Molecular Film Deposition System by Organic Spintronics (Bologna, Italy), model

Features, possibilities and highlights - The apparatus works in UHV environment for ultra-clean deposition processes of molecular systems, having significant volatility at relatively low temperature (i.e., below the molecule decomposition point) by means of dedicated Knudsen cells. Applications are expected in the fields of active organic films and nanostructures, including OLED, OFET, etc..., for nanoelectronics, nanosensing and energetics.

Main features:
- Soft deposition of mono- and multilayer molecular film;
- Precise control of the thickness of the deposited layers;
- High-ordering capability;
- Deposition of films without substrate epitaxial constrains;
- Large choice of substrate (amorphous/crystalline, organic/inorganic, etc...);
- Deposition of ordered multi-domain films.

Fig.1 – SDMF apparatus: two medium vacuum chambers - Equipped with Knudsen cells and low-energy ion gun for post-deposition modification processes.

Fig.2 – Knudsen cells
Fig.3 – Interferometric system
Fig.4 – Film for OLED devices