EXPLANATION TO THE FIGURES
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1. A plot of some 84000 residuals of standard five-parameter fits to the IDT photon counts of 19 bright transits ($H_p = 2.07 - 3.09$). No binning is used, no correction for MSI, the first sample after IPOV re-pointing is suppressed and the standard ITF curve for IDT2 is used for decompression. The residuals (decompressed counts minus fitted counts) are divided by the square root of the fitted counts, so that they should have zero mean and unit variance if Poisson statistics is the only noise source. The discretisation errors due to the semi-logarithmic coding cause the points to be arranged along the slanted lines.

2. The same data as in Figure 1 but binned according to the fitted intensity. The upper diagram shows the mean value in each bin, the lower diagram the variance in each bin. For Poissonian noise the mean values should be zero and the variances equal to one. Clearly there is some systematic discrepancy depending on the intensity as well as an increase in the noise (above the photon noise) with intensity.

3. A plot of 2475 IDT samples from the observation of HIC 65378 ($H_p = 2.07$) in frame 11521819. The dots show the individual samples while the curve is the maximum likelihood fit of a standard five-parameter lightcurve. The main parameters are $M_1 = 0.7274$, $M_2 = 0.2641$ (assuming a background level of 25 Hz) and $p_2 - p_1 = +19.9$ mas.

4. Residuals of the fit in Figure 3 (five-parameter model) divided by the square root of the fitted intensity.

5. Same data as in Figure 4 but binned according to the reference phase (20 bins) and plotted as averages (upper) and standard deviations (lower diagram). If the fit is good one would expect the averages to be close to zero and the standard deviations close to unity. The upper diagram shows clear indications of a third harmonic.

6. Same as Figure 3 but the curve is a ML fit of a seven-parameter light curve, i.e., including the third harmonic. The main parameters are $M_1 = 0.7292$, $M_2 = 0.2683$, $M_3 = 0.0124$, $p_2 - p_1 = +20.4$ mas and $p_3 - p_1 = +35.8$ mas.

7. Residuals of the fit in Figure 6 (seven-parameter model) divided by the square root of the fitted intensity.

8. Same data as in Figure 7 but binned according to the reference phase. In the upper diagram there is no evidence of further distortion of the light curve. The variations of the standard deviation in the lower diagram mainly reflect the intensity variations.

9. A diagram similar to Figure 2 but using the residuals from seven-parameter fits to all 19 transits. Note that the systematic discrepancies in the upper diagram has almost disappeared — apparently they were mostly due to the presence of the third harmonic at about 1% amplitude level. The points in the lower diagram are well represented by the linear relation:

$$\langle (N_{\text{decoded}} - I_{\text{fit}})^2 / I_{\text{fit}} \rangle = 1 + 0.000324 I_{\text{fit}}$$
$\langle (N_{\text{dec}} - I_{\text{fit}})^2 / (I_{\text{fit}})^{0.5} \rangle$

$I_{\text{fit}}$ [counts/sample]

$\langle (N_{\text{dec}} - I_{\text{fit}})^2 / (I_{\text{fit}}) \rangle$

$I_{\text{fit}}$ [counts/sample]

FIG. 2.
Fig. 5.
Fig. 6.
Figure 8.
\[ \langle \frac{(N_{\text{dec}} - I_{\text{fit}})}{(I_{\text{fit}})^{0.5}} \rangle \]

\[ \langle \frac{(N_{\text{dec}} - I_{\text{fit}})^2}{(I_{\text{fit}})} \rangle \]

\[ I_{\text{fit}} \text{ [counts/sample]} \]

\[ \langle \text{counts/sample} \rangle \]

**Figure 9**