

In the present work we study properties, calculation methods and behaviour of pseudospectrum of matrix or linear operator. First we introduce related terms, then we define pseudospectrum in four different ways and show its basic properties. Consequently, we generalize the theory of pseudospectrum for linear operators in Banach spaces. Basic methods of computation including fundamental possibilities of speeding up follow, but especially we go through computations on grid and path following technique. In the end we derive bounds which outline behaviour of dynamical systems. The last chapter contains practical example, which relates to laser theory.