

# KIC 009368360

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
009368360-01	OBS	No	6.377256	132.865700	57.8	39.059	8.9	7.1	1.11	5681	0.85	290.13

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009368360-01	OBS	FP	0.00	1	0	0	0	LPP_DV

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

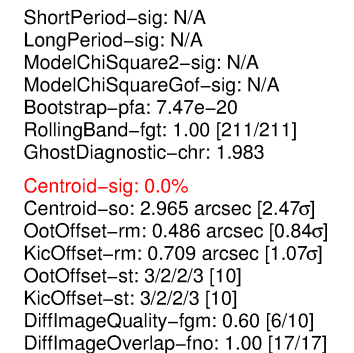
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

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.

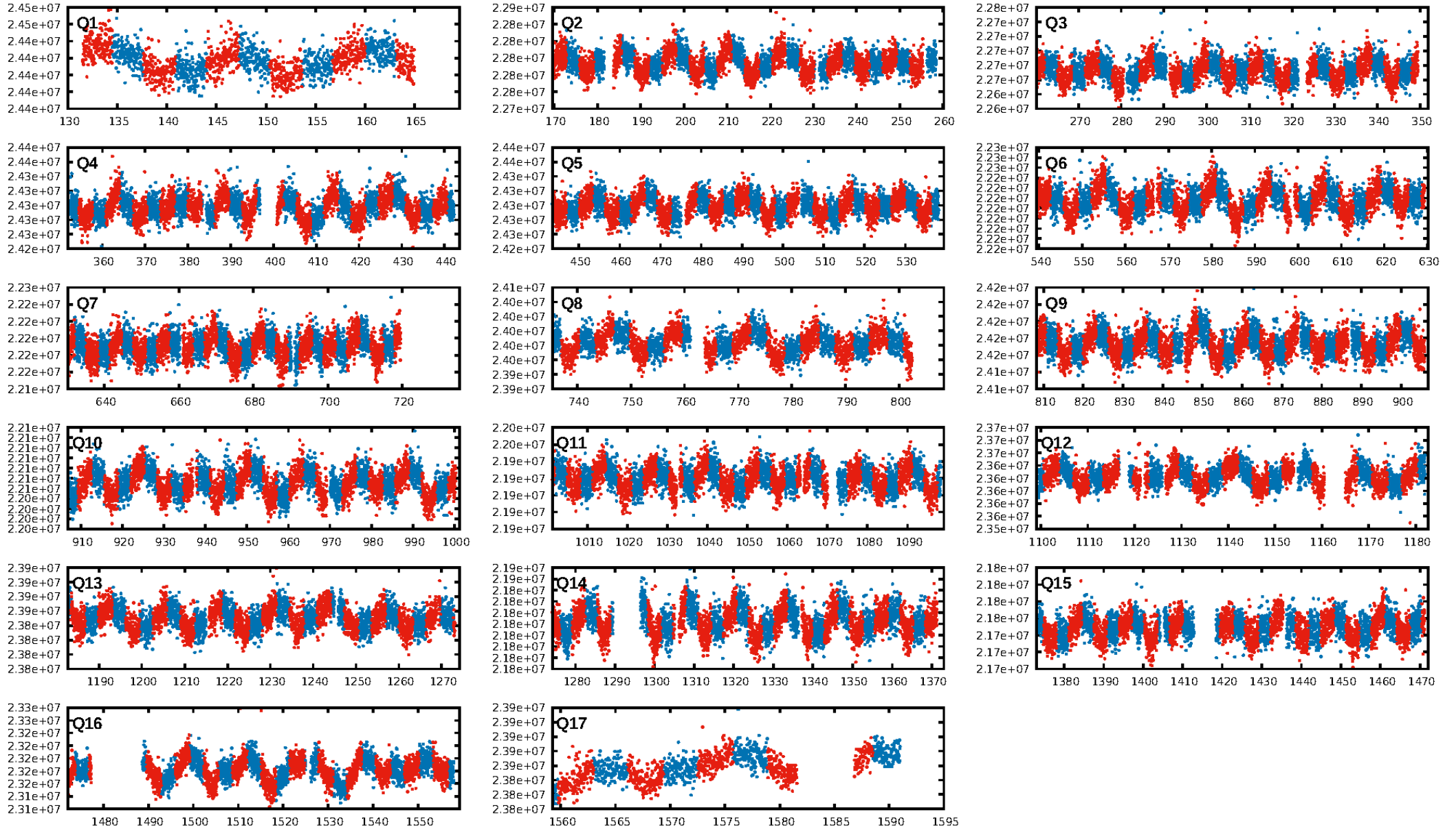
## Ephemeris Match Information For 009368360-01

No Significant Match Found

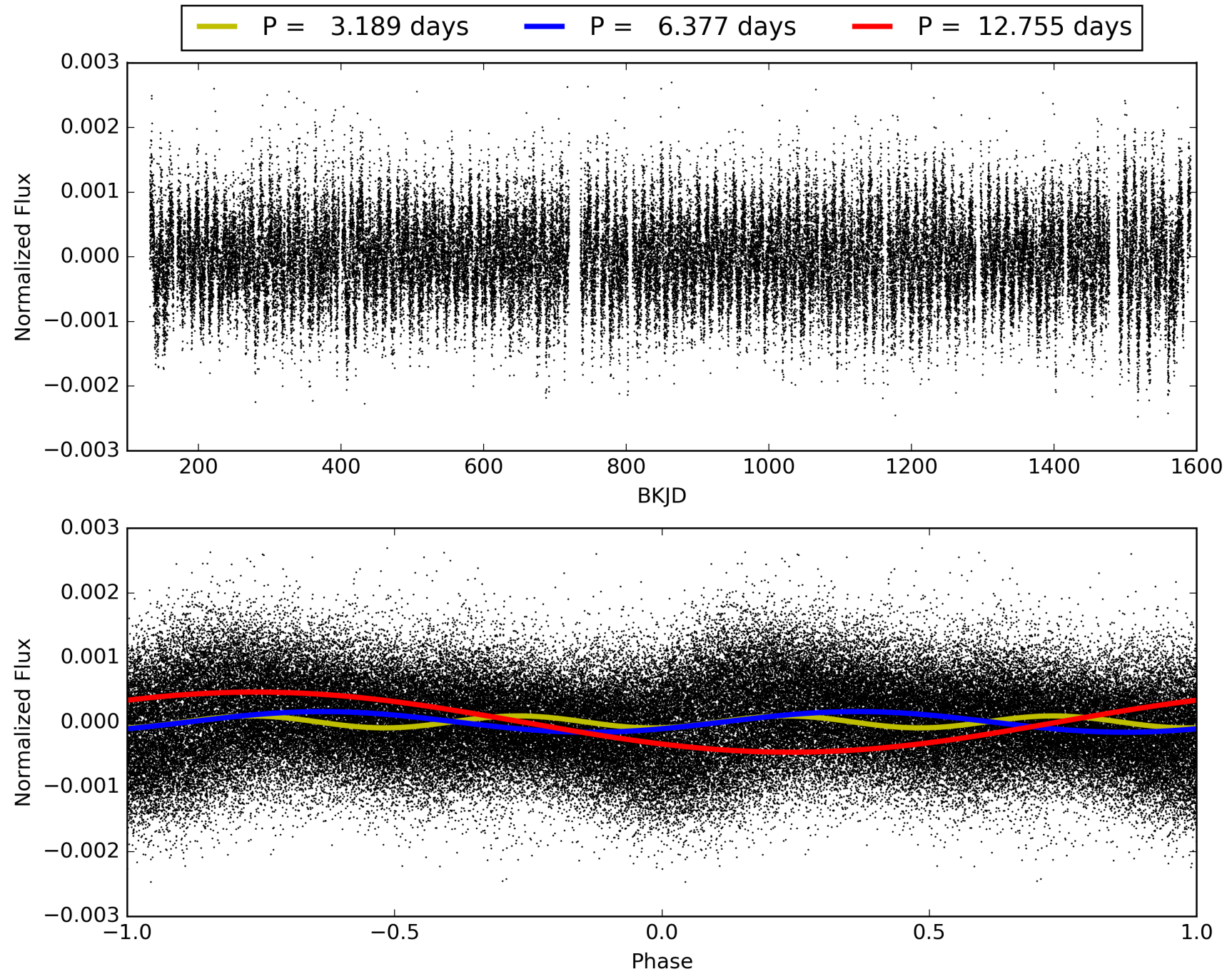
## KIC: 9368360    Candidate: 1 of 1    Period: 6.377 d



# TCE 009368360-01, PDC Light Curves



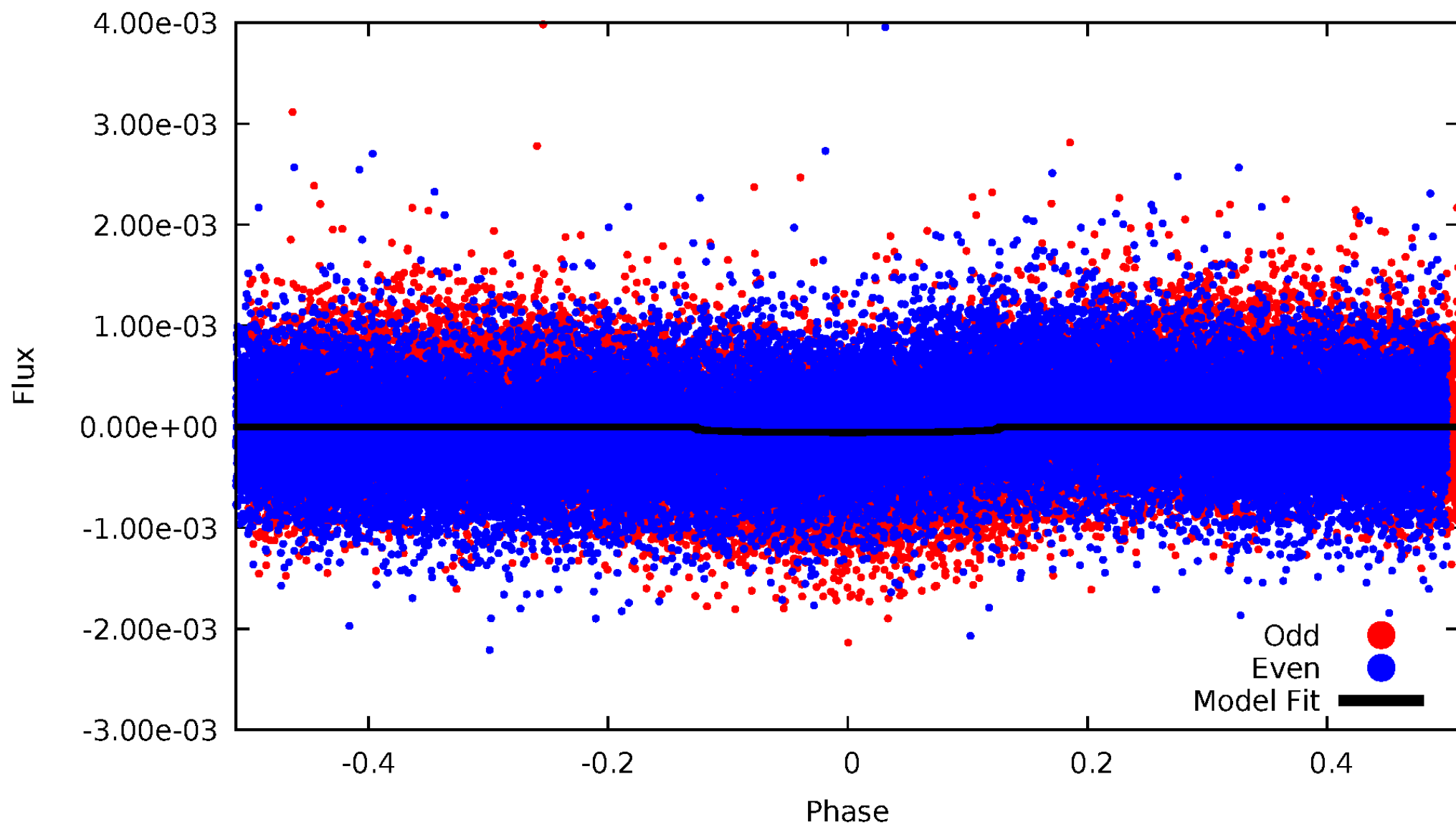
TCE 009368360-01





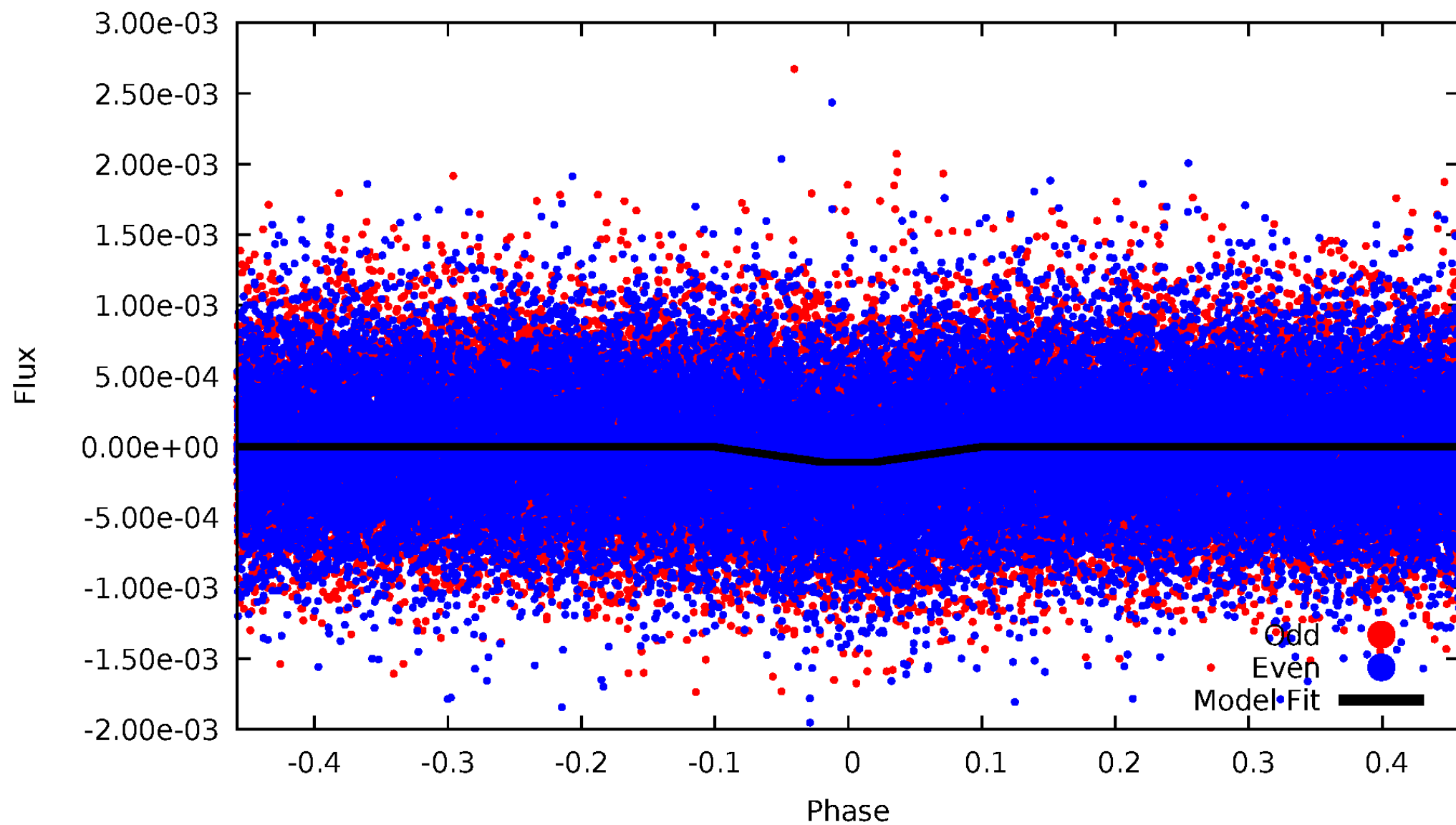
# DV Odd/Even

TCE 009368360-01

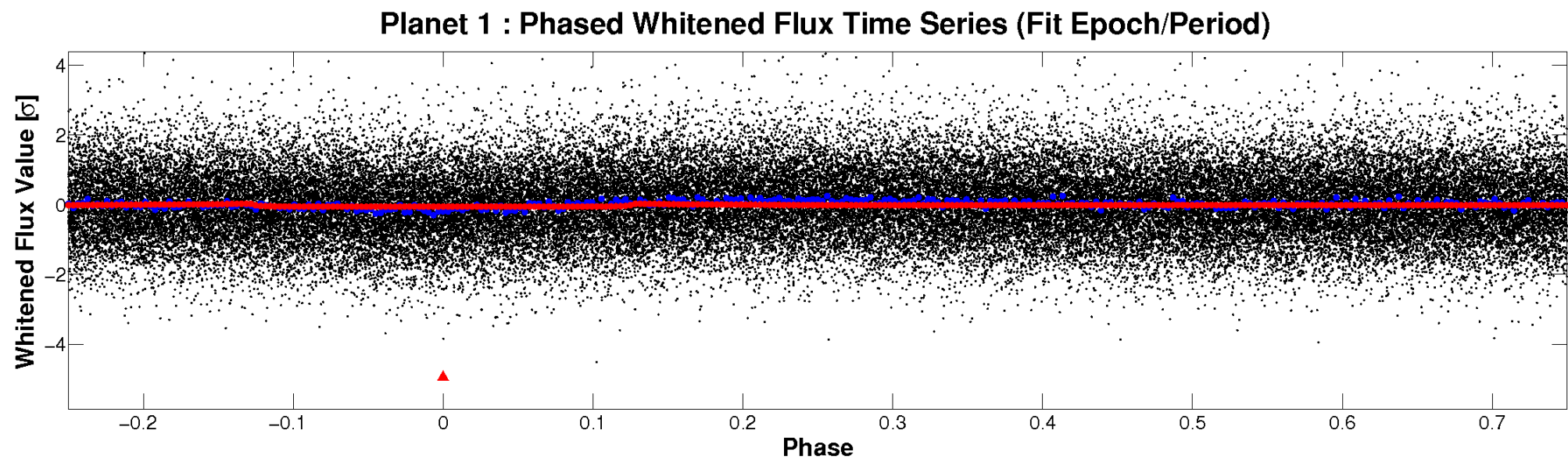
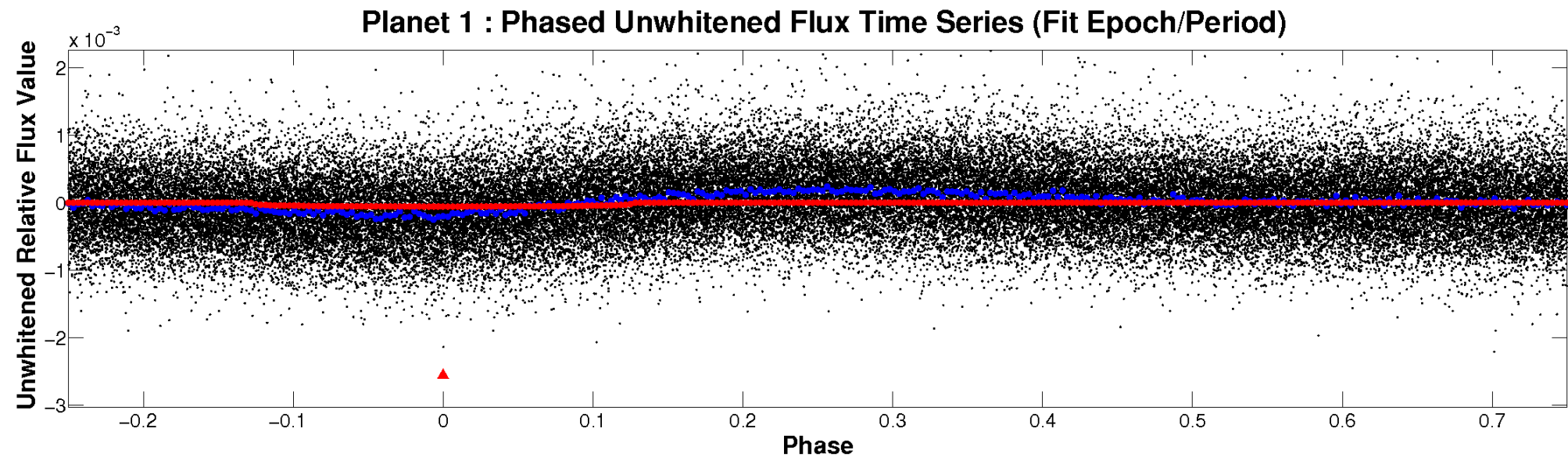


# ALT Odd/Even

TCE 009368360-01

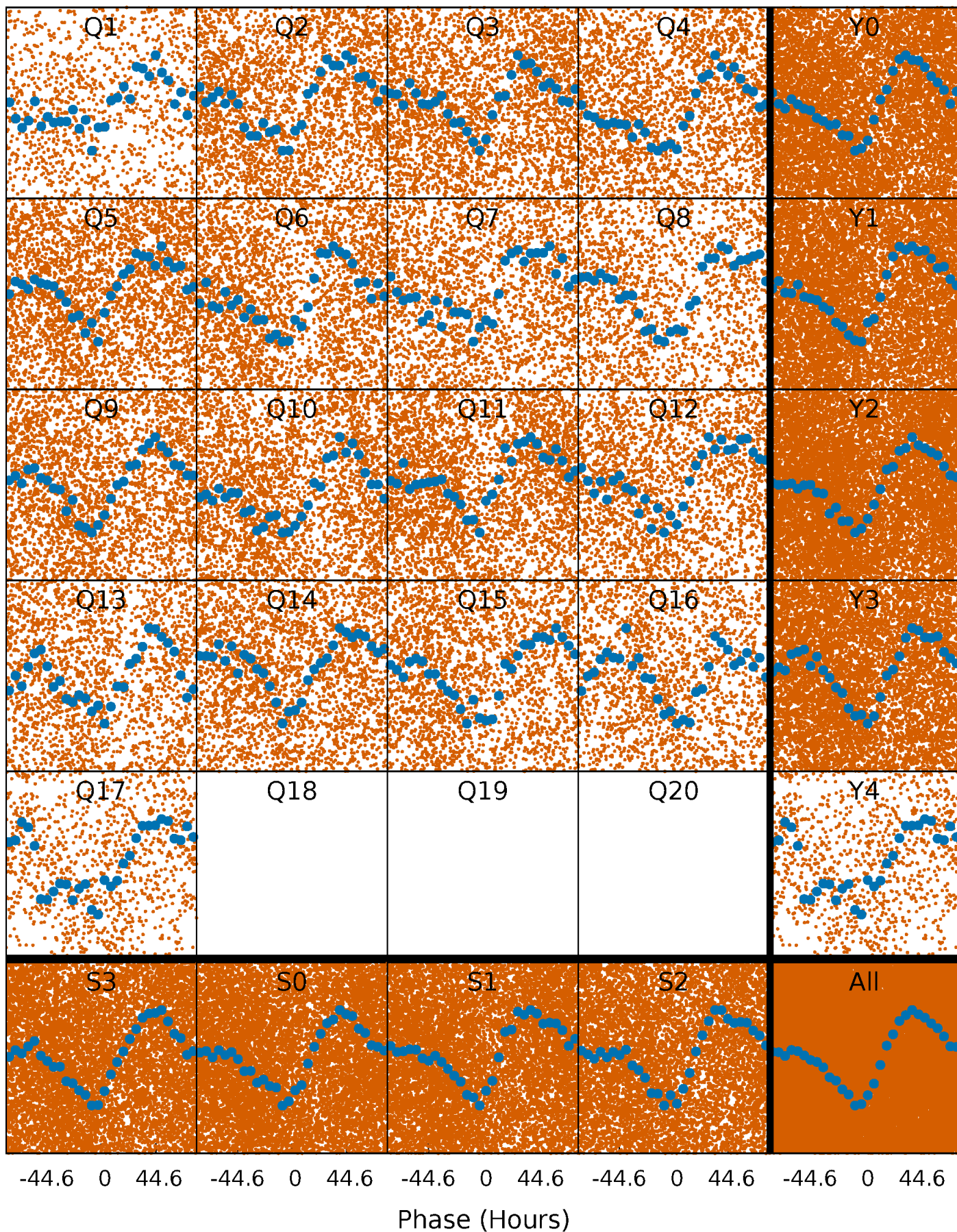


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

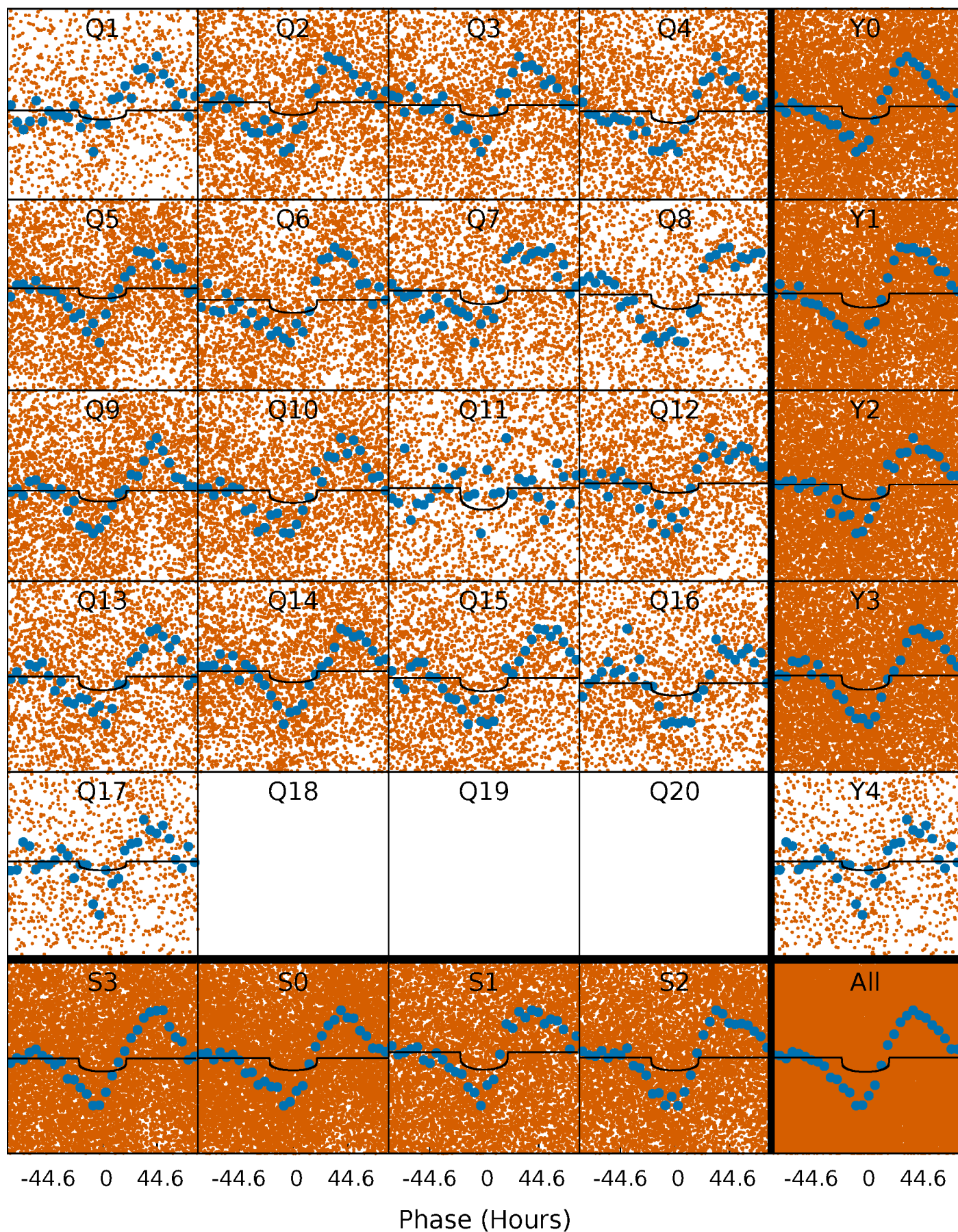
TCE 009368360-01   P= 6.377256 Days    $T_0=132.865701$  (BKJD)





# DV Quarter-Phased Transit Curves

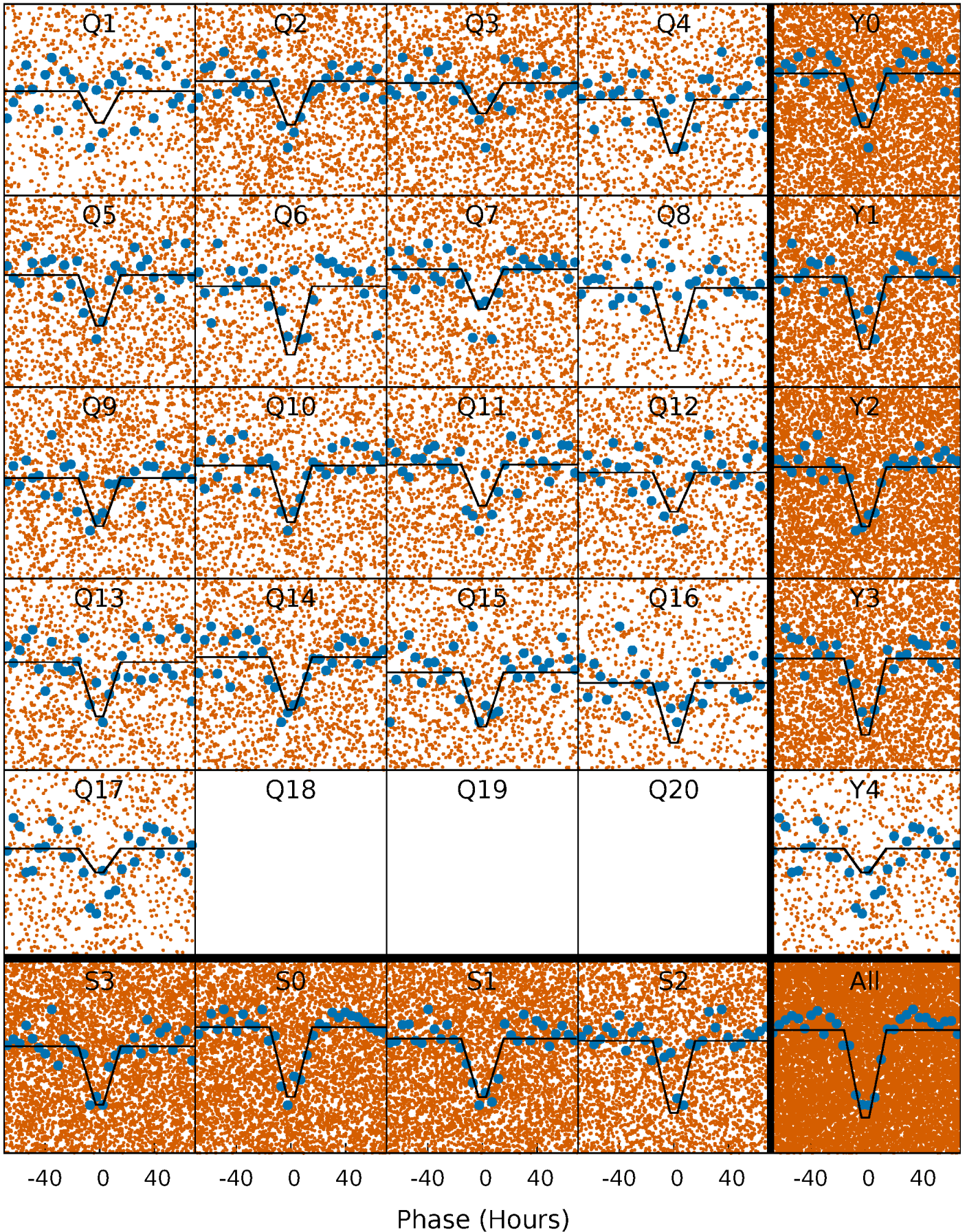
TCE 009368360-01   P= 6.377256 Days    $T_0=132.865701$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

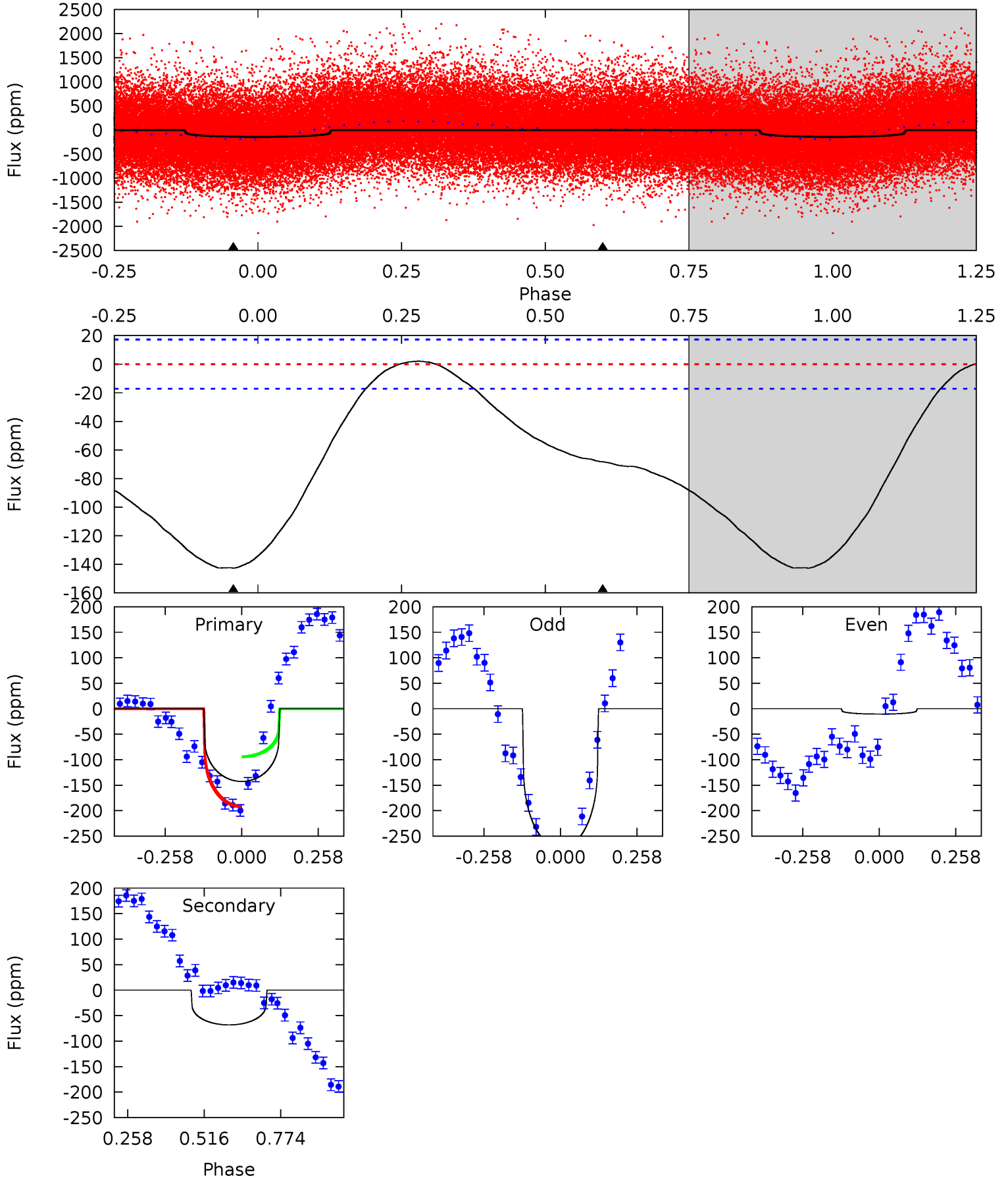
TCE 009368360-01 P= 6.377649 Days  $T_0=132.810910$  (BKJD)



# DV Model-Shift Uniqueness Test

009368360-01, P = 6.377256 Days, E = 126.488445 Days

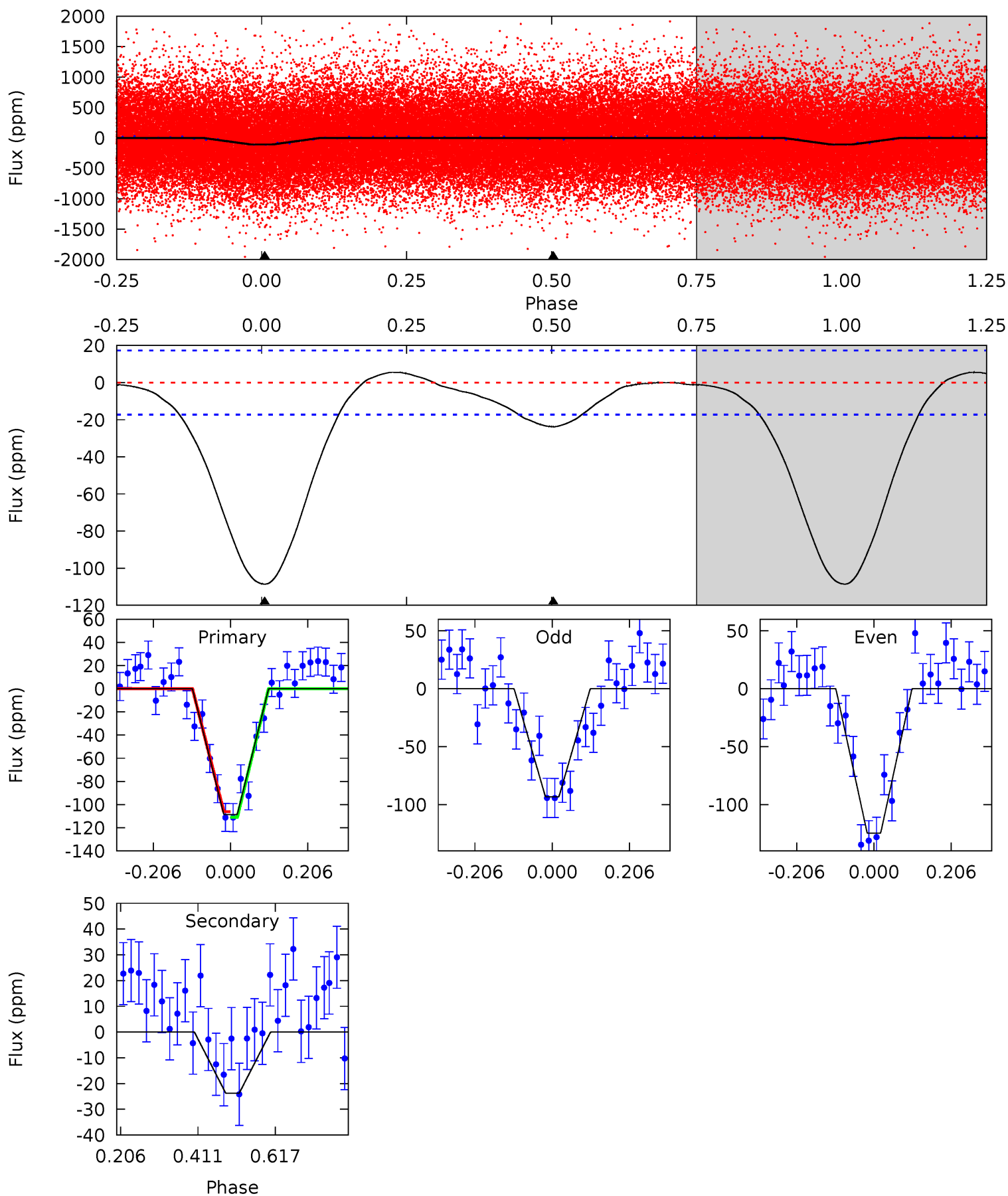
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
36.1	17.3	0	0	4.36	1.13	0.67	36.1	36.1	17.3	17.3	33.0	1.18	0.02	12.9



# Alt Model-Shift Uniqueness Test

009368360-01, P = 6.377649 Days, E = 126.433261 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
27.7	6.06	0	0	4.41	1.27	0.76	27.7	27.7	6.06	6.06	4.01	0.96	0.05	0.61





### Stellar Parameters For KIC 009368360

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5681^{+169}_{-169}$	$4.262^{+0.282}_{-0.212}$	$-0.280^{+0.300}_{-0.250}$	$1.115^{+0.355}_{-0.290}$	$0.829^{+0.127}_{-0.068}$	$0.842^{+1.227}_{-0.428}$
	+3%/-3%	+7%/-5%	+107%/-89%	+32%/-26%	+15%/-8%	+146%/-51%
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 009368360-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-68 \pm 4$	$0.99^{+0.74}_{-0.63}$	$1465^{+136}_{-123}$	$5699^{+4247}_{-1184}$	$156^{+982}_{-105}$
Alt.	$-24 \pm 4$	$1.27^{+0.83}_{-0.62}$	$1461^{+129}_{-127}$	$4097^{+1324}_{-621}$	$32^{+93}_{-21}$

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

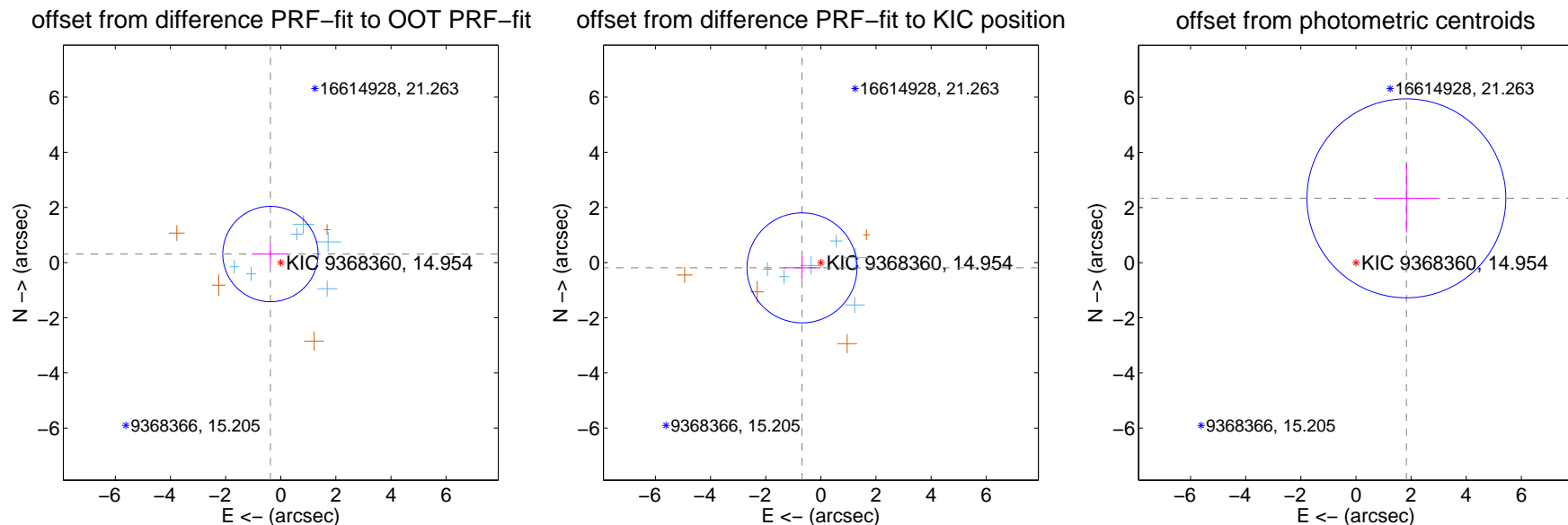
## DV Centroid Data

Supplemental centroid analysis for 009368360-01. Kepler magnitude: 14.95. Transit SNR 7.07

There are 6 quarters with good PRF difference image offsets

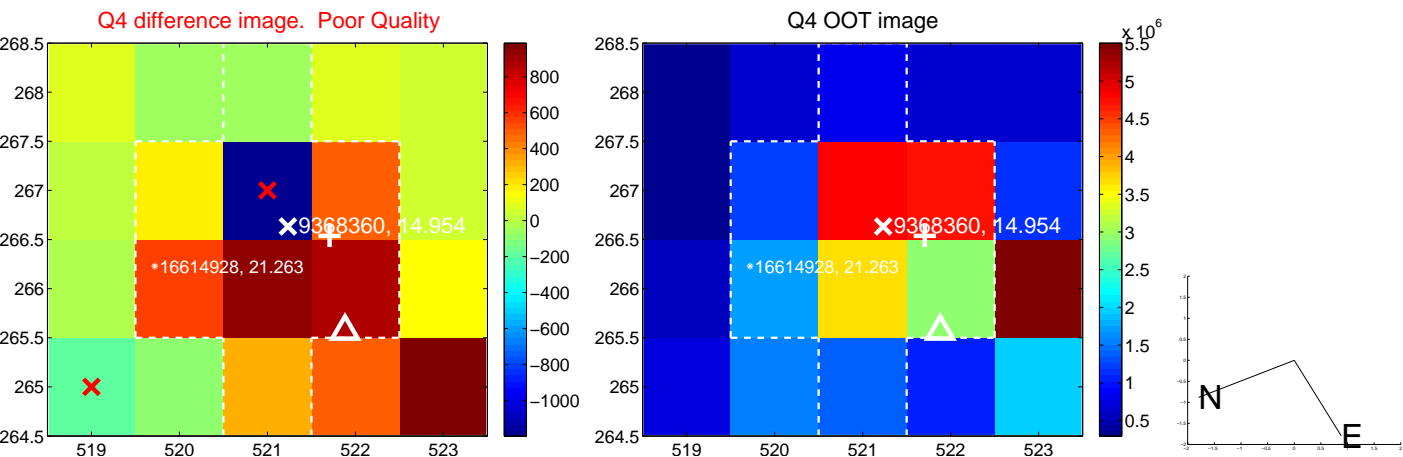
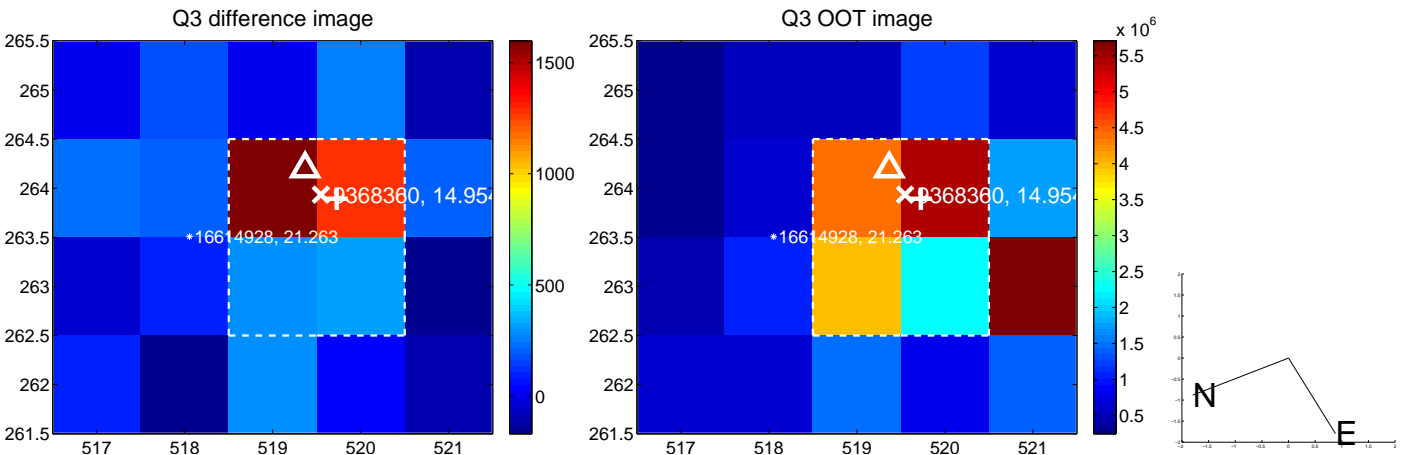
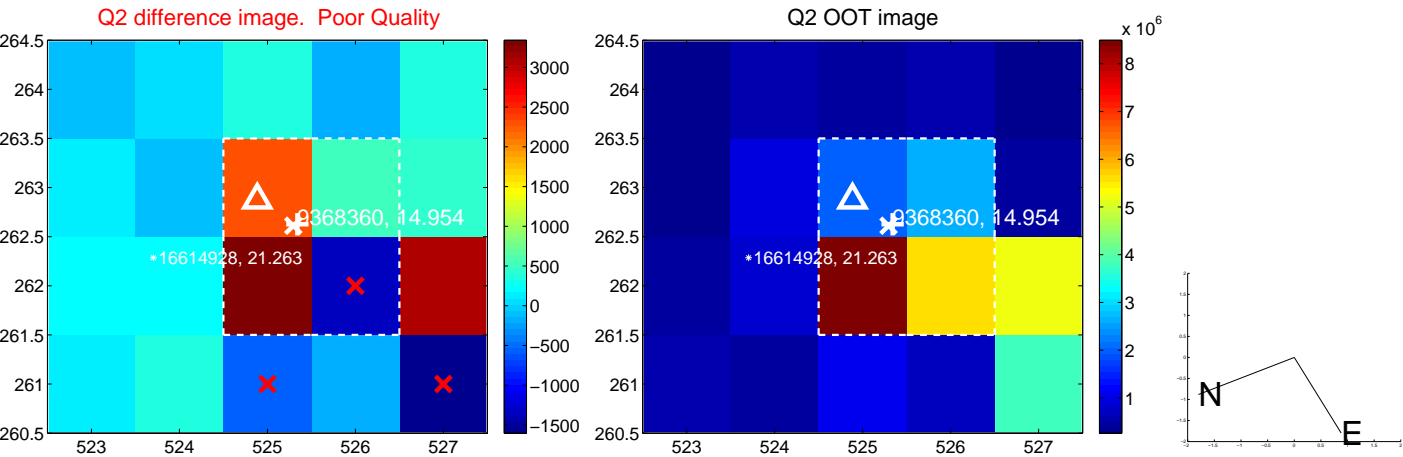
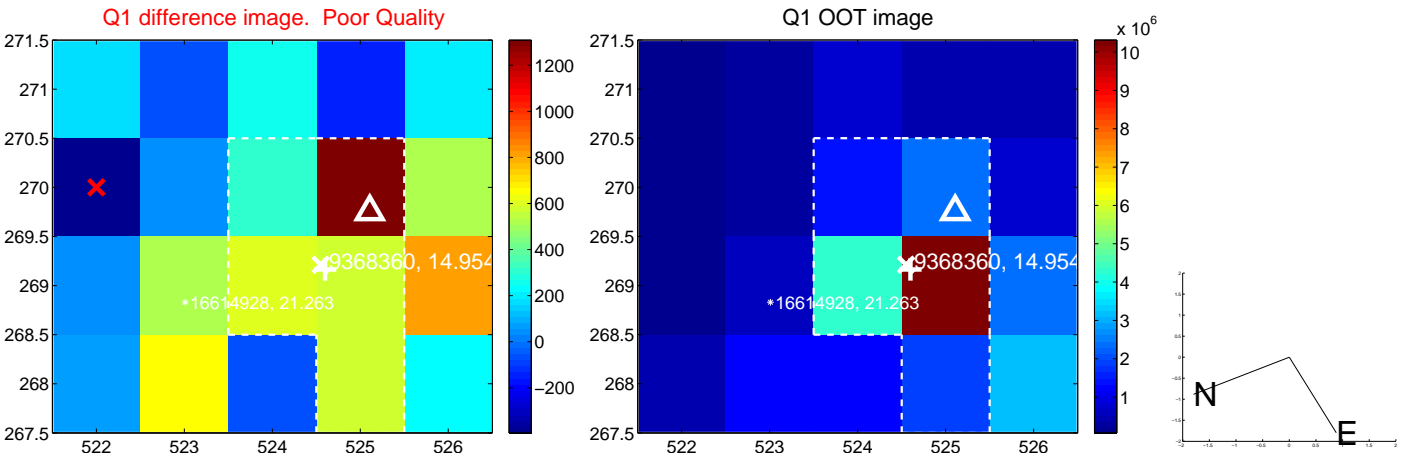
The direct PRF centroid is offset from the target star catalog position by about 1.89 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.486 \pm 0.576$	0.84	$0.374 \pm 0.667$	$0.311 \pm 0.410$
PRF-fit source offset from KIC position	$0.709 \pm 0.665$	1.07	$0.684 \pm 0.680$	$-0.190 \pm 0.418$
photometric centroid source offset	$2.96 \pm 1.20$	2.47	$-1.83 \pm 1.13$	$2.33 \pm 1.24$

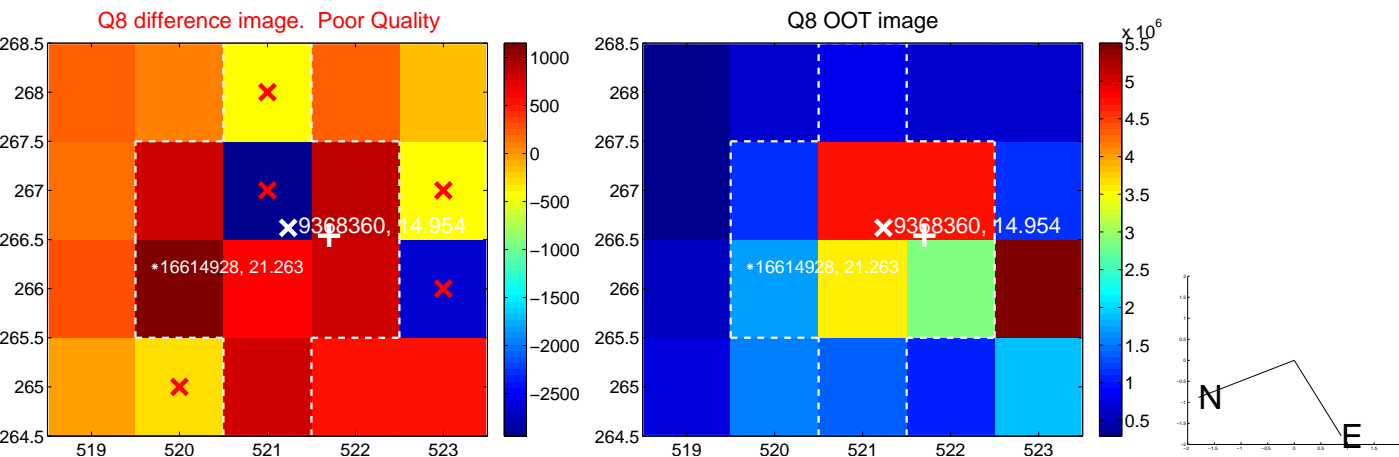
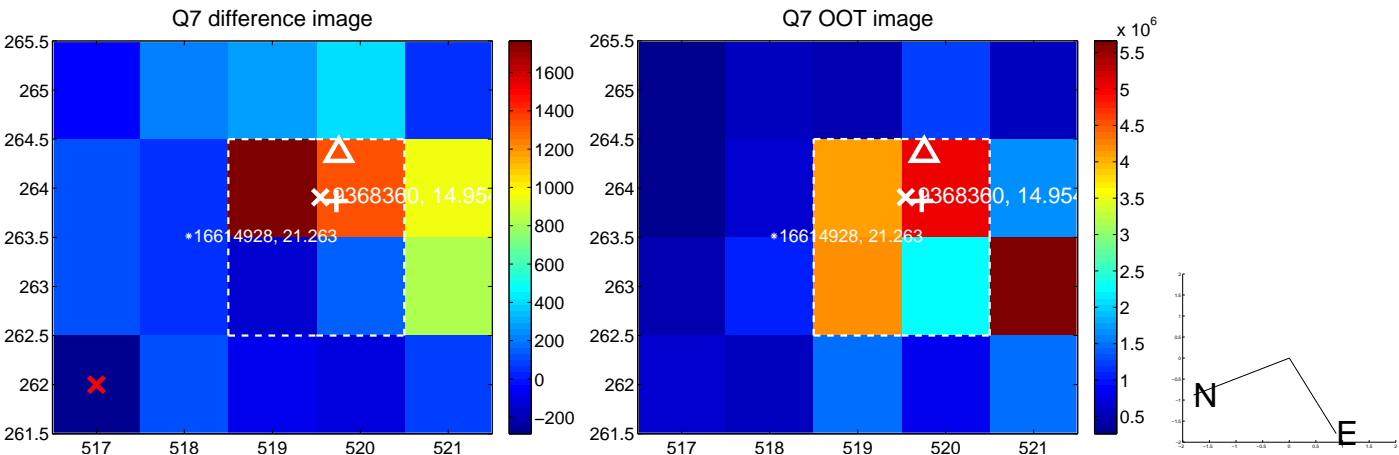
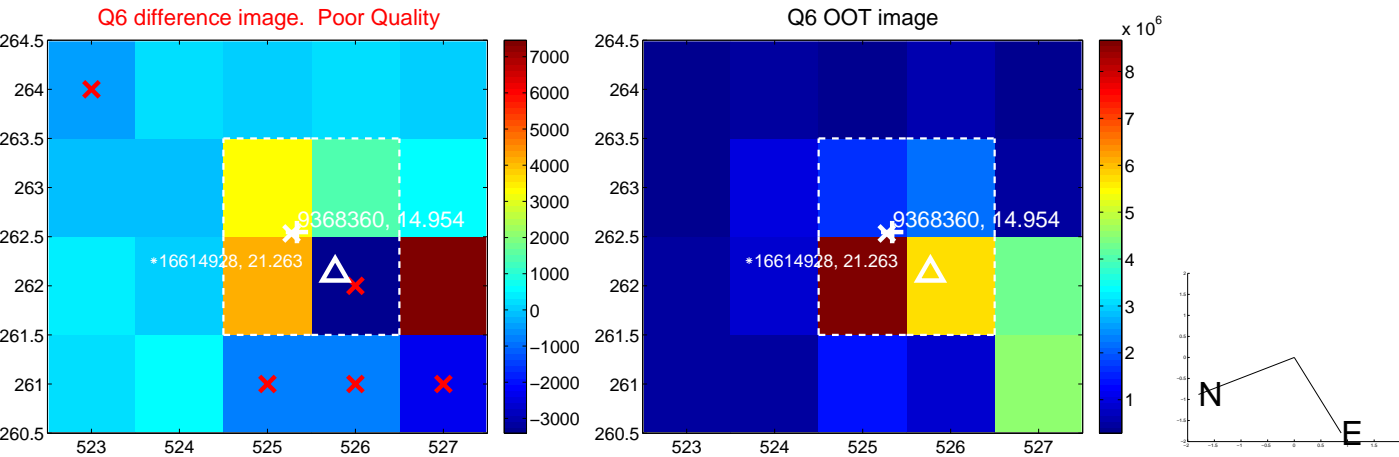
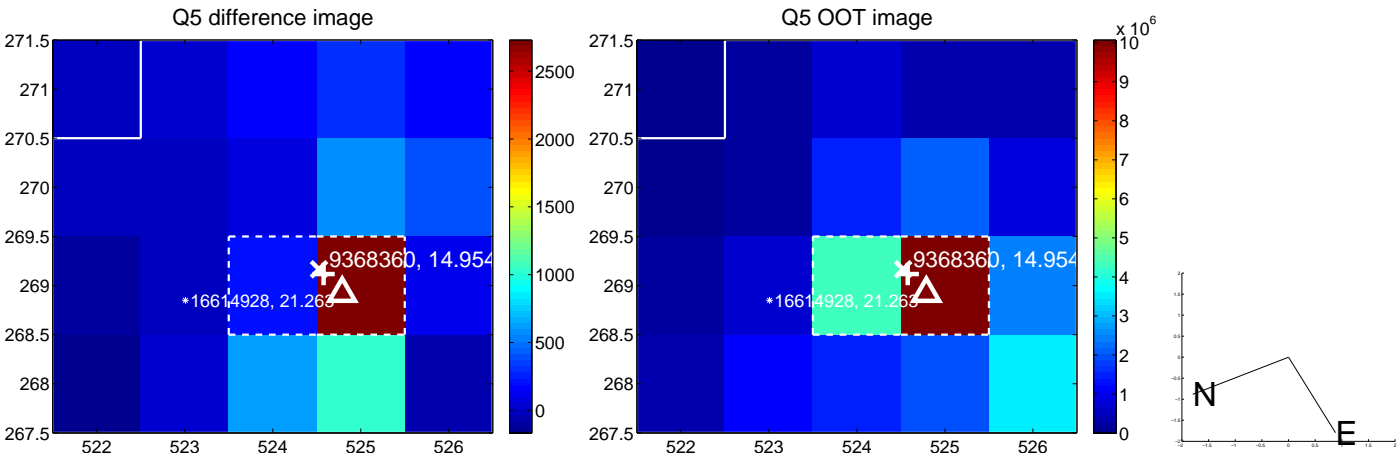


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

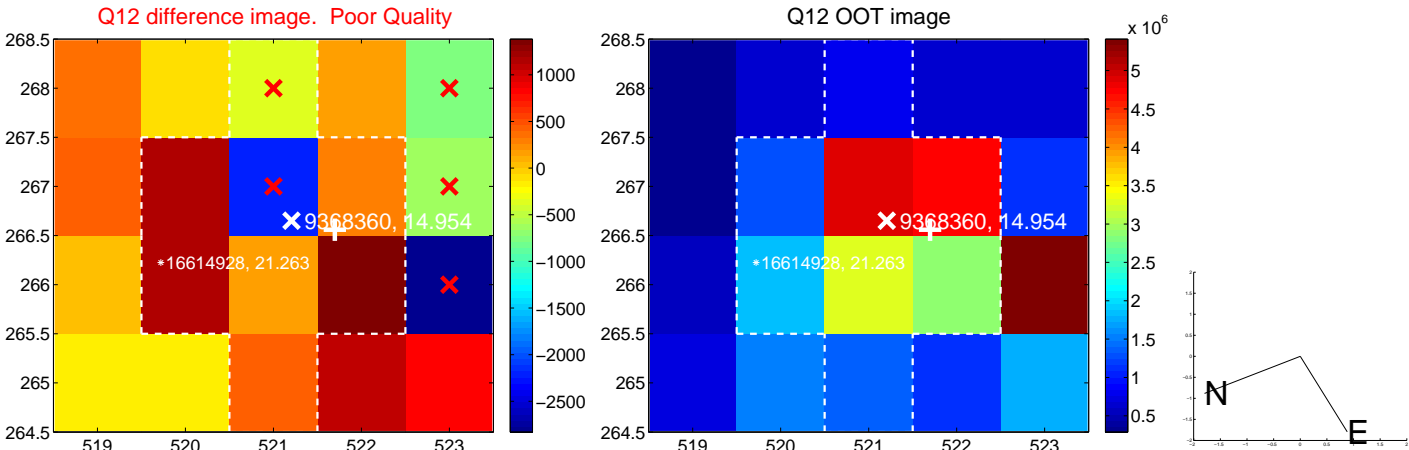
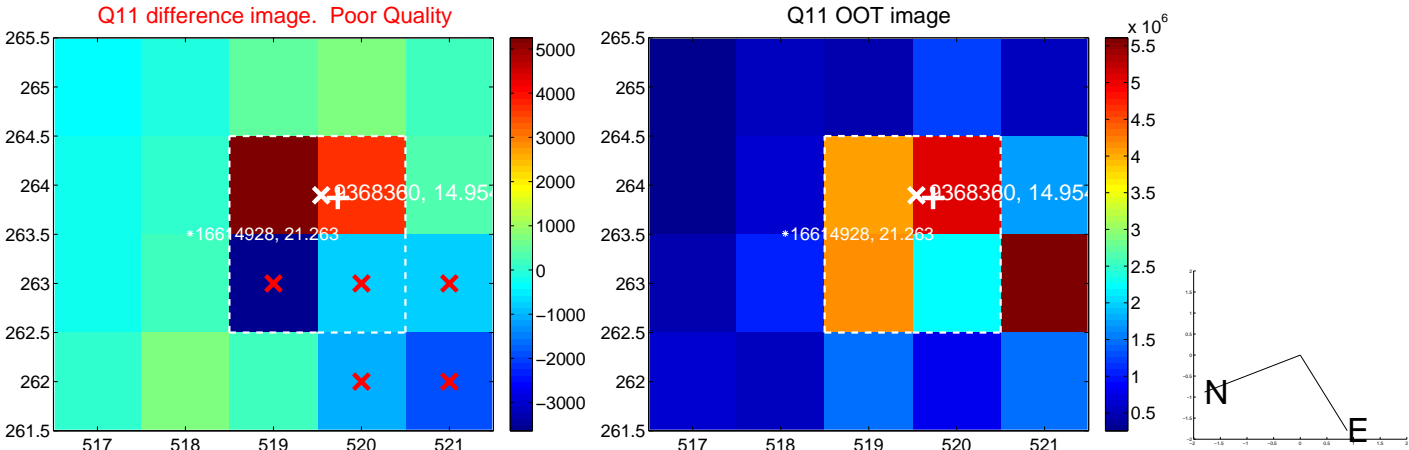
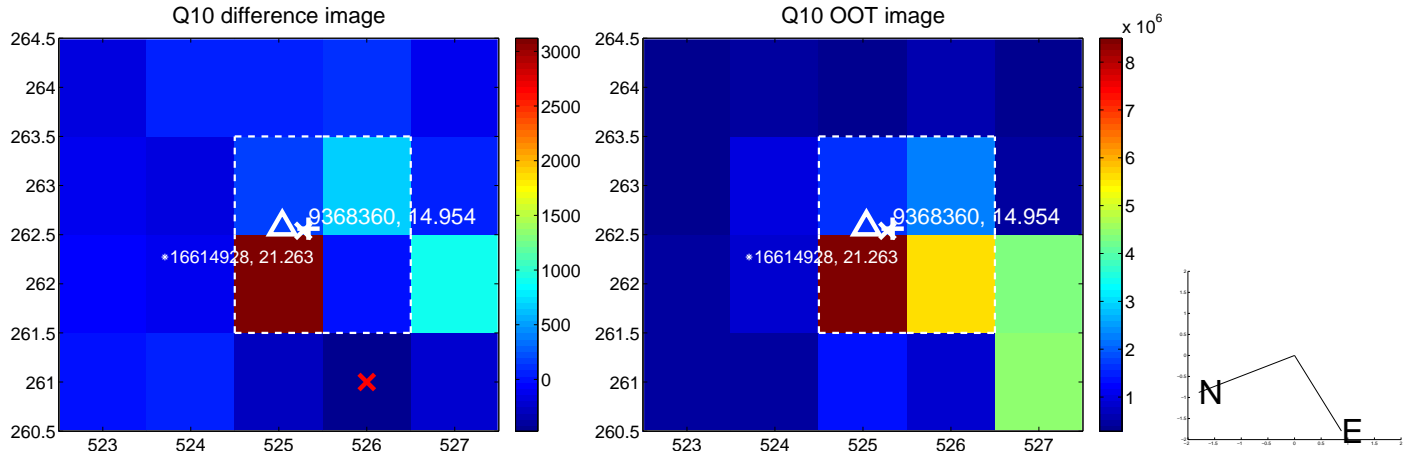
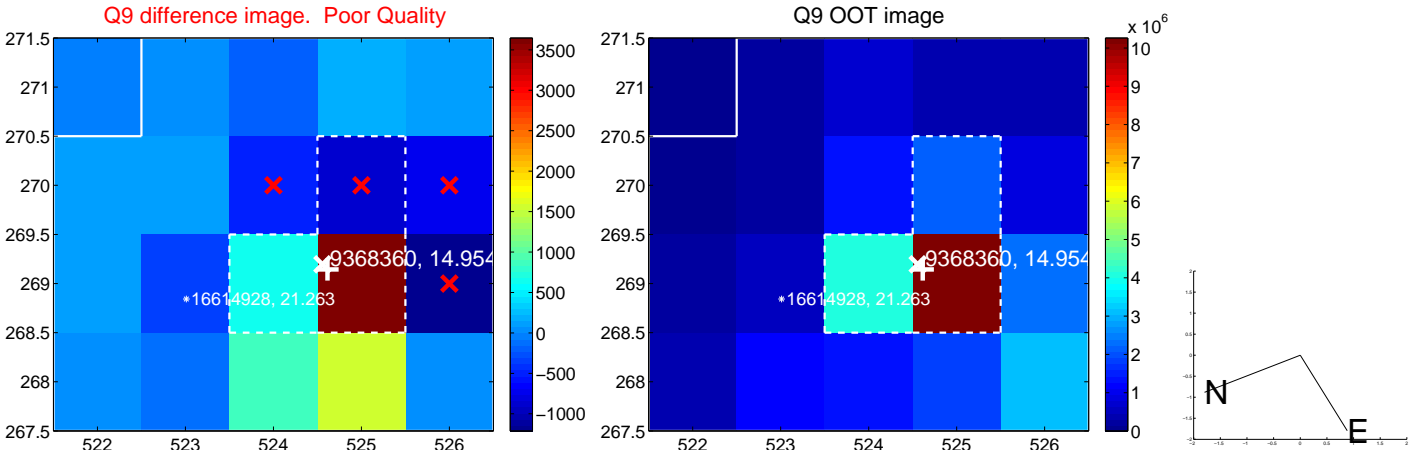


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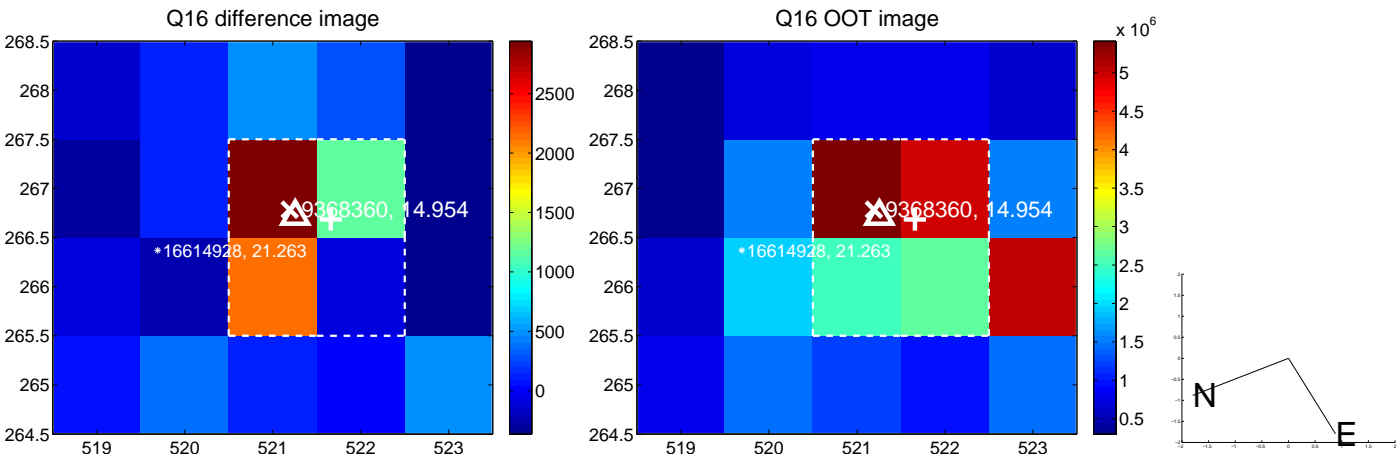
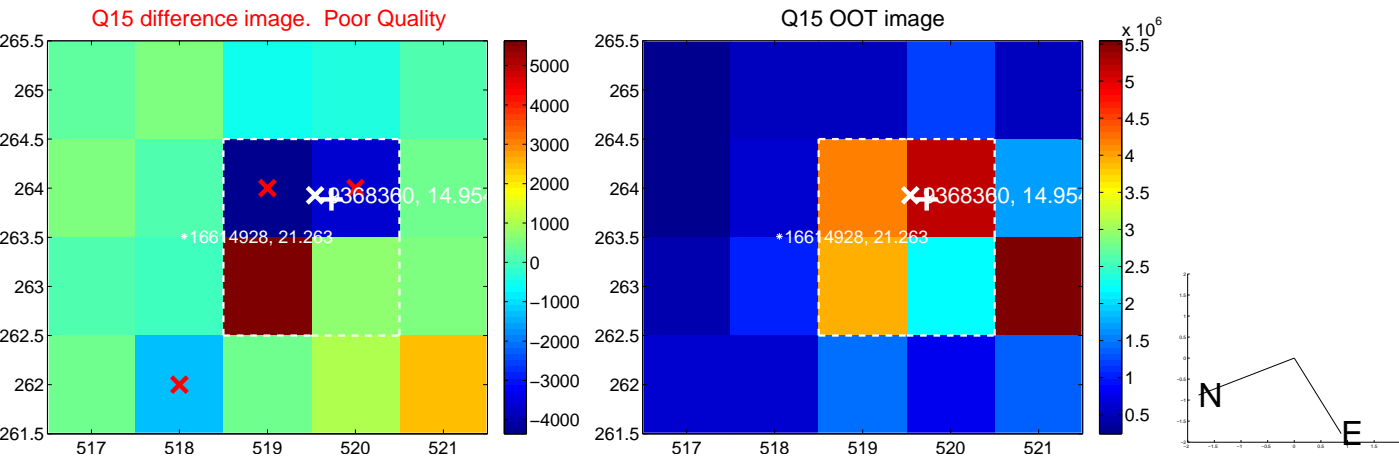
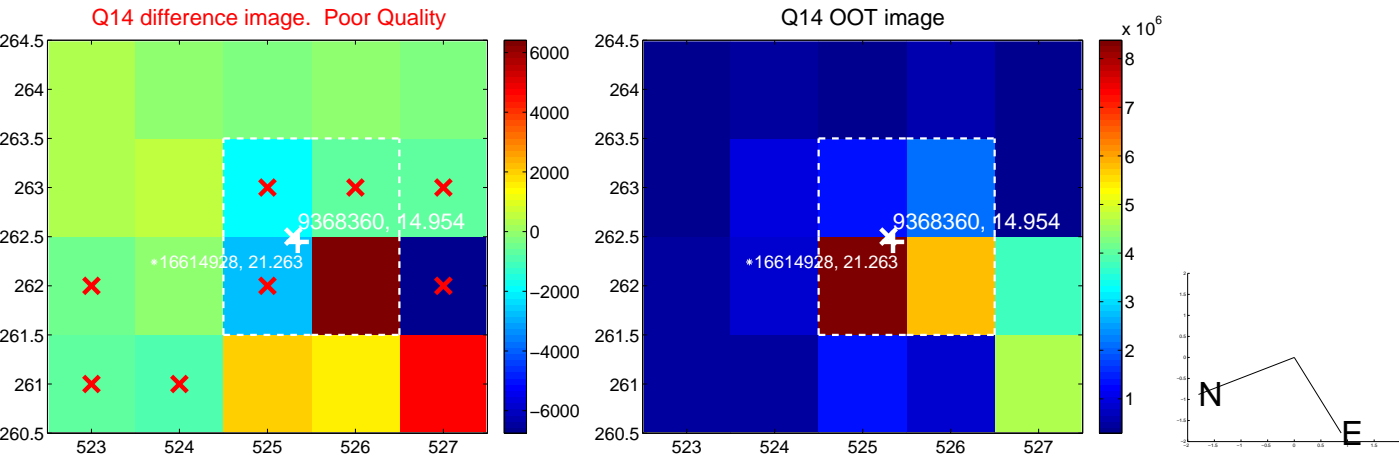
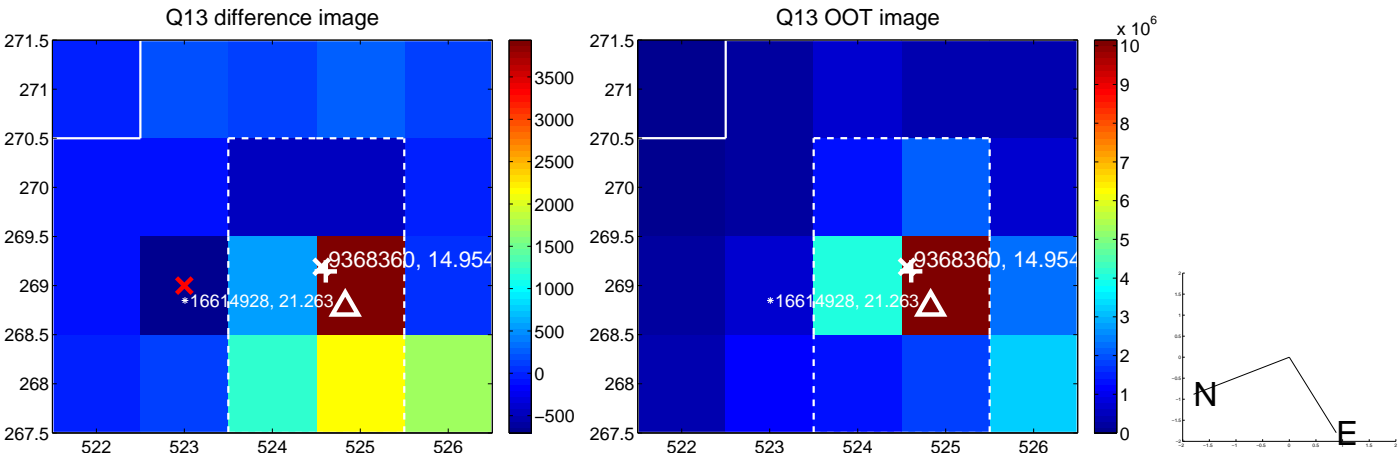




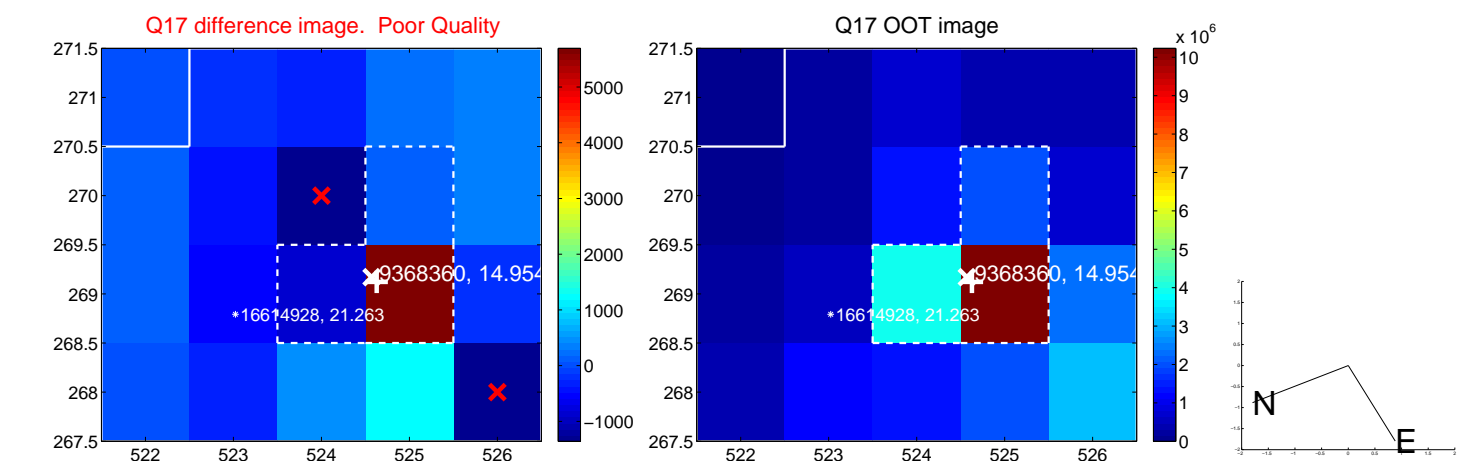
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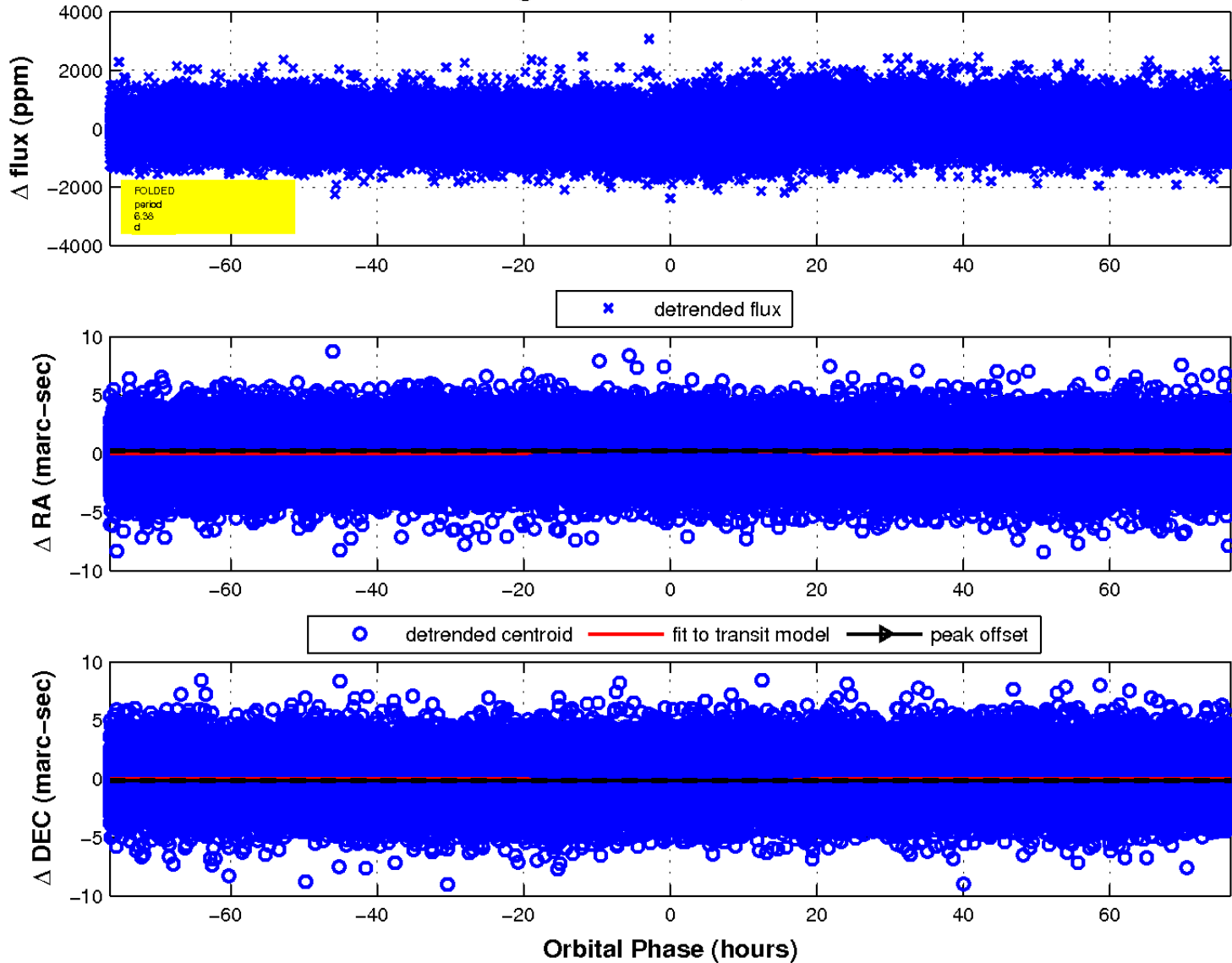
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fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

