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Research Article

Collimated Magnetron Sputter Deposition for Mirror Coatings

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Abstract

At the Danish National Space Center (DNSC), a planar magnetron sputtering chamber has been established as a research and production coating facility for curved X-ray mirrors for hard X-ray optics for astronomical X-ray telescopes. In the following, we present experimental evidence that a collimation of the sputtered particles is an efficient way to suppress the interfacial roughness of the produced multilayer. We present two different types of collimation optimized for the production of low roughness curved mirrors and flat mirrors, respectively.