

## ON THE MOMENT PROBLEM

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Under consideration is the problem of finding a point in a Hilbert space which possesses prescribed best approximations from a finite number of closed vector subspaces. The main objective is to provide conditions for the existence of solutions to this problem in terms of the geometry of the subspaces, irrespective of the prescribed best approximations. The issues of uniqueness and stability are also briefly addressed, as well as numerical methods. The results are applied to problems in harmonic analysis, signal theory, and statistics.

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