

# Optical constants of beryllium thin layers determined from Mo/Be multilayers in spectral range 90 to 134 eV

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Mo/Be multilayers are promising optical elements for applications in extreme ultraviolet lithography and space instrumentation. It is important that experimentally derived optical constants are available for accurate and reliable design of beryllium-containing optical coatings. We report optical constants of beryllium derived from synchrotron radiation-based reflectivity data of Mo/Be multilayer structures. Results are in good agreement with available data determined from absorption processes of beryllium thin foils. In this paper, we demonstrate synchrotron based at-wavelength reflectometry as a robust, easy, fast and non-destructive technique in deriving EUV optical constants for materials that are difficult or unstable to make thin foils for absorption measurements.