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Factorization of operators in Banach lattices

In this lecture we will expose some important results on factorization of operators in Banach lattices. In particular, we analyze Maurey-Nikishin's theorem which establishes sufficient and necessary conditions for the factorization of L^p-valued operators. We explore conditions that guarantee factorization within the terms of the type and cotype of the involved spaces.

In addition we consider operators on spaces of variable exponent spaces $L^{p(.)}$ .The lattice structure of these non-symmetric spaces is quite different comparing with classical Lebesgue L^p spaces; disjoint characteristic function sequences do not generate subspaces isomorphic to l_p. We study strictly singular endomorphisms in these spaces, providing characterizations which involve the essential range $R_{p(.)}$ of the exponent functions $p(.)$.