

ION-BEAM SPUTTERING

What We Offer

Design &
Simulation



Prototyping &
Fabrication



Testing &
Characterization



Physical vapour deposition (PVD) is a family of vacuum-based techniques that convert a solid source material into a vapour to form thin films on a substrate. In ion-beam deposition, an ion source generates a focused beam of energetic ions that strikes a target material, ejecting atoms loose so they can travel across and settle onto the substrate. Because the ion beam is generated independently of the target, its energy and direction can be controlled very precisely, which helps produce dense, well-adhered coatings. This makes it well suited to optical and protective coatings, including metal-oxide layers and diamond-like carbon films.

Key applications

**Deposition of metal and
oxide thin films for
semiconductor devices**

**Fabrication of electrical
contacts, optical and
protective coatings**

**Single-layer and
multilayer coatings**

Cutting Edge Coatings BS@LAB

- Single-layer and multilayer coatings;
- Metals and metal-oxide coatings such as SiO_2 , HfO_2 , Ta_2O_5 , etc
- Physical thickness of coatings from a few nm to tens of μm
- Optical monitoring control

Cleanroom class: ISO6

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Ion-beam (DLC) deposition device URM 3.279.053

Designed for the ion-beam deposition of diamond-like carbon (DLC) from hydrocarbon and dopant materials

- Maximum sample size: up to 80 x 80 mm
- Base pressure in chamber: $4 \cdot 10^{-4}$ Pa
- Pressure during DLC synthesis: $(1-2) \cdot 10^{-2}$ Pa
- Accelerating potential of ion-beam source: max 2 kV
- Ion beam current density: 0.05 – 0.25 mA/cm²
- Current of solenoid: 6 A
- Gases: both inert and reactive gases can be used

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Features:

- Single-layer and multilayer coatings across metals, metal-oxides, and diamond-like carbon
- Compatible with both inert and reactive process gases
- Real-time optical monitoring for accurate thickness control



If you have any questions, please contact us by email:
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