

EIPBN 2022: Industry Highlights Session

Abstract

Cell Projection - A powerful feature for efficient large area e-beam writing

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Vistec Electron Beam is a leading provider of electron-beam lithography systems based on the Variable Shaped Beam (VSB) principle. Since these kind of systems have been commercially launched in the late 1970ies the VSB technology has been continuously improved and serves a huge range of applications. These days, photonic applications gain increasing importance in both advanced research and the general optical industry. Especially meta-surfaces offer promising possibilities for a large variety of emerging applications. However, standard electron-beam lithography systems face an impracticably long write time.

Vistec Variable Shaped Beam (VSB) systems with cell projection (CP) represent a technical solution to overcome this write time restriction.

This talk details how the CP feature is seamlessly integrated into both the hardware and software of Vistec's VSB electron-beam lithography systems. By means of an example, the efficient generation of dense repetitive pattern on large areas and the achieved lithography performance, as high pattern fidelity, position accuracy and reproducibility that is required for optical applications, will be shown.