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(54) **Title:** METHOD OF CALCULATING AN ELECTRICAL OUTPUT OF A WIND POWER PLANT

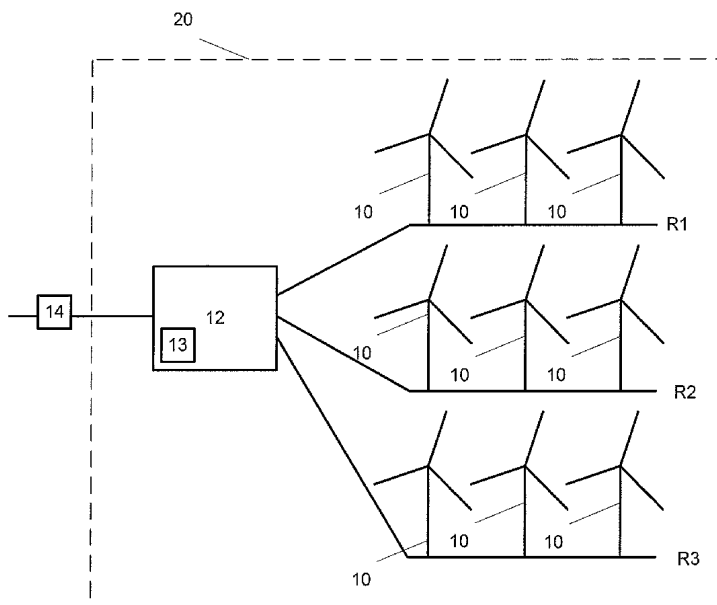


Fig 1

(57) **Abstract:** The invention relates to a method of calculating an electrical output of a wind power plant comprising a plurality of wind turbines. Instead of calculating the electrical output of the wind power plant as a simple aggregation of the outputs of each wind turbine, the method takes into account parameters which may vary stochastically throughout the wind power plant, e.g. pitch angle, stiffness in drive train, different possible production with regard to reactive and active effect, mechanical component properties as well as variability in relation to communication times between a power plant controller and the individual wind turbines. The method proposes to make adjustment to a simple aggregation calculation method based on analysis of such stochastic varying parameters.



## 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

Minimum documentation searched (classification system followed by classification symbols)

F03D

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 practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>FERNANDEZ L M ET AL: "Dynamic models of wind farms with fixed speed wind turbines", RENEWABLE ENERGY, PERGAMON PRESS, OXFORD, GB, vol. 31, no. 8, 1 July 2006 (2006-07-01), pages 1203-1230, XP025105694, ISSN: 0960-1481, DOI: 10.1016/J.RENENE.2005.06.011 [retrieved on 2006-07-01] paragraphs [0003], [0004] ----- -/--</p>	1-9

Further documents are listed in the continuation of Box C.

See patent family annex.

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

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## C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WEI QIAO ET AL: "Dynamic Modeling of Wind Farms with Fixed-Speed Wind Turbine Generators", POWER ENGINEERING SOCIETY GENERAL MEETING, 2007. IEEE, IEEE, PI, 1 June 2007 (2007-06-01), pages 1-8, XP031118949, ISBN: 978-1-4244-1296-9 paragraph [00II] - paragraph [0III] -----	1-9
X	SLOOTWEG J G ET AL: "Modeling of large wind farms in power system simulations", 2002 IEEE POWER ENGINEERING SOCIETY. SUMMER MEETING. CONFERENCE PROCEEDINGS. CHICAGO, IL, JULY 21 - 25, 2002; [IEEE POWER ENGINEERING SOCIETY], NEW YORK, NY : IEEE, US, 25 July 2002 (2002-07-25), pages 503-508VOL.1, XP031212663, ISBN: 978-0-7803-7518-5 paragraph [0III] - paragraph [00IV]; tables 1,2 -----	1-9
A	US 6 975 925 B1 (BARNES DAVID L [US] ET AL) 13 December 2005 (2005-12-13) abstract; figures -----	1-9

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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US 6975925	B1	13-12-2005	NONE
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