

# KIC 005906426

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005906426-01	OBS	2377.01	13.903315	143.530323	277.3	3.414	12.8	14.0	0.82	5261	1.63	41.16

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005906426-01	OBS	PC	0.89	0	0	0	0	NO_COMMENT

**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](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

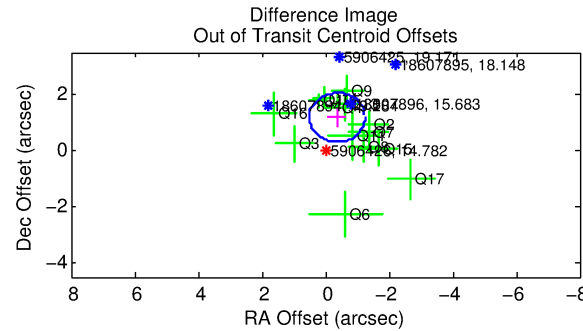
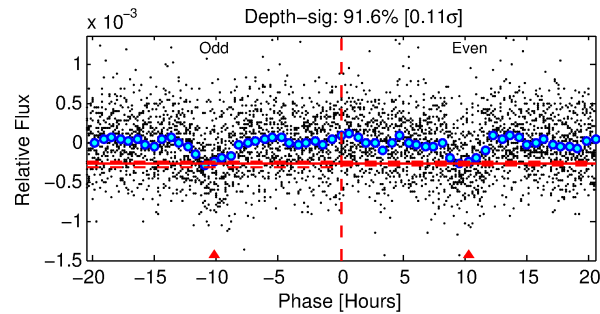
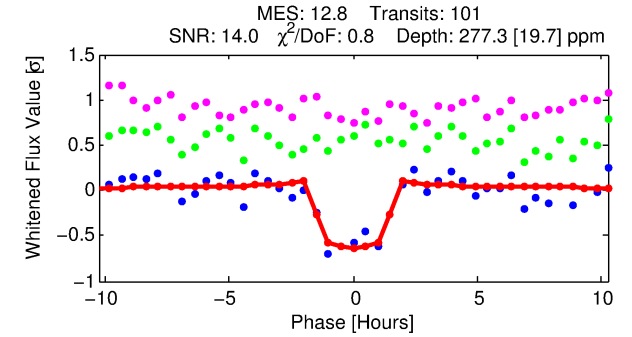
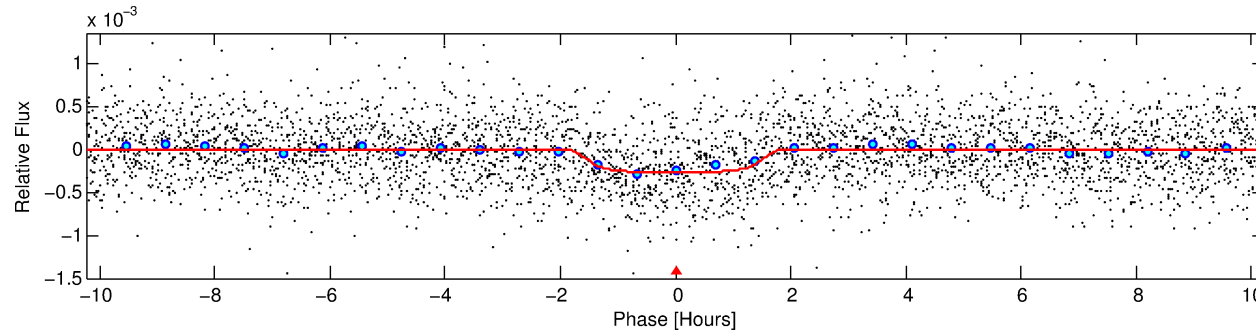
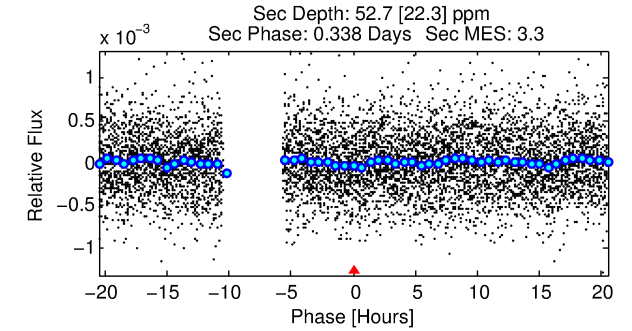
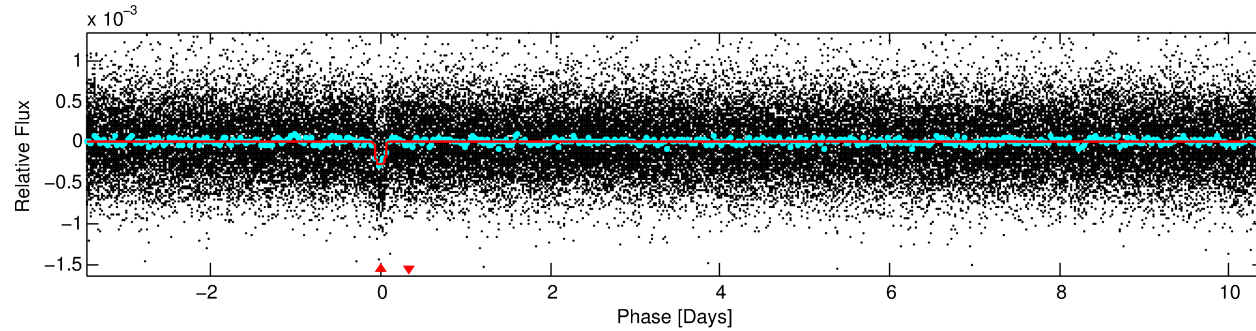
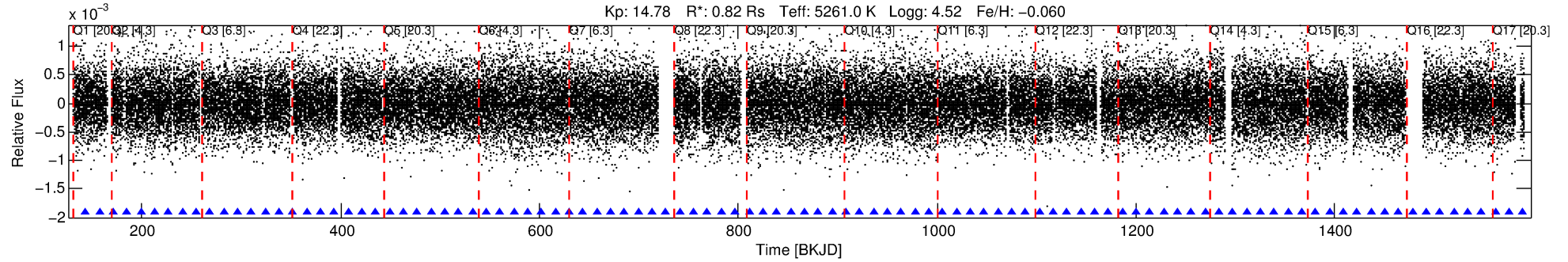
## Ephemeris Match Information For 005906426-01

No Significant Match Found

# DV One-Page Summary

KIC: 5906426 Candidate: 1 of 1 Period: 13.903 d

KOI: K02377.01 Corr: 0.962



## DV Fit Results:

Period = 13.90331 [0.00008] d  
Epoch = 143.5303 [0.0046] BKJD  
Rp/R\* = 0.0183 [0.0062]  
a/R\* = 15.35 [21.61]  
b = 0.89 [0.33]  
Seff = 41.17 [12.61]  
Teq = 646 [49] K  
Rp = 1.63 [0.64] Re  
a = 0.1058 [0.0172] AU  
Ag = 121.91 [101.64] [1.19σ]  
Teffp = 3318 [685] K [3.89σ]

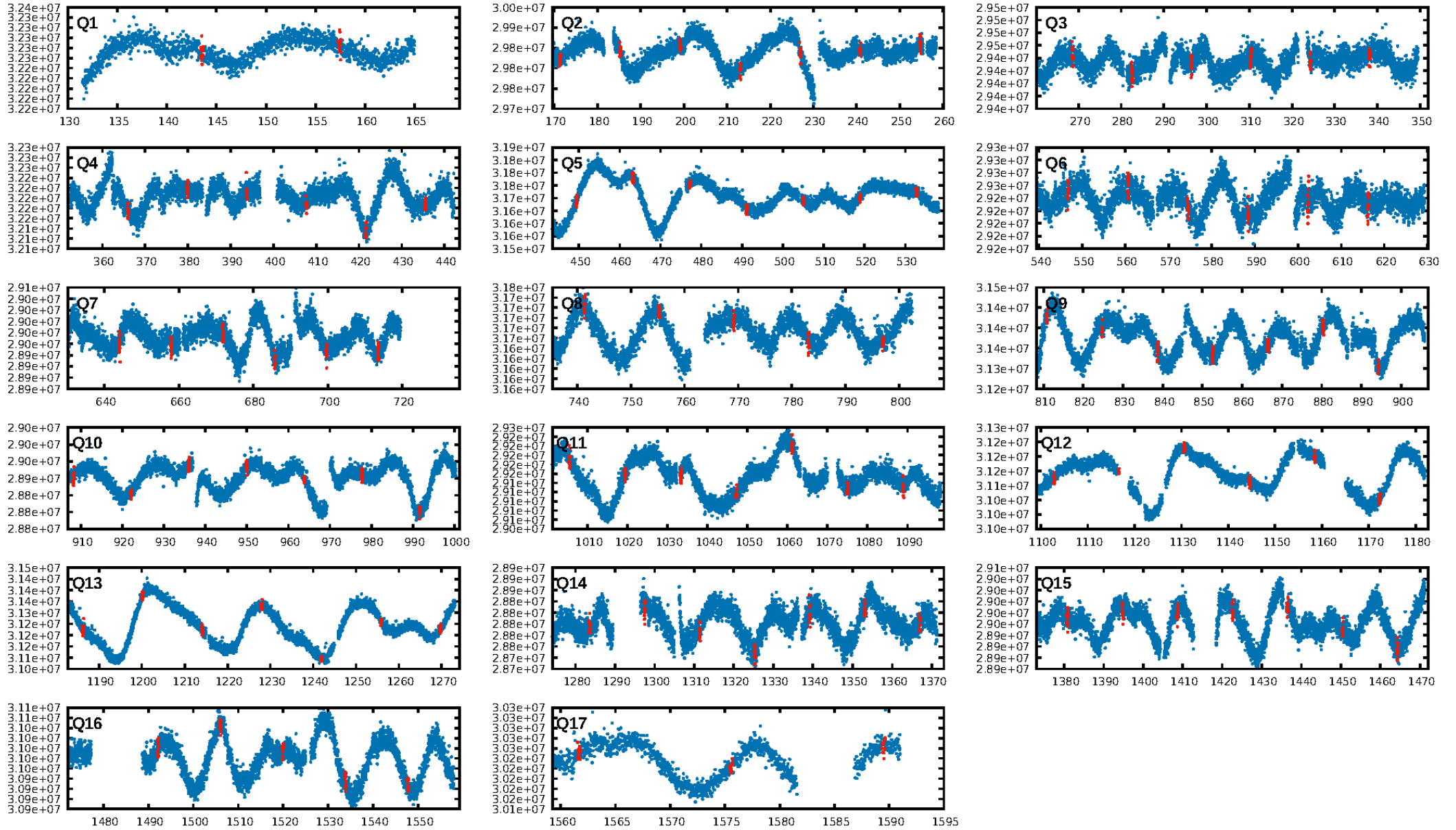
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 92.9%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 3.37e-35  
RollingBand-fgt: 1.00 [96/96]  
GhostDiagnostic-chr: 3.185  
Centroid-sig: 0.7%  
Centroid-so: 1.801 arcsec [2.14σ]  
OotOffset-rm: 1.233 arcsec [4.22σ]  
KicOffset-rm: 1.280 arcsec [4.38σ]  
OotOffset-st: 4/4/3/3 [14]  
KicOffset-st: 4/4/3/3 [14]  
DiffImageQuality-fgm: 0.86 [12/14]  
DiffImageOverlap-fno: 1.00 [17/17]

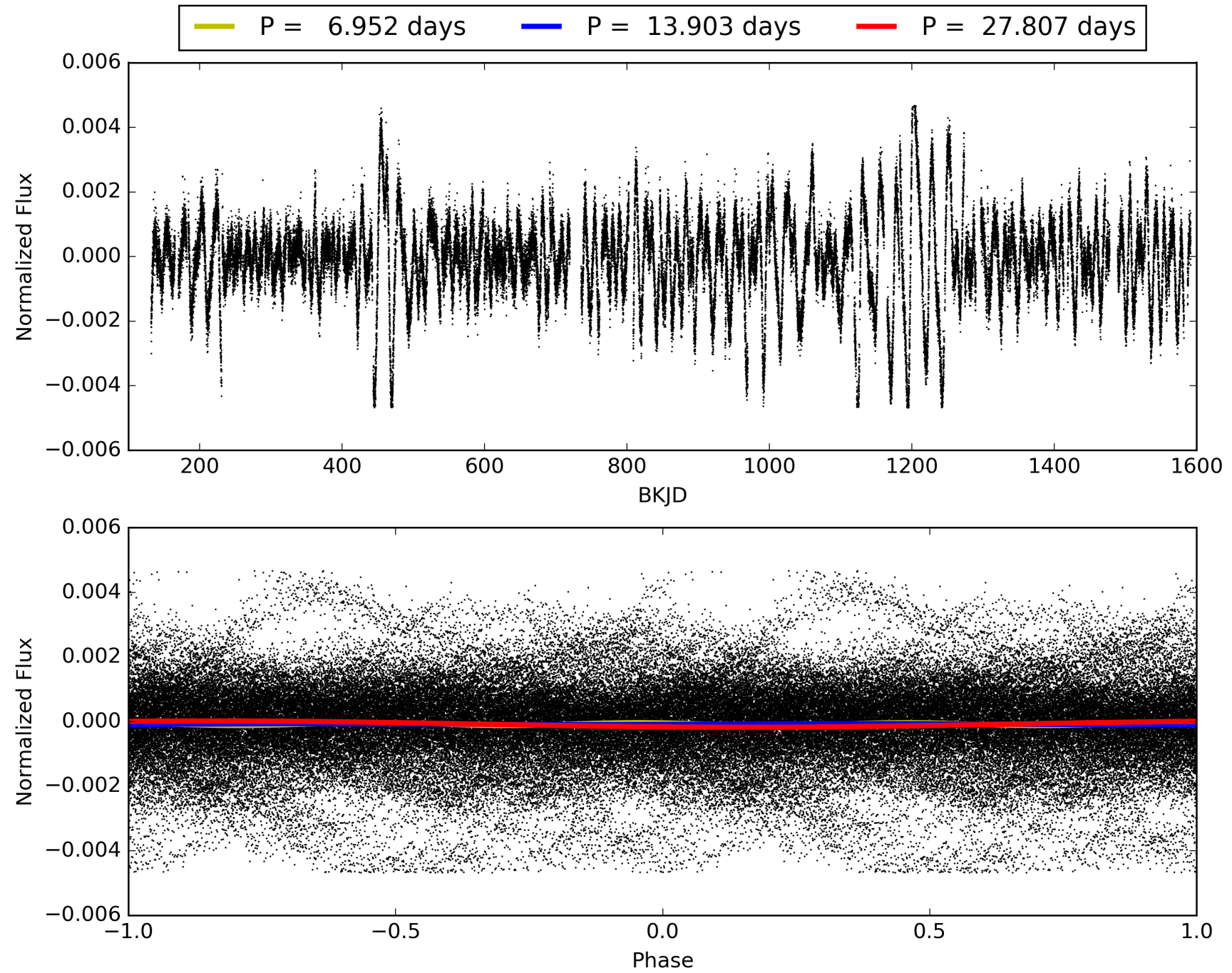
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 07:16:33 Z

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

# TCE 005906426-01, PDC Light Curves

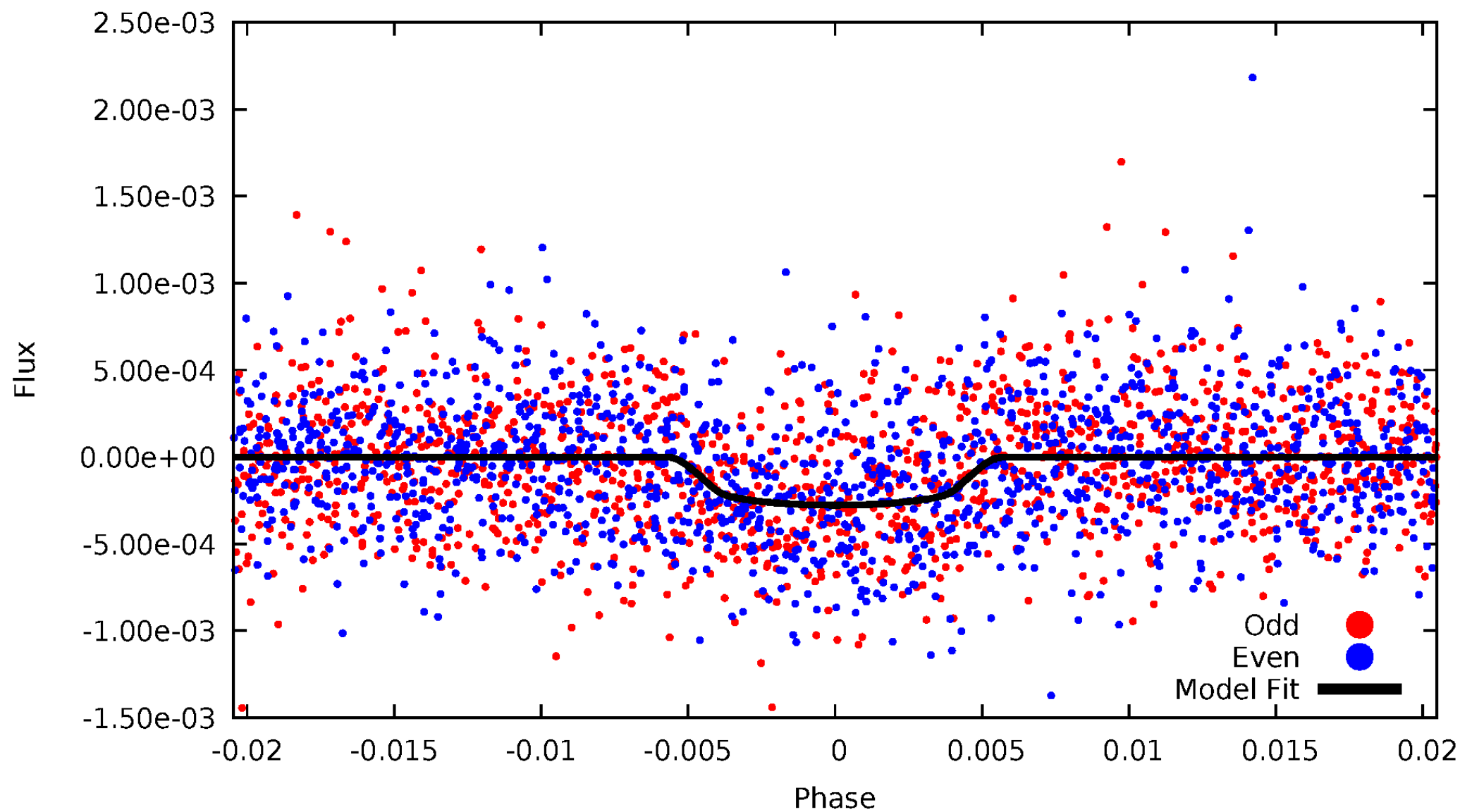


TCE 005906426-01



# DV Odd/Even

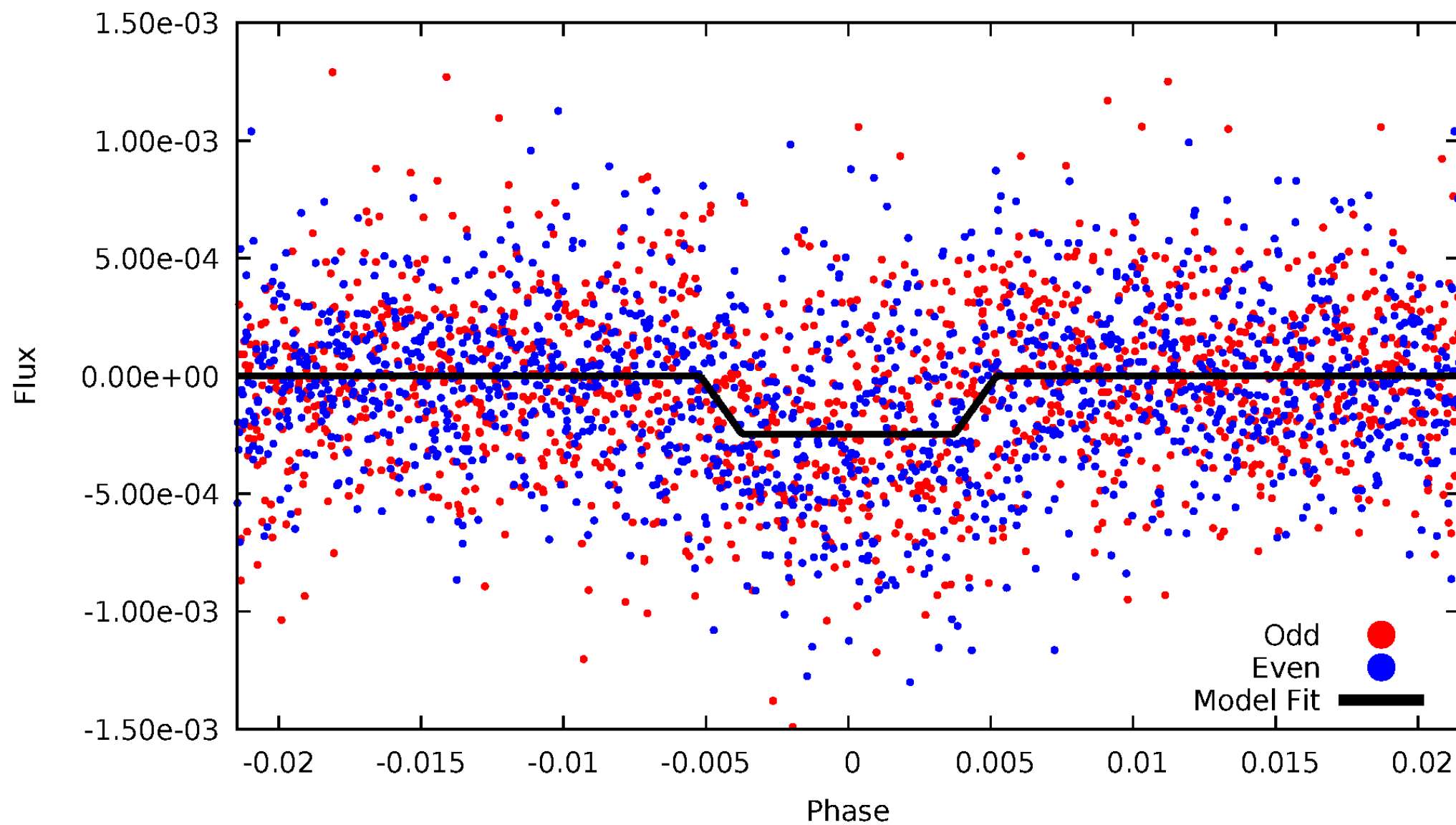
TCE 005906426-01



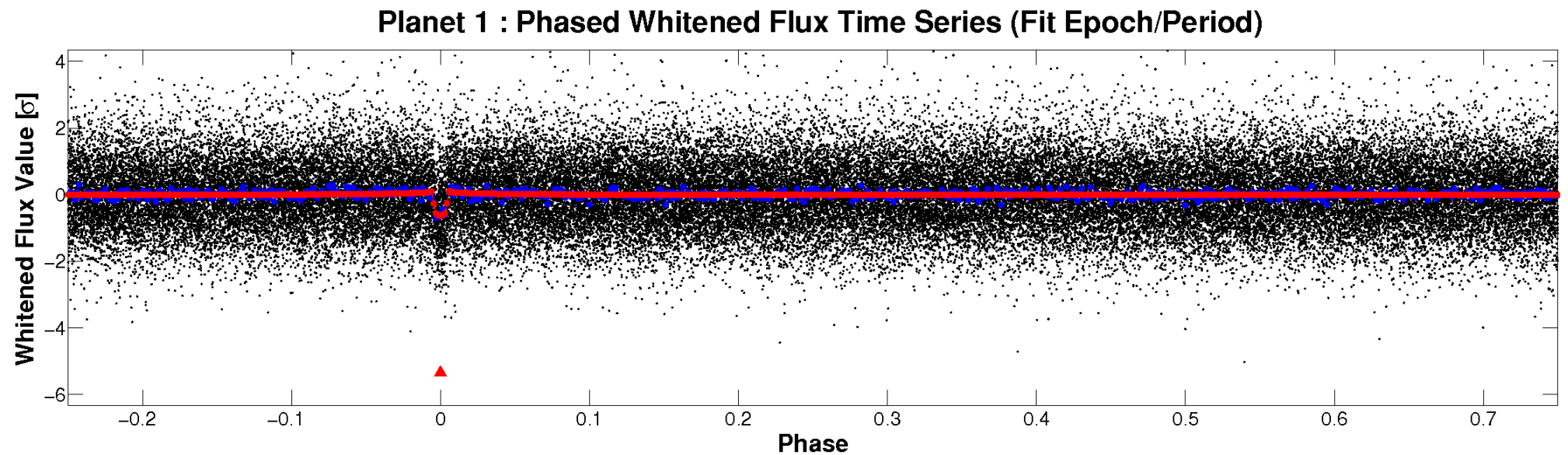
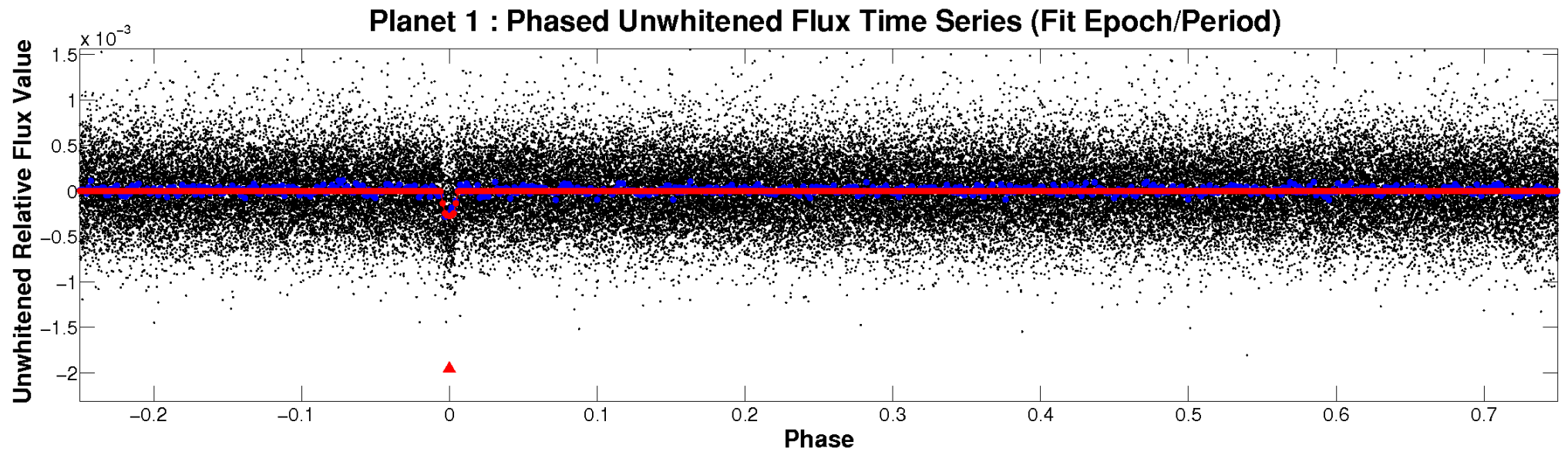


# ALT Odd/Even

TCE 005906426-01

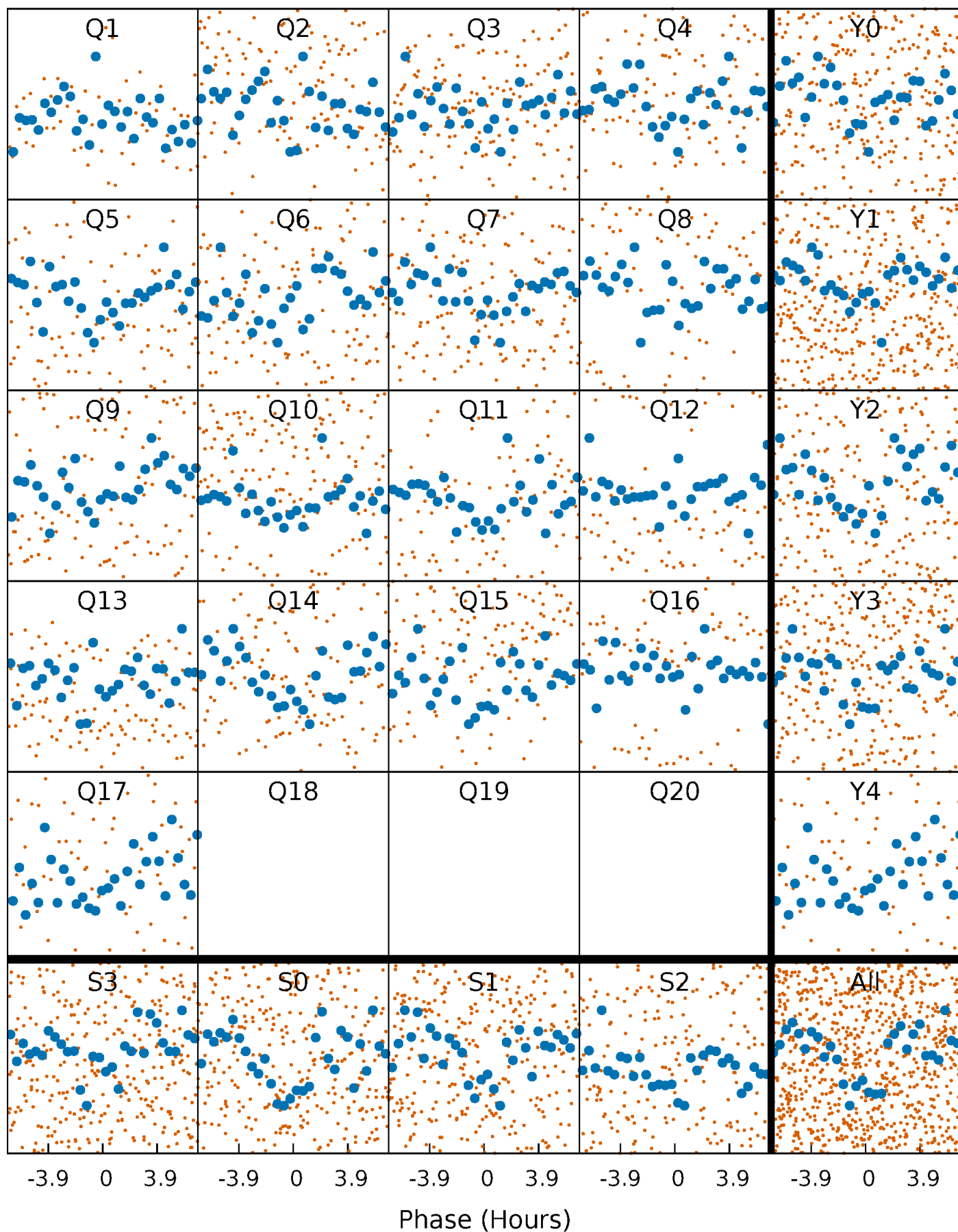


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

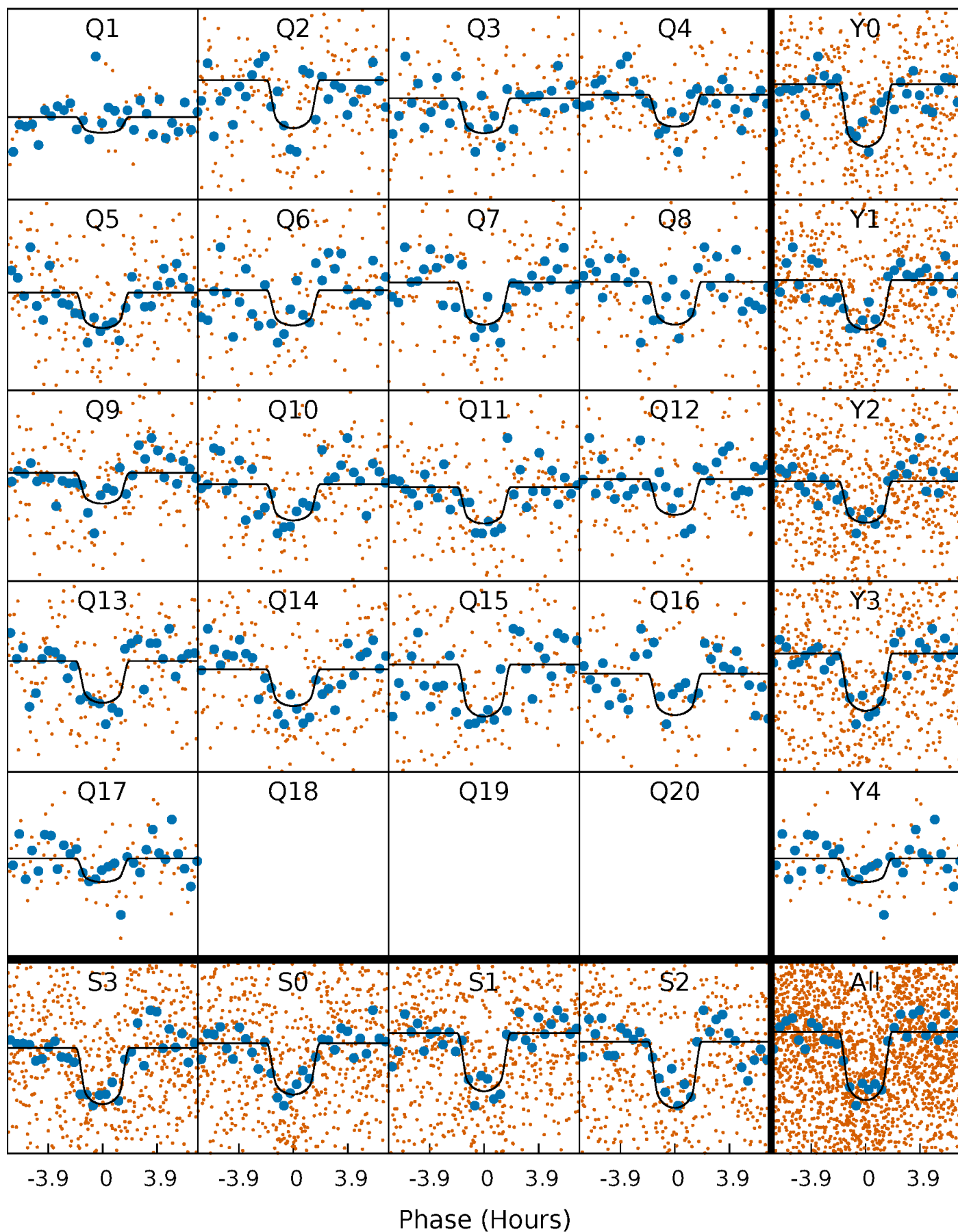
TCE 005906426-01 P= 13.903315 Days  $T_0=143.530323$  (BKJD)





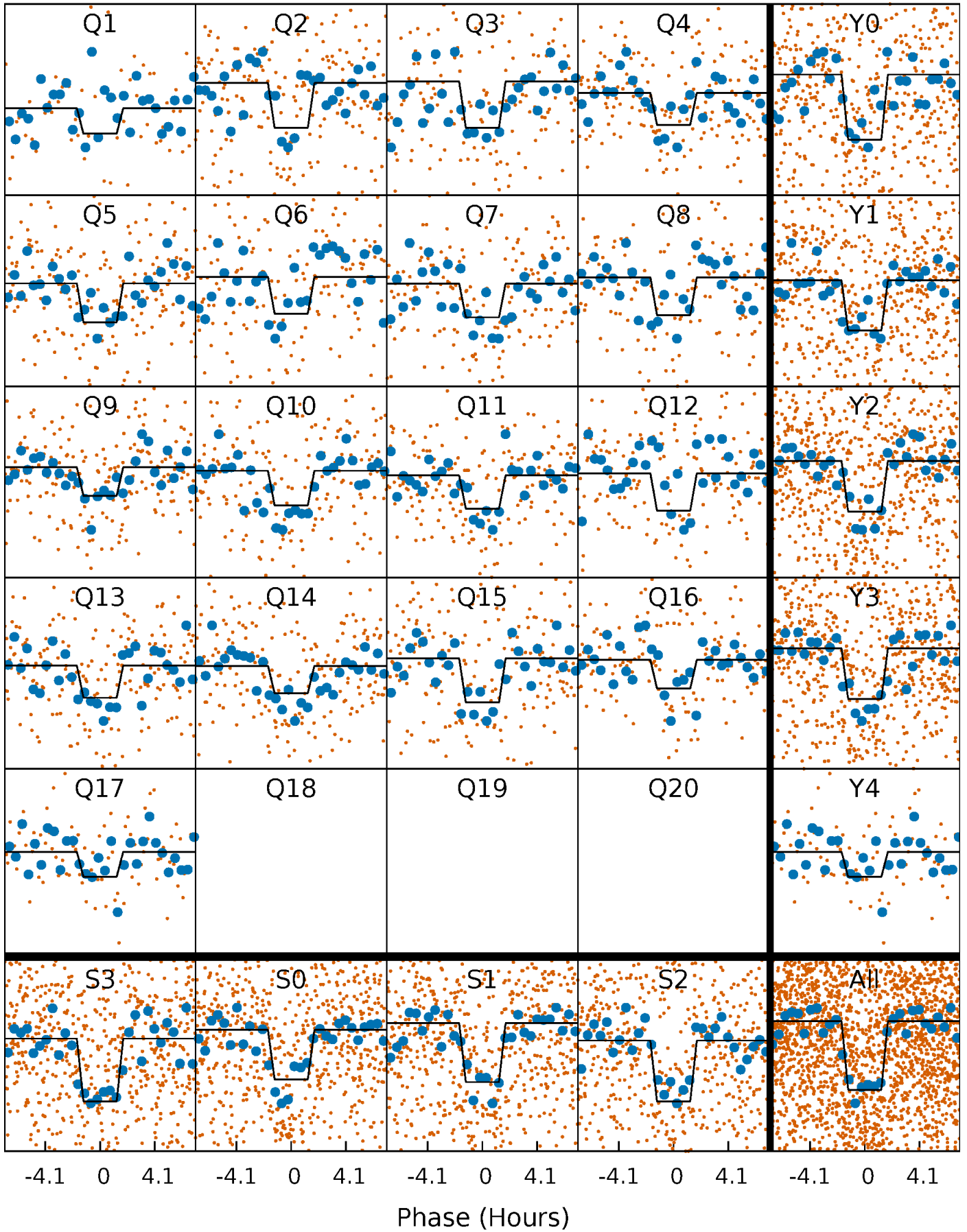
# DV Quarter-Phased Transit Curves

TCE 005906426-01 P= 13.903315 Days  $T_0=143.530323$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

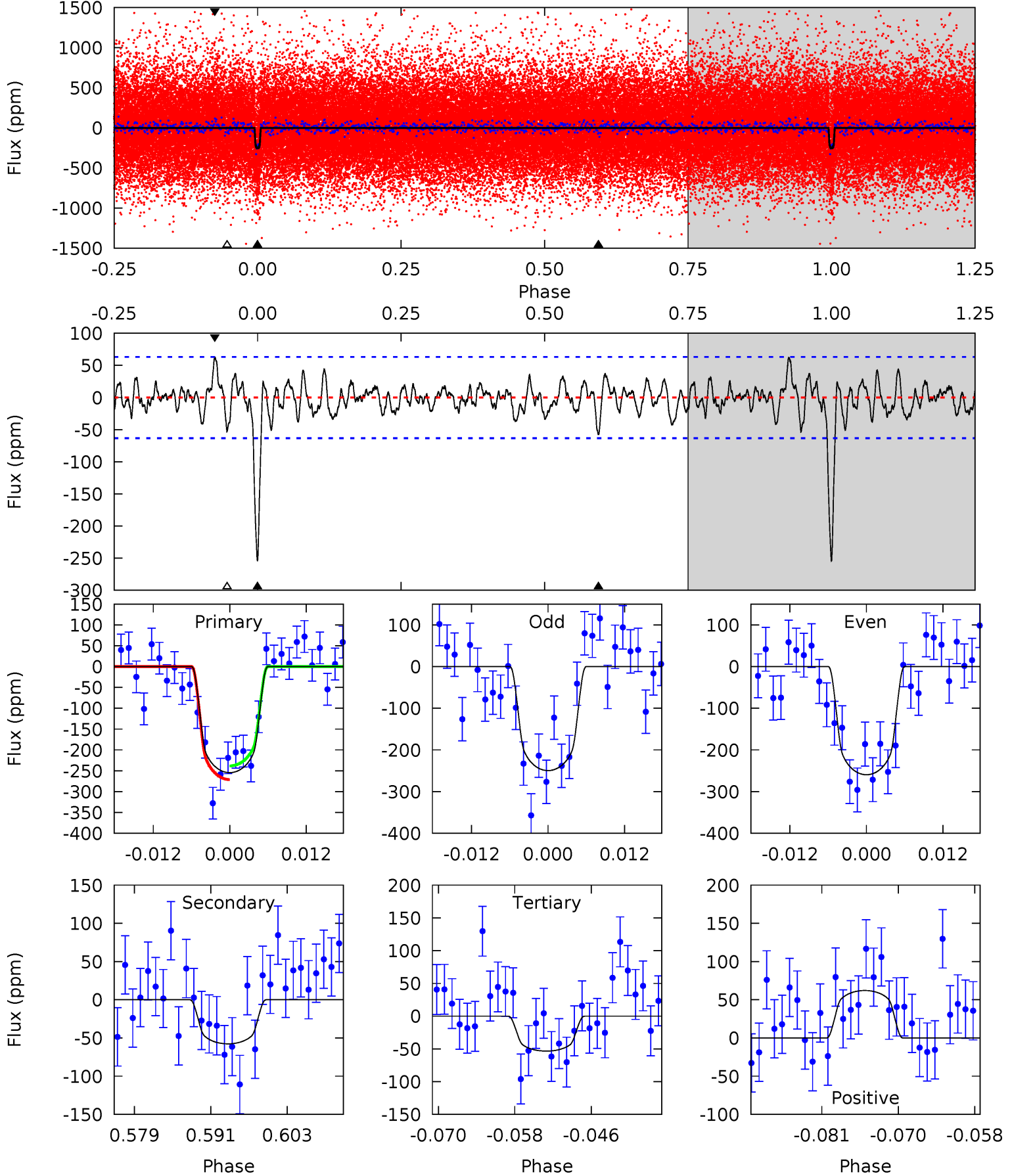
TCE 005906426-01 P= 13.903222 Days  $T_0=143.535242$  (BKJD)



# DV Model-Shift Uniqueness Test

005906426-01,  $P = 13.903315$  Days,  $E = 129.627008$  Days

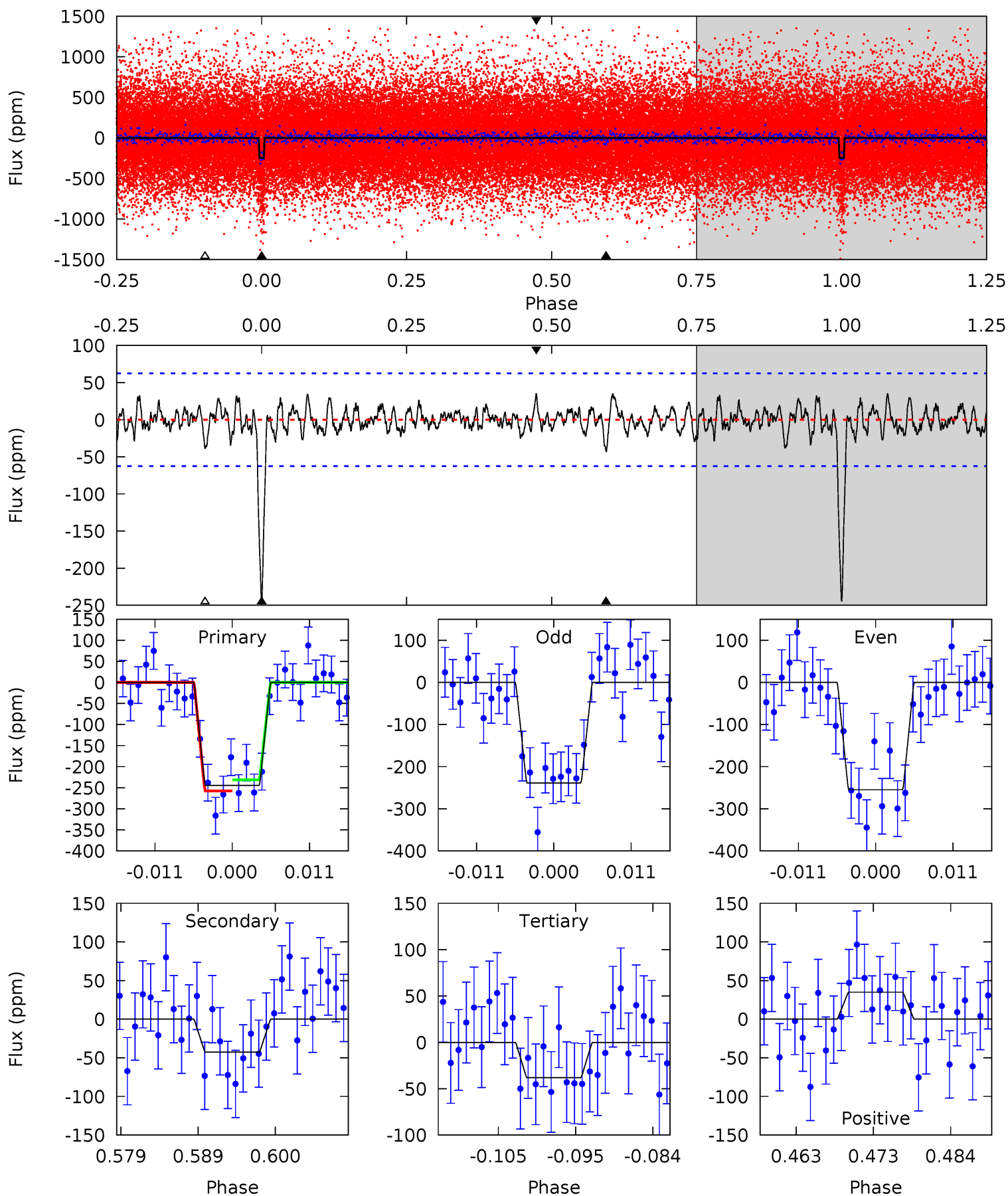
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.1	4.56	4.22	4.91	5.00	2.52	1.40	15.9	15.2	0.34	-0.35	0.40	1.02	0.20	1.30



# Alt Model-Shift Uniqueness Test

005906426-01, P = 13.903222 Days, E = 129.632020 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
19.6	3.42	3.05	2.80	5.02	2.56	1.00	16.5	16.8	0.37	0.62	0.66	1.00	0.13	1.06



### Stellar Parameters For KIC 005906426

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5261^{+265}_{-265}$	$4.523^{+0.076}_{-0.123}$	$-0.060^{+0.300}_{-0.300}$	$0.819^{+0.163}_{-0.088}$	$0.817^{+0.113}_{-0.078}$	$2.095^{+0.690}_{-0.775}$
	+5%/-5%	+2%/-3%	+500%/-500%	+20%/-11%	+14%/-10%	+33%/-37%
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 005906426-01 / KOI 2377.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-58 \pm 13$	$1.69^{+0.62}_{-0.59}$	$910^{+60}_{-55}$	$3720^{+615}_{-376}$	$122^{+176}_{-59}$
Alt.	$-43 \pm 12$	$1.43^{+0.61}_{-0.53}$	$907^{+59}_{-53}$	$3736^{+700}_{-461}$	$126^{+192}_{-69}$

$T_{max}$  = 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  $A_{obs} \gg 1.0$



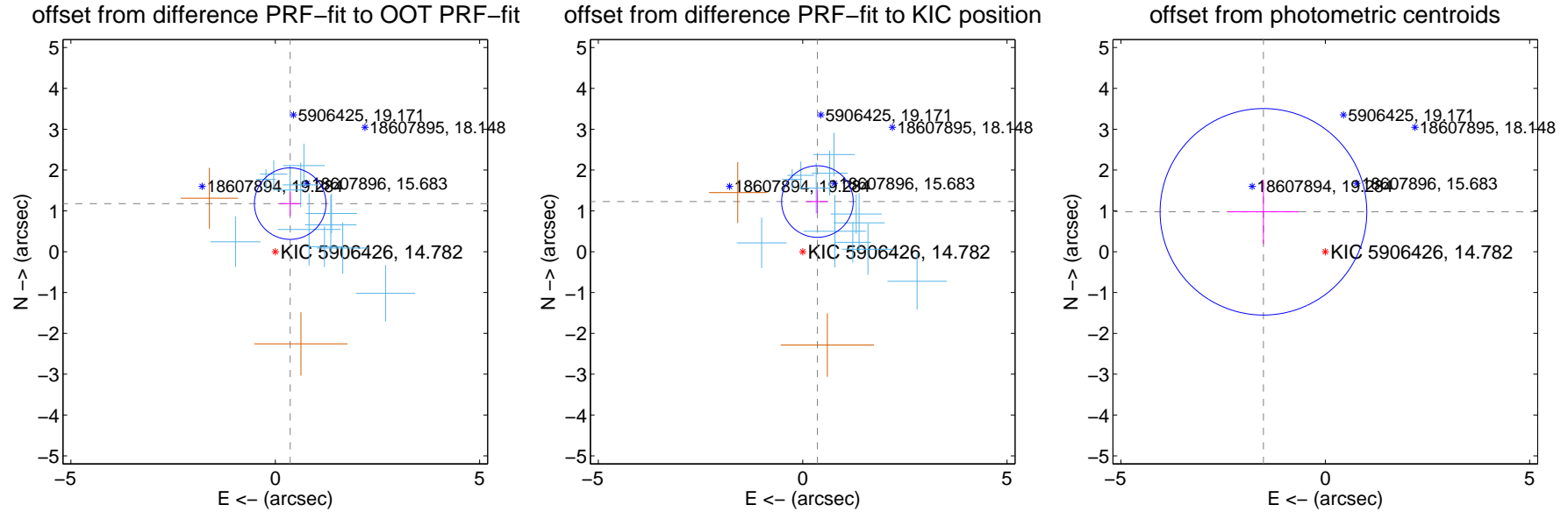
## DV Centroid Data

Supplemental centroid analysis for 005906426-01. Kepler magnitude: 14.78. Transit SNR 14.00

There are 12 quarters with good PRF difference image offsets

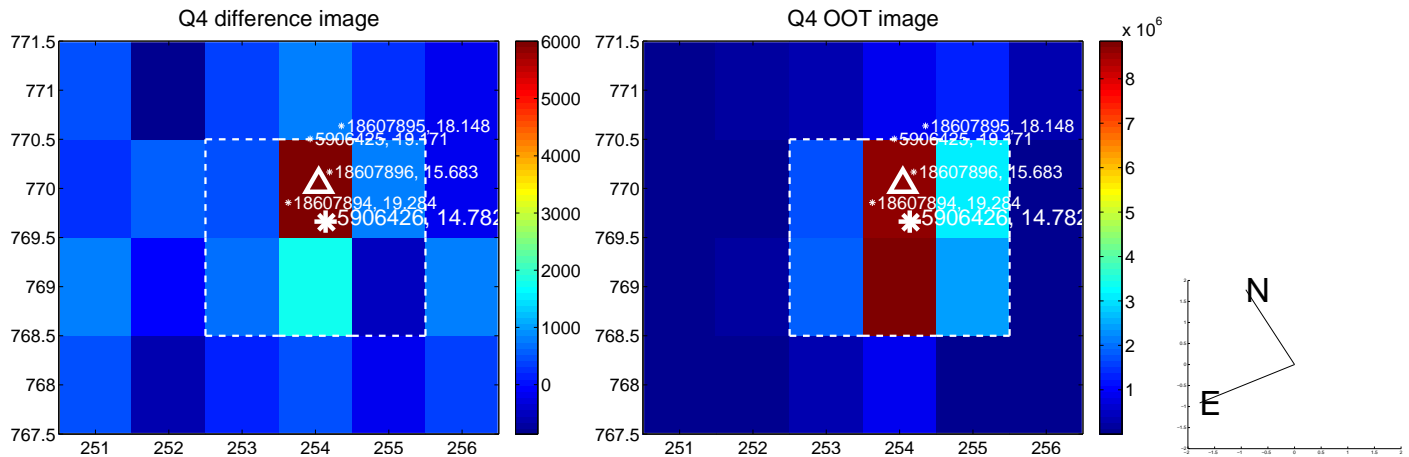
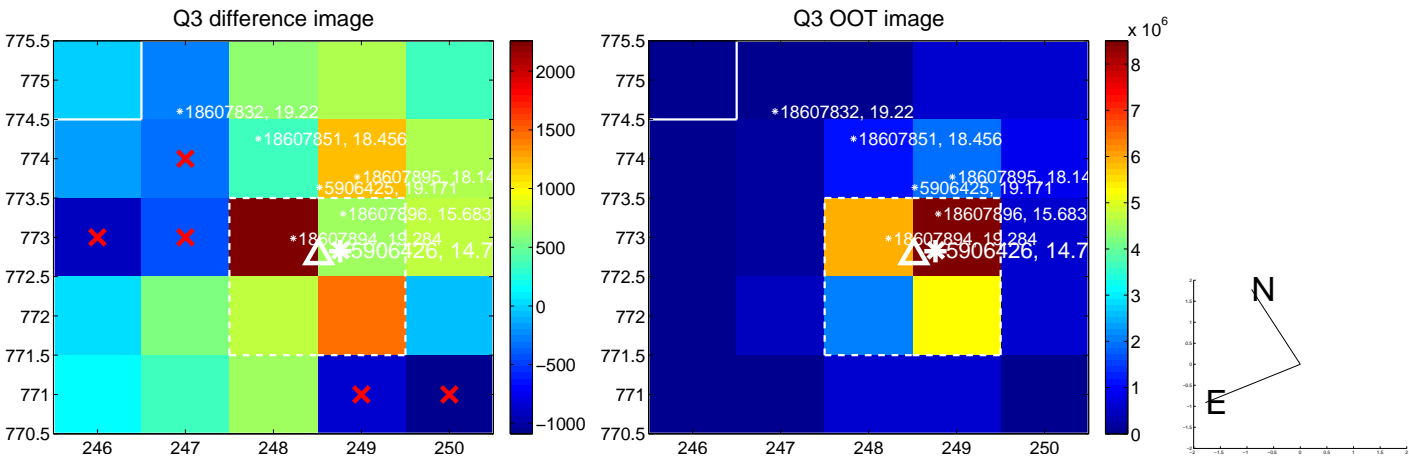
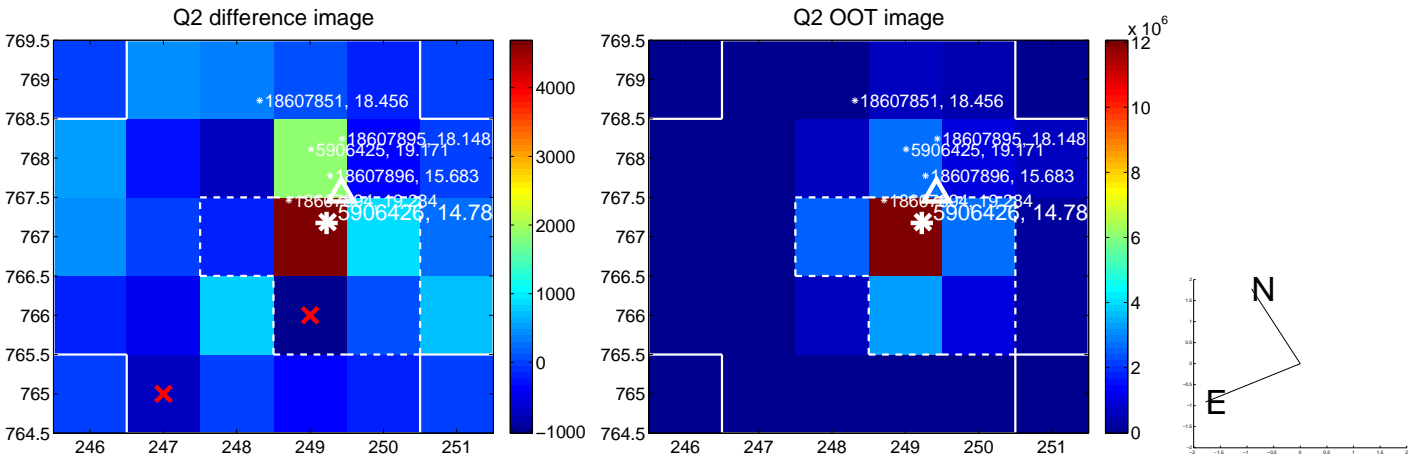
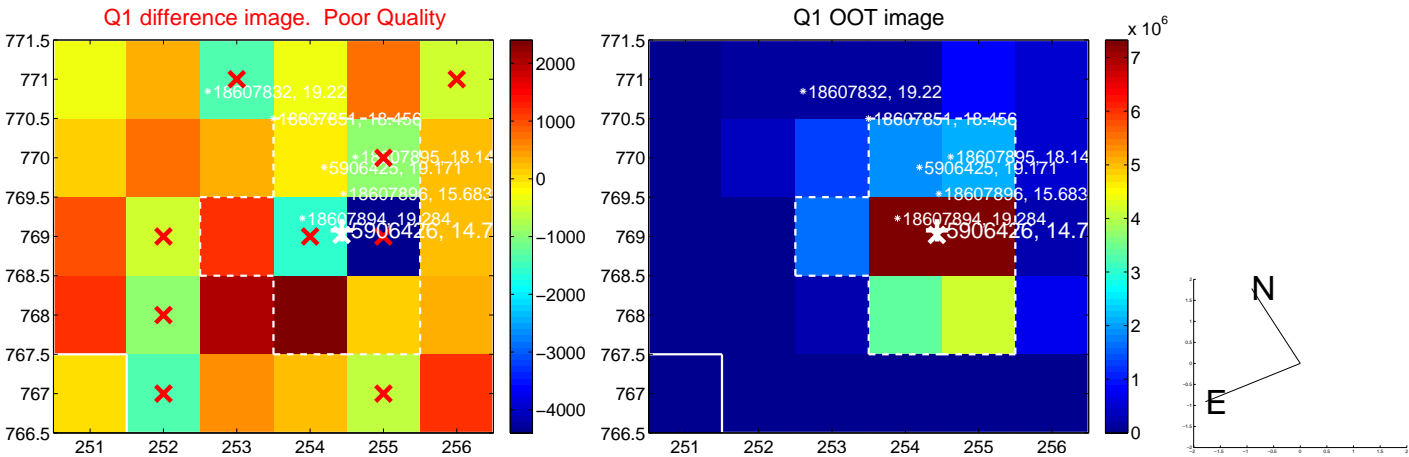
The direct PRF centroid is offset from the target star catalog position by about 0.31 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>1.233 <math>\pm</math> 0.292</b>	<b>4.22</b>	-0.365 $\pm$ 0.261	1.178 $\pm$ 0.295
PRF-fit source offset from KIC position	<b>1.280 <math>\pm</math> 0.292</b>	<b>4.38</b>	-0.361 $\pm$ 0.266	1.228 $\pm$ 0.294
photometric centroid source offset	1.80 $\pm$ 0.84	2.14	1.51 $\pm$ 0.86	0.98 $\pm$ 0.79

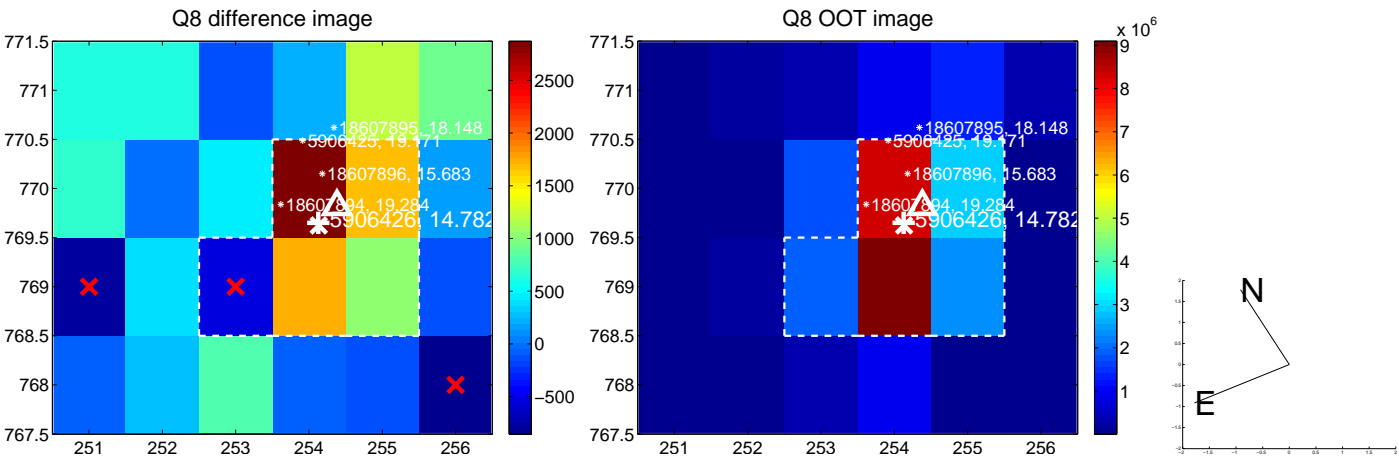
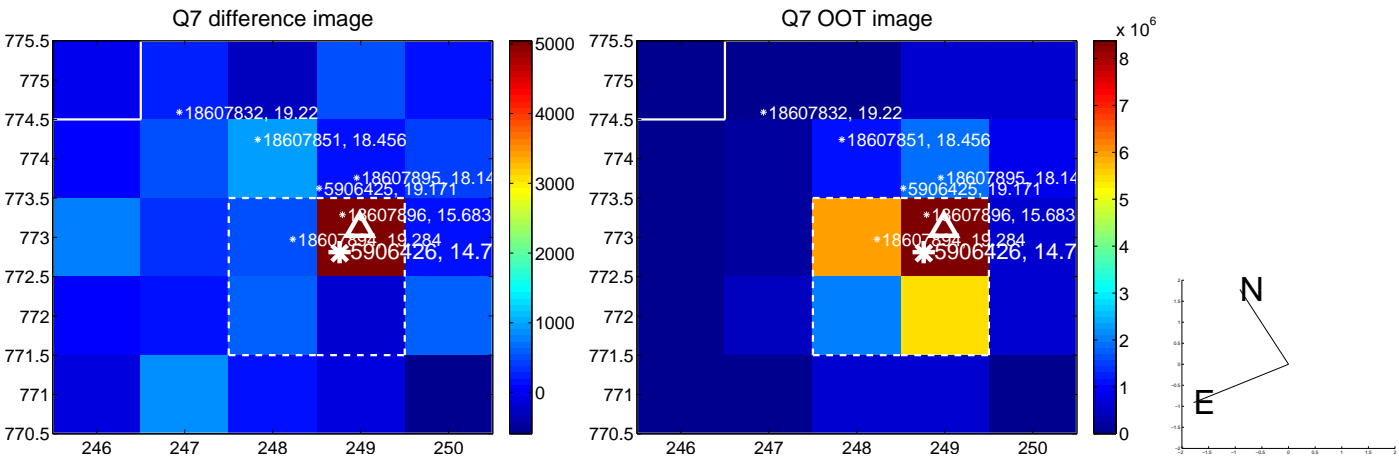
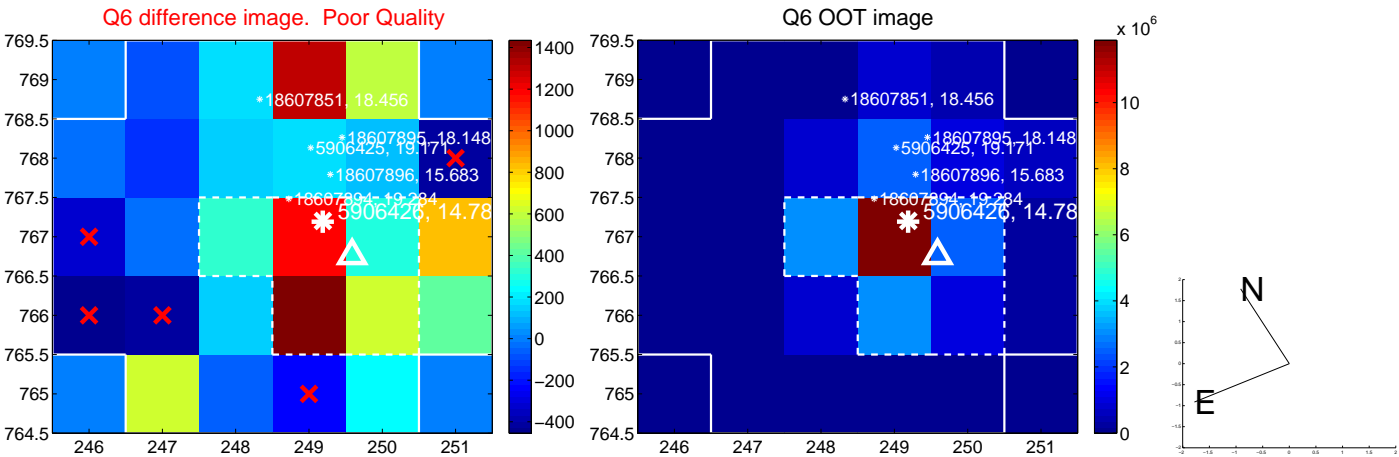
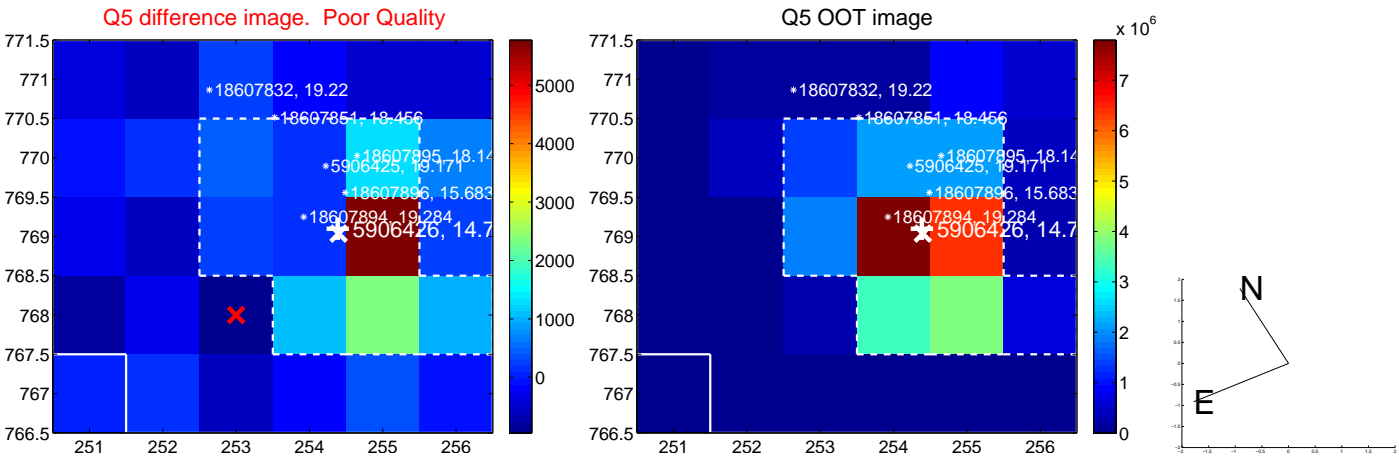


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

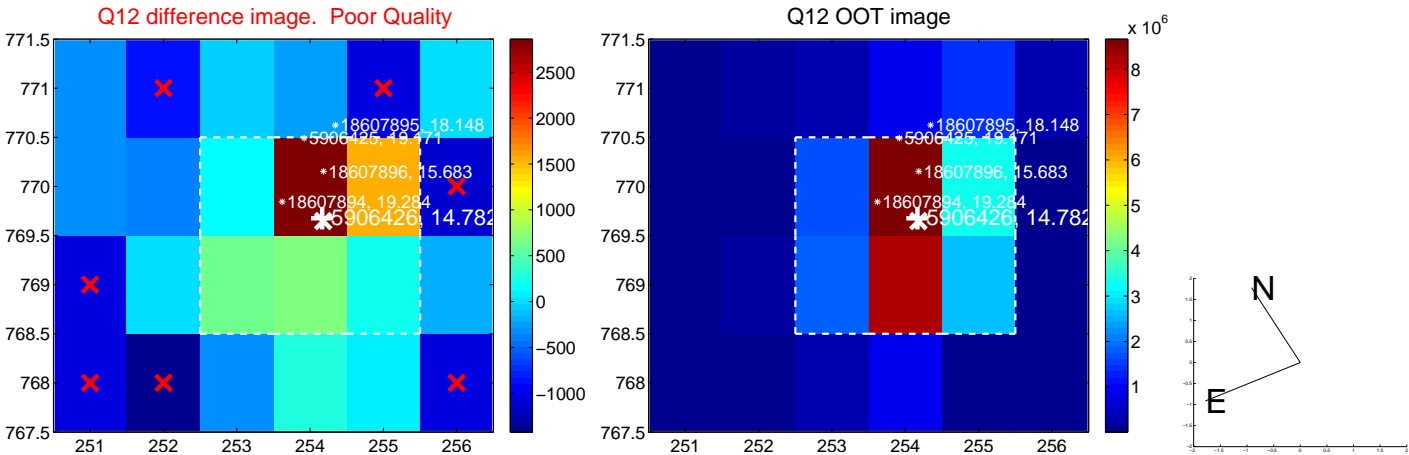
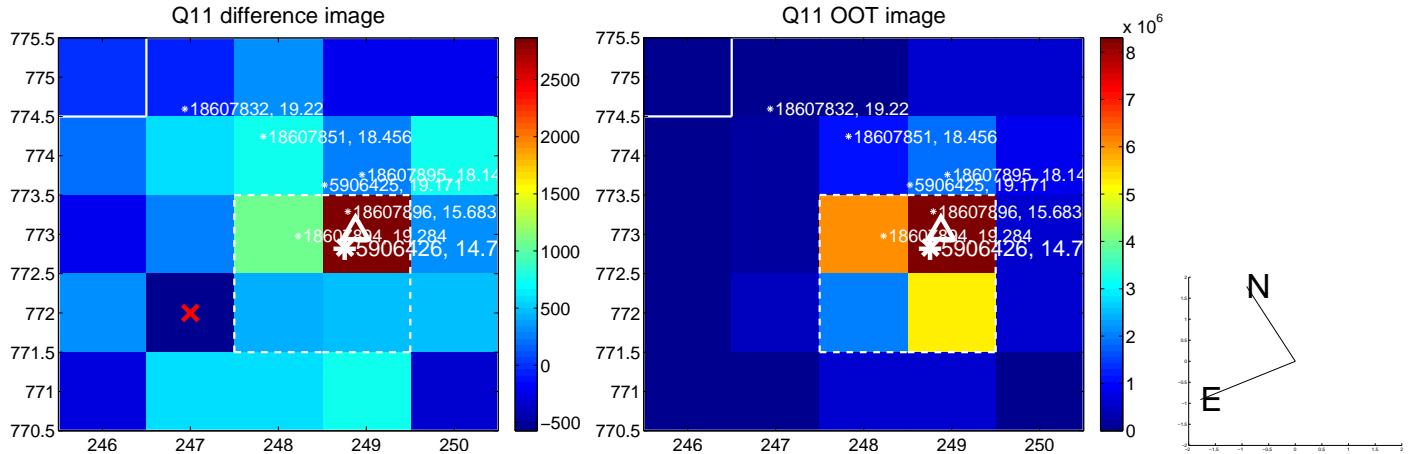
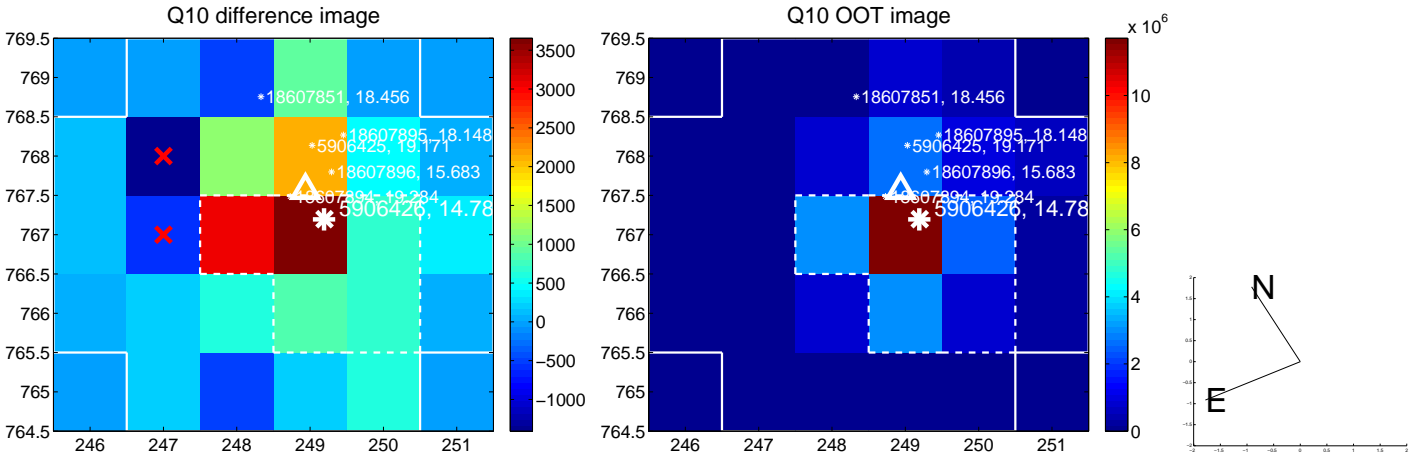
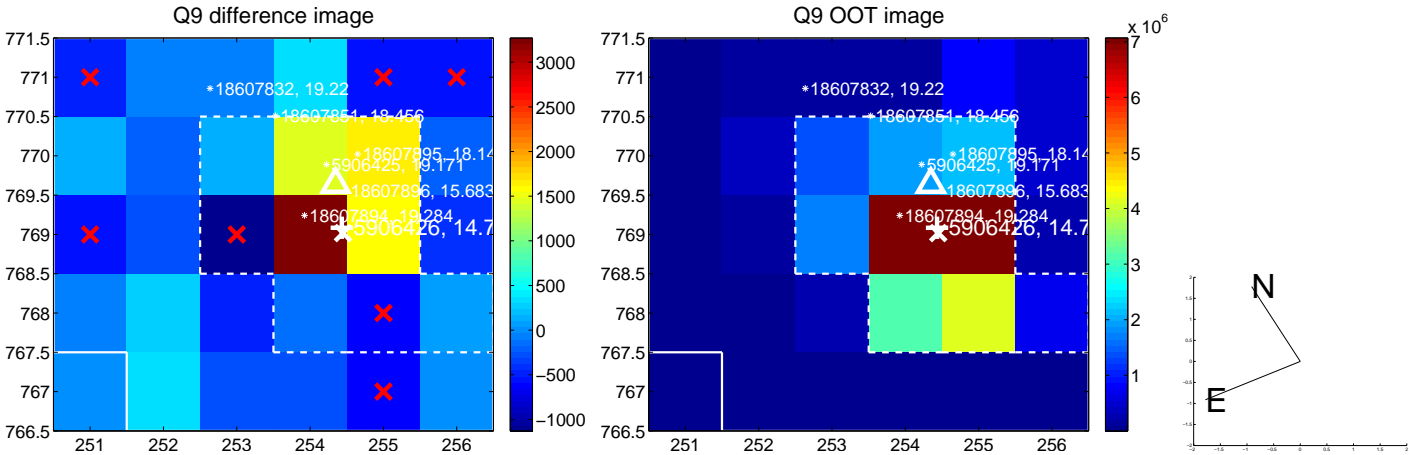
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



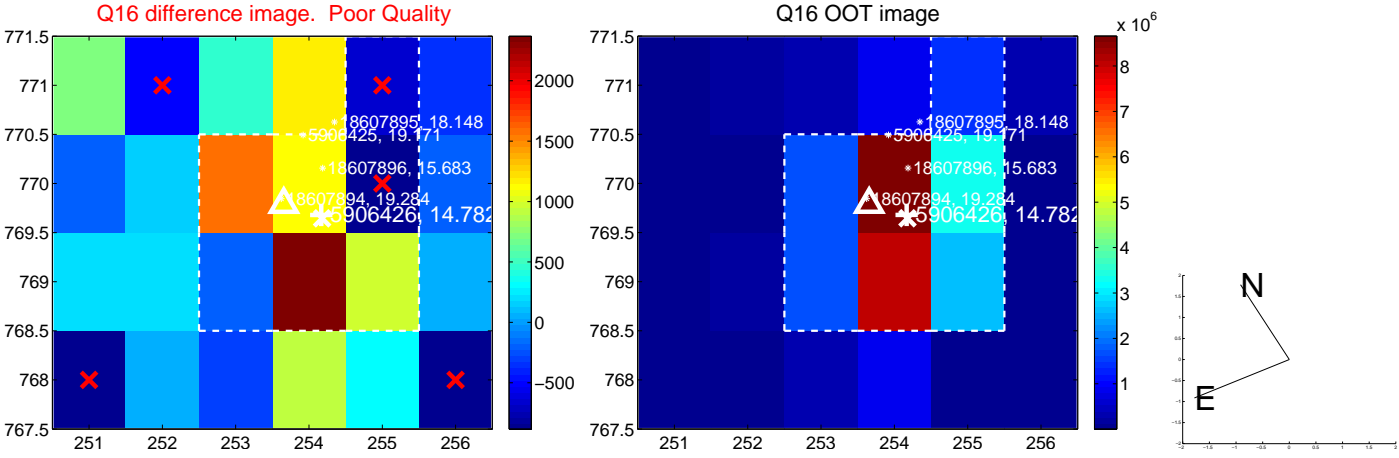
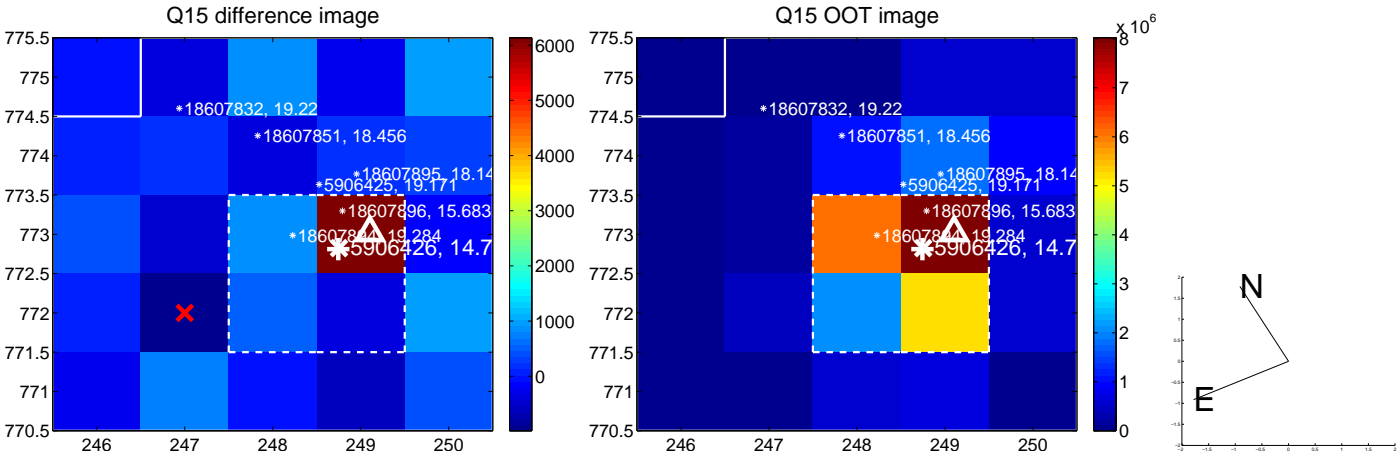
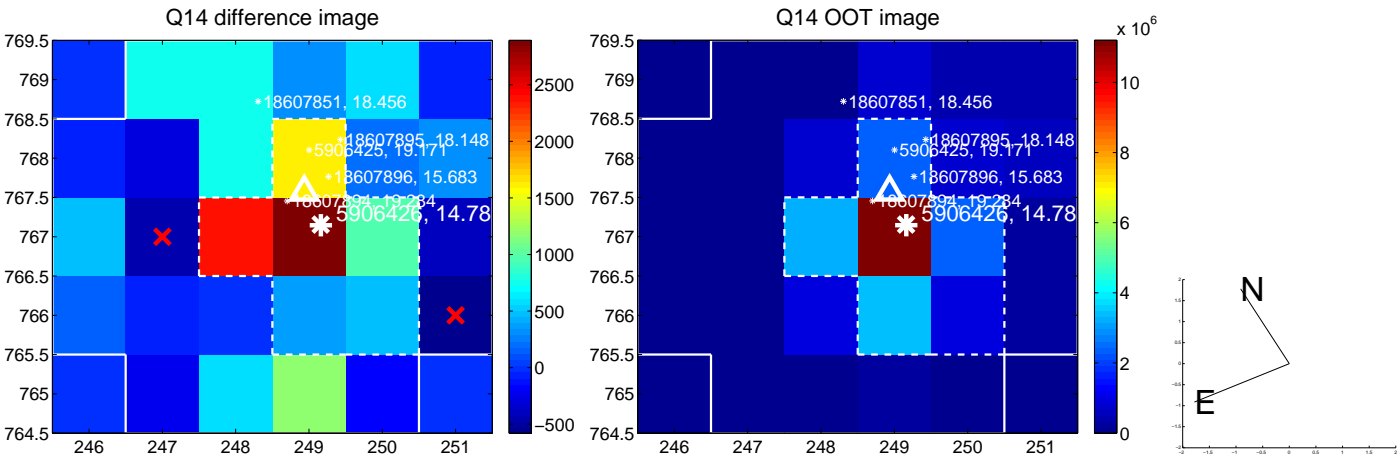
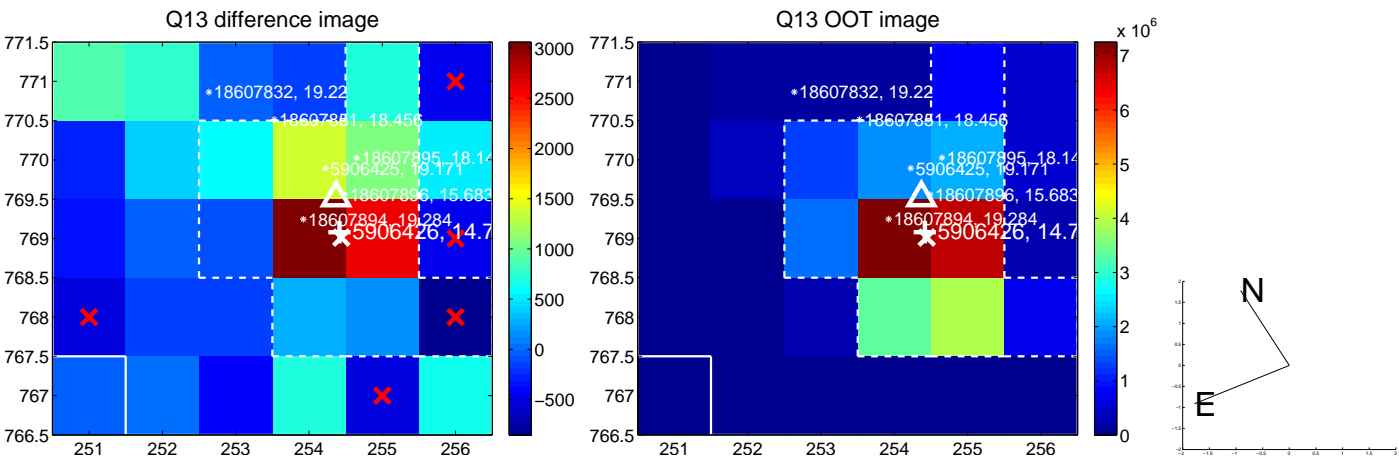
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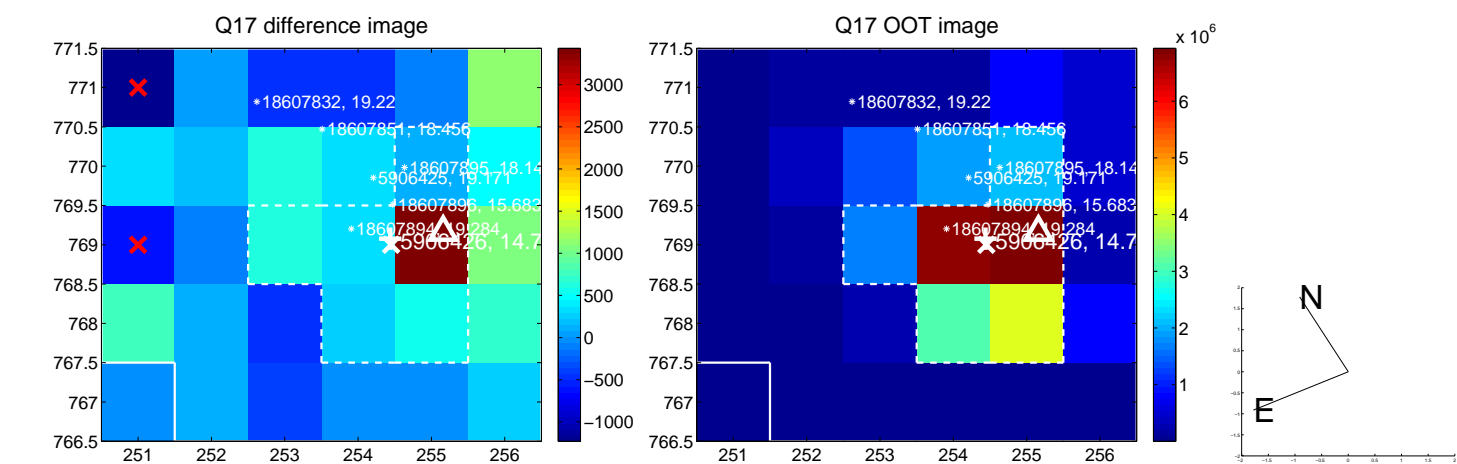


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

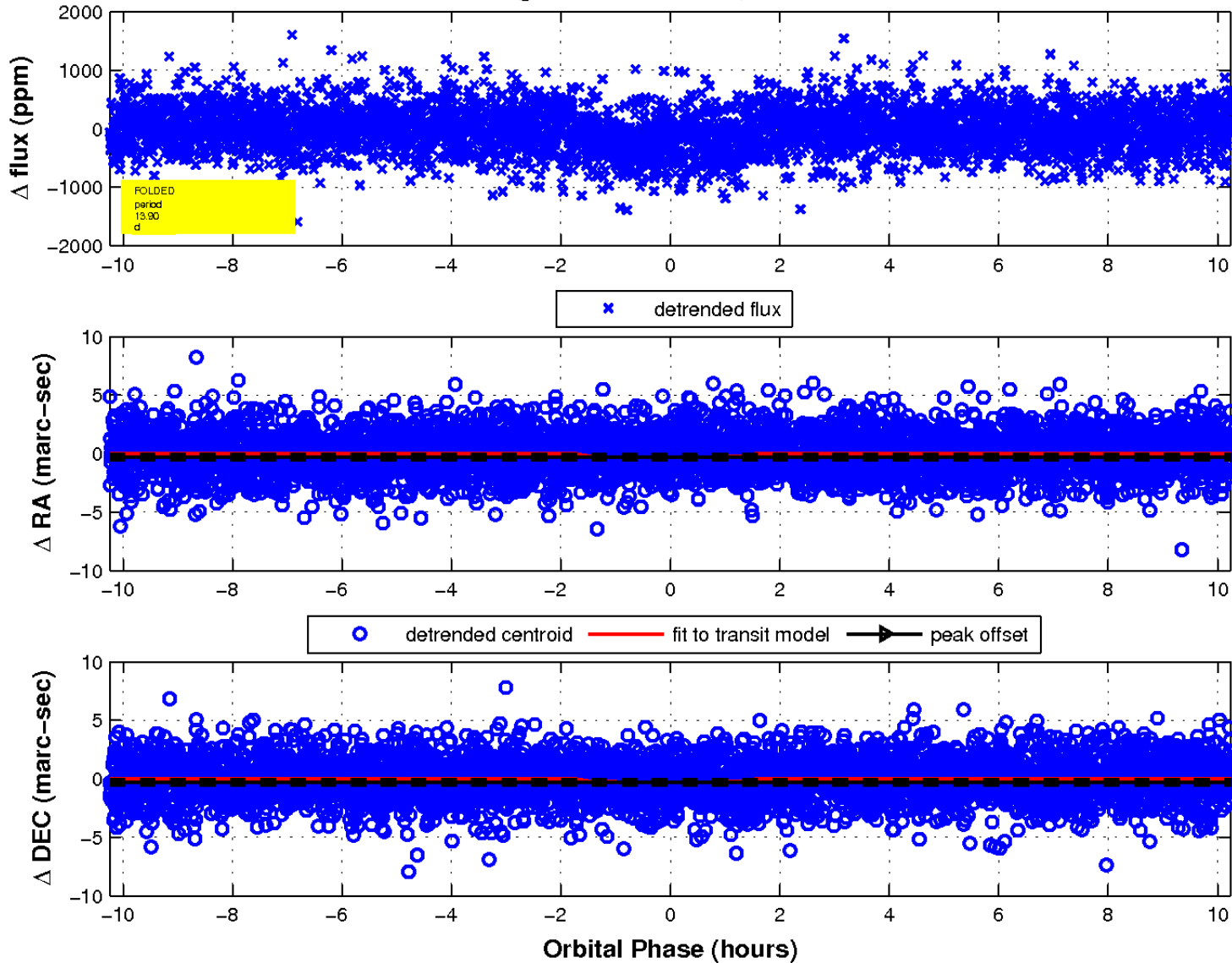




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

