



(51) International Patent Classification:

G01N 23/04 (2006.01) G01V 5/00 (2006.01)
G01N 23/20 (2006.01)

(21) International Application Number:

PCT/US2013/056035

(22) International Filing Date:

21 August 2013 (21.08.2013)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/691,642 21 August 2012 (21.08.2012) US

(71) Applicant: DECISION SCIENCES INTERNATIONAL CORPORATION [US/US]; 12345 First American Way, Suite 130, Poway, CA 92064 (US).

(72) Inventors: SOSSONG, Michael, James; 906 Creelman Lane, Ramona, CA 92065 (US). MCKENNEY, Shawn; 24211 Cerro Vista Way, Ramona, CA 92065 (US). WHALEN, Robert; 2352 Via Capri Court, La Jolla, CA 92037 (US). BLANPIED, Gary; 22449 Casa De Carol, Ramona, CA 92065 (US). LEHOVICH, Andre; 4057 1st Avenue Apt. 304, San Diego, CA 92103 (US). KURNADI, Priscilla; 4740 Iroquois Avenue, #5, San Diego, CA 92117 (US).

(74) Agent: AI, Bing; Perkins Coie LLP, P.O. Box 1247, Seattle, WA 98111-1247 (US).

(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, 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, SA, 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, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

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))

[Continued on next page]

(54) Title: PRIMARY AND SECONDARY SCANNING IN MUON TOMOGRAPHY INSPECTION

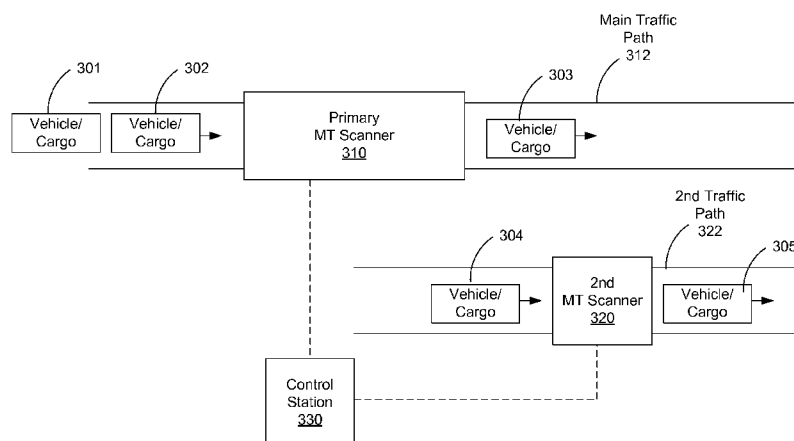


FIG. 3

(57) Abstract: Techniques and systems for using cosmic ray-produced muons to inspect objects based on an initial scanning of all objects and an additional scanning of objects that are determined by the initial scanning to potentially include one or more suspect regions. In one implementation, a system can include a primary scanner for performing the initial or primary scanning and a smaller secondary scanner for the additional or secondary scanning to provide efficient and accurate inspection of objects while maintaining a desired throughput of the inspection. In another implementation, a single scanner can be used to perform both the initial scanning and the additional scanning while maintaining a sufficient throughput of a line of objects under inspection.



(88) Date of publication of the international search report:
3 July 2014