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**Determination of a state of a quantum system from results of measurements.** (English. Russian original) [Zbl 0967.81004](#)

[Probl. Inf. Transm. 35, No. 4, 359-368 \(1999\)](#); translation from [Probl. Peredachi Inf. 35, No. 4, 84-94 \(1999\)](#).

Summary: It is shown that for determining a pure state of a quantum system (in a finite- or infinite-dimensional case), it suffices to measure four certain observables, and any two of them are not sufficient. Another problem considered is the determination of a mixed state in the finite-dimensional case where the space dimension  $N$  is not a prime number.

**MSC:**

[81P15](#) Quantum measurement theory, state operations, state preparations

**Keywords:**

determining a pure state; mixed state