

Abstract Submitted
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Numerical analysis of sound propagation for acoustic lens array in different fluid mediums KEI FUJISAWA, AKIRA ASADA, University of Tokyo
— In this paper, an acoustic sound focusing method using acoustic lens array is investigated numerically. To understand the sound propagation in the acoustic field in water with a lens material of glycerin, compressible Navier-Stokes equation, the mass conservation, energy equation, state equation in cylindrical coordinate system are solved without applying parabolic approximation. The numerical method is based on the finite difference time domain method. The numerical calculation of the sound propagation is carried out in the near field of the acoustic lens array of variable thickness normal to the acoustic beam. The numerical result shows that the sound pressure level along the beam axis increases due to the influence of the acoustic lens array, which indicates the capability of the acoustic lens array to the sound focusing.

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