

KIC 001430590

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})
001430590-01	OBS	No	1.386644	132.731371	26.8	3.317	10.1	9.4	3.33	6809	2.00	23604.29
001430590-02	OBS	No	1.386274	132.117719	0.0	12.373	8.7	0.0	3.33	6809	0.08	23612.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001430590-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
001430590-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFFS

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

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

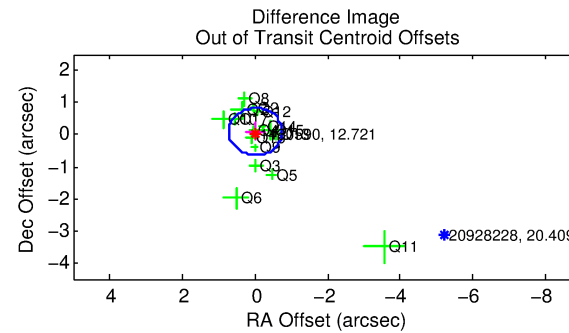
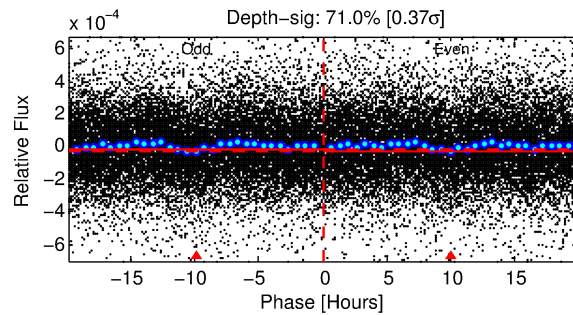
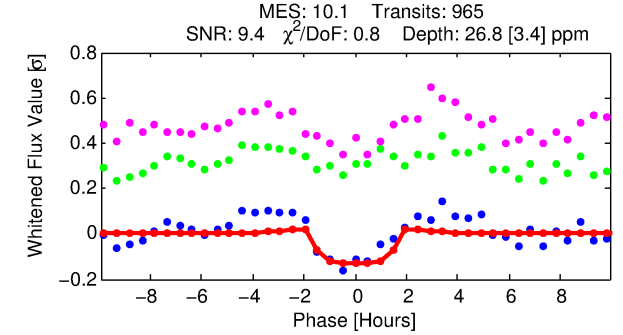
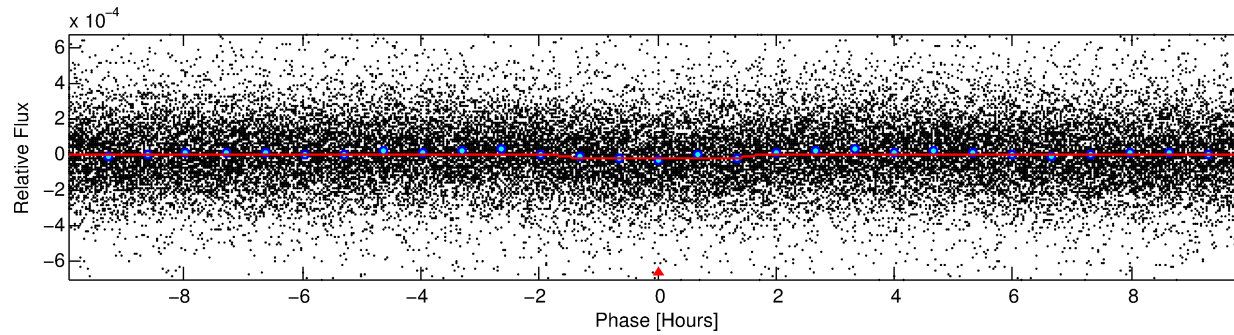
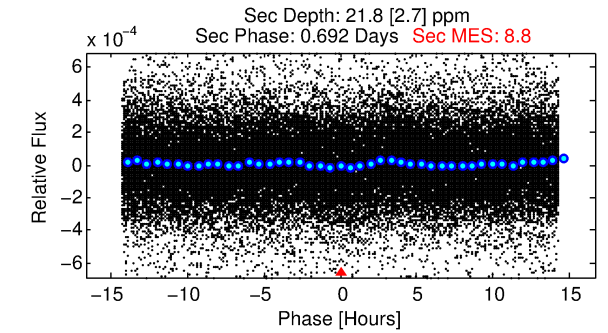
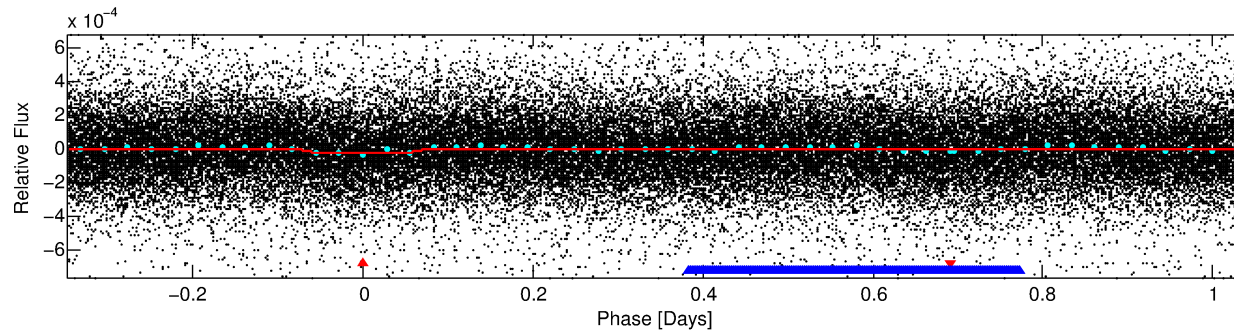
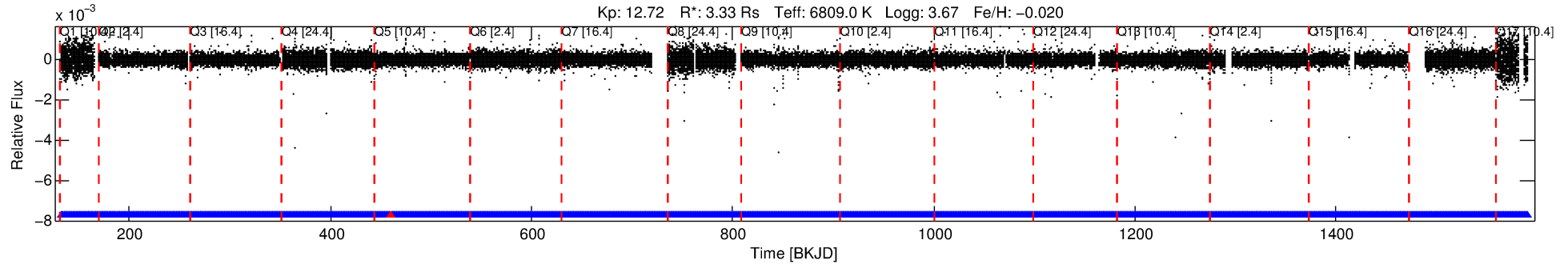
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001430590-01

No Significant Match Found

DV One-Page Summary

KIC: 1430590 Candidate: 1 of 2 Period: 1.387 d



DV Fit Results:

Period = 1.38664 [0.00001] d
Epoch = 132.7314 [0.0041] BKJD
Rp/R* = 0.0055 [0.0021]
a/R* = 1.73 [2.70]
b = 0.90 [0.52]
Seff = 23604.29 [20065.61]
Teq = 3161 [672] K
Rp = 2.00 [1.31] Re
a = 0.0301 [0.0155] AU
Ag = 2.71 [3.11] [0.55σ]
Teffp = 6271 [1266] K [2.17σ]

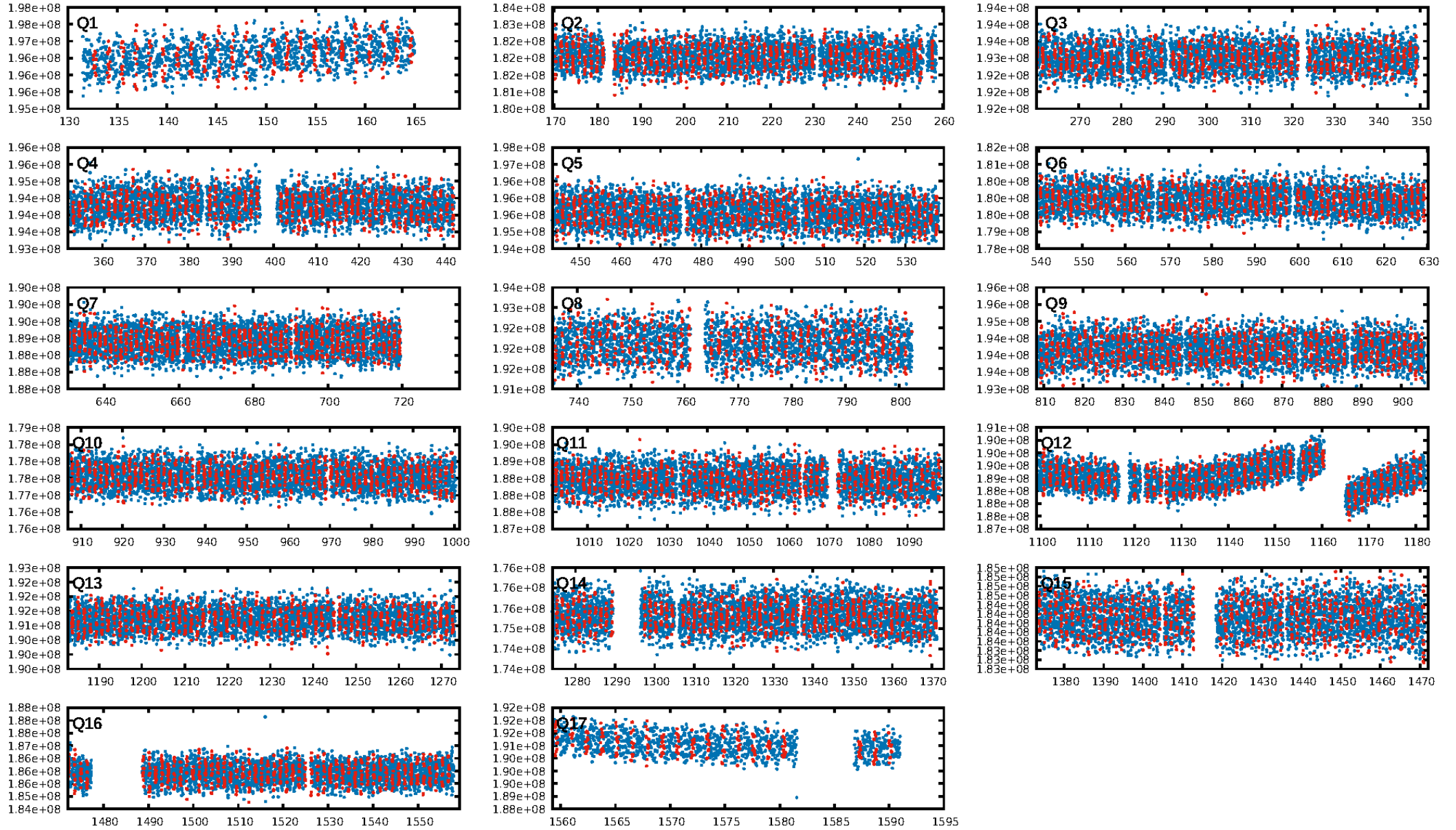
DV Diagnostic Results:

ShortPeriod-sig: 0.1% [0.00σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [921/922]
GhostDiagnostic-chr: 1.597
Centroid-sig: 0.2%
Centroid-so: 1.656 arcsec [1.61σ]
OotOffset-rm: 0.094 arcsec [0.38σ]
KicOffset-rm: 0.193 arcsec [0.99σ]
OotOffset-st: 4/4/4/4 [16]
KicOffset-st: 4/4/4/4 [16]
DiffImageQuality-fgm: 0.69 [11/16]
DiffImageOverlap-fno: 0.47 [8/17]

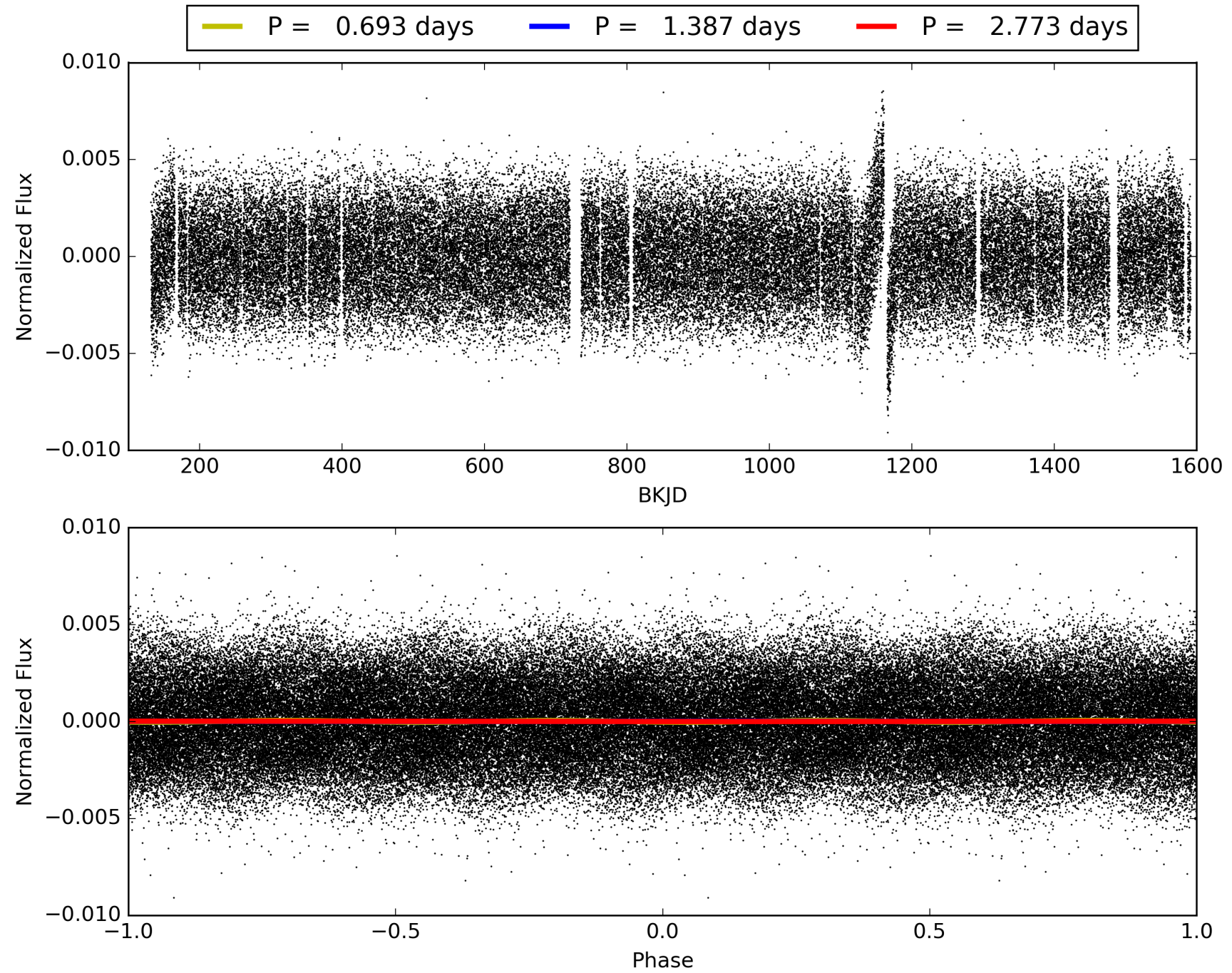
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 04:38:05 Z

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

TCE 001430590-01, PDC Light Curves

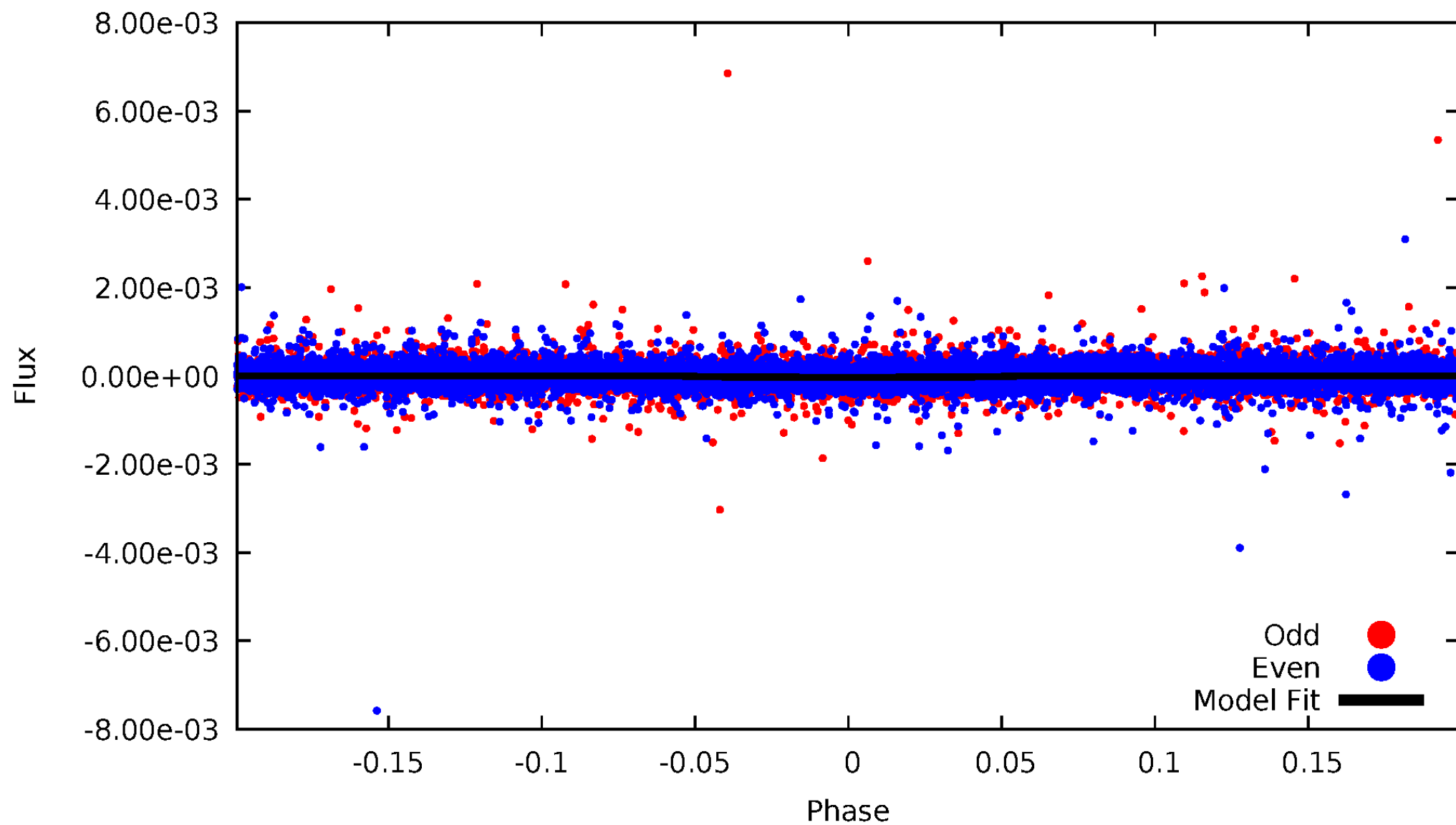


TCE 001430590-01



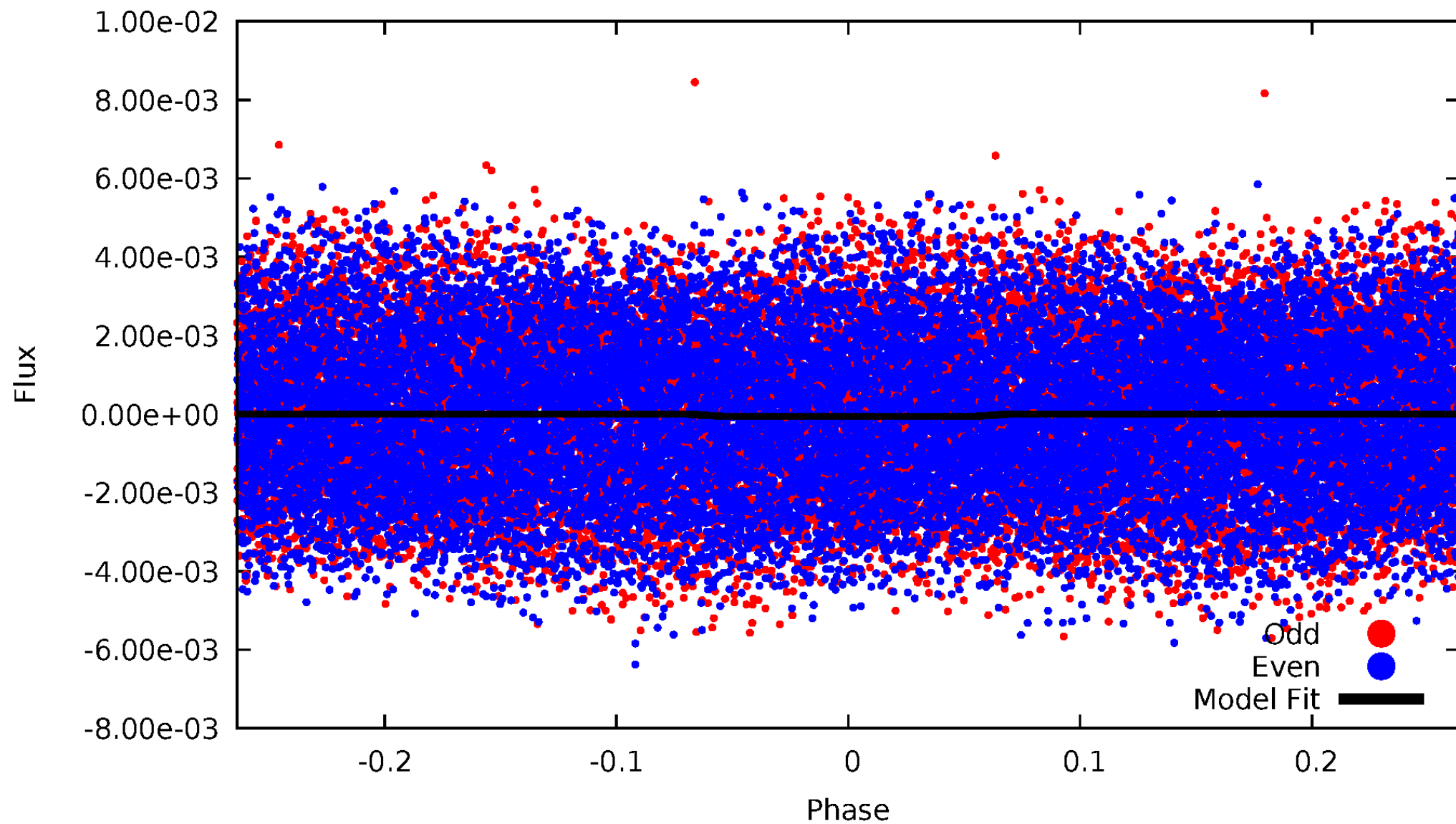
DV Odd/Even

TCE 001430590-01

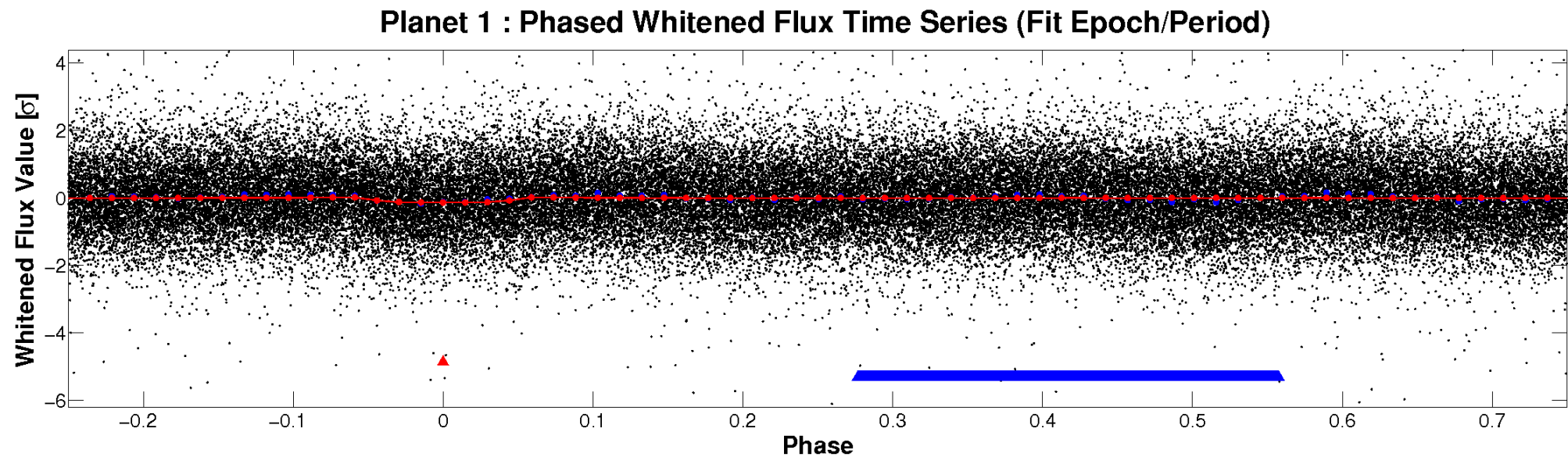
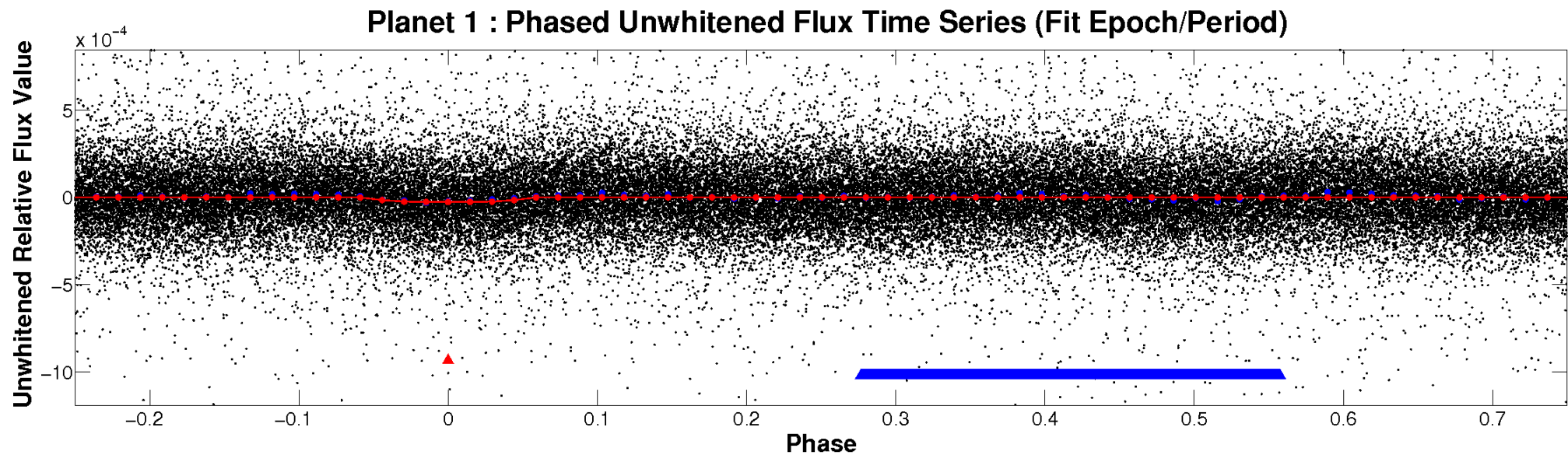


ALT Odd/Even

TCE 001430590-01

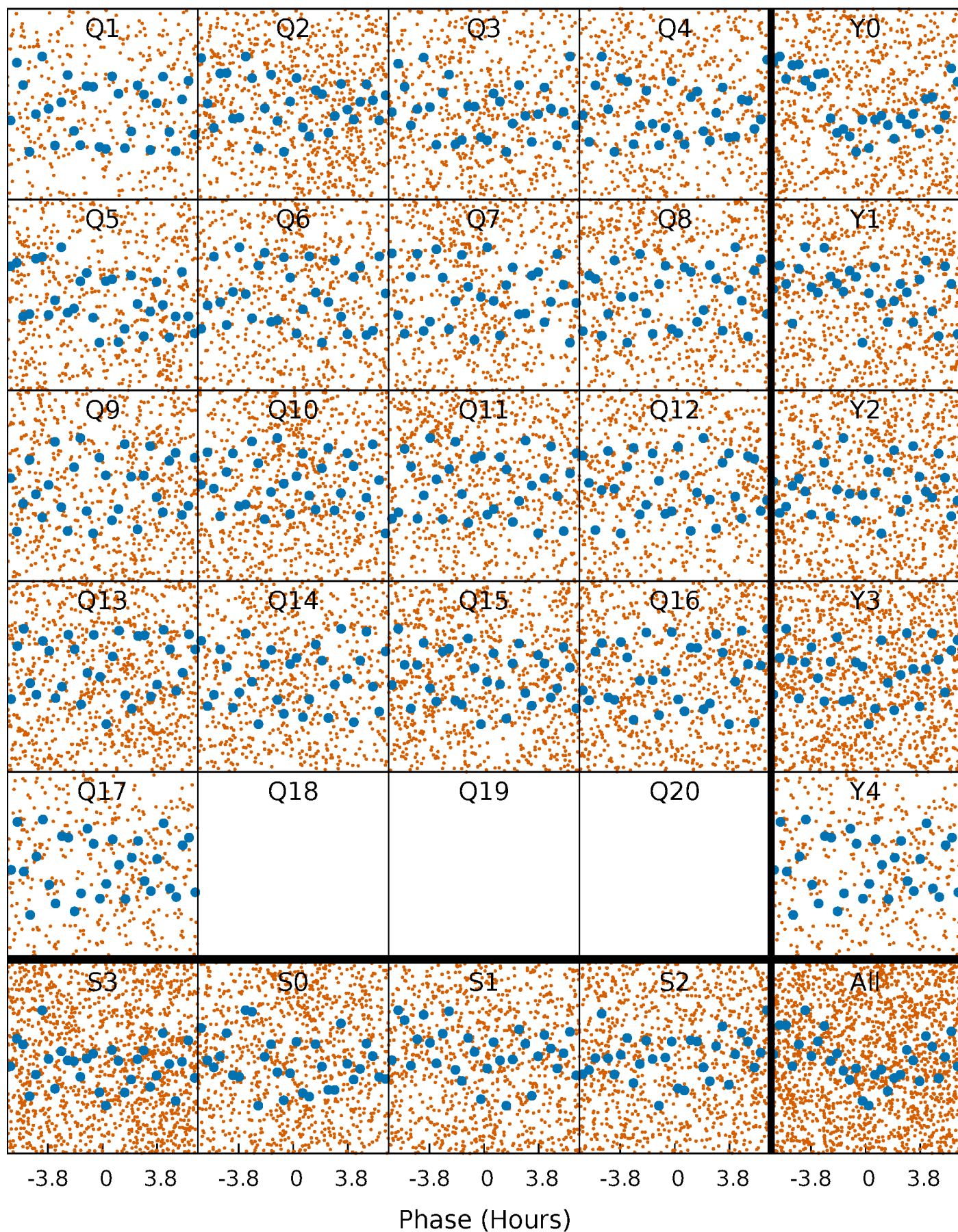


Non-Whitened Vs. Whitened Light Curve



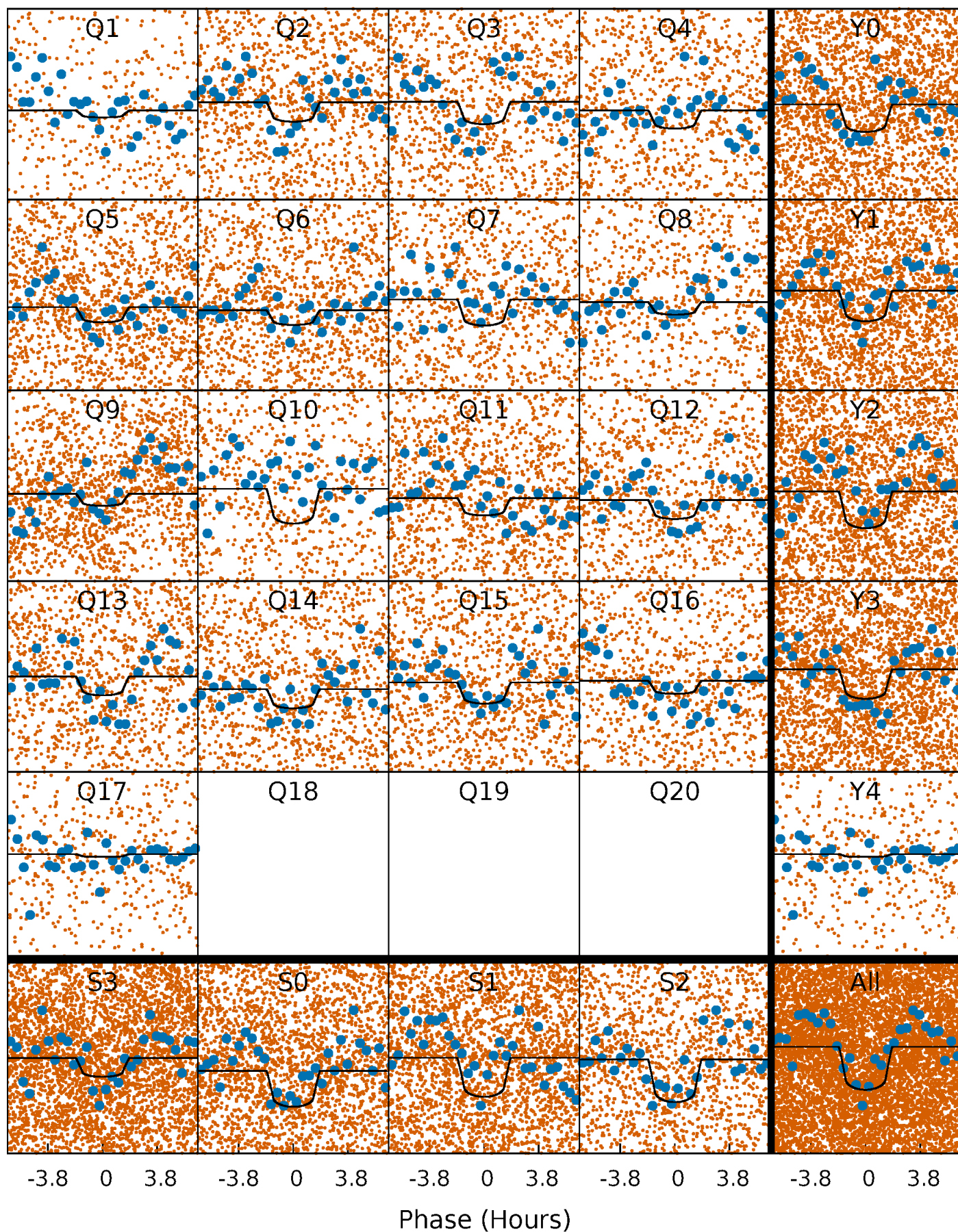
PDC Quarter-Phased Transit Curves

TCE 001430590-01 P= 1.386644 Days $T_0=132.731371$ (BKJD)



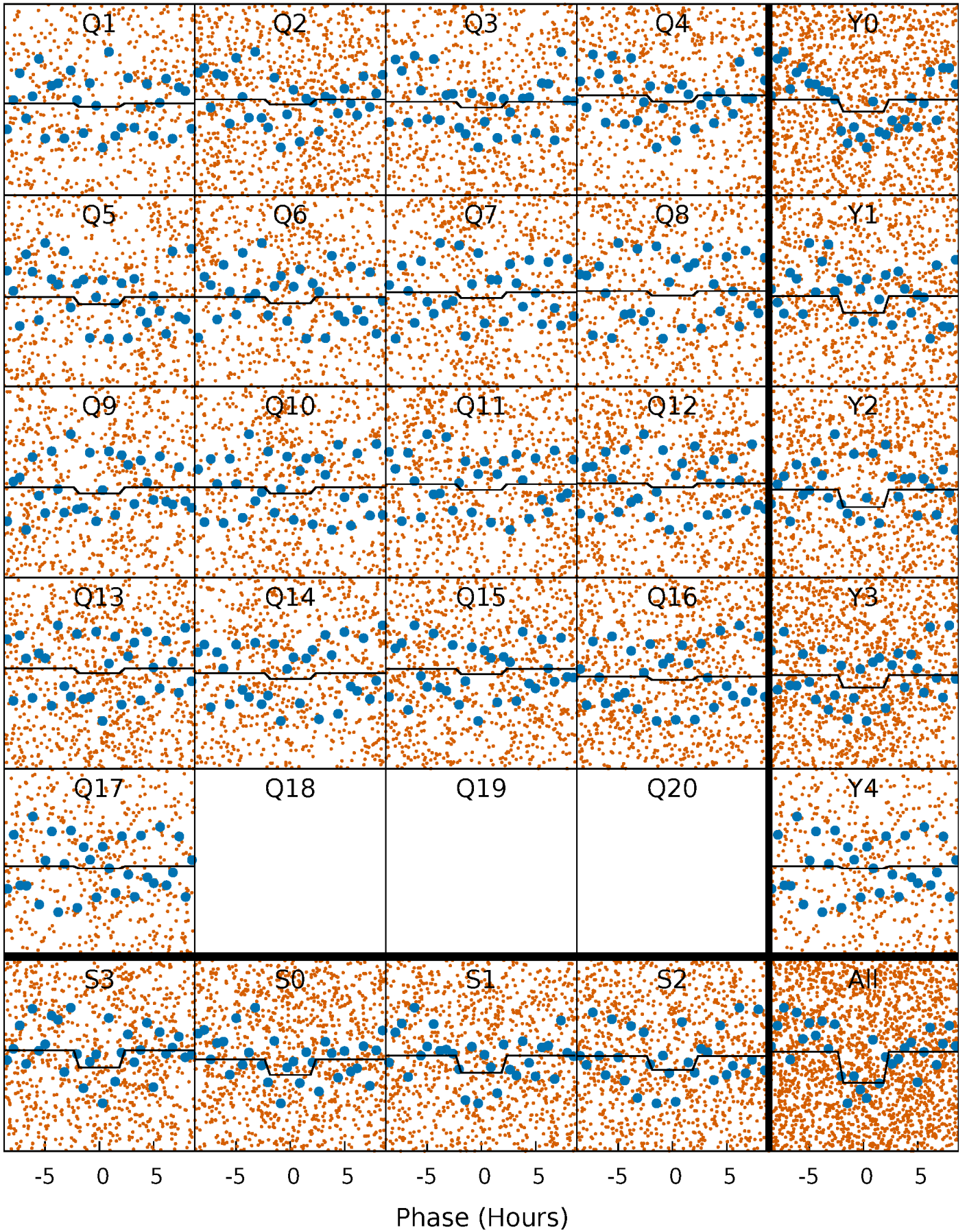
DV Quarter-Phased Transit Curves

TCE 001430590-01 P= 1.386644 Days $T_0=132.731371$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

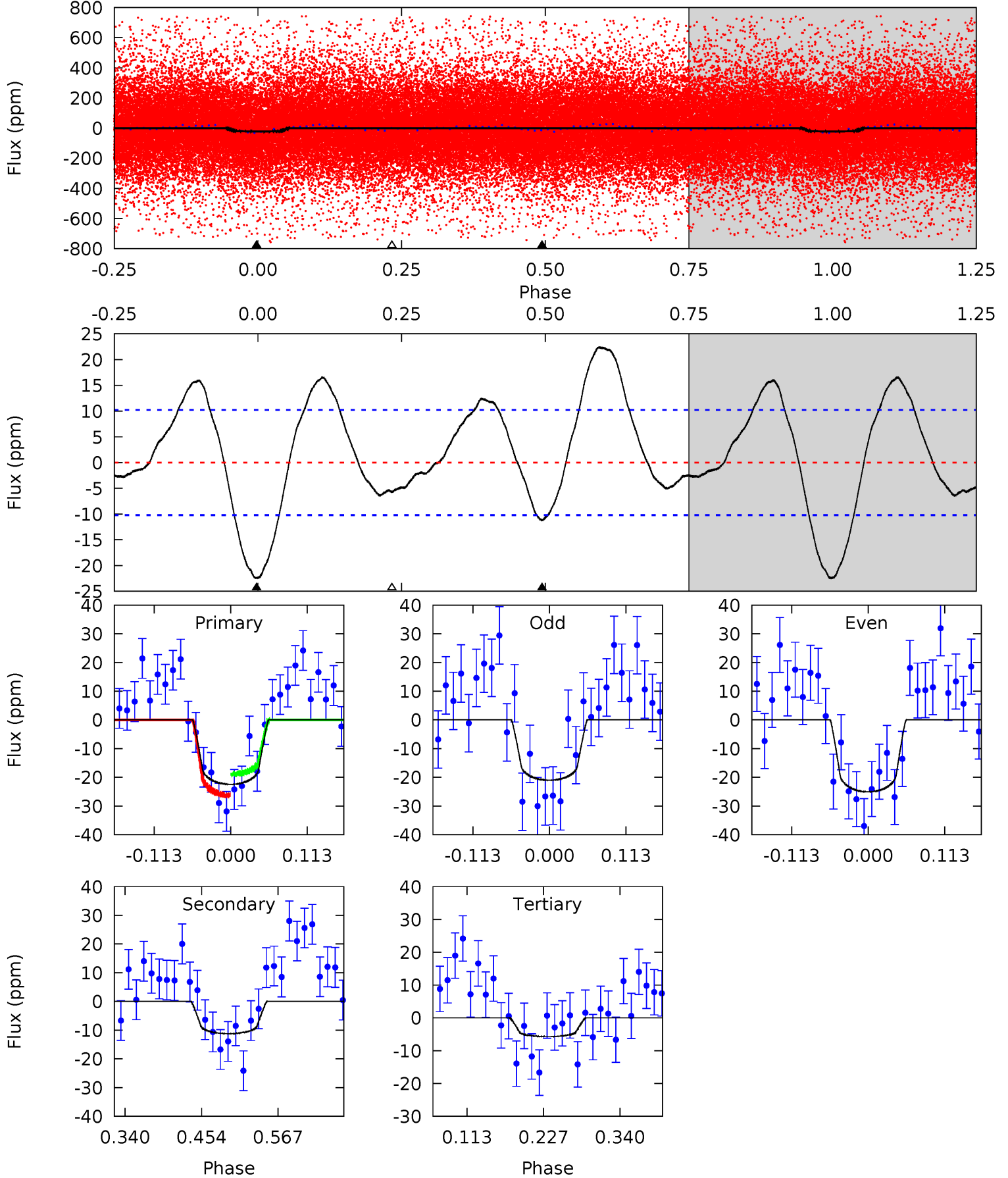
TCE 001430590-01 P= 1.386726 Days $T_0=132.726002$ (BKJD)



DV Model-Shift Uniqueness Test

001430590-01, P = 1.386644 Days, E = 131.344727 Days

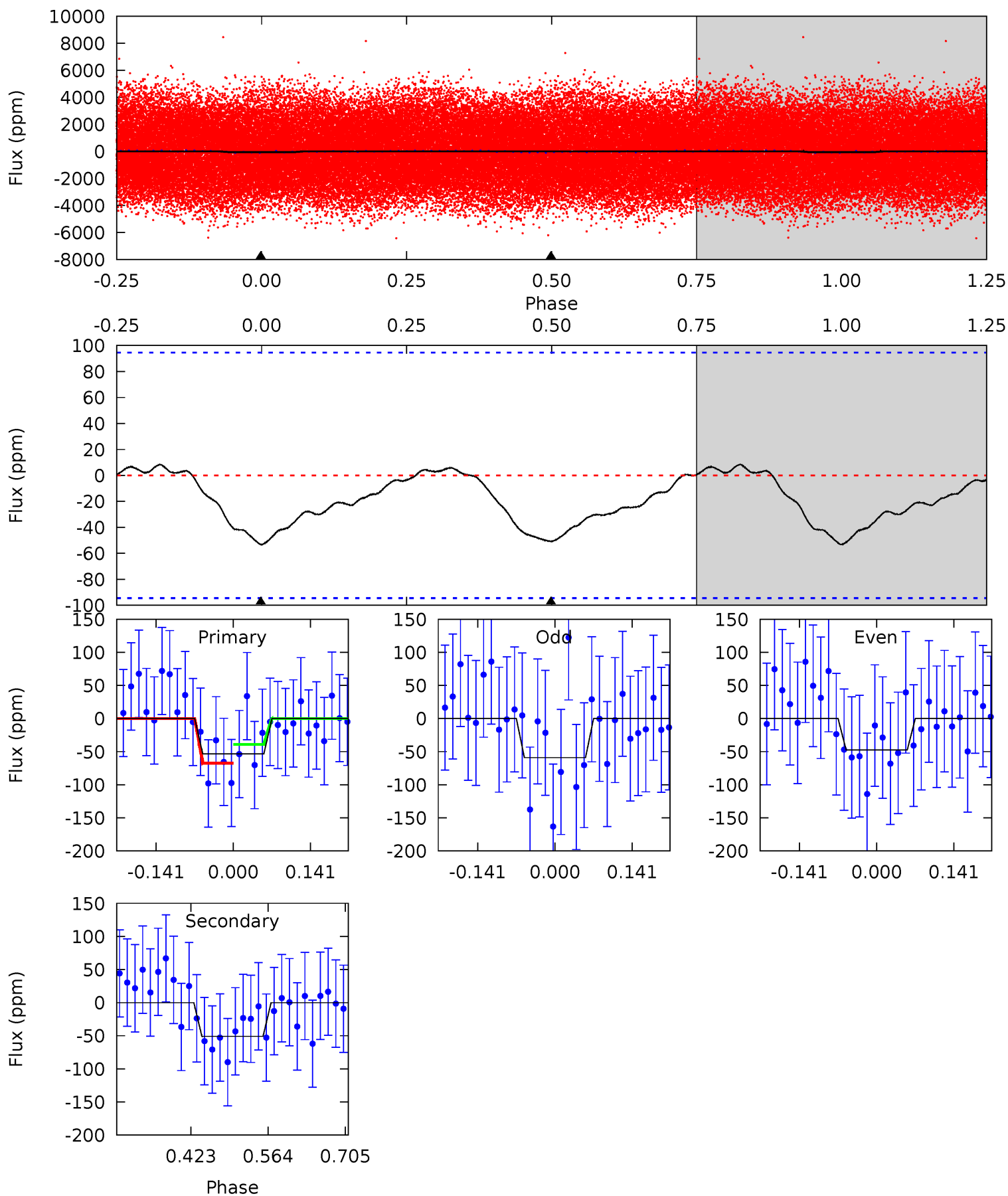
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.97	4.98	2.54	0	4.54	1.58	3.21	7.43	9.97	2.45	4.98	0.91	0.96	0.50	1.65



Alt Model-Shift Uniqueness Test

001430590-01, P = 1.386726 Days, E = 131.339276 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.53	2.42	0	0	4.49	1.47	0.46	2.53	2.53	2.42	2.42	0.27	0.95	0.14	0.67



Stellar Parameters For KIC 001430590

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	6809^{+214}_{-286}	$3.669^{+0.493}_{-0.087}$	$-0.020^{+0.250}_{-0.300}$	$3.331^{+0.436}_{-1.743}$	$1.885^{+0.154}_{-0.579}$	$0.072^{+0.400}_{-0.020}$
	+3%/-4%	+13%/-2%	+1250%/-1500%	+13%/-52%	+8%/-31%	+557%/-28%
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 001430590-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-11 ± 2	$1.78^{+0.82}_{-0.76}$	4279^{+321}_{-515}	5075^{+1507}_{-870}	$1.667^{+3.295}_{-0.890}$
Alt.	-51 ± 21	$2.39^{+0.92}_{-0.86}$	4298^{+301}_{-533}	6495^{+1640}_{-1127}	$4.029^{+6.217}_{-2.048}$

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 $A_{obs} \gg 1.0$

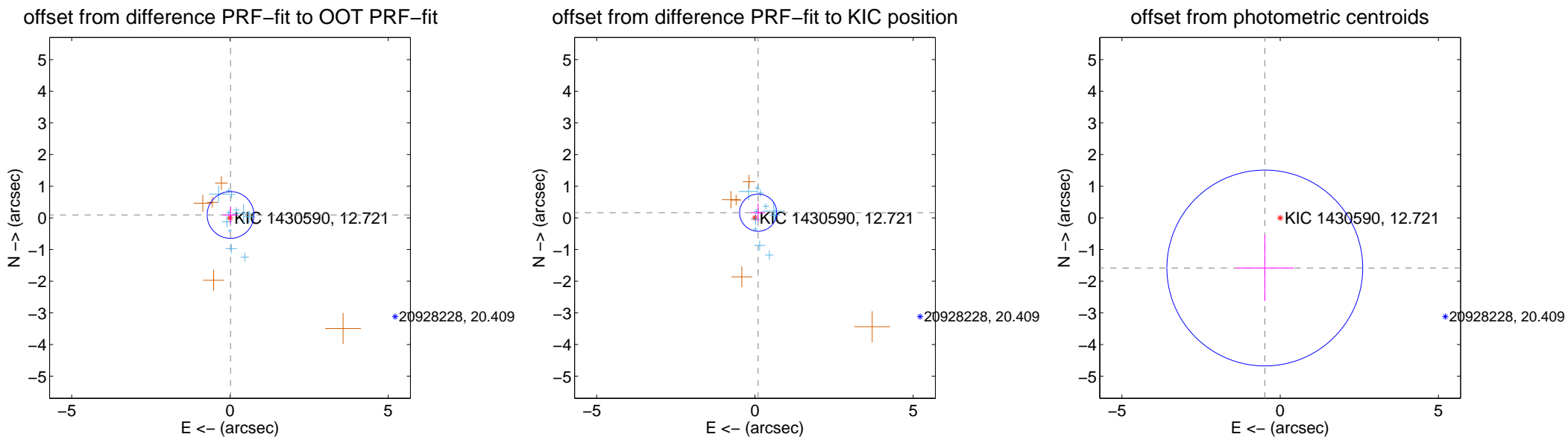
DV Centroid Data

Supplemental centroid analysis for 001430590-01. Kepler magnitude: 12.72. Transit SNR 9.39

There are 11 quarters with good PRF difference image offsets

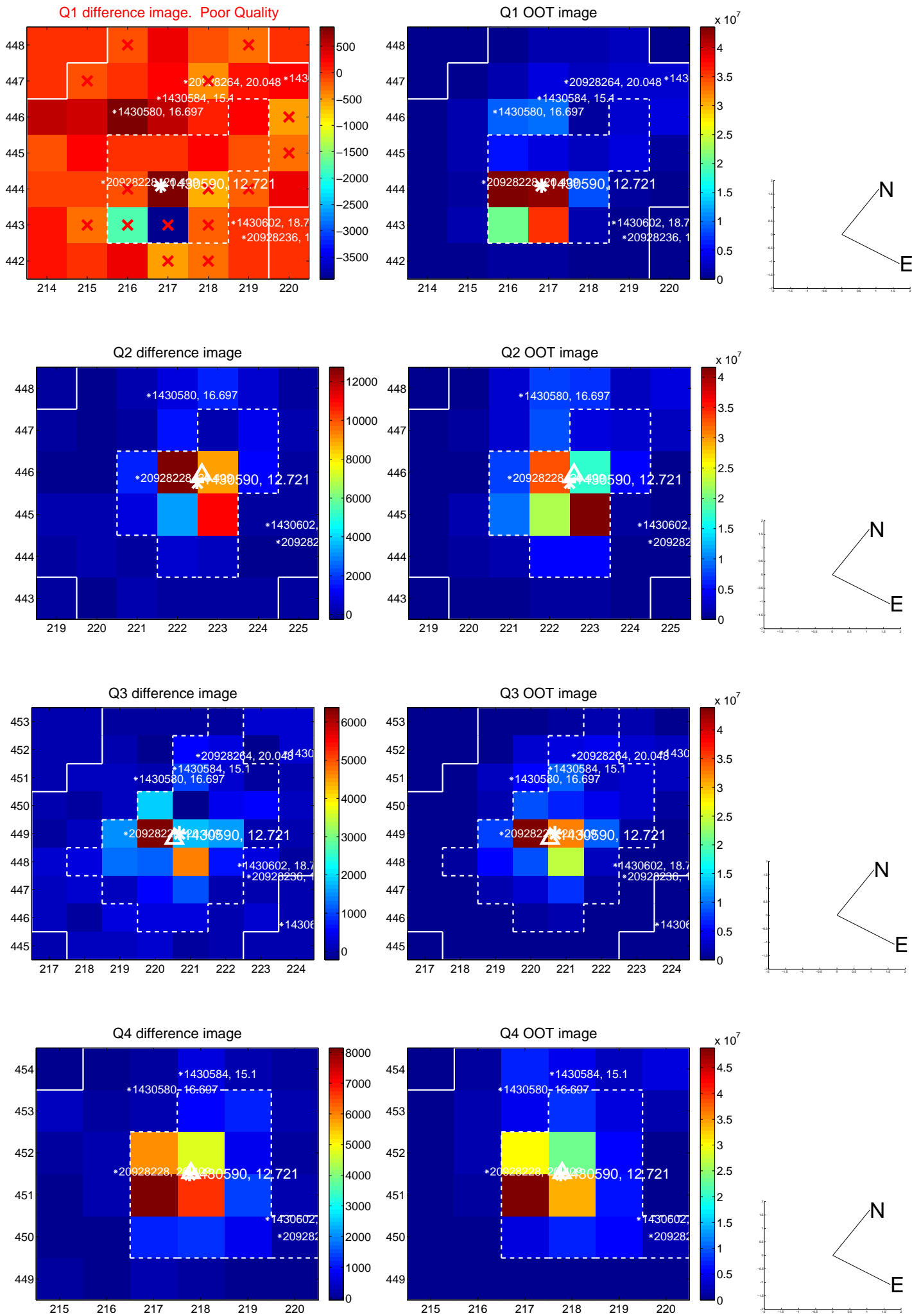
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.094 ± 0.246	0.38	-0.017 ± 0.237	0.092 ± 0.274
PRF-fit source offset from KIC position	0.193 ± 0.196	0.99	-0.101 ± 0.232	0.164 ± 0.286
photometric centroid source offset	1.66 ± 1.03	1.61	0.49 ± 0.92	-1.58 ± 1.04

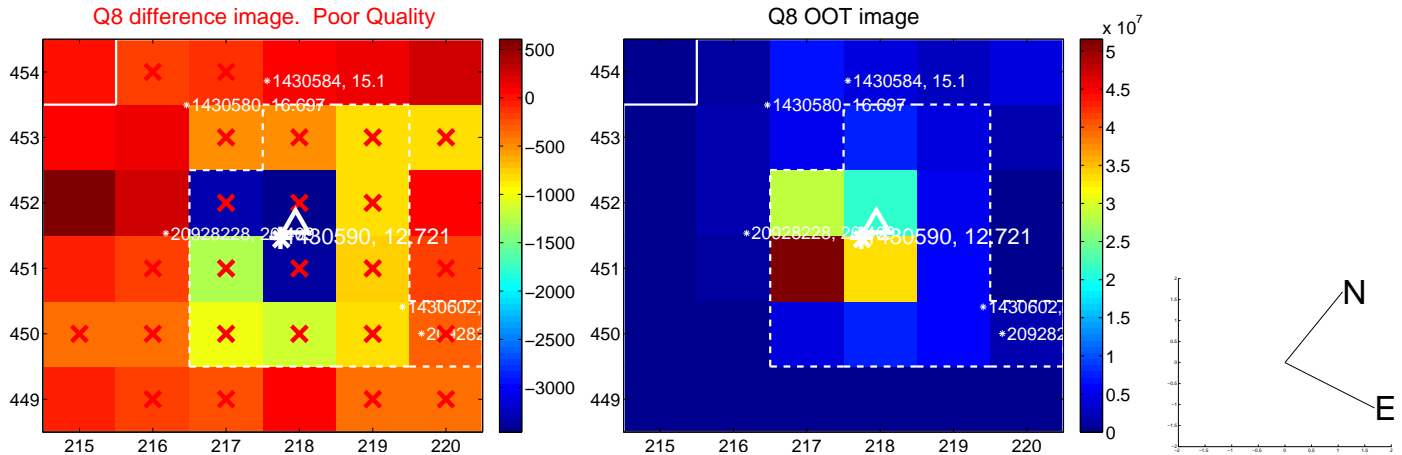
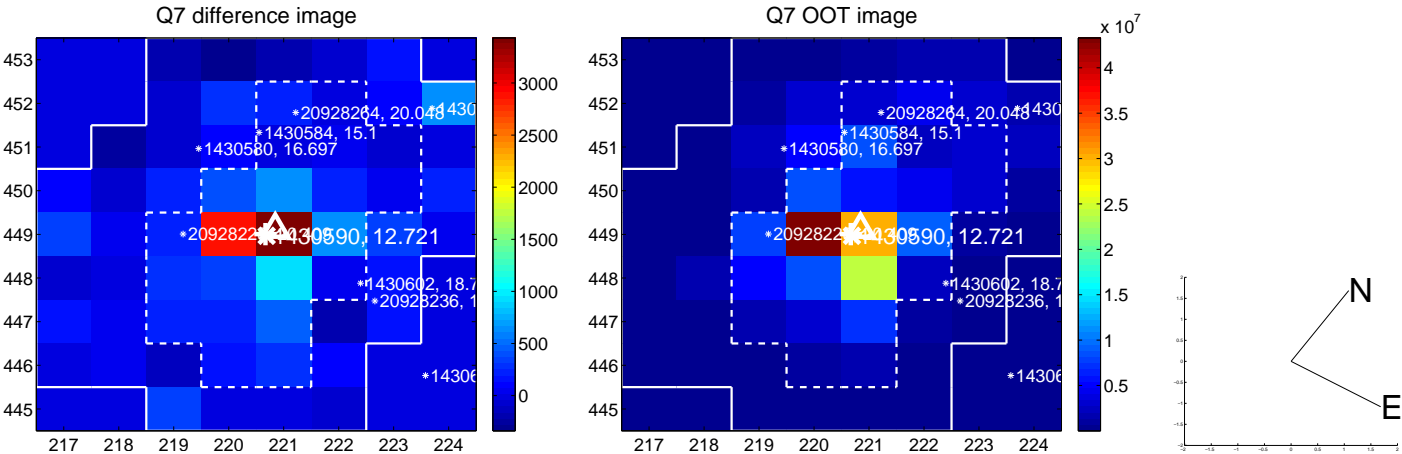
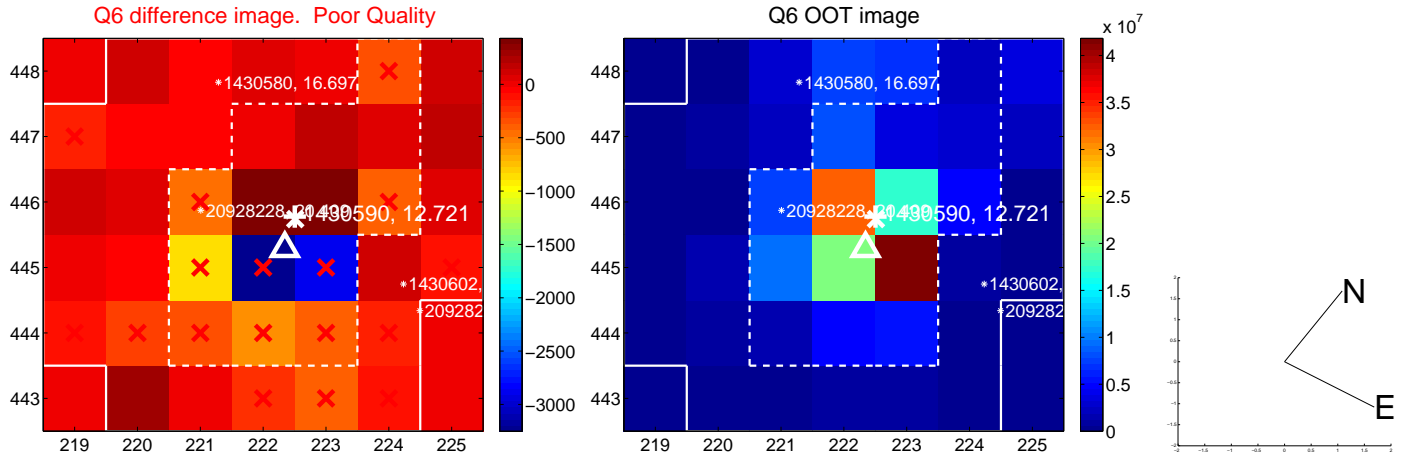
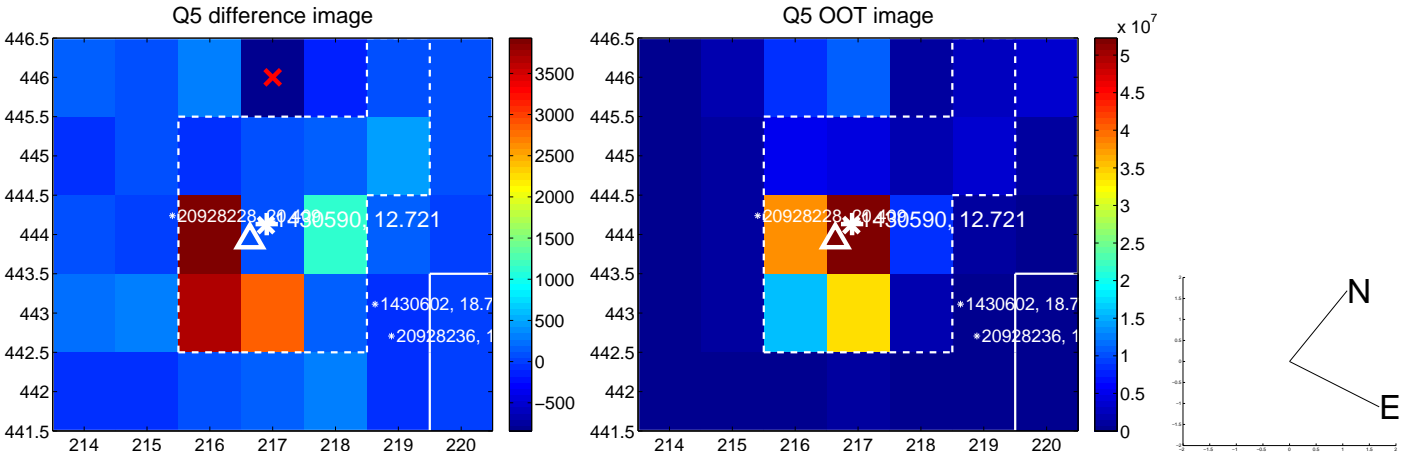


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three-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

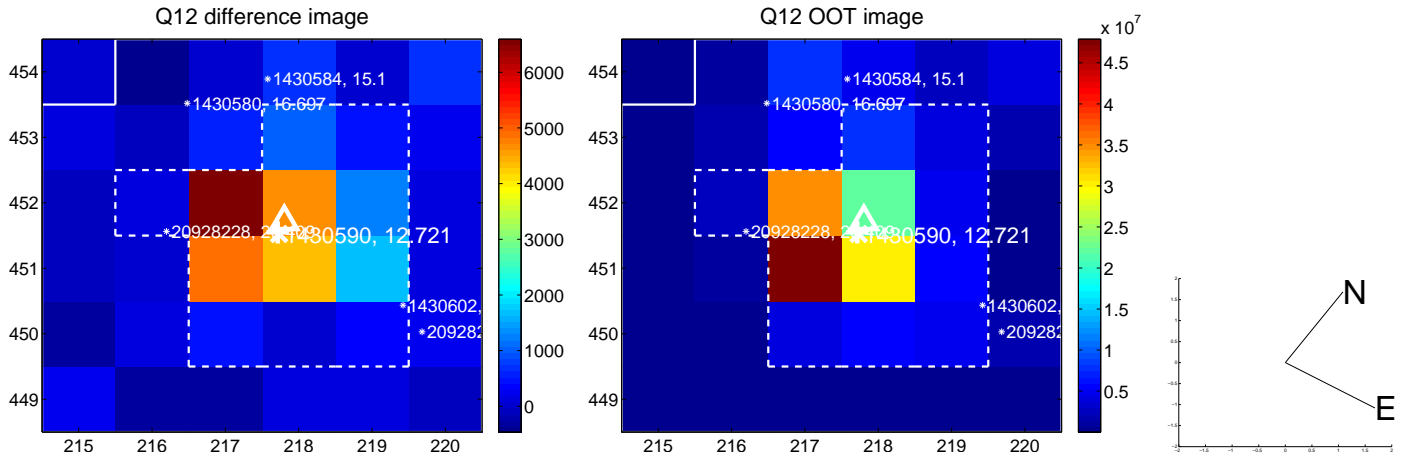
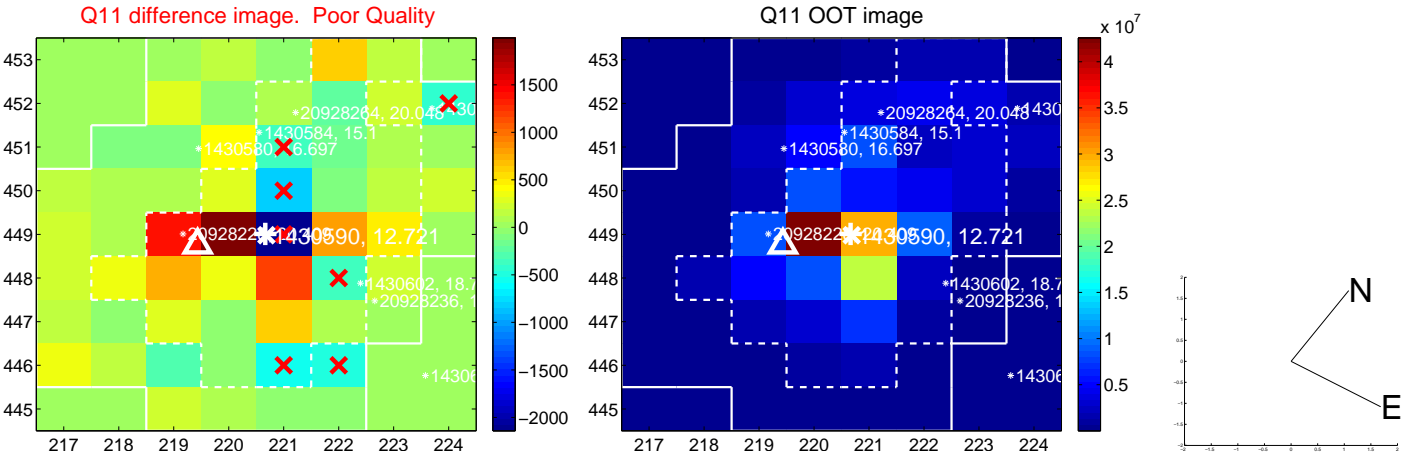
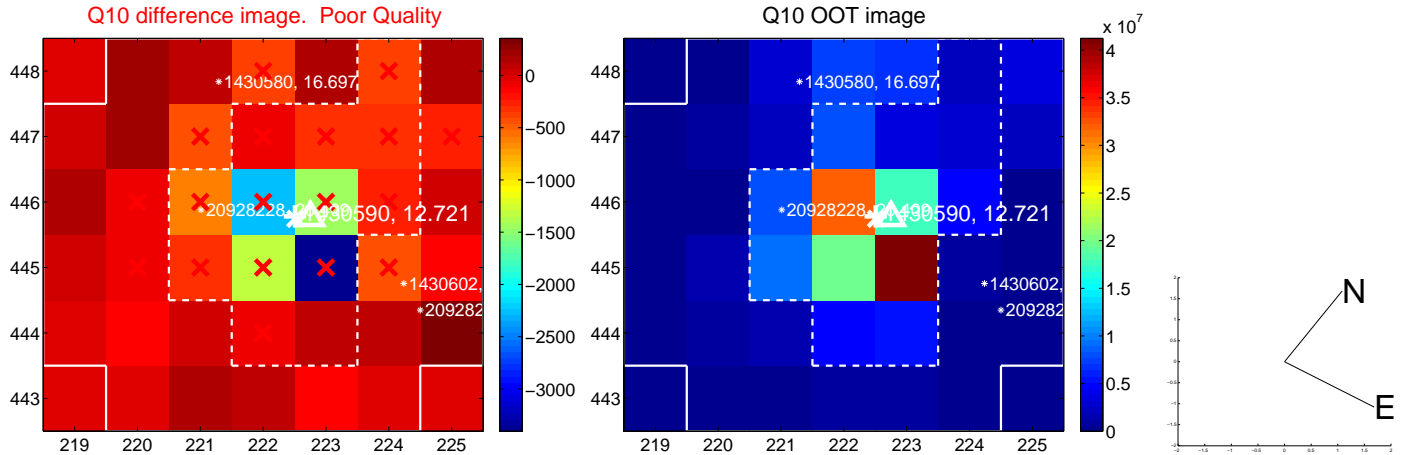
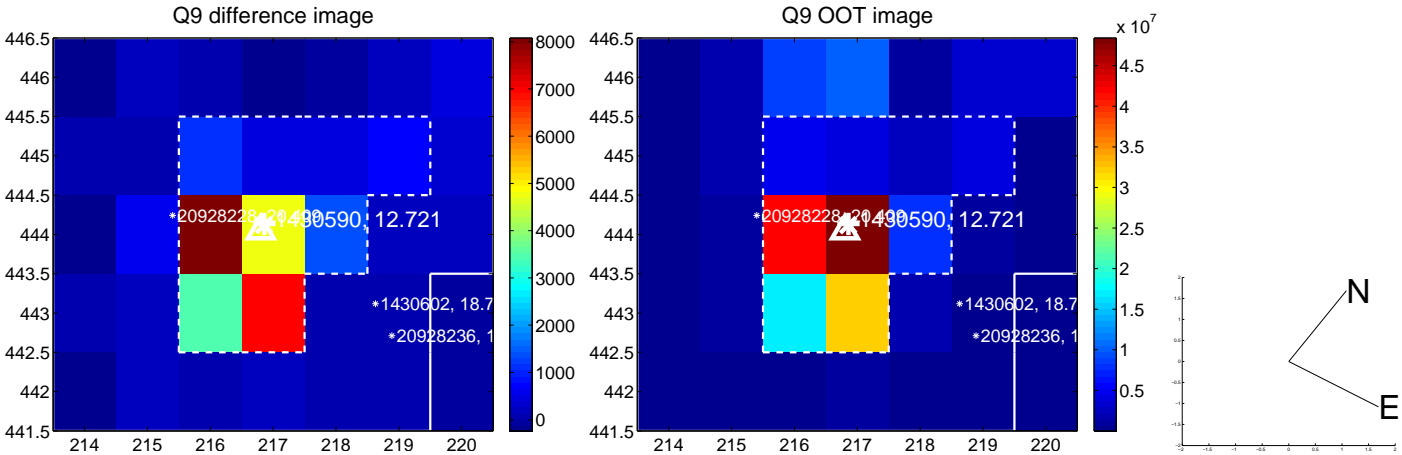
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



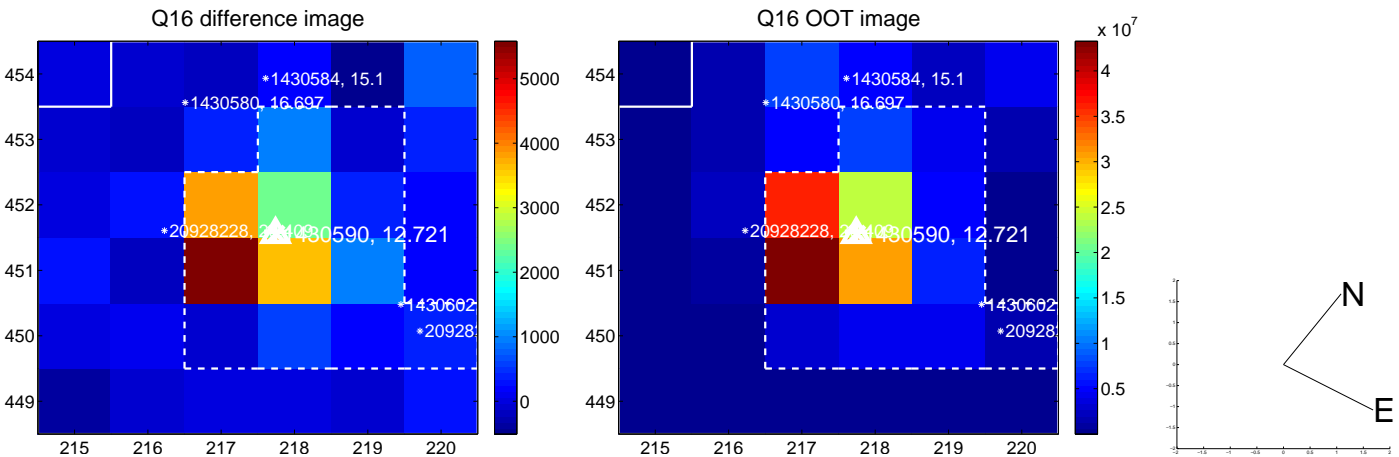
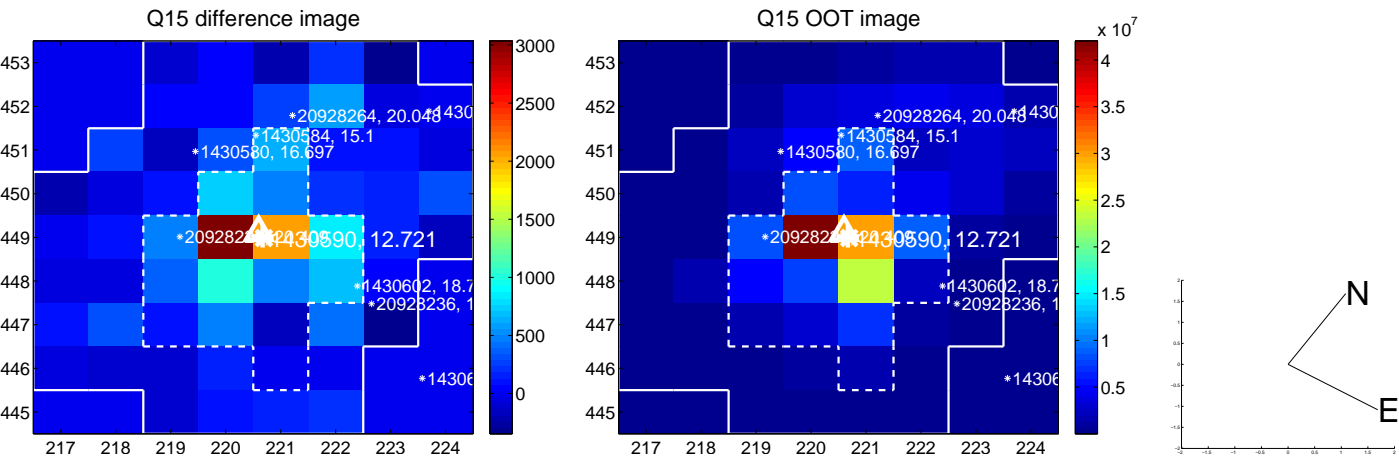
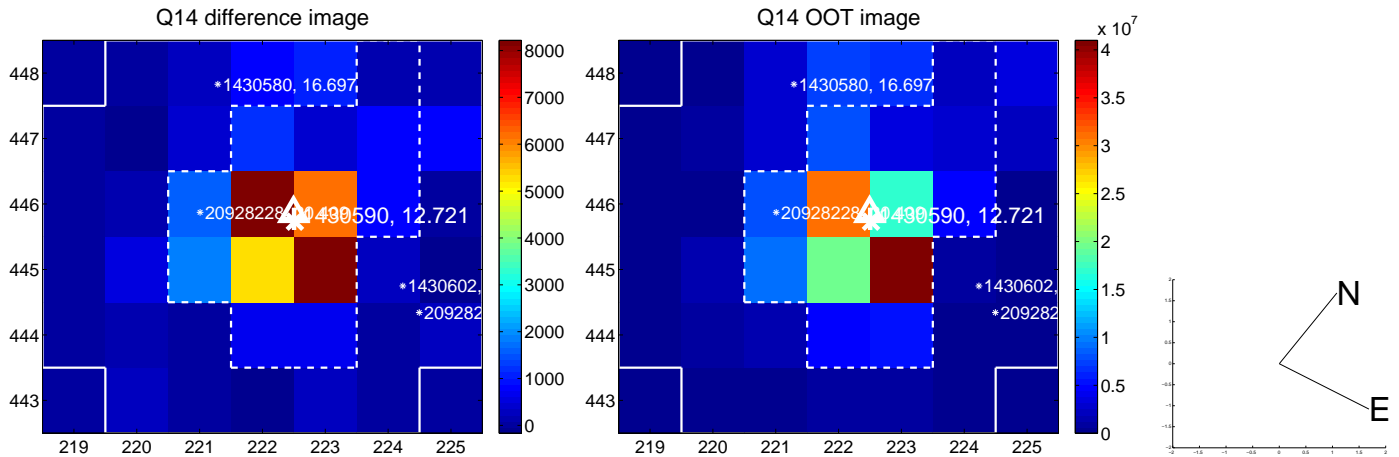
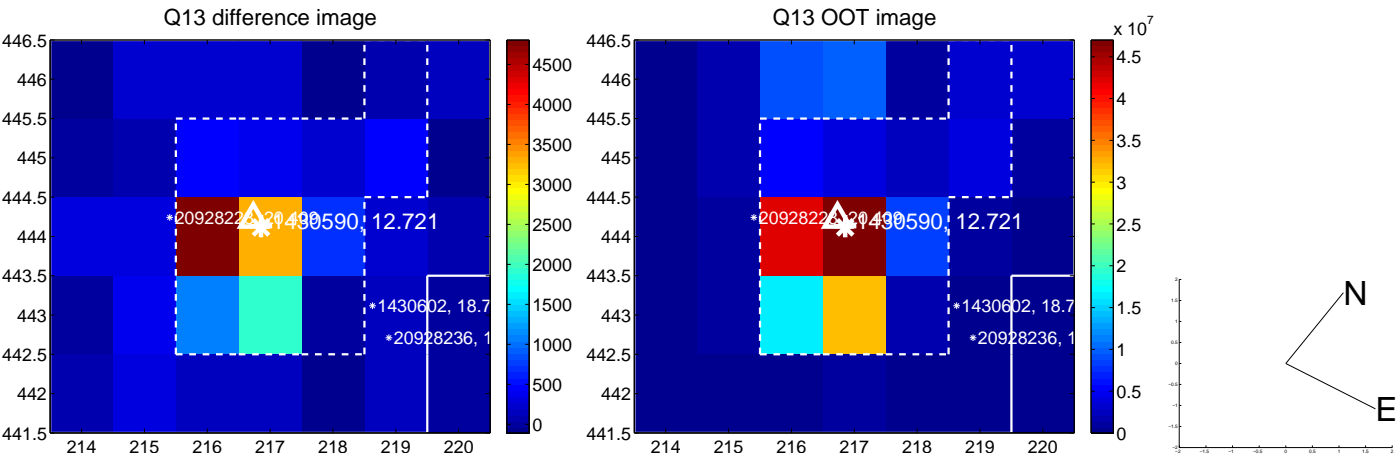
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



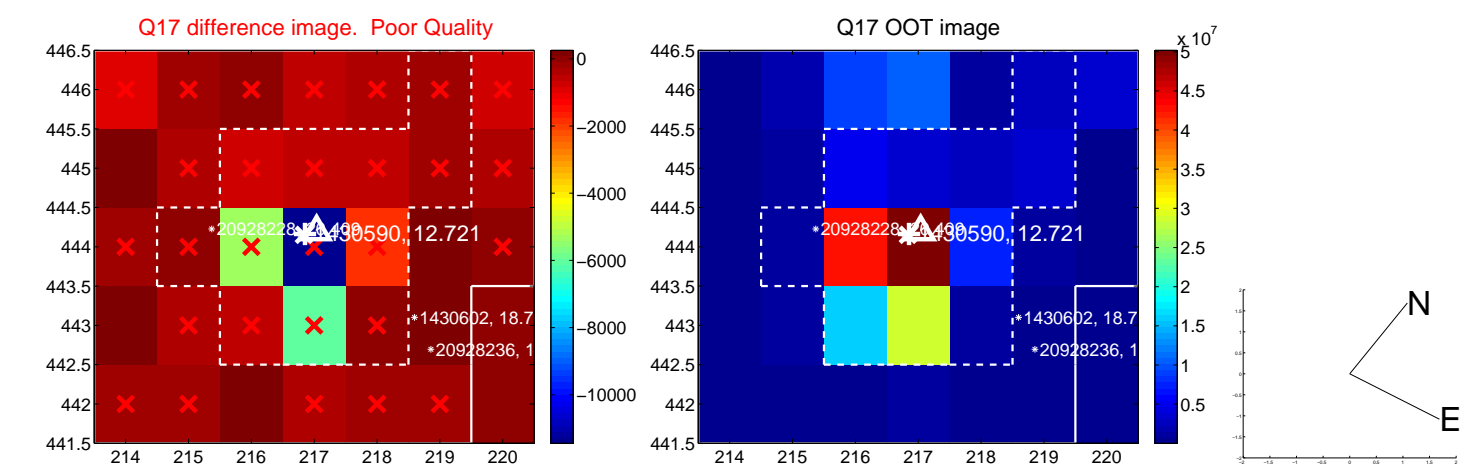
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



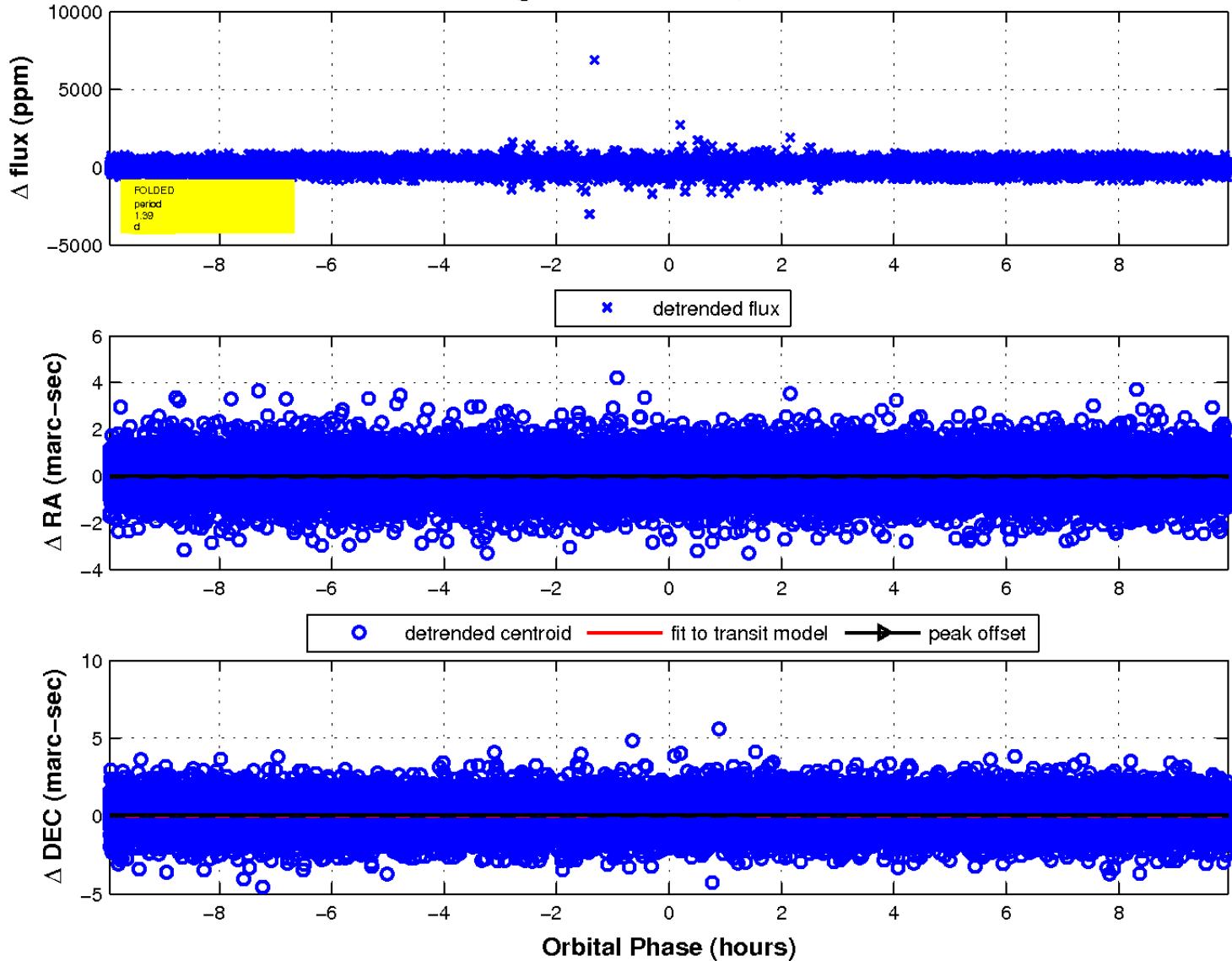
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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

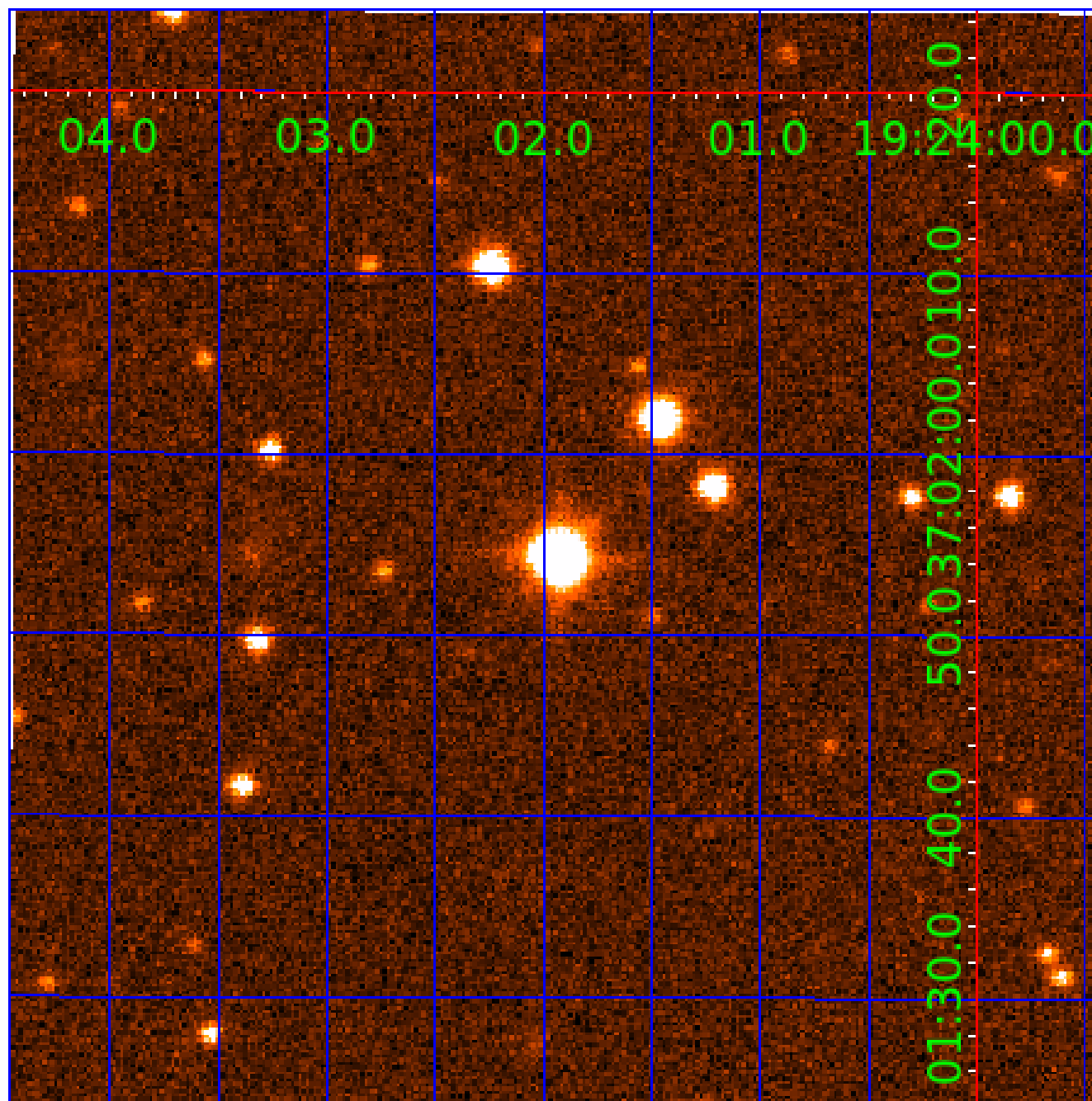


fluxWeightedCentroids, Planet 1 of 2



UKIRT Image

Declination



KIC 001430590

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})
001430590-01	OBS	No	1.386644	132.731371	26.8	3.317	10.1	9.4	3.33	6809	2.00	23604.29
001430590-02	OBS	No	1.386274	132.117719	0.0	12.373	8.7	0.0	3.33	6809	0.08	23612.69

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
001430590-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
001430590-02	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—SAME_NTL_PERIOD—CENT_FEW_DIFS

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

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

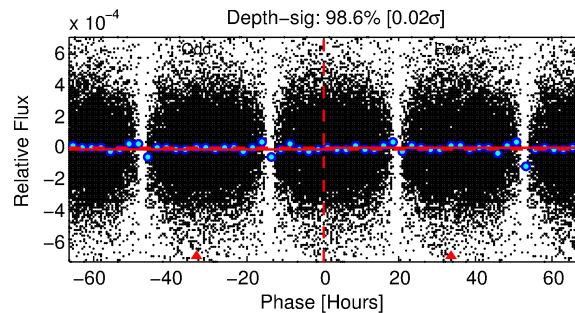
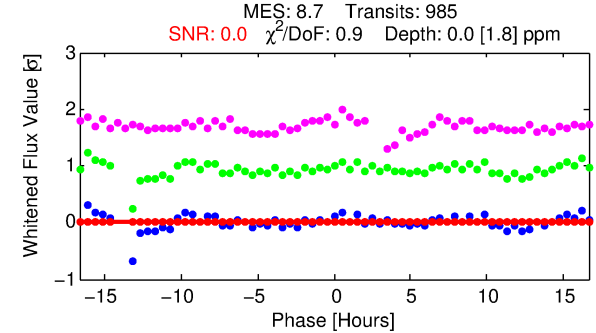
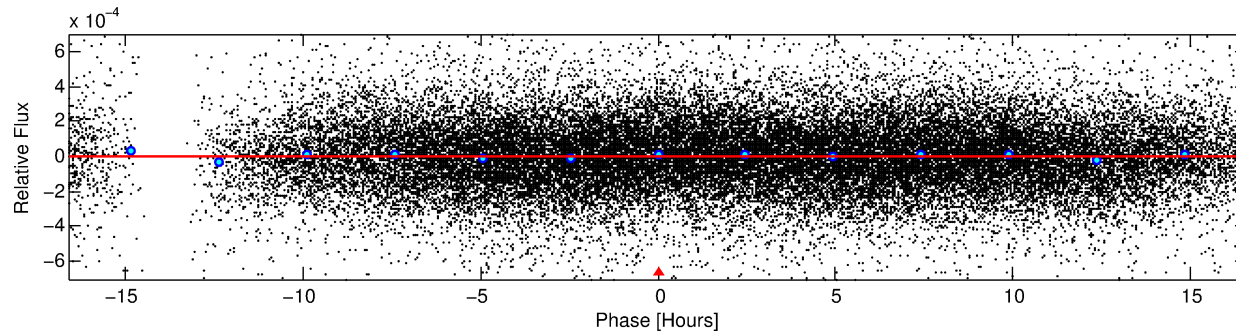
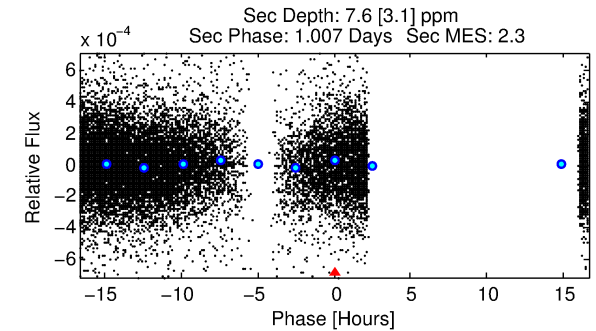
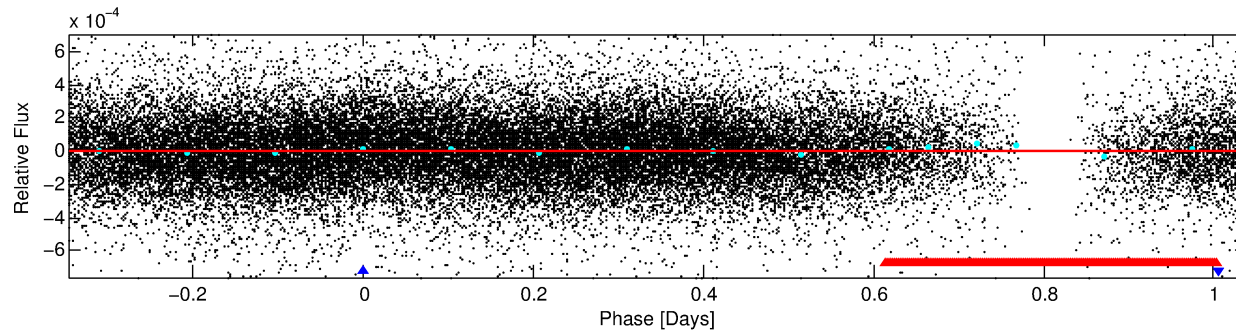
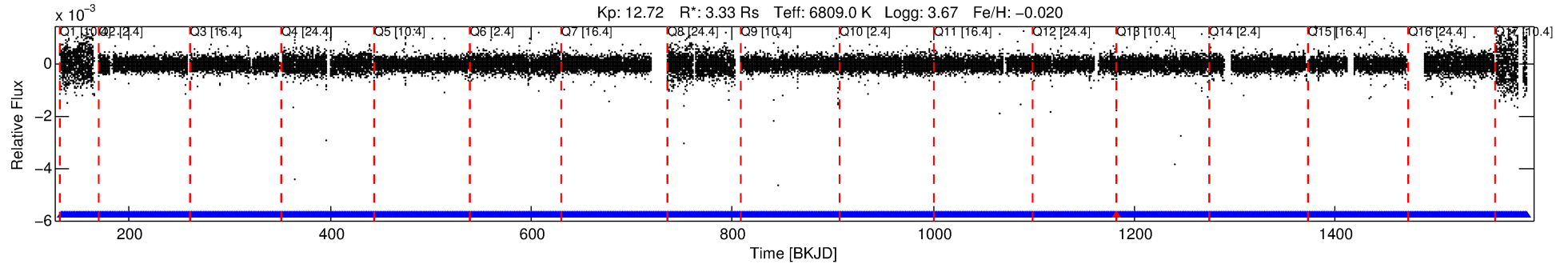
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 001430590-02

No Significant Match Found

DV One-Page Summary

KIC: 1430590 Candidate: 2 of 2 Period: 1.386 d



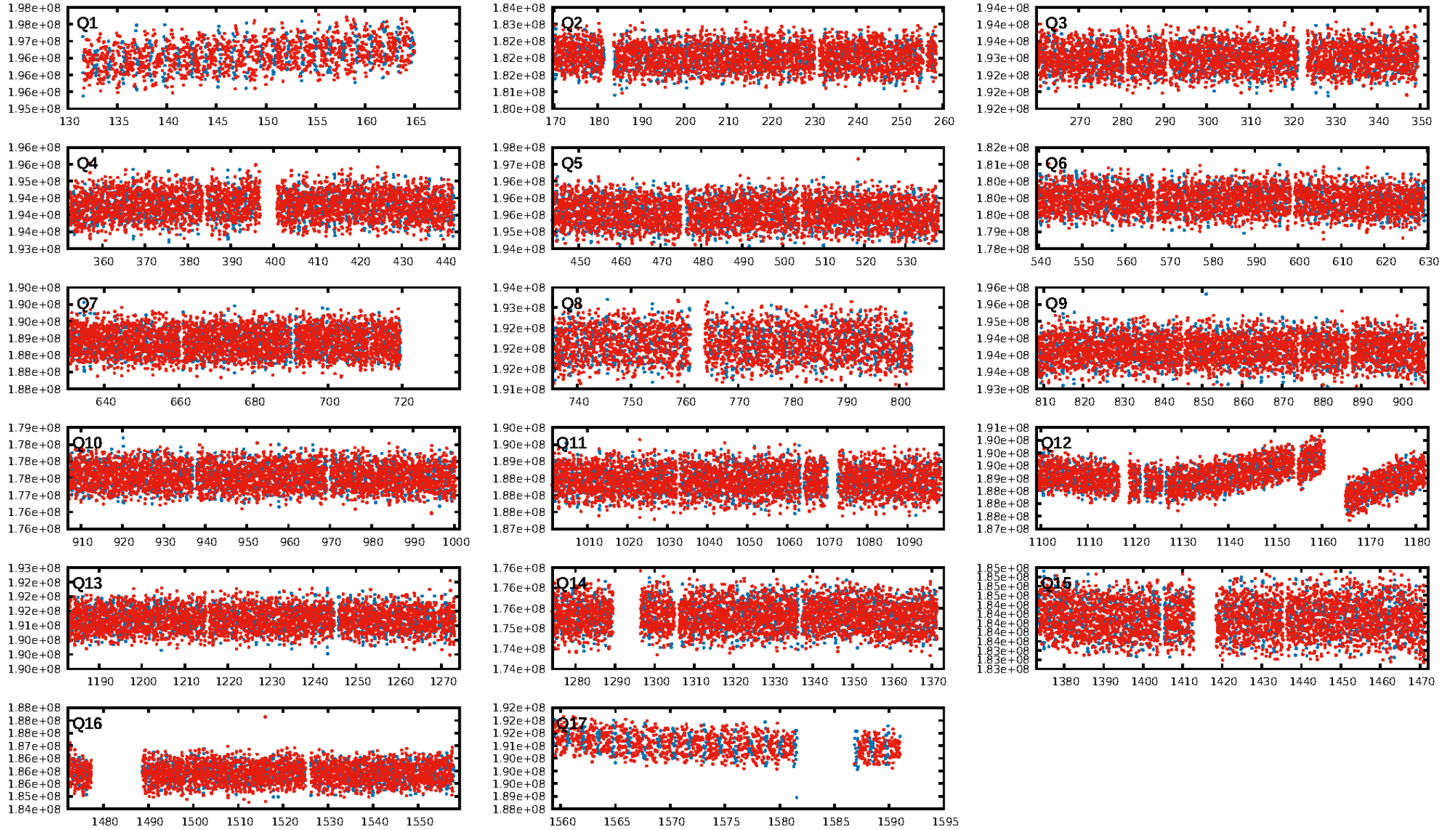
DV Fit Results:

Period = 1.38627 [0.00935] d
Epoch = 132.1177 [3.1373] BKJD
Rp/R* = 0.0002 [0.0068]
a/R* = 1.03 [7.92]
b = 0.83 [54.29]
Seff = 23612.69 [20073.87]
Teq = 3161 [672] K
Rp = 0.08 [2.46] Re
a = 0.0301 [0.0155] AU
Ag = 576.01 [35005.45] [0.02σ]
Teffp = 23942 [363730] K [0.06σ]

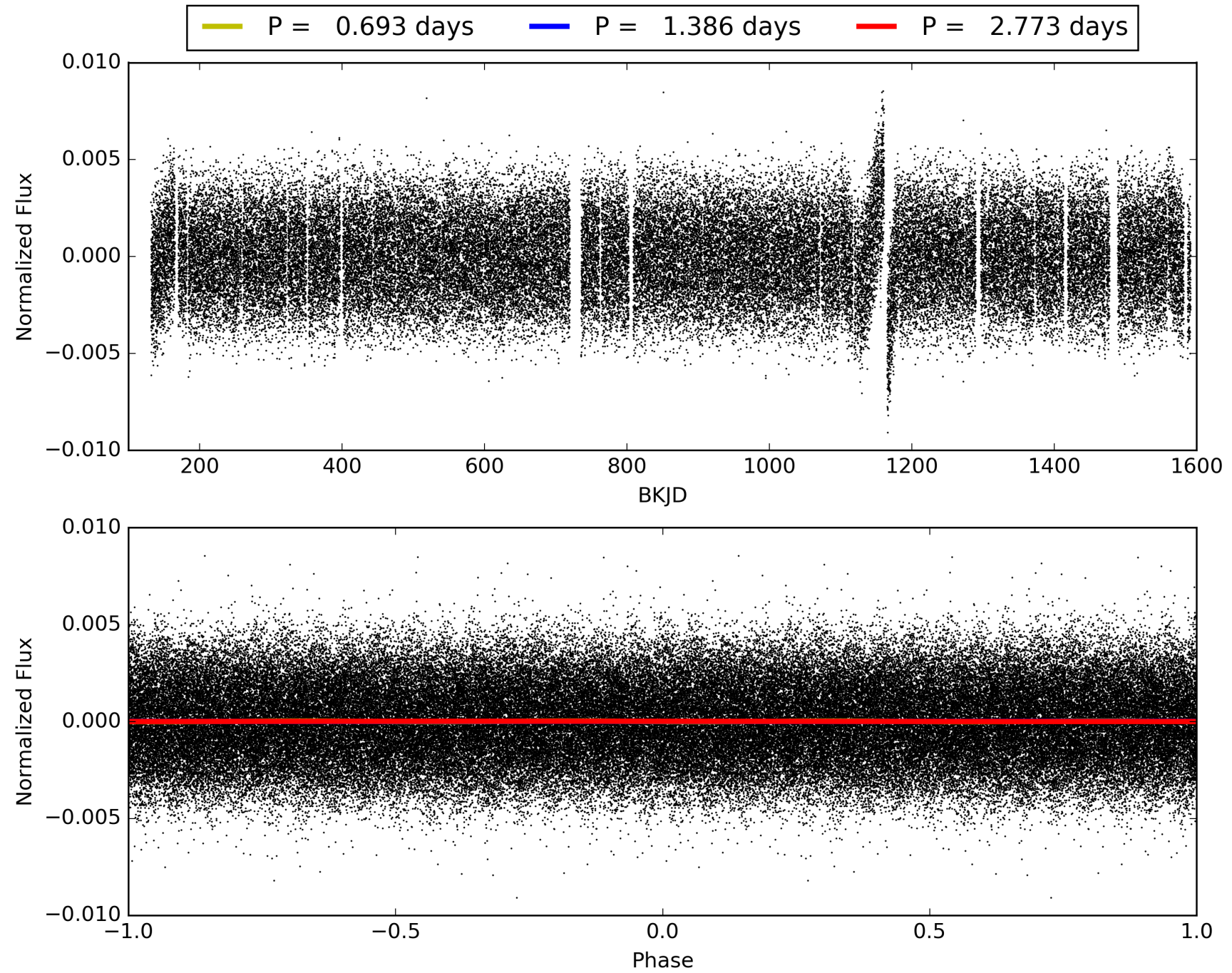
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 0.1% [0.00σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [941/942]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0/0 [0]
KicOffset-st: 0/0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: 0.00 [0/17]

TCE 001430590-02, PDC Light Curves

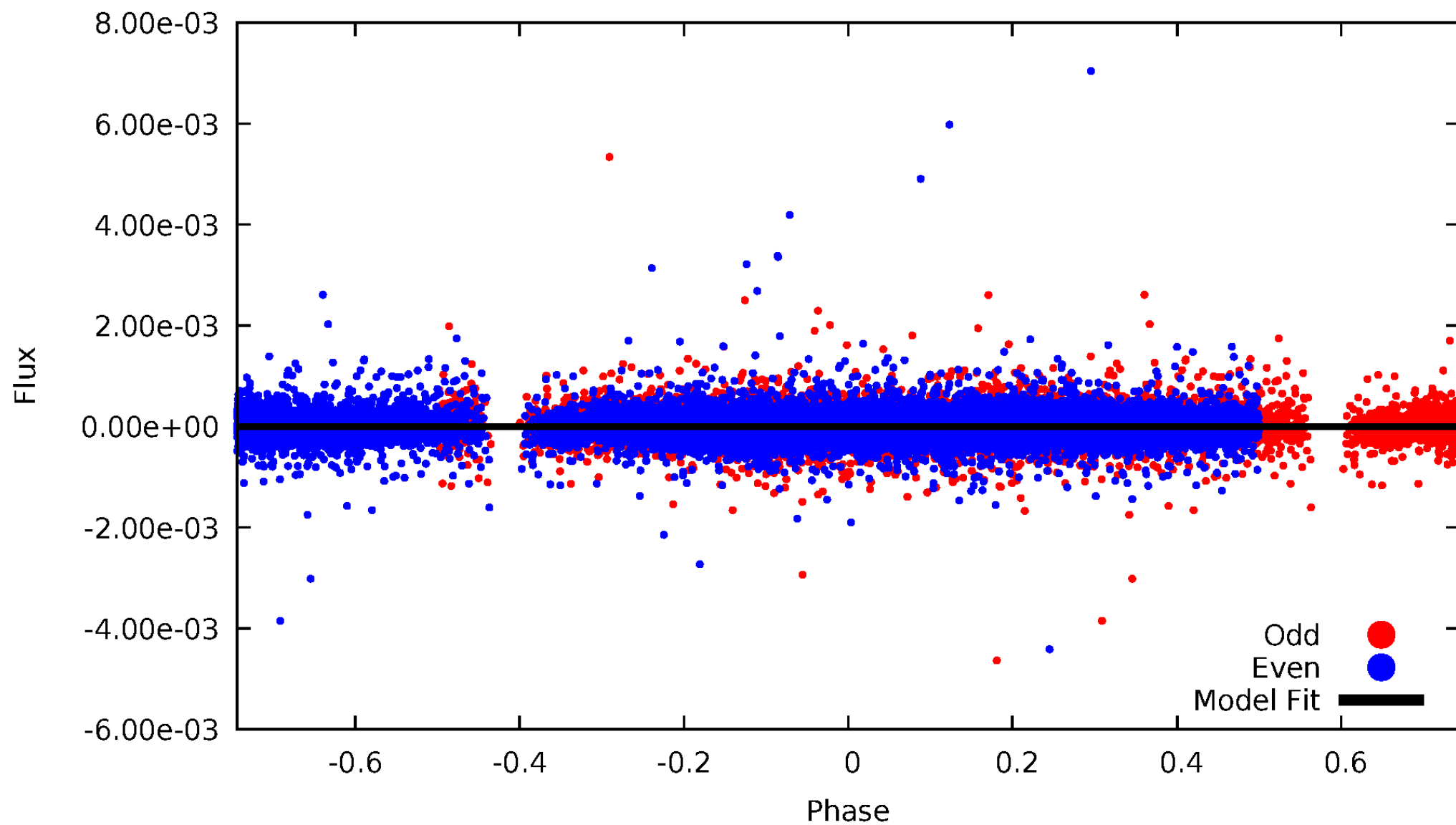


TCE 001430590-02



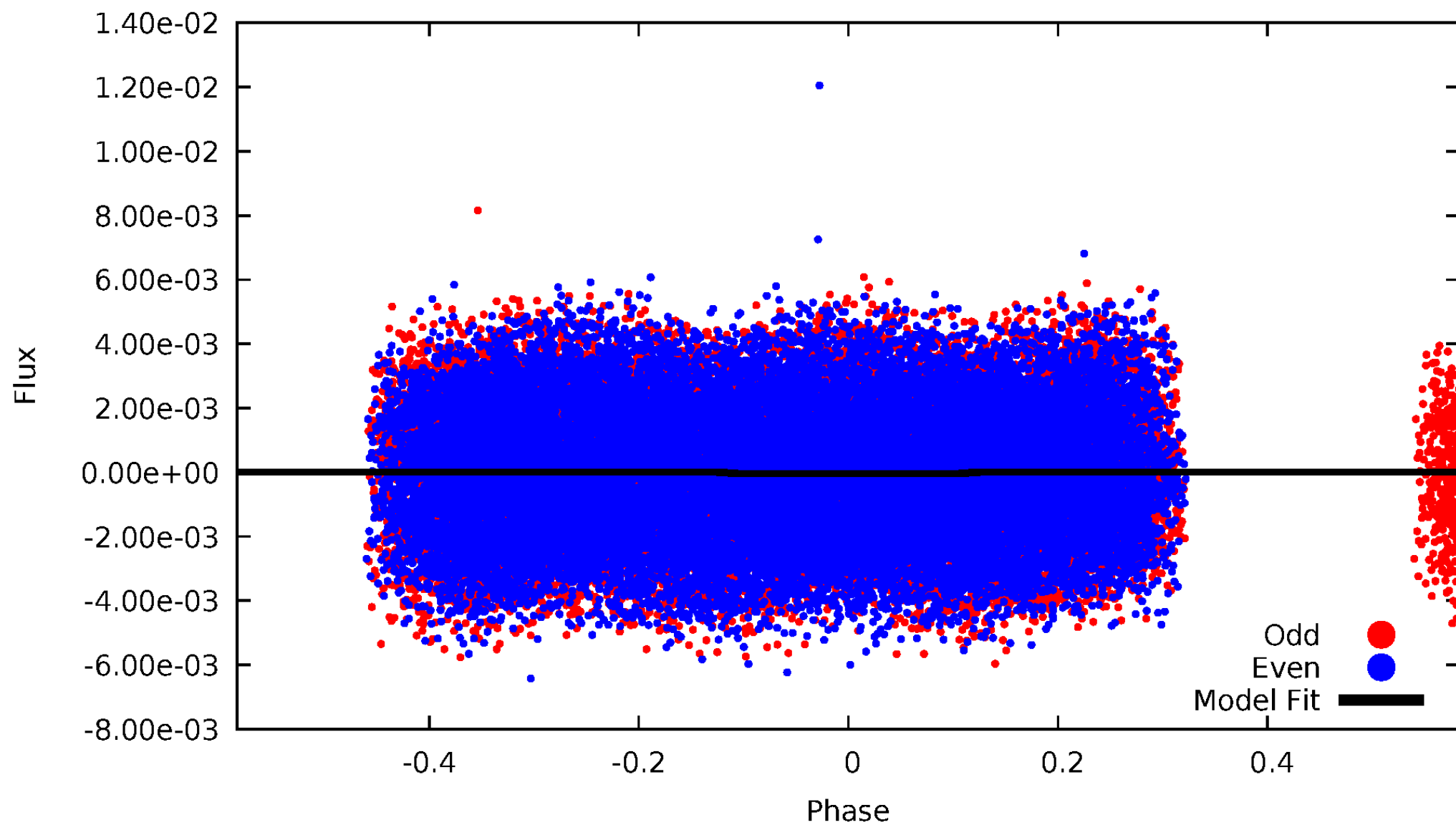
DV Odd/Even

TCE 001430590-02



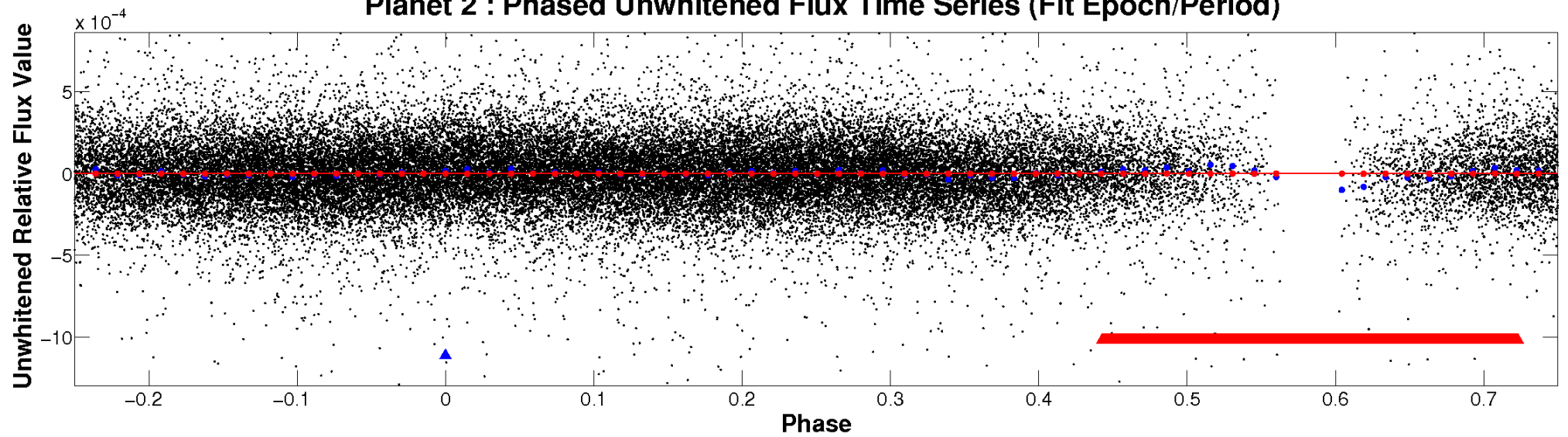
ALT Odd/Even

TCE 001430590-02

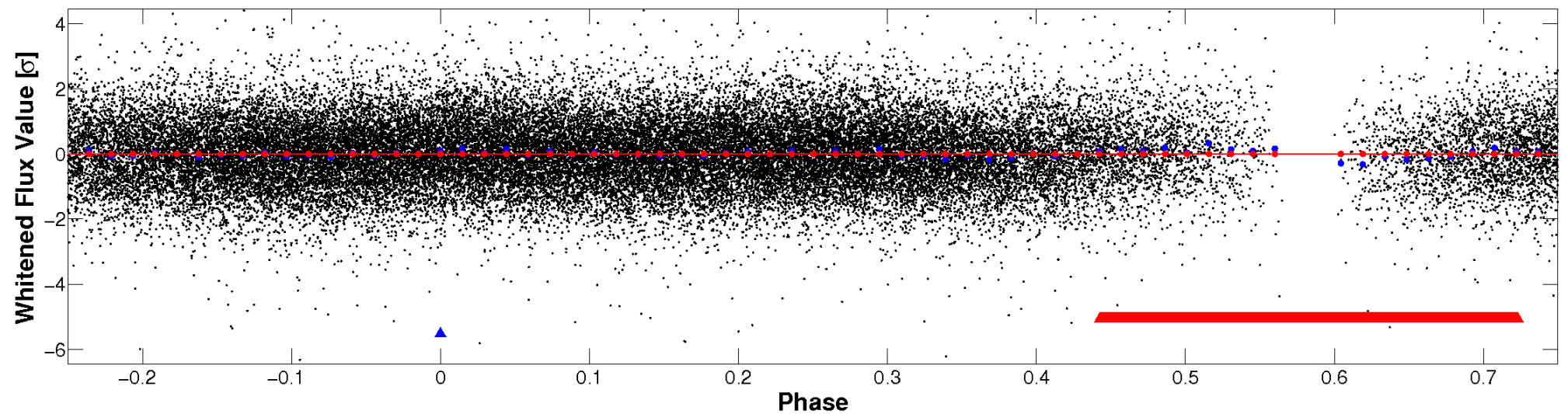


Non-Whitened Vs. Whitened Light Curve

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

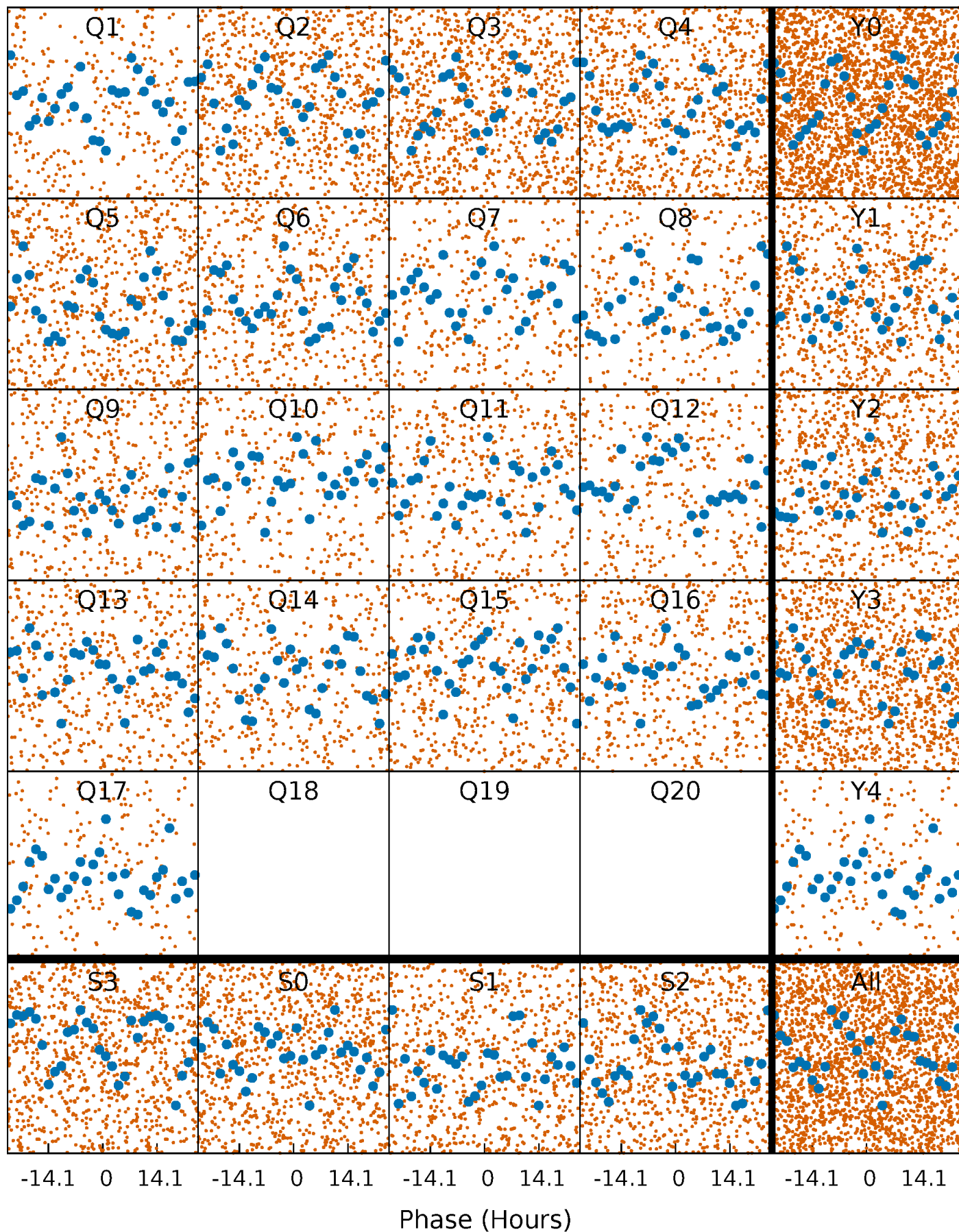


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



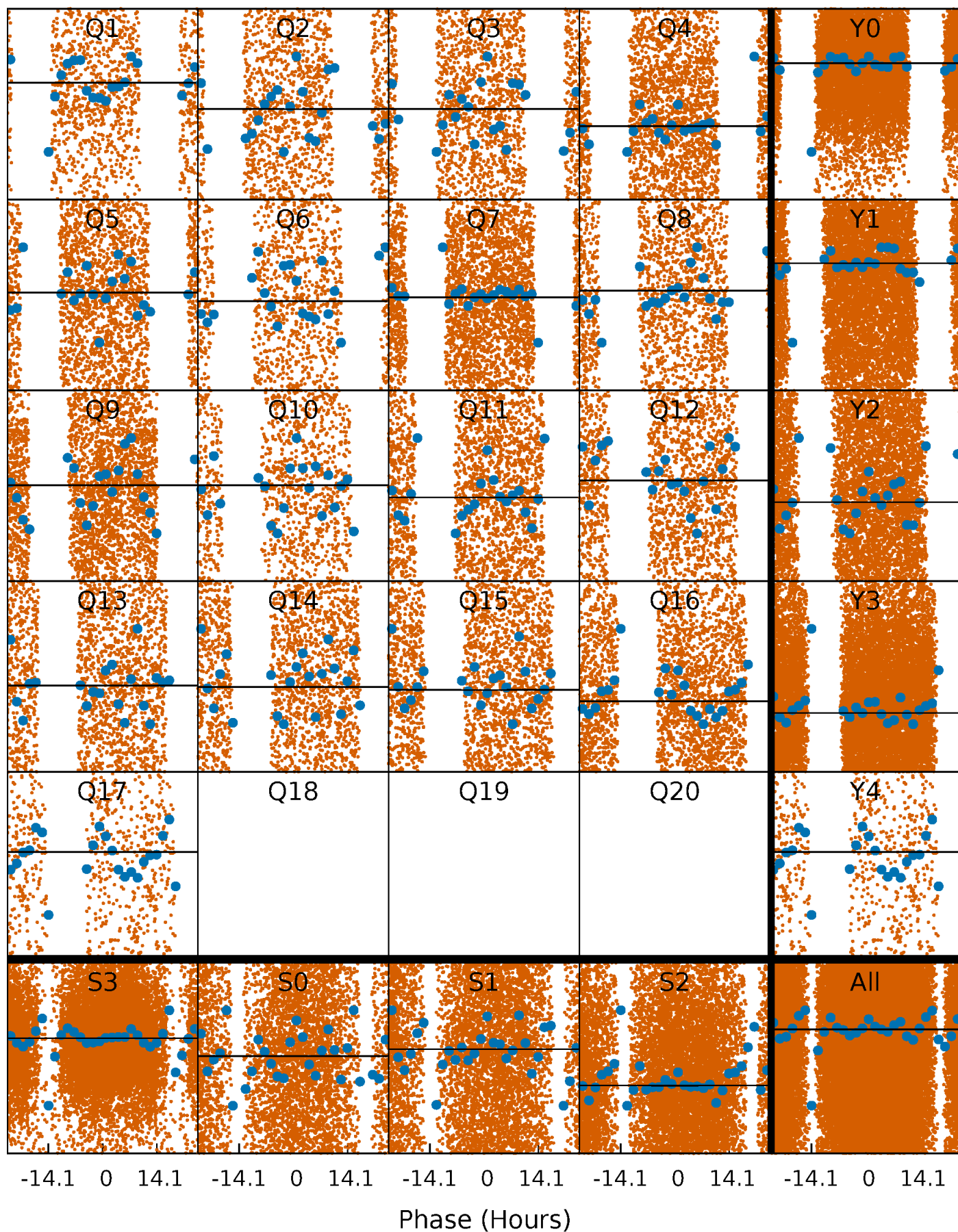
PDC Quarter-Phased Transit Curves

TCE 001430590-02 P= 1.386274 Days $T_0=132.117719$ (BKJD)



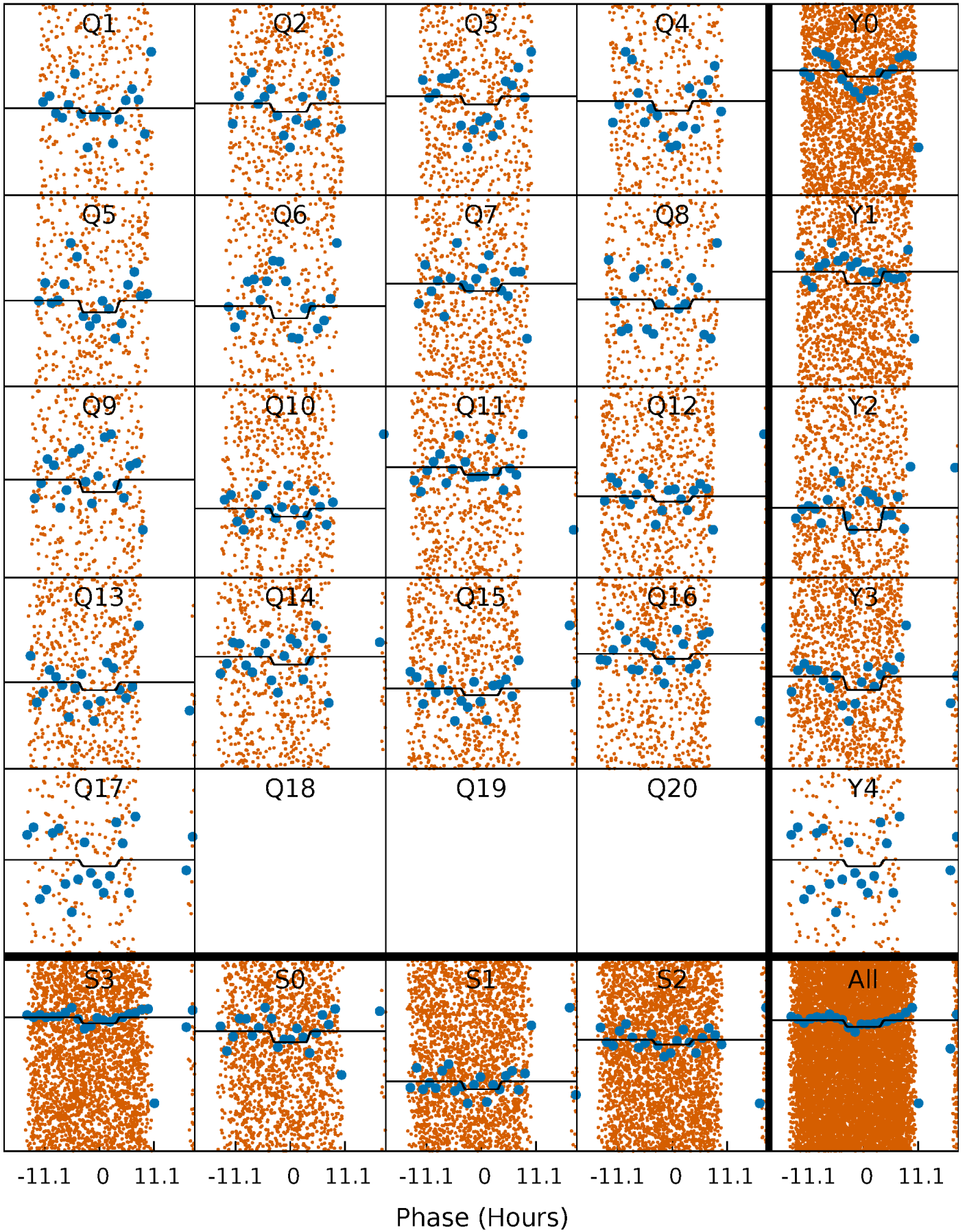
DV Quarter-Phased Transit Curves

TCE 001430590-02 P= 1.386274 Days $T_0=132.117719$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

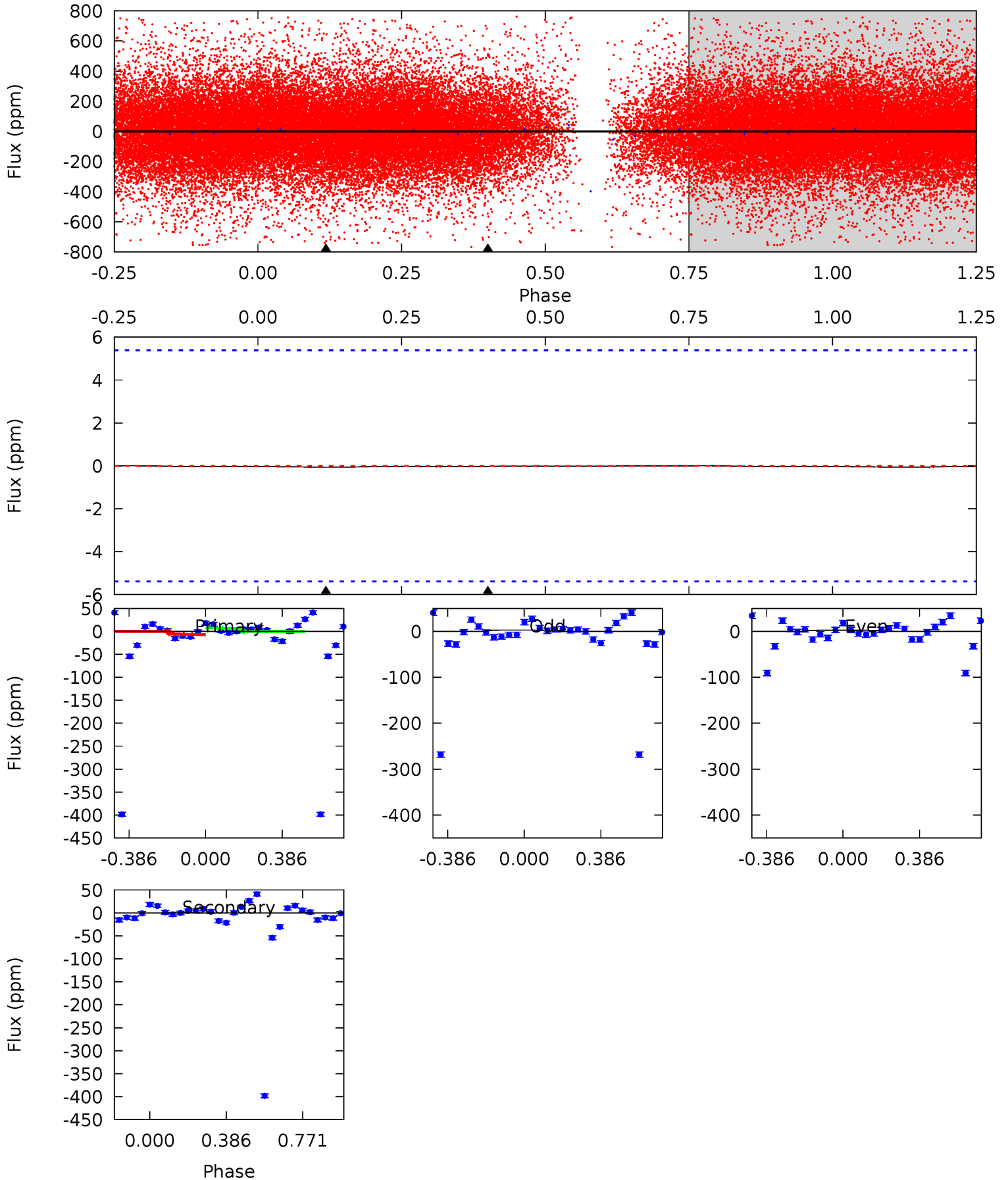
TCE 001430590-02 P= 1.386775 Days $T_0=132.065229$ (BKJD)



DV Model-Shift Uniqueness Test

001430590-02, P = 1.386274 Days, E = 130.731445 Days

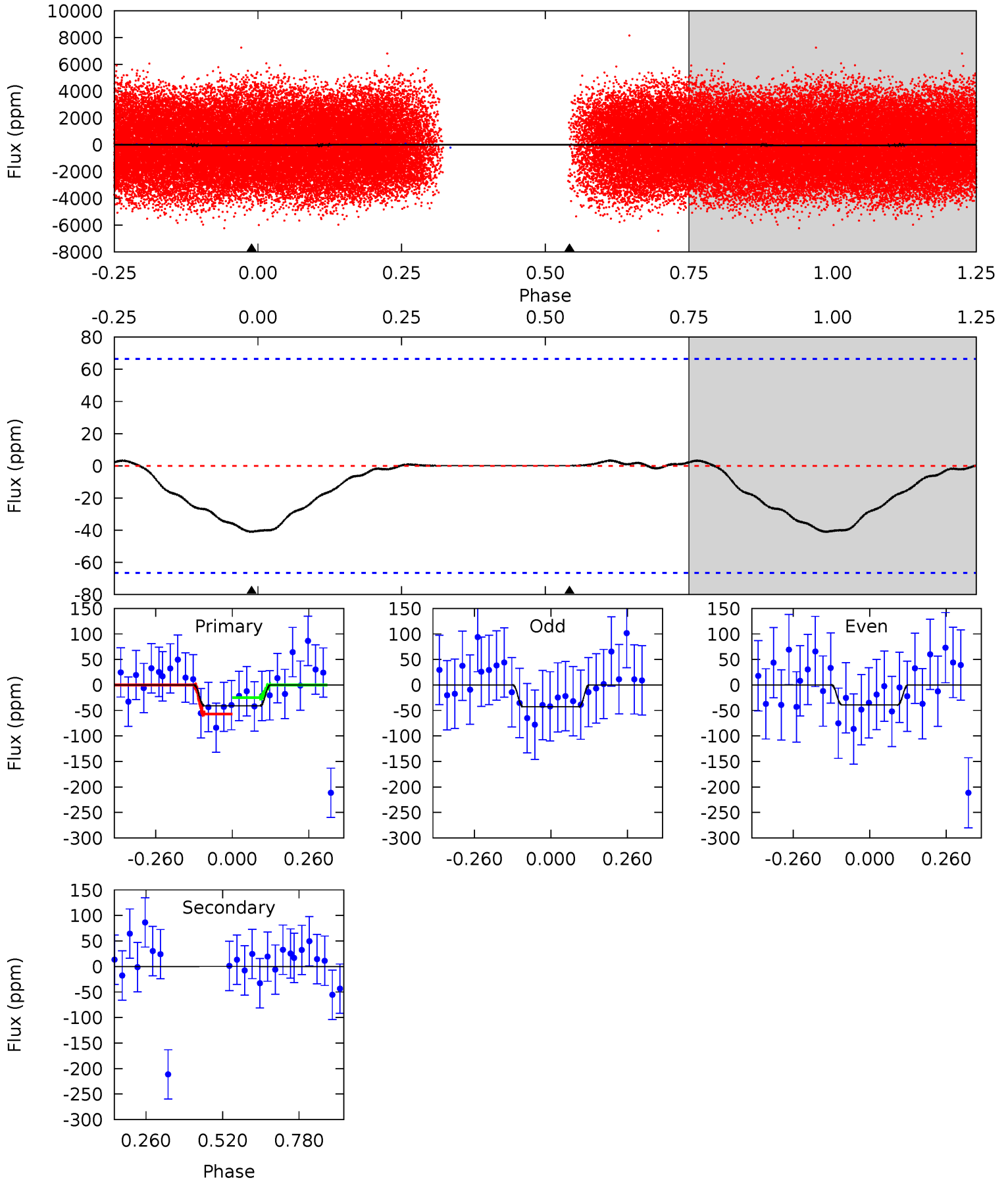
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0.05	0.02	0	0	4.27	0.87	0.00	0.05	0.05	0.02	0.02	0.14	6.66	0.05	0.02



Alt Model-Shift Uniqueness Test

001430590-02, P = 1.386775 Days, E = 130.678454 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
2.68	0	0	0	4.36	1.13	0.10	2.68	2.68	0	0	0.13	1.01	0.07	1.05



Stellar Parameters For KIC 001430590

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	6809^{+214}_{-286}	$3.669^{+0.493}_{-0.087}$	$-0.020^{+0.250}_{-0.300}$	$3.331^{+0.436}_{-1.743}$	$1.885^{+0.154}_{-0.579}$	$0.072^{+0.400}_{-0.020}$
	+3%/-4%	+13%/-2%	+1250%/-1500%	+13%/-52%	+8%/-31%	+557%/-28%
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 001430590-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	A_{obs}
DV	-0 ± 1	$1.38^{+1.80}_{-0.98}$	4307^{+279}_{-592}	-3788^{+7799}_{-759}	$0.016^{+0.705}_{-0.476}$
Alt.	0 ± 15	$2.46^{+2.34}_{-1.54}$	4288^{+306}_{-584}	-3603^{+8848}_{-1523}	$0.095^{+2.085}_{-1.391}$

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

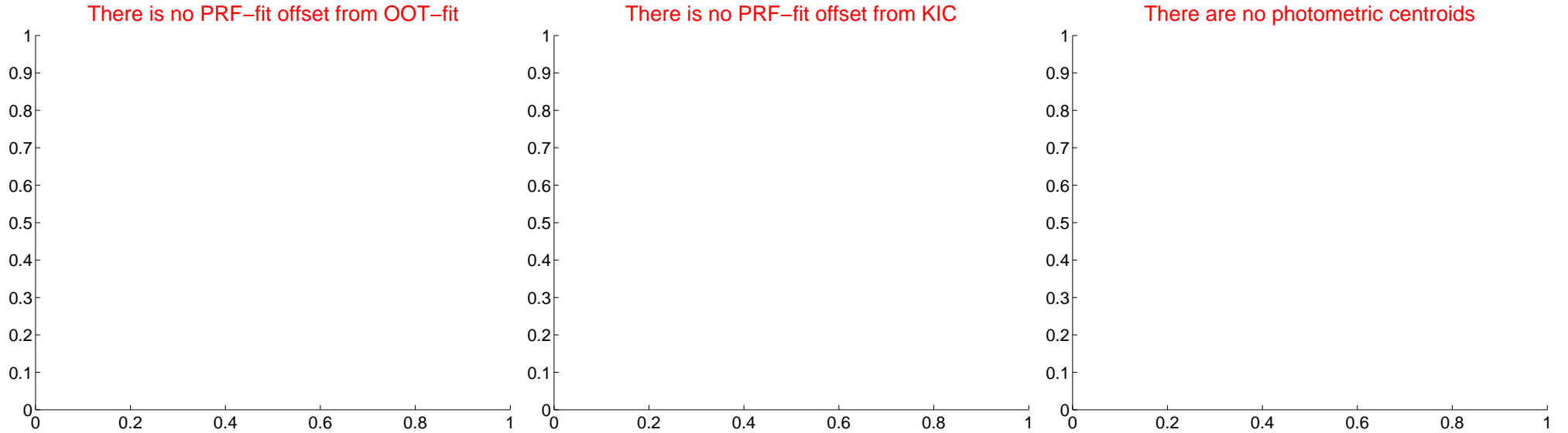
DV Centroid Data

Supplemental centroid analysis for 001430590-02. Kepler magnitude: 12.72. Transit SNR 0.03

There are 0 quarters with good PRF difference image offsets

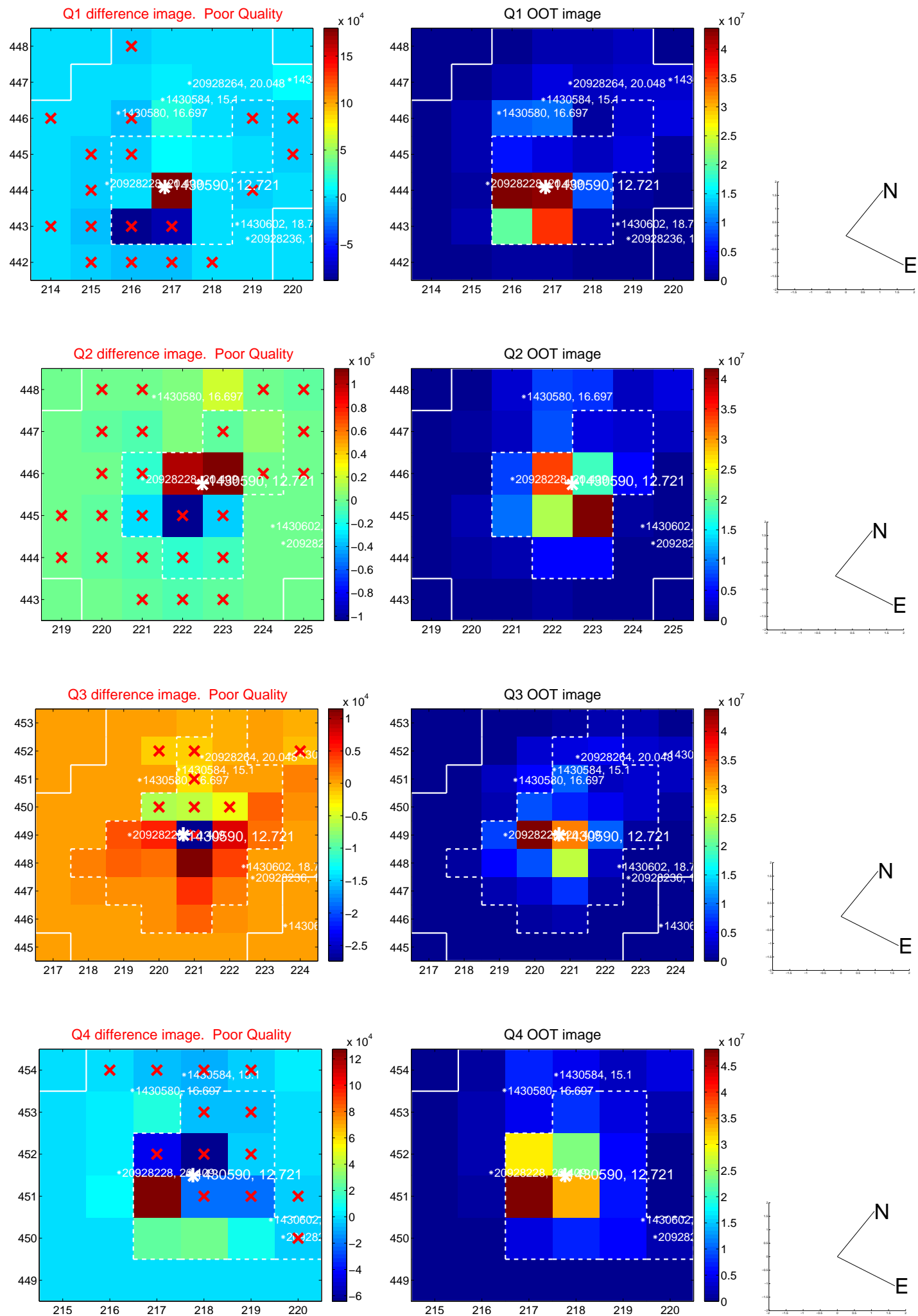
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—

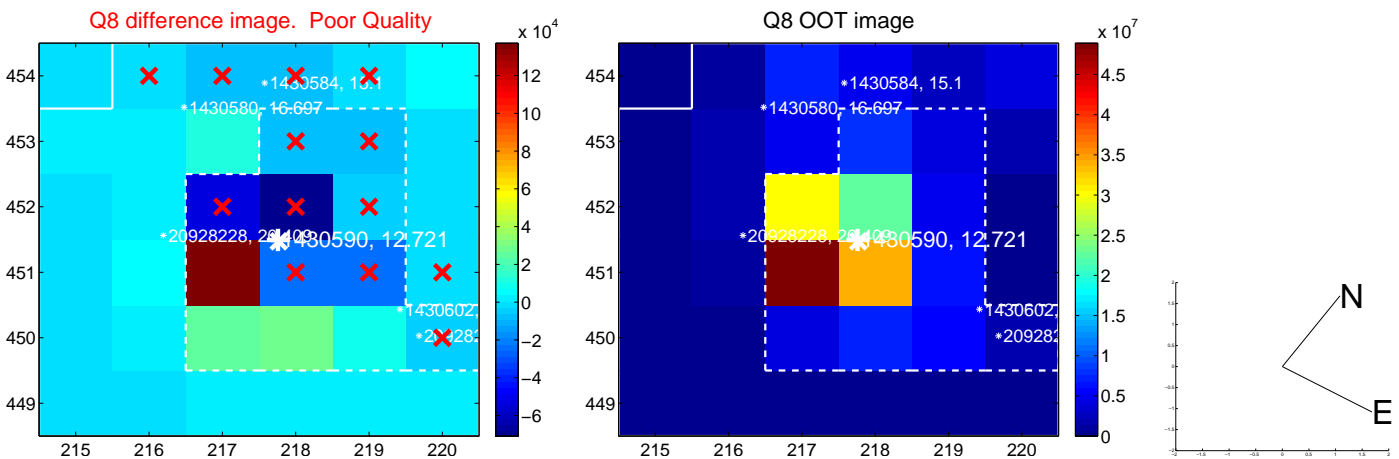
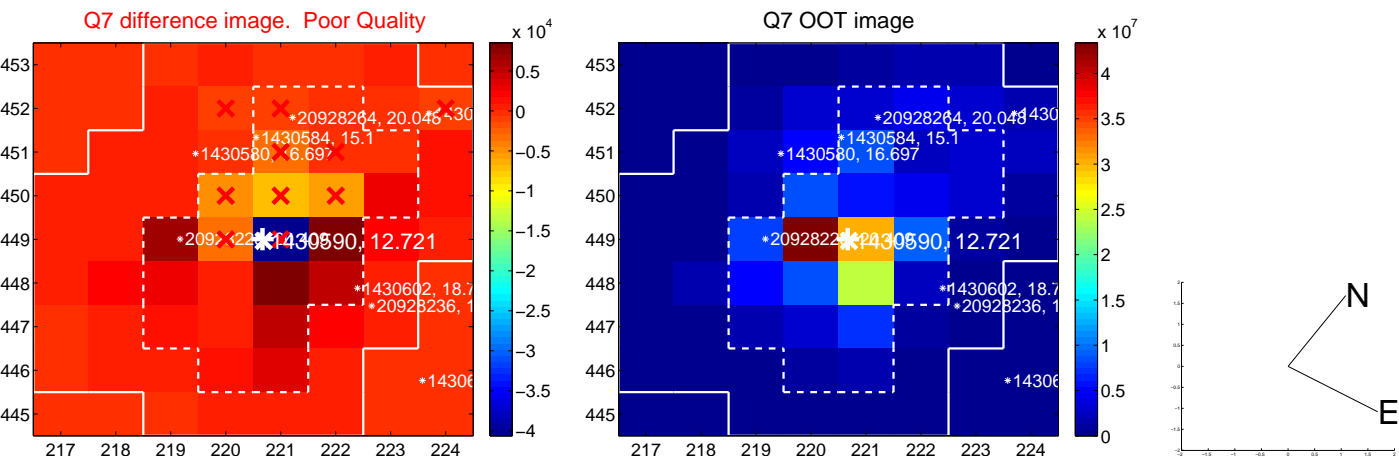
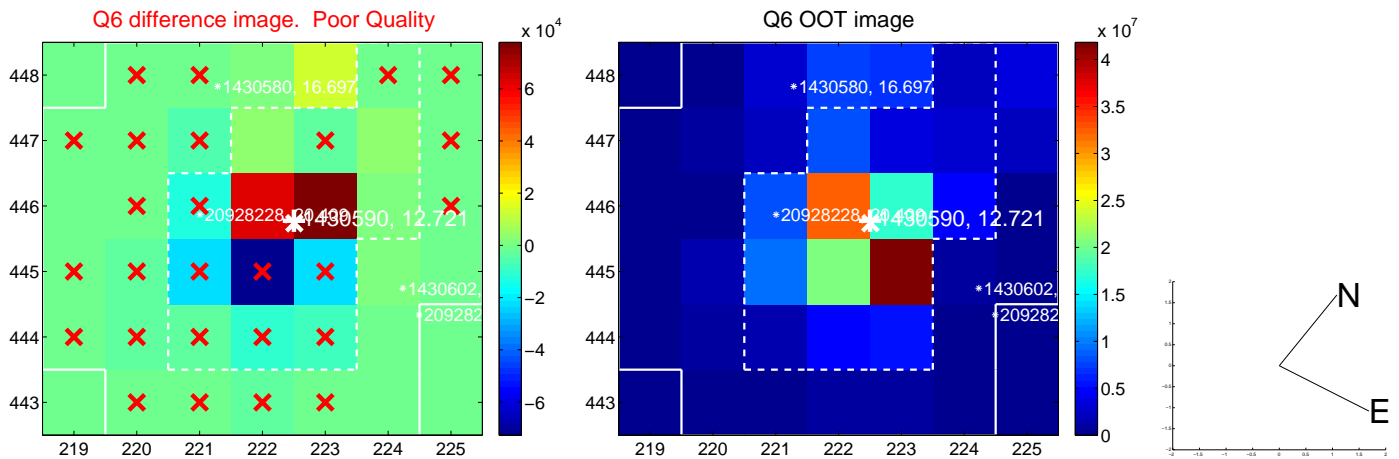
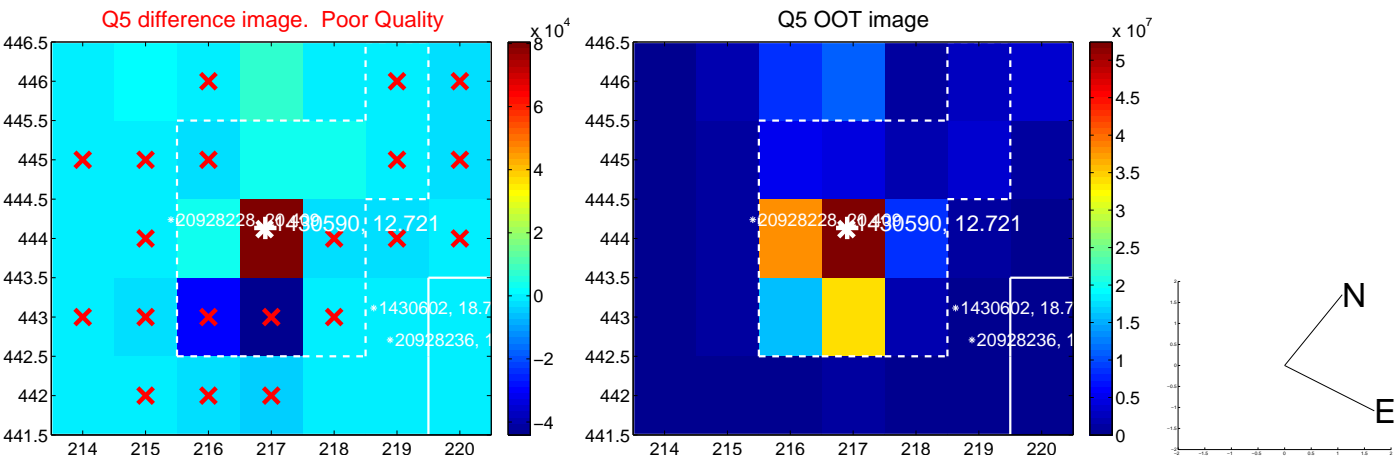


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

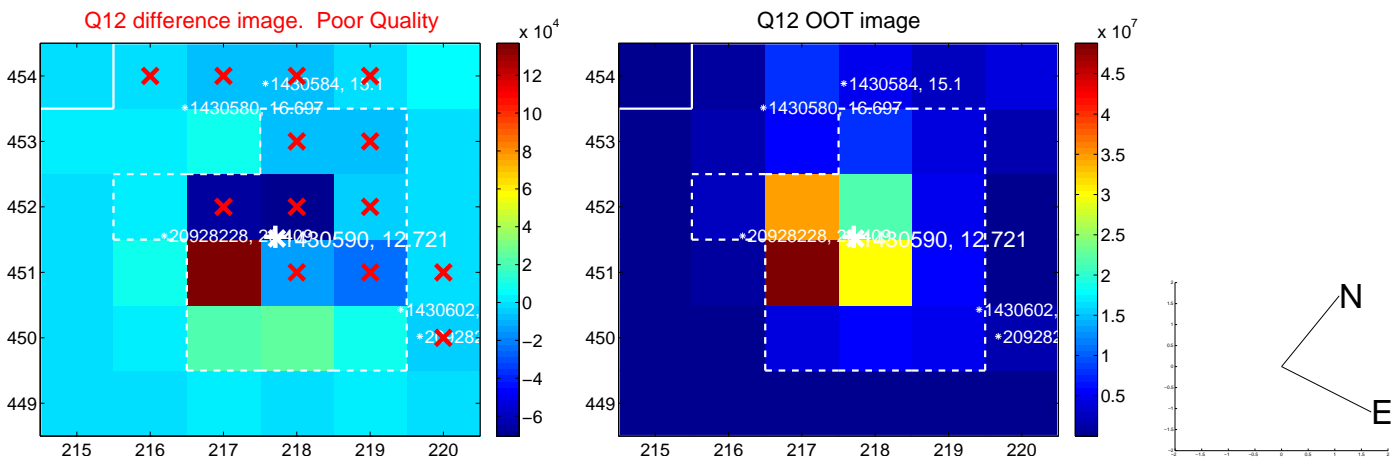
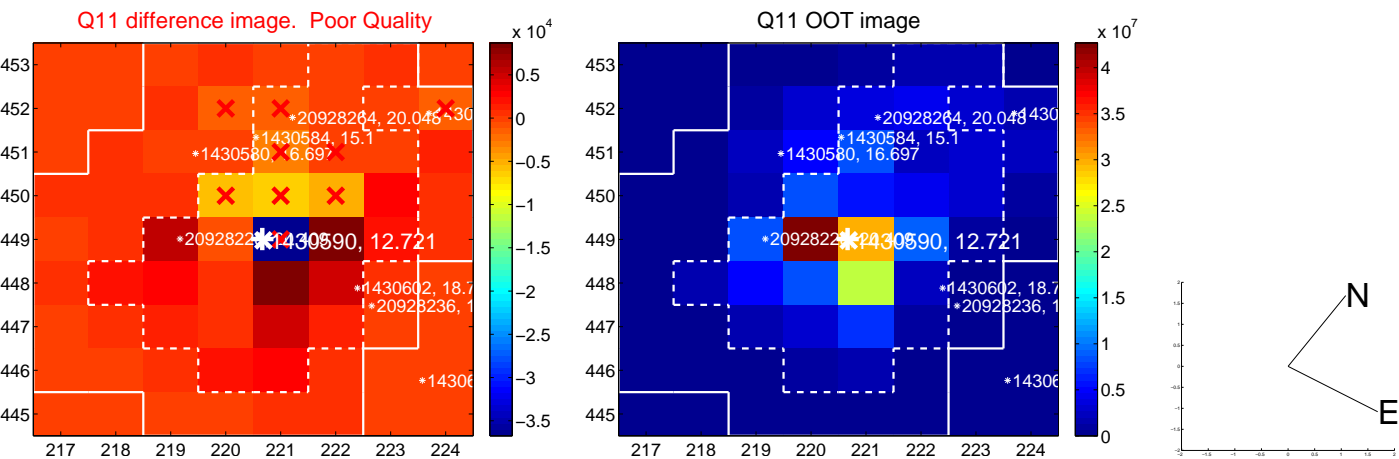
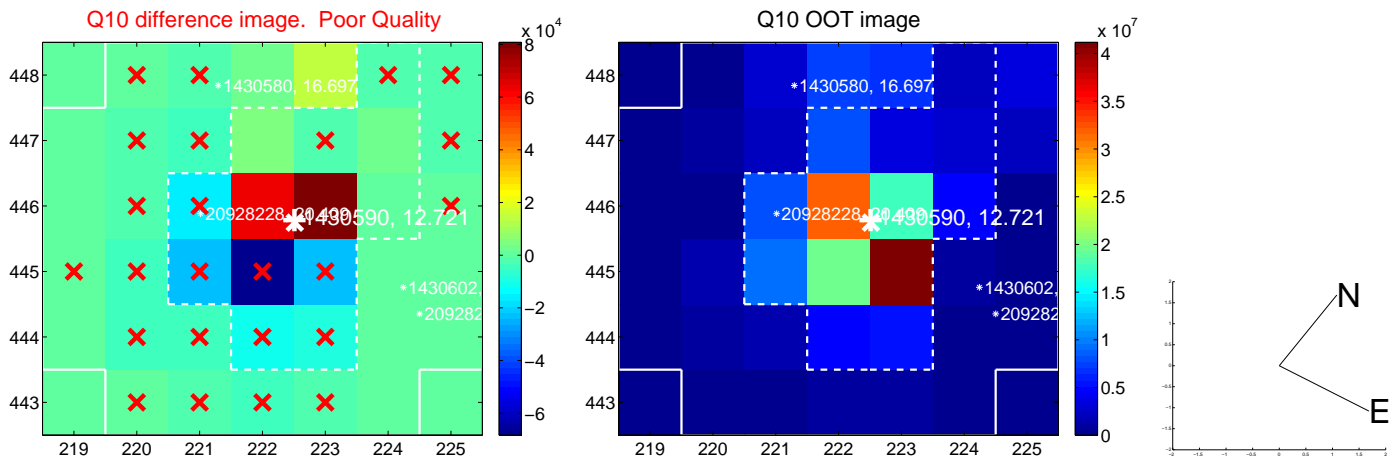
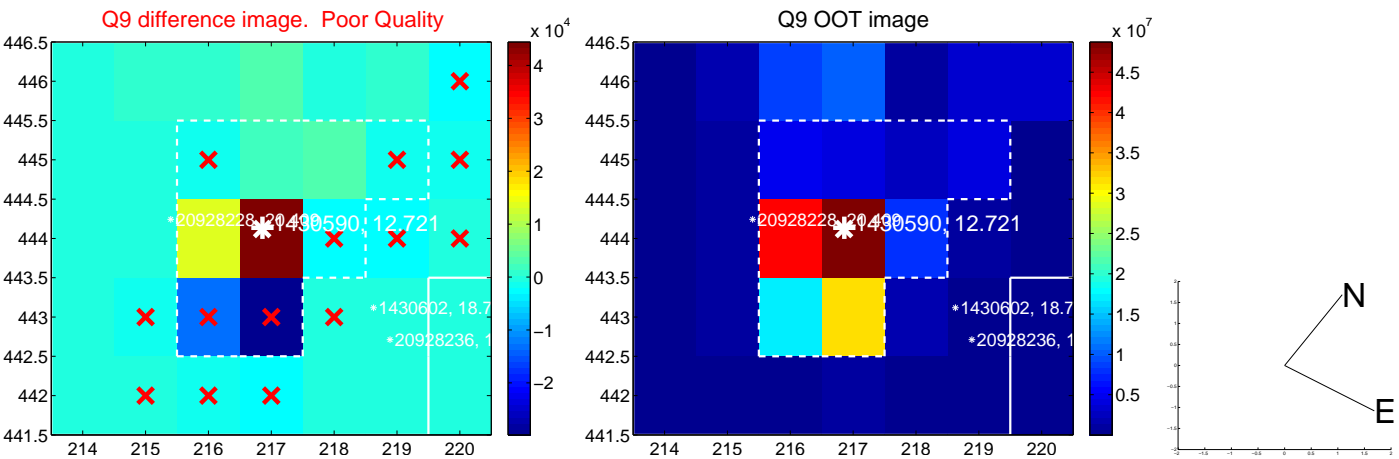
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



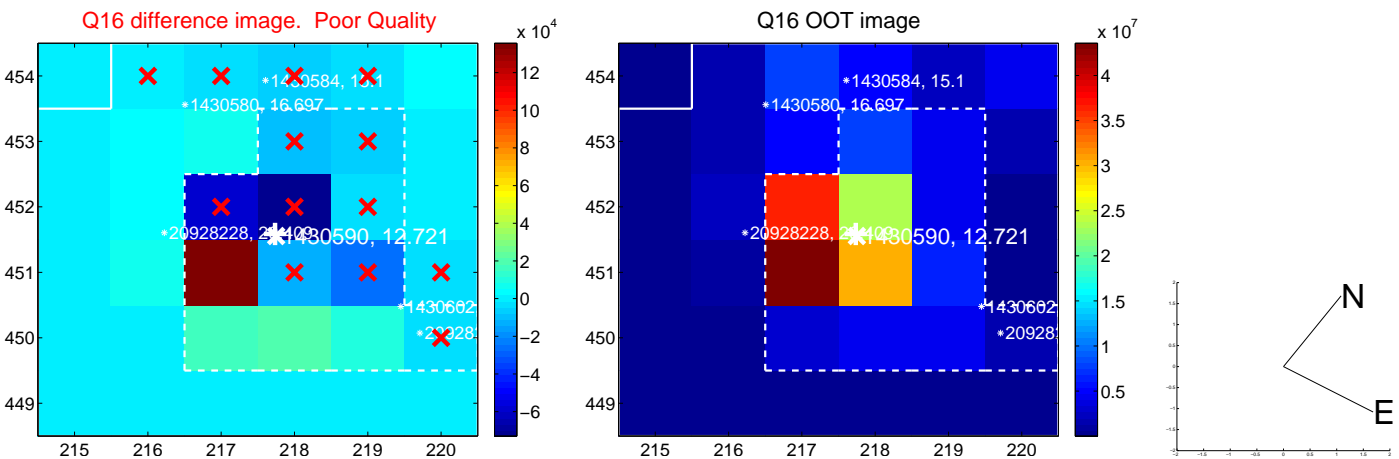
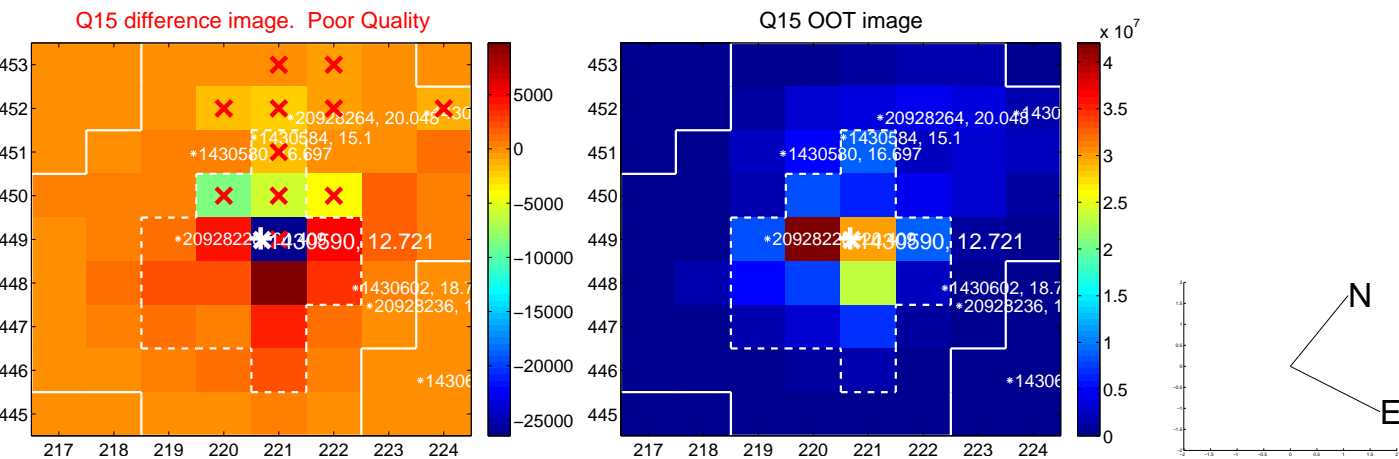
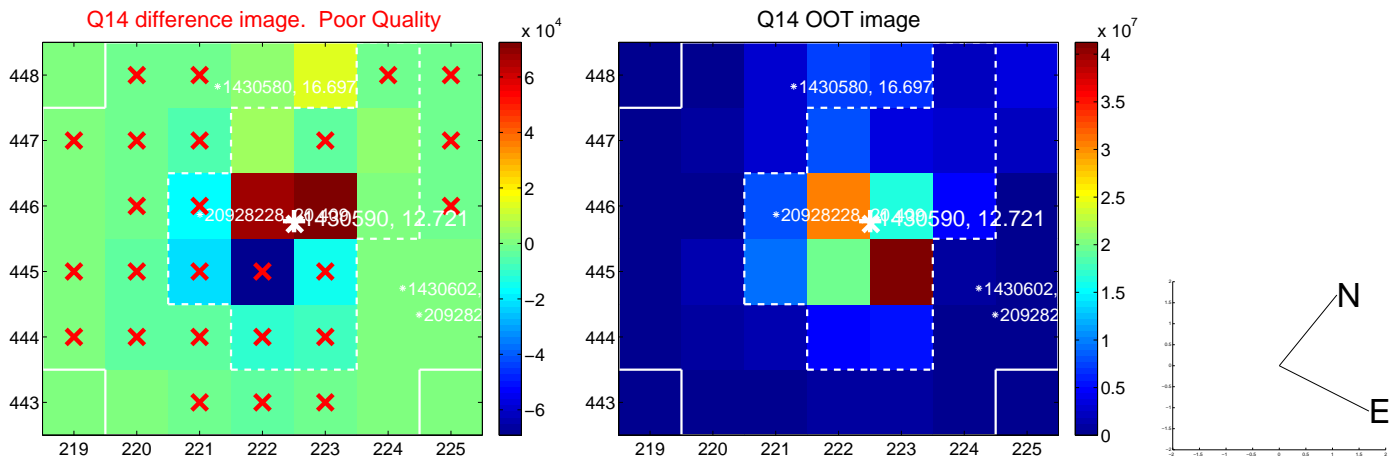
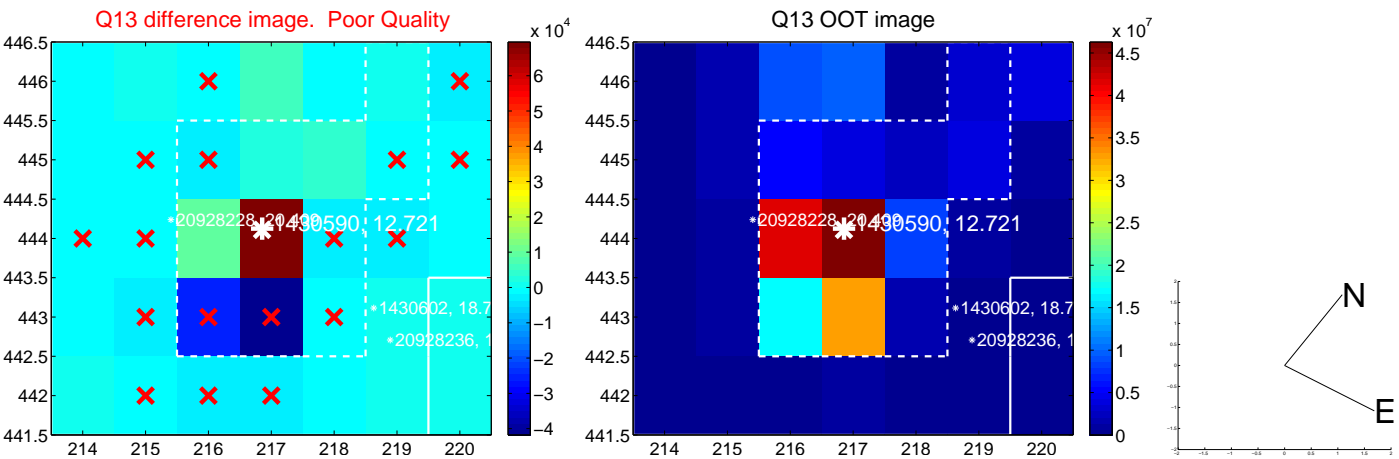
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



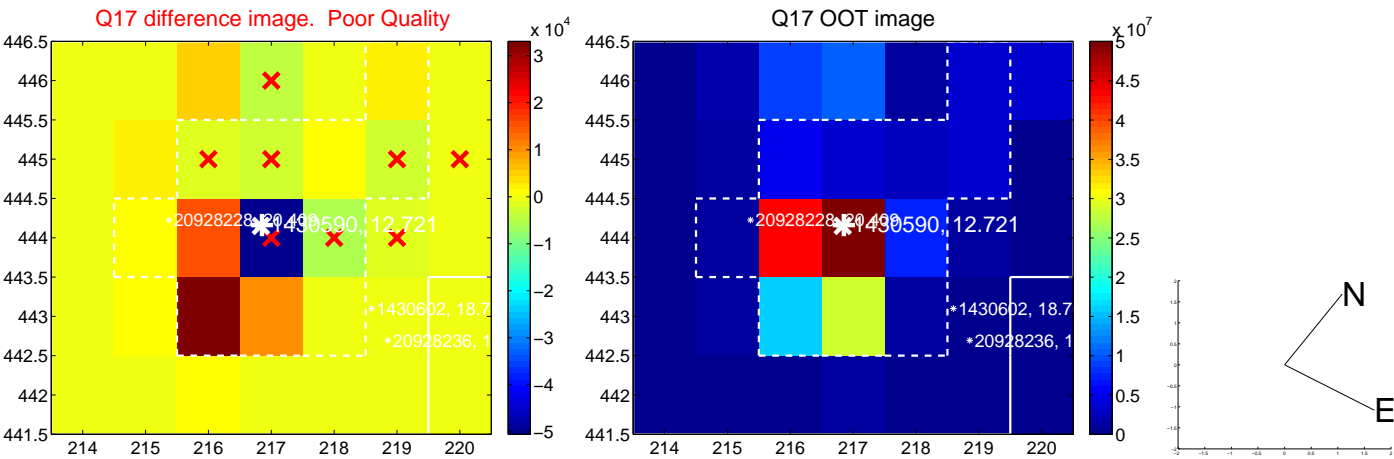
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folded centroid time series figure for this object.

UKIRT Image

Declination

