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## Laboratory for the synthesis of magnetic thin films


The laboratory for the synthesis of magnetic thin films is comprised of a deposition system with which we can obtain thin films through DC and RF magnetron sputtering. The system is equipped with 3 confocal magnetrons, and is capable of co-sputtering from different targets. For DC magnetron sputtering, the laboratory is equipped with two DC power supplies with a maximum power of 500 W. For RF sputtering we use an RF power supply with a maximum power of 300 W. We can obtain polycristalline fims as well as epitaxial ones. The films can be deposited at different Ar pressures and temperatures up to 550 ºC. The layer thickness and deposition rate can be measured in real time using a thickness monitor.

In this laboratory we study multilayer magnetic thin films composed of hard and soft magnetic materials, with applications in spintronics, electronics, and permanent magnets. The research is focused on the fundamental properties of thin films as well as applications in the industry.