

KIC 007116719

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}) |
|--------------|----------|------|---------------|--------------|-------------|------------------|------|------|-----------------------------|-----------------|------------------------|------------------------|
| 007116719-01 | OBS | No | 0.566787 | 131.918030 | 70.2 | 1.595 | 11.5 | 11.3 | 0.77 | 5664 | 0.69 | 3385.68 |

Robovetter Results

| TCE | Run Type | Disp | Score | N | S | C | E | Comments |
|--------------|----------|------|-------|---|---|---|---|--|
| 007116719-01 | OBS | FP | 0.00 | 1 | 0 | 0 | 1 | LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—EPHEM_MATCH |

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.

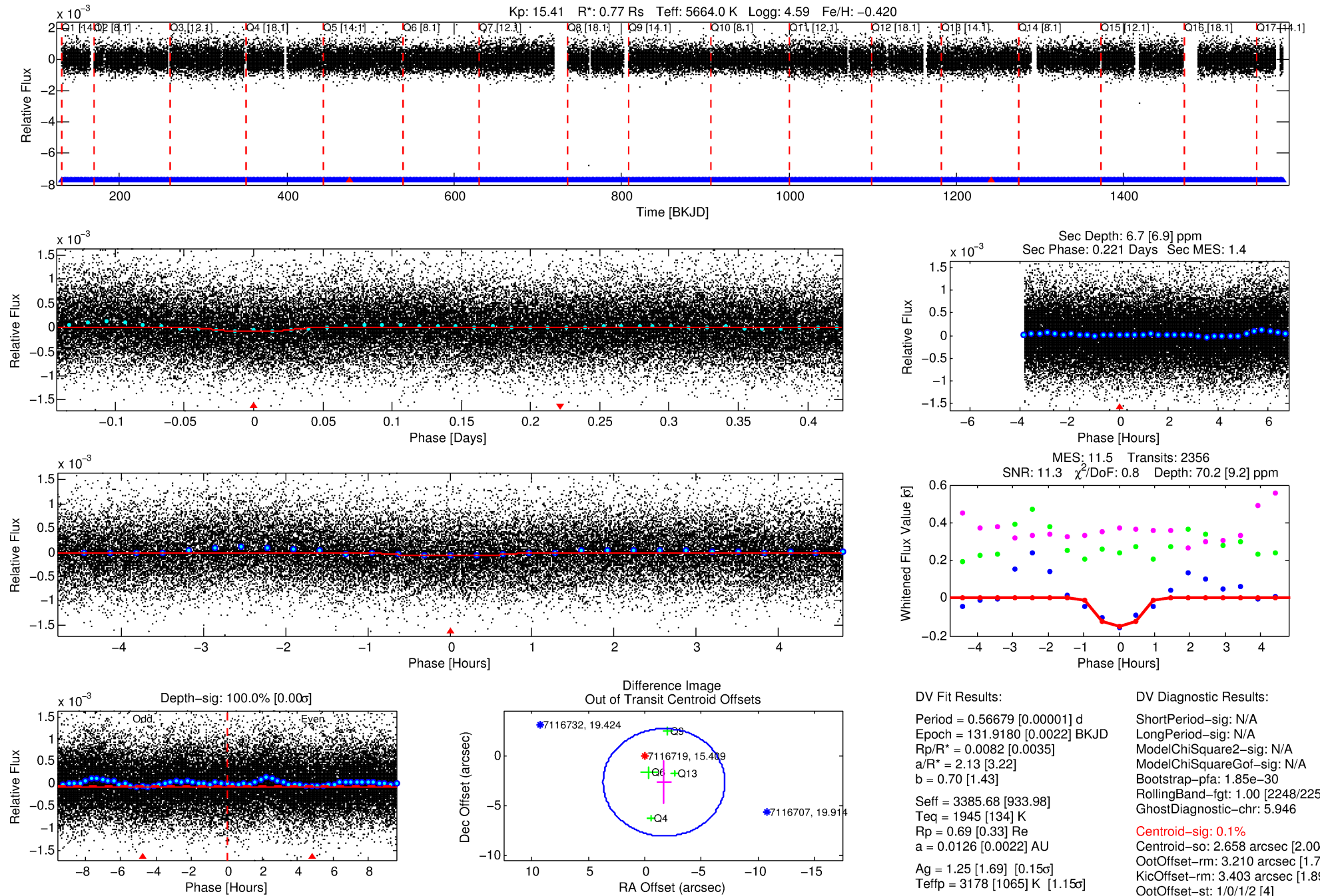
Ephemeris Match Information For 007116719-01

| 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 |
|--------------|---------|------------|------------|-----------|---------------|--------------|--------------|-------|-------|-----------|------------|------|------------|------------|
| 007116719-01 | 7116719 | RR-Lyr-pri | 7198959 | 1:1 | 387.9 | 97 | 6 | 7.86 | 15.41 | 8904.20 | Direct-PRF | 0 | 2.12 | 10.69 |

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

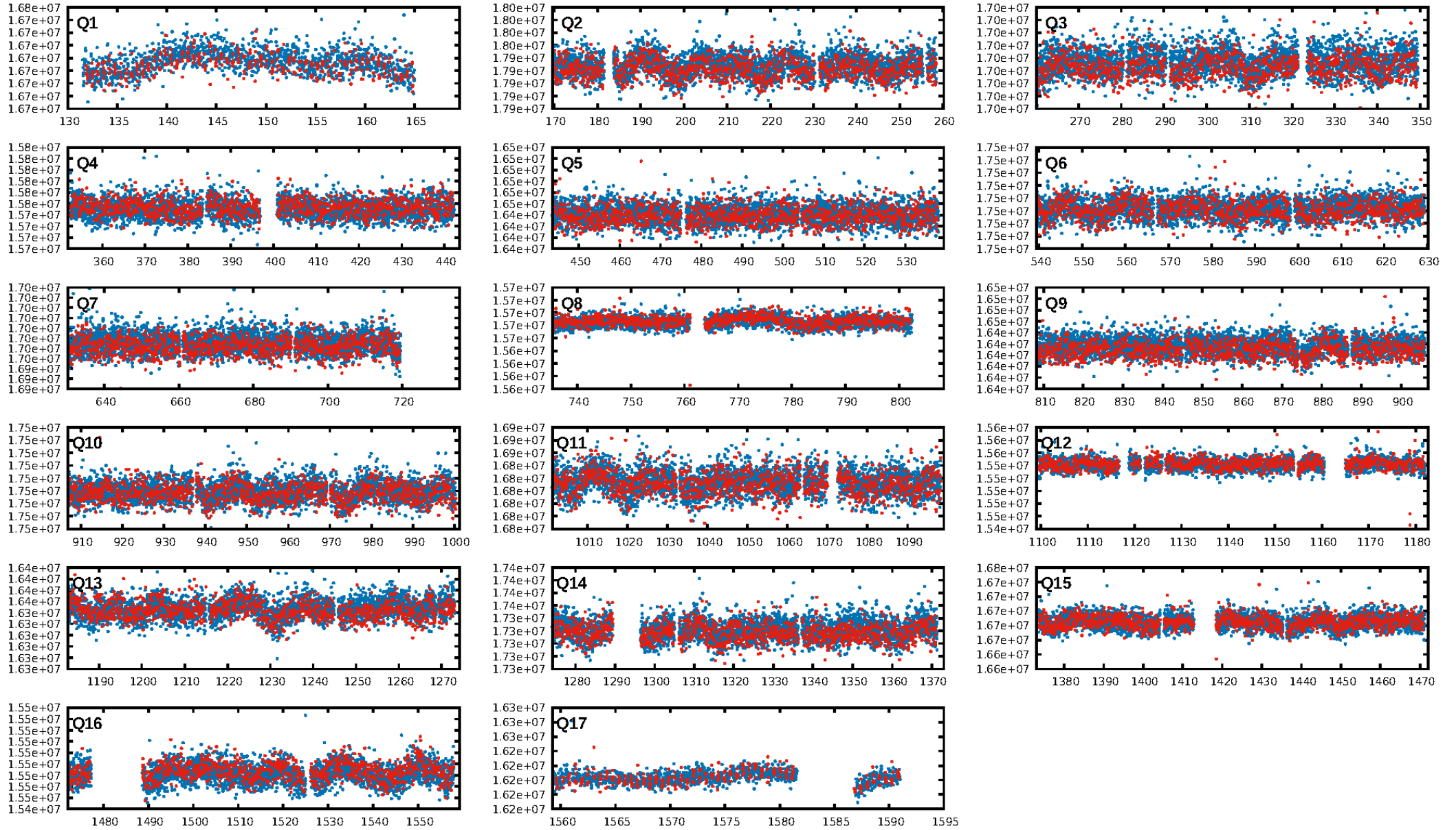
KIC: 7116719 Candidate: 1 of 1 Period: 0.567 d



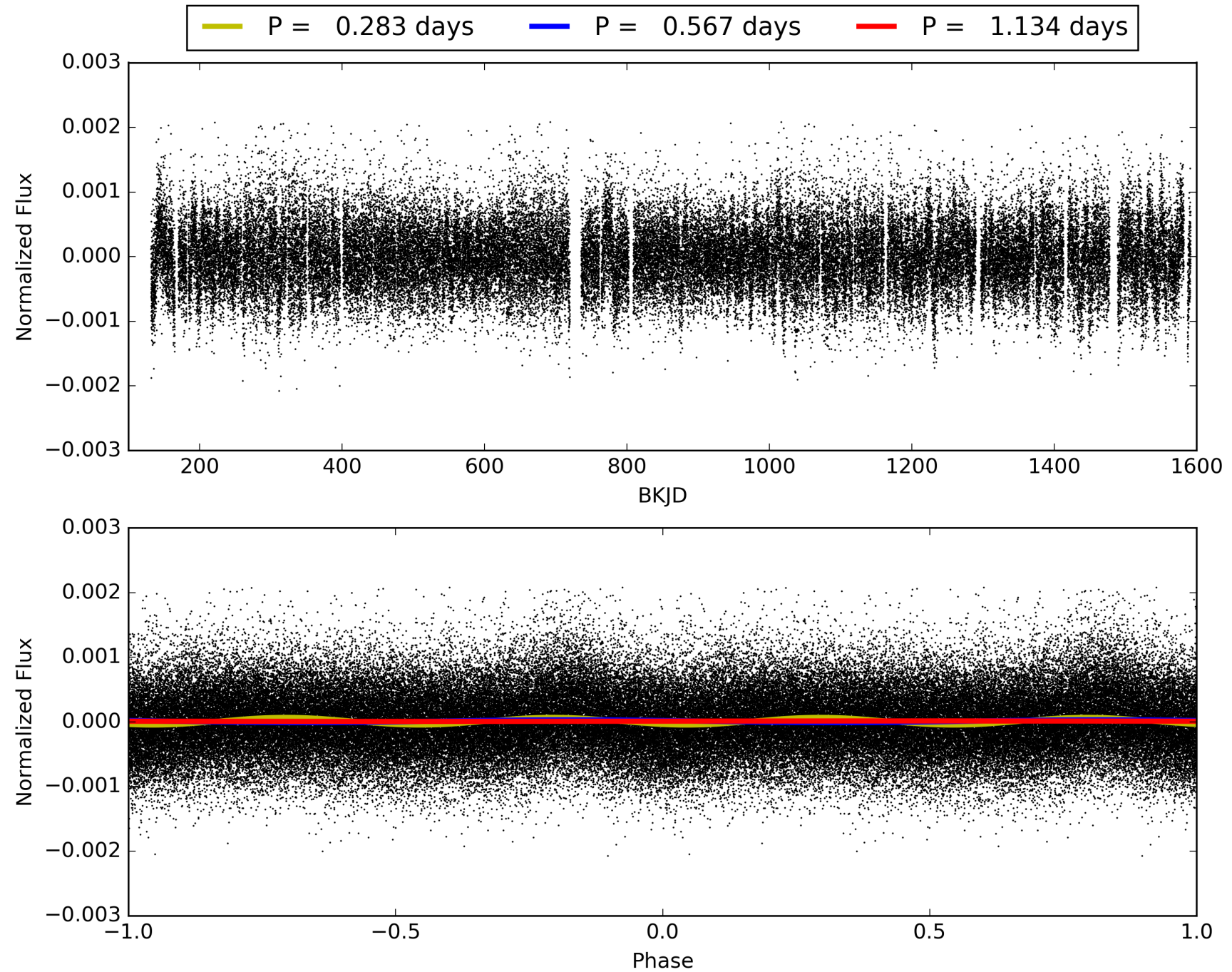
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 10:45:51 Z

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

TCE 007116719-01, PDC Light Curves

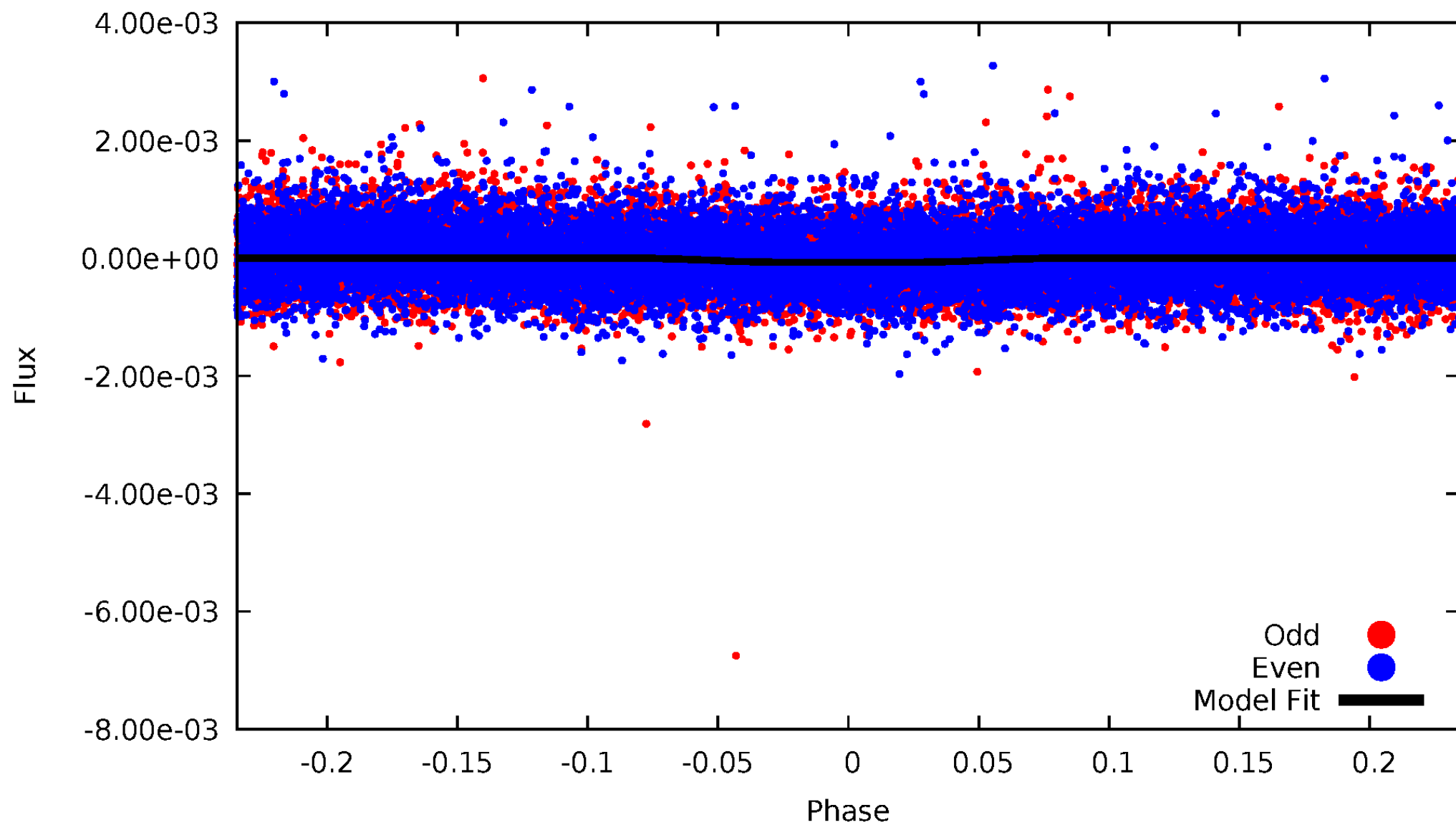


TCE 007116719-01



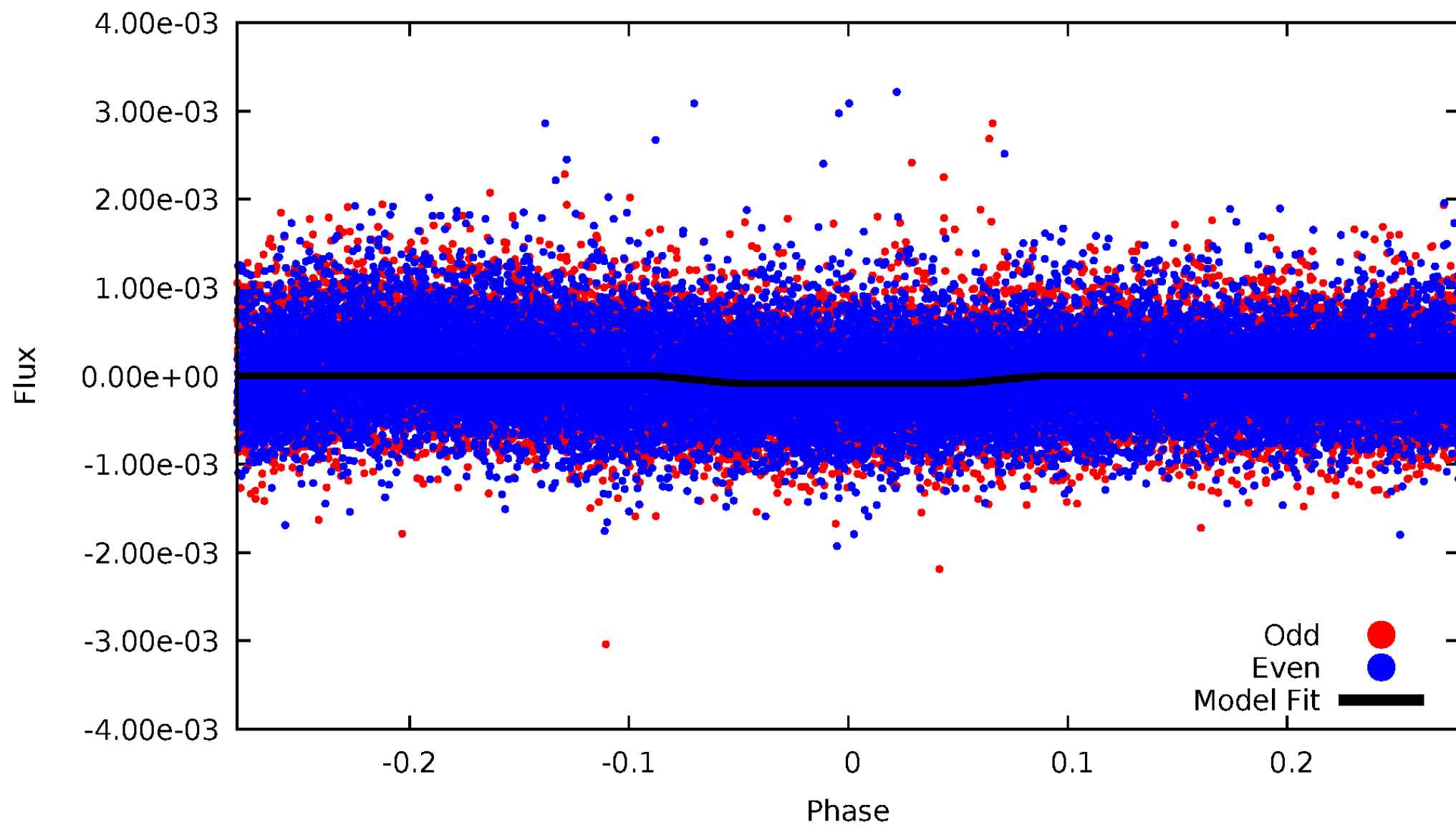
DV Odd/Even

TCE 007116719-01



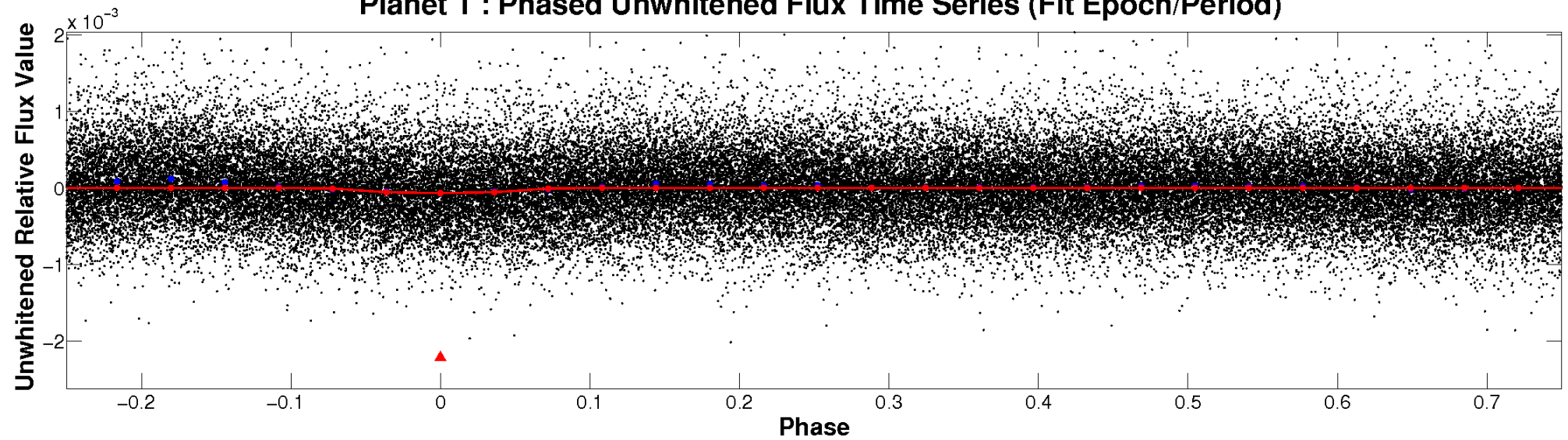
ALT Odd/Even

TCE 007116719-01

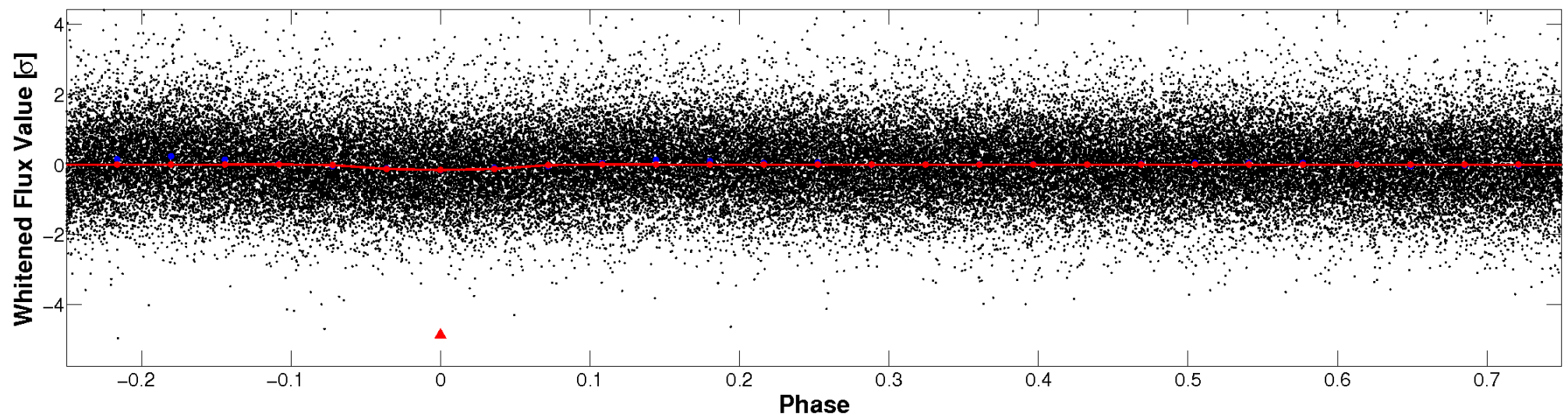


Non-Whitened Vs. Whitened Light Curve

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

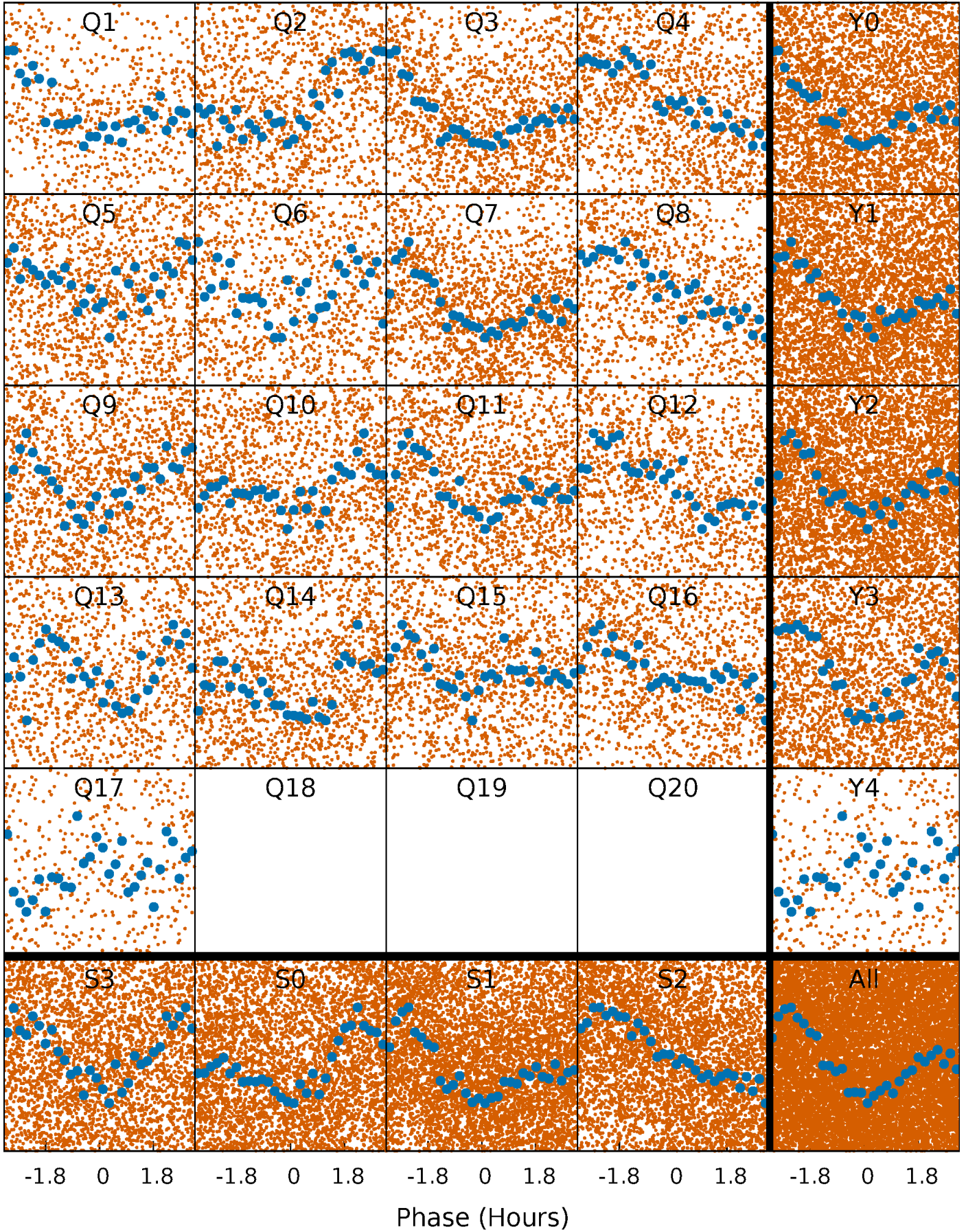


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



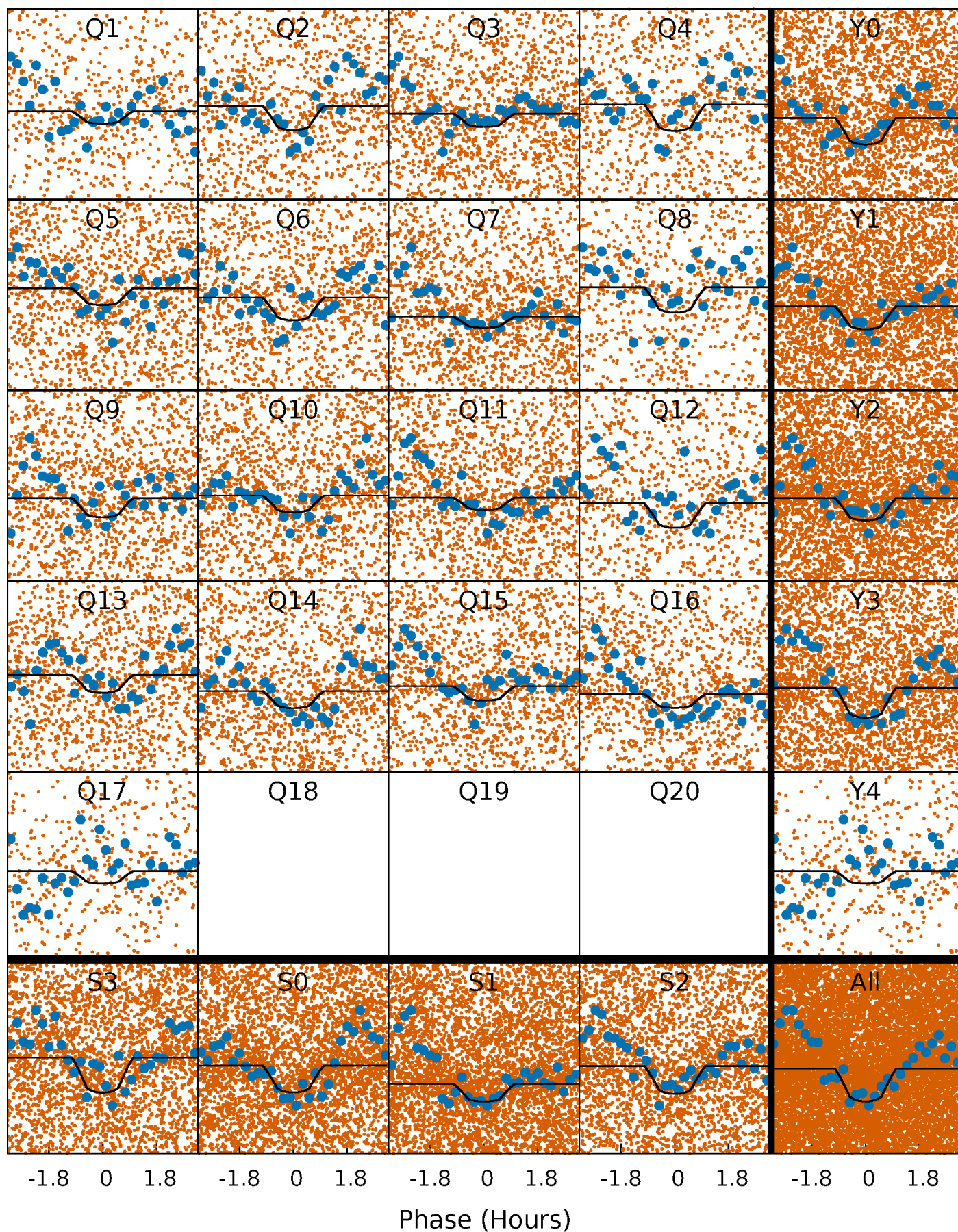
PDC Quarter-Phased Transit Curves

TCE 007116719-01 P= 0.566787 Days $T_0=131.918030$ (BKJD)



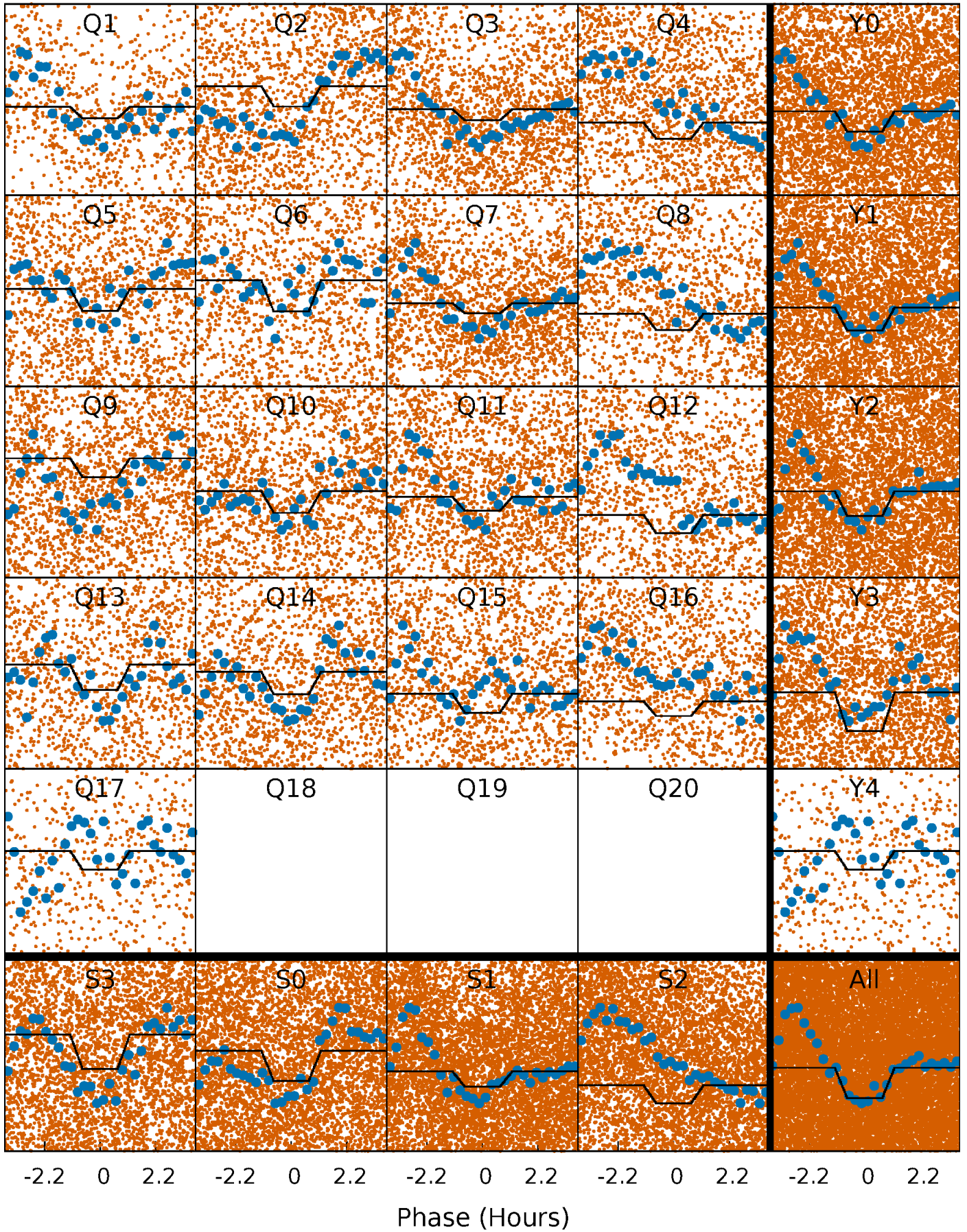
DV Quarter-Phased Transit Curves

TCE 007116719-01 P= 0.566787 Days $T_0=131.918030$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

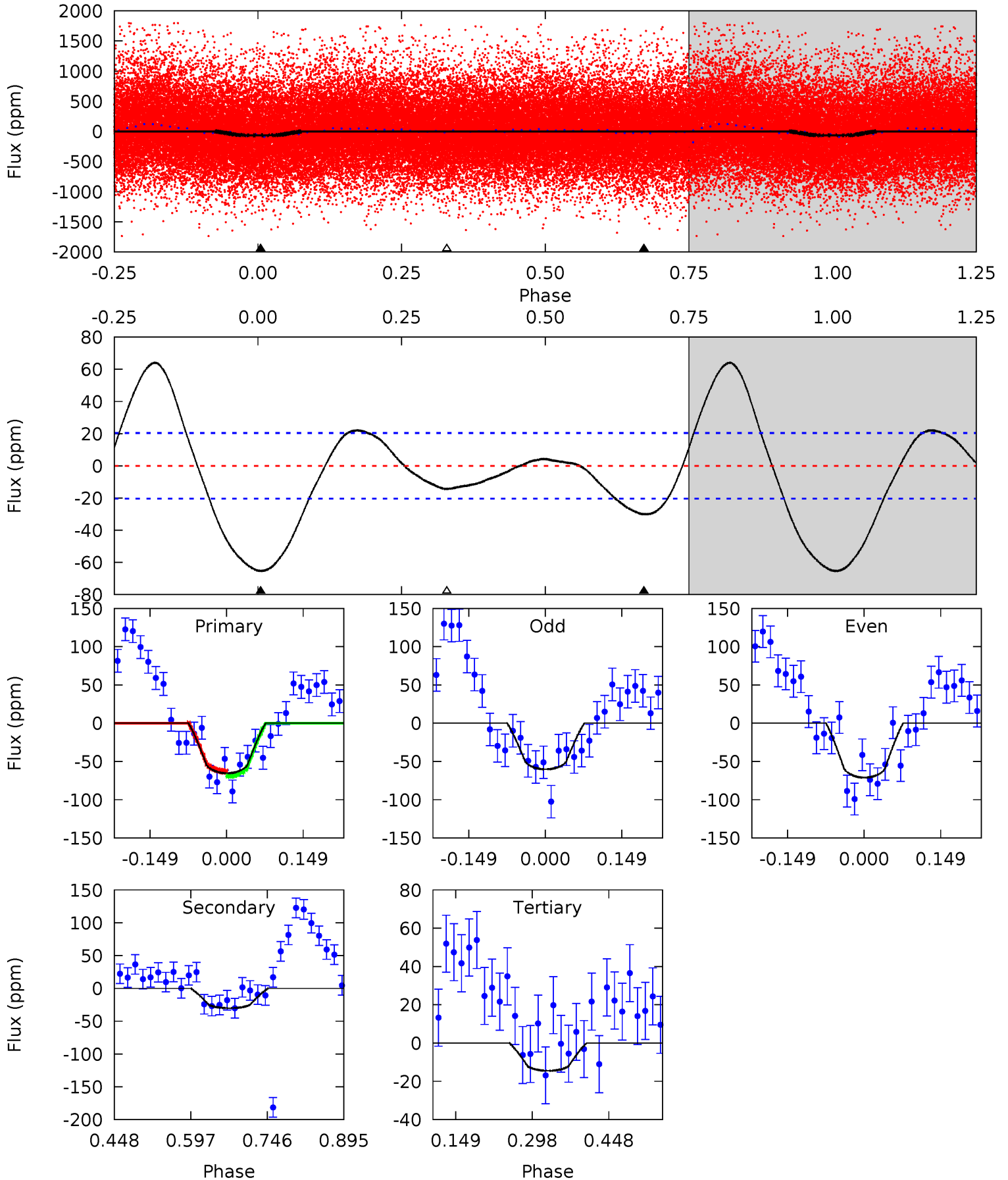
TCE 007116719-01 P= 0.566795 Days $T_0=131.919856$ (BKJD)



DV Model-Shift Uniqueness Test

007116719-01, P = 0.566787 Days, E = 131.351243 Days

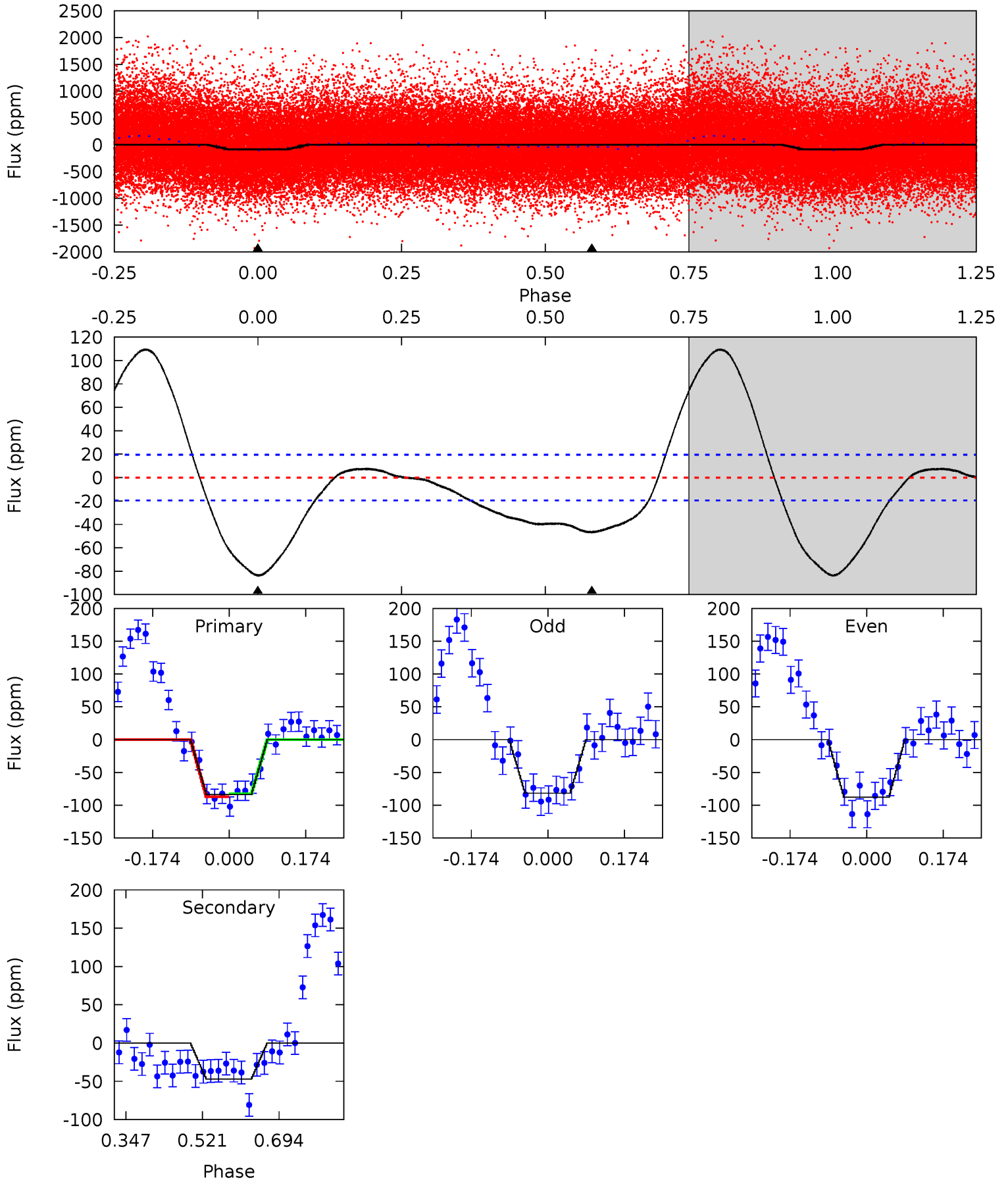
| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|------|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 14.4 | 6.62 | 3.18 | 0 | 4.48 | 1.44 | 4.24 | 11.2 | 14.4 | 3.45 | 6.62 | 1.20 | 0.88 | 0.50 | 0.59 |



Alt Model-Shift Uniqueness Test

007116719-01, P = 0.566795 Days, E = 131.353061 Days

| Pri | Sec | Ter | Pos | FA ₁ | FA ₂ | F _{Red} | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|------|------|-----|-----|-----------------|-----------------|------------------|---------|---------|---------|---------|---------|------|-------|------|
| 19.1 | 10.7 | 0 | 0 | 4.45 | 1.36 | 10.6 | 19.1 | 19.1 | 10.7 | 10.7 | 0.69 | 0.87 | 0.57 | 0.50 |



Stellar Parameters For KIC 007116719

| | $T_{\text{eff}}(K)$ | $\log(g)$ | [Fe/H] | $R (R_{\odot})$ | $M(M_{\odot})$ | $p_{\star} (\text{g}\cdot\text{cm}^{-3})$ |
|--------|----------------------|---------------------------|----------------------------|---------------------------|---------------------------|---|
| | 5664^{+152}_{-169} | $4.593^{+0.036}_{-0.135}$ | $-0.420^{+0.300}_{-0.300}$ | $0.766^{+0.158}_{-0.056}$ | $0.842^{+0.089}_{-0.089}$ | $2.638^{+0.477}_{-1.034}$ |
| | +3%/-3% | +1%/-3% | +71%/-71% | +21%/-7% | +11%/-11% | +18%/-39% |
| 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 007116719-01 / KOI

| Detrend | Depth (ppm) | $R_p (R_{\oplus})$ | $T_{\text{max}} (K)$ | $T_{\text{obs}} (K)$ | A_{obs} |
|---------|-------------|------------------------|----------------------|-----------------------|----------------------------|
| DV | -30 ± 5 | $0.73^{+0.32}_{-0.32}$ | 2760^{+139}_{-109} | 4632^{+1304}_{-654} | $4.844^{+10.014}_{-2.526}$ |
| Alt. | -47 ± 4 | $0.81^{+0.33}_{-0.32}$ | 2757^{+131}_{-104} | 4867^{+1282}_{-625} | $6.237^{+11.201}_{-3.028}$ |

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

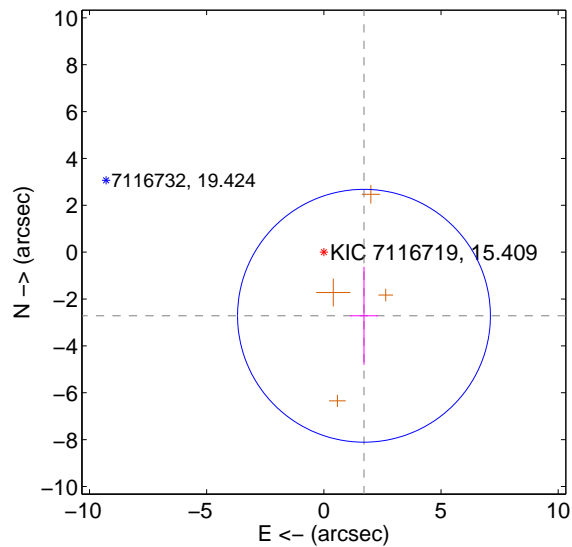
Supplemental centroid analysis for 007116719-01. Kepler magnitude: 15.41. Transit SNR 11.28

There are 0 quarters with good PRF difference image offsets

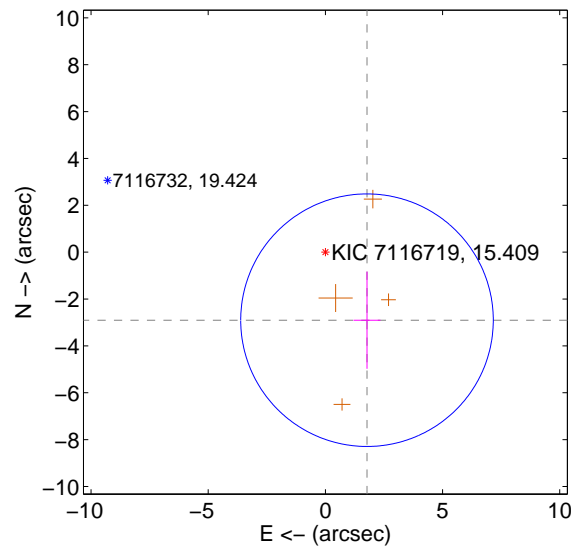
The direct PRF centroid is offset from the target star catalog position by about 0.21 arcsec

| | Distance in arcsec | Distance / σ | Δ RA | Δ Dec |
|---|--------------------|---------------------|--------------------|--------------------|
| PRF-fit source offset from OOT | 3.210 ± 1.798 | 1.78 | -1.713 ± 0.594 | -2.714 ± 2.093 |
| PRF-fit source offset from KIC position | 3.403 ± 1.797 | 1.89 | -1.776 ± 0.576 | -2.903 ± 2.076 |
| photometric centroid source offset | 2.66 ± 1.33 | 2.00 | -0.22 ± 1.48 | 2.65 ± 1.33 |

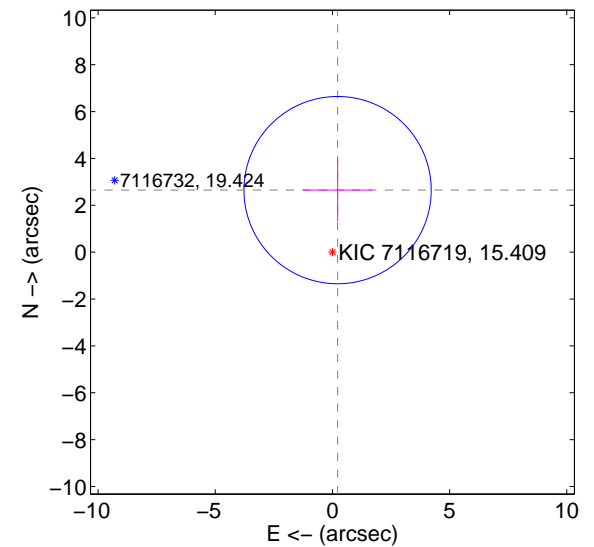
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

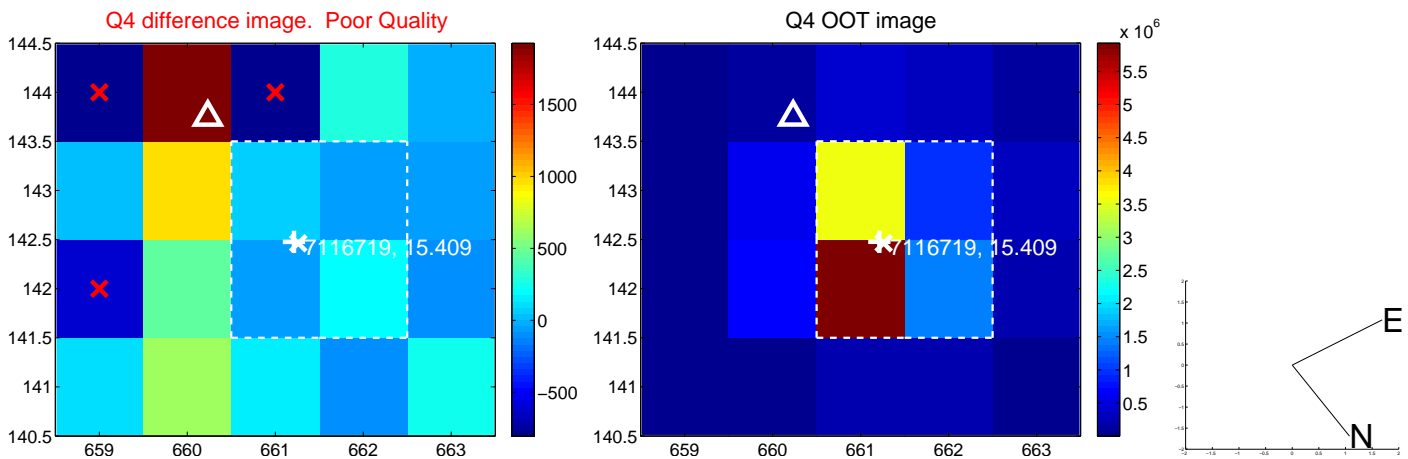
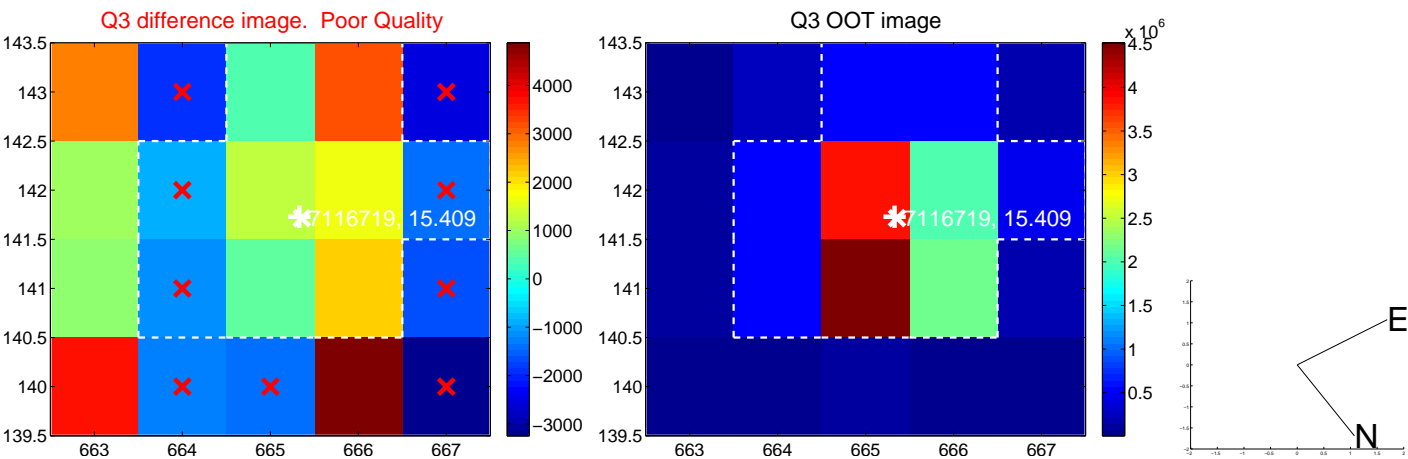
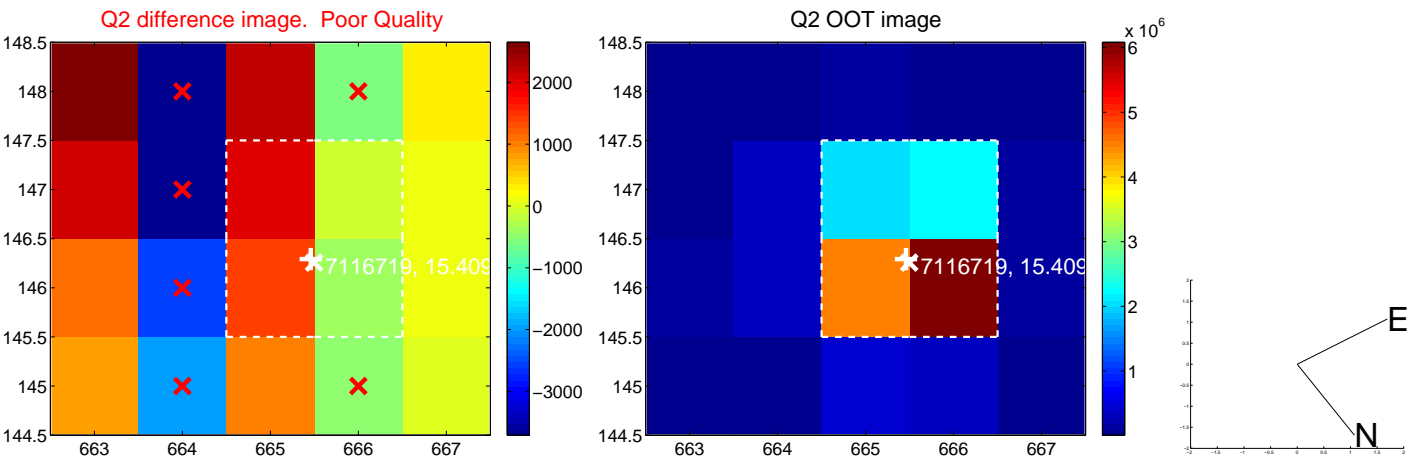
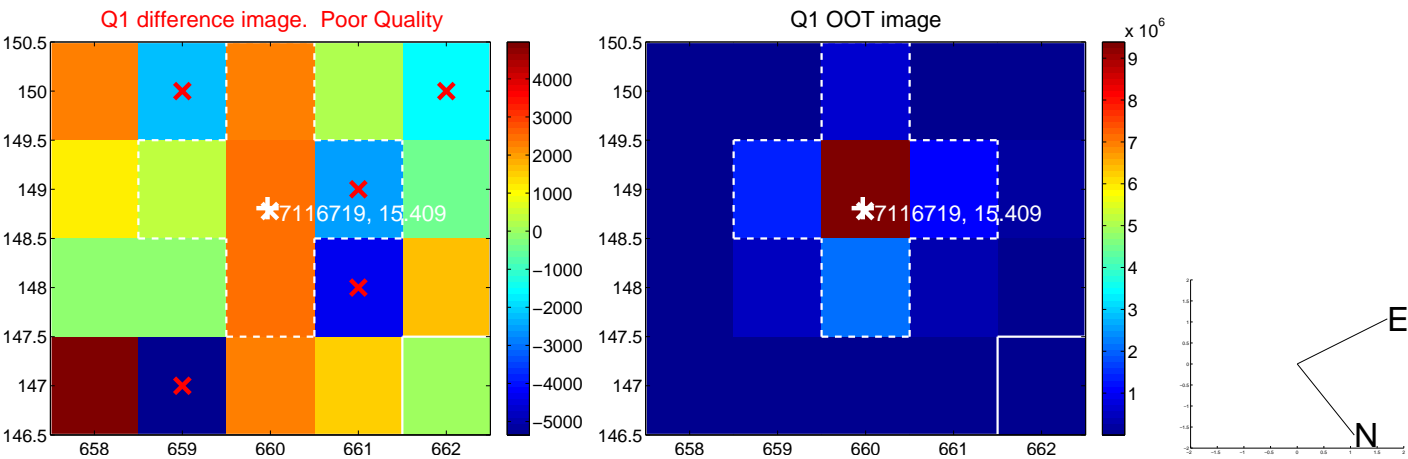


offset from photometric centroids

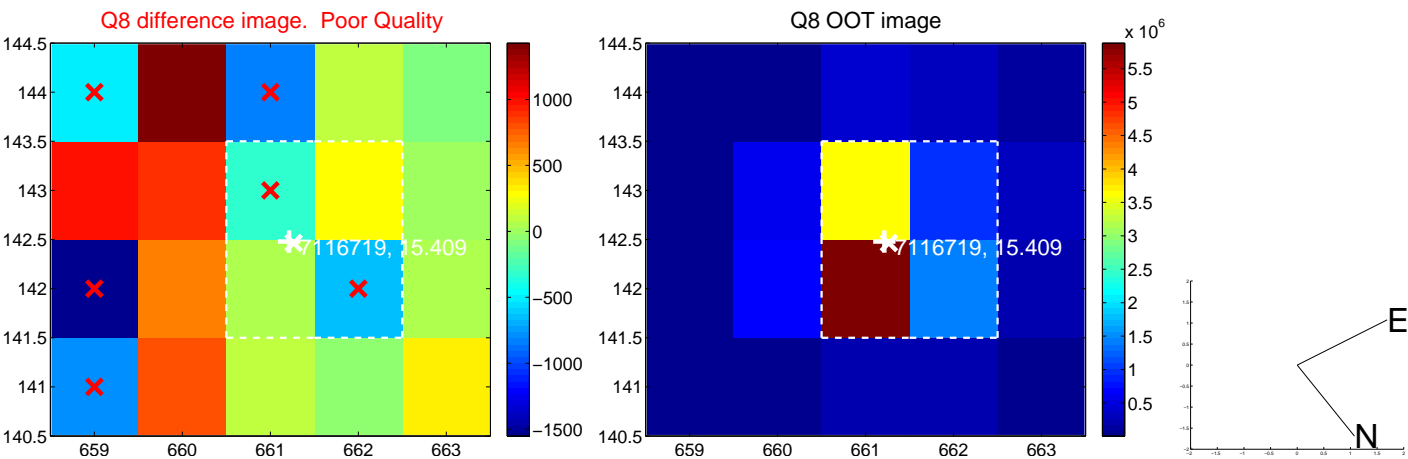
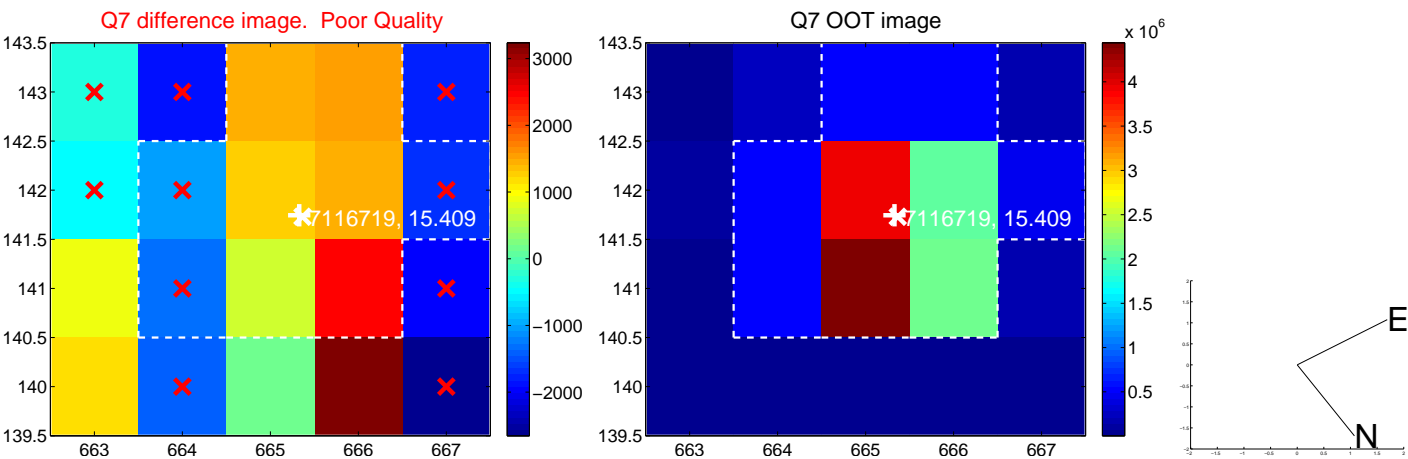
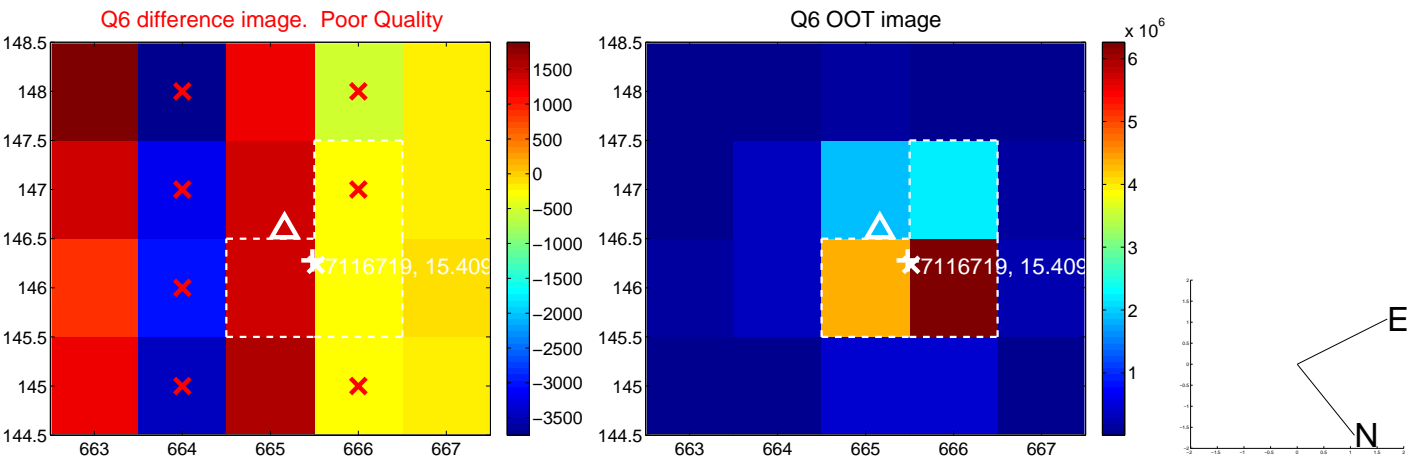
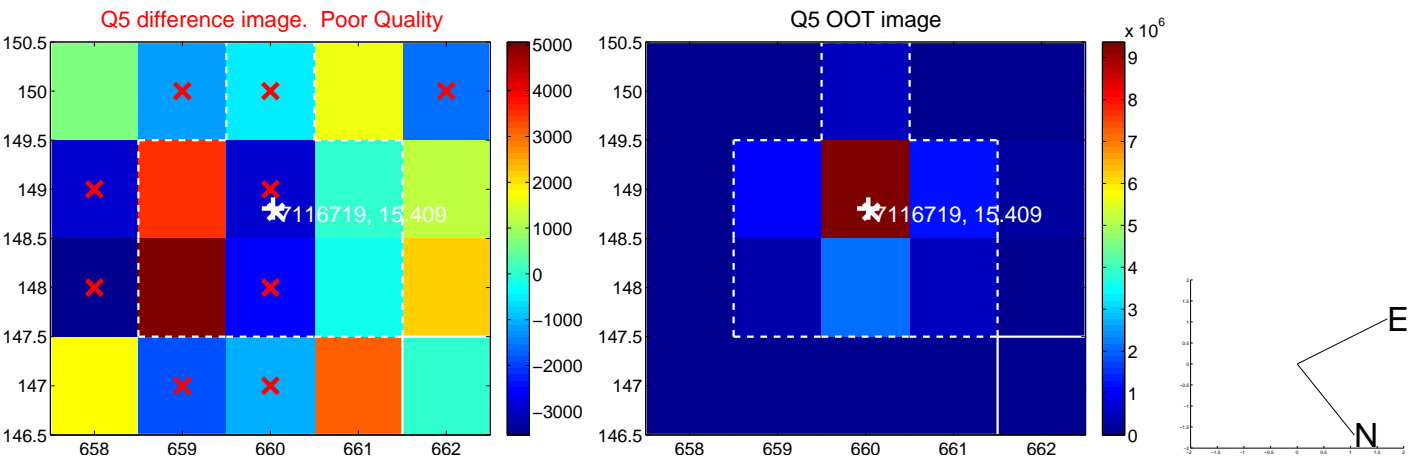


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ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

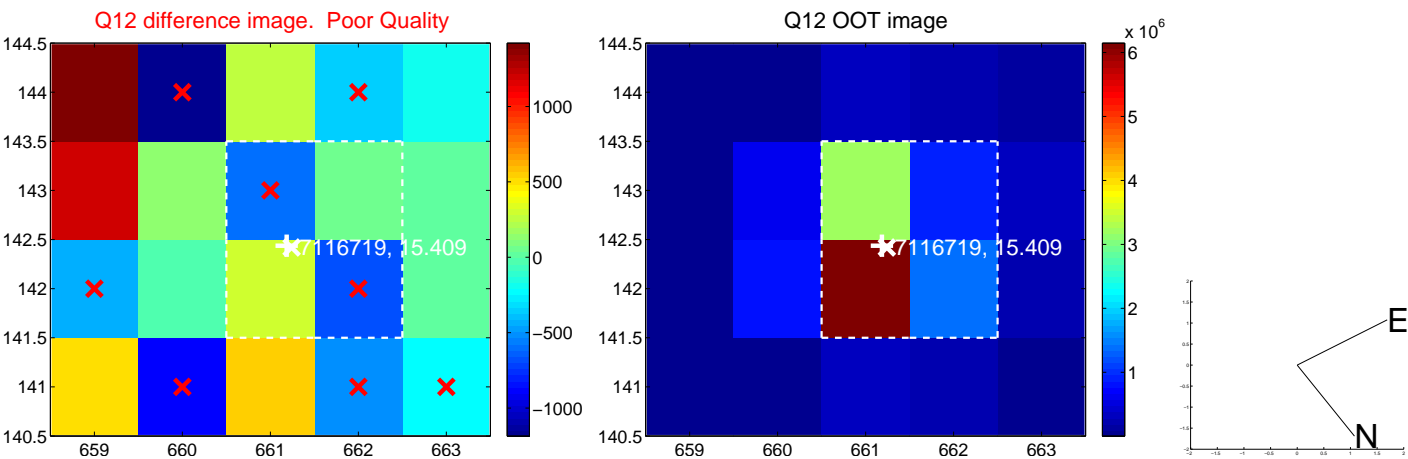
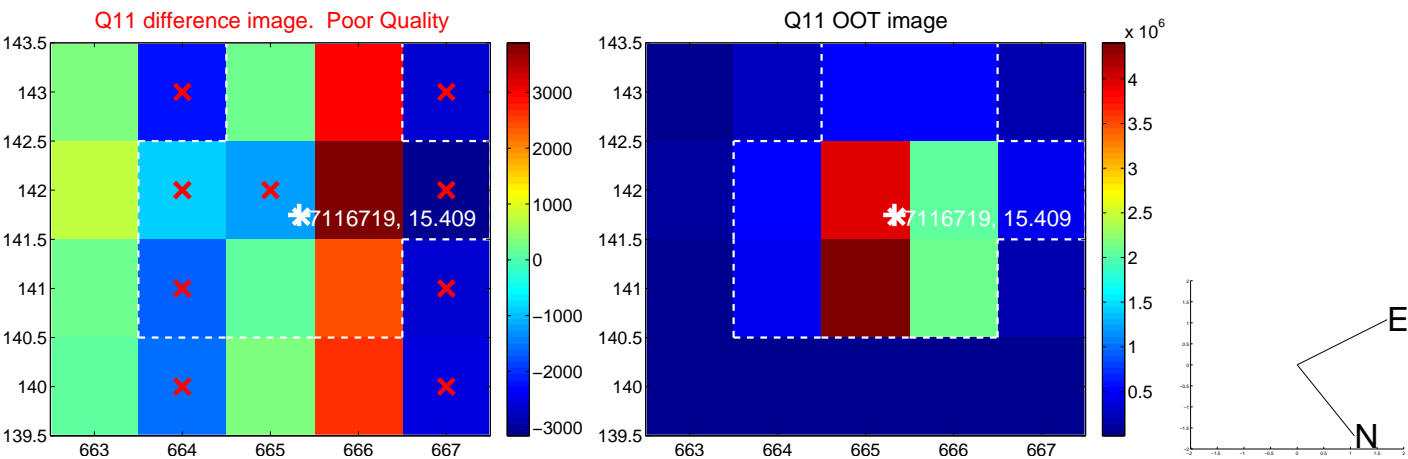
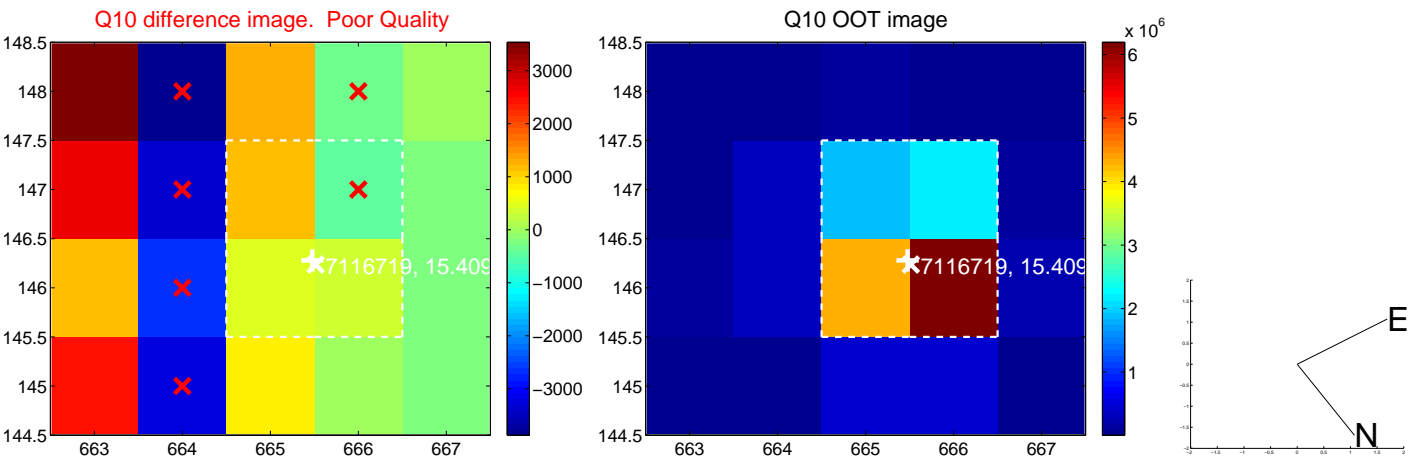
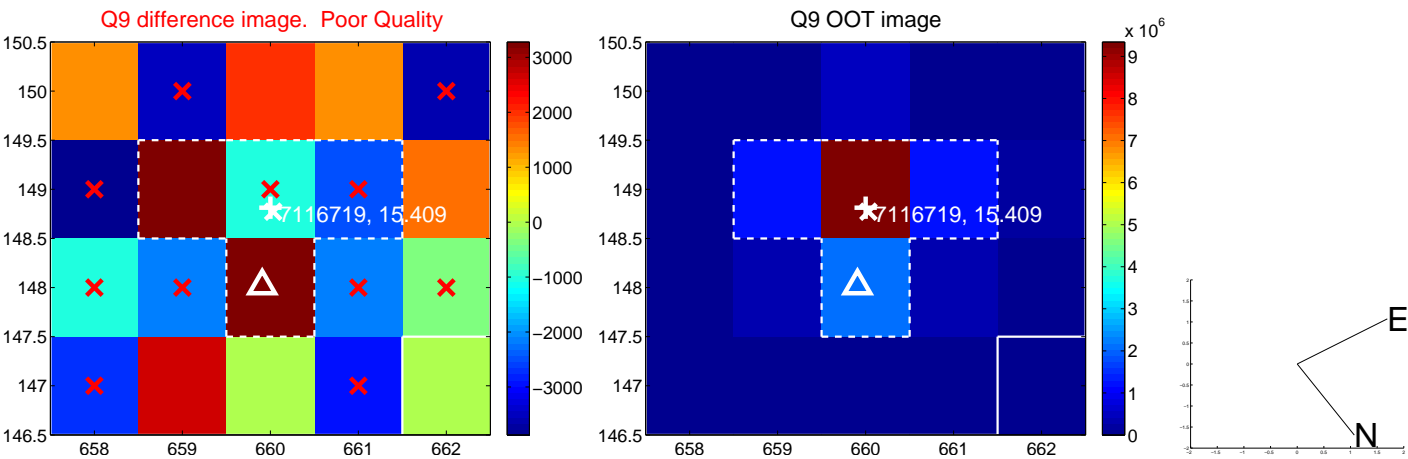
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



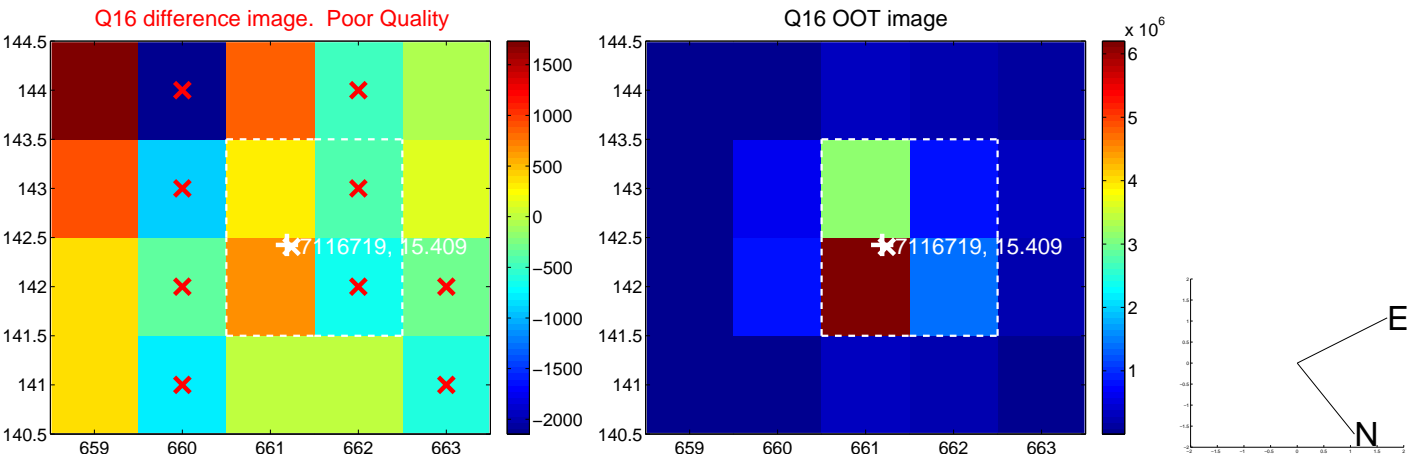
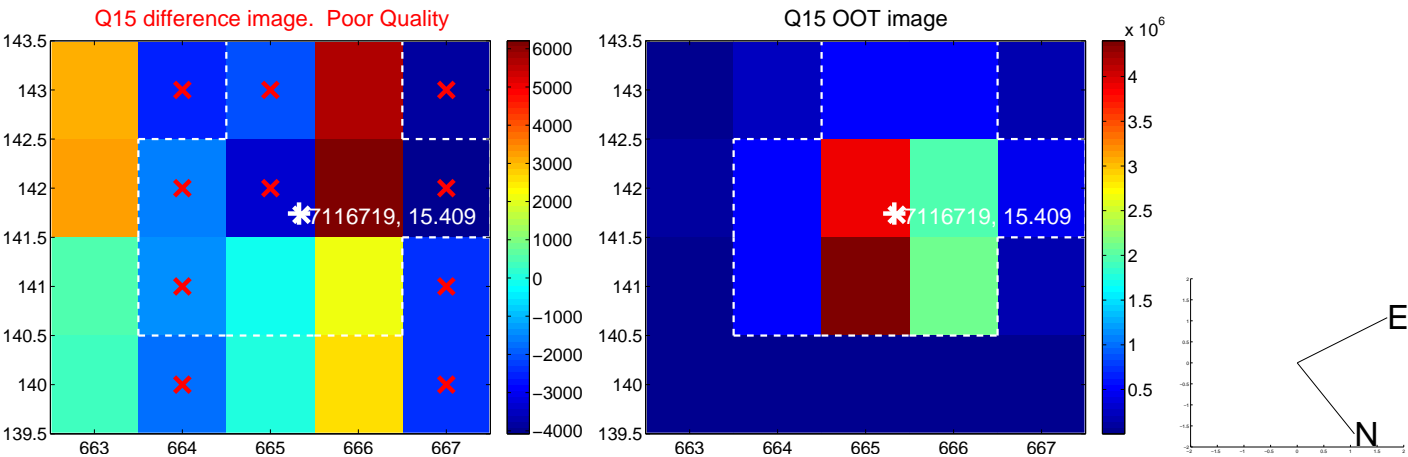
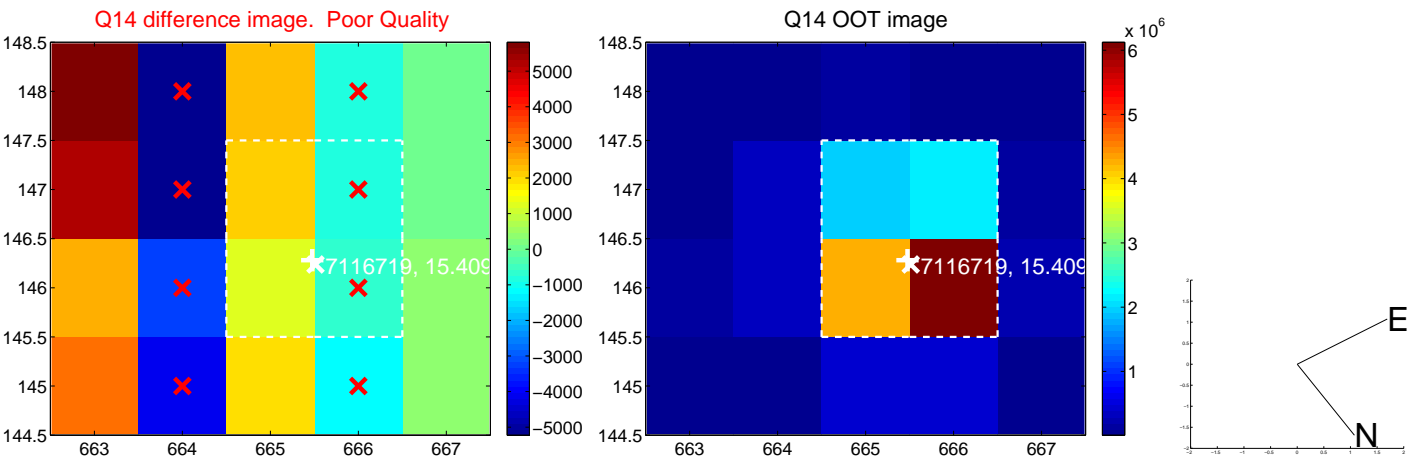
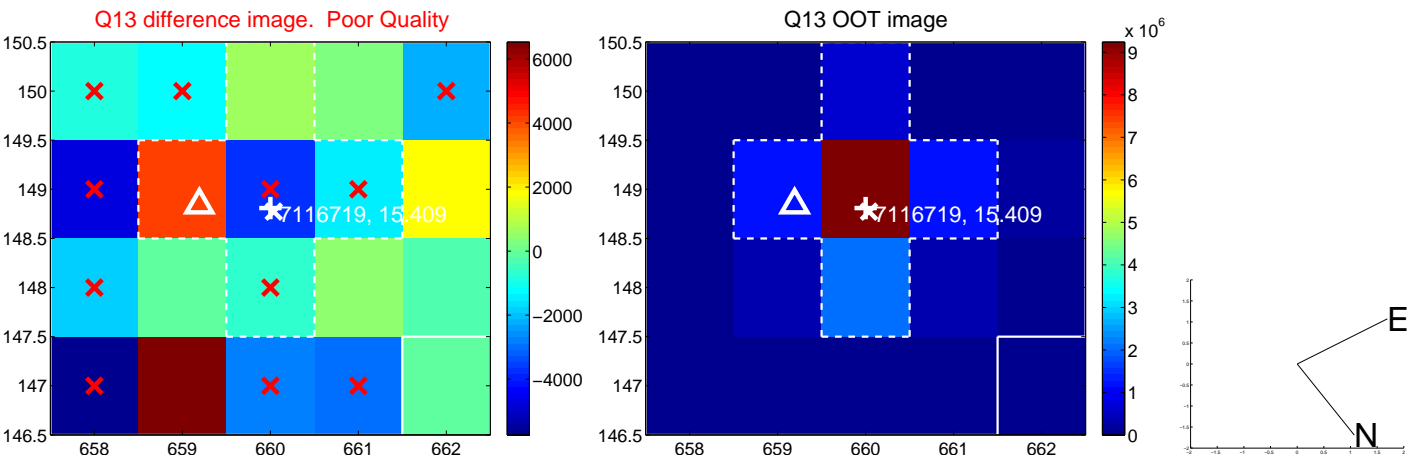
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



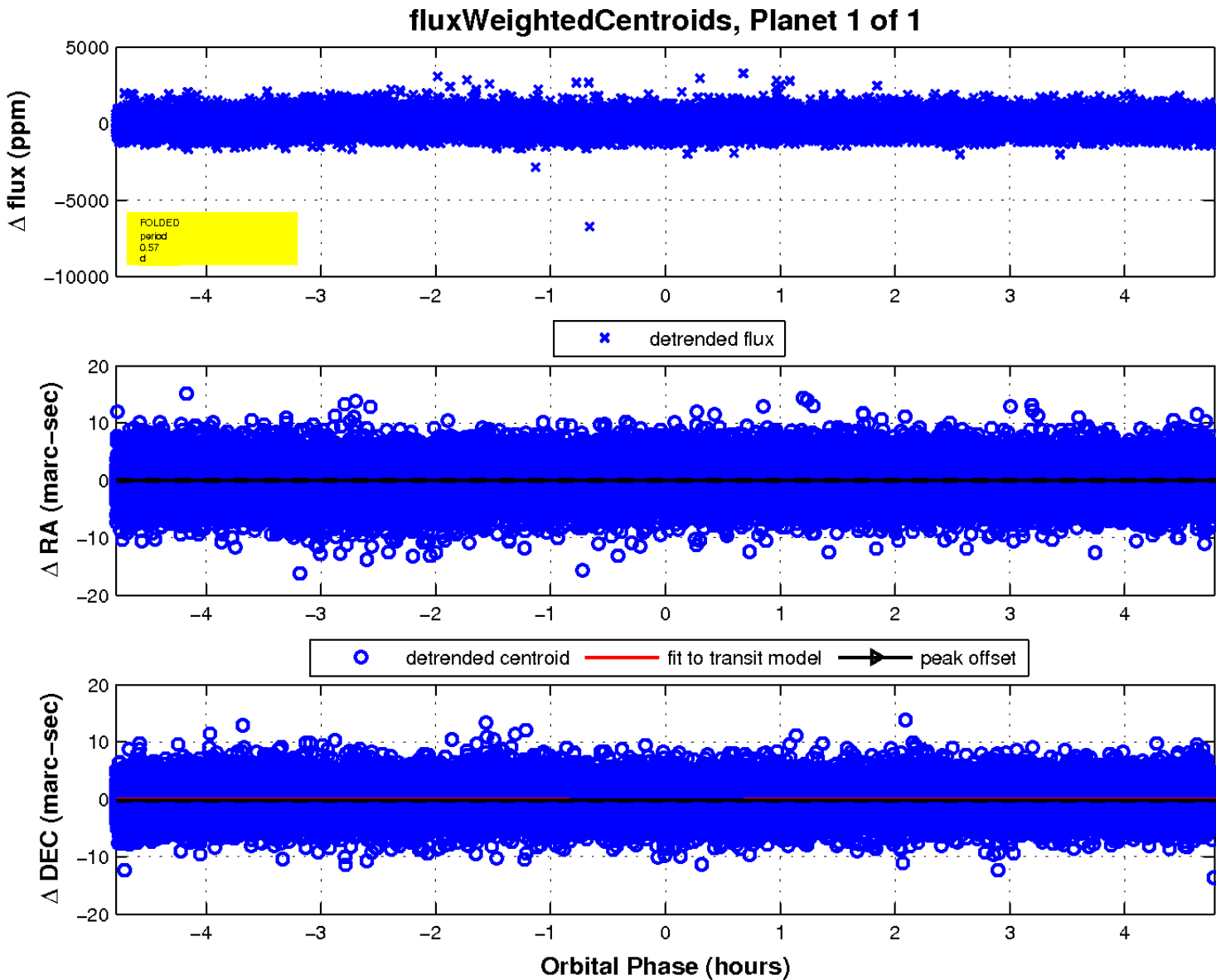
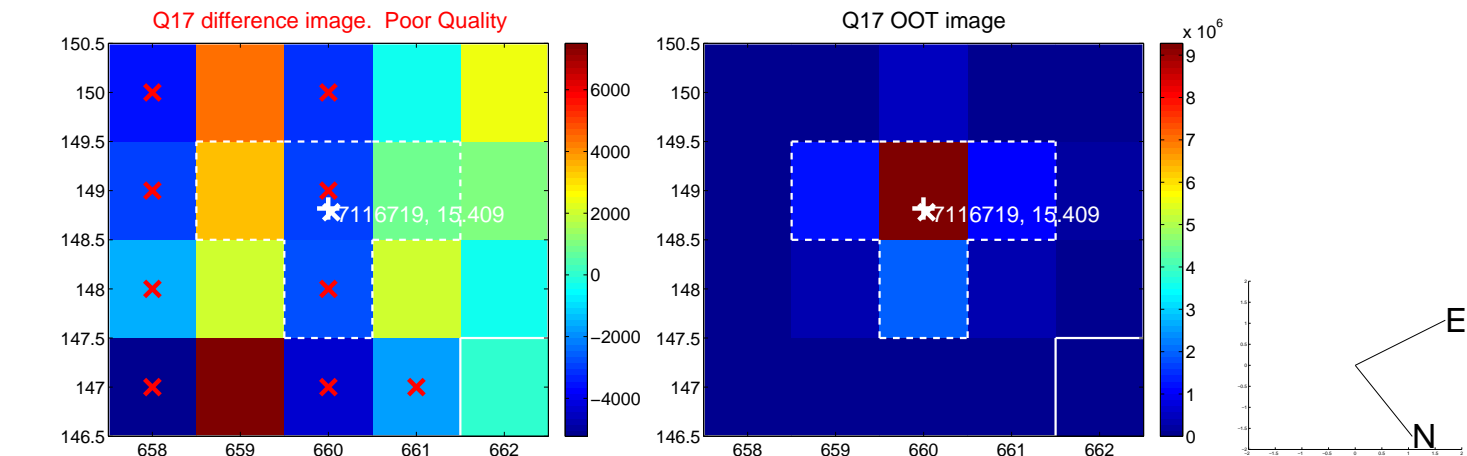
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



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



UKIRT Image

Declination

