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Interpolation of compact bilinear operators by the real and the complex method

In the last few years it has been shown that compact bilinear operators occur rather naturally in harmonic analysis (see for example [1]). This has motivated the investigation on the behaviour under interpolation of compact bilinear operators. In this talk I will review some recent results of the joint papers with Fernández-Cabrera and Martínez [2, 3, 4] on the behaviour of compact bilinear operators under the real and the complex method.

References.

- [1] Á. Bényi and R.H. Torres, Compact bilinear operators and commutators, Proc. Amer. Math. Soc. 141 (2013) 3609-3621.
- [2] F. Cobos, L.M. Fernández-Cabrera and A. Martínez, Interpolation of compact bilinear operators among quasi-Banach spaces and applications, Math. Nachr. 291 (2018) 2168-2187.
- [2] F. Cobos, L.M. Fernández-Cabrera and A. Martínez, On compactness results of Lions-Peetre type for bilinear operators, Nonlinear Anal. 199 (2020) 111951.
- [4] F. Cobos, L.M. Fernández-Cabrera and A. Martínez, Compactness interpolation results for bilinear operators of convolution type and for operators of product type, J. Approx. Theory 274 (2022) 105688.