

Title (en)  
COLLIMATOR AND FOCUSING OPTIC

Title (de)  
KOLLIMATOR UND FOKUSSIERENDE OPTIK

Title (fr)  
COLLIMATEUR ET OPTIQUE DE FOCALISATION

Publication  
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Application  
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Abstract (en)  
[origin: WO0107939A1] The present invention provides a high gain collimator (30) producing generally uniform intensity profiles for use in lithography and other applications. A focusing optic (42) is also provided. The collimator includes an optic (42) and a guide channel (50) downstream of the optic. The guide channel preferably includes polycapillary tubes (80) and/or microchannel plates. The polycapillary tubes (80) are used to collimate or focus the central portion of the X-ray beam in a circular, elliptic, square, or rectangular shape. A conical, parabolic resonance reflector (40) or grazing incidence reflector with a shape similar to the polycapillary collimator (30) is used to increase the solid angle collected and produce a circular, square, etc. annular X-ray beam whose inside dimensions are approximately equal to the exit dimensions of the polycapillary collimator (30). The annular beam shape, intensity profile and collimation angle is adjusted, if necessary, by an absorber (230), or polycapillary tubes (80) to provide the desired intensity profile at the exit aperture of the hybrid X-ray collimator optic.

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