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Diagonal operators, s-numbers and Bernstein pairs. (English summary)

Proceedings of the Second International Workshop on Functional Analysis (Trier, 1997).
Note Mat. **17** (1997), 209–216 (1999).

Summary: “Replacing the nested sequence of ‘finite’-dimensional subspaces by the nested sequence of ‘closed’ subspaces in the classical Bernstein lethargy theorem, we obtain a version of this theorem for the space $\mathcal{B}(X, Y)$ of all bounded linear maps. Using this result and some properties of diagonal operators, we investigate conditions under which a suitable pair of Banach spaces form an exact Bernstein pair. We also show that many ‘classical’ Banach spaces, including the couple $(L_p[0, 1], L_q[0, 1])$, form a Bernstein pair with respect to any sequence of s-numbers (s_n), for $1 < p < \infty$ and $1 \leq q < \infty$.”

{For the entire collection see MR1749776 (2000k:00046)}