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21215625.1 / 3 998 452 17781905.9 / 3 444 565

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(54) AUTOMATIC MOVEMENT DEVICE FOR AUTOMATIC WORKING SYSTEM, AND CONTROL METHOD THEREFOR

(57) The present invention relates to a self-moving device, including: a moving module, a task execution module, and a control module. The control module is electrically connected to the moving module and the task execution module, controls the moving module to actuate the self-moving device to move, and controls the task execution module to execute a working task. The self-moving device further includes a satellite navigation apparatus, electrically connected to the control module and configured to receive a satellite signal and output current location information of the self-moving device. The control module determines whether quality of loca-

tion information output by the satellite navigation apparatus at a current location satisfies a preset condition, and controls, if the quality does not satisfy the preset condition, the moving module to actuate the self-moving device to change a moving manner, to enable quality of location information output by the satellite navigation apparatus at a location after the movement to satisfy the preset condition. A beneficial effect of the present invention is: when the self-moving device moves to an area where a satellite navigation signal is poor, by changing a moving manner, the self-moving device can maintain high-precision navigation.

DOCUMENTS CONSIDERED TO BE RELEVANT



EUROPEAN SEARCH REPORT

Application Number

EP 23 21 9414

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Category	Citation of document with indicatio of relevant passages	n, where appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
x	WO 2015/072897 A1 (HUSQ	VARNA AR [SE1)	1,5-8,	INV.
	21 May 2015 (2015-05-21		12-15	G05D1/245
				G05D1/248
A	* page 1, line 4 - page		2-4,9-11	
	figures 1, 2, 3A, 3B, 4	*		G01C21/00
	 -			G01S1/00
A	US 2013/218397 A1 (GRIF	= =	1-15	G01S19/49
	ET AL) 22 August 2013 (2013-08-22)		G01S19/48
	* the whole document *			G05D107/20
				G05D109/10
				G05D111/50
				G05D105/15
				TECHNICAL FIELDS
				SEARCHED (IPC)
				G05D
	The present search report has been dr	awn up for all claims		
	Place of search	Date of completion of the search		Examiner
	Munich	6 March 2024	Bur	chielli, M
С	ATEGORY OF CITED DOCUMENTS	T : theory or princip	le underlying the in	nvention
	icularly relevant if taken alone	E : earlier patent do	cument, but publis	shed on, or
Y : part	icularly relevant if combined with another	t if combined with another D: document cited in the application me category L: document cited for other reasons		
doci	ument of the same category nnological background			
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O : non	-written disclosure rmediate document	& : member of the s document	same patent family	, corresponding

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 23 21 9414

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

06-03-2024

10	Patent document cited in search report	Publication date	Patent family member(s)	Publication date
15	WO 2015072897	A1 21-05-2015	EP 3069203 A1 EP 3734393 A1 US 2016297070 A1 US 2017120445 A1 WO 2015072897 A1	21-09-2016 04-11-2020 13-10-2016 04-05-2017 21-05-2015
20	US 2013218397	A1 22-08-2013	EP 2598965 A1 IT 1401368 B1 US 2013218397 A1 WO 2012014134 A1	05-06-2013 18-07-2013 22-08-2013 02-02-2012
25				
30				
35				
40				
45				
50				
55	FORM P0459			

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82