On the definition of pseudospectra

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Some authors define the epsilon-pseudospectrum of a linear operator with the help of a strict inequality, some others - with the help of a non-strict one. The difference between the resulting sets is a level set of the resolvent norm of the operator in question. In 1976, J. Globevnik posed a question on whether or not such a level set for a bounded linear operator can have a non-empty interior, i.e. whether or not the resolvent norm of a bounded linear operator on a Banach space can be constant on an open set. The question remained open until 2008.

The talk is a survey of results related to Globevnik's question, in particular of a recent joint work with E.B. Davies.