2pSPa6. A method for making acoustically bright intensity zone. Joung-Woo Choi and Yang-Hann Kim (Ctr. for Noise and Vib. Control, Dept. of Mech. Eng., KAIST, Science Town, Daejeon-shi 305-701, Korea, yanghannkim@kaist.ac.kr)

Acoustic variables on a selected zone can be manipulated by controlling input signals of the fixed sound sources. In the previous work [J.-W. Choi and Y.-H. Kim, J. Acoust. Soc. Am. 111, 1695 (2002)], acoustic potential energy was controlled to make a bright and dark sound zone in space. Extending this work, this paper addresses a method to manipulate acoustic intensity in the zone of interest. This inevitably has to do with a magnitude as well as direction control, simply because intensity is a vector quantity. To accomplish this objective, it is required to define the acoustic intensity that can represent acoustic intensity distribution in the selected zone. This has been attempted by defining mean intensity projected to the desired direction. This mean intensity is maximized provided that the input power is kept constant. [Work supported by NRL project of KISTEP and the BK21 project initiated by the Ministry of Education and Human Resources Development of Korea.]