LETTERS TO THE EDITOR

Temporal peak intensity

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Two methods for measurement of the maximum intensity I_m as defined by the National Council for Radiation Protection are compared. One uses a calibrated broadband hydrophone; the other uses a spherical radiometer. A suggestion is made for measurement of a spatial average, temporal maximum intensity to be used in the nearfield of a transducer.

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INTRODUCTION

Recent observations indicate that, for pulsed ultra-

where p_m is the maximum absolute value of the pressure in the pulse, ρ is the density of the medium, and c is the speed of sound in the medium. This relationship between pressure

The average intensity measured by a radiometer is

$$I_r = f_r \int p(t)^2/\rho c \, dt, \qquad (3)$$

the calibrated hydrophone determination of I_m. The pulse envelope, ignoring the calibration, was used to evaluate the integral in Eq. (4b). The hydrophone was replaced by a 0.25-