

KIC 007031066

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})
007031066-01	OBS	7803.01	0.566770	131.850096	33.8	2.627	8.5	8.3	0.92	5115	0.64	3215.98
007031066-02	OBS	No	72.595086	145.721555	373.6	7.376	8.3	6.4	0.92	5115	1.92	4.98

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007031066-01	OBS	FP	0.00	1	0	1	1	LPP_DV—HALO_GHOST—EPHEM_MATCH
007031066-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT

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.

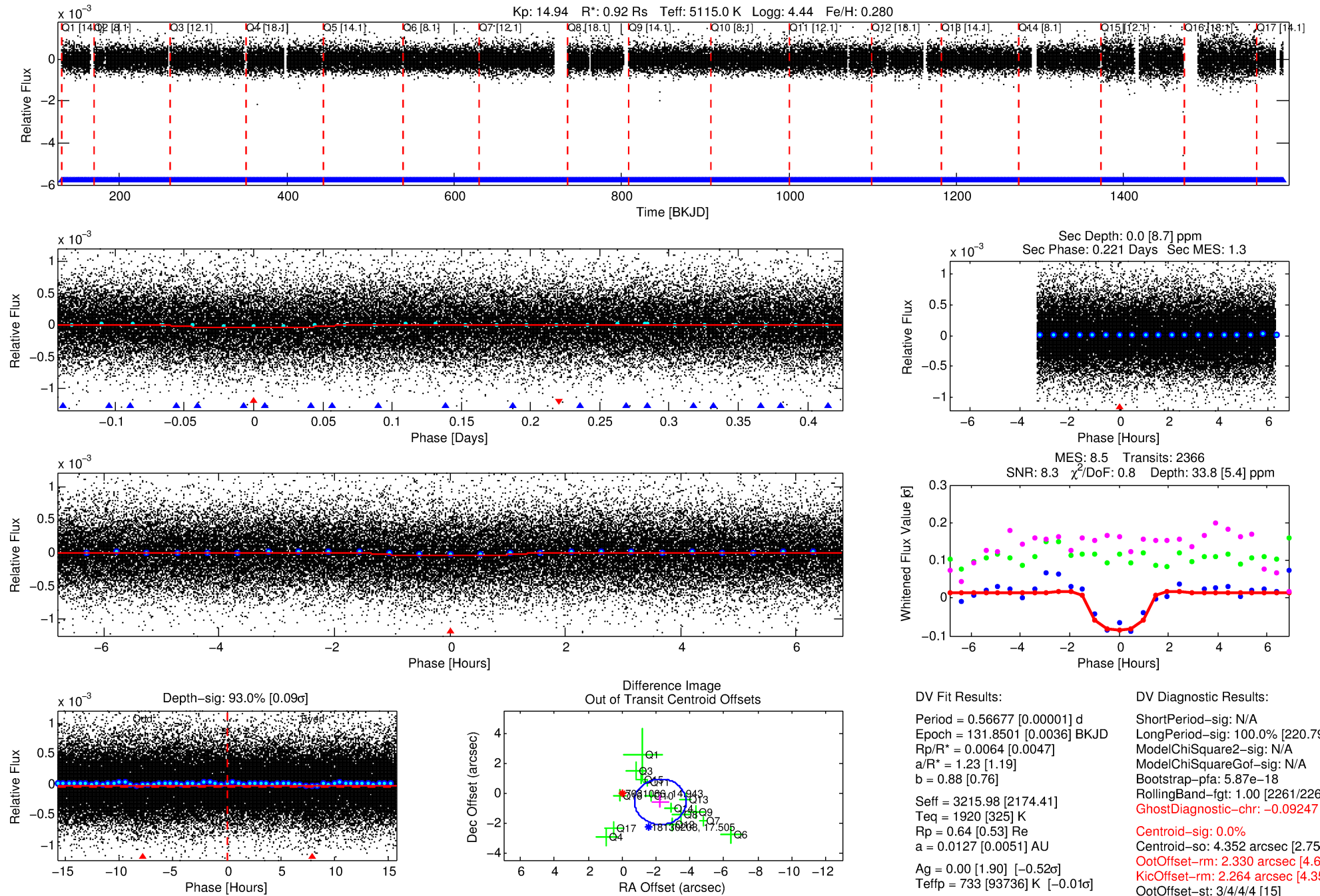
Ephemeris Match Information For 007031066-01

TCE (1)	KIC	Parent (2)	Parent KIC	$P_1:P_2$	Dist ($''$)	Δ Row	Δ Col	m_2	m_1	D_2/D_1	Mechanism	Flag	σ_P	σ_T
007031066-01	7031066	RR-Lyr-pri	7198959	1:1	1315.9	18	-331	7.86	14.94	18332.00	Direct-PRF	0	4.57	23.26

Notes: $P_1:P_2$ is the period ratio. Dist is the distance in arcseconds. Δ Row and Δ Col are the number of pixels apart in row and column. m_2 and m_1 are the magnitudes of the parent and child. D_2/D_1 is the parent's transit depth divided by the child's. σ_P and σ_T are the significance of the match in period and epoch. For a match to be considered significant $\sigma_P < 5.0$ and $\sigma_T < 5.0$. Matches which have σ_P and σ_T very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

DV One-Page Summary

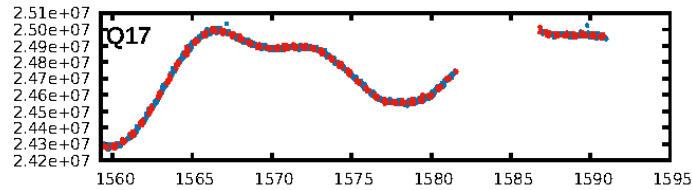
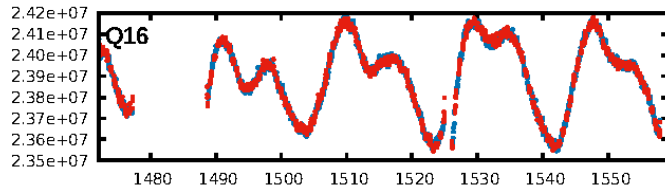
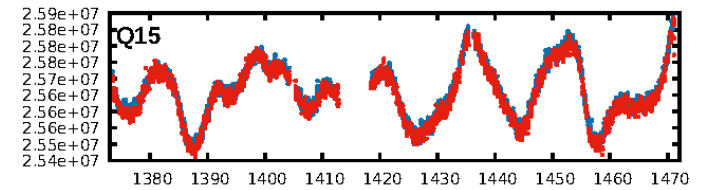
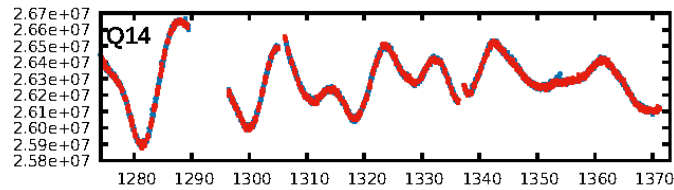
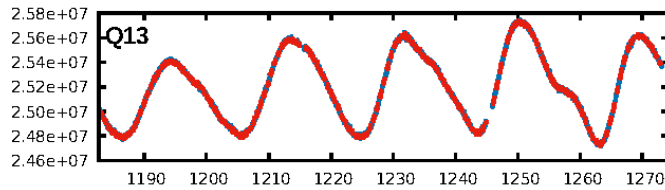
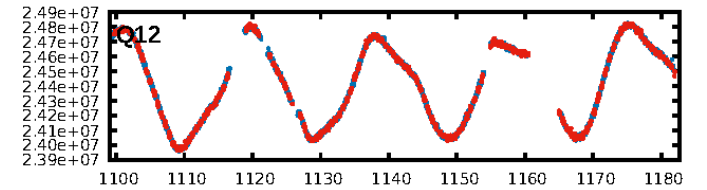
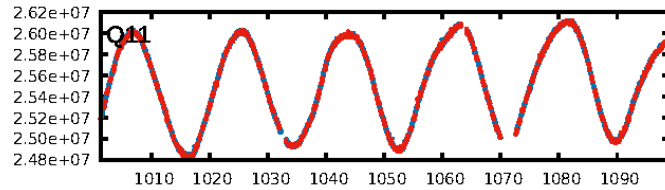
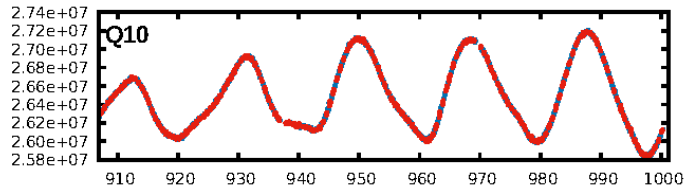
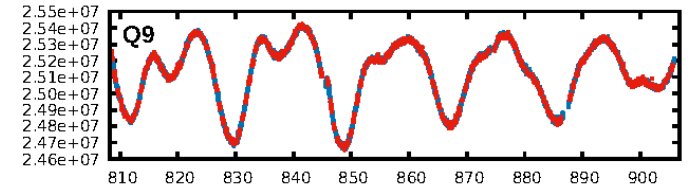
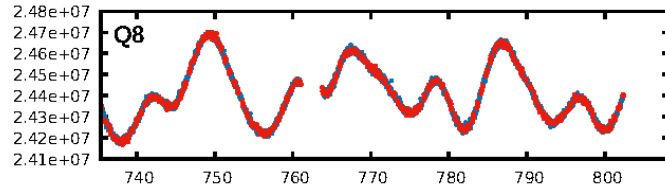
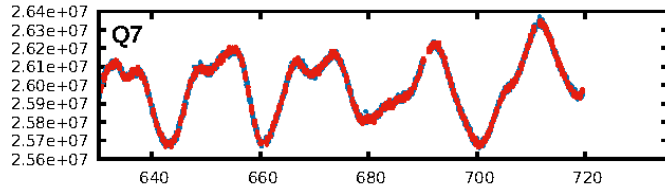
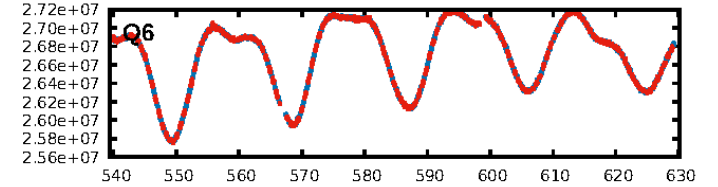
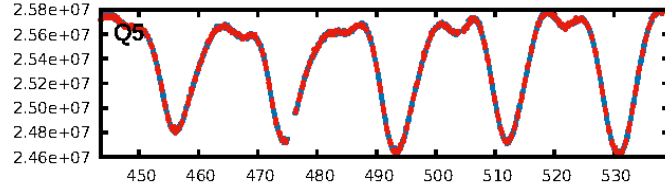
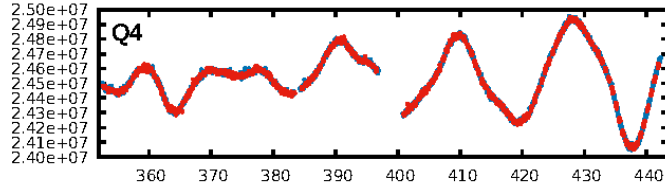
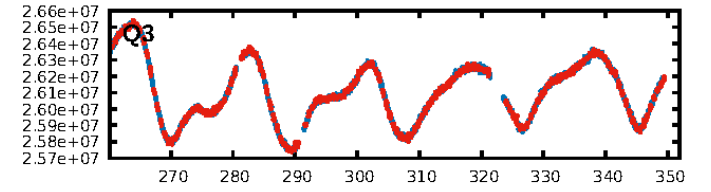
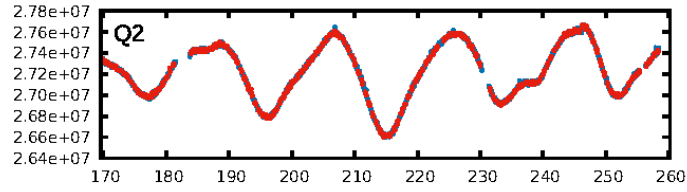
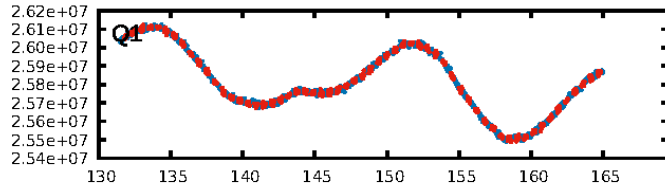
KIC: 7031066 Candidate: 1 of 2 Period: 0.567 d



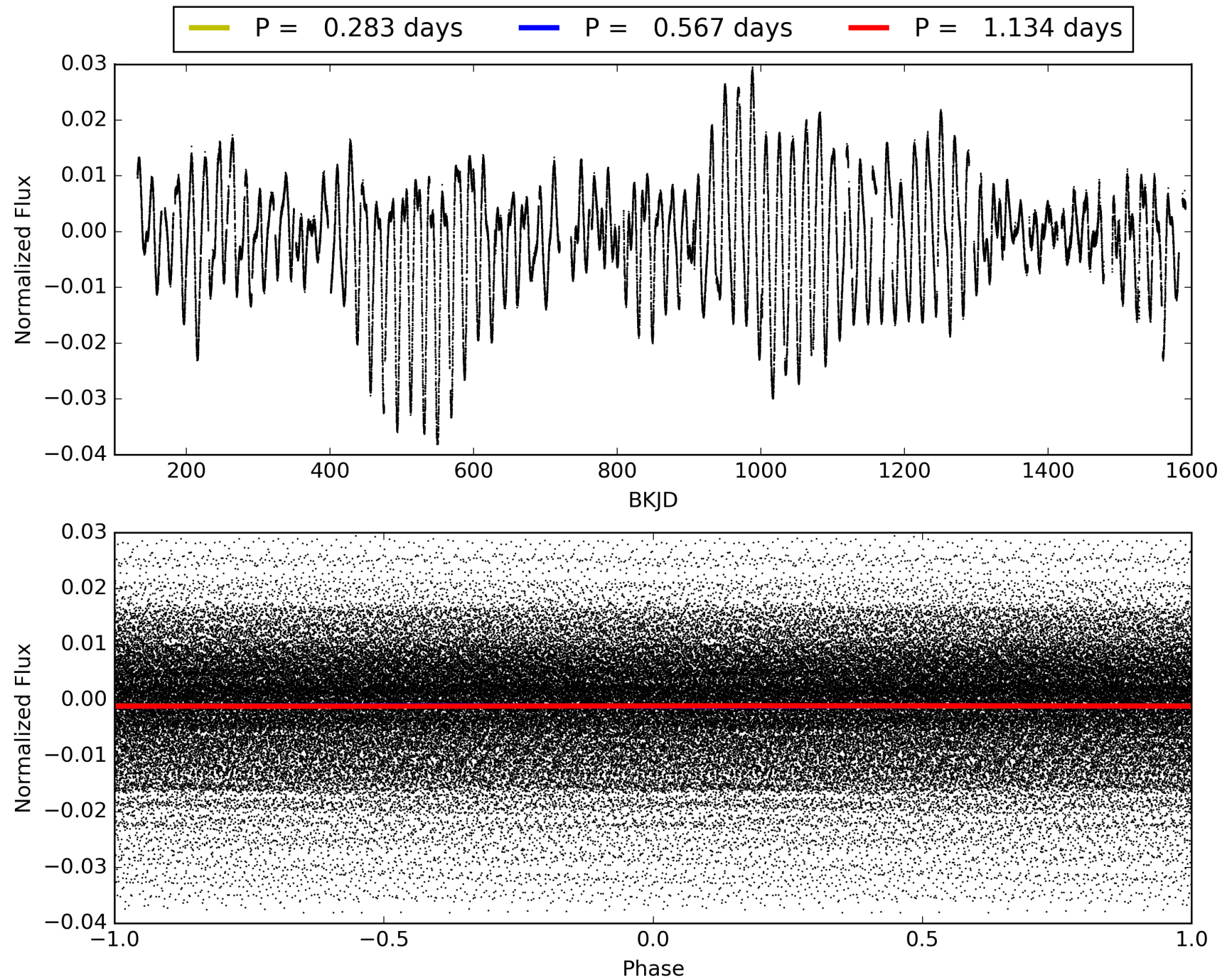
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This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 007031066-01, PDC Light Curves

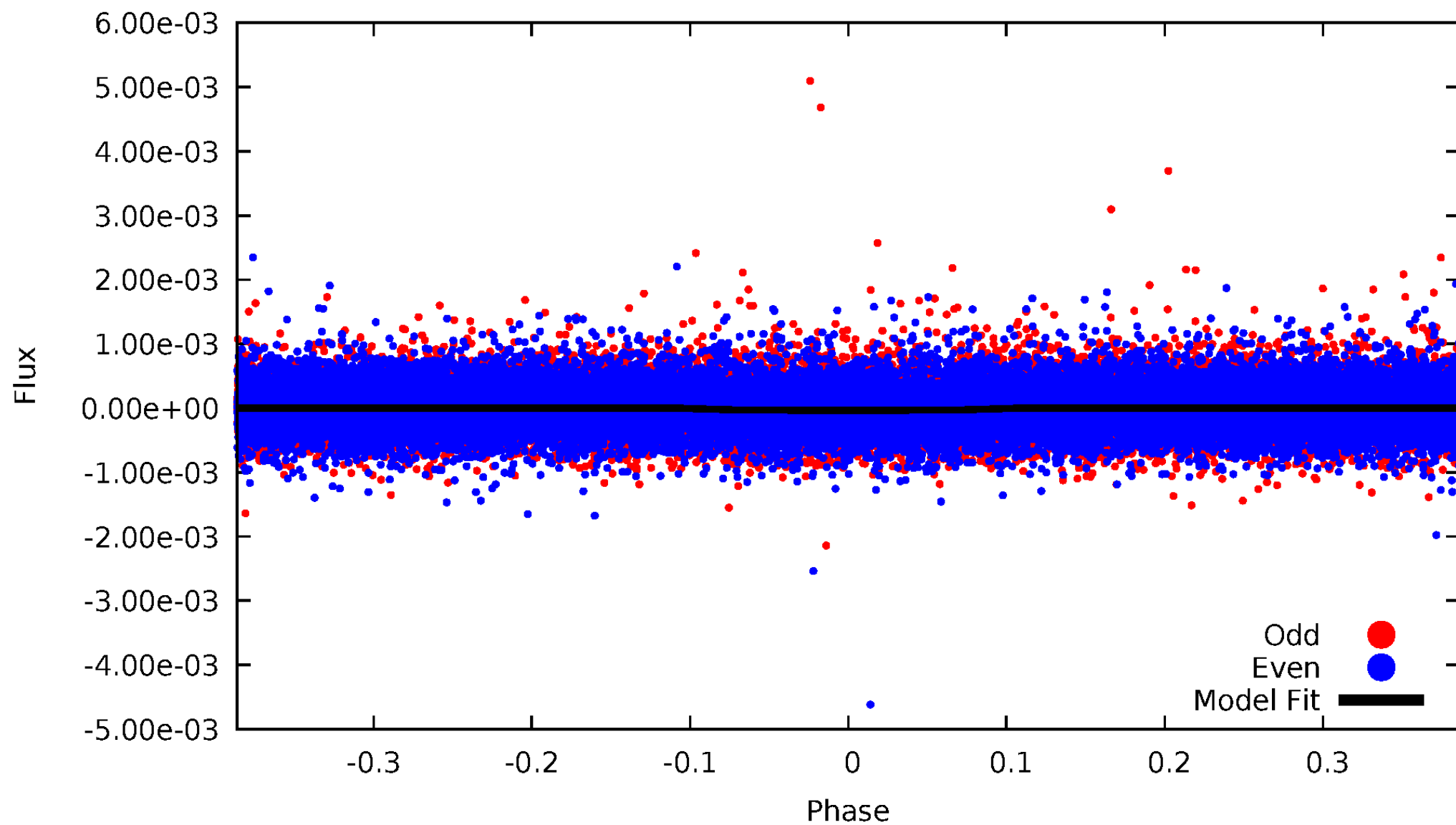


TCE 007031066-01



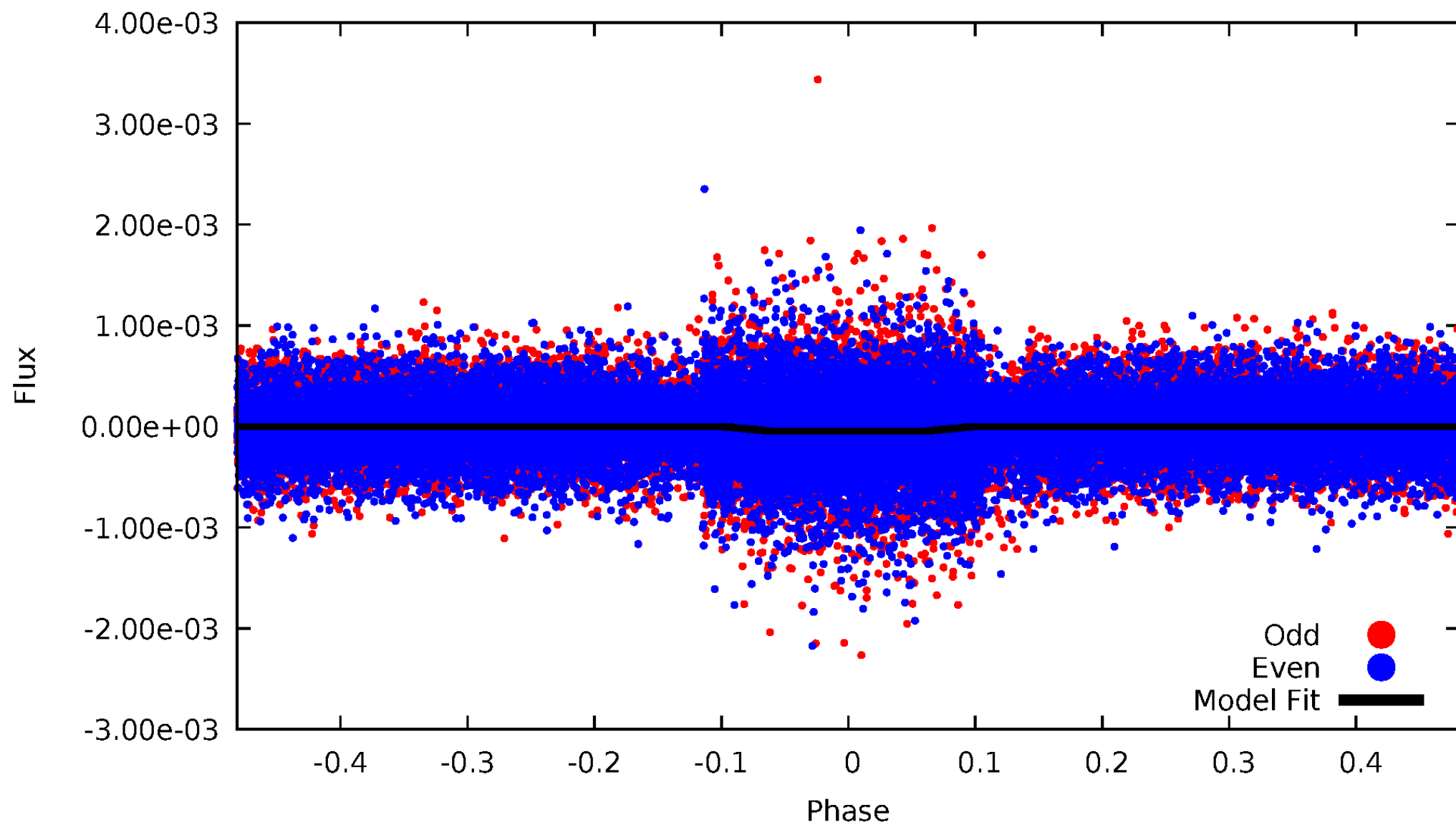
DV Odd/Even

TCE 007031066-01

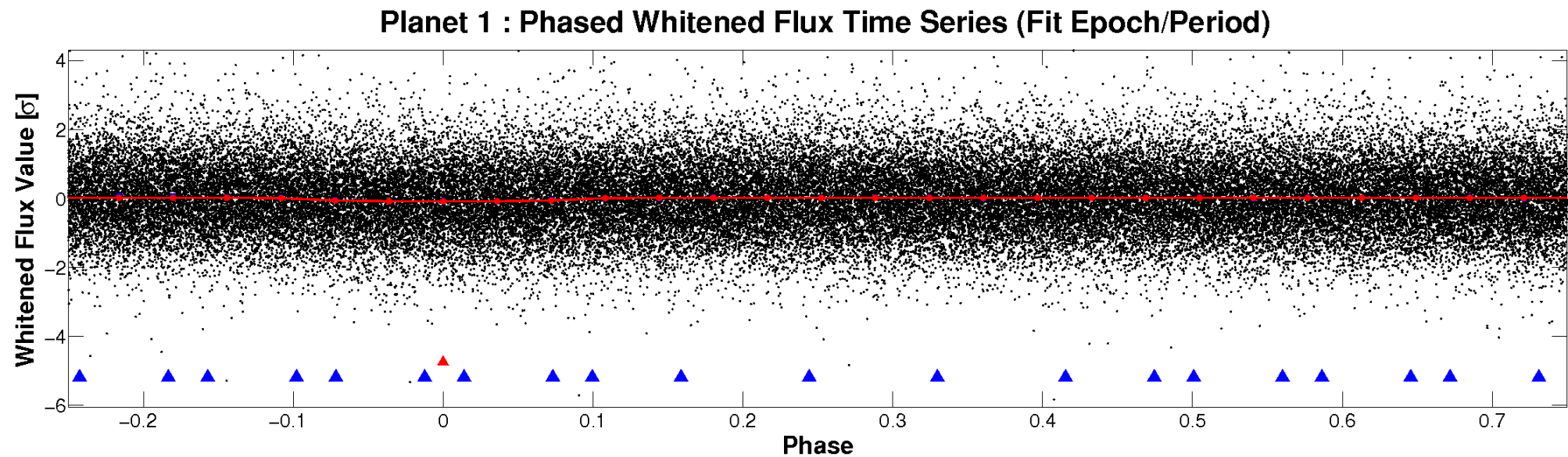
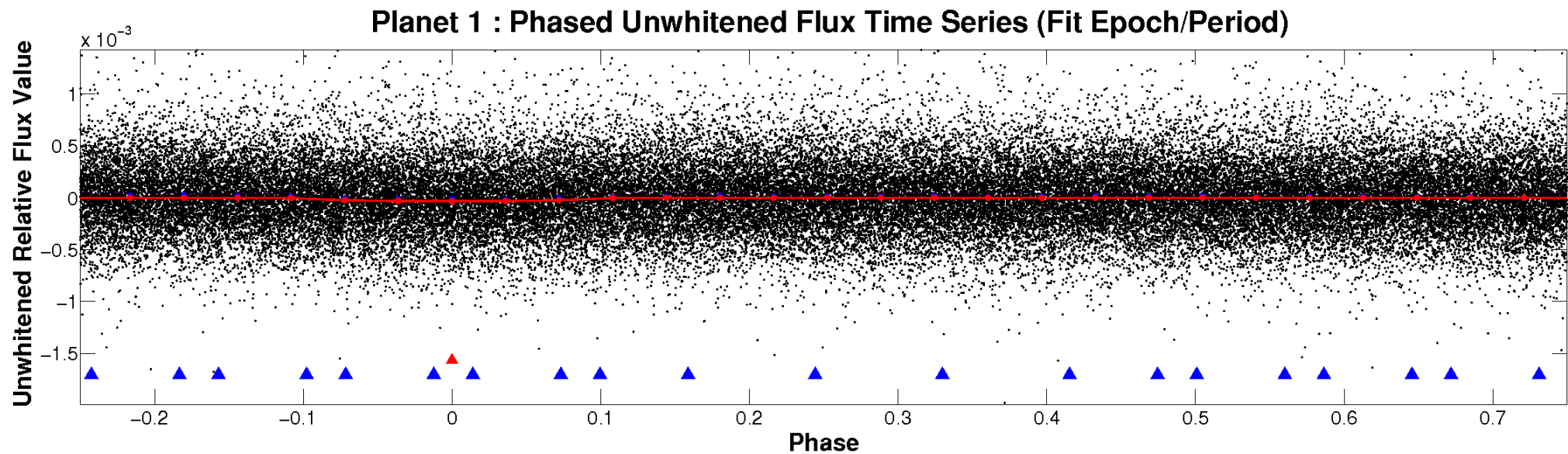


ALT Odd/Even

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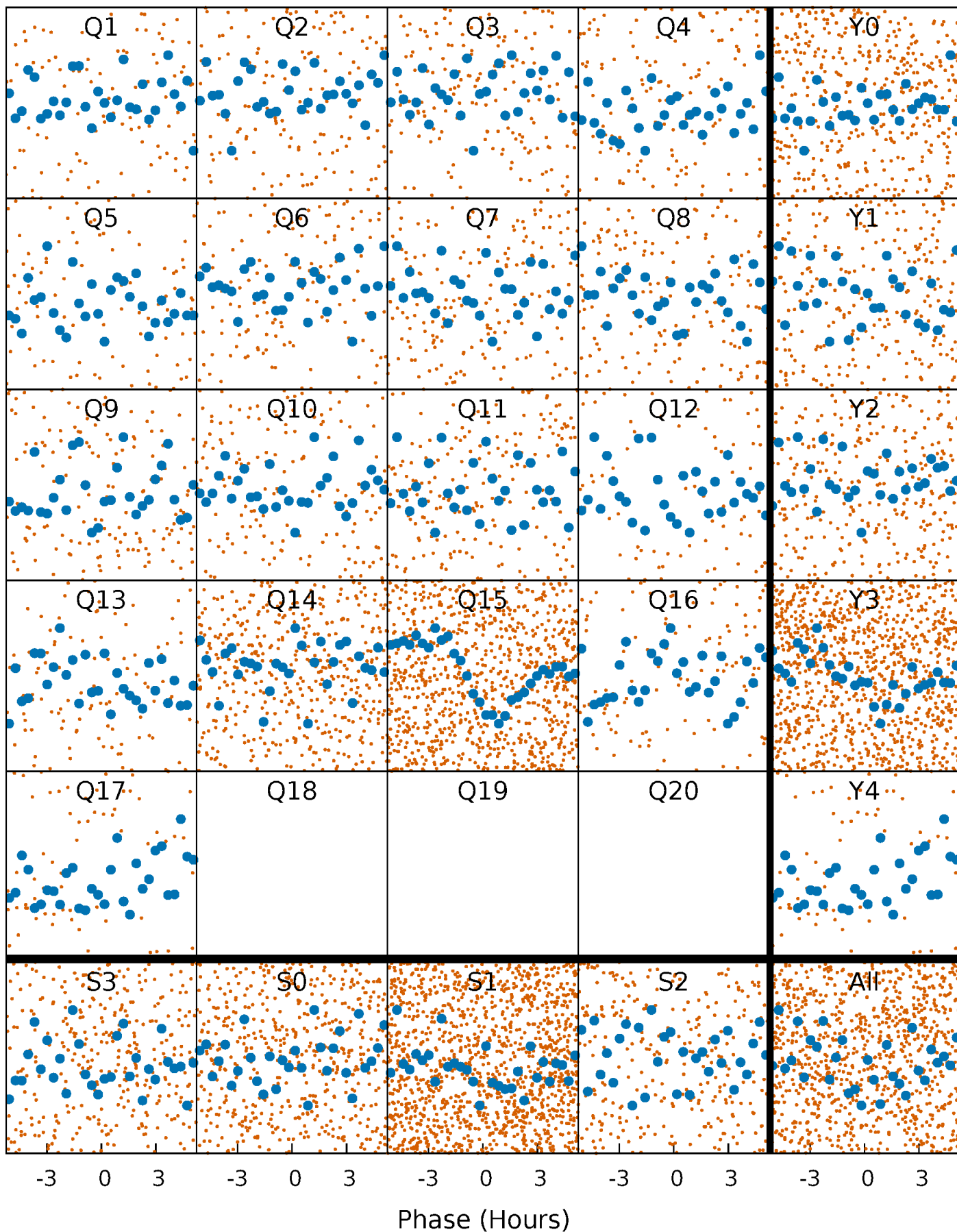


Non-Whitened Vs. Whitened Light Curve



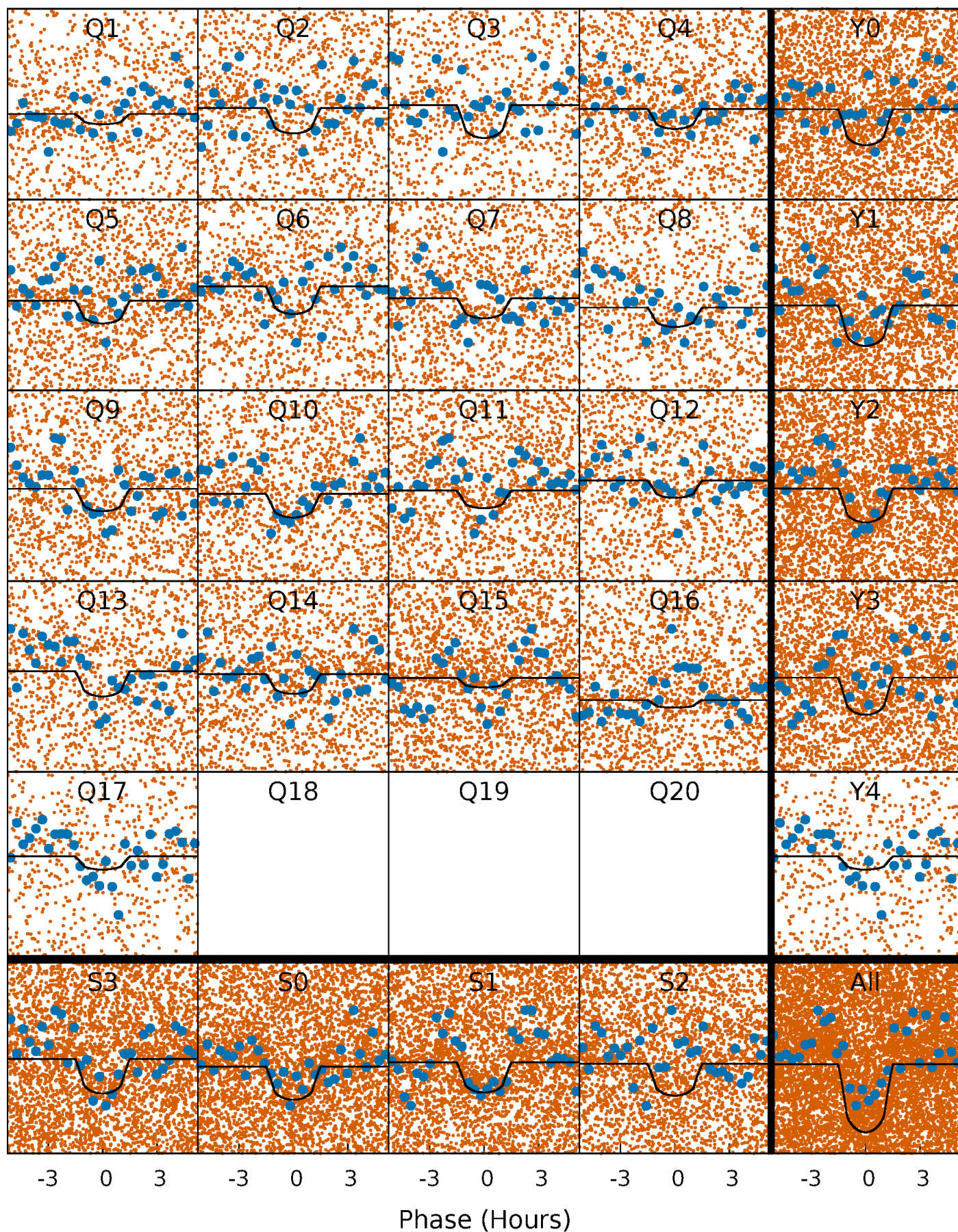
PDC Quarter-Phased Transit Curves

TCE 007031066-01 P= 0.566770 Days $T_0=131.850096$ (BKJD)



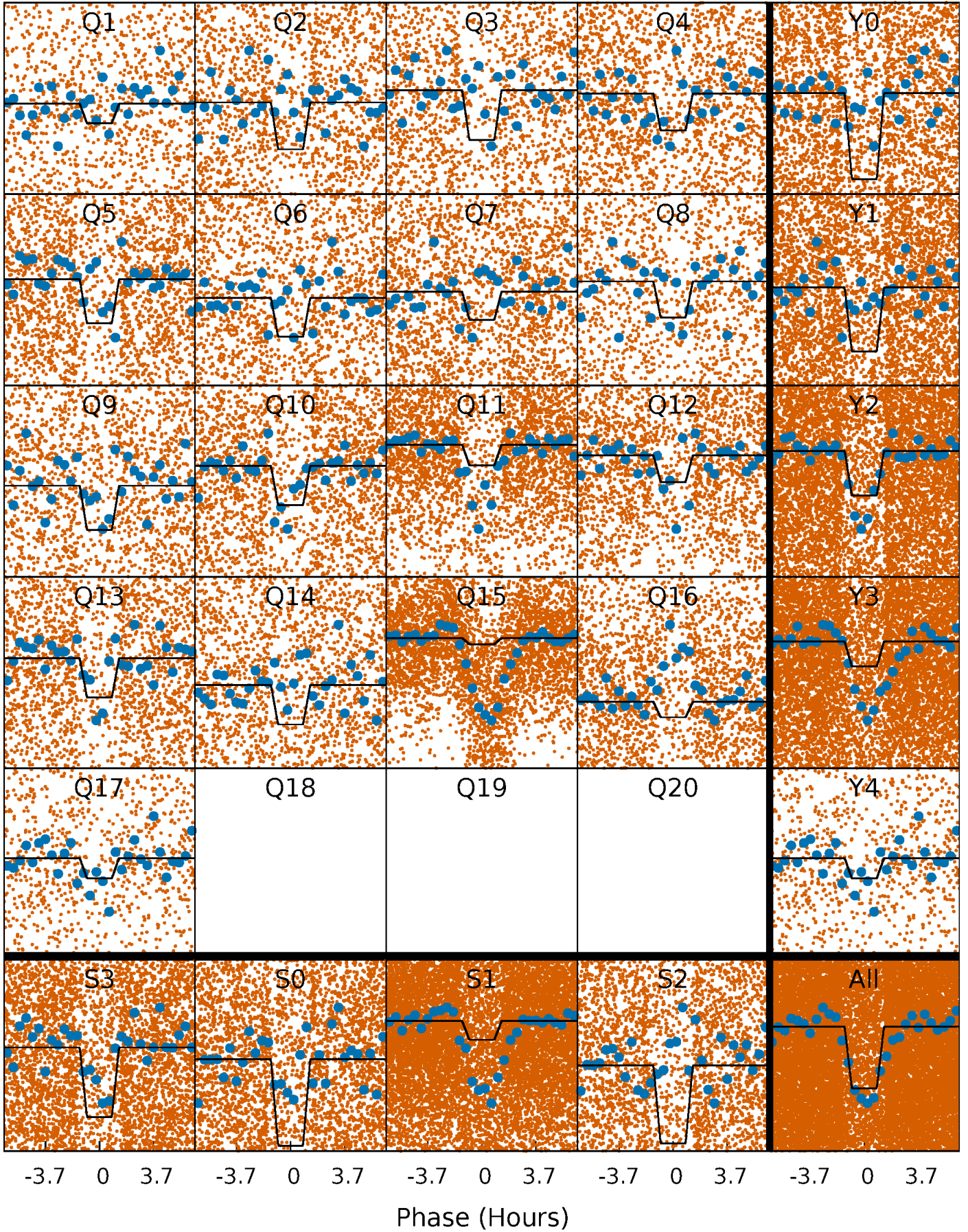
DV Quarter-Phased Transit Curves

TCE 007031066-01 P= 0.566770 Days $T_0=131.850096$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

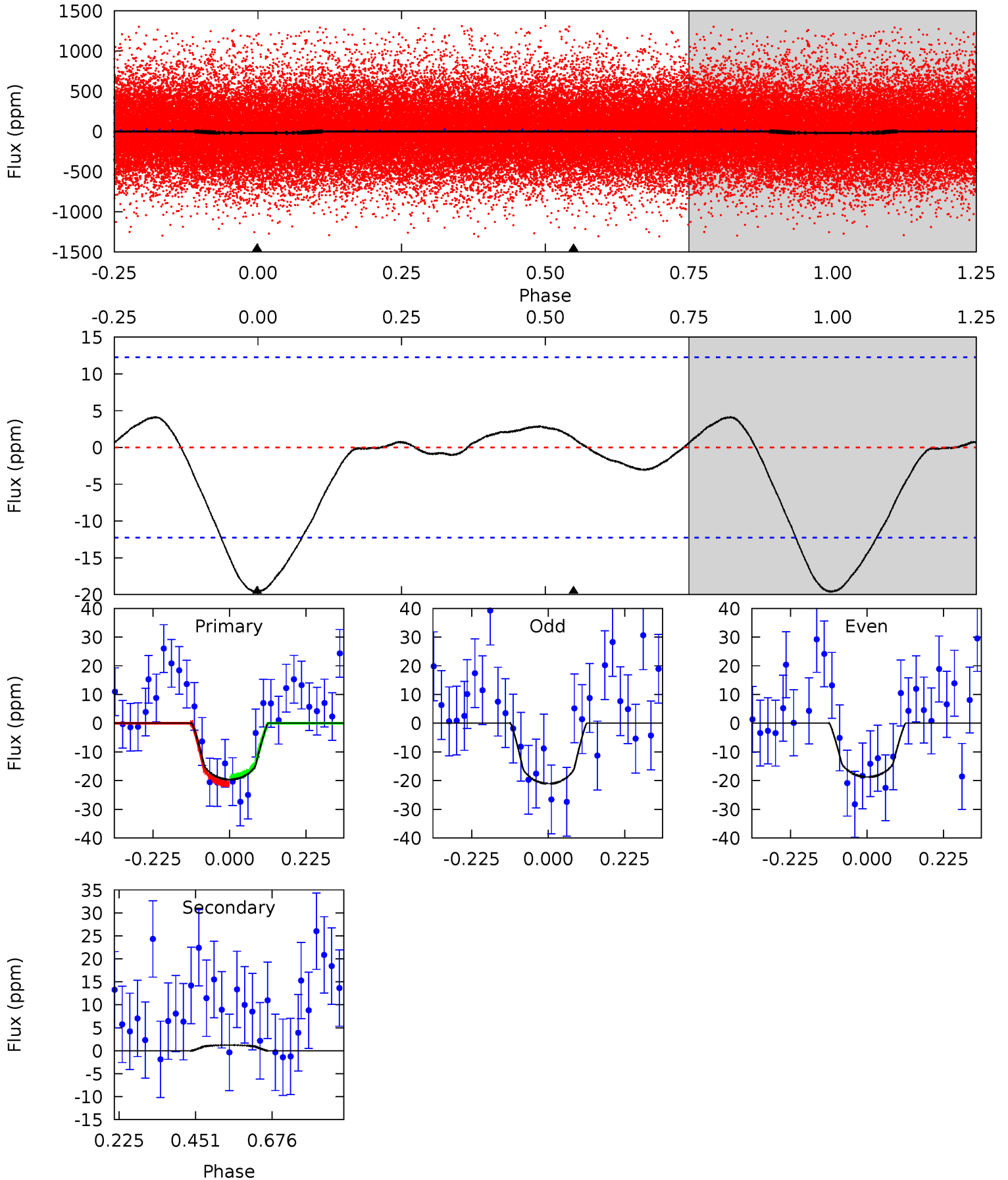
TCE 007031066-01 P= 0.566775 Days $T_0=131.842022$ (BKJD)



DV Model-Shift Uniqueness Test

007031066-01, P = 0.566770 Days, E = 131.283326 Days

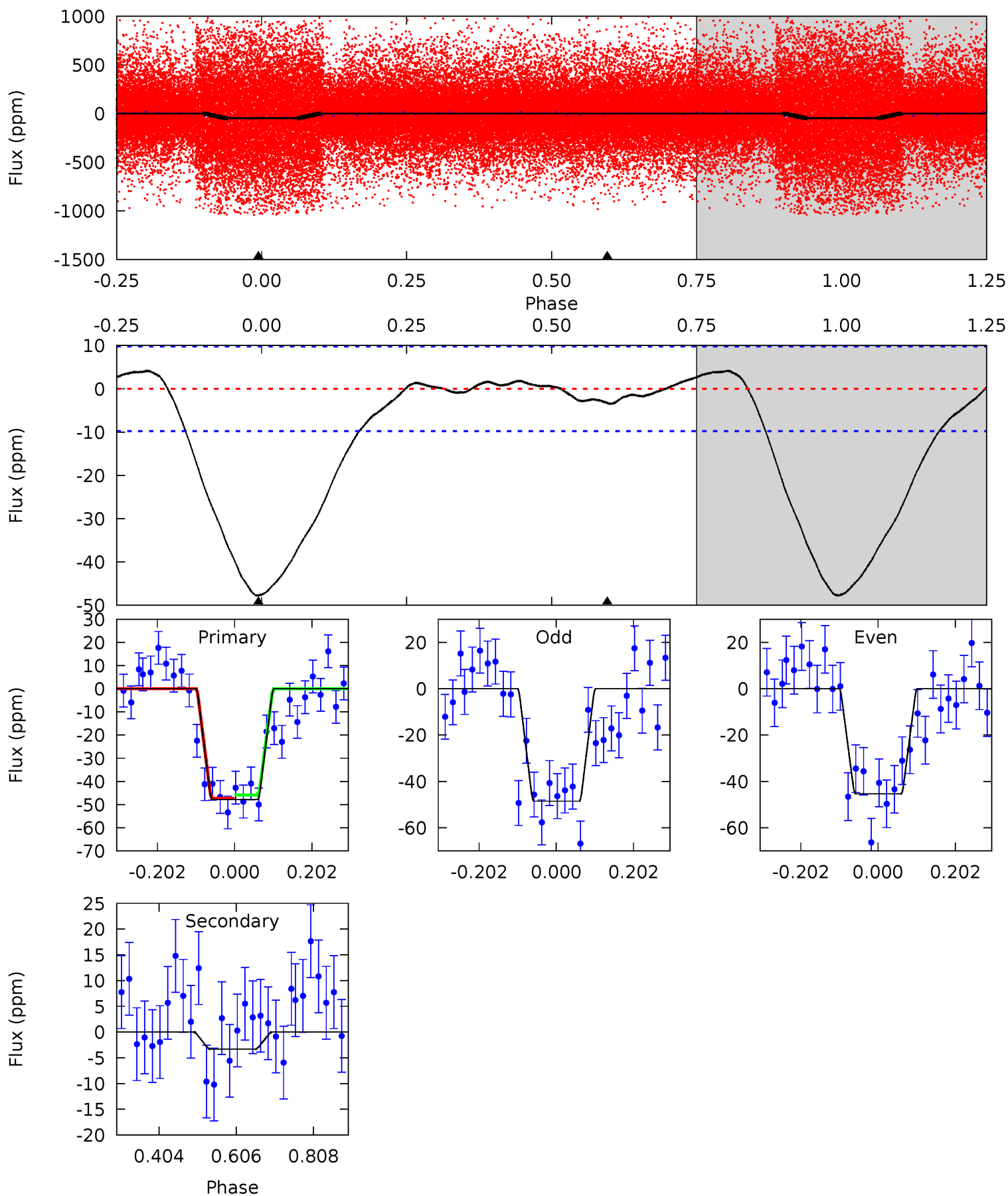
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.04	-0.44	0	0	4.39	1.21	0.23	7.04	7.04	-0.44	-0.44	0.42	0.62	0.17	0.45



Alt Model-Shift Uniqueness Test

007031066-01, P = 0.566775 Days, E = 131.275247 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	1.50	0	0	4.42	1.28	0.84	21.6	21.6	1.50	1.50	0.72	1.34	0.08	0.33



Stellar Parameters For KIC 007031066

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5115^{+168}_{-153}	$4.439^{+0.132}_{-0.397}$	$0.280^{+0.150}_{-0.300}$	$0.917^{+0.360}_{-0.120}$	$0.842^{+0.078}_{-0.058}$	$1.538^{+0.811}_{-1.136}$
	+3%/-3%	+3%/-9%	+54%/-107%	+39%/-13%	+9%/-7%	+53%/-74%
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 007031066-01 / KOI 7803.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	1 ± 3	$0.71^{+0.49}_{-0.43}$	2743^{+311}_{-173}	-3140^{+949}_{-731}	$-0.156^{+0.420}_{-1.355}$
Alt.	-3 ± 2	$0.79^{+0.52}_{-0.44}$	2747^{+320}_{-179}	2520^{+1393}_{-5367}	$0.400^{+1.946}_{-0.310}$

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

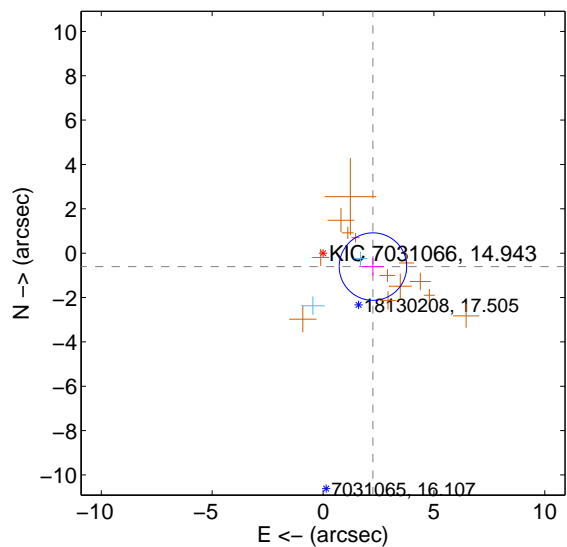
Supplemental centroid analysis for 007031066-01. Kepler magnitude: 14.94. Transit SNR 8.30

There are 2 quarters with good PRF difference image offsets

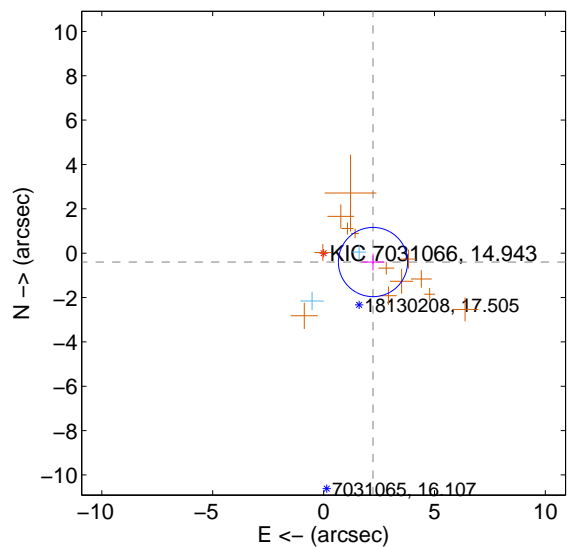
The direct PRF centroid is offset from the target star catalog position by about 0.22 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	2.330 ± 0.507	4.60	-2.250 ± 0.495	-0.605 ± 0.393
PRF-fit source offset from KIC position	2.264 ± 0.520	4.35	-2.228 ± 0.511	-0.399 ± 0.382
photometric centroid source offset	4.35 ± 1.58	2.75	-2.87 ± 1.51	3.28 ± 1.63

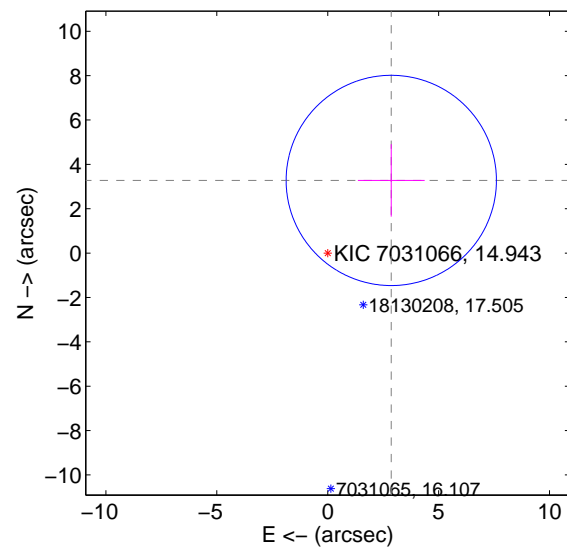
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

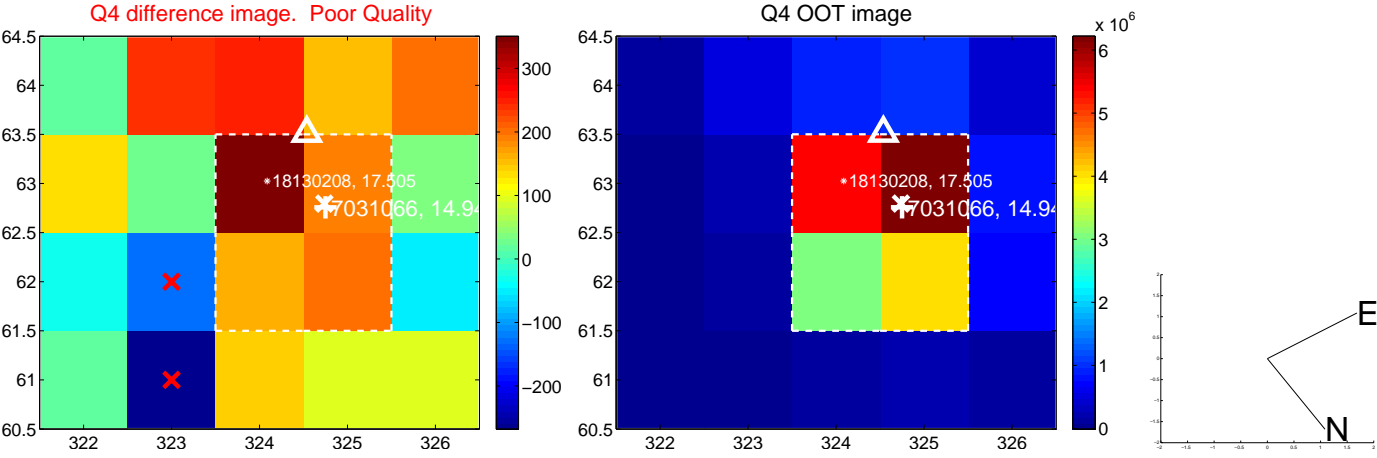
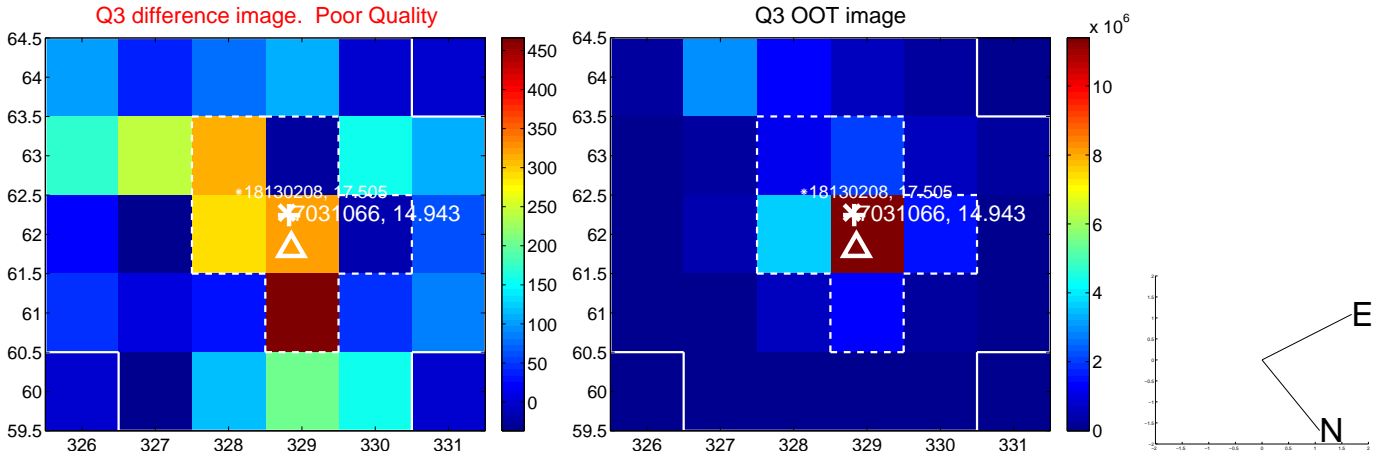
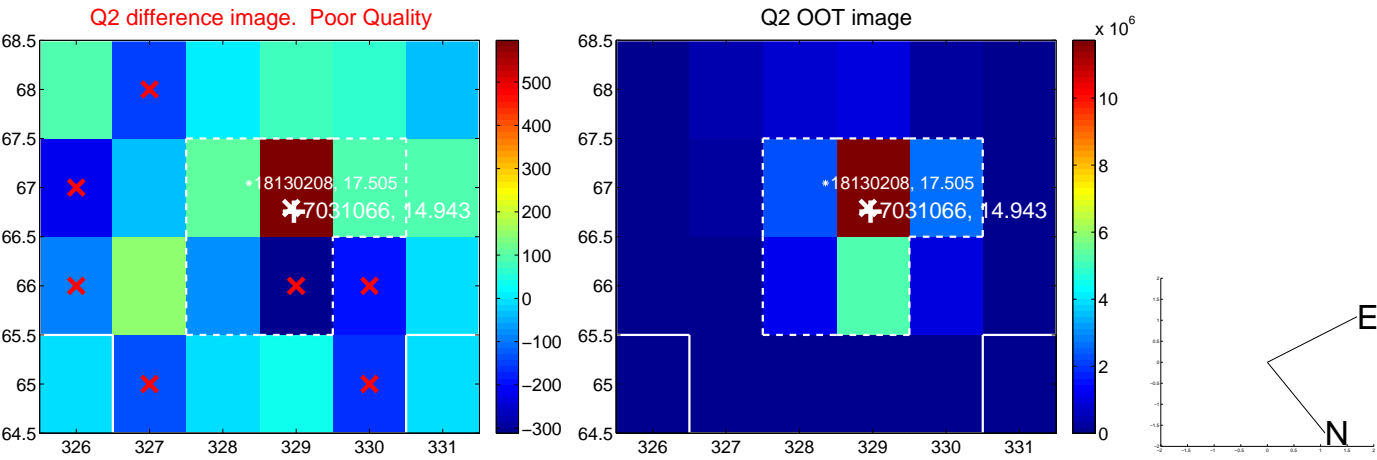
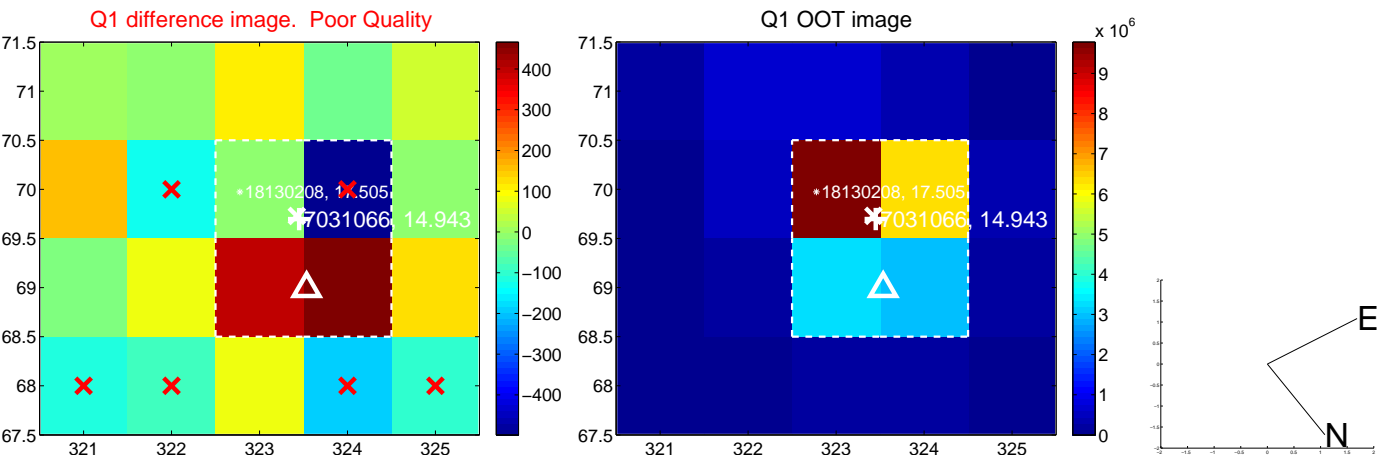


offset from photometric centroids

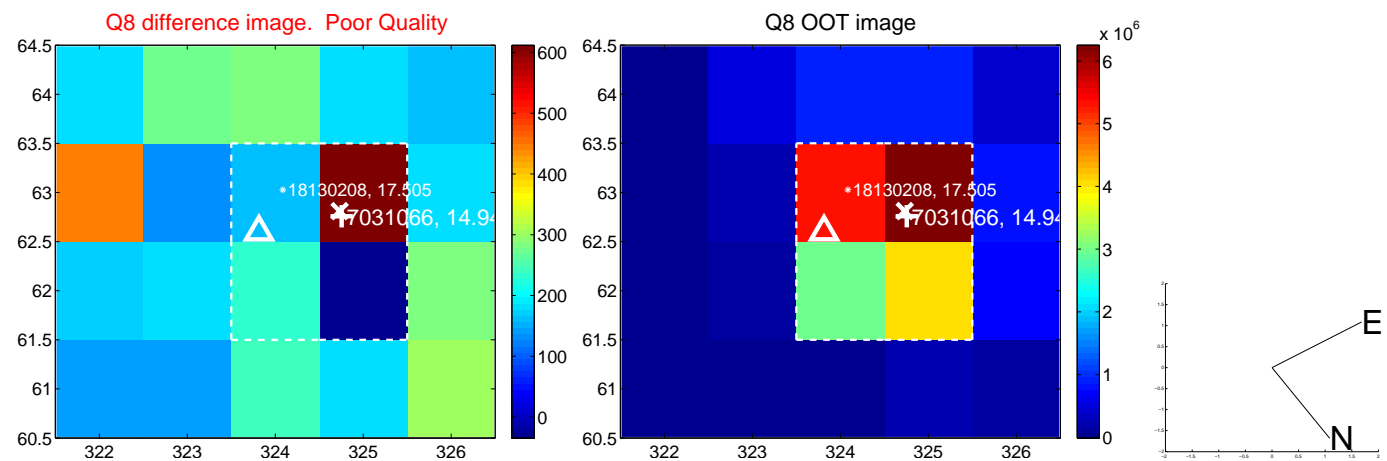
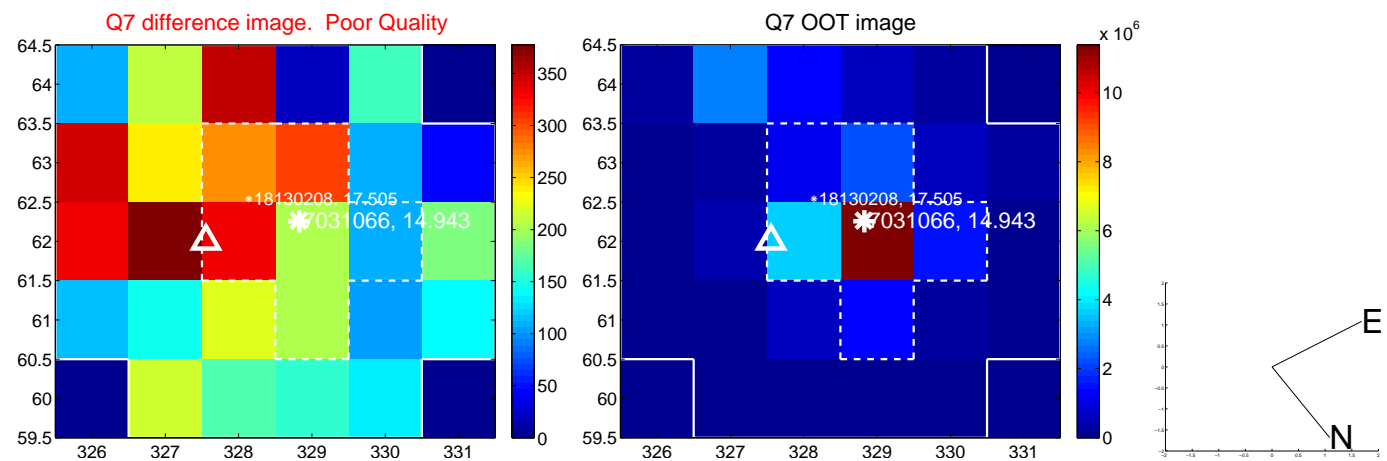
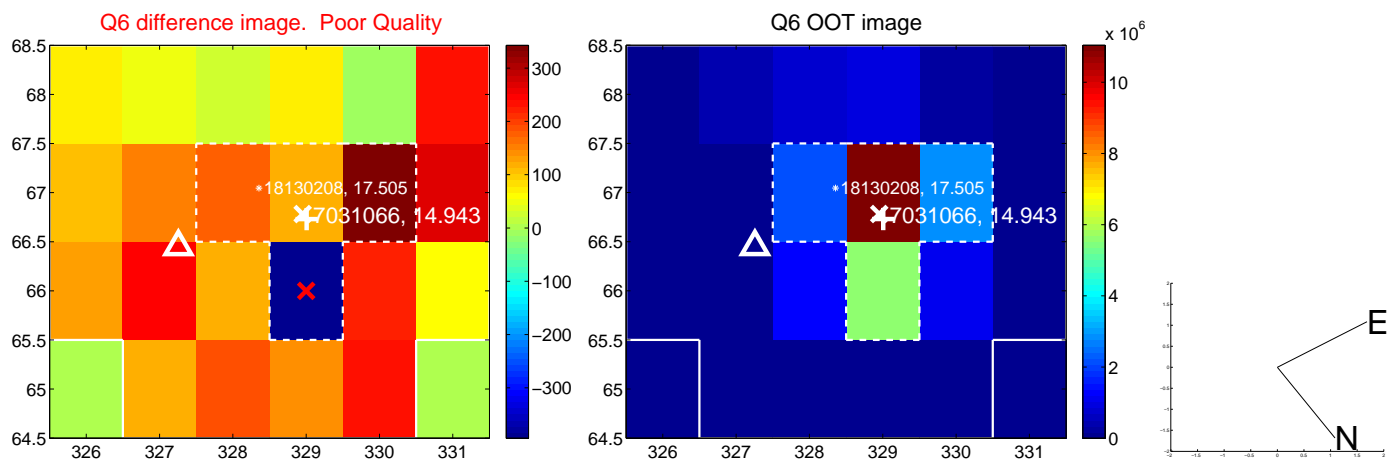
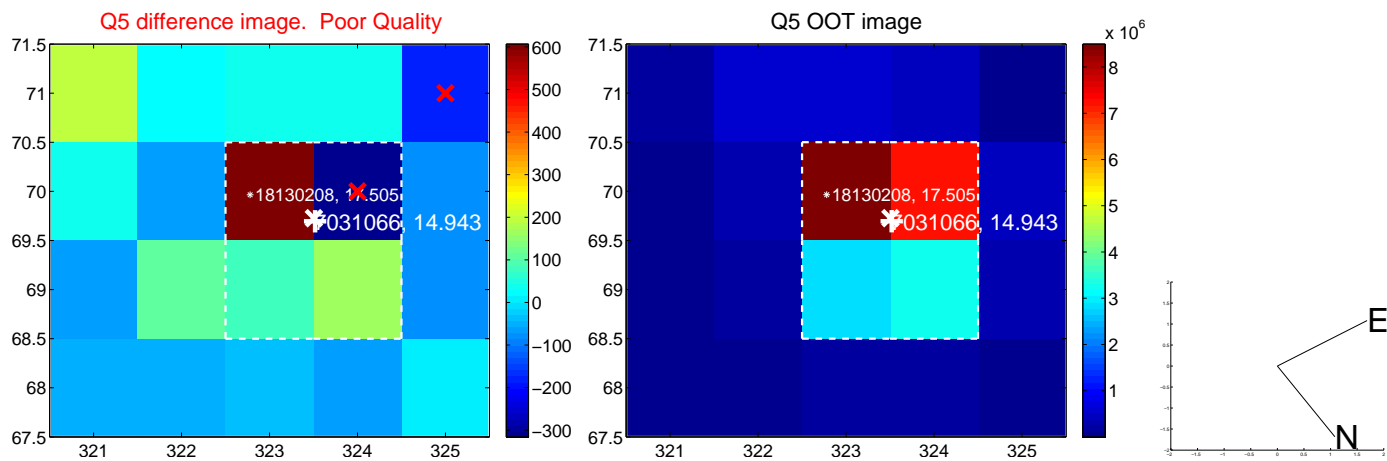


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

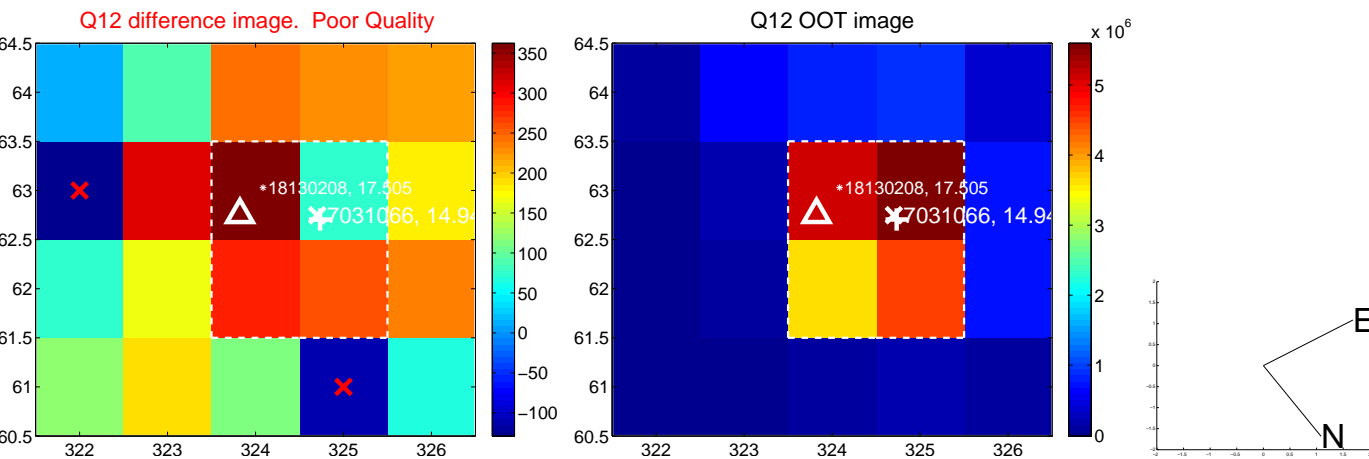
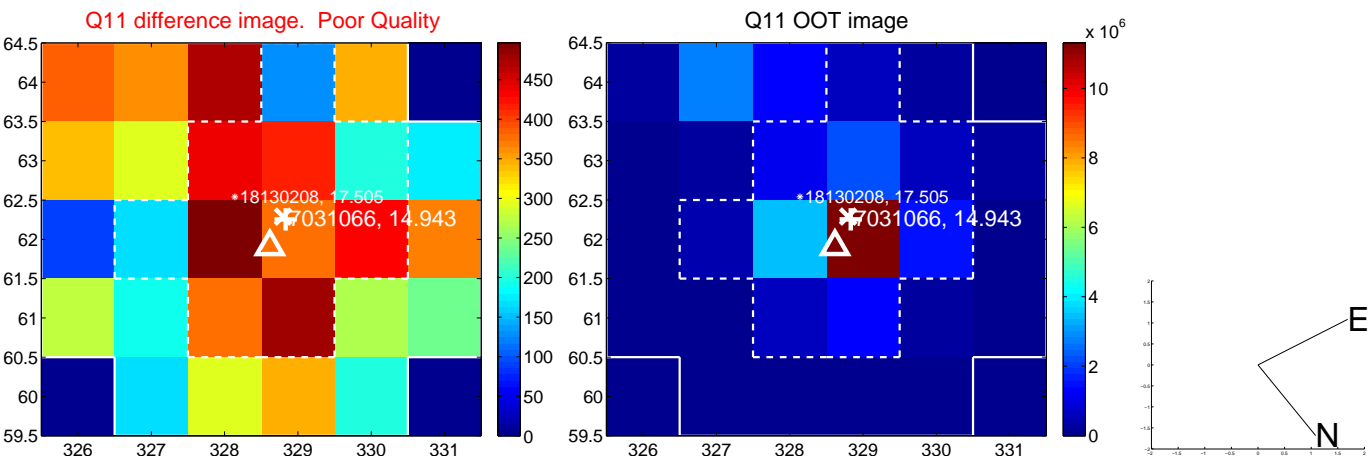
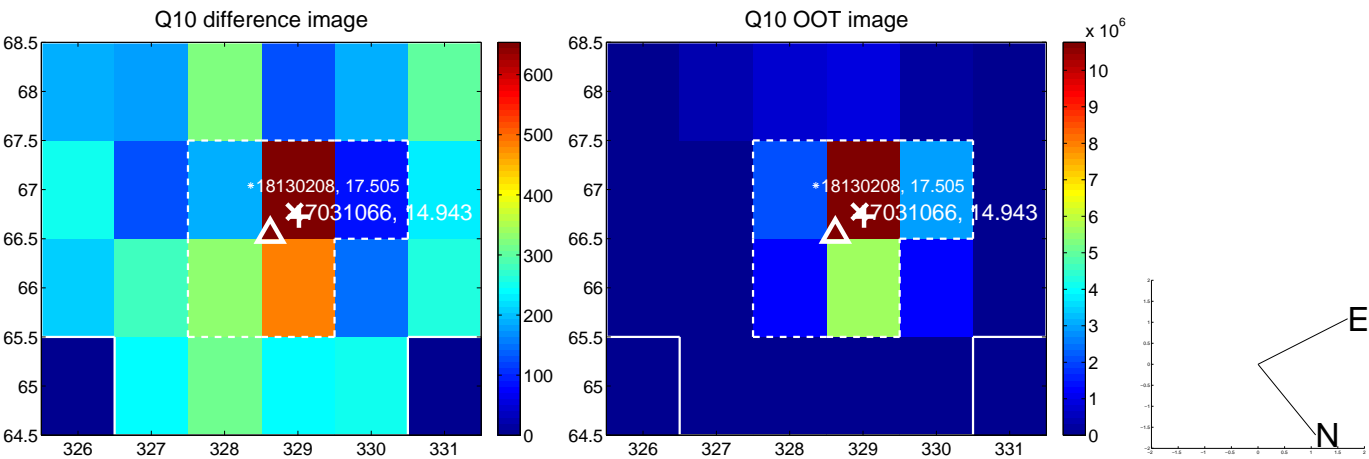
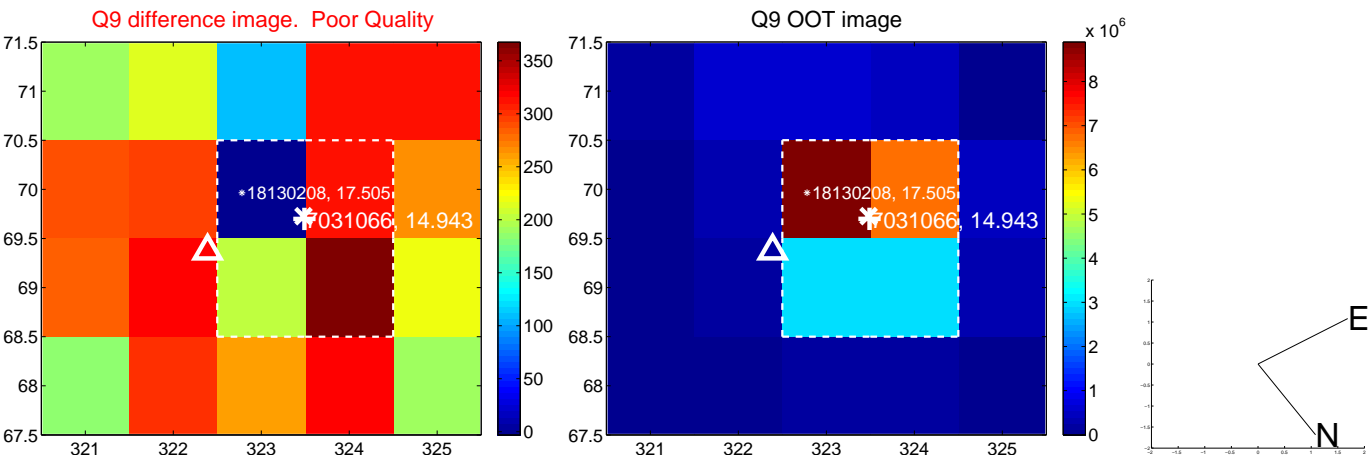
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



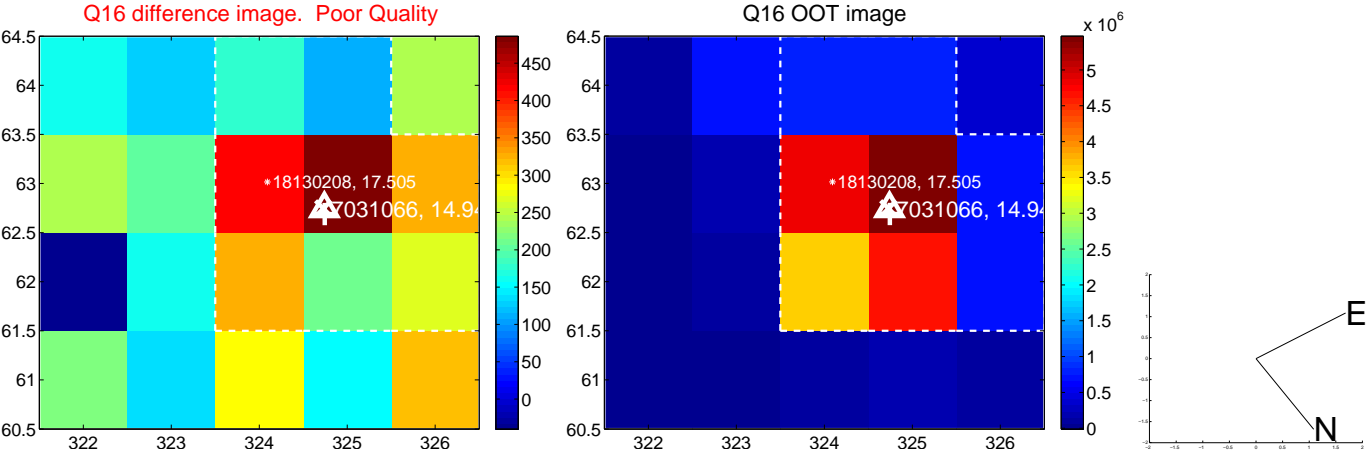
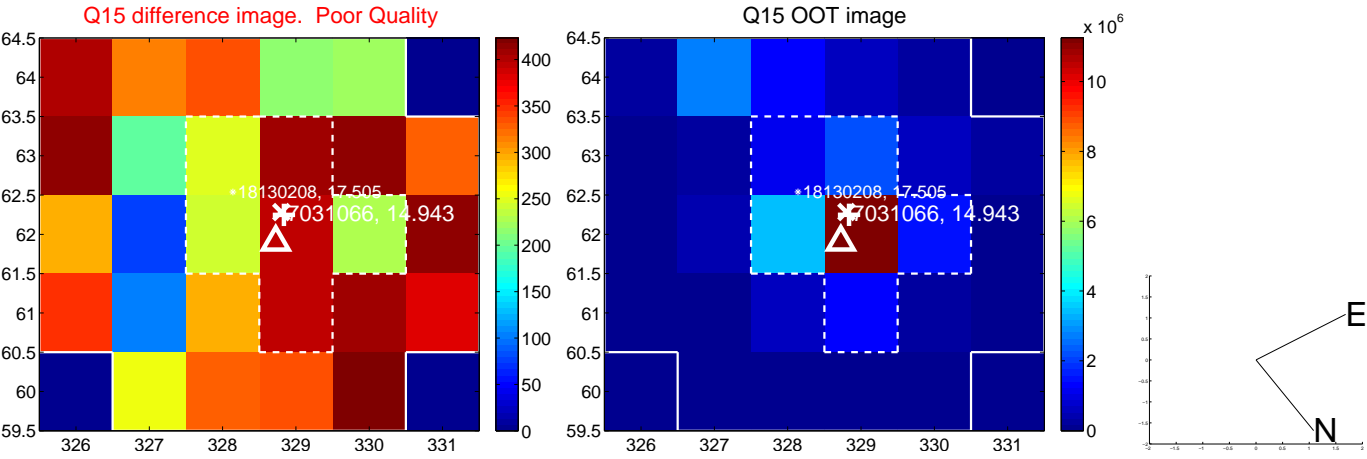
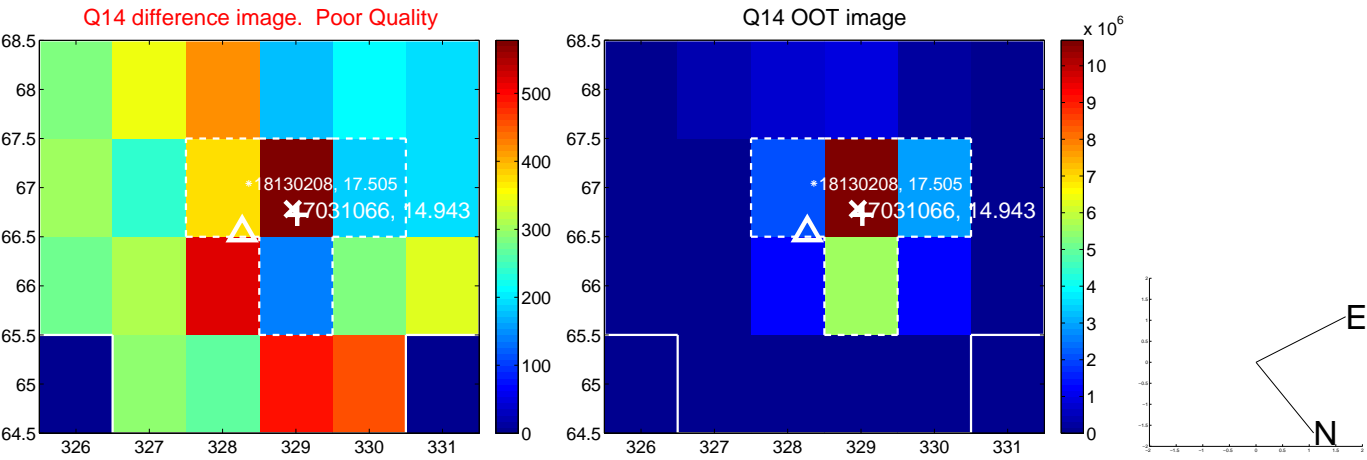
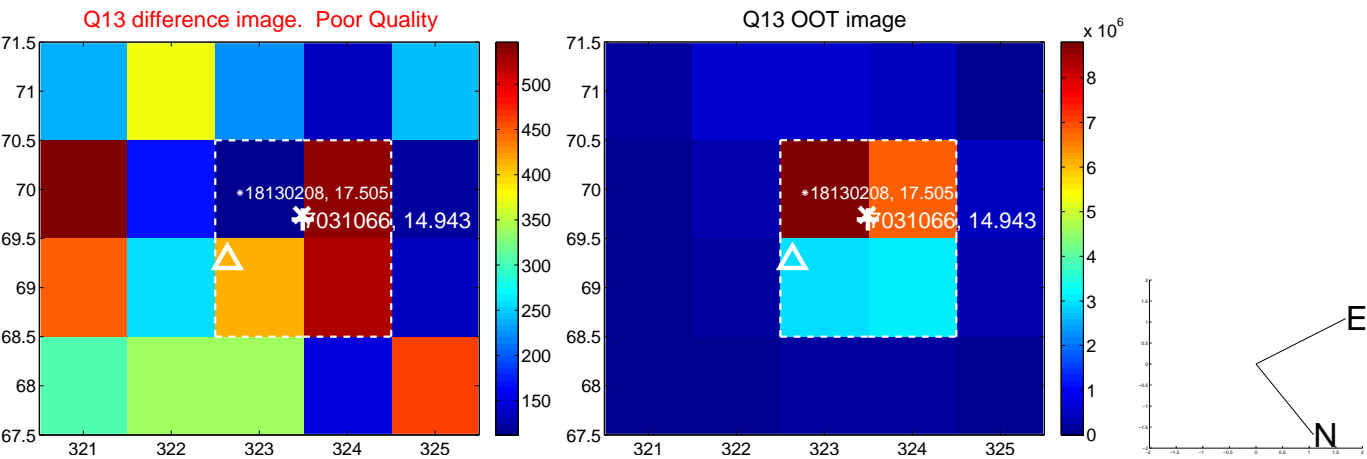
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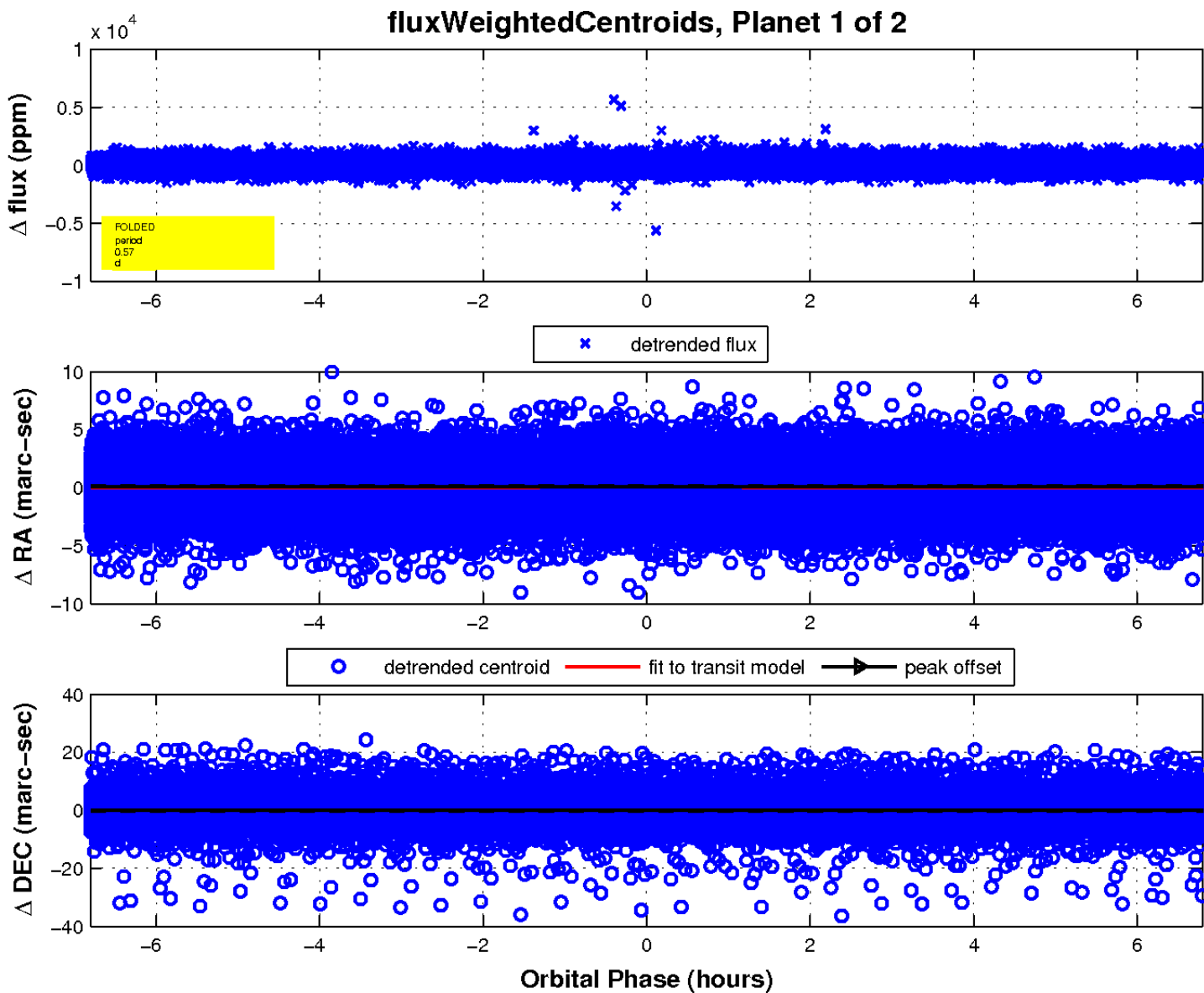
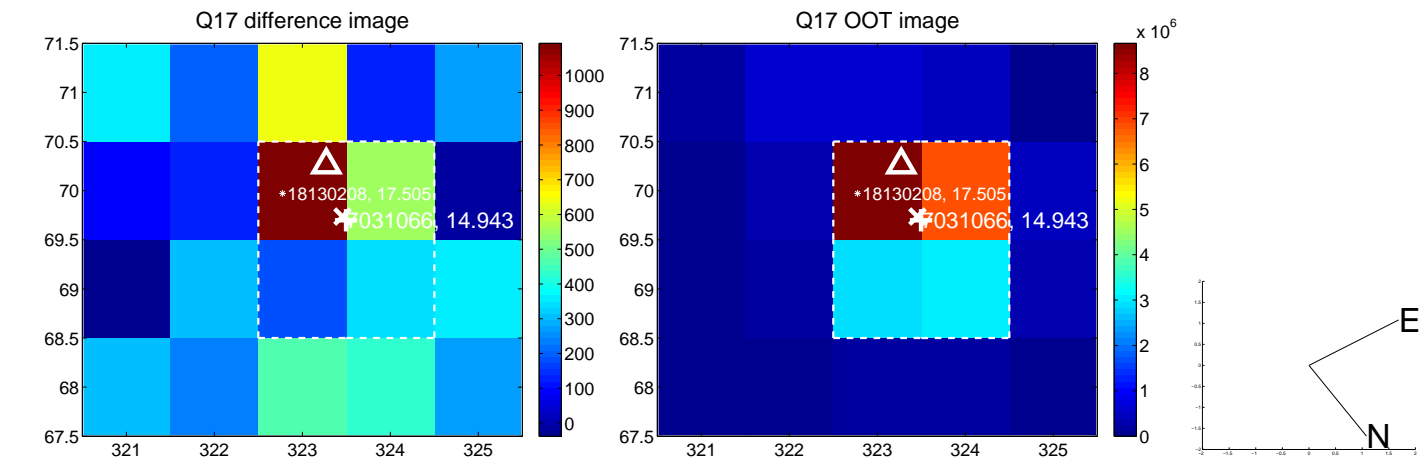
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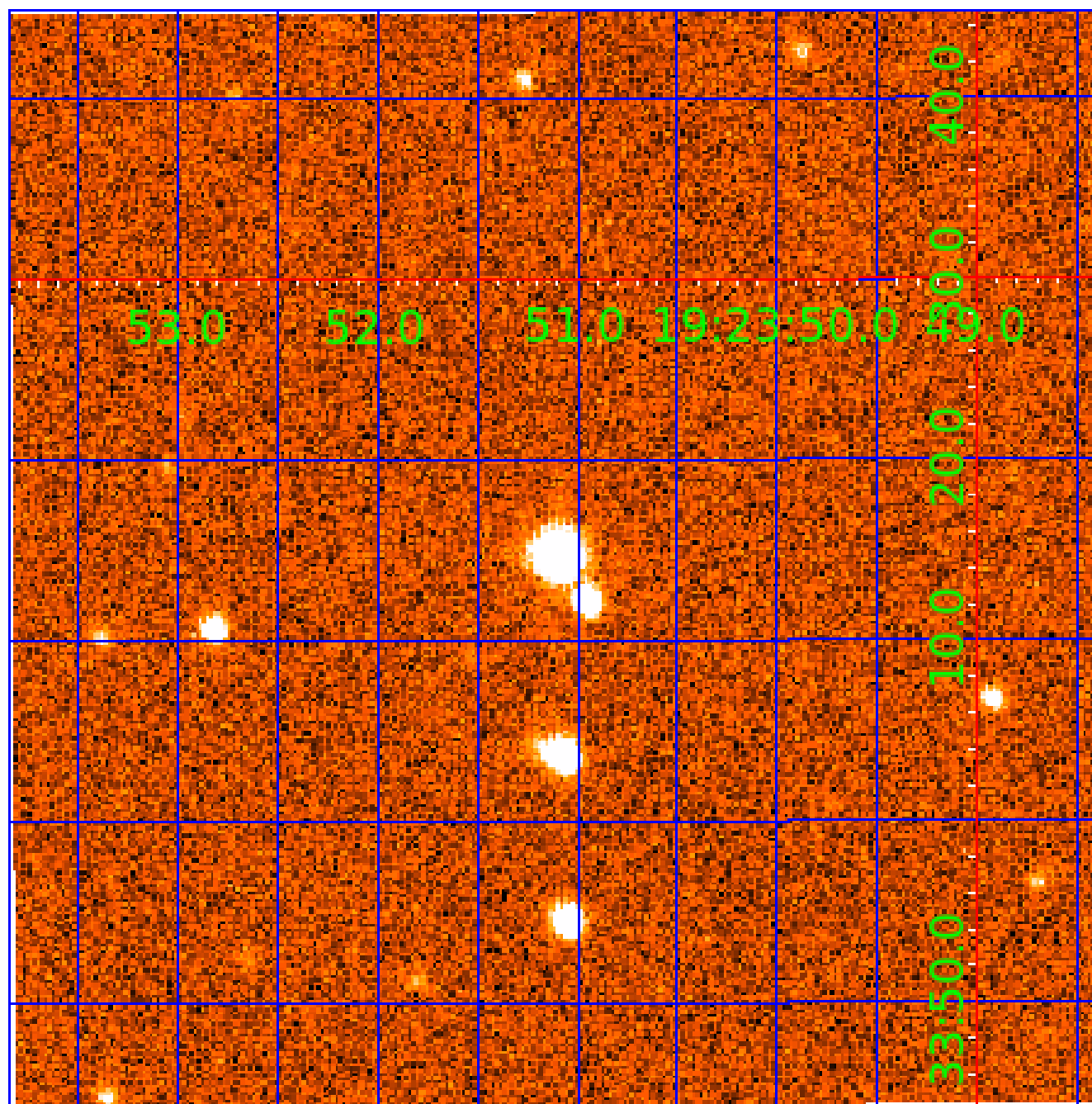


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 007031066

Q1-17 DR25 TCE Parameters

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Robovetter Results

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007031066-01	OBS	FP	0.00	1	0	1	1	LPP_DV—HALO_GHOST—EPHEM_MATCH
007031066-02	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_ZUMA—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_ALT

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

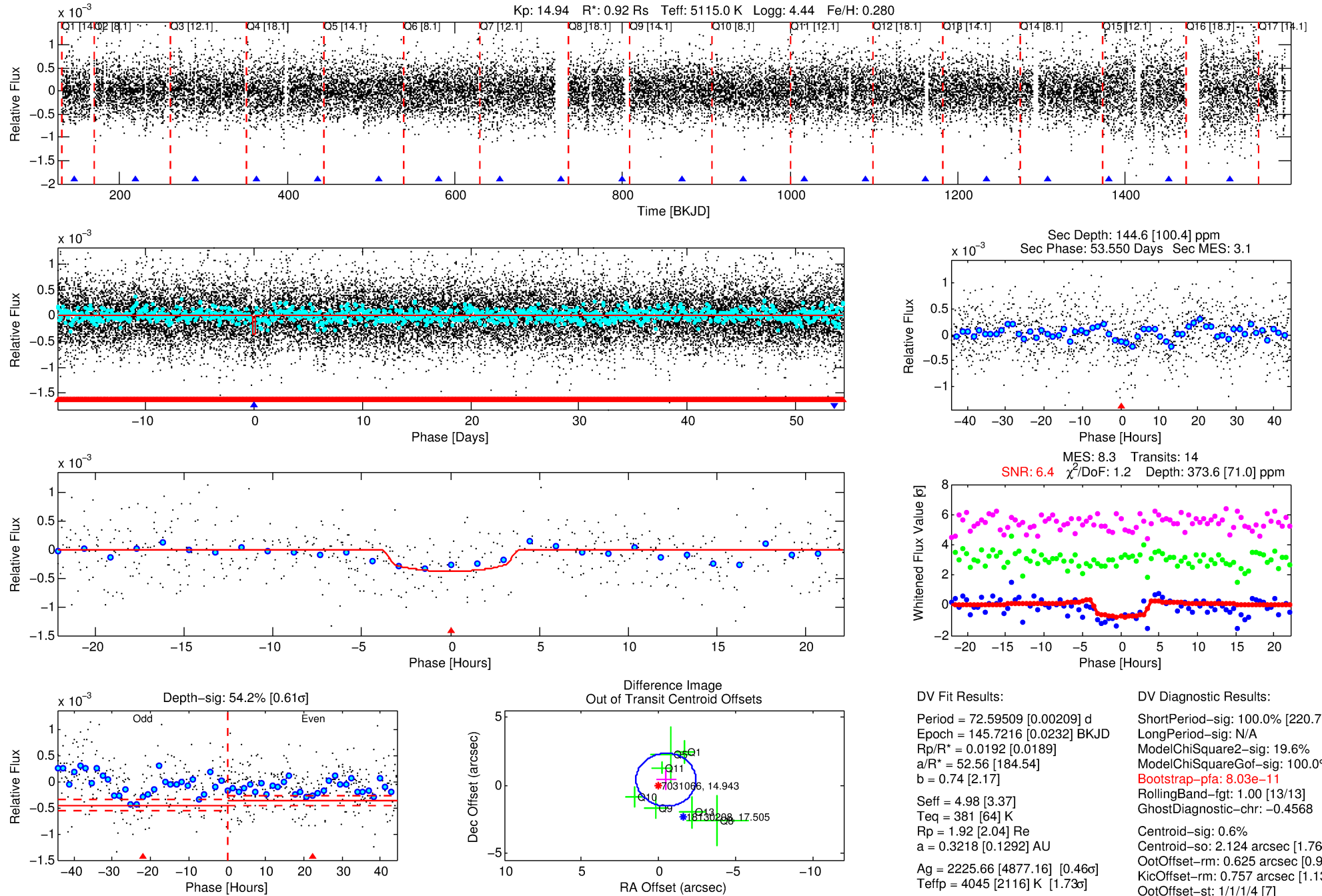
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 007031066-02

No Significant Match Found

DV One-Page Summary

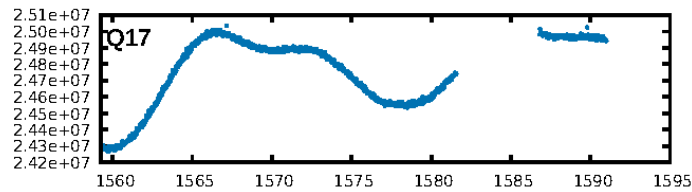
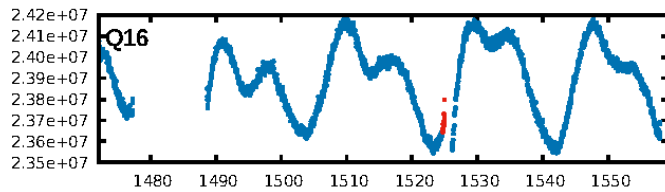
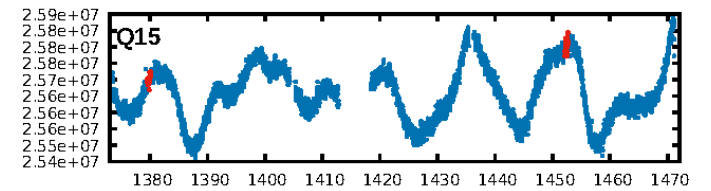
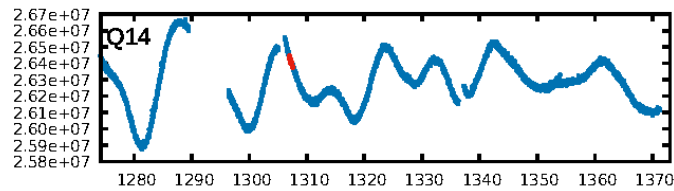
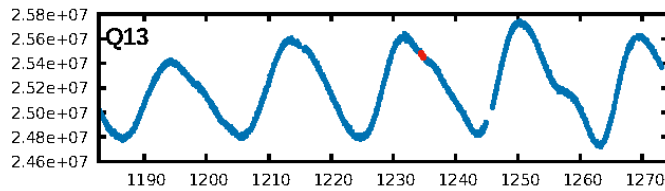
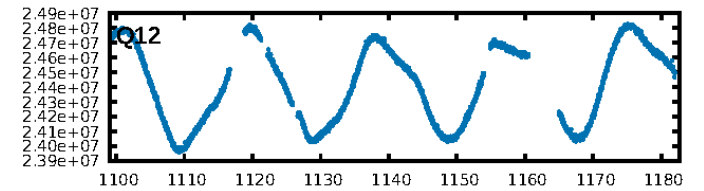
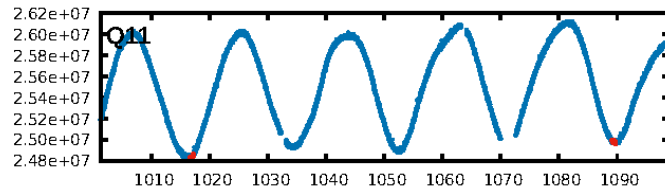
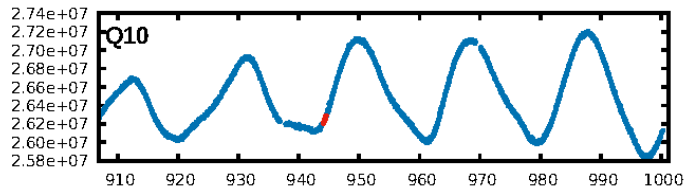
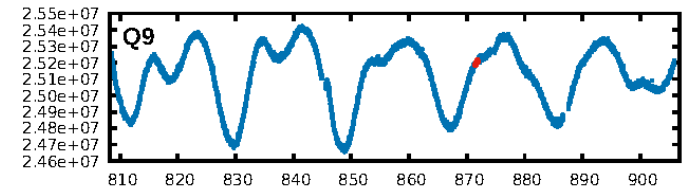
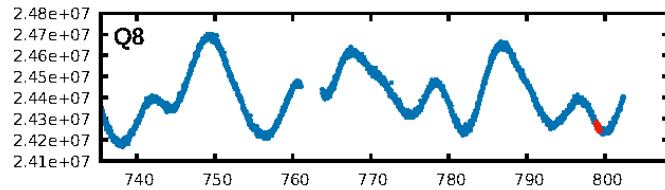
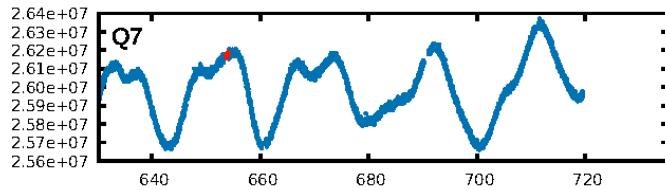
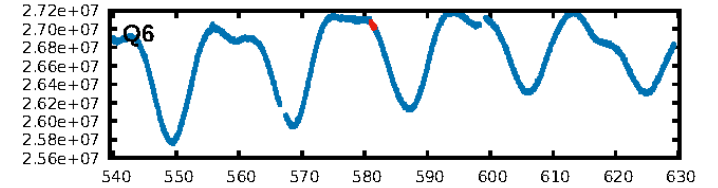
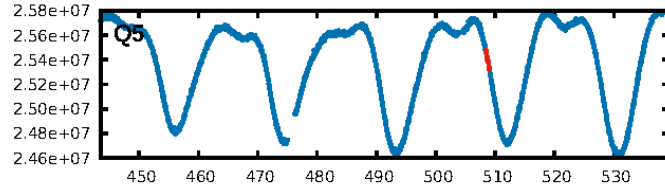
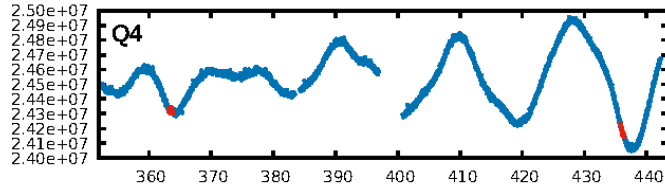
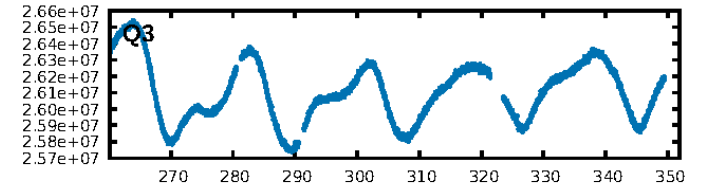
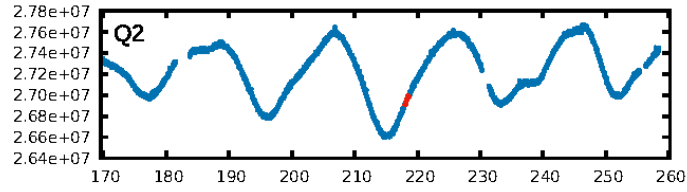
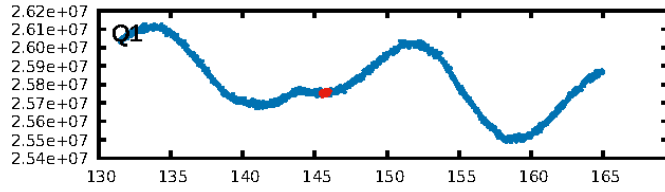
KIC: 7031066 Candidate: 2 of 2 Period: 72.595 d



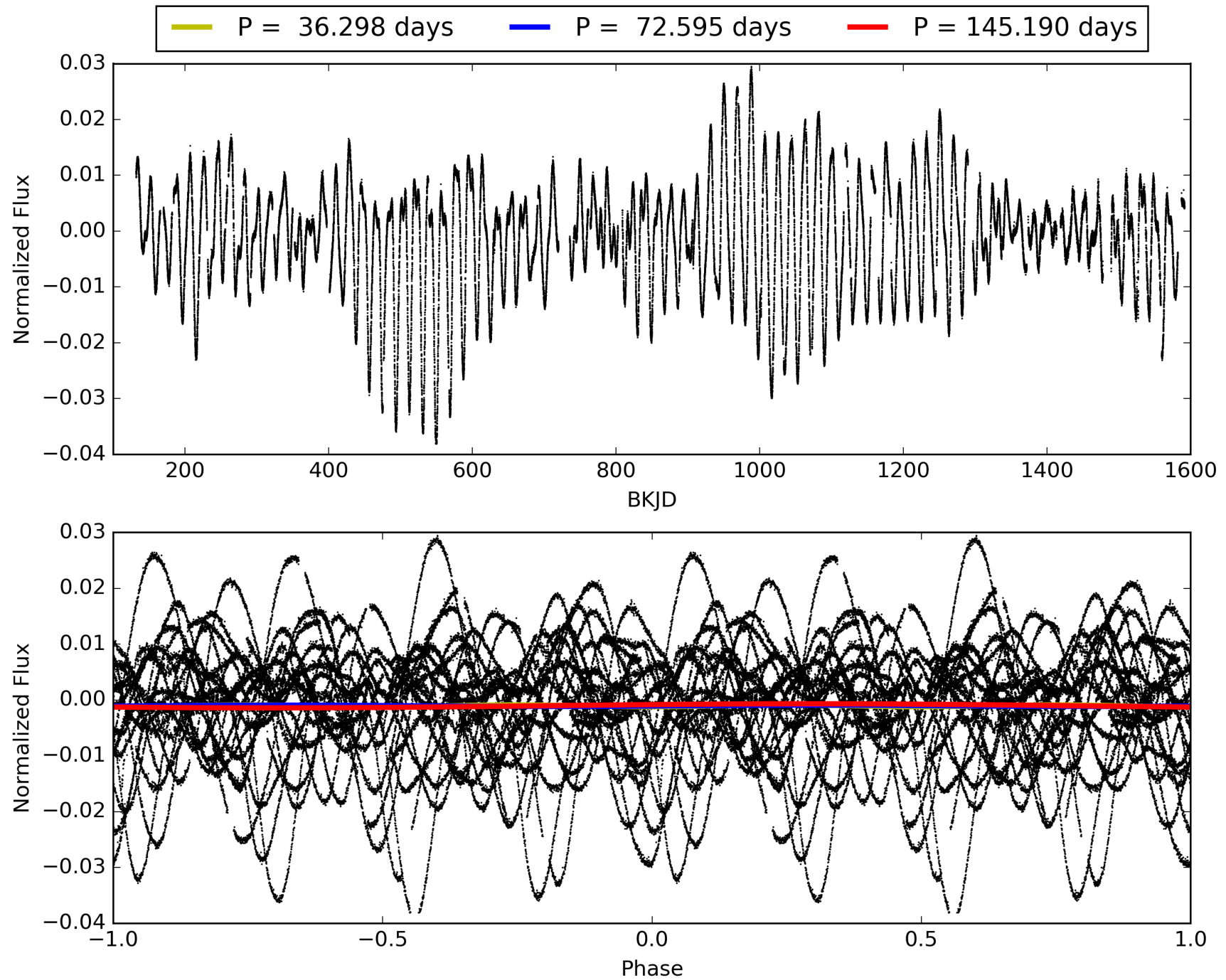
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 18:22:02 Z

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

TCE 007031066-02, PDC Light Curves

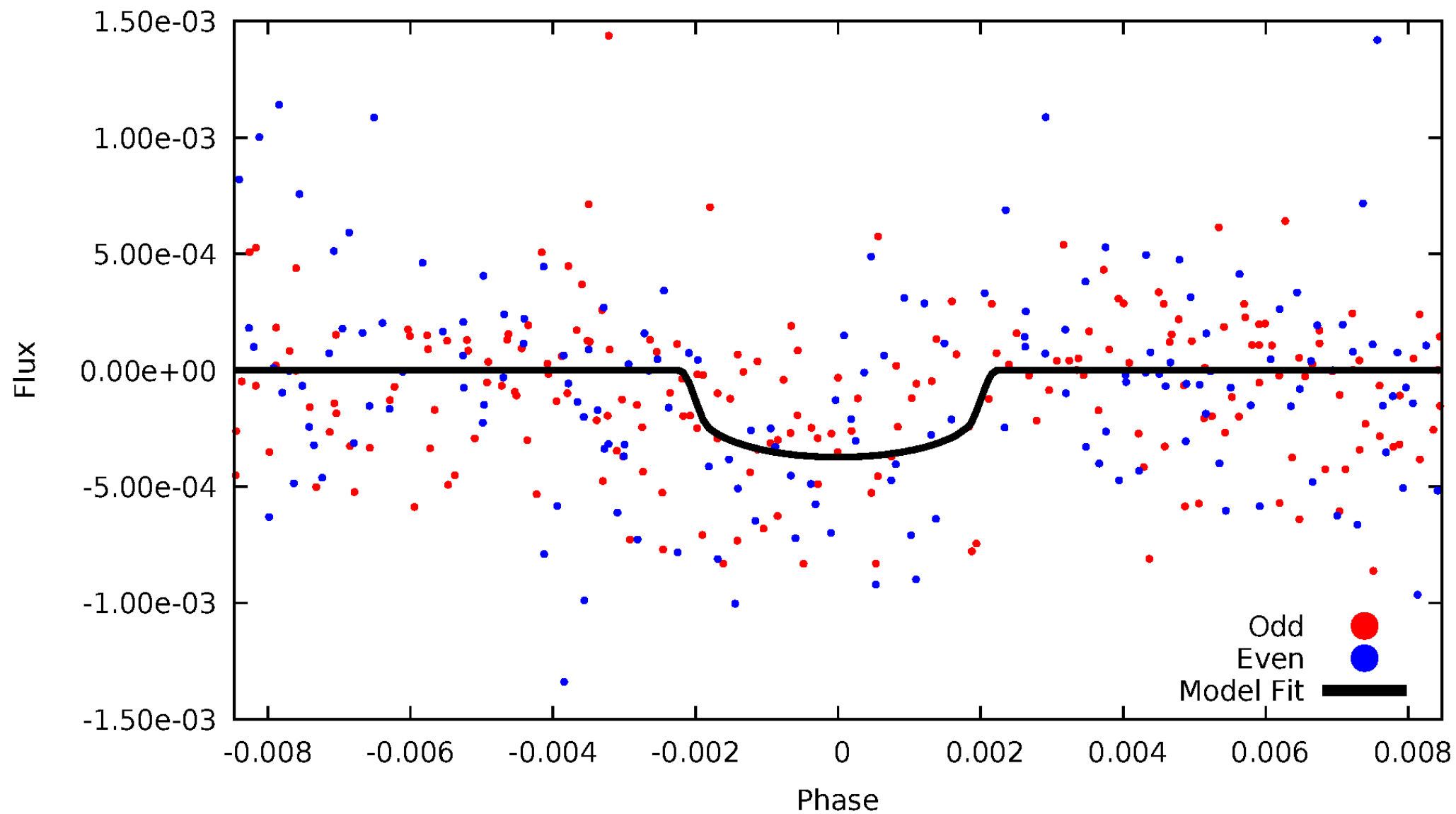


TCE 007031066-02



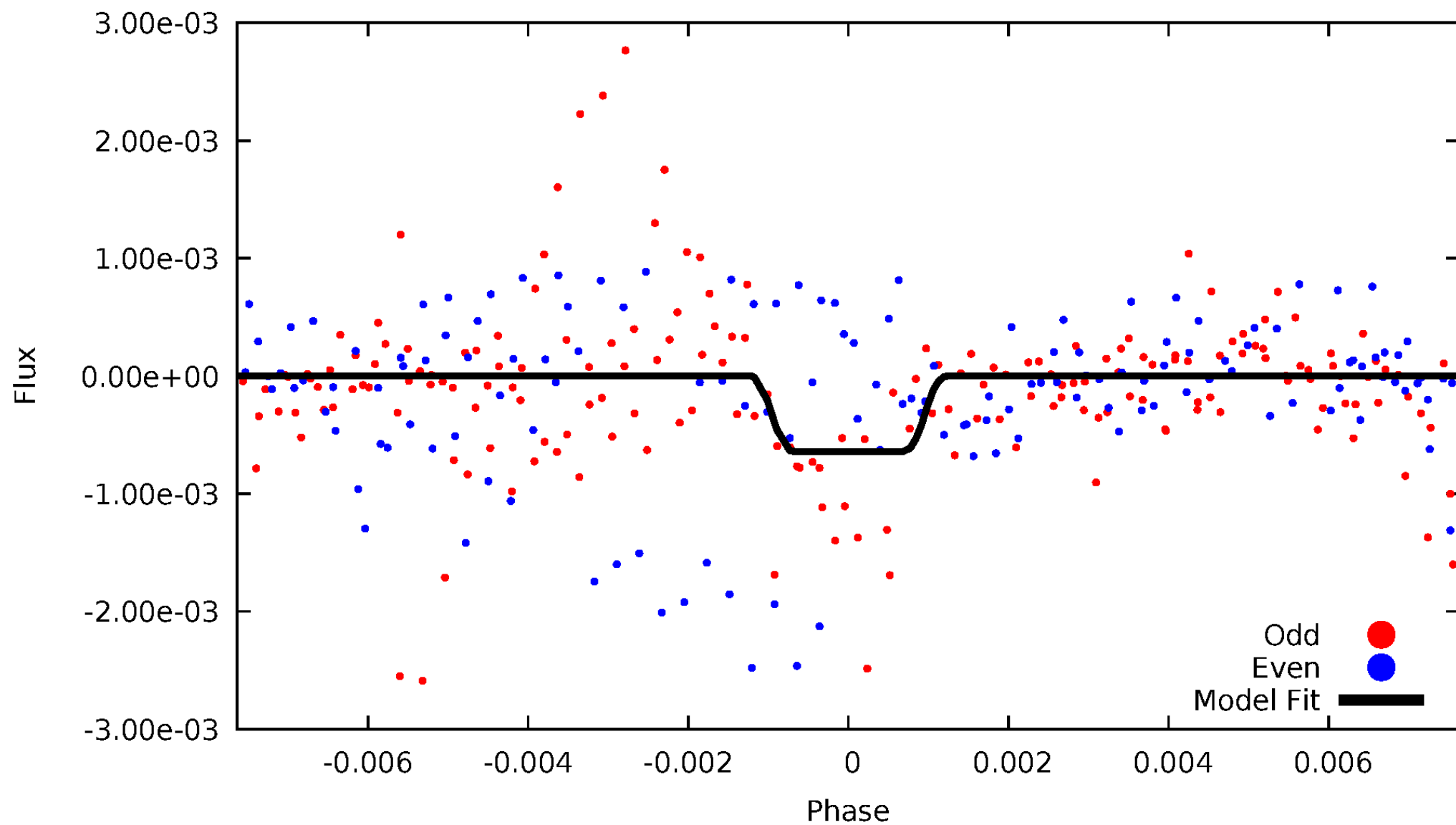
DV Odd/Even

TCE 007031066-02



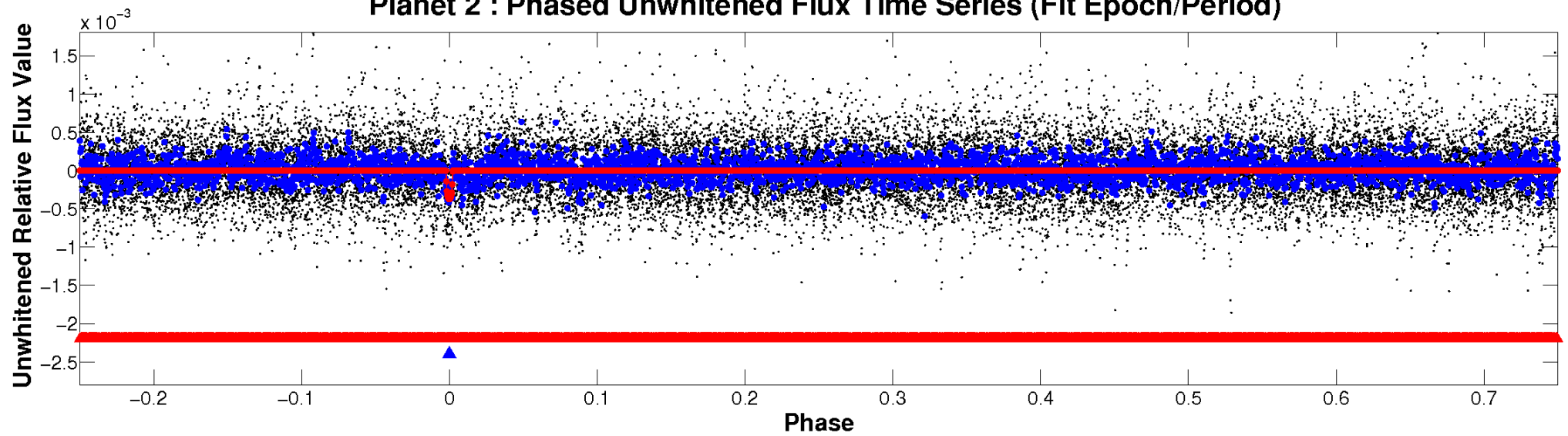
ALT Odd/Even

TCE 007031066-02

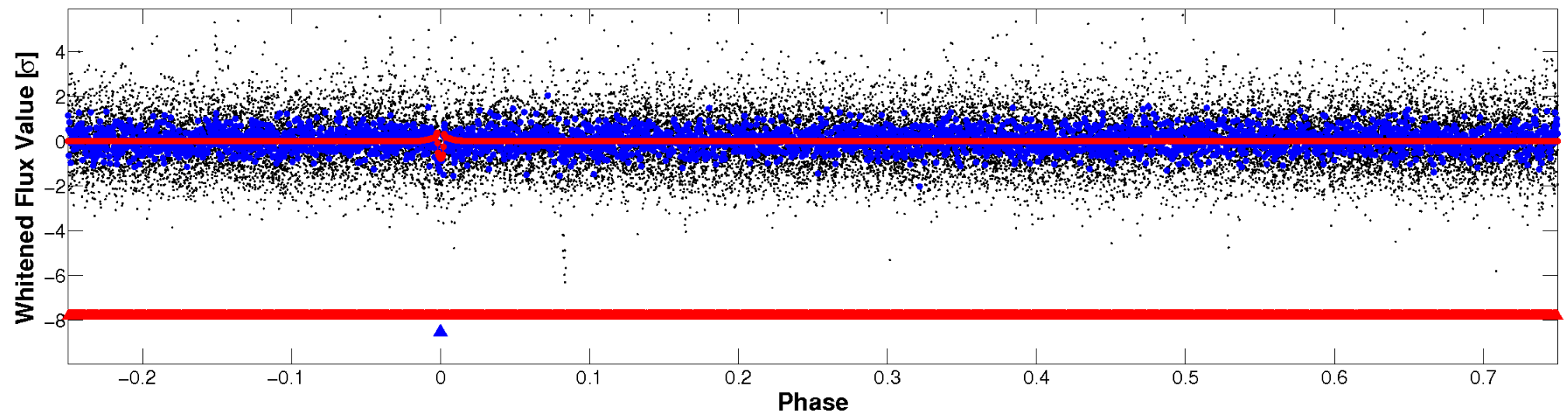


Non-Whitened Vs. Whitened Light Curve

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

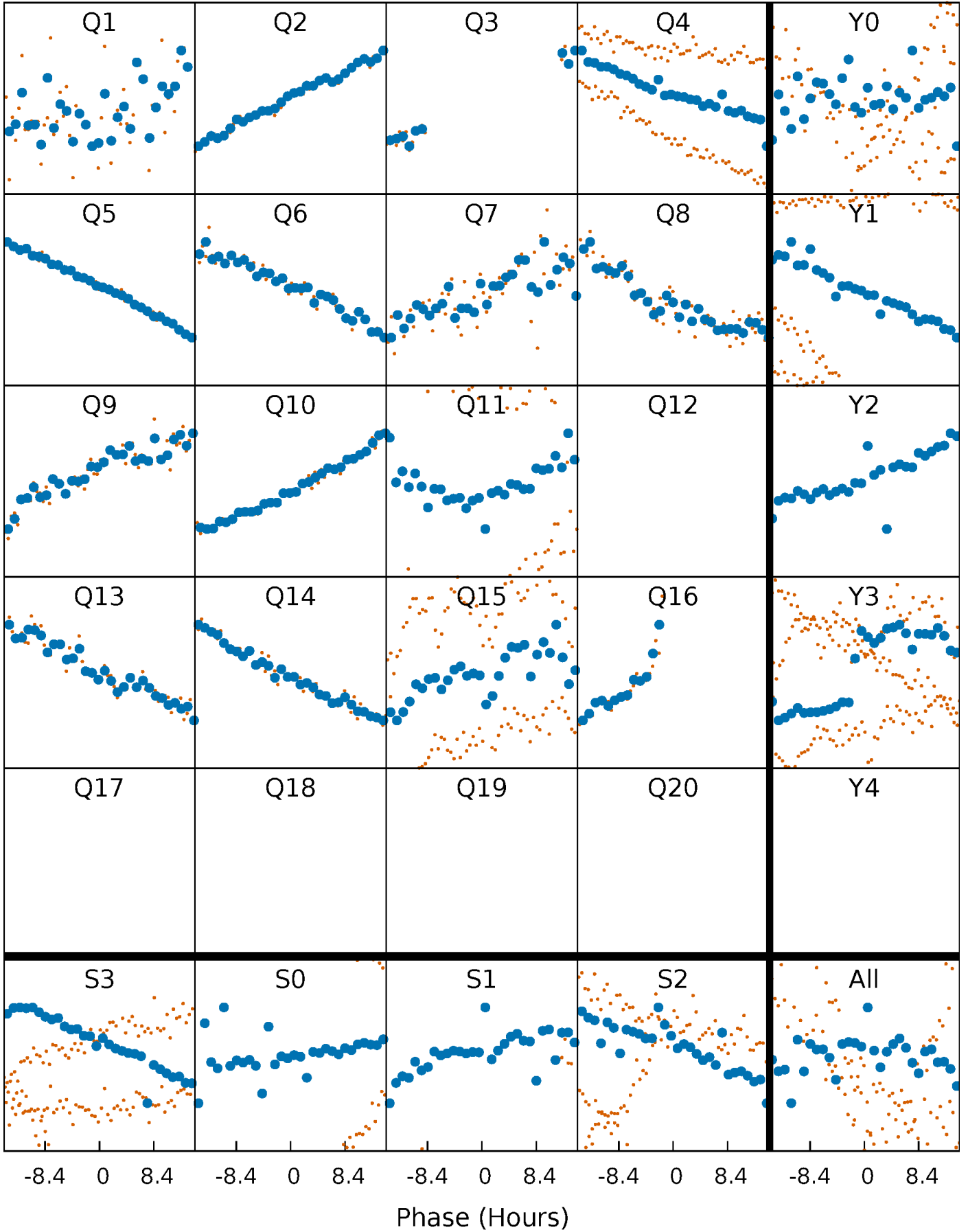


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



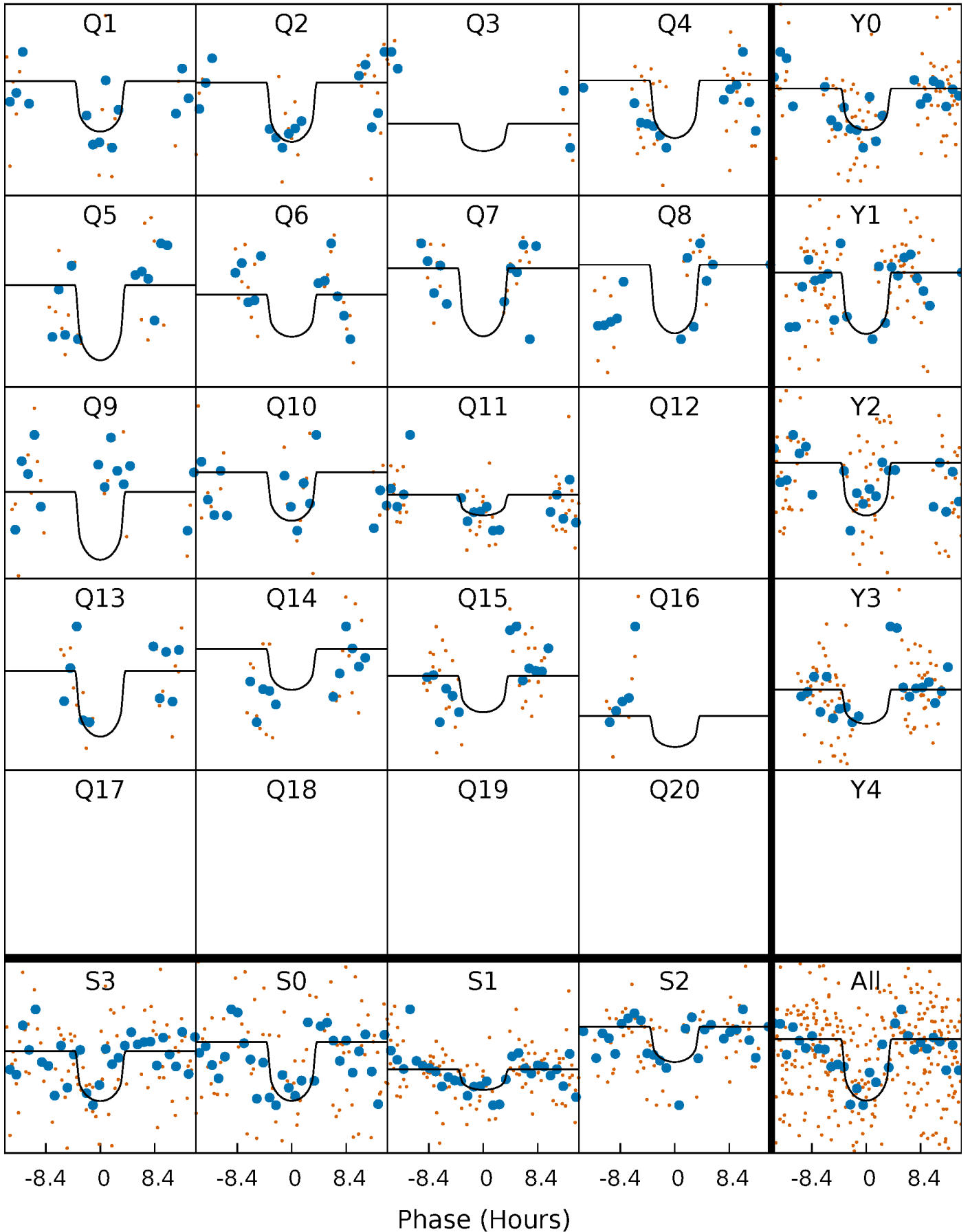
PDC Quarter-Phased Transit Curves

TCE 007031066-02 P= 72.595086 Days $T_0=145.721555$ (BKJD)



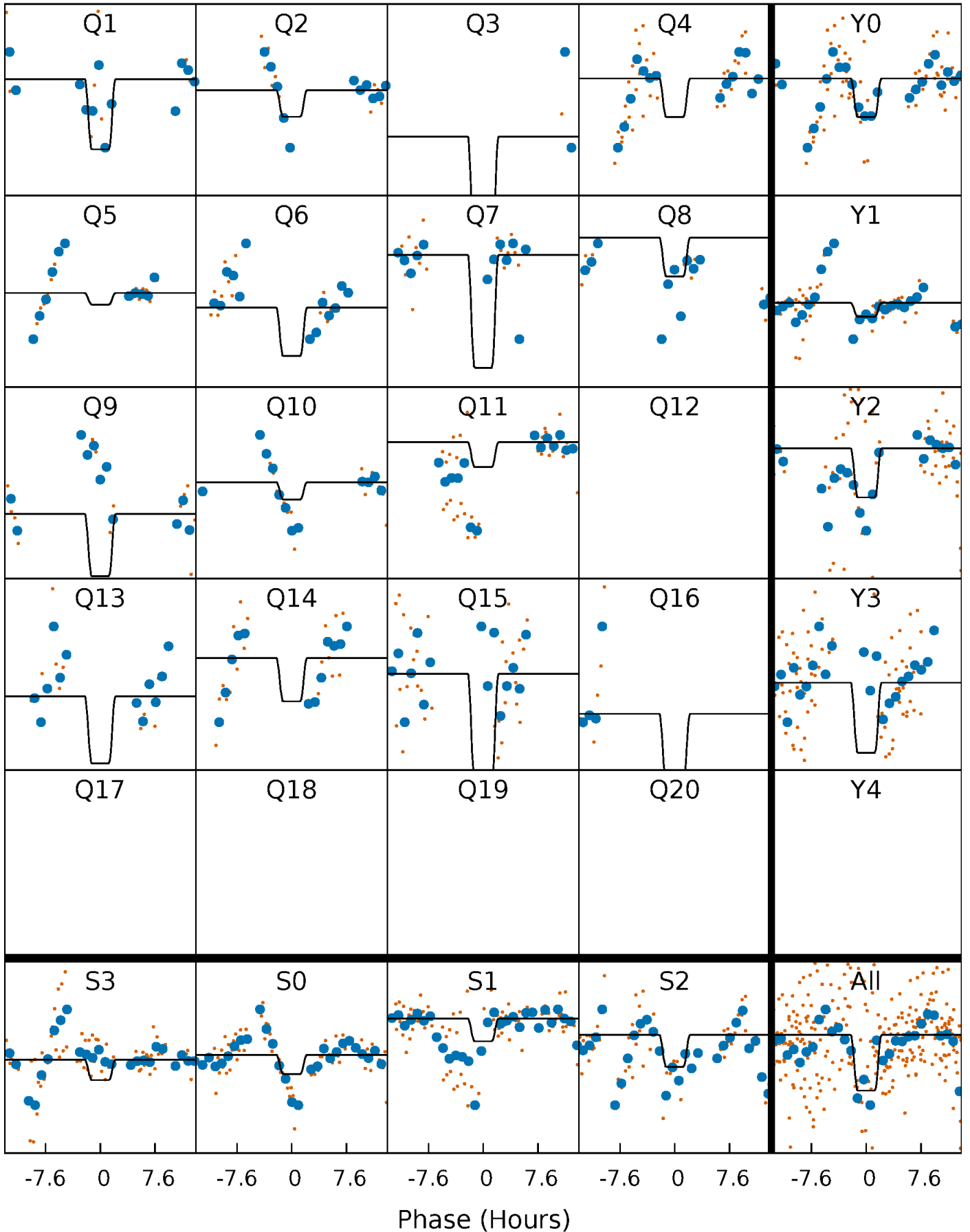
DV Quarter-Phased Transit Curves

TCE 007031066-02 P= 72.595086 Days $T_0=145.721555$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

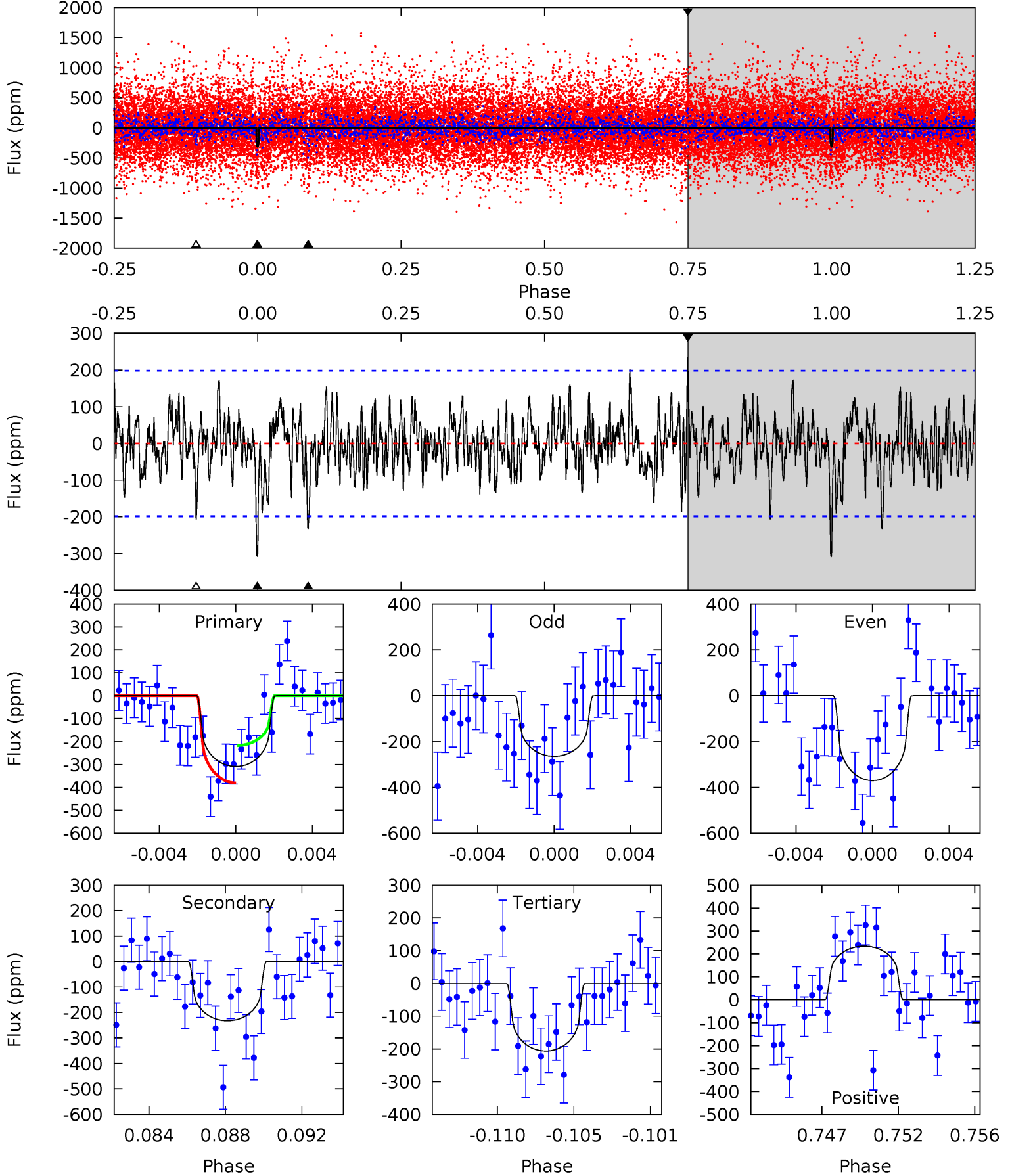
TCE 007031066-02 P= 72.601750 Days $T_0=145.767348$ (BKJD)



DV Model-Shift Uniqueness Test

007031066-02, P = 72.595086 Days, E = 73.126469 Days

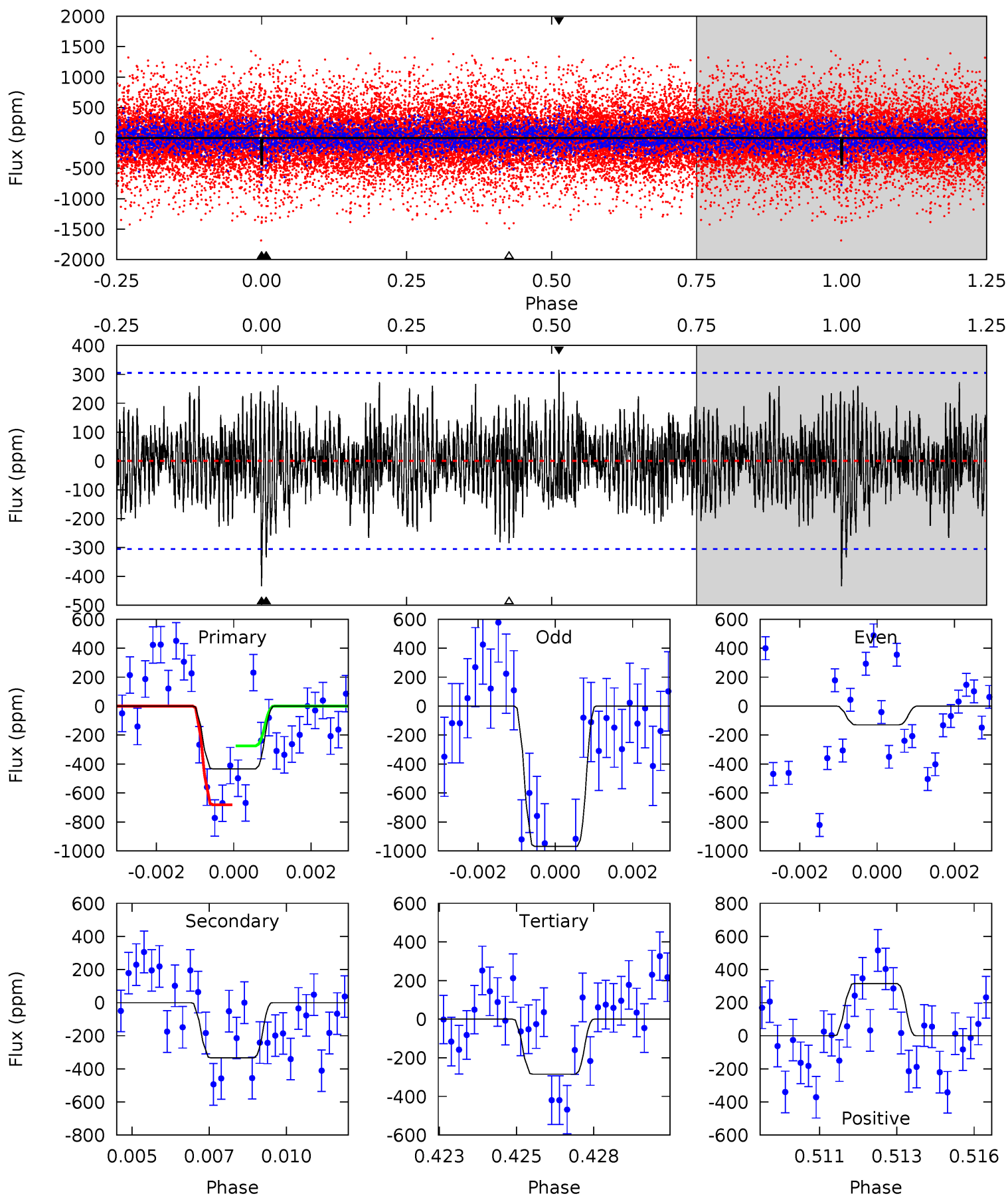
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.06	6.07	5.39	6.11	5.18	2.85	1.61	2.67	1.95	0.68	-0.04	1.36	1.10	0.43	2.11



Alt Model-Shift Uniqueness Test

007031066-02, P = 72.601750 Days, E = 73.165598 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.53	5.79	4.94	5.48	5.30	3.04	1.57	2.59	2.06	0.85	0.32	7.67	1.23	0.42	3.51



Stellar Parameters For KIC 007031066

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5115^{+168}_{-153}	$4.439^{+0.132}_{-0.397}$	$0.280^{+0.150}_{-0.300}$	$0.917^{+0.360}_{-0.120}$	$0.842^{+0.078}_{-0.058}$	$1.538^{+0.811}_{-1.136}$
	+3%/-3%	+3%/-9%	+54%/-107%	+39%/-13%	+9%/-7%	+53%/-74%
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 007031066-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-233 ± 38	$2.41^{+2.09}_{-1.59}$	539^{+64}_{-33}	4337^{+2613}_{-811}	2295^{+17349}_{-1646}
Alt.	-334 ± 58	$2.87^{+2.16}_{-1.69}$	543^{+63}_{-36}	4366^{+2149}_{-781}	2299^{+11604}_{-1553}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

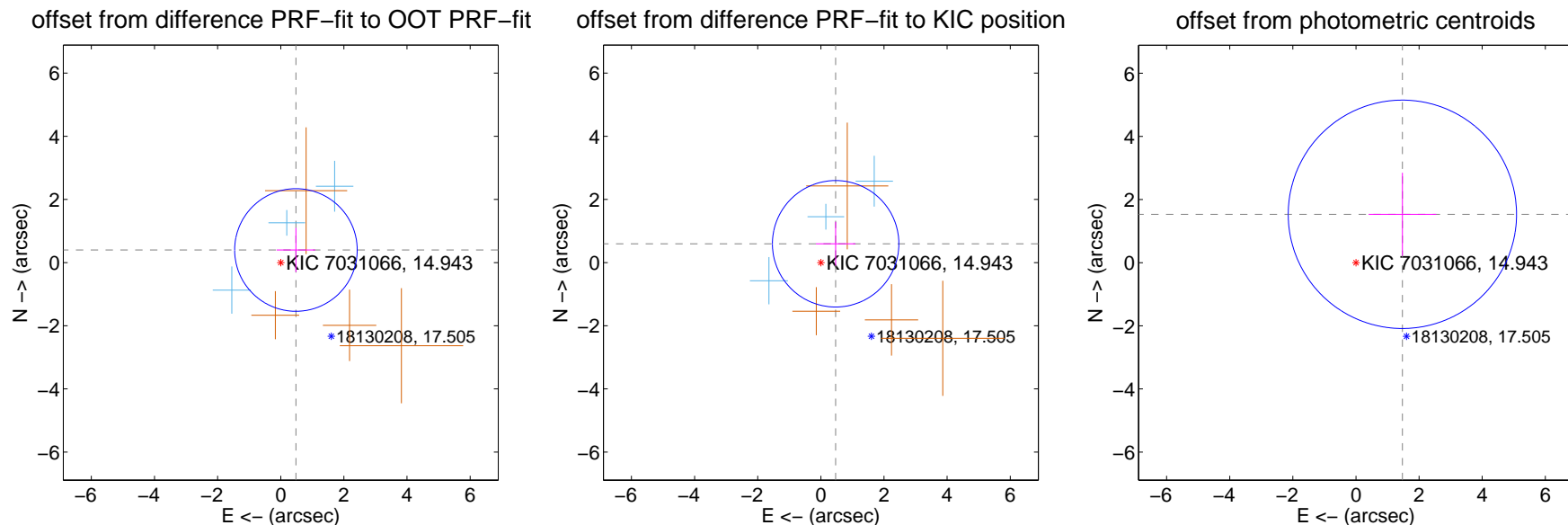
DV Centroid Data

Supplemental centroid analysis for 007031066-02. Kepler magnitude: 14.94. Transit SNR 6.38

There are 3 quarters with good PRF difference image offsets

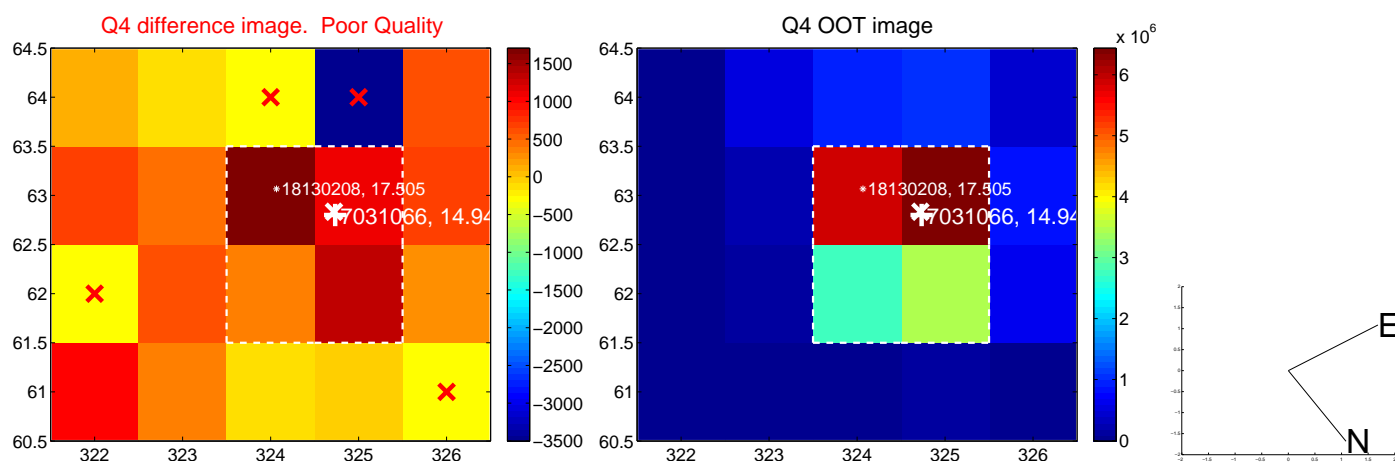
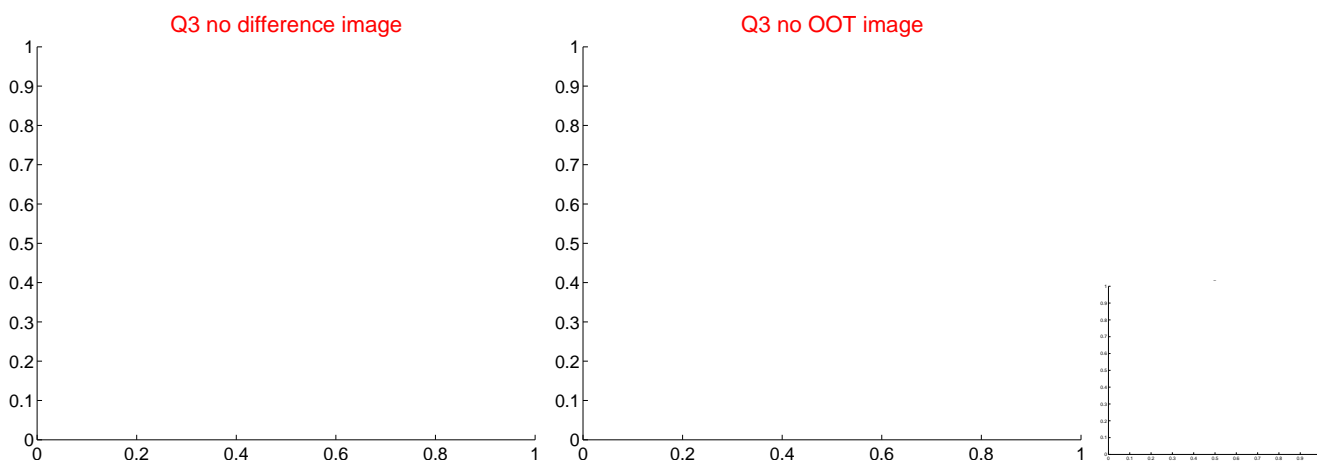
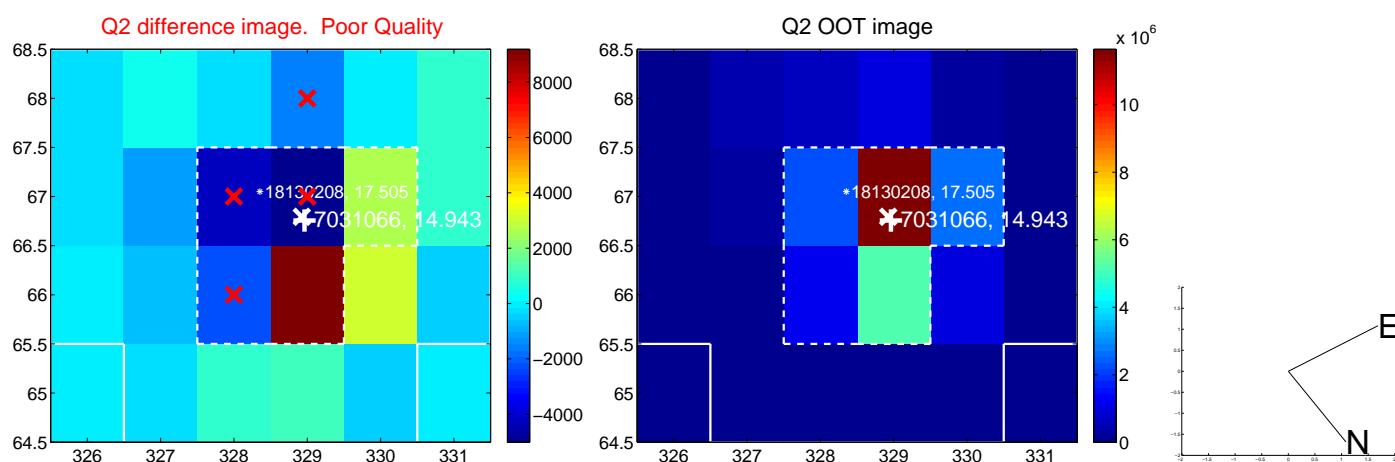
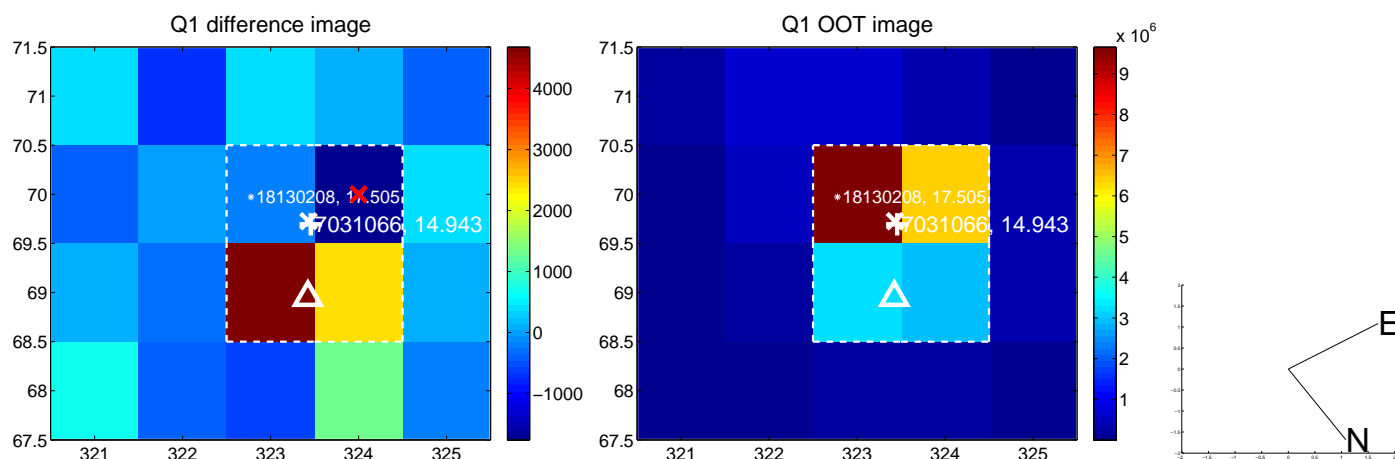
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.625 ± 0.647	0.97	-0.481 ± 0.609	0.399 ± 0.699
PRF-fit source offset from KIC position	0.757 ± 0.667	1.13	-0.468 ± 0.624	0.595 ± 0.693
photometric centroid source offset	2.12 ± 1.21	1.76	-1.47 ± 1.07	1.53 ± 1.32

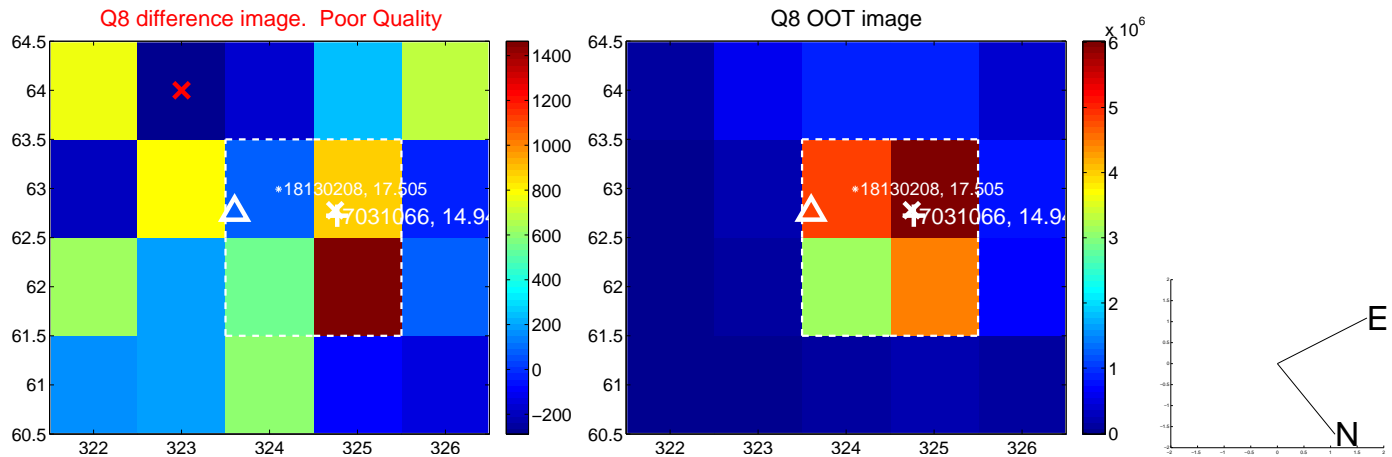
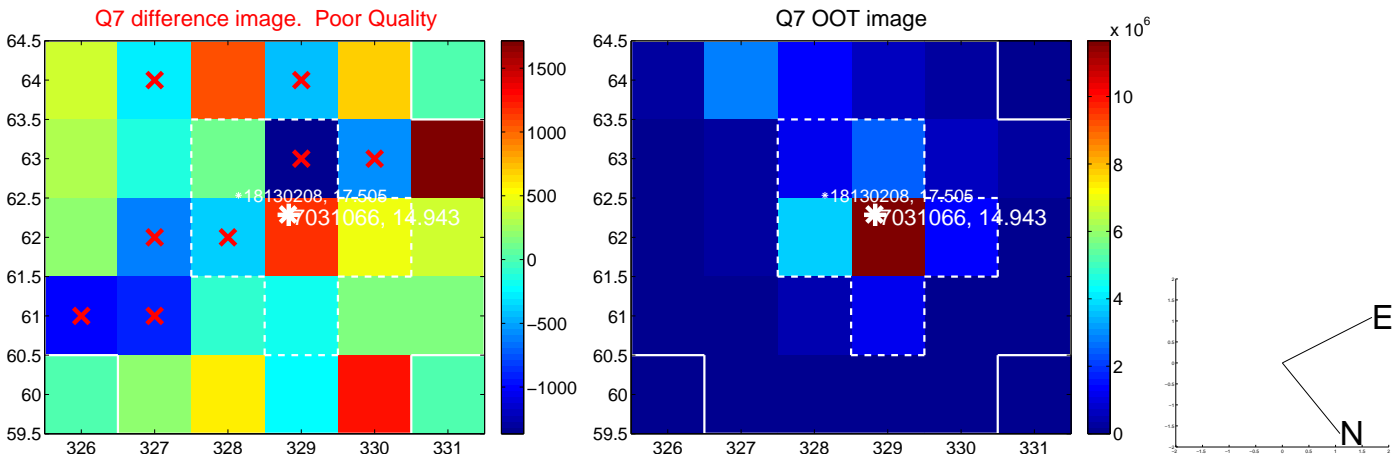
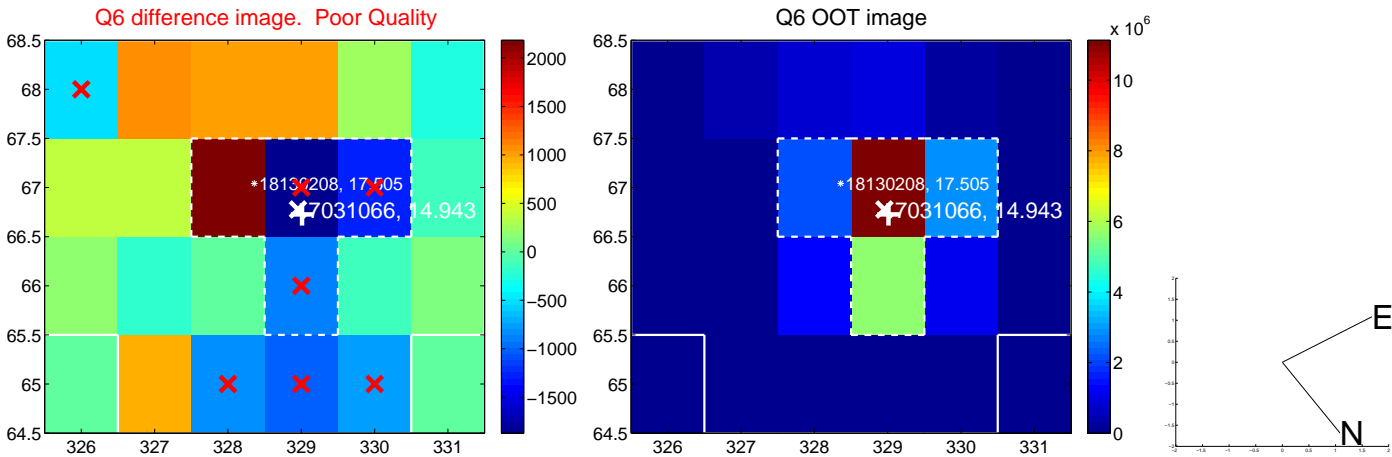
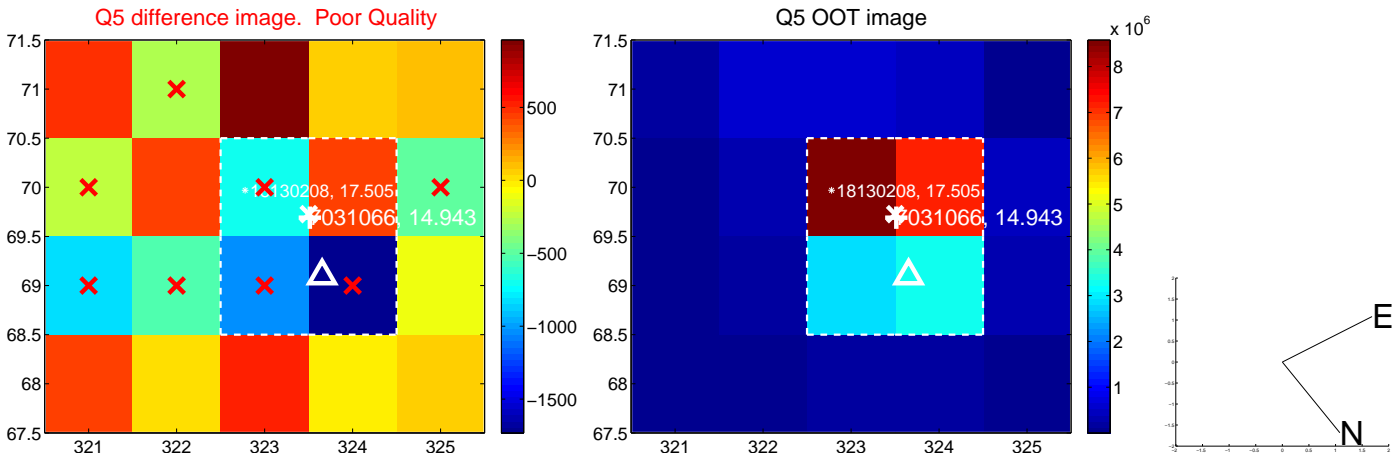


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

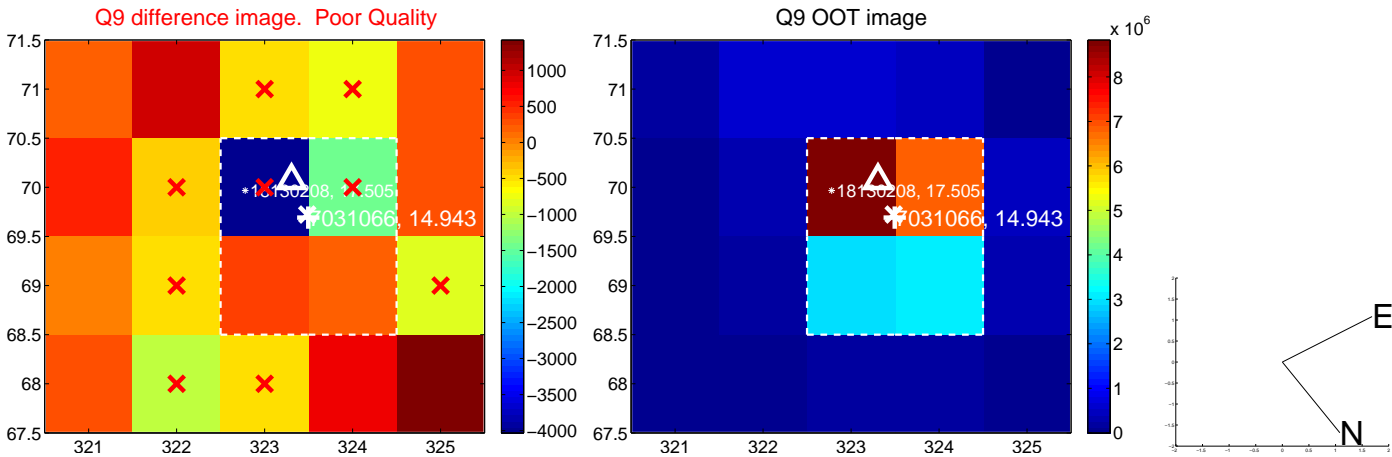
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



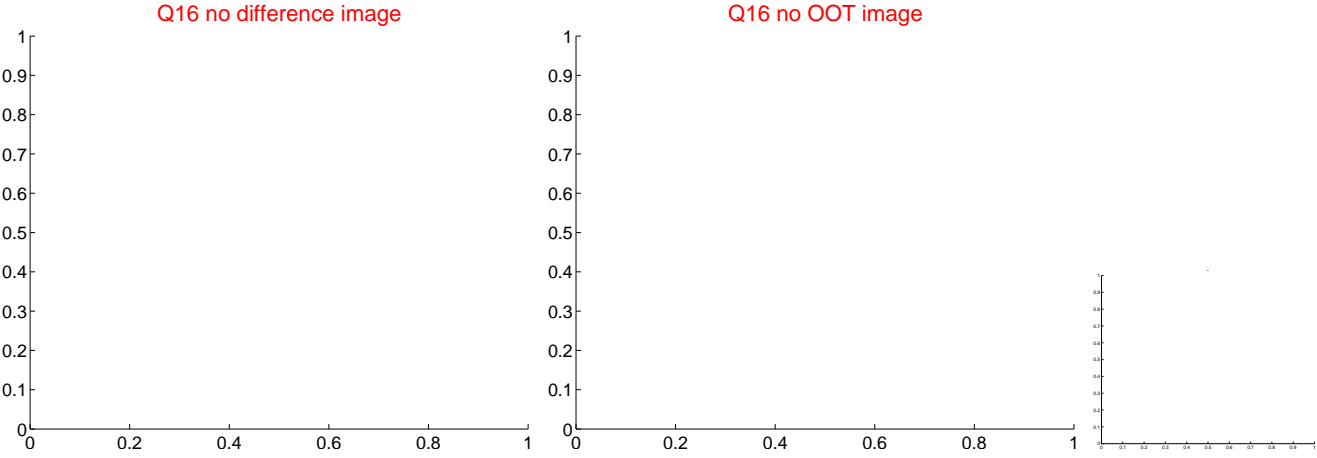
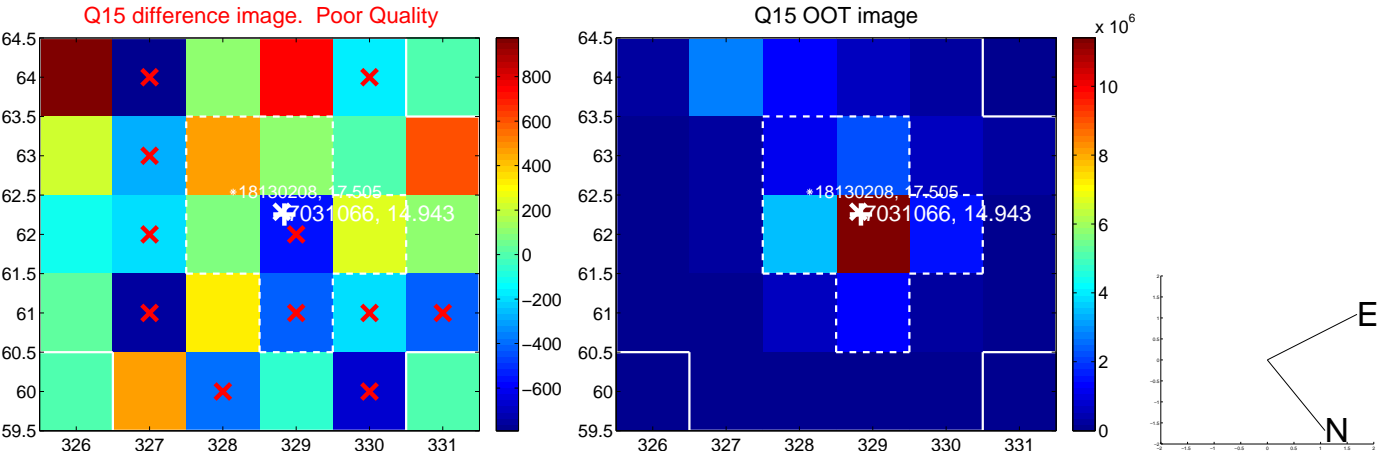
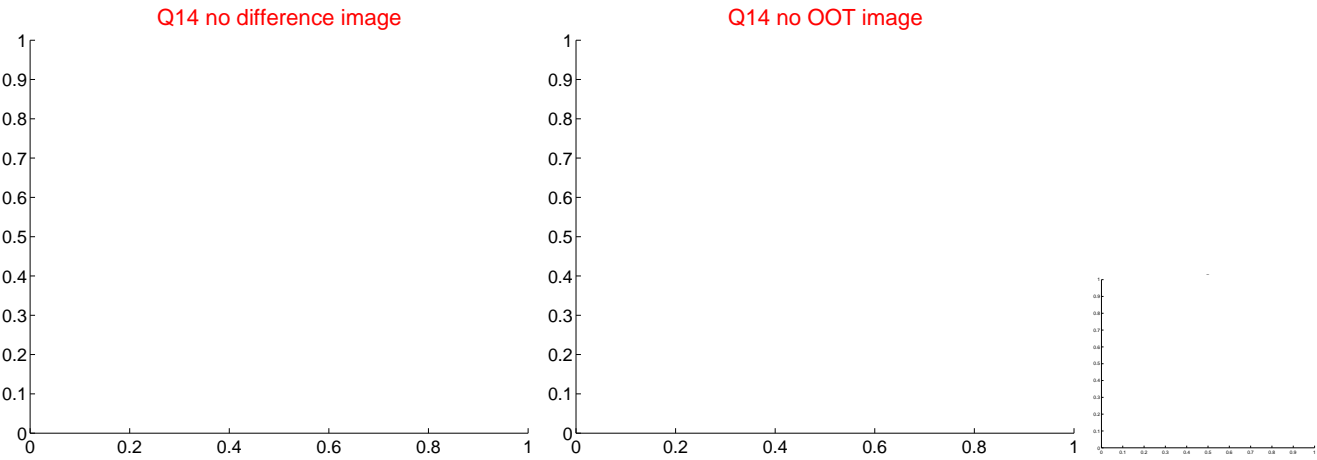
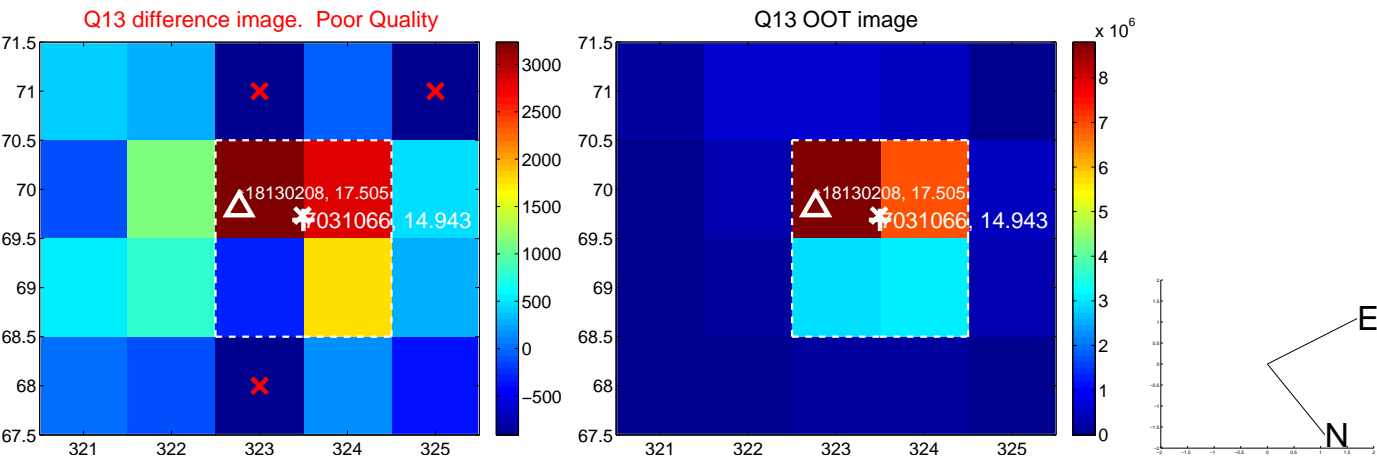
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



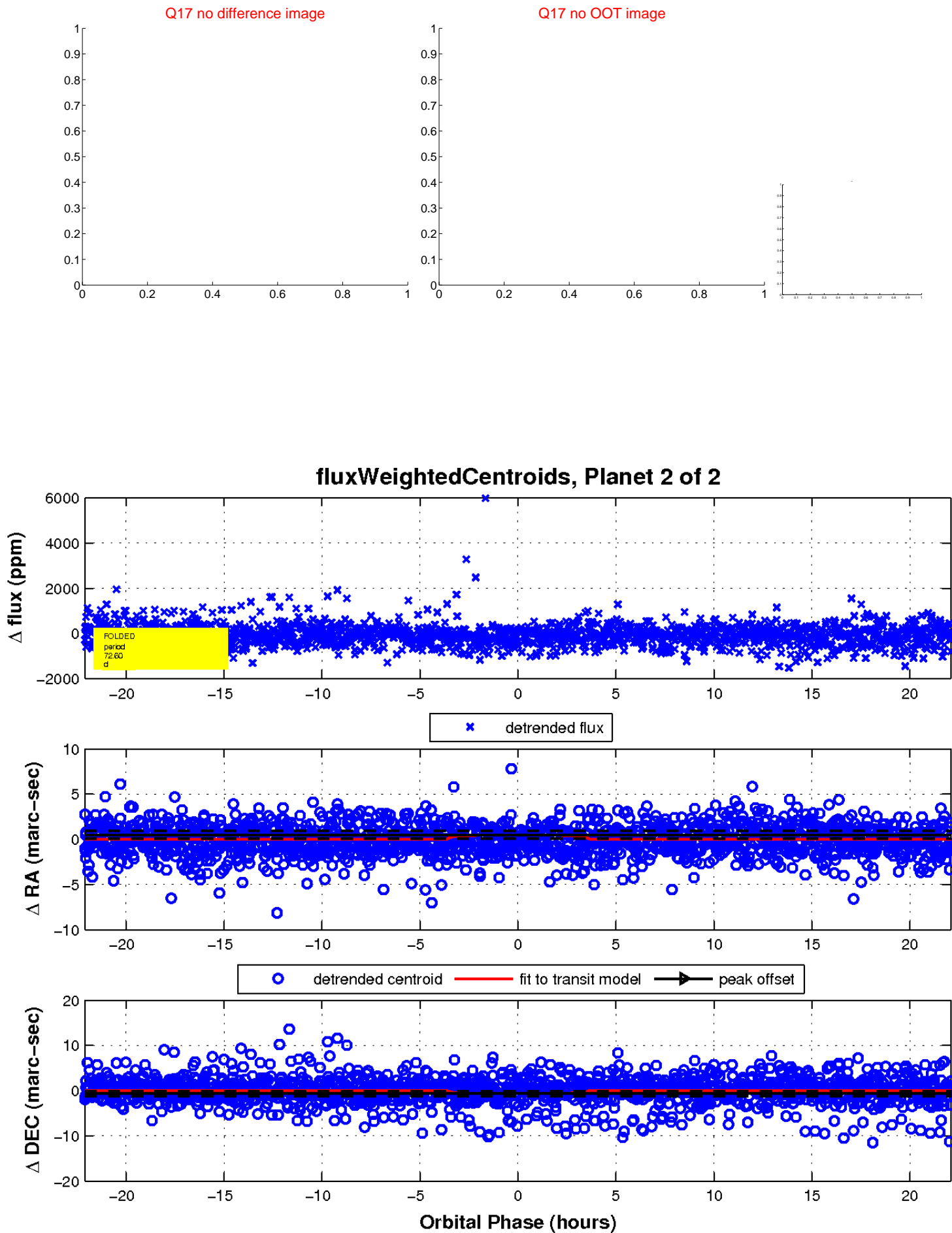
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

