EXTENSION OF LINEAR OPERATORS, DISTANCED CONVEX SETS AND THE MOMENT PROBLEM

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Abstract. One applies an extension theorem of linear operators ([10, Theorem 5, p. 969]) to the classical moment problem in spaces of continuous functions on a compact interval and in spaces of analytic functions. One proves that certain conditions (which are often fulfilled) are sufficient for the existence of some solutions of some moment problems. Our solutions satisfies some sandwich type conditions. One of these conditions (the inequalities (5)) and the fact that equalities (4) hold only for $j \geq 1$ are in a way unusual with respect to some other moment problems. We exploit the notions of distanced convex sets and positive sequence on an interval. One solves an operator-valued moment problem.

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