

Project: *Optically detected resonance in magnetic 2D materials*

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Popular summary

The project belongs to rapidly expanding field of two-dimensional crystals of atomic thickness. This field was started by discovery of the graphene, but it quickly broadened as new two-dimensional materials were being discovered.

The project will explore a relatively new branch of this field: two-dimensional materials with magnetic properties. Due to extremely small volume, such structures require tailored experimental techniques, such as using optical methods to access the magnetic ordering on the microscale.

The aim of this project is to expand the knowledge about the nature of two-dimensional magnetic materials by means of a sensitive technique of optically detected magnetic resonance. In the experiments we will take advantage of so-called proximity effect, which should allow us to improve the signal by introducing an additional layer of 2D emitter, bridging the gap between the intrinsic magnetization and the detected light. Positive verification of this scenario will open a new research window, bringing us closer to practical applications of the 2D magnetic materials.