

# KIC 009029486

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009029486-01	OBS	7126.01	3.138585	132.329872	227090.2	4.189	23061.6	11778.2	1.08	5593	74.68	638.14

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009029486-01	OBS	FP	0.00	0	1	0	0	DEPTH_ODDEVEN_DV—DEPTH_ODDEVEN_ALT—MOD_ODDEVEN_DV—MOD_ODDEVEN_ALT—DEEP_V_SHAPED

**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.

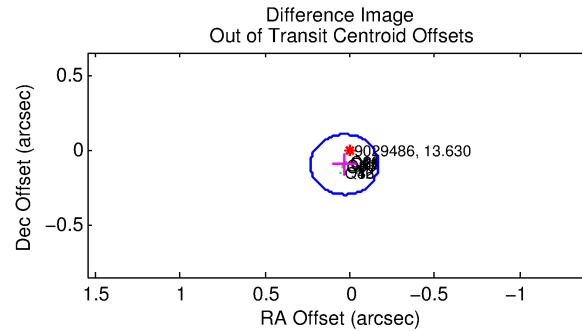
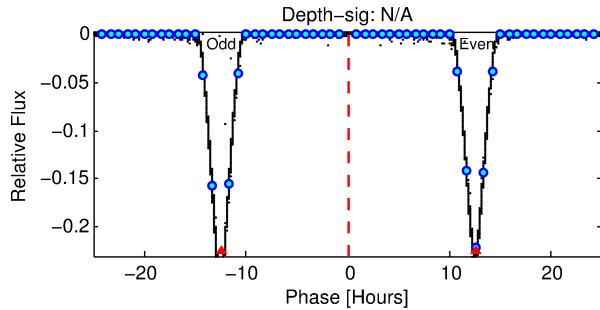
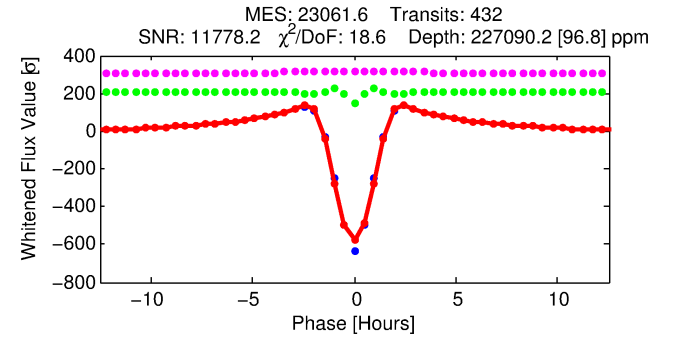
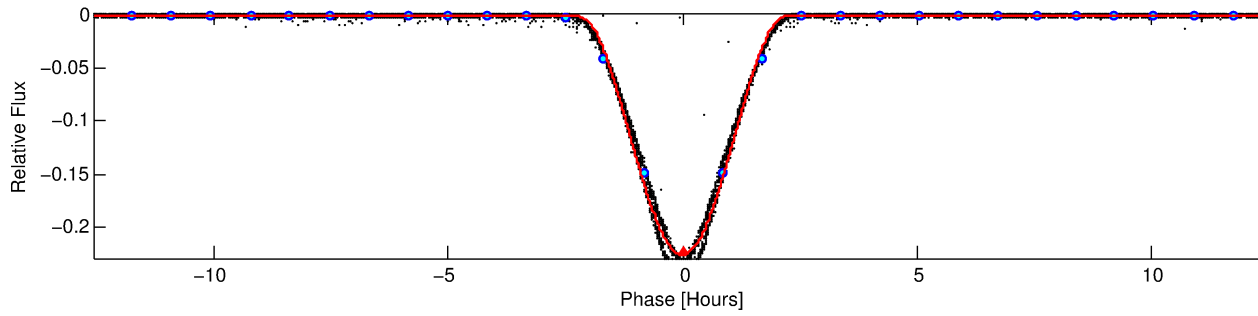
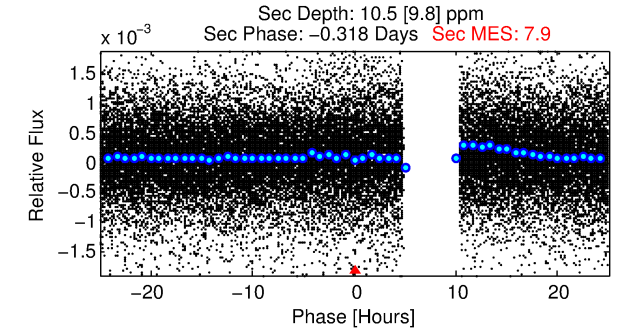
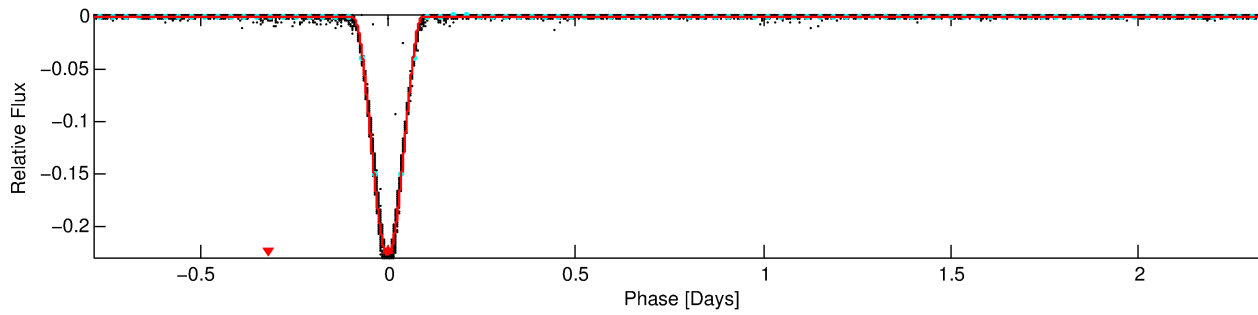
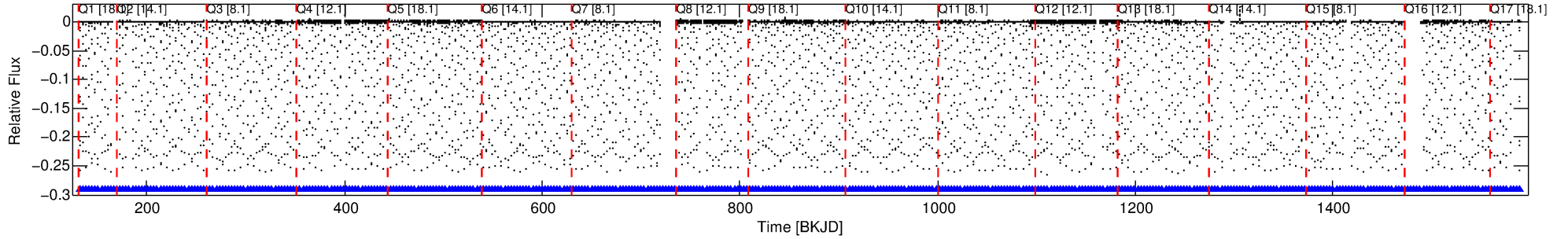
## Ephemeris Match Information For 009029486-01

No Significant Match Found

# DV One-Page Summary

KIC: 9029486 Candidate: 1 of 1 Period: 3.139 d  
KOI: K07126.01 Corr: 0.997

Kp: 13.63 R\*: 1.08 Rs Teff: 5593.0 K Logg: 4.31 Fe/H: -0.060



## DV Fit Results:

Period = 3.13858 [0.00000] d  
Epoch = 132.3299 [0.0000] BKJD  
Rp/R\* = 0.6319 [0.0117]  
a/R\* = 8.06 [0.03]  
b = 0.85 [0.02]  
Seff = 638.14 [239.17]  
Teq = 1282 [120] K  
Rp = 74.68 [22.18] Re  
a = 0.0401 [0.0100] AU  
Ag = 0.00 [0.00] [-595.26σ]  
Teffp = 400 [95] K [-5.76σ]

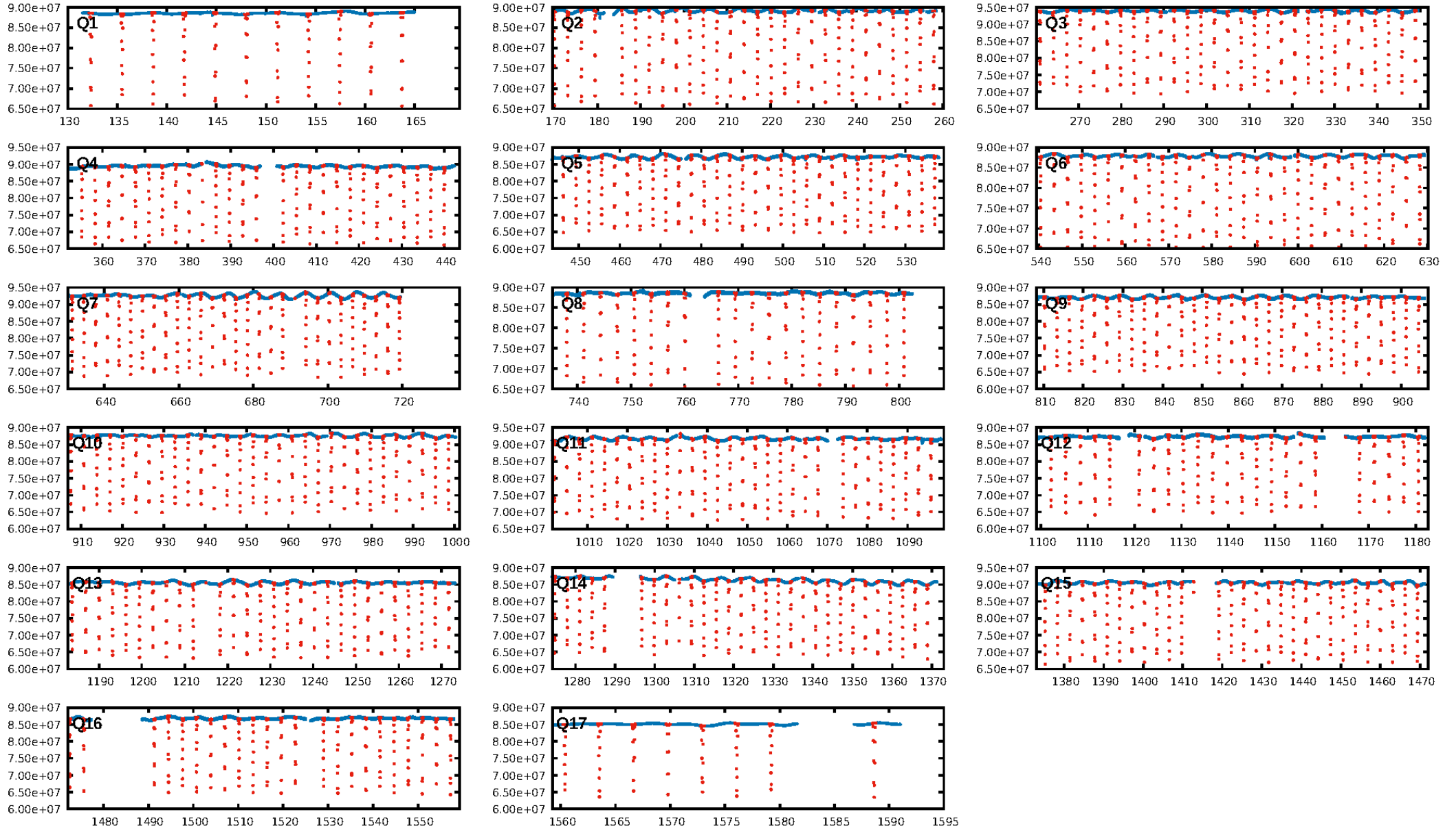
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [413/413]  
GhostDiagnostic-chr: 1.833  
Centroid-sig: 0.0%  
Centroid-so: 0.020 arcsec [60.57σ]  
OotOffset-rm: 0.105 arcsec [1.57σ]  
KicOffset-rm: 0.057 arcsec [0.84σ]  
OotOffset-st: 4/4/4/5 [17]  
KicOffset-st: 4/4/4/5 [17]  
DiffImageQuality-fgm: 1.00 [17/17]  
DiffImageOverlap-fno: 1.00 [17/17]

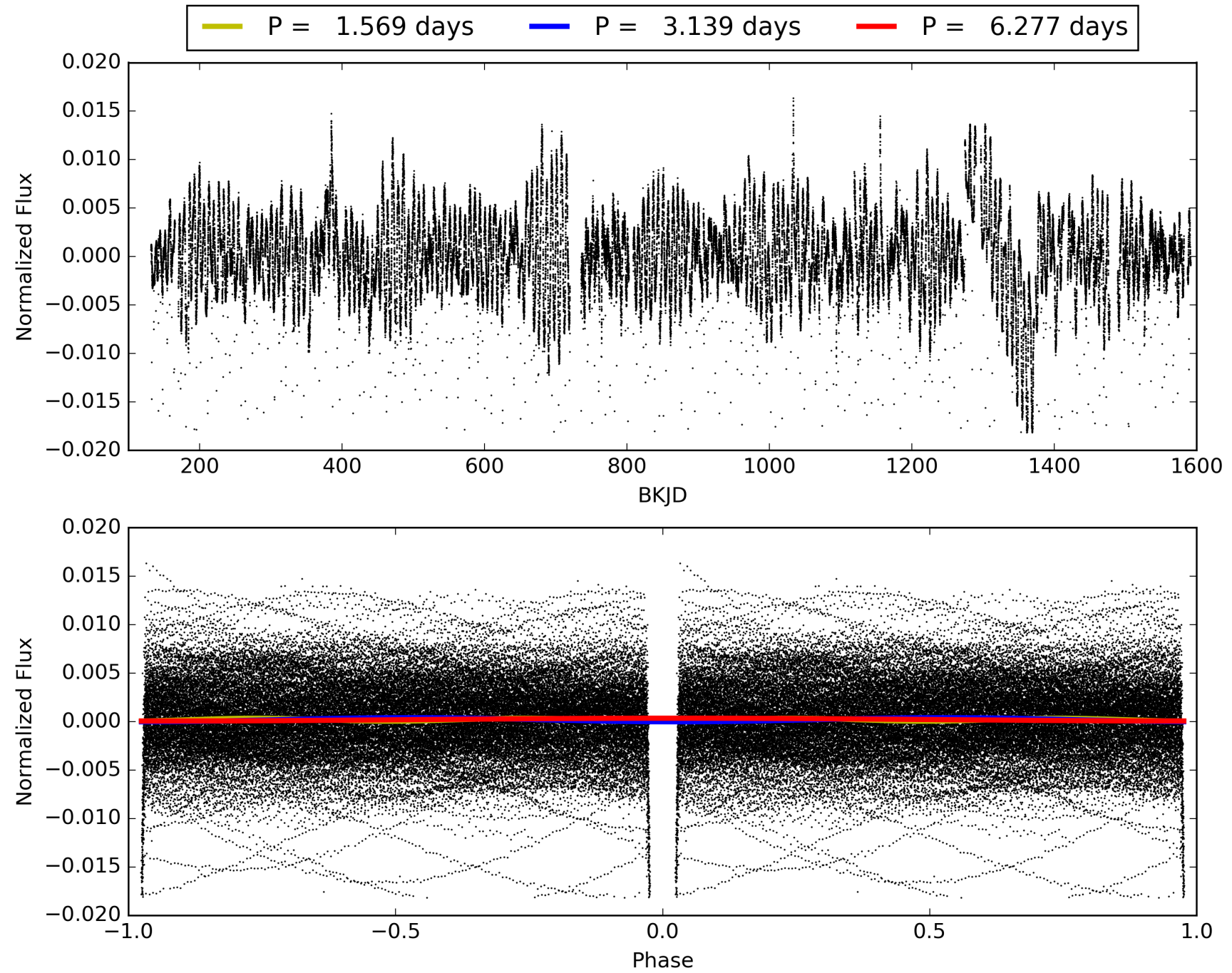
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 23:26:17 Z

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

# TCE 009029486-01, PDC Light Curves

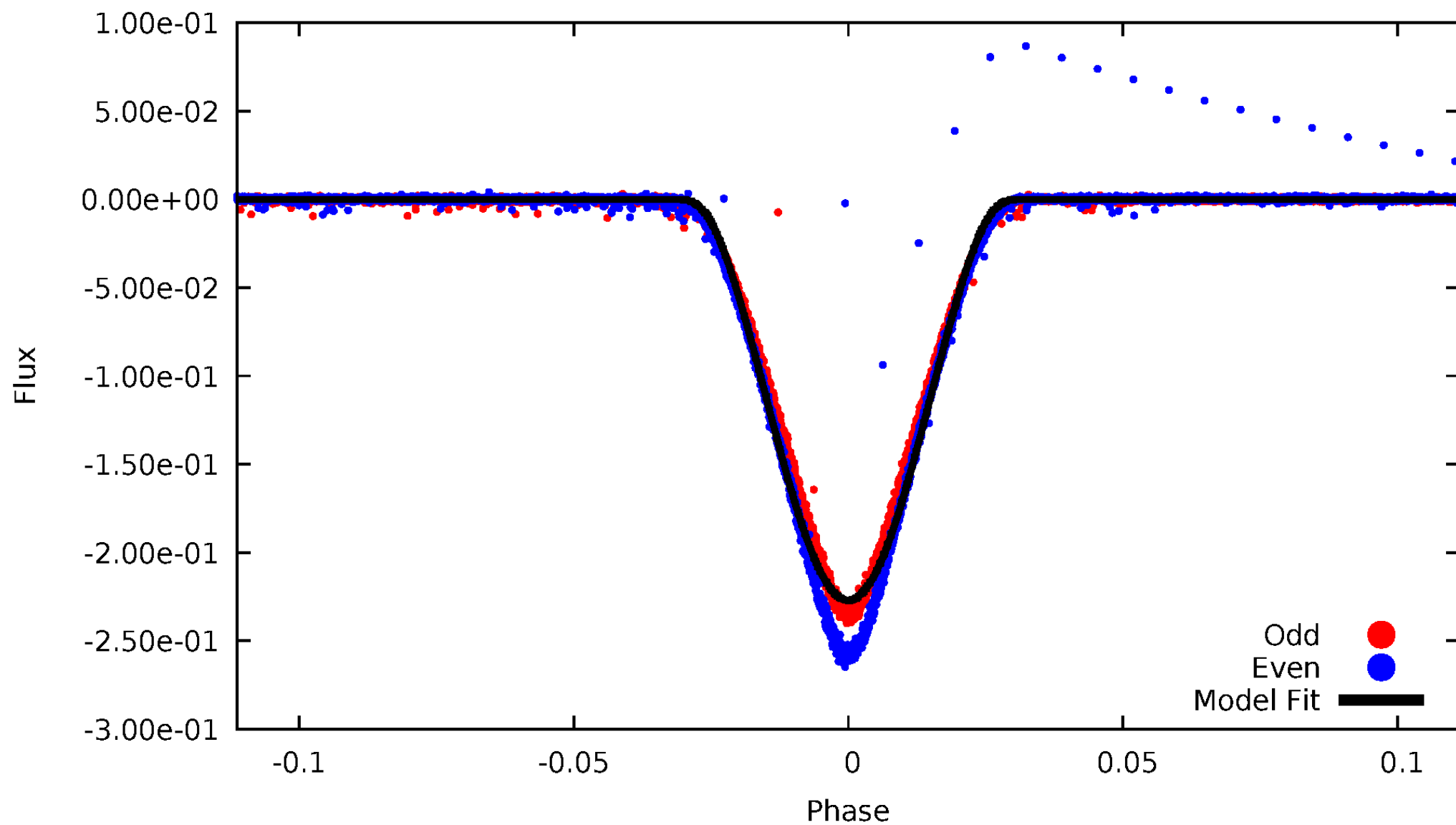


TCE 009029486-01



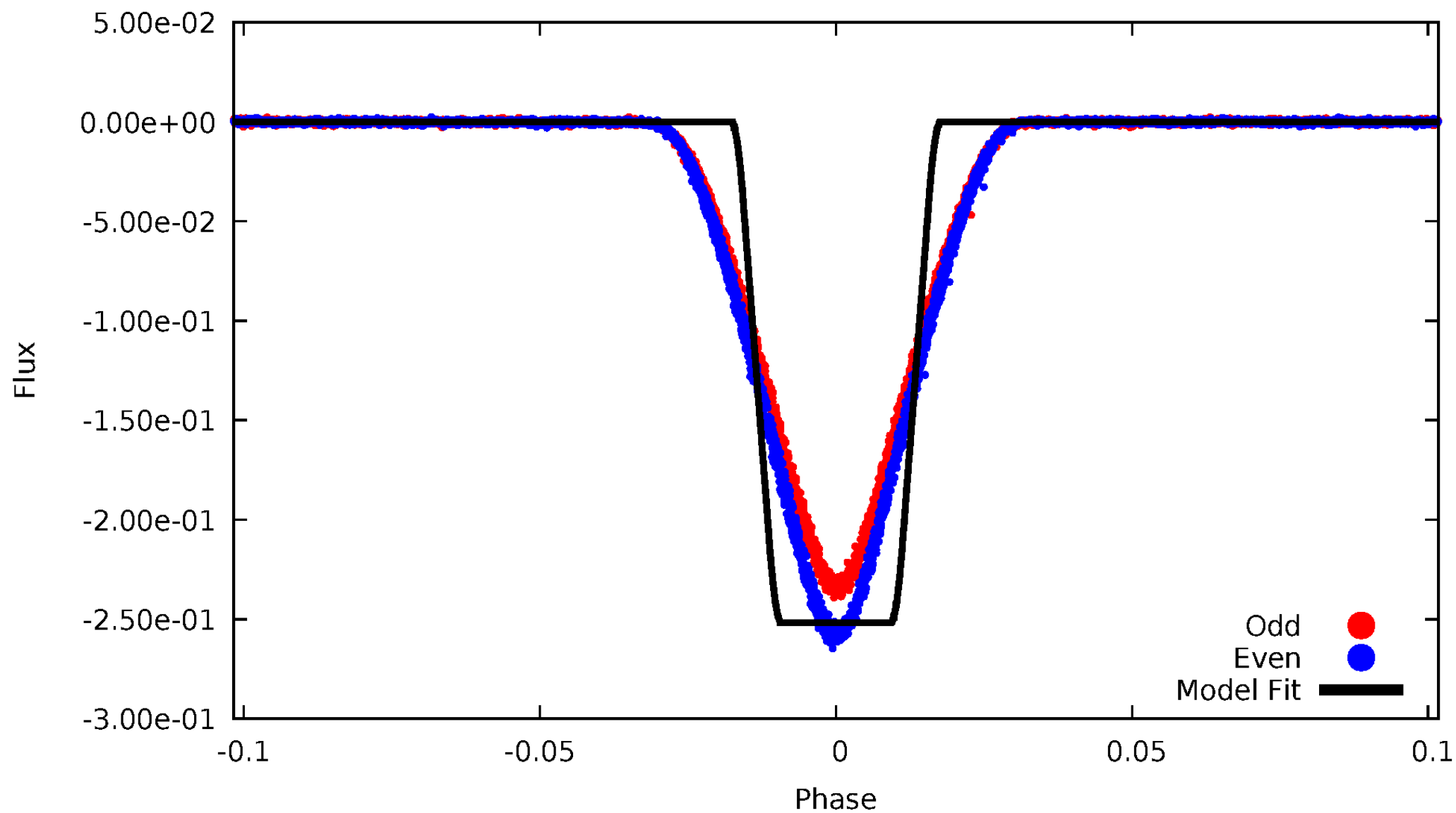
# DV Odd/Even

TCE 009029486-01



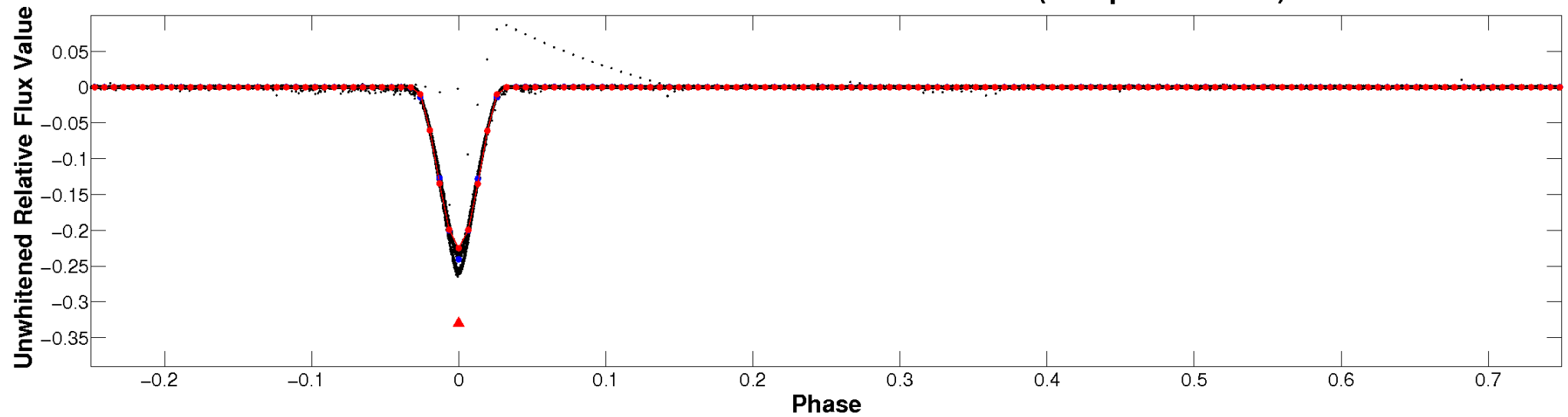
# ALT Odd/Even

TCE 009029486-01

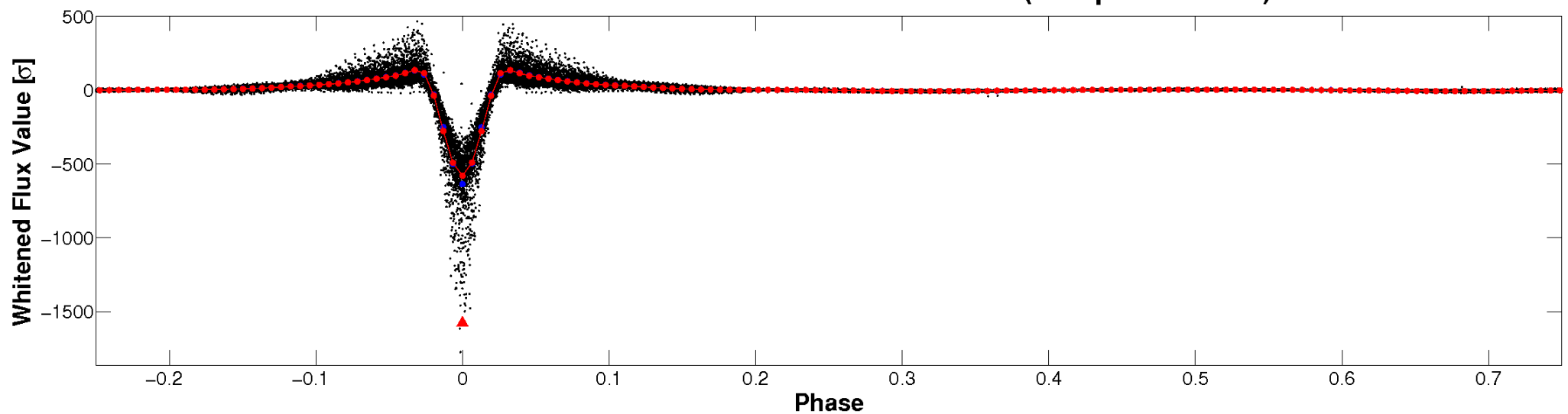


# Non-Whitened Vs. Whitened Light Curve

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

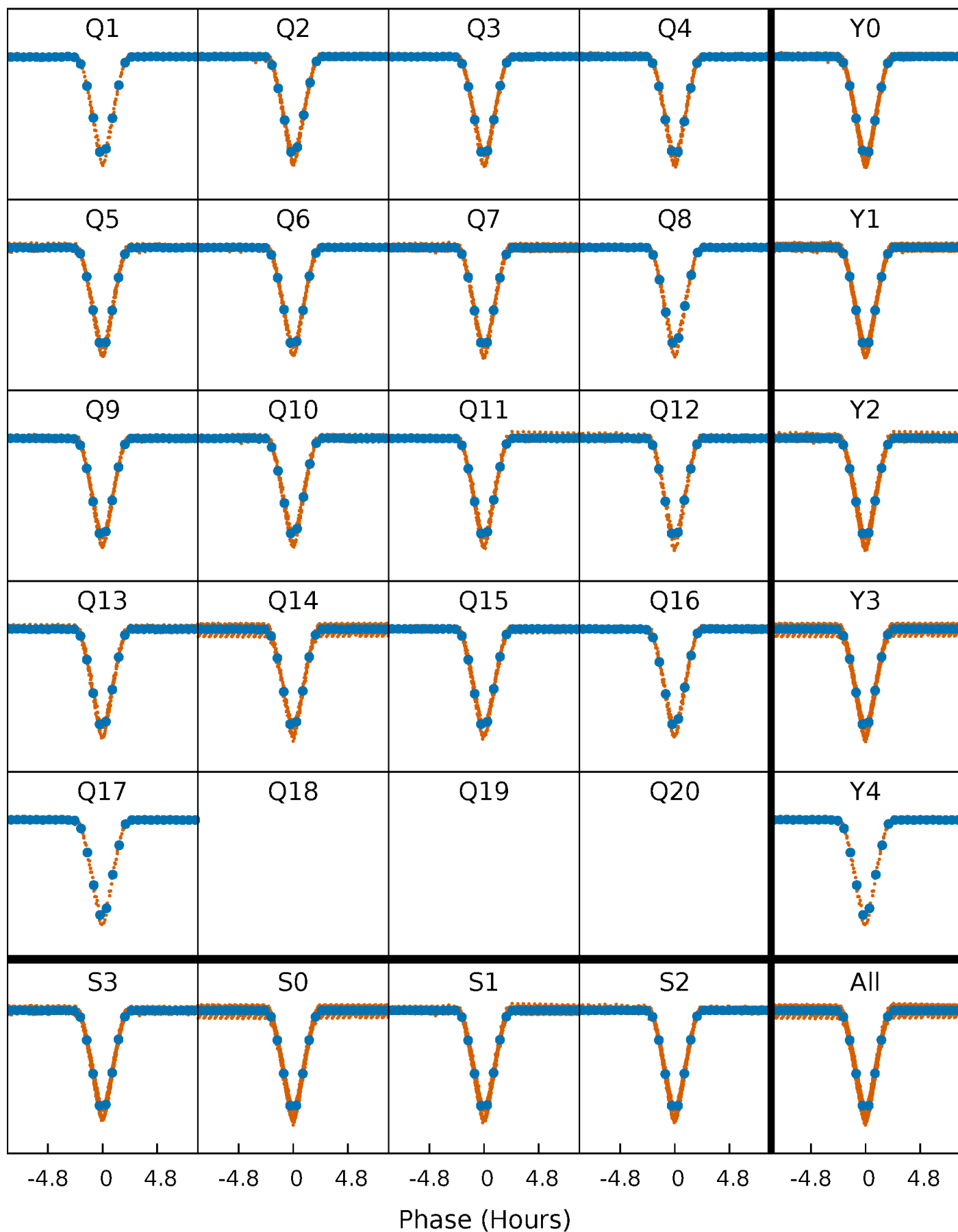


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

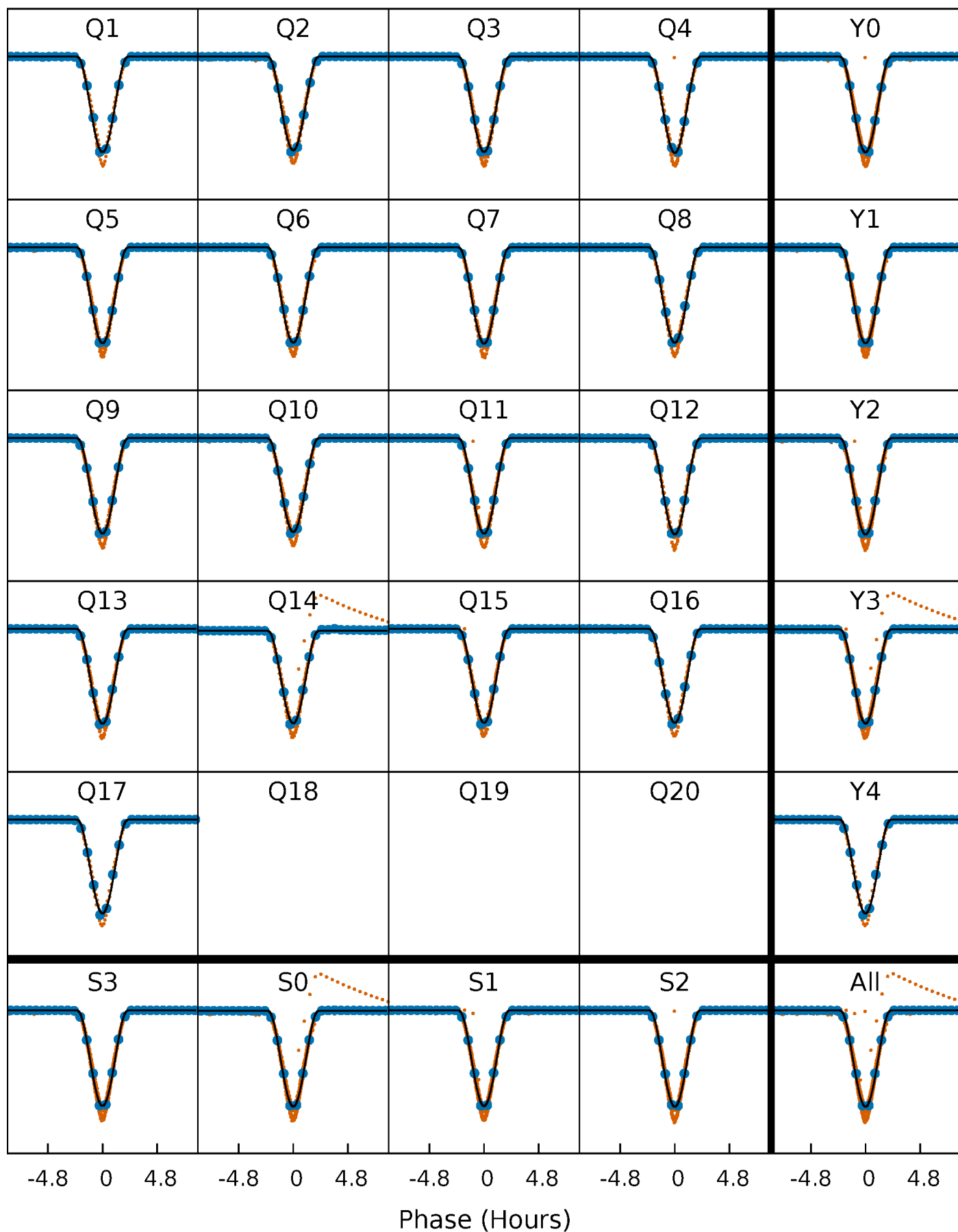
TCE 009029486-01 P= 3.138585 Days  $T_0=132.329872$  (BKJD)





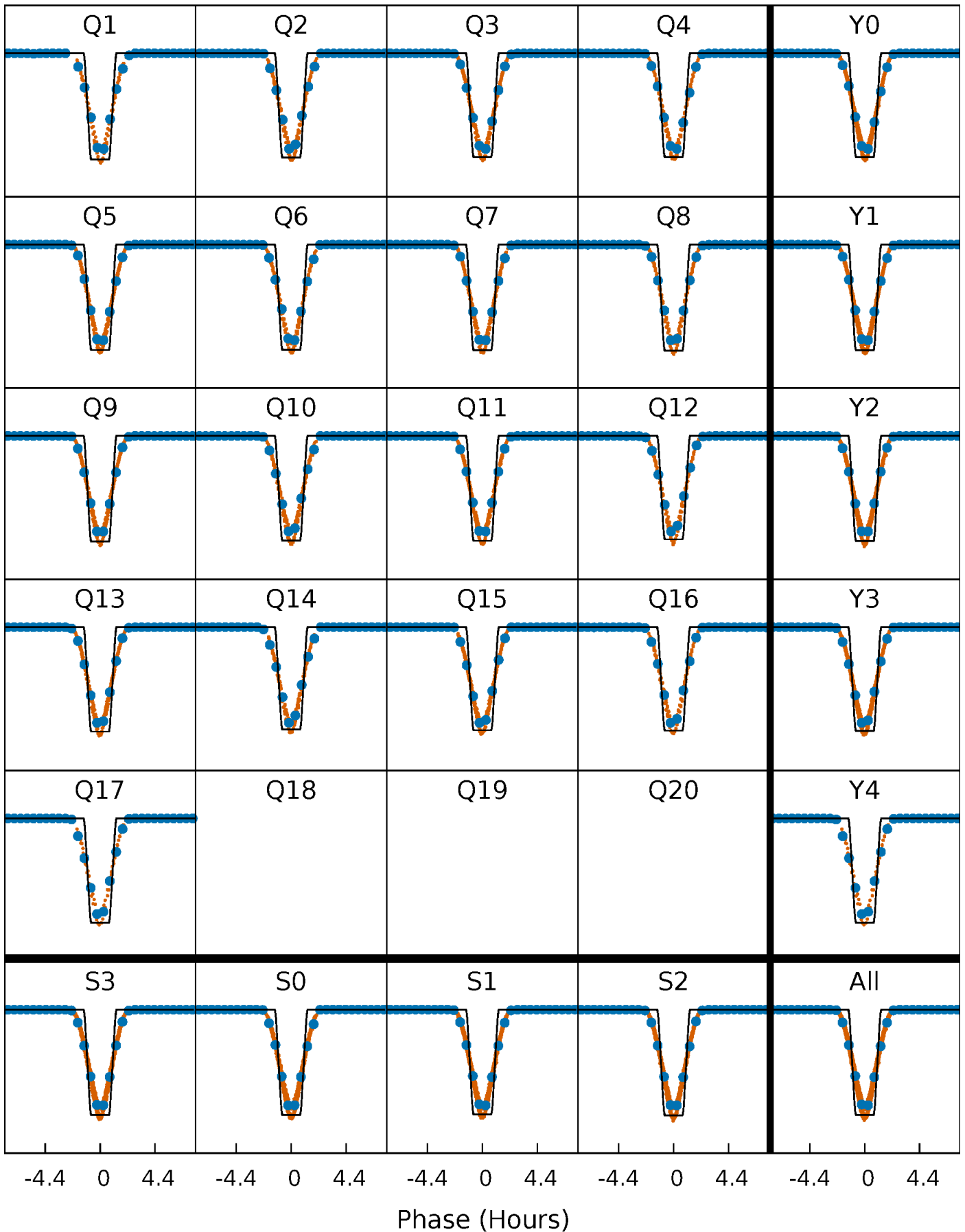
# DV Quarter-Phased Transit Curves

TCE 009029486-01 P= 3.138585 Days  $T_0=132.329872$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

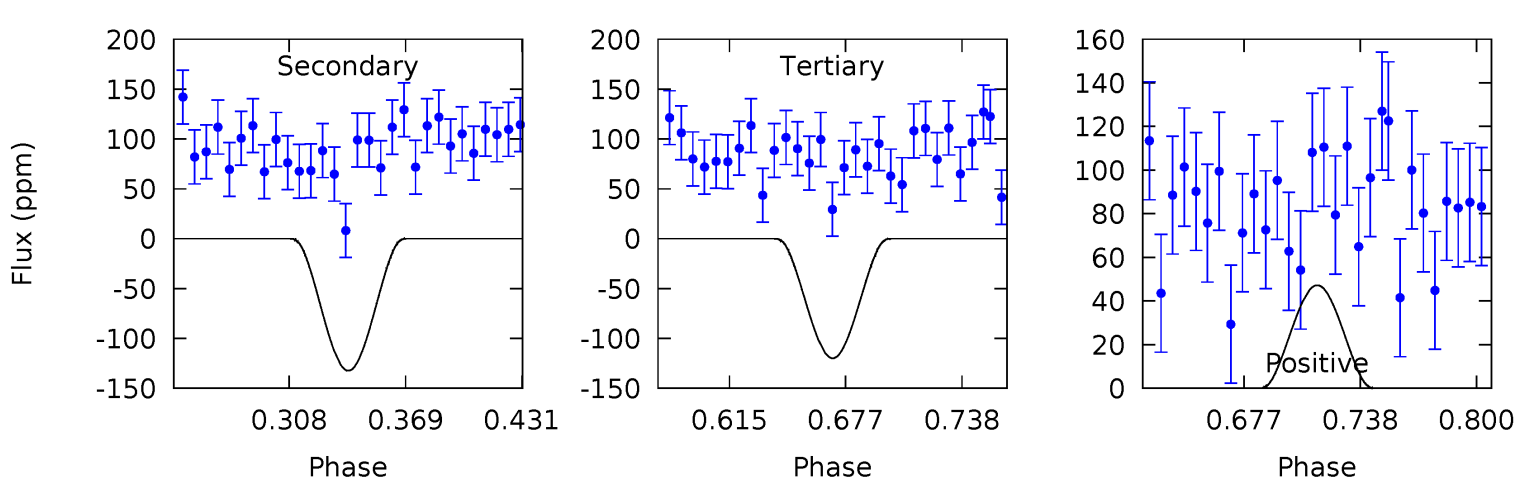
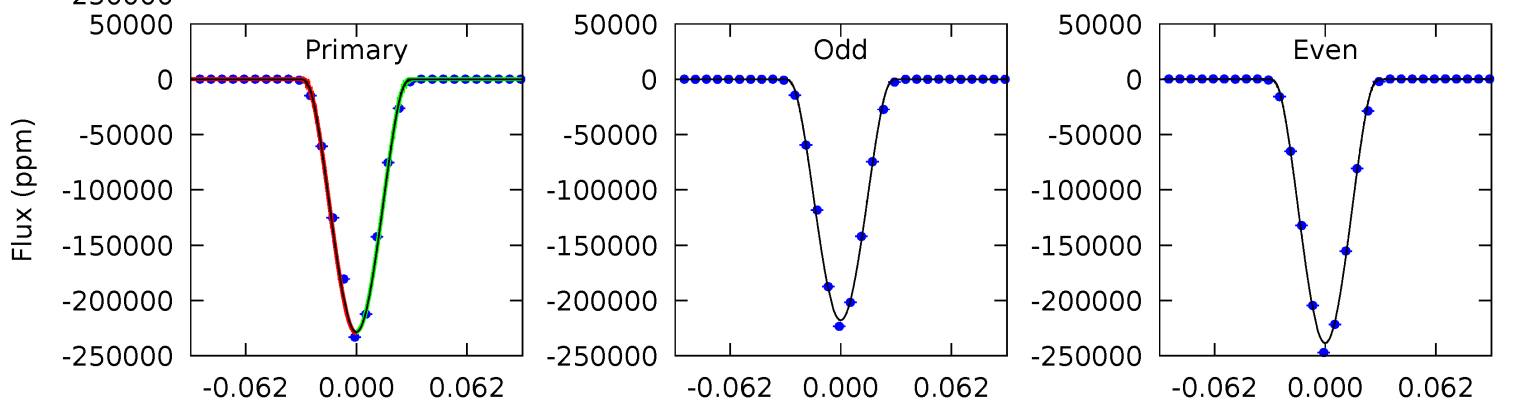
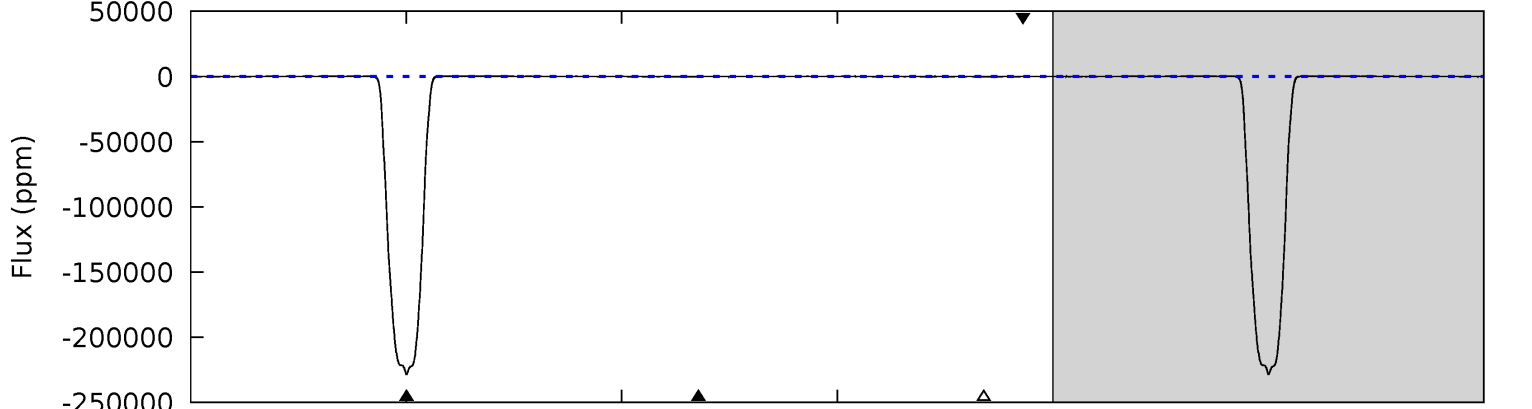
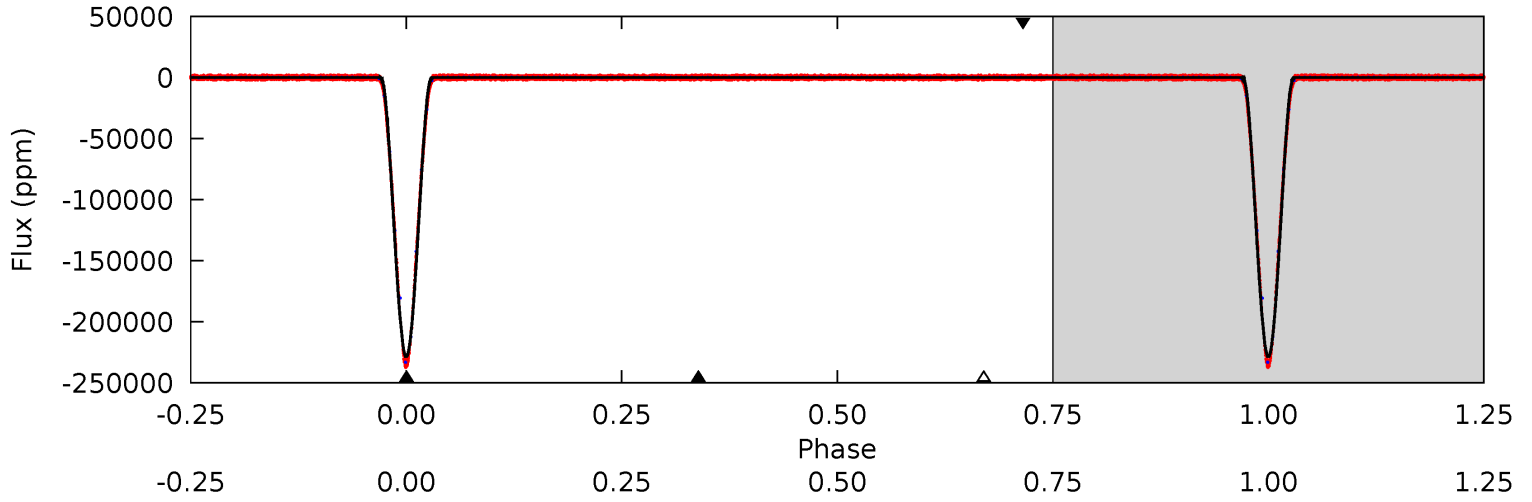
TCE 009029486-01   P= 3.138589 Days    $T_0=132.328572$  (BKJD)



# DV Model-Shift Uniqueness Test

009029486-01, P = 3.138585 Days, E = 129.191287 Days

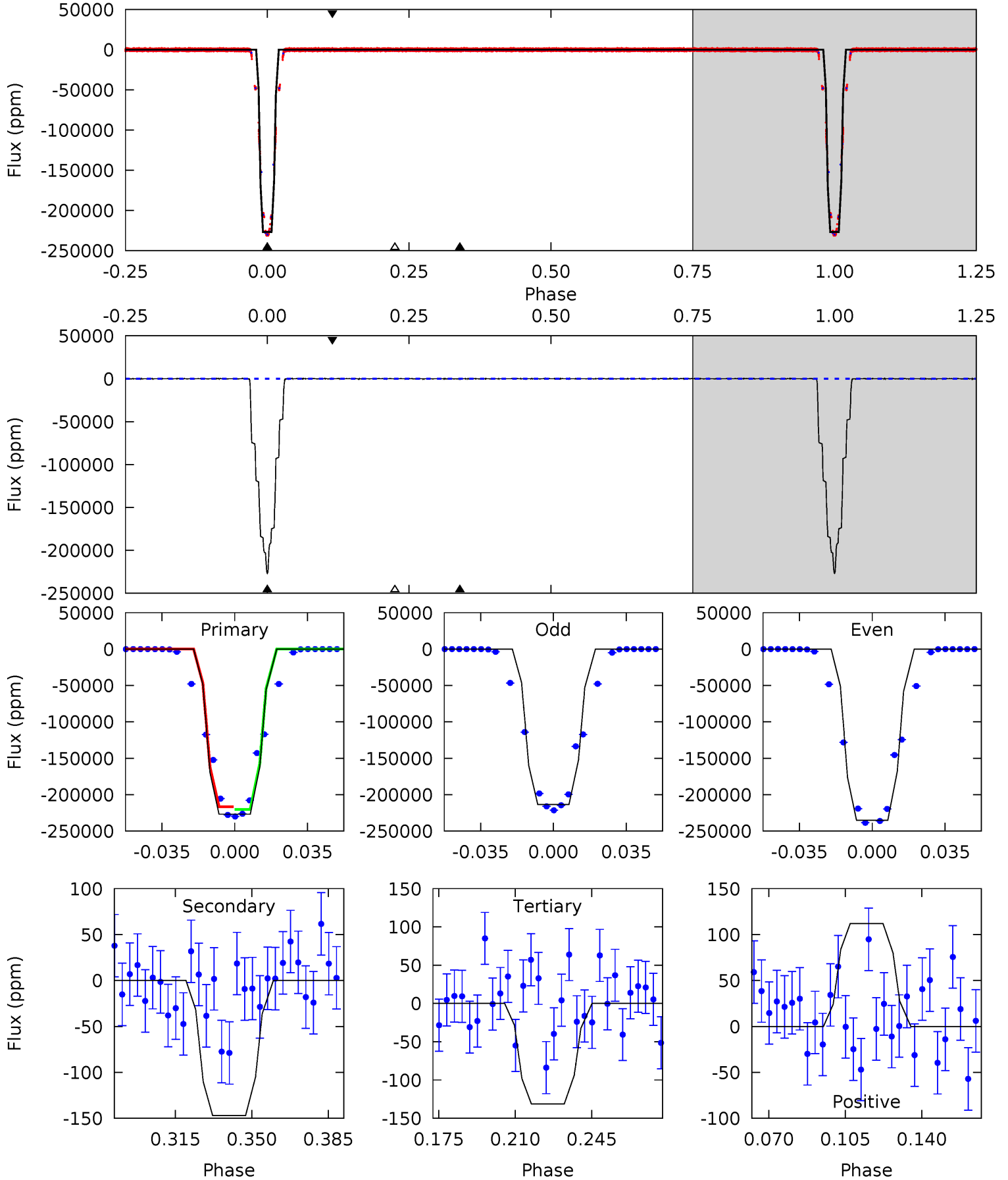
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
15452	8.95	8.11	3.19	4.67	1.87	3.54	15444	15449	0.85	5.76	882.5	1.02	0.00	0



# Alt Model-Shift Uniqueness Test

009029486-01, P = 3.138589 Days, E = 129.189983 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
6203	4.02	3.59	3.06	4.78	2.11	1.16	6200	6200	0.44	0.97	371.2	1.00	0.00	0



### Stellar Parameters For KIC 009029486

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5593^{+152}_{-152}$	$4.311^{+0.195}_{-0.195}$	$-0.060^{+0.300}_{-0.300}$	$1.083^{+0.321}_{-0.214}$	$0.876^{+0.123}_{-0.076}$	$0.970^{+0.944}_{-0.473}$
	+3%/-3%	+5%/-5%	+500%/-500%	+30%/-20%	+14%/-9%	+97%/-49%
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 009029486-01 / KOI 7126.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-132 \pm 15$	$74.31^{+12.56}_{-8.34}$	$1788^{+140}_{-118}$	$-2341^{+77}_{-92}$	$0.021^{+0.007}_{-0.005}$
Alt.	$-147 \pm 37$	$58.89^{+10.08}_{-7.69}$	$1785^{+141}_{-125}$	$-2324^{+88}_{-95}$	$0.037^{+0.016}_{-0.013}$

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

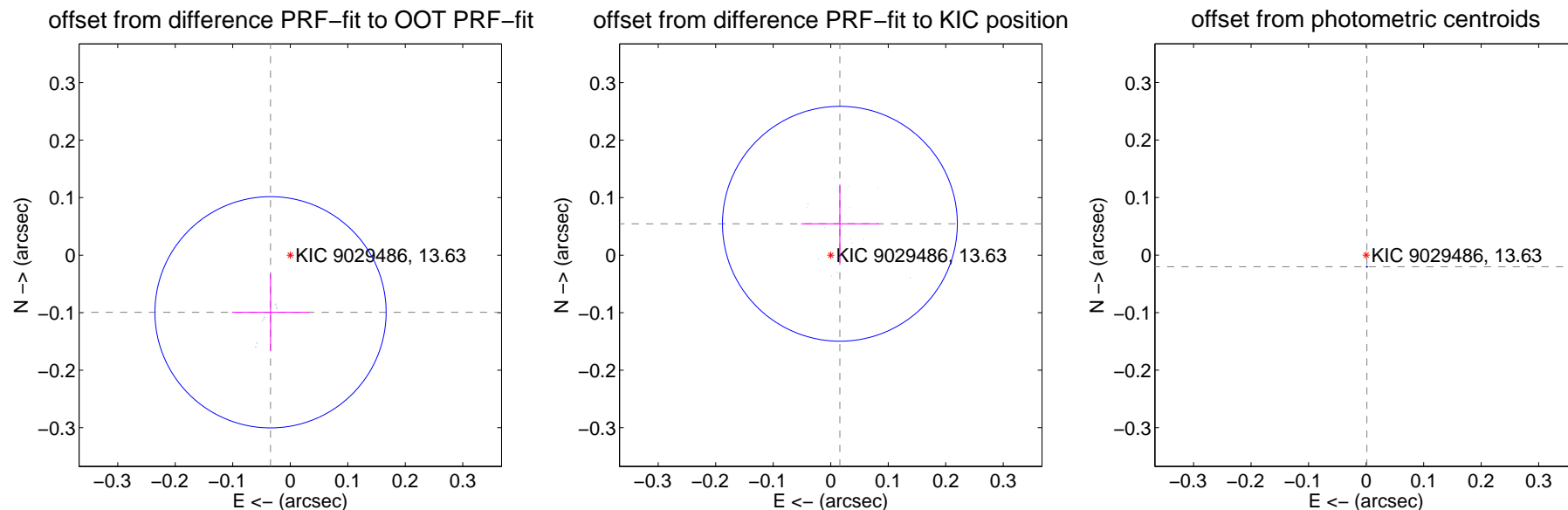
## DV Centroid Data

Supplemental centroid analysis for 009029486-01. Kepler magnitude: 13.63. Transit SNR 11778.19

There are 17 quarters with good PRF difference image offsets

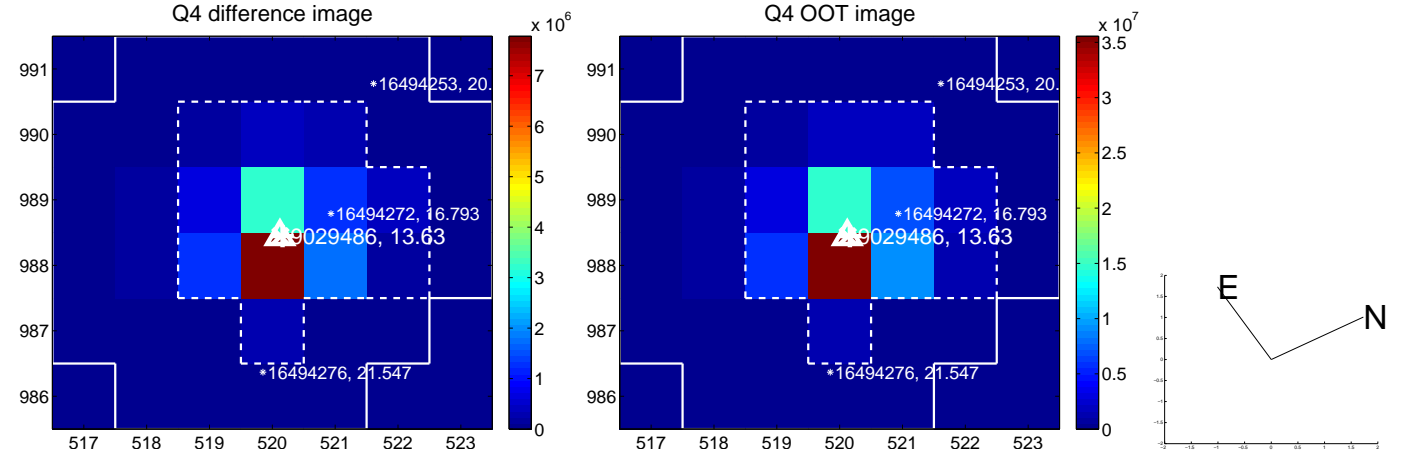
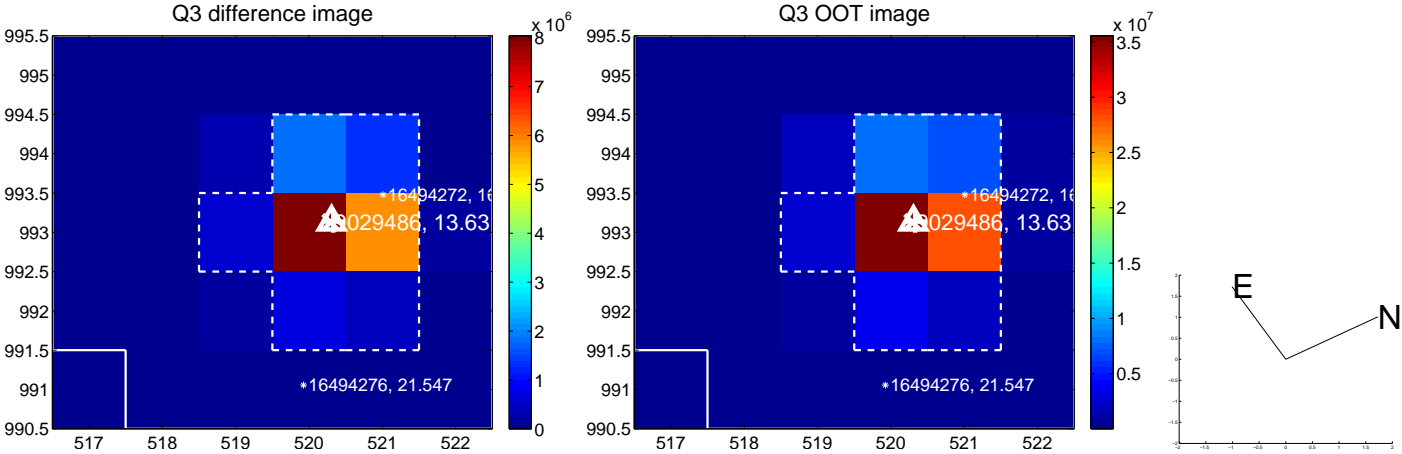
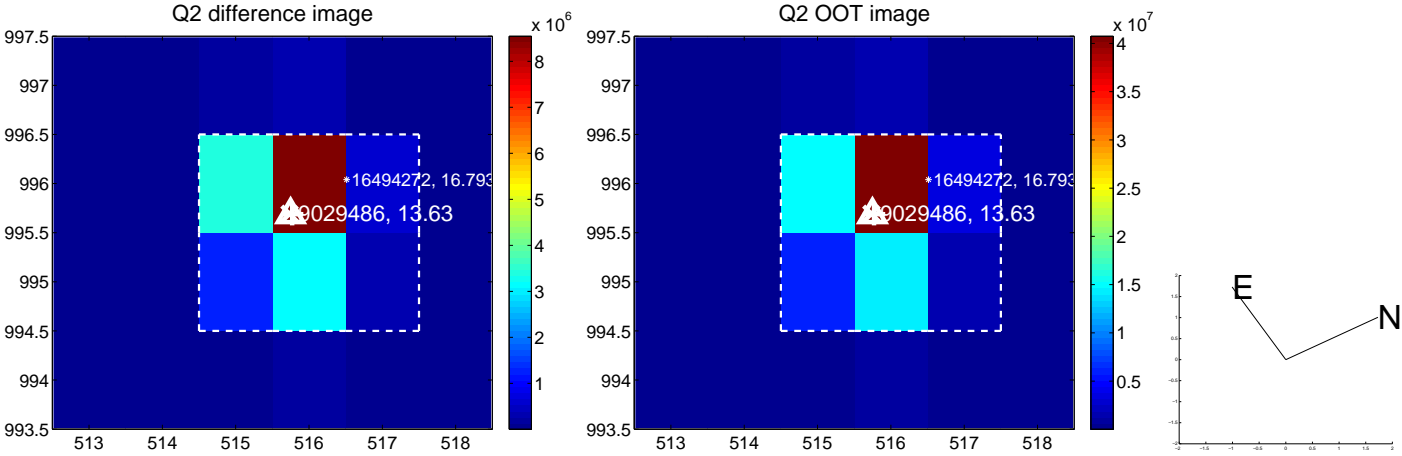
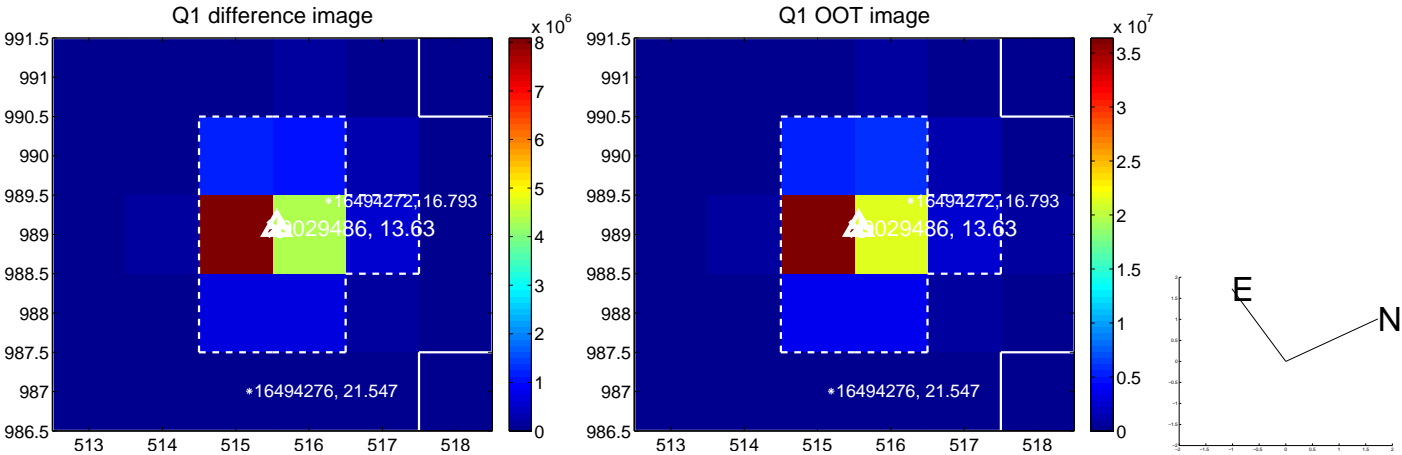
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.105 \pm 0.067$	1.57	$0.034 \pm 0.067$	$-0.099 \pm 0.067$
PRF-fit source offset from KIC position	$0.057 \pm 0.068$	0.84	$-0.016 \pm 0.068$	$0.055 \pm 0.068$
photometric centroid source offset	$0.02 \pm 0.00$	60.57	$-0.00 \pm 0.00$	$-0.02 \pm 0.00$

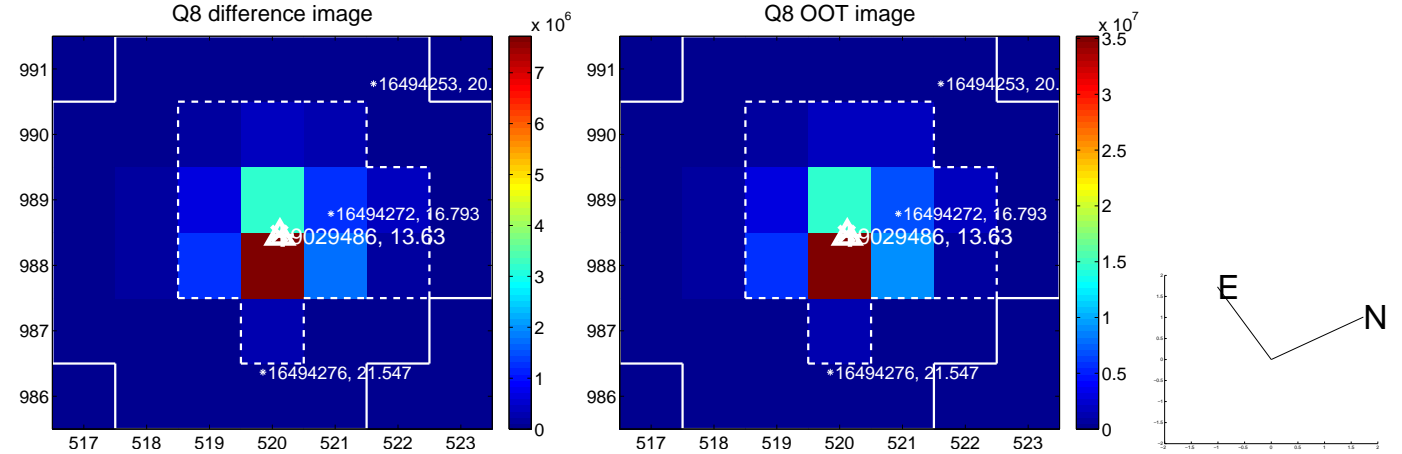
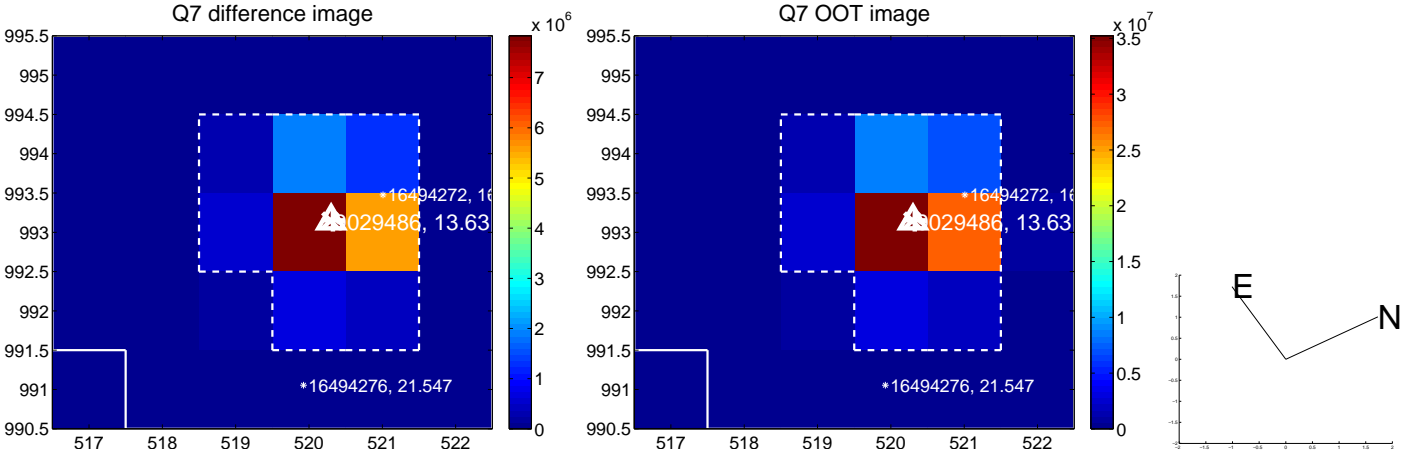
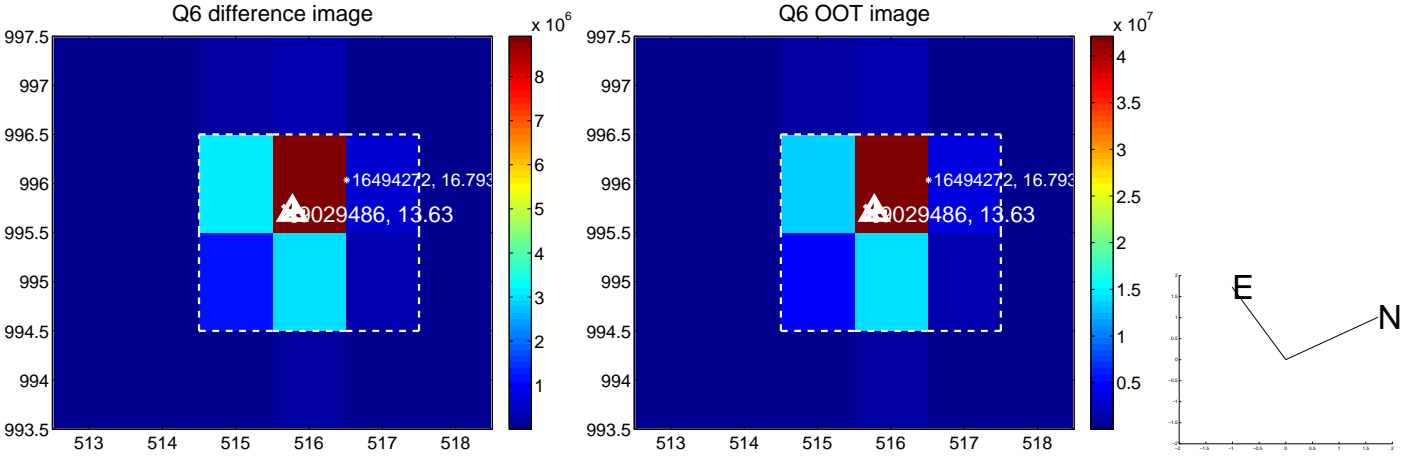
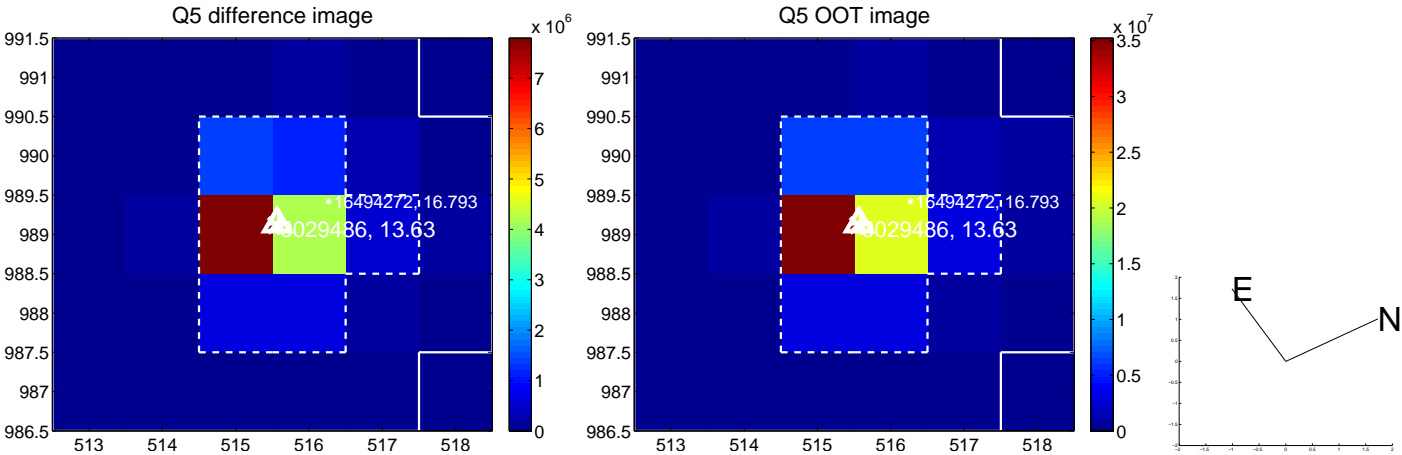


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

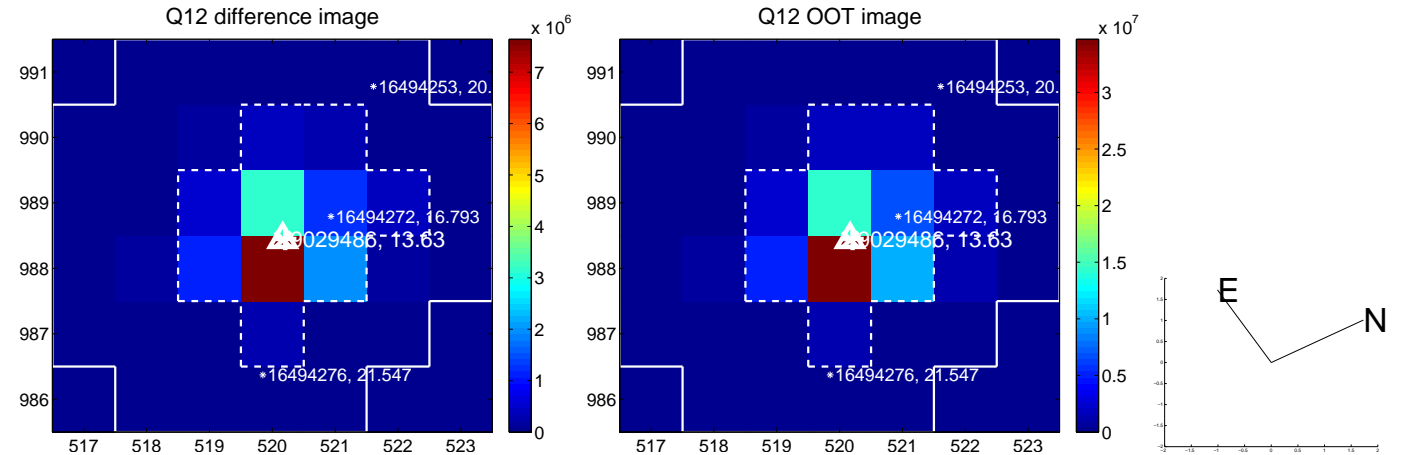
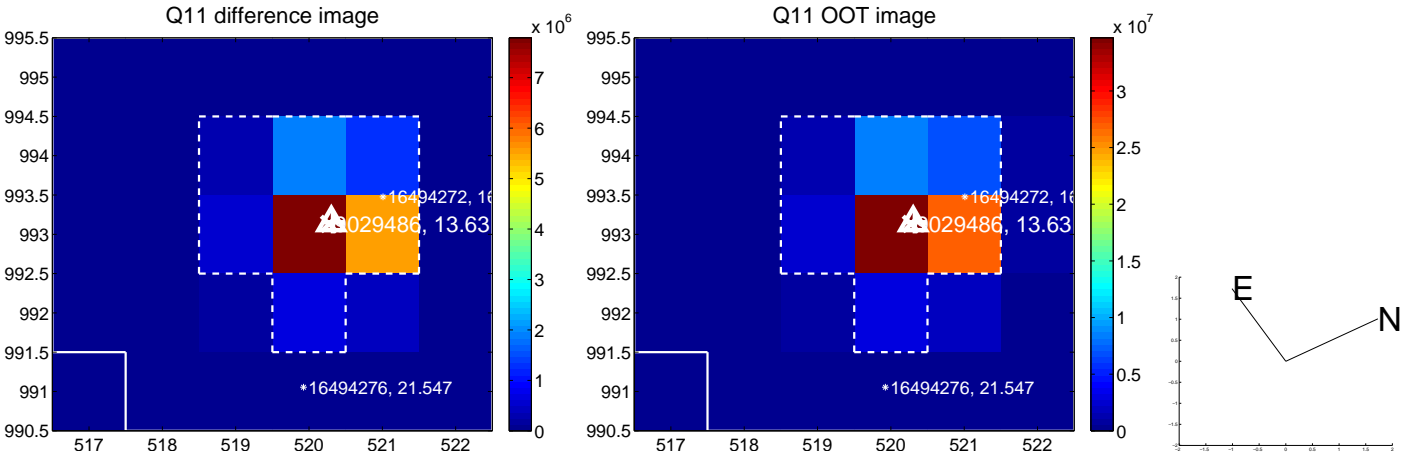
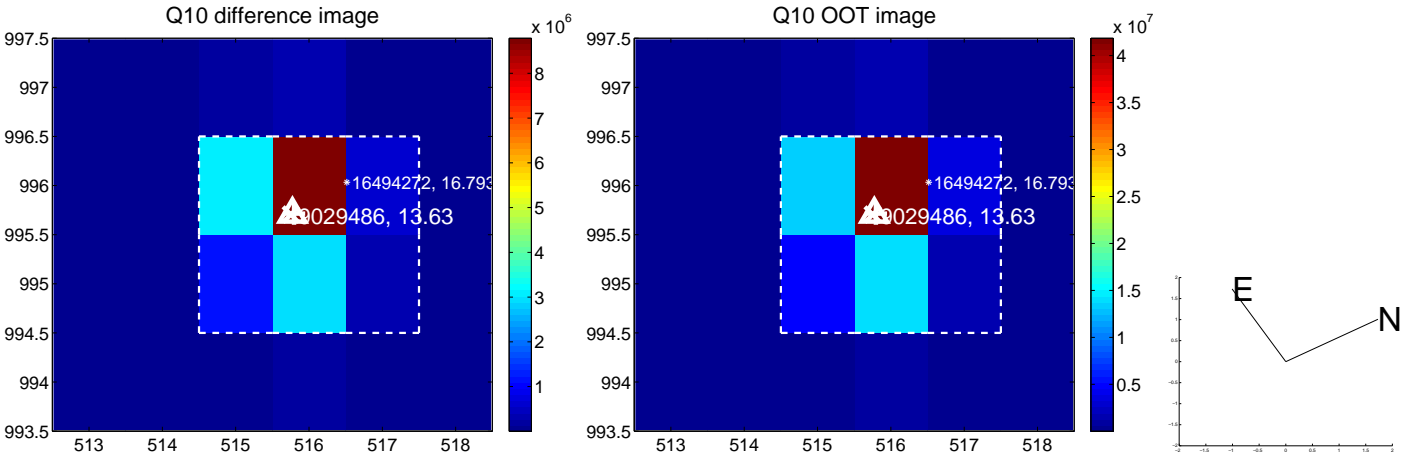
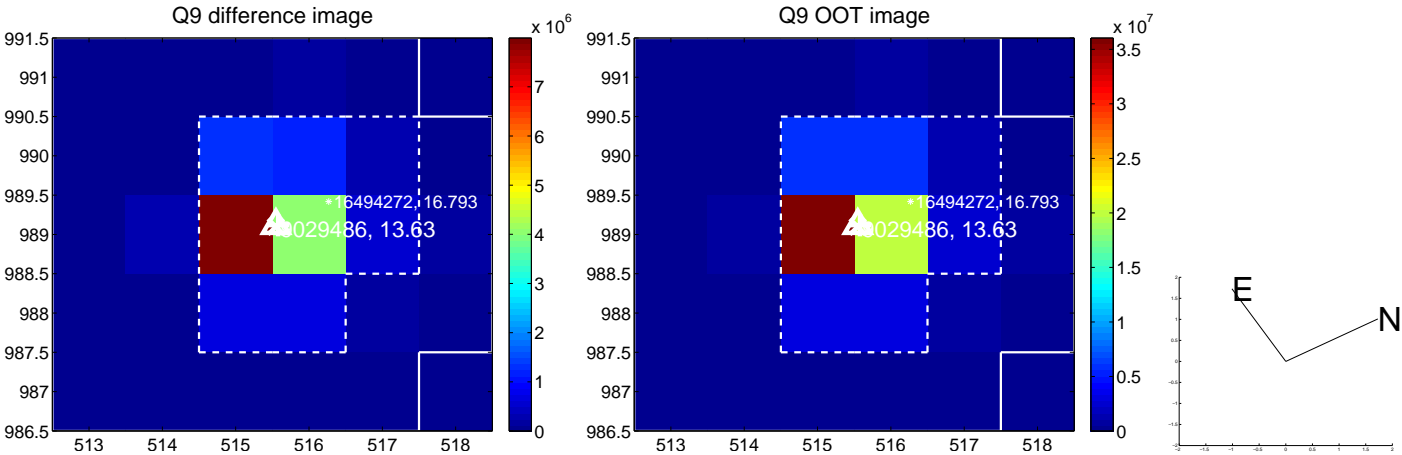


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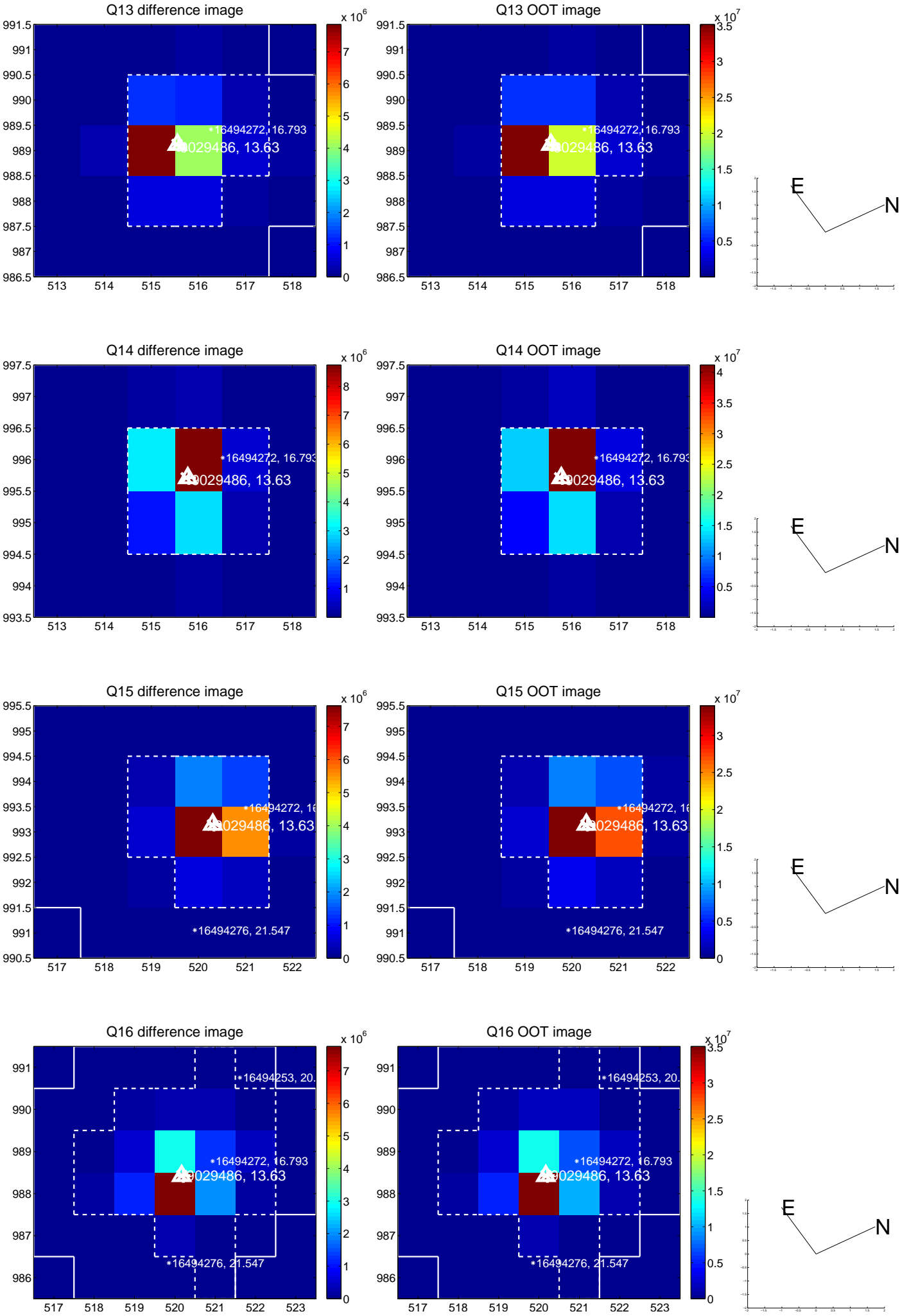




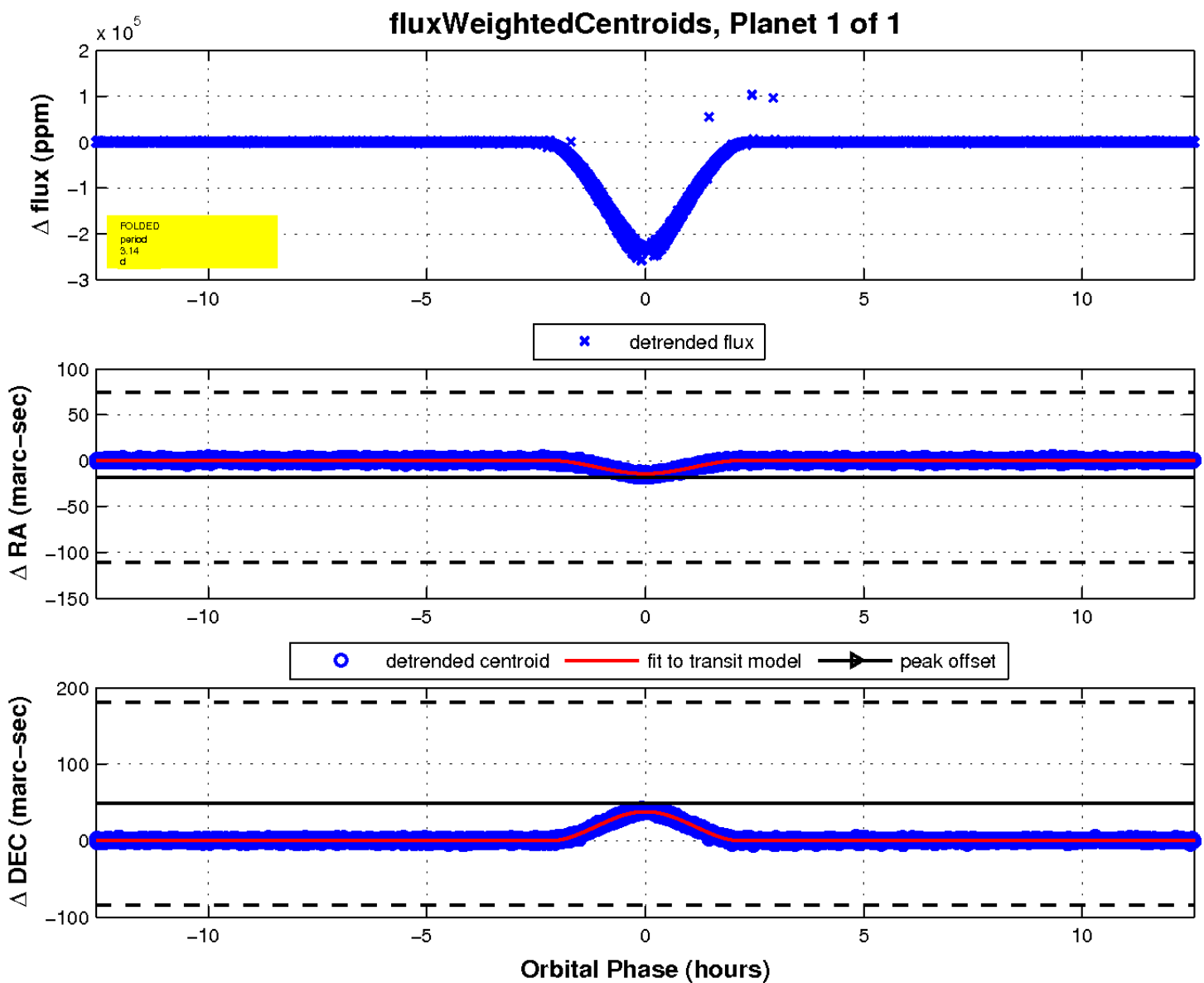
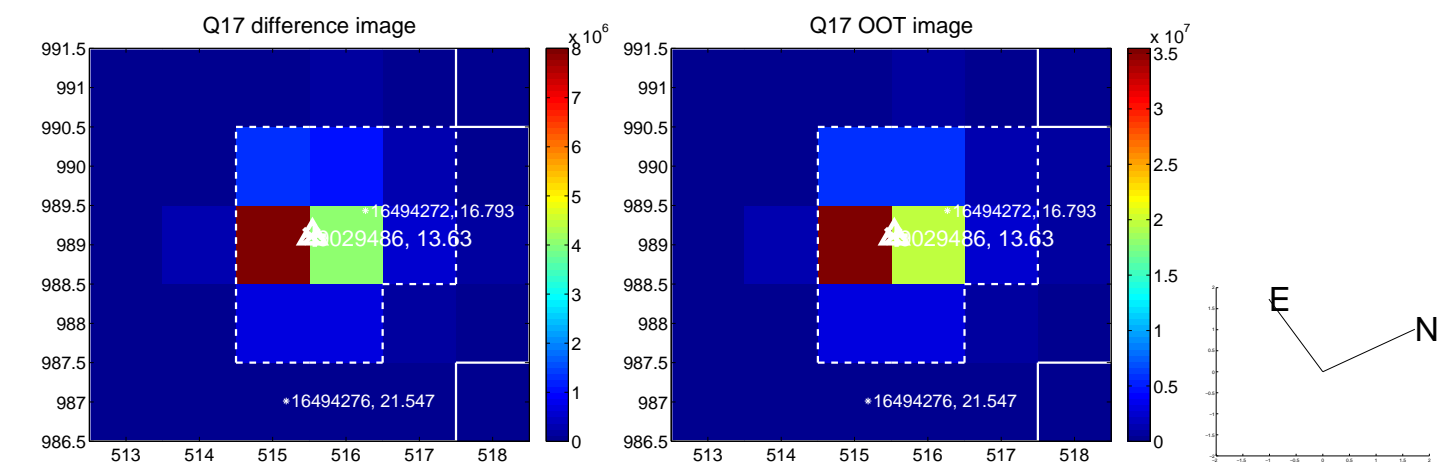
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# UKIRT Image

Declination

