

(43) International Publication Date
18 April 2013 (18.04.2013)(10) International Publication Number
WO 2013/054292 A1

- (51) **International Patent Classification:**
H01S 3/00 (2006.01) *G01J 11/00* (2006.01)
- (21) **International Application Number:**
PCT/IB2012/055522
- (22) **International Filing Date:**
11 October 2012 (11.10.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
105926 11 October 2011 (11.10.2011) PT
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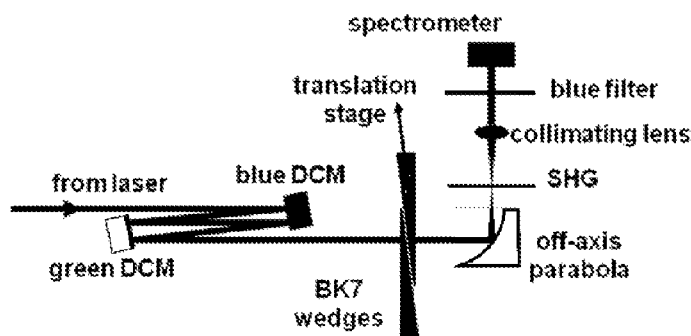
(81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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.

(84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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))
- 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))

(54) **Title:** METHOD AND DEVICE FOR THE SIMULTANEOUS COMPRESSION AND CHARACTERIZATION OF ULTRASHORT LASER PULSES

**Fig. 4**

(57) **Abstract:** The present invention relates to a method and a device for the simultaneous compression and characterization of ultrashort laser pulses. An embodiment of the method comprises applying predetermined spectral phases to the pulse to be characterized so as to perform a dispersion scan; applying a nonlinear process to the pulse to be characterized; measuring the resulting signal from the application of the predetermined spectral phases and nonlinear process; applying a numerical iterative algorithm to the measured signal to retrieve the spectral phase of the pulse to be characterized. A few cycle laser pulse may be negatively chirped with a pair of DCM, the controllable amount of positive dispersion may be provided by a pair of glass wedges, one of them being translated for dispersion or phase control, and the frequency spectrum may be measured as well as also frequency resolved the dispersion dependent second-harmonic of the signal being phase modulated.