Asymptotic quantities in weighted Wiener spaces

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Abstract

The best m-term approximation has been a rather theoretical subject of study in approximation theory since its inception by Stechkin in 1955. Recently however Jahn, T.Ullrich and Voigtlaender have found some practical application for it by using it in a new bound on the sampling numbers. One important class of spaces where this bound can give an improvement over existing ones are weighted Wiener spaces. Motivated by this a new bound for the best m-term approximation in these spaces will be shown in this talk as well as a sharp asymptotic bound on the Gelfand widths of these spaces will also be provided, which are a natural lower would on the sampling widths. A main focus of our research was in the development of a tractable result that still give good bounds in the preasymptotic setting.