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Reply by Authors to M.B. Callaham

C.T. Leondes* and I.A. Phillis†

University of California at Los Angeles,
Los Angeles, Calif.

WE thank M.B. Callaham for his interest in our work and his comment. He has correctly stated that our result is valid if the measurement noise is white. Indeed, our result is based on the previous assumption solely. It is not necessary to assume white noise always, but we wanted to examine this case. It is true that for colored noise we do not obtain white measurement residuals. However, colored noise is not our assumption. Furthermore, we have nowhere stated that whiteness is physical, as can be seen by a careful reading of our work.

It is well known[1] that a continuous process can be represented by a discrete process which is statistically the same at the sampling points. Therefore, the samples of the noise process in our work are uncorrelated and independent. Now, the argument of the bandpass filter was used to give an intuitive feeling of the sampling procedure. In Ref. 2 the same argument is used for band-limited white noise. The sampling points are exactly the ones that produce uncorrelated samples. No mention of aliasing is made there. In Ref. 3 it is stated that aliasing occurs because the sampled signals are not strictly band-limited. But here we considered an ideal bandpass filter since the whole argument was used for illustrative purposes only. Finally, the sampling rate is the Nyquist rate which ideally does not produce aliasing.

References

[1] Nahi, N.E., *Estimation Theory and Applications,* John Wiley and Sons, New York, 1969, p. 102.

[2] Whalen, A.D., *Detection of Signals in Noise,* Academic Press, New York, 1971, p. 158.

[3] Stremler, F.G., *Introduction to Communication Systems,* Addison-Wesley, Reading, Mass., 1977, p. 115.