

Focused Two-Dimensional Antiscatter Grid for Mammography

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ABSTRACT

We are developing freestanding high-aspect-ratio, focused, two-dimensional antiscatter grids for mammography using deep x-ray lithography and copper electroforming. The exposure is performed using x-rays from bending magnet beamline 2-BM at the Advanced Photon Source (APS) of Argonne National Laboratory. A 2.8-mm-thick prototype freestanding copper antiscatter grid with 25 μm -wide parallel cell walls and 550 μm periodicity has been fabricated. The progress in developing a dynamic double-exposure technique to create the grid with the cell walls aligned to a point x-ray source of the mammography system is discussed.

Keywords: LIGA, high aspect ratio, antiscatter grid, mammography