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A.	Wei Liu et al.; "Subband adaptive generalized sidelobe canceller for broadband beamforming", Proceedings of the 11th IEEE Signal Processing Workshop on Statistical Signal Processing, August 8, 2001.
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11. Wei Liu et al.; "Subband adaptive generalized sidelobe canceller for broadband beamforming" was published in the Proceedings of the 11th IEEE Signal Processing Workshop on Statistical Signal Processing. The 11th IEEE Signal Processing Workshop on Statistical Signal Processing was held on August 8, 2001. Copies of the conference proceedings were made available no later than the day of the conference. The article is currently available for public download from the IEEE digital library, IEEE Xplore.

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Abstract:

We propose a novel subband adaptive broadband beamforming architecture based on the generalised sidelobe canceller (GSC), in which we decompose each of the tapped delay-line signals feeding the adaptive part of the GSC and the reference signal into subbands and perform adaptive minimisation of the mean squared error in each subband independently. Besides its lower computational complexity, this new subband adaptive GSC outperforms its fullband counterpart in terms of convergence speed because of its prewhitening effect. Simulations based on different kinds of blocking matrices with different orders of derivative constraints are presented to support these findings.




Figures	Published in: Proceedings of the 11th IEEE Signal Processing Workshop on Statistical Signal Processing (Cat. No.01TH8563) Date of Conference: 8-8 Aug. 2001 INSPEC Accession Number: 7183284 Date Added to IEEE Xplore: 07 August 2002 DOI: 10.1109/SSP.2001.955356 Publisher: IEEE Print ISBN: 0-7803-7011-2 Conference Location: Singapore
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1. INTRODUCTION

Adaptive beamforming has found many applications in various areas ranging from sonar and radar to wireless communications. It is based on a technique where, by adjusting the weights of a sensor array with attached filters, a prescribed spatial and spectral selectivity is achieved. Fig. 1 shows a beamformer with sensors receiving a signal of interest from the direction of arrival (DOA) angle . Fig. 1: A signal impinging from an angle onto a beamformer with sensors.

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