

COMPACT OPERATORS BETWEEN REAL INTERPOLATION SPACES

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Abstract. We show necessary and sufficient conditions for compactness of operators acting between real interpolation spaces.

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REFERENCES

- [1] C. BENNETT AND R. SHARPLEY, *Interpolation of operators*, Academic Press, New York, 1988.
- [2] J. BERGH AND J. LÖFSTRÖM, *Interpolation spaces. An introduction*, Springer, Berlin, 1976.
- [3] Y. BRUDNYI AND N. KRUGLJAK, *Interpolation functors and interpolation spaces*, Vol. 1, North-Holland, Amsterdam, 1991.
- [4] F. COBOS, M. CWIKEL AND P. MATOS, *Best possible compactness results of Lions-Peetre type*, Proc. Edinb. Math. Soc. **44** (2001) 153–172.
- [5] F. COBOS, L. M. FERNÁNDEZ-CABRERA, A. MARTÍNEZ AND E. PUSTYLNÍK, *Some interpolation results that are exclusive property of compact operators*, Proc. Royal Soc. Edinburgh 132A (2002) (to appear).
- [6] F. COBOS, T. KÜHN AND T. SCHONBEK, *One-sided compactness results for Aronszajn-Gagliardo functors*, J. Funct. Analysis **106** (1992) 274–313.
- [7] F. COBOS AND J. PEETRE, *Interpolation of compactness using Aronszajn-Gagliardo functors*, Israel J. Math. **68** (1989) 220–240.
- [8] F. COBOS, L.-E. PERSSON, *Real interpolation of compact operators between quasi-Banach spaces*, Math. Scand. **82** (1998) 138–160.
- [9] M. CWIKEL, *Real and complex interpolation and extrapolation of compact operators*, Duke Math. J. **65** (1992) 333–343.
- [10] J. L. LIONS AND J. PEETRE, *Sur une classe d'espaces d'interpolation*, Inst. Hautes Etudes Sci. Publ. Math. **19** (1964) 5–68.
- [11] J. PEETRE, *A theory of interpolation of normed spaces*, Lecture notes, Brasilia 1963 [Notas Mat. **39** (1968) 1–86].
- [12] A. PERSSON, *Compact linear mappings between interpolation spaces*, Ark. Mat. **5** (1964) 215–219.
- [13] T. SCHONBEK, *Interpolation of compact operators by the complex method and equicontinuity*, Indiana U. Math. J. **49** (2000) 1229–1245.
- [14] H. TRIEBEL, *Interpolation theory, function spaces, differential operators*, North-Holland, Amsterdam, 1978.