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# The generalized version of the Miranda theorem with applications

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## Abstract

In the talk I will give a survey on some recent developments of the celebrated Miranda theorem and its applications in the theory of differential equations and inclusions. We shall discuss global as well as local aspects of this result, along with some topological tools (such as the fixed point index and the topological degree) allowing to study maps defined on closed subsets of a Banach space with values in the space and detect their zeros or fixed points. The existence of stationary solutions to some elliptic problems and periodic solutions of the corresponding parabolic problems under the presence of state constraints will be presented.

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