Wire grid polarizer for VUV applications

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Polarizers are essential optical elements, utilized in numerous optical metrology applications. Wire grid polarizers (WGP) are superior to other polarizer concepts due to their large possible free aperture (e.g. 10 x 10cm) while being simultaneously extremely thin (substrate thickness, e.g. 0.5 mm). Furthermore, they offer large acceptance angles, and integration in other optical elements is easily possible. We present on the geometry and material requirements for wire grid polarizers in the wavelength range from 150 nm to 380 nm. Furthermore we discuss the influence on the optical properties of tolerances arising from the fabrication technology and the inherent line edge roughness. Finally we present experimental results for such wire gird polarizers.