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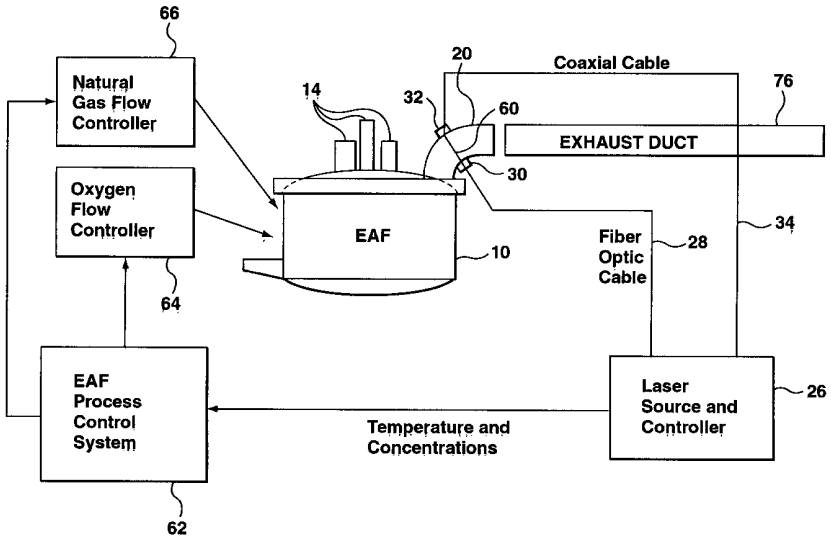
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(54) Title: METHOD AND APPARATUS FOR IMPROVED PROCESS CONTROL IN COMBUSTION APPLICATIONS



(57) Abstract: This invention relates to a method and apparatus for improved process control in combustion applications, and particularly those relating to the steelmaking industry. An apparatus is provided for process control in a combustion application comprising a laser to transmit a near-infrared laser beam through off-gas produced by the combustion application, a detector to detect the transmitted laser beam and convert the detected laser beam to an electrical signal, and a control system for providing adjustment of select inputs to the combustion application in response to the electrical signal from the detector. The method of this invention comprises transmitting a near-infrared laser beam through off-gas produced by the combustion application, detecting the transmitted laser beam, and adjusting select inputs of the combustion application in response to the detected transmitted laser beam.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01N21/35 F23N5/00 G01N21/39

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 F23N G01N

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)
COMPENDEX, EPO-Internal, FSTA, INSPEC, PAJ, WPI Data, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BAER D S ET AL: "Advanced diode-laser absorption sensors for combustion monitoring and control" ADVANCED SENSORS AND MONITORS FOR PROCESS INDUSTRIES AND THE ENVIRONMENT, BOSTON, MA, USA, 4-5 NOV. 1998, vol. 3535, pages 16-23, XP008001488 Proceedings of the SPIE - The International Society for Optical Engineering, 1999, SPIE-Int. Soc. Opt. Eng, USA ISSN: 0277-786X	1-6, 13-21
Y	abstract page 17, last paragraph -page 18, paragraph 1 figure 1	7-12

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
25 March 2002	05/04/2002

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Verdoodt, E

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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.
Y	US 5 954 855 A (GALPERINE GRIGORI ET AL) 21 September 1999 (1999-09-21) abstract column 30, line 24 - line 44	7-12

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		US 5599375 A	04-02-1997
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