Why Misfit When You Already Have X2?.

A modification of X2, called Misfit, is suggested; it provides a comparative goodness-of-fit criterion. The numerical value of Misfit gives the fraction of the experimental Signal that remains "unfitted. " After this quantity is defined and the motivation for introducing it is explained, some examples of its use are given.

$$mf = \left| \sum_{i}^{N} \left[\left(\frac{C_i - T_i}{\sqrt{C_i}} \right)^2 - 1 \right] \middle/ \sum_{i}^{N} \left[\left(\frac{B - C_i}{\sqrt{C_i}} \right)^2 - 1 \right] \right|$$

T_i and C_i are theory values and counts at channel i, respectively. B is the fitted baseline.