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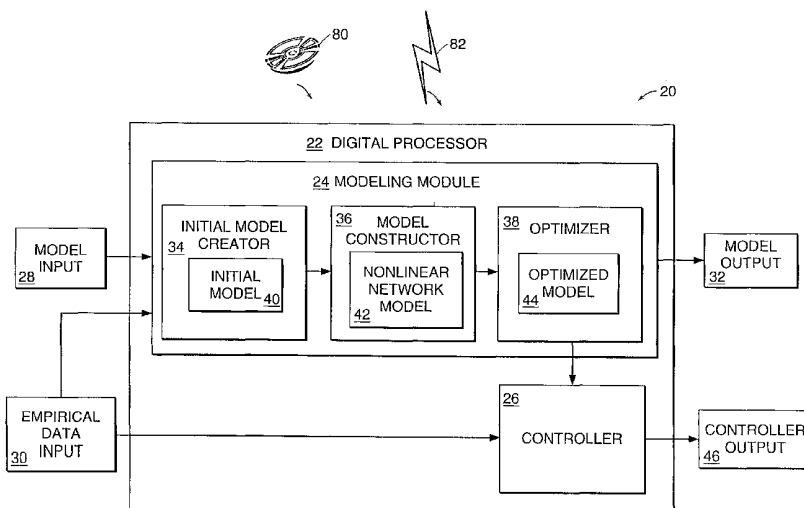
(43) International Publication Date
10 January 2002 (10.01.2002)

PCT

(10) International Publication Number
WO 02/003152 A3

- (51) International Patent Classification⁷: **G05B 17/02** **TREIBER, S., Steven**; 17 Ava Road, Toronto, Ontario M5P 1X8 (CA).
- (21) International Application Number: PCT/US01/20218
- (22) International Filing Date: 27 June 2001 (27.06.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/214,875 29 June 2000 (29.06.2000) US
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- (81) Designated States (*national*): CA, JP.
- (84) Designated States (*regional*): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR).
- Published:
— with international search report
- (88) Date of publication of the international search report:
25 July 2002
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: COMPUTER METHOD AND APPARATUS FOR CONSTRAINING A NON-LINEAR APPROXIMATOR OF AN EMPIRICAL PROCESS



(57) Abstract: A constrained non-linear approximator for empirical process control is disclosed. The approximator contains the behavior of the derivative of a subject empirical model without adversely affecting the ability of the model to represent generic non-linear relationships. There are three stages to developing the constrained non-linear approximator. The first stage is the specification of the general shape of the gain trajectory or base non-linear function which is specified graphically, algebraically or generically and is used as the basis for transfer functions used in the second stage. The second stage of the invention is the interconnection of the transfer functions to allow non-linear approximation. The final stage of the invention is the constrained optimization of the model coefficients such that the general shape of the input/output mappings (and their corresponding derivatives) are conserved.

WO 02/003152 A3

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/20218A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G05B17/02

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)
IPC 7 G05B

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)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A	DE 198 24 433 A (ZIEMANN GMBH MASCHINENFABRIK A) 2 December 1999 (1999-12-02) figures 5-8 ---	1,11,21
A	US 5 687 090 A (KO GLEN ET AL) 11 November 1997 (1997-11-11) figure 2 ---	23,24
A	WO 97 12300 A (BOIQUAYE WILLIAM J N O) 3 April 1997 (1997-04-03) page 6, line 4 -page 7, line 24 ---	1,11, 21-24
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Date of the actual completion of the international search

5 February 2002

Date of mailing of the international search report

13/02/2002

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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