

1125-42-540

Amin Boumenir* (boumenir@westga.edu), Department of Mathematics, 1601 maple st, UWG, Carrollton, GA 30118. *Sampling for multi-spectral theory of Sturm-Liouville systems.*

We extend the sampling method, [2], which usually helps compute eigenvalues of one dimensional Sturm-Liouville operators, to deal with the computation of multi parameter eigenvalues of Sturm-Liouville systems. To do so, we use the 2-dimensional version of the Whittaker-Shannon-Kotelnikov sampling theorem [3], to find a representation for eigencurves [1] whose intersections are precisely the eigenvalues. These are easily approximated by computing a finite square matrix of size n and we show that the truncation error is of order $\ln(n)/\sqrt{\{n\}}$, [1].

References:

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