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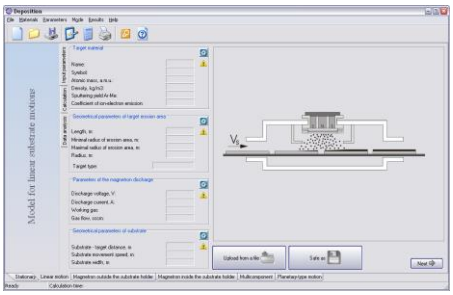
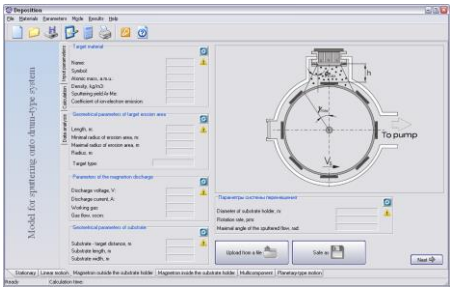
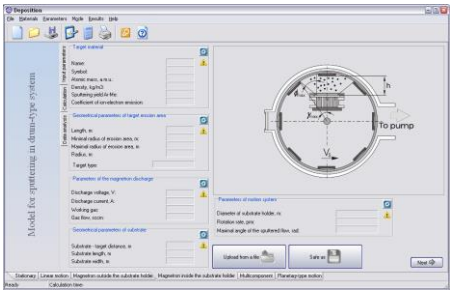
Program complex for simulation "DEPOSITION"







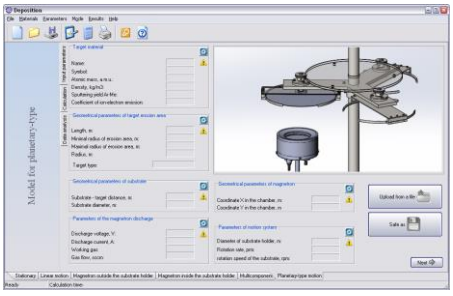


Fig. 8.1. Dialogs windows presented to the user depending on the chosen calculation model

Purpose

Software Deposition is intended for calculation of deposition rate and film thickness distribution at magnetron sputtering for axial and extended magnetron and various configurations of substrate transportation systems.

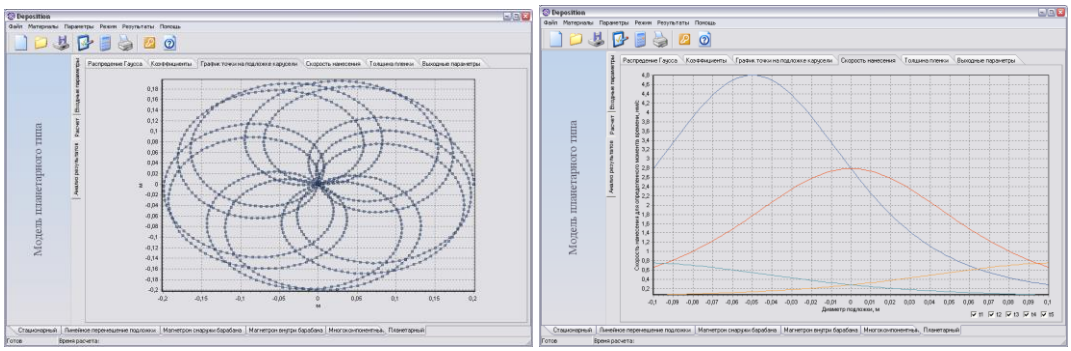
Advantages:

- Quick calculation of distribution profiles of deposition rate and film thickness for axial and extended magnetron and various configurations of substrate transportation systems;
- Availability of most of the main magnetron sputtering process configurations used in scientific research and industry;
- Capability process configuration customization.

Software structure

- The software includes mathematical models of the following application processes (Fig. 8.1):
- Stationary sputtering with the use of axial and extended magnetron sputtering system;
- Magnetron sputtering on linearly movable substrates;
- Magnetron sputtering on substrates positioned on a rotatable drum substrate holder with the magnetron situated inside and outside of the base holder;
- Magnetron sputtering on the planetary rotation substrates (Fig. 8.2);
- magnetron sputtering of mosaic component targets.

Fig. 8.2. Application of calculated trajectory of a point moving on the substrate (*a*) and deposition rate distribution (*b*) with the use of "Planetary rotating substrate" module



a b

The program consists of database of physical properties of sputtered materials.

Operational system: family of proprietary Microsoft operational systems.

Technical requirements for the software

- Video adapter with 32-byte colour support;
- RAM – at least 500 MB;
- HDD capacity – at least 100 MB;
- Modern 32/64 bit processor.