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Comparing Shannon to autocorrelation-based wavelets for solving singularly perturbed elliptic BV problems  
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*MSC Classification:* 65L10

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*Keywords:* Shannon wavelets; autocorrelation-based wavelets; singularly perturbed elliptic BV problems

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*Review text:*

The authors consider singularly perturbed ordinary and elliptic boundary-value problems. A Shannon wavelet algorithm (essentially F. Stenger's sinc-Galerkin collocation method) is presented to solve the problem under consideration. The method is shown to be effective and competitive with respect to the autocorrelation-based method in a number of examples, in one and two dimensions, when the smallness parameter becomes smaller and smaller. Advantages can be expected to be even more pronounced when the fast sinc transform is used.

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