

KIC 005200521

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})
005200521-01	OBS	No	1.247295	131.643252	92.6	6.748	10.8	11.4	4.46	5661	4.24	23492.33
005200521-02	OBS	No	0.833393	131.843965	144.6	3.362	11.9	13.6	4.46	5661	6.40	40217.84
005200521-03	OBS	No	54.644652	139.427110	1073.5	5.308	13.6	12.8	4.46	5661	19.11	152.11
005200521-05	OBS	No	41.964592	160.612843	808.4	5.541	11.4	10.9	4.46	5661	14.63	216.29
005200521-06	OBS	No	34.221354	133.692244	218.6	1.500	10.6	-1.0	4.46	5661	6.54	283.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005200521-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
005200521-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
005200521-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
005200521-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
005200521-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

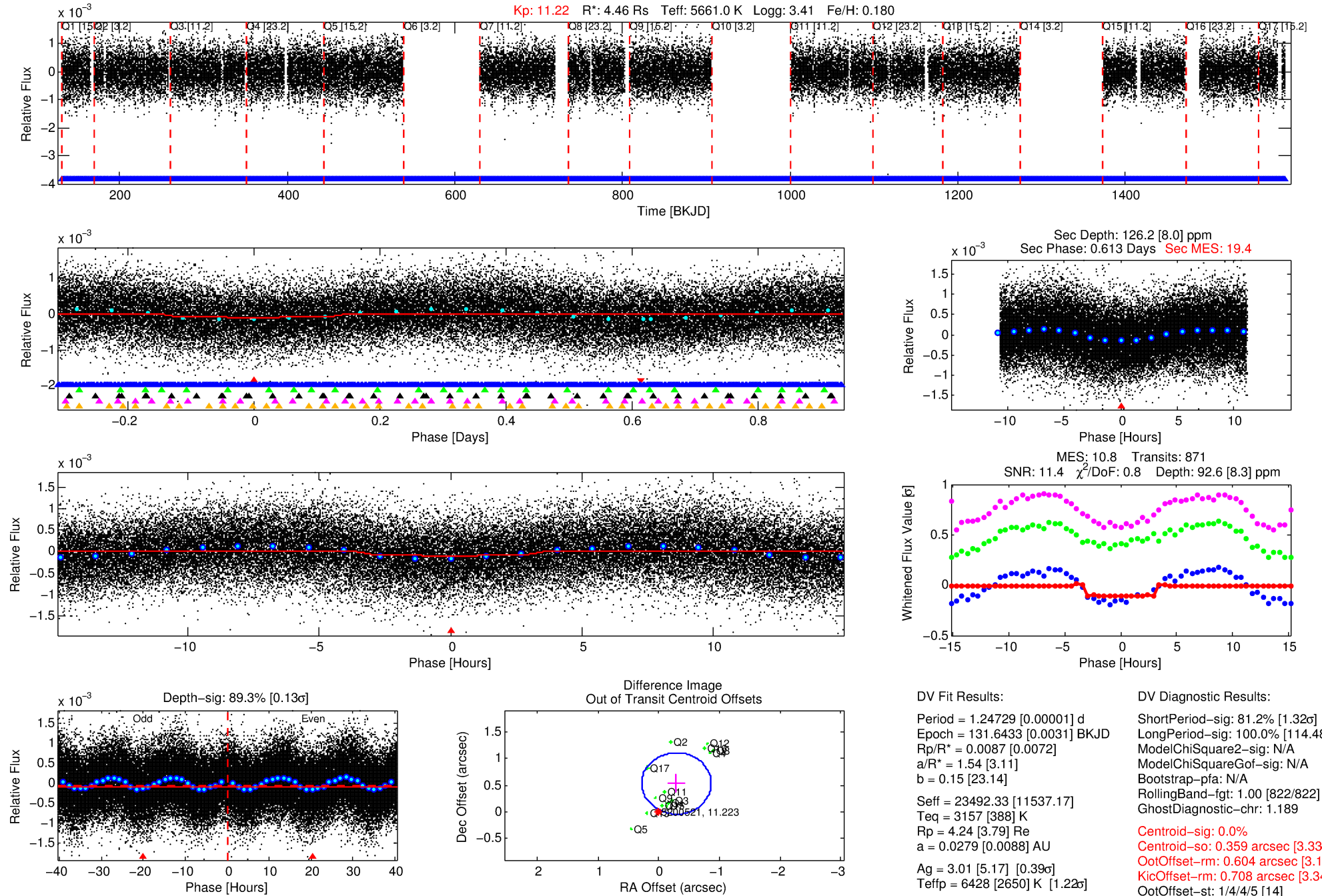
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005200521-01

No Significant Match Found

DV One-Page Summary

KIC: 5200521 Candidate: 1 of 6 Period: 1.247 d



DV Fit Results:

Period = 1.24729 [0.00001] d
Epoch = 131.6433 [0.0031] BKJD
Rp/R* = 0.0087 [0.0072]
a/R* = 1.54 [3.11]
b = 0.15 [23.14]
Seff = 23492.33 [11537.17]
Teq = 3157 [388] K
Rp = 4.24 [3.79] Re
a = 0.0279 [0.0088] AU
Ag = 3.01 [5.17] [0.39 σ]
Teffp = 6428 [2650] K [1.22 σ]

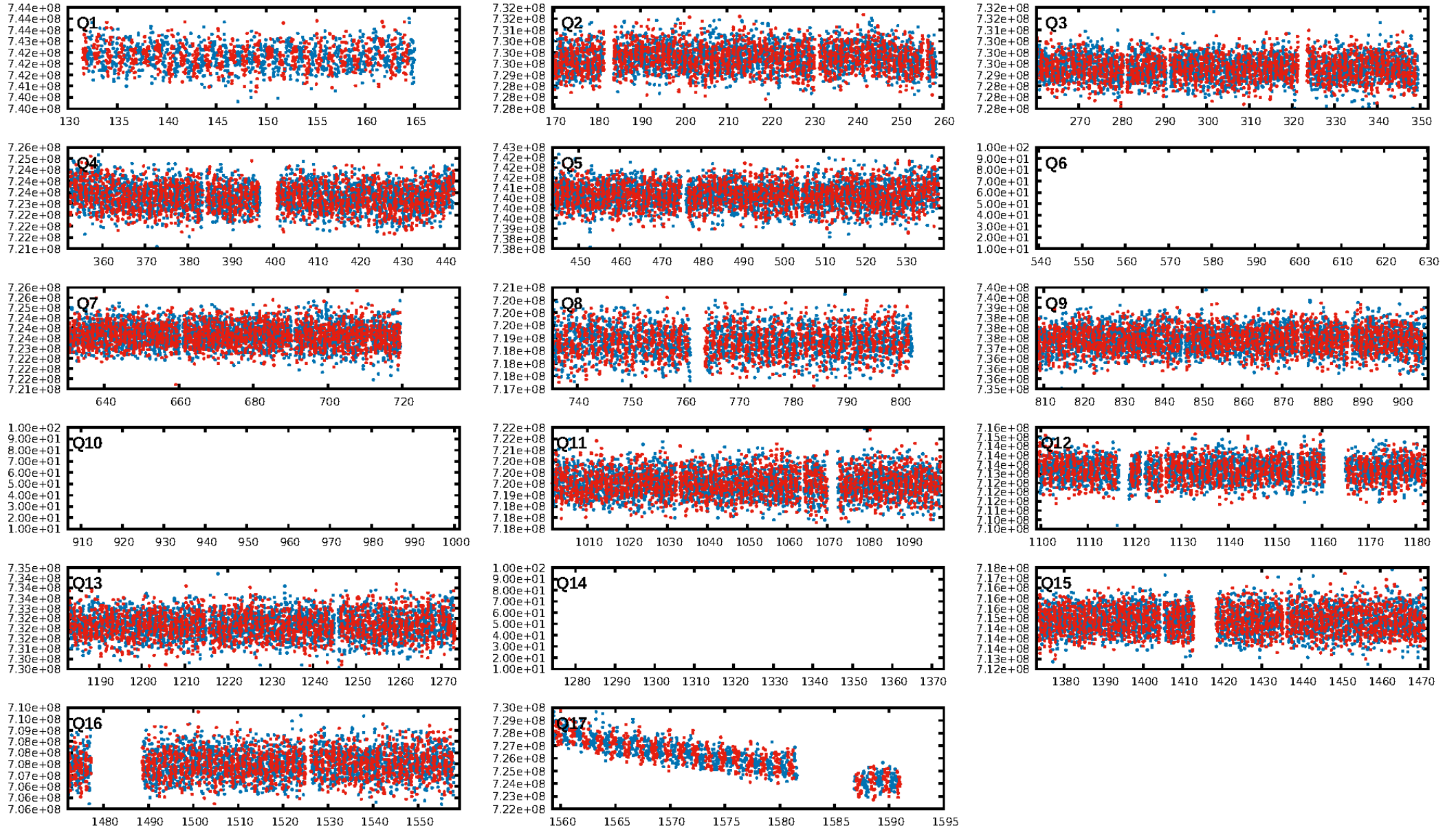
DV Diagnostic Results:

ShortPeriod-sig: 81.2% [1.32 σ]
LongPeriod-sig: 100.0% [114.48 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [822/822]
GhostDiagnostic-chr: 1.189
Centroid-sig: 0.0%
Centroid-so: 0.359 arcsec [3.33 σ]
OotOffset-rm: 0.604 arcsec [3.16 σ]
KicOffset-rm: 0.708 arcsec [3.34 σ]
OotOffset-st: 1/4/4/5 [14]
KicOffset-st: 1/4/4/5 [14]
DiffImageQuality-fgm: 1.00 [14/14]
DiffImageOverlap-fno: 0.00 [0/14]

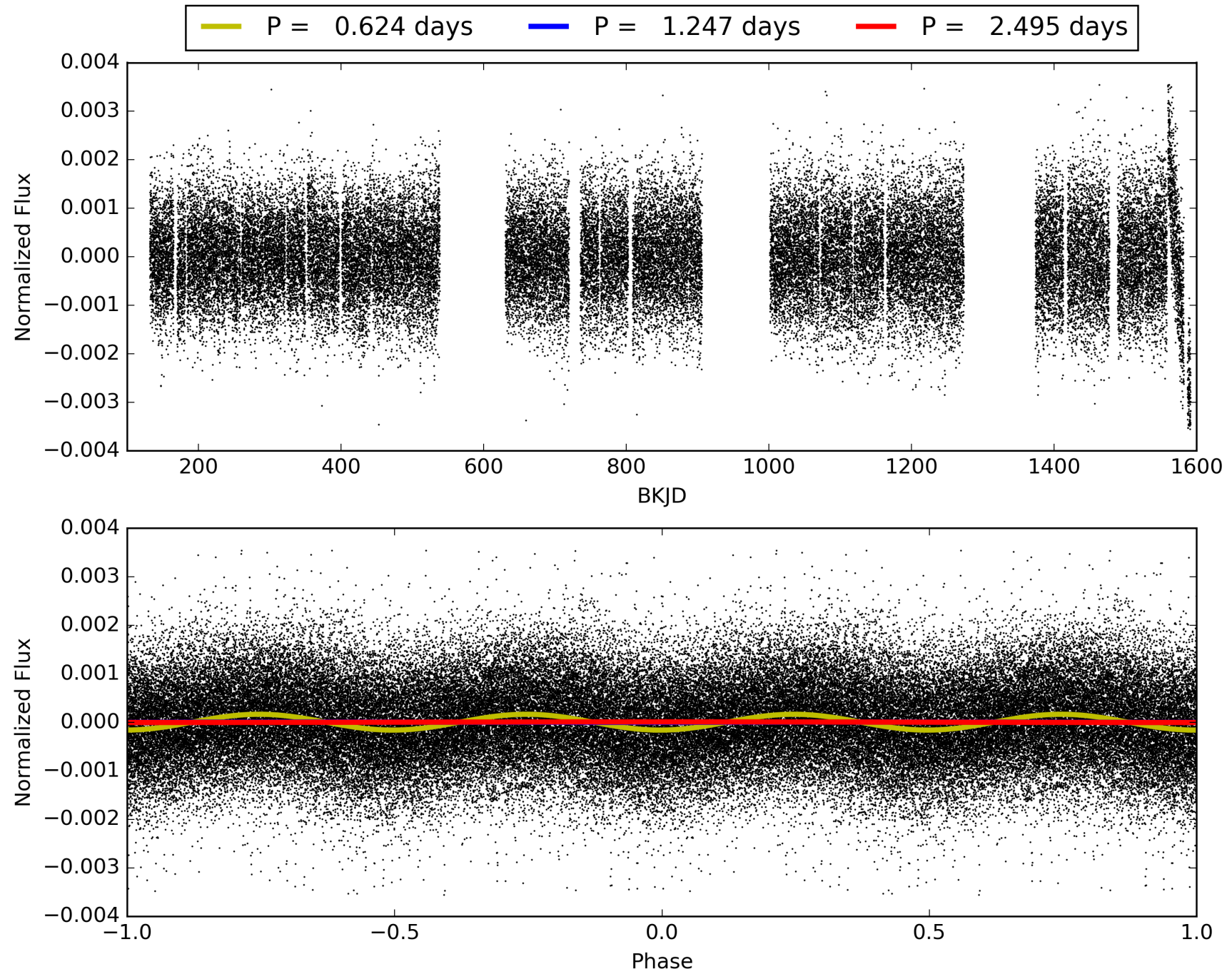
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:06:06 Z

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

TCE 005200521-01, PDC Light Curves

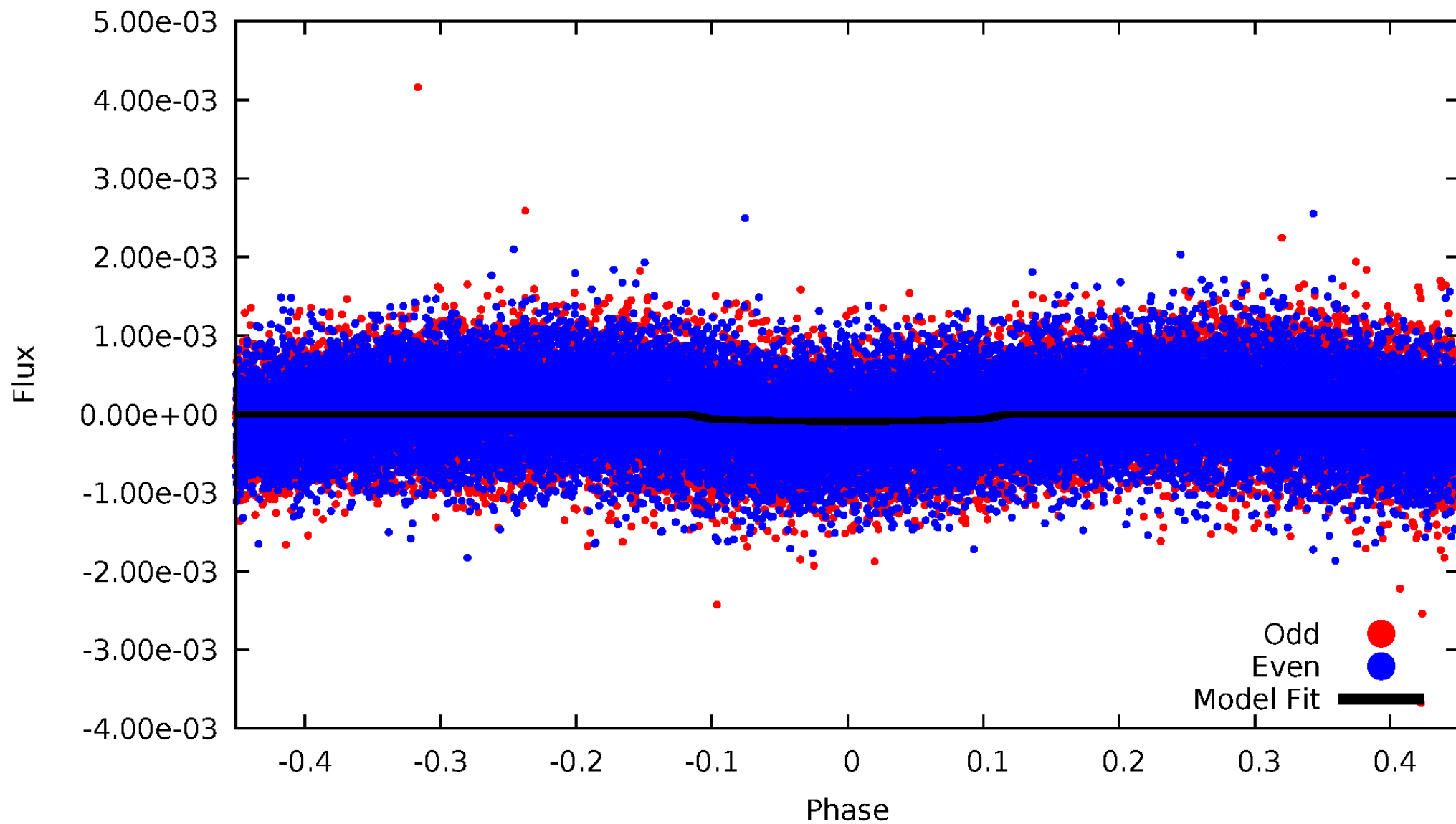


TCE 005200521-01



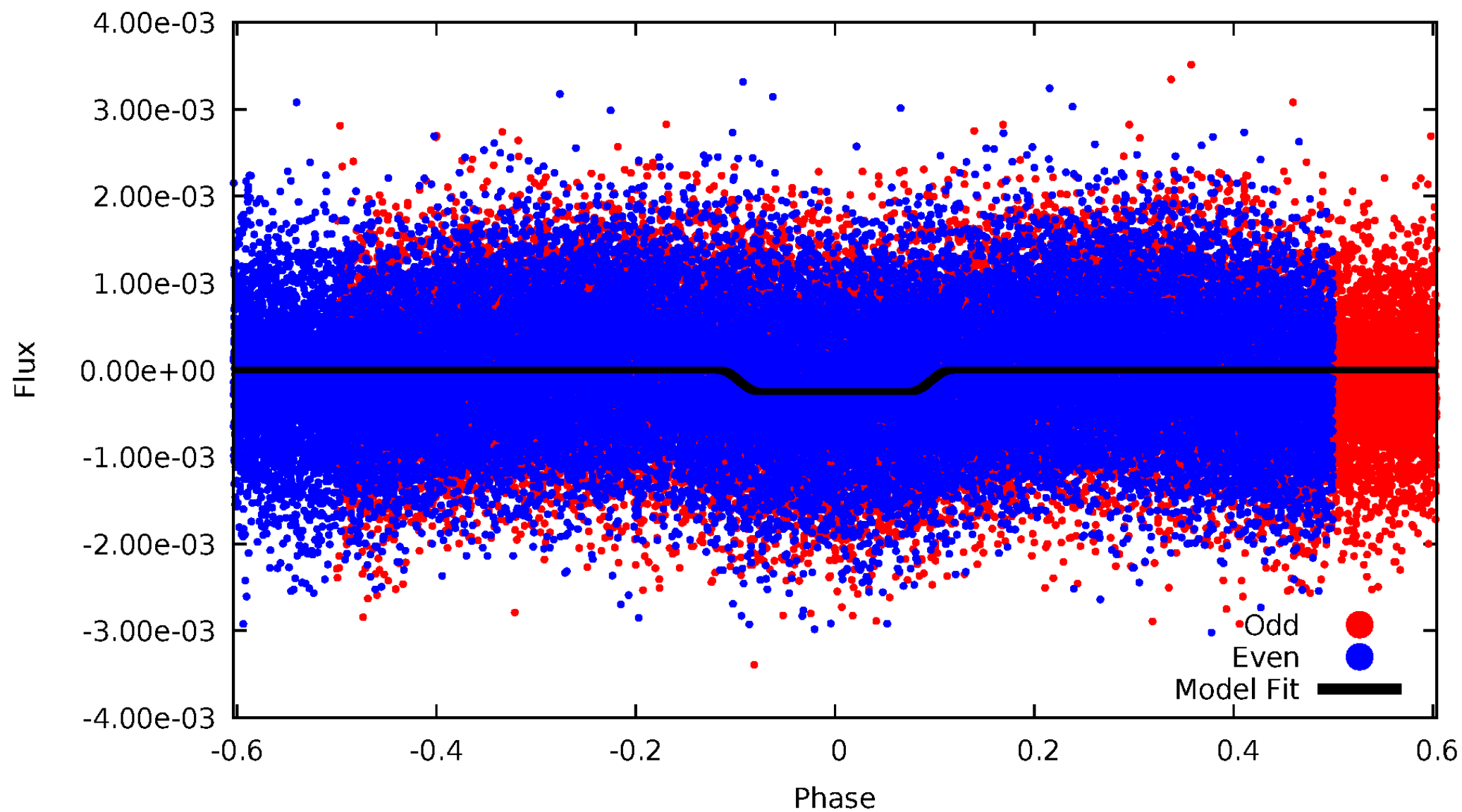
DV Odd/Even

TCE 005200521-01



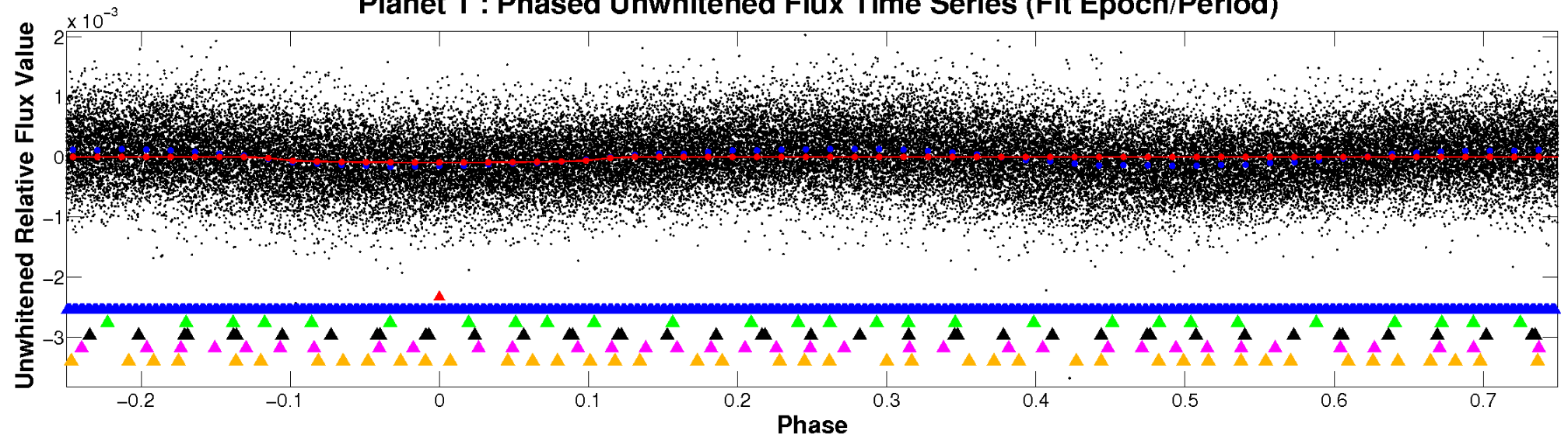
ALT Odd/Even

TCE 005200521-01

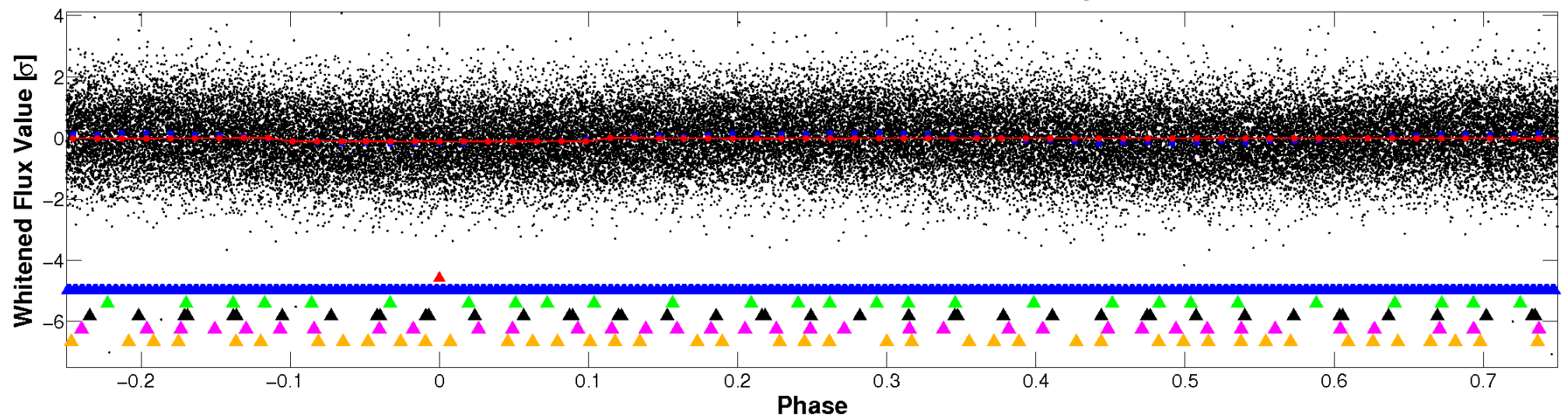


Non-Whitened Vs. Whitened Light Curve

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

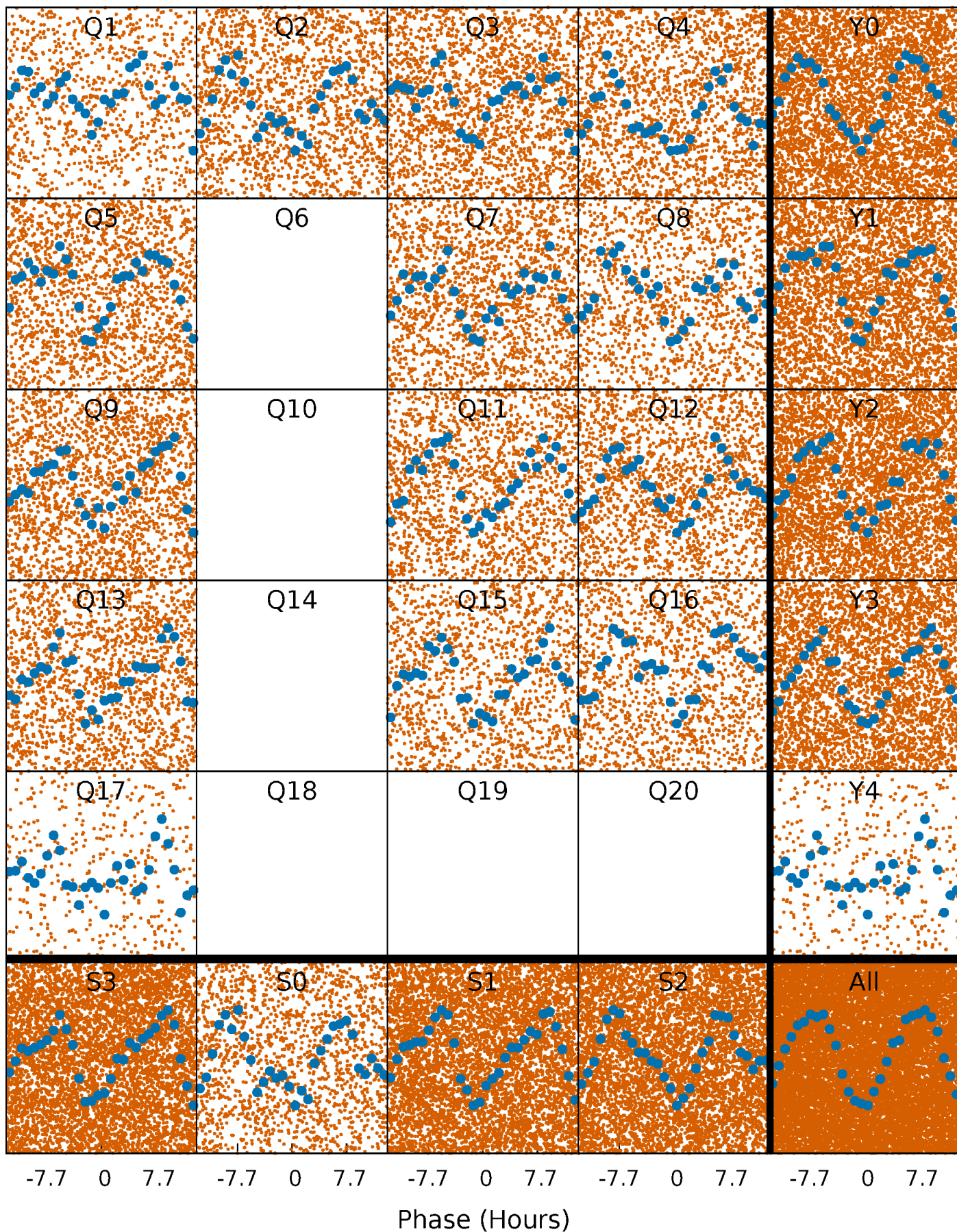


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



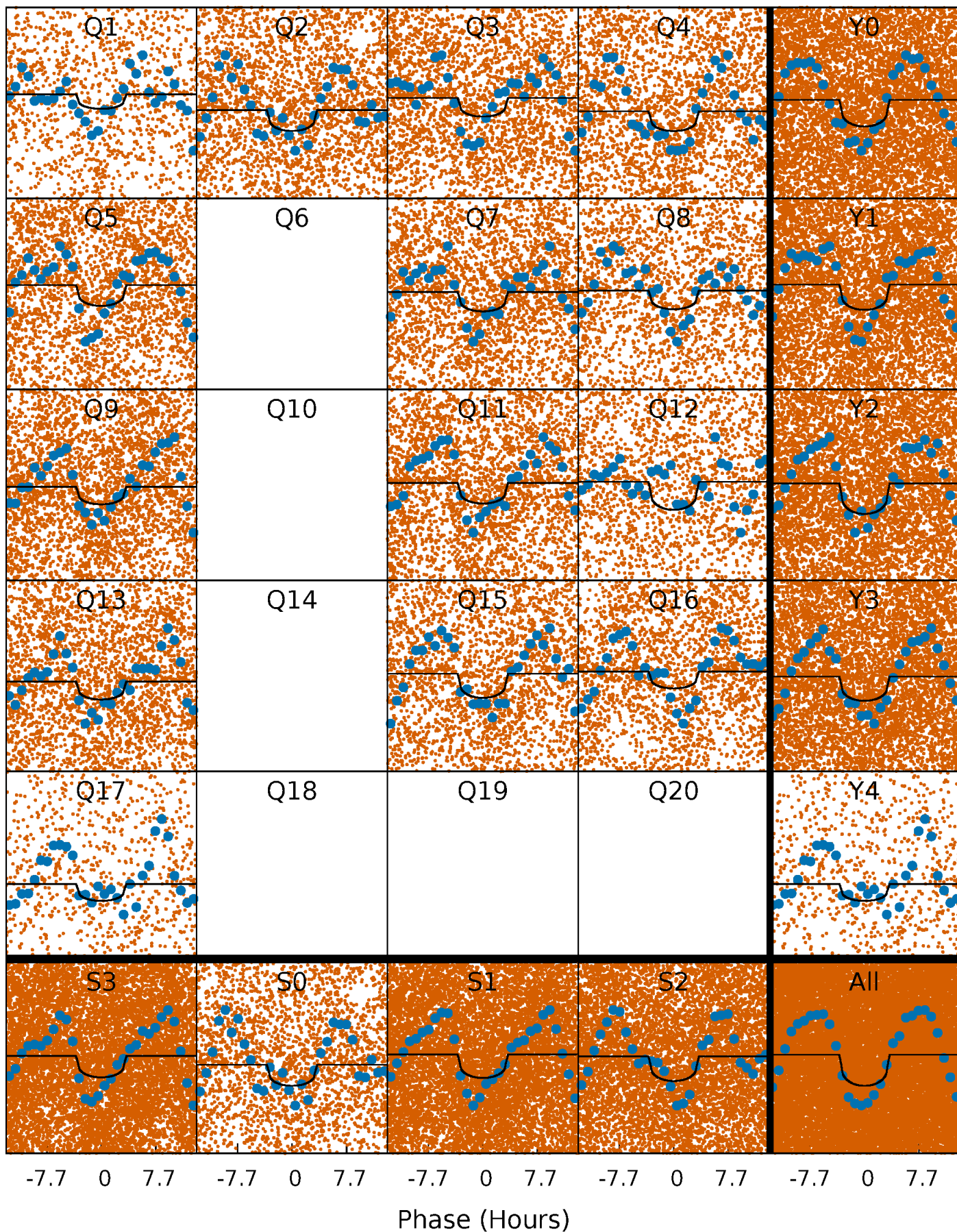
PDC Quarter-Phased Transit Curves

TCE 005200521-01 P= 1.247295 Days $T_0=131.643252$ (BKJD)



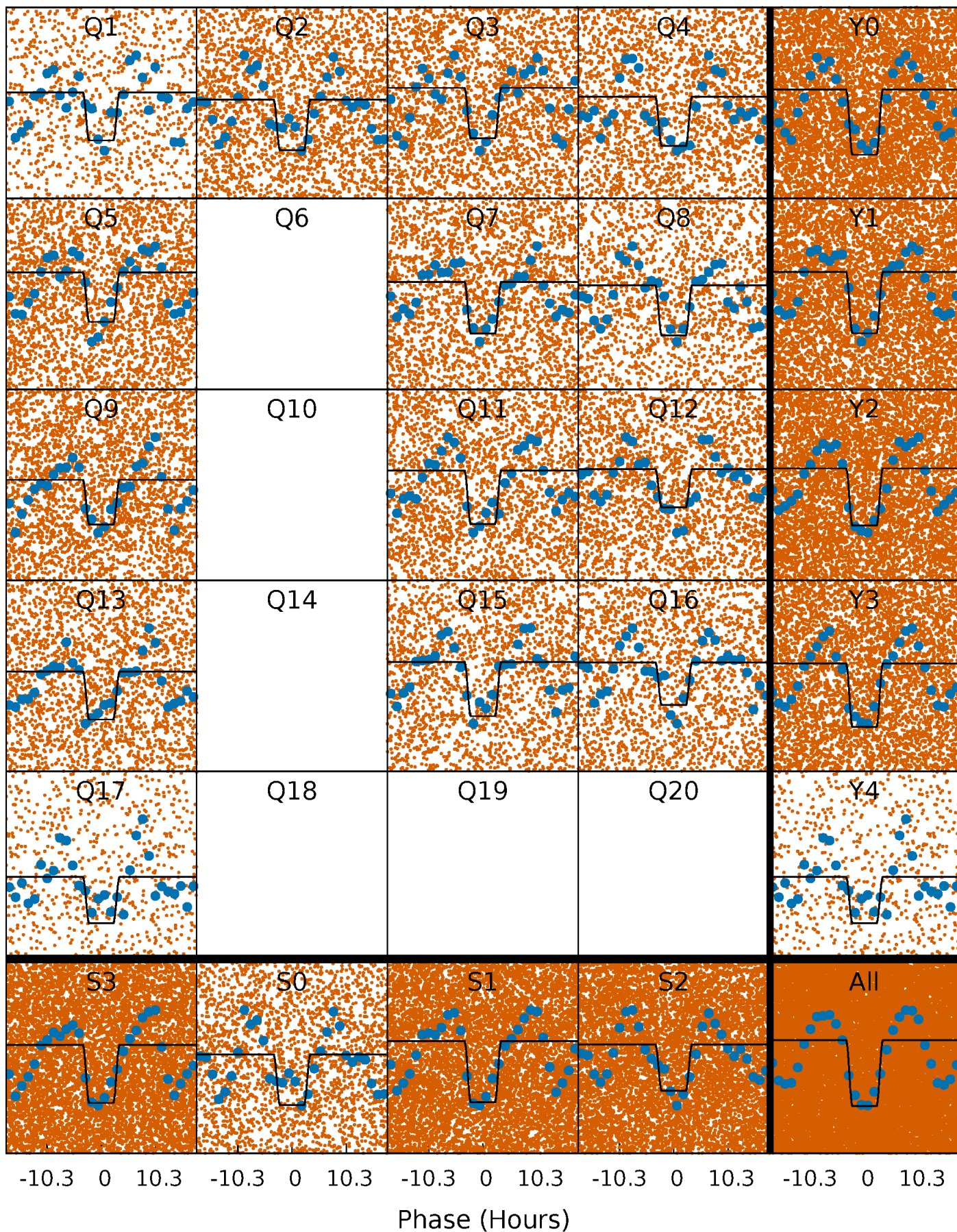
DV Quarter-Phased Transit Curves

TCE 005200521-01 P= 1.247295 Days $T_0=131.643252$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

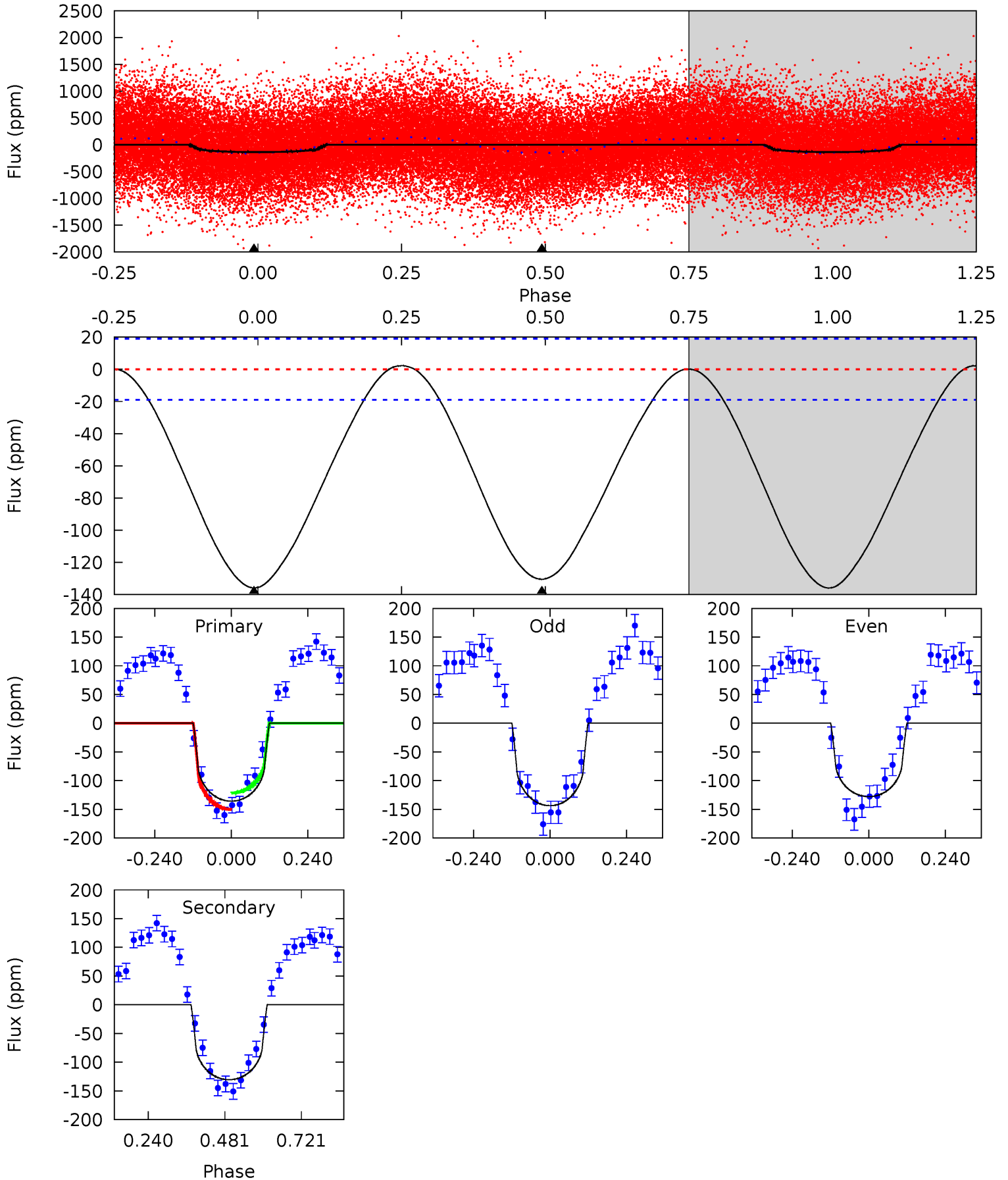
TCE 005200521-01 P= 1.247373 Days $T_0=131.591106$ (BKJD)



DV Model-Shift Uniqueness Test

005200521-01, P = 1.247295 Days, E = 130.395957 Days

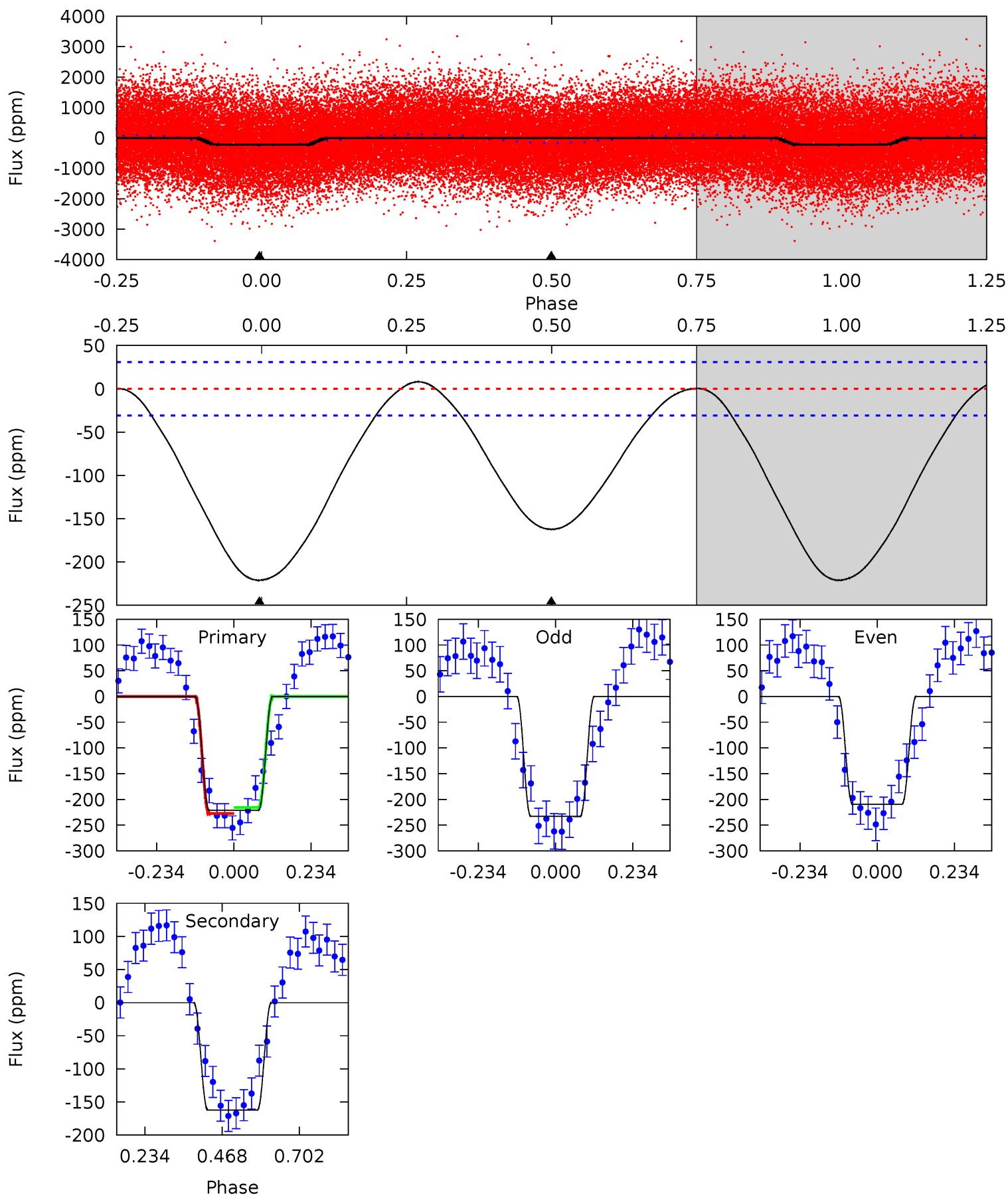
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.3	30.1	0	0	4.38	1.17	0.40	31.3	31.3	30.1	30.1	1.81	1.01	0.02	3.40



Alt Model-Shift Uniqueness Test

005200521-01, P = 1.247373 Days, E = 130.343733 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
31.4	23.1	0	0	4.38	1.19	0.65	31.4	31.4	23.1	23.1	1.68	1.01	0.04	0.81



Stellar Parameters For KIC 005200521

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5661^{+84}_{-76}	$3.410^{+0.280}_{-0.070}$	$0.180^{+0.150}_{-0.150}$	$4.463^{+0.513}_{-1.540}$	$1.865^{+0.131}_{-0.392}$	$0.030^{+0.061}_{-0.007}$
	+1%/-1%	+8%/-2%	+83%/-83%	+11%/-35%	+7%/-21%	+207%/-23%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005200521-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-130 ± 4	$4.19^{+3.33}_{-2.48}$	4351^{+180}_{-387}	6125^{+4693}_{-1592}	$3.125^{+15.549}_{-2.148}$
Alt.	-162 ± 7	$7.17^{+3.34}_{-3.36}$	4335^{+188}_{-350}	4841^{+1847}_{-877}	$1.347^{+3.385}_{-0.704}$

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

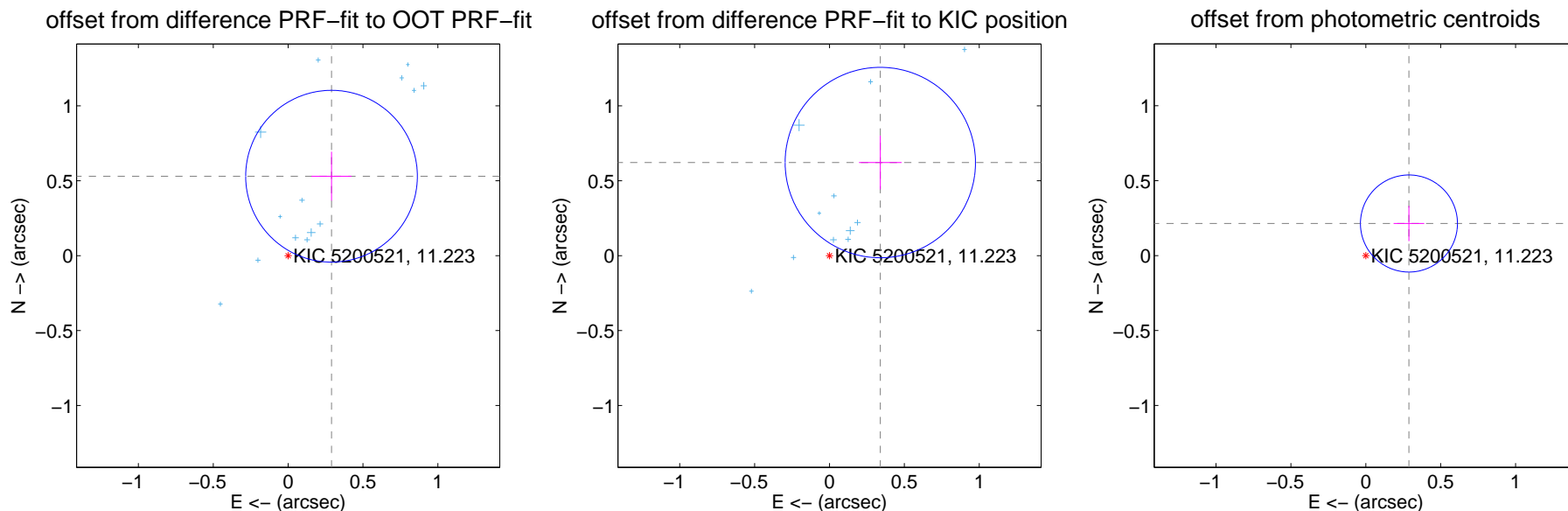
DV Centroid Data

Supplemental centroid analysis for 005200521-01. **Kepler magnitude: 11.22.** Transit SNR 11.37

There are 14 quarters with good PRF difference image offsets

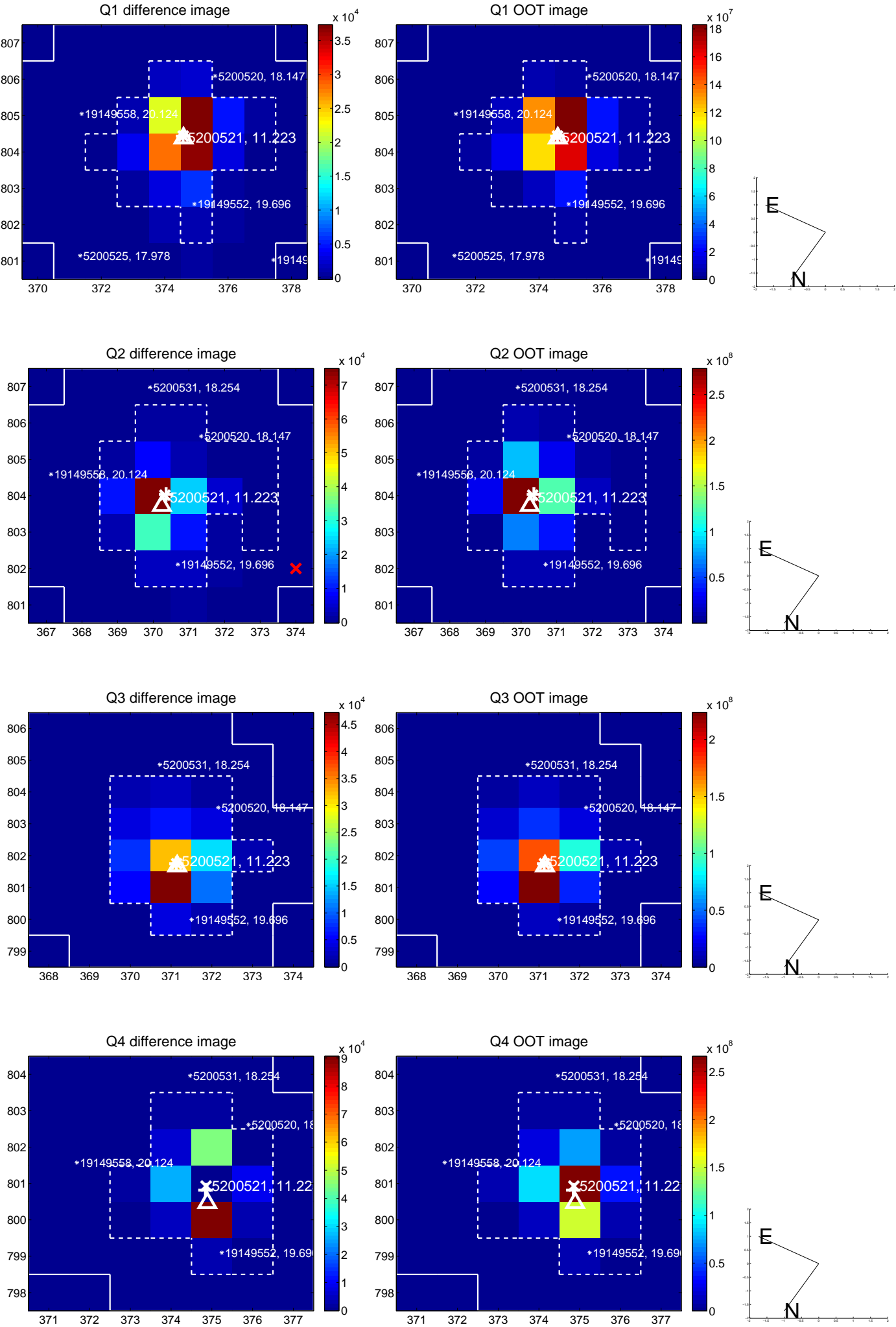
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.604 ± 0.191	3.16	-0.290 ± 0.133	0.530 ± 0.163
PRF-fit source offset from KIC position	0.708 ± 0.212	3.34	-0.339 ± 0.143	0.621 ± 0.179
photometric centroid source offset	0.36 ± 0.11	3.33	-0.29 ± 0.10	0.21 ± 0.12

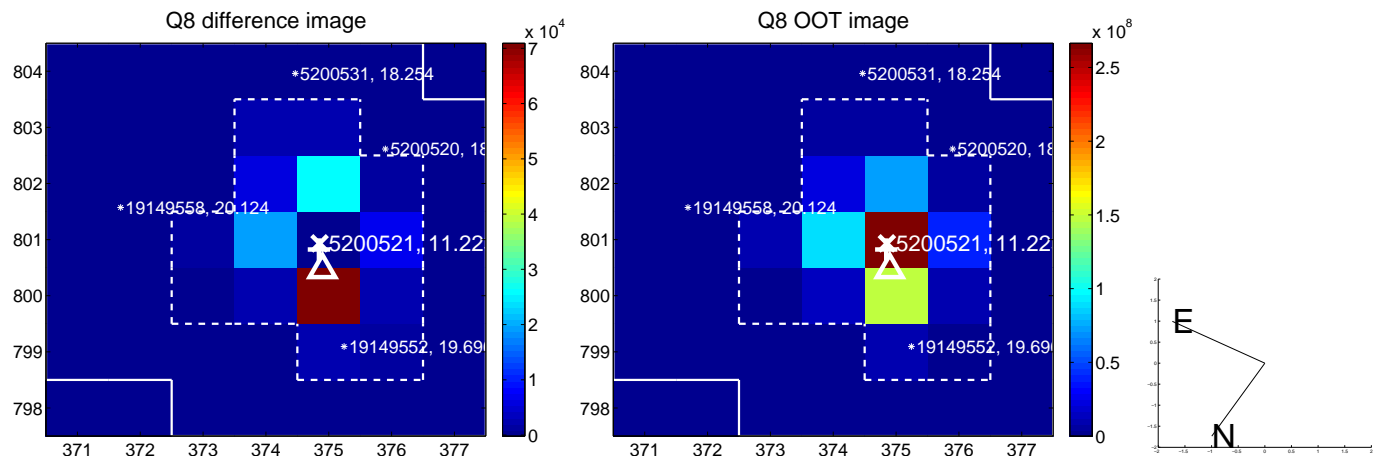
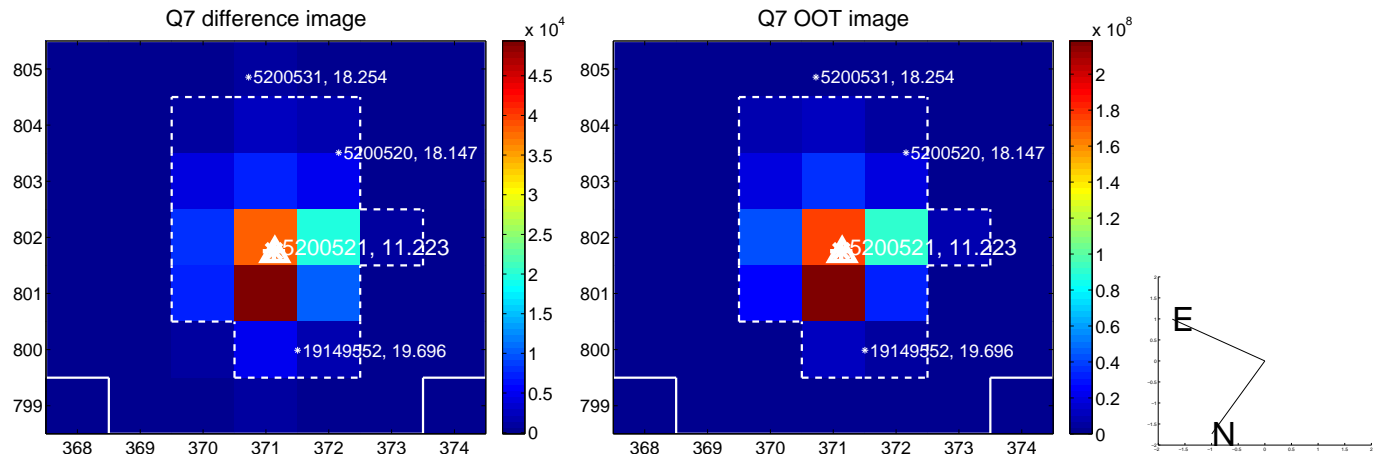
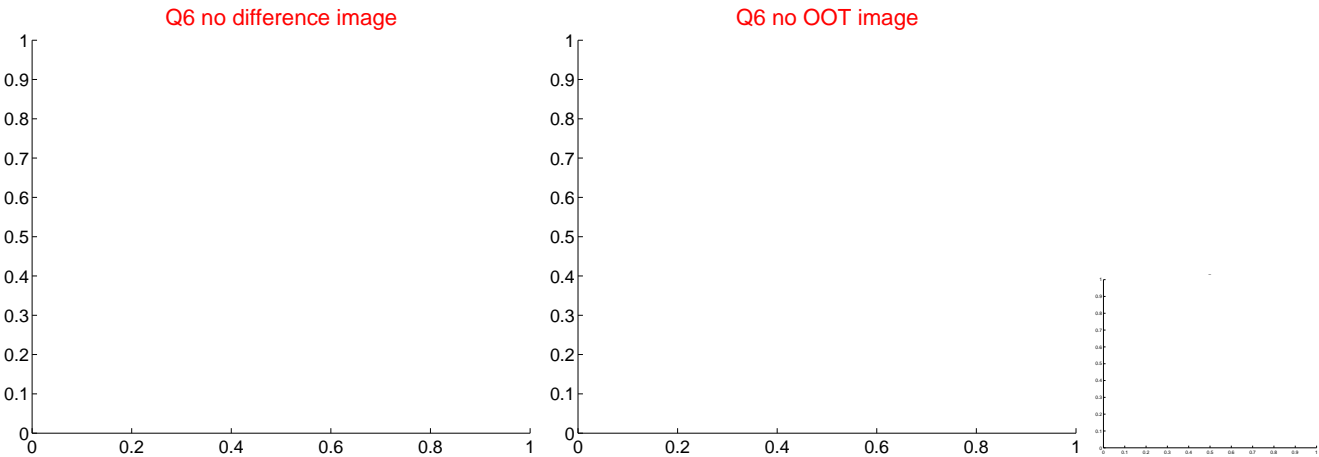
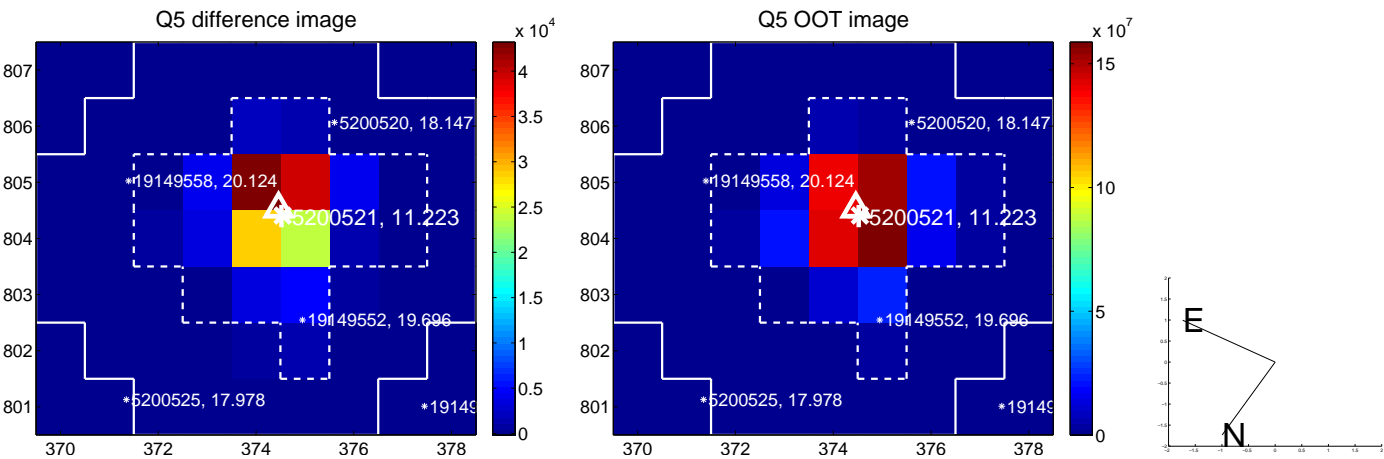


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

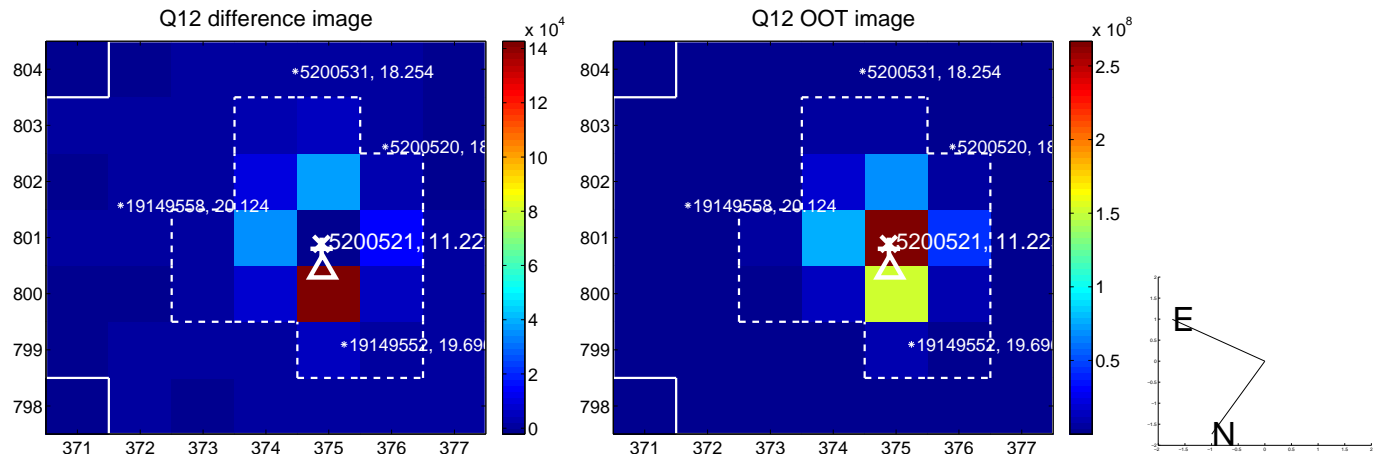
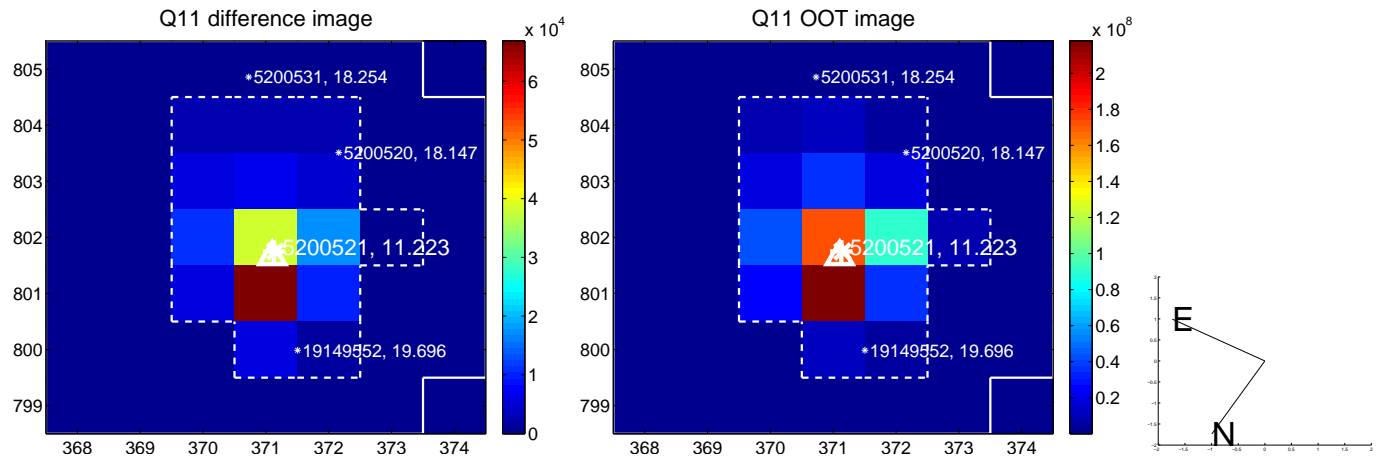
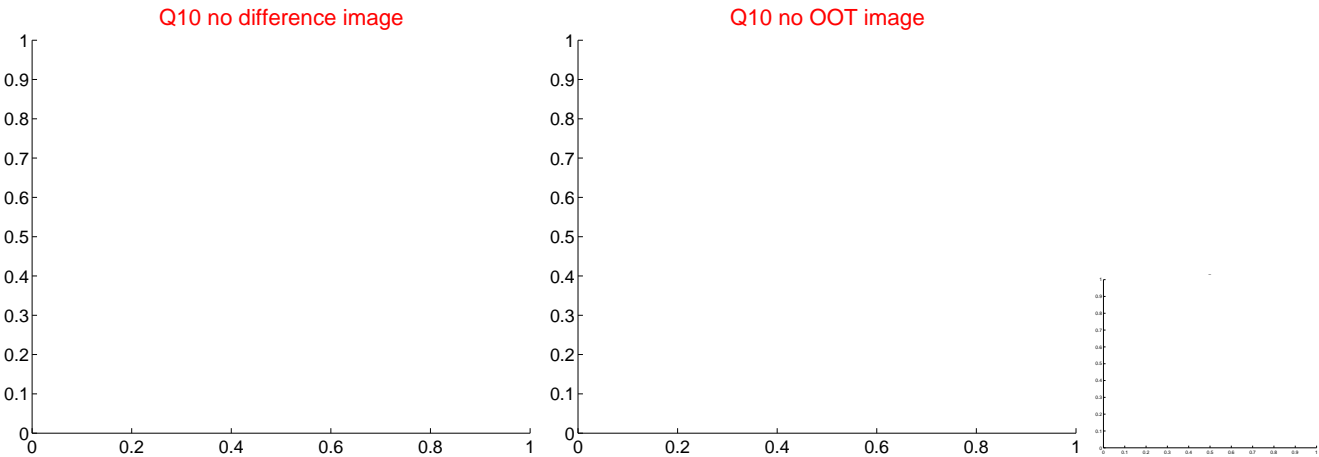
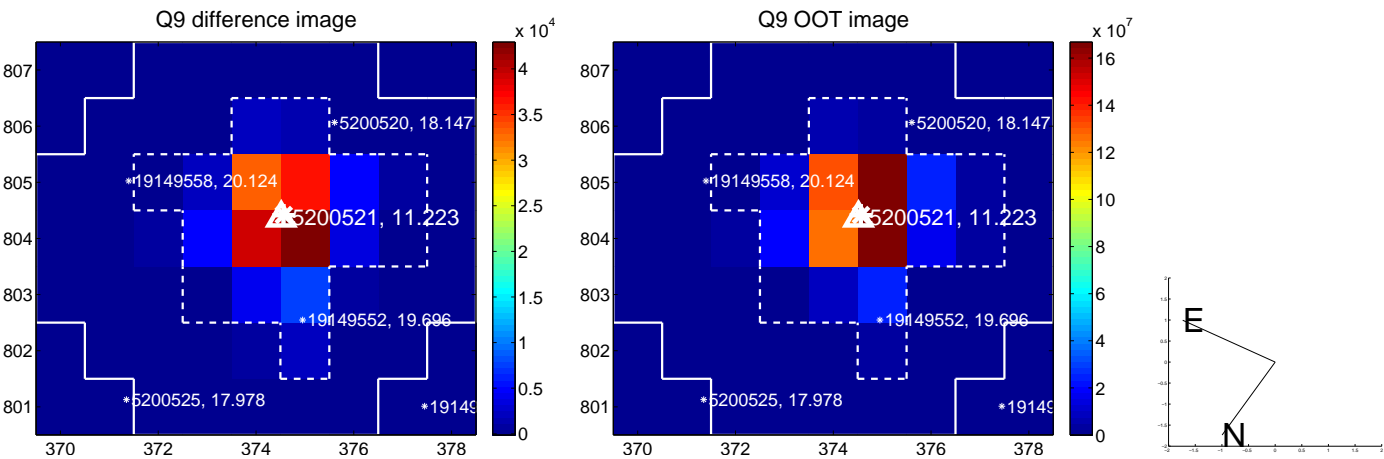
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



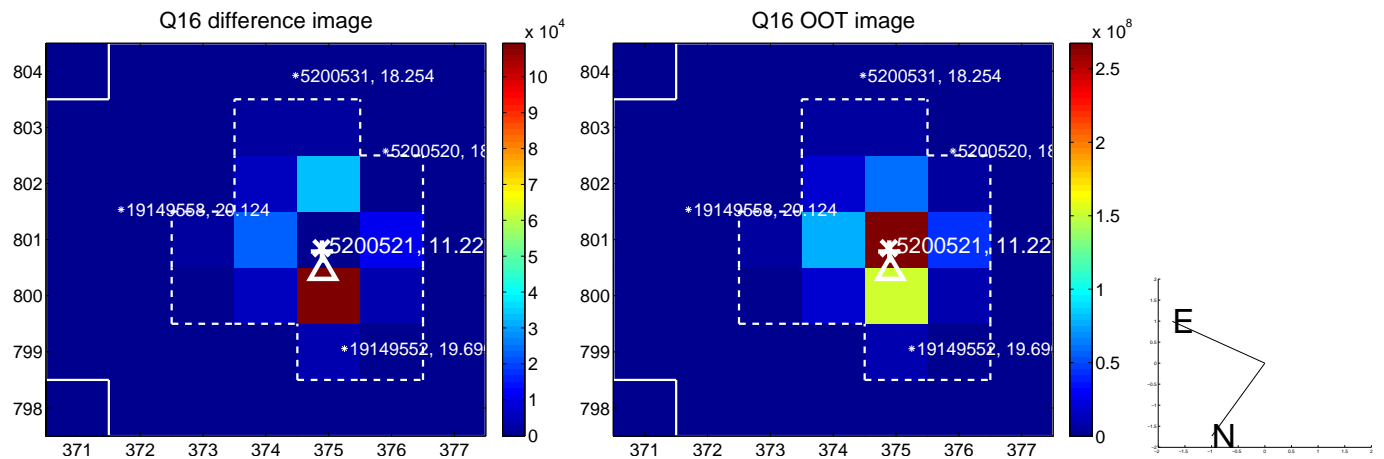
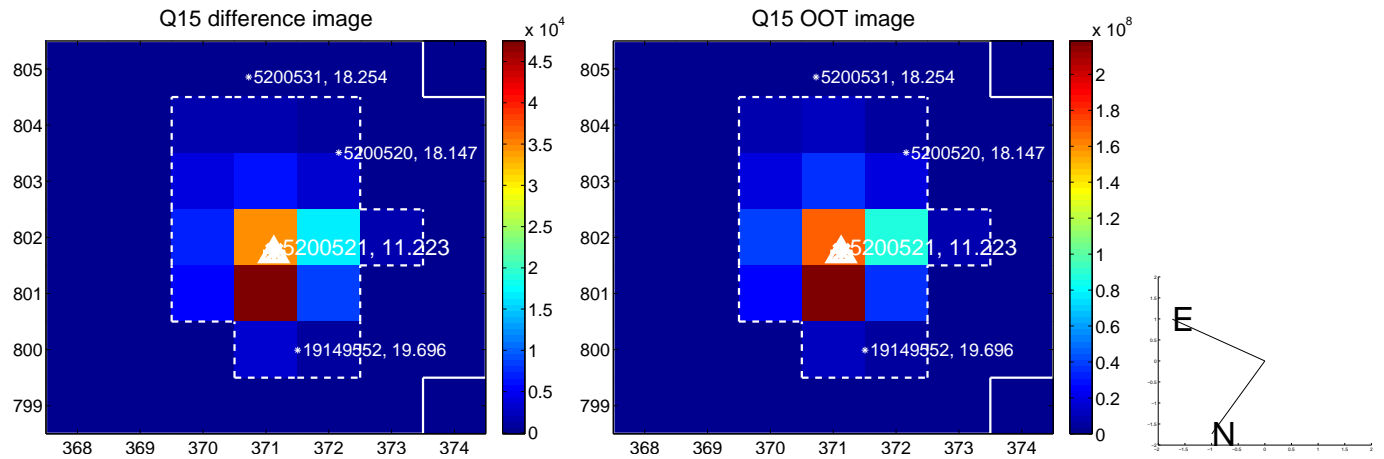
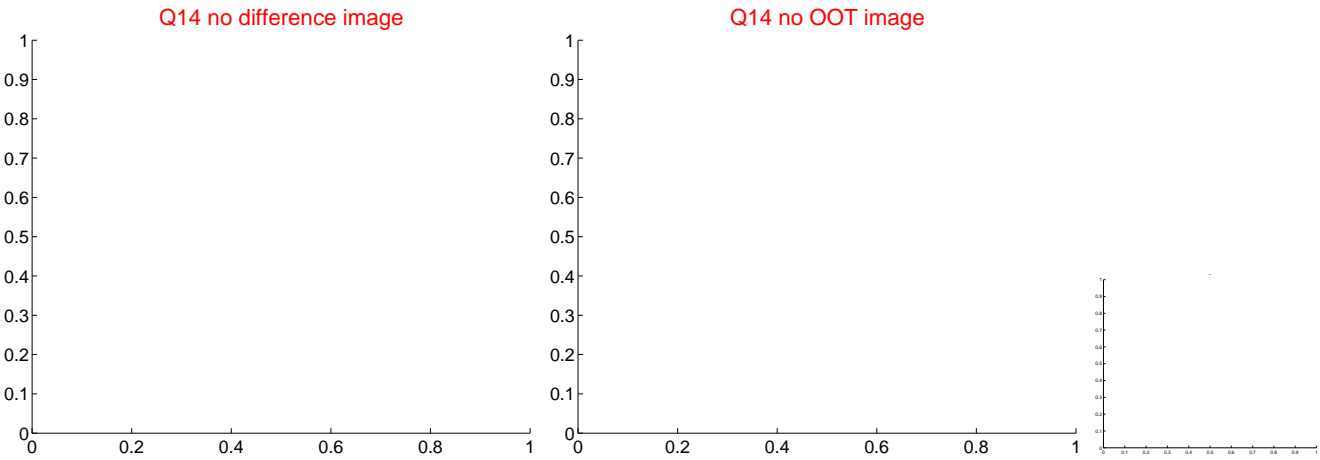
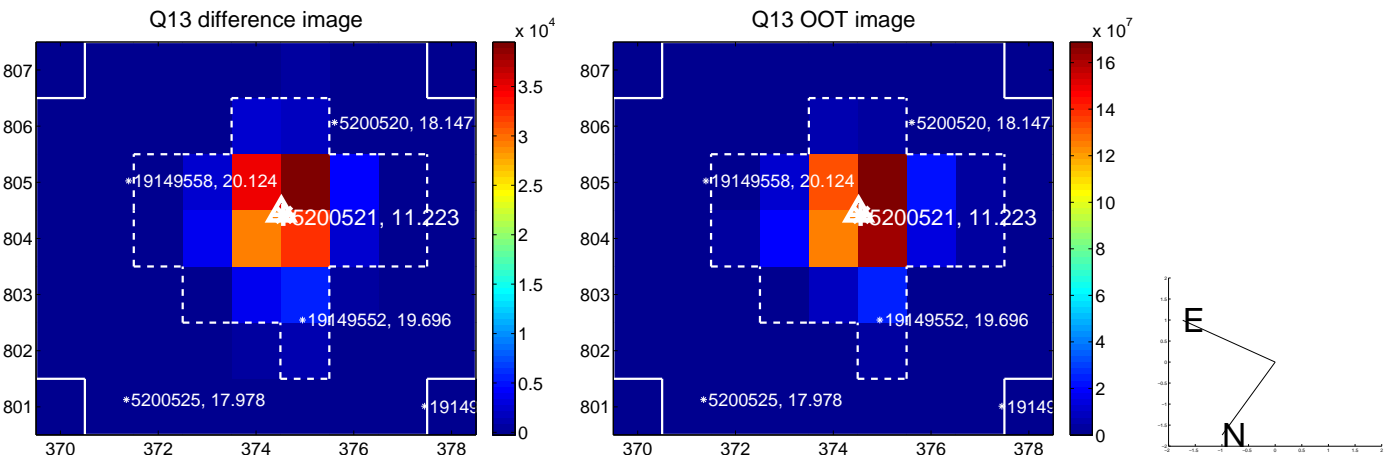
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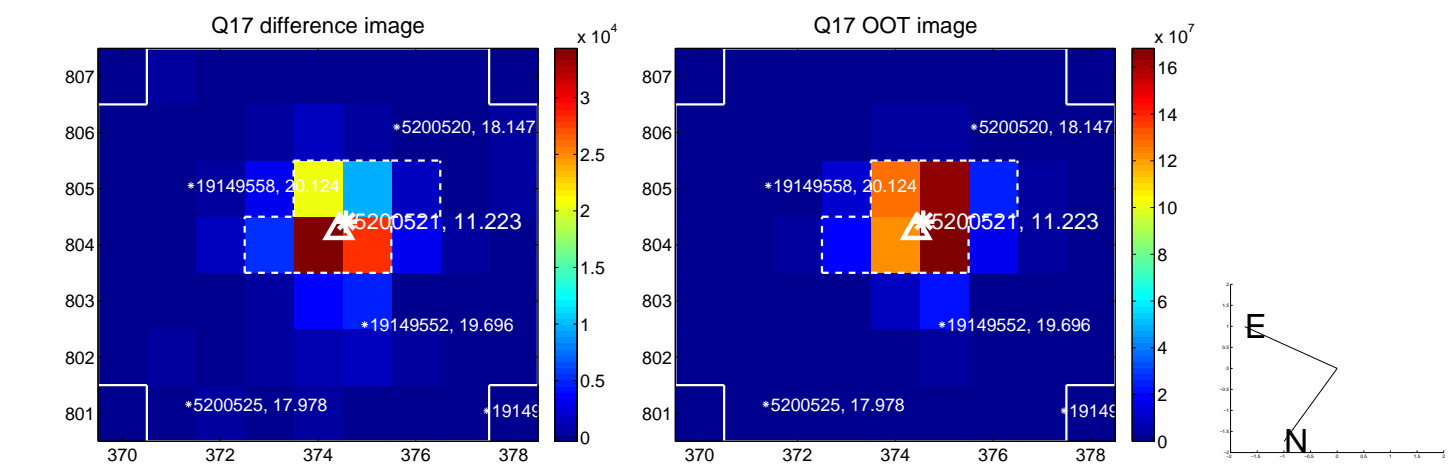
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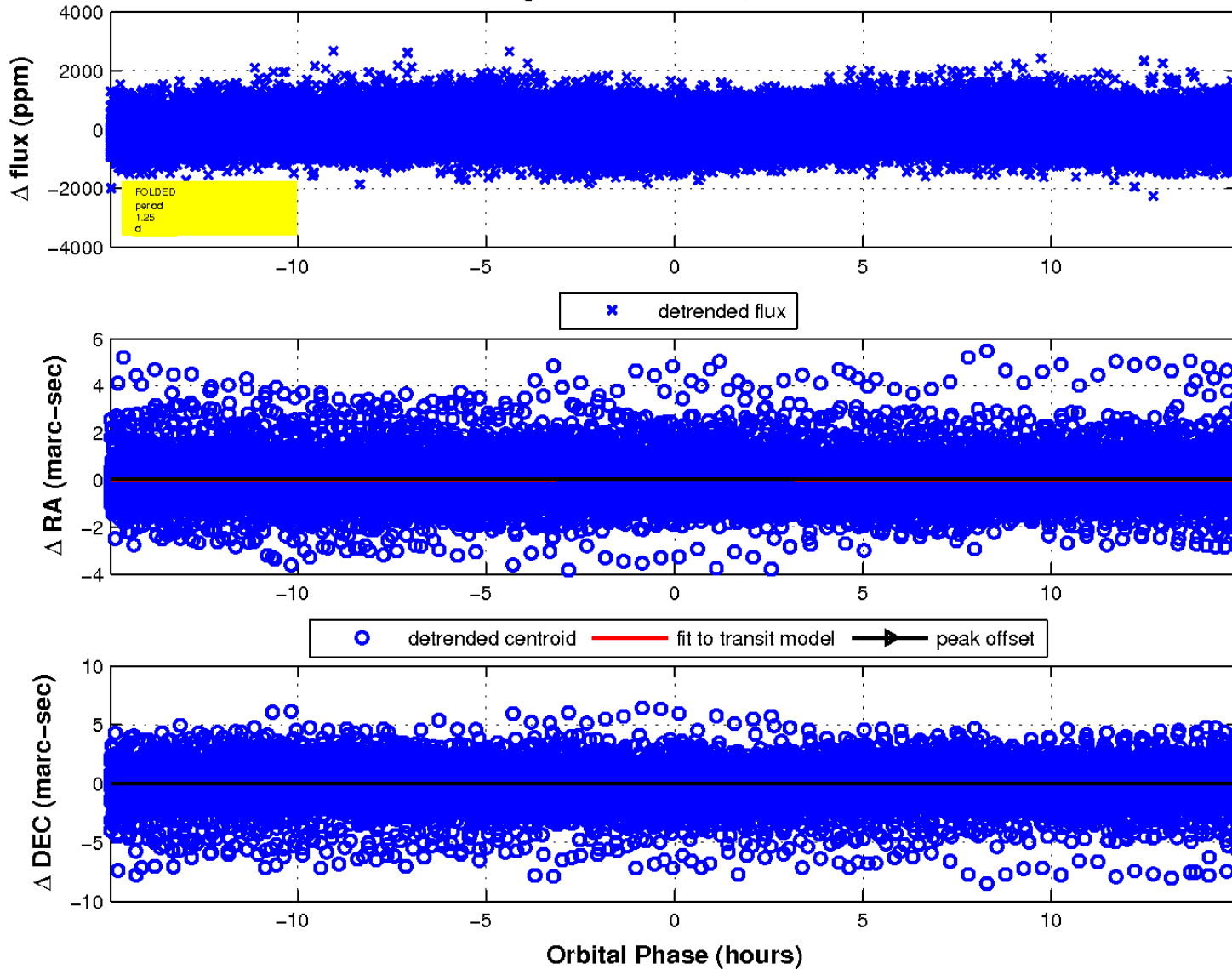
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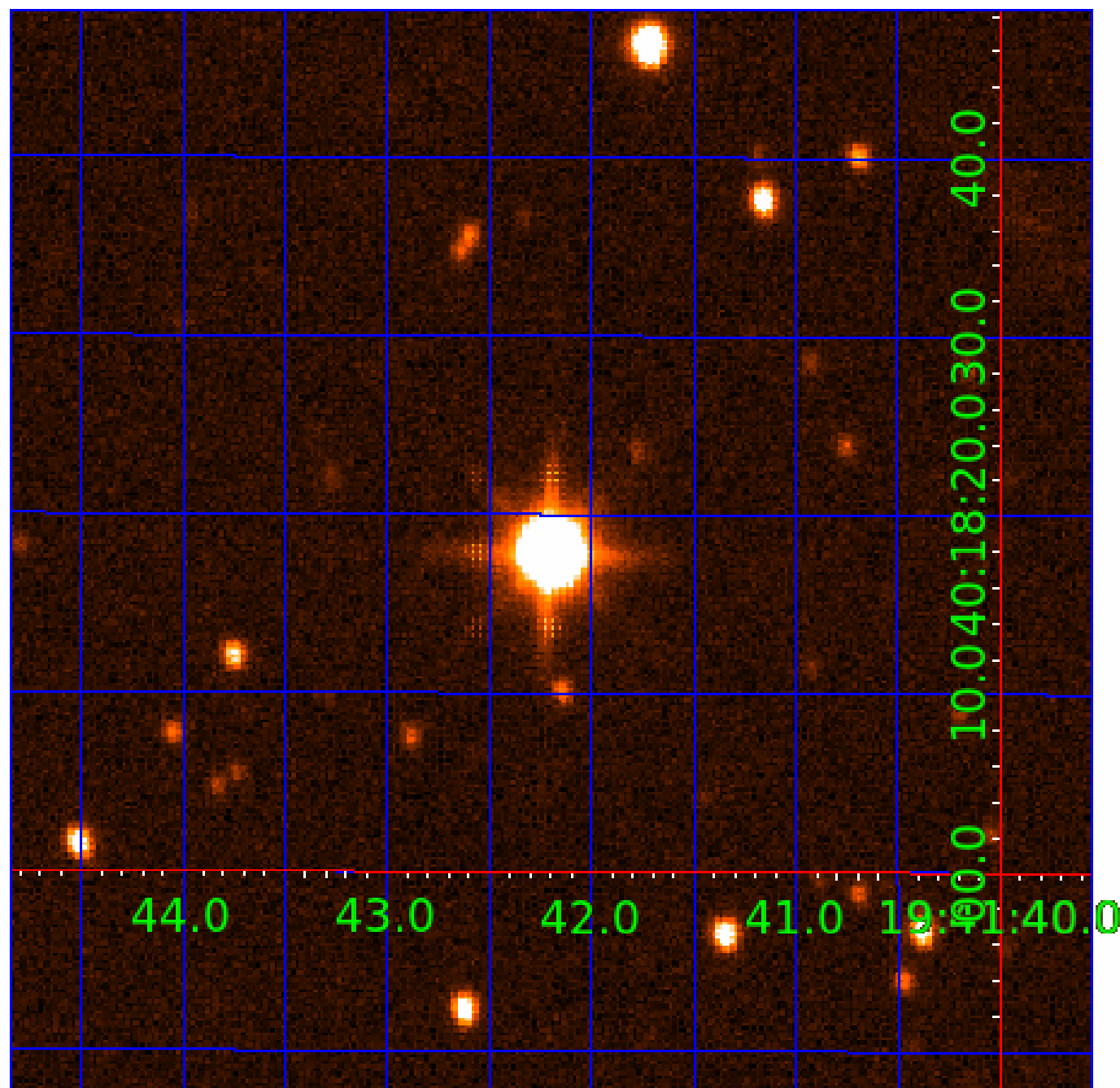


fluxWeightedCentroids, Planet 1 of 6



UKIRT Image

Declination



KIC 005200521

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

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005200521-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
005200521-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
005200521-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

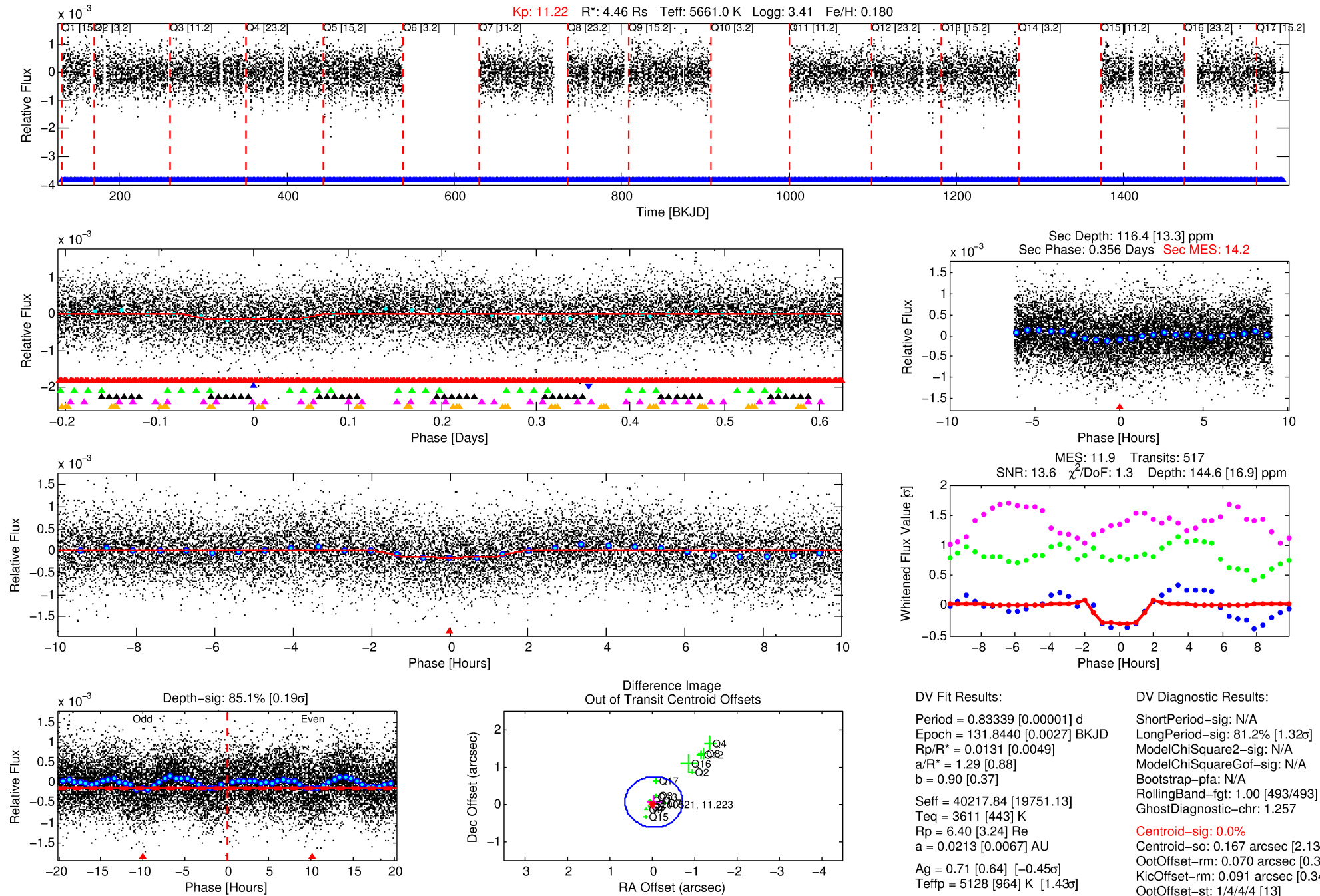
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005200521-02

No Significant Match Found

DV One-Page Summary

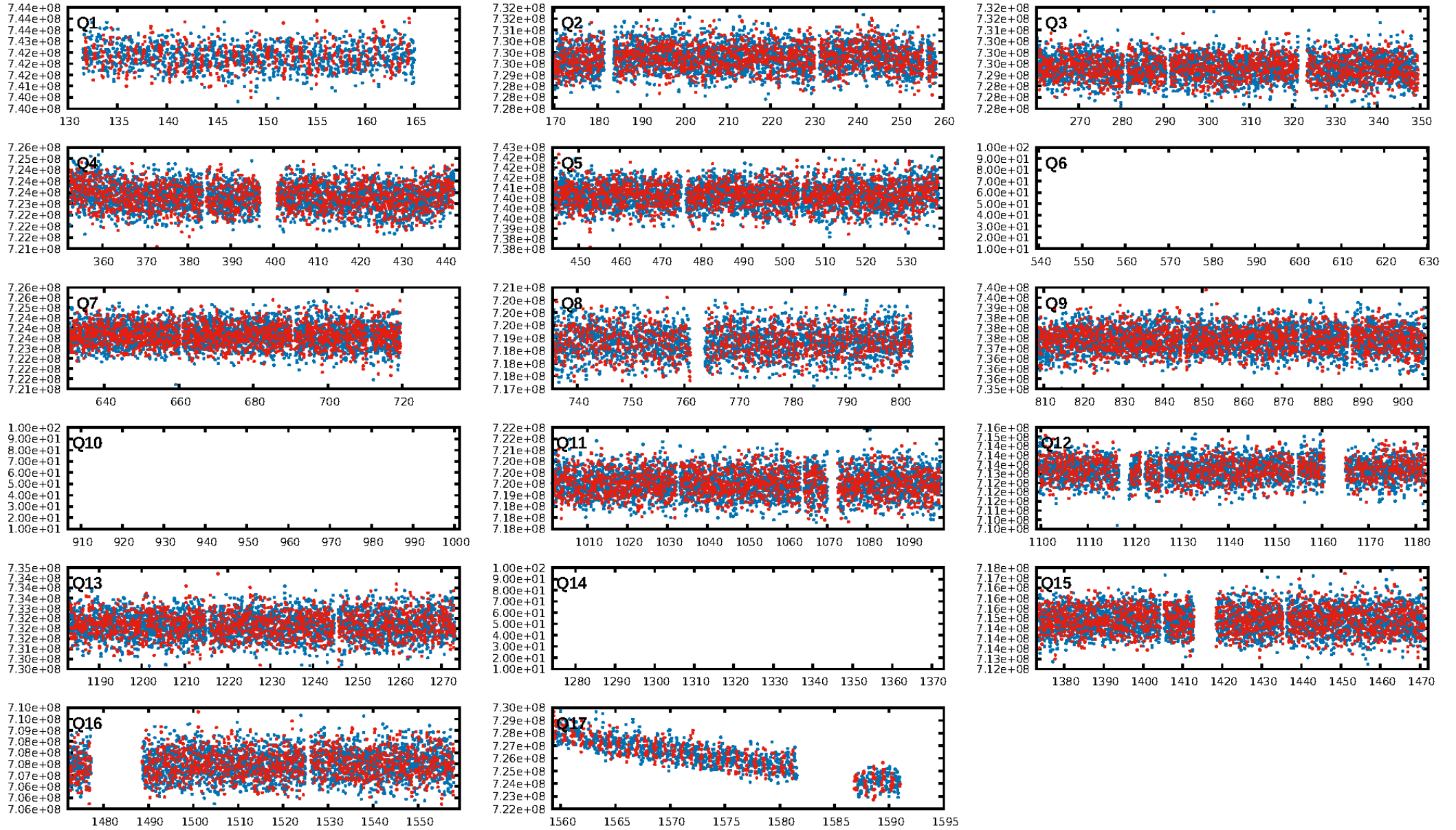
KIC: 5200521 Candidate: 2 of 6 Period: 0.833 d



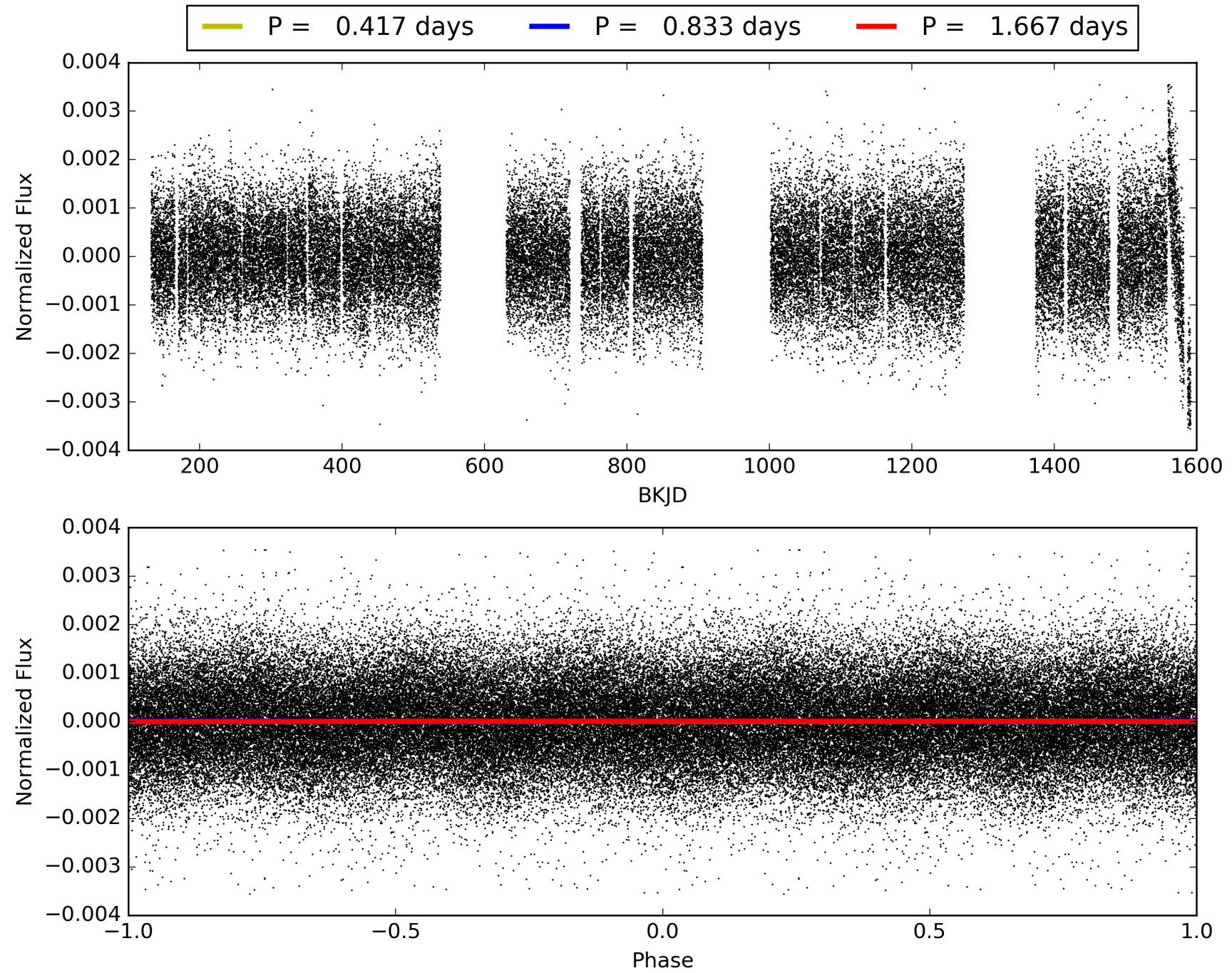
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TCE 005200521-02, PDC Light Curves

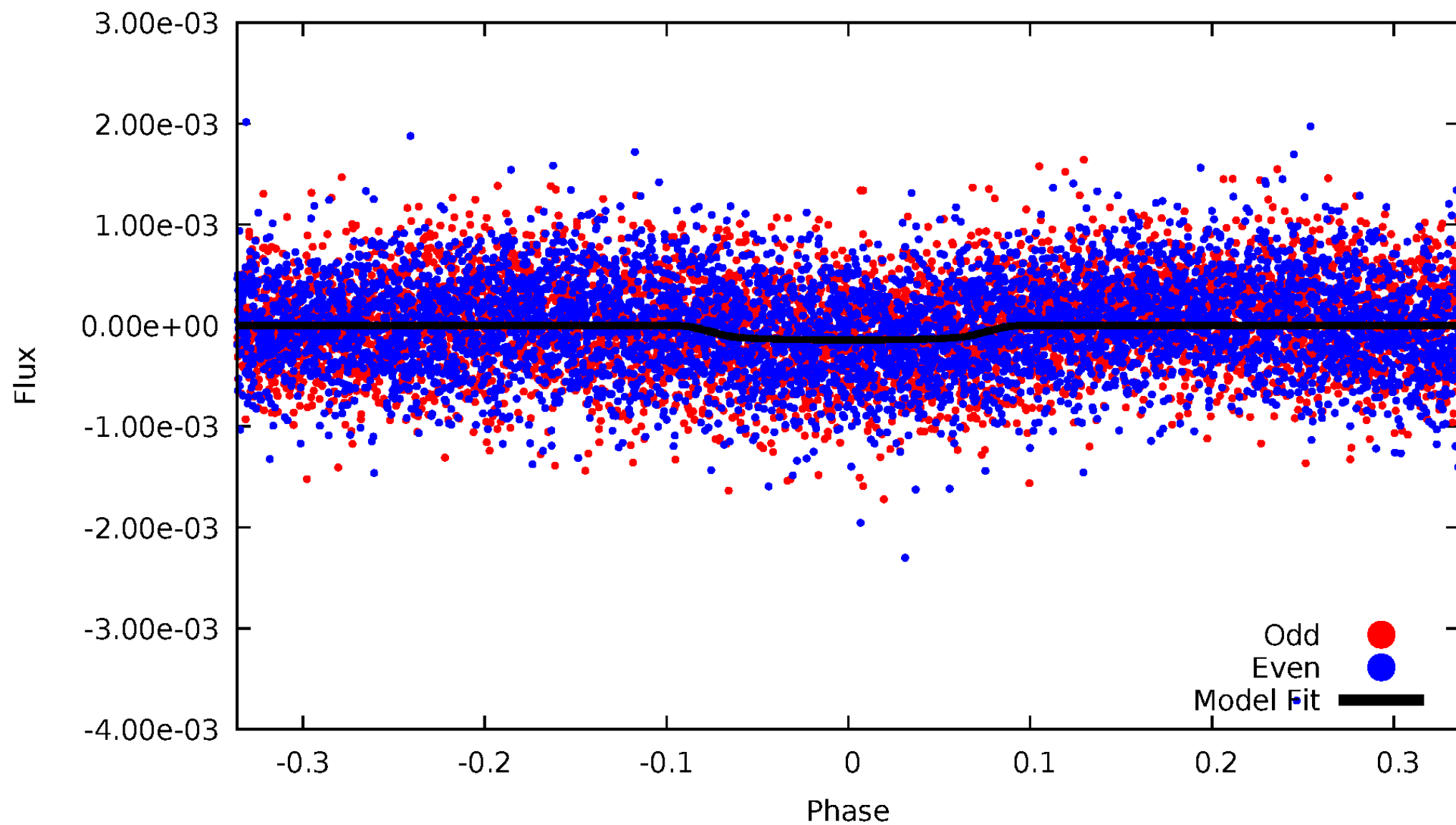


TCE 005200521-02



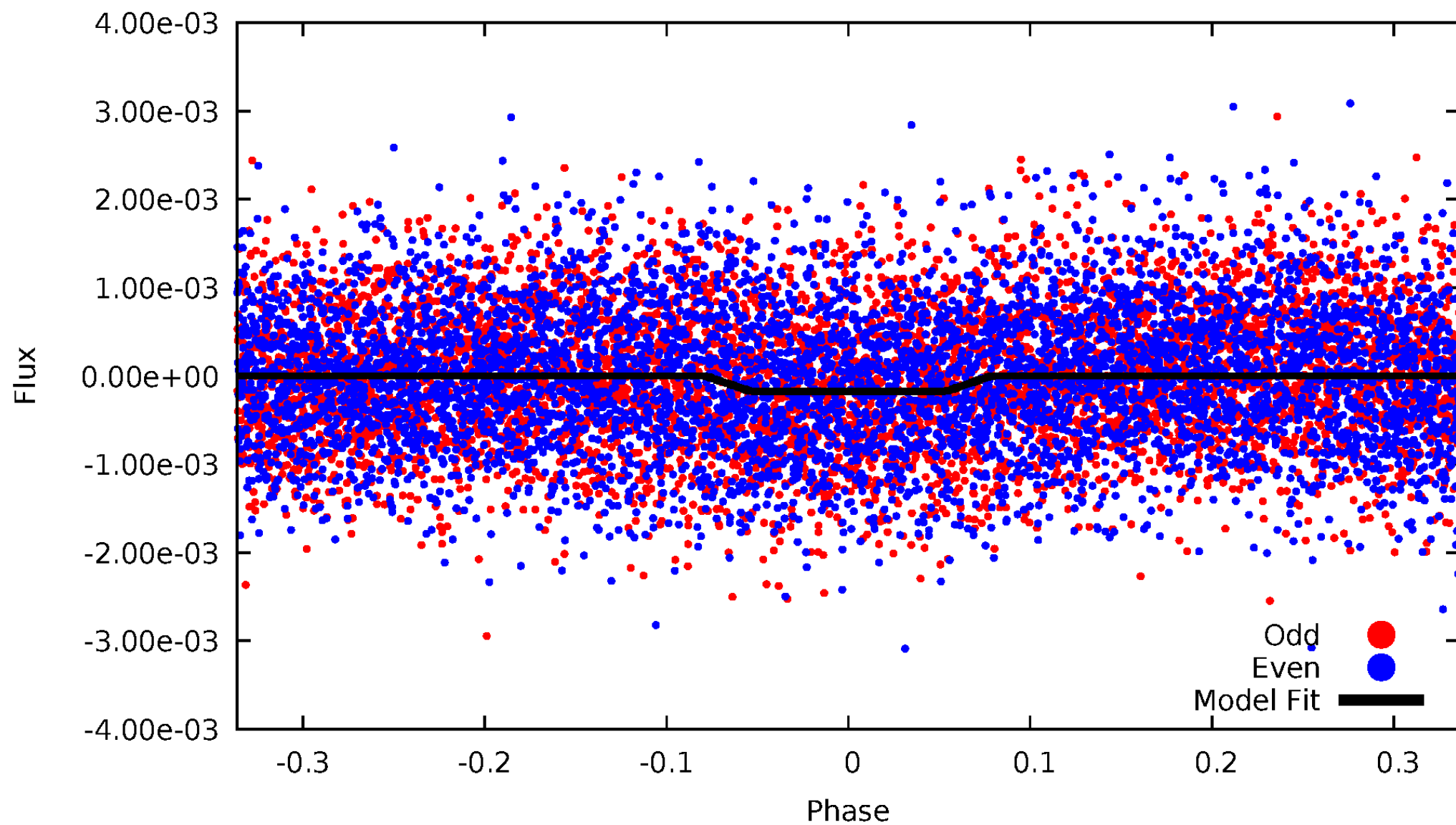
DV Odd/Even

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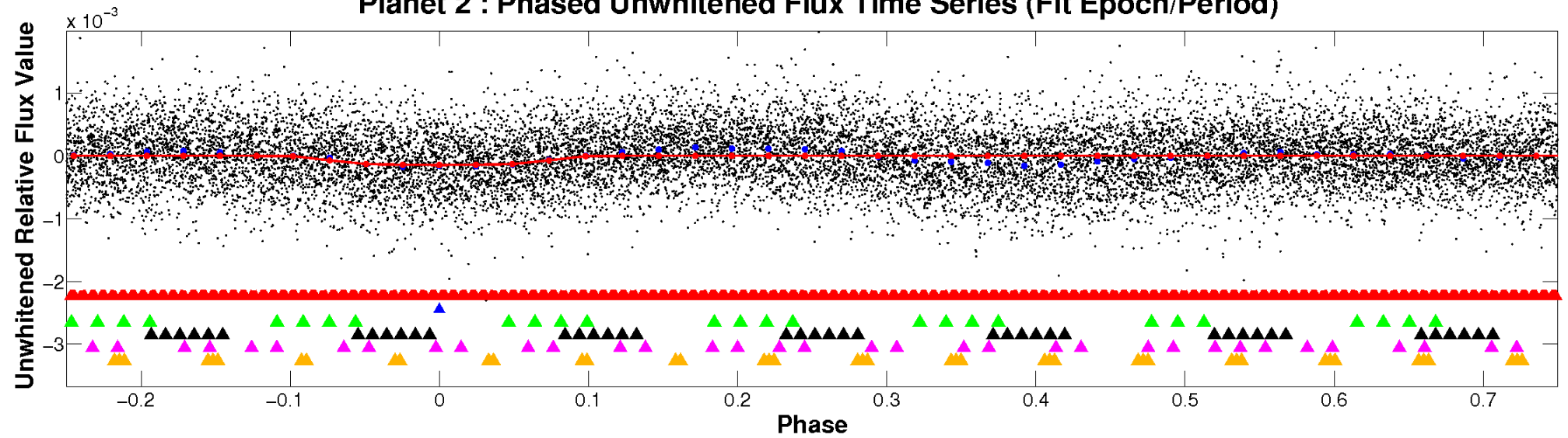
ALT Odd/Even

TCE 005200521-02

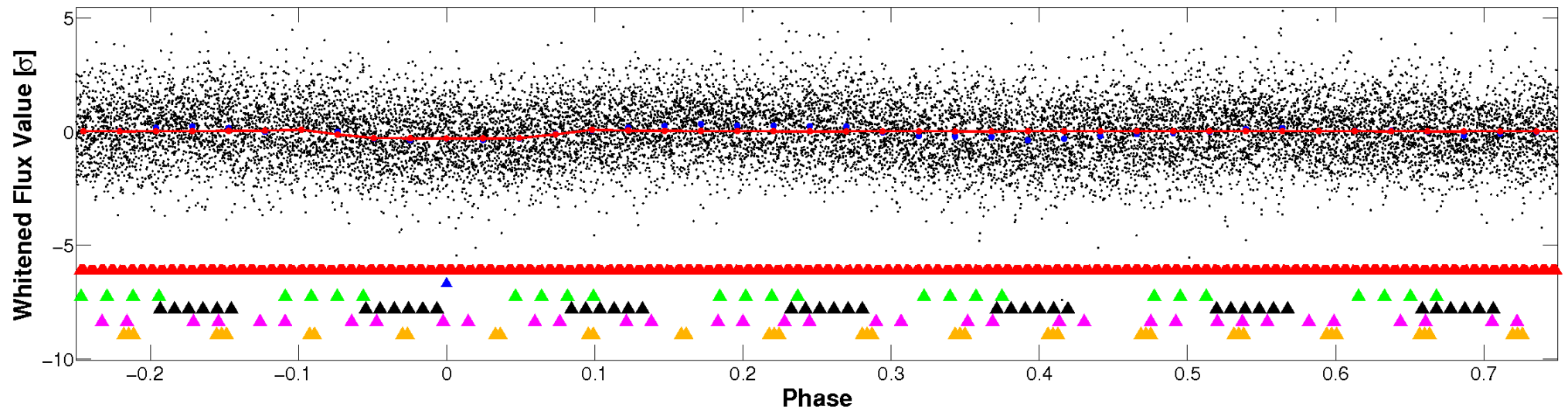


Non-Whitened Vs. Whitened Light Curve

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

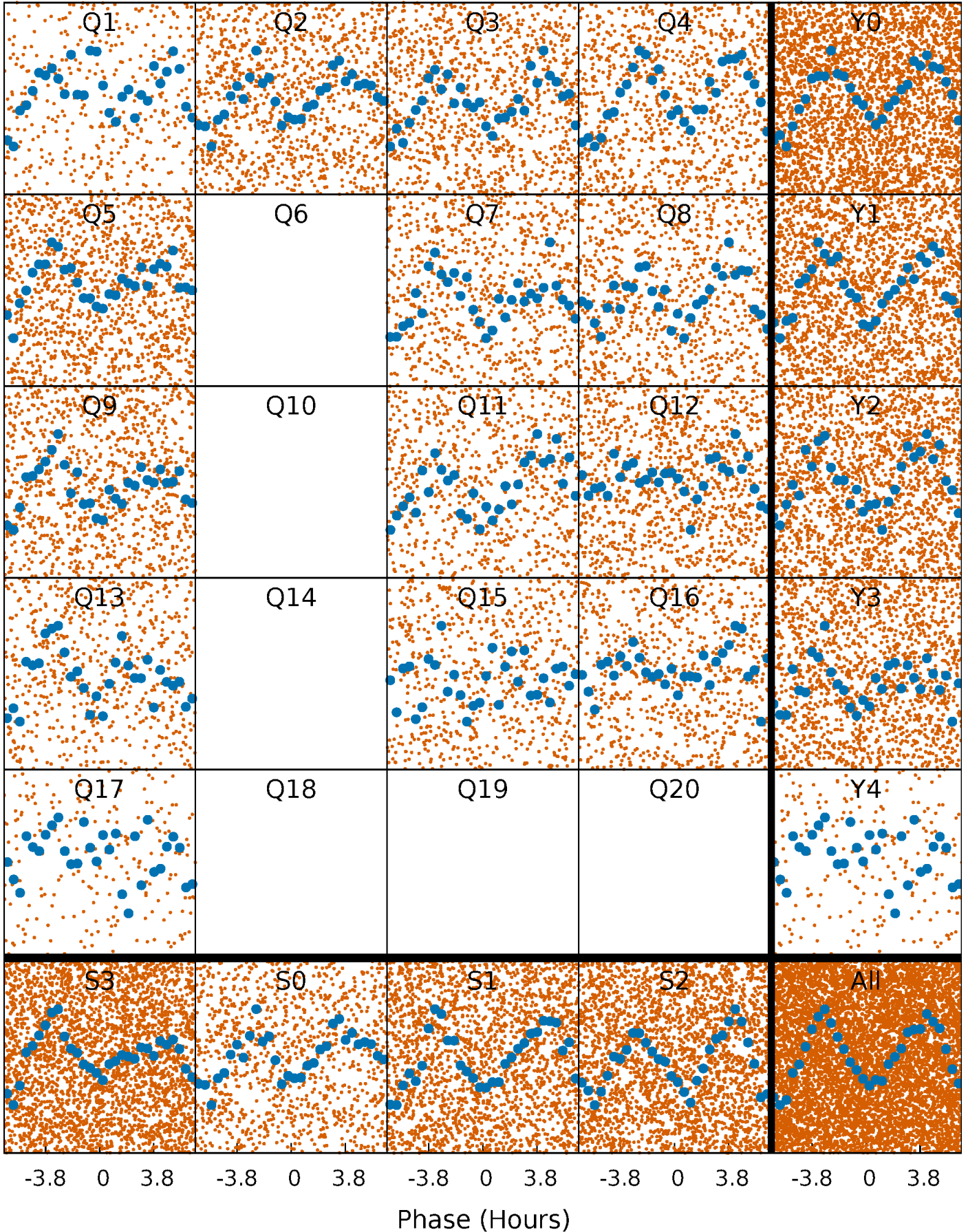


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



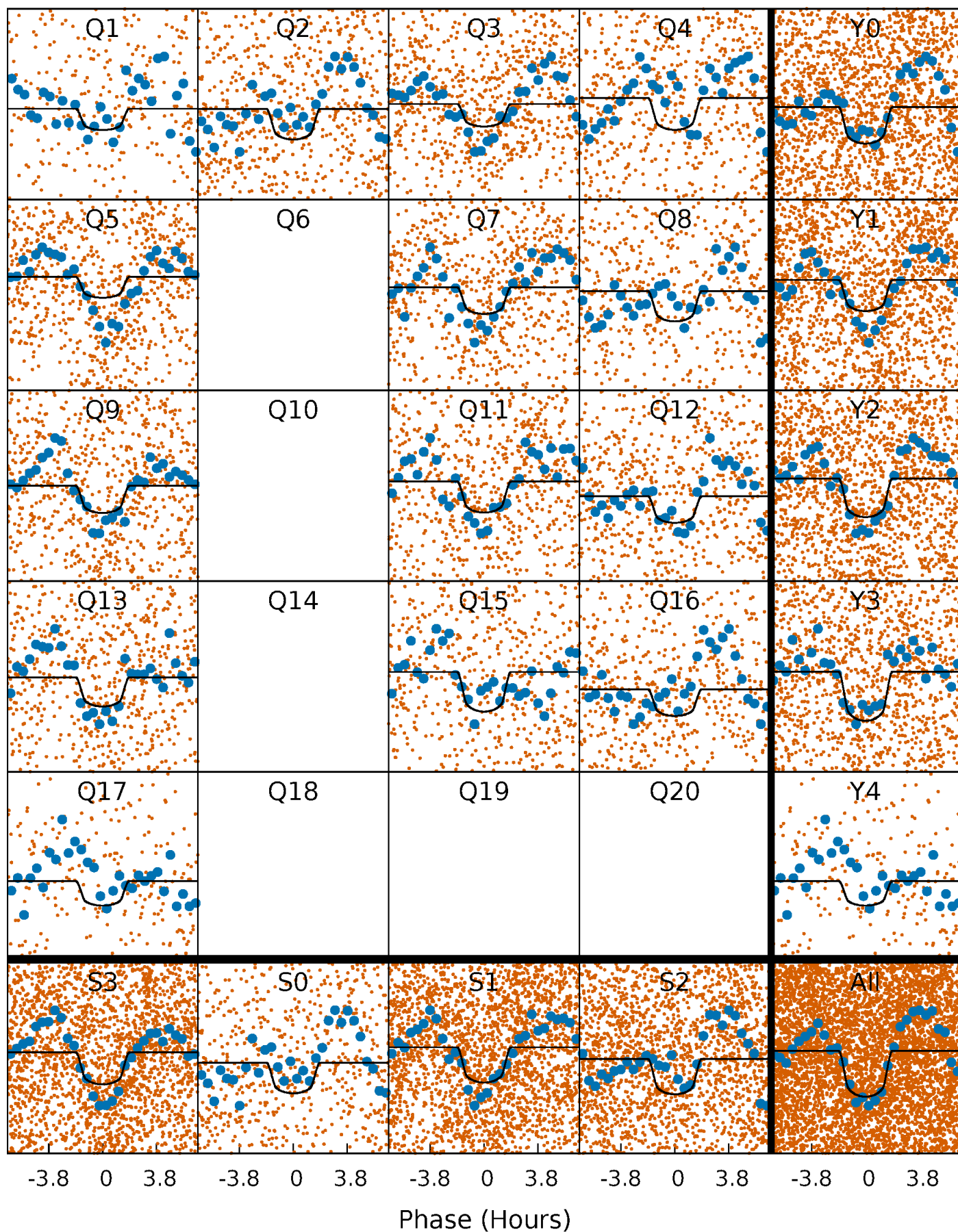
PDC Quarter-Phased Transit Curves

TCE 005200521-02 P= 0.833393 Days $T_0=131.843965$ (BKJD)



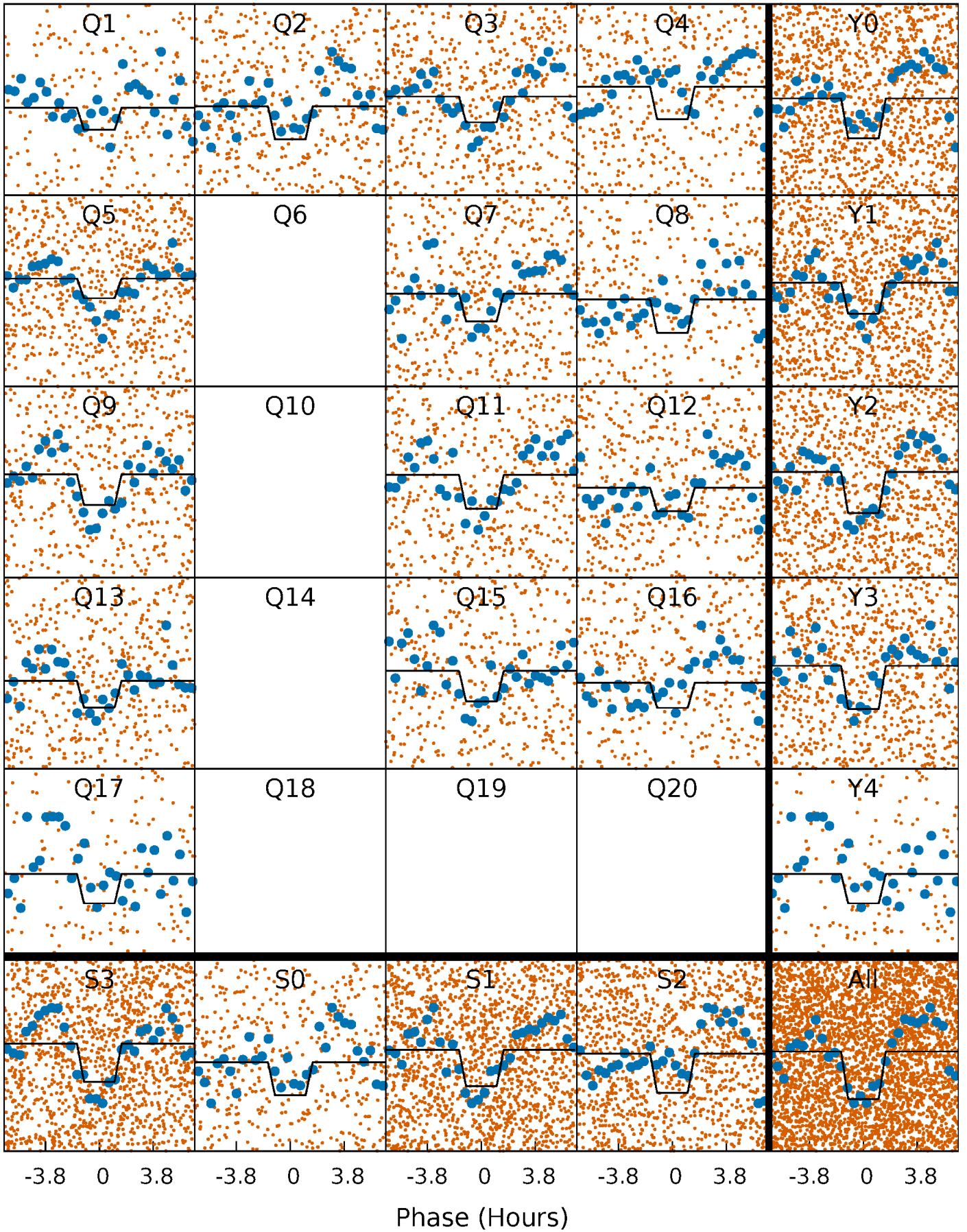
DV Quarter-Phased Transit Curves

TCE 005200521-02 P= 0.833393 Days $T_0=131.843965$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

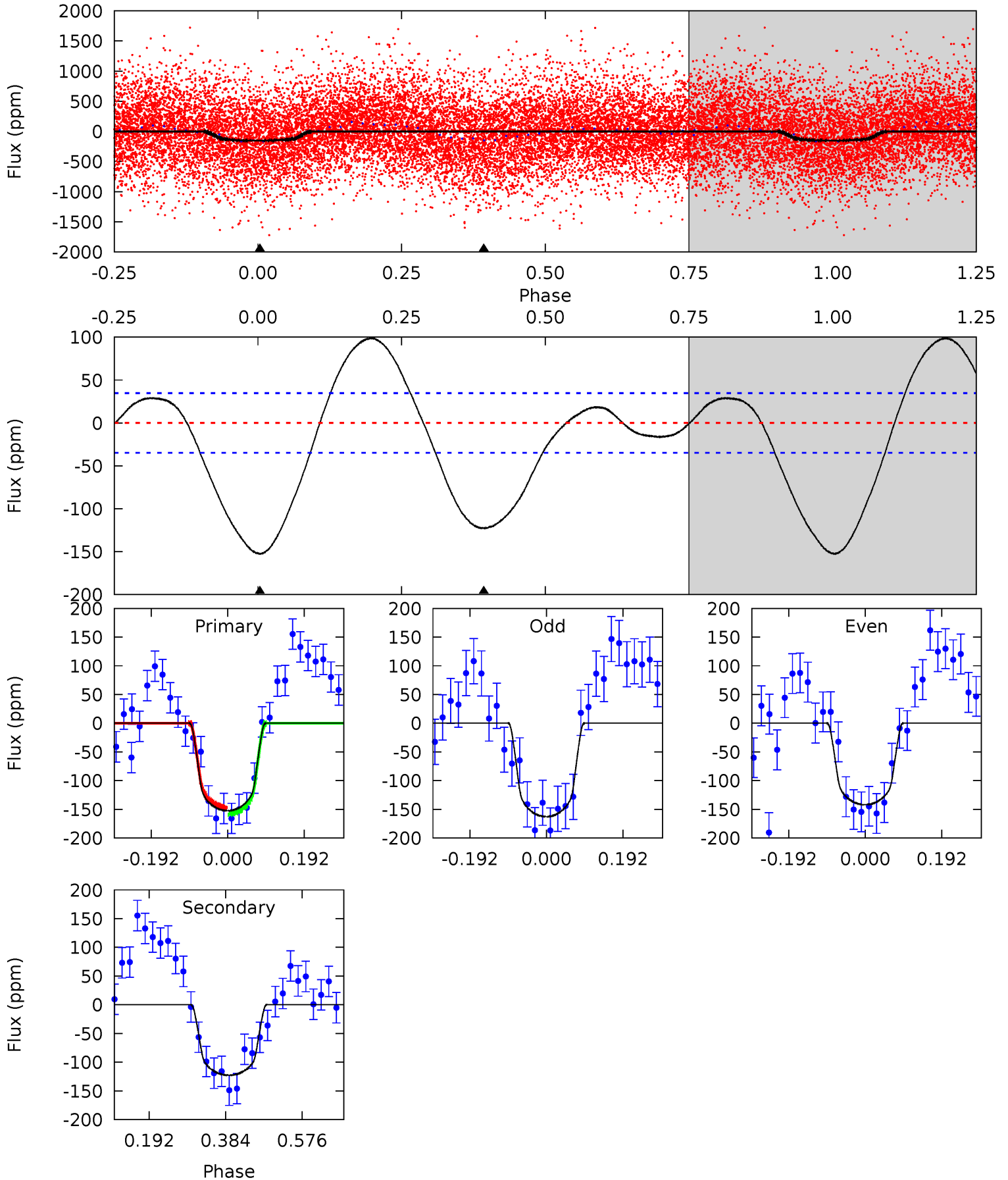
TCE 005200521-02 P= 0.833393 Days $T_0=131.843965$ (BKJD)



DV Model-Shift Uniqueness Test

005200521-02, P = 0.833393 Days, E = 131.843965 Days

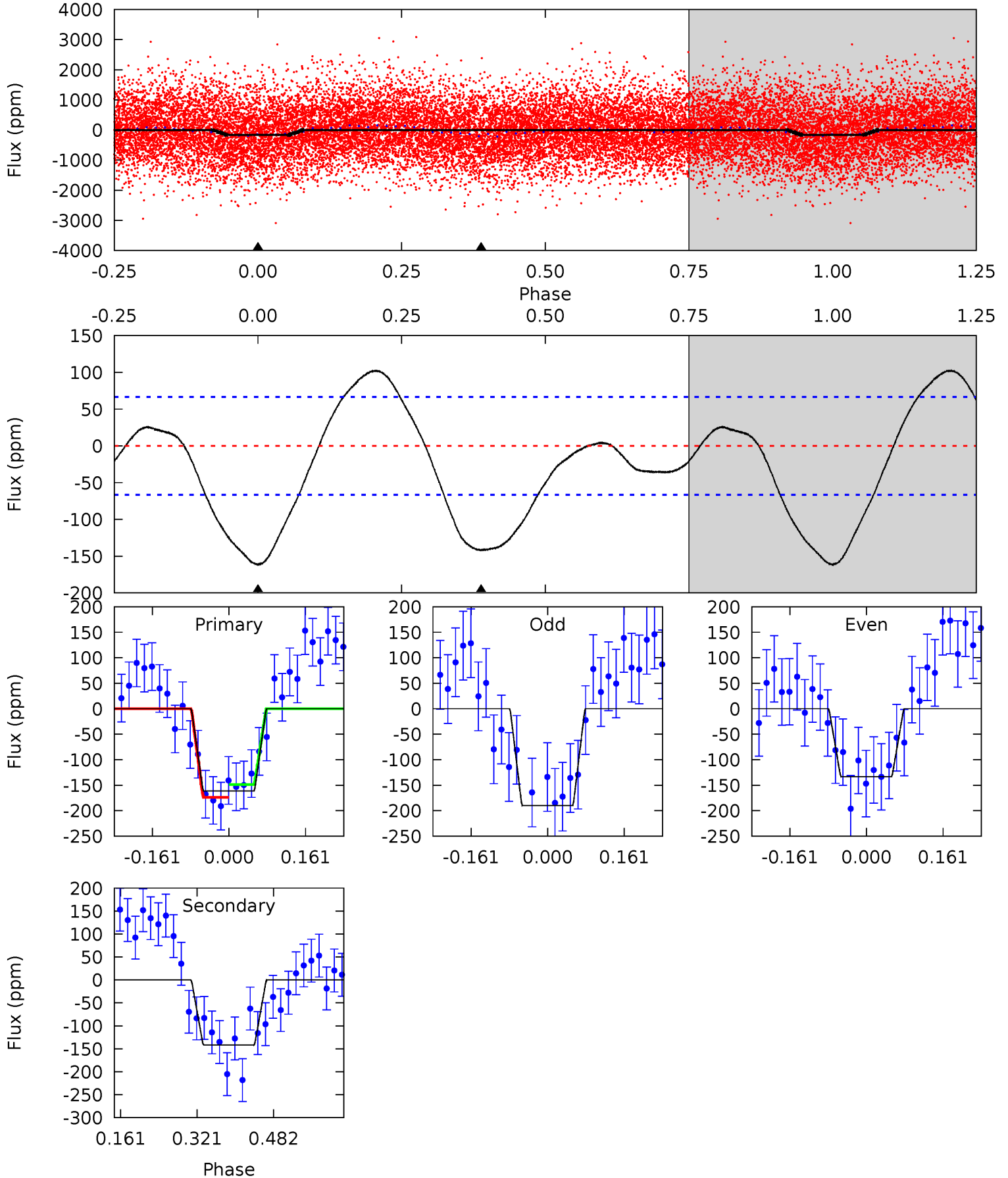
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.4	15.6	0	0	4.43	1.30	2.60	19.4	19.4	15.6	15.6	1.34	0.97	0.39	0.70



Alt Model-Shift Uniqueness Test

005200521-02, P = 0.833393 Days, E = 131.843965 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.8	9.52	0	0	4.46	1.40	2.99	10.8	10.8	9.52	9.52	1.90	0.80	0.39	0.84



Stellar Parameters For KIC 005200521

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5661^{+84}_{-76}	$3.410^{+0.280}_{-0.070}$	$0.180^{+0.150}_{-0.150}$	$4.463^{+0.513}_{-1.540}$	$1.865^{+0.131}_{-0.392}$	$0.030^{+0.061}_{-0.007}$
	+1%/-1%	+8%/-2%	+83%/-83%	+11%/-35%	+7%/-21%	+207%/-23%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005200521-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-123 ± 8	$5.91^{+2.55}_{-2.30}$	4969^{+225}_{-402}	4812^{+1433}_{-1107}	$0.859^{+1.398}_{-0.436}$
Alt.	-142 ± 15	$5.92^{+2.44}_{-2.16}$	4978^{+211}_{-396}	4991^{+1452}_{-951}	$1.021^{+1.448}_{-0.505}$

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

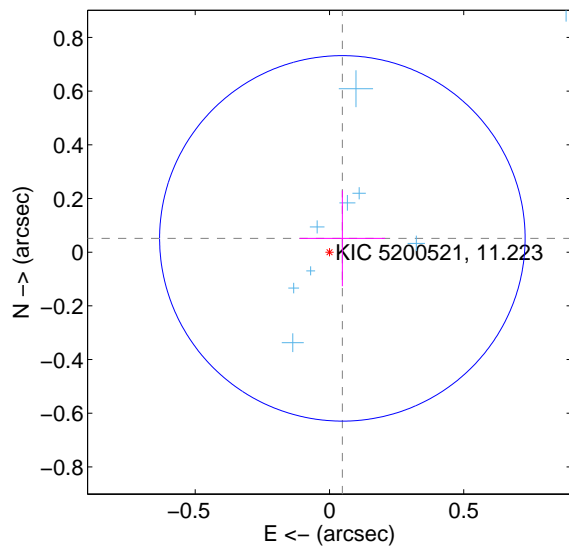
Supplemental centroid analysis for 005200521-02. **Kepler magnitude: 11.22.** Transit SNR 13.57

There are 13 quarters with good PRF difference image offsets

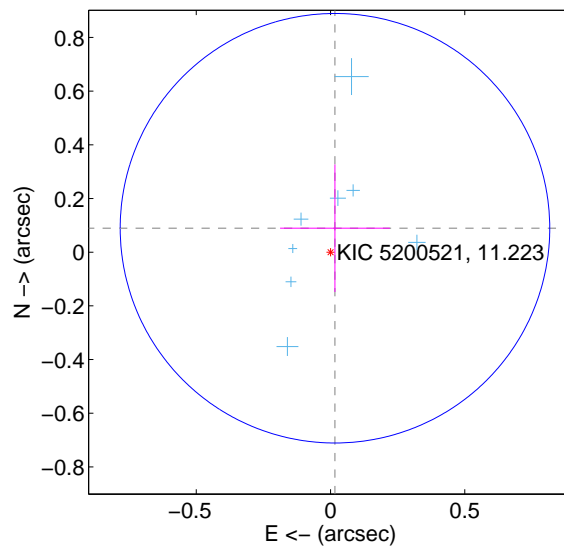
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.070 ± 0.227	0.31	-0.048 ± 0.160	0.051 ± 0.178
PRF-fit source offset from KIC position	0.091 ± 0.267	0.34	-0.017 ± 0.204	0.089 ± 0.237
photometric centroid source offset	0.17 ± 0.08	2.13	-0.06 ± 0.07	0.16 ± 0.08

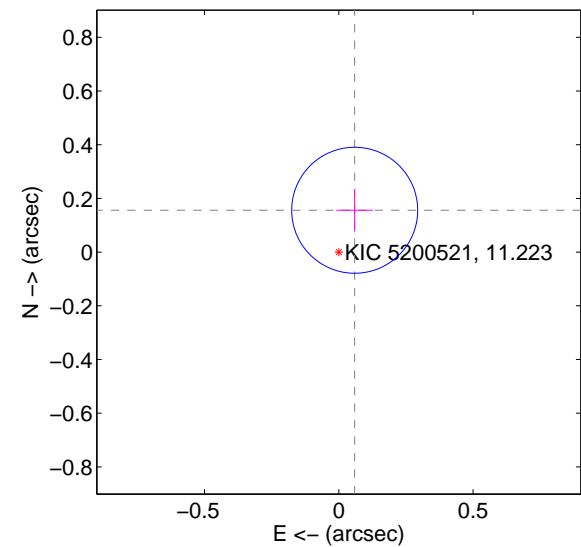
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

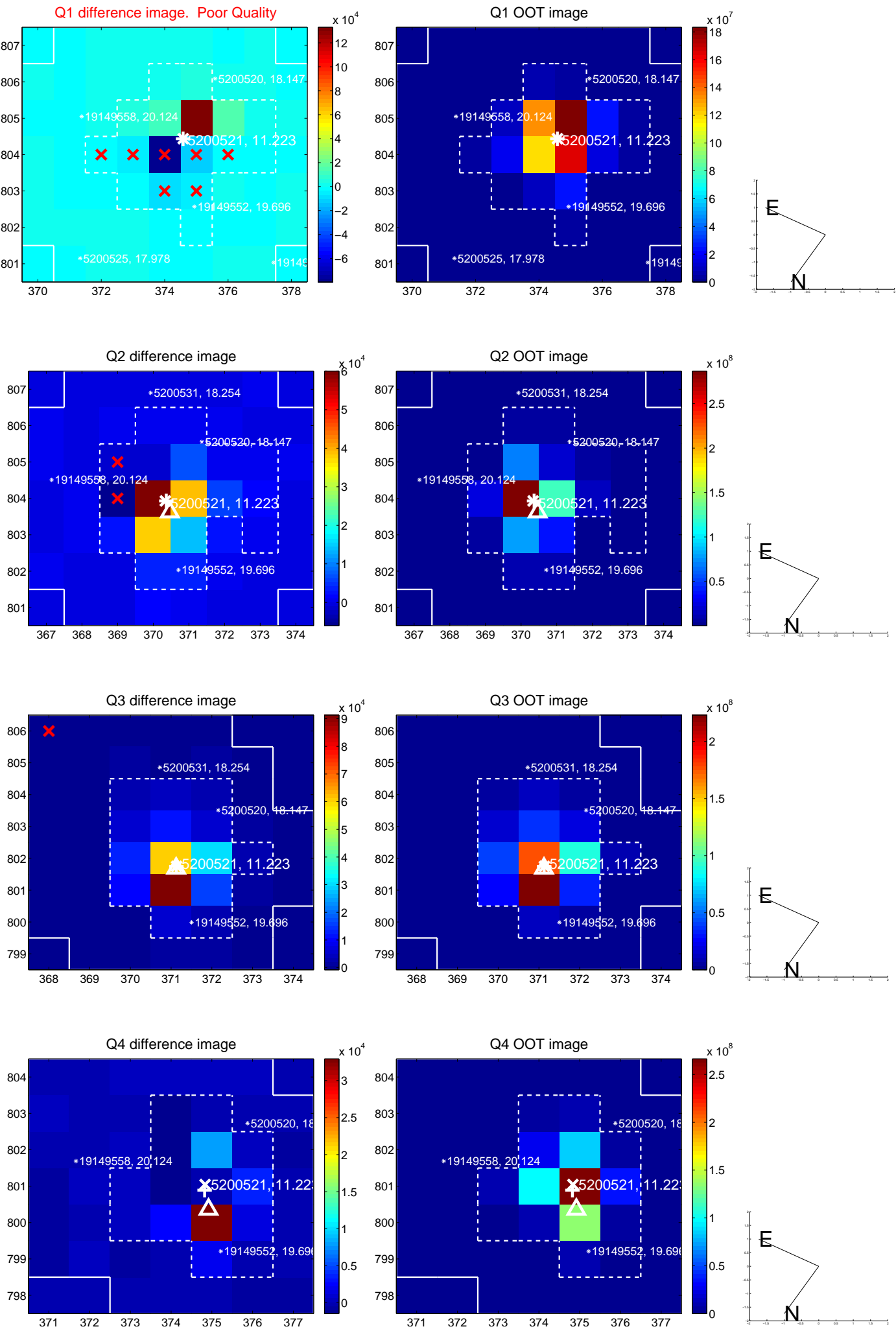


offset from photometric centroids

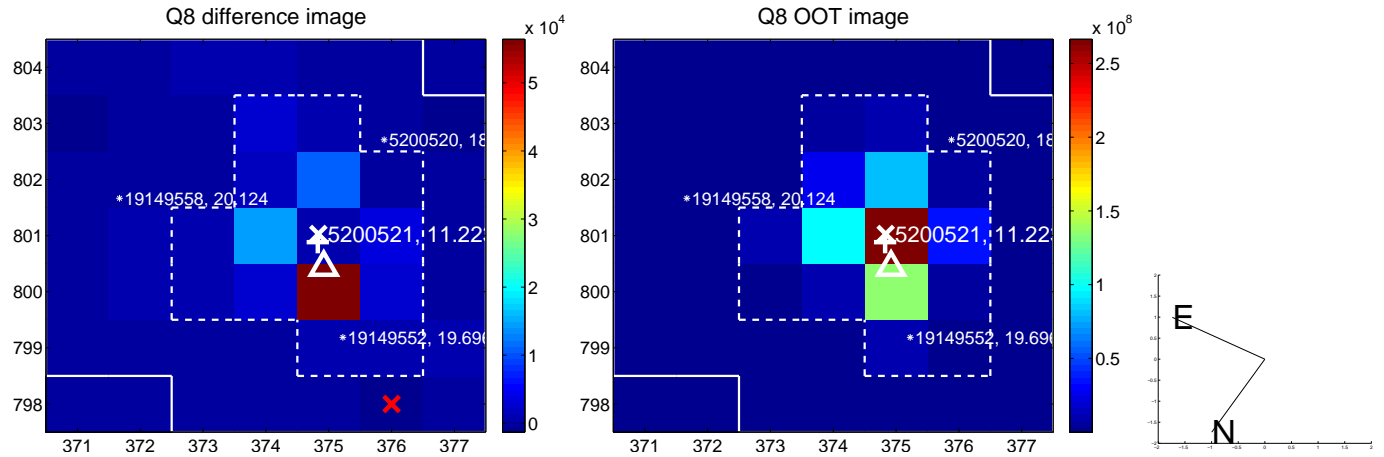
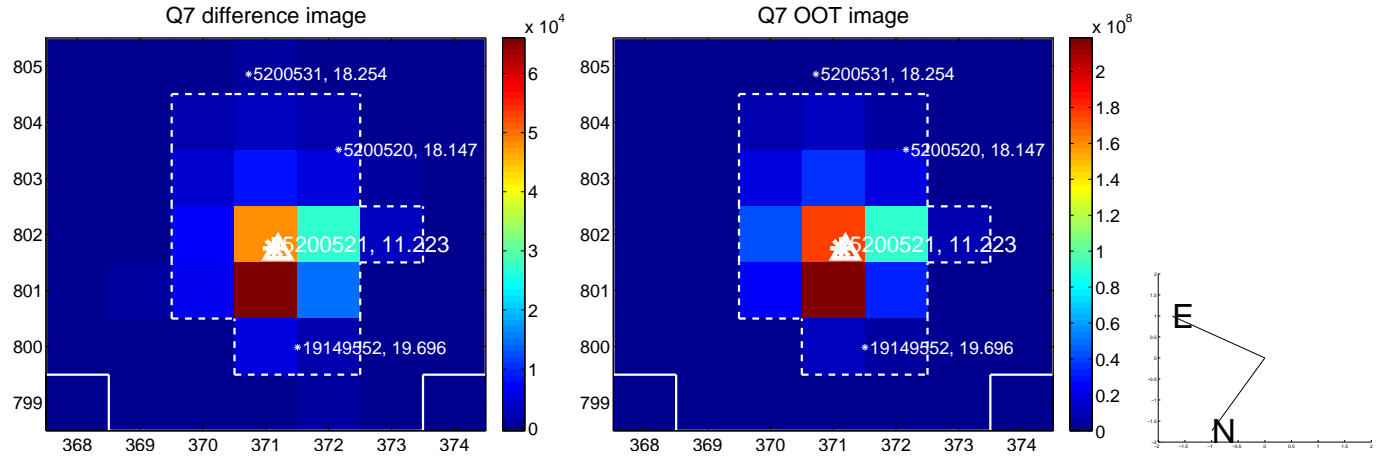
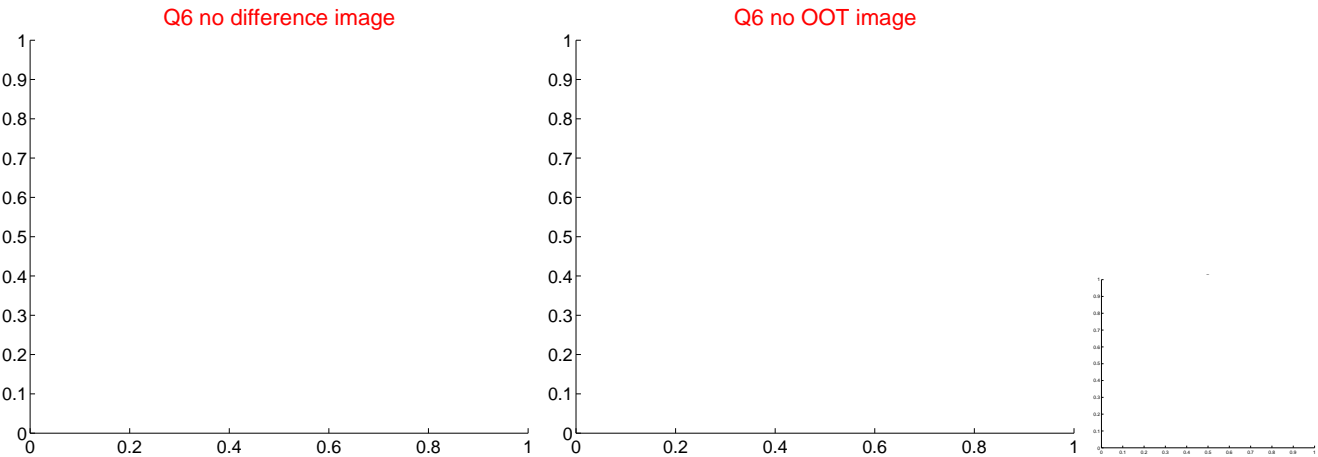
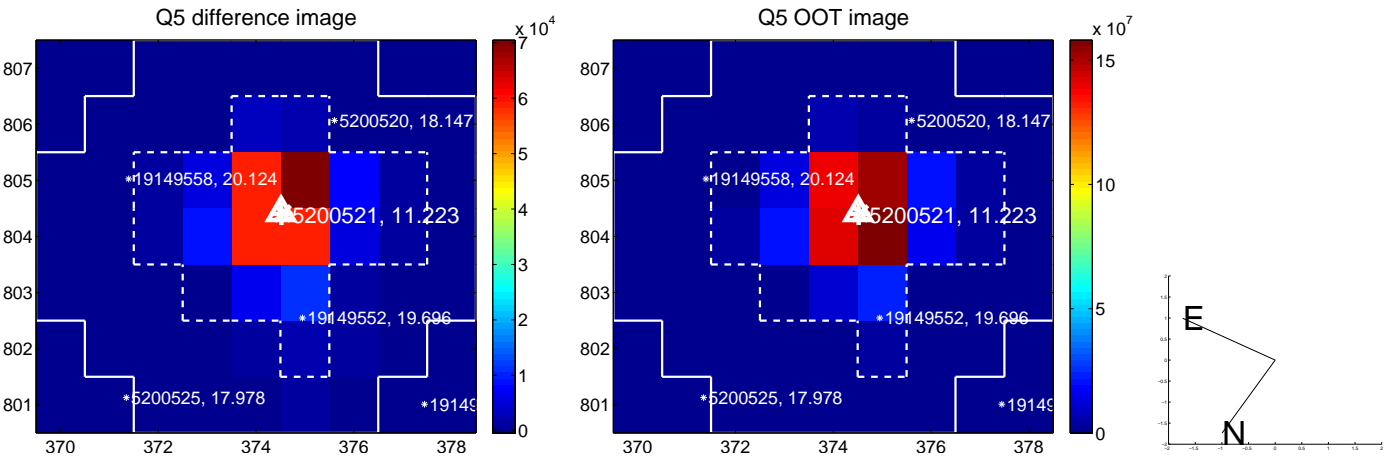


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

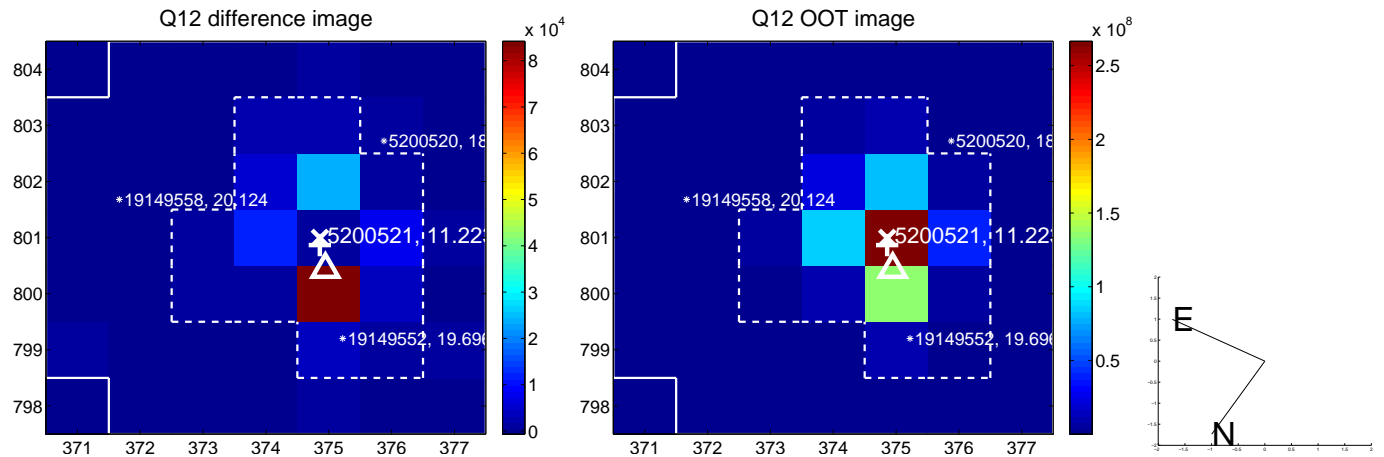
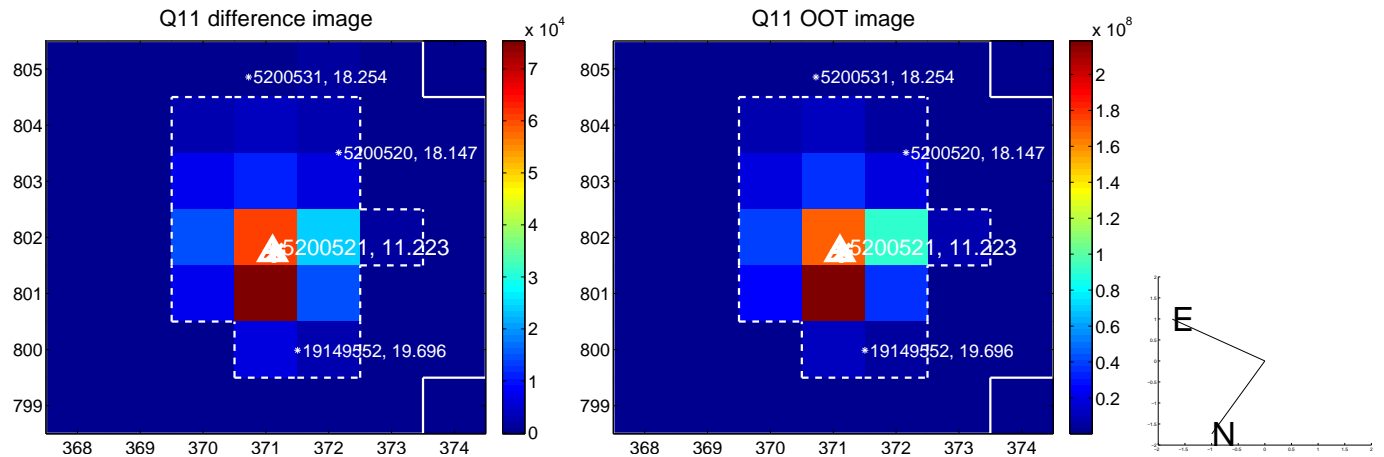
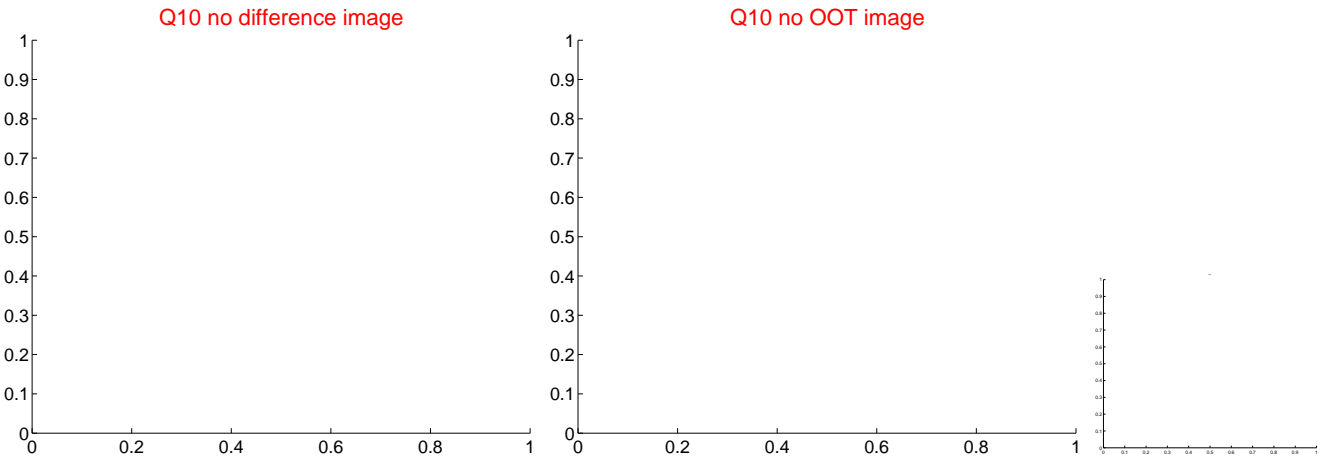
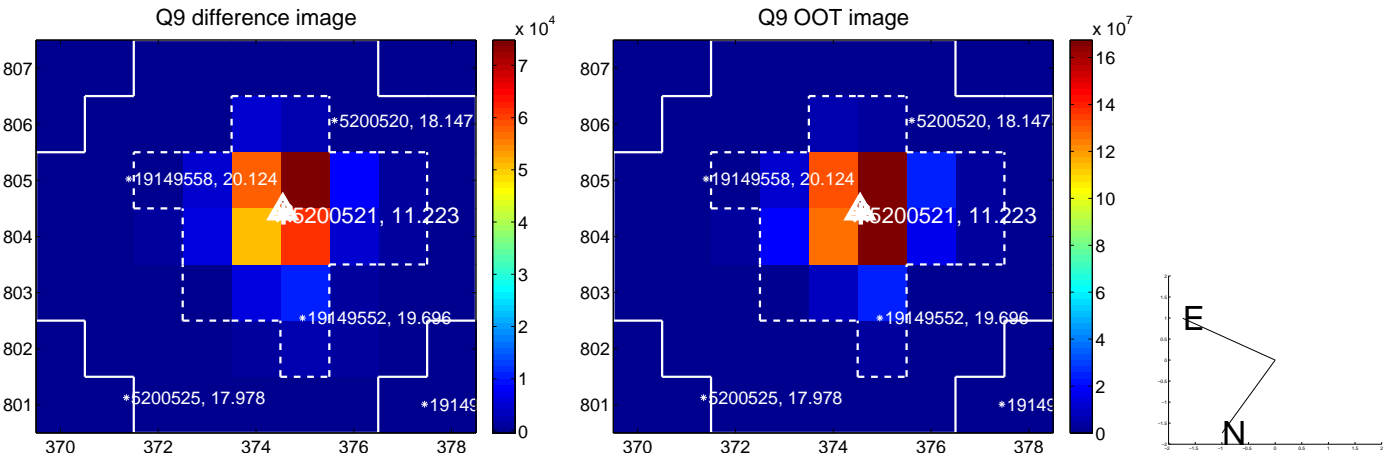
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



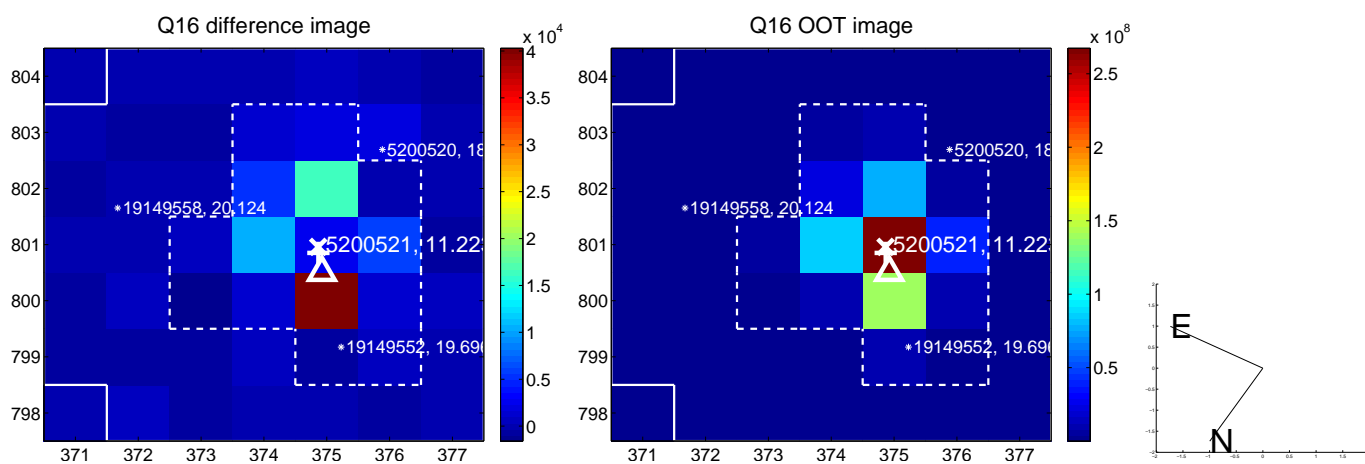
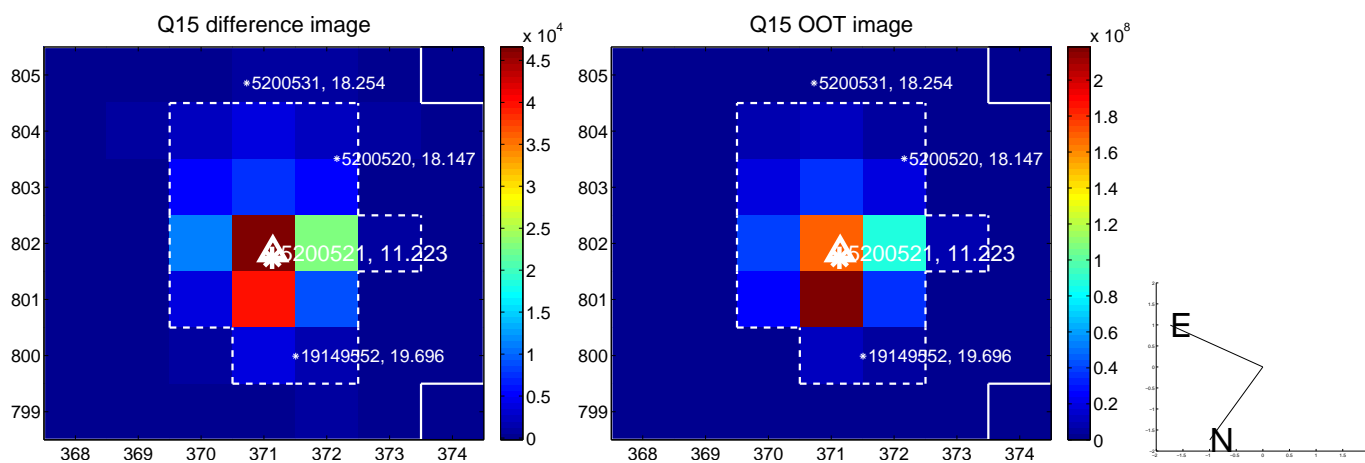
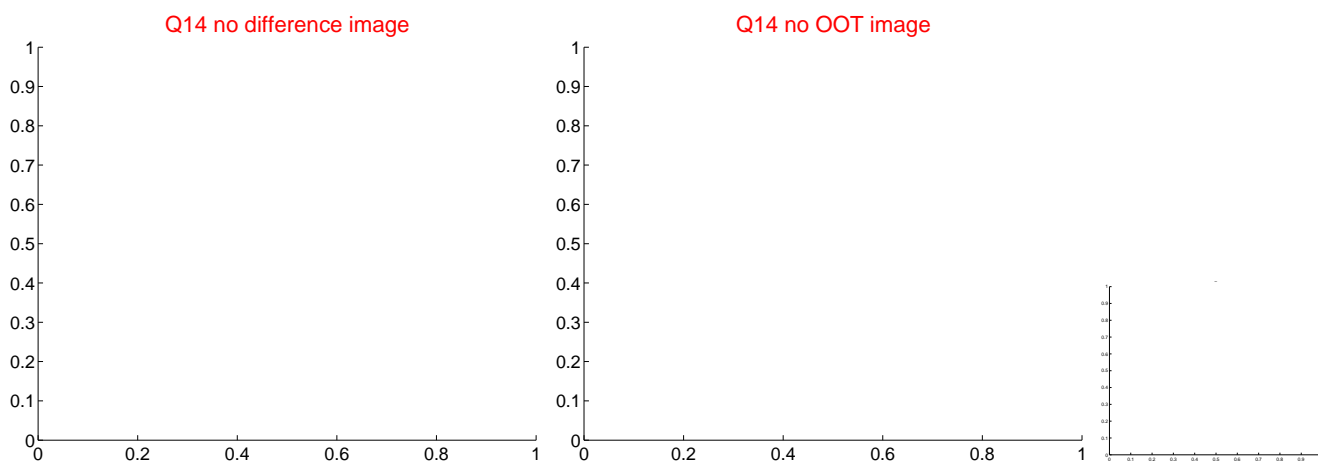
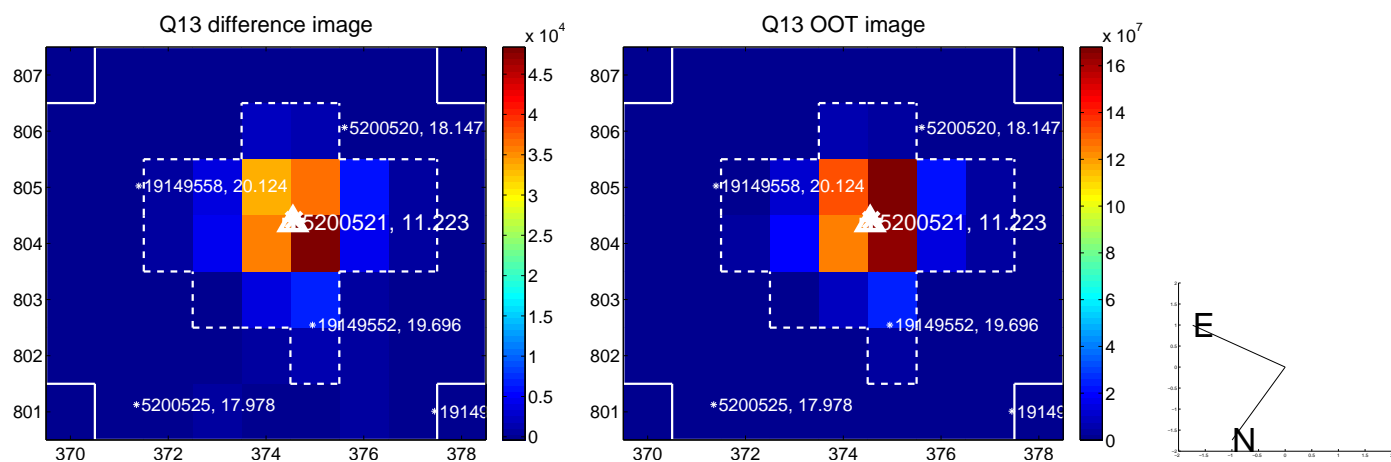
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



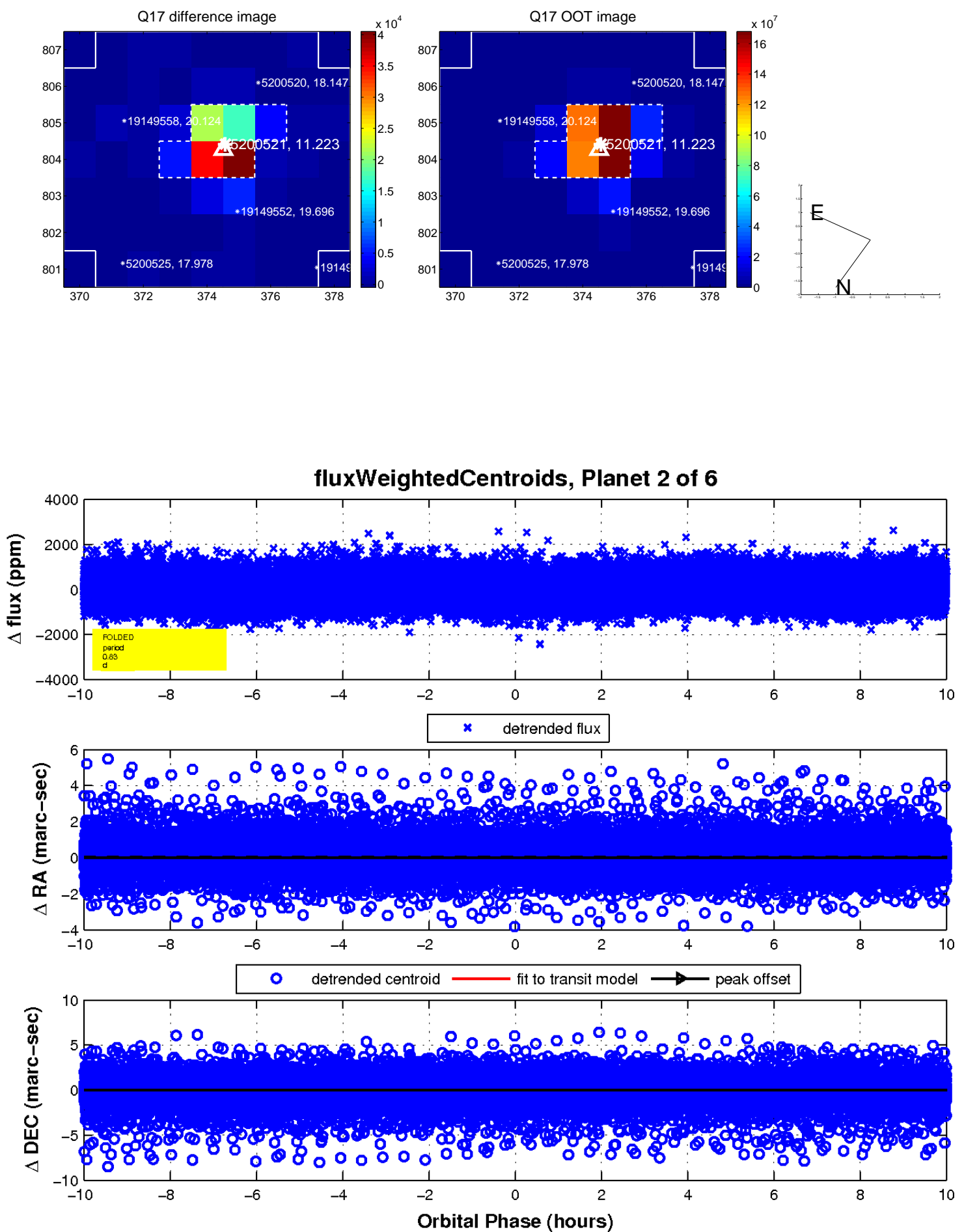
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

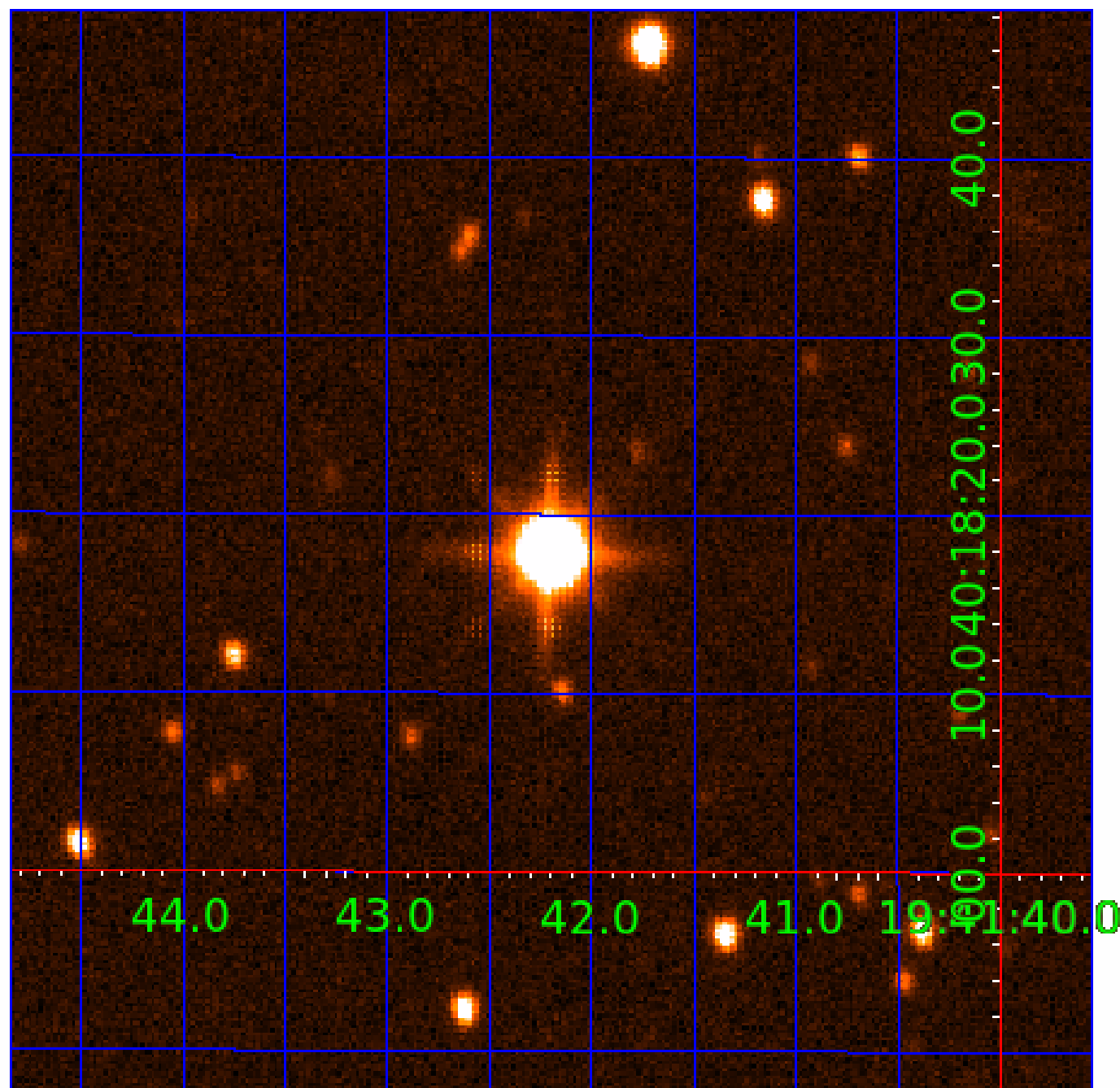


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005200521

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})
005200521-01	OBS	No	1.247295	131.643252	92.6	6.748	10.8	11.4	4.46	5661	4.24	23492.33
005200521-02	OBS	No	0.833393	131.843965	144.6	3.362	11.9	13.6	4.46	5661	6.40	40217.84
005200521-03	OBS	No	54.644652	139.427110	1073.5	5.308	13.6	12.8	4.46	5661	19.11	152.11
005200521-05	OBS	No	41.964592	160.612843	808.4	5.541	11.4	10.9	4.46	5661	14.63	216.29
005200521-06	OBS	No	34.221354	133.692244	218.6	1.500	10.6	-1.0	4.46	5661	6.54	283.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005200521-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
005200521-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
005200521-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
005200521-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
005200521-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

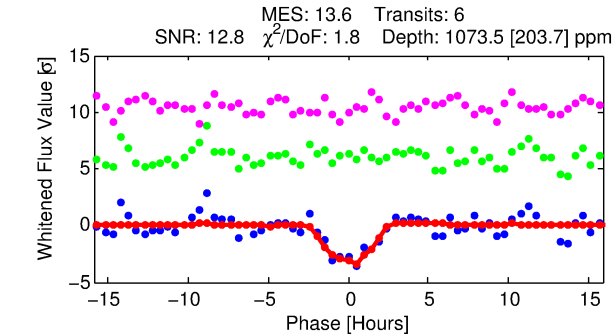
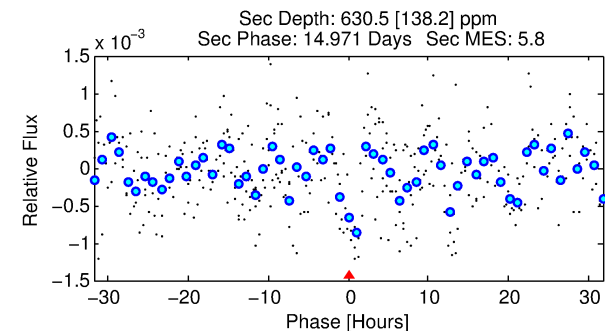
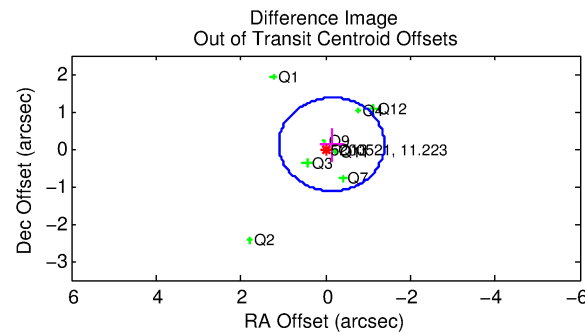
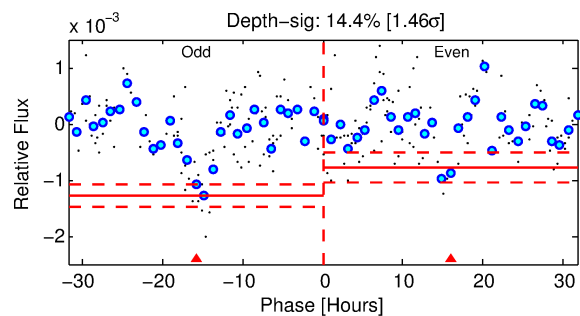
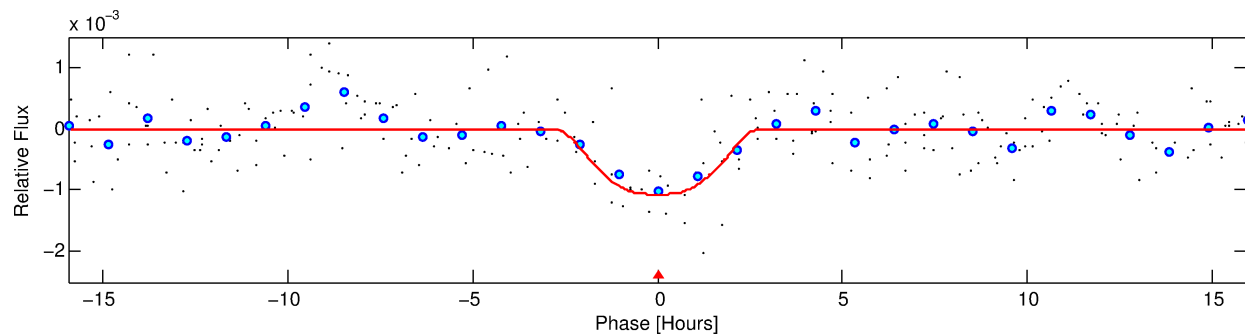
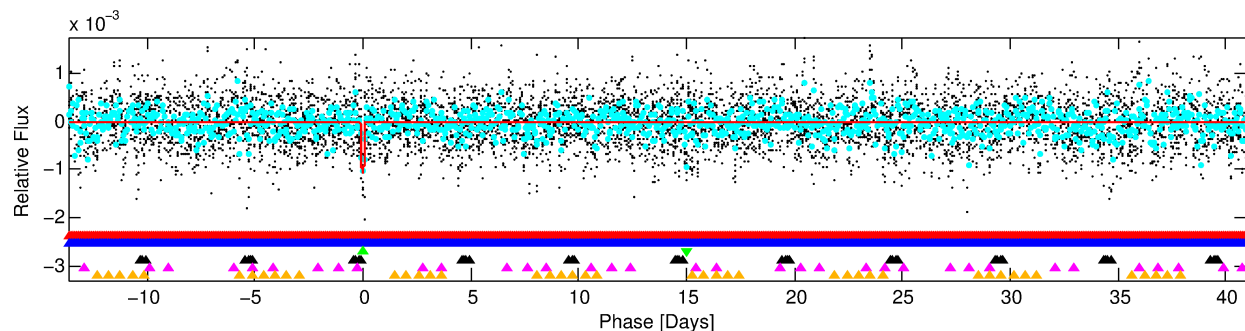
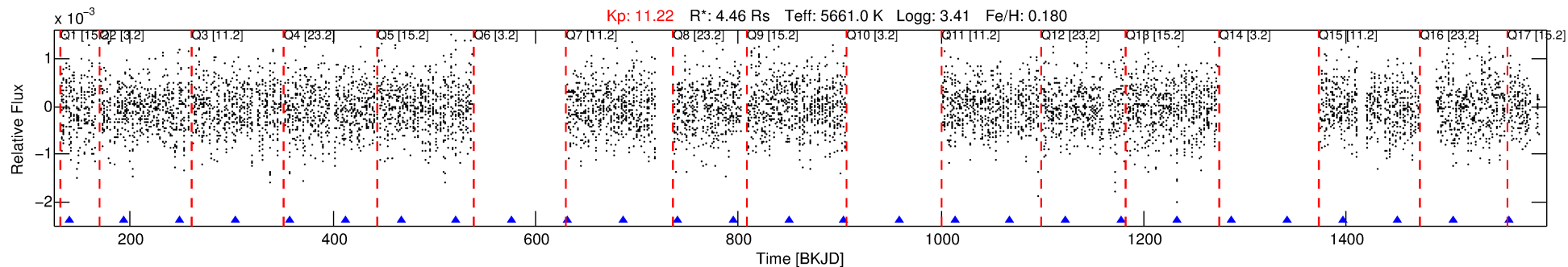
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005200521-03

No Significant Match Found

DV One-Page Summary

KIC: 5200521 Candidate: 3 of 6 Period: 54.645 d



DV Fit Results:

Period = 54.64465 [0.00076] d
Epoch = 139.4271 [0.0111] BKJD
Rp/R* = 0.0392 [0.0059]
a/R* = 31.75 [7.36]
b = 0.96 [0.03]
Seff = 152.11 [74.70]
Teq = 895 [110] K
Rp = 19.11 [7.19] Re
a = 0.3471 [0.1093] AU
Ag = 114.48 [70.19] [1.62 σ]
Teffp = 4529 [426] K [8.25 σ]

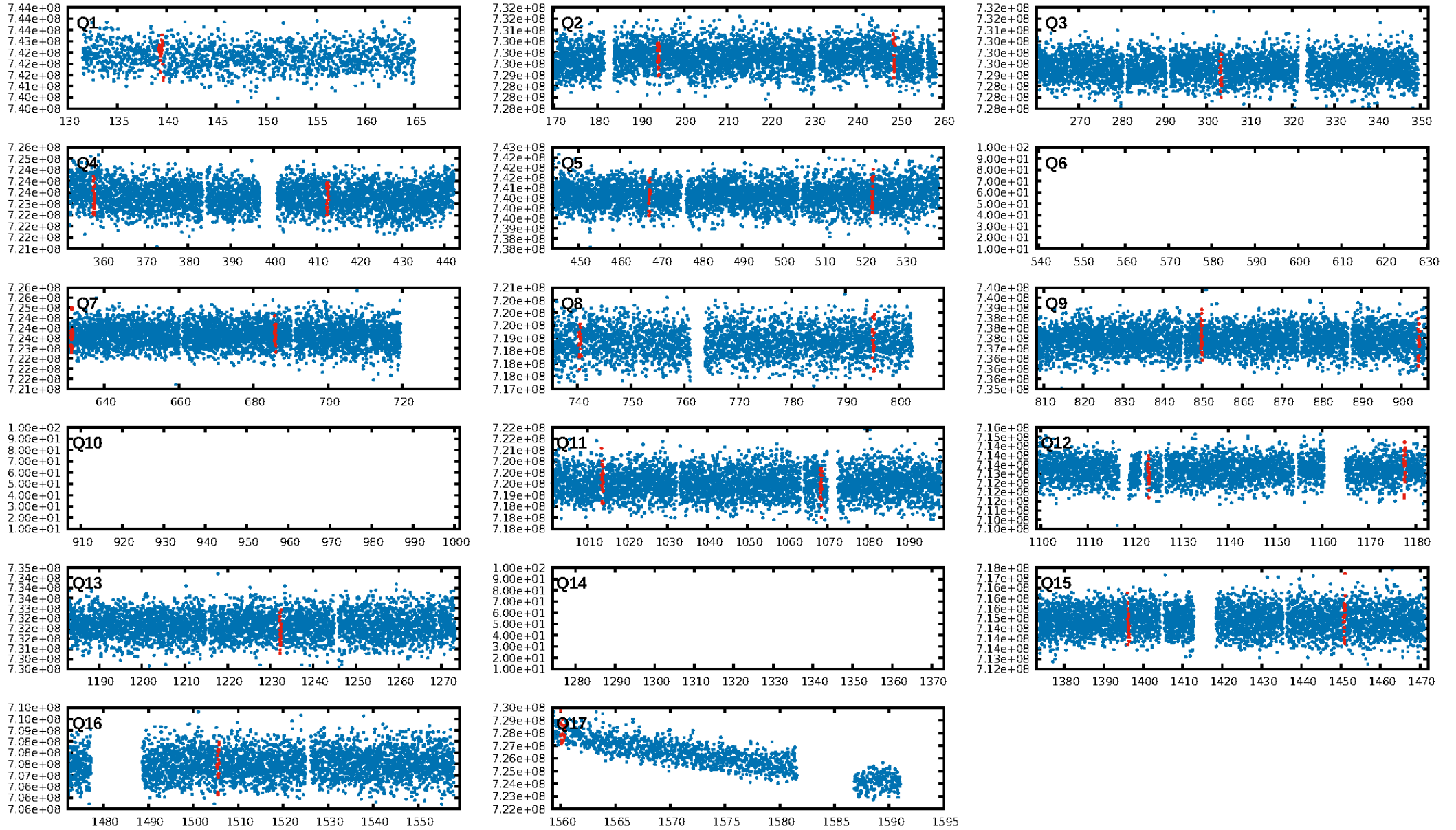
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [39.66 σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 1.0%
ModelChiSquareGof-sig: 99.8%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: -1.307
Centroid-sig: 19.2%
Centroid-so: 0.064 arcsec [0.78 σ]
OotOffset-rm: 0.189 arcsec [0.45 σ]
OotOffset-st: 1/3/2/3 [9]
KicOffset-rm: 0.209 arcsec [0.41 σ]
KicOffset-st: 1/3/2/3 [9]
DiffImageQuality-fgm: 0.44 [4/9]
DiffImageOverlap-fno: 0.00 [0/11]

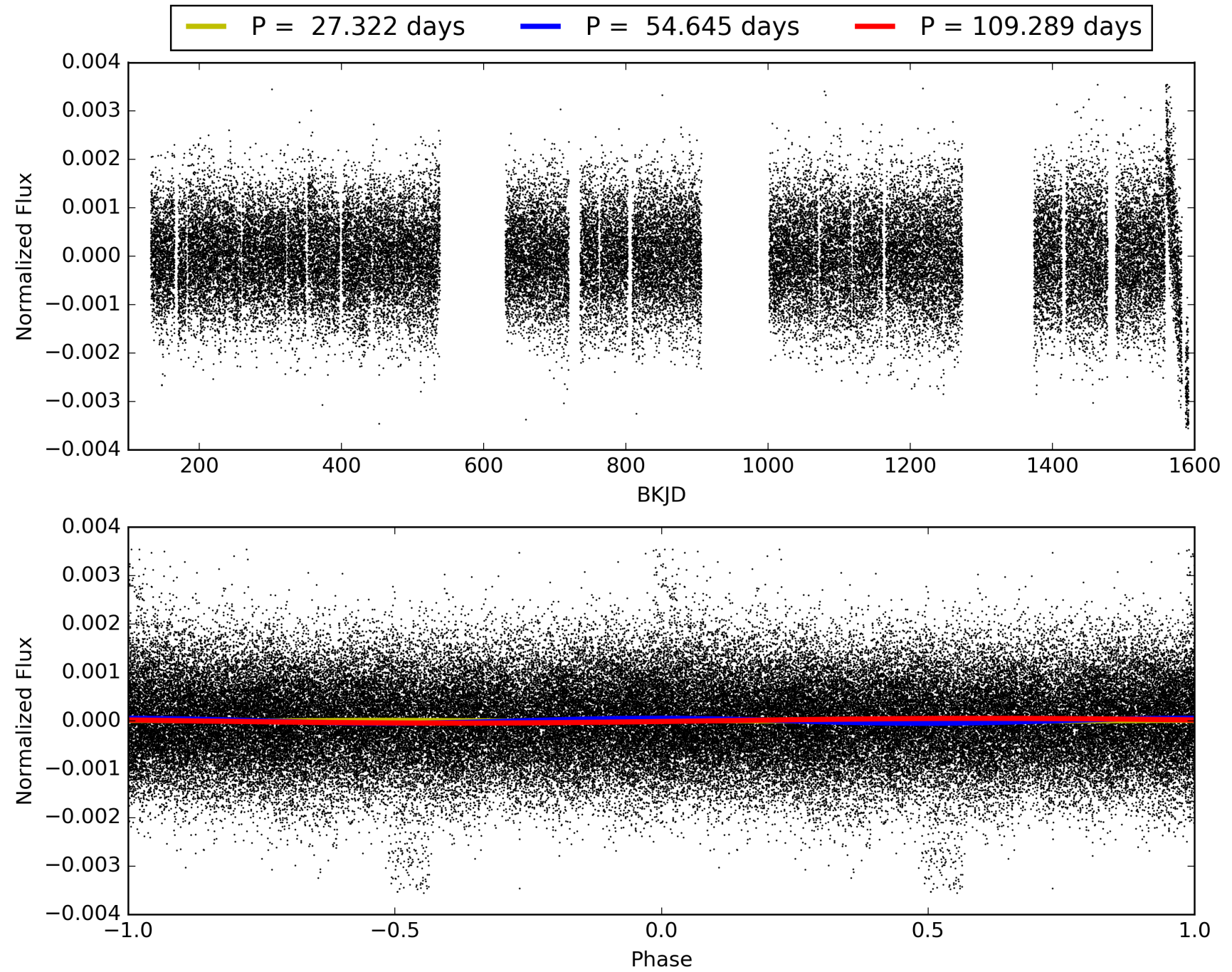
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:06:23 Z

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

TCE 005200521-03, PDC Light Curves

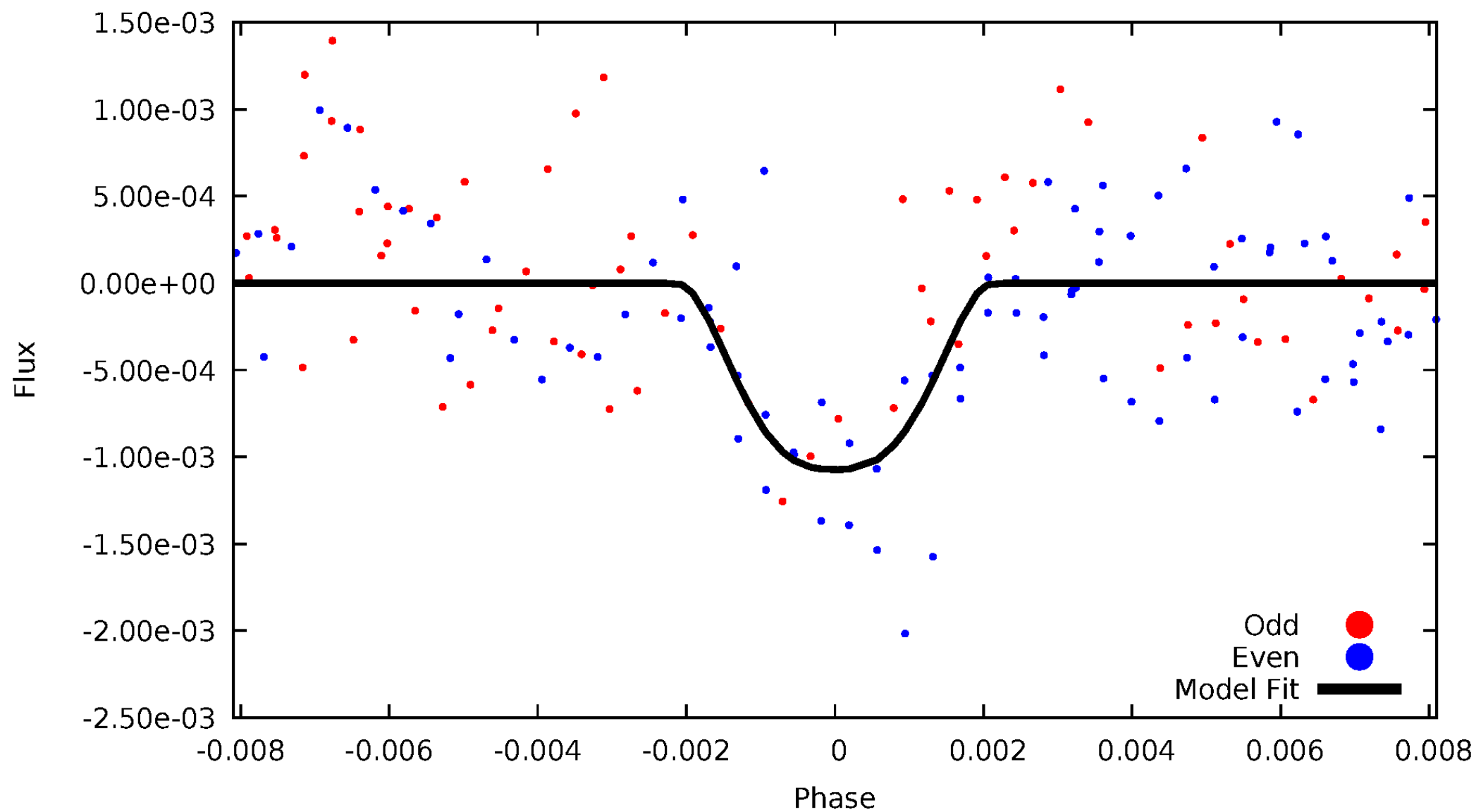


TCE 005200521-03



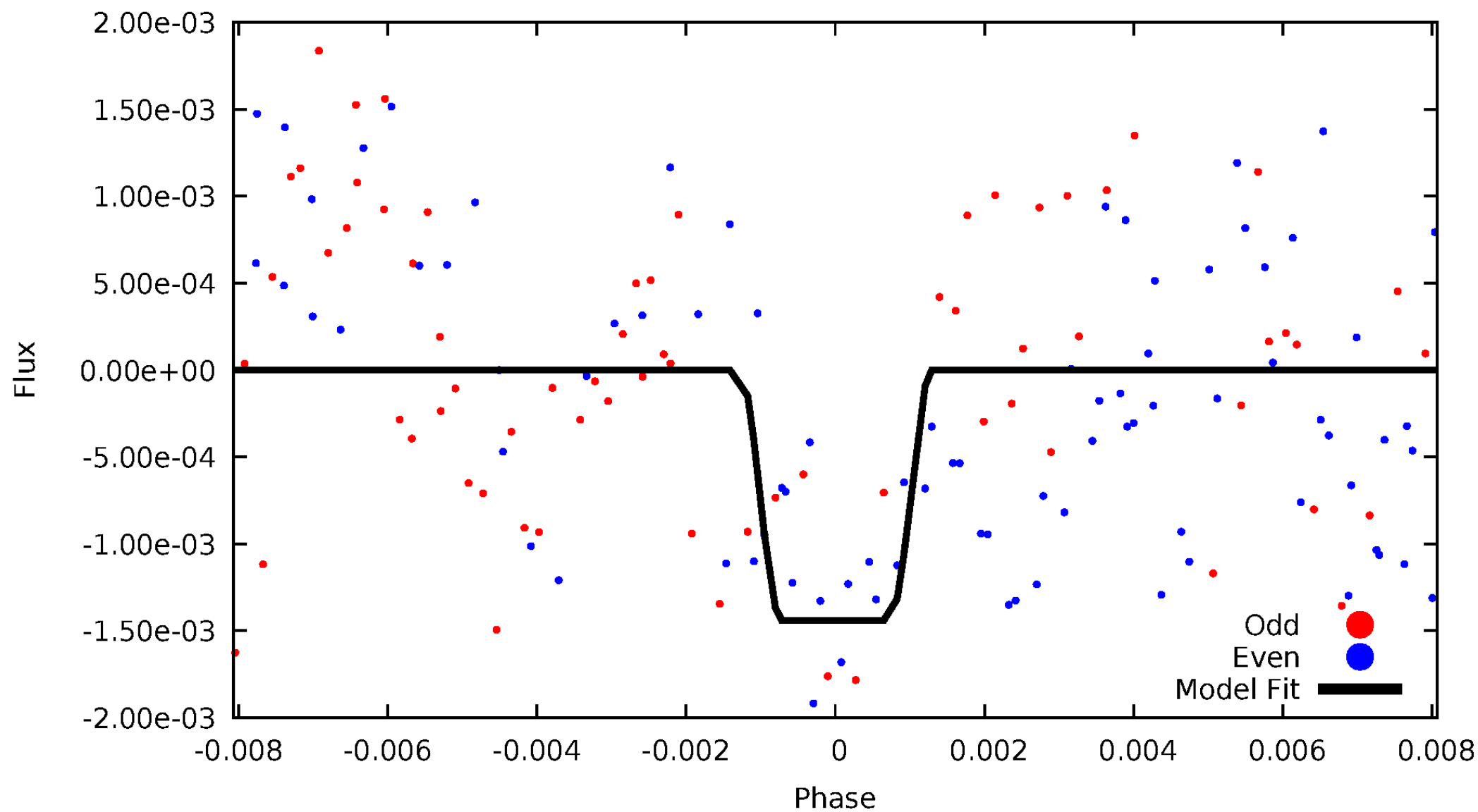
DV Odd/Even

TCE 005200521-03



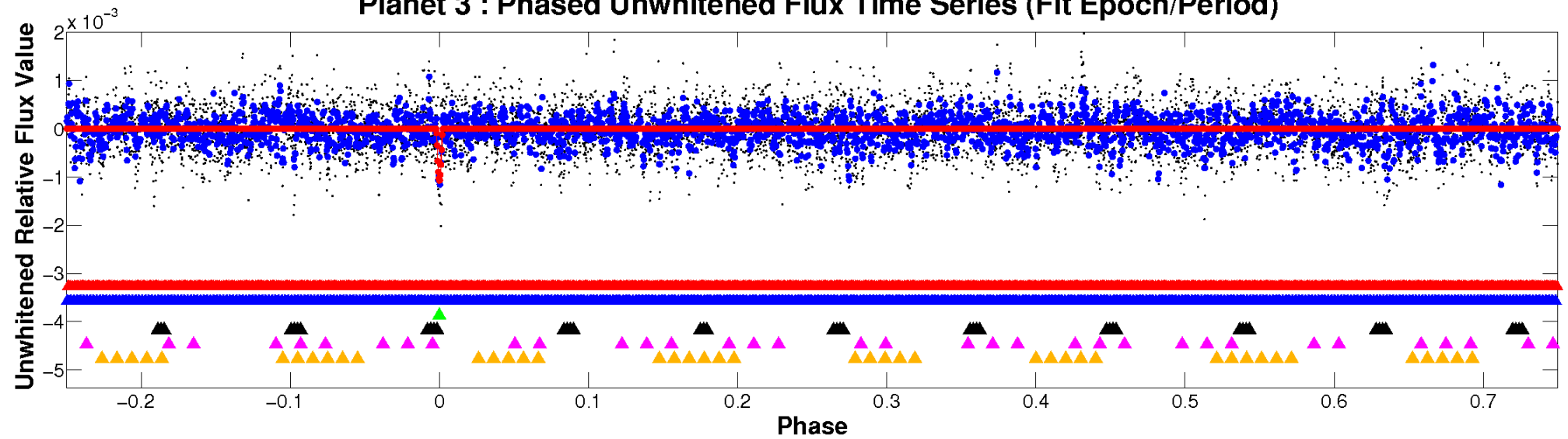
ALT Odd/Even

TCE 005200521-03

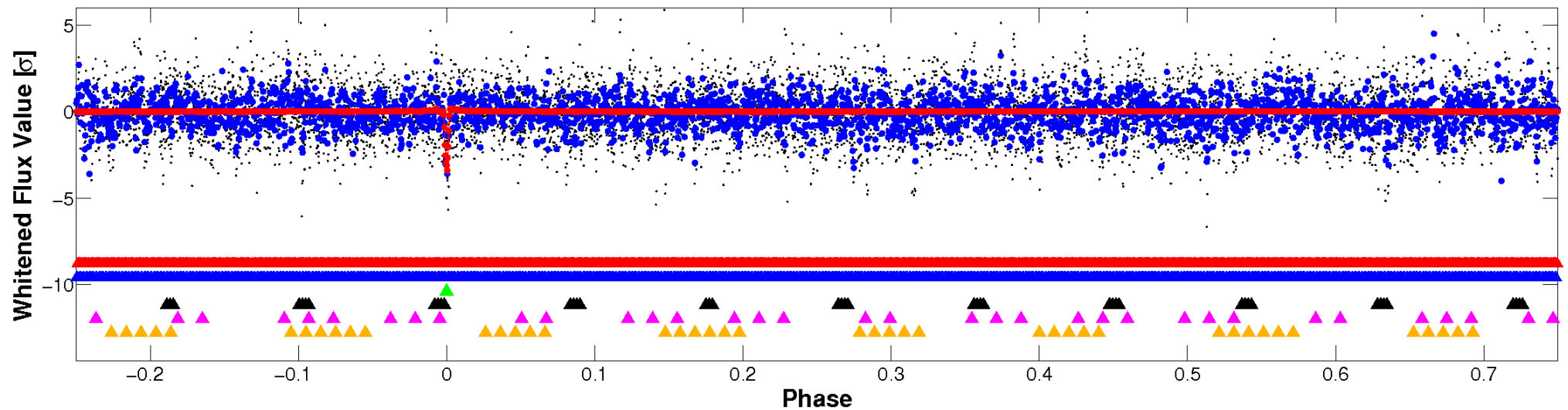


Non-Whitened Vs. Whitened Light Curve

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

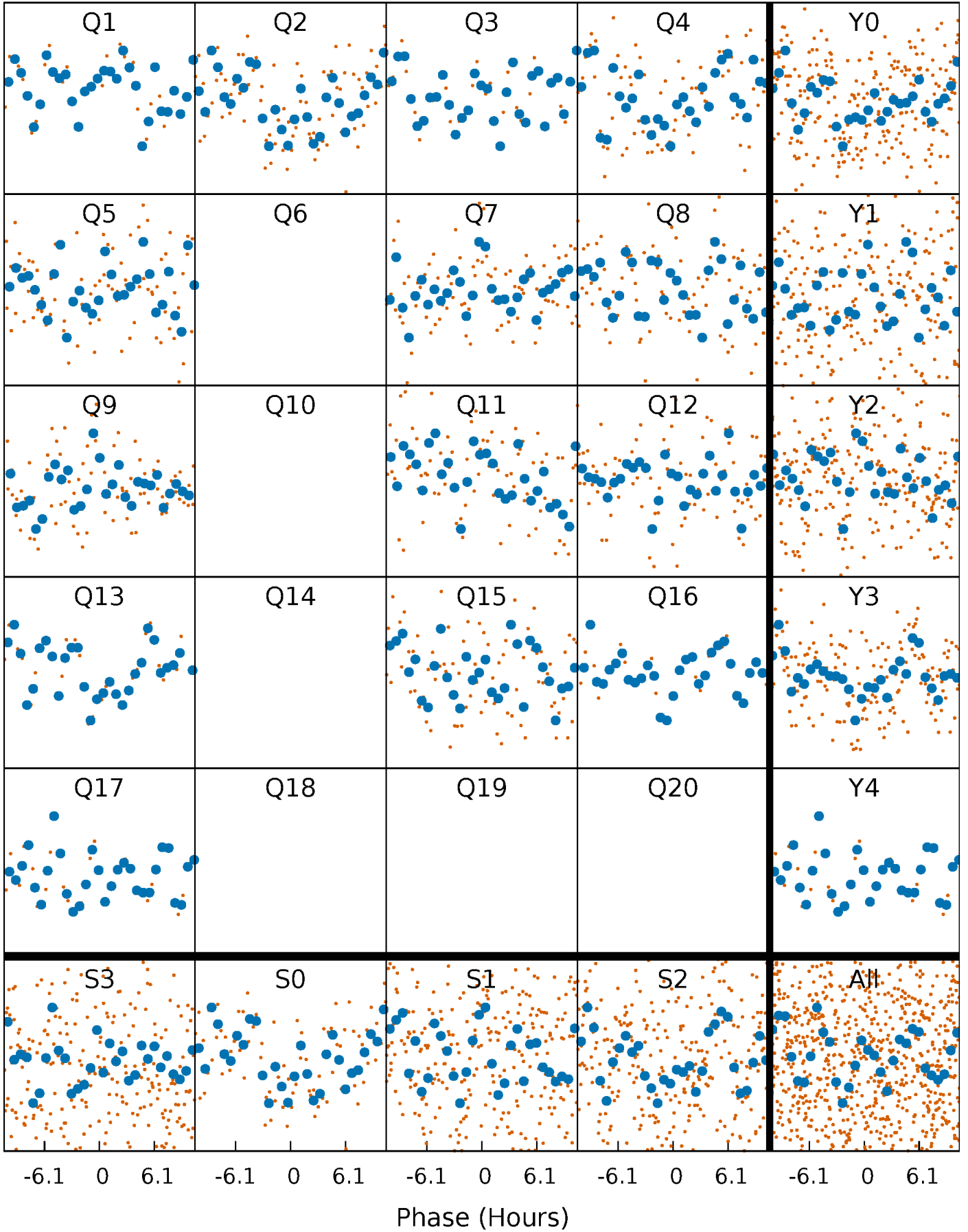


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



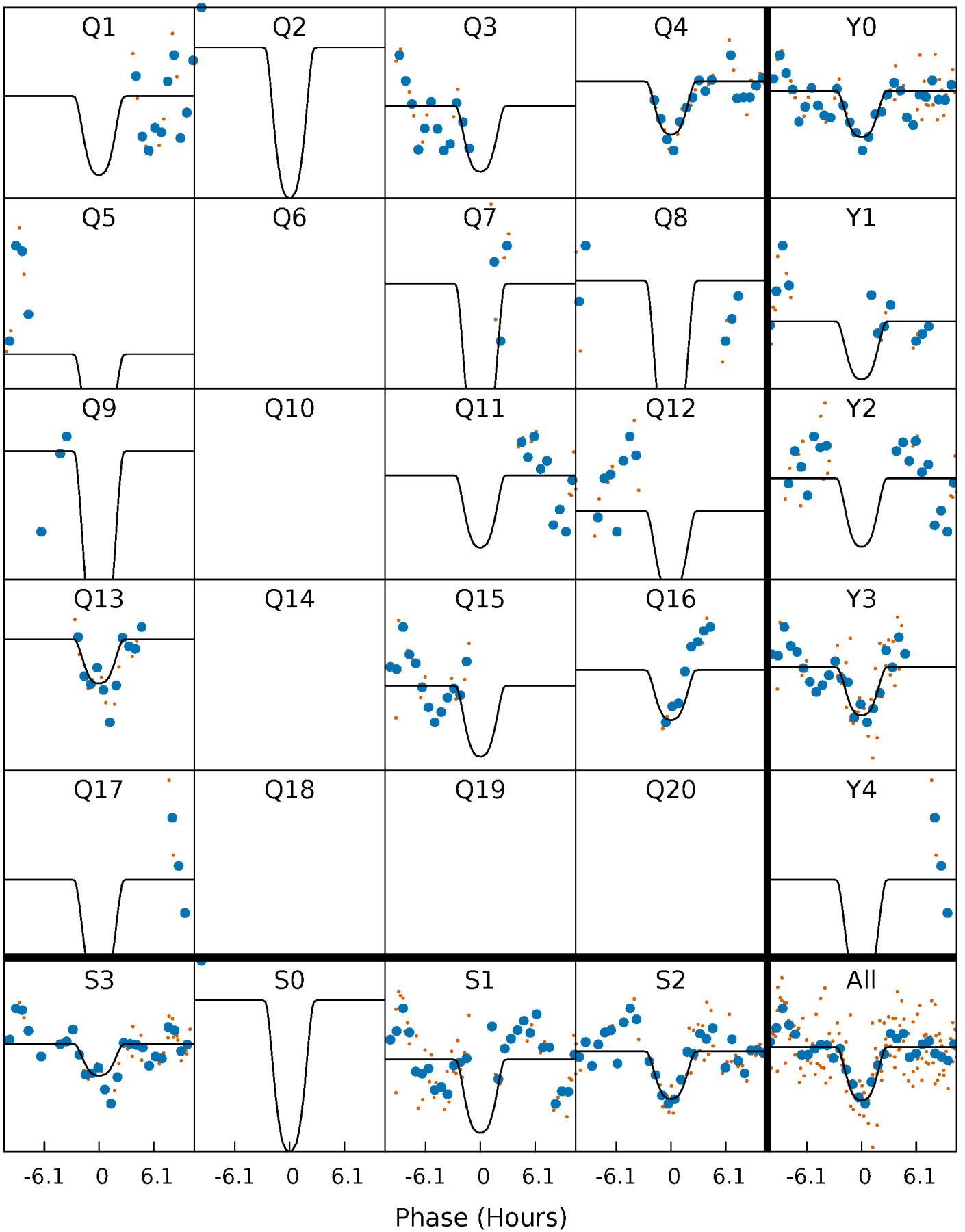
PDC Quarter-Phased Transit Curves

TCE 005200521-03 P= 54.644652 Days $T_0=139.427110$ (BKJD)



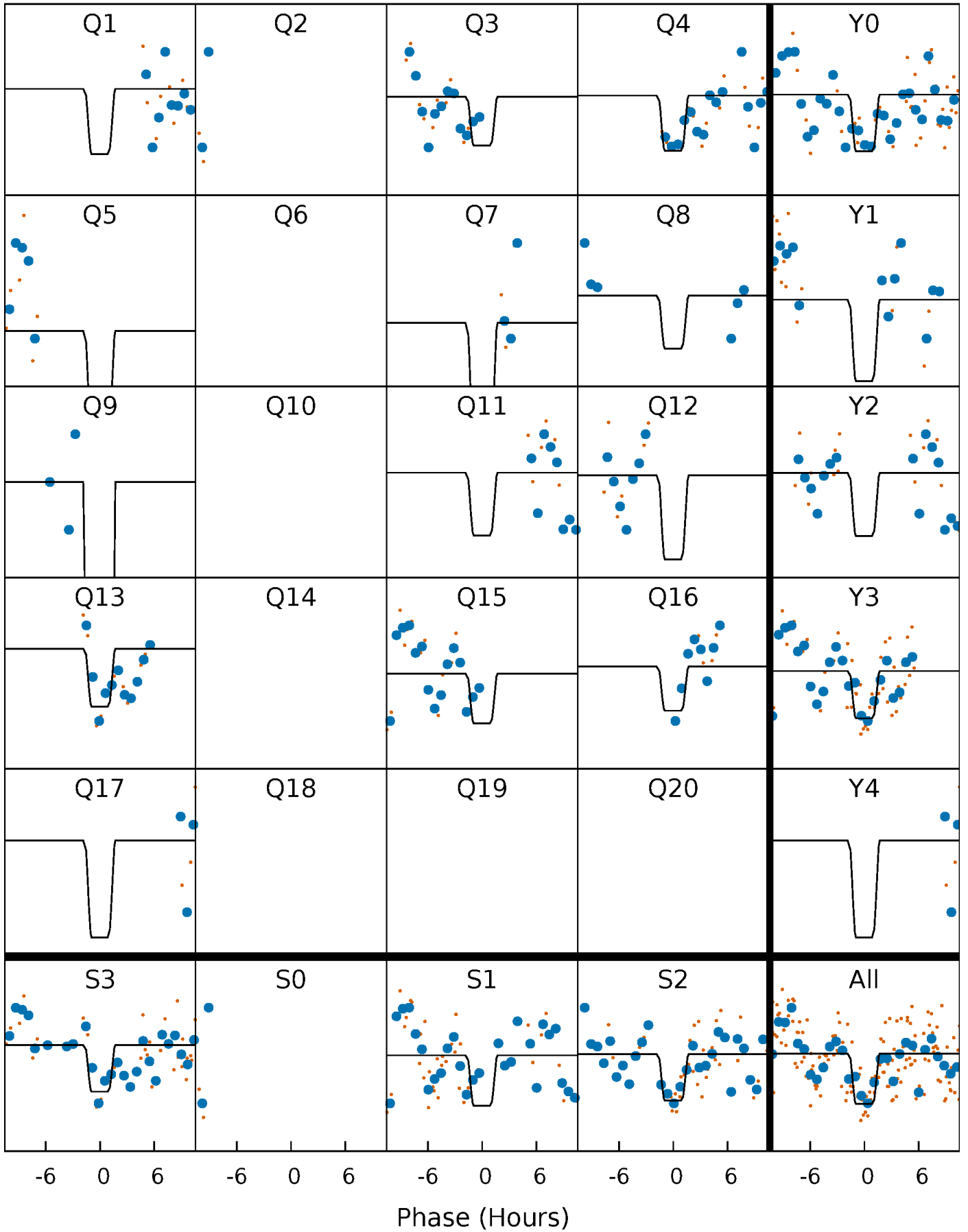
DV Quarter-Phased Transit Curves

TCE 005200521-03 P= 54.644652 Days $T_0=139.427110$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

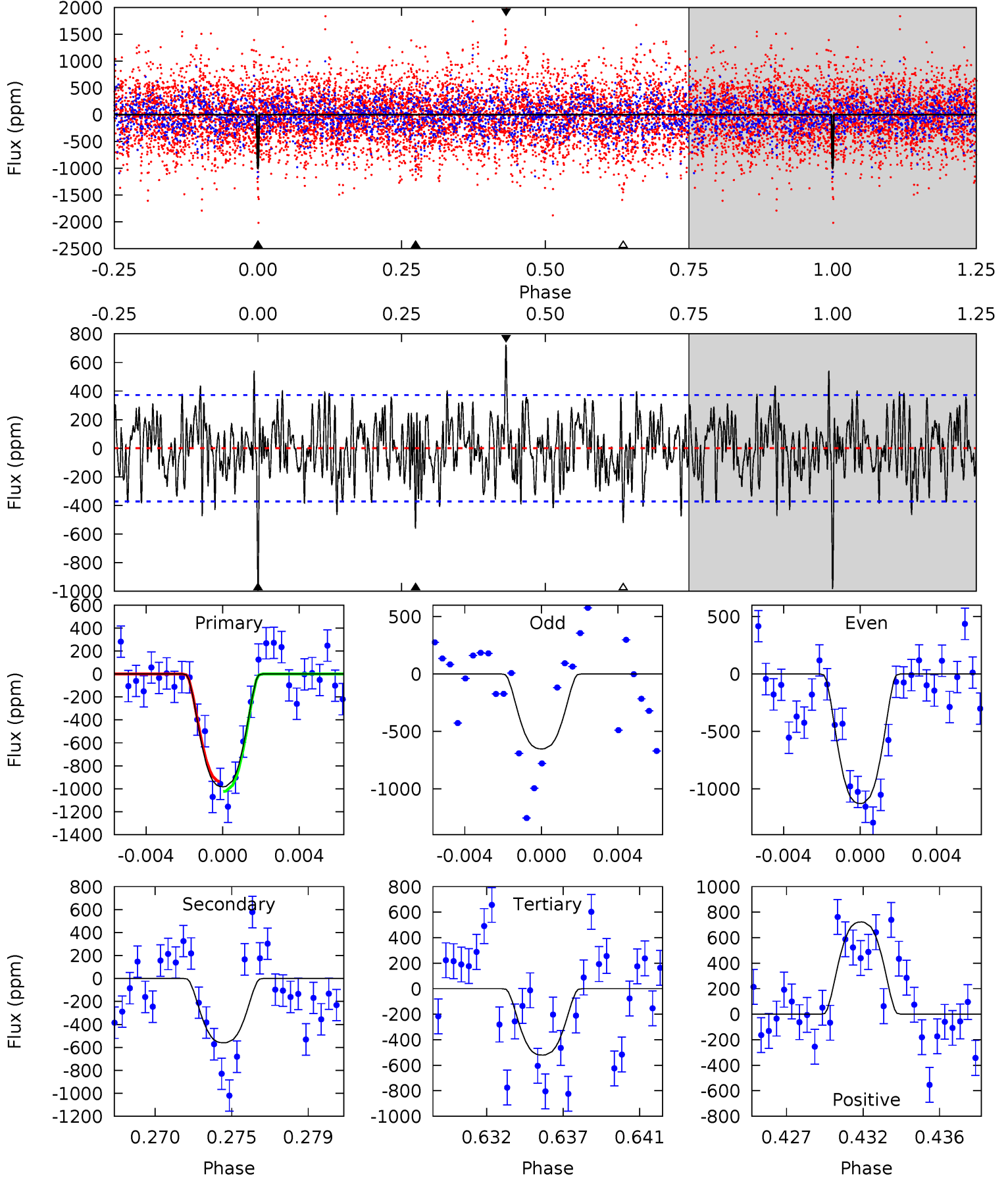
TCE 005200521-03 P= 54.644984 Days $T_0=139.385813$ (BKJD)



DV Model-Shift Uniqueness Test

005200521-03, P = 54.644652 Days, E = 84.782458 Days

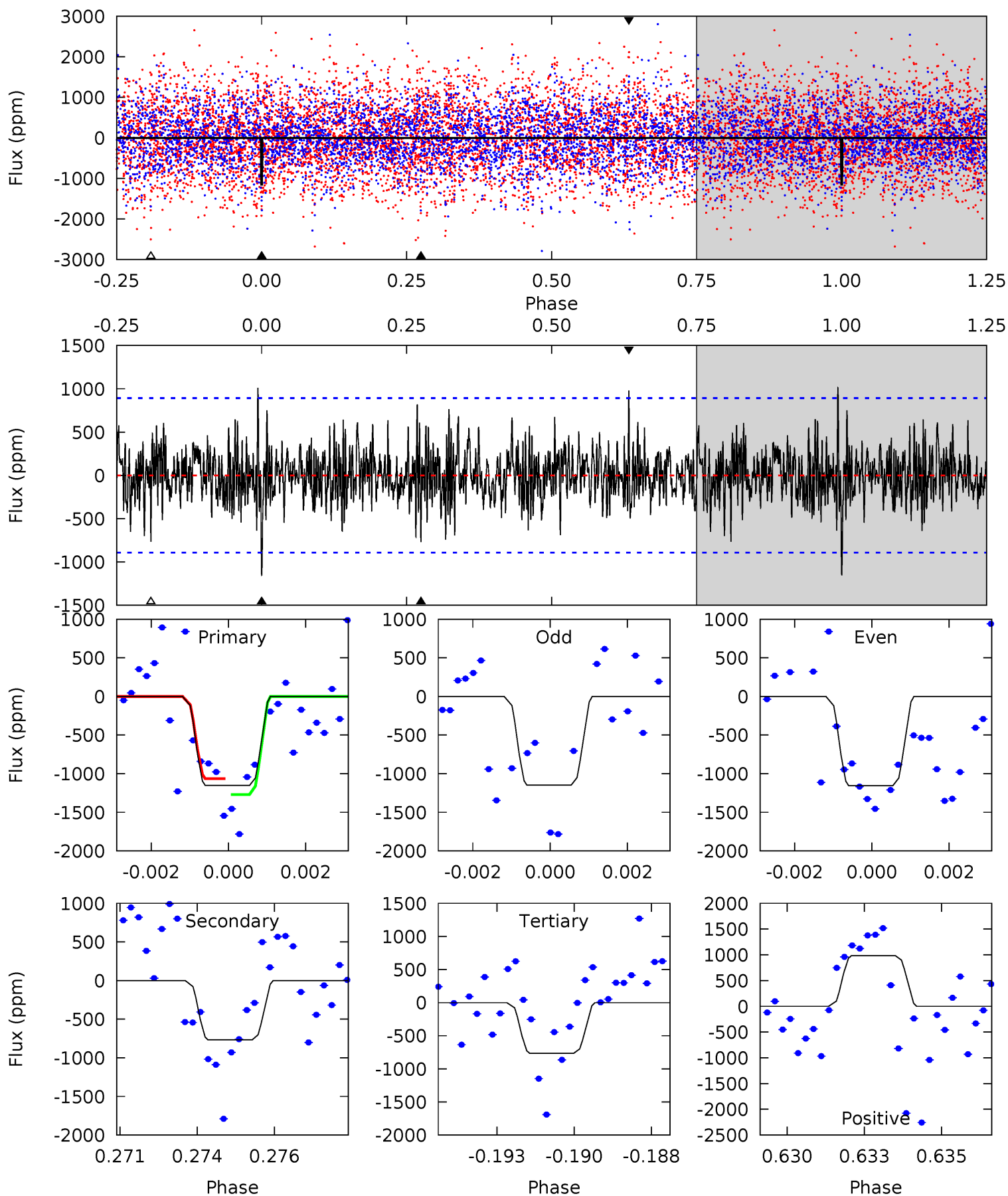
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
13.7	7.81	7.26	10.1	5.18	2.85	2.42	6.44	3.62	0.55	-2.27	3.16	0.66	0.42	0.60



Alt Model-Shift Uniqueness Test

005200521-03, P = 54.644984 Days, E = 84.740829 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.85	4.56	4.54	5.82	5.30	3.04	1.47	2.31	1.03	0.02	-1.26	0.02	0.86	0.47	0.60



Stellar Parameters For KIC 005200521

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5661^{+84}_{-76}	$3.410^{+0.280}_{-0.070}$	$0.180^{+0.150}_{-0.150}$	$4.463^{+0.513}_{-1.540}$	$1.865^{+0.131}_{-0.392}$	$0.030^{+0.061}_{-0.007}$
	+1%/-1%	+8%/-2%	+83%/-83%	+11%/-35%	+7%/-21%	+207%/-23%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005200521-03 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-560 ± 72	$17.89^{+3.90}_{-3.94}$	1233^{+51}_{-111}	4569^{+369}_{-302}	116^{+70}_{-40}
Alt.	-768 ± 168	$17.36^{+3.67}_{-3.69}$	1236^{+51}_{-99}	4928^{+446}_{-355}	167^{+111}_{-60}

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

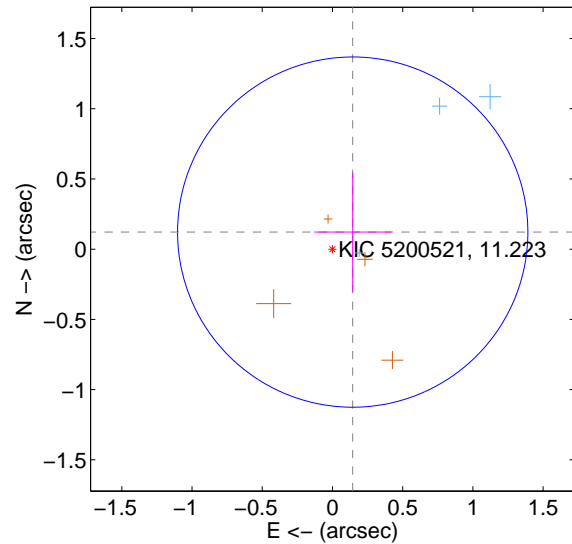
Supplemental centroid analysis for 005200521-03. **Kepler magnitude: 11.22.** Transit SNR 12.82

There are 4 quarters with good PRF difference image offsets

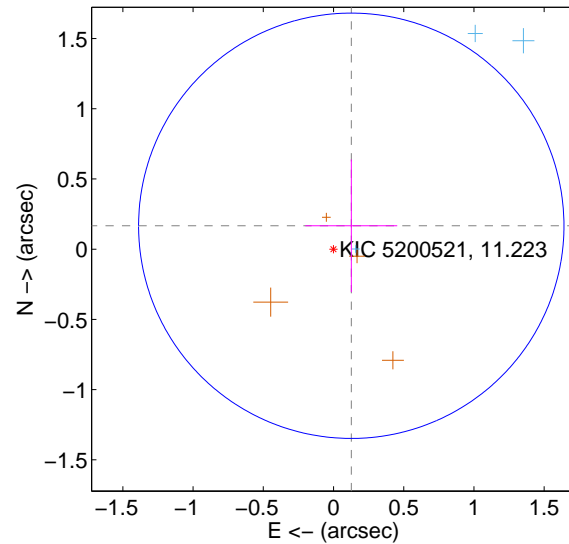
The direct PRF centroid is offset from the target star catalog position by about 0.04 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.189 ± 0.416	0.45	-0.144 ± 0.274	0.122 ± 0.423
PRF-fit source offset from KIC position	0.209 ± 0.505	0.41	-0.126 ± 0.328	0.167 ± 0.472
photometric centroid source offset	0.06 ± 0.08	0.78	-0.01 ± 0.07	-0.06 ± 0.08

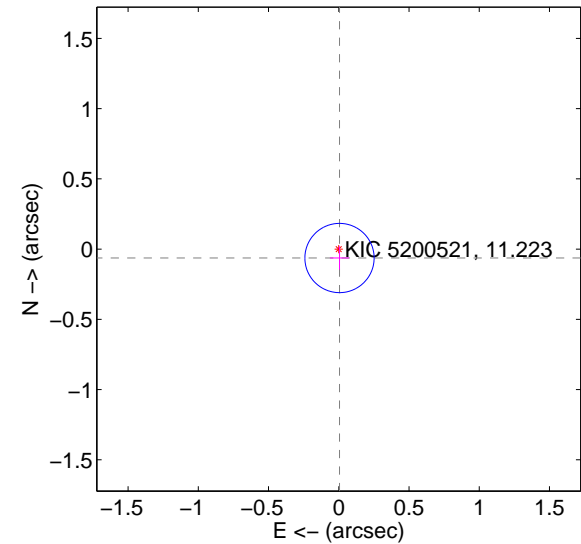
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

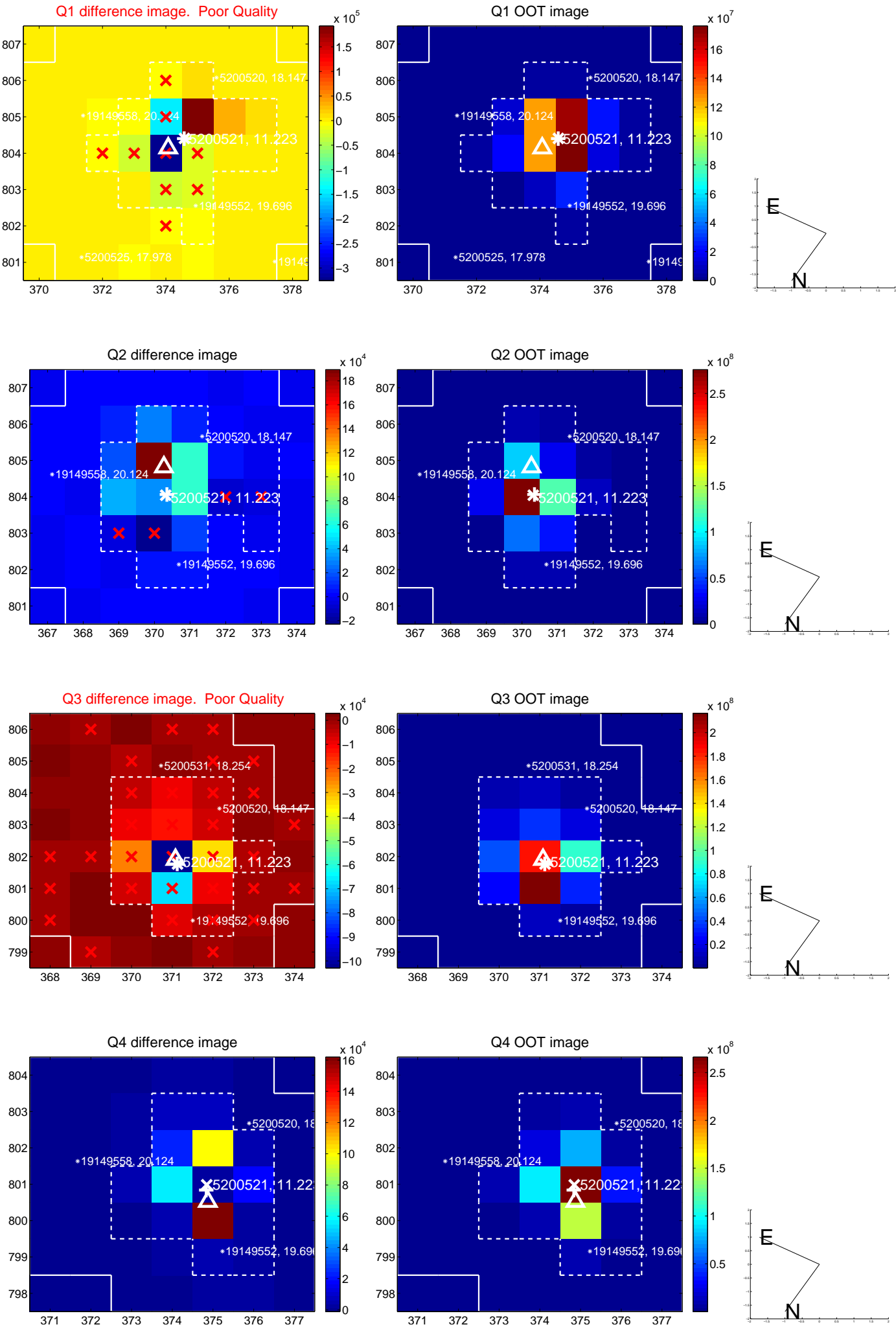


offset from photometric centroids

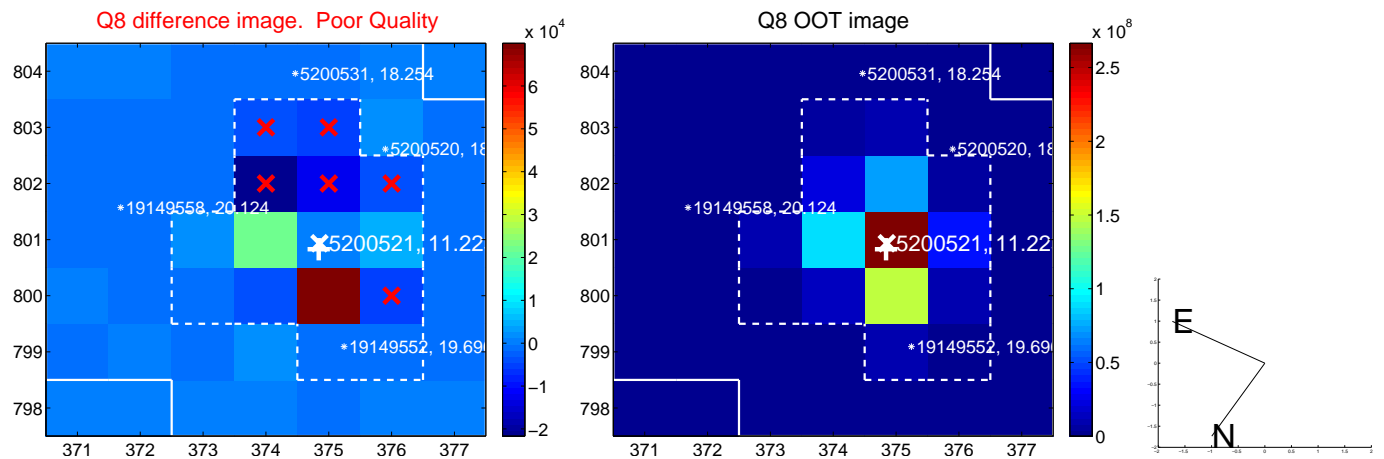
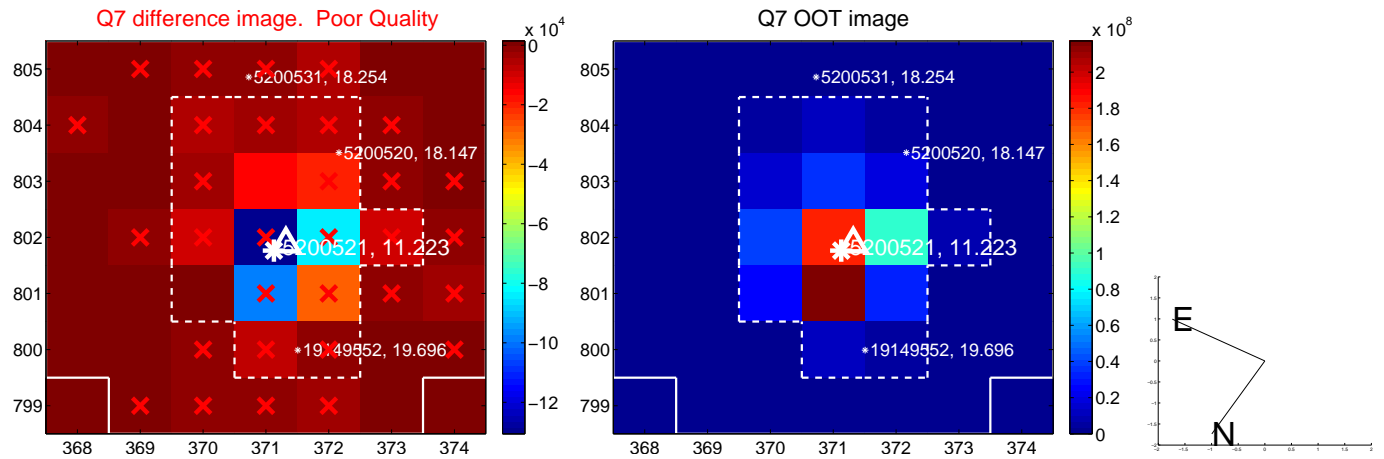
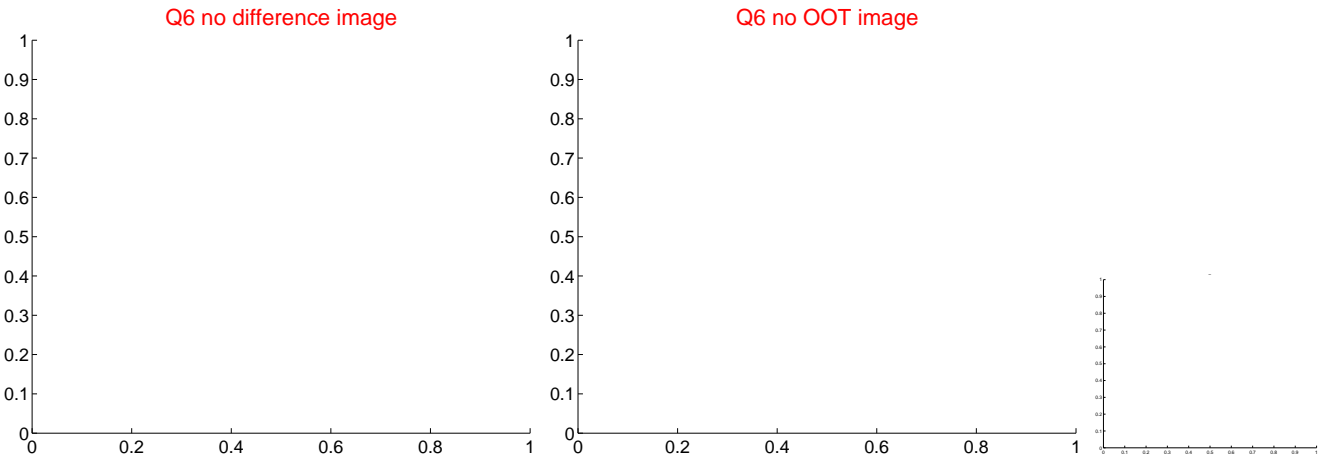
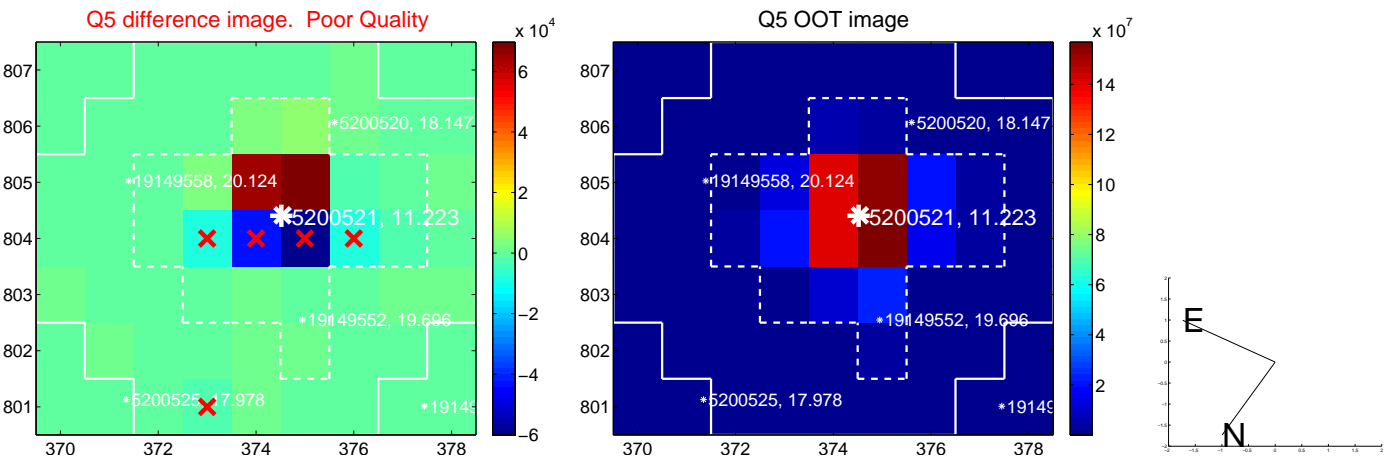


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

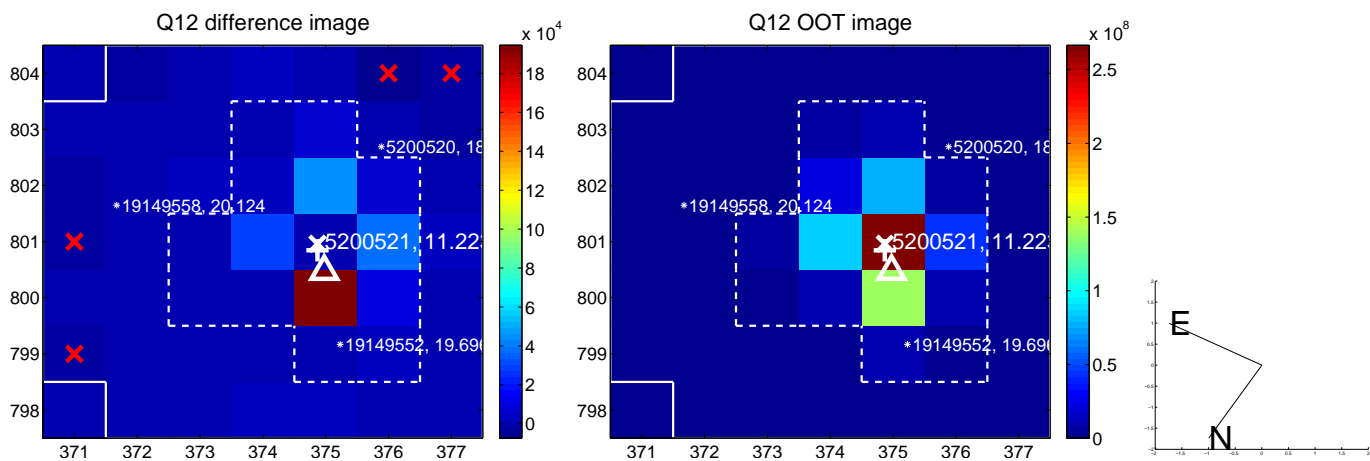
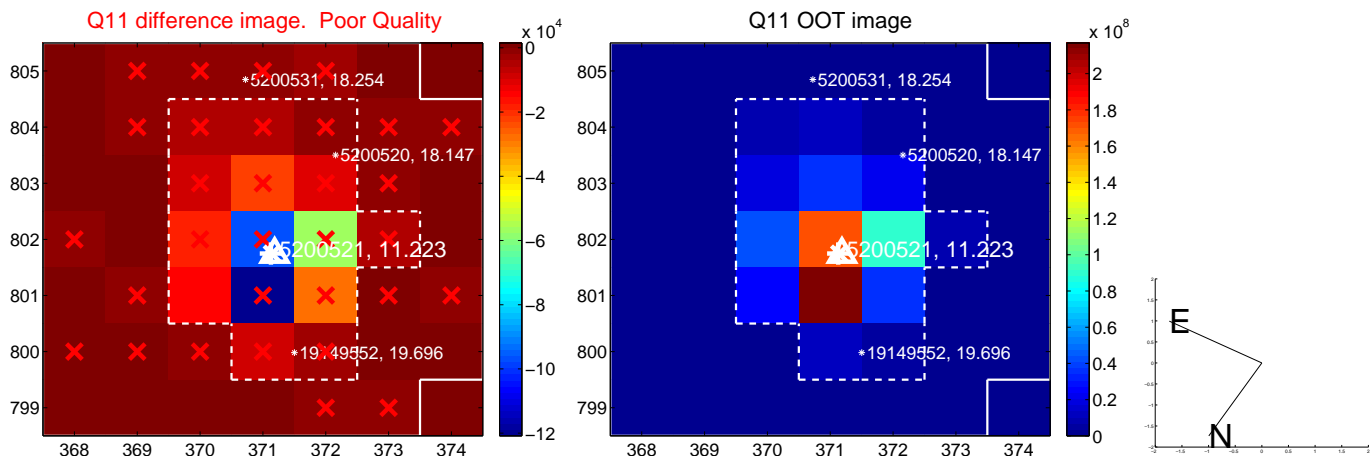
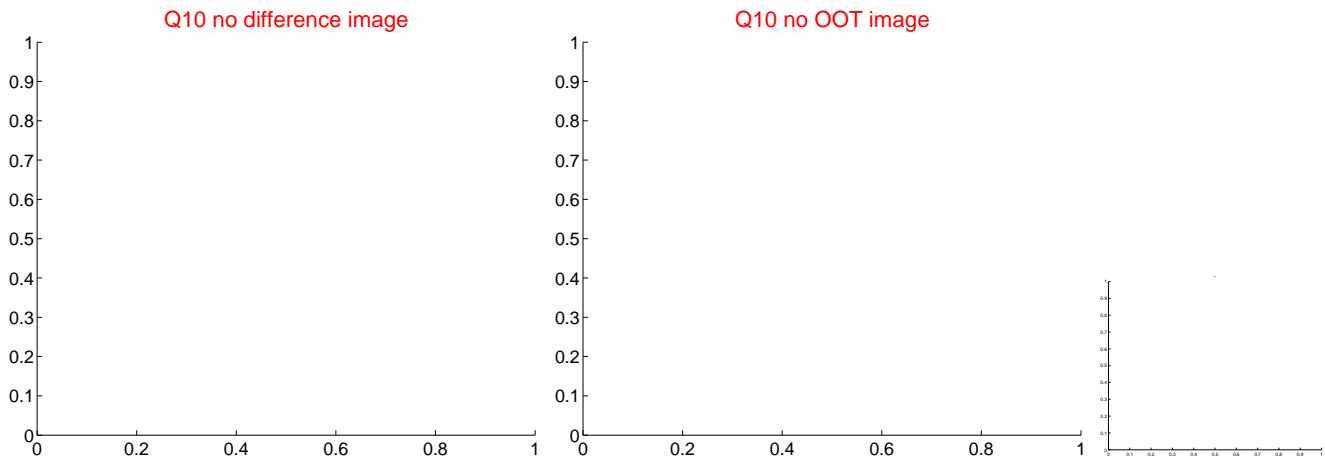
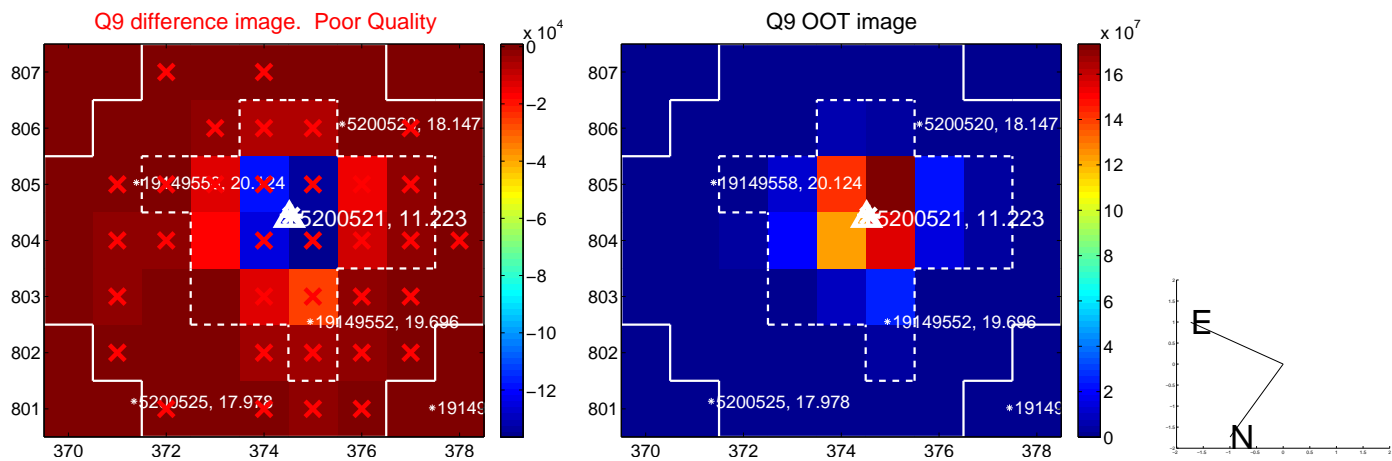
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



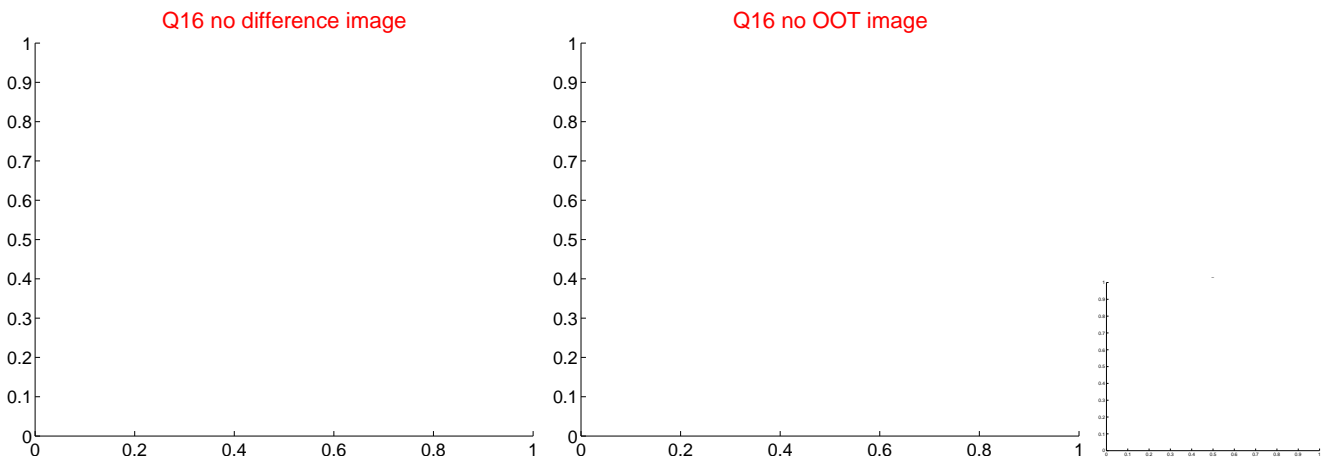
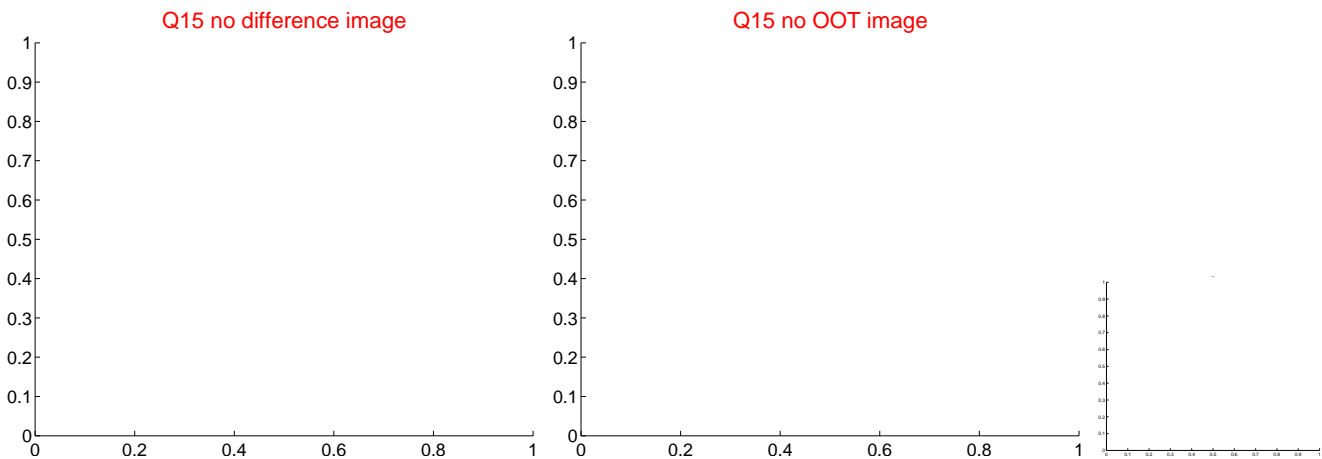
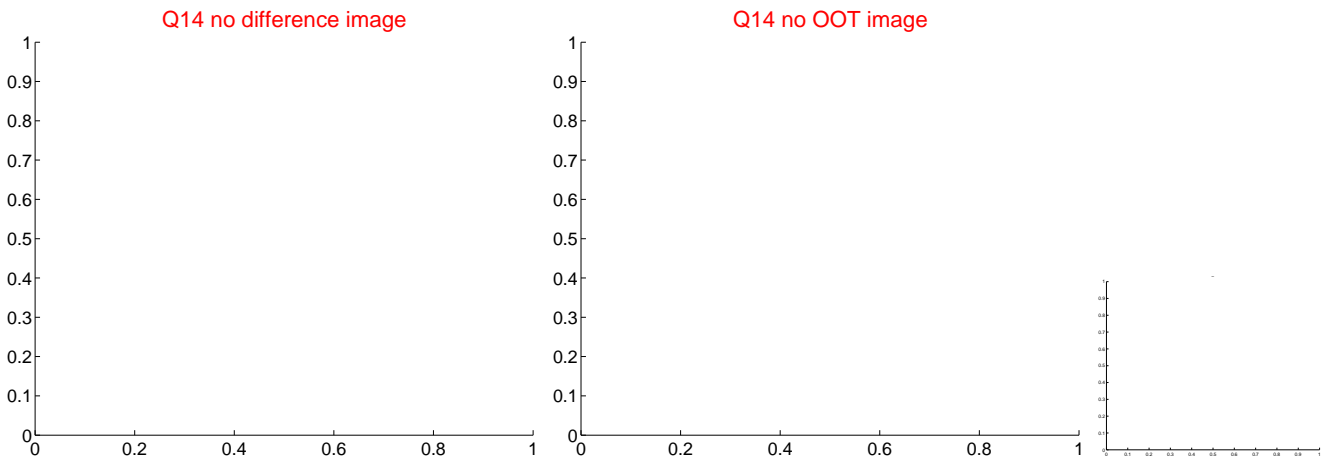
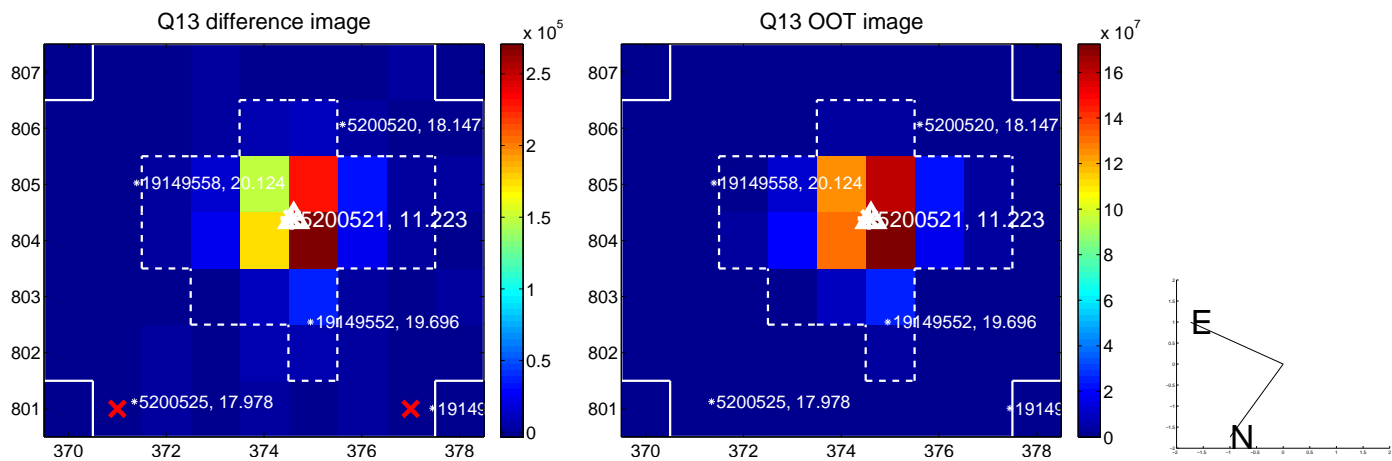
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



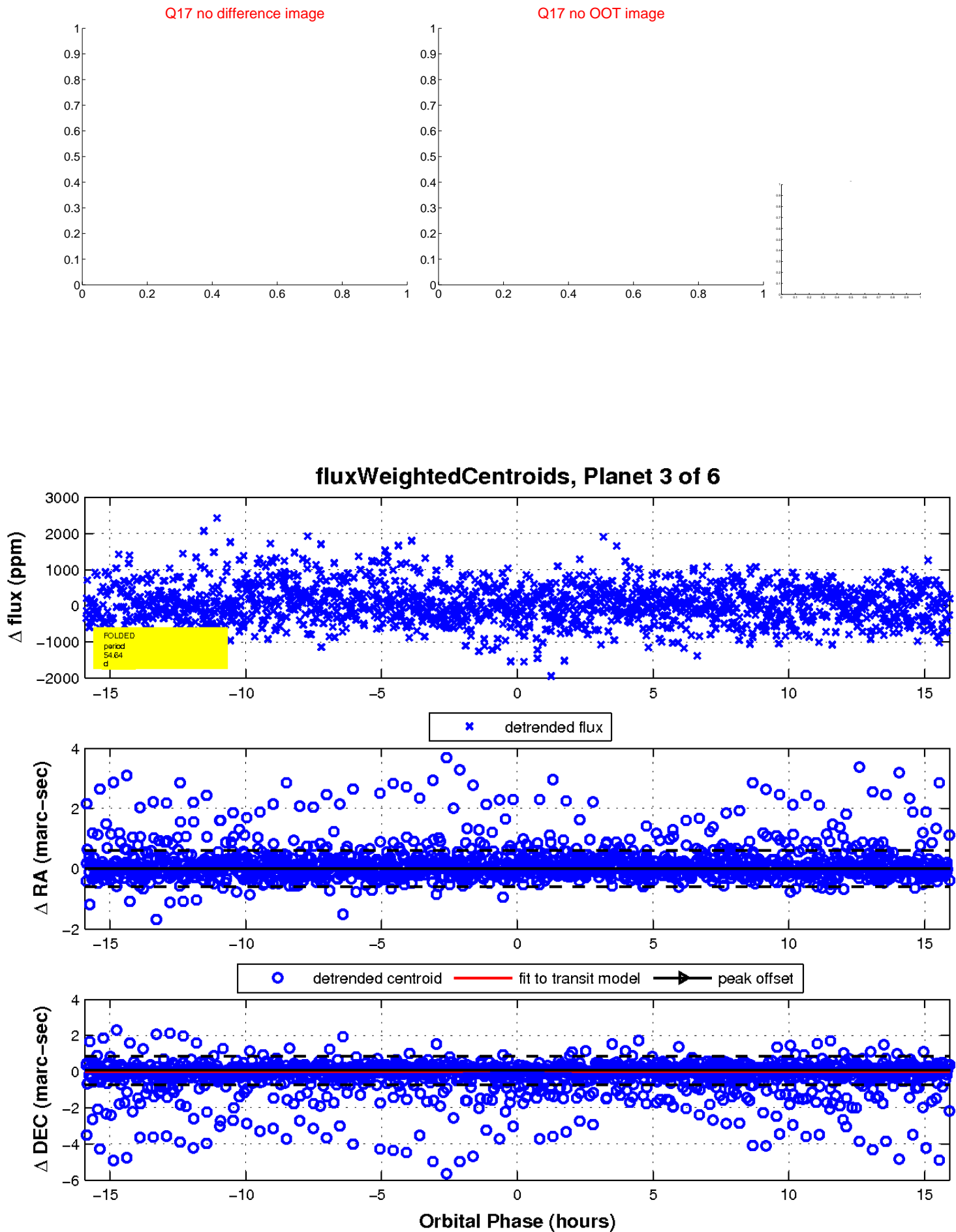
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

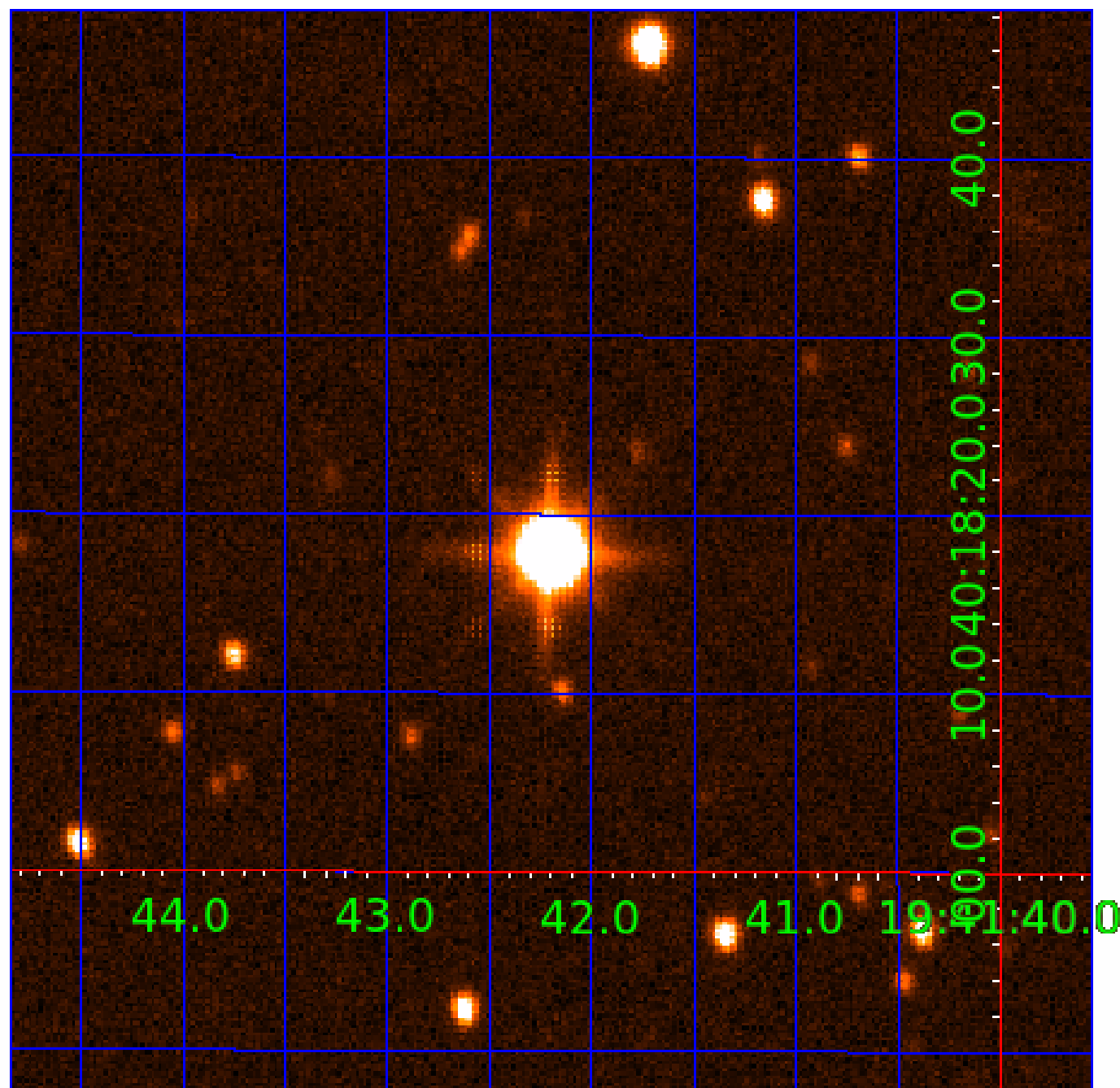


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005200521

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})
005200521-01	OBS	No	1.247295	131.643252	92.6	6.748	10.8	11.4	4.46	5661	4.24	23492.33
005200521-02	OBS	No	0.833393	131.843965	144.6	3.362	11.9	13.6	4.46	5661	6.40	40217.84
005200521-03	OBS	No	54.644652	139.427110	1073.5	5.308	13.6	12.8	4.46	5661	19.11	152.11
005200521-05	OBS	No	41.964592	160.612843	808.4	5.541	11.4	10.9	4.46	5661	14.63	216.29
005200521-06	OBS	No	34.221354	133.692244	218.6	1.500	10.6	-1.0	4.46	5661	6.54	283.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005200521-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
005200521-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
005200521-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
005200521-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
005200521-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

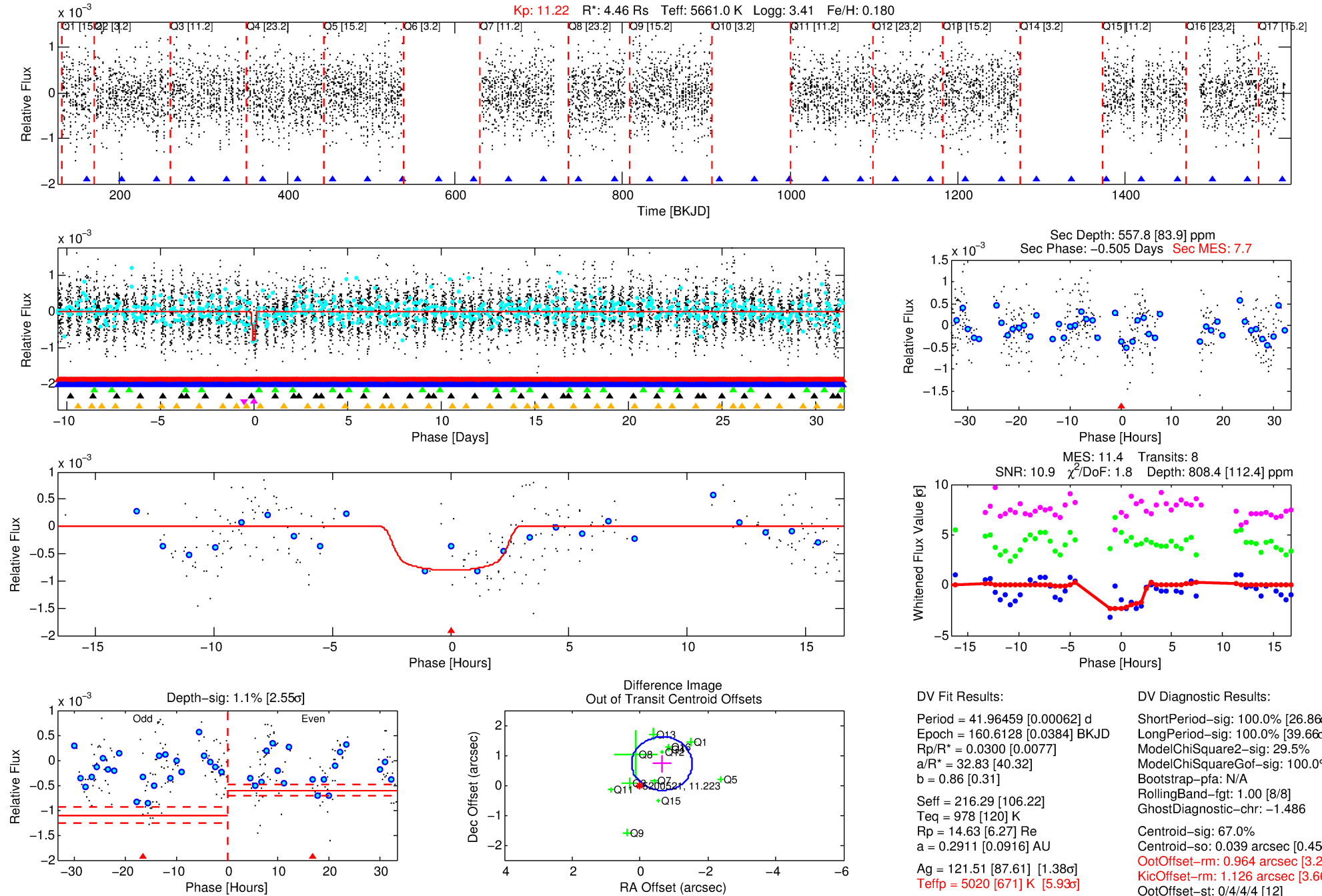
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005200521-05

No Significant Match Found

DV One-Page Summary

KIC: 5200521 Candidate: 5 of 6 Period: 41.965 d



DV Fit Results:

Period = 41.96459 [0.00062] d
Epoch = 160.6128 [0.0384] BKJD
Rp/R* = 0.0300 [0.0077]
a/R* = 32.83 [40.32]
b = 0.86 [0.31]
Seff = 216.29 [106.22]
Teff = 5661.0 [106.22] K
Rp = 14.63 [6.27] Re
a = 0.2911 [0.0916] AU
Ag = 121.51 [87.61] [1.38]
Teff = 5020 [671] K [5.93]

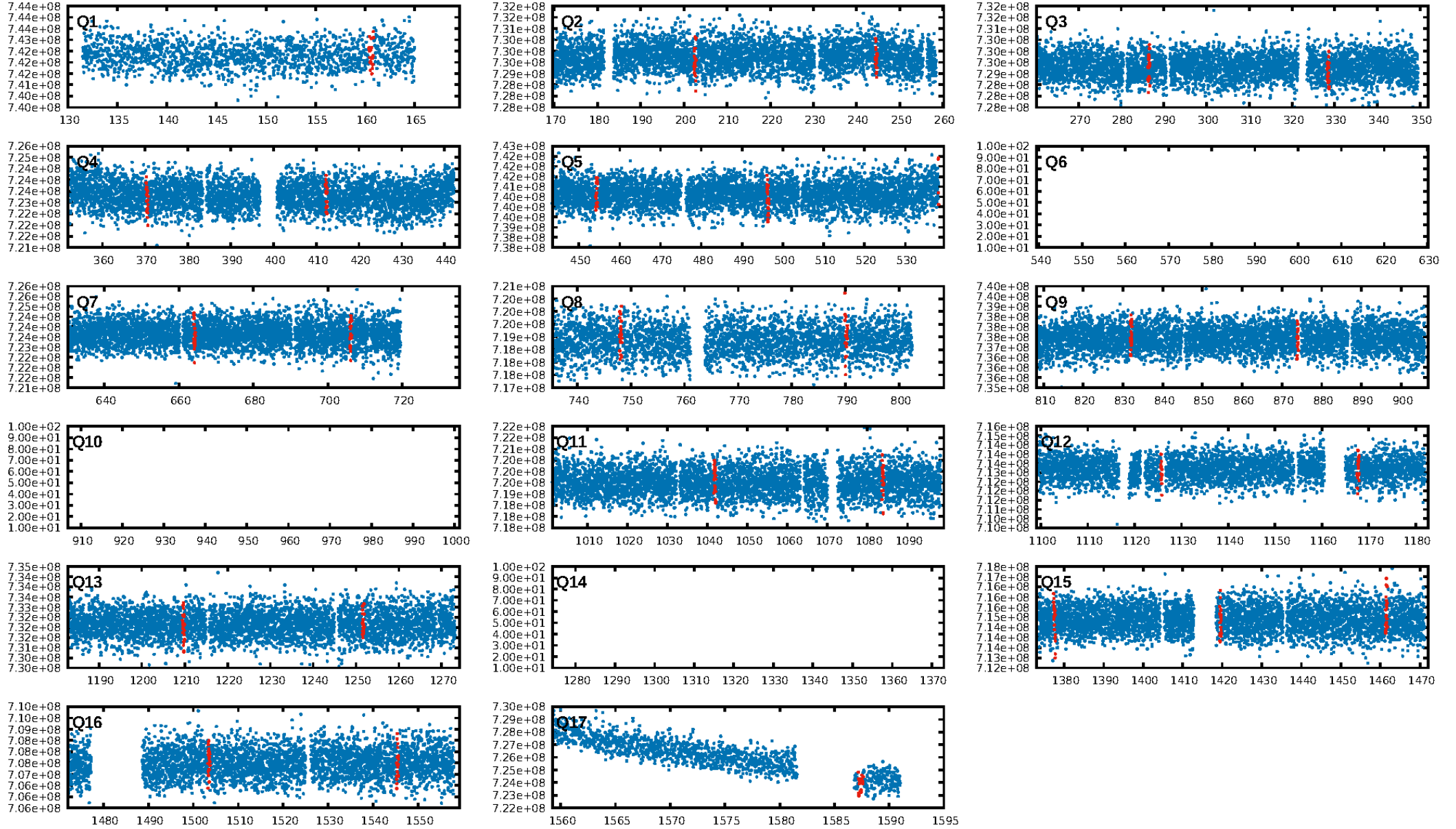
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [26.86]
LongPeriod-sig: 100.0% [39.66]
ModelChiSquare2-sig: 29.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [8/8]
GhostDiagnostic-chr: -1.486
Centroid-sig: 67.0%
Centroid-so: 0.039 arcsec [0.45]
OotOffset-rm: 0.964 arcsec [3.24]
KicOffset-rm: 1.126 arcsec [3.66]
OotOffset-st: 0/4/4/4 [12]
KicOffset-st: 0/4/4/4 [12]
DiffImageQuality-fgm: 0.42 [5/12]
DiffImageOverlap-fno: 0.00 [0/13]

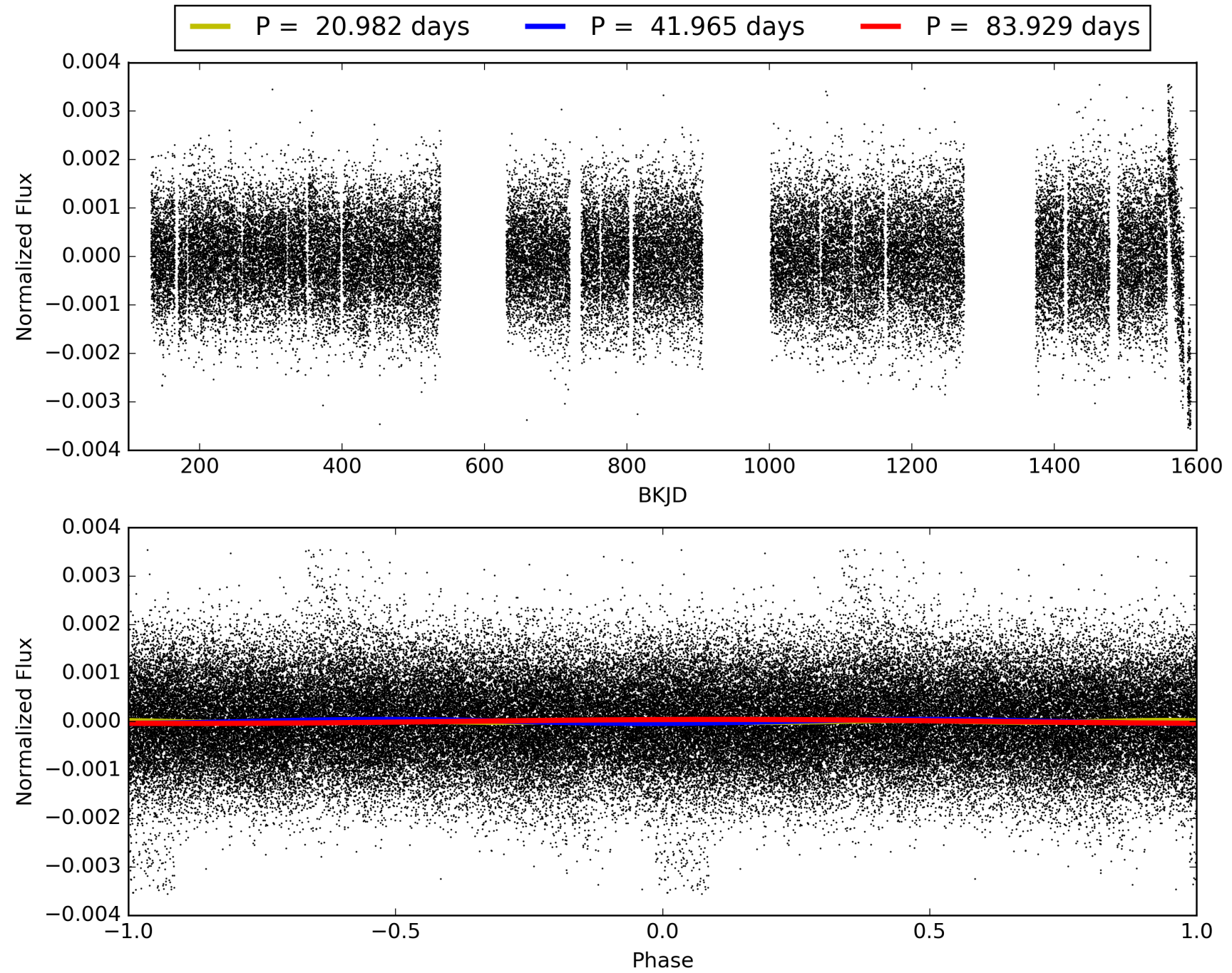
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:06:30 Z

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

TCE 005200521-05, PDC Light Curves

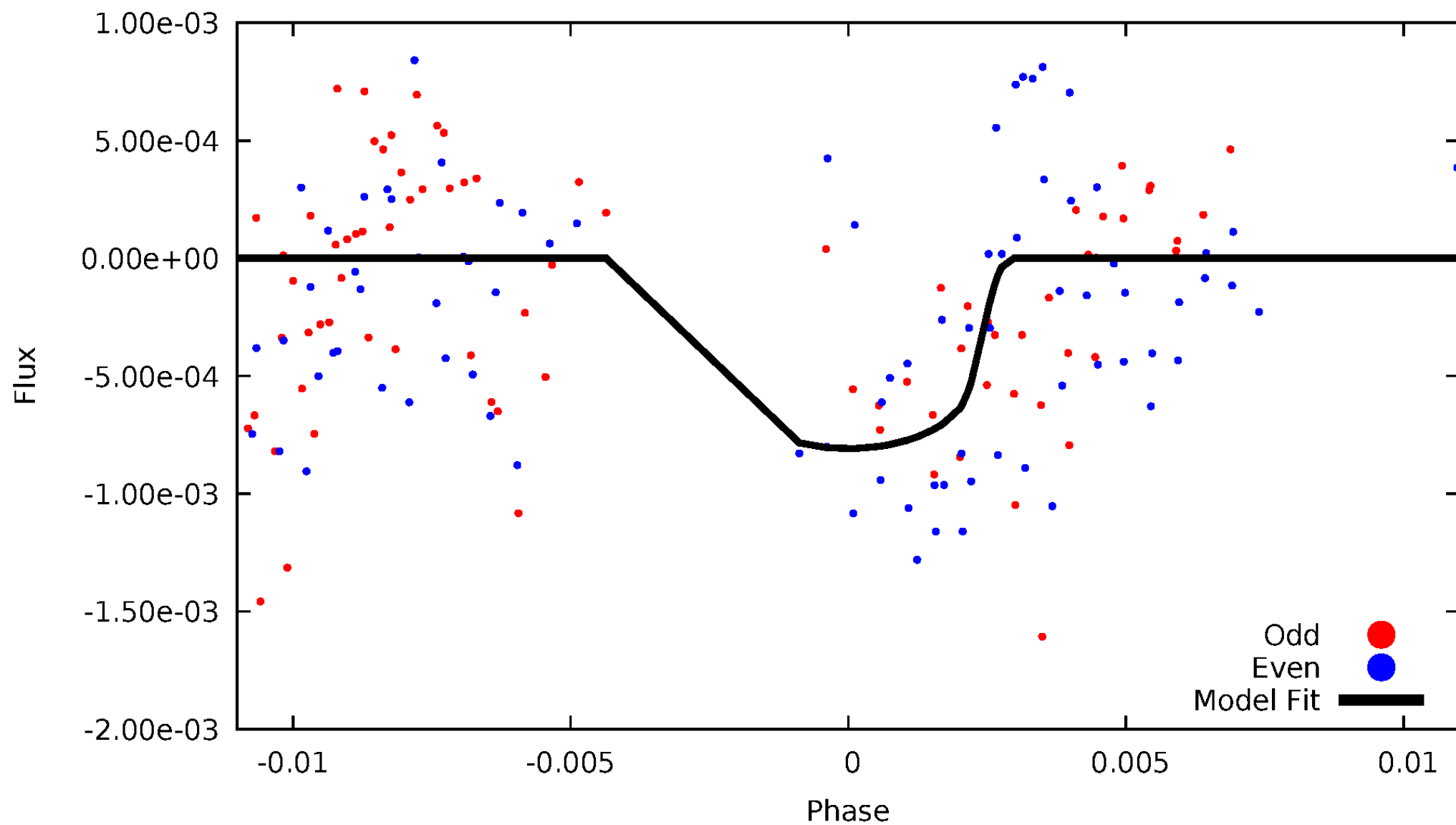


TCE 005200521-05



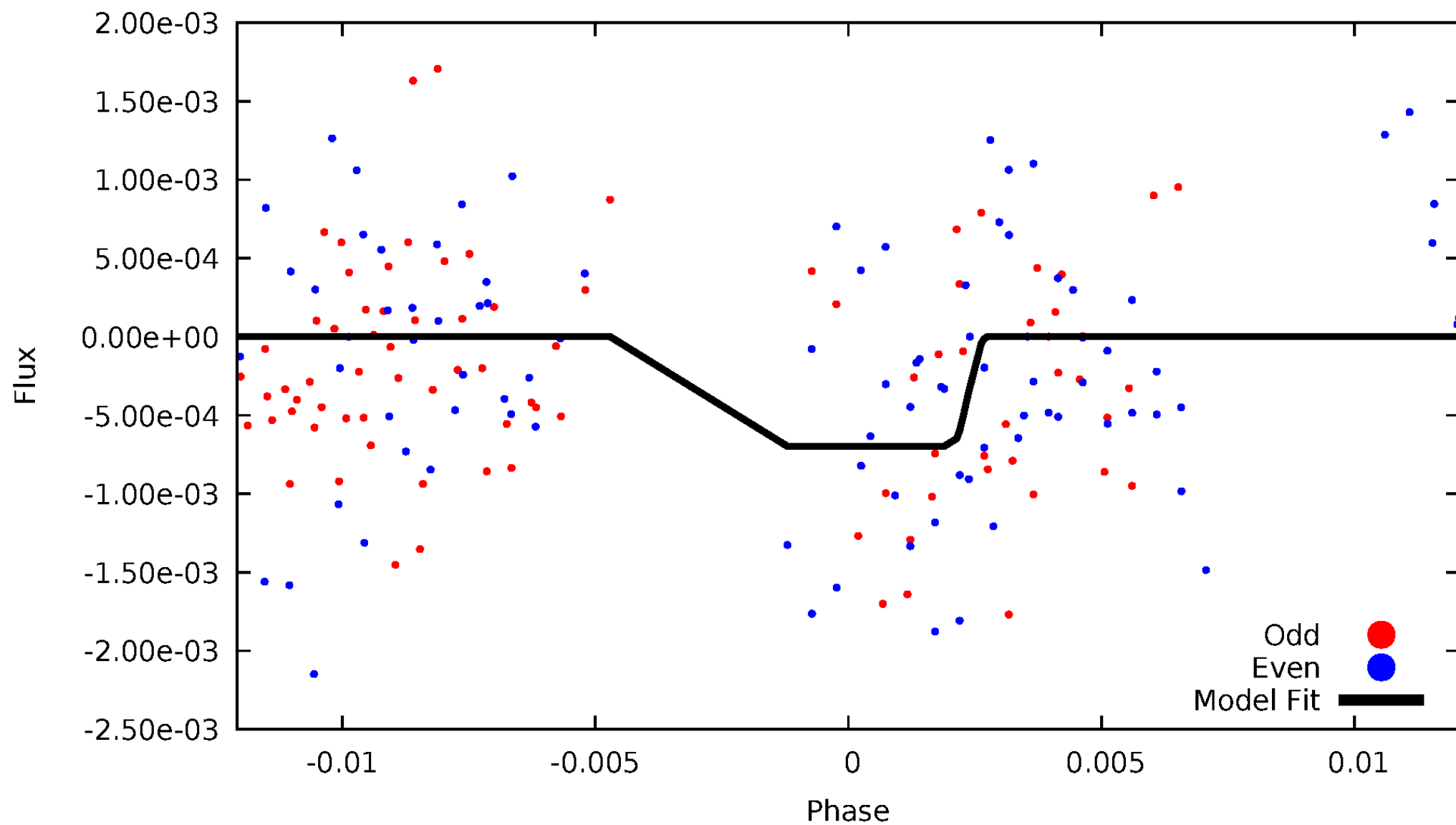
DV Odd/Even

TCE 005200521-05



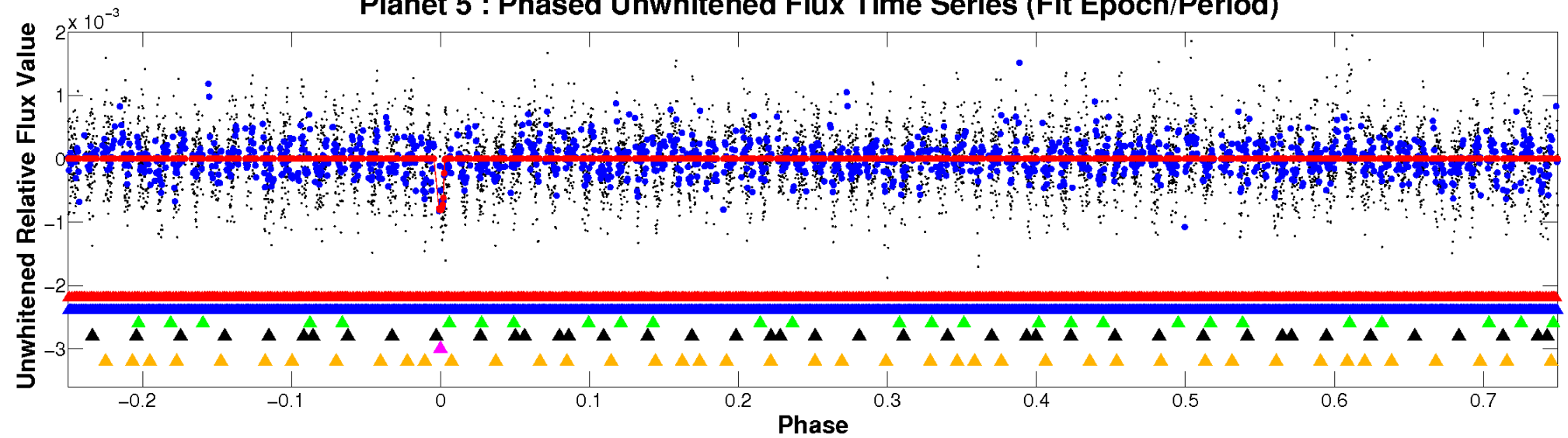
ALT Odd/Even

TCE 005200521-05

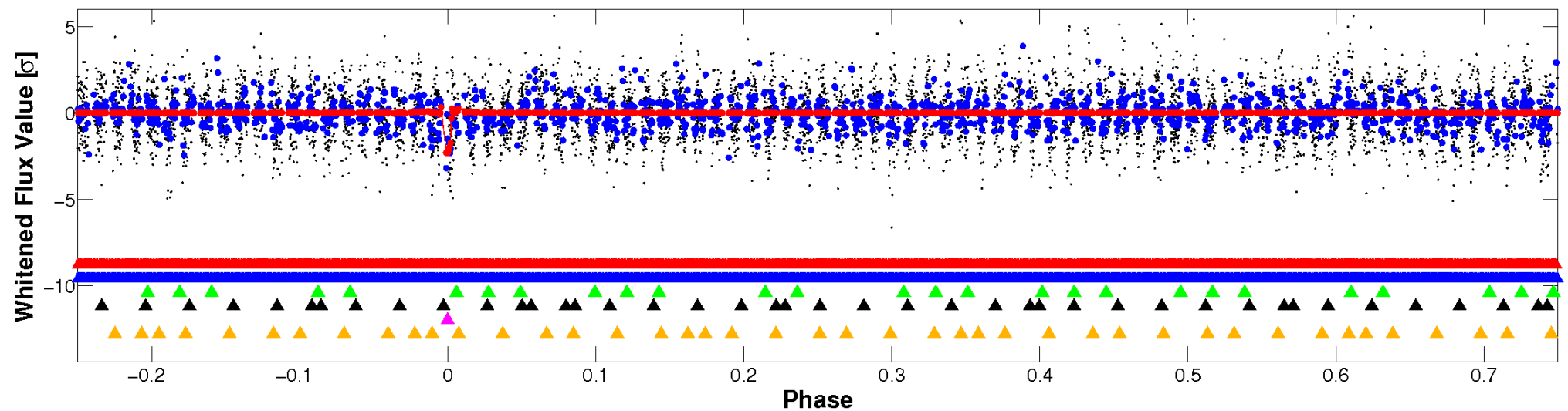


Non-Whitened Vs. Whitened Light Curve

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

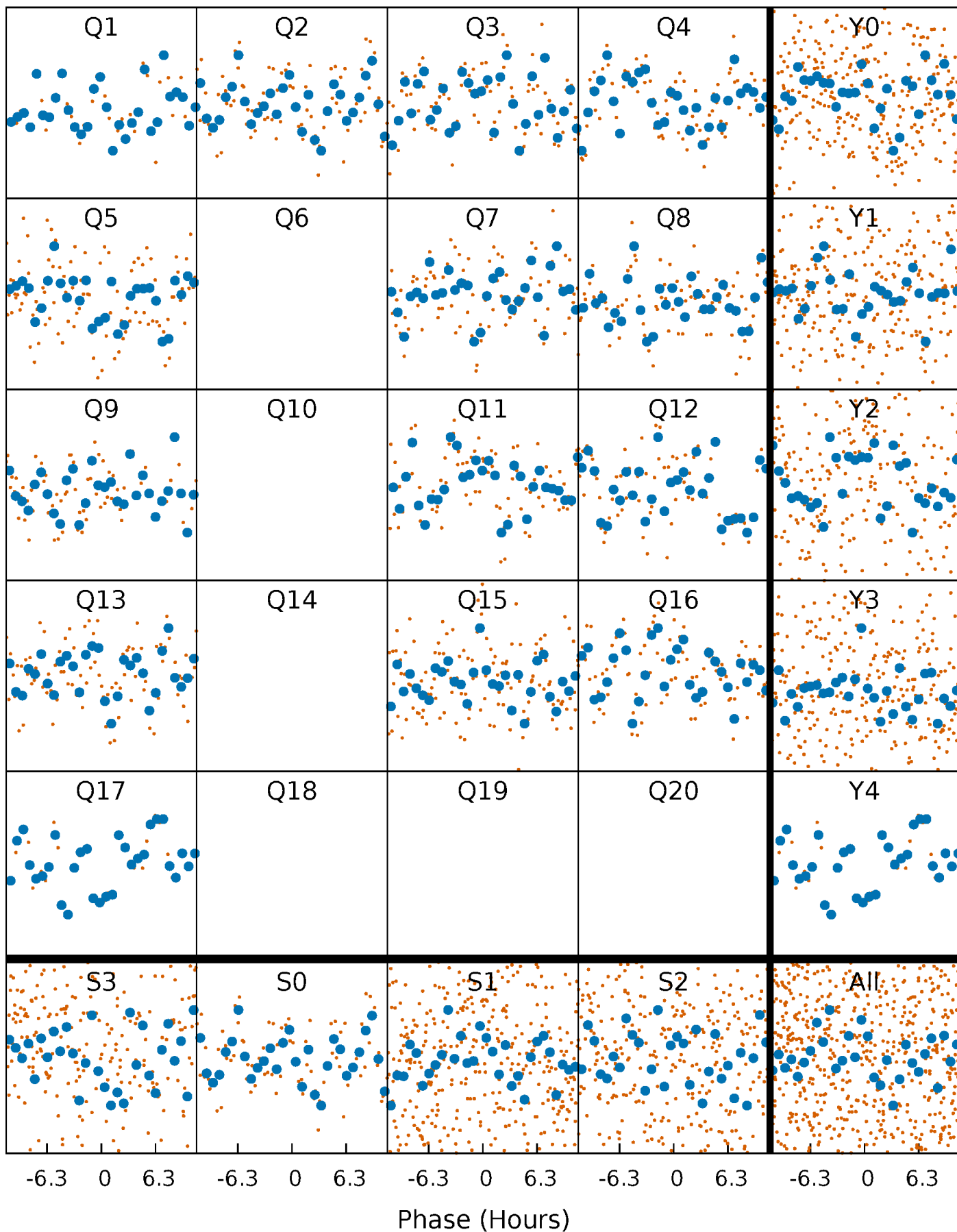


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



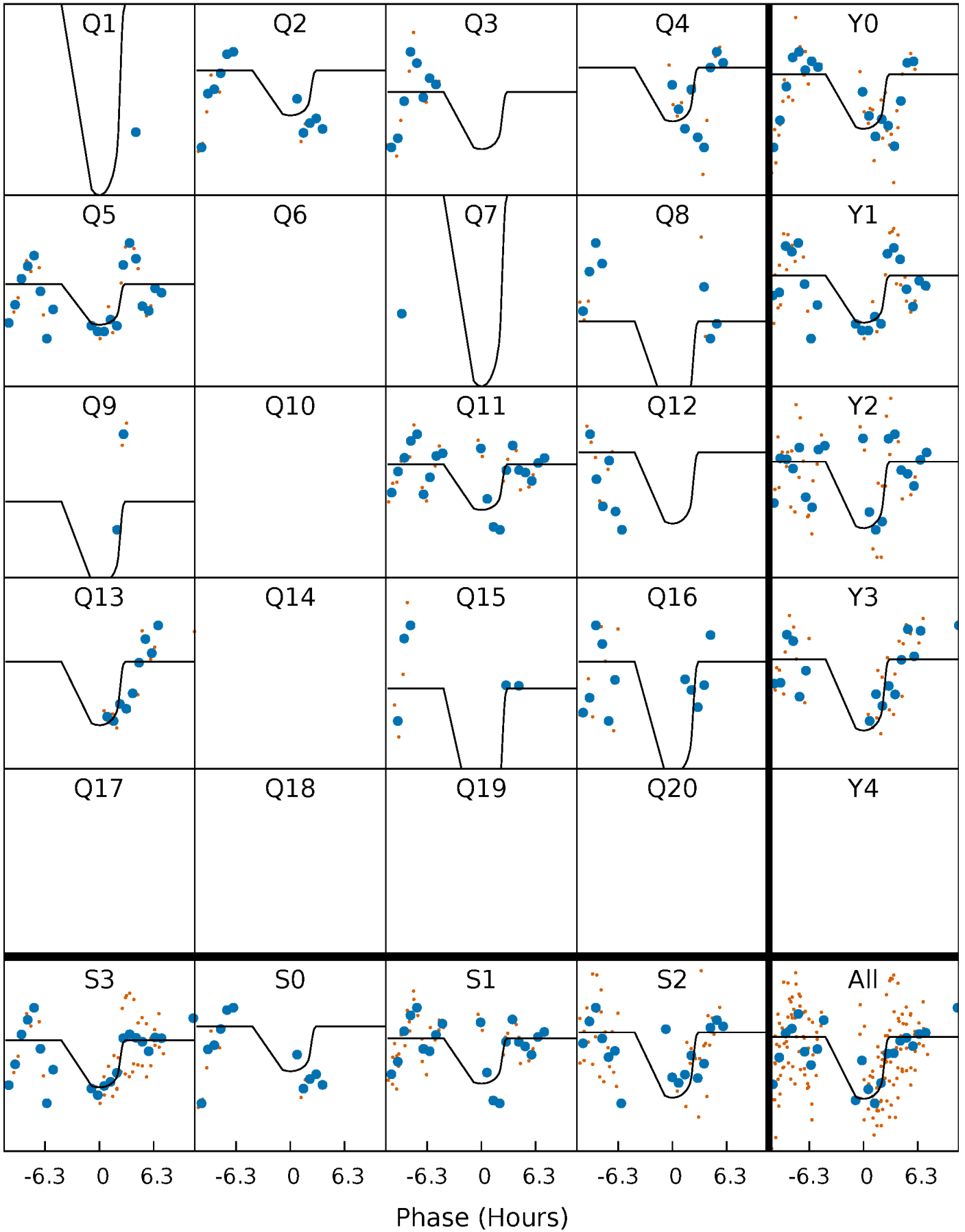
PDC Quarter-Phased Transit Curves

TCE 005200521-05 $P = 41.964592$ Days $T_0 = 160.612843$ (BKJD)



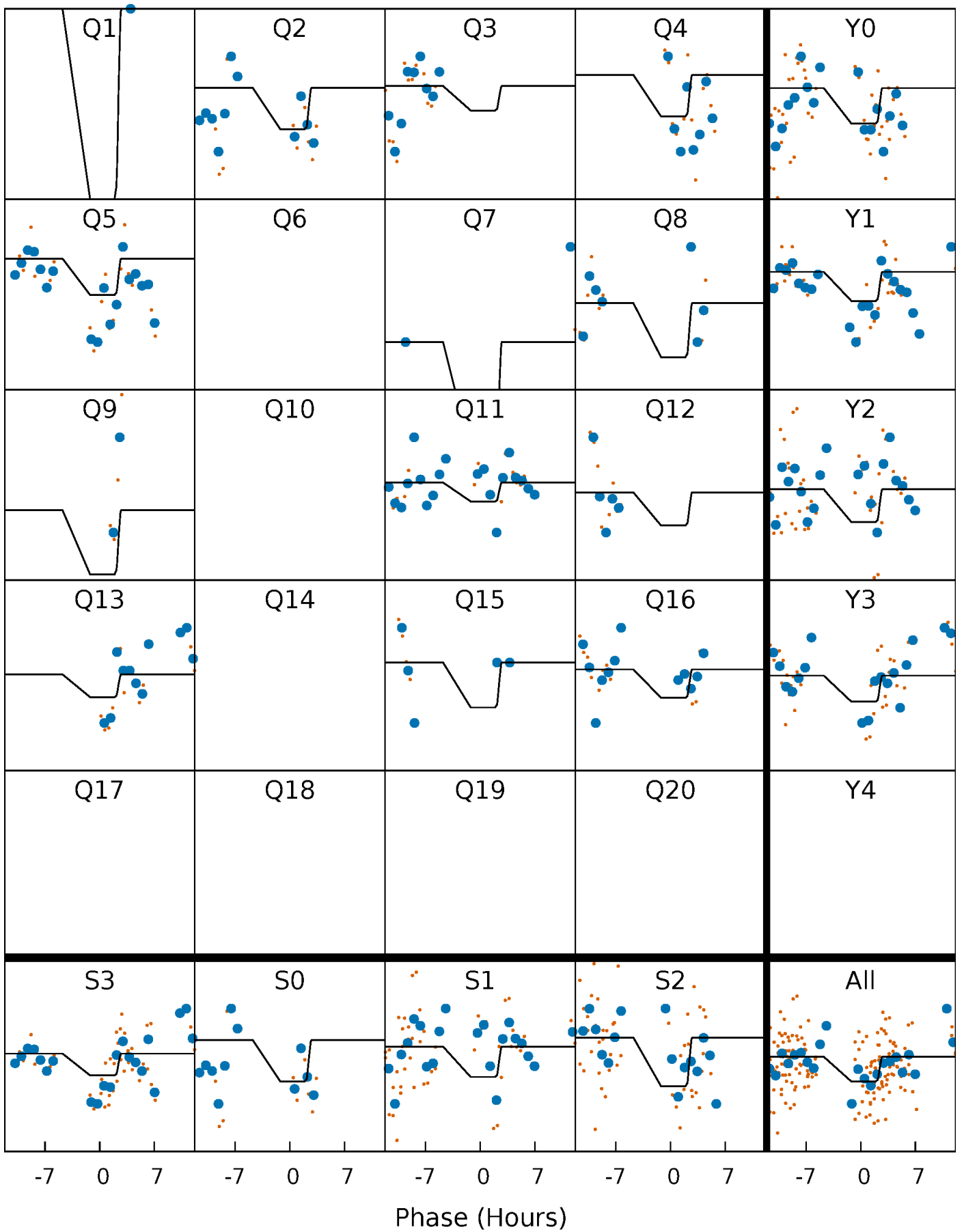
DV Quarter-Phased Transit Curves

TCE 005200521-05 P= 41.964592 Days $T_0=160.612843$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

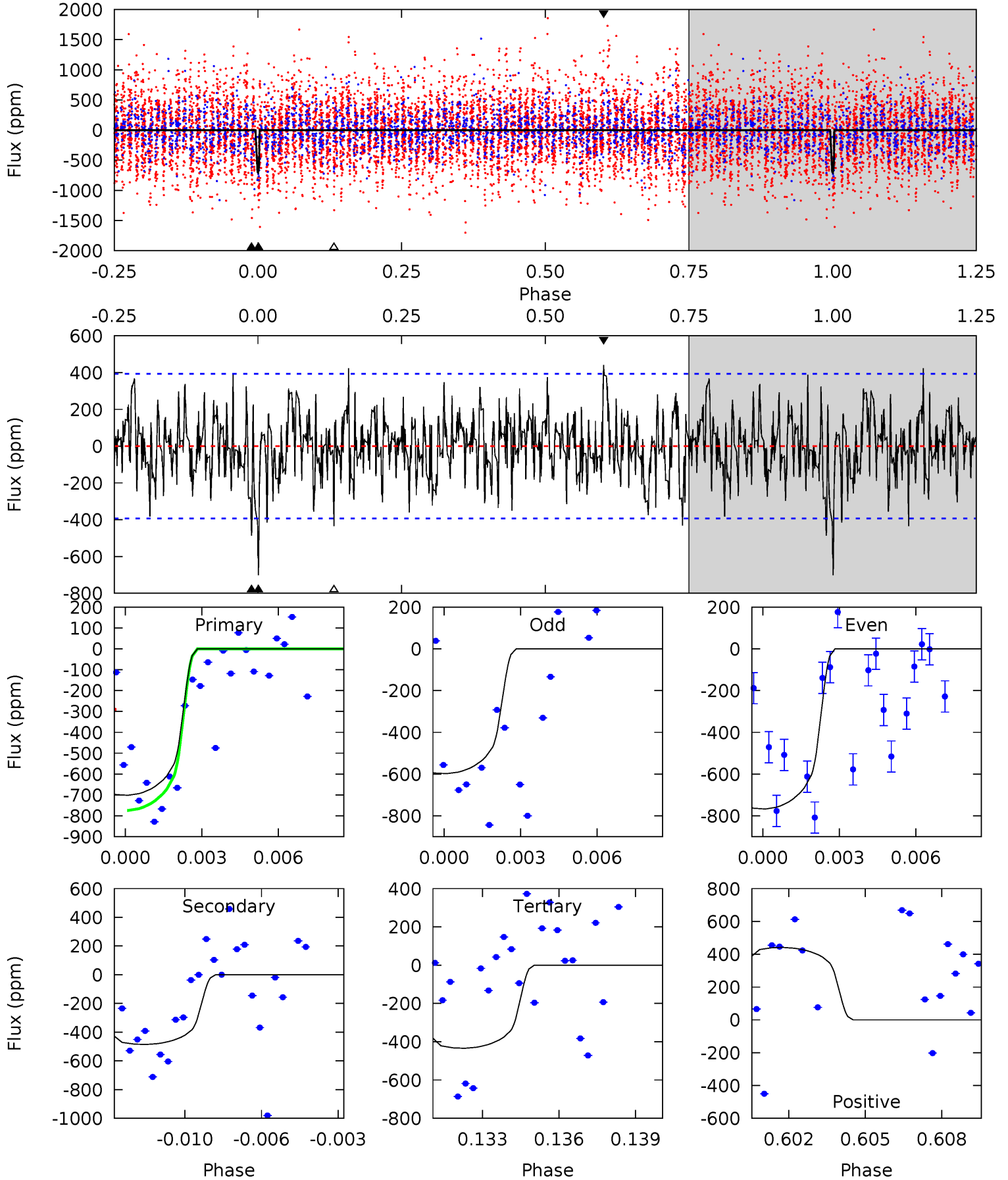
TCE 005200521-05 $P = 41.964666$ Days $T_0 = 160.625884$ (BKJD)



DV Model-Shift Uniqueness Test

005200521-05, P = 41.964592 Days, E = 118.648251 Days

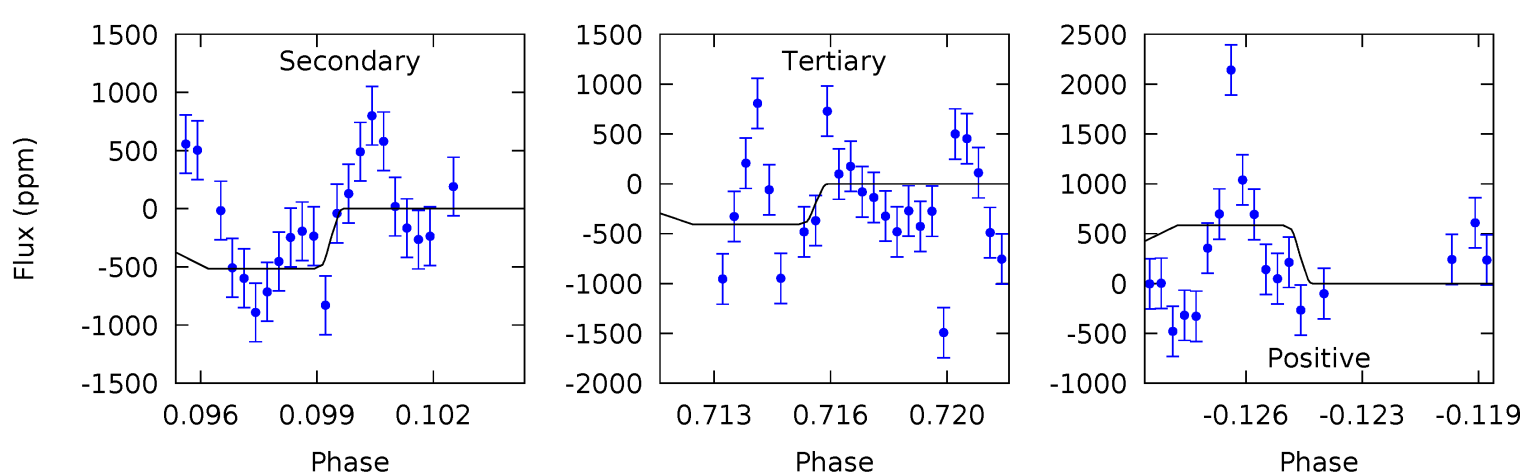
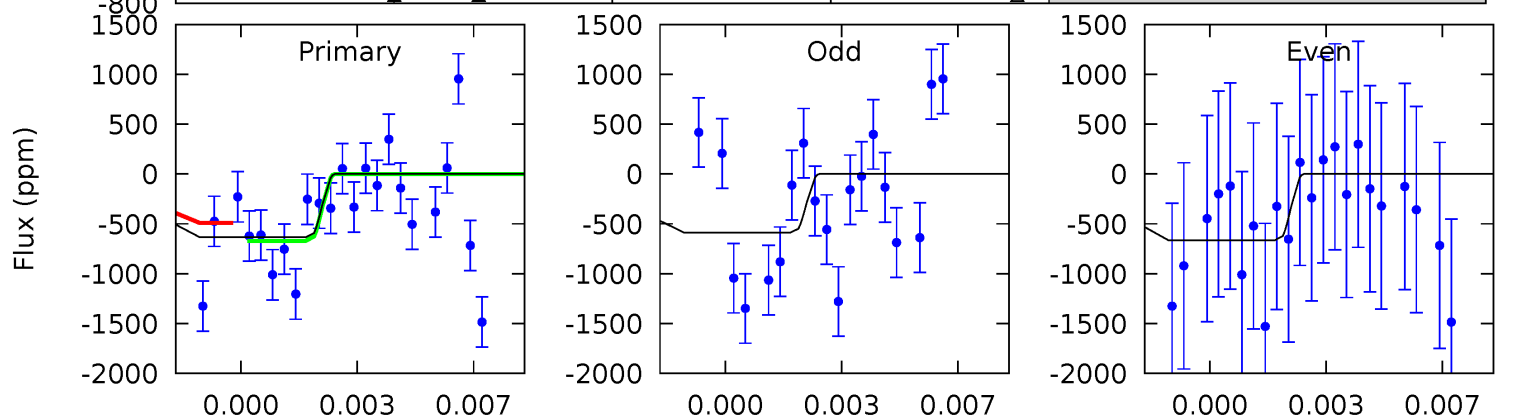
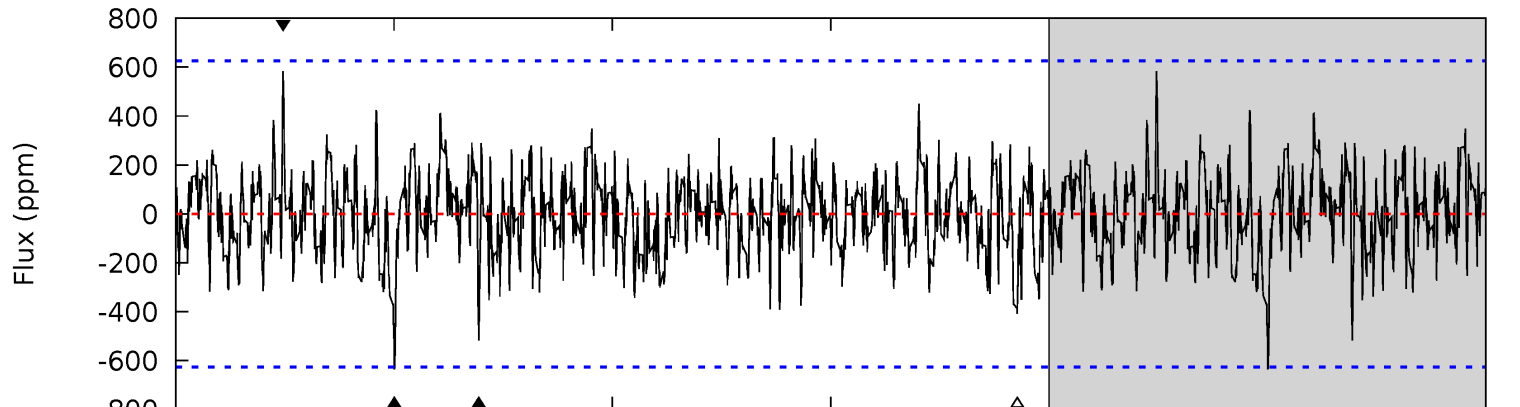
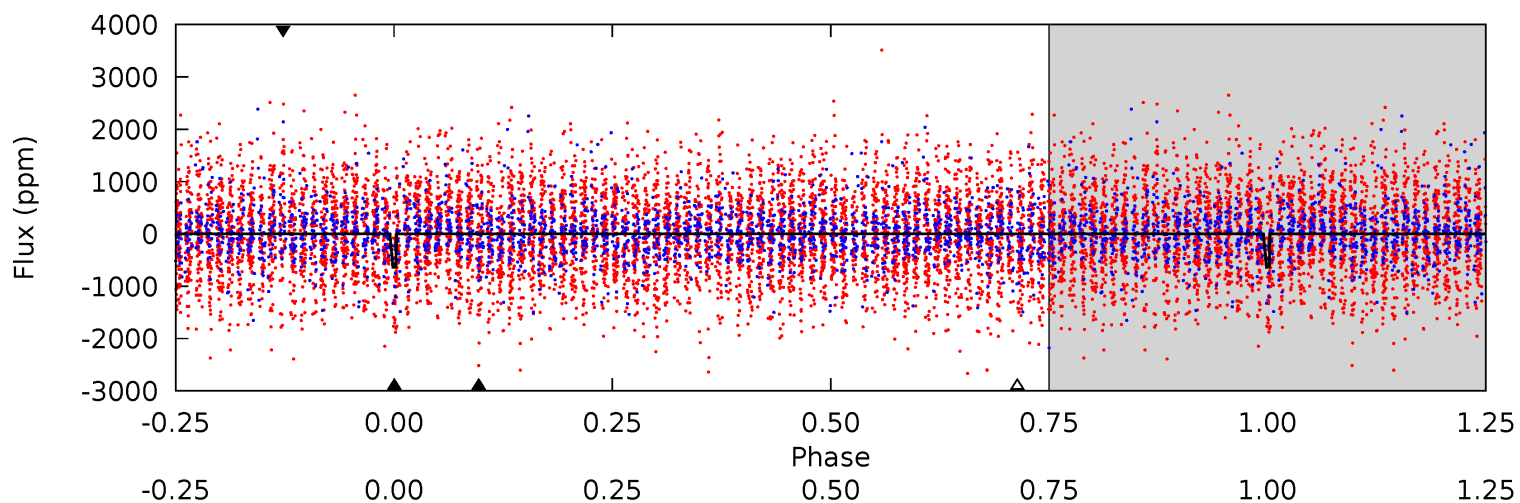
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.35	6.47	5.79	5.88	5.24	2.95	1.87	3.57	3.47	0.69	0.59	1.11	1.10	0.39	1.45



Alt Model-Shift Uniqueness Test

005200521-05, P = 41.964666 Days, E = 118.661218 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.31	4.31	3.40	4.87	5.23	2.93	1.16	1.91	0.44	0.91	-0.56	0.32	1.26	0.48	0.49



Stellar Parameters For KIC 005200521

	$T_{\text{eff}} (K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5661^{+84}_{-76}	$3.410^{+0.280}_{-0.070}$	$0.180^{+0.150}_{-0.150}$	$4.463^{+0.513}_{-1.540}$	$1.865^{+0.131}_{-0.392}$	$0.030^{+0.061}_{-0.007}$
	+1%/-1%	+8%/-2%	+83%/-83%	+11%/-35%	+7%/-21%	+207%/-23%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005200521-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-486 ± 75	$13.59^{+4.43}_{-4.02}$	1345^{+60}_{-109}	4942^{+723}_{-485}	123^{+117}_{-54}
Alt.	-516 ± 120	$11.70^{+4.27}_{-3.69}$	1347^{+56}_{-106}	5297^{+942}_{-608}	166^{+202}_{-75}

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

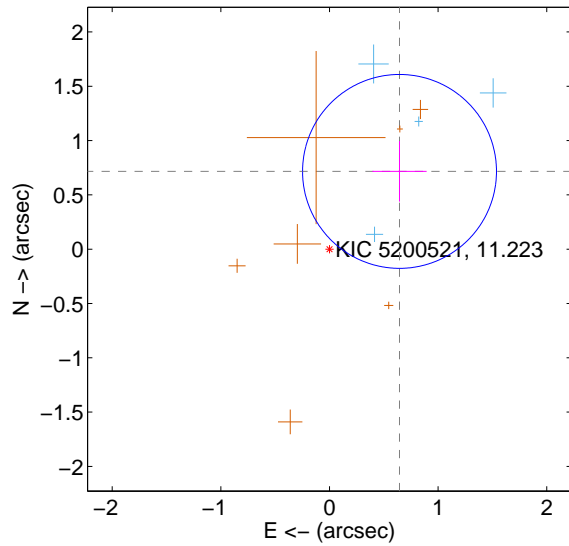
Supplemental centroid analysis for 005200521-05. **Kepler magnitude: 11.22.** Transit SNR 10.93

There are 5 quarters with good PRF difference image offsets

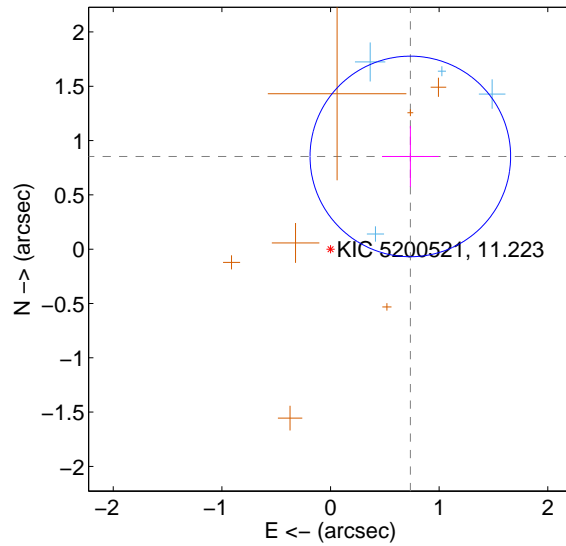
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.964 ± 0.298	3.24	-0.645 ± 0.250	0.716 ± 0.278
PRF-fit source offset from KIC position	1.126 ± 0.308	3.66	-0.735 ± 0.261	0.854 ± 0.280
photometric centroid source offset	0.04 ± 0.09	0.45	0.02 ± 0.08	-0.03 ± 0.09

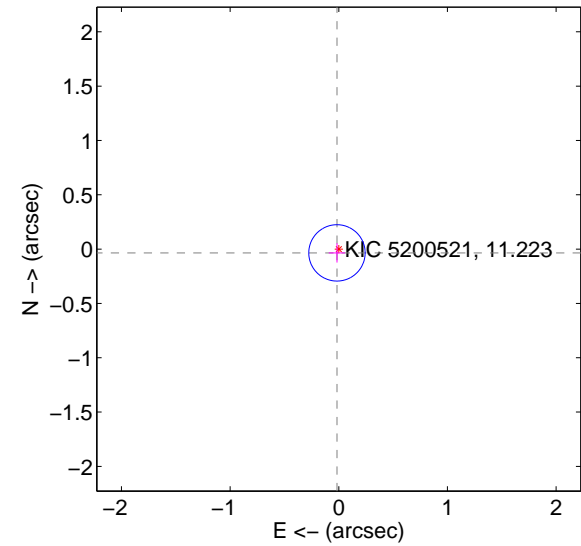
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

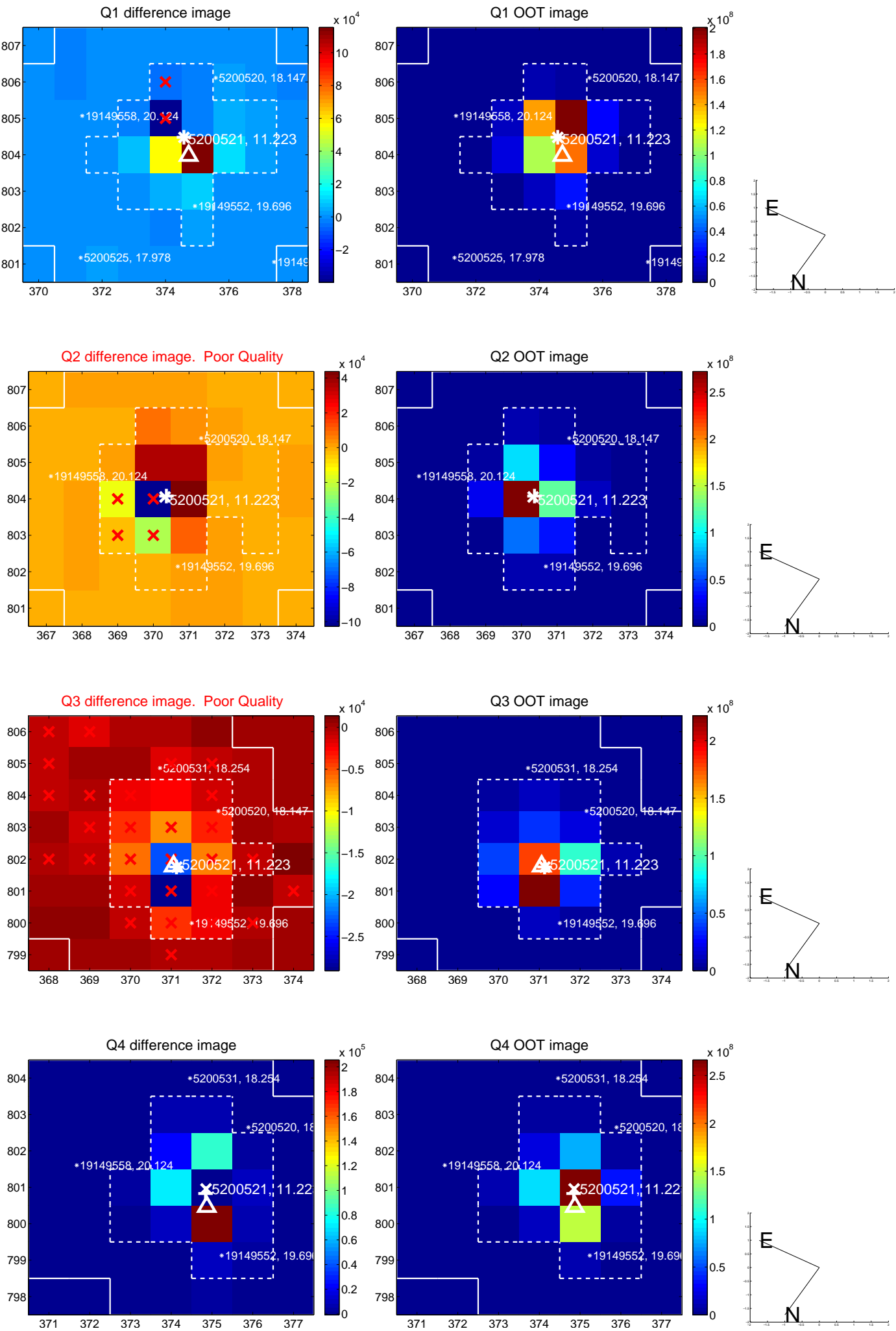


offset from photometric centroids

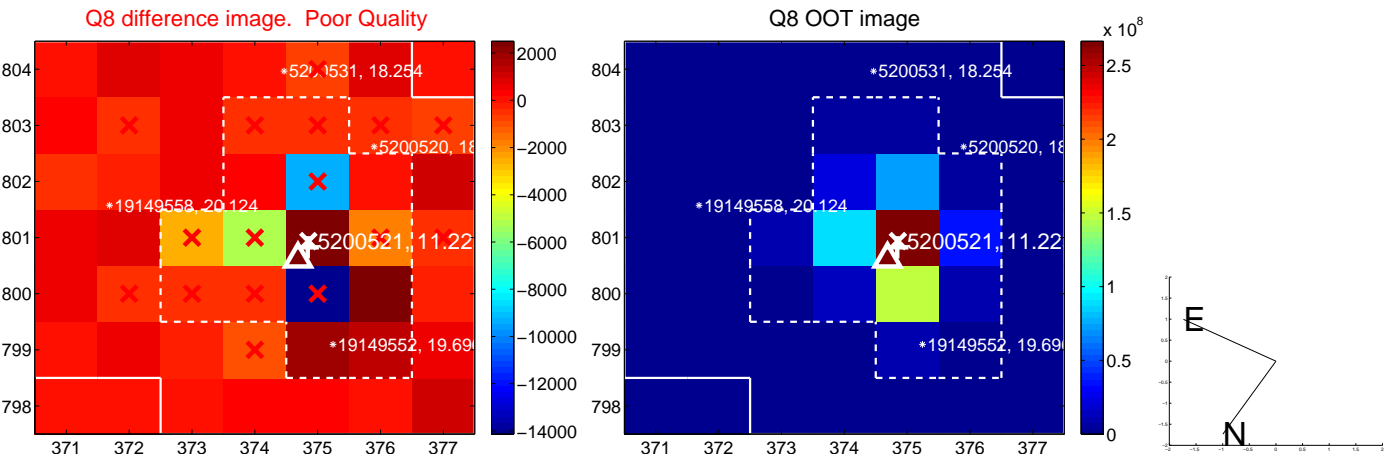
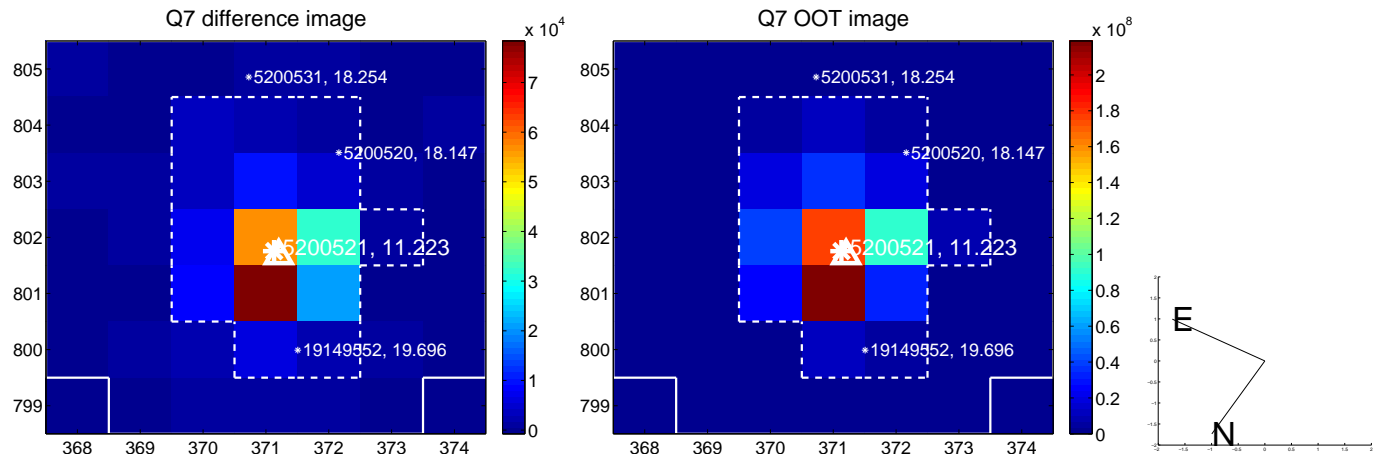
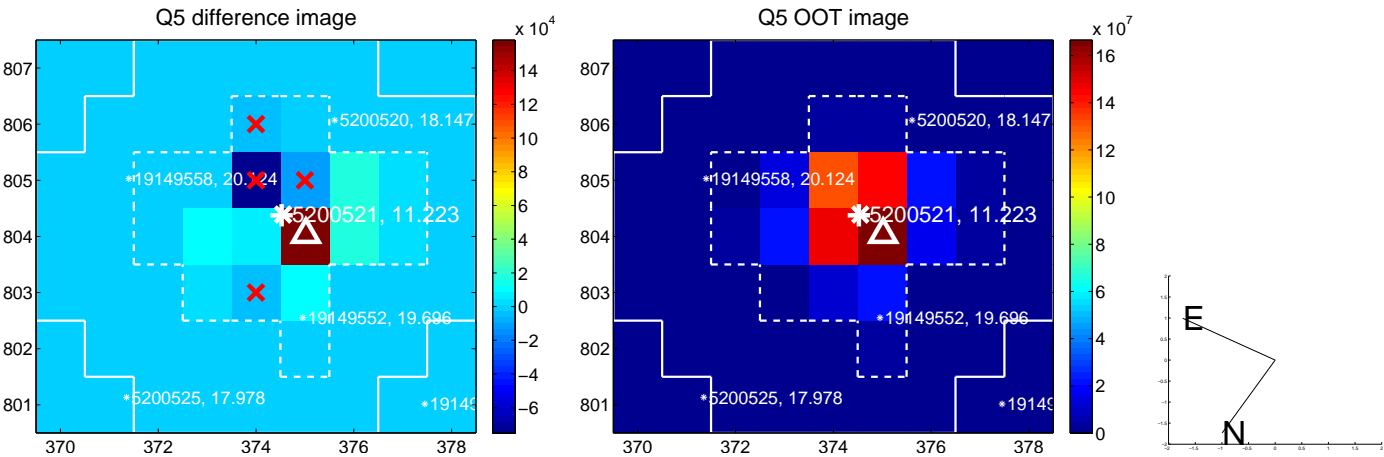


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

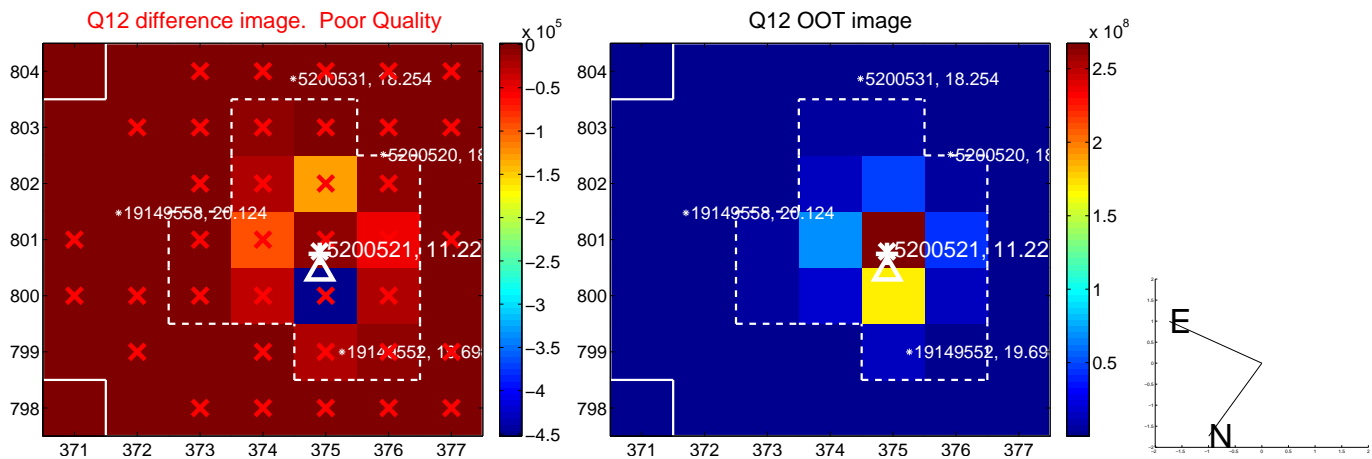
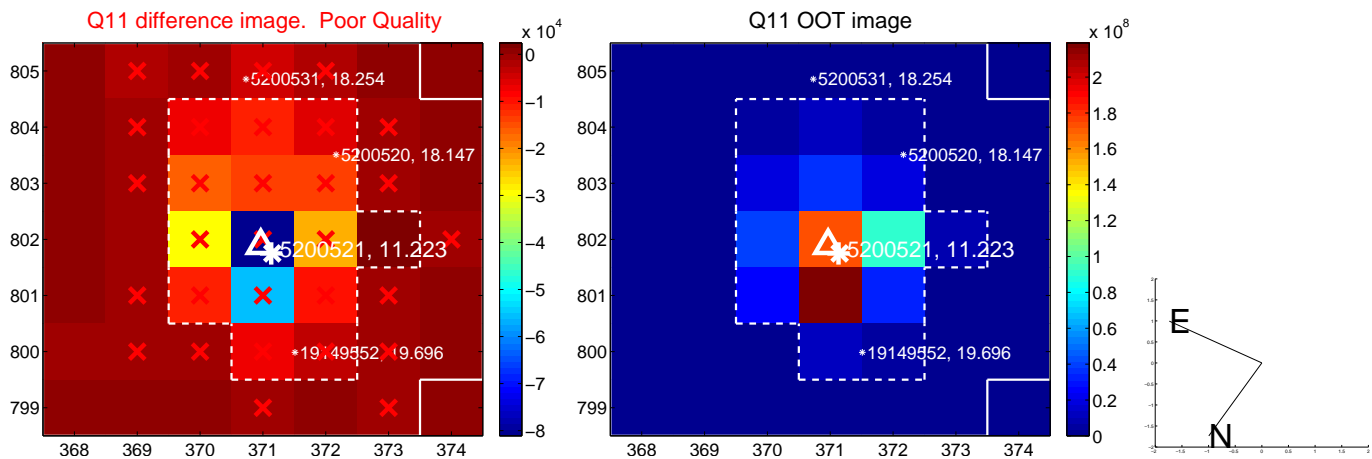
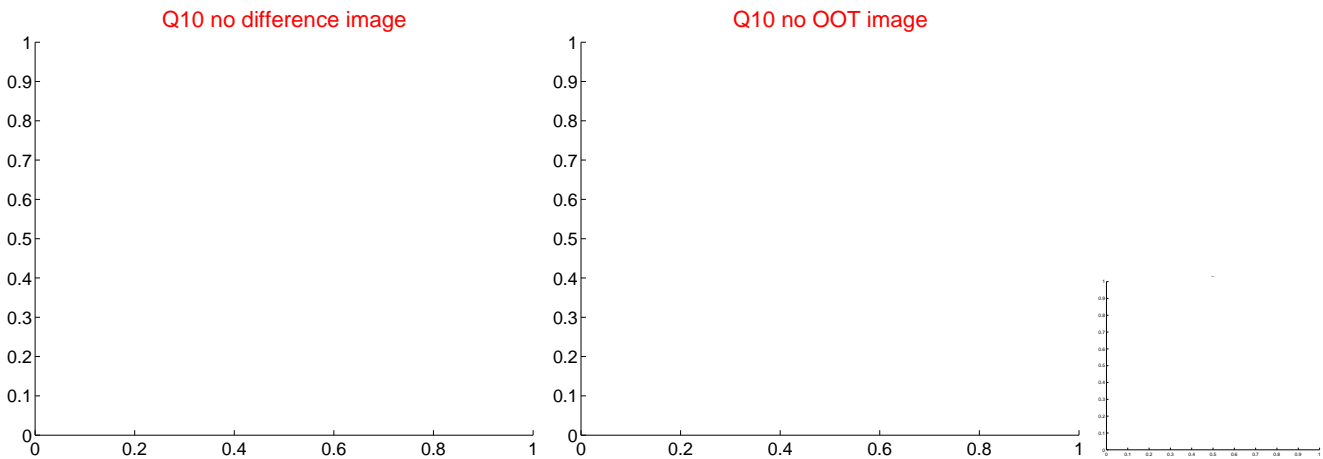
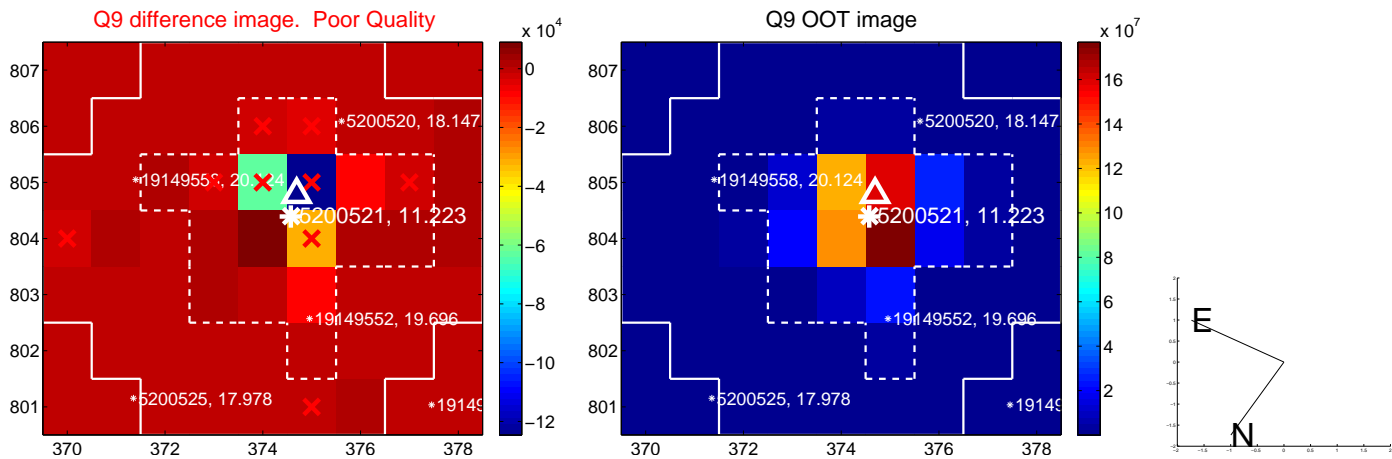
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



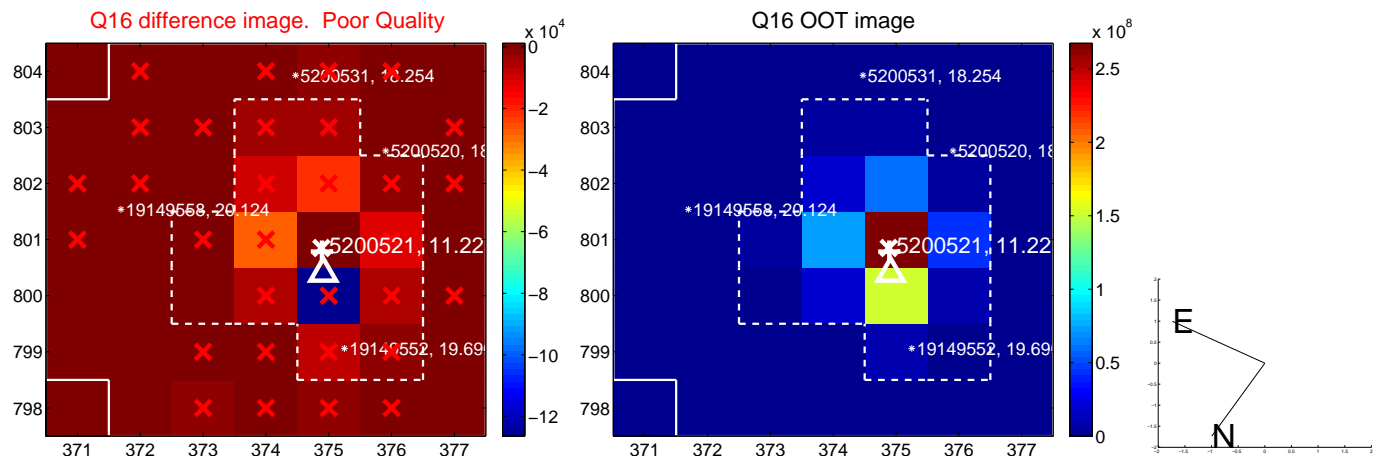
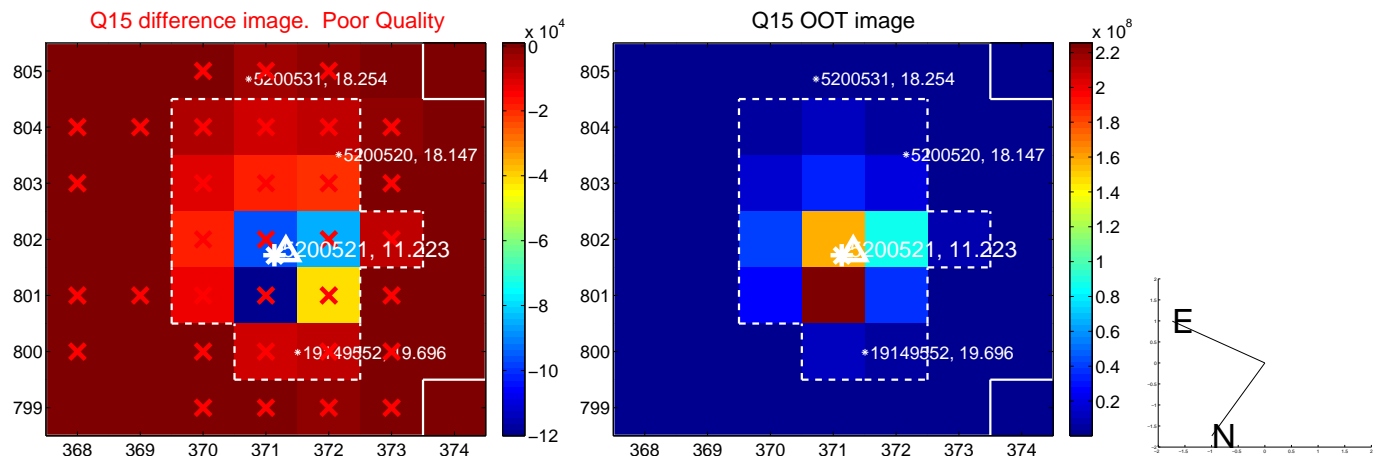
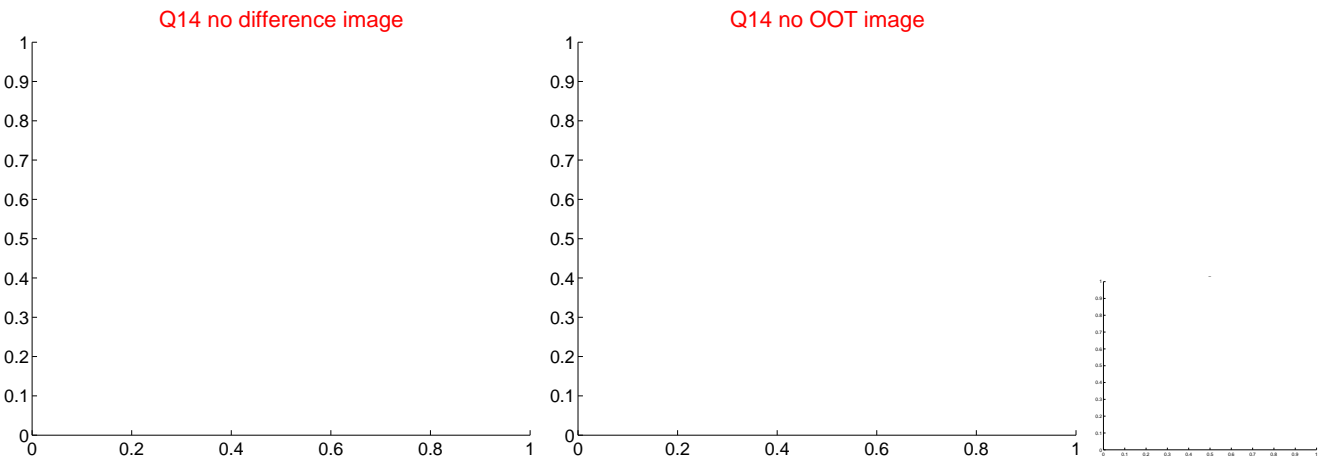
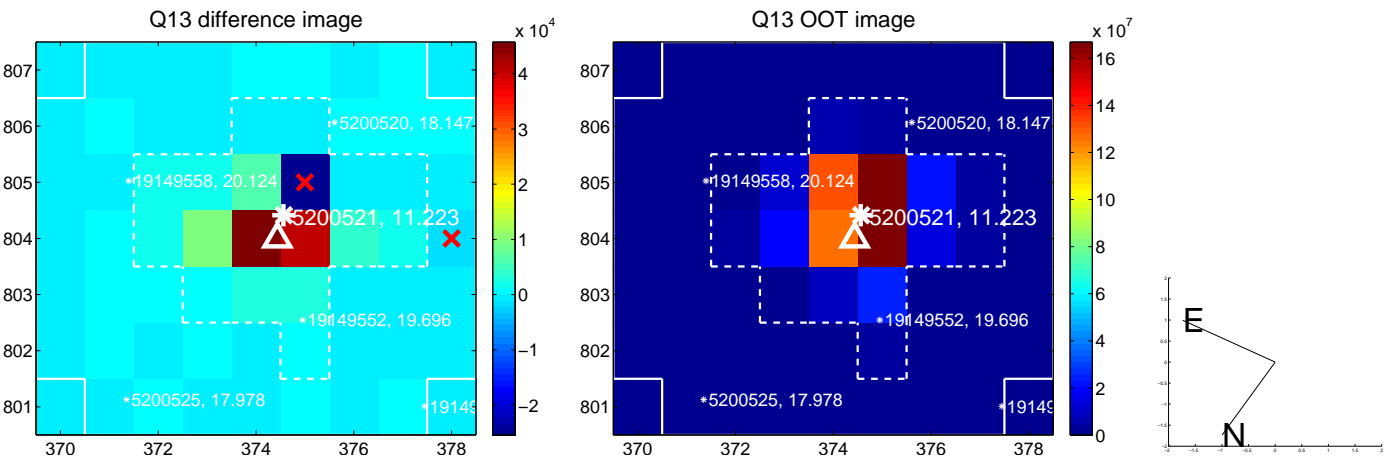
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



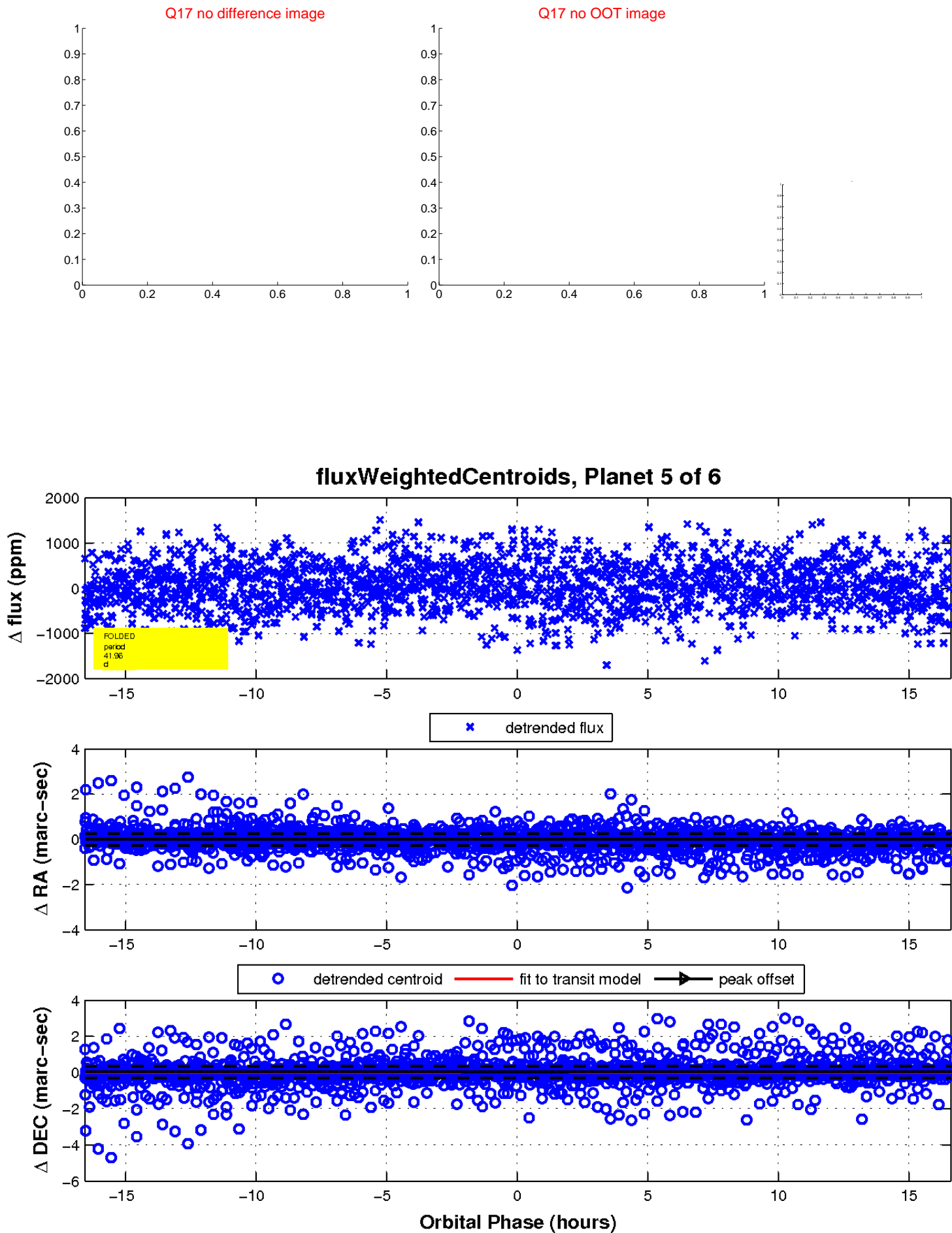
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

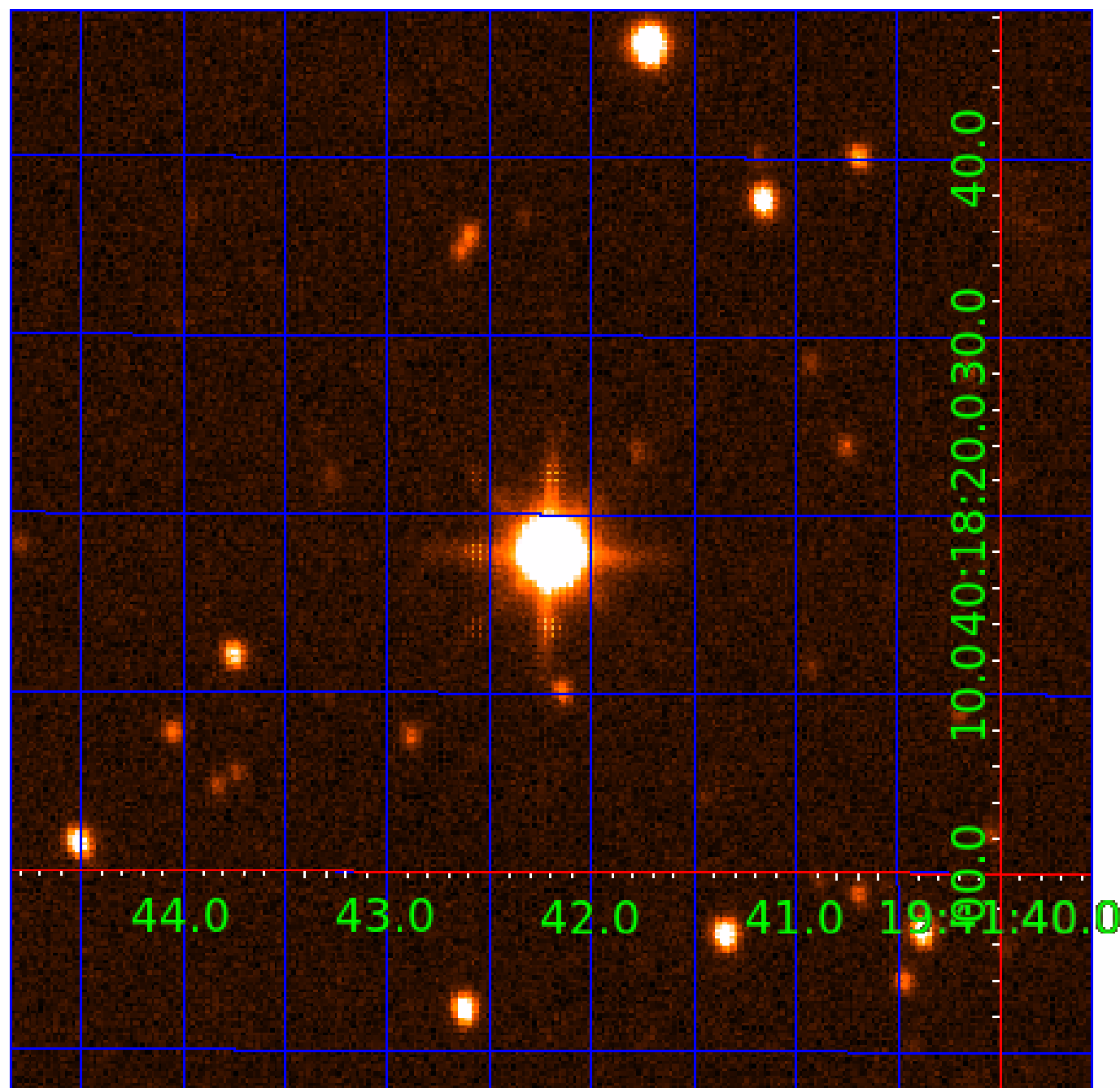


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 005200521

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})
005200521-01	OBS	No	1.247295	131.643252	92.6	6.748	10.8	11.4	4.46	5661	4.24	23492.33
005200521-02	OBS	No	0.833393	131.843965	144.6	3.362	11.9	13.6	4.46	5661	6.40	40217.84
005200521-03	OBS	No	54.644652	139.427110	1073.5	5.308	13.6	12.8	4.46	5661	19.11	152.11
005200521-05	OBS	No	41.964592	160.612843	808.4	5.541	11.4	10.9	4.46	5661	14.63	216.29
005200521-06	OBS	No	34.221354	133.692244	218.6	1.500	10.6	-1.0	4.46	5661	6.54	283.89

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005200521-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED
005200521-02	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_ALT—CENT_SATURATED
005200521-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_SATURATED
005200521-05	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED
005200521-06	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—CENT_SATURATED

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

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

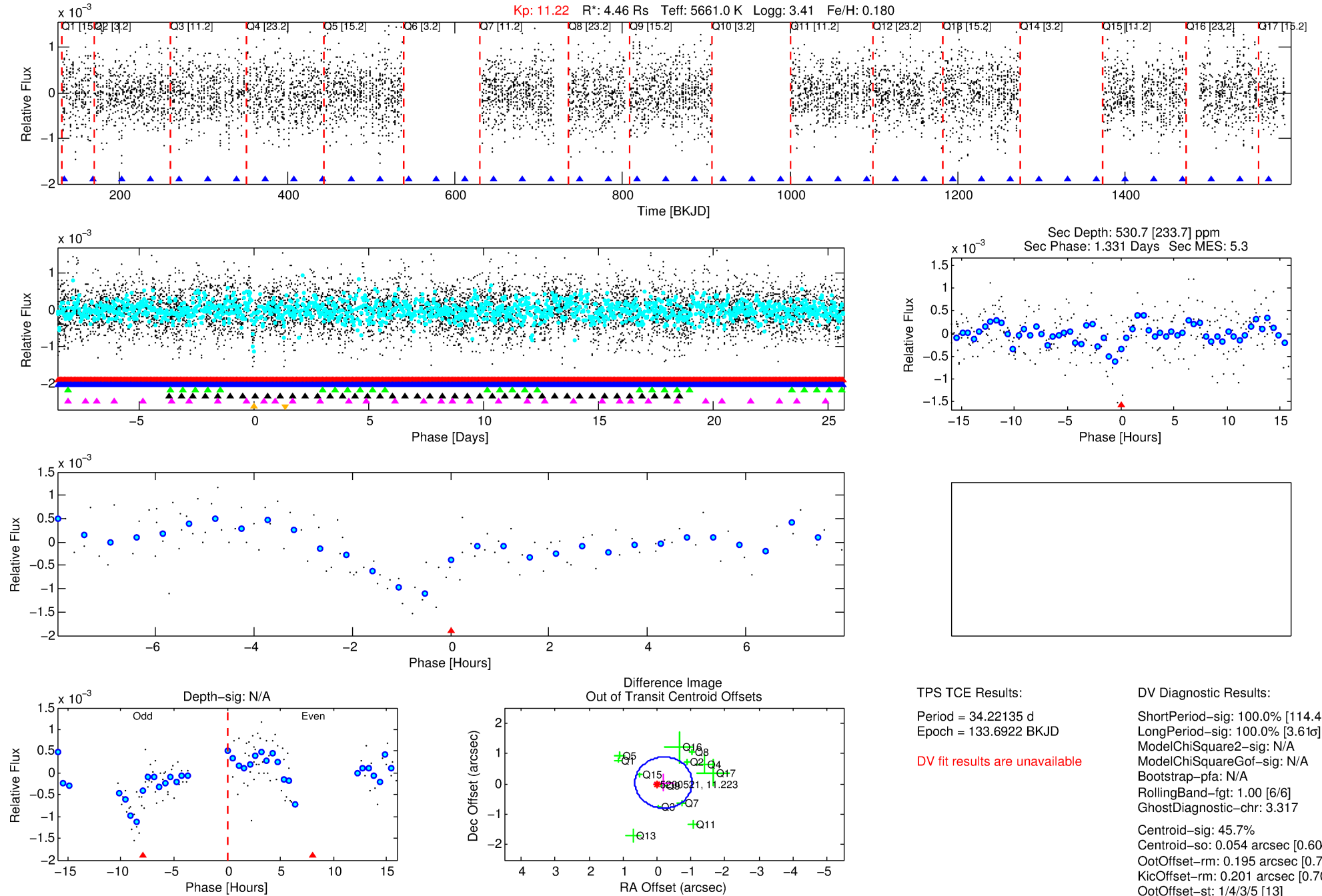
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 005200521-06

No Significant Match Found

DV One-Page Summary

KIC: 5200521 Candidate: 6 of 6 Period: 34.221 d



TPS TCE Results:

Period = 34.22135 d
Epoch = 133.6922 BKJD

DV fit results are unavailable

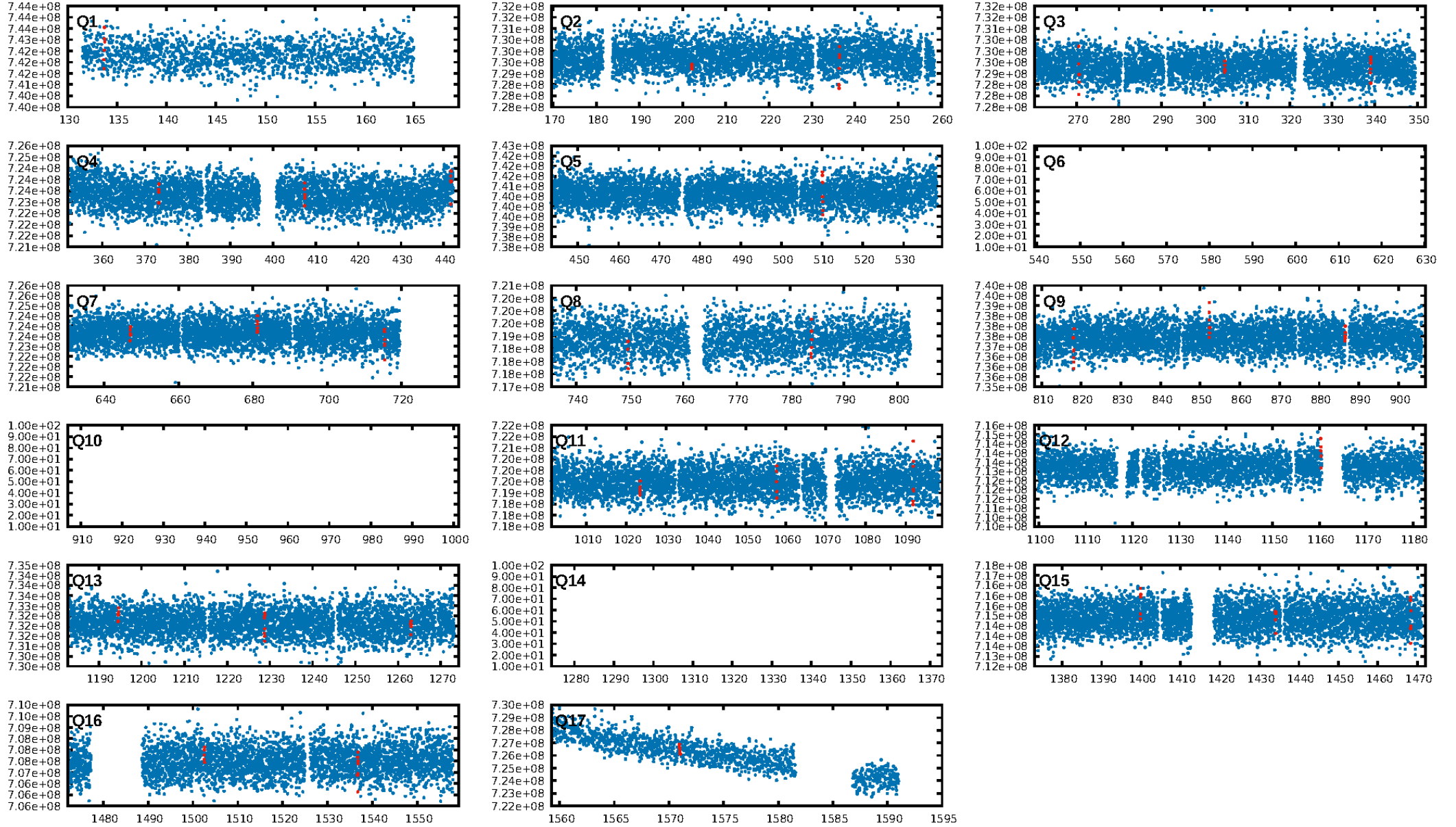
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [114.48 σ]
LongPeriod-sig: 100.0% [3.61 σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [6/6]
GhostDiagnostic-chr: 3.317
Centroid-sig: 45.7%
Centroid-so: 0.054 arcsec [0.60 σ]
OotOffset-rm: 0.195 arcsec [0.70 σ]
KicOffset-rm: 0.201 arcsec [0.70 σ]
OotOffset-st: 1/4/3/5 [13]
KicOffset-st: 1/4/3/5 [13]
DiffImageQuality-fgm: 0.62 [8/13]
DiffImageOverlap-fno: 0.15 [2/13]

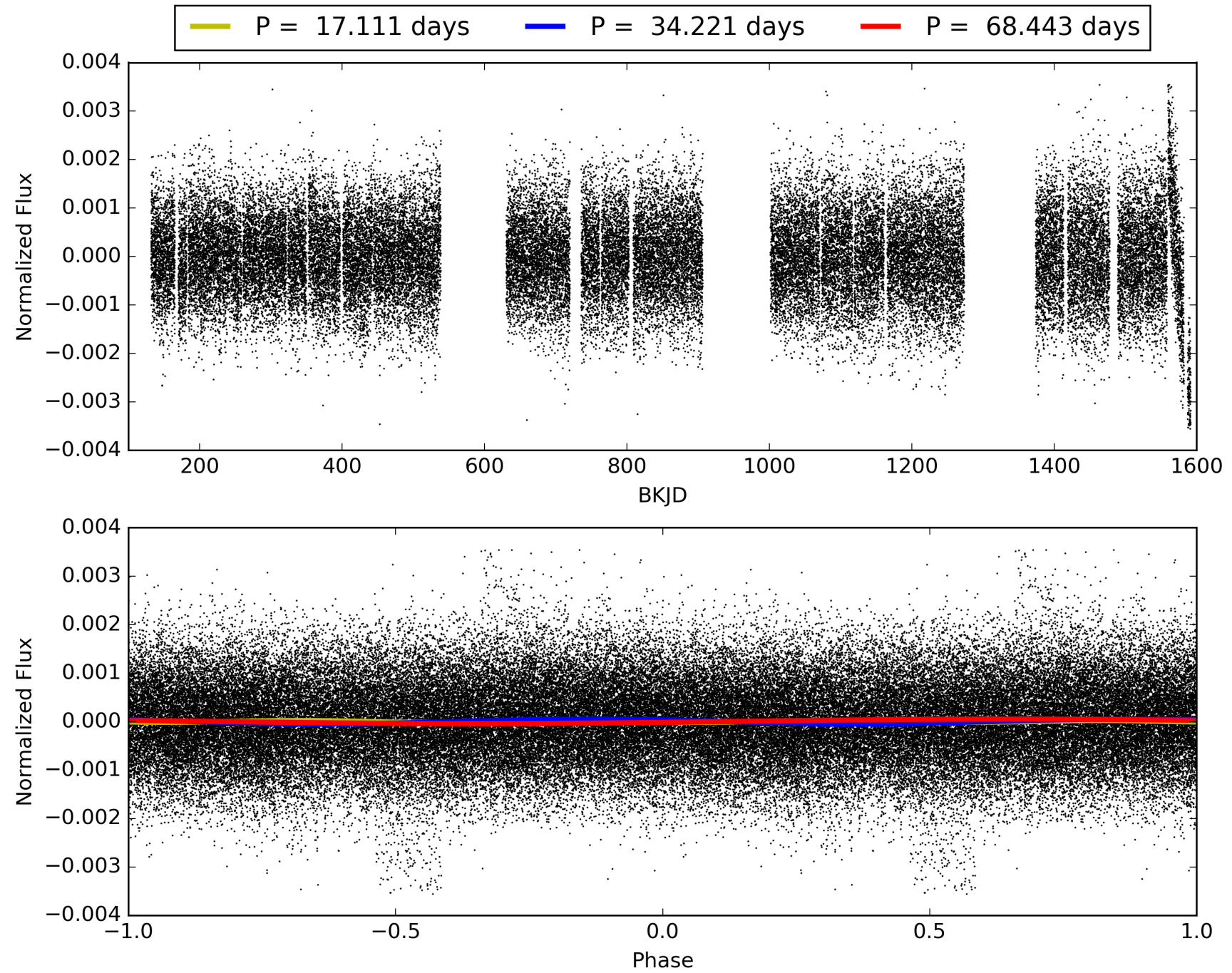
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 06:06:33 Z

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

TCE 005200521-06, PDC Light Curves

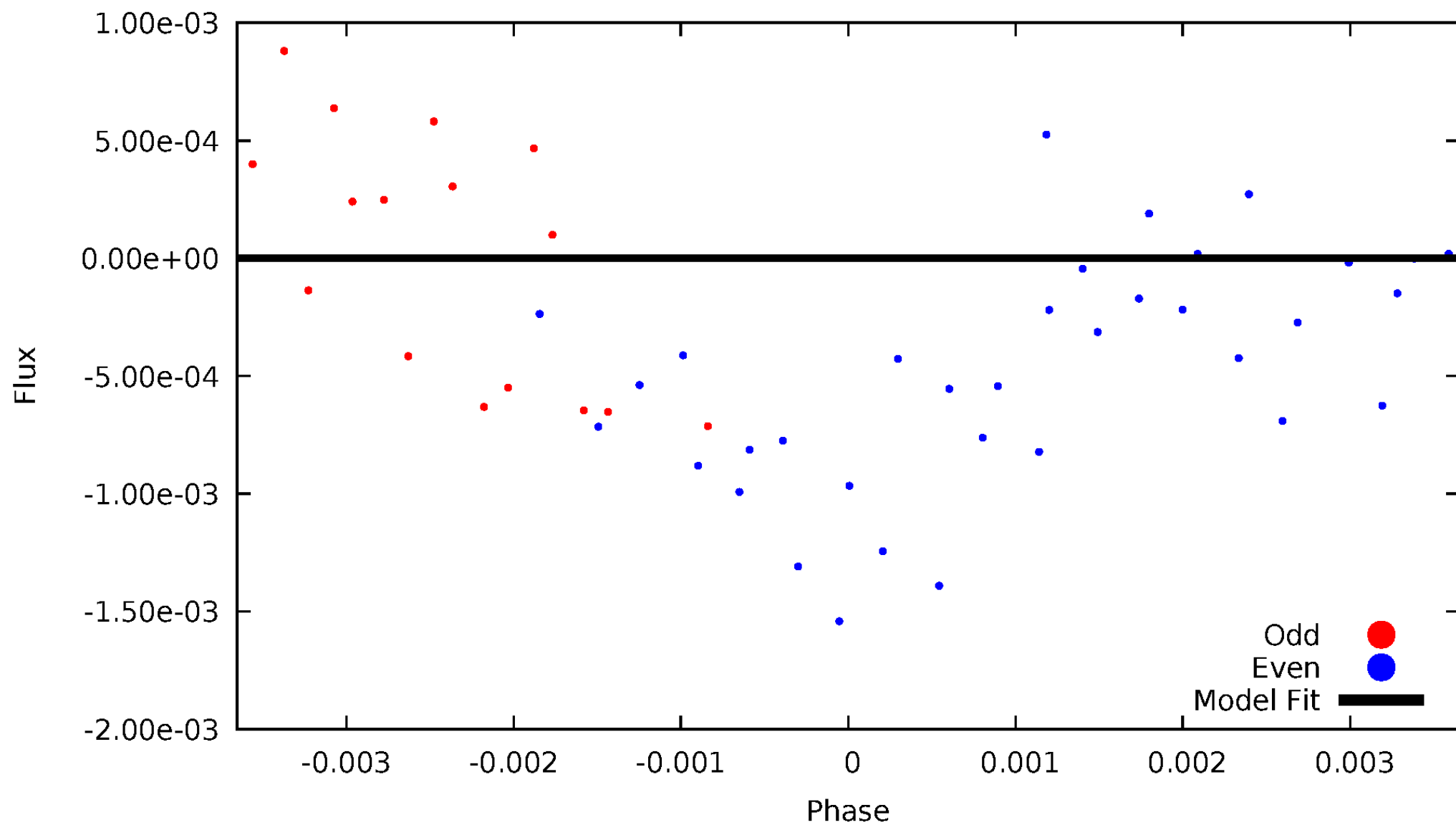


TCE 005200521-06



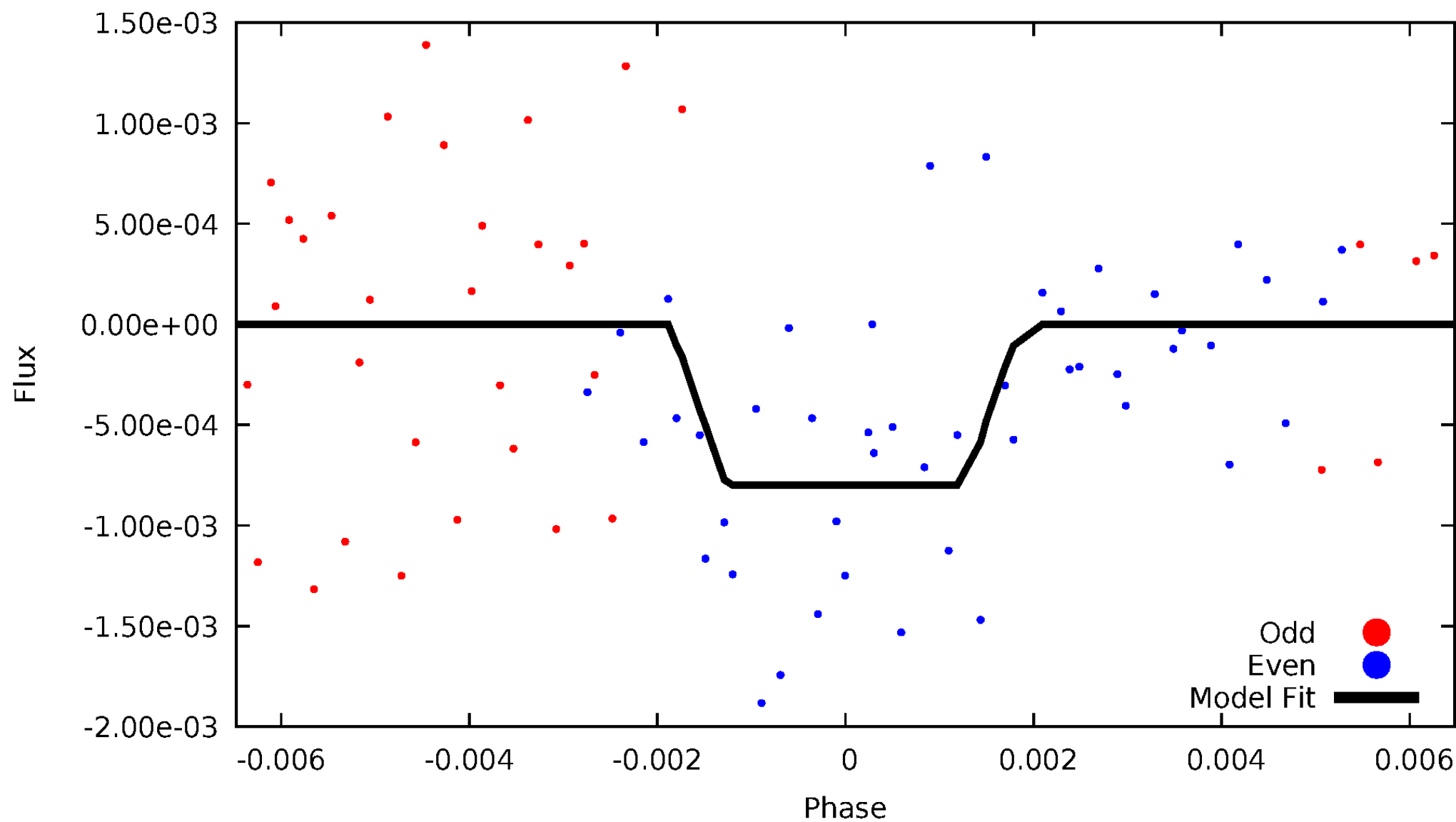
DV Odd/Even

TCE 005200521-06



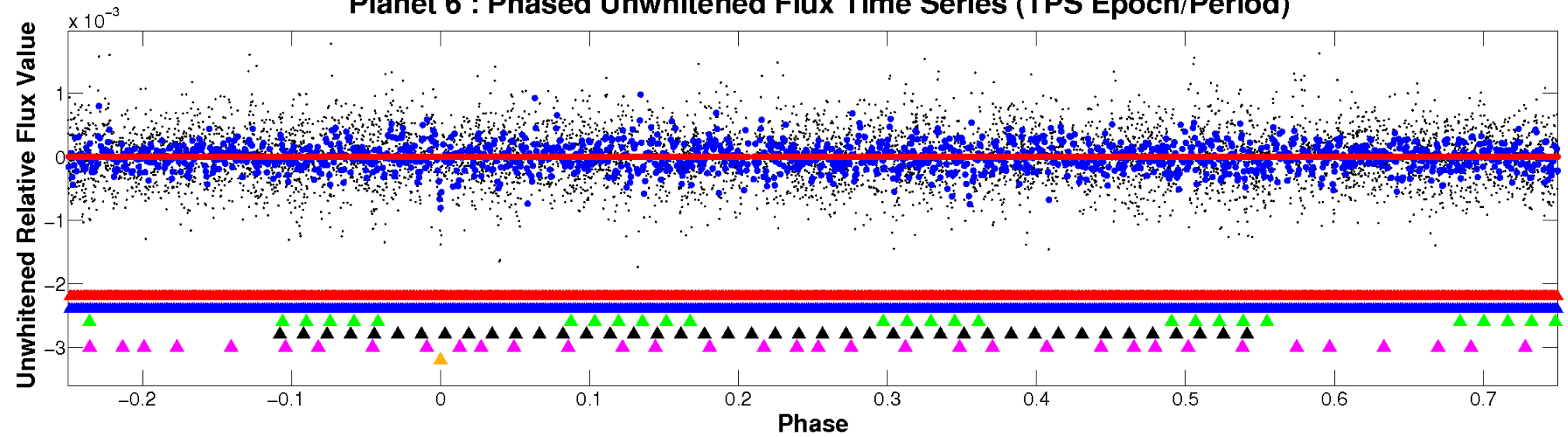
ALT Odd/Even

TCE 005200521-06

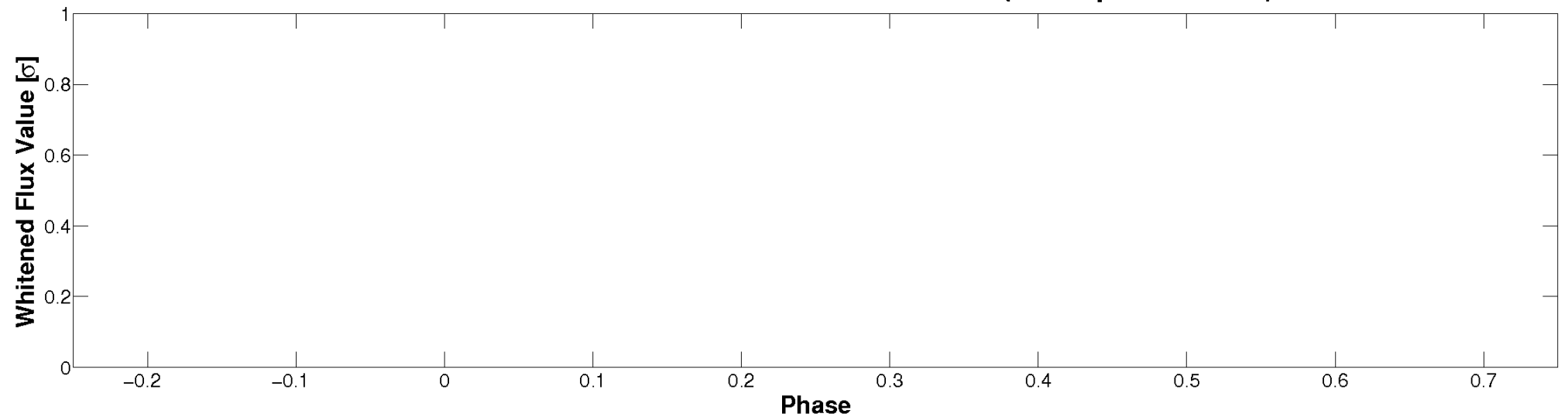


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

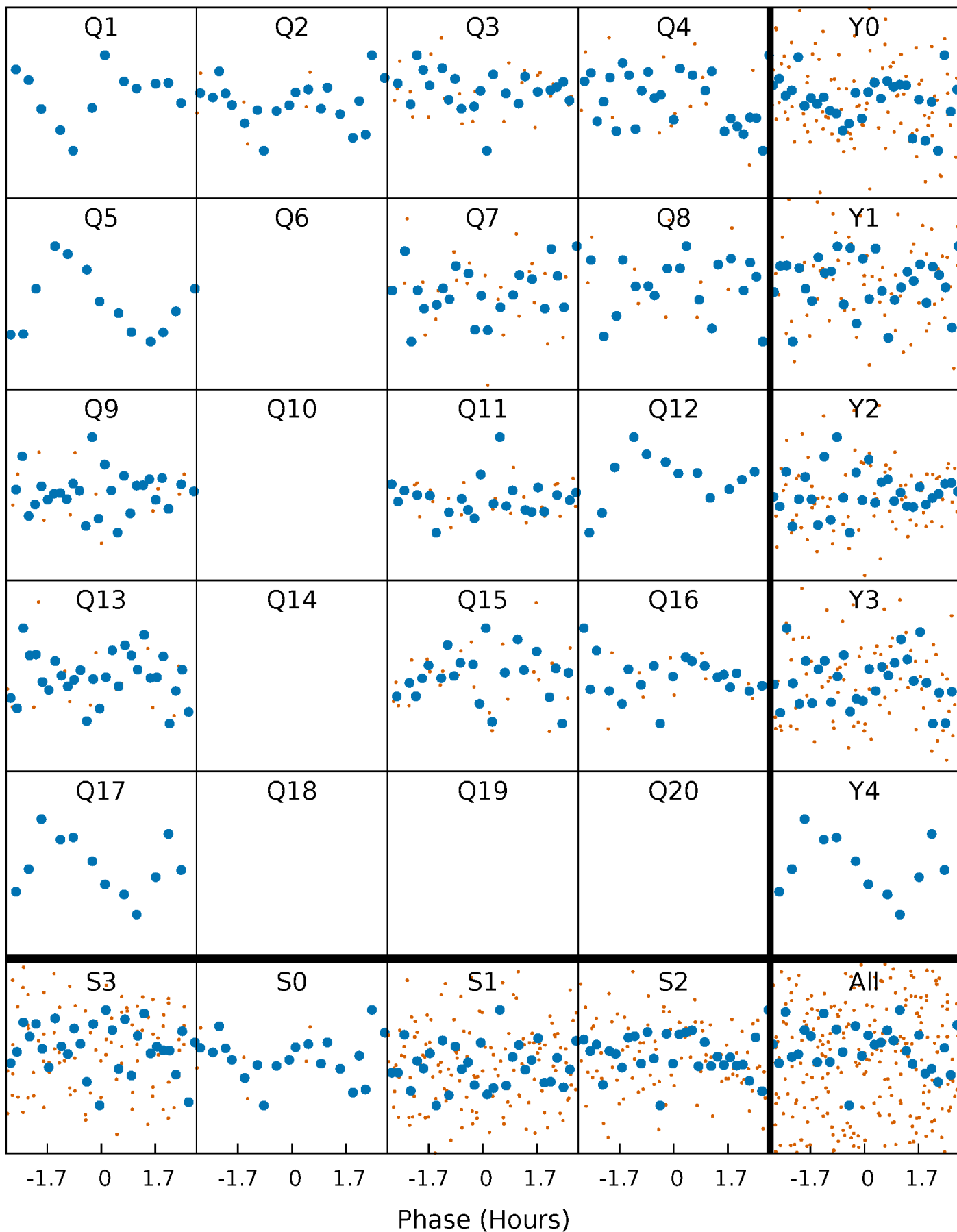


Planet 6 : Phased Whitened Flux Time Series (TPS Epoch/Period)



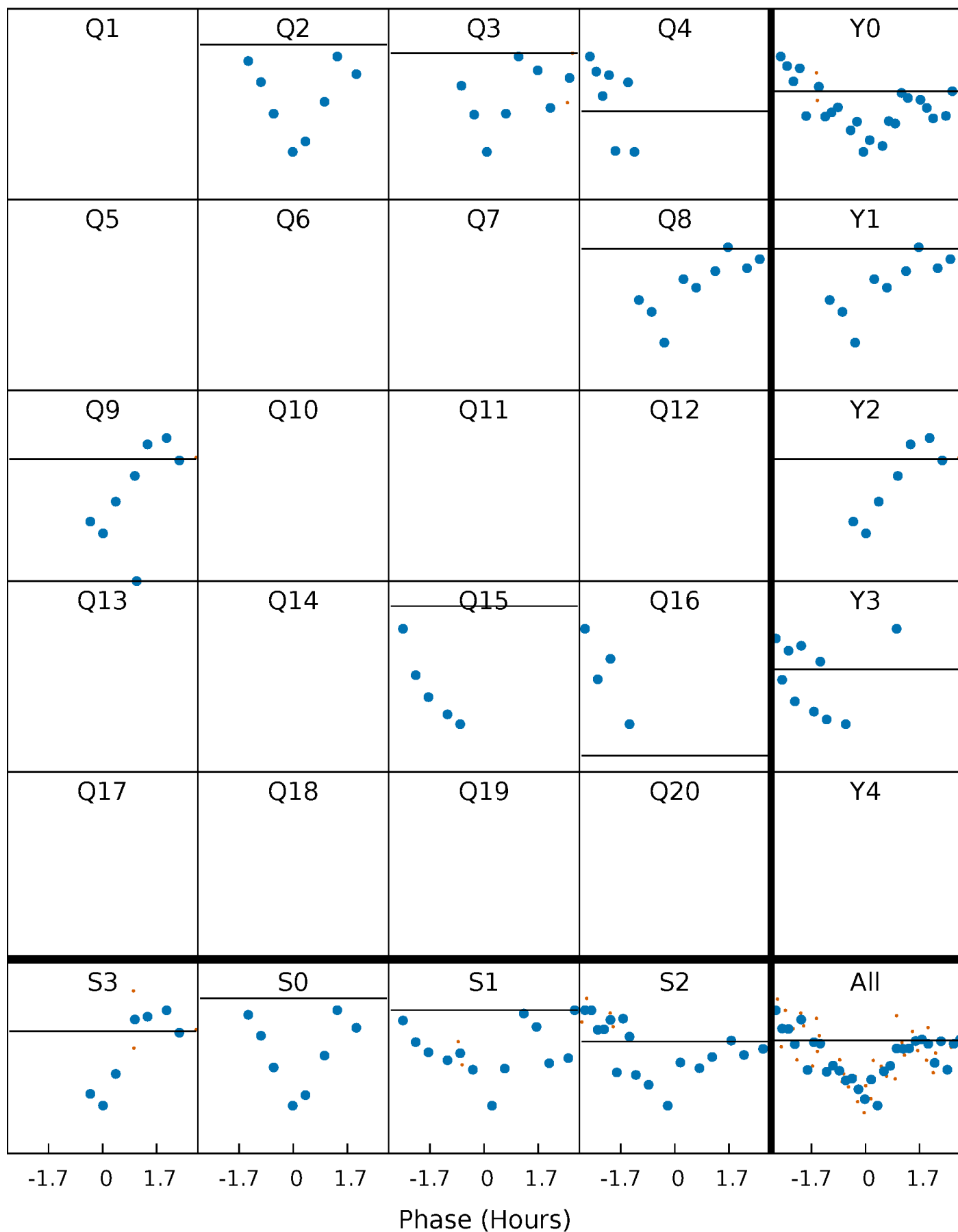
PDC Quarter-Phased Transit Curves

TCE 005200521-06 P= 34.221354 Days $T_0=133.692244$ (BKJD)



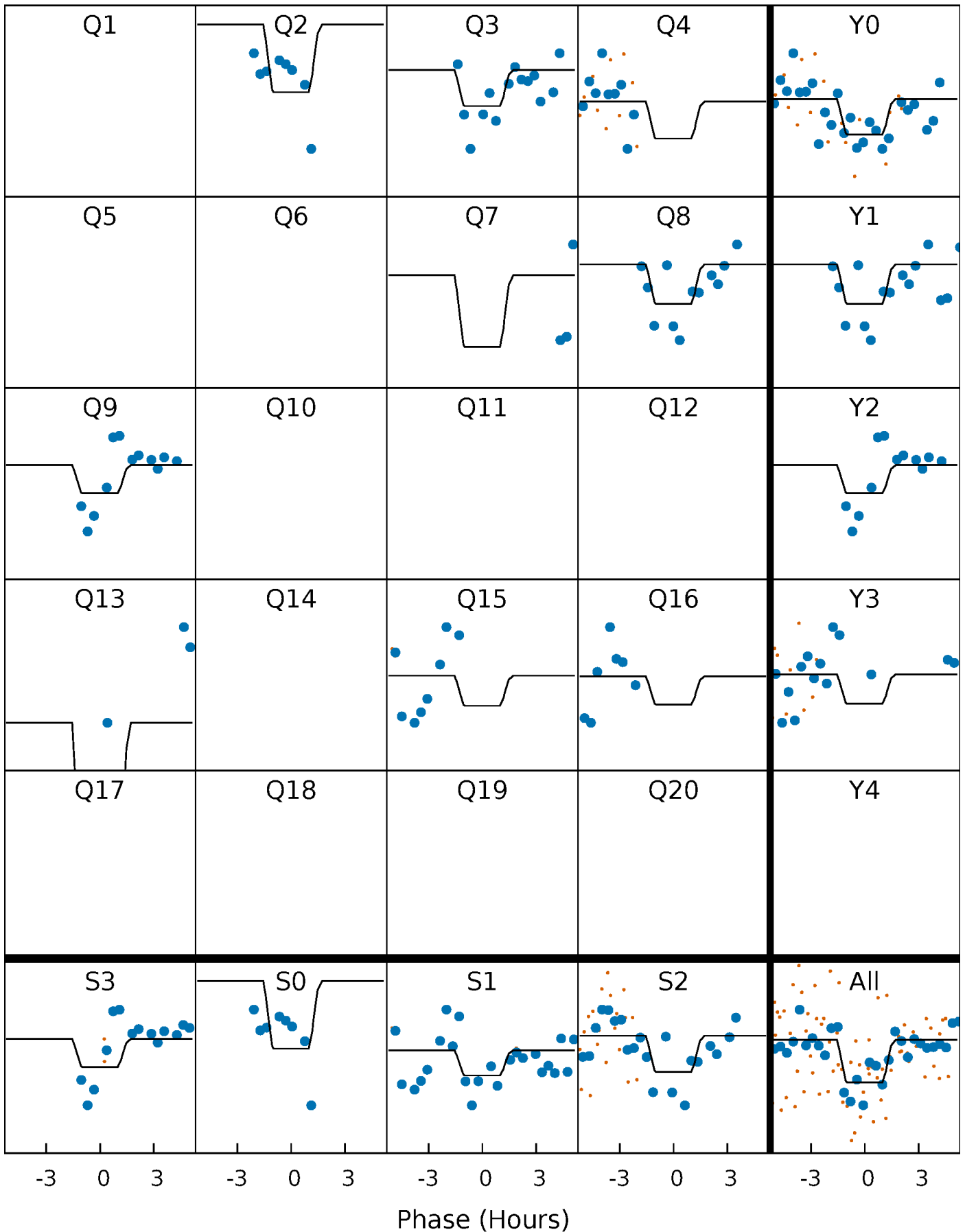
DV Quarter-Phased Transit Curves

TCE 005200521-06 P= 34.221354 Days $T_0=133.692244$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

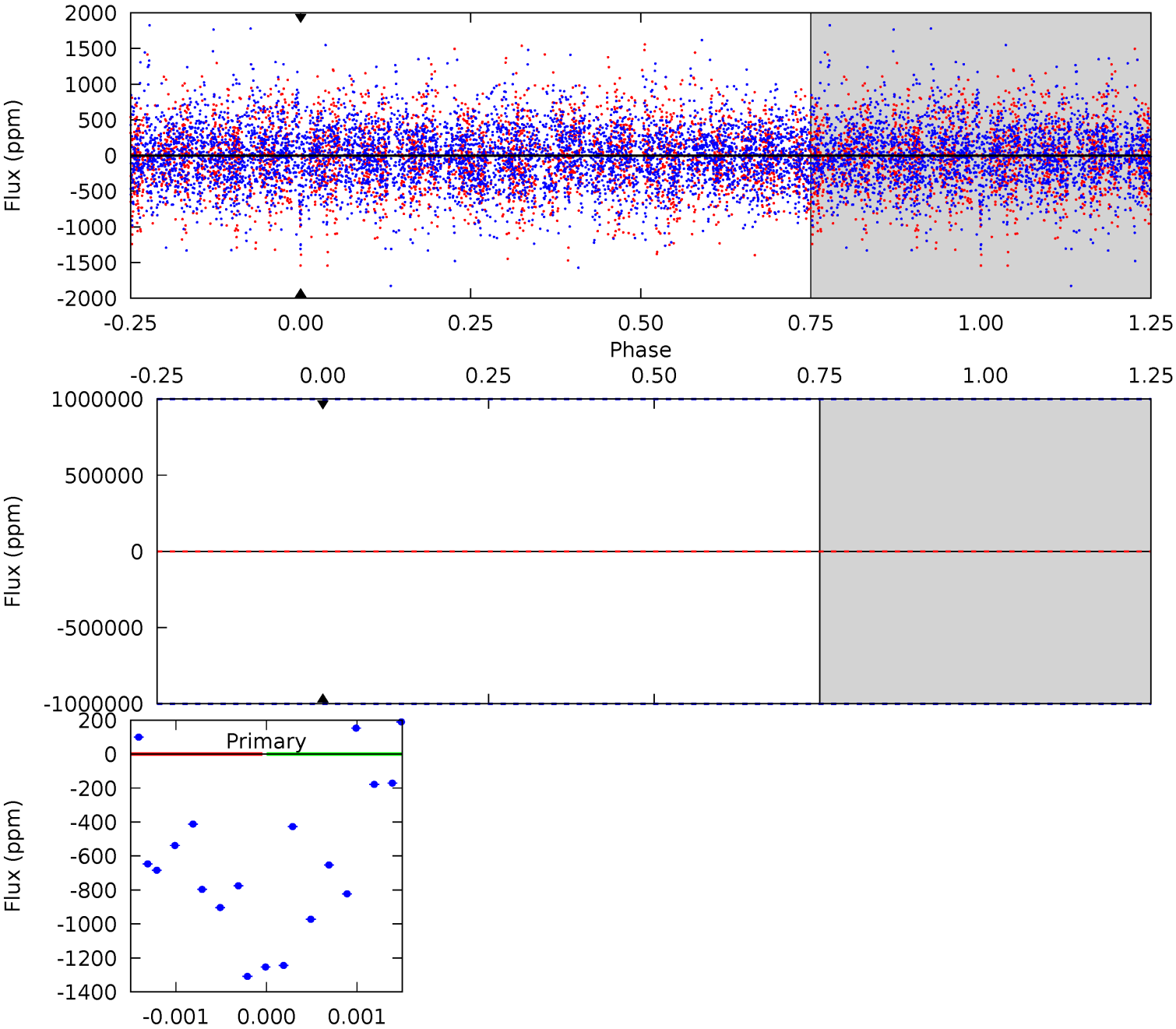
TCE 005200521-06 P= 34.221354 Days $T_0=133.722963$ (BKJD)



DV Model-Shift Uniqueness Test

005200521-06, P = 34.221354 Days, E = 99.470890 Days

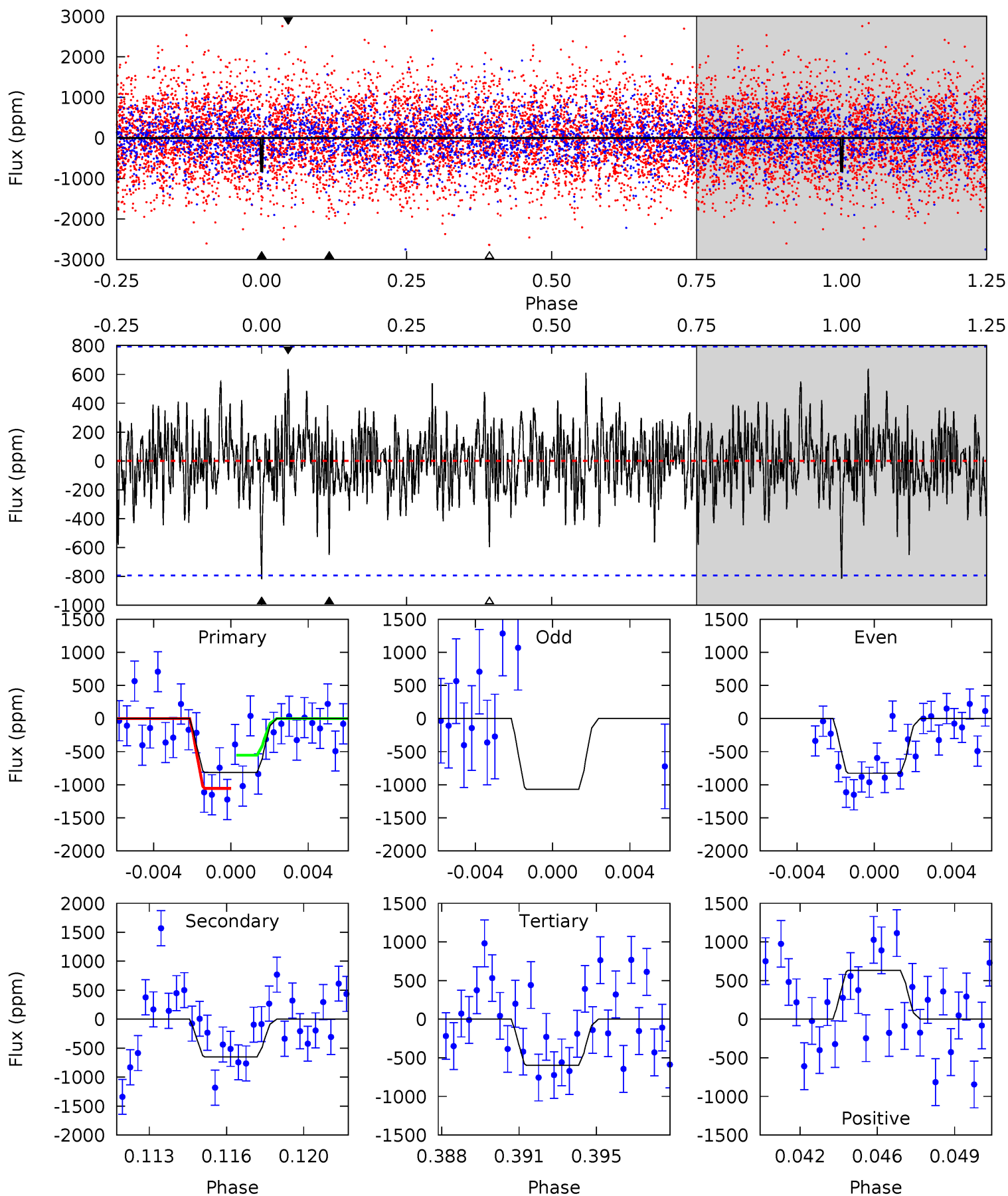
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

005200521-06, P = 34.221354 Days, E = 99.501609 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.36	4.29	3.92	4.16	5.22	2.92	1.22	1.44	1.20	0.36	0.13	0.92	1.04	0.44	1.65



Stellar Parameters For KIC 005200521

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	5661^{+84}_{-76}	$3.410^{+0.280}_{-0.070}$	$0.180^{+0.150}_{-0.150}$	$4.463^{+0.513}_{-1.540}$	$1.865^{+0.131}_{-0.392}$	$0.030^{+0.061}_{-0.007}$
	+1%/-1%	+8%/-2%	+83%/-83%	+11%/-35%	+7%/-21%	+207%/-23%
Source	SPE68	SPE68	SPE68	DSEP		

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

Secondary Eclipse Parameters for KIC 005200521-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	0 ± 1000000	$34.64^{+36.67}_{-24.78}$	1440^{+64}_{-115}	-3523^{+24013}_{-15245}	$-12.120^{+5855.154}_{-5180.877}$
Alt.	-651 ± 152	$35.25^{+35.98}_{-24.31}$	1435^{+70}_{-118}	3640^{+2093}_{-722}	18^{+168}_{-14}

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

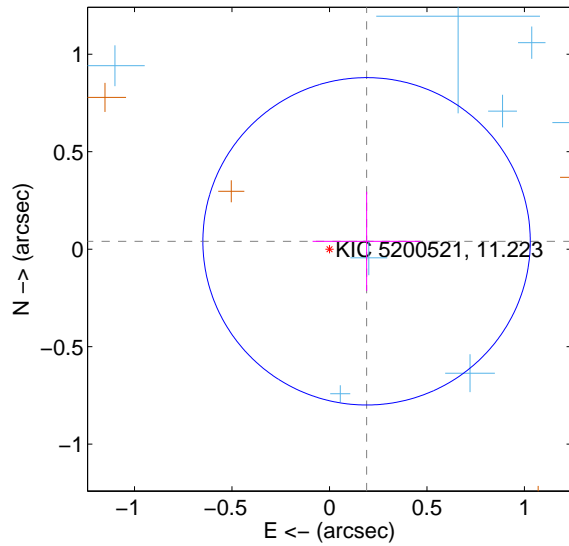
Supplemental centroid analysis for 005200521-06. **Kepler magnitude: 11.22.** Transit SNR -1.00

There are 8 quarters with good PRF difference image offsets

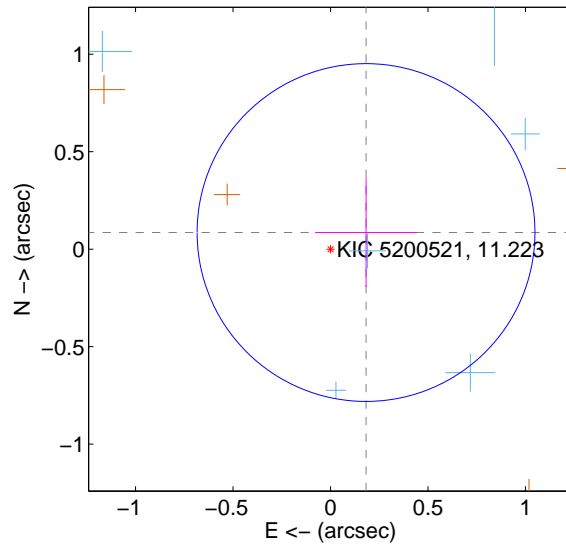
The direct PRF centroid is offset from the target star catalog position by about 0.05 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.195 ± 0.280	0.70	-0.190 ± 0.277	0.040 ± 0.254
PRF-fit source offset from KIC position	0.201 ± 0.289	0.70	-0.182 ± 0.261	0.085 ± 0.279
photometric centroid source offset	0.05 ± 0.09	0.60	-0.03 ± 0.08	-0.04 ± 0.09

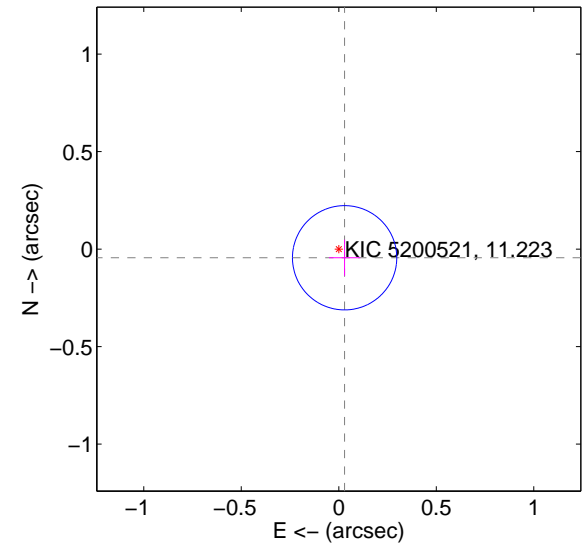
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

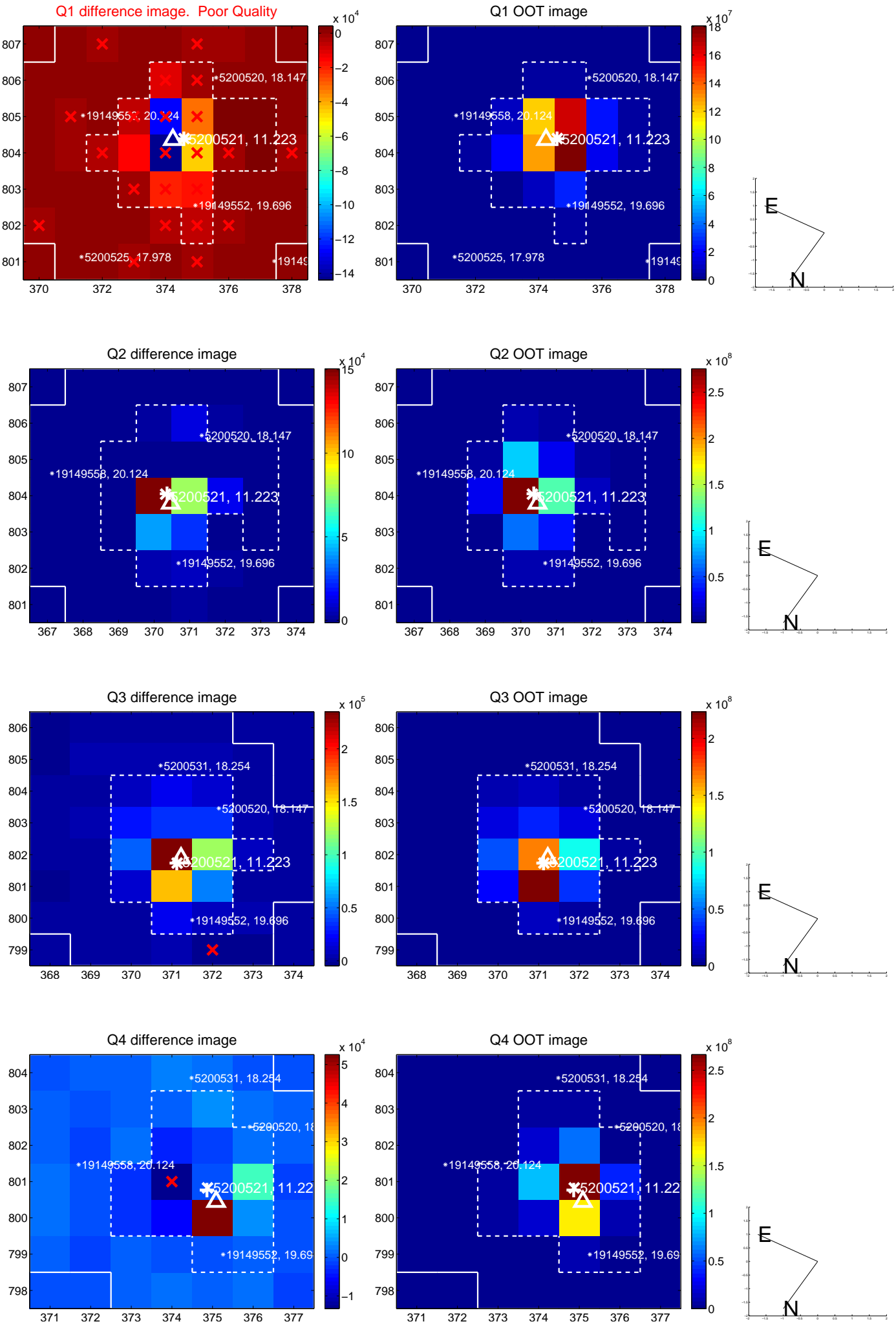


offset from photometric centroids

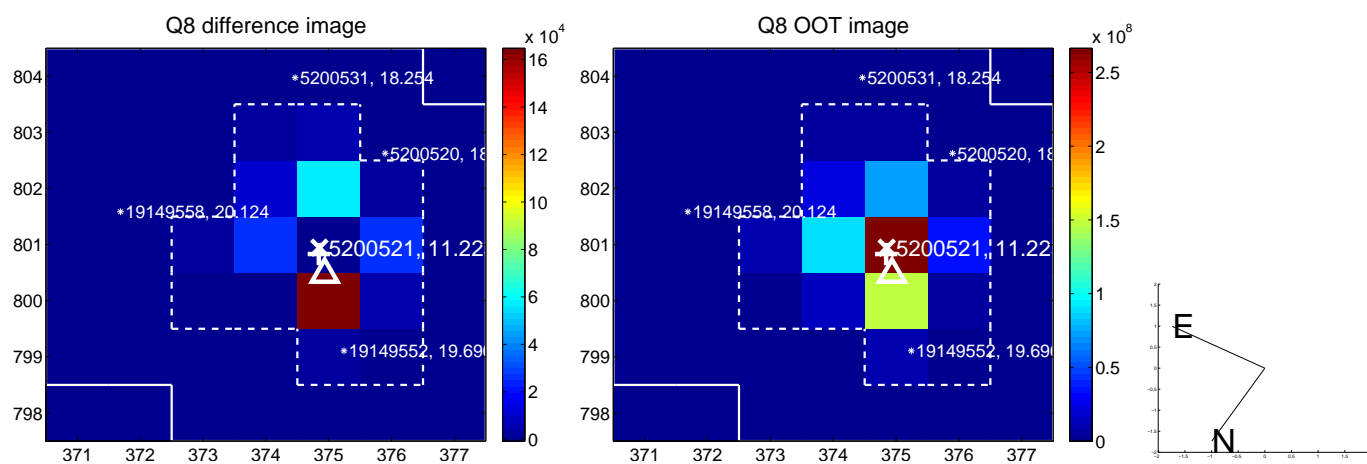
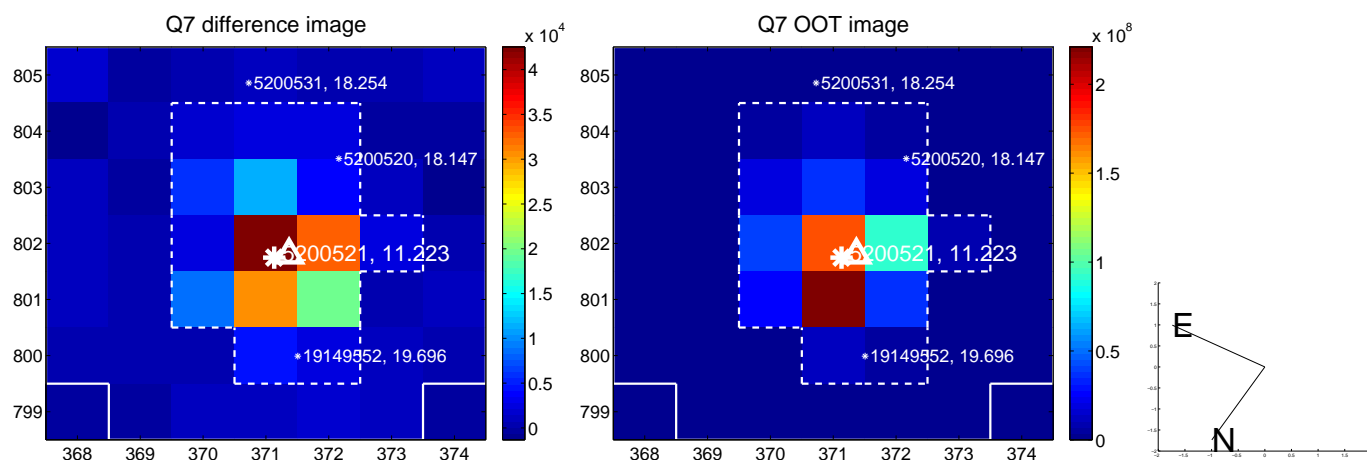
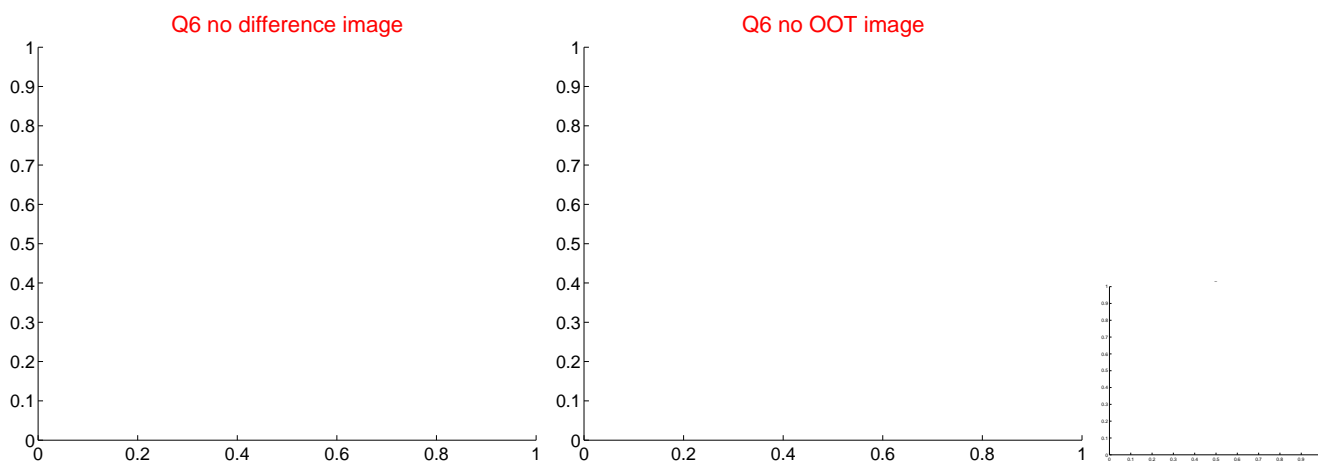
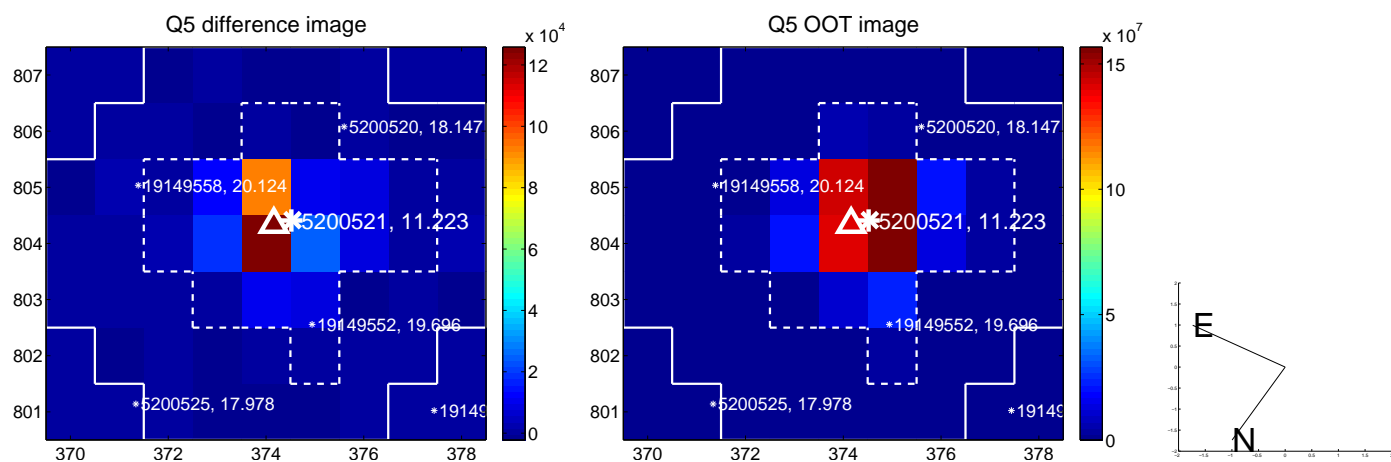


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

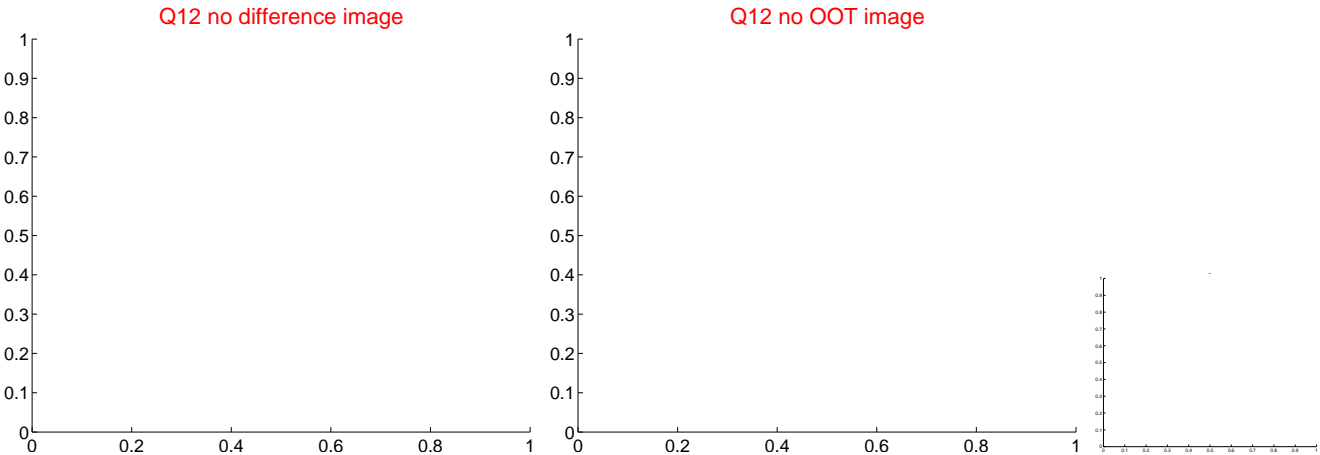
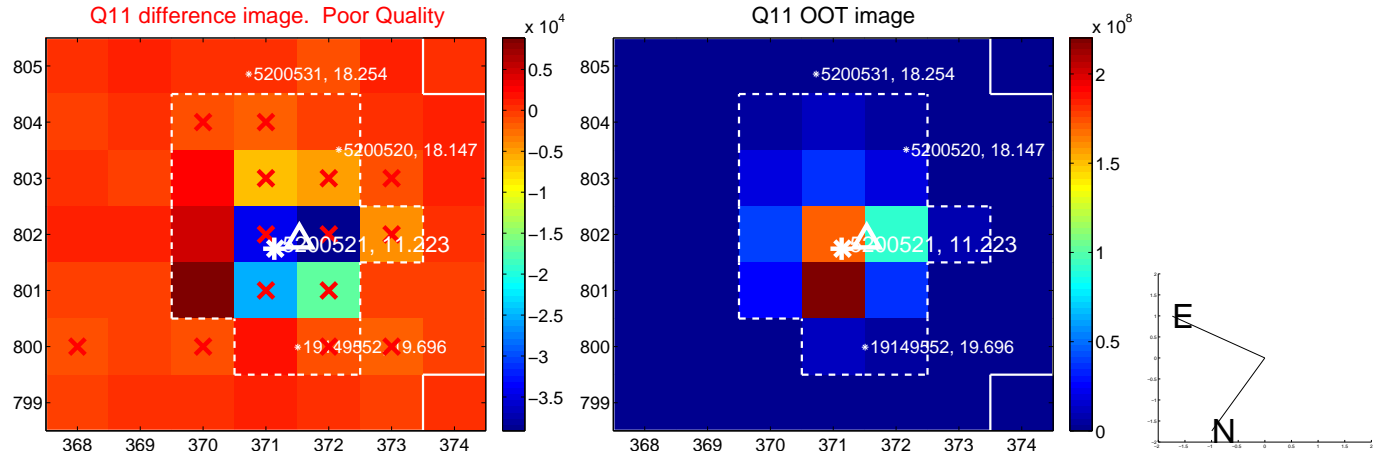
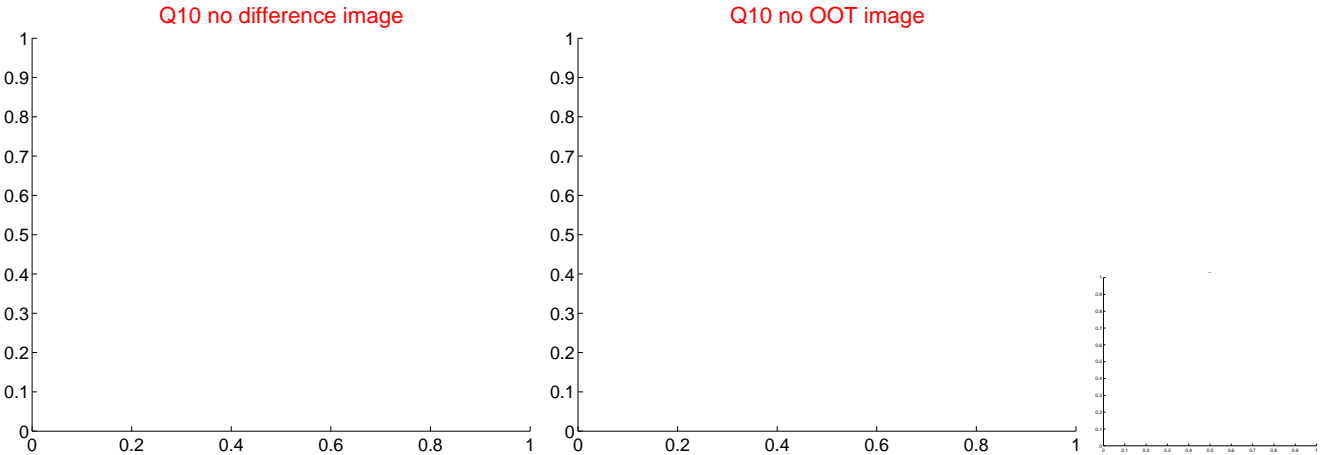
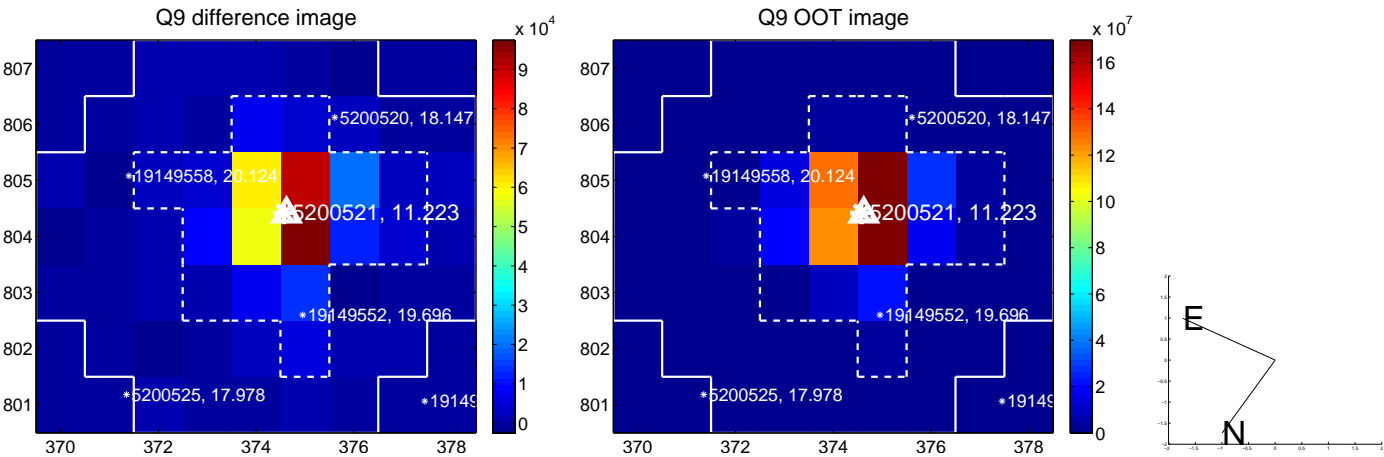
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



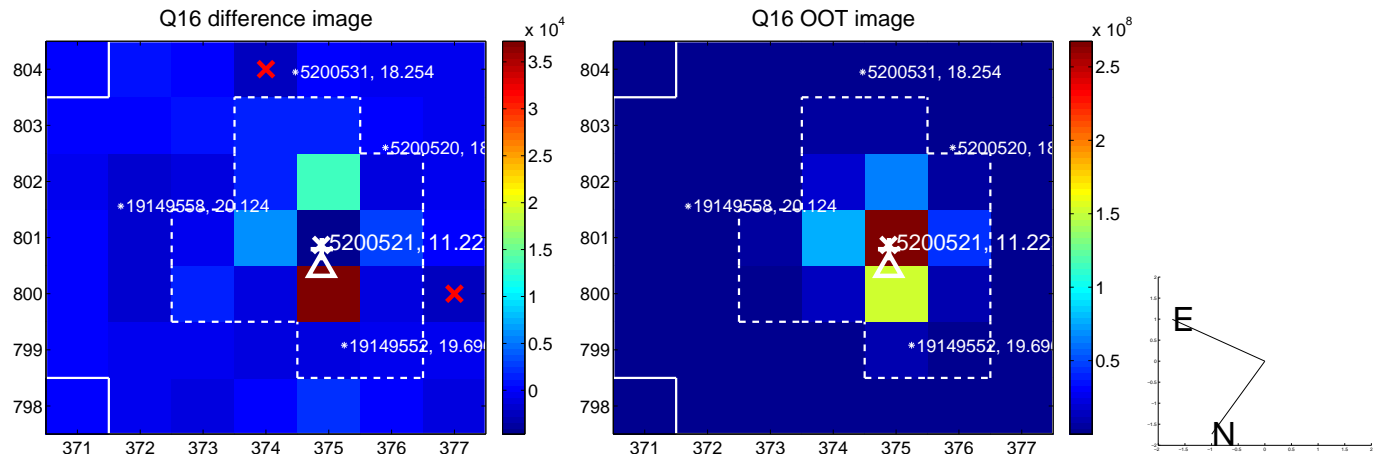
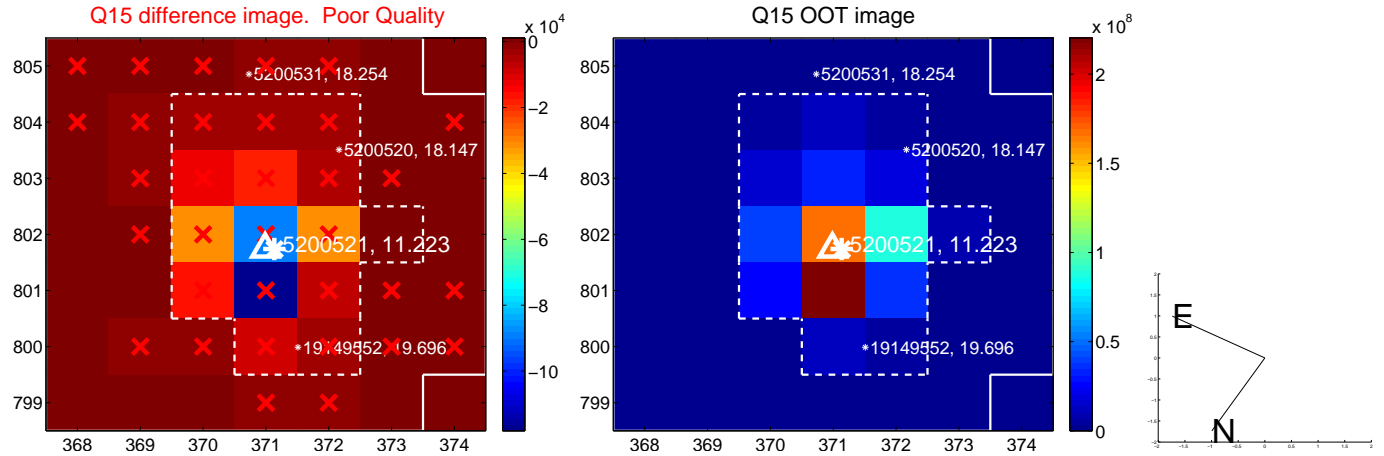
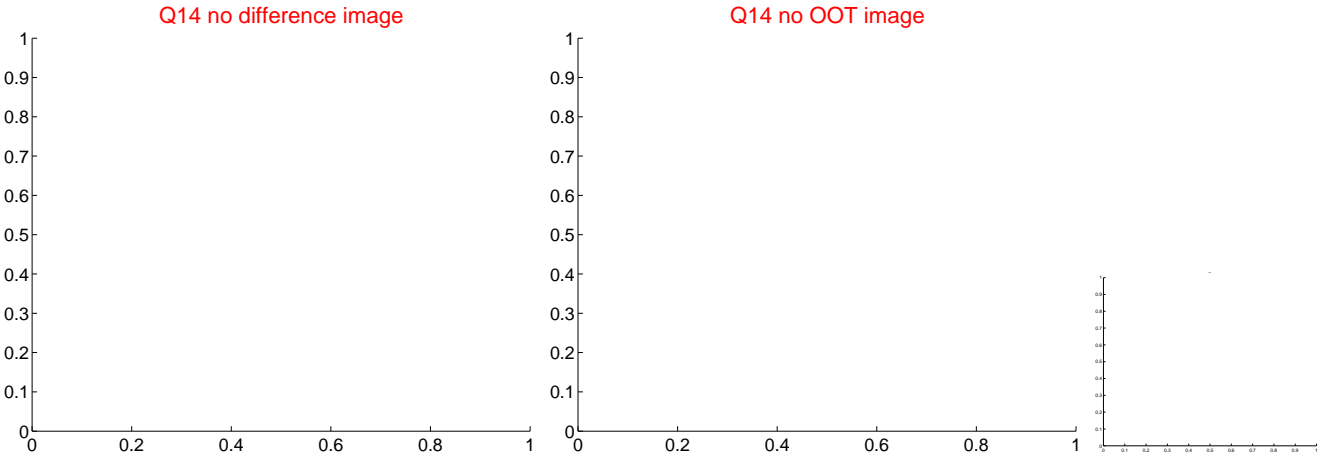
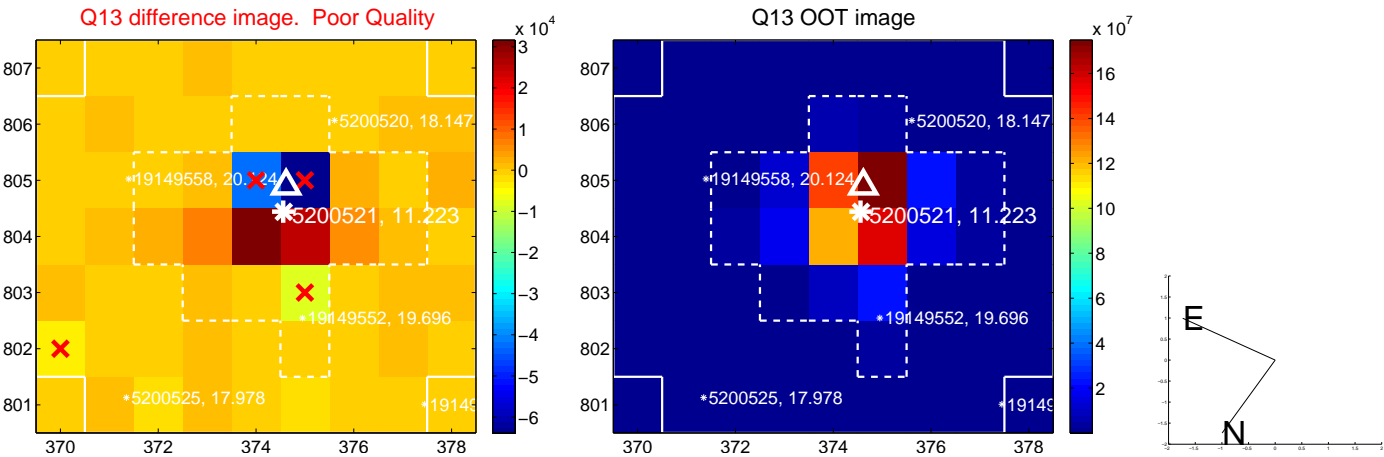
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



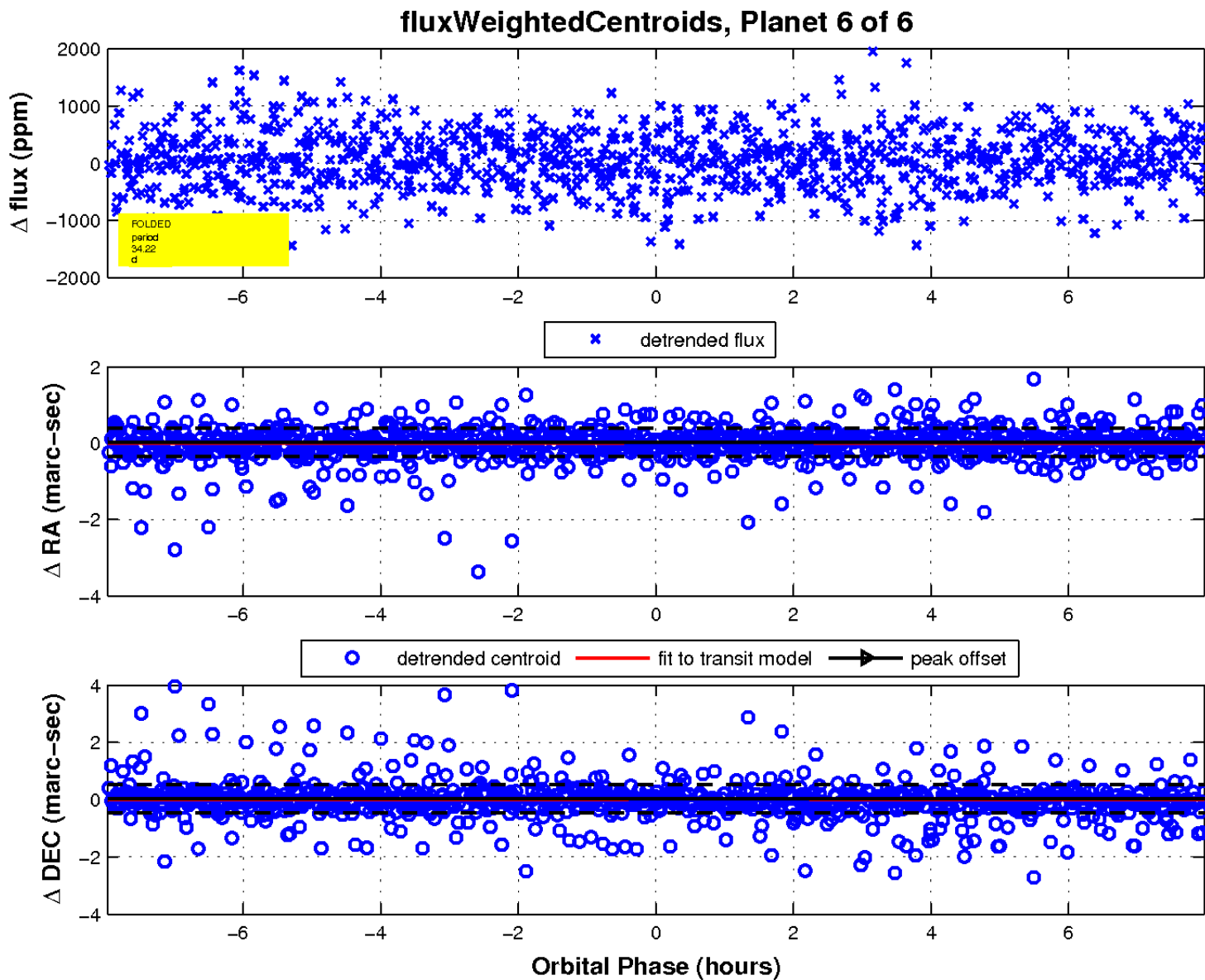
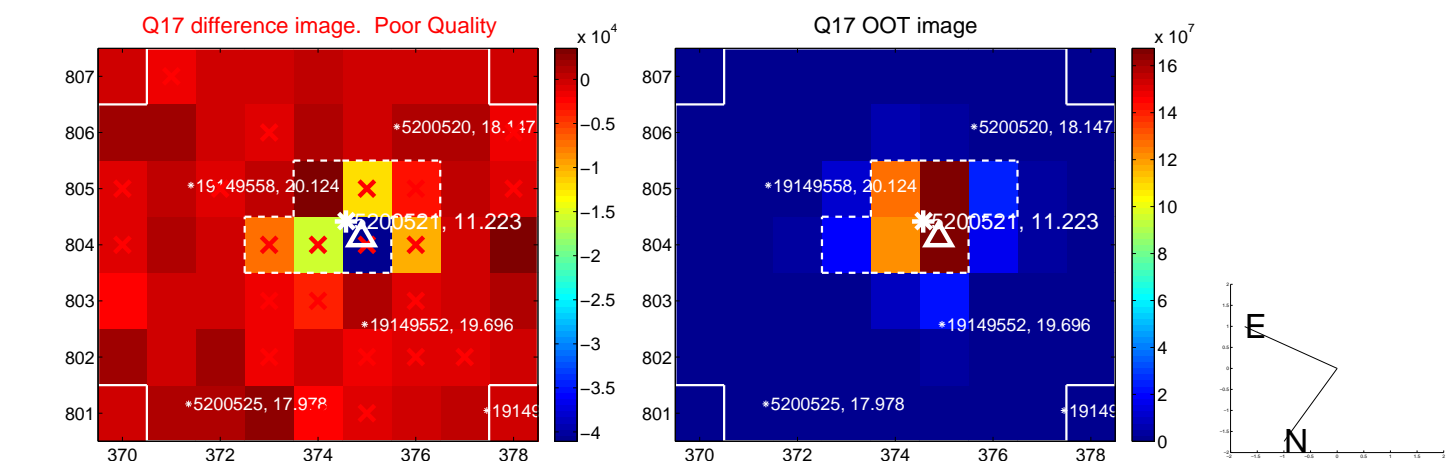
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

