

Moritz Moeller: Gelfand numbers and best m -term trigonometric approximation for weighted mixed Wiener classes in L_2 .

The best m -term approximation has since its first formulation by Stechkin in 1955 been a rather theoretical subject of study in approximation theory. 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 mixed weighted Wiener classes. Motivated by this a new bound for the best m -term approximation in these spaces will be developed. This is achieved by using techniques from hyperbolic cross approximation. In addition, a general optimality bound in form of a bound for the Gelfand numbers of these spaces will also be provided.