



(51) International Patent Classification:
G03F 7/20 (2006.01) **G21K 1/06** (2006.01)

VV Nijmegen (NL). **YAKUNIN, Andrei** [RU/NL];
Oudaen 117, NL-5653 KD Eindhoven (NL).

(21) International Application Number:
PCT/EP2011/051546

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(22) International Filing Date:
3 February 2011 (03.02.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/317,167 24 March 2010 (24.03.2010) US
61/330,721 3 May 2010 (03.05.2010) US
61/364,725 15 July 2010 (15.07.2010) US

(71) Applicant (for all designated States except US): **ASML NETHERLANDS B.V.** [NL/NL]; De Run 6501, NL-5504 DR Veldhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MEDVEDEV, Viacheslav** [RU/RU]; Anokhina str. 26, bld. 4, ap.659, Moscow (RU). **BANINE, Vadim** [NL/NL]; Eendracht 21, NL-5751 SB Deurne (NL). **KRIVTSUN, Vladimir** [RU/RU]; Okyabrsky pr. 23-85, Troitsk, 142190 (RU). **SOER, Wouter** [NL/NL]; Hegdambroek 1717, NL-6546

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

[Continued on next page]

(54) Title: LITHOGRAPHIC APPARATUS AND SPECTRAL PURITY FILTER

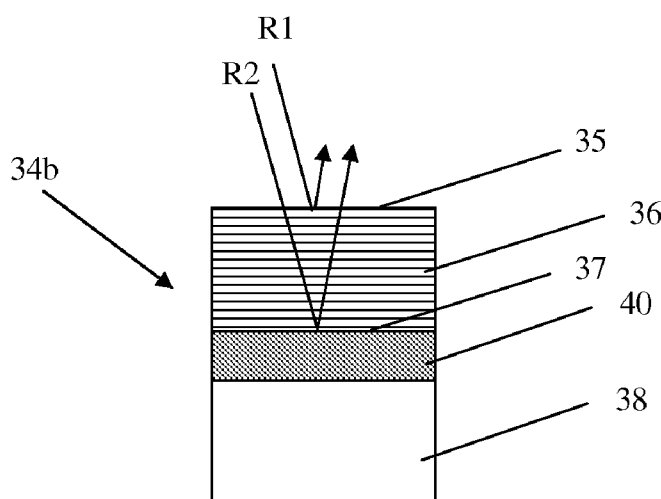


Figure 6

(57) Abstract: A reflector includes a multi layer mirror structure configured to reflect radiation at a first wavelength, and one or more additional layers. The absorbance and refractive index at a second wavelength of the multi layer mirror structure and the one or more additional layers, and the thickness of the multi layer mirror structure and the one or more additional layers, are configured such that radiation of the second wavelength which is reflected from a surface of the reflector interferes in a destructive manner with radiation of the second wavelength which is reflected from within the reflector.



-
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*