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Optica Applicata 2006(Vol.36), No.4, pp. 593-600

Metrology of Mo/Si multilayer mirrors at 13.5 nm with the use of a laser-produced plasma extreme ultraviolet (EUV) source based on a gas puff target

R. RAKOWSKI, A. BARTNIK, H. FIEDOROWICZ, R. JAROCKI, J. KOSTECKI, J. KRZYWINSKI, J. MIKOLAJCZYK, L. PINA, L. RYC, M. SZCZUREK, H. TICHA, P. WACHULAK

Keywords

laser-produced plasma extreme ultraviolet (EUV) source, gas puff target, Mo/Si mirrors, EUV spectroscopy

Abstract

In this paper an application of a recently developed laser plasma source of extreme ultraviolet (EUV) for optical measurements of optical characteristics of Mo/Si multilayer mirrors is presented. The source is based on an xenon-helium double-stream gas puff target irradiated with laser pulses from a Nd : YAG laser system (E = 0.55 J, t = 3.9 ns, f = 10 Hz, M^2 = 2.5). The results show that the source can be useful for EUV lithography technologies as a metrology tool in the semiconductor industry.

503.8 kB

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