

Title (en)

METHOD FOR IDENTIFYING OR DETECTING AN UNDERWATER STRUCTURE, COMPUTER AND WATERCRAFT

Title (de)

VERFAHREN ZUM IDENTIFIZIEREN ODER DETEKTIEREN EINER UNTERWASSERSTRUKTUR, RECHNER SOWIE WASSERFAHRZEUG

Title (fr)

PROCÉDÉ D'IDENTIFICATION OU DE DÉTECTION D'UNE STRUCTURE IMMERGÉE, CALCULATEUR ET ENGIN NAUTIQUE

Publication

**EP 2989610 A1 20160302 (DE)**

Application

**EP 14725352 A 20140401**

Priority

- DE 102013104306 A 20130426
- DE 2014100112 W 20140401

Abstract (en)

[origin: WO2014173393A1] In order to identify or detect an underwater pipeline, for example, template-based methods are used according to the prior art, in which the total solution space with the individual synthetically obtained images is calculated in advance and an image obtained using sonar is then compared with each individual synthetic image of the total solution space. This is extremely intensive in terms of computation and/or main memory, with the result that these solutions cannot be used in AUVs (Autonomous Underwater Vehicles). The invention therefore relates to a method for identifying or detecting an underwater structure, wherein the method comprises the following steps of: determining an original image using a (Synthetic Aperture) Side Scan Sonar mounted on a watercraft, in particular an underwater vehicle, determining a watercraft position and/or an underwater structure position, with the result that there is additional information, determining a reference image space with associated reference images using the additional information and known geometry of the underwater structure, with the result that there is a reduced reference image space, and comparing the original image with the determined reference images of the reduced reference image space, with the result that the underwater structure is detected and/or identified.

IPC 8 full level

**G06T 7/00** (2006.01); **G06K 9/68** (2006.01)

CPC (source: EP)

**G01S 15/86** (2020.01); **G01S 15/88** (2013.01); **G01S 15/89** (2013.01); **G06T 7/74** (2016.12); **G06V 30/242** (2022.01); **G01S 15/74** (2013.01); **G06T 2207/10028** (2013.01); **G06T 2207/30184** (2013.01); **G06T 2207/30252** (2013.01)

Citation (search report)

See references of WO 2014173393A1

Citation (examination)

JM BELL ET AL: "IET radar, sonar & navigation", IET RADAR SONAR NAVIGATION, 21 November 2006 (2006-11-21), UK, pages 99 - 106, XP055457403, ISSN: 1751-8784

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

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**DE 102013104306 A1 20141030**; EP 2989610 A1 20160302; WO 2014173393 A1 20141030

DOCDB simple family (application)

**DE 102013104306 A 20130426**; DE 2014100112 W 20140401; EP 14725352 A 20140401