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**Sparse trigonometric approximation of periodic multivariate classes  
with mixed smoothness**

Our main interest in this talk is to study sparse trigonometric approximation for periodic multivariate functions from Wiener and Besov classes with mixed smoothness. We use techniques connected with hyperbolic cross approximation. Motivated by recent results on the connection to nonlinear sampling recovery, we obtain order bounds for the best  $m$ -term approximation with respect to the multivariate trigonometric system for the considered classes.

This is joint work with Moritz Moeller and Tino Ullrich.