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(54) **Radioactive timekeeping**

(57) A methodology and apparatus determine UNIVERSAL ABSOLUTE TIME-INTERVALS with the required precision from counting individual decay events of radioactive substances, and predict consecutive UNIVERSAL ABSOLUTE TIME-INTERVALS from DIMENSIONLESS UNIVERSAL ABSOLUTE PARAMETERS OF DECAY for the life of the apparatus.

The process may start with a known number of nuclei of a radioactive species. Alternatively a UNIVERSAL ABSOLUTE TIME-INTERVAL may be chosen and transferred from a UNIVERSAL STANDARD RADIOACTIVE CLOCK to other such apparatus with the same

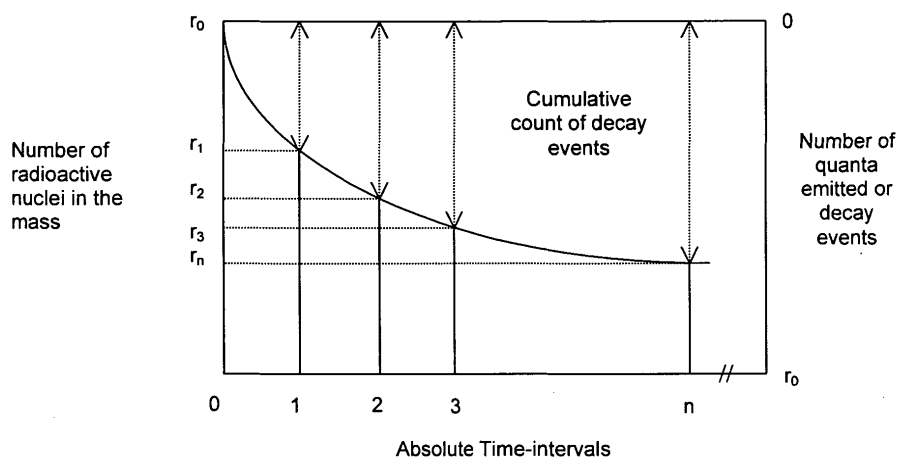
or different radioactive species.

The radioactive substances may be gas liquid or solid especially cobalt-60, strontium-90, americium-241 and carbon-14 depending on use. Single types of emission are preferred.

The detector counter is designed to capture and count all emissions continuously and individually. Scintillator counters are preferred. Radiation from extraneous sources is excluded, subtracted from the count or maintained constant in quality and quantity.

Elapsed time is displayed as decay event counts or directly as UNIVERSAL ABSOLUTE TIME-INTERVALS.

FIGURE



Radioactive Decay Curve Rebased on Absolute Time-intervals



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 25 3617

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A	US 2002/126583 A1 (ATON THOMAS J ET AL) 12 September 2002 (2002-09-12) * column 1, line 14 - column 2, line 50 * -----	1-7	G04F5/16
A	A. NOTEA: "Design of a nuclear clock" NUCLEAR INSTRUMENTS AND METHODS IN PHYSICS RESEARCH, vol. 185, no. 1-3, 1981, pages 539-543, XP002348718 Amsterdam * the whole document * -----	1-7	
A	FR 1 483 394 A (BENRUS WATCH COMPANY, INC) 2 June 1967 (1967-06-02) * page 1, left-hand column, last paragraph - page 2, left-hand column, paragraph 1 * -----	1-7	
A	US 3 629 582 A (DALE R. KOEHLER ET AL) 21 December 1971 (1971-12-21) * abstract * -----	1-7	
A	US 4 275 405 A (SHANNON ET AL) 23 June 1981 (1981-06-23) * abstract * -----	1-7	
A	US 3 582 656 A (DALE R. KOEHLER) 1 June 1971 (1971-06-01) * abstract * -----	1-7	G04F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 13 October 2005	Examiner Exelmans, U
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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EPO FORM 1503 03.82 (P04C01)

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

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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
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13-10-2005

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002126583 A1	12-09-2002	NONE	
FR 1483394 A	02-06-1967	NONE	
US 3629582 A	21-12-1971	NONE	
US 4275405 A	23-06-1981	CA 1046655 A1 DE 2401560 A1 FR 2214972 A1 GB 1443434 A JP 50068782 A NL 7400687 A	16-01-1979 01-08-1974 19-08-1974 21-07-1976 09-06-1975 24-07-1974
US 3582656 A	01-06-1971	CH 528109 A CH 427269 D DE 1914569 A1 DE 1966493 A1 FR 2004447 A5 JP 48030910 B	14-04-1972 14-04-1972 09-10-1969 08-03-1973 21-11-1969 25-09-1973