

ABSTRACT

DIFFRACTION GRATING

The present invention discloses diffraction gratings which do not generate any thermal strain and can perform extremely high-precision and high-efficiency diffraction substantially free from scattered beams. The diffraction gratings are built by allowing the chemically deposited film of silicon carbide whose crystal planes are strongly oriented to the (220) planes in terms of Miller indices to form on the substrate comprising sintered silicon carbide, polishing the surface of the deposited film to 5Å RMS or less, and directly etched laminar-type grating grooves on that surface by using ion-beam etching.

(Figure 1)

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