Corrigendum

JAMES R. SHEFF and ROBERT W. ALBRECHT, "The Space Dependence of Reactor Noise-II Calculations," *Nucl. Sci. Eng.*, **26**, 207 (1966).

Equation (23) contains three typographical errors: In the two summations over gh, it should be noted that $g \neq h$; B_j in the third line should be β_j.

Equation (C6) contains an error in fact: The first line should read

$$G_{gh} = \prod^{gh} \frac{-1}{g} \left[(-1)^g + (-1)^h \right] (-1)^{(g+h)/2} \ .$$

The effect of the correction is to change the sign of some of the terms within the sixfold product over the vector indices g and h. Of lesser importance, the sign of G_{gh} is changed which then causes a change in the sign of some of the terms involving G_{gh} in Eq. (23). However, G_g, which equals G_{gg}, remains unchanged thereby minimizing the effect of the error. The calculational results of Eq. (23), presented in Figs. 7 through 11, are also in error but, because of the above reason and of the high degree of symmetry in the cases presented, the effect of the error is small. Figures 8, 10, and 11 remain essentially unchanged with the exception of the bottom-most curve in Fig. 11 which now shows a very slight increase in the typical space-independent form near the break frequency. In the revised version of Figs. 7 and 9, reproduced here, a significant part of the change at high frequency results from

improvements in the computer program NOISY1 used for these calculations. With regard to convergence, discussed on page 216 of the paper, improvements in the NOISY1 convergence logic have allowed a tenfold increase in the effective number of terms which can be summed in a given amount of computer time. Data published in Ref. 1, which includes one curve each from Figs. 7 and 11, are correct as are all data published since that time.[2,3] The error in

Fig. 9. Effect of subcriticality upon the count-rate auto-spectral-density functions for a point detector located at the center of bare cubical homogeneous reactors of 3 sizes.
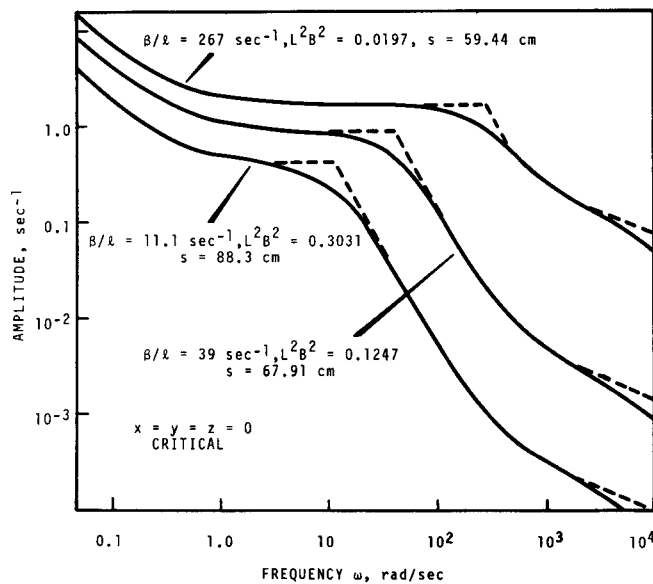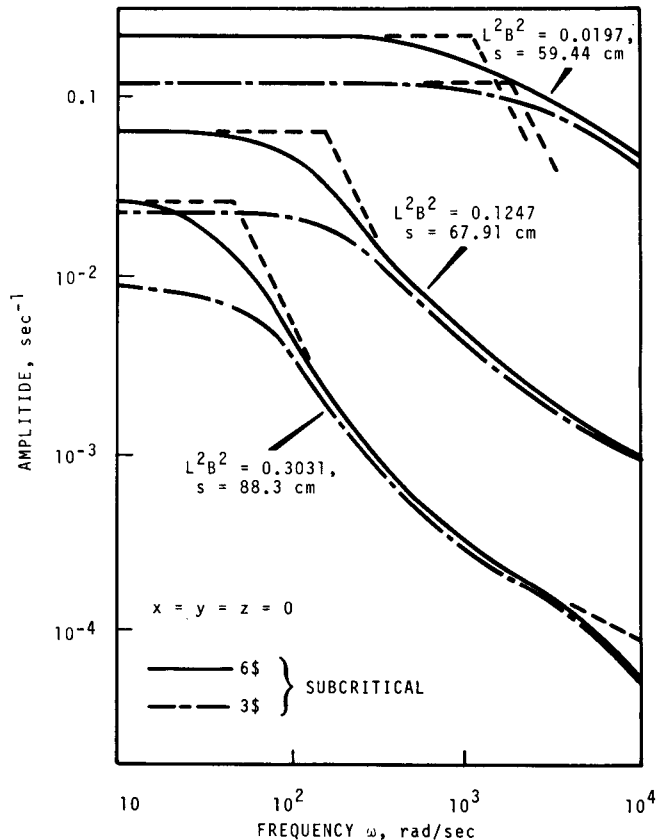

Fig. 7. Comparison of the count-rate auto-spectral-density functions for a point detector located at the center of critical bare homogeneous cubical reactors of 3 sizes.

[1]JAMES R. SHEFF, "Exact Treatment of Neutron Fluctuations in Reflected Systems," *Trans. Am. Nucl. Soc.*, **11**, 233 (1968).

[2]JAMES R. SHEFF, "NOISY1—A Program for Calculation of Space Dependent Auto and Cross Spectral Densities in Reactors," *The Effective Use of Computers in the Nuclear Industry*, CONF-690401 (1969).

[3]JAMES R. SHEFF, *User's Manual for NOISY1—A Program for Calculation of Space Dependent Spectral Densities in Cubical Reactors*, BNWL-1260, Battelle-Northwest, Richland, Washington (November 1969).

Eq. (C6) also occurred in the Appendix of Ref. 4, in Eq. (7.8) of Ref. 5, and in Eq. (A.9) of Ref. 6.

[4]JAMES R. SHEFF and ROBERT W. ALBRECHT, "Space Dependence of the Reactor-Noise Spectral Density Function," *Neutron Dynamics and Control*, AEC Symp. Ser. No. 7, CONF 650413 (1965).

[5]JAMES R. SHEFF, "The Cross Correlation of the Neutron Density Fluctuations at Two Points in a Nuclear Reactor," PhD Thesis, University of Washington (1965). (University Microfilms Inc., Abstract No. 65-8530).

[6]JAMES R. SHEFF, "Cross Spectral Density in a Bare Cube," *Neutron Noise, Waves and Pulse Propagation*, AEC Symp. Ser. No. 9, CONF. 660206 (1966).