Correspondence

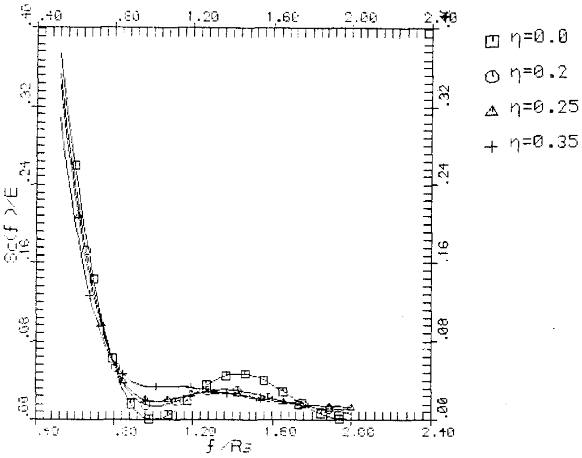

Fig. 2. Normalized power-spectral density for various values of data asymmetry.

Comments on "The Impact of NRZ Data Asymmetry on the Performance of a Space Telemetry System"

S. V. K. Shastry, C. S. Nagaraj, and P. K. Mukherjee

The continuous power density spectrum (PDS) $S_c^o(f)$ given by the terms indicated in (30) and depicted in Fig. 2 of the above paper[1] appears to be in error. The continuous component of the spectrum computed directly from (1) of the above paper[1] is shown here in the revised Fig. 2. This spectrum differs substantially from that shown in Fig. 2 of the paper,[1] especially, in the vicinity of the first null, i.e., around $f/R_s = 1.0$. For $\eta = 0$, the normalized continuous spectrum exhibits a null at $f/R_s = 1.0$ as expected. For $\eta > 0$, however, the spectrum shown here in Fig. 2 exhibits "null filling" whose level at $f/R_s = 0$ appears to increase with an increase in the value of η. Experimental simulation confirms this observation. However this is not the case with Fig. 2 of the paper[1] in the sense that the level of "null filling" is lower for $\eta = 35\%$ than for $\eta = 20\%$ and 25%. However, replacing $\sin^2(2\pi f T_s \eta)$ by $\sin^2(\pi f T_s \eta)$ and $\cos^2(2\pi f T_s \eta)$ by $\cos(2\pi f T_s \eta)$ in (30) of the paper[1] appears to yield the result shown here in the revised Fig. 2.

In view of the above, the factor "a_1" computed by (43) of the paper[1] (which takes $S_c^o(f)$ as given by (30) of the paper[1]) and the SNR degradation computed from (42) of the paper[1] are likely to be in error. These factors cast a shadow of doubt on the correctness of the values for telemetry bit SNR degradation, listed in Table I and plotted in Fig. 7 of the paper.[1] These results may have further repercussions on the conclusions drawn from the graphs shown in Figs. 8 and 9 of the paper.[1]

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[1] Nguyen, T. M., *IEEE Trans. Electromagn. Compat.*, vol. 33, no. 4, pp. 343–350, 1991.

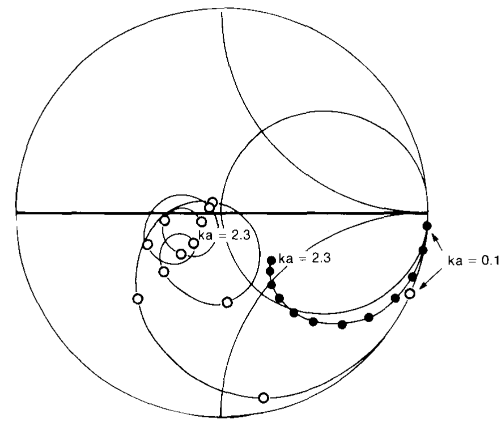

Fig. 4. Apparent input impedance comparison between a coaxial line terminated in a ground plane with a homogeneous upper half-space ($z > 0, \epsilon_r = 1.0$) (—•—•—) and with a dielectric coated conducting hemisphere (—o—o—), where $b/a = 1.57, c = 2b, \epsilon_s = 4.0$. Increments are $ka = 0.2$.

Correction to "Radiation from a Dielectric Coated Hemispherical Conductor Fed by a Coaxial Transmission Line"

R. D. Nevels and J. E. Wheeler

In the above paper[1] we discussed the properties of an open- ended coaxial line containing an extended hemispherical center conductor that was covered by a dielectric hemisphere. We inadvertently published the wrong data for the crucial apparent input admittance Fig. 4. The correct figure and title are shown above. The authors are indebted to Prof. Desen Fan at the University of Science and Technology of China, who pointed out our error and confirmed the results given here.

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[1] R. D. Nevels and J. E. Wheeler, *IEEE Trans. Electromagn. Compat.*, vol. 31, no. 1, pp. 16–20, Feb. 1989.