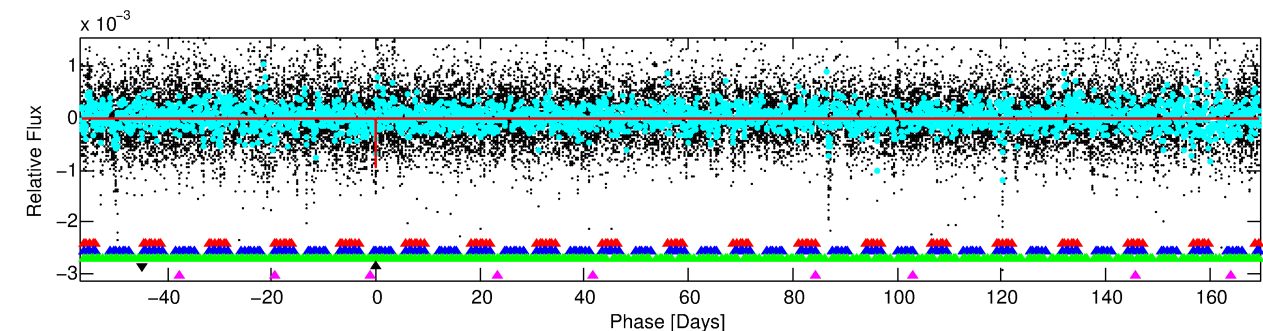
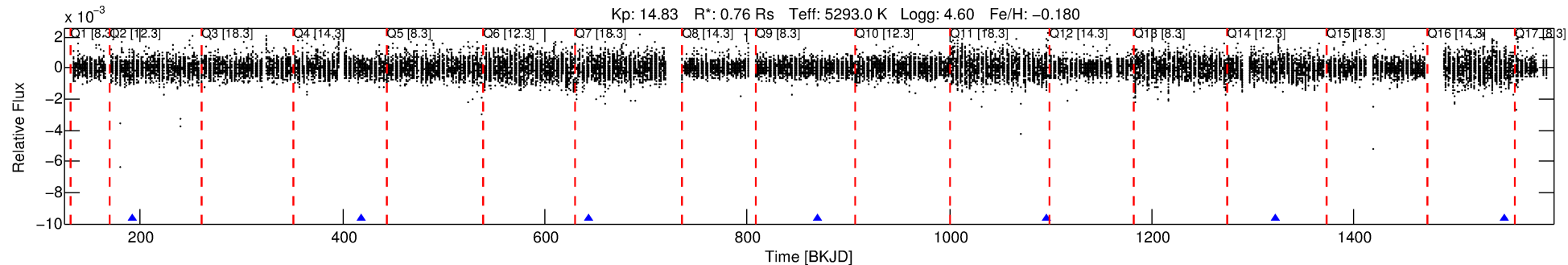
Ephemeris Match Information For 006029130-04

No Significant Match Found

DV One-Page Summary

KIC: 6029130 Candidate: 4 of 5 Period: 226.067 d
KOI: K06647 Corr: No Ephemeris Match

Kp: 14.83 R*: 0.76 Rs Teff: 5293.0 K Logg: 4.60 Fe/H: -0.180



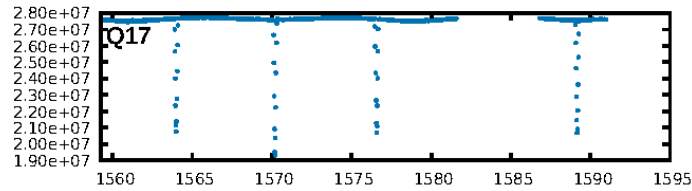
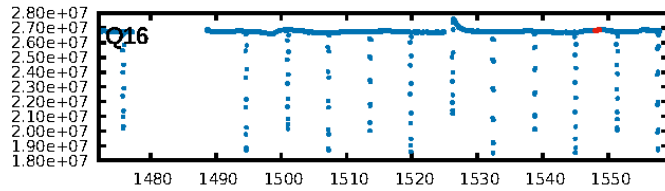
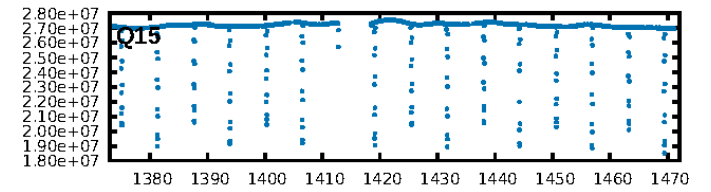
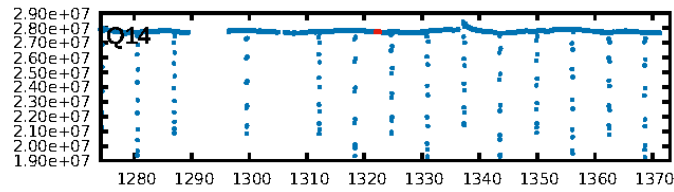
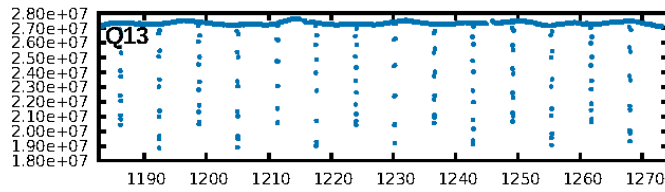
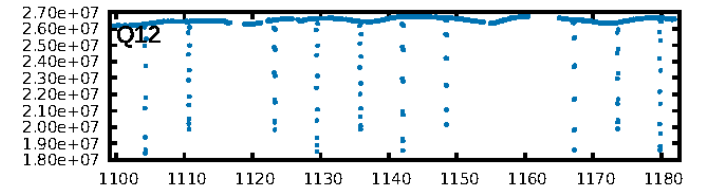
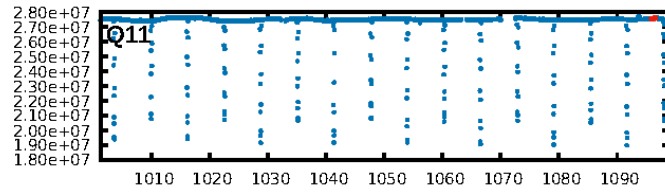
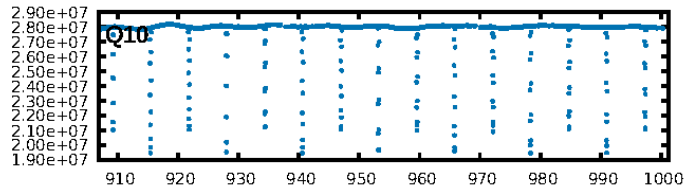
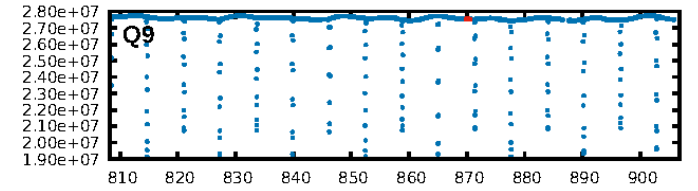
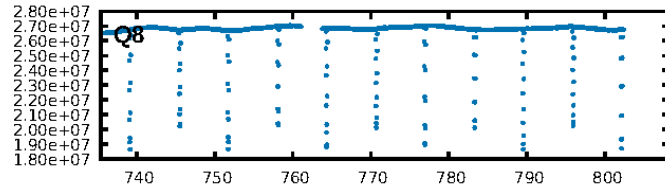
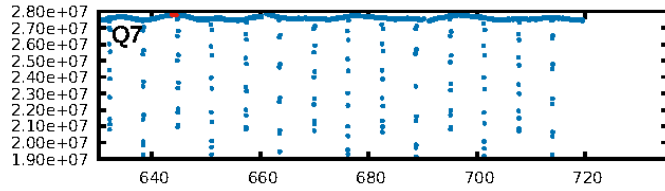
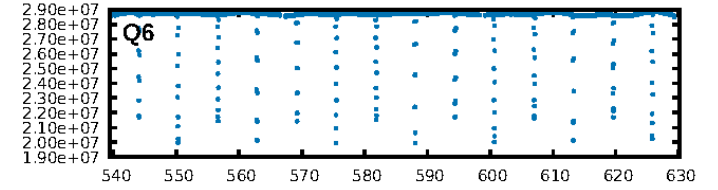
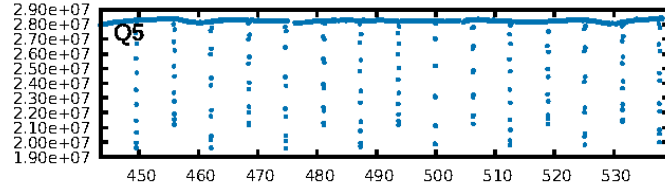
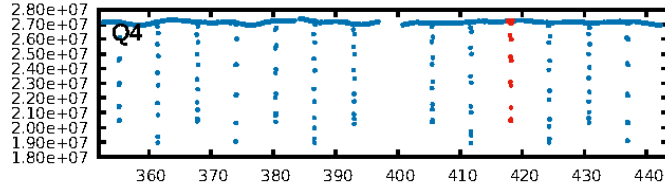
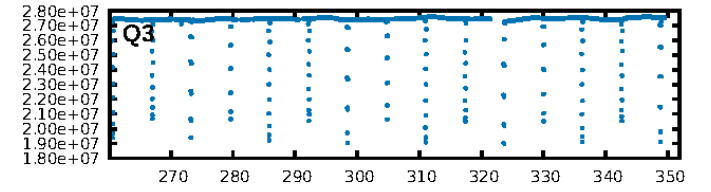
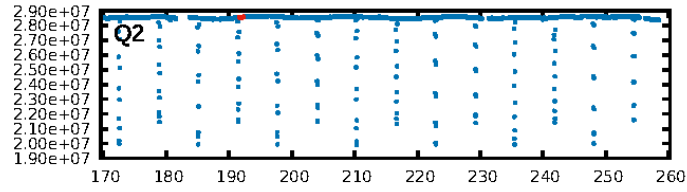
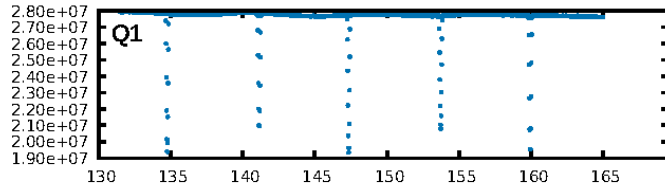
DV Fit Results:

Period = 226.06690 [0.01262] d
Epoch = 191.9915 [0.0582] BKJD
Rp/R* = 0.0561 [0.2271]
a/R* = 66.62 [62.78]
b = 1.00 [0.34]
Seff = 0.86 [0.19]
Teq = 245 [13] K
Rp = 4.63 [18.75] Re
a = 0.6848 [0.0896] AU
Ag = N/A
Teffp = N/A

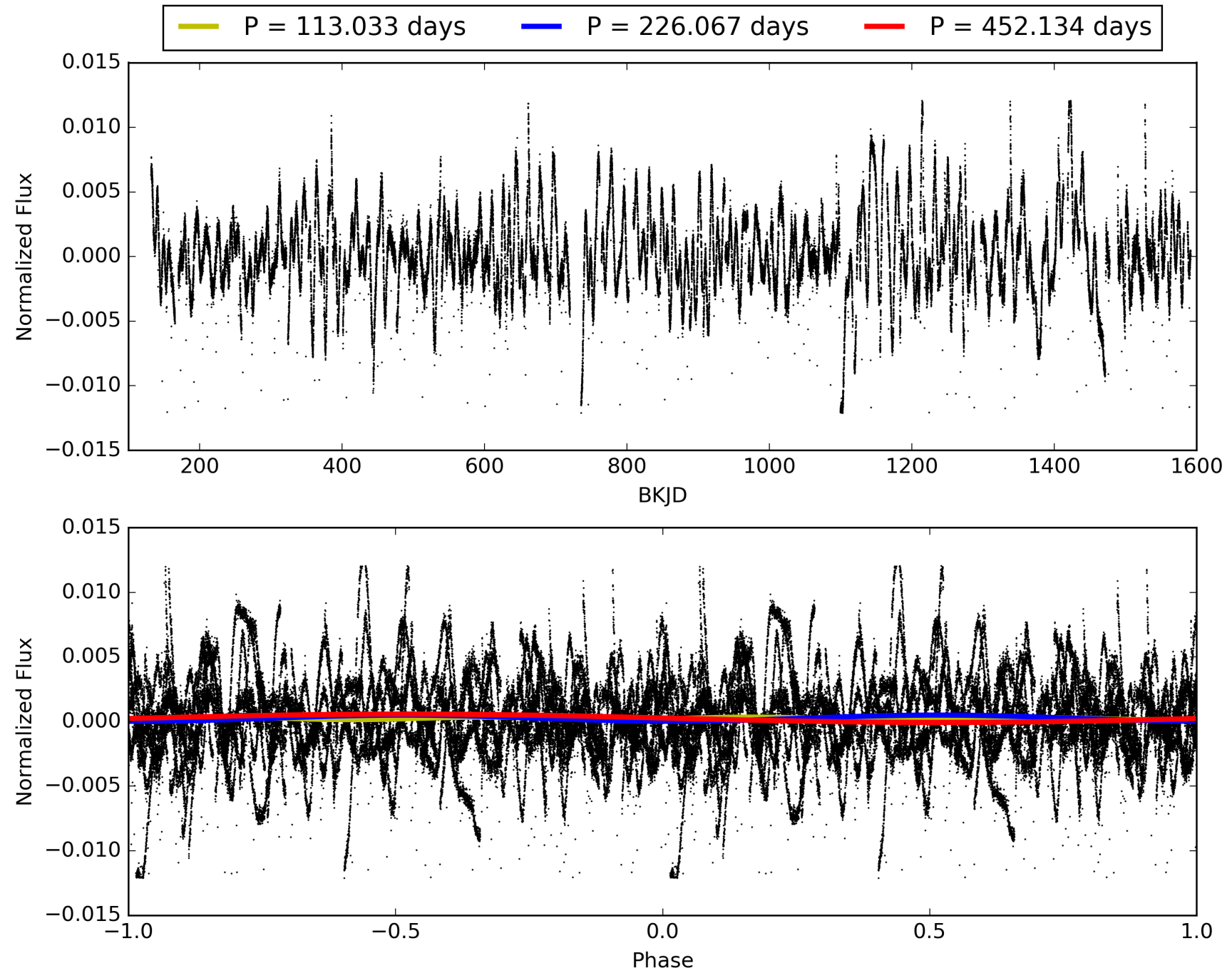
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [137.27σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 2.3%
ModelChiSquareGof-sig: 91.1%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.5788
Centroid-sig: 21.0%
Centroid-so: 0.807 arcsec [1.28σ]
OotOffset-rm: 0.010 arcsec [0.01σ]
KicOffset-rm: 0.219 arcsec [0.20σ]
OotOffset-st: 1/0/2/0 [3]
KicOffset-st: 1/0/2/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.40 [2/5]

TCE 006029130-04, PDC Light Curves

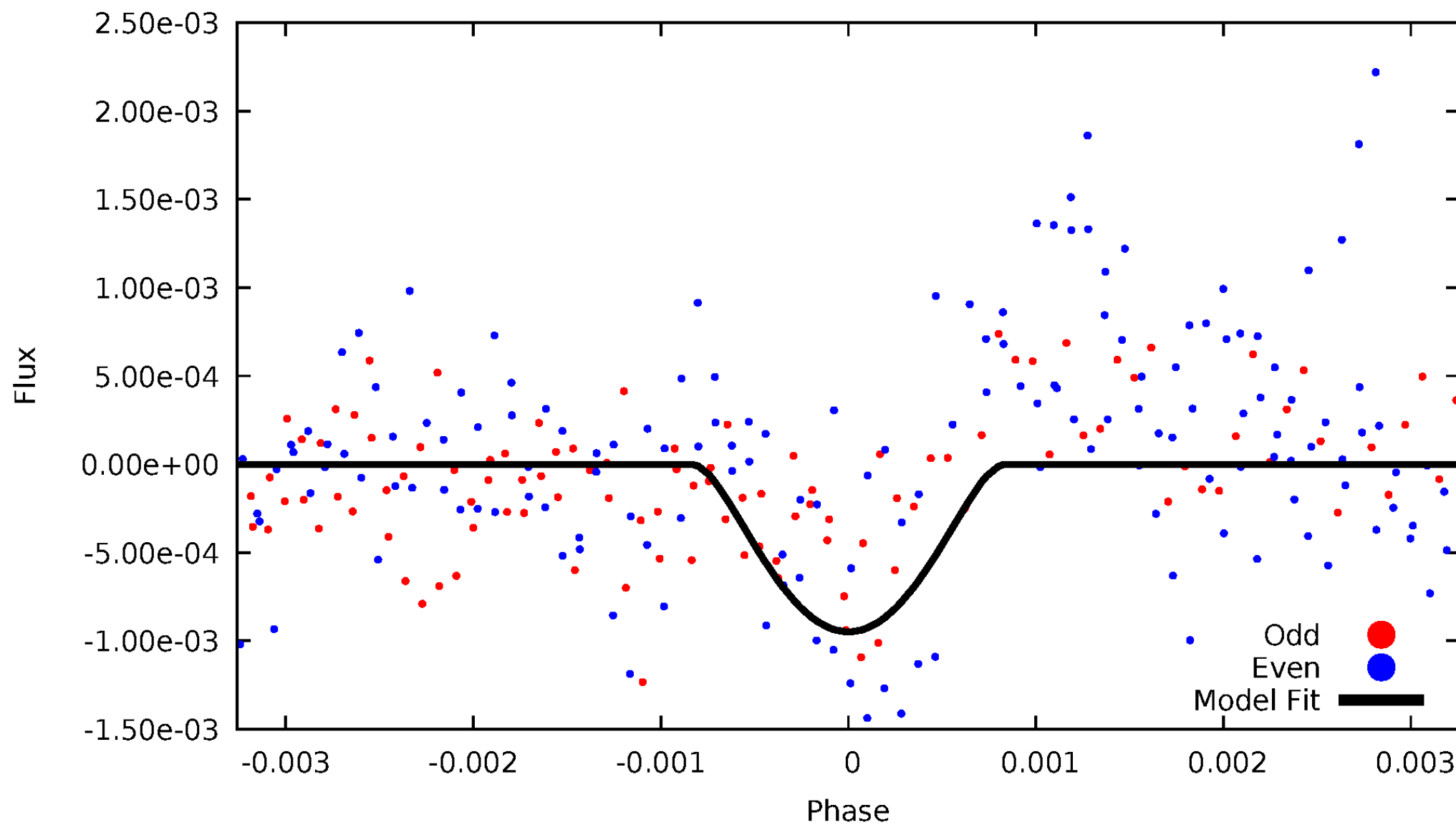


TCE 006029130-04



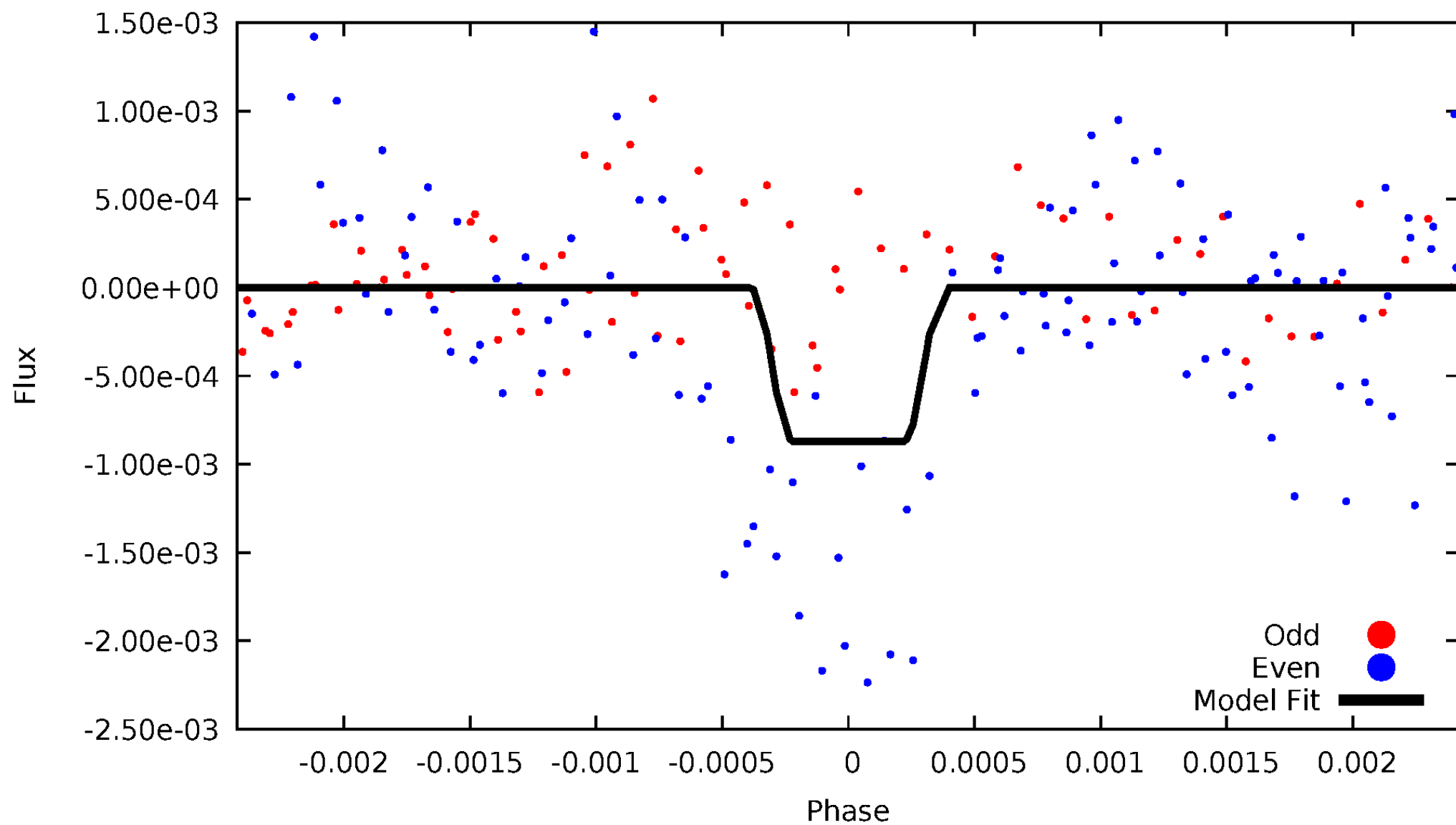
DV Odd/Even

TCE 006029130-04



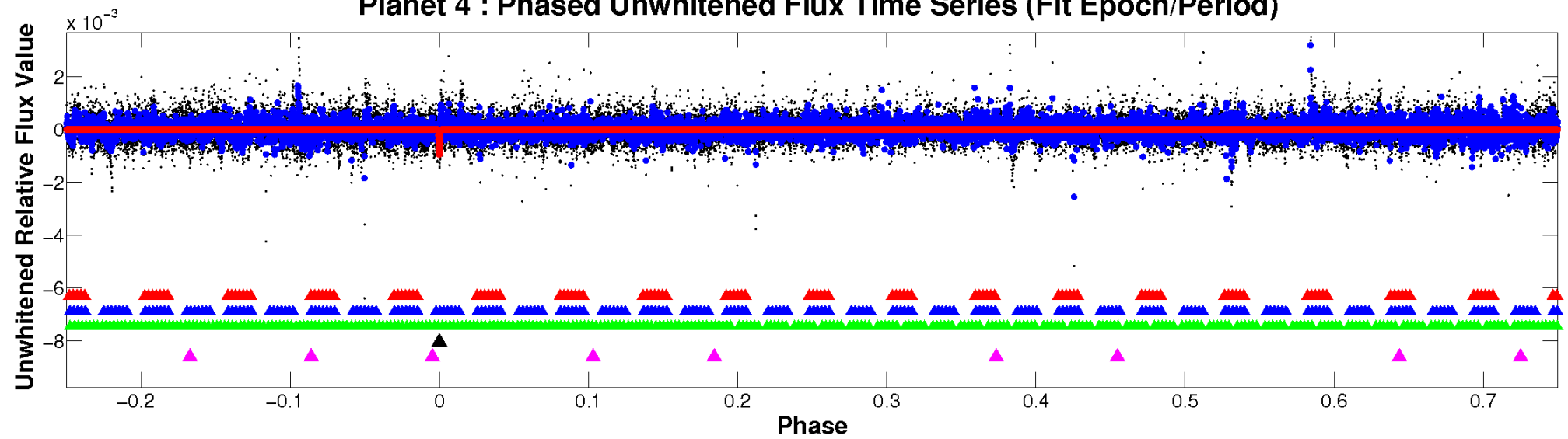
ALT Odd/Even

TCE 006029130-04

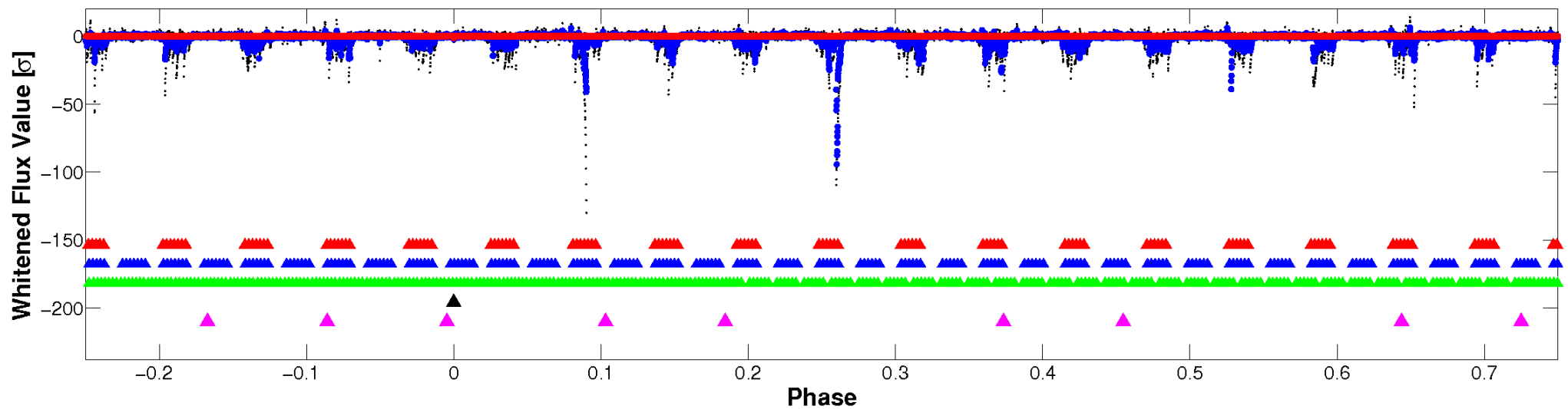


Non-Whitened Vs. Whitened Light Curve

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

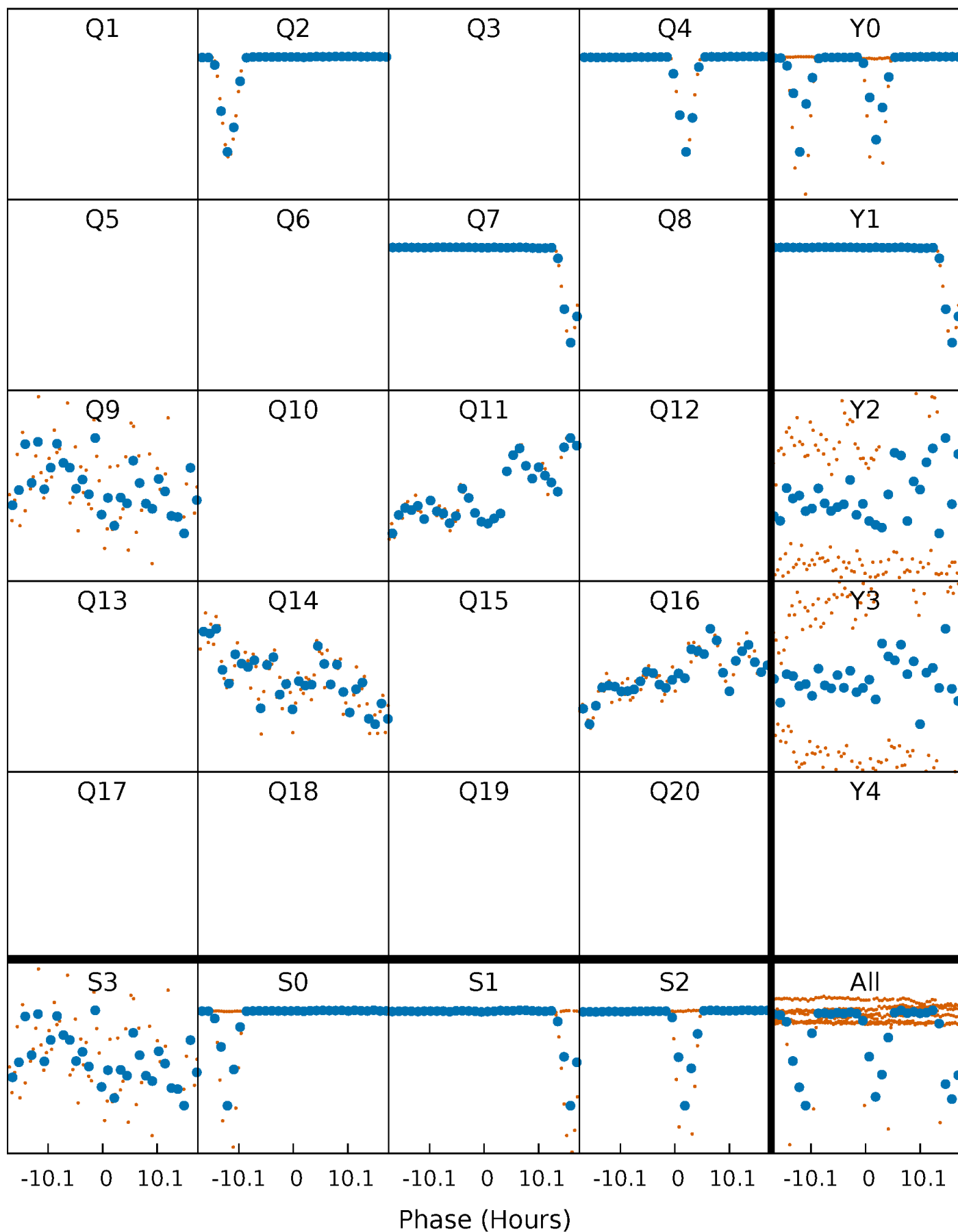


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



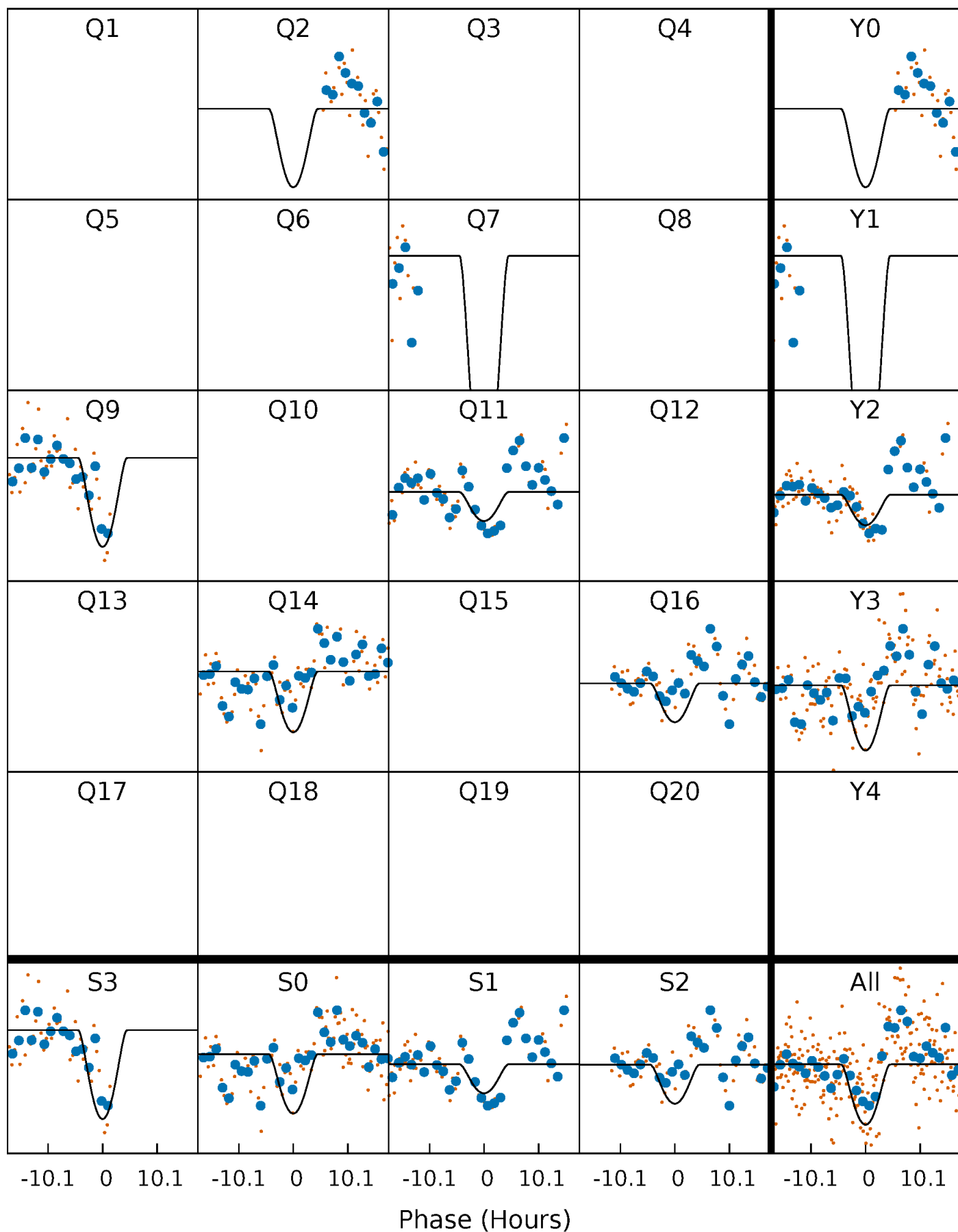
PDC Quarter-Phased Transit Curves

TCE 006029130-04 P=226.066901 Days $T_0=191.991464$ (BKJD)



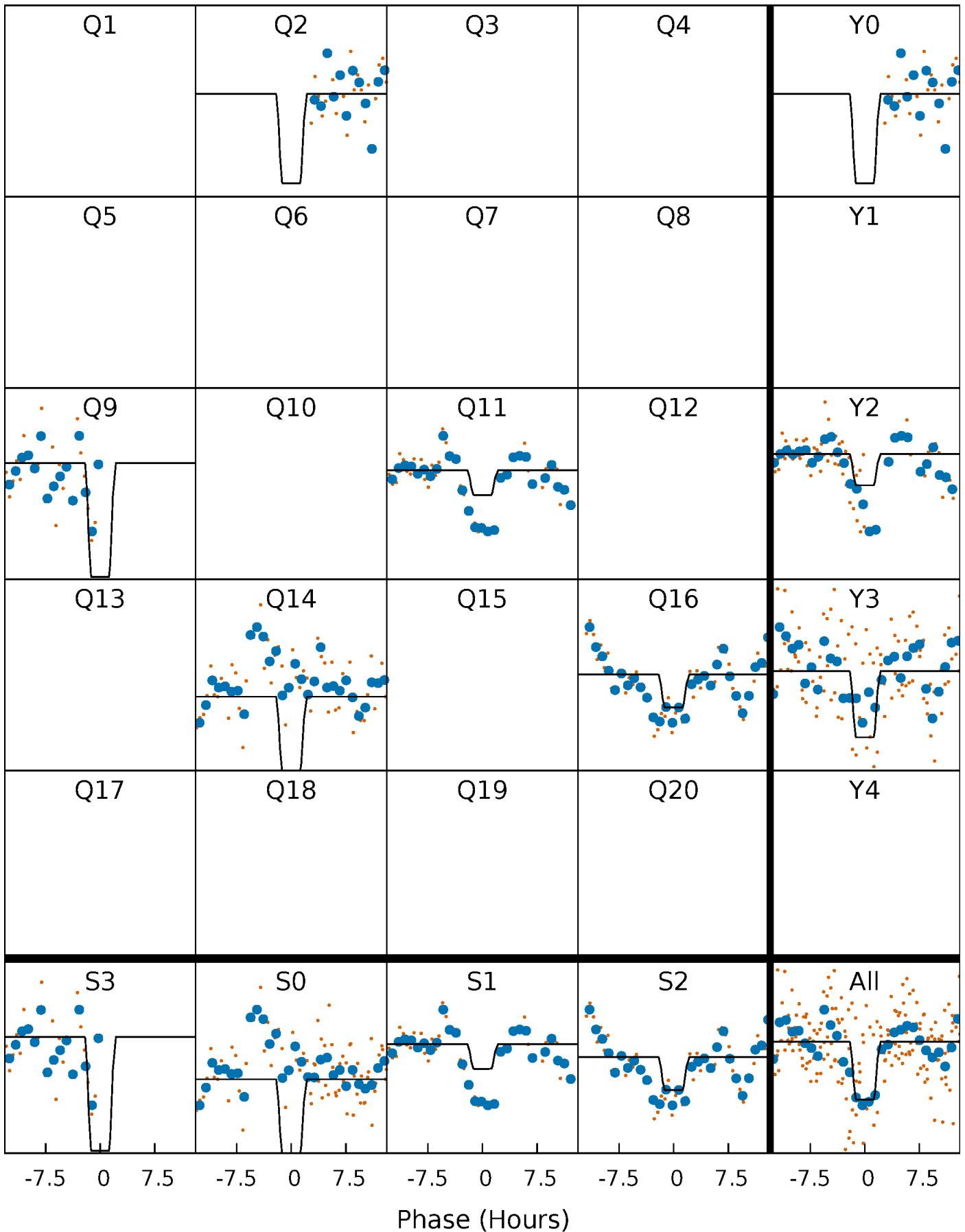
DV Quarter-Phased Transit Curves

TCE 006029130-04 P=226.066901 Days $T_0=191.991464$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

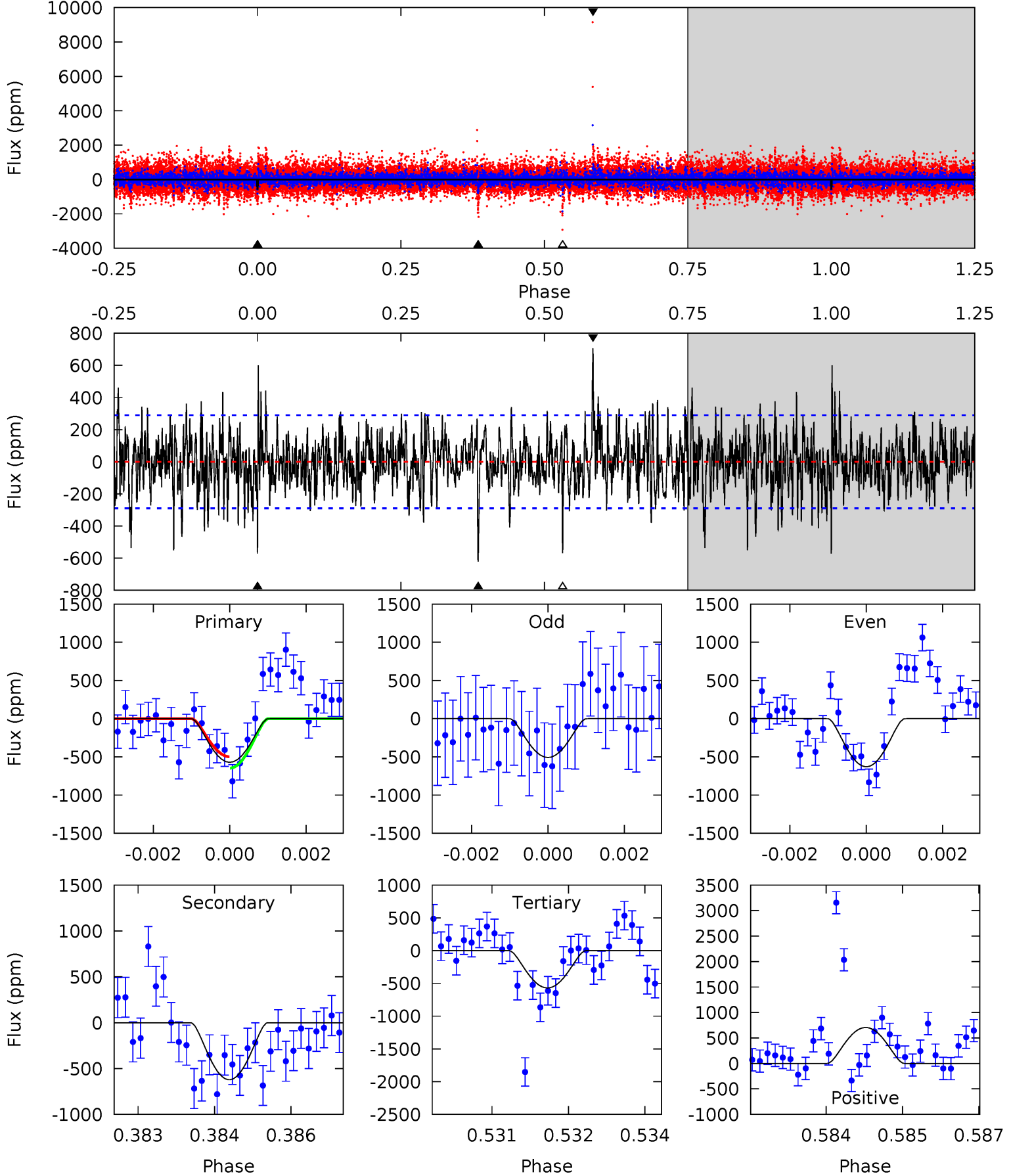
TCE 006029130-04 P=226.049663 Days $T_0=192.106980$ (BKJD)



DV Model-Shift Uniqueness Test

006029130-04, P = 226.066901 Days, E = 191.991464 Days

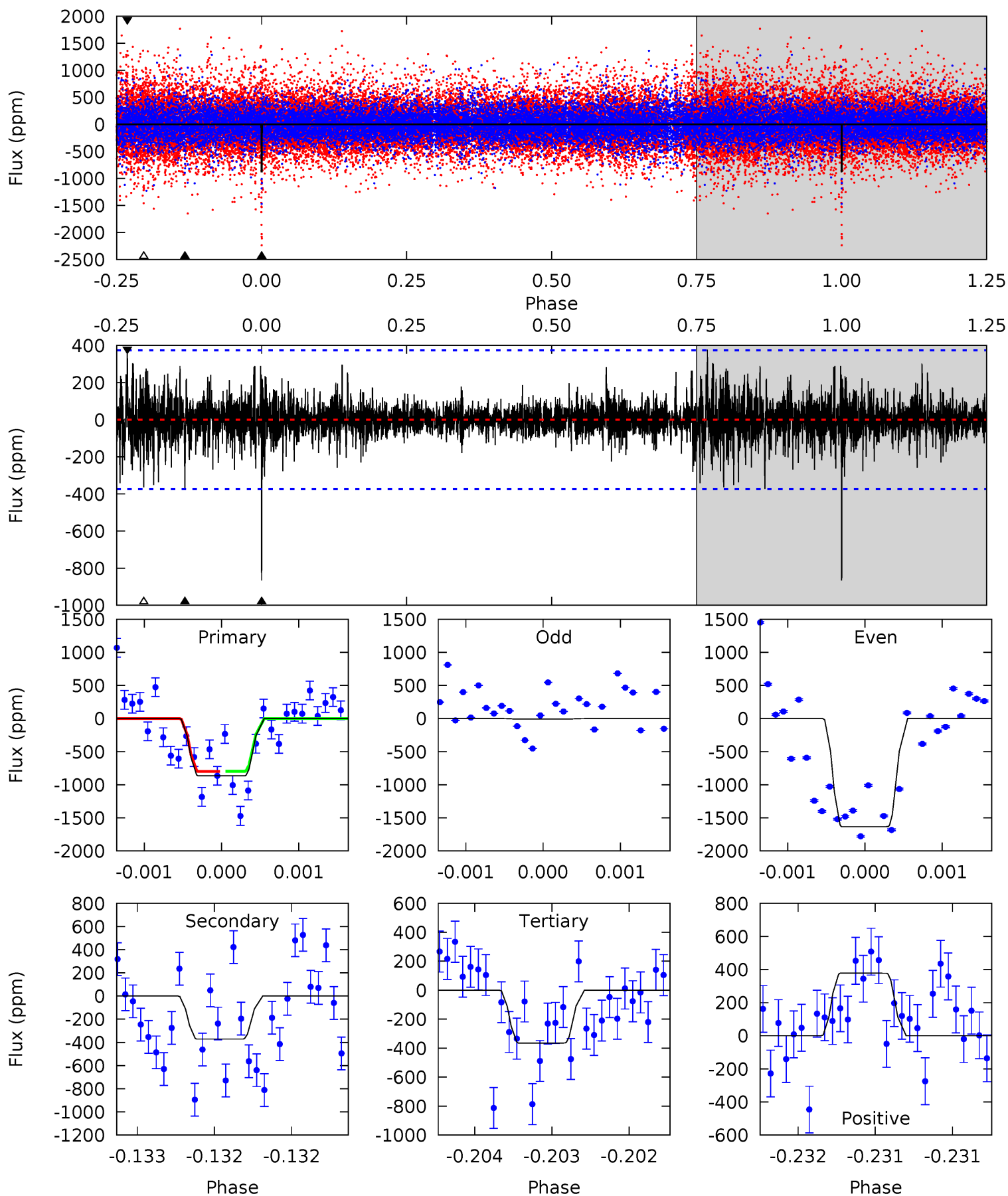
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.5	11.5	10.5	13.1	5.36	3.14	2.60	0.02	-2.50	0.97	-1.55	1.08	1.11	0.53	1.38



Alt Model-Shift Uniqueness Test

006029130-04, P = 226.049663 Days, E = 192.106980 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.8	5.48	5.37	5.56	5.51	3.38	1.08	7.40	7.21	0.11	-0.09	11.4	1.13	0.30	0.02



Stellar Parameters For KIC 006029130

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5293^{+159}_{-143}	$4.604^{+0.032}_{-0.097}$	$-0.180^{+0.300}_{-0.300}$	$0.756^{+0.122}_{-0.057}$	$0.846^{+0.070}_{-0.104}$	$2.765^{+0.481}_{-0.915}$
	+3%/-3%	+1%/-2%	+167%/-167%	+16%/-8%	+8%/-12%	+17%/-33%
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 006029130-04 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-622 ± 54	$15.50^{+15.50}_{-11.37}$	348^{+15}_{-14}	2706^{+1287}_{-412}	663^{+8404}_{-489}
Alt.	-372 ± 68	$13.15^{+14.61}_{-9.03}$	347^{+15}_{-12}	2640^{+1093}_{-423}	542^{+5225}_{-420}

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

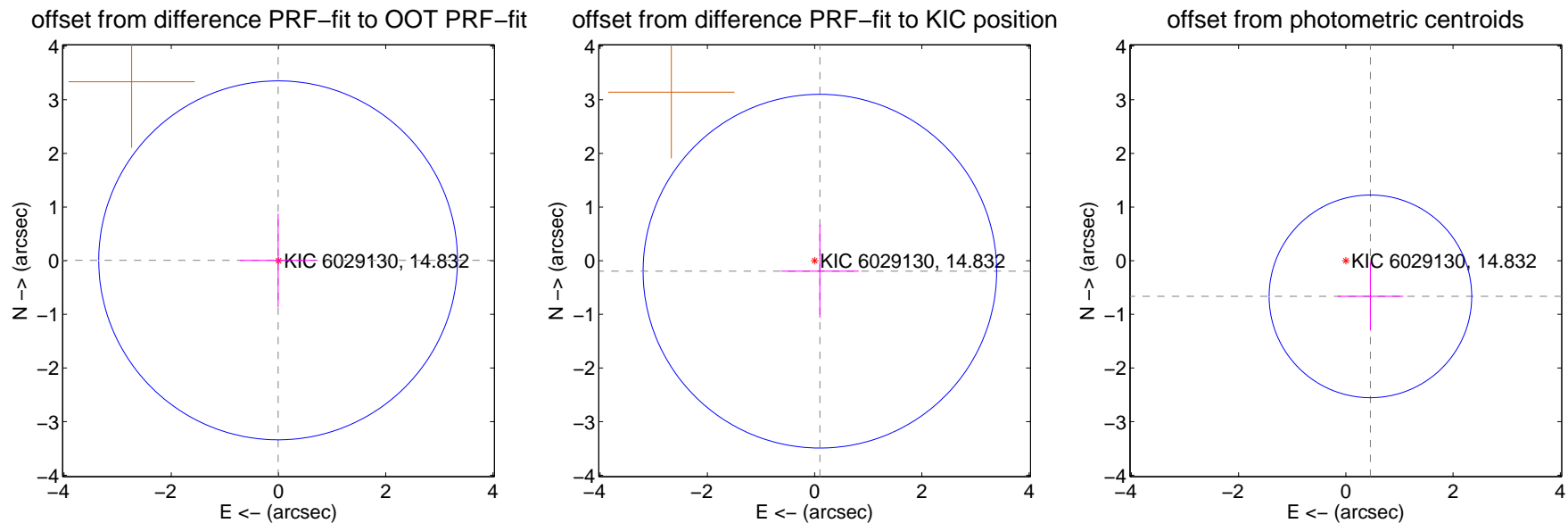
DV Centroid Data

Supplemental centroid analysis for 006029130-04. Kepler magnitude: 14.83. Transit SNR 8.12

There are 1 quarters with good PRF difference image offsets

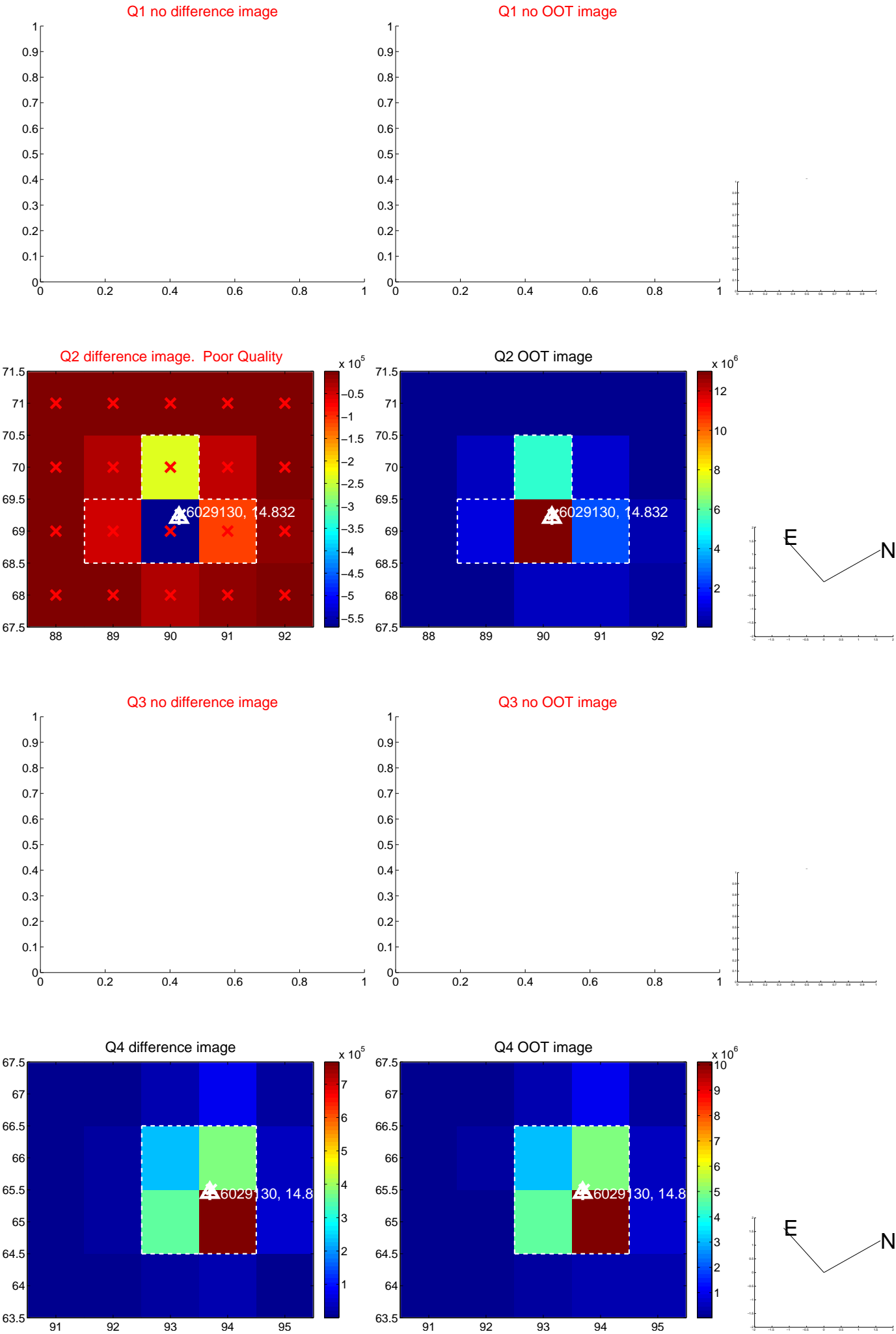
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.010 ± 1.115	0.01	0.007 ± 0.715	0.007 ± 0.870
PRF-fit source offset from KIC position	0.219 ± 1.099	0.20	-0.098 ± 0.725	-0.195 ± 0.867
photometric centroid source offset	0.81 ± 0.63	1.28	-0.46 ± 0.61	-0.66 ± 0.64



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.

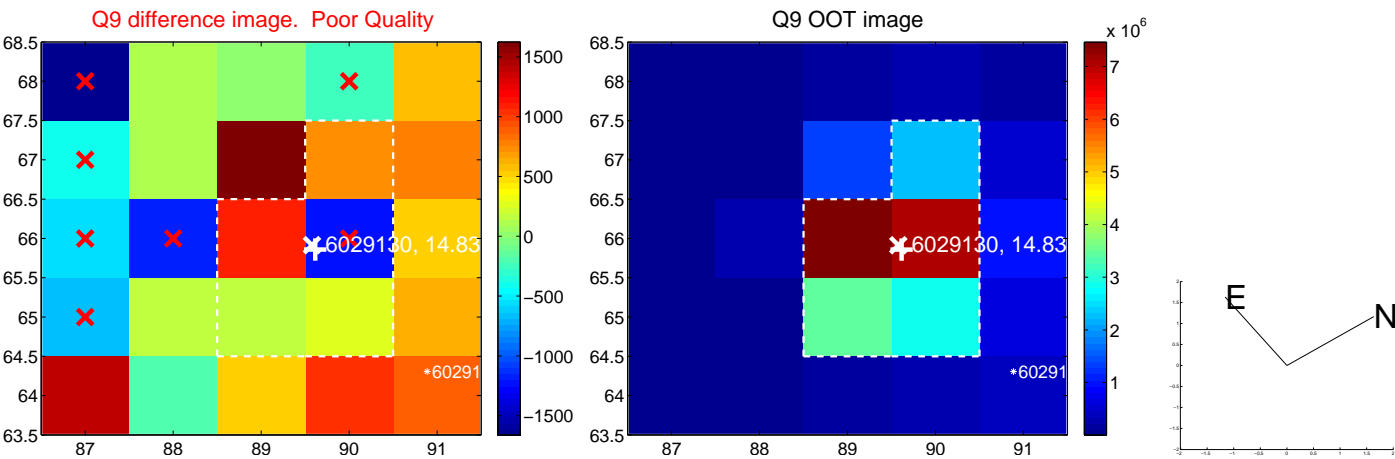
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



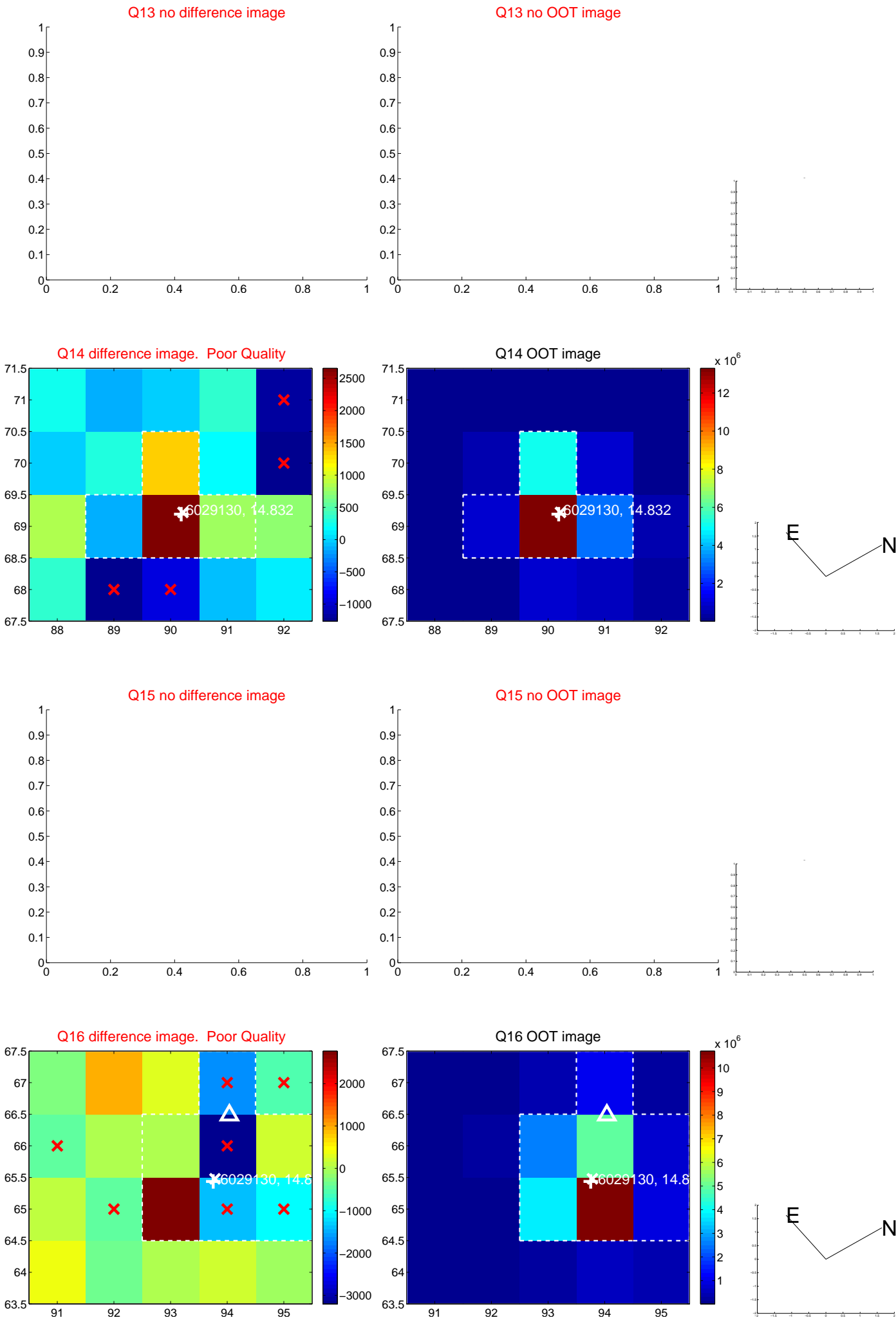
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



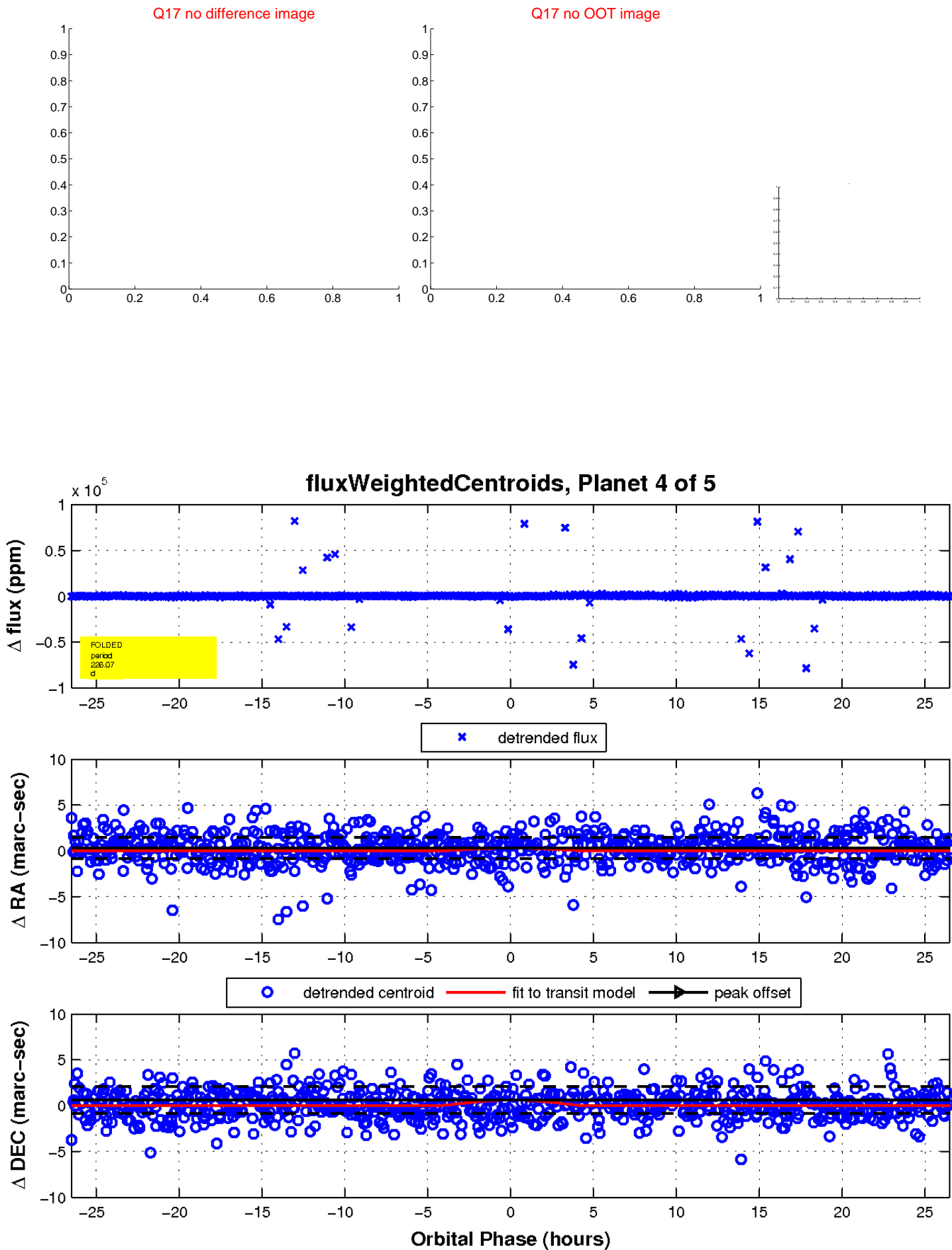
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

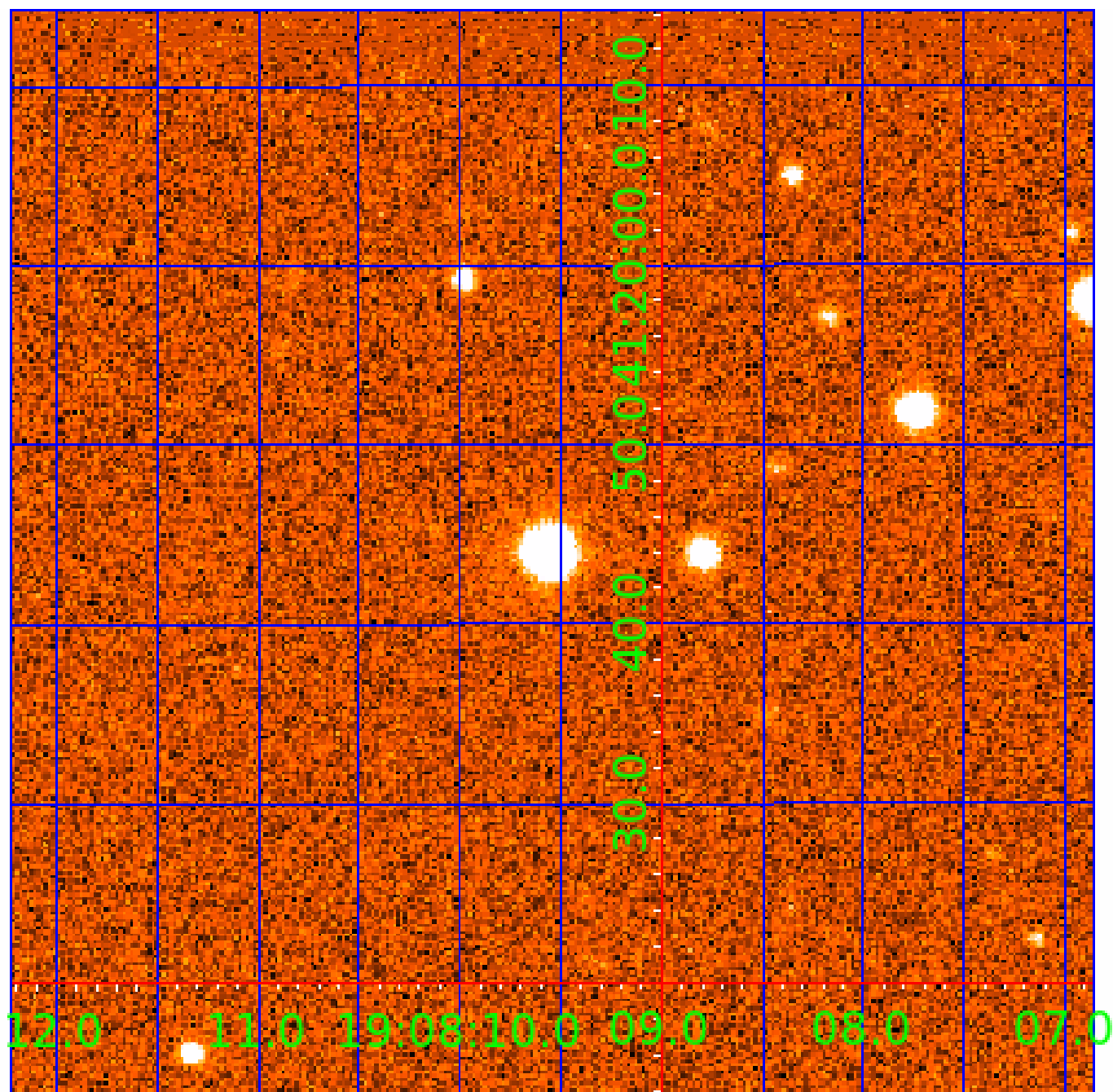


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 006029130

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})
006029130-01	OBS	6647.01	12.591516	134.746307	302989.9	3.500	12060.7	-1.0	0.76	5293	40.25	40.30
006029130-02	OBS	No	6.295840	134.828042	249044.4	3.500	10148.4	-1.0	0.76	5293	33.47	101.54
006029130-03	OBS	No	4.197196	132.498616	10130.7	15.000	594.0	-1.0	0.76	5293	7.45	174.36
006029130-04	OBS	No	226.066901	191.991464	948.4	8.840	10.5	8.1	0.76	5293	4.63	0.86
006029130-05	OBS	No	164.956980	190.942003	1030.8	6.000	10.3	-1.0	0.76	5293	2.38	1.30

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
006029130-01	OBS	FP	0.00	0	1	0	0	MOD_SEC_ALT—HAS_SEC_TCE—CENT_NOFITS
006029130-02	OBS	FP	0.00	1	1	0	0	IS_SEC_TCE—CENT_NOFITS
006029130-03	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_NOFITS
006029130-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_TER_DV—MOD_POS_DV—MOD_NONUNIQ_ALT— INCONSISTENT_TRANS—CENT_FEW_DIFFS
006029130-05	OBS	FP	0.00	1	0	0	0	LPP_DV—ALL_TRANS_CHASES—INCONSISTENT_TRANS—CENT_NOFITS

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.

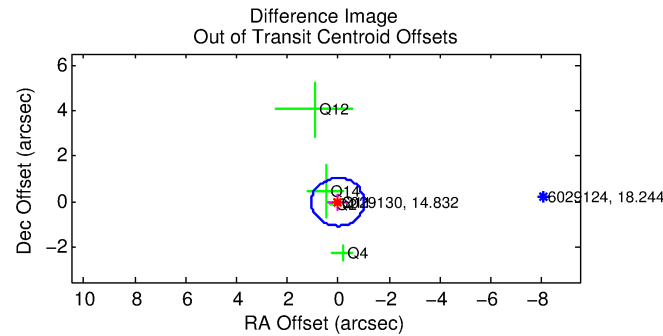
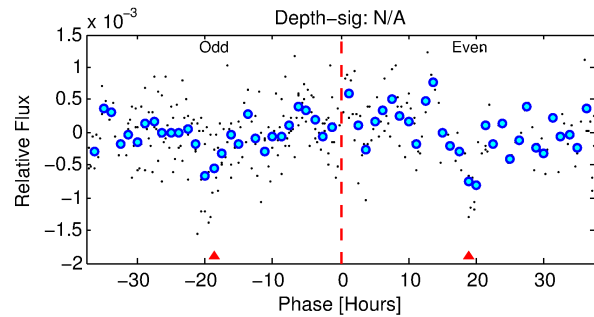
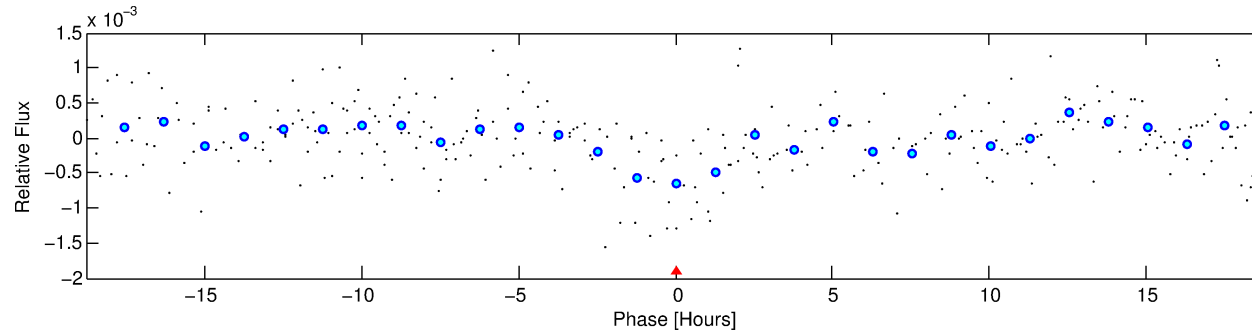
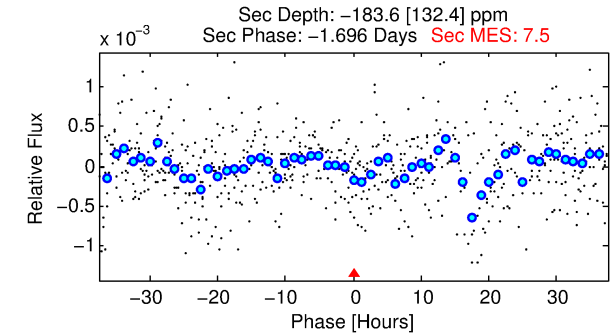
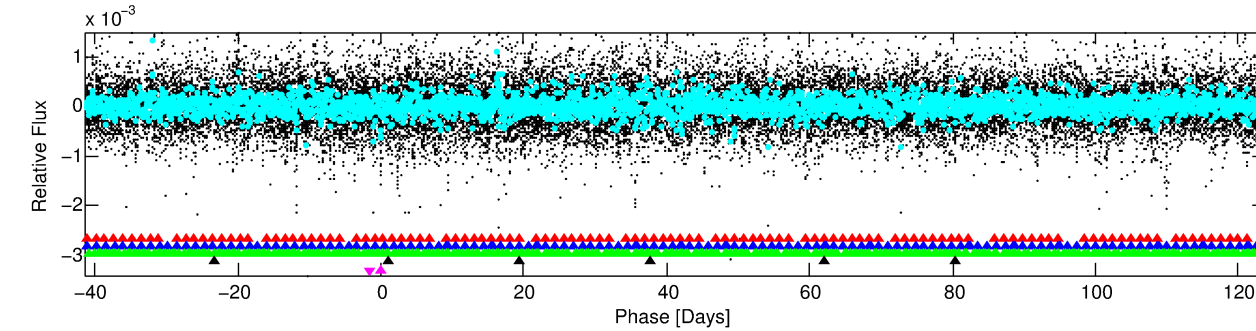
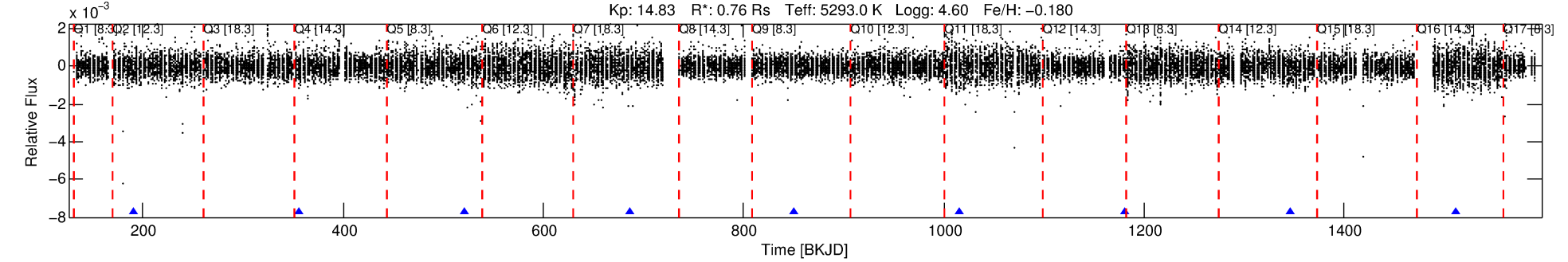
Ephemeris Match Information For 006029130-05

No Significant Match Found

DV One-Page Summary

KIC: 6029130 Candidate: 5 of 5 Period: 164.957 d
KOI: K06647 Corr: No Ephemeris Match

Kp: 14.83 R*: 0.76 Rs Teff: 5293.0 K Logg: 4.60 Fe/H: -0.180



TPS TCE Results:

Period = 164.95698 d
Epoch = 190.9420 BKJD

DV fit results are unavailable

DV Diagnostic Results:

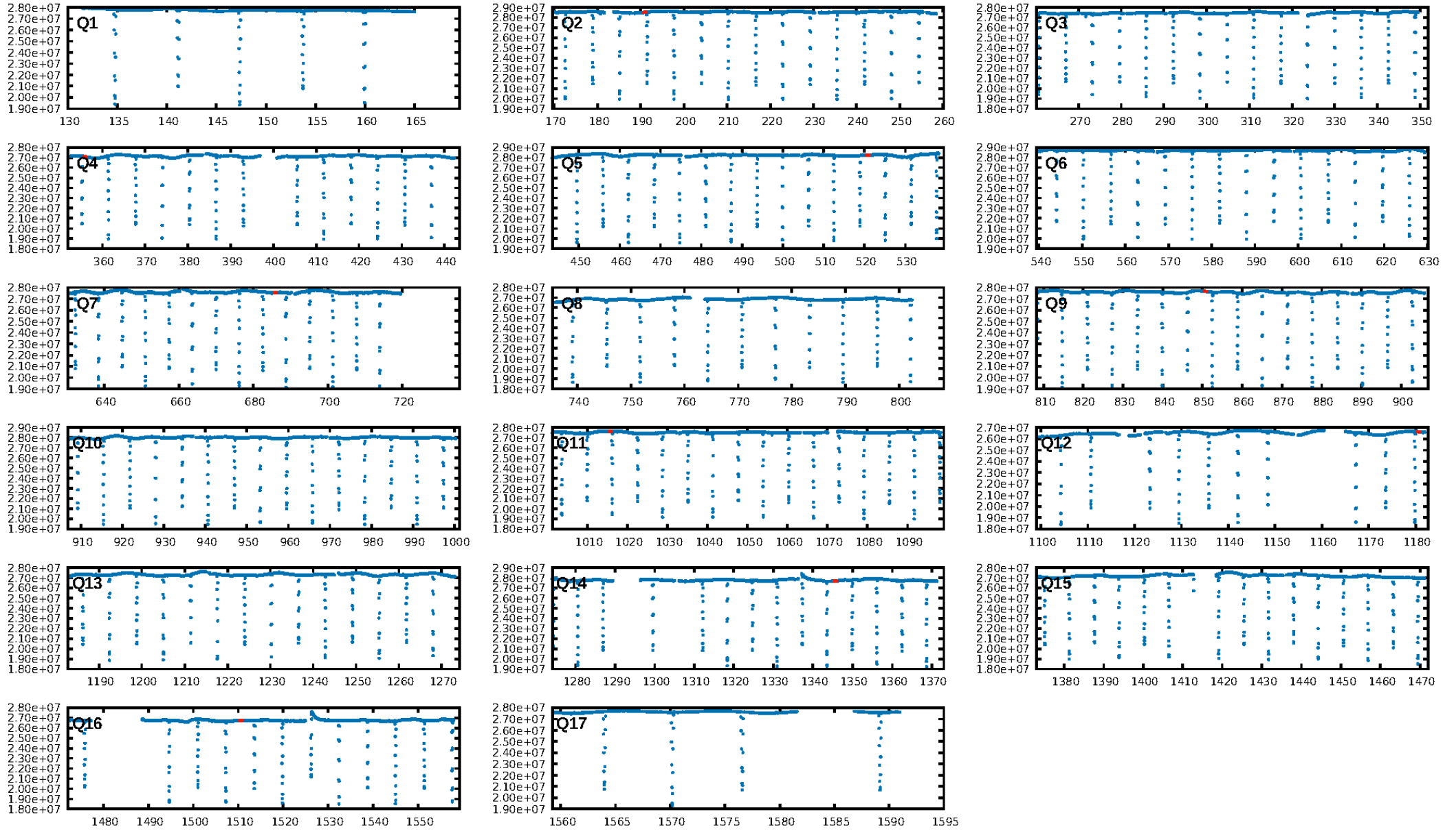
ShortPeriod-sig: 100.0% [526.44σ]
LongPeriod-sig: 100.0% [137.27σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.9727

Centroid-sig: 17.2%
Centroid-so: 0.584 arcsec [1.23σ]
OotOffset-rm: 0.015 arcsec [0.04σ]
KicOffset-rm: 0.223 arcsec [0.64σ]
OotOffset-st: 2/1/2/0 [5]
KicOffset-st: 2/1/2/0 [5]
DiffImageQuality-fgm: 0.40 [2/5]
DiffImageOverlap-fno: 0.44 [4/9]

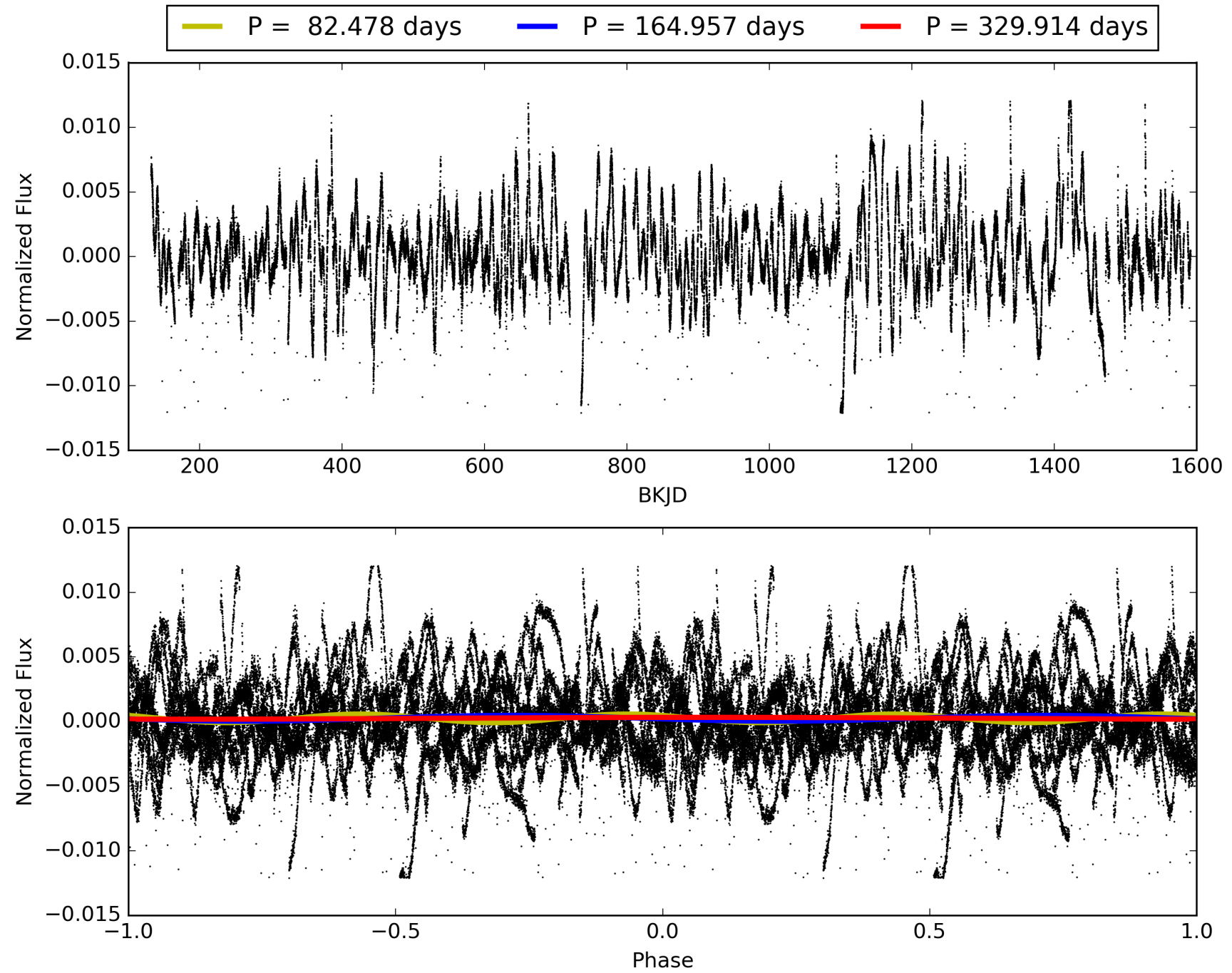
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 02-Feb-2016 01:46:34 Z

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

TCE 006029130-05, PDC Light Curves

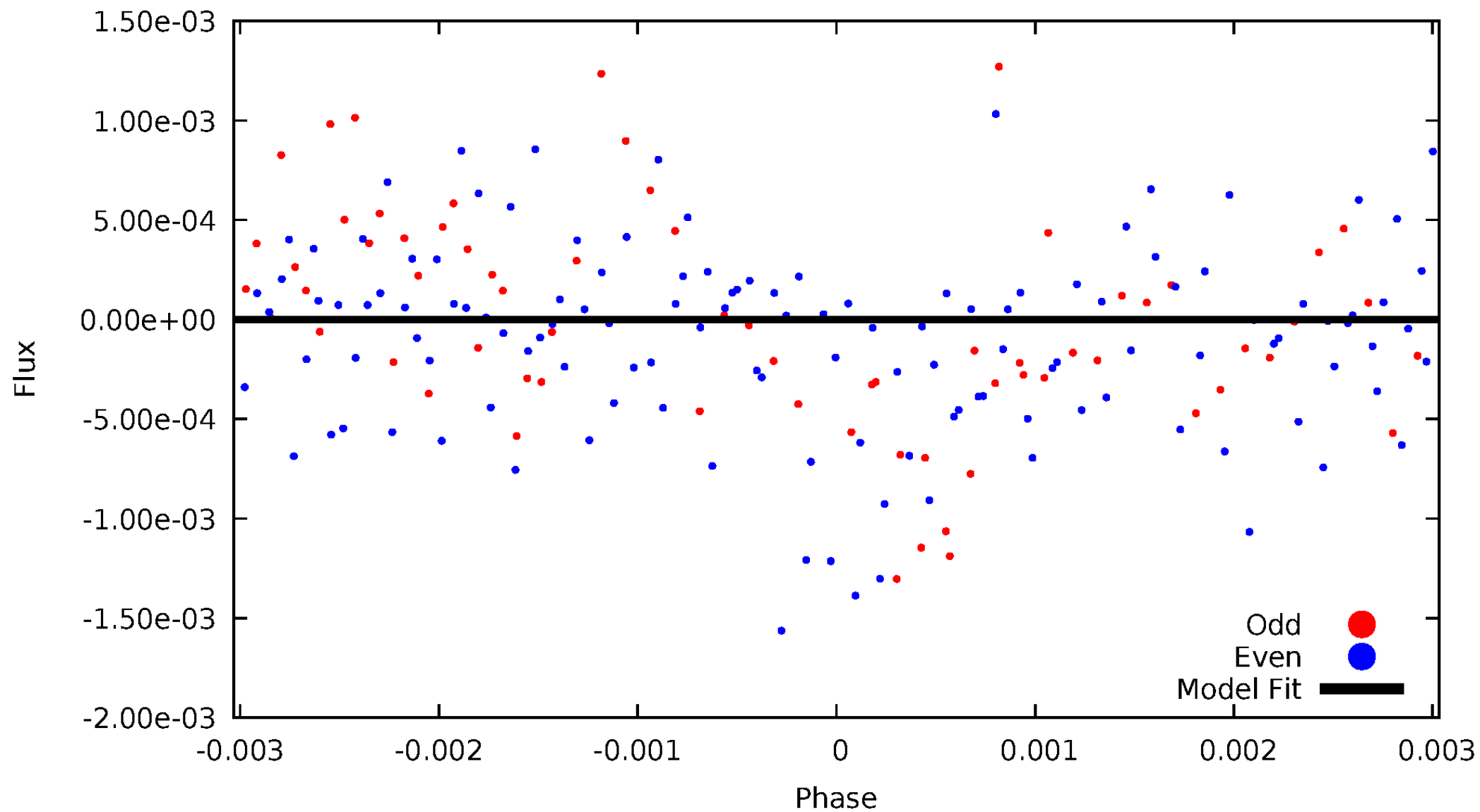


TCE 006029130-05



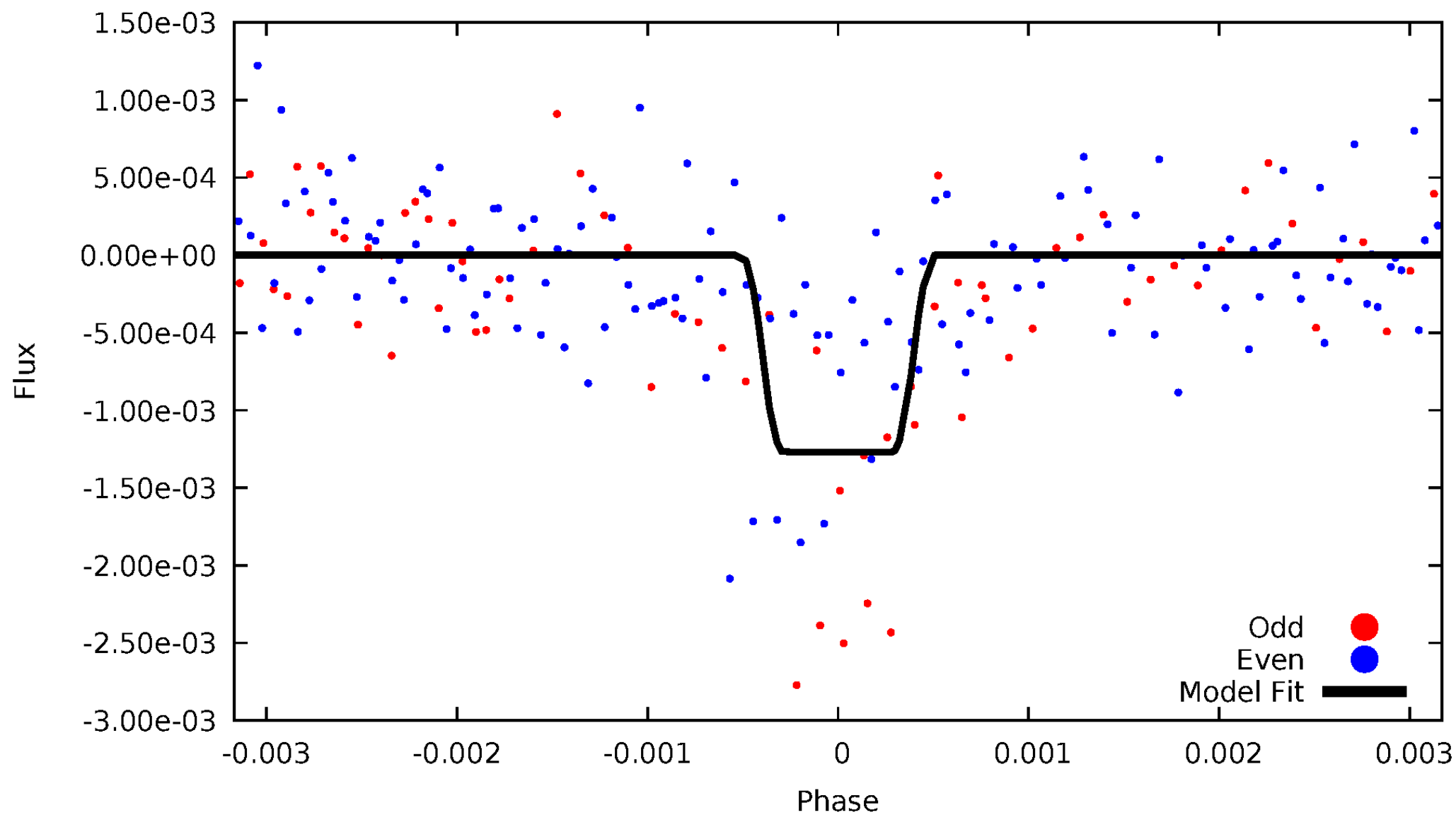
DV Odd/Even

TCE 006029130-05



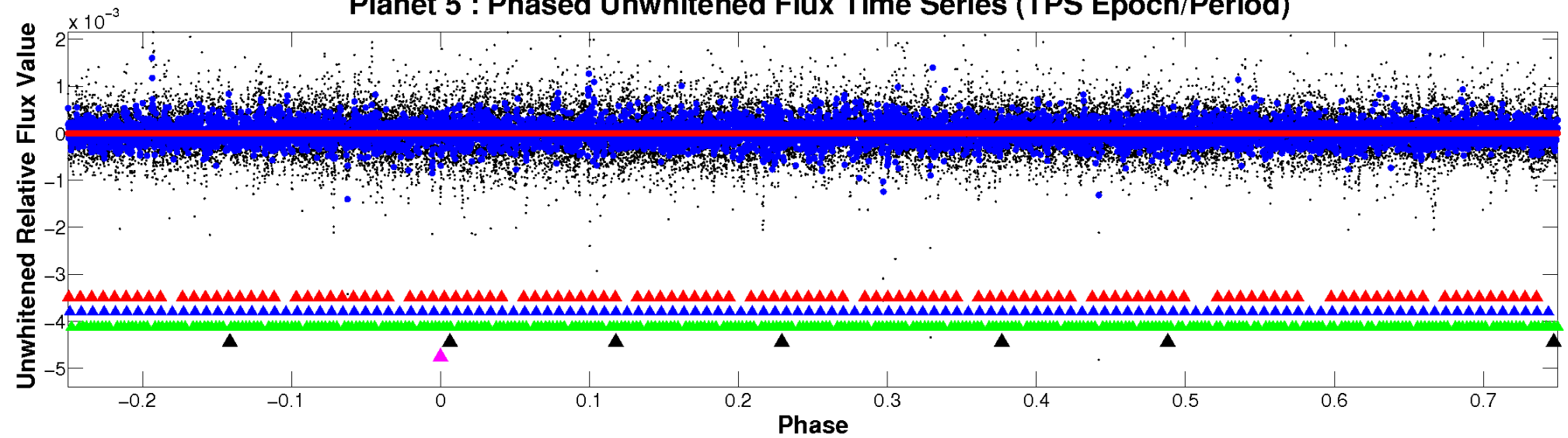
ALT Odd/Even

TCE 006029130-05

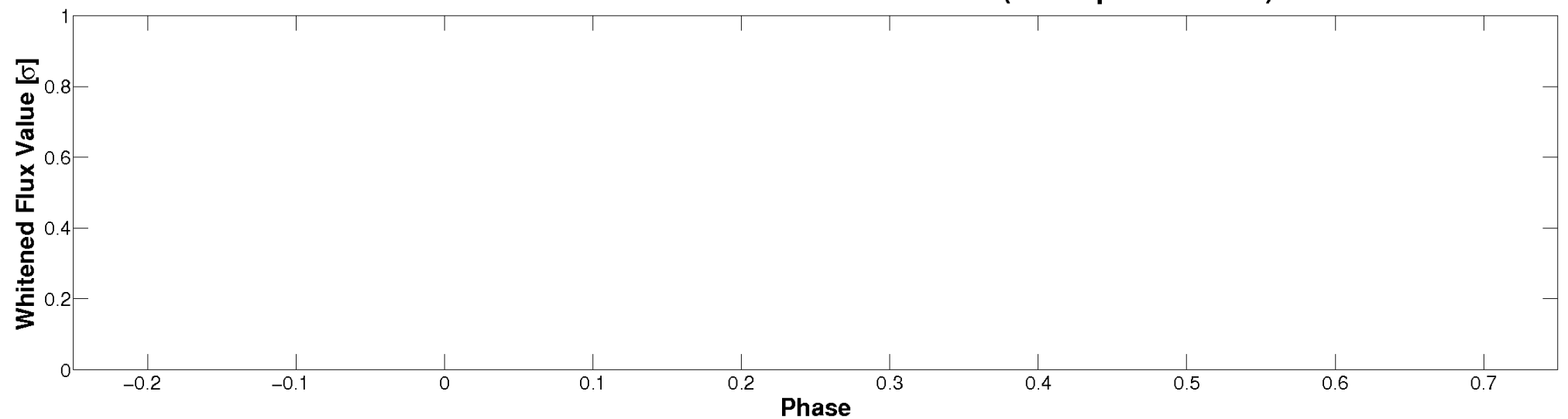


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

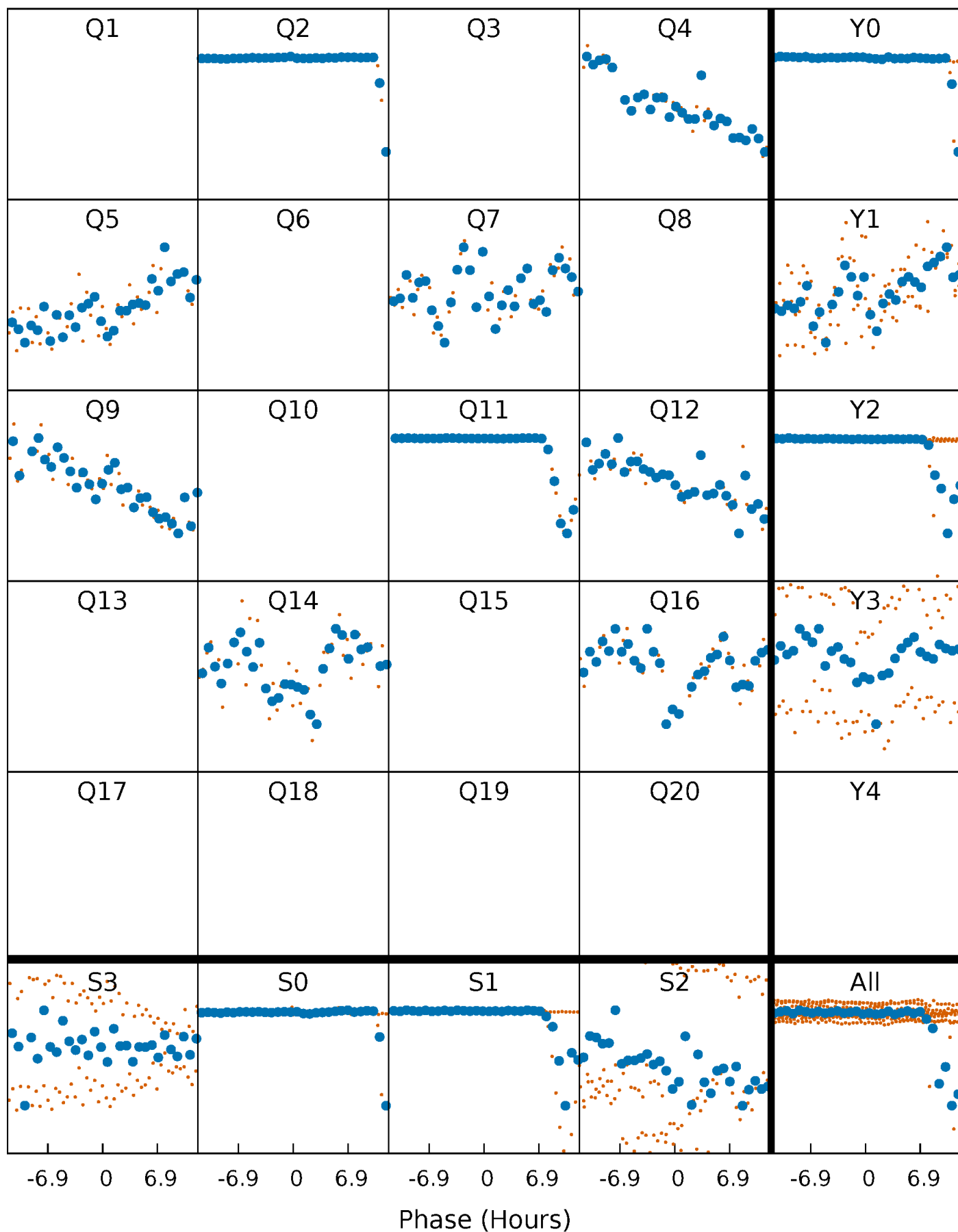


Planet 5 : Phased Whitened Flux Time Series (TPS Epoch/Period)



PDC Quarter-Phased Transit Curves

TCE 006029130-05 $P=164.956979$ Days $T_0=190.942003$ (BKJD)



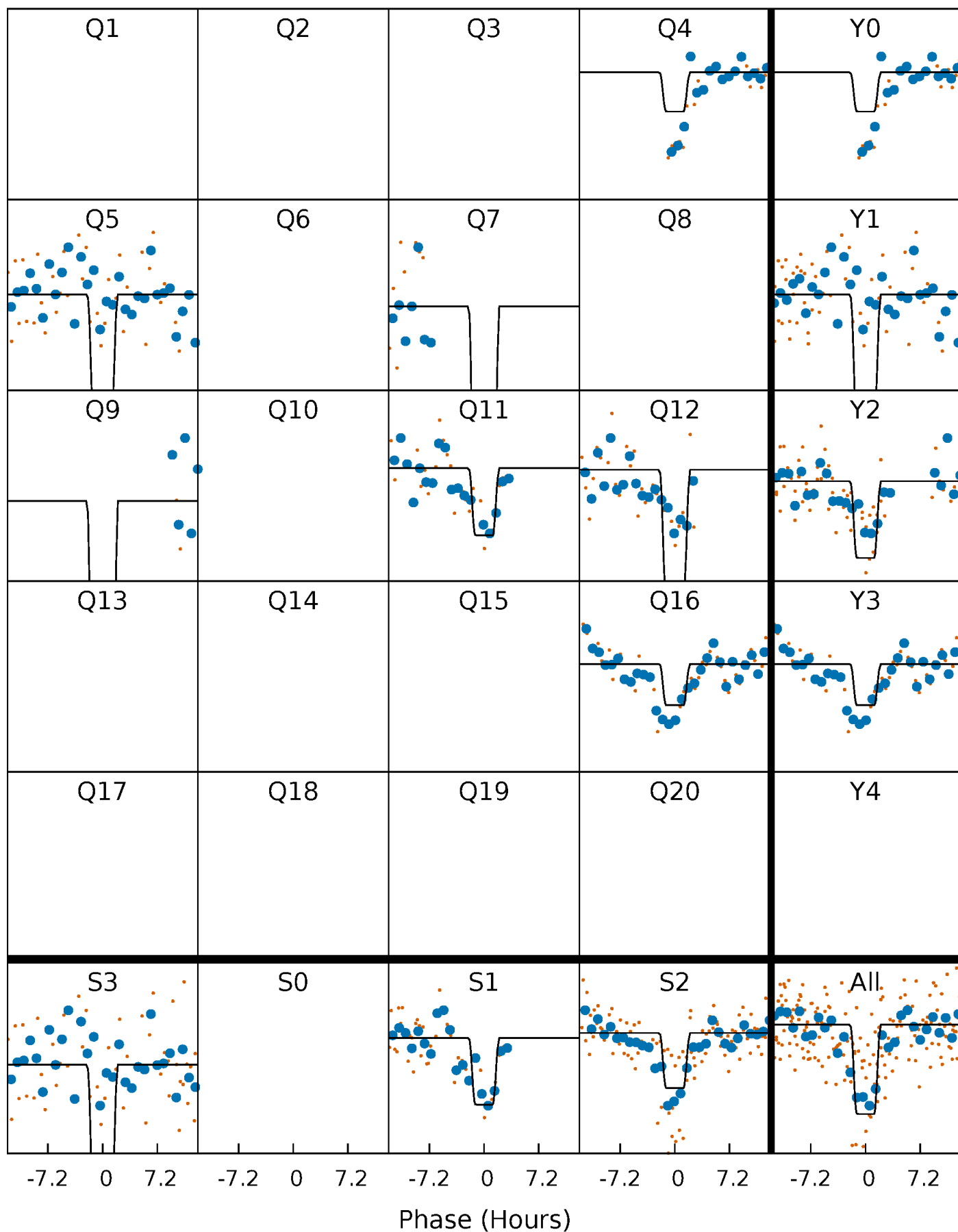
DV Quarter-Phased Transit Curves

TCE 006029130-05 $P=164.956979$ Days $T_0=190.942003$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

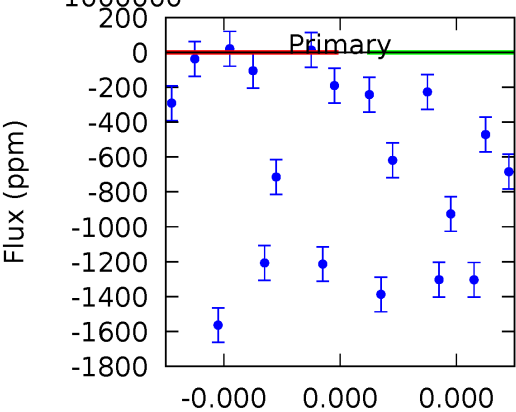
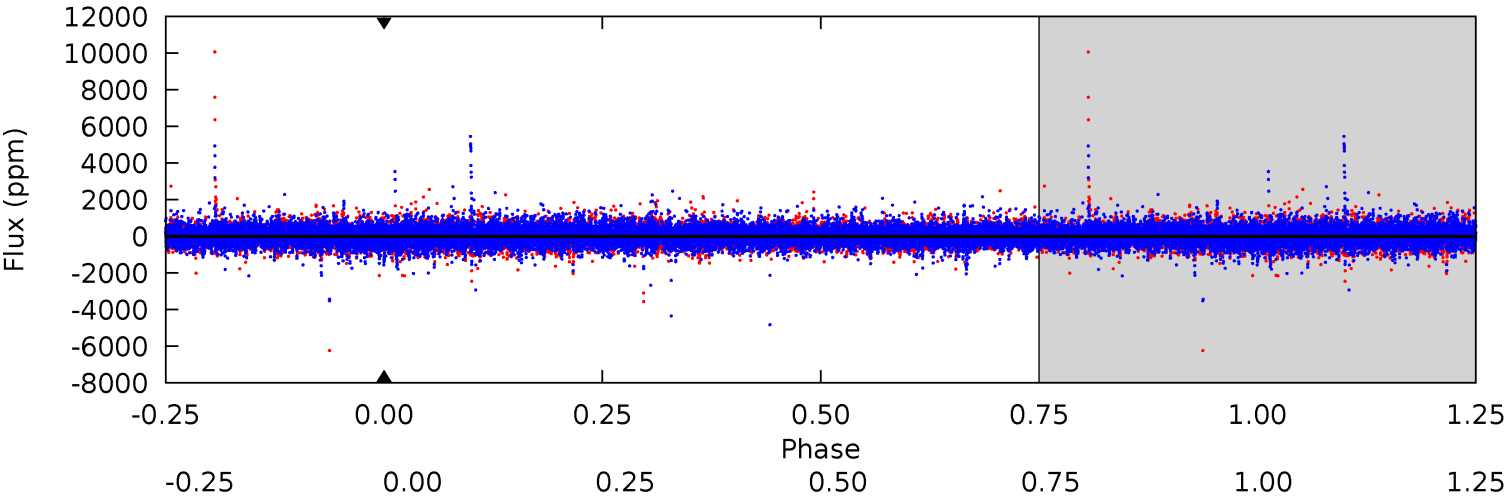
TCE 006029130-05 $P=164.956979$ Days $T_0=190.990186$ (BKJD)



DV Model-Shift Uniqueness Test

006029130-05, P = 164.956979 Days, E = 25.985024 Days

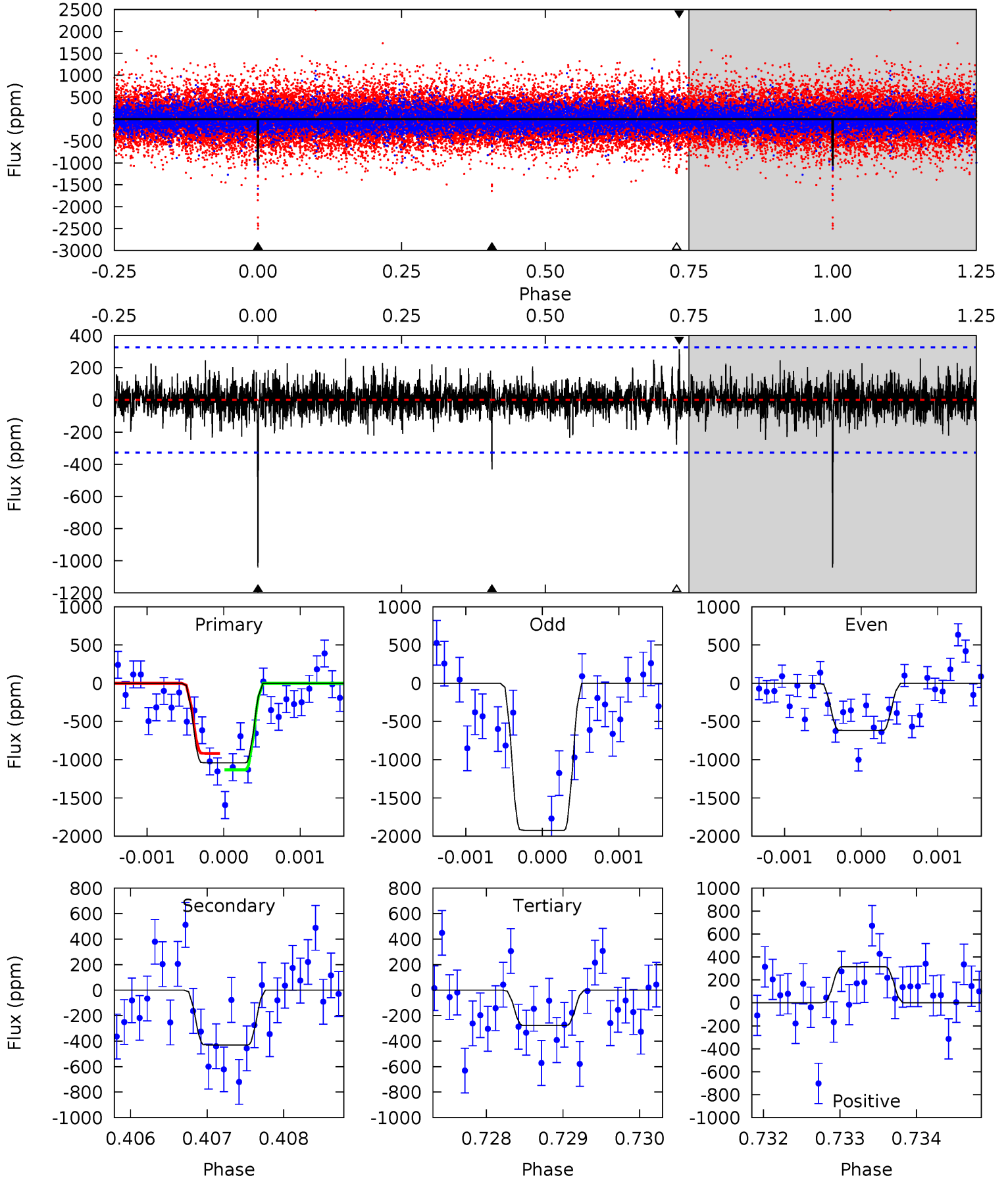
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

006029130-05, P = 164.956979 Days, E = 26.033207 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.3	7.17	4.61	5.24	5.45	3.29	1.09	12.7	12.1	2.55	1.92	10.3	1.06	0.23	1.76



Stellar Parameters For KIC 006029130

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5293^{+159}_{-143}	$4.604^{+0.032}_{-0.097}$	$-0.180^{+0.300}_{-0.300}$	$0.756^{+0.122}_{-0.057}$	$0.846^{+0.070}_{-0.104}$	$2.765^{+0.481}_{-0.915}$
	+3%/-3%	+1%/-2%	+167%/-167%	+16%/-8%	+8%/-12%	+17%/-33%
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 006029130-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$6.64^{+6.54}_{-4.21}$	385^{+17}_{-14}	-3670^{+18148}_{-11549}	$-3896.751^{+569747.144}_{-573065.142}$
Alt.	-430 ± 60	$7.09^{+6.47}_{-4.78}$	385^{+16}_{-14}	3192^{+1545}_{-529}	1397^{+12384}_{-1017}

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

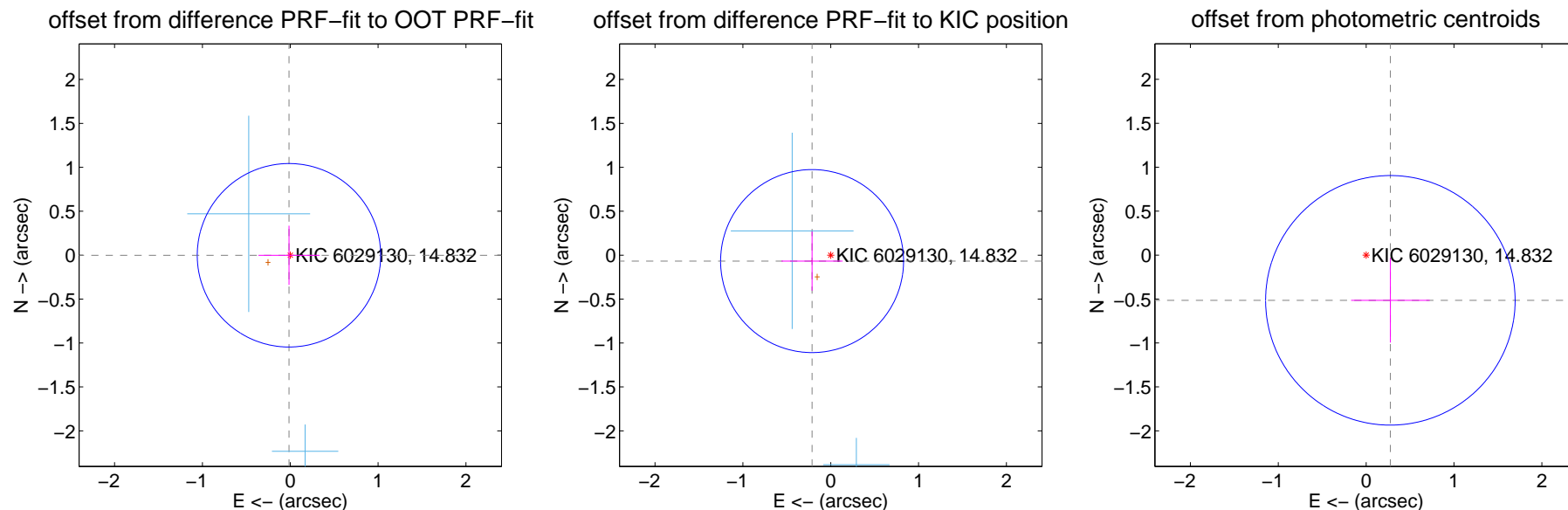
DV Centroid Data

Supplemental centroid analysis for 006029130-05. Kepler magnitude: 14.83. Transit SNR -1.00

There are 2 quarters with good PRF difference image offsets

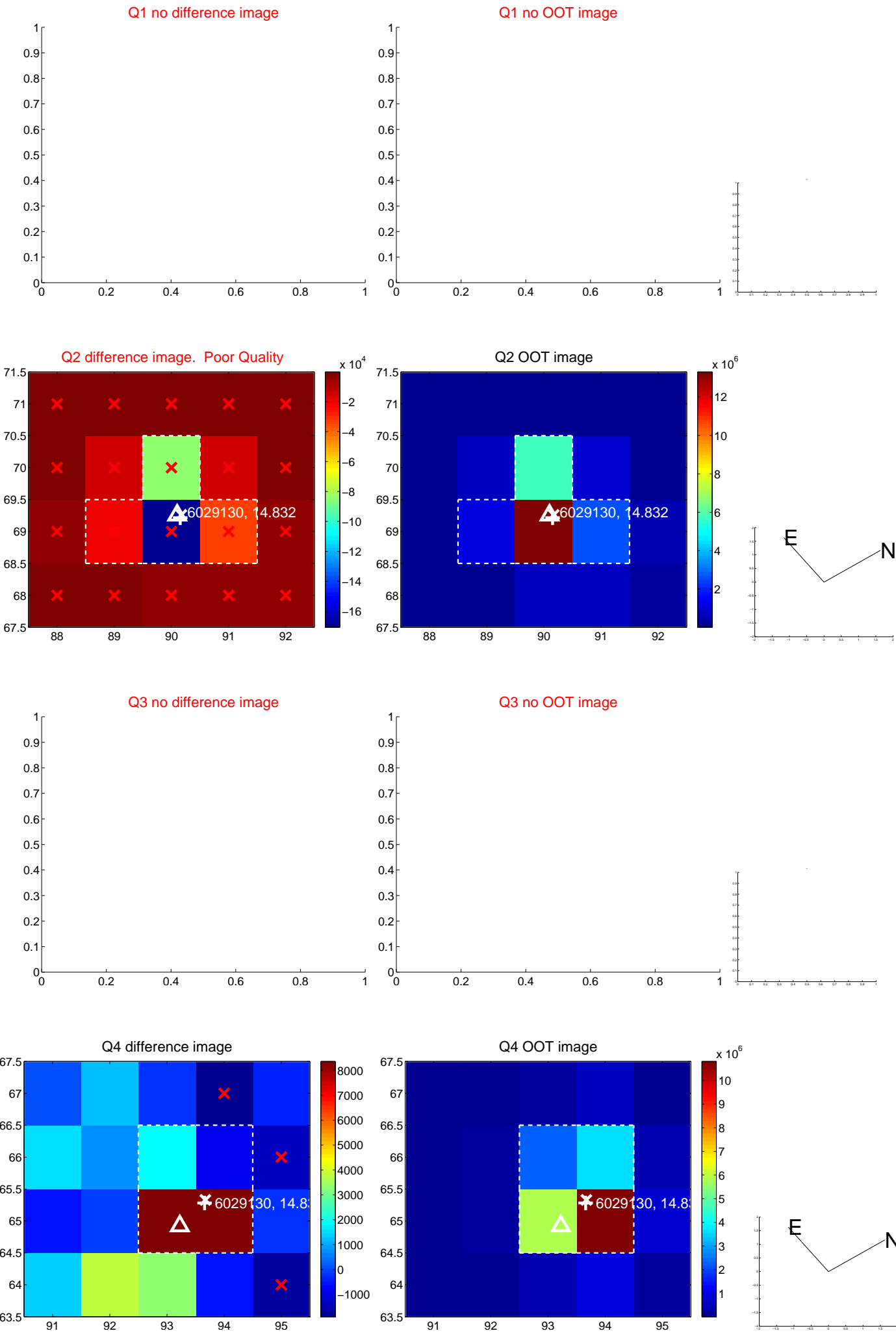
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.015 ± 0.348	0.04	0.015 ± 0.348	-0.001 ± 0.337
PRF-fit source offset from KIC position	0.223 ± 0.347	0.64	0.212 ± 0.348	-0.067 ± 0.337
photometric centroid source offset	0.58 ± 0.47	1.23	-0.28 ± 0.45	-0.51 ± 0.48

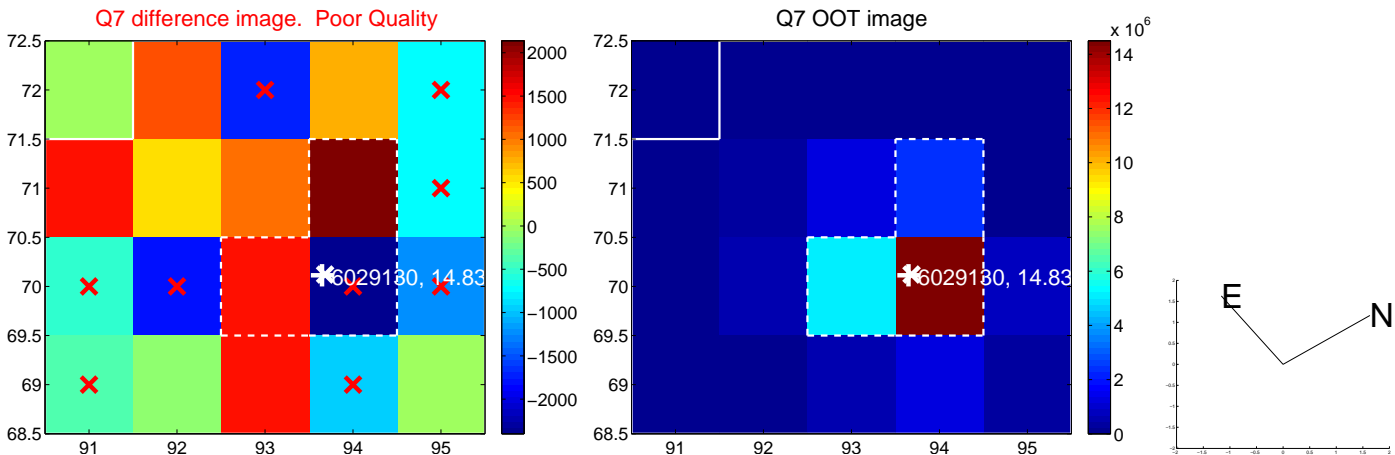
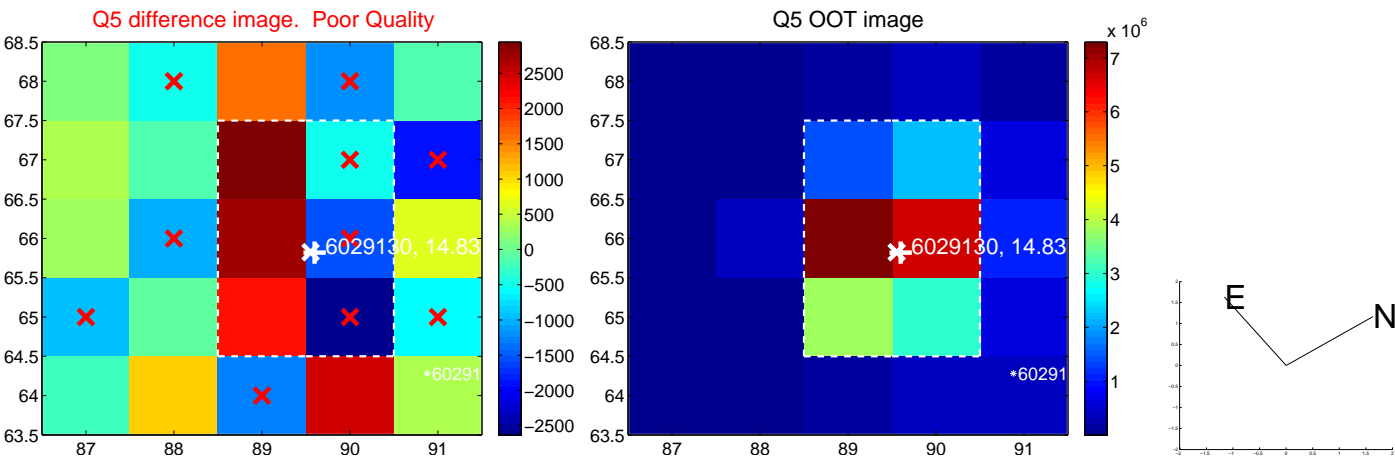


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

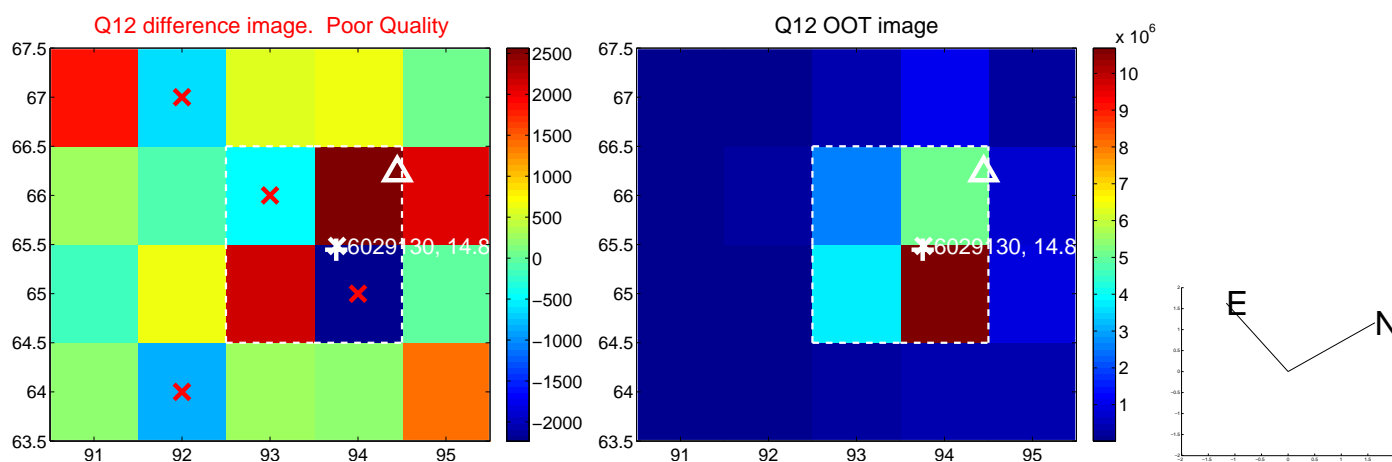
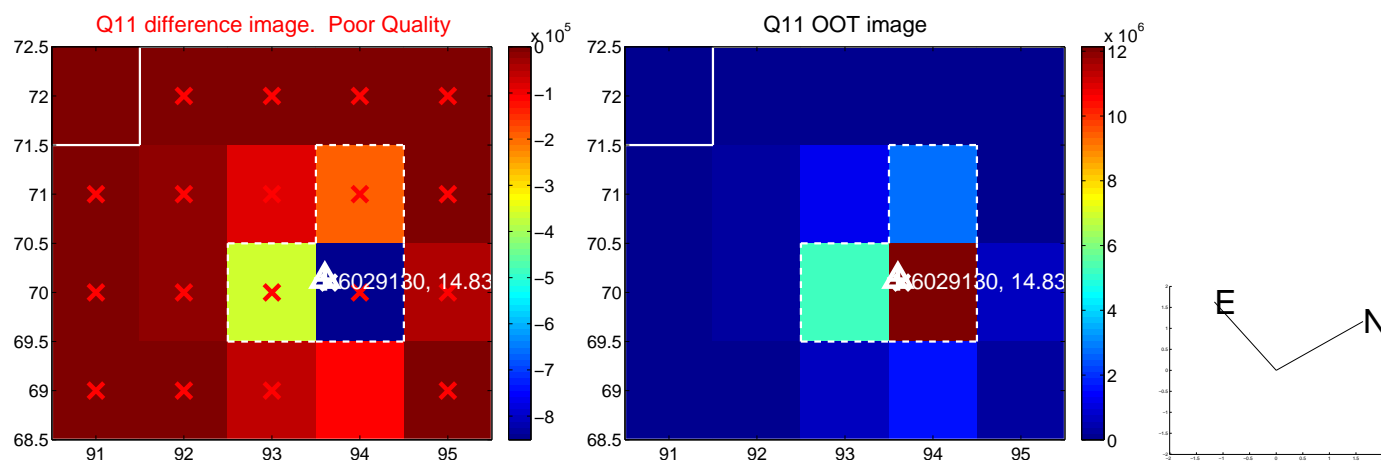
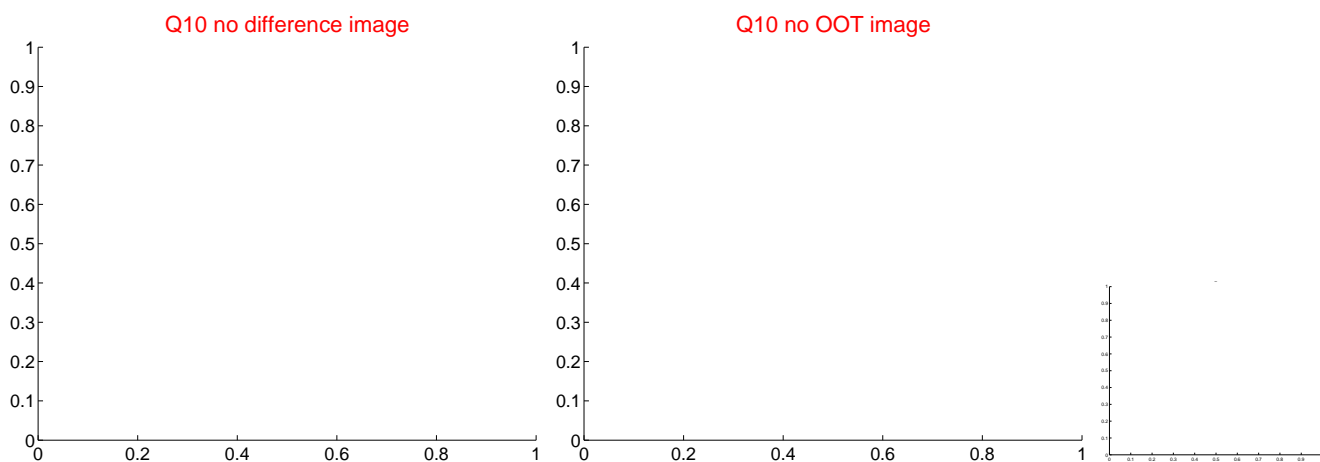
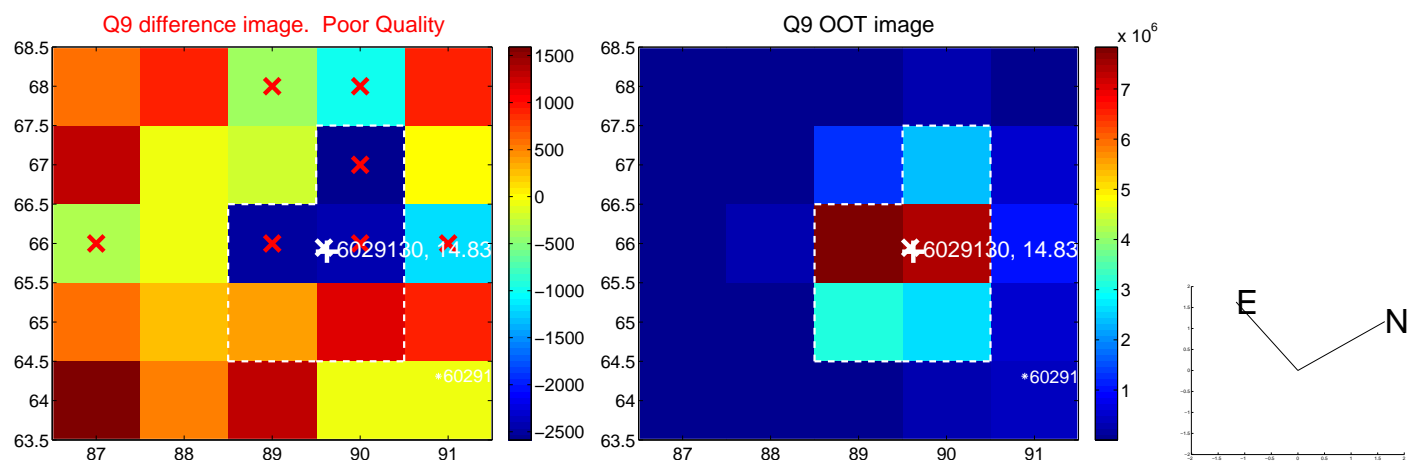
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



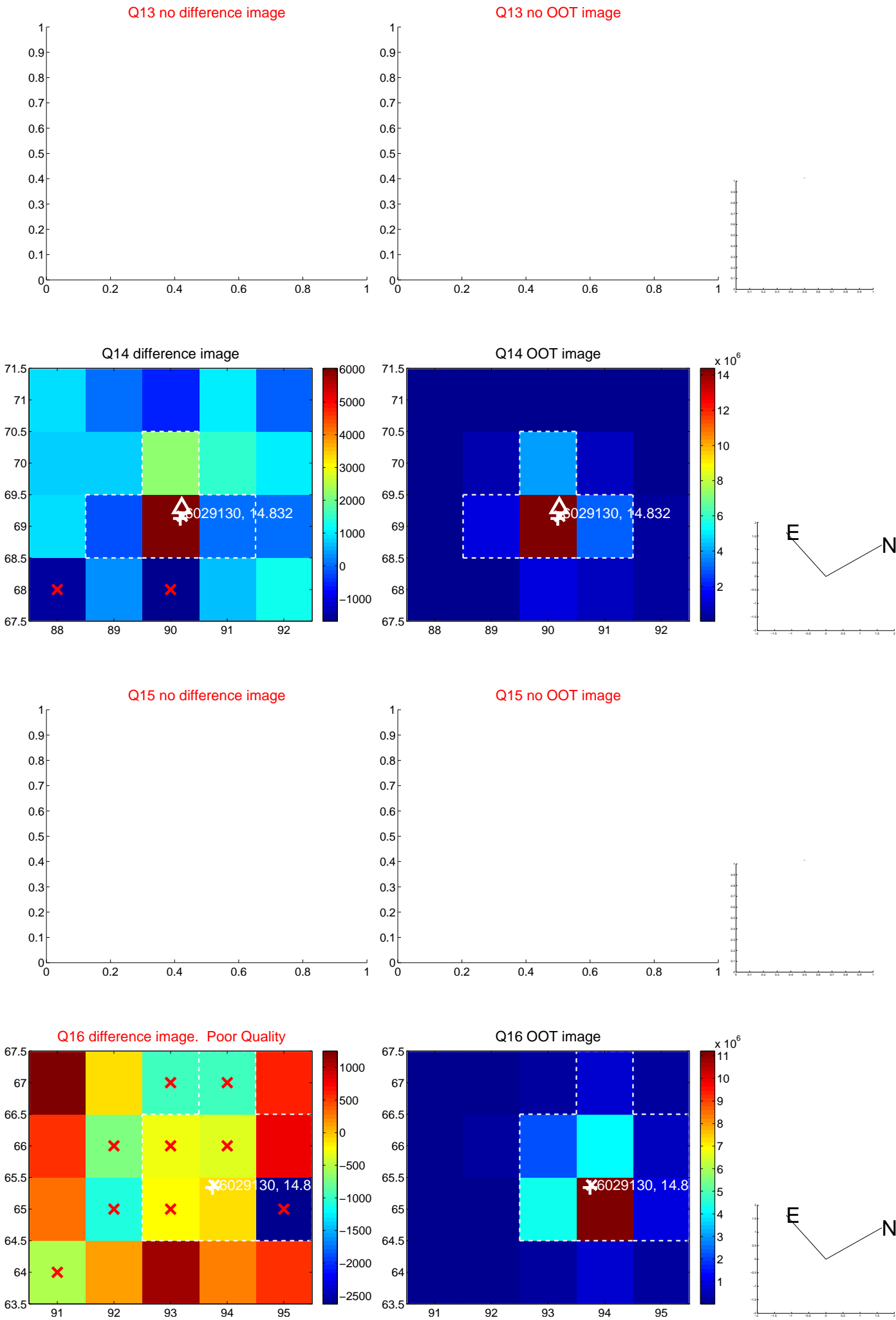
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



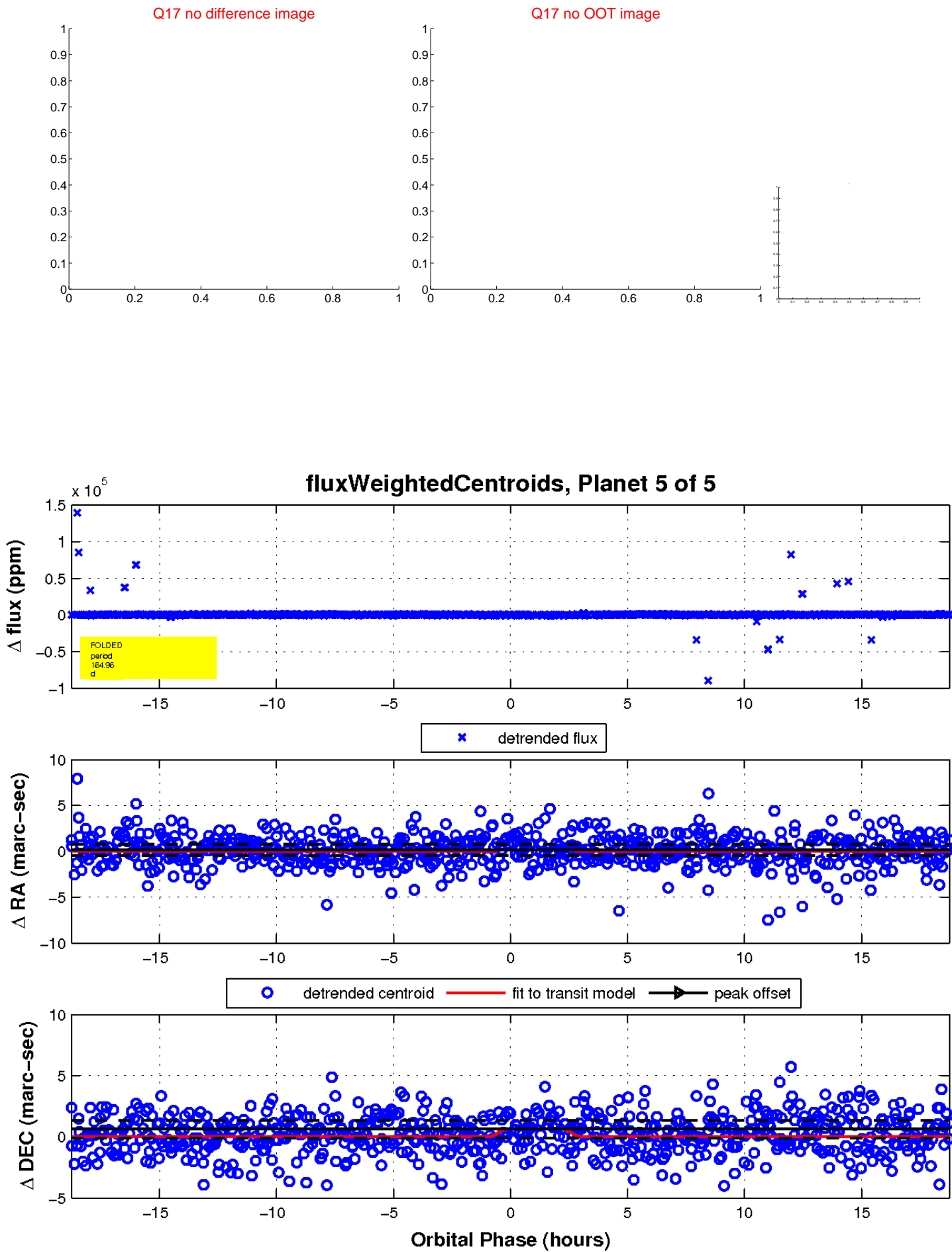
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



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

