

Errata

The following corrections are made in “Deep-Space Optical Communications Downlink Budget: Modulation and Coding,” by B. Moision and J. Hamkins, which appeared in *The Interplanetary Network Progress Report 42-154, April–June 2003*, published on August 15, 2003:

On p. 15, the formula for the symbol-error rate was incorrectly presented. The correct formula is

$$\text{SER}(M, n_s, n_b) = 1 - \frac{1}{M} e^{-(n_s + Mn_b)} - \sum_{j=1}^{\infty} \frac{(n_s + n_b)^j}{j!} e^{-(n_s + n_b)} \left[\sum_{m=0}^{j-1} \frac{n_b^m}{m!} e^{-n_b} \right]^{M-1} \frac{1}{aM} [(1+a)^M - 1]$$

The simplification of the formula, also on p. 15, was presented correctly. On p. 8, the formulas for the capacity and mass function were incorrectly presented. The correct formulas are

$$C_{\text{OOK}}(M, n_s, n_b) = \frac{1}{M} E_{Y|1} \log \frac{f_{Y|X}(Y|1)}{f_Y(Y)} + \frac{M-1}{M} E_{Y|0} \log \frac{f_{Y|X}(Y|0)}{f_Y(Y)}$$

$$f_Y(y) = \frac{1}{M} f_{Y|X}(y|1) + \frac{M-1}{M} f_{Y|X}(y|0)$$