

Fast direction of arrival algorithm based on vector-sensor arrays using wideband sources^(PDF)

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Title: Fast direction of arrival algorithm based on vector-sensor arrays using wideband sources

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摘要: An acoustic vector sensor (AVS) can capture more information than a conventional acoustic pressure sensor (APS). As a result, more output channels are required when multiple AVS are formed into arrays, making processing the data stream computationally intense. This paper proposes a new algorithm based on the propagator method for wideband coherent sources that eliminates eigen-decomposition in order to reduce the computational burden. Data from simulations and lake trials showed that the new algorithm is valid: it resolves coherent sources, breaks left/right ambiguity, and allows inter element spacing to exceed a half-wavelength.

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