

On the interplay among regularity, decay and compactness in case of functions with symmetry conditions

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The talk is based on the joint work with Winfried Sickel (FSU Jena), Jan Vybiral (TU Berlin) and Cyril Tintarev (Uppsala)

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We give a survey of results proved by the speaker and his collaborators concerning the interplay between regularity and decay of functions that satisfy certain symmetry conditions, e.g. radial functions. We work with functions and distributions belonging to Sobolev and Besov spaces. Surprising interplay of regularity and decay of such function discovered by W.Strauss is investigated in details. Compactness of Sobolev embeddings of subspaces consisted of functions satisfying symmetry conditions is also considered. Our tools are atomic decompositions in combination with trace theorems.

References

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