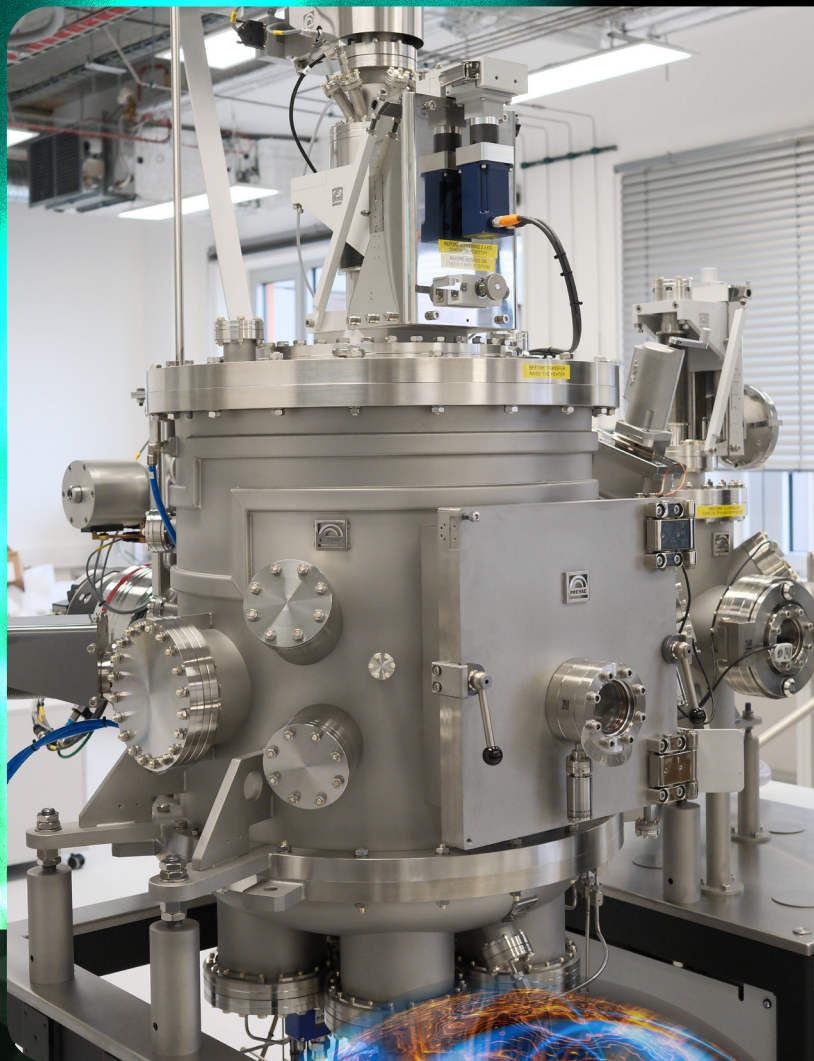


# Magnetron Sputtering System

Magnetron sputtering is a versatile technique used for preparing high-quality thin films with controlled thickness, composition, and microstructure. It enables the deposition of metals, alloys, oxides, nitrides, and other functional coatings and is widely applied in materials science, surface engineering, microelectronics, and energy-related research.

The laboratory operates an ultra-high vacuum magnetron sputtering system designed for thin-film deposition on substrates up to 4 inches in diameter. The system supports DC, RF, pulsed DC, and high-power impulse magnetron sputtering (HiPIMS) modes, and allows for multi-source operation, enabling co-sputtering, reactive sputtering, and multilayer film fabrication. Motorized substrate manipulation with rotation and controlled heating ensures uniform film growth and high process reproducibility. Integrated gas dosing and in situ thickness monitoring enable precise control of deposition conditions.



## Key Features

- Ultra-high vacuum magnetron sputtering platform for high-purity thin-film deposition
- Multi-source configuration enabling co-sputtering and reactive sputtering processes
- DC, RF, pulsed DC, and HiPIMS operation for conductive and insulating materials
- Motorized substrate handling with rotation and controlled heating
- In situ monitoring of film thickness and deposition rate
- Computer-controlled operation with reproducible, recipe-based workflows



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