Identification of moving wave sources from boundary measurements

Takashi Ohe
Okayama University of Science
e-mail:ohe@xmath.ous.ac.jp

Identification problem of wave sources can be mathematically formulated as an inverse source problem for wave equation, and have many important applications in various fields. To guarantee the uniqueness of the identification results, various models of sources are considered. In such kinds of models, point source model and dipole source model are considered as simple but useful models [1, 2, 3, 4, 5]. Here, we concentrate our attention to an algebraic identification method of these two types of models.

In the previous workshop in 2015, we consider the case where several unknown dipoles moves slowly in some region, and propose a identification procedure the parameters of dipole [6]. Here, the word ‘slowly’ means that moving speed of dipoles are smaller than 10% of the wave propagation speed. In this talk, we extend the restriction of the results in [6] to where the moving speed of dipoles are smaller than the wave propagation speed, and propose a new procedure to identify moving point and dipole sources.

References


