

**Kedia, Vikas S.; Chandna, Bindu****A new algorithm for 2-D DOA estimation.** (English) Zbl 1004.94515  
Signal Process. 60, No. 3, 325-332 (1997).

Summary: We present a new algorithm to estimate the 2-D direction of arrival of narrowband sources lying in the far field of the array. The array consists of matched co-directional triplets and can be considered as an extension of the 1-D ESPRIT scenario to 2-D. The proposed approach is simple and direct and does not require a search procedure or initialization. Existing algorithms require a search to match the correct elevation and azimuth angles and are computationally more expensive. This technique automatically pairs the azimuth and elevation angles by marking them. The computational complexity is twice that of 1-D ESPRIT. Simulation results and comparisons with other existing algorithms are presented to demonstrate the performance of the proposed technique.

**MSC:**

- [94A12](#) Signal theory (characterization, reconstruction, filtering, etc.)
- [94A13](#) Detection theory in information and communication theory
- [68W01](#) General topics in the theory of algorithms
- [68Q25](#) Analysis of algorithms and problem complexity

Cited in **3** Documents**Keywords:**

array signal processing; 2-D direction of arrival; algorithm; complexity

**Full Text:** [DOI](#)