

Title (en)

POLARIZATION-BASED MAPPING AND PERCEPTION METHOD AND SYSTEM

Title (de)

VERFAHREN ZUR POLARISATIONSBASIERTEN KARTIERUNG UND WAHRNEHMUNG

Title (fr)

PROCÉDÉ ET SYSTÈME DE MAPPAGE ET DE PERCEPTION BASÉS SUR LA POLARISATION

Publication

EP 3186606 A4 20180509 (EN)

Application

EP 15859072 A 20150826

Priority

- US 201462041778 P 20140826
- US 201514602823 A 20150122
- US 2015047008 W 20150826

Abstract (en)

[origin: AU2015347259A1] A method using Long Wave Infrared Imaging Polarimetry for improved mapping and perception of a roadway or path and for perceiving or detecting obstacles comprises recording raw image data using a polarimeter to obtain polarized images of the roadway or area. The images are then corrected for non-uniformity, optical distortion, and registration. IR and polarization data products are computed, and the resultant data products are converted to a multi-dimensional data set for exploitation. Contrast enhancement algorithms are applied to the multi-dimensional imagery to form enhanced object images. The enhanced object images may then be displayed to a user, and/or an annunciator may announce the presence of an object. Further, the vehicle may take evasive action based upon the presence of an object in the roadway.

IPC 8 full level

G01J 4/00 (2006.01); **G01J 4/04** (2006.01); **G06T 5/00** (2006.01); **G06V 10/147** (2022.01)

CPC (source: EP US)

B60W 30/00 (2013.01 - EP); **G01C 21/26** (2013.01 - EP US); **G06T 5/80** (2024.01 - EP); **G06T 5/92** (2024.01 - EP);
G06V 10/147 (2022.01 - EP US); **G06V 20/58** (2022.01 - EP US); **G06T 2207/10048** (2013.01 - EP); **G06T 2207/30252** (2013.01 - EP)

Citation (search report)

- [Y] US 2010073753 A1 20100325 - KIMURA TAKAYUKI [JP]
- [Y] US 2009033540 A1 20090205 - BREED DAVID S [US], et al
- [Y] KRISTAN P. GURTON ET AL: "Enhanced facial recognition for thermal imagery using polarimetric imaging", OPTICS LETTERS, vol. 39, no. 13, 23 May 2014 (2014-05-23), pages 3857, XP055198720, ISSN: 0146-9592, DOI: 10.1364/OL.39.003857
- [Y] Y. ARON ET AL: "Polarization in the LWIR: a method to improve target acquisition", PROCEEDINGS OPTICAL DIAGNOSTICS OF LIVING CELLS II, vol. 5783, 31 May 2005 (2005-05-31), US, pages 653, XP055459969, ISSN: 0277-786X, ISBN: 978-1-5106-1324-9, DOI: 10.1117/12.605316
- See references of WO 2016076936A2

Cited by

CN111310607A

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)

AU 2015347259 A1 20170330; CN 107076614 A 20170818; EP 3186606 A2 20170705; EP 3186606 A4 20180509

DOCDB simple family (application)

AU 2015347259 A 20150826; CN 201580055967 A 20150826; EP 15859072 A 20150826