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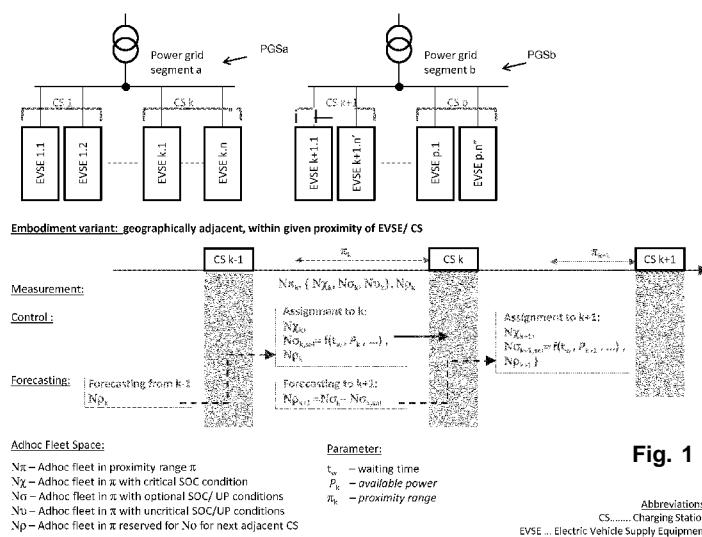
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(54) Title: METHOD AND SYSTEM FOR CHARGING ELECTRIC VEHICLES



**Fig. 1**

(57) **Abstract:** The present invention relates to a method for charging electric vehicles by charging stations, comprising the steps of a) Assigning electric vehicles to different electric vehicle supply equipment of the charging stations, and b) Charging the electric vehicles according to electric vehicle charging information and provided charging power by the electric vehicle supply equipment of the charging stations, wherein a matching of electric vehicle charging information, preferably load profiles, of electric vehicles and charging power information, preferably provided charging power, of different charging stations is predicted based on electric vehicle information and a charging station parameter and wherein based on the predicted matching steps a) and b) are performed. The present invention relates also to a system for charging electric vehicles.

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# INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER  
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ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal , WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2011/127944 A1 (SAITO TOMOHIRO [JP] ET AL) 2 June 2011 (2011-06-02)	1, 9-14
Y	paragraph [0050]; claims 1,7 -----	2-8
Y	US 6 941 197 B1 (MURAKAMI HIROSHI [JP] ET AL) 6 September 2005 (2005-09-06) the whole document -----	2-8
A	US 2009/210357 A1 (PUDAR NIKOLA J [US] ET AL) 20 August 2009 (2009-08-20) the whole document -----	1-14
A	WO 94/08381 A1 (VOLVO AB [SE] ; SVEDOFF GOERAN [SE]) 14 April 1994 (1994-04-14) the whole document -----	1-14



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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)			Publication date
us 2011127944	AI 02-06-2011	JP JP US	4985748 B2 2011114999 A 2011127944 AI		25-07-2012 09-06-2011 02-06-2011
us 6941197	BI 06-09-2005	JP US	2001067581 A 6941197 BI		16-03-2001 06-09-2005
us 2009210357	AI 20-08-2009	CN DE US Wo	102271959 A 112010000433 T5 2009210357 AI 2010081141 A2		07-12-2011 30-08-2012 20-08-2009 15-07-2010
wo 9408381	AI 14-04-1994	AU DE DE EP JP SE US Wo	5123093 A 69315856 D1 69315856 T2 0671066 AI H08502160 A 9202823 A 5684379 A 9408381 AI		26-04-1994 29-01-1998 23-07-1998 13-09-1995 05-03-1996 31-03-1994 04-11-1997 14-04-1994